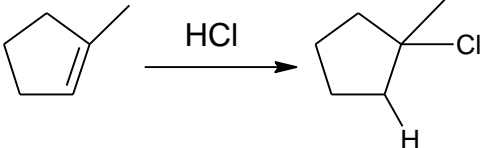
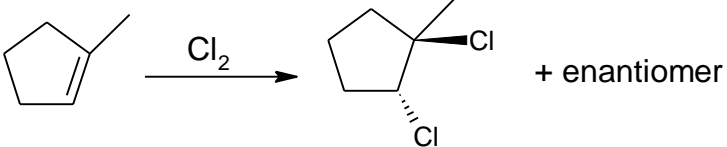
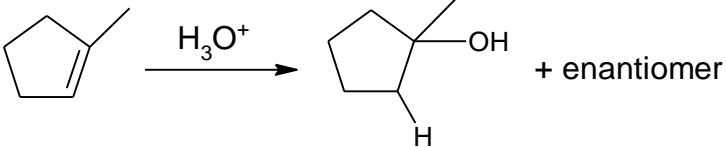
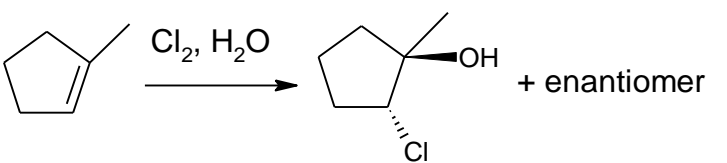
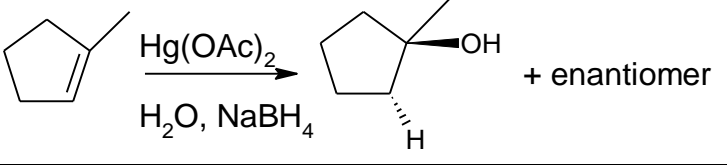
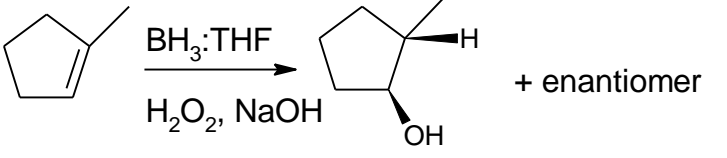
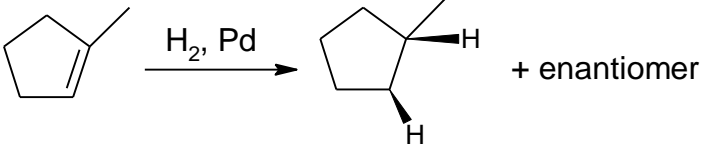
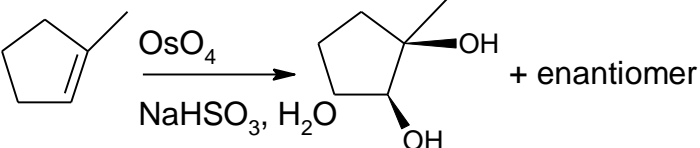
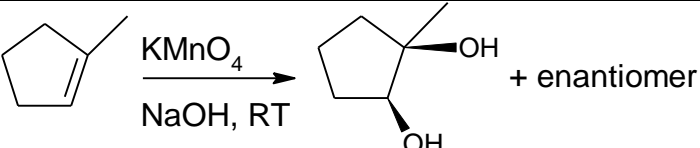
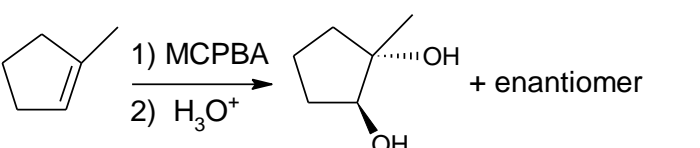
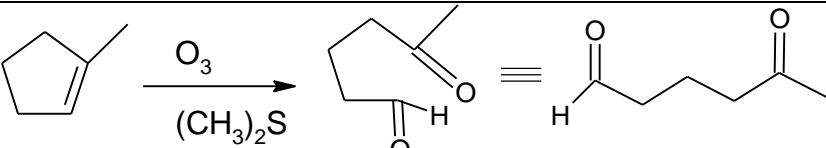
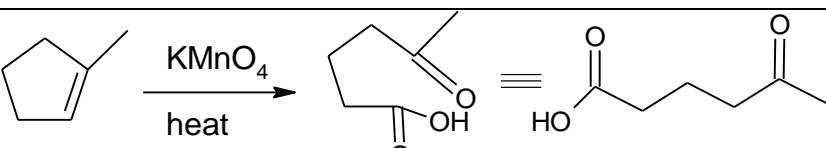
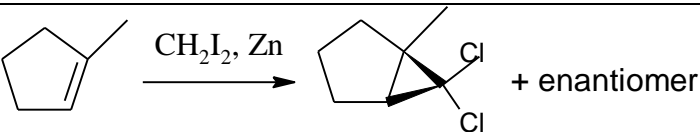


Alkene Reactions

Addition	Reagents	Reaction	Characteristics
Hydrohalogenation	HX (HCl, HBr)		Markovnikov's product Carbocation mechanism Rearrangement possible
Halogenation	X_2 (Cl_2 , Br_2)		Anti addition
Hydration	H_3O^+		Markovnikov's product Carbocation mechanism Rearrangement possible
Halohydrin formation	X_2 , H_2O (Cl_2 , Br_2)		Anti addition
Oxymercuration	$Hg(OAc)_2$, $NaBH_4$		Markovnikov's product No rearrangement possible
Hydroboration	BH_3 :THF, H_2O_2 , $NaOH$		Anti-Markovnikov's product Syn addition
Reduction	H_2 , Pd (or Ni or Pt)		Syn addition

Oxidation	Reagents	Reaction	Characteristics
Diol Synthesis	OsO ₄ , NaHSO ₃ , H ₂ O		Syn addition
Diol Synthesis	KMnO ₄ (cold)		Syn addition
Diol Synthesis	MCPBA followed by acid hydrolysis		Anti addition
Oxidative Cleavage: Ozonolysis	O ₃		Unsubstituted alkene carbon gives aldehyde; substituted alkene gives ketone
Oxidative Cleavage	KMnO ₄ (hot)		Unsubstituted alkene carbon gives acid; substituted alkene gives ketone; terminal alkene gives CO ₂
Carbene Addition			
	CH ₂ I ₂ , Zn		Simmons-Smith reaction Gives cyclopropane ring
	CHCl ₃ , KOH	