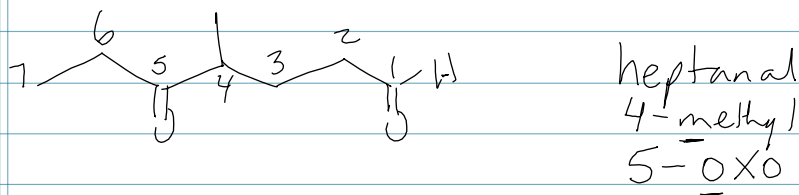
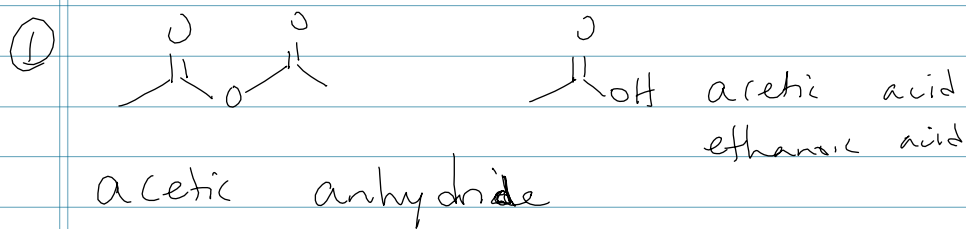
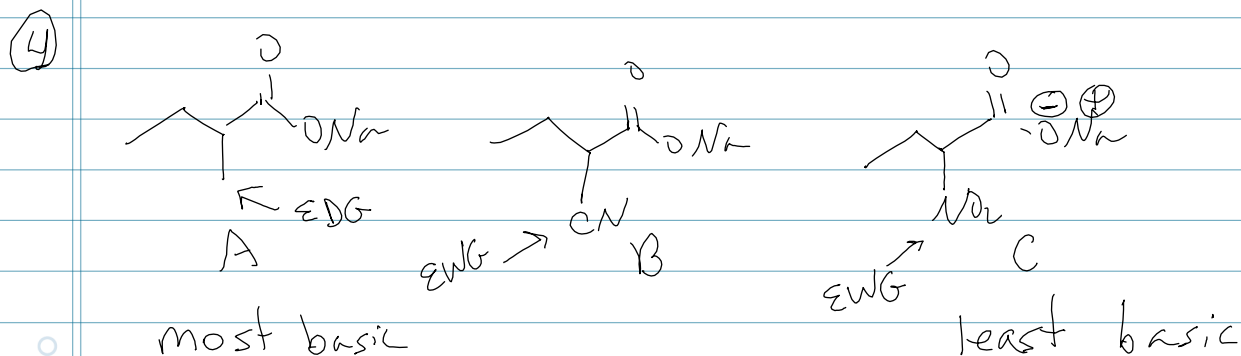
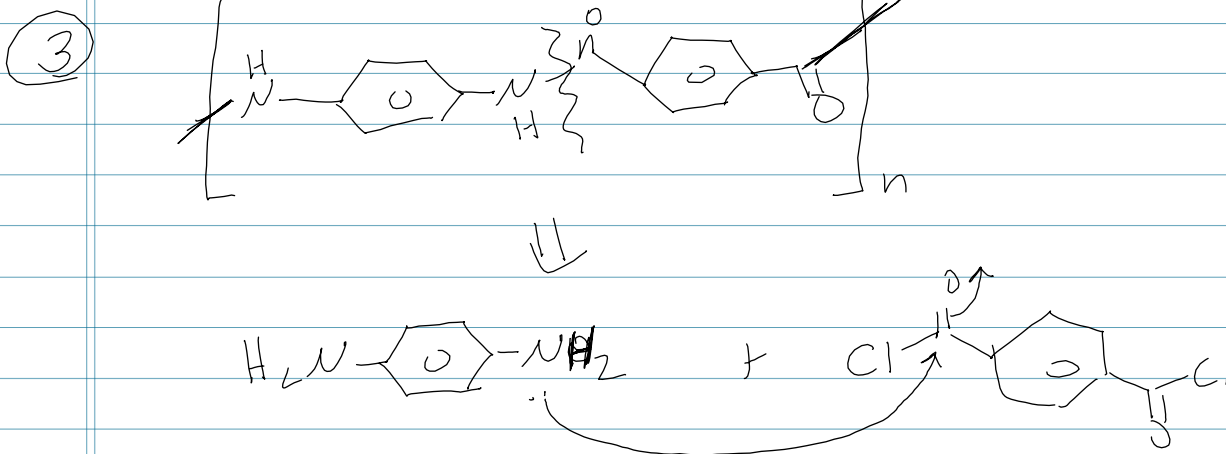
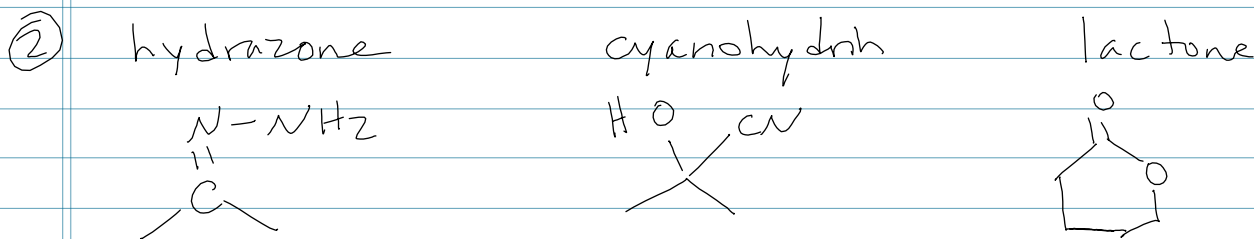
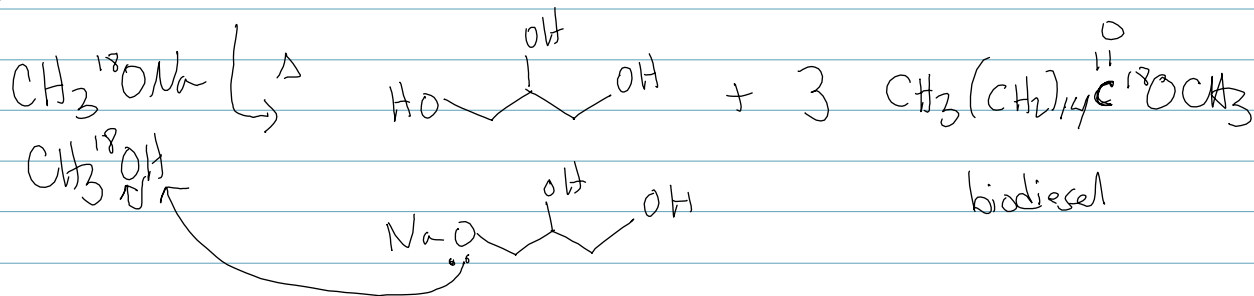
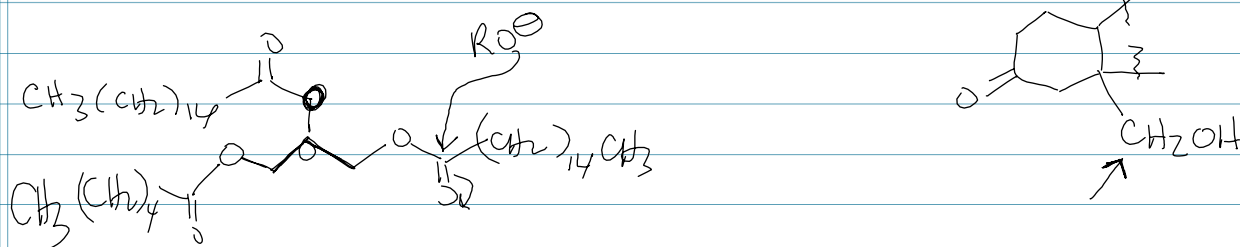
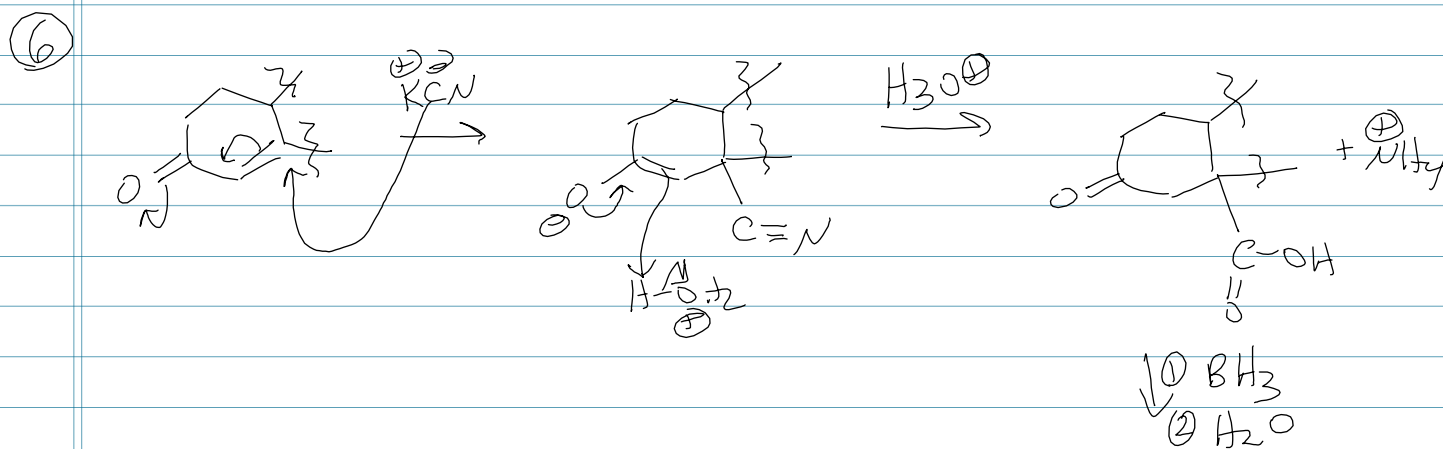
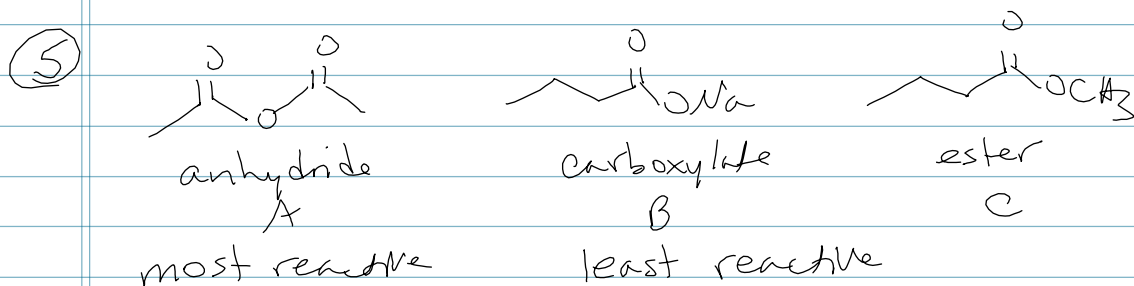
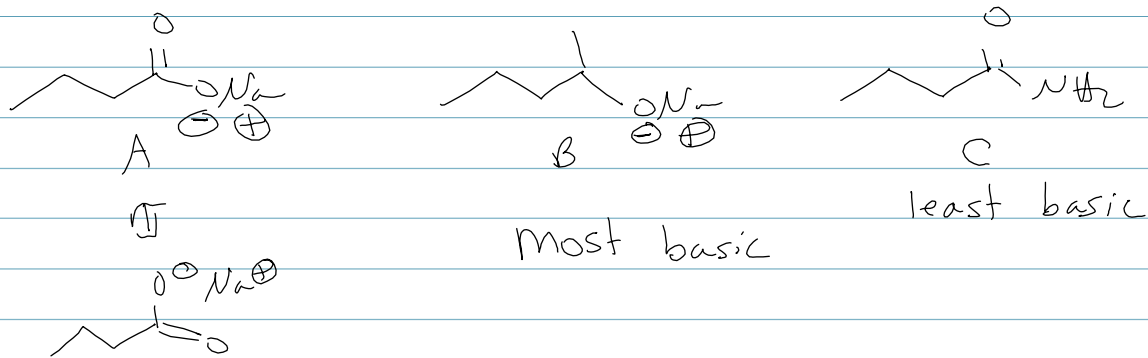


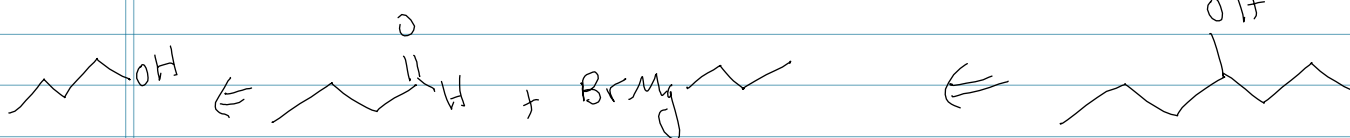
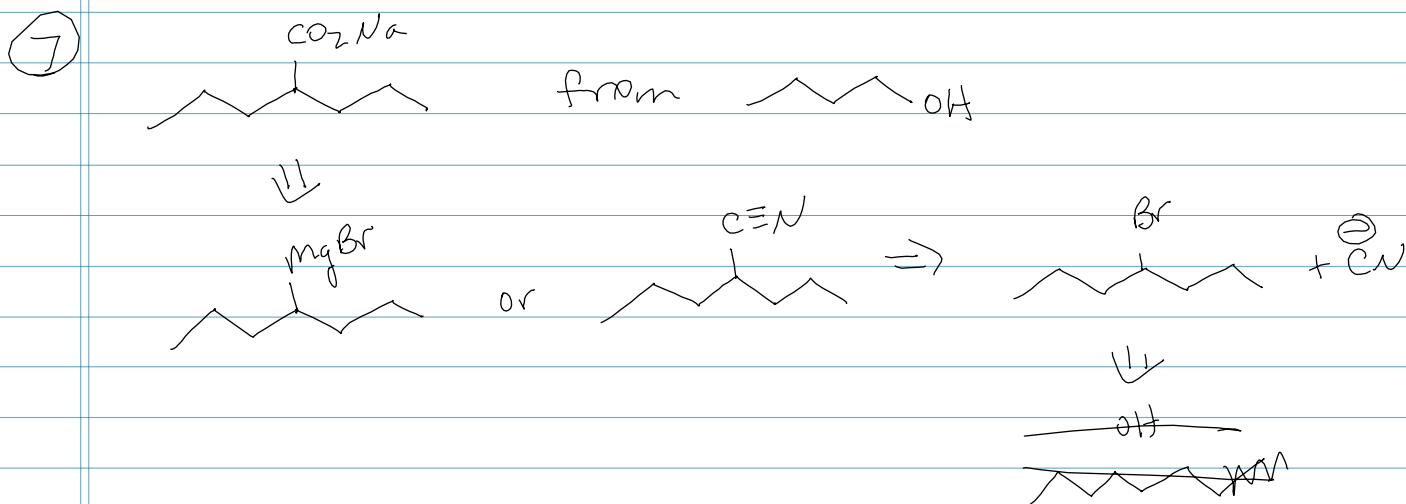
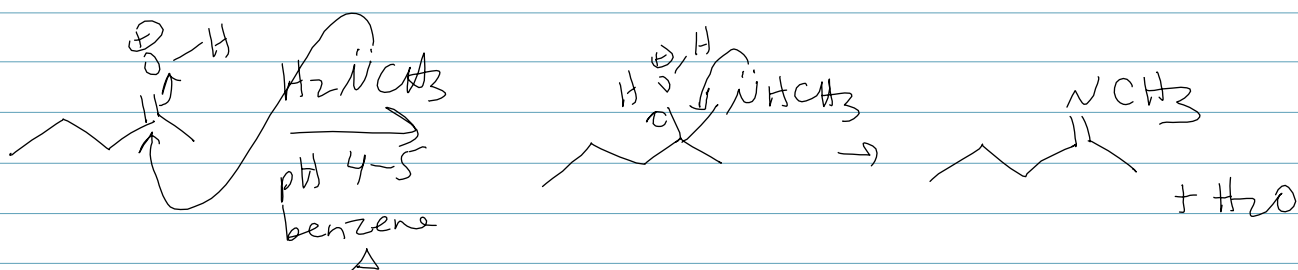
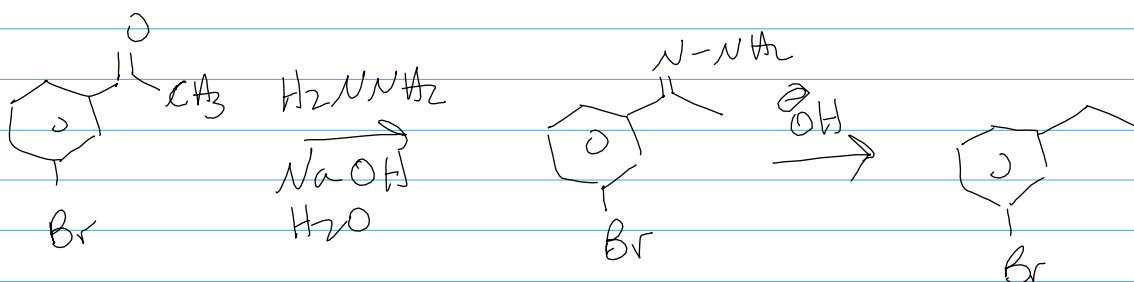
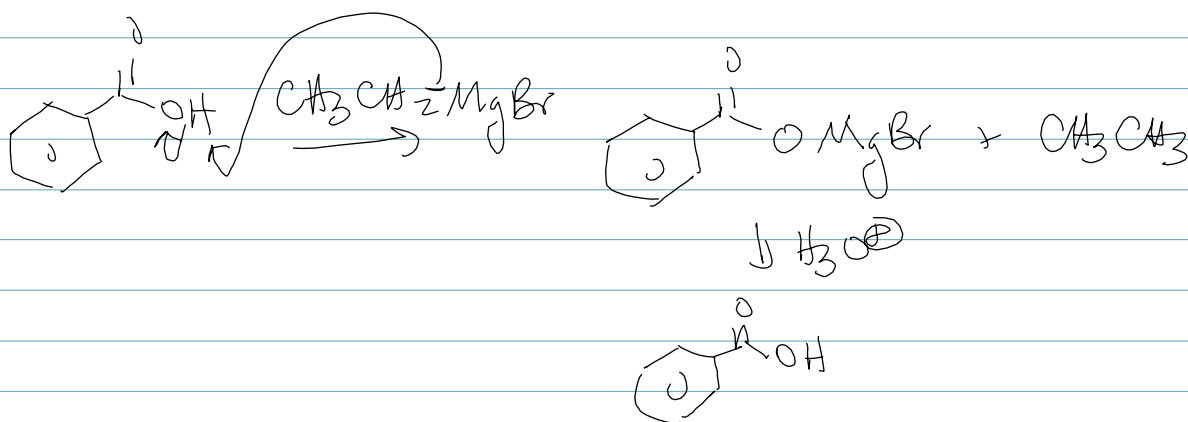
Chem 52 X13 Exam 2 Key



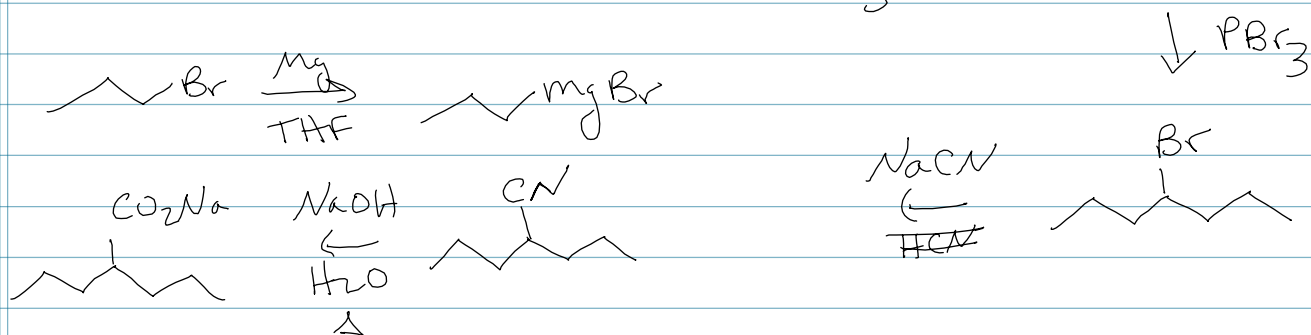
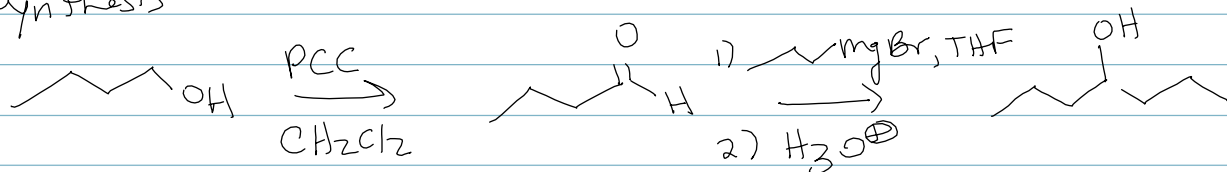
4-methyl-5-oxoheptanal



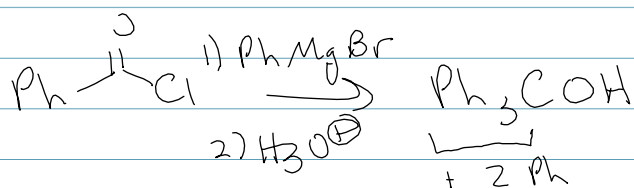




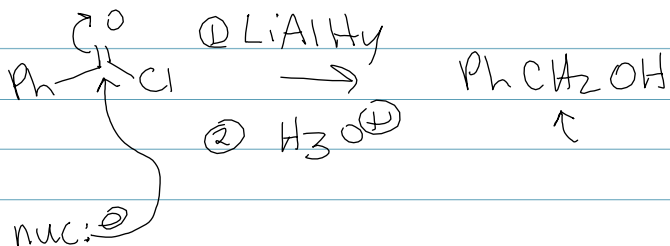
Synthesis



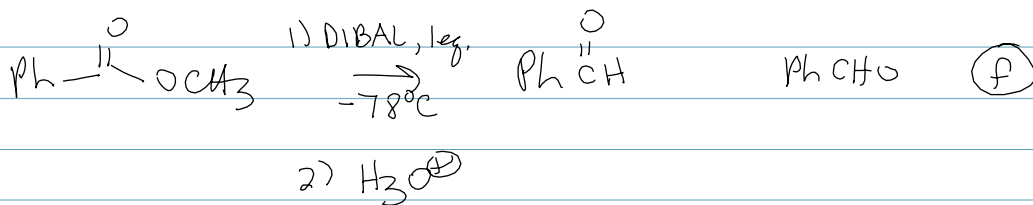
8



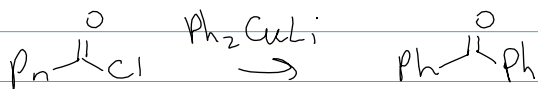
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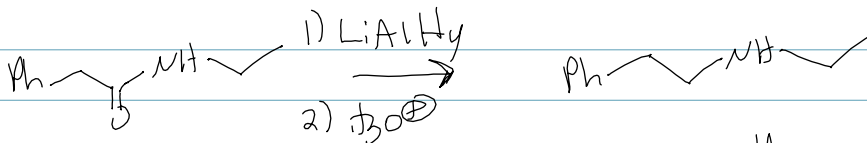
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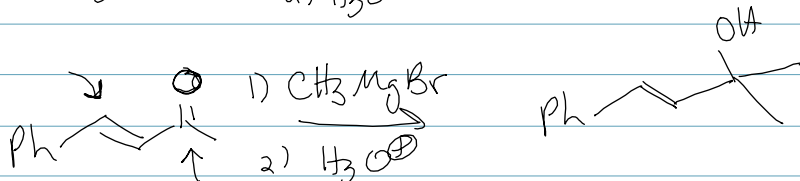
f



a

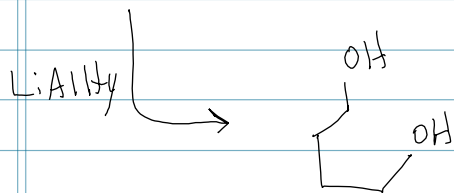
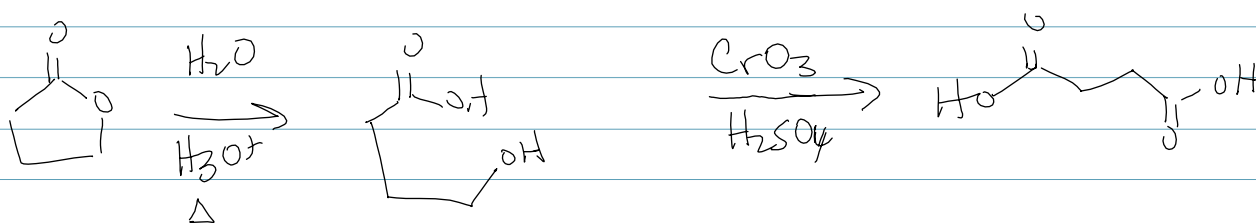
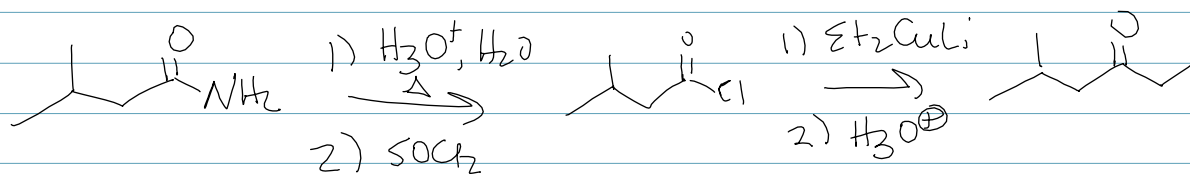
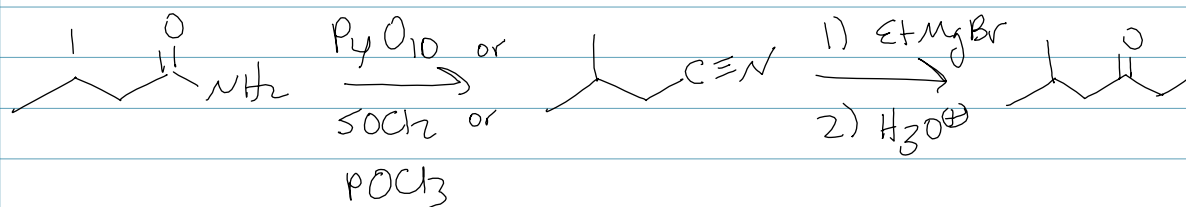
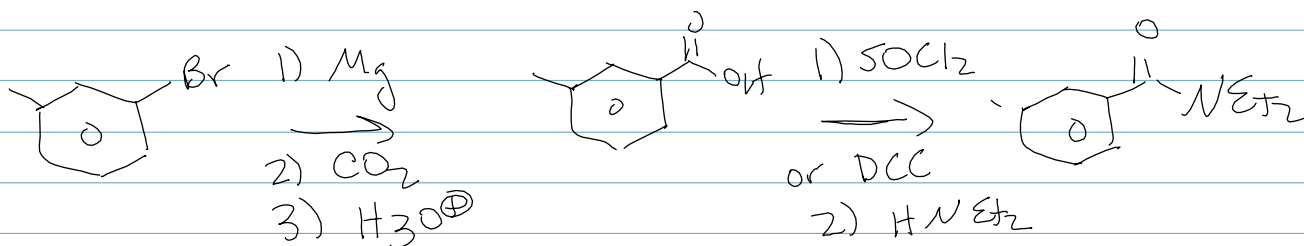
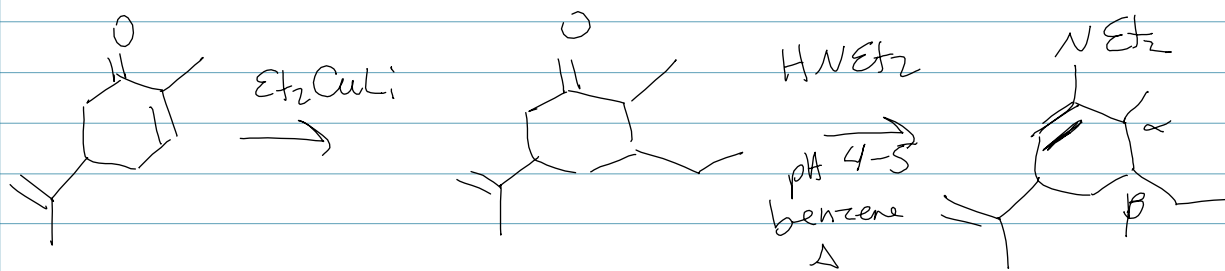


d

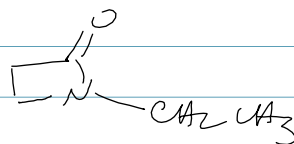
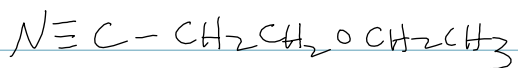


c

9



10



MS x

IR

$C \equiv N$ 2250cm^{-1}

1H NMR x

$C=O$ $\sim 1750\text{cm}^{-1}$

^{13}C NMR

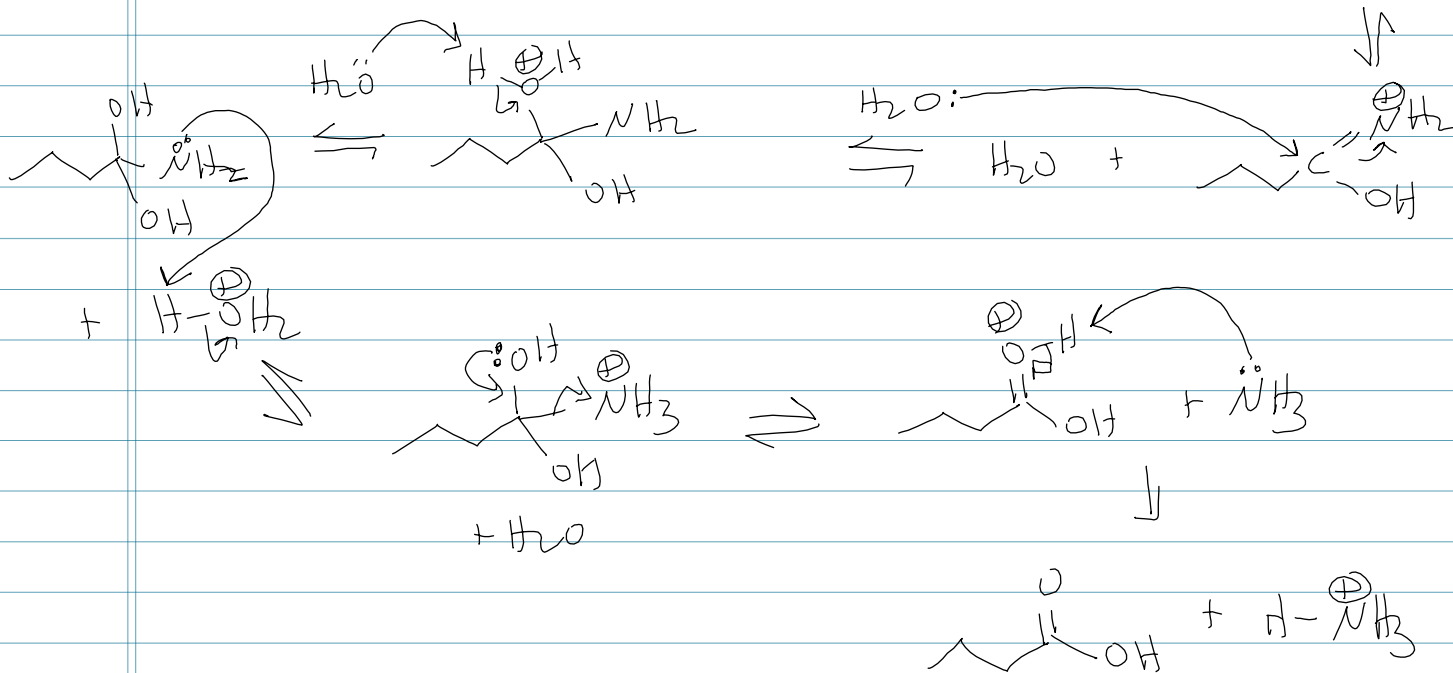
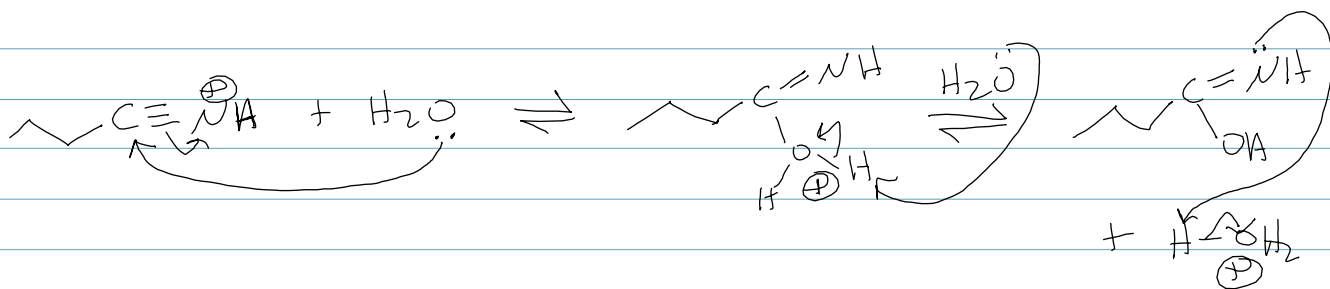
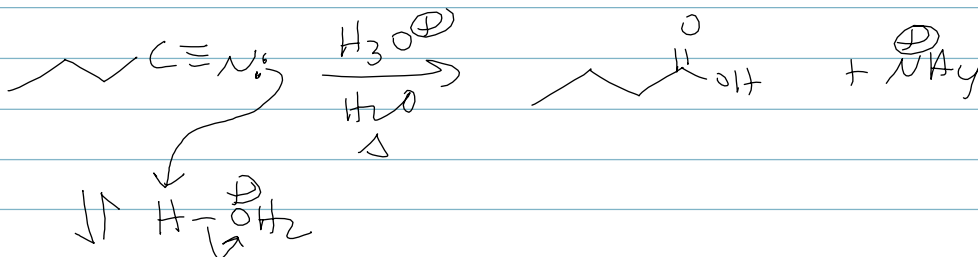
$C \equiv N$

$\sim 120\text{ppm}$

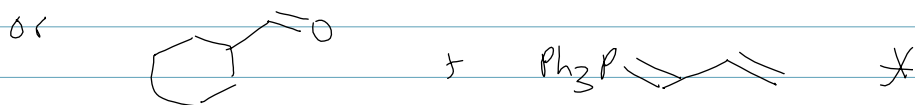
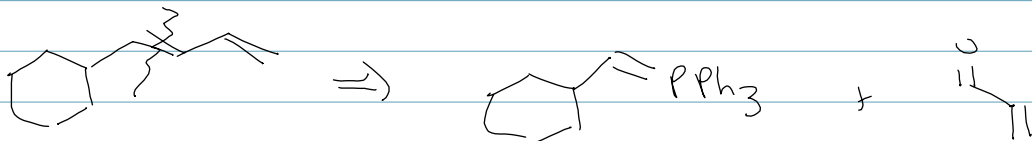
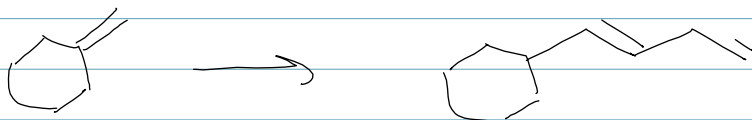
$C=O$

$> 150\text{ppm}, \sim 200\text{ppm}$

11



12



Synthesis

