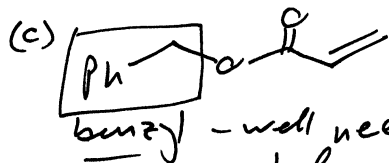




(a) what's the magic "D:⊖" source to do this in one step?

(b) just Et-NH₂



(d) iPrOH alone will do this

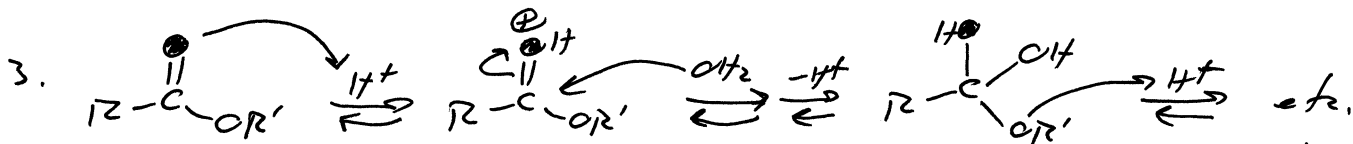
(e) what's the magic "Ph:⊖" source?

(f) use the same magic to make acetophenone, Ph-C(=O)CH3, then "iminize" in the usual way.

(g) looks like a job for excess Arignard (think lab)

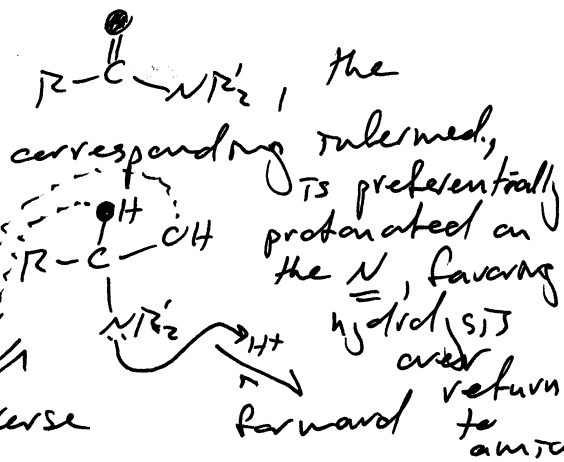
2. (a) amide hydrolysis. usual mech. Makes H3N+CH2CH2CH2COOH

(b) ester " " - usual mechs. Good practice. Enjoy.



(● = ¹⁸O)
 (○ = ¹⁶O)

with an amide,



this intermediate can return to ester by protonation of either -OH or -OH

- this is just as favorable as prot of -OR', so it should be able to go just as well in either direction.

RCO_2H with one O labelled (either one!) + R'OH we can show this as R-C(=O)OH