In [28]:
```
import json
import random
import numpy as np
from collections import defaultdict
from itertools import combinations
import datetime
import os
import torch
import torch.nn.functional as F
from torch_geometric.data import Data
from torch_geometric.nn import GCNConv
import networkx as nx
import matplotlib.pyplot as plt
```

In [29]:
```
# File paths for data
CARDS_JSON = "data/labeled_cards.json"
DECKS_JSON = "data/one_piece_deck_lists.json"
KNOWN_SYNERGIES_JSON = "graphs/card_synergies.json"

# Load data
with open(CARDS_JSON, "r") as f:
    cards_data = json.load(f)
with open(DECKS_JSON, "r") as f:
    decks_data = json.load(f)
with open(KNOWN_SYNERGIES_JSON, "r") as f:
    known_synergies_data = json.load(f)

print(f"Loaded {len(cards_data)} cards, {len(decks_data)} decks, and synergy dat
```

```
Loaded 1307 cards, 1732 decks, and synergy data.
```

In [30]:
```
# Banned cards list (update as needed)
BANNED_CARDS = {"ST10-001", "OP03-098", "OP05-041", "ST06-015", "OP06-116", "OP0

# Card ID to index mapping
card_id_to_index = {c["id"]: i for i, c in enumerate(cards_data)}

# List of leader cards
leaders = [c for c in cards_data if c["type"] == "Leader"]

# Traits, types, and labels for node features
ALL_TRAITS = sorted(set(t for c in cards_data for t in c.get("traits", [])))
trait2idx = {t: i for i, t in enumerate(ALL_TRAITS)}
NUM_TRAITS = len(trait2idx)

ALL_TYPES = sorted(set(c["type"] for c in cards_data))
type2idx = {t: i for i, t in enumerate(ALL_TYPES)}
NUM_TYPES = len(type2idx)

ALL_LABELS = sorted(set(label.strip() for card in cards_data for label in card.g
label2idx = {label: i for i, label in enumerate(ALL_LABELS)}
NUM_LABELS = len(label2idx)
```

In [ ]:
```
def get_card_colors(card):
    ccol = card.get("color", [])
    if isinstance(ccol, str):
        ccol = [ccol]
    return ccol
```

```
def find_leader_in_deck(deck):
    for entry in deck:
        cid = list(entry.keys())[0]
        if any(l["id"] == cid for l in leaders):
            return cid
    return None

def deck_archetype(deck):
    lid = find_leader_in_deck(deck)
    if not lid:
        return ""
    leader_card = next((l for l in leaders if l["id"] == lid), None)
    return leader_card.get("archetype", "").strip() if leader_card else ""

def deck_matches_color_archetype(deck, leader_color, leader_arche):
    lid = find_leader_in_deck(deck)
    if not lid:
        return False
    leader_card = next((c for c in cards_data if c["id"] == lid), None)
    if not leader_card:
        return False
    deck_colors = get_card_colors(leader_card)
    deck_arch = leader_card.get("archetype", "").strip().lower()
    if not any(c in deck_colors for c in leader_color):
        return False
    return deck_arch == leader_arche.lower() if leader_arche else True

def gather_decks_for_color_archetype(leader_color, leader_arche, all_decks):
    filtered = [d for d in all_decks if deck_matches_color_archetype(d, leader_c
    if filtered:
        return filtered
    return [d for d in all_decks if any(c in get_card_colors(next((c for c in ca
```

In [ ]:

```
def multi_hot_trait_vector(card):
    vec = np.zeros(NUM_TRAITS, dtype=np.float32)
    for t in card.get("traits", []):
        if t in trait2idx:
            vec[trait2idx[t]] = 1.0
    return vec

def one_hot_type_vector(card):
    vec = np.zeros(NUM_TYPES, dtype=np.float32)
    vec[type2idx[card["type"]]] = 1.0
    return vec

def multi_hot_label_vector(card):
    vec = np.zeros(NUM_LABELS, dtype=np.float32)
    for label in card.get("labels", []):
        label = label.strip()
        if label in label2idx:
            vec[label2idx[label]] = 1.0
    return vec

def build_node_feature_with_traits(card, archetype_usage_map):
    cost_val = float(card.get("cost", 0))
    ctr_val = float(card.get("counter", 0))
    trait_vec = multi_hot_trait_vector(card)
    type_vec = one_hot_type_vector(card)
    label_vec = multi_hot_label_vector(card)
```

```
    base_features = np.array([cost_val, ctr_val], dtype=np.float32)
    return np.concatenate((base_features, trait_vec, type_vec, label_vec))
```

In [ ]:

```
def parse_known_synergies(known_synergies_data, synergy_weight=5.0, treat_as_und
    synergy_edges = defaultdict(float)
    for ln in known_synergies_data.get("links", []):
        src, tgt = ln["source"], ln["target"]
        if src in card_id_to_index and tgt in card_id_to_index:
            synergy_edges[(src, tgt)] += synergy_weight
            if treat_as_undirected:
                synergy_edges[(tgt, src)] += synergy_weight
    return synergy_edges

def build_synergy_graph(relevant_decks, leader_arche, target_colors, synergy_wei
    G = nx.Graph()
    all_ids = {c["id"] for c in cards_data if any(col in c["color"] for col in t
    G.add_nodes_from(all_ids)

    for deck in relevant_decks:
        lid = find_leader_in_deck(deck)
        if not lid:
            continue
        deck_arch = deck_archetype(deck)
        w_factor = synergy_weight if deck_arch.lower() == leader_arche.lower() e
        deck_cards = [cid for entry in deck for cid, count in entry.items() for
        for a, b in combinations(deck_cards, 2):
            if a == b:
                continue
            if G.has_edge(a, b):
                G[a][b]["weight"] += w_factor
            else:
                G.add_edge(a, b, weight=w_factor)

    if known_synergy_edges:
        for (src, tgt), w in known_synergy_edges.items():
            if src in all_ids and tgt in all_ids and src not in BANNED_CARDS and
                if G.has_edge(src, tgt):
                    G[src][tgt]["weight"] += w
                else:
                    G.add_edge(src, tgt, weight=w)

    return G

def compute_card_frequency(relevant_decks):
    freq_map = defaultdict(int)
    for d in relevant_decks:
        lid = find_leader_in_deck(d)
        for entry in d:
            cid, cnt = list(entry.items())[0]
            if cid != lid and cnt > 0:
                freq_map[cid] += cnt
    return freq_map

def compute_archetype_usage_ratio(relevant_decks, leader_arche):
    usage_count = {c["id"]: 0 for c in cards_data}
    deck_count = len(relevant_decks)
    arche_decks = [d for d in relevant_decks if deck_archetype(d).lower() == lea
    for d in arche_decks:
        lid = find_leader_in_deck(d)
        for cid in {list(entry.keys())[0] for entry in d if list(entry.values())
```

```
            usage_count[cid] += 1
    return {c["id"]: usage_count[c["id"]] / deck_count for c in cards_data}
```

In [ ]:
```
def build_pyg_data(cards_data, synergy_graph, freq_map, archetype_usage_map):
    node_features = [build_node_feature_with_traits(c, archetype_usage_map) for
    usage_list = [freq_map.get(c["id"], 0) for c in cards_data]

    edges, weights = [], []
    for u, v, data in synergy_graph.edges(data=True):
        if u in card_id_to_index and v in card_id_to_index:
            ui, vi = card_id_to_index[u], card_id_to_index[v]
            w = data["weight"]
            edges.extend([[ui, vi], [vi, ui]])
            weights.extend([w, w])

    x_tensor = torch.tensor(node_features, dtype=torch.float)
    edge_index = torch.tensor(edges, dtype=torch.long).t().contiguous() if edges
    edge_weight = torch.tensor(weights, dtype=torch.float) if weights else torch

    data_pyg = Data(x=x_tensor, edge_index=edge_index, edge_weight=edge_weight)
    node_labels = np.array(usage_list, dtype=np.float32)
    return data_pyg, node_labels
```

In [ ]:
```
class MultiTaskGNN(torch.nn.Module):
    def __init__(self, in_dim, hidden_dim=128, emb_dim=64, dropout=0.5, num_laye
        super().__init__()
        self.num_layers = num_layers
        self.dropout = torch.nn.Dropout(dropout)
        self.convs = torch.nn.ModuleList([GCNConv(in_dim if i == 0 else hidden_d
        self.node_head = torch.nn.Linear(hidden_dim, 1)
        self.synergy_mlp = torch.nn.Sequential(
            torch.nn.Linear(2 * hidden_dim, 128),
            torch.nn.ReLU(),
            torch.nn.Dropout(dropout),
            torch.nn.Linear(128, 64),
            torch.nn.ReLU(),
            torch.nn.Dropout(dropout),
            torch.nn.Linear(64, 32),
            torch.nn.ReLU(),
            torch.nn.Linear(32, 1)
        )

    def forward(self, data):
        x, edge_index = data.x, data.edge_index
        h = x
        for conv in self.convs:
            h = F.relu(self.dropout(conv(h, edge_index)))
        node_score = self.node_head(h).squeeze(-1)
        return h, node_score

    def predict_synergy(self, hu, hv):
        inp = torch.cat([hu, hv], dim=-1)
        return self.synergy_mlp(inp).squeeze(-1)
```

In [ ]:
```
def sample_negative_edges(edge_index, num_nodes, num_neg, cards_data, card_id_to
    existing = {(edge_index[0, i].item(), edge_index[1, i].item()) for i in rang
    neg = []
    attempts = 0
    while len(neg) < num_neg and attempts < 500000:
```

```
        attempts += 1
        a_idx, b_idx = random.randint(0, num_nodes - 1), random.randint(0, num_n
        if a_idx == b_idx or (a_idx, b_idx) in existing:
            continue
        a_colors = set(get_card_colors(cards_data[a_idx]))
        b_colors = set(get_card_colors(cards_data[b_idx]))
        if a_colors & b_colors:
            neg.append((a_idx, b_idx))
    return neg

def train_gnn(model, data, node_labels_np, epochs=300, lr=0.005, neg_factor=2.0,
    device = torch.device("cuda" if torch.cuda.is_available() else "cpu")
    model.to(device)
    data = data.to(device)
    optimizer = torch.optim.Adam(model.parameters(), lr=lr, weight_decay=1e-4)

    mean_val = node_labels_np.mean()
    std_val = max(node_labels_np.std(), 1e-9)
    node_labels_norm = (node_labels_np - mean_val) / std_val
    node_labels_t = torch.tensor(node_labels_norm, dtype=torch.float, device=dev

    best_loss = float('inf')
    patience, no_improve = 20, 0

    for epoch in range(epochs):
        model.train()
        optimizer.zero_grad()
        node_emb, node_score = model(data)
        loss_node = F.mse_loss(node_score, node_labels_t)

        pos_u, pos_v, pos_w = [], [], []
        for i in range(0, data.edge_index.shape[1], 2):
            u, v, w = data.edge_index[0, i].item(), data.edge_index[1, i].item()
            pos_u.append(u)
            pos_v.append(v)
            pos_w.append(np.log1p(w))

        loss_synergy = 0.0
        if pos_u:
            pos_u_t = torch.tensor(pos_u, dtype=torch.long, device=device)
            pos_v_t = torch.tensor(pos_v, dtype=torch.long, device=device)
            pos_w_t = torch.tensor(pos_w, dtype=torch.float, device=device)
            num_neg = int(len(pos_u) * neg_factor)
            neg_edges = sample_negative_edges(data.edge_index, data.x.shape[0],
            neg_u = torch.tensor([e[0] for e in neg_edges], dtype=torch.long, de
            neg_v = torch.tensor([e[1] for e in neg_edges], dtype=torch.long, de
            neg_w_t = torch.zeros(len(neg_edges), dtype=torch.float, device=devi
            all_u = torch.cat([pos_u_t, neg_u])
            all_v = torch.cat([pos_v_t, neg_v])
            all_w = torch.cat([pos_w_t, neg_w_t])
            hu, hv = node_emb[all_u], node_emb[all_v]
            synergy_pred = model.predict_synergy(hu, hv)
            loss_synergy = F.mse_loss(synergy_pred, all_w)

        loss = loss_node + synergy_loss_weight * loss_synergy
        loss.backward()
        optimizer.step()

        if loss.item() < best_loss:
            best_loss = loss.item()
```

```
            no_improve = 0
        else:
            no_improve += 1

        if (epoch + 1) % 10 == 0:
            print(f"Epoch {epoch+1}/{epochs} - Node Loss: {loss_node.item():.4f}

        if no_improve >= patience:
            print(f"Early stopping at epoch {epoch+1}")
            break

    return model, mean_val, std_val
```

In [ ]:

```
def build_synergy_matrix(model, data, freq_map, node_labels_np, mean_val, std_va
    device = torch.device("cuda" if torch.cuda.is_available() else "cpu")
    model.eval()
    data = data.to(device)
    with torch.no_grad():
        node_emb, node_score_t = model(data)
    node_emb = node_emb.cpu()
    node_score = node_score_t.cpu().numpy() * std_val + mean_val
    for i, c in enumerate(cards_data):
        if freq_map.get(c["id"], 0) == 0:
            node_score[i] -= 2.0  # Penalty for unused cards

    num_cards = len(cards_data)
    synergy_matrix = np.zeros((num_cards, num_cards), dtype=np.float32)
    for i in range(num_cards):
        hi = node_emb[i].unsqueeze(0).to(device)
        hj = node_emb.to(device)
        synergies = model.predict_synergy(hi.expand(num_cards, -1), hj).detach()
        synergy_matrix[i, :] = synergies
        synergy_matrix[:, i] = synergies  # Ensure symmetry
        synergy_matrix[i, i] = max(0.1, node_score[i])

    return synergy_matrix, node_score
```

In [ ]:

```
def save_model(model, filename):
    models_dir = "models"
    archive_dir = os.path.join(models_dir, "archive")
    os.makedirs(models_dir, exist_ok=True)
    file_path = os.path.join(models_dir, filename)
    if os.path.exists(file_path):
        os.makedirs(archive_dir, exist_ok=True)
        timestamp = datetime.datetime.now().strftime("%Y%m%d_%H%M%S")
        os.rename(file_path, os.path.join(archive_dir, f"{timestamp}_{filename}"
        print(f"Existing model archived to: {timestamp}_{filename}")
    torch.save(model.state_dict(), file_path)
    print(f"Model saved to: {file_path}")

def load_model(model, filepath):
    if os.path.exists(filepath):
        model.load_state_dict(torch.load(filepath))
        print(f"Model loaded from: {filepath}")
    else:
        print(f"Model file not found: {filepath}")
    return model
```

In [ ]:
```
def train_and_build_synergy_per_leader(target_leader_id):
    leader_card = next((c for c in leaders if c["id"] == target_leader_id), None
    if not leader_card:
        raise ValueError(f"Leader ID {target_leader_id} not found!")

    leader_color = get_card_colors(leader_card)
    leader_arche = leader_card.get("archetype", "").strip()
    relevant_decks = gather_decks_for_color_archetype(leader_color, leader_arche

    known_synergy_edges = parse_known_synergies(known_synergies_data, synergy_we
    synergy_graph = build_synergy_graph(relevant_decks, leader_arche, leader_col
    freq_map = compute_card_frequency(relevant_decks)
    archetype_usage_map = compute_archetype_usage_ratio(relevant_decks, leader_a

    data_pyg, node_labels_np = build_pyg_data(cards_data, synergy_graph, freq_ma
    in_dim = data_pyg.x.shape[1]
    model = MultiTaskGNN(in_dim=in_dim, hidden_dim=128, emb_dim=64, dropout=0.5,
    model, mean_val, std_val = train_gnn(model, data_pyg, node_labels_np, epochs
    save_model(model, f"gnn_model_{target_leader_id}.pth")

    synergy_matrix, node_score = build_synergy_matrix(model, data_pyg, freq_map,
    return synergy_matrix, node_score, relevant_decks
```

In [ ]:
```
def evaluate_synergy_prediction_accuracy(model, data, known_synergy_data):
    device = torch.device("cuda" if torch.cuda.is_available() else "cpu")
    model.eval()
    data = data.to(device)
    with torch.no_grad():
        node_emb, _ = model(data)
    preds, actuals = [], []
    for (src, tgt), w in known_synergy_data.items():
        if src in card_id_to_index and tgt in card_id_to_index:
            i, j = card_id_to_index[src], card_id_to_index[tgt]
            pred = model.predict_synergy(node_emb[i].unsqueeze(0), node_emb[j].u
            preds.append(pred)
            actuals.append(np.log1p(w))
    if not preds:
        print("No known synergy edges found for evaluation.")
        return
    mse = np.mean((np.array(preds) - np.array(actuals))**2)
    print(f"Synergy Prediction MSE on Known Edges: {mse:.4f}")

    return mse

def evaluate_deck(deck, synergy_matrix, node_score, singleton_penalty=10.0, max_
    deck_arr = np.array(deck, dtype=np.float32)
    total_score = np.dot(node_score, deck_arr)
    synergy_total = 0.5 * (deck_arr @ synergy_matrix @ deck_arr - np.sum(deck_ar
    base_score = total_score + synergy_total
    total_copies = deck_arr.sum()
    num_singletons = np.sum(deck_arr == 1)
    ratio = num_singletons / total_copies if total_copies > 0 else 0
    penalty = singleton_penalty * (ratio - max_singleton_ratio) * total_copies i
    return base_score - penalty

def greedy_initial_deck(valid_indices, node_score, deck_size, max_copies):
    deck = [0] * len(cards_data)
    sorted_indices = sorted(valid_indices, key=lambda i: node_score[i], reverse=
    remaining = deck_size
```

```
    for i in sorted_indices:
        copies = min(max_copies, remaining)
        deck[i] = copies
        remaining -= copies
        if remaining <= 0:
            break
    return deck

def local_search_deck(current_deck, synergy_matrix, node_score, iterations=10000
                      singleton_penalty=20.0, max_singleton_ratio=0.2, deck_size
                      max_copies=4, valid_indices=None, early_stop=500):
    # Initialize best deck and score
    best_deck = current_deck[:]
    best_score = evaluate_deck(best_deck, synergy_matrix, node_score, singleton_
    current_deck = best_deck[:]
    no_improve = 0

    # Precompute valid indices if not provided
    if valid_indices is None:
        valid_indices = list(range(len(current_deck)))

    for it in range(iterations):
        neighbor = current_deck[:]
        # Get cards currently in the deck
        nonzero = [i for i, count in enumerate(neighbor) if count > 0]
        if not nonzero:
            continue

        # Remove one card
        remove_idx = random.choice(nonzero)
        neighbor[remove_idx] -= 1

        # Decide whether to add to an existing card or a new one
        existing_cards = [i for i in nonzero if neighbor[i] < max_copies]
        new_cards = [i for i in valid_indices if neighbor[i] == 0]

        # Bias toward adding to existing cards (70% chance if possible)
        if existing_cards and (not new_cards or random.random() < 0.7):
            add_idx = random.choice(existing_cards)
        elif new_cards:
            add_idx = random.choice(new_cards)
        else:
            continue  # No valid move possible

        neighbor[add_idx] += 1

        # Ensure deck size constraint
        if sum(neighbor) != deck_size:
            continue

        # Evaluate the new deck
        neighbor_score = evaluate_deck(neighbor, synergy_matrix, node_score, sin

        # Accept move if it improves the score or occasionally for exploration
        if neighbor_score > best_score or random.random() < 0.05:
            current_deck = neighbor[:]
            if neighbor_score > best_score:
                best_score = neighbor_score
                best_deck = neighbor[:]
                no_improve = 0
```

```
                if (it + 1) % 10000 == 0:  # Less frequent logging
                    print(f"Iteration {it+1}: Improved score to {best_score:.2f}
            else:
                no_improve += 1
        else:
            no_improve += 1

        # Early stopping
        if no_improve >= early_stop:
            print(f"Early stopping at iteration {it+1}, Best Score: {best_score:
            break

    return best_deck

def build_deck_local_search(target_leader_id, synergy_matrix, node_score, deck_s
                            max_copies=4, iterations=1000000, singleton_penalty=
                            max_singleton_ratio=0.2):
    leader_card = next((c for c in cards_data if c["id"] == target_leader_id), N
    if not leader_card:
        raise ValueError(f"Leader {target_leader_id} not found")
    leader_color = set(get_card_colors(leader_card))
    valid_indices = [i for i, card in enumerate(cards_data) if card["id"] not in

    initial_deck = greedy_initial_deck(valid_indices, node_score, deck_size, max
    return local_search_deck(initial_deck, synergy_matrix, node_score, iteration
```

In [ ]:

```
def print_deck_list(deck, leader_id):
    leader_card = next((c for c in cards_data if c["id"] == leader_id), None)
    print(f"=== DECK for Leader {leader_id} ({leader_card.get('name', 'Unknown')
    total = 0
    for i, copies in enumerate(deck):
        if copies > 0:
            cid, name = cards_data[i]["id"], cards_data[i]["name"]
            print(f"{copies}x {cid} - {name}")
            total += copies
    print(f"Total non-leader cards: {total}")

def evaluate_deck_vs_meta(deck, relevant_decks):
    meta_freq = compute_card_frequency(relevant_decks)
    deck_freq_map = {cards_data[i]["id"]: copies for i, copies in enumerate(deck
    sorted_meta = sorted(meta_freq.items(), key=lambda x: x[1], reverse=True)[:1
    print("Top 10 cards in meta (by usage):")
    for cid, freq in sorted_meta:
        nm = next((c["name"] for c in cards_data if c["id"] == cid), cid)
        print(f"{cid} - {nm}: {freq}")
    overlap = len(set(deck_freq_map.keys()) & {cid for cid, _ in sorted_meta})
    print(f"Deck shares {overlap} of the meta's top 10 cards.")

def synergy_heatmap(deck, synergy_matrix, diagonal= 1.0, title="Deck Synergy Hea
    deck_idxs = [i for i, cpy in enumerate(deck) if cpy > 0]
    if not deck_idxs:
        print("No cards in deck to visualize.")
        return
    sub_matrix = synergy_matrix[np.ix_(deck_idxs, deck_idxs)]
    np.fill_diagonal(sub_matrix, diagonal)
    plt.figure(figsize=(8, 6))
    plt.imshow(sub_matrix, aspect='auto', origin='upper', interpolation='nearest
    plt.colorbar()
    plt.title(title)
    plt.xlabel("Card Index in Deck")
```

```
    plt.ylabel("Card Index in Deck")
    plt.show()

def inspect_synergy_predictions(deck, synergy_matrix):
    for i, copies in enumerate(deck):
        if copies > 0:
            name = cards_data[i]["name"]
            best_synergy = np.argsort(synergy_matrix[i])[::-1]
            print(f"Top 3 cards with highest synergy for {name}:")
            count = 0
            for j in best_synergy:
                if deck[j] == 0:
                    print(f"{cards_data[j]['name']} - Synergy: {synergy_matrix[i
                    count += 1
                    if count == 3:
                        break
            print(f"Top 3 cards with lowest synergy for {name}:")
            count = 0
            for j in np.argsort(synergy_matrix[i]):
                if deck[j] == 0:
                    print(f"{cards_data[j]['name']} - Synergy: {synergy_matrix[i
                    count += 1
                    if count == 3:
                        break
            print()

def generate_deck_graph(deck, synergy_matrix, title="Deck Graph", ):
    G = nx.Graph()
    for i, copies in enumerate(deck):
        if copies > 0:
            G.add_node(cards_data[i]["name"])
    for i, copies in enumerate(deck):
        if copies > 0:
            for j, copies2 in enumerate(deck):
                if copies2 > 0:
                    G.add_edge(cards_data[i]["name"], cards_data[j]["name"], wei
    plt.figure(figsize=(12, 12))
    pos = nx.spring_layout(G)
    edge_labels = nx.get_edge_attributes(G, 'weight')
    nx.draw(G, pos, with_labels=True, node_size=5000, node_color='skyblue', font
    nx.draw_networkx_edge_labels(G, pos, edge_labels=edge_labels)
    plt.title(title)
    plt.show()
```

In [43]:

```
# Define target leader
target_leader_id = "OP01-001"  # Roronoa Zoro
```

In [44]:

```
# print("Training GNN and Building Synergy Matrix...")
synergy_matrix, node_score, relevant_decks = train_and_build_synergy_per_leader(
```

```
Epoch 10/300 - Node Loss: 36.0257, Synergy Loss: 2.6524, Total: 41.3305
Epoch 20/300 - Node Loss: 4.3257, Synergy Loss: 2.5172, Total: 9.3602
Epoch 30/300 - Node Loss: 1.6228, Synergy Loss: 2.3075, Total: 6.2379
Epoch 40/300 - Node Loss: 1.0628, Synergy Loss: 2.1740, Total: 5.4109
Epoch 50/300 - Node Loss: 1.0170, Synergy Loss: 2.0943, Total: 5.2055
Epoch 60/300 - Node Loss: 1.0271, Synergy Loss: 2.0474, Total: 5.1219
Epoch 70/300 - Node Loss: 1.0962, Synergy Loss: 1.9333, Total: 4.9627
Epoch 80/300 - Node Loss: 1.1885, Synergy Loss: 1.7075, Total: 4.6036
Epoch 90/300 - Node Loss: 1.2314, Synergy Loss: 1.3183, Total: 3.8679
Epoch 100/300 - Node Loss: 1.3644, Synergy Loss: 1.1650, Total: 3.6945
Epoch 110/300 - Node Loss: 1.2251, Synergy Loss: 1.1142, Total: 3.4534
Epoch 120/300 - Node Loss: 1.3095, Synergy Loss: 1.0818, Total: 3.4731
Epoch 130/300 - Node Loss: 1.2297, Synergy Loss: 1.0459, Total: 3.3214
Epoch 140/300 - Node Loss: 1.2048, Synergy Loss: 0.9556, Total: 3.1161
Epoch 150/300 - Node Loss: 1.2128, Synergy Loss: 0.9012, Total: 3.0151
Epoch 160/300 - Node Loss: 1.1422, Synergy Loss: 0.8651, Total: 2.8723
Epoch 170/300 - Node Loss: 1.1752, Synergy Loss: 0.8564, Total: 2.8881
Epoch 180/300 - Node Loss: 1.1887, Synergy Loss: 0.8295, Total: 2.8476
Epoch 190/300 - Node Loss: 1.1947, Synergy Loss: 0.7214, Total: 2.6374
Epoch 200/300 - Node Loss: 1.2335, Synergy Loss: 0.6799, Total: 2.5933
Epoch 210/300 - Node Loss: 1.2225, Synergy Loss: 0.7305, Total: 2.6835
Epoch 220/300 - Node Loss: 1.1987, Synergy Loss: 0.6689, Total: 2.5364
Epoch 230/300 - Node Loss: 1.1495, Synergy Loss: 0.6582, Total: 2.4658
Early stopping at epoch 233
Existing model archived to: 20250310_014559_gnn_model_OP01-001.pth
Model saved to: models\gnn_model_OP01-001.pth
```

In [48]:

```
print("\nBuilding Deck with Local Search...")
best_deck = build_deck_local_search(target_leader_id, synergy_matrix, node_score
                                    deck_size=50, max_copies=4, iterations=10000
```

```
Building Deck with Local Search...
Early stopping at iteration 574, Best Score: 3546.44
```

In [49]:

```
# Evaluate and visualize
print("\nDeck List:")
print_deck_list(best_deck, target_leader_id)
```

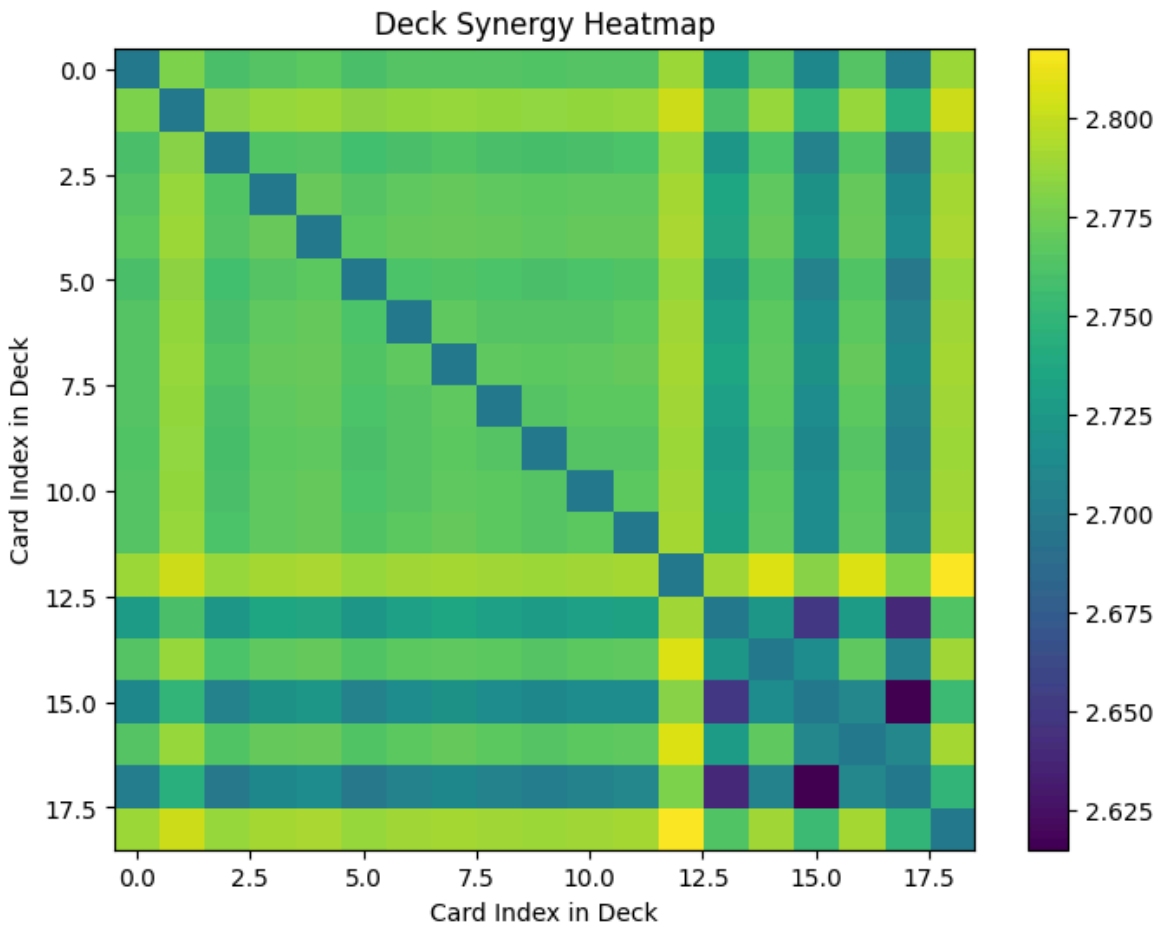
```
Deck List:
=== DECK for Leader OP01-001 (Roronoa Zoro) ===
3x OP01-026 - Gum-Gum Red Hawk
3x OP01-029 - Radical Beam!!
2x OP01-017 - Nico Robin
3x ST01-014 - Guard Point
3x ST01-006 - Tony Tony Chopper
2x ST01-004 - Sanji
3x ST01-007 - Nami
2x OP02-004 - Edward Newgate
2x OP02-005 - Curly Dadan
3x OP02-015 - Makino
3x OP02-016 - Magra
3x P-013 - Gordon
3x P-014 - Koby
3x P-019 - Bepo
3x OP03-018 - Fire Fist
3x OP03-019 - Fiery Doll
3x OP04-016 - Bad Manners Kick Course
1x OP05-010 - Nico Robin
2x OP05-011 - Bartholomew Kuma
Total non-leader cards: 50
```

In [50]:
```
print("\nEvaluating Deck vs. Meta:")
evaluate_deck_vs_meta(best_deck, relevant_decks)
```

```
Evaluating Deck vs. Meta:
Top 10 cards in meta (by usage):
OP01-025 - Roronoa Zoro: 524
OP01-006 - Otama: 492
OP02-015 - Makino: 458
OP02-005 - Curly Dadan: 452
OP01-016 - Nami: 421
ST01-011 - Brook: 327
OP03-013 - Marco: 301
OP03-008 - Buggy: 295
ST01-015 - Jet Pistol: 292
OP02-016 - Magra: 292
Deck shares 3 of the meta's top 10 cards.
```

In [61]:
```
print("\nSynergy Heatmap:")
synergy_heatmap(best_deck, synergy_matrix, diagonal=2.7)
```

```
Synergy Heatmap:
```



In [52]:
```
print("\nInspecting Synergy Predictions:")
inspect_synergy_predictions(best_deck, synergy_matrix)
```

```
Inspecting Synergy Predictions:
Top 3 cards with highest synergy for Gum-Gum Red Hawk:
In 2 years!!! To Sabaody - Synergy: 2.81
Buggy - Synergy: 2.79
Mr. Tanaka - Synergy: 2.79
Top 3 cards with lowest synergy for Gum-Gum Red Hawk:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.25

Top 3 cards with highest synergy for Radical Beam!!:
In 2 years!!! To Sabaody - Synergy: 2.81
Nami - Synergy: 2.81
Striker - Synergy: 2.80
Top 3 cards with lowest synergy for Radical Beam!!:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.25
King - Synergy: 0.25

Top 3 cards with highest synergy for Nico Robin:
In 2 years!!! To Sabaody - Synergy: 2.80
Nami - Synergy: 2.80
Carrot - Synergy: 2.80
Top 3 cards with lowest synergy for Nico Robin:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.25

Top 3 cards with highest synergy for Guard Point:
In 2 years!!! To Sabaody - Synergy: 2.81
Nami - Synergy: 2.81
Carrot - Synergy: 2.81
Top 3 cards with lowest synergy for Guard Point:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.25

Top 3 cards with highest synergy for Tony Tony Chopper:
In 2 years!!! To Sabaody - Synergy: 2.81
Trafalgar Law - Synergy: 2.81
Nami - Synergy: 2.81
Top 3 cards with lowest synergy for Tony Tony Chopper:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.25

Top 3 cards with highest synergy for Sanji:
In 2 years!!! To Sabaody - Synergy: 2.80
Carrot - Synergy: 2.80
Jinbe - Synergy: 2.80
Top 3 cards with lowest synergy for Sanji:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.25

Top 3 cards with highest synergy for Nami:
In 2 years!!! To Sabaody - Synergy: 2.81
Jinbe - Synergy: 2.81
Carrot - Synergy: 2.81
Top 3 cards with lowest synergy for Nami:
```

```
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.25

Top 3 cards with highest synergy for Edward Newgate:
In 2 years!!! To Sabaody - Synergy: 2.81
Nami - Synergy: 2.81
Trafalgar Law - Synergy: 2.81
Top 3 cards with lowest synergy for Edward Newgate:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.25

Top 3 cards with highest synergy for Curly Dadan:
In 2 years!!! To Sabaody - Synergy: 2.81
Usopp - Synergy: 2.81
Jinbe - Synergy: 2.81
Top 3 cards with lowest synergy for Curly Dadan:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.25

Top 3 cards with highest synergy for Makino:
In 2 years!!! To Sabaody - Synergy: 2.81
Dogura - Synergy: 2.81
Carrot - Synergy: 2.81
Top 3 cards with lowest synergy for Makino:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.25

Top 3 cards with highest synergy for Magra:
In 2 years!!! To Sabaody - Synergy: 2.81
Dogura - Synergy: 2.81
Carrot - Synergy: 2.81
Top 3 cards with lowest synergy for Magra:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.25

Top 3 cards with highest synergy for Gordon:
In 2 years!!! To Sabaody - Synergy: 2.81
Jinbe - Synergy: 2.81
Usopp - Synergy: 2.81
Top 3 cards with lowest synergy for Gordon:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.25

Top 3 cards with highest synergy for Koby:
Striker - Synergy: 2.82
In 2 years!!! To Sabaody - Synergy: 2.82
Buggy - Synergy: 2.82
Top 3 cards with lowest synergy for Koby:
Sakazuki - Synergy: 0.25
Three Sword Style: Oni Giri - Synergy: 0.25
King - Synergy: 0.25

Top 3 cards with highest synergy for Bepo:
In 2 years!!! To Sabaody - Synergy: 2.79
```

```
Moby Dick - Synergy: 2.79
Jinbe - Synergy: 2.79
Top 3 cards with lowest synergy for Bepo:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.25

Top 3 cards with highest synergy for Fire Fist:
In 2 years!!! To Sabaody - Synergy: 2.81
Buggy - Synergy: 2.81
Moby Dick - Synergy: 2.81
Top 3 cards with lowest synergy for Fire Fist:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.25

Top 3 cards with highest synergy for Fiery Doll:
In 2 years!!! To Sabaody - Synergy: 2.78
Buggy - Synergy: 2.78
Marco - Synergy: 2.78
Top 3 cards with lowest synergy for Fiery Doll:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.24

Top 3 cards with highest synergy for Bad Manners Kick Course:
In 2 years!!! To Sabaody - Synergy: 2.81
Buggy - Synergy: 2.81
Kung-Fu Dugong - Synergy: 2.81
Top 3 cards with lowest synergy for Bad Manners Kick Course:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.25

Top 3 cards with highest synergy for Nico Robin:
In 2 years!!! To Sabaody - Synergy: 2.78
Buggy - Synergy: 2.78
Tony Tony Chopper - Synergy: 2.78
Top 3 cards with lowest synergy for Nico Robin:
Sakazuki - Synergy: 0.24
Three Sword Style: Oni Giri - Synergy: 0.24
King - Synergy: 0.24

Top 3 cards with highest synergy for Bartholomew Kuma:
In 2 years!!! To Sabaody - Synergy: 2.82
Buggy - Synergy: 2.82
Chess - Synergy: 2.82
Top 3 cards with lowest synergy for Bartholomew Kuma:
Sakazuki - Synergy: 0.25
Three Sword Style: Oni Giri - Synergy: 0.25
King - Synergy: 0.25
```

In [ ]:
```
generate_deck_graph(best_deck, synergy_matrix)
```

In [36]:
```
evaluation_dir = "evaluations"
os.makedirs(evaluation_dir, exist_ok=True)
```

In [64]:
```
# Number of trials per leader
num_trials = 20

# Number of deck samples for evaluation
num_deck_trials = 250

# List of selected leaders for evaluation
selected_leader_ids = [
    # "OP01-001", # Roronoa Zoro Aggro
    "ST02-001", # Eustass Kid Midrange
    "ST13-003", # Monkey D. Luffy Combo
    "OP07-079", # Lucci Control
    "OP08-098" # Kalgara OP08
    ]

selected_leaders = []
for leader_id in selected_leader_ids:
    leader = next((l for l in leaders if l["id"] == leader_id), None)
    if leader:
        selected_leaders.append(leader)
        print(f"Confirmed leader: {leader_id} ({leader['name']}) - {leader.get('
    else:
        print(f"Warning: Leader {leader_id} not found in cards_data!")
```

```
Confirmed leader: ST02-001 (Eustass Captain Kid) - Midrange
Confirmed leader: ST13-003 (Monkey.D.Luffy) - Combo
Confirmed leader: OP07-079 (Rob Lucci) - Control
Confirmed leader: OP08-098 (Kalgara) - Midrange
```

In [69]:
```
# Run evaluations for each selected leader
for leader in selected_leaders:
    leader_id = leader["id"]
    leader_dir = os.path.join(evaluation_dir, leader_id)
    os.makedirs(leader_dir, exist_ok=True)

    print(f"\n=== Evaluating Leader: {leader_id} ({leader['name']}) ===")

    # Gather relevant decks once per leader (to avoid recomputing unnecessarily)
    leader_color = get_card_colors(leader)
    leader_arche = leader.get("archetype", "").strip()
    relevant_decks = gather_decks_for_color_archetype(leader_color, leader_arche

    # Run multiple GNN training trials
    all_trial_results = []
    for trial in range(1, num_trials + 1):
        print(f"\nGNN Trial {trial}/{num_trials}")

        # Train GNN and build synergy matrix for this trial
        print("Training GNN and building synergy matrix...")
        synergy_matrix, node_score, _ = train_and_build_synergy_per_leader(leade

        # Generate multiple deck samples for this model
        deck_results = []
        for deck_trial in range(1, num_deck_trials + 1):
            if deck_trial % 100 == 0:  # Progress update
                print(f"  Deck Trial {deck_trial}/{num_deck_trials}")

            # Build deck using local search
            best_deck = build_deck_local_search(
                leader_id, synergy_matrix, node_score,
```

```
                deck_size=50, max_copies=4, iterations=100000,
                singleton_penalty=20.0, max_singleton_ratio=0.1
            )

            # Evaluate deck score
            deck_score = evaluate_deck(best_deck, synergy_matrix, node_score, si

            # Compare to meta (UF2)
            meta_overlap = None
            if relevant_decks:
                meta_freq = compute_card_frequency(relevant_decks)
                sorted_meta = sorted(meta_freq.items(), key=lambda x: x[1], reve
                deck_cards = [cards_data[i]["id"] for i, copies in enumerate(bes
                meta_top_cards = {cid for cid, _ in sorted_meta}
                meta_overlap = len(set(deck_cards) & meta_top_cards)

            # Calculate heuristic indicators (UF3)
            deck_idxs = [i for i, copies in enumerate(best_deck) if copies > 0]
            avg_synergy = 0.0
            if len(deck_idxs) > 1:
                synergies = [synergy_matrix[i, j] for i in deck_idxs for j in de
                avg_synergy = np.mean(synergies) if synergies else 0.0
            num_singletons = sum(1 for copies in best_deck if copies == 1)

            # Store deck trial data
            deck_data = {
                "deck_trial": deck_trial,
                "deck": {cards_data[i]["id"]: int(copies) for i, copies in enume
                "score": float(deck_score),
                "meta_overlap": meta_overlap,
                "avg_synergy": float(avg_synergy),
                "num_singletons": int(num_singletons)
            }
            deck_results.append(deck_data)

        # Store GNN trial data
        trial_data = {
            "gnn_trial": trial,
            "deck_results": deck_results
        }
        all_trial_results.append(trial_data)

        # Save individual GNN trial result
        with open(os.path.join(leader_dir, f"gnn_trial_{trial}.json"), "w") as f
            json.dump(trial_data, f, indent=2)

        print(f"GNN Trial {trial} completed with {num_deck_trials} decks.")

    # Save all trials in one file per leader
    with open(os.path.join(leader_dir, "all_trials.json"), "w") as f:
        json.dump(all_trial_results, f, indent=2)

    print(f"Evaluations for {leader_id} completed. Results saved in {leader_dir}

print("\nAll evaluations completed. Results are stored in the 'evaluations' dire
```

```
=== Evaluating Leader: ST02-001 (Eustass Captain Kid) ===

GNN Trial 1/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 8.8250, Synergy Loss: 2.5795, Total: 13.9841
Epoch 20/300 - Node Loss: 2.8081, Synergy Loss: 2.4369, Total: 7.6818
Epoch 30/300 - Node Loss: 1.3433, Synergy Loss: 2.3109, Total: 5.9651
Epoch 40/300 - Node Loss: 1.0433, Synergy Loss: 2.2083, Total: 5.4598
Epoch 50/300 - Node Loss: 1.0029, Synergy Loss: 2.1166, Total: 5.2360
Epoch 60/300 - Node Loss: 1.0026, Synergy Loss: 2.0307, Total: 5.0641
Epoch 70/300 - Node Loss: 1.0025, Synergy Loss: 1.9524, Total: 4.9072
Epoch 80/300 - Node Loss: 1.0045, Synergy Loss: 1.8828, Total: 4.7701
Epoch 90/300 - Node Loss: 1.0674, Synergy Loss: 1.7975, Total: 4.6624
Epoch 100/300 - Node Loss: 1.0853, Synergy Loss: 1.6945, Total: 4.4743
Epoch 110/300 - Node Loss: 1.0963, Synergy Loss: 1.4890, Total: 4.0743
Epoch 120/300 - Node Loss: 1.3303, Synergy Loss: 1.1660, Total: 3.6623
Epoch 130/300 - Node Loss: 1.1661, Synergy Loss: 1.0244, Total: 3.2149
Epoch 140/300 - Node Loss: 1.1685, Synergy Loss: 0.9780, Total: 3.1246
Epoch 150/300 - Node Loss: 1.1677, Synergy Loss: 0.8836, Total: 2.9349
Epoch 160/300 - Node Loss: 1.1477, Synergy Loss: 0.8275, Total: 2.8028
Epoch 170/300 - Node Loss: 1.1347, Synergy Loss: 0.7755, Total: 2.6857
Epoch 180/300 - Node Loss: 1.1423, Synergy Loss: 0.7148, Total: 2.5719
Epoch 190/300 - Node Loss: 1.1476, Synergy Loss: 0.6834, Total: 2.5145
Epoch 200/300 - Node Loss: 1.1184, Synergy Loss: 0.6441, Total: 2.4067
Epoch 210/300 - Node Loss: 1.0997, Synergy Loss: 0.6048, Total: 2.3094
Epoch 220/300 - Node Loss: 1.0850, Synergy Loss: 0.5815, Total: 2.2480
Epoch 230/300 - Node Loss: 1.0724, Synergy Loss: 0.5634, Total: 2.1992
Epoch 240/300 - Node Loss: 1.0982, Synergy Loss: 0.5333, Total: 2.1648
Epoch 250/300 - Node Loss: 1.0753, Synergy Loss: 0.5441, Total: 2.1635
Epoch 260/300 - Node Loss: 1.0818, Synergy Loss: 0.5076, Total: 2.0971
Epoch 270/300 - Node Loss: 1.0672, Synergy Loss: 0.5286, Total: 2.1244
Epoch 280/300 - Node Loss: 1.0662, Synergy Loss: 0.5115, Total: 2.0892
Epoch 290/300 - Node Loss: 1.0592, Synergy Loss: 0.4920, Total: 2.0433
Epoch 300/300 - Node Loss: 1.0505, Synergy Loss: 0.5013, Total: 2.0531
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 602, Best Score: 3590.09
Early stopping at iteration 527, Best Score: 3572.27
Early stopping at iteration 518, Best Score: 3575.55
Early stopping at iteration 508, Best Score: 3568.41
Early stopping at iteration 602, Best Score: 3580.82
Early stopping at iteration 554, Best Score: 3592.42
Early stopping at iteration 571, Best Score: 3601.82
Early stopping at iteration 538, Best Score: 3576.15
Early stopping at iteration 597, Best Score: 3590.32
Early stopping at iteration 746, Best Score: 3626.23
Early stopping at iteration 553, Best Score: 3589.27
Early stopping at iteration 901, Best Score: 3629.33
Early stopping at iteration 566, Best Score: 3574.26
Early stopping at iteration 595, Best Score: 3609.34
Early stopping at iteration 509, Best Score: 3556.97
Early stopping at iteration 602, Best Score: 3595.06
Early stopping at iteration 636, Best Score: 3591.16
Early stopping at iteration 702, Best Score: 3617.80
Early stopping at iteration 707, Best Score: 3590.08
Early stopping at iteration 608, Best Score: 3628.57
Early stopping at iteration 575, Best Score: 3579.58
Early stopping at iteration 587, Best Score: 3588.40
Early stopping at iteration 928, Best Score: 3601.88
Early stopping at iteration 633, Best Score: 3599.87
Early stopping at iteration 548, Best Score: 3577.91
```

```
Early stopping at iteration 700, Best Score: 3613.34
Early stopping at iteration 660, Best Score: 3592.00
Early stopping at iteration 507, Best Score: 3557.74
Early stopping at iteration 580, Best Score: 3592.58
Early stopping at iteration 649, Best Score: 3609.11
Early stopping at iteration 644, Best Score: 3612.07
Early stopping at iteration 588, Best Score: 3589.24
Early stopping at iteration 709, Best Score: 3571.71
Early stopping at iteration 701, Best Score: 3619.46
Early stopping at iteration 877, Best Score: 3608.37
Early stopping at iteration 559, Best Score: 3574.58
Early stopping at iteration 523, Best Score: 3574.30
Early stopping at iteration 668, Best Score: 3620.40
Early stopping at iteration 633, Best Score: 3595.57
Early stopping at iteration 610, Best Score: 3619.98
Early stopping at iteration 1070, Best Score: 3622.64
Early stopping at iteration 545, Best Score: 3585.10
Early stopping at iteration 686, Best Score: 3588.57
Early stopping at iteration 532, Best Score: 3560.55
Early stopping at iteration 580, Best Score: 3572.89
Early stopping at iteration 609, Best Score: 3600.48
Early stopping at iteration 595, Best Score: 3603.67
Early stopping at iteration 671, Best Score: 3630.63
Early stopping at iteration 620, Best Score: 3589.13
Early stopping at iteration 713, Best Score: 3595.88
Early stopping at iteration 612, Best Score: 3590.46
Early stopping at iteration 562, Best Score: 3584.62
Early stopping at iteration 618, Best Score: 3603.46
Early stopping at iteration 558, Best Score: 3596.06
Early stopping at iteration 524, Best Score: 3560.60
Early stopping at iteration 691, Best Score: 3604.42
Early stopping at iteration 571, Best Score: 3571.44
Early stopping at iteration 512, Best Score: 3565.21
Early stopping at iteration 613, Best Score: 3630.26
Early stopping at iteration 851, Best Score: 3606.18
Early stopping at iteration 653, Best Score: 3605.88
Early stopping at iteration 685, Best Score: 3622.68
Early stopping at iteration 500, Best Score: 3554.11
Early stopping at iteration 514, Best Score: 3566.48
Early stopping at iteration 546, Best Score: 3588.04
Early stopping at iteration 716, Best Score: 3606.75
Early stopping at iteration 501, Best Score: 3556.97
Early stopping at iteration 580, Best Score: 3585.61
Early stopping at iteration 532, Best Score: 3588.87
Early stopping at iteration 881, Best Score: 3623.43
Early stopping at iteration 622, Best Score: 3604.20
Early stopping at iteration 554, Best Score: 3575.57
Early stopping at iteration 531, Best Score: 3584.25
Early stopping at iteration 567, Best Score: 3571.29
Early stopping at iteration 612, Best Score: 3587.02
Early stopping at iteration 501, Best Score: 3556.97
Early stopping at iteration 601, Best Score: 3584.68
Early stopping at iteration 572, Best Score: 3595.08
Early stopping at iteration 732, Best Score: 3624.32
Early stopping at iteration 546, Best Score: 3572.07
Early stopping at iteration 506, Best Score: 3556.97
Early stopping at iteration 589, Best Score: 3594.84
Early stopping at iteration 674, Best Score: 3618.40
Early stopping at iteration 551, Best Score: 3596.89
Early stopping at iteration 628, Best Score: 3619.20
```

```
Early stopping at iteration 626, Best Score: 3588.38
Early stopping at iteration 569, Best Score: 3605.52
Early stopping at iteration 624, Best Score: 3595.84
Early stopping at iteration 510, Best Score: 3563.56
Early stopping at iteration 594, Best Score: 3575.22
Early stopping at iteration 521, Best Score: 3583.01
Early stopping at iteration 604, Best Score: 3603.07
Early stopping at iteration 652, Best Score: 3586.43
Early stopping at iteration 660, Best Score: 3604.44
Early stopping at iteration 533, Best Score: 3585.82
Early stopping at iteration 659, Best Score: 3611.05
Early stopping at iteration 664, Best Score: 3615.22
Early stopping at iteration 701, Best Score: 3605.94
Early stopping at iteration 526, Best Score: 3576.17
  Deck Trial 100/250
Early stopping at iteration 581, Best Score: 3586.42
Early stopping at iteration 557, Best Score: 3589.68
Early stopping at iteration 516, Best Score: 3569.36
Early stopping at iteration 561, Best Score: 3584.61
Early stopping at iteration 508, Best Score: 3563.21
Early stopping at iteration 593, Best Score: 3604.73
Early stopping at iteration 659, Best Score: 3615.27
Early stopping at iteration 570, Best Score: 3592.49
Early stopping at iteration 520, Best Score: 3566.46
Early stopping at iteration 501, Best Score: 3557.47
Early stopping at iteration 500, Best Score: 3554.11
Early stopping at iteration 807, Best Score: 3629.95
Early stopping at iteration 616, Best Score: 3604.57
Early stopping at iteration 535, Best Score: 3595.97
Early stopping at iteration 737, Best Score: 3619.43
Early stopping at iteration 548, Best Score: 3574.25
Early stopping at iteration 721, Best Score: 3624.06
Early stopping at iteration 1063, Best Score: 3622.29
Early stopping at iteration 701, Best Score: 3621.21
Early stopping at iteration 618, Best Score: 3618.37
Early stopping at iteration 604, Best Score: 3611.61
Early stopping at iteration 527, Best Score: 3570.74
Early stopping at iteration 622, Best Score: 3608.24
Early stopping at iteration 540, Best Score: 3569.14
Early stopping at iteration 571, Best Score: 3594.81
Early stopping at iteration 638, Best Score: 3601.56
Early stopping at iteration 550, Best Score: 3594.11
Early stopping at iteration 558, Best Score: 3595.35
Early stopping at iteration 531, Best Score: 3580.62
Early stopping at iteration 529, Best Score: 3578.85
Early stopping at iteration 546, Best Score: 3588.84
Early stopping at iteration 652, Best Score: 3595.18
Early stopping at iteration 545, Best Score: 3585.21
Early stopping at iteration 542, Best Score: 3573.98
Early stopping at iteration 1008, Best Score: 3633.53
Early stopping at iteration 519, Best Score: 3572.64
Early stopping at iteration 715, Best Score: 3605.61
Early stopping at iteration 527, Best Score: 3575.65
Early stopping at iteration 719, Best Score: 3604.75
Early stopping at iteration 624, Best Score: 3603.29
Early stopping at iteration 534, Best Score: 3582.11
Early stopping at iteration 704, Best Score: 3607.55
Early stopping at iteration 555, Best Score: 3604.26
Early stopping at iteration 541, Best Score: 3582.30
Early stopping at iteration 787, Best Score: 3621.59
```

```
Early stopping at iteration 808, Best Score: 3622.90
Early stopping at iteration 500, Best Score: 3554.11
Early stopping at iteration 572, Best Score: 3575.76
Early stopping at iteration 621, Best Score: 3594.97
Early stopping at iteration 579, Best Score: 3582.30
Early stopping at iteration 552, Best Score: 3596.19
Early stopping at iteration 532, Best Score: 3573.84
Early stopping at iteration 519, Best Score: 3582.42
Early stopping at iteration 851, Best Score: 3623.55
Early stopping at iteration 549, Best Score: 3573.54
Early stopping at iteration 612, Best Score: 3615.81
Early stopping at iteration 648, Best Score: 3620.42
Early stopping at iteration 559, Best Score: 3574.45
Early stopping at iteration 692, Best Score: 3597.30
Early stopping at iteration 665, Best Score: 3617.47
Early stopping at iteration 539, Best Score: 3572.96
Early stopping at iteration 595, Best Score: 3576.36
Early stopping at iteration 549, Best Score: 3576.33
Early stopping at iteration 654, Best Score: 3595.70
Early stopping at iteration 693, Best Score: 3591.94
Early stopping at iteration 541, Best Score: 3598.80
Early stopping at iteration 590, Best Score: 3589.95
Early stopping at iteration 524, Best Score: 3568.99
Early stopping at iteration 538, Best Score: 3587.37
Early stopping at iteration 767, Best Score: 3599.87
Early stopping at iteration 625, Best Score: 3571.44
Early stopping at iteration 510, Best Score: 3571.29
Early stopping at iteration 650, Best Score: 3598.14
Early stopping at iteration 537, Best Score: 3565.22
Early stopping at iteration 619, Best Score: 3572.43
Early stopping at iteration 612, Best Score: 3601.66
Early stopping at iteration 639, Best Score: 3589.84
Early stopping at iteration 534, Best Score: 3590.00
Early stopping at iteration 566, Best Score: 3598.53
Early stopping at iteration 842, Best Score: 3634.08
Early stopping at iteration 699, Best Score: 3594.85
Early stopping at iteration 691, Best Score: 3633.53
Early stopping at iteration 569, Best Score: 3599.40
Early stopping at iteration 631, Best Score: 3590.80
Early stopping at iteration 536, Best Score: 3584.74
Early stopping at iteration 635, Best Score: 3614.18
Early stopping at iteration 614, Best Score: 3600.96
Early stopping at iteration 634, Best Score: 3624.39
Early stopping at iteration 665, Best Score: 3604.64
Early stopping at iteration 734, Best Score: 3625.81
Early stopping at iteration 637, Best Score: 3608.57
Early stopping at iteration 568, Best Score: 3581.59
Early stopping at iteration 535, Best Score: 3590.74
Early stopping at iteration 643, Best Score: 3607.00
Early stopping at iteration 559, Best Score: 3597.33
Early stopping at iteration 626, Best Score: 3584.78
Early stopping at iteration 566, Best Score: 3586.77
Early stopping at iteration 608, Best Score: 3623.92
Early stopping at iteration 572, Best Score: 3581.93
Early stopping at iteration 699, Best Score: 3588.06
  Deck Trial 200/250
Early stopping at iteration 573, Best Score: 3593.98
Early stopping at iteration 547, Best Score: 3586.50
Early stopping at iteration 562, Best Score: 3583.99
Early stopping at iteration 630, Best Score: 3585.62
```

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Early stopping at iteration 618, Best Score: 3585.98
Early stopping at iteration 606, Best Score: 3595.99
Early stopping at iteration 882, Best Score: 3631.25
Early stopping at iteration 720, Best Score: 3589.51
Early stopping at iteration 601, Best Score: 3589.79
Early stopping at iteration 569, Best Score: 3603.28
Early stopping at iteration 664, Best Score: 3599.48
Early stopping at iteration 623, Best Score: 3615.06
Early stopping at iteration 788, Best Score: 3606.51
Early stopping at iteration 620, Best Score: 3603.15
Early stopping at iteration 587, Best Score: 3609.75
Early stopping at iteration 509, Best Score: 3563.34
Early stopping at iteration 816, Best Score: 3613.29
Early stopping at iteration 592, Best Score: 3607.66
Early stopping at iteration 556, Best Score: 3582.51
Early stopping at iteration 753, Best Score: 3625.69
Early stopping at iteration 684, Best Score: 3596.50
Early stopping at iteration 550, Best Score: 3592.41
Early stopping at iteration 704, Best Score: 3601.70
Early stopping at iteration 629, Best Score: 3602.55
Early stopping at iteration 572, Best Score: 3601.30
Early stopping at iteration 689, Best Score: 3618.66
Early stopping at iteration 555, Best Score: 3584.78
Early stopping at iteration 614, Best Score: 3608.23
Early stopping at iteration 566, Best Score: 3592.97
Early stopping at iteration 574, Best Score: 3594.31
Early stopping at iteration 766, Best Score: 3607.66
Early stopping at iteration 681, Best Score: 3609.62
Early stopping at iteration 901, Best Score: 3616.61
Early stopping at iteration 562, Best Score: 3591.51
Early stopping at iteration 513, Best Score: 3560.18
Early stopping at iteration 556, Best Score: 3578.62
Early stopping at iteration 690, Best Score: 3628.26
Early stopping at iteration 574, Best Score: 3585.93
Early stopping at iteration 557, Best Score: 3581.32
Early stopping at iteration 619, Best Score: 3600.42
Early stopping at iteration 540, Best Score: 3578.72
Early stopping at iteration 566, Best Score: 3574.74
Early stopping at iteration 563, Best Score: 3584.68
Early stopping at iteration 612, Best Score: 3600.33
Early stopping at iteration 567, Best Score: 3593.26
Early stopping at iteration 599, Best Score: 3594.80
Early stopping at iteration 719, Best Score: 3611.38
Early stopping at iteration 529, Best Score: 3584.26
Early stopping at iteration 524, Best Score: 3571.31
Early stopping at iteration 685, Best Score: 3616.75
Early stopping at iteration 755, Best Score: 3623.14
GNN Trial 1 completed with 250 decks.

GNN Trial 2/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 56.6675, Synergy Loss: 2.4994, Total: 61.6662
Epoch 20/300 - Node Loss: 6.7443, Synergy Loss: 2.3888, Total: 11.5219
Epoch 30/300 - Node Loss: 2.5476, Synergy Loss: 2.3405, Total: 7.2286
Epoch 40/300 - Node Loss: 1.5161, Synergy Loss: 2.2349, Total: 5.9860
Epoch 50/300 - Node Loss: 1.0744, Synergy Loss: 2.1009, Total: 5.2762
Epoch 60/300 - Node Loss: 1.0424, Synergy Loss: 1.9788, Total: 5.0001
Epoch 70/300 - Node Loss: 1.0130, Synergy Loss: 1.8754, Total: 4.7638
Epoch 80/300 - Node Loss: 1.0166, Synergy Loss: 1.8042, Total: 4.6251
Epoch 90/300 - Node Loss: 1.0249, Synergy Loss: 1.7365, Total: 4.4979
```

```
Epoch 100/300 - Node Loss: 1.0608, Synergy Loss: 1.6083, Total: 4.2774
Epoch 110/300 - Node Loss: 1.1467, Synergy Loss: 1.4351, Total: 4.0170
Epoch 120/300 - Node Loss: 1.0651, Synergy Loss: 1.4693, Total: 4.0036
Epoch 130/300 - Node Loss: 1.0984, Synergy Loss: 1.2853, Total: 3.6689
Epoch 140/300 - Node Loss: 1.2088, Synergy Loss: 1.0588, Total: 3.3264
Epoch 150/300 - Node Loss: 1.2527, Synergy Loss: 0.9894, Total: 3.2316
Epoch 160/300 - Node Loss: 1.3455, Synergy Loss: 0.9105, Total: 3.1664
Epoch 170/300 - Node Loss: 1.2433, Synergy Loss: 0.8900, Total: 3.0233
Epoch 180/300 - Node Loss: 1.2484, Synergy Loss: 0.8666, Total: 2.9815
Epoch 190/300 - Node Loss: 1.2314, Synergy Loss: 0.8815, Total: 2.9944
Epoch 200/300 - Node Loss: 1.1802, Synergy Loss: 0.8473, Total: 2.8747
Epoch 210/300 - Node Loss: 1.1950, Synergy Loss: 0.8140, Total: 2.8230
Epoch 220/300 - Node Loss: 1.2288, Synergy Loss: 0.8060, Total: 2.8408
Epoch 230/300 - Node Loss: 1.1852, Synergy Loss: 0.7660, Total: 2.7173
Epoch 240/300 - Node Loss: 1.1348, Synergy Loss: 0.7369, Total: 2.6085
Epoch 250/300 - Node Loss: 1.0969, Synergy Loss: 0.7276, Total: 2.5522
Epoch 260/300 - Node Loss: 1.1258, Synergy Loss: 0.6996, Total: 2.5250
Epoch 270/300 - Node Loss: 1.1332, Synergy Loss: 0.6470, Total: 2.4272
Epoch 280/300 - Node Loss: 1.1930, Synergy Loss: 0.6177, Total: 2.4283
Epoch 290/300 - Node Loss: 1.1539, Synergy Loss: 0.6255, Total: 2.4050
Epoch 300/300 - Node Loss: 1.1464, Synergy Loss: 0.6381, Total: 2.4226
Existing model archived to: 20250310_103954_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 625, Best Score: 3347.93
Early stopping at iteration 608, Best Score: 3344.24
Early stopping at iteration 606, Best Score: 3321.28
Early stopping at iteration 532, Best Score: 3317.67
Early stopping at iteration 505, Best Score: 3301.42
Early stopping at iteration 681, Best Score: 3337.44
Early stopping at iteration 504, Best Score: 3301.35
Early stopping at iteration 524, Best Score: 3311.64
Early stopping at iteration 563, Best Score: 3330.11
Early stopping at iteration 654, Best Score: 3341.04
Early stopping at iteration 516, Best Score: 3304.59
Early stopping at iteration 563, Best Score: 3310.95
Early stopping at iteration 532, Best Score: 3311.57
Early stopping at iteration 631, Best Score: 3332.77
Early stopping at iteration 770, Best Score: 3374.19
Early stopping at iteration 711, Best Score: 3333.07
Early stopping at iteration 779, Best Score: 3370.11
Early stopping at iteration 512, Best Score: 3301.43
Early stopping at iteration 617, Best Score: 3327.36
Early stopping at iteration 626, Best Score: 3336.41
Early stopping at iteration 556, Best Score: 3343.27
Early stopping at iteration 663, Best Score: 3350.04
Early stopping at iteration 511, Best Score: 3311.01
Early stopping at iteration 595, Best Score: 3319.10
Early stopping at iteration 601, Best Score: 3331.45
Early stopping at iteration 600, Best Score: 3350.58
Early stopping at iteration 533, Best Score: 3301.34
Early stopping at iteration 631, Best Score: 3344.94
Early stopping at iteration 588, Best Score: 3323.30
Early stopping at iteration 537, Best Score: 3311.61
Early stopping at iteration 595, Best Score: 3341.81
Early stopping at iteration 668, Best Score: 3373.56
Early stopping at iteration 636, Best Score: 3325.49
Early stopping at iteration 594, Best Score: 3328.30
Early stopping at iteration 552, Best Score: 3328.58
Early stopping at iteration 672, Best Score: 3364.81
Early stopping at iteration 588, Best Score: 3333.77
```

```
Early stopping at iteration 742, Best Score: 3346.14
Early stopping at iteration 524, Best Score: 3311.63
Early stopping at iteration 547, Best Score: 3328.13
Early stopping at iteration 950, Best Score: 3381.14
Early stopping at iteration 599, Best Score: 3322.85
Early stopping at iteration 603, Best Score: 3352.52
Early stopping at iteration 571, Best Score: 3308.76
Early stopping at iteration 643, Best Score: 3365.32
Early stopping at iteration 643, Best Score: 3353.27
Early stopping at iteration 702, Best Score: 3358.69
Early stopping at iteration 500, Best Score: 3298.55
Early stopping at iteration 551, Best Score: 3311.44
Early stopping at iteration 581, Best Score: 3324.76
Early stopping at iteration 571, Best Score: 3314.91
Early stopping at iteration 520, Best Score: 3308.82
Early stopping at iteration 782, Best Score: 3359.25
Early stopping at iteration 522, Best Score: 3314.57
Early stopping at iteration 528, Best Score: 3311.68
Early stopping at iteration 558, Best Score: 3317.69
Early stopping at iteration 724, Best Score: 3350.65
Early stopping at iteration 567, Best Score: 3329.73
Early stopping at iteration 509, Best Score: 3301.31
Early stopping at iteration 697, Best Score: 3344.96
Early stopping at iteration 653, Best Score: 3359.58
Early stopping at iteration 719, Best Score: 3348.72
Early stopping at iteration 738, Best Score: 3387.53
Early stopping at iteration 736, Best Score: 3366.47
Early stopping at iteration 594, Best Score: 3346.85
Early stopping at iteration 538, Best Score: 3323.14
Early stopping at iteration 635, Best Score: 3344.61
Early stopping at iteration 505, Best Score: 3301.42
Early stopping at iteration 559, Best Score: 3336.75
Early stopping at iteration 775, Best Score: 3360.45
Early stopping at iteration 593, Best Score: 3309.00
Early stopping at iteration 624, Best Score: 3355.53
Early stopping at iteration 502, Best Score: 3301.24
Early stopping at iteration 524, Best Score: 3311.67
Early stopping at iteration 781, Best Score: 3354.60
Early stopping at iteration 560, Best Score: 3311.62
Early stopping at iteration 695, Best Score: 3366.18
Early stopping at iteration 532, Best Score: 3315.00
Early stopping at iteration 588, Best Score: 3321.42
Early stopping at iteration 608, Best Score: 3338.34
Early stopping at iteration 502, Best Score: 3301.24
Early stopping at iteration 637, Best Score: 3351.38
Early stopping at iteration 507, Best Score: 3301.43
Early stopping at iteration 564, Best Score: 3348.46
Early stopping at iteration 506, Best Score: 3301.42
Early stopping at iteration 628, Best Score: 3320.64
Early stopping at iteration 700, Best Score: 3336.03
Early stopping at iteration 581, Best Score: 3334.13
Early stopping at iteration 535, Best Score: 3311.58
Early stopping at iteration 527, Best Score: 3301.43
Early stopping at iteration 522, Best Score: 3317.28
Early stopping at iteration 668, Best Score: 3371.48
Early stopping at iteration 785, Best Score: 3324.95
Early stopping at iteration 509, Best Score: 3307.43
Early stopping at iteration 519, Best Score: 3317.60
Early stopping at iteration 549, Best Score: 3327.40
Early stopping at iteration 619, Best Score: 3350.73
```

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Early stopping at iteration 572, Best Score: 3320.89
Early stopping at iteration 868, Best Score: 3342.68
  Deck Trial 100/250
Early stopping at iteration 516, Best Score: 3301.43
Early stopping at iteration 545, Best Score: 3324.11
Early stopping at iteration 778, Best Score: 3359.15
Early stopping at iteration 563, Best Score: 3342.21
Early stopping at iteration 755, Best Score: 3362.58
Early stopping at iteration 718, Best Score: 3341.46
Early stopping at iteration 610, Best Score: 3324.67
Early stopping at iteration 785, Best Score: 3354.71
Early stopping at iteration 614, Best Score: 3331.80
Early stopping at iteration 500, Best Score: 3298.55
Early stopping at iteration 512, Best Score: 3310.82
Early stopping at iteration 568, Best Score: 3340.86
Early stopping at iteration 504, Best Score: 3301.35
Early stopping at iteration 781, Best Score: 3363.76
Early stopping at iteration 937, Best Score: 3356.33
Early stopping at iteration 621, Best Score: 3337.51
Early stopping at iteration 738, Best Score: 3351.82
Early stopping at iteration 578, Best Score: 3345.33
Early stopping at iteration 736, Best Score: 3351.23
Early stopping at iteration 608, Best Score: 3317.81
Early stopping at iteration 578, Best Score: 3341.54
Early stopping at iteration 503, Best Score: 3301.24
Early stopping at iteration 676, Best Score: 3342.86
Early stopping at iteration 577, Best Score: 3344.93
Early stopping at iteration 522, Best Score: 3311.67
Early stopping at iteration 517, Best Score: 3301.88
Early stopping at iteration 946, Best Score: 3366.08
Early stopping at iteration 510, Best Score: 3301.34
Early stopping at iteration 792, Best Score: 3363.17
Early stopping at iteration 595, Best Score: 3334.66
Early stopping at iteration 590, Best Score: 3337.52
Early stopping at iteration 503, Best Score: 3301.24
Early stopping at iteration 584, Best Score: 3317.67
Early stopping at iteration 632, Best Score: 3354.65
Early stopping at iteration 534, Best Score: 3307.58
Early stopping at iteration 583, Best Score: 3330.16
Early stopping at iteration 630, Best Score: 3341.62
Early stopping at iteration 597, Best Score: 3336.52
Early stopping at iteration 623, Best Score: 3342.30
Early stopping at iteration 636, Best Score: 3311.68
Early stopping at iteration 565, Best Score: 3311.76
Early stopping at iteration 655, Best Score: 3374.86
Early stopping at iteration 571, Best Score: 3311.65
Early stopping at iteration 579, Best Score: 3331.34
Early stopping at iteration 728, Best Score: 3340.12
Early stopping at iteration 881, Best Score: 3377.69
Early stopping at iteration 508, Best Score: 3301.35
Early stopping at iteration 562, Best Score: 3343.03
Early stopping at iteration 542, Best Score: 3348.31
Early stopping at iteration 548, Best Score: 3320.99
Early stopping at iteration 771, Best Score: 3369.27
Early stopping at iteration 546, Best Score: 3321.69
Early stopping at iteration 579, Best Score: 3318.23
Early stopping at iteration 565, Best Score: 3313.52
Early stopping at iteration 567, Best Score: 3322.19
Early stopping at iteration 596, Best Score: 3331.48
Early stopping at iteration 621, Best Score: 3336.48
```

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Early stopping at iteration 577, Best Score: 3338.16
Early stopping at iteration 570, Best Score: 3338.25
Early stopping at iteration 728, Best Score: 3354.71
Early stopping at iteration 541, Best Score: 3324.47
Early stopping at iteration 588, Best Score: 3332.14
Early stopping at iteration 588, Best Score: 3330.49
Early stopping at iteration 541, Best Score: 3306.20
Early stopping at iteration 628, Best Score: 3325.51
Early stopping at iteration 632, Best Score: 3353.10
Early stopping at iteration 529, Best Score: 3317.40
Early stopping at iteration 547, Best Score: 3307.52
Early stopping at iteration 652, Best Score: 3323.80
Early stopping at iteration 630, Best Score: 3325.82
Early stopping at iteration 591, Best Score: 3327.71
Early stopping at iteration 572, Best Score: 3329.19
Early stopping at iteration 514, Best Score: 3301.33
Early stopping at iteration 660, Best Score: 3326.72
Early stopping at iteration 636, Best Score: 3339.52
Early stopping at iteration 549, Best Score: 3310.90
Early stopping at iteration 511, Best Score: 3301.33
Early stopping at iteration 583, Best Score: 3321.37
Early stopping at iteration 501, Best Score: 3301.24
Early stopping at iteration 716, Best Score: 3369.59
Early stopping at iteration 644, Best Score: 3328.67
Early stopping at iteration 561, Best Score: 3335.10
Early stopping at iteration 501, Best Score: 3301.34
Early stopping at iteration 712, Best Score: 3359.41
Early stopping at iteration 711, Best Score: 3338.79
Early stopping at iteration 620, Best Score: 3329.30
Early stopping at iteration 614, Best Score: 3333.23
Early stopping at iteration 560, Best Score: 3329.21
Early stopping at iteration 607, Best Score: 3333.96
Early stopping at iteration 796, Best Score: 3355.63
Early stopping at iteration 618, Best Score: 3335.14
Early stopping at iteration 533, Best Score: 3307.53
Early stopping at iteration 696, Best Score: 3356.02
Early stopping at iteration 526, Best Score: 3317.31
Early stopping at iteration 518, Best Score: 3317.10
Early stopping at iteration 548, Best Score: 3321.86
Early stopping at iteration 608, Best Score: 3330.74
Early stopping at iteration 548, Best Score: 3332.76
Early stopping at iteration 523, Best Score: 3311.68
Early stopping at iteration 547, Best Score: 3322.81
  Deck Trial 200/250
Early stopping at iteration 660, Best Score: 3351.28
Early stopping at iteration 770, Best Score: 3351.62
Early stopping at iteration 543, Best Score: 3319.09
Early stopping at iteration 622, Best Score: 3354.23
Early stopping at iteration 584, Best Score: 3351.55
Early stopping at iteration 649, Best Score: 3355.74
Early stopping at iteration 500, Best Score: 3298.55
Early stopping at iteration 691, Best Score: 3341.97
Early stopping at iteration 772, Best Score: 3338.71
Early stopping at iteration 647, Best Score: 3351.05
Early stopping at iteration 550, Best Score: 3318.86
Early stopping at iteration 634, Best Score: 3355.12
Early stopping at iteration 508, Best Score: 3301.42
Early stopping at iteration 587, Best Score: 3334.28
Early stopping at iteration 653, Best Score: 3348.33
Early stopping at iteration 877, Best Score: 3345.93
```

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Early stopping at iteration 587, Best Score: 3330.65
Early stopping at iteration 995, Best Score: 3335.24
Early stopping at iteration 555, Best Score: 3312.53
Early stopping at iteration 655, Best Score: 3325.16
Early stopping at iteration 683, Best Score: 3351.16
Early stopping at iteration 743, Best Score: 3352.30
Early stopping at iteration 671, Best Score: 3358.56
Early stopping at iteration 592, Best Score: 3343.17
Early stopping at iteration 572, Best Score: 3305.35
Early stopping at iteration 628, Best Score: 3323.08
Early stopping at iteration 681, Best Score: 3365.69
Early stopping at iteration 553, Best Score: 3315.25
Early stopping at iteration 779, Best Score: 3353.81
Early stopping at iteration 589, Best Score: 3338.17
Early stopping at iteration 642, Best Score: 3345.81
Early stopping at iteration 526, Best Score: 3301.35
Early stopping at iteration 570, Best Score: 3347.67
Early stopping at iteration 574, Best Score: 3330.45
Early stopping at iteration 531, Best Score: 3311.69
Early stopping at iteration 527, Best Score: 3306.90
Early stopping at iteration 625, Best Score: 3343.97
Early stopping at iteration 563, Best Score: 3317.69
Early stopping at iteration 621, Best Score: 3321.96
Early stopping at iteration 643, Best Score: 3339.78
Early stopping at iteration 582, Best Score: 3343.55
Early stopping at iteration 823, Best Score: 3364.50
Early stopping at iteration 586, Best Score: 3345.39
Early stopping at iteration 511, Best Score: 3301.95
Early stopping at iteration 595, Best Score: 3327.87
Early stopping at iteration 510, Best Score: 3301.43
Early stopping at iteration 500, Best Score: 3298.55
Early stopping at iteration 512, Best Score: 3301.42
Early stopping at iteration 735, Best Score: 3353.78
Early stopping at iteration 590, Best Score: 3335.35
Early stopping at iteration 510, Best Score: 3310.99
GNN Trial 2 completed with 250 decks.

GNN Trial 3/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 58.3723, Synergy Loss: 2.8208, Total: 64.0139
Epoch 20/300 - Node Loss: 6.1805, Synergy Loss: 2.6216, Total: 11.4237
Epoch 30/300 - Node Loss: 2.9277, Synergy Loss: 2.4936, Total: 7.9149
Epoch 40/300 - Node Loss: 1.2814, Synergy Loss: 2.3775, Total: 6.0364
Epoch 50/300 - Node Loss: 1.1145, Synergy Loss: 2.2533, Total: 5.6210
Epoch 60/300 - Node Loss: 1.0117, Synergy Loss: 2.1225, Total: 5.2566
Epoch 70/300 - Node Loss: 1.0084, Synergy Loss: 1.9822, Total: 4.9728
Epoch 80/300 - Node Loss: 1.0133, Synergy Loss: 1.8258, Total: 4.6648
Epoch 90/300 - Node Loss: 1.0636, Synergy Loss: 1.6433, Total: 4.3502
Epoch 100/300 - Node Loss: 1.0760, Synergy Loss: 1.4714, Total: 4.0188
Epoch 110/300 - Node Loss: 1.0730, Synergy Loss: 1.3694, Total: 3.8117
Epoch 120/300 - Node Loss: 1.2155, Synergy Loss: 1.1433, Total: 3.5022
Epoch 130/300 - Node Loss: 1.3313, Synergy Loss: 0.9734, Total: 3.2782
Epoch 140/300 - Node Loss: 1.2989, Synergy Loss: 0.9143, Total: 3.1275
Epoch 150/300 - Node Loss: 1.4424, Synergy Loss: 0.8632, Total: 3.1688
Epoch 160/300 - Node Loss: 1.2201, Synergy Loss: 0.8676, Total: 2.9554
Epoch 170/300 - Node Loss: 1.2165, Synergy Loss: 0.9461, Total: 3.1087
Early stopping at epoch 179
Existing model archived to: 20250310_104430_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 577, Best Score: 2448.03
```

```
Early stopping at iteration 615, Best Score: 2442.36
Early stopping at iteration 568, Best Score: 2452.60
Early stopping at iteration 843, Best Score: 2459.22
Early stopping at iteration 593, Best Score: 2458.21
Early stopping at iteration 629, Best Score: 2464.66
Early stopping at iteration 715, Best Score: 2470.24
Early stopping at iteration 572, Best Score: 2452.42
Early stopping at iteration 594, Best Score: 2474.36
Early stopping at iteration 858, Best Score: 2458.04
Early stopping at iteration 566, Best Score: 2446.19
Early stopping at iteration 855, Best Score: 2466.17
Early stopping at iteration 951, Best Score: 2454.18
Early stopping at iteration 605, Best Score: 2459.14
Early stopping at iteration 664, Best Score: 2479.99
Early stopping at iteration 819, Best Score: 2481.05
Early stopping at iteration 592, Best Score: 2477.10
Early stopping at iteration 871, Best Score: 2464.63
Early stopping at iteration 748, Best Score: 2465.38
Early stopping at iteration 583, Best Score: 2456.29
Early stopping at iteration 635, Best Score: 2458.26
Early stopping at iteration 720, Best Score: 2466.91
Early stopping at iteration 543, Best Score: 2439.67
Early stopping at iteration 801, Best Score: 2475.25
Early stopping at iteration 612, Best Score: 2458.79
Early stopping at iteration 596, Best Score: 2475.56
Early stopping at iteration 584, Best Score: 2461.74
Early stopping at iteration 619, Best Score: 2445.28
Early stopping at iteration 560, Best Score: 2450.24
Early stopping at iteration 638, Best Score: 2447.71
Early stopping at iteration 561, Best Score: 2451.80
Early stopping at iteration 741, Best Score: 2463.95
Early stopping at iteration 1076, Best Score: 2468.83
Early stopping at iteration 613, Best Score: 2456.74
Early stopping at iteration 770, Best Score: 2449.93
Early stopping at iteration 564, Best Score: 2451.49
Early stopping at iteration 782, Best Score: 2439.62
Early stopping at iteration 522, Best Score: 2443.07
Early stopping at iteration 706, Best Score: 2454.36
Early stopping at iteration 567, Best Score: 2455.73
Early stopping at iteration 631, Best Score: 2459.91
Early stopping at iteration 571, Best Score: 2457.78
Early stopping at iteration 674, Best Score: 2459.39
Early stopping at iteration 684, Best Score: 2482.36
Early stopping at iteration 529, Best Score: 2437.53
Early stopping at iteration 896, Best Score: 2455.91
Early stopping at iteration 599, Best Score: 2444.78
Early stopping at iteration 601, Best Score: 2448.81
Early stopping at iteration 732, Best Score: 2461.51
Early stopping at iteration 544, Best Score: 2439.28
Early stopping at iteration 790, Best Score: 2457.77
Early stopping at iteration 683, Best Score: 2478.92
Early stopping at iteration 579, Best Score: 2457.11
Early stopping at iteration 666, Best Score: 2456.19
Early stopping at iteration 1058, Best Score: 2463.67
Early stopping at iteration 586, Best Score: 2435.75
Early stopping at iteration 614, Best Score: 2463.77
Early stopping at iteration 654, Best Score: 2465.02
Early stopping at iteration 724, Best Score: 2463.55
Early stopping at iteration 764, Best Score: 2450.01
Early stopping at iteration 824, Best Score: 2449.80
```

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Early stopping at iteration 719, Best Score: 2458.24
Early stopping at iteration 605, Best Score: 2468.34
Early stopping at iteration 619, Best Score: 2463.46
Early stopping at iteration 759, Best Score: 2473.37
Early stopping at iteration 664, Best Score: 2466.75
Early stopping at iteration 783, Best Score: 2469.54
Early stopping at iteration 645, Best Score: 2450.02
Early stopping at iteration 553, Best Score: 2442.05
Early stopping at iteration 717, Best Score: 2475.19
Early stopping at iteration 565, Best Score: 2453.40
Early stopping at iteration 808, Best Score: 2481.04
Early stopping at iteration 739, Best Score: 2456.03
Early stopping at iteration 545, Best Score: 2449.90
Early stopping at iteration 655, Best Score: 2469.40
Early stopping at iteration 605, Best Score: 2457.14
Early stopping at iteration 575, Best Score: 2458.55
Early stopping at iteration 578, Best Score: 2463.66
Early stopping at iteration 645, Best Score: 2467.22
Early stopping at iteration 641, Best Score: 2466.01
Early stopping at iteration 674, Best Score: 2476.63
Early stopping at iteration 1038, Best Score: 2471.61
Early stopping at iteration 623, Best Score: 2458.01
Early stopping at iteration 575, Best Score: 2451.23
Early stopping at iteration 662, Best Score: 2460.26
Early stopping at iteration 566, Best Score: 2459.89
Early stopping at iteration 560, Best Score: 2454.90
Early stopping at iteration 519, Best Score: 2434.77
Early stopping at iteration 598, Best Score: 2467.60
Early stopping at iteration 553, Best Score: 2452.26
Early stopping at iteration 591, Best Score: 2456.77
Early stopping at iteration 704, Best Score: 2470.99
Early stopping at iteration 557, Best Score: 2460.32
Early stopping at iteration 599, Best Score: 2467.90
Early stopping at iteration 892, Best Score: 2470.44
Early stopping at iteration 610, Best Score: 2469.69
Early stopping at iteration 606, Best Score: 2466.42
Early stopping at iteration 622, Best Score: 2445.42
Early stopping at iteration 590, Best Score: 2459.88
  Deck Trial 100/250
Early stopping at iteration 555, Best Score: 2450.26
Early stopping at iteration 1129, Best Score: 2463.88
Early stopping at iteration 587, Best Score: 2466.88
Early stopping at iteration 658, Best Score: 2476.97
Early stopping at iteration 650, Best Score: 2470.52
Early stopping at iteration 599, Best Score: 2460.09
Early stopping at iteration 665, Best Score: 2466.28
Early stopping at iteration 648, Best Score: 2452.50
Early stopping at iteration 653, Best Score: 2458.59
Early stopping at iteration 555, Best Score: 2442.78
Early stopping at iteration 672, Best Score: 2458.22
Early stopping at iteration 635, Best Score: 2452.84
Early stopping at iteration 780, Best Score: 2470.30
Early stopping at iteration 614, Best Score: 2453.06
Early stopping at iteration 672, Best Score: 2462.04
Early stopping at iteration 564, Best Score: 2446.97
Early stopping at iteration 585, Best Score: 2449.67
Early stopping at iteration 624, Best Score: 2464.02
Early stopping at iteration 955, Best Score: 2468.19
Early stopping at iteration 661, Best Score: 2461.29
Early stopping at iteration 1198, Best Score: 2474.24
```

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Early stopping at iteration 943, Best Score: 2449.55
Early stopping at iteration 670, Best Score: 2459.08
Early stopping at iteration 994, Best Score: 2471.21
Early stopping at iteration 616, Best Score: 2466.06
Early stopping at iteration 753, Best Score: 2477.67
Early stopping at iteration 601, Best Score: 2459.70
Early stopping at iteration 931, Best Score: 2471.55
Early stopping at iteration 535, Best Score: 2444.01
Early stopping at iteration 582, Best Score: 2448.22
Early stopping at iteration 547, Best Score: 2456.64
Early stopping at iteration 569, Best Score: 2449.39
Early stopping at iteration 620, Best Score: 2462.86
Early stopping at iteration 636, Best Score: 2460.02
Early stopping at iteration 605, Best Score: 2464.49
Early stopping at iteration 587, Best Score: 2444.86
Early stopping at iteration 752, Best Score: 2463.20
Early stopping at iteration 742, Best Score: 2465.80
Early stopping at iteration 720, Best Score: 2461.09
Early stopping at iteration 700, Best Score: 2463.12
Early stopping at iteration 726, Best Score: 2447.52
Early stopping at iteration 627, Best Score: 2469.95
Early stopping at iteration 567, Best Score: 2445.91
Early stopping at iteration 588, Best Score: 2458.41
Early stopping at iteration 558, Best Score: 2448.35
Early stopping at iteration 552, Best Score: 2453.36
Early stopping at iteration 617, Best Score: 2456.93
Early stopping at iteration 542, Best Score: 2449.26
Early stopping at iteration 592, Best Score: 2459.26
Early stopping at iteration 637, Best Score: 2443.05
Early stopping at iteration 548, Best Score: 2455.68
Early stopping at iteration 538, Best Score: 2442.28
Early stopping at iteration 823, Best Score: 2460.46
Early stopping at iteration 836, Best Score: 2451.14
Early stopping at iteration 542, Best Score: 2449.11
Early stopping at iteration 692, Best Score: 2471.44
Early stopping at iteration 659, Best Score: 2453.88
Early stopping at iteration 661, Best Score: 2461.41
Early stopping at iteration 530, Best Score: 2448.97
Early stopping at iteration 616, Best Score: 2447.06
Early stopping at iteration 619, Best Score: 2436.62
Early stopping at iteration 675, Best Score: 2476.56
Early stopping at iteration 734, Best Score: 2458.55
Early stopping at iteration 669, Best Score: 2467.13
Early stopping at iteration 606, Best Score: 2454.21
Early stopping at iteration 576, Best Score: 2440.98
Early stopping at iteration 642, Best Score: 2463.08
Early stopping at iteration 580, Best Score: 2453.66
Early stopping at iteration 866, Best Score: 2465.69
Early stopping at iteration 596, Best Score: 2473.73
Early stopping at iteration 592, Best Score: 2452.28
Early stopping at iteration 744, Best Score: 2451.98
Early stopping at iteration 606, Best Score: 2465.78
Early stopping at iteration 695, Best Score: 2467.69
Early stopping at iteration 723, Best Score: 2468.38
Early stopping at iteration 692, Best Score: 2473.06
Early stopping at iteration 873, Best Score: 2465.93
Early stopping at iteration 706, Best Score: 2455.03
Early stopping at iteration 676, Best Score: 2453.15
Early stopping at iteration 640, Best Score: 2464.26
Early stopping at iteration 669, Best Score: 2480.82
```

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Early stopping at iteration 557, Best Score: 2459.69
Early stopping at iteration 701, Best Score: 2474.14
Early stopping at iteration 878, Best Score: 2479.18
Early stopping at iteration 565, Best Score: 2453.79
Early stopping at iteration 553, Best Score: 2456.75
Early stopping at iteration 776, Best Score: 2483.19
Early stopping at iteration 703, Best Score: 2474.37
Early stopping at iteration 533, Best Score: 2438.64
Early stopping at iteration 760, Best Score: 2453.24
Early stopping at iteration 647, Best Score: 2466.12
Early stopping at iteration 634, Best Score: 2458.82
Early stopping at iteration 565, Best Score: 2455.47
Early stopping at iteration 556, Best Score: 2443.04
Early stopping at iteration 523, Best Score: 2431.28
Early stopping at iteration 612, Best Score: 2468.96
Early stopping at iteration 662, Best Score: 2465.45
Early stopping at iteration 568, Best Score: 2444.63
Early stopping at iteration 648, Best Score: 2458.08
Early stopping at iteration 776, Best Score: 2468.50
  Deck Trial 200/250
Early stopping at iteration 607, Best Score: 2458.92
Early stopping at iteration 603, Best Score: 2446.32
Early stopping at iteration 662, Best Score: 2450.79
Early stopping at iteration 613, Best Score: 2449.19
Early stopping at iteration 752, Best Score: 2473.63
Early stopping at iteration 623, Best Score: 2448.75
Early stopping at iteration 689, Best Score: 2484.20
Early stopping at iteration 711, Best Score: 2466.42
Early stopping at iteration 794, Best Score: 2459.84
Early stopping at iteration 625, Best Score: 2459.26
Early stopping at iteration 935, Best Score: 2474.80
Early stopping at iteration 643, Best Score: 2454.91
Early stopping at iteration 547, Best Score: 2455.59
Early stopping at iteration 637, Best Score: 2460.13
Early stopping at iteration 549, Best Score: 2447.76
Early stopping at iteration 683, Best Score: 2470.26
Early stopping at iteration 1274, Best Score: 2456.99
Early stopping at iteration 543, Best Score: 2457.66
Early stopping at iteration 565, Best Score: 2450.96
Early stopping at iteration 810, Best Score: 2477.37
Early stopping at iteration 657, Best Score: 2467.52
Early stopping at iteration 642, Best Score: 2462.81
Early stopping at iteration 658, Best Score: 2460.51
Early stopping at iteration 932, Best Score: 2486.10
Early stopping at iteration 597, Best Score: 2445.40
Early stopping at iteration 735, Best Score: 2469.46
Early stopping at iteration 744, Best Score: 2477.12
Early stopping at iteration 746, Best Score: 2450.40
Early stopping at iteration 632, Best Score: 2461.60
Early stopping at iteration 633, Best Score: 2454.18
Early stopping at iteration 719, Best Score: 2464.82
Early stopping at iteration 537, Best Score: 2453.66
Early stopping at iteration 557, Best Score: 2439.36
Early stopping at iteration 641, Best Score: 2471.42
Early stopping at iteration 563, Best Score: 2458.09
Early stopping at iteration 720, Best Score: 2450.42
Early stopping at iteration 623, Best Score: 2456.91
Early stopping at iteration 659, Best Score: 2459.48
Early stopping at iteration 624, Best Score: 2461.88
Early stopping at iteration 619, Best Score: 2465.38
```

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Early stopping at iteration 866, Best Score: 2469.86
Early stopping at iteration 701, Best Score: 2482.62
Early stopping at iteration 571, Best Score: 2449.80
Early stopping at iteration 580, Best Score: 2454.58
Early stopping at iteration 550, Best Score: 2454.29
Early stopping at iteration 626, Best Score: 2466.57
Early stopping at iteration 617, Best Score: 2453.41
Early stopping at iteration 590, Best Score: 2461.62
Early stopping at iteration 812, Best Score: 2458.17
Early stopping at iteration 677, Best Score: 2459.53
Early stopping at iteration 582, Best Score: 2455.12
GNN Trial 3 completed with 250 decks.

GNN Trial 4/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 13.0729, Synergy Loss: 2.3755, Total: 17.8239
Epoch 20/300 - Node Loss: 2.5446, Synergy Loss: 2.2435, Total: 7.0316
Epoch 30/300 - Node Loss: 1.7455, Synergy Loss: 2.0804, Total: 5.9063
Epoch 40/300 - Node Loss: 1.1239, Synergy Loss: 1.8776, Total: 4.8792
Epoch 50/300 - Node Loss: 1.0285, Synergy Loss: 1.5506, Total: 4.1297
Epoch 60/300 - Node Loss: 1.1096, Synergy Loss: 1.0599, Total: 3.2294
Epoch 70/300 - Node Loss: 1.2070, Synergy Loss: 0.9598, Total: 3.1266
Epoch 80/300 - Node Loss: 1.1976, Synergy Loss: 0.8131, Total: 2.8238
Epoch 90/300 - Node Loss: 1.1839, Synergy Loss: 0.7901, Total: 2.7641
Epoch 100/300 - Node Loss: 1.1810, Synergy Loss: 0.7590, Total: 2.6990
Epoch 110/300 - Node Loss: 1.1192, Synergy Loss: 0.7453, Total: 2.6097
Epoch 120/300 - Node Loss: 1.1575, Synergy Loss: 0.7092, Total: 2.5758
Epoch 130/300 - Node Loss: 1.1543, Synergy Loss: 0.6456, Total: 2.4455
Epoch 140/300 - Node Loss: 1.0364, Synergy Loss: 0.6816, Total: 2.3997
Epoch 150/300 - Node Loss: 1.0496, Synergy Loss: 0.6356, Total: 2.3207
Early stopping at epoch 159
Existing model archived to: 20250310_104856_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 578, Best Score: 3139.17
Early stopping at iteration 538, Best Score: 3087.54
Early stopping at iteration 672, Best Score: 3174.91
Early stopping at iteration 716, Best Score: 3177.21
Early stopping at iteration 711, Best Score: 3164.09
Early stopping at iteration 887, Best Score: 3162.88
Early stopping at iteration 690, Best Score: 3155.63
Early stopping at iteration 614, Best Score: 3135.75
Early stopping at iteration 691, Best Score: 3144.82
Early stopping at iteration 625, Best Score: 3166.51
Early stopping at iteration 558, Best Score: 3116.55
Early stopping at iteration 711, Best Score: 3196.09
Early stopping at iteration 590, Best Score: 3136.00
Early stopping at iteration 754, Best Score: 3134.71
Early stopping at iteration 583, Best Score: 3150.49
Early stopping at iteration 598, Best Score: 3143.64
Early stopping at iteration 559, Best Score: 3110.02
Early stopping at iteration 627, Best Score: 3136.98
Early stopping at iteration 615, Best Score: 3187.61
Early stopping at iteration 624, Best Score: 3143.36
Early stopping at iteration 876, Best Score: 3206.39
Early stopping at iteration 725, Best Score: 3178.16
Early stopping at iteration 1000, Best Score: 3198.96
Early stopping at iteration 634, Best Score: 3162.75
Early stopping at iteration 664, Best Score: 3155.97
Early stopping at iteration 604, Best Score: 3146.85
Early stopping at iteration 670, Best Score: 3189.68
```

```
Early stopping at iteration 872, Best Score: 3209.11
Early stopping at iteration 550, Best Score: 3126.18
Early stopping at iteration 691, Best Score: 3154.27
Early stopping at iteration 584, Best Score: 3139.36
Early stopping at iteration 609, Best Score: 3143.64
Early stopping at iteration 633, Best Score: 3169.86
Early stopping at iteration 734, Best Score: 3218.43
Early stopping at iteration 663, Best Score: 3138.86
Early stopping at iteration 593, Best Score: 3144.04
Early stopping at iteration 627, Best Score: 3155.02
Early stopping at iteration 568, Best Score: 3124.01
Early stopping at iteration 696, Best Score: 3173.49
Early stopping at iteration 793, Best Score: 3188.51
Early stopping at iteration 611, Best Score: 3160.69
Early stopping at iteration 750, Best Score: 3195.52
Early stopping at iteration 604, Best Score: 3128.16
Early stopping at iteration 711, Best Score: 3174.37
Early stopping at iteration 664, Best Score: 3161.54
Early stopping at iteration 1104, Best Score: 3179.68
Early stopping at iteration 614, Best Score: 3150.85
Early stopping at iteration 660, Best Score: 3153.25
Early stopping at iteration 660, Best Score: 3149.34
Early stopping at iteration 970, Best Score: 3146.19
Early stopping at iteration 711, Best Score: 3196.70
Early stopping at iteration 520, Best Score: 3088.70
Early stopping at iteration 644, Best Score: 3181.98
Early stopping at iteration 782, Best Score: 3206.90
Early stopping at iteration 549, Best Score: 3086.24
Early stopping at iteration 598, Best Score: 3139.59
Early stopping at iteration 1081, Best Score: 3192.83
Early stopping at iteration 648, Best Score: 3212.85
Early stopping at iteration 762, Best Score: 3141.42
Early stopping at iteration 555, Best Score: 3106.22
Early stopping at iteration 590, Best Score: 3144.22
Early stopping at iteration 646, Best Score: 3146.13
Early stopping at iteration 826, Best Score: 3169.04
Early stopping at iteration 766, Best Score: 3118.51
Early stopping at iteration 669, Best Score: 3157.59
Early stopping at iteration 791, Best Score: 3176.98
Early stopping at iteration 737, Best Score: 3163.72
Early stopping at iteration 740, Best Score: 3183.35
Early stopping at iteration 571, Best Score: 3121.65
Early stopping at iteration 828, Best Score: 3135.41
Early stopping at iteration 560, Best Score: 3122.10
Early stopping at iteration 675, Best Score: 3180.83
Early stopping at iteration 550, Best Score: 3119.70
Early stopping at iteration 843, Best Score: 3168.09
Early stopping at iteration 634, Best Score: 3156.12
Early stopping at iteration 1000, Best Score: 3179.76
Early stopping at iteration 807, Best Score: 3161.78
Early stopping at iteration 611, Best Score: 3145.40
Early stopping at iteration 612, Best Score: 3143.99
Early stopping at iteration 596, Best Score: 3131.53
Early stopping at iteration 572, Best Score: 3145.36
Early stopping at iteration 1046, Best Score: 3203.30
Early stopping at iteration 649, Best Score: 3172.69
Early stopping at iteration 779, Best Score: 3197.57
Early stopping at iteration 570, Best Score: 3172.80
Early stopping at iteration 800, Best Score: 3164.37
Early stopping at iteration 938, Best Score: 3220.21
```

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Early stopping at iteration 582, Best Score: 3135.64
Early stopping at iteration 679, Best Score: 3168.63
Early stopping at iteration 605, Best Score: 3149.38
Early stopping at iteration 915, Best Score: 3168.69
Early stopping at iteration 651, Best Score: 3157.32
Early stopping at iteration 678, Best Score: 3171.29
Early stopping at iteration 611, Best Score: 3147.74
Early stopping at iteration 1084, Best Score: 3215.98
Early stopping at iteration 807, Best Score: 3192.04
Early stopping at iteration 532, Best Score: 3098.41
Early stopping at iteration 573, Best Score: 3120.41
Early stopping at iteration 747, Best Score: 3167.91
  Deck Trial 100/250
Early stopping at iteration 624, Best Score: 3103.47
Early stopping at iteration 599, Best Score: 3126.76
Early stopping at iteration 672, Best Score: 3137.77
Early stopping at iteration 758, Best Score: 3199.77
Early stopping at iteration 571, Best Score: 3113.82
Early stopping at iteration 586, Best Score: 3132.88
Early stopping at iteration 547, Best Score: 3091.16
Early stopping at iteration 724, Best Score: 3188.90
Early stopping at iteration 673, Best Score: 3133.47
Early stopping at iteration 695, Best Score: 3164.93
Early stopping at iteration 593, Best Score: 3120.21
Early stopping at iteration 643, Best Score: 3177.78
Early stopping at iteration 569, Best Score: 3114.02
Early stopping at iteration 691, Best Score: 3145.90
Early stopping at iteration 757, Best Score: 3172.83
Early stopping at iteration 851, Best Score: 3175.17
Early stopping at iteration 534, Best Score: 3125.36
Early stopping at iteration 800, Best Score: 3161.47
Early stopping at iteration 773, Best Score: 3170.94
Early stopping at iteration 647, Best Score: 3175.19
Early stopping at iteration 943, Best Score: 3201.55
Early stopping at iteration 809, Best Score: 3160.06
Early stopping at iteration 674, Best Score: 3152.76
Early stopping at iteration 738, Best Score: 3159.13
Early stopping at iteration 585, Best Score: 3110.94
Early stopping at iteration 591, Best Score: 3133.58
Early stopping at iteration 750, Best Score: 3154.79
Early stopping at iteration 1239, Best Score: 3204.19
Early stopping at iteration 799, Best Score: 3169.68
Early stopping at iteration 611, Best Score: 3140.43
Early stopping at iteration 837, Best Score: 3205.94
Early stopping at iteration 872, Best Score: 3168.89
Early stopping at iteration 558, Best Score: 3115.70
Early stopping at iteration 583, Best Score: 3153.39
Early stopping at iteration 754, Best Score: 3146.23
Early stopping at iteration 748, Best Score: 3186.10
Early stopping at iteration 572, Best Score: 3147.78
Early stopping at iteration 567, Best Score: 3110.72
Early stopping at iteration 636, Best Score: 3157.28
Early stopping at iteration 618, Best Score: 3169.43
Early stopping at iteration 657, Best Score: 3127.69
Early stopping at iteration 685, Best Score: 3135.99
Early stopping at iteration 609, Best Score: 3153.39
Early stopping at iteration 679, Best Score: 3159.72
Early stopping at iteration 531, Best Score: 3124.84
Early stopping at iteration 703, Best Score: 3165.94
Early stopping at iteration 876, Best Score: 3201.16
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Early stopping at iteration 677, Best Score: 3131.32
Early stopping at iteration 599, Best Score: 3174.99
Early stopping at iteration 554, Best Score: 3149.14
Early stopping at iteration 656, Best Score: 3140.93
Early stopping at iteration 713, Best Score: 3146.60
Early stopping at iteration 550, Best Score: 3130.83
Early stopping at iteration 535, Best Score: 3092.97
Early stopping at iteration 666, Best Score: 3160.64
Early stopping at iteration 751, Best Score: 3175.92
Early stopping at iteration 644, Best Score: 3153.43
Early stopping at iteration 911, Best Score: 3191.74
Early stopping at iteration 682, Best Score: 3172.84
Early stopping at iteration 624, Best Score: 3137.76
Early stopping at iteration 736, Best Score: 3213.01
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Early stopping at iteration 682, Best Score: 3158.31
Early stopping at iteration 741, Best Score: 3185.35
Early stopping at iteration 607, Best Score: 3132.34
Early stopping at iteration 535, Best Score: 3102.78
Early stopping at iteration 575, Best Score: 3141.79
Early stopping at iteration 578, Best Score: 3149.88
Early stopping at iteration 607, Best Score: 3170.39
Early stopping at iteration 653, Best Score: 3157.51
Early stopping at iteration 640, Best Score: 3130.58
Early stopping at iteration 897, Best Score: 3204.85
Early stopping at iteration 780, Best Score: 3212.38
Early stopping at iteration 694, Best Score: 3154.70
Early stopping at iteration 542, Best Score: 3129.73
Early stopping at iteration 748, Best Score: 3208.00
Early stopping at iteration 618, Best Score: 3138.21
Early stopping at iteration 676, Best Score: 3157.56
Early stopping at iteration 555, Best Score: 3135.46
Early stopping at iteration 825, Best Score: 3172.85
Early stopping at iteration 653, Best Score: 3150.06
Early stopping at iteration 683, Best Score: 3155.12
Early stopping at iteration 561, Best Score: 3136.65
Early stopping at iteration 636, Best Score: 3145.30
Early stopping at iteration 639, Best Score: 3138.63
Early stopping at iteration 693, Best Score: 3112.29
Early stopping at iteration 599, Best Score: 3152.66
Early stopping at iteration 550, Best Score: 3134.43
Early stopping at iteration 582, Best Score: 3128.12
Early stopping at iteration 632, Best Score: 3165.32
Early stopping at iteration 1193, Best Score: 3191.64
Early stopping at iteration 842, Best Score: 3163.95
Early stopping at iteration 656, Best Score: 3162.94
Early stopping at iteration 1186, Best Score: 3185.02
Early stopping at iteration 663, Best Score: 3161.11
Early stopping at iteration 661, Best Score: 3180.79
Early stopping at iteration 637, Best Score: 3127.44
Early stopping at iteration 603, Best Score: 3177.21
Early stopping at iteration 950, Best Score: 3189.18
  Deck Trial 200/250
Early stopping at iteration 672, Best Score: 3158.53
Early stopping at iteration 649, Best Score: 3150.39
Early stopping at iteration 705, Best Score: 3177.88
Early stopping at iteration 920, Best Score: 3138.67
Early stopping at iteration 745, Best Score: 3164.53
Early stopping at iteration 741, Best Score: 3175.94
```

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Early stopping at iteration 569, Best Score: 3115.45
Early stopping at iteration 661, Best Score: 3135.54
Early stopping at iteration 671, Best Score: 3171.15
Early stopping at iteration 619, Best Score: 3159.77
Early stopping at iteration 809, Best Score: 3134.91
Early stopping at iteration 571, Best Score: 3115.91
Early stopping at iteration 1197, Best Score: 3184.54
Early stopping at iteration 575, Best Score: 3118.32
Early stopping at iteration 612, Best Score: 3164.52
Early stopping at iteration 1041, Best Score: 3152.08
Early stopping at iteration 687, Best Score: 3183.39
Early stopping at iteration 637, Best Score: 3157.85
Early stopping at iteration 1065, Best Score: 3197.34
Early stopping at iteration 582, Best Score: 3115.90
Early stopping at iteration 563, Best Score: 3121.11
Early stopping at iteration 583, Best Score: 3146.31
Early stopping at iteration 687, Best Score: 3127.48
Early stopping at iteration 834, Best Score: 3189.85
Early stopping at iteration 1217, Best Score: 3162.11
Early stopping at iteration 579, Best Score: 3131.21
Early stopping at iteration 559, Best Score: 3123.75
Early stopping at iteration 753, Best Score: 3136.68
Early stopping at iteration 679, Best Score: 3184.94
Early stopping at iteration 569, Best Score: 3143.63
Early stopping at iteration 587, Best Score: 3141.81
Early stopping at iteration 664, Best Score: 3155.82
Early stopping at iteration 822, Best Score: 3205.28
Early stopping at iteration 685, Best Score: 3118.87
Early stopping at iteration 780, Best Score: 3196.74
Early stopping at iteration 738, Best Score: 3191.36
Early stopping at iteration 632, Best Score: 3128.62
Early stopping at iteration 596, Best Score: 3149.07
Early stopping at iteration 1008, Best Score: 3174.10
Early stopping at iteration 626, Best Score: 3157.06
Early stopping at iteration 639, Best Score: 3155.17
Early stopping at iteration 704, Best Score: 3186.78
Early stopping at iteration 613, Best Score: 3138.06
Early stopping at iteration 568, Best Score: 3102.51
Early stopping at iteration 802, Best Score: 3164.91
Early stopping at iteration 905, Best Score: 3162.61
Early stopping at iteration 677, Best Score: 3150.83
Early stopping at iteration 620, Best Score: 3162.14
Early stopping at iteration 659, Best Score: 3121.82
Early stopping at iteration 851, Best Score: 3178.23
Early stopping at iteration 661, Best Score: 3153.69
GNN Trial 4 completed with 250 decks.

GNN Trial 5/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 43.0723, Synergy Loss: 2.5187, Total: 48.1098
Epoch 20/300 - Node Loss: 4.7121, Synergy Loss: 2.3420, Total: 9.3961
Epoch 30/300 - Node Loss: 2.0629, Synergy Loss: 2.2511, Total: 6.5651
Epoch 40/300 - Node Loss: 1.3297, Synergy Loss: 2.1514, Total: 5.6324
Epoch 50/300 - Node Loss: 1.0634, Synergy Loss: 2.0255, Total: 5.1143
Epoch 60/300 - Node Loss: 1.0309, Synergy Loss: 1.8932, Total: 4.8172
Epoch 70/300 - Node Loss: 1.0151, Synergy Loss: 1.7807, Total: 4.5765
Epoch 80/300 - Node Loss: 1.0369, Synergy Loss: 1.6638, Total: 4.3645
Epoch 90/300 - Node Loss: 1.0469, Synergy Loss: 1.5280, Total: 4.1029
Epoch 100/300 - Node Loss: 1.1028, Synergy Loss: 1.3123, Total: 3.7274
Epoch 110/300 - Node Loss: 1.1842, Synergy Loss: 1.1016, Total: 3.3875
```

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Epoch 120/300 - Node Loss: 1.2040, Synergy Loss: 0.9046, Total: 3.0133
Epoch 130/300 - Node Loss: 1.2153, Synergy Loss: 0.8338, Total: 2.8829
Epoch 140/300 - Node Loss: 1.1897, Synergy Loss: 0.8218, Total: 2.8334
Early stopping at epoch 148
Existing model archived to: 20250310_105312_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 553, Best Score: 2683.69
Early stopping at iteration 801, Best Score: 2700.09
Early stopping at iteration 591, Best Score: 2679.80
Early stopping at iteration 575, Best Score: 2681.77
Early stopping at iteration 585, Best Score: 2701.93
Early stopping at iteration 566, Best Score: 2701.87
Early stopping at iteration 556, Best Score: 2691.86
Early stopping at iteration 566, Best Score: 2693.71
Early stopping at iteration 618, Best Score: 2689.94
Early stopping at iteration 538, Best Score: 2671.62
Early stopping at iteration 588, Best Score: 2673.84
Early stopping at iteration 588, Best Score: 2685.74
Early stopping at iteration 620, Best Score: 2699.97
Early stopping at iteration 710, Best Score: 2689.80
Early stopping at iteration 647, Best Score: 2691.82
Early stopping at iteration 576, Best Score: 2699.97
Early stopping at iteration 598, Best Score: 2687.94
Early stopping at iteration 727, Best Score: 2693.84
Early stopping at iteration 554, Best Score: 2693.73
Early stopping at iteration 597, Best Score: 2691.92
Early stopping at iteration 623, Best Score: 2697.89
Early stopping at iteration 608, Best Score: 2691.87
Early stopping at iteration 773, Best Score: 2706.09
Early stopping at iteration 593, Best Score: 2691.83
Early stopping at iteration 623, Best Score: 2677.68
Early stopping at iteration 570, Best Score: 2681.73
Early stopping at iteration 567, Best Score: 2681.73
Early stopping at iteration 614, Best Score: 2693.86
Early stopping at iteration 577, Best Score: 2687.81
Early stopping at iteration 534, Best Score: 2671.59
Early stopping at iteration 691, Best Score: 2707.85
Early stopping at iteration 674, Best Score: 2700.04
Early stopping at iteration 600, Best Score: 2703.96
Early stopping at iteration 558, Best Score: 2685.77
Early stopping at iteration 664, Best Score: 2706.12
Early stopping at iteration 670, Best Score: 2703.99
Early stopping at iteration 625, Best Score: 2700.03
Early stopping at iteration 598, Best Score: 2695.89
Early stopping at iteration 547, Best Score: 2671.72
Early stopping at iteration 546, Best Score: 2671.64
Early stopping at iteration 635, Best Score: 2709.87
Early stopping at iteration 1015, Best Score: 2706.05
Early stopping at iteration 731, Best Score: 2701.86
Early stopping at iteration 704, Best Score: 2696.11
Early stopping at iteration 812, Best Score: 2699.89
Early stopping at iteration 775, Best Score: 2697.70
Early stopping at iteration 600, Best Score: 2693.77
Early stopping at iteration 593, Best Score: 2689.73
Early stopping at iteration 607, Best Score: 2697.94
Early stopping at iteration 523, Best Score: 2675.74
Early stopping at iteration 568, Best Score: 2691.90
Early stopping at iteration 569, Best Score: 2689.77
Early stopping at iteration 644, Best Score: 2697.94
Early stopping at iteration 607, Best Score: 2701.98
```

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Early stopping at iteration 582, Best Score: 2685.71
Early stopping at iteration 586, Best Score: 2691.96
Early stopping at iteration 539, Best Score: 2681.90
Early stopping at iteration 619, Best Score: 2691.83
Early stopping at iteration 587, Best Score: 2685.77
Early stopping at iteration 1034, Best Score: 2699.93
Early stopping at iteration 643, Best Score: 2689.96
Early stopping at iteration 547, Best Score: 2683.72
Early stopping at iteration 744, Best Score: 2698.11
Early stopping at iteration 544, Best Score: 2675.74
Early stopping at iteration 770, Best Score: 2701.96
Early stopping at iteration 615, Best Score: 2693.93
Early stopping at iteration 643, Best Score: 2695.99
Early stopping at iteration 610, Best Score: 2673.61
Early stopping at iteration 1021, Best Score: 2687.78
Early stopping at iteration 723, Best Score: 2701.89
Early stopping at iteration 599, Best Score: 2695.94
Early stopping at iteration 682, Best Score: 2700.01
Early stopping at iteration 639, Best Score: 2703.92
Early stopping at iteration 666, Best Score: 2710.03
Early stopping at iteration 592, Best Score: 2675.68
Early stopping at iteration 566, Best Score: 2691.77
Early stopping at iteration 744, Best Score: 2694.01
Early stopping at iteration 577, Best Score: 2695.81
Early stopping at iteration 702, Best Score: 2706.12
Early stopping at iteration 590, Best Score: 2683.79
Early stopping at iteration 550, Best Score: 2679.76
Early stopping at iteration 670, Best Score: 2699.87
Early stopping at iteration 552, Best Score: 2683.69
Early stopping at iteration 546, Best Score: 2689.90
Early stopping at iteration 626, Best Score: 2704.03
Early stopping at iteration 576, Best Score: 2685.83
Early stopping at iteration 834, Best Score: 2708.03
Early stopping at iteration 575, Best Score: 2695.85
Early stopping at iteration 558, Best Score: 2691.89
Early stopping at iteration 563, Best Score: 2687.77
Early stopping at iteration 544, Best Score: 2687.84
Early stopping at iteration 819, Best Score: 2701.95
Early stopping at iteration 641, Best Score: 2669.63
Early stopping at iteration 604, Best Score: 2691.82
Early stopping at iteration 650, Best Score: 2701.87
Early stopping at iteration 620, Best Score: 2691.95
Early stopping at iteration 641, Best Score: 2701.90
Early stopping at iteration 598, Best Score: 2699.89
Early stopping at iteration 616, Best Score: 2687.82
  Deck Trial 100/250
Early stopping at iteration 681, Best Score: 2689.78
Early stopping at iteration 928, Best Score: 2699.94
Early stopping at iteration 1146, Best Score: 2701.96
Early stopping at iteration 1158, Best Score: 2695.85
Early stopping at iteration 761, Best Score: 2691.91
Early stopping at iteration 593, Best Score: 2691.92
Early stopping at iteration 603, Best Score: 2675.82
Early stopping at iteration 807, Best Score: 2715.96
Early stopping at iteration 586, Best Score: 2693.79
Early stopping at iteration 590, Best Score: 2687.71
Early stopping at iteration 552, Best Score: 2691.85
Early stopping at iteration 590, Best Score: 2693.93
Early stopping at iteration 551, Best Score: 2675.76
Early stopping at iteration 635, Best Score: 2693.87
```

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Early stopping at iteration 628, Best Score: 2687.92
Early stopping at iteration 671, Best Score: 2689.82
Early stopping at iteration 626, Best Score: 2681.74
Early stopping at iteration 564, Best Score: 2691.81
Early stopping at iteration 792, Best Score: 2699.91
Early stopping at iteration 694, Best Score: 2699.79
Early stopping at iteration 614, Best Score: 2697.97
Early stopping at iteration 745, Best Score: 2697.88
Early stopping at iteration 650, Best Score: 2701.98
Early stopping at iteration 711, Best Score: 2707.97
Early stopping at iteration 665, Best Score: 2701.93
Early stopping at iteration 625, Best Score: 2706.06
Early stopping at iteration 548, Best Score: 2671.62
Early stopping at iteration 606, Best Score: 2702.08
Early stopping at iteration 686, Best Score: 2700.06
Early stopping at iteration 602, Best Score: 2695.89
Early stopping at iteration 933, Best Score: 2711.90
Early stopping at iteration 691, Best Score: 2710.03
Early stopping at iteration 715, Best Score: 2718.11
Early stopping at iteration 813, Best Score: 2699.81
Early stopping at iteration 584, Best Score: 2693.84
Early stopping at iteration 631, Best Score: 2687.86
Early stopping at iteration 607, Best Score: 2701.89
Early stopping at iteration 580, Best Score: 2687.80
Early stopping at iteration 592, Best Score: 2691.87
Early stopping at iteration 612, Best Score: 2701.98
Early stopping at iteration 562, Best Score: 2699.82
Early stopping at iteration 551, Best Score: 2671.60
Early stopping at iteration 717, Best Score: 2677.82
Early stopping at iteration 1502, Best Score: 2705.69
Early stopping at iteration 641, Best Score: 2695.92
Early stopping at iteration 668, Best Score: 2703.90
Early stopping at iteration 607, Best Score: 2679.72
Early stopping at iteration 672, Best Score: 2689.95
Early stopping at iteration 964, Best Score: 2708.00
Early stopping at iteration 650, Best Score: 2693.88
Early stopping at iteration 666, Best Score: 2706.09
Early stopping at iteration 606, Best Score: 2693.92
Early stopping at iteration 579, Best Score: 2697.88
Early stopping at iteration 556, Best Score: 2679.77
Early stopping at iteration 551, Best Score: 2679.67
Early stopping at iteration 845, Best Score: 2693.78
Early stopping at iteration 650, Best Score: 2695.81
Early stopping at iteration 691, Best Score: 2687.69
Early stopping at iteration 630, Best Score: 2692.02
Early stopping at iteration 603, Best Score: 2697.99
Early stopping at iteration 638, Best Score: 2689.86
Early stopping at iteration 660, Best Score: 2697.93
Early stopping at iteration 619, Best Score: 2681.77
Early stopping at iteration 744, Best Score: 2699.82
Early stopping at iteration 569, Best Score: 2687.79
Early stopping at iteration 609, Best Score: 2693.84
Early stopping at iteration 562, Best Score: 2683.84
Early stopping at iteration 639, Best Score: 2689.99
Early stopping at iteration 658, Best Score: 2712.12
Early stopping at iteration 532, Best Score: 2677.61
Early stopping at iteration 690, Best Score: 2692.03
Early stopping at iteration 584, Best Score: 2687.75
Early stopping at iteration 575, Best Score: 2689.82
Early stopping at iteration 639, Best Score: 2695.92
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Early stopping at iteration 591, Best Score: 2677.67
Early stopping at iteration 540, Best Score: 2673.80
Early stopping at iteration 596, Best Score: 2697.86
Early stopping at iteration 642, Best Score: 2710.03
Early stopping at iteration 607, Best Score: 2709.94
Early stopping at iteration 595, Best Score: 2693.78
Early stopping at iteration 586, Best Score: 2693.91
Early stopping at iteration 593, Best Score: 2689.81
Early stopping at iteration 632, Best Score: 2689.98
Early stopping at iteration 555, Best Score: 2685.94
Early stopping at iteration 789, Best Score: 2695.80
Early stopping at iteration 726, Best Score: 2679.79
Early stopping at iteration 846, Best Score: 2687.84
Early stopping at iteration 584, Best Score: 2689.86
Early stopping at iteration 592, Best Score: 2689.75
Early stopping at iteration 563, Best Score: 2693.85
Early stopping at iteration 630, Best Score: 2697.91
Early stopping at iteration 559, Best Score: 2691.93
Early stopping at iteration 776, Best Score: 2717.97
Early stopping at iteration 596, Best Score: 2697.78
Early stopping at iteration 620, Best Score: 2693.97
Early stopping at iteration 584, Best Score: 2681.65
Early stopping at iteration 729, Best Score: 2710.14
Early stopping at iteration 613, Best Score: 2695.84
Early stopping at iteration 667, Best Score: 2689.81
Early stopping at iteration 564, Best Score: 2697.74
  Deck Trial 200/250
Early stopping at iteration 767, Best Score: 2705.99
Early stopping at iteration 685, Best Score: 2696.02
Early stopping at iteration 565, Best Score: 2683.65
Early stopping at iteration 578, Best Score: 2687.71
Early stopping at iteration 640, Best Score: 2693.80
Early stopping at iteration 612, Best Score: 2709.98
Early stopping at iteration 600, Best Score: 2687.77
Early stopping at iteration 608, Best Score: 2689.79
Early stopping at iteration 568, Best Score: 2705.89
Early stopping at iteration 577, Best Score: 2689.85
Early stopping at iteration 544, Best Score: 2675.65
Early stopping at iteration 546, Best Score: 2687.93
Early stopping at iteration 683, Best Score: 2693.90
Early stopping at iteration 705, Best Score: 2707.94
Early stopping at iteration 642, Best Score: 2699.98
Early stopping at iteration 760, Best Score: 2703.87
Early stopping at iteration 609, Best Score: 2709.98
Early stopping at iteration 682, Best Score: 2708.04
Early stopping at iteration 620, Best Score: 2683.72
Early stopping at iteration 848, Best Score: 2699.86
Early stopping at iteration 628, Best Score: 2701.94
Early stopping at iteration 649, Best Score: 2709.92
Early stopping at iteration 666, Best Score: 2689.76
Early stopping at iteration 592, Best Score: 2695.87
Early stopping at iteration 590, Best Score: 2681.74
Early stopping at iteration 840, Best Score: 2700.00
Early stopping at iteration 576, Best Score: 2681.82
Early stopping at iteration 602, Best Score: 2687.75
Early stopping at iteration 546, Best Score: 2669.59
Early stopping at iteration 609, Best Score: 2691.86
Early stopping at iteration 674, Best Score: 2698.00
Early stopping at iteration 785, Best Score: 2697.75
Early stopping at iteration 629, Best Score: 2699.88
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Early stopping at iteration 607, Best Score: 2693.88
Early stopping at iteration 679, Best Score: 2703.96
Early stopping at iteration 635, Best Score: 2685.92
Early stopping at iteration 726, Best Score: 2708.05
Early stopping at iteration 562, Best Score: 2683.82
Early stopping at iteration 556, Best Score: 2679.67
Early stopping at iteration 624, Best Score: 2687.74
Early stopping at iteration 622, Best Score: 2693.89
Early stopping at iteration 610, Best Score: 2700.07
Early stopping at iteration 652, Best Score: 2703.96
Early stopping at iteration 617, Best Score: 2691.92
Early stopping at iteration 649, Best Score: 2708.09
Early stopping at iteration 640, Best Score: 2704.07
Early stopping at iteration 630, Best Score: 2689.99
Early stopping at iteration 588, Best Score: 2693.77
Early stopping at iteration 858, Best Score: 2687.94
Early stopping at iteration 736, Best Score: 2716.07
Early stopping at iteration 533, Best Score: 2673.63
GNN Trial 5 completed with 250 decks.

GNN Trial 6/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 41.6108, Synergy Loss: 2.4110, Total: 46.4329
Epoch 20/300 - Node Loss: 5.3096, Synergy Loss: 2.2854, Total: 9.8804
Epoch 30/300 - Node Loss: 2.4730, Synergy Loss: 2.1999, Total: 6.8727
Epoch 40/300 - Node Loss: 1.3721, Synergy Loss: 2.0964, Total: 5.5650
Epoch 50/300 - Node Loss: 1.0558, Synergy Loss: 2.0116, Total: 5.0790
Epoch 60/300 - Node Loss: 1.0118, Synergy Loss: 1.9393, Total: 4.8903
Epoch 70/300 - Node Loss: 1.0146, Synergy Loss: 1.8775, Total: 4.7697
Epoch 80/300 - Node Loss: 1.0264, Synergy Loss: 1.8304, Total: 4.6871
Epoch 90/300 - Node Loss: 1.0071, Synergy Loss: 1.8003, Total: 4.6077
Epoch 100/300 - Node Loss: 1.0113, Synergy Loss: 1.7708, Total: 4.5529
Epoch 110/300 - Node Loss: 1.0312, Synergy Loss: 1.6981, Total: 4.4274
Epoch 120/300 - Node Loss: 1.0746, Synergy Loss: 1.5476, Total: 4.1697
Epoch 130/300 - Node Loss: 1.3136, Synergy Loss: 1.3141, Total: 3.9418
Epoch 140/300 - Node Loss: 1.3062, Synergy Loss: 1.1228, Total: 3.5517
Epoch 150/300 - Node Loss: 1.2106, Synergy Loss: 1.0571, Total: 3.3248
Epoch 160/300 - Node Loss: 1.2647, Synergy Loss: 0.9594, Total: 3.1834
Epoch 170/300 - Node Loss: 1.2252, Synergy Loss: 0.8816, Total: 2.9884
Epoch 180/300 - Node Loss: 1.2014, Synergy Loss: 0.8747, Total: 2.9507
Epoch 190/300 - Node Loss: 1.1945, Synergy Loss: 0.8515, Total: 2.8976
Epoch 200/300 - Node Loss: 1.2156, Synergy Loss: 0.8396, Total: 2.8947
Epoch 210/300 - Node Loss: 1.1699, Synergy Loss: 0.8054, Total: 2.7806
Epoch 220/300 - Node Loss: 1.1995, Synergy Loss: 0.7997, Total: 2.7989
Epoch 230/300 - Node Loss: 1.2231, Synergy Loss: 0.7113, Total: 2.6456
Epoch 240/300 - Node Loss: 1.1587, Synergy Loss: 0.7231, Total: 2.6048
Epoch 250/300 - Node Loss: 1.1581, Synergy Loss: 0.6482, Total: 2.4544
Epoch 260/300 - Node Loss: 1.1352, Synergy Loss: 0.6063, Total: 2.3479
Epoch 270/300 - Node Loss: 1.1532, Synergy Loss: 0.5580, Total: 2.2692
Epoch 280/300 - Node Loss: 1.1048, Synergy Loss: 0.5387, Total: 2.1823
Epoch 290/300 - Node Loss: 1.1577, Synergy Loss: 0.5112, Total: 2.1802
Epoch 300/300 - Node Loss: 1.1099, Synergy Loss: 0.5337, Total: 2.1774
Existing model archived to: 20250310_105928_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 570, Best Score: 3603.93
Early stopping at iteration 542, Best Score: 3570.69
Early stopping at iteration 597, Best Score: 3595.17
Early stopping at iteration 536, Best Score: 3579.48
Early stopping at iteration 724, Best Score: 3640.27
Early stopping at iteration 554, Best Score: 3605.27
```

```
Early stopping at iteration 568, Best Score: 3601.79
Early stopping at iteration 788, Best Score: 3667.28
Early stopping at iteration 706, Best Score: 3629.43
Early stopping at iteration 725, Best Score: 3653.72
Early stopping at iteration 506, Best Score: 3550.48
Early stopping at iteration 956, Best Score: 3670.38
Early stopping at iteration 594, Best Score: 3619.71
Early stopping at iteration 525, Best Score: 3559.78
Early stopping at iteration 515, Best Score: 3561.76
Early stopping at iteration 523, Best Score: 3563.99
Early stopping at iteration 524, Best Score: 3561.43
Early stopping at iteration 538, Best Score: 3591.23
Early stopping at iteration 566, Best Score: 3624.13
Early stopping at iteration 519, Best Score: 3561.43
Early stopping at iteration 774, Best Score: 3639.22
Early stopping at iteration 540, Best Score: 3577.98
Early stopping at iteration 555, Best Score: 3616.58
Early stopping at iteration 562, Best Score: 3582.91
Early stopping at iteration 791, Best Score: 3662.04
Early stopping at iteration 684, Best Score: 3645.44
Early stopping at iteration 561, Best Score: 3616.61
Early stopping at iteration 638, Best Score: 3622.67
Early stopping at iteration 654, Best Score: 3614.60
Early stopping at iteration 693, Best Score: 3644.33
Early stopping at iteration 640, Best Score: 3633.36
Early stopping at iteration 876, Best Score: 3623.12
Early stopping at iteration 711, Best Score: 3616.45
Early stopping at iteration 819, Best Score: 3651.97
Early stopping at iteration 578, Best Score: 3617.51
Early stopping at iteration 570, Best Score: 3602.67
Early stopping at iteration 502, Best Score: 3550.48
Early stopping at iteration 564, Best Score: 3583.64
Early stopping at iteration 616, Best Score: 3607.47
Early stopping at iteration 586, Best Score: 3608.17
Early stopping at iteration 504, Best Score: 3550.47
Early stopping at iteration 524, Best Score: 3581.67
Early stopping at iteration 611, Best Score: 3636.81
Early stopping at iteration 504, Best Score: 3550.47
Early stopping at iteration 540, Best Score: 3561.43
Early stopping at iteration 511, Best Score: 3557.22
Early stopping at iteration 580, Best Score: 3614.15
Early stopping at iteration 572, Best Score: 3617.44
Early stopping at iteration 512, Best Score: 3558.46
Early stopping at iteration 622, Best Score: 3608.44
Early stopping at iteration 654, Best Score: 3644.25
Early stopping at iteration 543, Best Score: 3597.89
Early stopping at iteration 501, Best Score: 3550.45
Early stopping at iteration 1135, Best Score: 3644.03
Early stopping at iteration 526, Best Score: 3559.91
Early stopping at iteration 560, Best Score: 3580.82
Early stopping at iteration 541, Best Score: 3571.49
Early stopping at iteration 936, Best Score: 3661.75
Early stopping at iteration 578, Best Score: 3604.39
Early stopping at iteration 845, Best Score: 3665.67
Early stopping at iteration 566, Best Score: 3618.48
Early stopping at iteration 638, Best Score: 3636.31
Early stopping at iteration 519, Best Score: 3591.69
Early stopping at iteration 644, Best Score: 3600.22
Early stopping at iteration 551, Best Score: 3593.88
Early stopping at iteration 564, Best Score: 3599.77
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Early stopping at iteration 894, Best Score: 3606.14
Early stopping at iteration 581, Best Score: 3591.05
Early stopping at iteration 569, Best Score: 3602.11
Early stopping at iteration 518, Best Score: 3561.43
Early stopping at iteration 1081, Best Score: 3667.13
Early stopping at iteration 575, Best Score: 3579.53
Early stopping at iteration 505, Best Score: 3556.75
Early stopping at iteration 635, Best Score: 3608.79
Early stopping at iteration 676, Best Score: 3622.32
Early stopping at iteration 548, Best Score: 3559.32
Early stopping at iteration 770, Best Score: 3655.54
Early stopping at iteration 604, Best Score: 3606.33
Early stopping at iteration 568, Best Score: 3579.04
Early stopping at iteration 511, Best Score: 3562.88
Early stopping at iteration 949, Best Score: 3628.91
Early stopping at iteration 768, Best Score: 3636.94
Early stopping at iteration 763, Best Score: 3645.53
Early stopping at iteration 552, Best Score: 3577.58
Early stopping at iteration 561, Best Score: 3561.43
Early stopping at iteration 538, Best Score: 3573.62
Early stopping at iteration 601, Best Score: 3609.24
Early stopping at iteration 545, Best Score: 3579.50
Early stopping at iteration 592, Best Score: 3592.78
Early stopping at iteration 868, Best Score: 3597.88
Early stopping at iteration 521, Best Score: 3567.35
Early stopping at iteration 599, Best Score: 3605.72
Early stopping at iteration 582, Best Score: 3608.93
Early stopping at iteration 504, Best Score: 3555.82
Early stopping at iteration 684, Best Score: 3625.35
Early stopping at iteration 592, Best Score: 3629.83
Early stopping at iteration 547, Best Score: 3594.20
Early stopping at iteration 592, Best Score: 3615.03
Early stopping at iteration 501, Best Score: 3556.10
  Deck Trial 100/250
Early stopping at iteration 559, Best Score: 3587.51
Early stopping at iteration 675, Best Score: 3647.17
Early stopping at iteration 1032, Best Score: 3691.13
Early stopping at iteration 621, Best Score: 3605.86
Early stopping at iteration 779, Best Score: 3651.81
Early stopping at iteration 564, Best Score: 3607.29
Early stopping at iteration 524, Best Score: 3572.71
Early stopping at iteration 536, Best Score: 3594.16
Early stopping at iteration 549, Best Score: 3574.32
Early stopping at iteration 775, Best Score: 3648.37
Early stopping at iteration 681, Best Score: 3665.65
Early stopping at iteration 601, Best Score: 3626.27
Early stopping at iteration 706, Best Score: 3617.01
Early stopping at iteration 545, Best Score: 3575.66
Early stopping at iteration 561, Best Score: 3596.80
Early stopping at iteration 541, Best Score: 3556.75
Early stopping at iteration 563, Best Score: 3592.95
Early stopping at iteration 541, Best Score: 3576.56
Early stopping at iteration 651, Best Score: 3629.64
Early stopping at iteration 506, Best Score: 3551.13
Early stopping at iteration 1036, Best Score: 3662.57
Early stopping at iteration 546, Best Score: 3576.74
Early stopping at iteration 791, Best Score: 3642.95
Early stopping at iteration 554, Best Score: 3585.74
Early stopping at iteration 634, Best Score: 3617.39
Early stopping at iteration 583, Best Score: 3608.11
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Early stopping at iteration 522, Best Score: 3578.40
Early stopping at iteration 672, Best Score: 3631.45
Early stopping at iteration 685, Best Score: 3635.80
Early stopping at iteration 500, Best Score: 3547.54
Early stopping at iteration 856, Best Score: 3655.99
Early stopping at iteration 601, Best Score: 3604.38
Early stopping at iteration 659, Best Score: 3635.38
Early stopping at iteration 554, Best Score: 3607.50
Early stopping at iteration 539, Best Score: 3572.04
Early stopping at iteration 600, Best Score: 3590.72
Early stopping at iteration 538, Best Score: 3567.97
Early stopping at iteration 616, Best Score: 3646.65
Early stopping at iteration 749, Best Score: 3640.67
Early stopping at iteration 575, Best Score: 3606.96
Early stopping at iteration 578, Best Score: 3599.08
Early stopping at iteration 717, Best Score: 3621.95
Early stopping at iteration 601, Best Score: 3576.94
Early stopping at iteration 530, Best Score: 3565.40
Early stopping at iteration 658, Best Score: 3605.15
Early stopping at iteration 604, Best Score: 3624.79
Early stopping at iteration 563, Best Score: 3582.40
Early stopping at iteration 634, Best Score: 3615.25
Early stopping at iteration 593, Best Score: 3614.24
Early stopping at iteration 568, Best Score: 3576.43
Early stopping at iteration 605, Best Score: 3618.44
Early stopping at iteration 789, Best Score: 3643.16
Early stopping at iteration 530, Best Score: 3574.50
Early stopping at iteration 651, Best Score: 3671.97
Early stopping at iteration 871, Best Score: 3661.89
Early stopping at iteration 869, Best Score: 3643.74
Early stopping at iteration 538, Best Score: 3582.31
Early stopping at iteration 542, Best Score: 3566.43
Early stopping at iteration 509, Best Score: 3567.15
Early stopping at iteration 584, Best Score: 3599.70
Early stopping at iteration 503, Best Score: 3555.82
Early stopping at iteration 824, Best Score: 3600.32
Early stopping at iteration 595, Best Score: 3637.94
Early stopping at iteration 604, Best Score: 3615.47
Early stopping at iteration 590, Best Score: 3608.19
Early stopping at iteration 817, Best Score: 3665.99
Early stopping at iteration 540, Best Score: 3597.77
Early stopping at iteration 727, Best Score: 3639.47
Early stopping at iteration 615, Best Score: 3601.27
Early stopping at iteration 533, Best Score: 3556.75
Early stopping at iteration 500, Best Score: 3547.54
Early stopping at iteration 552, Best Score: 3582.39
Early stopping at iteration 700, Best Score: 3622.97
Early stopping at iteration 532, Best Score: 3556.10
Early stopping at iteration 765, Best Score: 3613.06
Early stopping at iteration 542, Best Score: 3584.63
Early stopping at iteration 659, Best Score: 3584.20
Early stopping at iteration 671, Best Score: 3632.07
Early stopping at iteration 581, Best Score: 3592.93
Early stopping at iteration 576, Best Score: 3613.75
Early stopping at iteration 556, Best Score: 3582.40
Early stopping at iteration 503, Best Score: 3550.45
Early stopping at iteration 542, Best Score: 3608.60
Early stopping at iteration 771, Best Score: 3621.58
Early stopping at iteration 757, Best Score: 3650.15
Early stopping at iteration 794, Best Score: 3640.75
```

```
Early stopping at iteration 505, Best Score: 3550.47
Early stopping at iteration 882, Best Score: 3644.37
Early stopping at iteration 522, Best Score: 3572.89
Early stopping at iteration 561, Best Score: 3582.13
Early stopping at iteration 661, Best Score: 3627.51
Early stopping at iteration 576, Best Score: 3601.16
Early stopping at iteration 574, Best Score: 3596.77
Early stopping at iteration 670, Best Score: 3612.73
Early stopping at iteration 606, Best Score: 3590.40
Early stopping at iteration 563, Best Score: 3600.75
Early stopping at iteration 608, Best Score: 3646.41
Early stopping at iteration 511, Best Score: 3577.32
Early stopping at iteration 867, Best Score: 3631.85
Early stopping at iteration 728, Best Score: 3652.88
  Deck Trial 200/250
Early stopping at iteration 724, Best Score: 3641.71
Early stopping at iteration 523, Best Score: 3572.71
Early stopping at iteration 550, Best Score: 3585.10
Early stopping at iteration 920, Best Score: 3639.56
Early stopping at iteration 539, Best Score: 3599.64
Early stopping at iteration 728, Best Score: 3628.53
Early stopping at iteration 702, Best Score: 3591.08
Early stopping at iteration 601, Best Score: 3620.52
Early stopping at iteration 597, Best Score: 3649.41
Early stopping at iteration 639, Best Score: 3599.92
Early stopping at iteration 837, Best Score: 3646.01
Early stopping at iteration 528, Best Score: 3564.87
Early stopping at iteration 511, Best Score: 3555.32
Early stopping at iteration 593, Best Score: 3596.88
Early stopping at iteration 563, Best Score: 3592.57
Early stopping at iteration 518, Best Score: 3570.27
Early stopping at iteration 589, Best Score: 3594.27
Early stopping at iteration 938, Best Score: 3664.01
Early stopping at iteration 716, Best Score: 3655.51
Early stopping at iteration 665, Best Score: 3630.38
Early stopping at iteration 560, Best Score: 3561.43
Early stopping at iteration 922, Best Score: 3623.98
Early stopping at iteration 577, Best Score: 3587.22
Early stopping at iteration 505, Best Score: 3553.83
Early stopping at iteration 688, Best Score: 3629.98
Early stopping at iteration 734, Best Score: 3669.71
Early stopping at iteration 507, Best Score: 3561.43
Early stopping at iteration 510, Best Score: 3556.10
Early stopping at iteration 652, Best Score: 3573.83
Early stopping at iteration 501, Best Score: 3550.48
Early stopping at iteration 527, Best Score: 3576.54
Early stopping at iteration 546, Best Score: 3600.11
Early stopping at iteration 573, Best Score: 3561.43
Early stopping at iteration 557, Best Score: 3580.74
Early stopping at iteration 586, Best Score: 3622.98
Early stopping at iteration 623, Best Score: 3636.83
Early stopping at iteration 573, Best Score: 3608.26
Early stopping at iteration 588, Best Score: 3596.00
Early stopping at iteration 651, Best Score: 3613.68
Early stopping at iteration 850, Best Score: 3649.21
Early stopping at iteration 554, Best Score: 3613.99
Early stopping at iteration 600, Best Score: 3576.61
Early stopping at iteration 695, Best Score: 3650.68
Early stopping at iteration 502, Best Score: 3550.45
Early stopping at iteration 513, Best Score: 3569.66
```

```
Early stopping at iteration 510, Best Score: 3571.26
Early stopping at iteration 574, Best Score: 3593.73
Early stopping at iteration 524, Best Score: 3551.13
Early stopping at iteration 771, Best Score: 3628.42
Early stopping at iteration 791, Best Score: 3637.34
Early stopping at iteration 614, Best Score: 3579.23
GNN Trial 6 completed with 250 decks.

GNN Trial 7/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 39.1623, Synergy Loss: 2.7843, Total: 44.7309
Epoch 20/300 - Node Loss: 6.6149, Synergy Loss: 2.6690, Total: 11.9529
Epoch 30/300 - Node Loss: 2.8539, Synergy Loss: 2.4835, Total: 7.8209
Epoch 40/300 - Node Loss: 1.7005, Synergy Loss: 2.2141, Total: 6.1287
Epoch 50/300 - Node Loss: 1.1233, Synergy Loss: 1.9235, Total: 4.9703
Epoch 60/300 - Node Loss: 1.0351, Synergy Loss: 1.7809, Total: 4.5970
Epoch 70/300 - Node Loss: 1.1157, Synergy Loss: 1.6829, Total: 4.4815
Epoch 80/300 - Node Loss: 1.1527, Synergy Loss: 1.5577, Total: 4.2681
Epoch 90/300 - Node Loss: 1.3078, Synergy Loss: 1.1499, Total: 3.6076
Epoch 100/300 - Node Loss: 1.3388, Synergy Loss: 0.8869, Total: 3.1125
Epoch 110/300 - Node Loss: 1.2993, Synergy Loss: 0.8099, Total: 2.9190
Epoch 120/300 - Node Loss: 1.2409, Synergy Loss: 0.8199, Total: 2.8807
Epoch 130/300 - Node Loss: 1.1774, Synergy Loss: 0.7841, Total: 2.7455
Epoch 140/300 - Node Loss: 1.1710, Synergy Loss: 0.8393, Total: 2.8495
Epoch 150/300 - Node Loss: 1.2697, Synergy Loss: 0.8274, Total: 2.9245
Early stopping at epoch 154
Existing model archived to: 20250310_110312_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 530, Best Score: 2444.65
Early stopping at iteration 621, Best Score: 2467.37
Early stopping at iteration 740, Best Score: 2464.44
Early stopping at iteration 643, Best Score: 2454.36
Early stopping at iteration 688, Best Score: 2468.00
Early stopping at iteration 666, Best Score: 2460.69
Early stopping at iteration 676, Best Score: 2453.95
Early stopping at iteration 620, Best Score: 2460.11
Early stopping at iteration 565, Best Score: 2465.40
Early stopping at iteration 747, Best Score: 2467.88
Early stopping at iteration 595, Best Score: 2460.47
Early stopping at iteration 657, Best Score: 2467.35
Early stopping at iteration 575, Best Score: 2455.88
Early stopping at iteration 562, Best Score: 2459.32
Early stopping at iteration 702, Best Score: 2458.22
Early stopping at iteration 560, Best Score: 2453.09
Early stopping at iteration 662, Best Score: 2457.52
Early stopping at iteration 571, Best Score: 2463.73
Early stopping at iteration 609, Best Score: 2455.28
Early stopping at iteration 634, Best Score: 2461.51
Early stopping at iteration 601, Best Score: 2455.91
Early stopping at iteration 639, Best Score: 2467.82
Early stopping at iteration 528, Best Score: 2449.09
Early stopping at iteration 533, Best Score: 2455.60
Early stopping at iteration 593, Best Score: 2460.62
Early stopping at iteration 560, Best Score: 2456.81
Early stopping at iteration 550, Best Score: 2445.77
Early stopping at iteration 550, Best Score: 2454.43
Early stopping at iteration 703, Best Score: 2469.90
Early stopping at iteration 705, Best Score: 2465.36
Early stopping at iteration 1042, Best Score: 2473.22
Early stopping at iteration 519, Best Score: 2441.09
```

```
Early stopping at iteration 584, Best Score: 2454.55
Early stopping at iteration 593, Best Score: 2459.14
Early stopping at iteration 557, Best Score: 2437.53
Early stopping at iteration 648, Best Score: 2464.92
Early stopping at iteration 590, Best Score: 2463.00
Early stopping at iteration 599, Best Score: 2459.30
Early stopping at iteration 608, Best Score: 2477.21
Early stopping at iteration 552, Best Score: 2458.96
Early stopping at iteration 526, Best Score: 2439.11
Early stopping at iteration 553, Best Score: 2449.94
Early stopping at iteration 578, Best Score: 2452.94
Early stopping at iteration 613, Best Score: 2453.51
Early stopping at iteration 529, Best Score: 2449.86
Early stopping at iteration 634, Best Score: 2451.57
Early stopping at iteration 521, Best Score: 2443.72
Early stopping at iteration 530, Best Score: 2449.27
Early stopping at iteration 585, Best Score: 2455.97
Early stopping at iteration 556, Best Score: 2461.34
Early stopping at iteration 644, Best Score: 2461.03
Early stopping at iteration 547, Best Score: 2451.54
Early stopping at iteration 536, Best Score: 2457.22
Early stopping at iteration 673, Best Score: 2463.48
Early stopping at iteration 606, Best Score: 2450.90
Early stopping at iteration 641, Best Score: 2471.97
Early stopping at iteration 711, Best Score: 2455.66
Early stopping at iteration 699, Best Score: 2463.13
Early stopping at iteration 617, Best Score: 2470.24
Early stopping at iteration 725, Best Score: 2467.05
Early stopping at iteration 555, Best Score: 2453.31
Early stopping at iteration 583, Best Score: 2465.70
Early stopping at iteration 778, Best Score: 2466.30
Early stopping at iteration 655, Best Score: 2476.19
Early stopping at iteration 727, Best Score: 2460.26
Early stopping at iteration 643, Best Score: 2467.45
Early stopping at iteration 535, Best Score: 2445.70
Early stopping at iteration 668, Best Score: 2466.24
Early stopping at iteration 778, Best Score: 2462.03
Early stopping at iteration 749, Best Score: 2455.93
Early stopping at iteration 719, Best Score: 2464.17
Early stopping at iteration 892, Best Score: 2475.06
Early stopping at iteration 642, Best Score: 2461.75
Early stopping at iteration 585, Best Score: 2450.91
Early stopping at iteration 675, Best Score: 2454.00
Early stopping at iteration 595, Best Score: 2466.96
Early stopping at iteration 528, Best Score: 2445.45
Early stopping at iteration 640, Best Score: 2467.57
Early stopping at iteration 620, Best Score: 2465.26
Early stopping at iteration 598, Best Score: 2451.20
Early stopping at iteration 543, Best Score: 2452.42
Early stopping at iteration 578, Best Score: 2452.28
Early stopping at iteration 816, Best Score: 2484.89
Early stopping at iteration 816, Best Score: 2460.56
Early stopping at iteration 575, Best Score: 2467.58
Early stopping at iteration 701, Best Score: 2470.72
Early stopping at iteration 1125, Best Score: 2470.65
Early stopping at iteration 859, Best Score: 2466.18
Early stopping at iteration 573, Best Score: 2453.99
Early stopping at iteration 583, Best Score: 2457.64
Early stopping at iteration 691, Best Score: 2469.42
Early stopping at iteration 612, Best Score: 2476.90
```

```
Early stopping at iteration 522, Best Score: 2447.85
Early stopping at iteration 546, Best Score: 2444.71
Early stopping at iteration 725, Best Score: 2459.44
Early stopping at iteration 712, Best Score: 2473.68
Early stopping at iteration 558, Best Score: 2456.53
Early stopping at iteration 765, Best Score: 2450.46
Early stopping at iteration 557, Best Score: 2453.93
  Deck Trial 100/250
Early stopping at iteration 765, Best Score: 2474.18
Early stopping at iteration 760, Best Score: 2457.37
Early stopping at iteration 733, Best Score: 2475.85
Early stopping at iteration 541, Best Score: 2453.01
Early stopping at iteration 651, Best Score: 2456.51
Early stopping at iteration 535, Best Score: 2460.12
Early stopping at iteration 1049, Best Score: 2469.74
Early stopping at iteration 710, Best Score: 2466.70
Early stopping at iteration 775, Best Score: 2460.07
Early stopping at iteration 660, Best Score: 2463.37
Early stopping at iteration 589, Best Score: 2473.46
Early stopping at iteration 515, Best Score: 2436.40
Early stopping at iteration 713, Best Score: 2466.91
Early stopping at iteration 541, Best Score: 2449.19
Early stopping at iteration 597, Best Score: 2454.34
Early stopping at iteration 625, Best Score: 2465.03
Early stopping at iteration 592, Best Score: 2453.35
Early stopping at iteration 586, Best Score: 2456.78
Early stopping at iteration 568, Best Score: 2451.65
Early stopping at iteration 739, Best Score: 2458.88
Early stopping at iteration 555, Best Score: 2453.98
Early stopping at iteration 617, Best Score: 2468.85
Early stopping at iteration 735, Best Score: 2480.35
Early stopping at iteration 776, Best Score: 2457.58
Early stopping at iteration 565, Best Score: 2458.02
Early stopping at iteration 567, Best Score: 2461.34
Early stopping at iteration 694, Best Score: 2479.31
Early stopping at iteration 533, Best Score: 2446.98
Early stopping at iteration 603, Best Score: 2459.24
Early stopping at iteration 770, Best Score: 2475.16
Early stopping at iteration 625, Best Score: 2453.34
Early stopping at iteration 541, Best Score: 2447.97
Early stopping at iteration 789, Best Score: 2485.43
Early stopping at iteration 674, Best Score: 2463.91
Early stopping at iteration 606, Best Score: 2455.23
Early stopping at iteration 625, Best Score: 2452.35
Early stopping at iteration 555, Best Score: 2457.16
Early stopping at iteration 836, Best Score: 2461.12
Early stopping at iteration 545, Best Score: 2441.01
Early stopping at iteration 679, Best Score: 2452.28
Early stopping at iteration 537, Best Score: 2446.51
Early stopping at iteration 679, Best Score: 2450.16
Early stopping at iteration 715, Best Score: 2455.10
Early stopping at iteration 606, Best Score: 2449.34
Early stopping at iteration 648, Best Score: 2459.80
Early stopping at iteration 522, Best Score: 2441.93
Early stopping at iteration 636, Best Score: 2453.09
Early stopping at iteration 682, Best Score: 2459.06
Early stopping at iteration 902, Best Score: 2467.64
Early stopping at iteration 589, Best Score: 2470.44
Early stopping at iteration 609, Best Score: 2464.18
Early stopping at iteration 713, Best Score: 2469.58
```

```
Early stopping at iteration 735, Best Score: 2471.16
Early stopping at iteration 627, Best Score: 2464.21
Early stopping at iteration 576, Best Score: 2457.69
Early stopping at iteration 605, Best Score: 2459.92
Early stopping at iteration 689, Best Score: 2472.45
Early stopping at iteration 613, Best Score: 2450.07
Early stopping at iteration 771, Best Score: 2462.72
Early stopping at iteration 611, Best Score: 2457.48
Early stopping at iteration 537, Best Score: 2445.64
Early stopping at iteration 630, Best Score: 2460.06
Early stopping at iteration 589, Best Score: 2468.55
Early stopping at iteration 753, Best Score: 2457.22
Early stopping at iteration 620, Best Score: 2457.57
Early stopping at iteration 636, Best Score: 2472.97
Early stopping at iteration 857, Best Score: 2455.96
Early stopping at iteration 567, Best Score: 2450.17
Early stopping at iteration 702, Best Score: 2464.08
Early stopping at iteration 587, Best Score: 2453.77
Early stopping at iteration 561, Best Score: 2459.20
Early stopping at iteration 744, Best Score: 2464.57
Early stopping at iteration 573, Best Score: 2455.26
Early stopping at iteration 921, Best Score: 2456.48
Early stopping at iteration 582, Best Score: 2451.68
Early stopping at iteration 657, Best Score: 2464.47
Early stopping at iteration 595, Best Score: 2461.40
Early stopping at iteration 680, Best Score: 2458.13
Early stopping at iteration 672, Best Score: 2467.07
Early stopping at iteration 602, Best Score: 2458.45
Early stopping at iteration 614, Best Score: 2460.97
Early stopping at iteration 577, Best Score: 2465.55
Early stopping at iteration 534, Best Score: 2450.26
Early stopping at iteration 569, Best Score: 2443.54
Early stopping at iteration 631, Best Score: 2476.66
Early stopping at iteration 580, Best Score: 2448.89
Early stopping at iteration 565, Best Score: 2457.15
Early stopping at iteration 557, Best Score: 2444.43
Early stopping at iteration 728, Best Score: 2468.24
Early stopping at iteration 630, Best Score: 2471.43
Early stopping at iteration 552, Best Score: 2451.93
Early stopping at iteration 878, Best Score: 2469.77
Early stopping at iteration 759, Best Score: 2467.58
Early stopping at iteration 533, Best Score: 2446.71
Early stopping at iteration 530, Best Score: 2446.87
Early stopping at iteration 748, Best Score: 2468.93
Early stopping at iteration 643, Best Score: 2462.29
Early stopping at iteration 658, Best Score: 2458.49
Early stopping at iteration 622, Best Score: 2465.42
Early stopping at iteration 862, Best Score: 2470.95
  Deck Trial 200/250
Early stopping at iteration 548, Best Score: 2441.35
Early stopping at iteration 578, Best Score: 2458.62
Early stopping at iteration 531, Best Score: 2452.34
Early stopping at iteration 599, Best Score: 2468.98
Early stopping at iteration 579, Best Score: 2454.08
Early stopping at iteration 690, Best Score: 2478.88
Early stopping at iteration 595, Best Score: 2473.71
Early stopping at iteration 543, Best Score: 2439.80
Early stopping at iteration 681, Best Score: 2456.34
Early stopping at iteration 535, Best Score: 2443.45
Early stopping at iteration 590, Best Score: 2466.61
```

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Early stopping at iteration 775, Best Score: 2464.62
Early stopping at iteration 545, Best Score: 2449.56
Early stopping at iteration 597, Best Score: 2459.00
Early stopping at iteration 570, Best Score: 2459.19
Early stopping at iteration 691, Best Score: 2470.87
Early stopping at iteration 641, Best Score: 2475.95
Early stopping at iteration 558, Best Score: 2464.31
Early stopping at iteration 594, Best Score: 2459.72
Early stopping at iteration 808, Best Score: 2469.81
Early stopping at iteration 653, Best Score: 2465.14
Early stopping at iteration 569, Best Score: 2463.21
Early stopping at iteration 585, Best Score: 2457.72
Early stopping at iteration 570, Best Score: 2459.82
Early stopping at iteration 574, Best Score: 2461.68
Early stopping at iteration 582, Best Score: 2463.43
Early stopping at iteration 594, Best Score: 2467.29
Early stopping at iteration 685, Best Score: 2468.46
Early stopping at iteration 760, Best Score: 2461.10
Early stopping at iteration 573, Best Score: 2448.78
Early stopping at iteration 559, Best Score: 2449.21
Early stopping at iteration 639, Best Score: 2457.04
Early stopping at iteration 576, Best Score: 2450.75
Early stopping at iteration 590, Best Score: 2456.00
Early stopping at iteration 633, Best Score: 2467.92
Early stopping at iteration 565, Best Score: 2446.73
Early stopping at iteration 551, Best Score: 2449.59
Early stopping at iteration 688, Best Score: 2461.66
Early stopping at iteration 530, Best Score: 2456.50
Early stopping at iteration 618, Best Score: 2448.64
Early stopping at iteration 705, Best Score: 2473.85
Early stopping at iteration 627, Best Score: 2444.10
Early stopping at iteration 601, Best Score: 2458.19
Early stopping at iteration 567, Best Score: 2448.19
Early stopping at iteration 691, Best Score: 2467.29
Early stopping at iteration 685, Best Score: 2466.97
Early stopping at iteration 706, Best Score: 2454.01
Early stopping at iteration 738, Best Score: 2467.04
Early stopping at iteration 608, Best Score: 2460.89
Early stopping at iteration 669, Best Score: 2455.11
Early stopping at iteration 552, Best Score: 2447.92
GNN Trial 7 completed with 250 decks.

GNN Trial 8/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 8.4768, Synergy Loss: 2.3277, Total: 13.1321
Epoch 20/300 - Node Loss: 1.6496, Synergy Loss: 2.1905, Total: 6.0306
Epoch 30/300 - Node Loss: 1.1499, Synergy Loss: 2.1029, Total: 5.3556
Epoch 40/300 - Node Loss: 1.0343, Synergy Loss: 2.0205, Total: 5.0753
Epoch 50/300 - Node Loss: 1.0075, Synergy Loss: 1.9402, Total: 4.8879
Epoch 60/300 - Node Loss: 1.0193, Synergy Loss: 1.8346, Total: 4.6885
Epoch 70/300 - Node Loss: 1.0404, Synergy Loss: 1.6715, Total: 4.3834
Epoch 80/300 - Node Loss: 1.0639, Synergy Loss: 1.4523, Total: 3.9684
Epoch 90/300 - Node Loss: 1.0448, Synergy Loss: 1.1864, Total: 3.4176
Epoch 100/300 - Node Loss: 1.0818, Synergy Loss: 0.9164, Total: 2.9146
Epoch 110/300 - Node Loss: 1.0622, Synergy Loss: 0.8761, Total: 2.8144
Epoch 120/300 - Node Loss: 1.0753, Synergy Loss: 0.8284, Total: 2.7321
Epoch 130/300 - Node Loss: 1.0838, Synergy Loss: 0.7942, Total: 2.6722
Epoch 140/300 - Node Loss: 1.0415, Synergy Loss: 0.7284, Total: 2.4982
Epoch 150/300 - Node Loss: 1.0389, Synergy Loss: 0.6764, Total: 2.3916
Epoch 160/300 - Node Loss: 1.0615, Synergy Loss: 0.6116, Total: 2.2847
```

```
Epoch 170/300 - Node Loss: 1.0237, Synergy Loss: 0.5980, Total: 2.2197
Epoch 180/300 - Node Loss: 1.0293, Synergy Loss: 0.5500, Total: 2.1293
Epoch 190/300 - Node Loss: 1.0254, Synergy Loss: 0.5703, Total: 2.1659
Epoch 200/300 - Node Loss: 1.0341, Synergy Loss: 0.5348, Total: 2.1037
Epoch 210/300 - Node Loss: 1.0275, Synergy Loss: 0.5108, Total: 2.0491
Epoch 220/300 - Node Loss: 1.0404, Synergy Loss: 0.5290, Total: 2.0983
Epoch 230/300 - Node Loss: 1.0309, Synergy Loss: 0.5562, Total: 2.1434
Epoch 240/300 - Node Loss: 1.0241, Synergy Loss: 0.5624, Total: 2.1489
Epoch 250/300 - Node Loss: 1.0263, Synergy Loss: 0.4894, Total: 2.0051
Epoch 260/300 - Node Loss: 1.0115, Synergy Loss: 0.4803, Total: 1.9721
Epoch 270/300 - Node Loss: 1.0219, Synergy Loss: 0.4570, Total: 1.9359
Epoch 280/300 - Node Loss: 1.0205, Synergy Loss: 0.4804, Total: 1.9813
Epoch 290/300 - Node Loss: 1.0236, Synergy Loss: 0.4485, Total: 1.9207
Epoch 300/300 - Node Loss: 1.0096, Synergy Loss: 0.4467, Total: 1.9030
Existing model archived to: 20250310_110844_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 590, Best Score: 3763.90
Early stopping at iteration 547, Best Score: 3742.11
Early stopping at iteration 529, Best Score: 3749.48
Early stopping at iteration 532, Best Score: 3755.29
Early stopping at iteration 593, Best Score: 3779.06
Early stopping at iteration 688, Best Score: 3768.97
Early stopping at iteration 663, Best Score: 3762.06
Early stopping at iteration 670, Best Score: 3752.89
Early stopping at iteration 567, Best Score: 3772.22
Early stopping at iteration 531, Best Score: 3758.26
Early stopping at iteration 674, Best Score: 3785.18
Early stopping at iteration 605, Best Score: 3752.80
Early stopping at iteration 598, Best Score: 3763.04
Early stopping at iteration 660, Best Score: 3777.73
Early stopping at iteration 521, Best Score: 3742.71
Early stopping at iteration 605, Best Score: 3753.65
Early stopping at iteration 511, Best Score: 3746.86
Early stopping at iteration 584, Best Score: 3752.17
Early stopping at iteration 584, Best Score: 3779.49
Early stopping at iteration 513, Best Score: 3730.58
Early stopping at iteration 618, Best Score: 3771.73
Early stopping at iteration 664, Best Score: 3779.39
Early stopping at iteration 574, Best Score: 3775.17
Early stopping at iteration 682, Best Score: 3775.69
Early stopping at iteration 568, Best Score: 3750.34
Early stopping at iteration 606, Best Score: 3754.19
Early stopping at iteration 544, Best Score: 3757.83
Early stopping at iteration 555, Best Score: 3774.74
Early stopping at iteration 554, Best Score: 3742.12
Early stopping at iteration 619, Best Score: 3777.92
Early stopping at iteration 838, Best Score: 3788.59
Early stopping at iteration 673, Best Score: 3780.65
Early stopping at iteration 546, Best Score: 3761.00
Early stopping at iteration 604, Best Score: 3782.51
Early stopping at iteration 524, Best Score: 3732.09
Early stopping at iteration 884, Best Score: 3817.15
Early stopping at iteration 676, Best Score: 3771.46
Early stopping at iteration 504, Best Score: 3730.46
Early stopping at iteration 606, Best Score: 3774.56
Early stopping at iteration 553, Best Score: 3741.29
Early stopping at iteration 511, Best Score: 3730.46
Early stopping at iteration 519, Best Score: 3752.73
Early stopping at iteration 567, Best Score: 3764.27
Early stopping at iteration 535, Best Score: 3742.11
```

```
Early stopping at iteration 508, Best Score: 3745.99
Early stopping at iteration 538, Best Score: 3742.12
Early stopping at iteration 680, Best Score: 3807.61
Early stopping at iteration 604, Best Score: 3761.18
Early stopping at iteration 752, Best Score: 3782.26
Early stopping at iteration 564, Best Score: 3757.08
Early stopping at iteration 667, Best Score: 3748.25
Early stopping at iteration 560, Best Score: 3752.72
Early stopping at iteration 526, Best Score: 3738.75
Early stopping at iteration 542, Best Score: 3759.17
Early stopping at iteration 896, Best Score: 3756.87
Early stopping at iteration 503, Best Score: 3734.11
Early stopping at iteration 525, Best Score: 3730.58
Early stopping at iteration 515, Best Score: 3760.44
Early stopping at iteration 1076, Best Score: 3792.74
Early stopping at iteration 620, Best Score: 3776.68
Early stopping at iteration 720, Best Score: 3764.26
Early stopping at iteration 637, Best Score: 3774.89
Early stopping at iteration 730, Best Score: 3781.89
Early stopping at iteration 825, Best Score: 3757.86
Early stopping at iteration 541, Best Score: 3736.85
Early stopping at iteration 592, Best Score: 3762.23
Early stopping at iteration 606, Best Score: 3775.50
Early stopping at iteration 512, Best Score: 3730.58
Early stopping at iteration 503, Best Score: 3730.58
Early stopping at iteration 605, Best Score: 3766.97
Early stopping at iteration 500, Best Score: 3727.54
Early stopping at iteration 543, Best Score: 3741.85
Early stopping at iteration 508, Best Score: 3730.58
Early stopping at iteration 760, Best Score: 3778.88
Early stopping at iteration 650, Best Score: 3796.78
Early stopping at iteration 535, Best Score: 3731.23
Early stopping at iteration 537, Best Score: 3730.68
Early stopping at iteration 537, Best Score: 3763.24
Early stopping at iteration 654, Best Score: 3746.89
Early stopping at iteration 527, Best Score: 3730.46
Early stopping at iteration 506, Best Score: 3730.46
Early stopping at iteration 608, Best Score: 3778.25
Early stopping at iteration 619, Best Score: 3773.30
Early stopping at iteration 574, Best Score: 3742.12
Early stopping at iteration 660, Best Score: 3777.09
Early stopping at iteration 715, Best Score: 3768.11
Early stopping at iteration 940, Best Score: 3809.77
Early stopping at iteration 656, Best Score: 3771.84
Early stopping at iteration 698, Best Score: 3748.24
Early stopping at iteration 644, Best Score: 3770.26
Early stopping at iteration 737, Best Score: 3770.31
Early stopping at iteration 642, Best Score: 3777.20
Early stopping at iteration 549, Best Score: 3784.63
Early stopping at iteration 556, Best Score: 3767.79
Early stopping at iteration 554, Best Score: 3730.58
Early stopping at iteration 527, Best Score: 3742.12
Early stopping at iteration 507, Best Score: 3730.46
Early stopping at iteration 506, Best Score: 3746.45
Early stopping at iteration 581, Best Score: 3752.61
  Deck Trial 100/250
Early stopping at iteration 534, Best Score: 3760.73
Early stopping at iteration 744, Best Score: 3779.43
Early stopping at iteration 608, Best Score: 3740.11
Early stopping at iteration 809, Best Score: 3799.62
```

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Early stopping at iteration 501, Best Score: 3730.46
Early stopping at iteration 689, Best Score: 3760.70
Early stopping at iteration 603, Best Score: 3753.66
Early stopping at iteration 704, Best Score: 3765.16
Early stopping at iteration 532, Best Score: 3757.17
Early stopping at iteration 522, Best Score: 3730.58
Early stopping at iteration 564, Best Score: 3780.29
Early stopping at iteration 560, Best Score: 3749.80
Early stopping at iteration 644, Best Score: 3758.19
Early stopping at iteration 521, Best Score: 3730.58
Early stopping at iteration 755, Best Score: 3791.68
Early stopping at iteration 662, Best Score: 3762.78
Early stopping at iteration 566, Best Score: 3767.94
Early stopping at iteration 565, Best Score: 3779.94
Early stopping at iteration 532, Best Score: 3757.65
Early stopping at iteration 615, Best Score: 3757.35
Early stopping at iteration 538, Best Score: 3757.06
Early stopping at iteration 503, Best Score: 3730.46
Early stopping at iteration 549, Best Score: 3752.73
Early stopping at iteration 620, Best Score: 3791.39
Early stopping at iteration 575, Best Score: 3767.46
Early stopping at iteration 574, Best Score: 3771.68
Early stopping at iteration 598, Best Score: 3771.84
Early stopping at iteration 568, Best Score: 3779.12
Early stopping at iteration 611, Best Score: 3770.11
Early stopping at iteration 614, Best Score: 3748.89
Early stopping at iteration 658, Best Score: 3797.68
Early stopping at iteration 643, Best Score: 3765.82
Early stopping at iteration 631, Best Score: 3786.45
Early stopping at iteration 706, Best Score: 3761.74
Early stopping at iteration 539, Best Score: 3765.57
Early stopping at iteration 797, Best Score: 3777.95
Early stopping at iteration 574, Best Score: 3765.29
Early stopping at iteration 751, Best Score: 3807.77
Early stopping at iteration 505, Best Score: 3730.58
Early stopping at iteration 509, Best Score: 3730.46
Early stopping at iteration 586, Best Score: 3758.99
Early stopping at iteration 504, Best Score: 3730.46
Early stopping at iteration 525, Best Score: 3738.27
Early stopping at iteration 595, Best Score: 3783.89
Early stopping at iteration 513, Best Score: 3746.88
Early stopping at iteration 591, Best Score: 3778.86
Early stopping at iteration 648, Best Score: 3771.02
Early stopping at iteration 643, Best Score: 3773.80
Early stopping at iteration 556, Best Score: 3742.96
Early stopping at iteration 506, Best Score: 3737.23
Early stopping at iteration 500, Best Score: 3727.54
Early stopping at iteration 572, Best Score: 3759.38
Early stopping at iteration 672, Best Score: 3798.59
Early stopping at iteration 520, Best Score: 3765.17
Early stopping at iteration 510, Best Score: 3730.58
Early stopping at iteration 538, Best Score: 3730.58
Early stopping at iteration 750, Best Score: 3777.60
Early stopping at iteration 686, Best Score: 3784.09
Early stopping at iteration 503, Best Score: 3730.46
Early stopping at iteration 657, Best Score: 3786.19
Early stopping at iteration 845, Best Score: 3780.03
Early stopping at iteration 665, Best Score: 3781.26
Early stopping at iteration 564, Best Score: 3742.12
Early stopping at iteration 508, Best Score: 3730.46
```

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Early stopping at iteration 500, Best Score: 3727.54
Early stopping at iteration 515, Best Score: 3737.35
Early stopping at iteration 711, Best Score: 3763.37
Early stopping at iteration 591, Best Score: 3784.22
Early stopping at iteration 685, Best Score: 3777.14
Early stopping at iteration 559, Best Score: 3730.58
Early stopping at iteration 593, Best Score: 3779.91
Early stopping at iteration 500, Best Score: 3727.54
Early stopping at iteration 542, Best Score: 3752.73
Early stopping at iteration 516, Best Score: 3757.09
Early stopping at iteration 532, Best Score: 3742.12
Early stopping at iteration 561, Best Score: 3770.26
Early stopping at iteration 843, Best Score: 3785.69
Early stopping at iteration 642, Best Score: 3783.35
Early stopping at iteration 557, Best Score: 3764.26
Early stopping at iteration 504, Best Score: 3730.46
Early stopping at iteration 564, Best Score: 3763.34
Early stopping at iteration 600, Best Score: 3768.23
Early stopping at iteration 503, Best Score: 3730.46
Early stopping at iteration 800, Best Score: 3786.51
Early stopping at iteration 648, Best Score: 3772.69
Early stopping at iteration 507, Best Score: 3730.46
Early stopping at iteration 569, Best Score: 3754.14
Early stopping at iteration 574, Best Score: 3763.34
Early stopping at iteration 501, Best Score: 3730.58
Early stopping at iteration 589, Best Score: 3775.65
Early stopping at iteration 514, Best Score: 3730.58
Early stopping at iteration 550, Best Score: 3768.06
Early stopping at iteration 674, Best Score: 3787.25
Early stopping at iteration 500, Best Score: 3727.54
Early stopping at iteration 520, Best Score: 3743.93
Early stopping at iteration 538, Best Score: 3769.04
Early stopping at iteration 549, Best Score: 3771.64
Early stopping at iteration 635, Best Score: 3741.94
Early stopping at iteration 1029, Best Score: 3776.01
Early stopping at iteration 510, Best Score: 3730.46
  Deck Trial 200/250
Early stopping at iteration 648, Best Score: 3757.89
Early stopping at iteration 609, Best Score: 3773.57
Early stopping at iteration 794, Best Score: 3808.17
Early stopping at iteration 503, Best Score: 3730.46
Early stopping at iteration 514, Best Score: 3730.46
Early stopping at iteration 698, Best Score: 3800.85
Early stopping at iteration 545, Best Score: 3752.73
Early stopping at iteration 503, Best Score: 3730.46
Early stopping at iteration 584, Best Score: 3771.04
Early stopping at iteration 726, Best Score: 3777.60
Early stopping at iteration 620, Best Score: 3759.37
Early stopping at iteration 558, Best Score: 3768.84
Early stopping at iteration 617, Best Score: 3774.24
Early stopping at iteration 625, Best Score: 3786.81
Early stopping at iteration 517, Best Score: 3730.58
Early stopping at iteration 641, Best Score: 3777.60
Early stopping at iteration 585, Best Score: 3754.87
Early stopping at iteration 512, Best Score: 3739.23
Early stopping at iteration 586, Best Score: 3763.61
Early stopping at iteration 678, Best Score: 3768.84
Early stopping at iteration 696, Best Score: 3791.39
Early stopping at iteration 681, Best Score: 3752.73
Early stopping at iteration 630, Best Score: 3769.03
```

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Early stopping at iteration 675, Best Score: 3749.81
Early stopping at iteration 595, Best Score: 3783.12
Early stopping at iteration 549, Best Score: 3751.42
Early stopping at iteration 560, Best Score: 3768.89
Early stopping at iteration 605, Best Score: 3760.29
Early stopping at iteration 583, Best Score: 3774.98
Early stopping at iteration 527, Best Score: 3731.52
Early stopping at iteration 648, Best Score: 3780.88
Early stopping at iteration 537, Best Score: 3755.65
Early stopping at iteration 556, Best Score: 3762.42
Early stopping at iteration 590, Best Score: 3769.17
Early stopping at iteration 552, Best Score: 3762.10
Early stopping at iteration 604, Best Score: 3752.21
Early stopping at iteration 569, Best Score: 3775.84
Early stopping at iteration 563, Best Score: 3774.16
Early stopping at iteration 501, Best Score: 3730.46
Early stopping at iteration 501, Best Score: 3730.46
Early stopping at iteration 608, Best Score: 3747.69
Early stopping at iteration 525, Best Score: 3746.80
Early stopping at iteration 639, Best Score: 3767.33
Early stopping at iteration 501, Best Score: 3730.58
Early stopping at iteration 650, Best Score: 3783.29
Early stopping at iteration 838, Best Score: 3804.93
Early stopping at iteration 551, Best Score: 3755.80
Early stopping at iteration 556, Best Score: 3758.09
Early stopping at iteration 590, Best Score: 3788.95
Early stopping at iteration 570, Best Score: 3767.45
Early stopping at iteration 694, Best Score: 3774.89
GNN Trial 8 completed with 250 decks.

GNN Trial 9/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 37.1808, Synergy Loss: 2.8395, Total: 42.8598
Epoch 20/300 - Node Loss: 4.9949, Synergy Loss: 2.6917, Total: 10.3783
Epoch 30/300 - Node Loss: 1.9835, Synergy Loss: 2.6025, Total: 7.1885
Epoch 40/300 - Node Loss: 1.1532, Synergy Loss: 2.4528, Total: 6.0587
Epoch 50/300 - Node Loss: 1.0121, Synergy Loss: 2.2890, Total: 5.5902
Epoch 60/300 - Node Loss: 1.0129, Synergy Loss: 2.1329, Total: 5.2788
Epoch 70/300 - Node Loss: 1.0001, Synergy Loss: 1.9884, Total: 4.9770
Epoch 80/300 - Node Loss: 1.0002, Synergy Loss: 1.8705, Total: 4.7413
Epoch 90/300 - Node Loss: 1.0003, Synergy Loss: 1.8070, Total: 4.6142
Epoch 100/300 - Node Loss: 0.9996, Synergy Loss: 1.7983, Total: 4.5961
Epoch 110/300 - Node Loss: 1.0002, Synergy Loss: 1.7991, Total: 4.5984
Early stopping at epoch 117
Existing model archived to: 20250310_111152_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 646, Best Score: 1280.32
Early stopping at iteration 654, Best Score: 1285.01
Early stopping at iteration 1265, Best Score: 1292.51
Early stopping at iteration 863, Best Score: 1286.04
Early stopping at iteration 1082, Best Score: 1286.07
Early stopping at iteration 516, Best Score: 1263.49
Early stopping at iteration 972, Best Score: 1293.23
Early stopping at iteration 619, Best Score: 1287.10
Early stopping at iteration 851, Best Score: 1296.26
Early stopping at iteration 671, Best Score: 1286.56
Early stopping at iteration 1156, Best Score: 1290.85
Early stopping at iteration 639, Best Score: 1285.12
Early stopping at iteration 630, Best Score: 1289.72
Early stopping at iteration 561, Best Score: 1260.22
```

```
Early stopping at iteration 613, Best Score: 1276.70
Early stopping at iteration 527, Best Score: 1268.94
Early stopping at iteration 670, Best Score: 1288.04
Early stopping at iteration 655, Best Score: 1285.74
Early stopping at iteration 570, Best Score: 1272.71
Early stopping at iteration 770, Best Score: 1294.88
Early stopping at iteration 574, Best Score: 1277.74
Early stopping at iteration 531, Best Score: 1269.51
Early stopping at iteration 537, Best Score: 1269.58
Early stopping at iteration 547, Best Score: 1277.03
Early stopping at iteration 675, Best Score: 1277.68
Early stopping at iteration 580, Best Score: 1271.33
Early stopping at iteration 621, Best Score: 1287.88
Early stopping at iteration 673, Best Score: 1293.46
Early stopping at iteration 560, Best Score: 1270.05
Early stopping at iteration 814, Best Score: 1289.69
Early stopping at iteration 646, Best Score: 1284.97
Early stopping at iteration 553, Best Score: 1269.91
Early stopping at iteration 620, Best Score: 1282.36
Early stopping at iteration 589, Best Score: 1273.75
Early stopping at iteration 759, Best Score: 1276.76
Early stopping at iteration 754, Best Score: 1285.90
Early stopping at iteration 615, Best Score: 1277.81
Early stopping at iteration 788, Best Score: 1285.39
Early stopping at iteration 708, Best Score: 1280.61
Early stopping at iteration 799, Best Score: 1284.95
Early stopping at iteration 591, Best Score: 1273.68
Early stopping at iteration 526, Best Score: 1263.95
Early stopping at iteration 608, Best Score: 1288.26
Early stopping at iteration 587, Best Score: 1274.26
Early stopping at iteration 679, Best Score: 1288.17
Early stopping at iteration 761, Best Score: 1291.13
Early stopping at iteration 545, Best Score: 1274.97
Early stopping at iteration 634, Best Score: 1292.22
Early stopping at iteration 570, Best Score: 1277.24
Early stopping at iteration 640, Best Score: 1282.65
Early stopping at iteration 600, Best Score: 1286.28
Early stopping at iteration 626, Best Score: 1281.40
Early stopping at iteration 623, Best Score: 1283.11
Early stopping at iteration 610, Best Score: 1285.19
Early stopping at iteration 572, Best Score: 1278.59
Early stopping at iteration 899, Best Score: 1295.03
Early stopping at iteration 539, Best Score: 1270.36
Early stopping at iteration 720, Best Score: 1287.79
Early stopping at iteration 634, Best Score: 1277.05
Early stopping at iteration 588, Best Score: 1283.35
Early stopping at iteration 603, Best Score: 1285.88
Early stopping at iteration 653, Best Score: 1282.22
Early stopping at iteration 713, Best Score: 1286.99
Early stopping at iteration 788, Best Score: 1292.34
Early stopping at iteration 622, Best Score: 1285.30
Early stopping at iteration 676, Best Score: 1280.30
Early stopping at iteration 710, Best Score: 1286.19
Early stopping at iteration 703, Best Score: 1285.81
Early stopping at iteration 702, Best Score: 1283.93
Early stopping at iteration 809, Best Score: 1272.90
Early stopping at iteration 522, Best Score: 1271.12
Early stopping at iteration 585, Best Score: 1265.99
Early stopping at iteration 592, Best Score: 1282.01
Early stopping at iteration 610, Best Score: 1280.67
```

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Early stopping at iteration 610, Best Score: 1279.77
Early stopping at iteration 568, Best Score: 1274.14
Early stopping at iteration 659, Best Score: 1283.38
Early stopping at iteration 604, Best Score: 1272.73
Early stopping at iteration 570, Best Score: 1282.37
Early stopping at iteration 603, Best Score: 1268.85
Early stopping at iteration 599, Best Score: 1279.83
Early stopping at iteration 707, Best Score: 1284.60
Early stopping at iteration 670, Best Score: 1286.61
Early stopping at iteration 603, Best Score: 1279.90
Early stopping at iteration 601, Best Score: 1274.79
Early stopping at iteration 606, Best Score: 1282.61
Early stopping at iteration 653, Best Score: 1270.20
Early stopping at iteration 670, Best Score: 1289.03
Early stopping at iteration 800, Best Score: 1289.06
Early stopping at iteration 646, Best Score: 1295.29
Early stopping at iteration 793, Best Score: 1284.90
Early stopping at iteration 674, Best Score: 1281.30
Early stopping at iteration 598, Best Score: 1276.86
Early stopping at iteration 696, Best Score: 1284.97
Early stopping at iteration 537, Best Score: 1264.22
Early stopping at iteration 616, Best Score: 1288.12
Early stopping at iteration 584, Best Score: 1283.02
Early stopping at iteration 568, Best Score: 1275.75
Early stopping at iteration 659, Best Score: 1282.98
  Deck Trial 100/250
Early stopping at iteration 879, Best Score: 1285.62
Early stopping at iteration 773, Best Score: 1279.29
Early stopping at iteration 620, Best Score: 1281.45
Early stopping at iteration 606, Best Score: 1276.66
Early stopping at iteration 562, Best Score: 1270.37
Early stopping at iteration 581, Best Score: 1284.68
Early stopping at iteration 572, Best Score: 1274.02
Early stopping at iteration 573, Best Score: 1270.71
Early stopping at iteration 553, Best Score: 1270.94
Early stopping at iteration 628, Best Score: 1282.35
Early stopping at iteration 855, Best Score: 1292.36
Early stopping at iteration 643, Best Score: 1278.50
Early stopping at iteration 626, Best Score: 1279.39
Early stopping at iteration 574, Best Score: 1277.82
Early stopping at iteration 621, Best Score: 1278.93
Early stopping at iteration 624, Best Score: 1276.72
Early stopping at iteration 707, Best Score: 1280.28
Early stopping at iteration 724, Best Score: 1286.43
Early stopping at iteration 536, Best Score: 1267.95
Early stopping at iteration 746, Best Score: 1280.39
Early stopping at iteration 552, Best Score: 1273.54
Early stopping at iteration 563, Best Score: 1274.34
Early stopping at iteration 598, Best Score: 1287.85
Early stopping at iteration 575, Best Score: 1268.48
Early stopping at iteration 902, Best Score: 1290.54
Early stopping at iteration 587, Best Score: 1288.74
Early stopping at iteration 712, Best Score: 1285.92
Early stopping at iteration 747, Best Score: 1270.21
Early stopping at iteration 649, Best Score: 1279.77
Early stopping at iteration 524, Best Score: 1266.64
Early stopping at iteration 592, Best Score: 1282.20
Early stopping at iteration 626, Best Score: 1282.28
Early stopping at iteration 697, Best Score: 1284.12
Early stopping at iteration 601, Best Score: 1282.49
```

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Early stopping at iteration 651, Best Score: 1276.70
Early stopping at iteration 628, Best Score: 1278.65
Early stopping at iteration 751, Best Score: 1266.22
Early stopping at iteration 713, Best Score: 1279.77
Early stopping at iteration 630, Best Score: 1281.54
Early stopping at iteration 569, Best Score: 1279.43
Early stopping at iteration 599, Best Score: 1282.34
Early stopping at iteration 754, Best Score: 1290.23
Early stopping at iteration 656, Best Score: 1288.77
Early stopping at iteration 654, Best Score: 1286.12
Early stopping at iteration 538, Best Score: 1269.59
Early stopping at iteration 718, Best Score: 1287.15
Early stopping at iteration 571, Best Score: 1279.80
Early stopping at iteration 822, Best Score: 1287.76
Early stopping at iteration 706, Best Score: 1283.95
Early stopping at iteration 667, Best Score: 1288.06
Early stopping at iteration 717, Best Score: 1290.56
Early stopping at iteration 659, Best Score: 1279.67
Early stopping at iteration 530, Best Score: 1265.11
Early stopping at iteration 625, Best Score: 1290.52
Early stopping at iteration 604, Best Score: 1273.31
Early stopping at iteration 626, Best Score: 1284.41
Early stopping at iteration 617, Best Score: 1267.40
Early stopping at iteration 560, Best Score: 1275.20
Early stopping at iteration 525, Best Score: 1265.97
Early stopping at iteration 611, Best Score: 1281.16
Early stopping at iteration 767, Best Score: 1290.49
Early stopping at iteration 797, Best Score: 1284.14
Early stopping at iteration 676, Best Score: 1287.25
Early stopping at iteration 589, Best Score: 1278.67
Early stopping at iteration 629, Best Score: 1275.24
Early stopping at iteration 856, Best Score: 1288.67
Early stopping at iteration 630, Best Score: 1285.15
Early stopping at iteration 684, Best Score: 1284.99
Early stopping at iteration 645, Best Score: 1285.60
Early stopping at iteration 598, Best Score: 1280.57
Early stopping at iteration 565, Best Score: 1273.11
Early stopping at iteration 621, Best Score: 1285.14
Early stopping at iteration 627, Best Score: 1279.24
Early stopping at iteration 749, Best Score: 1288.05
Early stopping at iteration 563, Best Score: 1274.48
Early stopping at iteration 792, Best Score: 1283.17
Early stopping at iteration 916, Best Score: 1285.46
Early stopping at iteration 823, Best Score: 1279.73
Early stopping at iteration 620, Best Score: 1273.18
Early stopping at iteration 815, Best Score: 1289.83
Early stopping at iteration 639, Best Score: 1283.44
Early stopping at iteration 544, Best Score: 1266.82
Early stopping at iteration 641, Best Score: 1277.98
Early stopping at iteration 626, Best Score: 1278.07
Early stopping at iteration 811, Best Score: 1289.92
Early stopping at iteration 872, Best Score: 1294.63
Early stopping at iteration 667, Best Score: 1283.38
Early stopping at iteration 635, Best Score: 1278.52
Early stopping at iteration 741, Best Score: 1287.64
Early stopping at iteration 591, Best Score: 1281.77
Early stopping at iteration 564, Best Score: 1276.40
Early stopping at iteration 806, Best Score: 1271.45
Early stopping at iteration 690, Best Score: 1274.18
Early stopping at iteration 691, Best Score: 1288.67
```

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Early stopping at iteration 715, Best Score: 1288.32
Early stopping at iteration 735, Best Score: 1279.61
Early stopping at iteration 594, Best Score: 1283.07
Early stopping at iteration 610, Best Score: 1264.94
Early stopping at iteration 720, Best Score: 1294.13
Early stopping at iteration 688, Best Score: 1275.95
  Deck Trial 200/250
Early stopping at iteration 521, Best Score: 1265.05
Early stopping at iteration 608, Best Score: 1284.77
Early stopping at iteration 673, Best Score: 1281.26
Early stopping at iteration 589, Best Score: 1277.95
Early stopping at iteration 764, Best Score: 1289.98
Early stopping at iteration 555, Best Score: 1275.94
Early stopping at iteration 816, Best Score: 1291.66
Early stopping at iteration 671, Best Score: 1278.63
Early stopping at iteration 683, Best Score: 1285.29
Early stopping at iteration 643, Best Score: 1283.90
Early stopping at iteration 675, Best Score: 1289.84
Early stopping at iteration 622, Best Score: 1278.30
Early stopping at iteration 582, Best Score: 1280.95
Early stopping at iteration 680, Best Score: 1284.14
Early stopping at iteration 555, Best Score: 1271.32
Early stopping at iteration 719, Best Score: 1295.57
Early stopping at iteration 852, Best Score: 1297.87
Early stopping at iteration 567, Best Score: 1273.89
Early stopping at iteration 512, Best Score: 1258.78
Early stopping at iteration 777, Best Score: 1289.24
Early stopping at iteration 545, Best Score: 1277.72
Early stopping at iteration 694, Best Score: 1286.74
Early stopping at iteration 752, Best Score: 1289.41
Early stopping at iteration 549, Best Score: 1269.43
Early stopping at iteration 570, Best Score: 1263.56
Early stopping at iteration 720, Best Score: 1283.69
Early stopping at iteration 783, Best Score: 1289.55
Early stopping at iteration 721, Best Score: 1289.81
Early stopping at iteration 708, Best Score: 1290.55
Early stopping at iteration 838, Best Score: 1284.93
Early stopping at iteration 636, Best Score: 1284.17
Early stopping at iteration 613, Best Score: 1281.21
Early stopping at iteration 624, Best Score: 1284.87
Early stopping at iteration 643, Best Score: 1281.19
Early stopping at iteration 586, Best Score: 1273.05
Early stopping at iteration 584, Best Score: 1285.03
Early stopping at iteration 582, Best Score: 1276.73
Early stopping at iteration 637, Best Score: 1283.68
Early stopping at iteration 559, Best Score: 1269.31
Early stopping at iteration 778, Best Score: 1276.07
Early stopping at iteration 641, Best Score: 1281.57
Early stopping at iteration 626, Best Score: 1277.61
Early stopping at iteration 670, Best Score: 1284.70
Early stopping at iteration 746, Best Score: 1297.84
Early stopping at iteration 615, Best Score: 1272.02
Early stopping at iteration 588, Best Score: 1276.75
Early stopping at iteration 608, Best Score: 1270.44
Early stopping at iteration 569, Best Score: 1277.00
Early stopping at iteration 604, Best Score: 1284.30
Early stopping at iteration 669, Best Score: 1278.56
Early stopping at iteration 594, Best Score: 1279.90
GNN Trial 9 completed with 250 decks.
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GNN Trial 10/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 23.8045, Synergy Loss: 2.4334, Total: 28.6713
Epoch 20/300 - Node Loss: 3.7222, Synergy Loss: 2.3113, Total: 8.3448
Epoch 30/300 - Node Loss: 1.6714, Synergy Loss: 2.2397, Total: 6.1507
Epoch 40/300 - Node Loss: 1.0807, Synergy Loss: 2.1019, Total: 5.2845
Epoch 50/300 - Node Loss: 1.0053, Synergy Loss: 1.9861, Total: 4.9776
Epoch 60/300 - Node Loss: 1.0111, Synergy Loss: 1.8841, Total: 4.7792
Epoch 70/300 - Node Loss: 1.0033, Synergy Loss: 1.8127, Total: 4.6288
Epoch 80/300 - Node Loss: 1.0088, Synergy Loss: 1.7444, Total: 4.4977
Epoch 90/300 - Node Loss: 1.0543, Synergy Loss: 1.6291, Total: 4.3124
Epoch 100/300 - Node Loss: 1.1684, Synergy Loss: 1.3971, Total: 3.9627
Epoch 110/300 - Node Loss: 1.2644, Synergy Loss: 1.1912, Total: 3.6468
Epoch 120/300 - Node Loss: 1.2027, Synergy Loss: 1.0623, Total: 3.3273
Epoch 130/300 - Node Loss: 1.1826, Synergy Loss: 0.9754, Total: 3.1334
Epoch 140/300 - Node Loss: 1.2382, Synergy Loss: 0.8798, Total: 2.9978
Epoch 150/300 - Node Loss: 1.1849, Synergy Loss: 0.8598, Total: 2.9046
Epoch 160/300 - Node Loss: 1.2072, Synergy Loss: 0.8097, Total: 2.8265
Epoch 170/300 - Node Loss: 1.1623, Synergy Loss: 0.7605, Total: 2.6832
Epoch 180/300 - Node Loss: 1.1843, Synergy Loss: 0.6971, Total: 2.5784
Epoch 190/300 - Node Loss: 1.1409, Synergy Loss: 0.6666, Total: 2.4740
Epoch 200/300 - Node Loss: 1.1489, Synergy Loss: 0.6147, Total: 2.3784
Epoch 210/300 - Node Loss: 1.1232, Synergy Loss: 0.5977, Total: 2.3186
Epoch 220/300 - Node Loss: 1.1320, Synergy Loss: 0.5789, Total: 2.2898
Epoch 230/300 - Node Loss: 1.1356, Synergy Loss: 0.5605, Total: 2.2567
Epoch 240/300 - Node Loss: 1.0890, Synergy Loss: 0.5423, Total: 2.1735
Epoch 250/300 - Node Loss: 1.1212, Synergy Loss: 0.5060, Total: 2.1333
Epoch 260/300 - Node Loss: 1.1059, Synergy Loss: 0.5129, Total: 2.1317
Epoch 270/300 - Node Loss: 1.1066, Synergy Loss: 0.4765, Total: 2.0596
Epoch 280/300 - Node Loss: 1.0891, Synergy Loss: 0.5114, Total: 2.1120
Epoch 290/300 - Node Loss: 1.1223, Synergy Loss: 0.7850, Total: 2.6923
Early stopping at epoch 295
Existing model archived to: 20250310_111730_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 737, Best Score: 3149.67
Early stopping at iteration 593, Best Score: 2834.72
Early stopping at iteration 879, Best Score: 3135.86
Early stopping at iteration 740, Best Score: 3019.06
Early stopping at iteration 561, Best Score: 2841.73
Early stopping at iteration 646, Best Score: 2995.14
Early stopping at iteration 855, Best Score: 3073.03
Early stopping at iteration 881, Best Score: 3062.95
Early stopping at iteration 1022, Best Score: 3243.06
Early stopping at iteration 574, Best Score: 2841.51
Early stopping at iteration 574, Best Score: 2835.28
Early stopping at iteration 505, Best Score: 2768.09
Early stopping at iteration 540, Best Score: 2803.64
Early stopping at iteration 611, Best Score: 2921.47
Early stopping at iteration 657, Best Score: 2997.45
Early stopping at iteration 660, Best Score: 3058.10
Early stopping at iteration 603, Best Score: 2819.96
Early stopping at iteration 583, Best Score: 2873.35
Early stopping at iteration 977, Best Score: 3106.91
Early stopping at iteration 522, Best Score: 2830.75
Early stopping at iteration 553, Best Score: 2835.34
Early stopping at iteration 837, Best Score: 3127.66
Early stopping at iteration 964, Best Score: 3083.87
Early stopping at iteration 517, Best Score: 2751.71
Early stopping at iteration 561, Best Score: 2879.10
Early stopping at iteration 688, Best Score: 3039.44
```

```
Early stopping at iteration 652, Best Score: 2947.88
Early stopping at iteration 544, Best Score: 2870.66
Early stopping at iteration 549, Best Score: 2797.75
Early stopping at iteration 713, Best Score: 2949.26
Early stopping at iteration 502, Best Score: 2751.71
Early stopping at iteration 685, Best Score: 2757.44
Early stopping at iteration 625, Best Score: 2890.56
Early stopping at iteration 749, Best Score: 2951.81
Early stopping at iteration 622, Best Score: 2910.26
Early stopping at iteration 705, Best Score: 2974.13
Early stopping at iteration 530, Best Score: 2787.54
Early stopping at iteration 528, Best Score: 2784.88
Early stopping at iteration 772, Best Score: 3071.20
Early stopping at iteration 520, Best Score: 2805.19
Early stopping at iteration 741, Best Score: 2999.54
Early stopping at iteration 737, Best Score: 2942.17
Early stopping at iteration 636, Best Score: 3039.76
Early stopping at iteration 508, Best Score: 2754.01
Early stopping at iteration 570, Best Score: 2880.39
Early stopping at iteration 751, Best Score: 3123.33
Early stopping at iteration 681, Best Score: 2928.18
Early stopping at iteration 1001, Best Score: 3220.42
Early stopping at iteration 675, Best Score: 3001.51
Early stopping at iteration 723, Best Score: 3021.76
Early stopping at iteration 726, Best Score: 3056.54
Early stopping at iteration 647, Best Score: 2997.41
Early stopping at iteration 640, Best Score: 3032.51
Early stopping at iteration 732, Best Score: 3037.48
Early stopping at iteration 720, Best Score: 2983.39
Early stopping at iteration 621, Best Score: 2942.43
Early stopping at iteration 559, Best Score: 2850.81
Early stopping at iteration 827, Best Score: 3177.26
Early stopping at iteration 632, Best Score: 2990.19
Early stopping at iteration 1344, Best Score: 3074.32
Early stopping at iteration 702, Best Score: 3085.90
Early stopping at iteration 596, Best Score: 2898.21
Early stopping at iteration 505, Best Score: 2750.92
Early stopping at iteration 695, Best Score: 2994.80
Early stopping at iteration 667, Best Score: 2969.29
Early stopping at iteration 505, Best Score: 2768.06
Early stopping at iteration 894, Best Score: 3098.51
Early stopping at iteration 572, Best Score: 2930.43
Early stopping at iteration 650, Best Score: 2919.08
Early stopping at iteration 896, Best Score: 3154.98
Early stopping at iteration 772, Best Score: 3024.82
Early stopping at iteration 693, Best Score: 3032.28
Early stopping at iteration 636, Best Score: 2999.93
Early stopping at iteration 576, Best Score: 2825.69
Early stopping at iteration 597, Best Score: 2922.31
Early stopping at iteration 693, Best Score: 3043.53
Early stopping at iteration 951, Best Score: 3137.66
Early stopping at iteration 716, Best Score: 3047.71
Early stopping at iteration 662, Best Score: 2918.60
Early stopping at iteration 567, Best Score: 2933.77
Early stopping at iteration 940, Best Score: 3254.74
Early stopping at iteration 1078, Best Score: 3220.63
Early stopping at iteration 575, Best Score: 2892.99
Early stopping at iteration 685, Best Score: 2955.02
Early stopping at iteration 656, Best Score: 2996.92
Early stopping at iteration 500, Best Score: 2749.75
```

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Early stopping at iteration 762, Best Score: 3020.21
Early stopping at iteration 1295, Best Score: 3207.89
Early stopping at iteration 955, Best Score: 3223.01
Early stopping at iteration 535, Best Score: 2801.63
Early stopping at iteration 837, Best Score: 3073.03
Early stopping at iteration 597, Best Score: 2933.98
Early stopping at iteration 849, Best Score: 3180.79
Early stopping at iteration 961, Best Score: 3182.77
Early stopping at iteration 556, Best Score: 2882.26
Early stopping at iteration 889, Best Score: 3113.16
Early stopping at iteration 841, Best Score: 3197.18
Early stopping at iteration 524, Best Score: 2819.79
Early stopping at iteration 1164, Best Score: 3037.82
  Deck Trial 100/250
Early stopping at iteration 647, Best Score: 3033.29
Early stopping at iteration 577, Best Score: 2939.84
Early stopping at iteration 653, Best Score: 3029.00
Early stopping at iteration 740, Best Score: 3046.01
Early stopping at iteration 979, Best Score: 3149.33
Early stopping at iteration 551, Best Score: 2888.96
Early stopping at iteration 1382, Best Score: 3065.32
Early stopping at iteration 748, Best Score: 3079.27
Early stopping at iteration 1229, Best Score: 3096.65
Early stopping at iteration 700, Best Score: 2938.26
Early stopping at iteration 862, Best Score: 3210.26
Early stopping at iteration 643, Best Score: 2957.52
Early stopping at iteration 511, Best Score: 2806.03
Early stopping at iteration 933, Best Score: 3163.96
Early stopping at iteration 705, Best Score: 3078.21
Early stopping at iteration 595, Best Score: 2950.11
Early stopping at iteration 1074, Best Score: 3043.85
Early stopping at iteration 500, Best Score: 2749.75
Early stopping at iteration 889, Best Score: 3068.20
Early stopping at iteration 730, Best Score: 2959.30
Early stopping at iteration 604, Best Score: 2973.77
Early stopping at iteration 756, Best Score: 2965.48
Early stopping at iteration 835, Best Score: 3176.33
Early stopping at iteration 706, Best Score: 2961.01
Early stopping at iteration 756, Best Score: 3111.84
Early stopping at iteration 588, Best Score: 2862.18
Early stopping at iteration 537, Best Score: 2761.85
Early stopping at iteration 531, Best Score: 2850.54
Early stopping at iteration 811, Best Score: 3143.50
Early stopping at iteration 513, Best Score: 2775.49
Early stopping at iteration 559, Best Score: 2871.06
Early stopping at iteration 720, Best Score: 3139.10
Early stopping at iteration 715, Best Score: 2980.62
Early stopping at iteration 650, Best Score: 2937.39
Early stopping at iteration 572, Best Score: 2823.38
Early stopping at iteration 611, Best Score: 2969.86
Early stopping at iteration 751, Best Score: 2889.49
Early stopping at iteration 539, Best Score: 2802.30
Early stopping at iteration 581, Best Score: 2812.84
Early stopping at iteration 559, Best Score: 2899.90
Early stopping at iteration 598, Best Score: 2862.97
Early stopping at iteration 518, Best Score: 2802.31
Early stopping at iteration 568, Best Score: 2799.51
Early stopping at iteration 588, Best Score: 2956.71
Early stopping at iteration 551, Best Score: 2824.55
Early stopping at iteration 850, Best Score: 3123.65
```

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Early stopping at iteration 632, Best Score: 2959.91
Early stopping at iteration 757, Best Score: 3050.56
Early stopping at iteration 962, Best Score: 3224.94
Early stopping at iteration 833, Best Score: 3093.37
Early stopping at iteration 536, Best Score: 2777.14
Early stopping at iteration 1226, Best Score: 3246.74
Early stopping at iteration 640, Best Score: 2968.90
Early stopping at iteration 575, Best Score: 2891.43
Early stopping at iteration 618, Best Score: 2991.11
Early stopping at iteration 803, Best Score: 3169.03
Early stopping at iteration 945, Best Score: 3044.81
Early stopping at iteration 980, Best Score: 2908.71
Early stopping at iteration 741, Best Score: 3073.37
Early stopping at iteration 722, Best Score: 3021.82
Early stopping at iteration 681, Best Score: 2966.03
Early stopping at iteration 711, Best Score: 3026.11
Early stopping at iteration 953, Best Score: 3112.65
Early stopping at iteration 717, Best Score: 3162.61
Early stopping at iteration 582, Best Score: 2887.80
Early stopping at iteration 883, Best Score: 3136.79
Early stopping at iteration 576, Best Score: 2889.81
Early stopping at iteration 868, Best Score: 3105.70
Early stopping at iteration 1022, Best Score: 3259.50
Early stopping at iteration 906, Best Score: 3082.53
Early stopping at iteration 776, Best Score: 3067.30
Early stopping at iteration 506, Best Score: 2750.92
Early stopping at iteration 814, Best Score: 3182.41
Early stopping at iteration 664, Best Score: 2919.20
Early stopping at iteration 565, Best Score: 2930.28
Early stopping at iteration 671, Best Score: 2980.56
Early stopping at iteration 661, Best Score: 2989.93
Early stopping at iteration 590, Best Score: 3002.07
Early stopping at iteration 548, Best Score: 2867.66
Early stopping at iteration 562, Best Score: 2869.68
Early stopping at iteration 829, Best Score: 3110.68
Early stopping at iteration 883, Best Score: 3251.48
Early stopping at iteration 571, Best Score: 2796.72
Early stopping at iteration 537, Best Score: 2761.80
Early stopping at iteration 630, Best Score: 3029.04
Early stopping at iteration 665, Best Score: 3014.61
Early stopping at iteration 776, Best Score: 3140.24
Early stopping at iteration 676, Best Score: 2953.01
Early stopping at iteration 541, Best Score: 2882.86
Early stopping at iteration 598, Best Score: 2966.90
Early stopping at iteration 848, Best Score: 3150.15
Early stopping at iteration 686, Best Score: 3023.73
Early stopping at iteration 585, Best Score: 2880.85
Early stopping at iteration 699, Best Score: 3018.94
Early stopping at iteration 776, Best Score: 3015.59
Early stopping at iteration 1326, Best Score: 3196.45
Early stopping at iteration 862, Best Score: 3242.48
Early stopping at iteration 1006, Best Score: 3181.23
Early stopping at iteration 697, Best Score: 3078.22
Early stopping at iteration 754, Best Score: 3132.05
  Deck Trial 200/250
Early stopping at iteration 629, Best Score: 2937.83
Early stopping at iteration 683, Best Score: 2991.81
Early stopping at iteration 924, Best Score: 3146.12
Early stopping at iteration 595, Best Score: 2930.94
Early stopping at iteration 763, Best Score: 3031.02
```

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Early stopping at iteration 609, Best Score: 2932.03
Early stopping at iteration 592, Best Score: 2899.42
Early stopping at iteration 535, Best Score: 2764.21
Early stopping at iteration 662, Best Score: 2944.36
Early stopping at iteration 626, Best Score: 2875.66
Early stopping at iteration 663, Best Score: 3111.77
Early stopping at iteration 565, Best Score: 2877.95
Early stopping at iteration 676, Best Score: 2956.10
Early stopping at iteration 1194, Best Score: 3230.33
Early stopping at iteration 831, Best Score: 3205.23
Early stopping at iteration 794, Best Score: 3024.30
Early stopping at iteration 602, Best Score: 2967.74
Early stopping at iteration 744, Best Score: 3028.06
Early stopping at iteration 684, Best Score: 3047.48
Early stopping at iteration 730, Best Score: 2990.72
Early stopping at iteration 622, Best Score: 3056.35
Early stopping at iteration 732, Best Score: 3103.79
Early stopping at iteration 630, Best Score: 2920.60
Early stopping at iteration 502, Best Score: 2750.95
Early stopping at iteration 683, Best Score: 3013.45
Early stopping at iteration 737, Best Score: 3045.21
Early stopping at iteration 569, Best Score: 2885.55
Early stopping at iteration 595, Best Score: 2928.20
Early stopping at iteration 580, Best Score: 2934.66
Early stopping at iteration 609, Best Score: 2850.48
Early stopping at iteration 832, Best Score: 3200.09
Early stopping at iteration 868, Best Score: 2967.74
Early stopping at iteration 666, Best Score: 3002.82
Early stopping at iteration 688, Best Score: 2944.08
Early stopping at iteration 610, Best Score: 2956.69
Early stopping at iteration 986, Best Score: 3213.44
Early stopping at iteration 999, Best Score: 3068.63
Early stopping at iteration 553, Best Score: 2839.45
Early stopping at iteration 773, Best Score: 3047.07
Early stopping at iteration 659, Best Score: 2944.80
Early stopping at iteration 774, Best Score: 3034.81
Early stopping at iteration 524, Best Score: 2778.07
Early stopping at iteration 597, Best Score: 2938.90
Early stopping at iteration 713, Best Score: 2911.28
Early stopping at iteration 561, Best Score: 2932.06
Early stopping at iteration 875, Best Score: 3060.16
Early stopping at iteration 982, Best Score: 3248.45
Early stopping at iteration 521, Best Score: 2817.28
Early stopping at iteration 807, Best Score: 3170.57
Early stopping at iteration 824, Best Score: 3139.28
Early stopping at iteration 501, Best Score: 2751.71
GNN Trial 10 completed with 250 decks.

GNN Trial 11/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 36.7462, Synergy Loss: 2.3208, Total: 41.3877
Epoch 20/300 - Node Loss: 8.1421, Synergy Loss: 2.2035, Total: 12.5490
Epoch 30/300 - Node Loss: 3.4011, Synergy Loss: 2.0956, Total: 7.5924
Epoch 40/300 - Node Loss: 1.3502, Synergy Loss: 1.9640, Total: 5.2782
Epoch 50/300 - Node Loss: 1.0679, Synergy Loss: 1.8891, Total: 4.8460
Epoch 60/300 - Node Loss: 1.0254, Synergy Loss: 1.8368, Total: 4.6990
Epoch 70/300 - Node Loss: 1.0099, Synergy Loss: 1.8071, Total: 4.6240
Epoch 80/300 - Node Loss: 1.0103, Synergy Loss: 1.7928, Total: 4.5960
Epoch 90/300 - Node Loss: 1.0176, Synergy Loss: 1.7889, Total: 4.5953
Epoch 100/300 - Node Loss: 1.0123, Synergy Loss: 1.7878, Total: 4.5879
```

```
Epoch 110/300 - Node Loss: 1.0619, Synergy Loss: 1.7775, Total: 4.6169
Epoch 120/300 - Node Loss: 1.0340, Synergy Loss: 1.7724, Total: 4.5789
Epoch 130/300 - Node Loss: 1.0546, Synergy Loss: 1.7543, Total: 4.5631
Epoch 140/300 - Node Loss: 1.1498, Synergy Loss: 1.6008, Total: 4.3515
Epoch 150/300 - Node Loss: 1.2517, Synergy Loss: 1.3564, Total: 3.9645
Epoch 160/300 - Node Loss: 1.2051, Synergy Loss: 1.1700, Total: 3.5451
Epoch 170/300 - Node Loss: 1.2164, Synergy Loss: 1.1023, Total: 3.4210
Epoch 180/300 - Node Loss: 1.3578, Synergy Loss: 0.9530, Total: 3.2638
Epoch 190/300 - Node Loss: 1.3135, Synergy Loss: 0.8626, Total: 3.0387
Epoch 200/300 - Node Loss: 1.3543, Synergy Loss: 0.8291, Total: 3.0125
Epoch 210/300 - Node Loss: 1.3424, Synergy Loss: 0.7954, Total: 2.9333
Epoch 220/300 - Node Loss: 1.2436, Synergy Loss: 0.7938, Total: 2.8312
Epoch 230/300 - Node Loss: 1.2230, Synergy Loss: 0.7586, Total: 2.7402
Epoch 240/300 - Node Loss: 1.2105, Synergy Loss: 0.7344, Total: 2.6792
Epoch 250/300 - Node Loss: 1.2227, Synergy Loss: 0.6679, Total: 2.5586
Epoch 260/300 - Node Loss: 1.2349, Synergy Loss: 0.5993, Total: 2.4336
Epoch 270/300 - Node Loss: 1.1852, Synergy Loss: 0.5971, Total: 2.3793
Epoch 280/300 - Node Loss: 1.1568, Synergy Loss: 0.5283, Total: 2.2134
Epoch 290/300 - Node Loss: 1.1454, Synergy Loss: 0.5182, Total: 2.1819
Epoch 300/300 - Node Loss: 1.0994, Synergy Loss: 0.4733, Total: 2.0460
Existing model archived to: 20250310_112328_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 630, Best Score: 3331.29
Early stopping at iteration 520, Best Score: 3282.92
Early stopping at iteration 572, Best Score: 3304.33
Early stopping at iteration 529, Best Score: 3277.88
Early stopping at iteration 508, Best Score: 3273.81
Early stopping at iteration 630, Best Score: 3303.52
Early stopping at iteration 674, Best Score: 3320.77
Early stopping at iteration 556, Best Score: 3300.18
Early stopping at iteration 501, Best Score: 3257.56
Early stopping at iteration 564, Best Score: 3302.32
Early stopping at iteration 607, Best Score: 3300.70
Early stopping at iteration 666, Best Score: 3315.38
Early stopping at iteration 574, Best Score: 3277.17
Early stopping at iteration 801, Best Score: 3344.28
Early stopping at iteration 524, Best Score: 3267.74
Early stopping at iteration 835, Best Score: 3323.24
Early stopping at iteration 542, Best Score: 3275.76
Early stopping at iteration 563, Best Score: 3277.56
Early stopping at iteration 731, Best Score: 3311.28
Early stopping at iteration 656, Best Score: 3307.01
Early stopping at iteration 641, Best Score: 3305.92
Early stopping at iteration 515, Best Score: 3265.39
Early stopping at iteration 568, Best Score: 3292.06
Early stopping at iteration 802, Best Score: 3339.24
Early stopping at iteration 501, Best Score: 3257.56
Early stopping at iteration 519, Best Score: 3269.35
Early stopping at iteration 504, Best Score: 3257.56
Early stopping at iteration 567, Best Score: 3289.11
Early stopping at iteration 600, Best Score: 3298.30
Early stopping at iteration 501, Best Score: 3257.56
Early stopping at iteration 712, Best Score: 3320.91
Early stopping at iteration 549, Best Score: 3278.29
Early stopping at iteration 605, Best Score: 3298.42
Early stopping at iteration 853, Best Score: 3315.60
Early stopping at iteration 974, Best Score: 3319.04
Early stopping at iteration 565, Best Score: 3296.98
Early stopping at iteration 710, Best Score: 3332.67
Early stopping at iteration 585, Best Score: 3304.02
```

```
Early stopping at iteration 665, Best Score: 3310.39
Early stopping at iteration 610, Best Score: 3299.37
Early stopping at iteration 624, Best Score: 3306.60
Early stopping at iteration 664, Best Score: 3297.94
Early stopping at iteration 601, Best Score: 3296.46
Early stopping at iteration 533, Best Score: 3283.28
Early stopping at iteration 626, Best Score: 3310.35
Early stopping at iteration 622, Best Score: 3278.00
Early stopping at iteration 589, Best Score: 3301.73
Early stopping at iteration 591, Best Score: 3278.94
Early stopping at iteration 518, Best Score: 3275.21
Early stopping at iteration 529, Best Score: 3272.54
Early stopping at iteration 553, Best Score: 3288.52
Early stopping at iteration 540, Best Score: 3298.45
Early stopping at iteration 547, Best Score: 3275.47
Early stopping at iteration 536, Best Score: 3289.03
Early stopping at iteration 514, Best Score: 3264.29
Early stopping at iteration 623, Best Score: 3314.18
Early stopping at iteration 610, Best Score: 3288.10
Early stopping at iteration 563, Best Score: 3277.49
Early stopping at iteration 578, Best Score: 3293.11
Early stopping at iteration 539, Best Score: 3285.23
Early stopping at iteration 505, Best Score: 3257.56
Early stopping at iteration 634, Best Score: 3290.18
Early stopping at iteration 651, Best Score: 3306.64
Early stopping at iteration 550, Best Score: 3277.24
Early stopping at iteration 513, Best Score: 3263.12
Early stopping at iteration 539, Best Score: 3289.11
Early stopping at iteration 557, Best Score: 3294.63
Early stopping at iteration 1001, Best Score: 3303.35
Early stopping at iteration 544, Best Score: 3295.39
Early stopping at iteration 608, Best Score: 3314.08
Early stopping at iteration 540, Best Score: 3288.63
Early stopping at iteration 500, Best Score: 3254.87
Early stopping at iteration 681, Best Score: 3307.40
Early stopping at iteration 619, Best Score: 3289.55
Early stopping at iteration 639, Best Score: 3311.84
Early stopping at iteration 612, Best Score: 3311.38
Early stopping at iteration 640, Best Score: 3319.82
Early stopping at iteration 530, Best Score: 3269.96
Early stopping at iteration 544, Best Score: 3283.02
Early stopping at iteration 579, Best Score: 3311.48
Early stopping at iteration 616, Best Score: 3320.55
Early stopping at iteration 539, Best Score: 3275.85
Early stopping at iteration 620, Best Score: 3291.42
Early stopping at iteration 637, Best Score: 3309.11
Early stopping at iteration 582, Best Score: 3304.83
Early stopping at iteration 842, Best Score: 3324.68
Early stopping at iteration 501, Best Score: 3257.56
Early stopping at iteration 601, Best Score: 3311.11
Early stopping at iteration 647, Best Score: 3309.69
Early stopping at iteration 562, Best Score: 3283.22
Early stopping at iteration 534, Best Score: 3291.84
Early stopping at iteration 1208, Best Score: 3332.90
Early stopping at iteration 659, Best Score: 3319.73
Early stopping at iteration 620, Best Score: 3290.55
Early stopping at iteration 972, Best Score: 3327.31
Early stopping at iteration 592, Best Score: 3298.25
Early stopping at iteration 594, Best Score: 3298.85
Early stopping at iteration 664, Best Score: 3284.70
```

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Early stopping at iteration 1022, Best Score: 3309.80
  Deck Trial 100/250
Early stopping at iteration 561, Best Score: 3295.15
Early stopping at iteration 626, Best Score: 3273.55
Early stopping at iteration 581, Best Score: 3318.42
Early stopping at iteration 597, Best Score: 3293.36
Early stopping at iteration 546, Best Score: 3277.35
Early stopping at iteration 634, Best Score: 3305.80
Early stopping at iteration 649, Best Score: 3309.68
Early stopping at iteration 541, Best Score: 3271.40
Early stopping at iteration 645, Best Score: 3307.94
Early stopping at iteration 617, Best Score: 3315.80
Early stopping at iteration 671, Best Score: 3307.13
Early stopping at iteration 790, Best Score: 3304.06
Early stopping at iteration 630, Best Score: 3315.03
Early stopping at iteration 513, Best Score: 3271.34
Early stopping at iteration 688, Best Score: 3319.65
Early stopping at iteration 621, Best Score: 3316.59
Early stopping at iteration 548, Best Score: 3283.02
Early stopping at iteration 533, Best Score: 3287.04
Early stopping at iteration 770, Best Score: 3316.65
Early stopping at iteration 643, Best Score: 3322.95
Early stopping at iteration 599, Best Score: 3308.32
Early stopping at iteration 583, Best Score: 3301.43
Early stopping at iteration 594, Best Score: 3297.65
Early stopping at iteration 525, Best Score: 3278.40
Early stopping at iteration 564, Best Score: 3291.44
Early stopping at iteration 692, Best Score: 3317.51
Early stopping at iteration 561, Best Score: 3304.70
Early stopping at iteration 614, Best Score: 3318.05
Early stopping at iteration 502, Best Score: 3257.56
Early stopping at iteration 665, Best Score: 3297.64
Early stopping at iteration 666, Best Score: 3294.42
Early stopping at iteration 543, Best Score: 3292.23
Early stopping at iteration 596, Best Score: 3291.21
Early stopping at iteration 517, Best Score: 3265.19
Early stopping at iteration 601, Best Score: 3276.88
Early stopping at iteration 669, Best Score: 3311.17
Early stopping at iteration 590, Best Score: 3296.34
Early stopping at iteration 561, Best Score: 3280.39
Early stopping at iteration 859, Best Score: 3284.75
Early stopping at iteration 555, Best Score: 3288.30
Early stopping at iteration 577, Best Score: 3287.43
Early stopping at iteration 559, Best Score: 3287.13
Early stopping at iteration 569, Best Score: 3307.36
Early stopping at iteration 548, Best Score: 3299.95
Early stopping at iteration 660, Best Score: 3303.58
Early stopping at iteration 651, Best Score: 3315.37
Early stopping at iteration 605, Best Score: 3298.14
Early stopping at iteration 546, Best Score: 3283.43
Early stopping at iteration 629, Best Score: 3304.40
Early stopping at iteration 582, Best Score: 3286.96
Early stopping at iteration 730, Best Score: 3322.53
Early stopping at iteration 589, Best Score: 3280.43
Early stopping at iteration 642, Best Score: 3304.46
Early stopping at iteration 540, Best Score: 3274.31
Early stopping at iteration 644, Best Score: 3309.17
Early stopping at iteration 840, Best Score: 3321.24
Early stopping at iteration 730, Best Score: 3307.26
Early stopping at iteration 561, Best Score: 3278.61
```

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Early stopping at iteration 769, Best Score: 3353.21
Early stopping at iteration 598, Best Score: 3285.28
Early stopping at iteration 573, Best Score: 3295.18
Early stopping at iteration 552, Best Score: 3288.57
Early stopping at iteration 682, Best Score: 3335.69
Early stopping at iteration 542, Best Score: 3276.30
Early stopping at iteration 545, Best Score: 3284.34
Early stopping at iteration 670, Best Score: 3318.24
Early stopping at iteration 566, Best Score: 3316.47
Early stopping at iteration 720, Best Score: 3325.14
Early stopping at iteration 647, Best Score: 3327.28
Early stopping at iteration 504, Best Score: 3257.56
Early stopping at iteration 553, Best Score: 3274.99
Early stopping at iteration 568, Best Score: 3301.81
Early stopping at iteration 704, Best Score: 3313.24
Early stopping at iteration 632, Best Score: 3314.32
Early stopping at iteration 558, Best Score: 3280.72
Early stopping at iteration 635, Best Score: 3301.60
Early stopping at iteration 590, Best Score: 3313.75
Early stopping at iteration 584, Best Score: 3306.22
Early stopping at iteration 583, Best Score: 3296.13
Early stopping at iteration 550, Best Score: 3290.55
Early stopping at iteration 613, Best Score: 3302.07
Early stopping at iteration 924, Best Score: 3326.03
Early stopping at iteration 605, Best Score: 3302.65
Early stopping at iteration 771, Best Score: 3314.90
Early stopping at iteration 563, Best Score: 3311.72
Early stopping at iteration 679, Best Score: 3306.75
Early stopping at iteration 622, Best Score: 3280.72
Early stopping at iteration 603, Best Score: 3303.93
Early stopping at iteration 693, Best Score: 3316.27
Early stopping at iteration 541, Best Score: 3284.01
Early stopping at iteration 874, Best Score: 3328.88
Early stopping at iteration 528, Best Score: 3265.04
Early stopping at iteration 507, Best Score: 3257.56
Early stopping at iteration 576, Best Score: 3304.69
Early stopping at iteration 532, Best Score: 3290.37
Early stopping at iteration 573, Best Score: 3300.74
Early stopping at iteration 660, Best Score: 3293.25
Early stopping at iteration 563, Best Score: 3300.53
Early stopping at iteration 531, Best Score: 3287.79
Early stopping at iteration 598, Best Score: 3305.27
  Deck Trial 200/250
Early stopping at iteration 520, Best Score: 3277.58
Early stopping at iteration 774, Best Score: 3335.58
Early stopping at iteration 507, Best Score: 3257.56
Early stopping at iteration 554, Best Score: 3276.61
Early stopping at iteration 554, Best Score: 3283.58
Early stopping at iteration 603, Best Score: 3304.81
Early stopping at iteration 565, Best Score: 3288.33
Early stopping at iteration 608, Best Score: 3299.01
Early stopping at iteration 858, Best Score: 3297.71
Early stopping at iteration 641, Best Score: 3300.72
Early stopping at iteration 574, Best Score: 3297.90
Early stopping at iteration 725, Best Score: 3335.29
Early stopping at iteration 571, Best Score: 3306.01
Early stopping at iteration 728, Best Score: 3321.90
Early stopping at iteration 544, Best Score: 3285.69
Early stopping at iteration 723, Best Score: 3329.08
Early stopping at iteration 803, Best Score: 3319.71
```

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Early stopping at iteration 571, Best Score: 3285.75
Early stopping at iteration 515, Best Score: 3266.00
Early stopping at iteration 508, Best Score: 3268.56
Early stopping at iteration 540, Best Score: 3270.94
Early stopping at iteration 565, Best Score: 3294.19
Early stopping at iteration 788, Best Score: 3310.63
Early stopping at iteration 505, Best Score: 3265.54
Early stopping at iteration 537, Best Score: 3280.00
Early stopping at iteration 690, Best Score: 3329.84
Early stopping at iteration 703, Best Score: 3321.47
Early stopping at iteration 673, Best Score: 3314.50
Early stopping at iteration 544, Best Score: 3298.96
Early stopping at iteration 628, Best Score: 3308.58
Early stopping at iteration 512, Best Score: 3272.03
Early stopping at iteration 589, Best Score: 3311.32
Early stopping at iteration 632, Best Score: 3301.37
Early stopping at iteration 607, Best Score: 3303.42
Early stopping at iteration 634, Best Score: 3325.97
Early stopping at iteration 651, Best Score: 3315.31
Early stopping at iteration 529, Best Score: 3273.79
Early stopping at iteration 527, Best Score: 3277.26
Early stopping at iteration 720, Best Score: 3328.58
Early stopping at iteration 696, Best Score: 3332.72
Early stopping at iteration 541, Best Score: 3279.09
Early stopping at iteration 604, Best Score: 3317.10
Early stopping at iteration 595, Best Score: 3291.30
Early stopping at iteration 508, Best Score: 3270.78
Early stopping at iteration 705, Best Score: 3311.23
Early stopping at iteration 519, Best Score: 3263.65
Early stopping at iteration 829, Best Score: 3319.88
Early stopping at iteration 674, Best Score: 3320.54
Early stopping at iteration 527, Best Score: 3294.04
Early stopping at iteration 604, Best Score: 3324.24
Early stopping at iteration 617, Best Score: 3297.10
GNN Trial 11 completed with 250 decks.

GNN Trial 12/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 10.2278, Synergy Loss: 2.4987, Total: 15.2253
Epoch 20/300 - Node Loss: 2.4554, Synergy Loss: 2.4238, Total: 7.3030
Epoch 30/300 - Node Loss: 1.2042, Synergy Loss: 2.3309, Total: 5.8659
Epoch 40/300 - Node Loss: 1.0535, Synergy Loss: 2.2412, Total: 5.5359
Epoch 50/300 - Node Loss: 1.0107, Synergy Loss: 2.1675, Total: 5.3457
Epoch 60/300 - Node Loss: 1.0024, Synergy Loss: 2.0999, Total: 5.2023
Epoch 70/300 - Node Loss: 1.0016, Synergy Loss: 2.0361, Total: 5.0738
Epoch 80/300 - Node Loss: 1.0009, Synergy Loss: 1.9786, Total: 4.9580
Epoch 90/300 - Node Loss: 1.0006, Synergy Loss: 1.9256, Total: 4.8518
Epoch 100/300 - Node Loss: 1.0006, Synergy Loss: 1.8793, Total: 4.7592
Epoch 110/300 - Node Loss: 1.0004, Synergy Loss: 1.8436, Total: 4.6876
Epoch 120/300 - Node Loss: 1.0005, Synergy Loss: 1.8210, Total: 4.6425
Epoch 130/300 - Node Loss: 1.0003, Synergy Loss: 1.8064, Total: 4.6131
Epoch 140/300 - Node Loss: 1.0003, Synergy Loss: 1.8067, Total: 4.6138
Epoch 150/300 - Node Loss: 1.0004, Synergy Loss: 1.8065, Total: 4.6135
Epoch 160/300 - Node Loss: 1.0004, Synergy Loss: 1.8043, Total: 4.6089
Epoch 170/300 - Node Loss: 1.0003, Synergy Loss: 1.8030, Total: 4.6062
Early stopping at epoch 177
Existing model archived to: 20250310_112748_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 702, Best Score: 1205.14
Early stopping at iteration 837, Best Score: 1202.57
```

```
Early stopping at iteration 606, Best Score: 1185.97
Early stopping at iteration 675, Best Score: 1192.00
Early stopping at iteration 690, Best Score: 1204.29
Early stopping at iteration 702, Best Score: 1195.42
Early stopping at iteration 654, Best Score: 1193.70
Early stopping at iteration 599, Best Score: 1200.57
Early stopping at iteration 584, Best Score: 1187.98
Early stopping at iteration 554, Best Score: 1182.55
Early stopping at iteration 637, Best Score: 1194.84
Early stopping at iteration 749, Best Score: 1201.71
Early stopping at iteration 915, Best Score: 1197.71
Early stopping at iteration 641, Best Score: 1198.85
Early stopping at iteration 753, Best Score: 1188.84
Early stopping at iteration 601, Best Score: 1186.56
Early stopping at iteration 593, Best Score: 1183.97
Early stopping at iteration 759, Best Score: 1196.55
Early stopping at iteration 683, Best Score: 1199.99
Early stopping at iteration 767, Best Score: 1198.85
Early stopping at iteration 791, Best Score: 1196.85
Early stopping at iteration 715, Best Score: 1199.13
Early stopping at iteration 611, Best Score: 1184.55
Early stopping at iteration 863, Best Score: 1196.85
Early stopping at iteration 588, Best Score: 1188.27
Early stopping at iteration 615, Best Score: 1192.56
Early stopping at iteration 646, Best Score: 1187.69
Early stopping at iteration 539, Best Score: 1177.39
Early stopping at iteration 587, Best Score: 1181.97
Early stopping at iteration 762, Best Score: 1198.86
Early stopping at iteration 604, Best Score: 1189.98
Early stopping at iteration 597, Best Score: 1200.00
Early stopping at iteration 595, Best Score: 1200.00
Early stopping at iteration 559, Best Score: 1188.84
Early stopping at iteration 622, Best Score: 1190.56
Early stopping at iteration 722, Best Score: 1199.71
Early stopping at iteration 597, Best Score: 1196.56
Early stopping at iteration 768, Best Score: 1199.99
Early stopping at iteration 636, Best Score: 1191.70
Early stopping at iteration 646, Best Score: 1198.28
Early stopping at iteration 592, Best Score: 1182.83
Early stopping at iteration 591, Best Score: 1197.14
Early stopping at iteration 582, Best Score: 1186.83
Early stopping at iteration 566, Best Score: 1183.97
Early stopping at iteration 661, Best Score: 1190.56
Early stopping at iteration 535, Best Score: 1179.68
Early stopping at iteration 618, Best Score: 1183.69
Early stopping at iteration 586, Best Score: 1185.12
Early stopping at iteration 857, Best Score: 1197.99
Early stopping at iteration 661, Best Score: 1195.70
Early stopping at iteration 776, Best Score: 1206.87
Early stopping at iteration 580, Best Score: 1183.69
Early stopping at iteration 665, Best Score: 1193.70
Early stopping at iteration 897, Best Score: 1196.56
Early stopping at iteration 784, Best Score: 1204.29
Early stopping at iteration 530, Best Score: 1182.83
Early stopping at iteration 715, Best Score: 1196.85
Early stopping at iteration 695, Best Score: 1197.99
Early stopping at iteration 828, Best Score: 1197.14
Early stopping at iteration 587, Best Score: 1183.12
Early stopping at iteration 593, Best Score: 1183.68
Early stopping at iteration 632, Best Score: 1196.28
```

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Early stopping at iteration 550, Best Score: 1183.97
Early stopping at iteration 550, Best Score: 1182.25
Early stopping at iteration 960, Best Score: 1193.98
Early stopping at iteration 1141, Best Score: 1207.73
Early stopping at iteration 609, Best Score: 1190.84
Early stopping at iteration 788, Best Score: 1194.56
Early stopping at iteration 611, Best Score: 1188.56
Early stopping at iteration 924, Best Score: 1199.71
Early stopping at iteration 605, Best Score: 1185.11
Early stopping at iteration 571, Best Score: 1185.68
Early stopping at iteration 702, Best Score: 1206.87
Early stopping at iteration 539, Best Score: 1181.97
Early stopping at iteration 758, Best Score: 1198.00
Early stopping at iteration 518, Best Score: 1177.96
Early stopping at iteration 619, Best Score: 1188.26
Early stopping at iteration 738, Best Score: 1202.57
Early stopping at iteration 744, Best Score: 1194.84
Early stopping at iteration 611, Best Score: 1189.98
Early stopping at iteration 686, Best Score: 1186.26
Early stopping at iteration 813, Best Score: 1203.43
Early stopping at iteration 693, Best Score: 1199.71
Early stopping at iteration 617, Best Score: 1184.84
Early stopping at iteration 714, Best Score: 1198.00
Early stopping at iteration 612, Best Score: 1196.56
Early stopping at iteration 761, Best Score: 1204.29
Early stopping at iteration 744, Best Score: 1205.15
Early stopping at iteration 659, Best Score: 1190.84
Early stopping at iteration 513, Best Score: 1172.24
Early stopping at iteration 631, Best Score: 1197.13
Early stopping at iteration 735, Best Score: 1200.85
Early stopping at iteration 697, Best Score: 1189.40
Early stopping at iteration 731, Best Score: 1206.87
Early stopping at iteration 772, Best Score: 1195.70
Early stopping at iteration 712, Best Score: 1188.26
Early stopping at iteration 985, Best Score: 1204.29
Early stopping at iteration 750, Best Score: 1202.29
Early stopping at iteration 633, Best Score: 1189.69
  Deck Trial 100/250
Early stopping at iteration 548, Best Score: 1186.26
Early stopping at iteration 549, Best Score: 1184.83
Early stopping at iteration 555, Best Score: 1174.24
Early stopping at iteration 936, Best Score: 1202.57
Early stopping at iteration 605, Best Score: 1191.70
Early stopping at iteration 737, Best Score: 1201.71
Early stopping at iteration 722, Best Score: 1192.00
Early stopping at iteration 562, Best Score: 1185.97
Early stopping at iteration 623, Best Score: 1192.84
Early stopping at iteration 668, Best Score: 1199.14
Early stopping at iteration 690, Best Score: 1189.70
Early stopping at iteration 999, Best Score: 1204.29
Early stopping at iteration 572, Best Score: 1190.84
Early stopping at iteration 729, Best Score: 1203.43
Early stopping at iteration 595, Best Score: 1190.84
Early stopping at iteration 537, Best Score: 1180.25
Early stopping at iteration 592, Best Score: 1187.40
Early stopping at iteration 592, Best Score: 1197.42
Early stopping at iteration 589, Best Score: 1194.56
Early stopping at iteration 603, Best Score: 1185.13
Early stopping at iteration 562, Best Score: 1183.13
Early stopping at iteration 627, Best Score: 1187.40
```

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Early stopping at iteration 618, Best Score: 1196.56
Early stopping at iteration 636, Best Score: 1197.71
Early stopping at iteration 537, Best Score: 1176.25
Early stopping at iteration 785, Best Score: 1198.00
Early stopping at iteration 614, Best Score: 1198.28
Early stopping at iteration 663, Best Score: 1198.86
Early stopping at iteration 677, Best Score: 1196.56
Early stopping at iteration 616, Best Score: 1194.55
Early stopping at iteration 519, Best Score: 1185.11
Early stopping at iteration 561, Best Score: 1190.27
Early stopping at iteration 699, Best Score: 1195.14
Early stopping at iteration 630, Best Score: 1196.28
Early stopping at iteration 586, Best Score: 1191.98
Early stopping at iteration 716, Best Score: 1192.56
Early stopping at iteration 686, Best Score: 1192.84
Early stopping at iteration 622, Best Score: 1199.14
Early stopping at iteration 771, Best Score: 1205.15
Early stopping at iteration 613, Best Score: 1207.73
Early stopping at iteration 602, Best Score: 1191.70
Early stopping at iteration 719, Best Score: 1201.72
Early stopping at iteration 731, Best Score: 1204.29
Early stopping at iteration 928, Best Score: 1205.15
Early stopping at iteration 624, Best Score: 1183.97
Early stopping at iteration 680, Best Score: 1176.83
Early stopping at iteration 630, Best Score: 1194.28
Early stopping at iteration 685, Best Score: 1201.72
Early stopping at iteration 573, Best Score: 1191.12
Early stopping at iteration 597, Best Score: 1186.84
Early stopping at iteration 998, Best Score: 1199.71
Early stopping at iteration 584, Best Score: 1183.97
Early stopping at iteration 527, Best Score: 1181.10
Early stopping at iteration 567, Best Score: 1187.40
Early stopping at iteration 642, Best Score: 1202.58
Early stopping at iteration 596, Best Score: 1192.26
Early stopping at iteration 578, Best Score: 1192.27
Early stopping at iteration 644, Best Score: 1185.98
Early stopping at iteration 745, Best Score: 1200.85
Early stopping at iteration 560, Best Score: 1197.42
Early stopping at iteration 749, Best Score: 1201.71
Early stopping at iteration 853, Best Score: 1198.28
Early stopping at iteration 559, Best Score: 1193.70
Early stopping at iteration 616, Best Score: 1191.12
Early stopping at iteration 803, Best Score: 1205.14
Early stopping at iteration 662, Best Score: 1196.28
Early stopping at iteration 555, Best Score: 1180.55
Early stopping at iteration 531, Best Score: 1183.97
Early stopping at iteration 755, Best Score: 1197.13
Early stopping at iteration 534, Best Score: 1179.67
Early stopping at iteration 1124, Best Score: 1194.84
Early stopping at iteration 530, Best Score: 1183.11
Early stopping at iteration 704, Best Score: 1199.99
Early stopping at iteration 536, Best Score: 1180.53
Early stopping at iteration 631, Best Score: 1191.98
Early stopping at iteration 624, Best Score: 1193.70
Early stopping at iteration 663, Best Score: 1194.00
Early stopping at iteration 706, Best Score: 1202.57
Early stopping at iteration 576, Best Score: 1188.55
Early stopping at iteration 610, Best Score: 1192.56
Early stopping at iteration 691, Best Score: 1200.86
Early stopping at iteration 687, Best Score: 1191.98
```

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Early stopping at iteration 743, Best Score: 1197.71
Early stopping at iteration 580, Best Score: 1179.97
Early stopping at iteration 522, Best Score: 1182.25
Early stopping at iteration 572, Best Score: 1194.84
Early stopping at iteration 703, Best Score: 1201.71
Early stopping at iteration 640, Best Score: 1199.14
Early stopping at iteration 706, Best Score: 1190.28
Early stopping at iteration 769, Best Score: 1202.58
Early stopping at iteration 890, Best Score: 1201.71
Early stopping at iteration 636, Best Score: 1199.99
Early stopping at iteration 569, Best Score: 1180.55
Early stopping at iteration 585, Best Score: 1187.12
Early stopping at iteration 1007, Best Score: 1198.86
Early stopping at iteration 616, Best Score: 1200.85
Early stopping at iteration 584, Best Score: 1188.84
Early stopping at iteration 664, Best Score: 1200.28
Early stopping at iteration 585, Best Score: 1187.12
Early stopping at iteration 604, Best Score: 1188.55
  Deck Trial 200/250
Early stopping at iteration 559, Best Score: 1176.83
Early stopping at iteration 573, Best Score: 1181.97
Early stopping at iteration 614, Best Score: 1189.12
Early stopping at iteration 671, Best Score: 1184.83
Early stopping at iteration 782, Best Score: 1191.42
Early stopping at iteration 622, Best Score: 1196.55
Early stopping at iteration 579, Best Score: 1189.70
Early stopping at iteration 729, Best Score: 1184.84
Early stopping at iteration 675, Best Score: 1198.86
Early stopping at iteration 613, Best Score: 1193.98
Early stopping at iteration 886, Best Score: 1196.27
Early stopping at iteration 601, Best Score: 1182.26
Early stopping at iteration 682, Best Score: 1197.42
Early stopping at iteration 677, Best Score: 1198.85
Early stopping at iteration 713, Best Score: 1180.27
Early stopping at iteration 627, Best Score: 1185.41
Early stopping at iteration 624, Best Score: 1190.26
Early stopping at iteration 567, Best Score: 1184.83
Early stopping at iteration 587, Best Score: 1191.99
Early stopping at iteration 525, Best Score: 1179.97
Early stopping at iteration 813, Best Score: 1192.27
Early stopping at iteration 633, Best Score: 1188.26
Early stopping at iteration 626, Best Score: 1197.42
Early stopping at iteration 611, Best Score: 1185.41
Early stopping at iteration 673, Best Score: 1197.42
Early stopping at iteration 602, Best Score: 1199.14
Early stopping at iteration 599, Best Score: 1191.70
Early stopping at iteration 534, Best Score: 1173.68
Early stopping at iteration 578, Best Score: 1187.70
Early stopping at iteration 603, Best Score: 1192.56
Early stopping at iteration 614, Best Score: 1195.42
Early stopping at iteration 876, Best Score: 1194.56
Early stopping at iteration 977, Best Score: 1192.56
Early stopping at iteration 652, Best Score: 1188.56
Early stopping at iteration 694, Best Score: 1202.29
Early stopping at iteration 712, Best Score: 1192.83
Early stopping at iteration 614, Best Score: 1188.26
Early stopping at iteration 580, Best Score: 1190.26
Early stopping at iteration 687, Best Score: 1197.99
Early stopping at iteration 749, Best Score: 1197.14
Early stopping at iteration 621, Best Score: 1196.00
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Early stopping at iteration 1061, Best Score: 1206.01
Early stopping at iteration 632, Best Score: 1192.28
Early stopping at iteration 634, Best Score: 1186.55
Early stopping at iteration 708, Best Score: 1202.57
Early stopping at iteration 627, Best Score: 1190.55
Early stopping at iteration 603, Best Score: 1196.28
Early stopping at iteration 913, Best Score: 1202.29
Early stopping at iteration 678, Best Score: 1200.86
Early stopping at iteration 540, Best Score: 1171.40
Early stopping at iteration 781, Best Score: 1199.72
GNN Trial 12 completed with 250 decks.

GNN Trial 13/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 7.7302, Synergy Loss: 2.7094, Total: 13.1491
Epoch 20/300 - Node Loss: 1.9388, Synergy Loss: 2.4851, Total: 6.9090
Epoch 30/300 - Node Loss: 1.3878, Synergy Loss: 2.1176, Total: 5.6229
Epoch 40/300 - Node Loss: 1.3559, Synergy Loss: 1.2340, Total: 3.8240
Epoch 50/300 - Node Loss: 1.2280, Synergy Loss: 1.0531, Total: 3.3342
Epoch 60/300 - Node Loss: 1.1516, Synergy Loss: 0.8734, Total: 2.8985
Epoch 70/300 - Node Loss: 1.1145, Synergy Loss: 0.8260, Total: 2.7665
Epoch 80/300 - Node Loss: 1.0945, Synergy Loss: 0.8215, Total: 2.7375
Epoch 90/300 - Node Loss: 1.0891, Synergy Loss: 0.8226, Total: 2.7343
Epoch 100/300 - Node Loss: 1.0627, Synergy Loss: 0.8925, Total: 2.8478
Epoch 110/300 - Node Loss: 1.0650, Synergy Loss: 0.7720, Total: 2.6091
Epoch 120/300 - Node Loss: 1.0583, Synergy Loss: 0.7811, Total: 2.6204
Epoch 130/300 - Node Loss: 1.0585, Synergy Loss: 0.8035, Total: 2.6656
Epoch 140/300 - Node Loss: 1.0537, Synergy Loss: 0.7370, Total: 2.5278
Epoch 150/300 - Node Loss: 1.0359, Synergy Loss: 0.7502, Total: 2.5364
Epoch 160/300 - Node Loss: 1.0406, Synergy Loss: 0.7829, Total: 2.6064
Epoch 170/300 - Node Loss: 1.0227, Synergy Loss: 0.7019, Total: 2.4265
Epoch 180/300 - Node Loss: 1.0176, Synergy Loss: 0.6933, Total: 2.4043
Epoch 190/300 - Node Loss: 1.0147, Synergy Loss: 0.7071, Total: 2.4289
Early stopping at epoch 192
Existing model archived to: 20250310_113235_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 601, Best Score: 3540.81
Early stopping at iteration 504, Best Score: 3515.82
Early stopping at iteration 503, Best Score: 3515.82
Early stopping at iteration 523, Best Score: 3524.72
Early stopping at iteration 516, Best Score: 3515.82
Early stopping at iteration 528, Best Score: 3515.82
Early stopping at iteration 653, Best Score: 3538.07
Early stopping at iteration 568, Best Score: 3528.47
Early stopping at iteration 541, Best Score: 3523.30
Early stopping at iteration 726, Best Score: 3535.42
Early stopping at iteration 571, Best Score: 3534.79
Early stopping at iteration 587, Best Score: 3533.01
Early stopping at iteration 542, Best Score: 3525.31
Early stopping at iteration 508, Best Score: 3521.56
Early stopping at iteration 523, Best Score: 3525.31
Early stopping at iteration 611, Best Score: 3540.54
Early stopping at iteration 637, Best Score: 3553.51
Early stopping at iteration 559, Best Score: 3534.21
Early stopping at iteration 546, Best Score: 3525.31
Early stopping at iteration 518, Best Score: 3515.82
Early stopping at iteration 501, Best Score: 3515.82
Early stopping at iteration 549, Best Score: 3525.31
Early stopping at iteration 532, Best Score: 3525.31
Early stopping at iteration 500, Best Score: 3513.24
```

```
Early stopping at iteration 503, Best Score: 3515.82
Early stopping at iteration 507, Best Score: 3519.30
Early stopping at iteration 542, Best Score: 3525.31
Early stopping at iteration 576, Best Score: 3534.21
Early stopping at iteration 538, Best Score: 3527.32
Early stopping at iteration 646, Best Score: 3533.58
Early stopping at iteration 562, Best Score: 3523.06
Early stopping at iteration 656, Best Score: 3536.50
Early stopping at iteration 564, Best Score: 3534.79
Early stopping at iteration 576, Best Score: 3545.10
Early stopping at iteration 592, Best Score: 3541.36
Early stopping at iteration 780, Best Score: 3520.36
Early stopping at iteration 615, Best Score: 3547.09
Early stopping at iteration 607, Best Score: 3534.94
Early stopping at iteration 685, Best Score: 3543.91
Early stopping at iteration 507, Best Score: 3515.82
Early stopping at iteration 502, Best Score: 3515.82
Early stopping at iteration 561, Best Score: 3527.89
Early stopping at iteration 565, Best Score: 3525.31
Early stopping at iteration 815, Best Score: 3569.00
Early stopping at iteration 697, Best Score: 3554.09
Early stopping at iteration 538, Best Score: 3524.17
Early stopping at iteration 501, Best Score: 3515.82
Early stopping at iteration 618, Best Score: 3542.75
Early stopping at iteration 503, Best Score: 3515.82
Early stopping at iteration 586, Best Score: 3558.25
Early stopping at iteration 627, Best Score: 3537.37
Early stopping at iteration 562, Best Score: 3526.21
Early stopping at iteration 519, Best Score: 3527.32
Early stopping at iteration 606, Best Score: 3543.70
Early stopping at iteration 713, Best Score: 3534.83
Early stopping at iteration 586, Best Score: 3535.11
Early stopping at iteration 534, Best Score: 3533.06
Early stopping at iteration 521, Best Score: 3525.31
Early stopping at iteration 646, Best Score: 3543.12
Early stopping at iteration 539, Best Score: 3524.72
Early stopping at iteration 501, Best Score: 3515.82
Early stopping at iteration 647, Best Score: 3546.41
Early stopping at iteration 654, Best Score: 3545.22
Early stopping at iteration 551, Best Score: 3525.31
Early stopping at iteration 519, Best Score: 3533.54
Early stopping at iteration 600, Best Score: 3535.37
Early stopping at iteration 589, Best Score: 3533.54
Early stopping at iteration 679, Best Score: 3547.44
Early stopping at iteration 713, Best Score: 3560.85
Early stopping at iteration 516, Best Score: 3525.04
Early stopping at iteration 638, Best Score: 3540.60
Early stopping at iteration 625, Best Score: 3530.83
Early stopping at iteration 590, Best Score: 3533.28
Early stopping at iteration 577, Best Score: 3537.44
Early stopping at iteration 537, Best Score: 3525.31
Early stopping at iteration 549, Best Score: 3519.82
Early stopping at iteration 504, Best Score: 3515.82
Early stopping at iteration 757, Best Score: 3549.35
Early stopping at iteration 618, Best Score: 3541.12
Early stopping at iteration 528, Best Score: 3523.80
Early stopping at iteration 671, Best Score: 3546.28
Early stopping at iteration 530, Best Score: 3525.31
Early stopping at iteration 542, Best Score: 3539.02
Early stopping at iteration 500, Best Score: 3513.24
```

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Early stopping at iteration 517, Best Score: 3519.82
Early stopping at iteration 598, Best Score: 3536.44
Early stopping at iteration 539, Best Score: 3525.35
Early stopping at iteration 597, Best Score: 3541.44
Early stopping at iteration 602, Best Score: 3525.54
Early stopping at iteration 504, Best Score: 3515.82
Early stopping at iteration 575, Best Score: 3529.29
Early stopping at iteration 619, Best Score: 3532.43
Early stopping at iteration 549, Best Score: 3529.59
Early stopping at iteration 597, Best Score: 3525.31
Early stopping at iteration 571, Best Score: 3519.06
Early stopping at iteration 640, Best Score: 3541.94
Early stopping at iteration 677, Best Score: 3546.53
Early stopping at iteration 502, Best Score: 3515.82
Early stopping at iteration 565, Best Score: 3527.80
  Deck Trial 100/250
Early stopping at iteration 520, Best Score: 3525.31
Early stopping at iteration 515, Best Score: 3524.72
Early stopping at iteration 635, Best Score: 3540.51
Early stopping at iteration 572, Best Score: 3526.14
Early stopping at iteration 588, Best Score: 3533.16
Early stopping at iteration 565, Best Score: 3534.79
Early stopping at iteration 504, Best Score: 3515.82
Early stopping at iteration 549, Best Score: 3533.63
Early stopping at iteration 517, Best Score: 3524.80
Early stopping at iteration 653, Best Score: 3527.32
Early stopping at iteration 731, Best Score: 3546.53
Early stopping at iteration 564, Best Score: 3525.31
Early stopping at iteration 779, Best Score: 3570.69
Early stopping at iteration 678, Best Score: 3537.96
Early stopping at iteration 545, Best Score: 3522.72
Early stopping at iteration 644, Best Score: 3552.92
Early stopping at iteration 552, Best Score: 3522.19
Early stopping at iteration 630, Best Score: 3526.68
Early stopping at iteration 505, Best Score: 3515.82
Early stopping at iteration 511, Best Score: 3515.82
Early stopping at iteration 650, Best Score: 3556.99
Early stopping at iteration 799, Best Score: 3553.42
Early stopping at iteration 576, Best Score: 3546.28
Early stopping at iteration 604, Best Score: 3525.63
Early stopping at iteration 515, Best Score: 3515.82
Early stopping at iteration 575, Best Score: 3525.31
Early stopping at iteration 644, Best Score: 3536.95
Early stopping at iteration 505, Best Score: 3521.56
Early stopping at iteration 694, Best Score: 3529.85
Early stopping at iteration 604, Best Score: 3538.01
Early stopping at iteration 657, Best Score: 3536.12
Early stopping at iteration 569, Best Score: 3538.40
Early stopping at iteration 779, Best Score: 3543.06
Early stopping at iteration 839, Best Score: 3553.19
Early stopping at iteration 503, Best Score: 3515.82
Early stopping at iteration 642, Best Score: 3542.26
Early stopping at iteration 695, Best Score: 3551.70
Early stopping at iteration 615, Best Score: 3538.78
Early stopping at iteration 516, Best Score: 3525.31
Early stopping at iteration 612, Best Score: 3519.82
Early stopping at iteration 584, Best Score: 3524.72
Early stopping at iteration 634, Best Score: 3551.61
Early stopping at iteration 653, Best Score: 3548.85
Early stopping at iteration 501, Best Score: 3515.82
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Early stopping at iteration 687, Best Score: 3562.32
Early stopping at iteration 504, Best Score: 3515.82
Early stopping at iteration 502, Best Score: 3515.82
Early stopping at iteration 517, Best Score: 3515.82
Early stopping at iteration 566, Best Score: 3521.56
Early stopping at iteration 526, Best Score: 3520.36
Early stopping at iteration 608, Best Score: 3527.97
Early stopping at iteration 568, Best Score: 3539.08
Early stopping at iteration 505, Best Score: 3515.82
Early stopping at iteration 502, Best Score: 3515.82
Early stopping at iteration 638, Best Score: 3543.93
Early stopping at iteration 750, Best Score: 3550.25
Early stopping at iteration 689, Best Score: 3533.05
Early stopping at iteration 500, Best Score: 3513.24
Early stopping at iteration 618, Best Score: 3535.96
Early stopping at iteration 551, Best Score: 3530.37
Early stopping at iteration 569, Best Score: 3534.21
Early stopping at iteration 661, Best Score: 3555.63
Early stopping at iteration 507, Best Score: 3520.36
Early stopping at iteration 715, Best Score: 3543.70
Early stopping at iteration 561, Best Score: 3536.81
Early stopping at iteration 555, Best Score: 3549.49
Early stopping at iteration 635, Best Score: 3543.04
Early stopping at iteration 770, Best Score: 3543.35
Early stopping at iteration 501, Best Score: 3515.82
Early stopping at iteration 518, Best Score: 3515.82
Early stopping at iteration 505, Best Score: 3521.56
Early stopping at iteration 550, Best Score: 3524.72
Early stopping at iteration 541, Best Score: 3523.12
Early stopping at iteration 577, Best Score: 3546.02
Early stopping at iteration 510, Best Score: 3524.72
Early stopping at iteration 550, Best Score: 3518.64
Early stopping at iteration 550, Best Score: 3528.61
Early stopping at iteration 612, Best Score: 3537.96
Early stopping at iteration 576, Best Score: 3533.05
Early stopping at iteration 559, Best Score: 3536.17
Early stopping at iteration 541, Best Score: 3541.12
Early stopping at iteration 585, Best Score: 3535.18
Early stopping at iteration 512, Best Score: 3515.82
Early stopping at iteration 520, Best Score: 3515.82
Early stopping at iteration 502, Best Score: 3515.82
Early stopping at iteration 536, Best Score: 3537.96
Early stopping at iteration 571, Best Score: 3540.28
Early stopping at iteration 740, Best Score: 3548.47
Early stopping at iteration 748, Best Score: 3525.31
Early stopping at iteration 531, Best Score: 3532.95
Early stopping at iteration 614, Best Score: 3545.05
Early stopping at iteration 544, Best Score: 3543.72
Early stopping at iteration 513, Best Score: 3515.82
Early stopping at iteration 578, Best Score: 3540.54
Early stopping at iteration 636, Best Score: 3546.86
Early stopping at iteration 588, Best Score: 3546.28
Early stopping at iteration 512, Best Score: 3515.82
Early stopping at iteration 596, Best Score: 3540.19
Early stopping at iteration 527, Best Score: 3521.56
Early stopping at iteration 583, Best Score: 3537.61
  Deck Trial 200/250
Early stopping at iteration 645, Best Score: 3553.77
Early stopping at iteration 613, Best Score: 3536.14
Early stopping at iteration 646, Best Score: 3525.31
```

```
Early stopping at iteration 617, Best Score: 3530.21
Early stopping at iteration 757, Best Score: 3547.07
Early stopping at iteration 535, Best Score: 3538.40
Early stopping at iteration 559, Best Score: 3525.31
Early stopping at iteration 587, Best Score: 3535.96
Early stopping at iteration 515, Best Score: 3531.13
Early stopping at iteration 585, Best Score: 3543.83
Early stopping at iteration 665, Best Score: 3545.94
Early stopping at iteration 523, Best Score: 3525.31
Early stopping at iteration 529, Best Score: 3534.21
Early stopping at iteration 513, Best Score: 3515.82
Early stopping at iteration 537, Best Score: 3525.31
Early stopping at iteration 839, Best Score: 3564.09
Early stopping at iteration 566, Best Score: 3536.77
Early stopping at iteration 610, Best Score: 3531.05
Early stopping at iteration 537, Best Score: 3524.72
Early stopping at iteration 520, Best Score: 3524.72
Early stopping at iteration 693, Best Score: 3531.34
Early stopping at iteration 1058, Best Score: 3553.80
Early stopping at iteration 514, Best Score: 3515.82
Early stopping at iteration 835, Best Score: 3537.96
Early stopping at iteration 629, Best Score: 3541.53
Early stopping at iteration 595, Best Score: 3545.10
Early stopping at iteration 537, Best Score: 3525.31
Early stopping at iteration 504, Best Score: 3515.82
Early stopping at iteration 506, Best Score: 3515.82
Early stopping at iteration 633, Best Score: 3564.31
Early stopping at iteration 519, Best Score: 3519.05
Early stopping at iteration 541, Best Score: 3525.31
Early stopping at iteration 561, Best Score: 3520.36
Early stopping at iteration 575, Best Score: 3531.67
Early stopping at iteration 594, Best Score: 3549.76
Early stopping at iteration 507, Best Score: 3525.31
Early stopping at iteration 564, Best Score: 3533.60
Early stopping at iteration 522, Best Score: 3531.63
Early stopping at iteration 508, Best Score: 3515.82
Early stopping at iteration 763, Best Score: 3548.58
Early stopping at iteration 592, Best Score: 3535.63
Early stopping at iteration 701, Best Score: 3558.42
Early stopping at iteration 502, Best Score: 3515.82
Early stopping at iteration 562, Best Score: 3531.84
Early stopping at iteration 514, Best Score: 3525.31
Early stopping at iteration 500, Best Score: 3513.24
Early stopping at iteration 699, Best Score: 3552.60
Early stopping at iteration 534, Best Score: 3515.82
Early stopping at iteration 500, Best Score: 3513.24
Early stopping at iteration 567, Best Score: 3532.02
Early stopping at iteration 518, Best Score: 3526.10
GNN Trial 13 completed with 250 decks.

GNN Trial 14/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 15.0409, Synergy Loss: 2.7673, Total: 20.5755
Epoch 20/300 - Node Loss: 2.1090, Synergy Loss: 2.6260, Total: 7.3609
Epoch 30/300 - Node Loss: 1.1449, Synergy Loss: 2.4768, Total: 6.0984
Epoch 40/300 - Node Loss: 1.0112, Synergy Loss: 2.3451, Total: 5.7014
Epoch 50/300 - Node Loss: 1.0020, Synergy Loss: 2.2259, Total: 5.4539
Epoch 60/300 - Node Loss: 1.0016, Synergy Loss: 2.1205, Total: 5.2426
Epoch 70/300 - Node Loss: 1.0006, Synergy Loss: 2.0275, Total: 5.0556
Epoch 80/300 - Node Loss: 1.0005, Synergy Loss: 1.9467, Total: 4.8939
```

```
Epoch 90/300 - Node Loss: 1.0023, Synergy Loss: 1.8806, Total: 4.7634
Epoch 100/300 - Node Loss: 1.0038, Synergy Loss: 1.8312, Total: 4.6663
Epoch 110/300 - Node Loss: 1.0412, Synergy Loss: 1.7779, Total: 4.5970
Epoch 120/300 - Node Loss: 1.0556, Synergy Loss: 1.6588, Total: 4.3732
Epoch 130/300 - Node Loss: 1.1085, Synergy Loss: 1.4855, Total: 4.0795
Epoch 140/300 - Node Loss: 1.1307, Synergy Loss: 1.2705, Total: 3.6717
Epoch 150/300 - Node Loss: 1.2556, Synergy Loss: 1.0625, Total: 3.3806
Epoch 160/300 - Node Loss: 1.1777, Synergy Loss: 0.9688, Total: 3.1153
Epoch 170/300 - Node Loss: 1.1512, Synergy Loss: 0.9090, Total: 2.9692
Epoch 180/300 - Node Loss: 1.1807, Synergy Loss: 0.8473, Total: 2.8754
Epoch 190/300 - Node Loss: 1.1151, Synergy Loss: 0.8396, Total: 2.7944
Epoch 200/300 - Node Loss: 1.1579, Synergy Loss: 0.8049, Total: 2.7677
Epoch 210/300 - Node Loss: 1.1339, Synergy Loss: 0.8126, Total: 2.7591
Epoch 220/300 - Node Loss: 1.1391, Synergy Loss: 0.7649, Total: 2.6688
Epoch 230/300 - Node Loss: 1.1410, Synergy Loss: 0.7133, Total: 2.5676
Epoch 240/300 - Node Loss: 1.1815, Synergy Loss: 0.6664, Total: 2.5143
Epoch 250/300 - Node Loss: 1.1415, Synergy Loss: 0.6332, Total: 2.4079
Epoch 260/300 - Node Loss: 1.0797, Synergy Loss: 0.6106, Total: 2.3010
Epoch 270/300 - Node Loss: 1.0802, Synergy Loss: 0.6246, Total: 2.3294
Epoch 280/300 - Node Loss: 1.0685, Synergy Loss: 0.5658, Total: 2.2001
Epoch 290/300 - Node Loss: 1.0722, Synergy Loss: 0.6615, Total: 2.3952
Epoch 300/300 - Node Loss: 1.0814, Synergy Loss: 0.5937, Total: 2.2688
Existing model archived to: 20250310_113852_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 595, Best Score: 3285.35
Early stopping at iteration 567, Best Score: 3270.50
Early stopping at iteration 657, Best Score: 3307.35
Early stopping at iteration 540, Best Score: 3275.21
Early stopping at iteration 868, Best Score: 3299.95
Early stopping at iteration 691, Best Score: 3296.55
Early stopping at iteration 546, Best Score: 3260.97
Early stopping at iteration 553, Best Score: 3253.26
Early stopping at iteration 633, Best Score: 3270.81
Early stopping at iteration 614, Best Score: 3280.45
Early stopping at iteration 522, Best Score: 3262.27
Early stopping at iteration 564, Best Score: 3286.61
Early stopping at iteration 605, Best Score: 3276.07
Early stopping at iteration 584, Best Score: 3289.19
Early stopping at iteration 628, Best Score: 3291.00
Early stopping at iteration 585, Best Score: 3287.02
Early stopping at iteration 748, Best Score: 3307.14
Early stopping at iteration 521, Best Score: 3252.64
Early stopping at iteration 638, Best Score: 3294.37
Early stopping at iteration 503, Best Score: 3244.13
Early stopping at iteration 536, Best Score: 3262.63
Early stopping at iteration 765, Best Score: 3315.33
Early stopping at iteration 544, Best Score: 3279.05
Early stopping at iteration 574, Best Score: 3268.90
Early stopping at iteration 554, Best Score: 3266.24
Early stopping at iteration 568, Best Score: 3270.73
Early stopping at iteration 587, Best Score: 3257.65
Early stopping at iteration 616, Best Score: 3308.55
Early stopping at iteration 607, Best Score: 3299.57
Early stopping at iteration 519, Best Score: 3247.62
Early stopping at iteration 521, Best Score: 3248.09
Early stopping at iteration 742, Best Score: 3303.57
Early stopping at iteration 710, Best Score: 3289.54
Early stopping at iteration 575, Best Score: 3277.70
Early stopping at iteration 715, Best Score: 3290.25
Early stopping at iteration 599, Best Score: 3260.08
```

```
Early stopping at iteration 542, Best Score: 3257.22
Early stopping at iteration 567, Best Score: 3263.05
Early stopping at iteration 549, Best Score: 3264.72
Early stopping at iteration 525, Best Score: 3257.25
Early stopping at iteration 548, Best Score: 3278.30
Early stopping at iteration 719, Best Score: 3297.17
Early stopping at iteration 750, Best Score: 3310.02
Early stopping at iteration 505, Best Score: 3244.13
Early stopping at iteration 608, Best Score: 3281.47
Early stopping at iteration 542, Best Score: 3259.63
Early stopping at iteration 875, Best Score: 3291.79
Early stopping at iteration 533, Best Score: 3253.76
Early stopping at iteration 550, Best Score: 3267.55
Early stopping at iteration 524, Best Score: 3260.42
Early stopping at iteration 583, Best Score: 3272.44
Early stopping at iteration 545, Best Score: 3265.54
Early stopping at iteration 564, Best Score: 3273.89
Early stopping at iteration 569, Best Score: 3270.15
Early stopping at iteration 682, Best Score: 3309.02
Early stopping at iteration 599, Best Score: 3302.55
Early stopping at iteration 604, Best Score: 3285.30
Early stopping at iteration 654, Best Score: 3302.26
Early stopping at iteration 654, Best Score: 3289.43
Early stopping at iteration 622, Best Score: 3270.71
Early stopping at iteration 810, Best Score: 3307.06
Early stopping at iteration 650, Best Score: 3285.88
Early stopping at iteration 555, Best Score: 3266.57
Early stopping at iteration 673, Best Score: 3281.36
Early stopping at iteration 528, Best Score: 3252.03
Early stopping at iteration 526, Best Score: 3247.46
Early stopping at iteration 674, Best Score: 3300.46
Early stopping at iteration 669, Best Score: 3276.97
Early stopping at iteration 1077, Best Score: 3329.03
Early stopping at iteration 511, Best Score: 3250.91
Early stopping at iteration 933, Best Score: 3298.19
Early stopping at iteration 595, Best Score: 3271.91
Early stopping at iteration 528, Best Score: 3256.96
Early stopping at iteration 503, Best Score: 3251.99
Early stopping at iteration 584, Best Score: 3276.84
Early stopping at iteration 676, Best Score: 3292.45
Early stopping at iteration 502, Best Score: 3244.13
Early stopping at iteration 624, Best Score: 3262.10
Early stopping at iteration 568, Best Score: 3260.44
Early stopping at iteration 681, Best Score: 3296.43
Early stopping at iteration 724, Best Score: 3276.42
Early stopping at iteration 550, Best Score: 3253.36
Early stopping at iteration 704, Best Score: 3290.99
Early stopping at iteration 714, Best Score: 3320.27
Early stopping at iteration 503, Best Score: 3244.13
Early stopping at iteration 593, Best Score: 3273.71
Early stopping at iteration 565, Best Score: 3270.98
Early stopping at iteration 812, Best Score: 3310.35
Early stopping at iteration 635, Best Score: 3276.48
Early stopping at iteration 623, Best Score: 3272.92
Early stopping at iteration 523, Best Score: 3253.25
Early stopping at iteration 535, Best Score: 3262.61
Early stopping at iteration 715, Best Score: 3305.25
Early stopping at iteration 505, Best Score: 3244.13
Early stopping at iteration 548, Best Score: 3267.74
Early stopping at iteration 563, Best Score: 3251.74
```

```
Early stopping at iteration 520, Best Score: 3259.11
Early stopping at iteration 772, Best Score: 3290.43
Early stopping at iteration 744, Best Score: 3281.19
  Deck Trial 100/250
Early stopping at iteration 596, Best Score: 3282.78
Early stopping at iteration 630, Best Score: 3293.72
Early stopping at iteration 599, Best Score: 3266.45
Early stopping at iteration 808, Best Score: 3291.54
Early stopping at iteration 722, Best Score: 3290.74
Early stopping at iteration 696, Best Score: 3295.22
Early stopping at iteration 509, Best Score: 3257.45
Early stopping at iteration 537, Best Score: 3268.31
Early stopping at iteration 645, Best Score: 3293.47
Early stopping at iteration 551, Best Score: 3247.48
Early stopping at iteration 611, Best Score: 3280.21
Early stopping at iteration 507, Best Score: 3247.03
Early stopping at iteration 534, Best Score: 3251.25
Early stopping at iteration 636, Best Score: 3296.31
Early stopping at iteration 599, Best Score: 3303.25
Early stopping at iteration 538, Best Score: 3257.38
Early stopping at iteration 570, Best Score: 3289.34
Early stopping at iteration 880, Best Score: 3316.56
Early stopping at iteration 596, Best Score: 3292.46
Early stopping at iteration 633, Best Score: 3293.57
Early stopping at iteration 602, Best Score: 3281.87
Early stopping at iteration 531, Best Score: 3265.30
Early stopping at iteration 549, Best Score: 3261.28
Early stopping at iteration 503, Best Score: 3244.13
Early stopping at iteration 695, Best Score: 3287.72
Early stopping at iteration 632, Best Score: 3286.78
Early stopping at iteration 595, Best Score: 3295.12
Early stopping at iteration 609, Best Score: 3283.22
Early stopping at iteration 618, Best Score: 3253.97
Early stopping at iteration 683, Best Score: 3287.35
Early stopping at iteration 686, Best Score: 3289.83
Early stopping at iteration 588, Best Score: 3284.21
Early stopping at iteration 589, Best Score: 3283.97
Early stopping at iteration 534, Best Score: 3264.80
Early stopping at iteration 670, Best Score: 3290.51
Early stopping at iteration 525, Best Score: 3263.12
Early stopping at iteration 619, Best Score: 3283.37
Early stopping at iteration 507, Best Score: 3247.42
Early stopping at iteration 565, Best Score: 3250.91
Early stopping at iteration 725, Best Score: 3303.52
Early stopping at iteration 709, Best Score: 3283.96
Early stopping at iteration 595, Best Score: 3263.53
Early stopping at iteration 518, Best Score: 3257.58
Early stopping at iteration 1003, Best Score: 3316.49
Early stopping at iteration 524, Best Score: 3248.01
Early stopping at iteration 585, Best Score: 3281.54
Early stopping at iteration 563, Best Score: 3271.33
Early stopping at iteration 533, Best Score: 3255.92
Early stopping at iteration 771, Best Score: 3301.36
Early stopping at iteration 560, Best Score: 3269.88
Early stopping at iteration 567, Best Score: 3301.25
Early stopping at iteration 541, Best Score: 3256.19
Early stopping at iteration 685, Best Score: 3320.68
Early stopping at iteration 679, Best Score: 3290.21
Early stopping at iteration 633, Best Score: 3279.07
Early stopping at iteration 625, Best Score: 3280.03
```

```
Early stopping at iteration 572, Best Score: 3272.25
Early stopping at iteration 705, Best Score: 3310.24
Early stopping at iteration 761, Best Score: 3305.44
Early stopping at iteration 654, Best Score: 3299.11
Early stopping at iteration 590, Best Score: 3273.80
Early stopping at iteration 655, Best Score: 3274.71
Early stopping at iteration 682, Best Score: 3302.17
Early stopping at iteration 741, Best Score: 3300.54
Early stopping at iteration 820, Best Score: 3303.77
Early stopping at iteration 584, Best Score: 3256.11
Early stopping at iteration 644, Best Score: 3250.33
Early stopping at iteration 684, Best Score: 3288.82
Early stopping at iteration 614, Best Score: 3286.17
Early stopping at iteration 600, Best Score: 3279.46
Early stopping at iteration 607, Best Score: 3283.29
Early stopping at iteration 527, Best Score: 3247.48
Early stopping at iteration 632, Best Score: 3300.65
Early stopping at iteration 560, Best Score: 3293.50
Early stopping at iteration 608, Best Score: 3268.97
Early stopping at iteration 678, Best Score: 3278.49
Early stopping at iteration 821, Best Score: 3304.88
Early stopping at iteration 699, Best Score: 3284.07
Early stopping at iteration 578, Best Score: 3269.12
Early stopping at iteration 501, Best Score: 3247.38
Early stopping at iteration 542, Best Score: 3252.11
Early stopping at iteration 512, Best Score: 3244.13
Early stopping at iteration 618, Best Score: 3270.91
Early stopping at iteration 693, Best Score: 3324.66
Early stopping at iteration 647, Best Score: 3265.94
Early stopping at iteration 531, Best Score: 3259.03
Early stopping at iteration 631, Best Score: 3279.41
Early stopping at iteration 561, Best Score: 3254.95
Early stopping at iteration 708, Best Score: 3300.87
Early stopping at iteration 559, Best Score: 3292.60
Early stopping at iteration 599, Best Score: 3288.81
Early stopping at iteration 764, Best Score: 3303.25
Early stopping at iteration 644, Best Score: 3301.79
Early stopping at iteration 634, Best Score: 3295.16
Early stopping at iteration 627, Best Score: 3287.67
Early stopping at iteration 746, Best Score: 3316.78
Early stopping at iteration 640, Best Score: 3294.63
Early stopping at iteration 624, Best Score: 3294.34
Early stopping at iteration 679, Best Score: 3285.00
Early stopping at iteration 571, Best Score: 3290.43
  Deck Trial 200/250
Early stopping at iteration 656, Best Score: 3285.78
Early stopping at iteration 551, Best Score: 3270.32
Early stopping at iteration 590, Best Score: 3272.87
Early stopping at iteration 696, Best Score: 3265.71
Early stopping at iteration 515, Best Score: 3257.29
Early stopping at iteration 606, Best Score: 3294.52
Early stopping at iteration 700, Best Score: 3293.50
Early stopping at iteration 618, Best Score: 3261.29
Early stopping at iteration 558, Best Score: 3280.59
Early stopping at iteration 595, Best Score: 3289.43
Early stopping at iteration 800, Best Score: 3300.11
Early stopping at iteration 740, Best Score: 3285.53
Early stopping at iteration 503, Best Score: 3244.13
Early stopping at iteration 597, Best Score: 3291.31
Early stopping at iteration 528, Best Score: 3269.60
```

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Early stopping at iteration 547, Best Score: 3255.19
Early stopping at iteration 555, Best Score: 3269.43
Early stopping at iteration 532, Best Score: 3275.02
Early stopping at iteration 550, Best Score: 3251.43
Early stopping at iteration 524, Best Score: 3245.23
Early stopping at iteration 626, Best Score: 3280.08
Early stopping at iteration 570, Best Score: 3273.85
Early stopping at iteration 503, Best Score: 3244.13
Early stopping at iteration 758, Best Score: 3283.21
Early stopping at iteration 673, Best Score: 3293.12
Early stopping at iteration 691, Best Score: 3286.89
Early stopping at iteration 542, Best Score: 3272.00
Early stopping at iteration 524, Best Score: 3262.37
Early stopping at iteration 539, Best Score: 3262.37
Early stopping at iteration 580, Best Score: 3281.94
Early stopping at iteration 725, Best Score: 3279.40
Early stopping at iteration 601, Best Score: 3298.82
Early stopping at iteration 549, Best Score: 3288.99
Early stopping at iteration 712, Best Score: 3304.15
Early stopping at iteration 641, Best Score: 3272.23
Early stopping at iteration 741, Best Score: 3292.15
Early stopping at iteration 594, Best Score: 3274.43
Early stopping at iteration 777, Best Score: 3274.99
Early stopping at iteration 608, Best Score: 3294.04
Early stopping at iteration 681, Best Score: 3288.11
Early stopping at iteration 784, Best Score: 3279.58
Early stopping at iteration 536, Best Score: 3263.35
Early stopping at iteration 506, Best Score: 3244.13
Early stopping at iteration 605, Best Score: 3294.11
Early stopping at iteration 624, Best Score: 3291.38
Early stopping at iteration 534, Best Score: 3264.70
Early stopping at iteration 587, Best Score: 3278.85
Early stopping at iteration 538, Best Score: 3260.59
Early stopping at iteration 544, Best Score: 3268.26
Early stopping at iteration 637, Best Score: 3267.60
Early stopping at iteration 569, Best Score: 3259.76
GNN Trial 14 completed with 250 decks.

GNN Trial 15/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 33.0514, Synergy Loss: 2.3303, Total: 37.7120
Epoch 20/300 - Node Loss: 4.9596, Synergy Loss: 2.2134, Total: 9.3865
Epoch 30/300 - Node Loss: 2.3281, Synergy Loss: 2.0829, Total: 6.4940
Epoch 40/300 - Node Loss: 1.3836, Synergy Loss: 1.9591, Total: 5.3019
Epoch 50/300 - Node Loss: 1.0697, Synergy Loss: 1.8801, Total: 4.8299
Epoch 60/300 - Node Loss: 1.0217, Synergy Loss: 1.8205, Total: 4.6628
Epoch 70/300 - Node Loss: 1.0326, Synergy Loss: 1.7758, Total: 4.5842
Epoch 80/300 - Node Loss: 1.0484, Synergy Loss: 1.6562, Total: 4.3609
Epoch 90/300 - Node Loss: 1.1446, Synergy Loss: 1.4063, Total: 3.9571
Epoch 100/300 - Node Loss: 1.1562, Synergy Loss: 1.2196, Total: 3.5954
Epoch 110/300 - Node Loss: 1.3407, Synergy Loss: 1.0365, Total: 3.4138
Epoch 120/300 - Node Loss: 1.3271, Synergy Loss: 0.9479, Total: 3.2230
Epoch 130/300 - Node Loss: 1.2729, Synergy Loss: 0.9019, Total: 3.0768
Epoch 140/300 - Node Loss: 1.2510, Synergy Loss: 0.8804, Total: 3.0117
Epoch 150/300 - Node Loss: 1.2109, Synergy Loss: 0.8447, Total: 2.9002
Epoch 160/300 - Node Loss: 1.2626, Synergy Loss: 0.7776, Total: 2.8178
Epoch 170/300 - Node Loss: 1.2004, Synergy Loss: 0.7683, Total: 2.7370
Epoch 180/300 - Node Loss: 1.1593, Synergy Loss: 0.7672, Total: 2.6938
Epoch 190/300 - Node Loss: 1.2157, Synergy Loss: 0.7213, Total: 2.6582
Epoch 200/300 - Node Loss: 1.1221, Synergy Loss: 0.7246, Total: 2.5713
```

```
Epoch 210/300 - Node Loss: 1.2452, Synergy Loss: 0.6732, Total: 2.5915
Epoch 220/300 - Node Loss: 1.1489, Synergy Loss: 0.6327, Total: 2.4144
Epoch 230/300 - Node Loss: 1.1133, Synergy Loss: 0.6016, Total: 2.3165
Epoch 240/300 - Node Loss: 1.1017, Synergy Loss: 0.5981, Total: 2.2979
Epoch 250/300 - Node Loss: 1.0768, Synergy Loss: 0.5444, Total: 2.1656
Epoch 260/300 - Node Loss: 1.0513, Synergy Loss: 0.5115, Total: 2.0743
Epoch 270/300 - Node Loss: 1.0450, Synergy Loss: 0.5370, Total: 2.1190
Epoch 280/300 - Node Loss: 1.0267, Synergy Loss: 0.5581, Total: 2.1429
Epoch 290/300 - Node Loss: 1.0366, Synergy Loss: 0.4928, Total: 2.0222
Epoch 300/300 - Node Loss: 1.0301, Synergy Loss: 0.4636, Total: 1.9573
Existing model archived to: 20250310_114537_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 699, Best Score: 3745.01
Early stopping at iteration 794, Best Score: 3769.85
Early stopping at iteration 550, Best Score: 3687.45
Early stopping at iteration 501, Best Score: 3678.97
Early stopping at iteration 819, Best Score: 3776.74
Early stopping at iteration 507, Best Score: 3692.98
Early stopping at iteration 527, Best Score: 3691.30
Early stopping at iteration 600, Best Score: 3718.21
Early stopping at iteration 820, Best Score: 3764.33
Early stopping at iteration 511, Best Score: 3685.93
Early stopping at iteration 627, Best Score: 3738.11
Early stopping at iteration 515, Best Score: 3679.27
Early stopping at iteration 512, Best Score: 3680.13
Early stopping at iteration 572, Best Score: 3721.09
Early stopping at iteration 683, Best Score: 3764.18
Early stopping at iteration 617, Best Score: 3745.68
Early stopping at iteration 634, Best Score: 3718.15
Early stopping at iteration 637, Best Score: 3733.74
Early stopping at iteration 581, Best Score: 3731.19
Early stopping at iteration 547, Best Score: 3706.11
Early stopping at iteration 537, Best Score: 3689.22
Early stopping at iteration 574, Best Score: 3709.95
Early stopping at iteration 635, Best Score: 3724.27
Early stopping at iteration 586, Best Score: 3721.71
Early stopping at iteration 573, Best Score: 3706.01
Early stopping at iteration 561, Best Score: 3710.67
Early stopping at iteration 512, Best Score: 3680.12
Early stopping at iteration 586, Best Score: 3697.51
Early stopping at iteration 502, Best Score: 3679.80
Early stopping at iteration 576, Best Score: 3735.44
Early stopping at iteration 508, Best Score: 3679.27
Early stopping at iteration 525, Best Score: 3698.33
Early stopping at iteration 617, Best Score: 3715.90
Early stopping at iteration 611, Best Score: 3701.07
Early stopping at iteration 567, Best Score: 3717.36
Early stopping at iteration 539, Best Score: 3709.40
Early stopping at iteration 501, Best Score: 3678.64
Early stopping at iteration 536, Best Score: 3691.64
Early stopping at iteration 1082, Best Score: 3720.20
Early stopping at iteration 760, Best Score: 3741.05
Early stopping at iteration 735, Best Score: 3750.12
Early stopping at iteration 595, Best Score: 3722.65
Early stopping at iteration 555, Best Score: 3700.63
Early stopping at iteration 548, Best Score: 3746.12
Early stopping at iteration 553, Best Score: 3711.27
Early stopping at iteration 811, Best Score: 3741.57
Early stopping at iteration 601, Best Score: 3715.56
Early stopping at iteration 581, Best Score: 3721.02
```

```
Early stopping at iteration 691, Best Score: 3717.05
Early stopping at iteration 520, Best Score: 3692.98
Early stopping at iteration 597, Best Score: 3716.45
Early stopping at iteration 817, Best Score: 3747.52
Early stopping at iteration 720, Best Score: 3737.28
Early stopping at iteration 560, Best Score: 3680.10
Early stopping at iteration 561, Best Score: 3703.46
Early stopping at iteration 665, Best Score: 3735.40
Early stopping at iteration 639, Best Score: 3752.08
Early stopping at iteration 804, Best Score: 3751.93
Early stopping at iteration 658, Best Score: 3743.43
Early stopping at iteration 729, Best Score: 3746.12
Early stopping at iteration 630, Best Score: 3746.38
Early stopping at iteration 544, Best Score: 3687.09
Early stopping at iteration 775, Best Score: 3750.55
Early stopping at iteration 602, Best Score: 3737.51
Early stopping at iteration 520, Best Score: 3699.54
Early stopping at iteration 616, Best Score: 3745.58
Early stopping at iteration 562, Best Score: 3702.24
Early stopping at iteration 516, Best Score: 3679.30
Early stopping at iteration 504, Best Score: 3678.64
Early stopping at iteration 693, Best Score: 3710.40
Early stopping at iteration 541, Best Score: 3690.00
Early stopping at iteration 755, Best Score: 3703.75
Early stopping at iteration 565, Best Score: 3684.55
Early stopping at iteration 823, Best Score: 3744.23
Early stopping at iteration 513, Best Score: 3680.06
Early stopping at iteration 563, Best Score: 3701.74
Early stopping at iteration 887, Best Score: 3710.58
Early stopping at iteration 647, Best Score: 3734.26
Early stopping at iteration 500, Best Score: 3675.66
Early stopping at iteration 524, Best Score: 3692.39
Early stopping at iteration 593, Best Score: 3701.95
Early stopping at iteration 704, Best Score: 3744.16
Early stopping at iteration 564, Best Score: 3702.36
Early stopping at iteration 505, Best Score: 3690.60
Early stopping at iteration 649, Best Score: 3735.67
Early stopping at iteration 594, Best Score: 3722.14
Early stopping at iteration 517, Best Score: 3687.08
Early stopping at iteration 704, Best Score: 3727.75
Early stopping at iteration 522, Best Score: 3690.59
Early stopping at iteration 701, Best Score: 3743.81
Early stopping at iteration 629, Best Score: 3745.85
Early stopping at iteration 559, Best Score: 3712.91
Early stopping at iteration 528, Best Score: 3688.54
Early stopping at iteration 664, Best Score: 3716.81
Early stopping at iteration 581, Best Score: 3740.27
Early stopping at iteration 528, Best Score: 3680.06
Early stopping at iteration 742, Best Score: 3756.41
Early stopping at iteration 561, Best Score: 3716.91
Early stopping at iteration 643, Best Score: 3718.31
  Deck Trial 100/250
Early stopping at iteration 522, Best Score: 3688.45
Early stopping at iteration 510, Best Score: 3678.93
Early stopping at iteration 669, Best Score: 3758.27
Early stopping at iteration 716, Best Score: 3755.63
Early stopping at iteration 845, Best Score: 3746.60
Early stopping at iteration 598, Best Score: 3716.09
Early stopping at iteration 623, Best Score: 3743.70
Early stopping at iteration 617, Best Score: 3720.17
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Early stopping at iteration 571, Best Score: 3748.76
Early stopping at iteration 555, Best Score: 3719.41
Early stopping at iteration 533, Best Score: 3680.13
Early stopping at iteration 519, Best Score: 3692.04
Early stopping at iteration 663, Best Score: 3731.86
Early stopping at iteration 686, Best Score: 3717.07
Early stopping at iteration 591, Best Score: 3721.25
Early stopping at iteration 643, Best Score: 3743.03
Early stopping at iteration 582, Best Score: 3711.69
Early stopping at iteration 500, Best Score: 3675.66
Early stopping at iteration 566, Best Score: 3715.15
Early stopping at iteration 674, Best Score: 3698.42
Early stopping at iteration 514, Best Score: 3687.41
Early stopping at iteration 621, Best Score: 3718.45
Early stopping at iteration 628, Best Score: 3706.59
Early stopping at iteration 640, Best Score: 3730.13
Early stopping at iteration 522, Best Score: 3679.27
Early stopping at iteration 523, Best Score: 3692.95
Early stopping at iteration 537, Best Score: 3690.52
Early stopping at iteration 707, Best Score: 3732.14
Early stopping at iteration 545, Best Score: 3706.72
Early stopping at iteration 568, Best Score: 3711.30
Early stopping at iteration 558, Best Score: 3696.52
Early stopping at iteration 742, Best Score: 3768.29
Early stopping at iteration 576, Best Score: 3723.30
Early stopping at iteration 507, Best Score: 3680.12
Early stopping at iteration 545, Best Score: 3703.73
Early stopping at iteration 591, Best Score: 3730.93
Early stopping at iteration 511, Best Score: 3680.10
Early stopping at iteration 503, Best Score: 3678.64
Early stopping at iteration 509, Best Score: 3691.12
Early stopping at iteration 635, Best Score: 3720.32
Early stopping at iteration 623, Best Score: 3736.98
Early stopping at iteration 683, Best Score: 3765.36
Early stopping at iteration 503, Best Score: 3679.05
Early stopping at iteration 604, Best Score: 3699.64
Early stopping at iteration 542, Best Score: 3692.63
Early stopping at iteration 572, Best Score: 3717.30
Early stopping at iteration 525, Best Score: 3702.95
Early stopping at iteration 531, Best Score: 3688.55
Early stopping at iteration 595, Best Score: 3701.67
Early stopping at iteration 505, Best Score: 3680.09
Early stopping at iteration 523, Best Score: 3680.13
Early stopping at iteration 525, Best Score: 3692.86
Early stopping at iteration 511, Best Score: 3690.21
Early stopping at iteration 671, Best Score: 3736.63
Early stopping at iteration 516, Best Score: 3680.10
Early stopping at iteration 640, Best Score: 3718.21
Early stopping at iteration 695, Best Score: 3742.89
Early stopping at iteration 552, Best Score: 3715.34
Early stopping at iteration 541, Best Score: 3714.19
Early stopping at iteration 610, Best Score: 3757.80
Early stopping at iteration 510, Best Score: 3687.35
Early stopping at iteration 540, Best Score: 3696.39
Early stopping at iteration 522, Best Score: 3691.06
Early stopping at iteration 699, Best Score: 3711.14
Early stopping at iteration 512, Best Score: 3692.98
Early stopping at iteration 579, Best Score: 3723.64
Early stopping at iteration 544, Best Score: 3692.39
Early stopping at iteration 531, Best Score: 3682.10
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Early stopping at iteration 514, Best Score: 3690.29
Early stopping at iteration 544, Best Score: 3692.78
Early stopping at iteration 764, Best Score: 3739.31
Early stopping at iteration 597, Best Score: 3726.21
Early stopping at iteration 687, Best Score: 3720.22
Early stopping at iteration 801, Best Score: 3724.39
Early stopping at iteration 569, Best Score: 3695.69
Early stopping at iteration 630, Best Score: 3727.58
Early stopping at iteration 512, Best Score: 3679.23
Early stopping at iteration 634, Best Score: 3747.12
Early stopping at iteration 503, Best Score: 3678.64
Early stopping at iteration 609, Best Score: 3729.54
Early stopping at iteration 588, Best Score: 3720.37
Early stopping at iteration 525, Best Score: 3680.09
Early stopping at iteration 510, Best Score: 3680.13
Early stopping at iteration 528, Best Score: 3698.98
Early stopping at iteration 687, Best Score: 3737.85
Early stopping at iteration 756, Best Score: 3735.57
Early stopping at iteration 552, Best Score: 3693.92
Early stopping at iteration 661, Best Score: 3718.47
Early stopping at iteration 501, Best Score: 3678.73
Early stopping at iteration 538, Best Score: 3702.30
Early stopping at iteration 719, Best Score: 3758.15
Early stopping at iteration 517, Best Score: 3686.48
Early stopping at iteration 601, Best Score: 3722.14
Early stopping at iteration 581, Best Score: 3711.71
Early stopping at iteration 546, Best Score: 3711.51
Early stopping at iteration 674, Best Score: 3706.08
Early stopping at iteration 584, Best Score: 3702.59
Early stopping at iteration 688, Best Score: 3741.96
Early stopping at iteration 525, Best Score: 3698.69
Early stopping at iteration 518, Best Score: 3691.72
  Deck Trial 200/250
Early stopping at iteration 531, Best Score: 3690.29
Early stopping at iteration 567, Best Score: 3704.53
Early stopping at iteration 789, Best Score: 3760.77
Early stopping at iteration 691, Best Score: 3744.69
Early stopping at iteration 577, Best Score: 3712.97
Early stopping at iteration 604, Best Score: 3713.07
Early stopping at iteration 684, Best Score: 3739.68
Early stopping at iteration 538, Best Score: 3700.34
Early stopping at iteration 651, Best Score: 3718.58
Early stopping at iteration 569, Best Score: 3698.71
Early stopping at iteration 550, Best Score: 3702.61
Early stopping at iteration 558, Best Score: 3741.58
Early stopping at iteration 565, Best Score: 3703.99
Early stopping at iteration 783, Best Score: 3764.76
Early stopping at iteration 619, Best Score: 3751.38
Early stopping at iteration 618, Best Score: 3713.50
Early stopping at iteration 704, Best Score: 3735.64
Early stopping at iteration 672, Best Score: 3719.85
Early stopping at iteration 652, Best Score: 3742.39
Early stopping at iteration 847, Best Score: 3758.03
Early stopping at iteration 595, Best Score: 3710.56
Early stopping at iteration 761, Best Score: 3753.86
Early stopping at iteration 689, Best Score: 3752.82
Early stopping at iteration 647, Best Score: 3716.96
Early stopping at iteration 517, Best Score: 3694.53
Early stopping at iteration 746, Best Score: 3699.08
Early stopping at iteration 591, Best Score: 3712.14
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Early stopping at iteration 505, Best Score: 3678.97
Early stopping at iteration 626, Best Score: 3704.90
Early stopping at iteration 779, Best Score: 3692.62
Early stopping at iteration 587, Best Score: 3720.32
Early stopping at iteration 542, Best Score: 3699.77
Early stopping at iteration 501, Best Score: 3678.90
Early stopping at iteration 612, Best Score: 3720.91
Early stopping at iteration 500, Best Score: 3675.66
Early stopping at iteration 548, Best Score: 3680.13
Early stopping at iteration 517, Best Score: 3679.23
Early stopping at iteration 661, Best Score: 3749.36
Early stopping at iteration 544, Best Score: 3722.78
Early stopping at iteration 511, Best Score: 3680.10
Early stopping at iteration 580, Best Score: 3731.97
Early stopping at iteration 507, Best Score: 3688.22
Early stopping at iteration 522, Best Score: 3698.41
Early stopping at iteration 578, Best Score: 3720.48
Early stopping at iteration 687, Best Score: 3711.51
Early stopping at iteration 715, Best Score: 3747.59
Early stopping at iteration 708, Best Score: 3727.07
Early stopping at iteration 500, Best Score: 3675.66
Early stopping at iteration 573, Best Score: 3695.34
Early stopping at iteration 579, Best Score: 3733.50
Early stopping at iteration 597, Best Score: 3709.48
GNN Trial 15 completed with 250 decks.

GNN Trial 16/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 50.6639, Synergy Loss: 2.6822, Total: 56.0284
Epoch 20/300 - Node Loss: 4.9176, Synergy Loss: 2.4420, Total: 9.8016
Epoch 30/300 - Node Loss: 2.1612, Synergy Loss: 1.8606, Total: 5.8823
Epoch 40/300 - Node Loss: 1.8030, Synergy Loss: 1.1373, Total: 4.0775
Epoch 50/300 - Node Loss: 1.3655, Synergy Loss: 0.9549, Total: 3.2753
Epoch 60/300 - Node Loss: 1.3043, Synergy Loss: 0.8267, Total: 2.9578
Epoch 70/300 - Node Loss: 1.2128, Synergy Loss: 0.8980, Total: 3.0087
Epoch 80/300 - Node Loss: 1.2307, Synergy Loss: 0.7600, Total: 2.7508
Epoch 90/300 - Node Loss: 1.1499, Synergy Loss: 0.8190, Total: 2.7879
Epoch 100/300 - Node Loss: 1.1651, Synergy Loss: 0.7831, Total: 2.7314
Early stopping at epoch 105
Existing model archived to: 20250310_114905_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 638, Best Score: 2146.57
Early stopping at iteration 888, Best Score: 2141.64
Early stopping at iteration 760, Best Score: 2156.86
Early stopping at iteration 560, Best Score: 2095.86
Early stopping at iteration 617, Best Score: 2147.26
Early stopping at iteration 726, Best Score: 2134.05
Early stopping at iteration 702, Best Score: 2133.82
Early stopping at iteration 840, Best Score: 2118.85
Early stopping at iteration 594, Best Score: 2108.10
Early stopping at iteration 782, Best Score: 2127.89
Early stopping at iteration 589, Best Score: 2109.43
Early stopping at iteration 773, Best Score: 2140.15
Early stopping at iteration 675, Best Score: 2107.70
Early stopping at iteration 676, Best Score: 2132.95
Early stopping at iteration 581, Best Score: 2100.81
Early stopping at iteration 573, Best Score: 2107.60
Early stopping at iteration 600, Best Score: 2139.02
Early stopping at iteration 683, Best Score: 2131.25
Early stopping at iteration 692, Best Score: 2122.08
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Early stopping at iteration 589, Best Score: 2103.39
Early stopping at iteration 873, Best Score: 2111.88
Early stopping at iteration 763, Best Score: 2161.69
Early stopping at iteration 882, Best Score: 2161.94
Early stopping at iteration 629, Best Score: 2120.15
Early stopping at iteration 636, Best Score: 2138.05
Early stopping at iteration 729, Best Score: 2102.57
Early stopping at iteration 740, Best Score: 2148.99
Early stopping at iteration 697, Best Score: 2112.60
Early stopping at iteration 807, Best Score: 2121.97
Early stopping at iteration 759, Best Score: 2169.81
Early stopping at iteration 727, Best Score: 2156.65
Early stopping at iteration 1074, Best Score: 2139.24
Early stopping at iteration 527, Best Score: 2069.38
Early stopping at iteration 1036, Best Score: 2098.93
Early stopping at iteration 761, Best Score: 2128.36
Early stopping at iteration 977, Best Score: 2188.22
Early stopping at iteration 578, Best Score: 2103.33
Early stopping at iteration 977, Best Score: 2162.83
Early stopping at iteration 636, Best Score: 2124.86
Early stopping at iteration 664, Best Score: 2133.27
Early stopping at iteration 1058, Best Score: 2135.68
Early stopping at iteration 1765, Best Score: 2178.58
Early stopping at iteration 707, Best Score: 2127.61
Early stopping at iteration 1382, Best Score: 2119.82
Early stopping at iteration 658, Best Score: 2137.23
Early stopping at iteration 614, Best Score: 2112.71
Early stopping at iteration 554, Best Score: 2088.56
Early stopping at iteration 729, Best Score: 2152.91
Early stopping at iteration 548, Best Score: 2100.83
Early stopping at iteration 603, Best Score: 2097.57
Early stopping at iteration 624, Best Score: 2122.28
Early stopping at iteration 608, Best Score: 2164.13
Early stopping at iteration 603, Best Score: 2098.49
Early stopping at iteration 608, Best Score: 2128.87
Early stopping at iteration 690, Best Score: 2153.59
Early stopping at iteration 559, Best Score: 2089.22
Early stopping at iteration 909, Best Score: 2179.55
Early stopping at iteration 775, Best Score: 2136.97
Early stopping at iteration 716, Best Score: 2118.44
Early stopping at iteration 600, Best Score: 2099.57
Early stopping at iteration 621, Best Score: 2121.76
Early stopping at iteration 663, Best Score: 2129.10
Early stopping at iteration 647, Best Score: 2095.61
Early stopping at iteration 576, Best Score: 2116.17
Early stopping at iteration 775, Best Score: 2137.63
Early stopping at iteration 825, Best Score: 2137.08
Early stopping at iteration 840, Best Score: 2147.40
Early stopping at iteration 528, Best Score: 2088.14
Early stopping at iteration 777, Best Score: 2150.32
Early stopping at iteration 697, Best Score: 2113.65
Early stopping at iteration 737, Best Score: 2145.52
Early stopping at iteration 656, Best Score: 2129.29
Early stopping at iteration 741, Best Score: 2101.90
Early stopping at iteration 586, Best Score: 2114.34
Early stopping at iteration 1149, Best Score: 2173.51
Early stopping at iteration 838, Best Score: 2160.95
Early stopping at iteration 716, Best Score: 2126.09
Early stopping at iteration 699, Best Score: 2131.40
Early stopping at iteration 815, Best Score: 2141.75
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Early stopping at iteration 869, Best Score: 2136.80
Early stopping at iteration 710, Best Score: 2136.79
Early stopping at iteration 617, Best Score: 2101.49
Early stopping at iteration 830, Best Score: 2145.60
Early stopping at iteration 625, Best Score: 2102.15
Early stopping at iteration 617, Best Score: 2133.86
Early stopping at iteration 899, Best Score: 2145.73
Early stopping at iteration 905, Best Score: 2147.90
Early stopping at iteration 591, Best Score: 2131.30
Early stopping at iteration 576, Best Score: 2100.53
Early stopping at iteration 666, Best Score: 2119.82
Early stopping at iteration 548, Best Score: 2083.12
Early stopping at iteration 768, Best Score: 2167.77
Early stopping at iteration 636, Best Score: 2122.75
Early stopping at iteration 646, Best Score: 2125.21
Early stopping at iteration 594, Best Score: 2099.96
Early stopping at iteration 701, Best Score: 2141.11
Early stopping at iteration 597, Best Score: 2133.42
Early stopping at iteration 655, Best Score: 2144.60
Early stopping at iteration 667, Best Score: 2144.74
  Deck Trial 100/250
Early stopping at iteration 740, Best Score: 2156.64
Early stopping at iteration 573, Best Score: 2099.13
Early stopping at iteration 837, Best Score: 2148.27
Early stopping at iteration 711, Best Score: 2121.54
Early stopping at iteration 781, Best Score: 2111.49
Early stopping at iteration 796, Best Score: 2132.41
Early stopping at iteration 951, Best Score: 2146.42
Early stopping at iteration 607, Best Score: 2094.88
Early stopping at iteration 1200, Best Score: 2116.31
Early stopping at iteration 608, Best Score: 2117.95
Early stopping at iteration 572, Best Score: 2135.13
Early stopping at iteration 803, Best Score: 2141.03
Early stopping at iteration 728, Best Score: 2098.04
Early stopping at iteration 943, Best Score: 2151.16
Early stopping at iteration 699, Best Score: 2151.40
Early stopping at iteration 568, Best Score: 2103.28
Early stopping at iteration 605, Best Score: 2106.58
Early stopping at iteration 564, Best Score: 2095.07
Early stopping at iteration 1796, Best Score: 2192.21
Early stopping at iteration 712, Best Score: 2166.22
Early stopping at iteration 567, Best Score: 2102.11
Early stopping at iteration 613, Best Score: 2109.66
Early stopping at iteration 717, Best Score: 2157.21
Early stopping at iteration 568, Best Score: 2130.74
Early stopping at iteration 923, Best Score: 2171.01
Early stopping at iteration 1338, Best Score: 2140.73
Early stopping at iteration 809, Best Score: 2148.58
Early stopping at iteration 1443, Best Score: 2164.86
Early stopping at iteration 586, Best Score: 2115.30
Early stopping at iteration 844, Best Score: 2145.34
Early stopping at iteration 540, Best Score: 2064.89
Early stopping at iteration 627, Best Score: 2129.62
Early stopping at iteration 652, Best Score: 2110.77
Early stopping at iteration 774, Best Score: 2150.81
Early stopping at iteration 537, Best Score: 2085.99
Early stopping at iteration 635, Best Score: 2150.58
Early stopping at iteration 853, Best Score: 2179.18
Early stopping at iteration 836, Best Score: 2170.22
Early stopping at iteration 981, Best Score: 2173.54
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Early stopping at iteration 590, Best Score: 2123.20
Early stopping at iteration 609, Best Score: 2101.87
Early stopping at iteration 1362, Best Score: 2146.10
Early stopping at iteration 741, Best Score: 2145.48
Early stopping at iteration 922, Best Score: 2172.69
Early stopping at iteration 585, Best Score: 2095.35
Early stopping at iteration 640, Best Score: 2125.91
Early stopping at iteration 759, Best Score: 2129.83
Early stopping at iteration 602, Best Score: 2123.60
Early stopping at iteration 817, Best Score: 2154.82
Early stopping at iteration 671, Best Score: 2154.28
Early stopping at iteration 613, Best Score: 2118.19
Early stopping at iteration 557, Best Score: 2114.17
Early stopping at iteration 1078, Best Score: 2126.57
Early stopping at iteration 645, Best Score: 2131.78
Early stopping at iteration 716, Best Score: 2191.22
Early stopping at iteration 653, Best Score: 2136.36
Early stopping at iteration 681, Best Score: 2166.23
Early stopping at iteration 928, Best Score: 2171.59
Early stopping at iteration 682, Best Score: 2167.22
Early stopping at iteration 972, Best Score: 2195.19
Early stopping at iteration 1067, Best Score: 2166.12
Early stopping at iteration 1101, Best Score: 2155.09
Early stopping at iteration 761, Best Score: 2136.93
Early stopping at iteration 645, Best Score: 2124.12
Early stopping at iteration 564, Best Score: 2109.90
Early stopping at iteration 895, Best Score: 2181.94
Early stopping at iteration 621, Best Score: 2084.45
Early stopping at iteration 635, Best Score: 2099.34
Early stopping at iteration 605, Best Score: 2103.13
Early stopping at iteration 946, Best Score: 2134.60
Early stopping at iteration 659, Best Score: 2159.54
Early stopping at iteration 735, Best Score: 2131.42
Early stopping at iteration 637, Best Score: 2086.63
Early stopping at iteration 696, Best Score: 2124.16
Early stopping at iteration 573, Best Score: 2123.37
Early stopping at iteration 610, Best Score: 2105.53
Early stopping at iteration 600, Best Score: 2146.47
Early stopping at iteration 640, Best Score: 2099.05
Early stopping at iteration 647, Best Score: 2124.30
Early stopping at iteration 926, Best Score: 2144.65
Early stopping at iteration 670, Best Score: 2110.57
Early stopping at iteration 766, Best Score: 2173.09
Early stopping at iteration 610, Best Score: 2122.98
Early stopping at iteration 847, Best Score: 2157.05
Early stopping at iteration 994, Best Score: 2155.98
Early stopping at iteration 716, Best Score: 2145.73
Early stopping at iteration 651, Best Score: 2140.20
Early stopping at iteration 627, Best Score: 2120.36
Early stopping at iteration 629, Best Score: 2090.86
Early stopping at iteration 666, Best Score: 2109.88
Early stopping at iteration 645, Best Score: 2129.47
Early stopping at iteration 748, Best Score: 2150.50
Early stopping at iteration 580, Best Score: 2076.97
Early stopping at iteration 685, Best Score: 2134.94
Early stopping at iteration 883, Best Score: 2130.72
Early stopping at iteration 1111, Best Score: 2173.63
Early stopping at iteration 600, Best Score: 2114.98
Early stopping at iteration 637, Best Score: 2120.21
Early stopping at iteration 540, Best Score: 2089.86
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Early stopping at iteration 726, Best Score: 2146.64
  Deck Trial 200/250
Early stopping at iteration 612, Best Score: 2139.53
Early stopping at iteration 632, Best Score: 2133.95
Early stopping at iteration 910, Best Score: 2156.85
Early stopping at iteration 617, Best Score: 2126.23
Early stopping at iteration 545, Best Score: 2103.92
Early stopping at iteration 761, Best Score: 2142.20
Early stopping at iteration 707, Best Score: 2143.54
Early stopping at iteration 647, Best Score: 2068.27
Early stopping at iteration 826, Best Score: 2161.32
Early stopping at iteration 871, Best Score: 2169.06
Early stopping at iteration 578, Best Score: 2103.54
Early stopping at iteration 656, Best Score: 2139.49
Early stopping at iteration 599, Best Score: 2098.05
Early stopping at iteration 611, Best Score: 2122.56
Early stopping at iteration 563, Best Score: 2114.64
Early stopping at iteration 978, Best Score: 2145.01
Early stopping at iteration 1022, Best Score: 2120.32
Early stopping at iteration 618, Best Score: 2127.62
Early stopping at iteration 740, Best Score: 2132.60
Early stopping at iteration 815, Best Score: 2146.21
Early stopping at iteration 859, Best Score: 2190.91
Early stopping at iteration 659, Best Score: 2151.15
Early stopping at iteration 632, Best Score: 2102.21
Early stopping at iteration 686, Best Score: 2148.51
Early stopping at iteration 737, Best Score: 2153.85
Early stopping at iteration 523, Best Score: 2083.79
Early stopping at iteration 526, Best Score: 2069.85
Early stopping at iteration 610, Best Score: 2110.42
Early stopping at iteration 657, Best Score: 2145.08
Early stopping at iteration 608, Best Score: 2115.29
Early stopping at iteration 603, Best Score: 2128.30
Early stopping at iteration 673, Best Score: 2148.44
Early stopping at iteration 581, Best Score: 2110.90
Early stopping at iteration 677, Best Score: 2135.78
Early stopping at iteration 982, Best Score: 2153.07
Early stopping at iteration 592, Best Score: 2107.06
Early stopping at iteration 867, Best Score: 2136.29
Early stopping at iteration 741, Best Score: 2153.51
Early stopping at iteration 812, Best Score: 2126.39
Early stopping at iteration 657, Best Score: 2124.08
Early stopping at iteration 718, Best Score: 2149.45
Early stopping at iteration 656, Best Score: 2120.83
Early stopping at iteration 616, Best Score: 2103.09
Early stopping at iteration 771, Best Score: 2165.01
Early stopping at iteration 610, Best Score: 2135.16
Early stopping at iteration 626, Best Score: 2113.53
Early stopping at iteration 629, Best Score: 2098.58
Early stopping at iteration 664, Best Score: 2140.78
Early stopping at iteration 691, Best Score: 2095.98
Early stopping at iteration 685, Best Score: 2117.17
Early stopping at iteration 530, Best Score: 2100.73
GNN Trial 16 completed with 250 decks.

GNN Trial 17/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 28.1541, Synergy Loss: 2.3147, Total: 32.7836
Epoch 20/300 - Node Loss: 3.8538, Synergy Loss: 2.1695, Total: 8.1928
Epoch 30/300 - Node Loss: 2.1987, Synergy Loss: 2.0388, Total: 6.2763
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Epoch 40/300 - Node Loss: 1.6535, Synergy Loss: 1.8745, Total: 5.4026
Epoch 50/300 - Node Loss: 1.5472, Synergy Loss: 1.7220, Total: 4.9912
Epoch 60/300 - Node Loss: 1.2475, Synergy Loss: 1.5594, Total: 4.3663
Epoch 70/300 - Node Loss: 1.1935, Synergy Loss: 1.1617, Total: 3.5170
Epoch 80/300 - Node Loss: 1.2280, Synergy Loss: 0.8764, Total: 2.9808
Epoch 90/300 - Node Loss: 1.1886, Synergy Loss: 0.9065, Total: 3.0016
Epoch 100/300 - Node Loss: 1.2213, Synergy Loss: 0.8063, Total: 2.8338
Epoch 110/300 - Node Loss: 1.1618, Synergy Loss: 0.8217, Total: 2.8052
Epoch 120/300 - Node Loss: 1.1370, Synergy Loss: 0.7877, Total: 2.7125
Epoch 130/300 - Node Loss: 1.1556, Synergy Loss: 0.7844, Total: 2.7244
Epoch 140/300 - Node Loss: 1.1725, Synergy Loss: 0.7484, Total: 2.6694
Epoch 150/300 - Node Loss: 1.1704, Synergy Loss: 0.7041, Total: 2.5786
Epoch 160/300 - Node Loss: 1.1220, Synergy Loss: 0.6547, Total: 2.4313
Epoch 170/300 - Node Loss: 1.1772, Synergy Loss: 0.6178, Total: 2.4127
Epoch 180/300 - Node Loss: 1.1386, Synergy Loss: 0.5675, Total: 2.2735
Epoch 190/300 - Node Loss: 1.1885, Synergy Loss: 0.5391, Total: 2.2667
Epoch 200/300 - Node Loss: 1.1347, Synergy Loss: 1.5527, Total: 4.2402
Epoch 210/300 - Node Loss: 1.0586, Synergy Loss: 0.5521, Total: 2.1628
Epoch 220/300 - Node Loss: 1.0782, Synergy Loss: 0.5096, Total: 2.0973
Epoch 230/300 - Node Loss: 1.0589, Synergy Loss: 0.4608, Total: 1.9805
Epoch 240/300 - Node Loss: 1.0379, Synergy Loss: 0.4533, Total: 1.9444
Epoch 250/300 - Node Loss: 1.0369, Synergy Loss: 0.5647, Total: 2.1664
Epoch 260/300 - Node Loss: 1.0458, Synergy Loss: 0.4429, Total: 1.9315
Epoch 270/300 - Node Loss: 1.0159, Synergy Loss: 0.4407, Total: 1.8972
Epoch 280/300 - Node Loss: 1.0302, Synergy Loss: 0.4280, Total: 1.8863
Epoch 290/300 - Node Loss: 1.0134, Synergy Loss: 0.4058, Total: 1.8250
Epoch 300/300 - Node Loss: 1.0057, Synergy Loss: 0.3946, Total: 1.7949
Existing model archived to: 20250310_115601_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 654, Best Score: 3519.20
Early stopping at iteration 539, Best Score: 3497.40
Early stopping at iteration 817, Best Score: 3538.06
Early stopping at iteration 777, Best Score: 3575.58
Early stopping at iteration 504, Best Score: 3451.94
Early stopping at iteration 637, Best Score: 3547.20
Early stopping at iteration 671, Best Score: 3535.73
Early stopping at iteration 667, Best Score: 3528.58
Early stopping at iteration 513, Best Score: 3474.94
Early stopping at iteration 610, Best Score: 3544.34
Early stopping at iteration 558, Best Score: 3503.62
Early stopping at iteration 697, Best Score: 3549.56
Early stopping at iteration 715, Best Score: 3526.58
Early stopping at iteration 566, Best Score: 3508.71
Early stopping at iteration 535, Best Score: 3461.99
Early stopping at iteration 641, Best Score: 3564.84
Early stopping at iteration 609, Best Score: 3526.88
Early stopping at iteration 500, Best Score: 3445.62
Early stopping at iteration 682, Best Score: 3562.50
Early stopping at iteration 572, Best Score: 3509.84
Early stopping at iteration 670, Best Score: 3562.02
Early stopping at iteration 511, Best Score: 3451.94
Early stopping at iteration 808, Best Score: 3542.68
Early stopping at iteration 812, Best Score: 3556.09
Early stopping at iteration 633, Best Score: 3520.22
Early stopping at iteration 816, Best Score: 3549.73
Early stopping at iteration 751, Best Score: 3566.16
Early stopping at iteration 583, Best Score: 3525.53
Early stopping at iteration 590, Best Score: 3511.87
Early stopping at iteration 747, Best Score: 3555.76
Early stopping at iteration 647, Best Score: 3556.13
```

```
Early stopping at iteration 740, Best Score: 3560.31
Early stopping at iteration 587, Best Score: 3500.67
Early stopping at iteration 664, Best Score: 3559.32
Early stopping at iteration 611, Best Score: 3554.01
Early stopping at iteration 558, Best Score: 3471.64
Early stopping at iteration 718, Best Score: 3522.93
Early stopping at iteration 519, Best Score: 3459.65
Early stopping at iteration 561, Best Score: 3471.09
Early stopping at iteration 596, Best Score: 3540.55
Early stopping at iteration 614, Best Score: 3541.24
Early stopping at iteration 567, Best Score: 3489.21
Early stopping at iteration 723, Best Score: 3556.34
Early stopping at iteration 579, Best Score: 3534.67
Early stopping at iteration 623, Best Score: 3526.47
Early stopping at iteration 643, Best Score: 3513.36
Early stopping at iteration 612, Best Score: 3524.21
Early stopping at iteration 609, Best Score: 3507.42
Early stopping at iteration 652, Best Score: 3531.48
Early stopping at iteration 656, Best Score: 3521.61
Early stopping at iteration 641, Best Score: 3542.67
Early stopping at iteration 565, Best Score: 3512.15
Early stopping at iteration 646, Best Score: 3531.78
Early stopping at iteration 644, Best Score: 3552.40
Early stopping at iteration 545, Best Score: 3501.42
Early stopping at iteration 685, Best Score: 3573.08
Early stopping at iteration 615, Best Score: 3525.27
Early stopping at iteration 542, Best Score: 3475.64
Early stopping at iteration 604, Best Score: 3499.60
Early stopping at iteration 686, Best Score: 3501.96
Early stopping at iteration 683, Best Score: 3544.87
Early stopping at iteration 526, Best Score: 3459.79
Early stopping at iteration 601, Best Score: 3552.03
Early stopping at iteration 626, Best Score: 3545.88
Early stopping at iteration 625, Best Score: 3512.07
Early stopping at iteration 557, Best Score: 3502.84
Early stopping at iteration 664, Best Score: 3550.79
Early stopping at iteration 573, Best Score: 3519.70
Early stopping at iteration 632, Best Score: 3538.53
Early stopping at iteration 550, Best Score: 3511.80
Early stopping at iteration 599, Best Score: 3511.11
Early stopping at iteration 536, Best Score: 3482.77
Early stopping at iteration 683, Best Score: 3537.88
Early stopping at iteration 686, Best Score: 3561.89
Early stopping at iteration 628, Best Score: 3522.73
Early stopping at iteration 564, Best Score: 3463.17
Early stopping at iteration 599, Best Score: 3517.78
Early stopping at iteration 540, Best Score: 3483.99
Early stopping at iteration 835, Best Score: 3543.35
Early stopping at iteration 686, Best Score: 3530.99
Early stopping at iteration 539, Best Score: 3467.40
Early stopping at iteration 503, Best Score: 3451.76
Early stopping at iteration 654, Best Score: 3534.65
Early stopping at iteration 593, Best Score: 3491.80
Early stopping at iteration 738, Best Score: 3530.04
Early stopping at iteration 541, Best Score: 3498.31
Early stopping at iteration 660, Best Score: 3540.21
Early stopping at iteration 682, Best Score: 3550.36
Early stopping at iteration 765, Best Score: 3543.06
Early stopping at iteration 577, Best Score: 3529.87
Early stopping at iteration 849, Best Score: 3542.75
```

```
Early stopping at iteration 558, Best Score: 3502.87
Early stopping at iteration 549, Best Score: 3508.30
Early stopping at iteration 544, Best Score: 3493.84
Early stopping at iteration 854, Best Score: 3558.33
Early stopping at iteration 500, Best Score: 3445.62
Early stopping at iteration 528, Best Score: 3466.54
Early stopping at iteration 585, Best Score: 3503.93
Early stopping at iteration 546, Best Score: 3458.55
  Deck Trial 100/250
Early stopping at iteration 563, Best Score: 3513.72
Early stopping at iteration 618, Best Score: 3541.34
Early stopping at iteration 561, Best Score: 3485.00
Early stopping at iteration 655, Best Score: 3490.52
Early stopping at iteration 550, Best Score: 3481.23
Early stopping at iteration 561, Best Score: 3502.57
Early stopping at iteration 634, Best Score: 3534.94
Early stopping at iteration 558, Best Score: 3507.48
Early stopping at iteration 596, Best Score: 3506.60
Early stopping at iteration 567, Best Score: 3503.31
Early stopping at iteration 721, Best Score: 3531.04
Early stopping at iteration 582, Best Score: 3509.33
Early stopping at iteration 586, Best Score: 3524.69
Early stopping at iteration 817, Best Score: 3529.90
Early stopping at iteration 637, Best Score: 3531.77
Early stopping at iteration 993, Best Score: 3545.14
Early stopping at iteration 663, Best Score: 3544.27
Early stopping at iteration 665, Best Score: 3528.23
Early stopping at iteration 571, Best Score: 3508.32
Early stopping at iteration 542, Best Score: 3497.85
Early stopping at iteration 654, Best Score: 3548.57
Early stopping at iteration 596, Best Score: 3508.63
Early stopping at iteration 711, Best Score: 3538.03
Early stopping at iteration 599, Best Score: 3478.32
Early stopping at iteration 618, Best Score: 3526.81
Early stopping at iteration 749, Best Score: 3512.38
Early stopping at iteration 778, Best Score: 3556.75
Early stopping at iteration 614, Best Score: 3540.74
Early stopping at iteration 621, Best Score: 3514.94
Early stopping at iteration 596, Best Score: 3521.71
Early stopping at iteration 603, Best Score: 3512.89
Early stopping at iteration 566, Best Score: 3517.54
Early stopping at iteration 569, Best Score: 3514.41
Early stopping at iteration 544, Best Score: 3490.47
Early stopping at iteration 577, Best Score: 3490.77
Early stopping at iteration 763, Best Score: 3551.22
Early stopping at iteration 834, Best Score: 3499.19
Early stopping at iteration 704, Best Score: 3545.68
Early stopping at iteration 682, Best Score: 3557.76
Early stopping at iteration 622, Best Score: 3532.20
Early stopping at iteration 655, Best Score: 3516.44
Early stopping at iteration 698, Best Score: 3524.94
Early stopping at iteration 740, Best Score: 3556.08
Early stopping at iteration 652, Best Score: 3541.41
Early stopping at iteration 698, Best Score: 3537.69
Early stopping at iteration 679, Best Score: 3526.78
Early stopping at iteration 640, Best Score: 3536.66
Early stopping at iteration 600, Best Score: 3516.59
Early stopping at iteration 567, Best Score: 3494.30
Early stopping at iteration 514, Best Score: 3465.61
Early stopping at iteration 543, Best Score: 3486.07
```

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Early stopping at iteration 525, Best Score: 3459.96
Early stopping at iteration 524, Best Score: 3475.39
Early stopping at iteration 726, Best Score: 3536.61
Early stopping at iteration 597, Best Score: 3499.86
Early stopping at iteration 594, Best Score: 3527.62
Early stopping at iteration 694, Best Score: 3507.83
Early stopping at iteration 540, Best Score: 3454.73
Early stopping at iteration 536, Best Score: 3504.66
Early stopping at iteration 526, Best Score: 3469.10
Early stopping at iteration 586, Best Score: 3474.97
Early stopping at iteration 579, Best Score: 3539.38
Early stopping at iteration 505, Best Score: 3456.65
Early stopping at iteration 562, Best Score: 3501.00
Early stopping at iteration 534, Best Score: 3486.32
Early stopping at iteration 543, Best Score: 3526.37
Early stopping at iteration 682, Best Score: 3545.04
Early stopping at iteration 500, Best Score: 3445.62
Early stopping at iteration 658, Best Score: 3499.84
Early stopping at iteration 600, Best Score: 3519.38
Early stopping at iteration 668, Best Score: 3507.46
Early stopping at iteration 650, Best Score: 3571.34
Early stopping at iteration 761, Best Score: 3581.42
Early stopping at iteration 505, Best Score: 3453.22
Early stopping at iteration 912, Best Score: 3577.02
Early stopping at iteration 720, Best Score: 3531.94
Early stopping at iteration 651, Best Score: 3502.19
Early stopping at iteration 537, Best Score: 3495.08
Early stopping at iteration 561, Best Score: 3484.70
Early stopping at iteration 629, Best Score: 3554.05
Early stopping at iteration 587, Best Score: 3510.28
Early stopping at iteration 703, Best Score: 3530.92
Early stopping at iteration 513, Best Score: 3460.94
Early stopping at iteration 663, Best Score: 3548.14
Early stopping at iteration 642, Best Score: 3528.59
Early stopping at iteration 570, Best Score: 3510.87
Early stopping at iteration 583, Best Score: 3515.83
Early stopping at iteration 666, Best Score: 3529.06
Early stopping at iteration 536, Best Score: 3471.01
Early stopping at iteration 665, Best Score: 3539.96
Early stopping at iteration 658, Best Score: 3522.94
Early stopping at iteration 587, Best Score: 3516.19
Early stopping at iteration 643, Best Score: 3522.53
Early stopping at iteration 591, Best Score: 3499.10
Early stopping at iteration 589, Best Score: 3526.56
Early stopping at iteration 523, Best Score: 3486.96
Early stopping at iteration 637, Best Score: 3530.77
Early stopping at iteration 561, Best Score: 3479.00
Early stopping at iteration 521, Best Score: 3475.93
Early stopping at iteration 578, Best Score: 3510.73
  Deck Trial 200/250
Early stopping at iteration 899, Best Score: 3493.10
Early stopping at iteration 540, Best Score: 3474.00
Early stopping at iteration 753, Best Score: 3565.02
Early stopping at iteration 568, Best Score: 3510.90
Early stopping at iteration 619, Best Score: 3521.10
Early stopping at iteration 670, Best Score: 3523.57
Early stopping at iteration 543, Best Score: 3497.77
Early stopping at iteration 790, Best Score: 3563.35
Early stopping at iteration 753, Best Score: 3549.06
Early stopping at iteration 698, Best Score: 3551.10
```

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Early stopping at iteration 566, Best Score: 3519.81
Early stopping at iteration 593, Best Score: 3512.75
Early stopping at iteration 654, Best Score: 3538.54
Early stopping at iteration 603, Best Score: 3550.81
Early stopping at iteration 623, Best Score: 3538.30
Early stopping at iteration 546, Best Score: 3490.15
Early stopping at iteration 779, Best Score: 3555.52
Early stopping at iteration 900, Best Score: 3574.07
Early stopping at iteration 536, Best Score: 3505.70
Early stopping at iteration 624, Best Score: 3536.51
Early stopping at iteration 603, Best Score: 3489.42
Early stopping at iteration 952, Best Score: 3568.06
Early stopping at iteration 604, Best Score: 3516.64
Early stopping at iteration 514, Best Score: 3475.77
Early stopping at iteration 670, Best Score: 3546.68
Early stopping at iteration 824, Best Score: 3566.18
Early stopping at iteration 540, Best Score: 3514.18
Early stopping at iteration 607, Best Score: 3518.52
Early stopping at iteration 656, Best Score: 3510.92
Early stopping at iteration 676, Best Score: 3538.93
Early stopping at iteration 603, Best Score: 3524.48
Early stopping at iteration 503, Best Score: 3453.21
Early stopping at iteration 511, Best Score: 3456.68
Early stopping at iteration 703, Best Score: 3530.32
Early stopping at iteration 606, Best Score: 3533.58
Early stopping at iteration 582, Best Score: 3509.58
Early stopping at iteration 799, Best Score: 3533.98
Early stopping at iteration 504, Best Score: 3454.63
Early stopping at iteration 635, Best Score: 3516.77
Early stopping at iteration 562, Best Score: 3504.81
Early stopping at iteration 587, Best Score: 3530.20
Early stopping at iteration 571, Best Score: 3516.18
Early stopping at iteration 594, Best Score: 3521.59
Early stopping at iteration 528, Best Score: 3473.76
Early stopping at iteration 534, Best Score: 3456.19
Early stopping at iteration 667, Best Score: 3502.85
Early stopping at iteration 698, Best Score: 3523.17
Early stopping at iteration 555, Best Score: 3498.98
Early stopping at iteration 515, Best Score: 3473.35
Early stopping at iteration 645, Best Score: 3548.30
Early stopping at iteration 719, Best Score: 3569.49
GNN Trial 17 completed with 250 decks.

GNN Trial 18/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 10.4861, Synergy Loss: 2.6666, Total: 15.8193
Epoch 20/300 - Node Loss: 2.3165, Synergy Loss: 2.4968, Total: 7.3101
Epoch 30/300 - Node Loss: 1.2006, Synergy Loss: 2.3334, Total: 5.8674
Epoch 40/300 - Node Loss: 1.0392, Synergy Loss: 2.1580, Total: 5.3551
Epoch 50/300 - Node Loss: 1.0020, Synergy Loss: 1.9761, Total: 4.9541
Epoch 60/300 - Node Loss: 1.0254, Synergy Loss: 1.7491, Total: 4.5235
Epoch 70/300 - Node Loss: 1.1208, Synergy Loss: 1.4123, Total: 3.9454
Epoch 80/300 - Node Loss: 1.3100, Synergy Loss: 1.2081, Total: 3.7261
Epoch 90/300 - Node Loss: 1.1585, Synergy Loss: 1.0274, Total: 3.2133
Epoch 100/300 - Node Loss: 1.1286, Synergy Loss: 0.9150, Total: 2.9585
Epoch 110/300 - Node Loss: 1.1051, Synergy Loss: 0.8201, Total: 2.7452
Epoch 120/300 - Node Loss: 1.1096, Synergy Loss: 0.7033, Total: 2.5162
Epoch 130/300 - Node Loss: 1.1025, Synergy Loss: 0.6394, Total: 2.3813
Epoch 140/300 - Node Loss: 1.0931, Synergy Loss: 0.5874, Total: 2.2678
Epoch 150/300 - Node Loss: 1.0910, Synergy Loss: 0.5506, Total: 2.1922
```

```
Epoch 160/300 - Node Loss: 1.0856, Synergy Loss: 0.5584, Total: 2.2024
Epoch 170/300 - Node Loss: 1.0881, Synergy Loss: 0.5082, Total: 2.1044
Epoch 180/300 - Node Loss: 1.0526, Synergy Loss: 0.4999, Total: 2.0523
Epoch 190/300 - Node Loss: 1.0659, Synergy Loss: 0.4850, Total: 2.0359
Epoch 200/300 - Node Loss: 1.0428, Synergy Loss: 0.4872, Total: 2.0172
Epoch 210/300 - Node Loss: 1.0654, Synergy Loss: 0.4683, Total: 2.0021
Epoch 220/300 - Node Loss: 1.0584, Synergy Loss: 0.4298, Total: 1.9180
Epoch 230/300 - Node Loss: 1.0470, Synergy Loss: 0.4343, Total: 1.9156
Epoch 240/300 - Node Loss: 1.0617, Synergy Loss: 0.4208, Total: 1.9033
Epoch 250/300 - Node Loss: 1.0540, Synergy Loss: 0.4258, Total: 1.9057
Epoch 260/300 - Node Loss: 1.0508, Synergy Loss: 0.4142, Total: 1.8791
Epoch 270/300 - Node Loss: 1.0357, Synergy Loss: 0.4154, Total: 1.8666
Epoch 280/300 - Node Loss: 1.0304, Synergy Loss: 0.4065, Total: 1.8435
Epoch 290/300 - Node Loss: 1.0493, Synergy Loss: 0.4043, Total: 1.8579
Epoch 300/300 - Node Loss: 1.0353, Synergy Loss: 0.4368, Total: 1.9090
Existing model archived to: 20250310_120249_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 761, Best Score: 3566.88
Early stopping at iteration 556, Best Score: 3532.97
Early stopping at iteration 876, Best Score: 3600.12
Early stopping at iteration 656, Best Score: 3583.76
Early stopping at iteration 539, Best Score: 3542.62
Early stopping at iteration 541, Best Score: 3544.94
Early stopping at iteration 577, Best Score: 3560.64
Early stopping at iteration 516, Best Score: 3543.03
Early stopping at iteration 548, Best Score: 3558.90
Early stopping at iteration 558, Best Score: 3544.04
Early stopping at iteration 607, Best Score: 3557.47
Early stopping at iteration 541, Best Score: 3533.81
Early stopping at iteration 507, Best Score: 3521.39
Early stopping at iteration 786, Best Score: 3588.24
Early stopping at iteration 559, Best Score: 3554.07
Early stopping at iteration 671, Best Score: 3576.79
Early stopping at iteration 579, Best Score: 3560.83
Early stopping at iteration 542, Best Score: 3564.79
Early stopping at iteration 623, Best Score: 3558.60
Early stopping at iteration 717, Best Score: 3560.18
Early stopping at iteration 576, Best Score: 3558.60
Early stopping at iteration 587, Best Score: 3564.85
Early stopping at iteration 555, Best Score: 3546.55
Early stopping at iteration 528, Best Score: 3539.39
Early stopping at iteration 642, Best Score: 3575.06
Early stopping at iteration 647, Best Score: 3565.04
Early stopping at iteration 620, Best Score: 3567.61
Early stopping at iteration 651, Best Score: 3582.20
Early stopping at iteration 522, Best Score: 3530.69
Early stopping at iteration 531, Best Score: 3533.83
Early stopping at iteration 655, Best Score: 3565.27
Early stopping at iteration 541, Best Score: 3542.88
Early stopping at iteration 544, Best Score: 3542.31
Early stopping at iteration 570, Best Score: 3570.03
Early stopping at iteration 610, Best Score: 3579.96
Early stopping at iteration 509, Best Score: 3523.29
Early stopping at iteration 671, Best Score: 3559.70
Early stopping at iteration 607, Best Score: 3543.83
Early stopping at iteration 684, Best Score: 3580.78
Early stopping at iteration 566, Best Score: 3531.47
Early stopping at iteration 574, Best Score: 3570.28
Early stopping at iteration 662, Best Score: 3563.42
Early stopping at iteration 517, Best Score: 3527.35
```

```
Early stopping at iteration 504, Best Score: 3521.39
Early stopping at iteration 628, Best Score: 3577.62
Early stopping at iteration 825, Best Score: 3608.02
Early stopping at iteration 572, Best Score: 3554.08
Early stopping at iteration 596, Best Score: 3536.20
Early stopping at iteration 650, Best Score: 3560.80
Early stopping at iteration 666, Best Score: 3581.45
Early stopping at iteration 814, Best Score: 3570.92
Early stopping at iteration 623, Best Score: 3572.82
Early stopping at iteration 782, Best Score: 3586.26
Early stopping at iteration 615, Best Score: 3550.97
Early stopping at iteration 783, Best Score: 3575.09
Early stopping at iteration 562, Best Score: 3549.53
Early stopping at iteration 669, Best Score: 3568.31
Early stopping at iteration 638, Best Score: 3552.10
Early stopping at iteration 595, Best Score: 3531.80
Early stopping at iteration 1007, Best Score: 3602.36
Early stopping at iteration 659, Best Score: 3594.10
Early stopping at iteration 517, Best Score: 3541.20
Early stopping at iteration 648, Best Score: 3557.67
Early stopping at iteration 572, Best Score: 3548.64
Early stopping at iteration 633, Best Score: 3560.27
Early stopping at iteration 511, Best Score: 3531.47
Early stopping at iteration 525, Best Score: 3535.31
Early stopping at iteration 731, Best Score: 3579.82
Early stopping at iteration 747, Best Score: 3580.61
Early stopping at iteration 511, Best Score: 3532.05
Early stopping at iteration 667, Best Score: 3573.12
Early stopping at iteration 604, Best Score: 3565.37
Early stopping at iteration 651, Best Score: 3570.65
Early stopping at iteration 741, Best Score: 3576.00
Early stopping at iteration 568, Best Score: 3549.13
Early stopping at iteration 794, Best Score: 3580.92
Early stopping at iteration 504, Best Score: 3519.38
Early stopping at iteration 629, Best Score: 3542.13
Early stopping at iteration 717, Best Score: 3575.21
Early stopping at iteration 500, Best Score: 3518.57
Early stopping at iteration 632, Best Score: 3585.85
Early stopping at iteration 768, Best Score: 3572.03
Early stopping at iteration 626, Best Score: 3579.89
Early stopping at iteration 717, Best Score: 3570.25
Early stopping at iteration 728, Best Score: 3592.61
Early stopping at iteration 542, Best Score: 3545.68
Early stopping at iteration 532, Best Score: 3534.21
Early stopping at iteration 501, Best Score: 3525.02
Early stopping at iteration 501, Best Score: 3521.39
Early stopping at iteration 547, Best Score: 3544.78
Early stopping at iteration 572, Best Score: 3548.77
Early stopping at iteration 593, Best Score: 3570.92
Early stopping at iteration 703, Best Score: 3578.75
Early stopping at iteration 578, Best Score: 3551.38
Early stopping at iteration 509, Best Score: 3521.39
Early stopping at iteration 504, Best Score: 3520.73
Early stopping at iteration 746, Best Score: 3570.59
Early stopping at iteration 715, Best Score: 3595.54
Early stopping at iteration 990, Best Score: 3566.79
  Deck Trial 100/250
Early stopping at iteration 669, Best Score: 3528.68
Early stopping at iteration 545, Best Score: 3541.49
Early stopping at iteration 708, Best Score: 3569.33
```

```
Early stopping at iteration 754, Best Score: 3567.80
Early stopping at iteration 604, Best Score: 3543.32
Early stopping at iteration 521, Best Score: 3529.53
Early stopping at iteration 651, Best Score: 3556.86
Early stopping at iteration 575, Best Score: 3561.85
Early stopping at iteration 571, Best Score: 3537.47
Early stopping at iteration 611, Best Score: 3564.50
Early stopping at iteration 503, Best Score: 3521.39
Early stopping at iteration 636, Best Score: 3566.82
Early stopping at iteration 730, Best Score: 3593.71
Early stopping at iteration 500, Best Score: 3518.57
Early stopping at iteration 541, Best Score: 3540.28
Early stopping at iteration 568, Best Score: 3564.38
Early stopping at iteration 510, Best Score: 3531.47
Early stopping at iteration 548, Best Score: 3556.82
Early stopping at iteration 526, Best Score: 3554.10
Early stopping at iteration 605, Best Score: 3564.26
Early stopping at iteration 557, Best Score: 3535.29
Early stopping at iteration 543, Best Score: 3560.50
Early stopping at iteration 722, Best Score: 3587.40
Early stopping at iteration 791, Best Score: 3568.49
Early stopping at iteration 588, Best Score: 3542.46
Early stopping at iteration 604, Best Score: 3558.72
Early stopping at iteration 562, Best Score: 3554.56
Early stopping at iteration 521, Best Score: 3525.48
Early stopping at iteration 626, Best Score: 3578.41
Early stopping at iteration 771, Best Score: 3569.17
Early stopping at iteration 533, Best Score: 3534.01
Early stopping at iteration 621, Best Score: 3558.40
Early stopping at iteration 577, Best Score: 3555.95
Early stopping at iteration 527, Best Score: 3544.74
Early stopping at iteration 563, Best Score: 3554.59
Early stopping at iteration 586, Best Score: 3567.67
Early stopping at iteration 611, Best Score: 3579.46
Early stopping at iteration 608, Best Score: 3576.31
Early stopping at iteration 764, Best Score: 3594.21
Early stopping at iteration 765, Best Score: 3568.23
Early stopping at iteration 660, Best Score: 3576.52
Early stopping at iteration 699, Best Score: 3571.53
Early stopping at iteration 607, Best Score: 3558.98
Early stopping at iteration 533, Best Score: 3543.96
Early stopping at iteration 537, Best Score: 3560.11
Early stopping at iteration 618, Best Score: 3554.65
Early stopping at iteration 581, Best Score: 3554.54
Early stopping at iteration 562, Best Score: 3562.06
Early stopping at iteration 552, Best Score: 3556.62
Early stopping at iteration 656, Best Score: 3556.91
Early stopping at iteration 565, Best Score: 3536.44
Early stopping at iteration 626, Best Score: 3568.12
Early stopping at iteration 611, Best Score: 3566.45
Early stopping at iteration 674, Best Score: 3565.63
Early stopping at iteration 910, Best Score: 3573.61
Early stopping at iteration 610, Best Score: 3536.48
Early stopping at iteration 612, Best Score: 3561.56
Early stopping at iteration 666, Best Score: 3579.89
Early stopping at iteration 511, Best Score: 3521.39
Early stopping at iteration 693, Best Score: 3566.61
Early stopping at iteration 709, Best Score: 3553.25
Early stopping at iteration 565, Best Score: 3567.30
Early stopping at iteration 712, Best Score: 3585.71
```

```
Early stopping at iteration 621, Best Score: 3583.76
Early stopping at iteration 671, Best Score: 3543.00
Early stopping at iteration 551, Best Score: 3533.43
Early stopping at iteration 538, Best Score: 3531.96
Early stopping at iteration 515, Best Score: 3539.90
Early stopping at iteration 656, Best Score: 3583.03
Early stopping at iteration 574, Best Score: 3539.54
Early stopping at iteration 513, Best Score: 3527.09
Early stopping at iteration 588, Best Score: 3561.34
Early stopping at iteration 557, Best Score: 3550.55
Early stopping at iteration 644, Best Score: 3571.17
Early stopping at iteration 601, Best Score: 3548.62
Early stopping at iteration 559, Best Score: 3540.27
Early stopping at iteration 519, Best Score: 3537.92
Early stopping at iteration 631, Best Score: 3588.94
Early stopping at iteration 524, Best Score: 3526.43
Early stopping at iteration 697, Best Score: 3582.23
Early stopping at iteration 543, Best Score: 3539.76
Early stopping at iteration 603, Best Score: 3576.57
Early stopping at iteration 531, Best Score: 3543.58
Early stopping at iteration 667, Best Score: 3569.04
Early stopping at iteration 582, Best Score: 3526.68
Early stopping at iteration 560, Best Score: 3536.49
Early stopping at iteration 561, Best Score: 3550.83
Early stopping at iteration 505, Best Score: 3521.39
Early stopping at iteration 559, Best Score: 3534.07
Early stopping at iteration 860, Best Score: 3580.07
Early stopping at iteration 535, Best Score: 3527.35
Early stopping at iteration 507, Best Score: 3531.47
Early stopping at iteration 618, Best Score: 3566.12
Early stopping at iteration 559, Best Score: 3558.39
Early stopping at iteration 653, Best Score: 3579.79
Early stopping at iteration 532, Best Score: 3546.33
Early stopping at iteration 733, Best Score: 3580.63
Early stopping at iteration 565, Best Score: 3546.57
Early stopping at iteration 1194, Best Score: 3601.60
Early stopping at iteration 548, Best Score: 3557.70
  Deck Trial 200/250
Early stopping at iteration 552, Best Score: 3546.86
Early stopping at iteration 619, Best Score: 3554.75
Early stopping at iteration 505, Best Score: 3531.76
Early stopping at iteration 513, Best Score: 3526.52
Early stopping at iteration 522, Best Score: 3545.84
Early stopping at iteration 590, Best Score: 3584.91
Early stopping at iteration 580, Best Score: 3547.60
Early stopping at iteration 506, Best Score: 3523.55
Early stopping at iteration 808, Best Score: 3576.70
Early stopping at iteration 668, Best Score: 3576.31
Early stopping at iteration 513, Best Score: 3536.14
Early stopping at iteration 517, Best Score: 3521.39
Early stopping at iteration 662, Best Score: 3581.04
Early stopping at iteration 738, Best Score: 3567.06
Early stopping at iteration 1244, Best Score: 3584.40
Early stopping at iteration 564, Best Score: 3550.85
Early stopping at iteration 576, Best Score: 3549.86
Early stopping at iteration 692, Best Score: 3578.74
Early stopping at iteration 731, Best Score: 3588.52
Early stopping at iteration 533, Best Score: 3540.10
Early stopping at iteration 706, Best Score: 3585.30
Early stopping at iteration 707, Best Score: 3581.95
```

```
Early stopping at iteration 824, Best Score: 3585.99
Early stopping at iteration 522, Best Score: 3549.43
Early stopping at iteration 604, Best Score: 3560.73
Early stopping at iteration 602, Best Score: 3551.58
Early stopping at iteration 662, Best Score: 3574.63
Early stopping at iteration 551, Best Score: 3540.65
Early stopping at iteration 523, Best Score: 3541.60
Early stopping at iteration 817, Best Score: 3604.99
Early stopping at iteration 571, Best Score: 3539.96
Early stopping at iteration 617, Best Score: 3565.24
Early stopping at iteration 522, Best Score: 3554.04
Early stopping at iteration 569, Best Score: 3533.13
Early stopping at iteration 738, Best Score: 3570.13
Early stopping at iteration 635, Best Score: 3586.26
Early stopping at iteration 504, Best Score: 3521.39
Early stopping at iteration 525, Best Score: 3535.95
Early stopping at iteration 680, Best Score: 3558.86
Early stopping at iteration 568, Best Score: 3559.81
Early stopping at iteration 560, Best Score: 3554.71
Early stopping at iteration 704, Best Score: 3574.77
Early stopping at iteration 640, Best Score: 3542.54
Early stopping at iteration 635, Best Score: 3561.74
Early stopping at iteration 533, Best Score: 3545.55
Early stopping at iteration 630, Best Score: 3568.39
Early stopping at iteration 511, Best Score: 3524.81
Early stopping at iteration 618, Best Score: 3567.52
Early stopping at iteration 634, Best Score: 3552.12
Early stopping at iteration 509, Best Score: 3525.60
Early stopping at iteration 506, Best Score: 3521.39
GNN Trial 18 completed with 250 decks.

GNN Trial 19/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 30.9622, Synergy Loss: 2.3909, Total: 35.7441
Epoch 20/300 - Node Loss: 3.0578, Synergy Loss: 2.1979, Total: 7.4537
Epoch 30/300 - Node Loss: 1.4741, Synergy Loss: 2.0206, Total: 5.5153
Epoch 40/300 - Node Loss: 1.0518, Synergy Loss: 1.8670, Total: 4.7858
Epoch 50/300 - Node Loss: 1.0312, Synergy Loss: 1.7066, Total: 4.4445
Epoch 60/300 - Node Loss: 1.2591, Synergy Loss: 1.3357, Total: 3.9306
Epoch 70/300 - Node Loss: 1.3120, Synergy Loss: 1.0294, Total: 3.3708
Epoch 80/300 - Node Loss: 1.2662, Synergy Loss: 0.9495, Total: 3.1652
Epoch 90/300 - Node Loss: 1.2432, Synergy Loss: 0.8757, Total: 2.9946
Epoch 100/300 - Node Loss: 1.1961, Synergy Loss: 0.8389, Total: 2.8739
Epoch 110/300 - Node Loss: 1.2258, Synergy Loss: 0.8218, Total: 2.8694
Epoch 120/300 - Node Loss: 1.2959, Synergy Loss: 0.7566, Total: 2.8091
Epoch 130/300 - Node Loss: 1.2788, Synergy Loss: 0.7383, Total: 2.7555
Epoch 140/300 - Node Loss: 1.1777, Synergy Loss: 0.7285, Total: 2.6347
Epoch 150/300 - Node Loss: 1.2107, Synergy Loss: 0.5956, Total: 2.4018
Epoch 160/300 - Node Loss: 1.1589, Synergy Loss: 0.5675, Total: 2.2939
Epoch 170/300 - Node Loss: 1.1508, Synergy Loss: 0.5013, Total: 2.1533
Epoch 180/300 - Node Loss: 1.1390, Synergy Loss: 0.8463, Total: 2.8315
Epoch 190/300 - Node Loss: 1.1288, Synergy Loss: 0.5201, Total: 2.1691
Epoch 200/300 - Node Loss: 1.0851, Synergy Loss: 0.4742, Total: 2.0336
Epoch 210/300 - Node Loss: 1.1334, Synergy Loss: 0.4682, Total: 2.0698
Epoch 220/300 - Node Loss: 1.0847, Synergy Loss: 0.4636, Total: 2.0120
Epoch 230/300 - Node Loss: 1.0778, Synergy Loss: 0.5198, Total: 2.1173
Epoch 240/300 - Node Loss: 1.0724, Synergy Loss: 0.5019, Total: 2.0761
Epoch 250/300 - Node Loss: 1.0432, Synergy Loss: 0.4987, Total: 2.0406
Epoch 260/300 - Node Loss: 1.0458, Synergy Loss: 0.4086, Total: 1.8630
Epoch 270/300 - Node Loss: 1.0802, Synergy Loss: 0.4114, Total: 1.9029
```

```
Epoch 280/300 - Node Loss: 1.0377, Synergy Loss: 0.4424, Total: 1.9224
Epoch 290/300 - Node Loss: 1.0327, Synergy Loss: 0.3781, Total: 1.7889
Epoch 300/300 - Node Loss: 1.0359, Synergy Loss: 0.3883, Total: 1.8125
Existing model archived to: 20250310_120930_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 609, Best Score: 3466.02
Early stopping at iteration 633, Best Score: 3456.16
Early stopping at iteration 527, Best Score: 3477.37
Early stopping at iteration 545, Best Score: 3484.95
Early stopping at iteration 584, Best Score: 3471.08
Early stopping at iteration 541, Best Score: 3478.72
Early stopping at iteration 693, Best Score: 3494.62
Early stopping at iteration 655, Best Score: 3491.77
Early stopping at iteration 570, Best Score: 3467.22
Early stopping at iteration 511, Best Score: 3449.17
Early stopping at iteration 584, Best Score: 3478.58
Early stopping at iteration 567, Best Score: 3499.80
Early stopping at iteration 954, Best Score: 3495.04
Early stopping at iteration 560, Best Score: 3473.82
Early stopping at iteration 743, Best Score: 3498.91
Early stopping at iteration 734, Best Score: 3502.47
Early stopping at iteration 571, Best Score: 3467.27
Early stopping at iteration 534, Best Score: 3466.44
Early stopping at iteration 967, Best Score: 3511.37
Early stopping at iteration 540, Best Score: 3469.19
Early stopping at iteration 509, Best Score: 3450.33
Early stopping at iteration 576, Best Score: 3471.62
Early stopping at iteration 621, Best Score: 3502.79
Early stopping at iteration 613, Best Score: 3504.99
Early stopping at iteration 550, Best Score: 3469.21
Early stopping at iteration 678, Best Score: 3465.25
Early stopping at iteration 556, Best Score: 3465.37
Early stopping at iteration 574, Best Score: 3478.30
Early stopping at iteration 511, Best Score: 3456.64
Early stopping at iteration 710, Best Score: 3498.06
Early stopping at iteration 687, Best Score: 3508.91
Early stopping at iteration 501, Best Score: 3441.98
Early stopping at iteration 601, Best Score: 3470.40
Early stopping at iteration 598, Best Score: 3471.52
Early stopping at iteration 597, Best Score: 3488.91
Early stopping at iteration 640, Best Score: 3500.03
Early stopping at iteration 539, Best Score: 3482.13
Early stopping at iteration 588, Best Score: 3484.18
Early stopping at iteration 649, Best Score: 3493.28
Early stopping at iteration 666, Best Score: 3487.19
Early stopping at iteration 517, Best Score: 3476.63
Early stopping at iteration 535, Best Score: 3476.16
Early stopping at iteration 576, Best Score: 3482.75
Early stopping at iteration 554, Best Score: 3479.46
Early stopping at iteration 779, Best Score: 3506.92
Early stopping at iteration 716, Best Score: 3493.31
Early stopping at iteration 711, Best Score: 3474.32
Early stopping at iteration 638, Best Score: 3506.66
Early stopping at iteration 718, Best Score: 3490.74
Early stopping at iteration 701, Best Score: 3502.41
Early stopping at iteration 656, Best Score: 3483.60
Early stopping at iteration 552, Best Score: 3464.60
Early stopping at iteration 579, Best Score: 3484.16
Early stopping at iteration 836, Best Score: 3514.04
Early stopping at iteration 500, Best Score: 3439.19
```

```
Early stopping at iteration 594, Best Score: 3474.17
Early stopping at iteration 534, Best Score: 3474.58
Early stopping at iteration 574, Best Score: 3477.78
Early stopping at iteration 657, Best Score: 3507.27
Early stopping at iteration 583, Best Score: 3495.49
Early stopping at iteration 603, Best Score: 3488.74
Early stopping at iteration 529, Best Score: 3450.28
Early stopping at iteration 583, Best Score: 3484.92
Early stopping at iteration 524, Best Score: 3446.00
Early stopping at iteration 670, Best Score: 3497.89
Early stopping at iteration 500, Best Score: 3439.19
Early stopping at iteration 702, Best Score: 3488.48
Early stopping at iteration 520, Best Score: 3460.12
Early stopping at iteration 522, Best Score: 3445.07
Early stopping at iteration 773, Best Score: 3509.54
Early stopping at iteration 560, Best Score: 3475.81
Early stopping at iteration 744, Best Score: 3486.81
Early stopping at iteration 514, Best Score: 3461.57
Early stopping at iteration 543, Best Score: 3451.34
Early stopping at iteration 536, Best Score: 3472.72
Early stopping at iteration 501, Best Score: 3441.98
Early stopping at iteration 592, Best Score: 3493.94
Early stopping at iteration 535, Best Score: 3460.88
Early stopping at iteration 575, Best Score: 3468.47
Early stopping at iteration 601, Best Score: 3491.93
Early stopping at iteration 548, Best Score: 3448.37
Early stopping at iteration 586, Best Score: 3460.47
Early stopping at iteration 571, Best Score: 3470.59
Early stopping at iteration 591, Best Score: 3479.14
Early stopping at iteration 666, Best Score: 3503.46
Early stopping at iteration 626, Best Score: 3464.89
Early stopping at iteration 747, Best Score: 3522.23
Early stopping at iteration 680, Best Score: 3482.88
Early stopping at iteration 502, Best Score: 3441.98
Early stopping at iteration 621, Best Score: 3495.55
Early stopping at iteration 654, Best Score: 3499.06
Early stopping at iteration 688, Best Score: 3486.60
Early stopping at iteration 606, Best Score: 3482.02
Early stopping at iteration 584, Best Score: 3480.71
Early stopping at iteration 551, Best Score: 3463.82
Early stopping at iteration 637, Best Score: 3480.15
Early stopping at iteration 619, Best Score: 3481.05
Early stopping at iteration 628, Best Score: 3501.03
Early stopping at iteration 533, Best Score: 3458.36
  Deck Trial 100/250
Early stopping at iteration 559, Best Score: 3454.01
Early stopping at iteration 597, Best Score: 3486.03
Early stopping at iteration 549, Best Score: 3489.40
Early stopping at iteration 604, Best Score: 3476.46
Early stopping at iteration 647, Best Score: 3509.29
Early stopping at iteration 585, Best Score: 3464.33
Early stopping at iteration 586, Best Score: 3488.52
Early stopping at iteration 532, Best Score: 3455.49
Early stopping at iteration 639, Best Score: 3500.04
Early stopping at iteration 518, Best Score: 3460.22
Early stopping at iteration 594, Best Score: 3456.13
Early stopping at iteration 525, Best Score: 3448.57
Early stopping at iteration 646, Best Score: 3507.73
Early stopping at iteration 667, Best Score: 3492.87
Early stopping at iteration 666, Best Score: 3502.71
```

```
Early stopping at iteration 584, Best Score: 3475.70
Early stopping at iteration 585, Best Score: 3506.78
Early stopping at iteration 633, Best Score: 3493.63
Early stopping at iteration 506, Best Score: 3441.98
Early stopping at iteration 520, Best Score: 3446.16
Early stopping at iteration 541, Best Score: 3471.72
Early stopping at iteration 776, Best Score: 3489.38
Early stopping at iteration 725, Best Score: 3499.76
Early stopping at iteration 549, Best Score: 3464.41
Early stopping at iteration 636, Best Score: 3487.73
Early stopping at iteration 697, Best Score: 3487.45
Early stopping at iteration 525, Best Score: 3460.91
Early stopping at iteration 796, Best Score: 3512.93
Early stopping at iteration 674, Best Score: 3514.30
Early stopping at iteration 615, Best Score: 3474.36
Early stopping at iteration 611, Best Score: 3474.11
Early stopping at iteration 526, Best Score: 3459.29
Early stopping at iteration 523, Best Score: 3459.91
Early stopping at iteration 501, Best Score: 3445.57
Early stopping at iteration 588, Best Score: 3485.37
Early stopping at iteration 617, Best Score: 3494.40
Early stopping at iteration 735, Best Score: 3499.86
Early stopping at iteration 597, Best Score: 3484.96
Early stopping at iteration 615, Best Score: 3471.06
Early stopping at iteration 587, Best Score: 3485.02
Early stopping at iteration 622, Best Score: 3472.57
Early stopping at iteration 699, Best Score: 3479.35
Early stopping at iteration 522, Best Score: 3458.48
Early stopping at iteration 671, Best Score: 3487.14
Early stopping at iteration 567, Best Score: 3477.85
Early stopping at iteration 763, Best Score: 3517.77
Early stopping at iteration 651, Best Score: 3489.47
Early stopping at iteration 778, Best Score: 3507.44
Early stopping at iteration 568, Best Score: 3477.96
Early stopping at iteration 597, Best Score: 3491.12
Early stopping at iteration 628, Best Score: 3486.80
Early stopping at iteration 630, Best Score: 3495.13
Early stopping at iteration 616, Best Score: 3455.44
Early stopping at iteration 1033, Best Score: 3500.76
Early stopping at iteration 591, Best Score: 3472.96
Early stopping at iteration 549, Best Score: 3457.54
Early stopping at iteration 513, Best Score: 3448.54
Early stopping at iteration 519, Best Score: 3450.33
Early stopping at iteration 816, Best Score: 3507.48
Early stopping at iteration 554, Best Score: 3486.48
Early stopping at iteration 740, Best Score: 3499.55
Early stopping at iteration 527, Best Score: 3474.96
Early stopping at iteration 608, Best Score: 3496.16
Early stopping at iteration 554, Best Score: 3471.49
Early stopping at iteration 642, Best Score: 3503.17
Early stopping at iteration 882, Best Score: 3477.31
Early stopping at iteration 619, Best Score: 3505.28
Early stopping at iteration 578, Best Score: 3470.48
Early stopping at iteration 600, Best Score: 3475.07
Early stopping at iteration 576, Best Score: 3484.70
Early stopping at iteration 512, Best Score: 3444.69
Early stopping at iteration 513, Best Score: 3453.13
Early stopping at iteration 564, Best Score: 3465.29
Early stopping at iteration 618, Best Score: 3486.77
Early stopping at iteration 712, Best Score: 3481.33
```

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Early stopping at iteration 567, Best Score: 3460.96
Early stopping at iteration 720, Best Score: 3472.84
Early stopping at iteration 605, Best Score: 3488.87
Early stopping at iteration 661, Best Score: 3484.09
Early stopping at iteration 845, Best Score: 3487.15
Early stopping at iteration 602, Best Score: 3475.88
Early stopping at iteration 727, Best Score: 3483.87
Early stopping at iteration 530, Best Score: 3458.29
Early stopping at iteration 617, Best Score: 3492.44
Early stopping at iteration 590, Best Score: 3486.22
Early stopping at iteration 504, Best Score: 3441.98
Early stopping at iteration 695, Best Score: 3501.51
Early stopping at iteration 570, Best Score: 3475.65
Early stopping at iteration 712, Best Score: 3518.69
Early stopping at iteration 618, Best Score: 3491.00
Early stopping at iteration 675, Best Score: 3480.42
Early stopping at iteration 623, Best Score: 3482.20
Early stopping at iteration 630, Best Score: 3491.41
Early stopping at iteration 796, Best Score: 3455.78
Early stopping at iteration 514, Best Score: 3452.76
Early stopping at iteration 607, Best Score: 3477.35
Early stopping at iteration 868, Best Score: 3475.63
Early stopping at iteration 595, Best Score: 3493.07
Early stopping at iteration 615, Best Score: 3491.82
Early stopping at iteration 565, Best Score: 3468.88
  Deck Trial 200/250
Early stopping at iteration 541, Best Score: 3469.76
Early stopping at iteration 531, Best Score: 3477.07
Early stopping at iteration 672, Best Score: 3488.44
Early stopping at iteration 699, Best Score: 3502.20
Early stopping at iteration 510, Best Score: 3449.33
Early stopping at iteration 587, Best Score: 3479.18
Early stopping at iteration 952, Best Score: 3500.02
Early stopping at iteration 861, Best Score: 3501.54
Early stopping at iteration 655, Best Score: 3495.05
Early stopping at iteration 531, Best Score: 3452.83
Early stopping at iteration 769, Best Score: 3521.02
Early stopping at iteration 590, Best Score: 3476.45
Early stopping at iteration 552, Best Score: 3453.13
Early stopping at iteration 557, Best Score: 3477.34
Early stopping at iteration 588, Best Score: 3498.47
Early stopping at iteration 558, Best Score: 3483.61
Early stopping at iteration 558, Best Score: 3463.73
Early stopping at iteration 524, Best Score: 3445.33
Early stopping at iteration 539, Best Score: 3450.63
Early stopping at iteration 500, Best Score: 3439.19
Early stopping at iteration 501, Best Score: 3441.98
Early stopping at iteration 564, Best Score: 3464.69
Early stopping at iteration 713, Best Score: 3495.27
Early stopping at iteration 593, Best Score: 3494.83
Early stopping at iteration 646, Best Score: 3496.69
Early stopping at iteration 561, Best Score: 3465.30
Early stopping at iteration 518, Best Score: 3473.15
Early stopping at iteration 657, Best Score: 3499.53
Early stopping at iteration 506, Best Score: 3454.37
Early stopping at iteration 567, Best Score: 3480.46
Early stopping at iteration 653, Best Score: 3506.64
Early stopping at iteration 535, Best Score: 3450.30
Early stopping at iteration 520, Best Score: 3446.96
Early stopping at iteration 696, Best Score: 3492.09
```

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Early stopping at iteration 524, Best Score: 3465.72
Early stopping at iteration 730, Best Score: 3504.44
Early stopping at iteration 560, Best Score: 3455.26
Early stopping at iteration 664, Best Score: 3491.64
Early stopping at iteration 621, Best Score: 3492.10
Early stopping at iteration 640, Best Score: 3489.39
Early stopping at iteration 662, Best Score: 3498.37
Early stopping at iteration 525, Best Score: 3442.01
Early stopping at iteration 538, Best Score: 3453.96
Early stopping at iteration 569, Best Score: 3470.15
Early stopping at iteration 523, Best Score: 3463.36
Early stopping at iteration 741, Best Score: 3507.22
Early stopping at iteration 575, Best Score: 3470.47
Early stopping at iteration 711, Best Score: 3502.10
Early stopping at iteration 633, Best Score: 3490.97
Early stopping at iteration 596, Best Score: 3465.66
Early stopping at iteration 722, Best Score: 3510.50
GNN Trial 19 completed with 250 decks.

GNN Trial 20/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 14.0330, Synergy Loss: 2.7329, Total: 19.4988
Epoch 20/300 - Node Loss: 2.9685, Synergy Loss: 2.5596, Total: 8.0877
Epoch 30/300 - Node Loss: 1.7069, Synergy Loss: 2.4310, Total: 6.5689
Epoch 40/300 - Node Loss: 1.1594, Synergy Loss: 2.2868, Total: 5.7331
Epoch 50/300 - Node Loss: 1.0275, Synergy Loss: 2.1406, Total: 5.3088
Epoch 60/300 - Node Loss: 1.0059, Synergy Loss: 1.9863, Total: 4.9786
Epoch 70/300 - Node Loss: 1.0076, Synergy Loss: 1.8293, Total: 4.6661
Epoch 80/300 - Node Loss: 1.0307, Synergy Loss: 1.6282, Total: 4.2870
Epoch 90/300 - Node Loss: 1.0706, Synergy Loss: 1.4169, Total: 3.9043
Epoch 100/300 - Node Loss: 1.1407, Synergy Loss: 1.2028, Total: 3.5463
Epoch 110/300 - Node Loss: 1.2135, Synergy Loss: 0.9993, Total: 3.2121
Epoch 120/300 - Node Loss: 1.2016, Synergy Loss: 0.9277, Total: 3.0569
Epoch 130/300 - Node Loss: 1.1547, Synergy Loss: 0.8760, Total: 2.9067
Epoch 140/300 - Node Loss: 1.1337, Synergy Loss: 0.8144, Total: 2.7625
Epoch 150/300 - Node Loss: 1.1650, Synergy Loss: 0.7616, Total: 2.6883
Epoch 160/300 - Node Loss: 1.0965, Synergy Loss: 0.6715, Total: 2.4394
Epoch 170/300 - Node Loss: 1.1253, Synergy Loss: 0.6658, Total: 2.4569
Epoch 180/300 - Node Loss: 1.1650, Synergy Loss: 0.6210, Total: 2.4070
Epoch 190/300 - Node Loss: 1.1370, Synergy Loss: 0.6223, Total: 2.3816
Epoch 200/300 - Node Loss: 1.1111, Synergy Loss: 0.5426, Total: 2.1964
Epoch 210/300 - Node Loss: 1.1364, Synergy Loss: 0.5368, Total: 2.2101
Epoch 220/300 - Node Loss: 1.1032, Synergy Loss: 0.5811, Total: 2.2654
Epoch 230/300 - Node Loss: 1.1228, Synergy Loss: 0.5372, Total: 2.1972
Epoch 240/300 - Node Loss: 1.0973, Synergy Loss: 0.5393, Total: 2.1758
Epoch 250/300 - Node Loss: 1.1365, Synergy Loss: 0.8435, Total: 2.8234
Early stopping at epoch 259
Existing model archived to: 20250310_121534_gnn_model_ST02-001.pth
Model saved to: models\gnn_model_ST02-001.pth
Early stopping at iteration 774, Best Score: 2866.33
Early stopping at iteration 631, Best Score: 2864.86
Early stopping at iteration 612, Best Score: 2857.62
Early stopping at iteration 651, Best Score: 2852.99
Early stopping at iteration 632, Best Score: 2855.11
Early stopping at iteration 716, Best Score: 2854.78
Early stopping at iteration 579, Best Score: 2831.31
Early stopping at iteration 625, Best Score: 2851.45
Early stopping at iteration 576, Best Score: 2853.55
Early stopping at iteration 615, Best Score: 2861.05
Early stopping at iteration 568, Best Score: 2856.98
```

```
Early stopping at iteration 557, Best Score: 2863.93
Early stopping at iteration 539, Best Score: 2841.20
Early stopping at iteration 575, Best Score: 2838.64
Early stopping at iteration 601, Best Score: 2855.30
Early stopping at iteration 709, Best Score: 2871.21
Early stopping at iteration 638, Best Score: 2841.56
Early stopping at iteration 598, Best Score: 2844.41
Early stopping at iteration 813, Best Score: 2876.13
Early stopping at iteration 540, Best Score: 2841.31
Early stopping at iteration 557, Best Score: 2847.40
Early stopping at iteration 577, Best Score: 2862.08
Early stopping at iteration 619, Best Score: 2850.96
Early stopping at iteration 793, Best Score: 2869.21
Early stopping at iteration 546, Best Score: 2845.34
Early stopping at iteration 549, Best Score: 2843.46
Early stopping at iteration 619, Best Score: 2851.20
Early stopping at iteration 520, Best Score: 2825.23
Early stopping at iteration 556, Best Score: 2840.86
Early stopping at iteration 583, Best Score: 2832.87
Early stopping at iteration 646, Best Score: 2862.09
Early stopping at iteration 586, Best Score: 2848.86
Early stopping at iteration 710, Best Score: 2864.03
Early stopping at iteration 717, Best Score: 2871.08
Early stopping at iteration 820, Best Score: 2851.63
Early stopping at iteration 579, Best Score: 2850.06
Early stopping at iteration 520, Best Score: 2834.56
Early stopping at iteration 788, Best Score: 2859.36
Early stopping at iteration 678, Best Score: 2855.99
Early stopping at iteration 510, Best Score: 2824.59
Early stopping at iteration 629, Best Score: 2863.84
Early stopping at iteration 603, Best Score: 2862.52
Early stopping at iteration 681, Best Score: 2864.59
Early stopping at iteration 526, Best Score: 2839.20
Early stopping at iteration 661, Best Score: 2863.14
Early stopping at iteration 799, Best Score: 2871.72
Early stopping at iteration 781, Best Score: 2852.82
Early stopping at iteration 550, Best Score: 2837.28
Early stopping at iteration 873, Best Score: 2854.61
Early stopping at iteration 686, Best Score: 2863.88
Early stopping at iteration 501, Best Score: 2820.97
Early stopping at iteration 599, Best Score: 2861.48
Early stopping at iteration 596, Best Score: 2856.64
Early stopping at iteration 515, Best Score: 2840.54
Early stopping at iteration 653, Best Score: 2861.82
Early stopping at iteration 655, Best Score: 2856.97
Early stopping at iteration 511, Best Score: 2837.79
Early stopping at iteration 516, Best Score: 2832.56
Early stopping at iteration 661, Best Score: 2851.34
Early stopping at iteration 640, Best Score: 2850.72
Early stopping at iteration 569, Best Score: 2847.47
Early stopping at iteration 575, Best Score: 2852.99
Early stopping at iteration 735, Best Score: 2867.63
Early stopping at iteration 767, Best Score: 2866.09
Early stopping at iteration 617, Best Score: 2845.53
Early stopping at iteration 609, Best Score: 2850.34
Early stopping at iteration 560, Best Score: 2836.51
Early stopping at iteration 531, Best Score: 2826.66
Early stopping at iteration 537, Best Score: 2852.77
Early stopping at iteration 625, Best Score: 2862.07
Early stopping at iteration 610, Best Score: 2836.78
```

```
Early stopping at iteration 521, Best Score: 2829.00
Early stopping at iteration 605, Best Score: 2853.51
Early stopping at iteration 545, Best Score: 2853.31
Early stopping at iteration 502, Best Score: 2820.97
Early stopping at iteration 570, Best Score: 2846.47
Early stopping at iteration 547, Best Score: 2836.29
Early stopping at iteration 569, Best Score: 2845.74
Early stopping at iteration 607, Best Score: 2860.33
Early stopping at iteration 812, Best Score: 2858.55
Early stopping at iteration 568, Best Score: 2847.41
Early stopping at iteration 636, Best Score: 2863.02
Early stopping at iteration 855, Best Score: 2872.95
Early stopping at iteration 537, Best Score: 2833.62
Early stopping at iteration 695, Best Score: 2862.62
Early stopping at iteration 507, Best Score: 2820.97
Early stopping at iteration 704, Best Score: 2870.77
Early stopping at iteration 524, Best Score: 2832.32
Early stopping at iteration 663, Best Score: 2867.39
Early stopping at iteration 540, Best Score: 2839.26
Early stopping at iteration 968, Best Score: 2870.83
Early stopping at iteration 684, Best Score: 2854.32
Early stopping at iteration 572, Best Score: 2835.37
Early stopping at iteration 670, Best Score: 2867.53
Early stopping at iteration 557, Best Score: 2830.50
Early stopping at iteration 638, Best Score: 2876.13
Early stopping at iteration 731, Best Score: 2874.12
Early stopping at iteration 565, Best Score: 2849.29
Early stopping at iteration 615, Best Score: 2855.92
  Deck Trial 100/250
Early stopping at iteration 636, Best Score: 2863.15
Early stopping at iteration 568, Best Score: 2846.50
Early stopping at iteration 653, Best Score: 2860.64
Early stopping at iteration 581, Best Score: 2844.63
Early stopping at iteration 504, Best Score: 2820.97
Early stopping at iteration 530, Best Score: 2839.37
Early stopping at iteration 524, Best Score: 2837.29
Early stopping at iteration 625, Best Score: 2858.45
Early stopping at iteration 916, Best Score: 2852.49
Early stopping at iteration 530, Best Score: 2833.89
Early stopping at iteration 757, Best Score: 2868.33
Early stopping at iteration 1107, Best Score: 2846.33
Early stopping at iteration 791, Best Score: 2859.54
Early stopping at iteration 527, Best Score: 2838.19
Early stopping at iteration 700, Best Score: 2869.28
Early stopping at iteration 780, Best Score: 2873.14
Early stopping at iteration 730, Best Score: 2847.65
Early stopping at iteration 1088, Best Score: 2874.92
Early stopping at iteration 580, Best Score: 2843.83
Early stopping at iteration 637, Best Score: 2856.41
Early stopping at iteration 547, Best Score: 2831.58
Early stopping at iteration 623, Best Score: 2853.59
Early stopping at iteration 571, Best Score: 2845.61
Early stopping at iteration 630, Best Score: 2844.20
Early stopping at iteration 637, Best Score: 2850.44
Early stopping at iteration 578, Best Score: 2856.93
Early stopping at iteration 686, Best Score: 2860.42
Early stopping at iteration 619, Best Score: 2843.28
Early stopping at iteration 517, Best Score: 2827.85
Early stopping at iteration 691, Best Score: 2855.70
Early stopping at iteration 582, Best Score: 2860.25
```

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Early stopping at iteration 773, Best Score: 2863.54
Early stopping at iteration 611, Best Score: 2856.87
Early stopping at iteration 630, Best Score: 2863.79
Early stopping at iteration 517, Best Score: 2829.11
Early stopping at iteration 580, Best Score: 2848.09
Early stopping at iteration 552, Best Score: 2848.52
Early stopping at iteration 555, Best Score: 2837.54
Early stopping at iteration 648, Best Score: 2863.33
Early stopping at iteration 534, Best Score: 2841.97
Early stopping at iteration 577, Best Score: 2853.98
Early stopping at iteration 508, Best Score: 2827.85
Early stopping at iteration 612, Best Score: 2856.29
Early stopping at iteration 742, Best Score: 2874.36
Early stopping at iteration 664, Best Score: 2868.15
Early stopping at iteration 570, Best Score: 2850.99
Early stopping at iteration 664, Best Score: 2853.78
Early stopping at iteration 503, Best Score: 2820.97
Early stopping at iteration 545, Best Score: 2841.24
Early stopping at iteration 622, Best Score: 2844.12
Early stopping at iteration 502, Best Score: 2820.97
Early stopping at iteration 512, Best Score: 2821.02
Early stopping at iteration 575, Best Score: 2840.96
Early stopping at iteration 580, Best Score: 2839.88
Early stopping at iteration 550, Best Score: 2843.04
Early stopping at iteration 673, Best Score: 2859.72
Early stopping at iteration 707, Best Score: 2855.80
Early stopping at iteration 537, Best Score: 2839.87
Early stopping at iteration 588, Best Score: 2854.56
Early stopping at iteration 697, Best Score: 2855.11
Early stopping at iteration 641, Best Score: 2854.92
Early stopping at iteration 644, Best Score: 2863.77
Early stopping at iteration 588, Best Score: 2857.05
Early stopping at iteration 565, Best Score: 2846.06
Early stopping at iteration 553, Best Score: 2856.60
Early stopping at iteration 598, Best Score: 2847.18
Early stopping at iteration 737, Best Score: 2846.54
Early stopping at iteration 746, Best Score: 2863.17
Early stopping at iteration 595, Best Score: 2836.29
Early stopping at iteration 569, Best Score: 2847.57
Early stopping at iteration 683, Best Score: 2843.98
Early stopping at iteration 552, Best Score: 2837.90
Early stopping at iteration 605, Best Score: 2856.23
Early stopping at iteration 551, Best Score: 2848.94
Early stopping at iteration 583, Best Score: 2832.55
Early stopping at iteration 717, Best Score: 2869.73
Early stopping at iteration 575, Best Score: 2857.83
Early stopping at iteration 659, Best Score: 2854.97
Early stopping at iteration 551, Best Score: 2853.62
Early stopping at iteration 503, Best Score: 2820.97
Early stopping at iteration 543, Best Score: 2837.28
Early stopping at iteration 638, Best Score: 2844.19
Early stopping at iteration 523, Best Score: 2822.99
Early stopping at iteration 686, Best Score: 2858.86
Early stopping at iteration 631, Best Score: 2854.46
Early stopping at iteration 705, Best Score: 2860.06
Early stopping at iteration 605, Best Score: 2836.32
Early stopping at iteration 577, Best Score: 2847.44
Early stopping at iteration 705, Best Score: 2853.58
Early stopping at iteration 629, Best Score: 2851.69
Early stopping at iteration 640, Best Score: 2864.28
```

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Early stopping at iteration 610, Best Score: 2845.61
Early stopping at iteration 759, Best Score: 2865.37
Early stopping at iteration 678, Best Score: 2856.06
Early stopping at iteration 587, Best Score: 2850.39
Early stopping at iteration 538, Best Score: 2831.33
Early stopping at iteration 552, Best Score: 2839.15
Early stopping at iteration 596, Best Score: 2856.04
Early stopping at iteration 517, Best Score: 2822.74
Early stopping at iteration 526, Best Score: 2831.53
  Deck Trial 200/250
Early stopping at iteration 573, Best Score: 2841.35
Early stopping at iteration 840, Best Score: 2875.01
Early stopping at iteration 618, Best Score: 2847.61
Early stopping at iteration 605, Best Score: 2859.36
Early stopping at iteration 671, Best Score: 2859.76
Early stopping at iteration 646, Best Score: 2839.62
Early stopping at iteration 546, Best Score: 2825.83
Early stopping at iteration 635, Best Score: 2851.47
Early stopping at iteration 682, Best Score: 2861.20
Early stopping at iteration 545, Best Score: 2836.62
Early stopping at iteration 638, Best Score: 2865.48
Early stopping at iteration 733, Best Score: 2863.31
Early stopping at iteration 589, Best Score: 2855.14
Early stopping at iteration 551, Best Score: 2835.52
Early stopping at iteration 554, Best Score: 2840.89
Early stopping at iteration 827, Best Score: 2869.88
Early stopping at iteration 563, Best Score: 2840.35
Early stopping at iteration 600, Best Score: 2843.46
Early stopping at iteration 516, Best Score: 2840.27
Early stopping at iteration 523, Best Score: 2842.11
Early stopping at iteration 515, Best Score: 2831.17
Early stopping at iteration 555, Best Score: 2844.13
Early stopping at iteration 886, Best Score: 2879.98
Early stopping at iteration 512, Best Score: 2828.87
Early stopping at iteration 552, Best Score: 2844.61
Early stopping at iteration 529, Best Score: 2844.48
Early stopping at iteration 578, Best Score: 2851.43
Early stopping at iteration 755, Best Score: 2862.73
Early stopping at iteration 593, Best Score: 2834.82
Early stopping at iteration 613, Best Score: 2857.83
Early stopping at iteration 538, Best Score: 2839.97
Early stopping at iteration 536, Best Score: 2838.96
Early stopping at iteration 668, Best Score: 2849.50
Early stopping at iteration 530, Best Score: 2832.81
Early stopping at iteration 648, Best Score: 2835.02
Early stopping at iteration 616, Best Score: 2853.45
Early stopping at iteration 666, Best Score: 2856.85
Early stopping at iteration 523, Best Score: 2831.87
Early stopping at iteration 564, Best Score: 2843.34
Early stopping at iteration 602, Best Score: 2843.56
Early stopping at iteration 517, Best Score: 2824.70
Early stopping at iteration 705, Best Score: 2870.81
Early stopping at iteration 554, Best Score: 2840.85
Early stopping at iteration 620, Best Score: 2868.77
Early stopping at iteration 642, Best Score: 2852.16
Early stopping at iteration 597, Best Score: 2861.61
Early stopping at iteration 522, Best Score: 2836.00
Early stopping at iteration 573, Best Score: 2843.34
Early stopping at iteration 546, Best Score: 2862.16
Early stopping at iteration 621, Best Score: 2848.34
```

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Early stopping at iteration 583, Best Score: 2842.67
GNN Trial 20 completed with 250 decks.
Evaluations for ST02-001 completed. Results saved in evaluations\ST02-001

=== Evaluating Leader: ST13-003 (Monkey.D.Luffy) ===

GNN Trial 1/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 33.1530, Synergy Loss: 2.5219, Total: 38.1968
Epoch 20/300 - Node Loss: 4.9695, Synergy Loss: 2.3770, Total: 9.7236
Epoch 30/300 - Node Loss: 1.9617, Synergy Loss: 2.3976, Total: 6.7568
Epoch 40/300 - Node Loss: 1.1327, Synergy Loss: 2.2583, Total: 5.6492
Epoch 50/300 - Node Loss: 1.0339, Synergy Loss: 2.1164, Total: 5.2667
Epoch 60/300 - Node Loss: 1.0034, Synergy Loss: 1.9752, Total: 4.9538
Epoch 70/300 - Node Loss: 1.0031, Synergy Loss: 1.8385, Total: 4.6801
Epoch 80/300 - Node Loss: 1.0091, Synergy Loss: 1.7027, Total: 4.4145
Epoch 90/300 - Node Loss: 1.0029, Synergy Loss: 1.6034, Total: 4.2097
Epoch 100/300 - Node Loss: 1.0026, Synergy Loss: 1.5836, Total: 4.1698
Epoch 110/300 - Node Loss: 1.0015, Synergy Loss: 1.5566, Total: 4.1146
Epoch 120/300 - Node Loss: 1.0005, Synergy Loss: 1.5350, Total: 4.0705
Epoch 130/300 - Node Loss: 0.9979, Synergy Loss: 1.4860, Total: 3.9699
Epoch 140/300 - Node Loss: 1.0056, Synergy Loss: 1.3804, Total: 3.7664
Epoch 150/300 - Node Loss: 1.0032, Synergy Loss: 1.2742, Total: 3.5516
Epoch 160/300 - Node Loss: 1.0137, Synergy Loss: 1.1402, Total: 3.2941
Epoch 170/300 - Node Loss: 1.0566, Synergy Loss: 1.0101, Total: 3.0768
Epoch 180/300 - Node Loss: 1.0403, Synergy Loss: 0.9332, Total: 2.9067
Epoch 190/300 - Node Loss: 1.0588, Synergy Loss: 0.8802, Total: 2.8192
Epoch 200/300 - Node Loss: 1.0700, Synergy Loss: 0.8593, Total: 2.7886
Epoch 210/300 - Node Loss: 1.0476, Synergy Loss: 0.7455, Total: 2.5387
Epoch 220/300 - Node Loss: 1.0220, Synergy Loss: 0.6722, Total: 2.3664
Epoch 230/300 - Node Loss: 1.0076, Synergy Loss: 0.6327, Total: 2.2729
Epoch 240/300 - Node Loss: 1.0131, Synergy Loss: 0.5520, Total: 2.1172
Epoch 250/300 - Node Loss: 1.0048, Synergy Loss: 0.5728, Total: 2.1504
Epoch 260/300 - Node Loss: 1.0032, Synergy Loss: 0.5249, Total: 2.0529
Epoch 270/300 - Node Loss: 1.0067, Synergy Loss: 0.4738, Total: 1.9543
Epoch 280/300 - Node Loss: 1.0274, Synergy Loss: 0.4255, Total: 1.8785
Epoch 290/300 - Node Loss: 0.9985, Synergy Loss: 0.4431, Total: 1.8847
Epoch 300/300 - Node Loss: 0.9911, Synergy Loss: 0.4195, Total: 1.8301
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 511, Best Score: 3907.68
Early stopping at iteration 722, Best Score: 3957.17
Early stopping at iteration 537, Best Score: 3920.87
Early stopping at iteration 623, Best Score: 3942.41
Early stopping at iteration 501, Best Score: 3894.32
Early stopping at iteration 528, Best Score: 3906.28
Early stopping at iteration 517, Best Score: 3906.29
Early stopping at iteration 547, Best Score: 3930.68
Early stopping at iteration 715, Best Score: 3924.25
Early stopping at iteration 790, Best Score: 3966.19
Early stopping at iteration 653, Best Score: 3916.37
Early stopping at iteration 757, Best Score: 3955.19
Early stopping at iteration 513, Best Score: 3909.35
Early stopping at iteration 555, Best Score: 3921.29
Early stopping at iteration 620, Best Score: 3905.34
Early stopping at iteration 503, Best Score: 3894.32
Early stopping at iteration 627, Best Score: 3936.57
Early stopping at iteration 627, Best Score: 3940.04
Early stopping at iteration 507, Best Score: 3906.28
Early stopping at iteration 528, Best Score: 3928.34
Early stopping at iteration 602, Best Score: 3907.21
```

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Early stopping at iteration 543, Best Score: 3921.31
Early stopping at iteration 634, Best Score: 3936.30
Early stopping at iteration 538, Best Score: 3923.17
Early stopping at iteration 541, Best Score: 3932.32
Early stopping at iteration 710, Best Score: 3905.35
Early stopping at iteration 658, Best Score: 3944.29
Early stopping at iteration 755, Best Score: 3963.16
Early stopping at iteration 653, Best Score: 3962.34
Early stopping at iteration 521, Best Score: 3903.23
Early stopping at iteration 605, Best Score: 3935.91
Early stopping at iteration 573, Best Score: 3932.20
Early stopping at iteration 621, Best Score: 3935.37
Early stopping at iteration 639, Best Score: 3940.28
Early stopping at iteration 624, Best Score: 3943.09
Early stopping at iteration 571, Best Score: 3943.95
Early stopping at iteration 668, Best Score: 3969.14
Early stopping at iteration 611, Best Score: 3939.35
Early stopping at iteration 536, Best Score: 3910.39
Early stopping at iteration 660, Best Score: 3963.80
Early stopping at iteration 664, Best Score: 3950.13
Early stopping at iteration 504, Best Score: 3894.32
Early stopping at iteration 513, Best Score: 3916.38
Early stopping at iteration 547, Best Score: 3924.25
Early stopping at iteration 602, Best Score: 3954.10
Early stopping at iteration 574, Best Score: 3927.39
Early stopping at iteration 653, Best Score: 3908.15
Early stopping at iteration 652, Best Score: 3940.41
Early stopping at iteration 523, Best Score: 3905.34
Early stopping at iteration 515, Best Score: 3912.28
Early stopping at iteration 814, Best Score: 3978.17
Early stopping at iteration 533, Best Score: 3909.33
Early stopping at iteration 658, Best Score: 3936.06
Early stopping at iteration 559, Best Score: 3925.28
Early stopping at iteration 627, Best Score: 3940.30
Early stopping at iteration 531, Best Score: 3894.32
Early stopping at iteration 590, Best Score: 3939.25
Early stopping at iteration 758, Best Score: 3955.04
Early stopping at iteration 662, Best Score: 3950.55
Early stopping at iteration 599, Best Score: 3919.40
Early stopping at iteration 553, Best Score: 3923.31
Early stopping at iteration 548, Best Score: 3922.98
Early stopping at iteration 533, Best Score: 3913.32
Early stopping at iteration 537, Best Score: 3933.25
Early stopping at iteration 684, Best Score: 3985.99
Early stopping at iteration 502, Best Score: 3894.32
Early stopping at iteration 546, Best Score: 3923.69
Early stopping at iteration 685, Best Score: 3954.25
Early stopping at iteration 567, Best Score: 3910.27
Early stopping at iteration 694, Best Score: 3932.06
Early stopping at iteration 611, Best Score: 3947.03
Early stopping at iteration 944, Best Score: 3984.04
Early stopping at iteration 574, Best Score: 3938.43
Early stopping at iteration 508, Best Score: 3901.36
Early stopping at iteration 744, Best Score: 3951.31
Early stopping at iteration 698, Best Score: 3948.26
Early stopping at iteration 565, Best Score: 3932.33
Early stopping at iteration 516, Best Score: 3915.43
Early stopping at iteration 501, Best Score: 3894.32
Early stopping at iteration 543, Best Score: 3924.25
Early stopping at iteration 654, Best Score: 3919.31
```

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Early stopping at iteration 758, Best Score: 3984.12
Early stopping at iteration 667, Best Score: 3973.82
Early stopping at iteration 503, Best Score: 3894.32
Early stopping at iteration 665, Best Score: 3944.42
Early stopping at iteration 507, Best Score: 3901.60
Early stopping at iteration 542, Best Score: 3914.38
Early stopping at iteration 605, Best Score: 3933.12
Early stopping at iteration 795, Best Score: 3936.30
Early stopping at iteration 673, Best Score: 3947.32
Early stopping at iteration 555, Best Score: 3918.25
Early stopping at iteration 601, Best Score: 3918.24
Early stopping at iteration 941, Best Score: 3956.13
Early stopping at iteration 501, Best Score: 3894.32
Early stopping at iteration 577, Best Score: 3944.92
Early stopping at iteration 504, Best Score: 3901.36
Early stopping at iteration 636, Best Score: 3918.25
Early stopping at iteration 723, Best Score: 3978.02
Early stopping at iteration 576, Best Score: 3906.29
  Deck Trial 100/250
Early stopping at iteration 563, Best Score: 3944.26
Early stopping at iteration 830, Best Score: 3973.10
Early stopping at iteration 939, Best Score: 3948.27
Early stopping at iteration 501, Best Score: 3894.32
Early stopping at iteration 577, Best Score: 3911.20
Early stopping at iteration 523, Best Score: 3907.22
Early stopping at iteration 510, Best Score: 3905.35
Early stopping at iteration 537, Best Score: 3906.29
Early stopping at iteration 506, Best Score: 3901.36
Early stopping at iteration 537, Best Score: 3901.36
Early stopping at iteration 614, Best Score: 3923.41
Early stopping at iteration 504, Best Score: 3894.32
Early stopping at iteration 804, Best Score: 3966.11
Early stopping at iteration 526, Best Score: 3907.11
Early stopping at iteration 703, Best Score: 3933.24
Early stopping at iteration 523, Best Score: 3905.34
Early stopping at iteration 809, Best Score: 3974.04
Early stopping at iteration 746, Best Score: 3966.10
Early stopping at iteration 537, Best Score: 3909.33
Early stopping at iteration 502, Best Score: 3894.32
Early stopping at iteration 612, Best Score: 3933.38
Early stopping at iteration 673, Best Score: 3963.80
Early stopping at iteration 550, Best Score: 3906.28
Early stopping at iteration 501, Best Score: 3894.32
Early stopping at iteration 611, Best Score: 3923.16
Early stopping at iteration 634, Best Score: 3971.36
Early stopping at iteration 513, Best Score: 3904.15
Early stopping at iteration 713, Best Score: 3959.18
Early stopping at iteration 559, Best Score: 3930.21
Early stopping at iteration 619, Best Score: 3941.22
Early stopping at iteration 551, Best Score: 3907.44
Early stopping at iteration 592, Best Score: 3940.31
Early stopping at iteration 642, Best Score: 3938.69
Early stopping at iteration 502, Best Score: 3894.32
Early stopping at iteration 621, Best Score: 3943.35
Early stopping at iteration 950, Best Score: 3936.32
Early stopping at iteration 593, Best Score: 3942.41
Early stopping at iteration 509, Best Score: 3894.32
Early stopping at iteration 621, Best Score: 3901.36
Early stopping at iteration 583, Best Score: 3947.34
Early stopping at iteration 550, Best Score: 3914.26
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Early stopping at iteration 540, Best Score: 3914.25
Early stopping at iteration 647, Best Score: 3960.23
Early stopping at iteration 500, Best Score: 3891.27
Early stopping at iteration 575, Best Score: 3957.17
Early stopping at iteration 602, Best Score: 3944.18
Early stopping at iteration 663, Best Score: 3951.53
Early stopping at iteration 559, Best Score: 3927.15
Early stopping at iteration 548, Best Score: 3930.34
Early stopping at iteration 623, Best Score: 3943.20
Early stopping at iteration 540, Best Score: 3899.47
Early stopping at iteration 564, Best Score: 3924.24
Early stopping at iteration 546, Best Score: 3901.67
Early stopping at iteration 643, Best Score: 3958.36
Early stopping at iteration 501, Best Score: 3894.32
Early stopping at iteration 558, Best Score: 3909.08
Early stopping at iteration 774, Best Score: 3921.29
Early stopping at iteration 643, Best Score: 3906.28
Early stopping at iteration 640, Best Score: 3950.02
Early stopping at iteration 600, Best Score: 3958.35
Early stopping at iteration 615, Best Score: 3921.03
Early stopping at iteration 817, Best Score: 3979.23
Early stopping at iteration 721, Best Score: 3925.82
Early stopping at iteration 593, Best Score: 3942.30
Early stopping at iteration 584, Best Score: 3925.27
Early stopping at iteration 656, Best Score: 3934.19
Early stopping at iteration 603, Best Score: 3938.71
Early stopping at iteration 753, Best Score: 3954.22
Early stopping at iteration 647, Best Score: 3930.22
Early stopping at iteration 620, Best Score: 3965.16
Early stopping at iteration 562, Best Score: 3926.44
Early stopping at iteration 588, Best Score: 3924.35
Early stopping at iteration 711, Best Score: 3958.35
Early stopping at iteration 517, Best Score: 3905.35
Early stopping at iteration 631, Best Score: 3944.17
Early stopping at iteration 579, Best Score: 3940.81
Early stopping at iteration 524, Best Score: 3905.90
Early stopping at iteration 504, Best Score: 3894.32
Early stopping at iteration 607, Best Score: 3958.12
Early stopping at iteration 512, Best Score: 3905.35
Early stopping at iteration 660, Best Score: 3954.25
Early stopping at iteration 567, Best Score: 3918.25
Early stopping at iteration 740, Best Score: 3956.36
Early stopping at iteration 528, Best Score: 3913.32
Early stopping at iteration 567, Best Score: 3906.28
Early stopping at iteration 510, Best Score: 3901.36
Early stopping at iteration 604, Best Score: 3961.41
Early stopping at iteration 650, Best Score: 3938.16
Early stopping at iteration 638, Best Score: 3928.33
Early stopping at iteration 527, Best Score: 3913.32
Early stopping at iteration 509, Best Score: 3905.35
Early stopping at iteration 640, Best Score: 3970.97
Early stopping at iteration 589, Best Score: 3921.29
Early stopping at iteration 624, Best Score: 3933.25
Early stopping at iteration 552, Best Score: 3927.39
Early stopping at iteration 667, Best Score: 3947.33
Early stopping at iteration 514, Best Score: 3894.32
Early stopping at iteration 619, Best Score: 3961.83
Early stopping at iteration 561, Best Score: 3934.82
Early stopping at iteration 562, Best Score: 3928.33
  Deck Trial 200/250
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Early stopping at iteration 501, Best Score: 3894.32
Early stopping at iteration 521, Best Score: 3916.26
Early stopping at iteration 589, Best Score: 3920.37
Early stopping at iteration 593, Best Score: 3942.30
Early stopping at iteration 590, Best Score: 3914.25
Early stopping at iteration 645, Best Score: 3949.46
Early stopping at iteration 606, Best Score: 3936.29
Early stopping at iteration 672, Best Score: 3921.85
Early stopping at iteration 514, Best Score: 3901.36
Early stopping at iteration 504, Best Score: 3894.32
Early stopping at iteration 681, Best Score: 3960.10
Early stopping at iteration 531, Best Score: 3928.34
Early stopping at iteration 641, Best Score: 3941.15
Early stopping at iteration 670, Best Score: 3944.28
Early stopping at iteration 506, Best Score: 3894.32
Early stopping at iteration 578, Best Score: 3917.32
Early stopping at iteration 561, Best Score: 3917.30
Early stopping at iteration 561, Best Score: 3923.40
Early stopping at iteration 993, Best Score: 3978.85
Early stopping at iteration 528, Best Score: 3923.41
Early stopping at iteration 644, Best Score: 3938.17
Early stopping at iteration 700, Best Score: 3968.20
Early stopping at iteration 604, Best Score: 3957.42
Early stopping at iteration 521, Best Score: 3894.32
Early stopping at iteration 584, Best Score: 3941.23
Early stopping at iteration 813, Best Score: 3929.25
Early stopping at iteration 533, Best Score: 3915.19
Early stopping at iteration 505, Best Score: 3894.32
Early stopping at iteration 517, Best Score: 3906.28
Early stopping at iteration 582, Best Score: 3949.46
Early stopping at iteration 627, Best Score: 3923.86
Early stopping at iteration 505, Best Score: 3901.36
Early stopping at iteration 766, Best Score: 3994.91
Early stopping at iteration 959, Best Score: 3964.19
Early stopping at iteration 899, Best Score: 3969.37
Early stopping at iteration 617, Best Score: 3923.16
Early stopping at iteration 636, Best Score: 3947.32
Early stopping at iteration 503, Best Score: 3894.32
Early stopping at iteration 502, Best Score: 3894.32
Early stopping at iteration 521, Best Score: 3925.41
Early stopping at iteration 620, Best Score: 3933.25
Early stopping at iteration 656, Best Score: 3963.71
Early stopping at iteration 501, Best Score: 3894.32
Early stopping at iteration 540, Best Score: 3923.71
Early stopping at iteration 513, Best Score: 3915.33
Early stopping at iteration 588, Best Score: 3894.32
Early stopping at iteration 574, Best Score: 3909.35
Early stopping at iteration 648, Best Score: 3934.43
Early stopping at iteration 563, Best Score: 3912.28
Early stopping at iteration 503, Best Score: 3894.32
Early stopping at iteration 527, Best Score: 3906.28
GNN Trial 1 completed with 250 decks.

GNN Trial 2/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 39.5038, Synergy Loss: 2.1467, Total: 43.7973
Epoch 20/300 - Node Loss: 3.8282, Synergy Loss: 2.0799, Total: 7.9880
Epoch 30/300 - Node Loss: 1.1890, Synergy Loss: 1.9835, Total: 5.1560
Epoch 40/300 - Node Loss: 1.0161, Synergy Loss: 1.9037, Total: 4.8235
Epoch 50/300 - Node Loss: 1.0147, Synergy Loss: 1.8304, Total: 4.6755
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Epoch 60/300 - Node Loss: 1.0020, Synergy Loss: 1.7648, Total: 4.5316
Epoch 70/300 - Node Loss: 1.0016, Synergy Loss: 1.7083, Total: 4.4182
Epoch 80/300 - Node Loss: 1.0017, Synergy Loss: 1.6608, Total: 4.3232
Epoch 90/300 - Node Loss: 1.0015, Synergy Loss: 1.6223, Total: 4.2462
Epoch 100/300 - Node Loss: 1.0016, Synergy Loss: 1.5922, Total: 4.1861
Epoch 110/300 - Node Loss: 1.0021, Synergy Loss: 1.5700, Total: 4.1421
Epoch 120/300 - Node Loss: 1.0040, Synergy Loss: 1.5546, Total: 4.1133
Epoch 130/300 - Node Loss: 1.0044, Synergy Loss: 1.5455, Total: 4.0954
Epoch 140/300 - Node Loss: 1.0022, Synergy Loss: 1.5411, Total: 4.0843
Epoch 150/300 - Node Loss: 1.0012, Synergy Loss: 1.5400, Total: 4.0812
Epoch 160/300 - Node Loss: 1.0011, Synergy Loss: 1.5389, Total: 4.0790
Epoch 170/300 - Node Loss: 1.0008, Synergy Loss: 1.5358, Total: 4.0724
Epoch 180/300 - Node Loss: 1.0106, Synergy Loss: 1.5150, Total: 4.0406
Epoch 190/300 - Node Loss: 1.0455, Synergy Loss: 1.4730, Total: 3.9915
Epoch 200/300 - Node Loss: 1.0432, Synergy Loss: 1.4314, Total: 3.9061
Epoch 210/300 - Node Loss: 1.0576, Synergy Loss: 1.3640, Total: 3.7857
Epoch 220/300 - Node Loss: 1.0662, Synergy Loss: 1.2923, Total: 3.6508
Epoch 230/300 - Node Loss: 1.2281, Synergy Loss: 1.2052, Total: 3.6386
Epoch 240/300 - Node Loss: 1.0529, Synergy Loss: 1.2286, Total: 3.5102
Epoch 250/300 - Node Loss: 1.0912, Synergy Loss: 1.1625, Total: 3.4161
Epoch 260/300 - Node Loss: 1.1143, Synergy Loss: 1.1267, Total: 3.3677
Epoch 270/300 - Node Loss: 1.1795, Synergy Loss: 1.0397, Total: 3.2589
Epoch 280/300 - Node Loss: 1.2360, Synergy Loss: 1.0071, Total: 3.2502
Epoch 290/300 - Node Loss: 1.2647, Synergy Loss: 0.9417, Total: 3.1481
Epoch 300/300 - Node Loss: 1.2737, Synergy Loss: 0.9110, Total: 3.0956
Existing model archived to: 20250310_124906_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 538, Best Score: 2077.68
Early stopping at iteration 692, Best Score: 2110.34
Early stopping at iteration 611, Best Score: 2077.91
Early stopping at iteration 573, Best Score: 2080.90
Early stopping at iteration 582, Best Score: 2085.79
Early stopping at iteration 733, Best Score: 2091.67
Early stopping at iteration 542, Best Score: 2079.49
Early stopping at iteration 568, Best Score: 2075.04
Early stopping at iteration 561, Best Score: 2080.18
Early stopping at iteration 604, Best Score: 2092.29
Early stopping at iteration 591, Best Score: 2091.33
Early stopping at iteration 564, Best Score: 2085.24
Early stopping at iteration 606, Best Score: 2099.54
Early stopping at iteration 684, Best Score: 2093.34
Early stopping at iteration 742, Best Score: 2077.87
Early stopping at iteration 646, Best Score: 2087.19
Early stopping at iteration 832, Best Score: 2076.32
Early stopping at iteration 547, Best Score: 2075.23
Early stopping at iteration 544, Best Score: 2078.63
Early stopping at iteration 693, Best Score: 2097.54
Early stopping at iteration 534, Best Score: 2075.91
Early stopping at iteration 563, Best Score: 2090.47
Early stopping at iteration 543, Best Score: 2075.48
Early stopping at iteration 671, Best Score: 2086.06
Early stopping at iteration 558, Best Score: 2090.89
Early stopping at iteration 843, Best Score: 2096.01
Early stopping at iteration 898, Best Score: 2089.76
Early stopping at iteration 520, Best Score: 2074.47
Early stopping at iteration 541, Best Score: 2072.60
Early stopping at iteration 550, Best Score: 2080.83
Early stopping at iteration 666, Best Score: 2089.46
Early stopping at iteration 559, Best Score: 2088.67
Early stopping at iteration 656, Best Score: 2091.41
```

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Early stopping at iteration 564, Best Score: 2082.53
Early stopping at iteration 724, Best Score: 2078.89
Early stopping at iteration 610, Best Score: 2095.68
Early stopping at iteration 617, Best Score: 2087.68
Early stopping at iteration 641, Best Score: 2083.97
Early stopping at iteration 698, Best Score: 2085.67
Early stopping at iteration 580, Best Score: 2087.40
Early stopping at iteration 558, Best Score: 2077.76
Early stopping at iteration 526, Best Score: 2076.10
Early stopping at iteration 560, Best Score: 2078.98
Early stopping at iteration 567, Best Score: 2083.26
Early stopping at iteration 587, Best Score: 2086.73
Early stopping at iteration 595, Best Score: 2075.56
Early stopping at iteration 564, Best Score: 2083.23
Early stopping at iteration 551, Best Score: 2079.51
Early stopping at iteration 541, Best Score: 2079.67
Early stopping at iteration 669, Best Score: 2084.46
Early stopping at iteration 598, Best Score: 2088.41
Early stopping at iteration 726, Best Score: 2088.84
Early stopping at iteration 570, Best Score: 2082.15
Early stopping at iteration 563, Best Score: 2080.55
Early stopping at iteration 585, Best Score: 2083.02
Early stopping at iteration 683, Best Score: 2087.42
Early stopping at iteration 536, Best Score: 2074.07
Early stopping at iteration 666, Best Score: 2086.59
Early stopping at iteration 556, Best Score: 2076.15
Early stopping at iteration 587, Best Score: 2084.34
Early stopping at iteration 640, Best Score: 2091.22
Early stopping at iteration 564, Best Score: 2073.23
Early stopping at iteration 570, Best Score: 2090.01
Early stopping at iteration 567, Best Score: 2083.75
Early stopping at iteration 689, Best Score: 2092.62
Early stopping at iteration 537, Best Score: 2091.08
Early stopping at iteration 659, Best Score: 2071.73
Early stopping at iteration 585, Best Score: 2082.67
Early stopping at iteration 537, Best Score: 2075.31
Early stopping at iteration 726, Best Score: 2087.55
Early stopping at iteration 577, Best Score: 2074.38
Early stopping at iteration 566, Best Score: 2077.50
Early stopping at iteration 599, Best Score: 2090.56
Early stopping at iteration 829, Best Score: 2094.95
Early stopping at iteration 608, Best Score: 2086.81
Early stopping at iteration 557, Best Score: 2084.10
Early stopping at iteration 707, Best Score: 2096.90
Early stopping at iteration 571, Best Score: 2092.47
Early stopping at iteration 623, Best Score: 2084.87
Early stopping at iteration 575, Best Score: 2079.55
Early stopping at iteration 518, Best Score: 2077.42
Early stopping at iteration 632, Best Score: 2093.49
Early stopping at iteration 703, Best Score: 2094.38
Early stopping at iteration 623, Best Score: 2091.79
Early stopping at iteration 672, Best Score: 2101.54
Early stopping at iteration 624, Best Score: 2080.09
Early stopping at iteration 630, Best Score: 2099.92
Early stopping at iteration 597, Best Score: 2085.29
Early stopping at iteration 730, Best Score: 2085.57
Early stopping at iteration 711, Best Score: 2090.39
Early stopping at iteration 711, Best Score: 2081.84
Early stopping at iteration 541, Best Score: 2082.77
Early stopping at iteration 563, Best Score: 2088.08
```

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Early stopping at iteration 551, Best Score: 2083.72
Early stopping at iteration 674, Best Score: 2084.99
Early stopping at iteration 635, Best Score: 2096.53
Early stopping at iteration 658, Best Score: 2094.53
Early stopping at iteration 632, Best Score: 2093.30
Early stopping at iteration 578, Best Score: 2096.10
  Deck Trial 100/250
Early stopping at iteration 622, Best Score: 2082.24
Early stopping at iteration 548, Best Score: 2082.72
Early stopping at iteration 558, Best Score: 2096.86
Early stopping at iteration 551, Best Score: 2078.85
Early stopping at iteration 642, Best Score: 2084.53
Early stopping at iteration 569, Best Score: 2075.62
Early stopping at iteration 699, Best Score: 2081.07
Early stopping at iteration 536, Best Score: 2075.16
Early stopping at iteration 583, Best Score: 2078.08
Early stopping at iteration 663, Best Score: 2095.67
Early stopping at iteration 703, Best Score: 2087.97
Early stopping at iteration 549, Best Score: 2090.12
Early stopping at iteration 987, Best Score: 2093.97
Early stopping at iteration 549, Best Score: 2077.93
Early stopping at iteration 625, Best Score: 2097.81
Early stopping at iteration 630, Best Score: 2095.24
Early stopping at iteration 654, Best Score: 2080.86
Early stopping at iteration 601, Best Score: 2089.33
Early stopping at iteration 621, Best Score: 2087.65
Early stopping at iteration 563, Best Score: 2080.51
Early stopping at iteration 680, Best Score: 2097.51
Early stopping at iteration 608, Best Score: 2093.91
Early stopping at iteration 964, Best Score: 2094.91
Early stopping at iteration 740, Best Score: 2087.84
Early stopping at iteration 598, Best Score: 2082.25
Early stopping at iteration 676, Best Score: 2098.91
Early stopping at iteration 571, Best Score: 2078.91
Early stopping at iteration 534, Best Score: 2077.56
Early stopping at iteration 662, Best Score: 2089.27
Early stopping at iteration 611, Best Score: 2086.20
Early stopping at iteration 591, Best Score: 2081.67
Early stopping at iteration 652, Best Score: 2098.80
Early stopping at iteration 700, Best Score: 2097.98
Early stopping at iteration 631, Best Score: 2092.99
Early stopping at iteration 578, Best Score: 2081.56
Early stopping at iteration 606, Best Score: 2076.49
Early stopping at iteration 582, Best Score: 2086.01
Early stopping at iteration 580, Best Score: 2083.38
Early stopping at iteration 688, Best Score: 2082.66
Early stopping at iteration 565, Best Score: 2079.53
Early stopping at iteration 637, Best Score: 2083.74
Early stopping at iteration 528, Best Score: 2070.96
Early stopping at iteration 612, Best Score: 2097.09
Early stopping at iteration 531, Best Score: 2079.55
Early stopping at iteration 643, Best Score: 2093.53
Early stopping at iteration 549, Best Score: 2076.81
Early stopping at iteration 590, Best Score: 2086.76
Early stopping at iteration 582, Best Score: 2078.54
Early stopping at iteration 636, Best Score: 2082.59
Early stopping at iteration 578, Best Score: 2080.85
Early stopping at iteration 578, Best Score: 2091.54
Early stopping at iteration 525, Best Score: 2075.89
Early stopping at iteration 690, Best Score: 2094.15
```

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Early stopping at iteration 757, Best Score: 2104.47
Early stopping at iteration 564, Best Score: 2088.33
Early stopping at iteration 696, Best Score: 2095.08
Early stopping at iteration 529, Best Score: 2074.09
Early stopping at iteration 577, Best Score: 2088.57
Early stopping at iteration 618, Best Score: 2079.13
Early stopping at iteration 522, Best Score: 2079.44
Early stopping at iteration 556, Best Score: 2086.85
Early stopping at iteration 759, Best Score: 2087.89
Early stopping at iteration 570, Best Score: 2075.62
Early stopping at iteration 694, Best Score: 2085.29
Early stopping at iteration 789, Best Score: 2084.88
Early stopping at iteration 592, Best Score: 2092.06
Early stopping at iteration 556, Best Score: 2076.31
Early stopping at iteration 725, Best Score: 2092.13
Early stopping at iteration 673, Best Score: 2089.74
Early stopping at iteration 814, Best Score: 2094.17
Early stopping at iteration 751, Best Score: 2093.31
Early stopping at iteration 678, Best Score: 2089.67
Early stopping at iteration 575, Best Score: 2077.33
Early stopping at iteration 746, Best Score: 2094.55
Early stopping at iteration 544, Best Score: 2077.46
Early stopping at iteration 587, Best Score: 2095.39
Early stopping at iteration 645, Best Score: 2083.33
Early stopping at iteration 561, Best Score: 2088.63
Early stopping at iteration 550, Best Score: 2074.99
Early stopping at iteration 533, Best Score: 2083.30
Early stopping at iteration 626, Best Score: 2087.75
Early stopping at iteration 600, Best Score: 2090.14
Early stopping at iteration 571, Best Score: 2083.20
Early stopping at iteration 563, Best Score: 2085.27
Early stopping at iteration 786, Best Score: 2093.51
Early stopping at iteration 742, Best Score: 2084.91
Early stopping at iteration 729, Best Score: 2089.54
Early stopping at iteration 558, Best Score: 2080.34
Early stopping at iteration 629, Best Score: 2081.56
Early stopping at iteration 552, Best Score: 2080.01
Early stopping at iteration 732, Best Score: 2088.09
Early stopping at iteration 569, Best Score: 2087.42
Early stopping at iteration 595, Best Score: 2092.97
Early stopping at iteration 549, Best Score: 2088.73
Early stopping at iteration 669, Best Score: 2084.31
Early stopping at iteration 661, Best Score: 2084.81
Early stopping at iteration 719, Best Score: 2084.74
Early stopping at iteration 624, Best Score: 2085.65
Early stopping at iteration 697, Best Score: 2091.57
Early stopping at iteration 556, Best Score: 2077.24
  Deck Trial 200/250
Early stopping at iteration 636, Best Score: 2092.03
Early stopping at iteration 696, Best Score: 2092.75
Early stopping at iteration 639, Best Score: 2089.78
Early stopping at iteration 560, Best Score: 2093.49
Early stopping at iteration 899, Best Score: 2093.00
Early stopping at iteration 934, Best Score: 2083.27
Early stopping at iteration 626, Best Score: 2084.93
Early stopping at iteration 711, Best Score: 2096.32
Early stopping at iteration 592, Best Score: 2091.86
Early stopping at iteration 570, Best Score: 2084.98
Early stopping at iteration 542, Best Score: 2082.59
Early stopping at iteration 530, Best Score: 2078.96
```

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Early stopping at iteration 627, Best Score: 2097.56
Early stopping at iteration 794, Best Score: 2094.23
Early stopping at iteration 956, Best Score: 2085.44
Early stopping at iteration 600, Best Score: 2075.93
Early stopping at iteration 672, Best Score: 2087.91
Early stopping at iteration 717, Best Score: 2088.85
Early stopping at iteration 561, Best Score: 2082.81
Early stopping at iteration 549, Best Score: 2080.69
Early stopping at iteration 572, Best Score: 2084.10
Early stopping at iteration 622, Best Score: 2086.40
Early stopping at iteration 711, Best Score: 2088.68
Early stopping at iteration 548, Best Score: 2086.85
Early stopping at iteration 617, Best Score: 2091.60
Early stopping at iteration 678, Best Score: 2084.66
Early stopping at iteration 627, Best Score: 2093.08
Early stopping at iteration 616, Best Score: 2089.43
Early stopping at iteration 658, Best Score: 2083.41
Early stopping at iteration 587, Best Score: 2089.01
Early stopping at iteration 538, Best Score: 2075.60
Early stopping at iteration 624, Best Score: 2086.46
Early stopping at iteration 678, Best Score: 2086.73
Early stopping at iteration 515, Best Score: 2070.28
Early stopping at iteration 958, Best Score: 2110.61
Early stopping at iteration 612, Best Score: 2081.27
Early stopping at iteration 630, Best Score: 2088.83
Early stopping at iteration 552, Best Score: 2086.66
Early stopping at iteration 950, Best Score: 2091.17
Early stopping at iteration 577, Best Score: 2080.61
Early stopping at iteration 647, Best Score: 2085.81
Early stopping at iteration 645, Best Score: 2094.64
Early stopping at iteration 602, Best Score: 2088.33
Early stopping at iteration 573, Best Score: 2084.95
Early stopping at iteration 733, Best Score: 2096.68
Early stopping at iteration 776, Best Score: 2085.37
Early stopping at iteration 672, Best Score: 2096.79
Early stopping at iteration 544, Best Score: 2074.88
Early stopping at iteration 923, Best Score: 2079.29
Early stopping at iteration 577, Best Score: 2086.81
Early stopping at iteration 782, Best Score: 2098.54
GNN Trial 2 completed with 250 decks.

GNN Trial 3/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 34.6598, Synergy Loss: 2.3500, Total: 39.3598
Epoch 20/300 - Node Loss: 6.6440, Synergy Loss: 2.2289, Total: 11.1017
Epoch 30/300 - Node Loss: 3.1181, Synergy Loss: 2.0996, Total: 7.3174
Epoch 40/300 - Node Loss: 1.2425, Synergy Loss: 1.9659, Total: 5.1743
Epoch 50/300 - Node Loss: 1.0458, Synergy Loss: 1.8284, Total: 4.7026
Epoch 60/300 - Node Loss: 1.0093, Synergy Loss: 1.7052, Total: 4.4197
Epoch 70/300 - Node Loss: 1.0012, Synergy Loss: 1.6078, Total: 4.2168
Epoch 80/300 - Node Loss: 1.0024, Synergy Loss: 1.5532, Total: 4.1087
Epoch 90/300 - Node Loss: 1.0155, Synergy Loss: 1.5461, Total: 4.1077
Epoch 100/300 - Node Loss: 1.0004, Synergy Loss: 1.5467, Total: 4.0938
Epoch 110/300 - Node Loss: 1.0028, Synergy Loss: 1.5401, Total: 4.0830
Epoch 120/300 - Node Loss: 1.0069, Synergy Loss: 1.5269, Total: 4.0606
Epoch 130/300 - Node Loss: 1.0220, Synergy Loss: 1.4899, Total: 4.0017
Epoch 140/300 - Node Loss: 1.0440, Synergy Loss: 1.4310, Total: 3.9060
Epoch 150/300 - Node Loss: 1.0319, Synergy Loss: 1.3743, Total: 3.7806
Epoch 160/300 - Node Loss: 1.0563, Synergy Loss: 1.3059, Total: 3.6680
Epoch 170/300 - Node Loss: 1.1917, Synergy Loss: 1.2113, Total: 3.6144
```

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Epoch 180/300 - Node Loss: 1.2084, Synergy Loss: 1.1081, Total: 3.4245
Epoch 190/300 - Node Loss: 1.2254, Synergy Loss: 1.0253, Total: 3.2759
Epoch 200/300 - Node Loss: 1.2578, Synergy Loss: 0.9600, Total: 3.1777
Epoch 210/300 - Node Loss: 1.2560, Synergy Loss: 0.8904, Total: 3.0368
Epoch 220/300 - Node Loss: 1.2835, Synergy Loss: 0.8523, Total: 2.9881
Epoch 230/300 - Node Loss: 1.1795, Synergy Loss: 0.8317, Total: 2.8429
Epoch 240/300 - Node Loss: 1.1698, Synergy Loss: 0.7605, Total: 2.6908
Epoch 250/300 - Node Loss: 1.1521, Synergy Loss: 0.6483, Total: 2.4487
Epoch 260/300 - Node Loss: 1.1814, Synergy Loss: 0.5743, Total: 2.3299
Epoch 270/300 - Node Loss: 1.1608, Synergy Loss: 0.5465, Total: 2.2538
Epoch 280/300 - Node Loss: 1.1422, Synergy Loss: 0.5573, Total: 2.2568
Epoch 290/300 - Node Loss: 1.1947, Synergy Loss: 0.5063, Total: 2.2073
Epoch 300/300 - Node Loss: 1.1181, Synergy Loss: 0.4383, Total: 1.9946
Existing model archived to: 20250310_130357_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 565, Best Score: 3263.73
Early stopping at iteration 535, Best Score: 3269.50
Early stopping at iteration 547, Best Score: 3273.27
Early stopping at iteration 577, Best Score: 3279.33
Early stopping at iteration 583, Best Score: 3293.41
Early stopping at iteration 623, Best Score: 3297.19
Early stopping at iteration 564, Best Score: 3282.68
Early stopping at iteration 541, Best Score: 3275.86
Early stopping at iteration 668, Best Score: 3317.08
Early stopping at iteration 630, Best Score: 3286.82
Early stopping at iteration 708, Best Score: 3306.51
Early stopping at iteration 500, Best Score: 3251.59
Early stopping at iteration 614, Best Score: 3299.52
Early stopping at iteration 551, Best Score: 3284.23
Early stopping at iteration 615, Best Score: 3281.05
Early stopping at iteration 720, Best Score: 3322.61
Early stopping at iteration 559, Best Score: 3278.46
Early stopping at iteration 770, Best Score: 3313.69
Early stopping at iteration 613, Best Score: 3297.17
Early stopping at iteration 598, Best Score: 3293.78
Early stopping at iteration 607, Best Score: 3295.76
Early stopping at iteration 500, Best Score: 3251.59
Early stopping at iteration 563, Best Score: 3272.68
Early stopping at iteration 642, Best Score: 3286.00
Early stopping at iteration 572, Best Score: 3299.19
Early stopping at iteration 523, Best Score: 3263.73
Early stopping at iteration 599, Best Score: 3275.82
Early stopping at iteration 596, Best Score: 3304.71
Early stopping at iteration 625, Best Score: 3284.82
Early stopping at iteration 570, Best Score: 3294.60
Early stopping at iteration 584, Best Score: 3302.73
Early stopping at iteration 673, Best Score: 3291.78
Early stopping at iteration 621, Best Score: 3290.52
Early stopping at iteration 510, Best Score: 3263.73
Early stopping at iteration 676, Best Score: 3300.81
Early stopping at iteration 525, Best Score: 3263.14
Early stopping at iteration 837, Best Score: 3299.32
Early stopping at iteration 543, Best Score: 3270.38
Early stopping at iteration 601, Best Score: 3287.95
Early stopping at iteration 556, Best Score: 3300.37
Early stopping at iteration 502, Best Score: 3254.18
Early stopping at iteration 532, Best Score: 3259.95
Early stopping at iteration 500, Best Score: 3251.59
Early stopping at iteration 550, Best Score: 3287.60
Early stopping at iteration 576, Best Score: 3291.18
```

```
Early stopping at iteration 588, Best Score: 3308.51
Early stopping at iteration 622, Best Score: 3296.96
Early stopping at iteration 559, Best Score: 3286.82
Early stopping at iteration 944, Best Score: 3320.02
Early stopping at iteration 514, Best Score: 3263.14
Early stopping at iteration 547, Best Score: 3269.50
Early stopping at iteration 505, Best Score: 3254.18
Early stopping at iteration 580, Best Score: 3290.58
Early stopping at iteration 622, Best Score: 3307.33
Early stopping at iteration 514, Best Score: 3263.14
Early stopping at iteration 546, Best Score: 3267.76
Early stopping at iteration 535, Best Score: 3284.82
Early stopping at iteration 557, Best Score: 3289.64
Early stopping at iteration 637, Best Score: 3305.54
Early stopping at iteration 599, Best Score: 3275.66
Early stopping at iteration 523, Best Score: 3263.73
Early stopping at iteration 592, Best Score: 3287.41
Early stopping at iteration 550, Best Score: 3281.64
Early stopping at iteration 795, Best Score: 3298.60
Early stopping at iteration 614, Best Score: 3297.47
Early stopping at iteration 533, Best Score: 3256.17
Early stopping at iteration 513, Best Score: 3273.50
Early stopping at iteration 503, Best Score: 3254.18
Early stopping at iteration 537, Best Score: 3285.05
Early stopping at iteration 646, Best Score: 3303.55
Early stopping at iteration 528, Best Score: 3270.09
Early stopping at iteration 533, Best Score: 3260.54
Early stopping at iteration 710, Best Score: 3309.92
Early stopping at iteration 628, Best Score: 3303.17
Early stopping at iteration 502, Best Score: 3254.18
Early stopping at iteration 688, Best Score: 3294.96
Early stopping at iteration 544, Best Score: 3287.99
Early stopping at iteration 503, Best Score: 3254.18
Early stopping at iteration 509, Best Score: 3268.91
Early stopping at iteration 619, Best Score: 3291.19
Early stopping at iteration 640, Best Score: 3283.37
Early stopping at iteration 506, Best Score: 3254.18
Early stopping at iteration 670, Best Score: 3310.87
Early stopping at iteration 593, Best Score: 3269.50
Early stopping at iteration 503, Best Score: 3260.54
Early stopping at iteration 500, Best Score: 3251.59
Early stopping at iteration 522, Best Score: 3281.87
Early stopping at iteration 502, Best Score: 3254.18
Early stopping at iteration 662, Best Score: 3314.87
Early stopping at iteration 501, Best Score: 3254.18
Early stopping at iteration 594, Best Score: 3306.92
Early stopping at iteration 973, Best Score: 3316.57
Early stopping at iteration 505, Best Score: 3254.18
Early stopping at iteration 555, Best Score: 3293.19
Early stopping at iteration 594, Best Score: 3292.60
Early stopping at iteration 507, Best Score: 3260.54
Early stopping at iteration 544, Best Score: 3266.91
Early stopping at iteration 673, Best Score: 3296.73
Early stopping at iteration 542, Best Score: 3269.50
  Deck Trial 100/250
Early stopping at iteration 711, Best Score: 3289.39
Early stopping at iteration 518, Best Score: 3259.95
Early stopping at iteration 548, Best Score: 3267.50
Early stopping at iteration 624, Best Score: 3298.33
Early stopping at iteration 603, Best Score: 3301.76
```

```
Early stopping at iteration 552, Best Score: 3274.15
Early stopping at iteration 593, Best Score: 3282.23
Early stopping at iteration 661, Best Score: 3294.60
Early stopping at iteration 544, Best Score: 3270.09
Early stopping at iteration 636, Best Score: 3271.15
Early stopping at iteration 565, Best Score: 3284.00
Early stopping at iteration 618, Best Score: 3296.60
Early stopping at iteration 618, Best Score: 3282.46
Early stopping at iteration 504, Best Score: 3254.18
Early stopping at iteration 536, Best Score: 3272.68
Early stopping at iteration 537, Best Score: 3267.14
Early stopping at iteration 555, Best Score: 3284.13
Early stopping at iteration 503, Best Score: 3254.18
Early stopping at iteration 638, Best Score: 3304.12
Early stopping at iteration 522, Best Score: 3259.95
Early stopping at iteration 559, Best Score: 3282.46
Early stopping at iteration 725, Best Score: 3311.31
Early stopping at iteration 709, Best Score: 3288.78
Early stopping at iteration 774, Best Score: 3301.33
Early stopping at iteration 632, Best Score: 3304.73
Early stopping at iteration 742, Best Score: 3312.12
Early stopping at iteration 653, Best Score: 3318.87
Early stopping at iteration 546, Best Score: 3297.95
Early stopping at iteration 558, Best Score: 3288.80
Early stopping at iteration 601, Best Score: 3302.71
Early stopping at iteration 603, Best Score: 3272.68
Early stopping at iteration 682, Best Score: 3309.71
Early stopping at iteration 594, Best Score: 3308.51
Early stopping at iteration 717, Best Score: 3314.86
Early stopping at iteration 500, Best Score: 3251.59
Early stopping at iteration 540, Best Score: 3265.73
Early stopping at iteration 784, Best Score: 3317.10
Early stopping at iteration 576, Best Score: 3292.00
Early stopping at iteration 501, Best Score: 3254.18
Early stopping at iteration 502, Best Score: 3254.18
Early stopping at iteration 759, Best Score: 3314.64
Early stopping at iteration 670, Best Score: 3298.94
Early stopping at iteration 622, Best Score: 3291.76
Early stopping at iteration 505, Best Score: 3263.14
Early stopping at iteration 751, Best Score: 3305.22
Early stopping at iteration 759, Best Score: 3332.04
Early stopping at iteration 618, Best Score: 3292.00
Early stopping at iteration 554, Best Score: 3269.50
Early stopping at iteration 735, Best Score: 3321.68
Early stopping at iteration 542, Best Score: 3281.64
Early stopping at iteration 529, Best Score: 3267.11
Early stopping at iteration 609, Best Score: 3284.34
Early stopping at iteration 532, Best Score: 3275.50
Early stopping at iteration 602, Best Score: 3300.14
Early stopping at iteration 596, Best Score: 3278.68
Early stopping at iteration 624, Best Score: 3279.05
Early stopping at iteration 762, Best Score: 3309.90
Early stopping at iteration 703, Best Score: 3303.30
Early stopping at iteration 722, Best Score: 3288.59
Early stopping at iteration 568, Best Score: 3285.41
Early stopping at iteration 550, Best Score: 3276.08
Early stopping at iteration 566, Best Score: 3285.41
Early stopping at iteration 633, Best Score: 3282.79
Early stopping at iteration 587, Best Score: 3299.78
Early stopping at iteration 800, Best Score: 3310.51
```

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Early stopping at iteration 511, Best Score: 3257.36
Early stopping at iteration 568, Best Score: 3270.68
Early stopping at iteration 567, Best Score: 3269.73
Early stopping at iteration 552, Best Score: 3283.64
Early stopping at iteration 595, Best Score: 3286.74
Early stopping at iteration 663, Best Score: 3304.73
Early stopping at iteration 626, Best Score: 3314.28
Early stopping at iteration 500, Best Score: 3251.59
Early stopping at iteration 765, Best Score: 3330.06
Early stopping at iteration 574, Best Score: 3293.17
Early stopping at iteration 628, Best Score: 3301.75
Early stopping at iteration 568, Best Score: 3273.27
Early stopping at iteration 719, Best Score: 3304.89
Early stopping at iteration 671, Best Score: 3307.55
Early stopping at iteration 528, Best Score: 3292.60
Early stopping at iteration 680, Best Score: 3314.86
Early stopping at iteration 642, Best Score: 3317.53
Early stopping at iteration 590, Best Score: 3278.68
Early stopping at iteration 792, Best Score: 3322.28
Early stopping at iteration 561, Best Score: 3277.05
Early stopping at iteration 689, Best Score: 3298.14
Early stopping at iteration 711, Best Score: 3275.87
Early stopping at iteration 615, Best Score: 3294.33
Early stopping at iteration 579, Best Score: 3270.45
Early stopping at iteration 555, Best Score: 3273.27
Early stopping at iteration 549, Best Score: 3272.52
Early stopping at iteration 530, Best Score: 3278.68
Early stopping at iteration 610, Best Score: 3291.19
Early stopping at iteration 578, Best Score: 3283.05
Early stopping at iteration 725, Best Score: 3306.47
Early stopping at iteration 589, Best Score: 3307.84
Early stopping at iteration 583, Best Score: 3299.45
Early stopping at iteration 886, Best Score: 3325.83
Early stopping at iteration 627, Best Score: 3310.11
Early stopping at iteration 583, Best Score: 3286.00
  Deck Trial 200/250
Early stopping at iteration 626, Best Score: 3289.19
Early stopping at iteration 648, Best Score: 3279.05
Early stopping at iteration 693, Best Score: 3285.41
Early stopping at iteration 659, Best Score: 3297.56
Early stopping at iteration 677, Best Score: 3316.85
Early stopping at iteration 570, Best Score: 3290.23
Early stopping at iteration 563, Best Score: 3289.27
Early stopping at iteration 510, Best Score: 3263.73
Early stopping at iteration 522, Best Score: 3278.42
Early stopping at iteration 523, Best Score: 3263.73
Early stopping at iteration 526, Best Score: 3259.95
Early stopping at iteration 556, Best Score: 3297.78
Early stopping at iteration 521, Best Score: 3269.50
Early stopping at iteration 570, Best Score: 3290.82
Early stopping at iteration 620, Best Score: 3282.46
Early stopping at iteration 681, Best Score: 3329.23
Early stopping at iteration 509, Best Score: 3254.18
Early stopping at iteration 734, Best Score: 3319.43
Early stopping at iteration 576, Best Score: 3277.00
Early stopping at iteration 529, Best Score: 3282.40
Early stopping at iteration 594, Best Score: 3304.14
Early stopping at iteration 966, Best Score: 3314.28
Early stopping at iteration 598, Best Score: 3291.19
Early stopping at iteration 501, Best Score: 3254.18
```

```
Early stopping at iteration 781, Best Score: 3309.31
Early stopping at iteration 528, Best Score: 3259.95
Early stopping at iteration 627, Best Score: 3319.10
Early stopping at iteration 635, Best Score: 3292.16
Early stopping at iteration 527, Best Score: 3268.91
Early stopping at iteration 504, Best Score: 3254.18
Early stopping at iteration 763, Best Score: 3301.25
Early stopping at iteration 559, Best Score: 3279.05
Early stopping at iteration 570, Best Score: 3297.31
Early stopping at iteration 607, Best Score: 3274.64
Early stopping at iteration 686, Best Score: 3306.94
Early stopping at iteration 505, Best Score: 3254.18
Early stopping at iteration 508, Best Score: 3254.18
Early stopping at iteration 516, Best Score: 3263.14
Early stopping at iteration 597, Best Score: 3294.11
Early stopping at iteration 512, Best Score: 3263.14
Early stopping at iteration 595, Best Score: 3292.00
Early stopping at iteration 502, Best Score: 3254.18
Early stopping at iteration 570, Best Score: 3284.13
Early stopping at iteration 625, Best Score: 3318.87
Early stopping at iteration 679, Best Score: 3310.73
Early stopping at iteration 523, Best Score: 3269.73
Early stopping at iteration 729, Best Score: 3284.23
Early stopping at iteration 574, Best Score: 3278.12
Early stopping at iteration 625, Best Score: 3269.50
Early stopping at iteration 659, Best Score: 3305.88
Early stopping at iteration 575, Best Score: 3292.23
GNN Trial 3 completed with 250 decks.

GNN Trial 4/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 29.0041, Synergy Loss: 2.1290, Total: 33.2621
Epoch 20/300 - Node Loss: 4.8751, Synergy Loss: 2.0145, Total: 8.9041
Epoch 30/300 - Node Loss: 2.4484, Synergy Loss: 1.8965, Total: 6.2414
Epoch 40/300 - Node Loss: 1.6879, Synergy Loss: 1.7649, Total: 5.2178
Epoch 50/300 - Node Loss: 1.4031, Synergy Loss: 1.3706, Total: 4.1444
Epoch 60/300 - Node Loss: 1.4109, Synergy Loss: 1.0887, Total: 3.5883
Epoch 70/300 - Node Loss: 1.3097, Synergy Loss: 1.0634, Total: 3.4364
Epoch 80/300 - Node Loss: 1.2419, Synergy Loss: 0.8892, Total: 3.0203
Epoch 90/300 - Node Loss: 1.2175, Synergy Loss: 0.7799, Total: 2.7773
Epoch 100/300 - Node Loss: 1.2179, Synergy Loss: 0.8181, Total: 2.8541
Epoch 110/300 - Node Loss: 1.2240, Synergy Loss: 0.7987, Total: 2.8213
Epoch 120/300 - Node Loss: 1.1698, Synergy Loss: 0.7589, Total: 2.6876
Epoch 130/300 - Node Loss: 1.1164, Synergy Loss: 0.7295, Total: 2.5754
Epoch 140/300 - Node Loss: 1.1657, Synergy Loss: 0.7681, Total: 2.7020
Epoch 150/300 - Node Loss: 1.2637, Synergy Loss: 0.7815, Total: 2.8266
Early stopping at epoch 158
Existing model archived to: 20250310_131251_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 696, Best Score: 2861.13
Early stopping at iteration 594, Best Score: 2850.79
Early stopping at iteration 502, Best Score: 2827.42
Early stopping at iteration 710, Best Score: 2854.65
Early stopping at iteration 687, Best Score: 2858.52
Early stopping at iteration 655, Best Score: 2870.29
Early stopping at iteration 599, Best Score: 2854.64
Early stopping at iteration 520, Best Score: 2827.42
Early stopping at iteration 517, Best Score: 2837.07
Early stopping at iteration 709, Best Score: 2858.65
Early stopping at iteration 555, Best Score: 2831.32
```

```
Early stopping at iteration 623, Best Score: 2852.02
Early stopping at iteration 801, Best Score: 2876.06
Early stopping at iteration 506, Best Score: 2827.42
Early stopping at iteration 526, Best Score: 2841.09
Early stopping at iteration 579, Best Score: 2841.06
Early stopping at iteration 502, Best Score: 2827.42
Early stopping at iteration 641, Best Score: 2858.46
Early stopping at iteration 542, Best Score: 2839.07
Early stopping at iteration 576, Best Score: 2858.53
Early stopping at iteration 652, Best Score: 2858.55
Early stopping at iteration 555, Best Score: 2842.97
Early stopping at iteration 559, Best Score: 2852.89
Early stopping at iteration 550, Best Score: 2848.79
Early stopping at iteration 662, Best Score: 2854.83
Early stopping at iteration 514, Best Score: 2827.42
Early stopping at iteration 574, Best Score: 2844.89
Early stopping at iteration 539, Best Score: 2839.06
Early stopping at iteration 512, Best Score: 2835.24
Early stopping at iteration 502, Best Score: 2827.42
Early stopping at iteration 502, Best Score: 2827.42
Early stopping at iteration 631, Best Score: 2850.89
Early stopping at iteration 504, Best Score: 2827.76
Early stopping at iteration 652, Best Score: 2848.80
Early stopping at iteration 507, Best Score: 2831.32
Early stopping at iteration 527, Best Score: 2833.24
Early stopping at iteration 521, Best Score: 2835.23
Early stopping at iteration 539, Best Score: 2839.06
Early stopping at iteration 523, Best Score: 2831.32
Early stopping at iteration 565, Best Score: 2848.86
Early stopping at iteration 504, Best Score: 2831.32
Early stopping at iteration 528, Best Score: 2841.05
Early stopping at iteration 628, Best Score: 2862.53
Early stopping at iteration 506, Best Score: 2827.42
Early stopping at iteration 526, Best Score: 2842.97
Early stopping at iteration 545, Best Score: 2839.18
Early stopping at iteration 661, Best Score: 2842.96
Early stopping at iteration 678, Best Score: 2862.56
Early stopping at iteration 520, Best Score: 2836.43
Early stopping at iteration 742, Best Score: 2874.13
Early stopping at iteration 584, Best Score: 2845.84
Early stopping at iteration 731, Best Score: 2848.79
Early stopping at iteration 636, Best Score: 2844.89
Early stopping at iteration 502, Best Score: 2827.42
Early stopping at iteration 591, Best Score: 2860.53
Early stopping at iteration 523, Best Score: 2841.15
Early stopping at iteration 506, Best Score: 2827.42
Early stopping at iteration 600, Best Score: 2842.97
Early stopping at iteration 575, Best Score: 2839.16
Early stopping at iteration 502, Best Score: 2827.42
Early stopping at iteration 760, Best Score: 2855.15
Early stopping at iteration 600, Best Score: 2862.57
Early stopping at iteration 652, Best Score: 2856.45
Early stopping at iteration 585, Best Score: 2840.91
Early stopping at iteration 504, Best Score: 2827.42
Early stopping at iteration 562, Best Score: 2833.24
Early stopping at iteration 565, Best Score: 2837.14
Early stopping at iteration 500, Best Score: 2825.43
Early stopping at iteration 523, Best Score: 2841.06
Early stopping at iteration 505, Best Score: 2827.42
Early stopping at iteration 530, Best Score: 2831.32
```

```
Early stopping at iteration 510, Best Score: 2833.24
Early stopping at iteration 521, Best Score: 2831.25
Early stopping at iteration 501, Best Score: 2827.42
Early stopping at iteration 529, Best Score: 2837.14
Early stopping at iteration 820, Best Score: 2841.08
Early stopping at iteration 545, Best Score: 2839.07
Early stopping at iteration 688, Best Score: 2848.65
Early stopping at iteration 657, Best Score: 2856.87
Early stopping at iteration 603, Best Score: 2854.62
Early stopping at iteration 509, Best Score: 2827.42
Early stopping at iteration 609, Best Score: 2849.32
Early stopping at iteration 663, Best Score: 2853.78
Early stopping at iteration 513, Best Score: 2831.32
Early stopping at iteration 593, Best Score: 2833.24
Early stopping at iteration 585, Best Score: 2844.97
Early stopping at iteration 614, Best Score: 2846.89
Early stopping at iteration 552, Best Score: 2833.24
Early stopping at iteration 558, Best Score: 2841.13
Early stopping at iteration 500, Best Score: 2825.43
Early stopping at iteration 716, Best Score: 2845.48
Early stopping at iteration 518, Best Score: 2839.07
Early stopping at iteration 544, Best Score: 2837.15
Early stopping at iteration 521, Best Score: 2833.24
Early stopping at iteration 506, Best Score: 2833.24
Early stopping at iteration 507, Best Score: 2827.42
Early stopping at iteration 528, Best Score: 2833.24
Early stopping at iteration 528, Best Score: 2836.99
Early stopping at iteration 543, Best Score: 2837.14
  Deck Trial 100/250
Early stopping at iteration 653, Best Score: 2860.37
Early stopping at iteration 756, Best Score: 2856.60
Early stopping at iteration 617, Best Score: 2856.53
Early stopping at iteration 528, Best Score: 2836.10
Early stopping at iteration 544, Best Score: 2852.73
Early stopping at iteration 620, Best Score: 2854.68
Early stopping at iteration 560, Best Score: 2837.14
Early stopping at iteration 544, Best Score: 2835.16
Early stopping at iteration 511, Best Score: 2833.24
Early stopping at iteration 500, Best Score: 2825.43
Early stopping at iteration 588, Best Score: 2844.24
Early stopping at iteration 663, Best Score: 2856.53
Early stopping at iteration 605, Best Score: 2841.08
Early stopping at iteration 570, Best Score: 2852.73
Early stopping at iteration 756, Best Score: 2866.36
Early stopping at iteration 562, Best Score: 2834.45
Early stopping at iteration 687, Best Score: 2858.62
Early stopping at iteration 551, Best Score: 2833.24
Early stopping at iteration 524, Best Score: 2841.39
Early stopping at iteration 813, Best Score: 2846.88
Early stopping at iteration 800, Best Score: 2846.81
Early stopping at iteration 523, Best Score: 2827.42
Early stopping at iteration 728, Best Score: 2850.79
Early stopping at iteration 501, Best Score: 2827.42
Early stopping at iteration 530, Best Score: 2833.83
Early stopping at iteration 524, Best Score: 2837.15
Early stopping at iteration 580, Best Score: 2861.40
Early stopping at iteration 674, Best Score: 2863.33
Early stopping at iteration 804, Best Score: 2860.44
Early stopping at iteration 536, Best Score: 2827.42
Early stopping at iteration 531, Best Score: 2835.23
```

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Early stopping at iteration 584, Best Score: 2865.36
Early stopping at iteration 578, Best Score: 2849.78
Early stopping at iteration 562, Best Score: 2833.24
Early stopping at iteration 856, Best Score: 2854.79
Early stopping at iteration 627, Best Score: 2850.75
Early stopping at iteration 587, Best Score: 2852.70
Early stopping at iteration 599, Best Score: 2856.66
Early stopping at iteration 611, Best Score: 2857.91
Early stopping at iteration 601, Best Score: 2850.73
Early stopping at iteration 502, Best Score: 2827.42
Early stopping at iteration 514, Best Score: 2837.14
Early stopping at iteration 637, Best Score: 2848.79
Early stopping at iteration 681, Best Score: 2854.66
Early stopping at iteration 524, Best Score: 2839.06
Early stopping at iteration 527, Best Score: 2833.24
Early stopping at iteration 518, Best Score: 2827.42
Early stopping at iteration 547, Best Score: 2844.89
Early stopping at iteration 722, Best Score: 2862.45
Early stopping at iteration 529, Best Score: 2827.42
Early stopping at iteration 500, Best Score: 2825.43
Early stopping at iteration 536, Best Score: 2835.15
Early stopping at iteration 509, Best Score: 2827.42
Early stopping at iteration 567, Best Score: 2850.20
Early stopping at iteration 573, Best Score: 2860.43
Early stopping at iteration 575, Best Score: 2833.83
Early stopping at iteration 765, Best Score: 2864.28
Early stopping at iteration 502, Best Score: 2827.42
Early stopping at iteration 704, Best Score: 2864.59
Early stopping at iteration 520, Best Score: 2833.24
Early stopping at iteration 567, Best Score: 2846.91
Early stopping at iteration 579, Best Score: 2842.96
Early stopping at iteration 681, Best Score: 2866.47
Early stopping at iteration 539, Best Score: 2839.07
Early stopping at iteration 503, Best Score: 2827.42
Early stopping at iteration 711, Best Score: 2859.52
Early stopping at iteration 687, Best Score: 2858.65
Early stopping at iteration 693, Best Score: 2844.73
Early stopping at iteration 500, Best Score: 2825.43
Early stopping at iteration 505, Best Score: 2827.42
Early stopping at iteration 551, Best Score: 2837.14
Early stopping at iteration 562, Best Score: 2854.71
Early stopping at iteration 642, Best Score: 2857.61
Early stopping at iteration 536, Best Score: 2835.25
Early stopping at iteration 903, Best Score: 2870.20
Early stopping at iteration 552, Best Score: 2840.92
Early stopping at iteration 616, Best Score: 2857.56
Early stopping at iteration 594, Best Score: 2844.89
Early stopping at iteration 583, Best Score: 2839.40
Early stopping at iteration 510, Best Score: 2835.15
Early stopping at iteration 502, Best Score: 2827.42
Early stopping at iteration 556, Best Score: 2841.15
Early stopping at iteration 721, Best Score: 2848.73
Early stopping at iteration 504, Best Score: 2827.42
Early stopping at iteration 619, Best Score: 2842.91
Early stopping at iteration 684, Best Score: 2836.99
Early stopping at iteration 501, Best Score: 2827.42
Early stopping at iteration 716, Best Score: 2852.76
Early stopping at iteration 555, Best Score: 2837.14
Early stopping at iteration 523, Best Score: 2827.42
Early stopping at iteration 669, Best Score: 2864.37
```

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Early stopping at iteration 683, Best Score: 2849.60
Early stopping at iteration 572, Best Score: 2854.73
Early stopping at iteration 527, Best Score: 2837.23
Early stopping at iteration 567, Best Score: 2840.98
Early stopping at iteration 500, Best Score: 2825.43
Early stopping at iteration 622, Best Score: 2864.24
Early stopping at iteration 547, Best Score: 2835.16
Early stopping at iteration 505, Best Score: 2835.24
Early stopping at iteration 570, Best Score: 2853.13
  Deck Trial 200/250
Early stopping at iteration 503, Best Score: 2827.42
Early stopping at iteration 831, Best Score: 2854.66
Early stopping at iteration 527, Best Score: 2848.90
Early stopping at iteration 531, Best Score: 2833.24
Early stopping at iteration 570, Best Score: 2839.06
Early stopping at iteration 516, Best Score: 2839.06
Early stopping at iteration 519, Best Score: 2839.07
Early stopping at iteration 581, Best Score: 2844.89
Early stopping at iteration 522, Best Score: 2832.52
Early stopping at iteration 557, Best Score: 2854.72
Early stopping at iteration 572, Best Score: 2842.97
Early stopping at iteration 589, Best Score: 2852.74
Early stopping at iteration 545, Best Score: 2841.05
Early stopping at iteration 529, Best Score: 2839.65
Early stopping at iteration 551, Best Score: 2833.21
Early stopping at iteration 606, Best Score: 2840.98
Early stopping at iteration 808, Best Score: 2837.14
Early stopping at iteration 546, Best Score: 2837.15
Early stopping at iteration 540, Best Score: 2837.15
Early stopping at iteration 530, Best Score: 2833.24
Early stopping at iteration 656, Best Score: 2866.49
Early stopping at iteration 529, Best Score: 2833.24
Early stopping at iteration 500, Best Score: 2825.43
Early stopping at iteration 603, Best Score: 2850.78
Early stopping at iteration 593, Best Score: 2848.79
Early stopping at iteration 623, Best Score: 2842.97
Early stopping at iteration 629, Best Score: 2856.49
Early stopping at iteration 500, Best Score: 2825.43
Early stopping at iteration 833, Best Score: 2870.15
Early stopping at iteration 756, Best Score: 2862.57
Early stopping at iteration 614, Best Score: 2866.45
Early stopping at iteration 548, Best Score: 2858.71
Early stopping at iteration 543, Best Score: 2837.15
Early stopping at iteration 588, Best Score: 2833.51
Early stopping at iteration 501, Best Score: 2827.42
Early stopping at iteration 714, Best Score: 2858.57
Early stopping at iteration 624, Best Score: 2840.98
Early stopping at iteration 540, Best Score: 2848.79
Early stopping at iteration 606, Best Score: 2848.80
Early stopping at iteration 596, Best Score: 2847.21
Early stopping at iteration 675, Best Score: 2864.53
Early stopping at iteration 553, Best Score: 2851.92
Early stopping at iteration 501, Best Score: 2827.42
Early stopping at iteration 570, Best Score: 2844.96
Early stopping at iteration 655, Best Score: 2842.14
Early stopping at iteration 542, Best Score: 2837.97
Early stopping at iteration 577, Best Score: 2858.56
Early stopping at iteration 596, Best Score: 2850.81
Early stopping at iteration 672, Best Score: 2872.39
Early stopping at iteration 631, Best Score: 2858.61
```

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Early stopping at iteration 604, Best Score: 2846.19
GNN Trial 4 completed with 250 decks.

GNN Trial 5/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 39.6307, Synergy Loss: 2.4088, Total: 44.4483
Epoch 20/300 - Node Loss: 3.6411, Synergy Loss: 2.1779, Total: 7.9969
Epoch 30/300 - Node Loss: 1.8024, Synergy Loss: 2.1291, Total: 6.0606
Epoch 40/300 - Node Loss: 1.5143, Synergy Loss: 1.8444, Total: 5.2031
Epoch 50/300 - Node Loss: 1.2880, Synergy Loss: 1.6746, Total: 4.6372
Epoch 60/300 - Node Loss: 1.2646, Synergy Loss: 1.2510, Total: 3.7666
Epoch 70/300 - Node Loss: 1.1946, Synergy Loss: 1.2027, Total: 3.5999
Epoch 80/300 - Node Loss: 1.1299, Synergy Loss: 0.9469, Total: 3.0237
Epoch 90/300 - Node Loss: 1.1687, Synergy Loss: 0.8814, Total: 2.9314
Epoch 100/300 - Node Loss: 1.1605, Synergy Loss: 0.8626, Total: 2.8857
Epoch 110/300 - Node Loss: 1.1121, Synergy Loss: 0.7839, Total: 2.6800
Epoch 120/300 - Node Loss: 1.1149, Synergy Loss: 0.8482, Total: 2.8113
Epoch 130/300 - Node Loss: 1.0975, Synergy Loss: 0.7595, Total: 2.6165
Epoch 140/300 - Node Loss: 1.0855, Synergy Loss: 0.7614, Total: 2.6083
Epoch 150/300 - Node Loss: 1.1029, Synergy Loss: 0.7192, Total: 2.5414
Epoch 160/300 - Node Loss: 1.0585, Synergy Loss: 0.6480, Total: 2.3544
Epoch 170/300 - Node Loss: 1.0320, Synergy Loss: 0.6042, Total: 2.2403
Epoch 180/300 - Node Loss: 1.0522, Synergy Loss: 0.5807, Total: 2.2137
Epoch 190/300 - Node Loss: 1.0680, Synergy Loss: 1.4199, Total: 3.9077
Epoch 200/300 - Node Loss: 1.0692, Synergy Loss: 0.7881, Total: 2.6453
Early stopping at epoch 205
Existing model archived to: 20250310_132633_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 560, Best Score: 2136.14
Early stopping at iteration 665, Best Score: 2150.86
Early stopping at iteration 517, Best Score: 2134.07
Early stopping at iteration 500, Best Score: 2122.62
Early stopping at iteration 758, Best Score: 2142.44
Early stopping at iteration 644, Best Score: 2151.74
Early stopping at iteration 509, Best Score: 2124.28
Early stopping at iteration 866, Best Score: 2145.20
Early stopping at iteration 502, Best Score: 2124.28
Early stopping at iteration 629, Best Score: 2141.02
Early stopping at iteration 680, Best Score: 2144.96
Early stopping at iteration 509, Best Score: 2124.28
Early stopping at iteration 591, Best Score: 2128.99
Early stopping at iteration 507, Best Score: 2124.28
Early stopping at iteration 699, Best Score: 2154.19
Early stopping at iteration 682, Best Score: 2156.22
Early stopping at iteration 570, Best Score: 2135.58
Early stopping at iteration 559, Best Score: 2136.83
Early stopping at iteration 510, Best Score: 2128.47
Early stopping at iteration 513, Best Score: 2127.21
Early stopping at iteration 571, Best Score: 2139.35
Early stopping at iteration 721, Best Score: 2148.49
Early stopping at iteration 665, Best Score: 2147.26
Early stopping at iteration 640, Best Score: 2147.42
Early stopping at iteration 568, Best Score: 2129.73
Early stopping at iteration 530, Best Score: 2132.65
Early stopping at iteration 600, Best Score: 2143.76
Early stopping at iteration 592, Best Score: 2138.89
Early stopping at iteration 655, Best Score: 2131.16
Early stopping at iteration 597, Best Score: 2140.14
Early stopping at iteration 547, Best Score: 2139.91
Early stopping at iteration 520, Best Score: 2127.20
```

```
Early stopping at iteration 746, Best Score: 2126.48
Early stopping at iteration 507, Best Score: 2128.47
Early stopping at iteration 647, Best Score: 2142.15
Early stopping at iteration 567, Best Score: 2134.31
Early stopping at iteration 644, Best Score: 2128.47
Early stopping at iteration 522, Best Score: 2130.13
Early stopping at iteration 566, Best Score: 2139.57
Early stopping at iteration 559, Best Score: 2143.23
Early stopping at iteration 625, Best Score: 2144.68
Early stopping at iteration 555, Best Score: 2142.83
Early stopping at iteration 512, Best Score: 2127.21
Early stopping at iteration 556, Best Score: 2149.01
Early stopping at iteration 794, Best Score: 2160.25
Early stopping at iteration 553, Best Score: 2131.39
Early stopping at iteration 569, Best Score: 2141.42
Early stopping at iteration 504, Best Score: 2124.28
Early stopping at iteration 538, Best Score: 2135.57
Early stopping at iteration 560, Best Score: 2138.26
Early stopping at iteration 681, Best Score: 2160.08
Early stopping at iteration 633, Best Score: 2138.44
Early stopping at iteration 600, Best Score: 2144.27
Early stopping at iteration 500, Best Score: 2122.62
Early stopping at iteration 540, Best Score: 2138.31
Early stopping at iteration 569, Best Score: 2138.10
Early stopping at iteration 540, Best Score: 2138.09
Early stopping at iteration 576, Best Score: 2134.65
Early stopping at iteration 581, Best Score: 2134.83
Early stopping at iteration 572, Best Score: 2142.43
Early stopping at iteration 519, Best Score: 2127.21
Early stopping at iteration 502, Best Score: 2124.28
Early stopping at iteration 594, Best Score: 2143.88
Early stopping at iteration 563, Best Score: 2136.99
Early stopping at iteration 680, Best Score: 2145.21
Early stopping at iteration 535, Best Score: 2132.65
Early stopping at iteration 618, Best Score: 2132.65
Early stopping at iteration 502, Best Score: 2124.28
Early stopping at iteration 684, Best Score: 2149.78
Early stopping at iteration 501, Best Score: 2124.28
Early stopping at iteration 602, Best Score: 2141.94
Early stopping at iteration 789, Best Score: 2157.14
Early stopping at iteration 543, Best Score: 2135.57
Early stopping at iteration 532, Best Score: 2138.56
Early stopping at iteration 630, Best Score: 2133.92
Early stopping at iteration 661, Best Score: 2148.12
Early stopping at iteration 636, Best Score: 2138.35
Early stopping at iteration 770, Best Score: 2139.76
Early stopping at iteration 514, Best Score: 2128.47
Early stopping at iteration 629, Best Score: 2143.76
Early stopping at iteration 540, Best Score: 2139.23
Early stopping at iteration 588, Best Score: 2138.51
Early stopping at iteration 586, Best Score: 2135.57
Early stopping at iteration 576, Best Score: 2144.66
Early stopping at iteration 560, Best Score: 2143.28
Early stopping at iteration 587, Best Score: 2139.76
Early stopping at iteration 593, Best Score: 2142.83
Early stopping at iteration 515, Best Score: 2134.07
Early stopping at iteration 500, Best Score: 2122.62
Early stopping at iteration 568, Best Score: 2147.36
Early stopping at iteration 500, Best Score: 2122.62
Early stopping at iteration 628, Best Score: 2139.39
```

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Early stopping at iteration 529, Best Score: 2137.24
Early stopping at iteration 589, Best Score: 2139.76
Early stopping at iteration 527, Best Score: 2133.91
Early stopping at iteration 500, Best Score: 2122.62
Early stopping at iteration 686, Best Score: 2145.20
Early stopping at iteration 536, Best Score: 2131.39
Early stopping at iteration 640, Best Score: 2143.94
  Deck Trial 100/250
Early stopping at iteration 537, Best Score: 2131.39
Early stopping at iteration 503, Best Score: 2124.28
Early stopping at iteration 561, Best Score: 2139.91
Early stopping at iteration 504, Best Score: 2124.28
Early stopping at iteration 745, Best Score: 2153.39
Early stopping at iteration 539, Best Score: 2132.65
Early stopping at iteration 604, Best Score: 2138.15
Early stopping at iteration 521, Best Score: 2126.80
Early stopping at iteration 578, Best Score: 2147.54
Early stopping at iteration 501, Best Score: 2124.28
Early stopping at iteration 507, Best Score: 2127.73
Early stopping at iteration 758, Best Score: 2144.09
Early stopping at iteration 517, Best Score: 2131.39
Early stopping at iteration 500, Best Score: 2122.62
Early stopping at iteration 565, Best Score: 2132.65
Early stopping at iteration 699, Best Score: 2146.68
Early stopping at iteration 674, Best Score: 2160.64
Early stopping at iteration 647, Best Score: 2158.23
Early stopping at iteration 670, Best Score: 2135.12
Early stopping at iteration 706, Best Score: 2152.12
Early stopping at iteration 613, Best Score: 2149.64
Early stopping at iteration 582, Best Score: 2132.65
Early stopping at iteration 502, Best Score: 2124.28
Early stopping at iteration 501, Best Score: 2124.28
Early stopping at iteration 529, Best Score: 2131.39
Early stopping at iteration 545, Best Score: 2138.50
Early stopping at iteration 560, Best Score: 2126.86
Early stopping at iteration 794, Best Score: 2156.99
Early stopping at iteration 547, Best Score: 2141.18
Early stopping at iteration 624, Best Score: 2143.54
Early stopping at iteration 671, Best Score: 2143.70
Early stopping at iteration 552, Best Score: 2132.65
Early stopping at iteration 552, Best Score: 2142.10
Early stopping at iteration 581, Best Score: 2143.54
Early stopping at iteration 762, Best Score: 2141.41
Early stopping at iteration 688, Best Score: 2153.54
Early stopping at iteration 606, Best Score: 2144.83
Early stopping at iteration 588, Best Score: 2128.47
Early stopping at iteration 500, Best Score: 2122.62
Early stopping at iteration 537, Best Score: 2140.83
Early stopping at iteration 629, Best Score: 2136.11
Early stopping at iteration 552, Best Score: 2136.09
Early stopping at iteration 580, Best Score: 2143.70
Early stopping at iteration 789, Best Score: 2165.11
Early stopping at iteration 613, Best Score: 2134.31
Early stopping at iteration 546, Best Score: 2139.51
Early stopping at iteration 626, Best Score: 2140.10
Early stopping at iteration 643, Best Score: 2145.36
Early stopping at iteration 650, Best Score: 2138.09
Early stopping at iteration 508, Best Score: 2133.05
Early stopping at iteration 545, Best Score: 2133.91
Early stopping at iteration 575, Best Score: 2134.56
```

```
Early stopping at iteration 513, Best Score: 2128.47
Early stopping at iteration 708, Best Score: 2140.62
Early stopping at iteration 632, Best Score: 2158.53
Early stopping at iteration 636, Best Score: 2147.88
Early stopping at iteration 556, Best Score: 2134.31
Early stopping at iteration 709, Best Score: 2138.10
Early stopping at iteration 607, Best Score: 2135.57
Early stopping at iteration 562, Best Score: 2134.07
Early stopping at iteration 576, Best Score: 2140.44
Early stopping at iteration 510, Best Score: 2124.28
Early stopping at iteration 522, Best Score: 2130.90
Early stopping at iteration 770, Best Score: 2146.07
Early stopping at iteration 513, Best Score: 2124.28
Early stopping at iteration 549, Best Score: 2142.66
Early stopping at iteration 508, Best Score: 2124.28
Early stopping at iteration 680, Best Score: 2148.12
Early stopping at iteration 668, Best Score: 2136.44
Early stopping at iteration 562, Best Score: 2135.97
Early stopping at iteration 531, Best Score: 2128.47
Early stopping at iteration 641, Best Score: 2146.47
Early stopping at iteration 576, Best Score: 2144.10
Early stopping at iteration 505, Best Score: 2124.28
Early stopping at iteration 647, Best Score: 2142.10
Early stopping at iteration 546, Best Score: 2138.26
Early stopping at iteration 509, Best Score: 2124.28
Early stopping at iteration 651, Best Score: 2140.77
Early stopping at iteration 505, Best Score: 2127.20
Early stopping at iteration 567, Best Score: 2133.91
Early stopping at iteration 510, Best Score: 2129.20
Early stopping at iteration 507, Best Score: 2127.20
Early stopping at iteration 575, Best Score: 2132.65
Early stopping at iteration 646, Best Score: 2147.43
Early stopping at iteration 530, Best Score: 2128.47
Early stopping at iteration 523, Best Score: 2128.47
Early stopping at iteration 726, Best Score: 2155.45
Early stopping at iteration 524, Best Score: 2131.39
Early stopping at iteration 542, Best Score: 2133.22
Early stopping at iteration 503, Best Score: 2124.28
Early stopping at iteration 501, Best Score: 2124.28
Early stopping at iteration 574, Best Score: 2137.85
Early stopping at iteration 608, Best Score: 2150.91
Early stopping at iteration 509, Best Score: 2130.13
Early stopping at iteration 644, Best Score: 2136.10
Early stopping at iteration 701, Best Score: 2141.27
Early stopping at iteration 655, Best Score: 2147.94
Early stopping at iteration 617, Best Score: 2137.70
Early stopping at iteration 616, Best Score: 2141.91
Early stopping at iteration 573, Best Score: 2136.44
  Deck Trial 200/250
Early stopping at iteration 507, Best Score: 2124.28
Early stopping at iteration 628, Best Score: 2151.25
Early stopping at iteration 615, Best Score: 2135.58
Early stopping at iteration 520, Best Score: 2127.21
Early stopping at iteration 538, Best Score: 2130.13
Early stopping at iteration 523, Best Score: 2132.65
Early stopping at iteration 516, Best Score: 2124.28
Early stopping at iteration 586, Best Score: 2133.91
Early stopping at iteration 771, Best Score: 2151.27
Early stopping at iteration 721, Best Score: 2139.57
Early stopping at iteration 583, Best Score: 2142.68
```

```
Early stopping at iteration 543, Best Score: 2126.86
Early stopping at iteration 501, Best Score: 2124.28
Early stopping at iteration 512, Best Score: 2129.11
Early stopping at iteration 502, Best Score: 2124.28
Early stopping at iteration 667, Best Score: 2151.88
Early stopping at iteration 647, Best Score: 2150.71
Early stopping at iteration 557, Best Score: 2133.91
Early stopping at iteration 583, Best Score: 2139.75
Early stopping at iteration 606, Best Score: 2154.41
Early stopping at iteration 589, Best Score: 2135.18
Early stopping at iteration 501, Best Score: 2124.28
Early stopping at iteration 541, Best Score: 2133.39
Early stopping at iteration 716, Best Score: 2149.02
Early stopping at iteration 653, Best Score: 2149.45
Early stopping at iteration 650, Best Score: 2132.65
Early stopping at iteration 605, Best Score: 2143.64
Early stopping at iteration 664, Best Score: 2143.54
Early stopping at iteration 548, Best Score: 2130.12
Early stopping at iteration 508, Best Score: 2127.20
Early stopping at iteration 537, Best Score: 2128.47
Early stopping at iteration 656, Best Score: 2143.99
Early stopping at iteration 511, Best Score: 2124.28
Early stopping at iteration 593, Best Score: 2143.95
Early stopping at iteration 601, Best Score: 2147.02
Early stopping at iteration 543, Best Score: 2135.74
Early stopping at iteration 505, Best Score: 2124.28
Early stopping at iteration 716, Best Score: 2144.81
Early stopping at iteration 503, Best Score: 2124.28
Early stopping at iteration 634, Best Score: 2149.60
Early stopping at iteration 657, Best Score: 2147.89
Early stopping at iteration 685, Best Score: 2161.16
Early stopping at iteration 761, Best Score: 2149.67
Early stopping at iteration 790, Best Score: 2146.62
Early stopping at iteration 528, Best Score: 2134.07
Early stopping at iteration 577, Best Score: 2138.43
Early stopping at iteration 513, Best Score: 2128.47
Early stopping at iteration 521, Best Score: 2131.39
Early stopping at iteration 581, Best Score: 2146.38
Early stopping at iteration 500, Best Score: 2122.62
Early stopping at iteration 511, Best Score: 2128.47
GNN Trial 5 completed with 250 decks.

GNN Trial 6/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 99.4664, Synergy Loss: 2.3189, Total: 104.1042
Epoch 20/300 - Node Loss: 8.3234, Synergy Loss: 2.1531, Total: 12.6296
Epoch 30/300 - Node Loss: 4.1659, Synergy Loss: 2.0550, Total: 8.2759
Epoch 40/300 - Node Loss: 1.7392, Synergy Loss: 1.9247, Total: 5.5887
Epoch 50/300 - Node Loss: 1.1378, Synergy Loss: 1.7903, Total: 4.7184
Epoch 60/300 - Node Loss: 1.0283, Synergy Loss: 1.6860, Total: 4.4002
Epoch 70/300 - Node Loss: 1.0033, Synergy Loss: 1.6018, Total: 4.2069
Epoch 80/300 - Node Loss: 1.0033, Synergy Loss: 1.5534, Total: 4.1100
Epoch 90/300 - Node Loss: 1.0050, Synergy Loss: 1.5375, Total: 4.0800
Epoch 100/300 - Node Loss: 1.0268, Synergy Loss: 1.4827, Total: 3.9921
Epoch 110/300 - Node Loss: 1.0701, Synergy Loss: 1.3847, Total: 3.8394
Epoch 120/300 - Node Loss: 1.0768, Synergy Loss: 1.2814, Total: 3.6396
Epoch 130/300 - Node Loss: 1.0438, Synergy Loss: 1.2435, Total: 3.5309
Epoch 140/300 - Node Loss: 1.0478, Synergy Loss: 1.2010, Total: 3.4498
Epoch 150/300 - Node Loss: 1.1160, Synergy Loss: 1.0771, Total: 3.2703
Epoch 160/300 - Node Loss: 1.1089, Synergy Loss: 1.0271, Total: 3.1631
```

```
Epoch 170/300 - Node Loss: 1.1238, Synergy Loss: 0.9301, Total: 2.9839
Epoch 180/300 - Node Loss: 1.1478, Synergy Loss: 0.8017, Total: 2.7513
Epoch 190/300 - Node Loss: 1.2436, Synergy Loss: 0.6632, Total: 2.5700
Epoch 200/300 - Node Loss: 1.2345, Synergy Loss: 0.5960, Total: 2.4265
Epoch 210/300 - Node Loss: 1.3265, Synergy Loss: 0.4795, Total: 2.2855
Epoch 220/300 - Node Loss: 1.3015, Synergy Loss: 0.4754, Total: 2.2523
Epoch 230/300 - Node Loss: 1.2551, Synergy Loss: 0.4844, Total: 2.2239
Epoch 240/300 - Node Loss: 1.1330, Synergy Loss: 0.4386, Total: 2.0101
Epoch 250/300 - Node Loss: 1.1277, Synergy Loss: 0.3750, Total: 1.8776
Epoch 260/300 - Node Loss: 1.1059, Synergy Loss: 0.3775, Total: 1.8609
Epoch 270/300 - Node Loss: 1.1319, Synergy Loss: 0.3316, Total: 1.7951
Epoch 280/300 - Node Loss: 1.1233, Synergy Loss: 0.3165, Total: 1.7563
Epoch 290/300 - Node Loss: 1.1070, Synergy Loss: 0.3100, Total: 1.7271
Epoch 300/300 - Node Loss: 1.1035, Synergy Loss: 0.3241, Total: 1.7517
Existing model archived to: 20250310_134640_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 507, Best Score: 3240.34
Early stopping at iteration 829, Best Score: 3299.48
Early stopping at iteration 701, Best Score: 3295.87
Early stopping at iteration 560, Best Score: 3285.67
Early stopping at iteration 552, Best Score: 3275.48
Early stopping at iteration 543, Best Score: 3249.86
Early stopping at iteration 527, Best Score: 3240.33
Early stopping at iteration 649, Best Score: 3277.27
Early stopping at iteration 650, Best Score: 3251.87
Early stopping at iteration 582, Best Score: 3275.73
Early stopping at iteration 713, Best Score: 3241.23
Early stopping at iteration 625, Best Score: 3286.12
Early stopping at iteration 913, Best Score: 3291.02
Early stopping at iteration 707, Best Score: 3278.62
Early stopping at iteration 500, Best Score: 3228.81
Early stopping at iteration 670, Best Score: 3309.14
Early stopping at iteration 552, Best Score: 3260.79
Early stopping at iteration 531, Best Score: 3237.16
Early stopping at iteration 632, Best Score: 3255.62
Early stopping at iteration 558, Best Score: 3250.43
Early stopping at iteration 539, Best Score: 3265.40
Early stopping at iteration 566, Best Score: 3267.04
Early stopping at iteration 645, Best Score: 3268.31
Early stopping at iteration 795, Best Score: 3295.95
Early stopping at iteration 593, Best Score: 3274.08
Early stopping at iteration 647, Best Score: 3267.89
Early stopping at iteration 572, Best Score: 3273.25
Early stopping at iteration 555, Best Score: 3253.86
Early stopping at iteration 685, Best Score: 3273.64
Early stopping at iteration 532, Best Score: 3254.68
Early stopping at iteration 533, Best Score: 3247.36
Early stopping at iteration 528, Best Score: 3240.92
Early stopping at iteration 727, Best Score: 3274.56
Early stopping at iteration 512, Best Score: 3231.40
Early stopping at iteration 502, Best Score: 3231.40
Early stopping at iteration 911, Best Score: 3302.71
Early stopping at iteration 549, Best Score: 3250.42
Early stopping at iteration 555, Best Score: 3262.79
Early stopping at iteration 664, Best Score: 3267.42
Early stopping at iteration 516, Best Score: 3231.40
Early stopping at iteration 682, Best Score: 3275.89
Early stopping at iteration 547, Best Score: 3264.78
Early stopping at iteration 743, Best Score: 3297.83
Early stopping at iteration 674, Best Score: 3271.58
```

```
Early stopping at iteration 616, Best Score: 3275.20
Early stopping at iteration 871, Best Score: 3300.32
Early stopping at iteration 517, Best Score: 3240.91
Early stopping at iteration 553, Best Score: 3246.50
Early stopping at iteration 576, Best Score: 3281.01
Early stopping at iteration 508, Best Score: 3231.40
Early stopping at iteration 741, Best Score: 3272.34
Early stopping at iteration 570, Best Score: 3259.62
Early stopping at iteration 517, Best Score: 3231.40
Early stopping at iteration 677, Best Score: 3280.75
Early stopping at iteration 624, Best Score: 3263.21
Early stopping at iteration 709, Best Score: 3290.53
Early stopping at iteration 510, Best Score: 3231.40
Early stopping at iteration 727, Best Score: 3275.77
Early stopping at iteration 547, Best Score: 3258.80
Early stopping at iteration 638, Best Score: 3278.42
Early stopping at iteration 615, Best Score: 3273.26
Early stopping at iteration 549, Best Score: 3268.90
Early stopping at iteration 506, Best Score: 3231.40
Early stopping at iteration 536, Best Score: 3253.04
Early stopping at iteration 623, Best Score: 3298.51
Early stopping at iteration 721, Best Score: 3274.32
Early stopping at iteration 513, Best Score: 3240.93
Early stopping at iteration 500, Best Score: 3228.81
Early stopping at iteration 688, Best Score: 3272.65
Early stopping at iteration 537, Best Score: 3246.69
Early stopping at iteration 646, Best Score: 3268.89
Early stopping at iteration 701, Best Score: 3282.83
Early stopping at iteration 613, Best Score: 3267.96
Early stopping at iteration 624, Best Score: 3258.70
Early stopping at iteration 822, Best Score: 3286.29
Early stopping at iteration 655, Best Score: 3253.27
Early stopping at iteration 607, Best Score: 3269.73
Early stopping at iteration 609, Best Score: 3269.74
Early stopping at iteration 559, Best Score: 3259.97
Early stopping at iteration 622, Best Score: 3280.67
Early stopping at iteration 565, Best Score: 3258.21
Early stopping at iteration 575, Best Score: 3262.03
Early stopping at iteration 564, Best Score: 3277.20
Early stopping at iteration 565, Best Score: 3239.16
Early stopping at iteration 711, Best Score: 3276.22
Early stopping at iteration 581, Best Score: 3285.85
Early stopping at iteration 583, Best Score: 3262.70
Early stopping at iteration 583, Best Score: 3260.56
Early stopping at iteration 590, Best Score: 3263.40
Early stopping at iteration 663, Best Score: 3259.39
Early stopping at iteration 513, Best Score: 3237.16
Early stopping at iteration 542, Best Score: 3240.34
Early stopping at iteration 605, Best Score: 3261.38
Early stopping at iteration 571, Best Score: 3240.93
Early stopping at iteration 744, Best Score: 3286.75
Early stopping at iteration 520, Best Score: 3242.92
Early stopping at iteration 505, Best Score: 3231.40
Early stopping at iteration 600, Best Score: 3284.68
Early stopping at iteration 784, Best Score: 3278.89
  Deck Trial 100/250
Early stopping at iteration 660, Best Score: 3269.53
Early stopping at iteration 618, Best Score: 3265.60
Early stopping at iteration 736, Best Score: 3279.00
Early stopping at iteration 673, Best Score: 3295.44
```

```
Early stopping at iteration 760, Best Score: 3280.93
Early stopping at iteration 539, Best Score: 3238.91
Early stopping at iteration 563, Best Score: 3262.13
Early stopping at iteration 685, Best Score: 3304.01
Early stopping at iteration 638, Best Score: 3271.74
Early stopping at iteration 549, Best Score: 3268.36
Early stopping at iteration 551, Best Score: 3244.09
Early stopping at iteration 626, Best Score: 3279.26
Early stopping at iteration 559, Best Score: 3262.56
Early stopping at iteration 713, Best Score: 3303.97
Early stopping at iteration 605, Best Score: 3253.03
Early stopping at iteration 503, Best Score: 3231.40
Early stopping at iteration 575, Best Score: 3249.85
Early stopping at iteration 1077, Best Score: 3270.29
Early stopping at iteration 567, Best Score: 3249.19
Early stopping at iteration 538, Best Score: 3252.44
Early stopping at iteration 501, Best Score: 3231.40
Early stopping at iteration 503, Best Score: 3231.40
Early stopping at iteration 646, Best Score: 3266.56
Early stopping at iteration 503, Best Score: 3231.40
Early stopping at iteration 513, Best Score: 3231.40
Early stopping at iteration 506, Best Score: 3231.40
Early stopping at iteration 578, Best Score: 3267.72
Early stopping at iteration 656, Best Score: 3253.03
Early stopping at iteration 650, Best Score: 3272.73
Early stopping at iteration 536, Best Score: 3244.10
Early stopping at iteration 523, Best Score: 3240.93
Early stopping at iteration 512, Best Score: 3231.40
Early stopping at iteration 582, Best Score: 3253.28
Early stopping at iteration 573, Best Score: 3247.86
Early stopping at iteration 604, Best Score: 3266.26
Early stopping at iteration 557, Best Score: 3252.45
Early stopping at iteration 655, Best Score: 3298.77
Early stopping at iteration 900, Best Score: 3297.36
Early stopping at iteration 590, Best Score: 3277.93
Early stopping at iteration 510, Best Score: 3231.40
Early stopping at iteration 674, Best Score: 3293.59
Early stopping at iteration 500, Best Score: 3228.81
Early stopping at iteration 513, Best Score: 3246.09
Early stopping at iteration 573, Best Score: 3278.34
Early stopping at iteration 763, Best Score: 3276.90
Early stopping at iteration 812, Best Score: 3267.71
Early stopping at iteration 694, Best Score: 3302.57
Early stopping at iteration 608, Best Score: 3255.63
Early stopping at iteration 550, Best Score: 3274.65
Early stopping at iteration 656, Best Score: 3296.53
Early stopping at iteration 567, Best Score: 3271.22
Early stopping at iteration 547, Best Score: 3255.86
Early stopping at iteration 522, Best Score: 3263.19
Early stopping at iteration 738, Best Score: 3269.15
Early stopping at iteration 501, Best Score: 3231.40
Early stopping at iteration 844, Best Score: 3279.27
Early stopping at iteration 617, Best Score: 3265.97
Early stopping at iteration 632, Best Score: 3293.97
Early stopping at iteration 516, Best Score: 3231.40
Early stopping at iteration 613, Best Score: 3279.30
Early stopping at iteration 681, Best Score: 3283.03
Early stopping at iteration 515, Best Score: 3248.68
Early stopping at iteration 565, Best Score: 3249.86
Early stopping at iteration 552, Best Score: 3240.91
```

```
Early stopping at iteration 524, Best Score: 3240.33
Early stopping at iteration 597, Best Score: 3283.03
Early stopping at iteration 772, Best Score: 3291.35
Early stopping at iteration 638, Best Score: 3277.28
Early stopping at iteration 544, Best Score: 3251.86
Early stopping at iteration 639, Best Score: 3269.14
Early stopping at iteration 555, Best Score: 3268.89
Early stopping at iteration 776, Best Score: 3290.24
Early stopping at iteration 629, Best Score: 3254.80
Early stopping at iteration 539, Best Score: 3271.14
Early stopping at iteration 604, Best Score: 3251.88
Early stopping at iteration 697, Best Score: 3282.13
Early stopping at iteration 801, Best Score: 3259.37
Early stopping at iteration 605, Best Score: 3285.84
Early stopping at iteration 611, Best Score: 3281.52
Early stopping at iteration 761, Best Score: 3294.78
Early stopping at iteration 566, Best Score: 3268.32
Early stopping at iteration 729, Best Score: 3293.87
Early stopping at iteration 536, Best Score: 3245.41
Early stopping at iteration 520, Best Score: 3240.91
Early stopping at iteration 710, Best Score: 3284.94
Early stopping at iteration 584, Best Score: 3257.47
Early stopping at iteration 576, Best Score: 3280.69
Early stopping at iteration 506, Best Score: 3231.40
Early stopping at iteration 501, Best Score: 3231.40
Early stopping at iteration 524, Best Score: 3256.46
Early stopping at iteration 541, Best Score: 3262.46
Early stopping at iteration 552, Best Score: 3267.73
Early stopping at iteration 664, Best Score: 3271.80
Early stopping at iteration 599, Best Score: 3262.56
Early stopping at iteration 575, Best Score: 3256.21
Early stopping at iteration 614, Best Score: 3265.73
Early stopping at iteration 539, Best Score: 3255.86
Early stopping at iteration 589, Best Score: 3256.20
Early stopping at iteration 531, Best Score: 3240.92
Early stopping at iteration 657, Best Score: 3272.32
  Deck Trial 200/250
Early stopping at iteration 572, Best Score: 3258.13
Early stopping at iteration 501, Best Score: 3231.40
Early stopping at iteration 633, Best Score: 3293.37
Early stopping at iteration 538, Best Score: 3262.21
Early stopping at iteration 586, Best Score: 3288.15
Early stopping at iteration 706, Best Score: 3270.78
Early stopping at iteration 534, Best Score: 3237.16
Early stopping at iteration 523, Best Score: 3231.40
Early stopping at iteration 515, Best Score: 3243.51
Early stopping at iteration 608, Best Score: 3273.49
Early stopping at iteration 635, Best Score: 3249.85
Early stopping at iteration 641, Best Score: 3271.48
Early stopping at iteration 645, Best Score: 3287.76
Early stopping at iteration 741, Best Score: 3278.49
Early stopping at iteration 554, Best Score: 3267.39
Early stopping at iteration 613, Best Score: 3270.15
Early stopping at iteration 553, Best Score: 3253.87
Early stopping at iteration 600, Best Score: 3271.50
Early stopping at iteration 635, Best Score: 3261.39
Early stopping at iteration 594, Best Score: 3246.72
Early stopping at iteration 505, Best Score: 3231.40
Early stopping at iteration 677, Best Score: 3281.50
Early stopping at iteration 520, Best Score: 3246.69
```

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Early stopping at iteration 533, Best Score: 3247.84
Early stopping at iteration 611, Best Score: 3256.78
Early stopping at iteration 604, Best Score: 3281.50
Early stopping at iteration 761, Best Score: 3292.55
Early stopping at iteration 586, Best Score: 3282.34
Early stopping at iteration 650, Best Score: 3279.26
Early stopping at iteration 748, Best Score: 3297.09
Early stopping at iteration 505, Best Score: 3231.40
Early stopping at iteration 502, Best Score: 3231.40
Early stopping at iteration 643, Best Score: 3281.92
Early stopping at iteration 734, Best Score: 3270.91
Early stopping at iteration 581, Best Score: 3262.54
Early stopping at iteration 529, Best Score: 3246.96
Early stopping at iteration 997, Best Score: 3269.55
Early stopping at iteration 570, Best Score: 3274.89
Early stopping at iteration 646, Best Score: 3281.49
Early stopping at iteration 509, Best Score: 3231.40
Early stopping at iteration 589, Best Score: 3252.69
Early stopping at iteration 513, Best Score: 3231.40
Early stopping at iteration 754, Best Score: 3265.98
Early stopping at iteration 786, Best Score: 3271.03
Early stopping at iteration 541, Best Score: 3242.92
Early stopping at iteration 504, Best Score: 3231.40
Early stopping at iteration 531, Best Score: 3244.08
Early stopping at iteration 591, Best Score: 3270.90
Early stopping at iteration 663, Best Score: 3270.94
Early stopping at iteration 534, Best Score: 3244.34
Early stopping at iteration 756, Best Score: 3278.06
GNN Trial 6 completed with 250 decks.

GNN Trial 7/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 42.7761, Synergy Loss: 2.3096, Total: 47.3953
Epoch 20/300 - Node Loss: 7.3730, Synergy Loss: 2.1691, Total: 11.7111
Epoch 30/300 - Node Loss: 3.1240, Synergy Loss: 2.0701, Total: 7.2642
Epoch 40/300 - Node Loss: 2.3440, Synergy Loss: 1.9847, Total: 6.3134
Epoch 50/300 - Node Loss: 1.6304, Synergy Loss: 1.9052, Total: 5.4409
Epoch 60/300 - Node Loss: 1.2437, Synergy Loss: 1.8238, Total: 4.8912
Epoch 70/300 - Node Loss: 1.1495, Synergy Loss: 1.7524, Total: 4.6543
Epoch 80/300 - Node Loss: 1.0214, Synergy Loss: 1.6895, Total: 4.4004
Epoch 90/300 - Node Loss: 1.0305, Synergy Loss: 1.6329, Total: 4.2963
Epoch 100/300 - Node Loss: 1.0292, Synergy Loss: 1.5747, Total: 4.1786
Epoch 110/300 - Node Loss: 1.0624, Synergy Loss: 1.5162, Total: 4.0949
Epoch 120/300 - Node Loss: 1.0318, Synergy Loss: 1.4509, Total: 3.9336
Epoch 130/300 - Node Loss: 1.0558, Synergy Loss: 1.3657, Total: 3.7872
Epoch 140/300 - Node Loss: 1.0605, Synergy Loss: 1.2654, Total: 3.5913
Epoch 150/300 - Node Loss: 1.0493, Synergy Loss: 1.1900, Total: 3.4294
Epoch 160/300 - Node Loss: 1.0873, Synergy Loss: 1.0998, Total: 3.2869
Epoch 170/300 - Node Loss: 1.0929, Synergy Loss: 1.0224, Total: 3.1378
Epoch 180/300 - Node Loss: 1.1486, Synergy Loss: 0.9932, Total: 3.1350
Epoch 190/300 - Node Loss: 1.1069, Synergy Loss: 0.9870, Total: 3.0809
Epoch 200/300 - Node Loss: 1.1874, Synergy Loss: 0.9212, Total: 3.0298
Epoch 210/300 - Node Loss: 1.1618, Synergy Loss: 0.8945, Total: 2.9509
Epoch 220/300 - Node Loss: 1.0958, Synergy Loss: 0.8915, Total: 2.8787
Epoch 230/300 - Node Loss: 1.1581, Synergy Loss: 0.8867, Total: 2.9316
Epoch 240/300 - Node Loss: 1.1021, Synergy Loss: 0.8616, Total: 2.8254
Epoch 250/300 - Node Loss: 1.1536, Synergy Loss: 0.8487, Total: 2.8509
Epoch 260/300 - Node Loss: 1.1408, Synergy Loss: 0.8547, Total: 2.8502
Epoch 270/300 - Node Loss: 1.1568, Synergy Loss: 0.8735, Total: 2.9038
Epoch 280/300 - Node Loss: 1.1318, Synergy Loss: 0.8250, Total: 2.7818
```

```
Epoch 290/300 - Node Loss: 1.0766, Synergy Loss: 0.8203, Total: 2.7173
Epoch 300/300 - Node Loss: 1.1043, Synergy Loss: 0.7858, Total: 2.6759
Existing model archived to: 20250310_140535_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 678, Best Score: 2500.09
Early stopping at iteration 705, Best Score: 2498.90
Early stopping at iteration 570, Best Score: 2482.21
Early stopping at iteration 673, Best Score: 2485.49
Early stopping at iteration 727, Best Score: 2509.71
Early stopping at iteration 579, Best Score: 2496.11
Early stopping at iteration 650, Best Score: 2489.56
Early stopping at iteration 569, Best Score: 2494.10
Early stopping at iteration 647, Best Score: 2495.40
Early stopping at iteration 787, Best Score: 2508.56
Early stopping at iteration 583, Best Score: 2498.36
Early stopping at iteration 533, Best Score: 2486.67
Early stopping at iteration 796, Best Score: 2510.11
Early stopping at iteration 571, Best Score: 2493.50
Early stopping at iteration 529, Best Score: 2479.26
Early stopping at iteration 552, Best Score: 2489.71
Early stopping at iteration 613, Best Score: 2498.27
Early stopping at iteration 671, Best Score: 2488.34
Early stopping at iteration 518, Best Score: 2482.08
Early stopping at iteration 606, Best Score: 2499.21
Early stopping at iteration 583, Best Score: 2492.05
Early stopping at iteration 833, Best Score: 2510.05
Early stopping at iteration 561, Best Score: 2488.13
Early stopping at iteration 623, Best Score: 2495.88
Early stopping at iteration 751, Best Score: 2516.70
Early stopping at iteration 512, Best Score: 2478.55
Early stopping at iteration 791, Best Score: 2505.30
Early stopping at iteration 589, Best Score: 2485.30
Early stopping at iteration 539, Best Score: 2482.25
Early stopping at iteration 583, Best Score: 2493.95
Early stopping at iteration 524, Best Score: 2474.51
Early stopping at iteration 612, Best Score: 2502.70
Early stopping at iteration 764, Best Score: 2491.93
Early stopping at iteration 521, Best Score: 2483.51
Early stopping at iteration 595, Best Score: 2485.11
Early stopping at iteration 608, Best Score: 2502.24
Early stopping at iteration 633, Best Score: 2505.56
Early stopping at iteration 639, Best Score: 2503.10
Early stopping at iteration 550, Best Score: 2483.88
Early stopping at iteration 627, Best Score: 2506.76
Early stopping at iteration 565, Best Score: 2487.09
Early stopping at iteration 574, Best Score: 2491.51
Early stopping at iteration 574, Best Score: 2499.04
Early stopping at iteration 594, Best Score: 2505.88
Early stopping at iteration 730, Best Score: 2504.95
Early stopping at iteration 619, Best Score: 2501.17
Early stopping at iteration 734, Best Score: 2493.90
Early stopping at iteration 964, Best Score: 2501.22
Early stopping at iteration 518, Best Score: 2479.67
Early stopping at iteration 630, Best Score: 2486.93
Early stopping at iteration 564, Best Score: 2500.90
Early stopping at iteration 577, Best Score: 2501.64
Early stopping at iteration 727, Best Score: 2503.64
Early stopping at iteration 541, Best Score: 2486.88
Early stopping at iteration 778, Best Score: 2515.49
Early stopping at iteration 523, Best Score: 2487.70
```

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Early stopping at iteration 628, Best Score: 2499.02
Early stopping at iteration 666, Best Score: 2500.59
Early stopping at iteration 542, Best Score: 2493.19
Early stopping at iteration 570, Best Score: 2492.00
Early stopping at iteration 532, Best Score: 2478.37
Early stopping at iteration 525, Best Score: 2482.51
Early stopping at iteration 621, Best Score: 2496.87
Early stopping at iteration 623, Best Score: 2508.37
Early stopping at iteration 537, Best Score: 2481.20
Early stopping at iteration 736, Best Score: 2504.03
Early stopping at iteration 598, Best Score: 2494.28
Early stopping at iteration 639, Best Score: 2503.88
Early stopping at iteration 581, Best Score: 2483.76
Early stopping at iteration 553, Best Score: 2482.91
Early stopping at iteration 624, Best Score: 2494.95
Early stopping at iteration 540, Best Score: 2492.91
Early stopping at iteration 591, Best Score: 2495.59
Early stopping at iteration 628, Best Score: 2502.84
Early stopping at iteration 632, Best Score: 2493.67
Early stopping at iteration 554, Best Score: 2490.09
Early stopping at iteration 606, Best Score: 2494.72
Early stopping at iteration 681, Best Score: 2494.57
Early stopping at iteration 572, Best Score: 2490.23
Early stopping at iteration 663, Best Score: 2502.99
Early stopping at iteration 885, Best Score: 2502.25
Early stopping at iteration 568, Best Score: 2499.86
Early stopping at iteration 634, Best Score: 2492.44
Early stopping at iteration 717, Best Score: 2499.23
Early stopping at iteration 619, Best Score: 2492.40
Early stopping at iteration 590, Best Score: 2498.88
Early stopping at iteration 578, Best Score: 2480.41
Early stopping at iteration 576, Best Score: 2492.61
Early stopping at iteration 654, Best Score: 2504.36
Early stopping at iteration 574, Best Score: 2487.85
Early stopping at iteration 689, Best Score: 2510.57
Early stopping at iteration 603, Best Score: 2491.13
Early stopping at iteration 607, Best Score: 2499.04
Early stopping at iteration 579, Best Score: 2492.35
Early stopping at iteration 554, Best Score: 2498.74
Early stopping at iteration 602, Best Score: 2502.88
Early stopping at iteration 666, Best Score: 2503.24
Early stopping at iteration 660, Best Score: 2496.41
Early stopping at iteration 662, Best Score: 2496.97
  Deck Trial 100/250
Early stopping at iteration 531, Best Score: 2486.67
Early stopping at iteration 540, Best Score: 2486.08
Early stopping at iteration 886, Best Score: 2506.13
Early stopping at iteration 655, Best Score: 2498.82
Early stopping at iteration 535, Best Score: 2494.77
Early stopping at iteration 548, Best Score: 2499.13
Early stopping at iteration 551, Best Score: 2491.16
Early stopping at iteration 598, Best Score: 2495.77
Early stopping at iteration 733, Best Score: 2502.71
Early stopping at iteration 804, Best Score: 2505.68
Early stopping at iteration 616, Best Score: 2489.49
Early stopping at iteration 548, Best Score: 2473.27
Early stopping at iteration 593, Best Score: 2493.91
Early stopping at iteration 614, Best Score: 2497.30
Early stopping at iteration 550, Best Score: 2502.43
Early stopping at iteration 529, Best Score: 2487.59
```

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Early stopping at iteration 551, Best Score: 2500.35
Early stopping at iteration 552, Best Score: 2491.18
Early stopping at iteration 690, Best Score: 2506.83
Early stopping at iteration 814, Best Score: 2491.38
Early stopping at iteration 514, Best Score: 2484.95
Early stopping at iteration 683, Best Score: 2511.38
Early stopping at iteration 531, Best Score: 2483.38
Early stopping at iteration 523, Best Score: 2477.82
Early stopping at iteration 571, Best Score: 2487.93
Early stopping at iteration 660, Best Score: 2495.68
Early stopping at iteration 607, Best Score: 2489.68
Early stopping at iteration 632, Best Score: 2500.49
Early stopping at iteration 528, Best Score: 2499.16
Early stopping at iteration 646, Best Score: 2500.70
Early stopping at iteration 530, Best Score: 2487.33
Early stopping at iteration 660, Best Score: 2507.01
Early stopping at iteration 595, Best Score: 2494.51
Early stopping at iteration 638, Best Score: 2497.54
Early stopping at iteration 576, Best Score: 2485.70
Early stopping at iteration 591, Best Score: 2504.56
Early stopping at iteration 592, Best Score: 2482.78
Early stopping at iteration 535, Best Score: 2475.54
Early stopping at iteration 561, Best Score: 2493.84
Early stopping at iteration 652, Best Score: 2493.58
Early stopping at iteration 642, Best Score: 2495.61
Early stopping at iteration 606, Best Score: 2494.11
Early stopping at iteration 547, Best Score: 2487.56
Early stopping at iteration 640, Best Score: 2500.24
Early stopping at iteration 606, Best Score: 2493.25
Early stopping at iteration 673, Best Score: 2492.05
Early stopping at iteration 691, Best Score: 2503.04
Early stopping at iteration 613, Best Score: 2486.17
Early stopping at iteration 563, Best Score: 2491.99
Early stopping at iteration 967, Best Score: 2498.83
Early stopping at iteration 580, Best Score: 2486.02
Early stopping at iteration 573, Best Score: 2479.02
Early stopping at iteration 541, Best Score: 2484.55
Early stopping at iteration 561, Best Score: 2494.75
Early stopping at iteration 547, Best Score: 2484.52
Early stopping at iteration 784, Best Score: 2502.24
Early stopping at iteration 607, Best Score: 2493.98
Early stopping at iteration 573, Best Score: 2491.74
Early stopping at iteration 840, Best Score: 2510.75
Early stopping at iteration 552, Best Score: 2483.19
Early stopping at iteration 542, Best Score: 2485.89
Early stopping at iteration 534, Best Score: 2497.42
Early stopping at iteration 662, Best Score: 2496.46
Early stopping at iteration 645, Best Score: 2506.22
Early stopping at iteration 523, Best Score: 2480.25
Early stopping at iteration 597, Best Score: 2509.56
Early stopping at iteration 583, Best Score: 2488.45
Early stopping at iteration 598, Best Score: 2490.17
Early stopping at iteration 618, Best Score: 2491.81
Early stopping at iteration 560, Best Score: 2486.24
Early stopping at iteration 796, Best Score: 2500.40
Early stopping at iteration 569, Best Score: 2494.44
Early stopping at iteration 701, Best Score: 2505.00
Early stopping at iteration 838, Best Score: 2515.61
Early stopping at iteration 547, Best Score: 2486.10
Early stopping at iteration 660, Best Score: 2508.59
```

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Early stopping at iteration 560, Best Score: 2491.53
Early stopping at iteration 550, Best Score: 2485.27
Early stopping at iteration 644, Best Score: 2495.33
Early stopping at iteration 585, Best Score: 2488.38
Early stopping at iteration 633, Best Score: 2505.11
Early stopping at iteration 581, Best Score: 2502.66
Early stopping at iteration 504, Best Score: 2475.81
Early stopping at iteration 599, Best Score: 2505.39
Early stopping at iteration 534, Best Score: 2485.07
Early stopping at iteration 513, Best Score: 2476.83
Early stopping at iteration 686, Best Score: 2492.63
Early stopping at iteration 849, Best Score: 2502.00
Early stopping at iteration 666, Best Score: 2499.79
Early stopping at iteration 540, Best Score: 2484.53
Early stopping at iteration 794, Best Score: 2499.29
Early stopping at iteration 583, Best Score: 2496.60
Early stopping at iteration 589, Best Score: 2489.59
Early stopping at iteration 932, Best Score: 2513.41
Early stopping at iteration 1048, Best Score: 2505.79
Early stopping at iteration 620, Best Score: 2494.92
Early stopping at iteration 632, Best Score: 2503.17
Early stopping at iteration 695, Best Score: 2487.40
Early stopping at iteration 557, Best Score: 2497.00
Early stopping at iteration 569, Best Score: 2486.26
  Deck Trial 200/250
Early stopping at iteration 582, Best Score: 2492.59
Early stopping at iteration 561, Best Score: 2487.04
Early stopping at iteration 534, Best Score: 2489.43
Early stopping at iteration 616, Best Score: 2482.62
Early stopping at iteration 683, Best Score: 2498.57
Early stopping at iteration 637, Best Score: 2501.66
Early stopping at iteration 597, Best Score: 2487.98
Early stopping at iteration 587, Best Score: 2498.49
Early stopping at iteration 560, Best Score: 2496.12
Early stopping at iteration 775, Best Score: 2496.32
Early stopping at iteration 661, Best Score: 2497.73
Early stopping at iteration 576, Best Score: 2489.83
Early stopping at iteration 608, Best Score: 2487.29
Early stopping at iteration 616, Best Score: 2499.32
Early stopping at iteration 750, Best Score: 2505.41
Early stopping at iteration 611, Best Score: 2503.18
Early stopping at iteration 732, Best Score: 2501.56
Early stopping at iteration 692, Best Score: 2492.89
Early stopping at iteration 729, Best Score: 2508.59
Early stopping at iteration 552, Best Score: 2488.90
Early stopping at iteration 633, Best Score: 2490.77
Early stopping at iteration 569, Best Score: 2483.58
Early stopping at iteration 549, Best Score: 2483.44
Early stopping at iteration 723, Best Score: 2488.00
Early stopping at iteration 708, Best Score: 2495.75
Early stopping at iteration 578, Best Score: 2490.14
Early stopping at iteration 573, Best Score: 2487.12
Early stopping at iteration 697, Best Score: 2490.08
Early stopping at iteration 668, Best Score: 2496.77
Early stopping at iteration 637, Best Score: 2500.21
Early stopping at iteration 576, Best Score: 2489.61
Early stopping at iteration 823, Best Score: 2506.28
Early stopping at iteration 594, Best Score: 2492.31
Early stopping at iteration 557, Best Score: 2486.01
Early stopping at iteration 651, Best Score: 2485.89
```

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Early stopping at iteration 605, Best Score: 2501.62
Early stopping at iteration 664, Best Score: 2501.72
Early stopping at iteration 541, Best Score: 2484.68
Early stopping at iteration 594, Best Score: 2499.16
Early stopping at iteration 600, Best Score: 2494.51
Early stopping at iteration 652, Best Score: 2499.22
Early stopping at iteration 711, Best Score: 2502.60
Early stopping at iteration 633, Best Score: 2497.80
Early stopping at iteration 701, Best Score: 2496.02
Early stopping at iteration 532, Best Score: 2484.71
Early stopping at iteration 628, Best Score: 2506.30
Early stopping at iteration 706, Best Score: 2493.21
Early stopping at iteration 678, Best Score: 2496.23
Early stopping at iteration 605, Best Score: 2496.73
Early stopping at iteration 539, Best Score: 2490.03
Early stopping at iteration 593, Best Score: 2503.78
GNN Trial 7 completed with 250 decks.

GNN Trial 8/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 39.4228, Synergy Loss: 2.1661, Total: 43.7550
Epoch 20/300 - Node Loss: 5.3406, Synergy Loss: 2.0247, Total: 9.3900
Epoch 30/300 - Node Loss: 2.1212, Synergy Loss: 1.9827, Total: 6.0867
Epoch 40/300 - Node Loss: 1.1238, Synergy Loss: 1.8931, Total: 4.9099
Epoch 50/300 - Node Loss: 1.0119, Synergy Loss: 1.7964, Total: 4.6047
Epoch 60/300 - Node Loss: 1.0026, Synergy Loss: 1.7089, Total: 4.4204
Epoch 70/300 - Node Loss: 1.0010, Synergy Loss: 1.6325, Total: 4.2660
Epoch 80/300 - Node Loss: 1.0046, Synergy Loss: 1.5769, Total: 4.1584
Epoch 90/300 - Node Loss: 1.0009, Synergy Loss: 1.5566, Total: 4.1141
Epoch 100/300 - Node Loss: 1.0012, Synergy Loss: 1.5520, Total: 4.1051
Epoch 110/300 - Node Loss: 1.0010, Synergy Loss: 1.5496, Total: 4.1002
Epoch 120/300 - Node Loss: 1.0019, Synergy Loss: 1.5463, Total: 4.0945
Epoch 130/300 - Node Loss: 1.0010, Synergy Loss: 1.5443, Total: 4.0895
Epoch 140/300 - Node Loss: 1.0017, Synergy Loss: 1.5440, Total: 4.0897
Epoch 150/300 - Node Loss: 1.0015, Synergy Loss: 1.5396, Total: 4.0807
Epoch 160/300 - Node Loss: 1.0075, Synergy Loss: 1.5245, Total: 4.0566
Epoch 170/300 - Node Loss: 1.0300, Synergy Loss: 1.4695, Total: 3.9689
Epoch 180/300 - Node Loss: 1.0732, Synergy Loss: 1.3772, Total: 3.8277
Epoch 190/300 - Node Loss: 1.1638, Synergy Loss: 1.2416, Total: 3.6471
Epoch 200/300 - Node Loss: 1.2317, Synergy Loss: 1.1064, Total: 3.4445
Epoch 210/300 - Node Loss: 1.2428, Synergy Loss: 0.9982, Total: 3.2393
Epoch 220/300 - Node Loss: 1.2096, Synergy Loss: 0.9680, Total: 3.1457
Epoch 230/300 - Node Loss: 1.1841, Synergy Loss: 0.9320, Total: 3.0482
Epoch 240/300 - Node Loss: 1.1809, Synergy Loss: 0.8817, Total: 2.9442
Epoch 250/300 - Node Loss: 1.2339, Synergy Loss: 0.8609, Total: 2.9557
Epoch 260/300 - Node Loss: 1.2055, Synergy Loss: 0.7936, Total: 2.7926
Epoch 270/300 - Node Loss: 1.1502, Synergy Loss: 0.7021, Total: 2.5543
Epoch 280/300 - Node Loss: 1.1623, Synergy Loss: 0.6067, Total: 2.3758
Epoch 290/300 - Node Loss: 1.1608, Synergy Loss: 0.9920, Total: 3.1449
Epoch 300/300 - Node Loss: 1.2750, Synergy Loss: 1.7832, Total: 4.8415
Existing model archived to: 20250310_142354_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 662, Best Score: 576.59
Early stopping at iteration 575, Best Score: 571.35
Early stopping at iteration 532, Best Score: 569.78
Early stopping at iteration 621, Best Score: 573.72
Early stopping at iteration 544, Best Score: 571.02
Early stopping at iteration 521, Best Score: 571.40
Early stopping at iteration 535, Best Score: 568.82
Early stopping at iteration 527, Best Score: 570.72
```

```
Early stopping at iteration 535, Best Score: 569.77
Early stopping at iteration 674, Best Score: 575.10
Early stopping at iteration 541, Best Score: 569.39
Early stopping at iteration 595, Best Score: 571.51
Early stopping at iteration 591, Best Score: 571.13
Early stopping at iteration 606, Best Score: 569.87
Early stopping at iteration 506, Best Score: 568.83
Early stopping at iteration 546, Best Score: 570.66
Early stopping at iteration 638, Best Score: 571.44
Early stopping at iteration 732, Best Score: 575.74
Early stopping at iteration 746, Best Score: 576.26
Early stopping at iteration 599, Best Score: 574.46
Early stopping at iteration 515, Best Score: 569.97
Early stopping at iteration 578, Best Score: 572.38
Early stopping at iteration 508, Best Score: 568.80
Early stopping at iteration 528, Best Score: 570.23
Early stopping at iteration 543, Best Score: 569.68
Early stopping at iteration 625, Best Score: 572.49
Early stopping at iteration 719, Best Score: 573.98
Early stopping at iteration 615, Best Score: 570.84
Early stopping at iteration 640, Best Score: 570.86
Early stopping at iteration 619, Best Score: 571.86
Early stopping at iteration 607, Best Score: 572.29
Early stopping at iteration 652, Best Score: 570.05
Early stopping at iteration 503, Best Score: 568.80
Early stopping at iteration 506, Best Score: 568.83
Early stopping at iteration 557, Best Score: 570.63
Early stopping at iteration 535, Best Score: 568.83
Early stopping at iteration 546, Best Score: 570.18
Early stopping at iteration 529, Best Score: 568.80
Early stopping at iteration 599, Best Score: 571.24
Early stopping at iteration 519, Best Score: 568.83
Early stopping at iteration 591, Best Score: 571.31
Early stopping at iteration 666, Best Score: 569.04
Early stopping at iteration 575, Best Score: 570.79
Early stopping at iteration 502, Best Score: 568.78
Early stopping at iteration 500, Best Score: 568.51
Early stopping at iteration 556, Best Score: 569.50
Early stopping at iteration 546, Best Score: 570.19
Early stopping at iteration 819, Best Score: 572.22
Early stopping at iteration 717, Best Score: 573.03
Early stopping at iteration 506, Best Score: 568.81
Early stopping at iteration 599, Best Score: 573.64
Early stopping at iteration 500, Best Score: 568.51
Early stopping at iteration 537, Best Score: 570.39
Early stopping at iteration 502, Best Score: 568.71
Early stopping at iteration 540, Best Score: 570.15
Early stopping at iteration 637, Best Score: 573.37
Early stopping at iteration 520, Best Score: 569.84
Early stopping at iteration 792, Best Score: 572.17
Early stopping at iteration 537, Best Score: 569.78
Early stopping at iteration 502, Best Score: 568.81
Early stopping at iteration 665, Best Score: 574.60
Early stopping at iteration 759, Best Score: 572.76
Early stopping at iteration 525, Best Score: 568.83
Early stopping at iteration 610, Best Score: 573.45
Early stopping at iteration 591, Best Score: 572.03
Early stopping at iteration 690, Best Score: 574.59
Early stopping at iteration 523, Best Score: 568.83
Early stopping at iteration 630, Best Score: 573.50
```

```
Early stopping at iteration 542, Best Score: 569.16
Early stopping at iteration 560, Best Score: 571.67
Early stopping at iteration 546, Best Score: 569.44
Early stopping at iteration 613, Best Score: 573.21
Early stopping at iteration 680, Best Score: 572.62
Early stopping at iteration 504, Best Score: 568.83
Early stopping at iteration 733, Best Score: 572.49
Early stopping at iteration 505, Best Score: 568.78
Early stopping at iteration 938, Best Score: 573.82
Early stopping at iteration 565, Best Score: 571.34
Early stopping at iteration 596, Best Score: 571.09
Early stopping at iteration 638, Best Score: 573.50
Early stopping at iteration 513, Best Score: 568.81
Early stopping at iteration 595, Best Score: 571.65
Early stopping at iteration 658, Best Score: 574.28
Early stopping at iteration 568, Best Score: 572.01
Early stopping at iteration 548, Best Score: 569.93
Early stopping at iteration 555, Best Score: 571.56
Early stopping at iteration 614, Best Score: 569.36
Early stopping at iteration 532, Best Score: 570.46
Early stopping at iteration 508, Best Score: 568.78
Early stopping at iteration 590, Best Score: 572.35
Early stopping at iteration 515, Best Score: 568.81
Early stopping at iteration 704, Best Score: 576.46
Early stopping at iteration 712, Best Score: 573.53
Early stopping at iteration 560, Best Score: 571.29
Early stopping at iteration 786, Best Score: 576.26
Early stopping at iteration 645, Best Score: 572.10
Early stopping at iteration 614, Best Score: 572.42
Early stopping at iteration 621, Best Score: 572.26
Early stopping at iteration 521, Best Score: 570.07
  Deck Trial 100/250
Early stopping at iteration 509, Best Score: 569.65
Early stopping at iteration 510, Best Score: 568.83
Early stopping at iteration 559, Best Score: 571.49
Early stopping at iteration 523, Best Score: 569.71
Early stopping at iteration 656, Best Score: 573.21
Early stopping at iteration 556, Best Score: 569.76
Early stopping at iteration 803, Best Score: 572.23
Early stopping at iteration 729, Best Score: 572.70
Early stopping at iteration 551, Best Score: 572.01
Early stopping at iteration 556, Best Score: 570.51
Early stopping at iteration 922, Best Score: 572.39
Early stopping at iteration 602, Best Score: 574.43
Early stopping at iteration 574, Best Score: 572.99
Early stopping at iteration 519, Best Score: 570.83
Early stopping at iteration 593, Best Score: 571.93
Early stopping at iteration 509, Best Score: 568.82
Early stopping at iteration 645, Best Score: 572.29
Early stopping at iteration 518, Best Score: 568.80
Early stopping at iteration 643, Best Score: 573.24
Early stopping at iteration 510, Best Score: 568.81
Early stopping at iteration 719, Best Score: 574.25
Early stopping at iteration 549, Best Score: 568.99
Early stopping at iteration 625, Best Score: 570.72
Early stopping at iteration 509, Best Score: 568.83
Early stopping at iteration 738, Best Score: 574.52
Early stopping at iteration 547, Best Score: 569.71
Early stopping at iteration 724, Best Score: 574.27
Early stopping at iteration 582, Best Score: 571.02
```

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Early stopping at iteration 625, Best Score: 573.16
Early stopping at iteration 501, Best Score: 568.80
Early stopping at iteration 532, Best Score: 568.83
Early stopping at iteration 560, Best Score: 569.83
Early stopping at iteration 564, Best Score: 570.13
Early stopping at iteration 680, Best Score: 573.22
Early stopping at iteration 501, Best Score: 568.83
Early stopping at iteration 579, Best Score: 571.57
Early stopping at iteration 676, Best Score: 574.24
Early stopping at iteration 600, Best Score: 570.90
Early stopping at iteration 522, Best Score: 569.66
Early stopping at iteration 555, Best Score: 572.08
Early stopping at iteration 545, Best Score: 570.23
Early stopping at iteration 556, Best Score: 571.34
Early stopping at iteration 551, Best Score: 570.54
Early stopping at iteration 526, Best Score: 570.36
Early stopping at iteration 503, Best Score: 569.36
Early stopping at iteration 501, Best Score: 568.82
Early stopping at iteration 568, Best Score: 571.87
Early stopping at iteration 582, Best Score: 572.33
Early stopping at iteration 521, Best Score: 569.60
Early stopping at iteration 555, Best Score: 570.58
Early stopping at iteration 699, Best Score: 572.85
Early stopping at iteration 542, Best Score: 570.56
Early stopping at iteration 590, Best Score: 571.36
Early stopping at iteration 501, Best Score: 568.80
Early stopping at iteration 504, Best Score: 568.80
Early stopping at iteration 686, Best Score: 573.79
Early stopping at iteration 545, Best Score: 570.79
Early stopping at iteration 661, Best Score: 574.41
Early stopping at iteration 627, Best Score: 571.28
Early stopping at iteration 600, Best Score: 568.83
Early stopping at iteration 733, Best Score: 575.06
Early stopping at iteration 501, Best Score: 568.83
Early stopping at iteration 506, Best Score: 568.82
Early stopping at iteration 507, Best Score: 568.81
Early stopping at iteration 550, Best Score: 572.03
Early stopping at iteration 606, Best Score: 571.39
Early stopping at iteration 567, Best Score: 570.54
Early stopping at iteration 509, Best Score: 568.80
Early stopping at iteration 560, Best Score: 569.40
Early stopping at iteration 500, Best Score: 568.51
Early stopping at iteration 562, Best Score: 572.24
Early stopping at iteration 536, Best Score: 568.83
Early stopping at iteration 692, Best Score: 576.92
Early stopping at iteration 534, Best Score: 569.78
Early stopping at iteration 502, Best Score: 568.78
Early stopping at iteration 515, Best Score: 569.43
Early stopping at iteration 599, Best Score: 572.43
Early stopping at iteration 643, Best Score: 573.75
Early stopping at iteration 508, Best Score: 569.63
Early stopping at iteration 840, Best Score: 571.66
Early stopping at iteration 728, Best Score: 571.95
Early stopping at iteration 512, Best Score: 568.78
Early stopping at iteration 977, Best Score: 577.37
Early stopping at iteration 617, Best Score: 570.51
Early stopping at iteration 623, Best Score: 574.05
Early stopping at iteration 679, Best Score: 573.07
Early stopping at iteration 580, Best Score: 573.49
Early stopping at iteration 522, Best Score: 569.46
```

```
Early stopping at iteration 575, Best Score: 571.00
Early stopping at iteration 636, Best Score: 573.21
Early stopping at iteration 505, Best Score: 568.78
Early stopping at iteration 534, Best Score: 570.09
Early stopping at iteration 502, Best Score: 568.81
Early stopping at iteration 506, Best Score: 568.78
Early stopping at iteration 504, Best Score: 568.82
Early stopping at iteration 516, Best Score: 568.83
Early stopping at iteration 511, Best Score: 568.82
Early stopping at iteration 515, Best Score: 568.83
Early stopping at iteration 510, Best Score: 570.17
Early stopping at iteration 521, Best Score: 569.34
  Deck Trial 200/250
Early stopping at iteration 684, Best Score: 574.25
Early stopping at iteration 587, Best Score: 571.35
Early stopping at iteration 607, Best Score: 573.03
Early stopping at iteration 502, Best Score: 568.83
Early stopping at iteration 788, Best Score: 573.89
Early stopping at iteration 605, Best Score: 572.70
Early stopping at iteration 593, Best Score: 571.47
Early stopping at iteration 625, Best Score: 572.38
Early stopping at iteration 579, Best Score: 570.51
Early stopping at iteration 764, Best Score: 572.98
Early stopping at iteration 573, Best Score: 568.83
Early stopping at iteration 666, Best Score: 573.38
Early stopping at iteration 509, Best Score: 568.82
Early stopping at iteration 556, Best Score: 569.48
Early stopping at iteration 501, Best Score: 568.80
Early stopping at iteration 568, Best Score: 570.47
Early stopping at iteration 586, Best Score: 575.70
Early stopping at iteration 537, Best Score: 570.24
Early stopping at iteration 784, Best Score: 573.50
Early stopping at iteration 582, Best Score: 573.26
Early stopping at iteration 576, Best Score: 572.89
Early stopping at iteration 702, Best Score: 573.81
Early stopping at iteration 538, Best Score: 570.55
Early stopping at iteration 581, Best Score: 573.07
Early stopping at iteration 553, Best Score: 570.81
Early stopping at iteration 515, Best Score: 569.80
Early stopping at iteration 656, Best Score: 570.77
Early stopping at iteration 506, Best Score: 568.83
Early stopping at iteration 506, Best Score: 568.83
Early stopping at iteration 518, Best Score: 569.54
Early stopping at iteration 548, Best Score: 569.57
Early stopping at iteration 510, Best Score: 568.81
Early stopping at iteration 671, Best Score: 574.01
Early stopping at iteration 731, Best Score: 572.52
Early stopping at iteration 910, Best Score: 573.13
Early stopping at iteration 945, Best Score: 574.41
Early stopping at iteration 518, Best Score: 569.69
Early stopping at iteration 580, Best Score: 572.44
Early stopping at iteration 594, Best Score: 573.79
Early stopping at iteration 621, Best Score: 573.46
Early stopping at iteration 535, Best Score: 568.83
Early stopping at iteration 502, Best Score: 568.80
Early stopping at iteration 599, Best Score: 573.16
Early stopping at iteration 524, Best Score: 569.91
Early stopping at iteration 503, Best Score: 568.83
Early stopping at iteration 503, Best Score: 568.83
Early stopping at iteration 519, Best Score: 568.82
```

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Early stopping at iteration 607, Best Score: 571.44
Early stopping at iteration 508, Best Score: 568.83
Early stopping at iteration 501, Best Score: 568.83
Early stopping at iteration 697, Best Score: 576.73
GNN Trial 8 completed with 250 decks.

GNN Trial 9/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 26.8098, Synergy Loss: 2.2538, Total: 31.3174
Epoch 20/300 - Node Loss: 5.2822, Synergy Loss: 2.1619, Total: 9.6060
Epoch 30/300 - Node Loss: 1.7235, Synergy Loss: 2.0682, Total: 5.8598
Epoch 40/300 - Node Loss: 1.1584, Synergy Loss: 1.9547, Total: 5.0678
Epoch 50/300 - Node Loss: 1.0120, Synergy Loss: 1.8424, Total: 4.6967
Epoch 60/300 - Node Loss: 1.0033, Synergy Loss: 1.7292, Total: 4.4617
Epoch 70/300 - Node Loss: 1.0037, Synergy Loss: 1.6190, Total: 4.2418
Epoch 80/300 - Node Loss: 1.0058, Synergy Loss: 1.5171, Total: 4.0401
Epoch 90/300 - Node Loss: 1.0361, Synergy Loss: 1.4099, Total: 3.8558
Epoch 100/300 - Node Loss: 1.0631, Synergy Loss: 1.2817, Total: 3.6264
Epoch 110/300 - Node Loss: 1.2937, Synergy Loss: 1.1523, Total: 3.5984
Epoch 120/300 - Node Loss: 1.1584, Synergy Loss: 1.0673, Total: 3.2930
Epoch 130/300 - Node Loss: 1.1607, Synergy Loss: 1.0058, Total: 3.1723
Epoch 140/300 - Node Loss: 1.1303, Synergy Loss: 0.9185, Total: 2.9673
Epoch 150/300 - Node Loss: 1.1715, Synergy Loss: 0.8499, Total: 2.8713
Epoch 160/300 - Node Loss: 1.1393, Synergy Loss: 0.7207, Total: 2.5807
Epoch 170/300 - Node Loss: 1.2247, Synergy Loss: 0.6445, Total: 2.5138
Epoch 180/300 - Node Loss: 1.1734, Synergy Loss: 0.5635, Total: 2.3005
Epoch 190/300 - Node Loss: 1.1386, Synergy Loss: 0.5142, Total: 2.1669
Epoch 200/300 - Node Loss: 1.2409, Synergy Loss: 0.5002, Total: 2.2414
Epoch 210/300 - Node Loss: 1.1373, Synergy Loss: 0.4566, Total: 2.0504
Epoch 220/300 - Node Loss: 1.1344, Synergy Loss: 0.4433, Total: 2.0210
Epoch 230/300 - Node Loss: 1.1866, Synergy Loss: 0.4309, Total: 2.0484
Epoch 240/300 - Node Loss: 1.1177, Synergy Loss: 0.4232, Total: 1.9640
Epoch 250/300 - Node Loss: 1.1586, Synergy Loss: 0.4274, Total: 2.0133
Epoch 260/300 - Node Loss: 1.1581, Synergy Loss: 0.3793, Total: 1.9166
Epoch 270/300 - Node Loss: 1.1137, Synergy Loss: 0.3977, Total: 1.9090
Epoch 280/300 - Node Loss: 1.1129, Synergy Loss: 0.3642, Total: 1.8414
Epoch 290/300 - Node Loss: 1.0981, Synergy Loss: 0.3584, Total: 1.8149
Epoch 300/300 - Node Loss: 1.1136, Synergy Loss: 0.3866, Total: 1.8868
Existing model archived to: 20250310_144243_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 762, Best Score: 3389.98
Early stopping at iteration 574, Best Score: 3367.08
Early stopping at iteration 631, Best Score: 3330.58
Early stopping at iteration 921, Best Score: 3399.06
Early stopping at iteration 771, Best Score: 3384.67
Early stopping at iteration 541, Best Score: 3347.48
Early stopping at iteration 601, Best Score: 3390.07
Early stopping at iteration 589, Best Score: 3369.09
Early stopping at iteration 502, Best Score: 3327.77
Early stopping at iteration 637, Best Score: 3358.47
Early stopping at iteration 647, Best Score: 3361.06
Early stopping at iteration 603, Best Score: 3367.06
Early stopping at iteration 981, Best Score: 3403.95
Early stopping at iteration 679, Best Score: 3377.53
Early stopping at iteration 640, Best Score: 3379.00
Early stopping at iteration 666, Best Score: 3401.31
Early stopping at iteration 639, Best Score: 3370.36
Early stopping at iteration 522, Best Score: 3336.94
Early stopping at iteration 623, Best Score: 3365.11
Early stopping at iteration 532, Best Score: 3342.65
```

```
Early stopping at iteration 519, Best Score: 3341.48
Early stopping at iteration 707, Best Score: 3383.53
Early stopping at iteration 534, Best Score: 3344.83
Early stopping at iteration 938, Best Score: 3386.80
Early stopping at iteration 604, Best Score: 3371.09
Early stopping at iteration 524, Best Score: 3342.06
Early stopping at iteration 583, Best Score: 3353.45
Early stopping at iteration 535, Best Score: 3350.00
Early stopping at iteration 655, Best Score: 3372.35
Early stopping at iteration 670, Best Score: 3374.24
Early stopping at iteration 630, Best Score: 3365.09
Early stopping at iteration 560, Best Score: 3378.27
Early stopping at iteration 795, Best Score: 3398.60
Early stopping at iteration 698, Best Score: 3379.54
Early stopping at iteration 699, Best Score: 3387.51
Early stopping at iteration 501, Best Score: 3327.77
Early stopping at iteration 805, Best Score: 3395.45
Early stopping at iteration 693, Best Score: 3373.51
Early stopping at iteration 882, Best Score: 3384.16
Early stopping at iteration 501, Best Score: 3327.77
Early stopping at iteration 748, Best Score: 3390.66
Early stopping at iteration 509, Best Score: 3340.94
Early stopping at iteration 1145, Best Score: 3416.95
Early stopping at iteration 798, Best Score: 3412.46
Early stopping at iteration 515, Best Score: 3327.77
Early stopping at iteration 623, Best Score: 3354.63
Early stopping at iteration 525, Best Score: 3340.84
Early stopping at iteration 534, Best Score: 3336.26
Early stopping at iteration 559, Best Score: 3365.09
Early stopping at iteration 663, Best Score: 3386.12
Early stopping at iteration 650, Best Score: 3404.61
Early stopping at iteration 636, Best Score: 3378.19
Early stopping at iteration 509, Best Score: 3326.95
Early stopping at iteration 556, Best Score: 3349.46
Early stopping at iteration 609, Best Score: 3375.63
Early stopping at iteration 595, Best Score: 3371.09
Early stopping at iteration 752, Best Score: 3371.00
Early stopping at iteration 654, Best Score: 3364.28
Early stopping at iteration 761, Best Score: 3382.68
Early stopping at iteration 629, Best Score: 3381.99
Early stopping at iteration 655, Best Score: 3399.25
Early stopping at iteration 619, Best Score: 3355.81
Early stopping at iteration 521, Best Score: 3339.55
Early stopping at iteration 544, Best Score: 3346.75
Early stopping at iteration 531, Best Score: 3354.00
Early stopping at iteration 513, Best Score: 3336.94
Early stopping at iteration 509, Best Score: 3327.77
Early stopping at iteration 548, Best Score: 3359.16
Early stopping at iteration 633, Best Score: 3372.27
Early stopping at iteration 503, Best Score: 3331.04
Early stopping at iteration 531, Best Score: 3338.81
Early stopping at iteration 720, Best Score: 3373.63
Early stopping at iteration 542, Best Score: 3357.20
Early stopping at iteration 662, Best Score: 3377.71
Early stopping at iteration 504, Best Score: 3327.77
Early stopping at iteration 540, Best Score: 3354.63
Early stopping at iteration 548, Best Score: 3331.10
Early stopping at iteration 542, Best Score: 3347.93
Early stopping at iteration 515, Best Score: 3336.94
Early stopping at iteration 636, Best Score: 3368.83
```

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Early stopping at iteration 503, Best Score: 3327.77
Early stopping at iteration 666, Best Score: 3363.09
Early stopping at iteration 620, Best Score: 3355.87
Early stopping at iteration 597, Best Score: 3353.23
Early stopping at iteration 570, Best Score: 3347.35
Early stopping at iteration 525, Best Score: 3333.67
Early stopping at iteration 667, Best Score: 3376.94
Early stopping at iteration 572, Best Score: 3343.63
Early stopping at iteration 788, Best Score: 3374.20
Early stopping at iteration 532, Best Score: 3356.98
Early stopping at iteration 589, Best Score: 3359.91
Early stopping at iteration 506, Best Score: 3327.77
Early stopping at iteration 724, Best Score: 3400.50
Early stopping at iteration 682, Best Score: 3393.91
Early stopping at iteration 666, Best Score: 3374.87
Early stopping at iteration 695, Best Score: 3385.34
Early stopping at iteration 687, Best Score: 3378.80
Early stopping at iteration 549, Best Score: 3354.65
Early stopping at iteration 684, Best Score: 3360.38
  Deck Trial 100/250
Early stopping at iteration 556, Best Score: 3344.11
Early stopping at iteration 555, Best Score: 3362.39
Early stopping at iteration 527, Best Score: 3343.48
Early stopping at iteration 640, Best Score: 3375.47
Early stopping at iteration 951, Best Score: 3389.26
Early stopping at iteration 582, Best Score: 3348.53
Early stopping at iteration 742, Best Score: 3393.88
Early stopping at iteration 671, Best Score: 3385.26
Early stopping at iteration 705, Best Score: 3391.32
Early stopping at iteration 525, Best Score: 3343.57
Early stopping at iteration 604, Best Score: 3338.00
Early stopping at iteration 710, Best Score: 3376.27
Early stopping at iteration 602, Best Score: 3382.84
Early stopping at iteration 658, Best Score: 3382.17
Early stopping at iteration 779, Best Score: 3386.80
Early stopping at iteration 589, Best Score: 3341.96
Early stopping at iteration 541, Best Score: 3363.19
Early stopping at iteration 621, Best Score: 3371.09
Early stopping at iteration 592, Best Score: 3371.73
Early stopping at iteration 555, Best Score: 3374.46
Early stopping at iteration 532, Best Score: 3346.11
Early stopping at iteration 588, Best Score: 3376.26
Early stopping at iteration 556, Best Score: 3356.55
Early stopping at iteration 632, Best Score: 3355.77
Early stopping at iteration 649, Best Score: 3390.70
Early stopping at iteration 535, Best Score: 3337.57
Early stopping at iteration 621, Best Score: 3361.17
Early stopping at iteration 610, Best Score: 3369.62
Early stopping at iteration 652, Best Score: 3380.79
Early stopping at iteration 800, Best Score: 3384.84
Early stopping at iteration 590, Best Score: 3382.26
Early stopping at iteration 614, Best Score: 3372.89
Early stopping at iteration 555, Best Score: 3343.48
Early stopping at iteration 640, Best Score: 3389.98
Early stopping at iteration 637, Best Score: 3363.82
Early stopping at iteration 570, Best Score: 3349.47
Early stopping at iteration 627, Best Score: 3381.43
Early stopping at iteration 645, Best Score: 3361.72
Early stopping at iteration 526, Best Score: 3343.48
Early stopping at iteration 535, Best Score: 3352.05
```

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Early stopping at iteration 522, Best Score: 3340.79
Early stopping at iteration 648, Best Score: 3380.69
Early stopping at iteration 729, Best Score: 3383.48
Early stopping at iteration 575, Best Score: 3350.75
Early stopping at iteration 623, Best Score: 3377.54
Early stopping at iteration 600, Best Score: 3375.54
Early stopping at iteration 540, Best Score: 3361.18
Early stopping at iteration 1048, Best Score: 3393.19
Early stopping at iteration 661, Best Score: 3381.19
Early stopping at iteration 564, Best Score: 3355.37
Early stopping at iteration 510, Best Score: 3327.77
Early stopping at iteration 651, Best Score: 3393.34
Early stopping at iteration 585, Best Score: 3348.07
Early stopping at iteration 576, Best Score: 3359.22
Early stopping at iteration 524, Best Score: 3350.11
Early stopping at iteration 651, Best Score: 3376.36
Early stopping at iteration 519, Best Score: 3337.57
Early stopping at iteration 547, Best Score: 3344.11
Early stopping at iteration 531, Best Score: 3337.57
Early stopping at iteration 535, Best Score: 3369.09
Early stopping at iteration 573, Best Score: 3347.38
Early stopping at iteration 628, Best Score: 3344.61
Early stopping at iteration 598, Best Score: 3361.82
Early stopping at iteration 526, Best Score: 3337.57
Early stopping at iteration 536, Best Score: 3349.38
Early stopping at iteration 555, Best Score: 3352.02
Early stopping at iteration 677, Best Score: 3372.90
Early stopping at iteration 745, Best Score: 3392.52
Early stopping at iteration 726, Best Score: 3389.44
Early stopping at iteration 663, Best Score: 3406.52
Early stopping at iteration 663, Best Score: 3365.09
Early stopping at iteration 577, Best Score: 3372.24
Early stopping at iteration 682, Best Score: 3380.06
Early stopping at iteration 548, Best Score: 3344.92
Early stopping at iteration 543, Best Score: 3365.82
Early stopping at iteration 656, Best Score: 3371.63
Early stopping at iteration 879, Best Score: 3381.41
Early stopping at iteration 550, Best Score: 3364.60
Early stopping at iteration 690, Best Score: 3346.75
Early stopping at iteration 534, Best Score: 3330.07
Early stopping at iteration 607, Best Score: 3352.75
Early stopping at iteration 619, Best Score: 3386.88
Early stopping at iteration 545, Best Score: 3350.11
Early stopping at iteration 674, Best Score: 3336.94
Early stopping at iteration 613, Best Score: 3372.27
Early stopping at iteration 585, Best Score: 3348.91
Early stopping at iteration 693, Best Score: 3388.15
Early stopping at iteration 715, Best Score: 3367.00
Early stopping at iteration 756, Best Score: 3386.80
Early stopping at iteration 712, Best Score: 3382.07
Early stopping at iteration 554, Best Score: 3357.29
Early stopping at iteration 646, Best Score: 3384.81
Early stopping at iteration 828, Best Score: 3381.39
Early stopping at iteration 623, Best Score: 3350.65
Early stopping at iteration 618, Best Score: 3375.00
Early stopping at iteration 566, Best Score: 3352.56
Early stopping at iteration 563, Best Score: 3355.29
Early stopping at iteration 597, Best Score: 3363.19
Early stopping at iteration 578, Best Score: 3367.78
Early stopping at iteration 785, Best Score: 3384.85
```

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  Deck Trial 200/250
Early stopping at iteration 561, Best Score: 3331.28
Early stopping at iteration 508, Best Score: 3327.77
Early stopping at iteration 505, Best Score: 3327.77
Early stopping at iteration 649, Best Score: 3372.87
Early stopping at iteration 931, Best Score: 3382.01
Early stopping at iteration 578, Best Score: 3362.46
Early stopping at iteration 506, Best Score: 3327.77
Early stopping at iteration 623, Best Score: 3378.87
Early stopping at iteration 579, Best Score: 3343.48
Early stopping at iteration 734, Best Score: 3368.36
Early stopping at iteration 799, Best Score: 3394.25
Early stopping at iteration 512, Best Score: 3339.57
Early stopping at iteration 566, Best Score: 3353.29
Early stopping at iteration 572, Best Score: 3357.19
Early stopping at iteration 608, Best Score: 3370.91
Early stopping at iteration 644, Best Score: 3393.41
Early stopping at iteration 756, Best Score: 3377.00
Early stopping at iteration 651, Best Score: 3366.99
Early stopping at iteration 766, Best Score: 3362.13
Early stopping at iteration 559, Best Score: 3367.82
Early stopping at iteration 720, Best Score: 3371.09
Early stopping at iteration 541, Best Score: 3365.19
Early stopping at iteration 551, Best Score: 3357.29
Early stopping at iteration 594, Best Score: 3365.63
Early stopping at iteration 543, Best Score: 3354.51
Early stopping at iteration 519, Best Score: 3334.96
Early stopping at iteration 710, Best Score: 3371.62
Early stopping at iteration 650, Best Score: 3391.98
Early stopping at iteration 504, Best Score: 3327.77
Early stopping at iteration 528, Best Score: 3356.65
Early stopping at iteration 633, Best Score: 3370.36
Early stopping at iteration 584, Best Score: 3363.56
Early stopping at iteration 790, Best Score: 3387.33
Early stopping at iteration 687, Best Score: 3340.75
Early stopping at iteration 578, Best Score: 3382.41
Early stopping at iteration 524, Best Score: 3350.64
Early stopping at iteration 577, Best Score: 3365.82
Early stopping at iteration 656, Best Score: 3378.57
Early stopping at iteration 862, Best Score: 3378.26
Early stopping at iteration 536, Best Score: 3350.73
Early stopping at iteration 583, Best Score: 3363.74
Early stopping at iteration 558, Best Score: 3334.86
Early stopping at iteration 653, Best Score: 3365.20
Early stopping at iteration 809, Best Score: 3392.01
Early stopping at iteration 561, Best Score: 3354.55
Early stopping at iteration 749, Best Score: 3381.22
Early stopping at iteration 565, Best Score: 3339.74
Early stopping at iteration 655, Best Score: 3359.28
Early stopping at iteration 577, Best Score: 3350.80
Early stopping at iteration 705, Best Score: 3347.38
Early stopping at iteration 535, Best Score: 3343.48
GNN Trial 9 completed with 250 decks.

GNN Trial 10/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 39.2686, Synergy Loss: 2.1162, Total: 43.5010
Epoch 20/300 - Node Loss: 4.6495, Synergy Loss: 2.0096, Total: 8.6687
Epoch 30/300 - Node Loss: 2.2223, Synergy Loss: 1.9212, Total: 6.0646
Epoch 40/300 - Node Loss: 1.2827, Synergy Loss: 1.8197, Total: 4.9220
```

```
Epoch 50/300 - Node Loss: 1.0282, Synergy Loss: 1.7320, Total: 4.4923
Epoch 60/300 - Node Loss: 1.0073, Synergy Loss: 1.6544, Total: 4.3160
Epoch 70/300 - Node Loss: 1.0055, Synergy Loss: 1.5921, Total: 4.1896
Epoch 80/300 - Node Loss: 1.0114, Synergy Loss: 1.5533, Total: 4.1180
Epoch 90/300 - Node Loss: 1.0090, Synergy Loss: 1.5425, Total: 4.0940
Epoch 100/300 - Node Loss: 1.0048, Synergy Loss: 1.5429, Total: 4.0906
Epoch 110/300 - Node Loss: 1.0880, Synergy Loss: 1.5340, Total: 4.1561
Epoch 120/300 - Node Loss: 1.0069, Synergy Loss: 1.5379, Total: 4.0827
Epoch 130/300 - Node Loss: 1.0082, Synergy Loss: 1.5353, Total: 4.0788
Epoch 140/300 - Node Loss: 1.0307, Synergy Loss: 1.5093, Total: 4.0494
Epoch 150/300 - Node Loss: 1.0692, Synergy Loss: 1.4069, Total: 3.8830
Epoch 160/300 - Node Loss: 1.1334, Synergy Loss: 1.2239, Total: 3.5812
Epoch 170/300 - Node Loss: 1.1721, Synergy Loss: 1.0469, Total: 3.2659
Epoch 180/300 - Node Loss: 1.1641, Synergy Loss: 1.0059, Total: 3.1758
Epoch 190/300 - Node Loss: 1.2706, Synergy Loss: 0.9191, Total: 3.1089
Epoch 200/300 - Node Loss: 1.2068, Synergy Loss: 0.8825, Total: 2.9718
Epoch 210/300 - Node Loss: 1.1802, Synergy Loss: 0.8577, Total: 2.8956
Epoch 220/300 - Node Loss: 1.1955, Synergy Loss: 0.8386, Total: 2.8726
Epoch 230/300 - Node Loss: 1.1651, Synergy Loss: 0.7776, Total: 2.7202
Epoch 240/300 - Node Loss: 1.1400, Synergy Loss: 0.6844, Total: 2.5087
Epoch 250/300 - Node Loss: 1.1510, Synergy Loss: 0.6117, Total: 2.3744
Epoch 260/300 - Node Loss: 1.1205, Synergy Loss: 0.5144, Total: 2.1494
Epoch 270/300 - Node Loss: 1.1442, Synergy Loss: 0.4571, Total: 2.0585
Epoch 280/300 - Node Loss: 1.1152, Synergy Loss: 0.4504, Total: 2.0160
Epoch 290/300 - Node Loss: 1.0977, Synergy Loss: 0.4307, Total: 1.9590
Epoch 300/300 - Node Loss: 1.1187, Synergy Loss: 0.4270, Total: 1.9728
Existing model archived to: 20250310_150000_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 502, Best Score: 3397.87
Early stopping at iteration 656, Best Score: 3457.19
Early stopping at iteration 526, Best Score: 3432.51
Early stopping at iteration 504, Best Score: 3412.33
Early stopping at iteration 501, Best Score: 3397.87
Early stopping at iteration 607, Best Score: 3444.41
Early stopping at iteration 561, Best Score: 3449.85
Early stopping at iteration 761, Best Score: 3418.03
Early stopping at iteration 567, Best Score: 3424.26
Early stopping at iteration 566, Best Score: 3408.32
Early stopping at iteration 815, Best Score: 3448.81
Early stopping at iteration 590, Best Score: 3425.72
Early stopping at iteration 519, Best Score: 3420.81
Early stopping at iteration 660, Best Score: 3447.64
Early stopping at iteration 752, Best Score: 3415.27
Early stopping at iteration 585, Best Score: 3429.93
Early stopping at iteration 520, Best Score: 3418.03
Early stopping at iteration 715, Best Score: 3447.33
Early stopping at iteration 822, Best Score: 3459.06
Early stopping at iteration 582, Best Score: 3424.76
Early stopping at iteration 712, Best Score: 3446.93
Early stopping at iteration 533, Best Score: 3418.03
Early stopping at iteration 502, Best Score: 3397.87
Early stopping at iteration 633, Best Score: 3422.24
Early stopping at iteration 501, Best Score: 3397.87
Early stopping at iteration 516, Best Score: 3404.10
Early stopping at iteration 601, Best Score: 3446.67
Early stopping at iteration 521, Best Score: 3415.46
Early stopping at iteration 503, Best Score: 3404.83
Early stopping at iteration 502, Best Score: 3397.87
Early stopping at iteration 629, Best Score: 3441.96
Early stopping at iteration 673, Best Score: 3445.14
```

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Early stopping at iteration 662, Best Score: 3419.11
Early stopping at iteration 615, Best Score: 3441.83
Early stopping at iteration 563, Best Score: 3432.74
Early stopping at iteration 608, Best Score: 3447.87
Early stopping at iteration 661, Best Score: 3451.54
Early stopping at iteration 500, Best Score: 3395.12
Early stopping at iteration 737, Best Score: 3465.06
Early stopping at iteration 589, Best Score: 3408.31
Early stopping at iteration 621, Best Score: 3425.72
Early stopping at iteration 528, Best Score: 3414.32
Early stopping at iteration 874, Best Score: 3475.12
Early stopping at iteration 506, Best Score: 3411.06
Early stopping at iteration 506, Best Score: 3406.10
Early stopping at iteration 672, Best Score: 3466.36
Early stopping at iteration 557, Best Score: 3407.58
Early stopping at iteration 547, Best Score: 3408.31
Early stopping at iteration 707, Best Score: 3438.58
Early stopping at iteration 503, Best Score: 3397.87
Early stopping at iteration 574, Best Score: 3445.45
Early stopping at iteration 625, Best Score: 3440.16
Early stopping at iteration 636, Best Score: 3414.55
Early stopping at iteration 625, Best Score: 3444.18
Early stopping at iteration 669, Best Score: 3454.85
Early stopping at iteration 501, Best Score: 3397.87
Early stopping at iteration 527, Best Score: 3417.80
Early stopping at iteration 544, Best Score: 3418.76
Early stopping at iteration 720, Best Score: 3460.88
Early stopping at iteration 634, Best Score: 3465.78
Early stopping at iteration 518, Best Score: 3422.01
Early stopping at iteration 710, Best Score: 3453.87
Early stopping at iteration 652, Best Score: 3451.10
Early stopping at iteration 502, Best Score: 3397.87
Early stopping at iteration 637, Best Score: 3443.30
Early stopping at iteration 504, Best Score: 3397.87
Early stopping at iteration 606, Best Score: 3428.47
Early stopping at iteration 544, Best Score: 3412.53
Early stopping at iteration 628, Best Score: 3424.76
Early stopping at iteration 633, Best Score: 3435.99
Early stopping at iteration 538, Best Score: 3408.31
Early stopping at iteration 748, Best Score: 3469.07
Early stopping at iteration 561, Best Score: 3420.95
Early stopping at iteration 599, Best Score: 3422.03
Early stopping at iteration 502, Best Score: 3397.87
Early stopping at iteration 658, Best Score: 3463.99
Early stopping at iteration 636, Best Score: 3446.93
Early stopping at iteration 681, Best Score: 3442.53
Early stopping at iteration 695, Best Score: 3459.35
Early stopping at iteration 628, Best Score: 3459.37
Early stopping at iteration 604, Best Score: 3434.24
Early stopping at iteration 574, Best Score: 3423.00
Early stopping at iteration 502, Best Score: 3397.87
Early stopping at iteration 527, Best Score: 3407.58
Early stopping at iteration 909, Best Score: 3440.72
Early stopping at iteration 595, Best Score: 3445.14
Early stopping at iteration 537, Best Score: 3408.32
Early stopping at iteration 605, Best Score: 3440.20
Early stopping at iteration 639, Best Score: 3448.39
Early stopping at iteration 535, Best Score: 3414.55
Early stopping at iteration 667, Best Score: 3443.15
Early stopping at iteration 528, Best Score: 3418.03
```

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Early stopping at iteration 705, Best Score: 3437.07
Early stopping at iteration 714, Best Score: 3461.04
Early stopping at iteration 515, Best Score: 3408.32
Early stopping at iteration 628, Best Score: 3424.26
Early stopping at iteration 522, Best Score: 3418.03
Early stopping at iteration 698, Best Score: 3449.35
Early stopping at iteration 512, Best Score: 3397.87
  Deck Trial 100/250
Early stopping at iteration 545, Best Score: 3422.05
Early stopping at iteration 647, Best Score: 3442.39
Early stopping at iteration 557, Best Score: 3428.47
Early stopping at iteration 507, Best Score: 3397.87
Early stopping at iteration 805, Best Score: 3472.26
Early stopping at iteration 545, Best Score: 3422.97
Early stopping at iteration 536, Best Score: 3429.74
Early stopping at iteration 613, Best Score: 3442.20
Early stopping at iteration 551, Best Score: 3437.03
Early stopping at iteration 569, Best Score: 3414.55
Early stopping at iteration 646, Best Score: 3448.76
Early stopping at iteration 504, Best Score: 3397.87
Early stopping at iteration 610, Best Score: 3440.42
Early stopping at iteration 609, Best Score: 3447.62
Early stopping at iteration 648, Best Score: 3437.95
Early stopping at iteration 673, Best Score: 3480.94
Early stopping at iteration 599, Best Score: 3435.42
Early stopping at iteration 574, Best Score: 3414.55
Early stopping at iteration 620, Best Score: 3456.31
Early stopping at iteration 699, Best Score: 3444.93
Early stopping at iteration 651, Best Score: 3449.68
Early stopping at iteration 553, Best Score: 3418.03
Early stopping at iteration 595, Best Score: 3432.68
Early stopping at iteration 637, Best Score: 3448.08
Early stopping at iteration 610, Best Score: 3448.25
Early stopping at iteration 505, Best Score: 3404.45
Early stopping at iteration 606, Best Score: 3427.21
Early stopping at iteration 638, Best Score: 3435.20
Early stopping at iteration 504, Best Score: 3397.87
Early stopping at iteration 755, Best Score: 3469.92
Early stopping at iteration 538, Best Score: 3408.31
Early stopping at iteration 638, Best Score: 3434.48
Early stopping at iteration 613, Best Score: 3434.47
Early stopping at iteration 542, Best Score: 3436.72
Early stopping at iteration 505, Best Score: 3397.87
Early stopping at iteration 775, Best Score: 3434.68
Early stopping at iteration 682, Best Score: 3431.39
Early stopping at iteration 931, Best Score: 3461.81
Early stopping at iteration 527, Best Score: 3419.48
Early stopping at iteration 503, Best Score: 3397.87
Early stopping at iteration 501, Best Score: 3397.87
Early stopping at iteration 598, Best Score: 3435.43
Early stopping at iteration 538, Best Score: 3408.32
Early stopping at iteration 509, Best Score: 3397.87
Early stopping at iteration 536, Best Score: 3433.24
Early stopping at iteration 549, Best Score: 3425.60
Early stopping at iteration 625, Best Score: 3452.58
Early stopping at iteration 546, Best Score: 3404.10
Early stopping at iteration 545, Best Score: 3419.56
Early stopping at iteration 504, Best Score: 3397.87
Early stopping at iteration 739, Best Score: 3415.28
Early stopping at iteration 557, Best Score: 3422.97
```

```
Early stopping at iteration 502, Best Score: 3397.87
Early stopping at iteration 623, Best Score: 3455.89
Early stopping at iteration 538, Best Score: 3441.22
Early stopping at iteration 1062, Best Score: 3436.89
Early stopping at iteration 628, Best Score: 3448.94
Early stopping at iteration 742, Best Score: 3455.58
Early stopping at iteration 544, Best Score: 3408.31
Early stopping at iteration 632, Best Score: 3433.24
Early stopping at iteration 578, Best Score: 3414.76
Early stopping at iteration 502, Best Score: 3397.87
Early stopping at iteration 517, Best Score: 3407.58
Early stopping at iteration 580, Best Score: 3439.64
Early stopping at iteration 589, Best Score: 3447.89
Early stopping at iteration 521, Best Score: 3404.10
Early stopping at iteration 516, Best Score: 3408.31
Early stopping at iteration 513, Best Score: 3405.75
Early stopping at iteration 502, Best Score: 3397.87
Early stopping at iteration 615, Best Score: 3427.01
Early stopping at iteration 607, Best Score: 3440.93
Early stopping at iteration 561, Best Score: 3428.47
Early stopping at iteration 644, Best Score: 3447.32
Early stopping at iteration 502, Best Score: 3397.87
Early stopping at iteration 711, Best Score: 3463.79
Early stopping at iteration 640, Best Score: 3445.94
Early stopping at iteration 535, Best Score: 3411.79
Early stopping at iteration 628, Best Score: 3435.93
Early stopping at iteration 570, Best Score: 3435.43
Early stopping at iteration 654, Best Score: 3452.67
Early stopping at iteration 719, Best Score: 3444.91
Early stopping at iteration 632, Best Score: 3441.49
Early stopping at iteration 649, Best Score: 3450.22
Early stopping at iteration 738, Best Score: 3446.55
Early stopping at iteration 632, Best Score: 3443.19
Early stopping at iteration 500, Best Score: 3395.12
Early stopping at iteration 542, Best Score: 3422.97
Early stopping at iteration 737, Best Score: 3433.24
Early stopping at iteration 546, Best Score: 3410.33
Early stopping at iteration 643, Best Score: 3430.99
Early stopping at iteration 576, Best Score: 3436.70
Early stopping at iteration 647, Best Score: 3446.93
Early stopping at iteration 505, Best Score: 3404.10
Early stopping at iteration 560, Best Score: 3424.26
Early stopping at iteration 576, Best Score: 3445.14
Early stopping at iteration 503, Best Score: 3397.87
Early stopping at iteration 548, Best Score: 3433.97
Early stopping at iteration 653, Best Score: 3450.52
Early stopping at iteration 627, Best Score: 3449.66
Early stopping at iteration 512, Best Score: 3397.87
  Deck Trial 200/250
Early stopping at iteration 546, Best Score: 3436.72
Early stopping at iteration 506, Best Score: 3397.87
Early stopping at iteration 509, Best Score: 3404.10
Early stopping at iteration 551, Best Score: 3423.31
Early stopping at iteration 678, Best Score: 3451.61
Early stopping at iteration 759, Best Score: 3446.39
Early stopping at iteration 502, Best Score: 3397.87
Early stopping at iteration 628, Best Score: 3458.84
Early stopping at iteration 653, Best Score: 3458.85
Early stopping at iteration 597, Best Score: 3422.24
Early stopping at iteration 526, Best Score: 3411.03
```

```
Early stopping at iteration 679, Best Score: 3456.38
Early stopping at iteration 723, Best Score: 3463.06
Early stopping at iteration 581, Best Score: 3437.31
Early stopping at iteration 639, Best Score: 3446.40
Early stopping at iteration 578, Best Score: 3431.81
Early stopping at iteration 612, Best Score: 3450.79
Early stopping at iteration 516, Best Score: 3411.42
Early stopping at iteration 548, Best Score: 3431.74
Early stopping at iteration 585, Best Score: 3432.68
Early stopping at iteration 593, Best Score: 3430.73
Early stopping at iteration 663, Best Score: 3462.33
Early stopping at iteration 668, Best Score: 3438.91
Early stopping at iteration 501, Best Score: 3395.85
Early stopping at iteration 558, Best Score: 3434.26
Early stopping at iteration 529, Best Score: 3408.32
Early stopping at iteration 540, Best Score: 3416.00
Early stopping at iteration 697, Best Score: 3446.39
Early stopping at iteration 539, Best Score: 3434.70
Early stopping at iteration 501, Best Score: 3397.87
Early stopping at iteration 560, Best Score: 3415.27
Early stopping at iteration 707, Best Score: 3447.16
Early stopping at iteration 595, Best Score: 3443.45
Early stopping at iteration 537, Best Score: 3408.31
Early stopping at iteration 602, Best Score: 3424.99
Early stopping at iteration 543, Best Score: 3408.31
Early stopping at iteration 661, Best Score: 3442.89
Early stopping at iteration 546, Best Score: 3431.01
Early stopping at iteration 608, Best Score: 3426.45
Early stopping at iteration 562, Best Score: 3463.35
Early stopping at iteration 546, Best Score: 3432.47
Early stopping at iteration 503, Best Score: 3397.87
Early stopping at iteration 560, Best Score: 3417.82
Early stopping at iteration 687, Best Score: 3446.39
Early stopping at iteration 576, Best Score: 3435.16
Early stopping at iteration 511, Best Score: 3403.59
Early stopping at iteration 776, Best Score: 3444.37
Early stopping at iteration 597, Best Score: 3422.97
Early stopping at iteration 577, Best Score: 3418.03
Early stopping at iteration 526, Best Score: 3411.79
Early stopping at iteration 502, Best Score: 3397.87
GNN Trial 10 completed with 250 decks.

GNN Trial 11/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 25.2256, Synergy Loss: 2.1088, Total: 29.4432
Epoch 20/300 - Node Loss: 4.7829, Synergy Loss: 1.9825, Total: 8.7479
Epoch 30/300 - Node Loss: 1.9694, Synergy Loss: 1.8666, Total: 5.7027
Epoch 40/300 - Node Loss: 1.1170, Synergy Loss: 1.7337, Total: 4.5843
Epoch 50/300 - Node Loss: 1.0235, Synergy Loss: 1.6350, Total: 4.2934
Epoch 60/300 - Node Loss: 1.0107, Synergy Loss: 1.5661, Total: 4.1429
Epoch 70/300 - Node Loss: 1.0128, Synergy Loss: 1.5399, Total: 4.0927
Epoch 80/300 - Node Loss: 1.0037, Synergy Loss: 1.5413, Total: 4.0863
Epoch 90/300 - Node Loss: 1.0025, Synergy Loss: 1.5364, Total: 4.0753
Epoch 100/300 - Node Loss: 1.0042, Synergy Loss: 1.5223, Total: 4.0488
Epoch 110/300 - Node Loss: 1.0176, Synergy Loss: 1.4817, Total: 3.9811
Epoch 120/300 - Node Loss: 1.0521, Synergy Loss: 1.3763, Total: 3.8048
Epoch 130/300 - Node Loss: 1.0446, Synergy Loss: 1.2796, Total: 3.6039
Epoch 140/300 - Node Loss: 1.0750, Synergy Loss: 1.1553, Total: 3.3855
Epoch 150/300 - Node Loss: 1.1995, Synergy Loss: 1.0303, Total: 3.2600
Epoch 160/300 - Node Loss: 1.1983, Synergy Loss: 0.9353, Total: 3.0690
```

```
Epoch 170/300 - Node Loss: 1.1344, Synergy Loss: 0.9295, Total: 2.9933
Epoch 180/300 - Node Loss: 1.2191, Synergy Loss: 0.8094, Total: 2.8380
Epoch 190/300 - Node Loss: 1.1986, Synergy Loss: 0.6923, Total: 2.5833
Epoch 200/300 - Node Loss: 1.1918, Synergy Loss: 0.5838, Total: 2.3593
Epoch 210/300 - Node Loss: 1.1969, Synergy Loss: 0.5266, Total: 2.2502
Epoch 220/300 - Node Loss: 1.1773, Synergy Loss: 0.4646, Total: 2.1065
Epoch 230/300 - Node Loss: 1.2088, Synergy Loss: 0.4126, Total: 2.0341
Epoch 240/300 - Node Loss: 1.1288, Synergy Loss: 0.3860, Total: 1.9009
Epoch 250/300 - Node Loss: 1.1385, Synergy Loss: 0.3436, Total: 1.8257
Epoch 260/300 - Node Loss: 1.1055, Synergy Loss: 0.3323, Total: 1.7701
Epoch 270/300 - Node Loss: 1.1259, Synergy Loss: 0.3101, Total: 1.7462
Epoch 280/300 - Node Loss: 1.0966, Synergy Loss: 0.2912, Total: 1.6789
Epoch 290/300 - Node Loss: 1.0601, Synergy Loss: 0.3047, Total: 1.6696
Epoch 300/300 - Node Loss: 1.0482, Synergy Loss: 0.2683, Total: 1.5847
Existing model archived to: 20250310_151659_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 754, Best Score: 3281.39
Early stopping at iteration 1207, Best Score: 3413.05
Early stopping at iteration 1028, Best Score: 3075.69
Early stopping at iteration 1092, Best Score: 3395.79
Early stopping at iteration 759, Best Score: 2869.21
Early stopping at iteration 812, Best Score: 3411.57
Early stopping at iteration 796, Best Score: 3350.90
Early stopping at iteration 830, Best Score: 3381.95
Early stopping at iteration 760, Best Score: 3281.74
Early stopping at iteration 717, Best Score: 2955.07
Early stopping at iteration 651, Best Score: 2563.19
Early stopping at iteration 714, Best Score: 2715.67
Early stopping at iteration 644, Best Score: 2766.19
Early stopping at iteration 745, Best Score: 3273.74
Early stopping at iteration 1053, Best Score: 3396.35
Early stopping at iteration 705, Best Score: 3045.08
Early stopping at iteration 784, Best Score: 3319.41
Early stopping at iteration 941, Best Score: 3358.81
Early stopping at iteration 981, Best Score: 3381.14
Early stopping at iteration 1292, Best Score: 3465.34
Early stopping at iteration 627, Best Score: 2011.27
Early stopping at iteration 1157, Best Score: 3322.18
Early stopping at iteration 928, Best Score: 3380.23
Early stopping at iteration 948, Best Score: 3359.57
Early stopping at iteration 875, Best Score: 3374.04
Early stopping at iteration 709, Best Score: 2771.00
Early stopping at iteration 814, Best Score: 3363.89
Early stopping at iteration 896, Best Score: 3312.73
Early stopping at iteration 1032, Best Score: 3416.00
Early stopping at iteration 833, Best Score: 3257.63
Early stopping at iteration 1361, Best Score: 3348.45
Early stopping at iteration 667, Best Score: 2850.80
Early stopping at iteration 605, Best Score: 2163.09
Early stopping at iteration 744, Best Score: 3046.69
Early stopping at iteration 832, Best Score: 3321.30
Early stopping at iteration 767, Best Score: 3265.67
Early stopping at iteration 1119, Best Score: 3399.85
Early stopping at iteration 1041, Best Score: 3216.39
Early stopping at iteration 624, Best Score: 2442.20
Early stopping at iteration 860, Best Score: 3205.44
Early stopping at iteration 603, Best Score: 2124.53
Early stopping at iteration 738, Best Score: 3105.73
Early stopping at iteration 627, Best Score: 2604.36
Early stopping at iteration 734, Best Score: 2804.21
```

```
Early stopping at iteration 1535, Best Score: 3392.07
Early stopping at iteration 1072, Best Score: 3378.50
Early stopping at iteration 654, Best Score: 2008.71
Early stopping at iteration 909, Best Score: 3199.99
Early stopping at iteration 829, Best Score: 2941.31
Early stopping at iteration 836, Best Score: 2982.09
Early stopping at iteration 819, Best Score: 3304.35
Early stopping at iteration 763, Best Score: 3211.95
Early stopping at iteration 1089, Best Score: 3421.30
Early stopping at iteration 868, Best Score: 3373.12
Early stopping at iteration 753, Best Score: 3201.34
Early stopping at iteration 672, Best Score: 3087.66
Early stopping at iteration 794, Best Score: 3300.62
Early stopping at iteration 643, Best Score: 2439.34
Early stopping at iteration 870, Best Score: 3323.58
Early stopping at iteration 745, Best Score: 3141.12
Early stopping at iteration 831, Best Score: 2998.25
Early stopping at iteration 819, Best Score: 3029.57
Early stopping at iteration 1023, Best Score: 3436.63
Early stopping at iteration 592, Best Score: 2303.55
Early stopping at iteration 1121, Best Score: 3415.92
Early stopping at iteration 1457, Best Score: 3436.46
Early stopping at iteration 969, Best Score: 3282.41
Early stopping at iteration 725, Best Score: 3182.11
Early stopping at iteration 775, Best Score: 3231.48
Early stopping at iteration 756, Best Score: 3288.59
Early stopping at iteration 647, Best Score: 2392.46
Early stopping at iteration 736, Best Score: 3055.27
Early stopping at iteration 591, Best Score: 2376.06
Early stopping at iteration 695, Best Score: 2967.56
Early stopping at iteration 741, Best Score: 3115.77
Early stopping at iteration 660, Best Score: 2877.53
Early stopping at iteration 975, Best Score: 3448.61
Early stopping at iteration 756, Best Score: 3311.18
Early stopping at iteration 1257, Best Score: 3438.66
Early stopping at iteration 628, Best Score: 2428.56
Early stopping at iteration 822, Best Score: 3183.85
Early stopping at iteration 794, Best Score: 3384.98
Early stopping at iteration 580, Best Score: 1899.51
Early stopping at iteration 664, Best Score: 2841.99
Early stopping at iteration 705, Best Score: 2278.15
Early stopping at iteration 680, Best Score: 3000.07
Early stopping at iteration 855, Best Score: 3329.88
Early stopping at iteration 1236, Best Score: 3305.46
Early stopping at iteration 808, Best Score: 3291.53
Early stopping at iteration 787, Best Score: 3099.51
Early stopping at iteration 846, Best Score: 3193.19
Early stopping at iteration 1057, Best Score: 3400.75
Early stopping at iteration 990, Best Score: 3385.35
Early stopping at iteration 706, Best Score: 3165.06
Early stopping at iteration 1076, Best Score: 3363.19
Early stopping at iteration 749, Best Score: 3336.10
Early stopping at iteration 906, Best Score: 3333.43
Early stopping at iteration 623, Best Score: 1998.26
Early stopping at iteration 663, Best Score: 2878.41
  Deck Trial 100/250
Early stopping at iteration 890, Best Score: 3369.74
Early stopping at iteration 608, Best Score: 1955.66
Early stopping at iteration 754, Best Score: 3182.23
Early stopping at iteration 776, Best Score: 3199.05
```

```
Early stopping at iteration 694, Best Score: 3103.17
Early stopping at iteration 747, Best Score: 2851.15
Early stopping at iteration 646, Best Score: 2415.98
Early stopping at iteration 877, Best Score: 3135.29
Early stopping at iteration 926, Best Score: 2614.21
Early stopping at iteration 1052, Best Score: 3412.42
Early stopping at iteration 989, Best Score: 3363.71
Early stopping at iteration 795, Best Score: 3313.91
Early stopping at iteration 958, Best Score: 3413.71
Early stopping at iteration 965, Best Score: 3415.67
Early stopping at iteration 1005, Best Score: 3377.02
Early stopping at iteration 854, Best Score: 3381.89
Early stopping at iteration 953, Best Score: 3159.58
Early stopping at iteration 865, Best Score: 3297.98
Early stopping at iteration 838, Best Score: 3286.68
Early stopping at iteration 775, Best Score: 3189.56
Early stopping at iteration 949, Best Score: 3302.29
Early stopping at iteration 746, Best Score: 3122.19
Early stopping at iteration 825, Best Score: 3229.20
Early stopping at iteration 695, Best Score: 3071.55
Early stopping at iteration 959, Best Score: 3335.43
Early stopping at iteration 1165, Best Score: 3429.68
Early stopping at iteration 775, Best Score: 2916.34
Early stopping at iteration 828, Best Score: 3397.81
Early stopping at iteration 1131, Best Score: 3413.87
Early stopping at iteration 879, Best Score: 3239.97
Early stopping at iteration 992, Best Score: 3442.62
Early stopping at iteration 660, Best Score: 1929.08
Early stopping at iteration 1224, Best Score: 3374.48
Early stopping at iteration 672, Best Score: 3302.61
Early stopping at iteration 731, Best Score: 3240.55
Early stopping at iteration 1024, Best Score: 3256.46
Early stopping at iteration 1030, Best Score: 3414.80
Early stopping at iteration 865, Best Score: 3368.11
Early stopping at iteration 642, Best Score: 2184.14
Early stopping at iteration 656, Best Score: 2917.14
Early stopping at iteration 666, Best Score: 2883.70
Early stopping at iteration 799, Best Score: 3295.81
Early stopping at iteration 911, Best Score: 3393.77
Early stopping at iteration 792, Best Score: 3326.79
Early stopping at iteration 761, Best Score: 2923.29
Early stopping at iteration 993, Best Score: 3418.76
Early stopping at iteration 754, Best Score: 3105.09
Early stopping at iteration 921, Best Score: 3245.53
Early stopping at iteration 859, Best Score: 3327.65
Early stopping at iteration 1071, Best Score: 2944.74
Early stopping at iteration 1250, Best Score: 3428.36
Early stopping at iteration 959, Best Score: 3390.50
Early stopping at iteration 1133, Best Score: 3414.98
Early stopping at iteration 1020, Best Score: 3305.12
Early stopping at iteration 811, Best Score: 3343.87
Early stopping at iteration 702, Best Score: 2903.55
Early stopping at iteration 814, Best Score: 3322.47
Early stopping at iteration 918, Best Score: 3309.83
Early stopping at iteration 1422, Best Score: 3311.23
Early stopping at iteration 1015, Best Score: 3307.76
Early stopping at iteration 1044, Best Score: 3077.95
Early stopping at iteration 821, Best Score: 3356.73
Early stopping at iteration 828, Best Score: 2763.82
Early stopping at iteration 899, Best Score: 3206.33
```

```
Early stopping at iteration 829, Best Score: 3329.55
Early stopping at iteration 1093, Best Score: 3407.33
Early stopping at iteration 561, Best Score: 1769.98
Early stopping at iteration 764, Best Score: 2940.53
Early stopping at iteration 1215, Best Score: 3385.89
Early stopping at iteration 729, Best Score: 3179.55
Early stopping at iteration 700, Best Score: 3009.41
Early stopping at iteration 1073, Best Score: 3313.22
Early stopping at iteration 1006, Best Score: 3379.08
Early stopping at iteration 997, Best Score: 2787.93
Early stopping at iteration 897, Best Score: 3344.82
Early stopping at iteration 1146, Best Score: 3261.50
Early stopping at iteration 1143, Best Score: 3056.72
Early stopping at iteration 1361, Best Score: 3285.54
Early stopping at iteration 1352, Best Score: 3326.19
Early stopping at iteration 769, Best Score: 3239.60
Early stopping at iteration 850, Best Score: 3373.66
Early stopping at iteration 747, Best Score: 3131.12
Early stopping at iteration 764, Best Score: 3302.93
Early stopping at iteration 860, Best Score: 3386.71
Early stopping at iteration 938, Best Score: 3346.09
Early stopping at iteration 760, Best Score: 3123.89
Early stopping at iteration 1424, Best Score: 3411.14
Early stopping at iteration 808, Best Score: 3334.88
Early stopping at iteration 835, Best Score: 2858.45
Early stopping at iteration 1084, Best Score: 3427.68
Early stopping at iteration 657, Best Score: 2754.06
Early stopping at iteration 1014, Best Score: 3216.24
Early stopping at iteration 992, Best Score: 3076.51
Early stopping at iteration 1130, Best Score: 3441.67
Early stopping at iteration 974, Best Score: 3310.45
Early stopping at iteration 826, Best Score: 3201.90
Early stopping at iteration 1419, Best Score: 3396.01
Early stopping at iteration 723, Best Score: 3327.15
Early stopping at iteration 945, Best Score: 3398.32
Early stopping at iteration 689, Best Score: 2869.23
  Deck Trial 200/250
Early stopping at iteration 1010, Best Score: 3407.95
Early stopping at iteration 877, Best Score: 3385.06
Early stopping at iteration 899, Best Score: 3317.53
Early stopping at iteration 1165, Best Score: 2995.00
Early stopping at iteration 662, Best Score: 2868.83
Early stopping at iteration 817, Best Score: 3138.59
Early stopping at iteration 977, Best Score: 3333.09
Early stopping at iteration 836, Best Score: 3373.67
Early stopping at iteration 711, Best Score: 3078.89
Early stopping at iteration 966, Best Score: 3250.46
Early stopping at iteration 782, Best Score: 3209.88
Early stopping at iteration 671, Best Score: 3154.74
Early stopping at iteration 932, Best Score: 3382.12
Early stopping at iteration 843, Best Score: 3189.50
Early stopping at iteration 732, Best Score: 3160.43
Early stopping at iteration 607, Best Score: 2193.39
Early stopping at iteration 968, Best Score: 3303.78
Early stopping at iteration 1188, Best Score: 3291.95
Early stopping at iteration 1136, Best Score: 3162.89
Early stopping at iteration 752, Best Score: 3318.93
Early stopping at iteration 741, Best Score: 3159.08
Early stopping at iteration 686, Best Score: 2488.38
Early stopping at iteration 863, Best Score: 3244.40
```

```
Early stopping at iteration 771, Best Score: 3061.27
Early stopping at iteration 1080, Best Score: 3286.55
Early stopping at iteration 690, Best Score: 3164.82
Early stopping at iteration 806, Best Score: 3301.87
Early stopping at iteration 1246, Best Score: 3375.26
Early stopping at iteration 789, Best Score: 3398.98
Early stopping at iteration 734, Best Score: 2808.72
Early stopping at iteration 776, Best Score: 3340.57
Early stopping at iteration 889, Best Score: 3391.38
Early stopping at iteration 911, Best Score: 3218.36
Early stopping at iteration 1139, Best Score: 3426.64
Early stopping at iteration 974, Best Score: 3426.99
Early stopping at iteration 783, Best Score: 3257.38
Early stopping at iteration 784, Best Score: 2877.63
Early stopping at iteration 812, Best Score: 3326.29
Early stopping at iteration 810, Best Score: 3315.52
Early stopping at iteration 812, Best Score: 2795.28
Early stopping at iteration 791, Best Score: 3210.10
Early stopping at iteration 567, Best Score: 1266.92
Early stopping at iteration 886, Best Score: 3257.91
Early stopping at iteration 955, Best Score: 3410.27
Early stopping at iteration 1446, Best Score: 3346.00
Early stopping at iteration 801, Best Score: 3269.73
Early stopping at iteration 911, Best Score: 3319.39
Early stopping at iteration 730, Best Score: 3227.56
Early stopping at iteration 1191, Best Score: 3406.10
Early stopping at iteration 933, Best Score: 3339.36
Early stopping at iteration 647, Best Score: 2952.01
GNN Trial 11 completed with 250 decks.

GNN Trial 12/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 8.2351, Synergy Loss: 2.3441, Total: 12.9233
Epoch 20/300 - Node Loss: 1.6540, Synergy Loss: 2.1726, Total: 5.9993
Epoch 30/300 - Node Loss: 1.1438, Synergy Loss: 2.0439, Total: 5.2317
Epoch 40/300 - Node Loss: 1.0316, Synergy Loss: 1.9239, Total: 4.8794
Epoch 50/300 - Node Loss: 1.0035, Synergy Loss: 1.8177, Total: 4.6388
Epoch 60/300 - Node Loss: 1.0015, Synergy Loss: 1.7240, Total: 4.4495
Epoch 70/300 - Node Loss: 1.0011, Synergy Loss: 1.6483, Total: 4.2977
Epoch 80/300 - Node Loss: 1.0007, Synergy Loss: 1.5931, Total: 4.1869
Epoch 90/300 - Node Loss: 1.0008, Synergy Loss: 1.5598, Total: 4.1204
Epoch 100/300 - Node Loss: 1.0006, Synergy Loss: 1.5408, Total: 4.0823
Epoch 110/300 - Node Loss: 1.0091, Synergy Loss: 1.5167, Total: 4.0426
Epoch 120/300 - Node Loss: 1.0606, Synergy Loss: 1.4488, Total: 3.9582
Epoch 130/300 - Node Loss: 1.0819, Synergy Loss: 1.2982, Total: 3.6783
Epoch 140/300 - Node Loss: 1.0867, Synergy Loss: 1.1480, Total: 3.3826
Epoch 150/300 - Node Loss: 1.1385, Synergy Loss: 1.0114, Total: 3.1613
Epoch 160/300 - Node Loss: 1.0923, Synergy Loss: 0.9417, Total: 2.9757
Epoch 170/300 - Node Loss: 1.0822, Synergy Loss: 0.8608, Total: 2.8039
Epoch 180/300 - Node Loss: 1.0708, Synergy Loss: 0.7625, Total: 2.5958
Epoch 190/300 - Node Loss: 1.0860, Synergy Loss: 0.6479, Total: 2.3818
Epoch 200/300 - Node Loss: 1.0583, Synergy Loss: 0.5812, Total: 2.2208
Epoch 210/300 - Node Loss: 1.0847, Synergy Loss: 0.5211, Total: 2.1269
Epoch 220/300 - Node Loss: 1.1015, Synergy Loss: 0.4836, Total: 2.0687
Epoch 230/300 - Node Loss: 1.0769, Synergy Loss: 0.4733, Total: 2.0235
Epoch 240/300 - Node Loss: 1.0836, Synergy Loss: 0.4361, Total: 1.9558
Epoch 250/300 - Node Loss: 1.0532, Synergy Loss: 0.4136, Total: 1.8804
Epoch 260/300 - Node Loss: 1.0615, Synergy Loss: 0.4092, Total: 1.8799
Epoch 270/300 - Node Loss: 1.0613, Synergy Loss: 0.3815, Total: 1.8242
Epoch 280/300 - Node Loss: 1.0420, Synergy Loss: 0.3663, Total: 1.7745
```

```
Epoch 290/300 - Node Loss: 1.0415, Synergy Loss: 0.3500, Total: 1.7415
Epoch 300/300 - Node Loss: 1.0404, Synergy Loss: 0.3470, Total: 1.7344
Existing model archived to: 20250310_153450_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 722, Best Score: 3683.24
Early stopping at iteration 509, Best Score: 3647.53
Early stopping at iteration 664, Best Score: 3674.28
Early stopping at iteration 631, Best Score: 3679.58
Early stopping at iteration 577, Best Score: 3662.20
Early stopping at iteration 675, Best Score: 3684.49
Early stopping at iteration 613, Best Score: 3663.70
Early stopping at iteration 506, Best Score: 3626.08
Early stopping at iteration 585, Best Score: 3672.27
Early stopping at iteration 592, Best Score: 3654.14
Early stopping at iteration 647, Best Score: 3677.22
Early stopping at iteration 764, Best Score: 3687.71
Early stopping at iteration 912, Best Score: 3688.19
Early stopping at iteration 582, Best Score: 3659.65
Early stopping at iteration 616, Best Score: 3681.90
Early stopping at iteration 505, Best Score: 3632.56
Early stopping at iteration 655, Best Score: 3685.18
Early stopping at iteration 745, Best Score: 3700.52
Early stopping at iteration 502, Best Score: 3632.56
Early stopping at iteration 606, Best Score: 3638.70
Early stopping at iteration 933, Best Score: 3679.24
Early stopping at iteration 541, Best Score: 3643.53
Early stopping at iteration 560, Best Score: 3664.62
Early stopping at iteration 515, Best Score: 3643.87
Early stopping at iteration 503, Best Score: 3626.08
Early stopping at iteration 503, Best Score: 3626.08
Early stopping at iteration 627, Best Score: 3658.49
Early stopping at iteration 832, Best Score: 3705.16
Early stopping at iteration 641, Best Score: 3647.18
Early stopping at iteration 674, Best Score: 3676.16
Early stopping at iteration 572, Best Score: 3659.31
Early stopping at iteration 504, Best Score: 3626.08
Early stopping at iteration 635, Best Score: 3690.10
Early stopping at iteration 503, Best Score: 3626.08
Early stopping at iteration 645, Best Score: 3666.97
Early stopping at iteration 633, Best Score: 3659.31
Early stopping at iteration 709, Best Score: 3696.86
Early stopping at iteration 652, Best Score: 3678.75
Early stopping at iteration 582, Best Score: 3679.06
Early stopping at iteration 667, Best Score: 3678.36
Early stopping at iteration 504, Best Score: 3626.08
Early stopping at iteration 575, Best Score: 3658.14
Early stopping at iteration 622, Best Score: 3685.72
Early stopping at iteration 631, Best Score: 3657.31
Early stopping at iteration 503, Best Score: 3626.08
Early stopping at iteration 501, Best Score: 3626.08
Early stopping at iteration 508, Best Score: 3626.08
Early stopping at iteration 678, Best Score: 3680.89
Early stopping at iteration 568, Best Score: 3645.93
Early stopping at iteration 502, Best Score: 3626.08
Early stopping at iteration 539, Best Score: 3635.52
Early stopping at iteration 782, Best Score: 3697.88
Early stopping at iteration 506, Best Score: 3626.08
Early stopping at iteration 656, Best Score: 3678.75
Early stopping at iteration 517, Best Score: 3636.22
Early stopping at iteration 502, Best Score: 3626.08
```

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Early stopping at iteration 627, Best Score: 3684.36
Early stopping at iteration 584, Best Score: 3669.45
Early stopping at iteration 769, Best Score: 3701.82
Early stopping at iteration 589, Best Score: 3677.93
Early stopping at iteration 502, Best Score: 3629.74
Early stopping at iteration 569, Best Score: 3654.83
Early stopping at iteration 644, Best Score: 3685.24
Early stopping at iteration 531, Best Score: 3641.52
Early stopping at iteration 560, Best Score: 3650.01
Early stopping at iteration 906, Best Score: 3701.15
Early stopping at iteration 563, Best Score: 3672.28
Early stopping at iteration 563, Best Score: 3655.31
Early stopping at iteration 562, Best Score: 3648.31
Early stopping at iteration 603, Best Score: 3681.24
Early stopping at iteration 500, Best Score: 3623.26
Early stopping at iteration 559, Best Score: 3670.62
Early stopping at iteration 556, Best Score: 3672.55
Early stopping at iteration 537, Best Score: 3653.56
Early stopping at iteration 913, Best Score: 3684.54
Early stopping at iteration 501, Best Score: 3626.08
Early stopping at iteration 769, Best Score: 3690.61
Early stopping at iteration 897, Best Score: 3677.58
Early stopping at iteration 510, Best Score: 3636.22
Early stopping at iteration 603, Best Score: 3660.97
Early stopping at iteration 659, Best Score: 3658.09
Early stopping at iteration 619, Best Score: 3659.66
Early stopping at iteration 841, Best Score: 3714.28
Early stopping at iteration 540, Best Score: 3646.35
Early stopping at iteration 533, Best Score: 3650.01
Early stopping at iteration 522, Best Score: 3653.18
Early stopping at iteration 834, Best Score: 3683.71
Early stopping at iteration 704, Best Score: 3689.61
Early stopping at iteration 525, Best Score: 3637.04
Early stopping at iteration 756, Best Score: 3682.01
Early stopping at iteration 526, Best Score: 3646.70
Early stopping at iteration 676, Best Score: 3681.51
Early stopping at iteration 542, Best Score: 3640.22
Early stopping at iteration 503, Best Score: 3626.08
Early stopping at iteration 741, Best Score: 3673.38
Early stopping at iteration 503, Best Score: 3626.08
Early stopping at iteration 616, Best Score: 3668.27
Early stopping at iteration 504, Best Score: 3626.08
Early stopping at iteration 589, Best Score: 3645.18
  Deck Trial 100/250
Early stopping at iteration 661, Best Score: 3668.27
Early stopping at iteration 615, Best Score: 3666.27
Early stopping at iteration 736, Best Score: 3660.62
Early stopping at iteration 608, Best Score: 3680.01
Early stopping at iteration 598, Best Score: 3666.27
Early stopping at iteration 510, Best Score: 3639.87
Early stopping at iteration 596, Best Score: 3659.29
Early stopping at iteration 706, Best Score: 3692.54
Early stopping at iteration 501, Best Score: 3626.08
Early stopping at iteration 553, Best Score: 3660.82
Early stopping at iteration 663, Best Score: 3641.52
Early stopping at iteration 655, Best Score: 3698.50
Early stopping at iteration 504, Best Score: 3626.08
Early stopping at iteration 533, Best Score: 3644.35
Early stopping at iteration 512, Best Score: 3643.04
Early stopping at iteration 571, Best Score: 3653.18
```

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Early stopping at iteration 588, Best Score: 3664.62
Early stopping at iteration 596, Best Score: 3644.35
Early stopping at iteration 609, Best Score: 3651.66
Early stopping at iteration 597, Best Score: 3654.49
Early stopping at iteration 505, Best Score: 3626.08
Early stopping at iteration 615, Best Score: 3662.97
Early stopping at iteration 792, Best Score: 3670.75
Early stopping at iteration 534, Best Score: 3650.35
Early stopping at iteration 691, Best Score: 3688.79
Early stopping at iteration 501, Best Score: 3626.08
Early stopping at iteration 811, Best Score: 3703.85
Early stopping at iteration 796, Best Score: 3696.27
Early stopping at iteration 560, Best Score: 3664.57
Early stopping at iteration 517, Best Score: 3640.17
Early stopping at iteration 563, Best Score: 3662.89
Early stopping at iteration 636, Best Score: 3653.87
Early stopping at iteration 691, Best Score: 3697.85
Early stopping at iteration 891, Best Score: 3690.04
Early stopping at iteration 559, Best Score: 3664.62
Early stopping at iteration 500, Best Score: 3623.26
Early stopping at iteration 516, Best Score: 3633.39
Early stopping at iteration 516, Best Score: 3648.01
Early stopping at iteration 618, Best Score: 3664.62
Early stopping at iteration 542, Best Score: 3647.18
Early stopping at iteration 673, Best Score: 3699.29
Early stopping at iteration 652, Best Score: 3683.71
Early stopping at iteration 636, Best Score: 3665.79
Early stopping at iteration 540, Best Score: 3640.70
Early stopping at iteration 590, Best Score: 3660.14
Early stopping at iteration 528, Best Score: 3636.22
Early stopping at iteration 533, Best Score: 3641.05
Early stopping at iteration 521, Best Score: 3636.22
Early stopping at iteration 531, Best Score: 3639.05
Early stopping at iteration 540, Best Score: 3661.31
Early stopping at iteration 568, Best Score: 3663.45
Early stopping at iteration 500, Best Score: 3623.26
Early stopping at iteration 606, Best Score: 3657.22
Early stopping at iteration 709, Best Score: 3688.29
Early stopping at iteration 836, Best Score: 3698.54
Early stopping at iteration 541, Best Score: 3650.35
Early stopping at iteration 938, Best Score: 3687.71
Early stopping at iteration 578, Best Score: 3657.26
Early stopping at iteration 555, Best Score: 3634.56
Early stopping at iteration 508, Best Score: 3638.22
Early stopping at iteration 606, Best Score: 3683.68
Early stopping at iteration 501, Best Score: 3626.08
Early stopping at iteration 628, Best Score: 3696.23
Early stopping at iteration 868, Best Score: 3675.09
Early stopping at iteration 717, Best Score: 3697.80
Early stopping at iteration 731, Best Score: 3657.24
Early stopping at iteration 508, Best Score: 3626.08
Early stopping at iteration 646, Best Score: 3657.66
Early stopping at iteration 538, Best Score: 3646.35
Early stopping at iteration 505, Best Score: 3626.08
Early stopping at iteration 621, Best Score: 3677.65
Early stopping at iteration 903, Best Score: 3704.33
Early stopping at iteration 526, Best Score: 3645.53
Early stopping at iteration 543, Best Score: 3654.48
Early stopping at iteration 503, Best Score: 3626.08
Early stopping at iteration 653, Best Score: 3706.79
```

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Early stopping at iteration 556, Best Score: 3674.62
Early stopping at iteration 551, Best Score: 3647.93
Early stopping at iteration 546, Best Score: 3636.22
Early stopping at iteration 612, Best Score: 3686.95
Early stopping at iteration 638, Best Score: 3693.62
Early stopping at iteration 678, Best Score: 3671.93
Early stopping at iteration 504, Best Score: 3626.08
Early stopping at iteration 586, Best Score: 3669.66
Early stopping at iteration 502, Best Score: 3626.08
Early stopping at iteration 621, Best Score: 3685.72
Early stopping at iteration 571, Best Score: 3653.66
Early stopping at iteration 745, Best Score: 3681.10
Early stopping at iteration 548, Best Score: 3640.70
Early stopping at iteration 661, Best Score: 3696.67
Early stopping at iteration 541, Best Score: 3660.44
Early stopping at iteration 820, Best Score: 3705.11
Early stopping at iteration 522, Best Score: 3647.18
Early stopping at iteration 892, Best Score: 3674.75
Early stopping at iteration 508, Best Score: 3632.54
Early stopping at iteration 653, Best Score: 3664.05
Early stopping at iteration 505, Best Score: 3626.08
Early stopping at iteration 502, Best Score: 3626.08
Early stopping at iteration 511, Best Score: 3626.08
Early stopping at iteration 615, Best Score: 3664.62
  Deck Trial 200/250
Early stopping at iteration 695, Best Score: 3688.89
Early stopping at iteration 616, Best Score: 3690.54
Early stopping at iteration 623, Best Score: 3666.90
Early stopping at iteration 531, Best Score: 3653.66
Early stopping at iteration 558, Best Score: 3646.35
Early stopping at iteration 502, Best Score: 3626.08
Early stopping at iteration 555, Best Score: 3680.76
Early stopping at iteration 795, Best Score: 3700.14
Early stopping at iteration 557, Best Score: 3641.00
Early stopping at iteration 657, Best Score: 3688.56
Early stopping at iteration 597, Best Score: 3680.41
Early stopping at iteration 529, Best Score: 3640.70
Early stopping at iteration 594, Best Score: 3667.79
Early stopping at iteration 500, Best Score: 3623.26
Early stopping at iteration 596, Best Score: 3686.06
Early stopping at iteration 752, Best Score: 3697.02
Early stopping at iteration 721, Best Score: 3658.09
Early stopping at iteration 533, Best Score: 3649.52
Early stopping at iteration 529, Best Score: 3653.45
Early stopping at iteration 549, Best Score: 3659.31
Early stopping at iteration 669, Best Score: 3676.76
Early stopping at iteration 615, Best Score: 3668.60
Early stopping at iteration 631, Best Score: 3667.79
Early stopping at iteration 516, Best Score: 3637.04
Early stopping at iteration 563, Best Score: 3657.37
Early stopping at iteration 607, Best Score: 3682.41
Early stopping at iteration 680, Best Score: 3681.23
Early stopping at iteration 754, Best Score: 3700.68
Early stopping at iteration 685, Best Score: 3673.10
Early stopping at iteration 864, Best Score: 3680.34
Early stopping at iteration 667, Best Score: 3696.92
Early stopping at iteration 567, Best Score: 3643.53
Early stopping at iteration 656, Best Score: 3675.58
Early stopping at iteration 502, Best Score: 3626.08
Early stopping at iteration 524, Best Score: 3646.35
```

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Early stopping at iteration 505, Best Score: 3626.08
Early stopping at iteration 504, Best Score: 3626.08
Early stopping at iteration 594, Best Score: 3679.23
Early stopping at iteration 502, Best Score: 3626.08
Early stopping at iteration 530, Best Score: 3650.83
Early stopping at iteration 704, Best Score: 3678.70
Early stopping at iteration 666, Best Score: 3651.66
Early stopping at iteration 668, Best Score: 3686.51
Early stopping at iteration 588, Best Score: 3645.04
Early stopping at iteration 562, Best Score: 3682.47
Early stopping at iteration 536, Best Score: 3637.04
Early stopping at iteration 698, Best Score: 3689.28
Early stopping at iteration 631, Best Score: 3673.93
Early stopping at iteration 781, Best Score: 3696.15
Early stopping at iteration 593, Best Score: 3677.02
Early stopping at iteration 502, Best Score: 3626.08
GNN Trial 12 completed with 250 decks.

GNN Trial 13/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 5.4941, Synergy Loss: 2.4126, Total: 10.3193
Epoch 20/300 - Node Loss: 1.7381, Synergy Loss: 2.2684, Total: 6.2750
Epoch 30/300 - Node Loss: 1.1371, Synergy Loss: 2.1551, Total: 5.4473
Epoch 40/300 - Node Loss: 1.0504, Synergy Loss: 2.0412, Total: 5.1327
Epoch 50/300 - Node Loss: 1.0374, Synergy Loss: 1.9183, Total: 4.8741
Epoch 60/300 - Node Loss: 1.0371, Synergy Loss: 1.7710, Total: 4.5790
Epoch 70/300 - Node Loss: 1.0284, Synergy Loss: 1.5902, Total: 4.2088
Epoch 80/300 - Node Loss: 1.0323, Synergy Loss: 1.4541, Total: 3.9405
Epoch 90/300 - Node Loss: 1.0979, Synergy Loss: 1.2186, Total: 3.5351
Epoch 100/300 - Node Loss: 1.0943, Synergy Loss: 1.0830, Total: 3.2604
Epoch 110/300 - Node Loss: 1.0760, Synergy Loss: 0.9599, Total: 2.9959
Epoch 120/300 - Node Loss: 1.0993, Synergy Loss: 0.9264, Total: 2.9521
Epoch 130/300 - Node Loss: 1.0568, Synergy Loss: 0.8814, Total: 2.8197
Epoch 140/300 - Node Loss: 1.0556, Synergy Loss: 0.8759, Total: 2.8074
Epoch 150/300 - Node Loss: 1.0441, Synergy Loss: 0.8382, Total: 2.7205
Epoch 160/300 - Node Loss: 1.0471, Synergy Loss: 0.7953, Total: 2.6377
Epoch 170/300 - Node Loss: 1.0389, Synergy Loss: 0.7679, Total: 2.5747
Epoch 180/300 - Node Loss: 1.0253, Synergy Loss: 0.7221, Total: 2.4695
Epoch 190/300 - Node Loss: 1.0158, Synergy Loss: 0.7554, Total: 2.5265
Epoch 200/300 - Node Loss: 1.0193, Synergy Loss: 0.7299, Total: 2.4791
Epoch 210/300 - Node Loss: 1.0130, Synergy Loss: 0.6879, Total: 2.3887
Epoch 220/300 - Node Loss: 1.0319, Synergy Loss: 0.6280, Total: 2.2878
Epoch 230/300 - Node Loss: 1.0126, Synergy Loss: 0.5796, Total: 2.1718
Epoch 240/300 - Node Loss: 1.0149, Synergy Loss: 0.5403, Total: 2.0955
Epoch 250/300 - Node Loss: 1.0014, Synergy Loss: 0.4830, Total: 1.9673
Epoch 260/300 - Node Loss: 1.0135, Synergy Loss: 0.4713, Total: 1.9561
Epoch 270/300 - Node Loss: 1.0085, Synergy Loss: 0.4337, Total: 1.8760
Epoch 280/300 - Node Loss: 1.0028, Synergy Loss: 0.4208, Total: 1.8444
Epoch 290/300 - Node Loss: 1.0105, Synergy Loss: 0.4161, Total: 1.8426
Epoch 300/300 - Node Loss: 1.0041, Synergy Loss: 0.4175, Total: 1.8392
Existing model archived to: 20250310_155124_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 513, Best Score: 3388.79
Early stopping at iteration 579, Best Score: 3423.18
Early stopping at iteration 696, Best Score: 3436.88
Early stopping at iteration 557, Best Score: 3419.00
Early stopping at iteration 505, Best Score: 3388.79
Early stopping at iteration 538, Best Score: 3409.28
Early stopping at iteration 717, Best Score: 3426.41
Early stopping at iteration 533, Best Score: 3411.79
```

```
Early stopping at iteration 559, Best Score: 3409.79
Early stopping at iteration 566, Best Score: 3418.50
Early stopping at iteration 601, Best Score: 3429.90
Early stopping at iteration 538, Best Score: 3404.01
Early stopping at iteration 647, Best Score: 3446.45
Early stopping at iteration 584, Best Score: 3415.43
Early stopping at iteration 556, Best Score: 3412.72
Early stopping at iteration 614, Best Score: 3427.57
Early stopping at iteration 521, Best Score: 3398.01
Early stopping at iteration 511, Best Score: 3401.61
Early stopping at iteration 702, Best Score: 3452.79
Early stopping at iteration 596, Best Score: 3433.15
Early stopping at iteration 505, Best Score: 3388.79
Early stopping at iteration 500, Best Score: 3386.22
Early stopping at iteration 929, Best Score: 3442.02
Early stopping at iteration 658, Best Score: 3419.51
Early stopping at iteration 1000, Best Score: 3437.06
Early stopping at iteration 663, Best Score: 3415.94
Early stopping at iteration 582, Best Score: 3425.63
Early stopping at iteration 555, Best Score: 3413.88
Early stopping at iteration 553, Best Score: 3396.43
Early stopping at iteration 964, Best Score: 3443.07
Early stopping at iteration 806, Best Score: 3442.42
Early stopping at iteration 515, Best Score: 3398.01
Early stopping at iteration 533, Best Score: 3404.01
Early stopping at iteration 617, Best Score: 3424.38
Early stopping at iteration 529, Best Score: 3398.01
Early stopping at iteration 751, Best Score: 3431.63
Early stopping at iteration 565, Best Score: 3415.93
Early stopping at iteration 504, Best Score: 3388.79
Early stopping at iteration 630, Best Score: 3413.37
Early stopping at iteration 597, Best Score: 3414.38
Early stopping at iteration 503, Best Score: 3388.79
Early stopping at iteration 671, Best Score: 3407.23
Early stopping at iteration 526, Best Score: 3398.01
Early stopping at iteration 531, Best Score: 3403.65
Early stopping at iteration 650, Best Score: 3431.07
Early stopping at iteration 524, Best Score: 3410.54
Early stopping at iteration 831, Best Score: 3443.52
Early stopping at iteration 639, Best Score: 3429.15
Early stopping at iteration 760, Best Score: 3446.57
Early stopping at iteration 596, Best Score: 3431.32
Early stopping at iteration 586, Best Score: 3418.95
Early stopping at iteration 553, Best Score: 3406.72
Early stopping at iteration 554, Best Score: 3402.33
Early stopping at iteration 607, Best Score: 3424.64
Early stopping at iteration 534, Best Score: 3404.66
Early stopping at iteration 598, Best Score: 3428.08
Early stopping at iteration 538, Best Score: 3398.01
Early stopping at iteration 656, Best Score: 3430.17
Early stopping at iteration 536, Best Score: 3408.22
Early stopping at iteration 504, Best Score: 3388.79
Early stopping at iteration 562, Best Score: 3421.43
Early stopping at iteration 542, Best Score: 3406.72
Early stopping at iteration 579, Best Score: 3426.23
Early stopping at iteration 568, Best Score: 3415.93
Early stopping at iteration 569, Best Score: 3426.58
Early stopping at iteration 568, Best Score: 3412.35
Early stopping at iteration 786, Best Score: 3399.52
Early stopping at iteration 582, Best Score: 3397.50
```

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Early stopping at iteration 629, Best Score: 3427.72
Early stopping at iteration 640, Best Score: 3447.94
Early stopping at iteration 508, Best Score: 3394.43
Early stopping at iteration 548, Best Score: 3397.50
Early stopping at iteration 640, Best Score: 3416.95
Early stopping at iteration 534, Best Score: 3419.37
Early stopping at iteration 521, Best Score: 3404.01
Early stopping at iteration 640, Best Score: 3431.03
Early stopping at iteration 553, Best Score: 3413.64
Early stopping at iteration 951, Best Score: 3409.79
Early stopping at iteration 536, Best Score: 3410.46
Early stopping at iteration 675, Best Score: 3440.93
Early stopping at iteration 675, Best Score: 3427.49
Early stopping at iteration 603, Best Score: 3412.35
Early stopping at iteration 513, Best Score: 3403.64
Early stopping at iteration 505, Best Score: 3393.86
Early stopping at iteration 598, Best Score: 3425.69
Early stopping at iteration 660, Best Score: 3419.00
Early stopping at iteration 555, Best Score: 3412.86
Early stopping at iteration 502, Best Score: 3388.79
Early stopping at iteration 557, Best Score: 3406.72
Early stopping at iteration 588, Best Score: 3420.02
Early stopping at iteration 541, Best Score: 3397.50
Early stopping at iteration 527, Best Score: 3388.79
Early stopping at iteration 620, Best Score: 3438.42
Early stopping at iteration 527, Best Score: 3388.79
Early stopping at iteration 636, Best Score: 3451.10
Early stopping at iteration 635, Best Score: 3416.14
Early stopping at iteration 538, Best Score: 3404.15
Early stopping at iteration 599, Best Score: 3406.72
Early stopping at iteration 710, Best Score: 3447.58
  Deck Trial 100/250
Early stopping at iteration 689, Best Score: 3429.36
Early stopping at iteration 541, Best Score: 3411.85
Early stopping at iteration 661, Best Score: 3430.38
Early stopping at iteration 694, Best Score: 3442.57
Early stopping at iteration 602, Best Score: 3413.37
Early stopping at iteration 667, Best Score: 3419.93
Early stopping at iteration 576, Best Score: 3404.66
Early stopping at iteration 709, Best Score: 3434.90
Early stopping at iteration 721, Best Score: 3423.09
Early stopping at iteration 563, Best Score: 3424.14
Early stopping at iteration 766, Best Score: 3398.01
Early stopping at iteration 639, Best Score: 3457.75
Early stopping at iteration 614, Best Score: 3423.63
Early stopping at iteration 518, Best Score: 3410.15
Early stopping at iteration 532, Best Score: 3398.01
Early stopping at iteration 508, Best Score: 3394.43
Early stopping at iteration 577, Best Score: 3425.68
Early stopping at iteration 557, Best Score: 3422.08
Early stopping at iteration 856, Best Score: 3452.14
Early stopping at iteration 554, Best Score: 3399.53
Early stopping at iteration 684, Best Score: 3431.39
Early stopping at iteration 570, Best Score: 3417.99
Early stopping at iteration 536, Best Score: 3401.08
Early stopping at iteration 502, Best Score: 3388.79
Early stopping at iteration 541, Best Score: 3411.85
Early stopping at iteration 575, Best Score: 3425.51
Early stopping at iteration 655, Best Score: 3429.78
Early stopping at iteration 524, Best Score: 3402.06
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Early stopping at iteration 602, Best Score: 3412.72
Early stopping at iteration 553, Best Score: 3404.01
Early stopping at iteration 600, Best Score: 3439.86
Early stopping at iteration 642, Best Score: 3458.35
Early stopping at iteration 517, Best Score: 3388.79
Early stopping at iteration 612, Best Score: 3412.38
Early stopping at iteration 504, Best Score: 3391.86
Early stopping at iteration 706, Best Score: 3447.10
Early stopping at iteration 548, Best Score: 3416.30
Early stopping at iteration 516, Best Score: 3394.43
Early stopping at iteration 678, Best Score: 3448.71
Early stopping at iteration 503, Best Score: 3388.79
Early stopping at iteration 608, Best Score: 3447.55
Early stopping at iteration 539, Best Score: 3404.66
Early stopping at iteration 531, Best Score: 3394.43
Early stopping at iteration 709, Best Score: 3431.79
Early stopping at iteration 515, Best Score: 3388.79
Early stopping at iteration 533, Best Score: 3395.44
Early stopping at iteration 500, Best Score: 3386.22
Early stopping at iteration 678, Best Score: 3444.18
Early stopping at iteration 599, Best Score: 3410.30
Early stopping at iteration 623, Best Score: 3413.88
Early stopping at iteration 562, Best Score: 3411.33
Early stopping at iteration 532, Best Score: 3402.63
Early stopping at iteration 557, Best Score: 3424.50
Early stopping at iteration 521, Best Score: 3400.57
Early stopping at iteration 501, Best Score: 3388.79
Early stopping at iteration 507, Best Score: 3388.79
Early stopping at iteration 659, Best Score: 3440.87
Early stopping at iteration 514, Best Score: 3394.43
Early stopping at iteration 586, Best Score: 3446.28
Early stopping at iteration 536, Best Score: 3404.15
Early stopping at iteration 553, Best Score: 3409.14
Early stopping at iteration 528, Best Score: 3398.01
Early stopping at iteration 625, Best Score: 3406.21
Early stopping at iteration 530, Best Score: 3412.86
Early stopping at iteration 588, Best Score: 3424.41
Early stopping at iteration 535, Best Score: 3404.01
Early stopping at iteration 556, Best Score: 3409.79
Early stopping at iteration 579, Best Score: 3412.85
Early stopping at iteration 544, Best Score: 3409.79
Early stopping at iteration 778, Best Score: 3446.51
Early stopping at iteration 559, Best Score: 3415.85
Early stopping at iteration 733, Best Score: 3451.08
Early stopping at iteration 554, Best Score: 3400.42
Early stopping at iteration 521, Best Score: 3406.21
Early stopping at iteration 862, Best Score: 3418.36
Early stopping at iteration 803, Best Score: 3437.86
Early stopping at iteration 553, Best Score: 3401.08
Early stopping at iteration 705, Best Score: 3453.84
Early stopping at iteration 652, Best Score: 3433.15
Early stopping at iteration 502, Best Score: 3388.79
Early stopping at iteration 526, Best Score: 3398.01
Early stopping at iteration 642, Best Score: 3428.23
Early stopping at iteration 586, Best Score: 3435.12
Early stopping at iteration 583, Best Score: 3427.72
Early stopping at iteration 535, Best Score: 3409.78
Early stopping at iteration 742, Best Score: 3454.85
Early stopping at iteration 594, Best Score: 3421.46
Early stopping at iteration 697, Best Score: 3447.50
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Early stopping at iteration 517, Best Score: 3410.21
Early stopping at iteration 614, Best Score: 3416.86
Early stopping at iteration 783, Best Score: 3455.78
Early stopping at iteration 580, Best Score: 3422.50
Early stopping at iteration 512, Best Score: 3398.01
Early stopping at iteration 634, Best Score: 3410.30
Early stopping at iteration 531, Best Score: 3400.57
Early stopping at iteration 677, Best Score: 3460.17
Early stopping at iteration 572, Best Score: 3415.42
Early stopping at iteration 739, Best Score: 3444.00
Early stopping at iteration 515, Best Score: 3401.50
Early stopping at iteration 525, Best Score: 3398.01
  Deck Trial 200/250
Early stopping at iteration 569, Best Score: 3415.79
Early stopping at iteration 559, Best Score: 3408.15
Early stopping at iteration 541, Best Score: 3428.22
Early stopping at iteration 563, Best Score: 3410.29
Early stopping at iteration 516, Best Score: 3395.44
Early stopping at iteration 808, Best Score: 3456.21
Early stopping at iteration 510, Best Score: 3408.74
Early stopping at iteration 579, Best Score: 3421.57
Early stopping at iteration 500, Best Score: 3386.22
Early stopping at iteration 539, Best Score: 3421.12
Early stopping at iteration 834, Best Score: 3443.44
Early stopping at iteration 545, Best Score: 3404.66
Early stopping at iteration 586, Best Score: 3415.86
Early stopping at iteration 500, Best Score: 3386.22
Early stopping at iteration 511, Best Score: 3398.01
Early stopping at iteration 506, Best Score: 3397.50
Early stopping at iteration 592, Best Score: 3419.51
Early stopping at iteration 635, Best Score: 3427.21
Early stopping at iteration 510, Best Score: 3388.79
Early stopping at iteration 562, Best Score: 3403.65
Early stopping at iteration 505, Best Score: 3388.79
Early stopping at iteration 595, Best Score: 3443.66
Early stopping at iteration 697, Best Score: 3440.91
Early stopping at iteration 549, Best Score: 3406.72
Early stopping at iteration 765, Best Score: 3441.94
Early stopping at iteration 612, Best Score: 3418.50
Early stopping at iteration 514, Best Score: 3398.01
Early stopping at iteration 629, Best Score: 3425.57
Early stopping at iteration 625, Best Score: 3442.87
Early stopping at iteration 500, Best Score: 3386.22
Early stopping at iteration 751, Best Score: 3442.87
Early stopping at iteration 514, Best Score: 3388.79
Early stopping at iteration 754, Best Score: 3440.90
Early stopping at iteration 568, Best Score: 3410.30
Early stopping at iteration 588, Best Score: 3404.15
Early stopping at iteration 513, Best Score: 3400.06
Early stopping at iteration 757, Best Score: 3444.50
Early stopping at iteration 565, Best Score: 3410.21
Early stopping at iteration 506, Best Score: 3394.43
Early stopping at iteration 668, Best Score: 3414.86
Early stopping at iteration 504, Best Score: 3388.79
Early stopping at iteration 539, Best Score: 3415.45
Early stopping at iteration 587, Best Score: 3422.08
Early stopping at iteration 747, Best Score: 3455.27
Early stopping at iteration 501, Best Score: 3388.79
Early stopping at iteration 600, Best Score: 3416.44
Early stopping at iteration 661, Best Score: 3425.15
```

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Early stopping at iteration 664, Best Score: 3413.37
Early stopping at iteration 525, Best Score: 3413.40
Early stopping at iteration 504, Best Score: 3388.79
Early stopping at iteration 601, Best Score: 3422.24
GNN Trial 13 completed with 250 decks.

GNN Trial 14/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 50.6598, Synergy Loss: 2.0821, Total: 54.8240
Epoch 20/300 - Node Loss: 7.0968, Synergy Loss: 1.9162, Total: 10.9293
Epoch 30/300 - Node Loss: 2.2829, Synergy Loss: 1.8586, Total: 6.0001
Epoch 40/300 - Node Loss: 1.3940, Synergy Loss: 1.7241, Total: 4.8422
Epoch 50/300 - Node Loss: 1.0424, Synergy Loss: 1.6080, Total: 4.2584
Epoch 60/300 - Node Loss: 1.0100, Synergy Loss: 1.5452, Total: 4.1004
Epoch 70/300 - Node Loss: 1.0128, Synergy Loss: 1.5410, Total: 4.0948
Epoch 80/300 - Node Loss: 1.0078, Synergy Loss: 1.5227, Total: 4.0533
Epoch 90/300 - Node Loss: 1.0157, Synergy Loss: 1.4889, Total: 3.9934
Epoch 100/300 - Node Loss: 1.0268, Synergy Loss: 1.3917, Total: 3.8102
Epoch 110/300 - Node Loss: 1.0664, Synergy Loss: 1.2296, Total: 3.5256
Epoch 120/300 - Node Loss: 1.0981, Synergy Loss: 1.0883, Total: 3.2747
Epoch 130/300 - Node Loss: 1.0540, Synergy Loss: 1.0693, Total: 3.1927
Epoch 140/300 - Node Loss: 1.1569, Synergy Loss: 0.9227, Total: 3.0022
Epoch 150/300 - Node Loss: 1.1786, Synergy Loss: 0.7689, Total: 2.7164
Epoch 160/300 - Node Loss: 1.1882, Synergy Loss: 0.6118, Total: 2.4119
Epoch 170/300 - Node Loss: 1.6068, Synergy Loss: 1.7683, Total: 5.1434
Epoch 180/300 - Node Loss: 1.2143, Synergy Loss: 1.0818, Total: 3.3778
Early stopping at epoch 180
Existing model archived to: 20250310_160222_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 609, Best Score: 2764.20
Early stopping at iteration 572, Best Score: 2750.63
Early stopping at iteration 634, Best Score: 2768.79
Early stopping at iteration 620, Best Score: 2767.30
Early stopping at iteration 693, Best Score: 2765.88
Early stopping at iteration 583, Best Score: 2754.93
Early stopping at iteration 622, Best Score: 2753.72
Early stopping at iteration 547, Best Score: 2748.82
Early stopping at iteration 587, Best Score: 2762.30
Early stopping at iteration 643, Best Score: 2764.70
Early stopping at iteration 778, Best Score: 2772.47
Early stopping at iteration 614, Best Score: 2750.65
Early stopping at iteration 863, Best Score: 2772.28
Early stopping at iteration 904, Best Score: 2778.58
Early stopping at iteration 576, Best Score: 2762.69
Early stopping at iteration 788, Best Score: 2752.59
Early stopping at iteration 636, Best Score: 2767.78
Early stopping at iteration 575, Best Score: 2751.66
Early stopping at iteration 758, Best Score: 2780.45
Early stopping at iteration 619, Best Score: 2763.20
Early stopping at iteration 560, Best Score: 2743.15
Early stopping at iteration 705, Best Score: 2753.50
Early stopping at iteration 638, Best Score: 2762.19
Early stopping at iteration 698, Best Score: 2777.49
Early stopping at iteration 593, Best Score: 2745.04
Early stopping at iteration 642, Best Score: 2769.99
Early stopping at iteration 585, Best Score: 2753.00
Early stopping at iteration 624, Best Score: 2769.93
Early stopping at iteration 575, Best Score: 2759.37
Early stopping at iteration 613, Best Score: 2754.10
Early stopping at iteration 603, Best Score: 2753.60
```

```
Early stopping at iteration 579, Best Score: 2758.05
Early stopping at iteration 553, Best Score: 2758.88
Early stopping at iteration 570, Best Score: 2763.49
Early stopping at iteration 602, Best Score: 2757.65
Early stopping at iteration 570, Best Score: 2768.84
Early stopping at iteration 772, Best Score: 2749.24
Early stopping at iteration 573, Best Score: 2745.10
Early stopping at iteration 612, Best Score: 2761.87
Early stopping at iteration 603, Best Score: 2761.72
Early stopping at iteration 690, Best Score: 2770.19
Early stopping at iteration 628, Best Score: 2765.59
Early stopping at iteration 537, Best Score: 2744.29
Early stopping at iteration 572, Best Score: 2755.68
Early stopping at iteration 660, Best Score: 2761.73
Early stopping at iteration 589, Best Score: 2753.77
Early stopping at iteration 665, Best Score: 2755.00
Early stopping at iteration 794, Best Score: 2757.11
Early stopping at iteration 691, Best Score: 2778.03
Early stopping at iteration 624, Best Score: 2753.32
Early stopping at iteration 870, Best Score: 2759.05
Early stopping at iteration 759, Best Score: 2778.72
Early stopping at iteration 569, Best Score: 2752.47
Early stopping at iteration 621, Best Score: 2758.61
Early stopping at iteration 547, Best Score: 2752.09
Early stopping at iteration 605, Best Score: 2749.93
Early stopping at iteration 723, Best Score: 2760.31
Early stopping at iteration 587, Best Score: 2771.67
Early stopping at iteration 538, Best Score: 2746.92
Early stopping at iteration 620, Best Score: 2754.36
Early stopping at iteration 643, Best Score: 2762.93
Early stopping at iteration 689, Best Score: 2777.33
Early stopping at iteration 580, Best Score: 2748.58
Early stopping at iteration 645, Best Score: 2766.83
Early stopping at iteration 896, Best Score: 2760.30
Early stopping at iteration 628, Best Score: 2765.29
Early stopping at iteration 640, Best Score: 2760.75
Early stopping at iteration 629, Best Score: 2767.54
Early stopping at iteration 778, Best Score: 2761.39
Early stopping at iteration 587, Best Score: 2762.13
Early stopping at iteration 575, Best Score: 2752.16
Early stopping at iteration 622, Best Score: 2759.21
Early stopping at iteration 541, Best Score: 2744.27
Early stopping at iteration 610, Best Score: 2759.48
Early stopping at iteration 586, Best Score: 2748.56
Early stopping at iteration 551, Best Score: 2747.68
Early stopping at iteration 562, Best Score: 2763.44
Early stopping at iteration 930, Best Score: 2764.64
Early stopping at iteration 631, Best Score: 2769.66
Early stopping at iteration 665, Best Score: 2756.12
Early stopping at iteration 582, Best Score: 2748.45
Early stopping at iteration 727, Best Score: 2768.59
Early stopping at iteration 565, Best Score: 2764.44
Early stopping at iteration 549, Best Score: 2743.13
Early stopping at iteration 577, Best Score: 2761.92
Early stopping at iteration 624, Best Score: 2772.08
Early stopping at iteration 550, Best Score: 2737.78
Early stopping at iteration 545, Best Score: 2745.95
Early stopping at iteration 584, Best Score: 2769.61
Early stopping at iteration 528, Best Score: 2735.19
Early stopping at iteration 589, Best Score: 2749.60
```

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Early stopping at iteration 585, Best Score: 2754.77
Early stopping at iteration 640, Best Score: 2769.29
Early stopping at iteration 620, Best Score: 2753.19
Early stopping at iteration 608, Best Score: 2750.58
Early stopping at iteration 597, Best Score: 2764.94
Early stopping at iteration 542, Best Score: 2739.56
Early stopping at iteration 722, Best Score: 2760.32
Early stopping at iteration 631, Best Score: 2776.56
  Deck Trial 100/250
Early stopping at iteration 682, Best Score: 2757.15
Early stopping at iteration 597, Best Score: 2749.96
Early stopping at iteration 598, Best Score: 2763.00
Early stopping at iteration 557, Best Score: 2736.01
Early stopping at iteration 597, Best Score: 2755.88
Early stopping at iteration 1075, Best Score: 2755.64
Early stopping at iteration 583, Best Score: 2761.54
Early stopping at iteration 632, Best Score: 2764.62
Early stopping at iteration 548, Best Score: 2751.75
Early stopping at iteration 740, Best Score: 2767.73
Early stopping at iteration 562, Best Score: 2760.57
Early stopping at iteration 567, Best Score: 2747.09
Early stopping at iteration 826, Best Score: 2770.28
Early stopping at iteration 570, Best Score: 2755.20
Early stopping at iteration 526, Best Score: 2740.44
Early stopping at iteration 651, Best Score: 2754.89
Early stopping at iteration 779, Best Score: 2773.08
Early stopping at iteration 618, Best Score: 2768.09
Early stopping at iteration 688, Best Score: 2758.21
Early stopping at iteration 629, Best Score: 2776.04
Early stopping at iteration 616, Best Score: 2770.07
Early stopping at iteration 696, Best Score: 2756.43
Early stopping at iteration 599, Best Score: 2759.13
Early stopping at iteration 629, Best Score: 2761.34
Early stopping at iteration 604, Best Score: 2769.51
Early stopping at iteration 690, Best Score: 2779.83
Early stopping at iteration 787, Best Score: 2773.47
Early stopping at iteration 545, Best Score: 2755.39
Early stopping at iteration 616, Best Score: 2767.12
Early stopping at iteration 576, Best Score: 2753.19
Early stopping at iteration 570, Best Score: 2753.42
Early stopping at iteration 613, Best Score: 2749.86
Early stopping at iteration 555, Best Score: 2752.57
Early stopping at iteration 599, Best Score: 2751.18
Early stopping at iteration 563, Best Score: 2746.88
Early stopping at iteration 651, Best Score: 2773.74
Early stopping at iteration 722, Best Score: 2776.87
Early stopping at iteration 603, Best Score: 2756.31
Early stopping at iteration 616, Best Score: 2750.43
Early stopping at iteration 593, Best Score: 2756.40
Early stopping at iteration 559, Best Score: 2746.41
Early stopping at iteration 547, Best Score: 2764.42
Early stopping at iteration 542, Best Score: 2752.24
Early stopping at iteration 696, Best Score: 2771.82
Early stopping at iteration 902, Best Score: 2774.98
Early stopping at iteration 533, Best Score: 2749.57
Early stopping at iteration 785, Best Score: 2773.67
Early stopping at iteration 601, Best Score: 2771.96
Early stopping at iteration 594, Best Score: 2768.06
Early stopping at iteration 559, Best Score: 2750.64
Early stopping at iteration 626, Best Score: 2763.90
```

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Early stopping at iteration 560, Best Score: 2751.90
Early stopping at iteration 523, Best Score: 2745.07
Early stopping at iteration 561, Best Score: 2762.49
Early stopping at iteration 584, Best Score: 2757.63
Early stopping at iteration 612, Best Score: 2753.64
Early stopping at iteration 555, Best Score: 2756.66
Early stopping at iteration 573, Best Score: 2757.22
Early stopping at iteration 595, Best Score: 2760.72
Early stopping at iteration 548, Best Score: 2759.09
Early stopping at iteration 605, Best Score: 2761.88
Early stopping at iteration 584, Best Score: 2760.66
Early stopping at iteration 763, Best Score: 2755.90
Early stopping at iteration 709, Best Score: 2781.03
Early stopping at iteration 935, Best Score: 2771.90
Early stopping at iteration 584, Best Score: 2761.27
Early stopping at iteration 643, Best Score: 2763.53
Early stopping at iteration 565, Best Score: 2739.76
Early stopping at iteration 544, Best Score: 2753.36
Early stopping at iteration 593, Best Score: 2746.04
Early stopping at iteration 577, Best Score: 2759.33
Early stopping at iteration 763, Best Score: 2771.22
Early stopping at iteration 672, Best Score: 2780.74
Early stopping at iteration 530, Best Score: 2744.76
Early stopping at iteration 942, Best Score: 2740.95
Early stopping at iteration 598, Best Score: 2760.01
Early stopping at iteration 612, Best Score: 2761.57
Early stopping at iteration 559, Best Score: 2746.18
Early stopping at iteration 549, Best Score: 2743.19
Early stopping at iteration 749, Best Score: 2778.75
Early stopping at iteration 602, Best Score: 2745.23
Early stopping at iteration 536, Best Score: 2740.70
Early stopping at iteration 693, Best Score: 2760.95
Early stopping at iteration 590, Best Score: 2758.37
Early stopping at iteration 771, Best Score: 2763.28
Early stopping at iteration 532, Best Score: 2748.45
Early stopping at iteration 698, Best Score: 2776.02
Early stopping at iteration 665, Best Score: 2767.64
Early stopping at iteration 683, Best Score: 2764.30
Early stopping at iteration 690, Best Score: 2774.96
Early stopping at iteration 693, Best Score: 2774.16
Early stopping at iteration 827, Best Score: 2768.89
Early stopping at iteration 765, Best Score: 2774.82
Early stopping at iteration 635, Best Score: 2767.97
Early stopping at iteration 603, Best Score: 2756.50
Early stopping at iteration 644, Best Score: 2775.18
Early stopping at iteration 1163, Best Score: 2771.21
Early stopping at iteration 544, Best Score: 2748.00
Early stopping at iteration 664, Best Score: 2764.16
Early stopping at iteration 712, Best Score: 2759.60
  Deck Trial 200/250
Early stopping at iteration 588, Best Score: 2759.71
Early stopping at iteration 788, Best Score: 2774.81
Early stopping at iteration 632, Best Score: 2751.63
Early stopping at iteration 793, Best Score: 2770.57
Early stopping at iteration 556, Best Score: 2747.18
Early stopping at iteration 674, Best Score: 2764.73
Early stopping at iteration 725, Best Score: 2769.55
Early stopping at iteration 598, Best Score: 2766.07
Early stopping at iteration 594, Best Score: 2744.18
Early stopping at iteration 755, Best Score: 2759.38
```

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Early stopping at iteration 553, Best Score: 2768.10
Early stopping at iteration 632, Best Score: 2763.92
Early stopping at iteration 805, Best Score: 2763.57
Early stopping at iteration 574, Best Score: 2752.80
Early stopping at iteration 548, Best Score: 2745.69
Early stopping at iteration 598, Best Score: 2767.42
Early stopping at iteration 725, Best Score: 2770.35
Early stopping at iteration 612, Best Score: 2765.53
Early stopping at iteration 624, Best Score: 2745.58
Early stopping at iteration 554, Best Score: 2750.69
Early stopping at iteration 556, Best Score: 2737.25
Early stopping at iteration 663, Best Score: 2765.35
Early stopping at iteration 675, Best Score: 2769.49
Early stopping at iteration 543, Best Score: 2737.39
Early stopping at iteration 729, Best Score: 2774.43
Early stopping at iteration 574, Best Score: 2755.35
Early stopping at iteration 601, Best Score: 2760.66
Early stopping at iteration 827, Best Score: 2765.89
Early stopping at iteration 544, Best Score: 2745.22
Early stopping at iteration 623, Best Score: 2763.32
Early stopping at iteration 536, Best Score: 2746.98
Early stopping at iteration 611, Best Score: 2752.56
Early stopping at iteration 609, Best Score: 2760.60
Early stopping at iteration 666, Best Score: 2771.34
Early stopping at iteration 598, Best Score: 2772.19
Early stopping at iteration 816, Best Score: 2779.86
Early stopping at iteration 581, Best Score: 2741.21
Early stopping at iteration 653, Best Score: 2764.14
Early stopping at iteration 635, Best Score: 2759.10
Early stopping at iteration 809, Best Score: 2758.14
Early stopping at iteration 521, Best Score: 2738.68
Early stopping at iteration 548, Best Score: 2750.92
Early stopping at iteration 588, Best Score: 2759.41
Early stopping at iteration 987, Best Score: 2770.44
Early stopping at iteration 588, Best Score: 2760.23
Early stopping at iteration 625, Best Score: 2766.15
Early stopping at iteration 646, Best Score: 2753.61
Early stopping at iteration 709, Best Score: 2766.84
Early stopping at iteration 575, Best Score: 2752.19
Early stopping at iteration 605, Best Score: 2755.65
Early stopping at iteration 650, Best Score: 2758.73
GNN Trial 14 completed with 250 decks.

GNN Trial 15/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 18.6368, Synergy Loss: 2.1731, Total: 22.9830
Epoch 20/300 - Node Loss: 2.8672, Synergy Loss: 2.0627, Total: 6.9926
Epoch 30/300 - Node Loss: 1.6301, Synergy Loss: 1.9903, Total: 5.6108
Epoch 40/300 - Node Loss: 1.0638, Synergy Loss: 1.9000, Total: 4.8637
Epoch 50/300 - Node Loss: 1.0167, Synergy Loss: 1.8169, Total: 4.6505
Epoch 60/300 - Node Loss: 1.0016, Synergy Loss: 1.7392, Total: 4.4800
Epoch 70/300 - Node Loss: 1.0016, Synergy Loss: 1.6621, Total: 4.3258
Epoch 80/300 - Node Loss: 1.0005, Synergy Loss: 1.5913, Total: 4.1832
Epoch 90/300 - Node Loss: 1.0018, Synergy Loss: 1.5470, Total: 4.0958
Epoch 100/300 - Node Loss: 1.0018, Synergy Loss: 1.5443, Total: 4.0903
Epoch 110/300 - Node Loss: 1.0014, Synergy Loss: 1.5417, Total: 4.0848
Epoch 120/300 - Node Loss: 1.0042, Synergy Loss: 1.5387, Total: 4.0817
Epoch 130/300 - Node Loss: 1.0019, Synergy Loss: 1.5372, Total: 4.0764
Epoch 140/300 - Node Loss: 1.0012, Synergy Loss: 1.5375, Total: 4.0762
Epoch 150/300 - Node Loss: 1.0049, Synergy Loss: 1.5365, Total: 4.0779
```

```
Epoch 160/300 - Node Loss: 1.0026, Synergy Loss: 1.5258, Total: 4.0542
Epoch 170/300 - Node Loss: 1.0298, Synergy Loss: 1.4110, Total: 3.8518
Epoch 180/300 - Node Loss: 1.1284, Synergy Loss: 1.1358, Total: 3.3999
Epoch 190/300 - Node Loss: 1.2174, Synergy Loss: 1.1151, Total: 3.4475
Epoch 200/300 - Node Loss: 1.2129, Synergy Loss: 0.8986, Total: 3.0101
Epoch 210/300 - Node Loss: 1.1916, Synergy Loss: 0.8068, Total: 2.8052
Epoch 220/300 - Node Loss: 1.1771, Synergy Loss: 0.6597, Total: 2.4965
Epoch 230/300 - Node Loss: 1.1422, Synergy Loss: 0.6744, Total: 2.4910
Epoch 240/300 - Node Loss: 1.2364, Synergy Loss: 0.5034, Total: 2.2431
Epoch 250/300 - Node Loss: 1.2062, Synergy Loss: 0.4410, Total: 2.0882
Epoch 260/300 - Node Loss: 1.1256, Synergy Loss: 0.4468, Total: 2.0191
Epoch 270/300 - Node Loss: 1.1170, Synergy Loss: 0.3699, Total: 1.8569
Epoch 280/300 - Node Loss: 1.1097, Synergy Loss: 0.3245, Total: 1.7587
Epoch 290/300 - Node Loss: 1.0657, Synergy Loss: 0.3303, Total: 1.7262
Epoch 300/300 - Node Loss: 1.1003, Synergy Loss: 0.3266, Total: 1.7535
Existing model archived to: 20250310_161823_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 540, Best Score: 3380.45
Early stopping at iteration 738, Best Score: 3429.83
Early stopping at iteration 614, Best Score: 3417.36
Early stopping at iteration 522, Best Score: 3358.56
Early stopping at iteration 550, Best Score: 3377.78
Early stopping at iteration 694, Best Score: 3425.92
Early stopping at iteration 588, Best Score: 3378.43
Early stopping at iteration 661, Best Score: 3421.92
Early stopping at iteration 655, Best Score: 3412.26
Early stopping at iteration 663, Best Score: 3408.87
Early stopping at iteration 502, Best Score: 3358.56
Early stopping at iteration 666, Best Score: 3417.58
Early stopping at iteration 563, Best Score: 3385.06
Early stopping at iteration 775, Best Score: 3391.04
Early stopping at iteration 726, Best Score: 3407.82
Early stopping at iteration 685, Best Score: 3416.23
Early stopping at iteration 564, Best Score: 3403.58
Early stopping at iteration 521, Best Score: 3375.12
Early stopping at iteration 527, Best Score: 3377.57
Early stopping at iteration 501, Best Score: 3358.56
Early stopping at iteration 658, Best Score: 3391.61
Early stopping at iteration 665, Best Score: 3391.69
Early stopping at iteration 580, Best Score: 3387.10
Early stopping at iteration 581, Best Score: 3387.07
Early stopping at iteration 545, Best Score: 3368.50
Early stopping at iteration 675, Best Score: 3426.89
Early stopping at iteration 738, Best Score: 3382.40
Early stopping at iteration 557, Best Score: 3374.50
Early stopping at iteration 711, Best Score: 3397.04
Early stopping at iteration 567, Best Score: 3394.34
Early stopping at iteration 658, Best Score: 3421.58
Early stopping at iteration 518, Best Score: 3376.97
Early stopping at iteration 549, Best Score: 3384.41
Early stopping at iteration 762, Best Score: 3431.66
Early stopping at iteration 664, Best Score: 3397.69
Early stopping at iteration 613, Best Score: 3414.30
Early stopping at iteration 688, Best Score: 3401.62
Early stopping at iteration 501, Best Score: 3358.56
Early stopping at iteration 710, Best Score: 3430.59
Early stopping at iteration 773, Best Score: 3423.53
Early stopping at iteration 572, Best Score: 3379.78
Early stopping at iteration 705, Best Score: 3399.00
Early stopping at iteration 699, Best Score: 3410.25
```

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Early stopping at iteration 592, Best Score: 3384.41
Early stopping at iteration 559, Best Score: 3393.03
Early stopping at iteration 692, Best Score: 3408.70
Early stopping at iteration 640, Best Score: 3400.31
Early stopping at iteration 622, Best Score: 3420.88
Early stopping at iteration 508, Best Score: 3367.85
Early stopping at iteration 665, Best Score: 3422.23
Early stopping at iteration 822, Best Score: 3432.19
Early stopping at iteration 885, Best Score: 3399.66
Early stopping at iteration 646, Best Score: 3412.25
Early stopping at iteration 595, Best Score: 3393.73
Early stopping at iteration 601, Best Score: 3383.06
Early stopping at iteration 658, Best Score: 3407.59
Early stopping at iteration 768, Best Score: 3408.28
Early stopping at iteration 726, Best Score: 3422.57
Early stopping at iteration 594, Best Score: 3399.65
Early stopping at iteration 701, Best Score: 3396.43
Early stopping at iteration 507, Best Score: 3358.56
Early stopping at iteration 517, Best Score: 3364.53
Early stopping at iteration 632, Best Score: 3395.98
Early stopping at iteration 524, Best Score: 3358.56
Early stopping at iteration 502, Best Score: 3358.56
Early stopping at iteration 516, Best Score: 3361.87
Early stopping at iteration 531, Best Score: 3375.13
Early stopping at iteration 717, Best Score: 3400.07
Early stopping at iteration 538, Best Score: 3365.18
Early stopping at iteration 659, Best Score: 3400.35
Early stopping at iteration 510, Best Score: 3367.84
Early stopping at iteration 545, Best Score: 3383.75
Early stopping at iteration 546, Best Score: 3392.83
Early stopping at iteration 560, Best Score: 3406.89
Early stopping at iteration 685, Best Score: 3416.61
Early stopping at iteration 680, Best Score: 3393.72
Early stopping at iteration 594, Best Score: 3390.39
Early stopping at iteration 757, Best Score: 3406.80
Early stopping at iteration 524, Best Score: 3375.12
Early stopping at iteration 548, Best Score: 3384.44
Early stopping at iteration 524, Best Score: 3358.56
Early stopping at iteration 574, Best Score: 3398.05
Early stopping at iteration 732, Best Score: 3436.20
Early stopping at iteration 619, Best Score: 3377.78
Early stopping at iteration 518, Best Score: 3376.47
Early stopping at iteration 539, Best Score: 3368.50
Early stopping at iteration 501, Best Score: 3358.56
Early stopping at iteration 687, Best Score: 3397.69
Early stopping at iteration 628, Best Score: 3402.97
Early stopping at iteration 591, Best Score: 3408.74
Early stopping at iteration 557, Best Score: 3399.70
Early stopping at iteration 841, Best Score: 3412.04
Early stopping at iteration 549, Best Score: 3374.50
Early stopping at iteration 596, Best Score: 3416.90
Early stopping at iteration 545, Best Score: 3397.69
Early stopping at iteration 611, Best Score: 3411.19
Early stopping at iteration 582, Best Score: 3384.98
Early stopping at iteration 569, Best Score: 3394.42
Early stopping at iteration 577, Best Score: 3408.28
  Deck Trial 100/250
Early stopping at iteration 601, Best Score: 3379.78
Early stopping at iteration 505, Best Score: 3358.56
Early stopping at iteration 525, Best Score: 3377.78
```

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Early stopping at iteration 624, Best Score: 3417.57
Early stopping at iteration 687, Best Score: 3414.91
Early stopping at iteration 694, Best Score: 3418.71
Early stopping at iteration 553, Best Score: 3375.13
Early stopping at iteration 640, Best Score: 3392.22
Early stopping at iteration 661, Best Score: 3419.45
Early stopping at iteration 539, Best Score: 3373.82
Early stopping at iteration 576, Best Score: 3401.00
Early stopping at iteration 856, Best Score: 3377.48
Early stopping at iteration 639, Best Score: 3401.66
Early stopping at iteration 570, Best Score: 3383.75
Early stopping at iteration 591, Best Score: 3416.08
Early stopping at iteration 591, Best Score: 3402.32
Early stopping at iteration 697, Best Score: 3408.98
Early stopping at iteration 504, Best Score: 3365.19
Early stopping at iteration 512, Best Score: 3358.56
Early stopping at iteration 500, Best Score: 3355.90
Early stopping at iteration 621, Best Score: 3400.32
Early stopping at iteration 591, Best Score: 3394.34
Early stopping at iteration 543, Best Score: 3369.92
Early stopping at iteration 567, Best Score: 3398.99
Early stopping at iteration 778, Best Score: 3410.25
Early stopping at iteration 565, Best Score: 3401.39
Early stopping at iteration 545, Best Score: 3374.25
Early stopping at iteration 511, Best Score: 3358.56
Early stopping at iteration 651, Best Score: 3420.91
Early stopping at iteration 601, Best Score: 3386.42
Early stopping at iteration 570, Best Score: 3406.97
Early stopping at iteration 703, Best Score: 3398.31
Early stopping at iteration 564, Best Score: 3364.53
Early stopping at iteration 586, Best Score: 3397.70
Early stopping at iteration 677, Best Score: 3406.29
Early stopping at iteration 560, Best Score: 3396.35
Early stopping at iteration 543, Best Score: 3368.26
Early stopping at iteration 676, Best Score: 3402.96
Early stopping at iteration 656, Best Score: 3406.70
Early stopping at iteration 563, Best Score: 3375.78
Early stopping at iteration 582, Best Score: 3399.94
Early stopping at iteration 649, Best Score: 3392.34
Early stopping at iteration 714, Best Score: 3420.22
Early stopping at iteration 508, Best Score: 3358.56
Early stopping at iteration 630, Best Score: 3417.61
Early stopping at iteration 572, Best Score: 3392.49
Early stopping at iteration 642, Best Score: 3404.12
Early stopping at iteration 632, Best Score: 3422.03
Early stopping at iteration 602, Best Score: 3375.35
Early stopping at iteration 568, Best Score: 3391.07
Early stopping at iteration 520, Best Score: 3371.84
Early stopping at iteration 503, Best Score: 3358.56
Early stopping at iteration 598, Best Score: 3404.32
Early stopping at iteration 597, Best Score: 3393.66
Early stopping at iteration 686, Best Score: 3416.60
Early stopping at iteration 552, Best Score: 3368.49
Early stopping at iteration 502, Best Score: 3358.56
Early stopping at iteration 922, Best Score: 3427.78
Early stopping at iteration 536, Best Score: 3389.02
Early stopping at iteration 594, Best Score: 3390.38
Early stopping at iteration 543, Best Score: 3384.40
Early stopping at iteration 661, Best Score: 3382.78
Early stopping at iteration 665, Best Score: 3396.87
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```
Early stopping at iteration 571, Best Score: 3386.86
Early stopping at iteration 511, Best Score: 3368.50
Early stopping at iteration 663, Best Score: 3368.50
Early stopping at iteration 606, Best Score: 3402.23
Early stopping at iteration 567, Best Score: 3380.26
Early stopping at iteration 662, Best Score: 3414.52
Early stopping at iteration 654, Best Score: 3412.17
Early stopping at iteration 624, Best Score: 3367.85
Early stopping at iteration 501, Best Score: 3358.56
Early stopping at iteration 705, Best Score: 3409.58
Early stopping at iteration 635, Best Score: 3385.01
Early stopping at iteration 841, Best Score: 3424.07
Early stopping at iteration 510, Best Score: 3365.84
Early stopping at iteration 607, Best Score: 3396.73
Early stopping at iteration 670, Best Score: 3418.27
Early stopping at iteration 564, Best Score: 3381.09
Early stopping at iteration 733, Best Score: 3398.73
Early stopping at iteration 561, Best Score: 3368.50
Early stopping at iteration 709, Best Score: 3406.48
Early stopping at iteration 646, Best Score: 3400.32
Early stopping at iteration 585, Best Score: 3400.34
Early stopping at iteration 659, Best Score: 3396.69
Early stopping at iteration 603, Best Score: 3408.03
Early stopping at iteration 588, Best Score: 3404.16
Early stopping at iteration 549, Best Score: 3397.00
Early stopping at iteration 604, Best Score: 3405.58
Early stopping at iteration 544, Best Score: 3376.40
Early stopping at iteration 522, Best Score: 3369.19
Early stopping at iteration 587, Best Score: 3407.35
Early stopping at iteration 629, Best Score: 3418.92
Early stopping at iteration 509, Best Score: 3370.42
Early stopping at iteration 605, Best Score: 3395.69
Early stopping at iteration 579, Best Score: 3389.06
Early stopping at iteration 502, Best Score: 3358.56
Early stopping at iteration 628, Best Score: 3400.96
Early stopping at iteration 715, Best Score: 3429.58
Early stopping at iteration 530, Best Score: 3377.78
  Deck Trial 200/250
Early stopping at iteration 727, Best Score: 3386.37
Early stopping at iteration 535, Best Score: 3387.75
Early stopping at iteration 611, Best Score: 3400.31
Early stopping at iteration 621, Best Score: 3395.92
Early stopping at iteration 680, Best Score: 3364.71
Early stopping at iteration 615, Best Score: 3399.53
Early stopping at iteration 536, Best Score: 3370.50
Early stopping at iteration 501, Best Score: 3358.56
Early stopping at iteration 617, Best Score: 3391.68
Early stopping at iteration 566, Best Score: 3381.09
Early stopping at iteration 559, Best Score: 3377.78
Early stopping at iteration 604, Best Score: 3406.89
Early stopping at iteration 533, Best Score: 3374.47
Early stopping at iteration 593, Best Score: 3395.03
Early stopping at iteration 648, Best Score: 3408.28
Early stopping at iteration 717, Best Score: 3407.63
Early stopping at iteration 558, Best Score: 3377.54
Early stopping at iteration 641, Best Score: 3401.19
Early stopping at iteration 569, Best Score: 3397.69
Early stopping at iteration 549, Best Score: 3371.81
Early stopping at iteration 675, Best Score: 3409.38
Early stopping at iteration 662, Best Score: 3409.63
```

```
Early stopping at iteration 545, Best Score: 3382.88
Early stopping at iteration 562, Best Score: 3387.10
Early stopping at iteration 703, Best Score: 3412.32
Early stopping at iteration 576, Best Score: 3403.97
Early stopping at iteration 849, Best Score: 3426.88
Early stopping at iteration 534, Best Score: 3381.78
Early stopping at iteration 578, Best Score: 3397.04
Early stopping at iteration 501, Best Score: 3358.56
Early stopping at iteration 509, Best Score: 3358.56
Early stopping at iteration 652, Best Score: 3388.98
Early stopping at iteration 522, Best Score: 3368.50
Early stopping at iteration 571, Best Score: 3390.38
Early stopping at iteration 621, Best Score: 3394.38
Early stopping at iteration 720, Best Score: 3390.39
Early stopping at iteration 502, Best Score: 3358.56
Early stopping at iteration 571, Best Score: 3367.85
Early stopping at iteration 641, Best Score: 3403.46
Early stopping at iteration 620, Best Score: 3395.70
Early stopping at iteration 697, Best Score: 3425.97
Early stopping at iteration 501, Best Score: 3358.56
Early stopping at iteration 1100, Best Score: 3433.45
Early stopping at iteration 597, Best Score: 3408.95
Early stopping at iteration 547, Best Score: 3383.86
Early stopping at iteration 524, Best Score: 3383.44
Early stopping at iteration 503, Best Score: 3358.56
Early stopping at iteration 940, Best Score: 3441.97
Early stopping at iteration 503, Best Score: 3358.56
Early stopping at iteration 651, Best Score: 3407.62
Early stopping at iteration 602, Best Score: 3381.10
GNN Trial 15 completed with 250 decks.

GNN Trial 16/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 60.6908, Synergy Loss: 2.4252, Total: 65.5412
Epoch 20/300 - Node Loss: 5.9854, Synergy Loss: 2.0923, Total: 10.1701
Epoch 30/300 - Node Loss: 3.1044, Synergy Loss: 1.8458, Total: 6.7961
Epoch 40/300 - Node Loss: 2.3933, Synergy Loss: 1.3283, Total: 5.0498
Epoch 50/300 - Node Loss: 1.7519, Synergy Loss: 1.0450, Total: 3.8418
Epoch 60/300 - Node Loss: 1.6105, Synergy Loss: 0.8807, Total: 3.3719
Epoch 70/300 - Node Loss: 1.4683, Synergy Loss: 0.8102, Total: 3.0886
Epoch 80/300 - Node Loss: 1.4381, Synergy Loss: 0.8214, Total: 3.0809
Epoch 90/300 - Node Loss: 1.2916, Synergy Loss: 0.8260, Total: 2.9436
Epoch 100/300 - Node Loss: 1.2913, Synergy Loss: 0.7629, Total: 2.8171
Epoch 110/300 - Node Loss: 1.2870, Synergy Loss: 0.7684, Total: 2.8238
Epoch 120/300 - Node Loss: 1.2913, Synergy Loss: 0.7339, Total: 2.7590
Epoch 130/300 - Node Loss: 1.2305, Synergy Loss: 0.6877, Total: 2.6060
Epoch 140/300 - Node Loss: 1.2287, Synergy Loss: 0.6964, Total: 2.6216
Epoch 150/300 - Node Loss: 1.1462, Synergy Loss: 0.7616, Total: 2.6695
Epoch 160/300 - Node Loss: 1.1754, Synergy Loss: 0.6342, Total: 2.4438
Epoch 170/300 - Node Loss: 1.1796, Synergy Loss: 0.6197, Total: 2.4190
Epoch 180/300 - Node Loss: 1.3197, Synergy Loss: 0.6898, Total: 2.6994
Early stopping at epoch 185
Existing model archived to: 20250310_162924_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 577, Best Score: 3094.68
Early stopping at iteration 555, Best Score: 3105.31
Early stopping at iteration 543, Best Score: 3098.43
Early stopping at iteration 504, Best Score: 3083.56
Early stopping at iteration 508, Best Score: 3081.68
Early stopping at iteration 551, Best Score: 3083.93
```

```
Early stopping at iteration 819, Best Score: 3120.38
Early stopping at iteration 604, Best Score: 3119.80
Early stopping at iteration 549, Best Score: 3081.75
Early stopping at iteration 587, Best Score: 3111.30
Early stopping at iteration 503, Best Score: 3075.18
Early stopping at iteration 634, Best Score: 3111.75
Early stopping at iteration 502, Best Score: 3075.18
Early stopping at iteration 587, Best Score: 3099.12
Early stopping at iteration 534, Best Score: 3094.00
Early stopping at iteration 613, Best Score: 3103.24
Early stopping at iteration 501, Best Score: 3075.18
Early stopping at iteration 594, Best Score: 3088.24
Early stopping at iteration 557, Best Score: 3094.74
Early stopping at iteration 553, Best Score: 3094.87
Early stopping at iteration 513, Best Score: 3092.30
Early stopping at iteration 530, Best Score: 3090.43
Early stopping at iteration 531, Best Score: 3092.55
Early stopping at iteration 584, Best Score: 3107.43
Early stopping at iteration 1146, Best Score: 3123.13
Early stopping at iteration 509, Best Score: 3075.18
Early stopping at iteration 572, Best Score: 3088.25
Early stopping at iteration 521, Best Score: 3075.18
Early stopping at iteration 542, Best Score: 3086.05
Early stopping at iteration 633, Best Score: 3097.06
Early stopping at iteration 788, Best Score: 3124.92
Early stopping at iteration 501, Best Score: 3075.18
Early stopping at iteration 664, Best Score: 3100.93
Early stopping at iteration 501, Best Score: 3075.18
Early stopping at iteration 544, Best Score: 3081.75
Early stopping at iteration 565, Best Score: 3081.68
Early stopping at iteration 567, Best Score: 3103.49
Early stopping at iteration 641, Best Score: 3097.00
Early stopping at iteration 680, Best Score: 3101.24
Early stopping at iteration 508, Best Score: 3075.18
Early stopping at iteration 506, Best Score: 3075.18
Early stopping at iteration 547, Best Score: 3102.74
Early stopping at iteration 552, Best Score: 3087.63
Early stopping at iteration 593, Best Score: 3079.62
Early stopping at iteration 745, Best Score: 3125.00
Early stopping at iteration 657, Best Score: 3100.81
Early stopping at iteration 952, Best Score: 3114.43
Early stopping at iteration 550, Best Score: 3092.62
Early stopping at iteration 594, Best Score: 3089.10
Early stopping at iteration 666, Best Score: 3107.50
Early stopping at iteration 502, Best Score: 3075.18
Early stopping at iteration 543, Best Score: 3090.38
Early stopping at iteration 523, Best Score: 3079.49
Early stopping at iteration 564, Best Score: 3098.56
Early stopping at iteration 578, Best Score: 3098.62
Early stopping at iteration 500, Best Score: 3073.06
Early stopping at iteration 506, Best Score: 3083.80
Early stopping at iteration 504, Best Score: 3077.37
Early stopping at iteration 649, Best Score: 3130.61
Early stopping at iteration 544, Best Score: 3081.75
Early stopping at iteration 516, Best Score: 3086.05
Early stopping at iteration 744, Best Score: 3113.93
Early stopping at iteration 695, Best Score: 3127.05
Early stopping at iteration 584, Best Score: 3088.25
Early stopping at iteration 598, Best Score: 3090.43
Early stopping at iteration 517, Best Score: 3075.18
```

```
Early stopping at iteration 613, Best Score: 3103.12
Early stopping at iteration 521, Best Score: 3085.99
Early stopping at iteration 574, Best Score: 3099.31
Early stopping at iteration 508, Best Score: 3075.18
Early stopping at iteration 927, Best Score: 3117.93
Early stopping at iteration 1022, Best Score: 3120.68
Early stopping at iteration 724, Best Score: 3124.80
Early stopping at iteration 516, Best Score: 3079.49
Early stopping at iteration 535, Best Score: 3079.49
Early stopping at iteration 521, Best Score: 3081.88
Early stopping at iteration 589, Best Score: 3103.25
Early stopping at iteration 594, Best Score: 3099.25
Early stopping at iteration 551, Best Score: 3085.93
Early stopping at iteration 758, Best Score: 3111.80
Early stopping at iteration 859, Best Score: 3126.37
Early stopping at iteration 618, Best Score: 3112.18
Early stopping at iteration 501, Best Score: 3075.18
Early stopping at iteration 620, Best Score: 3101.06
Early stopping at iteration 533, Best Score: 3083.56
Early stopping at iteration 589, Best Score: 3107.44
Early stopping at iteration 610, Best Score: 3105.37
Early stopping at iteration 508, Best Score: 3075.18
Early stopping at iteration 603, Best Score: 3086.06
Early stopping at iteration 553, Best Score: 3075.18
Early stopping at iteration 523, Best Score: 3078.89
Early stopping at iteration 547, Best Score: 3101.18
Early stopping at iteration 561, Best Score: 3102.99
Early stopping at iteration 781, Best Score: 3127.17
Early stopping at iteration 519, Best Score: 3075.18
Early stopping at iteration 704, Best Score: 3111.39
Early stopping at iteration 561, Best Score: 3117.86
Early stopping at iteration 506, Best Score: 3075.18
Early stopping at iteration 630, Best Score: 3105.43
  Deck Trial 100/250
Early stopping at iteration 528, Best Score: 3081.75
Early stopping at iteration 608, Best Score: 3101.18
Early stopping at iteration 584, Best Score: 3085.70
Early stopping at iteration 535, Best Score: 3090.43
Early stopping at iteration 502, Best Score: 3075.18
Early stopping at iteration 502, Best Score: 3075.18
Early stopping at iteration 751, Best Score: 3116.12
Early stopping at iteration 591, Best Score: 3094.31
Early stopping at iteration 512, Best Score: 3083.80
Early stopping at iteration 579, Best Score: 3089.16
Early stopping at iteration 524, Best Score: 3088.32
Early stopping at iteration 749, Best Score: 3111.62
Early stopping at iteration 853, Best Score: 3107.87
Early stopping at iteration 553, Best Score: 3095.73
Early stopping at iteration 579, Best Score: 3097.00
Early stopping at iteration 646, Best Score: 3101.06
Early stopping at iteration 621, Best Score: 3101.05
Early stopping at iteration 613, Best Score: 3097.00
Early stopping at iteration 546, Best Score: 3075.18
Early stopping at iteration 679, Best Score: 3105.68
Early stopping at iteration 556, Best Score: 3092.75
Early stopping at iteration 667, Best Score: 3092.62
Early stopping at iteration 526, Best Score: 3090.37
Early stopping at iteration 595, Best Score: 3090.45
Early stopping at iteration 719, Best Score: 3107.50
Early stopping at iteration 515, Best Score: 3079.49
```

```
Early stopping at iteration 502, Best Score: 3075.18
Early stopping at iteration 776, Best Score: 3126.86
Early stopping at iteration 591, Best Score: 3088.38
Early stopping at iteration 501, Best Score: 3077.37
Early stopping at iteration 649, Best Score: 3099.19
Early stopping at iteration 524, Best Score: 3088.25
Early stopping at iteration 510, Best Score: 3075.18
Early stopping at iteration 565, Best Score: 3103.18
Early stopping at iteration 713, Best Score: 3092.56
Early stopping at iteration 668, Best Score: 3128.49
Early stopping at iteration 634, Best Score: 3104.48
Early stopping at iteration 742, Best Score: 3123.08
Early stopping at iteration 509, Best Score: 3079.62
Early stopping at iteration 589, Best Score: 3088.31
Early stopping at iteration 503, Best Score: 3075.18
Early stopping at iteration 601, Best Score: 3088.25
Early stopping at iteration 632, Best Score: 3090.43
Early stopping at iteration 643, Best Score: 3103.14
Early stopping at iteration 606, Best Score: 3111.68
Early stopping at iteration 626, Best Score: 3130.61
Early stopping at iteration 755, Best Score: 3127.24
Early stopping at iteration 667, Best Score: 3110.17
Early stopping at iteration 593, Best Score: 3109.93
Early stopping at iteration 550, Best Score: 3092.43
Early stopping at iteration 563, Best Score: 3086.19
Early stopping at iteration 675, Best Score: 3109.57
Early stopping at iteration 669, Best Score: 3114.05
Early stopping at iteration 502, Best Score: 3075.18
Early stopping at iteration 591, Best Score: 3111.80
Early stopping at iteration 544, Best Score: 3076.82
Early stopping at iteration 983, Best Score: 3109.44
Early stopping at iteration 578, Best Score: 3110.77
Early stopping at iteration 676, Best Score: 3109.44
Early stopping at iteration 712, Best Score: 3113.99
Early stopping at iteration 571, Best Score: 3088.31
Early stopping at iteration 1206, Best Score: 3095.45
Early stopping at iteration 587, Best Score: 3111.43
Early stopping at iteration 576, Best Score: 3086.06
Early stopping at iteration 591, Best Score: 3090.24
Early stopping at iteration 504, Best Score: 3075.18
Early stopping at iteration 628, Best Score: 3100.71
Early stopping at iteration 521, Best Score: 3087.10
Early stopping at iteration 958, Best Score: 3124.56
Early stopping at iteration 655, Best Score: 3105.36
Early stopping at iteration 703, Best Score: 3105.68
Early stopping at iteration 696, Best Score: 3114.06
Early stopping at iteration 710, Best Score: 3103.38
Early stopping at iteration 847, Best Score: 3120.43
Early stopping at iteration 519, Best Score: 3085.99
Early stopping at iteration 751, Best Score: 3107.80
Early stopping at iteration 519, Best Score: 3083.20
Early stopping at iteration 504, Best Score: 3075.18
Early stopping at iteration 685, Best Score: 3124.42
Early stopping at iteration 526, Best Score: 3086.06
Early stopping at iteration 561, Best Score: 3090.56
Early stopping at iteration 641, Best Score: 3096.30
Early stopping at iteration 609, Best Score: 3107.30
Early stopping at iteration 535, Best Score: 3096.99
Early stopping at iteration 578, Best Score: 3105.37
Early stopping at iteration 537, Best Score: 3082.66
```

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Early stopping at iteration 638, Best Score: 3103.43
Early stopping at iteration 501, Best Score: 3075.18
Early stopping at iteration 574, Best Score: 3105.37
Early stopping at iteration 555, Best Score: 3104.93
Early stopping at iteration 628, Best Score: 3099.05
Early stopping at iteration 591, Best Score: 3103.76
Early stopping at iteration 501, Best Score: 3075.18
Early stopping at iteration 587, Best Score: 3103.43
Early stopping at iteration 662, Best Score: 3122.30
Early stopping at iteration 687, Best Score: 3122.37
Early stopping at iteration 836, Best Score: 3116.40
Early stopping at iteration 577, Best Score: 3094.37
Early stopping at iteration 520, Best Score: 3079.49
Early stopping at iteration 583, Best Score: 3094.43
  Deck Trial 200/250
Early stopping at iteration 702, Best Score: 3086.19
Early stopping at iteration 699, Best Score: 3110.12
Early stopping at iteration 522, Best Score: 3089.70
Early stopping at iteration 629, Best Score: 3092.68
Early stopping at iteration 587, Best Score: 3093.39
Early stopping at iteration 637, Best Score: 3095.00
Early stopping at iteration 519, Best Score: 3081.75
Early stopping at iteration 662, Best Score: 3108.19
Early stopping at iteration 511, Best Score: 3075.18
Early stopping at iteration 698, Best Score: 3118.56
Early stopping at iteration 704, Best Score: 3094.88
Early stopping at iteration 880, Best Score: 3106.45
Early stopping at iteration 502, Best Score: 3075.18
Early stopping at iteration 511, Best Score: 3079.56
Early stopping at iteration 673, Best Score: 3109.39
Early stopping at iteration 538, Best Score: 3087.94
Early stopping at iteration 587, Best Score: 3111.62
Early stopping at iteration 503, Best Score: 3075.18
Early stopping at iteration 539, Best Score: 3075.18
Early stopping at iteration 628, Best Score: 3100.99
Early stopping at iteration 672, Best Score: 3112.00
Early stopping at iteration 528, Best Score: 3092.49
Early stopping at iteration 504, Best Score: 3075.18
Early stopping at iteration 703, Best Score: 3114.24
Early stopping at iteration 554, Best Score: 3088.25
Early stopping at iteration 538, Best Score: 3084.92
Early stopping at iteration 557, Best Score: 3088.25
Early stopping at iteration 645, Best Score: 3111.55
Early stopping at iteration 500, Best Score: 3073.06
Early stopping at iteration 707, Best Score: 3118.49
Early stopping at iteration 505, Best Score: 3075.18
Early stopping at iteration 602, Best Score: 3111.55
Early stopping at iteration 653, Best Score: 3112.24
Early stopping at iteration 519, Best Score: 3085.62
Early stopping at iteration 560, Best Score: 3090.37
Early stopping at iteration 770, Best Score: 3122.69
Early stopping at iteration 546, Best Score: 3086.06
Early stopping at iteration 555, Best Score: 3103.12
Early stopping at iteration 502, Best Score: 3076.77
Early stopping at iteration 564, Best Score: 3086.19
Early stopping at iteration 537, Best Score: 3081.75
Early stopping at iteration 505, Best Score: 3075.18
Early stopping at iteration 580, Best Score: 3104.09
Early stopping at iteration 517, Best Score: 3075.18
Early stopping at iteration 519, Best Score: 3079.49
```

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Early stopping at iteration 542, Best Score: 3079.49
Early stopping at iteration 593, Best Score: 3092.02
Early stopping at iteration 563, Best Score: 3081.75
Early stopping at iteration 503, Best Score: 3075.18
Early stopping at iteration 614, Best Score: 3103.56
Early stopping at iteration 606, Best Score: 3101.51
GNN Trial 16 completed with 250 decks.

GNN Trial 17/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 37.7611, Synergy Loss: 2.1356, Total: 42.0323
Epoch 20/300 - Node Loss: 5.2694, Synergy Loss: 1.6537, Total: 8.5767
Epoch 30/300 - Node Loss: 2.5020, Synergy Loss: 1.3278, Total: 5.1576
Epoch 40/300 - Node Loss: 1.7948, Synergy Loss: 0.9416, Total: 3.6779
Epoch 50/300 - Node Loss: 1.4911, Synergy Loss: 0.8829, Total: 3.2569
Epoch 60/300 - Node Loss: 1.5508, Synergy Loss: 0.8587, Total: 3.2683
Epoch 70/300 - Node Loss: 1.4687, Synergy Loss: 0.8142, Total: 3.0971
Epoch 80/300 - Node Loss: 1.4480, Synergy Loss: 0.7474, Total: 2.9428
Epoch 90/300 - Node Loss: 1.2734, Synergy Loss: 0.7183, Total: 2.7100
Epoch 100/300 - Node Loss: 1.3279, Synergy Loss: 0.7340, Total: 2.7958
Epoch 110/300 - Node Loss: 1.2449, Synergy Loss: 0.6832, Total: 2.6113
Epoch 120/300 - Node Loss: 1.1671, Synergy Loss: 0.7020, Total: 2.5712
Epoch 130/300 - Node Loss: 1.2263, Synergy Loss: 0.8864, Total: 2.9990
Epoch 140/300 - Node Loss: 1.4065, Synergy Loss: 0.6690, Total: 2.7445
Early stopping at epoch 145
Existing model archived to: 20250310_163821_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 677, Best Score: 2426.84
Early stopping at iteration 739, Best Score: 2414.99
Early stopping at iteration 585, Best Score: 2143.04
Early stopping at iteration 1188, Best Score: 2783.13
Early stopping at iteration 750, Best Score: 2297.95
Early stopping at iteration 679, Best Score: 2474.04
Early stopping at iteration 695, Best Score: 2465.73
Early stopping at iteration 588, Best Score: 2259.67
Early stopping at iteration 683, Best Score: 2341.47
Early stopping at iteration 1003, Best Score: 2799.83
Early stopping at iteration 1106, Best Score: 2749.70
Early stopping at iteration 1089, Best Score: 2822.53
Early stopping at iteration 843, Best Score: 2554.53
Early stopping at iteration 809, Best Score: 2400.44
Early stopping at iteration 764, Best Score: 2599.75
Early stopping at iteration 1249, Best Score: 2797.15
Early stopping at iteration 837, Best Score: 2483.10
Early stopping at iteration 771, Best Score: 2290.24
Early stopping at iteration 594, Best Score: 2156.76
Early stopping at iteration 725, Best Score: 2428.10
Early stopping at iteration 1205, Best Score: 2793.59
Early stopping at iteration 947, Best Score: 2741.98
Early stopping at iteration 969, Best Score: 2526.40
Early stopping at iteration 800, Best Score: 2459.75
Early stopping at iteration 1129, Best Score: 2822.22
Early stopping at iteration 1571, Best Score: 2852.29
Early stopping at iteration 1248, Best Score: 2360.73
Early stopping at iteration 1539, Best Score: 2844.40
Early stopping at iteration 554, Best Score: 2125.74
Early stopping at iteration 971, Best Score: 2805.13
Early stopping at iteration 685, Best Score: 2210.90
Early stopping at iteration 628, Best Score: 2232.45
Early stopping at iteration 962, Best Score: 2718.76
```

```
Early stopping at iteration 724, Best Score: 2428.00
Early stopping at iteration 837, Best Score: 2372.96
Early stopping at iteration 620, Best Score: 2381.62
Early stopping at iteration 1128, Best Score: 2815.70
Early stopping at iteration 633, Best Score: 2354.98
Early stopping at iteration 754, Best Score: 2392.89
Early stopping at iteration 719, Best Score: 2188.51
Early stopping at iteration 884, Best Score: 2613.06
Early stopping at iteration 707, Best Score: 2663.22
Early stopping at iteration 811, Best Score: 2454.13
Early stopping at iteration 764, Best Score: 2573.02
Early stopping at iteration 638, Best Score: 2280.27
Early stopping at iteration 856, Best Score: 2714.23
Early stopping at iteration 854, Best Score: 2384.25
Early stopping at iteration 1145, Best Score: 2492.01
Early stopping at iteration 848, Best Score: 2624.49
Early stopping at iteration 711, Best Score: 2397.19
Early stopping at iteration 939, Best Score: 2372.56
Early stopping at iteration 754, Best Score: 2522.89
Early stopping at iteration 609, Best Score: 2344.59
Early stopping at iteration 768, Best Score: 2444.75
Early stopping at iteration 905, Best Score: 2457.47
Early stopping at iteration 1083, Best Score: 2758.54
Early stopping at iteration 628, Best Score: 2175.71
Early stopping at iteration 540, Best Score: 2134.57
Early stopping at iteration 667, Best Score: 2440.72
Early stopping at iteration 1155, Best Score: 2673.39
Early stopping at iteration 589, Best Score: 2174.34
Early stopping at iteration 787, Best Score: 2402.51
Early stopping at iteration 1202, Best Score: 2787.60
Early stopping at iteration 821, Best Score: 2593.45
Early stopping at iteration 808, Best Score: 2457.77
Early stopping at iteration 1154, Best Score: 2847.37
Early stopping at iteration 612, Best Score: 2309.65
Early stopping at iteration 628, Best Score: 2438.77
Early stopping at iteration 1630, Best Score: 2746.52
Early stopping at iteration 1103, Best Score: 2744.22
Early stopping at iteration 814, Best Score: 2619.03
Early stopping at iteration 1335, Best Score: 2693.41
Early stopping at iteration 847, Best Score: 2560.78
Early stopping at iteration 914, Best Score: 2441.03
Early stopping at iteration 812, Best Score: 2542.53
Early stopping at iteration 673, Best Score: 2319.32
Early stopping at iteration 944, Best Score: 2569.84
Early stopping at iteration 1381, Best Score: 2577.07
Early stopping at iteration 679, Best Score: 2404.14
Early stopping at iteration 713, Best Score: 2412.21
Early stopping at iteration 882, Best Score: 2703.66
Early stopping at iteration 655, Best Score: 2349.42
Early stopping at iteration 873, Best Score: 2712.13
Early stopping at iteration 1718, Best Score: 2843.42
Early stopping at iteration 1331, Best Score: 2814.02
Early stopping at iteration 855, Best Score: 2473.56
Early stopping at iteration 814, Best Score: 2585.18
Early stopping at iteration 626, Best Score: 2240.30
Early stopping at iteration 1226, Best Score: 2442.23
Early stopping at iteration 867, Best Score: 2307.12
Early stopping at iteration 671, Best Score: 2444.60
Early stopping at iteration 1395, Best Score: 2595.49
Early stopping at iteration 763, Best Score: 2404.88
```

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Early stopping at iteration 929, Best Score: 2781.54
Early stopping at iteration 1292, Best Score: 2787.50
Early stopping at iteration 924, Best Score: 2536.00
Early stopping at iteration 868, Best Score: 2694.11
Early stopping at iteration 532, Best Score: 2093.83
Early stopping at iteration 885, Best Score: 2368.71
  Deck Trial 100/250
Early stopping at iteration 778, Best Score: 2462.94
Early stopping at iteration 659, Best Score: 2333.01
Early stopping at iteration 698, Best Score: 2449.16
Early stopping at iteration 728, Best Score: 2211.79
Early stopping at iteration 846, Best Score: 2683.15
Early stopping at iteration 1420, Best Score: 2815.69
Early stopping at iteration 1034, Best Score: 2825.97
Early stopping at iteration 982, Best Score: 2393.44
Early stopping at iteration 596, Best Score: 2202.24
Early stopping at iteration 1531, Best Score: 2852.56
Early stopping at iteration 758, Best Score: 2486.64
Early stopping at iteration 722, Best Score: 2422.53
Early stopping at iteration 614, Best Score: 2306.80
Early stopping at iteration 1185, Best Score: 2852.99
Early stopping at iteration 579, Best Score: 2140.57
Early stopping at iteration 893, Best Score: 2566.23
Early stopping at iteration 1508, Best Score: 2505.93
Early stopping at iteration 660, Best Score: 2334.28
Early stopping at iteration 642, Best Score: 2257.44
Early stopping at iteration 568, Best Score: 2077.57
Early stopping at iteration 634, Best Score: 2206.39
Early stopping at iteration 877, Best Score: 2523.44
Early stopping at iteration 757, Best Score: 2263.56
Early stopping at iteration 710, Best Score: 2289.26
Early stopping at iteration 1186, Best Score: 2789.88
Early stopping at iteration 735, Best Score: 2511.93
Early stopping at iteration 943, Best Score: 2593.31
Early stopping at iteration 787, Best Score: 2676.88
Early stopping at iteration 699, Best Score: 2265.48
Early stopping at iteration 1058, Best Score: 2518.66
Early stopping at iteration 665, Best Score: 2332.84
Early stopping at iteration 857, Best Score: 2662.67
Early stopping at iteration 826, Best Score: 2350.97
Early stopping at iteration 605, Best Score: 2227.58
Early stopping at iteration 1134, Best Score: 2405.88
Early stopping at iteration 749, Best Score: 2382.79
Early stopping at iteration 1009, Best Score: 2669.94
Early stopping at iteration 881, Best Score: 2527.31
Early stopping at iteration 884, Best Score: 2384.16
Early stopping at iteration 777, Best Score: 2300.48
Early stopping at iteration 738, Best Score: 2481.87
Early stopping at iteration 510, Best Score: 1986.36
Early stopping at iteration 675, Best Score: 2344.55
Early stopping at iteration 1127, Best Score: 2751.33
Early stopping at iteration 597, Best Score: 2335.97
Early stopping at iteration 960, Best Score: 2766.36
Early stopping at iteration 768, Best Score: 2315.77
Early stopping at iteration 649, Best Score: 2368.36
Early stopping at iteration 717, Best Score: 2463.65
Early stopping at iteration 607, Best Score: 2173.09
Early stopping at iteration 980, Best Score: 2487.80
Early stopping at iteration 900, Best Score: 2472.22
Early stopping at iteration 805, Best Score: 2562.96
```

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Early stopping at iteration 975, Best Score: 2813.07
Early stopping at iteration 880, Best Score: 2732.21
Early stopping at iteration 911, Best Score: 2715.32
Early stopping at iteration 697, Best Score: 2423.95
Early stopping at iteration 1097, Best Score: 2811.07
Early stopping at iteration 655, Best Score: 2346.36
Early stopping at iteration 865, Best Score: 2454.31
Early stopping at iteration 819, Best Score: 2439.35
Early stopping at iteration 968, Best Score: 2600.32
Early stopping at iteration 1152, Best Score: 2797.34
Early stopping at iteration 628, Best Score: 2198.80
Early stopping at iteration 969, Best Score: 2496.88
Early stopping at iteration 1129, Best Score: 2822.49
Early stopping at iteration 809, Best Score: 2509.50
Early stopping at iteration 752, Best Score: 2489.28
Early stopping at iteration 881, Best Score: 2761.44
Early stopping at iteration 690, Best Score: 2535.59
Early stopping at iteration 998, Best Score: 2840.11
Early stopping at iteration 1049, Best Score: 2244.98
Early stopping at iteration 570, Best Score: 2169.55
Early stopping at iteration 1012, Best Score: 2518.28
Early stopping at iteration 919, Best Score: 2363.51
Early stopping at iteration 768, Best Score: 2179.45
Early stopping at iteration 819, Best Score: 2584.59
Early stopping at iteration 592, Best Score: 2156.65
Early stopping at iteration 791, Best Score: 2387.09
Early stopping at iteration 1335, Best Score: 2838.39
Early stopping at iteration 1168, Best Score: 2583.86
Early stopping at iteration 618, Best Score: 2305.62
Early stopping at iteration 1001, Best Score: 2747.74
Early stopping at iteration 1310, Best Score: 2822.49
Early stopping at iteration 969, Best Score: 2758.87
Early stopping at iteration 1096, Best Score: 2768.28
Early stopping at iteration 696, Best Score: 2470.35
Early stopping at iteration 967, Best Score: 2780.93
Early stopping at iteration 1463, Best Score: 2846.65
Early stopping at iteration 963, Best Score: 2514.34
Early stopping at iteration 866, Best Score: 2480.10
Early stopping at iteration 829, Best Score: 2623.91
Early stopping at iteration 734, Best Score: 2342.70
Early stopping at iteration 998, Best Score: 2772.05
Early stopping at iteration 658, Best Score: 2382.20
Early stopping at iteration 1223, Best Score: 2845.03
Early stopping at iteration 1149, Best Score: 2469.53
Early stopping at iteration 1325, Best Score: 2847.90
Early stopping at iteration 996, Best Score: 2791.34
Early stopping at iteration 802, Best Score: 2615.78
  Deck Trial 200/250
Early stopping at iteration 764, Best Score: 2414.17
Early stopping at iteration 611, Best Score: 2377.86
Early stopping at iteration 1018, Best Score: 2754.38
Early stopping at iteration 982, Best Score: 2803.56
Early stopping at iteration 913, Best Score: 2629.45
Early stopping at iteration 1150, Best Score: 2743.23
Early stopping at iteration 799, Best Score: 2705.18
Early stopping at iteration 645, Best Score: 2300.98
Early stopping at iteration 1233, Best Score: 2809.54
Early stopping at iteration 1348, Best Score: 2827.48
Early stopping at iteration 688, Best Score: 2374.85
Early stopping at iteration 814, Best Score: 2645.77
```

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Early stopping at iteration 753, Best Score: 2592.72
Early stopping at iteration 1092, Best Score: 2554.23
Early stopping at iteration 693, Best Score: 2345.99
Early stopping at iteration 1091, Best Score: 2832.12
Early stopping at iteration 701, Best Score: 2303.41
Early stopping at iteration 863, Best Score: 2574.93
Early stopping at iteration 1725, Best Score: 2759.63
Early stopping at iteration 801, Best Score: 2463.38
Early stopping at iteration 547, Best Score: 2144.49
Early stopping at iteration 718, Best Score: 2511.11
Early stopping at iteration 1407, Best Score: 2846.68
Early stopping at iteration 771, Best Score: 2504.85
Early stopping at iteration 1356, Best Score: 2806.16
Early stopping at iteration 782, Best Score: 2469.56
Early stopping at iteration 949, Best Score: 2344.22
Early stopping at iteration 1194, Best Score: 2858.19
Early stopping at iteration 1121, Best Score: 2709.68
Early stopping at iteration 758, Best Score: 2384.29
Early stopping at iteration 866, Best Score: 2613.06
Early stopping at iteration 1032, Best Score: 2828.36
Early stopping at iteration 665, Best Score: 2288.77
Early stopping at iteration 834, Best Score: 2629.82
Early stopping at iteration 896, Best Score: 2788.05
Early stopping at iteration 1171, Best Score: 2656.36
Early stopping at iteration 748, Best Score: 2642.26
Early stopping at iteration 582, Best Score: 2168.66
Early stopping at iteration 766, Best Score: 2372.71
Early stopping at iteration 711, Best Score: 2351.59
Early stopping at iteration 748, Best Score: 2459.25
Early stopping at iteration 622, Best Score: 2200.71
Early stopping at iteration 1606, Best Score: 2754.93
Early stopping at iteration 1254, Best Score: 2726.14
Early stopping at iteration 1133, Best Score: 2810.86
Early stopping at iteration 818, Best Score: 2592.13
Early stopping at iteration 1026, Best Score: 2763.20
Early stopping at iteration 671, Best Score: 2399.69
Early stopping at iteration 972, Best Score: 2459.56
Early stopping at iteration 1115, Best Score: 2411.60
Early stopping at iteration 629, Best Score: 2400.43
GNN Trial 17 completed with 250 decks.

GNN Trial 18/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 66.0290, Synergy Loss: 2.2881, Total: 70.6051
Epoch 20/300 - Node Loss: 7.3289, Synergy Loss: 2.1804, Total: 11.6897
Epoch 30/300 - Node Loss: 3.0474, Synergy Loss: 2.0320, Total: 7.1114
Epoch 40/300 - Node Loss: 1.6362, Synergy Loss: 1.8504, Total: 5.3370
Epoch 50/300 - Node Loss: 1.4964, Synergy Loss: 1.3933, Total: 4.2830
Epoch 60/300 - Node Loss: 1.3513, Synergy Loss: 1.0111, Total: 3.3734
Epoch 70/300 - Node Loss: 1.2063, Synergy Loss: 0.9678, Total: 3.1419
Epoch 80/300 - Node Loss: 1.2723, Synergy Loss: 0.8634, Total: 2.9990
Epoch 90/300 - Node Loss: 1.2681, Synergy Loss: 0.8054, Total: 2.8788
Epoch 100/300 - Node Loss: 1.2377, Synergy Loss: 0.7595, Total: 2.7568
Epoch 110/300 - Node Loss: 1.1453, Synergy Loss: 0.7228, Total: 2.5910
Epoch 120/300 - Node Loss: 1.1971, Synergy Loss: 0.7319, Total: 2.6609
Early stopping at epoch 126
Existing model archived to: 20250310_164728_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 628, Best Score: 2784.44
Early stopping at iteration 665, Best Score: 2782.50
```

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Early stopping at iteration 572, Best Score: 2786.48
Early stopping at iteration 584, Best Score: 2777.00
Early stopping at iteration 678, Best Score: 2792.80
Early stopping at iteration 536, Best Score: 2774.53
Early stopping at iteration 506, Best Score: 2766.59
Early stopping at iteration 511, Best Score: 2768.57
Early stopping at iteration 558, Best Score: 2782.46
Early stopping at iteration 555, Best Score: 2775.51
Early stopping at iteration 680, Best Score: 2806.67
Early stopping at iteration 805, Best Score: 2787.55
Early stopping at iteration 680, Best Score: 2800.37
Early stopping at iteration 591, Best Score: 2798.35
Early stopping at iteration 507, Best Score: 2768.57
Early stopping at iteration 617, Best Score: 2796.98
Early stopping at iteration 630, Best Score: 2776.51
Early stopping at iteration 563, Best Score: 2781.91
Early stopping at iteration 584, Best Score: 2786.48
Early stopping at iteration 956, Best Score: 2804.31
Early stopping at iteration 533, Best Score: 2778.52
Early stopping at iteration 535, Best Score: 2777.07
Early stopping at iteration 514, Best Score: 2766.56
Early stopping at iteration 804, Best Score: 2785.68
Early stopping at iteration 589, Best Score: 2780.63
Early stopping at iteration 523, Best Score: 2776.54
Early stopping at iteration 506, Best Score: 2766.59
Early stopping at iteration 553, Best Score: 2782.43
Early stopping at iteration 575, Best Score: 2793.36
Early stopping at iteration 860, Best Score: 2802.38
Early stopping at iteration 531, Best Score: 2774.53
Early stopping at iteration 624, Best Score: 2780.45
Early stopping at iteration 594, Best Score: 2786.41
Early stopping at iteration 542, Best Score: 2766.59
Early stopping at iteration 518, Best Score: 2774.50
Early stopping at iteration 531, Best Score: 2768.57
Early stopping at iteration 572, Best Score: 2778.68
Early stopping at iteration 508, Best Score: 2766.59
Early stopping at iteration 586, Best Score: 2796.42
Early stopping at iteration 562, Best Score: 2774.53
Early stopping at iteration 719, Best Score: 2780.47
Early stopping at iteration 503, Best Score: 2768.57
Early stopping at iteration 550, Best Score: 2766.56
Early stopping at iteration 625, Best Score: 2790.42
Early stopping at iteration 501, Best Score: 2762.61
Early stopping at iteration 569, Best Score: 2780.46
Early stopping at iteration 540, Best Score: 2780.49
Early stopping at iteration 519, Best Score: 2772.58
Early stopping at iteration 668, Best Score: 2799.75
Early stopping at iteration 515, Best Score: 2770.58
Early stopping at iteration 648, Best Score: 2793.66
Early stopping at iteration 519, Best Score: 2772.58
Early stopping at iteration 526, Best Score: 2772.55
Early stopping at iteration 536, Best Score: 2766.56
Early stopping at iteration 545, Best Score: 2778.52
Early stopping at iteration 572, Best Score: 2778.51
Early stopping at iteration 666, Best Score: 2786.42
Early stopping at iteration 605, Best Score: 2788.44
Early stopping at iteration 571, Best Score: 2770.54
Early stopping at iteration 640, Best Score: 2798.36
Early stopping at iteration 604, Best Score: 2794.88
Early stopping at iteration 501, Best Score: 2762.61
```

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Early stopping at iteration 527, Best Score: 2774.54
Early stopping at iteration 597, Best Score: 2784.43
Early stopping at iteration 521, Best Score: 2769.56
Early stopping at iteration 587, Best Score: 2782.33
Early stopping at iteration 577, Best Score: 2794.42
Early stopping at iteration 663, Best Score: 2801.51
Early stopping at iteration 795, Best Score: 2806.82
Early stopping at iteration 779, Best Score: 2804.35
Early stopping at iteration 522, Best Score: 2768.57
Early stopping at iteration 547, Best Score: 2772.55
Early stopping at iteration 544, Best Score: 2782.46
Early stopping at iteration 635, Best Score: 2799.65
Early stopping at iteration 669, Best Score: 2788.46
Early stopping at iteration 512, Best Score: 2766.59
Early stopping at iteration 641, Best Score: 2790.41
Early stopping at iteration 517, Best Score: 2768.57
Early stopping at iteration 627, Best Score: 2783.86
Early stopping at iteration 569, Best Score: 2776.54
Early stopping at iteration 519, Best Score: 2774.53
Early stopping at iteration 567, Best Score: 2778.66
Early stopping at iteration 602, Best Score: 2786.46
Early stopping at iteration 512, Best Score: 2762.61
Early stopping at iteration 544, Best Score: 2776.54
Early stopping at iteration 600, Best Score: 2782.49
Early stopping at iteration 509, Best Score: 2762.61
Early stopping at iteration 524, Best Score: 2762.61
Early stopping at iteration 571, Best Score: 2772.55
Early stopping at iteration 585, Best Score: 2782.44
Early stopping at iteration 715, Best Score: 2802.17
Early stopping at iteration 549, Best Score: 2782.47
Early stopping at iteration 548, Best Score: 2768.57
Early stopping at iteration 595, Best Score: 2788.40
Early stopping at iteration 539, Best Score: 2782.50
Early stopping at iteration 505, Best Score: 2768.57
Early stopping at iteration 534, Best Score: 2768.57
Early stopping at iteration 834, Best Score: 2784.47
Early stopping at iteration 769, Best Score: 2792.75
  Deck Trial 100/250
Early stopping at iteration 571, Best Score: 2780.49
Early stopping at iteration 676, Best Score: 2790.79
Early stopping at iteration 510, Best Score: 2766.59
Early stopping at iteration 680, Best Score: 2790.40
Early stopping at iteration 665, Best Score: 2793.64
Early stopping at iteration 701, Best Score: 2785.71
Early stopping at iteration 754, Best Score: 2806.24
Early stopping at iteration 565, Best Score: 2774.53
Early stopping at iteration 566, Best Score: 2776.51
Early stopping at iteration 551, Best Score: 2788.46
Early stopping at iteration 569, Best Score: 2780.49
Early stopping at iteration 520, Best Score: 2772.57
Early stopping at iteration 513, Best Score: 2768.57
Early stopping at iteration 504, Best Score: 2762.61
Early stopping at iteration 580, Best Score: 2786.42
Early stopping at iteration 624, Best Score: 2798.43
Early stopping at iteration 502, Best Score: 2762.61
Early stopping at iteration 627, Best Score: 2794.42
Early stopping at iteration 552, Best Score: 2780.51
Early stopping at iteration 582, Best Score: 2790.44
Early stopping at iteration 737, Best Score: 2785.14
Early stopping at iteration 596, Best Score: 2784.48
```

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Early stopping at iteration 672, Best Score: 2792.41
Early stopping at iteration 610, Best Score: 2784.48
Early stopping at iteration 506, Best Score: 2762.61
Early stopping at iteration 554, Best Score: 2780.50
Early stopping at iteration 681, Best Score: 2788.85
Early stopping at iteration 524, Best Score: 2780.51
Early stopping at iteration 523, Best Score: 2772.55
Early stopping at iteration 532, Best Score: 2774.55
Early stopping at iteration 540, Best Score: 2768.57
Early stopping at iteration 722, Best Score: 2791.67
Early stopping at iteration 646, Best Score: 2794.44
Early stopping at iteration 612, Best Score: 2782.47
Early stopping at iteration 502, Best Score: 2762.61
Early stopping at iteration 513, Best Score: 2770.55
Early stopping at iteration 614, Best Score: 2806.40
Early stopping at iteration 582, Best Score: 2780.49
Early stopping at iteration 508, Best Score: 2766.59
Early stopping at iteration 505, Best Score: 2762.61
Early stopping at iteration 545, Best Score: 2774.53
Early stopping at iteration 548, Best Score: 2768.57
Early stopping at iteration 680, Best Score: 2790.38
Early stopping at iteration 540, Best Score: 2772.55
Early stopping at iteration 522, Best Score: 2768.57
Early stopping at iteration 666, Best Score: 2810.32
Early stopping at iteration 573, Best Score: 2784.45
Early stopping at iteration 610, Best Score: 2772.57
Early stopping at iteration 864, Best Score: 2796.39
Early stopping at iteration 590, Best Score: 2788.84
Early stopping at iteration 723, Best Score: 2816.29
Early stopping at iteration 573, Best Score: 2775.93
Early stopping at iteration 550, Best Score: 2788.96
Early stopping at iteration 504, Best Score: 2762.61
Early stopping at iteration 592, Best Score: 2792.10
Early stopping at iteration 571, Best Score: 2776.50
Early stopping at iteration 746, Best Score: 2800.31
Early stopping at iteration 658, Best Score: 2770.55
Early stopping at iteration 620, Best Score: 2796.40
Early stopping at iteration 533, Best Score: 2768.57
Early stopping at iteration 505, Best Score: 2762.61
Early stopping at iteration 597, Best Score: 2788.46
Early stopping at iteration 524, Best Score: 2780.50
Early stopping at iteration 556, Best Score: 2768.57
Early stopping at iteration 849, Best Score: 2794.74
Early stopping at iteration 620, Best Score: 2802.38
Early stopping at iteration 612, Best Score: 2772.55
Early stopping at iteration 501, Best Score: 2762.61
Early stopping at iteration 786, Best Score: 2802.93
Early stopping at iteration 595, Best Score: 2791.39
Early stopping at iteration 575, Best Score: 2772.52
Early stopping at iteration 513, Best Score: 2762.61
Early stopping at iteration 560, Best Score: 2782.49
Early stopping at iteration 724, Best Score: 2798.45
Early stopping at iteration 544, Best Score: 2773.02
Early stopping at iteration 558, Best Score: 2788.36
Early stopping at iteration 588, Best Score: 2780.42
Early stopping at iteration 607, Best Score: 2796.92
Early stopping at iteration 638, Best Score: 2776.54
Early stopping at iteration 689, Best Score: 2802.35
Early stopping at iteration 529, Best Score: 2776.52
Early stopping at iteration 649, Best Score: 2800.35
```

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Early stopping at iteration 650, Best Score: 2796.38
Early stopping at iteration 592, Best Score: 2788.99
Early stopping at iteration 540, Best Score: 2778.52
Early stopping at iteration 574, Best Score: 2774.53
Early stopping at iteration 500, Best Score: 2760.60
Early stopping at iteration 559, Best Score: 2788.45
Early stopping at iteration 696, Best Score: 2798.39
Early stopping at iteration 859, Best Score: 2806.29
Early stopping at iteration 509, Best Score: 2772.55
Early stopping at iteration 503, Best Score: 2762.61
Early stopping at iteration 728, Best Score: 2798.40
Early stopping at iteration 553, Best Score: 2774.53
Early stopping at iteration 506, Best Score: 2762.61
Early stopping at iteration 858, Best Score: 2794.39
Early stopping at iteration 563, Best Score: 2780.49
Early stopping at iteration 556, Best Score: 2782.50
Early stopping at iteration 590, Best Score: 2787.46
Early stopping at iteration 537, Best Score: 2774.53
  Deck Trial 200/250
Early stopping at iteration 567, Best Score: 2788.43
Early stopping at iteration 527, Best Score: 2768.57
Early stopping at iteration 546, Best Score: 2771.01
Early stopping at iteration 626, Best Score: 2780.52
Early stopping at iteration 531, Best Score: 2776.54
Early stopping at iteration 538, Best Score: 2778.51
Early stopping at iteration 515, Best Score: 2766.56
Early stopping at iteration 621, Best Score: 2787.70
Early stopping at iteration 503, Best Score: 2762.61
Early stopping at iteration 528, Best Score: 2762.61
Early stopping at iteration 513, Best Score: 2766.59
Early stopping at iteration 580, Best Score: 2789.38
Early stopping at iteration 515, Best Score: 2768.57
Early stopping at iteration 553, Best Score: 2774.53
Early stopping at iteration 607, Best Score: 2774.56
Early stopping at iteration 533, Best Score: 2762.61
Early stopping at iteration 560, Best Score: 2784.46
Early stopping at iteration 654, Best Score: 2780.49
Early stopping at iteration 621, Best Score: 2796.87
Early stopping at iteration 504, Best Score: 2762.61
Early stopping at iteration 620, Best Score: 2778.51
Early stopping at iteration 636, Best Score: 2786.47
Early stopping at iteration 785, Best Score: 2806.31
Early stopping at iteration 553, Best Score: 2780.49
Early stopping at iteration 531, Best Score: 2788.40
Early stopping at iteration 674, Best Score: 2796.42
Early stopping at iteration 503, Best Score: 2762.61
Early stopping at iteration 595, Best Score: 2788.48
Early stopping at iteration 652, Best Score: 2782.49
Early stopping at iteration 747, Best Score: 2789.40
Early stopping at iteration 801, Best Score: 2796.43
Early stopping at iteration 501, Best Score: 2762.61
Early stopping at iteration 636, Best Score: 2792.82
Early stopping at iteration 658, Best Score: 2792.83
Early stopping at iteration 759, Best Score: 2796.39
Early stopping at iteration 585, Best Score: 2793.40
Early stopping at iteration 503, Best Score: 2762.61
Early stopping at iteration 594, Best Score: 2788.45
Early stopping at iteration 679, Best Score: 2798.38
Early stopping at iteration 729, Best Score: 2778.51
Early stopping at iteration 903, Best Score: 2796.95
```

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Early stopping at iteration 582, Best Score: 2798.41
Early stopping at iteration 581, Best Score: 2784.47
Early stopping at iteration 548, Best Score: 2788.45
Early stopping at iteration 560, Best Score: 2780.49
Early stopping at iteration 501, Best Score: 2762.61
Early stopping at iteration 524, Best Score: 2772.55
Early stopping at iteration 762, Best Score: 2802.34
Early stopping at iteration 721, Best Score: 2794.95
Early stopping at iteration 767, Best Score: 2788.34
Early stopping at iteration 501, Best Score: 2762.61
GNN Trial 18 completed with 250 decks.

GNN Trial 19/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 33.1423, Synergy Loss: 2.5234, Total: 38.1891
Epoch 20/300 - Node Loss: 5.1752, Synergy Loss: 2.3258, Total: 9.8268
Epoch 30/300 - Node Loss: 1.8123, Synergy Loss: 2.2082, Total: 6.2288
Epoch 40/300 - Node Loss: 1.0583, Synergy Loss: 2.0722, Total: 5.2028
Epoch 50/300 - Node Loss: 1.0015, Synergy Loss: 1.9465, Total: 4.8946
Epoch 60/300 - Node Loss: 1.0017, Synergy Loss: 1.8264, Total: 4.6546
Epoch 70/300 - Node Loss: 1.0029, Synergy Loss: 1.7156, Total: 4.4341
Epoch 80/300 - Node Loss: 1.0008, Synergy Loss: 1.6233, Total: 4.2473
Epoch 90/300 - Node Loss: 1.0009, Synergy Loss: 1.5653, Total: 4.1315
Epoch 100/300 - Node Loss: 1.0079, Synergy Loss: 1.5473, Total: 4.1025
Epoch 110/300 - Node Loss: 1.0119, Synergy Loss: 1.5463, Total: 4.1045
Epoch 120/300 - Node Loss: 1.0085, Synergy Loss: 1.5454, Total: 4.0994
Epoch 130/300 - Node Loss: 1.0002, Synergy Loss: 1.5456, Total: 4.0914
Epoch 140/300 - Node Loss: 1.0079, Synergy Loss: 1.5397, Total: 4.0873
Epoch 150/300 - Node Loss: 1.0013, Synergy Loss: 1.5410, Total: 4.0833
Epoch 160/300 - Node Loss: 1.0066, Synergy Loss: 1.5388, Total: 4.0841
Epoch 170/300 - Node Loss: 1.0254, Synergy Loss: 1.5160, Total: 4.0575
Epoch 180/300 - Node Loss: 1.0040, Synergy Loss: 1.5351, Total: 4.0742
Epoch 190/300 - Node Loss: 1.0639, Synergy Loss: 1.5073, Total: 4.0784
Epoch 200/300 - Node Loss: 1.0452, Synergy Loss: 1.4915, Total: 4.0282
Epoch 210/300 - Node Loss: 1.0776, Synergy Loss: 1.3811, Total: 3.8398
Epoch 220/300 - Node Loss: 1.1717, Synergy Loss: 1.1718, Total: 3.5152
Epoch 230/300 - Node Loss: 1.1584, Synergy Loss: 1.0098, Total: 3.1781
Epoch 240/300 - Node Loss: 1.1555, Synergy Loss: 0.9861, Total: 3.1276
Epoch 250/300 - Node Loss: 1.1479, Synergy Loss: 0.9224, Total: 2.9927
Epoch 260/300 - Node Loss: 1.2112, Synergy Loss: 0.8529, Total: 2.9170
Epoch 270/300 - Node Loss: 1.1819, Synergy Loss: 0.7848, Total: 2.7514
Epoch 280/300 - Node Loss: 1.1420, Synergy Loss: 0.6684, Total: 2.4789
Epoch 290/300 - Node Loss: 1.1610, Synergy Loss: 0.5857, Total: 2.3324
Epoch 300/300 - Node Loss: 1.1266, Synergy Loss: 0.5323, Total: 2.1913
Existing model archived to: 20250310_170323_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 917, Best Score: 3077.70
Early stopping at iteration 503, Best Score: 3042.74
Early stopping at iteration 623, Best Score: 3087.67
Early stopping at iteration 638, Best Score: 3086.12
Early stopping at iteration 685, Best Score: 3110.26
Early stopping at iteration 585, Best Score: 3072.38
Early stopping at iteration 527, Best Score: 3066.65
Early stopping at iteration 619, Best Score: 3092.12
Early stopping at iteration 651, Best Score: 3085.16
Early stopping at iteration 599, Best Score: 3081.06
Early stopping at iteration 611, Best Score: 3083.21
Early stopping at iteration 620, Best Score: 3062.36
Early stopping at iteration 659, Best Score: 3088.43
Early stopping at iteration 619, Best Score: 3068.14
```

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Early stopping at iteration 521, Best Score: 3042.74
Early stopping at iteration 585, Best Score: 3057.38
Early stopping at iteration 558, Best Score: 3057.53
Early stopping at iteration 898, Best Score: 3089.22
Early stopping at iteration 563, Best Score: 3067.49
Early stopping at iteration 611, Best Score: 3077.16
Early stopping at iteration 593, Best Score: 3063.80
Early stopping at iteration 551, Best Score: 3057.34
Early stopping at iteration 522, Best Score: 3051.27
Early stopping at iteration 627, Best Score: 3089.19
Early stopping at iteration 651, Best Score: 3096.36
Early stopping at iteration 654, Best Score: 3098.02
Early stopping at iteration 752, Best Score: 3074.79
Early stopping at iteration 500, Best Score: 3040.32
Early stopping at iteration 544, Best Score: 3043.47
Early stopping at iteration 578, Best Score: 3069.91
Early stopping at iteration 583, Best Score: 3087.70
Early stopping at iteration 510, Best Score: 3043.77
Early stopping at iteration 789, Best Score: 3073.92
Early stopping at iteration 588, Best Score: 3076.89
Early stopping at iteration 667, Best Score: 3092.77
Early stopping at iteration 747, Best Score: 3103.49
Early stopping at iteration 624, Best Score: 3068.83
Early stopping at iteration 580, Best Score: 3056.11
Early stopping at iteration 637, Best Score: 3085.18
Early stopping at iteration 579, Best Score: 3062.22
Early stopping at iteration 587, Best Score: 3073.59
Early stopping at iteration 602, Best Score: 3080.86
Early stopping at iteration 564, Best Score: 3075.08
Early stopping at iteration 731, Best Score: 3097.71
Early stopping at iteration 552, Best Score: 3071.48
Early stopping at iteration 631, Best Score: 3071.06
Early stopping at iteration 784, Best Score: 3089.70
Early stopping at iteration 842, Best Score: 3104.57
Early stopping at iteration 584, Best Score: 3070.75
Early stopping at iteration 787, Best Score: 3069.38
Early stopping at iteration 518, Best Score: 3043.47
Early stopping at iteration 602, Best Score: 3069.32
Early stopping at iteration 708, Best Score: 3085.39
Early stopping at iteration 730, Best Score: 3090.18
Early stopping at iteration 930, Best Score: 3101.49
Early stopping at iteration 531, Best Score: 3050.85
Early stopping at iteration 582, Best Score: 3059.93
Early stopping at iteration 571, Best Score: 3079.17
Early stopping at iteration 528, Best Score: 3059.70
Early stopping at iteration 613, Best Score: 3087.15
Early stopping at iteration 503, Best Score: 3042.74
Early stopping at iteration 655, Best Score: 3064.65
Early stopping at iteration 692, Best Score: 3072.66
Early stopping at iteration 663, Best Score: 3103.39
Early stopping at iteration 501, Best Score: 3042.74
Early stopping at iteration 507, Best Score: 3050.85
Early stopping at iteration 565, Best Score: 3073.91
Early stopping at iteration 581, Best Score: 3070.33
Early stopping at iteration 627, Best Score: 3075.55
Early stopping at iteration 898, Best Score: 3077.36
Early stopping at iteration 601, Best Score: 3076.65
Early stopping at iteration 515, Best Score: 3048.68
Early stopping at iteration 557, Best Score: 3061.38
Early stopping at iteration 524, Best Score: 3042.94
```

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Early stopping at iteration 527, Best Score: 3056.53
Early stopping at iteration 538, Best Score: 3051.79
Early stopping at iteration 523, Best Score: 3057.19
Early stopping at iteration 736, Best Score: 3099.92
Early stopping at iteration 622, Best Score: 3082.76
Early stopping at iteration 621, Best Score: 3082.76
Early stopping at iteration 708, Best Score: 3111.03
Early stopping at iteration 658, Best Score: 3071.24
Early stopping at iteration 693, Best Score: 3085.98
Early stopping at iteration 760, Best Score: 3068.75
Early stopping at iteration 586, Best Score: 3071.80
Early stopping at iteration 547, Best Score: 3082.35
Early stopping at iteration 514, Best Score: 3055.27
Early stopping at iteration 508, Best Score: 3043.46
Early stopping at iteration 617, Best Score: 3073.59
Early stopping at iteration 623, Best Score: 3099.17
Early stopping at iteration 556, Best Score: 3056.54
Early stopping at iteration 501, Best Score: 3040.78
Early stopping at iteration 559, Best Score: 3064.64
Early stopping at iteration 702, Best Score: 3073.81
Early stopping at iteration 542, Best Score: 3051.27
Early stopping at iteration 566, Best Score: 3046.24
Early stopping at iteration 613, Best Score: 3082.86
Early stopping at iteration 689, Best Score: 3095.52
Early stopping at iteration 646, Best Score: 3092.03
  Deck Trial 100/250
Early stopping at iteration 639, Best Score: 3074.02
Early stopping at iteration 510, Best Score: 3057.27
Early stopping at iteration 501, Best Score: 3040.87
Early stopping at iteration 570, Best Score: 3062.22
Early stopping at iteration 637, Best Score: 3085.57
Early stopping at iteration 629, Best Score: 3083.02
Early stopping at iteration 508, Best Score: 3042.74
Early stopping at iteration 546, Best Score: 3051.39
Early stopping at iteration 553, Best Score: 3057.38
Early stopping at iteration 675, Best Score: 3092.15
Early stopping at iteration 500, Best Score: 3040.32
Early stopping at iteration 512, Best Score: 3042.74
Early stopping at iteration 530, Best Score: 3056.54
Early stopping at iteration 560, Best Score: 3063.38
Early stopping at iteration 659, Best Score: 3059.80
Early stopping at iteration 589, Best Score: 3090.56
Early stopping at iteration 575, Best Score: 3057.67
Early stopping at iteration 514, Best Score: 3065.06
Early stopping at iteration 642, Best Score: 3072.65
Early stopping at iteration 586, Best Score: 3081.28
Early stopping at iteration 505, Best Score: 3048.01
Early stopping at iteration 501, Best Score: 3042.74
Early stopping at iteration 665, Best Score: 3084.12
Early stopping at iteration 521, Best Score: 3065.80
Early stopping at iteration 501, Best Score: 3042.74
Early stopping at iteration 535, Best Score: 3071.80
Early stopping at iteration 571, Best Score: 3075.18
Early stopping at iteration 688, Best Score: 3082.54
Early stopping at iteration 586, Best Score: 3068.15
Early stopping at iteration 779, Best Score: 3089.04
Early stopping at iteration 659, Best Score: 3081.00
Early stopping at iteration 669, Best Score: 3104.33
Early stopping at iteration 557, Best Score: 3088.86
Early stopping at iteration 583, Best Score: 3083.72
```

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Early stopping at iteration 627, Best Score: 3076.98
Early stopping at iteration 534, Best Score: 3057.38
Early stopping at iteration 575, Best Score: 3064.82
Early stopping at iteration 718, Best Score: 3098.85
Early stopping at iteration 569, Best Score: 3074.35
Early stopping at iteration 509, Best Score: 3054.85
Early stopping at iteration 620, Best Score: 3089.29
Early stopping at iteration 683, Best Score: 3081.80
Early stopping at iteration 599, Best Score: 3094.66
Early stopping at iteration 532, Best Score: 3073.49
Early stopping at iteration 748, Best Score: 3094.02
Early stopping at iteration 928, Best Score: 3101.07
Early stopping at iteration 576, Best Score: 3090.25
Early stopping at iteration 585, Best Score: 3078.13
Early stopping at iteration 994, Best Score: 3078.60
Early stopping at iteration 510, Best Score: 3050.01
Early stopping at iteration 849, Best Score: 3089.38
Early stopping at iteration 533, Best Score: 3079.94
Early stopping at iteration 832, Best Score: 3106.34
Early stopping at iteration 644, Best Score: 3060.96
Early stopping at iteration 509, Best Score: 3044.00
Early stopping at iteration 518, Best Score: 3051.27
Early stopping at iteration 858, Best Score: 3096.53
Early stopping at iteration 571, Best Score: 3056.96
Early stopping at iteration 532, Best Score: 3051.27
Early stopping at iteration 662, Best Score: 3084.36
Early stopping at iteration 682, Best Score: 3086.34
Early stopping at iteration 638, Best Score: 3081.66
Early stopping at iteration 543, Best Score: 3057.38
Early stopping at iteration 575, Best Score: 3080.44
Early stopping at iteration 617, Best Score: 3075.59
Early stopping at iteration 575, Best Score: 3078.34
Early stopping at iteration 514, Best Score: 3042.74
Early stopping at iteration 540, Best Score: 3065.79
Early stopping at iteration 501, Best Score: 3042.74
Early stopping at iteration 600, Best Score: 3067.66
Early stopping at iteration 900, Best Score: 3108.76
Early stopping at iteration 688, Best Score: 3077.95
Early stopping at iteration 522, Best Score: 3051.46
Early stopping at iteration 579, Best Score: 3058.96
Early stopping at iteration 673, Best Score: 3056.54
Early stopping at iteration 796, Best Score: 3102.73
Early stopping at iteration 589, Best Score: 3084.73
Early stopping at iteration 548, Best Score: 3060.11
Early stopping at iteration 522, Best Score: 3050.85
Early stopping at iteration 606, Best Score: 3083.53
Early stopping at iteration 663, Best Score: 3088.12
Early stopping at iteration 552, Best Score: 3056.11
Early stopping at iteration 641, Best Score: 3096.18
Early stopping at iteration 565, Best Score: 3063.60
Early stopping at iteration 632, Best Score: 3090.96
Early stopping at iteration 550, Best Score: 3051.27
Early stopping at iteration 787, Best Score: 3097.70
Early stopping at iteration 576, Best Score: 3062.10
Early stopping at iteration 562, Best Score: 3057.34
Early stopping at iteration 559, Best Score: 3070.08
Early stopping at iteration 571, Best Score: 3066.21
Early stopping at iteration 543, Best Score: 3048.75
Early stopping at iteration 673, Best Score: 3094.86
Early stopping at iteration 551, Best Score: 3063.92
```

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Early stopping at iteration 667, Best Score: 3086.12
Early stopping at iteration 1019, Best Score: 3096.48
Early stopping at iteration 590, Best Score: 3057.08
Early stopping at iteration 687, Best Score: 3085.70
Early stopping at iteration 1032, Best Score: 3098.53
Early stopping at iteration 535, Best Score: 3055.21
  Deck Trial 200/250
Early stopping at iteration 507, Best Score: 3042.74
Early stopping at iteration 505, Best Score: 3048.01
Early stopping at iteration 835, Best Score: 3102.37
Early stopping at iteration 565, Best Score: 3084.44
Early stopping at iteration 678, Best Score: 3078.30
Early stopping at iteration 557, Best Score: 3073.91
Early stopping at iteration 623, Best Score: 3076.16
Early stopping at iteration 604, Best Score: 3087.81
Early stopping at iteration 505, Best Score: 3050.00
Early stopping at iteration 720, Best Score: 3094.84
Early stopping at iteration 549, Best Score: 3063.82
Early stopping at iteration 597, Best Score: 3072.65
Early stopping at iteration 543, Best Score: 3075.60
Early stopping at iteration 595, Best Score: 3065.06
Early stopping at iteration 501, Best Score: 3042.74
Early stopping at iteration 639, Best Score: 3097.32
Early stopping at iteration 540, Best Score: 3072.65
Early stopping at iteration 875, Best Score: 3082.55
Early stopping at iteration 504, Best Score: 3051.27
Early stopping at iteration 500, Best Score: 3040.32
Early stopping at iteration 525, Best Score: 3042.74
Early stopping at iteration 501, Best Score: 3042.74
Early stopping at iteration 642, Best Score: 3078.32
Early stopping at iteration 575, Best Score: 3076.11
Early stopping at iteration 566, Best Score: 3060.32
Early stopping at iteration 531, Best Score: 3051.27
Early stopping at iteration 689, Best Score: 3084.80
Early stopping at iteration 543, Best Score: 3042.74
Early stopping at iteration 618, Best Score: 3076.01
Early stopping at iteration 590, Best Score: 3070.24
Early stopping at iteration 505, Best Score: 3042.74
Early stopping at iteration 609, Best Score: 3088.01
Early stopping at iteration 537, Best Score: 3056.11
Early stopping at iteration 518, Best Score: 3051.27
Early stopping at iteration 593, Best Score: 3076.43
Early stopping at iteration 702, Best Score: 3078.27
Early stopping at iteration 502, Best Score: 3042.74
Early stopping at iteration 606, Best Score: 3075.91
Early stopping at iteration 515, Best Score: 3050.85
Early stopping at iteration 504, Best Score: 3042.74
Early stopping at iteration 505, Best Score: 3042.74
Early stopping at iteration 596, Best Score: 3081.08
Early stopping at iteration 544, Best Score: 3076.74
Early stopping at iteration 715, Best Score: 3090.34
Early stopping at iteration 511, Best Score: 3054.85
Early stopping at iteration 612, Best Score: 3083.99
Early stopping at iteration 500, Best Score: 3040.32
Early stopping at iteration 640, Best Score: 3052.01
Early stopping at iteration 699, Best Score: 3090.38
Early stopping at iteration 791, Best Score: 3114.87
Early stopping at iteration 551, Best Score: 3051.82
GNN Trial 19 completed with 250 decks.
```

```
GNN Trial 20/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 14.1724, Synergy Loss: 2.3243, Total: 18.8210
Epoch 20/300 - Node Loss: 3.3070, Synergy Loss: 2.1856, Total: 7.6782
Epoch 30/300 - Node Loss: 1.7549, Synergy Loss: 2.0928, Total: 5.9405
Epoch 40/300 - Node Loss: 1.1709, Synergy Loss: 1.9723, Total: 5.1155
Epoch 50/300 - Node Loss: 1.0608, Synergy Loss: 1.8558, Total: 4.7723
Epoch 60/300 - Node Loss: 1.0088, Synergy Loss: 1.7559, Total: 4.5205
Epoch 70/300 - Node Loss: 1.0045, Synergy Loss: 1.6702, Total: 4.3449
Epoch 80/300 - Node Loss: 1.0017, Synergy Loss: 1.6028, Total: 4.2072
Epoch 90/300 - Node Loss: 1.0038, Synergy Loss: 1.5555, Total: 4.1148
Epoch 100/300 - Node Loss: 1.0067, Synergy Loss: 1.5215, Total: 4.0497
Epoch 110/300 - Node Loss: 1.0146, Synergy Loss: 1.4731, Total: 3.9607
Epoch 120/300 - Node Loss: 1.0311, Synergy Loss: 1.3925, Total: 3.8160
Epoch 130/300 - Node Loss: 1.1242, Synergy Loss: 1.2270, Total: 3.5782
Epoch 140/300 - Node Loss: 1.1037, Synergy Loss: 1.1132, Total: 3.3301
Epoch 150/300 - Node Loss: 1.0992, Synergy Loss: 1.0183, Total: 3.1359
Epoch 160/300 - Node Loss: 1.1268, Synergy Loss: 0.9340, Total: 2.9948
Epoch 170/300 - Node Loss: 1.1447, Synergy Loss: 0.8962, Total: 2.9370
Epoch 180/300 - Node Loss: 1.1699, Synergy Loss: 0.8572, Total: 2.8843
Epoch 190/300 - Node Loss: 1.1144, Synergy Loss: 0.8353, Total: 2.7850
Epoch 200/300 - Node Loss: 1.1229, Synergy Loss: 0.7892, Total: 2.7013
Epoch 210/300 - Node Loss: 1.1237, Synergy Loss: 0.7306, Total: 2.5849
Epoch 220/300 - Node Loss: 1.0990, Synergy Loss: 0.6728, Total: 2.4447
Epoch 230/300 - Node Loss: 1.0838, Synergy Loss: 0.6598, Total: 2.4035
Epoch 240/300 - Node Loss: 1.1104, Synergy Loss: 0.5616, Total: 2.2336
Epoch 250/300 - Node Loss: 1.1071, Synergy Loss: 0.5287, Total: 2.1646
Epoch 260/300 - Node Loss: 1.0816, Synergy Loss: 0.4927, Total: 2.0669
Epoch 270/300 - Node Loss: 1.0831, Synergy Loss: 0.4725, Total: 2.0280
Epoch 280/300 - Node Loss: 1.0713, Synergy Loss: 0.4398, Total: 1.9510
Epoch 290/300 - Node Loss: 1.1018, Synergy Loss: 0.4314, Total: 1.9647
Epoch 300/300 - Node Loss: 1.0696, Synergy Loss: 0.4092, Total: 1.8880
Existing model archived to: 20250310_171913_gnn_model_ST13-003.pth
Model saved to: models\gnn_model_ST13-003.pth
Early stopping at iteration 918, Best Score: 3534.38
Early stopping at iteration 526, Best Score: 3490.98
Early stopping at iteration 557, Best Score: 3497.75
Early stopping at iteration 543, Best Score: 3485.60
Early stopping at iteration 591, Best Score: 3521.23
Early stopping at iteration 509, Best Score: 3487.47
Early stopping at iteration 863, Best Score: 3513.28
Early stopping at iteration 502, Best Score: 3475.46
Early stopping at iteration 568, Best Score: 3515.34
Early stopping at iteration 656, Best Score: 3523.33
Early stopping at iteration 541, Best Score: 3502.50
Early stopping at iteration 684, Best Score: 3526.04
Early stopping at iteration 511, Best Score: 3482.22
Early stopping at iteration 580, Best Score: 3485.60
Early stopping at iteration 622, Best Score: 3483.53
Early stopping at iteration 556, Best Score: 3505.20
Early stopping at iteration 522, Best Score: 3497.06
Early stopping at iteration 500, Best Score: 3472.76
Early stopping at iteration 619, Best Score: 3522.10
Early stopping at iteration 519, Best Score: 3490.98
Early stopping at iteration 616, Best Score: 3506.39
Early stopping at iteration 501, Best Score: 3475.45
Early stopping at iteration 723, Best Score: 3548.89
Early stopping at iteration 522, Best Score: 3497.06
Early stopping at iteration 502, Best Score: 3475.46
Early stopping at iteration 501, Best Score: 3475.46
```

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Early stopping at iteration 596, Best Score: 3515.34
Early stopping at iteration 536, Best Score: 3489.67
Early stopping at iteration 510, Best Score: 3475.46
Early stopping at iteration 501, Best Score: 3475.46
Early stopping at iteration 588, Best Score: 3509.90
Early stopping at iteration 655, Best Score: 3528.44
Early stopping at iteration 514, Best Score: 3490.85
Early stopping at iteration 578, Best Score: 3511.66
Early stopping at iteration 555, Best Score: 3508.51
Early stopping at iteration 735, Best Score: 3524.04
Early stopping at iteration 579, Best Score: 3505.20
Early stopping at iteration 591, Best Score: 3529.24
Early stopping at iteration 561, Best Score: 3504.51
Early stopping at iteration 780, Best Score: 3524.03
Early stopping at iteration 594, Best Score: 3507.88
Early stopping at iteration 543, Best Score: 3497.89
Early stopping at iteration 591, Best Score: 3517.61
Early stopping at iteration 660, Best Score: 3554.08
Early stopping at iteration 614, Best Score: 3509.90
Early stopping at iteration 584, Best Score: 3507.26
Early stopping at iteration 510, Best Score: 3482.22
Early stopping at iteration 790, Best Score: 3537.54
Early stopping at iteration 556, Best Score: 3513.26
Early stopping at iteration 546, Best Score: 3505.81
Early stopping at iteration 525, Best Score: 3498.13
Early stopping at iteration 583, Best Score: 3507.12
Early stopping at iteration 622, Best Score: 3514.57
Early stopping at iteration 501, Best Score: 3475.46
Early stopping at iteration 603, Best Score: 3503.81
Early stopping at iteration 561, Best Score: 3497.06
Early stopping at iteration 514, Best Score: 3484.91
Early stopping at iteration 606, Best Score: 3512.65
Early stopping at iteration 873, Best Score: 3563.15
Early stopping at iteration 520, Best Score: 3484.91
Early stopping at iteration 520, Best Score: 3485.22
Early stopping at iteration 668, Best Score: 3525.74
Early stopping at iteration 517, Best Score: 3481.53
Early stopping at iteration 676, Best Score: 3495.05
Early stopping at iteration 582, Best Score: 3501.13
Early stopping at iteration 546, Best Score: 3495.05
Early stopping at iteration 686, Best Score: 3511.88
Early stopping at iteration 865, Best Score: 3540.29
Early stopping at iteration 734, Best Score: 3533.54
Early stopping at iteration 795, Best Score: 3554.24
Early stopping at iteration 556, Best Score: 3507.59
Early stopping at iteration 553, Best Score: 3508.58
Early stopping at iteration 572, Best Score: 3485.60
Early stopping at iteration 677, Best Score: 3538.44
Early stopping at iteration 676, Best Score: 3514.58
Early stopping at iteration 604, Best Score: 3506.49
Early stopping at iteration 656, Best Score: 3513.28
Early stopping at iteration 793, Best Score: 3533.26
Early stopping at iteration 624, Best Score: 3508.58
Early stopping at iteration 603, Best Score: 3501.06
Early stopping at iteration 617, Best Score: 3485.60
Early stopping at iteration 680, Best Score: 3537.90
Early stopping at iteration 553, Best Score: 3490.73
Early stopping at iteration 713, Best Score: 3498.43
Early stopping at iteration 641, Best Score: 3524.77
Early stopping at iteration 847, Best Score: 3546.03
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Early stopping at iteration 714, Best Score: 3504.44
Early stopping at iteration 503, Best Score: 3475.45
Early stopping at iteration 593, Best Score: 3498.26
Early stopping at iteration 522, Best Score: 3497.75
Early stopping at iteration 721, Best Score: 3535.56
Early stopping at iteration 504, Best Score: 3475.46
Early stopping at iteration 725, Best Score: 3537.30
Early stopping at iteration 681, Best Score: 3499.57
Early stopping at iteration 531, Best Score: 3486.22
Early stopping at iteration 760, Best Score: 3547.69
Early stopping at iteration 565, Best Score: 3509.26
Early stopping at iteration 506, Best Score: 3484.91
Early stopping at iteration 604, Best Score: 3507.26
  Deck Trial 100/250
Early stopping at iteration 619, Best Score: 3524.73
Early stopping at iteration 560, Best Score: 3514.50
Early stopping at iteration 530, Best Score: 3488.29
Early stopping at iteration 549, Best Score: 3520.73
Early stopping at iteration 505, Best Score: 3475.46
Early stopping at iteration 587, Best Score: 3485.60
Early stopping at iteration 624, Best Score: 3524.42
Early stopping at iteration 542, Best Score: 3488.91
Early stopping at iteration 648, Best Score: 3492.36
Early stopping at iteration 502, Best Score: 3475.46
Early stopping at iteration 566, Best Score: 3525.41
Early stopping at iteration 711, Best Score: 3514.52
Early stopping at iteration 599, Best Score: 3520.66
Early stopping at iteration 501, Best Score: 3475.46
Early stopping at iteration 614, Best Score: 3545.63
Early stopping at iteration 650, Best Score: 3525.41
Early stopping at iteration 559, Best Score: 3490.99
Early stopping at iteration 535, Best Score: 3484.91
Early stopping at iteration 562, Best Score: 3501.13
Early stopping at iteration 642, Best Score: 3518.34
Early stopping at iteration 571, Best Score: 3511.96
Early stopping at iteration 564, Best Score: 3505.91
Early stopping at iteration 520, Best Score: 3482.22
Early stopping at iteration 567, Best Score: 3509.26
Early stopping at iteration 505, Best Score: 3475.46
Early stopping at iteration 744, Best Score: 3540.24
Early stopping at iteration 643, Best Score: 3525.41
Early stopping at iteration 574, Best Score: 3507.89
Early stopping at iteration 503, Best Score: 3475.46
Early stopping at iteration 565, Best Score: 3525.41
Early stopping at iteration 603, Best Score: 3511.96
Early stopping at iteration 669, Best Score: 3526.04
Early stopping at iteration 501, Best Score: 3475.46
Early stopping at iteration 501, Best Score: 3475.46
Early stopping at iteration 667, Best Score: 3526.79
Early stopping at iteration 533, Best Score: 3497.75
Early stopping at iteration 528, Best Score: 3494.37
Early stopping at iteration 579, Best Score: 3501.82
Early stopping at iteration 711, Best Score: 3533.95
Early stopping at iteration 682, Best Score: 3542.32
Early stopping at iteration 592, Best Score: 3501.13
Early stopping at iteration 742, Best Score: 3525.35
Early stopping at iteration 518, Best Score: 3493.61
Early stopping at iteration 554, Best Score: 3505.82
Early stopping at iteration 502, Best Score: 3475.46
Early stopping at iteration 574, Best Score: 3520.02
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Early stopping at iteration 883, Best Score: 3534.25
Early stopping at iteration 589, Best Score: 3500.37
Early stopping at iteration 558, Best Score: 3504.50
Early stopping at iteration 627, Best Score: 3527.96
Early stopping at iteration 510, Best Score: 3481.53
Early stopping at iteration 505, Best Score: 3475.46
Early stopping at iteration 503, Best Score: 3475.46
Early stopping at iteration 622, Best Score: 3518.03
Early stopping at iteration 549, Best Score: 3485.60
Early stopping at iteration 503, Best Score: 3475.46
Early stopping at iteration 565, Best Score: 3494.98
Early stopping at iteration 669, Best Score: 3524.71
Early stopping at iteration 691, Best Score: 3533.55
Early stopping at iteration 501, Best Score: 3475.46
Early stopping at iteration 701, Best Score: 3528.11
Early stopping at iteration 501, Best Score: 3475.46
Early stopping at iteration 509, Best Score: 3486.28
Early stopping at iteration 501, Best Score: 3475.46
Early stopping at iteration 520, Best Score: 3485.60
Early stopping at iteration 501, Best Score: 3475.46
Early stopping at iteration 503, Best Score: 3481.53
Early stopping at iteration 504, Best Score: 3475.46
Early stopping at iteration 541, Best Score: 3496.43
Early stopping at iteration 570, Best Score: 3509.64
Early stopping at iteration 524, Best Score: 3491.67
Early stopping at iteration 501, Best Score: 3475.46
Early stopping at iteration 639, Best Score: 3501.12
Early stopping at iteration 650, Best Score: 3546.94
Early stopping at iteration 634, Best Score: 3537.63
Early stopping at iteration 506, Best Score: 3475.46
Early stopping at iteration 587, Best Score: 3528.40
Early stopping at iteration 605, Best Score: 3499.12
Early stopping at iteration 569, Best Score: 3517.05
Early stopping at iteration 613, Best Score: 3499.65
Early stopping at iteration 631, Best Score: 3507.63
Early stopping at iteration 677, Best Score: 3524.11
Early stopping at iteration 727, Best Score: 3523.40
Early stopping at iteration 532, Best Score: 3485.60
Early stopping at iteration 665, Best Score: 3522.03
Early stopping at iteration 638, Best Score: 3522.03
Early stopping at iteration 721, Best Score: 3538.17
Early stopping at iteration 507, Best Score: 3478.84
Early stopping at iteration 647, Best Score: 3521.80
Early stopping at iteration 543, Best Score: 3492.36
Early stopping at iteration 542, Best Score: 3489.29
Early stopping at iteration 538, Best Score: 3491.67
Early stopping at iteration 546, Best Score: 3488.91
Early stopping at iteration 623, Best Score: 3511.96
Early stopping at iteration 642, Best Score: 3536.80
Early stopping at iteration 584, Best Score: 3517.96
Early stopping at iteration 503, Best Score: 3475.46
Early stopping at iteration 535, Best Score: 3503.57
Early stopping at iteration 614, Best Score: 3513.79
Early stopping at iteration 557, Best Score: 3501.13
  Deck Trial 200/250
Early stopping at iteration 646, Best Score: 3510.58
Early stopping at iteration 797, Best Score: 3556.90
Early stopping at iteration 715, Best Score: 3510.58
Early stopping at iteration 630, Best Score: 3512.65
Early stopping at iteration 636, Best Score: 3508.99
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Early stopping at iteration 502, Best Score: 3475.46
Early stopping at iteration 726, Best Score: 3555.07
Early stopping at iteration 590, Best Score: 3521.96
Early stopping at iteration 709, Best Score: 3552.32
Early stopping at iteration 669, Best Score: 3532.18
Early stopping at iteration 715, Best Score: 3540.25
Early stopping at iteration 540, Best Score: 3498.37
Early stopping at iteration 556, Best Score: 3492.53
Early stopping at iteration 628, Best Score: 3500.20
Early stopping at iteration 691, Best Score: 3526.38
Early stopping at iteration 650, Best Score: 3510.52
Early stopping at iteration 597, Best Score: 3499.12
Early stopping at iteration 600, Best Score: 3529.48
Early stopping at iteration 529, Best Score: 3485.60
Early stopping at iteration 573, Best Score: 3522.38
Early stopping at iteration 721, Best Score: 3531.47
Early stopping at iteration 524, Best Score: 3485.60
Early stopping at iteration 545, Best Score: 3498.43
Early stopping at iteration 632, Best Score: 3511.88
Early stopping at iteration 529, Best Score: 3511.27
Early stopping at iteration 660, Best Score: 3552.97
Early stopping at iteration 519, Best Score: 3488.91
Early stopping at iteration 570, Best Score: 3509.06
Early stopping at iteration 515, Best Score: 3485.60
Early stopping at iteration 548, Best Score: 3485.60
Early stopping at iteration 559, Best Score: 3519.82
Early stopping at iteration 618, Best Score: 3511.88
Early stopping at iteration 526, Best Score: 3495.05
Early stopping at iteration 504, Best Score: 3475.46
Early stopping at iteration 550, Best Score: 3499.81
Early stopping at iteration 771, Best Score: 3523.69
Early stopping at iteration 619, Best Score: 3523.75
Early stopping at iteration 550, Best Score: 3503.19
Early stopping at iteration 501, Best Score: 3475.46
Early stopping at iteration 523, Best Score: 3494.99
Early stopping at iteration 617, Best Score: 3524.11
Early stopping at iteration 512, Best Score: 3475.46
Early stopping at iteration 596, Best Score: 3501.74
Early stopping at iteration 583, Best Score: 3508.58
Early stopping at iteration 634, Best Score: 3518.03
Early stopping at iteration 514, Best Score: 3475.46
Early stopping at iteration 546, Best Score: 3488.36
Early stopping at iteration 873, Best Score: 3531.56
Early stopping at iteration 629, Best Score: 3506.57
Early stopping at iteration 513, Best Score: 3490.98
Early stopping at iteration 510, Best Score: 3482.90
GNN Trial 20 completed with 250 decks.
Evaluations for ST13-003 completed. Results saved in evaluations\ST13-003

=== Evaluating Leader: OP07-079 (Rob Lucci) ===

GNN Trial 1/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 12.0210, Synergy Loss: 3.3601, Total: 18.7412
Epoch 20/300 - Node Loss: 2.0006, Synergy Loss: 3.2622, Total: 8.5250
Epoch 30/300 - Node Loss: 1.1930, Synergy Loss: 3.1358, Total: 7.4645
Epoch 40/300 - Node Loss: 1.0203, Synergy Loss: 2.9923, Total: 7.0050
Epoch 50/300 - Node Loss: 1.0046, Synergy Loss: 2.8577, Total: 6.7201
Epoch 60/300 - Node Loss: 1.0036, Synergy Loss: 2.7367, Total: 6.4770
Epoch 70/300 - Node Loss: 1.0004, Synergy Loss: 2.6305, Total: 6.2613
```

```
Epoch 80/300 - Node Loss: 0.9998, Synergy Loss: 2.5466, Total: 6.0930
Epoch 90/300 - Node Loss: 0.9979, Synergy Loss: 2.4920, Total: 5.9820
Epoch 100/300 - Node Loss: 1.0016, Synergy Loss: 2.4698, Total: 5.9412
Epoch 110/300 - Node Loss: 1.0139, Synergy Loss: 2.3920, Total: 5.7980
Epoch 120/300 - Node Loss: 1.0384, Synergy Loss: 2.2248, Total: 5.4879
Epoch 130/300 - Node Loss: 1.0561, Synergy Loss: 2.0970, Total: 5.2500
Epoch 140/300 - Node Loss: 1.1096, Synergy Loss: 1.9078, Total: 4.9253
Epoch 150/300 - Node Loss: 1.1943, Synergy Loss: 1.6908, Total: 4.5759
Epoch 160/300 - Node Loss: 1.2489, Synergy Loss: 1.5287, Total: 4.3063
Epoch 170/300 - Node Loss: 1.1838, Synergy Loss: 1.4417, Total: 4.0672
Epoch 180/300 - Node Loss: 1.1120, Synergy Loss: 1.3416, Total: 3.7952
Epoch 190/300 - Node Loss: 1.1091, Synergy Loss: 1.3035, Total: 3.7160
Epoch 200/300 - Node Loss: 1.1415, Synergy Loss: 1.1531, Total: 3.4476
Epoch 210/300 - Node Loss: 1.1433, Synergy Loss: 1.2825, Total: 3.7083
Epoch 220/300 - Node Loss: 1.0978, Synergy Loss: 1.0458, Total: 3.1893
Epoch 230/300 - Node Loss: 1.1187, Synergy Loss: 1.0093, Total: 3.1373
Epoch 240/300 - Node Loss: 1.1337, Synergy Loss: 0.9464, Total: 3.0265
Epoch 250/300 - Node Loss: 1.0981, Synergy Loss: 0.9458, Total: 2.9897
Epoch 260/300 - Node Loss: 1.1001, Synergy Loss: 0.8940, Total: 2.8881
Epoch 270/300 - Node Loss: 1.0751, Synergy Loss: 0.9072, Total: 2.8894
Epoch 280/300 - Node Loss: 1.0772, Synergy Loss: 0.8671, Total: 2.8114
Epoch 290/300 - Node Loss: 1.0654, Synergy Loss: 0.8816, Total: 2.8287
Epoch 300/300 - Node Loss: 1.0604, Synergy Loss: 0.8145, Total: 2.6894
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 679, Best Score: 4970.86
Early stopping at iteration 568, Best Score: 4938.57
Early stopping at iteration 576, Best Score: 4944.03
Early stopping at iteration 564, Best Score: 4960.11
Early stopping at iteration 576, Best Score: 4971.09
Early stopping at iteration 612, Best Score: 4967.85
Early stopping at iteration 713, Best Score: 4973.50
Early stopping at iteration 566, Best Score: 4948.84
Early stopping at iteration 687, Best Score: 4964.18
Early stopping at iteration 502, Best Score: 4934.72
Early stopping at iteration 594, Best Score: 4943.47
Early stopping at iteration 580, Best Score: 4950.82
Early stopping at iteration 561, Best Score: 4956.09
Early stopping at iteration 816, Best Score: 4988.53
Early stopping at iteration 509, Best Score: 4932.89
Early stopping at iteration 559, Best Score: 4953.40
Early stopping at iteration 548, Best Score: 4947.03
Early stopping at iteration 502, Best Score: 4934.72
Early stopping at iteration 514, Best Score: 4935.68
Early stopping at iteration 532, Best Score: 4946.71
Early stopping at iteration 573, Best Score: 4957.50
Early stopping at iteration 1021, Best Score: 4977.61
Early stopping at iteration 741, Best Score: 4974.55
Early stopping at iteration 580, Best Score: 4961.09
Early stopping at iteration 506, Best Score: 4934.72
Early stopping at iteration 515, Best Score: 4943.43
Early stopping at iteration 617, Best Score: 4962.76
Early stopping at iteration 897, Best Score: 4952.96
Early stopping at iteration 636, Best Score: 4976.65
Early stopping at iteration 585, Best Score: 4951.08
Early stopping at iteration 629, Best Score: 4951.99
Early stopping at iteration 541, Best Score: 4941.55
Early stopping at iteration 666, Best Score: 4976.74
Early stopping at iteration 581, Best Score: 4946.76
Early stopping at iteration 623, Best Score: 4950.91
Early stopping at iteration 502, Best Score: 4934.72
```

```
Early stopping at iteration 565, Best Score: 4952.45
Early stopping at iteration 589, Best Score: 4963.84
Early stopping at iteration 512, Best Score: 4938.58
Early stopping at iteration 512, Best Score: 4939.35
Early stopping at iteration 634, Best Score: 4964.99
Early stopping at iteration 622, Best Score: 4958.85
Early stopping at iteration 632, Best Score: 4960.09
Early stopping at iteration 516, Best Score: 4946.78
Early stopping at iteration 599, Best Score: 4955.31
Early stopping at iteration 513, Best Score: 4941.50
Early stopping at iteration 667, Best Score: 4973.52
Early stopping at iteration 664, Best Score: 4978.82
Early stopping at iteration 797, Best Score: 4966.88
Early stopping at iteration 517, Best Score: 4937.96
Early stopping at iteration 616, Best Score: 4957.23
Early stopping at iteration 621, Best Score: 4968.72
Early stopping at iteration 501, Best Score: 4932.72
Early stopping at iteration 562, Best Score: 4953.82
Early stopping at iteration 546, Best Score: 4949.37
Early stopping at iteration 549, Best Score: 4966.33
Early stopping at iteration 524, Best Score: 4935.77
Early stopping at iteration 571, Best Score: 4956.05
Early stopping at iteration 543, Best Score: 4953.52
Early stopping at iteration 576, Best Score: 4950.96
Early stopping at iteration 540, Best Score: 4933.87
Early stopping at iteration 558, Best Score: 4954.39
Early stopping at iteration 536, Best Score: 4943.07
Early stopping at iteration 588, Best Score: 4958.56
Early stopping at iteration 803, Best Score: 4972.40
Early stopping at iteration 559, Best Score: 4947.28
Early stopping at iteration 617, Best Score: 4954.79
Early stopping at iteration 505, Best Score: 4934.72
Early stopping at iteration 801, Best Score: 4974.03
Early stopping at iteration 510, Best Score: 4934.72
Early stopping at iteration 564, Best Score: 4958.02
Early stopping at iteration 516, Best Score: 4934.72
Early stopping at iteration 570, Best Score: 4938.79
Early stopping at iteration 512, Best Score: 4938.97
Early stopping at iteration 501, Best Score: 4934.72
Early stopping at iteration 535, Best Score: 4950.49
Early stopping at iteration 632, Best Score: 4972.96
Early stopping at iteration 543, Best Score: 4950.96
Early stopping at iteration 634, Best Score: 4956.10
Early stopping at iteration 682, Best Score: 4968.41
Early stopping at iteration 522, Best Score: 4936.92
Early stopping at iteration 538, Best Score: 4949.85
Early stopping at iteration 569, Best Score: 4951.48
Early stopping at iteration 503, Best Score: 4932.89
Early stopping at iteration 621, Best Score: 4955.05
Early stopping at iteration 593, Best Score: 4948.37
Early stopping at iteration 631, Best Score: 4979.19
Early stopping at iteration 504, Best Score: 4934.72
Early stopping at iteration 634, Best Score: 4956.66
Early stopping at iteration 506, Best Score: 4937.53
Early stopping at iteration 515, Best Score: 4938.91
Early stopping at iteration 548, Best Score: 4948.89
Early stopping at iteration 572, Best Score: 4944.48
Early stopping at iteration 605, Best Score: 4959.05
Early stopping at iteration 629, Best Score: 4962.09
Early stopping at iteration 554, Best Score: 4964.05
```

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Early stopping at iteration 652, Best Score: 4948.25
Early stopping at iteration 551, Best Score: 4946.08
Early stopping at iteration 641, Best Score: 4973.59
  Deck Trial 100/250
Early stopping at iteration 677, Best Score: 4973.06
Early stopping at iteration 546, Best Score: 4968.86
Early stopping at iteration 513, Best Score: 4936.45
Early stopping at iteration 559, Best Score: 4939.33
Early stopping at iteration 507, Best Score: 4933.74
Early stopping at iteration 588, Best Score: 4943.09
Early stopping at iteration 616, Best Score: 4941.53
Early stopping at iteration 611, Best Score: 4956.38
Early stopping at iteration 570, Best Score: 4965.31
Early stopping at iteration 653, Best Score: 4961.33
Early stopping at iteration 678, Best Score: 4950.00
Early stopping at iteration 719, Best Score: 4954.20
Early stopping at iteration 565, Best Score: 4945.31
Early stopping at iteration 621, Best Score: 4962.72
Early stopping at iteration 623, Best Score: 4967.22
Early stopping at iteration 571, Best Score: 4953.18
Early stopping at iteration 566, Best Score: 4955.24
Early stopping at iteration 529, Best Score: 4944.84
Early stopping at iteration 722, Best Score: 4964.07
Early stopping at iteration 579, Best Score: 4947.24
Early stopping at iteration 523, Best Score: 4940.16
Early stopping at iteration 661, Best Score: 4973.61
Early stopping at iteration 548, Best Score: 4946.59
Early stopping at iteration 610, Best Score: 4960.19
Early stopping at iteration 530, Best Score: 4946.56
Early stopping at iteration 502, Best Score: 4934.72
Early stopping at iteration 594, Best Score: 4949.83
Early stopping at iteration 725, Best Score: 4963.68
Early stopping at iteration 579, Best Score: 4935.79
Early stopping at iteration 543, Best Score: 4952.66
Early stopping at iteration 549, Best Score: 4944.64
Early stopping at iteration 829, Best Score: 4974.08
Early stopping at iteration 563, Best Score: 4952.50
Early stopping at iteration 623, Best Score: 4964.84
Early stopping at iteration 501, Best Score: 4932.72
Early stopping at iteration 503, Best Score: 4932.72
Early stopping at iteration 686, Best Score: 4961.55
Early stopping at iteration 549, Best Score: 4945.69
Early stopping at iteration 561, Best Score: 4961.43
Early stopping at iteration 504, Best Score: 4936.91
Early stopping at iteration 631, Best Score: 4949.53
Early stopping at iteration 525, Best Score: 4942.96
Early stopping at iteration 717, Best Score: 4959.55
Early stopping at iteration 650, Best Score: 4948.69
Early stopping at iteration 559, Best Score: 4957.04
Early stopping at iteration 557, Best Score: 4945.49
Early stopping at iteration 541, Best Score: 4961.50
Early stopping at iteration 639, Best Score: 4959.35
Early stopping at iteration 581, Best Score: 4969.72
Early stopping at iteration 672, Best Score: 4960.16
Early stopping at iteration 615, Best Score: 4957.05
Early stopping at iteration 514, Best Score: 4952.63
Early stopping at iteration 617, Best Score: 4952.61
Early stopping at iteration 566, Best Score: 4966.66
Early stopping at iteration 519, Best Score: 4932.89
Early stopping at iteration 534, Best Score: 4948.92
```

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Early stopping at iteration 731, Best Score: 4961.77
Early stopping at iteration 671, Best Score: 4945.10
Early stopping at iteration 548, Best Score: 4950.94
Early stopping at iteration 526, Best Score: 4944.94
Early stopping at iteration 510, Best Score: 4936.99
Early stopping at iteration 591, Best Score: 4962.37
Early stopping at iteration 564, Best Score: 4955.93
Early stopping at iteration 654, Best Score: 4952.70
Early stopping at iteration 617, Best Score: 4958.73
Early stopping at iteration 506, Best Score: 4934.72
Early stopping at iteration 501, Best Score: 4932.89
Early stopping at iteration 582, Best Score: 4966.34
Early stopping at iteration 528, Best Score: 4949.76
Early stopping at iteration 545, Best Score: 4960.37
Early stopping at iteration 537, Best Score: 4945.41
Early stopping at iteration 541, Best Score: 4953.06
Early stopping at iteration 686, Best Score: 4971.10
Early stopping at iteration 500, Best Score: 4931.76
Early stopping at iteration 516, Best Score: 4953.93
Early stopping at iteration 551, Best Score: 4952.79
Early stopping at iteration 580, Best Score: 4942.22
Early stopping at iteration 586, Best Score: 4960.86
Early stopping at iteration 623, Best Score: 4957.13
Early stopping at iteration 524, Best Score: 4941.86
Early stopping at iteration 545, Best Score: 4947.86
Early stopping at iteration 580, Best Score: 4958.28
Early stopping at iteration 592, Best Score: 4977.11
Early stopping at iteration 508, Best Score: 4934.72
Early stopping at iteration 803, Best Score: 4978.13
Early stopping at iteration 610, Best Score: 4947.99
Early stopping at iteration 524, Best Score: 4938.77
Early stopping at iteration 594, Best Score: 4950.79
Early stopping at iteration 689, Best Score: 4964.77
Early stopping at iteration 689, Best Score: 4965.27
Early stopping at iteration 501, Best Score: 4934.72
Early stopping at iteration 620, Best Score: 4958.51
Early stopping at iteration 661, Best Score: 4954.45
Early stopping at iteration 583, Best Score: 4952.99
Early stopping at iteration 504, Best Score: 4938.33
Early stopping at iteration 612, Best Score: 4964.08
Early stopping at iteration 537, Best Score: 4937.87
Early stopping at iteration 631, Best Score: 4962.60
Early stopping at iteration 539, Best Score: 4946.70
Early stopping at iteration 561, Best Score: 4945.37
  Deck Trial 200/250
Early stopping at iteration 632, Best Score: 4968.47
Early stopping at iteration 635, Best Score: 4960.54
Early stopping at iteration 608, Best Score: 4957.66
Early stopping at iteration 538, Best Score: 4950.13
Early stopping at iteration 596, Best Score: 4956.62
Early stopping at iteration 533, Best Score: 4938.34
Early stopping at iteration 530, Best Score: 4940.81
Early stopping at iteration 500, Best Score: 4931.76
Early stopping at iteration 515, Best Score: 4936.53
Early stopping at iteration 582, Best Score: 4941.71
Early stopping at iteration 544, Best Score: 4960.88
Early stopping at iteration 622, Best Score: 4948.74
Early stopping at iteration 500, Best Score: 4931.76
Early stopping at iteration 668, Best Score: 4967.42
Early stopping at iteration 528, Best Score: 4945.28
```

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Early stopping at iteration 543, Best Score: 4960.62
Early stopping at iteration 598, Best Score: 4941.72
Early stopping at iteration 670, Best Score: 4971.15
Early stopping at iteration 554, Best Score: 4946.84
Early stopping at iteration 562, Best Score: 4953.12
Early stopping at iteration 511, Best Score: 4940.66
Early stopping at iteration 570, Best Score: 4955.27
Early stopping at iteration 542, Best Score: 4957.35
Early stopping at iteration 515, Best Score: 4937.10
Early stopping at iteration 610, Best Score: 4969.94
Early stopping at iteration 540, Best Score: 4941.42
Early stopping at iteration 527, Best Score: 4941.39
Early stopping at iteration 511, Best Score: 4934.72
Early stopping at iteration 620, Best Score: 4955.52
Early stopping at iteration 579, Best Score: 4956.22
Early stopping at iteration 604, Best Score: 4947.13
Early stopping at iteration 933, Best Score: 4969.25
Early stopping at iteration 539, Best Score: 4940.88
Early stopping at iteration 568, Best Score: 4961.45
Early stopping at iteration 533, Best Score: 4950.33
Early stopping at iteration 518, Best Score: 4934.16
Early stopping at iteration 555, Best Score: 4941.60
Early stopping at iteration 667, Best Score: 4962.94
Early stopping at iteration 527, Best Score: 4949.25
Early stopping at iteration 563, Best Score: 4955.56
Early stopping at iteration 692, Best Score: 4969.80
Early stopping at iteration 631, Best Score: 4957.24
Early stopping at iteration 691, Best Score: 4952.06
Early stopping at iteration 539, Best Score: 4965.27
Early stopping at iteration 689, Best Score: 4979.96
Early stopping at iteration 550, Best Score: 4943.32
Early stopping at iteration 585, Best Score: 4959.24
Early stopping at iteration 606, Best Score: 4959.82
Early stopping at iteration 519, Best Score: 4937.77
Early stopping at iteration 509, Best Score: 4934.72
Early stopping at iteration 517, Best Score: 4940.30
GNN Trial 1 completed with 250 decks.

GNN Trial 2/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 61.9484, Synergy Loss: 3.5454, Total: 69.0393
Epoch 20/300 - Node Loss: 7.2887, Synergy Loss: 3.3498, Total: 13.9883
Epoch 30/300 - Node Loss: 2.5680, Synergy Loss: 3.2715, Total: 9.1110
Epoch 40/300 - Node Loss: 1.5566, Synergy Loss: 3.1447, Total: 7.8460
Epoch 50/300 - Node Loss: 1.1026, Synergy Loss: 3.0286, Total: 7.1598
Epoch 60/300 - Node Loss: 1.0262, Synergy Loss: 2.9132, Total: 6.8526
Epoch 70/300 - Node Loss: 1.0053, Synergy Loss: 2.7999, Total: 6.6050
Epoch 80/300 - Node Loss: 1.0183, Synergy Loss: 2.6943, Total: 6.4070
Epoch 90/300 - Node Loss: 1.0206, Synergy Loss: 2.6018, Total: 6.2242
Epoch 100/300 - Node Loss: 1.0121, Synergy Loss: 2.5213, Total: 6.0547
Epoch 110/300 - Node Loss: 1.0283, Synergy Loss: 2.4464, Total: 5.9210
Epoch 120/300 - Node Loss: 1.0269, Synergy Loss: 2.3780, Total: 5.7829
Epoch 130/300 - Node Loss: 1.0465, Synergy Loss: 2.3103, Total: 5.6672
Epoch 140/300 - Node Loss: 1.0492, Synergy Loss: 2.2470, Total: 5.5432
Epoch 150/300 - Node Loss: 1.0610, Synergy Loss: 2.1872, Total: 5.4353
Epoch 160/300 - Node Loss: 1.0619, Synergy Loss: 2.1252, Total: 5.3123
Epoch 170/300 - Node Loss: 1.1127, Synergy Loss: 2.0282, Total: 5.1691
Epoch 180/300 - Node Loss: 1.0712, Synergy Loss: 1.9704, Total: 5.0119
Epoch 190/300 - Node Loss: 1.1737, Synergy Loss: 1.8525, Total: 4.8786
Epoch 200/300 - Node Loss: 1.2146, Synergy Loss: 1.7110, Total: 4.6366
```

```
Epoch 210/300 - Node Loss: 1.2420, Synergy Loss: 1.6149, Total: 4.4717
Epoch 220/300 - Node Loss: 1.2266, Synergy Loss: 1.5343, Total: 4.2952
Epoch 230/300 - Node Loss: 1.3201, Synergy Loss: 1.4493, Total: 4.2187
Epoch 240/300 - Node Loss: 1.2791, Synergy Loss: 1.3830, Total: 4.0451
Epoch 250/300 - Node Loss: 1.2504, Synergy Loss: 1.3383, Total: 3.9269
Epoch 260/300 - Node Loss: 1.2940, Synergy Loss: 1.3251, Total: 3.9442
Epoch 270/300 - Node Loss: 1.3057, Synergy Loss: 1.2744, Total: 3.8544
Epoch 280/300 - Node Loss: 1.2542, Synergy Loss: 1.2887, Total: 3.8317
Epoch 290/300 - Node Loss: 1.3048, Synergy Loss: 1.2629, Total: 3.8306
Epoch 300/300 - Node Loss: 1.2534, Synergy Loss: 1.2691, Total: 3.7917
Existing model archived to: 20250310_172729_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 534, Best Score: 3810.08
Early stopping at iteration 542, Best Score: 3810.76
Early stopping at iteration 588, Best Score: 3812.67
Early stopping at iteration 602, Best Score: 3806.64
Early stopping at iteration 733, Best Score: 3826.20
Early stopping at iteration 550, Best Score: 3808.42
Early stopping at iteration 763, Best Score: 3817.88
Early stopping at iteration 721, Best Score: 3841.30
Early stopping at iteration 528, Best Score: 3803.28
Early stopping at iteration 544, Best Score: 3812.60
Early stopping at iteration 790, Best Score: 3834.26
Early stopping at iteration 594, Best Score: 3809.93
Early stopping at iteration 586, Best Score: 3822.06
Early stopping at iteration 609, Best Score: 3830.96
Early stopping at iteration 585, Best Score: 3828.26
Early stopping at iteration 612, Best Score: 3838.03
Early stopping at iteration 614, Best Score: 3810.61
Early stopping at iteration 636, Best Score: 3821.20
Early stopping at iteration 1020, Best Score: 3849.81
Early stopping at iteration 591, Best Score: 3826.60
Early stopping at iteration 648, Best Score: 3819.55
Early stopping at iteration 714, Best Score: 3839.20
Early stopping at iteration 633, Best Score: 3830.20
Early stopping at iteration 593, Best Score: 3820.43
Early stopping at iteration 599, Best Score: 3823.45
Early stopping at iteration 718, Best Score: 3835.89
Early stopping at iteration 564, Best Score: 3812.35
Early stopping at iteration 567, Best Score: 3821.97
Early stopping at iteration 550, Best Score: 3816.94
Early stopping at iteration 565, Best Score: 3816.81
Early stopping at iteration 712, Best Score: 3832.01
Early stopping at iteration 609, Best Score: 3815.52
Early stopping at iteration 559, Best Score: 3820.73
Early stopping at iteration 726, Best Score: 3837.25
Early stopping at iteration 863, Best Score: 3823.15
Early stopping at iteration 1088, Best Score: 3828.04
Early stopping at iteration 563, Best Score: 3819.02
Early stopping at iteration 695, Best Score: 3836.14
Early stopping at iteration 565, Best Score: 3820.04
Early stopping at iteration 619, Best Score: 3808.56
Early stopping at iteration 595, Best Score: 3831.47
Early stopping at iteration 606, Best Score: 3814.10
Early stopping at iteration 873, Best Score: 3824.09
Early stopping at iteration 682, Best Score: 3830.40
Early stopping at iteration 608, Best Score: 3833.06
Early stopping at iteration 572, Best Score: 3818.44
Early stopping at iteration 536, Best Score: 3806.38
Early stopping at iteration 727, Best Score: 3824.72
```

```
Early stopping at iteration 762, Best Score: 3836.47
Early stopping at iteration 568, Best Score: 3813.07
Early stopping at iteration 630, Best Score: 3825.95
Early stopping at iteration 621, Best Score: 3824.06
Early stopping at iteration 591, Best Score: 3811.54
Early stopping at iteration 568, Best Score: 3817.07
Early stopping at iteration 607, Best Score: 3832.58
Early stopping at iteration 583, Best Score: 3811.67
Early stopping at iteration 584, Best Score: 3824.00
Early stopping at iteration 624, Best Score: 3826.40
Early stopping at iteration 608, Best Score: 3807.98
Early stopping at iteration 548, Best Score: 3818.74
Early stopping at iteration 749, Best Score: 3826.57
Early stopping at iteration 547, Best Score: 3822.13
Early stopping at iteration 674, Best Score: 3826.33
Early stopping at iteration 588, Best Score: 3816.93
Early stopping at iteration 564, Best Score: 3822.61
Early stopping at iteration 576, Best Score: 3817.88
Early stopping at iteration 1038, Best Score: 3830.39
Early stopping at iteration 577, Best Score: 3832.69
Early stopping at iteration 735, Best Score: 3822.69
Early stopping at iteration 687, Best Score: 3826.41
Early stopping at iteration 734, Best Score: 3828.34
Early stopping at iteration 819, Best Score: 3822.22
Early stopping at iteration 577, Best Score: 3818.66
Early stopping at iteration 753, Best Score: 3823.04
Early stopping at iteration 945, Best Score: 3849.96
Early stopping at iteration 599, Best Score: 3831.58
Early stopping at iteration 656, Best Score: 3815.44
Early stopping at iteration 626, Best Score: 3814.71
Early stopping at iteration 609, Best Score: 3816.94
Early stopping at iteration 596, Best Score: 3822.62
Early stopping at iteration 529, Best Score: 3804.99
Early stopping at iteration 619, Best Score: 3818.91
Early stopping at iteration 582, Best Score: 3822.61
Early stopping at iteration 592, Best Score: 3825.50
Early stopping at iteration 536, Best Score: 3803.42
Early stopping at iteration 1149, Best Score: 3832.12
Early stopping at iteration 589, Best Score: 3820.05
Early stopping at iteration 616, Best Score: 3835.33
Early stopping at iteration 588, Best Score: 3826.96
Early stopping at iteration 746, Best Score: 3824.19
Early stopping at iteration 734, Best Score: 3825.15
Early stopping at iteration 632, Best Score: 3830.59
Early stopping at iteration 689, Best Score: 3833.49
Early stopping at iteration 581, Best Score: 3837.71
Early stopping at iteration 544, Best Score: 3813.33
Early stopping at iteration 638, Best Score: 3824.65
Early stopping at iteration 639, Best Score: 3832.65
Early stopping at iteration 544, Best Score: 3802.80
Early stopping at iteration 1209, Best Score: 3835.74
  Deck Trial 100/250
Early stopping at iteration 621, Best Score: 3827.14
Early stopping at iteration 780, Best Score: 3819.16
Early stopping at iteration 577, Best Score: 3828.61
Early stopping at iteration 673, Best Score: 3823.40
Early stopping at iteration 564, Best Score: 3807.49
Early stopping at iteration 649, Best Score: 3830.45
Early stopping at iteration 726, Best Score: 3833.08
Early stopping at iteration 617, Best Score: 3829.07
```

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Early stopping at iteration 737, Best Score: 3815.91
Early stopping at iteration 587, Best Score: 3819.48
Early stopping at iteration 812, Best Score: 3837.44
Early stopping at iteration 561, Best Score: 3817.53
Early stopping at iteration 569, Best Score: 3822.10
Early stopping at iteration 661, Best Score: 3829.21
Early stopping at iteration 702, Best Score: 3838.32
Early stopping at iteration 592, Best Score: 3824.81
Early stopping at iteration 710, Best Score: 3832.50
Early stopping at iteration 631, Best Score: 3802.30
Early stopping at iteration 645, Best Score: 3824.09
Early stopping at iteration 582, Best Score: 3816.97
Early stopping at iteration 537, Best Score: 3810.58
Early stopping at iteration 624, Best Score: 3831.73
Early stopping at iteration 744, Best Score: 3831.58
Early stopping at iteration 680, Best Score: 3832.86
Early stopping at iteration 618, Best Score: 3829.83
Early stopping at iteration 733, Best Score: 3832.17
Early stopping at iteration 689, Best Score: 3825.05
Early stopping at iteration 627, Best Score: 3820.17
Early stopping at iteration 756, Best Score: 3826.58
Early stopping at iteration 1041, Best Score: 3849.46
Early stopping at iteration 768, Best Score: 3834.24
Early stopping at iteration 569, Best Score: 3825.60
Early stopping at iteration 1117, Best Score: 3822.36
Early stopping at iteration 794, Best Score: 3837.88
Early stopping at iteration 1085, Best Score: 3822.46
Early stopping at iteration 555, Best Score: 3814.91
Early stopping at iteration 838, Best Score: 3836.47
Early stopping at iteration 658, Best Score: 3833.49
Early stopping at iteration 800, Best Score: 3820.64
Early stopping at iteration 683, Best Score: 3824.86
Early stopping at iteration 766, Best Score: 3833.16
Early stopping at iteration 953, Best Score: 3838.91
Early stopping at iteration 648, Best Score: 3820.79
Early stopping at iteration 568, Best Score: 3818.10
Early stopping at iteration 679, Best Score: 3821.89
Early stopping at iteration 562, Best Score: 3831.50
Early stopping at iteration 658, Best Score: 3834.50
Early stopping at iteration 786, Best Score: 3833.02
Early stopping at iteration 659, Best Score: 3829.25
Early stopping at iteration 636, Best Score: 3834.13
Early stopping at iteration 617, Best Score: 3826.39
Early stopping at iteration 677, Best Score: 3831.63
Early stopping at iteration 698, Best Score: 3813.47
Early stopping at iteration 651, Best Score: 3826.21
Early stopping at iteration 640, Best Score: 3824.87
Early stopping at iteration 664, Best Score: 3817.69
Early stopping at iteration 715, Best Score: 3838.39
Early stopping at iteration 621, Best Score: 3831.26
Early stopping at iteration 625, Best Score: 3828.10
Early stopping at iteration 641, Best Score: 3813.59
Early stopping at iteration 693, Best Score: 3837.17
Early stopping at iteration 557, Best Score: 3820.59
Early stopping at iteration 643, Best Score: 3815.32
Early stopping at iteration 566, Best Score: 3812.72
Early stopping at iteration 610, Best Score: 3831.01
Early stopping at iteration 587, Best Score: 3819.36
Early stopping at iteration 739, Best Score: 3836.17
Early stopping at iteration 650, Best Score: 3820.93
```

```
Early stopping at iteration 570, Best Score: 3815.58
Early stopping at iteration 710, Best Score: 3803.03
Early stopping at iteration 671, Best Score: 3810.53
Early stopping at iteration 579, Best Score: 3832.56
Early stopping at iteration 545, Best Score: 3807.36
Early stopping at iteration 596, Best Score: 3831.43
Early stopping at iteration 687, Best Score: 3835.81
Early stopping at iteration 553, Best Score: 3808.89
Early stopping at iteration 614, Best Score: 3823.87
Early stopping at iteration 758, Best Score: 3846.64
Early stopping at iteration 541, Best Score: 3814.06
Early stopping at iteration 712, Best Score: 3819.78
Early stopping at iteration 736, Best Score: 3833.07
Early stopping at iteration 654, Best Score: 3818.47
Early stopping at iteration 616, Best Score: 3818.08
Early stopping at iteration 703, Best Score: 3820.11
Early stopping at iteration 539, Best Score: 3808.98
Early stopping at iteration 1070, Best Score: 3842.79
Early stopping at iteration 544, Best Score: 3807.00
Early stopping at iteration 709, Best Score: 3832.57
Early stopping at iteration 568, Best Score: 3818.52
Early stopping at iteration 588, Best Score: 3824.36
Early stopping at iteration 527, Best Score: 3806.42
Early stopping at iteration 582, Best Score: 3825.81
Early stopping at iteration 536, Best Score: 3794.39
Early stopping at iteration 547, Best Score: 3808.54
Early stopping at iteration 533, Best Score: 3809.32
Early stopping at iteration 583, Best Score: 3807.15
Early stopping at iteration 670, Best Score: 3837.38
Early stopping at iteration 608, Best Score: 3822.11
Early stopping at iteration 579, Best Score: 3827.83
Early stopping at iteration 625, Best Score: 3836.93
  Deck Trial 200/250
Early stopping at iteration 585, Best Score: 3816.95
Early stopping at iteration 782, Best Score: 3852.31
Early stopping at iteration 528, Best Score: 3809.24
Early stopping at iteration 681, Best Score: 3836.43
Early stopping at iteration 735, Best Score: 3834.80
Early stopping at iteration 597, Best Score: 3835.65
Early stopping at iteration 600, Best Score: 3823.46
Early stopping at iteration 851, Best Score: 3814.56
Early stopping at iteration 550, Best Score: 3801.67
Early stopping at iteration 588, Best Score: 3827.06
Early stopping at iteration 833, Best Score: 3828.67
Early stopping at iteration 539, Best Score: 3811.00
Early stopping at iteration 615, Best Score: 3824.81
Early stopping at iteration 550, Best Score: 3813.32
Early stopping at iteration 733, Best Score: 3828.96
Early stopping at iteration 640, Best Score: 3835.50
Early stopping at iteration 556, Best Score: 3809.76
Early stopping at iteration 604, Best Score: 3808.26
Early stopping at iteration 584, Best Score: 3815.20
Early stopping at iteration 745, Best Score: 3852.30
Early stopping at iteration 650, Best Score: 3843.76
Early stopping at iteration 701, Best Score: 3843.69
Early stopping at iteration 659, Best Score: 3830.03
Early stopping at iteration 612, Best Score: 3812.87
Early stopping at iteration 572, Best Score: 3815.27
Early stopping at iteration 567, Best Score: 3824.08
Early stopping at iteration 612, Best Score: 3817.79
```

```
Early stopping at iteration 637, Best Score: 3822.43
Early stopping at iteration 549, Best Score: 3813.55
Early stopping at iteration 582, Best Score: 3814.60
Early stopping at iteration 682, Best Score: 3835.65
Early stopping at iteration 557, Best Score: 3807.21
Early stopping at iteration 665, Best Score: 3820.52
Early stopping at iteration 801, Best Score: 3841.77
Early stopping at iteration 554, Best Score: 3823.05
Early stopping at iteration 753, Best Score: 3814.55
Early stopping at iteration 717, Best Score: 3834.91
Early stopping at iteration 602, Best Score: 3812.47
Early stopping at iteration 841, Best Score: 3836.94
Early stopping at iteration 658, Best Score: 3819.05
Early stopping at iteration 603, Best Score: 3815.28
Early stopping at iteration 555, Best Score: 3808.36
Early stopping at iteration 672, Best Score: 3832.39
Early stopping at iteration 578, Best Score: 3824.05
Early stopping at iteration 566, Best Score: 3818.28
Early stopping at iteration 735, Best Score: 3830.81
Early stopping at iteration 547, Best Score: 3821.53
Early stopping at iteration 1006, Best Score: 3829.46
Early stopping at iteration 649, Best Score: 3832.64
Early stopping at iteration 652, Best Score: 3838.86
Early stopping at iteration 544, Best Score: 3815.44
GNN Trial 2 completed with 250 decks.

GNN Trial 3/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 23.0279, Synergy Loss: 3.1569, Total: 29.3417
Epoch 20/300 - Node Loss: 4.4551, Synergy Loss: 3.0503, Total: 10.5557
Epoch 30/300 - Node Loss: 1.4467, Synergy Loss: 2.9585, Total: 7.3637
Epoch 40/300 - Node Loss: 1.0268, Synergy Loss: 2.8463, Total: 6.7193
Epoch 50/300 - Node Loss: 1.0138, Synergy Loss: 2.7361, Total: 6.4860
Epoch 60/300 - Node Loss: 1.0059, Synergy Loss: 2.6340, Total: 6.2739
Epoch 70/300 - Node Loss: 1.0050, Synergy Loss: 2.5466, Total: 6.0982
Epoch 80/300 - Node Loss: 1.0048, Synergy Loss: 2.4894, Total: 5.9836
Epoch 90/300 - Node Loss: 1.0048, Synergy Loss: 2.4744, Total: 5.9537
Epoch 100/300 - Node Loss: 1.0048, Synergy Loss: 2.4745, Total: 5.9538
Epoch 110/300 - Node Loss: 1.0052, Synergy Loss: 2.4720, Total: 5.9492
Epoch 120/300 - Node Loss: 1.0044, Synergy Loss: 2.4677, Total: 5.9399
Epoch 130/300 - Node Loss: 1.0060, Synergy Loss: 2.4476, Total: 5.9012
Epoch 140/300 - Node Loss: 1.0246, Synergy Loss: 2.3434, Total: 5.7114
Epoch 150/300 - Node Loss: 1.0805, Synergy Loss: 2.1475, Total: 5.3755
Epoch 160/300 - Node Loss: 1.1818, Synergy Loss: 1.9129, Total: 5.0076
Epoch 170/300 - Node Loss: 1.1368, Synergy Loss: 1.8455, Total: 4.8278
Epoch 180/300 - Node Loss: 1.2193, Synergy Loss: 1.6329, Total: 4.4852
Epoch 190/300 - Node Loss: 1.4114, Synergy Loss: 1.5217, Total: 4.4549
Epoch 200/300 - Node Loss: 1.2872, Synergy Loss: 1.4174, Total: 4.1220
Epoch 210/300 - Node Loss: 1.4294, Synergy Loss: 1.3882, Total: 4.2059
Epoch 220/300 - Node Loss: 1.2953, Synergy Loss: 1.3424, Total: 3.9801
Epoch 230/300 - Node Loss: 1.2943, Synergy Loss: 1.2760, Total: 3.8464
Epoch 240/300 - Node Loss: 1.3644, Synergy Loss: 1.1690, Total: 3.7024
Epoch 250/300 - Node Loss: 1.3039, Synergy Loss: 1.1506, Total: 3.6050
Epoch 260/300 - Node Loss: 1.3403, Synergy Loss: 1.0235, Total: 3.3874
Epoch 270/300 - Node Loss: 1.2366, Synergy Loss: 1.0774, Total: 3.3915
Epoch 280/300 - Node Loss: 1.1542, Synergy Loss: 0.9817, Total: 3.1176
Epoch 290/300 - Node Loss: 1.2733, Synergy Loss: 0.9299, Total: 3.1331
Epoch 300/300 - Node Loss: 1.1750, Synergy Loss: 0.9400, Total: 3.0549
Existing model archived to: 20250310_173145_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
```

```
Early stopping at iteration 533, Best Score: 4780.26
Early stopping at iteration 512, Best Score: 4751.16
Early stopping at iteration 553, Best Score: 4781.75
Early stopping at iteration 653, Best Score: 4819.75
Early stopping at iteration 670, Best Score: 4791.47
Early stopping at iteration 771, Best Score: 4824.17
Early stopping at iteration 531, Best Score: 4752.64
Early stopping at iteration 616, Best Score: 4822.29
Early stopping at iteration 611, Best Score: 4778.29
Early stopping at iteration 597, Best Score: 4813.69
Early stopping at iteration 618, Best Score: 4809.04
Early stopping at iteration 574, Best Score: 4796.60
Early stopping at iteration 568, Best Score: 4799.88
Early stopping at iteration 550, Best Score: 4797.44
Early stopping at iteration 521, Best Score: 4755.51
Early stopping at iteration 564, Best Score: 4757.80
Early stopping at iteration 551, Best Score: 4753.96
Early stopping at iteration 667, Best Score: 4817.16
Early stopping at iteration 632, Best Score: 4836.62
Early stopping at iteration 644, Best Score: 4829.29
Early stopping at iteration 762, Best Score: 4828.39
Early stopping at iteration 602, Best Score: 4815.03
Early stopping at iteration 528, Best Score: 4761.41
Early stopping at iteration 628, Best Score: 4826.79
Early stopping at iteration 789, Best Score: 4864.92
Early stopping at iteration 659, Best Score: 4825.07
Early stopping at iteration 501, Best Score: 4738.66
Early stopping at iteration 562, Best Score: 4777.90
Early stopping at iteration 503, Best Score: 4742.45
Early stopping at iteration 609, Best Score: 4813.37
Early stopping at iteration 598, Best Score: 4802.34
Early stopping at iteration 518, Best Score: 4763.86
Early stopping at iteration 892, Best Score: 4764.04
Early stopping at iteration 630, Best Score: 4794.82
Early stopping at iteration 675, Best Score: 4819.08
Early stopping at iteration 547, Best Score: 4794.93
Early stopping at iteration 577, Best Score: 4798.33
Early stopping at iteration 508, Best Score: 4751.44
Early stopping at iteration 542, Best Score: 4785.11
Early stopping at iteration 781, Best Score: 4837.74
Early stopping at iteration 564, Best Score: 4799.23
Early stopping at iteration 617, Best Score: 4818.90
Early stopping at iteration 535, Best Score: 4755.60
Early stopping at iteration 694, Best Score: 4840.02
Early stopping at iteration 559, Best Score: 4798.01
Early stopping at iteration 534, Best Score: 4758.55
Early stopping at iteration 603, Best Score: 4832.99
Early stopping at iteration 551, Best Score: 4792.88
Early stopping at iteration 530, Best Score: 4773.17
Early stopping at iteration 636, Best Score: 4799.62
Early stopping at iteration 768, Best Score: 4833.20
Early stopping at iteration 627, Best Score: 4853.60
Early stopping at iteration 644, Best Score: 4818.69
Early stopping at iteration 603, Best Score: 4817.68
Early stopping at iteration 562, Best Score: 4753.75
Early stopping at iteration 676, Best Score: 4838.95
Early stopping at iteration 572, Best Score: 4806.29
Early stopping at iteration 523, Best Score: 4745.69
Early stopping at iteration 548, Best Score: 4780.04
Early stopping at iteration 509, Best Score: 4750.74
```

```
Early stopping at iteration 550, Best Score: 4793.15
Early stopping at iteration 735, Best Score: 4807.51
Early stopping at iteration 732, Best Score: 4826.66
Early stopping at iteration 620, Best Score: 4834.59
Early stopping at iteration 1064, Best Score: 4847.06
Early stopping at iteration 516, Best Score: 4762.77
Early stopping at iteration 531, Best Score: 4779.38
Early stopping at iteration 663, Best Score: 4816.92
Early stopping at iteration 669, Best Score: 4827.13
Early stopping at iteration 512, Best Score: 4738.64
Early stopping at iteration 642, Best Score: 4807.81
Early stopping at iteration 601, Best Score: 4816.01
Early stopping at iteration 540, Best Score: 4766.18
Early stopping at iteration 510, Best Score: 4748.53
Early stopping at iteration 549, Best Score: 4776.30
Early stopping at iteration 722, Best Score: 4852.40
Early stopping at iteration 619, Best Score: 4822.59
Early stopping at iteration 616, Best Score: 4831.56
Early stopping at iteration 827, Best Score: 4862.56
Early stopping at iteration 702, Best Score: 4821.36
Early stopping at iteration 515, Best Score: 4753.10
Early stopping at iteration 592, Best Score: 4791.05
Early stopping at iteration 571, Best Score: 4755.15
Early stopping at iteration 518, Best Score: 4762.68
Early stopping at iteration 771, Best Score: 4866.85
Early stopping at iteration 514, Best Score: 4742.66
Early stopping at iteration 503, Best Score: 4738.32
Early stopping at iteration 515, Best Score: 4760.46
Early stopping at iteration 550, Best Score: 4782.41
Early stopping at iteration 546, Best Score: 4749.37
Early stopping at iteration 623, Best Score: 4819.89
Early stopping at iteration 641, Best Score: 4782.16
Early stopping at iteration 546, Best Score: 4781.47
Early stopping at iteration 521, Best Score: 4766.25
Early stopping at iteration 504, Best Score: 4742.77
Early stopping at iteration 611, Best Score: 4833.15
Early stopping at iteration 513, Best Score: 4739.37
Early stopping at iteration 545, Best Score: 4773.03
Early stopping at iteration 793, Best Score: 4828.52
  Deck Trial 100/250
Early stopping at iteration 540, Best Score: 4796.14
Early stopping at iteration 684, Best Score: 4822.60
Early stopping at iteration 676, Best Score: 4831.51
Early stopping at iteration 512, Best Score: 4744.03
Early stopping at iteration 542, Best Score: 4772.49
Early stopping at iteration 568, Best Score: 4790.79
Early stopping at iteration 644, Best Score: 4800.38
Early stopping at iteration 591, Best Score: 4816.81
Early stopping at iteration 639, Best Score: 4823.77
Early stopping at iteration 659, Best Score: 4858.83
Early stopping at iteration 533, Best Score: 4746.29
Early stopping at iteration 614, Best Score: 4806.78
Early stopping at iteration 704, Best Score: 4828.06
Early stopping at iteration 692, Best Score: 4796.07
Early stopping at iteration 539, Best Score: 4783.86
Early stopping at iteration 528, Best Score: 4768.60
Early stopping at iteration 873, Best Score: 4824.38
Early stopping at iteration 585, Best Score: 4809.02
Early stopping at iteration 567, Best Score: 4789.93
Early stopping at iteration 575, Best Score: 4827.65
```

```
Early stopping at iteration 508, Best Score: 4760.27
Early stopping at iteration 616, Best Score: 4787.85
Early stopping at iteration 527, Best Score: 4760.82
Early stopping at iteration 577, Best Score: 4802.87
Early stopping at iteration 507, Best Score: 4738.32
Early stopping at iteration 500, Best Score: 4737.92
Early stopping at iteration 532, Best Score: 4764.62
Early stopping at iteration 642, Best Score: 4815.12
Early stopping at iteration 503, Best Score: 4739.68
Early stopping at iteration 501, Best Score: 4741.20
Early stopping at iteration 910, Best Score: 4836.59
Early stopping at iteration 506, Best Score: 4742.46
Early stopping at iteration 593, Best Score: 4809.93
Early stopping at iteration 620, Best Score: 4779.25
Early stopping at iteration 621, Best Score: 4827.24
Early stopping at iteration 612, Best Score: 4825.38
Early stopping at iteration 655, Best Score: 4789.46
Early stopping at iteration 502, Best Score: 4742.55
Early stopping at iteration 593, Best Score: 4797.86
Early stopping at iteration 505, Best Score: 4739.08
Early stopping at iteration 546, Best Score: 4776.18
Early stopping at iteration 670, Best Score: 4822.33
Early stopping at iteration 711, Best Score: 4772.51
Early stopping at iteration 603, Best Score: 4791.45
Early stopping at iteration 509, Best Score: 4742.58
Early stopping at iteration 548, Best Score: 4779.89
Early stopping at iteration 867, Best Score: 4820.69
Early stopping at iteration 508, Best Score: 4752.20
Early stopping at iteration 562, Best Score: 4790.10
Early stopping at iteration 720, Best Score: 4850.66
Early stopping at iteration 806, Best Score: 4806.51
Early stopping at iteration 558, Best Score: 4788.48
Early stopping at iteration 629, Best Score: 4824.55
Early stopping at iteration 596, Best Score: 4778.49
Early stopping at iteration 510, Best Score: 4758.76
Early stopping at iteration 592, Best Score: 4799.21
Early stopping at iteration 613, Best Score: 4811.68
Early stopping at iteration 644, Best Score: 4816.50
Early stopping at iteration 693, Best Score: 4817.37
Early stopping at iteration 548, Best Score: 4800.42
Early stopping at iteration 723, Best Score: 4788.62
Early stopping at iteration 611, Best Score: 4818.63
Early stopping at iteration 541, Best Score: 4768.08
Early stopping at iteration 599, Best Score: 4790.05
Early stopping at iteration 580, Best Score: 4806.69
Early stopping at iteration 528, Best Score: 4763.69
Early stopping at iteration 529, Best Score: 4774.33
Early stopping at iteration 726, Best Score: 4805.55
Early stopping at iteration 516, Best Score: 4751.44
Early stopping at iteration 652, Best Score: 4832.91
Early stopping at iteration 551, Best Score: 4765.56
Early stopping at iteration 589, Best Score: 4816.70
Early stopping at iteration 530, Best Score: 4786.05
Early stopping at iteration 645, Best Score: 4822.56
Early stopping at iteration 757, Best Score: 4807.28
Early stopping at iteration 589, Best Score: 4769.86
Early stopping at iteration 576, Best Score: 4784.49
Early stopping at iteration 546, Best Score: 4788.40
Early stopping at iteration 539, Best Score: 4789.61
Early stopping at iteration 519, Best Score: 4753.96
```

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Early stopping at iteration 665, Best Score: 4844.19
Early stopping at iteration 548, Best Score: 4815.90
Early stopping at iteration 547, Best Score: 4792.38
Early stopping at iteration 663, Best Score: 4767.76
Early stopping at iteration 673, Best Score: 4834.99
Early stopping at iteration 779, Best Score: 4818.03
Early stopping at iteration 712, Best Score: 4826.89
Early stopping at iteration 787, Best Score: 4823.98
Early stopping at iteration 662, Best Score: 4818.31
Early stopping at iteration 661, Best Score: 4837.23
Early stopping at iteration 508, Best Score: 4769.40
Early stopping at iteration 571, Best Score: 4807.16
Early stopping at iteration 570, Best Score: 4764.38
Early stopping at iteration 572, Best Score: 4818.55
Early stopping at iteration 964, Best Score: 4814.61
Early stopping at iteration 617, Best Score: 4798.46
Early stopping at iteration 572, Best Score: 4766.76
Early stopping at iteration 542, Best Score: 4776.01
Early stopping at iteration 730, Best Score: 4810.54
Early stopping at iteration 768, Best Score: 4840.51
  Deck Trial 200/250
Early stopping at iteration 521, Best Score: 4751.75
Early stopping at iteration 561, Best Score: 4797.05
Early stopping at iteration 586, Best Score: 4785.65
Early stopping at iteration 569, Best Score: 4802.76
Early stopping at iteration 857, Best Score: 4835.99
Early stopping at iteration 658, Best Score: 4829.15
Early stopping at iteration 676, Best Score: 4783.55
Early stopping at iteration 609, Best Score: 4804.83
Early stopping at iteration 569, Best Score: 4801.84
Early stopping at iteration 708, Best Score: 4834.37
Early stopping at iteration 690, Best Score: 4848.05
Early stopping at iteration 698, Best Score: 4844.68
Early stopping at iteration 785, Best Score: 4810.29
Early stopping at iteration 567, Best Score: 4822.14
Early stopping at iteration 633, Best Score: 4762.38
Early stopping at iteration 592, Best Score: 4813.48
Early stopping at iteration 677, Best Score: 4850.08
Early stopping at iteration 882, Best Score: 4817.38
Early stopping at iteration 542, Best Score: 4755.58
Early stopping at iteration 618, Best Score: 4808.61
Early stopping at iteration 543, Best Score: 4780.80
Early stopping at iteration 634, Best Score: 4799.09
Early stopping at iteration 883, Best Score: 4780.17
Early stopping at iteration 591, Best Score: 4764.66
Early stopping at iteration 790, Best Score: 4824.32
Early stopping at iteration 502, Best Score: 4741.67
Early stopping at iteration 510, Best Score: 4765.31
Early stopping at iteration 663, Best Score: 4834.18
Early stopping at iteration 634, Best Score: 4824.60
Early stopping at iteration 549, Best Score: 4790.89
Early stopping at iteration 541, Best Score: 4783.75
Early stopping at iteration 765, Best Score: 4863.16
Early stopping at iteration 552, Best Score: 4810.02
Early stopping at iteration 531, Best Score: 4761.24
Early stopping at iteration 507, Best Score: 4741.20
Early stopping at iteration 551, Best Score: 4784.13
Early stopping at iteration 670, Best Score: 4814.23
Early stopping at iteration 628, Best Score: 4805.78
Early stopping at iteration 609, Best Score: 4828.42
```

```
Early stopping at iteration 567, Best Score: 4789.79
Early stopping at iteration 619, Best Score: 4817.32
Early stopping at iteration 559, Best Score: 4804.75
Early stopping at iteration 961, Best Score: 4798.23
Early stopping at iteration 574, Best Score: 4830.34
Early stopping at iteration 529, Best Score: 4766.43
Early stopping at iteration 623, Best Score: 4832.60
Early stopping at iteration 702, Best Score: 4838.92
Early stopping at iteration 590, Best Score: 4793.68
Early stopping at iteration 573, Best Score: 4791.49
Early stopping at iteration 563, Best Score: 4810.21
Early stopping at iteration 548, Best Score: 4780.88
GNN Trial 3 completed with 250 decks.

GNN Trial 4/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 20.9244, Synergy Loss: 3.1891, Total: 27.3026
Epoch 20/300 - Node Loss: 3.0765, Synergy Loss: 3.0941, Total: 9.2647
Epoch 30/300 - Node Loss: 1.6633, Synergy Loss: 3.0050, Total: 7.6733
Epoch 40/300 - Node Loss: 1.1510, Synergy Loss: 2.8994, Total: 6.9498
Epoch 50/300 - Node Loss: 1.0152, Synergy Loss: 2.7894, Total: 6.5941
Epoch 60/300 - Node Loss: 1.0061, Synergy Loss: 2.6796, Total: 6.3653
Epoch 70/300 - Node Loss: 1.0090, Synergy Loss: 2.5626, Total: 6.1342
Epoch 80/300 - Node Loss: 1.0291, Synergy Loss: 2.4208, Total: 5.8708
Epoch 90/300 - Node Loss: 1.0495, Synergy Loss: 2.2355, Total: 5.5205
Epoch 100/300 - Node Loss: 1.1485, Synergy Loss: 1.8967, Total: 4.9418
Epoch 110/300 - Node Loss: 1.1794, Synergy Loss: 1.5944, Total: 4.3682
Epoch 120/300 - Node Loss: 1.2872, Synergy Loss: 1.4966, Total: 4.2804
Epoch 130/300 - Node Loss: 1.2830, Synergy Loss: 1.3580, Total: 3.9990
Epoch 140/300 - Node Loss: 1.2305, Synergy Loss: 1.3430, Total: 3.9166
Epoch 150/300 - Node Loss: 1.2302, Synergy Loss: 1.3024, Total: 3.8349
Epoch 160/300 - Node Loss: 1.1876, Synergy Loss: 1.2851, Total: 3.7578
Epoch 170/300 - Node Loss: 1.2014, Synergy Loss: 1.2752, Total: 3.7518
Epoch 180/300 - Node Loss: 1.2246, Synergy Loss: 1.2459, Total: 3.7164
Epoch 190/300 - Node Loss: 1.1347, Synergy Loss: 1.2130, Total: 3.5607
Epoch 200/300 - Node Loss: 1.2009, Synergy Loss: 1.1637, Total: 3.5283
Epoch 210/300 - Node Loss: 1.1019, Synergy Loss: 1.1183, Total: 3.3384
Epoch 220/300 - Node Loss: 1.0981, Synergy Loss: 1.0217, Total: 3.1415
Epoch 230/300 - Node Loss: 1.0979, Synergy Loss: 0.9867, Total: 3.0713
Epoch 240/300 - Node Loss: 1.1263, Synergy Loss: 0.8988, Total: 2.9240
Epoch 250/300 - Node Loss: 1.1095, Synergy Loss: 0.8979, Total: 2.9053
Epoch 260/300 - Node Loss: 1.1125, Synergy Loss: 0.9000, Total: 2.9126
Epoch 270/300 - Node Loss: 1.1438, Synergy Loss: 1.0283, Total: 3.2004
Epoch 280/300 - Node Loss: 1.0893, Synergy Loss: 0.8561, Total: 2.8015
Epoch 290/300 - Node Loss: 1.0746, Synergy Loss: 0.9134, Total: 2.9014
Epoch 300/300 - Node Loss: 1.1052, Synergy Loss: 0.8661, Total: 2.8373
Existing model archived to: 20250310_173602_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 589, Best Score: 4748.76
Early stopping at iteration 761, Best Score: 4746.77
Early stopping at iteration 505, Best Score: 4717.34
Early stopping at iteration 502, Best Score: 4710.38
Early stopping at iteration 611, Best Score: 4753.60
Early stopping at iteration 602, Best Score: 4752.82
Early stopping at iteration 562, Best Score: 4738.38
Early stopping at iteration 647, Best Score: 4758.29
Early stopping at iteration 560, Best Score: 4753.49
Early stopping at iteration 525, Best Score: 4739.62
Early stopping at iteration 718, Best Score: 4781.35
Early stopping at iteration 505, Best Score: 4710.57
```

```
Early stopping at iteration 568, Best Score: 4739.26
Early stopping at iteration 546, Best Score: 4732.82
Early stopping at iteration 585, Best Score: 4751.11
Early stopping at iteration 573, Best Score: 4758.34
Early stopping at iteration 613, Best Score: 4761.17
Early stopping at iteration 675, Best Score: 4764.23
Early stopping at iteration 540, Best Score: 4737.50
Early stopping at iteration 540, Best Score: 4710.38
Early stopping at iteration 694, Best Score: 4740.29
Early stopping at iteration 502, Best Score: 4710.57
Early stopping at iteration 577, Best Score: 4746.48
Early stopping at iteration 682, Best Score: 4781.72
Early stopping at iteration 575, Best Score: 4758.46
Early stopping at iteration 515, Best Score: 4735.49
Early stopping at iteration 663, Best Score: 4776.80
Early stopping at iteration 670, Best Score: 4782.16
Early stopping at iteration 540, Best Score: 4741.78
Early stopping at iteration 552, Best Score: 4740.13
Early stopping at iteration 555, Best Score: 4749.22
Early stopping at iteration 561, Best Score: 4750.64
Early stopping at iteration 710, Best Score: 4775.49
Early stopping at iteration 745, Best Score: 4778.77
Early stopping at iteration 635, Best Score: 4759.51
Early stopping at iteration 666, Best Score: 4736.94
Early stopping at iteration 543, Best Score: 4756.03
Early stopping at iteration 588, Best Score: 4752.11
Early stopping at iteration 508, Best Score: 4718.33
Early stopping at iteration 643, Best Score: 4755.70
Early stopping at iteration 505, Best Score: 4710.68
Early stopping at iteration 603, Best Score: 4744.75
Early stopping at iteration 510, Best Score: 4717.97
Early stopping at iteration 862, Best Score: 4767.82
Early stopping at iteration 659, Best Score: 4780.12
Early stopping at iteration 846, Best Score: 4771.04
Early stopping at iteration 751, Best Score: 4768.83
Early stopping at iteration 848, Best Score: 4781.84
Early stopping at iteration 553, Best Score: 4735.18
Early stopping at iteration 741, Best Score: 4788.08
Early stopping at iteration 631, Best Score: 4777.28
Early stopping at iteration 604, Best Score: 4784.32
Early stopping at iteration 541, Best Score: 4714.90
Early stopping at iteration 530, Best Score: 4741.48
Early stopping at iteration 803, Best Score: 4777.84
Early stopping at iteration 617, Best Score: 4775.48
Early stopping at iteration 535, Best Score: 4741.41
Early stopping at iteration 655, Best Score: 4759.13
Early stopping at iteration 531, Best Score: 4720.87
Early stopping at iteration 584, Best Score: 4733.09
Early stopping at iteration 587, Best Score: 4744.08
Early stopping at iteration 630, Best Score: 4726.25
Early stopping at iteration 540, Best Score: 4732.96
Early stopping at iteration 551, Best Score: 4737.34
Early stopping at iteration 540, Best Score: 4734.93
Early stopping at iteration 530, Best Score: 4730.71
Early stopping at iteration 719, Best Score: 4771.62
Early stopping at iteration 537, Best Score: 4735.10
Early stopping at iteration 501, Best Score: 4710.38
Early stopping at iteration 602, Best Score: 4729.38
Early stopping at iteration 674, Best Score: 4765.00
Early stopping at iteration 508, Best Score: 4716.19
```

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Early stopping at iteration 808, Best Score: 4787.06
Early stopping at iteration 546, Best Score: 4749.45
Early stopping at iteration 527, Best Score: 4718.97
Early stopping at iteration 505, Best Score: 4716.42
Early stopping at iteration 965, Best Score: 4786.76
Early stopping at iteration 655, Best Score: 4795.71
Early stopping at iteration 502, Best Score: 4713.44
Early stopping at iteration 571, Best Score: 4758.45
Early stopping at iteration 638, Best Score: 4760.13
Early stopping at iteration 697, Best Score: 4756.40
Early stopping at iteration 520, Best Score: 4720.24
Early stopping at iteration 595, Best Score: 4751.48
Early stopping at iteration 624, Best Score: 4757.06
Early stopping at iteration 673, Best Score: 4776.07
Early stopping at iteration 524, Best Score: 4723.49
Early stopping at iteration 571, Best Score: 4734.30
Early stopping at iteration 668, Best Score: 4783.18
Early stopping at iteration 707, Best Score: 4776.43
Early stopping at iteration 704, Best Score: 4754.15
Early stopping at iteration 674, Best Score: 4771.93
Early stopping at iteration 533, Best Score: 4715.06
Early stopping at iteration 556, Best Score: 4756.28
Early stopping at iteration 674, Best Score: 4779.92
Early stopping at iteration 546, Best Score: 4719.56
Early stopping at iteration 503, Best Score: 4708.64
Early stopping at iteration 558, Best Score: 4743.05
Early stopping at iteration 716, Best Score: 4774.89
  Deck Trial 100/250
Early stopping at iteration 522, Best Score: 4738.74
Early stopping at iteration 503, Best Score: 4708.64
Early stopping at iteration 604, Best Score: 4755.56
Early stopping at iteration 713, Best Score: 4780.83
Early stopping at iteration 641, Best Score: 4775.76
Early stopping at iteration 580, Best Score: 4743.45
Early stopping at iteration 583, Best Score: 4744.37
Early stopping at iteration 697, Best Score: 4759.03
Early stopping at iteration 610, Best Score: 4764.53
Early stopping at iteration 740, Best Score: 4757.18
Early stopping at iteration 557, Best Score: 4741.26
Early stopping at iteration 640, Best Score: 4757.00
Early stopping at iteration 636, Best Score: 4735.17
Early stopping at iteration 513, Best Score: 4722.40
Early stopping at iteration 557, Best Score: 4757.33
Early stopping at iteration 752, Best Score: 4778.80
Early stopping at iteration 609, Best Score: 4753.29
Early stopping at iteration 612, Best Score: 4767.15
Early stopping at iteration 808, Best Score: 4788.98
Early stopping at iteration 557, Best Score: 4745.67
Early stopping at iteration 514, Best Score: 4719.42
Early stopping at iteration 561, Best Score: 4765.20
Early stopping at iteration 562, Best Score: 4735.05
Early stopping at iteration 592, Best Score: 4744.97
Early stopping at iteration 772, Best Score: 4781.86
Early stopping at iteration 502, Best Score: 4710.38
Early stopping at iteration 548, Best Score: 4747.21
Early stopping at iteration 888, Best Score: 4749.03
Early stopping at iteration 651, Best Score: 4734.75
Early stopping at iteration 540, Best Score: 4733.85
Early stopping at iteration 645, Best Score: 4746.85
Early stopping at iteration 578, Best Score: 4721.98
```

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Early stopping at iteration 536, Best Score: 4731.63
Early stopping at iteration 615, Best Score: 4773.68
Early stopping at iteration 509, Best Score: 4729.73
Early stopping at iteration 627, Best Score: 4776.08
Early stopping at iteration 722, Best Score: 4756.84
Early stopping at iteration 678, Best Score: 4805.57
Early stopping at iteration 607, Best Score: 4737.93
Early stopping at iteration 669, Best Score: 4785.49
Early stopping at iteration 600, Best Score: 4767.43
Early stopping at iteration 668, Best Score: 4770.77
Early stopping at iteration 628, Best Score: 4745.50
Early stopping at iteration 543, Best Score: 4726.82
Early stopping at iteration 513, Best Score: 4715.38
Early stopping at iteration 645, Best Score: 4774.68
Early stopping at iteration 511, Best Score: 4717.91
Early stopping at iteration 643, Best Score: 4757.37
Early stopping at iteration 562, Best Score: 4741.55
Early stopping at iteration 522, Best Score: 4712.14
Early stopping at iteration 590, Best Score: 4736.87
Early stopping at iteration 605, Best Score: 4752.95
Early stopping at iteration 543, Best Score: 4736.68
Early stopping at iteration 869, Best Score: 4785.42
Early stopping at iteration 540, Best Score: 4741.11
Early stopping at iteration 501, Best Score: 4710.68
Early stopping at iteration 524, Best Score: 4728.47
Early stopping at iteration 522, Best Score: 4726.02
Early stopping at iteration 637, Best Score: 4749.15
Early stopping at iteration 506, Best Score: 4708.64
Early stopping at iteration 510, Best Score: 4734.17
Early stopping at iteration 841, Best Score: 4776.18
Early stopping at iteration 577, Best Score: 4749.84
Early stopping at iteration 617, Best Score: 4735.41
Early stopping at iteration 560, Best Score: 4733.26
Early stopping at iteration 792, Best Score: 4755.84
Early stopping at iteration 516, Best Score: 4710.68
Early stopping at iteration 663, Best Score: 4768.30
Early stopping at iteration 616, Best Score: 4765.47
Early stopping at iteration 674, Best Score: 4751.19
Early stopping at iteration 578, Best Score: 4774.56
Early stopping at iteration 741, Best Score: 4781.18
Early stopping at iteration 637, Best Score: 4768.79
Early stopping at iteration 594, Best Score: 4758.58
Early stopping at iteration 535, Best Score: 4722.36
Early stopping at iteration 581, Best Score: 4756.86
Early stopping at iteration 616, Best Score: 4770.65
Early stopping at iteration 661, Best Score: 4777.02
Early stopping at iteration 1007, Best Score: 4765.69
Early stopping at iteration 757, Best Score: 4761.54
Early stopping at iteration 630, Best Score: 4756.98
Early stopping at iteration 540, Best Score: 4751.71
Early stopping at iteration 547, Best Score: 4757.60
Early stopping at iteration 617, Best Score: 4750.87
Early stopping at iteration 605, Best Score: 4752.63
Early stopping at iteration 525, Best Score: 4730.05
Early stopping at iteration 530, Best Score: 4731.36
Early stopping at iteration 580, Best Score: 4756.25
Early stopping at iteration 589, Best Score: 4738.08
Early stopping at iteration 569, Best Score: 4749.96
Early stopping at iteration 550, Best Score: 4764.46
Early stopping at iteration 654, Best Score: 4794.94
```

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Early stopping at iteration 542, Best Score: 4729.72
Early stopping at iteration 576, Best Score: 4736.37
Early stopping at iteration 728, Best Score: 4777.07
Early stopping at iteration 539, Best Score: 4723.52
Early stopping at iteration 518, Best Score: 4737.10
Early stopping at iteration 508, Best Score: 4723.25
Early stopping at iteration 556, Best Score: 4767.66
Early stopping at iteration 574, Best Score: 4747.37
  Deck Trial 200/250
Early stopping at iteration 598, Best Score: 4747.84
Early stopping at iteration 535, Best Score: 4731.63
Early stopping at iteration 654, Best Score: 4771.83
Early stopping at iteration 644, Best Score: 4776.49
Early stopping at iteration 682, Best Score: 4764.15
Early stopping at iteration 524, Best Score: 4723.20
Early stopping at iteration 700, Best Score: 4755.81
Early stopping at iteration 565, Best Score: 4744.55
Early stopping at iteration 503, Best Score: 4710.68
Early stopping at iteration 679, Best Score: 4724.19
Early stopping at iteration 565, Best Score: 4729.32
Early stopping at iteration 698, Best Score: 4773.91
Early stopping at iteration 521, Best Score: 4720.94
Early stopping at iteration 589, Best Score: 4748.69
Early stopping at iteration 530, Best Score: 4733.32
Early stopping at iteration 734, Best Score: 4756.66
Early stopping at iteration 545, Best Score: 4755.83
Early stopping at iteration 642, Best Score: 4767.40
Early stopping at iteration 569, Best Score: 4758.75
Early stopping at iteration 557, Best Score: 4736.84
Early stopping at iteration 514, Best Score: 4717.63
Early stopping at iteration 524, Best Score: 4746.74
Early stopping at iteration 540, Best Score: 4727.74
Early stopping at iteration 576, Best Score: 4746.52
Early stopping at iteration 618, Best Score: 4754.06
Early stopping at iteration 552, Best Score: 4732.13
Early stopping at iteration 580, Best Score: 4755.61
Early stopping at iteration 516, Best Score: 4712.63
Early stopping at iteration 581, Best Score: 4736.12
Early stopping at iteration 500, Best Score: 4707.61
Early stopping at iteration 570, Best Score: 4755.61
Early stopping at iteration 659, Best Score: 4764.38
Early stopping at iteration 839, Best Score: 4769.43
Early stopping at iteration 564, Best Score: 4740.42
Early stopping at iteration 520, Best Score: 4736.11
Early stopping at iteration 591, Best Score: 4758.81
Early stopping at iteration 680, Best Score: 4788.92
Early stopping at iteration 613, Best Score: 4751.08
Early stopping at iteration 685, Best Score: 4745.89
Early stopping at iteration 629, Best Score: 4755.53
Early stopping at iteration 634, Best Score: 4758.56
Early stopping at iteration 501, Best Score: 4710.57
Early stopping at iteration 701, Best Score: 4767.14
Early stopping at iteration 535, Best Score: 4754.97
Early stopping at iteration 660, Best Score: 4783.61
Early stopping at iteration 607, Best Score: 4759.57
Early stopping at iteration 588, Best Score: 4737.37
Early stopping at iteration 656, Best Score: 4760.53
Early stopping at iteration 524, Best Score: 4727.61
Early stopping at iteration 603, Best Score: 4758.07
Early stopping at iteration 696, Best Score: 4763.20
```

```
GNN Trial 4 completed with 250 decks.

GNN Trial 5/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 30.4798, Synergy Loss: 3.1685, Total: 36.8167
Epoch 20/300 - Node Loss: 5.2355, Synergy Loss: 3.0560, Total: 11.3474
Epoch 30/300 - Node Loss: 2.4479, Synergy Loss: 2.9206, Total: 8.2891
Epoch 40/300 - Node Loss: 1.3761, Synergy Loss: 2.7624, Total: 6.9010
Epoch 50/300 - Node Loss: 1.0658, Synergy Loss: 2.6215, Total: 6.3088
Epoch 60/300 - Node Loss: 1.0133, Synergy Loss: 2.5215, Total: 6.0563
Epoch 70/300 - Node Loss: 1.0101, Synergy Loss: 2.4584, Total: 5.9270
Epoch 80/300 - Node Loss: 1.0358, Synergy Loss: 2.3444, Total: 5.7245
Epoch 90/300 - Node Loss: 1.1443, Synergy Loss: 2.0196, Total: 5.1835
Epoch 100/300 - Node Loss: 1.2789, Synergy Loss: 1.6361, Total: 4.5511
Epoch 110/300 - Node Loss: 1.2686, Synergy Loss: 1.5424, Total: 4.3534
Epoch 120/300 - Node Loss: 1.2865, Synergy Loss: 1.3992, Total: 4.0848
Epoch 130/300 - Node Loss: 1.2803, Synergy Loss: 1.3617, Total: 4.0037
Epoch 140/300 - Node Loss: 1.2793, Synergy Loss: 1.3043, Total: 3.8878
Epoch 150/300 - Node Loss: 1.2128, Synergy Loss: 1.2671, Total: 3.7470
Epoch 160/300 - Node Loss: 1.2266, Synergy Loss: 1.1778, Total: 3.5823
Epoch 170/300 - Node Loss: 1.2005, Synergy Loss: 1.0984, Total: 3.3973
Epoch 180/300 - Node Loss: 1.1794, Synergy Loss: 1.1037, Total: 3.3869
Epoch 190/300 - Node Loss: 1.2279, Synergy Loss: 1.2082, Total: 3.6443
Epoch 200/300 - Node Loss: 1.1131, Synergy Loss: 0.9705, Total: 3.0542
Epoch 210/300 - Node Loss: 1.2000, Synergy Loss: 0.9600, Total: 3.1200
Epoch 220/300 - Node Loss: 1.1565, Synergy Loss: 0.9056, Total: 2.9678
Epoch 230/300 - Node Loss: 1.0841, Synergy Loss: 0.9105, Total: 2.9050
Epoch 240/300 - Node Loss: 1.0829, Synergy Loss: 0.8804, Total: 2.8438
Epoch 250/300 - Node Loss: 1.0622, Synergy Loss: 0.8446, Total: 2.7513
Epoch 260/300 - Node Loss: 1.0912, Synergy Loss: 0.8760, Total: 2.8433
Epoch 270/300 - Node Loss: 1.1303, Synergy Loss: 0.8366, Total: 2.8034
Epoch 280/300 - Node Loss: 1.0765, Synergy Loss: 0.8022, Total: 2.6809
Epoch 290/300 - Node Loss: 1.0539, Synergy Loss: 0.8151, Total: 2.6841
Epoch 300/300 - Node Loss: 1.0511, Synergy Loss: 0.8239, Total: 2.6989
Existing model archived to: 20250310_174026_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 518, Best Score: 4523.96
Early stopping at iteration 678, Best Score: 4630.18
Early stopping at iteration 584, Best Score: 4571.97
Early stopping at iteration 649, Best Score: 4634.50
Early stopping at iteration 790, Best Score: 4647.46
Early stopping at iteration 633, Best Score: 4597.31
Early stopping at iteration 536, Best Score: 4525.79
Early stopping at iteration 904, Best Score: 4663.23
Early stopping at iteration 824, Best Score: 4631.61
Early stopping at iteration 500, Best Score: 4493.01
Early stopping at iteration 678, Best Score: 4587.27
Early stopping at iteration 698, Best Score: 4625.51
Early stopping at iteration 666, Best Score: 4645.86
Early stopping at iteration 707, Best Score: 4622.68
Early stopping at iteration 727, Best Score: 4603.47
Early stopping at iteration 789, Best Score: 4653.85
Early stopping at iteration 511, Best Score: 4505.46
Early stopping at iteration 529, Best Score: 4551.91
Early stopping at iteration 650, Best Score: 4641.51
Early stopping at iteration 728, Best Score: 4597.70
Early stopping at iteration 547, Best Score: 4596.08
Early stopping at iteration 525, Best Score: 4538.53
Early stopping at iteration 607, Best Score: 4566.13
Early stopping at iteration 504, Best Score: 4495.99
```

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Early stopping at iteration 515, Best Score: 4510.62
Early stopping at iteration 629, Best Score: 4587.13
Early stopping at iteration 540, Best Score: 4530.84
Early stopping at iteration 570, Best Score: 4581.21
Early stopping at iteration 755, Best Score: 4627.49
Early stopping at iteration 887, Best Score: 4674.41
Early stopping at iteration 663, Best Score: 4628.62
Early stopping at iteration 522, Best Score: 4524.68
Early stopping at iteration 707, Best Score: 4620.17
Early stopping at iteration 530, Best Score: 4556.54
Early stopping at iteration 629, Best Score: 4621.14
Early stopping at iteration 540, Best Score: 4546.45
Early stopping at iteration 743, Best Score: 4629.08
Early stopping at iteration 676, Best Score: 4620.82
Early stopping at iteration 539, Best Score: 4511.57
Early stopping at iteration 583, Best Score: 4622.13
Early stopping at iteration 559, Best Score: 4610.54
Early stopping at iteration 737, Best Score: 4652.73
Early stopping at iteration 541, Best Score: 4554.67
Early stopping at iteration 687, Best Score: 4620.58
Early stopping at iteration 611, Best Score: 4595.17
Early stopping at iteration 509, Best Score: 4496.04
Early stopping at iteration 644, Best Score: 4606.96
Early stopping at iteration 635, Best Score: 4639.43
Early stopping at iteration 559, Best Score: 4572.91
Early stopping at iteration 611, Best Score: 4563.45
Early stopping at iteration 587, Best Score: 4605.56
Early stopping at iteration 648, Best Score: 4608.87
Early stopping at iteration 630, Best Score: 4610.56
Early stopping at iteration 587, Best Score: 4590.01
Early stopping at iteration 917, Best Score: 4681.53
Early stopping at iteration 631, Best Score: 4595.50
Early stopping at iteration 572, Best Score: 4582.87
Early stopping at iteration 567, Best Score: 4573.48
Early stopping at iteration 697, Best Score: 4623.40
Early stopping at iteration 1003, Best Score: 4636.74
Early stopping at iteration 708, Best Score: 4642.37
Early stopping at iteration 540, Best Score: 4506.50
Early stopping at iteration 609, Best Score: 4636.97
Early stopping at iteration 691, Best Score: 4635.33
Early stopping at iteration 663, Best Score: 4641.71
Early stopping at iteration 565, Best Score: 4582.44
Early stopping at iteration 547, Best Score: 4548.32
Early stopping at iteration 563, Best Score: 4577.30
Early stopping at iteration 605, Best Score: 4586.26
Early stopping at iteration 515, Best Score: 4524.78
Early stopping at iteration 651, Best Score: 4621.87
Early stopping at iteration 612, Best Score: 4621.47
Early stopping at iteration 782, Best Score: 4568.18
Early stopping at iteration 637, Best Score: 4610.16
Early stopping at iteration 624, Best Score: 4624.08
Early stopping at iteration 635, Best Score: 4628.30
Early stopping at iteration 549, Best Score: 4548.93
Early stopping at iteration 791, Best Score: 4630.86
Early stopping at iteration 617, Best Score: 4617.72
Early stopping at iteration 593, Best Score: 4593.81
Early stopping at iteration 619, Best Score: 4629.36
Early stopping at iteration 538, Best Score: 4561.15
Early stopping at iteration 658, Best Score: 4594.04
Early stopping at iteration 627, Best Score: 4601.08
```

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Early stopping at iteration 639, Best Score: 4611.92
Early stopping at iteration 1011, Best Score: 4542.89
Early stopping at iteration 694, Best Score: 4611.89
Early stopping at iteration 512, Best Score: 4503.79
Early stopping at iteration 512, Best Score: 4504.77
Early stopping at iteration 599, Best Score: 4603.16
Early stopping at iteration 576, Best Score: 4562.58
Early stopping at iteration 558, Best Score: 4566.20
Early stopping at iteration 651, Best Score: 4617.83
Early stopping at iteration 608, Best Score: 4530.29
Early stopping at iteration 566, Best Score: 4590.19
Early stopping at iteration 689, Best Score: 4656.03
Early stopping at iteration 605, Best Score: 4576.49
Early stopping at iteration 588, Best Score: 4559.90
Early stopping at iteration 691, Best Score: 4572.64
  Deck Trial 100/250
Early stopping at iteration 519, Best Score: 4533.90
Early stopping at iteration 566, Best Score: 4532.69
Early stopping at iteration 629, Best Score: 4645.40
Early stopping at iteration 613, Best Score: 4607.38
Early stopping at iteration 647, Best Score: 4618.21
Early stopping at iteration 572, Best Score: 4572.59
Early stopping at iteration 672, Best Score: 4584.01
Early stopping at iteration 548, Best Score: 4556.28
Early stopping at iteration 574, Best Score: 4607.69
Early stopping at iteration 654, Best Score: 4630.10
Early stopping at iteration 826, Best Score: 4617.00
Early stopping at iteration 529, Best Score: 4551.44
Early stopping at iteration 657, Best Score: 4607.54
Early stopping at iteration 509, Best Score: 4521.00
Early stopping at iteration 577, Best Score: 4595.22
Early stopping at iteration 529, Best Score: 4568.62
Early stopping at iteration 575, Best Score: 4563.11
Early stopping at iteration 801, Best Score: 4636.69
Early stopping at iteration 712, Best Score: 4616.57
Early stopping at iteration 605, Best Score: 4568.04
Early stopping at iteration 817, Best Score: 4673.83
Early stopping at iteration 600, Best Score: 4615.10
Early stopping at iteration 629, Best Score: 4611.76
Early stopping at iteration 545, Best Score: 4540.30
Early stopping at iteration 716, Best Score: 4628.12
Early stopping at iteration 591, Best Score: 4589.57
Early stopping at iteration 708, Best Score: 4626.25
Early stopping at iteration 735, Best Score: 4637.44
Early stopping at iteration 540, Best Score: 4555.54
Early stopping at iteration 500, Best Score: 4493.01
Early stopping at iteration 732, Best Score: 4648.32
Early stopping at iteration 624, Best Score: 4635.29
Early stopping at iteration 659, Best Score: 4610.61
Early stopping at iteration 528, Best Score: 4517.50
Early stopping at iteration 552, Best Score: 4562.84
Early stopping at iteration 783, Best Score: 4659.71
Early stopping at iteration 593, Best Score: 4601.77
Early stopping at iteration 836, Best Score: 4642.54
Early stopping at iteration 524, Best Score: 4545.15
Early stopping at iteration 514, Best Score: 4537.83
Early stopping at iteration 707, Best Score: 4598.52
Early stopping at iteration 756, Best Score: 4606.42
Early stopping at iteration 585, Best Score: 4604.28
Early stopping at iteration 840, Best Score: 4667.85
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Early stopping at iteration 612, Best Score: 4611.44
Early stopping at iteration 1131, Best Score: 4638.36
Early stopping at iteration 639, Best Score: 4617.38
Early stopping at iteration 684, Best Score: 4654.51
Early stopping at iteration 632, Best Score: 4595.49
Early stopping at iteration 750, Best Score: 4682.45
Early stopping at iteration 599, Best Score: 4605.40
Early stopping at iteration 772, Best Score: 4589.13
Early stopping at iteration 643, Best Score: 4611.60
Early stopping at iteration 556, Best Score: 4578.03
Early stopping at iteration 709, Best Score: 4629.64
Early stopping at iteration 573, Best Score: 4572.06
Early stopping at iteration 1124, Best Score: 4636.37
Early stopping at iteration 738, Best Score: 4638.19
Early stopping at iteration 644, Best Score: 4639.88
Early stopping at iteration 702, Best Score: 4635.27
Early stopping at iteration 599, Best Score: 4608.93
Early stopping at iteration 628, Best Score: 4622.81
Early stopping at iteration 684, Best Score: 4619.95
Early stopping at iteration 582, Best Score: 4562.39
Early stopping at iteration 819, Best Score: 4682.17
Early stopping at iteration 685, Best Score: 4614.17
Early stopping at iteration 557, Best Score: 4565.35
Early stopping at iteration 715, Best Score: 4636.58
Early stopping at iteration 610, Best Score: 4617.15
Early stopping at iteration 521, Best Score: 4521.35
Early stopping at iteration 577, Best Score: 4595.82
Early stopping at iteration 588, Best Score: 4585.08
Early stopping at iteration 595, Best Score: 4592.39
Early stopping at iteration 718, Best Score: 4617.43
Early stopping at iteration 988, Best Score: 4676.70
Early stopping at iteration 566, Best Score: 4549.10
Early stopping at iteration 611, Best Score: 4578.32
Early stopping at iteration 683, Best Score: 4603.18
Early stopping at iteration 599, Best Score: 4595.56
Early stopping at iteration 598, Best Score: 4620.30
Early stopping at iteration 594, Best Score: 4592.18
Early stopping at iteration 633, Best Score: 4575.34
Early stopping at iteration 858, Best Score: 4621.57
Early stopping at iteration 525, Best Score: 4520.30
Early stopping at iteration 597, Best Score: 4590.27
Early stopping at iteration 584, Best Score: 4580.94
Early stopping at iteration 519, Best Score: 4515.04
Early stopping at iteration 567, Best Score: 4546.44
Early stopping at iteration 622, Best Score: 4583.22
Early stopping at iteration 566, Best Score: 4602.74
Early stopping at iteration 656, Best Score: 4609.40
Early stopping at iteration 713, Best Score: 4666.49
Early stopping at iteration 664, Best Score: 4663.60
Early stopping at iteration 601, Best Score: 4619.92
Early stopping at iteration 685, Best Score: 4615.73
Early stopping at iteration 603, Best Score: 4619.48
Early stopping at iteration 641, Best Score: 4603.62
Early stopping at iteration 619, Best Score: 4600.24
Early stopping at iteration 568, Best Score: 4567.53
Early stopping at iteration 577, Best Score: 4607.16
  Deck Trial 200/250
Early stopping at iteration 756, Best Score: 4651.45
Early stopping at iteration 642, Best Score: 4590.60
Early stopping at iteration 509, Best Score: 4524.78
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Early stopping at iteration 569, Best Score: 4587.39
Early stopping at iteration 543, Best Score: 4557.80
Early stopping at iteration 548, Best Score: 4592.75
Early stopping at iteration 684, Best Score: 4565.37
Early stopping at iteration 573, Best Score: 4582.16
Early stopping at iteration 617, Best Score: 4616.38
Early stopping at iteration 651, Best Score: 4617.33
Early stopping at iteration 586, Best Score: 4564.65
Early stopping at iteration 624, Best Score: 4603.28
Early stopping at iteration 622, Best Score: 4598.75
Early stopping at iteration 708, Best Score: 4617.21
Early stopping at iteration 630, Best Score: 4642.06
Early stopping at iteration 519, Best Score: 4516.36
Early stopping at iteration 708, Best Score: 4636.36
Early stopping at iteration 738, Best Score: 4620.92
Early stopping at iteration 685, Best Score: 4625.27
Early stopping at iteration 596, Best Score: 4569.68
Early stopping at iteration 922, Best Score: 4643.62
Early stopping at iteration 552, Best Score: 4578.94
Early stopping at iteration 551, Best Score: 4528.66
Early stopping at iteration 554, Best Score: 4540.35
Early stopping at iteration 594, Best Score: 4601.46
Early stopping at iteration 614, Best Score: 4598.57
Early stopping at iteration 532, Best Score: 4541.19
Early stopping at iteration 672, Best Score: 4606.57
Early stopping at iteration 645, Best Score: 4636.10
Early stopping at iteration 602, Best Score: 4612.02
Early stopping at iteration 561, Best Score: 4588.77
Early stopping at iteration 596, Best Score: 4556.94
Early stopping at iteration 685, Best Score: 4637.43
Early stopping at iteration 649, Best Score: 4623.92
Early stopping at iteration 640, Best Score: 4613.65
Early stopping at iteration 637, Best Score: 4633.52
Early stopping at iteration 627, Best Score: 4632.05
Early stopping at iteration 627, Best Score: 4614.26
Early stopping at iteration 637, Best Score: 4625.13
Early stopping at iteration 711, Best Score: 4642.77
Early stopping at iteration 630, Best Score: 4597.97
Early stopping at iteration 626, Best Score: 4634.87
Early stopping at iteration 536, Best Score: 4519.50
Early stopping at iteration 617, Best Score: 4579.31
Early stopping at iteration 634, Best Score: 4565.01
Early stopping at iteration 828, Best Score: 4640.07
Early stopping at iteration 634, Best Score: 4614.22
Early stopping at iteration 622, Best Score: 4658.56
Early stopping at iteration 639, Best Score: 4590.46
Early stopping at iteration 632, Best Score: 4581.46
Early stopping at iteration 574, Best Score: 4581.98
GNN Trial 5 completed with 250 decks.

GNN Trial 6/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 8.2106, Synergy Loss: 3.1482, Total: 14.5070
Epoch 20/300 - Node Loss: 2.3338, Synergy Loss: 3.0291, Total: 8.3920
Epoch 30/300 - Node Loss: 1.3557, Synergy Loss: 2.9271, Total: 7.2099
Epoch 40/300 - Node Loss: 1.1194, Synergy Loss: 2.8336, Total: 6.7865
Epoch 50/300 - Node Loss: 1.0600, Synergy Loss: 2.7240, Total: 6.5080
Epoch 60/300 - Node Loss: 1.0485, Synergy Loss: 2.5987, Total: 6.2458
Epoch 70/300 - Node Loss: 1.0862, Synergy Loss: 2.3619, Total: 5.8100
Epoch 80/300 - Node Loss: 1.1086, Synergy Loss: 1.9446, Total: 4.9977
```

```
Epoch 90/300 - Node Loss: 1.1731, Synergy Loss: 1.5627, Total: 4.2985
Epoch 100/300 - Node Loss: 1.1702, Synergy Loss: 1.4340, Total: 4.0382
Epoch 110/300 - Node Loss: 1.1216, Synergy Loss: 1.3479, Total: 3.8174
Epoch 120/300 - Node Loss: 1.1012, Synergy Loss: 1.3104, Total: 3.7219
Epoch 130/300 - Node Loss: 1.1048, Synergy Loss: 1.2614, Total: 3.6276
Epoch 140/300 - Node Loss: 1.0724, Synergy Loss: 1.2803, Total: 3.6329
Epoch 150/300 - Node Loss: 1.0716, Synergy Loss: 1.2190, Total: 3.5096
Epoch 160/300 - Node Loss: 1.0538, Synergy Loss: 1.1360, Total: 3.3258
Epoch 170/300 - Node Loss: 1.0854, Synergy Loss: 1.1104, Total: 3.3063
Epoch 180/300 - Node Loss: 1.0459, Synergy Loss: 1.1573, Total: 3.3605
Epoch 190/300 - Node Loss: 1.0687, Synergy Loss: 1.1933, Total: 3.4554
Epoch 200/300 - Node Loss: 1.0711, Synergy Loss: 1.0580, Total: 3.1872
Epoch 210/300 - Node Loss: 1.0472, Synergy Loss: 1.0099, Total: 3.0669
Epoch 220/300 - Node Loss: 1.0492, Synergy Loss: 1.1666, Total: 3.3825
Epoch 230/300 - Node Loss: 1.0858, Synergy Loss: 1.2433, Total: 3.5724
Early stopping at epoch 232
Existing model archived to: 20250310_174414_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 575, Best Score: 4075.03
Early stopping at iteration 553, Best Score: 4070.24
Early stopping at iteration 580, Best Score: 4077.82
Early stopping at iteration 553, Best Score: 4073.60
Early stopping at iteration 571, Best Score: 4075.95
Early stopping at iteration 546, Best Score: 4071.60
Early stopping at iteration 777, Best Score: 4074.21
Early stopping at iteration 535, Best Score: 4078.62
Early stopping at iteration 938, Best Score: 4087.37
Early stopping at iteration 677, Best Score: 4082.43
Early stopping at iteration 722, Best Score: 4091.99
Early stopping at iteration 686, Best Score: 4087.33
Early stopping at iteration 578, Best Score: 4089.47
Early stopping at iteration 639, Best Score: 4088.68
Early stopping at iteration 582, Best Score: 4079.38
Early stopping at iteration 623, Best Score: 4080.46
Early stopping at iteration 653, Best Score: 4082.32
Early stopping at iteration 567, Best Score: 4069.62
Early stopping at iteration 545, Best Score: 4077.75
Early stopping at iteration 622, Best Score: 4088.99
Early stopping at iteration 610, Best Score: 4075.44
Early stopping at iteration 599, Best Score: 4084.39
Early stopping at iteration 551, Best Score: 4069.80
Early stopping at iteration 584, Best Score: 4081.99
Early stopping at iteration 573, Best Score: 4077.30
Early stopping at iteration 578, Best Score: 4075.96
Early stopping at iteration 532, Best Score: 4060.43
Early stopping at iteration 611, Best Score: 4093.80
Early stopping at iteration 657, Best Score: 4089.56
Early stopping at iteration 735, Best Score: 4089.58
Early stopping at iteration 589, Best Score: 4078.22
Early stopping at iteration 648, Best Score: 4090.15
Early stopping at iteration 571, Best Score: 4077.97
Early stopping at iteration 585, Best Score: 4085.16
Early stopping at iteration 867, Best Score: 4086.71
Early stopping at iteration 548, Best Score: 4072.82
Early stopping at iteration 526, Best Score: 4063.30
Early stopping at iteration 579, Best Score: 4083.12
Early stopping at iteration 772, Best Score: 4077.83
Early stopping at iteration 697, Best Score: 4084.27
Early stopping at iteration 601, Best Score: 4075.71
Early stopping at iteration 546, Best Score: 4065.94
```

```
Early stopping at iteration 607, Best Score: 4084.66
Early stopping at iteration 629, Best Score: 4084.96
Early stopping at iteration 595, Best Score: 4085.10
Early stopping at iteration 571, Best Score: 4070.96
Early stopping at iteration 612, Best Score: 4085.11
Early stopping at iteration 576, Best Score: 4075.27
Early stopping at iteration 573, Best Score: 4077.81
Early stopping at iteration 710, Best Score: 4090.79
Early stopping at iteration 594, Best Score: 4082.93
Early stopping at iteration 590, Best Score: 4074.73
Early stopping at iteration 583, Best Score: 4081.19
Early stopping at iteration 684, Best Score: 4083.59
Early stopping at iteration 581, Best Score: 4077.60
Early stopping at iteration 608, Best Score: 4081.78
Early stopping at iteration 645, Best Score: 4080.04
Early stopping at iteration 649, Best Score: 4083.87
Early stopping at iteration 678, Best Score: 4085.36
Early stopping at iteration 562, Best Score: 4068.17
Early stopping at iteration 630, Best Score: 4081.01
Early stopping at iteration 579, Best Score: 4082.58
Early stopping at iteration 601, Best Score: 4062.48
Early stopping at iteration 644, Best Score: 4086.76
Early stopping at iteration 611, Best Score: 4074.83
Early stopping at iteration 693, Best Score: 4078.02
Early stopping at iteration 649, Best Score: 4085.29
Early stopping at iteration 562, Best Score: 4079.51
Early stopping at iteration 573, Best Score: 4072.28
Early stopping at iteration 582, Best Score: 4071.08
Early stopping at iteration 690, Best Score: 4084.15
Early stopping at iteration 673, Best Score: 4073.93
Early stopping at iteration 665, Best Score: 4082.85
Early stopping at iteration 597, Best Score: 4082.04
Early stopping at iteration 583, Best Score: 4083.37
Early stopping at iteration 609, Best Score: 4076.29
Early stopping at iteration 659, Best Score: 4094.19
Early stopping at iteration 660, Best Score: 4092.07
Early stopping at iteration 613, Best Score: 4083.90
Early stopping at iteration 556, Best Score: 4084.67
Early stopping at iteration 565, Best Score: 4071.68
Early stopping at iteration 655, Best Score: 4086.09
Early stopping at iteration 593, Best Score: 4082.10
Early stopping at iteration 726, Best Score: 4096.27
Early stopping at iteration 580, Best Score: 4082.59
Early stopping at iteration 531, Best Score: 4063.19
Early stopping at iteration 634, Best Score: 4077.41
Early stopping at iteration 600, Best Score: 4077.67
Early stopping at iteration 644, Best Score: 4088.29
Early stopping at iteration 716, Best Score: 4093.53
Early stopping at iteration 712, Best Score: 4087.77
Early stopping at iteration 558, Best Score: 4089.54
Early stopping at iteration 573, Best Score: 4072.99
Early stopping at iteration 669, Best Score: 4075.11
Early stopping at iteration 620, Best Score: 4083.90
Early stopping at iteration 688, Best Score: 4090.04
Early stopping at iteration 606, Best Score: 4073.26
Early stopping at iteration 555, Best Score: 4069.96
Early stopping at iteration 668, Best Score: 4081.26
  Deck Trial 100/250
Early stopping at iteration 586, Best Score: 4078.56
Early stopping at iteration 702, Best Score: 4066.26
```

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Early stopping at iteration 601, Best Score: 4080.96
Early stopping at iteration 572, Best Score: 4081.66
Early stopping at iteration 540, Best Score: 4072.25
Early stopping at iteration 612, Best Score: 4082.24
Early stopping at iteration 589, Best Score: 4085.44
Early stopping at iteration 653, Best Score: 4082.26
Early stopping at iteration 577, Best Score: 4075.67
Early stopping at iteration 642, Best Score: 4096.54
Early stopping at iteration 629, Best Score: 4086.62
Early stopping at iteration 598, Best Score: 4087.43
Early stopping at iteration 567, Best Score: 4082.31
Early stopping at iteration 600, Best Score: 4069.06
Early stopping at iteration 622, Best Score: 4081.67
Early stopping at iteration 553, Best Score: 4079.70
Early stopping at iteration 606, Best Score: 4069.85
Early stopping at iteration 564, Best Score: 4074.37
Early stopping at iteration 771, Best Score: 4086.26
Early stopping at iteration 547, Best Score: 4059.23
Early stopping at iteration 535, Best Score: 4067.40
Early stopping at iteration 634, Best Score: 4079.92
Early stopping at iteration 738, Best Score: 4081.06
Early stopping at iteration 601, Best Score: 4087.75
Early stopping at iteration 770, Best Score: 4075.06
Early stopping at iteration 586, Best Score: 4075.98
Early stopping at iteration 673, Best Score: 4073.02
Early stopping at iteration 770, Best Score: 4098.76
Early stopping at iteration 602, Best Score: 4096.60
Early stopping at iteration 633, Best Score: 4083.31
Early stopping at iteration 540, Best Score: 4057.67
Early stopping at iteration 520, Best Score: 4057.51
Early stopping at iteration 578, Best Score: 4075.58
Early stopping at iteration 635, Best Score: 4077.04
Early stopping at iteration 588, Best Score: 4072.24
Early stopping at iteration 709, Best Score: 4096.13
Early stopping at iteration 541, Best Score: 4080.38
Early stopping at iteration 742, Best Score: 4088.31
Early stopping at iteration 582, Best Score: 4068.15
Early stopping at iteration 612, Best Score: 4085.71
Early stopping at iteration 591, Best Score: 4080.37
Early stopping at iteration 635, Best Score: 4083.31
Early stopping at iteration 656, Best Score: 4087.10
Early stopping at iteration 553, Best Score: 4084.75
Early stopping at iteration 1086, Best Score: 4076.25
Early stopping at iteration 637, Best Score: 4095.63
Early stopping at iteration 552, Best Score: 4070.29
Early stopping at iteration 551, Best Score: 4071.10
Early stopping at iteration 614, Best Score: 4091.79
Early stopping at iteration 579, Best Score: 4084.89
Early stopping at iteration 836, Best Score: 4083.97
Early stopping at iteration 618, Best Score: 4086.04
Early stopping at iteration 564, Best Score: 4072.35
Early stopping at iteration 1028, Best Score: 4106.19
Early stopping at iteration 696, Best Score: 4099.83
Early stopping at iteration 634, Best Score: 4091.05
Early stopping at iteration 550, Best Score: 4081.01
Early stopping at iteration 725, Best Score: 4095.77
Early stopping at iteration 615, Best Score: 4075.38
Early stopping at iteration 680, Best Score: 4098.83
Early stopping at iteration 536, Best Score: 4065.38
Early stopping at iteration 664, Best Score: 4089.96
```

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Early stopping at iteration 538, Best Score: 4073.38
Early stopping at iteration 734, Best Score: 4086.69
Early stopping at iteration 561, Best Score: 4065.57
Early stopping at iteration 596, Best Score: 4078.65
Early stopping at iteration 622, Best Score: 4092.79
Early stopping at iteration 702, Best Score: 4079.95
Early stopping at iteration 646, Best Score: 4082.49
Early stopping at iteration 745, Best Score: 4086.29
Early stopping at iteration 652, Best Score: 4080.20
Early stopping at iteration 532, Best Score: 4062.14
Early stopping at iteration 698, Best Score: 4083.46
Early stopping at iteration 604, Best Score: 4079.12
Early stopping at iteration 602, Best Score: 4082.10
Early stopping at iteration 554, Best Score: 4068.39
Early stopping at iteration 554, Best Score: 4074.88
Early stopping at iteration 690, Best Score: 4075.39
Early stopping at iteration 565, Best Score: 4079.55
Early stopping at iteration 610, Best Score: 4085.43
Early stopping at iteration 669, Best Score: 4083.40
Early stopping at iteration 600, Best Score: 4079.39
Early stopping at iteration 614, Best Score: 4082.94
Early stopping at iteration 544, Best Score: 4069.89
Early stopping at iteration 515, Best Score: 4064.48
Early stopping at iteration 597, Best Score: 4082.93
Early stopping at iteration 550, Best Score: 4076.15
Early stopping at iteration 706, Best Score: 4091.51
Early stopping at iteration 580, Best Score: 4095.92
Early stopping at iteration 532, Best Score: 4061.43
Early stopping at iteration 686, Best Score: 4098.10
Early stopping at iteration 634, Best Score: 4092.18
Early stopping at iteration 609, Best Score: 4080.23
Early stopping at iteration 534, Best Score: 4062.80
Early stopping at iteration 593, Best Score: 4077.47
Early stopping at iteration 586, Best Score: 4076.10
Early stopping at iteration 569, Best Score: 4079.49
Early stopping at iteration 549, Best Score: 4064.71
Early stopping at iteration 731, Best Score: 4086.47
Early stopping at iteration 595, Best Score: 4075.31
  Deck Trial 200/250
Early stopping at iteration 663, Best Score: 4084.37
Early stopping at iteration 979, Best Score: 4079.00
Early stopping at iteration 600, Best Score: 4081.05
Early stopping at iteration 977, Best Score: 4084.93
Early stopping at iteration 574, Best Score: 4079.60
Early stopping at iteration 622, Best Score: 4069.42
Early stopping at iteration 730, Best Score: 4084.05
Early stopping at iteration 590, Best Score: 4082.16
Early stopping at iteration 553, Best Score: 4069.92
Early stopping at iteration 628, Best Score: 4089.56
Early stopping at iteration 645, Best Score: 4085.87
Early stopping at iteration 1023, Best Score: 4106.02
Early stopping at iteration 671, Best Score: 4091.32
Early stopping at iteration 536, Best Score: 4069.53
Early stopping at iteration 538, Best Score: 4065.03
Early stopping at iteration 513, Best Score: 4055.73
Early stopping at iteration 519, Best Score: 4052.05
Early stopping at iteration 577, Best Score: 4081.67
Early stopping at iteration 890, Best Score: 4078.54
Early stopping at iteration 590, Best Score: 4084.94
Early stopping at iteration 580, Best Score: 4073.59
```

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Early stopping at iteration 700, Best Score: 4099.36
Early stopping at iteration 538, Best Score: 4069.05
Early stopping at iteration 579, Best Score: 4089.22
Early stopping at iteration 578, Best Score: 4075.58
Early stopping at iteration 620, Best Score: 4081.34
Early stopping at iteration 571, Best Score: 4083.99
Early stopping at iteration 527, Best Score: 4064.20
Early stopping at iteration 566, Best Score: 4073.77
Early stopping at iteration 555, Best Score: 4079.13
Early stopping at iteration 591, Best Score: 4066.55
Early stopping at iteration 534, Best Score: 4060.59
Early stopping at iteration 696, Best Score: 4078.18
Early stopping at iteration 576, Best Score: 4084.95
Early stopping at iteration 753, Best Score: 4094.67
Early stopping at iteration 790, Best Score: 4087.22
Early stopping at iteration 691, Best Score: 4090.37
Early stopping at iteration 583, Best Score: 4085.87
Early stopping at iteration 609, Best Score: 4076.54
Early stopping at iteration 580, Best Score: 4092.50
Early stopping at iteration 611, Best Score: 4068.26
Early stopping at iteration 529, Best Score: 4072.82
Early stopping at iteration 643, Best Score: 4087.64
Early stopping at iteration 595, Best Score: 4090.64
Early stopping at iteration 531, Best Score: 4059.10
Early stopping at iteration 568, Best Score: 4080.36
Early stopping at iteration 537, Best Score: 4067.39
Early stopping at iteration 545, Best Score: 4067.97
Early stopping at iteration 578, Best Score: 4076.61
Early stopping at iteration 651, Best Score: 4089.18
Early stopping at iteration 593, Best Score: 4072.77
GNN Trial 6 completed with 250 decks.

GNN Trial 7/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 44.7385, Synergy Loss: 3.4443, Total: 51.6272
Epoch 20/300 - Node Loss: 4.4525, Synergy Loss: 3.3037, Total: 11.0598
Epoch 30/300 - Node Loss: 1.9802, Synergy Loss: 3.2046, Total: 8.3893
Epoch 40/300 - Node Loss: 1.2426, Synergy Loss: 3.0927, Total: 7.4279
Epoch 50/300 - Node Loss: 1.0214, Synergy Loss: 2.9740, Total: 6.9693
Epoch 60/300 - Node Loss: 1.0066, Synergy Loss: 2.8524, Total: 6.7114
Epoch 70/300 - Node Loss: 1.0088, Synergy Loss: 2.7269, Total: 6.4627
Epoch 80/300 - Node Loss: 1.0033, Synergy Loss: 2.6134, Total: 6.2302
Epoch 90/300 - Node Loss: 1.0039, Synergy Loss: 2.5054, Total: 6.0147
Epoch 100/300 - Node Loss: 1.0116, Synergy Loss: 2.4066, Total: 5.8248
Epoch 110/300 - Node Loss: 1.0992, Synergy Loss: 2.2337, Total: 5.5666
Epoch 120/300 - Node Loss: 1.1132, Synergy Loss: 2.0407, Total: 5.1946
Epoch 130/300 - Node Loss: 1.4031, Synergy Loss: 1.7623, Total: 4.9278
Epoch 140/300 - Node Loss: 1.1701, Synergy Loss: 1.6290, Total: 4.4280
Epoch 150/300 - Node Loss: 1.3619, Synergy Loss: 1.4629, Total: 4.2878
Epoch 160/300 - Node Loss: 1.2719, Synergy Loss: 1.3817, Total: 4.0353
Epoch 170/300 - Node Loss: 1.2147, Synergy Loss: 1.3389, Total: 3.8925
Epoch 180/300 - Node Loss: 1.2048, Synergy Loss: 1.2554, Total: 3.7156
Epoch 190/300 - Node Loss: 1.2709, Synergy Loss: 1.1743, Total: 3.6196
Epoch 200/300 - Node Loss: 1.2066, Synergy Loss: 1.1135, Total: 3.4336
Epoch 210/300 - Node Loss: 1.2127, Synergy Loss: 1.0679, Total: 3.3484
Epoch 220/300 - Node Loss: 1.1944, Synergy Loss: 0.9922, Total: 3.1788
Epoch 230/300 - Node Loss: 1.1539, Synergy Loss: 1.0096, Total: 3.1731
Epoch 240/300 - Node Loss: 1.1539, Synergy Loss: 0.9571, Total: 3.0681
Epoch 250/300 - Node Loss: 1.1481, Synergy Loss: 1.0369, Total: 3.2219
Epoch 260/300 - Node Loss: 1.1588, Synergy Loss: 0.9520, Total: 3.0629
```

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Epoch 270/300 - Node Loss: 1.1535, Synergy Loss: 0.9026, Total: 2.9587
Epoch 280/300 - Node Loss: 1.1283, Synergy Loss: 0.8901, Total: 2.9086
Epoch 290/300 - Node Loss: 1.1450, Synergy Loss: 0.8462, Total: 2.8373
Epoch 300/300 - Node Loss: 1.1323, Synergy Loss: 0.8492, Total: 2.8307
Existing model archived to: 20250310_174837_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 656, Best Score: 4914.15
Early stopping at iteration 599, Best Score: 4892.79
Early stopping at iteration 547, Best Score: 4884.54
Early stopping at iteration 602, Best Score: 4896.14
Early stopping at iteration 582, Best Score: 4908.78
Early stopping at iteration 501, Best Score: 4840.89
Early stopping at iteration 586, Best Score: 4894.97
Early stopping at iteration 532, Best Score: 4869.20
Early stopping at iteration 531, Best Score: 4868.34
Early stopping at iteration 608, Best Score: 4899.22
Early stopping at iteration 700, Best Score: 4910.62
Early stopping at iteration 550, Best Score: 4894.36
Early stopping at iteration 624, Best Score: 4891.06
Early stopping at iteration 544, Best Score: 4880.46
Early stopping at iteration 577, Best Score: 4894.80
Early stopping at iteration 701, Best Score: 4936.19
Early stopping at iteration 588, Best Score: 4894.52
Early stopping at iteration 721, Best Score: 4922.62
Early stopping at iteration 629, Best Score: 4892.92
Early stopping at iteration 732, Best Score: 4923.56
Early stopping at iteration 584, Best Score: 4914.04
Early stopping at iteration 534, Best Score: 4892.66
Early stopping at iteration 726, Best Score: 4893.10
Early stopping at iteration 566, Best Score: 4883.71
Early stopping at iteration 690, Best Score: 4888.83
Early stopping at iteration 534, Best Score: 4866.38
Early stopping at iteration 504, Best Score: 4840.89
Early stopping at iteration 669, Best Score: 4880.51
Early stopping at iteration 683, Best Score: 4913.22
Early stopping at iteration 543, Best Score: 4900.80
Early stopping at iteration 534, Best Score: 4871.91
Early stopping at iteration 697, Best Score: 4921.05
Early stopping at iteration 775, Best Score: 4938.85
Early stopping at iteration 529, Best Score: 4855.81
Early stopping at iteration 528, Best Score: 4880.74
Early stopping at iteration 692, Best Score: 4907.38
Early stopping at iteration 526, Best Score: 4851.15
Early stopping at iteration 653, Best Score: 4906.24
Early stopping at iteration 538, Best Score: 4862.09
Early stopping at iteration 500, Best Score: 4837.97
Early stopping at iteration 552, Best Score: 4885.82
Early stopping at iteration 642, Best Score: 4914.45
Early stopping at iteration 654, Best Score: 4923.81
Early stopping at iteration 542, Best Score: 4862.80
Early stopping at iteration 558, Best Score: 4879.38
Early stopping at iteration 624, Best Score: 4911.02
Early stopping at iteration 528, Best Score: 4857.69
Early stopping at iteration 534, Best Score: 4863.75
Early stopping at iteration 552, Best Score: 4885.13
Early stopping at iteration 641, Best Score: 4936.23
Early stopping at iteration 503, Best Score: 4841.13
Early stopping at iteration 598, Best Score: 4912.87
Early stopping at iteration 617, Best Score: 4887.55
Early stopping at iteration 574, Best Score: 4868.96
```

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Early stopping at iteration 523, Best Score: 4878.34
Early stopping at iteration 545, Best Score: 4887.31
Early stopping at iteration 652, Best Score: 4917.77
Early stopping at iteration 829, Best Score: 4929.03
Early stopping at iteration 555, Best Score: 4894.85
Early stopping at iteration 540, Best Score: 4871.35
Early stopping at iteration 583, Best Score: 4925.01
Early stopping at iteration 690, Best Score: 4912.58
Early stopping at iteration 744, Best Score: 4924.23
Early stopping at iteration 563, Best Score: 4897.39
Early stopping at iteration 887, Best Score: 4936.30
Early stopping at iteration 549, Best Score: 4898.89
Early stopping at iteration 589, Best Score: 4908.85
Early stopping at iteration 560, Best Score: 4881.75
Early stopping at iteration 545, Best Score: 4850.51
Early stopping at iteration 720, Best Score: 4896.11
Early stopping at iteration 527, Best Score: 4875.38
Early stopping at iteration 524, Best Score: 4854.08
Early stopping at iteration 591, Best Score: 4904.05
Early stopping at iteration 563, Best Score: 4872.27
Early stopping at iteration 583, Best Score: 4904.60
Early stopping at iteration 714, Best Score: 4917.07
Early stopping at iteration 519, Best Score: 4848.88
Early stopping at iteration 746, Best Score: 4915.10
Early stopping at iteration 552, Best Score: 4887.70
Early stopping at iteration 504, Best Score: 4840.93
Early stopping at iteration 541, Best Score: 4890.53
Early stopping at iteration 828, Best Score: 4931.93
Early stopping at iteration 508, Best Score: 4866.85
Early stopping at iteration 582, Best Score: 4852.71
Early stopping at iteration 589, Best Score: 4882.55
Early stopping at iteration 794, Best Score: 4894.91
Early stopping at iteration 597, Best Score: 4902.02
Early stopping at iteration 551, Best Score: 4851.53
Early stopping at iteration 577, Best Score: 4890.04
Early stopping at iteration 630, Best Score: 4903.81
Early stopping at iteration 627, Best Score: 4898.01
Early stopping at iteration 749, Best Score: 4889.12
Early stopping at iteration 504, Best Score: 4844.53
Early stopping at iteration 578, Best Score: 4882.66
Early stopping at iteration 756, Best Score: 4915.94
Early stopping at iteration 635, Best Score: 4904.31
Early stopping at iteration 551, Best Score: 4910.08
Early stopping at iteration 552, Best Score: 4867.44
Early stopping at iteration 662, Best Score: 4893.19
  Deck Trial 100/250
Early stopping at iteration 585, Best Score: 4877.94
Early stopping at iteration 599, Best Score: 4884.98
Early stopping at iteration 719, Best Score: 4922.72
Early stopping at iteration 568, Best Score: 4884.40
Early stopping at iteration 739, Best Score: 4909.69
Early stopping at iteration 685, Best Score: 4913.21
Early stopping at iteration 512, Best Score: 4857.39
Early stopping at iteration 613, Best Score: 4896.91
Early stopping at iteration 507, Best Score: 4841.25
Early stopping at iteration 665, Best Score: 4896.90
Early stopping at iteration 578, Best Score: 4906.32
Early stopping at iteration 537, Best Score: 4898.21
Early stopping at iteration 559, Best Score: 4884.93
Early stopping at iteration 554, Best Score: 4844.85
```

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Early stopping at iteration 530, Best Score: 4854.59
Early stopping at iteration 628, Best Score: 4880.45
Early stopping at iteration 631, Best Score: 4903.10
Early stopping at iteration 590, Best Score: 4889.73
Early stopping at iteration 556, Best Score: 4884.08
Early stopping at iteration 653, Best Score: 4931.52
Early stopping at iteration 622, Best Score: 4927.66
Early stopping at iteration 743, Best Score: 4917.85
Early stopping at iteration 847, Best Score: 4933.87
Early stopping at iteration 860, Best Score: 4924.47
Early stopping at iteration 606, Best Score: 4907.07
Early stopping at iteration 638, Best Score: 4918.85
Early stopping at iteration 521, Best Score: 4854.52
Early stopping at iteration 619, Best Score: 4900.89
Early stopping at iteration 648, Best Score: 4905.74
Early stopping at iteration 616, Best Score: 4879.48
Early stopping at iteration 614, Best Score: 4914.94
Early stopping at iteration 571, Best Score: 4895.93
Early stopping at iteration 611, Best Score: 4906.61
Early stopping at iteration 551, Best Score: 4868.36
Early stopping at iteration 572, Best Score: 4897.51
Early stopping at iteration 513, Best Score: 4852.90
Early stopping at iteration 691, Best Score: 4917.65
Early stopping at iteration 667, Best Score: 4915.08
Early stopping at iteration 701, Best Score: 4916.29
Early stopping at iteration 504, Best Score: 4851.51
Early stopping at iteration 581, Best Score: 4905.28
Early stopping at iteration 603, Best Score: 4913.91
Early stopping at iteration 567, Best Score: 4896.75
Early stopping at iteration 574, Best Score: 4889.65
Early stopping at iteration 700, Best Score: 4905.10
Early stopping at iteration 572, Best Score: 4872.23
Early stopping at iteration 652, Best Score: 4926.95
Early stopping at iteration 501, Best Score: 4841.25
Early stopping at iteration 656, Best Score: 4928.75
Early stopping at iteration 622, Best Score: 4900.19
Early stopping at iteration 537, Best Score: 4872.42
Early stopping at iteration 694, Best Score: 4925.29
Early stopping at iteration 537, Best Score: 4872.59
Early stopping at iteration 688, Best Score: 4913.29
Early stopping at iteration 575, Best Score: 4914.52
Early stopping at iteration 584, Best Score: 4883.94
Early stopping at iteration 574, Best Score: 4873.93
Early stopping at iteration 514, Best Score: 4866.48
Early stopping at iteration 701, Best Score: 4903.87
Early stopping at iteration 660, Best Score: 4926.92
Early stopping at iteration 662, Best Score: 4910.62
Early stopping at iteration 640, Best Score: 4881.15
Early stopping at iteration 675, Best Score: 4927.49
Early stopping at iteration 600, Best Score: 4897.91
Early stopping at iteration 614, Best Score: 4893.16
Early stopping at iteration 632, Best Score: 4898.19
Early stopping at iteration 650, Best Score: 4913.43
Early stopping at iteration 509, Best Score: 4862.05
Early stopping at iteration 510, Best Score: 4845.61
Early stopping at iteration 683, Best Score: 4913.09
Early stopping at iteration 566, Best Score: 4875.25
Early stopping at iteration 673, Best Score: 4895.03
Early stopping at iteration 612, Best Score: 4897.60
Early stopping at iteration 534, Best Score: 4849.95
```

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Early stopping at iteration 504, Best Score: 4844.39
Early stopping at iteration 897, Best Score: 4901.06
Early stopping at iteration 633, Best Score: 4896.80
Early stopping at iteration 627, Best Score: 4881.88
Early stopping at iteration 627, Best Score: 4883.18
Early stopping at iteration 650, Best Score: 4893.01
Early stopping at iteration 572, Best Score: 4903.05
Early stopping at iteration 510, Best Score: 4846.23
Early stopping at iteration 616, Best Score: 4894.38
Early stopping at iteration 526, Best Score: 4869.08
Early stopping at iteration 545, Best Score: 4880.50
Early stopping at iteration 575, Best Score: 4891.64
Early stopping at iteration 642, Best Score: 4887.68
Early stopping at iteration 558, Best Score: 4892.50
Early stopping at iteration 558, Best Score: 4899.09
Early stopping at iteration 647, Best Score: 4921.82
Early stopping at iteration 502, Best Score: 4841.04
Early stopping at iteration 636, Best Score: 4891.21
Early stopping at iteration 525, Best Score: 4862.96
Early stopping at iteration 608, Best Score: 4898.02
Early stopping at iteration 666, Best Score: 4907.66
Early stopping at iteration 535, Best Score: 4861.78
Early stopping at iteration 647, Best Score: 4902.47
Early stopping at iteration 721, Best Score: 4928.59
Early stopping at iteration 524, Best Score: 4856.68
Early stopping at iteration 559, Best Score: 4888.63
  Deck Trial 200/250
Early stopping at iteration 655, Best Score: 4906.42
Early stopping at iteration 733, Best Score: 4897.75
Early stopping at iteration 585, Best Score: 4884.52
Early stopping at iteration 620, Best Score: 4908.31
Early stopping at iteration 642, Best Score: 4928.16
Early stopping at iteration 667, Best Score: 4921.41
Early stopping at iteration 637, Best Score: 4887.97
Early stopping at iteration 556, Best Score: 4862.60
Early stopping at iteration 625, Best Score: 4909.70
Early stopping at iteration 736, Best Score: 4907.97
Early stopping at iteration 839, Best Score: 4926.49
Early stopping at iteration 650, Best Score: 4906.79
Early stopping at iteration 547, Best Score: 4879.67
Early stopping at iteration 635, Best Score: 4918.37
Early stopping at iteration 526, Best Score: 4854.36
Early stopping at iteration 562, Best Score: 4899.11
Early stopping at iteration 598, Best Score: 4894.41
Early stopping at iteration 840, Best Score: 4920.86
Early stopping at iteration 665, Best Score: 4902.75
Early stopping at iteration 531, Best Score: 4859.04
Early stopping at iteration 641, Best Score: 4896.37
Early stopping at iteration 618, Best Score: 4898.68
Early stopping at iteration 554, Best Score: 4854.26
Early stopping at iteration 588, Best Score: 4888.78
Early stopping at iteration 750, Best Score: 4936.68
Early stopping at iteration 731, Best Score: 4938.91
Early stopping at iteration 591, Best Score: 4904.43
Early stopping at iteration 614, Best Score: 4916.70
Early stopping at iteration 620, Best Score: 4893.86
Early stopping at iteration 617, Best Score: 4898.69
Early stopping at iteration 509, Best Score: 4863.14
Early stopping at iteration 612, Best Score: 4921.11
Early stopping at iteration 543, Best Score: 4897.16
```

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Early stopping at iteration 658, Best Score: 4918.45
Early stopping at iteration 602, Best Score: 4914.37
Early stopping at iteration 739, Best Score: 4915.50
Early stopping at iteration 577, Best Score: 4887.36
Early stopping at iteration 579, Best Score: 4870.16
Early stopping at iteration 758, Best Score: 4910.95
Early stopping at iteration 539, Best Score: 4863.66
Early stopping at iteration 595, Best Score: 4905.23
Early stopping at iteration 773, Best Score: 4929.81
Early stopping at iteration 535, Best Score: 4857.82
Early stopping at iteration 792, Best Score: 4915.17
Early stopping at iteration 637, Best Score: 4909.72
Early stopping at iteration 729, Best Score: 4924.63
Early stopping at iteration 536, Best Score: 4870.30
Early stopping at iteration 560, Best Score: 4880.89
Early stopping at iteration 578, Best Score: 4884.85
Early stopping at iteration 831, Best Score: 4918.96
Early stopping at iteration 578, Best Score: 4894.31
GNN Trial 7 completed with 250 decks.

GNN Trial 8/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 42.0846, Synergy Loss: 3.1843, Total: 48.4532
Epoch 20/300 - Node Loss: 5.4456, Synergy Loss: 2.9735, Total: 11.3926
Epoch 30/300 - Node Loss: 2.8673, Synergy Loss: 2.7980, Total: 8.4633
Epoch 40/300 - Node Loss: 1.5529, Synergy Loss: 2.6108, Total: 6.7744
Epoch 50/300 - Node Loss: 1.1426, Synergy Loss: 2.4144, Total: 5.9714
Epoch 60/300 - Node Loss: 1.0554, Synergy Loss: 2.3345, Total: 5.7244
Epoch 70/300 - Node Loss: 1.2127, Synergy Loss: 2.0165, Total: 5.2458
Epoch 80/300 - Node Loss: 1.4514, Synergy Loss: 1.4230, Total: 4.2974
Epoch 90/300 - Node Loss: 1.3739, Synergy Loss: 1.2980, Total: 3.9699
Epoch 100/300 - Node Loss: 1.3229, Synergy Loss: 1.2630, Total: 3.8488
Epoch 110/300 - Node Loss: 1.2088, Synergy Loss: 1.2740, Total: 3.7567
Epoch 120/300 - Node Loss: 1.3789, Synergy Loss: 2.1735, Total: 5.7259
Epoch 130/300 - Node Loss: 1.3455, Synergy Loss: 1.0634, Total: 3.4723
Epoch 140/300 - Node Loss: 1.3343, Synergy Loss: 0.9745, Total: 3.2833
Epoch 150/300 - Node Loss: 1.2609, Synergy Loss: 0.9107, Total: 3.0823
Epoch 160/300 - Node Loss: 1.2051, Synergy Loss: 0.8821, Total: 2.9694
Epoch 170/300 - Node Loss: 1.2587, Synergy Loss: 0.8439, Total: 2.9465
Epoch 180/300 - Node Loss: 1.2430, Synergy Loss: 0.8853, Total: 3.0137
Epoch 190/300 - Node Loss: 1.1287, Synergy Loss: 0.9129, Total: 2.9546
Epoch 200/300 - Node Loss: 1.1509, Synergy Loss: 0.8078, Total: 2.7666
Epoch 210/300 - Node Loss: 1.1748, Synergy Loss: 0.7795, Total: 2.7338
Epoch 220/300 - Node Loss: 1.1303, Synergy Loss: 0.7642, Total: 2.6588
Epoch 230/300 - Node Loss: 1.0959, Synergy Loss: 0.7379, Total: 2.5717
Epoch 240/300 - Node Loss: 1.1493, Synergy Loss: 0.7164, Total: 2.5821
Epoch 250/300 - Node Loss: 1.1514, Synergy Loss: 0.7129, Total: 2.5773
Early stopping at epoch 250
Existing model archived to: 20250310_175230_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 551, Best Score: 4501.70
Early stopping at iteration 690, Best Score: 4509.51
Early stopping at iteration 500, Best Score: 4473.72
Early stopping at iteration 527, Best Score: 4484.09
Early stopping at iteration 548, Best Score: 4510.15
Early stopping at iteration 745, Best Score: 4541.23
Early stopping at iteration 566, Best Score: 4501.39
Early stopping at iteration 602, Best Score: 4497.81
Early stopping at iteration 514, Best Score: 4481.93
Early stopping at iteration 603, Best Score: 4521.19
```

```
Early stopping at iteration 504, Best Score: 4476.38
Early stopping at iteration 635, Best Score: 4502.47
Early stopping at iteration 515, Best Score: 4477.44
Early stopping at iteration 569, Best Score: 4528.41
Early stopping at iteration 628, Best Score: 4501.60
Early stopping at iteration 555, Best Score: 4508.86
Early stopping at iteration 658, Best Score: 4530.58
Early stopping at iteration 742, Best Score: 4507.57
Early stopping at iteration 546, Best Score: 4505.67
Early stopping at iteration 616, Best Score: 4510.59
Early stopping at iteration 523, Best Score: 4488.73
Early stopping at iteration 906, Best Score: 4563.57
Early stopping at iteration 662, Best Score: 4536.98
Early stopping at iteration 594, Best Score: 4522.42
Early stopping at iteration 541, Best Score: 4512.27
Early stopping at iteration 626, Best Score: 4529.95
Early stopping at iteration 571, Best Score: 4497.49
Early stopping at iteration 651, Best Score: 4535.63
Early stopping at iteration 732, Best Score: 4507.45
Early stopping at iteration 693, Best Score: 4560.79
Early stopping at iteration 533, Best Score: 4507.27
Early stopping at iteration 636, Best Score: 4540.75
Early stopping at iteration 519, Best Score: 4479.51
Early stopping at iteration 629, Best Score: 4518.13
Early stopping at iteration 528, Best Score: 4487.16
Early stopping at iteration 668, Best Score: 4535.60
Early stopping at iteration 578, Best Score: 4520.46
Early stopping at iteration 794, Best Score: 4521.86
Early stopping at iteration 521, Best Score: 4486.33
Early stopping at iteration 671, Best Score: 4525.49
Early stopping at iteration 514, Best Score: 4490.05
Early stopping at iteration 525, Best Score: 4487.61
Early stopping at iteration 682, Best Score: 4561.84
Early stopping at iteration 568, Best Score: 4504.61
Early stopping at iteration 501, Best Score: 4474.74
Early stopping at iteration 538, Best Score: 4510.66
Early stopping at iteration 541, Best Score: 4513.77
Early stopping at iteration 797, Best Score: 4554.63
Early stopping at iteration 536, Best Score: 4505.79
Early stopping at iteration 575, Best Score: 4514.57
Early stopping at iteration 569, Best Score: 4515.80
Early stopping at iteration 597, Best Score: 4509.35
Early stopping at iteration 529, Best Score: 4484.73
Early stopping at iteration 605, Best Score: 4504.67
Early stopping at iteration 788, Best Score: 4502.11
Early stopping at iteration 656, Best Score: 4539.96
Early stopping at iteration 522, Best Score: 4489.26
Early stopping at iteration 601, Best Score: 4539.88
Early stopping at iteration 575, Best Score: 4508.68
Early stopping at iteration 544, Best Score: 4514.36
Early stopping at iteration 645, Best Score: 4531.85
Early stopping at iteration 574, Best Score: 4501.26
Early stopping at iteration 502, Best Score: 4474.77
Early stopping at iteration 574, Best Score: 4507.42
Early stopping at iteration 638, Best Score: 4523.43
Early stopping at iteration 549, Best Score: 4497.36
Early stopping at iteration 616, Best Score: 4505.71
Early stopping at iteration 579, Best Score: 4523.51
Early stopping at iteration 670, Best Score: 4558.12
Early stopping at iteration 622, Best Score: 4535.70
```

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Early stopping at iteration 607, Best Score: 4511.62
Early stopping at iteration 553, Best Score: 4512.57
Early stopping at iteration 580, Best Score: 4523.31
Early stopping at iteration 662, Best Score: 4558.77
Early stopping at iteration 553, Best Score: 4492.95
Early stopping at iteration 608, Best Score: 4516.89
Early stopping at iteration 665, Best Score: 4527.15
Early stopping at iteration 623, Best Score: 4520.17
Early stopping at iteration 918, Best Score: 4567.37
Early stopping at iteration 619, Best Score: 4519.53
Early stopping at iteration 551, Best Score: 4496.23
Early stopping at iteration 587, Best Score: 4507.37
Early stopping at iteration 609, Best Score: 4498.47
Early stopping at iteration 669, Best Score: 4504.27
Early stopping at iteration 507, Best Score: 4482.59
Early stopping at iteration 504, Best Score: 4481.02
Early stopping at iteration 781, Best Score: 4549.02
Early stopping at iteration 575, Best Score: 4512.90
Early stopping at iteration 577, Best Score: 4511.02
Early stopping at iteration 638, Best Score: 4522.63
Early stopping at iteration 1021, Best Score: 4534.77
Early stopping at iteration 610, Best Score: 4528.43
Early stopping at iteration 580, Best Score: 4507.76
Early stopping at iteration 593, Best Score: 4515.07
Early stopping at iteration 819, Best Score: 4519.82
Early stopping at iteration 546, Best Score: 4492.63
Early stopping at iteration 550, Best Score: 4511.41
Early stopping at iteration 566, Best Score: 4501.50
Early stopping at iteration 643, Best Score: 4492.05
  Deck Trial 100/250
Early stopping at iteration 603, Best Score: 4522.48
Early stopping at iteration 539, Best Score: 4504.36
Early stopping at iteration 572, Best Score: 4498.94
Early stopping at iteration 526, Best Score: 4488.76
Early stopping at iteration 617, Best Score: 4524.64
Early stopping at iteration 524, Best Score: 4483.78
Early stopping at iteration 515, Best Score: 4487.00
Early stopping at iteration 568, Best Score: 4510.62
Early stopping at iteration 579, Best Score: 4499.15
Early stopping at iteration 685, Best Score: 4509.26
Early stopping at iteration 558, Best Score: 4498.62
Early stopping at iteration 532, Best Score: 4491.08
Early stopping at iteration 682, Best Score: 4553.64
Early stopping at iteration 614, Best Score: 4533.74
Early stopping at iteration 567, Best Score: 4508.93
Early stopping at iteration 507, Best Score: 4483.86
Early stopping at iteration 721, Best Score: 4523.46
Early stopping at iteration 863, Best Score: 4549.78
Early stopping at iteration 646, Best Score: 4511.51
Early stopping at iteration 685, Best Score: 4530.74
Early stopping at iteration 586, Best Score: 4513.95
Early stopping at iteration 602, Best Score: 4517.95
Early stopping at iteration 814, Best Score: 4540.15
Early stopping at iteration 514, Best Score: 4487.93
Early stopping at iteration 542, Best Score: 4515.22
Early stopping at iteration 652, Best Score: 4515.13
Early stopping at iteration 585, Best Score: 4500.67
Early stopping at iteration 608, Best Score: 4494.57
Early stopping at iteration 698, Best Score: 4513.76
Early stopping at iteration 580, Best Score: 4532.63
```

```
Early stopping at iteration 757, Best Score: 4539.50
Early stopping at iteration 584, Best Score: 4519.86
Early stopping at iteration 556, Best Score: 4488.95
Early stopping at iteration 612, Best Score: 4522.94
Early stopping at iteration 569, Best Score: 4502.23
Early stopping at iteration 629, Best Score: 4519.67
Early stopping at iteration 501, Best Score: 4476.75
Early stopping at iteration 553, Best Score: 4508.40
Early stopping at iteration 620, Best Score: 4514.94
Early stopping at iteration 559, Best Score: 4489.92
Early stopping at iteration 836, Best Score: 4546.26
Early stopping at iteration 561, Best Score: 4503.06
Early stopping at iteration 709, Best Score: 4532.66
Early stopping at iteration 527, Best Score: 4493.88
Early stopping at iteration 573, Best Score: 4505.22
Early stopping at iteration 593, Best Score: 4516.25
Early stopping at iteration 606, Best Score: 4508.44
Early stopping at iteration 704, Best Score: 4522.31
Early stopping at iteration 504, Best Score: 4476.75
Early stopping at iteration 894, Best Score: 4532.61
Early stopping at iteration 568, Best Score: 4500.44
Early stopping at iteration 614, Best Score: 4534.72
Early stopping at iteration 622, Best Score: 4516.92
Early stopping at iteration 594, Best Score: 4517.48
Early stopping at iteration 616, Best Score: 4528.75
Early stopping at iteration 594, Best Score: 4517.85
Early stopping at iteration 514, Best Score: 4490.64
Early stopping at iteration 560, Best Score: 4499.64
Early stopping at iteration 627, Best Score: 4508.97
Early stopping at iteration 615, Best Score: 4538.04
Early stopping at iteration 587, Best Score: 4506.87
Early stopping at iteration 639, Best Score: 4530.64
Early stopping at iteration 600, Best Score: 4507.70
Early stopping at iteration 645, Best Score: 4525.21
Early stopping at iteration 536, Best Score: 4500.09
Early stopping at iteration 601, Best Score: 4523.26
Early stopping at iteration 628, Best Score: 4506.41
Early stopping at iteration 589, Best Score: 4500.75
Early stopping at iteration 582, Best Score: 4506.16
Early stopping at iteration 535, Best Score: 4505.53
Early stopping at iteration 573, Best Score: 4509.80
Early stopping at iteration 648, Best Score: 4514.22
Early stopping at iteration 504, Best Score: 4480.35
Early stopping at iteration 751, Best Score: 4539.25
Early stopping at iteration 587, Best Score: 4511.31
Early stopping at iteration 720, Best Score: 4510.73
Early stopping at iteration 531, Best Score: 4481.24
Early stopping at iteration 694, Best Score: 4546.35
Early stopping at iteration 678, Best Score: 4533.88
Early stopping at iteration 592, Best Score: 4519.21
Early stopping at iteration 520, Best Score: 4484.06
Early stopping at iteration 681, Best Score: 4533.80
Early stopping at iteration 644, Best Score: 4528.27
Early stopping at iteration 605, Best Score: 4522.63
Early stopping at iteration 530, Best Score: 4481.82
Early stopping at iteration 561, Best Score: 4493.76
Early stopping at iteration 678, Best Score: 4534.77
Early stopping at iteration 556, Best Score: 4503.52
Early stopping at iteration 637, Best Score: 4508.58
Early stopping at iteration 577, Best Score: 4519.47
```

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Early stopping at iteration 817, Best Score: 4532.52
Early stopping at iteration 686, Best Score: 4529.93
Early stopping at iteration 719, Best Score: 4533.83
Early stopping at iteration 687, Best Score: 4529.26
Early stopping at iteration 540, Best Score: 4495.64
Early stopping at iteration 695, Best Score: 4527.31
Early stopping at iteration 660, Best Score: 4530.37
Early stopping at iteration 526, Best Score: 4481.95
Early stopping at iteration 621, Best Score: 4524.20
Early stopping at iteration 521, Best Score: 4493.56
  Deck Trial 200/250
Early stopping at iteration 649, Best Score: 4533.33
Early stopping at iteration 632, Best Score: 4532.22
Early stopping at iteration 702, Best Score: 4530.72
Early stopping at iteration 552, Best Score: 4491.97
Early stopping at iteration 604, Best Score: 4506.80
Early stopping at iteration 586, Best Score: 4505.78
Early stopping at iteration 580, Best Score: 4509.29
Early stopping at iteration 539, Best Score: 4493.29
Early stopping at iteration 677, Best Score: 4539.53
Early stopping at iteration 544, Best Score: 4509.68
Early stopping at iteration 585, Best Score: 4493.90
Early stopping at iteration 526, Best Score: 4486.84
Early stopping at iteration 584, Best Score: 4531.97
Early stopping at iteration 657, Best Score: 4495.08
Early stopping at iteration 572, Best Score: 4530.07
Early stopping at iteration 591, Best Score: 4515.52
Early stopping at iteration 525, Best Score: 4498.80
Early stopping at iteration 649, Best Score: 4546.03
Early stopping at iteration 673, Best Score: 4545.89
Early stopping at iteration 677, Best Score: 4549.47
Early stopping at iteration 855, Best Score: 4538.35
Early stopping at iteration 684, Best Score: 4546.47
Early stopping at iteration 500, Best Score: 4473.72
Early stopping at iteration 506, Best Score: 4476.75
Early stopping at iteration 683, Best Score: 4511.49
Early stopping at iteration 542, Best Score: 4500.99
Early stopping at iteration 602, Best Score: 4517.49
Early stopping at iteration 553, Best Score: 4490.97
Early stopping at iteration 543, Best Score: 4485.71
Early stopping at iteration 706, Best Score: 4531.99
Early stopping at iteration 525, Best Score: 4488.20
Early stopping at iteration 505, Best Score: 4482.90
Early stopping at iteration 754, Best Score: 4536.66
Early stopping at iteration 611, Best Score: 4527.76
Early stopping at iteration 661, Best Score: 4542.50
Early stopping at iteration 916, Best Score: 4522.73
Early stopping at iteration 725, Best Score: 4536.07
Early stopping at iteration 631, Best Score: 4500.13
Early stopping at iteration 633, Best Score: 4525.85
Early stopping at iteration 758, Best Score: 4542.82
Early stopping at iteration 531, Best Score: 4498.12
Early stopping at iteration 506, Best Score: 4476.75
Early stopping at iteration 517, Best Score: 4486.02
Early stopping at iteration 654, Best Score: 4518.42
Early stopping at iteration 511, Best Score: 4484.73
Early stopping at iteration 675, Best Score: 4524.99
Early stopping at iteration 525, Best Score: 4497.14
Early stopping at iteration 615, Best Score: 4539.12
Early stopping at iteration 666, Best Score: 4512.36
```

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Early stopping at iteration 591, Best Score: 4493.25
Early stopping at iteration 500, Best Score: 4473.72
GNN Trial 8 completed with 250 decks.

GNN Trial 9/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 39.6526, Synergy Loss: 3.6150, Total: 46.8825
Epoch 20/300 - Node Loss: 6.0548, Synergy Loss: 3.4754, Total: 13.0056
Epoch 30/300 - Node Loss: 2.3125, Synergy Loss: 3.3448, Total: 9.0021
Epoch 40/300 - Node Loss: 1.3033, Synergy Loss: 3.1763, Total: 7.6559
Epoch 50/300 - Node Loss: 1.0325, Synergy Loss: 2.9940, Total: 7.0206
Epoch 60/300 - Node Loss: 1.0017, Synergy Loss: 2.7799, Total: 6.5614
Epoch 70/300 - Node Loss: 1.0127, Synergy Loss: 2.6115, Total: 6.2357
Epoch 80/300 - Node Loss: 1.0237, Synergy Loss: 2.4621, Total: 5.9478
Epoch 90/300 - Node Loss: 1.0375, Synergy Loss: 2.2766, Total: 5.5906
Epoch 100/300 - Node Loss: 1.0391, Synergy Loss: 2.1949, Total: 5.4288
Epoch 110/300 - Node Loss: 1.0352, Synergy Loss: 2.1337, Total: 5.3025
Epoch 120/300 - Node Loss: 1.1245, Synergy Loss: 2.0375, Total: 5.1996
Epoch 130/300 - Node Loss: 1.0807, Synergy Loss: 1.9493, Total: 4.9793
Epoch 140/300 - Node Loss: 1.1261, Synergy Loss: 1.8337, Total: 4.7935
Epoch 150/300 - Node Loss: 1.1662, Synergy Loss: 1.6933, Total: 4.5528
Epoch 160/300 - Node Loss: 1.0760, Synergy Loss: 1.7785, Total: 4.6330
Epoch 170/300 - Node Loss: 1.3342, Synergy Loss: 1.5131, Total: 4.3605
Early stopping at epoch 174
Existing model archived to: 20250310_175541_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 681, Best Score: 3232.32
Early stopping at iteration 993, Best Score: 3224.91
Early stopping at iteration 665, Best Score: 3222.37
Early stopping at iteration 687, Best Score: 3231.98
Early stopping at iteration 665, Best Score: 3221.37
Early stopping at iteration 584, Best Score: 3219.90
Early stopping at iteration 525, Best Score: 3202.89
Early stopping at iteration 599, Best Score: 3214.29
Early stopping at iteration 854, Best Score: 3239.98
Early stopping at iteration 615, Best Score: 3217.06
Early stopping at iteration 647, Best Score: 3230.64
Early stopping at iteration 809, Best Score: 3219.26
Early stopping at iteration 576, Best Score: 3205.45
Early stopping at iteration 628, Best Score: 3214.46
Early stopping at iteration 588, Best Score: 3214.90
Early stopping at iteration 591, Best Score: 3223.34
Early stopping at iteration 523, Best Score: 3193.11
Early stopping at iteration 595, Best Score: 3214.59
Early stopping at iteration 529, Best Score: 3199.91
Early stopping at iteration 555, Best Score: 3208.09
Early stopping at iteration 584, Best Score: 3214.03
Early stopping at iteration 736, Best Score: 3227.81
Early stopping at iteration 578, Best Score: 3222.09
Early stopping at iteration 653, Best Score: 3228.90
Early stopping at iteration 631, Best Score: 3233.10
Early stopping at iteration 560, Best Score: 3198.49
Early stopping at iteration 625, Best Score: 3227.81
Early stopping at iteration 675, Best Score: 3225.83
Early stopping at iteration 545, Best Score: 3215.46
Early stopping at iteration 548, Best Score: 3203.63
Early stopping at iteration 515, Best Score: 3199.47
Early stopping at iteration 777, Best Score: 3240.14
Early stopping at iteration 748, Best Score: 3234.59
Early stopping at iteration 622, Best Score: 3216.45
```

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Early stopping at iteration 650, Best Score: 3219.61
Early stopping at iteration 606, Best Score: 3218.45
Early stopping at iteration 607, Best Score: 3225.21
Early stopping at iteration 565, Best Score: 3209.42
Early stopping at iteration 682, Best Score: 3217.96
Early stopping at iteration 606, Best Score: 3233.56
Early stopping at iteration 638, Best Score: 3230.38
Early stopping at iteration 625, Best Score: 3213.13
Early stopping at iteration 838, Best Score: 3229.77
Early stopping at iteration 714, Best Score: 3228.32
Early stopping at iteration 642, Best Score: 3227.66
Early stopping at iteration 538, Best Score: 3211.11
Early stopping at iteration 625, Best Score: 3216.10
Early stopping at iteration 611, Best Score: 3218.10
Early stopping at iteration 762, Best Score: 3229.76
Early stopping at iteration 536, Best Score: 3212.45
Early stopping at iteration 586, Best Score: 3223.00
Early stopping at iteration 611, Best Score: 3212.61
Early stopping at iteration 580, Best Score: 3220.70
Early stopping at iteration 563, Best Score: 3227.99
Early stopping at iteration 628, Best Score: 3216.62
Early stopping at iteration 812, Best Score: 3229.84
Early stopping at iteration 589, Best Score: 3206.42
Early stopping at iteration 543, Best Score: 3215.43
Early stopping at iteration 678, Best Score: 3236.68
Early stopping at iteration 568, Best Score: 3211.84
Early stopping at iteration 540, Best Score: 3203.33
Early stopping at iteration 625, Best Score: 3214.14
Early stopping at iteration 576, Best Score: 3212.06
Early stopping at iteration 579, Best Score: 3203.66
Early stopping at iteration 570, Best Score: 3219.42
Early stopping at iteration 548, Best Score: 3217.64
Early stopping at iteration 640, Best Score: 3229.66
Early stopping at iteration 605, Best Score: 3211.76
Early stopping at iteration 791, Best Score: 3226.68
Early stopping at iteration 1087, Best Score: 3210.11
Early stopping at iteration 639, Best Score: 3233.00
Early stopping at iteration 935, Best Score: 3211.69
Early stopping at iteration 622, Best Score: 3211.98
Early stopping at iteration 553, Best Score: 3204.96
Early stopping at iteration 632, Best Score: 3220.31
Early stopping at iteration 611, Best Score: 3216.46
Early stopping at iteration 781, Best Score: 3207.00
Early stopping at iteration 540, Best Score: 3198.51
Early stopping at iteration 570, Best Score: 3215.17
Early stopping at iteration 666, Best Score: 3229.70
Early stopping at iteration 938, Best Score: 3210.04
Early stopping at iteration 690, Best Score: 3229.26
Early stopping at iteration 596, Best Score: 3221.50
Early stopping at iteration 634, Best Score: 3223.67
Early stopping at iteration 772, Best Score: 3223.00
Early stopping at iteration 512, Best Score: 3204.62
Early stopping at iteration 579, Best Score: 3219.10
Early stopping at iteration 602, Best Score: 3220.42
Early stopping at iteration 723, Best Score: 3230.46
Early stopping at iteration 605, Best Score: 3218.97
Early stopping at iteration 578, Best Score: 3207.03
Early stopping at iteration 611, Best Score: 3215.77
Early stopping at iteration 535, Best Score: 3213.50
Early stopping at iteration 759, Best Score: 3214.02
```

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Early stopping at iteration 605, Best Score: 3222.70
Early stopping at iteration 574, Best Score: 3206.94
Early stopping at iteration 671, Best Score: 3218.63
Early stopping at iteration 739, Best Score: 3230.45
Early stopping at iteration 650, Best Score: 3237.47
  Deck Trial 100/250
Early stopping at iteration 618, Best Score: 3218.12
Early stopping at iteration 590, Best Score: 3224.39
Early stopping at iteration 584, Best Score: 3217.74
Early stopping at iteration 580, Best Score: 3221.79
Early stopping at iteration 613, Best Score: 3216.59
Early stopping at iteration 576, Best Score: 3216.00
Early stopping at iteration 600, Best Score: 3222.94
Early stopping at iteration 616, Best Score: 3221.54
Early stopping at iteration 678, Best Score: 3231.53
Early stopping at iteration 700, Best Score: 3233.77
Early stopping at iteration 571, Best Score: 3208.32
Early stopping at iteration 576, Best Score: 3212.68
Early stopping at iteration 671, Best Score: 3227.13
Early stopping at iteration 820, Best Score: 3232.18
Early stopping at iteration 893, Best Score: 3240.51
Early stopping at iteration 584, Best Score: 3227.19
Early stopping at iteration 595, Best Score: 3224.16
Early stopping at iteration 675, Best Score: 3221.98
Early stopping at iteration 674, Best Score: 3227.31
Early stopping at iteration 662, Best Score: 3226.85
Early stopping at iteration 723, Best Score: 3219.22
Early stopping at iteration 565, Best Score: 3205.91
Early stopping at iteration 572, Best Score: 3203.00
Early stopping at iteration 528, Best Score: 3196.48
Early stopping at iteration 555, Best Score: 3205.50
Early stopping at iteration 642, Best Score: 3233.33
Early stopping at iteration 810, Best Score: 3228.13
Early stopping at iteration 659, Best Score: 3231.91
Early stopping at iteration 692, Best Score: 3235.62
Early stopping at iteration 641, Best Score: 3218.53
Early stopping at iteration 593, Best Score: 3222.39
Early stopping at iteration 644, Best Score: 3216.43
Early stopping at iteration 665, Best Score: 3227.34
Early stopping at iteration 838, Best Score: 3228.50
Early stopping at iteration 624, Best Score: 3219.13
Early stopping at iteration 622, Best Score: 3209.81
Early stopping at iteration 717, Best Score: 3232.45
Early stopping at iteration 658, Best Score: 3231.87
Early stopping at iteration 595, Best Score: 3226.35
Early stopping at iteration 590, Best Score: 3220.16
Early stopping at iteration 619, Best Score: 3216.25
Early stopping at iteration 586, Best Score: 3215.79
Early stopping at iteration 601, Best Score: 3223.63
Early stopping at iteration 681, Best Score: 3211.81
Early stopping at iteration 695, Best Score: 3202.33
Early stopping at iteration 616, Best Score: 3221.33
Early stopping at iteration 796, Best Score: 3234.34
Early stopping at iteration 643, Best Score: 3230.46
Early stopping at iteration 746, Best Score: 3226.20
Early stopping at iteration 575, Best Score: 3212.37
Early stopping at iteration 616, Best Score: 3229.27
Early stopping at iteration 565, Best Score: 3216.37
Early stopping at iteration 586, Best Score: 3211.56
Early stopping at iteration 564, Best Score: 3223.20
```

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Early stopping at iteration 548, Best Score: 3204.95
Early stopping at iteration 809, Best Score: 3222.52
Early stopping at iteration 625, Best Score: 3221.80
Early stopping at iteration 524, Best Score: 3197.75
Early stopping at iteration 520, Best Score: 3206.56
Early stopping at iteration 587, Best Score: 3221.95
Early stopping at iteration 544, Best Score: 3211.79
Early stopping at iteration 582, Best Score: 3213.99
Early stopping at iteration 556, Best Score: 3215.81
Early stopping at iteration 545, Best Score: 3207.18
Early stopping at iteration 526, Best Score: 3206.72
Early stopping at iteration 733, Best Score: 3236.21
Early stopping at iteration 611, Best Score: 3230.22
Early stopping at iteration 804, Best Score: 3213.94
Early stopping at iteration 593, Best Score: 3223.02
Early stopping at iteration 635, Best Score: 3237.76
Early stopping at iteration 579, Best Score: 3212.55
Early stopping at iteration 1075, Best Score: 3232.97
Early stopping at iteration 691, Best Score: 3228.93
Early stopping at iteration 655, Best Score: 3207.55
Early stopping at iteration 644, Best Score: 3218.11
Early stopping at iteration 627, Best Score: 3212.21
Early stopping at iteration 605, Best Score: 3222.88
Early stopping at iteration 633, Best Score: 3233.65
Early stopping at iteration 582, Best Score: 3212.16
Early stopping at iteration 587, Best Score: 3213.28
Early stopping at iteration 606, Best Score: 3206.62
Early stopping at iteration 561, Best Score: 3211.10
Early stopping at iteration 589, Best Score: 3226.42
Early stopping at iteration 645, Best Score: 3232.92
Early stopping at iteration 598, Best Score: 3213.38
Early stopping at iteration 592, Best Score: 3225.93
Early stopping at iteration 578, Best Score: 3221.06
Early stopping at iteration 706, Best Score: 3217.79
Early stopping at iteration 625, Best Score: 3216.35
Early stopping at iteration 624, Best Score: 3222.74
Early stopping at iteration 589, Best Score: 3212.83
Early stopping at iteration 710, Best Score: 3223.68
Early stopping at iteration 574, Best Score: 3212.25
Early stopping at iteration 596, Best Score: 3216.82
Early stopping at iteration 598, Best Score: 3228.15
Early stopping at iteration 615, Best Score: 3220.11
Early stopping at iteration 634, Best Score: 3224.33
Early stopping at iteration 586, Best Score: 3213.37
Early stopping at iteration 578, Best Score: 3218.39
Early stopping at iteration 559, Best Score: 3210.47
  Deck Trial 200/250
Early stopping at iteration 702, Best Score: 3233.24
Early stopping at iteration 772, Best Score: 3233.72
Early stopping at iteration 637, Best Score: 3210.88
Early stopping at iteration 820, Best Score: 3240.03
Early stopping at iteration 636, Best Score: 3220.44
Early stopping at iteration 573, Best Score: 3220.74
Early stopping at iteration 608, Best Score: 3222.47
Early stopping at iteration 532, Best Score: 3202.26
Early stopping at iteration 554, Best Score: 3211.18
Early stopping at iteration 1058, Best Score: 3230.70
Early stopping at iteration 539, Best Score: 3205.48
Early stopping at iteration 575, Best Score: 3213.58
Early stopping at iteration 619, Best Score: 3213.45
```

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Early stopping at iteration 644, Best Score: 3222.17
Early stopping at iteration 777, Best Score: 3230.87
Early stopping at iteration 515, Best Score: 3197.22
Early stopping at iteration 643, Best Score: 3213.69
Early stopping at iteration 551, Best Score: 3205.36
Early stopping at iteration 674, Best Score: 3231.64
Early stopping at iteration 595, Best Score: 3194.28
Early stopping at iteration 700, Best Score: 3217.42
Early stopping at iteration 536, Best Score: 3200.06
Early stopping at iteration 577, Best Score: 3217.79
Early stopping at iteration 766, Best Score: 3233.66
Early stopping at iteration 603, Best Score: 3234.16
Early stopping at iteration 784, Best Score: 3241.06
Early stopping at iteration 604, Best Score: 3213.14
Early stopping at iteration 715, Best Score: 3230.43
Early stopping at iteration 786, Best Score: 3212.89
Early stopping at iteration 602, Best Score: 3224.21
Early stopping at iteration 637, Best Score: 3227.34
Early stopping at iteration 727, Best Score: 3225.30
Early stopping at iteration 641, Best Score: 3210.35
Early stopping at iteration 545, Best Score: 3212.34
Early stopping at iteration 565, Best Score: 3213.32
Early stopping at iteration 519, Best Score: 3190.48
Early stopping at iteration 594, Best Score: 3208.91
Early stopping at iteration 738, Best Score: 3226.01
Early stopping at iteration 535, Best Score: 3221.49
Early stopping at iteration 589, Best Score: 3219.77
Early stopping at iteration 597, Best Score: 3219.30
Early stopping at iteration 555, Best Score: 3203.31
Early stopping at iteration 591, Best Score: 3219.16
Early stopping at iteration 651, Best Score: 3206.33
Early stopping at iteration 874, Best Score: 3232.03
Early stopping at iteration 677, Best Score: 3232.63
Early stopping at iteration 630, Best Score: 3226.69
Early stopping at iteration 541, Best Score: 3205.68
Early stopping at iteration 671, Best Score: 3233.18
Early stopping at iteration 547, Best Score: 3208.18
Early stopping at iteration 754, Best Score: 3241.68
GNN Trial 9 completed with 250 decks.

GNN Trial 10/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 17.6716, Synergy Loss: 3.3502, Total: 24.3720
Epoch 20/300 - Node Loss: 3.3341, Synergy Loss: 3.2027, Total: 9.7395
Epoch 30/300 - Node Loss: 1.4320, Synergy Loss: 3.0445, Total: 7.5211
Epoch 40/300 - Node Loss: 1.0715, Synergy Loss: 2.8982, Total: 6.8680
Epoch 50/300 - Node Loss: 1.0184, Synergy Loss: 2.7766, Total: 6.5716
Epoch 60/300 - Node Loss: 1.0083, Synergy Loss: 2.6720, Total: 6.3522
Epoch 70/300 - Node Loss: 1.0073, Synergy Loss: 2.5881, Total: 6.1835
Epoch 80/300 - Node Loss: 1.0070, Synergy Loss: 2.5226, Total: 6.0522
Epoch 90/300 - Node Loss: 1.0083, Synergy Loss: 2.4878, Total: 5.9840
Epoch 100/300 - Node Loss: 1.0074, Synergy Loss: 2.4734, Total: 5.9542
Epoch 110/300 - Node Loss: 1.0062, Synergy Loss: 2.4746, Total: 5.9553
Epoch 120/300 - Node Loss: 1.0069, Synergy Loss: 2.4675, Total: 5.9420
Epoch 130/300 - Node Loss: 1.0260, Synergy Loss: 2.4484, Total: 5.9228
Epoch 140/300 - Node Loss: 1.0446, Synergy Loss: 2.3685, Total: 5.7816
Epoch 150/300 - Node Loss: 1.0674, Synergy Loss: 2.2098, Total: 5.4870
Epoch 160/300 - Node Loss: 1.1690, Synergy Loss: 2.0036, Total: 5.1762
Epoch 170/300 - Node Loss: 1.1767, Synergy Loss: 1.8181, Total: 4.8129
Epoch 180/300 - Node Loss: 1.2168, Synergy Loss: 1.6007, Total: 4.4183
```

```
Epoch 190/300 - Node Loss: 1.1820, Synergy Loss: 1.4486, Total: 4.0792
Epoch 200/300 - Node Loss: 1.2009, Synergy Loss: 1.3749, Total: 3.9508
Epoch 210/300 - Node Loss: 1.3033, Synergy Loss: 1.3146, Total: 3.9325
Epoch 220/300 - Node Loss: 1.1845, Synergy Loss: 1.2604, Total: 3.7054
Epoch 230/300 - Node Loss: 1.2149, Synergy Loss: 1.2043, Total: 3.6234
Epoch 240/300 - Node Loss: 1.1687, Synergy Loss: 1.0915, Total: 3.3517
Epoch 250/300 - Node Loss: 1.1863, Synergy Loss: 1.0599, Total: 3.3061
Epoch 260/300 - Node Loss: 1.1722, Synergy Loss: 0.9786, Total: 3.1293
Epoch 270/300 - Node Loss: 1.1665, Synergy Loss: 0.9927, Total: 3.1520
Epoch 280/300 - Node Loss: 1.1610, Synergy Loss: 0.9478, Total: 3.0566
Epoch 290/300 - Node Loss: 1.1576, Synergy Loss: 0.9184, Total: 2.9944
Epoch 300/300 - Node Loss: 1.1534, Synergy Loss: 0.8847, Total: 2.9229
Existing model archived to: 20250310_180005_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 563, Best Score: 4096.08
Early stopping at iteration 502, Best Score: 4046.45
Early stopping at iteration 799, Best Score: 4125.38
Early stopping at iteration 501, Best Score: 4047.07
Early stopping at iteration 612, Best Score: 4108.76
Early stopping at iteration 519, Best Score: 4053.46
Early stopping at iteration 561, Best Score: 4058.09
Early stopping at iteration 627, Best Score: 4098.45
Early stopping at iteration 707, Best Score: 4117.81
Early stopping at iteration 530, Best Score: 4049.89
Early stopping at iteration 645, Best Score: 4098.17
Early stopping at iteration 554, Best Score: 4067.15
Early stopping at iteration 561, Best Score: 4091.66
Early stopping at iteration 696, Best Score: 4110.00
Early stopping at iteration 649, Best Score: 4108.87
Early stopping at iteration 847, Best Score: 4118.59
Early stopping at iteration 655, Best Score: 4090.58
Early stopping at iteration 500, Best Score: 4044.27
Early stopping at iteration 590, Best Score: 4106.32
Early stopping at iteration 598, Best Score: 4107.22
Early stopping at iteration 598, Best Score: 4105.34
Early stopping at iteration 566, Best Score: 4089.71
Early stopping at iteration 587, Best Score: 4096.07
Early stopping at iteration 526, Best Score: 4059.85
Early stopping at iteration 583, Best Score: 4077.69
Early stopping at iteration 557, Best Score: 4070.25
Early stopping at iteration 560, Best Score: 4092.47
Early stopping at iteration 887, Best Score: 4112.92
Early stopping at iteration 661, Best Score: 4095.88
Early stopping at iteration 729, Best Score: 4119.59
Early stopping at iteration 651, Best Score: 4079.67
Early stopping at iteration 534, Best Score: 4066.23
Early stopping at iteration 621, Best Score: 4103.79
Early stopping at iteration 714, Best Score: 4108.69
Early stopping at iteration 660, Best Score: 4099.93
Early stopping at iteration 534, Best Score: 4054.17
Early stopping at iteration 521, Best Score: 4054.86
Early stopping at iteration 783, Best Score: 4113.82
Early stopping at iteration 638, Best Score: 4080.45
Early stopping at iteration 636, Best Score: 4110.33
Early stopping at iteration 505, Best Score: 4047.16
Early stopping at iteration 591, Best Score: 4079.18
Early stopping at iteration 577, Best Score: 4078.75
Early stopping at iteration 694, Best Score: 4104.80
Early stopping at iteration 733, Best Score: 4124.19
Early stopping at iteration 754, Best Score: 4095.27
```

```
Early stopping at iteration 515, Best Score: 4055.98
Early stopping at iteration 611, Best Score: 4099.60
Early stopping at iteration 517, Best Score: 4057.50
Early stopping at iteration 583, Best Score: 4092.58
Early stopping at iteration 735, Best Score: 4127.12
Early stopping at iteration 596, Best Score: 4096.93
Early stopping at iteration 700, Best Score: 4091.33
Early stopping at iteration 535, Best Score: 4084.08
Early stopping at iteration 612, Best Score: 4075.32
Early stopping at iteration 611, Best Score: 4090.98
Early stopping at iteration 571, Best Score: 4077.52
Early stopping at iteration 584, Best Score: 4092.39
Early stopping at iteration 662, Best Score: 4077.63
Early stopping at iteration 537, Best Score: 4060.66
Early stopping at iteration 605, Best Score: 4104.87
Early stopping at iteration 538, Best Score: 4079.14
Early stopping at iteration 610, Best Score: 4092.46
Early stopping at iteration 831, Best Score: 4110.47
Early stopping at iteration 598, Best Score: 4064.54
Early stopping at iteration 790, Best Score: 4114.12
Early stopping at iteration 517, Best Score: 4055.31
Early stopping at iteration 524, Best Score: 4061.32
Early stopping at iteration 551, Best Score: 4075.97
Early stopping at iteration 992, Best Score: 4100.85
Early stopping at iteration 527, Best Score: 4073.12
Early stopping at iteration 524, Best Score: 4066.26
Early stopping at iteration 570, Best Score: 4099.20
Early stopping at iteration 581, Best Score: 4105.93
Early stopping at iteration 513, Best Score: 4069.52
Early stopping at iteration 501, Best Score: 4046.45
Early stopping at iteration 606, Best Score: 4080.15
Early stopping at iteration 562, Best Score: 4050.37
Early stopping at iteration 605, Best Score: 4101.65
Early stopping at iteration 533, Best Score: 4070.07
Early stopping at iteration 516, Best Score: 4056.34
Early stopping at iteration 670, Best Score: 4110.37
Early stopping at iteration 679, Best Score: 4110.54
Early stopping at iteration 545, Best Score: 4075.71
Early stopping at iteration 570, Best Score: 4100.40
Early stopping at iteration 504, Best Score: 4045.78
Early stopping at iteration 542, Best Score: 4057.96
Early stopping at iteration 555, Best Score: 4075.86
Early stopping at iteration 670, Best Score: 4097.54
Early stopping at iteration 664, Best Score: 4094.05
Early stopping at iteration 632, Best Score: 4110.26
Early stopping at iteration 744, Best Score: 4113.29
Early stopping at iteration 723, Best Score: 4110.78
Early stopping at iteration 752, Best Score: 4111.47
Early stopping at iteration 634, Best Score: 4088.61
Early stopping at iteration 592, Best Score: 4090.66
Early stopping at iteration 558, Best Score: 4083.99
Early stopping at iteration 645, Best Score: 4075.50
Early stopping at iteration 501, Best Score: 4047.07
  Deck Trial 100/250
Early stopping at iteration 568, Best Score: 4061.24
Early stopping at iteration 563, Best Score: 4081.26
Early stopping at iteration 725, Best Score: 4112.64
Early stopping at iteration 634, Best Score: 4101.94
Early stopping at iteration 738, Best Score: 4097.36
Early stopping at iteration 563, Best Score: 4072.69
```

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Early stopping at iteration 634, Best Score: 4106.69
Early stopping at iteration 536, Best Score: 4054.18
Early stopping at iteration 807, Best Score: 4114.14
Early stopping at iteration 681, Best Score: 4106.54
Early stopping at iteration 503, Best Score: 4050.18
Early stopping at iteration 561, Best Score: 4083.69
Early stopping at iteration 604, Best Score: 4093.06
Early stopping at iteration 552, Best Score: 4103.42
Early stopping at iteration 611, Best Score: 4095.34
Early stopping at iteration 540, Best Score: 4082.13
Early stopping at iteration 987, Best Score: 4102.59
Early stopping at iteration 501, Best Score: 4047.16
Early stopping at iteration 579, Best Score: 4072.75
Early stopping at iteration 661, Best Score: 4119.41
Early stopping at iteration 506, Best Score: 4051.98
Early stopping at iteration 545, Best Score: 4072.94
Early stopping at iteration 527, Best Score: 4060.75
Early stopping at iteration 649, Best Score: 4092.12
Early stopping at iteration 568, Best Score: 4079.54
Early stopping at iteration 591, Best Score: 4098.41
Early stopping at iteration 685, Best Score: 4096.34
Early stopping at iteration 789, Best Score: 4122.33
Early stopping at iteration 561, Best Score: 4113.67
Early stopping at iteration 507, Best Score: 4057.60
Early stopping at iteration 591, Best Score: 4088.18
Early stopping at iteration 573, Best Score: 4094.45
Early stopping at iteration 598, Best Score: 4110.74
Early stopping at iteration 529, Best Score: 4073.34
Early stopping at iteration 615, Best Score: 4076.76
Early stopping at iteration 567, Best Score: 4070.24
Early stopping at iteration 672, Best Score: 4113.52
Early stopping at iteration 568, Best Score: 4094.47
Early stopping at iteration 653, Best Score: 4102.98
Early stopping at iteration 539, Best Score: 4063.48
Early stopping at iteration 682, Best Score: 4085.35
Early stopping at iteration 500, Best Score: 4044.27
Early stopping at iteration 558, Best Score: 4077.94
Early stopping at iteration 614, Best Score: 4101.67
Early stopping at iteration 517, Best Score: 4064.29
Early stopping at iteration 519, Best Score: 4067.64
Early stopping at iteration 715, Best Score: 4113.78
Early stopping at iteration 534, Best Score: 4071.06
Early stopping at iteration 511, Best Score: 4052.95
Early stopping at iteration 672, Best Score: 4100.66
Early stopping at iteration 545, Best Score: 4071.67
Early stopping at iteration 578, Best Score: 4080.37
Early stopping at iteration 640, Best Score: 4091.09
Early stopping at iteration 564, Best Score: 4080.06
Early stopping at iteration 517, Best Score: 4072.14
Early stopping at iteration 593, Best Score: 4099.77
Early stopping at iteration 746, Best Score: 4097.75
Early stopping at iteration 566, Best Score: 4087.55
Early stopping at iteration 713, Best Score: 4103.44
Early stopping at iteration 575, Best Score: 4092.10
Early stopping at iteration 571, Best Score: 4081.18
Early stopping at iteration 598, Best Score: 4082.17
Early stopping at iteration 601, Best Score: 4067.23
Early stopping at iteration 600, Best Score: 4089.54
Early stopping at iteration 543, Best Score: 4061.73
Early stopping at iteration 572, Best Score: 4092.36
```

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Early stopping at iteration 543, Best Score: 4068.72
Early stopping at iteration 738, Best Score: 4093.35
Early stopping at iteration 564, Best Score: 4054.99
Early stopping at iteration 551, Best Score: 4075.46
Early stopping at iteration 831, Best Score: 4077.89
Early stopping at iteration 636, Best Score: 4112.34
Early stopping at iteration 501, Best Score: 4045.80
Early stopping at iteration 661, Best Score: 4069.58
Early stopping at iteration 573, Best Score: 4102.33
Early stopping at iteration 540, Best Score: 4070.49
Early stopping at iteration 607, Best Score: 4082.09
Early stopping at iteration 544, Best Score: 4070.24
Early stopping at iteration 521, Best Score: 4081.49
Early stopping at iteration 505, Best Score: 4045.80
Early stopping at iteration 513, Best Score: 4054.06
Early stopping at iteration 541, Best Score: 4060.91
Early stopping at iteration 636, Best Score: 4106.04
Early stopping at iteration 622, Best Score: 4111.36
Early stopping at iteration 576, Best Score: 4095.85
Early stopping at iteration 634, Best Score: 4105.97
Early stopping at iteration 582, Best Score: 4091.82
Early stopping at iteration 745, Best Score: 4056.95
Early stopping at iteration 619, Best Score: 4113.40
Early stopping at iteration 621, Best Score: 4085.85
Early stopping at iteration 560, Best Score: 4095.29
Early stopping at iteration 660, Best Score: 4095.99
Early stopping at iteration 548, Best Score: 4079.15
Early stopping at iteration 1448, Best Score: 4067.83
Early stopping at iteration 568, Best Score: 4096.98
Early stopping at iteration 529, Best Score: 4063.56
Early stopping at iteration 903, Best Score: 4066.40
Early stopping at iteration 692, Best Score: 4095.91
Early stopping at iteration 627, Best Score: 4094.15
Early stopping at iteration 637, Best Score: 4101.38
  Deck Trial 200/250
Early stopping at iteration 586, Best Score: 4083.54
Early stopping at iteration 710, Best Score: 4105.21
Early stopping at iteration 659, Best Score: 4106.69
Early stopping at iteration 579, Best Score: 4092.61
Early stopping at iteration 601, Best Score: 4103.44
Early stopping at iteration 690, Best Score: 4105.33
Early stopping at iteration 541, Best Score: 4073.82
Early stopping at iteration 653, Best Score: 4110.13
Early stopping at iteration 530, Best Score: 4064.58
Early stopping at iteration 626, Best Score: 4124.85
Early stopping at iteration 733, Best Score: 4112.45
Early stopping at iteration 604, Best Score: 4086.34
Early stopping at iteration 524, Best Score: 4074.65
Early stopping at iteration 635, Best Score: 4113.13
Early stopping at iteration 590, Best Score: 4086.74
Early stopping at iteration 597, Best Score: 4112.69
Early stopping at iteration 556, Best Score: 4065.03
Early stopping at iteration 525, Best Score: 4060.25
Early stopping at iteration 661, Best Score: 4109.40
Early stopping at iteration 531, Best Score: 4051.74
Early stopping at iteration 730, Best Score: 4117.68
Early stopping at iteration 567, Best Score: 4090.37
Early stopping at iteration 726, Best Score: 4108.38
Early stopping at iteration 539, Best Score: 4075.56
Early stopping at iteration 588, Best Score: 4072.00
```

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Early stopping at iteration 528, Best Score: 4063.03
Early stopping at iteration 763, Best Score: 4120.81
Early stopping at iteration 537, Best Score: 4079.00
Early stopping at iteration 580, Best Score: 4094.18
Early stopping at iteration 535, Best Score: 4069.74
Early stopping at iteration 508, Best Score: 4047.16
Early stopping at iteration 575, Best Score: 4069.47
Early stopping at iteration 593, Best Score: 4093.28
Early stopping at iteration 630, Best Score: 4094.37
Early stopping at iteration 503, Best Score: 4045.80
Early stopping at iteration 652, Best Score: 4120.35
Early stopping at iteration 695, Best Score: 4087.37
Early stopping at iteration 705, Best Score: 4114.96
Early stopping at iteration 660, Best Score: 4108.29
Early stopping at iteration 540, Best Score: 4082.32
Early stopping at iteration 811, Best Score: 4051.73
Early stopping at iteration 555, Best Score: 4066.47
Early stopping at iteration 557, Best Score: 4089.08
Early stopping at iteration 570, Best Score: 4102.41
Early stopping at iteration 615, Best Score: 4108.59
Early stopping at iteration 635, Best Score: 4113.95
Early stopping at iteration 507, Best Score: 4046.88
Early stopping at iteration 535, Best Score: 4061.21
Early stopping at iteration 563, Best Score: 4097.58
Early stopping at iteration 575, Best Score: 4079.35
Early stopping at iteration 616, Best Score: 4112.30
GNN Trial 10 completed with 250 decks.

GNN Trial 11/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 45.1161, Synergy Loss: 3.4709, Total: 52.0578
Epoch 20/300 - Node Loss: 5.0514, Synergy Loss: 3.2965, Total: 11.6445
Epoch 30/300 - Node Loss: 2.6280, Synergy Loss: 2.9208, Total: 8.4695
Epoch 40/300 - Node Loss: 2.1775, Synergy Loss: 1.7663, Total: 5.7101
Epoch 50/300 - Node Loss: 1.6834, Synergy Loss: 1.4468, Total: 4.5770
Epoch 60/300 - Node Loss: 1.6750, Synergy Loss: 1.5886, Total: 4.8522
Epoch 70/300 - Node Loss: 1.6171, Synergy Loss: 1.3576, Total: 4.3322
Epoch 80/300 - Node Loss: 1.6962, Synergy Loss: 1.2784, Total: 4.2531
Epoch 90/300 - Node Loss: 1.5258, Synergy Loss: 1.2560, Total: 4.0378
Epoch 100/300 - Node Loss: 1.4762, Synergy Loss: 1.2145, Total: 3.9052
Epoch 110/300 - Node Loss: 1.3479, Synergy Loss: 1.2288, Total: 3.8055
Epoch 120/300 - Node Loss: 1.3169, Synergy Loss: 1.3057, Total: 3.9284
Epoch 130/300 - Node Loss: 1.4648, Synergy Loss: 1.1890, Total: 3.8427
Early stopping at epoch 133
Existing model archived to: 20250310_180252_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 574, Best Score: 1961.49
Early stopping at iteration 890, Best Score: 1980.91
Early stopping at iteration 626, Best Score: 1973.43
Early stopping at iteration 675, Best Score: 1979.21
Early stopping at iteration 836, Best Score: 2001.20
Early stopping at iteration 612, Best Score: 1962.30
Early stopping at iteration 854, Best Score: 1973.85
Early stopping at iteration 962, Best Score: 1946.94
Early stopping at iteration 732, Best Score: 1960.42
Early stopping at iteration 654, Best Score: 1995.33
Early stopping at iteration 656, Best Score: 1966.71
Early stopping at iteration 998, Best Score: 1976.37
Early stopping at iteration 606, Best Score: 1974.67
Early stopping at iteration 720, Best Score: 1987.30
```

```
Early stopping at iteration 819, Best Score: 1987.48
Early stopping at iteration 769, Best Score: 1988.43
Early stopping at iteration 978, Best Score: 2034.06
Early stopping at iteration 1188, Best Score: 1979.14
Early stopping at iteration 620, Best Score: 1974.52
Early stopping at iteration 666, Best Score: 1989.47
Early stopping at iteration 607, Best Score: 1945.64
Early stopping at iteration 620, Best Score: 1941.74
Early stopping at iteration 611, Best Score: 1958.68
Early stopping at iteration 1006, Best Score: 1997.62
Early stopping at iteration 674, Best Score: 1986.66
Early stopping at iteration 719, Best Score: 1977.18
Early stopping at iteration 650, Best Score: 1975.57
Early stopping at iteration 614, Best Score: 1955.65
Early stopping at iteration 587, Best Score: 1965.43
Early stopping at iteration 614, Best Score: 1950.51
Early stopping at iteration 771, Best Score: 1996.32
Early stopping at iteration 680, Best Score: 1973.15
Early stopping at iteration 703, Best Score: 1973.60
Early stopping at iteration 793, Best Score: 2000.89
Early stopping at iteration 711, Best Score: 1983.50
Early stopping at iteration 589, Best Score: 1953.94
Early stopping at iteration 701, Best Score: 1977.06
Early stopping at iteration 787, Best Score: 1996.04
Early stopping at iteration 712, Best Score: 1998.68
Early stopping at iteration 829, Best Score: 2017.47
Early stopping at iteration 813, Best Score: 1960.08
Early stopping at iteration 670, Best Score: 1988.97
Early stopping at iteration 703, Best Score: 1989.37
Early stopping at iteration 1043, Best Score: 1997.18
Early stopping at iteration 673, Best Score: 1966.55
Early stopping at iteration 657, Best Score: 1972.26
Early stopping at iteration 574, Best Score: 1939.07
Early stopping at iteration 766, Best Score: 2010.55
Early stopping at iteration 540, Best Score: 1932.89
Early stopping at iteration 639, Best Score: 1976.10
Early stopping at iteration 665, Best Score: 1977.01
Early stopping at iteration 644, Best Score: 2009.68
Early stopping at iteration 677, Best Score: 1981.73
Early stopping at iteration 967, Best Score: 1989.70
Early stopping at iteration 797, Best Score: 1991.08
Early stopping at iteration 647, Best Score: 1975.40
Early stopping at iteration 629, Best Score: 1962.63
Early stopping at iteration 759, Best Score: 1992.85
Early stopping at iteration 1091, Best Score: 2016.65
Early stopping at iteration 634, Best Score: 1996.36
Early stopping at iteration 915, Best Score: 1990.85
Early stopping at iteration 604, Best Score: 1972.65
Early stopping at iteration 622, Best Score: 1971.79
Early stopping at iteration 1190, Best Score: 1967.76
Early stopping at iteration 562, Best Score: 1939.28
Early stopping at iteration 752, Best Score: 1982.38
Early stopping at iteration 658, Best Score: 1976.00
Early stopping at iteration 832, Best Score: 1992.70
Early stopping at iteration 617, Best Score: 1977.96
Early stopping at iteration 715, Best Score: 1941.75
Early stopping at iteration 589, Best Score: 1949.97
Early stopping at iteration 557, Best Score: 1919.20
Early stopping at iteration 739, Best Score: 1971.99
Early stopping at iteration 745, Best Score: 1970.35
```

```
Early stopping at iteration 560, Best Score: 1943.37
Early stopping at iteration 717, Best Score: 1991.76
Early stopping at iteration 672, Best Score: 1994.85
Early stopping at iteration 700, Best Score: 1952.95
Early stopping at iteration 613, Best Score: 1970.61
Early stopping at iteration 854, Best Score: 2004.95
Early stopping at iteration 754, Best Score: 1974.18
Early stopping at iteration 965, Best Score: 1983.18
Early stopping at iteration 1017, Best Score: 1993.92
Early stopping at iteration 757, Best Score: 1949.48
Early stopping at iteration 681, Best Score: 1993.60
Early stopping at iteration 641, Best Score: 1951.01
Early stopping at iteration 610, Best Score: 1965.43
Early stopping at iteration 611, Best Score: 1967.26
Early stopping at iteration 1124, Best Score: 1993.57
Early stopping at iteration 581, Best Score: 1923.73
Early stopping at iteration 660, Best Score: 1972.83
Early stopping at iteration 591, Best Score: 1946.19
Early stopping at iteration 725, Best Score: 1970.12
Early stopping at iteration 583, Best Score: 1949.83
Early stopping at iteration 645, Best Score: 1974.55
Early stopping at iteration 609, Best Score: 1946.59
Early stopping at iteration 1067, Best Score: 1974.79
Early stopping at iteration 697, Best Score: 1977.84
Early stopping at iteration 562, Best Score: 1934.27
  Deck Trial 100/250
Early stopping at iteration 847, Best Score: 1983.07
Early stopping at iteration 682, Best Score: 1965.14
Early stopping at iteration 761, Best Score: 1996.73
Early stopping at iteration 1412, Best Score: 1996.63
Early stopping at iteration 853, Best Score: 1947.44
Early stopping at iteration 573, Best Score: 1956.71
Early stopping at iteration 719, Best Score: 2006.36
Early stopping at iteration 756, Best Score: 1985.85
Early stopping at iteration 684, Best Score: 1960.02
Early stopping at iteration 631, Best Score: 1959.23
Early stopping at iteration 985, Best Score: 2017.88
Early stopping at iteration 558, Best Score: 1929.91
Early stopping at iteration 1454, Best Score: 1983.94
Early stopping at iteration 530, Best Score: 1917.31
Early stopping at iteration 602, Best Score: 1970.33
Early stopping at iteration 633, Best Score: 1964.91
Early stopping at iteration 675, Best Score: 1983.93
Early stopping at iteration 1183, Best Score: 2010.63
Early stopping at iteration 665, Best Score: 1968.34
Early stopping at iteration 657, Best Score: 1979.55
Early stopping at iteration 1119, Best Score: 2004.46
Early stopping at iteration 740, Best Score: 1958.70
Early stopping at iteration 1080, Best Score: 1978.12
Early stopping at iteration 808, Best Score: 1977.20
Early stopping at iteration 725, Best Score: 1989.17
Early stopping at iteration 806, Best Score: 1974.10
Early stopping at iteration 632, Best Score: 1960.68
Early stopping at iteration 589, Best Score: 1948.72
Early stopping at iteration 1120, Best Score: 2024.17
Early stopping at iteration 785, Best Score: 1976.90
Early stopping at iteration 614, Best Score: 1948.51
Early stopping at iteration 637, Best Score: 1949.47
Early stopping at iteration 616, Best Score: 1972.06
Early stopping at iteration 859, Best Score: 2000.43
```

```
Early stopping at iteration 714, Best Score: 1966.97
Early stopping at iteration 583, Best Score: 1948.84
Early stopping at iteration 698, Best Score: 1963.74
Early stopping at iteration 571, Best Score: 1955.55
Early stopping at iteration 687, Best Score: 1968.24
Early stopping at iteration 720, Best Score: 1987.55
Early stopping at iteration 729, Best Score: 1954.28
Early stopping at iteration 585, Best Score: 1954.49
Early stopping at iteration 866, Best Score: 1961.37
Early stopping at iteration 587, Best Score: 1981.03
Early stopping at iteration 625, Best Score: 1977.60
Early stopping at iteration 652, Best Score: 1961.52
Early stopping at iteration 592, Best Score: 1953.31
Early stopping at iteration 692, Best Score: 1945.88
Early stopping at iteration 613, Best Score: 1975.38
Early stopping at iteration 1119, Best Score: 1944.65
Early stopping at iteration 822, Best Score: 1980.92
Early stopping at iteration 578, Best Score: 1953.30
Early stopping at iteration 683, Best Score: 1991.44
Early stopping at iteration 1118, Best Score: 2001.88
Early stopping at iteration 763, Best Score: 2001.70
Early stopping at iteration 555, Best Score: 1922.21
Early stopping at iteration 604, Best Score: 1940.78
Early stopping at iteration 689, Best Score: 1952.11
Early stopping at iteration 1083, Best Score: 1997.96
Early stopping at iteration 747, Best Score: 2002.60
Early stopping at iteration 650, Best Score: 1973.30
Early stopping at iteration 610, Best Score: 1963.70
Early stopping at iteration 571, Best Score: 1946.73
Early stopping at iteration 1045, Best Score: 1983.85
Early stopping at iteration 572, Best Score: 1959.88
Early stopping at iteration 917, Best Score: 1957.71
Early stopping at iteration 637, Best Score: 1988.64
Early stopping at iteration 600, Best Score: 1962.07
Early stopping at iteration 565, Best Score: 1940.02
Early stopping at iteration 782, Best Score: 1966.67
Early stopping at iteration 576, Best Score: 1960.98
Early stopping at iteration 692, Best Score: 1980.36
Early stopping at iteration 564, Best Score: 1948.50
Early stopping at iteration 547, Best Score: 1926.08
Early stopping at iteration 1097, Best Score: 2004.43
Early stopping at iteration 927, Best Score: 1989.38
Early stopping at iteration 548, Best Score: 1939.91
Early stopping at iteration 1161, Best Score: 2027.85
Early stopping at iteration 630, Best Score: 1958.42
Early stopping at iteration 637, Best Score: 1952.15
Early stopping at iteration 777, Best Score: 2000.59
Early stopping at iteration 1087, Best Score: 1973.45
Early stopping at iteration 1078, Best Score: 2005.15
Early stopping at iteration 889, Best Score: 2015.74
Early stopping at iteration 650, Best Score: 1952.85
Early stopping at iteration 673, Best Score: 1997.63
Early stopping at iteration 891, Best Score: 1990.65
Early stopping at iteration 627, Best Score: 1946.90
Early stopping at iteration 913, Best Score: 1962.39
Early stopping at iteration 853, Best Score: 1998.58
Early stopping at iteration 643, Best Score: 1956.22
Early stopping at iteration 742, Best Score: 1980.81
Early stopping at iteration 637, Best Score: 1963.96
Early stopping at iteration 538, Best Score: 1914.93
```

```
Early stopping at iteration 642, Best Score: 1998.50
Early stopping at iteration 808, Best Score: 2022.22
Early stopping at iteration 952, Best Score: 1981.65
Early stopping at iteration 646, Best Score: 1978.32
Early stopping at iteration 830, Best Score: 1982.27
Early stopping at iteration 707, Best Score: 1983.78
  Deck Trial 200/250
Early stopping at iteration 924, Best Score: 1952.30
Early stopping at iteration 1201, Best Score: 1981.33
Early stopping at iteration 1117, Best Score: 2009.75
Early stopping at iteration 764, Best Score: 1989.60
Early stopping at iteration 625, Best Score: 1970.12
Early stopping at iteration 631, Best Score: 1958.33
Early stopping at iteration 575, Best Score: 1956.18
Early stopping at iteration 721, Best Score: 1994.58
Early stopping at iteration 590, Best Score: 1939.64
Early stopping at iteration 721, Best Score: 1962.27
Early stopping at iteration 636, Best Score: 1952.05
Early stopping at iteration 1210, Best Score: 1997.61
Early stopping at iteration 960, Best Score: 1983.43
Early stopping at iteration 712, Best Score: 1976.28
Early stopping at iteration 1011, Best Score: 1989.35
Early stopping at iteration 595, Best Score: 1954.07
Early stopping at iteration 946, Best Score: 2012.93
Early stopping at iteration 716, Best Score: 1973.02
Early stopping at iteration 727, Best Score: 1947.14
Early stopping at iteration 637, Best Score: 1952.17
Early stopping at iteration 650, Best Score: 1944.15
Early stopping at iteration 1022, Best Score: 2004.06
Early stopping at iteration 612, Best Score: 1986.03
Early stopping at iteration 750, Best Score: 2002.64
Early stopping at iteration 563, Best Score: 1943.03
Early stopping at iteration 1544, Best Score: 1996.30
Early stopping at iteration 607, Best Score: 1951.78
Early stopping at iteration 623, Best Score: 1955.02
Early stopping at iteration 632, Best Score: 1992.27
Early stopping at iteration 723, Best Score: 1999.25
Early stopping at iteration 718, Best Score: 1976.01
Early stopping at iteration 590, Best Score: 1947.17
Early stopping at iteration 718, Best Score: 1985.68
Early stopping at iteration 585, Best Score: 1912.33
Early stopping at iteration 680, Best Score: 2012.07
Early stopping at iteration 573, Best Score: 1937.82
Early stopping at iteration 749, Best Score: 1959.26
Early stopping at iteration 547, Best Score: 1936.02
Early stopping at iteration 592, Best Score: 1974.71
Early stopping at iteration 733, Best Score: 1992.59
Early stopping at iteration 609, Best Score: 1947.64
Early stopping at iteration 591, Best Score: 1967.16
Early stopping at iteration 1043, Best Score: 2036.44
Early stopping at iteration 748, Best Score: 1961.01
Early stopping at iteration 801, Best Score: 2006.00
Early stopping at iteration 656, Best Score: 1975.37
Early stopping at iteration 670, Best Score: 1980.52
Early stopping at iteration 883, Best Score: 2014.18
Early stopping at iteration 1254, Best Score: 1998.96
Early stopping at iteration 566, Best Score: 1940.90
Early stopping at iteration 696, Best Score: 1991.01
GNN Trial 11 completed with 250 decks.
```

```
GNN Trial 12/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 26.4575, Synergy Loss: 3.4090, Total: 33.2755
Epoch 20/300 - Node Loss: 3.7075, Synergy Loss: 3.2458, Total: 10.1990
Epoch 30/300 - Node Loss: 1.9703, Synergy Loss: 3.0998, Total: 8.1700
Epoch 40/300 - Node Loss: 1.3926, Synergy Loss: 2.9164, Total: 7.2254
Epoch 50/300 - Node Loss: 1.2381, Synergy Loss: 2.4790, Total: 6.1961
Epoch 60/300 - Node Loss: 1.3059, Synergy Loss: 1.8505, Total: 5.0070
Epoch 70/300 - Node Loss: 1.2977, Synergy Loss: 1.5960, Total: 4.4896
Epoch 80/300 - Node Loss: 1.2626, Synergy Loss: 1.3661, Total: 3.9948
Epoch 90/300 - Node Loss: 1.1681, Synergy Loss: 1.3455, Total: 3.8592
Epoch 100/300 - Node Loss: 1.1512, Synergy Loss: 1.3313, Total: 3.8138
Epoch 110/300 - Node Loss: 1.1738, Synergy Loss: 1.2786, Total: 3.7310
Epoch 120/300 - Node Loss: 1.1543, Synergy Loss: 1.3305, Total: 3.8153
Epoch 130/300 - Node Loss: 1.1160, Synergy Loss: 1.2065, Total: 3.5291
Epoch 140/300 - Node Loss: 1.0845, Synergy Loss: 1.1568, Total: 3.3980
Epoch 150/300 - Node Loss: 1.0779, Synergy Loss: 1.1007, Total: 3.2794
Epoch 160/300 - Node Loss: 1.1099, Synergy Loss: 1.0595, Total: 3.2290
Epoch 170/300 - Node Loss: 1.0754, Synergy Loss: 1.0017, Total: 3.0788
Epoch 180/300 - Node Loss: 1.0769, Synergy Loss: 1.1667, Total: 3.4103
Epoch 190/300 - Node Loss: 1.0639, Synergy Loss: 1.0968, Total: 3.2576
Early stopping at epoch 198
Existing model archived to: 20250310_180633_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 539, Best Score: 5151.91
Early stopping at iteration 584, Best Score: 5164.28
Early stopping at iteration 599, Best Score: 5150.76
Early stopping at iteration 541, Best Score: 5150.76
Early stopping at iteration 501, Best Score: 5150.75
Early stopping at iteration 587, Best Score: 5163.44
Early stopping at iteration 809, Best Score: 5178.11
Early stopping at iteration 503, Best Score: 5150.76
Early stopping at iteration 529, Best Score: 5151.81
Early stopping at iteration 787, Best Score: 5180.78
Early stopping at iteration 506, Best Score: 5151.38
Early stopping at iteration 625, Best Score: 5174.08
Early stopping at iteration 513, Best Score: 5150.76
Early stopping at iteration 590, Best Score: 5167.27
Early stopping at iteration 681, Best Score: 5186.89
Early stopping at iteration 533, Best Score: 5150.76
Early stopping at iteration 511, Best Score: 5149.33
Early stopping at iteration 613, Best Score: 5177.59
Early stopping at iteration 512, Best Score: 5150.76
Early stopping at iteration 553, Best Score: 5154.24
Early stopping at iteration 557, Best Score: 5156.43
Early stopping at iteration 512, Best Score: 5150.75
Early stopping at iteration 501, Best Score: 5150.76
Early stopping at iteration 505, Best Score: 5150.76
Early stopping at iteration 597, Best Score: 5167.26
Early stopping at iteration 521, Best Score: 5158.56
Early stopping at iteration 513, Best Score: 5150.76
Early stopping at iteration 535, Best Score: 5167.18
Early stopping at iteration 500, Best Score: 5147.76
Early stopping at iteration 553, Best Score: 5151.07
Early stopping at iteration 522, Best Score: 5150.76
Early stopping at iteration 556, Best Score: 5159.80
Early stopping at iteration 520, Best Score: 5151.09
Early stopping at iteration 510, Best Score: 5150.76
Early stopping at iteration 515, Best Score: 5153.14
Early stopping at iteration 518, Best Score: 5150.76
```

```
Early stopping at iteration 531, Best Score: 5160.71
Early stopping at iteration 556, Best Score: 5160.57
Early stopping at iteration 551, Best Score: 5153.19
Early stopping at iteration 605, Best Score: 5168.69
Early stopping at iteration 644, Best Score: 5152.90
Early stopping at iteration 513, Best Score: 5150.76
Early stopping at iteration 600, Best Score: 5165.84
Early stopping at iteration 533, Best Score: 5151.76
Early stopping at iteration 567, Best Score: 5151.71
Early stopping at iteration 716, Best Score: 5158.52
Early stopping at iteration 544, Best Score: 5150.76
Early stopping at iteration 535, Best Score: 5150.76
Early stopping at iteration 546, Best Score: 5149.33
Early stopping at iteration 667, Best Score: 5179.72
Early stopping at iteration 518, Best Score: 5149.33
Early stopping at iteration 542, Best Score: 5167.27
Early stopping at iteration 573, Best Score: 5163.19
Early stopping at iteration 536, Best Score: 5152.02
Early stopping at iteration 516, Best Score: 5150.76
Early stopping at iteration 547, Best Score: 5150.76
Early stopping at iteration 626, Best Score: 5150.76
Early stopping at iteration 887, Best Score: 5162.21
Early stopping at iteration 516, Best Score: 5163.65
Early stopping at iteration 520, Best Score: 5165.84
Early stopping at iteration 520, Best Score: 5152.90
Early stopping at iteration 592, Best Score: 5163.21
Early stopping at iteration 518, Best Score: 5150.76
Early stopping at iteration 554, Best Score: 5168.69
Early stopping at iteration 513, Best Score: 5150.76
Early stopping at iteration 532, Best Score: 5156.74
Early stopping at iteration 541, Best Score: 5160.57
Early stopping at iteration 623, Best Score: 5165.26
Early stopping at iteration 549, Best Score: 5150.76
Early stopping at iteration 502, Best Score: 5149.32
Early stopping at iteration 587, Best Score: 5167.58
Early stopping at iteration 503, Best Score: 5150.76
Early stopping at iteration 574, Best Score: 5152.06
Early stopping at iteration 543, Best Score: 5152.90
Early stopping at iteration 664, Best Score: 5150.76
Early stopping at iteration 570, Best Score: 5161.99
Early stopping at iteration 547, Best Score: 5165.28
Early stopping at iteration 506, Best Score: 5150.75
Early stopping at iteration 541, Best Score: 5158.99
Early stopping at iteration 533, Best Score: 5165.27
Early stopping at iteration 501, Best Score: 5150.75
Early stopping at iteration 522, Best Score: 5150.76
Early stopping at iteration 545, Best Score: 5150.76
Early stopping at iteration 511, Best Score: 5149.33
Early stopping at iteration 508, Best Score: 5150.76
Early stopping at iteration 634, Best Score: 5167.27
Early stopping at iteration 534, Best Score: 5150.76
Early stopping at iteration 553, Best Score: 5150.75
Early stopping at iteration 515, Best Score: 5162.22
Early stopping at iteration 553, Best Score: 5151.47
Early stopping at iteration 554, Best Score: 5166.70
Early stopping at iteration 502, Best Score: 5150.76
Early stopping at iteration 508, Best Score: 5150.76
Early stopping at iteration 558, Best Score: 5161.99
Early stopping at iteration 576, Best Score: 5161.76
Early stopping at iteration 529, Best Score: 5166.69
```

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Early stopping at iteration 543, Best Score: 5172.94
Early stopping at iteration 501, Best Score: 5150.75
Early stopping at iteration 569, Best Score: 5150.94
  Deck Trial 100/250
Early stopping at iteration 676, Best Score: 5176.50
Early stopping at iteration 502, Best Score: 5150.76
Early stopping at iteration 506, Best Score: 5150.75
Early stopping at iteration 514, Best Score: 5153.09
Early stopping at iteration 590, Best Score: 5166.64
Early stopping at iteration 509, Best Score: 5152.32
Early stopping at iteration 501, Best Score: 5150.76
Early stopping at iteration 523, Best Score: 5150.76
Early stopping at iteration 622, Best Score: 5150.76
Early stopping at iteration 536, Best Score: 5150.76
Early stopping at iteration 648, Best Score: 5150.76
Early stopping at iteration 514, Best Score: 5150.76
Early stopping at iteration 508, Best Score: 5150.75
Early stopping at iteration 592, Best Score: 5161.99
Early stopping at iteration 500, Best Score: 5147.76
Early stopping at iteration 507, Best Score: 5148.76
Early stopping at iteration 541, Best Score: 5166.64
Early stopping at iteration 586, Best Score: 5179.37
Early stopping at iteration 535, Best Score: 5150.76
Early stopping at iteration 546, Best Score: 5150.76
Early stopping at iteration 958, Best Score: 5178.65
Early stopping at iteration 501, Best Score: 5150.75
Early stopping at iteration 516, Best Score: 5153.10
Early stopping at iteration 581, Best Score: 5172.36
Early stopping at iteration 707, Best Score: 5165.21
Early stopping at iteration 585, Best Score: 5164.70
Early stopping at iteration 505, Best Score: 5150.76
Early stopping at iteration 612, Best Score: 5168.27
Early stopping at iteration 502, Best Score: 5150.76
Early stopping at iteration 664, Best Score: 5174.80
Early stopping at iteration 509, Best Score: 5165.96
Early stopping at iteration 563, Best Score: 5152.06
Early stopping at iteration 542, Best Score: 5150.76
Early stopping at iteration 504, Best Score: 5148.64
Early stopping at iteration 540, Best Score: 5150.76
Early stopping at iteration 516, Best Score: 5150.75
Early stopping at iteration 542, Best Score: 5151.11
Early stopping at iteration 549, Best Score: 5150.75
Early stopping at iteration 549, Best Score: 5163.19
Early stopping at iteration 508, Best Score: 5150.75
Early stopping at iteration 687, Best Score: 5172.06
Early stopping at iteration 528, Best Score: 5150.76
Early stopping at iteration 502, Best Score: 5150.75
Early stopping at iteration 556, Best Score: 5153.14
Early stopping at iteration 778, Best Score: 5161.99
Early stopping at iteration 527, Best Score: 5151.10
Early stopping at iteration 528, Best Score: 5150.76
Early stopping at iteration 505, Best Score: 5150.76
Early stopping at iteration 559, Best Score: 5150.76
Early stopping at iteration 527, Best Score: 5166.69
Early stopping at iteration 576, Best Score: 5163.21
Early stopping at iteration 527, Best Score: 5150.76
Early stopping at iteration 520, Best Score: 5157.61
Early stopping at iteration 671, Best Score: 5166.69
Early stopping at iteration 536, Best Score: 5152.49
Early stopping at iteration 508, Best Score: 5163.59
```

```
Early stopping at iteration 501, Best Score: 5150.75
Early stopping at iteration 662, Best Score: 5167.27
Early stopping at iteration 608, Best Score: 5160.79
Early stopping at iteration 510, Best Score: 5150.76
Early stopping at iteration 530, Best Score: 5150.75
Early stopping at iteration 506, Best Score: 5150.76
Early stopping at iteration 507, Best Score: 5150.75
Early stopping at iteration 502, Best Score: 5150.76
Early stopping at iteration 573, Best Score: 5153.19
Early stopping at iteration 515, Best Score: 5150.76
Early stopping at iteration 517, Best Score: 5150.76
Early stopping at iteration 501, Best Score: 5150.75
Early stopping at iteration 513, Best Score: 5150.75
Early stopping at iteration 973, Best Score: 5197.02
Early stopping at iteration 602, Best Score: 5192.68
Early stopping at iteration 523, Best Score: 5158.28
Early stopping at iteration 605, Best Score: 5150.76
Early stopping at iteration 524, Best Score: 5164.28
Early stopping at iteration 502, Best Score: 5148.70
Early stopping at iteration 549, Best Score: 5163.27
Early stopping at iteration 654, Best Score: 5189.62
Early stopping at iteration 534, Best Score: 5150.76
Early stopping at iteration 560, Best Score: 5163.71
Early stopping at iteration 527, Best Score: 5151.83
Early stopping at iteration 639, Best Score: 5175.11
Early stopping at iteration 507, Best Score: 5150.75
Early stopping at iteration 592, Best Score: 5171.13
Early stopping at iteration 531, Best Score: 5150.76
Early stopping at iteration 548, Best Score: 5167.26
Early stopping at iteration 545, Best Score: 5165.77
Early stopping at iteration 532, Best Score: 5150.76
Early stopping at iteration 500, Best Score: 5147.76
Early stopping at iteration 627, Best Score: 5150.75
Early stopping at iteration 508, Best Score: 5150.75
Early stopping at iteration 508, Best Score: 5150.76
Early stopping at iteration 504, Best Score: 5150.75
Early stopping at iteration 539, Best Score: 5173.92
Early stopping at iteration 558, Best Score: 5166.70
Early stopping at iteration 610, Best Score: 5161.37
Early stopping at iteration 683, Best Score: 5157.50
Early stopping at iteration 614, Best Score: 5172.83
Early stopping at iteration 500, Best Score: 5147.76
Early stopping at iteration 607, Best Score: 5174.34
Early stopping at iteration 522, Best Score: 5150.76
  Deck Trial 200/250
Early stopping at iteration 517, Best Score: 5151.81
Early stopping at iteration 591, Best Score: 5159.72
Early stopping at iteration 503, Best Score: 5150.75
Early stopping at iteration 504, Best Score: 5150.75
Early stopping at iteration 746, Best Score: 5162.15
Early stopping at iteration 587, Best Score: 5152.90
Early stopping at iteration 508, Best Score: 5150.76
Early stopping at iteration 593, Best Score: 5170.75
Early stopping at iteration 546, Best Score: 5165.27
Early stopping at iteration 505, Best Score: 5150.75
Early stopping at iteration 645, Best Score: 5172.23
Early stopping at iteration 502, Best Score: 5150.75
Early stopping at iteration 551, Best Score: 5167.26
Early stopping at iteration 581, Best Score: 5163.55
Early stopping at iteration 741, Best Score: 5181.10
```

```
Early stopping at iteration 508, Best Score: 5150.76
Early stopping at iteration 629, Best Score: 5167.26
Early stopping at iteration 814, Best Score: 5180.21
Early stopping at iteration 698, Best Score: 5179.09
Early stopping at iteration 500, Best Score: 5147.76
Early stopping at iteration 598, Best Score: 5165.20
Early stopping at iteration 654, Best Score: 5192.17
Early stopping at iteration 507, Best Score: 5148.76
Early stopping at iteration 602, Best Score: 5165.58
Early stopping at iteration 501, Best Score: 5149.33
Early stopping at iteration 501, Best Score: 5149.32
Early stopping at iteration 502, Best Score: 5150.75
Early stopping at iteration 525, Best Score: 5150.76
Early stopping at iteration 696, Best Score: 5172.93
Early stopping at iteration 526, Best Score: 5150.76
Early stopping at iteration 502, Best Score: 5149.33
Early stopping at iteration 512, Best Score: 5150.76
Early stopping at iteration 879, Best Score: 5152.32
Early stopping at iteration 660, Best Score: 5184.15
Early stopping at iteration 562, Best Score: 5150.75
Early stopping at iteration 502, Best Score: 5150.75
Early stopping at iteration 500, Best Score: 5147.76
Early stopping at iteration 597, Best Score: 5151.62
Early stopping at iteration 549, Best Score: 5164.91
Early stopping at iteration 502, Best Score: 5148.76
Early stopping at iteration 543, Best Score: 5166.76
Early stopping at iteration 504, Best Score: 5150.76
Early stopping at iteration 584, Best Score: 5165.84
Early stopping at iteration 533, Best Score: 5165.83
Early stopping at iteration 522, Best Score: 5150.75
Early stopping at iteration 568, Best Score: 5151.96
Early stopping at iteration 513, Best Score: 5150.76
Early stopping at iteration 513, Best Score: 5150.76
Early stopping at iteration 503, Best Score: 5150.76
Early stopping at iteration 564, Best Score: 5153.90
Early stopping at iteration 570, Best Score: 5164.64
GNN Trial 12 completed with 250 decks.

GNN Trial 13/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 51.1388, Synergy Loss: 3.6091, Total: 58.3569
Epoch 20/300 - Node Loss: 6.7222, Synergy Loss: 3.4199, Total: 13.5620
Epoch 30/300 - Node Loss: 2.0608, Synergy Loss: 3.3707, Total: 8.8022
Epoch 40/300 - Node Loss: 1.1674, Synergy Loss: 3.2219, Total: 7.6111
Epoch 50/300 - Node Loss: 1.0215, Synergy Loss: 3.0691, Total: 7.1598
Epoch 60/300 - Node Loss: 1.0003, Synergy Loss: 2.9038, Total: 6.8078
Epoch 70/300 - Node Loss: 0.9993, Synergy Loss: 2.7207, Total: 6.4407
Epoch 80/300 - Node Loss: 1.0086, Synergy Loss: 2.5419, Total: 6.0925
Epoch 90/300 - Node Loss: 1.0158, Synergy Loss: 2.3844, Total: 5.7845
Epoch 100/300 - Node Loss: 1.0489, Synergy Loss: 2.1489, Total: 5.3467
Epoch 110/300 - Node Loss: 1.0594, Synergy Loss: 2.0502, Total: 5.1598
Epoch 120/300 - Node Loss: 1.4367, Synergy Loss: 1.8346, Total: 5.1059
Epoch 130/300 - Node Loss: 1.3196, Synergy Loss: 1.6732, Total: 4.6660
Epoch 140/300 - Node Loss: 1.2389, Synergy Loss: 1.5949, Total: 4.4287
Epoch 150/300 - Node Loss: 1.2396, Synergy Loss: 1.5557, Total: 4.3509
Epoch 160/300 - Node Loss: 1.4587, Synergy Loss: 1.3759, Total: 4.2106
Epoch 170/300 - Node Loss: 1.3663, Synergy Loss: 1.3178, Total: 4.0019
Epoch 180/300 - Node Loss: 1.2599, Synergy Loss: 1.4310, Total: 4.1220
Epoch 190/300 - Node Loss: 1.3535, Synergy Loss: 1.1218, Total: 3.5972
Epoch 200/300 - Node Loss: 1.2794, Synergy Loss: 1.0687, Total: 3.4167
```

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Epoch 210/300 - Node Loss: 1.2261, Synergy Loss: 1.0232, Total: 3.2724
Epoch 220/300 - Node Loss: 1.2907, Synergy Loss: 1.0112, Total: 3.3130
Epoch 230/300 - Node Loss: 1.2154, Synergy Loss: 0.9927, Total: 3.2007
Epoch 240/300 - Node Loss: 1.1493, Synergy Loss: 0.9756, Total: 3.1006
Epoch 250/300 - Node Loss: 1.1586, Synergy Loss: 0.9494, Total: 3.0575
Epoch 260/300 - Node Loss: 1.1753, Synergy Loss: 0.9284, Total: 3.0321
Early stopping at epoch 263
Existing model archived to: 20250310_181033_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 704, Best Score: 4618.37
Early stopping at iteration 955, Best Score: 4605.54
Early stopping at iteration 695, Best Score: 4643.21
Early stopping at iteration 575, Best Score: 4591.68
Early stopping at iteration 653, Best Score: 4601.45
Early stopping at iteration 536, Best Score: 4616.46
Early stopping at iteration 882, Best Score: 4654.62
Early stopping at iteration 590, Best Score: 4632.26
Early stopping at iteration 561, Best Score: 4602.50
Early stopping at iteration 540, Best Score: 4594.79
Early stopping at iteration 614, Best Score: 4629.08
Early stopping at iteration 566, Best Score: 4579.27
Early stopping at iteration 657, Best Score: 4630.04
Early stopping at iteration 555, Best Score: 4599.66
Early stopping at iteration 636, Best Score: 4629.31
Early stopping at iteration 614, Best Score: 4610.14
Early stopping at iteration 556, Best Score: 4585.87
Early stopping at iteration 564, Best Score: 4584.33
Early stopping at iteration 518, Best Score: 4589.39
Early stopping at iteration 592, Best Score: 4604.75
Early stopping at iteration 515, Best Score: 4578.65
Early stopping at iteration 727, Best Score: 4637.65
Early stopping at iteration 696, Best Score: 4607.03
Early stopping at iteration 738, Best Score: 4627.04
Early stopping at iteration 647, Best Score: 4616.08
Early stopping at iteration 631, Best Score: 4599.69
Early stopping at iteration 519, Best Score: 4593.90
Early stopping at iteration 590, Best Score: 4602.55
Early stopping at iteration 749, Best Score: 4622.24
Early stopping at iteration 602, Best Score: 4597.31
Early stopping at iteration 606, Best Score: 4585.45
Early stopping at iteration 503, Best Score: 4576.72
Early stopping at iteration 516, Best Score: 4590.15
Early stopping at iteration 599, Best Score: 4623.96
Early stopping at iteration 648, Best Score: 4622.51
Early stopping at iteration 555, Best Score: 4607.39
Early stopping at iteration 582, Best Score: 4607.74
Early stopping at iteration 656, Best Score: 4616.53
Early stopping at iteration 501, Best Score: 4575.88
Early stopping at iteration 572, Best Score: 4596.33
Early stopping at iteration 573, Best Score: 4599.04
Early stopping at iteration 562, Best Score: 4583.45
Early stopping at iteration 688, Best Score: 4633.86
Early stopping at iteration 514, Best Score: 4581.11
Early stopping at iteration 678, Best Score: 4630.04
Early stopping at iteration 502, Best Score: 4577.50
Early stopping at iteration 755, Best Score: 4622.93
Early stopping at iteration 561, Best Score: 4600.56
Early stopping at iteration 533, Best Score: 4597.08
Early stopping at iteration 535, Best Score: 4590.35
Early stopping at iteration 547, Best Score: 4595.96
```

```
Early stopping at iteration 505, Best Score: 4574.58
Early stopping at iteration 570, Best Score: 4598.35
Early stopping at iteration 527, Best Score: 4589.08
Early stopping at iteration 521, Best Score: 4582.16
Early stopping at iteration 500, Best Score: 4574.57
Early stopping at iteration 549, Best Score: 4604.66
Early stopping at iteration 598, Best Score: 4637.94
Early stopping at iteration 893, Best Score: 4595.79
Early stopping at iteration 596, Best Score: 4610.07
Early stopping at iteration 573, Best Score: 4595.27
Early stopping at iteration 538, Best Score: 4584.03
Early stopping at iteration 527, Best Score: 4581.91
Early stopping at iteration 634, Best Score: 4611.67
Early stopping at iteration 603, Best Score: 4602.52
Early stopping at iteration 543, Best Score: 4604.97
Early stopping at iteration 691, Best Score: 4621.46
Early stopping at iteration 625, Best Score: 4599.90
Early stopping at iteration 640, Best Score: 4619.26
Early stopping at iteration 673, Best Score: 4608.92
Early stopping at iteration 562, Best Score: 4598.16
Early stopping at iteration 851, Best Score: 4637.18
Early stopping at iteration 521, Best Score: 4579.56
Early stopping at iteration 706, Best Score: 4620.22
Early stopping at iteration 673, Best Score: 4627.02
Early stopping at iteration 503, Best Score: 4574.58
Early stopping at iteration 819, Best Score: 4599.00
Early stopping at iteration 632, Best Score: 4620.59
Early stopping at iteration 666, Best Score: 4614.52
Early stopping at iteration 731, Best Score: 4604.98
Early stopping at iteration 542, Best Score: 4589.56
Early stopping at iteration 531, Best Score: 4594.41
Early stopping at iteration 787, Best Score: 4618.91
Early stopping at iteration 656, Best Score: 4610.76
Early stopping at iteration 555, Best Score: 4597.22
Early stopping at iteration 622, Best Score: 4595.04
Early stopping at iteration 529, Best Score: 4587.09
Early stopping at iteration 589, Best Score: 4639.42
Early stopping at iteration 577, Best Score: 4589.86
Early stopping at iteration 514, Best Score: 4589.16
Early stopping at iteration 640, Best Score: 4589.84
Early stopping at iteration 673, Best Score: 4635.46
Early stopping at iteration 634, Best Score: 4622.88
Early stopping at iteration 557, Best Score: 4611.77
Early stopping at iteration 543, Best Score: 4576.52
Early stopping at iteration 520, Best Score: 4600.88
Early stopping at iteration 518, Best Score: 4590.61
Early stopping at iteration 621, Best Score: 4598.02
Early stopping at iteration 674, Best Score: 4650.14
  Deck Trial 100/250
Early stopping at iteration 603, Best Score: 4615.17
Early stopping at iteration 585, Best Score: 4596.92
Early stopping at iteration 752, Best Score: 4641.88
Early stopping at iteration 570, Best Score: 4607.27
Early stopping at iteration 524, Best Score: 4599.22
Early stopping at iteration 583, Best Score: 4620.32
Early stopping at iteration 661, Best Score: 4613.21
Early stopping at iteration 570, Best Score: 4589.16
Early stopping at iteration 634, Best Score: 4600.63
Early stopping at iteration 672, Best Score: 4639.53
Early stopping at iteration 514, Best Score: 4581.36
```

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Early stopping at iteration 583, Best Score: 4620.76
Early stopping at iteration 696, Best Score: 4633.13
Early stopping at iteration 630, Best Score: 4607.05
Early stopping at iteration 500, Best Score: 4574.57
Early stopping at iteration 573, Best Score: 4618.49
Early stopping at iteration 865, Best Score: 4620.50
Early stopping at iteration 948, Best Score: 4622.23
Early stopping at iteration 671, Best Score: 4618.07
Early stopping at iteration 539, Best Score: 4584.13
Early stopping at iteration 555, Best Score: 4592.41
Early stopping at iteration 564, Best Score: 4595.88
Early stopping at iteration 544, Best Score: 4601.76
Early stopping at iteration 691, Best Score: 4625.77
Early stopping at iteration 542, Best Score: 4585.58
Early stopping at iteration 723, Best Score: 4606.59
Early stopping at iteration 514, Best Score: 4595.74
Early stopping at iteration 541, Best Score: 4599.57
Early stopping at iteration 588, Best Score: 4632.67
Early stopping at iteration 506, Best Score: 4585.00
Early stopping at iteration 901, Best Score: 4588.82
Early stopping at iteration 532, Best Score: 4579.22
Early stopping at iteration 579, Best Score: 4590.44
Early stopping at iteration 524, Best Score: 4598.51
Early stopping at iteration 522, Best Score: 4585.98
Early stopping at iteration 503, Best Score: 4577.95
Early stopping at iteration 517, Best Score: 4579.39
Early stopping at iteration 1315, Best Score: 4656.42
Early stopping at iteration 543, Best Score: 4584.68
Early stopping at iteration 566, Best Score: 4608.80
Early stopping at iteration 690, Best Score: 4615.70
Early stopping at iteration 571, Best Score: 4611.03
Early stopping at iteration 530, Best Score: 4597.73
Early stopping at iteration 564, Best Score: 4593.26
Early stopping at iteration 527, Best Score: 4588.89
Early stopping at iteration 544, Best Score: 4594.63
Early stopping at iteration 635, Best Score: 4597.08
Early stopping at iteration 698, Best Score: 4632.67
Early stopping at iteration 944, Best Score: 4636.83
Early stopping at iteration 603, Best Score: 4610.06
Early stopping at iteration 612, Best Score: 4610.85
Early stopping at iteration 507, Best Score: 4576.72
Early stopping at iteration 652, Best Score: 4611.48
Early stopping at iteration 503, Best Score: 4577.50
Early stopping at iteration 509, Best Score: 4581.38
Early stopping at iteration 720, Best Score: 4645.02
Early stopping at iteration 589, Best Score: 4625.84
Early stopping at iteration 600, Best Score: 4609.54
Early stopping at iteration 710, Best Score: 4622.85
Early stopping at iteration 705, Best Score: 4631.01
Early stopping at iteration 666, Best Score: 4616.46
Early stopping at iteration 514, Best Score: 4590.21
Early stopping at iteration 559, Best Score: 4595.40
Early stopping at iteration 519, Best Score: 4593.88
Early stopping at iteration 635, Best Score: 4630.89
Early stopping at iteration 536, Best Score: 4589.12
Early stopping at iteration 545, Best Score: 4619.25
Early stopping at iteration 580, Best Score: 4605.70
Early stopping at iteration 596, Best Score: 4622.92
Early stopping at iteration 630, Best Score: 4632.38
Early stopping at iteration 599, Best Score: 4623.95
```

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Early stopping at iteration 574, Best Score: 4623.37
Early stopping at iteration 712, Best Score: 4628.78
Early stopping at iteration 539, Best Score: 4598.18
Early stopping at iteration 527, Best Score: 4580.14
Early stopping at iteration 593, Best Score: 4600.46
Early stopping at iteration 609, Best Score: 4603.44
Early stopping at iteration 556, Best Score: 4587.02
Early stopping at iteration 579, Best Score: 4608.47
Early stopping at iteration 514, Best Score: 4577.25
Early stopping at iteration 507, Best Score: 4575.88
Early stopping at iteration 611, Best Score: 4597.16
Early stopping at iteration 783, Best Score: 4639.35
Early stopping at iteration 895, Best Score: 4622.20
Early stopping at iteration 502, Best Score: 4575.88
Early stopping at iteration 562, Best Score: 4621.21
Early stopping at iteration 543, Best Score: 4581.75
Early stopping at iteration 538, Best Score: 4577.50
Early stopping at iteration 591, Best Score: 4626.46
Early stopping at iteration 621, Best Score: 4627.61
Early stopping at iteration 621, Best Score: 4612.04
Early stopping at iteration 547, Best Score: 4605.48
Early stopping at iteration 551, Best Score: 4592.77
Early stopping at iteration 505, Best Score: 4585.45
Early stopping at iteration 559, Best Score: 4599.05
Early stopping at iteration 522, Best Score: 4578.10
Early stopping at iteration 652, Best Score: 4596.87
Early stopping at iteration 600, Best Score: 4586.28
Early stopping at iteration 627, Best Score: 4619.26
Early stopping at iteration 613, Best Score: 4608.83
  Deck Trial 200/250
Early stopping at iteration 522, Best Score: 4577.50
Early stopping at iteration 530, Best Score: 4585.63
Early stopping at iteration 513, Best Score: 4590.03
Early stopping at iteration 572, Best Score: 4590.06
Early stopping at iteration 542, Best Score: 4599.73
Early stopping at iteration 584, Best Score: 4601.43
Early stopping at iteration 538, Best Score: 4595.73
Early stopping at iteration 607, Best Score: 4586.85
Early stopping at iteration 611, Best Score: 4598.31
Early stopping at iteration 654, Best Score: 4616.25
Early stopping at iteration 536, Best Score: 4593.12
Early stopping at iteration 554, Best Score: 4607.78
Early stopping at iteration 507, Best Score: 4585.07
Early stopping at iteration 559, Best Score: 4596.28
Early stopping at iteration 634, Best Score: 4591.01
Early stopping at iteration 558, Best Score: 4601.54
Early stopping at iteration 595, Best Score: 4608.82
Early stopping at iteration 568, Best Score: 4608.58
Early stopping at iteration 620, Best Score: 4627.73
Early stopping at iteration 588, Best Score: 4613.50
Early stopping at iteration 620, Best Score: 4604.44
Early stopping at iteration 726, Best Score: 4623.26
Early stopping at iteration 1004, Best Score: 4638.79
Early stopping at iteration 543, Best Score: 4612.04
Early stopping at iteration 719, Best Score: 4625.11
Early stopping at iteration 641, Best Score: 4636.96
Early stopping at iteration 626, Best Score: 4634.14
Early stopping at iteration 535, Best Score: 4591.01
Early stopping at iteration 649, Best Score: 4639.77
Early stopping at iteration 713, Best Score: 4620.72
```

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Early stopping at iteration 534, Best Score: 4597.18
Early stopping at iteration 602, Best Score: 4630.24
Early stopping at iteration 502, Best Score: 4576.72
Early stopping at iteration 580, Best Score: 4599.47
Early stopping at iteration 588, Best Score: 4594.74
Early stopping at iteration 617, Best Score: 4613.36
Early stopping at iteration 503, Best Score: 4574.58
Early stopping at iteration 514, Best Score: 4582.91
Early stopping at iteration 514, Best Score: 4577.50
Early stopping at iteration 533, Best Score: 4592.38
Early stopping at iteration 540, Best Score: 4610.72
Early stopping at iteration 591, Best Score: 4603.19
Early stopping at iteration 637, Best Score: 4596.48
Early stopping at iteration 706, Best Score: 4634.66
Early stopping at iteration 591, Best Score: 4591.51
Early stopping at iteration 558, Best Score: 4594.06
Early stopping at iteration 507, Best Score: 4577.50
Early stopping at iteration 724, Best Score: 4647.24
Early stopping at iteration 721, Best Score: 4630.76
Early stopping at iteration 707, Best Score: 4613.37
Early stopping at iteration 615, Best Score: 4622.06
GNN Trial 13 completed with 250 decks.

GNN Trial 14/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 44.4618, Synergy Loss: 3.2114, Total: 50.8847
Epoch 20/300 - Node Loss: 4.3269, Synergy Loss: 3.0758, Total: 10.4784
Epoch 30/300 - Node Loss: 2.0996, Synergy Loss: 2.9653, Total: 8.0302
Epoch 40/300 - Node Loss: 1.4129, Synergy Loss: 2.8459, Total: 7.1047
Epoch 50/300 - Node Loss: 1.0599, Synergy Loss: 2.7239, Total: 6.5076
Epoch 60/300 - Node Loss: 1.0176, Synergy Loss: 2.6131, Total: 6.2437
Epoch 70/300 - Node Loss: 1.0090, Synergy Loss: 2.5248, Total: 6.0586
Epoch 80/300 - Node Loss: 1.0077, Synergy Loss: 2.4751, Total: 5.9580
Epoch 90/300 - Node Loss: 1.0079, Synergy Loss: 2.4676, Total: 5.9430
Epoch 100/300 - Node Loss: 1.0113, Synergy Loss: 2.4649, Total: 5.9411
Epoch 110/300 - Node Loss: 1.0090, Synergy Loss: 2.4612, Total: 5.9315
Epoch 120/300 - Node Loss: 1.0323, Synergy Loss: 2.4627, Total: 5.9577
Epoch 130/300 - Node Loss: 1.0044, Synergy Loss: 2.4637, Total: 5.9317
Epoch 140/300 - Node Loss: 1.0038, Synergy Loss: 2.4609, Total: 5.9256
Epoch 150/300 - Node Loss: 1.0047, Synergy Loss: 2.4628, Total: 5.9303
Epoch 160/300 - Node Loss: 1.0027, Synergy Loss: 2.4601, Total: 5.9229
Epoch 170/300 - Node Loss: 1.0052, Synergy Loss: 2.4593, Total: 5.9237
Epoch 180/300 - Node Loss: 1.0043, Synergy Loss: 2.4538, Total: 5.9119
Epoch 190/300 - Node Loss: 1.0063, Synergy Loss: 2.4421, Total: 5.8905
Epoch 200/300 - Node Loss: 1.0176, Synergy Loss: 2.3209, Total: 5.6595
Epoch 210/300 - Node Loss: 1.1105, Synergy Loss: 1.8830, Total: 4.8765
Epoch 220/300 - Node Loss: 1.5160, Synergy Loss: 1.5228, Total: 4.5616
Epoch 230/300 - Node Loss: 1.2670, Synergy Loss: 1.6406, Total: 4.5482
Epoch 240/300 - Node Loss: 1.4443, Synergy Loss: 1.1594, Total: 3.7632
Epoch 250/300 - Node Loss: 1.1489, Synergy Loss: 1.1621, Total: 3.4731
Epoch 260/300 - Node Loss: 1.3461, Synergy Loss: 1.0819, Total: 3.5100
Epoch 270/300 - Node Loss: 1.1981, Synergy Loss: 1.0501, Total: 3.2984
Epoch 280/300 - Node Loss: 1.2595, Synergy Loss: 1.0587, Total: 3.3769
Epoch 290/300 - Node Loss: 1.2155, Synergy Loss: 0.9128, Total: 3.0412
Epoch 300/300 - Node Loss: 1.1900, Synergy Loss: 0.9335, Total: 3.0569
Existing model archived to: 20250310_181501_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 714, Best Score: 4054.66
Early stopping at iteration 703, Best Score: 4244.50
Early stopping at iteration 569, Best Score: 3417.69
```

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Early stopping at iteration 766, Best Score: 4063.95
Early stopping at iteration 786, Best Score: 4205.73
Early stopping at iteration 829, Best Score: 4377.96
Early stopping at iteration 1070, Best Score: 4280.73
Early stopping at iteration 644, Best Score: 3783.98
Early stopping at iteration 634, Best Score: 3939.74
Early stopping at iteration 830, Best Score: 4322.99
Early stopping at iteration 611, Best Score: 3753.05
Early stopping at iteration 1245, Best Score: 4296.51
Early stopping at iteration 785, Best Score: 4233.78
Early stopping at iteration 702, Best Score: 4216.59
Early stopping at iteration 546, Best Score: 3041.05
Early stopping at iteration 559, Best Score: 3405.05
Early stopping at iteration 1085, Best Score: 4369.25
Early stopping at iteration 717, Best Score: 4125.15
Early stopping at iteration 910, Best Score: 4417.43
Early stopping at iteration 1037, Best Score: 4365.58
Early stopping at iteration 744, Best Score: 4082.40
Early stopping at iteration 1124, Best Score: 4380.49
Early stopping at iteration 852, Best Score: 4339.94
Early stopping at iteration 667, Best Score: 4018.21
Early stopping at iteration 717, Best Score: 3773.17
Early stopping at iteration 1062, Best Score: 4348.02
Early stopping at iteration 726, Best Score: 4254.73
Early stopping at iteration 754, Best Score: 4045.57
Early stopping at iteration 850, Best Score: 4256.23
Early stopping at iteration 759, Best Score: 4253.84
Early stopping at iteration 629, Best Score: 4014.10
Early stopping at iteration 731, Best Score: 4315.52
Early stopping at iteration 906, Best Score: 4374.13
Early stopping at iteration 638, Best Score: 4120.87
Early stopping at iteration 896, Best Score: 4319.13
Early stopping at iteration 769, Best Score: 4340.99
Early stopping at iteration 655, Best Score: 4095.97
Early stopping at iteration 591, Best Score: 3760.21
Early stopping at iteration 732, Best Score: 4229.13
Early stopping at iteration 806, Best Score: 4310.53
Early stopping at iteration 907, Best Score: 4323.89
Early stopping at iteration 664, Best Score: 4142.23
Early stopping at iteration 893, Best Score: 4394.38
Early stopping at iteration 639, Best Score: 4023.98
Early stopping at iteration 579, Best Score: 3526.55
Early stopping at iteration 669, Best Score: 4070.90
Early stopping at iteration 555, Best Score: 3467.75
Early stopping at iteration 746, Best Score: 4318.62
Early stopping at iteration 708, Best Score: 4223.65
Early stopping at iteration 704, Best Score: 4215.10
Early stopping at iteration 610, Best Score: 3975.62
Early stopping at iteration 757, Best Score: 4237.02
Early stopping at iteration 790, Best Score: 4308.45
Early stopping at iteration 1076, Best Score: 4395.29
Early stopping at iteration 782, Best Score: 3918.20
Early stopping at iteration 842, Best Score: 4335.04
Early stopping at iteration 994, Best Score: 4341.12
Early stopping at iteration 1011, Best Score: 4385.06
Early stopping at iteration 699, Best Score: 4115.82
Early stopping at iteration 772, Best Score: 4314.21
Early stopping at iteration 584, Best Score: 3684.72
Early stopping at iteration 718, Best Score: 4318.35
Early stopping at iteration 959, Best Score: 4433.62
```

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Early stopping at iteration 902, Best Score: 4291.31
Early stopping at iteration 760, Best Score: 4317.28
Early stopping at iteration 569, Best Score: 3325.30
Early stopping at iteration 975, Best Score: 4169.45
Early stopping at iteration 605, Best Score: 3504.52
Early stopping at iteration 737, Best Score: 4057.01
Early stopping at iteration 1069, Best Score: 4378.56
Early stopping at iteration 1107, Best Score: 4405.43
Early stopping at iteration 661, Best Score: 4218.22
Early stopping at iteration 932, Best Score: 4380.93
Early stopping at iteration 1180, Best Score: 3506.65
Early stopping at iteration 838, Best Score: 4303.64
Early stopping at iteration 851, Best Score: 4341.31
Early stopping at iteration 1214, Best Score: 4348.96
Early stopping at iteration 653, Best Score: 4011.48
Early stopping at iteration 634, Best Score: 3798.51
Early stopping at iteration 632, Best Score: 3917.13
Early stopping at iteration 697, Best Score: 4188.22
Early stopping at iteration 854, Best Score: 4384.62
Early stopping at iteration 749, Best Score: 4279.12
Early stopping at iteration 721, Best Score: 4249.66
Early stopping at iteration 728, Best Score: 4259.60
Early stopping at iteration 663, Best Score: 4086.08
Early stopping at iteration 673, Best Score: 3746.66
Early stopping at iteration 740, Best Score: 4298.37
Early stopping at iteration 1262, Best Score: 4346.60
Early stopping at iteration 756, Best Score: 4097.53
Early stopping at iteration 574, Best Score: 3749.23
Early stopping at iteration 999, Best Score: 4395.94
Early stopping at iteration 856, Best Score: 4356.07
Early stopping at iteration 760, Best Score: 4285.13
Early stopping at iteration 682, Best Score: 4129.06
Early stopping at iteration 763, Best Score: 4340.93
Early stopping at iteration 717, Best Score: 4253.50
Early stopping at iteration 975, Best Score: 4415.72
Early stopping at iteration 698, Best Score: 4259.27
  Deck Trial 100/250
Early stopping at iteration 1064, Best Score: 4304.64
Early stopping at iteration 574, Best Score: 3469.28
Early stopping at iteration 1206, Best Score: 4413.56
Early stopping at iteration 722, Best Score: 3886.59
Early stopping at iteration 676, Best Score: 4149.11
Early stopping at iteration 776, Best Score: 4344.00
Early stopping at iteration 705, Best Score: 4214.94
Early stopping at iteration 919, Best Score: 4351.62
Early stopping at iteration 878, Best Score: 4347.59
Early stopping at iteration 651, Best Score: 3808.84
Early stopping at iteration 1028, Best Score: 4377.17
Early stopping at iteration 640, Best Score: 4074.14
Early stopping at iteration 886, Best Score: 4271.86
Early stopping at iteration 683, Best Score: 4107.70
Early stopping at iteration 590, Best Score: 3861.99
Early stopping at iteration 810, Best Score: 4318.41
Early stopping at iteration 948, Best Score: 4392.92
Early stopping at iteration 729, Best Score: 4293.59
Early stopping at iteration 945, Best Score: 4303.33
Early stopping at iteration 674, Best Score: 3990.82
Early stopping at iteration 677, Best Score: 4014.16
Early stopping at iteration 676, Best Score: 4141.92
Early stopping at iteration 718, Best Score: 4164.63
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Early stopping at iteration 852, Best Score: 4324.11
Early stopping at iteration 1454, Best Score: 4374.93
Early stopping at iteration 1017, Best Score: 4397.67
Early stopping at iteration 908, Best Score: 4407.92
Early stopping at iteration 578, Best Score: 3579.00
Early stopping at iteration 1067, Best Score: 4278.77
Early stopping at iteration 648, Best Score: 3894.99
Early stopping at iteration 1094, Best Score: 4410.08
Early stopping at iteration 710, Best Score: 3964.53
Early stopping at iteration 689, Best Score: 3999.54
Early stopping at iteration 1085, Best Score: 4365.52
Early stopping at iteration 725, Best Score: 4234.26
Early stopping at iteration 1128, Best Score: 4404.91
Early stopping at iteration 1104, Best Score: 4305.19
Early stopping at iteration 792, Best Score: 4201.58
Early stopping at iteration 987, Best Score: 4258.60
Early stopping at iteration 850, Best Score: 4282.54
Early stopping at iteration 548, Best Score: 3459.54
Early stopping at iteration 1049, Best Score: 4400.64
Early stopping at iteration 1364, Best Score: 4329.08
Early stopping at iteration 745, Best Score: 4288.92
Early stopping at iteration 641, Best Score: 3755.35
Early stopping at iteration 677, Best Score: 4014.12
Early stopping at iteration 632, Best Score: 3894.07
Early stopping at iteration 818, Best Score: 4386.11
Early stopping at iteration 920, Best Score: 4256.44
Early stopping at iteration 948, Best Score: 4410.59
Early stopping at iteration 698, Best Score: 4026.60
Early stopping at iteration 828, Best Score: 4329.61
Early stopping at iteration 1000, Best Score: 4278.41
Early stopping at iteration 554, Best Score: 3220.53
Early stopping at iteration 733, Best Score: 4212.41
Early stopping at iteration 907, Best Score: 4337.96
Early stopping at iteration 806, Best Score: 4274.66
Early stopping at iteration 788, Best Score: 4285.23
Early stopping at iteration 840, Best Score: 4374.61
Early stopping at iteration 810, Best Score: 4375.66
Early stopping at iteration 737, Best Score: 4289.93
Early stopping at iteration 1073, Best Score: 4422.15
Early stopping at iteration 1050, Best Score: 4373.56
Early stopping at iteration 668, Best Score: 4181.00
Early stopping at iteration 883, Best Score: 4169.05
Early stopping at iteration 1051, Best Score: 4298.70
Early stopping at iteration 821, Best Score: 4281.48
Early stopping at iteration 1297, Best Score: 4283.18
Early stopping at iteration 801, Best Score: 4243.45
Early stopping at iteration 879, Best Score: 4379.61
Early stopping at iteration 532, Best Score: 3196.27
Early stopping at iteration 885, Best Score: 4315.20
Early stopping at iteration 795, Best Score: 4371.22
Early stopping at iteration 920, Best Score: 3850.91
Early stopping at iteration 768, Best Score: 4233.36
Early stopping at iteration 659, Best Score: 4147.75
Early stopping at iteration 974, Best Score: 4380.80
Early stopping at iteration 792, Best Score: 4244.69
Early stopping at iteration 1116, Best Score: 4424.46
Early stopping at iteration 1077, Best Score: 4361.26
Early stopping at iteration 1157, Best Score: 4377.85
Early stopping at iteration 836, Best Score: 4300.51
Early stopping at iteration 932, Best Score: 4351.66
```

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Early stopping at iteration 791, Best Score: 4376.65
Early stopping at iteration 707, Best Score: 4140.76
Early stopping at iteration 670, Best Score: 4160.63
Early stopping at iteration 858, Best Score: 4206.29
Early stopping at iteration 583, Best Score: 3463.92
Early stopping at iteration 817, Best Score: 4353.16
Early stopping at iteration 926, Best Score: 4114.81
Early stopping at iteration 692, Best Score: 4035.99
Early stopping at iteration 910, Best Score: 4340.76
Early stopping at iteration 589, Best Score: 3762.43
Early stopping at iteration 577, Best Score: 3588.60
Early stopping at iteration 903, Best Score: 4349.93
Early stopping at iteration 819, Best Score: 4381.88
Early stopping at iteration 553, Best Score: 3403.88
Early stopping at iteration 850, Best Score: 4178.55
Early stopping at iteration 679, Best Score: 4109.74
Early stopping at iteration 700, Best Score: 3962.43
  Deck Trial 200/250
Early stopping at iteration 613, Best Score: 3839.64
Early stopping at iteration 568, Best Score: 3767.84
Early stopping at iteration 601, Best Score: 3634.78
Early stopping at iteration 658, Best Score: 4047.38
Early stopping at iteration 589, Best Score: 3494.52
Early stopping at iteration 892, Best Score: 4327.11
Early stopping at iteration 874, Best Score: 4339.43
Early stopping at iteration 961, Best Score: 4399.37
Early stopping at iteration 917, Best Score: 4379.35
Early stopping at iteration 885, Best Score: 4377.71
Early stopping at iteration 957, Best Score: 4334.36
Early stopping at iteration 626, Best Score: 4011.15
Early stopping at iteration 866, Best Score: 4275.22
Early stopping at iteration 763, Best Score: 4313.69
Early stopping at iteration 625, Best Score: 3797.75
Early stopping at iteration 553, Best Score: 3483.87
Early stopping at iteration 1039, Best Score: 4372.56
Early stopping at iteration 791, Best Score: 4288.32
Early stopping at iteration 678, Best Score: 4226.48
Early stopping at iteration 617, Best Score: 3660.34
Early stopping at iteration 611, Best Score: 3978.44
Early stopping at iteration 811, Best Score: 3364.93
Early stopping at iteration 571, Best Score: 3628.85
Early stopping at iteration 834, Best Score: 4306.10
Early stopping at iteration 1086, Best Score: 3938.06
Early stopping at iteration 871, Best Score: 4345.41
Early stopping at iteration 1337, Best Score: 4418.89
Early stopping at iteration 872, Best Score: 4354.12
Early stopping at iteration 917, Best Score: 4393.96
Early stopping at iteration 1063, Best Score: 4361.17
Early stopping at iteration 774, Best Score: 4180.94
Early stopping at iteration 554, Best Score: 3446.63
Early stopping at iteration 1342, Best Score: 4379.83
Early stopping at iteration 826, Best Score: 4380.58
Early stopping at iteration 951, Best Score: 4366.55
Early stopping at iteration 549, Best Score: 3073.42
Early stopping at iteration 620, Best Score: 3716.23
Early stopping at iteration 678, Best Score: 4200.22
Early stopping at iteration 545, Best Score: 3392.16
Early stopping at iteration 1034, Best Score: 4361.21
Early stopping at iteration 561, Best Score: 3211.80
Early stopping at iteration 878, Best Score: 3918.88
```

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Early stopping at iteration 807, Best Score: 4264.83
Early stopping at iteration 798, Best Score: 4177.29
Early stopping at iteration 701, Best Score: 3835.98
Early stopping at iteration 756, Best Score: 4287.13
Early stopping at iteration 1089, Best Score: 4368.92
Early stopping at iteration 619, Best Score: 3827.71
Early stopping at iteration 917, Best Score: 4381.36
Early stopping at iteration 651, Best Score: 3981.01
Early stopping at iteration 906, Best Score: 4312.94
GNN Trial 14 completed with 250 decks.

GNN Trial 15/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 67.5789, Synergy Loss: 3.3298, Total: 74.2385
Epoch 20/300 - Node Loss: 7.6783, Synergy Loss: 3.2271, Total: 14.1325
Epoch 30/300 - Node Loss: 2.6611, Synergy Loss: 3.1449, Total: 8.9510
Epoch 40/300 - Node Loss: 1.4407, Synergy Loss: 3.0559, Total: 7.5525
Epoch 50/300 - Node Loss: 1.1251, Synergy Loss: 2.9423, Total: 7.0098
Epoch 60/300 - Node Loss: 1.0095, Synergy Loss: 2.8421, Total: 6.6937
Epoch 70/300 - Node Loss: 1.0202, Synergy Loss: 2.7511, Total: 6.5224
Epoch 80/300 - Node Loss: 1.0030, Synergy Loss: 2.6679, Total: 6.3388
Epoch 90/300 - Node Loss: 1.0021, Synergy Loss: 2.5961, Total: 6.1943
Epoch 100/300 - Node Loss: 1.0028, Synergy Loss: 2.5374, Total: 6.0776
Epoch 110/300 - Node Loss: 1.0023, Synergy Loss: 2.5025, Total: 6.0073
Epoch 120/300 - Node Loss: 1.0021, Synergy Loss: 2.4801, Total: 5.9623
Epoch 130/300 - Node Loss: 1.0012, Synergy Loss: 2.4760, Total: 5.9533
Epoch 140/300 - Node Loss: 1.0024, Synergy Loss: 2.4678, Total: 5.9379
Epoch 150/300 - Node Loss: 1.0036, Synergy Loss: 2.4622, Total: 5.9280
Epoch 160/300 - Node Loss: 1.0196, Synergy Loss: 2.4369, Total: 5.8935
Epoch 170/300 - Node Loss: 1.0227, Synergy Loss: 2.4056, Total: 5.8339
Epoch 180/300 - Node Loss: 1.0593, Synergy Loss: 2.3320, Total: 5.7232
Epoch 190/300 - Node Loss: 1.0729, Synergy Loss: 2.2545, Total: 5.5819
Epoch 200/300 - Node Loss: 1.0781, Synergy Loss: 2.1299, Total: 5.3380
Epoch 210/300 - Node Loss: 1.2084, Synergy Loss: 1.9687, Total: 5.1458
Epoch 220/300 - Node Loss: 1.3747, Synergy Loss: 1.8092, Total: 4.9930
Epoch 230/300 - Node Loss: 1.2520, Synergy Loss: 1.6632, Total: 4.5785
Epoch 240/300 - Node Loss: 1.2624, Synergy Loss: 1.5421, Total: 4.3467
Epoch 250/300 - Node Loss: 1.2930, Synergy Loss: 1.4046, Total: 4.1023
Epoch 260/300 - Node Loss: 1.3507, Synergy Loss: 1.3453, Total: 4.0414
Epoch 270/300 - Node Loss: 1.2840, Synergy Loss: 1.3475, Total: 3.9790
Epoch 280/300 - Node Loss: 1.2582, Synergy Loss: 1.2896, Total: 3.8373
Epoch 290/300 - Node Loss: 1.3279, Synergy Loss: 1.2447, Total: 3.8172
Epoch 300/300 - Node Loss: 1.3343, Synergy Loss: 1.1766, Total: 3.6875
Existing model archived to: 20250310_182015_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 648, Best Score: 3624.31
Early stopping at iteration 663, Best Score: 3599.70
Early stopping at iteration 609, Best Score: 3597.31
Early stopping at iteration 607, Best Score: 3592.21
Early stopping at iteration 523, Best Score: 3585.99
Early stopping at iteration 509, Best Score: 3583.08
Early stopping at iteration 564, Best Score: 3607.04
Early stopping at iteration 500, Best Score: 3580.58
Early stopping at iteration 602, Best Score: 3599.48
Early stopping at iteration 525, Best Score: 3583.09
Early stopping at iteration 738, Best Score: 3623.62
Early stopping at iteration 725, Best Score: 3640.54
Early stopping at iteration 581, Best Score: 3617.03
Early stopping at iteration 748, Best Score: 3642.65
Early stopping at iteration 562, Best Score: 3596.33
```

```
Early stopping at iteration 643, Best Score: 3588.73
Early stopping at iteration 549, Best Score: 3613.04
Early stopping at iteration 672, Best Score: 3617.20
Early stopping at iteration 509, Best Score: 3581.73
Early stopping at iteration 632, Best Score: 3618.69
Early stopping at iteration 657, Best Score: 3621.45
Early stopping at iteration 657, Best Score: 3630.98
Early stopping at iteration 593, Best Score: 3617.27
Early stopping at iteration 637, Best Score: 3610.40
Early stopping at iteration 605, Best Score: 3619.90
Early stopping at iteration 600, Best Score: 3625.84
Early stopping at iteration 618, Best Score: 3618.99
Early stopping at iteration 584, Best Score: 3610.94
Early stopping at iteration 500, Best Score: 3580.58
Early stopping at iteration 502, Best Score: 3582.91
Early stopping at iteration 566, Best Score: 3592.71
Early stopping at iteration 537, Best Score: 3603.49
Early stopping at iteration 587, Best Score: 3606.12
Early stopping at iteration 547, Best Score: 3606.38
Early stopping at iteration 509, Best Score: 3583.97
Early stopping at iteration 589, Best Score: 3626.77
Early stopping at iteration 629, Best Score: 3607.82
Early stopping at iteration 507, Best Score: 3581.73
Early stopping at iteration 905, Best Score: 3628.35
Early stopping at iteration 573, Best Score: 3608.19
Early stopping at iteration 578, Best Score: 3595.21
Early stopping at iteration 513, Best Score: 3588.99
Early stopping at iteration 617, Best Score: 3611.23
Early stopping at iteration 529, Best Score: 3585.71
Early stopping at iteration 549, Best Score: 3602.64
Early stopping at iteration 576, Best Score: 3611.57
Early stopping at iteration 521, Best Score: 3589.73
Early stopping at iteration 638, Best Score: 3605.57
Early stopping at iteration 612, Best Score: 3611.64
Early stopping at iteration 507, Best Score: 3583.08
Early stopping at iteration 648, Best Score: 3625.66
Early stopping at iteration 552, Best Score: 3604.07
Early stopping at iteration 568, Best Score: 3595.71
Early stopping at iteration 622, Best Score: 3621.43
Early stopping at iteration 607, Best Score: 3595.18
Early stopping at iteration 600, Best Score: 3622.13
Early stopping at iteration 610, Best Score: 3596.52
Early stopping at iteration 503, Best Score: 3582.91
Early stopping at iteration 522, Best Score: 3587.30
Early stopping at iteration 571, Best Score: 3594.78
Early stopping at iteration 678, Best Score: 3644.09
Early stopping at iteration 538, Best Score: 3591.82
Early stopping at iteration 649, Best Score: 3614.76
Early stopping at iteration 586, Best Score: 3605.27
Early stopping at iteration 611, Best Score: 3618.47
Early stopping at iteration 662, Best Score: 3629.95
Early stopping at iteration 500, Best Score: 3580.58
Early stopping at iteration 647, Best Score: 3630.72
Early stopping at iteration 601, Best Score: 3609.08
Early stopping at iteration 594, Best Score: 3629.40
Early stopping at iteration 653, Best Score: 3637.09
Early stopping at iteration 662, Best Score: 3588.90
Early stopping at iteration 546, Best Score: 3608.95
Early stopping at iteration 532, Best Score: 3600.60
Early stopping at iteration 681, Best Score: 3622.28
```

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Early stopping at iteration 637, Best Score: 3597.32
Early stopping at iteration 612, Best Score: 3605.17
Early stopping at iteration 567, Best Score: 3599.81
Early stopping at iteration 556, Best Score: 3598.64
Early stopping at iteration 586, Best Score: 3618.31
Early stopping at iteration 552, Best Score: 3609.26
Early stopping at iteration 556, Best Score: 3588.93
Early stopping at iteration 788, Best Score: 3636.57
Early stopping at iteration 533, Best Score: 3587.58
Early stopping at iteration 671, Best Score: 3621.39
Early stopping at iteration 704, Best Score: 3590.77
Early stopping at iteration 614, Best Score: 3638.18
Early stopping at iteration 546, Best Score: 3602.36
Early stopping at iteration 703, Best Score: 3615.49
Early stopping at iteration 688, Best Score: 3627.95
Early stopping at iteration 557, Best Score: 3606.75
Early stopping at iteration 854, Best Score: 3631.41
Early stopping at iteration 556, Best Score: 3601.96
Early stopping at iteration 685, Best Score: 3607.84
Early stopping at iteration 653, Best Score: 3615.16
Early stopping at iteration 679, Best Score: 3626.12
Early stopping at iteration 613, Best Score: 3619.02
Early stopping at iteration 581, Best Score: 3597.30
Early stopping at iteration 569, Best Score: 3601.15
  Deck Trial 100/250
Early stopping at iteration 540, Best Score: 3594.46
Early stopping at iteration 574, Best Score: 3604.62
Early stopping at iteration 766, Best Score: 3630.88
Early stopping at iteration 529, Best Score: 3606.85
Early stopping at iteration 605, Best Score: 3611.01
Early stopping at iteration 594, Best Score: 3620.79
Early stopping at iteration 508, Best Score: 3585.70
Early stopping at iteration 500, Best Score: 3580.58
Early stopping at iteration 743, Best Score: 3617.10
Early stopping at iteration 565, Best Score: 3602.56
Early stopping at iteration 533, Best Score: 3598.28
Early stopping at iteration 519, Best Score: 3604.74
Early stopping at iteration 584, Best Score: 3614.20
Early stopping at iteration 612, Best Score: 3630.56
Early stopping at iteration 588, Best Score: 3611.98
Early stopping at iteration 536, Best Score: 3586.80
Early stopping at iteration 637, Best Score: 3622.36
Early stopping at iteration 549, Best Score: 3612.47
Early stopping at iteration 500, Best Score: 3580.58
Early stopping at iteration 574, Best Score: 3601.64
Early stopping at iteration 613, Best Score: 3623.26
Early stopping at iteration 738, Best Score: 3608.39
Early stopping at iteration 561, Best Score: 3592.62
Early stopping at iteration 510, Best Score: 3584.02
Early stopping at iteration 935, Best Score: 3624.74
Early stopping at iteration 516, Best Score: 3595.90
Early stopping at iteration 567, Best Score: 3605.47
Early stopping at iteration 570, Best Score: 3604.47
Early stopping at iteration 516, Best Score: 3583.72
Early stopping at iteration 505, Best Score: 3582.47
Early stopping at iteration 786, Best Score: 3629.98
Early stopping at iteration 692, Best Score: 3615.04
Early stopping at iteration 504, Best Score: 3581.75
Early stopping at iteration 1036, Best Score: 3622.35
Early stopping at iteration 542, Best Score: 3619.22
```

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Early stopping at iteration 609, Best Score: 3606.07
Early stopping at iteration 567, Best Score: 3603.29
Early stopping at iteration 531, Best Score: 3586.28
Early stopping at iteration 503, Best Score: 3581.73
Early stopping at iteration 547, Best Score: 3599.36
Early stopping at iteration 569, Best Score: 3596.96
Early stopping at iteration 581, Best Score: 3602.92
Early stopping at iteration 527, Best Score: 3589.77
Early stopping at iteration 733, Best Score: 3602.91
Early stopping at iteration 570, Best Score: 3602.52
Early stopping at iteration 633, Best Score: 3610.76
Early stopping at iteration 744, Best Score: 3642.90
Early stopping at iteration 536, Best Score: 3593.24
Early stopping at iteration 590, Best Score: 3614.40
Early stopping at iteration 518, Best Score: 3591.19
Early stopping at iteration 557, Best Score: 3601.35
Early stopping at iteration 514, Best Score: 3588.05
Early stopping at iteration 649, Best Score: 3620.30
Early stopping at iteration 518, Best Score: 3582.64
Early stopping at iteration 848, Best Score: 3635.56
Early stopping at iteration 510, Best Score: 3582.91
Early stopping at iteration 532, Best Score: 3583.08
Early stopping at iteration 535, Best Score: 3607.34
Early stopping at iteration 538, Best Score: 3583.31
Early stopping at iteration 505, Best Score: 3582.91
Early stopping at iteration 552, Best Score: 3619.34
Early stopping at iteration 536, Best Score: 3589.03
Early stopping at iteration 539, Best Score: 3585.31
Early stopping at iteration 511, Best Score: 3588.32
Early stopping at iteration 643, Best Score: 3623.54
Early stopping at iteration 534, Best Score: 3594.49
Early stopping at iteration 587, Best Score: 3623.84
Early stopping at iteration 820, Best Score: 3610.46
Early stopping at iteration 546, Best Score: 3593.19
Early stopping at iteration 564, Best Score: 3595.23
Early stopping at iteration 609, Best Score: 3588.30
Early stopping at iteration 533, Best Score: 3604.17
Early stopping at iteration 505, Best Score: 3590.20
Early stopping at iteration 593, Best Score: 3623.15
Early stopping at iteration 623, Best Score: 3601.92
Early stopping at iteration 679, Best Score: 3606.14
Early stopping at iteration 587, Best Score: 3598.94
Early stopping at iteration 862, Best Score: 3626.46
Early stopping at iteration 530, Best Score: 3602.19
Early stopping at iteration 650, Best Score: 3634.22
Early stopping at iteration 520, Best Score: 3598.31
Early stopping at iteration 546, Best Score: 3592.48
Early stopping at iteration 500, Best Score: 3580.58
Early stopping at iteration 715, Best Score: 3626.47
Early stopping at iteration 505, Best Score: 3585.34
Early stopping at iteration 507, Best Score: 3591.71
Early stopping at iteration 523, Best Score: 3603.63
Early stopping at iteration 674, Best Score: 3615.68
Early stopping at iteration 572, Best Score: 3591.17
Early stopping at iteration 609, Best Score: 3608.76
Early stopping at iteration 616, Best Score: 3613.16
Early stopping at iteration 564, Best Score: 3609.74
Early stopping at iteration 1042, Best Score: 3637.17
Early stopping at iteration 500, Best Score: 3580.58
Early stopping at iteration 557, Best Score: 3601.34
```

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Early stopping at iteration 652, Best Score: 3619.23
Early stopping at iteration 527, Best Score: 3608.49
Early stopping at iteration 610, Best Score: 3598.00
Early stopping at iteration 586, Best Score: 3607.00
Early stopping at iteration 530, Best Score: 3602.40
  Deck Trial 200/250
Early stopping at iteration 1120, Best Score: 3631.63
Early stopping at iteration 520, Best Score: 3588.92
Early stopping at iteration 616, Best Score: 3620.17
Early stopping at iteration 587, Best Score: 3589.82
Early stopping at iteration 771, Best Score: 3622.86
Early stopping at iteration 675, Best Score: 3617.12
Early stopping at iteration 533, Best Score: 3593.53
Early stopping at iteration 589, Best Score: 3622.80
Early stopping at iteration 538, Best Score: 3601.71
Early stopping at iteration 541, Best Score: 3587.92
Early stopping at iteration 516, Best Score: 3582.91
Early stopping at iteration 567, Best Score: 3608.08
Early stopping at iteration 711, Best Score: 3624.85
Early stopping at iteration 532, Best Score: 3592.58
Early stopping at iteration 617, Best Score: 3613.72
Early stopping at iteration 748, Best Score: 3614.16
Early stopping at iteration 563, Best Score: 3602.89
Early stopping at iteration 516, Best Score: 3586.75
Early stopping at iteration 615, Best Score: 3609.00
Early stopping at iteration 701, Best Score: 3614.67
Early stopping at iteration 638, Best Score: 3607.46
Early stopping at iteration 552, Best Score: 3587.96
Early stopping at iteration 589, Best Score: 3609.39
Early stopping at iteration 507, Best Score: 3594.61
Early stopping at iteration 632, Best Score: 3601.10
Early stopping at iteration 515, Best Score: 3585.88
Early stopping at iteration 569, Best Score: 3604.45
Early stopping at iteration 697, Best Score: 3616.95
Early stopping at iteration 545, Best Score: 3590.83
Early stopping at iteration 599, Best Score: 3610.30
Early stopping at iteration 642, Best Score: 3614.73
Early stopping at iteration 500, Best Score: 3580.58
Early stopping at iteration 660, Best Score: 3619.35
Early stopping at iteration 702, Best Score: 3608.39
Early stopping at iteration 559, Best Score: 3590.44
Early stopping at iteration 702, Best Score: 3609.95
Early stopping at iteration 561, Best Score: 3597.37
Early stopping at iteration 536, Best Score: 3596.92
Early stopping at iteration 578, Best Score: 3589.88
Early stopping at iteration 636, Best Score: 3606.59
Early stopping at iteration 568, Best Score: 3591.40
Early stopping at iteration 520, Best Score: 3589.36
Early stopping at iteration 513, Best Score: 3583.75
Early stopping at iteration 507, Best Score: 3581.73
Early stopping at iteration 766, Best Score: 3626.44
Early stopping at iteration 683, Best Score: 3608.95
Early stopping at iteration 578, Best Score: 3625.89
Early stopping at iteration 533, Best Score: 3597.16
Early stopping at iteration 543, Best Score: 3587.09
Early stopping at iteration 546, Best Score: 3589.50
Early stopping at iteration 546, Best Score: 3591.91
GNN Trial 15 completed with 250 decks.

GNN Trial 16/20
```

```
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 18.6680, Synergy Loss: 3.3295, Total: 25.3270
Epoch 20/300 - Node Loss: 2.6077, Synergy Loss: 3.2320, Total: 9.0717
Epoch 30/300 - Node Loss: 1.2911, Synergy Loss: 3.1054, Total: 7.5019
Epoch 40/300 - Node Loss: 1.0221, Synergy Loss: 2.9825, Total: 6.9872
Epoch 50/300 - Node Loss: 1.0017, Synergy Loss: 2.8661, Total: 6.7339
Epoch 60/300 - Node Loss: 1.0010, Synergy Loss: 2.7605, Total: 6.5220
Epoch 70/300 - Node Loss: 1.0009, Synergy Loss: 2.6645, Total: 6.3298
Epoch 80/300 - Node Loss: 1.0017, Synergy Loss: 2.5835, Total: 6.1687
Epoch 90/300 - Node Loss: 1.0006, Synergy Loss: 2.5214, Total: 6.0435
Epoch 100/300 - Node Loss: 1.0012, Synergy Loss: 2.4904, Total: 5.9820
Epoch 110/300 - Node Loss: 1.0042, Synergy Loss: 2.4793, Total: 5.9628
Epoch 120/300 - Node Loss: 1.0049, Synergy Loss: 2.4721, Total: 5.9490
Epoch 130/300 - Node Loss: 1.0068, Synergy Loss: 2.4567, Total: 5.9202
Epoch 140/300 - Node Loss: 1.0579, Synergy Loss: 2.3585, Total: 5.7750
Epoch 150/300 - Node Loss: 1.1532, Synergy Loss: 2.1413, Total: 5.4359
Epoch 160/300 - Node Loss: 1.2392, Synergy Loss: 1.8198, Total: 4.8788
Epoch 170/300 - Node Loss: 1.3089, Synergy Loss: 1.6133, Total: 4.5354
Epoch 180/300 - Node Loss: 1.2554, Synergy Loss: 1.6068, Total: 4.4690
Epoch 190/300 - Node Loss: 1.2216, Synergy Loss: 1.4610, Total: 4.1435
Epoch 200/300 - Node Loss: 1.2050, Synergy Loss: 1.3959, Total: 3.9968
Epoch 210/300 - Node Loss: 1.2076, Synergy Loss: 1.3637, Total: 3.9350
Epoch 220/300 - Node Loss: 1.1896, Synergy Loss: 1.3478, Total: 3.8852
Epoch 230/300 - Node Loss: 1.1783, Synergy Loss: 1.2942, Total: 3.7667
Epoch 240/300 - Node Loss: 1.1598, Synergy Loss: 1.2497, Total: 3.6592
Epoch 250/300 - Node Loss: 1.1379, Synergy Loss: 1.2175, Total: 3.5729
Epoch 260/300 - Node Loss: 1.1002, Synergy Loss: 1.1263, Total: 3.3528
Epoch 270/300 - Node Loss: 1.1211, Synergy Loss: 1.0711, Total: 3.2634
Epoch 280/300 - Node Loss: 1.1236, Synergy Loss: 1.0390, Total: 3.2015
Epoch 290/300 - Node Loss: 1.1141, Synergy Loss: 1.0014, Total: 3.1169
Epoch 300/300 - Node Loss: 1.0930, Synergy Loss: 0.9585, Total: 3.0100
Existing model archived to: 20250310_182453_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 1016, Best Score: 4255.51
Early stopping at iteration 733, Best Score: 4259.42
Early stopping at iteration 624, Best Score: 4271.16
Early stopping at iteration 674, Best Score: 4304.96
Early stopping at iteration 568, Best Score: 4261.59
Early stopping at iteration 507, Best Score: 4227.39
Early stopping at iteration 631, Best Score: 4298.21
Early stopping at iteration 624, Best Score: 4305.95
Early stopping at iteration 594, Best Score: 4303.29
Early stopping at iteration 572, Best Score: 4294.02
Early stopping at iteration 641, Best Score: 4281.25
Early stopping at iteration 592, Best Score: 4282.30
Early stopping at iteration 608, Best Score: 4299.70
Early stopping at iteration 612, Best Score: 4256.68
Early stopping at iteration 831, Best Score: 4335.99
Early stopping at iteration 573, Best Score: 4293.02
Early stopping at iteration 676, Best Score: 4296.03
Early stopping at iteration 598, Best Score: 4283.41
Early stopping at iteration 688, Best Score: 4308.55
Early stopping at iteration 528, Best Score: 4236.75
Early stopping at iteration 520, Best Score: 4254.67
Early stopping at iteration 531, Best Score: 4253.20
Early stopping at iteration 523, Best Score: 4258.69
Early stopping at iteration 722, Best Score: 4284.84
Early stopping at iteration 648, Best Score: 4298.65
Early stopping at iteration 669, Best Score: 4286.64
Early stopping at iteration 508, Best Score: 4234.43
```

```
Early stopping at iteration 802, Best Score: 4311.91
Early stopping at iteration 566, Best Score: 4266.07
Early stopping at iteration 542, Best Score: 4244.46
Early stopping at iteration 687, Best Score: 4293.21
Early stopping at iteration 620, Best Score: 4284.92
Early stopping at iteration 518, Best Score: 4236.07
Early stopping at iteration 640, Best Score: 4283.66
Early stopping at iteration 605, Best Score: 4281.37
Early stopping at iteration 682, Best Score: 4310.18
Early stopping at iteration 953, Best Score: 4360.15
Early stopping at iteration 536, Best Score: 4246.42
Early stopping at iteration 698, Best Score: 4302.78
Early stopping at iteration 622, Best Score: 4286.46
Early stopping at iteration 817, Best Score: 4320.37
Early stopping at iteration 666, Best Score: 4307.04
Early stopping at iteration 718, Best Score: 4315.30
Early stopping at iteration 604, Best Score: 4270.17
Early stopping at iteration 715, Best Score: 4324.29
Early stopping at iteration 528, Best Score: 4249.87
Early stopping at iteration 574, Best Score: 4280.43
Early stopping at iteration 707, Best Score: 4296.82
Early stopping at iteration 613, Best Score: 4304.46
Early stopping at iteration 679, Best Score: 4299.18
Early stopping at iteration 584, Best Score: 4262.88
Early stopping at iteration 639, Best Score: 4292.50
Early stopping at iteration 591, Best Score: 4285.55
Early stopping at iteration 596, Best Score: 4290.75
Early stopping at iteration 507, Best Score: 4233.34
Early stopping at iteration 545, Best Score: 4259.25
Early stopping at iteration 615, Best Score: 4289.68
Early stopping at iteration 915, Best Score: 4295.26
Early stopping at iteration 729, Best Score: 4297.38
Early stopping at iteration 556, Best Score: 4261.41
Early stopping at iteration 580, Best Score: 4293.11
Early stopping at iteration 589, Best Score: 4277.41
Early stopping at iteration 670, Best Score: 4286.45
Early stopping at iteration 573, Best Score: 4257.19
Early stopping at iteration 520, Best Score: 4236.84
Early stopping at iteration 592, Best Score: 4302.82
Early stopping at iteration 676, Best Score: 4280.32
Early stopping at iteration 543, Best Score: 4261.58
Early stopping at iteration 627, Best Score: 4305.40
Early stopping at iteration 917, Best Score: 4315.31
Early stopping at iteration 558, Best Score: 4280.08
Early stopping at iteration 807, Best Score: 4336.37
Early stopping at iteration 508, Best Score: 4234.37
Early stopping at iteration 631, Best Score: 4291.18
Early stopping at iteration 630, Best Score: 4271.93
Early stopping at iteration 591, Best Score: 4273.90
Early stopping at iteration 623, Best Score: 4275.50
Early stopping at iteration 595, Best Score: 4279.50
Early stopping at iteration 718, Best Score: 4314.48
Early stopping at iteration 687, Best Score: 4338.98
Early stopping at iteration 579, Best Score: 4281.60
Early stopping at iteration 919, Best Score: 4307.54
Early stopping at iteration 595, Best Score: 4245.20
Early stopping at iteration 502, Best Score: 4226.90
Early stopping at iteration 522, Best Score: 4240.73
Early stopping at iteration 645, Best Score: 4289.33
Early stopping at iteration 565, Best Score: 4265.83
```

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Early stopping at iteration 612, Best Score: 4280.12
Early stopping at iteration 1002, Best Score: 4332.68
Early stopping at iteration 804, Best Score: 4305.53
Early stopping at iteration 535, Best Score: 4266.41
Early stopping at iteration 634, Best Score: 4265.33
Early stopping at iteration 714, Best Score: 4293.54
Early stopping at iteration 737, Best Score: 4328.97
Early stopping at iteration 555, Best Score: 4285.53
Early stopping at iteration 555, Best Score: 4277.89
Early stopping at iteration 717, Best Score: 4332.40
Early stopping at iteration 715, Best Score: 4266.29
Early stopping at iteration 661, Best Score: 4284.24
  Deck Trial 100/250
Early stopping at iteration 739, Best Score: 4278.94
Early stopping at iteration 570, Best Score: 4269.64
Early stopping at iteration 722, Best Score: 4297.35
Early stopping at iteration 770, Best Score: 4311.36
Early stopping at iteration 554, Best Score: 4258.80
Early stopping at iteration 966, Best Score: 4326.01
Early stopping at iteration 674, Best Score: 4262.13
Early stopping at iteration 556, Best Score: 4278.59
Early stopping at iteration 508, Best Score: 4249.73
Early stopping at iteration 657, Best Score: 4267.45
Early stopping at iteration 955, Best Score: 4333.98
Early stopping at iteration 603, Best Score: 4277.13
Early stopping at iteration 604, Best Score: 4315.22
Early stopping at iteration 583, Best Score: 4293.06
Early stopping at iteration 953, Best Score: 4321.43
Early stopping at iteration 682, Best Score: 4326.63
Early stopping at iteration 508, Best Score: 4227.39
Early stopping at iteration 714, Best Score: 4276.86
Early stopping at iteration 614, Best Score: 4310.11
Early stopping at iteration 569, Best Score: 4267.19
Early stopping at iteration 527, Best Score: 4243.32
Early stopping at iteration 567, Best Score: 4273.35
Early stopping at iteration 559, Best Score: 4256.14
Early stopping at iteration 664, Best Score: 4277.20
Early stopping at iteration 529, Best Score: 4235.90
Early stopping at iteration 728, Best Score: 4282.68
Early stopping at iteration 650, Best Score: 4316.93
Early stopping at iteration 696, Best Score: 4293.07
Early stopping at iteration 578, Best Score: 4279.93
Early stopping at iteration 511, Best Score: 4245.29
Early stopping at iteration 516, Best Score: 4244.22
Early stopping at iteration 992, Best Score: 4311.91
Early stopping at iteration 574, Best Score: 4294.96
Early stopping at iteration 620, Best Score: 4287.30
Early stopping at iteration 582, Best Score: 4288.15
Early stopping at iteration 750, Best Score: 4323.04
Early stopping at iteration 573, Best Score: 4275.77
Early stopping at iteration 561, Best Score: 4284.92
Early stopping at iteration 586, Best Score: 4259.35
Early stopping at iteration 858, Best Score: 4330.07
Early stopping at iteration 514, Best Score: 4227.39
Early stopping at iteration 503, Best Score: 4226.22
Early stopping at iteration 515, Best Score: 4247.25
Early stopping at iteration 537, Best Score: 4262.85
Early stopping at iteration 687, Best Score: 4282.68
Early stopping at iteration 544, Best Score: 4281.30
Early stopping at iteration 501, Best Score: 4226.90
```

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Early stopping at iteration 551, Best Score: 4263.08
Early stopping at iteration 688, Best Score: 4327.46
Early stopping at iteration 542, Best Score: 4253.38
Early stopping at iteration 645, Best Score: 4262.17
Early stopping at iteration 655, Best Score: 4326.89
Early stopping at iteration 515, Best Score: 4259.21
Early stopping at iteration 556, Best Score: 4286.42
Early stopping at iteration 1069, Best Score: 4313.73
Early stopping at iteration 593, Best Score: 4266.79
Early stopping at iteration 686, Best Score: 4285.14
Early stopping at iteration 607, Best Score: 4293.43
Early stopping at iteration 912, Best Score: 4327.05
Early stopping at iteration 753, Best Score: 4304.74
Early stopping at iteration 540, Best Score: 4237.57
Early stopping at iteration 596, Best Score: 4268.99
Early stopping at iteration 574, Best Score: 4254.63
Early stopping at iteration 524, Best Score: 4265.80
Early stopping at iteration 1172, Best Score: 4349.21
Early stopping at iteration 611, Best Score: 4287.61
Early stopping at iteration 680, Best Score: 4296.43
Early stopping at iteration 621, Best Score: 4274.36
Early stopping at iteration 575, Best Score: 4289.03
Early stopping at iteration 597, Best Score: 4293.85
Early stopping at iteration 594, Best Score: 4285.52
Early stopping at iteration 506, Best Score: 4230.65
Early stopping at iteration 644, Best Score: 4305.62
Early stopping at iteration 611, Best Score: 4280.65
Early stopping at iteration 614, Best Score: 4295.11
Early stopping at iteration 559, Best Score: 4280.79
Early stopping at iteration 601, Best Score: 4280.26
Early stopping at iteration 500, Best Score: 4224.58
Early stopping at iteration 559, Best Score: 4265.51
Early stopping at iteration 562, Best Score: 4259.47
Early stopping at iteration 540, Best Score: 4251.42
Early stopping at iteration 563, Best Score: 4293.79
Early stopping at iteration 711, Best Score: 4279.01
Early stopping at iteration 632, Best Score: 4312.82
Early stopping at iteration 508, Best Score: 4234.97
Early stopping at iteration 577, Best Score: 4265.91
Early stopping at iteration 636, Best Score: 4273.21
Early stopping at iteration 574, Best Score: 4266.55
Early stopping at iteration 958, Best Score: 4320.74
Early stopping at iteration 884, Best Score: 4334.04
Early stopping at iteration 519, Best Score: 4238.71
Early stopping at iteration 518, Best Score: 4238.18
Early stopping at iteration 672, Best Score: 4289.89
Early stopping at iteration 563, Best Score: 4247.68
Early stopping at iteration 670, Best Score: 4256.00
Early stopping at iteration 529, Best Score: 4259.50
Early stopping at iteration 926, Best Score: 4310.41
Early stopping at iteration 676, Best Score: 4271.83
Early stopping at iteration 721, Best Score: 4299.62
Early stopping at iteration 513, Best Score: 4236.93
  Deck Trial 200/250
Early stopping at iteration 544, Best Score: 4285.47
Early stopping at iteration 560, Best Score: 4264.35
Early stopping at iteration 574, Best Score: 4254.48
Early stopping at iteration 510, Best Score: 4230.32
Early stopping at iteration 577, Best Score: 4292.83
Early stopping at iteration 917, Best Score: 4308.55
```

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Early stopping at iteration 564, Best Score: 4258.13
Early stopping at iteration 592, Best Score: 4242.43
Early stopping at iteration 500, Best Score: 4224.58
Early stopping at iteration 535, Best Score: 4279.51
Early stopping at iteration 620, Best Score: 4295.83
Early stopping at iteration 564, Best Score: 4256.63
Early stopping at iteration 505, Best Score: 4226.22
Early stopping at iteration 537, Best Score: 4272.27
Early stopping at iteration 631, Best Score: 4267.27
Early stopping at iteration 813, Best Score: 4311.37
Early stopping at iteration 517, Best Score: 4240.96
Early stopping at iteration 586, Best Score: 4283.73
Early stopping at iteration 867, Best Score: 4313.55
Early stopping at iteration 577, Best Score: 4252.24
Early stopping at iteration 731, Best Score: 4332.71
Early stopping at iteration 621, Best Score: 4322.55
Early stopping at iteration 546, Best Score: 4273.47
Early stopping at iteration 721, Best Score: 4340.69
Early stopping at iteration 573, Best Score: 4291.37
Early stopping at iteration 627, Best Score: 4288.99
Early stopping at iteration 565, Best Score: 4264.75
Early stopping at iteration 537, Best Score: 4240.80
Early stopping at iteration 742, Best Score: 4326.74
Early stopping at iteration 568, Best Score: 4284.28
Early stopping at iteration 599, Best Score: 4244.99
Early stopping at iteration 637, Best Score: 4297.07
Early stopping at iteration 500, Best Score: 4224.58
Early stopping at iteration 692, Best Score: 4277.15
Early stopping at iteration 623, Best Score: 4304.88
Early stopping at iteration 598, Best Score: 4302.20
Early stopping at iteration 630, Best Score: 4288.65
Early stopping at iteration 626, Best Score: 4308.97
Early stopping at iteration 645, Best Score: 4326.32
Early stopping at iteration 596, Best Score: 4269.18
Early stopping at iteration 500, Best Score: 4224.58
Early stopping at iteration 745, Best Score: 4327.20
Early stopping at iteration 620, Best Score: 4296.17
Early stopping at iteration 592, Best Score: 4314.94
Early stopping at iteration 596, Best Score: 4298.71
Early stopping at iteration 531, Best Score: 4228.92
Early stopping at iteration 648, Best Score: 4304.33
Early stopping at iteration 633, Best Score: 4275.27
Early stopping at iteration 735, Best Score: 4307.55
Early stopping at iteration 622, Best Score: 4292.47
Early stopping at iteration 551, Best Score: 4265.77
GNN Trial 16 completed with 250 decks.

GNN Trial 17/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 30.2669, Synergy Loss: 3.7698, Total: 37.8065
Epoch 20/300 - Node Loss: 3.7507, Synergy Loss: 3.5487, Total: 10.8482
Epoch 30/300 - Node Loss: 1.6500, Synergy Loss: 3.3808, Total: 8.4116
Epoch 40/300 - Node Loss: 1.0655, Synergy Loss: 3.1971, Total: 7.4598
Epoch 50/300 - Node Loss: 1.0320, Synergy Loss: 2.9928, Total: 7.0177
Epoch 60/300 - Node Loss: 1.0062, Synergy Loss: 2.7773, Total: 6.5608
Epoch 70/300 - Node Loss: 1.0006, Synergy Loss: 2.5864, Total: 6.1733
Epoch 80/300 - Node Loss: 1.0011, Synergy Loss: 2.5227, Total: 6.0465
Epoch 90/300 - Node Loss: 1.0004, Synergy Loss: 2.5017, Total: 6.0037
Epoch 100/300 - Node Loss: 1.0928, Synergy Loss: 2.4435, Total: 5.9798
Epoch 110/300 - Node Loss: 1.0377, Synergy Loss: 2.3050, Total: 5.6478
```

```
Epoch 120/300 - Node Loss: 1.0582, Synergy Loss: 2.1028, Total: 5.2637
Epoch 130/300 - Node Loss: 1.2087, Synergy Loss: 1.8915, Total: 4.9918
Epoch 140/300 - Node Loss: 1.1046, Synergy Loss: 1.7323, Total: 4.5691
Epoch 150/300 - Node Loss: 1.1208, Synergy Loss: 1.5982, Total: 4.3173
Epoch 160/300 - Node Loss: 1.1890, Synergy Loss: 1.3657, Total: 3.9205
Epoch 170/300 - Node Loss: 1.2200, Synergy Loss: 1.2463, Total: 3.7126
Epoch 180/300 - Node Loss: 1.2607, Synergy Loss: 1.0852, Total: 3.4311
Epoch 190/300 - Node Loss: 1.1507, Synergy Loss: 1.0555, Total: 3.2618
Epoch 200/300 - Node Loss: 1.1891, Synergy Loss: 1.0188, Total: 3.2266
Epoch 210/300 - Node Loss: 1.1960, Synergy Loss: 0.9916, Total: 3.1791
Epoch 220/300 - Node Loss: 1.1350, Synergy Loss: 1.0253, Total: 3.1856
Epoch 230/300 - Node Loss: 1.1769, Synergy Loss: 0.9391, Total: 3.0551
Epoch 240/300 - Node Loss: 1.1539, Synergy Loss: 0.8289, Total: 2.8117
Epoch 250/300 - Node Loss: 1.1476, Synergy Loss: 0.8601, Total: 2.8679
Epoch 260/300 - Node Loss: 1.1667, Synergy Loss: 0.8475, Total: 2.8617
Epoch 270/300 - Node Loss: 1.0865, Synergy Loss: 0.8487, Total: 2.7840
Epoch 280/300 - Node Loss: 1.1049, Synergy Loss: 0.8395, Total: 2.7838
Epoch 290/300 - Node Loss: 1.1031, Synergy Loss: 0.8425, Total: 2.7882
Early stopping at epoch 293
Existing model archived to: 20250310_183141_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 595, Best Score: 4659.63
Early stopping at iteration 500, Best Score: 4624.31
Early stopping at iteration 593, Best Score: 4665.87
Early stopping at iteration 628, Best Score: 4673.08
Early stopping at iteration 724, Best Score: 4689.09
Early stopping at iteration 605, Best Score: 4659.32
Early stopping at iteration 544, Best Score: 4655.40
Early stopping at iteration 527, Best Score: 4654.97
Early stopping at iteration 573, Best Score: 4674.07
Early stopping at iteration 542, Best Score: 4655.06
Early stopping at iteration 620, Best Score: 4701.25
Early stopping at iteration 599, Best Score: 4659.88
Early stopping at iteration 662, Best Score: 4682.72
Early stopping at iteration 638, Best Score: 4674.26
Early stopping at iteration 741, Best Score: 4685.04
Early stopping at iteration 847, Best Score: 4652.40
Early stopping at iteration 864, Best Score: 4685.55
Early stopping at iteration 634, Best Score: 4665.21
Early stopping at iteration 557, Best Score: 4673.41
Early stopping at iteration 607, Best Score: 4663.21
Early stopping at iteration 561, Best Score: 4654.72
Early stopping at iteration 500, Best Score: 4624.31
Early stopping at iteration 567, Best Score: 4673.68
Early stopping at iteration 641, Best Score: 4657.56
Early stopping at iteration 650, Best Score: 4689.12
Early stopping at iteration 656, Best Score: 4678.65
Early stopping at iteration 795, Best Score: 4673.00
Early stopping at iteration 754, Best Score: 4707.02
Early stopping at iteration 501, Best Score: 4627.17
Early stopping at iteration 634, Best Score: 4672.73
Early stopping at iteration 517, Best Score: 4627.76
Early stopping at iteration 715, Best Score: 4694.34
Early stopping at iteration 575, Best Score: 4656.89
Early stopping at iteration 501, Best Score: 4627.17
Early stopping at iteration 515, Best Score: 4639.84
Early stopping at iteration 638, Best Score: 4690.83
Early stopping at iteration 565, Best Score: 4653.50
Early stopping at iteration 568, Best Score: 4658.12
Early stopping at iteration 616, Best Score: 4669.36
```

```
Early stopping at iteration 681, Best Score: 4677.79
Early stopping at iteration 598, Best Score: 4659.85
Early stopping at iteration 760, Best Score: 4711.78
Early stopping at iteration 540, Best Score: 4661.08
Early stopping at iteration 652, Best Score: 4687.14
Early stopping at iteration 556, Best Score: 4662.31
Early stopping at iteration 501, Best Score: 4625.48
Early stopping at iteration 630, Best Score: 4686.63
Early stopping at iteration 844, Best Score: 4680.44
Early stopping at iteration 663, Best Score: 4665.32
Early stopping at iteration 635, Best Score: 4680.46
Early stopping at iteration 580, Best Score: 4660.76
Early stopping at iteration 653, Best Score: 4675.27
Early stopping at iteration 555, Best Score: 4650.74
Early stopping at iteration 501, Best Score: 4625.16
Early stopping at iteration 579, Best Score: 4671.32
Early stopping at iteration 569, Best Score: 4668.59
Early stopping at iteration 618, Best Score: 4687.36
Early stopping at iteration 609, Best Score: 4667.49
Early stopping at iteration 720, Best Score: 4701.81
Early stopping at iteration 630, Best Score: 4668.65
Early stopping at iteration 645, Best Score: 4665.59
Early stopping at iteration 700, Best Score: 4687.65
Early stopping at iteration 758, Best Score: 4683.98
Early stopping at iteration 658, Best Score: 4690.10
Early stopping at iteration 513, Best Score: 4627.68
Early stopping at iteration 504, Best Score: 4632.89
Early stopping at iteration 676, Best Score: 4683.94
Early stopping at iteration 743, Best Score: 4709.63
Early stopping at iteration 671, Best Score: 4660.47
Early stopping at iteration 667, Best Score: 4657.16
Early stopping at iteration 601, Best Score: 4682.61
Early stopping at iteration 545, Best Score: 4642.96
Early stopping at iteration 737, Best Score: 4669.88
Early stopping at iteration 552, Best Score: 4661.37
Early stopping at iteration 697, Best Score: 4687.30
Early stopping at iteration 612, Best Score: 4679.36
Early stopping at iteration 562, Best Score: 4649.00
Early stopping at iteration 604, Best Score: 4670.55
Early stopping at iteration 575, Best Score: 4657.95
Early stopping at iteration 644, Best Score: 4653.19
Early stopping at iteration 508, Best Score: 4625.17
Early stopping at iteration 620, Best Score: 4688.16
Early stopping at iteration 617, Best Score: 4689.92
Early stopping at iteration 798, Best Score: 4701.25
Early stopping at iteration 630, Best Score: 4669.80
Early stopping at iteration 591, Best Score: 4683.06
Early stopping at iteration 563, Best Score: 4644.03
Early stopping at iteration 668, Best Score: 4697.39
Early stopping at iteration 526, Best Score: 4653.38
Early stopping at iteration 602, Best Score: 4629.83
Early stopping at iteration 622, Best Score: 4671.28
Early stopping at iteration 589, Best Score: 4651.34
Early stopping at iteration 538, Best Score: 4663.48
Early stopping at iteration 603, Best Score: 4655.94
Early stopping at iteration 657, Best Score: 4682.29
Early stopping at iteration 542, Best Score: 4641.21
Early stopping at iteration 515, Best Score: 4653.31
Early stopping at iteration 507, Best Score: 4634.49
Early stopping at iteration 734, Best Score: 4692.12
```

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  Deck Trial 100/250
Early stopping at iteration 667, Best Score: 4660.13
Early stopping at iteration 680, Best Score: 4689.44
Early stopping at iteration 527, Best Score: 4646.27
Early stopping at iteration 515, Best Score: 4629.83
Early stopping at iteration 767, Best Score: 4655.20
Early stopping at iteration 503, Best Score: 4630.55
Early stopping at iteration 642, Best Score: 4691.94
Early stopping at iteration 501, Best Score: 4627.17
Early stopping at iteration 608, Best Score: 4666.62
Early stopping at iteration 569, Best Score: 4682.28
Early stopping at iteration 666, Best Score: 4688.44
Early stopping at iteration 794, Best Score: 4693.68
Early stopping at iteration 738, Best Score: 4657.12
Early stopping at iteration 778, Best Score: 4675.33
Early stopping at iteration 677, Best Score: 4683.64
Early stopping at iteration 635, Best Score: 4678.11
Early stopping at iteration 573, Best Score: 4674.20
Early stopping at iteration 566, Best Score: 4654.48
Early stopping at iteration 560, Best Score: 4677.36
Early stopping at iteration 572, Best Score: 4668.86
Early stopping at iteration 587, Best Score: 4675.95
Early stopping at iteration 617, Best Score: 4669.75
Early stopping at iteration 563, Best Score: 4668.75
Early stopping at iteration 575, Best Score: 4671.16
Early stopping at iteration 527, Best Score: 4659.21
Early stopping at iteration 828, Best Score: 4718.20
Early stopping at iteration 648, Best Score: 4675.20
Early stopping at iteration 578, Best Score: 4660.12
Early stopping at iteration 506, Best Score: 4632.59
Early stopping at iteration 584, Best Score: 4668.50
Early stopping at iteration 543, Best Score: 4644.32
Early stopping at iteration 513, Best Score: 4639.11
Early stopping at iteration 700, Best Score: 4684.81
Early stopping at iteration 681, Best Score: 4688.65
Early stopping at iteration 565, Best Score: 4671.74
Early stopping at iteration 533, Best Score: 4647.49
Early stopping at iteration 558, Best Score: 4645.66
Early stopping at iteration 615, Best Score: 4698.35
Early stopping at iteration 662, Best Score: 4693.62
Early stopping at iteration 518, Best Score: 4644.76
Early stopping at iteration 611, Best Score: 4686.74
Early stopping at iteration 624, Best Score: 4666.40
Early stopping at iteration 521, Best Score: 4639.80
Early stopping at iteration 556, Best Score: 4657.92
Early stopping at iteration 500, Best Score: 4624.31
Early stopping at iteration 729, Best Score: 4708.32
Early stopping at iteration 626, Best Score: 4670.63
Early stopping at iteration 522, Best Score: 4632.60
Early stopping at iteration 513, Best Score: 4629.50
Early stopping at iteration 731, Best Score: 4693.50
Early stopping at iteration 584, Best Score: 4680.09
Early stopping at iteration 514, Best Score: 4641.39
Early stopping at iteration 557, Best Score: 4668.61
Early stopping at iteration 540, Best Score: 4653.03
Early stopping at iteration 556, Best Score: 4649.60
Early stopping at iteration 659, Best Score: 4689.19
Early stopping at iteration 589, Best Score: 4659.86
Early stopping at iteration 553, Best Score: 4651.06
Early stopping at iteration 751, Best Score: 4712.00
```

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Early stopping at iteration 513, Best Score: 4627.49
Early stopping at iteration 848, Best Score: 4665.15
Early stopping at iteration 518, Best Score: 4649.63
Early stopping at iteration 593, Best Score: 4681.04
Early stopping at iteration 559, Best Score: 4684.78
Early stopping at iteration 512, Best Score: 4636.08
Early stopping at iteration 526, Best Score: 4644.50
Early stopping at iteration 586, Best Score: 4670.76
Early stopping at iteration 502, Best Score: 4625.17
Early stopping at iteration 837, Best Score: 4659.88
Early stopping at iteration 633, Best Score: 4671.48
Early stopping at iteration 517, Best Score: 4639.74
Early stopping at iteration 519, Best Score: 4631.71
Early stopping at iteration 602, Best Score: 4648.54
Early stopping at iteration 504, Best Score: 4634.07
Early stopping at iteration 631, Best Score: 4683.11
Early stopping at iteration 614, Best Score: 4672.09
Early stopping at iteration 793, Best Score: 4703.23
Early stopping at iteration 615, Best Score: 4672.40
Early stopping at iteration 579, Best Score: 4673.41
Early stopping at iteration 561, Best Score: 4670.44
Early stopping at iteration 545, Best Score: 4651.94
Early stopping at iteration 570, Best Score: 4681.96
Early stopping at iteration 654, Best Score: 4691.96
Early stopping at iteration 699, Best Score: 4659.84
Early stopping at iteration 844, Best Score: 4723.11
Early stopping at iteration 507, Best Score: 4625.18
Early stopping at iteration 715, Best Score: 4710.44
Early stopping at iteration 613, Best Score: 4675.54
Early stopping at iteration 622, Best Score: 4676.20
Early stopping at iteration 508, Best Score: 4637.05
Early stopping at iteration 643, Best Score: 4672.47
Early stopping at iteration 549, Best Score: 4681.62
Early stopping at iteration 540, Best Score: 4669.44
Early stopping at iteration 737, Best Score: 4722.66
Early stopping at iteration 727, Best Score: 4683.19
Early stopping at iteration 560, Best Score: 4653.17
Early stopping at iteration 664, Best Score: 4664.92
Early stopping at iteration 933, Best Score: 4691.57
Early stopping at iteration 505, Best Score: 4625.17
Early stopping at iteration 531, Best Score: 4659.43
  Deck Trial 200/250
Early stopping at iteration 673, Best Score: 4653.08
Early stopping at iteration 661, Best Score: 4692.98
Early stopping at iteration 973, Best Score: 4673.31
Early stopping at iteration 664, Best Score: 4682.04
Early stopping at iteration 592, Best Score: 4690.16
Early stopping at iteration 656, Best Score: 4662.67
Early stopping at iteration 651, Best Score: 4661.90
Early stopping at iteration 783, Best Score: 4682.76
Early stopping at iteration 623, Best Score: 4693.50
Early stopping at iteration 536, Best Score: 4651.15
Early stopping at iteration 593, Best Score: 4666.92
Early stopping at iteration 624, Best Score: 4706.19
Early stopping at iteration 729, Best Score: 4683.95
Early stopping at iteration 674, Best Score: 4694.08
Early stopping at iteration 524, Best Score: 4661.75
Early stopping at iteration 571, Best Score: 4671.09
Early stopping at iteration 501, Best Score: 4625.17
Early stopping at iteration 613, Best Score: 4686.91
```

```
Early stopping at iteration 551, Best Score: 4649.80
Early stopping at iteration 681, Best Score: 4661.78
Early stopping at iteration 530, Best Score: 4646.64
Early stopping at iteration 575, Best Score: 4652.29
Early stopping at iteration 573, Best Score: 4672.63
Early stopping at iteration 597, Best Score: 4671.22
Early stopping at iteration 751, Best Score: 4705.42
Early stopping at iteration 704, Best Score: 4662.92
Early stopping at iteration 575, Best Score: 4642.79
Early stopping at iteration 592, Best Score: 4658.83
Early stopping at iteration 828, Best Score: 4708.34
Early stopping at iteration 669, Best Score: 4694.74
Early stopping at iteration 565, Best Score: 4666.20
Early stopping at iteration 694, Best Score: 4706.47
Early stopping at iteration 698, Best Score: 4667.54
Early stopping at iteration 514, Best Score: 4642.30
Early stopping at iteration 628, Best Score: 4688.70
Early stopping at iteration 569, Best Score: 4660.43
Early stopping at iteration 644, Best Score: 4666.82
Early stopping at iteration 699, Best Score: 4681.26
Early stopping at iteration 520, Best Score: 4629.13
Early stopping at iteration 856, Best Score: 4701.33
Early stopping at iteration 638, Best Score: 4696.69
Early stopping at iteration 637, Best Score: 4666.36
Early stopping at iteration 639, Best Score: 4659.81
Early stopping at iteration 605, Best Score: 4685.89
Early stopping at iteration 618, Best Score: 4682.25
Early stopping at iteration 577, Best Score: 4668.48
Early stopping at iteration 585, Best Score: 4671.99
Early stopping at iteration 593, Best Score: 4656.22
Early stopping at iteration 510, Best Score: 4636.06
Early stopping at iteration 673, Best Score: 4694.46
Early stopping at iteration 999, Best Score: 4657.00
GNN Trial 17 completed with 250 decks.

GNN Trial 18/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 61.0054, Synergy Loss: 3.2397, Total: 67.4848
Epoch 20/300 - Node Loss: 6.1167, Synergy Loss: 3.1529, Total: 12.4225
Epoch 30/300 - Node Loss: 2.5243, Synergy Loss: 3.0662, Total: 8.6567
Epoch 40/300 - Node Loss: 1.4447, Synergy Loss: 2.9787, Total: 7.4021
Epoch 50/300 - Node Loss: 1.0787, Synergy Loss: 2.9006, Total: 6.8799
Epoch 60/300 - Node Loss: 1.0075, Synergy Loss: 2.8253, Total: 6.6581
Epoch 70/300 - Node Loss: 1.0011, Synergy Loss: 2.7529, Total: 6.5069
Epoch 80/300 - Node Loss: 1.0036, Synergy Loss: 2.6811, Total: 6.3657
Epoch 90/300 - Node Loss: 1.0035, Synergy Loss: 2.6071, Total: 6.2177
Epoch 100/300 - Node Loss: 1.0027, Synergy Loss: 2.5361, Total: 6.0750
Epoch 110/300 - Node Loss: 1.0052, Synergy Loss: 2.4823, Total: 5.9698
Epoch 120/300 - Node Loss: 1.0025, Synergy Loss: 2.4706, Total: 5.9438
Epoch 130/300 - Node Loss: 1.0013, Synergy Loss: 2.4718, Total: 5.9450
Early stopping at epoch 139
Existing model archived to: 20250310_183437_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 673, Best Score: 1831.68
Early stopping at iteration 512, Best Score: 1805.01
Early stopping at iteration 557, Best Score: 1813.84
Early stopping at iteration 530, Best Score: 1802.09
Early stopping at iteration 729, Best Score: 1837.66
Early stopping at iteration 702, Best Score: 1833.67
Early stopping at iteration 648, Best Score: 1831.62
```

```
Early stopping at iteration 561, Best Score: 1817.96
Early stopping at iteration 746, Best Score: 1828.72
Early stopping at iteration 851, Best Score: 1819.83
Early stopping at iteration 743, Best Score: 1822.70
Early stopping at iteration 679, Best Score: 1824.82
Early stopping at iteration 705, Best Score: 1833.61
Early stopping at iteration 574, Best Score: 1819.79
Early stopping at iteration 559, Best Score: 1806.97
Early stopping at iteration 809, Best Score: 1837.61
Early stopping at iteration 702, Best Score: 1830.67
Early stopping at iteration 564, Best Score: 1816.96
Early stopping at iteration 602, Best Score: 1820.89
Early stopping at iteration 647, Best Score: 1821.80
Early stopping at iteration 651, Best Score: 1815.93
Early stopping at iteration 529, Best Score: 1803.05
Early stopping at iteration 667, Best Score: 1828.78
Early stopping at iteration 622, Best Score: 1823.87
Early stopping at iteration 612, Best Score: 1814.80
Early stopping at iteration 574, Best Score: 1808.00
Early stopping at iteration 617, Best Score: 1813.84
Early stopping at iteration 770, Best Score: 1828.70
Early stopping at iteration 546, Best Score: 1812.92
Early stopping at iteration 633, Best Score: 1819.88
Early stopping at iteration 536, Best Score: 1806.06
Early stopping at iteration 613, Best Score: 1825.81
Early stopping at iteration 779, Best Score: 1830.73
Early stopping at iteration 628, Best Score: 1825.80
Early stopping at iteration 707, Best Score: 1811.86
Early stopping at iteration 574, Best Score: 1813.94
Early stopping at iteration 982, Best Score: 1821.89
Early stopping at iteration 541, Best Score: 1805.95
Early stopping at iteration 583, Best Score: 1819.88
Early stopping at iteration 830, Best Score: 1826.72
Early stopping at iteration 606, Best Score: 1818.84
Early stopping at iteration 606, Best Score: 1813.87
Early stopping at iteration 615, Best Score: 1820.75
Early stopping at iteration 563, Best Score: 1817.93
Early stopping at iteration 594, Best Score: 1823.83
Early stopping at iteration 753, Best Score: 1830.79
Early stopping at iteration 562, Best Score: 1817.90
Early stopping at iteration 774, Best Score: 1834.58
Early stopping at iteration 734, Best Score: 1818.81
Early stopping at iteration 619, Best Score: 1818.76
Early stopping at iteration 669, Best Score: 1822.81
Early stopping at iteration 711, Best Score: 1827.81
Early stopping at iteration 918, Best Score: 1830.70
Early stopping at iteration 848, Best Score: 1829.58
Early stopping at iteration 663, Best Score: 1830.75
Early stopping at iteration 827, Best Score: 1827.74
Early stopping at iteration 1065, Best Score: 1822.87
Early stopping at iteration 761, Best Score: 1837.69
Early stopping at iteration 646, Best Score: 1815.82
Early stopping at iteration 931, Best Score: 1830.66
Early stopping at iteration 691, Best Score: 1823.82
Early stopping at iteration 652, Best Score: 1829.65
Early stopping at iteration 591, Best Score: 1812.97
Early stopping at iteration 592, Best Score: 1820.94
Early stopping at iteration 656, Best Score: 1821.78
Early stopping at iteration 778, Best Score: 1828.81
Early stopping at iteration 515, Best Score: 1803.19
```

```
Early stopping at iteration 688, Best Score: 1811.85
Early stopping at iteration 662, Best Score: 1825.70
Early stopping at iteration 530, Best Score: 1806.08
Early stopping at iteration 556, Best Score: 1819.92
Early stopping at iteration 661, Best Score: 1823.74
Early stopping at iteration 764, Best Score: 1828.74
Early stopping at iteration 594, Best Score: 1815.88
Early stopping at iteration 709, Best Score: 1824.79
Early stopping at iteration 575, Best Score: 1819.88
Early stopping at iteration 591, Best Score: 1829.71
Early stopping at iteration 673, Best Score: 1831.72
Early stopping at iteration 568, Best Score: 1819.81
Early stopping at iteration 770, Best Score: 1830.66
Early stopping at iteration 553, Best Score: 1817.89
Early stopping at iteration 648, Best Score: 1828.76
Early stopping at iteration 1063, Best Score: 1823.72
Early stopping at iteration 746, Best Score: 1836.64
Early stopping at iteration 537, Best Score: 1819.86
Early stopping at iteration 620, Best Score: 1823.72
Early stopping at iteration 812, Best Score: 1827.59
Early stopping at iteration 682, Best Score: 1836.56
Early stopping at iteration 538, Best Score: 1804.09
Early stopping at iteration 674, Best Score: 1830.73
Early stopping at iteration 532, Best Score: 1815.85
Early stopping at iteration 768, Best Score: 1826.79
Early stopping at iteration 599, Best Score: 1827.79
Early stopping at iteration 585, Best Score: 1822.81
Early stopping at iteration 678, Best Score: 1827.75
Early stopping at iteration 778, Best Score: 1835.58
Early stopping at iteration 789, Best Score: 1829.70
Early stopping at iteration 638, Best Score: 1819.83
Early stopping at iteration 661, Best Score: 1833.72
  Deck Trial 100/250
Early stopping at iteration 781, Best Score: 1832.66
Early stopping at iteration 650, Best Score: 1825.82
Early stopping at iteration 603, Best Score: 1822.71
Early stopping at iteration 666, Best Score: 1819.87
Early stopping at iteration 590, Best Score: 1809.95
Early stopping at iteration 575, Best Score: 1820.92
Early stopping at iteration 1028, Best Score: 1832.69
Early stopping at iteration 577, Best Score: 1817.90
Early stopping at iteration 729, Best Score: 1821.62
Early stopping at iteration 1005, Best Score: 1830.77
Early stopping at iteration 567, Best Score: 1818.85
Early stopping at iteration 804, Best Score: 1834.70
Early stopping at iteration 955, Best Score: 1810.92
Early stopping at iteration 696, Best Score: 1823.76
Early stopping at iteration 1086, Best Score: 1823.71
Early stopping at iteration 537, Best Score: 1804.07
Early stopping at iteration 657, Best Score: 1817.94
Early stopping at iteration 821, Best Score: 1824.78
Early stopping at iteration 786, Best Score: 1828.80
Early stopping at iteration 918, Best Score: 1823.69
Early stopping at iteration 579, Best Score: 1812.94
Early stopping at iteration 675, Best Score: 1823.74
Early stopping at iteration 533, Best Score: 1799.11
Early stopping at iteration 741, Best Score: 1821.75
Early stopping at iteration 636, Best Score: 1822.85
Early stopping at iteration 587, Best Score: 1816.94
Early stopping at iteration 843, Best Score: 1836.62
```

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Early stopping at iteration 598, Best Score: 1825.82
Early stopping at iteration 571, Best Score: 1806.94
Early stopping at iteration 695, Best Score: 1821.77
Early stopping at iteration 623, Best Score: 1829.75
Early stopping at iteration 629, Best Score: 1825.70
Early stopping at iteration 612, Best Score: 1814.95
Early stopping at iteration 720, Best Score: 1828.64
Early stopping at iteration 873, Best Score: 1833.66
Early stopping at iteration 550, Best Score: 1813.99
Early stopping at iteration 620, Best Score: 1830.69
Early stopping at iteration 1096, Best Score: 1824.81
Early stopping at iteration 688, Best Score: 1820.74
Early stopping at iteration 887, Best Score: 1832.74
Early stopping at iteration 679, Best Score: 1831.55
Early stopping at iteration 687, Best Score: 1826.68
Early stopping at iteration 589, Best Score: 1824.83
Early stopping at iteration 575, Best Score: 1820.84
Early stopping at iteration 773, Best Score: 1830.71
Early stopping at iteration 545, Best Score: 1819.81
Early stopping at iteration 680, Best Score: 1827.75
Early stopping at iteration 585, Best Score: 1809.08
Early stopping at iteration 634, Best Score: 1819.89
Early stopping at iteration 559, Best Score: 1807.95
Early stopping at iteration 685, Best Score: 1828.69
Early stopping at iteration 521, Best Score: 1798.15
Early stopping at iteration 599, Best Score: 1822.79
Early stopping at iteration 778, Best Score: 1833.61
Early stopping at iteration 511, Best Score: 1804.10
Early stopping at iteration 663, Best Score: 1828.75
Early stopping at iteration 748, Best Score: 1828.81
Early stopping at iteration 560, Best Score: 1813.92
Early stopping at iteration 867, Best Score: 1830.60
Early stopping at iteration 722, Best Score: 1828.77
Early stopping at iteration 555, Best Score: 1817.93
Early stopping at iteration 577, Best Score: 1815.93
Early stopping at iteration 603, Best Score: 1832.63
Early stopping at iteration 792, Best Score: 1832.69
Early stopping at iteration 662, Best Score: 1828.68
Early stopping at iteration 793, Best Score: 1819.70
Early stopping at iteration 667, Best Score: 1826.75
Early stopping at iteration 930, Best Score: 1833.67
Early stopping at iteration 593, Best Score: 1816.75
Early stopping at iteration 637, Best Score: 1824.78
Early stopping at iteration 797, Best Score: 1836.62
Early stopping at iteration 611, Best Score: 1815.92
Early stopping at iteration 831, Best Score: 1825.81
Early stopping at iteration 594, Best Score: 1827.76
Early stopping at iteration 566, Best Score: 1810.99
Early stopping at iteration 875, Best Score: 1837.49
Early stopping at iteration 548, Best Score: 1813.92
Early stopping at iteration 659, Best Score: 1807.94
Early stopping at iteration 848, Best Score: 1829.71
Early stopping at iteration 581, Best Score: 1815.80
Early stopping at iteration 574, Best Score: 1810.95
Early stopping at iteration 685, Best Score: 1826.85
Early stopping at iteration 617, Best Score: 1818.78
Early stopping at iteration 792, Best Score: 1822.84
Early stopping at iteration 617, Best Score: 1811.90
Early stopping at iteration 726, Best Score: 1822.77
Early stopping at iteration 775, Best Score: 1830.77
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Early stopping at iteration 588, Best Score: 1820.81
Early stopping at iteration 594, Best Score: 1809.93
Early stopping at iteration 621, Best Score: 1819.82
Early stopping at iteration 644, Best Score: 1819.87
Early stopping at iteration 651, Best Score: 1817.88
Early stopping at iteration 653, Best Score: 1824.81
Early stopping at iteration 788, Best Score: 1823.70
Early stopping at iteration 734, Best Score: 1824.75
Early stopping at iteration 595, Best Score: 1822.87
Early stopping at iteration 881, Best Score: 1820.78
Early stopping at iteration 575, Best Score: 1819.79
Early stopping at iteration 552, Best Score: 1824.78
Early stopping at iteration 574, Best Score: 1808.06
  Deck Trial 200/250
Early stopping at iteration 698, Best Score: 1824.75
Early stopping at iteration 796, Best Score: 1830.59
Early stopping at iteration 800, Best Score: 1831.67
Early stopping at iteration 588, Best Score: 1820.86
Early stopping at iteration 752, Best Score: 1824.71
Early stopping at iteration 639, Best Score: 1824.82
Early stopping at iteration 666, Best Score: 1831.66
Early stopping at iteration 731, Best Score: 1821.68
Early stopping at iteration 976, Best Score: 1828.75
Early stopping at iteration 555, Best Score: 1811.96
Early stopping at iteration 551, Best Score: 1823.79
Early stopping at iteration 839, Best Score: 1829.79
Early stopping at iteration 614, Best Score: 1821.83
Early stopping at iteration 642, Best Score: 1827.67
Early stopping at iteration 571, Best Score: 1816.92
Early stopping at iteration 610, Best Score: 1822.84
Early stopping at iteration 672, Best Score: 1830.72
Early stopping at iteration 566, Best Score: 1808.92
Early stopping at iteration 662, Best Score: 1833.68
Early stopping at iteration 798, Best Score: 1826.80
Early stopping at iteration 566, Best Score: 1812.96
Early stopping at iteration 903, Best Score: 1813.85
Early stopping at iteration 634, Best Score: 1823.79
Early stopping at iteration 801, Best Score: 1833.69
Early stopping at iteration 568, Best Score: 1813.95
Early stopping at iteration 923, Best Score: 1836.61
Early stopping at iteration 865, Best Score: 1824.80
Early stopping at iteration 551, Best Score: 1812.95
Early stopping at iteration 683, Best Score: 1818.81
Early stopping at iteration 579, Best Score: 1815.95
Early stopping at iteration 821, Best Score: 1836.66
Early stopping at iteration 553, Best Score: 1818.88
Early stopping at iteration 656, Best Score: 1826.81
Early stopping at iteration 602, Best Score: 1815.78
Early stopping at iteration 711, Best Score: 1818.86
Early stopping at iteration 575, Best Score: 1812.02
Early stopping at iteration 820, Best Score: 1831.75
Early stopping at iteration 864, Best Score: 1823.76
Early stopping at iteration 668, Best Score: 1829.61
Early stopping at iteration 532, Best Score: 1811.94
Early stopping at iteration 622, Best Score: 1823.81
Early stopping at iteration 694, Best Score: 1825.82
Early stopping at iteration 672, Best Score: 1825.80
Early stopping at iteration 725, Best Score: 1827.77
Early stopping at iteration 574, Best Score: 1818.87
Early stopping at iteration 607, Best Score: 1819.82
```

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Early stopping at iteration 598, Best Score: 1819.84
Early stopping at iteration 575, Best Score: 1820.84
Early stopping at iteration 718, Best Score: 1829.65
Early stopping at iteration 651, Best Score: 1806.97
Early stopping at iteration 596, Best Score: 1817.92
GNN Trial 18 completed with 250 decks.

GNN Trial 19/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 56.5314, Synergy Loss: 3.3143, Total: 63.1600
Epoch 20/300 - Node Loss: 5.9825, Synergy Loss: 3.2117, Total: 12.4059
Epoch 30/300 - Node Loss: 1.7758, Synergy Loss: 3.1353, Total: 8.0463
Epoch 40/300 - Node Loss: 1.1480, Synergy Loss: 3.0285, Total: 7.2051
Epoch 50/300 - Node Loss: 1.0081, Synergy Loss: 2.9170, Total: 6.8422
Epoch 60/300 - Node Loss: 1.0122, Synergy Loss: 2.8065, Total: 6.6252
Epoch 70/300 - Node Loss: 1.0041, Synergy Loss: 2.7001, Total: 6.4044
Epoch 80/300 - Node Loss: 1.0026, Synergy Loss: 2.6050, Total: 6.2126
Epoch 90/300 - Node Loss: 1.0041, Synergy Loss: 2.5392, Total: 6.0826
Epoch 100/300 - Node Loss: 1.0035, Synergy Loss: 2.5061, Total: 6.0156
Epoch 110/300 - Node Loss: 1.0026, Synergy Loss: 2.4878, Total: 5.9783
Epoch 120/300 - Node Loss: 1.0014, Synergy Loss: 2.4837, Total: 5.9687
Epoch 130/300 - Node Loss: 1.0019, Synergy Loss: 2.4831, Total: 5.9681
Epoch 140/300 - Node Loss: 1.0046, Synergy Loss: 2.4749, Total: 5.9545
Epoch 150/300 - Node Loss: 1.0086, Synergy Loss: 2.4632, Total: 5.9349
Epoch 160/300 - Node Loss: 1.0113, Synergy Loss: 2.4445, Total: 5.9003
Epoch 170/300 - Node Loss: 1.0265, Synergy Loss: 2.4048, Total: 5.8360
Epoch 180/300 - Node Loss: 1.0391, Synergy Loss: 2.3512, Total: 5.7415
Epoch 190/300 - Node Loss: 1.0464, Synergy Loss: 2.2626, Total: 5.5716
Epoch 200/300 - Node Loss: 1.0803, Synergy Loss: 2.1556, Total: 5.3914
Epoch 210/300 - Node Loss: 1.0864, Synergy Loss: 2.0576, Total: 5.2016
Epoch 220/300 - Node Loss: 1.1804, Synergy Loss: 1.9213, Total: 5.0229
Epoch 230/300 - Node Loss: 1.1545, Synergy Loss: 1.8503, Total: 4.8552
Epoch 240/300 - Node Loss: 1.3730, Synergy Loss: 1.6904, Total: 4.7538
Epoch 250/300 - Node Loss: 1.2226, Synergy Loss: 1.5906, Total: 4.4039
Epoch 260/300 - Node Loss: 1.3417, Synergy Loss: 1.5059, Total: 4.3534
Epoch 270/300 - Node Loss: 1.3861, Synergy Loss: 1.4319, Total: 4.2499
Epoch 280/300 - Node Loss: 1.3518, Synergy Loss: 1.3626, Total: 4.0769
Epoch 290/300 - Node Loss: 1.4274, Synergy Loss: 1.3116, Total: 4.0505
Epoch 300/300 - Node Loss: 1.3097, Synergy Loss: 1.3451, Total: 3.9999
Existing model archived to: 20250310_183954_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 565, Best Score: 3448.90
Early stopping at iteration 1072, Best Score: 3475.44
Early stopping at iteration 696, Best Score: 3455.16
Early stopping at iteration 1035, Best Score: 3460.94
Early stopping at iteration 555, Best Score: 3438.19
Early stopping at iteration 588, Best Score: 3454.45
Early stopping at iteration 583, Best Score: 3452.18
Early stopping at iteration 767, Best Score: 3456.96
Early stopping at iteration 638, Best Score: 3465.54
Early stopping at iteration 597, Best Score: 3430.70
Early stopping at iteration 548, Best Score: 3444.61
Early stopping at iteration 571, Best Score: 3436.80
Early stopping at iteration 600, Best Score: 3457.09
Early stopping at iteration 593, Best Score: 3441.82
Early stopping at iteration 650, Best Score: 3462.36
Early stopping at iteration 571, Best Score: 3444.80
Early stopping at iteration 583, Best Score: 3457.12
Early stopping at iteration 819, Best Score: 3456.63
Early stopping at iteration 853, Best Score: 3466.33
```

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Early stopping at iteration 556, Best Score: 3451.02
Early stopping at iteration 614, Best Score: 3460.93
Early stopping at iteration 529, Best Score: 3443.52
Early stopping at iteration 600, Best Score: 3444.82
Early stopping at iteration 675, Best Score: 3460.17
Early stopping at iteration 744, Best Score: 3457.87
Early stopping at iteration 670, Best Score: 3452.97
Early stopping at iteration 638, Best Score: 3451.11
Early stopping at iteration 585, Best Score: 3466.53
Early stopping at iteration 578, Best Score: 3448.12
Early stopping at iteration 643, Best Score: 3461.12
Early stopping at iteration 580, Best Score: 3441.73
Early stopping at iteration 713, Best Score: 3455.05
Early stopping at iteration 753, Best Score: 3458.93
Early stopping at iteration 612, Best Score: 3446.88
Early stopping at iteration 861, Best Score: 3443.66
Early stopping at iteration 631, Best Score: 3452.22
Early stopping at iteration 808, Best Score: 3451.26
Early stopping at iteration 617, Best Score: 3456.25
Early stopping at iteration 695, Best Score: 3456.21
Early stopping at iteration 544, Best Score: 3438.05
Early stopping at iteration 724, Best Score: 3463.90
Early stopping at iteration 617, Best Score: 3453.01
Early stopping at iteration 570, Best Score: 3434.83
Early stopping at iteration 752, Best Score: 3471.26
Early stopping at iteration 633, Best Score: 3449.89
Early stopping at iteration 976, Best Score: 3466.02
Early stopping at iteration 583, Best Score: 3440.26
Early stopping at iteration 751, Best Score: 3454.81
Early stopping at iteration 812, Best Score: 3454.22
Early stopping at iteration 582, Best Score: 3451.32
Early stopping at iteration 581, Best Score: 3446.11
Early stopping at iteration 604, Best Score: 3446.55
Early stopping at iteration 534, Best Score: 3450.06
Early stopping at iteration 970, Best Score: 3454.64
Early stopping at iteration 612, Best Score: 3453.34
Early stopping at iteration 636, Best Score: 3442.55
Early stopping at iteration 703, Best Score: 3458.66
Early stopping at iteration 601, Best Score: 3448.52
Early stopping at iteration 556, Best Score: 3434.44
Early stopping at iteration 597, Best Score: 3458.57
Early stopping at iteration 606, Best Score: 3455.30
Early stopping at iteration 664, Best Score: 3450.48
Early stopping at iteration 609, Best Score: 3452.25
Early stopping at iteration 620, Best Score: 3450.45
Early stopping at iteration 728, Best Score: 3448.86
Early stopping at iteration 567, Best Score: 3449.31
Early stopping at iteration 749, Best Score: 3456.44
Early stopping at iteration 628, Best Score: 3461.61
Early stopping at iteration 601, Best Score: 3444.57
Early stopping at iteration 594, Best Score: 3463.04
Early stopping at iteration 718, Best Score: 3479.14
Early stopping at iteration 893, Best Score: 3441.49
Early stopping at iteration 595, Best Score: 3440.00
Early stopping at iteration 582, Best Score: 3446.22
Early stopping at iteration 731, Best Score: 3457.12
Early stopping at iteration 542, Best Score: 3450.57
Early stopping at iteration 577, Best Score: 3450.61
Early stopping at iteration 616, Best Score: 3454.15
Early stopping at iteration 577, Best Score: 3454.83
```

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Early stopping at iteration 642, Best Score: 3442.36
Early stopping at iteration 584, Best Score: 3436.91
Early stopping at iteration 547, Best Score: 3440.48
Early stopping at iteration 805, Best Score: 3462.57
Early stopping at iteration 610, Best Score: 3452.40
Early stopping at iteration 552, Best Score: 3443.99
Early stopping at iteration 628, Best Score: 3458.89
Early stopping at iteration 641, Best Score: 3462.08
Early stopping at iteration 601, Best Score: 3440.77
Early stopping at iteration 594, Best Score: 3450.09
Early stopping at iteration 627, Best Score: 3455.96
Early stopping at iteration 697, Best Score: 3472.78
Early stopping at iteration 677, Best Score: 3460.51
Early stopping at iteration 627, Best Score: 3468.85
Early stopping at iteration 728, Best Score: 3464.81
Early stopping at iteration 519, Best Score: 3429.13
Early stopping at iteration 707, Best Score: 3462.85
Early stopping at iteration 691, Best Score: 3469.10
Early stopping at iteration 564, Best Score: 3433.49
Early stopping at iteration 945, Best Score: 3449.37
  Deck Trial 100/250
Early stopping at iteration 686, Best Score: 3467.02
Early stopping at iteration 795, Best Score: 3475.30
Early stopping at iteration 600, Best Score: 3453.37
Early stopping at iteration 735, Best Score: 3448.37
Early stopping at iteration 842, Best Score: 3471.66
Early stopping at iteration 619, Best Score: 3454.79
Early stopping at iteration 605, Best Score: 3446.35
Early stopping at iteration 614, Best Score: 3456.28
Early stopping at iteration 674, Best Score: 3453.26
Early stopping at iteration 636, Best Score: 3456.80
Early stopping at iteration 673, Best Score: 3454.56
Early stopping at iteration 696, Best Score: 3457.06
Early stopping at iteration 617, Best Score: 3436.98
Early stopping at iteration 523, Best Score: 3426.08
Early stopping at iteration 595, Best Score: 3448.67
Early stopping at iteration 574, Best Score: 3456.52
Early stopping at iteration 672, Best Score: 3453.90
Early stopping at iteration 603, Best Score: 3452.67
Early stopping at iteration 550, Best Score: 3440.74
Early stopping at iteration 575, Best Score: 3448.49
Early stopping at iteration 565, Best Score: 3436.44
Early stopping at iteration 586, Best Score: 3443.76
Early stopping at iteration 610, Best Score: 3433.04
Early stopping at iteration 571, Best Score: 3440.50
Early stopping at iteration 749, Best Score: 3463.00
Early stopping at iteration 643, Best Score: 3465.23
Early stopping at iteration 591, Best Score: 3448.05
Early stopping at iteration 729, Best Score: 3452.53
Early stopping at iteration 590, Best Score: 3453.76
Early stopping at iteration 595, Best Score: 3458.57
Early stopping at iteration 717, Best Score: 3458.70
Early stopping at iteration 619, Best Score: 3451.46
Early stopping at iteration 639, Best Score: 3465.27
Early stopping at iteration 563, Best Score: 3457.55
Early stopping at iteration 995, Best Score: 3456.27
Early stopping at iteration 838, Best Score: 3435.98
Early stopping at iteration 604, Best Score: 3440.60
Early stopping at iteration 618, Best Score: 3438.96
Early stopping at iteration 768, Best Score: 3445.33
```

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Early stopping at iteration 836, Best Score: 3456.73
Early stopping at iteration 603, Best Score: 3457.45
Early stopping at iteration 590, Best Score: 3438.56
Early stopping at iteration 575, Best Score: 3463.29
Early stopping at iteration 583, Best Score: 3434.51
Early stopping at iteration 740, Best Score: 3457.28
Early stopping at iteration 667, Best Score: 3450.16
Early stopping at iteration 525, Best Score: 3432.21
Early stopping at iteration 701, Best Score: 3467.19
Early stopping at iteration 624, Best Score: 3450.07
Early stopping at iteration 574, Best Score: 3447.04
Early stopping at iteration 658, Best Score: 3451.14
Early stopping at iteration 592, Best Score: 3446.48
Early stopping at iteration 533, Best Score: 3428.56
Early stopping at iteration 638, Best Score: 3465.45
Early stopping at iteration 583, Best Score: 3446.98
Early stopping at iteration 751, Best Score: 3463.55
Early stopping at iteration 621, Best Score: 3446.02
Early stopping at iteration 618, Best Score: 3450.96
Early stopping at iteration 705, Best Score: 3440.73
Early stopping at iteration 986, Best Score: 3452.02
Early stopping at iteration 594, Best Score: 3462.10
Early stopping at iteration 598, Best Score: 3463.57
Early stopping at iteration 541, Best Score: 3440.96
Early stopping at iteration 592, Best Score: 3446.26
Early stopping at iteration 1089, Best Score: 3462.20
Early stopping at iteration 587, Best Score: 3446.56
Early stopping at iteration 586, Best Score: 3445.37
Early stopping at iteration 705, Best Score: 3460.68
Early stopping at iteration 637, Best Score: 3465.44
Early stopping at iteration 603, Best Score: 3454.90
Early stopping at iteration 649, Best Score: 3464.47
Early stopping at iteration 617, Best Score: 3448.56
Early stopping at iteration 817, Best Score: 3458.74
Early stopping at iteration 1065, Best Score: 3448.26
Early stopping at iteration 540, Best Score: 3439.98
Early stopping at iteration 542, Best Score: 3434.03
Early stopping at iteration 700, Best Score: 3463.87
Early stopping at iteration 550, Best Score: 3432.50
Early stopping at iteration 670, Best Score: 3468.01
Early stopping at iteration 567, Best Score: 3446.63
Early stopping at iteration 570, Best Score: 3448.60
Early stopping at iteration 605, Best Score: 3441.47
Early stopping at iteration 719, Best Score: 3445.61
Early stopping at iteration 714, Best Score: 3451.37
Early stopping at iteration 655, Best Score: 3466.02
Early stopping at iteration 744, Best Score: 3463.92
Early stopping at iteration 730, Best Score: 3459.19
Early stopping at iteration 634, Best Score: 3463.84
Early stopping at iteration 537, Best Score: 3432.73
Early stopping at iteration 517, Best Score: 3424.01
Early stopping at iteration 615, Best Score: 3443.99
Early stopping at iteration 624, Best Score: 3447.08
Early stopping at iteration 655, Best Score: 3454.65
Early stopping at iteration 634, Best Score: 3454.81
Early stopping at iteration 652, Best Score: 3456.70
Early stopping at iteration 626, Best Score: 3457.47
Early stopping at iteration 672, Best Score: 3461.22
Early stopping at iteration 619, Best Score: 3438.65
Early stopping at iteration 666, Best Score: 3444.30
```

```
Early stopping at iteration 622, Best Score: 3442.18
  Deck Trial 200/250
Early stopping at iteration 569, Best Score: 3440.95
Early stopping at iteration 566, Best Score: 3436.64
Early stopping at iteration 824, Best Score: 3471.43
Early stopping at iteration 610, Best Score: 3442.85
Early stopping at iteration 576, Best Score: 3438.85
Early stopping at iteration 707, Best Score: 3453.98
Early stopping at iteration 571, Best Score: 3457.58
Early stopping at iteration 564, Best Score: 3452.63
Early stopping at iteration 688, Best Score: 3445.00
Early stopping at iteration 591, Best Score: 3454.60
Early stopping at iteration 593, Best Score: 3449.21
Early stopping at iteration 601, Best Score: 3460.07
Early stopping at iteration 752, Best Score: 3477.88
Early stopping at iteration 589, Best Score: 3460.15
Early stopping at iteration 569, Best Score: 3453.27
Early stopping at iteration 987, Best Score: 3467.99
Early stopping at iteration 791, Best Score: 3479.95
Early stopping at iteration 580, Best Score: 3448.73
Early stopping at iteration 559, Best Score: 3445.02
Early stopping at iteration 611, Best Score: 3460.98
Early stopping at iteration 539, Best Score: 3438.21
Early stopping at iteration 762, Best Score: 3456.93
Early stopping at iteration 613, Best Score: 3446.55
Early stopping at iteration 671, Best Score: 3460.24
Early stopping at iteration 726, Best Score: 3460.52
Early stopping at iteration 675, Best Score: 3436.05
Early stopping at iteration 605, Best Score: 3450.92
Early stopping at iteration 646, Best Score: 3462.02
Early stopping at iteration 557, Best Score: 3446.80
Early stopping at iteration 668, Best Score: 3466.95
Early stopping at iteration 620, Best Score: 3455.45
Early stopping at iteration 981, Best Score: 3468.56
Early stopping at iteration 678, Best Score: 3449.14
Early stopping at iteration 663, Best Score: 3450.84
Early stopping at iteration 639, Best Score: 3461.98
Early stopping at iteration 594, Best Score: 3452.44
Early stopping at iteration 817, Best Score: 3445.19
Early stopping at iteration 541, Best Score: 3432.80
Early stopping at iteration 588, Best Score: 3453.11
Early stopping at iteration 600, Best Score: 3451.10
Early stopping at iteration 763, Best Score: 3456.00
Early stopping at iteration 641, Best Score: 3469.09
Early stopping at iteration 583, Best Score: 3446.72
Early stopping at iteration 600, Best Score: 3461.35
Early stopping at iteration 615, Best Score: 3452.11
Early stopping at iteration 585, Best Score: 3452.61
Early stopping at iteration 608, Best Score: 3465.19
Early stopping at iteration 1027, Best Score: 3477.21
Early stopping at iteration 567, Best Score: 3446.89
Early stopping at iteration 746, Best Score: 3471.85
Early stopping at iteration 694, Best Score: 3460.75
GNN Trial 19 completed with 250 decks.

GNN Trial 20/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 58.8149, Synergy Loss: 3.5247, Total: 65.8642
Epoch 20/300 - Node Loss: 5.5268, Synergy Loss: 3.3877, Total: 12.3022
Epoch 30/300 - Node Loss: 1.8380, Synergy Loss: 3.2411, Total: 8.3202
```

```
Epoch 40/300 - Node Loss: 1.0645, Synergy Loss: 3.0749, Total: 7.2143
Epoch 50/300 - Node Loss: 1.0044, Synergy Loss: 2.9237, Total: 6.8517
Epoch 60/300 - Node Loss: 1.0024, Synergy Loss: 2.7766, Total: 6.5555
Epoch 70/300 - Node Loss: 1.0016, Synergy Loss: 2.6360, Total: 6.2737
Epoch 80/300 - Node Loss: 1.0017, Synergy Loss: 2.5262, Total: 6.0540
Epoch 90/300 - Node Loss: 1.0033, Synergy Loss: 2.4902, Total: 5.9838
Epoch 100/300 - Node Loss: 1.0025, Synergy Loss: 2.4928, Total: 5.9882
Epoch 110/300 - Node Loss: 1.0011, Synergy Loss: 2.4776, Total: 5.9563
Epoch 120/300 - Node Loss: 1.0051, Synergy Loss: 2.4519, Total: 5.9088
Epoch 130/300 - Node Loss: 1.0124, Synergy Loss: 2.4048, Total: 5.8219
Epoch 140/300 - Node Loss: 1.0310, Synergy Loss: 2.2569, Total: 5.5448
Epoch 150/300 - Node Loss: 1.0626, Synergy Loss: 2.1136, Total: 5.2897
Epoch 160/300 - Node Loss: 1.0357, Synergy Loss: 2.0543, Total: 5.1442
Epoch 170/300 - Node Loss: 1.0556, Synergy Loss: 2.0028, Total: 5.0612
Epoch 180/300 - Node Loss: 1.0600, Synergy Loss: 1.8477, Total: 4.7554
Epoch 190/300 - Node Loss: 1.2009, Synergy Loss: 1.7077, Total: 4.6164
Epoch 200/300 - Node Loss: 1.0813, Synergy Loss: 1.8179, Total: 4.7171
Early stopping at epoch 208
Existing model archived to: 20250310_184357_gnn_model_OP07-079.pth
Model saved to: models\gnn_model_OP07-079.pth
Early stopping at iteration 531, Best Score: 3004.30
Early stopping at iteration 530, Best Score: 3003.02
Early stopping at iteration 614, Best Score: 3012.63
Early stopping at iteration 693, Best Score: 3023.25
Early stopping at iteration 572, Best Score: 3010.71
Early stopping at iteration 1088, Best Score: 3031.30
Early stopping at iteration 628, Best Score: 3026.05
Early stopping at iteration 520, Best Score: 3002.37
Early stopping at iteration 588, Best Score: 3016.27
Early stopping at iteration 576, Best Score: 3009.37
Early stopping at iteration 575, Best Score: 3013.81
Early stopping at iteration 537, Best Score: 3010.14
Early stopping at iteration 546, Best Score: 3008.10
Early stopping at iteration 501, Best Score: 2992.58
Early stopping at iteration 900, Best Score: 3024.65
Early stopping at iteration 531, Best Score: 2998.76
Early stopping at iteration 530, Best Score: 3001.53
Early stopping at iteration 546, Best Score: 3003.72
Early stopping at iteration 544, Best Score: 3002.02
Early stopping at iteration 592, Best Score: 3011.70
Early stopping at iteration 676, Best Score: 3023.06
Early stopping at iteration 642, Best Score: 3026.63
Early stopping at iteration 612, Best Score: 3017.63
Early stopping at iteration 646, Best Score: 3014.81
Early stopping at iteration 506, Best Score: 2993.33
Early stopping at iteration 564, Best Score: 3012.99
Early stopping at iteration 548, Best Score: 3003.16
Early stopping at iteration 712, Best Score: 3016.73
Early stopping at iteration 509, Best Score: 2996.09
Early stopping at iteration 707, Best Score: 3019.99
Early stopping at iteration 558, Best Score: 3000.05
Early stopping at iteration 605, Best Score: 3008.24
Early stopping at iteration 672, Best Score: 3025.11
Early stopping at iteration 513, Best Score: 2998.14
Early stopping at iteration 503, Best Score: 2993.06
Early stopping at iteration 613, Best Score: 3017.43
Early stopping at iteration 710, Best Score: 3026.62
Early stopping at iteration 564, Best Score: 3015.97
Early stopping at iteration 554, Best Score: 3003.15
Early stopping at iteration 546, Best Score: 3003.84
```

```
Early stopping at iteration 656, Best Score: 3010.70
Early stopping at iteration 637, Best Score: 3009.73
Early stopping at iteration 727, Best Score: 3015.03
Early stopping at iteration 560, Best Score: 3002.62
Early stopping at iteration 597, Best Score: 3000.69
Early stopping at iteration 559, Best Score: 3005.77
Early stopping at iteration 611, Best Score: 3017.88
Early stopping at iteration 592, Best Score: 3006.70
Early stopping at iteration 711, Best Score: 3017.63
Early stopping at iteration 586, Best Score: 3009.07
Early stopping at iteration 552, Best Score: 3005.54
Early stopping at iteration 589, Best Score: 3010.30
Early stopping at iteration 562, Best Score: 3003.69
Early stopping at iteration 522, Best Score: 3000.86
Early stopping at iteration 773, Best Score: 3018.82
Early stopping at iteration 570, Best Score: 3002.01
Early stopping at iteration 577, Best Score: 3013.95
Early stopping at iteration 582, Best Score: 3009.55
Early stopping at iteration 508, Best Score: 2994.34
Early stopping at iteration 718, Best Score: 3006.79
Early stopping at iteration 642, Best Score: 3014.19
Early stopping at iteration 582, Best Score: 3012.05
Early stopping at iteration 562, Best Score: 3006.80
Early stopping at iteration 603, Best Score: 3013.05
Early stopping at iteration 678, Best Score: 3022.72
Early stopping at iteration 527, Best Score: 3007.01
Early stopping at iteration 565, Best Score: 3010.02
Early stopping at iteration 571, Best Score: 3008.64
Early stopping at iteration 798, Best Score: 3022.12
Early stopping at iteration 669, Best Score: 3015.60
Early stopping at iteration 621, Best Score: 3010.29
Early stopping at iteration 647, Best Score: 3015.06
Early stopping at iteration 571, Best Score: 3017.15
Early stopping at iteration 621, Best Score: 3016.93
Early stopping at iteration 634, Best Score: 3020.25
Early stopping at iteration 623, Best Score: 3017.32
Early stopping at iteration 910, Best Score: 3028.28
Early stopping at iteration 656, Best Score: 3016.62
Early stopping at iteration 587, Best Score: 3008.76
Early stopping at iteration 614, Best Score: 3011.79
Early stopping at iteration 531, Best Score: 3000.14
Early stopping at iteration 607, Best Score: 3005.51
Early stopping at iteration 647, Best Score: 3017.69
Early stopping at iteration 896, Best Score: 3016.53
Early stopping at iteration 892, Best Score: 3027.85
Early stopping at iteration 594, Best Score: 3016.96
Early stopping at iteration 515, Best Score: 2995.16
Early stopping at iteration 749, Best Score: 3019.12
Early stopping at iteration 561, Best Score: 3012.87
Early stopping at iteration 561, Best Score: 3003.18
Early stopping at iteration 505, Best Score: 2993.06
Early stopping at iteration 550, Best Score: 2997.50
Early stopping at iteration 588, Best Score: 3011.34
Early stopping at iteration 594, Best Score: 3019.19
Early stopping at iteration 571, Best Score: 3004.00
Early stopping at iteration 585, Best Score: 3002.45
Early stopping at iteration 774, Best Score: 3025.56
Early stopping at iteration 589, Best Score: 3008.66
Early stopping at iteration 581, Best Score: 3003.35
  Deck Trial 100/250
```

```
Early stopping at iteration 529, Best Score: 2993.27
Early stopping at iteration 619, Best Score: 3017.62
Early stopping at iteration 527, Best Score: 3011.45
Early stopping at iteration 581, Best Score: 3003.45
Early stopping at iteration 621, Best Score: 2999.53
Early stopping at iteration 646, Best Score: 3026.36
Early stopping at iteration 612, Best Score: 3020.61
Early stopping at iteration 646, Best Score: 3010.08
Early stopping at iteration 595, Best Score: 3012.86
Early stopping at iteration 549, Best Score: 3008.70
Early stopping at iteration 730, Best Score: 3018.83
Early stopping at iteration 535, Best Score: 3007.21
Early stopping at iteration 606, Best Score: 3013.77
Early stopping at iteration 574, Best Score: 3003.85
Early stopping at iteration 715, Best Score: 3028.49
Early stopping at iteration 619, Best Score: 3015.12
Early stopping at iteration 566, Best Score: 3005.63
Early stopping at iteration 637, Best Score: 3011.64
Early stopping at iteration 612, Best Score: 3016.66
Early stopping at iteration 768, Best Score: 3012.47
Early stopping at iteration 677, Best Score: 3011.91
Early stopping at iteration 598, Best Score: 3016.64
Early stopping at iteration 730, Best Score: 3009.24
Early stopping at iteration 638, Best Score: 3013.11
Early stopping at iteration 515, Best Score: 2995.13
Early stopping at iteration 716, Best Score: 3014.55
Early stopping at iteration 539, Best Score: 3010.60
Early stopping at iteration 789, Best Score: 3021.26
Early stopping at iteration 615, Best Score: 3017.82
Early stopping at iteration 508, Best Score: 2995.65
Early stopping at iteration 626, Best Score: 3014.73
Early stopping at iteration 850, Best Score: 3023.27
Early stopping at iteration 546, Best Score: 3008.89
Early stopping at iteration 568, Best Score: 3001.78
Early stopping at iteration 556, Best Score: 3008.52
Early stopping at iteration 623, Best Score: 3010.00
Early stopping at iteration 626, Best Score: 3024.20
Early stopping at iteration 650, Best Score: 3008.48
Early stopping at iteration 665, Best Score: 3019.07
Early stopping at iteration 541, Best Score: 3006.34
Early stopping at iteration 803, Best Score: 3021.39
Early stopping at iteration 551, Best Score: 2999.81
Early stopping at iteration 570, Best Score: 3009.43
Early stopping at iteration 563, Best Score: 3007.43
Early stopping at iteration 688, Best Score: 3019.23
Early stopping at iteration 540, Best Score: 3004.60
Early stopping at iteration 595, Best Score: 3011.46
Early stopping at iteration 583, Best Score: 3011.83
Early stopping at iteration 584, Best Score: 3019.10
Early stopping at iteration 545, Best Score: 2997.84
Early stopping at iteration 566, Best Score: 3010.56
Early stopping at iteration 508, Best Score: 2995.82
Early stopping at iteration 581, Best Score: 3012.98
Early stopping at iteration 523, Best Score: 3002.07
Early stopping at iteration 528, Best Score: 2999.62
Early stopping at iteration 603, Best Score: 3016.16
Early stopping at iteration 544, Best Score: 3004.90
Early stopping at iteration 540, Best Score: 3007.03
Early stopping at iteration 525, Best Score: 3003.27
Early stopping at iteration 568, Best Score: 3010.73
```

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Early stopping at iteration 517, Best Score: 2995.91
Early stopping at iteration 555, Best Score: 3013.59
Early stopping at iteration 505, Best Score: 2993.25
Early stopping at iteration 697, Best Score: 3018.73
Early stopping at iteration 530, Best Score: 3006.92
Early stopping at iteration 714, Best Score: 3024.06
Early stopping at iteration 606, Best Score: 3023.01
Early stopping at iteration 913, Best Score: 3027.48
Early stopping at iteration 747, Best Score: 3025.52
Early stopping at iteration 650, Best Score: 3018.46
Early stopping at iteration 664, Best Score: 3016.68
Early stopping at iteration 643, Best Score: 2998.94
Early stopping at iteration 584, Best Score: 3008.61
Early stopping at iteration 657, Best Score: 3017.53
Early stopping at iteration 629, Best Score: 3016.88
Early stopping at iteration 697, Best Score: 3015.63
Early stopping at iteration 580, Best Score: 3015.07
Early stopping at iteration 584, Best Score: 3013.30
Early stopping at iteration 689, Best Score: 3011.40
Early stopping at iteration 649, Best Score: 3008.27
Early stopping at iteration 588, Best Score: 3015.01
Early stopping at iteration 790, Best Score: 3017.39
Early stopping at iteration 590, Best Score: 3016.88
Early stopping at iteration 539, Best Score: 3004.62
Early stopping at iteration 607, Best Score: 3013.61
Early stopping at iteration 513, Best Score: 2999.60
Early stopping at iteration 704, Best Score: 3007.08
Early stopping at iteration 515, Best Score: 2996.98
Early stopping at iteration 581, Best Score: 3010.70
Early stopping at iteration 624, Best Score: 3010.79
Early stopping at iteration 614, Best Score: 3012.42
Early stopping at iteration 613, Best Score: 3016.18
Early stopping at iteration 570, Best Score: 3016.06
Early stopping at iteration 545, Best Score: 3005.58
Early stopping at iteration 683, Best Score: 3018.80
Early stopping at iteration 509, Best Score: 2996.94
Early stopping at iteration 580, Best Score: 3007.20
Early stopping at iteration 570, Best Score: 3014.32
Early stopping at iteration 714, Best Score: 3027.94
Early stopping at iteration 740, Best Score: 3029.42
  Deck Trial 200/250
Early stopping at iteration 677, Best Score: 3015.58
Early stopping at iteration 555, Best Score: 3000.72
Early stopping at iteration 588, Best Score: 3019.85
Early stopping at iteration 624, Best Score: 3009.80
Early stopping at iteration 570, Best Score: 3002.86
Early stopping at iteration 619, Best Score: 3024.63
Early stopping at iteration 600, Best Score: 3020.95
Early stopping at iteration 504, Best Score: 2993.33
Early stopping at iteration 542, Best Score: 3002.34
Early stopping at iteration 577, Best Score: 3006.02
Early stopping at iteration 650, Best Score: 3013.31
Early stopping at iteration 500, Best Score: 2991.74
Early stopping at iteration 571, Best Score: 3019.78
Early stopping at iteration 564, Best Score: 3003.16
Early stopping at iteration 851, Best Score: 3033.83
Early stopping at iteration 569, Best Score: 3008.64
Early stopping at iteration 550, Best Score: 3004.23
Early stopping at iteration 567, Best Score: 3005.42
Early stopping at iteration 857, Best Score: 3019.07
```

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Early stopping at iteration 716, Best Score: 3014.59
Early stopping at iteration 509, Best Score: 2997.67
Early stopping at iteration 589, Best Score: 3017.59
Early stopping at iteration 597, Best Score: 3019.51
Early stopping at iteration 598, Best Score: 3000.85
Early stopping at iteration 738, Best Score: 3025.33
Early stopping at iteration 570, Best Score: 3018.31
Early stopping at iteration 558, Best Score: 3005.03
Early stopping at iteration 502, Best Score: 2993.25
Early stopping at iteration 609, Best Score: 3010.82
Early stopping at iteration 554, Best Score: 3003.81
Early stopping at iteration 585, Best Score: 3011.64
Early stopping at iteration 719, Best Score: 3021.27
Early stopping at iteration 623, Best Score: 3007.43
Early stopping at iteration 736, Best Score: 3016.73
Early stopping at iteration 617, Best Score: 3006.24
Early stopping at iteration 576, Best Score: 3015.07
Early stopping at iteration 606, Best Score: 3019.77
Early stopping at iteration 539, Best Score: 3003.79
Early stopping at iteration 573, Best Score: 3005.16
Early stopping at iteration 539, Best Score: 2997.71
Early stopping at iteration 541, Best Score: 2999.27
Early stopping at iteration 543, Best Score: 3008.66
Early stopping at iteration 506, Best Score: 2993.73
Early stopping at iteration 572, Best Score: 3015.49
Early stopping at iteration 535, Best Score: 3005.71
Early stopping at iteration 579, Best Score: 3008.13
Early stopping at iteration 636, Best Score: 3014.50
Early stopping at iteration 527, Best Score: 3007.61
Early stopping at iteration 550, Best Score: 3010.50
Early stopping at iteration 605, Best Score: 3007.59
Early stopping at iteration 600, Best Score: 3016.45
GNN Trial 20 completed with 250 decks.
Evaluations for OP07-079 completed. Results saved in evaluations\OP07-079

=== Evaluating Leader: OP08-098 (Kalgara) ===

GNN Trial 1/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 6.1903, Synergy Loss: 2.0195, Total: 10.2293
Epoch 20/300 - Node Loss: 1.6810, Synergy Loss: 1.9141, Total: 5.5093
Epoch 30/300 - Node Loss: 1.1071, Synergy Loss: 1.8373, Total: 4.7817
Epoch 40/300 - Node Loss: 1.0155, Synergy Loss: 1.7795, Total: 4.5745
Epoch 50/300 - Node Loss: 1.0084, Synergy Loss: 1.7224, Total: 4.4533
Epoch 60/300 - Node Loss: 1.0070, Synergy Loss: 1.6689, Total: 4.3448
Epoch 70/300 - Node Loss: 1.0059, Synergy Loss: 1.6197, Total: 4.2453
Epoch 80/300 - Node Loss: 1.0098, Synergy Loss: 1.5771, Total: 4.1639
Epoch 90/300 - Node Loss: 1.0146, Synergy Loss: 1.5293, Total: 4.0731
Epoch 100/300 - Node Loss: 1.0574, Synergy Loss: 1.4420, Total: 3.9413
Epoch 110/300 - Node Loss: 1.1348, Synergy Loss: 1.2981, Total: 3.7310
Epoch 120/300 - Node Loss: 1.1218, Synergy Loss: 1.1186, Total: 3.3589
Epoch 130/300 - Node Loss: 1.1266, Synergy Loss: 0.8952, Total: 2.9170
Epoch 140/300 - Node Loss: 1.0855, Synergy Loss: 0.6882, Total: 2.4618
Epoch 150/300 - Node Loss: 1.1166, Synergy Loss: 0.5717, Total: 2.2601
Epoch 160/300 - Node Loss: 1.1249, Synergy Loss: 0.5453, Total: 2.2154
Epoch 170/300 - Node Loss: 1.1203, Synergy Loss: 0.5116, Total: 2.1435
Epoch 180/300 - Node Loss: 1.1234, Synergy Loss: 0.4851, Total: 2.0936
Epoch 190/300 - Node Loss: 1.1072, Synergy Loss: 0.4568, Total: 2.0209
Epoch 200/300 - Node Loss: 1.0949, Synergy Loss: 0.4478, Total: 1.9905
Epoch 210/300 - Node Loss: 1.0784, Synergy Loss: 0.4205, Total: 1.9194
```

```
Epoch 220/300 - Node Loss: 1.0702, Synergy Loss: 0.3908, Total: 1.8517
Epoch 230/300 - Node Loss: 1.0697, Synergy Loss: 0.3554, Total: 1.7805
Epoch 240/300 - Node Loss: 1.0768, Synergy Loss: 0.3249, Total: 1.7266
Epoch 250/300 - Node Loss: 1.0710, Synergy Loss: 0.3143, Total: 1.6997
Epoch 260/300 - Node Loss: 1.0896, Synergy Loss: 0.3338, Total: 1.7572
Epoch 270/300 - Node Loss: 1.0488, Synergy Loss: 0.3033, Total: 1.6554
Epoch 280/300 - Node Loss: 1.0539, Synergy Loss: 0.2835, Total: 1.6210
Epoch 290/300 - Node Loss: 1.0383, Synergy Loss: 0.2716, Total: 1.5815
Epoch 300/300 - Node Loss: 1.0508, Synergy Loss: 0.2607, Total: 1.5723
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 631, Best Score: 3105.63
Early stopping at iteration 784, Best Score: 3140.77
Early stopping at iteration 584, Best Score: 2946.57
Early stopping at iteration 761, Best Score: 3133.89
Early stopping at iteration 645, Best Score: 3107.63
Early stopping at iteration 729, Best Score: 3127.96
Early stopping at iteration 776, Best Score: 3173.94
Early stopping at iteration 570, Best Score: 2865.60
Early stopping at iteration 731, Best Score: 3160.97
Early stopping at iteration 724, Best Score: 3116.84
Early stopping at iteration 609, Best Score: 3022.31
Early stopping at iteration 700, Best Score: 3135.69
Early stopping at iteration 755, Best Score: 3097.56
Early stopping at iteration 724, Best Score: 3099.06
Early stopping at iteration 865, Best Score: 3182.07
Early stopping at iteration 608, Best Score: 3035.00
Early stopping at iteration 610, Best Score: 3045.62
Early stopping at iteration 623, Best Score: 3037.49
Early stopping at iteration 862, Best Score: 3193.63
Early stopping at iteration 614, Best Score: 3112.66
Early stopping at iteration 638, Best Score: 3071.95
Early stopping at iteration 500, Best Score: 2733.08
Early stopping at iteration 762, Best Score: 3082.13
Early stopping at iteration 905, Best Score: 3170.65
Early stopping at iteration 614, Best Score: 3056.25
Early stopping at iteration 500, Best Score: 2733.08
Early stopping at iteration 721, Best Score: 3152.84
Early stopping at iteration 532, Best Score: 2790.45
Early stopping at iteration 764, Best Score: 3165.82
Early stopping at iteration 560, Best Score: 2976.19
Early stopping at iteration 676, Best Score: 3132.02
Early stopping at iteration 1245, Best Score: 3170.52
Early stopping at iteration 766, Best Score: 3175.37
Early stopping at iteration 674, Best Score: 3066.48
Early stopping at iteration 693, Best Score: 3148.23
Early stopping at iteration 507, Best Score: 2739.09
Early stopping at iteration 649, Best Score: 3072.80
Early stopping at iteration 675, Best Score: 3162.14
Early stopping at iteration 500, Best Score: 2733.08
Early stopping at iteration 628, Best Score: 3072.92
Early stopping at iteration 781, Best Score: 3173.23
Early stopping at iteration 905, Best Score: 3168.38
Early stopping at iteration 799, Best Score: 3165.11
Early stopping at iteration 514, Best Score: 2842.13
Early stopping at iteration 1002, Best Score: 3152.58
Early stopping at iteration 545, Best Score: 2924.65
Early stopping at iteration 739, Best Score: 3114.43
Early stopping at iteration 735, Best Score: 3146.79
Early stopping at iteration 740, Best Score: 3184.07
Early stopping at iteration 786, Best Score: 3116.69
```

```
Early stopping at iteration 751, Best Score: 3173.23
Early stopping at iteration 995, Best Score: 3182.80
Early stopping at iteration 799, Best Score: 3022.44
Early stopping at iteration 693, Best Score: 3160.66
Early stopping at iteration 651, Best Score: 3086.86
Early stopping at iteration 596, Best Score: 3047.98
Early stopping at iteration 701, Best Score: 3113.47
Early stopping at iteration 741, Best Score: 3159.86
Early stopping at iteration 848, Best Score: 3172.23
Early stopping at iteration 720, Best Score: 3096.61
Early stopping at iteration 589, Best Score: 2941.93
Early stopping at iteration 947, Best Score: 3131.98
Early stopping at iteration 786, Best Score: 3108.28
Early stopping at iteration 707, Best Score: 3162.06
Early stopping at iteration 605, Best Score: 3011.52
Early stopping at iteration 797, Best Score: 3019.98
Early stopping at iteration 568, Best Score: 2965.53
Early stopping at iteration 626, Best Score: 3081.31
Early stopping at iteration 795, Best Score: 3185.51
Early stopping at iteration 652, Best Score: 3053.37
Early stopping at iteration 599, Best Score: 2837.91
Early stopping at iteration 500, Best Score: 2733.08
Early stopping at iteration 546, Best Score: 2935.94
Early stopping at iteration 606, Best Score: 3023.16
Early stopping at iteration 692, Best Score: 3024.41
Early stopping at iteration 628, Best Score: 3048.97
Early stopping at iteration 646, Best Score: 3093.28
Early stopping at iteration 628, Best Score: 3077.07
Early stopping at iteration 582, Best Score: 2874.29
Early stopping at iteration 556, Best Score: 2941.79
Early stopping at iteration 547, Best Score: 2826.35
Early stopping at iteration 673, Best Score: 3127.00
Early stopping at iteration 741, Best Score: 3111.12
Early stopping at iteration 675, Best Score: 3144.75
Early stopping at iteration 524, Best Score: 2863.29
Early stopping at iteration 735, Best Score: 3080.08
Early stopping at iteration 739, Best Score: 3180.65
Early stopping at iteration 1065, Best Score: 3177.13
Early stopping at iteration 875, Best Score: 3148.11
Early stopping at iteration 564, Best Score: 2957.18
Early stopping at iteration 684, Best Score: 3131.24
Early stopping at iteration 761, Best Score: 3184.07
Early stopping at iteration 1064, Best Score: 3073.20
Early stopping at iteration 757, Best Score: 3134.41
Early stopping at iteration 551, Best Score: 2862.61
Early stopping at iteration 530, Best Score: 2824.52
Early stopping at iteration 878, Best Score: 2996.02
Early stopping at iteration 742, Best Score: 3142.50
Early stopping at iteration 529, Best Score: 2855.85
  Deck Trial 100/250
Early stopping at iteration 615, Best Score: 2973.03
Early stopping at iteration 625, Best Score: 3030.26
Early stopping at iteration 899, Best Score: 3177.23
Early stopping at iteration 616, Best Score: 3057.73
Early stopping at iteration 558, Best Score: 3008.36
Early stopping at iteration 610, Best Score: 3064.12
Early stopping at iteration 923, Best Score: 3186.07
Early stopping at iteration 794, Best Score: 3161.09
Early stopping at iteration 997, Best Score: 3190.93
Early stopping at iteration 799, Best Score: 3167.11
```

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Early stopping at iteration 867, Best Score: 3192.82
Early stopping at iteration 721, Best Score: 3136.39
Early stopping at iteration 718, Best Score: 3169.09
Early stopping at iteration 920, Best Score: 3076.92
Early stopping at iteration 725, Best Score: 3045.27
Early stopping at iteration 858, Best Score: 3165.66
Early stopping at iteration 574, Best Score: 3044.37
Early stopping at iteration 656, Best Score: 3107.17
Early stopping at iteration 949, Best Score: 3198.35
Early stopping at iteration 636, Best Score: 2829.18
Early stopping at iteration 762, Best Score: 3148.95
Early stopping at iteration 702, Best Score: 3147.43
Early stopping at iteration 528, Best Score: 2767.87
Early stopping at iteration 649, Best Score: 3102.03
Early stopping at iteration 736, Best Score: 3175.79
Early stopping at iteration 566, Best Score: 2928.58
Early stopping at iteration 566, Best Score: 2896.48
Early stopping at iteration 639, Best Score: 3123.52
Early stopping at iteration 666, Best Score: 3124.40
Early stopping at iteration 641, Best Score: 3116.16
Early stopping at iteration 720, Best Score: 3122.68
Early stopping at iteration 509, Best Score: 2761.90
Early stopping at iteration 633, Best Score: 3092.94
Early stopping at iteration 795, Best Score: 3122.16
Early stopping at iteration 683, Best Score: 3140.56
Early stopping at iteration 731, Best Score: 3113.88
Early stopping at iteration 731, Best Score: 3166.42
Early stopping at iteration 933, Best Score: 3184.78
Early stopping at iteration 615, Best Score: 3001.73
Early stopping at iteration 691, Best Score: 3075.12
Early stopping at iteration 734, Best Score: 3129.73
Early stopping at iteration 827, Best Score: 3184.07
Early stopping at iteration 730, Best Score: 3151.06
Early stopping at iteration 655, Best Score: 3063.66
Early stopping at iteration 740, Best Score: 3178.24
Early stopping at iteration 783, Best Score: 3145.71
Early stopping at iteration 663, Best Score: 3117.70
Early stopping at iteration 712, Best Score: 2912.79
Early stopping at iteration 671, Best Score: 3120.54
Early stopping at iteration 565, Best Score: 3063.94
Early stopping at iteration 576, Best Score: 2850.46
Early stopping at iteration 541, Best Score: 2890.59
Early stopping at iteration 620, Best Score: 3093.79
Early stopping at iteration 1029, Best Score: 3191.51
Early stopping at iteration 1177, Best Score: 3147.83
Early stopping at iteration 689, Best Score: 3032.61
Early stopping at iteration 678, Best Score: 3081.52
Early stopping at iteration 572, Best Score: 2991.27
Early stopping at iteration 561, Best Score: 2982.26
Early stopping at iteration 993, Best Score: 3201.78
Early stopping at iteration 588, Best Score: 2940.18
Early stopping at iteration 731, Best Score: 3134.03
Early stopping at iteration 725, Best Score: 3159.54
Early stopping at iteration 680, Best Score: 3137.48
Early stopping at iteration 687, Best Score: 2995.41
Early stopping at iteration 596, Best Score: 2972.07
Early stopping at iteration 795, Best Score: 3175.24
Early stopping at iteration 746, Best Score: 3141.59
Early stopping at iteration 591, Best Score: 2967.65
Early stopping at iteration 879, Best Score: 3181.37
```

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Early stopping at iteration 1347, Best Score: 3195.93
Early stopping at iteration 553, Best Score: 2959.94
Early stopping at iteration 851, Best Score: 3034.11
Early stopping at iteration 672, Best Score: 3033.32
Early stopping at iteration 734, Best Score: 3150.26
Early stopping at iteration 740, Best Score: 3133.97
Early stopping at iteration 1174, Best Score: 3158.96
Early stopping at iteration 767, Best Score: 3153.69
Early stopping at iteration 546, Best Score: 2894.49
Early stopping at iteration 1040, Best Score: 3144.44
Early stopping at iteration 724, Best Score: 3126.07
Early stopping at iteration 1018, Best Score: 3183.26
Early stopping at iteration 775, Best Score: 3080.01
Early stopping at iteration 555, Best Score: 2889.73
Early stopping at iteration 672, Best Score: 3107.62
Early stopping at iteration 797, Best Score: 3153.05
Early stopping at iteration 578, Best Score: 3020.98
Early stopping at iteration 617, Best Score: 3073.35
Early stopping at iteration 603, Best Score: 2958.43
Early stopping at iteration 590, Best Score: 2898.23
Early stopping at iteration 734, Best Score: 3004.42
Early stopping at iteration 559, Best Score: 2978.36
Early stopping at iteration 819, Best Score: 3139.52
Early stopping at iteration 1059, Best Score: 3188.22
Early stopping at iteration 598, Best Score: 3045.75
Early stopping at iteration 619, Best Score: 3016.67
Early stopping at iteration 679, Best Score: 3137.71
Early stopping at iteration 745, Best Score: 3170.99
Early stopping at iteration 573, Best Score: 3011.57
Early stopping at iteration 537, Best Score: 2922.71
  Deck Trial 200/250
Early stopping at iteration 500, Best Score: 2733.08
Early stopping at iteration 794, Best Score: 3151.28
Early stopping at iteration 742, Best Score: 3121.34
Early stopping at iteration 545, Best Score: 2939.00
Early stopping at iteration 662, Best Score: 3017.03
Early stopping at iteration 579, Best Score: 2972.17
Early stopping at iteration 951, Best Score: 3180.08
Early stopping at iteration 500, Best Score: 2733.08
Early stopping at iteration 629, Best Score: 2958.69
Early stopping at iteration 657, Best Score: 3022.46
Early stopping at iteration 553, Best Score: 2920.89
Early stopping at iteration 784, Best Score: 3162.25
Early stopping at iteration 511, Best Score: 2785.02
Early stopping at iteration 747, Best Score: 3154.13
Early stopping at iteration 1077, Best Score: 3166.38
Early stopping at iteration 534, Best Score: 2841.96
Early stopping at iteration 706, Best Score: 3154.10
Early stopping at iteration 878, Best Score: 3169.09
Early stopping at iteration 701, Best Score: 3117.18
Early stopping at iteration 727, Best Score: 3179.83
Early stopping at iteration 862, Best Score: 3155.52
Early stopping at iteration 671, Best Score: 3077.15
Early stopping at iteration 1151, Best Score: 3175.64
Early stopping at iteration 968, Best Score: 2877.54
Early stopping at iteration 668, Best Score: 3128.00
Early stopping at iteration 817, Best Score: 3154.71
Early stopping at iteration 587, Best Score: 3006.99
Early stopping at iteration 609, Best Score: 2927.38
Early stopping at iteration 536, Best Score: 2901.14
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Early stopping at iteration 954, Best Score: 3183.51
Early stopping at iteration 639, Best Score: 3134.72
Early stopping at iteration 780, Best Score: 3076.80
Early stopping at iteration 806, Best Score: 3138.06
Early stopping at iteration 991, Best Score: 3142.09
Early stopping at iteration 592, Best Score: 3016.31
Early stopping at iteration 987, Best Score: 3155.97
Early stopping at iteration 776, Best Score: 3166.65
Early stopping at iteration 919, Best Score: 3151.14
Early stopping at iteration 631, Best Score: 3078.83
Early stopping at iteration 1017, Best Score: 3184.81
Early stopping at iteration 944, Best Score: 3153.15
Early stopping at iteration 597, Best Score: 3103.58
Early stopping at iteration 565, Best Score: 2972.60
Early stopping at iteration 995, Best Score: 2976.45
Early stopping at iteration 908, Best Score: 3165.96
Early stopping at iteration 552, Best Score: 2860.93
Early stopping at iteration 565, Best Score: 2991.69
Early stopping at iteration 771, Best Score: 3183.67
Early stopping at iteration 1135, Best Score: 3166.53
Early stopping at iteration 574, Best Score: 2928.37
Early stopping at iteration 500, Best Score: 2733.08
GNN Trial 1 completed with 250 decks.

GNN Trial 2/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 32.6554, Synergy Loss: 2.2235, Total: 37.1025
Epoch 20/300 - Node Loss: 2.8017, Synergy Loss: 2.1042, Total: 7.0101
Epoch 30/300 - Node Loss: 1.3089, Synergy Loss: 1.9647, Total: 5.2382
Epoch 40/300 - Node Loss: 1.0387, Synergy Loss: 1.8426, Total: 4.7240
Epoch 50/300 - Node Loss: 1.0112, Synergy Loss: 1.7386, Total: 4.4883
Epoch 60/300 - Node Loss: 1.0034, Synergy Loss: 1.6484, Total: 4.3002
Epoch 70/300 - Node Loss: 1.0095, Synergy Loss: 1.5702, Total: 4.1499
Epoch 80/300 - Node Loss: 1.0049, Synergy Loss: 1.4938, Total: 3.9925
Epoch 90/300 - Node Loss: 1.0202, Synergy Loss: 1.3915, Total: 3.8032
Epoch 100/300 - Node Loss: 1.0710, Synergy Loss: 1.2550, Total: 3.5811
Epoch 110/300 - Node Loss: 1.0472, Synergy Loss: 1.2110, Total: 3.4692
Epoch 120/300 - Node Loss: 1.1014, Synergy Loss: 1.0497, Total: 3.2008
Epoch 130/300 - Node Loss: 1.1992, Synergy Loss: 0.8701, Total: 2.9394
Epoch 140/300 - Node Loss: 1.1898, Synergy Loss: 0.7202, Total: 2.6301
Epoch 150/300 - Node Loss: 1.3641, Synergy Loss: 0.6266, Total: 2.6173
Epoch 160/300 - Node Loss: 1.1808, Synergy Loss: 0.5877, Total: 2.3563
Epoch 170/300 - Node Loss: 1.2352, Synergy Loss: 0.5148, Total: 2.2649
Epoch 180/300 - Node Loss: 1.1590, Synergy Loss: 0.4978, Total: 2.1546
Epoch 190/300 - Node Loss: 1.1891, Synergy Loss: 0.4649, Total: 2.1188
Epoch 200/300 - Node Loss: 1.1229, Synergy Loss: 0.4541, Total: 2.0310
Epoch 210/300 - Node Loss: 1.1533, Synergy Loss: 0.4070, Total: 1.9674
Epoch 220/300 - Node Loss: 1.1318, Synergy Loss: 0.3853, Total: 1.9023
Epoch 230/300 - Node Loss: 1.1042, Synergy Loss: 0.3867, Total: 1.8776
Epoch 240/300 - Node Loss: 1.1082, Synergy Loss: 0.3322, Total: 1.7726
Epoch 250/300 - Node Loss: 1.1553, Synergy Loss: 0.3232, Total: 1.8016
Epoch 260/300 - Node Loss: 1.1352, Synergy Loss: 0.2794, Total: 1.6939
Epoch 270/300 - Node Loss: 1.1242, Synergy Loss: 0.2620, Total: 1.6482
Epoch 280/300 - Node Loss: 1.1168, Synergy Loss: 0.2457, Total: 1.6083
Epoch 290/300 - Node Loss: 1.0787, Synergy Loss: 0.2582, Total: 1.5951
Epoch 300/300 - Node Loss: 1.0731, Synergy Loss: 0.2310, Total: 1.5350
Existing model archived to: 20250310_185753_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 801, Best Score: 3112.09
Early stopping at iteration 794, Best Score: 3147.83
```

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Early stopping at iteration 797, Best Score: 3149.59
Early stopping at iteration 548, Best Score: 3044.97
Early stopping at iteration 561, Best Score: 3028.69
Early stopping at iteration 704, Best Score: 3087.91
Early stopping at iteration 633, Best Score: 3095.46
Early stopping at iteration 521, Best Score: 2978.47
Early stopping at iteration 536, Best Score: 2971.20
Early stopping at iteration 517, Best Score: 2967.60
Early stopping at iteration 656, Best Score: 3101.40
Early stopping at iteration 635, Best Score: 2987.15
Early stopping at iteration 694, Best Score: 3132.81
Early stopping at iteration 550, Best Score: 3001.77
Early stopping at iteration 659, Best Score: 3132.97
Early stopping at iteration 652, Best Score: 3130.49
Early stopping at iteration 811, Best Score: 3150.00
Early stopping at iteration 500, Best Score: 2909.67
Early stopping at iteration 599, Best Score: 3081.67
Early stopping at iteration 632, Best Score: 3106.88
Early stopping at iteration 523, Best Score: 2943.44
Early stopping at iteration 884, Best Score: 3170.22
Early stopping at iteration 515, Best Score: 2947.31
Early stopping at iteration 640, Best Score: 3120.88
Early stopping at iteration 586, Best Score: 3023.04
Early stopping at iteration 626, Best Score: 3091.67
Early stopping at iteration 735, Best Score: 3100.51
Early stopping at iteration 567, Best Score: 3097.15
Early stopping at iteration 836, Best Score: 3153.40
Early stopping at iteration 536, Best Score: 3000.04
Early stopping at iteration 742, Best Score: 3096.84
Early stopping at iteration 776, Best Score: 3089.72
Early stopping at iteration 747, Best Score: 3123.68
Early stopping at iteration 759, Best Score: 3111.04
Early stopping at iteration 635, Best Score: 3113.42
Early stopping at iteration 1125, Best Score: 3161.47
Early stopping at iteration 531, Best Score: 2981.48
Early stopping at iteration 739, Best Score: 3075.15
Early stopping at iteration 641, Best Score: 3090.85
Early stopping at iteration 678, Best Score: 3106.84
Early stopping at iteration 517, Best Score: 2915.70
Early stopping at iteration 565, Best Score: 3004.45
Early stopping at iteration 731, Best Score: 3130.43
Early stopping at iteration 611, Best Score: 3078.11
Early stopping at iteration 683, Best Score: 3108.00
Early stopping at iteration 950, Best Score: 3105.79
Early stopping at iteration 718, Best Score: 3071.61
Early stopping at iteration 618, Best Score: 3061.65
Early stopping at iteration 837, Best Score: 3134.44
Early stopping at iteration 548, Best Score: 3047.77
Early stopping at iteration 610, Best Score: 3076.86
Early stopping at iteration 813, Best Score: 3156.69
Early stopping at iteration 865, Best Score: 3129.29
Early stopping at iteration 532, Best Score: 2967.80
Early stopping at iteration 561, Best Score: 3044.85
Early stopping at iteration 548, Best Score: 3035.61
Early stopping at iteration 797, Best Score: 3138.15
Early stopping at iteration 566, Best Score: 3009.02
Early stopping at iteration 812, Best Score: 3140.55
Early stopping at iteration 642, Best Score: 3092.96
Early stopping at iteration 783, Best Score: 3149.70
Early stopping at iteration 581, Best Score: 3032.28
```

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Early stopping at iteration 615, Best Score: 3098.32
Early stopping at iteration 583, Best Score: 3046.17
Early stopping at iteration 517, Best Score: 2925.81
Early stopping at iteration 651, Best Score: 3062.39
Early stopping at iteration 768, Best Score: 3122.00
Early stopping at iteration 590, Best Score: 3055.20
Early stopping at iteration 554, Best Score: 2985.11
Early stopping at iteration 771, Best Score: 3158.61
Early stopping at iteration 727, Best Score: 3142.01
Early stopping at iteration 672, Best Score: 3077.49
Early stopping at iteration 764, Best Score: 3119.18
Early stopping at iteration 618, Best Score: 3114.72
Early stopping at iteration 660, Best Score: 3112.39
Early stopping at iteration 776, Best Score: 3156.09
Early stopping at iteration 723, Best Score: 3134.54
Early stopping at iteration 761, Best Score: 3027.97
Early stopping at iteration 654, Best Score: 3103.46
Early stopping at iteration 922, Best Score: 3166.46
Early stopping at iteration 646, Best Score: 3089.59
Early stopping at iteration 629, Best Score: 3053.63
Early stopping at iteration 548, Best Score: 2941.51
Early stopping at iteration 650, Best Score: 3089.81
Early stopping at iteration 550, Best Score: 2995.37
Early stopping at iteration 722, Best Score: 3141.85
Early stopping at iteration 928, Best Score: 3140.48
Early stopping at iteration 882, Best Score: 3129.12
Early stopping at iteration 945, Best Score: 3139.73
Early stopping at iteration 605, Best Score: 3120.31
Early stopping at iteration 543, Best Score: 2953.08
Early stopping at iteration 909, Best Score: 3170.22
Early stopping at iteration 611, Best Score: 3115.93
Early stopping at iteration 623, Best Score: 3082.84
Early stopping at iteration 666, Best Score: 3091.38
Early stopping at iteration 721, Best Score: 3070.43
Early stopping at iteration 806, Best Score: 3079.64
Early stopping at iteration 760, Best Score: 3152.54
Early stopping at iteration 817, Best Score: 3136.19
  Deck Trial 100/250
Early stopping at iteration 543, Best Score: 2984.56
Early stopping at iteration 570, Best Score: 3057.49
Early stopping at iteration 666, Best Score: 3112.60
Early stopping at iteration 647, Best Score: 3116.08
Early stopping at iteration 630, Best Score: 3031.62
Early stopping at iteration 887, Best Score: 3132.50
Early stopping at iteration 614, Best Score: 3083.35
Early stopping at iteration 510, Best Score: 2943.52
Early stopping at iteration 823, Best Score: 3125.29
Early stopping at iteration 673, Best Score: 3029.90
Early stopping at iteration 536, Best Score: 2987.29
Early stopping at iteration 500, Best Score: 2909.67
Early stopping at iteration 599, Best Score: 3043.05
Early stopping at iteration 716, Best Score: 3095.51
Early stopping at iteration 781, Best Score: 3162.09
Early stopping at iteration 500, Best Score: 2909.67
Early stopping at iteration 569, Best Score: 3103.16
Early stopping at iteration 539, Best Score: 2967.62
Early stopping at iteration 577, Best Score: 3065.64
Early stopping at iteration 659, Best Score: 3094.86
Early stopping at iteration 549, Best Score: 2995.26
Early stopping at iteration 540, Best Score: 3008.23
```

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Early stopping at iteration 587, Best Score: 3084.00
Early stopping at iteration 650, Best Score: 3123.72
Early stopping at iteration 610, Best Score: 3109.64
Early stopping at iteration 642, Best Score: 3044.75
Early stopping at iteration 732, Best Score: 3140.11
Early stopping at iteration 647, Best Score: 3107.28
Early stopping at iteration 927, Best Score: 3141.04
Early stopping at iteration 906, Best Score: 3106.25
Early stopping at iteration 815, Best Score: 3150.00
Early stopping at iteration 745, Best Score: 3116.47
Early stopping at iteration 732, Best Score: 3104.10
Early stopping at iteration 697, Best Score: 3133.78
Early stopping at iteration 597, Best Score: 3073.37
Early stopping at iteration 744, Best Score: 3125.01
Early stopping at iteration 609, Best Score: 3052.20
Early stopping at iteration 604, Best Score: 3094.06
Early stopping at iteration 625, Best Score: 3040.81
Early stopping at iteration 668, Best Score: 3125.72
Early stopping at iteration 591, Best Score: 2990.73
Early stopping at iteration 527, Best Score: 2951.15
Early stopping at iteration 577, Best Score: 3101.90
Early stopping at iteration 685, Best Score: 3098.09
Early stopping at iteration 643, Best Score: 3126.44
Early stopping at iteration 753, Best Score: 3115.06
Early stopping at iteration 785, Best Score: 3134.87
Early stopping at iteration 692, Best Score: 3065.81
Early stopping at iteration 751, Best Score: 3124.24
Early stopping at iteration 833, Best Score: 3152.69
Early stopping at iteration 911, Best Score: 3153.30
Early stopping at iteration 761, Best Score: 3143.34
Early stopping at iteration 1072, Best Score: 3147.94
Early stopping at iteration 652, Best Score: 3105.01
Early stopping at iteration 800, Best Score: 3146.54
Early stopping at iteration 558, Best Score: 3068.12
Early stopping at iteration 538, Best Score: 3037.21
Early stopping at iteration 705, Best Score: 3119.43
Early stopping at iteration 573, Best Score: 3044.11
Early stopping at iteration 623, Best Score: 3069.21
Early stopping at iteration 657, Best Score: 3090.47
Early stopping at iteration 540, Best Score: 2976.00
Early stopping at iteration 635, Best Score: 3108.04
Early stopping at iteration 899, Best Score: 3150.44
Early stopping at iteration 700, Best Score: 3095.23
Early stopping at iteration 700, Best Score: 3101.78
Early stopping at iteration 500, Best Score: 2909.67
Early stopping at iteration 867, Best Score: 3074.12
Early stopping at iteration 788, Best Score: 3173.44
Early stopping at iteration 728, Best Score: 3128.49
Early stopping at iteration 672, Best Score: 3123.69
Early stopping at iteration 669, Best Score: 3103.52
Early stopping at iteration 526, Best Score: 2974.24
Early stopping at iteration 659, Best Score: 3098.48
Early stopping at iteration 1249, Best Score: 3129.12
Early stopping at iteration 520, Best Score: 2941.57
Early stopping at iteration 633, Best Score: 3085.27
Early stopping at iteration 636, Best Score: 3092.41
Early stopping at iteration 510, Best Score: 2943.73
Early stopping at iteration 509, Best Score: 2915.72
Early stopping at iteration 637, Best Score: 3057.55
Early stopping at iteration 663, Best Score: 3109.47
```

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Early stopping at iteration 742, Best Score: 3154.00
Early stopping at iteration 544, Best Score: 2991.93
Early stopping at iteration 695, Best Score: 3038.59
Early stopping at iteration 809, Best Score: 3125.11
Early stopping at iteration 860, Best Score: 3090.70
Early stopping at iteration 735, Best Score: 3114.98
Early stopping at iteration 547, Best Score: 2990.50
Early stopping at iteration 578, Best Score: 3054.49
Early stopping at iteration 540, Best Score: 2922.64
Early stopping at iteration 533, Best Score: 2985.33
Early stopping at iteration 718, Best Score: 3082.57
Early stopping at iteration 773, Best Score: 3140.37
Early stopping at iteration 631, Best Score: 3107.23
Early stopping at iteration 626, Best Score: 3090.34
Early stopping at iteration 543, Best Score: 2959.89
Early stopping at iteration 737, Best Score: 3127.78
Early stopping at iteration 629, Best Score: 3100.51
Early stopping at iteration 526, Best Score: 2959.74
  Deck Trial 200/250
Early stopping at iteration 655, Best Score: 3104.83
Early stopping at iteration 539, Best Score: 2950.45
Early stopping at iteration 681, Best Score: 3136.29
Early stopping at iteration 651, Best Score: 3101.24
Early stopping at iteration 500, Best Score: 2909.67
Early stopping at iteration 715, Best Score: 3111.62
Early stopping at iteration 723, Best Score: 3120.61
Early stopping at iteration 542, Best Score: 3008.73
Early stopping at iteration 523, Best Score: 2952.45
Early stopping at iteration 830, Best Score: 3059.84
Early stopping at iteration 707, Best Score: 3090.30
Early stopping at iteration 780, Best Score: 3115.79
Early stopping at iteration 604, Best Score: 3064.39
Early stopping at iteration 635, Best Score: 3125.93
Early stopping at iteration 633, Best Score: 3097.15
Early stopping at iteration 598, Best Score: 3081.32
Early stopping at iteration 795, Best Score: 3070.78
Early stopping at iteration 793, Best Score: 3127.30
Early stopping at iteration 622, Best Score: 3067.02
Early stopping at iteration 909, Best Score: 3147.85
Early stopping at iteration 1010, Best Score: 3134.50
Early stopping at iteration 796, Best Score: 3158.57
Early stopping at iteration 646, Best Score: 3070.96
Early stopping at iteration 608, Best Score: 3076.55
Early stopping at iteration 700, Best Score: 3119.18
Early stopping at iteration 990, Best Score: 3153.12
Early stopping at iteration 737, Best Score: 3107.31
Early stopping at iteration 579, Best Score: 3033.46
Early stopping at iteration 542, Best Score: 3033.56
Early stopping at iteration 809, Best Score: 3157.81
Early stopping at iteration 702, Best Score: 3129.04
Early stopping at iteration 628, Best Score: 3062.99
Early stopping at iteration 651, Best Score: 3120.94
Early stopping at iteration 721, Best Score: 3133.83
Early stopping at iteration 526, Best Score: 2975.08
Early stopping at iteration 577, Best Score: 3068.54
Early stopping at iteration 615, Best Score: 3111.15
Early stopping at iteration 685, Best Score: 3106.29
Early stopping at iteration 583, Best Score: 3027.25
Early stopping at iteration 803, Best Score: 3158.76
Early stopping at iteration 560, Best Score: 3011.22
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Early stopping at iteration 779, Best Score: 3139.20
Early stopping at iteration 540, Best Score: 2947.23
Early stopping at iteration 569, Best Score: 3023.89
Early stopping at iteration 925, Best Score: 3175.46
Early stopping at iteration 875, Best Score: 3147.32
Early stopping at iteration 772, Best Score: 3136.93
Early stopping at iteration 557, Best Score: 3022.78
Early stopping at iteration 616, Best Score: 3050.34
Early stopping at iteration 883, Best Score: 3165.31
Early stopping at iteration 599, Best Score: 3049.48
GNN Trial 2 completed with 250 decks.

GNN Trial 3/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 40.8252, Synergy Loss: 2.2394, Total: 45.3039
Epoch 20/300 - Node Loss: 4.1090, Synergy Loss: 2.0896, Total: 8.2883
Epoch 30/300 - Node Loss: 1.6676, Synergy Loss: 1.9269, Total: 5.5215
Epoch 40/300 - Node Loss: 1.1649, Synergy Loss: 1.8095, Total: 4.7838
Epoch 50/300 - Node Loss: 1.0162, Synergy Loss: 1.7116, Total: 4.4395
Epoch 60/300 - Node Loss: 1.0059, Synergy Loss: 1.6263, Total: 4.2584
Epoch 70/300 - Node Loss: 1.0230, Synergy Loss: 1.5501, Total: 4.1232
Epoch 80/300 - Node Loss: 1.0292, Synergy Loss: 1.4710, Total: 3.9713
Epoch 90/300 - Node Loss: 1.0776, Synergy Loss: 1.3591, Total: 3.7959
Epoch 100/300 - Node Loss: 1.0952, Synergy Loss: 1.2154, Total: 3.5260
Epoch 110/300 - Node Loss: 1.1109, Synergy Loss: 1.1139, Total: 3.3388
Epoch 120/300 - Node Loss: 1.3119, Synergy Loss: 0.9258, Total: 3.1636
Epoch 130/300 - Node Loss: 1.2170, Synergy Loss: 0.8307, Total: 2.8784
Epoch 140/300 - Node Loss: 1.2551, Synergy Loss: 0.7436, Total: 2.7423
Epoch 150/300 - Node Loss: 1.3158, Synergy Loss: 0.6424, Total: 2.6006
Epoch 160/300 - Node Loss: 1.3141, Synergy Loss: 0.6256, Total: 2.5653
Epoch 170/300 - Node Loss: 1.2447, Synergy Loss: 0.5765, Total: 2.3977
Epoch 180/300 - Node Loss: 1.2593, Synergy Loss: 0.5393, Total: 2.3378
Epoch 190/300 - Node Loss: 1.2916, Synergy Loss: 0.5007, Total: 2.2931
Epoch 200/300 - Node Loss: 1.2315, Synergy Loss: 0.4922, Total: 2.2159
Epoch 210/300 - Node Loss: 1.1806, Synergy Loss: 0.4489, Total: 2.0783
Epoch 220/300 - Node Loss: 1.1991, Synergy Loss: 0.4042, Total: 2.0075
Epoch 230/300 - Node Loss: 1.2090, Synergy Loss: 0.3724, Total: 1.9539
Epoch 240/300 - Node Loss: 1.1664, Synergy Loss: 0.3702, Total: 1.9067
Epoch 250/300 - Node Loss: 1.1682, Synergy Loss: 0.3670, Total: 1.9022
Epoch 260/300 - Node Loss: 1.1693, Synergy Loss: 0.3559, Total: 1.8812
Epoch 270/300 - Node Loss: 1.1560, Synergy Loss: 0.3289, Total: 1.8139
Epoch 280/300 - Node Loss: 1.1661, Synergy Loss: 0.2781, Total: 1.7224
Epoch 290/300 - Node Loss: 1.1143, Synergy Loss: 0.2581, Total: 1.6304
Epoch 300/300 - Node Loss: 1.1202, Synergy Loss: 0.2832, Total: 1.6865
Existing model archived to: 20250310_190439_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 892, Best Score: 3100.34
Early stopping at iteration 790, Best Score: 2980.10
Early stopping at iteration 700, Best Score: 2760.50
Early stopping at iteration 1012, Best Score: 3087.01
Early stopping at iteration 1213, Best Score: 3104.00
Early stopping at iteration 1109, Best Score: 3093.68
Early stopping at iteration 842, Best Score: 3089.67
Early stopping at iteration 778, Best Score: 2814.86
Early stopping at iteration 900, Best Score: 2997.07
Early stopping at iteration 601, Best Score: 2026.60
Early stopping at iteration 641, Best Score: 2590.81
Early stopping at iteration 856, Best Score: 3042.35
Early stopping at iteration 796, Best Score: 3003.33
Early stopping at iteration 746, Best Score: 3001.59
```

```
Early stopping at iteration 1078, Best Score: 3050.87
Early stopping at iteration 564, Best Score: 2208.87
Early stopping at iteration 864, Best Score: 2930.59
Early stopping at iteration 665, Best Score: 2498.75
Early stopping at iteration 1066, Best Score: 2751.48
Early stopping at iteration 822, Best Score: 2996.69
Early stopping at iteration 583, Best Score: 2325.23
Early stopping at iteration 780, Best Score: 2937.29
Early stopping at iteration 754, Best Score: 2979.90
Early stopping at iteration 670, Best Score: 2713.27
Early stopping at iteration 689, Best Score: 2757.50
Early stopping at iteration 919, Best Score: 3065.04
Early stopping at iteration 671, Best Score: 2593.61
Early stopping at iteration 728, Best Score: 2846.94
Early stopping at iteration 965, Best Score: 3093.66
Early stopping at iteration 994, Best Score: 3122.97
Early stopping at iteration 618, Best Score: 2495.27
Early stopping at iteration 645, Best Score: 2277.04
Early stopping at iteration 963, Best Score: 3094.33
Early stopping at iteration 1062, Best Score: 2954.59
Early stopping at iteration 1345, Best Score: 2952.39
Early stopping at iteration 835, Best Score: 3095.67
Early stopping at iteration 1268, Best Score: 3093.70
Early stopping at iteration 898, Best Score: 3064.67
Early stopping at iteration 868, Best Score: 3065.05
Early stopping at iteration 843, Best Score: 2920.77
Early stopping at iteration 806, Best Score: 2976.37
Early stopping at iteration 1009, Best Score: 3095.68
Early stopping at iteration 548, Best Score: 1920.65
Early stopping at iteration 943, Best Score: 3013.87
Early stopping at iteration 624, Best Score: 2341.85
Early stopping at iteration 535, Best Score: 1729.75
Early stopping at iteration 906, Best Score: 3059.64
Early stopping at iteration 1074, Best Score: 2911.17
Early stopping at iteration 760, Best Score: 2963.83
Early stopping at iteration 967, Best Score: 3068.37
Early stopping at iteration 1042, Best Score: 3082.01
Early stopping at iteration 807, Best Score: 3092.36
Early stopping at iteration 596, Best Score: 2237.79
Early stopping at iteration 574, Best Score: 2011.46
Early stopping at iteration 902, Best Score: 3073.41
Early stopping at iteration 1127, Best Score: 3095.00
Early stopping at iteration 700, Best Score: 2714.50
Early stopping at iteration 875, Best Score: 3030.20
Early stopping at iteration 782, Best Score: 3054.03
Early stopping at iteration 673, Best Score: 2708.29
Early stopping at iteration 800, Best Score: 2843.98
Early stopping at iteration 783, Best Score: 2563.43
Early stopping at iteration 618, Best Score: 2440.40
Early stopping at iteration 892, Best Score: 3060.35
Early stopping at iteration 704, Best Score: 2590.92
Early stopping at iteration 1208, Best Score: 3090.99
Early stopping at iteration 584, Best Score: 2307.48
Early stopping at iteration 1073, Best Score: 3110.96
Early stopping at iteration 710, Best Score: 2861.02
Early stopping at iteration 614, Best Score: 2513.12
Early stopping at iteration 558, Best Score: 2166.36
Early stopping at iteration 943, Best Score: 3055.49
Early stopping at iteration 831, Best Score: 2491.96
Early stopping at iteration 711, Best Score: 2865.59
```

```
Early stopping at iteration 830, Best Score: 2552.19
Early stopping at iteration 640, Best Score: 2383.03
Early stopping at iteration 719, Best Score: 2796.36
Early stopping at iteration 1345, Best Score: 3090.66
Early stopping at iteration 1085, Best Score: 3106.36
Early stopping at iteration 869, Best Score: 2851.54
Early stopping at iteration 703, Best Score: 2752.00
Early stopping at iteration 773, Best Score: 3087.29
Early stopping at iteration 1058, Best Score: 3102.00
Early stopping at iteration 635, Best Score: 2545.63
Early stopping at iteration 686, Best Score: 2817.91
Early stopping at iteration 691, Best Score: 2735.83
Early stopping at iteration 995, Best Score: 3001.90
Early stopping at iteration 844, Best Score: 3094.34
Early stopping at iteration 815, Best Score: 2990.42
Early stopping at iteration 681, Best Score: 2824.80
Early stopping at iteration 1246, Best Score: 3074.35
Early stopping at iteration 1246, Best Score: 3018.85
Early stopping at iteration 871, Best Score: 3029.41
Early stopping at iteration 655, Best Score: 2878.48
Early stopping at iteration 833, Best Score: 3071.03
Early stopping at iteration 1235, Best Score: 2816.56
Early stopping at iteration 932, Best Score: 2494.64
Early stopping at iteration 765, Best Score: 2897.22
Early stopping at iteration 747, Best Score: 2846.03
  Deck Trial 100/250
Early stopping at iteration 878, Best Score: 3065.05
Early stopping at iteration 816, Best Score: 2986.85
Early stopping at iteration 948, Best Score: 3041.62
Early stopping at iteration 666, Best Score: 2806.40
Early stopping at iteration 909, Best Score: 3061.01
Early stopping at iteration 1026, Best Score: 3113.00
Early stopping at iteration 990, Best Score: 3095.69
Early stopping at iteration 878, Best Score: 3057.02
Early stopping at iteration 629, Best Score: 2448.63
Early stopping at iteration 567, Best Score: 2132.36
Early stopping at iteration 743, Best Score: 2810.60
Early stopping at iteration 954, Best Score: 3105.00
Early stopping at iteration 750, Best Score: 2625.25
Early stopping at iteration 1758, Best Score: 3031.49
Early stopping at iteration 692, Best Score: 2901.33
Early stopping at iteration 803, Best Score: 2756.33
Early stopping at iteration 806, Best Score: 2655.50
Early stopping at iteration 702, Best Score: 2740.09
Early stopping at iteration 651, Best Score: 2621.37
Early stopping at iteration 802, Best Score: 2956.57
Early stopping at iteration 740, Best Score: 2815.99
Early stopping at iteration 834, Best Score: 3029.03
Early stopping at iteration 1350, Best Score: 3111.66
Early stopping at iteration 963, Best Score: 3037.11
Early stopping at iteration 818, Best Score: 3055.03
Early stopping at iteration 888, Best Score: 3044.87
Early stopping at iteration 900, Best Score: 3018.68
Early stopping at iteration 820, Best Score: 3095.69
Early stopping at iteration 920, Best Score: 3109.03
Early stopping at iteration 935, Best Score: 3088.44
Early stopping at iteration 828, Best Score: 3108.33
Early stopping at iteration 938, Best Score: 2930.73
Early stopping at iteration 575, Best Score: 2307.60
Early stopping at iteration 669, Best Score: 2503.59
```

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Early stopping at iteration 609, Best Score: 2598.29
Early stopping at iteration 838, Best Score: 3012.37
Early stopping at iteration 899, Best Score: 2953.87
Early stopping at iteration 1003, Best Score: 3112.33
Early stopping at iteration 847, Best Score: 3070.38
Early stopping at iteration 1243, Best Score: 3096.37
Early stopping at iteration 774, Best Score: 2783.45
Early stopping at iteration 1009, Best Score: 3079.70
Early stopping at iteration 982, Best Score: 3075.71
Early stopping at iteration 1195, Best Score: 3067.71
Early stopping at iteration 749, Best Score: 2773.31
Early stopping at iteration 782, Best Score: 2882.15
Early stopping at iteration 784, Best Score: 3008.66
Early stopping at iteration 1146, Best Score: 3122.34
Early stopping at iteration 698, Best Score: 2927.57
Early stopping at iteration 1055, Best Score: 3080.34
Early stopping at iteration 858, Best Score: 3058.69
Early stopping at iteration 883, Best Score: 3049.35
Early stopping at iteration 1020, Best Score: 2899.19
Early stopping at iteration 1131, Best Score: 3059.19
Early stopping at iteration 811, Best Score: 3053.92
Early stopping at iteration 636, Best Score: 2514.00
Early stopping at iteration 936, Best Score: 3047.08
Early stopping at iteration 711, Best Score: 2921.65
Early stopping at iteration 914, Best Score: 3075.85
Early stopping at iteration 2106, Best Score: 3115.66
Early stopping at iteration 667, Best Score: 2705.06
Early stopping at iteration 616, Best Score: 2444.51
Early stopping at iteration 661, Best Score: 2485.33
Early stopping at iteration 1267, Best Score: 3100.36
Early stopping at iteration 1032, Best Score: 3106.98
Early stopping at iteration 713, Best Score: 2781.58
Early stopping at iteration 915, Best Score: 3084.33
Early stopping at iteration 925, Best Score: 3067.04
Early stopping at iteration 564, Best Score: 2127.84
Early stopping at iteration 736, Best Score: 2706.92
Early stopping at iteration 857, Best Score: 3060.54
Early stopping at iteration 848, Best Score: 2867.85
Early stopping at iteration 907, Best Score: 3083.70
Early stopping at iteration 861, Best Score: 3095.03
Early stopping at iteration 645, Best Score: 2485.94
Early stopping at iteration 619, Best Score: 2570.43
Early stopping at iteration 742, Best Score: 2962.60
Early stopping at iteration 585, Best Score: 2392.35
Early stopping at iteration 869, Best Score: 3088.33
Early stopping at iteration 994, Best Score: 3089.70
Early stopping at iteration 686, Best Score: 2943.45
Early stopping at iteration 1305, Best Score: 3114.33
Early stopping at iteration 932, Best Score: 3028.23
Early stopping at iteration 956, Best Score: 3122.32
Early stopping at iteration 1107, Best Score: 3100.68
Early stopping at iteration 707, Best Score: 2835.70
Early stopping at iteration 852, Best Score: 3081.71
Early stopping at iteration 1546, Best Score: 2973.37
Early stopping at iteration 679, Best Score: 2605.20
Early stopping at iteration 861, Best Score: 3073.79
Early stopping at iteration 673, Best Score: 2394.99
Early stopping at iteration 720, Best Score: 2863.14
Early stopping at iteration 877, Best Score: 3046.11
Early stopping at iteration 855, Best Score: 2998.29
```

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Early stopping at iteration 978, Best Score: 2826.43
Early stopping at iteration 626, Best Score: 2728.22
Early stopping at iteration 1005, Best Score: 3085.69
Early stopping at iteration 667, Best Score: 2771.63
Early stopping at iteration 1127, Best Score: 3107.34
Early stopping at iteration 766, Best Score: 3059.02
  Deck Trial 200/250
Early stopping at iteration 994, Best Score: 3042.24
Early stopping at iteration 797, Best Score: 3035.06
Early stopping at iteration 1051, Best Score: 2435.06
Early stopping at iteration 640, Best Score: 2739.80
Early stopping at iteration 966, Best Score: 3065.05
Early stopping at iteration 718, Best Score: 2956.75
Early stopping at iteration 706, Best Score: 2838.46
Early stopping at iteration 1053, Best Score: 3107.02
Early stopping at iteration 1261, Best Score: 3087.64
Early stopping at iteration 689, Best Score: 2791.57
Early stopping at iteration 587, Best Score: 2453.93
Early stopping at iteration 769, Best Score: 2871.88
Early stopping at iteration 934, Best Score: 3043.03
Early stopping at iteration 948, Best Score: 3084.43
Early stopping at iteration 849, Best Score: 2886.17
Early stopping at iteration 816, Best Score: 3091.70
Early stopping at iteration 902, Best Score: 2932.51
Early stopping at iteration 719, Best Score: 2368.32
Early stopping at iteration 1180, Best Score: 3125.00
Early stopping at iteration 657, Best Score: 2745.34
Early stopping at iteration 592, Best Score: 2266.53
Early stopping at iteration 957, Best Score: 3097.02
Early stopping at iteration 699, Best Score: 2780.95
Early stopping at iteration 886, Best Score: 3023.07
Early stopping at iteration 1128, Best Score: 3037.99
Early stopping at iteration 708, Best Score: 2864.95
Early stopping at iteration 584, Best Score: 2367.94
Early stopping at iteration 883, Best Score: 3080.37
Early stopping at iteration 915, Best Score: 3043.85
Early stopping at iteration 760, Best Score: 2933.48
Early stopping at iteration 823, Best Score: 3093.70
Early stopping at iteration 855, Best Score: 2934.95
Early stopping at iteration 1940, Best Score: 3125.67
Early stopping at iteration 1246, Best Score: 2983.68
Early stopping at iteration 631, Best Score: 2563.21
Early stopping at iteration 700, Best Score: 2504.46
Early stopping at iteration 1084, Best Score: 3074.37
Early stopping at iteration 930, Best Score: 3079.03
Early stopping at iteration 581, Best Score: 2238.58
Early stopping at iteration 645, Best Score: 2653.87
Early stopping at iteration 983, Best Score: 3083.03
Early stopping at iteration 704, Best Score: 2836.27
Early stopping at iteration 627, Best Score: 2496.17
Early stopping at iteration 598, Best Score: 2261.97
Early stopping at iteration 1002, Best Score: 3061.10
Early stopping at iteration 1228, Best Score: 2868.26
Early stopping at iteration 742, Best Score: 2766.77
Early stopping at iteration 967, Best Score: 3096.44
Early stopping at iteration 648, Best Score: 2375.55
Early stopping at iteration 718, Best Score: 2545.46
Early stopping at iteration 804, Best Score: 2892.54
GNN Trial 3 completed with 250 decks.
```

```
GNN Trial 4/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 9.5655, Synergy Loss: 2.1195, Total: 13.8044
Epoch 20/300 - Node Loss: 2.4340, Synergy Loss: 1.9971, Total: 6.4281
Epoch 30/300 - Node Loss: 1.3793, Synergy Loss: 1.8884, Total: 5.1561
Epoch 40/300 - Node Loss: 1.0268, Synergy Loss: 1.7691, Total: 4.5651
Epoch 50/300 - Node Loss: 1.0027, Synergy Loss: 1.6594, Total: 4.3215
Epoch 60/300 - Node Loss: 1.0036, Synergy Loss: 1.5398, Total: 4.0832
Epoch 70/300 - Node Loss: 1.0344, Synergy Loss: 1.3627, Total: 3.7599
Epoch 80/300 - Node Loss: 1.2647, Synergy Loss: 0.9361, Total: 3.1369
Epoch 90/300 - Node Loss: 1.2701, Synergy Loss: 0.6084, Total: 2.4869
Epoch 100/300 - Node Loss: 1.2070, Synergy Loss: 0.5420, Total: 2.2910
Epoch 110/300 - Node Loss: 1.1560, Synergy Loss: 0.5100, Total: 2.1760
Epoch 120/300 - Node Loss: 1.1703, Synergy Loss: 0.4254, Total: 2.0211
Epoch 130/300 - Node Loss: 1.1269, Synergy Loss: 0.4243, Total: 1.9754
Epoch 140/300 - Node Loss: 1.1056, Synergy Loss: 0.3961, Total: 1.8979
Epoch 150/300 - Node Loss: 1.1049, Synergy Loss: 0.3701, Total: 1.8451
Epoch 160/300 - Node Loss: 1.0483, Synergy Loss: 0.3620, Total: 1.7724
Epoch 170/300 - Node Loss: 1.0514, Synergy Loss: 0.3862, Total: 1.8238
Epoch 180/300 - Node Loss: 1.0360, Synergy Loss: 0.3568, Total: 1.7495
Early stopping at epoch 185
Existing model archived to: 20250310_191003_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 550, Best Score: 2501.83
Early stopping at iteration 539, Best Score: 2496.27
Early stopping at iteration 546, Best Score: 2504.38
Early stopping at iteration 620, Best Score: 2495.03
Early stopping at iteration 614, Best Score: 2500.94
Early stopping at iteration 596, Best Score: 2521.58
Early stopping at iteration 687, Best Score: 2514.56
Early stopping at iteration 711, Best Score: 2506.75
Early stopping at iteration 660, Best Score: 2498.86
Early stopping at iteration 550, Best Score: 2497.38
Early stopping at iteration 746, Best Score: 2518.59
Early stopping at iteration 639, Best Score: 2494.28
Early stopping at iteration 602, Best Score: 2499.14
Early stopping at iteration 596, Best Score: 2500.80
Early stopping at iteration 566, Best Score: 2487.45
Early stopping at iteration 714, Best Score: 2510.88
Early stopping at iteration 761, Best Score: 2494.98
Early stopping at iteration 584, Best Score: 2495.26
Early stopping at iteration 564, Best Score: 2501.34
Early stopping at iteration 661, Best Score: 2498.61
Early stopping at iteration 666, Best Score: 2498.83
Early stopping at iteration 572, Best Score: 2496.89
Early stopping at iteration 568, Best Score: 2491.32
Early stopping at iteration 692, Best Score: 2511.54
Early stopping at iteration 622, Best Score: 2499.74
Early stopping at iteration 567, Best Score: 2498.28
Early stopping at iteration 565, Best Score: 2505.42
Early stopping at iteration 590, Best Score: 2518.27
Early stopping at iteration 570, Best Score: 2496.11
Early stopping at iteration 607, Best Score: 2509.60
Early stopping at iteration 586, Best Score: 2502.64
Early stopping at iteration 587, Best Score: 2490.25
Early stopping at iteration 569, Best Score: 2506.06
Early stopping at iteration 535, Best Score: 2490.15
Early stopping at iteration 744, Best Score: 2504.23
Early stopping at iteration 721, Best Score: 2522.74
Early stopping at iteration 533, Best Score: 2498.65
```

```
Early stopping at iteration 546, Best Score: 2493.82
Early stopping at iteration 590, Best Score: 2504.20
Early stopping at iteration 589, Best Score: 2506.26
Early stopping at iteration 609, Best Score: 2508.50
Early stopping at iteration 697, Best Score: 2519.93
Early stopping at iteration 586, Best Score: 2495.83
Early stopping at iteration 596, Best Score: 2513.77
Early stopping at iteration 635, Best Score: 2499.78
Early stopping at iteration 976, Best Score: 2504.81
Early stopping at iteration 657, Best Score: 2516.38
Early stopping at iteration 568, Best Score: 2497.70
Early stopping at iteration 721, Best Score: 2513.81
Early stopping at iteration 588, Best Score: 2503.98
Early stopping at iteration 735, Best Score: 2500.95
Early stopping at iteration 598, Best Score: 2500.51
Early stopping at iteration 534, Best Score: 2482.38
Early stopping at iteration 971, Best Score: 2504.01
Early stopping at iteration 595, Best Score: 2502.92
Early stopping at iteration 651, Best Score: 2511.31
Early stopping at iteration 590, Best Score: 2502.40
Early stopping at iteration 894, Best Score: 2517.67
Early stopping at iteration 613, Best Score: 2496.11
Early stopping at iteration 748, Best Score: 2495.83
Early stopping at iteration 587, Best Score: 2516.90
Early stopping at iteration 678, Best Score: 2493.90
Early stopping at iteration 537, Best Score: 2474.39
Early stopping at iteration 707, Best Score: 2508.67
Early stopping at iteration 669, Best Score: 2491.57
Early stopping at iteration 699, Best Score: 2519.38
Early stopping at iteration 614, Best Score: 2501.38
Early stopping at iteration 765, Best Score: 2510.81
Early stopping at iteration 569, Best Score: 2492.23
Early stopping at iteration 558, Best Score: 2501.72
Early stopping at iteration 765, Best Score: 2519.52
Early stopping at iteration 583, Best Score: 2504.16
Early stopping at iteration 586, Best Score: 2503.45
Early stopping at iteration 571, Best Score: 2495.17
Early stopping at iteration 592, Best Score: 2488.56
Early stopping at iteration 607, Best Score: 2491.30
Early stopping at iteration 690, Best Score: 2505.79
Early stopping at iteration 851, Best Score: 2528.58
Early stopping at iteration 649, Best Score: 2502.84
Early stopping at iteration 685, Best Score: 2517.65
Early stopping at iteration 581, Best Score: 2504.98
Early stopping at iteration 586, Best Score: 2512.26
Early stopping at iteration 704, Best Score: 2504.32
Early stopping at iteration 650, Best Score: 2504.44
Early stopping at iteration 927, Best Score: 2514.62
Early stopping at iteration 546, Best Score: 2482.97
Early stopping at iteration 585, Best Score: 2497.67
Early stopping at iteration 635, Best Score: 2501.51
Early stopping at iteration 566, Best Score: 2501.24
Early stopping at iteration 605, Best Score: 2499.54
Early stopping at iteration 770, Best Score: 2509.31
Early stopping at iteration 643, Best Score: 2509.21
Early stopping at iteration 541, Best Score: 2494.79
Early stopping at iteration 664, Best Score: 2497.31
Early stopping at iteration 566, Best Score: 2493.54
Early stopping at iteration 669, Best Score: 2507.66
Early stopping at iteration 697, Best Score: 2511.10
```

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Early stopping at iteration 579, Best Score: 2502.55
Early stopping at iteration 677, Best Score: 2501.59
  Deck Trial 100/250
Early stopping at iteration 617, Best Score: 2501.79
Early stopping at iteration 764, Best Score: 2519.55
Early stopping at iteration 611, Best Score: 2510.93
Early stopping at iteration 766, Best Score: 2500.72
Early stopping at iteration 577, Best Score: 2505.70
Early stopping at iteration 942, Best Score: 2495.30
Early stopping at iteration 608, Best Score: 2512.76
Early stopping at iteration 602, Best Score: 2496.52
Early stopping at iteration 610, Best Score: 2501.61
Early stopping at iteration 634, Best Score: 2510.01
Early stopping at iteration 585, Best Score: 2500.70
Early stopping at iteration 840, Best Score: 2514.58
Early stopping at iteration 646, Best Score: 2499.99
Early stopping at iteration 609, Best Score: 2508.33
Early stopping at iteration 579, Best Score: 2493.11
Early stopping at iteration 560, Best Score: 2498.65
Early stopping at iteration 528, Best Score: 2488.13
Early stopping at iteration 610, Best Score: 2520.84
Early stopping at iteration 636, Best Score: 2511.93
Early stopping at iteration 568, Best Score: 2489.44
Early stopping at iteration 674, Best Score: 2500.33
Early stopping at iteration 657, Best Score: 2504.80
Early stopping at iteration 682, Best Score: 2500.37
Early stopping at iteration 529, Best Score: 2488.34
Early stopping at iteration 795, Best Score: 2508.48
Early stopping at iteration 560, Best Score: 2496.43
Early stopping at iteration 678, Best Score: 2512.34
Early stopping at iteration 609, Best Score: 2506.15
Early stopping at iteration 588, Best Score: 2503.79
Early stopping at iteration 643, Best Score: 2484.32
Early stopping at iteration 710, Best Score: 2506.57
Early stopping at iteration 684, Best Score: 2514.26
Early stopping at iteration 667, Best Score: 2514.06
Early stopping at iteration 832, Best Score: 2507.85
Early stopping at iteration 665, Best Score: 2508.15
Early stopping at iteration 572, Best Score: 2505.37
Early stopping at iteration 918, Best Score: 2505.93
Early stopping at iteration 653, Best Score: 2497.62
Early stopping at iteration 666, Best Score: 2491.93
Early stopping at iteration 629, Best Score: 2505.31
Early stopping at iteration 731, Best Score: 2500.17
Early stopping at iteration 791, Best Score: 2511.31
Early stopping at iteration 638, Best Score: 2515.12
Early stopping at iteration 559, Best Score: 2483.08
Early stopping at iteration 599, Best Score: 2503.62
Early stopping at iteration 666, Best Score: 2517.37
Early stopping at iteration 598, Best Score: 2504.85
Early stopping at iteration 666, Best Score: 2507.43
Early stopping at iteration 561, Best Score: 2496.01
Early stopping at iteration 541, Best Score: 2490.40
Early stopping at iteration 618, Best Score: 2507.18
Early stopping at iteration 564, Best Score: 2502.28
Early stopping at iteration 692, Best Score: 2508.84
Early stopping at iteration 912, Best Score: 2521.71
Early stopping at iteration 580, Best Score: 2495.26
Early stopping at iteration 637, Best Score: 2503.76
Early stopping at iteration 698, Best Score: 2516.61
```

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Early stopping at iteration 612, Best Score: 2510.63
Early stopping at iteration 754, Best Score: 2508.70
Early stopping at iteration 579, Best Score: 2500.31
Early stopping at iteration 671, Best Score: 2521.44
Early stopping at iteration 657, Best Score: 2507.86
Early stopping at iteration 715, Best Score: 2519.12
Early stopping at iteration 743, Best Score: 2502.35
Early stopping at iteration 653, Best Score: 2504.72
Early stopping at iteration 582, Best Score: 2503.17
Early stopping at iteration 654, Best Score: 2499.05
Early stopping at iteration 574, Best Score: 2493.89
Early stopping at iteration 592, Best Score: 2508.91
Early stopping at iteration 709, Best Score: 2499.66
Early stopping at iteration 574, Best Score: 2493.38
Early stopping at iteration 638, Best Score: 2515.85
Early stopping at iteration 731, Best Score: 2522.23
Early stopping at iteration 599, Best Score: 2501.97
Early stopping at iteration 654, Best Score: 2504.89
Early stopping at iteration 534, Best Score: 2481.50
Early stopping at iteration 615, Best Score: 2503.16
Early stopping at iteration 653, Best Score: 2499.04
Early stopping at iteration 557, Best Score: 2495.11
Early stopping at iteration 755, Best Score: 2510.71
Early stopping at iteration 669, Best Score: 2489.06
Early stopping at iteration 840, Best Score: 2512.94
Early stopping at iteration 557, Best Score: 2496.16
Early stopping at iteration 570, Best Score: 2503.80
Early stopping at iteration 572, Best Score: 2497.67
Early stopping at iteration 604, Best Score: 2506.31
Early stopping at iteration 531, Best Score: 2487.27
Early stopping at iteration 644, Best Score: 2502.22
Early stopping at iteration 611, Best Score: 2510.50
Early stopping at iteration 633, Best Score: 2506.59
Early stopping at iteration 632, Best Score: 2507.80
Early stopping at iteration 716, Best Score: 2501.55
Early stopping at iteration 779, Best Score: 2501.53
Early stopping at iteration 608, Best Score: 2496.11
Early stopping at iteration 695, Best Score: 2509.11
Early stopping at iteration 658, Best Score: 2505.57
Early stopping at iteration 621, Best Score: 2512.96
Early stopping at iteration 585, Best Score: 2496.37
Early stopping at iteration 707, Best Score: 2501.22
Early stopping at iteration 586, Best Score: 2493.03
  Deck Trial 200/250
Early stopping at iteration 677, Best Score: 2505.19
Early stopping at iteration 608, Best Score: 2501.69
Early stopping at iteration 586, Best Score: 2499.52
Early stopping at iteration 690, Best Score: 2512.03
Early stopping at iteration 694, Best Score: 2508.79
Early stopping at iteration 559, Best Score: 2506.42
Early stopping at iteration 768, Best Score: 2515.27
Early stopping at iteration 585, Best Score: 2496.71
Early stopping at iteration 565, Best Score: 2505.82
Early stopping at iteration 620, Best Score: 2503.91
Early stopping at iteration 602, Best Score: 2505.78
Early stopping at iteration 595, Best Score: 2490.76
Early stopping at iteration 570, Best Score: 2503.34
Early stopping at iteration 594, Best Score: 2506.07
Early stopping at iteration 547, Best Score: 2480.97
Early stopping at iteration 799, Best Score: 2502.53
```

```
Early stopping at iteration 936, Best Score: 2514.89
Early stopping at iteration 609, Best Score: 2511.64
Early stopping at iteration 556, Best Score: 2495.73
Early stopping at iteration 576, Best Score: 2495.66
Early stopping at iteration 623, Best Score: 2490.79
Early stopping at iteration 723, Best Score: 2505.23
Early stopping at iteration 556, Best Score: 2490.67
Early stopping at iteration 768, Best Score: 2511.41
Early stopping at iteration 518, Best Score: 2479.98
Early stopping at iteration 652, Best Score: 2515.89
Early stopping at iteration 587, Best Score: 2499.91
Early stopping at iteration 759, Best Score: 2522.88
Early stopping at iteration 629, Best Score: 2502.43
Early stopping at iteration 622, Best Score: 2503.68
Early stopping at iteration 573, Best Score: 2502.20
Early stopping at iteration 681, Best Score: 2509.25
Early stopping at iteration 614, Best Score: 2503.78
Early stopping at iteration 625, Best Score: 2503.18
Early stopping at iteration 714, Best Score: 2501.26
Early stopping at iteration 747, Best Score: 2513.11
Early stopping at iteration 996, Best Score: 2480.67
Early stopping at iteration 569, Best Score: 2490.48
Early stopping at iteration 664, Best Score: 2515.33
Early stopping at iteration 689, Best Score: 2512.63
Early stopping at iteration 628, Best Score: 2516.17
Early stopping at iteration 609, Best Score: 2501.08
Early stopping at iteration 591, Best Score: 2501.25
Early stopping at iteration 585, Best Score: 2500.49
Early stopping at iteration 573, Best Score: 2497.41
Early stopping at iteration 578, Best Score: 2503.36
Early stopping at iteration 590, Best Score: 2488.59
Early stopping at iteration 554, Best Score: 2484.20
Early stopping at iteration 586, Best Score: 2491.93
Early stopping at iteration 567, Best Score: 2499.15
Early stopping at iteration 791, Best Score: 2494.44
GNN Trial 4 completed with 250 decks.

GNN Trial 5/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 73.0401, Synergy Loss: 1.9762, Total: 76.9924
Epoch 20/300 - Node Loss: 5.0723, Synergy Loss: 1.8426, Total: 8.7576
Epoch 30/300 - Node Loss: 1.5009, Synergy Loss: 1.7401, Total: 4.9811
Epoch 40/300 - Node Loss: 1.0209, Synergy Loss: 1.6653, Total: 4.3516
Epoch 50/300 - Node Loss: 1.0006, Synergy Loss: 1.5902, Total: 4.1811
Epoch 60/300 - Node Loss: 1.0001, Synergy Loss: 1.5308, Total: 4.0617
Epoch 70/300 - Node Loss: 1.0001, Synergy Loss: 1.5102, Total: 4.0204
Epoch 80/300 - Node Loss: 1.0014, Synergy Loss: 1.5051, Total: 4.0117
Epoch 90/300 - Node Loss: 1.0011, Synergy Loss: 1.4993, Total: 3.9996
Epoch 100/300 - Node Loss: 0.9999, Synergy Loss: 1.4968, Total: 3.9934
Epoch 110/300 - Node Loss: 1.0022, Synergy Loss: 1.4946, Total: 3.9914
Epoch 120/300 - Node Loss: 1.0032, Synergy Loss: 1.4911, Total: 3.9854
Epoch 130/300 - Node Loss: 1.0059, Synergy Loss: 1.4928, Total: 3.9915
Epoch 140/300 - Node Loss: 1.0082, Synergy Loss: 1.4903, Total: 3.9887
Epoch 150/300 - Node Loss: 1.0011, Synergy Loss: 1.4831, Total: 3.9672
Epoch 160/300 - Node Loss: 1.0460, Synergy Loss: 1.4211, Total: 3.8881
Epoch 170/300 - Node Loss: 1.0549, Synergy Loss: 1.3087, Total: 3.6724
Epoch 180/300 - Node Loss: 1.1378, Synergy Loss: 1.1678, Total: 3.4735
Epoch 190/300 - Node Loss: 1.0578, Synergy Loss: 1.0672, Total: 3.1922
Epoch 200/300 - Node Loss: 1.0478, Synergy Loss: 0.9301, Total: 2.9080
Epoch 210/300 - Node Loss: 1.0474, Synergy Loss: 0.7327, Total: 2.5127
```

```
Epoch 220/300 - Node Loss: 1.0256, Synergy Loss: 0.5817, Total: 2.1890
Epoch 230/300 - Node Loss: 1.0180, Synergy Loss: 0.5058, Total: 2.0295
Epoch 240/300 - Node Loss: 1.0250, Synergy Loss: 0.3906, Total: 1.8061
Epoch 250/300 - Node Loss: 1.0114, Synergy Loss: 0.3464, Total: 1.7043
Epoch 260/300 - Node Loss: 1.0321, Synergy Loss: 0.3267, Total: 1.6855
Epoch 270/300 - Node Loss: 1.0045, Synergy Loss: 0.2850, Total: 1.5744
Epoch 280/300 - Node Loss: 1.0026, Synergy Loss: 0.2613, Total: 1.5252
Epoch 290/300 - Node Loss: 1.0038, Synergy Loss: 0.2426, Total: 1.4890
Epoch 300/300 - Node Loss: 1.0031, Synergy Loss: 0.2060, Total: 1.4151
Existing model archived to: 20250310_191656_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 670, Best Score: 2826.82
Early stopping at iteration 883, Best Score: 2588.44
Early stopping at iteration 895, Best Score: 2927.35
Early stopping at iteration 834, Best Score: 2902.88
Early stopping at iteration 641, Best Score: 2562.88
Early stopping at iteration 798, Best Score: 2942.83
Early stopping at iteration 644, Best Score: 2372.69
Early stopping at iteration 764, Best Score: 2925.17
Early stopping at iteration 623, Best Score: 2452.33
Early stopping at iteration 793, Best Score: 2896.44
Early stopping at iteration 758, Best Score: 2796.34
Early stopping at iteration 858, Best Score: 2883.12
Early stopping at iteration 707, Best Score: 2888.07
Early stopping at iteration 810, Best Score: 2892.96
Early stopping at iteration 734, Best Score: 2683.95
Early stopping at iteration 998, Best Score: 2944.51
Early stopping at iteration 855, Best Score: 2936.65
Early stopping at iteration 933, Best Score: 2951.09
Early stopping at iteration 691, Best Score: 2880.93
Early stopping at iteration 846, Best Score: 2875.88
Early stopping at iteration 908, Best Score: 2995.46
Early stopping at iteration 702, Best Score: 2718.75
Early stopping at iteration 1147, Best Score: 2818.17
Early stopping at iteration 1016, Best Score: 2923.93
Early stopping at iteration 730, Best Score: 2850.10
Early stopping at iteration 869, Best Score: 2764.98
Early stopping at iteration 519, Best Score: 1779.54
Early stopping at iteration 815, Best Score: 2870.41
Early stopping at iteration 696, Best Score: 2647.56
Early stopping at iteration 718, Best Score: 2846.51
Early stopping at iteration 717, Best Score: 2659.83
Early stopping at iteration 653, Best Score: 2784.16
Early stopping at iteration 557, Best Score: 2322.69
Early stopping at iteration 878, Best Score: 2937.53
Early stopping at iteration 704, Best Score: 2840.40
Early stopping at iteration 568, Best Score: 2020.82
Early stopping at iteration 815, Best Score: 2917.33
Early stopping at iteration 637, Best Score: 2522.45
Early stopping at iteration 543, Best Score: 1852.90
Early stopping at iteration 712, Best Score: 2848.21
Early stopping at iteration 770, Best Score: 2739.81
Early stopping at iteration 986, Best Score: 2984.19
Early stopping at iteration 832, Best Score: 2966.60
Early stopping at iteration 1155, Best Score: 2963.87
Early stopping at iteration 606, Best Score: 2306.08
Early stopping at iteration 884, Best Score: 2911.57
Early stopping at iteration 1569, Best Score: 2945.23
Early stopping at iteration 856, Best Score: 2919.79
Early stopping at iteration 805, Best Score: 2920.90
```

```
Early stopping at iteration 845, Best Score: 2915.44
Early stopping at iteration 833, Best Score: 2908.86
Early stopping at iteration 976, Best Score: 2987.75
Early stopping at iteration 1258, Best Score: 2956.61
Early stopping at iteration 881, Best Score: 2938.54
Early stopping at iteration 1161, Best Score: 2992.75
Early stopping at iteration 625, Best Score: 2678.13
Early stopping at iteration 807, Best Score: 2910.23
Early stopping at iteration 908, Best Score: 2975.04
Early stopping at iteration 836, Best Score: 2857.25
Early stopping at iteration 682, Best Score: 2596.80
Early stopping at iteration 696, Best Score: 2804.67
Early stopping at iteration 897, Best Score: 2922.98
Early stopping at iteration 600, Best Score: 2126.74
Early stopping at iteration 675, Best Score: 2648.64
Early stopping at iteration 822, Best Score: 2912.65
Early stopping at iteration 727, Best Score: 2820.62
Early stopping at iteration 713, Best Score: 2886.00
Early stopping at iteration 1313, Best Score: 2972.87
Early stopping at iteration 863, Best Score: 2955.31
Early stopping at iteration 663, Best Score: 2758.32
Early stopping at iteration 1130, Best Score: 2846.66
Early stopping at iteration 560, Best Score: 2363.00
Early stopping at iteration 567, Best Score: 2204.15
Early stopping at iteration 912, Best Score: 2967.95
Early stopping at iteration 739, Best Score: 2906.23
Early stopping at iteration 885, Best Score: 2925.97
Early stopping at iteration 587, Best Score: 2252.05
Early stopping at iteration 872, Best Score: 2768.58
Early stopping at iteration 831, Best Score: 2943.93
Early stopping at iteration 662, Best Score: 2676.67
Early stopping at iteration 637, Best Score: 2583.09
Early stopping at iteration 933, Best Score: 2980.45
Early stopping at iteration 1250, Best Score: 2946.26
Early stopping at iteration 722, Best Score: 2810.40
Early stopping at iteration 1135, Best Score: 2971.34
Early stopping at iteration 735, Best Score: 2808.58
Early stopping at iteration 1147, Best Score: 2980.06
Early stopping at iteration 1095, Best Score: 2724.12
Early stopping at iteration 769, Best Score: 2822.72
Early stopping at iteration 758, Best Score: 2830.50
Early stopping at iteration 557, Best Score: 1926.55
Early stopping at iteration 802, Best Score: 2871.12
Early stopping at iteration 587, Best Score: 2245.92
Early stopping at iteration 998, Best Score: 2972.62
Early stopping at iteration 556, Best Score: 1919.01
Early stopping at iteration 667, Best Score: 2660.63
Early stopping at iteration 878, Best Score: 2995.60
Early stopping at iteration 831, Best Score: 2944.24
Early stopping at iteration 550, Best Score: 2164.27
  Deck Trial 100/250
Early stopping at iteration 1580, Best Score: 2958.72
Early stopping at iteration 716, Best Score: 2915.16
Early stopping at iteration 885, Best Score: 2991.41
Early stopping at iteration 774, Best Score: 2817.84
Early stopping at iteration 659, Best Score: 2608.24
Early stopping at iteration 717, Best Score: 2867.77
Early stopping at iteration 668, Best Score: 2795.21
Early stopping at iteration 1040, Best Score: 2973.10
Early stopping at iteration 627, Best Score: 2536.51
```

```
Early stopping at iteration 592, Best Score: 2334.02
Early stopping at iteration 897, Best Score: 2933.52
Early stopping at iteration 632, Best Score: 2522.31
Early stopping at iteration 748, Best Score: 2840.63
Early stopping at iteration 737, Best Score: 2587.83
Early stopping at iteration 562, Best Score: 1859.02
Early stopping at iteration 617, Best Score: 2291.66
Early stopping at iteration 705, Best Score: 2854.90
Early stopping at iteration 931, Best Score: 2797.28
Early stopping at iteration 926, Best Score: 2923.96
Early stopping at iteration 832, Best Score: 2930.65
Early stopping at iteration 672, Best Score: 2599.18
Early stopping at iteration 677, Best Score: 2844.57
Early stopping at iteration 734, Best Score: 2708.51
Early stopping at iteration 625, Best Score: 2603.94
Early stopping at iteration 1097, Best Score: 2978.65
Early stopping at iteration 770, Best Score: 2910.00
Early stopping at iteration 1013, Best Score: 2715.76
Early stopping at iteration 908, Best Score: 2951.44
Early stopping at iteration 767, Best Score: 2808.58
Early stopping at iteration 1487, Best Score: 2956.68
Early stopping at iteration 811, Best Score: 2773.46
Early stopping at iteration 683, Best Score: 2511.75
Early stopping at iteration 752, Best Score: 2882.41
Early stopping at iteration 602, Best Score: 2364.07
Early stopping at iteration 988, Best Score: 2988.33
Early stopping at iteration 790, Best Score: 2883.97
Early stopping at iteration 1078, Best Score: 2986.98
Early stopping at iteration 681, Best Score: 2720.09
Early stopping at iteration 709, Best Score: 2898.13
Early stopping at iteration 1164, Best Score: 2955.40
Early stopping at iteration 772, Best Score: 2907.16
Early stopping at iteration 836, Best Score: 2956.33
Early stopping at iteration 762, Best Score: 2931.92
Early stopping at iteration 1061, Best Score: 2961.65
Early stopping at iteration 789, Best Score: 2918.23
Early stopping at iteration 1242, Best Score: 2939.47
Early stopping at iteration 763, Best Score: 2726.24
Early stopping at iteration 746, Best Score: 2877.65
Early stopping at iteration 776, Best Score: 2915.84
Early stopping at iteration 1268, Best Score: 2971.21
Early stopping at iteration 752, Best Score: 2924.38
Early stopping at iteration 944, Best Score: 2970.76
Early stopping at iteration 781, Best Score: 2773.23
Early stopping at iteration 886, Best Score: 2883.99
Early stopping at iteration 811, Best Score: 2920.58
Early stopping at iteration 960, Best Score: 2701.54
Early stopping at iteration 584, Best Score: 2482.98
Early stopping at iteration 1056, Best Score: 2944.24
Early stopping at iteration 633, Best Score: 2619.91
Early stopping at iteration 855, Best Score: 2854.99
Early stopping at iteration 973, Best Score: 2989.22
Early stopping at iteration 1154, Best Score: 2940.08
Early stopping at iteration 1065, Best Score: 2955.09
Early stopping at iteration 1076, Best Score: 2918.87
Early stopping at iteration 685, Best Score: 2758.37
Early stopping at iteration 969, Best Score: 2985.49
Early stopping at iteration 1004, Best Score: 2963.83
Early stopping at iteration 579, Best Score: 2518.75
Early stopping at iteration 912, Best Score: 2943.86
```

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Early stopping at iteration 740, Best Score: 2815.47
Early stopping at iteration 794, Best Score: 2962.64
Early stopping at iteration 815, Best Score: 2934.93
Early stopping at iteration 838, Best Score: 2894.09
Early stopping at iteration 708, Best Score: 2775.77
Early stopping at iteration 793, Best Score: 2941.69
Early stopping at iteration 699, Best Score: 2778.69
Early stopping at iteration 829, Best Score: 2948.02
Early stopping at iteration 1057, Best Score: 2794.10
Early stopping at iteration 852, Best Score: 2929.30
Early stopping at iteration 699, Best Score: 2746.24
Early stopping at iteration 560, Best Score: 2297.92
Early stopping at iteration 925, Best Score: 2942.99
Early stopping at iteration 951, Best Score: 2966.69
Early stopping at iteration 1005, Best Score: 2920.90
Early stopping at iteration 1349, Best Score: 2944.24
Early stopping at iteration 1019, Best Score: 2850.57
Early stopping at iteration 934, Best Score: 2836.24
Early stopping at iteration 1053, Best Score: 2968.65
Early stopping at iteration 845, Best Score: 2946.16
Early stopping at iteration 901, Best Score: 2942.43
Early stopping at iteration 627, Best Score: 2625.75
Early stopping at iteration 702, Best Score: 2874.87
Early stopping at iteration 645, Best Score: 2717.50
Early stopping at iteration 720, Best Score: 2836.50
Early stopping at iteration 638, Best Score: 2791.14
Early stopping at iteration 820, Best Score: 2914.21
Early stopping at iteration 1293, Best Score: 2975.25
Early stopping at iteration 772, Best Score: 2891.41
Early stopping at iteration 735, Best Score: 2739.68
Early stopping at iteration 597, Best Score: 2637.52
  Deck Trial 200/250
Early stopping at iteration 732, Best Score: 2924.08
Early stopping at iteration 853, Best Score: 2881.48
Early stopping at iteration 810, Best Score: 2915.76
Early stopping at iteration 670, Best Score: 2781.08
Early stopping at iteration 913, Best Score: 2959.25
Early stopping at iteration 661, Best Score: 2821.65
Early stopping at iteration 952, Best Score: 2965.26
Early stopping at iteration 1056, Best Score: 2983.33
Early stopping at iteration 745, Best Score: 2935.71
Early stopping at iteration 933, Best Score: 2663.76
Early stopping at iteration 975, Best Score: 2948.19
Early stopping at iteration 706, Best Score: 2849.72
Early stopping at iteration 991, Best Score: 2940.42
Early stopping at iteration 761, Best Score: 2829.83
Early stopping at iteration 637, Best Score: 2628.89
Early stopping at iteration 657, Best Score: 2573.72
Early stopping at iteration 1222, Best Score: 2977.49
Early stopping at iteration 719, Best Score: 2917.33
Early stopping at iteration 994, Best Score: 2953.89
Early stopping at iteration 725, Best Score: 2727.88
Early stopping at iteration 702, Best Score: 2809.16
Early stopping at iteration 868, Best Score: 2915.24
Early stopping at iteration 943, Best Score: 2991.51
Early stopping at iteration 941, Best Score: 2960.95
Early stopping at iteration 1104, Best Score: 2858.18
Early stopping at iteration 602, Best Score: 2214.07
Early stopping at iteration 1053, Best Score: 2939.45
Early stopping at iteration 782, Best Score: 2864.43
```

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Early stopping at iteration 644, Best Score: 2804.06
Early stopping at iteration 844, Best Score: 2928.05
Early stopping at iteration 652, Best Score: 2719.37
Early stopping at iteration 799, Best Score: 2884.43
Early stopping at iteration 643, Best Score: 2682.23
Early stopping at iteration 802, Best Score: 2904.18
Early stopping at iteration 795, Best Score: 2826.36
Early stopping at iteration 1002, Best Score: 2893.89
Early stopping at iteration 659, Best Score: 2656.97
Early stopping at iteration 1313, Best Score: 2982.11
Early stopping at iteration 943, Best Score: 2973.67
Early stopping at iteration 826, Best Score: 2733.95
Early stopping at iteration 753, Best Score: 2809.67
Early stopping at iteration 769, Best Score: 2874.59
Early stopping at iteration 711, Best Score: 2662.55
Early stopping at iteration 690, Best Score: 2735.27
Early stopping at iteration 898, Best Score: 2927.70
Early stopping at iteration 929, Best Score: 2909.86
Early stopping at iteration 762, Best Score: 2920.62
Early stopping at iteration 762, Best Score: 2776.09
Early stopping at iteration 911, Best Score: 2894.24
Early stopping at iteration 735, Best Score: 2832.98
Early stopping at iteration 1051, Best Score: 2979.00
GNN Trial 5 completed with 250 decks.

GNN Trial 6/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 72.9535, Synergy Loss: 2.1330, Total: 77.2196
Epoch 20/300 - Node Loss: 6.6920, Synergy Loss: 2.0031, Total: 10.6982
Epoch 30/300 - Node Loss: 2.3675, Synergy Loss: 1.9337, Total: 6.2349
Epoch 40/300 - Node Loss: 1.2201, Synergy Loss: 1.8431, Total: 4.9063
Epoch 50/300 - Node Loss: 1.0602, Synergy Loss: 1.7540, Total: 4.5682
Epoch 60/300 - Node Loss: 1.0223, Synergy Loss: 1.6689, Total: 4.3600
Epoch 70/300 - Node Loss: 1.0223, Synergy Loss: 1.5867, Total: 4.1958
Epoch 80/300 - Node Loss: 1.0393, Synergy Loss: 1.5244, Total: 4.0881
Epoch 90/300 - Node Loss: 1.0077, Synergy Loss: 1.5089, Total: 4.0255
Epoch 100/300 - Node Loss: 1.0254, Synergy Loss: 1.5081, Total: 4.0415
Epoch 110/300 - Node Loss: 1.0079, Synergy Loss: 1.4966, Total: 4.0010
Epoch 120/300 - Node Loss: 1.0276, Synergy Loss: 1.4637, Total: 3.9551
Epoch 130/300 - Node Loss: 1.0605, Synergy Loss: 1.3118, Total: 3.6841
Epoch 140/300 - Node Loss: 1.1199, Synergy Loss: 1.0732, Total: 3.2663
Epoch 150/300 - Node Loss: 1.2113, Synergy Loss: 1.0032, Total: 3.2177
Epoch 160/300 - Node Loss: 1.1854, Synergy Loss: 0.9125, Total: 3.0104
Epoch 170/300 - Node Loss: 1.3136, Synergy Loss: 0.6715, Total: 2.6567
Epoch 180/300 - Node Loss: 1.3768, Synergy Loss: 0.6308, Total: 2.6385
Epoch 190/300 - Node Loss: 1.2762, Synergy Loss: 0.5393, Total: 2.3548
Epoch 200/300 - Node Loss: 1.2895, Synergy Loss: 0.4858, Total: 2.2611
Epoch 210/300 - Node Loss: 1.1958, Synergy Loss: 0.4449, Total: 2.0856
Epoch 220/300 - Node Loss: 1.1799, Synergy Loss: 0.4015, Total: 1.9829
Epoch 230/300 - Node Loss: 1.1762, Synergy Loss: 0.3406, Total: 1.8574
Epoch 240/300 - Node Loss: 1.1718, Synergy Loss: 0.3366, Total: 1.8450
Epoch 250/300 - Node Loss: 1.1539, Synergy Loss: 0.3220, Total: 1.7979
Epoch 260/300 - Node Loss: 1.1337, Synergy Loss: 0.2896, Total: 1.7129
Epoch 270/300 - Node Loss: 1.1738, Synergy Loss: 0.2960, Total: 1.7658
Epoch 280/300 - Node Loss: 1.1010, Synergy Loss: 0.2734, Total: 1.6477
Epoch 290/300 - Node Loss: 1.0692, Synergy Loss: 0.2527, Total: 1.5746
Epoch 300/300 - Node Loss: 1.0598, Synergy Loss: 0.2355, Total: 1.5307
Existing model archived to: 20250310_192424_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 955, Best Score: 3077.62
```

```
Early stopping at iteration 595, Best Score: 3061.81
Early stopping at iteration 704, Best Score: 3095.65
Early stopping at iteration 511, Best Score: 2925.60
Early stopping at iteration 774, Best Score: 3079.42
Early stopping at iteration 593, Best Score: 3072.99
Early stopping at iteration 720, Best Score: 3089.83
Early stopping at iteration 512, Best Score: 2922.26
Early stopping at iteration 872, Best Score: 3102.29
Early stopping at iteration 828, Best Score: 3066.83
Early stopping at iteration 1025, Best Score: 3117.21
Early stopping at iteration 593, Best Score: 3046.59
Early stopping at iteration 552, Best Score: 2966.83
Early stopping at iteration 680, Best Score: 3120.65
Early stopping at iteration 556, Best Score: 2959.26
Early stopping at iteration 891, Best Score: 3139.48
Early stopping at iteration 661, Best Score: 3053.61
Early stopping at iteration 556, Best Score: 3023.55
Early stopping at iteration 637, Best Score: 3057.19
Early stopping at iteration 517, Best Score: 2918.45
Early stopping at iteration 623, Best Score: 3091.47
Early stopping at iteration 504, Best Score: 2902.33
Early stopping at iteration 766, Best Score: 3109.92
Early stopping at iteration 512, Best Score: 2937.87
Early stopping at iteration 771, Best Score: 3080.55
Early stopping at iteration 632, Best Score: 2988.66
Early stopping at iteration 906, Best Score: 3104.73
Early stopping at iteration 786, Best Score: 3091.39
Early stopping at iteration 535, Best Score: 2937.03
Early stopping at iteration 680, Best Score: 3113.48
Early stopping at iteration 966, Best Score: 3127.37
Early stopping at iteration 688, Best Score: 3088.60
Early stopping at iteration 597, Best Score: 3043.68
Early stopping at iteration 663, Best Score: 3047.21
Early stopping at iteration 678, Best Score: 3057.37
Early stopping at iteration 500, Best Score: 2886.19
Early stopping at iteration 598, Best Score: 3059.70
Early stopping at iteration 515, Best Score: 2921.62
Early stopping at iteration 941, Best Score: 3118.57
Early stopping at iteration 681, Best Score: 3111.29
Early stopping at iteration 615, Best Score: 3053.04
Early stopping at iteration 526, Best Score: 2916.88
Early stopping at iteration 864, Best Score: 3153.56
Early stopping at iteration 686, Best Score: 3099.32
Early stopping at iteration 548, Best Score: 2970.88
Early stopping at iteration 735, Best Score: 3093.51
Early stopping at iteration 500, Best Score: 2886.19
Early stopping at iteration 512, Best Score: 2947.53
Early stopping at iteration 725, Best Score: 3087.16
Early stopping at iteration 708, Best Score: 3092.71
Early stopping at iteration 734, Best Score: 3098.24
Early stopping at iteration 572, Best Score: 3026.97
Early stopping at iteration 811, Best Score: 3102.85
Early stopping at iteration 683, Best Score: 3053.62
Early stopping at iteration 526, Best Score: 2951.73
Early stopping at iteration 682, Best Score: 3089.01
Early stopping at iteration 633, Best Score: 3040.14
Early stopping at iteration 721, Best Score: 3063.87
Early stopping at iteration 678, Best Score: 3039.05
Early stopping at iteration 540, Best Score: 2965.01
Early stopping at iteration 557, Best Score: 3006.37
```

```
Early stopping at iteration 580, Best Score: 2891.59
Early stopping at iteration 564, Best Score: 2998.90
Early stopping at iteration 734, Best Score: 3114.35
Early stopping at iteration 1000, Best Score: 3124.69
Early stopping at iteration 610, Best Score: 2980.13
Early stopping at iteration 685, Best Score: 3121.73
Early stopping at iteration 530, Best Score: 2892.30
Early stopping at iteration 500, Best Score: 2886.19
Early stopping at iteration 837, Best Score: 3100.17
Early stopping at iteration 653, Best Score: 3088.48
Early stopping at iteration 813, Best Score: 3119.97
Early stopping at iteration 628, Best Score: 2969.91
Early stopping at iteration 528, Best Score: 2927.03
Early stopping at iteration 721, Best Score: 3083.52
Early stopping at iteration 727, Best Score: 3084.01
Early stopping at iteration 594, Best Score: 3040.09
Early stopping at iteration 700, Best Score: 3073.30
Early stopping at iteration 1026, Best Score: 3120.65
Early stopping at iteration 544, Best Score: 2990.86
Early stopping at iteration 539, Best Score: 2982.33
Early stopping at iteration 534, Best Score: 2971.46
Early stopping at iteration 578, Best Score: 3031.88
Early stopping at iteration 591, Best Score: 3032.89
Early stopping at iteration 783, Best Score: 3117.07
Early stopping at iteration 911, Best Score: 3140.78
Early stopping at iteration 728, Best Score: 3101.35
Early stopping at iteration 567, Best Score: 2953.20
Early stopping at iteration 745, Best Score: 3064.92
Early stopping at iteration 554, Best Score: 2997.82
Early stopping at iteration 954, Best Score: 2966.66
Early stopping at iteration 662, Best Score: 3017.92
Early stopping at iteration 1133, Best Score: 3037.15
Early stopping at iteration 702, Best Score: 3106.33
Early stopping at iteration 511, Best Score: 2930.02
Early stopping at iteration 1058, Best Score: 3113.05
Early stopping at iteration 599, Best Score: 2938.48
Early stopping at iteration 553, Best Score: 2960.20
Early stopping at iteration 665, Best Score: 3087.40
  Deck Trial 100/250
Early stopping at iteration 550, Best Score: 3010.97
Early stopping at iteration 590, Best Score: 3019.43
Early stopping at iteration 617, Best Score: 3051.82
Early stopping at iteration 715, Best Score: 3058.18
Early stopping at iteration 665, Best Score: 3056.62
Early stopping at iteration 675, Best Score: 3099.46
Early stopping at iteration 932, Best Score: 3088.71
Early stopping at iteration 577, Best Score: 2982.91
Early stopping at iteration 619, Best Score: 3052.26
Early stopping at iteration 667, Best Score: 3056.42
Early stopping at iteration 770, Best Score: 3118.43
Early stopping at iteration 646, Best Score: 3067.01
Early stopping at iteration 536, Best Score: 2995.57
Early stopping at iteration 846, Best Score: 3128.06
Early stopping at iteration 776, Best Score: 3090.19
Early stopping at iteration 675, Best Score: 3005.95
Early stopping at iteration 745, Best Score: 3106.71
Early stopping at iteration 855, Best Score: 3113.92
Early stopping at iteration 740, Best Score: 3127.37
Early stopping at iteration 702, Best Score: 3037.19
Early stopping at iteration 684, Best Score: 3093.73
```

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Early stopping at iteration 570, Best Score: 2972.43
Early stopping at iteration 543, Best Score: 2973.68
Early stopping at iteration 941, Best Score: 3120.02
Early stopping at iteration 714, Best Score: 3078.79
Early stopping at iteration 553, Best Score: 3003.57
Early stopping at iteration 629, Best Score: 3009.64
Early stopping at iteration 711, Best Score: 3045.66
Early stopping at iteration 639, Best Score: 3095.43
Early stopping at iteration 531, Best Score: 2978.82
Early stopping at iteration 561, Best Score: 3031.26
Early stopping at iteration 639, Best Score: 3079.82
Early stopping at iteration 705, Best Score: 3089.67
Early stopping at iteration 868, Best Score: 3115.29
Early stopping at iteration 544, Best Score: 2919.14
Early stopping at iteration 701, Best Score: 3111.24
Early stopping at iteration 1092, Best Score: 3084.92
Early stopping at iteration 580, Best Score: 3037.71
Early stopping at iteration 732, Best Score: 3081.14
Early stopping at iteration 551, Best Score: 2945.77
Early stopping at iteration 592, Best Score: 3060.06
Early stopping at iteration 923, Best Score: 3145.51
Early stopping at iteration 500, Best Score: 2886.19
Early stopping at iteration 722, Best Score: 3037.84
Early stopping at iteration 611, Best Score: 3031.53
Early stopping at iteration 1096, Best Score: 3126.71
Early stopping at iteration 566, Best Score: 3011.56
Early stopping at iteration 795, Best Score: 3104.36
Early stopping at iteration 764, Best Score: 3110.12
Early stopping at iteration 601, Best Score: 3043.97
Early stopping at iteration 563, Best Score: 3042.48
Early stopping at iteration 663, Best Score: 3069.13
Early stopping at iteration 859, Best Score: 3084.64
Early stopping at iteration 795, Best Score: 3072.05
Early stopping at iteration 711, Best Score: 3045.72
Early stopping at iteration 801, Best Score: 3116.53
Early stopping at iteration 652, Best Score: 3000.67
Early stopping at iteration 684, Best Score: 3047.83
Early stopping at iteration 900, Best Score: 3069.01
Early stopping at iteration 709, Best Score: 3051.92
Early stopping at iteration 500, Best Score: 2886.19
Early stopping at iteration 683, Best Score: 3057.72
Early stopping at iteration 727, Best Score: 3105.89
Early stopping at iteration 601, Best Score: 3051.86
Early stopping at iteration 516, Best Score: 2912.11
Early stopping at iteration 741, Best Score: 3142.14
Early stopping at iteration 643, Best Score: 3067.46
Early stopping at iteration 538, Best Score: 2914.46
Early stopping at iteration 752, Best Score: 3085.41
Early stopping at iteration 701, Best Score: 3109.53
Early stopping at iteration 510, Best Score: 2912.53
Early stopping at iteration 584, Best Score: 3055.69
Early stopping at iteration 827, Best Score: 3138.79
Early stopping at iteration 567, Best Score: 2926.47
Early stopping at iteration 789, Best Score: 3126.69
Early stopping at iteration 632, Best Score: 3085.79
Early stopping at iteration 683, Best Score: 3087.13
Early stopping at iteration 645, Best Score: 3041.46
Early stopping at iteration 703, Best Score: 3099.96
Early stopping at iteration 834, Best Score: 3114.70
Early stopping at iteration 553, Best Score: 2934.72
```

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Early stopping at iteration 772, Best Score: 3133.42
Early stopping at iteration 566, Best Score: 3037.86
Early stopping at iteration 1110, Best Score: 3142.15
Early stopping at iteration 680, Best Score: 3077.97
Early stopping at iteration 626, Best Score: 3072.29
Early stopping at iteration 583, Best Score: 3027.66
Early stopping at iteration 813, Best Score: 3109.17
Early stopping at iteration 737, Best Score: 3088.08
Early stopping at iteration 694, Best Score: 3081.31
Early stopping at iteration 567, Best Score: 3014.06
Early stopping at iteration 530, Best Score: 2929.76
Early stopping at iteration 503, Best Score: 2892.27
Early stopping at iteration 594, Best Score: 3069.47
Early stopping at iteration 860, Best Score: 3124.06
Early stopping at iteration 595, Best Score: 3018.63
Early stopping at iteration 616, Best Score: 2963.56
Early stopping at iteration 613, Best Score: 2981.73
Early stopping at iteration 500, Best Score: 2886.19
Early stopping at iteration 1197, Best Score: 3136.03
  Deck Trial 200/250
Early stopping at iteration 647, Best Score: 3095.45
Early stopping at iteration 864, Best Score: 3138.11
Early stopping at iteration 622, Best Score: 2930.42
Early stopping at iteration 704, Best Score: 3094.74
Early stopping at iteration 784, Best Score: 3120.52
Early stopping at iteration 519, Best Score: 2930.92
Early stopping at iteration 671, Best Score: 3110.04
Early stopping at iteration 536, Best Score: 2937.82
Early stopping at iteration 598, Best Score: 3035.49
Early stopping at iteration 877, Best Score: 3086.22
Early stopping at iteration 702, Best Score: 3089.94
Early stopping at iteration 708, Best Score: 3103.18
Early stopping at iteration 1028, Best Score: 3141.51
Early stopping at iteration 705, Best Score: 3087.06
Early stopping at iteration 920, Best Score: 3142.15
Early stopping at iteration 673, Best Score: 3065.15
Early stopping at iteration 650, Best Score: 3099.87
Early stopping at iteration 579, Best Score: 3057.51
Early stopping at iteration 887, Best Score: 3144.15
Early stopping at iteration 794, Best Score: 3041.09
Early stopping at iteration 630, Best Score: 3055.27
Early stopping at iteration 549, Best Score: 2968.57
Early stopping at iteration 785, Best Score: 3129.37
Early stopping at iteration 713, Best Score: 3073.66
Early stopping at iteration 645, Best Score: 3069.73
Early stopping at iteration 807, Best Score: 3063.75
Early stopping at iteration 601, Best Score: 2956.06
Early stopping at iteration 642, Best Score: 3080.01
Early stopping at iteration 616, Best Score: 3065.82
Early stopping at iteration 739, Best Score: 3121.09
Early stopping at iteration 520, Best Score: 2949.06
Early stopping at iteration 669, Best Score: 3095.45
Early stopping at iteration 795, Best Score: 3065.99
Early stopping at iteration 683, Best Score: 3070.88
Early stopping at iteration 543, Best Score: 2981.68
Early stopping at iteration 899, Best Score: 3145.51
Early stopping at iteration 663, Best Score: 3090.77
Early stopping at iteration 920, Best Score: 3144.14
Early stopping at iteration 501, Best Score: 2900.81
Early stopping at iteration 644, Best Score: 3044.56
```

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Early stopping at iteration 572, Best Score: 2978.29
Early stopping at iteration 861, Best Score: 3096.77
Early stopping at iteration 500, Best Score: 2886.19
Early stopping at iteration 665, Best Score: 3072.49
Early stopping at iteration 582, Best Score: 3027.02
Early stopping at iteration 681, Best Score: 3081.67
Early stopping at iteration 868, Best Score: 3101.07
Early stopping at iteration 577, Best Score: 3025.76
Early stopping at iteration 819, Best Score: 3060.79
Early stopping at iteration 511, Best Score: 2923.74
Early stopping at iteration 604, Best Score: 3059.20
GNN Trial 6 completed with 250 decks.

GNN Trial 7/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 10.3765, Synergy Loss: 2.2647, Total: 14.9058
Epoch 20/300 - Node Loss: 1.8674, Synergy Loss: 2.1306, Total: 6.1287
Epoch 30/300 - Node Loss: 1.1412, Synergy Loss: 1.9749, Total: 5.0911
Epoch 40/300 - Node Loss: 1.0773, Synergy Loss: 1.7205, Total: 4.5183
Epoch 50/300 - Node Loss: 1.0922, Synergy Loss: 1.3026, Total: 3.6974
Epoch 60/300 - Node Loss: 1.1396, Synergy Loss: 0.7639, Total: 2.6675
Epoch 70/300 - Node Loss: 1.1445, Synergy Loss: 0.5667, Total: 2.2779
Epoch 80/300 - Node Loss: 1.0717, Synergy Loss: 0.4809, Total: 2.0335
Epoch 90/300 - Node Loss: 1.0535, Synergy Loss: 0.4301, Total: 1.9137
Epoch 100/300 - Node Loss: 1.0480, Synergy Loss: 0.4108, Total: 1.8697
Epoch 110/300 - Node Loss: 1.0163, Synergy Loss: 0.3834, Total: 1.7831
Epoch 120/300 - Node Loss: 1.0142, Synergy Loss: 0.3527, Total: 1.7197
Epoch 130/300 - Node Loss: 1.0156, Synergy Loss: 0.3220, Total: 1.6597
Epoch 140/300 - Node Loss: 1.0080, Synergy Loss: 0.3427, Total: 1.6934
Epoch 150/300 - Node Loss: 1.0071, Synergy Loss: 0.2947, Total: 1.5964
Epoch 160/300 - Node Loss: 1.0112, Synergy Loss: 0.3521, Total: 1.7153
Epoch 170/300 - Node Loss: 1.0613, Synergy Loss: 0.3731, Total: 1.8076
Early stopping at epoch 175
Existing model archived to: 20250310_192859_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 558, Best Score: 2513.58
Early stopping at iteration 519, Best Score: 2505.64
Early stopping at iteration 565, Best Score: 2519.81
Early stopping at iteration 588, Best Score: 2540.59
Early stopping at iteration 571, Best Score: 2534.44
Early stopping at iteration 661, Best Score: 2530.72
Early stopping at iteration 712, Best Score: 2545.23
Early stopping at iteration 571, Best Score: 2520.02
Early stopping at iteration 558, Best Score: 2519.65
Early stopping at iteration 594, Best Score: 2535.81
Early stopping at iteration 537, Best Score: 2524.28
Early stopping at iteration 611, Best Score: 2538.17
Early stopping at iteration 663, Best Score: 2527.47
Early stopping at iteration 606, Best Score: 2548.98
Early stopping at iteration 598, Best Score: 2535.97
Early stopping at iteration 561, Best Score: 2514.72
Early stopping at iteration 681, Best Score: 2534.98
Early stopping at iteration 593, Best Score: 2528.53
Early stopping at iteration 566, Best Score: 2530.03
Early stopping at iteration 673, Best Score: 2542.24
Early stopping at iteration 648, Best Score: 2531.30
Early stopping at iteration 647, Best Score: 2520.70
Early stopping at iteration 751, Best Score: 2531.07
Early stopping at iteration 787, Best Score: 2543.86
Early stopping at iteration 586, Best Score: 2521.41
```

```
Early stopping at iteration 536, Best Score: 2516.65
Early stopping at iteration 555, Best Score: 2515.95
Early stopping at iteration 582, Best Score: 2531.79
Early stopping at iteration 529, Best Score: 2510.54
Early stopping at iteration 753, Best Score: 2554.49
Early stopping at iteration 568, Best Score: 2514.26
Early stopping at iteration 885, Best Score: 2546.87
Early stopping at iteration 644, Best Score: 2522.27
Early stopping at iteration 561, Best Score: 2524.79
Early stopping at iteration 546, Best Score: 2521.85
Early stopping at iteration 619, Best Score: 2523.69
Early stopping at iteration 633, Best Score: 2539.06
Early stopping at iteration 640, Best Score: 2520.37
Early stopping at iteration 555, Best Score: 2518.52
Early stopping at iteration 542, Best Score: 2518.01
Early stopping at iteration 609, Best Score: 2526.63
Early stopping at iteration 652, Best Score: 2543.87
Early stopping at iteration 698, Best Score: 2541.04
Early stopping at iteration 621, Best Score: 2538.26
Early stopping at iteration 596, Best Score: 2520.49
Early stopping at iteration 544, Best Score: 2527.14
Early stopping at iteration 591, Best Score: 2521.87
Early stopping at iteration 525, Best Score: 2510.96
Early stopping at iteration 820, Best Score: 2524.76
Early stopping at iteration 734, Best Score: 2529.58
Early stopping at iteration 844, Best Score: 2540.77
Early stopping at iteration 544, Best Score: 2519.56
Early stopping at iteration 638, Best Score: 2537.05
Early stopping at iteration 652, Best Score: 2541.40
Early stopping at iteration 709, Best Score: 2524.07
Early stopping at iteration 563, Best Score: 2519.29
Early stopping at iteration 679, Best Score: 2532.13
Early stopping at iteration 698, Best Score: 2542.44
Early stopping at iteration 688, Best Score: 2550.41
Early stopping at iteration 707, Best Score: 2535.39
Early stopping at iteration 547, Best Score: 2521.07
Early stopping at iteration 648, Best Score: 2541.74
Early stopping at iteration 664, Best Score: 2546.08
Early stopping at iteration 725, Best Score: 2537.93
Early stopping at iteration 921, Best Score: 2542.32
Early stopping at iteration 653, Best Score: 2542.47
Early stopping at iteration 539, Best Score: 2516.53
Early stopping at iteration 608, Best Score: 2541.67
Early stopping at iteration 548, Best Score: 2520.76
Early stopping at iteration 587, Best Score: 2533.89
Early stopping at iteration 603, Best Score: 2539.34
Early stopping at iteration 651, Best Score: 2523.00
Early stopping at iteration 540, Best Score: 2523.61
Early stopping at iteration 744, Best Score: 2545.93
Early stopping at iteration 529, Best Score: 2507.61
Early stopping at iteration 541, Best Score: 2515.83
Early stopping at iteration 604, Best Score: 2532.99
Early stopping at iteration 656, Best Score: 2545.88
Early stopping at iteration 626, Best Score: 2545.05
Early stopping at iteration 768, Best Score: 2541.22
Early stopping at iteration 579, Best Score: 2534.22
Early stopping at iteration 667, Best Score: 2543.26
Early stopping at iteration 622, Best Score: 2525.53
Early stopping at iteration 653, Best Score: 2540.62
Early stopping at iteration 621, Best Score: 2527.12
```

```
Early stopping at iteration 689, Best Score: 2551.93
Early stopping at iteration 592, Best Score: 2531.26
Early stopping at iteration 652, Best Score: 2543.53
Early stopping at iteration 640, Best Score: 2548.39
Early stopping at iteration 716, Best Score: 2531.89
Early stopping at iteration 794, Best Score: 2546.63
Early stopping at iteration 697, Best Score: 2542.12
Early stopping at iteration 546, Best Score: 2528.41
Early stopping at iteration 634, Best Score: 2526.97
Early stopping at iteration 610, Best Score: 2530.66
Early stopping at iteration 582, Best Score: 2527.71
Early stopping at iteration 571, Best Score: 2523.50
Early stopping at iteration 690, Best Score: 2546.33
Early stopping at iteration 619, Best Score: 2540.24
  Deck Trial 100/250
Early stopping at iteration 931, Best Score: 2531.06
Early stopping at iteration 576, Best Score: 2516.56
Early stopping at iteration 568, Best Score: 2535.06
Early stopping at iteration 627, Best Score: 2532.29
Early stopping at iteration 663, Best Score: 2529.95
Early stopping at iteration 545, Best Score: 2515.45
Early stopping at iteration 545, Best Score: 2522.45
Early stopping at iteration 652, Best Score: 2521.38
Early stopping at iteration 568, Best Score: 2522.53
Early stopping at iteration 619, Best Score: 2533.20
Early stopping at iteration 749, Best Score: 2532.52
Early stopping at iteration 858, Best Score: 2538.49
Early stopping at iteration 661, Best Score: 2530.35
Early stopping at iteration 648, Best Score: 2548.01
Early stopping at iteration 555, Best Score: 2512.13
Early stopping at iteration 640, Best Score: 2528.80
Early stopping at iteration 679, Best Score: 2534.22
Early stopping at iteration 530, Best Score: 2514.31
Early stopping at iteration 656, Best Score: 2519.78
Early stopping at iteration 536, Best Score: 2530.62
Early stopping at iteration 848, Best Score: 2541.07
Early stopping at iteration 611, Best Score: 2537.48
Early stopping at iteration 529, Best Score: 2511.47
Early stopping at iteration 598, Best Score: 2528.19
Early stopping at iteration 570, Best Score: 2522.82
Early stopping at iteration 709, Best Score: 2533.56
Early stopping at iteration 658, Best Score: 2534.76
Early stopping at iteration 845, Best Score: 2529.54
Early stopping at iteration 600, Best Score: 2524.31
Early stopping at iteration 910, Best Score: 2520.72
Early stopping at iteration 844, Best Score: 2545.50
Early stopping at iteration 682, Best Score: 2544.04
Early stopping at iteration 534, Best Score: 2507.96
Early stopping at iteration 606, Best Score: 2532.37
Early stopping at iteration 574, Best Score: 2542.96
Early stopping at iteration 640, Best Score: 2540.30
Early stopping at iteration 638, Best Score: 2530.03
Early stopping at iteration 660, Best Score: 2532.91
Early stopping at iteration 667, Best Score: 2516.02
Early stopping at iteration 590, Best Score: 2526.06
Early stopping at iteration 844, Best Score: 2533.61
Early stopping at iteration 604, Best Score: 2531.33
Early stopping at iteration 608, Best Score: 2533.93
Early stopping at iteration 599, Best Score: 2536.42
Early stopping at iteration 639, Best Score: 2541.83
```

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Early stopping at iteration 676, Best Score: 2543.60
Early stopping at iteration 687, Best Score: 2526.03
Early stopping at iteration 617, Best Score: 2532.81
Early stopping at iteration 646, Best Score: 2526.47
Early stopping at iteration 768, Best Score: 2530.42
Early stopping at iteration 638, Best Score: 2521.15
Early stopping at iteration 609, Best Score: 2535.64
Early stopping at iteration 582, Best Score: 2512.78
Early stopping at iteration 649, Best Score: 2546.09
Early stopping at iteration 646, Best Score: 2539.30
Early stopping at iteration 645, Best Score: 2546.36
Early stopping at iteration 1026, Best Score: 2512.65
Early stopping at iteration 550, Best Score: 2519.87
Early stopping at iteration 633, Best Score: 2528.83
Early stopping at iteration 593, Best Score: 2519.66
Early stopping at iteration 566, Best Score: 2536.72
Early stopping at iteration 735, Best Score: 2547.75
Early stopping at iteration 535, Best Score: 2509.51
Early stopping at iteration 790, Best Score: 2549.46
Early stopping at iteration 658, Best Score: 2531.12
Early stopping at iteration 843, Best Score: 2556.15
Early stopping at iteration 572, Best Score: 2515.69
Early stopping at iteration 593, Best Score: 2534.29
Early stopping at iteration 597, Best Score: 2532.05
Early stopping at iteration 592, Best Score: 2544.98
Early stopping at iteration 575, Best Score: 2523.63
Early stopping at iteration 590, Best Score: 2525.93
Early stopping at iteration 709, Best Score: 2534.96
Early stopping at iteration 637, Best Score: 2536.68
Early stopping at iteration 908, Best Score: 2555.20
Early stopping at iteration 636, Best Score: 2515.12
Early stopping at iteration 814, Best Score: 2540.17
Early stopping at iteration 581, Best Score: 2532.98
Early stopping at iteration 630, Best Score: 2533.98
Early stopping at iteration 936, Best Score: 2556.03
Early stopping at iteration 600, Best Score: 2516.79
Early stopping at iteration 543, Best Score: 2522.70
Early stopping at iteration 880, Best Score: 2521.35
Early stopping at iteration 675, Best Score: 2532.09
Early stopping at iteration 716, Best Score: 2535.42
Early stopping at iteration 932, Best Score: 2553.87
Early stopping at iteration 668, Best Score: 2540.98
Early stopping at iteration 567, Best Score: 2525.21
Early stopping at iteration 691, Best Score: 2541.35
Early stopping at iteration 565, Best Score: 2520.69
Early stopping at iteration 559, Best Score: 2500.19
Early stopping at iteration 658, Best Score: 2529.24
Early stopping at iteration 609, Best Score: 2522.05
Early stopping at iteration 611, Best Score: 2524.72
Early stopping at iteration 806, Best Score: 2549.13
Early stopping at iteration 681, Best Score: 2545.41
Early stopping at iteration 871, Best Score: 2542.13
Early stopping at iteration 534, Best Score: 2516.02
Early stopping at iteration 596, Best Score: 2524.00
Early stopping at iteration 711, Best Score: 2540.27
  Deck Trial 200/250
Early stopping at iteration 655, Best Score: 2540.94
Early stopping at iteration 772, Best Score: 2533.80
Early stopping at iteration 638, Best Score: 2530.44
Early stopping at iteration 715, Best Score: 2534.22
```

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Early stopping at iteration 554, Best Score: 2513.46
Early stopping at iteration 717, Best Score: 2545.33
Early stopping at iteration 588, Best Score: 2538.39
Early stopping at iteration 621, Best Score: 2542.10
Early stopping at iteration 653, Best Score: 2534.39
Early stopping at iteration 612, Best Score: 2529.43
Early stopping at iteration 724, Best Score: 2545.48
Early stopping at iteration 818, Best Score: 2515.70
Early stopping at iteration 672, Best Score: 2536.19
Early stopping at iteration 634, Best Score: 2537.14
Early stopping at iteration 870, Best Score: 2544.92
Early stopping at iteration 627, Best Score: 2538.39
Early stopping at iteration 589, Best Score: 2526.55
Early stopping at iteration 570, Best Score: 2537.70
Early stopping at iteration 784, Best Score: 2545.38
Early stopping at iteration 689, Best Score: 2530.95
Early stopping at iteration 586, Best Score: 2515.19
Early stopping at iteration 692, Best Score: 2541.18
Early stopping at iteration 607, Best Score: 2538.68
Early stopping at iteration 555, Best Score: 2513.02
Early stopping at iteration 648, Best Score: 2527.50
Early stopping at iteration 595, Best Score: 2535.09
Early stopping at iteration 739, Best Score: 2540.11
Early stopping at iteration 569, Best Score: 2521.98
Early stopping at iteration 629, Best Score: 2521.55
Early stopping at iteration 537, Best Score: 2509.33
Early stopping at iteration 652, Best Score: 2530.83
Early stopping at iteration 617, Best Score: 2536.87
Early stopping at iteration 1003, Best Score: 2545.76
Early stopping at iteration 763, Best Score: 2531.68
Early stopping at iteration 629, Best Score: 2534.10
Early stopping at iteration 569, Best Score: 2525.16
Early stopping at iteration 669, Best Score: 2537.37
Early stopping at iteration 672, Best Score: 2536.26
Early stopping at iteration 702, Best Score: 2530.34
Early stopping at iteration 852, Best Score: 2560.22
Early stopping at iteration 687, Best Score: 2551.24
Early stopping at iteration 573, Best Score: 2528.87
Early stopping at iteration 618, Best Score: 2542.64
Early stopping at iteration 656, Best Score: 2552.88
Early stopping at iteration 600, Best Score: 2526.89
Early stopping at iteration 602, Best Score: 2537.99
Early stopping at iteration 660, Best Score: 2533.72
Early stopping at iteration 851, Best Score: 2547.49
Early stopping at iteration 574, Best Score: 2521.20
Early stopping at iteration 805, Best Score: 2521.22
Early stopping at iteration 549, Best Score: 2508.96
GNN Trial 7 completed with 250 decks.

GNN Trial 8/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 9.5970, Synergy Loss: 2.4725, Total: 14.5419
Epoch 20/300 - Node Loss: 2.0507, Synergy Loss: 2.3214, Total: 6.6935
Epoch 30/300 - Node Loss: 1.2326, Synergy Loss: 2.1709, Total: 5.5743
Epoch 40/300 - Node Loss: 1.0414, Synergy Loss: 2.0015, Total: 5.0444
Epoch 50/300 - Node Loss: 1.0016, Synergy Loss: 1.7910, Total: 4.5835
Epoch 60/300 - Node Loss: 0.9991, Synergy Loss: 1.5880, Total: 4.1752
Epoch 70/300 - Node Loss: 1.0026, Synergy Loss: 1.3942, Total: 3.7909
Epoch 80/300 - Node Loss: 1.1472, Synergy Loss: 1.0321, Total: 3.2114
Epoch 90/300 - Node Loss: 1.2406, Synergy Loss: 0.7085, Total: 2.6577
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Epoch 100/300 - Node Loss: 1.1675, Synergy Loss: 0.5738, Total: 2.3152
Epoch 110/300 - Node Loss: 1.1394, Synergy Loss: 0.4528, Total: 2.0450
Epoch 120/300 - Node Loss: 1.1303, Synergy Loss: 0.4534, Total: 2.0372
Epoch 130/300 - Node Loss: 1.1130, Synergy Loss: 0.4259, Total: 1.9648
Epoch 140/300 - Node Loss: 1.1125, Synergy Loss: 0.4072, Total: 1.9269
Epoch 150/300 - Node Loss: 1.0728, Synergy Loss: 0.3774, Total: 1.8277
Epoch 160/300 - Node Loss: 1.0901, Synergy Loss: 0.3711, Total: 1.8323
Epoch 170/300 - Node Loss: 1.0869, Synergy Loss: 0.3889, Total: 1.8647
Early stopping at epoch 174
Existing model archived to: 20250310_193330_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 572, Best Score: 2479.08
Early stopping at iteration 666, Best Score: 2496.67
Early stopping at iteration 684, Best Score: 2497.76
Early stopping at iteration 672, Best Score: 2503.65
Early stopping at iteration 575, Best Score: 2479.16
Early stopping at iteration 702, Best Score: 2498.13
Early stopping at iteration 548, Best Score: 2480.79
Early stopping at iteration 702, Best Score: 2497.22
Early stopping at iteration 617, Best Score: 2487.13
Early stopping at iteration 828, Best Score: 2492.04
Early stopping at iteration 817, Best Score: 2487.73
Early stopping at iteration 719, Best Score: 2494.36
Early stopping at iteration 841, Best Score: 2493.70
Early stopping at iteration 654, Best Score: 2481.10
Early stopping at iteration 683, Best Score: 2493.64
Early stopping at iteration 716, Best Score: 2493.80
Early stopping at iteration 584, Best Score: 2489.61
Early stopping at iteration 878, Best Score: 2492.00
Early stopping at iteration 741, Best Score: 2492.15
Early stopping at iteration 590, Best Score: 2493.68
Early stopping at iteration 762, Best Score: 2484.22
Early stopping at iteration 550, Best Score: 2474.58
Early stopping at iteration 574, Best Score: 2490.86
Early stopping at iteration 760, Best Score: 2493.72
Early stopping at iteration 605, Best Score: 2478.63
Early stopping at iteration 654, Best Score: 2489.14
Early stopping at iteration 557, Best Score: 2486.75
Early stopping at iteration 560, Best Score: 2488.94
Early stopping at iteration 785, Best Score: 2506.19
Early stopping at iteration 709, Best Score: 2495.45
Early stopping at iteration 586, Best Score: 2481.00
Early stopping at iteration 752, Best Score: 2491.56
Early stopping at iteration 623, Best Score: 2497.36
Early stopping at iteration 545, Best Score: 2484.52
Early stopping at iteration 557, Best Score: 2484.55
Early stopping at iteration 822, Best Score: 2496.15
Early stopping at iteration 583, Best Score: 2491.71
Early stopping at iteration 761, Best Score: 2493.60
Early stopping at iteration 879, Best Score: 2487.15
Early stopping at iteration 574, Best Score: 2491.06
Early stopping at iteration 657, Best Score: 2495.61
Early stopping at iteration 618, Best Score: 2497.70
Early stopping at iteration 591, Best Score: 2493.82
Early stopping at iteration 626, Best Score: 2489.07
Early stopping at iteration 561, Best Score: 2484.61
Early stopping at iteration 542, Best Score: 2482.86
Early stopping at iteration 589, Best Score: 2502.91
Early stopping at iteration 877, Best Score: 2491.70
Early stopping at iteration 749, Best Score: 2500.09
```

```
Early stopping at iteration 535, Best Score: 2482.12
Early stopping at iteration 553, Best Score: 2485.30
Early stopping at iteration 531, Best Score: 2473.91
Early stopping at iteration 554, Best Score: 2478.77
Early stopping at iteration 678, Best Score: 2482.46
Early stopping at iteration 719, Best Score: 2492.05
Early stopping at iteration 560, Best Score: 2484.49
Early stopping at iteration 572, Best Score: 2490.90
Early stopping at iteration 688, Best Score: 2494.10
Early stopping at iteration 578, Best Score: 2482.70
Early stopping at iteration 676, Best Score: 2489.42
Early stopping at iteration 585, Best Score: 2485.17
Early stopping at iteration 577, Best Score: 2488.99
Early stopping at iteration 540, Best Score: 2476.30
Early stopping at iteration 638, Best Score: 2495.26
Early stopping at iteration 871, Best Score: 2485.32
Early stopping at iteration 630, Best Score: 2497.72
Early stopping at iteration 618, Best Score: 2484.81
Early stopping at iteration 700, Best Score: 2498.60
Early stopping at iteration 551, Best Score: 2478.03
Early stopping at iteration 541, Best Score: 2469.92
Early stopping at iteration 589, Best Score: 2495.78
Early stopping at iteration 571, Best Score: 2484.37
Early stopping at iteration 589, Best Score: 2485.36
Early stopping at iteration 636, Best Score: 2493.38
Early stopping at iteration 565, Best Score: 2476.82
Early stopping at iteration 594, Best Score: 2492.00
Early stopping at iteration 547, Best Score: 2482.55
Early stopping at iteration 601, Best Score: 2484.52
Early stopping at iteration 564, Best Score: 2491.04
Early stopping at iteration 921, Best Score: 2486.81
Early stopping at iteration 769, Best Score: 2481.21
Early stopping at iteration 698, Best Score: 2495.70
Early stopping at iteration 594, Best Score: 2491.43
Early stopping at iteration 649, Best Score: 2497.24
Early stopping at iteration 733, Best Score: 2493.34
Early stopping at iteration 657, Best Score: 2499.68
Early stopping at iteration 568, Best Score: 2481.34
Early stopping at iteration 549, Best Score: 2478.31
Early stopping at iteration 551, Best Score: 2476.54
Early stopping at iteration 575, Best Score: 2482.64
Early stopping at iteration 651, Best Score: 2489.31
Early stopping at iteration 602, Best Score: 2495.71
Early stopping at iteration 561, Best Score: 2489.63
Early stopping at iteration 584, Best Score: 2490.33
Early stopping at iteration 599, Best Score: 2481.14
Early stopping at iteration 570, Best Score: 2491.04
Early stopping at iteration 562, Best Score: 2491.27
Early stopping at iteration 544, Best Score: 2472.04
Early stopping at iteration 737, Best Score: 2494.27
  Deck Trial 100/250
Early stopping at iteration 613, Best Score: 2484.99
Early stopping at iteration 685, Best Score: 2495.95
Early stopping at iteration 541, Best Score: 2474.10
Early stopping at iteration 580, Best Score: 2489.97
Early stopping at iteration 677, Best Score: 2485.62
Early stopping at iteration 673, Best Score: 2499.61
Early stopping at iteration 618, Best Score: 2487.31
Early stopping at iteration 571, Best Score: 2487.34
Early stopping at iteration 579, Best Score: 2480.88
```

```
Early stopping at iteration 693, Best Score: 2491.57
Early stopping at iteration 876, Best Score: 2496.58
Early stopping at iteration 593, Best Score: 2487.19
Early stopping at iteration 564, Best Score: 2484.01
Early stopping at iteration 567, Best Score: 2486.81
Early stopping at iteration 694, Best Score: 2495.57
Early stopping at iteration 581, Best Score: 2497.47
Early stopping at iteration 671, Best Score: 2492.03
Early stopping at iteration 959, Best Score: 2483.95
Early stopping at iteration 651, Best Score: 2488.93
Early stopping at iteration 539, Best Score: 2480.89
Early stopping at iteration 540, Best Score: 2473.58
Early stopping at iteration 566, Best Score: 2483.22
Early stopping at iteration 843, Best Score: 2487.14
Early stopping at iteration 631, Best Score: 2497.91
Early stopping at iteration 562, Best Score: 2489.03
Early stopping at iteration 555, Best Score: 2485.36
Early stopping at iteration 854, Best Score: 2496.10
Early stopping at iteration 659, Best Score: 2493.63
Early stopping at iteration 695, Best Score: 2497.89
Early stopping at iteration 774, Best Score: 2495.80
Early stopping at iteration 644, Best Score: 2490.09
Early stopping at iteration 533, Best Score: 2469.64
Early stopping at iteration 549, Best Score: 2482.65
Early stopping at iteration 645, Best Score: 2503.86
Early stopping at iteration 698, Best Score: 2496.16
Early stopping at iteration 722, Best Score: 2502.09
Early stopping at iteration 645, Best Score: 2486.61
Early stopping at iteration 538, Best Score: 2484.48
Early stopping at iteration 578, Best Score: 2493.24
Early stopping at iteration 652, Best Score: 2493.02
Early stopping at iteration 603, Best Score: 2482.39
Early stopping at iteration 683, Best Score: 2489.77
Early stopping at iteration 553, Best Score: 2478.97
Early stopping at iteration 535, Best Score: 2478.22
Early stopping at iteration 537, Best Score: 2478.35
Early stopping at iteration 569, Best Score: 2487.09
Early stopping at iteration 662, Best Score: 2492.80
Early stopping at iteration 547, Best Score: 2478.66
Early stopping at iteration 576, Best Score: 2478.35
Early stopping at iteration 565, Best Score: 2489.29
Early stopping at iteration 691, Best Score: 2496.05
Early stopping at iteration 594, Best Score: 2491.76
Early stopping at iteration 541, Best Score: 2478.64
Early stopping at iteration 602, Best Score: 2490.07
Early stopping at iteration 602, Best Score: 2491.30
Early stopping at iteration 589, Best Score: 2489.30
Early stopping at iteration 713, Best Score: 2489.57
Early stopping at iteration 592, Best Score: 2489.19
Early stopping at iteration 555, Best Score: 2474.33
Early stopping at iteration 580, Best Score: 2489.59
Early stopping at iteration 591, Best Score: 2482.75
Early stopping at iteration 534, Best Score: 2471.81
Early stopping at iteration 601, Best Score: 2480.85
Early stopping at iteration 569, Best Score: 2482.73
Early stopping at iteration 632, Best Score: 2493.54
Early stopping at iteration 626, Best Score: 2489.99
Early stopping at iteration 581, Best Score: 2493.55
Early stopping at iteration 787, Best Score: 2483.03
Early stopping at iteration 575, Best Score: 2491.13
```

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Early stopping at iteration 572, Best Score: 2481.17
Early stopping at iteration 602, Best Score: 2493.65
Early stopping at iteration 851, Best Score: 2502.74
Early stopping at iteration 589, Best Score: 2491.33
Early stopping at iteration 825, Best Score: 2508.84
Early stopping at iteration 558, Best Score: 2478.88
Early stopping at iteration 613, Best Score: 2485.69
Early stopping at iteration 722, Best Score: 2499.12
Early stopping at iteration 529, Best Score: 2469.66
Early stopping at iteration 564, Best Score: 2479.11
Early stopping at iteration 580, Best Score: 2485.33
Early stopping at iteration 586, Best Score: 2490.86
Early stopping at iteration 943, Best Score: 2489.94
Early stopping at iteration 543, Best Score: 2482.78
Early stopping at iteration 555, Best Score: 2486.63
Early stopping at iteration 559, Best Score: 2479.34
Early stopping at iteration 555, Best Score: 2475.96
Early stopping at iteration 714, Best Score: 2501.20
Early stopping at iteration 547, Best Score: 2472.01
Early stopping at iteration 613, Best Score: 2486.83
Early stopping at iteration 876, Best Score: 2495.48
Early stopping at iteration 811, Best Score: 2489.89
Early stopping at iteration 644, Best Score: 2482.24
Early stopping at iteration 569, Best Score: 2483.66
Early stopping at iteration 776, Best Score: 2499.30
Early stopping at iteration 921, Best Score: 2486.98
Early stopping at iteration 586, Best Score: 2495.52
Early stopping at iteration 1007, Best Score: 2493.77
Early stopping at iteration 820, Best Score: 2495.83
Early stopping at iteration 553, Best Score: 2491.30
Early stopping at iteration 589, Best Score: 2487.00
  Deck Trial 200/250
Early stopping at iteration 605, Best Score: 2489.76
Early stopping at iteration 599, Best Score: 2480.83
Early stopping at iteration 536, Best Score: 2466.31
Early stopping at iteration 593, Best Score: 2489.32
Early stopping at iteration 638, Best Score: 2503.76
Early stopping at iteration 720, Best Score: 2502.15
Early stopping at iteration 533, Best Score: 2484.85
Early stopping at iteration 680, Best Score: 2504.00
Early stopping at iteration 673, Best Score: 2497.91
Early stopping at iteration 637, Best Score: 2481.06
Early stopping at iteration 643, Best Score: 2497.55
Early stopping at iteration 585, Best Score: 2480.65
Early stopping at iteration 586, Best Score: 2485.50
Early stopping at iteration 606, Best Score: 2495.27
Early stopping at iteration 622, Best Score: 2495.42
Early stopping at iteration 709, Best Score: 2501.68
Early stopping at iteration 666, Best Score: 2488.89
Early stopping at iteration 544, Best Score: 2483.02
Early stopping at iteration 617, Best Score: 2491.53
Early stopping at iteration 617, Best Score: 2485.01
Early stopping at iteration 601, Best Score: 2486.99
Early stopping at iteration 657, Best Score: 2492.46
Early stopping at iteration 574, Best Score: 2490.98
Early stopping at iteration 725, Best Score: 2492.01
Early stopping at iteration 603, Best Score: 2494.86
Early stopping at iteration 624, Best Score: 2489.63
Early stopping at iteration 556, Best Score: 2482.65
Early stopping at iteration 566, Best Score: 2472.62
```

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Early stopping at iteration 780, Best Score: 2491.96
Early stopping at iteration 708, Best Score: 2499.85
Early stopping at iteration 532, Best Score: 2482.44
Early stopping at iteration 643, Best Score: 2495.85
Early stopping at iteration 701, Best Score: 2495.43
Early stopping at iteration 809, Best Score: 2484.49
Early stopping at iteration 833, Best Score: 2495.85
Early stopping at iteration 628, Best Score: 2476.61
Early stopping at iteration 530, Best Score: 2480.70
Early stopping at iteration 714, Best Score: 2495.82
Early stopping at iteration 572, Best Score: 2487.17
Early stopping at iteration 529, Best Score: 2486.70
Early stopping at iteration 687, Best Score: 2503.02
Early stopping at iteration 615, Best Score: 2499.87
Early stopping at iteration 667, Best Score: 2496.86
Early stopping at iteration 639, Best Score: 2494.20
Early stopping at iteration 590, Best Score: 2485.54
Early stopping at iteration 619, Best Score: 2493.38
Early stopping at iteration 620, Best Score: 2497.92
Early stopping at iteration 720, Best Score: 2494.99
Early stopping at iteration 544, Best Score: 2469.88
Early stopping at iteration 640, Best Score: 2503.80
Early stopping at iteration 563, Best Score: 2482.89
GNN Trial 8 completed with 250 decks.

GNN Trial 9/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 21.0426, Synergy Loss: 1.9852, Total: 25.0129
Epoch 20/300 - Node Loss: 3.3630, Synergy Loss: 1.9204, Total: 7.2038
Epoch 30/300 - Node Loss: 1.4612, Synergy Loss: 1.8522, Total: 5.1656
Epoch 40/300 - Node Loss: 1.0841, Synergy Loss: 1.7871, Total: 4.6583
Epoch 50/300 - Node Loss: 1.0115, Synergy Loss: 1.7295, Total: 4.4705
Epoch 60/300 - Node Loss: 1.0029, Synergy Loss: 1.6748, Total: 4.3526
Epoch 70/300 - Node Loss: 1.0019, Synergy Loss: 1.6212, Total: 4.2443
Epoch 80/300 - Node Loss: 1.0114, Synergy Loss: 1.5685, Total: 4.1484
Epoch 90/300 - Node Loss: 1.0134, Synergy Loss: 1.5119, Total: 4.0372
Epoch 100/300 - Node Loss: 1.0278, Synergy Loss: 1.4378, Total: 3.9033
Epoch 110/300 - Node Loss: 1.0458, Synergy Loss: 1.3286, Total: 3.7030
Epoch 120/300 - Node Loss: 1.1304, Synergy Loss: 1.1674, Total: 3.4652
Epoch 130/300 - Node Loss: 1.1559, Synergy Loss: 0.9491, Total: 3.0542
Epoch 140/300 - Node Loss: 1.1441, Synergy Loss: 0.8439, Total: 2.8318
Epoch 150/300 - Node Loss: 1.2478, Synergy Loss: 0.6936, Total: 2.6350
Epoch 160/300 - Node Loss: 1.2150, Synergy Loss: 0.6273, Total: 2.4695
Epoch 170/300 - Node Loss: 1.2424, Synergy Loss: 0.5542, Total: 2.3508
Epoch 180/300 - Node Loss: 1.1735, Synergy Loss: 0.5314, Total: 2.2363
Epoch 190/300 - Node Loss: 1.2126, Synergy Loss: 0.5194, Total: 2.2513
Epoch 200/300 - Node Loss: 1.1990, Synergy Loss: 0.5011, Total: 2.2011
Epoch 210/300 - Node Loss: 1.1741, Synergy Loss: 0.4809, Total: 2.1359
Epoch 220/300 - Node Loss: 1.1730, Synergy Loss: 0.4455, Total: 2.0639
Epoch 230/300 - Node Loss: 1.1373, Synergy Loss: 0.4470, Total: 2.0314
Epoch 240/300 - Node Loss: 1.1488, Synergy Loss: 0.4186, Total: 1.9859
Epoch 250/300 - Node Loss: 1.1274, Synergy Loss: 0.3902, Total: 1.9079
Epoch 260/300 - Node Loss: 1.1753, Synergy Loss: 0.3611, Total: 1.8976
Epoch 270/300 - Node Loss: 1.1155, Synergy Loss: 0.3427, Total: 1.8010
Epoch 280/300 - Node Loss: 1.0802, Synergy Loss: 0.3488, Total: 1.7778
Epoch 290/300 - Node Loss: 1.0944, Synergy Loss: 0.3471, Total: 1.7886
Epoch 300/300 - Node Loss: 1.1008, Synergy Loss: 0.3188, Total: 1.7384
Existing model archived to: 20250310_193956_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 661, Best Score: 2961.40
```

```
Early stopping at iteration 576, Best Score: 2898.80
Early stopping at iteration 560, Best Score: 2819.28
Early stopping at iteration 673, Best Score: 2951.79
Early stopping at iteration 784, Best Score: 2970.26
Early stopping at iteration 839, Best Score: 3012.96
Early stopping at iteration 770, Best Score: 3031.46
Early stopping at iteration 724, Best Score: 3013.81
Early stopping at iteration 907, Best Score: 3012.96
Early stopping at iteration 575, Best Score: 2932.89
Early stopping at iteration 510, Best Score: 2721.01
Early stopping at iteration 708, Best Score: 2987.42
Early stopping at iteration 601, Best Score: 2934.04
Early stopping at iteration 560, Best Score: 2822.09
Early stopping at iteration 530, Best Score: 2736.83
Early stopping at iteration 626, Best Score: 2966.76
Early stopping at iteration 995, Best Score: 2992.10
Early stopping at iteration 627, Best Score: 2923.09
Early stopping at iteration 779, Best Score: 3000.55
Early stopping at iteration 883, Best Score: 2996.81
Early stopping at iteration 914, Best Score: 2979.85
Early stopping at iteration 655, Best Score: 2962.30
Early stopping at iteration 649, Best Score: 3001.68
Early stopping at iteration 574, Best Score: 2799.04
Early stopping at iteration 550, Best Score: 2849.66
Early stopping at iteration 682, Best Score: 2988.53
Early stopping at iteration 752, Best Score: 3020.53
Early stopping at iteration 544, Best Score: 2808.27
Early stopping at iteration 594, Best Score: 2844.43
Early stopping at iteration 968, Best Score: 3042.07
Early stopping at iteration 726, Best Score: 2989.62
Early stopping at iteration 647, Best Score: 2912.78
Early stopping at iteration 550, Best Score: 2793.18
Early stopping at iteration 692, Best Score: 2970.67
Early stopping at iteration 694, Best Score: 2979.88
Early stopping at iteration 529, Best Score: 2747.14
Early stopping at iteration 725, Best Score: 2978.80
Early stopping at iteration 585, Best Score: 2900.43
Early stopping at iteration 863, Best Score: 3010.01
Early stopping at iteration 648, Best Score: 2977.77
Early stopping at iteration 556, Best Score: 2871.34
Early stopping at iteration 806, Best Score: 2982.20
Early stopping at iteration 562, Best Score: 2897.17
Early stopping at iteration 598, Best Score: 2913.71
Early stopping at iteration 632, Best Score: 2930.02
Early stopping at iteration 672, Best Score: 2968.59
Early stopping at iteration 747, Best Score: 2996.91
Early stopping at iteration 661, Best Score: 2981.72
Early stopping at iteration 688, Best Score: 2975.50
Early stopping at iteration 840, Best Score: 2872.98
Early stopping at iteration 806, Best Score: 2994.31
Early stopping at iteration 540, Best Score: 2818.03
Early stopping at iteration 623, Best Score: 2971.17
Early stopping at iteration 597, Best Score: 2870.09
Early stopping at iteration 643, Best Score: 2979.35
Early stopping at iteration 743, Best Score: 3015.48
Early stopping at iteration 654, Best Score: 2985.06
Early stopping at iteration 650, Best Score: 2953.81
Early stopping at iteration 617, Best Score: 2919.76
Early stopping at iteration 728, Best Score: 2994.85
Early stopping at iteration 859, Best Score: 3024.24
```

```
Early stopping at iteration 663, Best Score: 2926.47
Early stopping at iteration 772, Best Score: 2997.63
Early stopping at iteration 584, Best Score: 2906.07
Early stopping at iteration 593, Best Score: 2891.98
Early stopping at iteration 683, Best Score: 2957.02
Early stopping at iteration 743, Best Score: 3015.92
Early stopping at iteration 797, Best Score: 3029.47
Early stopping at iteration 605, Best Score: 2929.18
Early stopping at iteration 598, Best Score: 2924.43
Early stopping at iteration 663, Best Score: 2988.43
Early stopping at iteration 579, Best Score: 2917.62
Early stopping at iteration 625, Best Score: 2920.60
Early stopping at iteration 800, Best Score: 2916.38
Early stopping at iteration 694, Best Score: 2983.99
Early stopping at iteration 674, Best Score: 2981.97
Early stopping at iteration 1009, Best Score: 3026.21
Early stopping at iteration 549, Best Score: 2862.11
Early stopping at iteration 640, Best Score: 2965.13
Early stopping at iteration 672, Best Score: 2961.10
Early stopping at iteration 624, Best Score: 2904.06
Early stopping at iteration 546, Best Score: 2806.48
Early stopping at iteration 589, Best Score: 2944.92
Early stopping at iteration 551, Best Score: 2786.76
Early stopping at iteration 661, Best Score: 2958.88
Early stopping at iteration 909, Best Score: 3002.88
Early stopping at iteration 847, Best Score: 3026.87
Early stopping at iteration 729, Best Score: 3014.22
Early stopping at iteration 855, Best Score: 3021.07
Early stopping at iteration 773, Best Score: 2979.59
Early stopping at iteration 864, Best Score: 3002.28
Early stopping at iteration 657, Best Score: 2947.47
Early stopping at iteration 731, Best Score: 3017.88
Early stopping at iteration 653, Best Score: 2907.94
Early stopping at iteration 734, Best Score: 3018.03
Early stopping at iteration 743, Best Score: 2984.02
Early stopping at iteration 847, Best Score: 3012.37
Early stopping at iteration 547, Best Score: 2830.08
Early stopping at iteration 641, Best Score: 3010.58
  Deck Trial 100/250
Early stopping at iteration 662, Best Score: 2859.01
Early stopping at iteration 505, Best Score: 2729.00
Early stopping at iteration 589, Best Score: 2880.26
Early stopping at iteration 558, Best Score: 2817.30
Early stopping at iteration 978, Best Score: 2943.27
Early stopping at iteration 1081, Best Score: 2953.56
Early stopping at iteration 573, Best Score: 2901.45
Early stopping at iteration 895, Best Score: 2986.04
Early stopping at iteration 539, Best Score: 2894.71
Early stopping at iteration 908, Best Score: 2984.34
Early stopping at iteration 722, Best Score: 3004.39
Early stopping at iteration 578, Best Score: 2892.03
Early stopping at iteration 743, Best Score: 2919.79
Early stopping at iteration 780, Best Score: 3015.90
Early stopping at iteration 682, Best Score: 2988.42
Early stopping at iteration 718, Best Score: 3004.79
Early stopping at iteration 605, Best Score: 2920.51
Early stopping at iteration 687, Best Score: 2945.99
Early stopping at iteration 538, Best Score: 2816.75
Early stopping at iteration 603, Best Score: 2914.43
Early stopping at iteration 660, Best Score: 2980.83
```

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Early stopping at iteration 592, Best Score: 2902.44
Early stopping at iteration 864, Best Score: 2960.48
Early stopping at iteration 787, Best Score: 2959.38
Early stopping at iteration 676, Best Score: 2920.23
Early stopping at iteration 669, Best Score: 2941.56
Early stopping at iteration 611, Best Score: 2885.63
Early stopping at iteration 811, Best Score: 3029.38
Early stopping at iteration 878, Best Score: 3031.14
Early stopping at iteration 772, Best Score: 2984.23
Early stopping at iteration 718, Best Score: 3014.47
Early stopping at iteration 725, Best Score: 3001.95
Early stopping at iteration 538, Best Score: 2792.69
Early stopping at iteration 580, Best Score: 2854.11
Early stopping at iteration 706, Best Score: 2942.95
Early stopping at iteration 662, Best Score: 2965.04
Early stopping at iteration 535, Best Score: 2797.17
Early stopping at iteration 640, Best Score: 2931.24
Early stopping at iteration 606, Best Score: 2926.66
Early stopping at iteration 705, Best Score: 3006.98
Early stopping at iteration 720, Best Score: 3007.05
Early stopping at iteration 644, Best Score: 2981.88
Early stopping at iteration 561, Best Score: 2784.00
Early stopping at iteration 584, Best Score: 2855.42
Early stopping at iteration 835, Best Score: 3007.54
Early stopping at iteration 706, Best Score: 2965.84
Early stopping at iteration 625, Best Score: 2960.00
Early stopping at iteration 949, Best Score: 3032.66
Early stopping at iteration 677, Best Score: 2968.79
Early stopping at iteration 505, Best Score: 2763.64
Early stopping at iteration 533, Best Score: 2804.70
Early stopping at iteration 776, Best Score: 3001.53
Early stopping at iteration 551, Best Score: 2820.00
Early stopping at iteration 672, Best Score: 2930.32
Early stopping at iteration 814, Best Score: 3010.35
Early stopping at iteration 781, Best Score: 2948.29
Early stopping at iteration 551, Best Score: 2887.41
Early stopping at iteration 677, Best Score: 2880.29
Early stopping at iteration 771, Best Score: 2966.40
Early stopping at iteration 770, Best Score: 3006.90
Early stopping at iteration 823, Best Score: 3026.23
Early stopping at iteration 796, Best Score: 3015.82
Early stopping at iteration 502, Best Score: 2717.46
Early stopping at iteration 622, Best Score: 2983.73
Early stopping at iteration 666, Best Score: 2960.97
Early stopping at iteration 745, Best Score: 3013.96
Early stopping at iteration 849, Best Score: 3027.46
Early stopping at iteration 584, Best Score: 2842.33
Early stopping at iteration 708, Best Score: 2977.67
Early stopping at iteration 681, Best Score: 2977.46
Early stopping at iteration 855, Best Score: 2814.53
Early stopping at iteration 827, Best Score: 3035.25
Early stopping at iteration 800, Best Score: 3030.57
Early stopping at iteration 587, Best Score: 2832.77
Early stopping at iteration 897, Best Score: 3022.10
Early stopping at iteration 699, Best Score: 3016.29
Early stopping at iteration 547, Best Score: 2811.59
Early stopping at iteration 997, Best Score: 3027.40
Early stopping at iteration 1124, Best Score: 3017.55
Early stopping at iteration 566, Best Score: 2863.93
Early stopping at iteration 597, Best Score: 2874.71
```

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Early stopping at iteration 675, Best Score: 2968.42
Early stopping at iteration 631, Best Score: 2954.68
Early stopping at iteration 575, Best Score: 2909.14
Early stopping at iteration 789, Best Score: 3035.16
Early stopping at iteration 806, Best Score: 3016.49
Early stopping at iteration 626, Best Score: 2832.27
Early stopping at iteration 726, Best Score: 3007.09
Early stopping at iteration 751, Best Score: 3030.55
Early stopping at iteration 670, Best Score: 2959.77
Early stopping at iteration 514, Best Score: 2716.72
Early stopping at iteration 582, Best Score: 2903.46
Early stopping at iteration 733, Best Score: 2996.84
Early stopping at iteration 607, Best Score: 2920.75
Early stopping at iteration 659, Best Score: 2954.51
Early stopping at iteration 703, Best Score: 2875.68
Early stopping at iteration 695, Best Score: 2986.54
Early stopping at iteration 670, Best Score: 2946.24
Early stopping at iteration 613, Best Score: 2854.29
Early stopping at iteration 704, Best Score: 3000.91
  Deck Trial 200/250
Early stopping at iteration 595, Best Score: 2873.55
Early stopping at iteration 711, Best Score: 2942.89
Early stopping at iteration 675, Best Score: 2992.38
Early stopping at iteration 1043, Best Score: 2969.55
Early stopping at iteration 947, Best Score: 3038.89
Early stopping at iteration 1175, Best Score: 3019.06
Early stopping at iteration 566, Best Score: 2904.10
Early stopping at iteration 581, Best Score: 2885.48
Early stopping at iteration 568, Best Score: 2898.80
Early stopping at iteration 686, Best Score: 2964.30
Early stopping at iteration 554, Best Score: 2827.72
Early stopping at iteration 589, Best Score: 2862.18
Early stopping at iteration 501, Best Score: 2735.38
Early stopping at iteration 904, Best Score: 3036.87
Early stopping at iteration 695, Best Score: 2951.10
Early stopping at iteration 577, Best Score: 2841.26
Early stopping at iteration 708, Best Score: 2965.27
Early stopping at iteration 587, Best Score: 2881.63
Early stopping at iteration 928, Best Score: 2987.44
Early stopping at iteration 723, Best Score: 2999.19
Early stopping at iteration 563, Best Score: 2842.88
Early stopping at iteration 566, Best Score: 2845.93
Early stopping at iteration 581, Best Score: 2912.67
Early stopping at iteration 513, Best Score: 2743.11
Early stopping at iteration 726, Best Score: 2952.69
Early stopping at iteration 655, Best Score: 2976.75
Early stopping at iteration 649, Best Score: 2926.75
Early stopping at iteration 557, Best Score: 2835.77
Early stopping at iteration 792, Best Score: 3037.74
Early stopping at iteration 680, Best Score: 2933.26
Early stopping at iteration 656, Best Score: 2943.90
Early stopping at iteration 815, Best Score: 3038.90
Early stopping at iteration 629, Best Score: 2979.81
Early stopping at iteration 898, Best Score: 3003.82
Early stopping at iteration 827, Best Score: 3016.49
Early stopping at iteration 721, Best Score: 3005.86
Early stopping at iteration 696, Best Score: 2953.02
Early stopping at iteration 755, Best Score: 3010.07
Early stopping at iteration 833, Best Score: 3012.13
Early stopping at iteration 528, Best Score: 2784.98
```

```
Early stopping at iteration 671, Best Score: 2818.44
Early stopping at iteration 878, Best Score: 3011.54
Early stopping at iteration 571, Best Score: 2868.80
Early stopping at iteration 582, Best Score: 2848.78
Early stopping at iteration 652, Best Score: 2941.35
Early stopping at iteration 1045, Best Score: 2993.19
Early stopping at iteration 688, Best Score: 3011.64
Early stopping at iteration 715, Best Score: 2990.87
Early stopping at iteration 629, Best Score: 2954.77
Early stopping at iteration 768, Best Score: 2967.14
Early stopping at iteration 617, Best Score: 2930.00
GNN Trial 9 completed with 250 decks.

GNN Trial 10/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 45.1087, Synergy Loss: 2.1701, Total: 49.4489
Epoch 20/300 - Node Loss: 6.4071, Synergy Loss: 2.0812, Total: 10.5696
Epoch 30/300 - Node Loss: 1.9727, Synergy Loss: 2.0237, Total: 6.0200
Epoch 40/300 - Node Loss: 1.0543, Synergy Loss: 1.9373, Total: 4.9289
Epoch 50/300 - Node Loss: 1.0038, Synergy Loss: 1.8426, Total: 4.6890
Epoch 60/300 - Node Loss: 1.0039, Synergy Loss: 1.7413, Total: 4.4865
Epoch 70/300 - Node Loss: 1.0072, Synergy Loss: 1.6320, Total: 4.2713
Epoch 80/300 - Node Loss: 1.0009, Synergy Loss: 1.5478, Total: 4.0964
Epoch 90/300 - Node Loss: 1.0023, Synergy Loss: 1.5328, Total: 4.0678
Epoch 100/300 - Node Loss: 1.0040, Synergy Loss: 1.5194, Total: 4.0428
Epoch 110/300 - Node Loss: 1.0035, Synergy Loss: 1.4975, Total: 3.9986
Epoch 120/300 - Node Loss: 1.0052, Synergy Loss: 1.4711, Total: 3.9474
Epoch 130/300 - Node Loss: 1.0276, Synergy Loss: 1.3895, Total: 3.8067
Epoch 140/300 - Node Loss: 1.0487, Synergy Loss: 1.2362, Total: 3.5210
Epoch 150/300 - Node Loss: 1.0532, Synergy Loss: 1.1750, Total: 3.4031
Epoch 160/300 - Node Loss: 1.0545, Synergy Loss: 1.1253, Total: 3.3050
Epoch 170/300 - Node Loss: 1.1780, Synergy Loss: 1.0308, Total: 3.2397
Epoch 180/300 - Node Loss: 1.1055, Synergy Loss: 1.0243, Total: 3.1540
Epoch 190/300 - Node Loss: 1.2004, Synergy Loss: 0.8721, Total: 2.9446
Epoch 200/300 - Node Loss: 1.2161, Synergy Loss: 0.7734, Total: 2.7628
Epoch 210/300 - Node Loss: 1.2327, Synergy Loss: 0.6199, Total: 2.4725
Epoch 220/300 - Node Loss: 1.2765, Synergy Loss: 0.5953, Total: 2.4672
Epoch 230/300 - Node Loss: 1.2523, Synergy Loss: 0.5343, Total: 2.3210
Epoch 240/300 - Node Loss: 1.2873, Synergy Loss: 0.4941, Total: 2.2755
Epoch 250/300 - Node Loss: 1.2482, Synergy Loss: 0.3984, Total: 2.0449
Epoch 260/300 - Node Loss: 1.1858, Synergy Loss: 0.3867, Total: 1.9591
Epoch 270/300 - Node Loss: 1.1703, Synergy Loss: 0.3781, Total: 1.9266
Epoch 280/300 - Node Loss: 1.1640, Synergy Loss: 0.3134, Total: 1.7908
Epoch 290/300 - Node Loss: 1.1411, Synergy Loss: 0.3297, Total: 1.8006
Epoch 300/300 - Node Loss: 1.1108, Synergy Loss: 0.2992, Total: 1.7092
Existing model archived to: 20250310_194628_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 783, Best Score: 3025.37
Early stopping at iteration 549, Best Score: 2837.25
Early stopping at iteration 774, Best Score: 3084.05
Early stopping at iteration 642, Best Score: 2970.76
Early stopping at iteration 651, Best Score: 2943.97
Early stopping at iteration 676, Best Score: 3050.70
Early stopping at iteration 697, Best Score: 3092.91
Early stopping at iteration 746, Best Score: 3047.57
Early stopping at iteration 754, Best Score: 3097.03
Early stopping at iteration 662, Best Score: 3012.64
Early stopping at iteration 514, Best Score: 2795.29
Early stopping at iteration 793, Best Score: 3086.06
Early stopping at iteration 572, Best Score: 3010.09
```

```
Early stopping at iteration 672, Best Score: 3087.02
Early stopping at iteration 779, Best Score: 3081.68
Early stopping at iteration 766, Best Score: 3098.14
Early stopping at iteration 662, Best Score: 3061.82
Early stopping at iteration 630, Best Score: 2901.36
Early stopping at iteration 788, Best Score: 3086.52
Early stopping at iteration 578, Best Score: 2859.15
Early stopping at iteration 820, Best Score: 3068.23
Early stopping at iteration 566, Best Score: 2911.19
Early stopping at iteration 686, Best Score: 3034.31
Early stopping at iteration 841, Best Score: 3109.79
Early stopping at iteration 528, Best Score: 2785.30
Early stopping at iteration 585, Best Score: 2979.46
Early stopping at iteration 558, Best Score: 2888.08
Early stopping at iteration 548, Best Score: 2889.37
Early stopping at iteration 805, Best Score: 3060.16
Early stopping at iteration 588, Best Score: 2934.07
Early stopping at iteration 709, Best Score: 3073.73
Early stopping at iteration 747, Best Score: 3108.10
Early stopping at iteration 716, Best Score: 2990.74
Early stopping at iteration 816, Best Score: 3068.96
Early stopping at iteration 1169, Best Score: 3049.22
Early stopping at iteration 762, Best Score: 3077.79
Early stopping at iteration 758, Best Score: 3097.85
Early stopping at iteration 572, Best Score: 2912.12
Early stopping at iteration 595, Best Score: 2973.72
Early stopping at iteration 748, Best Score: 3086.46
Early stopping at iteration 602, Best Score: 3006.25
Early stopping at iteration 836, Best Score: 3043.04
Early stopping at iteration 602, Best Score: 2912.08
Early stopping at iteration 651, Best Score: 2985.93
Early stopping at iteration 891, Best Score: 3088.91
Early stopping at iteration 578, Best Score: 2973.78
Early stopping at iteration 736, Best Score: 3108.09
Early stopping at iteration 660, Best Score: 3000.27
Early stopping at iteration 660, Best Score: 2958.97
Early stopping at iteration 736, Best Score: 3000.13
Early stopping at iteration 565, Best Score: 2817.52
Early stopping at iteration 926, Best Score: 3082.38
Early stopping at iteration 563, Best Score: 2860.24
Early stopping at iteration 880, Best Score: 3092.84
Early stopping at iteration 757, Best Score: 3083.81
Early stopping at iteration 793, Best Score: 3084.73
Early stopping at iteration 698, Best Score: 3075.19
Early stopping at iteration 611, Best Score: 2839.43
Early stopping at iteration 660, Best Score: 3071.30
Early stopping at iteration 511, Best Score: 2772.56
Early stopping at iteration 532, Best Score: 2801.88
Early stopping at iteration 763, Best Score: 3102.14
Early stopping at iteration 622, Best Score: 3039.76
Early stopping at iteration 1120, Best Score: 3075.19
Early stopping at iteration 558, Best Score: 2946.49
Early stopping at iteration 666, Best Score: 3026.48
Early stopping at iteration 515, Best Score: 2774.13
Early stopping at iteration 549, Best Score: 2891.01
Early stopping at iteration 705, Best Score: 3053.02
Early stopping at iteration 554, Best Score: 2855.13
Early stopping at iteration 500, Best Score: 2747.21
Early stopping at iteration 684, Best Score: 3059.25
Early stopping at iteration 669, Best Score: 3020.71
```

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Early stopping at iteration 600, Best Score: 2926.93
Early stopping at iteration 632, Best Score: 2986.56
Early stopping at iteration 697, Best Score: 3063.50
Early stopping at iteration 574, Best Score: 2947.40
Early stopping at iteration 642, Best Score: 2996.87
Early stopping at iteration 582, Best Score: 2928.47
Early stopping at iteration 581, Best Score: 2909.83
Early stopping at iteration 708, Best Score: 3073.80
Early stopping at iteration 681, Best Score: 3029.64
Early stopping at iteration 604, Best Score: 2967.28
Early stopping at iteration 1207, Best Score: 3086.27
Early stopping at iteration 614, Best Score: 2984.93
Early stopping at iteration 711, Best Score: 3038.80
Early stopping at iteration 542, Best Score: 2779.91
Early stopping at iteration 578, Best Score: 2955.90
Early stopping at iteration 1220, Best Score: 3110.62
Early stopping at iteration 651, Best Score: 3007.05
Early stopping at iteration 659, Best Score: 2994.21
Early stopping at iteration 688, Best Score: 3085.61
Early stopping at iteration 827, Best Score: 3095.44
Early stopping at iteration 723, Best Score: 3035.05
Early stopping at iteration 701, Best Score: 3051.97
Early stopping at iteration 650, Best Score: 2992.29
Early stopping at iteration 719, Best Score: 3084.27
Early stopping at iteration 793, Best Score: 3110.67
Early stopping at iteration 559, Best Score: 2882.69
  Deck Trial 100/250
Early stopping at iteration 643, Best Score: 3025.98
Early stopping at iteration 805, Best Score: 3009.90
Early stopping at iteration 683, Best Score: 3089.04
Early stopping at iteration 764, Best Score: 3031.38
Early stopping at iteration 701, Best Score: 3086.91
Early stopping at iteration 570, Best Score: 2751.30
Early stopping at iteration 948, Best Score: 3108.22
Early stopping at iteration 648, Best Score: 3012.90
Early stopping at iteration 617, Best Score: 2959.90
Early stopping at iteration 781, Best Score: 3057.15
Early stopping at iteration 837, Best Score: 3002.87
Early stopping at iteration 651, Best Score: 2947.01
Early stopping at iteration 548, Best Score: 2842.25
Early stopping at iteration 591, Best Score: 2897.00
Early stopping at iteration 720, Best Score: 3083.04
Early stopping at iteration 595, Best Score: 2995.32
Early stopping at iteration 556, Best Score: 2888.05
Early stopping at iteration 621, Best Score: 2987.02
Early stopping at iteration 760, Best Score: 3066.31
Early stopping at iteration 520, Best Score: 2822.37
Early stopping at iteration 631, Best Score: 3069.92
Early stopping at iteration 908, Best Score: 3086.98
Early stopping at iteration 581, Best Score: 2925.30
Early stopping at iteration 549, Best Score: 2917.52
Early stopping at iteration 593, Best Score: 2943.69
Early stopping at iteration 814, Best Score: 3077.95
Early stopping at iteration 726, Best Score: 3039.36
Early stopping at iteration 664, Best Score: 3056.04
Early stopping at iteration 514, Best Score: 2766.30
Early stopping at iteration 551, Best Score: 2929.32
Early stopping at iteration 653, Best Score: 3019.40
Early stopping at iteration 637, Best Score: 2969.92
Early stopping at iteration 842, Best Score: 3071.72
```

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Early stopping at iteration 670, Best Score: 3045.35
Early stopping at iteration 699, Best Score: 3068.52
Early stopping at iteration 777, Best Score: 3060.60
Early stopping at iteration 604, Best Score: 2921.95
Early stopping at iteration 799, Best Score: 3078.87
Early stopping at iteration 575, Best Score: 2975.36
Early stopping at iteration 664, Best Score: 2993.33
Early stopping at iteration 610, Best Score: 2942.97
Early stopping at iteration 529, Best Score: 2809.51
Early stopping at iteration 986, Best Score: 2984.97
Early stopping at iteration 956, Best Score: 3100.15
Early stopping at iteration 637, Best Score: 2963.83
Early stopping at iteration 570, Best Score: 2894.04
Early stopping at iteration 673, Best Score: 3074.95
Early stopping at iteration 640, Best Score: 3017.79
Early stopping at iteration 633, Best Score: 3005.29
Early stopping at iteration 793, Best Score: 3102.80
Early stopping at iteration 737, Best Score: 3076.59
Early stopping at iteration 1313, Best Score: 3063.71
Early stopping at iteration 522, Best Score: 2790.22
Early stopping at iteration 541, Best Score: 2862.27
Early stopping at iteration 706, Best Score: 3081.45
Early stopping at iteration 926, Best Score: 3082.12
Early stopping at iteration 799, Best Score: 3052.16
Early stopping at iteration 943, Best Score: 3096.74
Early stopping at iteration 761, Best Score: 3058.24
Early stopping at iteration 511, Best Score: 2826.83
Early stopping at iteration 706, Best Score: 3056.94
Early stopping at iteration 626, Best Score: 3021.04
Early stopping at iteration 726, Best Score: 3069.05
Early stopping at iteration 531, Best Score: 2842.88
Early stopping at iteration 753, Best Score: 3051.19
Early stopping at iteration 709, Best Score: 3090.92
Early stopping at iteration 621, Best Score: 2975.49
Early stopping at iteration 525, Best Score: 2841.34
Early stopping at iteration 619, Best Score: 2885.65
Early stopping at iteration 688, Best Score: 3024.00
Early stopping at iteration 541, Best Score: 2793.86
Early stopping at iteration 640, Best Score: 3026.03
Early stopping at iteration 659, Best Score: 3047.90
Early stopping at iteration 577, Best Score: 2920.93
Early stopping at iteration 558, Best Score: 2898.60
Early stopping at iteration 598, Best Score: 2916.91
Early stopping at iteration 848, Best Score: 3031.95
Early stopping at iteration 614, Best Score: 2992.69
Early stopping at iteration 545, Best Score: 2870.99
Early stopping at iteration 738, Best Score: 3065.78
Early stopping at iteration 771, Best Score: 3079.67
Early stopping at iteration 680, Best Score: 2983.78
Early stopping at iteration 615, Best Score: 3014.01
Early stopping at iteration 823, Best Score: 3087.60
Early stopping at iteration 559, Best Score: 2955.18
Early stopping at iteration 951, Best Score: 3110.67
Early stopping at iteration 640, Best Score: 2993.88
Early stopping at iteration 790, Best Score: 3070.89
Early stopping at iteration 631, Best Score: 2966.12
Early stopping at iteration 864, Best Score: 3034.19
Early stopping at iteration 678, Best Score: 2999.04
Early stopping at iteration 513, Best Score: 2780.80
Early stopping at iteration 613, Best Score: 3001.26
```

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Early stopping at iteration 846, Best Score: 3074.44
Early stopping at iteration 594, Best Score: 2892.15
Early stopping at iteration 578, Best Score: 2968.40
Early stopping at iteration 688, Best Score: 3074.00
Early stopping at iteration 599, Best Score: 2930.87
Early stopping at iteration 639, Best Score: 3009.30
Early stopping at iteration 1162, Best Score: 3087.62
  Deck Trial 200/250
Early stopping at iteration 603, Best Score: 2930.50
Early stopping at iteration 802, Best Score: 3104.80
Early stopping at iteration 741, Best Score: 3054.63
Early stopping at iteration 864, Best Score: 3084.61
Early stopping at iteration 687, Best Score: 3028.84
Early stopping at iteration 1065, Best Score: 3063.84
Early stopping at iteration 572, Best Score: 2953.31
Early stopping at iteration 760, Best Score: 3081.73
Early stopping at iteration 655, Best Score: 2943.09
Early stopping at iteration 671, Best Score: 2903.33
Early stopping at iteration 1128, Best Score: 3075.32
Early stopping at iteration 569, Best Score: 2949.18
Early stopping at iteration 512, Best Score: 2749.01
Early stopping at iteration 842, Best Score: 3051.24
Early stopping at iteration 506, Best Score: 2772.42
Early stopping at iteration 807, Best Score: 3041.99
Early stopping at iteration 568, Best Score: 2911.27
Early stopping at iteration 666, Best Score: 2976.02
Early stopping at iteration 752, Best Score: 3065.52
Early stopping at iteration 612, Best Score: 2937.26
Early stopping at iteration 734, Best Score: 3015.80
Early stopping at iteration 580, Best Score: 2926.40
Early stopping at iteration 743, Best Score: 3071.26
Early stopping at iteration 901, Best Score: 3081.37
Early stopping at iteration 648, Best Score: 2999.10
Early stopping at iteration 632, Best Score: 3028.08
Early stopping at iteration 605, Best Score: 2939.28
Early stopping at iteration 530, Best Score: 2867.89
Early stopping at iteration 590, Best Score: 2930.00
Early stopping at iteration 872, Best Score: 3103.70
Early stopping at iteration 849, Best Score: 3068.54
Early stopping at iteration 825, Best Score: 3105.79
Early stopping at iteration 781, Best Score: 3084.90
Early stopping at iteration 809, Best Score: 3090.20
Early stopping at iteration 769, Best Score: 3053.56
Early stopping at iteration 742, Best Score: 3097.11
Early stopping at iteration 686, Best Score: 3060.72
Early stopping at iteration 614, Best Score: 3000.14
Early stopping at iteration 814, Best Score: 3104.86
Early stopping at iteration 519, Best Score: 2839.40
Early stopping at iteration 566, Best Score: 2898.43
Early stopping at iteration 649, Best Score: 2995.81
Early stopping at iteration 650, Best Score: 2996.94
Early stopping at iteration 598, Best Score: 2966.93
Early stopping at iteration 589, Best Score: 2986.42
Early stopping at iteration 514, Best Score: 2802.16
Early stopping at iteration 569, Best Score: 2881.25
Early stopping at iteration 684, Best Score: 3077.52
Early stopping at iteration 538, Best Score: 2824.58
Early stopping at iteration 739, Best Score: 3068.51
Early stopping at iteration 672, Best Score: 3076.77
GNN Trial 10 completed with 250 decks.
```

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GNN Trial 11/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 11.4440, Synergy Loss: 2.0586, Total: 15.5613
Epoch 20/300 - Node Loss: 2.0823, Synergy Loss: 1.9287, Total: 5.9396
Epoch 30/300 - Node Loss: 1.1211, Synergy Loss: 1.8055, Total: 4.7321
Epoch 40/300 - Node Loss: 1.0154, Synergy Loss: 1.7089, Total: 4.4331
Epoch 50/300 - Node Loss: 1.0057, Synergy Loss: 1.6288, Total: 4.2633
Epoch 60/300 - Node Loss: 1.0051, Synergy Loss: 1.5645, Total: 4.1341
Epoch 70/300 - Node Loss: 1.0111, Synergy Loss: 1.5205, Total: 4.0521
Epoch 80/300 - Node Loss: 1.0441, Synergy Loss: 1.4851, Total: 4.0144
Epoch 90/300 - Node Loss: 1.0137, Synergy Loss: 1.4448, Total: 3.9034
Epoch 100/300 - Node Loss: 1.1009, Synergy Loss: 1.2566, Total: 3.6140
Epoch 110/300 - Node Loss: 1.1647, Synergy Loss: 0.9723, Total: 3.1092
Epoch 120/300 - Node Loss: 1.1772, Synergy Loss: 0.7660, Total: 2.7092
Epoch 130/300 - Node Loss: 1.2313, Synergy Loss: 0.6786, Total: 2.5885
Epoch 140/300 - Node Loss: 1.2321, Synergy Loss: 0.5958, Total: 2.4237
Epoch 150/300 - Node Loss: 1.2087, Synergy Loss: 0.5403, Total: 2.2894
Epoch 160/300 - Node Loss: 1.1800, Synergy Loss: 0.4997, Total: 2.1793
Epoch 170/300 - Node Loss: 1.1806, Synergy Loss: 0.4731, Total: 2.1268
Epoch 180/300 - Node Loss: 1.1849, Synergy Loss: 0.4298, Total: 2.0445
Epoch 190/300 - Node Loss: 1.1504, Synergy Loss: 0.4035, Total: 1.9574
Epoch 200/300 - Node Loss: 1.1130, Synergy Loss: 0.3660, Total: 1.8450
Epoch 210/300 - Node Loss: 1.1184, Synergy Loss: 0.3190, Total: 1.7564
Epoch 220/300 - Node Loss: 1.1257, Synergy Loss: 0.3090, Total: 1.7436
Epoch 230/300 - Node Loss: 1.1050, Synergy Loss: 0.2836, Total: 1.6722
Epoch 240/300 - Node Loss: 1.1175, Synergy Loss: 0.2710, Total: 1.6596
Epoch 250/300 - Node Loss: 1.1254, Synergy Loss: 0.2490, Total: 1.6235
Epoch 260/300 - Node Loss: 1.0917, Synergy Loss: 0.2407, Total: 1.5730
Epoch 270/300 - Node Loss: 1.0776, Synergy Loss: 0.2287, Total: 1.5349
Epoch 280/300 - Node Loss: 1.0765, Synergy Loss: 0.2210, Total: 1.5185
Epoch 290/300 - Node Loss: 1.0606, Synergy Loss: 0.2067, Total: 1.4740
Epoch 300/300 - Node Loss: 1.0589, Synergy Loss: 0.2027, Total: 1.4644
Existing model archived to: 20250310_195245_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 933, Best Score: 3209.05
Early stopping at iteration 810, Best Score: 2773.04
Early stopping at iteration 665, Best Score: 2834.97
Early stopping at iteration 1027, Best Score: 3154.95
Early stopping at iteration 1135, Best Score: 3197.35
Early stopping at iteration 988, Best Score: 3165.54
Early stopping at iteration 960, Best Score: 3188.07
Early stopping at iteration 589, Best Score: 2386.79
Early stopping at iteration 633, Best Score: 2842.37
Early stopping at iteration 693, Best Score: 3007.62
Early stopping at iteration 802, Best Score: 3145.25
Early stopping at iteration 1029, Best Score: 2972.08
Early stopping at iteration 1277, Best Score: 3155.56
Early stopping at iteration 514, Best Score: 1953.77
Early stopping at iteration 1088, Best Score: 3222.29
Early stopping at iteration 753, Best Score: 3157.69
Early stopping at iteration 673, Best Score: 2822.06
Early stopping at iteration 1078, Best Score: 3162.64
Early stopping at iteration 616, Best Score: 2738.04
Early stopping at iteration 677, Best Score: 2787.77
Early stopping at iteration 894, Best Score: 3156.74
Early stopping at iteration 813, Best Score: 3135.72
Early stopping at iteration 1003, Best Score: 3024.32
Early stopping at iteration 953, Best Score: 3176.30
Early stopping at iteration 808, Best Score: 3052.05
```

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Early stopping at iteration 829, Best Score: 3068.15
Early stopping at iteration 985, Best Score: 2855.61
Early stopping at iteration 1069, Best Score: 3186.82
Early stopping at iteration 771, Best Score: 3074.82
Early stopping at iteration 1109, Best Score: 2679.97
Early stopping at iteration 630, Best Score: 2625.45
Early stopping at iteration 1177, Best Score: 3160.09
Early stopping at iteration 649, Best Score: 2706.34
Early stopping at iteration 919, Best Score: 3164.54
Early stopping at iteration 641, Best Score: 2865.36
Early stopping at iteration 999, Best Score: 3021.17
Early stopping at iteration 942, Best Score: 2898.52
Early stopping at iteration 806, Best Score: 3124.53
Early stopping at iteration 1022, Best Score: 3216.30
Early stopping at iteration 814, Best Score: 2971.79
Early stopping at iteration 738, Best Score: 2853.35
Early stopping at iteration 837, Best Score: 3171.78
Early stopping at iteration 719, Best Score: 2926.49
Early stopping at iteration 703, Best Score: 2982.38
Early stopping at iteration 579, Best Score: 2430.38
Early stopping at iteration 710, Best Score: 2740.77
Early stopping at iteration 580, Best Score: 2674.95
Early stopping at iteration 585, Best Score: 2444.34
Early stopping at iteration 1051, Best Score: 3196.36
Early stopping at iteration 843, Best Score: 2862.29
Early stopping at iteration 696, Best Score: 2598.45
Early stopping at iteration 670, Best Score: 2974.99
Early stopping at iteration 525, Best Score: 2053.57
Early stopping at iteration 605, Best Score: 2633.23
Early stopping at iteration 705, Best Score: 3043.87
Early stopping at iteration 878, Best Score: 2876.79
Early stopping at iteration 807, Best Score: 2887.99
Early stopping at iteration 646, Best Score: 2785.02
Early stopping at iteration 749, Best Score: 2990.09
Early stopping at iteration 982, Best Score: 3135.63
Early stopping at iteration 607, Best Score: 2667.40
Early stopping at iteration 889, Best Score: 3015.69
Early stopping at iteration 1314, Best Score: 3190.62
Early stopping at iteration 894, Best Score: 2925.44
Early stopping at iteration 552, Best Score: 2147.35
Early stopping at iteration 997, Best Score: 3187.57
Early stopping at iteration 606, Best Score: 2515.20
Early stopping at iteration 761, Best Score: 3140.31
Early stopping at iteration 769, Best Score: 3102.95
Early stopping at iteration 899, Best Score: 3199.54
Early stopping at iteration 758, Best Score: 2745.29
Early stopping at iteration 984, Best Score: 3169.56
Early stopping at iteration 970, Best Score: 2612.22
Early stopping at iteration 690, Best Score: 2914.37
Early stopping at iteration 725, Best Score: 2873.94
Early stopping at iteration 753, Best Score: 3064.92
Early stopping at iteration 847, Best Score: 3163.91
Early stopping at iteration 723, Best Score: 2784.17
Early stopping at iteration 938, Best Score: 3120.07
Early stopping at iteration 898, Best Score: 3126.67
Early stopping at iteration 727, Best Score: 2841.04
Early stopping at iteration 534, Best Score: 2039.27
Early stopping at iteration 791, Best Score: 3110.87
Early stopping at iteration 695, Best Score: 2759.44
Early stopping at iteration 660, Best Score: 2780.82
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Early stopping at iteration 594, Best Score: 2714.75
Early stopping at iteration 897, Best Score: 3167.79
Early stopping at iteration 692, Best Score: 2935.79
Early stopping at iteration 898, Best Score: 3197.30
Early stopping at iteration 1093, Best Score: 3173.32
Early stopping at iteration 659, Best Score: 2926.34
Early stopping at iteration 806, Best Score: 3153.29
Early stopping at iteration 1083, Best Score: 2646.45
Early stopping at iteration 731, Best Score: 2995.62
Early stopping at iteration 1109, Best Score: 3183.32
Early stopping at iteration 585, Best Score: 2701.69
Early stopping at iteration 707, Best Score: 3021.56
Early stopping at iteration 563, Best Score: 2292.55
Early stopping at iteration 728, Best Score: 3106.07
  Deck Trial 100/250
Early stopping at iteration 597, Best Score: 2550.79
Early stopping at iteration 893, Best Score: 3195.44
Early stopping at iteration 558, Best Score: 2422.28
Early stopping at iteration 697, Best Score: 2957.94
Early stopping at iteration 652, Best Score: 2353.78
Early stopping at iteration 626, Best Score: 2424.60
Early stopping at iteration 1036, Best Score: 3166.06
Early stopping at iteration 813, Best Score: 3036.21
Early stopping at iteration 1000, Best Score: 3194.79
Early stopping at iteration 1105, Best Score: 3171.56
Early stopping at iteration 632, Best Score: 2703.62
Early stopping at iteration 660, Best Score: 2655.00
Early stopping at iteration 786, Best Score: 3085.34
Early stopping at iteration 807, Best Score: 3112.53
Early stopping at iteration 895, Best Score: 3144.12
Early stopping at iteration 1138, Best Score: 3196.29
Early stopping at iteration 636, Best Score: 2619.79
Early stopping at iteration 824, Best Score: 3149.37
Early stopping at iteration 638, Best Score: 2729.94
Early stopping at iteration 899, Best Score: 3194.07
Early stopping at iteration 882, Best Score: 3122.96
Early stopping at iteration 907, Best Score: 3199.57
Early stopping at iteration 712, Best Score: 3105.25
Early stopping at iteration 752, Best Score: 2929.77
Early stopping at iteration 636, Best Score: 3047.64
Early stopping at iteration 698, Best Score: 3047.14
Early stopping at iteration 1011, Best Score: 3193.51
Early stopping at iteration 666, Best Score: 2785.41
Early stopping at iteration 817, Best Score: 3109.77
Early stopping at iteration 867, Best Score: 3169.14
Early stopping at iteration 559, Best Score: 2488.53
Early stopping at iteration 770, Best Score: 2878.88
Early stopping at iteration 915, Best Score: 3186.57
Early stopping at iteration 1622, Best Score: 3155.05
Early stopping at iteration 701, Best Score: 3004.42
Early stopping at iteration 737, Best Score: 3088.32
Early stopping at iteration 840, Best Score: 3136.76
Early stopping at iteration 742, Best Score: 3149.95
Early stopping at iteration 520, Best Score: 2040.00
Early stopping at iteration 625, Best Score: 2654.86
Early stopping at iteration 787, Best Score: 3014.13
Early stopping at iteration 579, Best Score: 2578.56
Early stopping at iteration 593, Best Score: 2395.25
Early stopping at iteration 574, Best Score: 2431.54
Early stopping at iteration 989, Best Score: 3218.04
```

```
Early stopping at iteration 589, Best Score: 2522.77
Early stopping at iteration 818, Best Score: 3094.12
Early stopping at iteration 749, Best Score: 2940.96
Early stopping at iteration 579, Best Score: 2342.49
Early stopping at iteration 768, Best Score: 3043.95
Early stopping at iteration 908, Best Score: 3170.81
Early stopping at iteration 584, Best Score: 2465.05
Early stopping at iteration 741, Best Score: 2914.72
Early stopping at iteration 1291, Best Score: 3175.81
Early stopping at iteration 981, Best Score: 3200.82
Early stopping at iteration 745, Best Score: 3091.72
Early stopping at iteration 940, Best Score: 3015.37
Early stopping at iteration 1156, Best Score: 2891.30
Early stopping at iteration 806, Best Score: 3120.83
Early stopping at iteration 1001, Best Score: 3005.03
Early stopping at iteration 846, Best Score: 3062.62
Early stopping at iteration 748, Best Score: 3124.30
Early stopping at iteration 530, Best Score: 1953.64
Early stopping at iteration 818, Best Score: 3067.40
Early stopping at iteration 1283, Best Score: 3164.25
Early stopping at iteration 1319, Best Score: 3212.07
Early stopping at iteration 604, Best Score: 2461.84
Early stopping at iteration 797, Best Score: 3091.00
Early stopping at iteration 1055, Best Score: 3196.09
Early stopping at iteration 659, Best Score: 2698.15
Early stopping at iteration 950, Best Score: 3135.65
Early stopping at iteration 1002, Best Score: 3194.32
Early stopping at iteration 804, Best Score: 3150.74
Early stopping at iteration 639, Best Score: 2634.97
Early stopping at iteration 929, Best Score: 3005.02
Early stopping at iteration 879, Best Score: 3107.10
Early stopping at iteration 691, Best Score: 2931.23
Early stopping at iteration 696, Best Score: 2977.99
Early stopping at iteration 650, Best Score: 2837.17
Early stopping at iteration 814, Best Score: 3148.49
Early stopping at iteration 1424, Best Score: 3222.32
Early stopping at iteration 595, Best Score: 2395.29
Early stopping at iteration 708, Best Score: 2920.49
Early stopping at iteration 961, Best Score: 3074.50
Early stopping at iteration 645, Best Score: 2590.42
Early stopping at iteration 648, Best Score: 2591.47
Early stopping at iteration 766, Best Score: 3065.43
Early stopping at iteration 1178, Best Score: 3106.00
Early stopping at iteration 623, Best Score: 2781.83
Early stopping at iteration 832, Best Score: 2986.44
Early stopping at iteration 651, Best Score: 2778.56
Early stopping at iteration 619, Best Score: 2375.45
Early stopping at iteration 891, Best Score: 3070.15
Early stopping at iteration 1163, Best Score: 3165.42
Early stopping at iteration 755, Best Score: 3099.56
Early stopping at iteration 619, Best Score: 2702.76
Early stopping at iteration 941, Best Score: 3022.02
Early stopping at iteration 726, Best Score: 3096.56
Early stopping at iteration 827, Best Score: 3189.81
Early stopping at iteration 700, Best Score: 2974.62
  Deck Trial 200/250
Early stopping at iteration 570, Best Score: 2409.83
Early stopping at iteration 1041, Best Score: 3181.56
Early stopping at iteration 593, Best Score: 2694.68
Early stopping at iteration 953, Best Score: 3030.42
```

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Early stopping at iteration 698, Best Score: 2822.47
Early stopping at iteration 758, Best Score: 2987.36
Early stopping at iteration 607, Best Score: 2528.78
Early stopping at iteration 1205, Best Score: 3198.19
Early stopping at iteration 826, Best Score: 3056.68
Early stopping at iteration 615, Best Score: 2758.91
Early stopping at iteration 688, Best Score: 2667.13
Early stopping at iteration 710, Best Score: 2309.46
Early stopping at iteration 805, Best Score: 2807.62
Early stopping at iteration 949, Best Score: 3194.70
Early stopping at iteration 860, Best Score: 3120.16
Early stopping at iteration 1127, Best Score: 3190.22
Early stopping at iteration 641, Best Score: 2889.64
Early stopping at iteration 979, Best Score: 3198.32
Early stopping at iteration 712, Best Score: 2851.32
Early stopping at iteration 951, Best Score: 3087.38
Early stopping at iteration 636, Best Score: 2637.90
Early stopping at iteration 630, Best Score: 2516.66
Early stopping at iteration 844, Best Score: 3113.44
Early stopping at iteration 761, Best Score: 3001.60
Early stopping at iteration 569, Best Score: 2518.36
Early stopping at iteration 629, Best Score: 2812.49
Early stopping at iteration 809, Best Score: 3188.57
Early stopping at iteration 720, Best Score: 3029.96
Early stopping at iteration 803, Best Score: 3162.05
Early stopping at iteration 892, Best Score: 2959.92
Early stopping at iteration 584, Best Score: 2295.66
Early stopping at iteration 920, Best Score: 3152.81
Early stopping at iteration 1280, Best Score: 3031.24
Early stopping at iteration 812, Best Score: 3205.07
Early stopping at iteration 757, Best Score: 3100.54
Early stopping at iteration 654, Best Score: 2912.42
Early stopping at iteration 861, Best Score: 2712.80
Early stopping at iteration 559, Best Score: 2166.93
Early stopping at iteration 980, Best Score: 2949.42
Early stopping at iteration 897, Best Score: 3200.32
Early stopping at iteration 577, Best Score: 2150.16
Early stopping at iteration 633, Best Score: 2861.50
Early stopping at iteration 681, Best Score: 3003.08
Early stopping at iteration 775, Best Score: 3161.37
Early stopping at iteration 1289, Best Score: 3208.07
Early stopping at iteration 872, Best Score: 3171.54
Early stopping at iteration 671, Best Score: 2873.85
Early stopping at iteration 618, Best Score: 2584.08
Early stopping at iteration 1252, Best Score: 3214.55
Early stopping at iteration 992, Best Score: 3064.59
Early stopping at iteration 1001, Best Score: 3092.62
GNN Trial 11 completed with 250 decks.

GNN Trial 12/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 19.7237, Synergy Loss: 2.4747, Total: 24.6731
Epoch 20/300 - Node Loss: 3.8479, Synergy Loss: 2.2899, Total: 8.4276
Epoch 30/300 - Node Loss: 1.5841, Synergy Loss: 2.1783, Total: 5.9407
Epoch 40/300 - Node Loss: 1.0525, Synergy Loss: 2.0616, Total: 5.1756
Epoch 50/300 - Node Loss: 1.0056, Synergy Loss: 1.9403, Total: 4.8861
Epoch 60/300 - Node Loss: 1.0014, Synergy Loss: 1.8155, Total: 4.6324
Epoch 70/300 - Node Loss: 1.0010, Synergy Loss: 1.6740, Total: 4.3490
Epoch 80/300 - Node Loss: 1.0039, Synergy Loss: 1.4953, Total: 3.9946
Epoch 90/300 - Node Loss: 1.0384, Synergy Loss: 1.3271, Total: 3.6926
```

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Epoch 100/300 - Node Loss: 1.2375, Synergy Loss: 1.1217, Total: 3.4808
Epoch 110/300 - Node Loss: 1.1524, Synergy Loss: 0.9514, Total: 3.0553
Epoch 120/300 - Node Loss: 1.3097, Synergy Loss: 0.7577, Total: 2.8250
Epoch 130/300 - Node Loss: 1.2144, Synergy Loss: 0.6810, Total: 2.5763
Epoch 140/300 - Node Loss: 1.2330, Synergy Loss: 0.5683, Total: 2.3697
Epoch 150/300 - Node Loss: 1.2081, Synergy Loss: 0.5001, Total: 2.2083
Epoch 160/300 - Node Loss: 1.1660, Synergy Loss: 0.4732, Total: 2.1123
Epoch 170/300 - Node Loss: 1.1769, Synergy Loss: 0.4406, Total: 2.0582
Epoch 180/300 - Node Loss: 1.1654, Synergy Loss: 0.4226, Total: 2.0106
Epoch 190/300 - Node Loss: 1.1712, Synergy Loss: 0.3835, Total: 1.9382
Epoch 200/300 - Node Loss: 1.1288, Synergy Loss: 0.3763, Total: 1.8814
Epoch 210/300 - Node Loss: 1.1149, Synergy Loss: 0.3528, Total: 1.8205
Epoch 220/300 - Node Loss: 1.1015, Synergy Loss: 0.3573, Total: 1.8161
Epoch 230/300 - Node Loss: 1.1067, Synergy Loss: 0.3427, Total: 1.7920
Epoch 240/300 - Node Loss: 1.1076, Synergy Loss: 0.3425, Total: 1.7927
Epoch 250/300 - Node Loss: 1.1402, Synergy Loss: 0.3209, Total: 1.7819
Epoch 260/300 - Node Loss: 1.0936, Synergy Loss: 0.3012, Total: 1.6961
Epoch 270/300 - Node Loss: 1.1010, Synergy Loss: 0.2819, Total: 1.6648
Epoch 280/300 - Node Loss: 1.0909, Synergy Loss: 0.2773, Total: 1.6454
Epoch 290/300 - Node Loss: 1.0940, Synergy Loss: 0.2694, Total: 1.6329
Epoch 300/300 - Node Loss: 1.0754, Synergy Loss: 0.2627, Total: 1.6008
Existing model archived to: 20250310_195925_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 561, Best Score: 2642.50
Early stopping at iteration 590, Best Score: 2904.59
Early stopping at iteration 1023, Best Score: 3132.55
Early stopping at iteration 655, Best Score: 3098.35
Early stopping at iteration 893, Best Score: 3131.39
Early stopping at iteration 527, Best Score: 2666.25
Early stopping at iteration 759, Best Score: 3069.85
Early stopping at iteration 507, Best Score: 2547.86
Early stopping at iteration 784, Best Score: 2970.55
Early stopping at iteration 567, Best Score: 2872.36
Early stopping at iteration 828, Best Score: 3093.68
Early stopping at iteration 500, Best Score: 2541.83
Early stopping at iteration 733, Best Score: 3102.74
Early stopping at iteration 708, Best Score: 3064.20
Early stopping at iteration 1064, Best Score: 3091.35
Early stopping at iteration 738, Best Score: 3083.88
Early stopping at iteration 688, Best Score: 3105.66
Early stopping at iteration 772, Best Score: 3128.74
Early stopping at iteration 554, Best Score: 2728.23
Early stopping at iteration 597, Best Score: 2821.85
Early stopping at iteration 571, Best Score: 2827.38
Early stopping at iteration 876, Best Score: 3128.06
Early stopping at iteration 559, Best Score: 2717.22
Early stopping at iteration 563, Best Score: 2822.69
Early stopping at iteration 500, Best Score: 2541.83
Early stopping at iteration 888, Best Score: 3158.48
Early stopping at iteration 546, Best Score: 2632.88
Early stopping at iteration 599, Best Score: 2913.67
Early stopping at iteration 520, Best Score: 2605.84
Early stopping at iteration 769, Best Score: 2904.59
Early stopping at iteration 522, Best Score: 2594.37
Early stopping at iteration 726, Best Score: 3125.61
Early stopping at iteration 600, Best Score: 2747.04
Early stopping at iteration 685, Best Score: 3109.57
Early stopping at iteration 768, Best Score: 3089.55
Early stopping at iteration 503, Best Score: 2548.55
Early stopping at iteration 573, Best Score: 2853.58
```

```
Early stopping at iteration 555, Best Score: 2794.76
Early stopping at iteration 629, Best Score: 3061.28
Early stopping at iteration 664, Best Score: 3032.13
Early stopping at iteration 815, Best Score: 3130.33
Early stopping at iteration 590, Best Score: 2790.99
Early stopping at iteration 964, Best Score: 3132.71
Early stopping at iteration 876, Best Score: 3143.46
Early stopping at iteration 648, Best Score: 2699.72
Early stopping at iteration 608, Best Score: 2894.64
Early stopping at iteration 606, Best Score: 2949.77
Early stopping at iteration 879, Best Score: 3119.49
Early stopping at iteration 749, Best Score: 3133.42
Early stopping at iteration 551, Best Score: 2814.15
Early stopping at iteration 929, Best Score: 3134.06
Early stopping at iteration 853, Best Score: 3059.37
Early stopping at iteration 743, Best Score: 2958.92
Early stopping at iteration 542, Best Score: 2744.99
Early stopping at iteration 551, Best Score: 2751.67
Early stopping at iteration 663, Best Score: 2921.62
Early stopping at iteration 658, Best Score: 3058.09
Early stopping at iteration 780, Best Score: 3103.81
Early stopping at iteration 687, Best Score: 3051.64
Early stopping at iteration 680, Best Score: 3056.81
Early stopping at iteration 514, Best Score: 2547.88
Early stopping at iteration 583, Best Score: 2882.25
Early stopping at iteration 677, Best Score: 3063.10
Early stopping at iteration 880, Best Score: 2964.78
Early stopping at iteration 816, Best Score: 3124.02
Early stopping at iteration 801, Best Score: 2792.34
Early stopping at iteration 559, Best Score: 2828.36
Early stopping at iteration 867, Best Score: 3130.51
Early stopping at iteration 570, Best Score: 2963.22
Early stopping at iteration 528, Best Score: 2660.72
Early stopping at iteration 662, Best Score: 3092.35
Early stopping at iteration 617, Best Score: 2870.36
Early stopping at iteration 774, Best Score: 3149.76
Early stopping at iteration 531, Best Score: 2589.26
Early stopping at iteration 747, Best Score: 3118.67
Early stopping at iteration 500, Best Score: 2541.83
Early stopping at iteration 819, Best Score: 3124.03
Early stopping at iteration 926, Best Score: 3150.03
Early stopping at iteration 697, Best Score: 3124.97
Early stopping at iteration 803, Best Score: 3117.31
Early stopping at iteration 1087, Best Score: 3145.76
Early stopping at iteration 683, Best Score: 3038.36
Early stopping at iteration 668, Best Score: 3028.35
Early stopping at iteration 814, Best Score: 3146.40
Early stopping at iteration 894, Best Score: 3111.13
Early stopping at iteration 563, Best Score: 2799.68
Early stopping at iteration 520, Best Score: 2629.69
Early stopping at iteration 610, Best Score: 2821.69
Early stopping at iteration 852, Best Score: 3128.71
Early stopping at iteration 563, Best Score: 2713.19
Early stopping at iteration 545, Best Score: 2807.47
Early stopping at iteration 572, Best Score: 2752.98
Early stopping at iteration 718, Best Score: 3119.99
Early stopping at iteration 574, Best Score: 2743.64
Early stopping at iteration 865, Best Score: 3130.06
Early stopping at iteration 696, Best Score: 3105.84
Early stopping at iteration 699, Best Score: 3074.25
```

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Early stopping at iteration 819, Best Score: 3146.40
Early stopping at iteration 688, Best Score: 3091.67
  Deck Trial 100/250
Early stopping at iteration 774, Best Score: 3138.10
Early stopping at iteration 964, Best Score: 3133.65
Early stopping at iteration 857, Best Score: 3117.69
Early stopping at iteration 511, Best Score: 2577.80
Early stopping at iteration 1202, Best Score: 3131.65
Early stopping at iteration 659, Best Score: 3084.87
Early stopping at iteration 721, Best Score: 2982.77
Early stopping at iteration 951, Best Score: 2991.06
Early stopping at iteration 1036, Best Score: 3098.98
Early stopping at iteration 562, Best Score: 2729.20
Early stopping at iteration 604, Best Score: 2907.62
Early stopping at iteration 582, Best Score: 2895.14
Early stopping at iteration 916, Best Score: 3122.03
Early stopping at iteration 536, Best Score: 2685.98
Early stopping at iteration 936, Best Score: 3133.00
Early stopping at iteration 697, Best Score: 3091.12
Early stopping at iteration 670, Best Score: 3107.66
Early stopping at iteration 755, Best Score: 3138.06
Early stopping at iteration 800, Best Score: 2840.80
Early stopping at iteration 593, Best Score: 2903.66
Early stopping at iteration 720, Best Score: 2808.62
Early stopping at iteration 857, Best Score: 2887.30
Early stopping at iteration 562, Best Score: 2780.81
Early stopping at iteration 815, Best Score: 3081.63
Early stopping at iteration 724, Best Score: 3148.86
Early stopping at iteration 587, Best Score: 2901.15
Early stopping at iteration 1248, Best Score: 3097.95
Early stopping at iteration 661, Best Score: 2943.56
Early stopping at iteration 515, Best Score: 2547.87
Early stopping at iteration 973, Best Score: 2730.52
Early stopping at iteration 702, Best Score: 3047.58
Early stopping at iteration 500, Best Score: 2541.83
Early stopping at iteration 633, Best Score: 2947.49
Early stopping at iteration 910, Best Score: 3118.97
Early stopping at iteration 580, Best Score: 2753.71
Early stopping at iteration 516, Best Score: 2610.74
Early stopping at iteration 916, Best Score: 3150.03
Early stopping at iteration 514, Best Score: 2605.17
Early stopping at iteration 601, Best Score: 2893.78
Early stopping at iteration 564, Best Score: 2777.74
Early stopping at iteration 713, Best Score: 3063.54
Early stopping at iteration 586, Best Score: 2852.77
Early stopping at iteration 753, Best Score: 3140.36
Early stopping at iteration 721, Best Score: 3111.14
Early stopping at iteration 841, Best Score: 3119.79
Early stopping at iteration 739, Best Score: 3098.53
Early stopping at iteration 524, Best Score: 2588.64
Early stopping at iteration 585, Best Score: 2926.37
Early stopping at iteration 516, Best Score: 2692.74
Early stopping at iteration 792, Best Score: 3125.28
Early stopping at iteration 574, Best Score: 2737.92
Early stopping at iteration 576, Best Score: 2921.64
Early stopping at iteration 698, Best Score: 3132.74
Early stopping at iteration 853, Best Score: 3131.42
Early stopping at iteration 868, Best Score: 3140.36
Early stopping at iteration 739, Best Score: 3080.46
Early stopping at iteration 901, Best Score: 3123.35
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Early stopping at iteration 1045, Best Score: 3146.40
Early stopping at iteration 787, Best Score: 3132.06
Early stopping at iteration 732, Best Score: 3134.57
Early stopping at iteration 735, Best Score: 3121.31
Early stopping at iteration 603, Best Score: 2791.93
Early stopping at iteration 1035, Best Score: 3139.72
Early stopping at iteration 601, Best Score: 2930.27
Early stopping at iteration 592, Best Score: 2915.40
Early stopping at iteration 790, Best Score: 3079.65
Early stopping at iteration 883, Best Score: 3122.67
Early stopping at iteration 894, Best Score: 2810.59
Early stopping at iteration 662, Best Score: 3038.09
Early stopping at iteration 513, Best Score: 2574.89
Early stopping at iteration 584, Best Score: 2970.47
Early stopping at iteration 762, Best Score: 3096.14
Early stopping at iteration 500, Best Score: 2541.83
Early stopping at iteration 715, Best Score: 3133.38
Early stopping at iteration 821, Best Score: 3145.21
Early stopping at iteration 740, Best Score: 3123.61
Early stopping at iteration 532, Best Score: 2736.11
Early stopping at iteration 1111, Best Score: 3118.67
Early stopping at iteration 846, Best Score: 3020.12
Early stopping at iteration 709, Best Score: 3091.20
Early stopping at iteration 658, Best Score: 3023.84
Early stopping at iteration 708, Best Score: 3046.64
Early stopping at iteration 677, Best Score: 2825.95
Early stopping at iteration 609, Best Score: 2796.91
Early stopping at iteration 533, Best Score: 2661.99
Early stopping at iteration 585, Best Score: 2786.29
Early stopping at iteration 680, Best Score: 3089.83
Early stopping at iteration 639, Best Score: 2821.65
Early stopping at iteration 687, Best Score: 3012.35
Early stopping at iteration 559, Best Score: 2627.63
Early stopping at iteration 636, Best Score: 3057.27
Early stopping at iteration 668, Best Score: 2995.00
Early stopping at iteration 559, Best Score: 2770.86
Early stopping at iteration 857, Best Score: 3150.44
Early stopping at iteration 538, Best Score: 2746.60
Early stopping at iteration 668, Best Score: 3049.43
Early stopping at iteration 702, Best Score: 3112.13
Early stopping at iteration 736, Best Score: 3107.91
Early stopping at iteration 1052, Best Score: 3123.11
Early stopping at iteration 542, Best Score: 2842.59
  Deck Trial 200/250
Early stopping at iteration 927, Best Score: 2763.73
Early stopping at iteration 641, Best Score: 2951.35
Early stopping at iteration 715, Best Score: 3093.46
Early stopping at iteration 1146, Best Score: 3134.74
Early stopping at iteration 834, Best Score: 3124.03
Early stopping at iteration 569, Best Score: 2796.02
Early stopping at iteration 656, Best Score: 2903.80
Early stopping at iteration 500, Best Score: 2541.83
Early stopping at iteration 575, Best Score: 2944.81
Early stopping at iteration 835, Best Score: 2784.67
Early stopping at iteration 856, Best Score: 3142.14
Early stopping at iteration 881, Best Score: 3088.92
Early stopping at iteration 648, Best Score: 2910.96
Early stopping at iteration 652, Best Score: 3057.48
Early stopping at iteration 727, Best Score: 3013.47
Early stopping at iteration 757, Best Score: 3135.42
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Early stopping at iteration 775, Best Score: 3131.00
Early stopping at iteration 770, Best Score: 2994.86
Early stopping at iteration 728, Best Score: 3047.84
Early stopping at iteration 712, Best Score: 3006.64
Early stopping at iteration 794, Best Score: 3086.17
Early stopping at iteration 558, Best Score: 2871.43
Early stopping at iteration 883, Best Score: 3135.57
Early stopping at iteration 779, Best Score: 3111.79
Early stopping at iteration 557, Best Score: 2779.30
Early stopping at iteration 732, Best Score: 3134.06
Early stopping at iteration 681, Best Score: 2995.58
Early stopping at iteration 784, Best Score: 3121.61
Early stopping at iteration 686, Best Score: 3097.95
Early stopping at iteration 725, Best Score: 2926.82
Early stopping at iteration 591, Best Score: 2853.02
Early stopping at iteration 500, Best Score: 2541.83
Early stopping at iteration 877, Best Score: 3118.93
Early stopping at iteration 836, Best Score: 3122.70
Early stopping at iteration 776, Best Score: 3148.18
Early stopping at iteration 911, Best Score: 3143.46
Early stopping at iteration 702, Best Score: 3094.35
Early stopping at iteration 610, Best Score: 2922.42
Early stopping at iteration 560, Best Score: 2760.29
Early stopping at iteration 500, Best Score: 2541.83
Early stopping at iteration 737, Best Score: 3128.03
Early stopping at iteration 602, Best Score: 2993.52
Early stopping at iteration 574, Best Score: 2584.98
Early stopping at iteration 1011, Best Score: 2995.16
Early stopping at iteration 703, Best Score: 3001.34
Early stopping at iteration 632, Best Score: 2954.50
Early stopping at iteration 921, Best Score: 3119.20
Early stopping at iteration 772, Best Score: 3123.31
Early stopping at iteration 804, Best Score: 3149.50
Early stopping at iteration 500, Best Score: 2541.83
Early stopping at iteration 591, Best Score: 2822.49
GNN Trial 12 completed with 250 decks.

GNN Trial 13/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 5.6079, Synergy Loss: 2.1351, Total: 9.8780
Epoch 20/300 - Node Loss: 1.6737, Synergy Loss: 2.0118, Total: 5.6972
Epoch 30/300 - Node Loss: 1.1012, Synergy Loss: 1.8928, Total: 4.8869
Epoch 40/300 - Node Loss: 1.0099, Synergy Loss: 1.7775, Total: 4.5650
Epoch 50/300 - Node Loss: 1.0076, Synergy Loss: 1.6695, Total: 4.3466
Epoch 60/300 - Node Loss: 1.0061, Synergy Loss: 1.5583, Total: 4.1227
Epoch 70/300 - Node Loss: 1.0518, Synergy Loss: 1.3959, Total: 3.8435
Epoch 80/300 - Node Loss: 1.1122, Synergy Loss: 1.2269, Total: 3.5661
Epoch 90/300 - Node Loss: 1.1254, Synergy Loss: 0.7662, Total: 2.6579
Epoch 100/300 - Node Loss: 1.1345, Synergy Loss: 0.5961, Total: 2.3268
Epoch 110/300 - Node Loss: 1.1205, Synergy Loss: 0.5098, Total: 2.1401
Epoch 120/300 - Node Loss: 1.0996, Synergy Loss: 0.4799, Total: 2.0594
Epoch 130/300 - Node Loss: 1.1116, Synergy Loss: 0.4465, Total: 2.0046
Epoch 140/300 - Node Loss: 1.0842, Synergy Loss: 0.4221, Total: 1.9283
Epoch 150/300 - Node Loss: 1.0684, Synergy Loss: 0.3803, Total: 1.8290
Epoch 160/300 - Node Loss: 1.0953, Synergy Loss: 0.3424, Total: 1.7801
Epoch 170/300 - Node Loss: 1.0683, Synergy Loss: 0.3285, Total: 1.7253
Epoch 180/300 - Node Loss: 1.0606, Synergy Loss: 0.2904, Total: 1.6414
Epoch 190/300 - Node Loss: 1.0606, Synergy Loss: 0.2623, Total: 1.5852
Epoch 200/300 - Node Loss: 1.0562, Synergy Loss: 0.2656, Total: 1.5874
Epoch 210/300 - Node Loss: 1.0460, Synergy Loss: 0.2769, Total: 1.5998
```

```
Epoch 220/300 - Node Loss: 1.0433, Synergy Loss: 0.2389, Total: 1.5212
Epoch 230/300 - Node Loss: 1.0460, Synergy Loss: 0.2204, Total: 1.4867
Epoch 240/300 - Node Loss: 1.0467, Synergy Loss: 0.2111, Total: 1.4688
Epoch 250/300 - Node Loss: 1.0408, Synergy Loss: 0.2110, Total: 1.4628
Epoch 260/300 - Node Loss: 1.0322, Synergy Loss: 0.2036, Total: 1.4394
Epoch 270/300 - Node Loss: 1.0421, Synergy Loss: 0.1909, Total: 1.4240
Epoch 280/300 - Node Loss: 1.0305, Synergy Loss: 0.1876, Total: 1.4058
Epoch 290/300 - Node Loss: 1.0337, Synergy Loss: 0.1839, Total: 1.4015
Epoch 300/300 - Node Loss: 1.0361, Synergy Loss: 0.1682, Total: 1.3725
Existing model archived to: 20250310_200550_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 563, Best Score: 3068.94
Early stopping at iteration 622, Best Score: 3139.42
Early stopping at iteration 536, Best Score: 2876.25
Early stopping at iteration 500, Best Score: 2722.77
Early stopping at iteration 600, Best Score: 2882.50
Early stopping at iteration 543, Best Score: 2848.88
Early stopping at iteration 789, Best Score: 3062.74
Early stopping at iteration 603, Best Score: 3140.36
Early stopping at iteration 644, Best Score: 3148.90
Early stopping at iteration 624, Best Score: 3077.50
Early stopping at iteration 591, Best Score: 3039.58
Early stopping at iteration 886, Best Score: 3258.19
Early stopping at iteration 756, Best Score: 3238.65
Early stopping at iteration 772, Best Score: 3224.42
Early stopping at iteration 507, Best Score: 2787.58
Early stopping at iteration 560, Best Score: 2907.44
Early stopping at iteration 568, Best Score: 3013.73
Early stopping at iteration 521, Best Score: 2818.53
Early stopping at iteration 780, Best Score: 3203.16
Early stopping at iteration 779, Best Score: 3224.52
Early stopping at iteration 743, Best Score: 3158.73
Early stopping at iteration 847, Best Score: 3239.11
Early stopping at iteration 807, Best Score: 3246.19
Early stopping at iteration 848, Best Score: 3239.10
Early stopping at iteration 622, Best Score: 3062.14
Early stopping at iteration 704, Best Score: 3232.82
Early stopping at iteration 896, Best Score: 3240.19
Early stopping at iteration 598, Best Score: 3028.79
Early stopping at iteration 809, Best Score: 3237.59
Early stopping at iteration 678, Best Score: 3208.92
Early stopping at iteration 548, Best Score: 2974.58
Early stopping at iteration 632, Best Score: 3024.53
Early stopping at iteration 733, Best Score: 3119.13
Early stopping at iteration 753, Best Score: 3230.83
Early stopping at iteration 877, Best Score: 3233.58
Early stopping at iteration 559, Best Score: 2872.46
Early stopping at iteration 640, Best Score: 3082.30
Early stopping at iteration 951, Best Score: 3211.31
Early stopping at iteration 908, Best Score: 3216.68
Early stopping at iteration 814, Best Score: 3155.07
Early stopping at iteration 724, Best Score: 3230.69
Early stopping at iteration 782, Best Score: 3135.77
Early stopping at iteration 748, Best Score: 3236.35
Early stopping at iteration 766, Best Score: 3236.35
Early stopping at iteration 667, Best Score: 3192.86
Early stopping at iteration 727, Best Score: 3202.47
Early stopping at iteration 771, Best Score: 3245.43
Early stopping at iteration 518, Best Score: 2794.37
Early stopping at iteration 610, Best Score: 3010.84
```

```
Early stopping at iteration 525, Best Score: 2785.66
Early stopping at iteration 993, Best Score: 3155.15
Early stopping at iteration 500, Best Score: 2722.77
Early stopping at iteration 581, Best Score: 2899.64
Early stopping at iteration 842, Best Score: 3237.90
Early stopping at iteration 672, Best Score: 3187.93
Early stopping at iteration 937, Best Score: 3251.73
Early stopping at iteration 532, Best Score: 2896.58
Early stopping at iteration 1122, Best Score: 3209.92
Early stopping at iteration 565, Best Score: 3118.97
Early stopping at iteration 570, Best Score: 2950.98
Early stopping at iteration 946, Best Score: 3241.11
Early stopping at iteration 507, Best Score: 2818.31
Early stopping at iteration 667, Best Score: 3220.22
Early stopping at iteration 631, Best Score: 3138.60
Early stopping at iteration 583, Best Score: 3047.76
Early stopping at iteration 608, Best Score: 3086.39
Early stopping at iteration 612, Best Score: 2987.65
Early stopping at iteration 570, Best Score: 3010.43
Early stopping at iteration 594, Best Score: 3080.07
Early stopping at iteration 568, Best Score: 3016.53
Early stopping at iteration 534, Best Score: 2918.14
Early stopping at iteration 840, Best Score: 3254.01
Early stopping at iteration 967, Best Score: 3212.43
Early stopping at iteration 717, Best Score: 3239.90
Early stopping at iteration 862, Best Score: 3255.71
Early stopping at iteration 558, Best Score: 3052.28
Early stopping at iteration 725, Best Score: 3240.66
Early stopping at iteration 629, Best Score: 3090.40
Early stopping at iteration 500, Best Score: 2722.77
Early stopping at iteration 698, Best Score: 3196.93
Early stopping at iteration 575, Best Score: 2997.19
Early stopping at iteration 700, Best Score: 3183.61
Early stopping at iteration 653, Best Score: 3177.20
Early stopping at iteration 616, Best Score: 3102.32
Early stopping at iteration 638, Best Score: 3071.57
Early stopping at iteration 813, Best Score: 3223.74
Early stopping at iteration 771, Best Score: 3225.48
Early stopping at iteration 537, Best Score: 2854.41
Early stopping at iteration 555, Best Score: 2970.30
Early stopping at iteration 650, Best Score: 2943.98
Early stopping at iteration 738, Best Score: 3237.90
Early stopping at iteration 540, Best Score: 2907.15
Early stopping at iteration 791, Best Score: 3199.63
Early stopping at iteration 682, Best Score: 3193.98
Early stopping at iteration 698, Best Score: 3181.74
Early stopping at iteration 871, Best Score: 3209.82
Early stopping at iteration 776, Best Score: 3240.66
Early stopping at iteration 683, Best Score: 3186.33
Early stopping at iteration 638, Best Score: 3109.07
  Deck Trial 100/250
Early stopping at iteration 817, Best Score: 3171.30
Early stopping at iteration 703, Best Score: 3213.20
Early stopping at iteration 1064, Best Score: 3228.83
Early stopping at iteration 713, Best Score: 3235.58
Early stopping at iteration 713, Best Score: 3199.93
Early stopping at iteration 747, Best Score: 3100.43
Early stopping at iteration 611, Best Score: 3072.36
Early stopping at iteration 644, Best Score: 3086.69
Early stopping at iteration 727, Best Score: 3218.21
```

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Early stopping at iteration 782, Best Score: 3212.71
Early stopping at iteration 616, Best Score: 3073.00
Early stopping at iteration 755, Best Score: 3241.88
Early stopping at iteration 703, Best Score: 3228.50
Early stopping at iteration 584, Best Score: 2949.55
Early stopping at iteration 623, Best Score: 3094.78
Early stopping at iteration 714, Best Score: 3215.66
Early stopping at iteration 750, Best Score: 3218.99
Early stopping at iteration 888, Best Score: 3113.80
Early stopping at iteration 624, Best Score: 3039.20
Early stopping at iteration 656, Best Score: 3111.36
Early stopping at iteration 1065, Best Score: 3211.94
Early stopping at iteration 646, Best Score: 3147.38
Early stopping at iteration 663, Best Score: 3171.49
Early stopping at iteration 978, Best Score: 3220.20
Early stopping at iteration 752, Best Score: 3118.28
Early stopping at iteration 1184, Best Score: 3224.52
Early stopping at iteration 872, Best Score: 3204.08
Early stopping at iteration 777, Best Score: 3192.95
Early stopping at iteration 672, Best Score: 3147.79
Early stopping at iteration 824, Best Score: 3209.91
Early stopping at iteration 781, Best Score: 3237.87
Early stopping at iteration 725, Best Score: 3225.75
Early stopping at iteration 683, Best Score: 3222.05
Early stopping at iteration 559, Best Score: 2817.57
Early stopping at iteration 1027, Best Score: 3202.74
Early stopping at iteration 908, Best Score: 3063.87
Early stopping at iteration 617, Best Score: 3145.05
Early stopping at iteration 607, Best Score: 3083.13
Early stopping at iteration 913, Best Score: 3228.05
Early stopping at iteration 1240, Best Score: 3209.16
Early stopping at iteration 708, Best Score: 3228.51
Early stopping at iteration 542, Best Score: 2912.18
Early stopping at iteration 690, Best Score: 3208.16
Early stopping at iteration 576, Best Score: 2969.74
Early stopping at iteration 597, Best Score: 3104.75
Early stopping at iteration 721, Best Score: 3206.52
Early stopping at iteration 949, Best Score: 3236.70
Early stopping at iteration 675, Best Score: 3230.67
Early stopping at iteration 500, Best Score: 2722.77
Early stopping at iteration 580, Best Score: 3016.72
Early stopping at iteration 593, Best Score: 3103.72
Early stopping at iteration 500, Best Score: 2722.77
Early stopping at iteration 805, Best Score: 3254.49
Early stopping at iteration 612, Best Score: 3074.60
Early stopping at iteration 597, Best Score: 3113.09
Early stopping at iteration 864, Best Score: 3249.71
Early stopping at iteration 582, Best Score: 3098.61
Early stopping at iteration 541, Best Score: 2884.01
Early stopping at iteration 723, Best Score: 3194.83
Early stopping at iteration 623, Best Score: 3058.15
Early stopping at iteration 706, Best Score: 3160.47
Early stopping at iteration 791, Best Score: 3158.48
Early stopping at iteration 801, Best Score: 3165.16
Early stopping at iteration 749, Best Score: 3181.06
Early stopping at iteration 600, Best Score: 3043.10
Early stopping at iteration 962, Best Score: 3262.03
Early stopping at iteration 599, Best Score: 3084.53
Early stopping at iteration 697, Best Score: 3143.60
Early stopping at iteration 1008, Best Score: 3235.58
```

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Early stopping at iteration 831, Best Score: 3245.41
Early stopping at iteration 706, Best Score: 3186.81
Early stopping at iteration 733, Best Score: 3226.07
Early stopping at iteration 764, Best Score: 3207.18
Early stopping at iteration 670, Best Score: 3171.35
Early stopping at iteration 563, Best Score: 2985.91
Early stopping at iteration 527, Best Score: 2866.38
Early stopping at iteration 871, Best Score: 3123.87
Early stopping at iteration 609, Best Score: 3072.55
Early stopping at iteration 794, Best Score: 3259.72
Early stopping at iteration 957, Best Score: 3170.41
Early stopping at iteration 646, Best Score: 3203.34
Early stopping at iteration 500, Best Score: 2722.77
Early stopping at iteration 774, Best Score: 3239.12
Early stopping at iteration 753, Best Score: 3228.13
Early stopping at iteration 1149, Best Score: 3055.04
Early stopping at iteration 810, Best Score: 3185.01
Early stopping at iteration 844, Best Score: 3088.58
Early stopping at iteration 565, Best Score: 3014.07
Early stopping at iteration 988, Best Score: 3219.82
Early stopping at iteration 872, Best Score: 3235.61
Early stopping at iteration 666, Best Score: 3211.16
Early stopping at iteration 761, Best Score: 3245.43
Early stopping at iteration 552, Best Score: 2980.08
Early stopping at iteration 551, Best Score: 2912.87
Early stopping at iteration 1164, Best Score: 3235.11
Early stopping at iteration 563, Best Score: 3078.54
Early stopping at iteration 669, Best Score: 3192.29
Early stopping at iteration 918, Best Score: 3222.16
Early stopping at iteration 670, Best Score: 3172.65
Early stopping at iteration 515, Best Score: 2810.64
  Deck Trial 200/250
Early stopping at iteration 633, Best Score: 3122.93
Early stopping at iteration 704, Best Score: 3207.12
Early stopping at iteration 983, Best Score: 3252.96
Early stopping at iteration 544, Best Score: 2826.20
Early stopping at iteration 678, Best Score: 3188.94
Early stopping at iteration 674, Best Score: 3217.44
Early stopping at iteration 705, Best Score: 3049.45
Early stopping at iteration 785, Best Score: 3224.05
Early stopping at iteration 690, Best Score: 3209.92
Early stopping at iteration 765, Best Score: 3144.40
Early stopping at iteration 1120, Best Score: 3240.66
Early stopping at iteration 558, Best Score: 2831.94
Early stopping at iteration 960, Best Score: 3236.20
Early stopping at iteration 535, Best Score: 2825.07
Early stopping at iteration 901, Best Score: 3178.29
Early stopping at iteration 567, Best Score: 3027.15
Early stopping at iteration 526, Best Score: 2779.44
Early stopping at iteration 577, Best Score: 3138.35
Early stopping at iteration 611, Best Score: 3092.58
Early stopping at iteration 631, Best Score: 3157.34
Early stopping at iteration 643, Best Score: 3056.08
Early stopping at iteration 881, Best Score: 3197.44
Early stopping at iteration 882, Best Score: 3236.35
Early stopping at iteration 610, Best Score: 3092.55
Early stopping at iteration 655, Best Score: 3111.96
Early stopping at iteration 620, Best Score: 3172.00
Early stopping at iteration 824, Best Score: 3245.89
Early stopping at iteration 542, Best Score: 2858.39
```

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Early stopping at iteration 587, Best Score: 3032.89
Early stopping at iteration 500, Best Score: 2722.77
Early stopping at iteration 825, Best Score: 3199.69
Early stopping at iteration 868, Best Score: 3250.18
Early stopping at iteration 883, Best Score: 3217.07
Early stopping at iteration 664, Best Score: 3146.94
Early stopping at iteration 639, Best Score: 3186.12
Early stopping at iteration 656, Best Score: 3176.06
Early stopping at iteration 925, Best Score: 3232.37
Early stopping at iteration 500, Best Score: 2722.77
Early stopping at iteration 533, Best Score: 2838.44
Early stopping at iteration 957, Best Score: 3262.77
Early stopping at iteration 598, Best Score: 2991.40
Early stopping at iteration 597, Best Score: 3048.06
Early stopping at iteration 718, Best Score: 3219.77
Early stopping at iteration 583, Best Score: 3055.56
Early stopping at iteration 523, Best Score: 2868.64
Early stopping at iteration 688, Best Score: 3005.71
Early stopping at iteration 598, Best Score: 3118.68
Early stopping at iteration 647, Best Score: 3222.88
Early stopping at iteration 934, Best Score: 3205.54
Early stopping at iteration 764, Best Score: 3091.88
Early stopping at iteration 756, Best Score: 3224.88
GNN Trial 13 completed with 250 decks.

GNN Trial 14/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 51.8718, Synergy Loss: 2.1046, Total: 56.0810
Epoch 20/300 - Node Loss: 4.5784, Synergy Loss: 1.9886, Total: 8.5556
Epoch 30/300 - Node Loss: 2.2382, Synergy Loss: 1.8374, Total: 5.9130
Epoch 40/300 - Node Loss: 1.2853, Synergy Loss: 1.6854, Total: 4.6561
Epoch 50/300 - Node Loss: 1.0234, Synergy Loss: 1.5812, Total: 4.1858
Epoch 60/300 - Node Loss: 1.0068, Synergy Loss: 1.5079, Total: 4.0225
Epoch 70/300 - Node Loss: 1.0749, Synergy Loss: 1.4767, Total: 4.0283
Epoch 80/300 - Node Loss: 1.1180, Synergy Loss: 1.4513, Total: 4.0206
Epoch 90/300 - Node Loss: 1.0628, Synergy Loss: 1.4046, Total: 3.8720
Epoch 100/300 - Node Loss: 1.0720, Synergy Loss: 1.1290, Total: 3.3301
Epoch 110/300 - Node Loss: 1.1750, Synergy Loss: 0.7830, Total: 2.7410
Epoch 120/300 - Node Loss: 1.3952, Synergy Loss: 0.7026, Total: 2.8005
Epoch 130/300 - Node Loss: 1.5307, Synergy Loss: 0.4325, Total: 2.3956
Epoch 140/300 - Node Loss: 1.4330, Synergy Loss: 0.4195, Total: 2.2719
Epoch 150/300 - Node Loss: 1.3857, Synergy Loss: 0.4192, Total: 2.2242
Epoch 160/300 - Node Loss: 1.3287, Synergy Loss: 0.3993, Total: 2.1274
Epoch 170/300 - Node Loss: 1.2176, Synergy Loss: 0.3678, Total: 1.9533
Epoch 180/300 - Node Loss: 1.2322, Synergy Loss: 0.4054, Total: 2.0430
Epoch 190/300 - Node Loss: 1.1946, Synergy Loss: 0.3650, Total: 1.9246
Epoch 200/300 - Node Loss: 1.2706, Synergy Loss: 0.3475, Total: 1.9656
Epoch 210/300 - Node Loss: 1.1788, Synergy Loss: 0.3492, Total: 1.8772
Epoch 220/300 - Node Loss: 1.0747, Synergy Loss: 0.3470, Total: 1.7687
Epoch 230/300 - Node Loss: 1.2380, Synergy Loss: 0.3225, Total: 1.8830
Epoch 240/300 - Node Loss: 1.2669, Synergy Loss: 0.3387, Total: 1.9443
Early stopping at epoch 240
Existing model archived to: 20250310_201122_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 535, Best Score: 2544.78
Early stopping at iteration 659, Best Score: 2560.77
Early stopping at iteration 566, Best Score: 2554.10
Early stopping at iteration 546, Best Score: 2547.15
Early stopping at iteration 713, Best Score: 2561.18
Early stopping at iteration 615, Best Score: 2555.75
```

```
Early stopping at iteration 600, Best Score: 2554.98
Early stopping at iteration 646, Best Score: 2562.96
Early stopping at iteration 594, Best Score: 2552.49
Early stopping at iteration 770, Best Score: 2568.32
Early stopping at iteration 538, Best Score: 2541.25
Early stopping at iteration 559, Best Score: 2559.49
Early stopping at iteration 580, Best Score: 2548.76
Early stopping at iteration 646, Best Score: 2559.32
Early stopping at iteration 578, Best Score: 2559.70
Early stopping at iteration 553, Best Score: 2546.50
Early stopping at iteration 684, Best Score: 2571.76
Early stopping at iteration 718, Best Score: 2549.04
Early stopping at iteration 586, Best Score: 2539.27
Early stopping at iteration 743, Best Score: 2560.70
Early stopping at iteration 615, Best Score: 2544.40
Early stopping at iteration 615, Best Score: 2552.91
Early stopping at iteration 548, Best Score: 2547.19
Early stopping at iteration 614, Best Score: 2551.98
Early stopping at iteration 549, Best Score: 2554.86
Early stopping at iteration 663, Best Score: 2571.39
Early stopping at iteration 663, Best Score: 2558.39
Early stopping at iteration 952, Best Score: 2570.70
Early stopping at iteration 606, Best Score: 2556.35
Early stopping at iteration 554, Best Score: 2546.20
Early stopping at iteration 562, Best Score: 2542.92
Early stopping at iteration 639, Best Score: 2562.03
Early stopping at iteration 618, Best Score: 2555.17
Early stopping at iteration 550, Best Score: 2546.20
Early stopping at iteration 775, Best Score: 2558.90
Early stopping at iteration 584, Best Score: 2558.17
Early stopping at iteration 541, Best Score: 2547.07
Early stopping at iteration 658, Best Score: 2553.72
Early stopping at iteration 816, Best Score: 2561.99
Early stopping at iteration 629, Best Score: 2552.03
Early stopping at iteration 565, Best Score: 2545.19
Early stopping at iteration 713, Best Score: 2558.63
Early stopping at iteration 575, Best Score: 2555.38
Early stopping at iteration 1114, Best Score: 2568.31
Early stopping at iteration 678, Best Score: 2558.42
Early stopping at iteration 605, Best Score: 2565.34
Early stopping at iteration 669, Best Score: 2567.05
Early stopping at iteration 606, Best Score: 2556.36
Early stopping at iteration 645, Best Score: 2561.58
Early stopping at iteration 561, Best Score: 2549.11
Early stopping at iteration 549, Best Score: 2548.68
Early stopping at iteration 854, Best Score: 2569.40
Early stopping at iteration 579, Best Score: 2551.68
Early stopping at iteration 526, Best Score: 2543.71
Early stopping at iteration 547, Best Score: 2543.21
Early stopping at iteration 583, Best Score: 2556.45
Early stopping at iteration 680, Best Score: 2535.34
Early stopping at iteration 565, Best Score: 2560.36
Early stopping at iteration 819, Best Score: 2557.20
Early stopping at iteration 537, Best Score: 2550.81
Early stopping at iteration 630, Best Score: 2559.25
Early stopping at iteration 548, Best Score: 2549.92
Early stopping at iteration 612, Best Score: 2560.52
Early stopping at iteration 644, Best Score: 2556.47
Early stopping at iteration 584, Best Score: 2561.89
Early stopping at iteration 628, Best Score: 2551.56
```

```
Early stopping at iteration 581, Best Score: 2544.07
Early stopping at iteration 536, Best Score: 2550.81
Early stopping at iteration 533, Best Score: 2544.26
Early stopping at iteration 597, Best Score: 2559.38
Early stopping at iteration 528, Best Score: 2533.07
Early stopping at iteration 597, Best Score: 2545.34
Early stopping at iteration 672, Best Score: 2564.86
Early stopping at iteration 553, Best Score: 2534.77
Early stopping at iteration 699, Best Score: 2549.98
Early stopping at iteration 742, Best Score: 2568.10
Early stopping at iteration 606, Best Score: 2561.29
Early stopping at iteration 846, Best Score: 2556.92
Early stopping at iteration 1001, Best Score: 2554.74
Early stopping at iteration 552, Best Score: 2553.85
Early stopping at iteration 598, Best Score: 2557.36
Early stopping at iteration 1043, Best Score: 2559.59
Early stopping at iteration 592, Best Score: 2556.76
Early stopping at iteration 707, Best Score: 2568.77
Early stopping at iteration 617, Best Score: 2557.97
Early stopping at iteration 744, Best Score: 2562.91
Early stopping at iteration 772, Best Score: 2575.25
Early stopping at iteration 628, Best Score: 2556.96
Early stopping at iteration 698, Best Score: 2569.36
Early stopping at iteration 573, Best Score: 2557.75
Early stopping at iteration 575, Best Score: 2556.41
Early stopping at iteration 583, Best Score: 2551.05
Early stopping at iteration 602, Best Score: 2557.56
Early stopping at iteration 646, Best Score: 2558.30
Early stopping at iteration 613, Best Score: 2558.37
Early stopping at iteration 599, Best Score: 2553.06
Early stopping at iteration 535, Best Score: 2547.47
Early stopping at iteration 642, Best Score: 2552.65
Early stopping at iteration 587, Best Score: 2548.68
  Deck Trial 100/250
Early stopping at iteration 552, Best Score: 2546.84
Early stopping at iteration 658, Best Score: 2563.11
Early stopping at iteration 565, Best Score: 2551.14
Early stopping at iteration 629, Best Score: 2553.09
Early stopping at iteration 668, Best Score: 2568.24
Early stopping at iteration 582, Best Score: 2556.00
Early stopping at iteration 584, Best Score: 2545.88
Early stopping at iteration 599, Best Score: 2553.94
Early stopping at iteration 754, Best Score: 2580.80
Early stopping at iteration 545, Best Score: 2539.85
Early stopping at iteration 596, Best Score: 2563.91
Early stopping at iteration 548, Best Score: 2542.46
Early stopping at iteration 582, Best Score: 2539.95
Early stopping at iteration 590, Best Score: 2549.80
Early stopping at iteration 547, Best Score: 2531.67
Early stopping at iteration 599, Best Score: 2553.45
Early stopping at iteration 532, Best Score: 2544.85
Early stopping at iteration 659, Best Score: 2560.67
Early stopping at iteration 651, Best Score: 2555.86
Early stopping at iteration 634, Best Score: 2565.31
Early stopping at iteration 572, Best Score: 2554.03
Early stopping at iteration 580, Best Score: 2551.44
Early stopping at iteration 587, Best Score: 2550.52
Early stopping at iteration 542, Best Score: 2540.30
Early stopping at iteration 589, Best Score: 2548.67
Early stopping at iteration 625, Best Score: 2559.25
```

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Early stopping at iteration 599, Best Score: 2552.34
Early stopping at iteration 903, Best Score: 2563.42
Early stopping at iteration 595, Best Score: 2555.84
Early stopping at iteration 530, Best Score: 2536.12
Early stopping at iteration 792, Best Score: 2556.58
Early stopping at iteration 631, Best Score: 2557.18
Early stopping at iteration 784, Best Score: 2572.96
Early stopping at iteration 570, Best Score: 2555.09
Early stopping at iteration 567, Best Score: 2550.59
Early stopping at iteration 681, Best Score: 2562.06
Early stopping at iteration 566, Best Score: 2553.22
Early stopping at iteration 678, Best Score: 2552.55
Early stopping at iteration 559, Best Score: 2550.60
Early stopping at iteration 696, Best Score: 2574.57
Early stopping at iteration 658, Best Score: 2554.02
Early stopping at iteration 781, Best Score: 2569.47
Early stopping at iteration 652, Best Score: 2551.47
Early stopping at iteration 673, Best Score: 2559.62
Early stopping at iteration 806, Best Score: 2569.26
Early stopping at iteration 569, Best Score: 2549.66
Early stopping at iteration 524, Best Score: 2543.60
Early stopping at iteration 586, Best Score: 2551.22
Early stopping at iteration 634, Best Score: 2563.10
Early stopping at iteration 543, Best Score: 2542.64
Early stopping at iteration 1053, Best Score: 2561.81
Early stopping at iteration 603, Best Score: 2560.13
Early stopping at iteration 638, Best Score: 2563.15
Early stopping at iteration 626, Best Score: 2553.11
Early stopping at iteration 765, Best Score: 2551.39
Early stopping at iteration 614, Best Score: 2551.94
Early stopping at iteration 630, Best Score: 2560.92
Early stopping at iteration 763, Best Score: 2562.88
Early stopping at iteration 755, Best Score: 2554.08
Early stopping at iteration 553, Best Score: 2547.47
Early stopping at iteration 709, Best Score: 2553.97
Early stopping at iteration 614, Best Score: 2553.04
Early stopping at iteration 550, Best Score: 2548.73
Early stopping at iteration 550, Best Score: 2549.11
Early stopping at iteration 627, Best Score: 2568.34
Early stopping at iteration 561, Best Score: 2542.80
Early stopping at iteration 578, Best Score: 2540.50
Early stopping at iteration 688, Best Score: 2569.52
Early stopping at iteration 561, Best Score: 2541.16
Early stopping at iteration 562, Best Score: 2556.55
Early stopping at iteration 531, Best Score: 2536.83
Early stopping at iteration 612, Best Score: 2564.57
Early stopping at iteration 583, Best Score: 2561.56
Early stopping at iteration 614, Best Score: 2560.69
Early stopping at iteration 665, Best Score: 2557.14
Early stopping at iteration 583, Best Score: 2562.79
Early stopping at iteration 638, Best Score: 2557.81
Early stopping at iteration 560, Best Score: 2552.38
Early stopping at iteration 553, Best Score: 2550.08
Early stopping at iteration 567, Best Score: 2548.18
Early stopping at iteration 565, Best Score: 2558.76
Early stopping at iteration 573, Best Score: 2550.25
Early stopping at iteration 637, Best Score: 2564.88
Early stopping at iteration 623, Best Score: 2558.20
Early stopping at iteration 750, Best Score: 2561.11
Early stopping at iteration 840, Best Score: 2566.71
```

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Early stopping at iteration 601, Best Score: 2553.74
Early stopping at iteration 554, Best Score: 2558.92
Early stopping at iteration 559, Best Score: 2548.96
Early stopping at iteration 693, Best Score: 2565.69
Early stopping at iteration 565, Best Score: 2541.28
Early stopping at iteration 559, Best Score: 2545.41
Early stopping at iteration 644, Best Score: 2560.76
Early stopping at iteration 541, Best Score: 2545.23
Early stopping at iteration 547, Best Score: 2544.29
Early stopping at iteration 653, Best Score: 2571.34
Early stopping at iteration 672, Best Score: 2568.37
Early stopping at iteration 589, Best Score: 2546.34
Early stopping at iteration 534, Best Score: 2539.16
Early stopping at iteration 664, Best Score: 2565.31
  Deck Trial 200/250
Early stopping at iteration 649, Best Score: 2565.51
Early stopping at iteration 557, Best Score: 2550.03
Early stopping at iteration 554, Best Score: 2547.51
Early stopping at iteration 623, Best Score: 2543.53
Early stopping at iteration 608, Best Score: 2559.11
Early stopping at iteration 545, Best Score: 2549.08
Early stopping at iteration 588, Best Score: 2561.37
Early stopping at iteration 668, Best Score: 2556.90
Early stopping at iteration 649, Best Score: 2556.34
Early stopping at iteration 648, Best Score: 2563.89
Early stopping at iteration 604, Best Score: 2555.40
Early stopping at iteration 849, Best Score: 2549.60
Early stopping at iteration 573, Best Score: 2545.79
Early stopping at iteration 527, Best Score: 2540.09
Early stopping at iteration 583, Best Score: 2557.84
Early stopping at iteration 690, Best Score: 2548.35
Early stopping at iteration 694, Best Score: 2566.33
Early stopping at iteration 595, Best Score: 2553.94
Early stopping at iteration 551, Best Score: 2546.68
Early stopping at iteration 711, Best Score: 2558.47
Early stopping at iteration 632, Best Score: 2558.57
Early stopping at iteration 619, Best Score: 2560.91
Early stopping at iteration 582, Best Score: 2548.35
Early stopping at iteration 580, Best Score: 2558.80
Early stopping at iteration 633, Best Score: 2563.31
Early stopping at iteration 611, Best Score: 2537.91
Early stopping at iteration 542, Best Score: 2547.49
Early stopping at iteration 632, Best Score: 2553.90
Early stopping at iteration 595, Best Score: 2558.89
Early stopping at iteration 577, Best Score: 2548.47
Early stopping at iteration 537, Best Score: 2543.17
Early stopping at iteration 619, Best Score: 2546.79
Early stopping at iteration 673, Best Score: 2570.69
Early stopping at iteration 559, Best Score: 2553.87
Early stopping at iteration 583, Best Score: 2547.40
Early stopping at iteration 604, Best Score: 2557.23
Early stopping at iteration 585, Best Score: 2554.78
Early stopping at iteration 686, Best Score: 2553.99
Early stopping at iteration 686, Best Score: 2552.97
Early stopping at iteration 605, Best Score: 2561.25
Early stopping at iteration 826, Best Score: 2559.47
Early stopping at iteration 678, Best Score: 2557.68
Early stopping at iteration 566, Best Score: 2558.46
Early stopping at iteration 544, Best Score: 2545.98
Early stopping at iteration 563, Best Score: 2555.88
```

```
Early stopping at iteration 805, Best Score: 2567.80
Early stopping at iteration 697, Best Score: 2567.79
Early stopping at iteration 565, Best Score: 2552.35
Early stopping at iteration 611, Best Score: 2558.16
Early stopping at iteration 808, Best Score: 2557.07
Early stopping at iteration 703, Best Score: 2558.22
GNN Trial 14 completed with 250 decks.

GNN Trial 15/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 57.1465, Synergy Loss: 1.9700, Total: 61.0865
Epoch 20/300 - Node Loss: 6.1881, Synergy Loss: 1.8972, Total: 9.9824
Epoch 30/300 - Node Loss: 2.4484, Synergy Loss: 1.8210, Total: 6.0905
Epoch 40/300 - Node Loss: 1.3627, Synergy Loss: 1.7401, Total: 4.8429
Epoch 50/300 - Node Loss: 1.0409, Synergy Loss: 1.6807, Total: 4.4023
Epoch 60/300 - Node Loss: 1.0095, Synergy Loss: 1.6257, Total: 4.2608
Epoch 70/300 - Node Loss: 1.0049, Synergy Loss: 1.5787, Total: 4.1624
Epoch 80/300 - Node Loss: 1.0038, Synergy Loss: 1.5422, Total: 4.0881
Epoch 90/300 - Node Loss: 1.0030, Synergy Loss: 1.5090, Total: 4.0211
Epoch 100/300 - Node Loss: 1.0260, Synergy Loss: 1.4631, Total: 3.9522
Epoch 110/300 - Node Loss: 1.0304, Synergy Loss: 1.4104, Total: 3.8513
Epoch 120/300 - Node Loss: 1.0500, Synergy Loss: 1.3054, Total: 3.6607
Epoch 130/300 - Node Loss: 1.0605, Synergy Loss: 1.1727, Total: 3.4058
Epoch 140/300 - Node Loss: 1.1591, Synergy Loss: 0.9807, Total: 3.1205
Epoch 150/300 - Node Loss: 1.3079, Synergy Loss: 0.7460, Total: 2.7998
Epoch 160/300 - Node Loss: 1.2547, Synergy Loss: 0.6772, Total: 2.6091
Epoch 170/300 - Node Loss: 1.2904, Synergy Loss: 0.6024, Total: 2.4953
Epoch 180/300 - Node Loss: 1.2501, Synergy Loss: 0.5169, Total: 2.2838
Epoch 190/300 - Node Loss: 1.2558, Synergy Loss: 0.4609, Total: 2.1776
Epoch 200/300 - Node Loss: 1.2080, Synergy Loss: 0.4389, Total: 2.0859
Epoch 210/300 - Node Loss: 1.2535, Synergy Loss: 0.3948, Total: 2.0432
Epoch 220/300 - Node Loss: 1.1980, Synergy Loss: 0.3608, Total: 1.9196
Epoch 230/300 - Node Loss: 1.1568, Synergy Loss: 0.3302, Total: 1.8171
Epoch 240/300 - Node Loss: 1.1262, Synergy Loss: 0.3203, Total: 1.7668
Epoch 250/300 - Node Loss: 1.1390, Synergy Loss: 0.2804, Total: 1.6998
Epoch 260/300 - Node Loss: 1.0940, Synergy Loss: 0.2560, Total: 1.6061
Epoch 270/300 - Node Loss: 1.1318, Synergy Loss: 0.2539, Total: 1.6396
Epoch 280/300 - Node Loss: 1.0437, Synergy Loss: 0.2506, Total: 1.5448
Epoch 290/300 - Node Loss: 1.0535, Synergy Loss: 0.2362, Total: 1.5258
Epoch 300/300 - Node Loss: 1.0326, Synergy Loss: 0.2560, Total: 1.5446
Existing model archived to: 20250310_201736_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 1048, Best Score: 3181.55
Early stopping at iteration 693, Best Score: 3138.77
Early stopping at iteration 726, Best Score: 3146.61
Early stopping at iteration 522, Best Score: 2914.58
Early stopping at iteration 706, Best Score: 3120.58
Early stopping at iteration 554, Best Score: 2929.94
Early stopping at iteration 712, Best Score: 3155.61
Early stopping at iteration 575, Best Score: 3049.28
Early stopping at iteration 715, Best Score: 3056.88
Early stopping at iteration 917, Best Score: 3159.10
Early stopping at iteration 569, Best Score: 2994.31
Early stopping at iteration 615, Best Score: 3137.70
Early stopping at iteration 728, Best Score: 3157.21
Early stopping at iteration 553, Best Score: 3007.57
Early stopping at iteration 780, Best Score: 3171.18
Early stopping at iteration 558, Best Score: 2988.21
Early stopping at iteration 518, Best Score: 2900.83
Early stopping at iteration 635, Best Score: 3066.46
```

```
Early stopping at iteration 630, Best Score: 3023.05
Early stopping at iteration 574, Best Score: 2988.06
Early stopping at iteration 594, Best Score: 3040.15
Early stopping at iteration 589, Best Score: 3039.08
Early stopping at iteration 693, Best Score: 3053.17
Early stopping at iteration 534, Best Score: 2965.62
Early stopping at iteration 731, Best Score: 3116.75
Early stopping at iteration 610, Best Score: 3052.51
Early stopping at iteration 537, Best Score: 2985.62
Early stopping at iteration 500, Best Score: 2839.30
Early stopping at iteration 556, Best Score: 3010.24
Early stopping at iteration 526, Best Score: 2906.24
Early stopping at iteration 696, Best Score: 3004.17
Early stopping at iteration 513, Best Score: 2918.16
Early stopping at iteration 601, Best Score: 3104.07
Early stopping at iteration 572, Best Score: 2960.72
Early stopping at iteration 534, Best Score: 2970.24
Early stopping at iteration 603, Best Score: 3037.95
Early stopping at iteration 544, Best Score: 2970.13
Early stopping at iteration 571, Best Score: 3048.72
Early stopping at iteration 571, Best Score: 3009.03
Early stopping at iteration 711, Best Score: 3060.08
Early stopping at iteration 698, Best Score: 3067.22
Early stopping at iteration 548, Best Score: 3005.18
Early stopping at iteration 500, Best Score: 2839.30
Early stopping at iteration 867, Best Score: 3168.63
Early stopping at iteration 875, Best Score: 3143.48
Early stopping at iteration 592, Best Score: 3019.63
Early stopping at iteration 689, Best Score: 3095.98
Early stopping at iteration 535, Best Score: 3005.42
Early stopping at iteration 605, Best Score: 3105.29
Early stopping at iteration 747, Best Score: 3162.44
Early stopping at iteration 579, Best Score: 2926.11
Early stopping at iteration 579, Best Score: 3065.68
Early stopping at iteration 521, Best Score: 2903.37
Early stopping at iteration 587, Best Score: 3081.15
Early stopping at iteration 752, Best Score: 3079.19
Early stopping at iteration 500, Best Score: 2839.30
Early stopping at iteration 711, Best Score: 3120.67
Early stopping at iteration 754, Best Score: 3128.20
Early stopping at iteration 542, Best Score: 3019.26
Early stopping at iteration 868, Best Score: 3167.33
Early stopping at iteration 629, Best Score: 3132.98
Early stopping at iteration 849, Best Score: 2975.55
Early stopping at iteration 591, Best Score: 2993.82
Early stopping at iteration 505, Best Score: 2864.79
Early stopping at iteration 1053, Best Score: 3180.07
Early stopping at iteration 500, Best Score: 2839.30
Early stopping at iteration 600, Best Score: 3015.95
Early stopping at iteration 580, Best Score: 3079.17
Early stopping at iteration 818, Best Score: 3150.39
Early stopping at iteration 713, Best Score: 3135.86
Early stopping at iteration 518, Best Score: 2902.46
Early stopping at iteration 649, Best Score: 3057.69
Early stopping at iteration 1190, Best Score: 3166.62
Early stopping at iteration 699, Best Score: 3156.80
Early stopping at iteration 527, Best Score: 2950.80
Early stopping at iteration 695, Best Score: 3052.94
Early stopping at iteration 574, Best Score: 3008.57
Early stopping at iteration 582, Best Score: 2988.47
```

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Early stopping at iteration 668, Best Score: 3108.78
Early stopping at iteration 590, Best Score: 3065.79
Early stopping at iteration 765, Best Score: 3154.24
Early stopping at iteration 879, Best Score: 3131.73
Early stopping at iteration 764, Best Score: 3161.81
Early stopping at iteration 675, Best Score: 3117.19
Early stopping at iteration 500, Best Score: 2839.30
Early stopping at iteration 740, Best Score: 3148.00
Early stopping at iteration 598, Best Score: 3076.59
Early stopping at iteration 591, Best Score: 3068.01
Early stopping at iteration 851, Best Score: 3130.71
Early stopping at iteration 927, Best Score: 3168.54
Early stopping at iteration 626, Best Score: 3098.48
Early stopping at iteration 514, Best Score: 2887.44
Early stopping at iteration 575, Best Score: 2953.99
Early stopping at iteration 544, Best Score: 2946.60
Early stopping at iteration 583, Best Score: 2885.08
Early stopping at iteration 500, Best Score: 2839.30
Early stopping at iteration 540, Best Score: 2894.73
Early stopping at iteration 554, Best Score: 3015.09
Early stopping at iteration 687, Best Score: 3120.21
  Deck Trial 100/250
Early stopping at iteration 657, Best Score: 2859.10
Early stopping at iteration 1045, Best Score: 3016.55
Early stopping at iteration 702, Best Score: 3123.66
Early stopping at iteration 586, Best Score: 3025.65
Early stopping at iteration 507, Best Score: 2878.26
Early stopping at iteration 726, Best Score: 3096.51
Early stopping at iteration 582, Best Score: 3071.89
Early stopping at iteration 595, Best Score: 3065.37
Early stopping at iteration 591, Best Score: 3127.37
Early stopping at iteration 580, Best Score: 3059.67
Early stopping at iteration 532, Best Score: 2984.25
Early stopping at iteration 534, Best Score: 2941.27
Early stopping at iteration 730, Best Score: 3151.96
Early stopping at iteration 749, Best Score: 3160.25
Early stopping at iteration 764, Best Score: 3168.62
Early stopping at iteration 687, Best Score: 3112.09
Early stopping at iteration 827, Best Score: 3180.70
Early stopping at iteration 671, Best Score: 3126.70
Early stopping at iteration 500, Best Score: 2839.30
Early stopping at iteration 509, Best Score: 2852.12
Early stopping at iteration 579, Best Score: 3010.83
Early stopping at iteration 537, Best Score: 2974.57
Early stopping at iteration 900, Best Score: 3159.21
Early stopping at iteration 744, Best Score: 3159.61
Early stopping at iteration 696, Best Score: 3143.70
Early stopping at iteration 601, Best Score: 3050.72
Early stopping at iteration 566, Best Score: 2960.96
Early stopping at iteration 877, Best Score: 3179.55
Early stopping at iteration 657, Best Score: 3120.41
Early stopping at iteration 1021, Best Score: 3170.63
Early stopping at iteration 532, Best Score: 2958.32
Early stopping at iteration 741, Best Score: 3132.94
Early stopping at iteration 542, Best Score: 2964.45
Early stopping at iteration 585, Best Score: 3020.95
Early stopping at iteration 1271, Best Score: 3178.00
Early stopping at iteration 686, Best Score: 3062.68
Early stopping at iteration 521, Best Score: 2886.56
Early stopping at iteration 566, Best Score: 2977.36
```

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Early stopping at iteration 825, Best Score: 3164.61
Early stopping at iteration 500, Best Score: 2839.30
Early stopping at iteration 754, Best Score: 3171.43
Early stopping at iteration 668, Best Score: 3136.55
Early stopping at iteration 500, Best Score: 2839.30
Early stopping at iteration 794, Best Score: 3130.21
Early stopping at iteration 664, Best Score: 3116.61
Early stopping at iteration 635, Best Score: 3040.21
Early stopping at iteration 928, Best Score: 3103.65
Early stopping at iteration 618, Best Score: 2967.55
Early stopping at iteration 828, Best Score: 2999.24
Early stopping at iteration 678, Best Score: 3049.84
Early stopping at iteration 978, Best Score: 3162.51
Early stopping at iteration 625, Best Score: 3020.09
Early stopping at iteration 535, Best Score: 2919.59
Early stopping at iteration 567, Best Score: 3022.59
Early stopping at iteration 523, Best Score: 2889.96
Early stopping at iteration 586, Best Score: 3095.30
Early stopping at iteration 877, Best Score: 3153.06
Early stopping at iteration 671, Best Score: 3135.35
Early stopping at iteration 794, Best Score: 3151.65
Early stopping at iteration 716, Best Score: 3139.47
Early stopping at iteration 727, Best Score: 3102.36
Early stopping at iteration 724, Best Score: 3134.75
Early stopping at iteration 1017, Best Score: 3062.75
Early stopping at iteration 840, Best Score: 3149.57
Early stopping at iteration 936, Best Score: 3172.86
Early stopping at iteration 747, Best Score: 3138.70
Early stopping at iteration 892, Best Score: 3169.88
Early stopping at iteration 615, Best Score: 3085.45
Early stopping at iteration 500, Best Score: 2839.30
Early stopping at iteration 529, Best Score: 2936.49
Early stopping at iteration 615, Best Score: 3056.30
Early stopping at iteration 1002, Best Score: 3133.47
Early stopping at iteration 602, Best Score: 3015.93
Early stopping at iteration 788, Best Score: 3105.58
Early stopping at iteration 749, Best Score: 3154.39
Early stopping at iteration 558, Best Score: 3024.66
Early stopping at iteration 637, Best Score: 3104.53
Early stopping at iteration 736, Best Score: 3158.39
Early stopping at iteration 895, Best Score: 3152.39
Early stopping at iteration 630, Best Score: 3068.63
Early stopping at iteration 601, Best Score: 3016.32
Early stopping at iteration 747, Best Score: 3128.19
Early stopping at iteration 1052, Best Score: 3145.44
Early stopping at iteration 716, Best Score: 3158.39
Early stopping at iteration 620, Best Score: 3093.23
Early stopping at iteration 541, Best Score: 2942.82
Early stopping at iteration 597, Best Score: 3051.66
Early stopping at iteration 693, Best Score: 3117.45
Early stopping at iteration 826, Best Score: 3139.78
Early stopping at iteration 581, Best Score: 3029.56
Early stopping at iteration 604, Best Score: 2969.06
Early stopping at iteration 686, Best Score: 3141.00
Early stopping at iteration 534, Best Score: 2925.92
Early stopping at iteration 1087, Best Score: 3182.88
Early stopping at iteration 500, Best Score: 2839.30
Early stopping at iteration 717, Best Score: 3080.06
Early stopping at iteration 505, Best Score: 2861.25
Early stopping at iteration 791, Best Score: 3172.03
```

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Early stopping at iteration 566, Best Score: 3010.79
Early stopping at iteration 721, Best Score: 3089.59
  Deck Trial 200/250
Early stopping at iteration 510, Best Score: 2868.24
Early stopping at iteration 891, Best Score: 3183.41
Early stopping at iteration 717, Best Score: 3129.15
Early stopping at iteration 550, Best Score: 2938.19
Early stopping at iteration 603, Best Score: 3085.95
Early stopping at iteration 691, Best Score: 3119.34
Early stopping at iteration 782, Best Score: 3178.85
Early stopping at iteration 807, Best Score: 3170.74
Early stopping at iteration 769, Best Score: 3167.92
Early stopping at iteration 1116, Best Score: 3122.90
Early stopping at iteration 598, Best Score: 3096.57
Early stopping at iteration 769, Best Score: 3100.40
Early stopping at iteration 907, Best Score: 3178.15
Early stopping at iteration 633, Best Score: 3098.74
Early stopping at iteration 603, Best Score: 3051.91
Early stopping at iteration 500, Best Score: 2839.30
Early stopping at iteration 760, Best Score: 3123.31
Early stopping at iteration 735, Best Score: 3115.44
Early stopping at iteration 711, Best Score: 3153.79
Early stopping at iteration 574, Best Score: 2938.90
Early stopping at iteration 745, Best Score: 3115.55
Early stopping at iteration 566, Best Score: 2971.10
Early stopping at iteration 688, Best Score: 3142.46
Early stopping at iteration 524, Best Score: 2950.53
Early stopping at iteration 524, Best Score: 2926.57
Early stopping at iteration 527, Best Score: 2918.66
Early stopping at iteration 921, Best Score: 3157.90
Early stopping at iteration 747, Best Score: 3157.10
Early stopping at iteration 619, Best Score: 3068.15
Early stopping at iteration 509, Best Score: 2870.61
Early stopping at iteration 500, Best Score: 2839.30
Early stopping at iteration 755, Best Score: 3031.19
Early stopping at iteration 500, Best Score: 2839.30
Early stopping at iteration 622, Best Score: 3099.05
Early stopping at iteration 589, Best Score: 3031.69
Early stopping at iteration 1084, Best Score: 3184.97
Early stopping at iteration 600, Best Score: 3058.91
Early stopping at iteration 593, Best Score: 3003.71
Early stopping at iteration 657, Best Score: 3144.15
Early stopping at iteration 642, Best Score: 3138.12
Early stopping at iteration 628, Best Score: 3098.79
Early stopping at iteration 878, Best Score: 3157.79
Early stopping at iteration 549, Best Score: 3006.94
Early stopping at iteration 895, Best Score: 3168.02
Early stopping at iteration 580, Best Score: 3048.27
Early stopping at iteration 867, Best Score: 3142.16
Early stopping at iteration 906, Best Score: 3159.81
Early stopping at iteration 838, Best Score: 3156.36
Early stopping at iteration 804, Best Score: 3162.61
Early stopping at iteration 980, Best Score: 3186.25
Early stopping at iteration 653, Best Score: 3116.12
GNN Trial 15 completed with 250 decks.

GNN Trial 16/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 58.6465, Synergy Loss: 2.0400, Total: 62.7265
Epoch 20/300 - Node Loss: 6.7310, Synergy Loss: 1.9064, Total: 10.5438
```

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Epoch 30/300 - Node Loss: 3.0220, Synergy Loss: 1.7764, Total: 6.5748
Epoch 40/300 - Node Loss: 1.5854, Synergy Loss: 1.6806, Total: 4.9466
Epoch 50/300 - Node Loss: 1.0850, Synergy Loss: 1.6144, Total: 4.3137
Epoch 60/300 - Node Loss: 1.0086, Synergy Loss: 1.5662, Total: 4.1410
Epoch 70/300 - Node Loss: 1.0059, Synergy Loss: 1.5303, Total: 4.0665
Epoch 80/300 - Node Loss: 1.0052, Synergy Loss: 1.5098, Total: 4.0248
Epoch 90/300 - Node Loss: 1.0031, Synergy Loss: 1.4990, Total: 4.0010
Epoch 100/300 - Node Loss: 1.0067, Synergy Loss: 1.4939, Total: 3.9944
Epoch 110/300 - Node Loss: 1.0004, Synergy Loss: 1.4948, Total: 3.9900
Early stopping at epoch 116
Existing model archived to: 20250310_202108_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 878, Best Score: 1014.62
Early stopping at iteration 579, Best Score: 1005.18
Early stopping at iteration 545, Best Score: 1004.35
Early stopping at iteration 594, Best Score: 1005.48
Early stopping at iteration 621, Best Score: 1010.89
Early stopping at iteration 702, Best Score: 1016.89
Early stopping at iteration 521, Best Score: 1000.06
Early stopping at iteration 701, Best Score: 1008.60
Early stopping at iteration 568, Best Score: 1010.91
Early stopping at iteration 625, Best Score: 1002.91
Early stopping at iteration 536, Best Score: 1004.91
Early stopping at iteration 522, Best Score: 998.66
Early stopping at iteration 510, Best Score: 999.78
Early stopping at iteration 719, Best Score: 1016.60
Early stopping at iteration 713, Best Score: 1012.60
Early stopping at iteration 824, Best Score: 1018.89
Early stopping at iteration 820, Best Score: 1014.89
Early stopping at iteration 830, Best Score: 1004.62
Early stopping at iteration 943, Best Score: 1006.62
Early stopping at iteration 803, Best Score: 1012.33
Early stopping at iteration 604, Best Score: 1014.62
Early stopping at iteration 852, Best Score: 1015.46
Early stopping at iteration 608, Best Score: 1004.33
Early stopping at iteration 853, Best Score: 1024.88
Early stopping at iteration 559, Best Score: 1006.62
Early stopping at iteration 691, Best Score: 1006.33
Early stopping at iteration 568, Best Score: 1004.06
Early stopping at iteration 629, Best Score: 1011.48
Early stopping at iteration 605, Best Score: 1005.18
Early stopping at iteration 516, Best Score: 1002.64
Early stopping at iteration 641, Best Score: 1013.48
Early stopping at iteration 540, Best Score: 999.78
Early stopping at iteration 553, Best Score: 1007.77
Early stopping at iteration 555, Best Score: 1000.93
Early stopping at iteration 647, Best Score: 1012.89
Early stopping at iteration 670, Best Score: 1020.60
Early stopping at iteration 529, Best Score: 1001.78
Early stopping at iteration 701, Best Score: 1022.88
Early stopping at iteration 520, Best Score: 1003.20
Early stopping at iteration 637, Best Score: 1010.33
Early stopping at iteration 580, Best Score: 1004.06
Early stopping at iteration 522, Best Score: 1006.04
Early stopping at iteration 678, Best Score: 1006.91
Early stopping at iteration 525, Best Score: 1001.78
Early stopping at iteration 694, Best Score: 1012.89
Early stopping at iteration 643, Best Score: 1004.06
Early stopping at iteration 833, Best Score: 1007.75
Early stopping at iteration 676, Best Score: 1006.91
```

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Early stopping at iteration 570, Best Score: 1001.49
Early stopping at iteration 662, Best Score: 1012.04
Early stopping at iteration 580, Best Score: 1012.60
Early stopping at iteration 551, Best Score: 1004.06
Early stopping at iteration 574, Best Score: 1009.77
Early stopping at iteration 684, Best Score: 1011.18
Early stopping at iteration 797, Best Score: 1004.33
Early stopping at iteration 558, Best Score: 999.78
Early stopping at iteration 611, Best Score: 1011.48
Early stopping at iteration 515, Best Score: 999.22
Early stopping at iteration 848, Best Score: 1010.04
Early stopping at iteration 611, Best Score: 1011.46
Early stopping at iteration 550, Best Score: 1004.91
Early stopping at iteration 617, Best Score: 1007.75
Early stopping at iteration 526, Best Score: 999.78
Early stopping at iteration 676, Best Score: 1008.89
Early stopping at iteration 664, Best Score: 1006.06
Early stopping at iteration 686, Best Score: 1017.75
Early stopping at iteration 699, Best Score: 1005.18
Early stopping at iteration 1197, Best Score: 1012.33
Early stopping at iteration 580, Best Score: 1001.78
Early stopping at iteration 597, Best Score: 1008.33
Early stopping at iteration 540, Best Score: 999.78
Early stopping at iteration 658, Best Score: 1007.18
Early stopping at iteration 620, Best Score: 1010.60
Early stopping at iteration 725, Best Score: 1012.33
Early stopping at iteration 966, Best Score: 1007.48
Early stopping at iteration 760, Best Score: 1008.62
Early stopping at iteration 822, Best Score: 1016.04
Early stopping at iteration 664, Best Score: 1009.18
Early stopping at iteration 633, Best Score: 1012.33
Early stopping at iteration 653, Best Score: 1014.89
Early stopping at iteration 755, Best Score: 1014.04
Early stopping at iteration 621, Best Score: 1014.04
Early stopping at iteration 637, Best Score: 1007.77
Early stopping at iteration 532, Best Score: 1003.49
Early stopping at iteration 596, Best Score: 1009.77
Early stopping at iteration 590, Best Score: 1010.89
Early stopping at iteration 563, Best Score: 1004.06
Early stopping at iteration 639, Best Score: 1000.64
Early stopping at iteration 722, Best Score: 1006.62
Early stopping at iteration 1032, Best Score: 1003.77
Early stopping at iteration 557, Best Score: 1015.17
Early stopping at iteration 676, Best Score: 1017.46
Early stopping at iteration 660, Best Score: 1011.18
Early stopping at iteration 517, Best Score: 1000.07
Early stopping at iteration 542, Best Score: 999.78
Early stopping at iteration 532, Best Score: 999.78
Early stopping at iteration 728, Best Score: 1014.60
Early stopping at iteration 534, Best Score: 999.78
Early stopping at iteration 815, Best Score: 1009.75
  Deck Trial 100/250
Early stopping at iteration 543, Best Score: 1000.06
Early stopping at iteration 673, Best Score: 1010.04
Early stopping at iteration 554, Best Score: 1010.91
Early stopping at iteration 708, Best Score: 1017.75
Early stopping at iteration 647, Best Score: 1004.06
Early stopping at iteration 866, Best Score: 1011.48
Early stopping at iteration 544, Best Score: 1000.06
Early stopping at iteration 614, Best Score: 1008.62
```

```
Early stopping at iteration 629, Best Score: 1003.48
Early stopping at iteration 720, Best Score: 1003.48
Early stopping at iteration 701, Best Score: 1009.77
Early stopping at iteration 653, Best Score: 1003.49
Early stopping at iteration 548, Best Score: 1007.20
Early stopping at iteration 525, Best Score: 999.78
Early stopping at iteration 718, Best Score: 1005.18
Early stopping at iteration 822, Best Score: 1007.48
Early stopping at iteration 742, Best Score: 1013.18
Early stopping at iteration 698, Best Score: 1009.48
Early stopping at iteration 833, Best Score: 1020.31
Early stopping at iteration 512, Best Score: 998.66
Early stopping at iteration 558, Best Score: 1001.20
Early stopping at iteration 561, Best Score: 998.93
Early stopping at iteration 702, Best Score: 1011.18
Early stopping at iteration 525, Best Score: 999.22
Early stopping at iteration 622, Best Score: 1010.89
Early stopping at iteration 1077, Best Score: 1009.48
Early stopping at iteration 876, Best Score: 1018.33
Early stopping at iteration 685, Best Score: 1013.75
Early stopping at iteration 535, Best Score: 1004.33
Early stopping at iteration 592, Best Score: 1009.49
Early stopping at iteration 551, Best Score: 1000.06
Early stopping at iteration 627, Best Score: 1002.35
Early stopping at iteration 592, Best Score: 1004.33
Early stopping at iteration 515, Best Score: 999.78
Early stopping at iteration 600, Best Score: 1002.06
Early stopping at iteration 728, Best Score: 1008.33
Early stopping at iteration 781, Best Score: 1005.77
Early stopping at iteration 761, Best Score: 1023.17
Early stopping at iteration 682, Best Score: 1011.48
Early stopping at iteration 618, Best Score: 1010.62
Early stopping at iteration 727, Best Score: 1014.89
Early stopping at iteration 639, Best Score: 999.48
Early stopping at iteration 551, Best Score: 1001.20
Early stopping at iteration 642, Best Score: 1009.18
Early stopping at iteration 987, Best Score: 1022.88
Early stopping at iteration 508, Best Score: 998.66
Early stopping at iteration 576, Best Score: 1001.20
Early stopping at iteration 726, Best Score: 1017.17
Early stopping at iteration 659, Best Score: 1006.91
Early stopping at iteration 887, Best Score: 1004.62
Early stopping at iteration 711, Best Score: 1018.60
Early stopping at iteration 518, Best Score: 999.22
Early stopping at iteration 626, Best Score: 1002.62
Early stopping at iteration 584, Best Score: 1000.64
Early stopping at iteration 531, Best Score: 999.78
Early stopping at iteration 747, Best Score: 1008.62
Early stopping at iteration 590, Best Score: 1004.91
Early stopping at iteration 509, Best Score: 1001.80
Early stopping at iteration 659, Best Score: 1004.33
Early stopping at iteration 571, Best Score: 1010.62
Early stopping at iteration 526, Best Score: 999.78
Early stopping at iteration 745, Best Score: 1019.75
Early stopping at iteration 594, Best Score: 1000.06
Early stopping at iteration 531, Best Score: 999.78
Early stopping at iteration 836, Best Score: 1017.18
Early stopping at iteration 772, Best Score: 1015.75
Early stopping at iteration 576, Best Score: 1010.33
Early stopping at iteration 743, Best Score: 1020.60
```

```
Early stopping at iteration 728, Best Score: 1026.59
Early stopping at iteration 558, Best Score: 1004.91
Early stopping at iteration 792, Best Score: 1009.18
Early stopping at iteration 852, Best Score: 1002.04
Early stopping at iteration 1103, Best Score: 1005.77
Early stopping at iteration 619, Best Score: 1007.18
Early stopping at iteration 906, Best Score: 1012.88
Early stopping at iteration 700, Best Score: 1012.62
Early stopping at iteration 536, Best Score: 1001.22
Early stopping at iteration 1059, Best Score: 1028.59
Early stopping at iteration 689, Best Score: 1015.75
Early stopping at iteration 824, Best Score: 1010.89
Early stopping at iteration 667, Best Score: 1015.75
Early stopping at iteration 669, Best Score: 1010.89
Early stopping at iteration 674, Best Score: 1001.20
Early stopping at iteration 573, Best Score: 1006.62
Early stopping at iteration 636, Best Score: 1004.91
Early stopping at iteration 828, Best Score: 1018.60
Early stopping at iteration 669, Best Score: 1007.77
Early stopping at iteration 726, Best Score: 1014.89
Early stopping at iteration 926, Best Score: 1008.33
Early stopping at iteration 982, Best Score: 1024.31
Early stopping at iteration 534, Best Score: 1004.06
Early stopping at iteration 565, Best Score: 1004.33
Early stopping at iteration 561, Best Score: 1004.91
Early stopping at iteration 589, Best Score: 1004.91
Early stopping at iteration 551, Best Score: 1004.91
Early stopping at iteration 667, Best Score: 1014.04
Early stopping at iteration 618, Best Score: 1010.62
Early stopping at iteration 604, Best Score: 1014.89
Early stopping at iteration 621, Best Score: 1007.18
Early stopping at iteration 598, Best Score: 1006.91
  Deck Trial 200/250
Early stopping at iteration 947, Best Score: 1011.75
Early stopping at iteration 639, Best Score: 1007.48
Early stopping at iteration 549, Best Score: 1005.77
Early stopping at iteration 584, Best Score: 1004.62
Early stopping at iteration 545, Best Score: 999.78
Early stopping at iteration 669, Best Score: 1011.18
Early stopping at iteration 522, Best Score: 1004.35
Early stopping at iteration 784, Best Score: 1021.46
Early stopping at iteration 670, Best Score: 1017.17
Early stopping at iteration 682, Best Score: 1004.33
Early stopping at iteration 516, Best Score: 1000.93
Early stopping at iteration 659, Best Score: 1005.48
Early stopping at iteration 612, Best Score: 1004.91
Early stopping at iteration 557, Best Score: 1004.06
Early stopping at iteration 522, Best Score: 1004.64
Early stopping at iteration 578, Best Score: 1005.20
Early stopping at iteration 947, Best Score: 1018.60
Early stopping at iteration 532, Best Score: 1001.78
Early stopping at iteration 564, Best Score: 1009.18
Early stopping at iteration 713, Best Score: 1024.31
Early stopping at iteration 692, Best Score: 1004.91
Early stopping at iteration 555, Best Score: 1004.06
Early stopping at iteration 625, Best Score: 1016.04
Early stopping at iteration 613, Best Score: 1008.33
Early stopping at iteration 796, Best Score: 1015.17
Early stopping at iteration 789, Best Score: 1012.04
Early stopping at iteration 582, Best Score: 1004.06
```

```
Early stopping at iteration 740, Best Score: 1011.48
Early stopping at iteration 596, Best Score: 1011.18
Early stopping at iteration 678, Best Score: 1004.62
Early stopping at iteration 693, Best Score: 1010.33
Early stopping at iteration 648, Best Score: 1000.06
Early stopping at iteration 783, Best Score: 1013.18
Early stopping at iteration 777, Best Score: 1017.18
Early stopping at iteration 598, Best Score: 1008.33
Early stopping at iteration 728, Best Score: 1018.31
Early stopping at iteration 623, Best Score: 1011.75
Early stopping at iteration 570, Best Score: 1004.91
Early stopping at iteration 691, Best Score: 1004.35
Early stopping at iteration 615, Best Score: 1010.60
Early stopping at iteration 868, Best Score: 1018.89
Early stopping at iteration 518, Best Score: 999.22
Early stopping at iteration 774, Best Score: 1014.60
Early stopping at iteration 548, Best Score: 999.20
Early stopping at iteration 533, Best Score: 999.78
Early stopping at iteration 720, Best Score: 1004.91
Early stopping at iteration 613, Best Score: 1007.48
Early stopping at iteration 930, Best Score: 1008.33
Early stopping at iteration 895, Best Score: 1020.88
Early stopping at iteration 720, Best Score: 1012.60
Early stopping at iteration 593, Best Score: 1005.48
GNN Trial 16 completed with 250 decks.

GNN Trial 17/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 80.5152, Synergy Loss: 2.1336, Total: 84.7824
Epoch 20/300 - Node Loss: 8.5018, Synergy Loss: 2.0138, Total: 12.5294
Epoch 30/300 - Node Loss: 2.1718, Synergy Loss: 1.9724, Total: 6.1167
Epoch 40/300 - Node Loss: 1.1266, Synergy Loss: 1.8828, Total: 4.8922
Epoch 50/300 - Node Loss: 1.0110, Synergy Loss: 1.8144, Total: 4.6399
Epoch 60/300 - Node Loss: 1.0037, Synergy Loss: 1.7520, Total: 4.5077
Epoch 70/300 - Node Loss: 1.0043, Synergy Loss: 1.6946, Total: 4.3934
Epoch 80/300 - Node Loss: 1.0004, Synergy Loss: 1.6454, Total: 4.2912
Epoch 90/300 - Node Loss: 1.0006, Synergy Loss: 1.6037, Total: 4.2080
Epoch 100/300 - Node Loss: 1.0009, Synergy Loss: 1.5697, Total: 4.1404
Epoch 110/300 - Node Loss: 1.0001, Synergy Loss: 1.5439, Total: 4.0879
Epoch 120/300 - Node Loss: 1.0032, Synergy Loss: 1.5241, Total: 4.0513
Epoch 130/300 - Node Loss: 0.9999, Synergy Loss: 1.5108, Total: 4.0216
Epoch 140/300 - Node Loss: 1.0012, Synergy Loss: 1.5035, Total: 4.0083
Epoch 150/300 - Node Loss: 0.9999, Synergy Loss: 1.4983, Total: 3.9966
Epoch 160/300 - Node Loss: 0.9998, Synergy Loss: 1.4967, Total: 3.9931
Epoch 170/300 - Node Loss: 0.9998, Synergy Loss: 1.4943, Total: 3.9884
Epoch 180/300 - Node Loss: 0.9998, Synergy Loss: 1.4920, Total: 3.9838
Epoch 190/300 - Node Loss: 1.0166, Synergy Loss: 1.4196, Total: 3.8558
Epoch 200/300 - Node Loss: 1.0648, Synergy Loss: 1.3657, Total: 3.7961
Epoch 210/300 - Node Loss: 1.0373, Synergy Loss: 1.3374, Total: 3.7122
Epoch 220/300 - Node Loss: 1.0491, Synergy Loss: 1.2787, Total: 3.6064
Epoch 230/300 - Node Loss: 1.0534, Synergy Loss: 1.2132, Total: 3.4798
Epoch 240/300 - Node Loss: 1.0776, Synergy Loss: 1.1295, Total: 3.3366
Epoch 250/300 - Node Loss: 1.0696, Synergy Loss: 1.0993, Total: 3.2682
Epoch 260/300 - Node Loss: 1.0883, Synergy Loss: 0.9564, Total: 3.0011
Epoch 270/300 - Node Loss: 1.3404, Synergy Loss: 0.7888, Total: 2.9179
Epoch 280/300 - Node Loss: 1.1947, Synergy Loss: 0.8635, Total: 2.9216
Epoch 290/300 - Node Loss: 1.1494, Synergy Loss: 0.8361, Total: 2.8217
Epoch 300/300 - Node Loss: 1.1475, Synergy Loss: 0.6849, Total: 2.5174
Existing model archived to: 20250310_202725_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
```

```
Early stopping at iteration 799, Best Score: 2146.82
Early stopping at iteration 609, Best Score: 2136.72
Early stopping at iteration 638, Best Score: 2145.46
Early stopping at iteration 1062, Best Score: 2150.88
Early stopping at iteration 646, Best Score: 2140.02
Early stopping at iteration 538, Best Score: 2121.71
Early stopping at iteration 663, Best Score: 2146.69
Early stopping at iteration 603, Best Score: 2144.81
Early stopping at iteration 571, Best Score: 2132.54
Early stopping at iteration 666, Best Score: 2138.69
Early stopping at iteration 619, Best Score: 2152.86
Early stopping at iteration 804, Best Score: 2143.76
Early stopping at iteration 597, Best Score: 2141.25
Early stopping at iteration 550, Best Score: 2144.66
Early stopping at iteration 772, Best Score: 2141.82
Early stopping at iteration 667, Best Score: 2139.64
Early stopping at iteration 929, Best Score: 2152.87
Early stopping at iteration 598, Best Score: 2134.66
Early stopping at iteration 533, Best Score: 2132.45
Early stopping at iteration 670, Best Score: 2134.49
Early stopping at iteration 642, Best Score: 2144.14
Early stopping at iteration 664, Best Score: 2147.78
Early stopping at iteration 518, Best Score: 2117.28
Early stopping at iteration 754, Best Score: 2139.14
Early stopping at iteration 813, Best Score: 2130.41
Early stopping at iteration 582, Best Score: 2134.72
Early stopping at iteration 632, Best Score: 2132.68
Early stopping at iteration 556, Best Score: 2131.84
Early stopping at iteration 680, Best Score: 2149.02
Early stopping at iteration 691, Best Score: 2137.47
Early stopping at iteration 855, Best Score: 2143.89
Early stopping at iteration 556, Best Score: 2129.22
Early stopping at iteration 638, Best Score: 2146.69
Early stopping at iteration 579, Best Score: 2145.44
Early stopping at iteration 671, Best Score: 2141.44
Early stopping at iteration 690, Best Score: 2143.66
Early stopping at iteration 579, Best Score: 2141.67
Early stopping at iteration 702, Best Score: 2145.20
Early stopping at iteration 853, Best Score: 2156.35
Early stopping at iteration 728, Best Score: 2140.99
Early stopping at iteration 744, Best Score: 2147.69
Early stopping at iteration 511, Best Score: 2114.92
Early stopping at iteration 640, Best Score: 2134.85
Early stopping at iteration 607, Best Score: 2134.63
Early stopping at iteration 629, Best Score: 2141.60
Early stopping at iteration 582, Best Score: 2138.70
Early stopping at iteration 570, Best Score: 2142.41
Early stopping at iteration 959, Best Score: 2136.77
Early stopping at iteration 520, Best Score: 2118.75
Early stopping at iteration 561, Best Score: 2134.03
Early stopping at iteration 672, Best Score: 2155.49
Early stopping at iteration 594, Best Score: 2139.45
Early stopping at iteration 710, Best Score: 2140.04
Early stopping at iteration 562, Best Score: 2143.79
Early stopping at iteration 584, Best Score: 2132.81
Early stopping at iteration 703, Best Score: 2143.66
Early stopping at iteration 721, Best Score: 2153.28
Early stopping at iteration 540, Best Score: 2134.23
Early stopping at iteration 974, Best Score: 2145.60
Early stopping at iteration 723, Best Score: 2156.68
```

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Early stopping at iteration 703, Best Score: 2148.40
Early stopping at iteration 649, Best Score: 2135.24
Early stopping at iteration 565, Best Score: 2129.96
Early stopping at iteration 616, Best Score: 2135.60
Early stopping at iteration 580, Best Score: 2151.53
Early stopping at iteration 525, Best Score: 2120.58
Early stopping at iteration 556, Best Score: 2128.15
Early stopping at iteration 692, Best Score: 2158.04
Early stopping at iteration 593, Best Score: 2144.39
Early stopping at iteration 565, Best Score: 2131.47
Early stopping at iteration 654, Best Score: 2145.72
Early stopping at iteration 757, Best Score: 2148.51
Early stopping at iteration 549, Best Score: 2138.93
Early stopping at iteration 611, Best Score: 2139.54
Early stopping at iteration 643, Best Score: 2145.03
Early stopping at iteration 551, Best Score: 2130.89
Early stopping at iteration 667, Best Score: 2146.58
Early stopping at iteration 573, Best Score: 2132.66
Early stopping at iteration 1065, Best Score: 2145.53
Early stopping at iteration 623, Best Score: 2142.38
Early stopping at iteration 673, Best Score: 2141.58
Early stopping at iteration 557, Best Score: 2127.54
Early stopping at iteration 531, Best Score: 2129.21
Early stopping at iteration 1104, Best Score: 2140.27
Early stopping at iteration 905, Best Score: 2167.16
Early stopping at iteration 606, Best Score: 2140.37
Early stopping at iteration 603, Best Score: 2134.83
Early stopping at iteration 539, Best Score: 2129.51
Early stopping at iteration 661, Best Score: 2149.64
Early stopping at iteration 625, Best Score: 2136.62
Early stopping at iteration 634, Best Score: 2135.13
Early stopping at iteration 574, Best Score: 2127.32
Early stopping at iteration 698, Best Score: 2146.60
Early stopping at iteration 557, Best Score: 2138.43
Early stopping at iteration 838, Best Score: 2148.93
Early stopping at iteration 596, Best Score: 2147.87
Early stopping at iteration 559, Best Score: 2127.81
Early stopping at iteration 579, Best Score: 2130.67
Early stopping at iteration 710, Best Score: 2126.73
  Deck Trial 100/250
Early stopping at iteration 572, Best Score: 2128.95
Early stopping at iteration 569, Best Score: 2136.85
Early stopping at iteration 614, Best Score: 2139.22
Early stopping at iteration 646, Best Score: 2144.87
Early stopping at iteration 675, Best Score: 2138.54
Early stopping at iteration 589, Best Score: 2136.08
Early stopping at iteration 682, Best Score: 2143.79
Early stopping at iteration 650, Best Score: 2144.41
Early stopping at iteration 686, Best Score: 2147.35
Early stopping at iteration 581, Best Score: 2128.05
Early stopping at iteration 601, Best Score: 2145.02
Early stopping at iteration 673, Best Score: 2147.19
Early stopping at iteration 575, Best Score: 2136.78
Early stopping at iteration 864, Best Score: 2164.16
Early stopping at iteration 596, Best Score: 2142.63
Early stopping at iteration 709, Best Score: 2128.63
Early stopping at iteration 636, Best Score: 2146.59
Early stopping at iteration 580, Best Score: 2134.13
Early stopping at iteration 700, Best Score: 2149.24
Early stopping at iteration 609, Best Score: 2128.93
```

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Early stopping at iteration 589, Best Score: 2133.20
Early stopping at iteration 558, Best Score: 2142.60
Early stopping at iteration 658, Best Score: 2141.57
Early stopping at iteration 684, Best Score: 2146.66
Early stopping at iteration 619, Best Score: 2130.20
Early stopping at iteration 562, Best Score: 2123.02
Early stopping at iteration 615, Best Score: 2137.76
Early stopping at iteration 747, Best Score: 2154.40
Early stopping at iteration 597, Best Score: 2144.07
Early stopping at iteration 562, Best Score: 2133.46
Early stopping at iteration 953, Best Score: 2140.18
Early stopping at iteration 623, Best Score: 2137.95
Early stopping at iteration 659, Best Score: 2141.23
Early stopping at iteration 658, Best Score: 2136.63
Early stopping at iteration 548, Best Score: 2130.38
Early stopping at iteration 608, Best Score: 2129.94
Early stopping at iteration 656, Best Score: 2147.95
Early stopping at iteration 629, Best Score: 2122.82
Early stopping at iteration 545, Best Score: 2133.15
Early stopping at iteration 667, Best Score: 2137.88
Early stopping at iteration 668, Best Score: 2145.21
Early stopping at iteration 614, Best Score: 2151.91
Early stopping at iteration 664, Best Score: 2135.14
Early stopping at iteration 527, Best Score: 2123.90
Early stopping at iteration 536, Best Score: 2120.54
Early stopping at iteration 599, Best Score: 2143.51
Early stopping at iteration 645, Best Score: 2145.11
Early stopping at iteration 669, Best Score: 2144.53
Early stopping at iteration 788, Best Score: 2152.60
Early stopping at iteration 750, Best Score: 2156.56
Early stopping at iteration 614, Best Score: 2134.49
Early stopping at iteration 590, Best Score: 2142.82
Early stopping at iteration 878, Best Score: 2148.59
Early stopping at iteration 651, Best Score: 2127.43
Early stopping at iteration 626, Best Score: 2146.69
Early stopping at iteration 549, Best Score: 2141.37
Early stopping at iteration 632, Best Score: 2132.96
Early stopping at iteration 559, Best Score: 2140.18
Early stopping at iteration 579, Best Score: 2151.71
Early stopping at iteration 840, Best Score: 2133.47
Early stopping at iteration 586, Best Score: 2147.71
Early stopping at iteration 700, Best Score: 2144.61
Early stopping at iteration 633, Best Score: 2145.98
Early stopping at iteration 796, Best Score: 2141.89
Early stopping at iteration 717, Best Score: 2143.37
Early stopping at iteration 530, Best Score: 2121.09
Early stopping at iteration 607, Best Score: 2143.47
Early stopping at iteration 601, Best Score: 2142.95
Early stopping at iteration 622, Best Score: 2153.96
Early stopping at iteration 604, Best Score: 2137.04
Early stopping at iteration 601, Best Score: 2133.73
Early stopping at iteration 551, Best Score: 2126.55
Early stopping at iteration 612, Best Score: 2144.86
Early stopping at iteration 743, Best Score: 2141.97
Early stopping at iteration 574, Best Score: 2137.26
Early stopping at iteration 642, Best Score: 2146.64
Early stopping at iteration 782, Best Score: 2141.59
Early stopping at iteration 612, Best Score: 2139.67
Early stopping at iteration 649, Best Score: 2142.91
Early stopping at iteration 543, Best Score: 2133.60
```

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Early stopping at iteration 549, Best Score: 2129.16
Early stopping at iteration 533, Best Score: 2128.46
Early stopping at iteration 619, Best Score: 2148.20
Early stopping at iteration 573, Best Score: 2140.28
Early stopping at iteration 567, Best Score: 2136.48
Early stopping at iteration 568, Best Score: 2147.61
Early stopping at iteration 730, Best Score: 2145.58
Early stopping at iteration 580, Best Score: 2132.64
Early stopping at iteration 577, Best Score: 2141.55
Early stopping at iteration 790, Best Score: 2138.55
Early stopping at iteration 641, Best Score: 2141.93
Early stopping at iteration 666, Best Score: 2149.04
Early stopping at iteration 579, Best Score: 2132.95
Early stopping at iteration 642, Best Score: 2148.51
Early stopping at iteration 578, Best Score: 2128.35
Early stopping at iteration 648, Best Score: 2153.73
Early stopping at iteration 575, Best Score: 2141.86
Early stopping at iteration 582, Best Score: 2134.15
Early stopping at iteration 1069, Best Score: 2141.20
Early stopping at iteration 686, Best Score: 2141.47
  Deck Trial 200/250
Early stopping at iteration 556, Best Score: 2137.71
Early stopping at iteration 572, Best Score: 2127.89
Early stopping at iteration 641, Best Score: 2144.86
Early stopping at iteration 590, Best Score: 2136.95
Early stopping at iteration 578, Best Score: 2133.17
Early stopping at iteration 575, Best Score: 2137.62
Early stopping at iteration 702, Best Score: 2136.99
Early stopping at iteration 635, Best Score: 2147.43
Early stopping at iteration 1309, Best Score: 2152.81
Early stopping at iteration 718, Best Score: 2144.11
Early stopping at iteration 646, Best Score: 2147.47
Early stopping at iteration 531, Best Score: 2122.91
Early stopping at iteration 629, Best Score: 2134.90
Early stopping at iteration 686, Best Score: 2134.33
Early stopping at iteration 870, Best Score: 2130.72
Early stopping at iteration 673, Best Score: 2141.50
Early stopping at iteration 759, Best Score: 2150.07
Early stopping at iteration 618, Best Score: 2144.43
Early stopping at iteration 609, Best Score: 2139.89
Early stopping at iteration 729, Best Score: 2130.84
Early stopping at iteration 547, Best Score: 2133.26
Early stopping at iteration 1052, Best Score: 2136.93
Early stopping at iteration 647, Best Score: 2140.92
Early stopping at iteration 534, Best Score: 2117.43
Early stopping at iteration 1003, Best Score: 2142.46
Early stopping at iteration 583, Best Score: 2142.08
Early stopping at iteration 521, Best Score: 2115.04
Early stopping at iteration 537, Best Score: 2130.25
Early stopping at iteration 606, Best Score: 2144.21
Early stopping at iteration 702, Best Score: 2151.14
Early stopping at iteration 633, Best Score: 2150.02
Early stopping at iteration 826, Best Score: 2156.23
Early stopping at iteration 1083, Best Score: 2144.51
Early stopping at iteration 539, Best Score: 2135.48
Early stopping at iteration 709, Best Score: 2145.93
Early stopping at iteration 644, Best Score: 2144.34
Early stopping at iteration 689, Best Score: 2151.65
Early stopping at iteration 728, Best Score: 2143.35
Early stopping at iteration 553, Best Score: 2131.43
```

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Early stopping at iteration 869, Best Score: 2139.55
Early stopping at iteration 582, Best Score: 2134.09
Early stopping at iteration 556, Best Score: 2130.22
Early stopping at iteration 698, Best Score: 2131.37
Early stopping at iteration 722, Best Score: 2136.18
Early stopping at iteration 680, Best Score: 2148.61
Early stopping at iteration 631, Best Score: 2134.23
Early stopping at iteration 562, Best Score: 2129.48
Early stopping at iteration 522, Best Score: 2120.04
Early stopping at iteration 555, Best Score: 2131.86
Early stopping at iteration 597, Best Score: 2135.11
Early stopping at iteration 718, Best Score: 2130.85
GNN Trial 17 completed with 250 decks.

GNN Trial 18/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 47.9443, Synergy Loss: 2.0912, Total: 52.1266
Epoch 20/300 - Node Loss: 6.4261, Synergy Loss: 1.9284, Total: 10.2829
Epoch 30/300 - Node Loss: 2.6391, Synergy Loss: 1.7858, Total: 6.2107
Epoch 40/300 - Node Loss: 1.3683, Synergy Loss: 1.6649, Total: 4.6981
Epoch 50/300 - Node Loss: 1.0621, Synergy Loss: 1.5793, Total: 4.2208
Epoch 60/300 - Node Loss: 1.0272, Synergy Loss: 1.5255, Total: 4.0782
Epoch 70/300 - Node Loss: 1.0311, Synergy Loss: 1.4983, Total: 4.0277
Epoch 80/300 - Node Loss: 1.0123, Synergy Loss: 1.4854, Total: 3.9831
Epoch 90/300 - Node Loss: 1.0372, Synergy Loss: 1.4486, Total: 3.9344
Epoch 100/300 - Node Loss: 1.0656, Synergy Loss: 1.3464, Total: 3.7584
Epoch 110/300 - Node Loss: 1.1413, Synergy Loss: 1.1929, Total: 3.5270
Epoch 120/300 - Node Loss: 1.1764, Synergy Loss: 1.0321, Total: 3.2406
Epoch 130/300 - Node Loss: 1.1894, Synergy Loss: 0.8764, Total: 2.9422
Epoch 140/300 - Node Loss: 1.1592, Synergy Loss: 0.7850, Total: 2.7292
Epoch 150/300 - Node Loss: 1.3353, Synergy Loss: 0.6012, Total: 2.5377
Epoch 160/300 - Node Loss: 1.2314, Synergy Loss: 0.5914, Total: 2.4142
Epoch 170/300 - Node Loss: 1.4106, Synergy Loss: 0.5129, Total: 2.4363
Epoch 180/300 - Node Loss: 1.3425, Synergy Loss: 0.4887, Total: 2.3199
Epoch 190/300 - Node Loss: 1.2410, Synergy Loss: 0.4714, Total: 2.1838
Epoch 200/300 - Node Loss: 1.2984, Synergy Loss: 0.4555, Total: 2.2093
Epoch 210/300 - Node Loss: 1.2344, Synergy Loss: 0.4537, Total: 2.1419
Epoch 220/300 - Node Loss: 1.1699, Synergy Loss: 0.4302, Total: 2.0303
Epoch 230/300 - Node Loss: 1.1736, Synergy Loss: 0.3660, Total: 1.9057
Epoch 240/300 - Node Loss: 1.1582, Synergy Loss: 0.3831, Total: 1.9244
Epoch 250/300 - Node Loss: 1.1072, Synergy Loss: 0.3447, Total: 1.7967
Epoch 260/300 - Node Loss: 1.1008, Synergy Loss: 0.2984, Total: 1.6976
Epoch 270/300 - Node Loss: 1.0917, Synergy Loss: 0.4405, Total: 1.9728
Early stopping at epoch 279
Existing model archived to: 20250310_203324_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 541, Best Score: 2557.87
Early stopping at iteration 559, Best Score: 2563.02
Early stopping at iteration 571, Best Score: 2550.99
Early stopping at iteration 630, Best Score: 2561.64
Early stopping at iteration 577, Best Score: 2563.62
Early stopping at iteration 872, Best Score: 2555.22
Early stopping at iteration 717, Best Score: 2566.46
Early stopping at iteration 613, Best Score: 2551.84
Early stopping at iteration 712, Best Score: 2570.82
Early stopping at iteration 583, Best Score: 2561.39
Early stopping at iteration 559, Best Score: 2553.41
Early stopping at iteration 545, Best Score: 2539.10
Early stopping at iteration 576, Best Score: 2556.32
Early stopping at iteration 552, Best Score: 2552.95
```

```
Early stopping at iteration 832, Best Score: 2562.51
Early stopping at iteration 719, Best Score: 2571.73
Early stopping at iteration 616, Best Score: 2560.23
Early stopping at iteration 586, Best Score: 2561.17
Early stopping at iteration 609, Best Score: 2560.30
Early stopping at iteration 562, Best Score: 2559.70
Early stopping at iteration 639, Best Score: 2571.31
Early stopping at iteration 759, Best Score: 2576.19
Early stopping at iteration 574, Best Score: 2560.83
Early stopping at iteration 717, Best Score: 2562.26
Early stopping at iteration 683, Best Score: 2566.28
Early stopping at iteration 575, Best Score: 2567.13
Early stopping at iteration 601, Best Score: 2558.62
Early stopping at iteration 586, Best Score: 2561.03
Early stopping at iteration 640, Best Score: 2553.74
Early stopping at iteration 554, Best Score: 2547.95
Early stopping at iteration 549, Best Score: 2550.12
Early stopping at iteration 818, Best Score: 2556.82
Early stopping at iteration 571, Best Score: 2557.62
Early stopping at iteration 625, Best Score: 2562.78
Early stopping at iteration 655, Best Score: 2569.99
Early stopping at iteration 701, Best Score: 2556.41
Early stopping at iteration 626, Best Score: 2558.24
Early stopping at iteration 583, Best Score: 2561.44
Early stopping at iteration 569, Best Score: 2559.45
Early stopping at iteration 775, Best Score: 2568.33
Early stopping at iteration 633, Best Score: 2563.33
Early stopping at iteration 593, Best Score: 2558.79
Early stopping at iteration 910, Best Score: 2551.95
Early stopping at iteration 562, Best Score: 2549.15
Early stopping at iteration 598, Best Score: 2558.63
Early stopping at iteration 550, Best Score: 2551.26
Early stopping at iteration 583, Best Score: 2559.38
Early stopping at iteration 616, Best Score: 2562.16
Early stopping at iteration 593, Best Score: 2558.31
Early stopping at iteration 642, Best Score: 2570.01
Early stopping at iteration 555, Best Score: 2552.32
Early stopping at iteration 552, Best Score: 2560.67
Early stopping at iteration 580, Best Score: 2557.79
Early stopping at iteration 533, Best Score: 2543.27
Early stopping at iteration 721, Best Score: 2557.50
Early stopping at iteration 652, Best Score: 2561.14
Early stopping at iteration 562, Best Score: 2563.79
Early stopping at iteration 659, Best Score: 2565.23
Early stopping at iteration 550, Best Score: 2553.03
Early stopping at iteration 529, Best Score: 2537.06
Early stopping at iteration 667, Best Score: 2570.15
Early stopping at iteration 705, Best Score: 2567.08
Early stopping at iteration 632, Best Score: 2563.44
Early stopping at iteration 573, Best Score: 2549.32
Early stopping at iteration 612, Best Score: 2561.03
Early stopping at iteration 685, Best Score: 2567.26
Early stopping at iteration 536, Best Score: 2554.06
Early stopping at iteration 642, Best Score: 2564.84
Early stopping at iteration 632, Best Score: 2562.93
Early stopping at iteration 720, Best Score: 2566.60
Early stopping at iteration 543, Best Score: 2539.80
Early stopping at iteration 573, Best Score: 2551.84
Early stopping at iteration 582, Best Score: 2556.80
Early stopping at iteration 598, Best Score: 2552.40
```

```
Early stopping at iteration 551, Best Score: 2552.35
Early stopping at iteration 706, Best Score: 2564.47
Early stopping at iteration 529, Best Score: 2540.45
Early stopping at iteration 546, Best Score: 2547.45
Early stopping at iteration 869, Best Score: 2556.68
Early stopping at iteration 746, Best Score: 2571.34
Early stopping at iteration 688, Best Score: 2544.46
Early stopping at iteration 712, Best Score: 2565.33
Early stopping at iteration 648, Best Score: 2556.33
Early stopping at iteration 574, Best Score: 2554.48
Early stopping at iteration 534, Best Score: 2544.52
Early stopping at iteration 560, Best Score: 2553.61
Early stopping at iteration 671, Best Score: 2567.43
Early stopping at iteration 577, Best Score: 2565.81
Early stopping at iteration 575, Best Score: 2547.23
Early stopping at iteration 658, Best Score: 2570.11
Early stopping at iteration 684, Best Score: 2559.53
Early stopping at iteration 578, Best Score: 2549.53
Early stopping at iteration 627, Best Score: 2555.72
Early stopping at iteration 611, Best Score: 2560.39
Early stopping at iteration 587, Best Score: 2555.01
Early stopping at iteration 596, Best Score: 2567.84
Early stopping at iteration 559, Best Score: 2545.76
Early stopping at iteration 544, Best Score: 2543.31
Early stopping at iteration 722, Best Score: 2564.04
  Deck Trial 100/250
Early stopping at iteration 530, Best Score: 2542.16
Early stopping at iteration 604, Best Score: 2561.42
Early stopping at iteration 715, Best Score: 2570.32
Early stopping at iteration 537, Best Score: 2542.03
Early stopping at iteration 564, Best Score: 2553.71
Early stopping at iteration 536, Best Score: 2551.56
Early stopping at iteration 565, Best Score: 2549.63
Early stopping at iteration 562, Best Score: 2554.74
Early stopping at iteration 678, Best Score: 2575.01
Early stopping at iteration 688, Best Score: 2571.21
Early stopping at iteration 592, Best Score: 2571.49
Early stopping at iteration 542, Best Score: 2551.29
Early stopping at iteration 534, Best Score: 2552.24
Early stopping at iteration 523, Best Score: 2545.33
Early stopping at iteration 714, Best Score: 2567.51
Early stopping at iteration 618, Best Score: 2558.53
Early stopping at iteration 859, Best Score: 2571.78
Early stopping at iteration 613, Best Score: 2559.41
Early stopping at iteration 701, Best Score: 2569.05
Early stopping at iteration 676, Best Score: 2561.89
Early stopping at iteration 654, Best Score: 2558.21
Early stopping at iteration 599, Best Score: 2545.90
Early stopping at iteration 778, Best Score: 2562.87
Early stopping at iteration 634, Best Score: 2563.75
Early stopping at iteration 652, Best Score: 2558.40
Early stopping at iteration 584, Best Score: 2562.84
Early stopping at iteration 638, Best Score: 2558.85
Early stopping at iteration 572, Best Score: 2549.74
Early stopping at iteration 777, Best Score: 2568.99
Early stopping at iteration 580, Best Score: 2556.43
Early stopping at iteration 577, Best Score: 2551.55
Early stopping at iteration 639, Best Score: 2552.10
Early stopping at iteration 600, Best Score: 2561.13
Early stopping at iteration 604, Best Score: 2558.21
```

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Early stopping at iteration 639, Best Score: 2565.47
Early stopping at iteration 706, Best Score: 2563.27
Early stopping at iteration 640, Best Score: 2569.39
Early stopping at iteration 795, Best Score: 2569.96
Early stopping at iteration 861, Best Score: 2570.07
Early stopping at iteration 692, Best Score: 2554.89
Early stopping at iteration 660, Best Score: 2549.82
Early stopping at iteration 592, Best Score: 2554.72
Early stopping at iteration 640, Best Score: 2575.73
Early stopping at iteration 584, Best Score: 2559.20
Early stopping at iteration 696, Best Score: 2555.24
Early stopping at iteration 645, Best Score: 2557.18
Early stopping at iteration 636, Best Score: 2562.01
Early stopping at iteration 1075, Best Score: 2558.67
Early stopping at iteration 605, Best Score: 2557.75
Early stopping at iteration 730, Best Score: 2563.48
Early stopping at iteration 1005, Best Score: 2570.16
Early stopping at iteration 635, Best Score: 2557.11
Early stopping at iteration 600, Best Score: 2553.06
Early stopping at iteration 787, Best Score: 2567.39
Early stopping at iteration 704, Best Score: 2559.50
Early stopping at iteration 565, Best Score: 2557.16
Early stopping at iteration 678, Best Score: 2560.08
Early stopping at iteration 653, Best Score: 2563.74
Early stopping at iteration 646, Best Score: 2565.67
Early stopping at iteration 895, Best Score: 2567.43
Early stopping at iteration 855, Best Score: 2572.39
Early stopping at iteration 754, Best Score: 2561.61
Early stopping at iteration 623, Best Score: 2551.31
Early stopping at iteration 734, Best Score: 2565.41
Early stopping at iteration 651, Best Score: 2565.65
Early stopping at iteration 734, Best Score: 2567.04
Early stopping at iteration 559, Best Score: 2562.34
Early stopping at iteration 674, Best Score: 2566.21
Early stopping at iteration 558, Best Score: 2559.59
Early stopping at iteration 630, Best Score: 2559.62
Early stopping at iteration 555, Best Score: 2551.62
Early stopping at iteration 572, Best Score: 2548.55
Early stopping at iteration 700, Best Score: 2575.14
Early stopping at iteration 592, Best Score: 2557.01
Early stopping at iteration 611, Best Score: 2563.47
Early stopping at iteration 1134, Best Score: 2560.55
Early stopping at iteration 601, Best Score: 2560.68
Early stopping at iteration 561, Best Score: 2560.92
Early stopping at iteration 557, Best Score: 2545.22
Early stopping at iteration 569, Best Score: 2550.25
Early stopping at iteration 803, Best Score: 2568.44
Early stopping at iteration 720, Best Score: 2553.29
Early stopping at iteration 593, Best Score: 2561.90
Early stopping at iteration 571, Best Score: 2550.17
Early stopping at iteration 558, Best Score: 2554.06
Early stopping at iteration 588, Best Score: 2558.18
Early stopping at iteration 654, Best Score: 2571.15
Early stopping at iteration 598, Best Score: 2565.13
Early stopping at iteration 600, Best Score: 2558.36
Early stopping at iteration 627, Best Score: 2560.93
Early stopping at iteration 578, Best Score: 2555.77
Early stopping at iteration 629, Best Score: 2567.99
Early stopping at iteration 570, Best Score: 2561.92
Early stopping at iteration 700, Best Score: 2561.04
```

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Early stopping at iteration 529, Best Score: 2547.91
Early stopping at iteration 803, Best Score: 2565.56
Early stopping at iteration 689, Best Score: 2561.83
Early stopping at iteration 529, Best Score: 2547.35
Early stopping at iteration 579, Best Score: 2555.94
Early stopping at iteration 634, Best Score: 2569.94
  Deck Trial 200/250
Early stopping at iteration 526, Best Score: 2546.33
Early stopping at iteration 544, Best Score: 2551.11
Early stopping at iteration 578, Best Score: 2567.51
Early stopping at iteration 778, Best Score: 2553.78
Early stopping at iteration 564, Best Score: 2556.43
Early stopping at iteration 640, Best Score: 2570.40
Early stopping at iteration 617, Best Score: 2562.13
Early stopping at iteration 600, Best Score: 2566.64
Early stopping at iteration 602, Best Score: 2555.25
Early stopping at iteration 550, Best Score: 2550.65
Early stopping at iteration 651, Best Score: 2563.91
Early stopping at iteration 617, Best Score: 2570.73
Early stopping at iteration 602, Best Score: 2556.76
Early stopping at iteration 727, Best Score: 2572.58
Early stopping at iteration 559, Best Score: 2556.73
Early stopping at iteration 728, Best Score: 2544.75
Early stopping at iteration 901, Best Score: 2551.82
Early stopping at iteration 851, Best Score: 2560.57
Early stopping at iteration 598, Best Score: 2557.97
Early stopping at iteration 967, Best Score: 2549.11
Early stopping at iteration 593, Best Score: 2561.63
Early stopping at iteration 596, Best Score: 2558.68
Early stopping at iteration 790, Best Score: 2567.67
Early stopping at iteration 605, Best Score: 2558.66
Early stopping at iteration 598, Best Score: 2555.94
Early stopping at iteration 571, Best Score: 2549.45
Early stopping at iteration 550, Best Score: 2549.35
Early stopping at iteration 631, Best Score: 2555.31
Early stopping at iteration 555, Best Score: 2557.52
Early stopping at iteration 646, Best Score: 2564.70
Early stopping at iteration 600, Best Score: 2550.66
Early stopping at iteration 686, Best Score: 2557.68
Early stopping at iteration 569, Best Score: 2551.70
Early stopping at iteration 682, Best Score: 2565.72
Early stopping at iteration 575, Best Score: 2557.37
Early stopping at iteration 646, Best Score: 2560.43
Early stopping at iteration 549, Best Score: 2543.41
Early stopping at iteration 582, Best Score: 2558.03
Early stopping at iteration 610, Best Score: 2559.15
Early stopping at iteration 687, Best Score: 2567.52
Early stopping at iteration 843, Best Score: 2567.94
Early stopping at iteration 535, Best Score: 2548.65
Early stopping at iteration 585, Best Score: 2563.84
Early stopping at iteration 688, Best Score: 2568.90
Early stopping at iteration 779, Best Score: 2566.00
Early stopping at iteration 581, Best Score: 2554.41
Early stopping at iteration 543, Best Score: 2548.79
Early stopping at iteration 769, Best Score: 2558.98
Early stopping at iteration 560, Best Score: 2559.74
Early stopping at iteration 668, Best Score: 2570.48
Early stopping at iteration 696, Best Score: 2556.73
GNN Trial 18 completed with 250 decks.
```

```
GNN Trial 19/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 10.6131, Synergy Loss: 2.3724, Total: 15.3579
Epoch 20/300 - Node Loss: 1.9352, Synergy Loss: 2.1956, Total: 6.3264
Epoch 30/300 - Node Loss: 1.2037, Synergy Loss: 2.0498, Total: 5.3033
Epoch 40/300 - Node Loss: 1.0470, Synergy Loss: 1.9189, Total: 4.8847
Epoch 50/300 - Node Loss: 1.0148, Synergy Loss: 1.7945, Total: 4.6039
Epoch 60/300 - Node Loss: 1.0155, Synergy Loss: 1.6582, Total: 4.3319
Epoch 70/300 - Node Loss: 1.0125, Synergy Loss: 1.4938, Total: 4.0002
Epoch 80/300 - Node Loss: 1.0409, Synergy Loss: 1.2102, Total: 3.4614
Epoch 90/300 - Node Loss: 1.0832, Synergy Loss: 0.8133, Total: 2.7098
Epoch 100/300 - Node Loss: 1.1746, Synergy Loss: 0.5140, Total: 2.2026
Epoch 110/300 - Node Loss: 1.1734, Synergy Loss: 0.4564, Total: 2.0862
Epoch 120/300 - Node Loss: 1.1289, Synergy Loss: 0.4426, Total: 2.0141
Epoch 130/300 - Node Loss: 1.1174, Synergy Loss: 0.4216, Total: 1.9605
Epoch 140/300 - Node Loss: 1.0707, Synergy Loss: 0.4077, Total: 1.8861
Epoch 150/300 - Node Loss: 1.0948, Synergy Loss: 0.3729, Total: 1.8406
Epoch 160/300 - Node Loss: 1.0731, Synergy Loss: 0.3552, Total: 1.7836
Epoch 170/300 - Node Loss: 1.0819, Synergy Loss: 0.3379, Total: 1.7578
Epoch 180/300 - Node Loss: 1.0610, Synergy Loss: 0.3230, Total: 1.7070
Epoch 190/300 - Node Loss: 1.0507, Synergy Loss: 0.3093, Total: 1.6692
Epoch 200/300 - Node Loss: 1.0639, Synergy Loss: 0.2937, Total: 1.6514
Epoch 210/300 - Node Loss: 1.0508, Synergy Loss: 0.2828, Total: 1.6165
Epoch 220/300 - Node Loss: 1.0436, Synergy Loss: 0.2824, Total: 1.6083
Epoch 230/300 - Node Loss: 1.0471, Synergy Loss: 0.2464, Total: 1.5400
Epoch 240/300 - Node Loss: 1.0369, Synergy Loss: 0.2527, Total: 1.5422
Epoch 250/300 - Node Loss: 1.0475, Synergy Loss: 0.2382, Total: 1.5238
Epoch 260/300 - Node Loss: 1.0243, Synergy Loss: 0.2303, Total: 1.4849
Epoch 270/300 - Node Loss: 1.0294, Synergy Loss: 0.2175, Total: 1.4645
Epoch 280/300 - Node Loss: 1.0287, Synergy Loss: 0.2102, Total: 1.4492
Epoch 290/300 - Node Loss: 1.0506, Synergy Loss: 0.2531, Total: 1.5567
Epoch 300/300 - Node Loss: 1.0399, Synergy Loss: 0.1977, Total: 1.4353
Existing model archived to: 20250310_203938_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 625, Best Score: 3204.87
Early stopping at iteration 629, Best Score: 3237.49
Early stopping at iteration 652, Best Score: 3214.74
Early stopping at iteration 704, Best Score: 3244.97
Early stopping at iteration 543, Best Score: 2999.01
Early stopping at iteration 657, Best Score: 3235.18
Early stopping at iteration 607, Best Score: 3195.24
Early stopping at iteration 655, Best Score: 3238.55
Early stopping at iteration 700, Best Score: 3264.12
Early stopping at iteration 608, Best Score: 3104.07
Early stopping at iteration 1023, Best Score: 3302.36
Early stopping at iteration 644, Best Score: 3213.64
Early stopping at iteration 759, Best Score: 3259.77
Early stopping at iteration 930, Best Score: 3287.81
Early stopping at iteration 653, Best Score: 3228.70
Early stopping at iteration 820, Best Score: 3240.28
Early stopping at iteration 909, Best Score: 3271.23
Early stopping at iteration 741, Best Score: 3195.45
Early stopping at iteration 658, Best Score: 3240.62
Early stopping at iteration 640, Best Score: 3207.67
Early stopping at iteration 739, Best Score: 3270.31
Early stopping at iteration 546, Best Score: 3120.71
Early stopping at iteration 638, Best Score: 3149.70
Early stopping at iteration 718, Best Score: 3243.23
Early stopping at iteration 538, Best Score: 3056.33
Early stopping at iteration 775, Best Score: 3263.84
```

```
Early stopping at iteration 635, Best Score: 3254.63
Early stopping at iteration 838, Best Score: 3258.65
Early stopping at iteration 774, Best Score: 3287.43
Early stopping at iteration 615, Best Score: 3166.57
Early stopping at iteration 622, Best Score: 3109.18
Early stopping at iteration 539, Best Score: 3085.85
Early stopping at iteration 643, Best Score: 3225.09
Early stopping at iteration 1162, Best Score: 3248.24
Early stopping at iteration 542, Best Score: 3045.09
Early stopping at iteration 1073, Best Score: 3268.97
Early stopping at iteration 646, Best Score: 3205.36
Early stopping at iteration 823, Best Score: 3232.28
Early stopping at iteration 504, Best Score: 2998.36
Early stopping at iteration 809, Best Score: 3233.15
Early stopping at iteration 628, Best Score: 3245.39
Early stopping at iteration 744, Best Score: 3254.39
Early stopping at iteration 529, Best Score: 3079.44
Early stopping at iteration 654, Best Score: 3207.81
Early stopping at iteration 552, Best Score: 3125.63
Early stopping at iteration 626, Best Score: 3179.08
Early stopping at iteration 714, Best Score: 3280.29
Early stopping at iteration 556, Best Score: 3108.62
Early stopping at iteration 587, Best Score: 3171.90
Early stopping at iteration 667, Best Score: 3239.34
Early stopping at iteration 775, Best Score: 3302.30
Early stopping at iteration 706, Best Score: 3253.44
Early stopping at iteration 641, Best Score: 3215.48
Early stopping at iteration 683, Best Score: 3211.28
Early stopping at iteration 971, Best Score: 3275.40
Early stopping at iteration 561, Best Score: 3060.17
Early stopping at iteration 556, Best Score: 3148.14
Early stopping at iteration 673, Best Score: 3273.79
Early stopping at iteration 516, Best Score: 3022.71
Early stopping at iteration 643, Best Score: 3227.84
Early stopping at iteration 661, Best Score: 3204.17
Early stopping at iteration 584, Best Score: 3177.23
Early stopping at iteration 599, Best Score: 3140.42
Early stopping at iteration 594, Best Score: 3169.84
Early stopping at iteration 500, Best Score: 2957.26
Early stopping at iteration 782, Best Score: 3241.12
Early stopping at iteration 842, Best Score: 3302.35
Early stopping at iteration 745, Best Score: 3293.13
Early stopping at iteration 638, Best Score: 3227.52
Early stopping at iteration 658, Best Score: 3200.29
Early stopping at iteration 682, Best Score: 3203.93
Early stopping at iteration 572, Best Score: 3123.57
Early stopping at iteration 500, Best Score: 2957.26
Early stopping at iteration 742, Best Score: 3260.85
Early stopping at iteration 584, Best Score: 3145.69
Early stopping at iteration 798, Best Score: 3281.91
Early stopping at iteration 626, Best Score: 3171.04
Early stopping at iteration 613, Best Score: 3134.32
Early stopping at iteration 610, Best Score: 3181.73
Early stopping at iteration 1059, Best Score: 3280.56
Early stopping at iteration 589, Best Score: 3191.38
Early stopping at iteration 654, Best Score: 3257.34
Early stopping at iteration 816, Best Score: 3265.62
Early stopping at iteration 773, Best Score: 3275.35
Early stopping at iteration 793, Best Score: 3252.79
Early stopping at iteration 1019, Best Score: 3260.72
```

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Early stopping at iteration 720, Best Score: 3293.25
Early stopping at iteration 513, Best Score: 3025.07
Early stopping at iteration 755, Best Score: 3211.04
Early stopping at iteration 625, Best Score: 3204.65
Early stopping at iteration 794, Best Score: 3268.17
Early stopping at iteration 618, Best Score: 3207.59
Early stopping at iteration 784, Best Score: 3291.51
Early stopping at iteration 753, Best Score: 3269.47
Early stopping at iteration 872, Best Score: 3294.65
Early stopping at iteration 600, Best Score: 3122.38
Early stopping at iteration 669, Best Score: 3225.29
Early stopping at iteration 698, Best Score: 3276.64
Early stopping at iteration 618, Best Score: 3207.61
  Deck Trial 100/250
Early stopping at iteration 538, Best Score: 3075.85
Early stopping at iteration 696, Best Score: 3182.86
Early stopping at iteration 531, Best Score: 3105.97
Early stopping at iteration 657, Best Score: 3254.43
Early stopping at iteration 579, Best Score: 3192.59
Early stopping at iteration 840, Best Score: 3293.13
Early stopping at iteration 725, Best Score: 3229.89
Early stopping at iteration 698, Best Score: 3243.52
Early stopping at iteration 821, Best Score: 3236.96
Early stopping at iteration 753, Best Score: 3253.59
Early stopping at iteration 909, Best Score: 3301.54
Early stopping at iteration 723, Best Score: 3282.06
Early stopping at iteration 764, Best Score: 3301.55
Early stopping at iteration 770, Best Score: 3285.58
Early stopping at iteration 659, Best Score: 3222.58
Early stopping at iteration 1318, Best Score: 3292.74
Early stopping at iteration 822, Best Score: 3310.68
Early stopping at iteration 525, Best Score: 3053.29
Early stopping at iteration 756, Best Score: 3275.62
Early stopping at iteration 544, Best Score: 3136.36
Early stopping at iteration 537, Best Score: 3101.84
Early stopping at iteration 564, Best Score: 3073.69
Early stopping at iteration 715, Best Score: 3186.95
Early stopping at iteration 610, Best Score: 3161.66
Early stopping at iteration 735, Best Score: 3265.01
Early stopping at iteration 620, Best Score: 3216.78
Early stopping at iteration 731, Best Score: 3268.54
Early stopping at iteration 557, Best Score: 3151.18
Early stopping at iteration 678, Best Score: 3276.68
Early stopping at iteration 815, Best Score: 3259.71
Early stopping at iteration 671, Best Score: 3224.88
Early stopping at iteration 525, Best Score: 3013.43
Early stopping at iteration 569, Best Score: 3115.30
Early stopping at iteration 936, Best Score: 3310.77
Early stopping at iteration 795, Best Score: 3289.13
Early stopping at iteration 681, Best Score: 3251.54
Early stopping at iteration 628, Best Score: 3218.39
Early stopping at iteration 598, Best Score: 3146.31
Early stopping at iteration 572, Best Score: 3228.04
Early stopping at iteration 848, Best Score: 3237.02
Early stopping at iteration 729, Best Score: 3287.38
Early stopping at iteration 543, Best Score: 3120.17
Early stopping at iteration 582, Best Score: 3076.84
Early stopping at iteration 934, Best Score: 3285.90
Early stopping at iteration 671, Best Score: 3260.37
Early stopping at iteration 855, Best Score: 3305.11
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Early stopping at iteration 620, Best Score: 3226.04
Early stopping at iteration 605, Best Score: 3182.49
Early stopping at iteration 817, Best Score: 3291.13
Early stopping at iteration 828, Best Score: 3287.52
Early stopping at iteration 735, Best Score: 3297.94
Early stopping at iteration 608, Best Score: 3166.94
Early stopping at iteration 524, Best Score: 3037.76
Early stopping at iteration 851, Best Score: 3284.71
Early stopping at iteration 516, Best Score: 3007.99
Early stopping at iteration 552, Best Score: 3109.60
Early stopping at iteration 528, Best Score: 2998.93
Early stopping at iteration 707, Best Score: 3230.81
Early stopping at iteration 797, Best Score: 3251.56
Early stopping at iteration 730, Best Score: 3251.68
Early stopping at iteration 766, Best Score: 3257.46
Early stopping at iteration 571, Best Score: 3129.80
Early stopping at iteration 575, Best Score: 3105.05
Early stopping at iteration 1025, Best Score: 3237.50
Early stopping at iteration 540, Best Score: 3044.93
Early stopping at iteration 747, Best Score: 3219.87
Early stopping at iteration 720, Best Score: 3246.70
Early stopping at iteration 844, Best Score: 3256.83
Early stopping at iteration 567, Best Score: 3136.26
Early stopping at iteration 610, Best Score: 3166.11
Early stopping at iteration 757, Best Score: 3294.64
Early stopping at iteration 538, Best Score: 3054.02
Early stopping at iteration 1199, Best Score: 3200.46
Early stopping at iteration 816, Best Score: 3293.93
Early stopping at iteration 593, Best Score: 3169.61
Early stopping at iteration 640, Best Score: 3252.53
Early stopping at iteration 594, Best Score: 3163.13
Early stopping at iteration 1129, Best Score: 3270.36
Early stopping at iteration 618, Best Score: 3137.42
Early stopping at iteration 643, Best Score: 3222.39
Early stopping at iteration 719, Best Score: 3253.45
Early stopping at iteration 540, Best Score: 3064.81
Early stopping at iteration 521, Best Score: 3025.76
Early stopping at iteration 562, Best Score: 3063.86
Early stopping at iteration 559, Best Score: 3158.06
Early stopping at iteration 1430, Best Score: 3266.99
Early stopping at iteration 656, Best Score: 3106.22
Early stopping at iteration 577, Best Score: 3200.78
Early stopping at iteration 777, Best Score: 3296.74
Early stopping at iteration 899, Best Score: 3286.71
Early stopping at iteration 580, Best Score: 3200.58
Early stopping at iteration 550, Best Score: 3108.47
Early stopping at iteration 698, Best Score: 3250.63
Early stopping at iteration 534, Best Score: 3023.75
Early stopping at iteration 770, Best Score: 3247.99
Early stopping at iteration 661, Best Score: 3209.56
Early stopping at iteration 609, Best Score: 3191.76
Early stopping at iteration 601, Best Score: 3187.69
Early stopping at iteration 775, Best Score: 3225.21
Early stopping at iteration 1024, Best Score: 3305.96
  Deck Trial 200/250
Early stopping at iteration 528, Best Score: 2994.26
Early stopping at iteration 654, Best Score: 3141.52
Early stopping at iteration 628, Best Score: 3143.44
Early stopping at iteration 545, Best Score: 3137.51
Early stopping at iteration 735, Best Score: 3278.29
```

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Early stopping at iteration 557, Best Score: 2980.17
Early stopping at iteration 654, Best Score: 3195.25
Early stopping at iteration 500, Best Score: 2957.26
Early stopping at iteration 524, Best Score: 3100.28
Early stopping at iteration 806, Best Score: 3271.07
Early stopping at iteration 555, Best Score: 3143.76
Early stopping at iteration 659, Best Score: 3266.43
Early stopping at iteration 715, Best Score: 3285.08
Early stopping at iteration 654, Best Score: 3214.60
Early stopping at iteration 632, Best Score: 3205.86
Early stopping at iteration 828, Best Score: 3290.70
Early stopping at iteration 589, Best Score: 3104.44
Early stopping at iteration 761, Best Score: 3260.14
Early stopping at iteration 586, Best Score: 3191.11
Early stopping at iteration 836, Best Score: 3247.33
Early stopping at iteration 705, Best Score: 3263.77
Early stopping at iteration 532, Best Score: 3061.17
Early stopping at iteration 781, Best Score: 3305.06
Early stopping at iteration 579, Best Score: 3096.01
Early stopping at iteration 646, Best Score: 3247.98
Early stopping at iteration 753, Best Score: 3283.77
Early stopping at iteration 514, Best Score: 3003.41
Early stopping at iteration 710, Best Score: 3264.09
Early stopping at iteration 648, Best Score: 3240.29
Early stopping at iteration 608, Best Score: 3196.94
Early stopping at iteration 866, Best Score: 3308.67
Early stopping at iteration 582, Best Score: 3121.63
Early stopping at iteration 524, Best Score: 3040.66
Early stopping at iteration 685, Best Score: 3271.56
Early stopping at iteration 645, Best Score: 3237.14
Early stopping at iteration 699, Best Score: 3223.96
Early stopping at iteration 751, Best Score: 3257.87
Early stopping at iteration 539, Best Score: 3075.71
Early stopping at iteration 532, Best Score: 3098.21
Early stopping at iteration 687, Best Score: 3270.27
Early stopping at iteration 693, Best Score: 3249.95
Early stopping at iteration 592, Best Score: 3150.46
Early stopping at iteration 621, Best Score: 3221.99
Early stopping at iteration 613, Best Score: 3125.25
Early stopping at iteration 737, Best Score: 3277.49
Early stopping at iteration 566, Best Score: 2974.17
Early stopping at iteration 756, Best Score: 3261.57
Early stopping at iteration 500, Best Score: 2957.26
Early stopping at iteration 562, Best Score: 3104.01
Early stopping at iteration 591, Best Score: 3202.48
Early stopping at iteration 767, Best Score: 3275.48
GNN Trial 19 completed with 250 decks.

GNN Trial 20/20
Training GNN and building synergy matrix...
Epoch 10/300 - Node Loss: 41.9156, Synergy Loss: 1.9917, Total: 45.8991
Epoch 20/300 - Node Loss: 8.8340, Synergy Loss: 1.8305, Total: 12.4950
Epoch 30/300 - Node Loss: 2.7880, Synergy Loss: 1.7547, Total: 6.2974
Epoch 40/300 - Node Loss: 1.4243, Synergy Loss: 1.6537, Total: 4.7316
Epoch 50/300 - Node Loss: 1.0842, Synergy Loss: 1.5792, Total: 4.2426
Epoch 60/300 - Node Loss: 1.0141, Synergy Loss: 1.5289, Total: 4.0720
Epoch 70/300 - Node Loss: 1.0587, Synergy Loss: 1.4834, Total: 4.0254
Epoch 80/300 - Node Loss: 1.0447, Synergy Loss: 1.4109, Total: 3.8665
Epoch 90/300 - Node Loss: 1.0981, Synergy Loss: 1.3029, Total: 3.7038
Epoch 100/300 - Node Loss: 1.0780, Synergy Loss: 1.1989, Total: 3.4759
```

```
Epoch 110/300 - Node Loss: 1.1504, Synergy Loss: 1.0762, Total: 3.3029
Epoch 120/300 - Node Loss: 1.3491, Synergy Loss: 0.8480, Total: 3.0450
Epoch 130/300 - Node Loss: 1.4542, Synergy Loss: 0.7616, Total: 2.9773
Epoch 140/300 - Node Loss: 1.2817, Synergy Loss: 0.6649, Total: 2.6115
Epoch 150/300 - Node Loss: 1.3870, Synergy Loss: 0.6133, Total: 2.6136
Epoch 160/300 - Node Loss: 1.3964, Synergy Loss: 0.5368, Total: 2.4700
Epoch 170/300 - Node Loss: 1.3253, Synergy Loss: 0.5541, Total: 2.4334
Epoch 180/300 - Node Loss: 1.5783, Synergy Loss: 0.4961, Total: 2.5705
Epoch 190/300 - Node Loss: 1.3617, Synergy Loss: 0.4893, Total: 2.3404
Epoch 200/300 - Node Loss: 1.4256, Synergy Loss: 0.4559, Total: 2.3374
Epoch 210/300 - Node Loss: 1.3409, Synergy Loss: 0.4368, Total: 2.2144
Epoch 220/300 - Node Loss: 1.1966, Synergy Loss: 0.4413, Total: 2.0791
Epoch 230/300 - Node Loss: 1.2405, Synergy Loss: 0.4020, Total: 2.0445
Epoch 240/300 - Node Loss: 1.2640, Synergy Loss: 0.4083, Total: 2.0806
Epoch 250/300 - Node Loss: 1.2684, Synergy Loss: 0.3313, Total: 1.9310
Epoch 260/300 - Node Loss: 1.3110, Synergy Loss: 0.3162, Total: 1.9434
Epoch 270/300 - Node Loss: 1.1968, Synergy Loss: 0.2830, Total: 1.7627
Epoch 280/300 - Node Loss: 1.1568, Synergy Loss: 0.2673, Total: 1.6913
Epoch 290/300 - Node Loss: 1.1557, Synergy Loss: 0.2493, Total: 1.6544
Epoch 300/300 - Node Loss: 1.1529, Synergy Loss: 0.2356, Total: 1.6242
Existing model archived to: 20250310_204628_gnn_model_OP08-098.pth
Model saved to: models\gnn_model_OP08-098.pth
Early stopping at iteration 599, Best Score: 3042.93
Early stopping at iteration 608, Best Score: 3055.03
Early stopping at iteration 679, Best Score: 3097.41
Early stopping at iteration 671, Best Score: 3138.31
Early stopping at iteration 578, Best Score: 2995.66
Early stopping at iteration 634, Best Score: 3007.31
Early stopping at iteration 634, Best Score: 3117.33
Early stopping at iteration 877, Best Score: 3119.98
Early stopping at iteration 779, Best Score: 3151.95
Early stopping at iteration 841, Best Score: 3084.93
Early stopping at iteration 588, Best Score: 3031.61
Early stopping at iteration 592, Best Score: 3050.88
Early stopping at iteration 909, Best Score: 3115.43
Early stopping at iteration 885, Best Score: 3018.35
Early stopping at iteration 664, Best Score: 3074.89
Early stopping at iteration 652, Best Score: 3077.11
Early stopping at iteration 627, Best Score: 3127.56
Early stopping at iteration 746, Best Score: 3136.31
Early stopping at iteration 649, Best Score: 3038.69
Early stopping at iteration 652, Best Score: 3110.50
Early stopping at iteration 718, Best Score: 3097.31
Early stopping at iteration 696, Best Score: 3117.43
Early stopping at iteration 680, Best Score: 3020.37
Early stopping at iteration 605, Best Score: 3053.94
Early stopping at iteration 812, Best Score: 3145.51
Early stopping at iteration 630, Best Score: 3055.12
Early stopping at iteration 614, Best Score: 3068.88
Early stopping at iteration 580, Best Score: 2987.75
Early stopping at iteration 571, Best Score: 2978.05
Early stopping at iteration 691, Best Score: 3110.05
Early stopping at iteration 561, Best Score: 2935.75
Early stopping at iteration 955, Best Score: 3144.12
Early stopping at iteration 821, Best Score: 3090.72
Early stopping at iteration 809, Best Score: 3129.55
Early stopping at iteration 542, Best Score: 2949.41
Early stopping at iteration 549, Best Score: 2974.70
Early stopping at iteration 500, Best Score: 2828.46
Early stopping at iteration 624, Best Score: 3057.08
```

```
Early stopping at iteration 609, Best Score: 3081.16
Early stopping at iteration 653, Best Score: 3018.23
Early stopping at iteration 919, Best Score: 3152.63
Early stopping at iteration 774, Best Score: 3097.19
Early stopping at iteration 730, Best Score: 3125.79
Early stopping at iteration 774, Best Score: 3137.63
Early stopping at iteration 648, Best Score: 3087.38
Early stopping at iteration 613, Best Score: 3080.51
Early stopping at iteration 707, Best Score: 3145.69
Early stopping at iteration 806, Best Score: 3135.37
Early stopping at iteration 519, Best Score: 2877.74
Early stopping at iteration 710, Best Score: 2991.30
Early stopping at iteration 747, Best Score: 3141.82
Early stopping at iteration 785, Best Score: 3131.53
Early stopping at iteration 969, Best Score: 3123.45
Early stopping at iteration 583, Best Score: 3007.52
Early stopping at iteration 902, Best Score: 3006.65
Early stopping at iteration 500, Best Score: 2828.46
Early stopping at iteration 591, Best Score: 3030.78
Early stopping at iteration 942, Best Score: 3039.61
Early stopping at iteration 539, Best Score: 2867.49
Early stopping at iteration 573, Best Score: 3030.19
Early stopping at iteration 768, Best Score: 3075.40
Early stopping at iteration 821, Best Score: 3154.43
Early stopping at iteration 679, Best Score: 3047.53
Early stopping at iteration 1198, Best Score: 3149.06
Early stopping at iteration 500, Best Score: 2828.46
Early stopping at iteration 540, Best Score: 2983.46
Early stopping at iteration 631, Best Score: 3020.01
Early stopping at iteration 691, Best Score: 3069.96
Early stopping at iteration 797, Best Score: 3144.38
Early stopping at iteration 887, Best Score: 3102.00
Early stopping at iteration 599, Best Score: 3043.69
Early stopping at iteration 892, Best Score: 3013.74
Early stopping at iteration 545, Best Score: 2884.03
Early stopping at iteration 685, Best Score: 3103.50
Early stopping at iteration 761, Best Score: 3136.20
Early stopping at iteration 616, Best Score: 2915.87
Early stopping at iteration 536, Best Score: 2920.54
Early stopping at iteration 868, Best Score: 3140.32
Early stopping at iteration 750, Best Score: 3079.09
Early stopping at iteration 740, Best Score: 2988.71
Early stopping at iteration 752, Best Score: 3132.87
Early stopping at iteration 585, Best Score: 2854.01
Early stopping at iteration 970, Best Score: 3002.46
Early stopping at iteration 724, Best Score: 3118.96
Early stopping at iteration 544, Best Score: 2909.85
Early stopping at iteration 622, Best Score: 3047.68
Early stopping at iteration 901, Best Score: 2927.37
Early stopping at iteration 813, Best Score: 3070.91
Early stopping at iteration 624, Best Score: 3086.16
Early stopping at iteration 542, Best Score: 2974.70
Early stopping at iteration 562, Best Score: 2996.50
Early stopping at iteration 559, Best Score: 3000.27
Early stopping at iteration 631, Best Score: 3125.50
Early stopping at iteration 688, Best Score: 3074.30
Early stopping at iteration 783, Best Score: 3093.33
Early stopping at iteration 1163, Best Score: 3104.65
Early stopping at iteration 689, Best Score: 3060.92
Early stopping at iteration 500, Best Score: 2828.46
```

```
Early stopping at iteration 647, Best Score: 3028.95
  Deck Trial 100/250
Early stopping at iteration 588, Best Score: 3035.44
Early stopping at iteration 589, Best Score: 3050.49
Early stopping at iteration 677, Best Score: 3112.63
Early stopping at iteration 526, Best Score: 2871.51
Early stopping at iteration 560, Best Score: 2956.71
Early stopping at iteration 739, Best Score: 3147.76
Early stopping at iteration 721, Best Score: 3113.15
Early stopping at iteration 752, Best Score: 3131.56
Early stopping at iteration 697, Best Score: 3115.30
Early stopping at iteration 563, Best Score: 2947.05
Early stopping at iteration 796, Best Score: 3114.13
Early stopping at iteration 650, Best Score: 3067.76
Early stopping at iteration 717, Best Score: 3086.74
Early stopping at iteration 611, Best Score: 3024.52
Early stopping at iteration 599, Best Score: 3047.42
Early stopping at iteration 769, Best Score: 3106.42
Early stopping at iteration 716, Best Score: 3103.93
Early stopping at iteration 759, Best Score: 3127.65
Early stopping at iteration 567, Best Score: 2938.75
Early stopping at iteration 560, Best Score: 2912.75
Early stopping at iteration 662, Best Score: 3113.95
Early stopping at iteration 757, Best Score: 3089.33
Early stopping at iteration 721, Best Score: 3112.34
Early stopping at iteration 918, Best Score: 3152.44
Early stopping at iteration 847, Best Score: 3142.06
Early stopping at iteration 597, Best Score: 3026.40
Early stopping at iteration 989, Best Score: 3139.08
Early stopping at iteration 617, Best Score: 2984.23
Early stopping at iteration 794, Best Score: 3133.14
Early stopping at iteration 507, Best Score: 2872.93
Early stopping at iteration 591, Best Score: 3044.25
Early stopping at iteration 574, Best Score: 2959.44
Early stopping at iteration 648, Best Score: 3102.32
Early stopping at iteration 656, Best Score: 2985.45
Early stopping at iteration 542, Best Score: 2973.16
Early stopping at iteration 632, Best Score: 3073.72
Early stopping at iteration 599, Best Score: 3044.21
Early stopping at iteration 1073, Best Score: 3128.87
Early stopping at iteration 1000, Best Score: 3146.38
Early stopping at iteration 901, Best Score: 3159.20
Early stopping at iteration 588, Best Score: 2993.51
Early stopping at iteration 621, Best Score: 2975.46
Early stopping at iteration 756, Best Score: 3128.18
Early stopping at iteration 701, Best Score: 3091.17
Early stopping at iteration 872, Best Score: 3159.20
Early stopping at iteration 546, Best Score: 3018.33
Early stopping at iteration 509, Best Score: 2876.33
Early stopping at iteration 661, Best Score: 3083.10
Early stopping at iteration 598, Best Score: 2982.25
Early stopping at iteration 893, Best Score: 3112.06
Early stopping at iteration 605, Best Score: 3044.29
Early stopping at iteration 713, Best Score: 3134.93
Early stopping at iteration 578, Best Score: 3006.14
Early stopping at iteration 828, Best Score: 3015.80
Early stopping at iteration 790, Best Score: 3109.07
Early stopping at iteration 773, Best Score: 3116.78
Early stopping at iteration 852, Best Score: 3123.49
Early stopping at iteration 867, Best Score: 3140.31
```

```
Early stopping at iteration 991, Best Score: 3087.27
Early stopping at iteration 581, Best Score: 2965.37
Early stopping at iteration 809, Best Score: 3130.23
Early stopping at iteration 644, Best Score: 3032.95
Early stopping at iteration 702, Best Score: 3103.48
Early stopping at iteration 686, Best Score: 3109.56
Early stopping at iteration 593, Best Score: 3026.36
Early stopping at iteration 593, Best Score: 3057.65
Early stopping at iteration 500, Best Score: 2828.46
Early stopping at iteration 575, Best Score: 2933.29
Early stopping at iteration 1026, Best Score: 3068.87
Early stopping at iteration 643, Best Score: 3072.65
Early stopping at iteration 529, Best Score: 2891.68
Early stopping at iteration 725, Best Score: 3121.36
Early stopping at iteration 636, Best Score: 3036.01
Early stopping at iteration 578, Best Score: 2890.46
Early stopping at iteration 543, Best Score: 2977.93
Early stopping at iteration 545, Best Score: 2937.46
Early stopping at iteration 605, Best Score: 3039.92
Early stopping at iteration 896, Best Score: 3130.39
Early stopping at iteration 714, Best Score: 3132.25
Early stopping at iteration 632, Best Score: 3099.24
Early stopping at iteration 681, Best Score: 3092.42
Early stopping at iteration 532, Best Score: 2866.37
Early stopping at iteration 809, Best Score: 3121.47
Early stopping at iteration 794, Best Score: 3089.77
Early stopping at iteration 730, Best Score: 3010.97
Early stopping at iteration 694, Best Score: 3096.47
Early stopping at iteration 532, Best Score: 2845.67
Early stopping at iteration 799, Best Score: 3130.95
Early stopping at iteration 726, Best Score: 3123.31
Early stopping at iteration 961, Best Score: 3146.12
Early stopping at iteration 566, Best Score: 2936.27
Early stopping at iteration 771, Best Score: 3145.06
Early stopping at iteration 546, Best Score: 2976.23
Early stopping at iteration 500, Best Score: 2828.46
Early stopping at iteration 500, Best Score: 2828.46
Early stopping at iteration 853, Best Score: 3120.88
Early stopping at iteration 601, Best Score: 2971.61
Early stopping at iteration 659, Best Score: 3104.15
Early stopping at iteration 702, Best Score: 3133.63
Early stopping at iteration 674, Best Score: 3119.40
  Deck Trial 200/250
Early stopping at iteration 686, Best Score: 3064.15
Early stopping at iteration 554, Best Score: 2968.83
Early stopping at iteration 558, Best Score: 3003.13
Early stopping at iteration 628, Best Score: 2956.94
Early stopping at iteration 967, Best Score: 3154.44
Early stopping at iteration 650, Best Score: 3104.58
Early stopping at iteration 526, Best Score: 2852.46
Early stopping at iteration 727, Best Score: 3108.23
Early stopping at iteration 584, Best Score: 3000.34
Early stopping at iteration 727, Best Score: 3080.73
Early stopping at iteration 640, Best Score: 3077.36
Early stopping at iteration 587, Best Score: 3040.51
Early stopping at iteration 500, Best Score: 2828.46
Early stopping at iteration 762, Best Score: 3138.93
Early stopping at iteration 756, Best Score: 3133.63
Early stopping at iteration 585, Best Score: 3056.97
Early stopping at iteration 956, Best Score: 3134.69
```

```
Early stopping at iteration 593, Best Score: 3066.96
Early stopping at iteration 839, Best Score: 3054.35
Early stopping at iteration 742, Best Score: 3093.16
Early stopping at iteration 516, Best Score: 2916.52
Early stopping at iteration 1205, Best Score: 3145.89
Early stopping at iteration 687, Best Score: 3096.00
Early stopping at iteration 702, Best Score: 3095.84
Early stopping at iteration 531, Best Score: 2889.62
Early stopping at iteration 838, Best Score: 2921.20
Early stopping at iteration 648, Best Score: 3069.30
Early stopping at iteration 754, Best Score: 3141.00
Early stopping at iteration 673, Best Score: 3111.37
Early stopping at iteration 606, Best Score: 2966.40
Early stopping at iteration 637, Best Score: 3007.02
Early stopping at iteration 864, Best Score: 3151.50
Early stopping at iteration 811, Best Score: 3067.30
Early stopping at iteration 711, Best Score: 3136.32
Early stopping at iteration 646, Best Score: 3070.73
Early stopping at iteration 607, Best Score: 3061.30
Early stopping at iteration 758, Best Score: 3085.85
Early stopping at iteration 500, Best Score: 2828.46
Early stopping at iteration 790, Best Score: 3141.00
Early stopping at iteration 500, Best Score: 2828.46
Early stopping at iteration 597, Best Score: 3026.86
Early stopping at iteration 747, Best Score: 3114.40
Early stopping at iteration 629, Best Score: 3069.60
Early stopping at iteration 668, Best Score: 3109.79
Early stopping at iteration 716, Best Score: 3135.61
Early stopping at iteration 1079, Best Score: 2997.39
Early stopping at iteration 700, Best Score: 3124.67
Early stopping at iteration 769, Best Score: 3078.59
Early stopping at iteration 502, Best Score: 2848.98
Early stopping at iteration 690, Best Score: 3123.12
Early stopping at iteration 526, Best Score: 2916.70
GNN Trial 20 completed with 250 decks.
Evaluations for OP08-098 completed. Results saved in evaluations\OP08-098

All evaluations completed. Results are stored in the 'evaluations' directory.
```

In [18]:
```python
import pandas as pd
from itertools import combinations
from copy import deepcopy
```

In [19]:
```python
EVAL_DIR = "evaluations"
```

In [ ]:
```python
def load_evaluation_decks(leader_id):
    path = os.path.join(EVAL_DIR, leader_id, "all_trials.json")
    if not os.path.exists(path):
        return pd.DataFrame()
    with open(path,"r") as f:
        data = json.load(f)
    rows=[]
    for trial_info in data:
        gnn_trial = trial_info["gnn_trial"]
        for deck_res in trial_info["deck_results"]:
            dt = deck_res["deck_trial"]
            sc = deck_res["score"]
            mo = deck_res["meta_overlap"]
            avs= deck_res["avg_synergy"]
```

```
            ns = deck_res["num_singletons"]
            deck_data = deck_res["deck"]  # dict {card_id:count}
            deck_size = sum(deck_data.values())
            rows.append({
                "leader": leader_id,
                "gnn_trial": gnn_trial,
                "deck_trial": dt,
                "score": sc,
                "meta_overlap": mo,
                "avg_synergy": avs,
                "num_singletons": ns,
                "deck_size": deck_size
            })
    return pd.DataFrame(rows)
```

In [ ]:

```
#"OP01-001", # Roronoa Zoro Aggro
#"ST02-001", # Eustass Kid Midrange
#"ST13-003", # Monkey D. Luffy Combo
#"OP07-079", # Lucci Control
#"OP08-098" # Kalgara Midrange OP08
trial_models = {
    "OP01-001": {
        1: "models/archive/20250310_020344_gnn_model_OP01-001.pth",
        2: "models/archive/20250310_020841_gnn_model_OP01-001.pth",
        3: "models/archive/20250310_021402_gnn_model_OP01-001.pth",
        4: "models/archive/20250310_021918_gnn_model_OP01-001.pth",
        5: "models/archive/20250310_022357_gnn_model_OP01-001.pth",
        6: "models/archive/20250310_022638_gnn_model_OP01-001.pth",
        7: "models/archive/20250310_023122_gnn_model_OP01-001.pth",
        8: "models/archive/20250310_023535_gnn_model_OP01-001.pth",
        9: "models/archive/20250310_023934_gnn_model_OP01-001.pth",
        10: "models/archive/20250310_024405_gnn_model_OP01-001.pth",
        11: "models/archive/20250310_024911_gnn_model_OP01-001.pth",
        12: "models/archive/20250310_025427_gnn_model_OP01-001.pth",
        13: "models/archive/20250310_092915_gnn_model_OP01-001.pth",
        14: "models/archive/20250310_093400_gnn_model_OP01-001.pth",
        15: "models/archive/20250310_093846_gnn_model_OP01-001.pth",
        16: "models/archive/20250310_094344_gnn_model_OP01-001.pth",
        17: "models/archive/20250310_094848_gnn_model_OP01-001.pth",
        18: "models/archive/20250310_095356_gnn_model_OP01-001.pth",
        19: "models/archive/20250310_095802_gnn_model_OP01-001.pth",
        20: "models/gnn_model_OP01-001.pth"
    },
    "ST02-001": {
        1: "models/archive/20250310_103954_gnn_model_ST02-001.pth",
        2: "models/archive/20250310_104430_gnn_model_ST02-001.pth",
        3: "models/archive/20250310_104856_gnn_model_ST02-001.pth",
        4: "models/archive/20250310_105312_gnn_model_ST02-001.pth",
        5: "models/archive/20250310_105928_gnn_model_ST02-001.pth",
        6: "models/archive/20250310_110312_gnn_model_ST02-001.pth",
        7: "models/archive/20250310_110844_gnn_model_ST02-001.pth",
        8: "models/archive/20250310_111152_gnn_model_ST02-001.pth",
        9: "models/archive/20250310_111730_gnn_model_ST02-001.pth",
        10: "models/archive/20250310_112328_gnn_model_ST02-001.pth",
        11: "models/archive/20250310_112748_gnn_model_ST02-001.pth",
        12: "models/archive/20250310_113235_gnn_model_ST02-001.pth",
        13: "models/archive/20250310_113852_gnn_model_ST02-001.pth",
        14: "models/archive/20250310_114537_gnn_model_ST02-001.pth",
        15: "models/archive/20250310_114905_gnn_model_ST02-001.pth",
        16: "models/archive/20250310_115601_gnn_model_ST02-001.pth",
```

```
        17: "models/archive/20250310_120249_gnn_model_ST02-001.pth",
        18: "models/archive/20250310_120930_gnn_model_ST02-001.pth",
        19: "models/archive/20250310_121534_gnn_model_ST02-001.pth",
        20: "models/gnn_model_ST02-001.pth"
    },
    "ST13-003": {
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        2: "models/archive/20250310_130357_gnn_model_ST13-003.pth",
        3: "models/archive/20250310_131251_gnn_model_ST13-003.pth",
        4: "models/archive/20250310_132633_gnn_model_ST13-003.pth",
        5: "models/archive/20250310_134640_gnn_model_ST13-003.pth",
        6: "models/archive/20250310_140535_gnn_model_ST13-003.pth",
        7: "models/archive/20250310_142354_gnn_model_ST13-003.pth",
        8: "models/archive/20250310_144243_gnn_model_ST13-003.pth",
        9: "models/archive/20250310_150000_gnn_model_ST13-003.pth",
        10: "models/archive/20250310_151659_gnn_model_ST13-003.pth",
        11: "models/archive/20250310_153450_gnn_model_ST13-003.pth",
        12: "models/archive/20250310_155124_gnn_model_ST13-003.pth",
        13: "models/archive/20250310_160222_gnn_model_ST13-003.pth",
        14: "models/archive/20250310_161823_gnn_model_ST13-003.pth",
        15: "models/archive/20250310_162924_gnn_model_ST13-003.pth",
        16: "models/archive/20250310_163821_gnn_model_ST13-003.pth",
        17: "models/archive/20250310_164728_gnn_model_ST13-003.pth",
        18: "models/archive/20250310_170323_gnn_model_ST13-003.pth",
        19: "models/archive/20250310_171913_gnn_model_ST13-003.pth",
        20: "models/gnn_model_ST13-003.pth"
    },
    "OP07-079": {
        1: "models/archive/20250310_172729_gnn_model_OP07-079.pth",
        2: "models/archive/20250310_173145_gnn_model_OP07-079.pth",
        3: "models/archive/20250310_173602_gnn_model_OP07-079.pth",
        4: "models/archive/20250310_174026_gnn_model_OP07-079.pth",
        5: "models/archive/20250310_174414_gnn_model_OP07-079.pth",
        6: "models/archive/20250310_174837_gnn_model_OP07-079.pth",
        7: "models/archive/20250310_175230_gnn_model_OP07-079.pth",
        8: "models/archive/20250310_175541_gnn_model_OP07-079.pth",
        9: "models/archive/20250310_180005_gnn_model_OP07-079.pth",
        10: "models/archive/20250310_180252_gnn_model_OP07-079.pth",
        11: "models/archive/20250310_180633_gnn_model_OP07-079.pth",
        12: "models/archive/20250310_181033_gnn_model_OP07-079.pth",
        13: "models/archive/20250310_181501_gnn_model_OP07-079.pth",
        14: "models/archive/20250310_182015_gnn_model_OP07-079.pth",
        15: "models/archive/20250310_182453_gnn_model_OP07-079.pth",
        16: "models/archive/20250310_183141_gnn_model_OP07-079.pth",
        17: "models/archive/20250310_183437_gnn_model_OP07-079.pth",
        18: "models/archive/20250310_183954_gnn_model_OP07-079.pth",
        19: "models/archive/20250310_184357_gnn_model_OP07-079.pth",
        20: "models/gnn_model_OP07-079.pth"
    },
    "OP08-098": {
        1: "models/archive/20250310_185753_gnn_model_OP08-098.pth",
        2: "models/archive/20250310_190439_gnn_model_OP08-098.pth",
        3: "models/archive/20250310_191003_gnn_model_OP08-098.pth",
        4: "models/archive/20250310_191656_gnn_model_OP08-098.pth",
        5: "models/archive/20250310_192424_gnn_model_OP08-098.pth",
        6: "models/archive/20250310_192859_gnn_model_OP08-098.pth",
        7: "models/archive/20250310_193330_gnn_model_OP08-098.pth",
        8: "models/archive/20250310_193956_gnn_model_OP08-098.pth",
        9: "models/archive/20250310_194628_gnn_model_OP08-098.pth",
        10: "models/archive/20250310_195245_gnn_model_OP08-098.pth",
```

```
        11: "models/archive/20250310_195925_gnn_model_OP08-098.pth",
        12: "models/archive/20250310_200550_gnn_model_OP08-098.pth",
        13: "models/archive/20250310_201122_gnn_model_OP08-098.pth",
        14: "models/archive/20250310_201736_gnn_model_OP08-098.pth",
        15: "models/archive/20250310_202108_gnn_model_OP08-098.pth",
        16: "models/archive/20250310_202725_gnn_model_OP08-098.pth",
        17: "models/archive/20250310_203324_gnn_model_OP08-098.pth",
        18: "models/archive/20250310_203938_gnn_model_OP08-098.pth",
        19: "models/archive/20250310_204628_gnn_model_OP08-098.pth",
        20: "models/gnn_model_OP08-098.pth"
    }
}
```

In [22]:

```
leaders_present = [d for d in os.listdir(EVAL_DIR)
                   if os.path.isdir(os.path.join(EVAL_DIR,d))]

all_rows = []

for leader_id in leaders_present:
    # read evaluation data
    df_decks = load_evaluation_decks(leader_id)
    if df_decks.empty:
        print(f"[WARN] Keine deck evaluation für leader {leader_id}")
        continue

    # extract unique trials
    unique_trials = sorted(df_decks["gnn_trial"].unique())


    # leader card
    lcard = next((c for c in leaders if c["id"]==leader_id), None)
    if not lcard:
        print(f"[ERROR] Leader-card {leader_id} missing.")
        synergy_rows.append({"leader": leader_id,"gnn_trial":tr,
                             "synergy_mse": None})
        continue

    # relevant decks
    leader_color = set(get_card_colors(lcard))
    leader_arche = lcard.get("archetype","").strip()


    relevant_decks = gather_decks_for_color_archetype(leader_color, leader_arche
    known_edges = parse_known_synergies(known_synergies_data, synergy_weight=5.0
    synergy_graph = build_synergy_graph(relevant_decks, leader_arche, leader_col
                                        synergy_weight=2.0,
                                        known_synergy_edges=known_edges)
    freq_map  = compute_card_frequency(relevant_decks)
    usage_map = compute_archetype_usage_ratio(relevant_decks, leader_arche)

    # PyG
    data_pyg, _ = build_pyg_data(cards_data, synergy_graph, freq_map, usage_map)

    in_dim = data_pyg.x.shape[1]

    synergy_rows = []
    for tr in unique_trials:
        # path to model file
        model_file = None
        # check if model file exists
```

```
        if leader_id in trial_models and tr in trial_models[leader_id]:
            model_file = trial_models[leader_id][tr]
        else:
            pass

        if model_file is None or (not os.path.exists(model_file)):
            print(f"[WARN] Leader={leader_id}, trial={tr}: no model file found."
            synergy_rows.append({"leader": leader_id, "gnn_trial": tr,
                                 "synergy_mse": None})
            continue

        # model
        model = MultiTaskGNN(in_dim=in_dim, hidden_dim=128, emb_dim=64, dropout=
        model = load_model(model, model_file)
        device = torch.device("cuda" if torch.cuda.is_available() else "cpu")
        model.to(device)

        # synergy
        print(f"Calculating synergy for leader {leader_id}, trial {tr}...")
        synergy_mse = evaluate_synergy_prediction_accuracy(model, data_pyg, know
        synergy_rows.append({"leader": leader_id,
                             "gnn_trial": tr,
                             "synergy_mse": synergy_mse})

    df_synergy = pd.DataFrame(synergy_rows)
    # Merge synergy->df_decks
    df_merged = pd.merge(df_decks, df_synergy, how="left",
                         on=["leader","gnn_trial"])
    all_rows.append(df_merged)

df_final = pd.concat(all_rows, ignore_index=True) if all_rows else pd.DataFrame(


if not df_final.empty:
    # synergy_mse does only exist once per leader trail
    # 250 deck trials per leader trail
    corr_sm = df_final["synergy_mse"].corr(df_final["score"])
    print(f"Correlation synergy_mse <-> score (all leaders): {corr_sm:.3f}")

    # correlation per leader
    for ld in df_final["leader"].unique():
        sub = df_final[df_final["leader"]==ld]
        cc = sub["synergy_mse"].corr(sub["score"])
        print(f"Leader {ld}: corr(synergy_mse, score)={cc:.3f}")

    df_final.to_csv("evaluations/df_final.csv", index=False)
```

```
C:\Users\sandr\AppData\Local\Temp\ipykernel_756\921432365.py:14: UserWarning: Cre
ating a tensor from a list of numpy.ndarrays is extremely slow. Please consider c
onverting the list to a single numpy.ndarray with numpy.array() before converting
to a tensor. (Triggered internally at C:\actions-runner\_work\pytorch\pytorch\pyt
orch\torch\csrc\utils\tensor_new.cpp:257.)
  x_tensor = torch.tensor(node_features, dtype=torch.float)
```

```
Model loaded from: models/archive/20250310_020344_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 1...
Synergy Prediction MSE on Known Edges: 1.7926
Model loaded from: models/archive/20250310_020841_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 2...
Synergy Prediction MSE on Known Edges: 1.4202
Model loaded from: models/archive/20250310_021402_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 3...
Synergy Prediction MSE on Known Edges: 2.0644
Model loaded from: models/archive/20250310_021918_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 4...
Synergy Prediction MSE on Known Edges: 2.5471
Model loaded from: models/archive/20250310_022357_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 5...
Synergy Prediction MSE on Known Edges: 1.9821
Model loaded from: models/archive/20250310_022638_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 6...
Synergy Prediction MSE on Known Edges: 2.0189
Model loaded from: models/archive/20250310_023122_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 7...
Synergy Prediction MSE on Known Edges: 0.9006
Model loaded from: models/archive/20250310_023535_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 8...
Synergy Prediction MSE on Known Edges: 1.8362
Model loaded from: models/archive/20250310_023934_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 9...
Synergy Prediction MSE on Known Edges: 2.2550
Model loaded from: models/archive/20250310_024405_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 10...
Synergy Prediction MSE on Known Edges: 2.6229
Model loaded from: models/archive/20250310_024911_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 11...
Synergy Prediction MSE on Known Edges: 1.6572
Model loaded from: models/archive/20250310_025427_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 12...
Synergy Prediction MSE on Known Edges: 2.4819
Model loaded from: models/archive/20250310_092915_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 13...
Synergy Prediction MSE on Known Edges: 1.6547
Model loaded from: models/archive/20250310_093400_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 14...
Synergy Prediction MSE on Known Edges: 0.8953
Model loaded from: models/archive/20250310_093846_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 15...
Synergy Prediction MSE on Known Edges: 1.6704
Model loaded from: models/archive/20250310_094344_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 16...
Synergy Prediction MSE on Known Edges: 2.2351
Model loaded from: models/archive/20250310_094848_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 17...
Synergy Prediction MSE on Known Edges: 3.2601
Model loaded from: models/archive/20250310_095356_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 18...
Synergy Prediction MSE on Known Edges: 1.6077
Model loaded from: models/archive/20250310_095802_gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 19...
Synergy Prediction MSE on Known Edges: 2.4294
Model loaded from: models/gnn_model_OP01-001.pth
Calculating synergy for leader OP01-001, trial 20...
Synergy Prediction MSE on Known Edges: 1.5036
```

```
Model loaded from: models/archive/20250310_172729_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 1...
Synergy Prediction MSE on Known Edges: 1.8194
Model loaded from: models/archive/20250310_173145_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 2...
Synergy Prediction MSE on Known Edges: 1.3240
Model loaded from: models/archive/20250310_173602_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 3...
Synergy Prediction MSE on Known Edges: 1.8784
Model loaded from: models/archive/20250310_174026_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 4...
Synergy Prediction MSE on Known Edges: 1.9312
Model loaded from: models/archive/20250310_174414_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 5...
Synergy Prediction MSE on Known Edges: 2.2296
Model loaded from: models/archive/20250310_174837_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 6...
Synergy Prediction MSE on Known Edges: 1.3728
Model loaded from: models/archive/20250310_175230_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 7...
Synergy Prediction MSE on Known Edges: 2.0804
Model loaded from: models/archive/20250310_175541_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 8...
Synergy Prediction MSE on Known Edges: 2.3399
Model loaded from: models/archive/20250310_180005_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 9...
Synergy Prediction MSE on Known Edges: 1.6031
Model loaded from: models/archive/20250310_180252_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 10...
Synergy Prediction MSE on Known Edges: 1.8397
Model loaded from: models/archive/20250310_180633_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 11...
Synergy Prediction MSE on Known Edges: 1.6213
Model loaded from: models/archive/20250310_181033_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 12...
Synergy Prediction MSE on Known Edges: 1.8905
Model loaded from: models/archive/20250310_181501_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 13...
Synergy Prediction MSE on Known Edges: 2.0505
Model loaded from: models/archive/20250310_182015_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 14...
Synergy Prediction MSE on Known Edges: 1.7803
Model loaded from: models/archive/20250310_182453_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 15...
Synergy Prediction MSE on Known Edges: 1.4891
Model loaded from: models/archive/20250310_183141_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 16...
Synergy Prediction MSE on Known Edges: 1.8617
Model loaded from: models/archive/20250310_183437_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 17...
Synergy Prediction MSE on Known Edges: 2.4698
Model loaded from: models/archive/20250310_183954_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 18...
Synergy Prediction MSE on Known Edges: 0.7700
Model loaded from: models/archive/20250310_184357_gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 19...
Synergy Prediction MSE on Known Edges: 1.5134
Model loaded from: models/gnn_model_OP07-079.pth
Calculating synergy for leader OP07-079, trial 20...
Synergy Prediction MSE on Known Edges: 1.5611
```

```
Model loaded from: models/archive/20250310_185753_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 1...
Synergy Prediction MSE on Known Edges: 1.4666
Model loaded from: models/archive/20250310_190439_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 2...
Synergy Prediction MSE on Known Edges: 1.8147
Model loaded from: models/archive/20250310_191003_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 3...
Synergy Prediction MSE on Known Edges: 1.6981
Model loaded from: models/archive/20250310_191656_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 4...
Synergy Prediction MSE on Known Edges: 1.5912
Model loaded from: models/archive/20250310_192424_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 5...
Synergy Prediction MSE on Known Edges: 1.7158
Model loaded from: models/archive/20250310_192859_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 6...
Synergy Prediction MSE on Known Edges: 1.8002
Model loaded from: models/archive/20250310_193330_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 7...
Synergy Prediction MSE on Known Edges: 1.7033
Model loaded from: models/archive/20250310_193956_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 8...
Synergy Prediction MSE on Known Edges: 1.6766
Model loaded from: models/archive/20250310_194628_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 9...
Synergy Prediction MSE on Known Edges: 1.4308
Model loaded from: models/archive/20250310_195245_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 10...
Synergy Prediction MSE on Known Edges: 1.7594
Model loaded from: models/archive/20250310_195925_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 11...
Synergy Prediction MSE on Known Edges: 1.7400
Model loaded from: models/archive/20250310_200550_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 12...
Synergy Prediction MSE on Known Edges: 1.7675
Model loaded from: models/archive/20250310_201122_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 13...
Synergy Prediction MSE on Known Edges: 1.7731
Model loaded from: models/archive/20250310_201736_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 14...
Synergy Prediction MSE on Known Edges: 1.5294
Model loaded from: models/archive/20250310_202108_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 15...
Synergy Prediction MSE on Known Edges: 1.6524
Model loaded from: models/archive/20250310_202725_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 16...
Synergy Prediction MSE on Known Edges: 1.0171
Model loaded from: models/archive/20250310_203324_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 17...
Synergy Prediction MSE on Known Edges: 1.3934
Model loaded from: models/archive/20250310_203938_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 18...
Synergy Prediction MSE on Known Edges: 1.5869
Model loaded from: models/archive/20250310_204628_gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 19...
Synergy Prediction MSE on Known Edges: 1.7789
Model loaded from: models/gnn_model_OP08-098.pth
Calculating synergy for leader OP08-098, trial 20...
Synergy Prediction MSE on Known Edges: 1.6884
```

```
Model loaded from: models/archive/20250310_103954_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 1...
Synergy Prediction MSE on Known Edges: 1.7888
Model loaded from: models/archive/20250310_104430_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 2...
Synergy Prediction MSE on Known Edges: 1.6935
Model loaded from: models/archive/20250310_104856_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 3...
Synergy Prediction MSE on Known Edges: 1.4627
Model loaded from: models/archive/20250310_105312_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 4...
Synergy Prediction MSE on Known Edges: 1.5977
Model loaded from: models/archive/20250310_105928_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 5...
Synergy Prediction MSE on Known Edges: 1.1959
Model loaded from: models/archive/20250310_110312_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 6...
Synergy Prediction MSE on Known Edges: 1.7461
Model loaded from: models/archive/20250310_110844_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 7...
Synergy Prediction MSE on Known Edges: 1.5576
Model loaded from: models/archive/20250310_111152_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 8...
Synergy Prediction MSE on Known Edges: 1.6021
Model loaded from: models/archive/20250310_111730_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 9...
Synergy Prediction MSE on Known Edges: 0.9147
Model loaded from: models/archive/20250310_112328_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 10...
Synergy Prediction MSE on Known Edges: 1.7748
Model loaded from: models/archive/20250310_112748_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 11...
Synergy Prediction MSE on Known Edges: 1.5991
Model loaded from: models/archive/20250310_113235_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 12...
Synergy Prediction MSE on Known Edges: 1.0068
Model loaded from: models/archive/20250310_113852_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 13...
Synergy Prediction MSE on Known Edges: 2.1131
Model loaded from: models/archive/20250310_114537_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 14...
Synergy Prediction MSE on Known Edges: 1.5946
Model loaded from: models/archive/20250310_114905_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 15...
Synergy Prediction MSE on Known Edges: 2.1262
Model loaded from: models/archive/20250310_115601_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 16...
Synergy Prediction MSE on Known Edges: 1.5712
Model loaded from: models/archive/20250310_120249_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 17...
Synergy Prediction MSE on Known Edges: 2.1055
Model loaded from: models/archive/20250310_120930_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 18...
Synergy Prediction MSE on Known Edges: 1.9912
Model loaded from: models/archive/20250310_121534_gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 19...
Synergy Prediction MSE on Known Edges: 2.1153
Model loaded from: models/gnn_model_ST02-001.pth
Calculating synergy for leader ST02-001, trial 20...
Synergy Prediction MSE on Known Edges: 1.5957
```

```
Model loaded from: models/archive/20250310_124906_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 1...
Synergy Prediction MSE on Known Edges: 1.6853
Model loaded from: models/archive/20250310_130357_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 2...
Synergy Prediction MSE on Known Edges: 1.1332
Model loaded from: models/archive/20250310_131251_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 3...
Synergy Prediction MSE on Known Edges: 1.4794
Model loaded from: models/archive/20250310_132633_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 4...
Synergy Prediction MSE on Known Edges: 1.2654
Model loaded from: models/archive/20250310_134640_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 5...
Synergy Prediction MSE on Known Edges: 1.5693
Model loaded from: models/archive/20250310_140535_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 6...
Synergy Prediction MSE on Known Edges: 1.6440
Model loaded from: models/archive/20250310_142354_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 7...
Synergy Prediction MSE on Known Edges: 1.1204
Model loaded from: models/archive/20250310_144243_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 8...
Synergy Prediction MSE on Known Edges: 2.6409
Model loaded from: models/archive/20250310_150000_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 9...
Synergy Prediction MSE on Known Edges: 1.5511
Model loaded from: models/archive/20250310_151659_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 10...
Synergy Prediction MSE on Known Edges: 1.3838
Model loaded from: models/archive/20250310_153450_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 11...
Synergy Prediction MSE on Known Edges: 1.6966
Model loaded from: models/archive/20250310_155124_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 12...
Synergy Prediction MSE on Known Edges: 1.4454
Model loaded from: models/archive/20250310_160222_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 13...
Synergy Prediction MSE on Known Edges: 1.4119
Model loaded from: models/archive/20250310_161823_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 14...
Synergy Prediction MSE on Known Edges: 0.8315
Model loaded from: models/archive/20250310_162924_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 15...
Synergy Prediction MSE on Known Edges: 1.4242
Model loaded from: models/archive/20250310_163821_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 16...
Synergy Prediction MSE on Known Edges: 1.4674
Model loaded from: models/archive/20250310_164728_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 17...
Synergy Prediction MSE on Known Edges: 1.1628
Model loaded from: models/archive/20250310_170323_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 18...
Synergy Prediction MSE on Known Edges: 1.3983
Model loaded from: models/archive/20250310_171913_gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 19...
Synergy Prediction MSE on Known Edges: 1.3825
Model loaded from: models/gnn_model_ST13-003.pth
Calculating synergy for leader ST13-003, trial 20...
Synergy Prediction MSE on Known Edges: 1.4659
```

```
Correlation synergy_mse <-> score (all leaders): 0.348
Leader OP01-001: corr(synergy_mse, score)=-0.094
Leader OP07-079: corr(synergy_mse, score)=0.724
Leader OP08-098: corr(synergy_mse, score)=0.797
Leader ST02-001: corr(synergy_mse, score)=0.829
Leader ST13-003: corr(synergy_mse, score)=-0.385
```

In [49]:

```
# optional: load from csv into pandas
df_final_temp = pd.read_csv("evaluations/df_final_temp.csv")
df_final_temp.head()
```

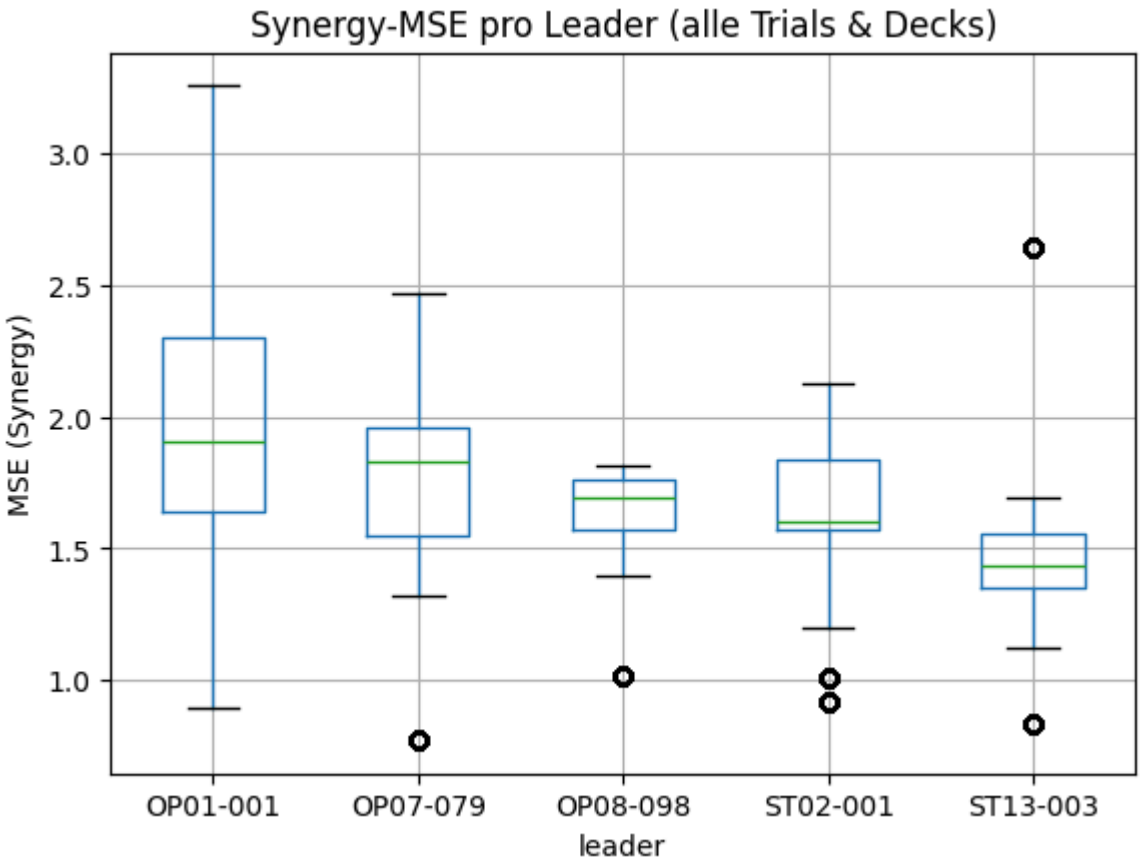
Out[49]:

	leader	gnn_trial	deck_trial	score	meta_overlap	avg_synergy	num_singleton
0	OP01-001	1	1	2853.559082	0	2.063501	5
1	OP01-001	1	2	2815.091309	1	2.047359	5
2	OP01-001	1	3	2837.621826	1	2.053221	5
3	OP01-001	1	4	2853.666748	1	2.061460	5
4	OP01-001	1	5	2840.410645	3	2.057597	5

In [ ]:

```
if not df_final.empty:
    # Boxplot synergy_mse pro Leader
    plt.figure(figsize=(8,5))
    df_final.boxplot(column="synergy_mse", by="leader")
    plt.title("Synergy-MSE pro Leader (alle Trials & Decks)")
    plt.suptitle("")
    plt.ylabel("MSE (Synergy)")
    plt.show()
else:
    print("df_final is empty.")
```

```
<Figure size 800x500 with 0 Axes>
```



In [24]:
```
print(f"Final merged shape: {df_final.shape}")
df_final.head()
```

```
Final merged shape: (25000, 9)
```

Out[24]:

	leader	gnn_trial	deck_trial	score	meta_overlap	avg_synergy	num_singleton
0	OP01-001	1	1	2853.559082	0	2.063501	5
1	OP01-001	1	2	2815.091309	1	2.047359	5
2	OP01-001	1	3	2837.621826	1	2.053221	5
3	OP01-001	1	4	2853.666748	1	2.061460	5
4	OP01-001	1	5	2840.410645	3	2.057597	5

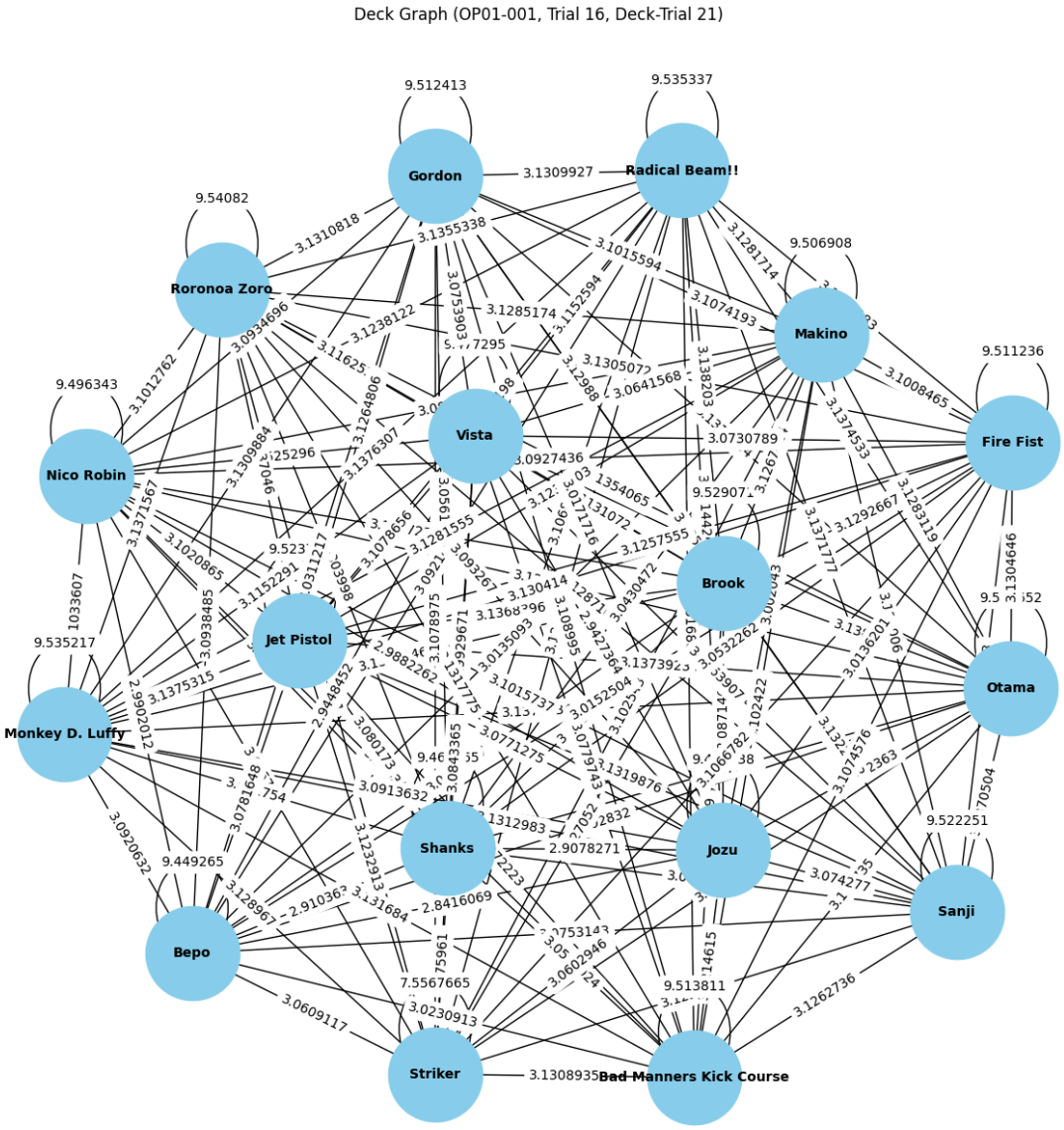
In [ ]:
```
import os
import json
import torch
import numpy as np
import networkx as nx
import matplotlib.pyplot as plt
import torch.nn.functional as F
from torch_geometric.data import Data
from torch_geometric.nn import GCNConv
```

```python
target_leader_id = "OP01-001"  # Leader OP01-001
model_file = "models/archive/20250310_094344_gnn_model_OP01-001.pth"

with open("data/labeled_cards.json", "r") as f:
    cards_data = json.load(f)
with open("data/one_piece_deck_lists.json", "r") as f:
    decks_data = json.load(f)
with open("graphs/card_synergies.json", "r") as f:
    known_synergies_data = json.load(f)

leader_card = next((c for c in leaders if c["id"] == target_leader_id), None)
if leader_card is None:
    raise ValueError(f"Leader {target_leader_id} not found!")

leader_color = get_card_colors(leader_card)
leader_arche = leader_card.get("archetype", "").strip()
relevant_decks = gather_decks_for_color_archetype(leader_color, leader_arche, de

known_synergy_edges = parse_known_synergies(known_synergies_data, synergy_weight
synergy_graph = build_synergy_graph(relevant_decks, leader_arche, leader_color,

freq_map = compute_card_frequency(relevant_decks)
usage_map = compute_archetype_usage_ratio(relevant_decks, leader_arche)

data_pyg, node_labels_np = build_pyg_data(cards_data, synergy_graph, freq_map, u

mean_val = node_labels_np.mean()
std_val = node_labels_np.std() or 1.0

# instantiate model and load
in_dim = data_pyg.x.shape[1]
model = MultiTaskGNN(in_dim=in_dim, hidden_dim=128, emb_dim=64, dropout=0.5, num
model = load_model(model, model_file)
device = torch.device("cuda" if torch.cuda.is_available() else "cpu")
model.to(device)

# reconstruct synergy matrix
synergy_matrix, node_score = build_synergy_matrix(model, data_pyg, freq_map, nod

best_deck_data = {
    "OP01-006": 4,
    "OP01-029": 3,
    "OP01-022": 3,
    "OP01-017": 3,
    "OP01-013": 2,
    "OP01-120": 2,
    "OP01-025": 4,
    "ST01-012": 3,
    "ST01-011": 3,
    "ST01-015": 3,
    "OP02-011": 3,
    "OP02-008": 1,
    "OP02-015": 3,
    "P-013": 3,
    "P-019": 1,
    "OP03-018": 3,
    "OP03-020": 3,
    "OP04-016": 3
}
```

```
deck_vec = [0] * len(cards_data)
for cid, copies in best_deck_data.items():
    idx = card_id_to_index[cid]
    deck_vec[idx] = copies
```

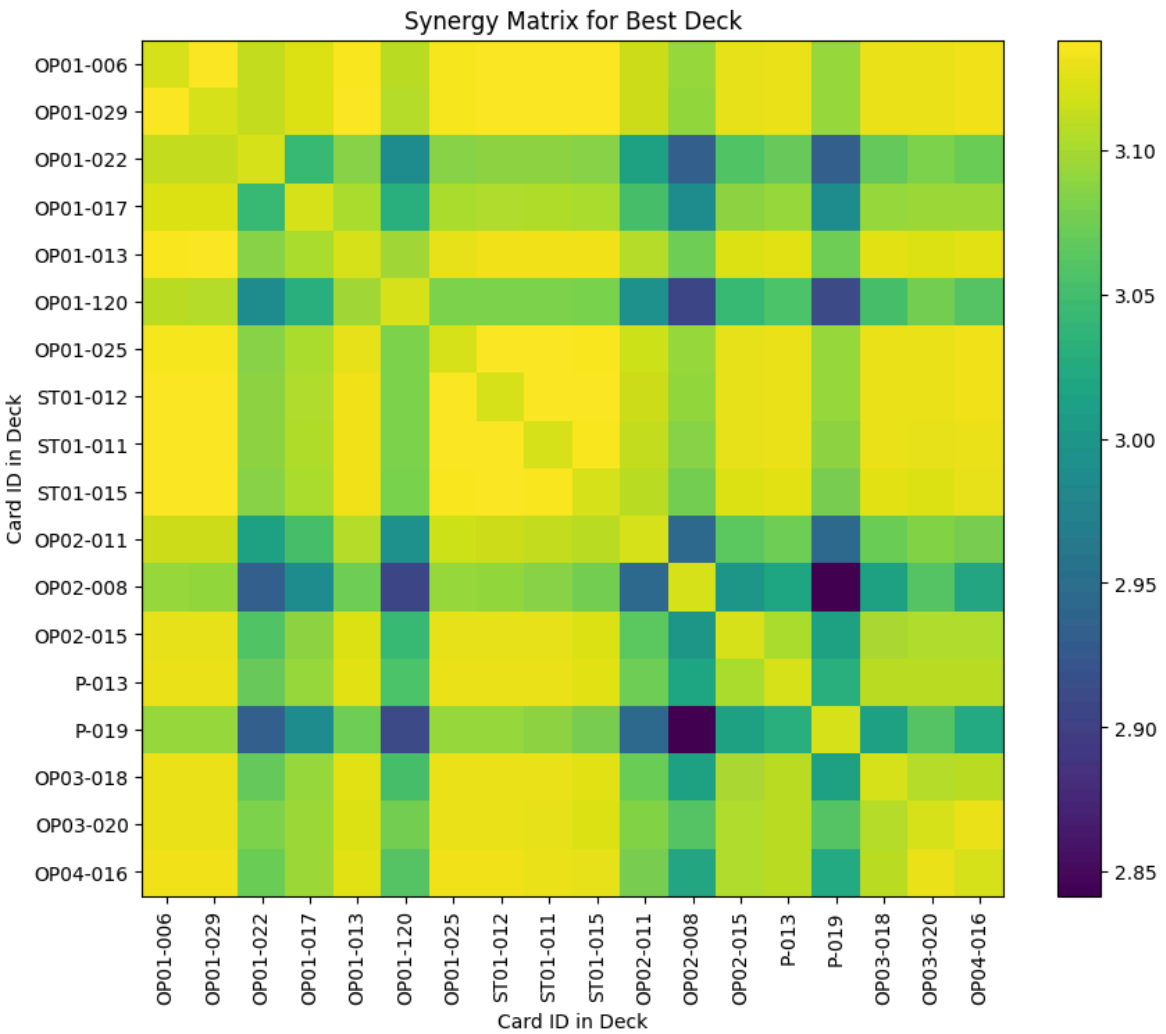
```
Model loaded from: models/archive/20250310_094344_gnn_model_OP01-001.pth
```

In [45]:
```
generate_deck_graph(deck_vec, synergy_matrix, title="Deck Graph (OP01-001, Trial
```



In [ ]:
```
deck_idxs = np.where(deck_vec)[0]
card_ids = [cards_data[i]["id"] for i in deck_idxs]

best_deck_synergy = synergy_matrix[np.ix_(deck_idxs, deck_idxs)]
np.fill_diagonal(best_deck_synergy, 3.12)

plt.figure(figsize=(10, 8))
plt.imshow(best_deck_synergy, aspect='auto', origin='upper', interpolation='near
plt.colorbar()
plt.xticks(ticks=np.arange(len(card_ids)), labels=card_ids, rotation=90)
plt.yticks(ticks=np.arange(len(card_ids)), labels=card_ids)
plt.title("Synergy Matrix for Best Deck")
plt.xlabel("Card ID in Deck")
```

```
plt.ylabel("Card ID in Deck")
plt.show()
```



In [46]:
```
print("Detailed cards in deck:")
label_counts = {}

for cid, copies in best_deck_data.items():
    cinfo = next((c for c in cards_data if c["id"] == cid), {})
    labels = cinfo.get('labels', [])
    print(f"{copies}x {cid} - {cinfo.get('name', '?')} | Typ: {cinfo.get('type',
    for label in labels:
        label_counts[label] = label_counts.get(label, 0) + copies

print("\nLabel frequencies in deck:")
for label, count in label_counts.items():
    print(f"{label}: {count}")
```

```
Detailed cards in deck:
4x OP01-006 - Otama | Typ: Character, Labels: ['Debuff Power', 'Low Cost']
3x OP01-029 - Radical Beam!! | Typ: Event, Labels: ['Counter', 'Trigger', 'Buff P
ower', 'Low Cost']
3x OP01-022 - Brook | Typ: Character, Labels: ['Debuff Power', 'Mid Cost']
3x OP01-017 - Nico Robin | Typ: Character, Labels: ['Removal', 'Low Cost']
2x OP01-013 - Sanji | Typ: Character, Labels: ['Low Cost']
2x OP01-120 - Shanks | Typ: Character, Labels: ['Rush', 'Blocker', 'High Cost']
4x OP01-025 - Roronoa Zoro | Typ: Character, Labels: ['Rush', 'Low Cost']
3x ST01-012 - Monkey D. Luffy | Typ: Character, Labels: ['Rush', 'Blocker', 'Mid
Cost']
3x ST01-011 - Brook | Typ: Character, Labels: ['Low Cost']
3x ST01-015 - Jet Pistol | Typ: Event, Labels: ['Trigger', 'Removal', 'Mid Cost']
3x OP02-011 - Vista | Typ: Character, Labels: ['Removal', 'Low Cost']
1x OP02-008 - Jozu | Typ: Character, Labels: ['Rush', 'Mid Cost']
3x OP02-015 - Makino | Typ: Character, Labels: ['Buff Power', 'Low Cost']
3x P-013 - Gordon | Typ: Character, Labels: ['Debuff Power', 'Low Cost']
1x P-019 - Bepo | Typ: Character, Labels: ['Removal', 'Low Cost']
3x OP03-018 - Fire Fist | Typ: Event, Labels: ['Trigger', 'Removal', 'Discard',
'Low Cost']
3x OP03-020 - Striker | Typ: Stage, Labels: ['Searcher', 'Low Cost']
3x OP04-016 - Bad Manners Kick Course | Typ: Event, Labels: ['Counter', 'Trigge
r', 'Buff Power', 'Debuff Power', 'Discard', 'Low Cost']

Label frequencies in deck:
Debuff Power: 13
Low Cost: 38
Counter: 6
Trigger: 12
Buff Power: 9
Mid Cost: 10
Removal: 13
Rush: 10
Blocker: 5
High Cost: 2
Discard: 6
Searcher: 3
```