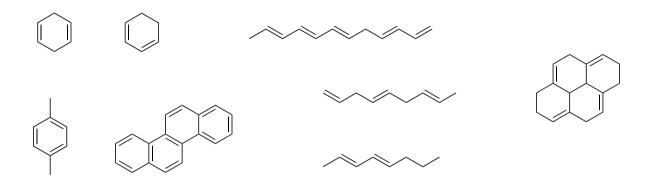
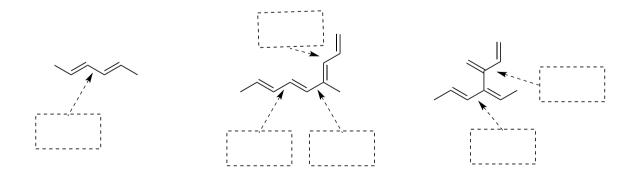
# Problem Set #1: Chapter 20

## 1. Which of the following coumpounds contain a conjugated polyene?

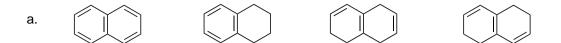


2. Write at least 3 valid resonance strutures for the following conjugated system.

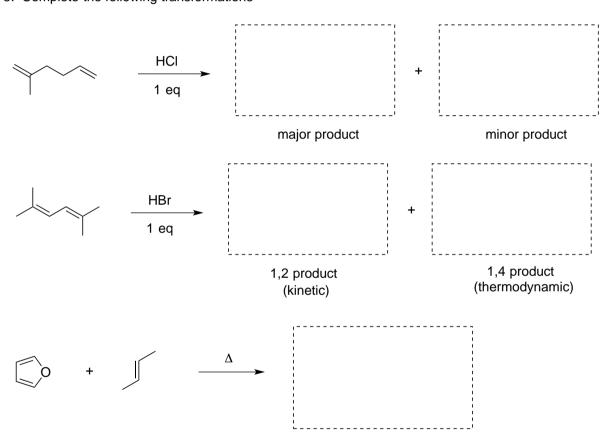
# 3. Characterize the following conjugated polyenes as *s-cis* or *s-trans*.



## 4. Which of the compounds in each group would you expect to have a higher $\lambda_{max}$ UV absorption?



#### 5. Complete the following transformations



+ 
$$\Delta$$
Show Stereochemistry