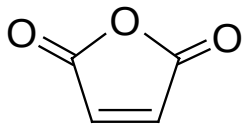
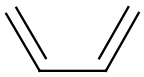
Vitamin Problem for Week 1: Chem 109C (Kahn)

Consider the following two organic molecules:



A



B

1) Based on what your textbook provides about effects of conjugation on λ_{max}, predict which of the two compounds absorbs light (even weakly) at a longer wavelength.

2) What kind of electronic transition is responsible for the long-wavelength peak in the UV-Vis spectra of these compounds?

3) Based on what we discussed in the class about solvent effects on spectra, predict which way the lowest-energy (longest wavelength) spectral maximum shifts upon transferring each of these compounds from a gas phase to a polar solvent

4) Draw the structure of the expected product if these two compounds react.

5) What kind of electronic transition will give rise to the long-wavelength peak in the UV-Vis spectrum of the reaction product?

6) Predict which way the lowest-energy (longest wavelength) spectral maximum shifts upon transferring the product from a gas phase to a polar solvent.