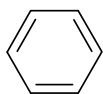
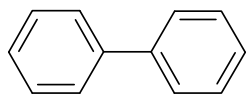


1. (4 points) How do you explain the fact that λ_{\max} for compounds **I** and **II** are vastly different whereas those of **III** and **IV** are very similar?



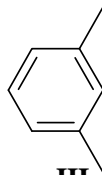
I

204 nm



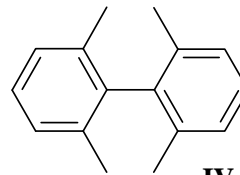
II

246



III

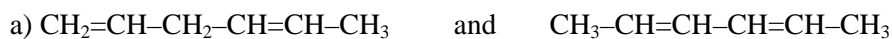
211



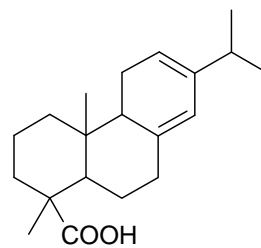
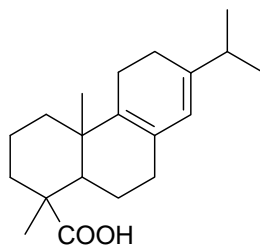
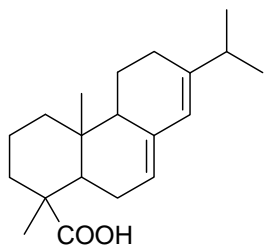
IV

218

2. (4.5 points) Predict whether UV-VIS spectroscopy can be used to distinguish between the following isomers. Estimate λ_{\max} (there may be more than one) for each.



3. (4 points) Can you distinguish between the following three isomeric acids by UV spectroscopy? Use the Woodward-Fieser rules to predict each λ_{\max} .



4. (3 points) A diene $\text{C}_{11}\text{H}_{16}$ was thought to have the structure below. Its UV spectrum showed a λ_{\max} of 263 nm. Can the structure below be correct? If not, draw a structure with the same skeleton that satisfies the spectral data.

