Post-Laboratory Report **Name _____**

Unit 3M: Introduction to Organic Synthesis III
Preparation of meso-Stilbenedibromide (Last updated 8/17/04)

1. Write an equation for the reaction you performed:

2. Complete the following table. Record masses to the nearest mg. Record R_f values to two decimal places.

Compound	MW	mass, mg or volume, mL	mmol	R_f
stilbene				
2% Br_2 in CH_2Cl_2				-----
meso-stilbenedibromide				

3. What solvent system did you use for your TLC? For example, if you mixed 7 mL of hexanes with 3 mL of ethyl acetate, your answer would be 7/3 hexanes/ethyl acetate.

4. a. What was the theoretical yield of *meso*-stilbenedibromide in your reaction? Show your work.

_____ mg

b. What was the percent yield in your reaction? _____ %

5. What was the melting point <u>range</u> of your product? _____ ^oC

6. Complete the table provided on the next page. Refer to your lab manual for a listing of approximate frequencies for the vibrations listed. Use the spectrum of the sample of *meso*-stilbenedibromide that you prepared for the measured frequencies. A discussion of characteristic group frequencies of arenes is available on pages 95-101 of the supplementary website data for Chapter 6 of your lab manual. Copies of this document are available in rooms152 and 367 of the Science building.

   Staple your IR spectrum to this sheet. Make sure it is labeled with your name, the name of the compound, a structural drawing of the compound, a reference to the page in your notebook where you describe the synthesis of the compound, and the file

name that you used to store the spectrum on the IR computer. Each of the peaks in the table below should be labeled on your spectrum.

Peak	Vibration	Approximate Frequency, cm^{-1}	Measured Frequency, cm^{-1}
1	methine C-H stretch		
2	arene C-H out-of-plane bending (5H)		
3	arene C=C ring stretch (ν_{8a})		
4	arene C=C ring stretch (ν_{8b})		
5	arene C=C ring stretch (ν_{19a})		
6	arene C=C ring stretch (ν_{19b})		
7	arene C=C o-o-p ring deformation (ν_4)		