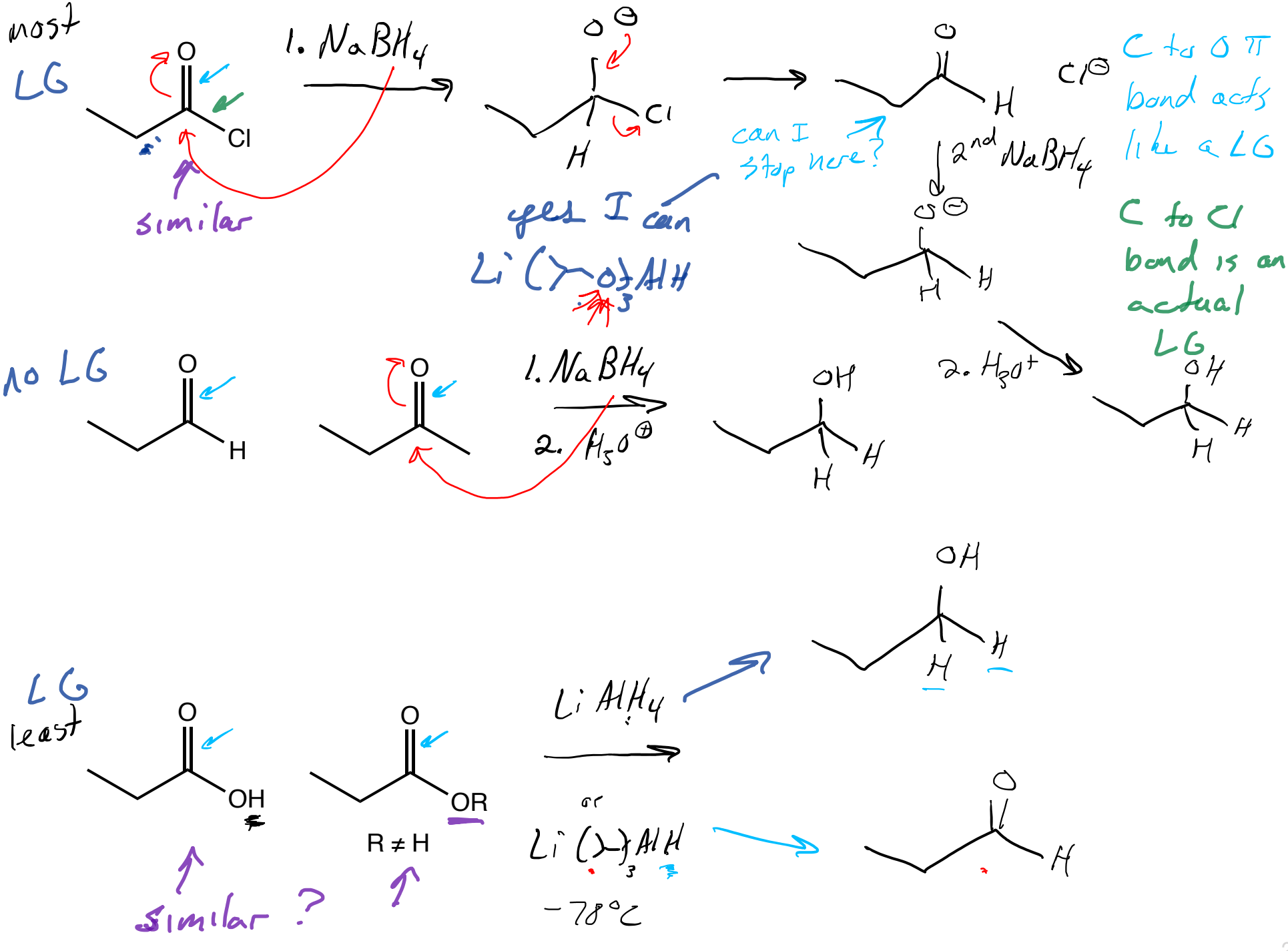
Today's office hours postponed until Thursday

17.1, 17.2, 17.3 on Wed

$H^{\ominus}$ $NaBH_4 \approx H^{\ominus}$ $LiAlH_4 \gtrsim H^{\ominus}$

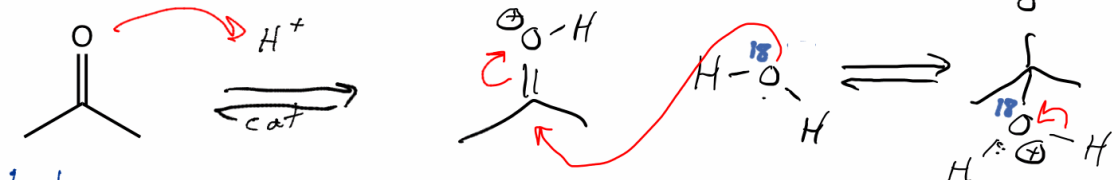
Reactions with "Hydride" ions – Comparison

Section 16.5



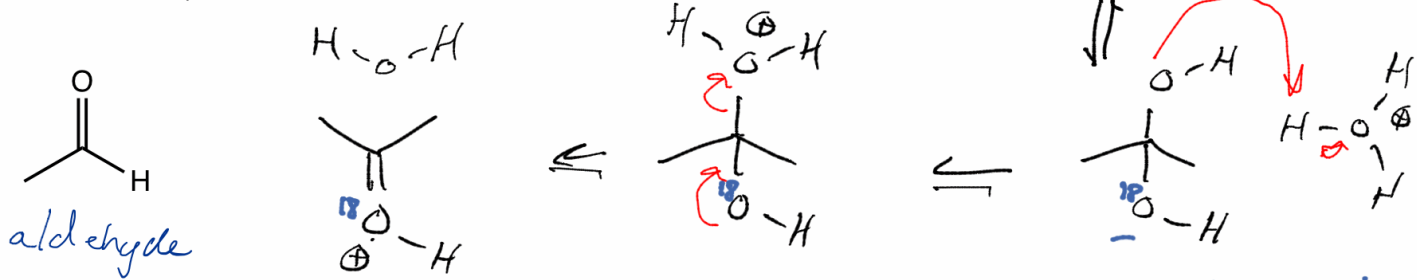
Reactions of aldehydes and ketones with HOH

Section 16.9

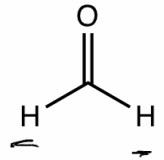


H+ on C=O makes C more electrophilic.

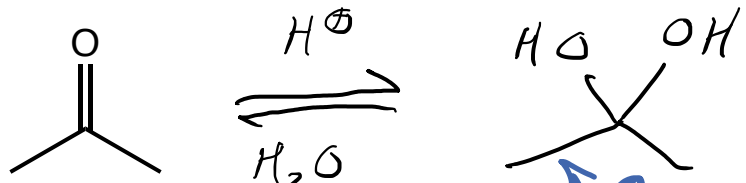
$10^{-7} = [H^+]$



a "hydrated" carbonyl gemdiol



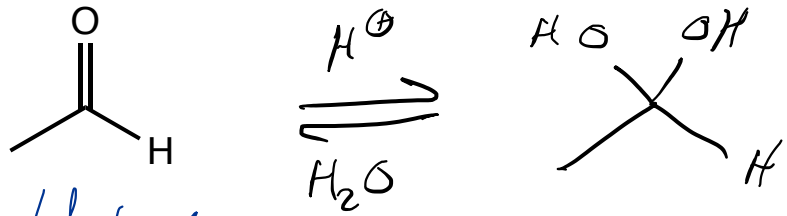
aldehyde = H attached to carbonyl (C=O) carbon
Ketone = C attached to carbonyl (C=O) carbon



ketone
99.8 %

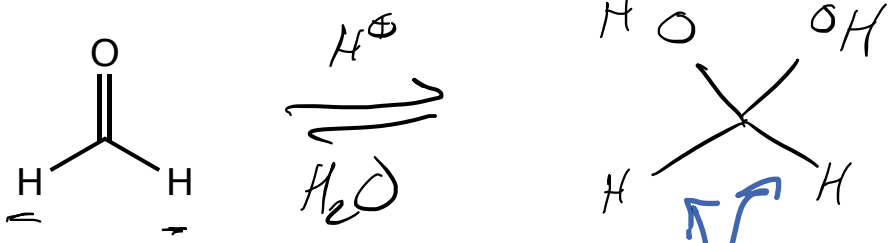
0.2 %

steric interactions between CH_3's
so harder to get 4 bonds



aldehyde
48 %

52 %

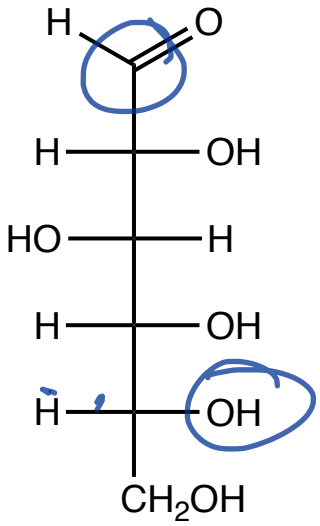


0.1 %

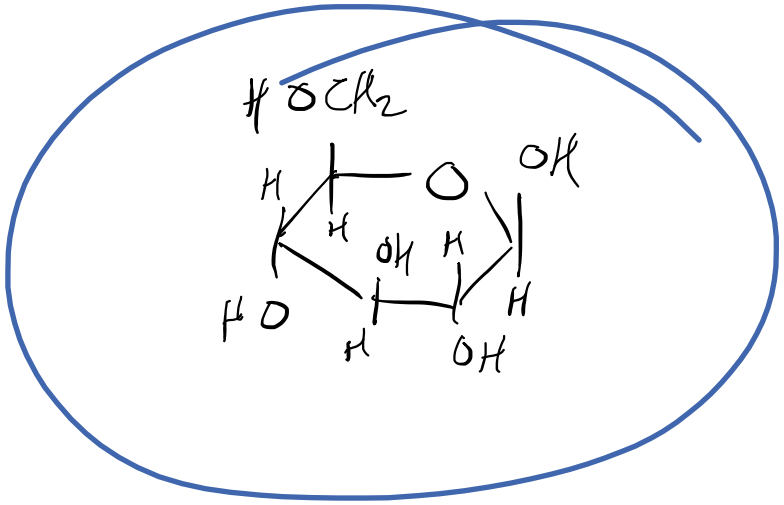
99.9 %

no steric interactions between H's
so easier to get 4 bonds

I'm a biologist, why should I care?



glucose



also glucose

.2

99.8