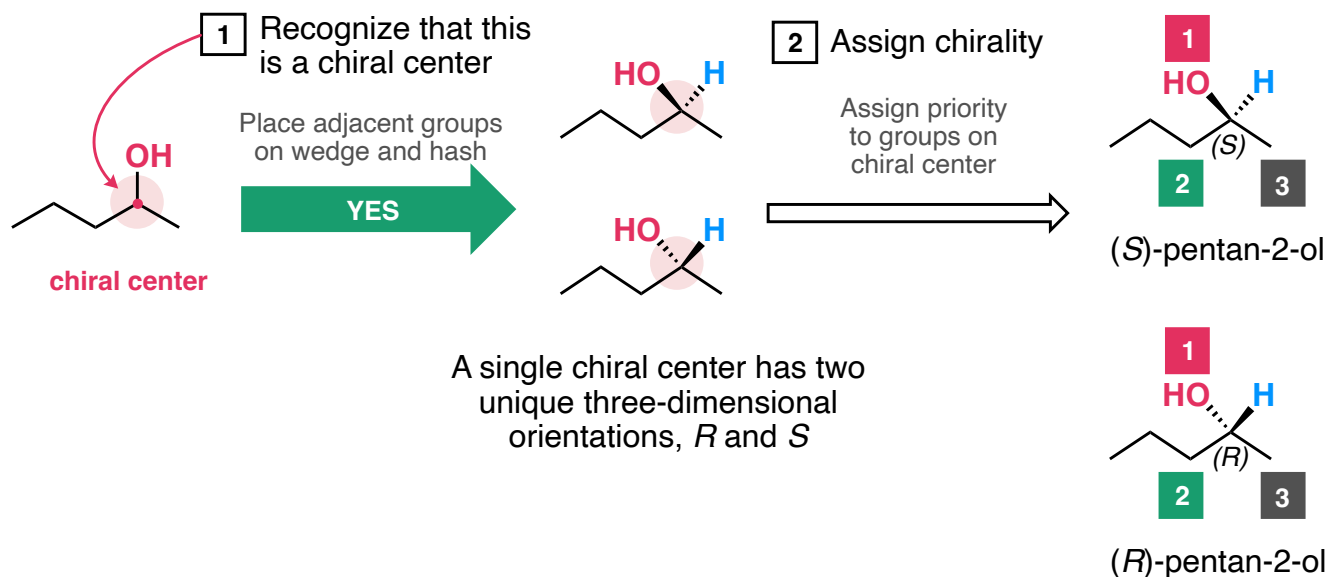


Drawing Chiral Molecules and Defining Isomeric Relationships

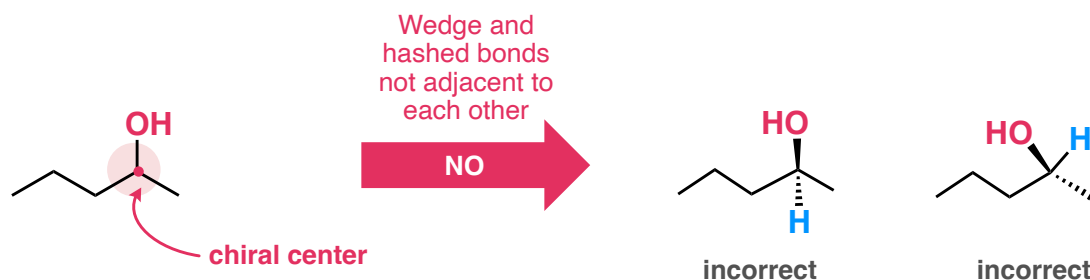
This document should demonstrate the correct ways to draw different orientations of chiral molecules and highlight potential pitfalls

Consider pentan-2-ol

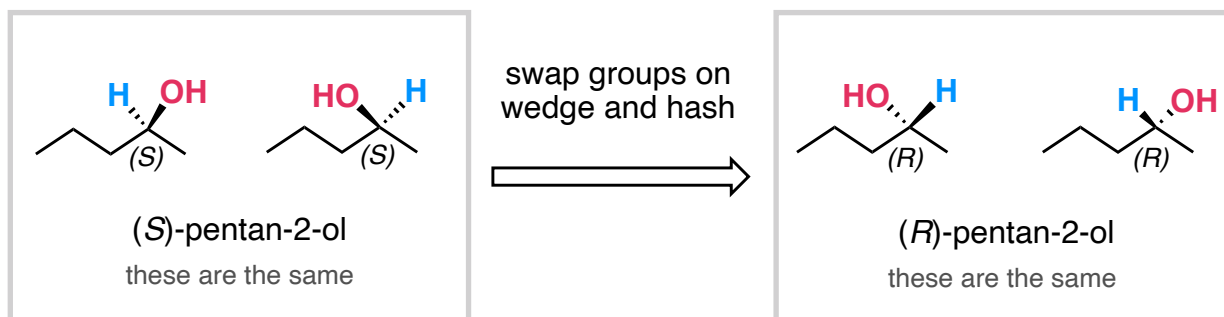


Incorrect Representations of Chiral Centers

Wedges and hashes must be placed adjacent to each other. They cannot be separated over the bonds that are "in-plane"

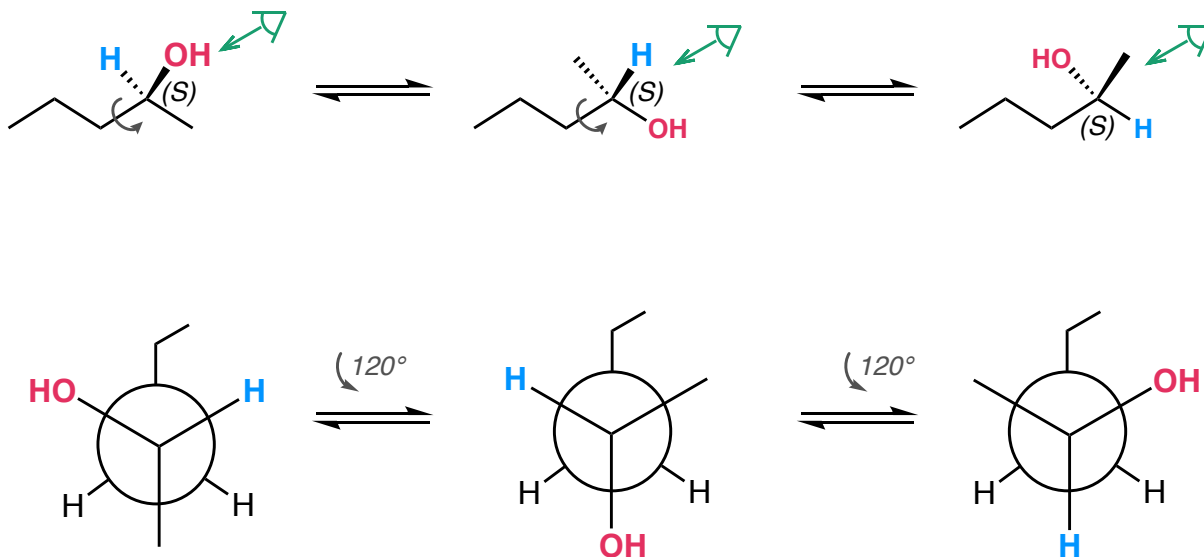


To draw the other absolute configuration of any chiral center, switch the groups that are on the wedge and hash



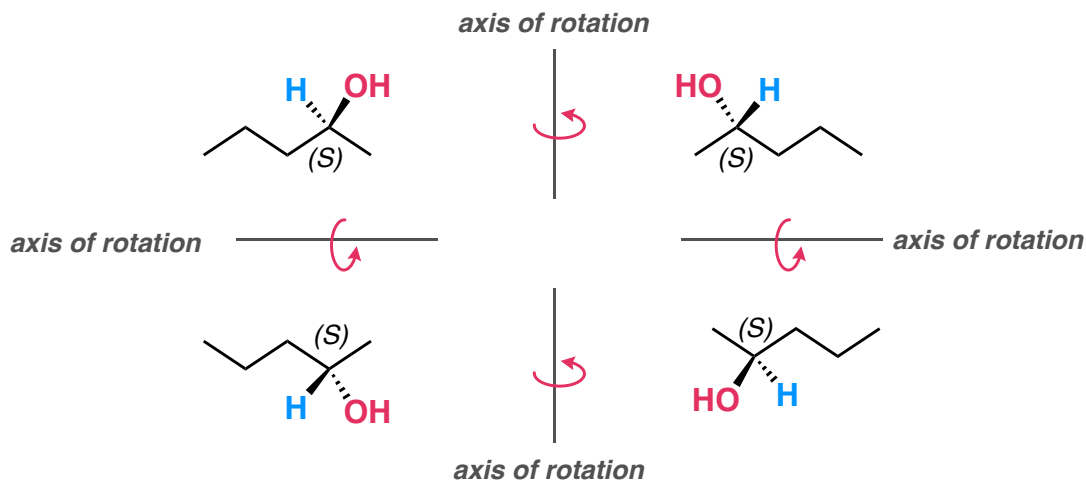
Rotating Bonds in Chiral Molecules

Bond rotations can result in different orientations of the same chiral molecule with the same absolute configuration



Rotation of Chiral Molecules about an Axis

Rotations of a chiral molecule about an axis can also produce different orientations of the same chiral molecule with the same absolute configuration



Flowchart

This document should provide a general process for assessing the isomeric relationship between two isomeric molecules

