Assignment #3

Pre-lab outline for Expt. 13 (includes calculation)..............................0.2
Data and observations for Expt. 13 (notebook pages).........................0.1
Results from Expt. 13
  Melting point and percent yield diene product...............................0.1
  IR spectrum..............................................................................0.1
  Identification of diene..............................................................0.05
Discussion (1-2 pages).....................................................................0.45

Discuss the objectives, observations, principles and error sources for
Experiment 13. Include the following in your discussion:

- Relate the observations from your notebook to the chemical changes that
  took place during the reaction.

- Discuss the yield and melting point of the product.

- Which diene is present in eucalyptus oil? Write all possible structural
  formulas for the Diels-Alder product of this diene showing the
  stereochemistry. Indicate which structure you believe was formed in the
  reaction and why.

- Compare your infrared spectrum with that of maleic anhydride, shown on
  Fig. 2, Expt. 13. You should be able to identify the two bands that arise
  from the carbonyl stretching modes.

The length of the discussion section must not exceed two pages. Use double-
spacing, a one inch margin on the top, bottom and sides of the page and a standard font
(Times, Palatino, Arial, Helvetica) with a size that is not smaller than 12 point. If your
discussion section exceeds two pages in length, your TA will not read past the second
page when grading the report.