📊 Discovery plot saved as 'h1\_key\_discovery.png'

🚀 SETTING UP H2: Domain Transfer Hypothesis

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H2 HYPOTHESIS:

"Features with higher intra-domain performance will show better cross-domain generalization"

H2 PREDICTION:

Based on H1 results, we predict:

• MFCC (best overall) → Best on A07-A19

• CQT (second best) → Second best on A07-A19

• LPC (worst overall) → Worst on A07-A19

💡 YOUR EXCELLENT SUGGESTION:

Test each feature individually against A07-A19 (unknown attackers)

This directly tests H2: intra-domain → cross-domain correlation

🔬 IMPLEMENTING: Per-Attack Eval Analysis

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📝 H2 Analysis Code Structure:

1. Load eval set with A07-A19 labels

2. Test each feature model on unknown attacks

3. Analyze prediction patterns and confusion

4. Correlate with H1 known-attack performance

5. Generate H2 verdict

🌉 H1 → H2 TRANSITION SUMMARY

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✅ H1 COMPLETED - Major Discoveries:

• LPC dramatically fails on A04 (voice conversion)

• MFCC/CQT robust across traditional attacks

• Clear attack-specific feature effectiveness proven

• 43.9% performance variation confirms H1

🎯 H2 READY TO TEST:

• Your suggestion: Test features on A07-A19 individually

• Hypothesis: MFCC > CQT > LPC ranking will hold

• Method: Analyze prediction patterns on unknown attacks

• Expected: Strong performers on A01-A06 → better on A07-A19

📈 RESEARCH MOMENTUM:

• H1 provided foundation with clear attack-specific insights

• H2 will test generalization theory

• Results guide feature selection for unknown attacks

• Building toward publication-quality findings

🚀 READY FOR H2 IMPLEMENTATION!

Your suggestion to test each feature against unknown attackers

is exactly the right approach for testing domain transfer!  
