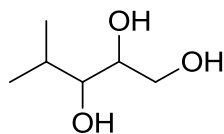


6A. Identify stereogenic centers in a molecule

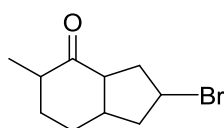
OCSL: 7.1 – 7.15

6A.1 Circle all chiral carbons in the following molecules:

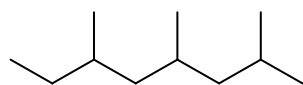
a)



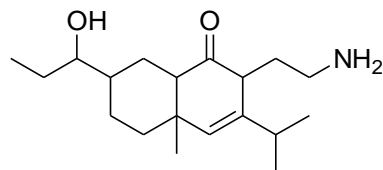
b)



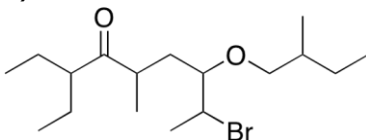
c)



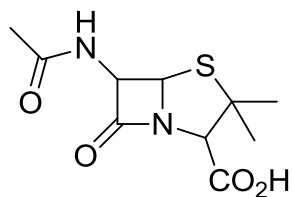
d)



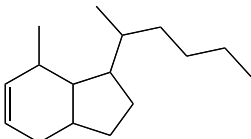
e)



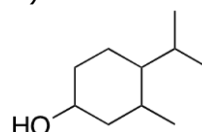
f)



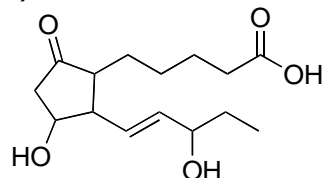
g)



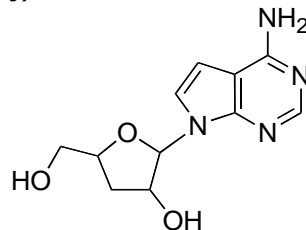
h)



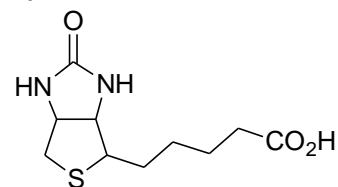
i)



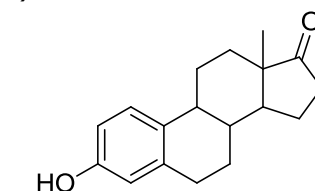
j)



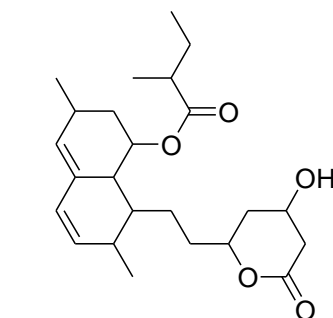
k)



l)



m)

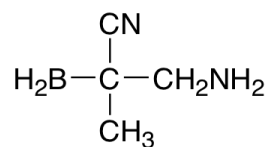


6B. Determine the absolute stereochemistry of chiral carbons

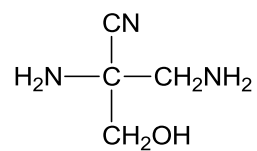
OCSL: 7.16 – 7.43, 7.50 – 7.63, 7.75 – 7.81

6B.1 Assign priorities 1-4 for the following chiral centers.

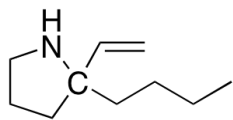
a)



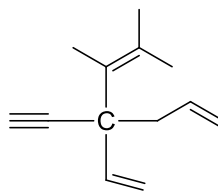
g)



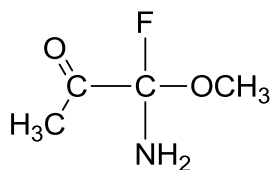
b)



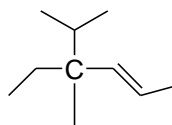
h)



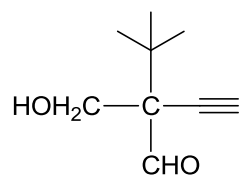
c)



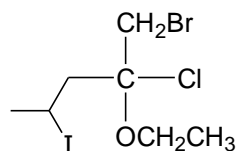
i)



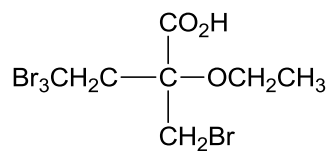
d)



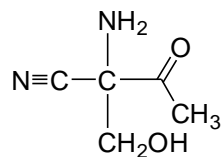
j)



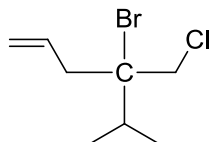
e)



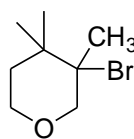
k)



f)

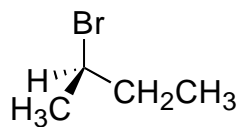


l)

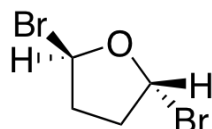


6B.2 Determine the absolute stereochemistry at each chiral center.

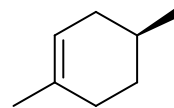
a)



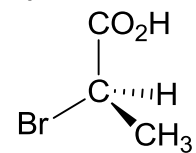
h)



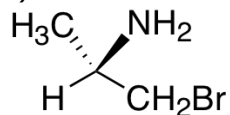
o)



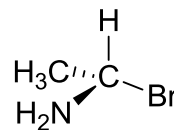
b)



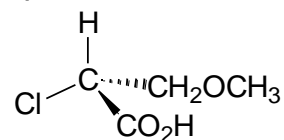
i)



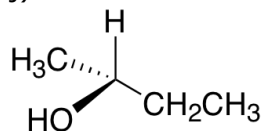
p)



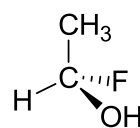
c)



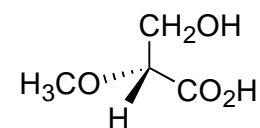
j)



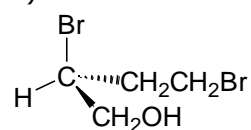
q)



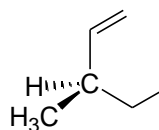
d)



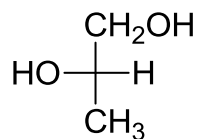
k)



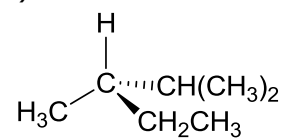
r)



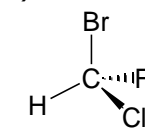
e)



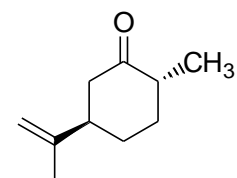
l)



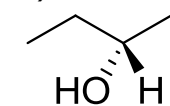
s)



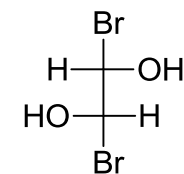
f)



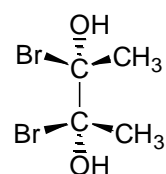
m)



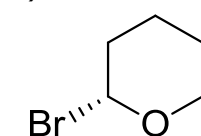
t)



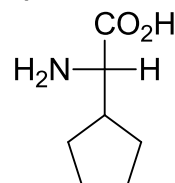
g)



n)



u)



6C. Determine if molecules are enantiomers, diastereomers, identical or not related.

OCSL: 7.64 – 7.74

6C.1 Determine if the following molecules are enantiomers, diastereomers, identical or not related.

a)



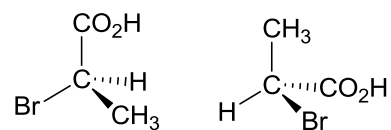
h)



b)



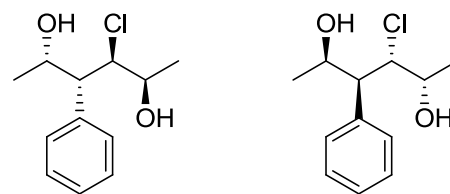
i)



c)



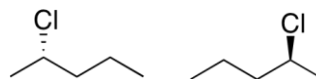
j)



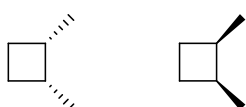
d)



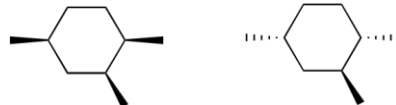
k)



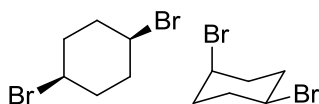
e)



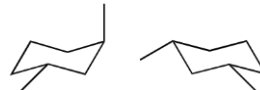
l)



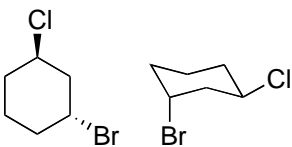
f)



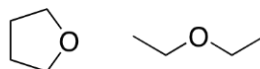
m)



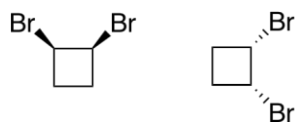
g)



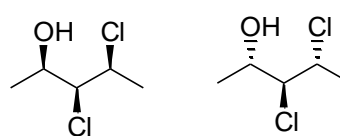
n)



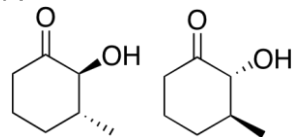
o)



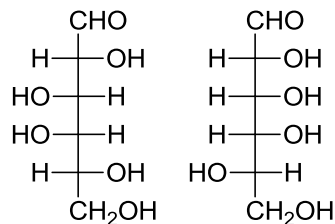
q)



p)



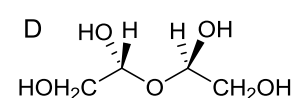
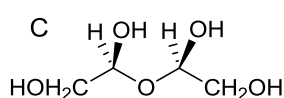
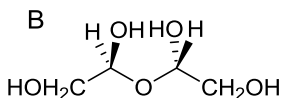
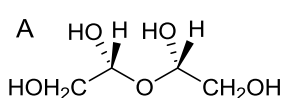
r)



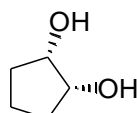
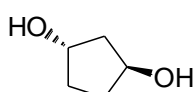
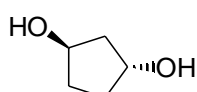
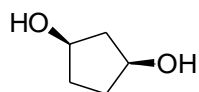
6D. Predict physical properties of enantiomers and diastereomers including optical rotation.

6D.1. Fill in the appropriate letters based on the molecules below. (Some may have more than one correct answer)

- _____ and _____ are enantiomers
- _____ and _____ are diastereomers
- _____ does not rotate polarized light
- _____ and _____ are meso compounds



6D.2 Base your answers on the molecules below.



List a pair of compounds that are constitutional isomers: _____

List a pair of compounds that are enantiomers _____

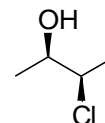
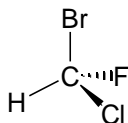
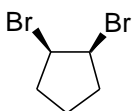
List a pair of compounds that are diastereomers _____

List all compounds that are optically active _____

6D.3 Circle all of the following that do not rotate polarized light.

- a) a 50/50 mixture of diastereomers b) a 50/50 mixture of enantiomers
c) meso compounds d) compounds with a non-identical mirror image

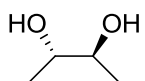
6D.4. Circle all of the following molecules which will rotate polarized light.



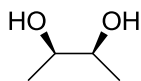
6D.5 For the molecules below,

Which will rotate polarized light? _____

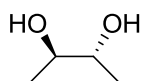
Which will have identical melting points? _____



A



B



C

6D.6 How are R and S related to (+) and (-) ?

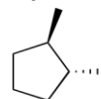
6D.7 Circle true or false based on the following molecules: (4 points)

True False A is optically active.

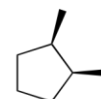
True False A and C have the same melting point.

True False A and B can be separated by normal physical means.

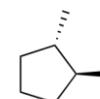
True False A 50/50 mixture of A and C will rotate polarized light.



A



B



C

6X.1 Name the interaction indicated by arrows below. Is this a favorable or unfavorable interaction?

