

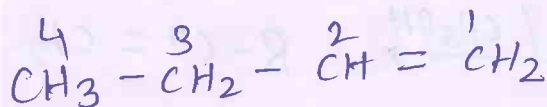
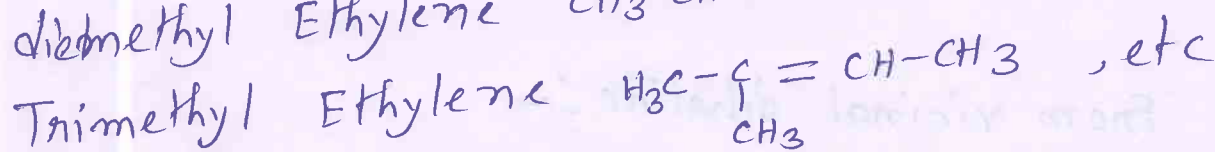
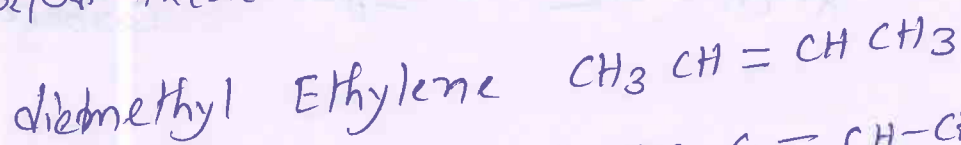


Alkenes or Olefins

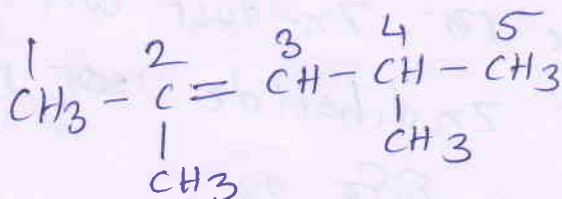
যে অসংস্কৃত unsaturated compound দুটি কার্বন পরমাণু একটি দ্বিবন্ধন (double bond) দ্বারা যুক্ত তাদের Alkenes বা Olefins বলে, এদের সাধারন সংকেত C_nH_{2n} ($n=1,2,\dots$). Ethylene এই পরিবারের প্রথম সদস্য, Olefin শব্দটি এসেছে 'তেলগঠনকারী' (oil forming) থেকে, Ethylene chloride chlorine এর সাথে বিক্রিয়ায় একটি তৈলাক্ত পদার্থ তৈরি করে, অর্থাৎ Alkene, Olefin নামেও পরিচিত,

Nomenclatures:-

Alkene এর নামকরণ (যে-ylene) যোগ করে নামকরণ করা হয়, যেমন - Ethylene (C_2H_4) Propylene (C_3H_6), etc. Alkene মূল্যে Ethylene এর জাতক হিসেবেও আনক অসংস্কৃত নামকরণ করা হয়, যেমন



1-butene

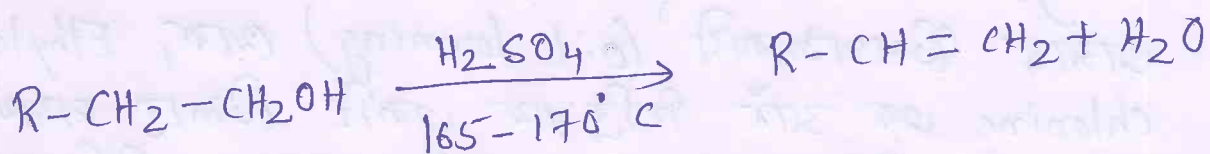


2,4-dimethyl Pent-1-ene

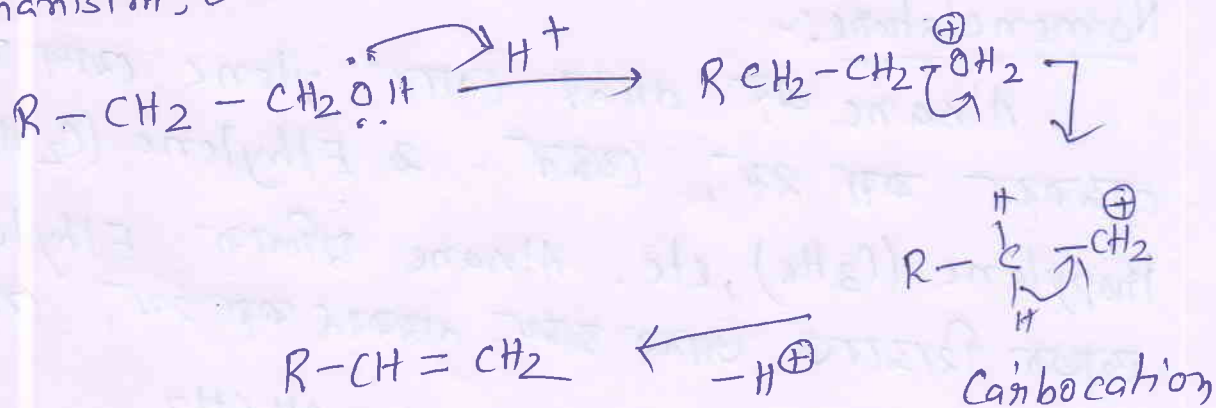
General preparation of Alkenes:-

1) Dehydration of alcohol:-

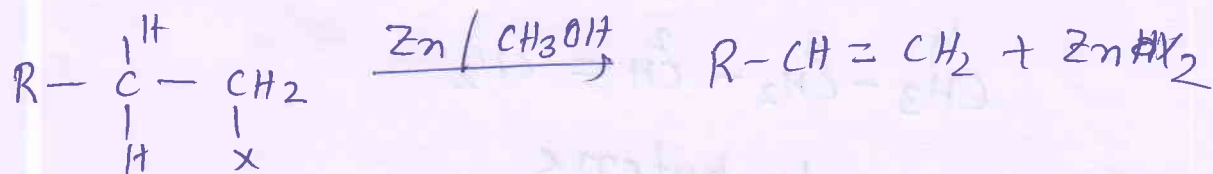
Conc H_2SO_4 - এর উত্তাপিতিতে Alcohol এর নিষ্কৃতির ফলে Alkene প্রস্তুত করা হয়, Alcohol (ক) $165-170^\circ C$ তাপমাত্রায় Conc. H_2SO_4 এর উত্তাপিতিতে উত্তপ্ত করলে উল্লভ অপভারিত হয় Alkene গঠিত হয়



Mechanism:-

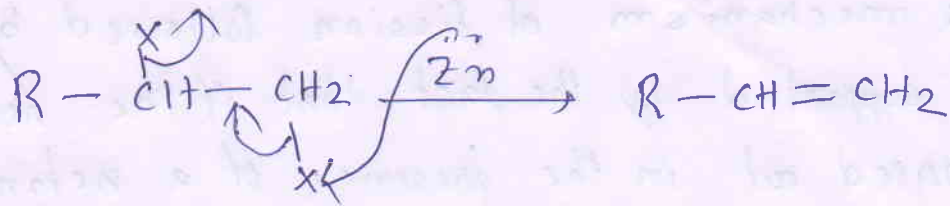


2) From vicinal dihalide:-



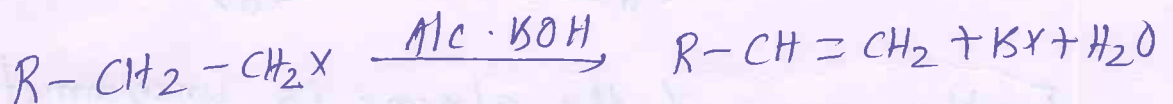
Vicinal dihalide (ক) Zn-dust এবং MeOH এর সাথে উত্তপ্ত করলে Zn dihalide এর Elimination এর ফলে Alkene গঠিত হয়

Mechanism:-

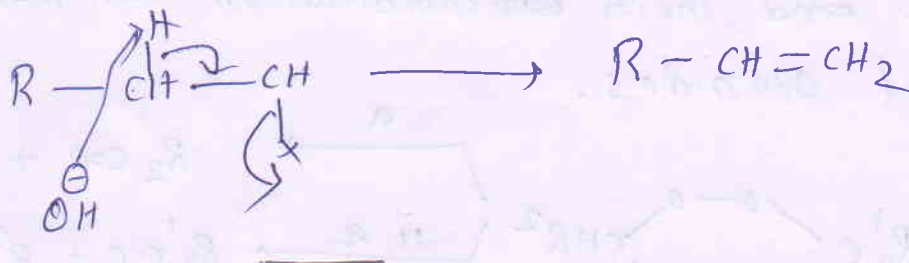


3) From alkylhalide:-

Alkylhalide କେ ଆଲକାଇଲ ହାଲାଇଡ୍ ଅଟେ ଯାହା alkyl group ଓ halogen atom ଦ୍ୱାରା ଗଠିତ ହୋଇଥାଏ। ଏହା ଏକ ସାଦୃଶ୍ୟ ଯୁକ୍ତ ଅଟେ ଯାହା ଏକ alkyl group ଓ ଏକ halogen atom ଦ୍ୱାରା ଗଠିତ ହୋଇଥାଏ। ଏହା ଏକ ସାଦୃଶ୍ୟ ଯୁକ୍ତ ଅଟେ ଯାହା ଏକ alkyl group ଓ ଏକ halogen atom ଦ୍ୱାରା ଗଠିତ ହୋଇଥାଏ।

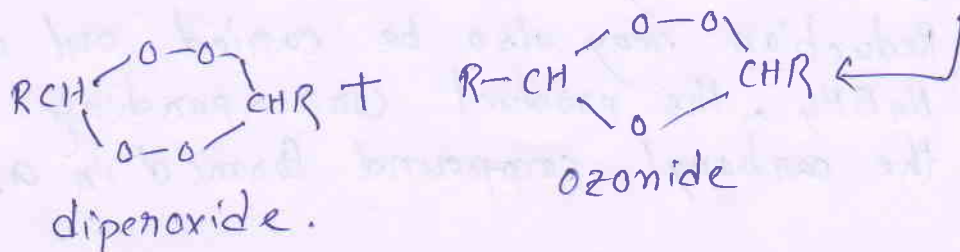
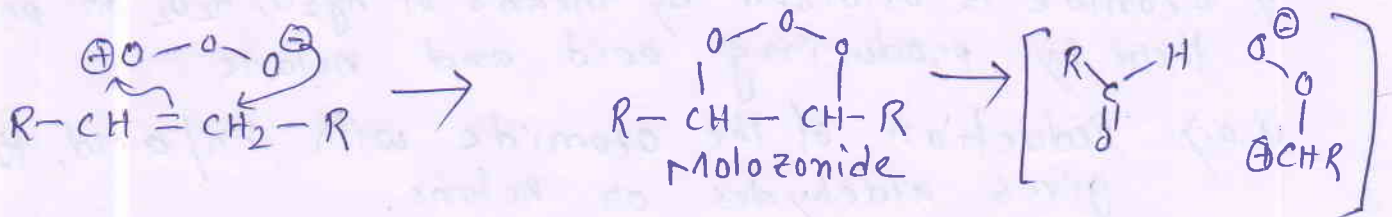


Mechanism:-

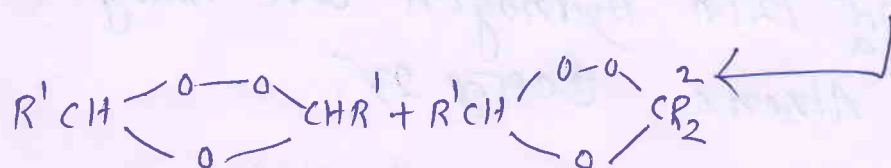
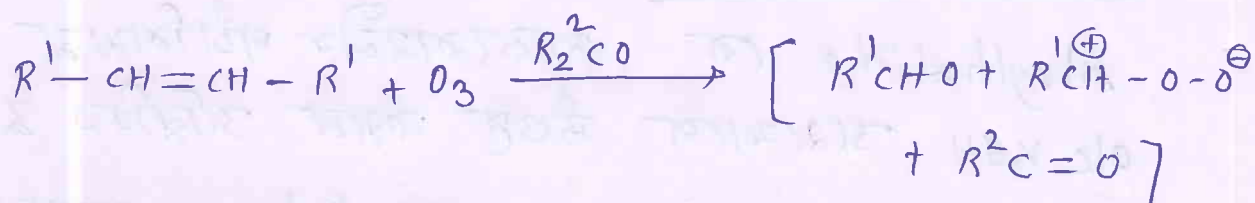


Ozonolysis:-

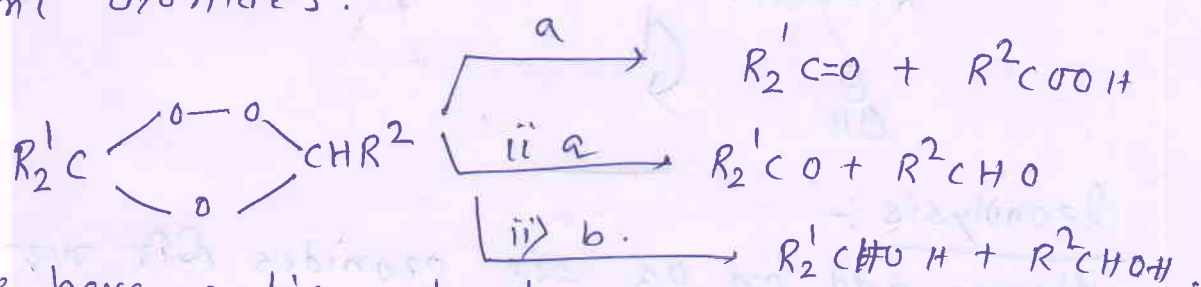
Alkene add on O_3 ଏବଂ ozonides ଗଠିତ ହୁଏ। Reaction ୧୮ molozonide ଗଠିତ ହୁଏ, ଯାହାକୁ ଓଜୋନାଇଡ୍ କୁହାଯାଏ। ଏହା ଏକ ସାଦୃଶ୍ୟ ଯୁକ୍ତ ଅଟେ ଯାହା ଏକ alkyl group ଓ ଏକ halogen atom ଦ୍ୱାରା ଗଠିତ ହୋଇଥାଏ।



This mechanism of fission followed by recombination is supported by the fact that if the reaction is carried out in the presence of a ketone two ozonides are produced.



Furthermore if the alkene is unsymmetrical then two carbonyl compounds and two dipolar ions are possible and their ~~com~~ combination can lead to three different ozonides.



Ozonide have cyclic structure, each one exist in both cis and trans form. Six ozonide are possible form alkene of the type $R^1R^2C=CR^3R^4$

i) ozonide is oxidised by means of Ag_2O , H_2O_2 or per acid there by producing acid and ketone

ii.a.) Reduction of the ozonide with Zn /acid, H_2 /Raney Ni gives aldehydes or ketone.

b.) Reduction may also be carried out with $LiAlH_4$, $NaBH_4$, the product corresponding alcohols of the carbonyl compound formed in a.