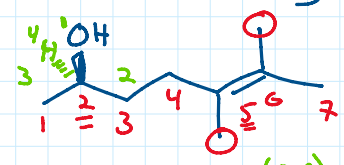
WS5

October 22, 2021 11:00 AM

Workshop problems:

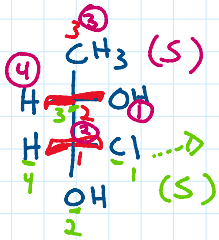
1. Name the following

A.



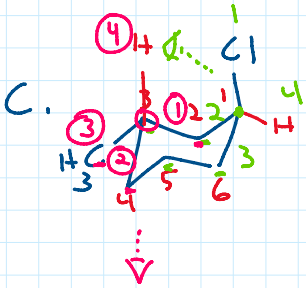
(2R)-5,6-dimethyl-hept-5-en-2-ol

B.



(1S,2S)-1-chloro-propan-1,2-diol

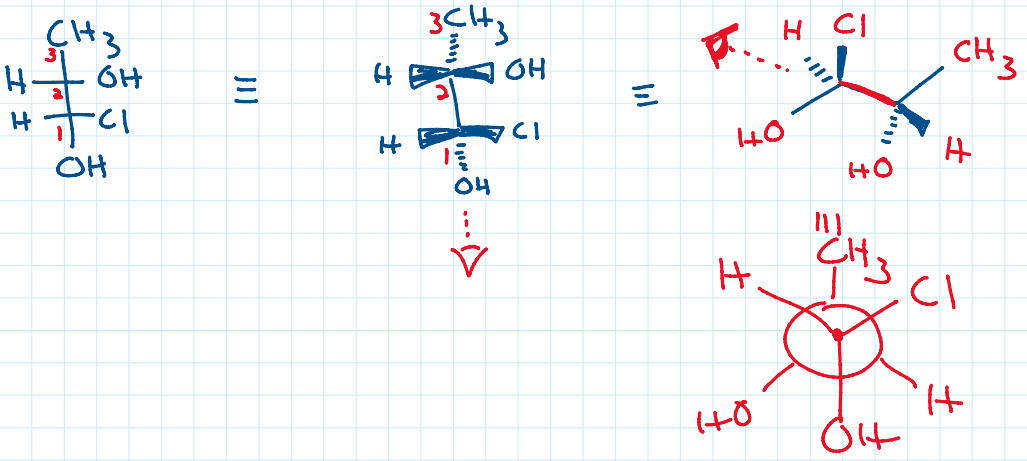
C.



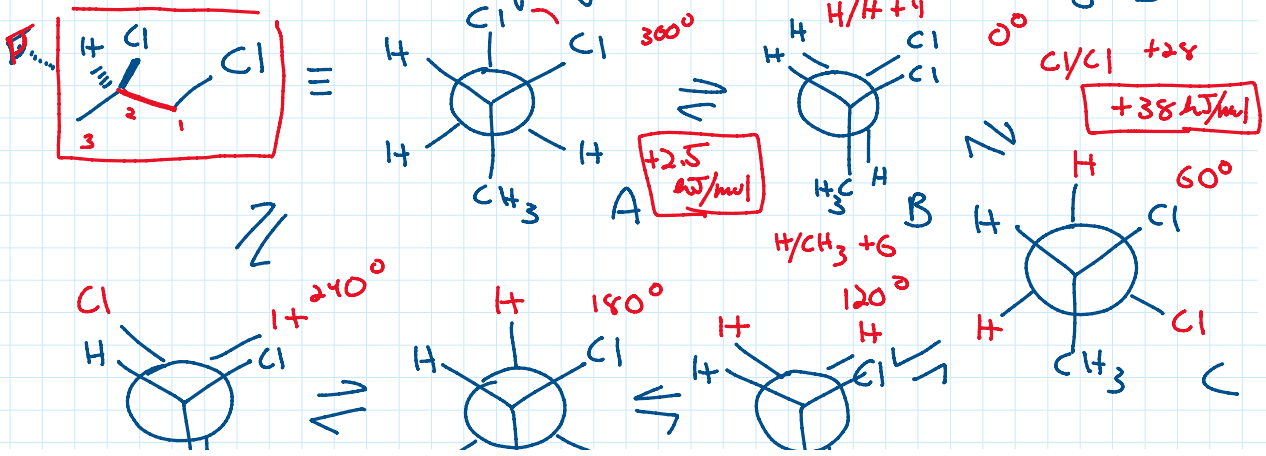
[trans] 1-chloro-3-methyl-cyclohexane

(1S,3S)

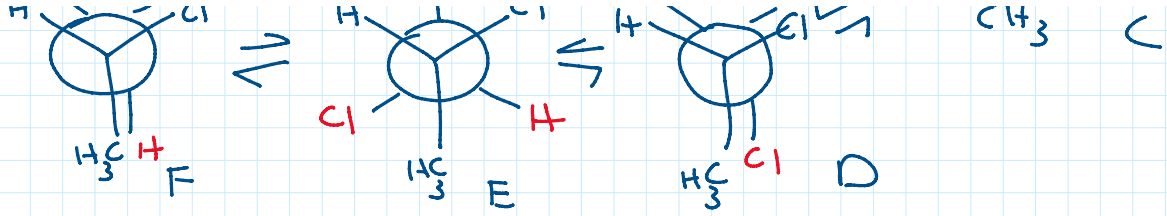
2. Draw a Newman projection along ~~C2-C3~~ C1-C2 bond of:



3. Draw Newman projection & calc energies



Atoms	Interaction	Energy Penalty [kJ/mol]
H/H	Eclipsed	4.0
H/CH3	Eclipsed	6.0
H/CH3	Gauche	0
CH3/CH3	Eclipsed	11.0
CH3/CH3	Gauche	3.8
Cl/H	Eclipsed	8.3
Cl/CH3	Eclipsed	7.0
Cl/CH3	Gauche	1.2
Cl/Cl	Gauche	2.5
Cl/Cl	Eclipsed	28



A. 2.5 (Cl/Cl, S) = +2.5 kJ/mol 300°

B. 2.8 (Cl/Cl, e) + 4.0 (H/H, e) + 6.0 (H/CH3, e) = +38 kJ/mol 0°

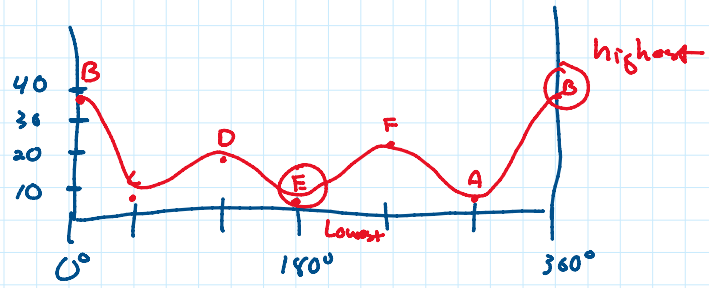
C. 2.5 (Cl/Cl, S) + 1.2 (Cl/Me, S) = +3.7 kJ/mol 60°

D. 7.0 (Cl/CH3, e) + 4.0 (H/H, e) + 8.3 (Cl/H, e) = +19.3 kJ/mol 120°

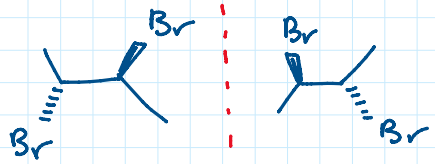
E. 1.2 (Cl/CH3, S) = +1.2 kJ/mol 180°

F. 6.0 (CH3/H, e) + 8.3 (Cl/H, e) + 8.3 (Cl/H, e) = +22.6 kJ/mol 240°

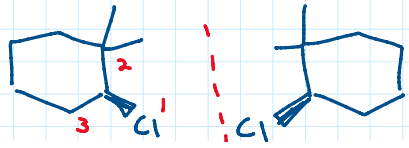
A	+2.5	300°	D	+19.3	120°
B	+38	0°	E	+1.2	180°
C	+3.7	60°	F	+22.6	240°



4. What is the relationship b/w the following?

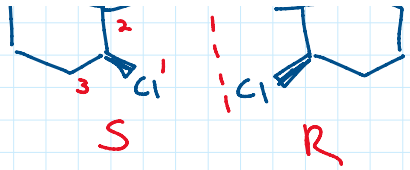
A. 

~~Enantiomer~~ Same Meso plane of Symmetry

B. 

enantiomers!

15.



S R

enantiomers!