Figure 16.001

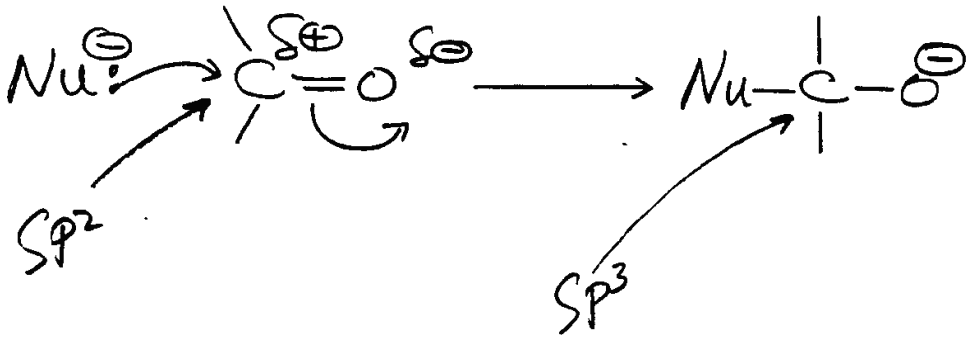


Figure 16.002 To be added

Figure 16.003

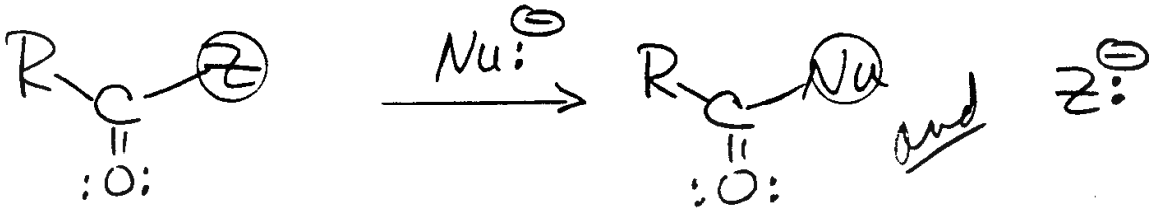


Figure 16.004

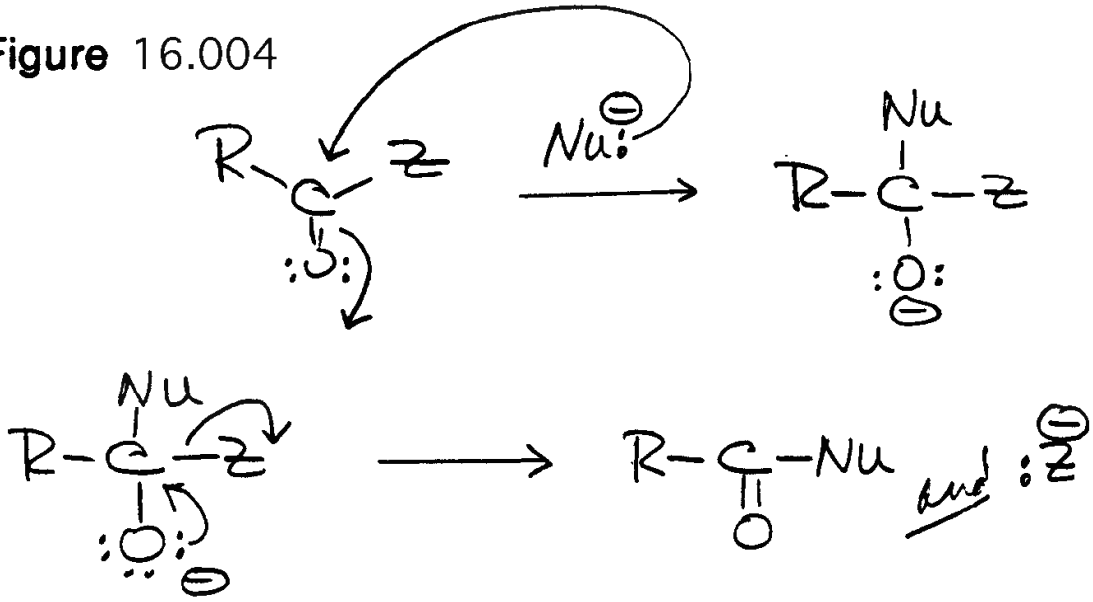
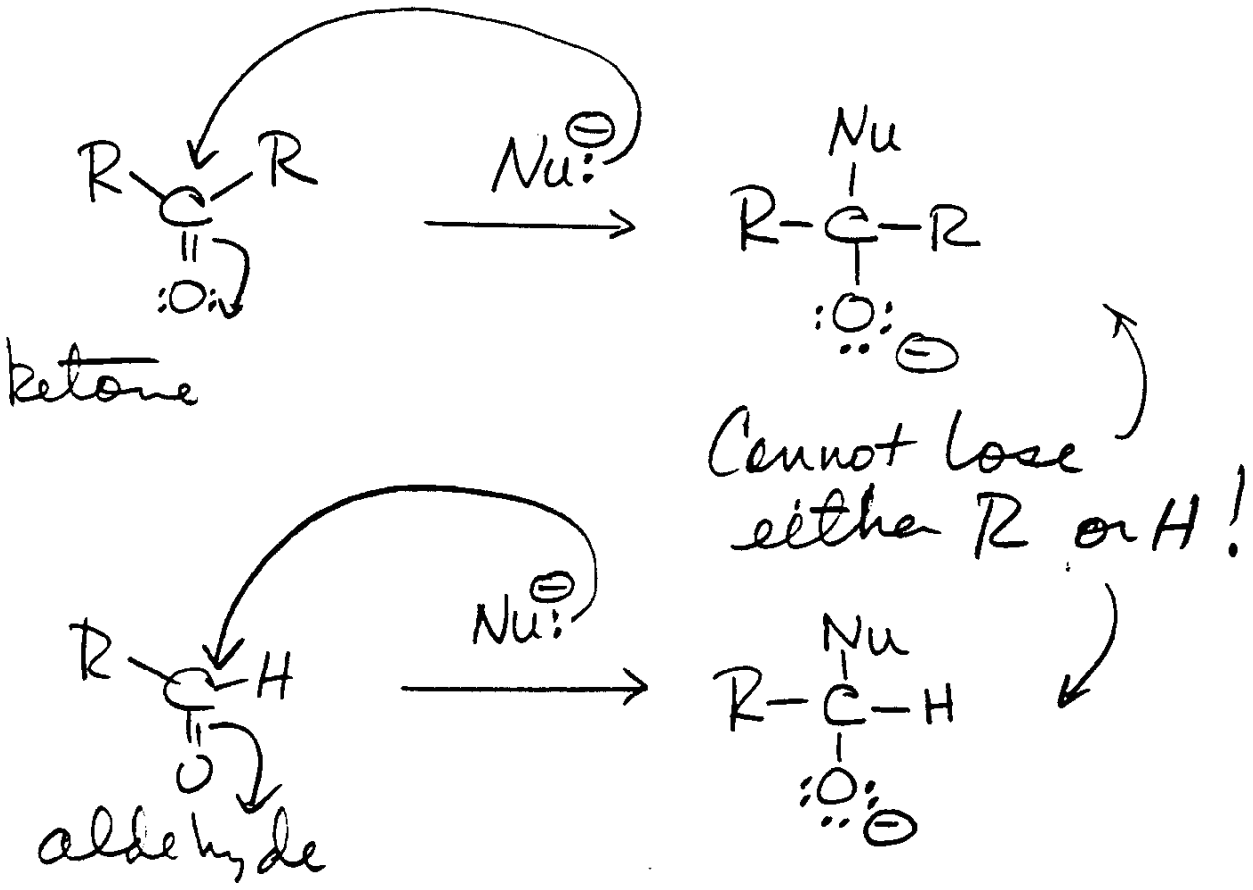


Figure 16.005



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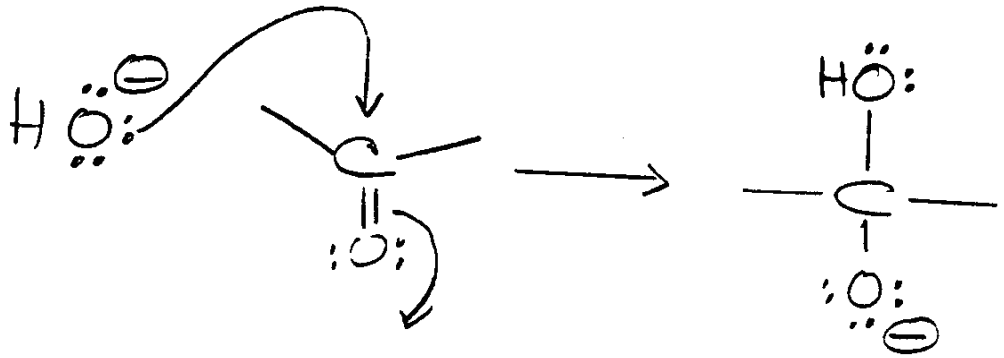

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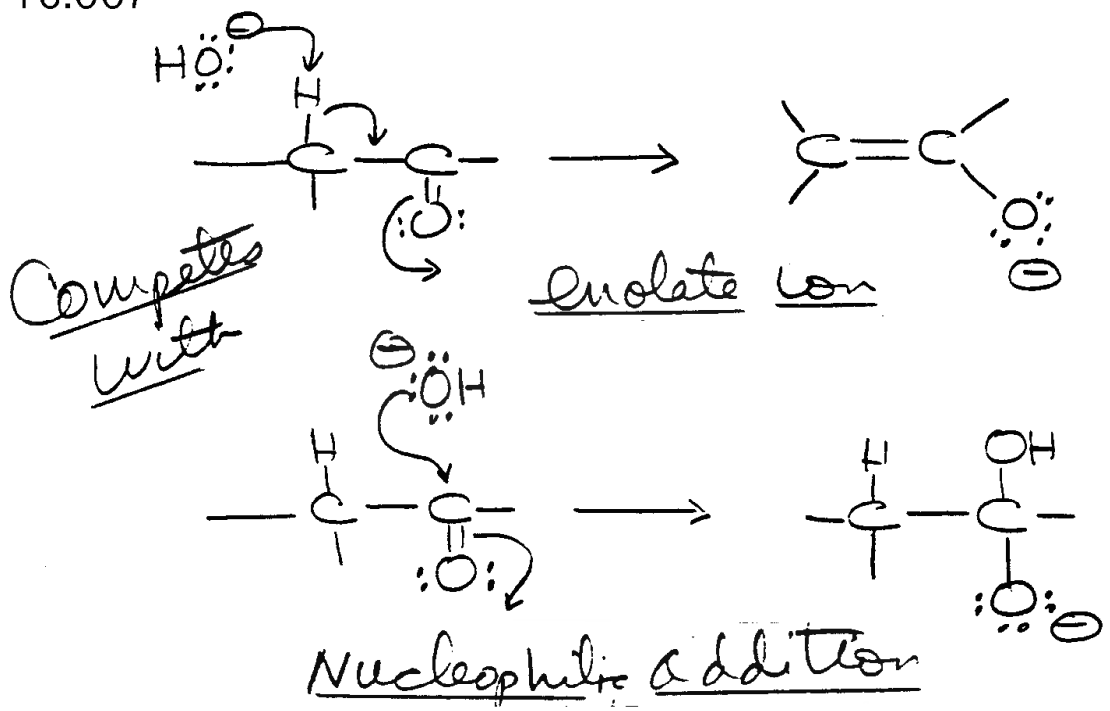

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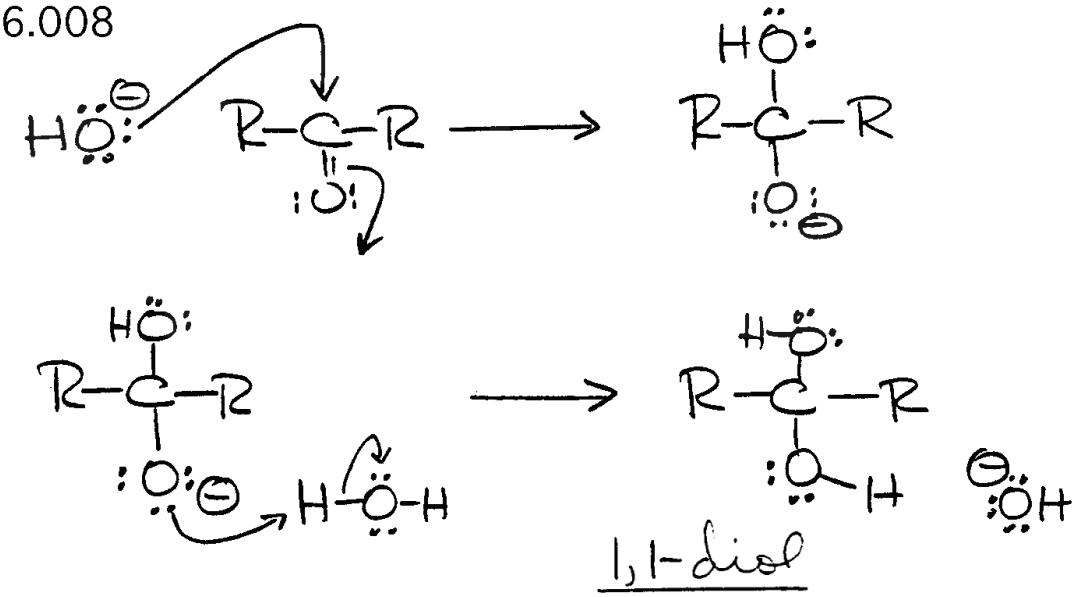


Figures 16.009 and 16.010 to be added.

Figure 16.011

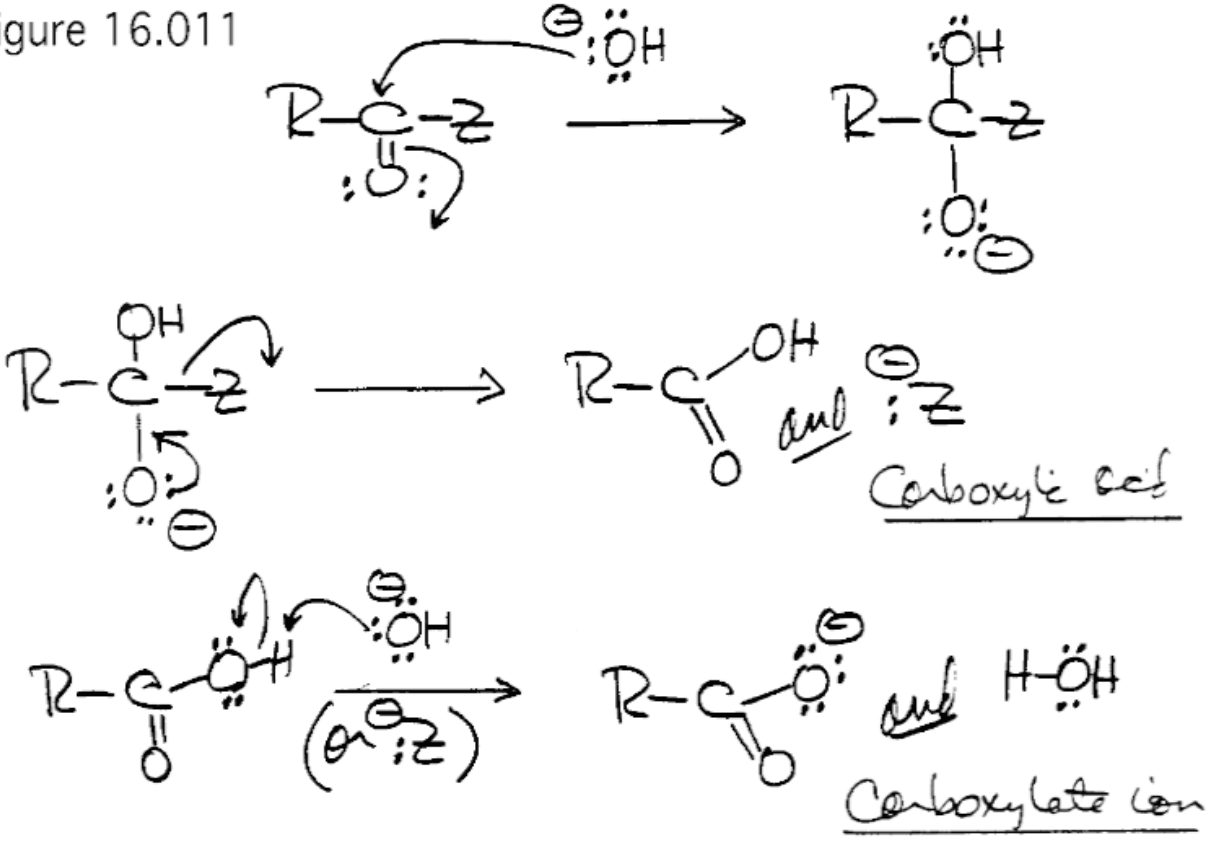
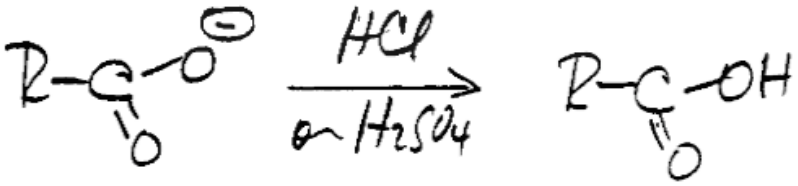


Figure 16.012



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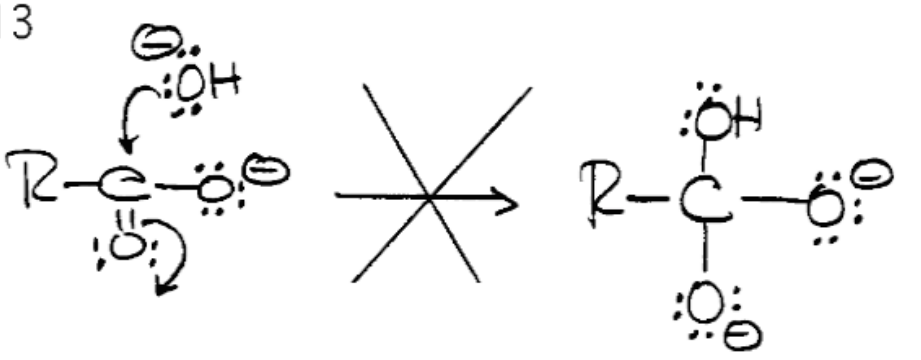
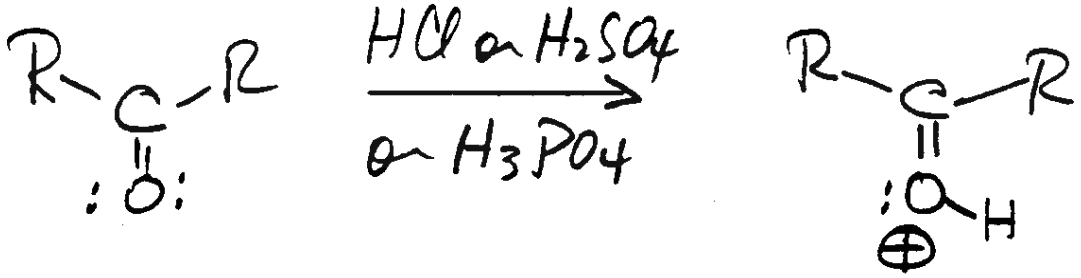


Figure 16.014



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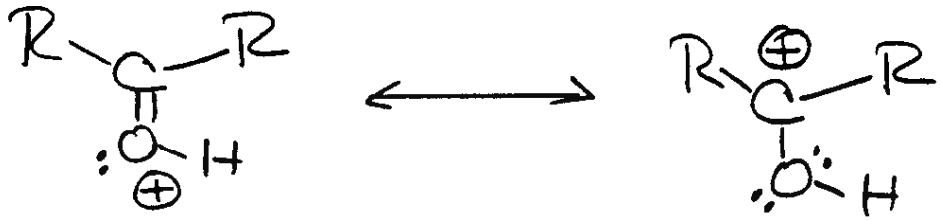
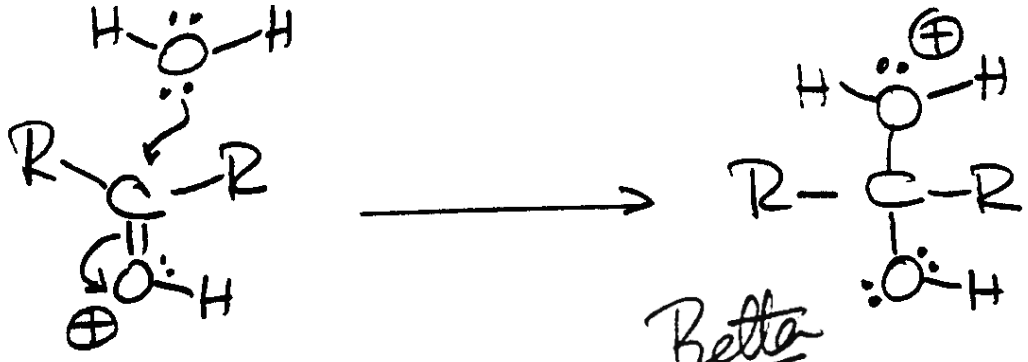


Figure 16.016



Contrast with

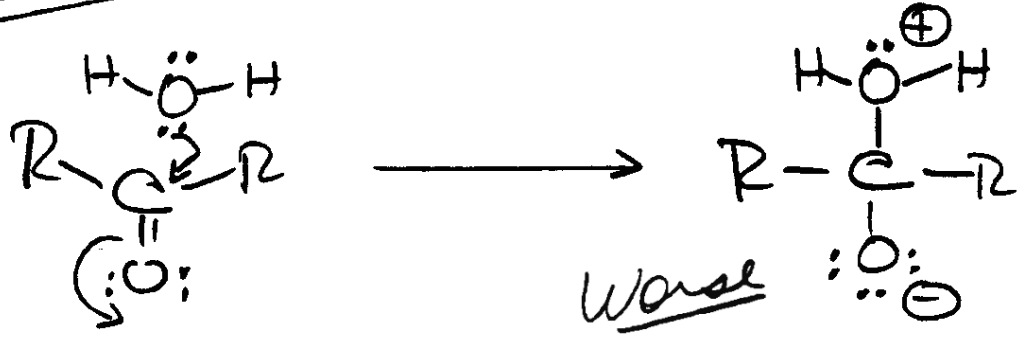


Figure 16.017

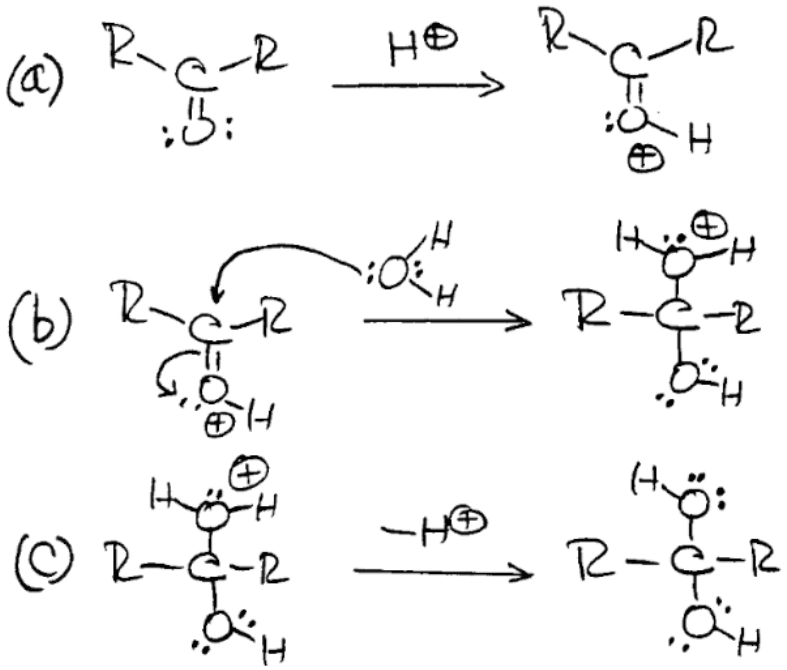


Figure 16.018

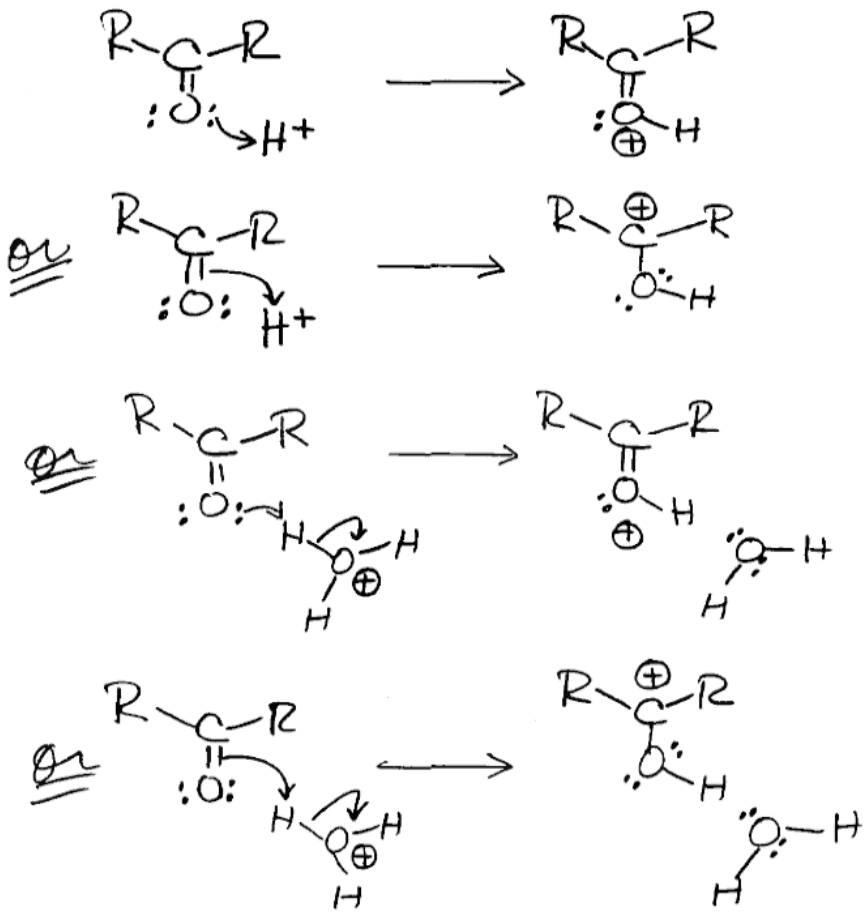


Figure 16.019

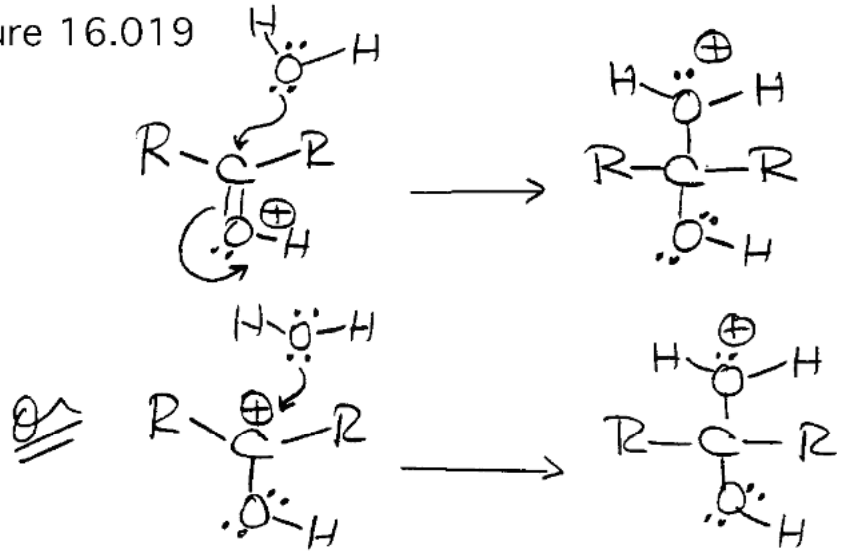


Figure 16.020

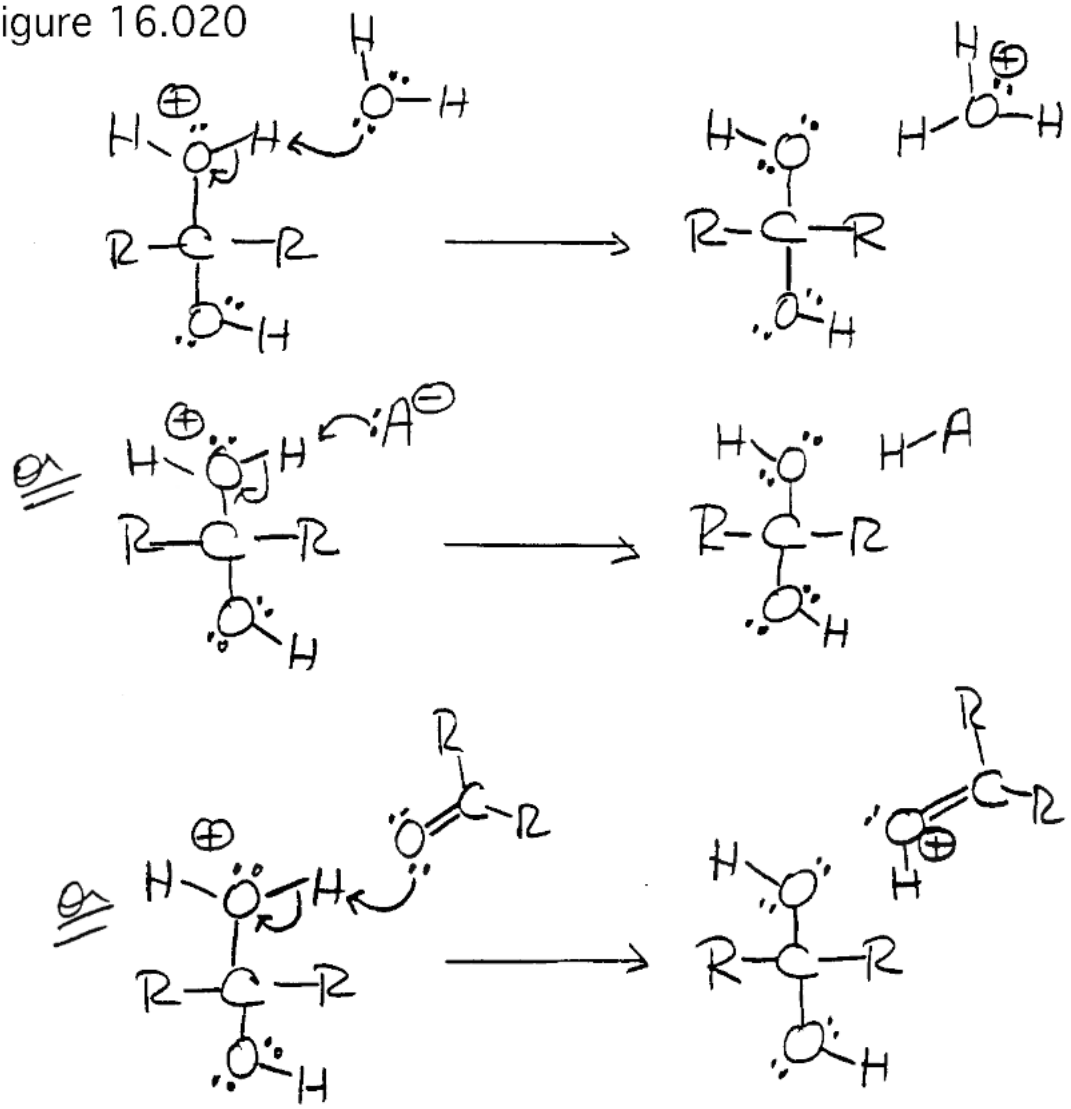


Figure 16.021

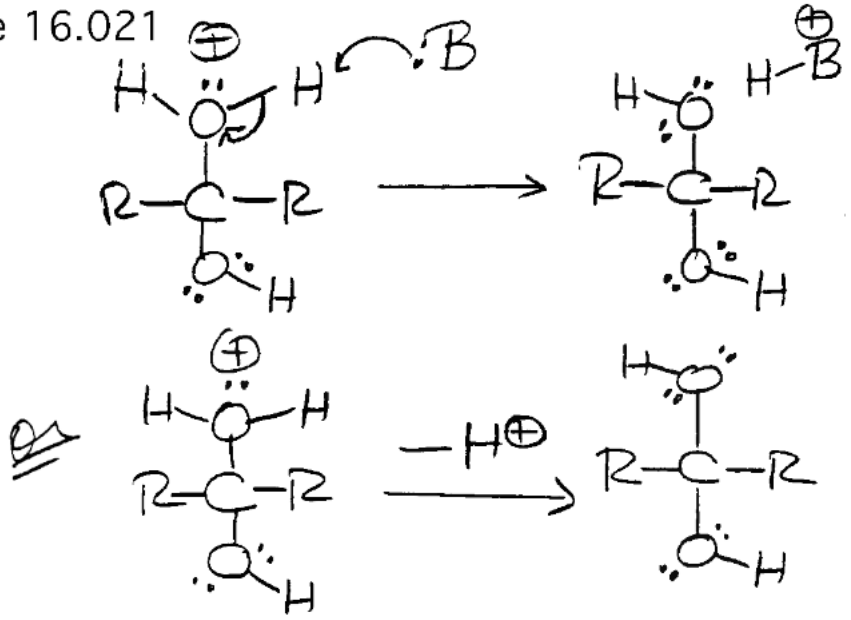


Figure 16.022

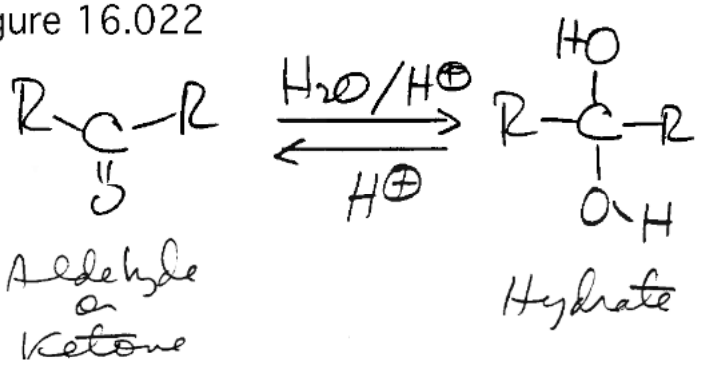


Figure 16.023

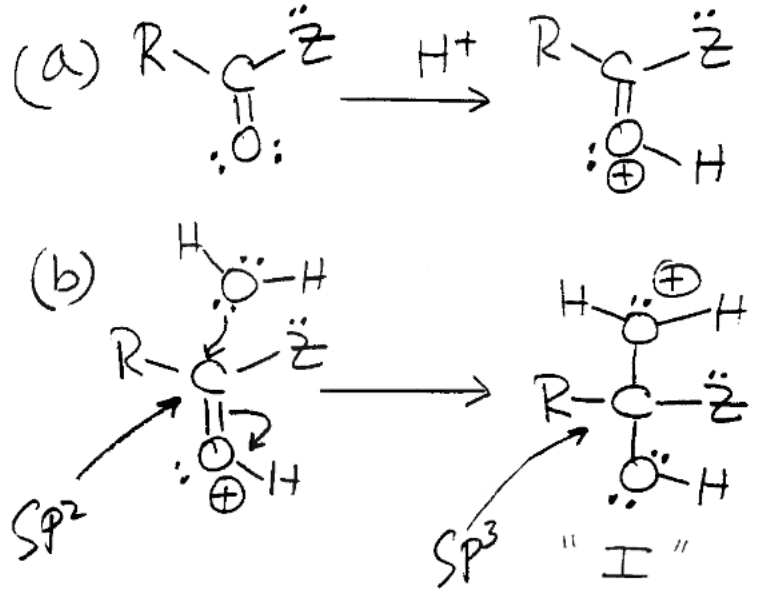


Figure 16.024

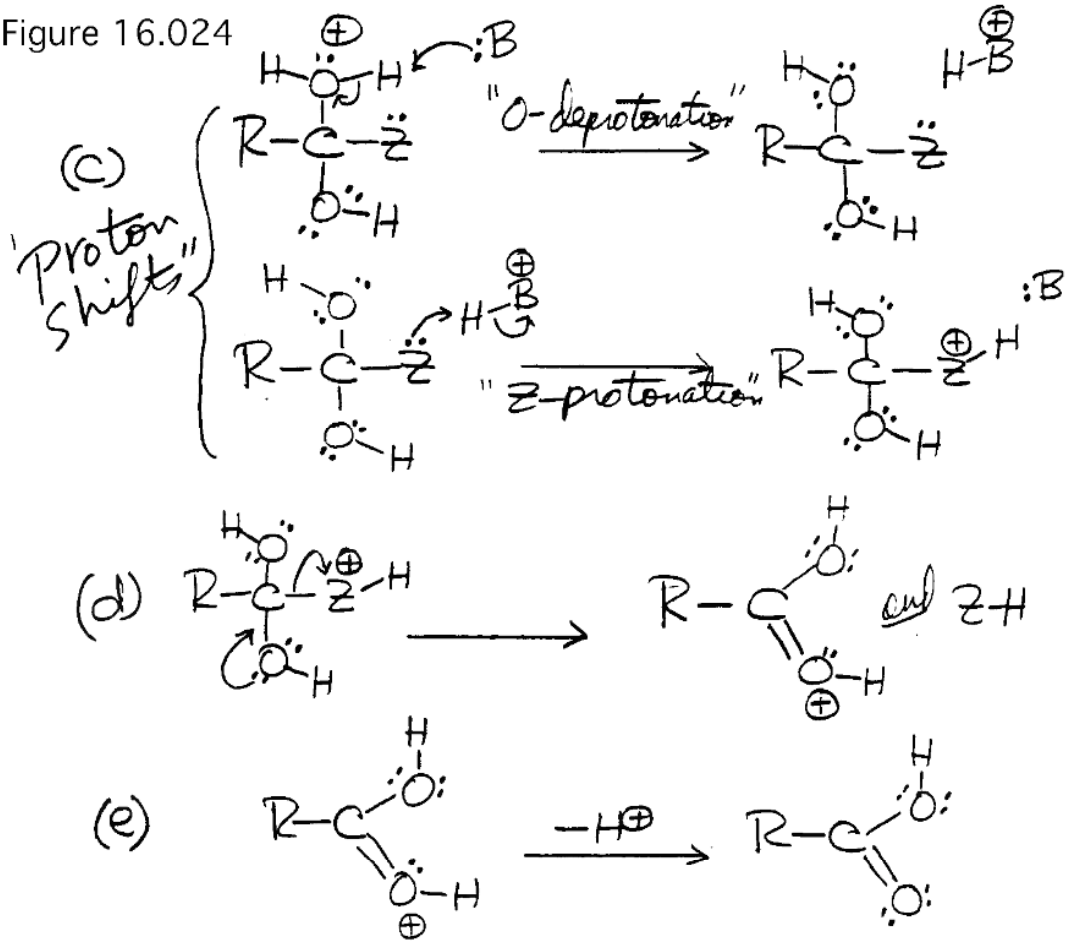


Figure 16.025

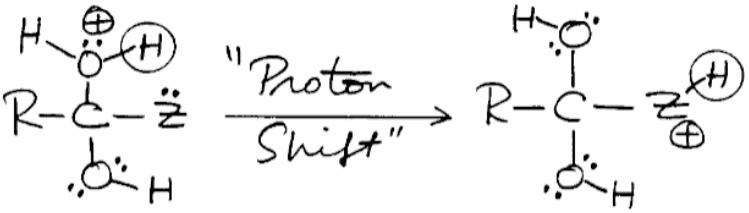


Figure 16.026 Possible Proton Shift Intermediate

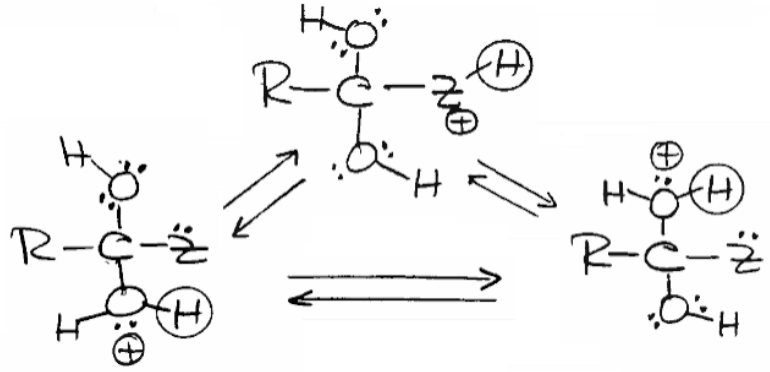
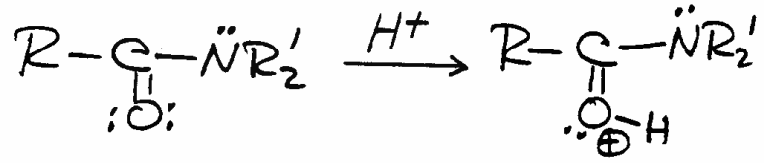
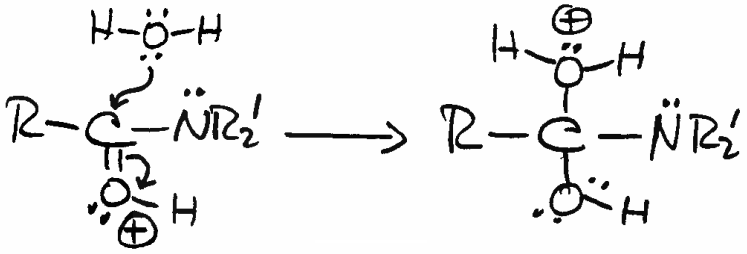


Figure 16.027 Acid Catalyzed Amide Hydrolysis

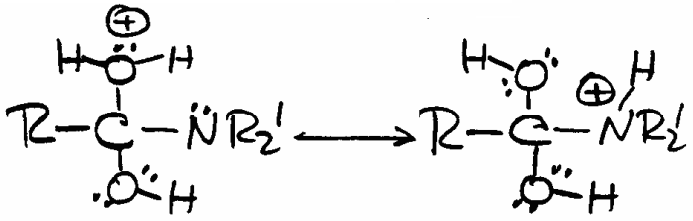
(a) Protonation



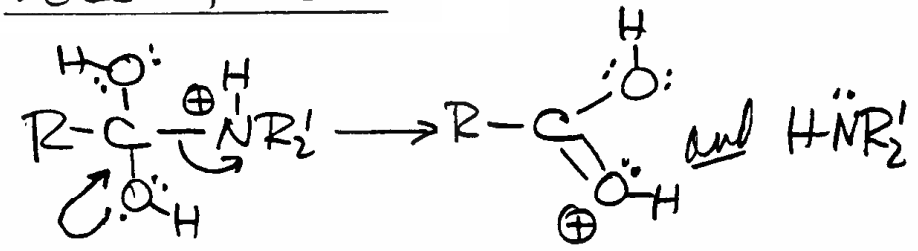
(b) Water Addition



(c) Proton Shift



(d) Loss of "Z-H"



(e) Deprotonation

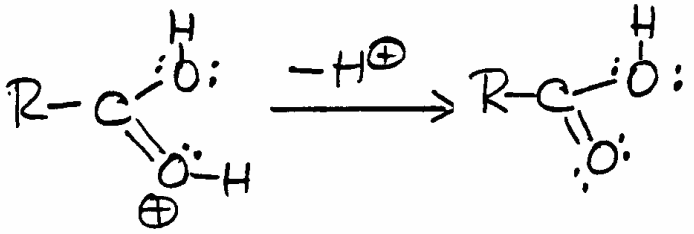


Figure 16.028

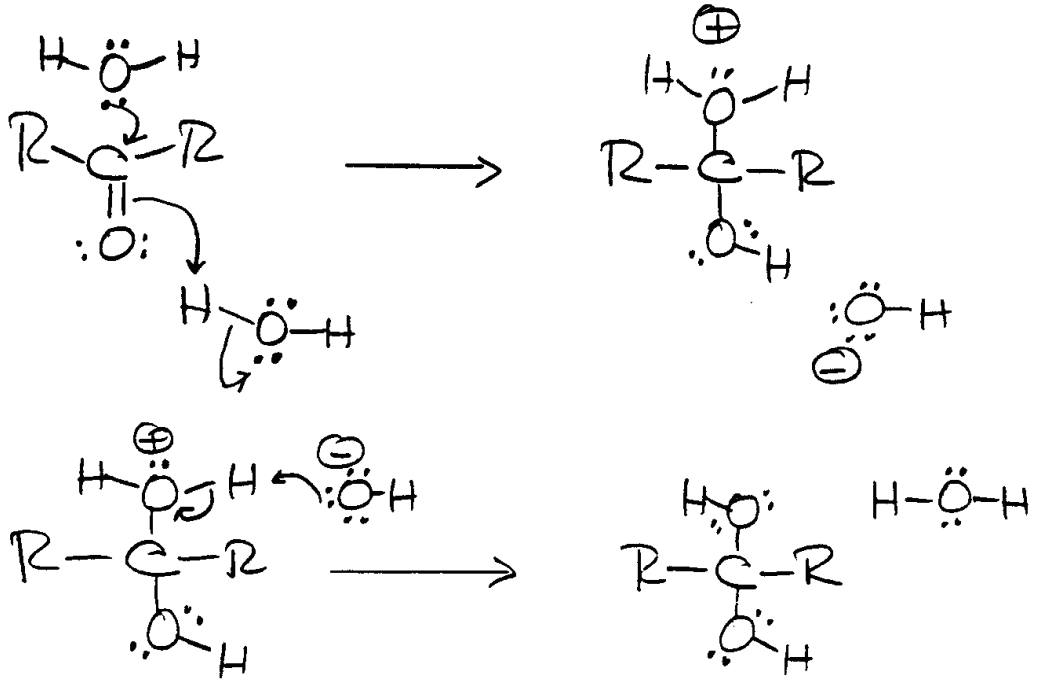


Figure 16.029

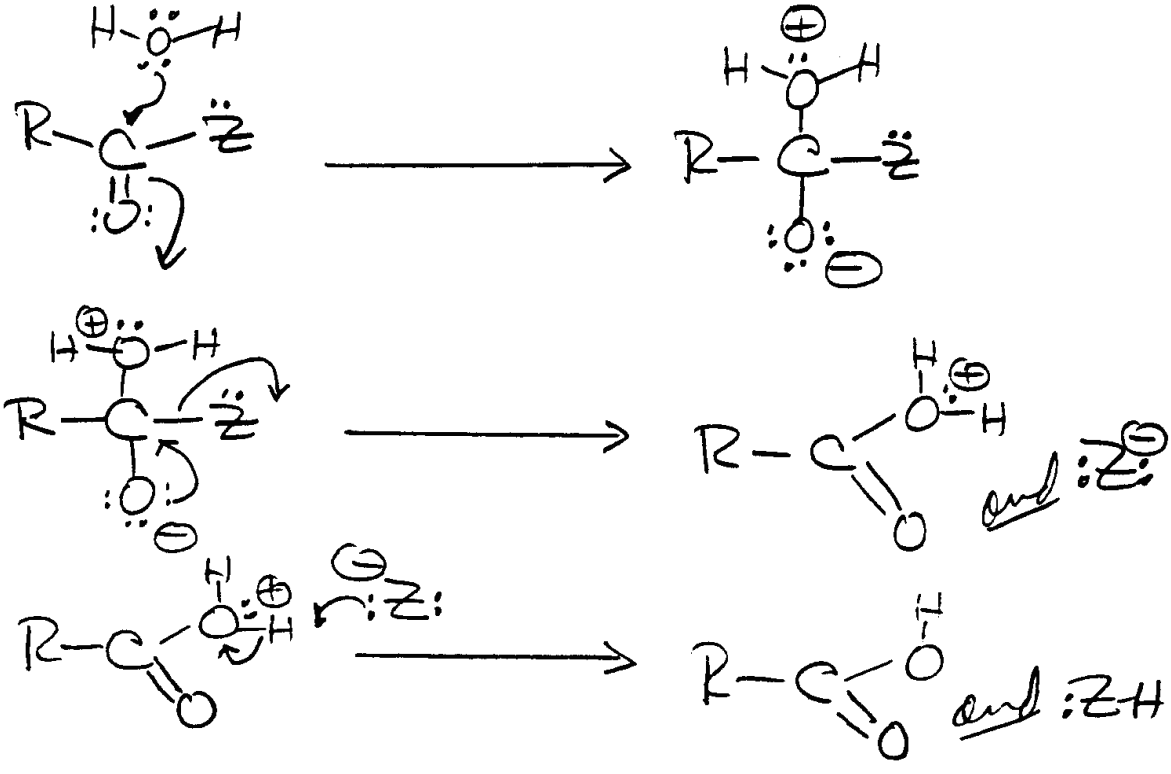


Figure 16.030

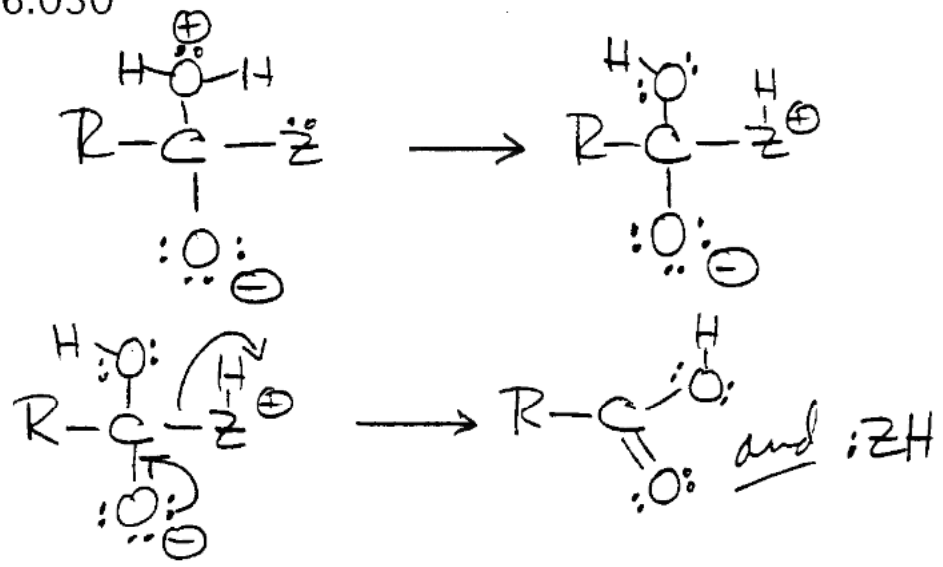


Figure 16.031

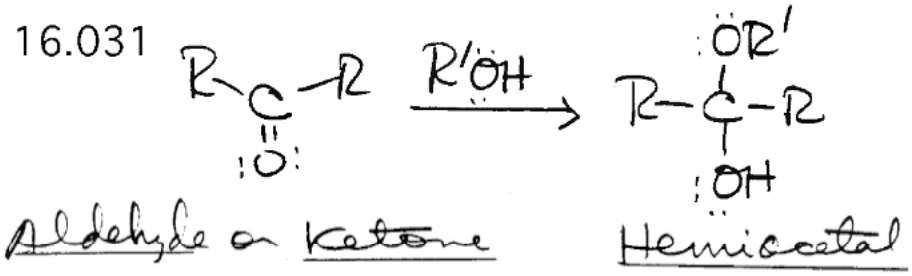


Figure 16.032

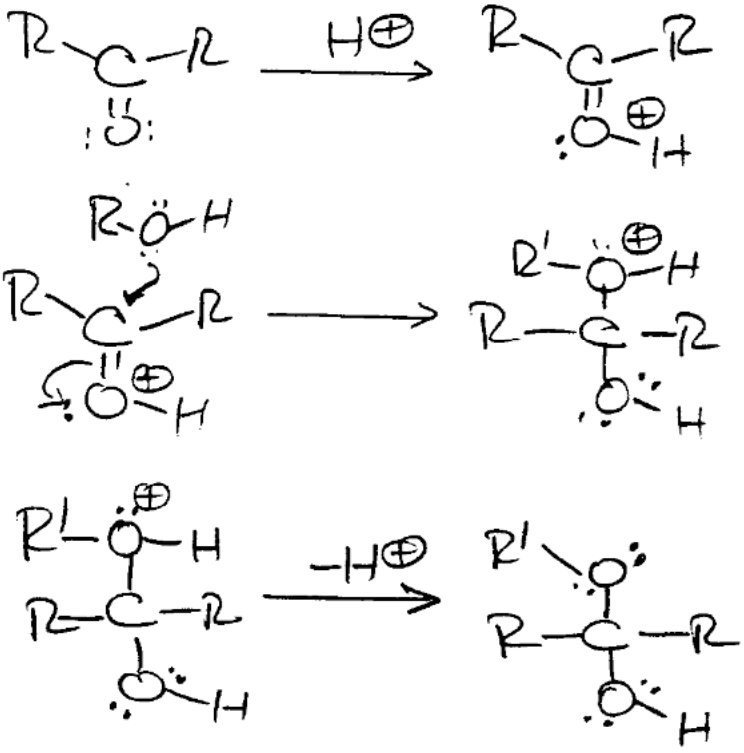


Figure 16.033

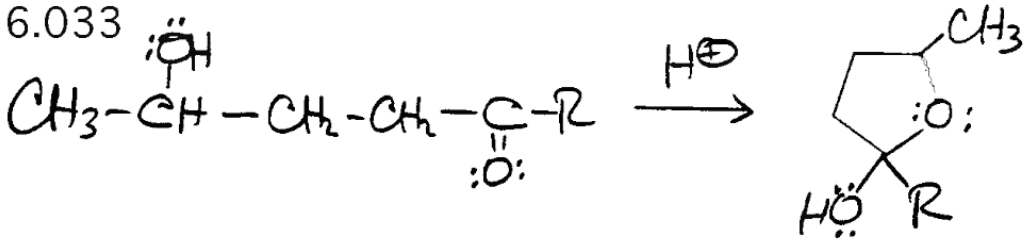
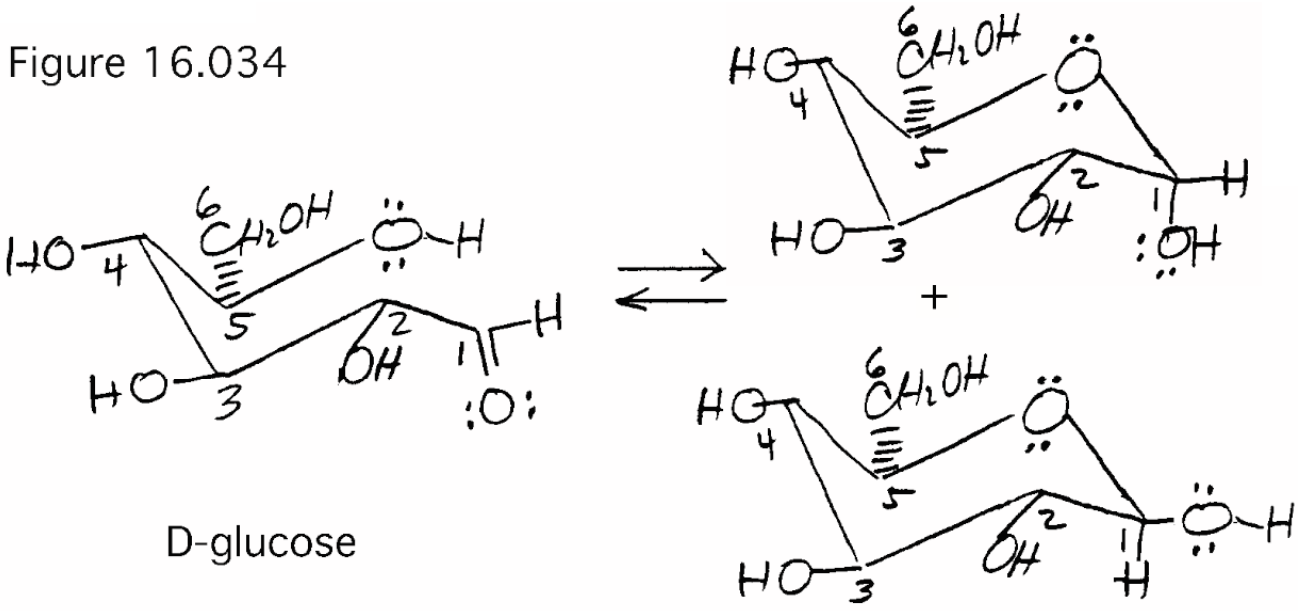


Figure 16.034



D-glucose

alpha and beta-D-glucose
(hemiacetals)

Figure 16.035

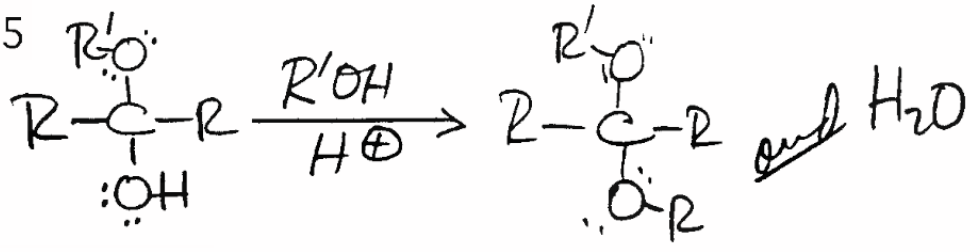


Figure 16.036

Hemiacetal

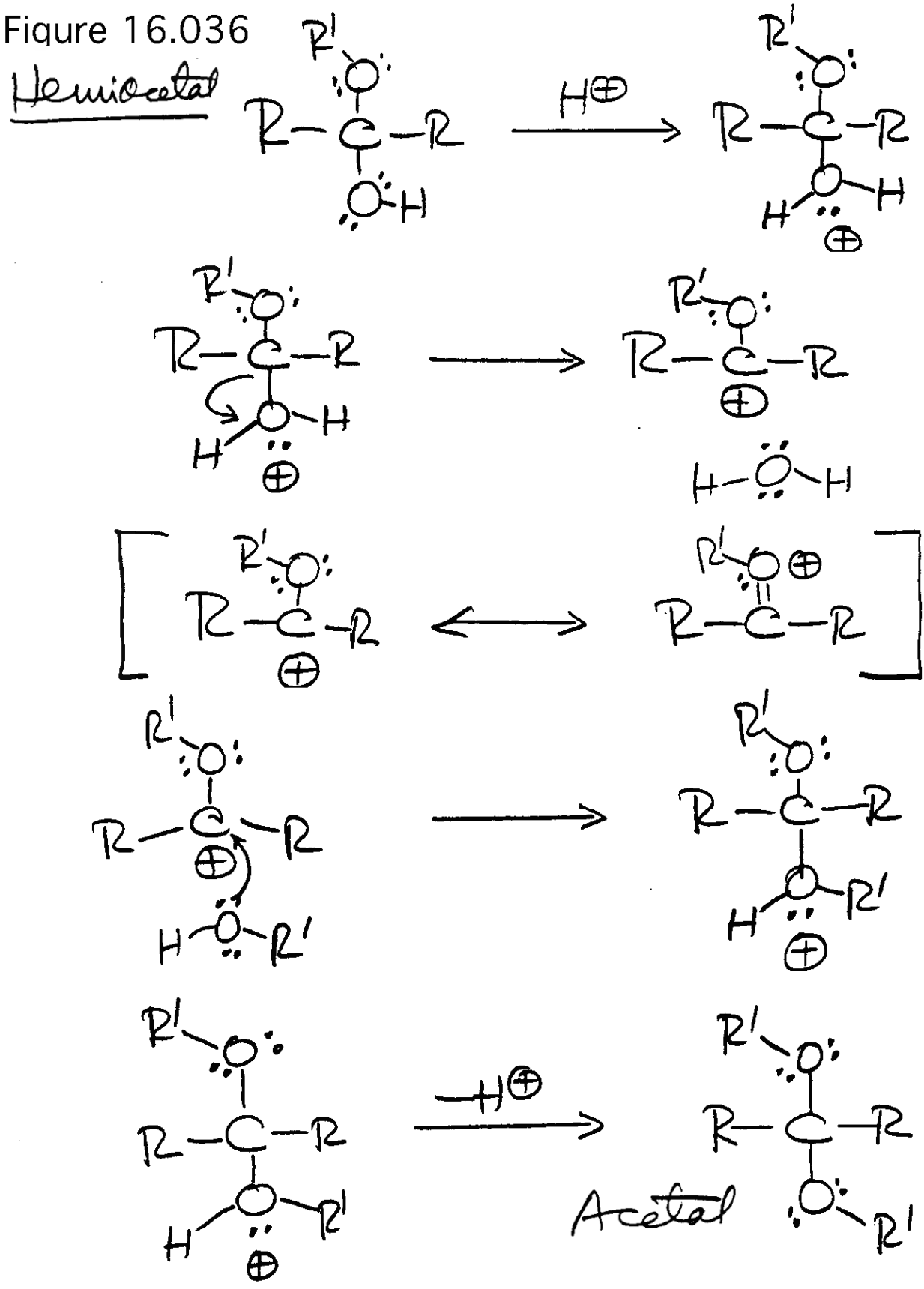


Figure 16.037 Alternate way of looking at water addition

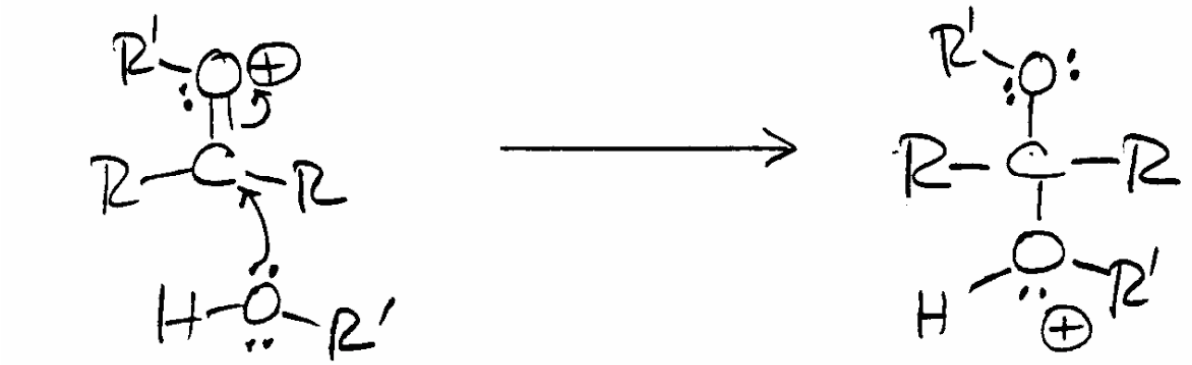


Figure 16.038

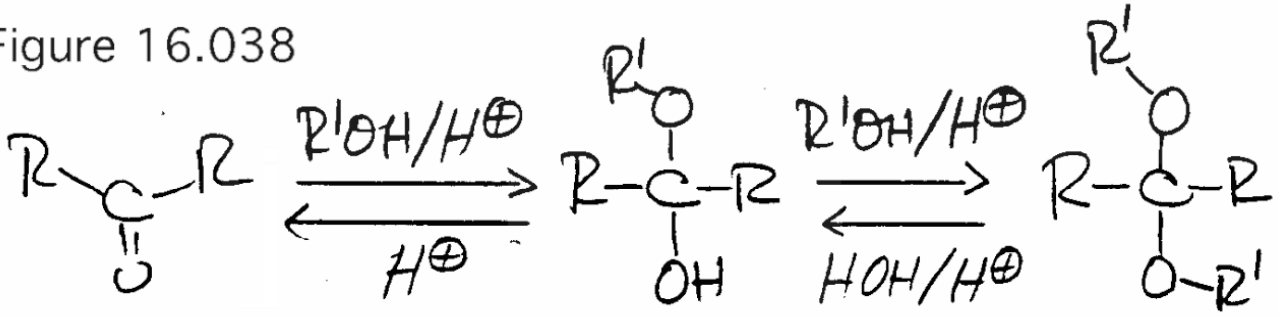


Figure 16.039

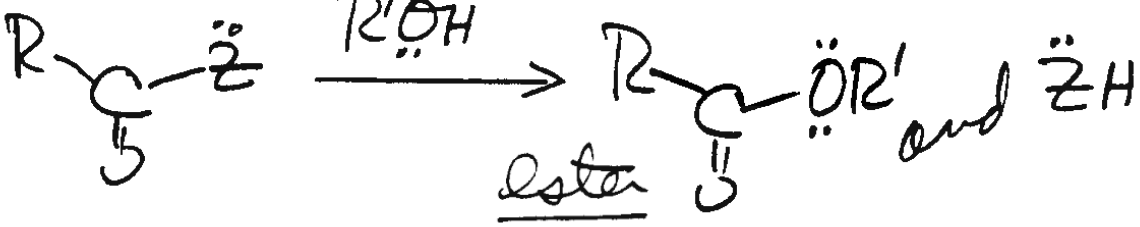


Figure 16.040

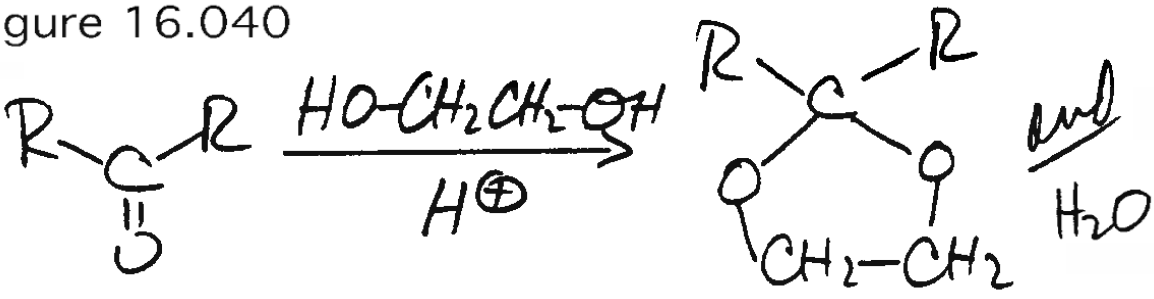


Figure 16.041

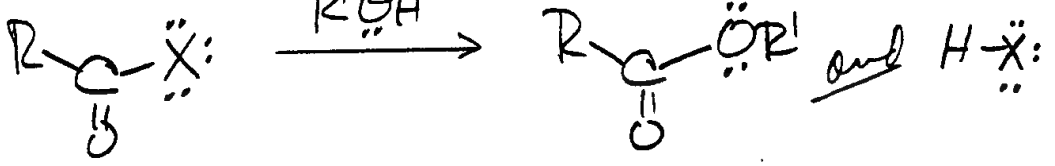


Figure 16.042

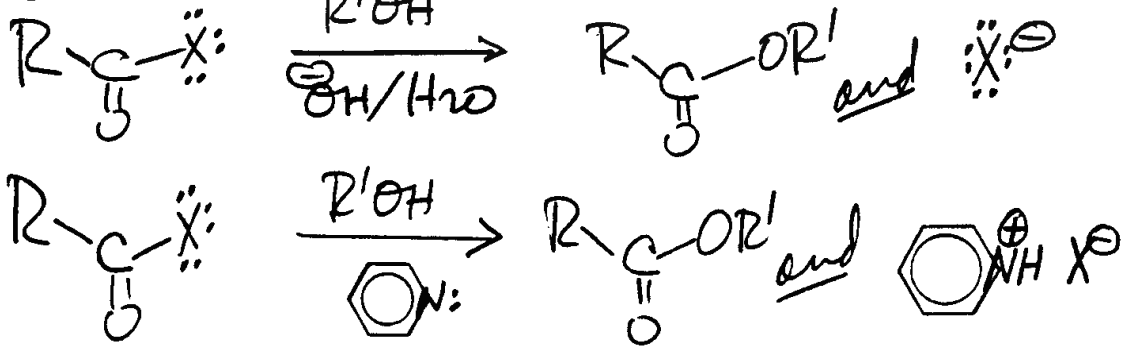


Figure 16.043

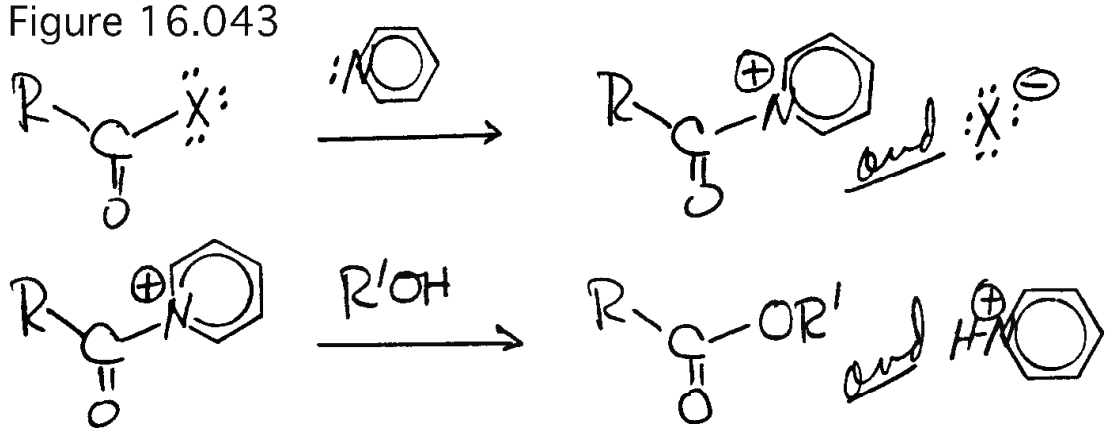
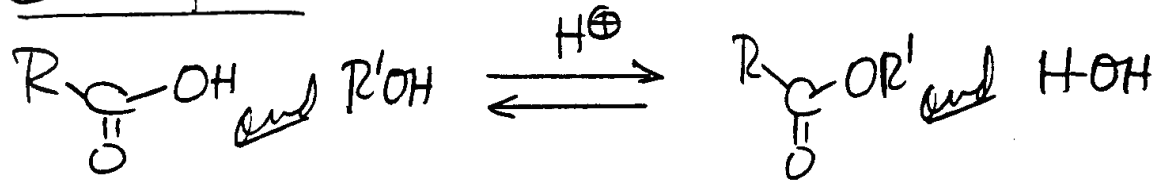


Figure 16.044

Esterification



Transesterification

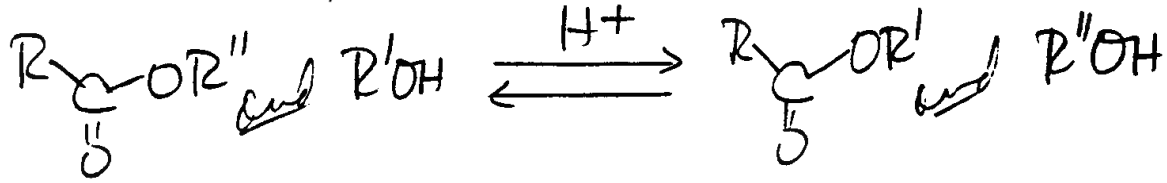
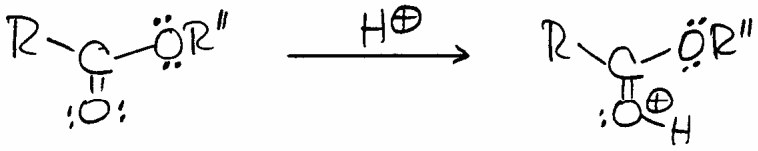
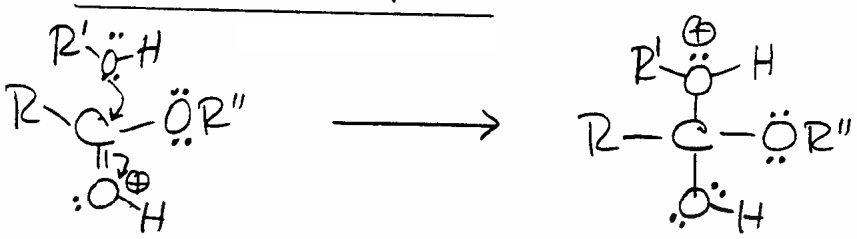


Figure 16.045 Acid-Catalyzed Transesterification

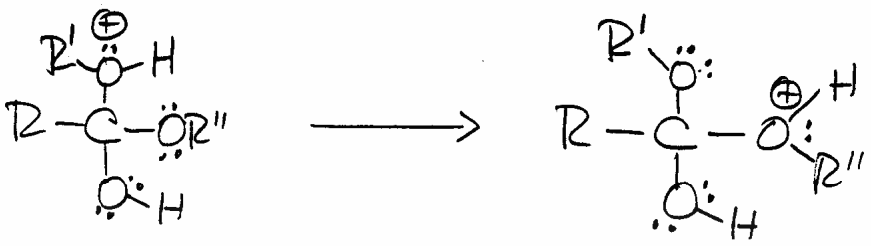
(a) Protonation



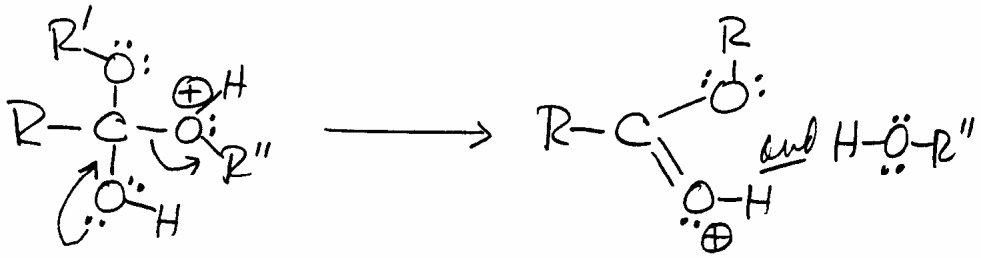
(b) Addition of R'OH



(c) Proton Shift



(d) Loss of R"OH



(e) Deprotonation

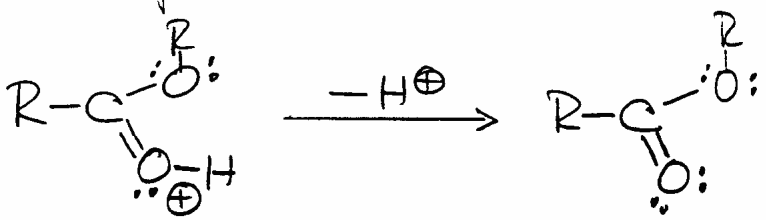


Figure 16.046

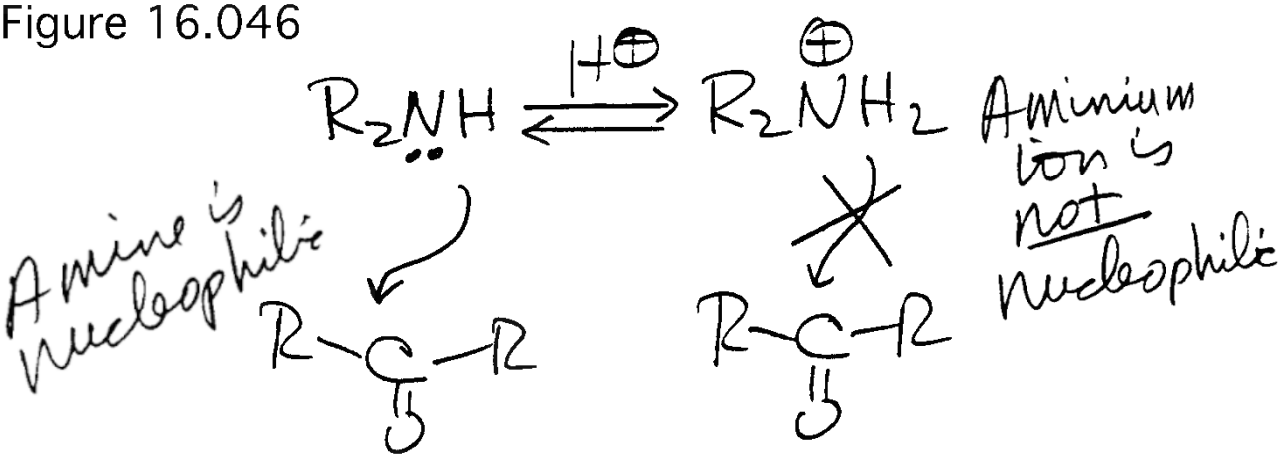


Figure 16.047

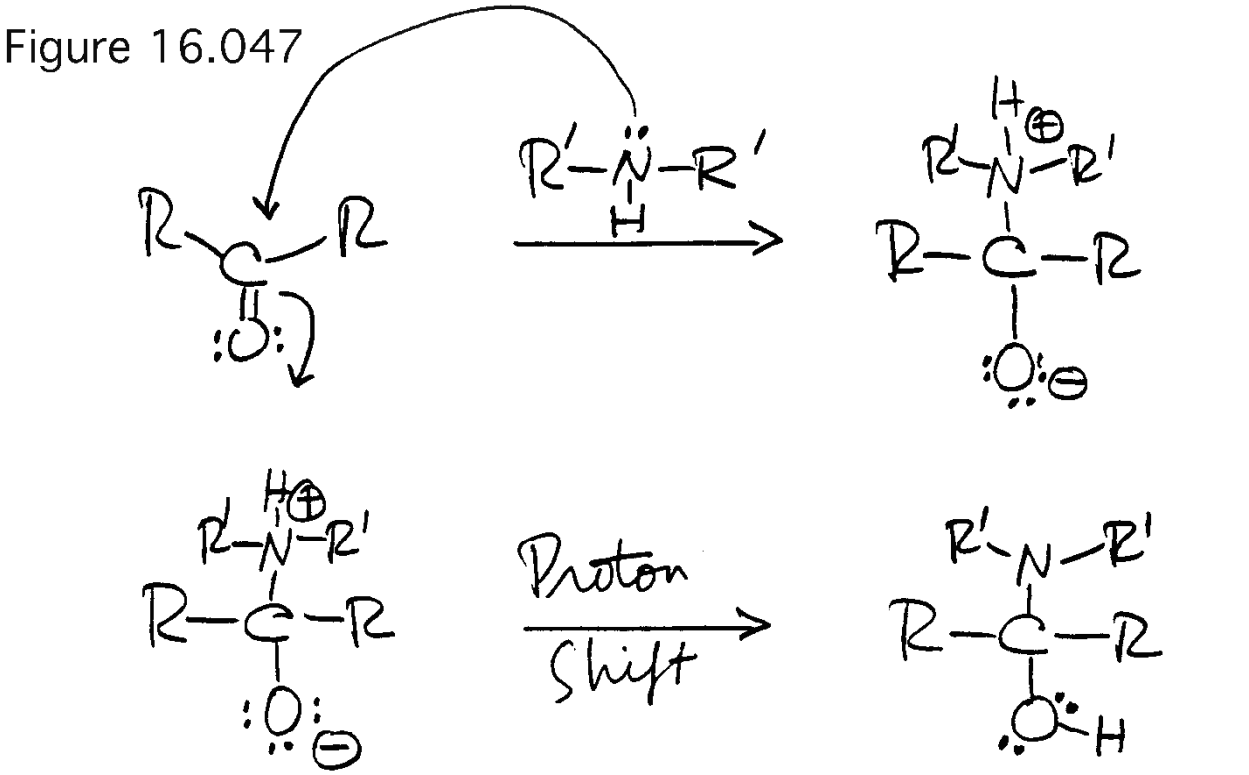
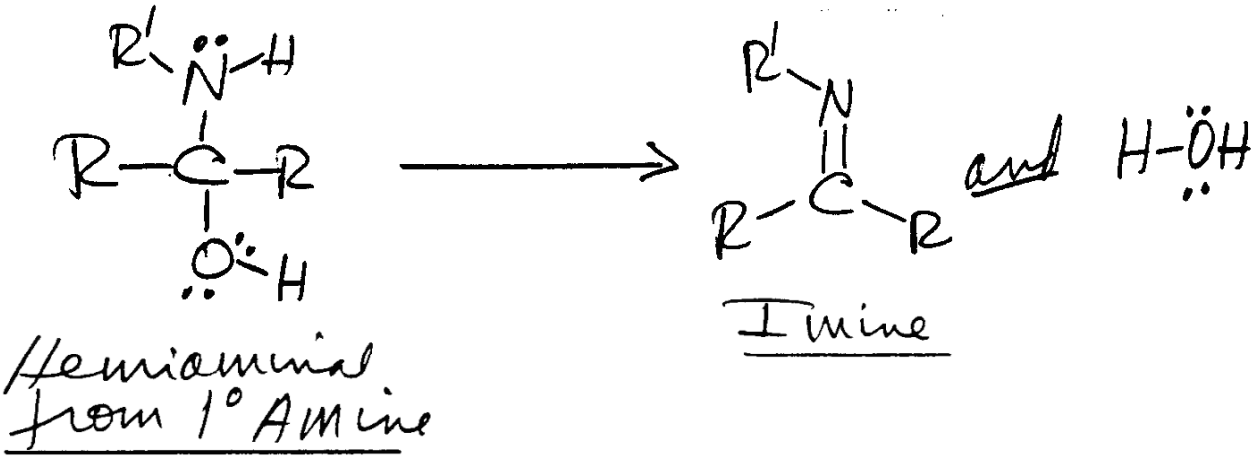
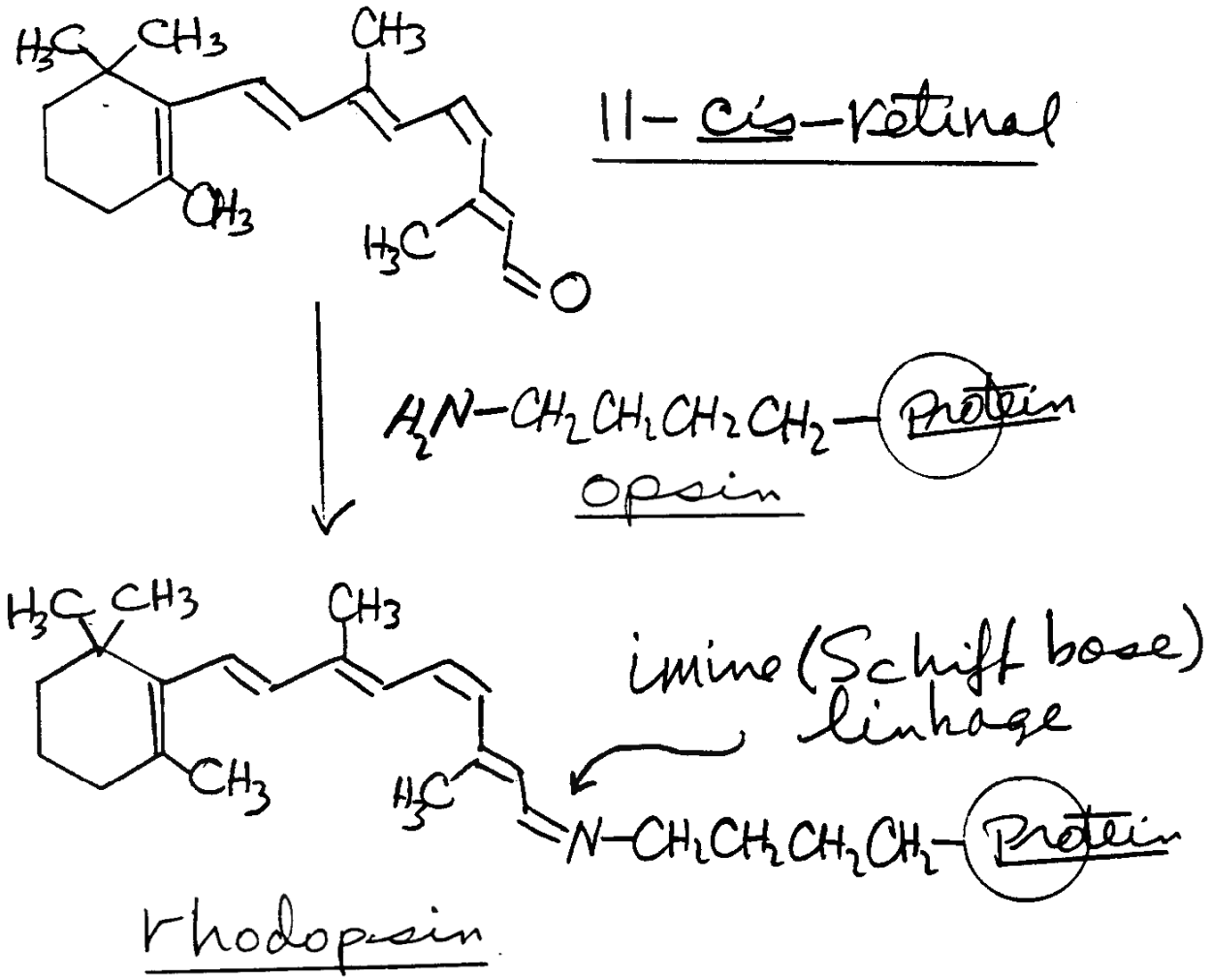


Figure 16.048



Hemiaminal from 1° Amine

Figure 16.049



Rhodopsin

Figure 16.050

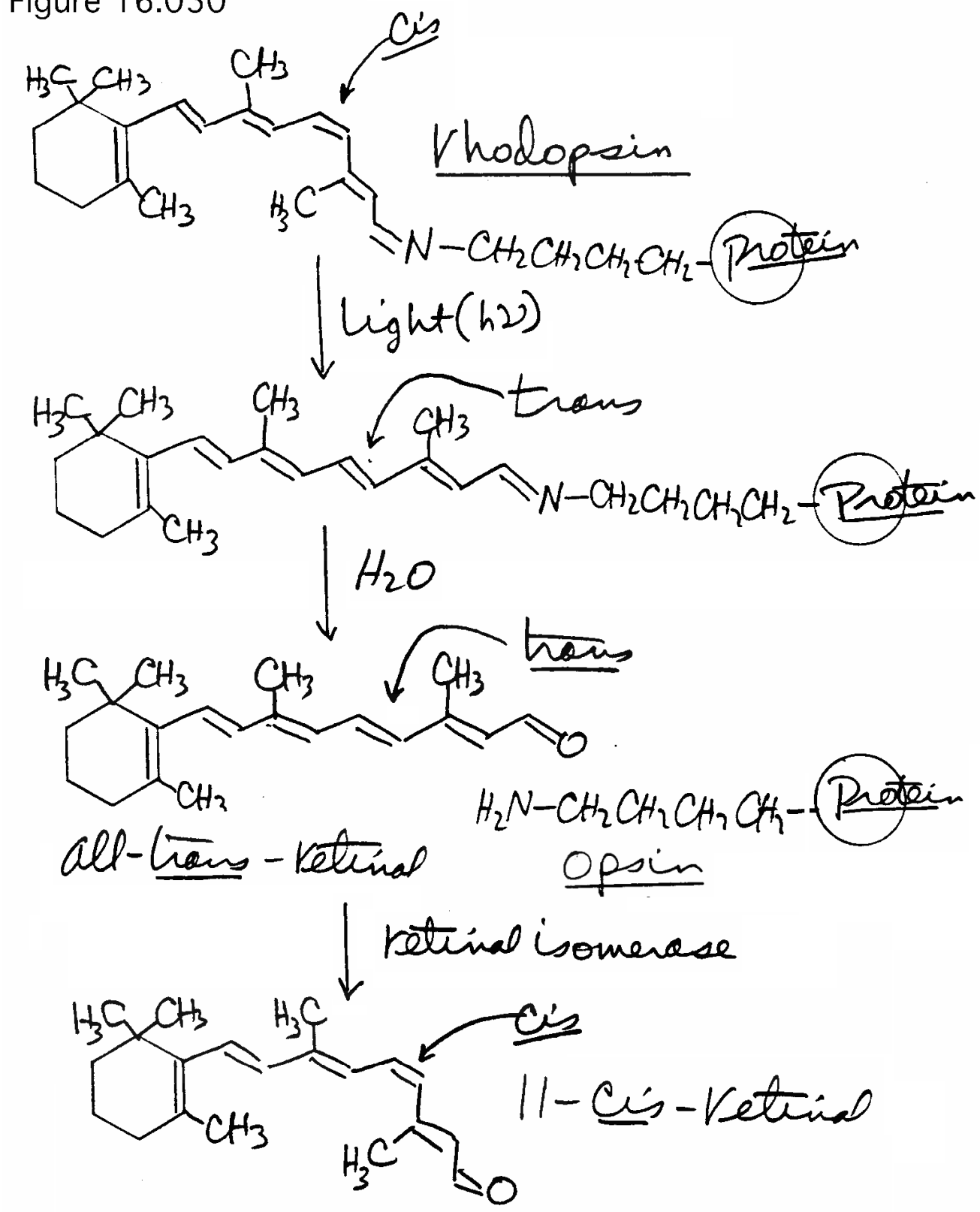


Figure 16.051

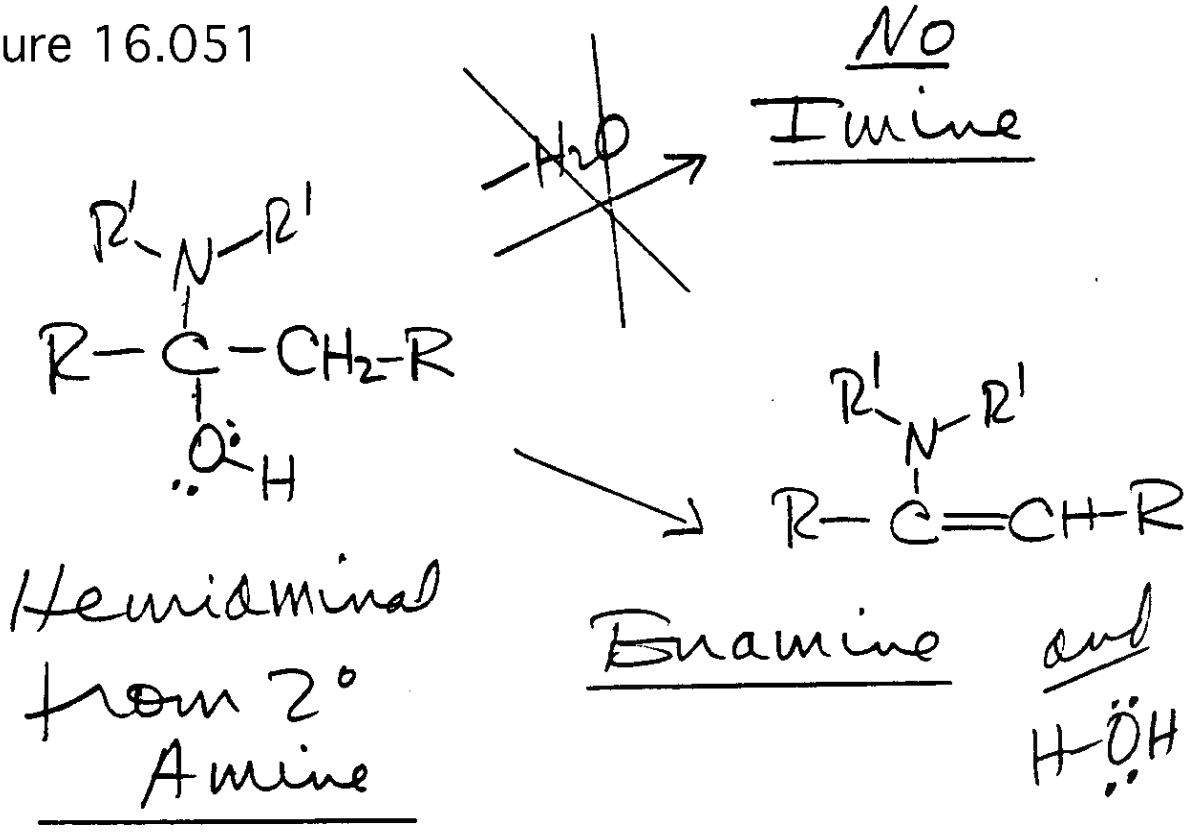


Figure 16.052

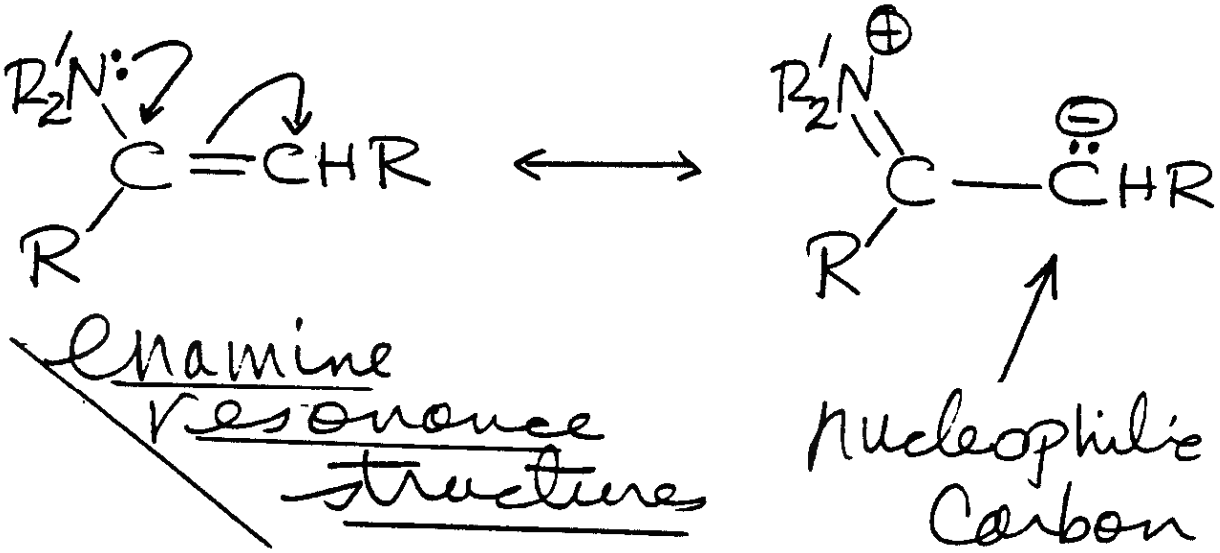


Figure 16.053 Reaction of $R_2C{=}O$ and $R\text{-}NH_2$ pH Dependence - Imine Formation

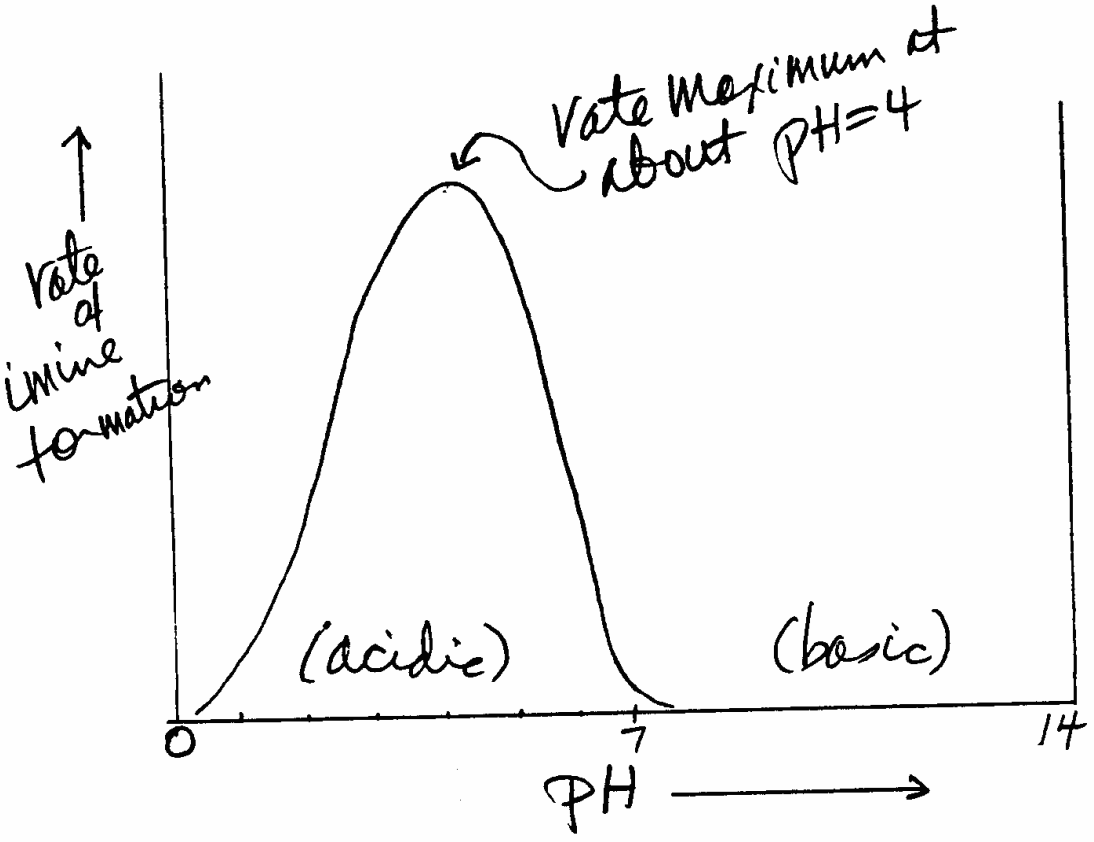


Figure 16.054

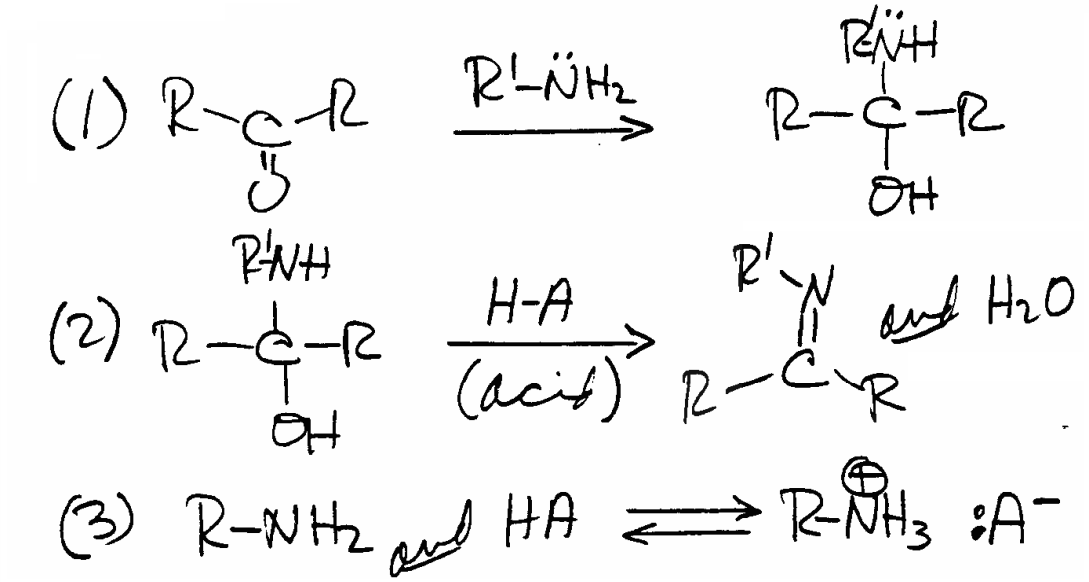
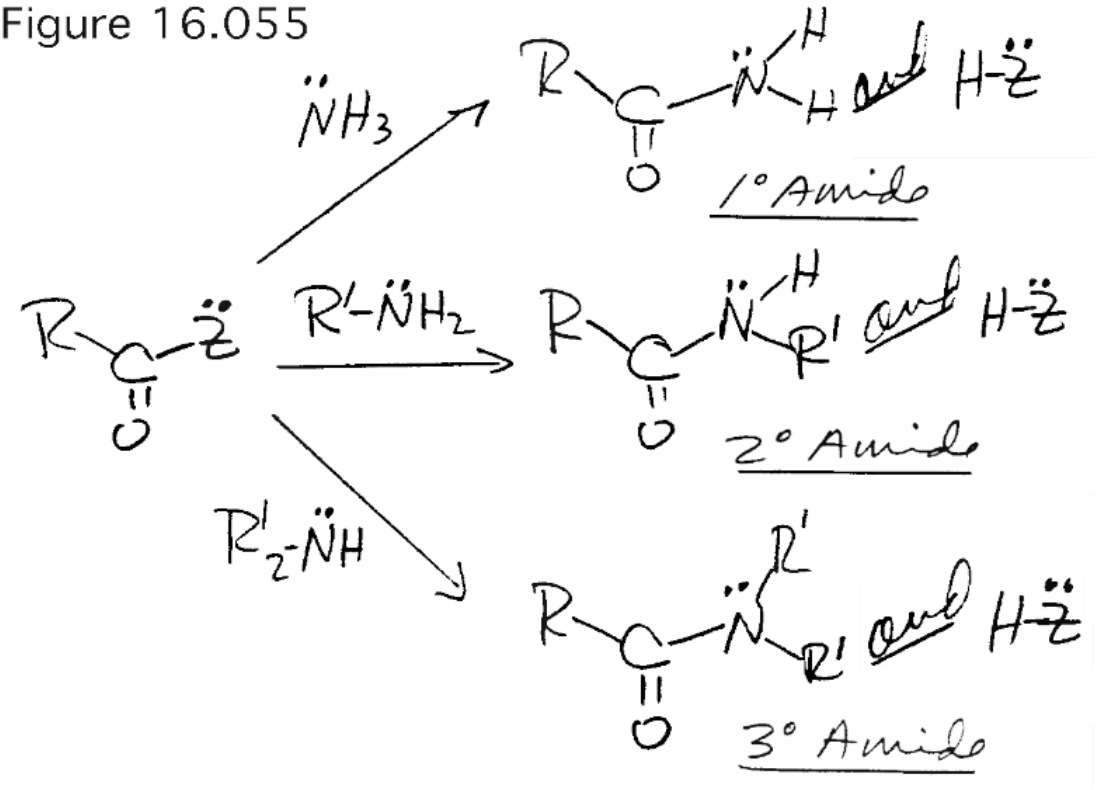


Figure 16.055



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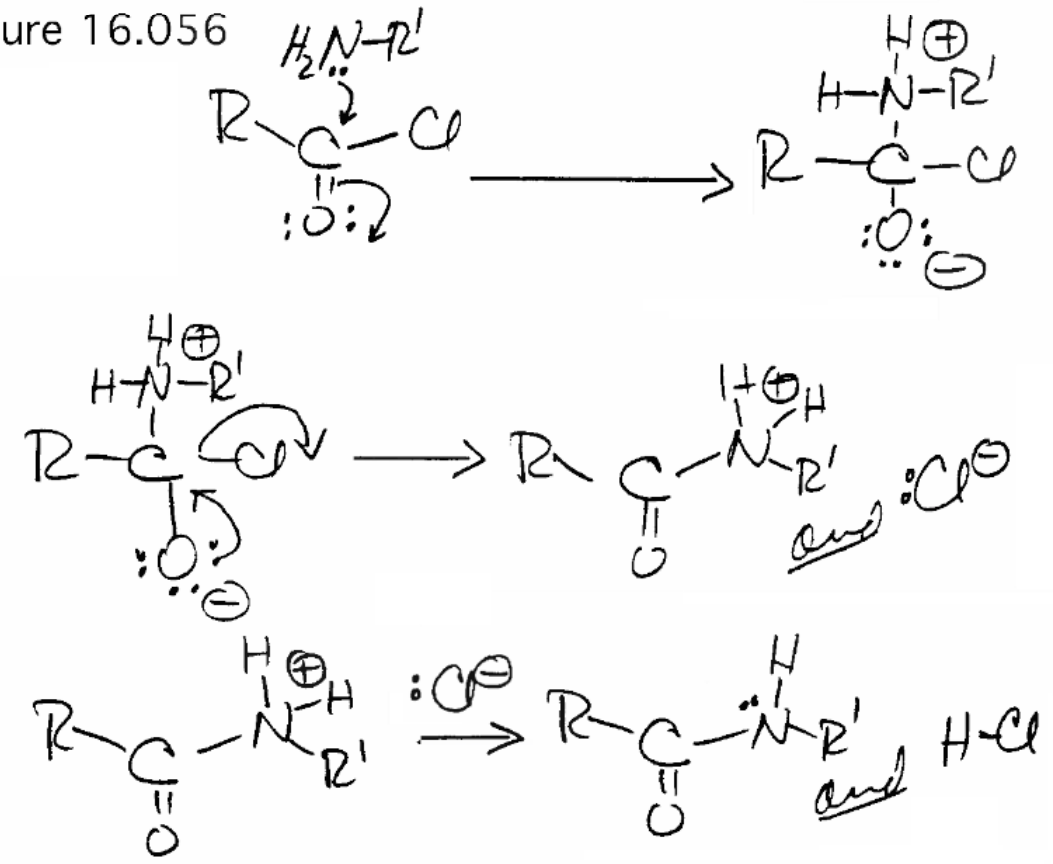

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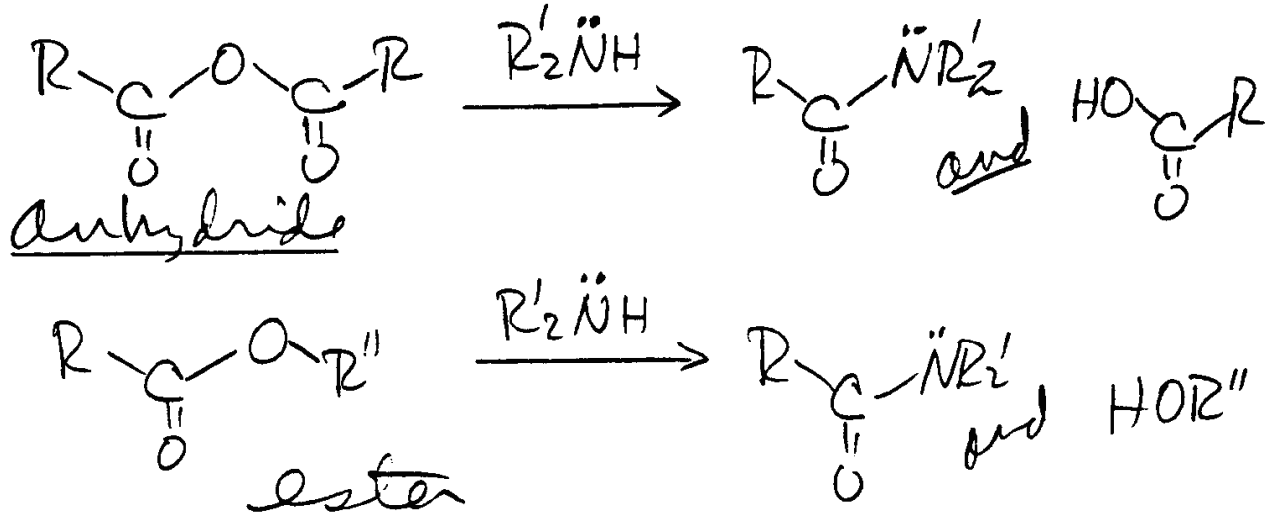

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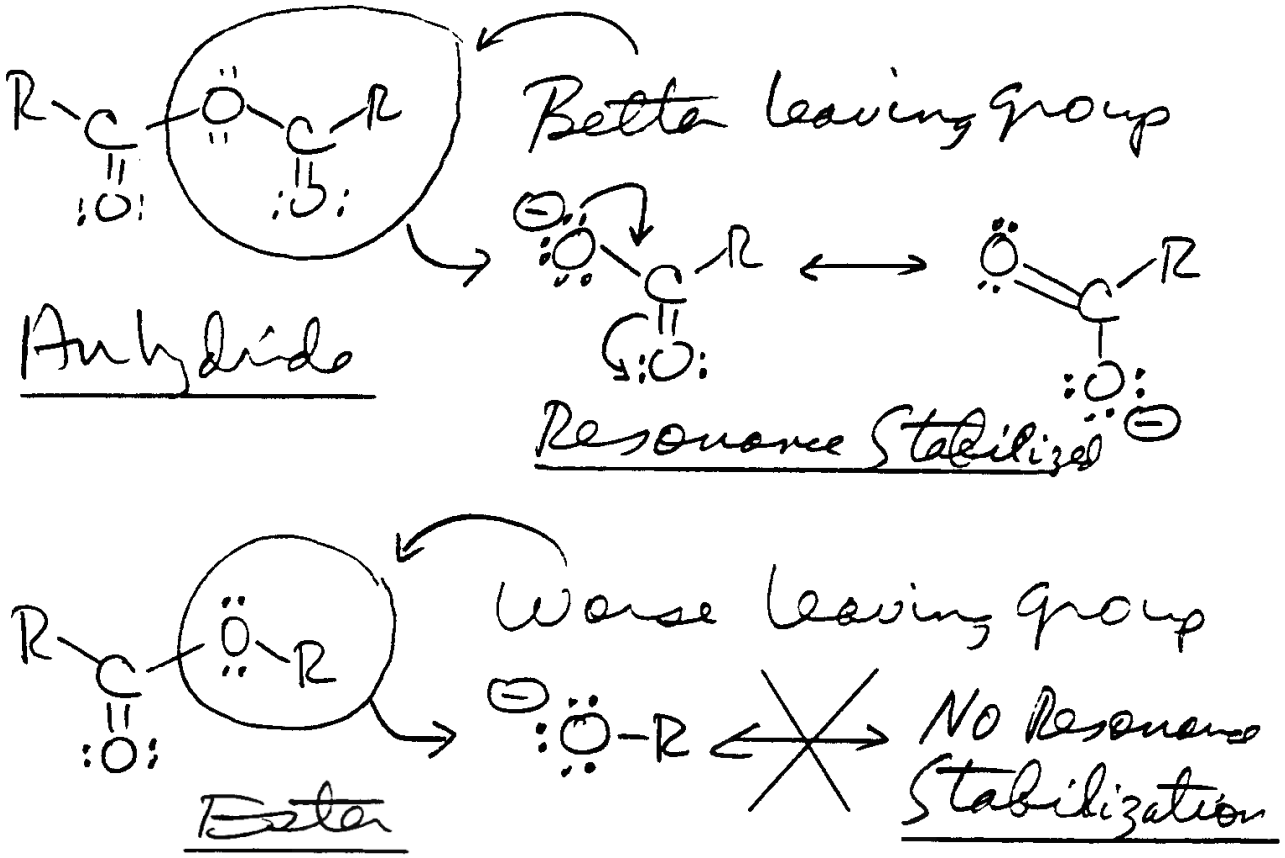
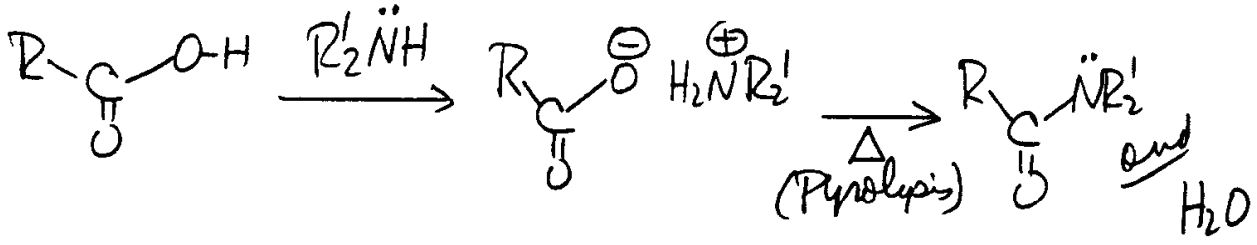


Figure 16.058a



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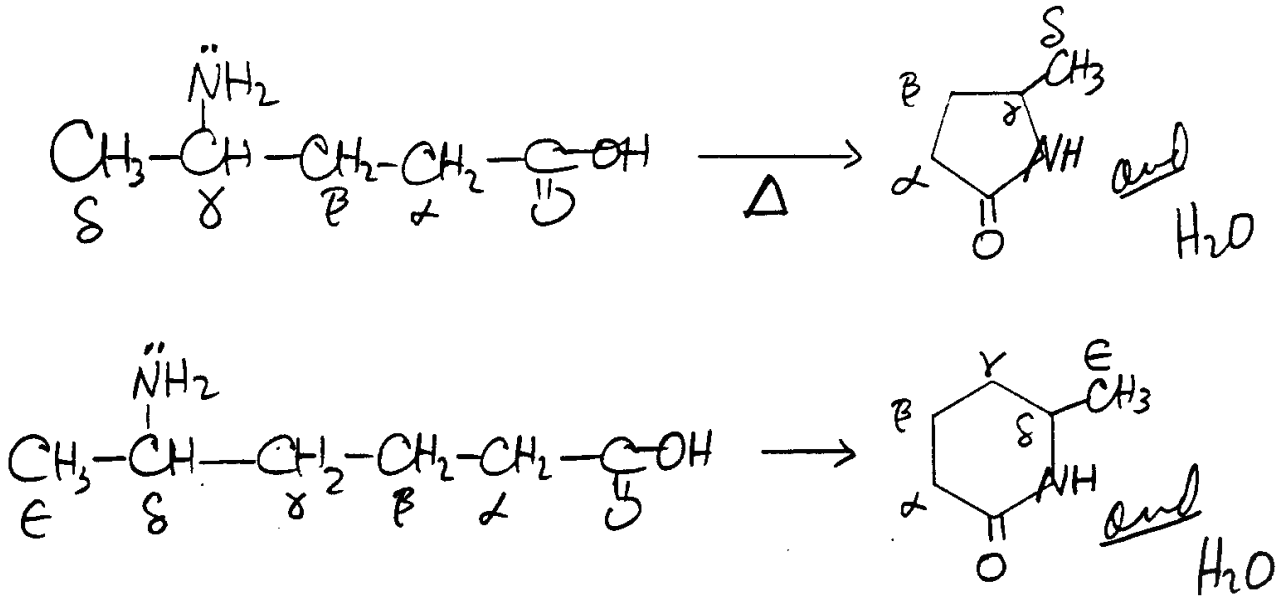
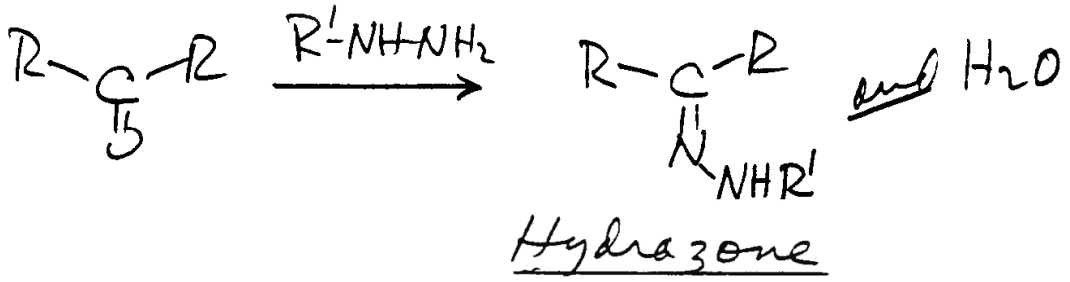


Amino acids

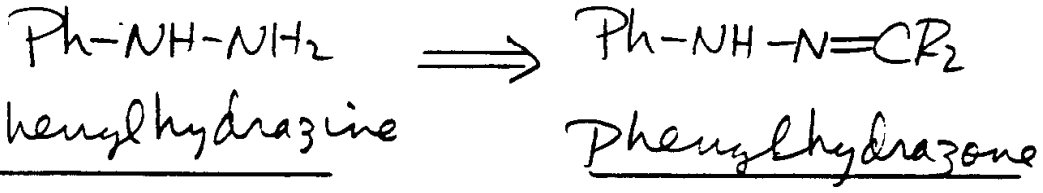
lactams

Figure 16.060

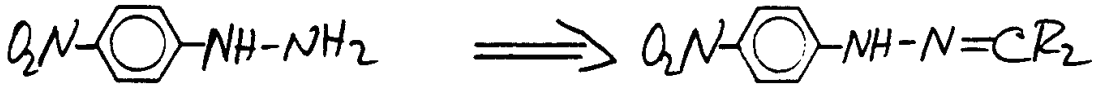


Hydrazone

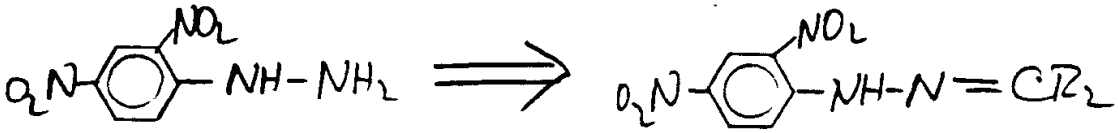
Figure 16.061



Phenylhydrazine Phenylhydrazone

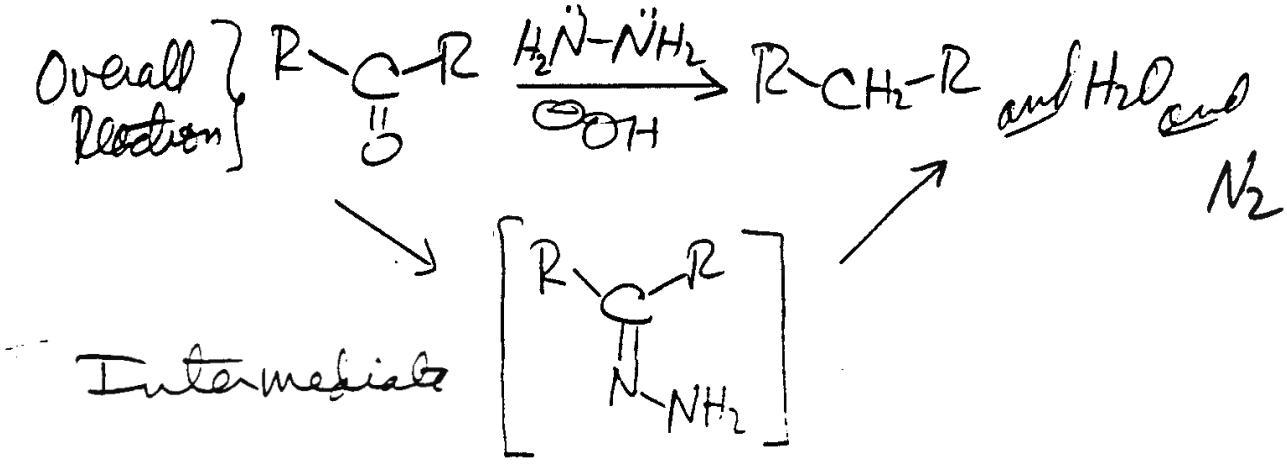


P-nitrophenylhydrazine P-nitrophenylhydrazone



2,4-dinitrophenylhydrazine 2,4-dinitrophenylhydrazone

Figure 16.062 Wolff-Kishner Reaction



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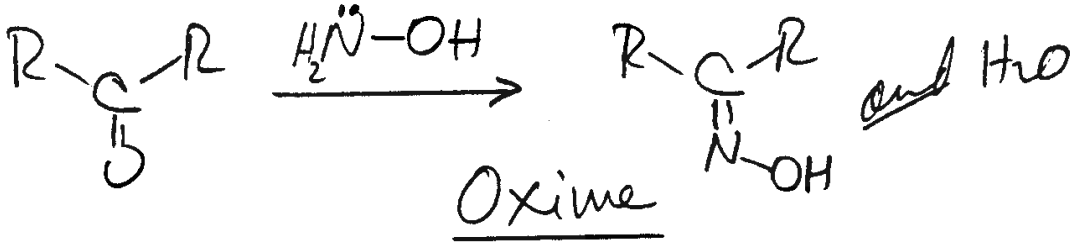


Figure 16.064 To be added

Figure 16.065

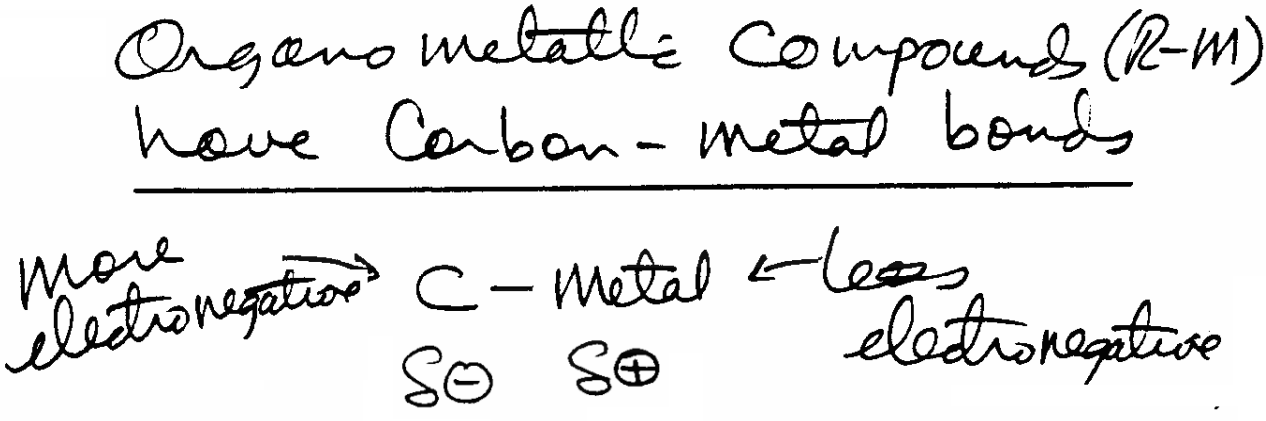
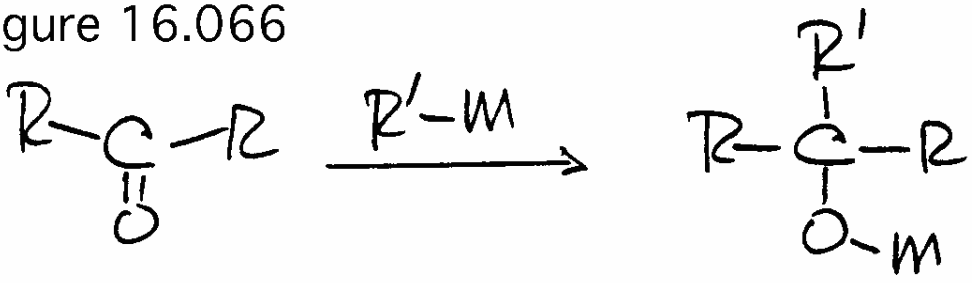


Figure 16.066



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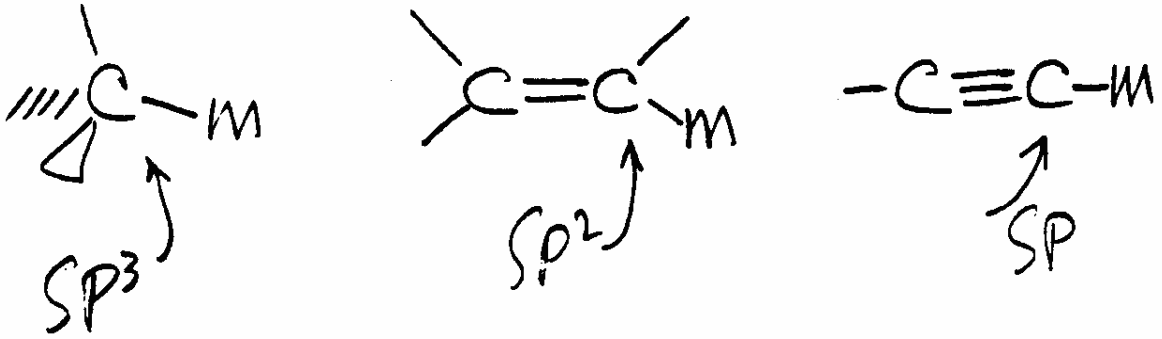

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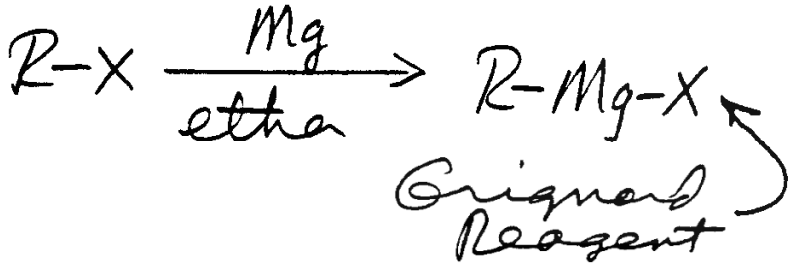

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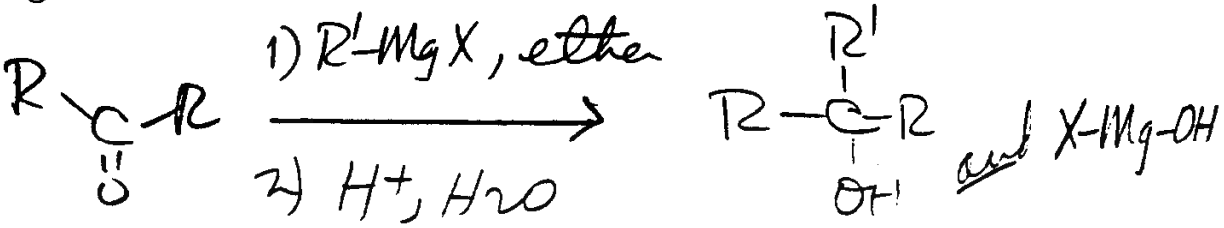

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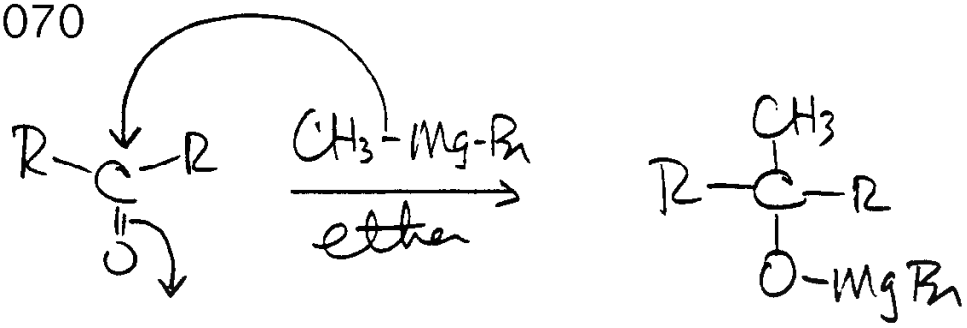

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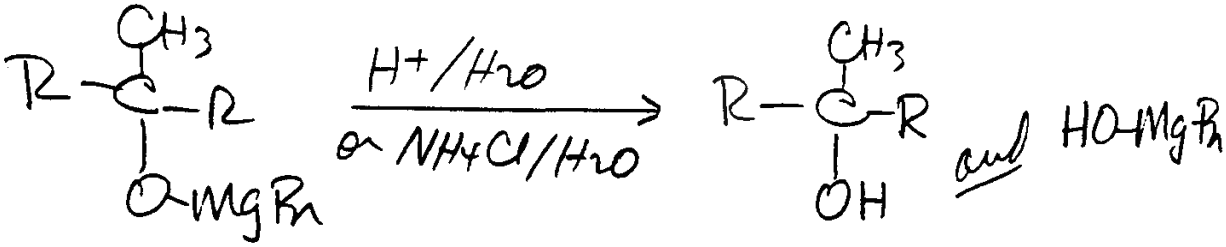

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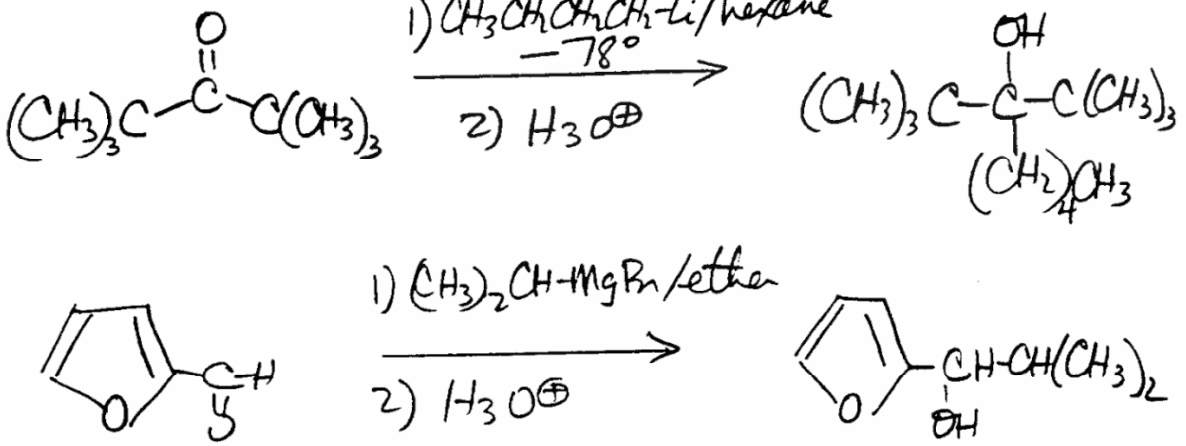

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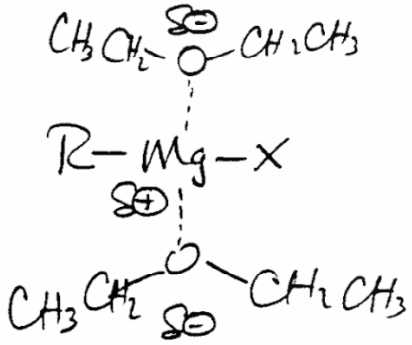

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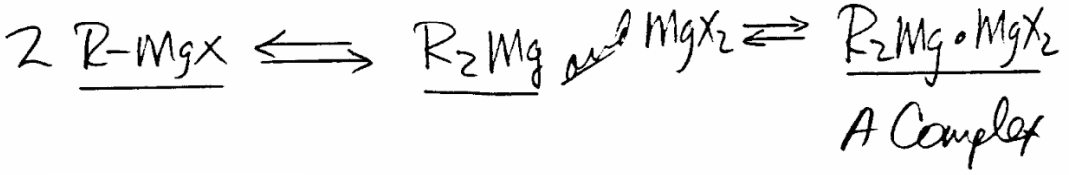

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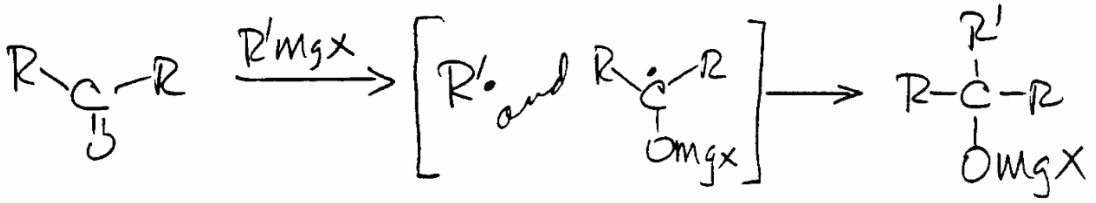

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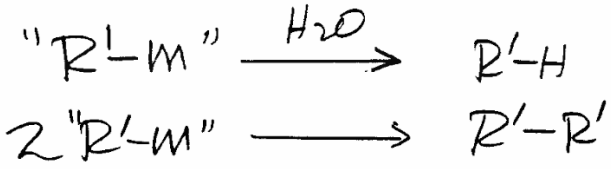

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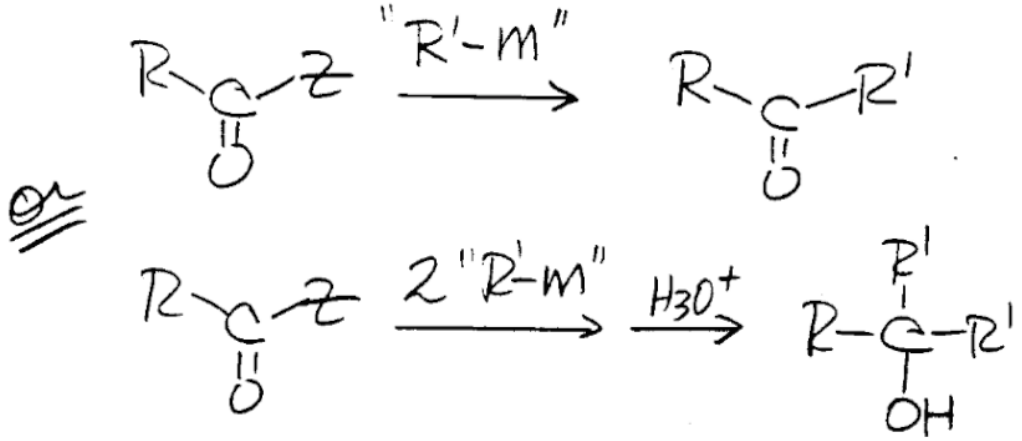

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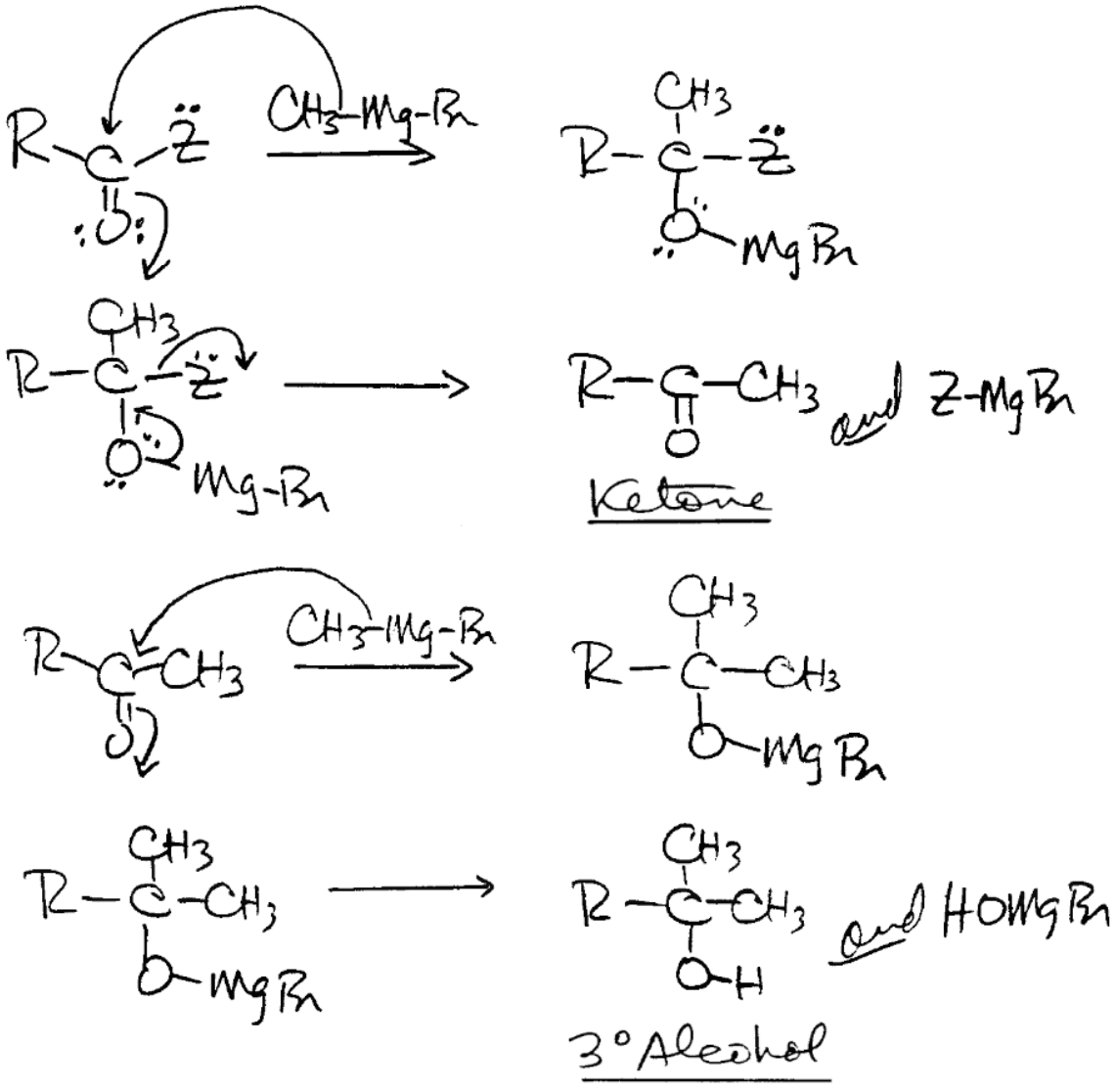

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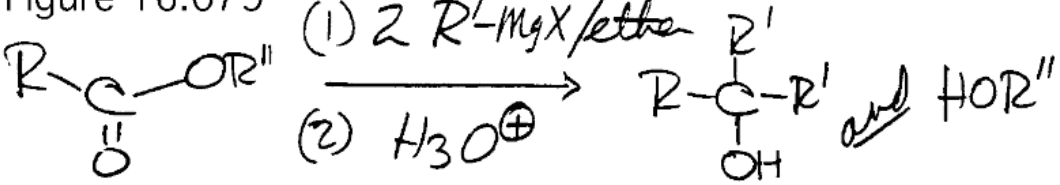

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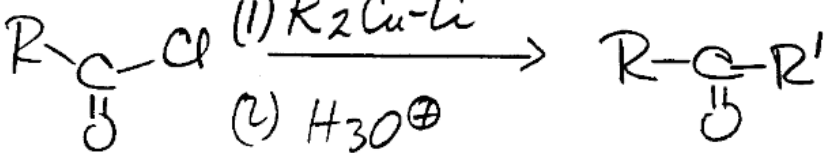

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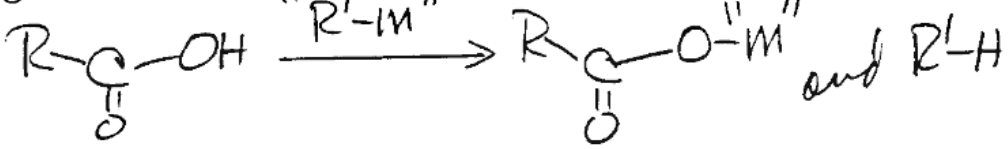

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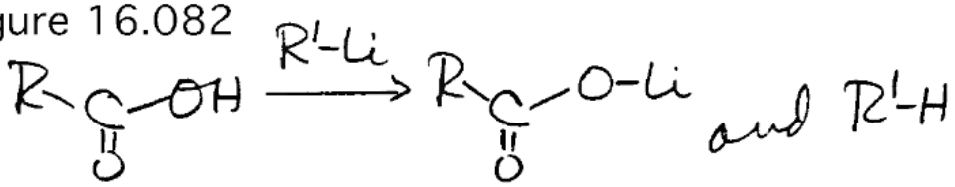

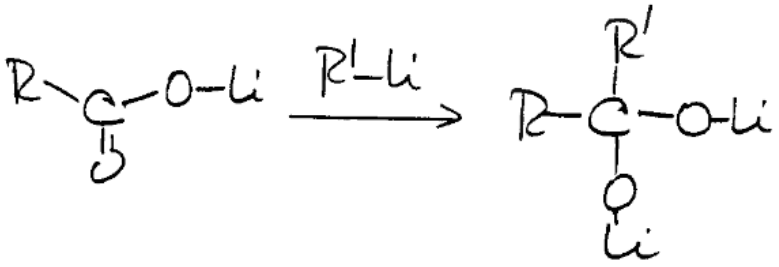

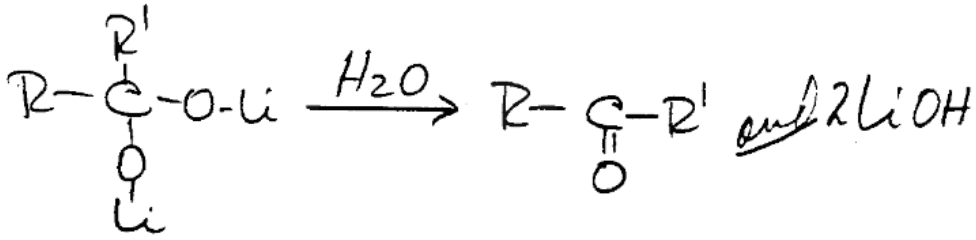

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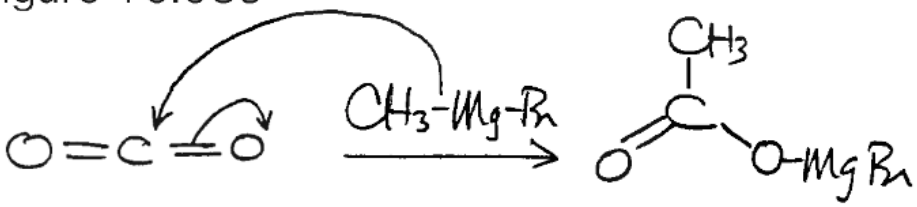

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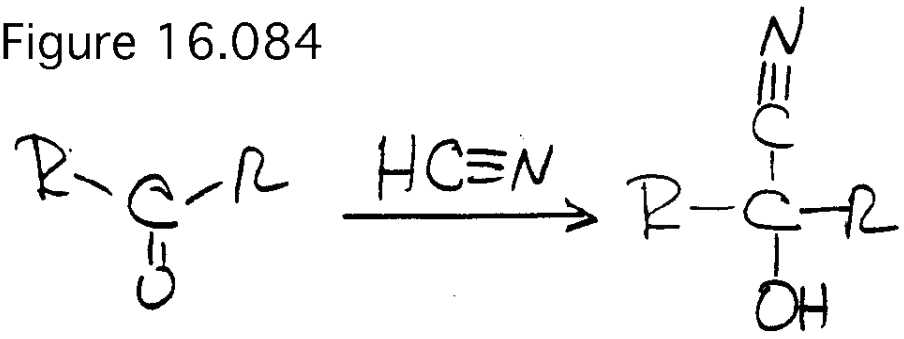

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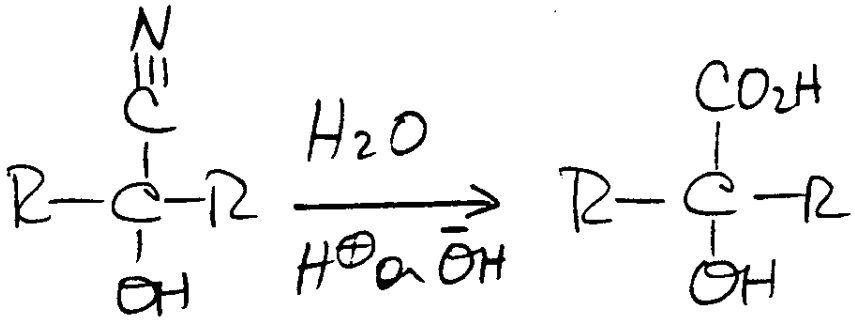

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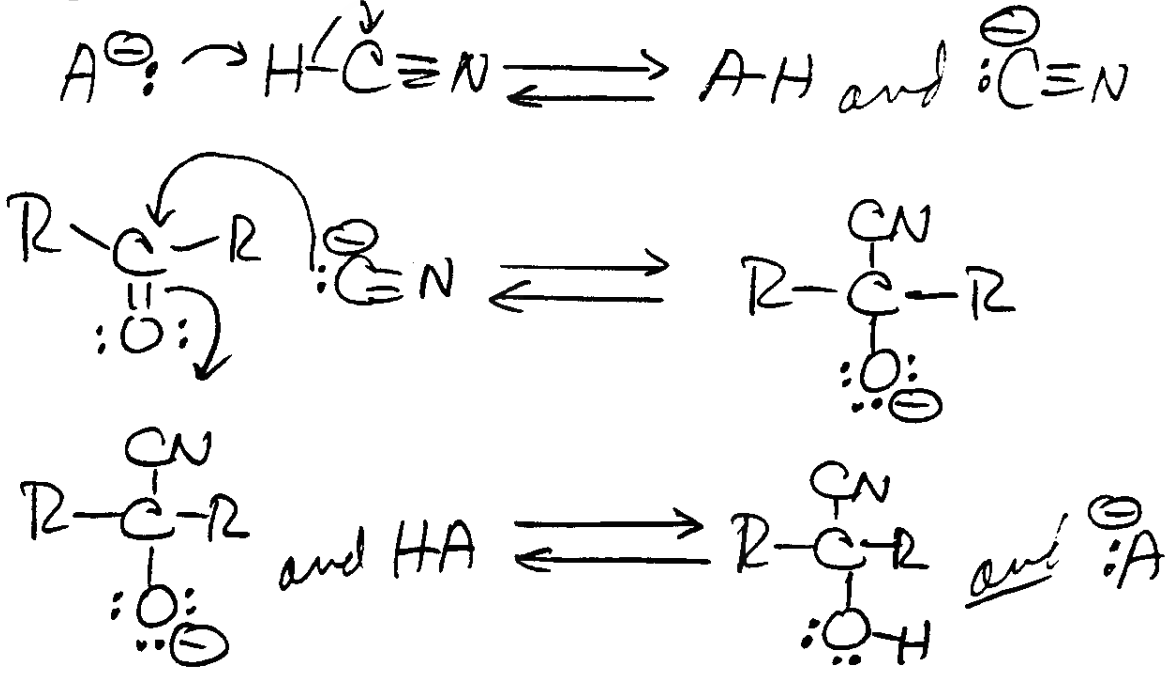

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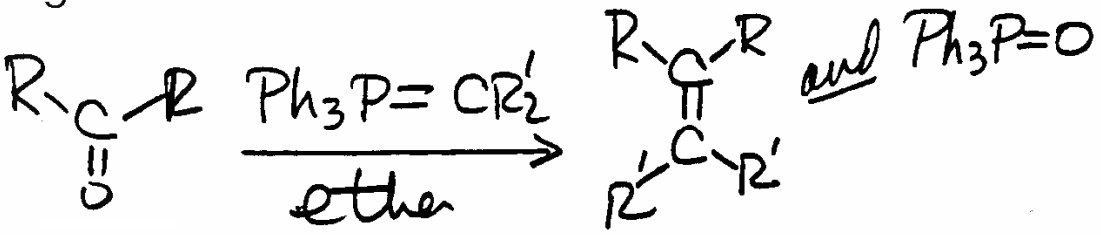
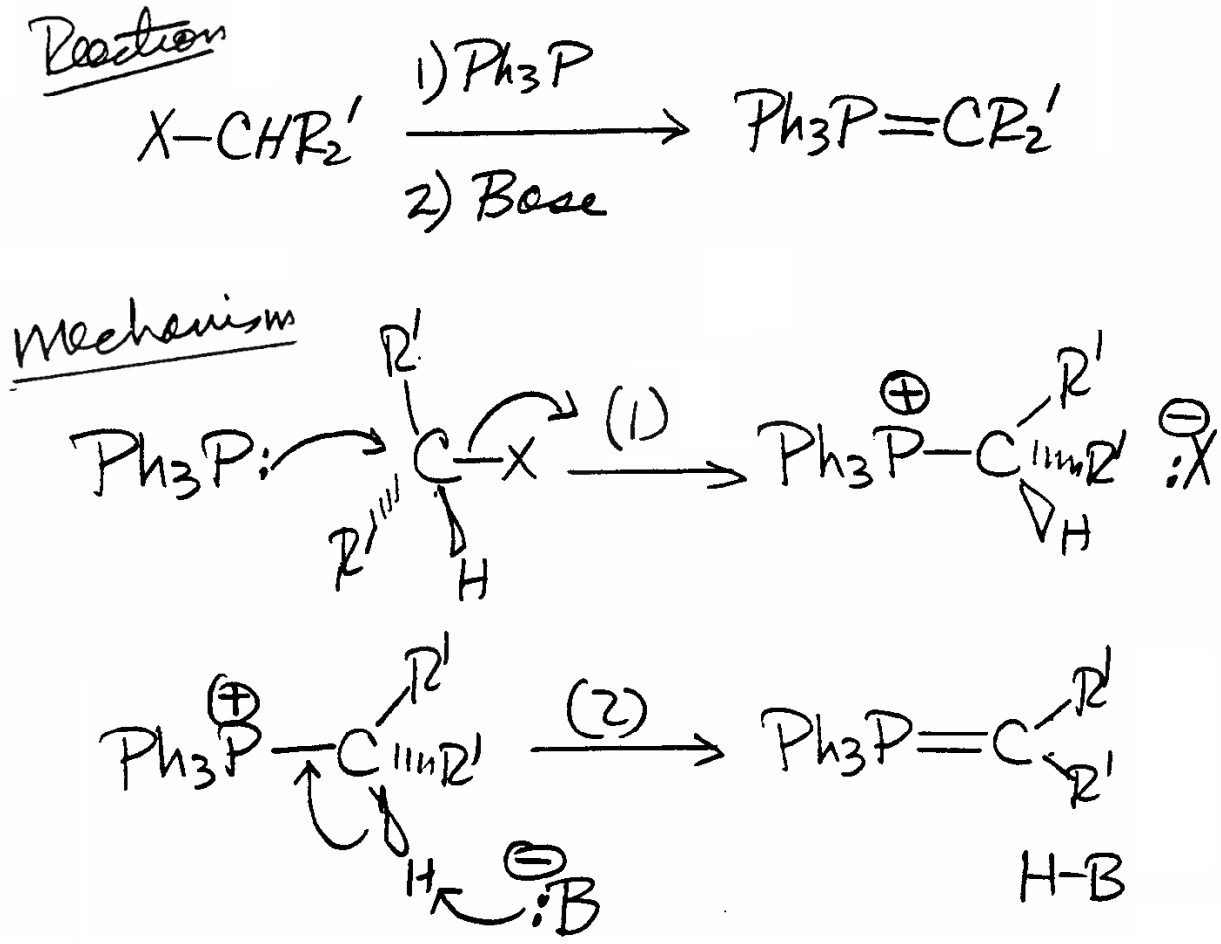


Figure 16.088

Figure 16.089



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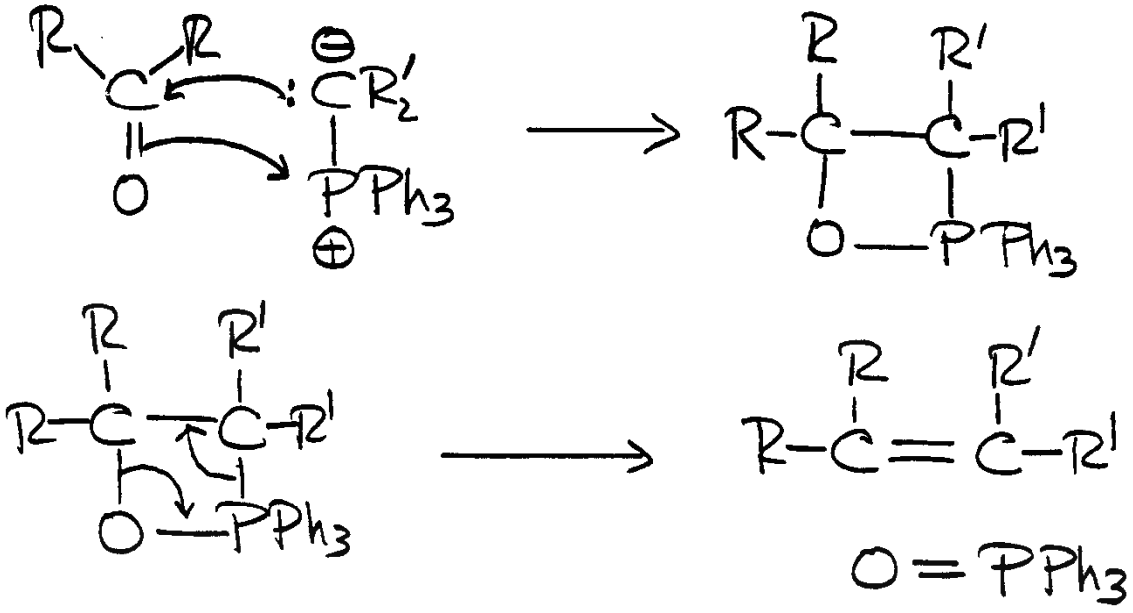

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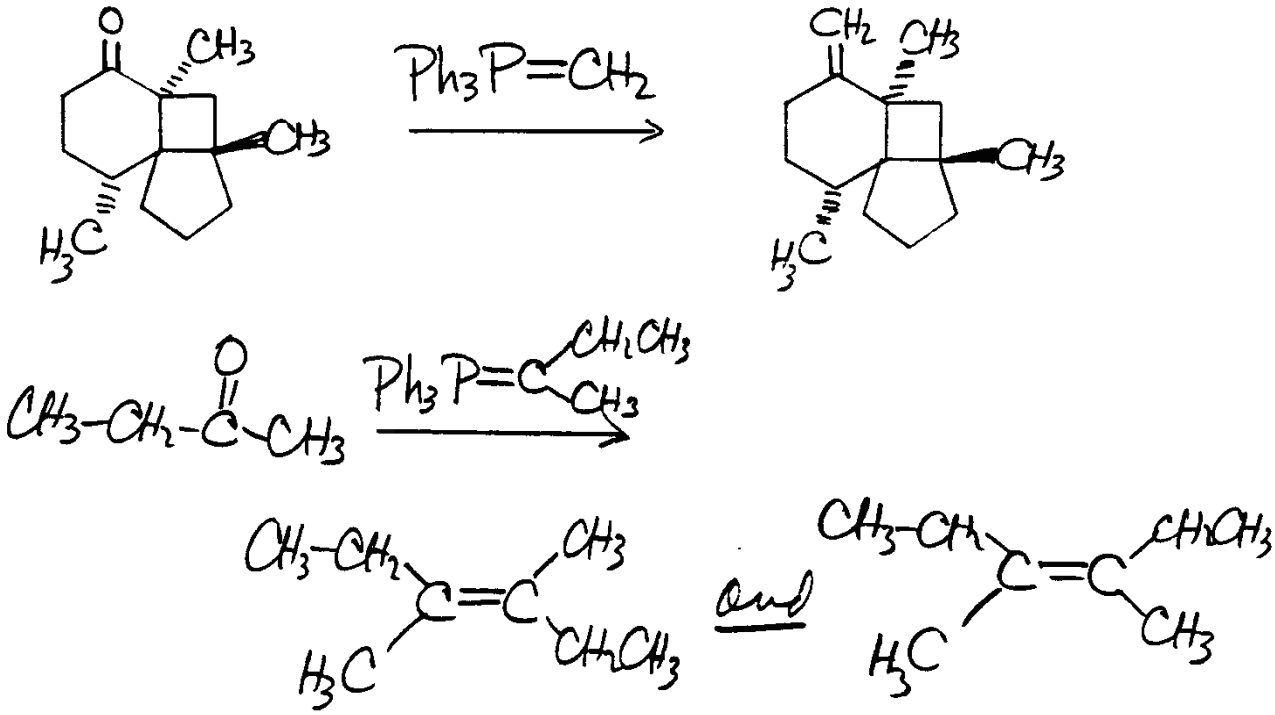

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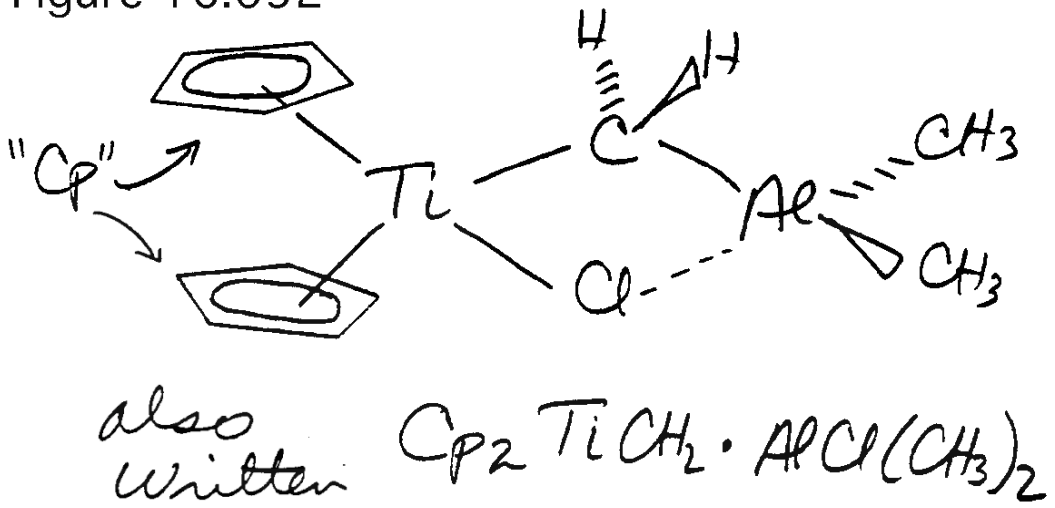
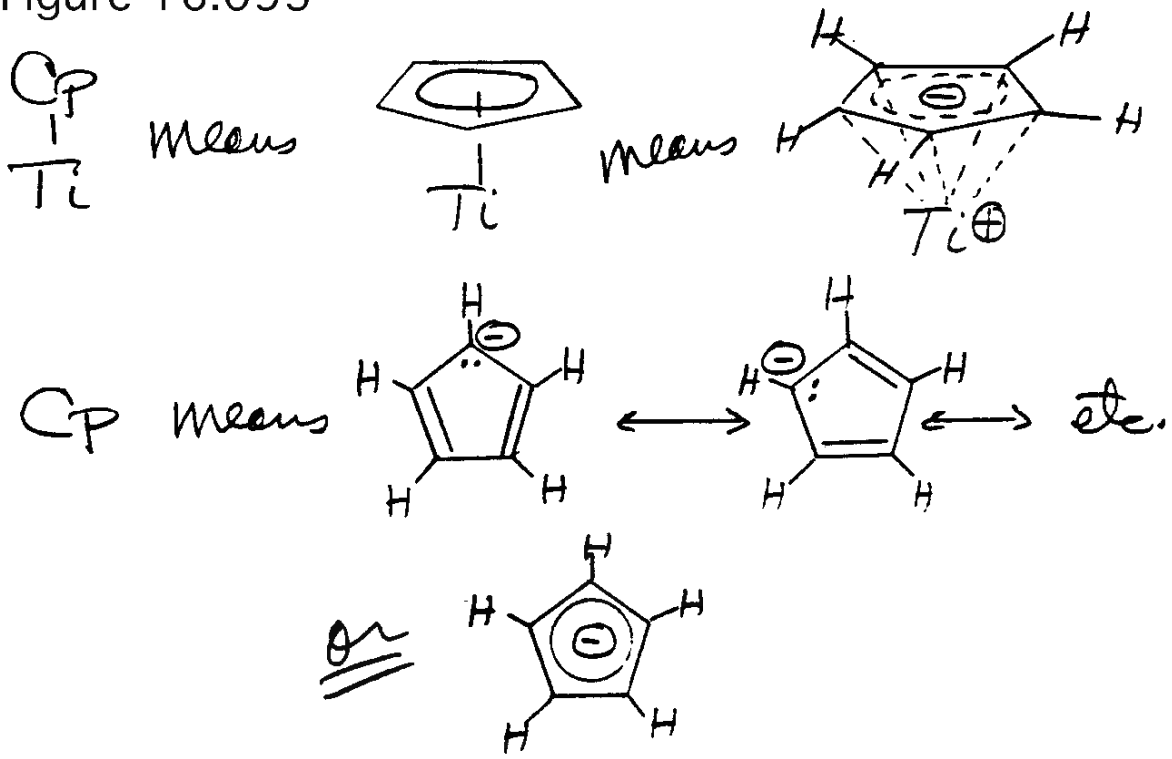


also written $Cp_2TiCH_2 \cdot AlCl(CH_3)_2$

Figure 16.093



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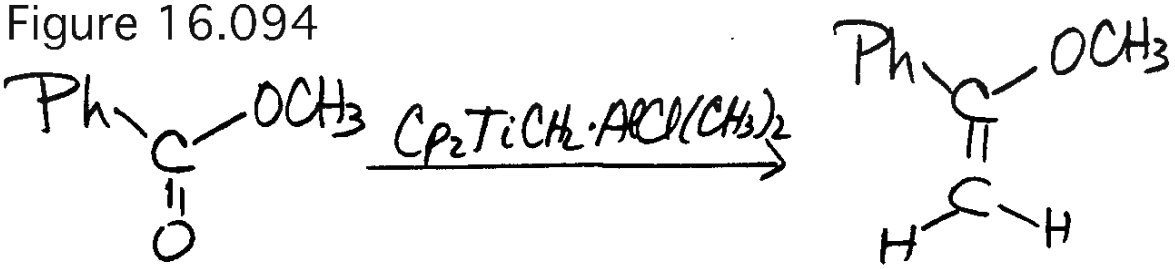

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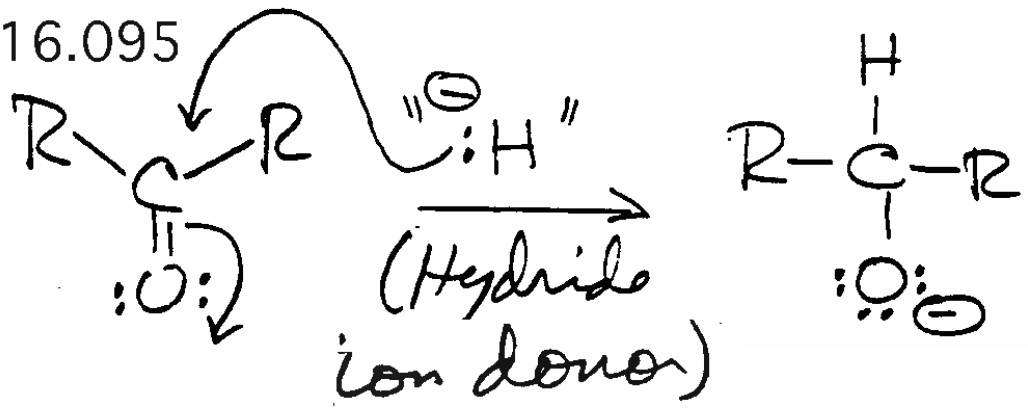

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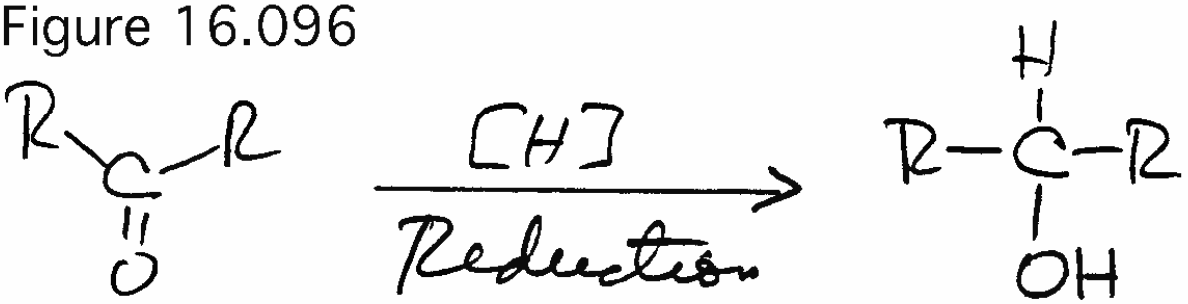
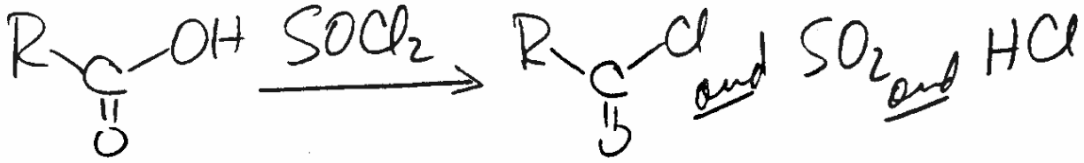


Figure 16.097

Figure 16.098



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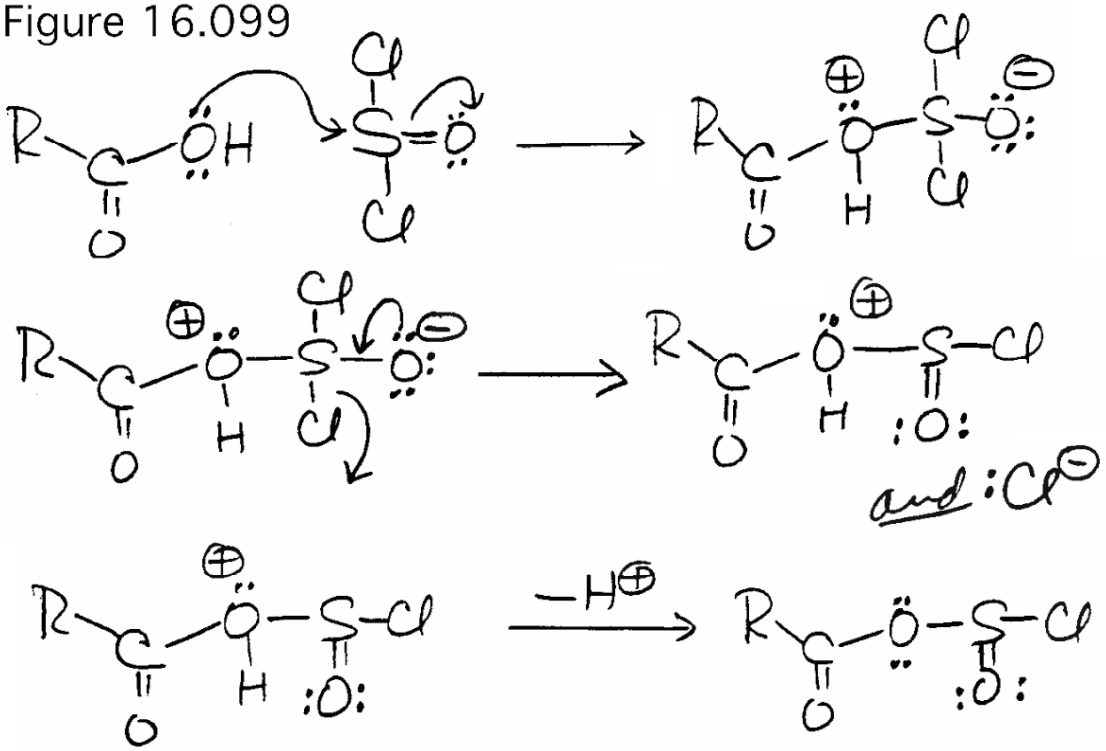

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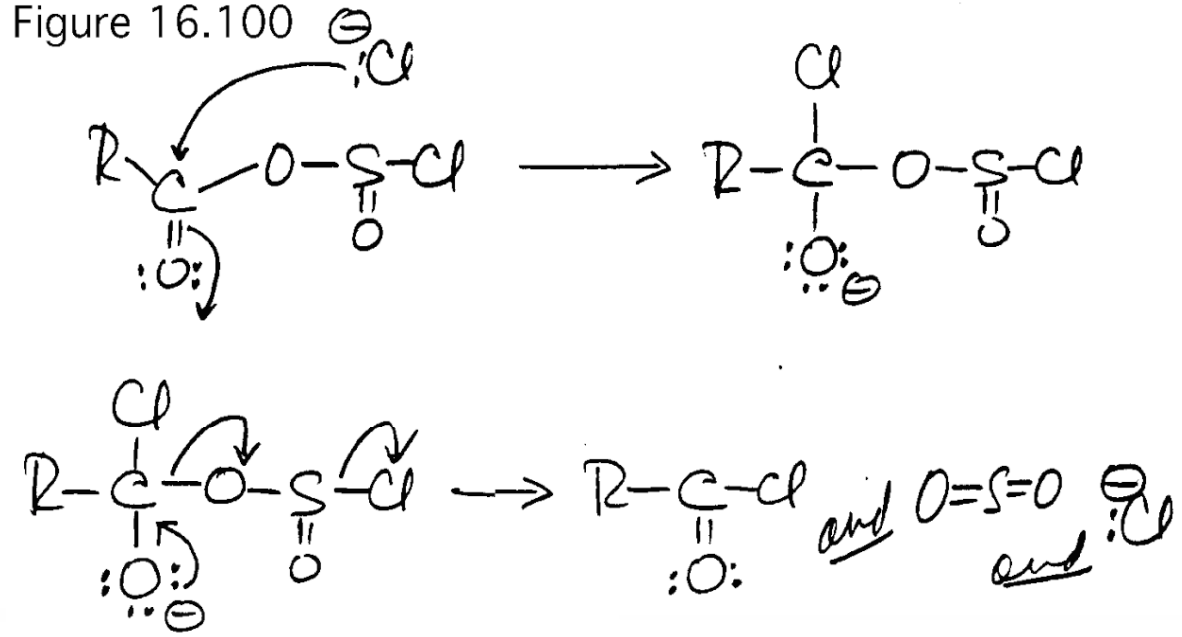

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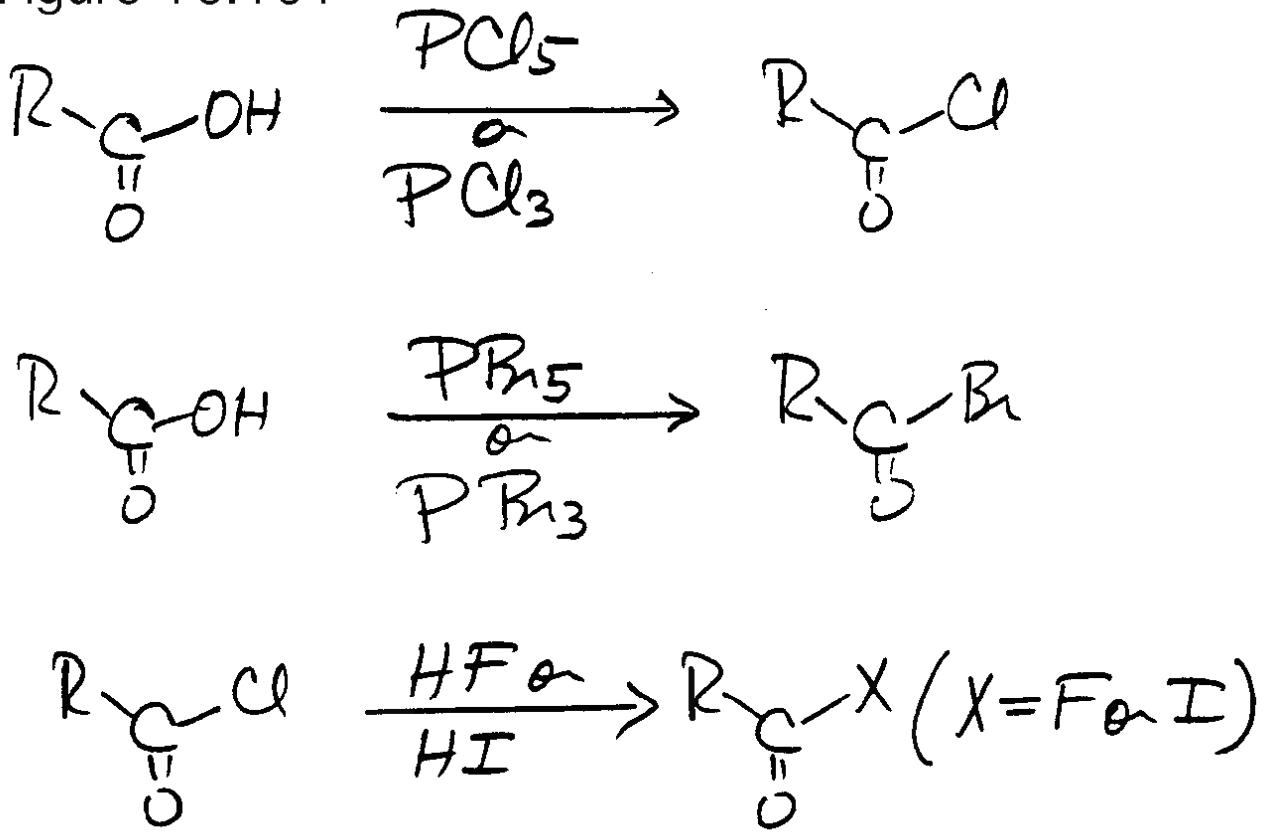

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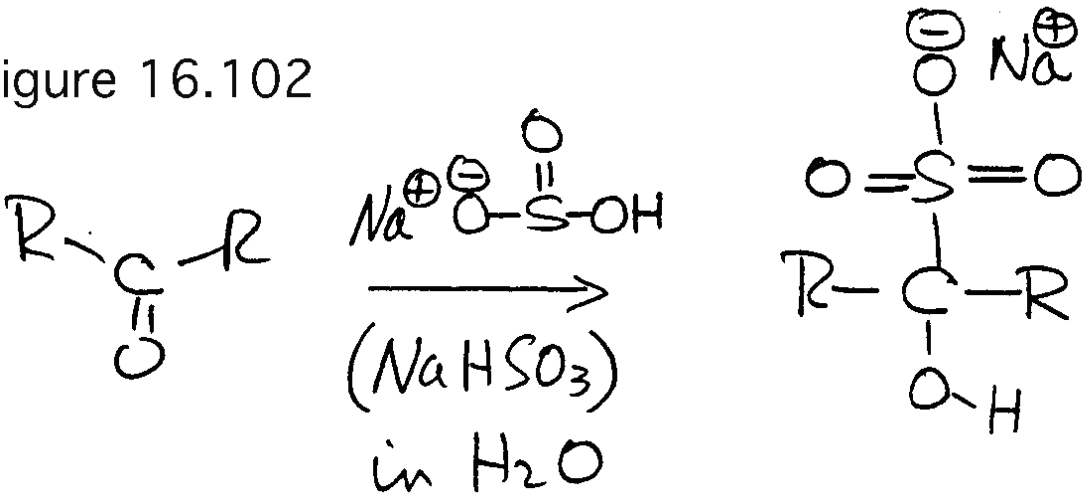

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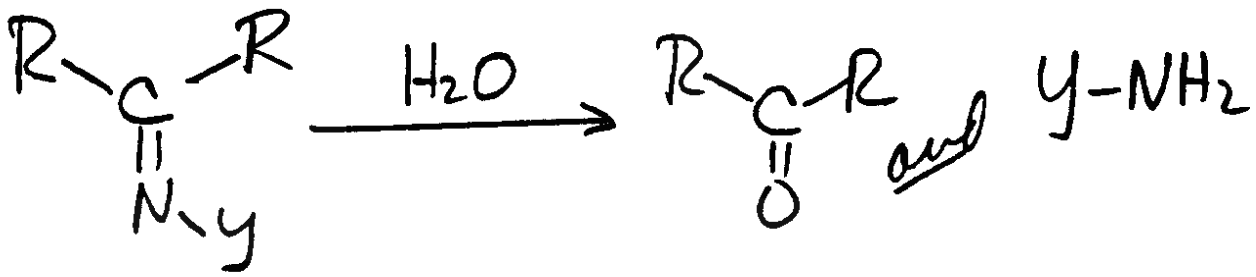

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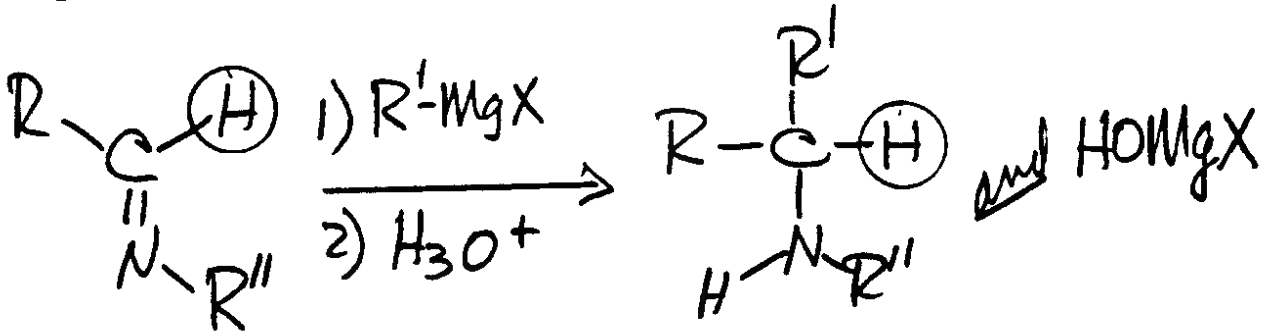

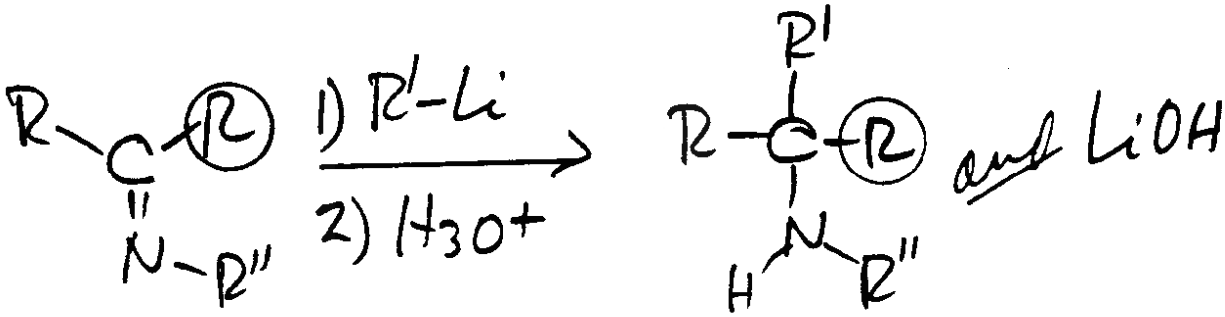

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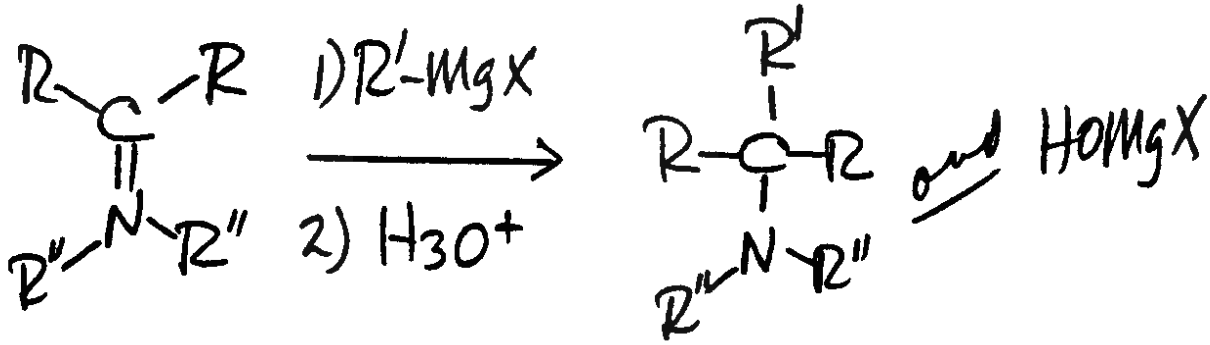

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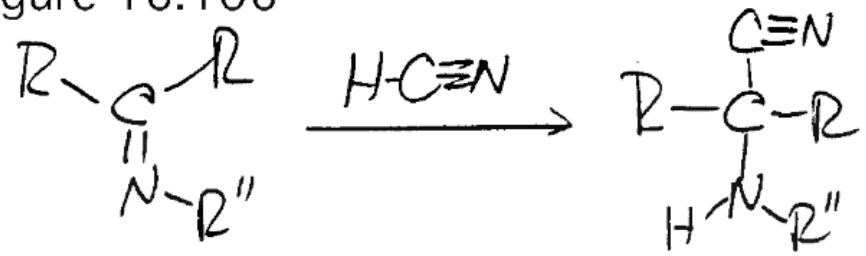

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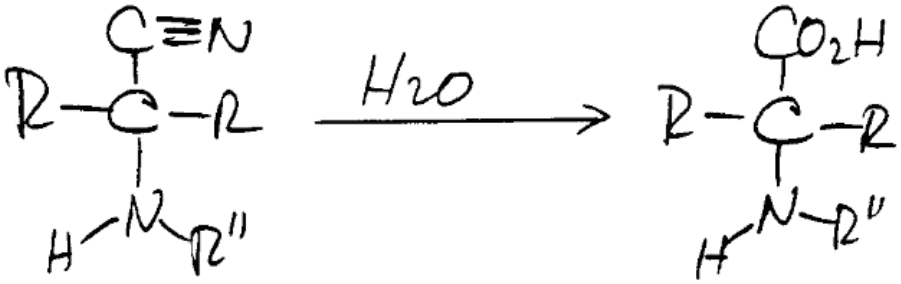

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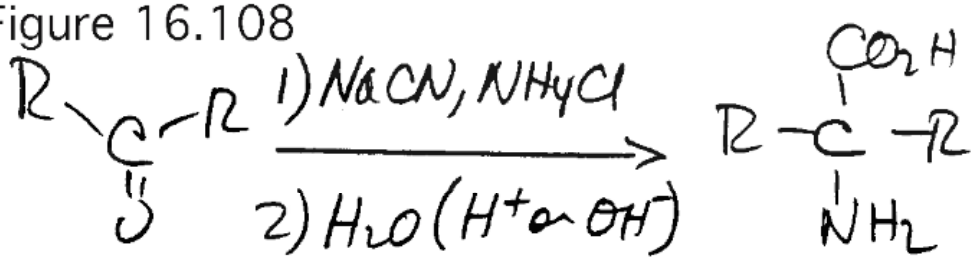

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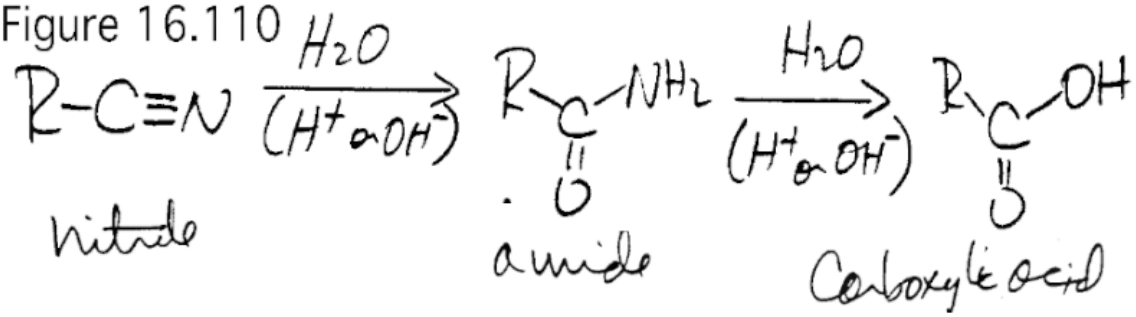

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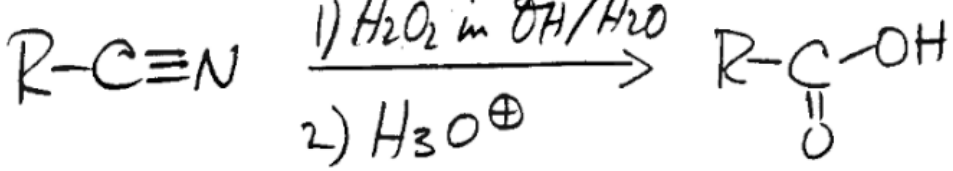
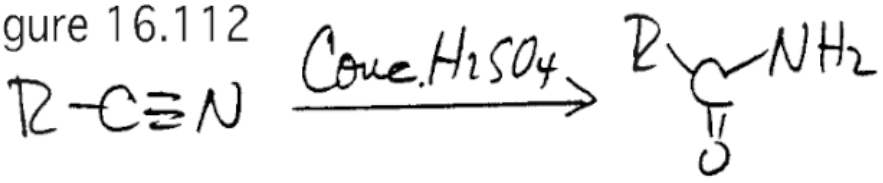


Figure 16.112



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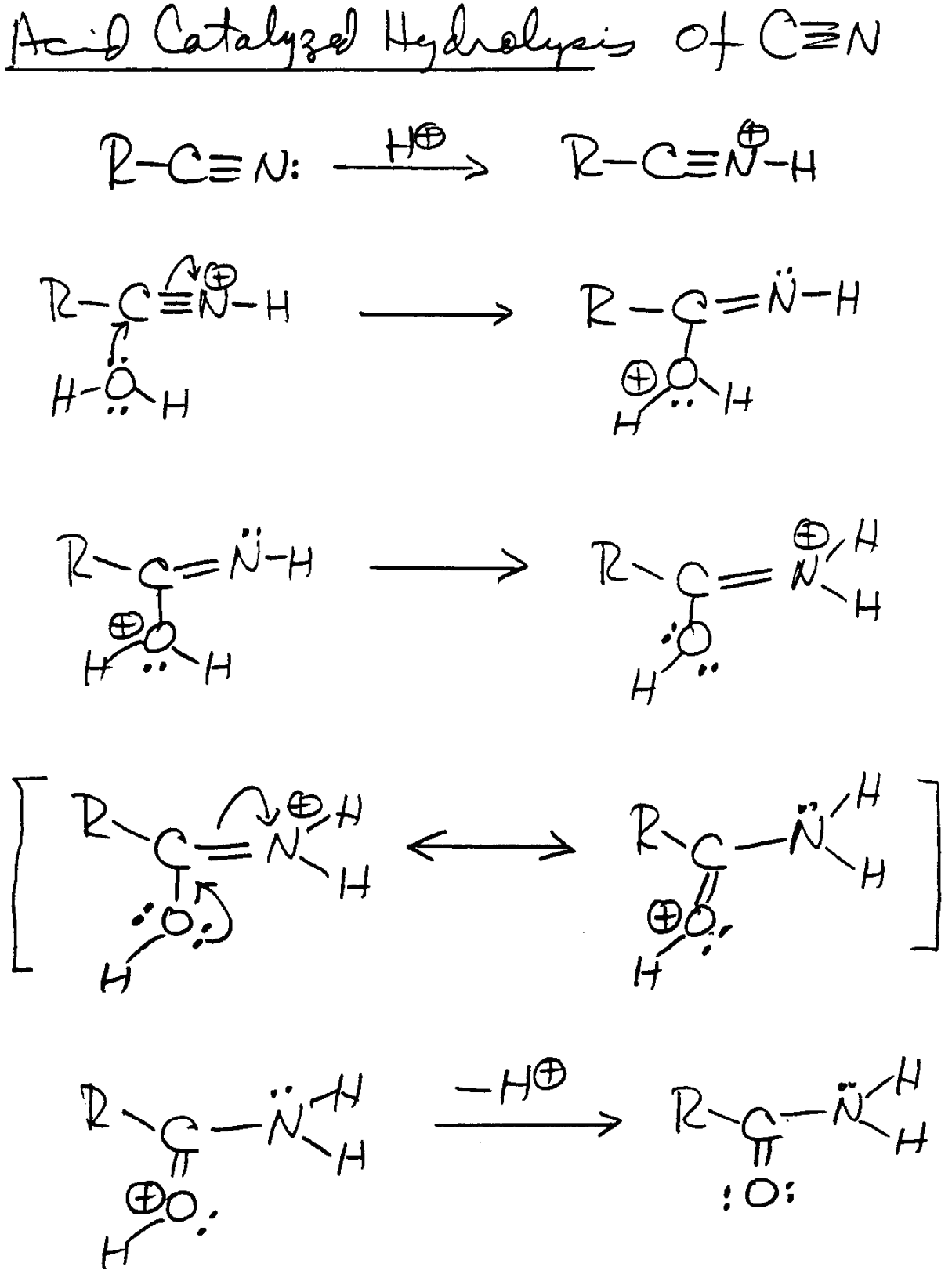

Figure 16.114

Base Catalyzed Hydrolysis of C≡N

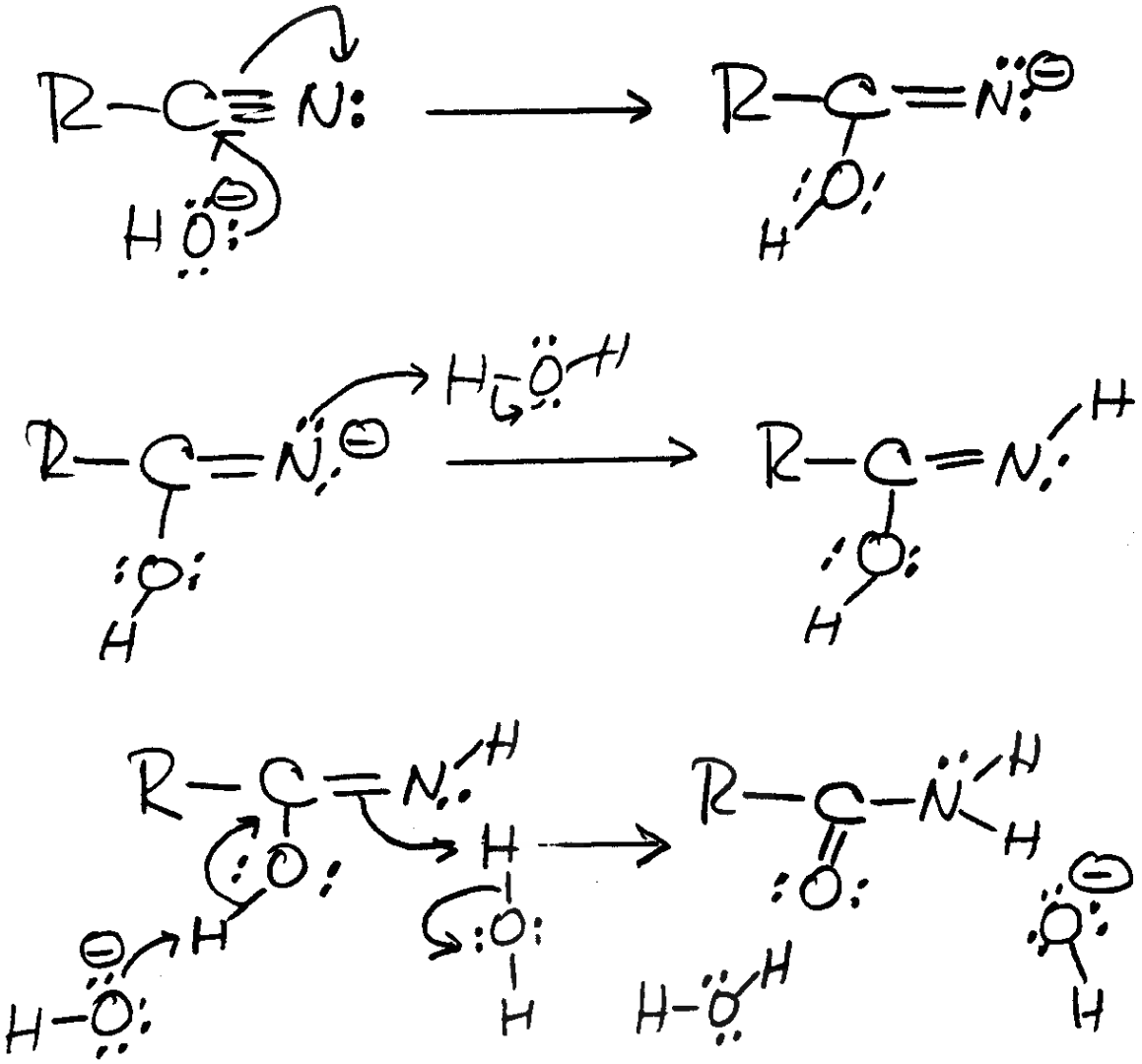

Figure 16.115