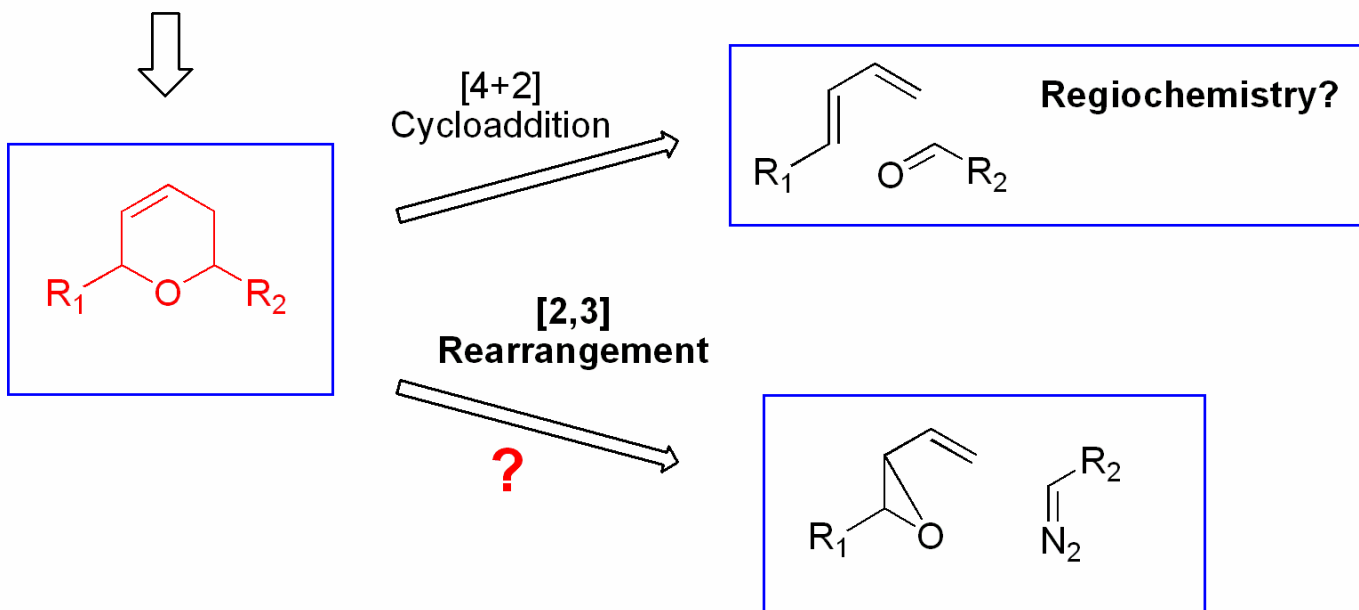
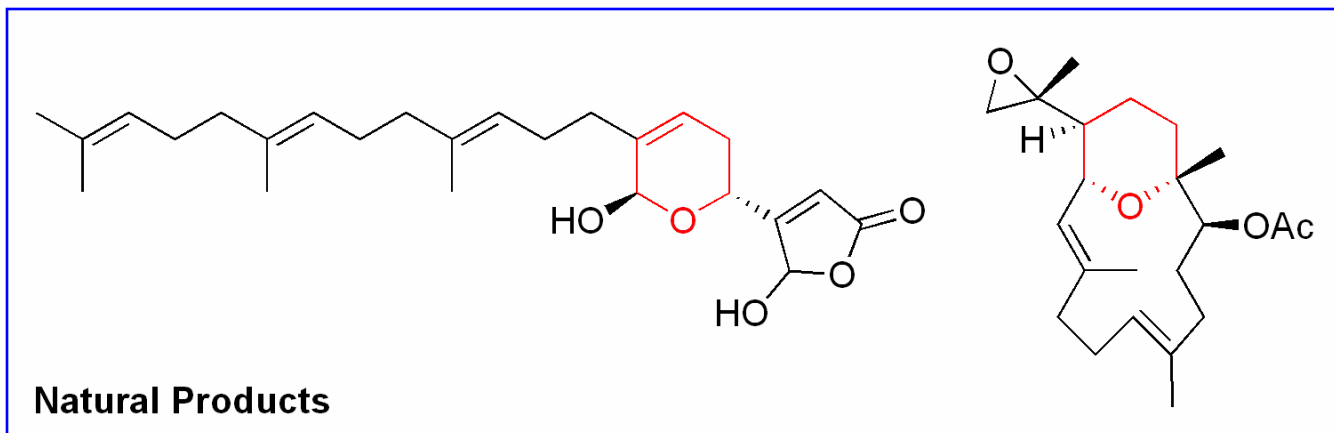
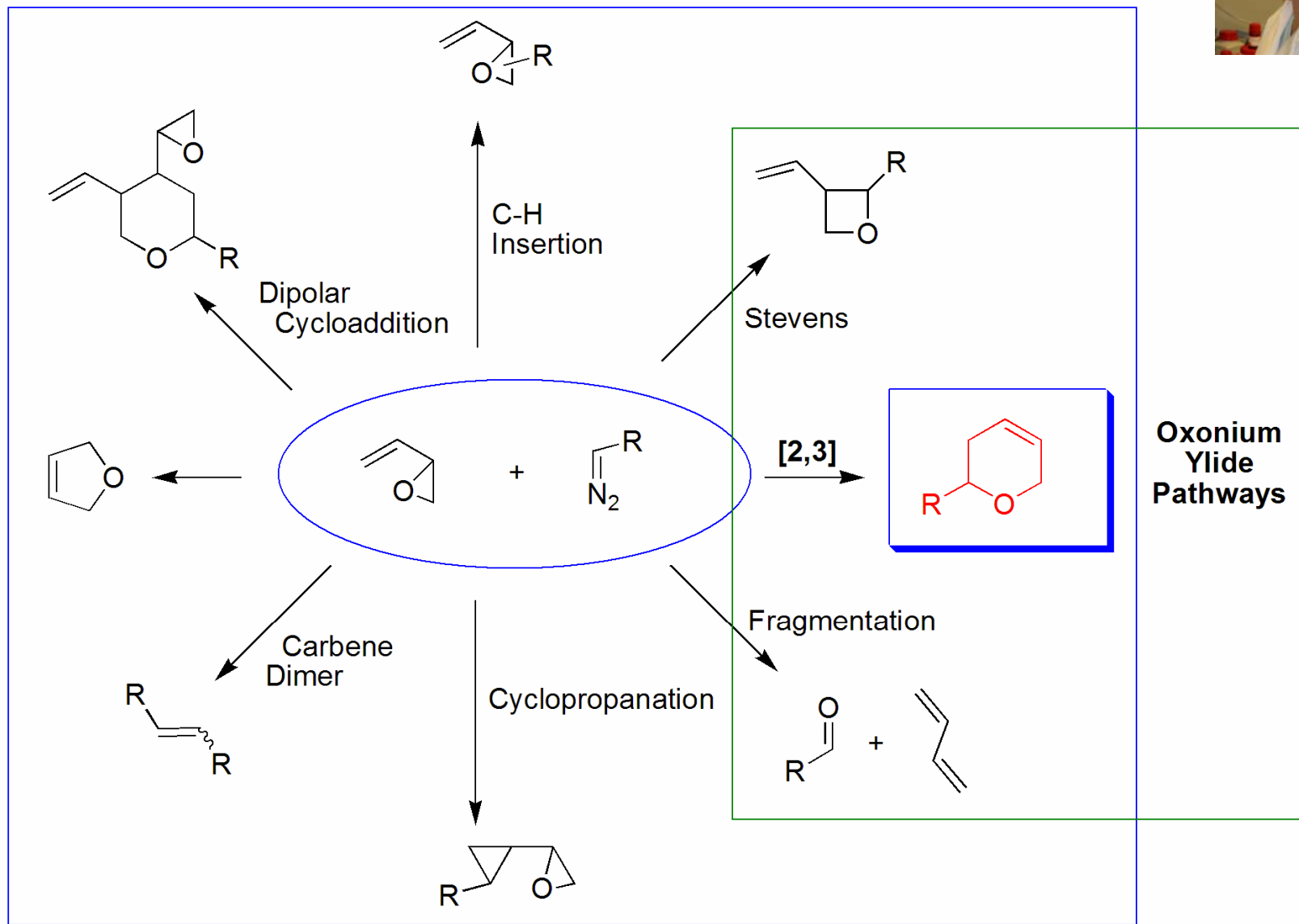


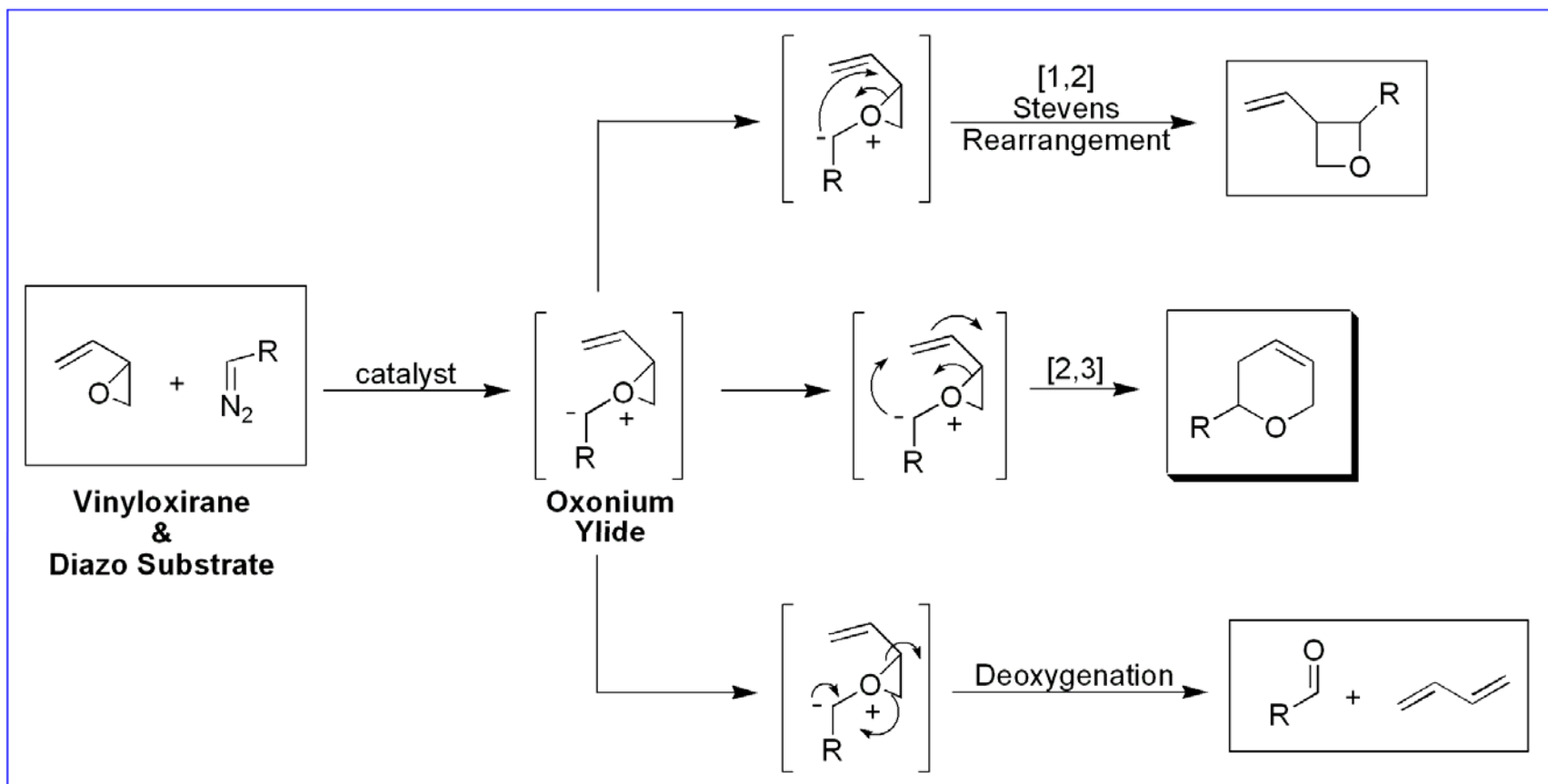
Blueprint One.....Initial Inspiration



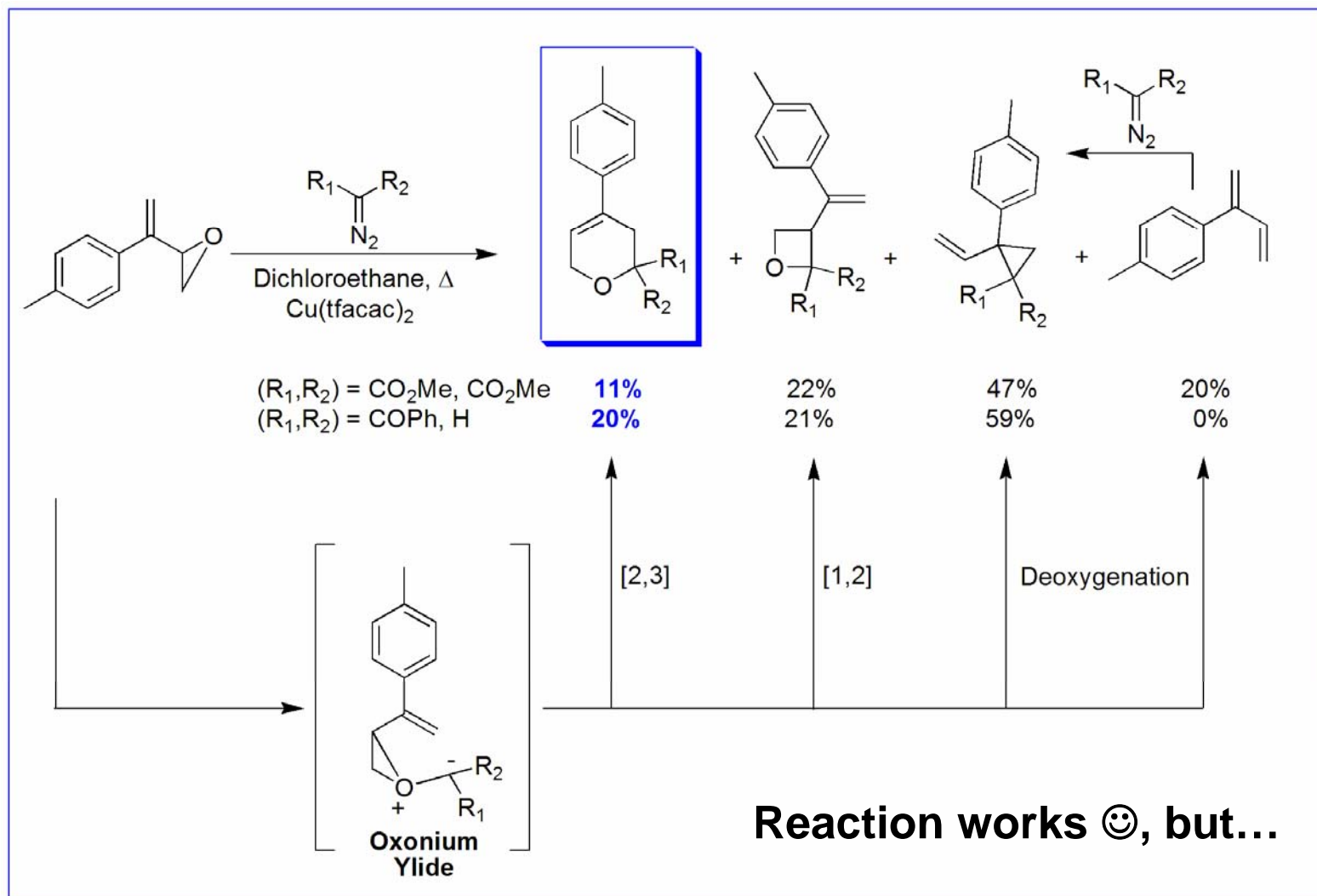
What Can Go Wrong.....



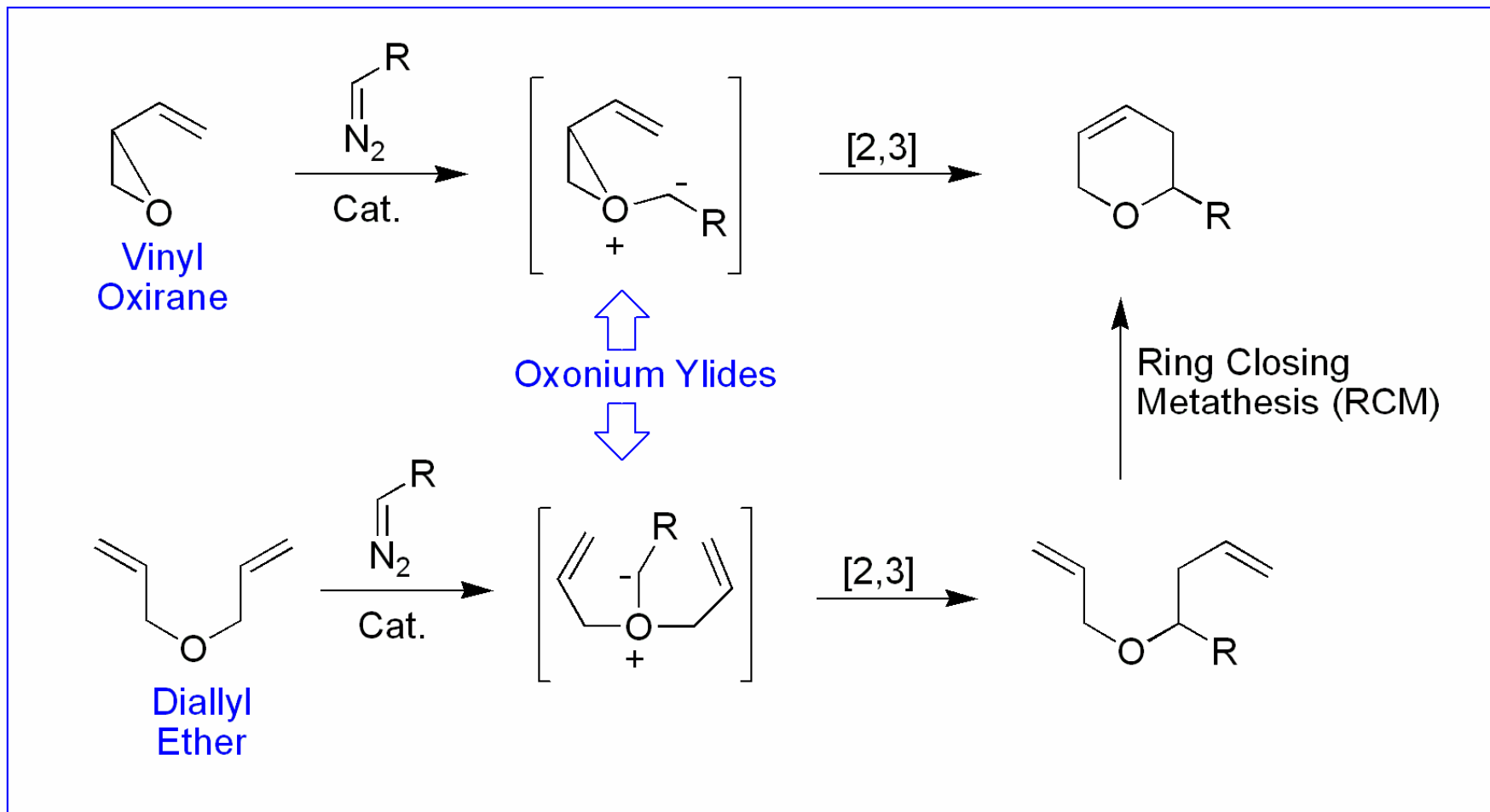
Competing Oxonium Ylide Pathways.....



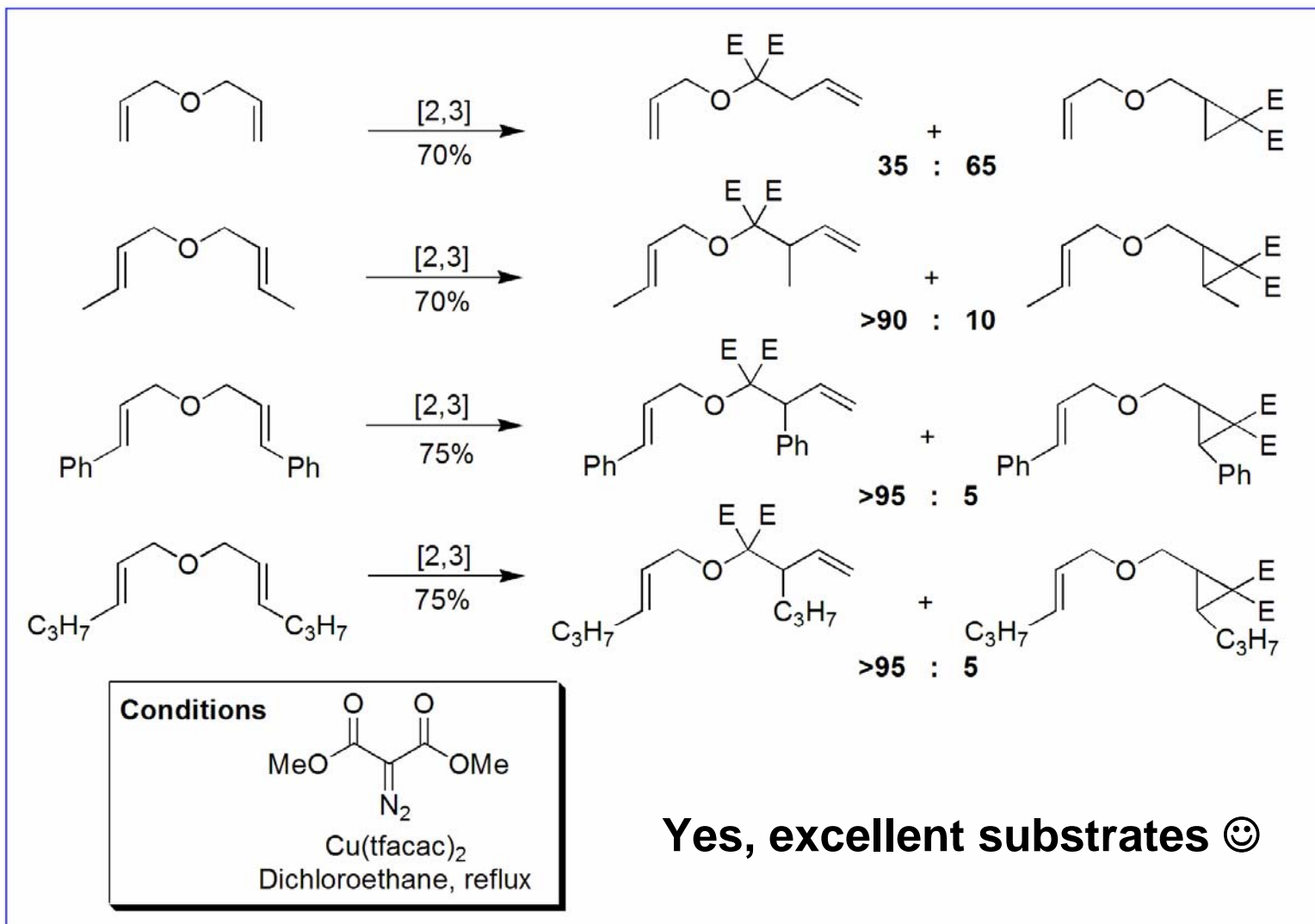
Vinyl Oxirane Studies.....



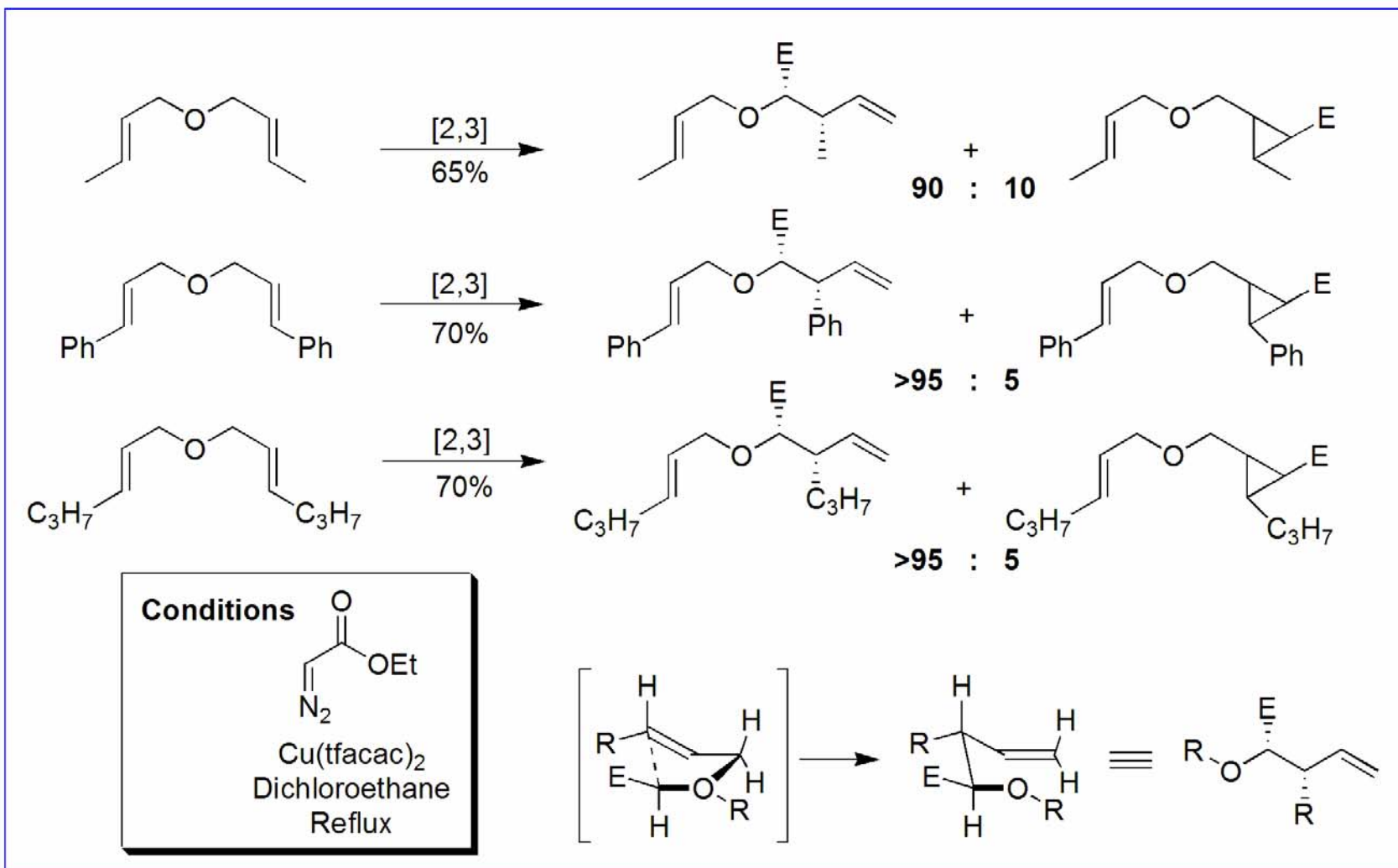
Oxonium Ylides of Diallyl Ethers.....



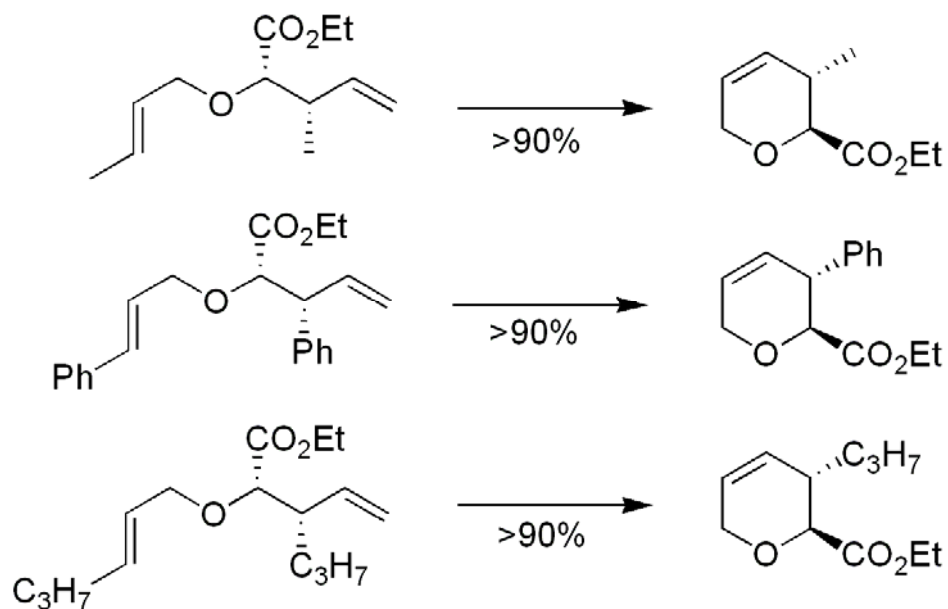
Are Diallyl Ethers Good Substrates?.....



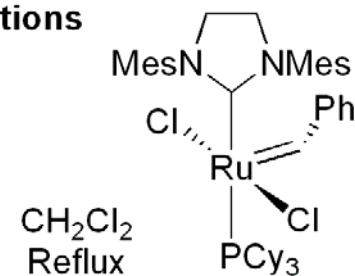
Do Other Diazo Compounds Work as Well?



Ring Closing Metathesis (RCM).....

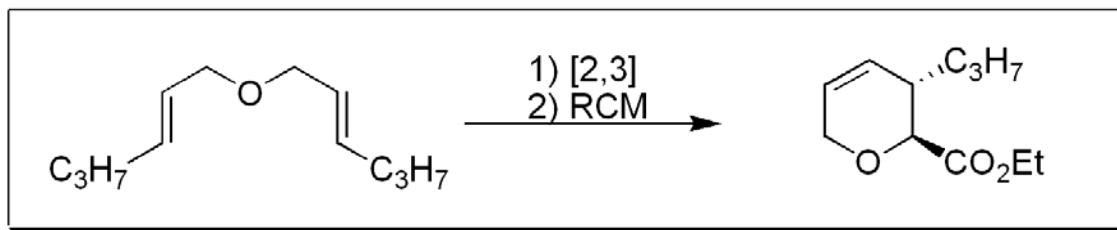


Conditions

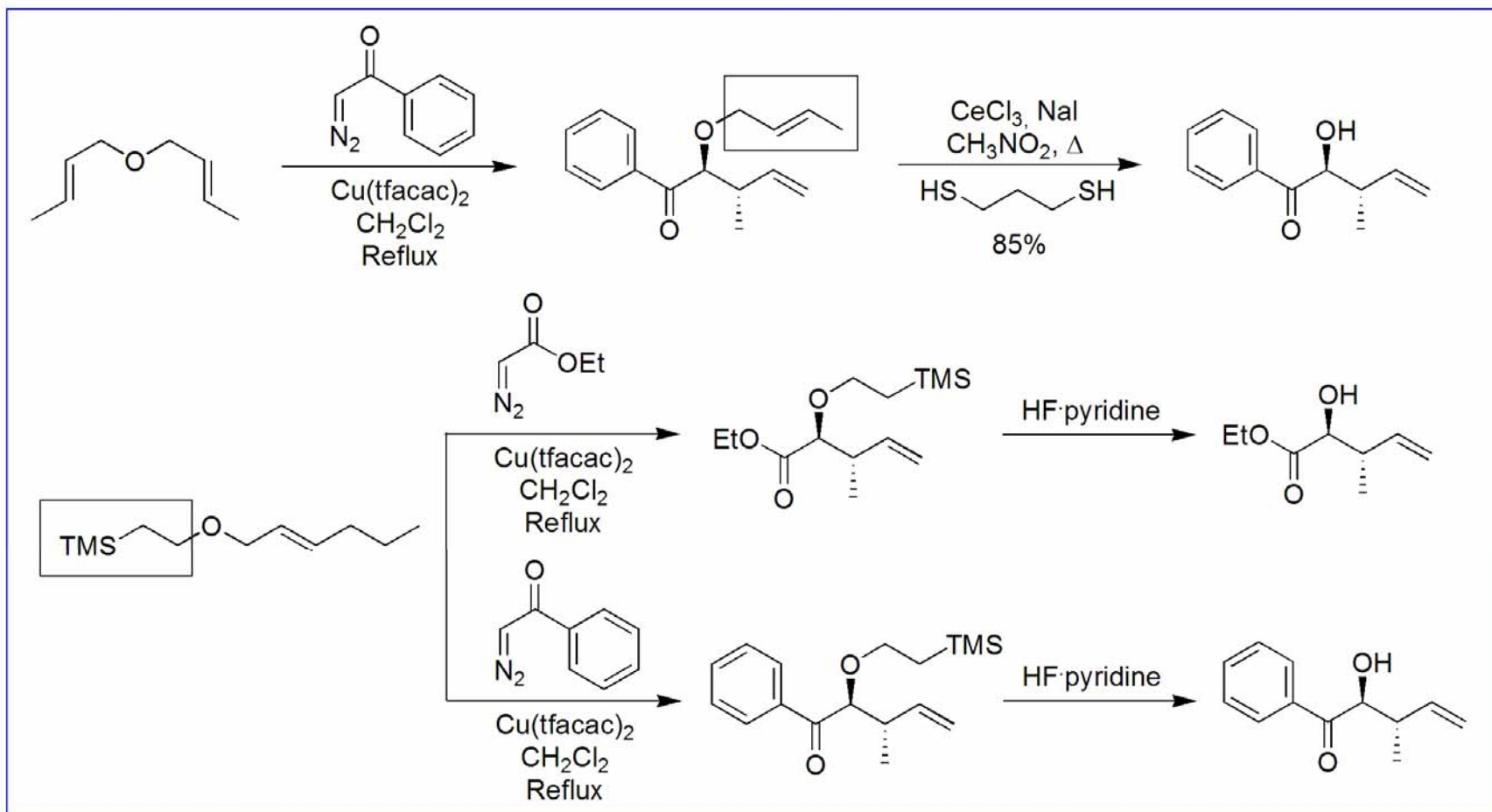


Grubb's 2nd generation catalyst

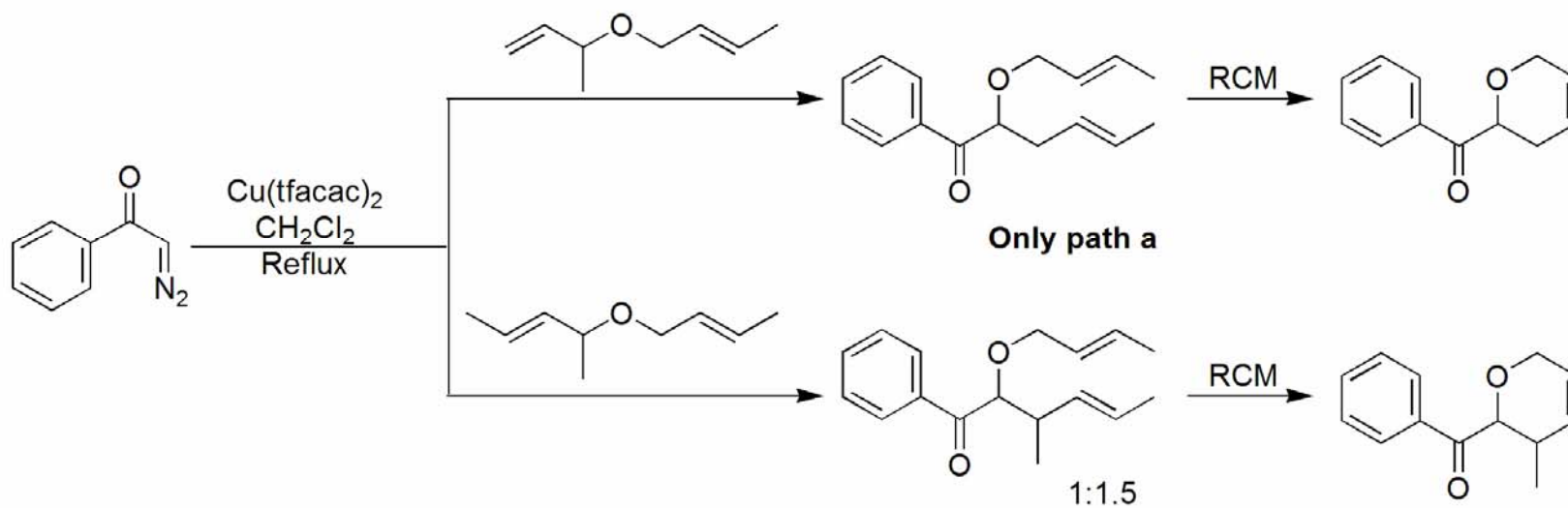
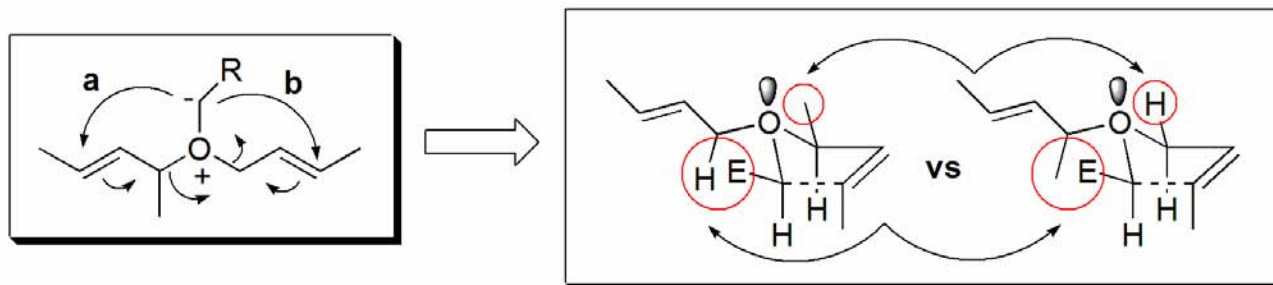
One Pot....



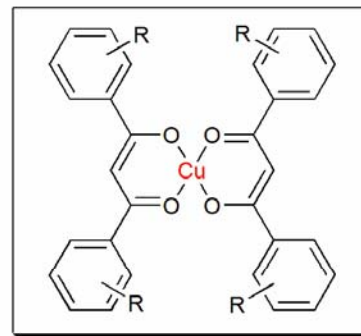
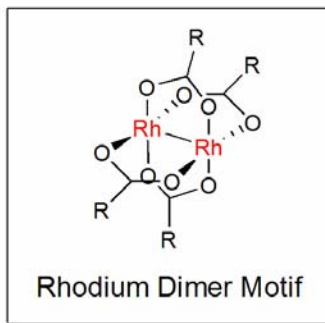
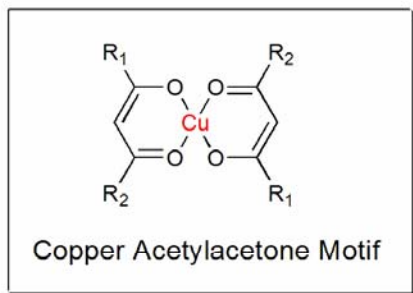
Deprotection....(anti aldol equivalents)



Steric effects.....



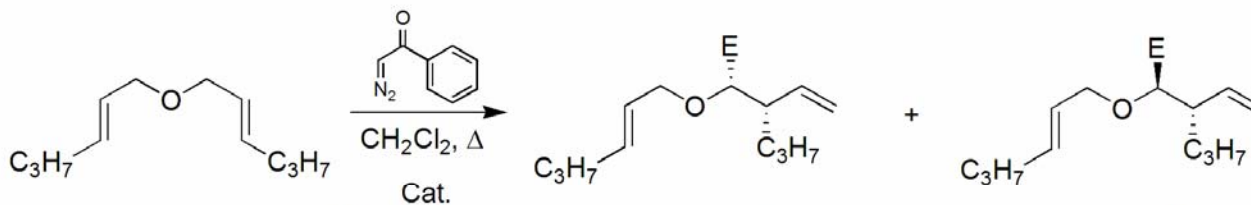
Catalyst effects.....



- R₁, R₂ = H: Cu(acac)₂
- R₁ = H, R₂ = CF₃: Cu(tfacac)₂
- R₁, R₂ = CF₃: Cu(hfacac)₂
- R₁, R₂ = C₄H₉: Cu(tmhd)₂
- R₁ = C₃F₇, R₂ = C₄H₉: Cu(fod)₂

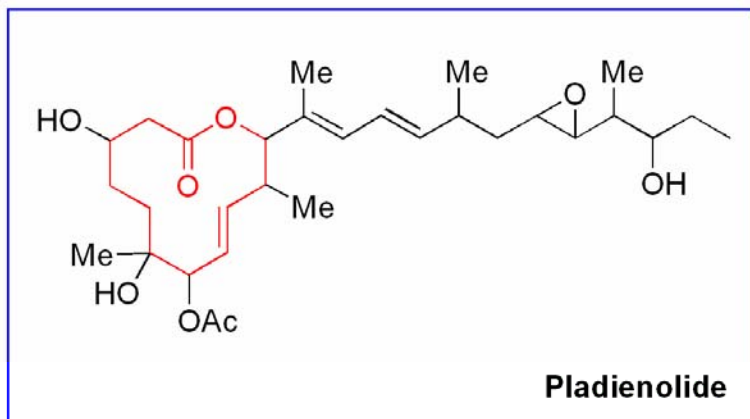
- R = CH₃: Rh₂(OAc)₄
- R = CF₃: Rh₂(tfa)₄
- R = C₆H₅: Rh₂(tpa)₄
- R = C₇H₁₅: Rh₂(oct)₄
- R = C₆H₁₁: Rh₂(hex)₄
- R = C₄H₉: Rh₂(tme)₄
- R = C₇H₁₇: Rh₂(oct)₄
- R = C₃F₇: Rh₂(hfb)₄

We are constructing a collection of FLUORO and TRIFLUORO substituted dibenzoylmethane copper dimers

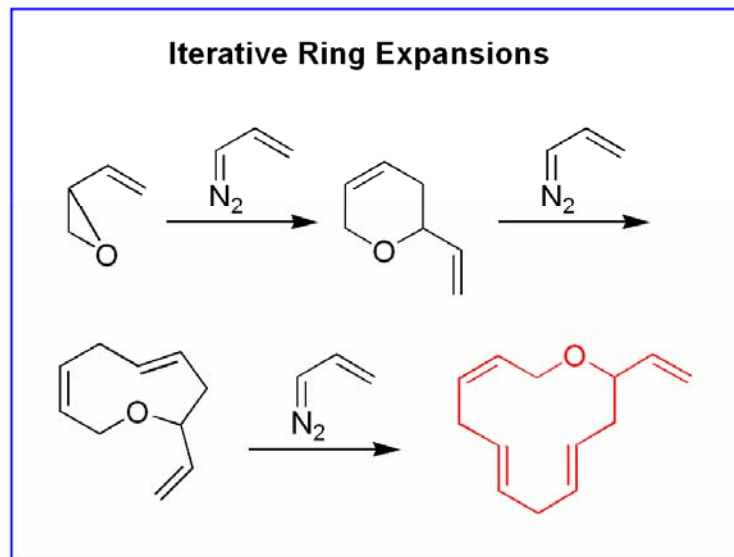


Cu(tfacac) ₂	5.3	:	1
Cu(hfacac) ₂	1.6	:	1
R = H	NO REACTION		
R = o-Fluoro	4.7	:	1
R = p-Fluoro	7.5	:	1
R = o-Trifluoro	7.2	:	1
R = p-Trifluoro	6.7	:	1

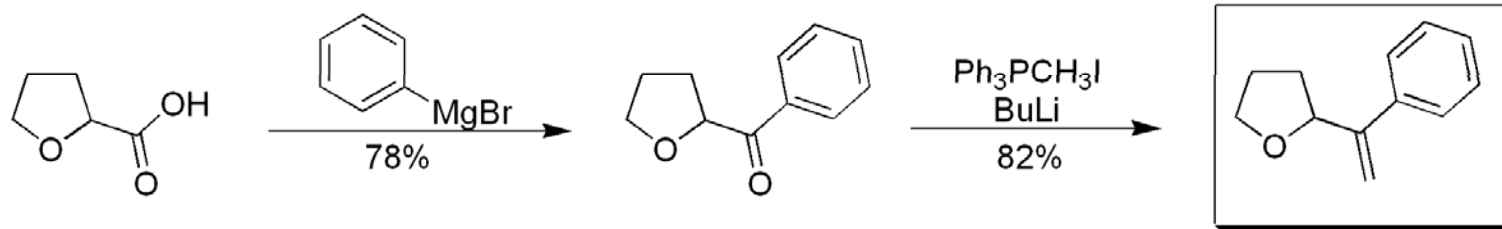
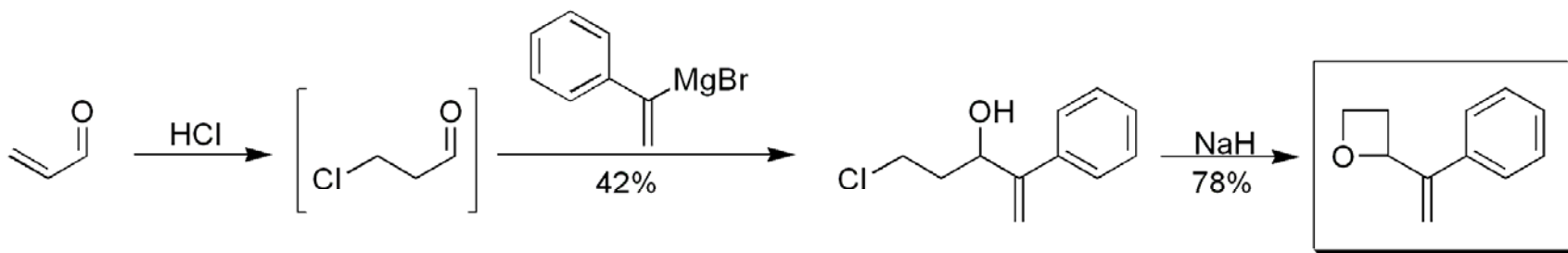
Blueprint Two.....More Ring Expansions



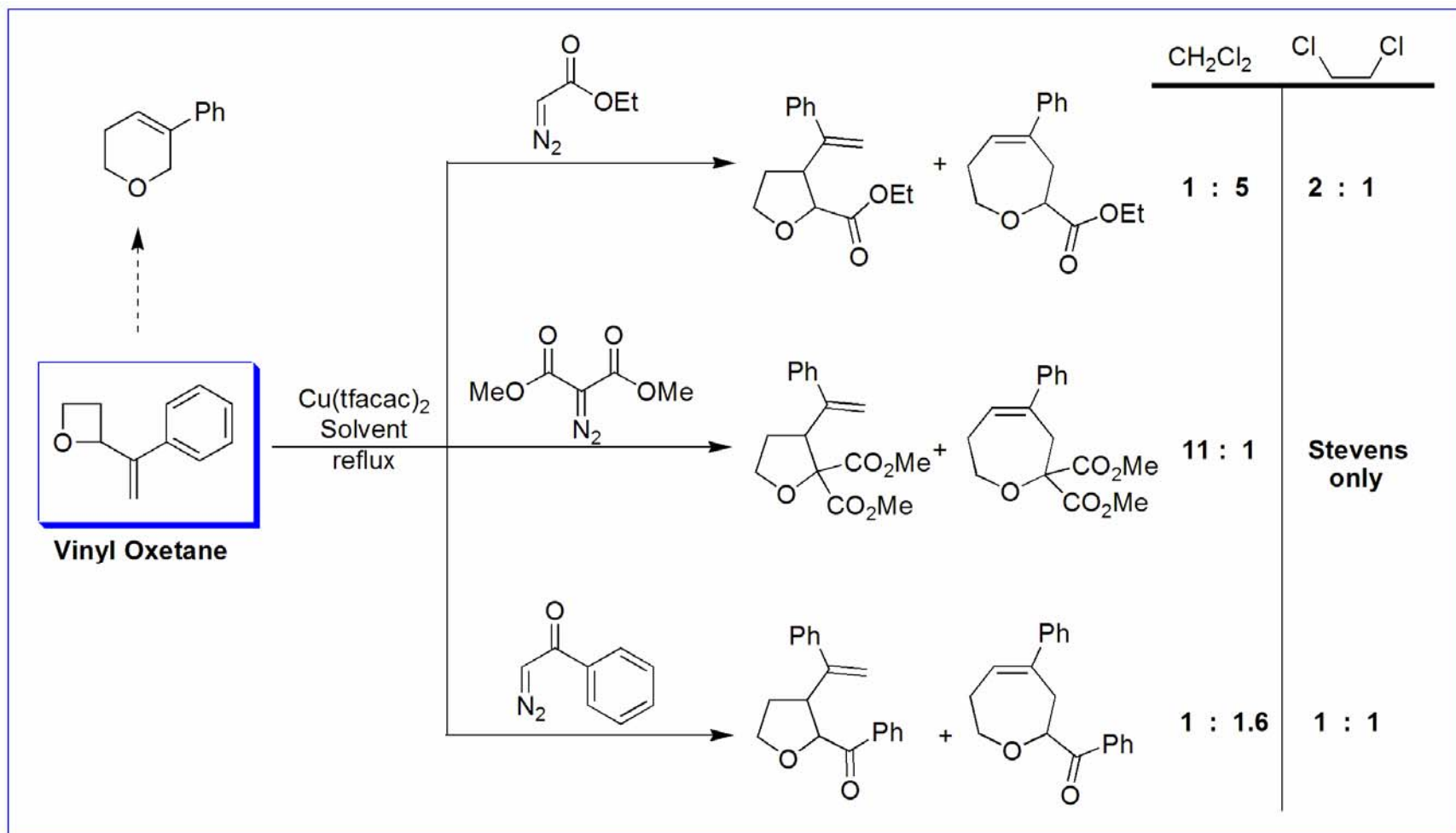
What about other ring sizes?



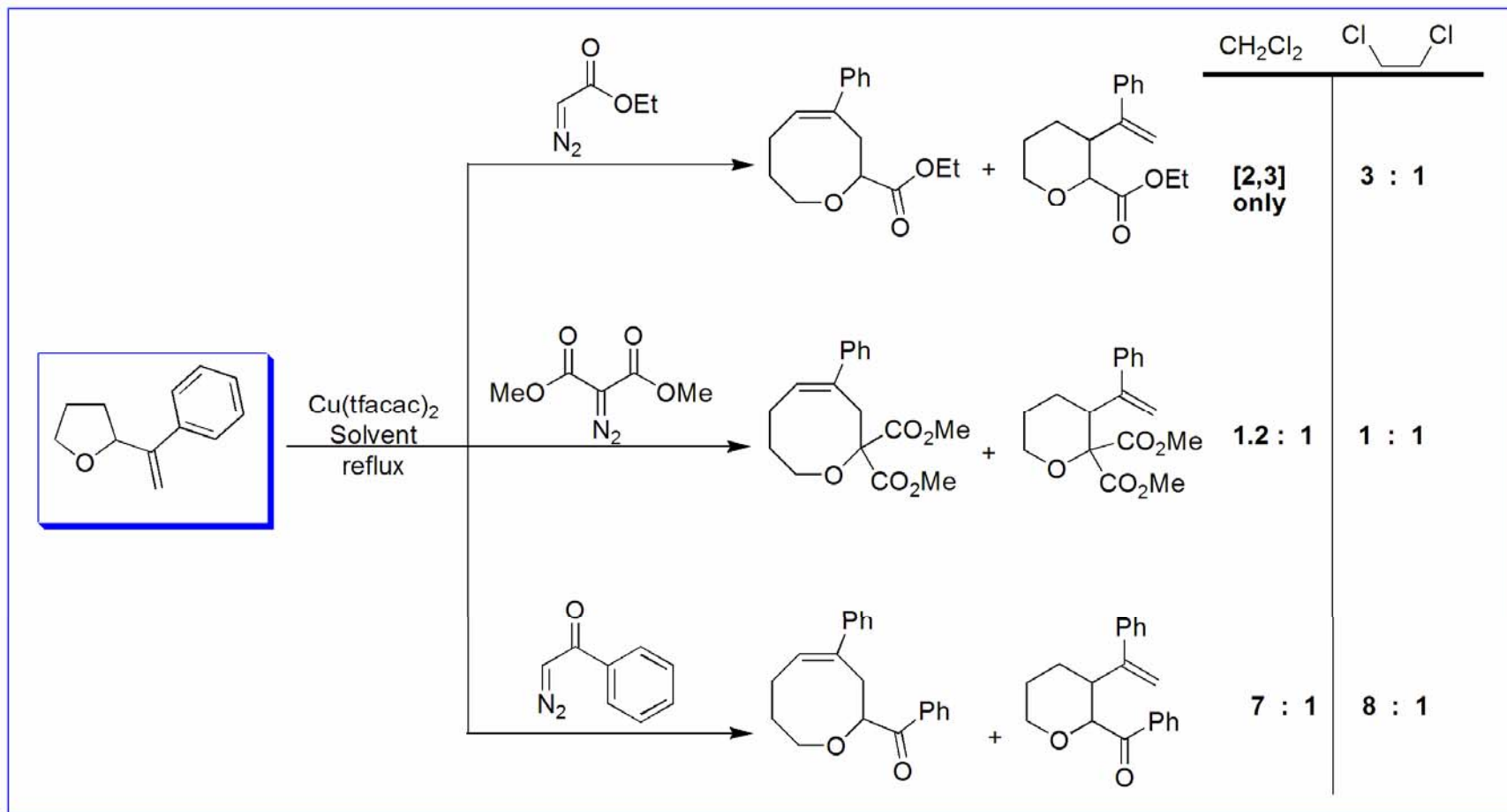
Synthesis of 4 and 5 Membered Rings



Vinyl Oxetane – Surprising Results...



Vinyl Tetrahydrofuran...



Alternative Oxepine Route...

