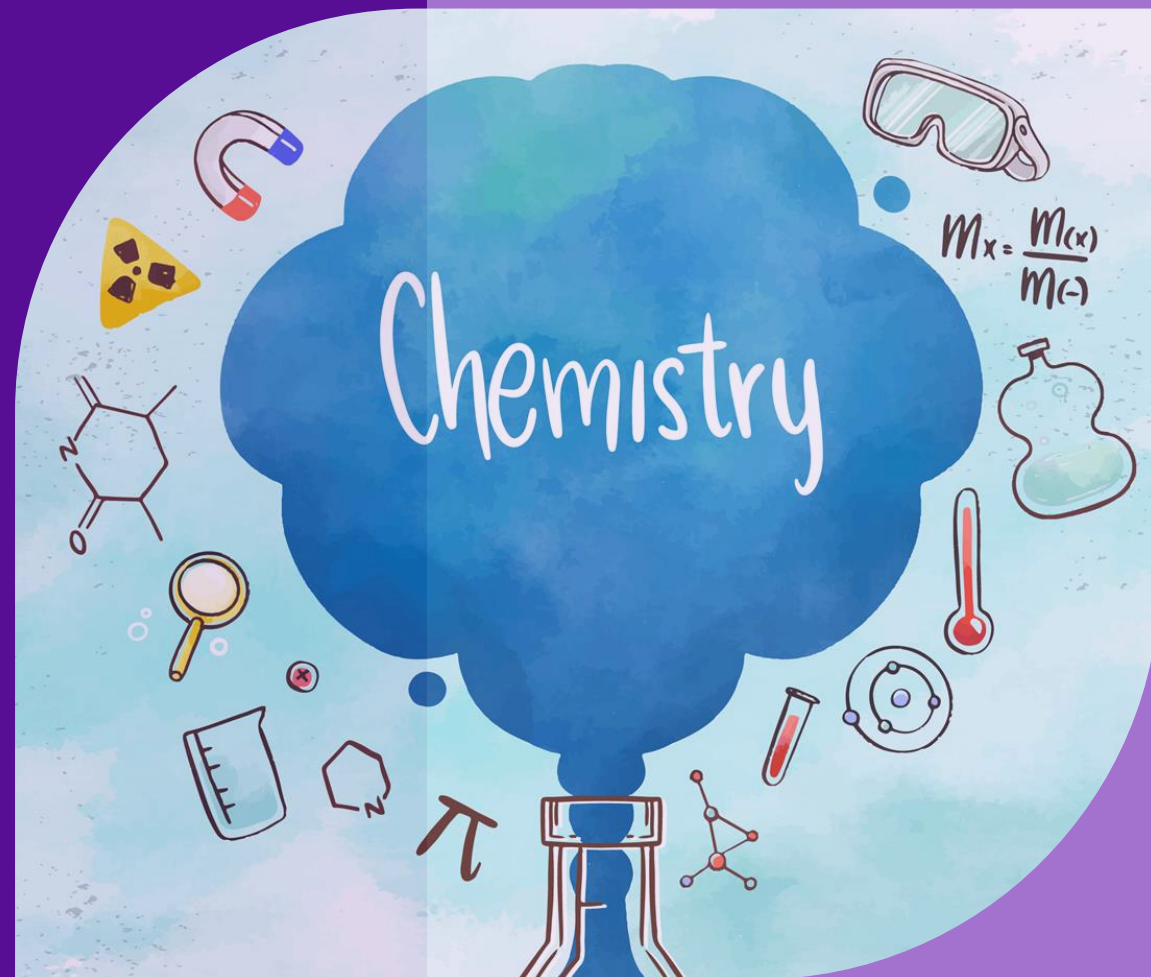


CLASS 10 ACADEMIC PROGRAM 2020

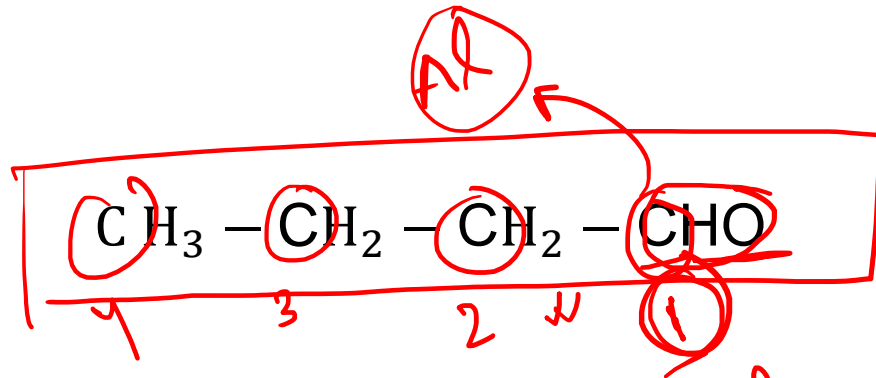
CHEMISTRY

LECTURE : C-31

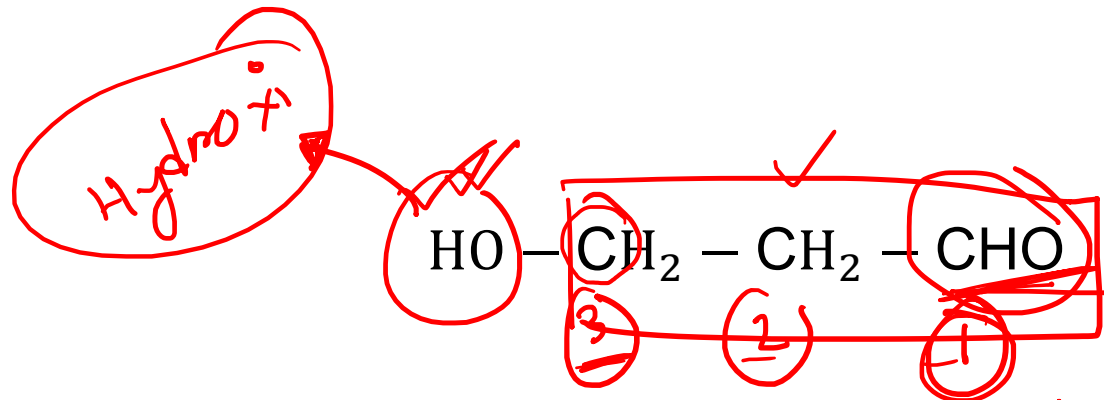
CHAPTER 11 : MINERAL RESOURCES (11.4)



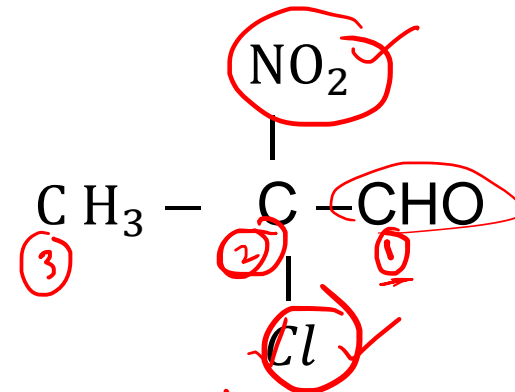
Nomenclature of Aldehydes



But-1-al



3-hydroxyprop-1-al

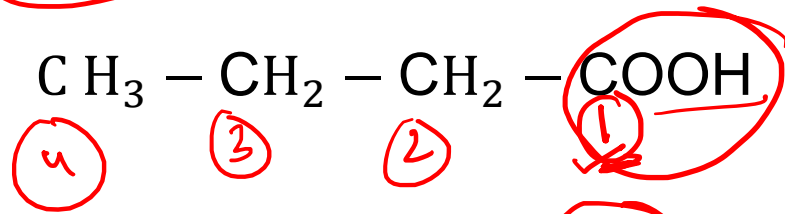


alphabetically

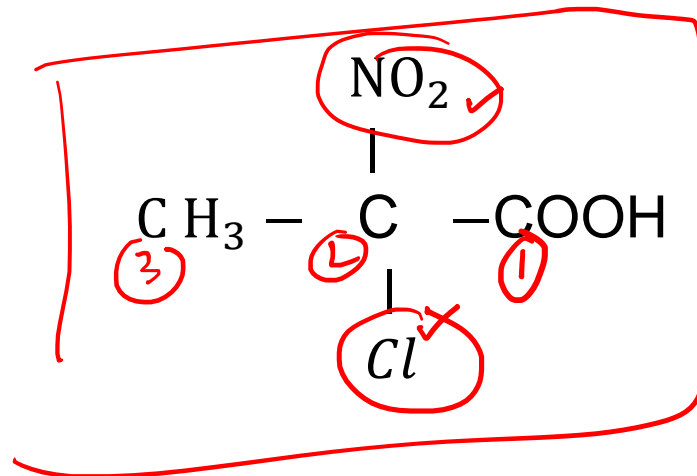
2-chloro-2-nitroprop-1-al

Nomenclature of Carboxylic acids

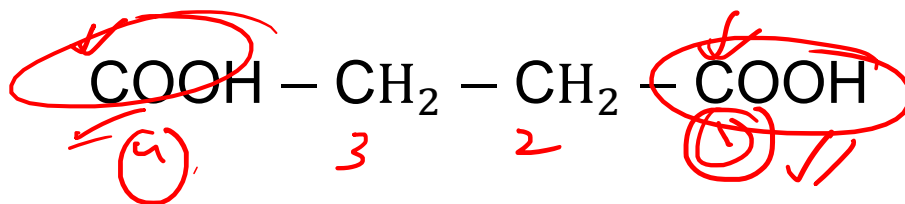
$\text{CHO} \rightarrow \text{al}$
 $\text{COOH} \rightarrow \text{acid}$
 $\text{COOH} \rightarrow \text{acid}$



But-1-oic acid



2-chloro-2-nitrobutanoic acid



But-1,4-dioic acid

Preparation of Alkanes

College

From Carbon-di-oxide:



1C



1C

CO_2
Alkenes/Alkynes
Decarboxylation

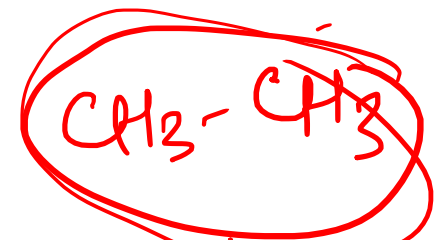
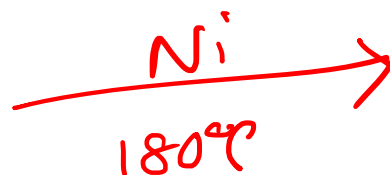
From Alkene & Alkyne:



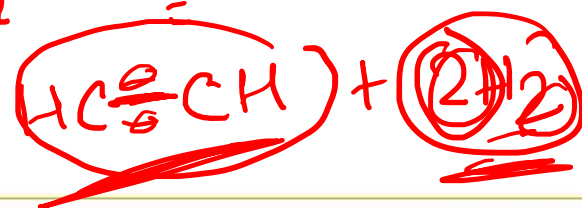
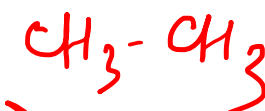
H_2



Ethene



Ethane



উদ্ভাস

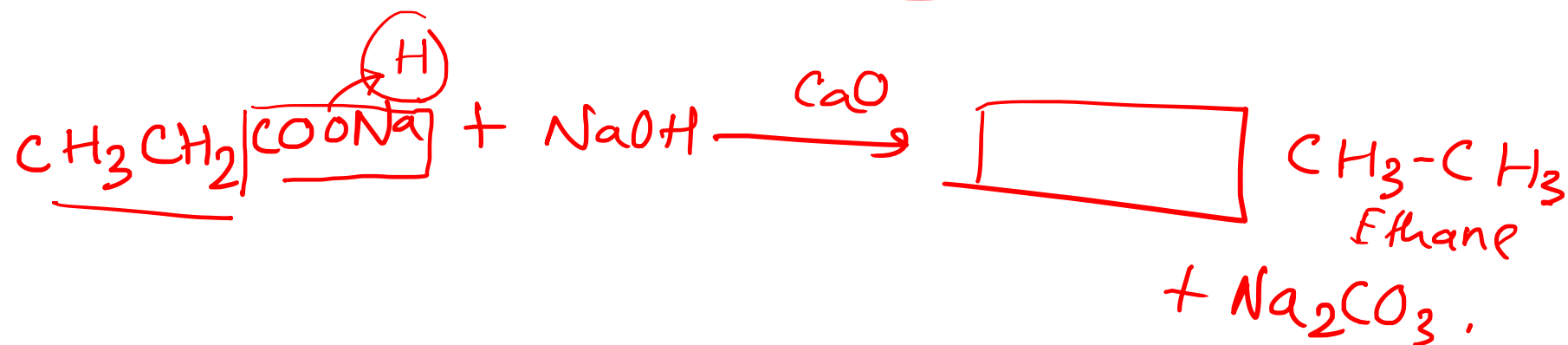
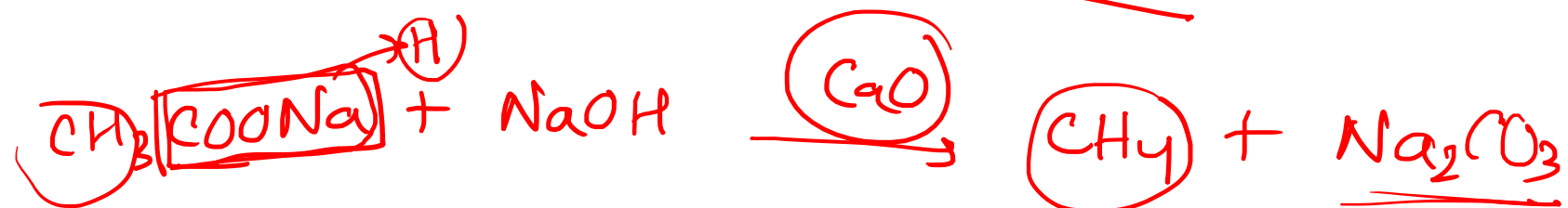
একাডেমিক এন্ড এডমিশন সেন্টার

রসায়ন

অধ্যায় ১১। খনিজ সম্পদ(১১.৪)

Preparation of Alkanes

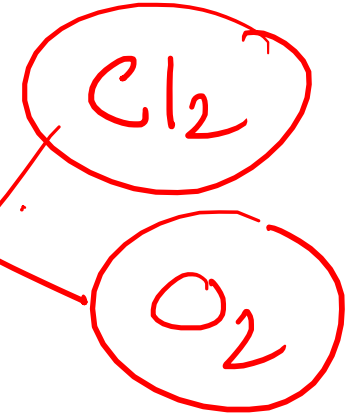
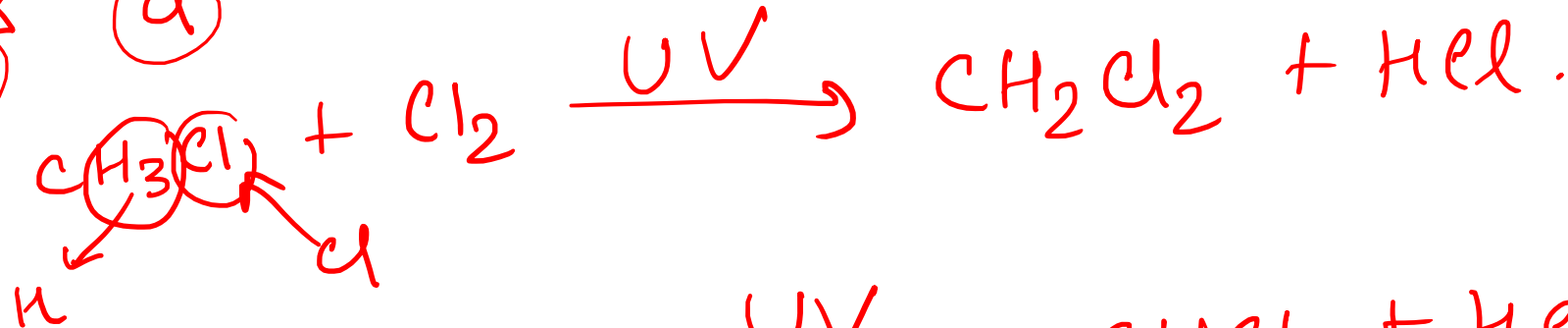
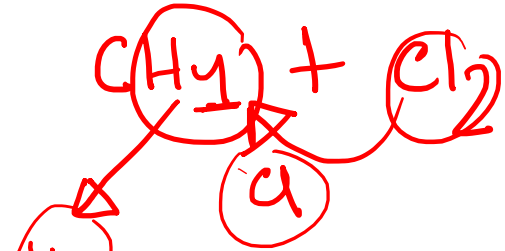
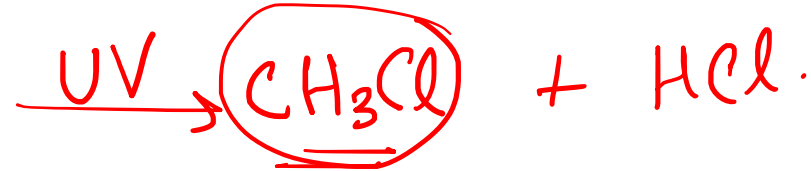
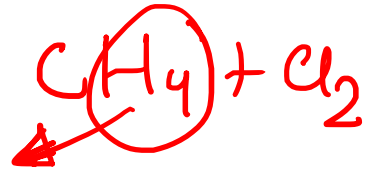
From Decarboxylation:



Chemical Reaction of Alkanes

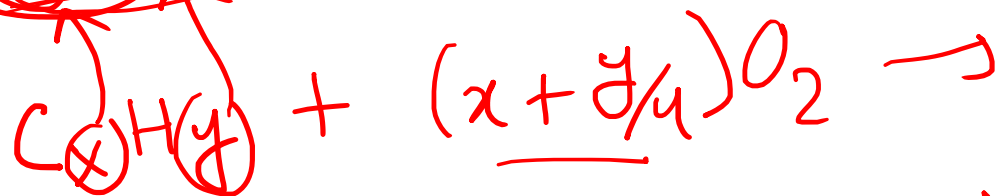
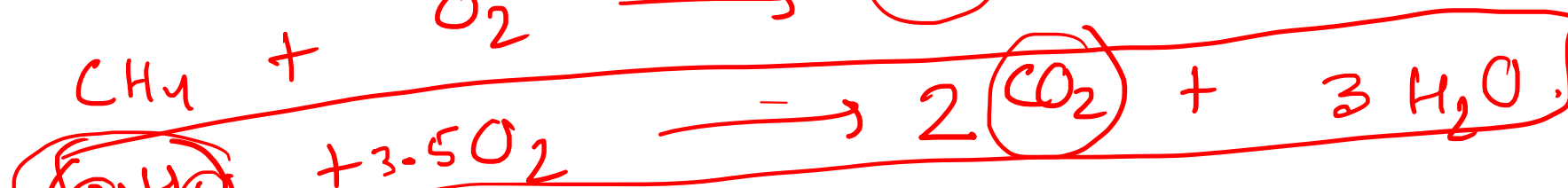
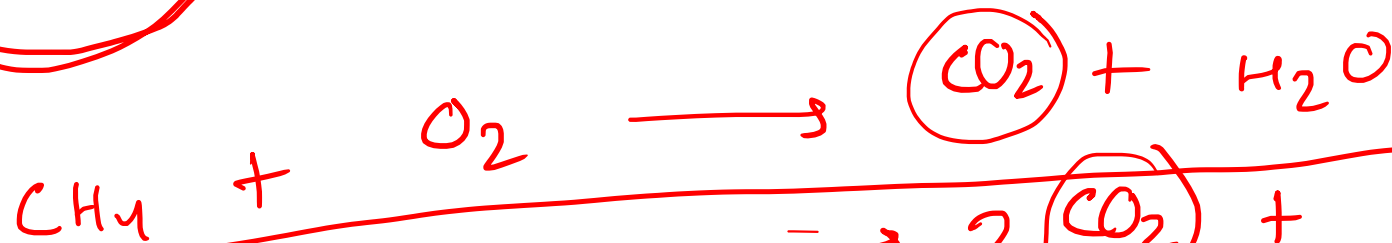
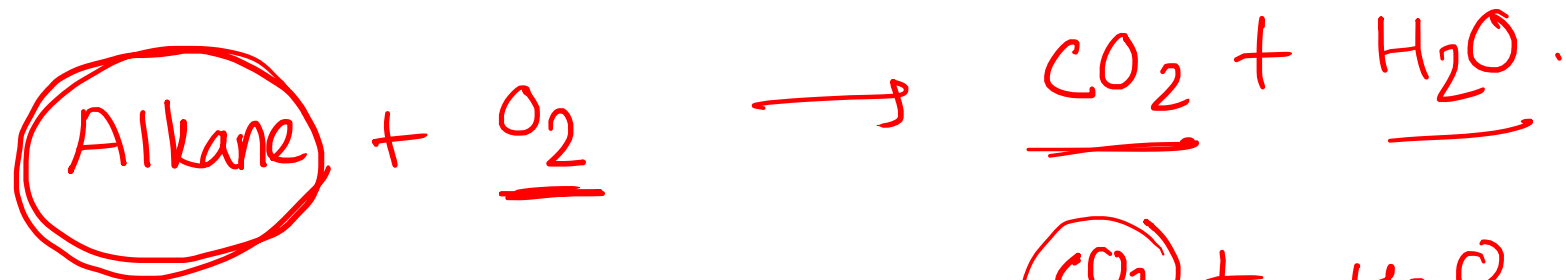
~~React~~

With Chlorine:



Chemical Reaction of Alkanes

Combustion Reaction with Oxygen: $\text{C}_8\text{H}_{18} + \text{O}_2 \rightarrow 8\text{CO}_2 + 9\text{H}_2\text{O}$

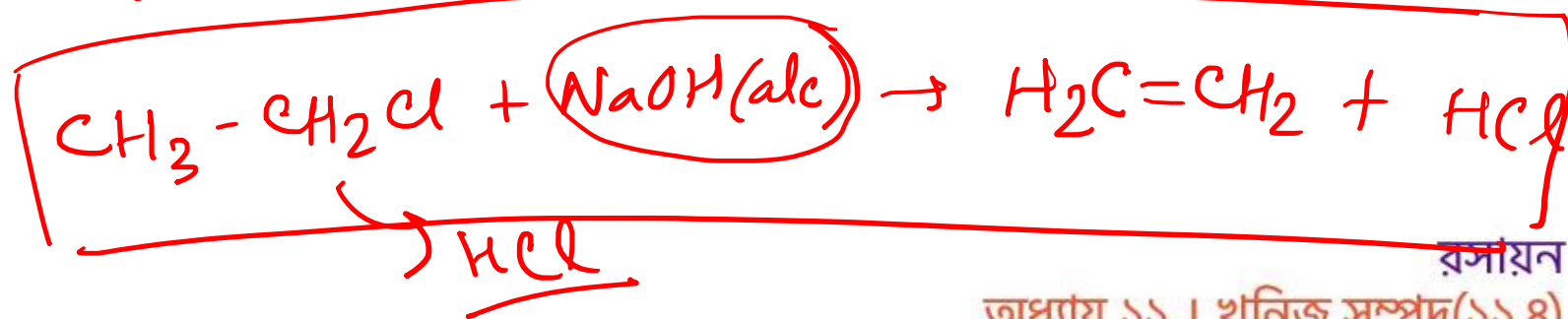
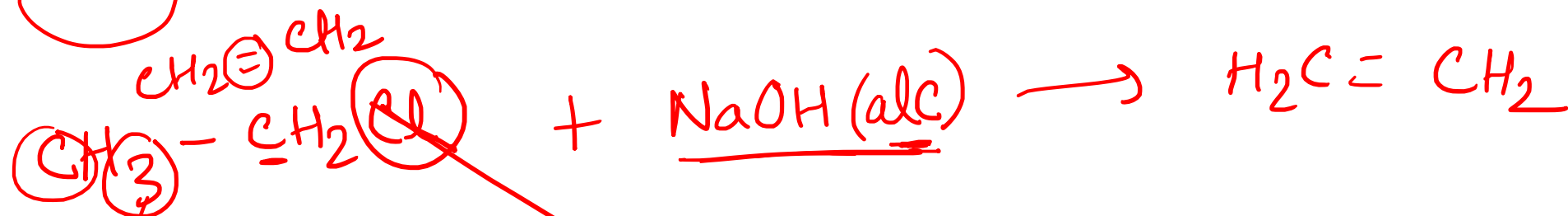
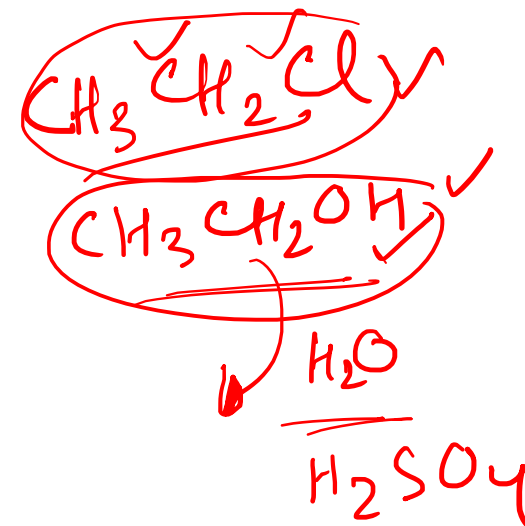
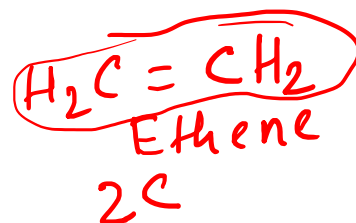
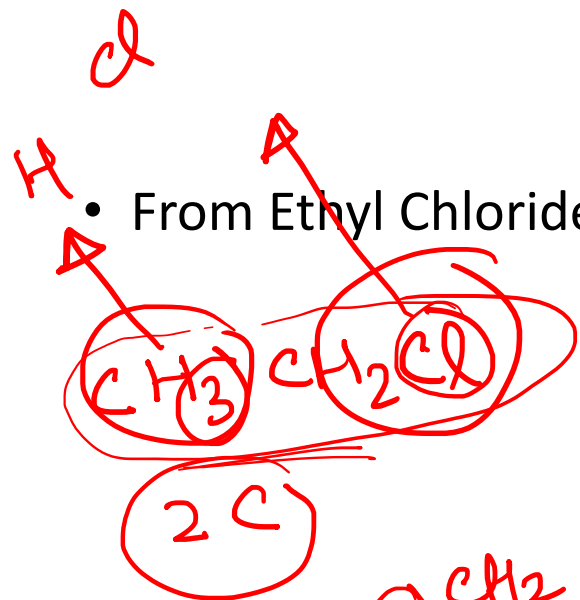


$$2 + 6/4$$

$$x + y/4$$

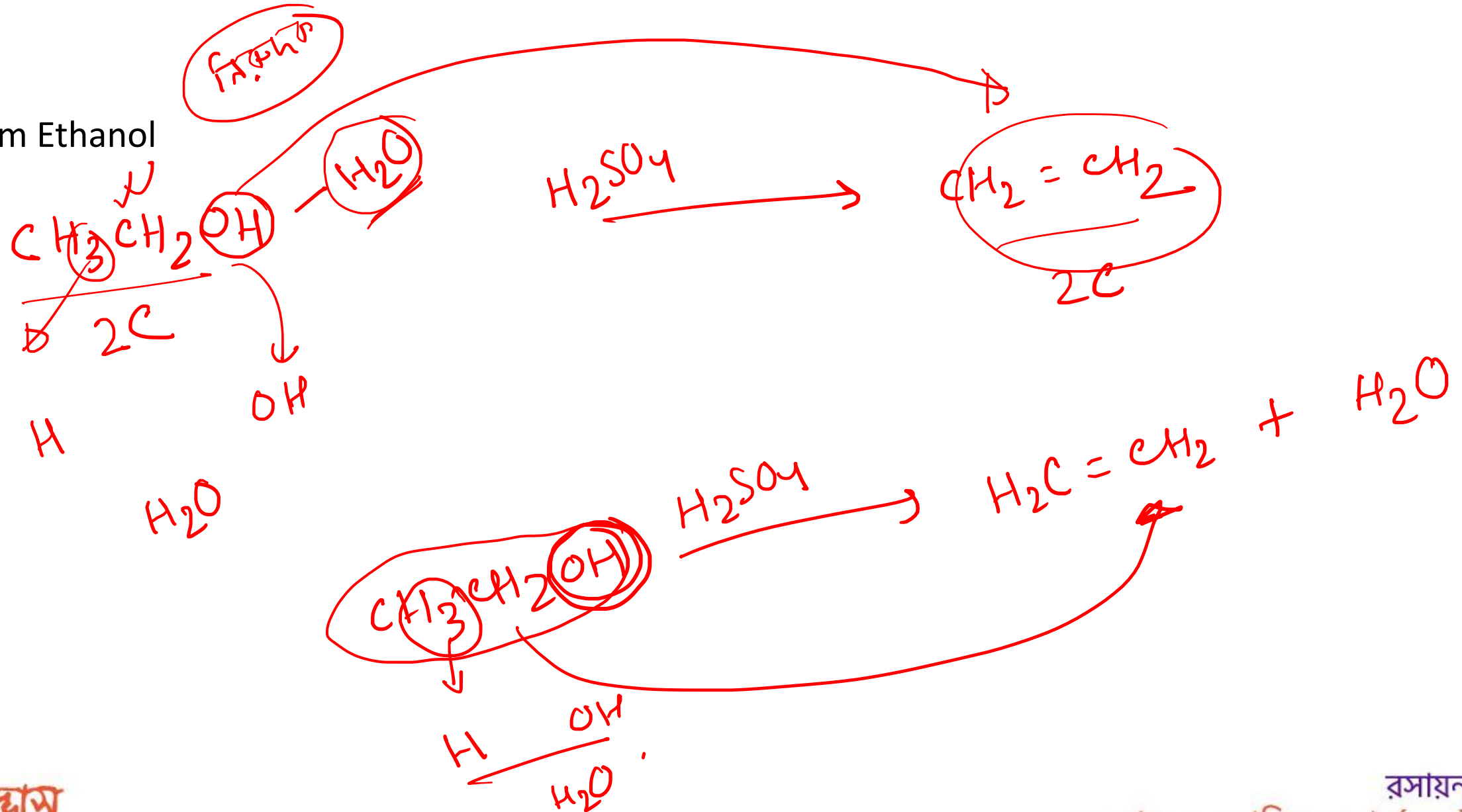
$$8 + 18/4$$

4. 10



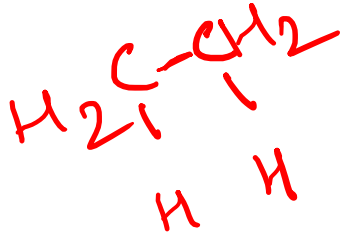
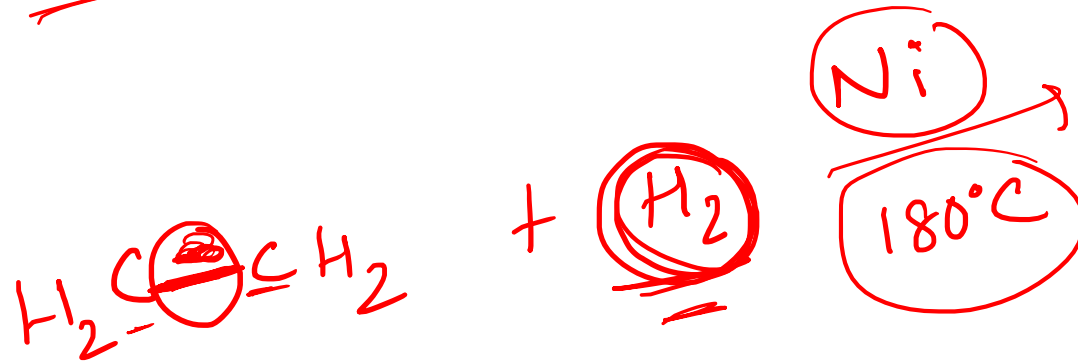
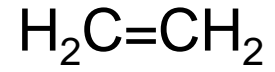
Preparation of Alkenes

- From Ethanol



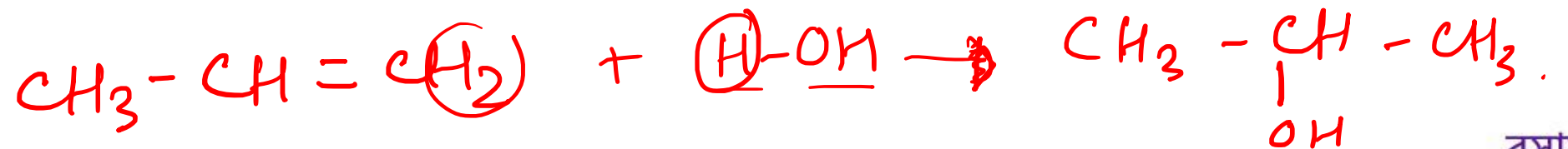
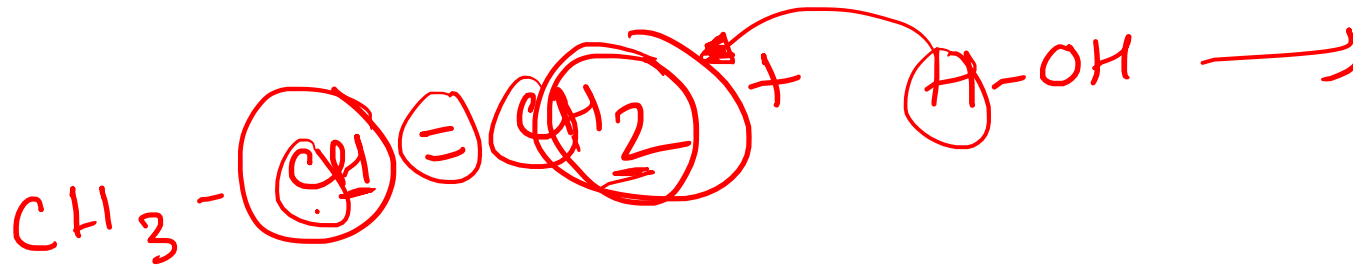
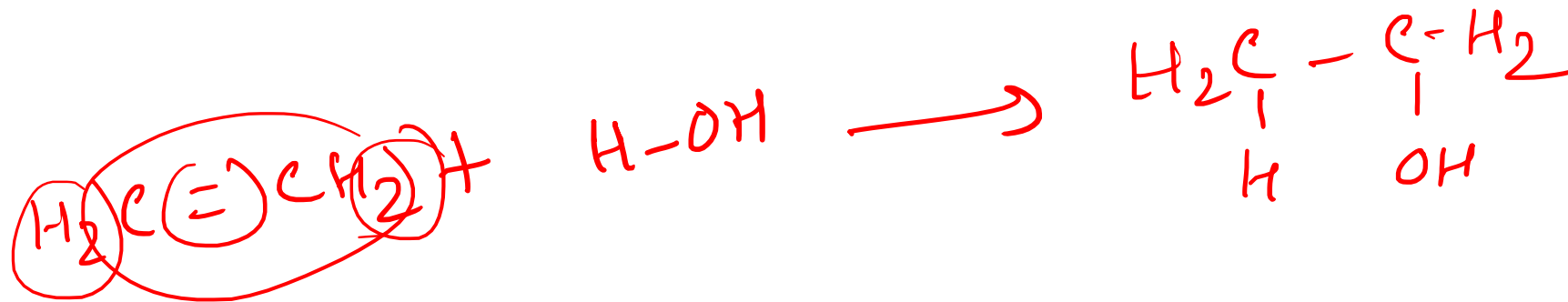
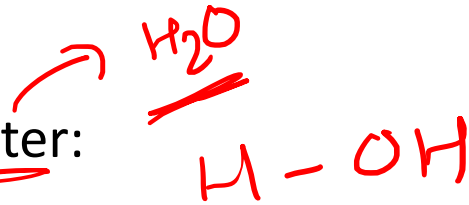
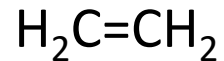
Chemical Reaction of Alkenes

- Addition of Hydrogen:



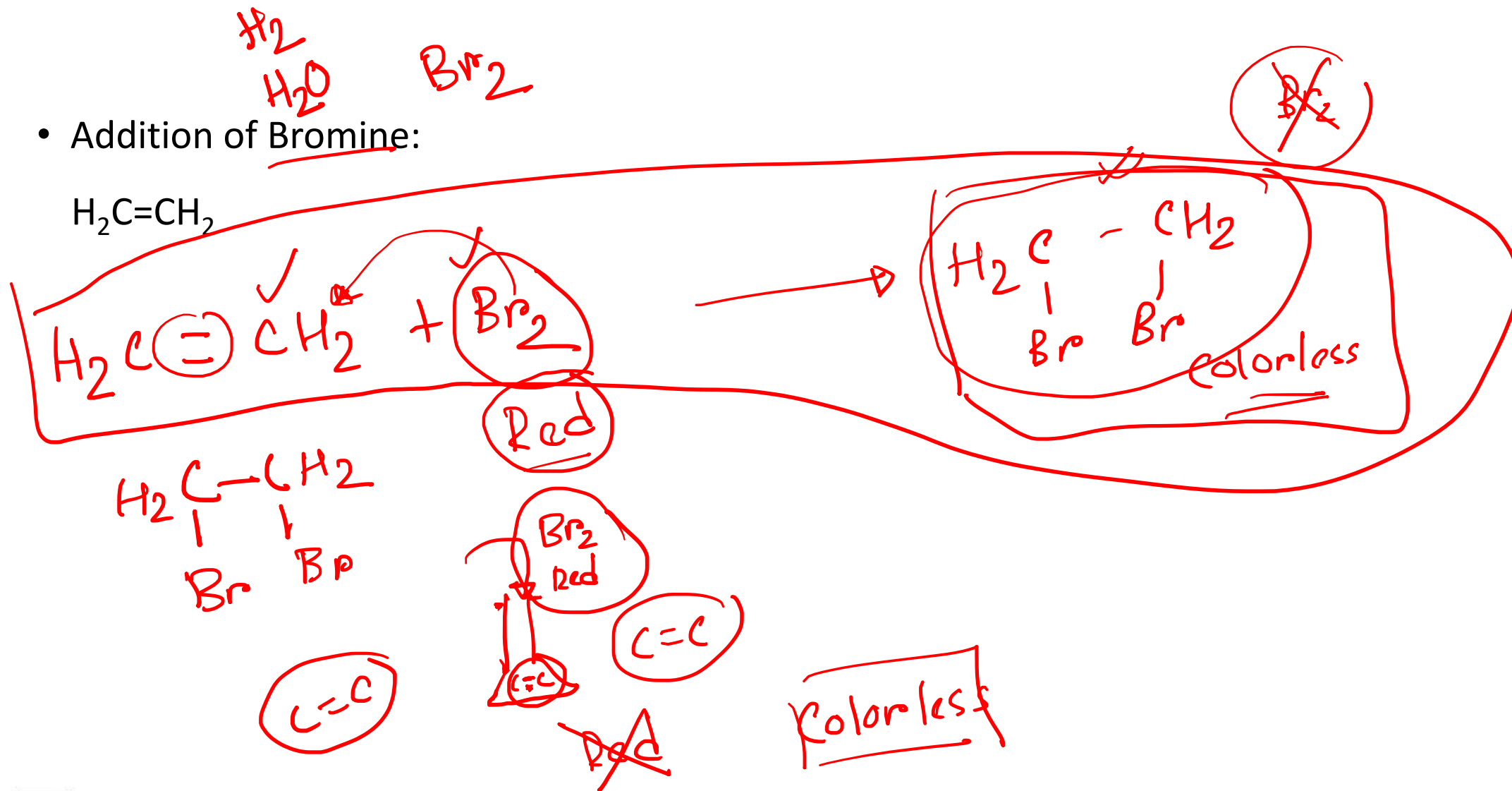
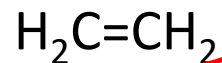
Chemical Reaction of Alkenes

- Addition of Water:



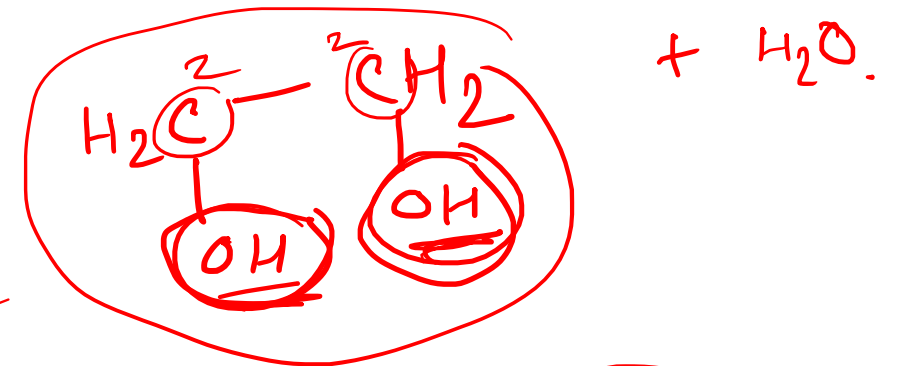
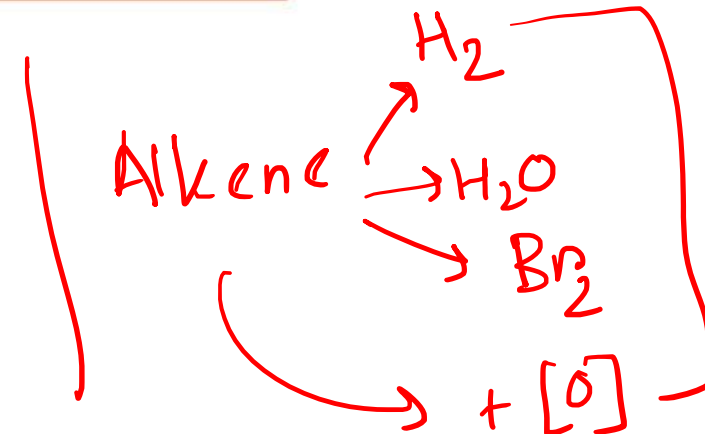
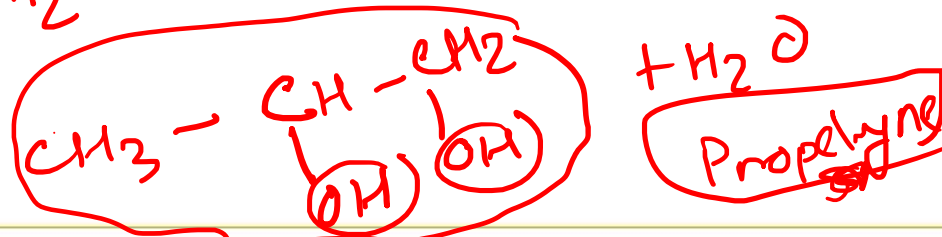
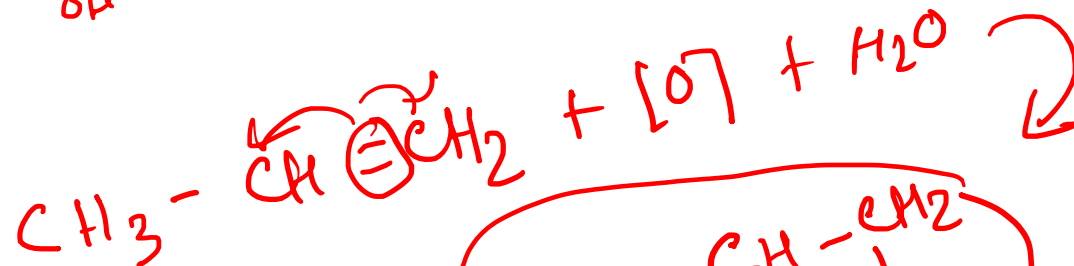
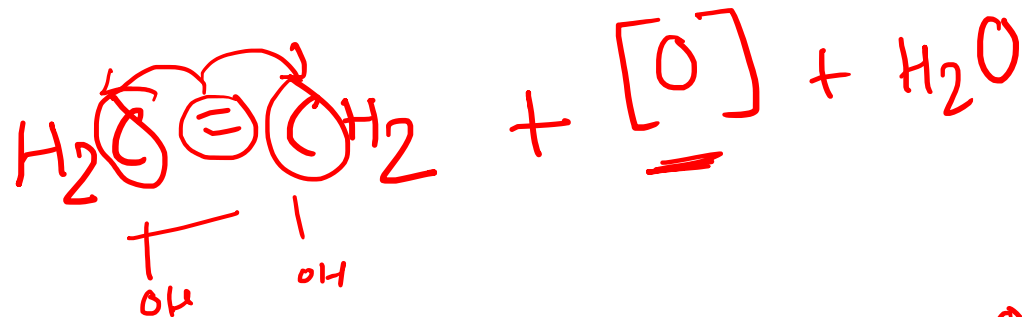
Chemical Reaction of Alkenes

- Addition of Bromine:



Chemical Reaction of Alkenes

- Oxidation with Potassium Permanganate:

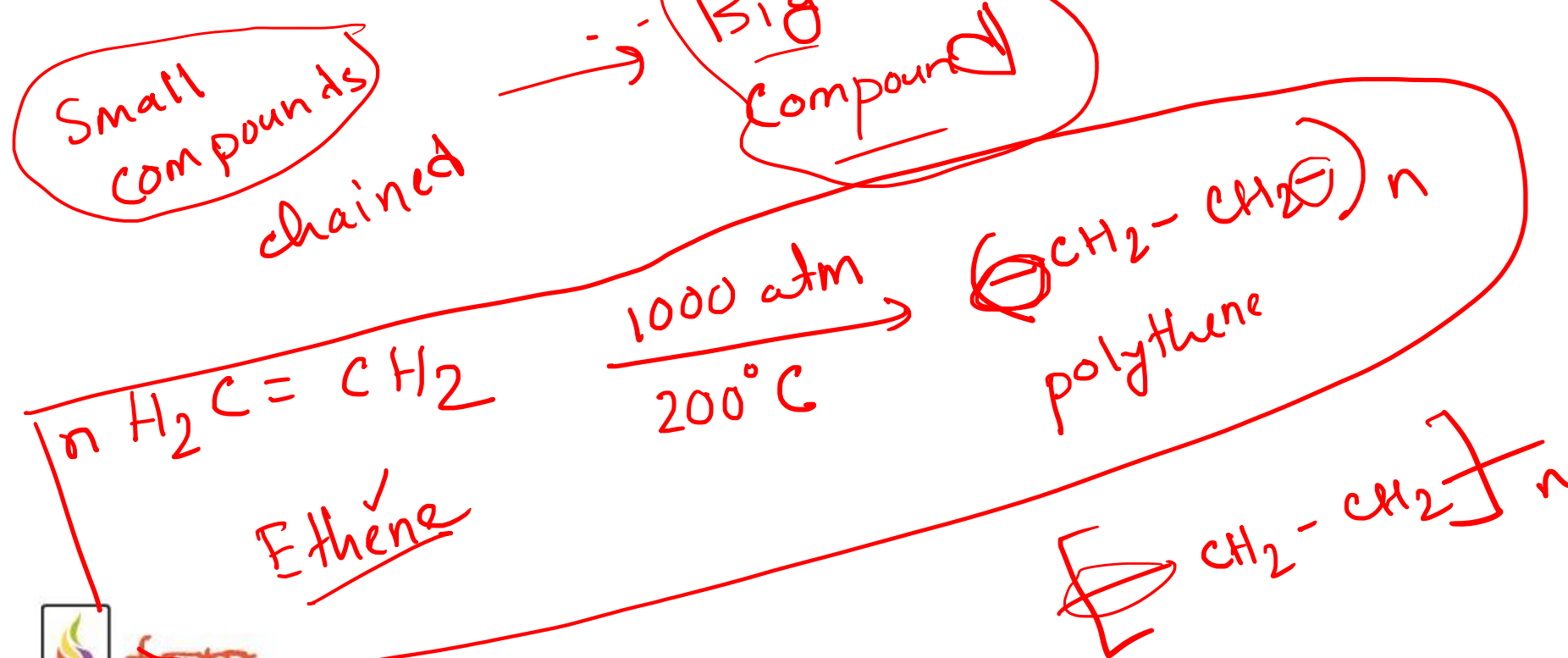
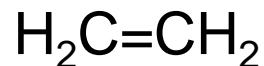


Ethylene Glycol

Glycol

Chemical Reaction of Alkenes

- Polymerization of Ethene:

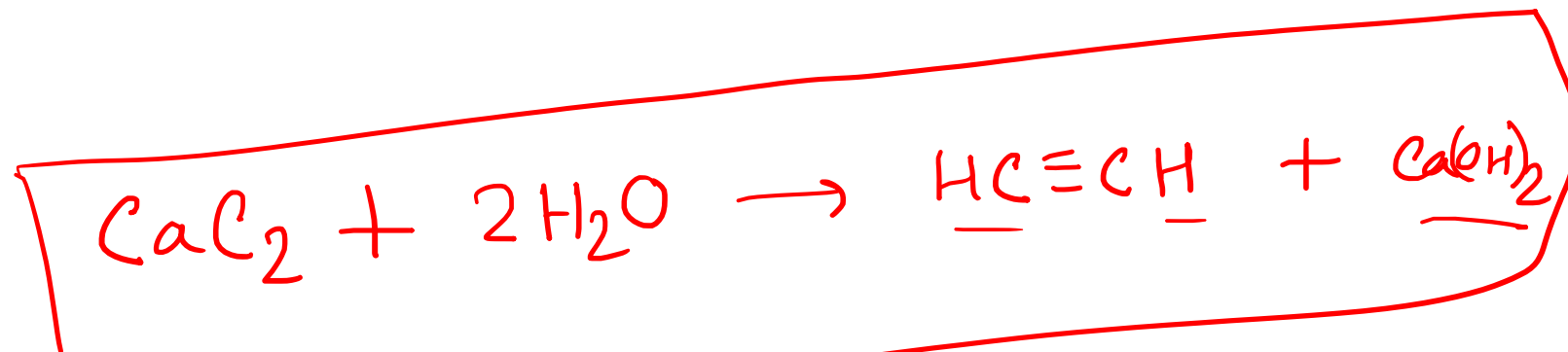
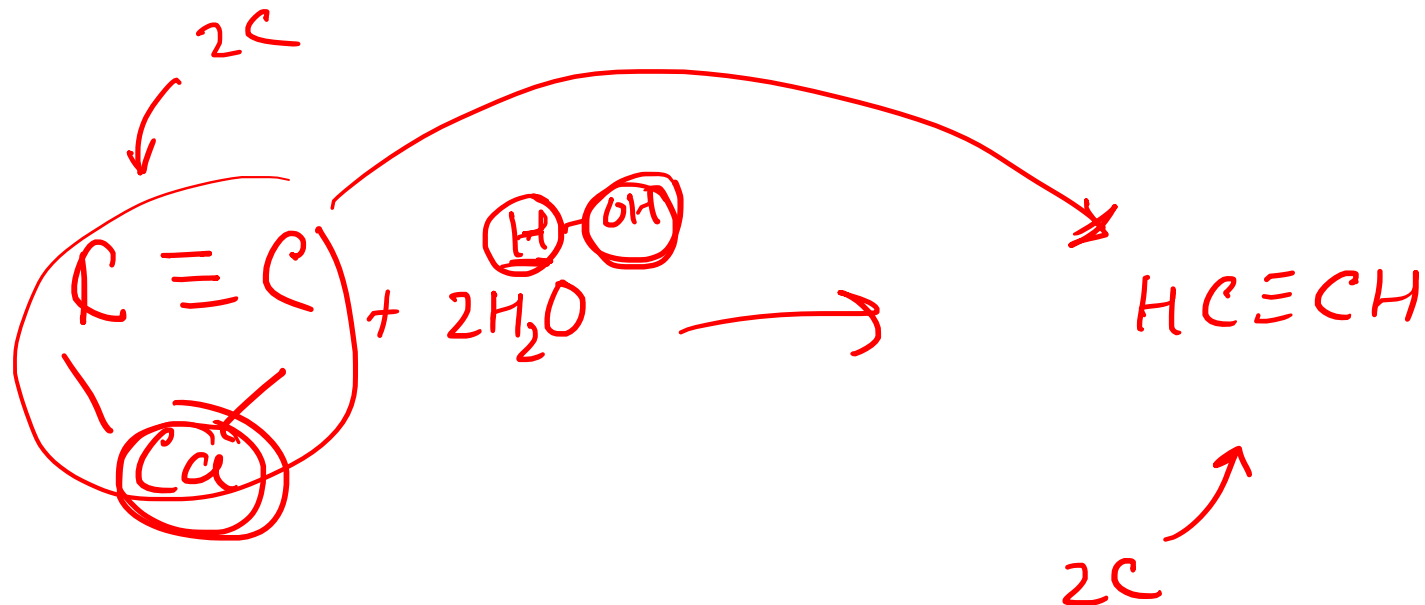


উদ্ভাস

একাডেমিক এন্ড এডমিশন কেয়ার

Preparation of Alkynes

- From Calcium Carbide:



উদ্ভাস

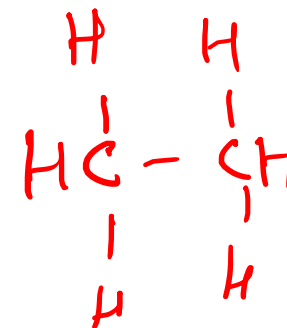
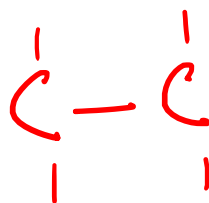
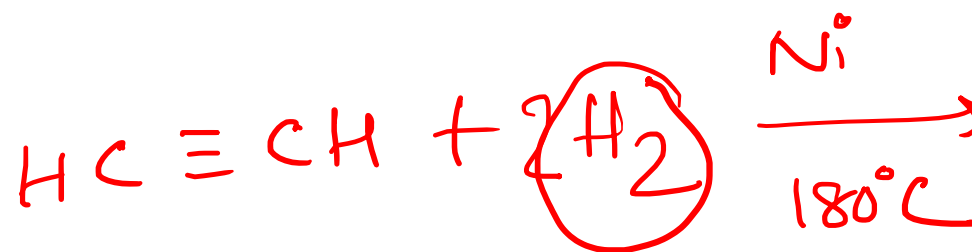
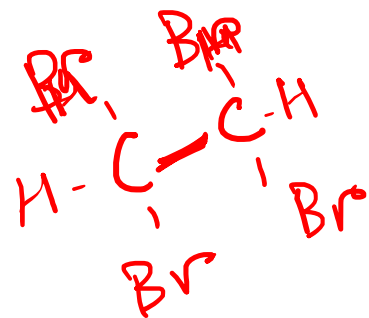
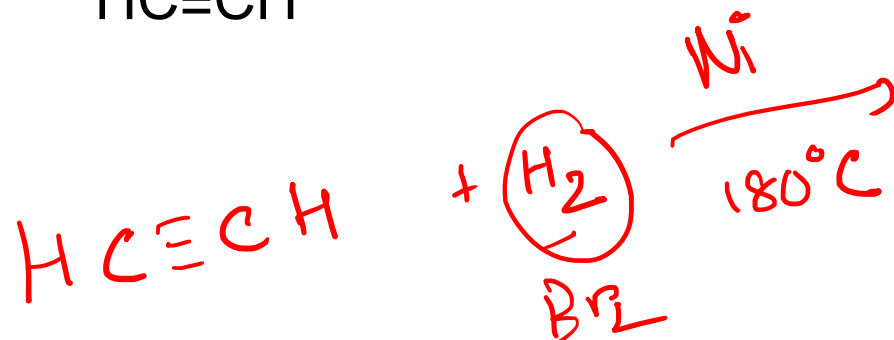
একাডেমিক এন্ড এডমিশন কেয়ার

রসায়ন

অধ্যায় ১১। খনিজ সম্পদ(১১.৪)

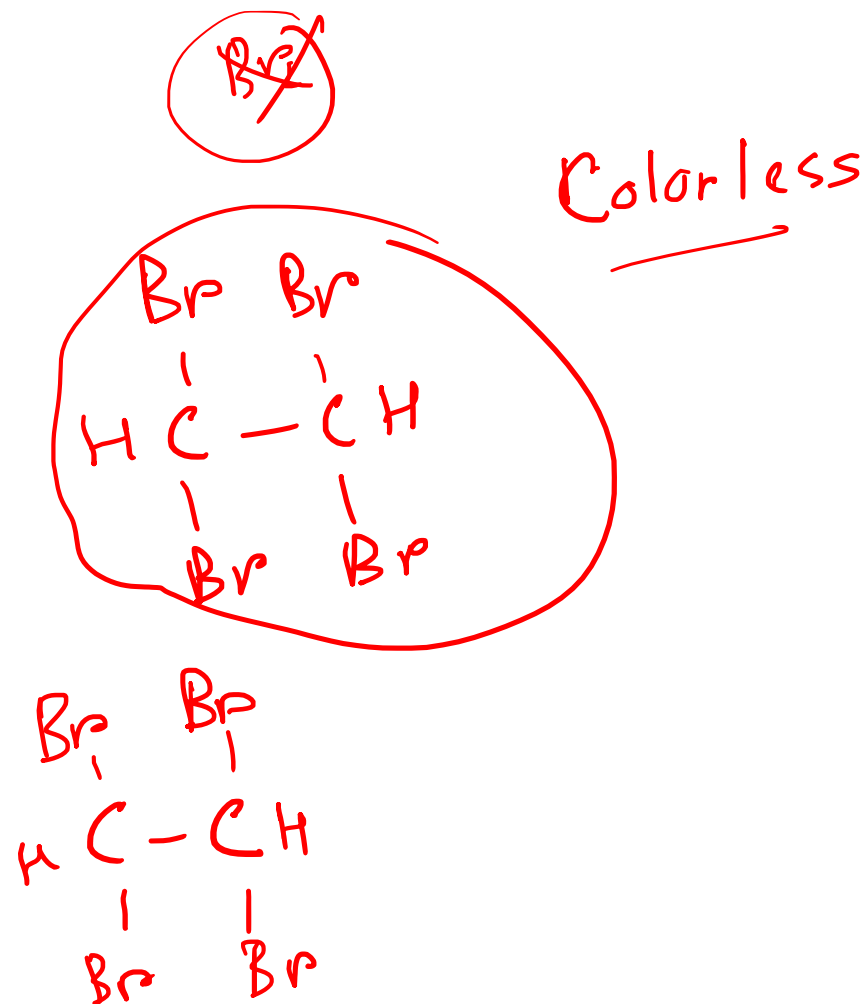
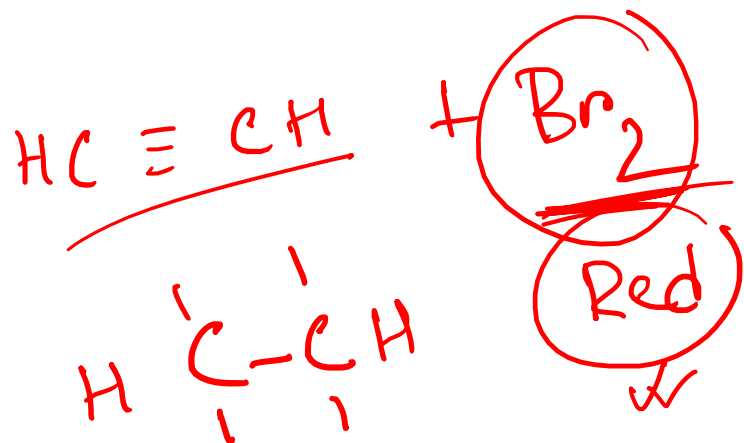
Chemical Reaction of Alkynes

- Addition of Hydrogen:



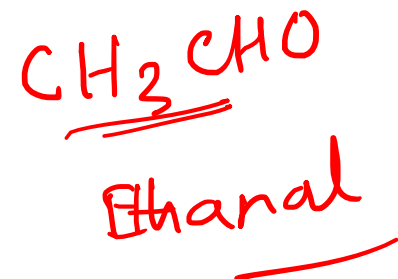
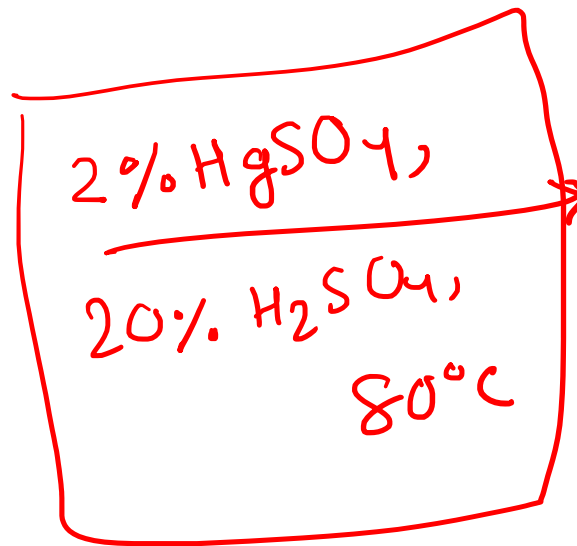
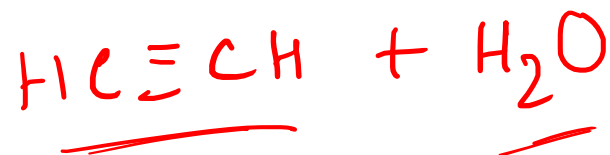
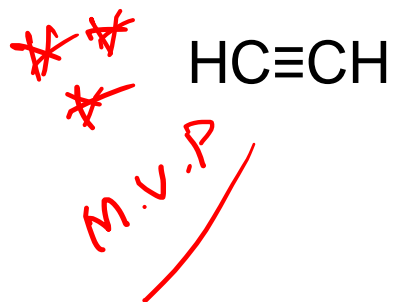
Chemical Reaction of Alkynes

- Addition of Bromine:



Chemical Reaction of Alkynes

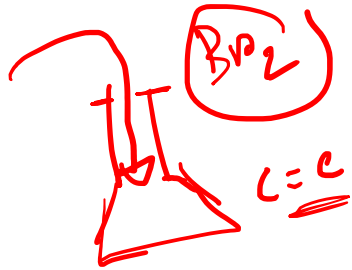
- Addition of Water:



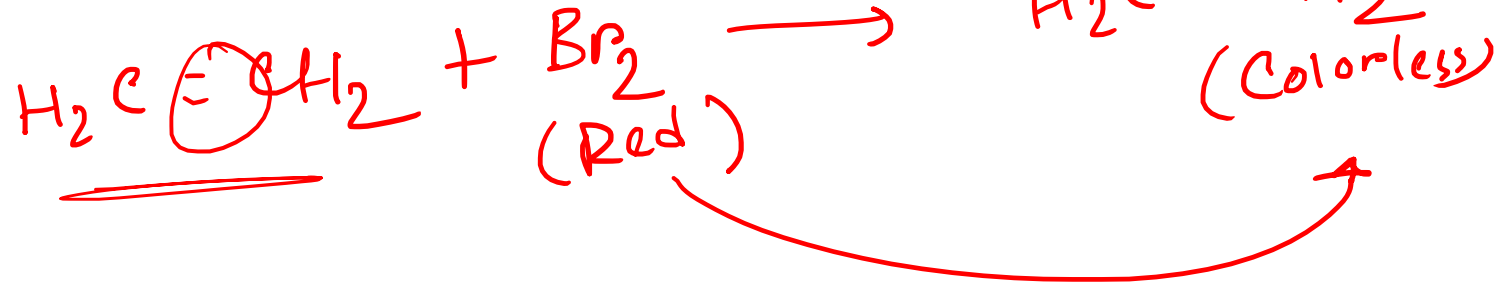
Test of Unsaturation



- The Bromine Test(Alkene):

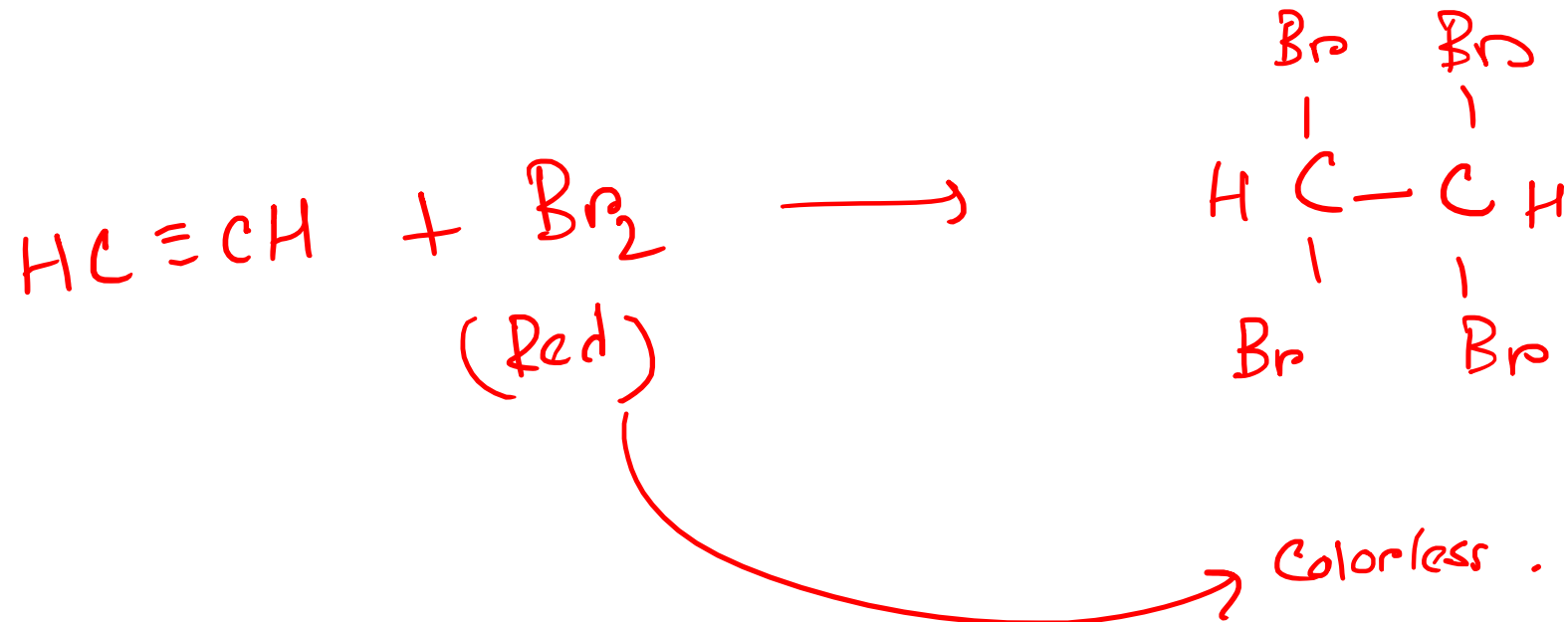


Red \longrightarrow colorless



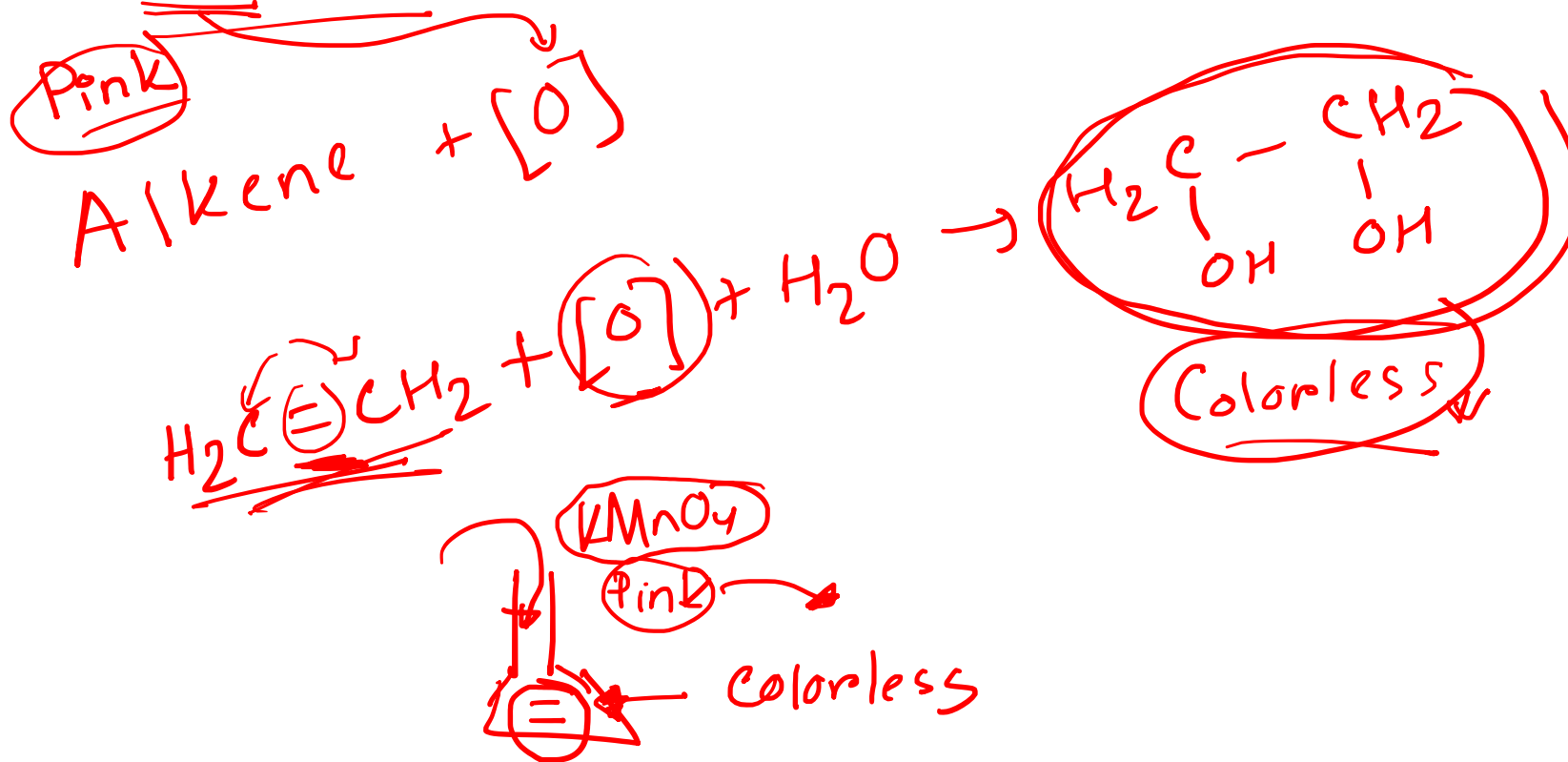
Test of Unsaturation

- The Bromine Test(Alkyne):



Test of Unsaturation

- Bear Test (Alkene)
($\text{KMnO}_4 + \text{KOH}$)



Test of Unsaturation

- Bear Test(Alkyne)

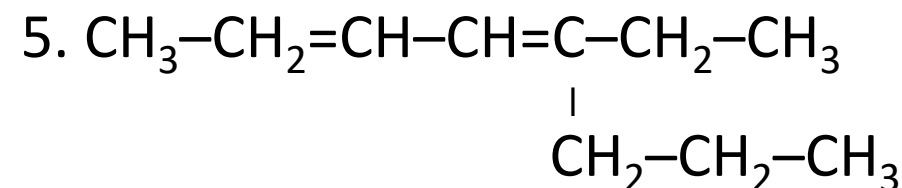
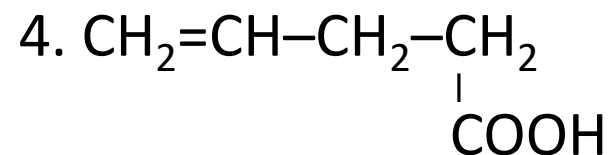
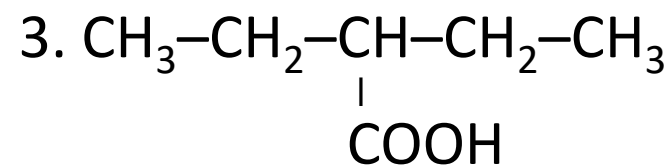
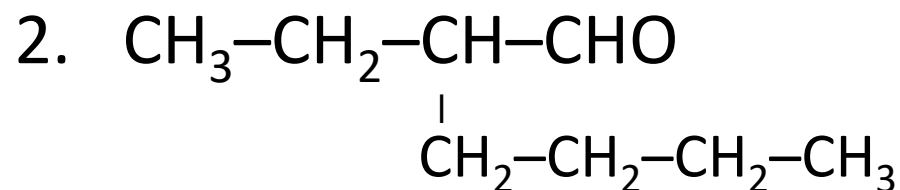
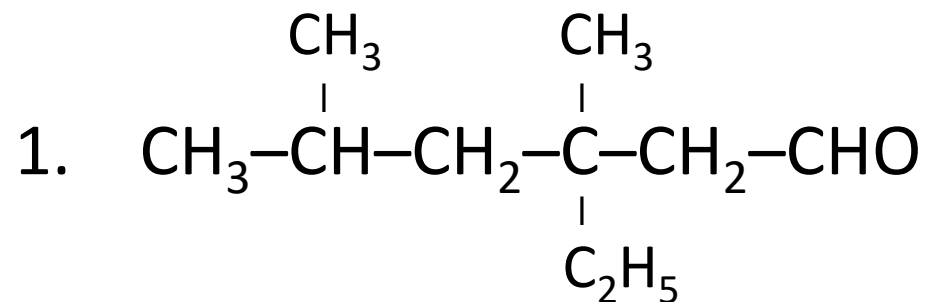
A.S.C

//

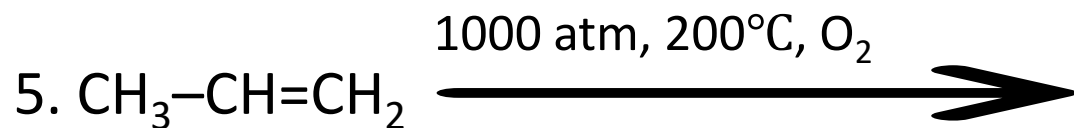
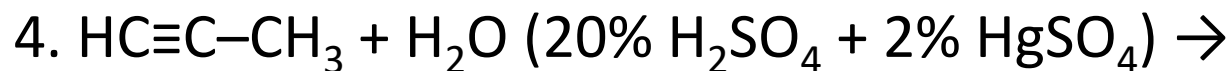
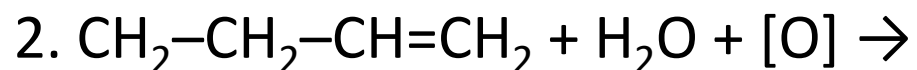
Catalyst:

Practice Problems

• Nomenclature:



Practice Reactions



POLL QUESTION-01

❑ In IUPAC system, what is the name of $\text{CH}_3\text{—C}\equiv\text{C—}$

CH_3 ?

- (a) Butyne
- (b) bute-2,3-yne
- (c) bute-2-yne
- (d) 3-bute-2-yne

POLL QUESTION-02

☐ Which symbol is used between two numbers in nomenclature?

(a) Full stop (.)

(b) Comma(,)

(c) Hyphen (-)

(d) Dash(—)

POLL QUESTION-03

☐ What does decarboxylation mean?

(a) Decrease of carbons

(b) Increase of carbons

(c) Decrease of carboxyl

(d) Increase of carboxyl

POLL QUESTION-04

❑ Which catalyst is used in the addition of hydrogen?

(a) $_{26}\text{Fe}$

(b) $_{25}\text{Mn}$

(c) $_{27}\text{Co}$

(d) $_{28}\text{Ni}$

POLL QUESTION-05

❑ Which catalyst is used in the addition of water?

(ক) H_3PO_4

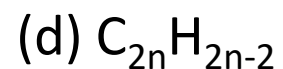
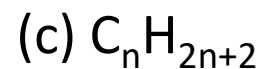
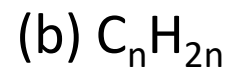
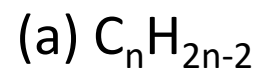
(খ) H_3PO_3

(গ) H_3PO_2

(ঘ) H_2SO_4

POLL QUESTION-06

❑ What is the general formula of alkynes ?



POLL QUESTION-07

❑ Which one is applicable for addition of water to ethynes?

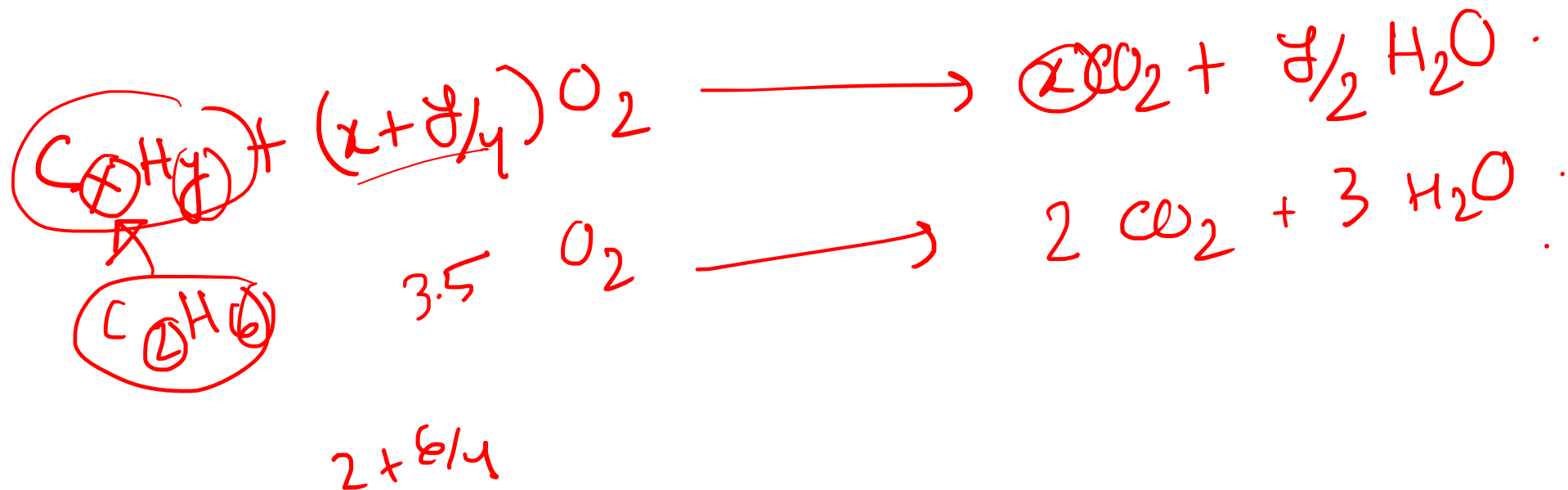
(a) 20% HgSO_4 , 2% H_2SO_4 , 100°C

(b) 20% H_2SO_4 , 2% HgSO_4 , 100°C

(c) 20% HgSO_4 , 20% H_2SO_4 , 80°C

(d) 20% H_2SO_4 , 2% HgSO_4 , 80°C

WHITEBOARD



লেগে থাকো সৎ ভাবে,
স্বপ্ন জয় তোমারই হবে।