

Chem 345 – Organic Reactions

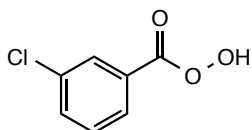
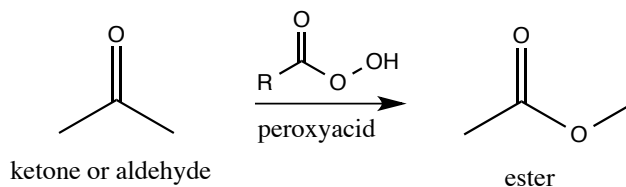
Chapter 19

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<http://www.chem.wisc.edu/areas/clc> (Resource page)

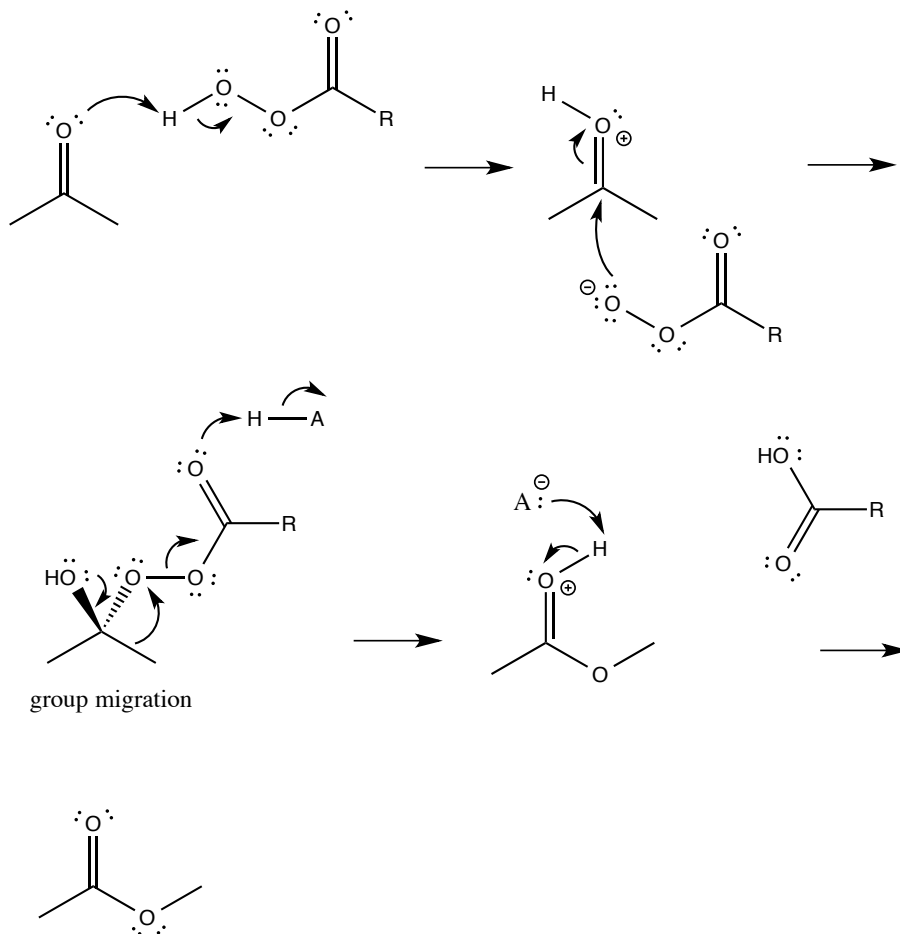
The Baeyer-Villiger Oxidation of Aldehydes and Ketones

Reaction:

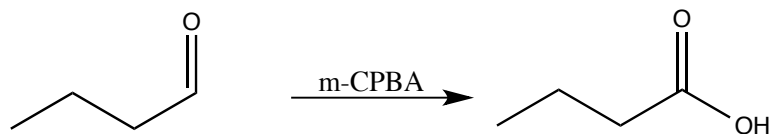


m-CPBA is commonly used

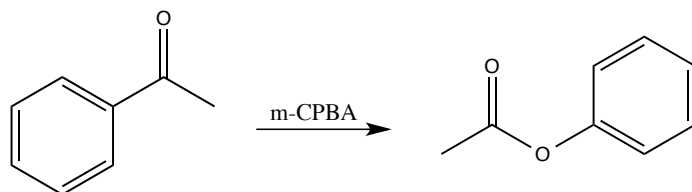
Mechanism:



For both aldehydes and ketones the product of the reaction is an ester. For straight chain aldehydes the major product is a carboxylic acid. In the case of an aldehyde whose α -carbon is benzylic or secondary a formate ester is the major product.



The tendency of migration is as follows: H > phenyl > 3° alkyl > 2° alkyl > 1° alkyl > methyl (see example below).



If the ketone is a cyclic compound a lactone is produced.

