Organic 212L
Advanced Study Assignment
Diels-Alder reaction

Name:_____

1) Give the Diels-Alder reaction you are carrying out.

2) What are the two types of heating for this Diels-Alder reaction?

3) a) The procedure says to add 2.00 grams of anthracene and 1.00 grams of maleic anhydride. How much of each will you add in moles?

b) Why do you add xylene?

4) The resonance energy of naphthalene is 61 kcal/mole. The resonance energy of benzene is 36 kcal/mole. Why does the ring in the middle of anthracene undergo a Diels-Alder reaction in preference to the outer rings of anthracene?

5) Using the amounts in part 3a, what is the theoretical yield of the product?

6) Microwave heating might be tried in this lab. Draw the structure of the solvent used in the microwave procedure (pg. E7-4).