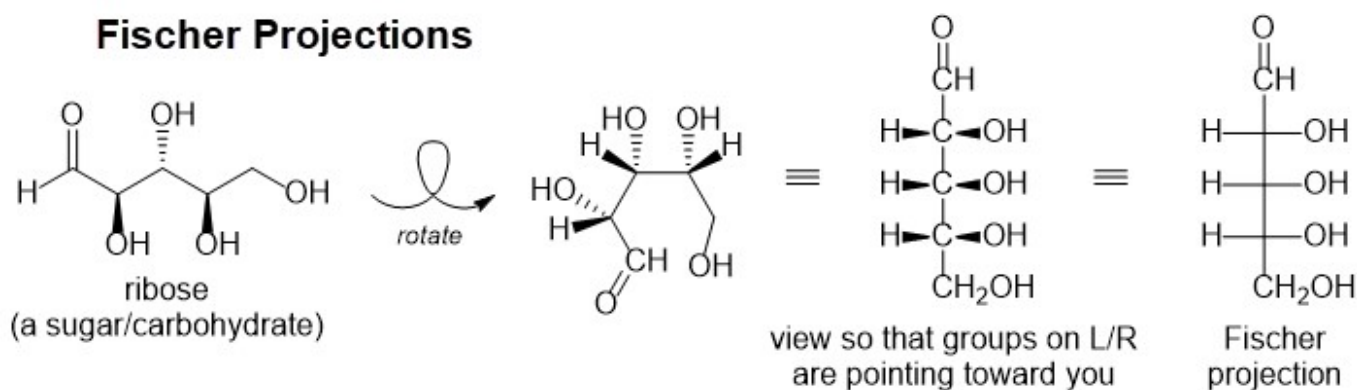


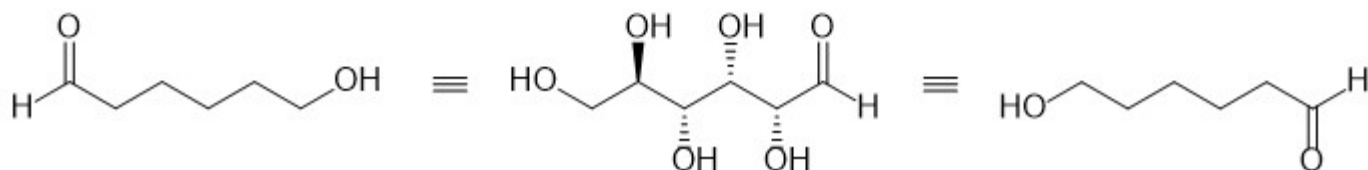
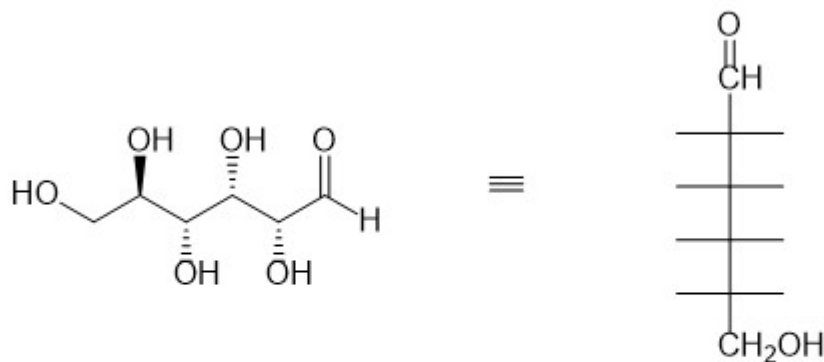


Fischer Projections

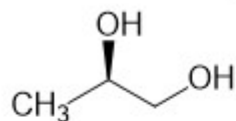


Draw the given compound as a Fischer projection, and on the provided skeletons:

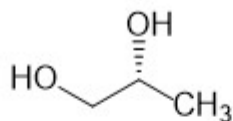
1



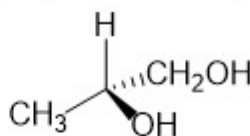
II. Revisited: assigning *R/S* configuration if group #4 is *in the plane* (5.3).



#4 is dashed
so 1-2-3



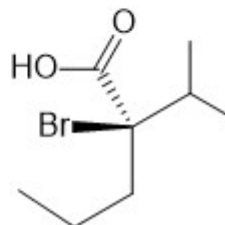
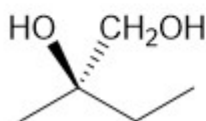
#4 is wedged
so 3-2-1



#4 is planar
so change POVI

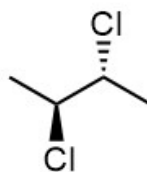
2

Group work: assign configuration for the following compounds. Show your work.



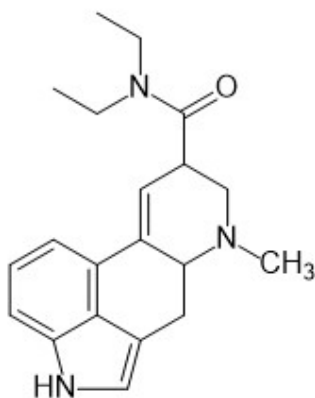
3

Is the following molecule optically active?
Does it have an enantiomer?



4

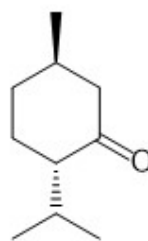
Identify all the chiral centers in lysergic acid diethylamide (LSD). Mark each with *.
LSD has how many possible stereoisomers?



lysergic acid diethylamide (LSD)

Shown below is menthone, a minor component of peppermint oil. Determine the configuration of each chiral center in menthone, draw its enantiomer, and predict its specific rotation and boiling point.

5



menthone
 $[\alpha]_D^{20} -25^\circ$
 bp 207°C

enantiomer
 of menthone
 $[\alpha]_D^{20}$

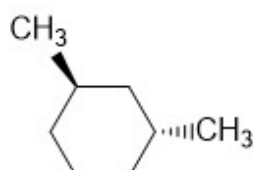
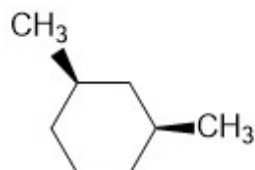
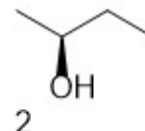
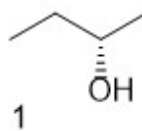
bp

6

What is the relationship of the following pairs of compounds?

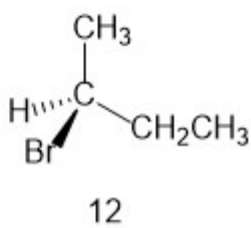
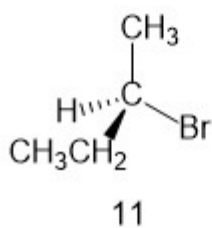
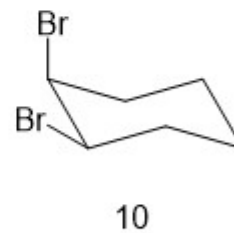
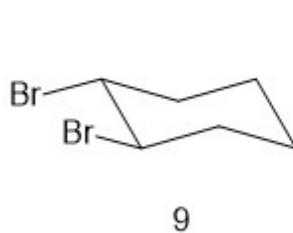
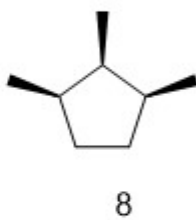
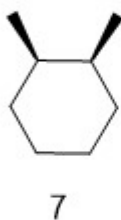
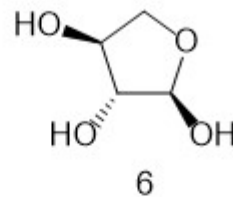
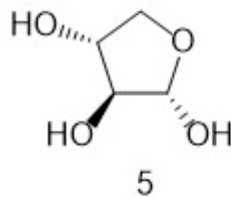
- A) constitutional (structural) isomers
- B) enantiomers
- C) diastereomers
- D) the same compound
- E) unrelated

try SkillBuilder 5.6

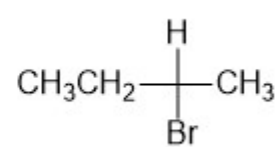
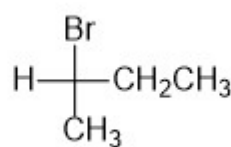
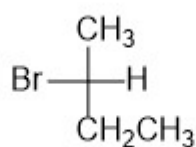
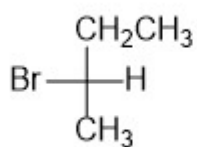
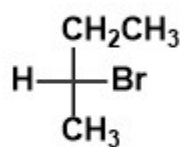


7 What is the relationship of the following pairs of compounds?

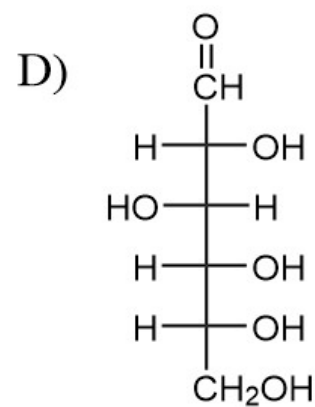
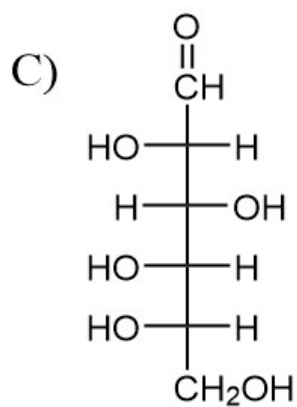
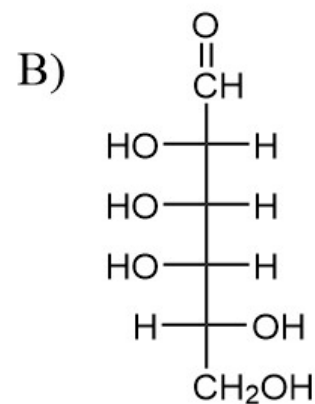
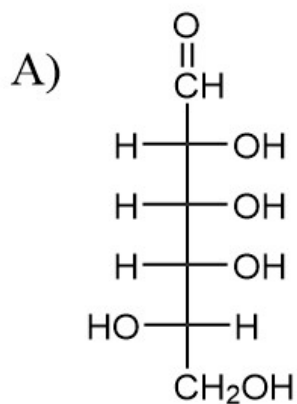
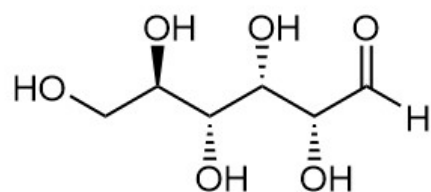
- A) constitutional (structural) isomers
- B) enantiomers
- C) diastereomers
- D) the same compound
- E) unrelated



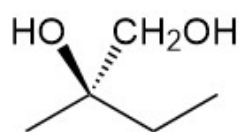
8



1 Draw the given compound as a Fischer projection



2 Determine the configuration of each compound.

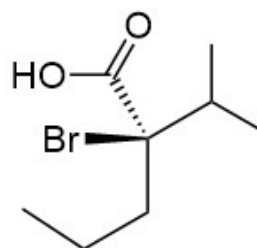


A) *R*

B) *S*

C) *R*

D) *S*



R

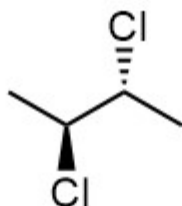
R

S

S

3

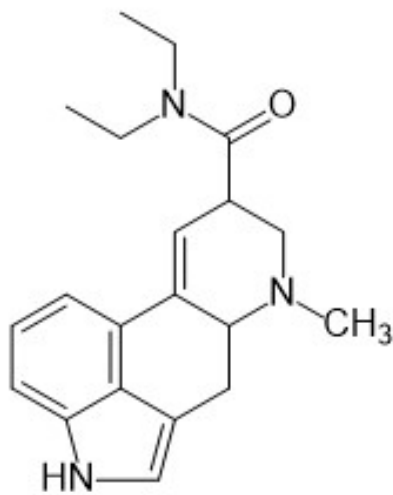
Is the following molecule optically active?
Does it have an enantiomer?



- A) It is optically active and it does have an enantiomer.
- B) It is NOT optically active but it does have an enantiomer.
- C) It is optically active but it does NOT have an enantiomer.
- D) It is NOT optically active and it does NOT have an enantiomer.

4

Identify all the chiral centers in lysergic acid diethylamide (LSD). Mark each with *.
LSD has how many possible stereoisomers?



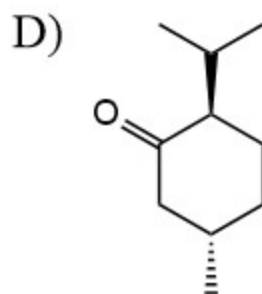
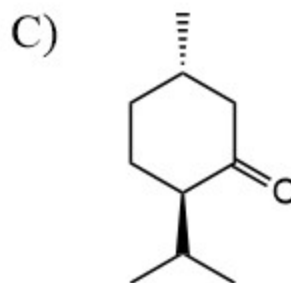
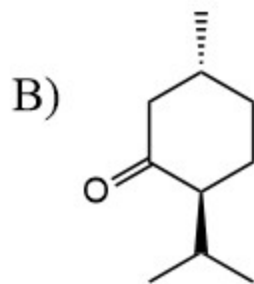
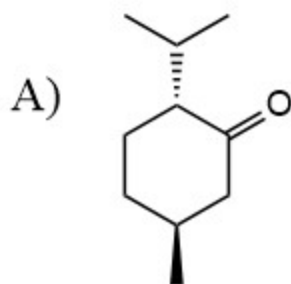
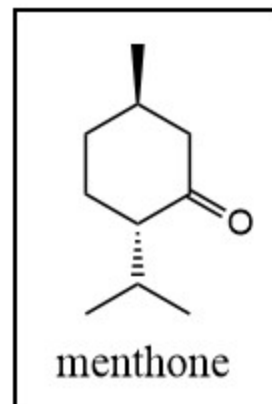
lysergic acid diethylamide (LSD)

Number of isomers?

- A) 2
- B) 4
- C) 8
- D) 16
- E) 32

5

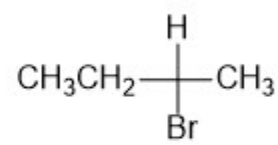
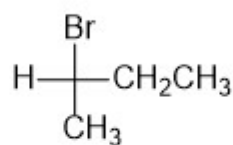
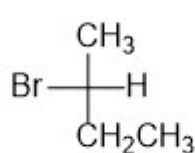
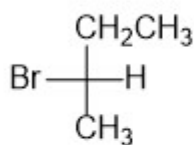
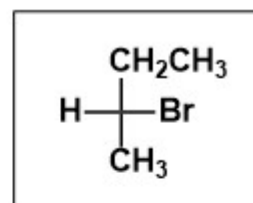
Identify the drawing that does NOT represent the **enantiomer** of menthone.



8

What is the relationship of each of the following molecules to the given compound?

(e.g., identical, enantiomer, diastereomer, constitutional isomer, unrelated)



A) identical

identical

identical

identical

B) enantiomer

identical

enantiomer

enantiomer

C) enantiomer

identical

enantiomer

identical

D) identical

enantiomer

identical

enantiomer

E) enantiomer

enantiomer

enantiomer

enantiomer