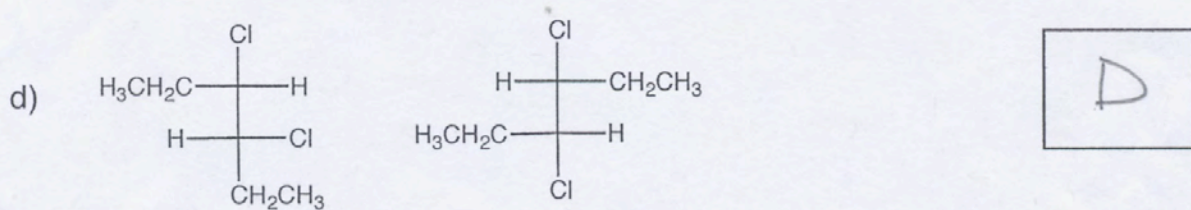
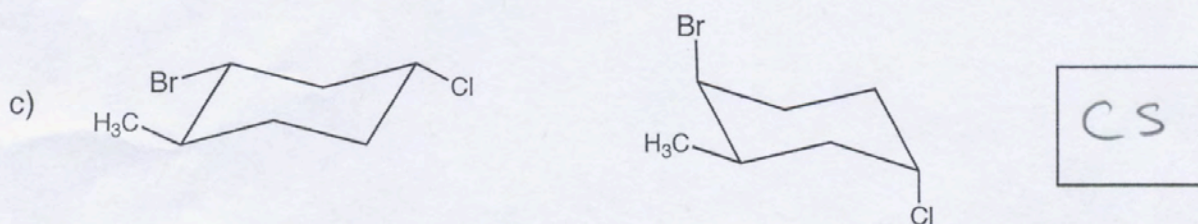
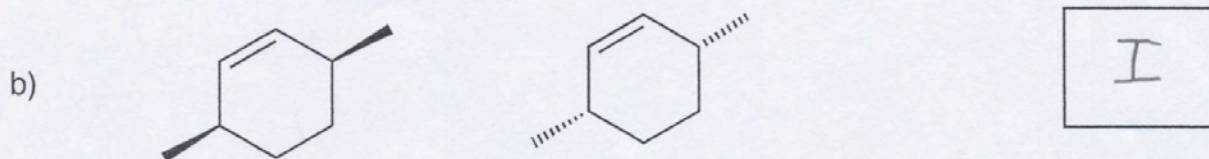
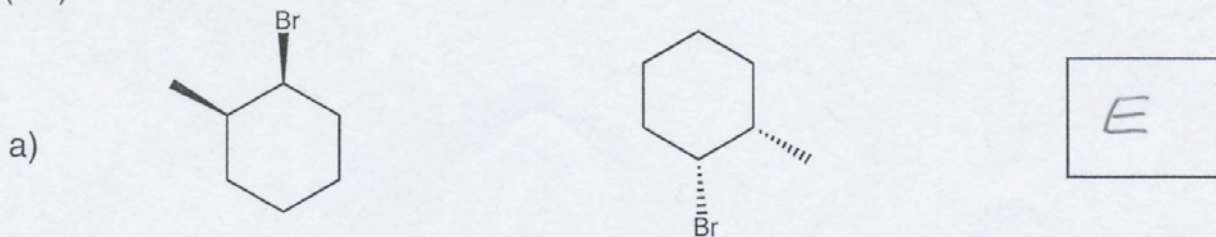


# work sheet Key, Friday June 5

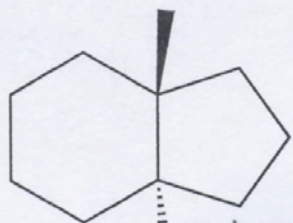
1 Indicate the relationship of the following pairs as Enantiomers (E), Diastereomers (D), Identical (I), Conformational (C), or Constitutional isomers (CS).



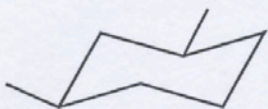


2) Which of the following molecules are optically active?

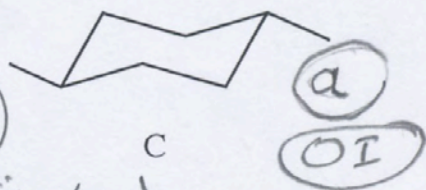
2



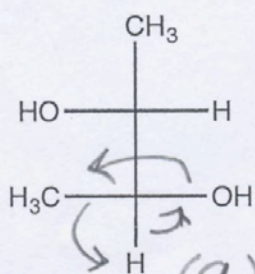
A  
chiral (c)  
optically active (oa)



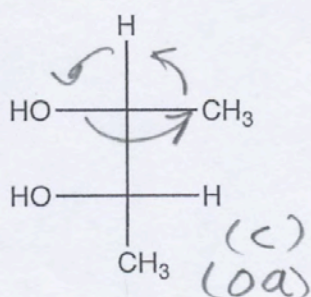
B  
achiral (a)  
optically inactive (oi)



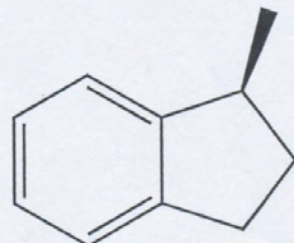
a  
oi



D (oi)

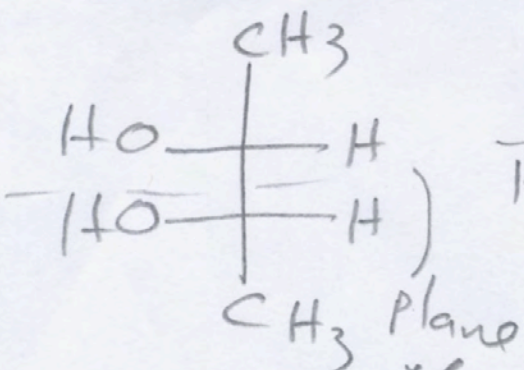


E

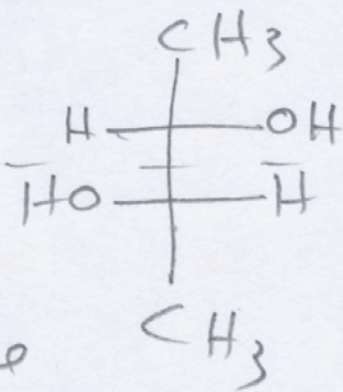


(c)  
(oa)

F



Plane of Symmetry



No Plane of Symmetry



Outline an efficient synthesis for the following starting with benzene and appropriate reagents.

