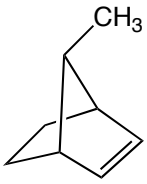
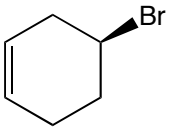
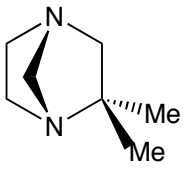
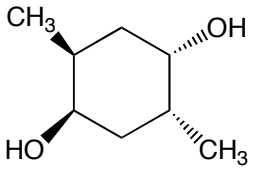
Problem Set #3 - Chem 30A

1). Circle the compounds below which are chiral, give also the R/S assignements.



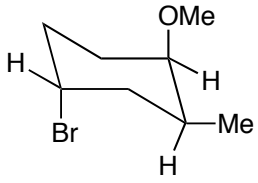


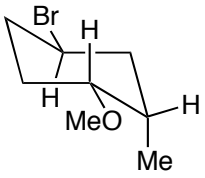




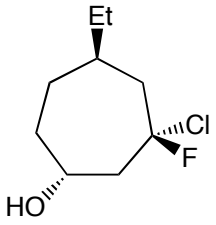
2). Give the relationship of the two molecules in each of the pairs below (enantiomers, diastereomers, or identical).

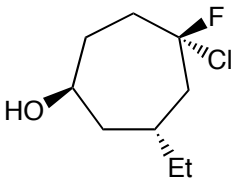
a)



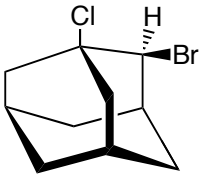


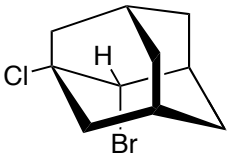
b)



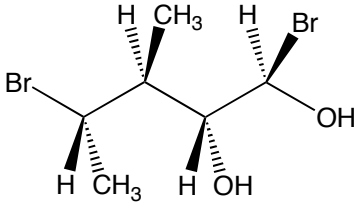


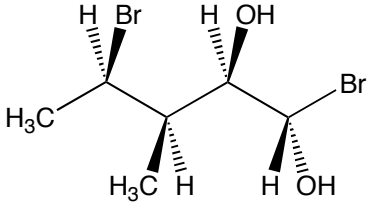
c)



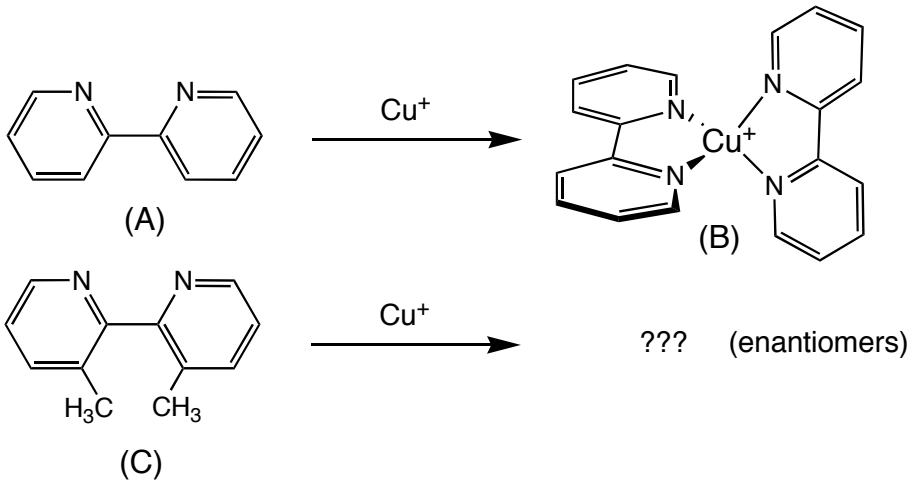


d)

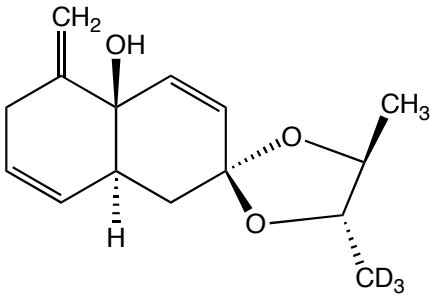


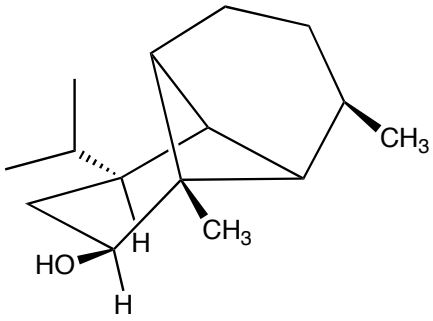


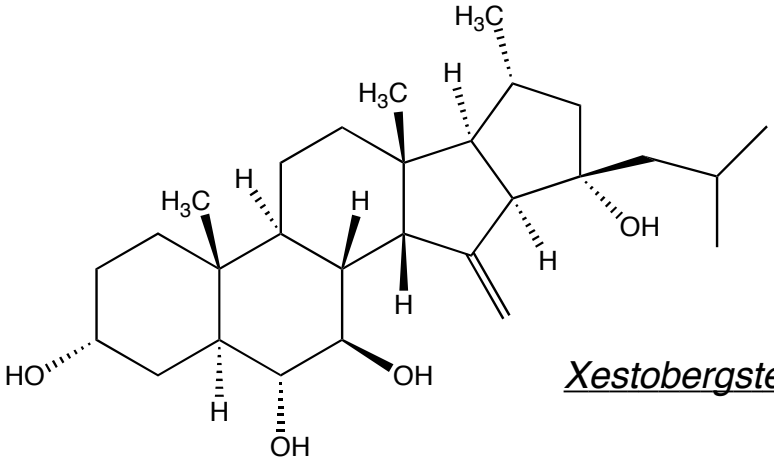
3). Bipyridine (A) reacts with Cu^+ to give a complex which is tetrahedral about Cu^+ (B). If the dimethyl derivative (C) is used, the complex which is formed can be resolved into enantiomers. Explain why this is true.



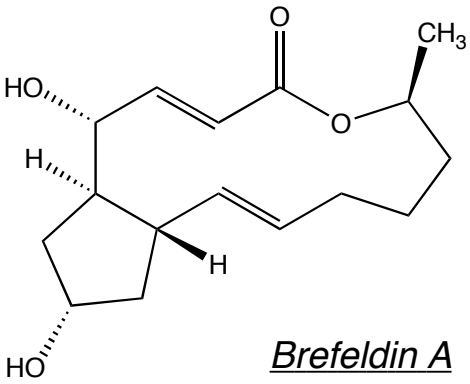
4). Assign the absolute configuration (R or S) of every stereocenter in the following molecules.







Xestobergsterol



Brefeldin A