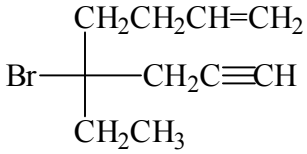
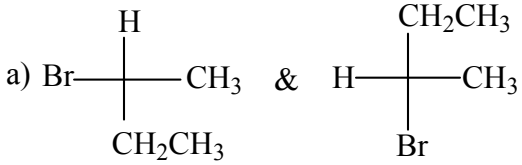
**CHEM 241-601 Stereochemistry problems**

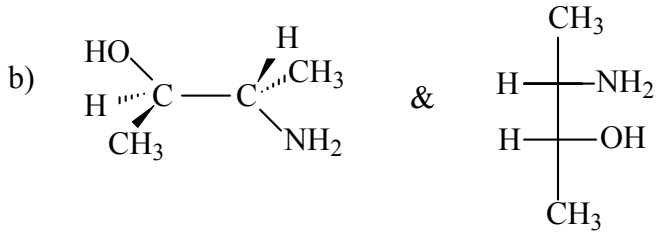
1.(10) Name compound a) and draw compound b).

a) 


b) (S)-4-cyclopropyl-4-methyl-2-hexyn

2.(12) Determine whether the following pairs of compounds are **identical**, **enantiomers** or **diastereomers**. **Also**, give the absolute configuration (**R or S**) for each chiral center.

a) 


b) 


3.(8) Draw a Fisher projection of **2(S), 3(S)-dibromopentane** (not cyclo!!). Next to this projection, draw a Fisher projection of one *diastereomer* of the above compound. Label the chiral centers as **R** or **S** in your diastereomer as well.

4.(10) The bromination of cyclohexene gives the two compounds shown below. **Assign *R* or *S* to each chiral center in the products**. Are the two molecules enantiomers, diastereomers or identical? _____