Table 1: Optimizer Family Comparison Matrix

| QQN Family | Adam | GD | L-BFGS | Trust Region |
|------------|------|-----|--------|--------------|
| **QQN** | 50W-3L-9T | 53W-0L-9T | 39W-2L-21T | 53W-0L-9T |

**Legend:** W = Wins (statistically significant better performance), L = Losses (statistically significant worse performance), T = Ties (no significant difference). Green indicates QQN family dominance, red indicates non-QQN family dominance.