

z. excess

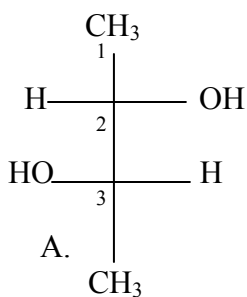
(a) Name stereoisomer z. _____

(b) Draw positional isomeric products. Letter them A, B, . . .

(c) Complete the following table concerning stereoisomers of A, B, . . .

Positional isomer	# Stereoisomers existing	# Stereoisomers produced from Z.	# Fractions Distilled	Optical Activity each fraction	Reason, lack optical activity

II.



(a) Numbering chain as shown, name stereoisomer

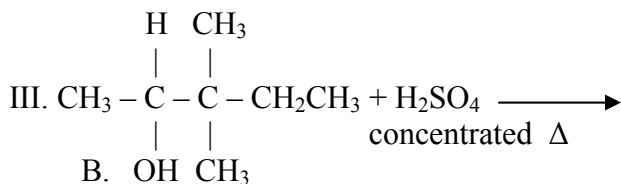
A. _____

(b) Draw a stereoisomer of A. having $[\alpha] = 0^\circ$.

(c) Draw a mixture of stereoisomers having $[\alpha] = 0^\circ$.

(d) Calculate the percentage mix of stereoisomers having $(x) = -6.5^\circ$. Give your answer using R, S, nomenclature.

_____ % _____
 _____ % _____



(a) Name stereoisomer B. _____

(b) The mechanism of this reaction is _____.

(c) Draw the reactive intermediate formed in the rate-determining step.

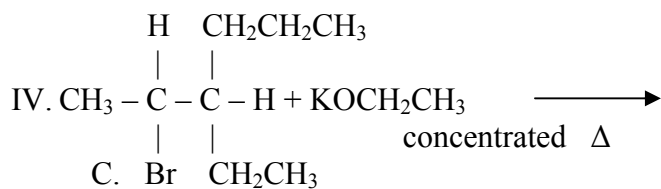
(d) Draw the reactive intermediate which leads to major products.

(e) Draw positional isomeric products formed from intermediate, part (d). Letter them D, E, . . .

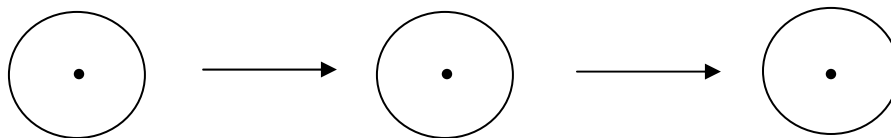
(f) Choose any lettered product(s) which exists as stereoisomers.

(g) Arrange lettered products in order of yield.

_____ most _____ least



- (a) Name stereoisomer C. _____
- (b) The mechanism of this reaction is _____.
- (c) Transfer C to a Newman Projection, rotate into a reactive conformation and draw the stereoisomeric product.



- (d) Name the stereoisomeric product. _____

V. Give major organic products if any form. Mind stereochemistry when warranted.

- (a) 1 - Bromo - 3 - Methylbutane + $\text{K}^+\text{C}\equiv\text{N}^-$ $\xrightarrow{\text{DMSO}}$ $(+)(-)$
- (b) S, 3 - Bromo - 3 - Methylhexane + KOCH_2CH_3 $\xrightarrow{\text{CH}_3\text{CH}_2\text{OH}}$
- (c) S, 3 - Bromo - 3 - Methylhexane + $\text{CH}_3\text{CH}_2\text{OH}$ $\xrightarrow{\hspace{2cm}}$
- (d) 3 - Methyl - 2 - Butanol + HBr $\xrightarrow{\hspace{2cm}}$
- (e) S, 2 - Iodobutane + $\text{CH}_3\text{CH}_2\text{SH}$ $\xrightarrow{\hspace{2cm}}$

VI. Using inorganic reagents, transform:

