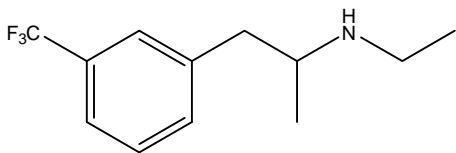


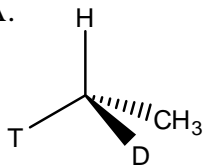
Discussion Problem Set 6
Stereochemistry

1. Draw both enantiomers of fenfluramine, one component in the diet pill Fen-Phen. Circle the biologically active S-isomer. (problem 5.15)

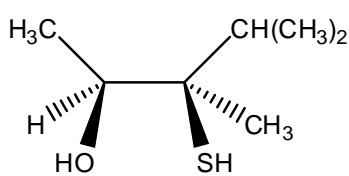


2. Label each stereogenic center as R or S. (Problem 43ceh)

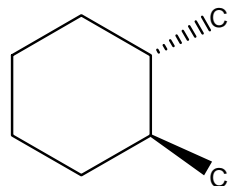
A.



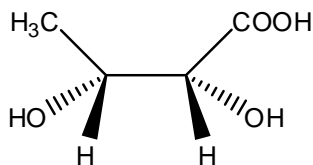
B.



C.

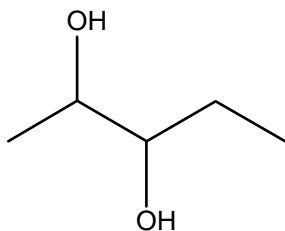


3. Draw the enantiomer and one diastereomer for this compound. (problem 5.19a)

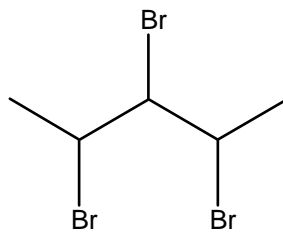


4. Draw all possible stereoisomers for each compound. Label each pair of enantiomers and diastereomers. Label any meso compounds. (Problem 5.50ad, 3.53a)

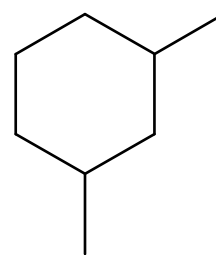
A.



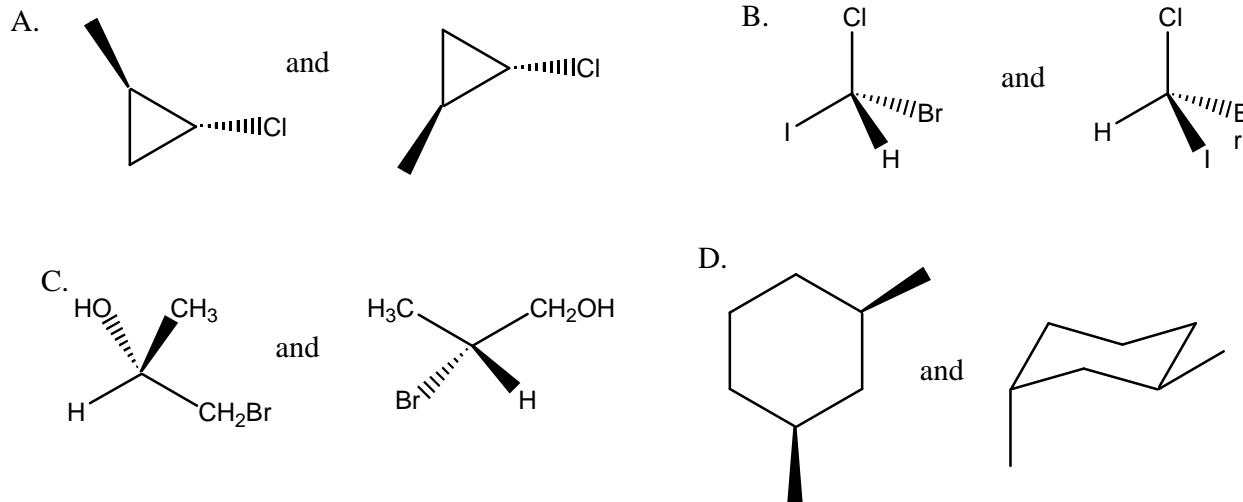
B.



C.



5. How are the compounds in each pair related to each other—identical, enantiomer, diastereomers, constitutional isomers, or not isomers? (Problem 5.58efhl)



6. (S)-alanine has a melting point of 297°C and an optical rotation of $+8.5^{\circ}$. (problem 5.27)
- What is the melting point of (R)-alanine? _____
 - What is the melting point of racemic alanine? _____
 - What is the rotation of (R)-alanine? _____
 - What is the rotation of racemic alanine? _____
 - Label each of these as optically active or inactive:
 - A solution of pure (S)-alanine _____
 - A 50/50 mixture of (S) and (R)-alanine _____
 - A 75/25 mixture of (S) and (R)-alanine _____