Name	Type	Reagents, Catalysts, Solvents, Special Conditions	Product(s)	Regiochemistry	Stereochemistry	Other
7. Oxymercuration/Demercuration	Electrophilic Addition (add HOH)	1. $Hg(OAc)_2/H_2O$ 2. $NaBH_4/NaOH$	Alcohol	Markovnikov	anti-addition	1. electrophile = $HgOAc^+$ 2. intermediate = mercurinium ion 3. preferred method of Markovnikov hydration
8. Hydroboration/Oxidation	Electrophilic Addition (add HOH)	1. BH_3/THF 2. $H_2O_2/NaOH$	Alcohol	anti-Markovnikov	syn-addition	1. electrophile = BH_3 2. four-centered T. S. to alkylborane in first step
9. Alkene + Peroxyacid	Electrophilic Addition + Oxidation (add -O-)	RCO_3H (peroxyacid), usually MCPBA (meta-chloroperoxybenzoic acid)	Oxacyclopropane	Markovnikov (when followed by H^+/H_2O to form vicinal anti-diol)	anti-addition (when followed by H^+/H_2O to form vicinal anti-diol) -O- is added syn	frequently followed by H^+/H_2O to form vicinal anti-diol
10. Alkene + $KMnO_4$/cold	Addition + Oxydation (add OH's on both carbons of double bond)	$KMnO_4$/cold or OsO_4/pyridine	Vicinal Syn-diol	N/A	syn-addition	
11. Ozonolysis	Addition + Cleavage + Oxidation (add oxygens)	1. O_3 2. H_2/Pt or Zn or $(CH_3)_2S$	Carbonyl Compounds: aldehyde(s) and/or ketone(s)	N/A	N/A	if you use $NaBH_4$ instead of H_2/Pt you get alcohols instead of carbonyl compounds