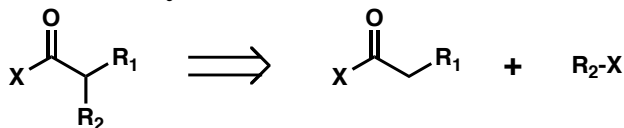


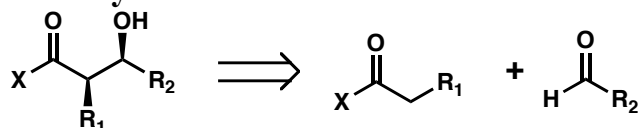
CHEM 6352 Organic Reactions & Synthesis

Simple Retrons

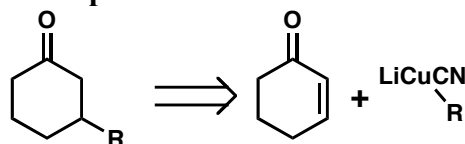
(A) α -Substituted Carbonyls: Enolate Alkylation



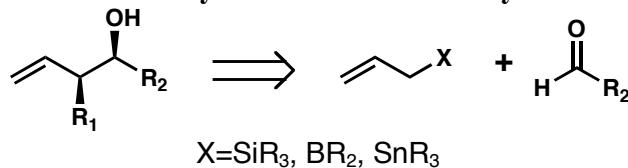
(B) β -Hydroxy Carbonyls: Enolate Aldol



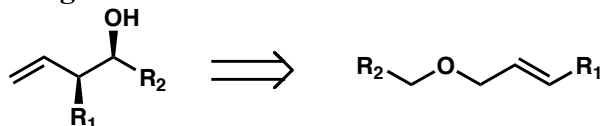
(C) β -Alkyl Carbonyls: Cuprate Additions



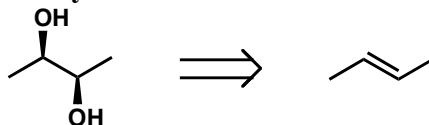
(D) Homoallylic Alcohol: Allyl Addition to Carbonyl



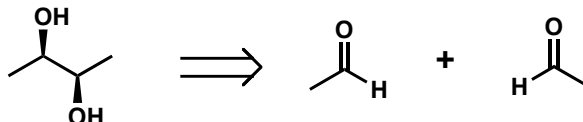
[2,3] Wittig Reaction



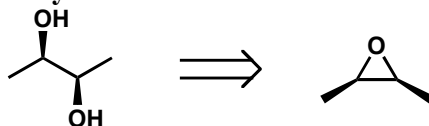
(E) 1,2-Diol: Olefin Dihydroxylation



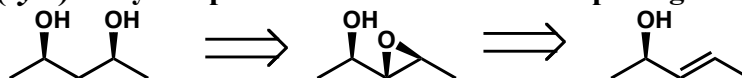
Pinacol Reaction



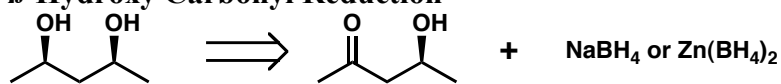
Epoxide Hydrolysis



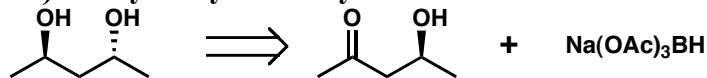
(F) 1,3-Diol (*syn*): Allylic Epoxidation and Reductive Opening



β -Hydroxy Carbonyl Reduction



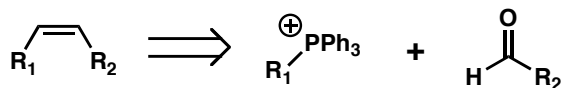
1,3-Diol (*anti*): β -Hydroxy Carbonyl Reduction



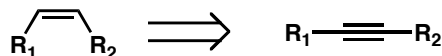
(G) *cis*-Olefins:



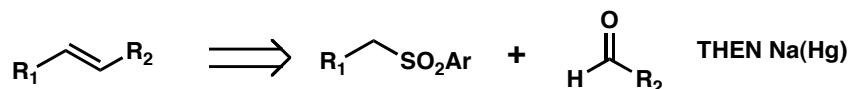
Wittig Olefination



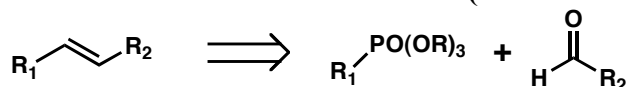
Lindlar Reduction



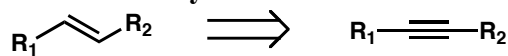
***trans*-Olefins: Julia Olefination**



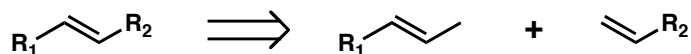
Horner Wadsworth Emmons Reaction (R₁ is stabilizing/EWG)



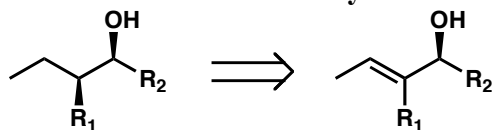
Birch Reduction of Alkynes



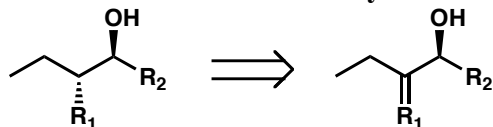
Grubbs Olefin Metathesis



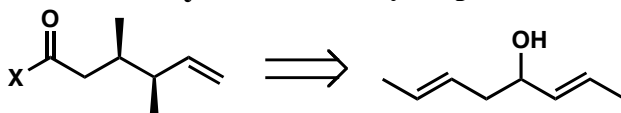
(H) *syn*-2-Substituted Alcohols: Directed Allylic Reduction



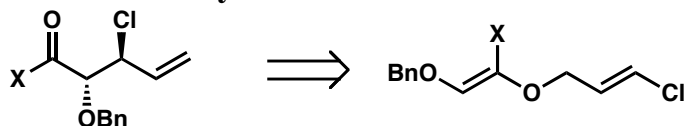
***trans*-2-Substituted Alcohols: Directed Allylic Reduction**



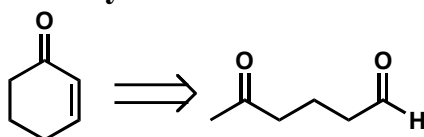
(I) δ,ϵ -Unsaturated Carbonyl: Anionic Oxy-Cope



(J) γ,δ -Unsaturated Carbonyl: Claisen Reaction



(K) α,β -Unsaturated Carbonyl: Aldol Condensation



(L) Cyclohexene: Diels-Alder Reaction

