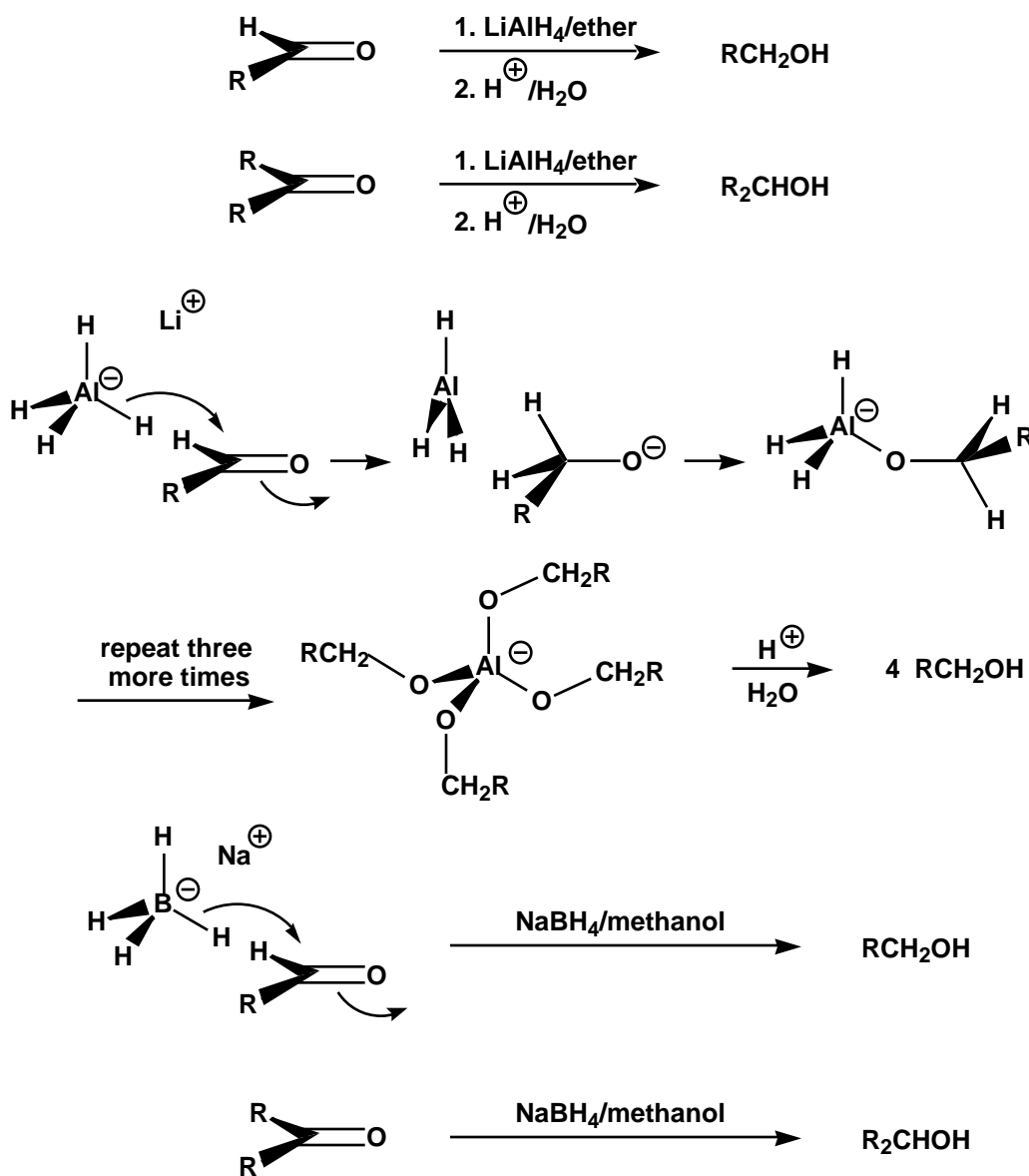


Text Related to Segment 17.02 ©2002 Claude E. Wintner

An extremely useful class of reagents, the complex hydrides, serves to reduce the carbonyl group in aldehydes and ketones, yielding primary and secondary alcohols, respectively. Lithium aluminum hydride, LiAlH_4 ("LAH"), is soluble in ether and may be thought of as serving to deliver the equivalent of a hydride anion, as shown in the figure. A general mechanism also is outlined:



LiAlH_4 and NaBH_4 reduce aldehydes and ketones to primary and secondary alcohols, respectively

Sodium borohydride, NaBH_4 , behaves similarly, but is employed in methanol solution.

©2002 Claude E. Wintner