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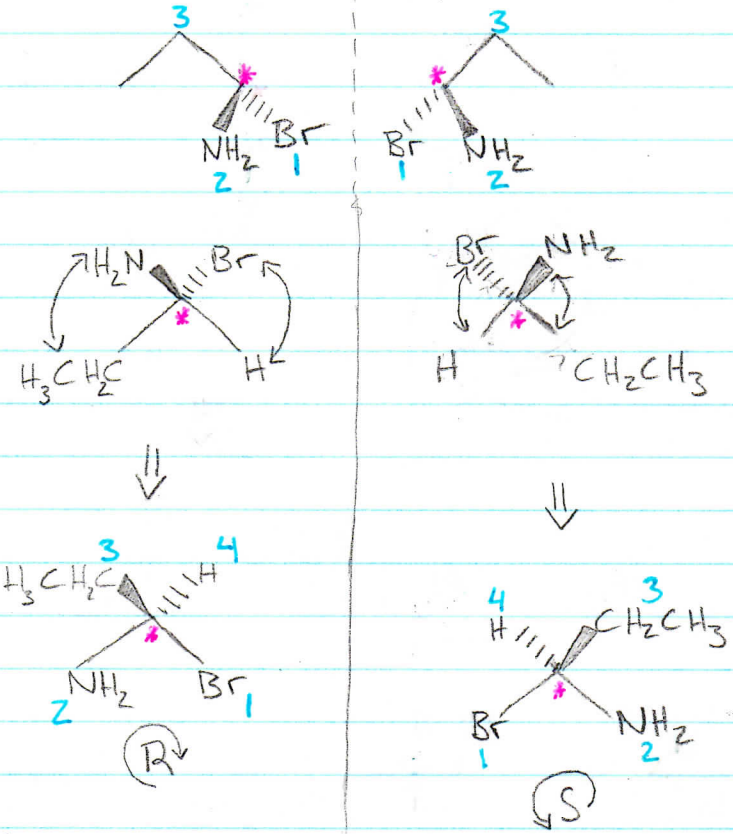
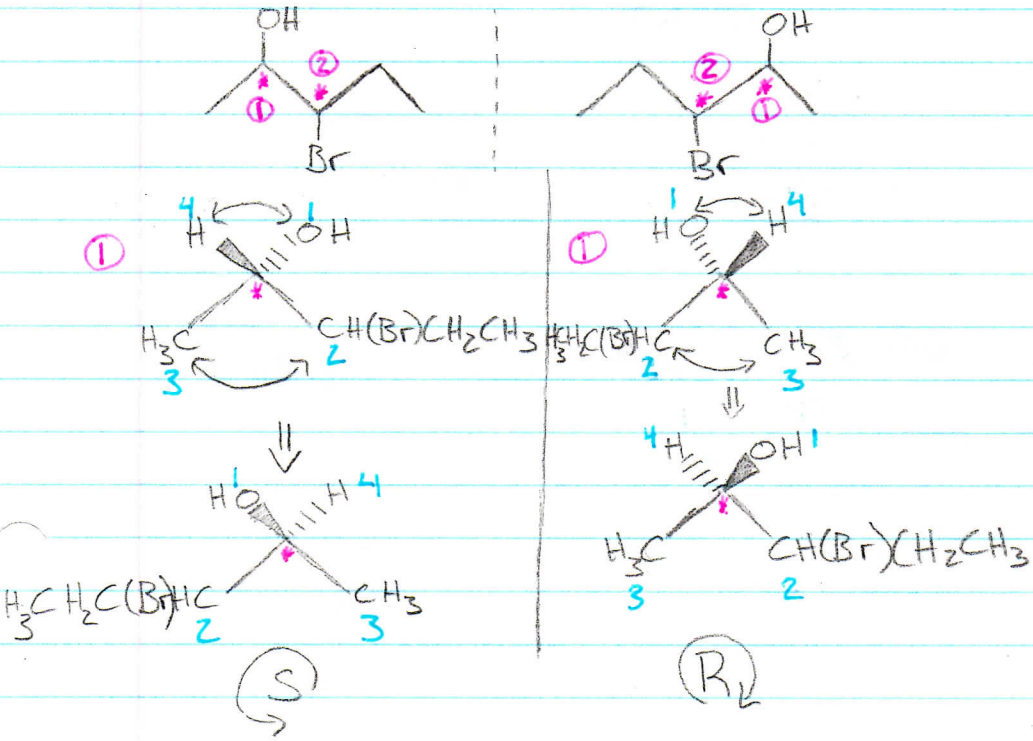
* Stereocenter
1,2,3,4 Priority #'s

Stereochem - Enantiomers and Diastereomers

A. $CH_3CH_2CH(NH_2)Br$ → Enantiomer



B. $CH_3CH(OH)CH(Br)CH_2CH_3$ → Enantiomer



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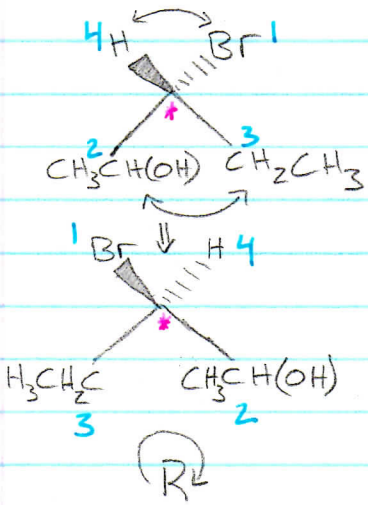
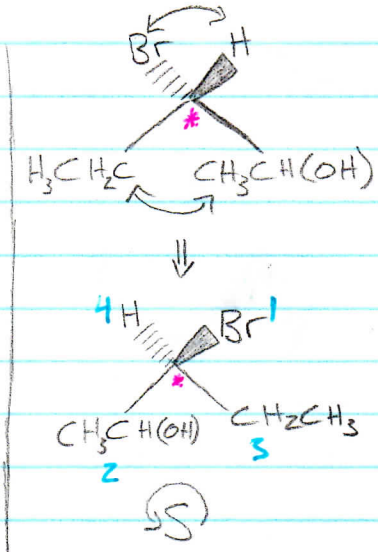
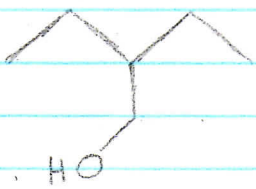
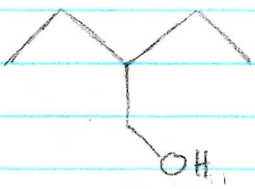
(2)





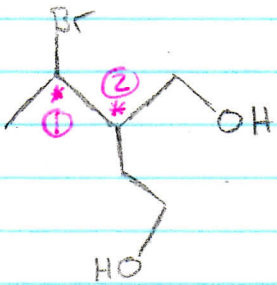
C. $CH_3CH_2CH(CH_2OH)CH_2CH_3$ → same molecule

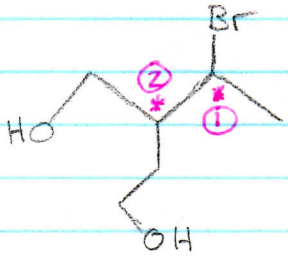




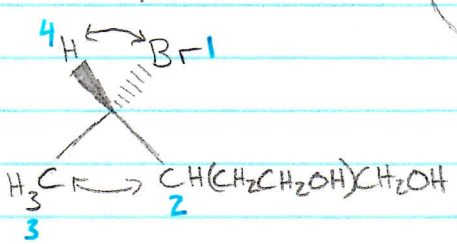
No Stereo center

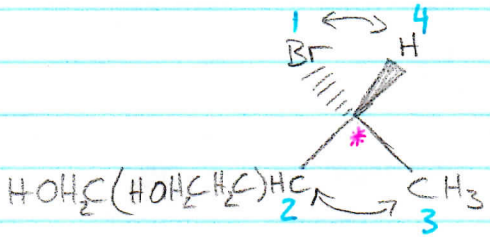
D. $CH_3CHBrCH(CH_2CH_2OH)CH_2OH$ → Enantiomers

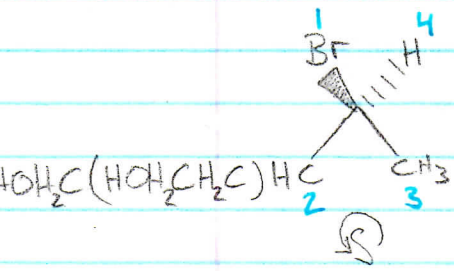


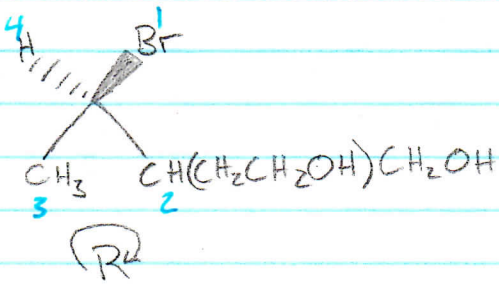


(1)









(2)

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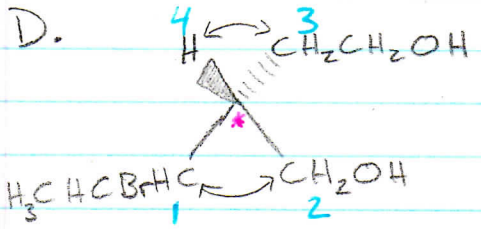
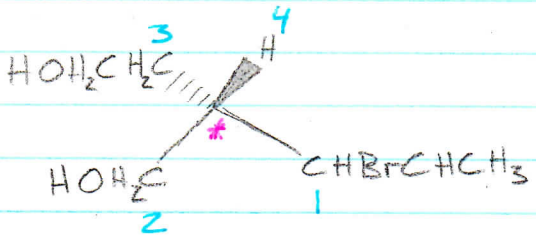
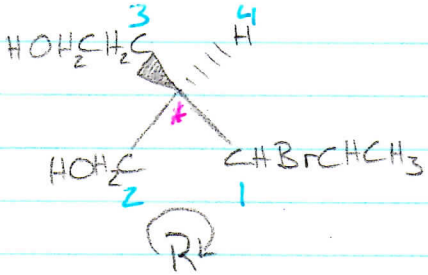
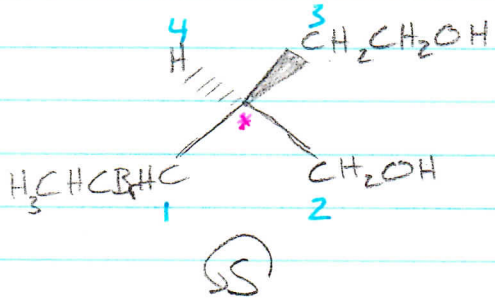
D.

(2)

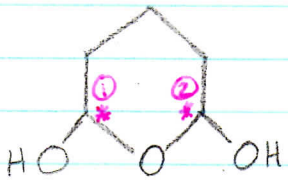


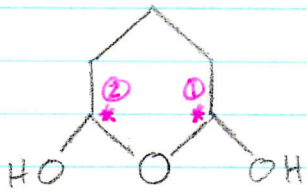






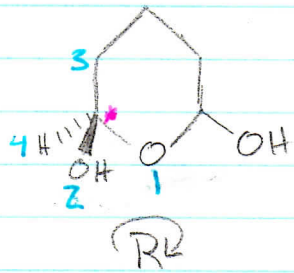
E.

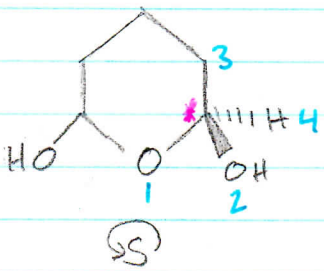


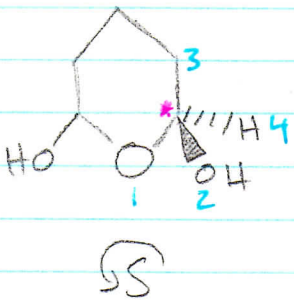


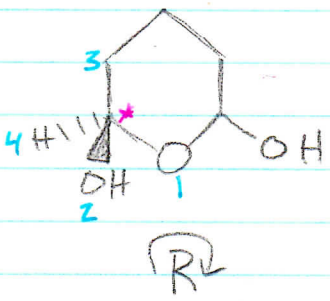
Same Molecule

(1)









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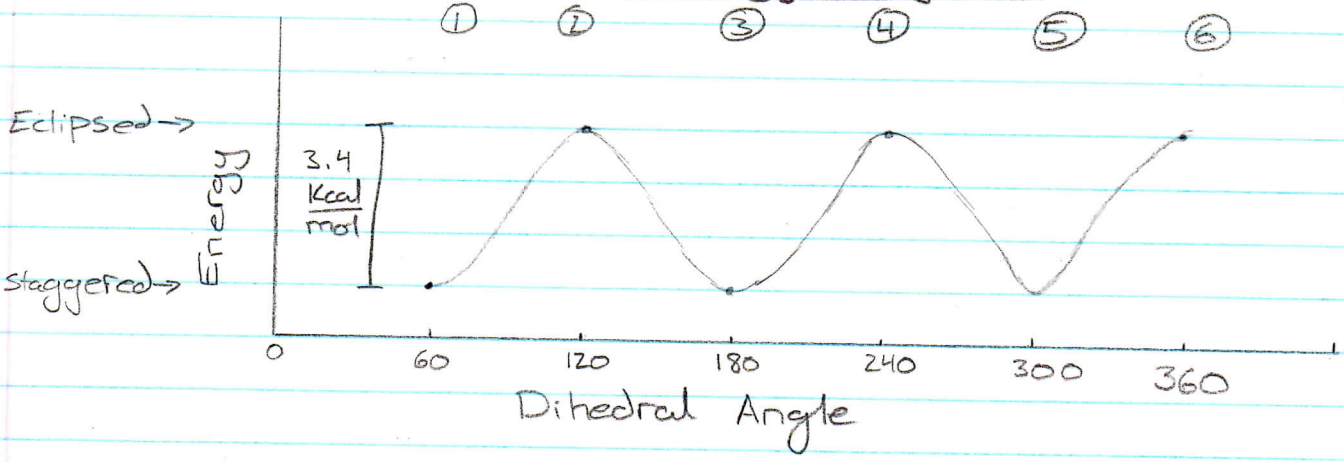
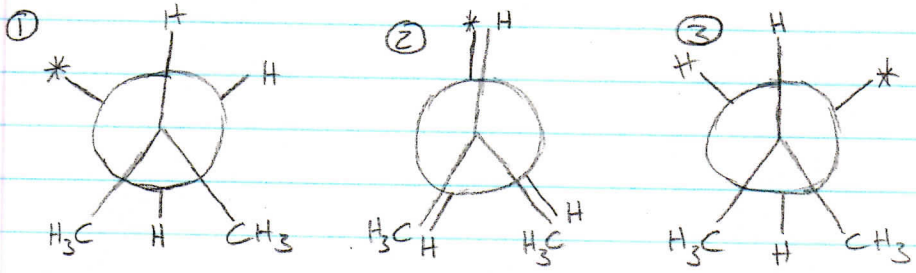
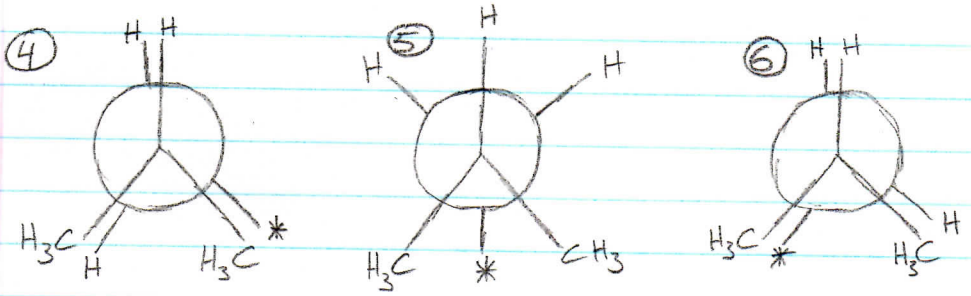
Newman Projection

Energy Diagram







Most stable: ① and ③
Second most stable: ⑤
Least Stable: ④ and ⑥

The energy difference between the two most stable conformations (① + ②) is zero.

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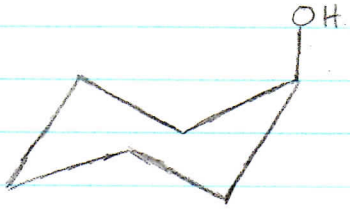
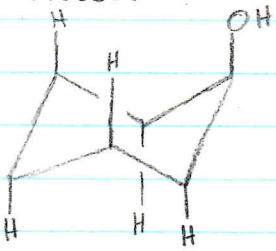
Cyclohexanol

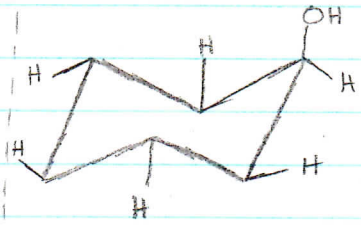
2.



3. Axial



3. Equitorial (and OH)



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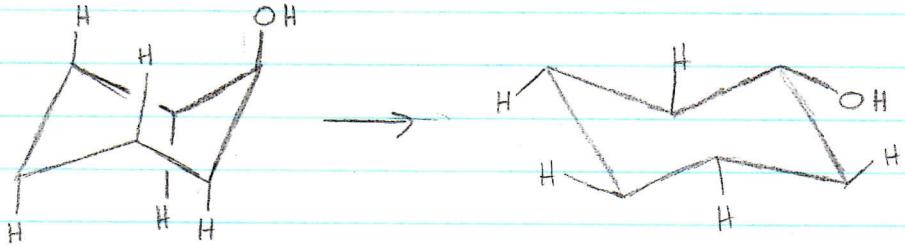

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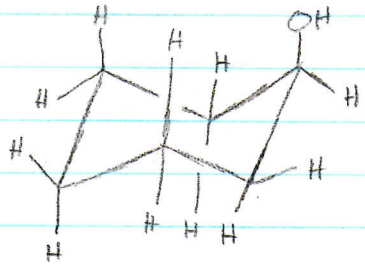
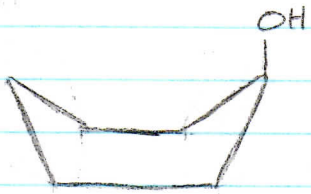


Axial
Equitorial

6.



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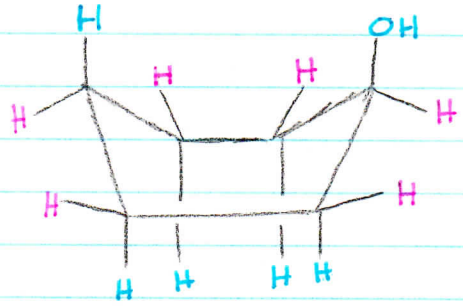
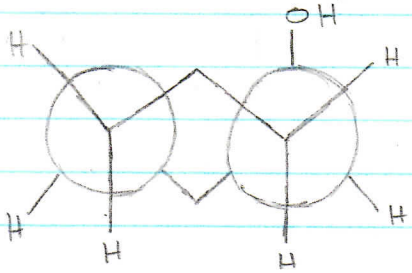


8. Yes, it can be converted into a twist boat

9.



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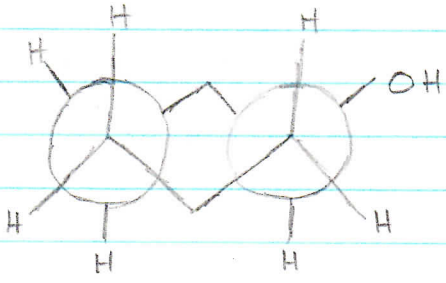

Hilroy

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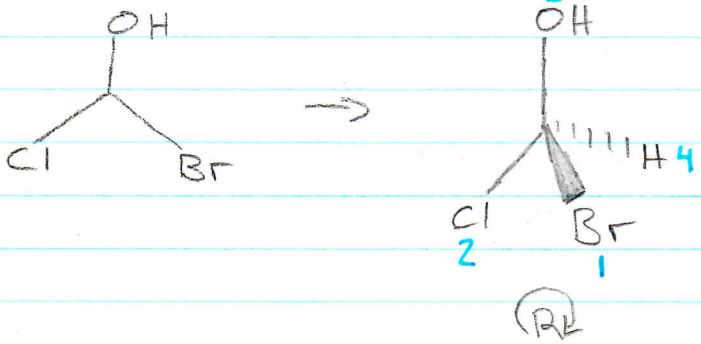
Questions

1)



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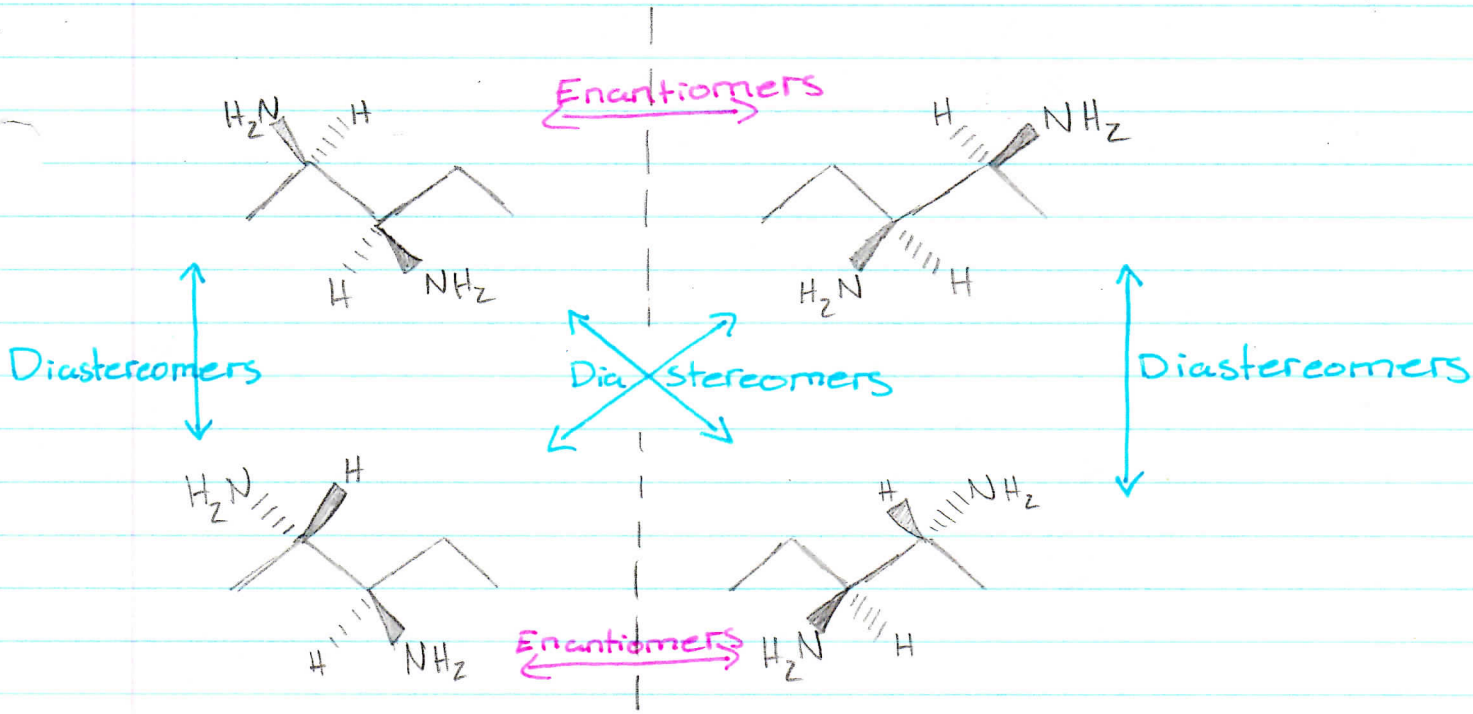
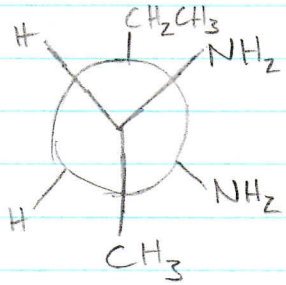
2. $n=2$,, 2^n = isomers , $2^2 = 4_{max}$





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3) $n = 3$, $2^n = \text{isomers}$, $2^3 = 8_{max}$