

1. Circle the best answer to the statements below about today's experiment:

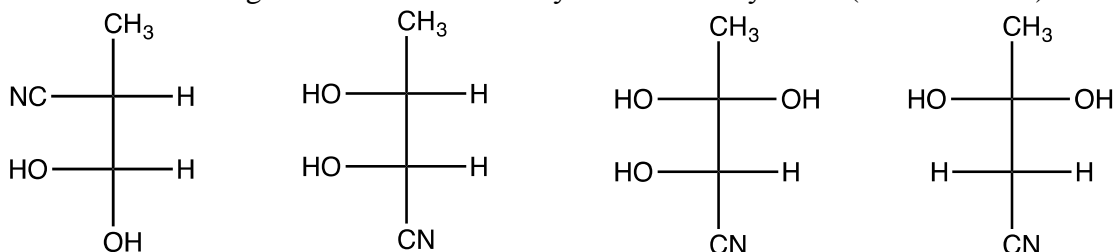
a) The bromination reaction is believed to proceed via the formation of an intermediate best characterized as:

a secondary carbocation      a bromonium ion      an allylic cation

b) Evidence indicates that the dibrominated product is the result of:

Anti-addition      syn-addition      allylic addition

c) Which of the following structures can correctly be termed 'erythro'? (Circle answer)



d) If a sample of the dibrominated product you are synthesizing is placed in a polarimeter, what would be the result and why?

no rotation, racemic mixture formed

no rotation, the product is meso

no rotation, the product is optically inactive

rotation, only one stereoisomer is formed

e) The electrophile in this addition reaction is:

molecular bromine

trans-cinnamic acid

there is no electrophile; this is fully a nucleophilic reaction

2. You are directed to add more  $\text{Br}_2$  to the reaction if the orange coloration fades during the reaction period. What does the fading indicate and what is accomplished by adding more?

3. Just as a review: You are directed to recrystallize your crude dibromo product in a mixed solvent system (ethanol/water). Briefly describe how you will do that.

4. Why is it important to dispense the bromine only in the hood?