A. Reasoning Trace Structure and Corruption Types

Reasoning Trace (L=10 steps)
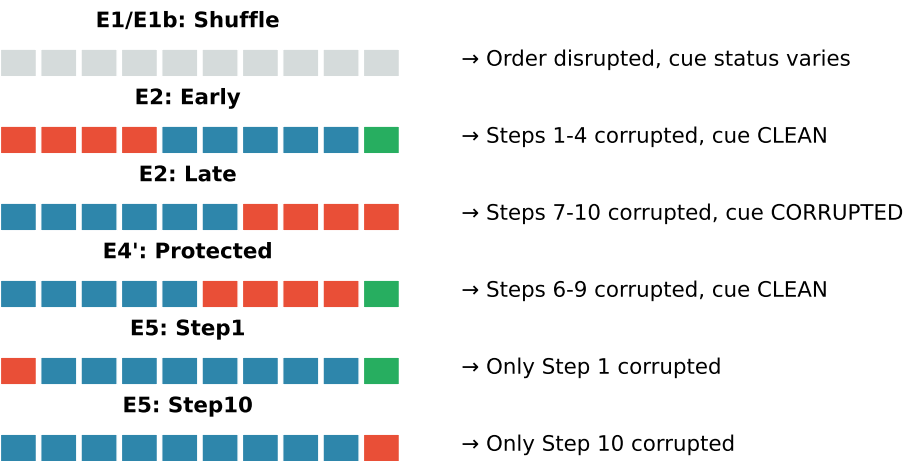
| Step 1 | Step 2 | Step 3 | Step 4 | Step 5 | Step 6 | Step 7 | Step 8 | Step 9 | Step 10 (Final cue) |

Corruption Types:

IRR	Irrelevant computation (distraction)
LOC	Local arithmetic error (±1-3)
WRONG	False constraint injection (misleading)

> **Key: Step 10 contains explicit "Final = ..." cue**

B. Seven Experimental Conditions

E1/E1b: Shuffle
→ Order disrupted, cue status varies — *Tests: Sequential integration*

E2: Early
→ Steps 1-4 corrupted, cue CLEAN — *Baseline for position*

E2: Late
→ Steps 7-10 corrupted, cue CORRUPTED — *Position confounded with cue*

E4': Protected
→ Steps 6-9 corrupted, cue CLEAN — *Isolates cue effect (c=0.4)*

E5: Step1
→ Only Step 1 corrupted — *Direct causal test*

E5: Step10
→ Only Step 10 corrupted

Legend: ■ Clean step ■ Corrupted step ■ Final cue (clean) ■ Shuffled