*CHEM 242 – Lecture 30 31/03/2014*

Overheads: - Outline

Recap Friday:

Addition of H- and Grignards





3) Addition of N Nucleophiles:

- 1° amines (R-NH2) add to ketones / aldehydes



Mechanism: another 6 easy steps!

- But no LG – so instead turn the O into a LG (eventually)

- R-NH2 good Nu- (stronger base than H2O) so do not need H+ catalyst

 - If remove H2O, eq’m shifts to right →

- if react imine with H2O, get reverse reaction ←





4) Addition of O Nucleophiles:

- seen addition of OH-

- can also be acid-catalyzed:



Addition of Alcohols (ROH)



Mechanism similar to hydrate, but in 2 “stages”



Full Mechanism: in 7 easy steps

* Add ROH (twice!)
* Remove H2O
* Transfer +H+ / -H+ / +H+ / -H+

