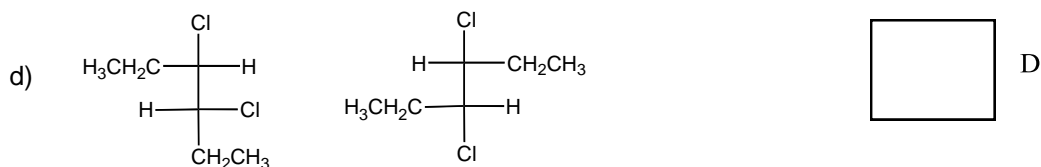
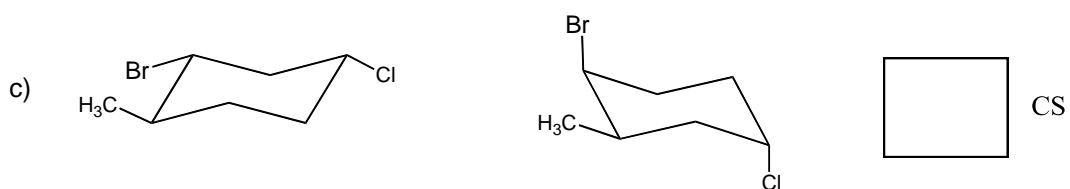
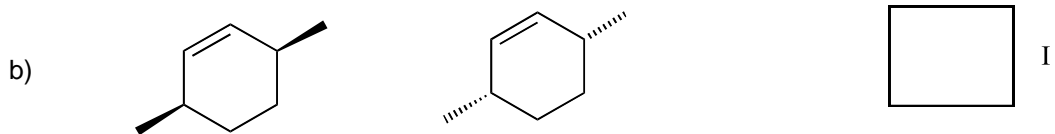
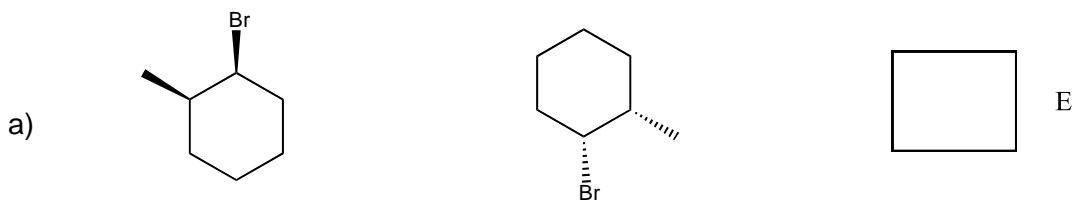
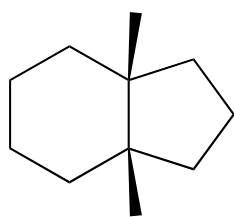


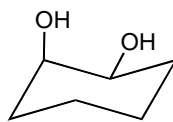
1. (8 Points, 2 points each) Indicate the relationship of the following pairs as Enantiomers (E), Diastereomers (D), Identical (I), Conformational (C), or Constitutional isomers (CS).



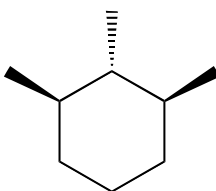
2. 4 Points, 1 pts. each) Which of the following molecules are optically active?



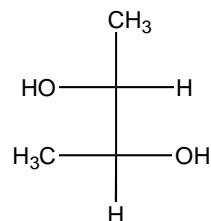
A  
No



B  
No



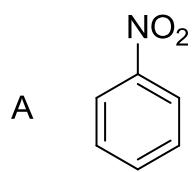
C  
No



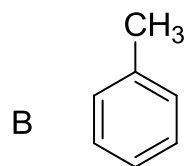
D  
No

A, B, and C all have planes of symmetry and are meso compounds

3. Name the following compounds (3 points each, 6 total)

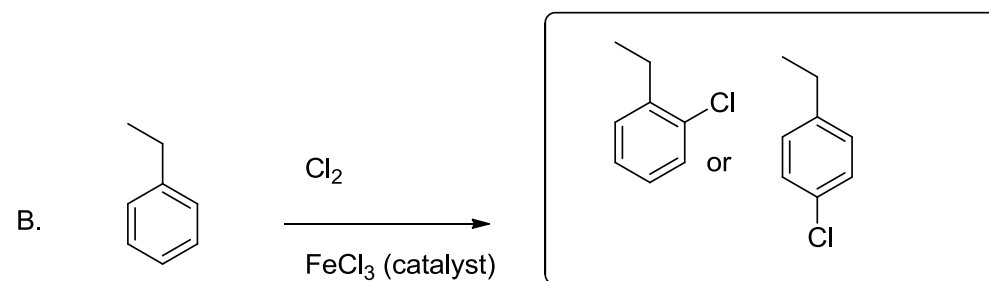
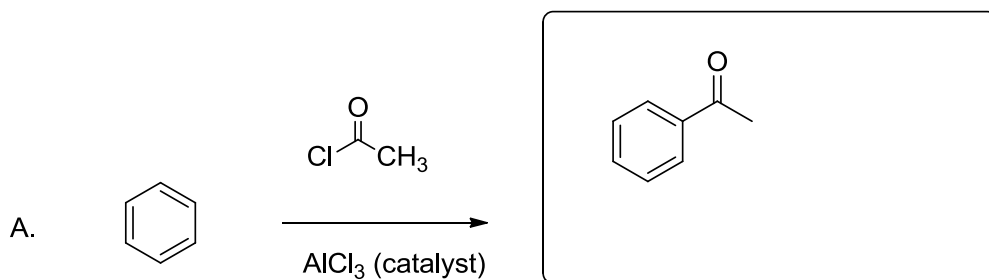


nitrobenzene



toluene

4. Draw the products for the following reactions (3 points each, 6 total).



5. True or false enantiomers are non-superimposable mirror images of one another (1 point)?