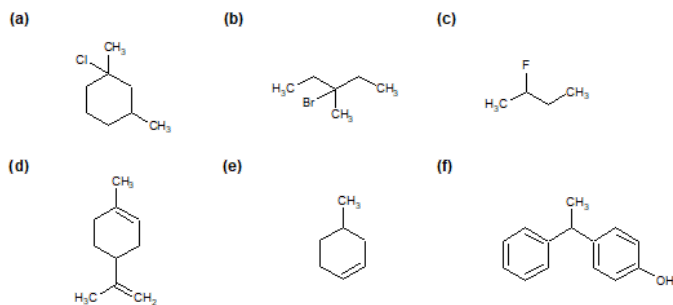
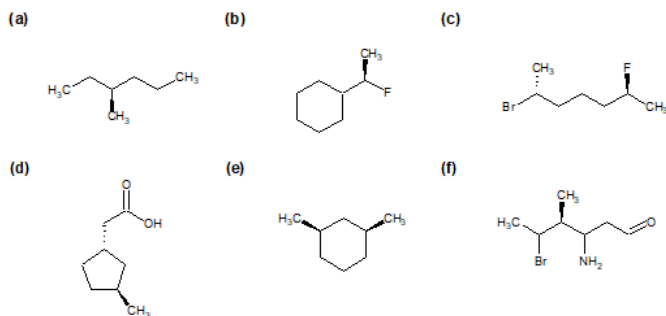


## 6.14: ADDITIONAL EXERCISES

6-1 For the following compounds, star (\*) each chiral center, if any.



6-2 For the following compounds, identify the *R* or *S* configuration of each chiral carbon atom.

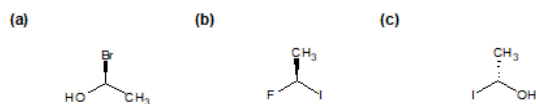


6-3 Draw out the following molecules, including stereocenters.

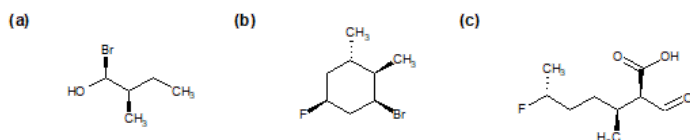
- (2*R*,4*S*,6*R*)-2-bromo-6-chloro-4-methylheptane
- (4*R*)-4-bromopent-1-ene
- (1*R*,2*R*,3*S*)-1-fluoro-2,3-dimethylcyclohexane
- (3*S*)-3-methylcyclopent-1-ene

### (*R*) AND (*S*) NOMENCLATURE OF ASYMMETRIC CARBON ATOMS

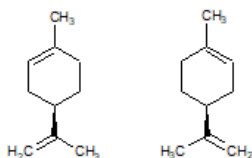
6-4 For the following compounds, assign *R* or *S* configurations for each stereocenter.



6-5 For the following compounds, assign *R* or *S* configurations for each stereocenter.

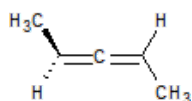


6-6 Identify each molecule as either (*R*)- or (*S*)-Limonene.



### CHIRAL COMPOUNDS WITHOUT ASYMMETRIC ATOMS

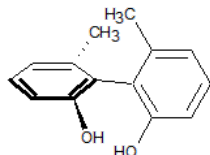
6-7 Explain why the following compound is optically active.



6-8 Does the following compound contain a chiral center? Is it a chiral molecule?

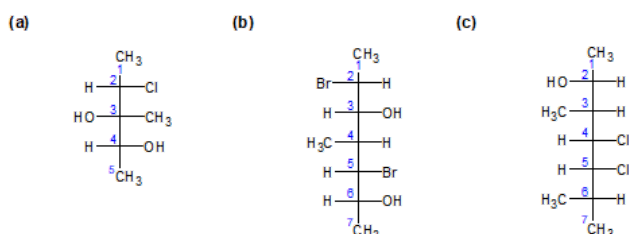


6-9 Why is this biaryl compound shown below considered chiral, despite having no chiral center?

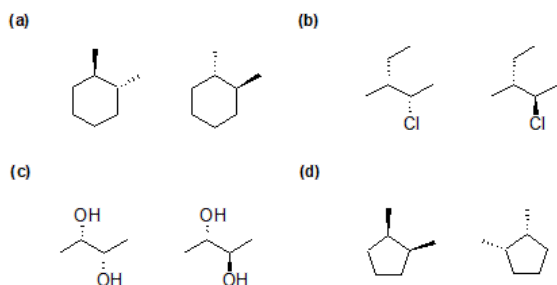


## FISCHER PROJECTIONS AND DIASTEREOMERS

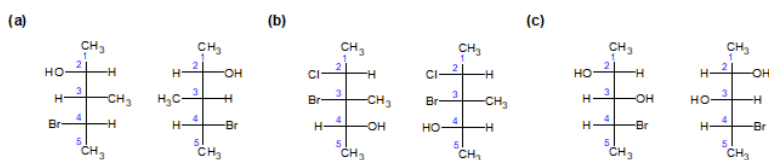
6-10 For the following Fischer projections, identify the configuration (*R* or *S*) of all chiral centers (some atoms may not be chiral centers).



6-11 For the following pairs of compounds, identify whether they are enantiomers, diastereomers, or the same compound.

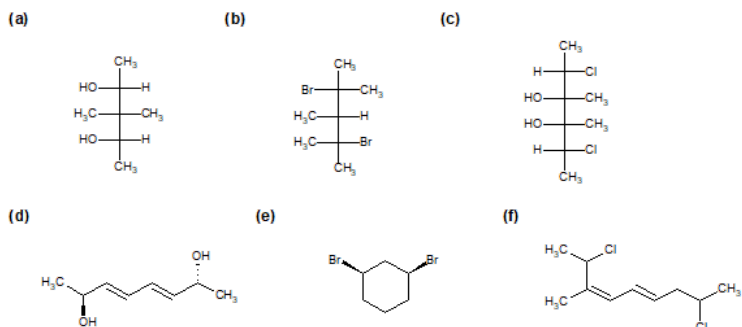


6-12 For the following pairs of compounds, identify whether they are enantiomers, diastereomers, or the same compound.



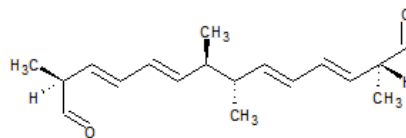
## MESO COMPOUNDS

6-13 For the following compounds, identify whether they are meso or not meso.



**6-14** Are meso compounds optically active? Explain your answer.

**6-15** Is the following compound meso or not meso?




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