Reaction 1: [-1, 0]

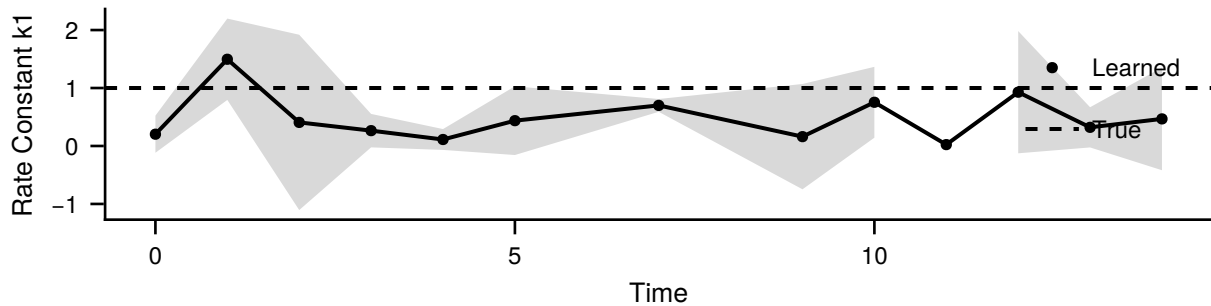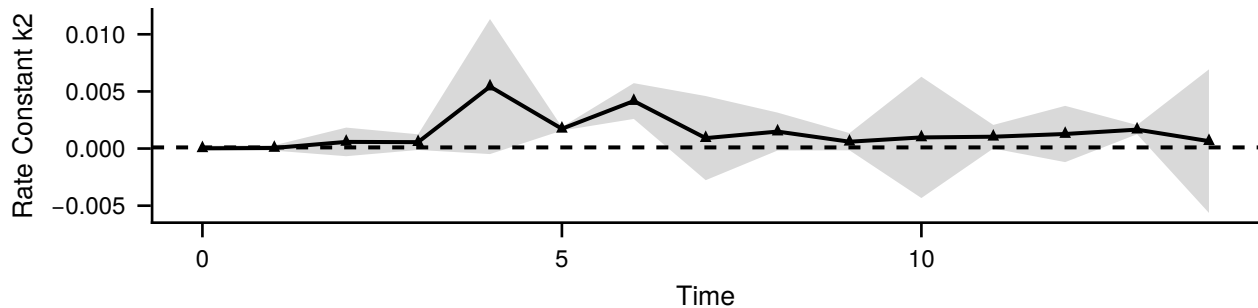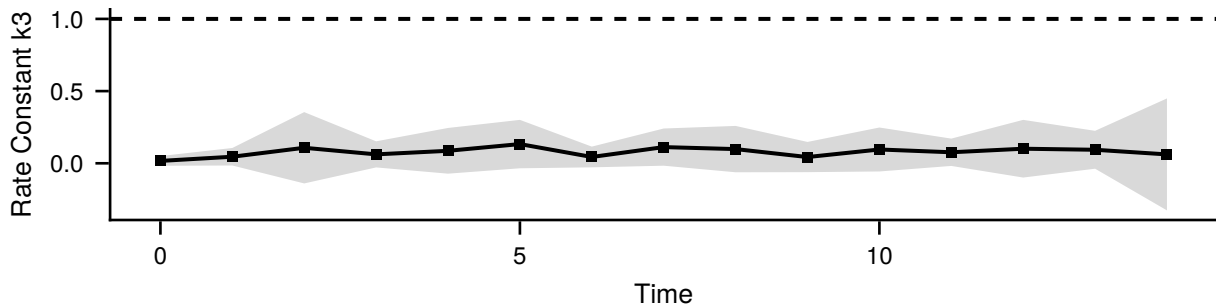**Reaction 2: [-1, 1]**

Reaction 3: [1, 0]

Reaction 4: [1, -1]