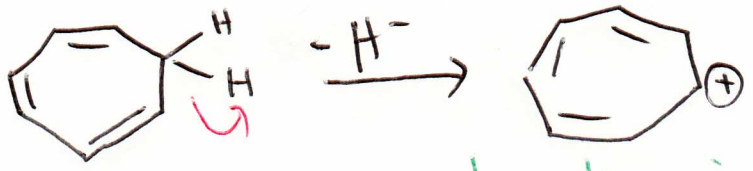
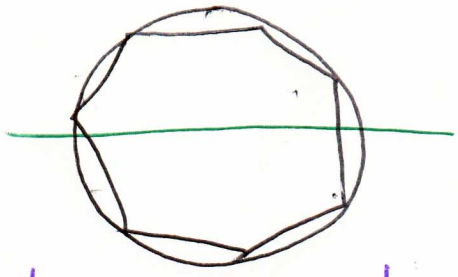
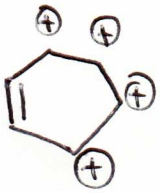
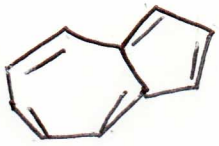


tropylium ion



Bonding orbitals are exactly filled, so system is favorable



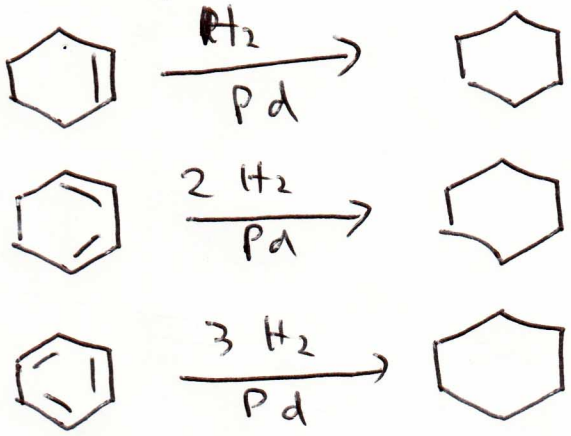


azulene

✓ aromatic (cyclic, planar, conjugated, 10 πe^-)

For a frost circle, a decagon would be inscribed.

Stability of benzene



$\Delta H_{rxn} = -120$ kJ/mol

ΔH_{rxn} (predicted) $= -240$ kJ/mol

ΔH_{rxn} (actual) $= -232$ kJ/mol

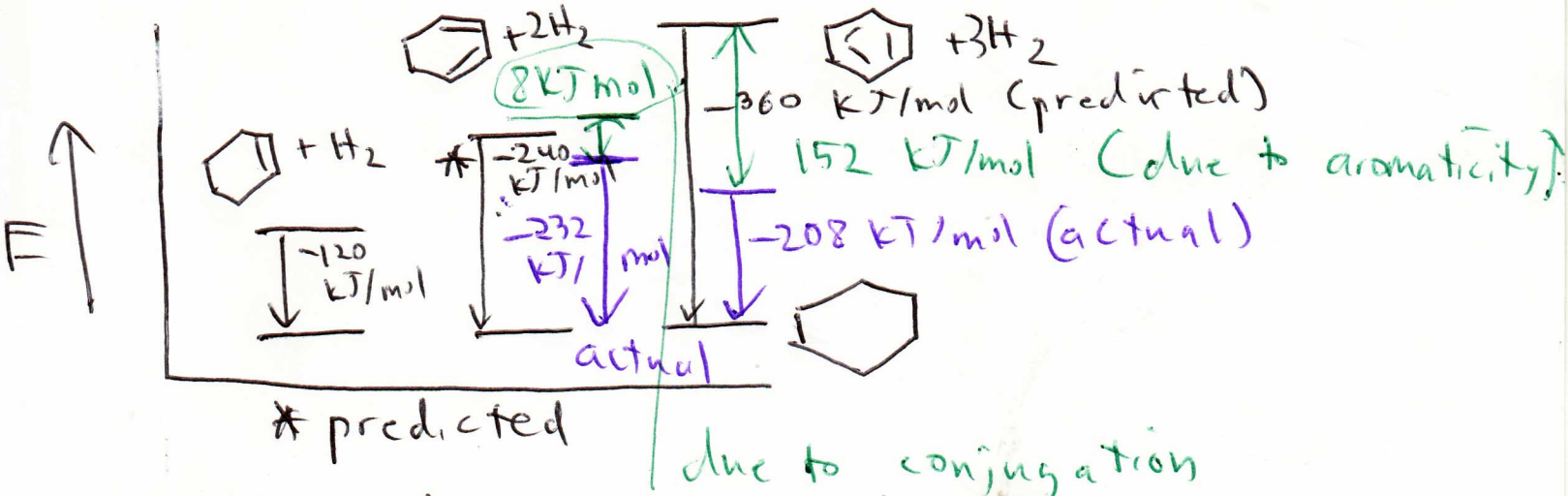
$|\Delta\Delta H_{rxn}| = 8$ kJ/mol

ΔH_{rxn} (predicted) $= -360$ kJ/mol

ΔH_{rxn} (actual) $= -208$ kJ/mol

$|\Delta\Delta H_{rxn}| = 152$ kJ/mol

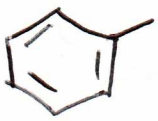
Quiz #3 3/7/12

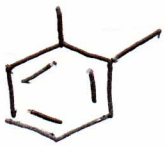


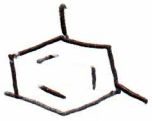
- The fact that benzene releases less energy than predicted means it is lower in energy to begin with ("stable").

Nomenclature

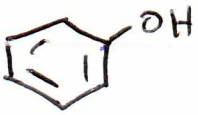
Common names (ortho, meta, para)


toluene

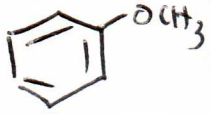

o-xylene


m-xylene

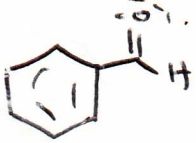

p-xylene



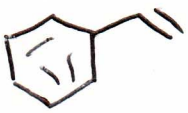
phenol

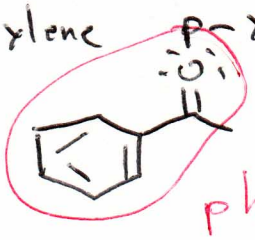


anisole



benzaldehyde


styrene



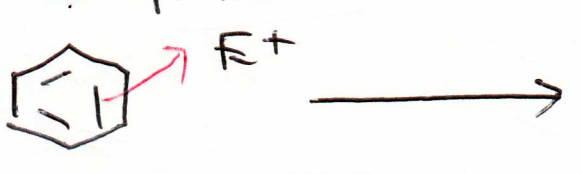
← acetophenone

phenone


← whenever a molecule can be numbered equally in two ways, the lowest # is given to the substituent that is lower alphabetically

1-ethyl-3-methylbenzene

Electrophilic Aromatic Substitution



Nitration