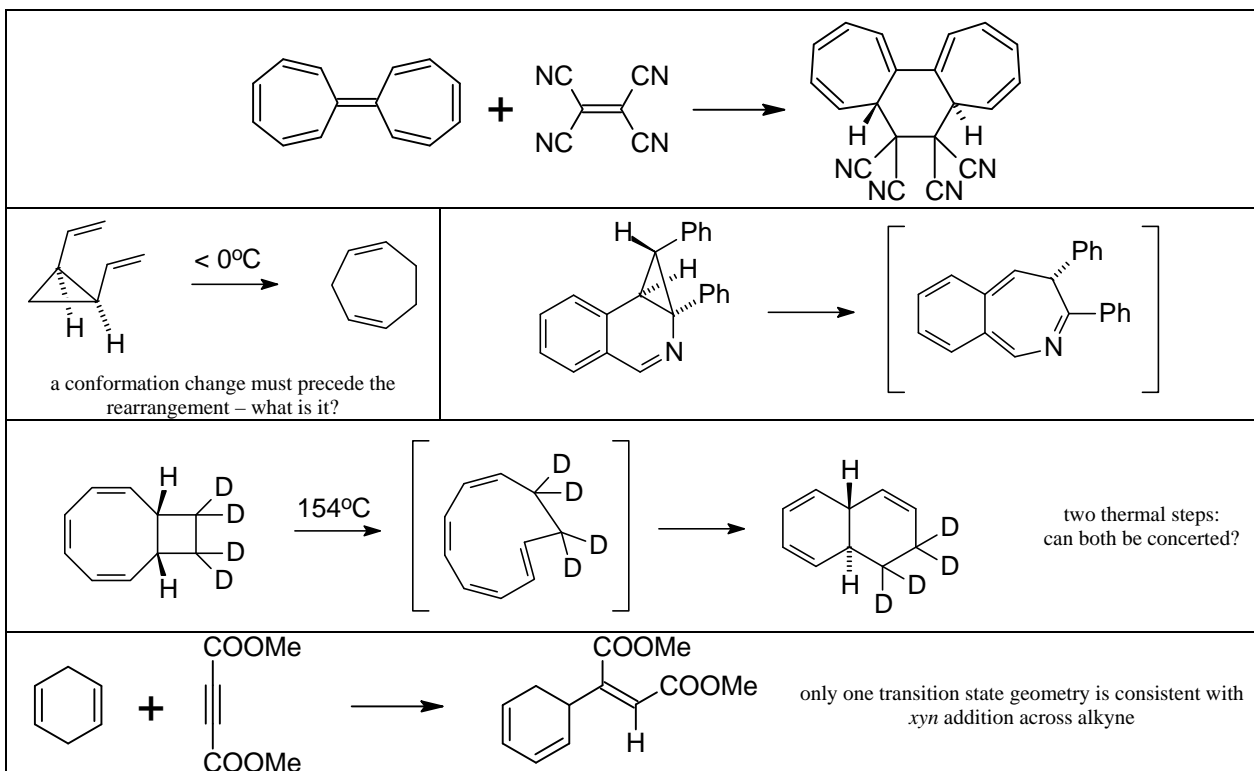


# Electrons	Orbital Interactions	
	Hückel	Möbius
4N	Forbidden	ALLOWED
4N+2	ALLOWED	Forbidden

The following “thermal” reactions have all been reported. Determine whether a concerted reaction mechanism is plausible by 1) drawing curved arrows, 2) drawing atomic orbital interactions (typical drawings for cyclobutene transition states are shown below), and 3) determining transition state type: Hückel or Möbius, anti-aromatic or aromatic.



Drawings show:

- **Atomic orbitals**, one per atom
- **Orbital interactions** (dashed red lines) as they exist in reactant and will exist in product, cyclic array required

Although two arrows were added to help visualize atom motions, they are not needed. Orbital interactions in disrotatory array do not cross any nodes (Hückel) while interactions in conrotatory array cross one node on the *left* side (Möbius)

