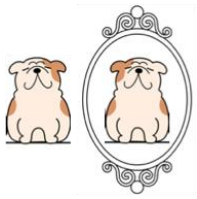
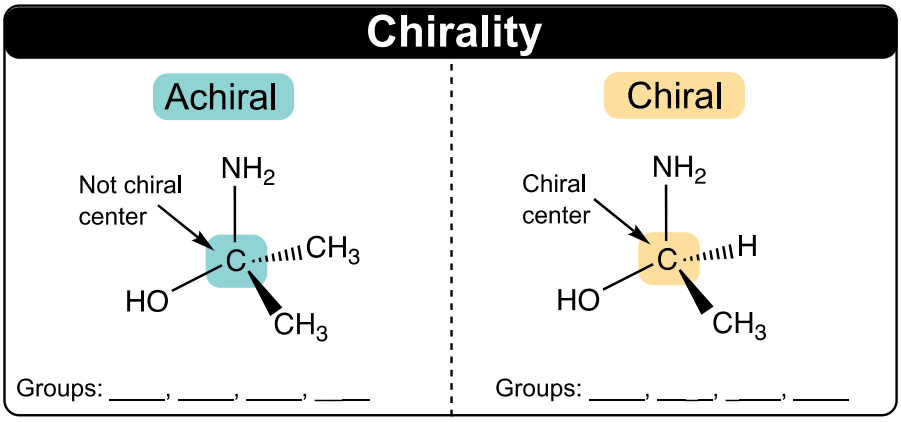
CONCEPT: CHIRALITY

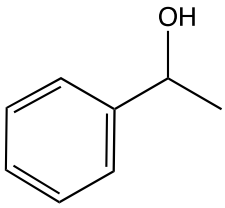


- A property of molecules in which _____ images of molecules are _____superimposable.
- *Optical stereoisomers* (_____): *chiral molecules* and possess 1 or more *chiral centers*.
  - □ **Chiral center**: a carbon connected to ____ unique groups.



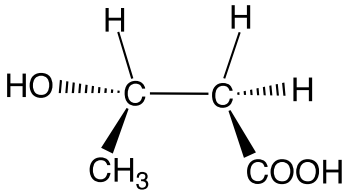
- Chiral molecules are optically _____: rotate plane polarized light.

EXAMPLE: Identify the following molecule as chiral or achiral.

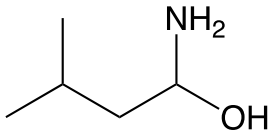


PRACTICE: Identify chiral centers in the provided optical isomers.

i)

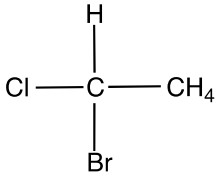


ii)

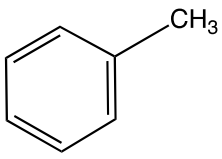


PRACTICE: Identify molecule(s) capable of rotating plane polarized light.

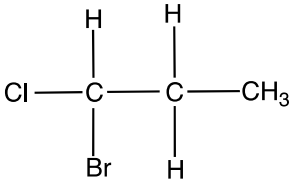
a)



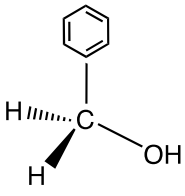
b)



c)



d)

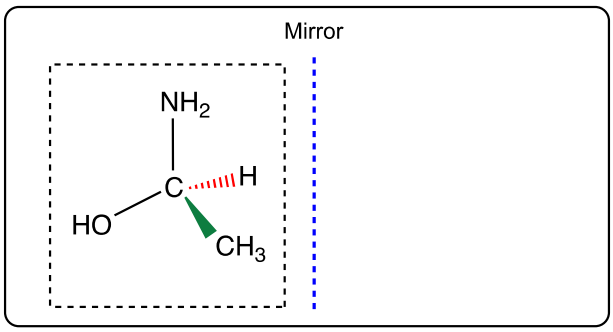


CONCEPT: CHIRALITY

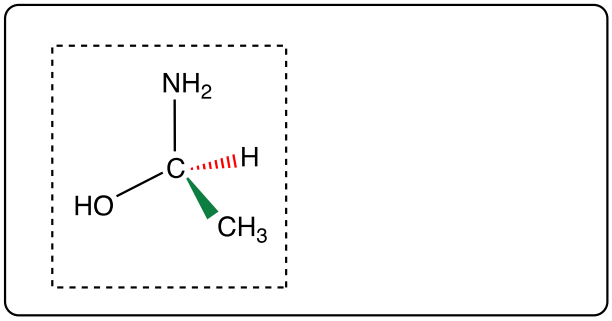
Drawing Enantiomers

- When drawing enantiomers of a chiral molecule, there are ____ methods available.

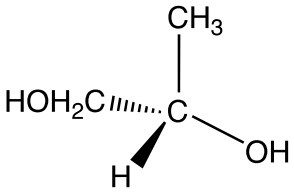
METHOD 1: Draw an image the molecule "_____" in the mirror.

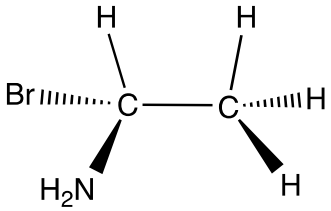


METHOD 2: Change solid wedge to dashed wedge and dashed wedge to solid wedge on the _____ center.



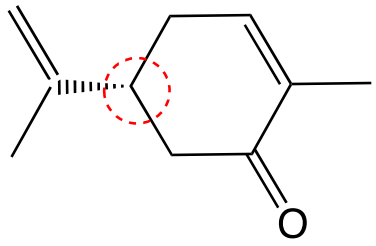
EXAMPLE: Draw enantiomers for each given chiral molecule using method 1.

i) 

ii) 

CONCEPT: CHIRALITY

PRACTICE: Provide the enantiomer using method 2. (Hint: chiral center is circled in red.)



PRACTICE: Predict enantiomer for thalidomide compound given below.