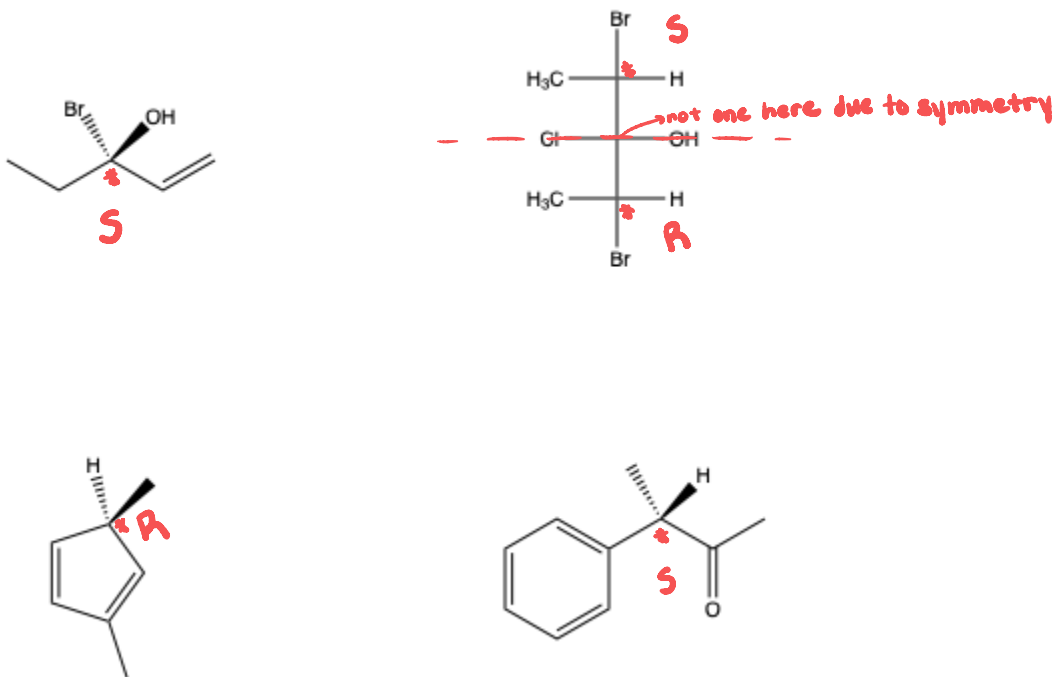
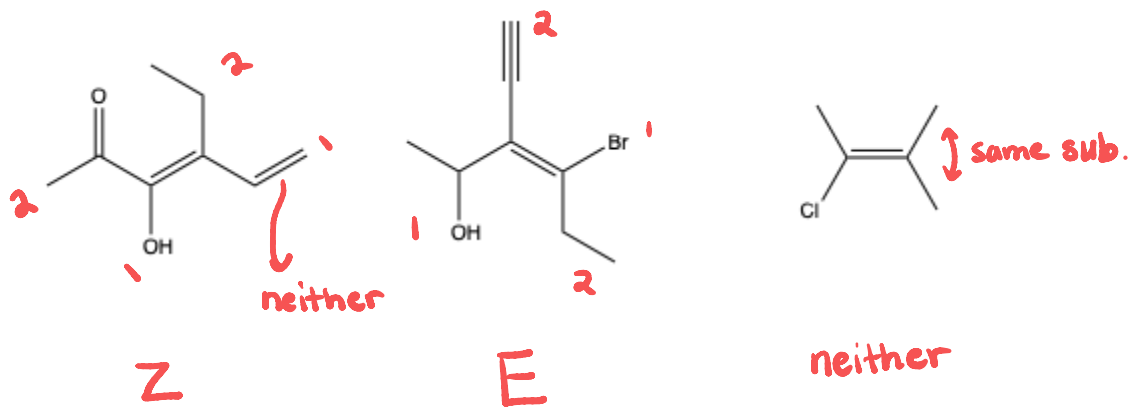


CHEM 2300 Solution 6

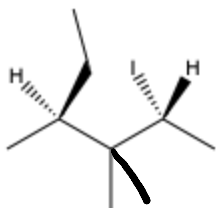
- Label all stereocenters, then state whether they are R or S.



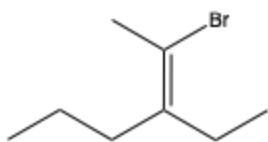
- Assign Z, E, or neither for the following molecules. If there are two double bonds assign it to both.



3. Name or draw the following molecules (be sure to include Z/E and R/S).

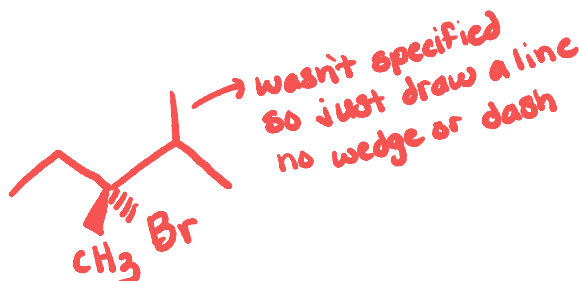


(2R,4S)-2-iodo-3,3,4-trimethylhexane

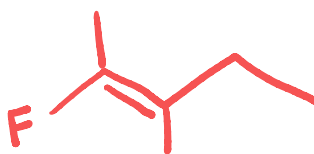


(E)-2-bromo-3-ethyl-2-hexene

(R)-3-bromo-2,3-dimethylpentane

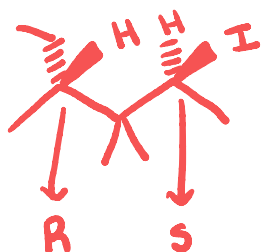


(E)-2-fluoro-3-methylpent-2-ene

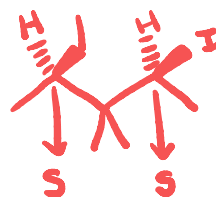
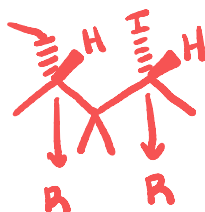


4. Draw a diastereomer and enantiomer for the first molecule in question three. Assign configuration for your new molecules.

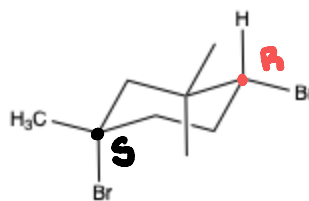
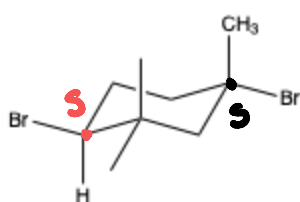
enantiomer



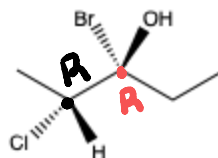
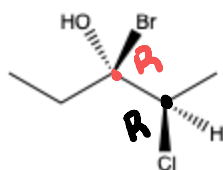
diastereomers



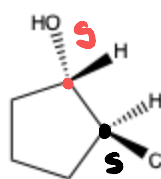
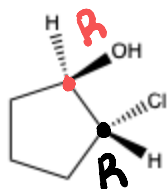
5. State whether the pairs are diastereomers, enantiomers, or identical.



diastereomers

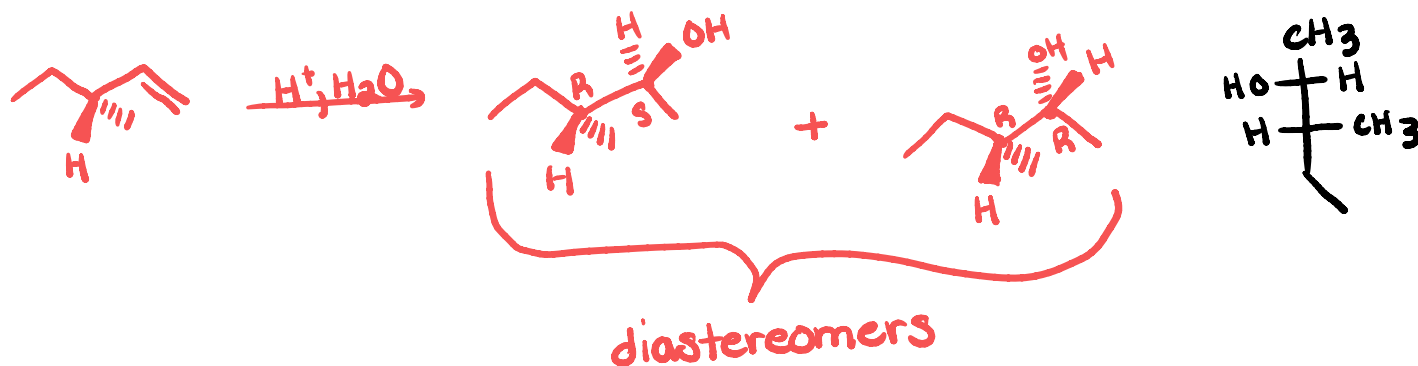


identical

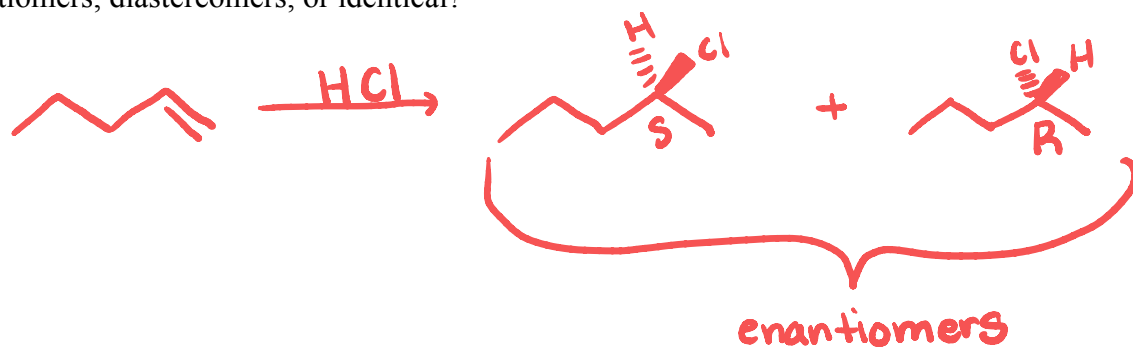


enantiomers

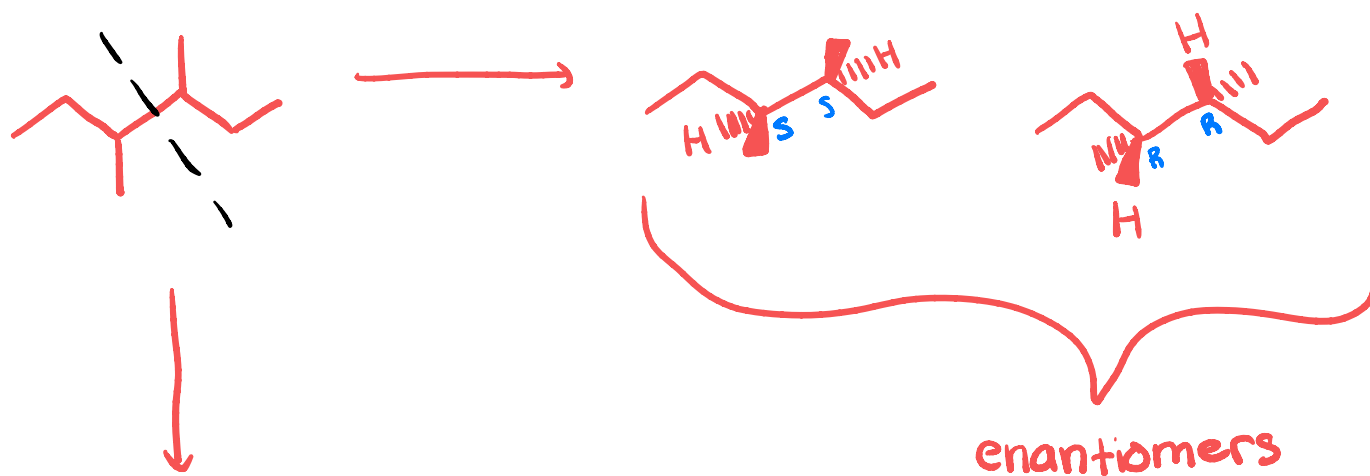
6. Draw the major products for (R)-3-methyl-1-pentene reacting with water in acidic conditions. Are these enantiomers, diastereomers, or identical? Draw the R,R product into a Fischer.



7. Draw the major products for 1-pentene reacting with hydrochloric acid. Are these enantiomers, diastereomers, or identical?



8. Draw all stereoisomers for 3,4-dimethylhexane. Are any of them the same compound?



3 different isomers

identical (if no symmetry they would be diastereomers)