

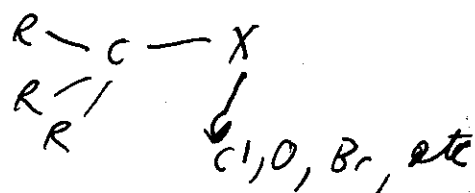
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• Exam 2 on Wed.

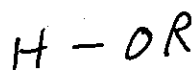
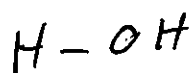
• same room assignments as Exam 1

• Review tomorrow @ 5 PM in B371 & 7 PM in B371

Recall alcohols, alkyl halides, etc.

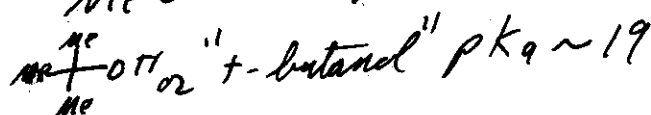
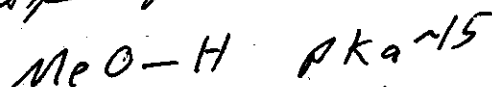


Acid-Base chemistry of Alcohols (Brønsted)



Typical $\text{pK}_a \sim 16$

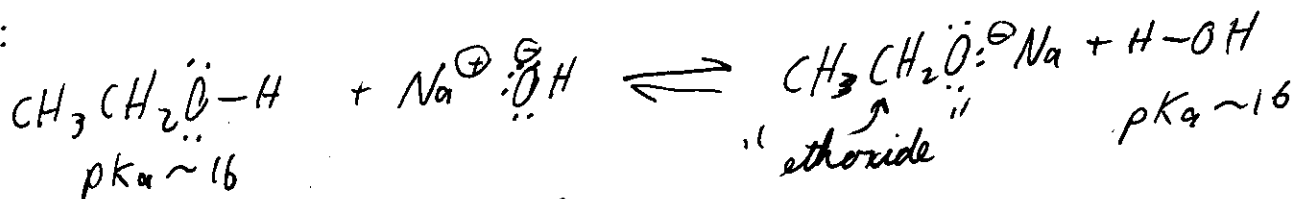
Specific values can vary



Quantitative deprotonation of alcohols (i.e., complete
 • 100% but accepts possibility for error deprotonation)

Requires a careful choice of base

ex:

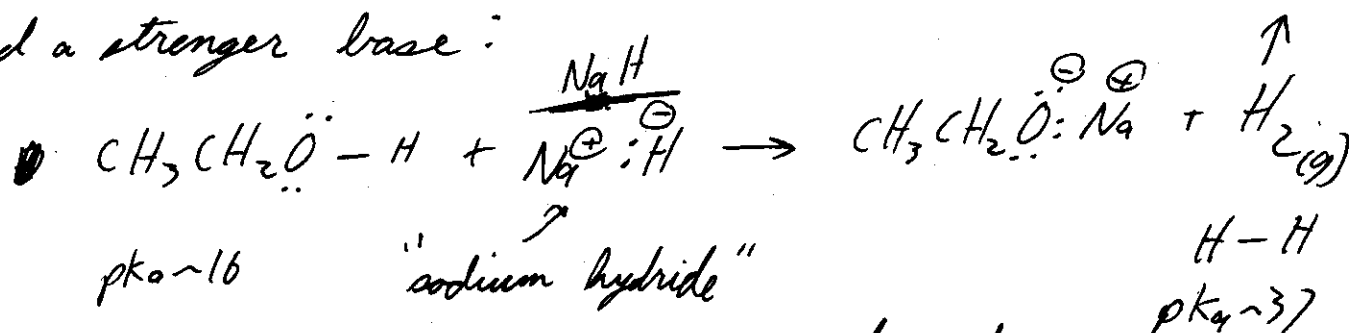


• not quant. deprotonation of EtOH

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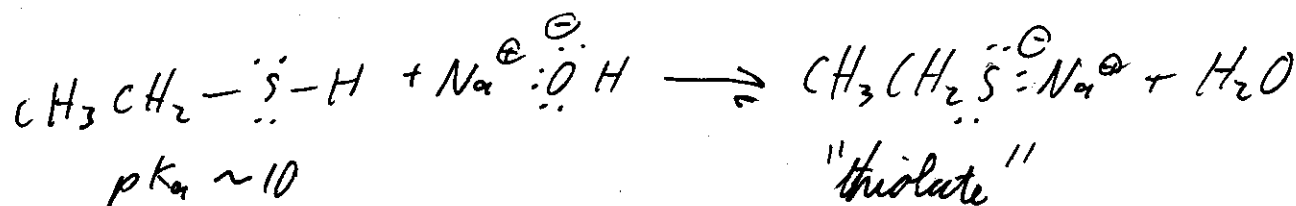
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Need a stronger base:

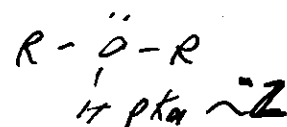
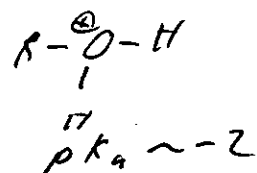
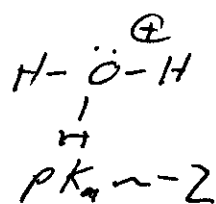
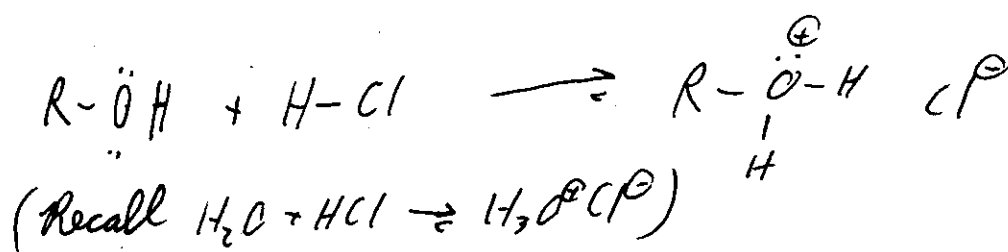


• H₂ bubbles out of solution & further drives reaction to equilibrium

Deprotonation of thiols ~ quant, w/ hydroxide or alcohols

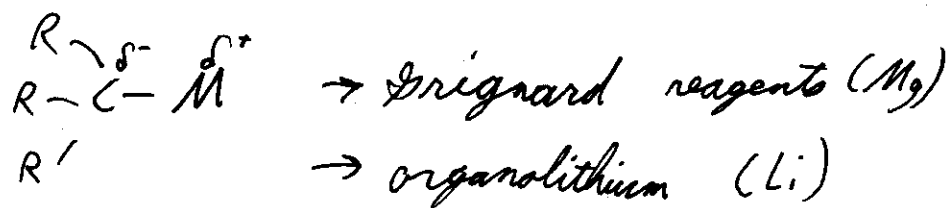


Alcohols as Brønsted bases:

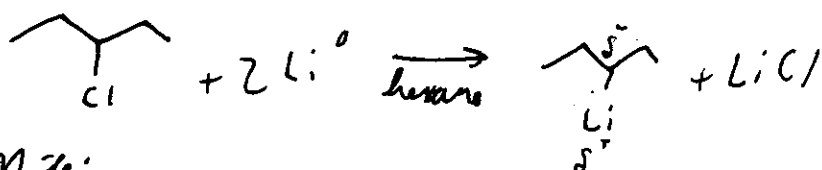
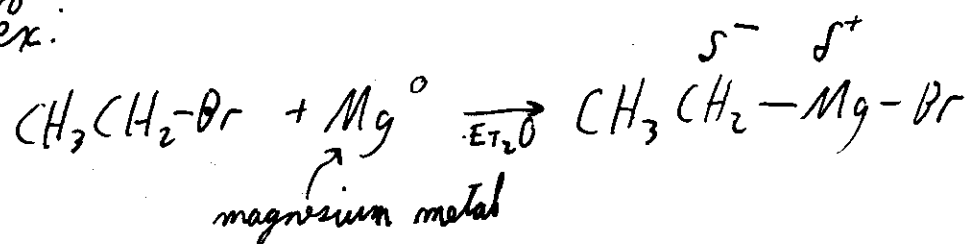


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Distinctive reactivity of alkyl halides (Cl, Br, I; not F)
 Formation of organometallic species - carbanion-like⁻



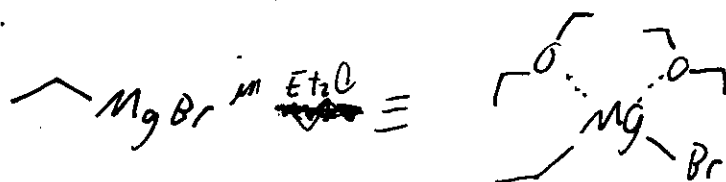
Ex:



Note:

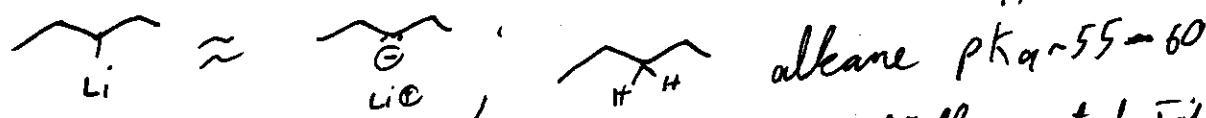
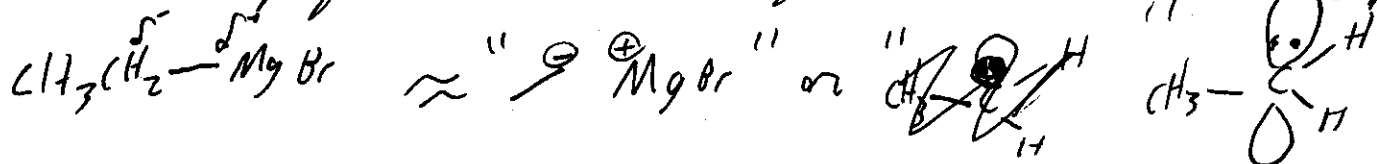
ether solvents (Et₂O, THF) stabilize organometallic species by coordination to metal (Lewis base - Lewis acid)

Ex:



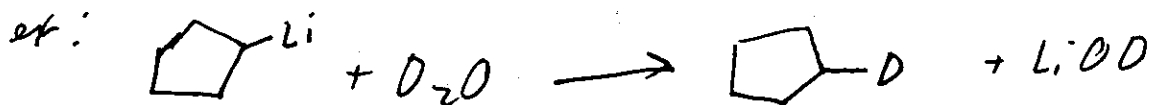
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These species display carbanion-like ~~very~~ reactivity



R Li & R Mg X very strong bases. Will quant deprotonate H_2O & alcohols

Sometimes this reactivity is useful



End Ch 8 disc

Ch 9 Alkyl halides

- substitution & elimination reactions

Rec Problems # 1-5, 8-18, 20-71