Organic Chemistry I, CHM 3140
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Chapter 5 Stereochemistry, Part 2 – Practice Problems

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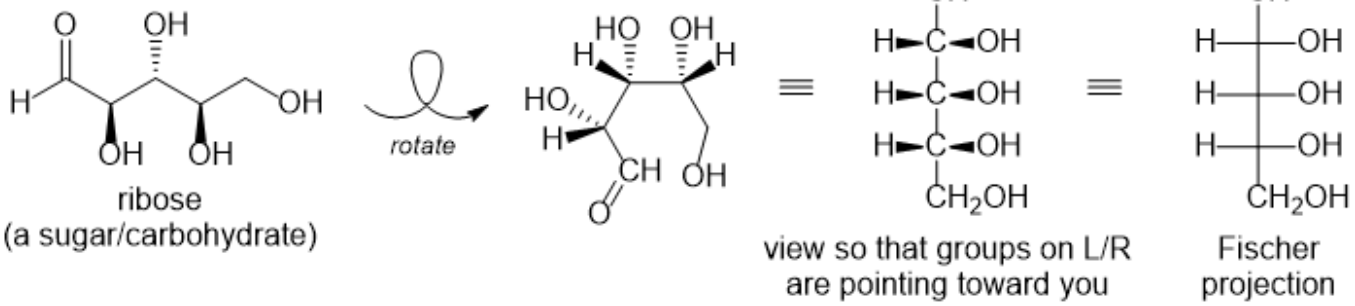
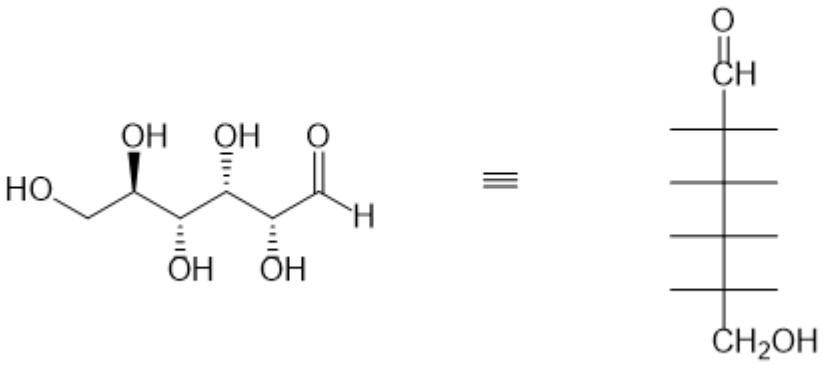
text LAURIESTARKE263 to 37607

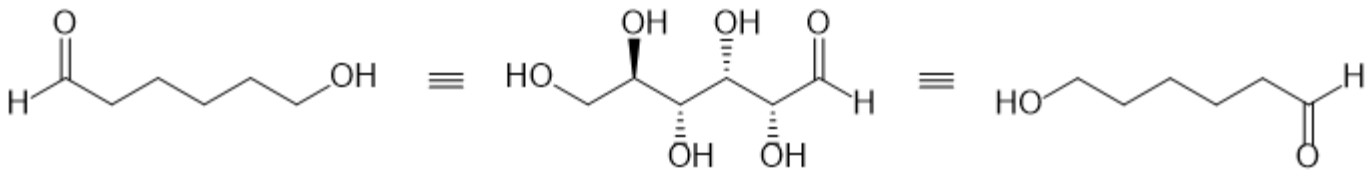
Fischer Projections



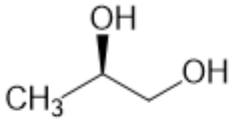
1

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

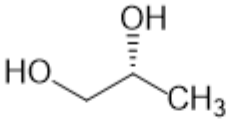




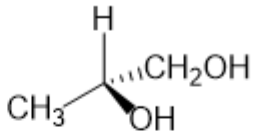
2 II. Revisited: assigning *R/S* configuration if group #4 is *in the plane* (5.3).



#4 is dashed
so 1-2-3

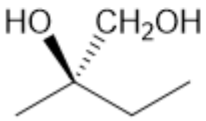


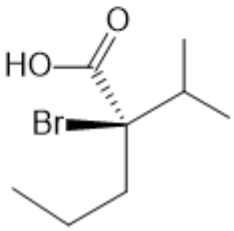
#4 is wedged
so 3-2-1



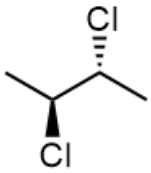
#4 is planar
so change POV!

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





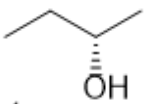
3 Is the following molecule optically active? Does it have an enantiomer?



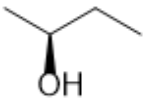
4

What is the relationship of the following pairs of compounds? ***try SkillBuilder 5.6***

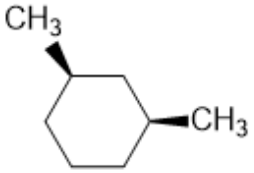
A) constitutional (structural) isomers
B) enantiomers
C) diastereomers
D) the same compound
E) unrelated



1



2



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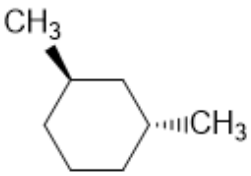
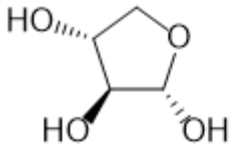


4

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

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



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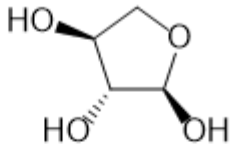

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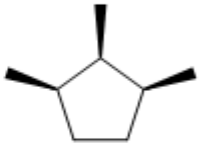
7



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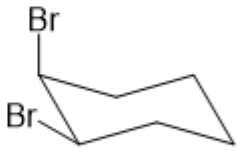

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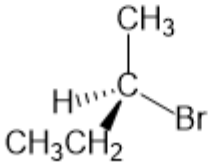

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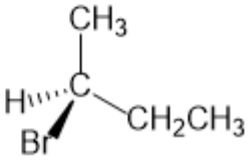

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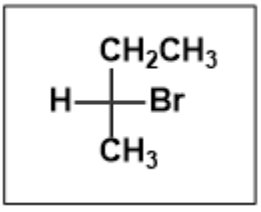
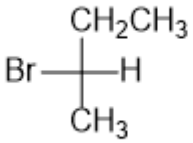
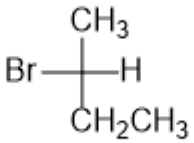
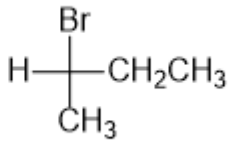
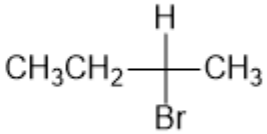
6



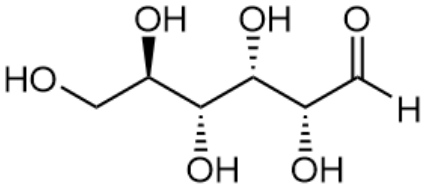




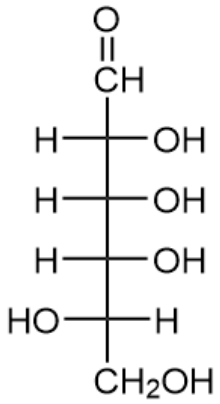




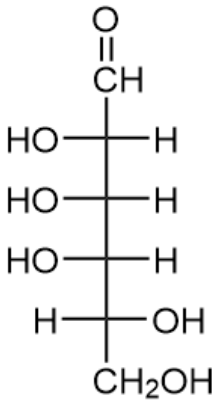
1 Draw the given compound as a Fischer projection



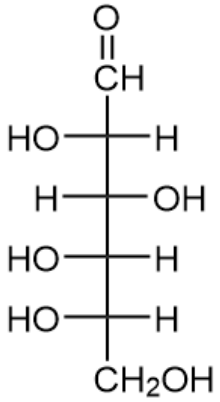
A)



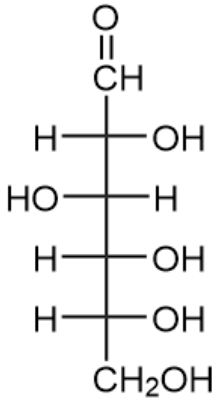
B)



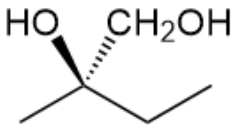
C)

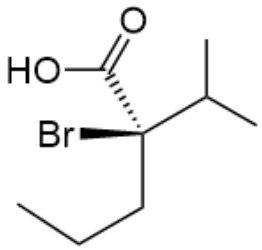


D)



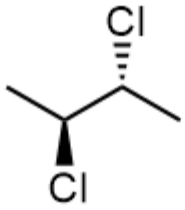
2 Determine the configuration of each compound.





A)	*R*	*R*
B)	*S*	*R*
C)	*R*	*S*
D)	*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.

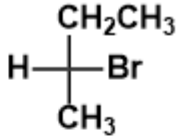
B) It is NOT optically active but it does have an enantiomer.

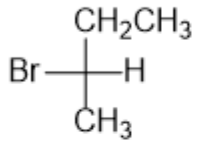
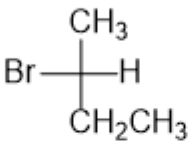
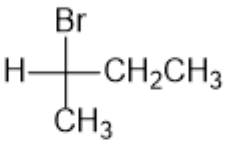
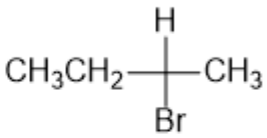
C) It is optically active but it does NOT have an enantiomer.

D) It is NOT optically active and it does NOT have an enantiomer.

6

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