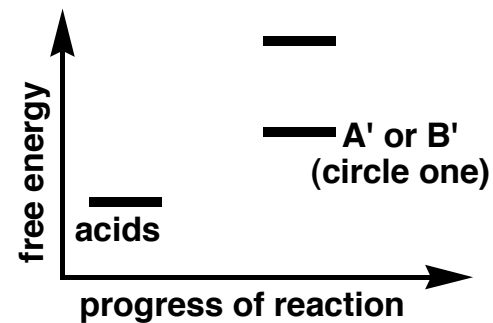
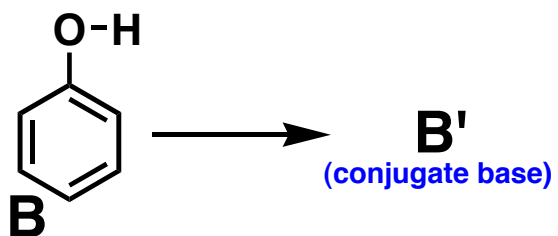
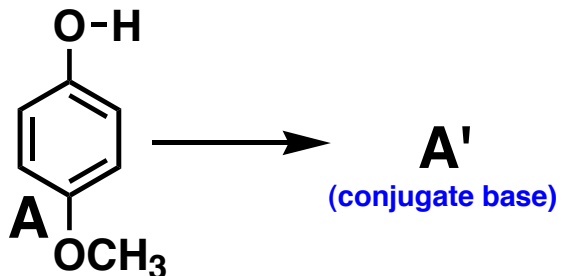
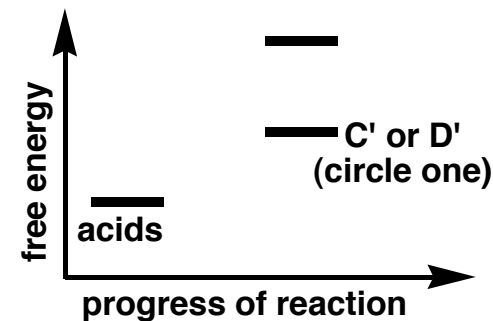
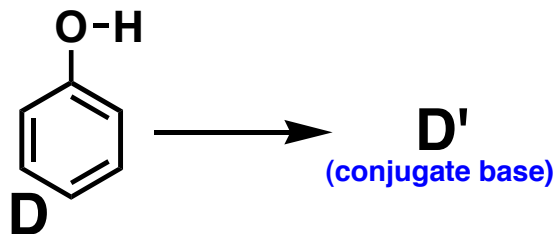
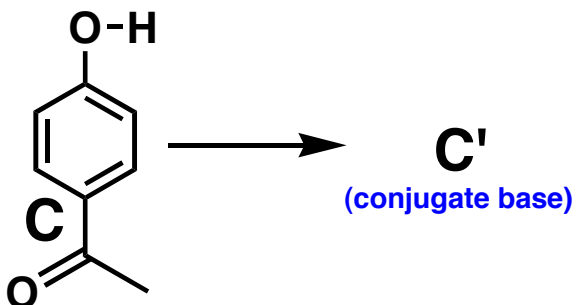


Discussion Problem

Effect of Substituents on pK_a



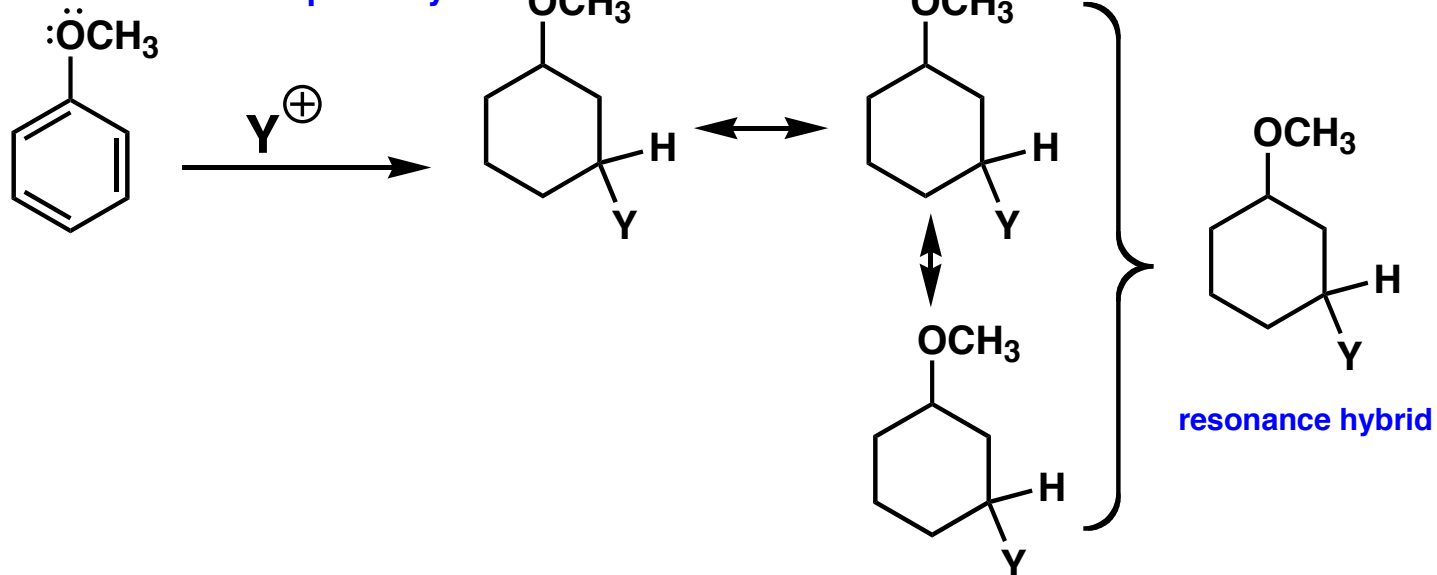
Stronger acid? ____



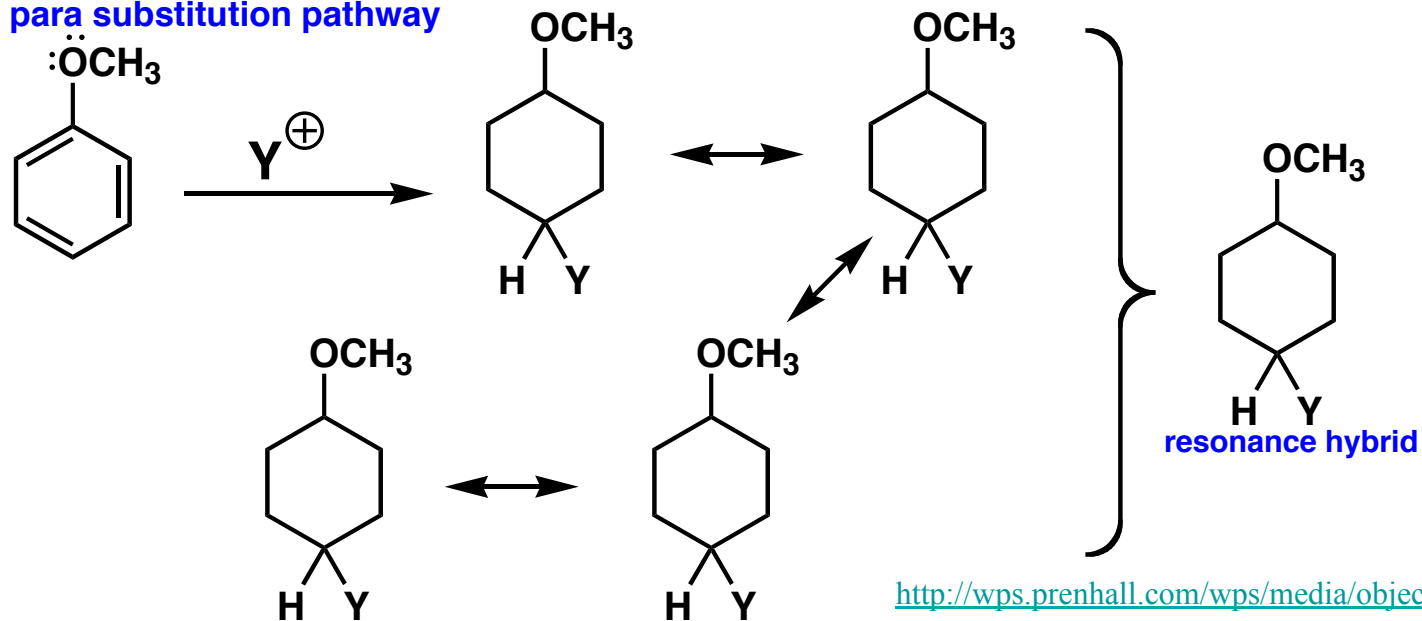
Stronger acid? ____

Discussion Problem (meta vs para substitution with an EDG substituent)

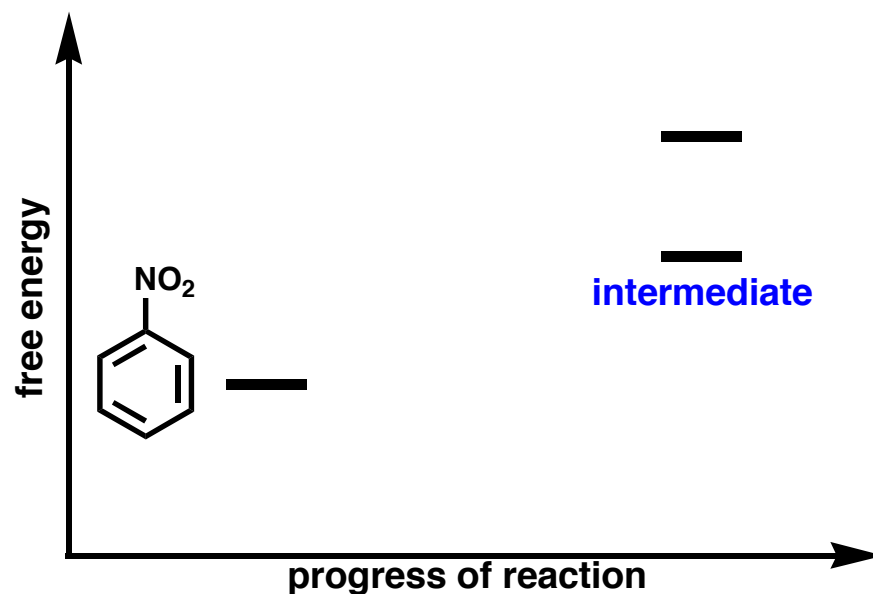
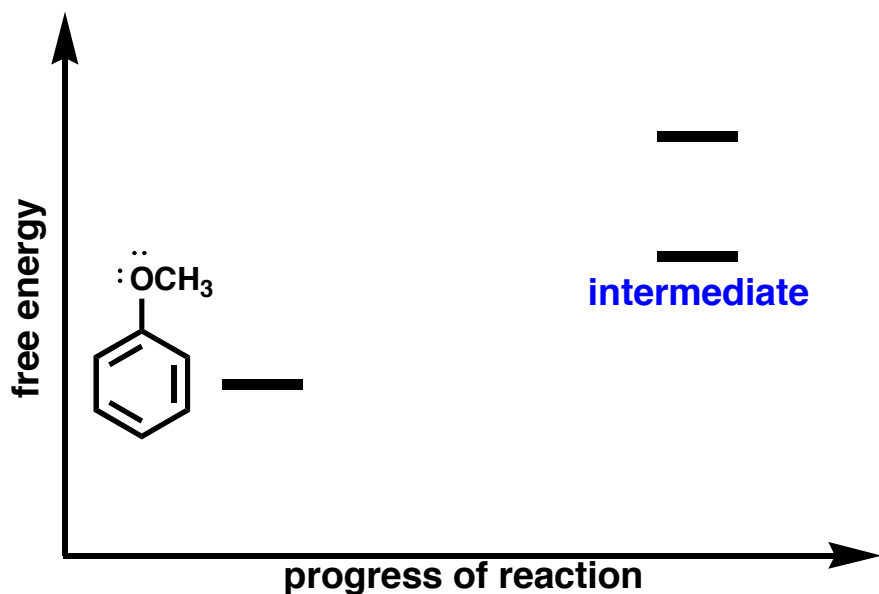
meta substitution pathway



para substitution pathway



Discussion Problem (meta vs para substitution)



Use WebMO to calculate the energy of the two intermediates. Draw an energy diagram for the meta vs. para pathways.

Repeat the entire analysis for meta vs. para **electrophilic aromatic substitution** with an **EWG** substituent (e.g., nitrobenzene)