Problem 8-1.

$$\frac{cH_3-cH_2-\frac{cH_3}{c-cH_3}}{B_8}+\frac{koH}{K^++oH^-}.$$

2-Bromo-2-methy/butane.

$$\Rightarrow \frac{4}{\text{cl}_3} - \frac{1}{\text{c}_3} - \frac{1}{\text{c}_3} - \frac{1}{\text{c}_4} - \frac{1}{\text{c}_5} - \frac{1}{\text{c}_5} - \frac{1}{\text{c}_5} + \frac$$

$$\Rightarrow c_{13} - \frac{1}{6} - \frac{1$$

Problem 8-2

$$(4)_3 - (4)_2 - \frac{1}{6} - \frac{1}{6} - \frac{1}{6} - \frac{1}{6} + \frac{1}{$$

Problem 8-4. (trans configuration) 1-Chloro-1.2-Dimethyl cyclohexane 0 (ds - configuration) 1-chlor-1,2-dimethy cyclo hexame

Problem 8-5

2 - Bromo cyclohexanol

$$\rightarrow \frac{\text{CM}_3 - \text{CM} - \text{CM}_2}{\text{Br}} + \frac{\text{Br}}{\text{Br}} + \frac{\text{M}_2 \text{O}}{\text{Br}}$$

Problem 8-7-1

(4)
$$c_{13}-c_{15}-c_{15}-c_{1}=c_{12}+c_{13}-c_{-0}-h_{9}-c_{-c}-c_{-3}$$
.

(Oxymerculation)

$$\rightarrow c_{13}-c_{12}-c_{13}-c_{11}-c_{11}-c_{12}+c_{13}-c_{12}-c_{13}+c_{13}-c_{13}-c_{13}$$

$$2^{c} \text{ carbotation } b-g-c_{13}$$

Problem 8-7-2

< pe mercuration >

1/a + (4-13-4)

Problem 8-1-3.

Another method

$$\Rightarrow cH_3 - cH_2 - cH_2 - cH_2$$

The red H is not proton. 1/3-6-0-1/9 comes from 1/3-6-0-1/9-0-8-013.

X+ H-Q: -> XH + OH-

This mechanism is same to Markovnikov's rule.

Problems-7-4.

(b)
$$cH_3$$
 $cH_3 - c = cH - cH_3 - cH_3 + cH_3 - c - o - H_9 - o - c - cH_3 + H_2O$

(0 xymerculation)

$$\rightarrow cH_3 - \frac{c}{c} - \frac{c}{c} + \frac{c}$$

(Demetcutation)

$$c_{13} - c_{13} - c_{13} - c_{13} - c_{13} + c$$

(4).
$$c_{13}-c_{13}-c_{14}-c_$$

$$\rightarrow cH_3 - \xi - cH - cH_2 - cH_3 + cH_3 - \xi - 0 + H_2O$$
 $cH_3 + eq - 0 - g - cH_3$
 $H_4 - eq - 0 - g - cH_3$

< De metcutation >

$$CH_3 - G - GH - GH_2 - GH_3 - GH_3$$
 $CH_3 - G - GH_3 - GH_3 - GH_3$

Another chemical

$$CH_2 = C - CH_2 - CH_2 - CH_3 - CH_3$$

Problem 8-8-2.

< Demercatation>

at what is the products from hydroboration - oxidation.

(a)
$$cH_3 - cH_3 - cH_3 - cH_3 + H_3$$

C2 is secondary carbon that means (2 has 2 substituents

C3 is Secondary Carbon. (C3 has one substituents).

So, C2 Is more storle crowding than C3.

$$CH_3 - C - CH - CH_2 - CH_3$$
 $H - BX H$

$$\rightarrow CH_3 - C - CH - CH_2 - CH_3$$

$$H \rightarrow next page$$

Problem 8-9-2.

$$CH_3 - C - CH - CH_3 - CH_3 + A/a^{\dagger} + OH^{\dagger} + H_2O_2$$
 $H = 0$
 $H = 0$

$$\Rightarrow CH_3 - CH - CH_2 - CH_2 - CH_3 + -0 - 04$$

$$H OH$$

$$-> c4/3 - c4/- c4/- c4/3 - c$$

-> next page.

Problem 8-9-3 $\Rightarrow \frac{\text{cl}_3}{\text{cl}_3 - \text{cl}_1 - \text{cl}_2 - \text{cl}_3} + \frac{\text{cl}_3}{\text{b}_1}$ 40 B OH > Ho \ B - O - CH \ als - CH's $\rightarrow H0 \setminus B - 0H + H0 - CH < \alpha |_{S} < \alpha |_{S}$ $+ |_{H0} - CH < \alpha |_{S} - \alpha |_{S}$

problem 8-9-4

 $\frac{1}{2}$

-> CH3 or

4>B-4

Steric crowding

Mao4, 1/20 CM3

C43

problem 8-10.-

Oxy Merculation - demercuration

$$CH_{3}$$
 CH_{3}
 CH_{3}

Matkovnikov Product

b)
$$cH_3 - c = cH - cH_3$$
 (starthy material).

Oxymetration - democuration.

$$4/3 - 2 - 4/3 - 4/3$$

Markovníkov Product

Hydrobotation - oxidation.

$$cy_3 - cy - cy = cy_2$$

$$cy_3$$

$$cy_3$$

$$cy_3 - cy - cy - cy_2$$

$$y = cy_2$$

$$y$$

Hydroboration-oxidation

Mon-Markovnikar Product.

Problem 8-10-2

(C) = c/2 (starting material)

Oxymercutation - de merculation

Hydroboration - oxidation,

OH H

Markovnika Product

y CM2

Hon-Markovnika Product.

12 to blem 8-12.

a: What is the product from catalytic hydrogenation.

(a) $c_{1/3} - c_{1/3} = c_{1/3} - c_{1/3} - c_{1/3}$

 $\frac{H_2,p_{\perp}}{} > CH_3 - C - CH - CH_2 - CH_3$

(b) (x) Hz, Pt

(C) Ho, Pt 4

Problem 8-13.

Q i What is product from reaction of cis-2-Burtene and meta-chloroporbenzola acid.

$$\Rightarrow \frac{\text{CH}_{\text{B}}}{\text{CH}_{\text{B}}} + \frac{\text{H}_{\text{O}}}{\text{C}} = \frac{1}{\text{C}} = \frac{1}{\text{C}}$$

C15-2, 3- Epoxy butane.
L) comes from sourthy material

(b)
$$c_{13} - c_{12} - c_{14} = c_{1} - c_{143}$$

$$\frac{X_2, H_2O}{} > CH_3 - CH_3 - CH_3$$

$$\frac{1}{2} \frac{1}{2} \frac{1}$$

$$\frac{1}{1} = \frac{1}{1} = \frac{1}$$