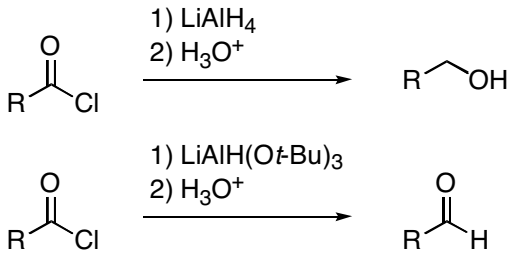
These notes can be obtained at: http://www.ndsu.nodak.edu/instruct/grcook/chem342/notes.shtml

Chapter 21: Carboxylic Acid Derivatives and Nucleophilic Acyl Subsitution Reactions

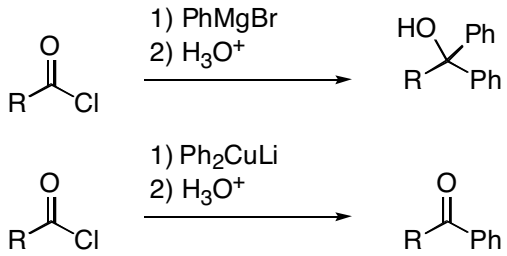
Reactions of Acid Chlorides

Acid chlorides can be reduced to the alcohol or to the aldehyde with the appropriate hydride reagent. Similarly, Grignard reagents will react twice but Gilman reagents will only react once.

Reduction



Addition of Organometallics



Preparation of Acid Anhydrides

Simple symmetrical or cyclic anhydrides can be made by simply heating to dehydrate. If a mixed anhydride is desired, this method will not work well as a statistical mixture of all the possible combinations is obtained. In order to make an anhydride from two different acids, an acid chloride can be reacted with a carboxylate salt.