

Series of exercises N°3

Isomerism and stereoisomerism

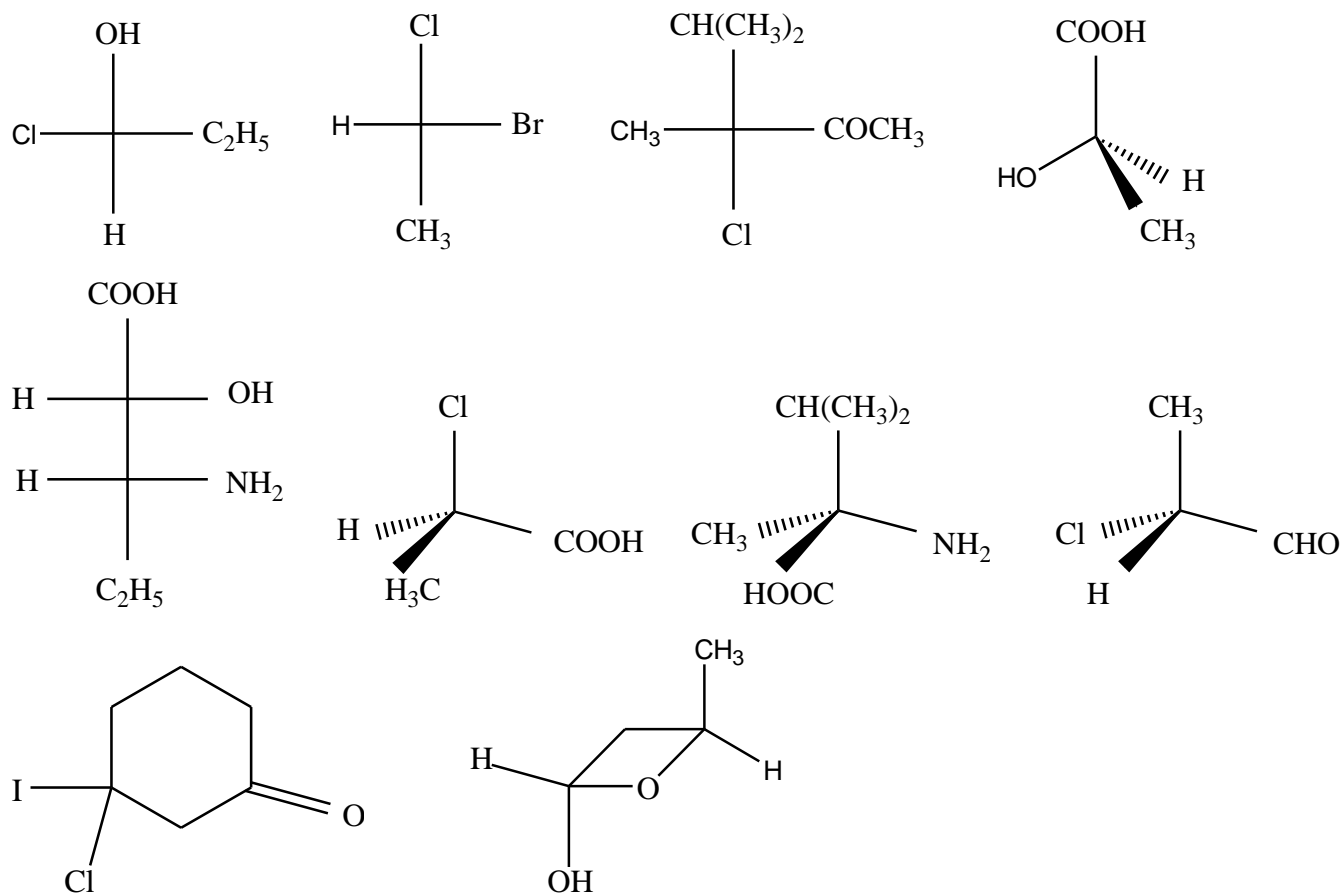
Exercise N°1 :

Determine the ranking of the following groups in order of priority on a chiral carbon (asymmetric carbon):

- a) $\text{---CH}_2\text{OH}$ ---OCH_3 ---CONH_2 ---CCl_3 ---NHCH_3
 b) $\text{---CH}_2\text{OCH}_3$ ---SCH_3 ---NO_2 ---NHOH ---COCH_3
 c) ---Br ---H ---COOH $\text{---C}_6\text{H}_5$ ---CH_3
 d) ---NH_2 ---CHO ---OCOCH_3 $\text{---C}\equiv\text{CH}$ ---CH_3

Exercise N°2 :

Determine the absolute configuration of the asymmetric carbons in the following molecules:



Exercise N°3 :

I/ Provide the semi-developed formula of the following compounds.

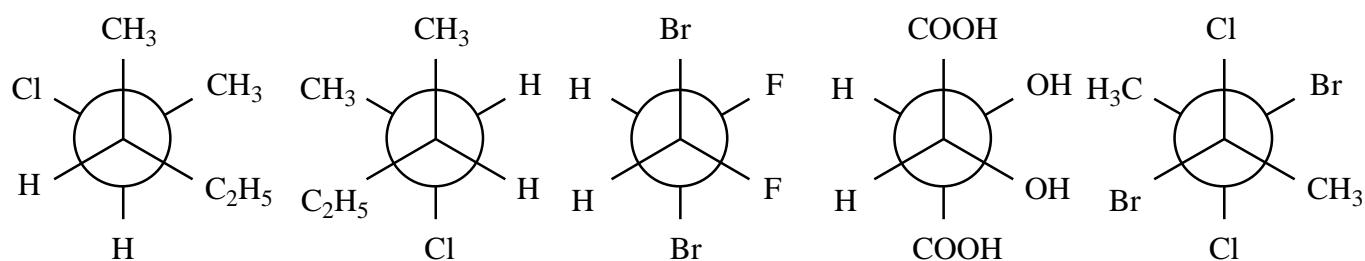
- (Z, E) 3-methylhexa-2,4-diene
- (Z) 2-methylbut-2-enoic acid
- (E) but-2-en-2-ol

II/ Represent the following molecules in Fischer and Newman projections:

- (2R, 3R) ethyl 2-chloro-3-hydroxypentanoate
- (S) 2-hydroxypropanal
- (2S, 3S, 4R) 2, 3, 4-trihydroxyhexanamide

Exercise N°4 :

Specify the **erythro**, **threo** or **meso** isomerism of the following compounds:



Exercise N°5 :

Specify the Cis-Trans and E-Z isomerism of the following compounds:

