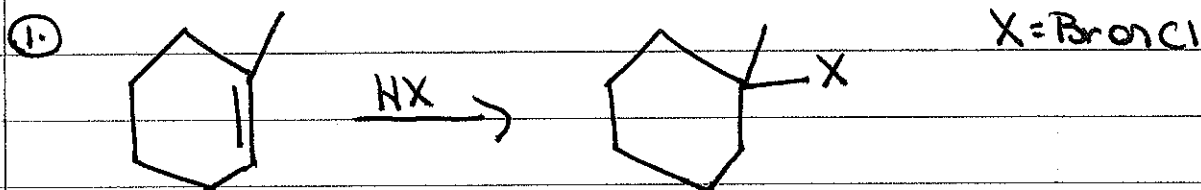


# \* Rxns of Alkenes

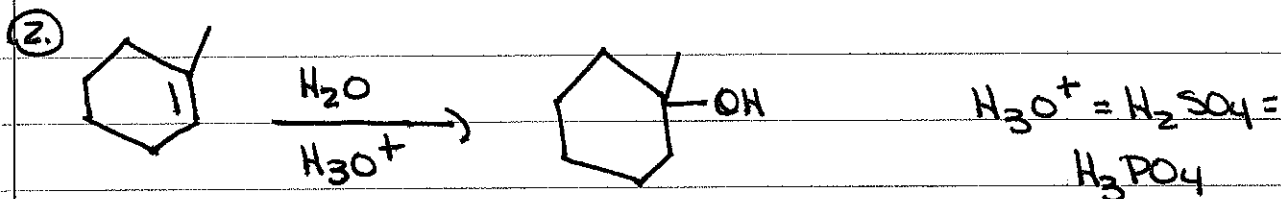
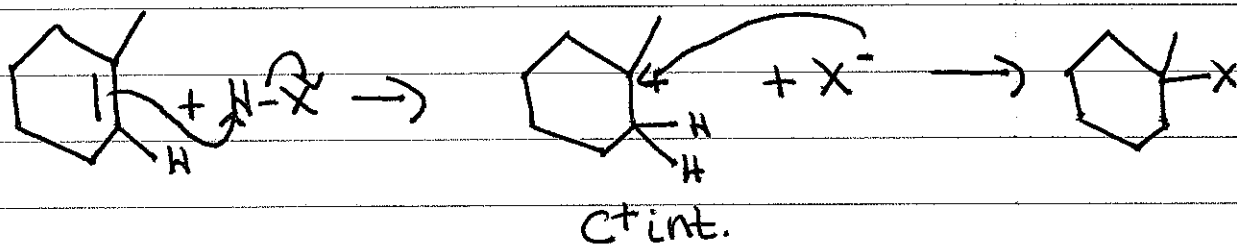


Alkene

Alkyl Halide

Electrophilic Addition (E.A.): Markovnikov's

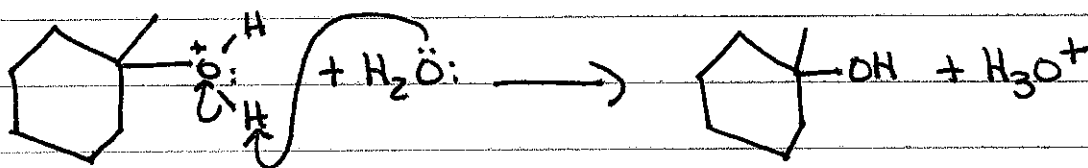
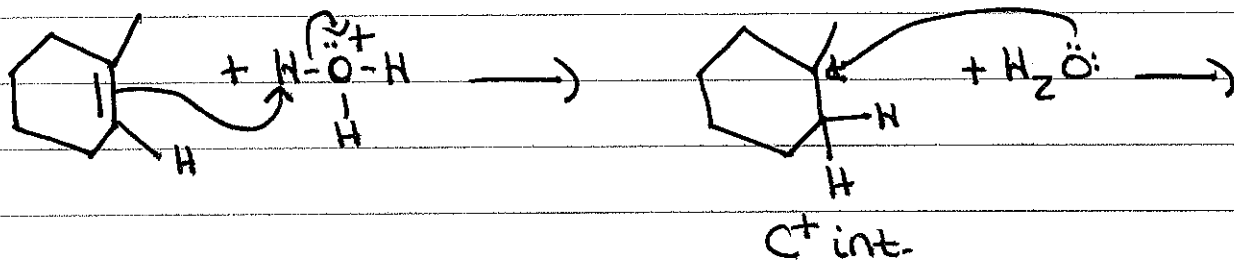
Rule (Mark.):  $\text{C}^+$  intermediate (int.): Hydrohalogenation



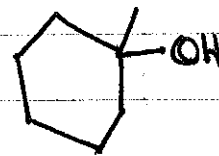
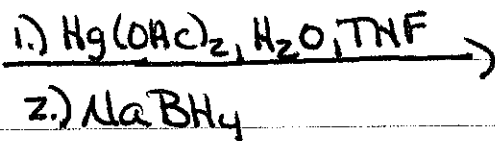
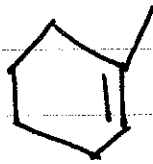
Alkene

Alcohol

E.A.: Mark. Rule:  $\text{C}^+$  int.: Acid Catalyzed Hydration



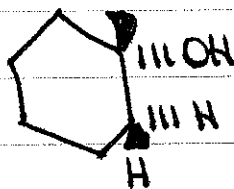
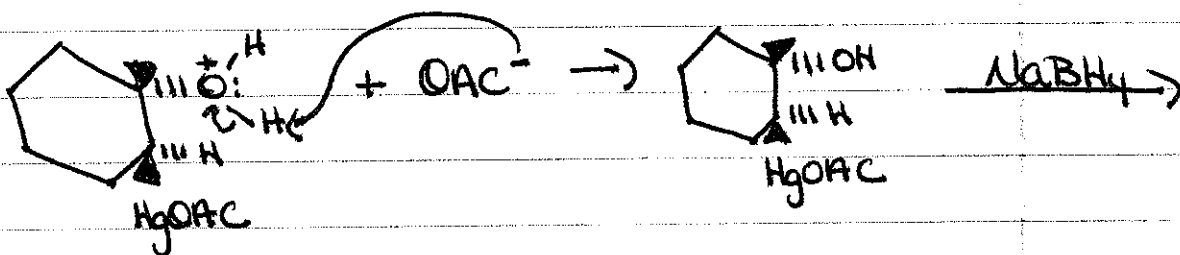
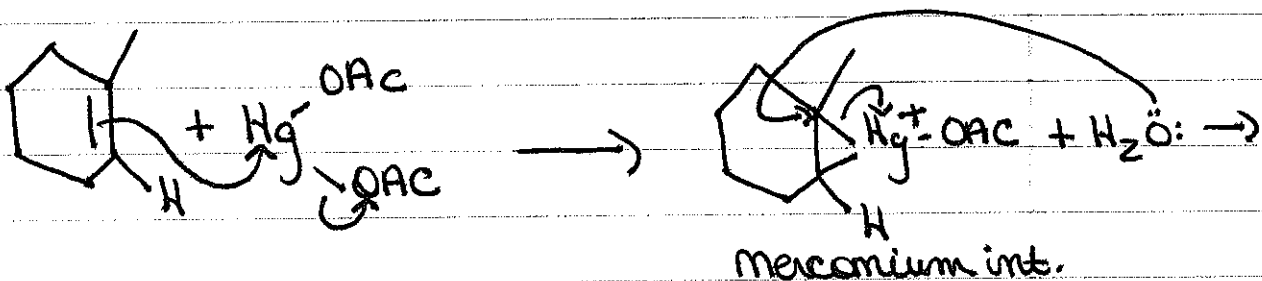
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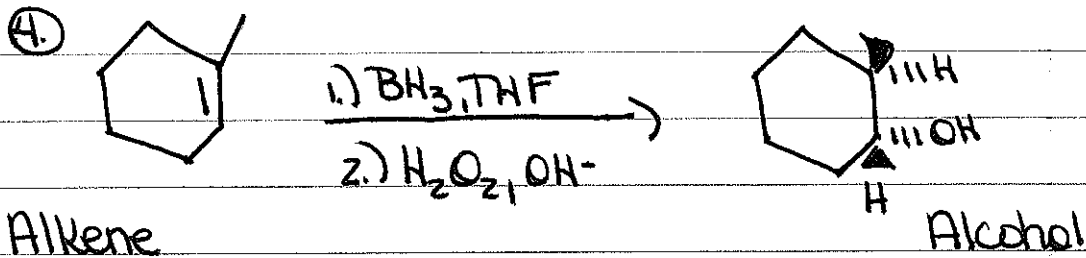


Alkene

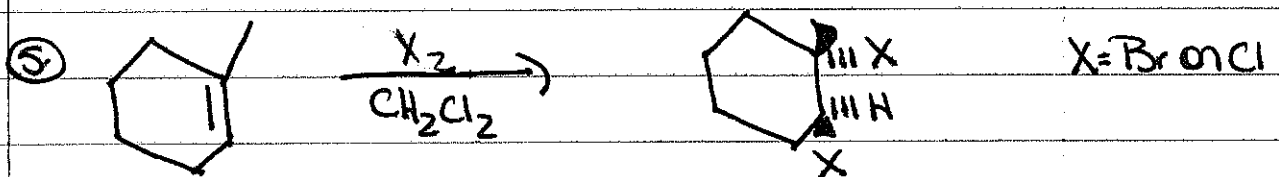
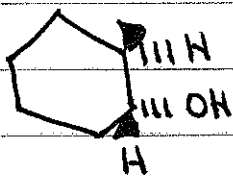
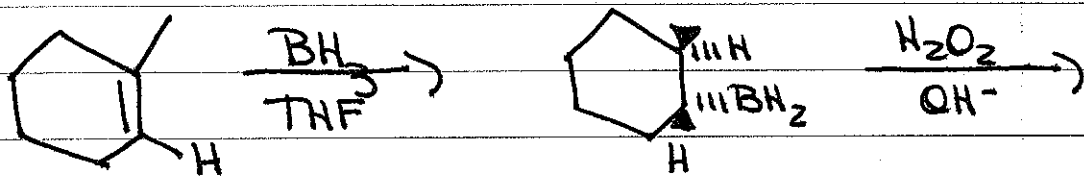
Alcohol

E.A.: Mark. Rule: Anti Addition:  
Mercurium int.: Oxymercuration





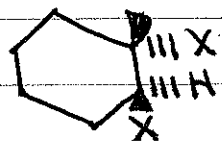
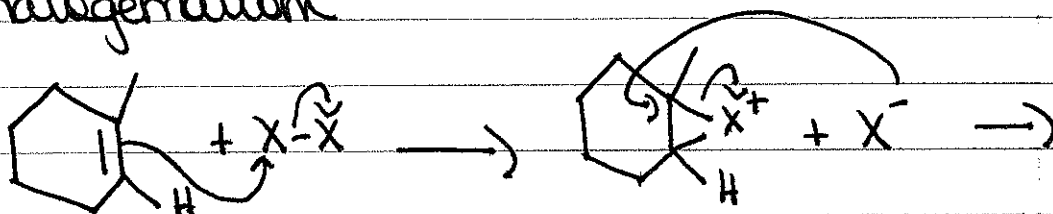
E.A.: Anti Mark. Rule: Syn Addition:  
Alkyl Borane int.: Hydroboration



Alkene Alkyl Halide (Dihalide)

E.A.: Anti Addition: Halonium int.:

Halogenation



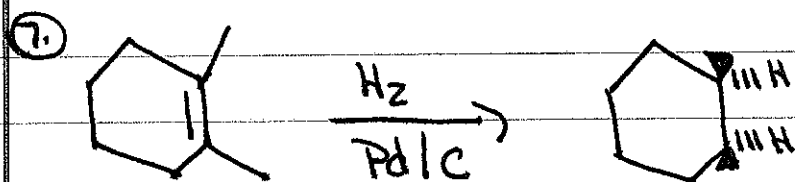
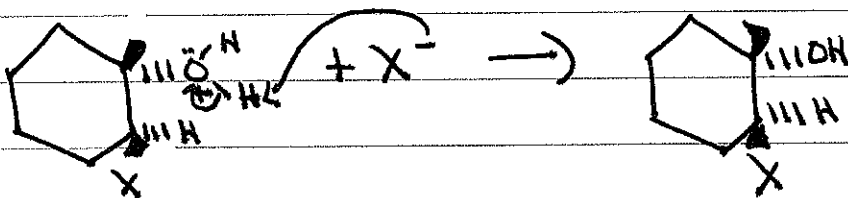
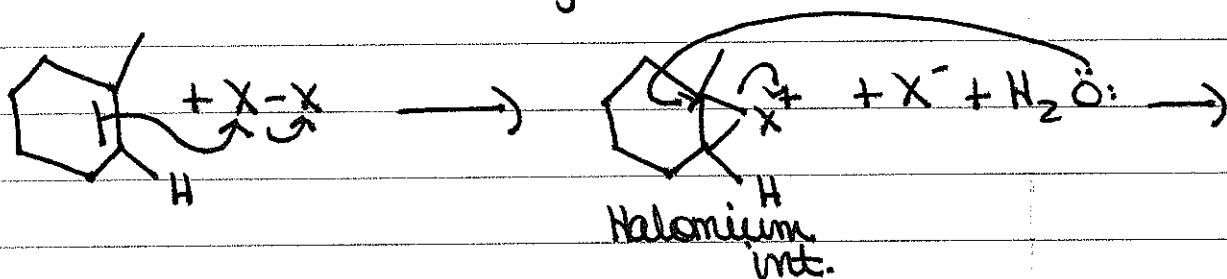


Alkene

Halohydrin

E.A.: Mark. Rule: Anti Addition:

Halonium int.: Halohydrin Formation



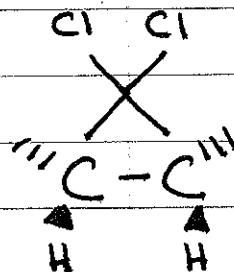
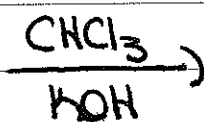
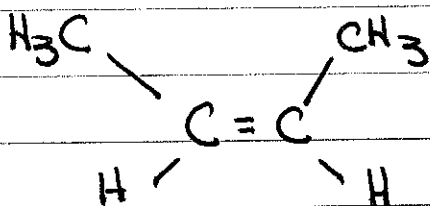
Alkene

Alkane

Reduction: Syn Addition: Hydrogenation:

Pd = Catalyst

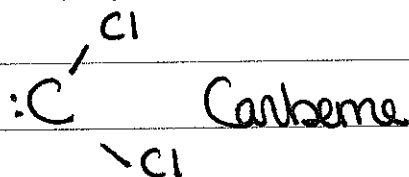
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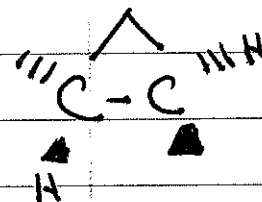
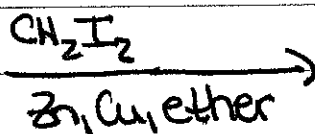
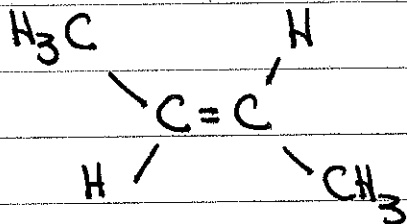
Alkene

3 Membered Ring

Carbene Addition : Conserves Stereochemistry :  
Alpha Elimination



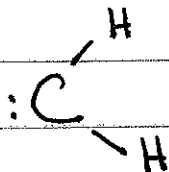
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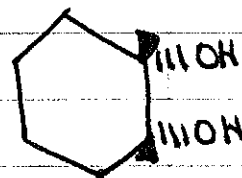
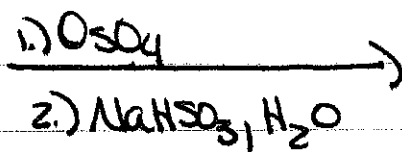
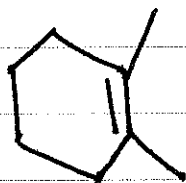
Alkene

3 Membered  
Ring

Carbene Addition : Conserves Stereochemistry :  
Simmons Smith



10.

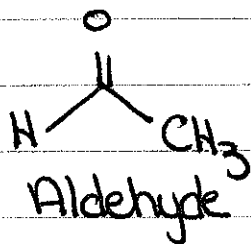
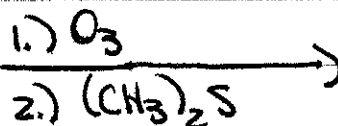
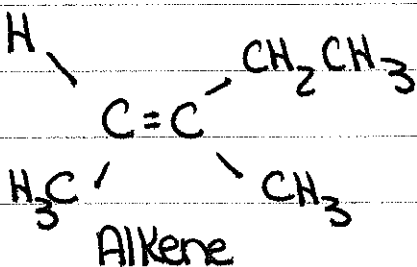


Alkene

1,2-Diol

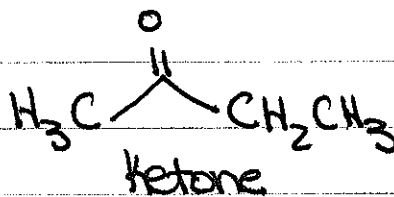
Oxidation: Sym Addition: Hydroxylation

11.

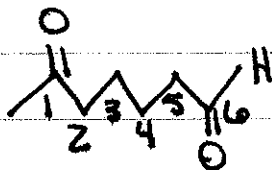
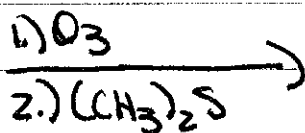
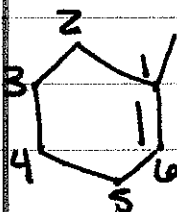


Aldehyde

+

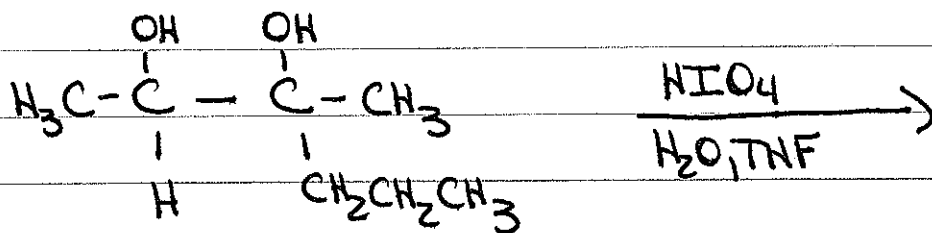


Ketone

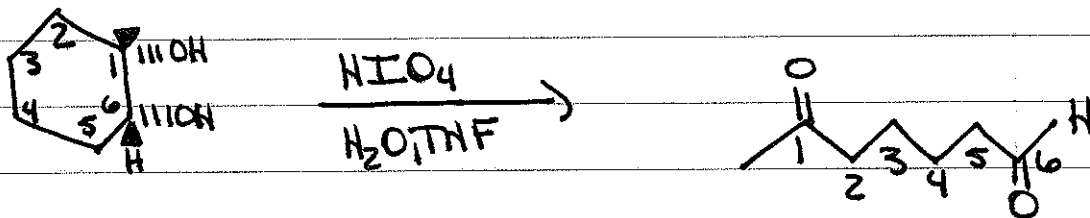
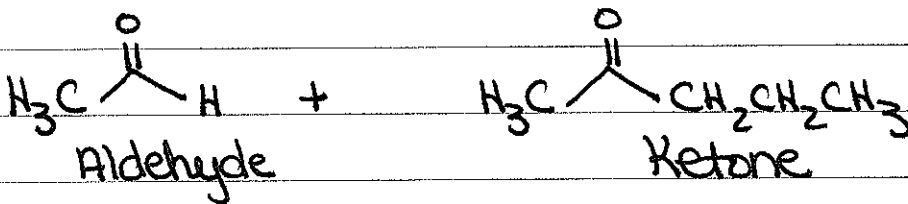


Oxidation: Cleavage: Ozonolysis

(12.)



1,2-Diol



Oxidation: Cleavage: Cleavage of 1,2-Diols