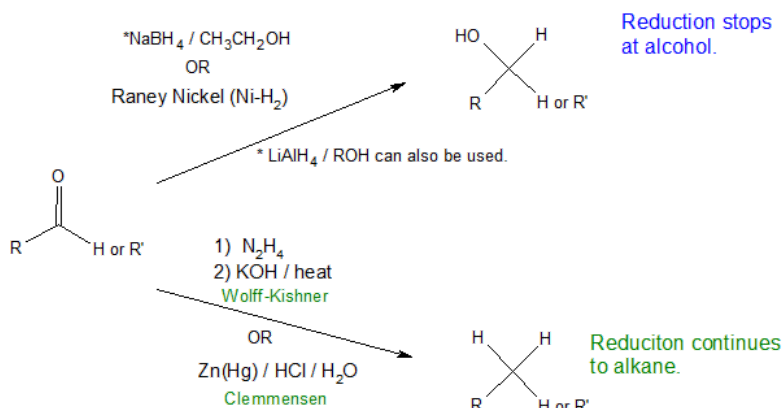


19.15: REDUCTIONS OF KETONES AND ALDEHYDES

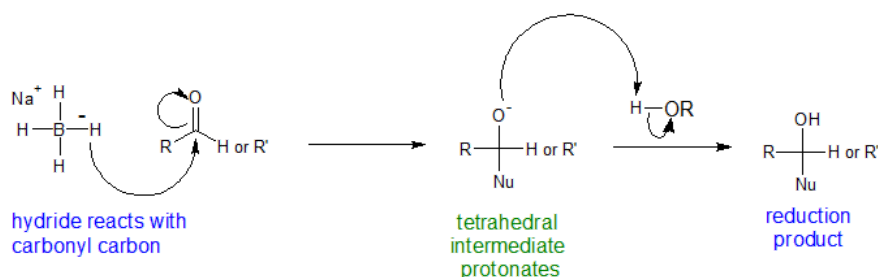
CARBONYL REDUCTION REACTIONS

Aldehydes and ketones can be partially reduced to alcohols with sodium borohydride or Raney nickel. Of course, LiAlH_4 could be used instead of NaBH_4 . However, LiAlH_4 is a stronger reducing agent so some benefits of selectivity are lost. Depending on the presence of more than one functional group within a single molecule, reaction selectivity can be useful. Aldehydes and ketones can be fully reduced to alkanes the Wolff-Kishner or Clemmensen Reduction.



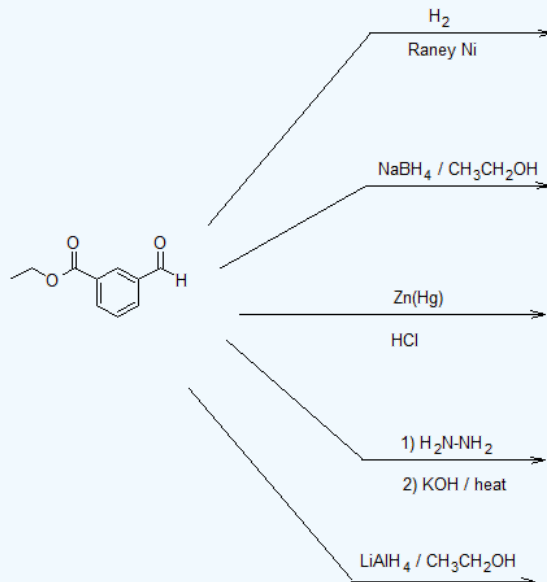
HYDRIDE REDUCTION MECHANISM

The hydride reduction mechanism follows the pattern we have learned for other nucleophilic addition reactions.



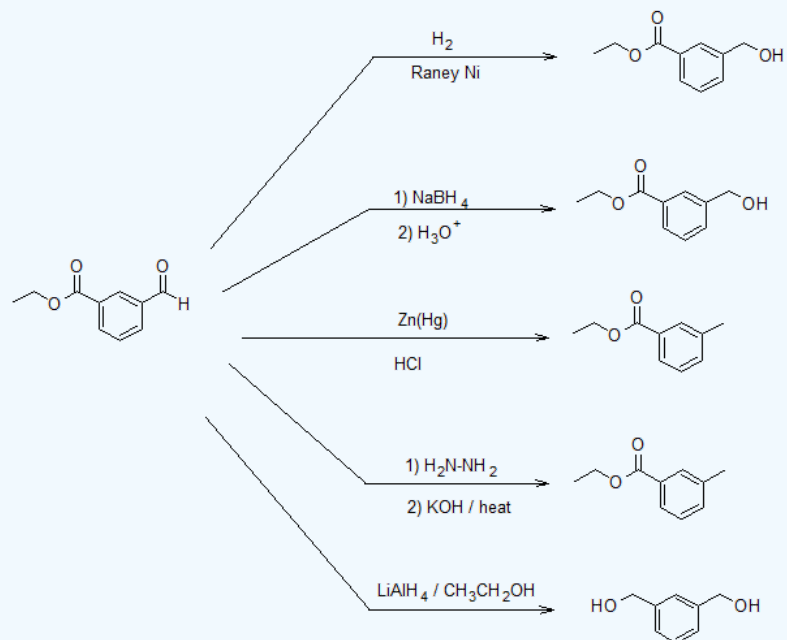
Exercise

27. Complete the reaction map below.



Answer

27.



CONTRIBUTORS AND ATTRIBUTIONS

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