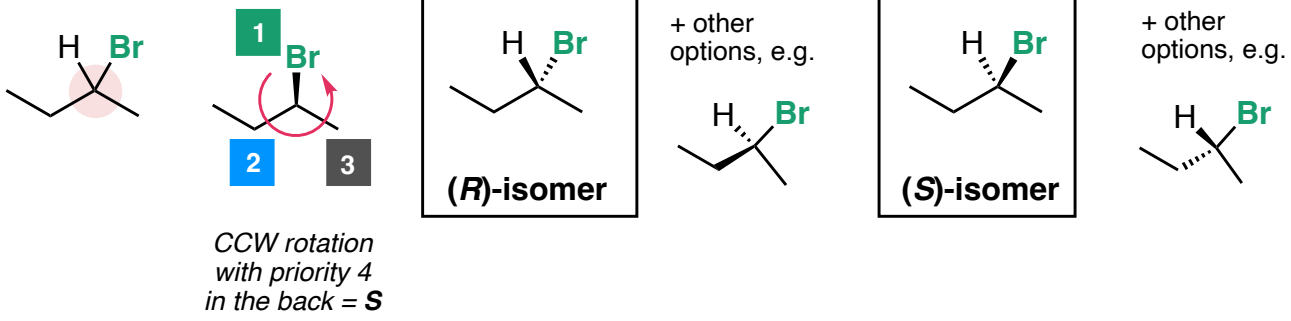
Drawing Chiral Molecules and Defining Isomeric Relationships

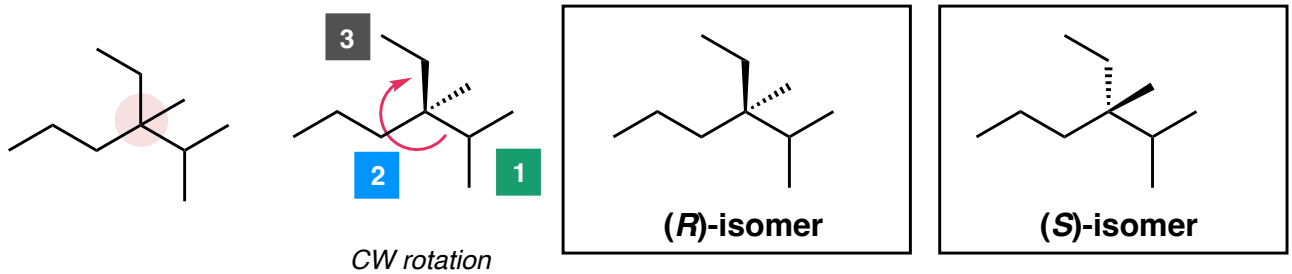
1. **Draw the (R) and (S) enantiomers** of each molecule below, each containing only one chiral center (highlighted for you)

A.



*CCW rotation with priority 4 in the back = **S***

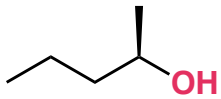
B.

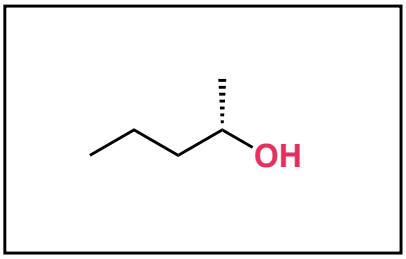


*CW rotation with priority 4 in the back = **R***

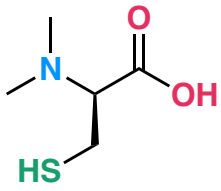
2. **Draw the enantiomer** of each chiral molecule below.

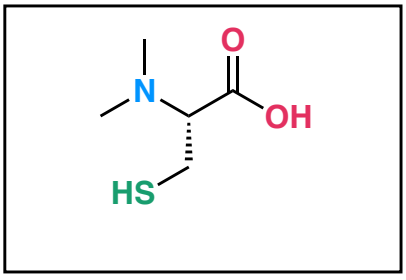
A.



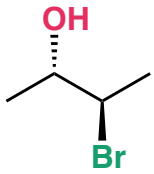


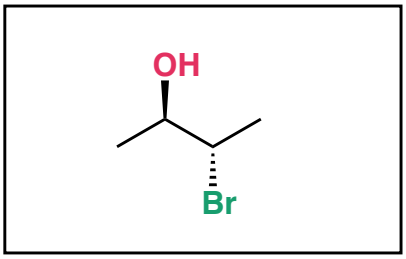
B.



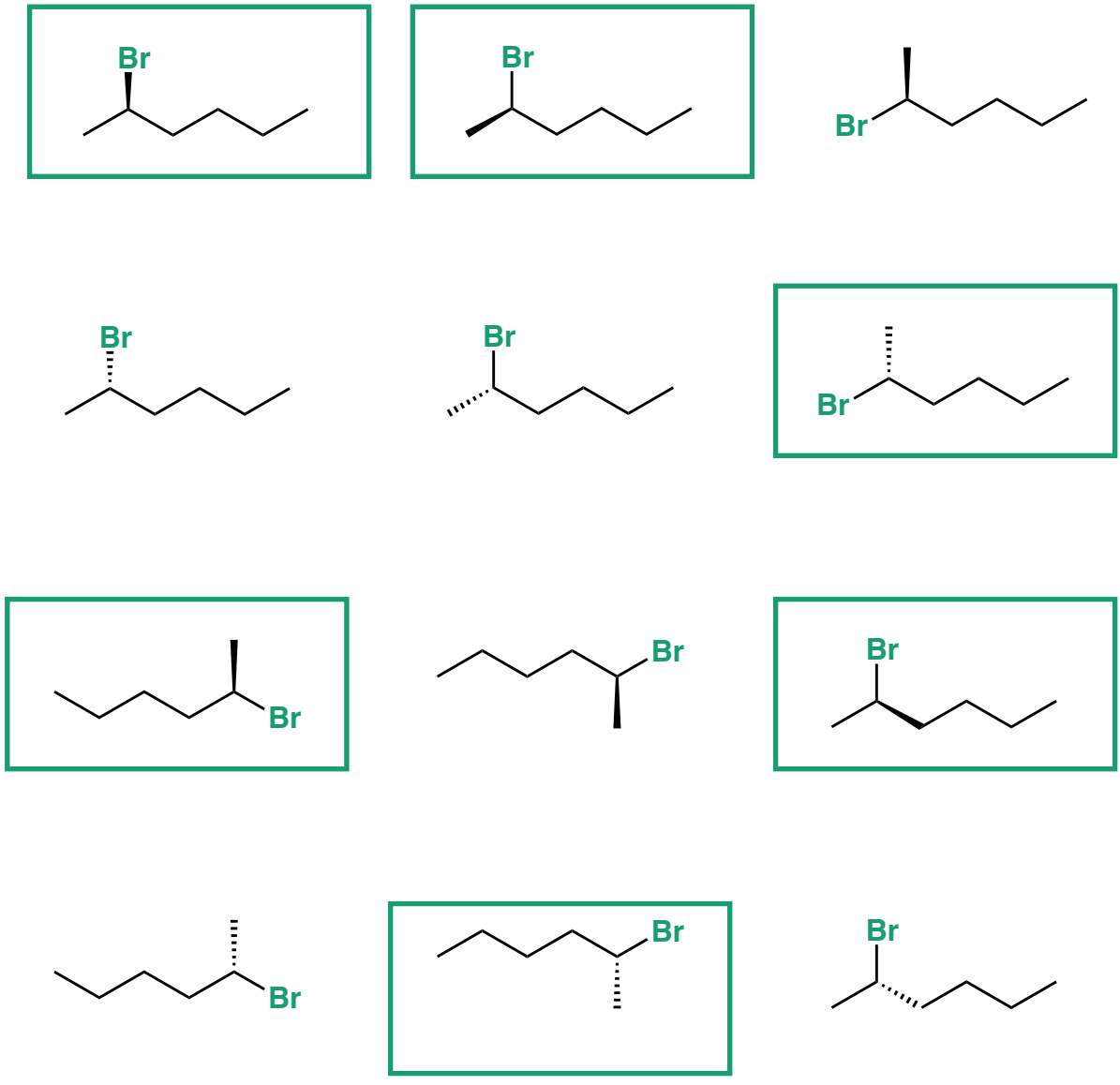


C.

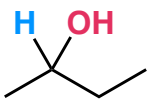




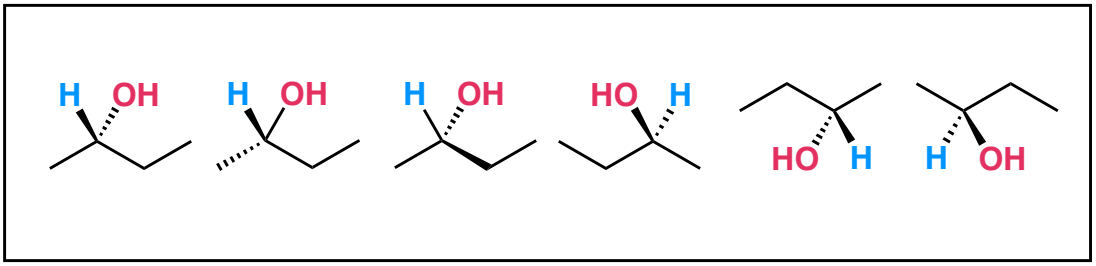
3. ***Select all*** of the molecules below that are (*R*)-2-bromohexane.



4. Draw **three different orientations** of **(S)-2-butanol**



2-butanol



5. **Use the flowchart** to **determine the relationship** between the pairs of molecules below.

A. 

- ■ constitutional isomers
- ☐ enantiomers
- ☐ diastereomers
- ☐ conformers

B. 

- ☐ constitutional isomers
- ■ enantiomers
- ☐ diastereomers
- ☐ conformers

C. 

- ☐ constitutional isomers
- ■ enantiomers
- ☐ diastereomers
- ☐ conformers

D. 

- ☐ constitutional isomers
- ☐ enantiomers
- ■ diastereomers
- ☐ conformers

E. 

- ☐ constitutional isomers
- ☐ enantiomers
- ■ diastereomers
- ☐ conformers

F. 

- ☐ constitutional isomers
- ☐ enantiomers
- ☐ diastereomers
- ■ conformers