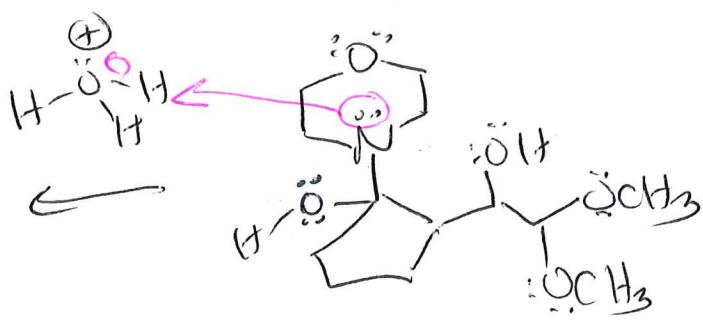
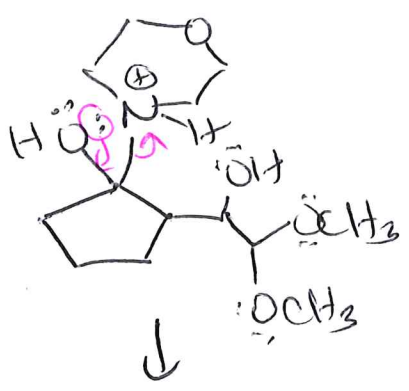
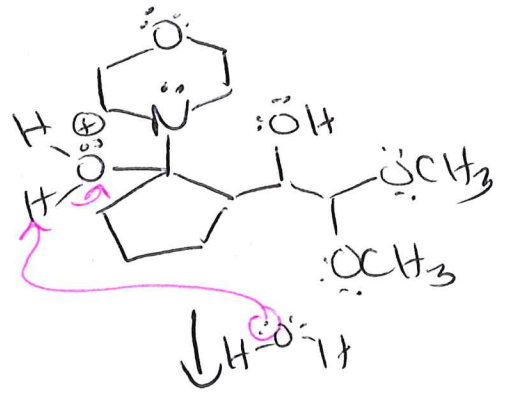
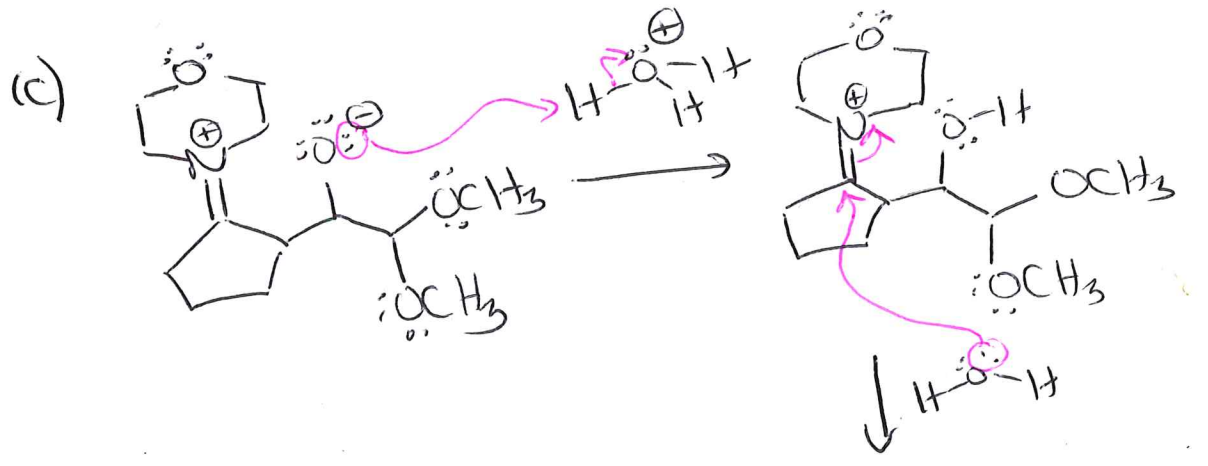
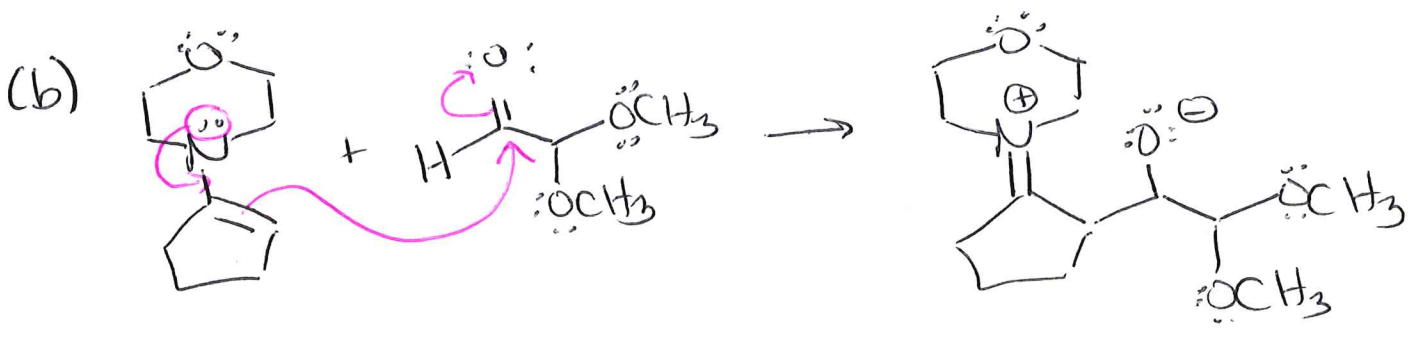
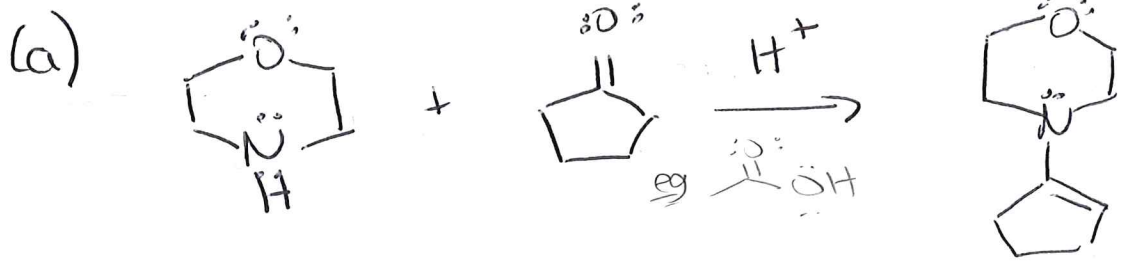
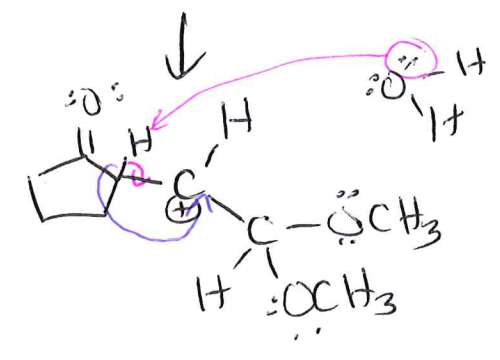
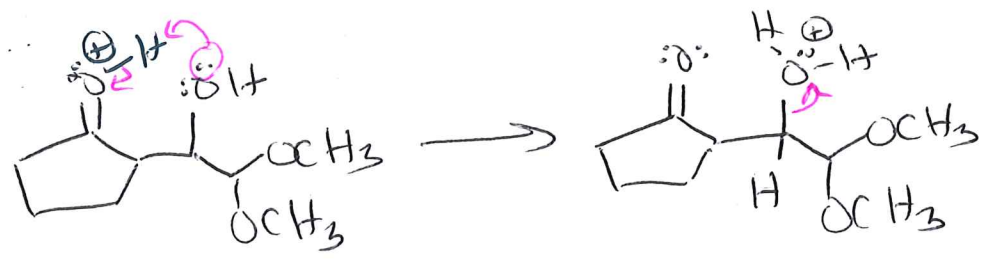
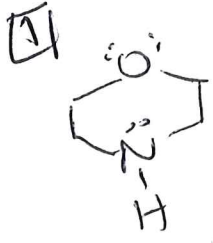
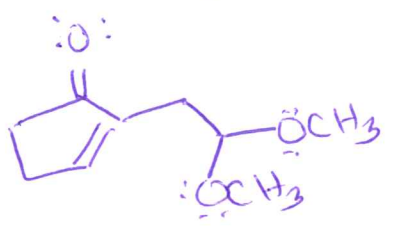
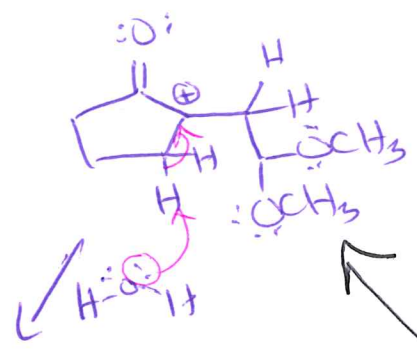
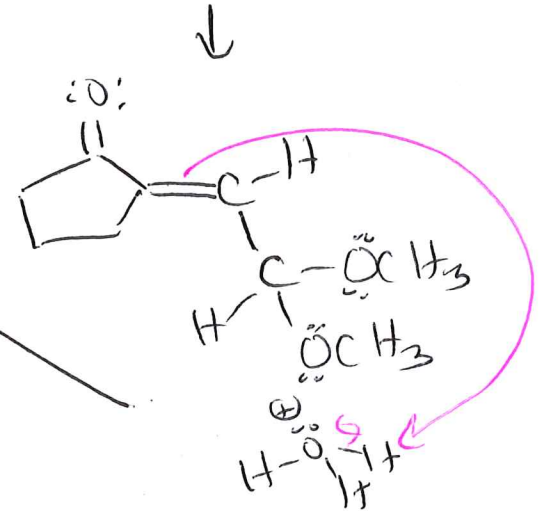


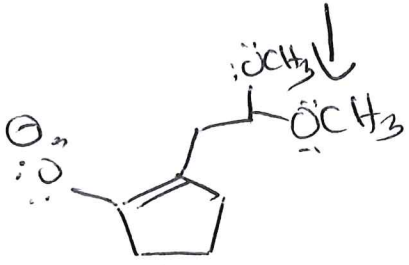
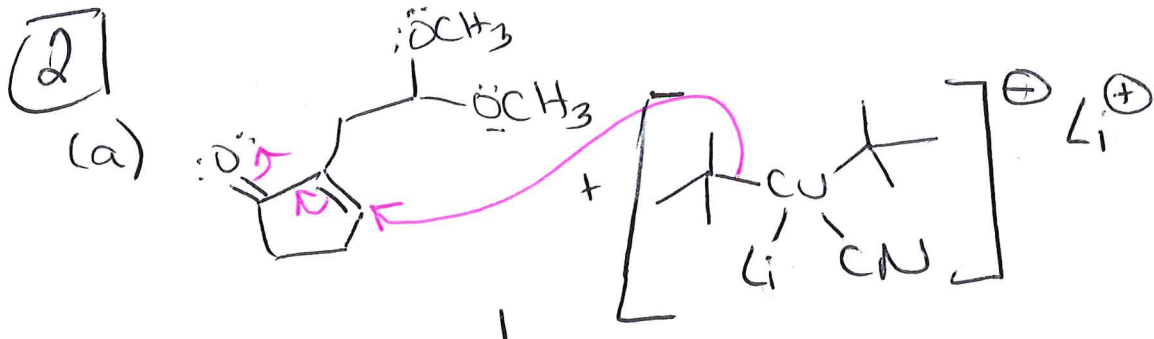
11





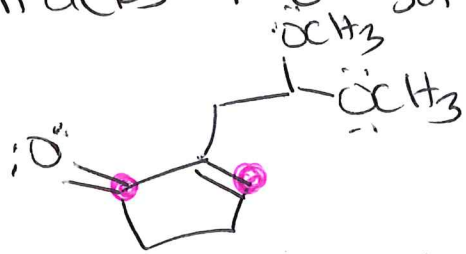
hydride shift.



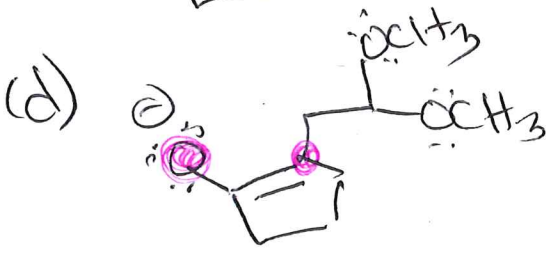
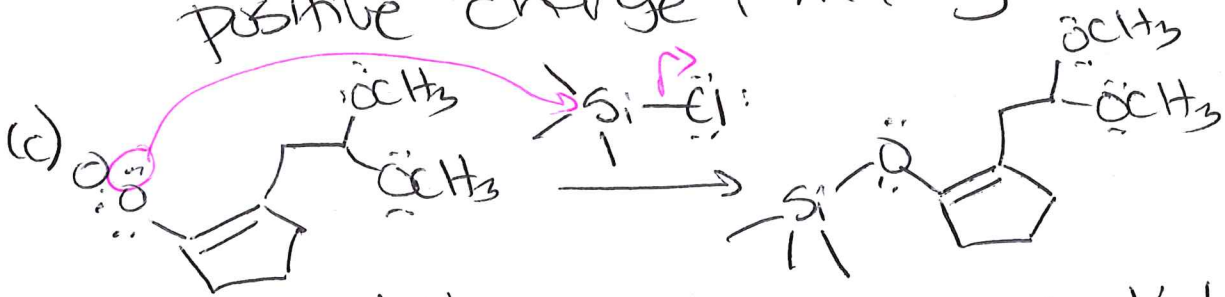


because Cu isn't much less electronegative than C

(b) $t\text{Bu}_2\text{Cu}(\text{CN})\text{Li}$ is a soft nucleophile, so it attacks the softer electrophilic site:



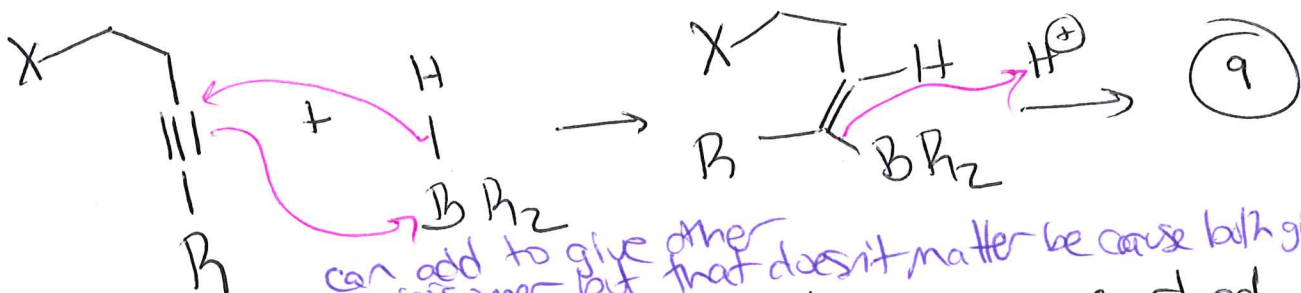
The two potential electrophilic sites are labeled w/ . The one farther from the oxygen atom experiences much weaker inductive effects from oxygen and therefore has a smaller partial positive charge, making it softer.



The two potential nucleophilic sites are labeled w/ . The oxygen has higher charge density (bearing more of the shared negative charge) so it is harder. Si is significantly δ^+ due to electronegativity difference w/ C

electronegativity difference w/ C so it is relatively hard electrophilic site.

(b)
(a)



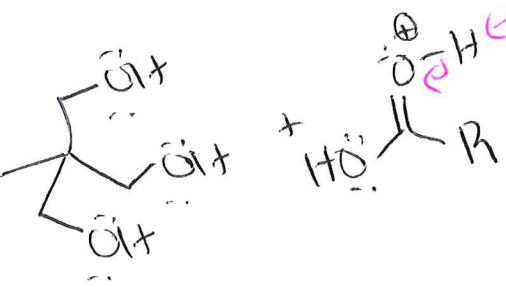
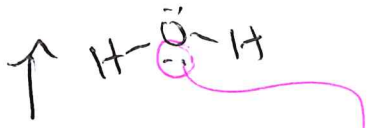
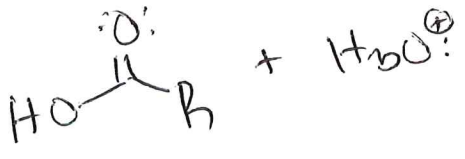
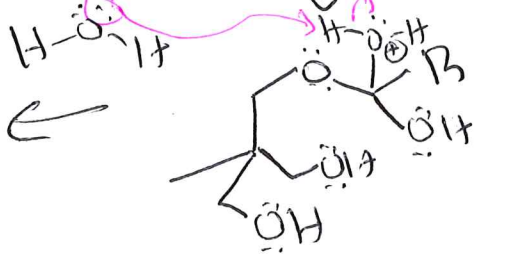
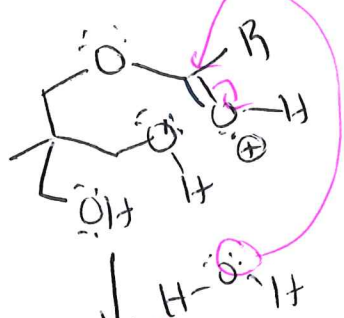
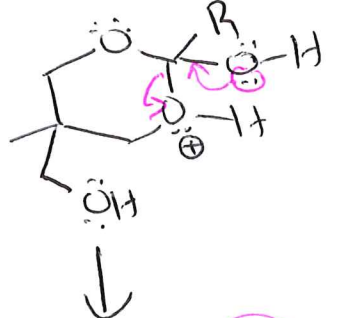
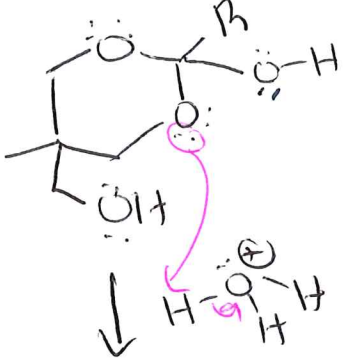
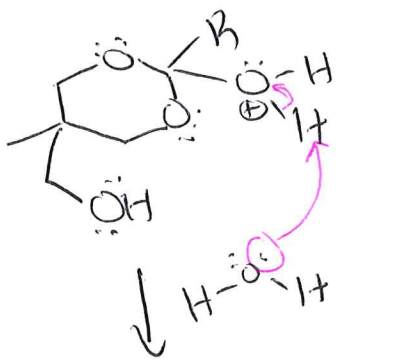
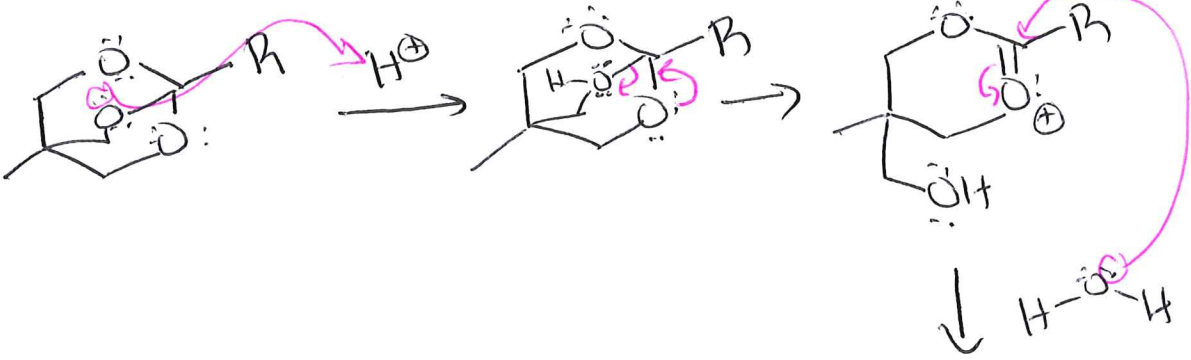
BH_2 and H are added in concerted fashion (ie in one step) across the π bond. As such, they have to add on the same side of the alkyne.

(b) There is no oxidizing agent. Instead, H^+ protonates C^{\ominus} .

(c) Hydrogenation with poisoned catalyst:



(b)



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