

Halogenation Of Enolizable Carbonyl Compounds

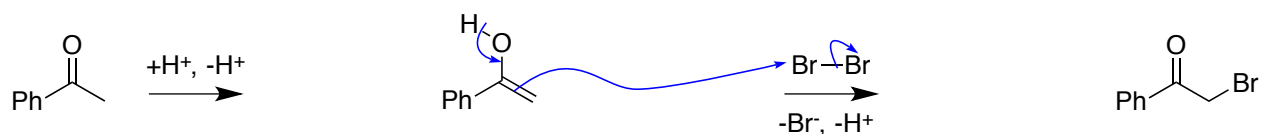
from chapter(s) _____ in the recommended text

A. Introduction

B. Halogenation Via Enols (Acidic Conditions)

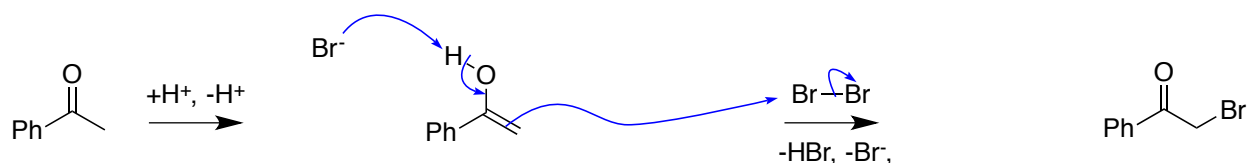
Acidic Conditions Give Monohalogenation

acidic conditions, whereas enolates form under *basic* *less*



enol

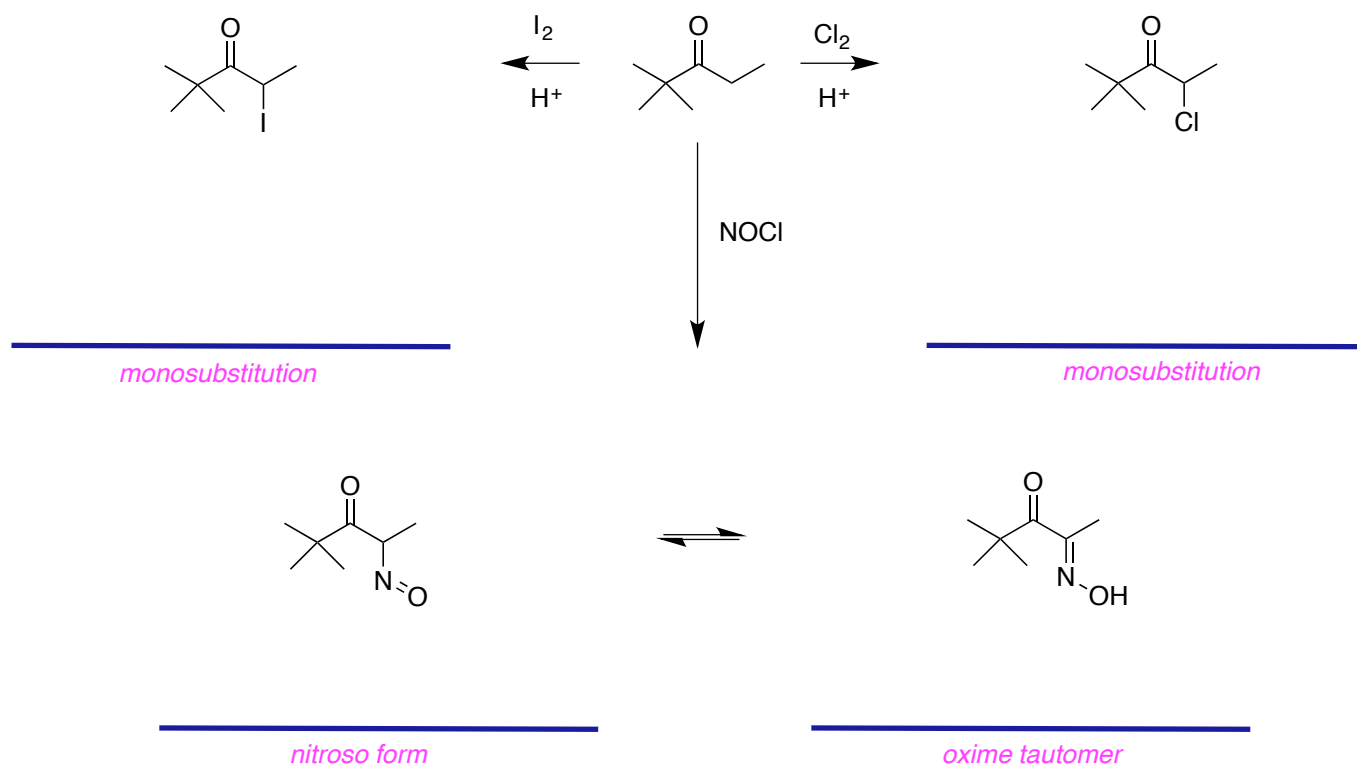
bromoketone



less likely

less

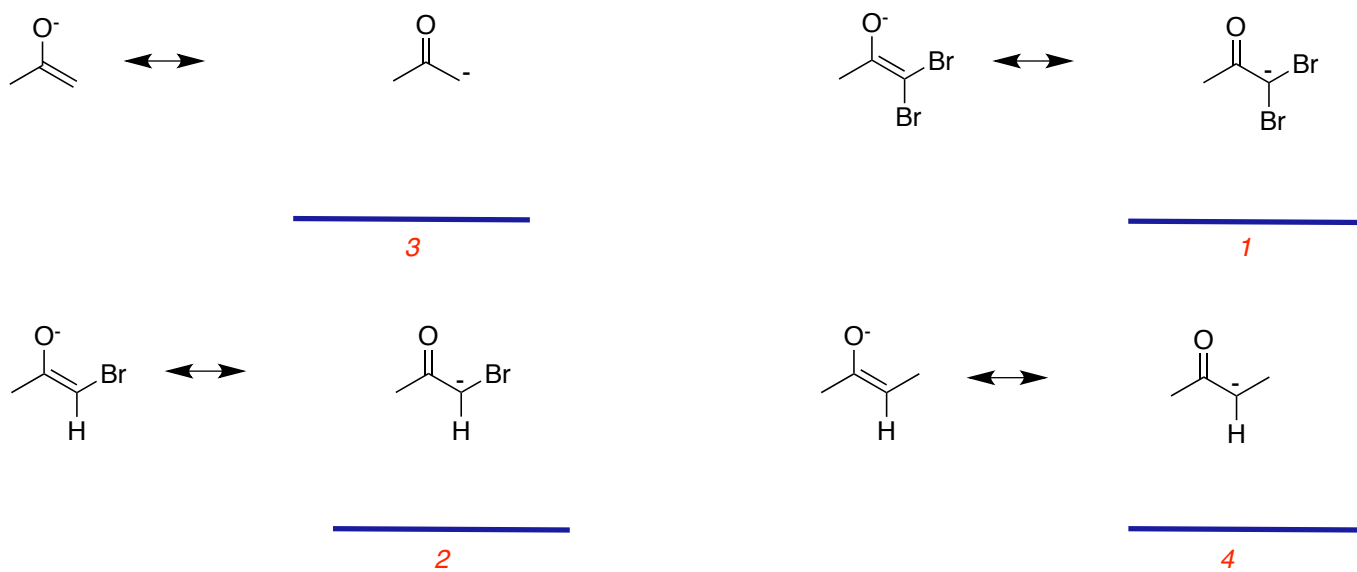
halide.



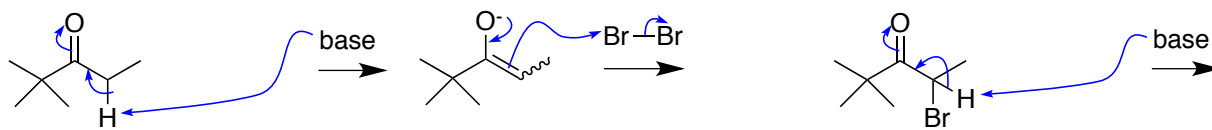
C. Halogenation Via Enolates (Basic Conditions)

Basic Conditions Facilitate Substitution Of More Than One Halogen

different.

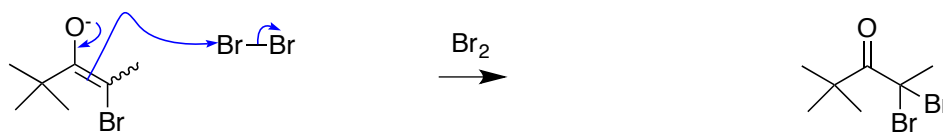


more
more



2,2-dimethylpentan-3-one

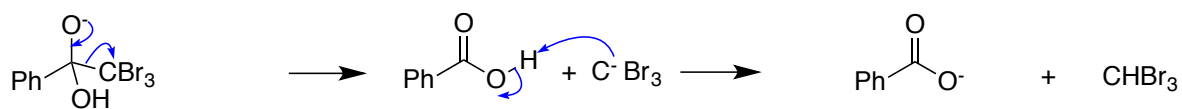
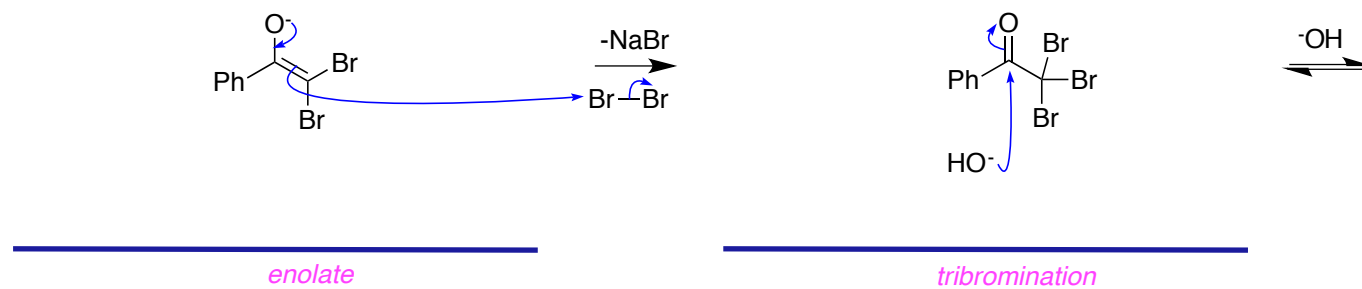
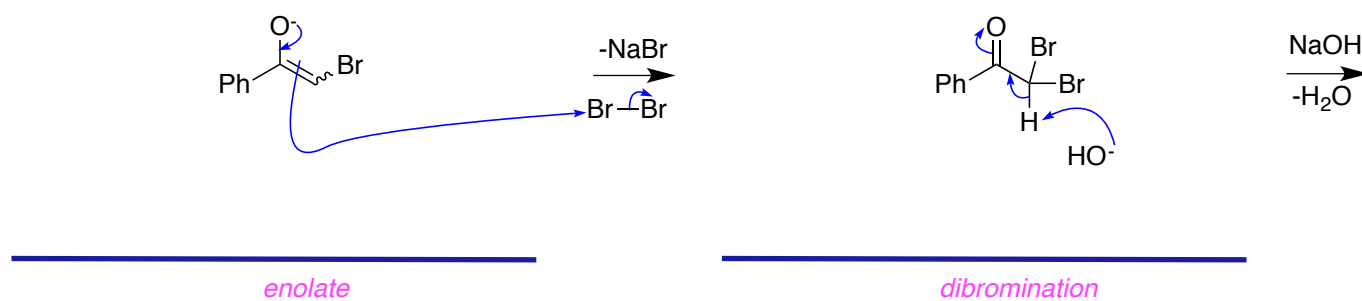
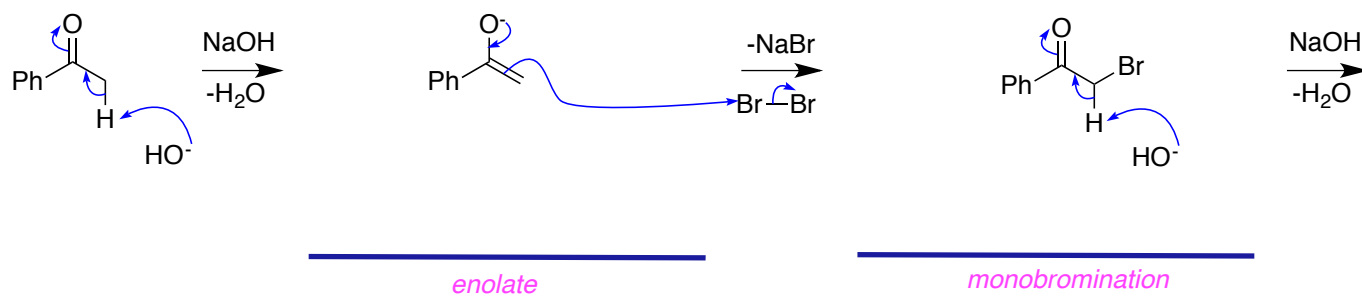
more likely to form enolate
than starting ketone



enolate

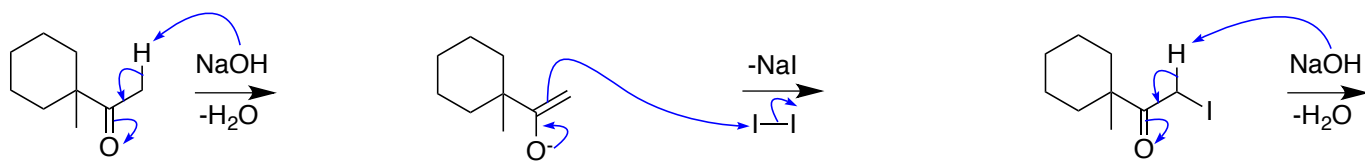
2,2-dibromo-4,4-dimethylpentan-3-one

would
more
haloform reaction.



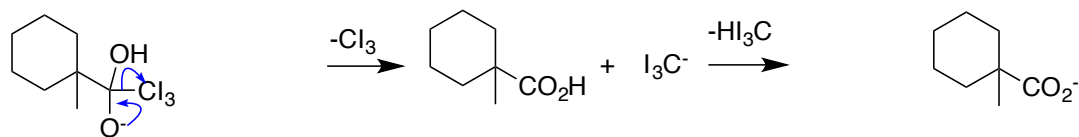
tetrahedral intermediate

could be



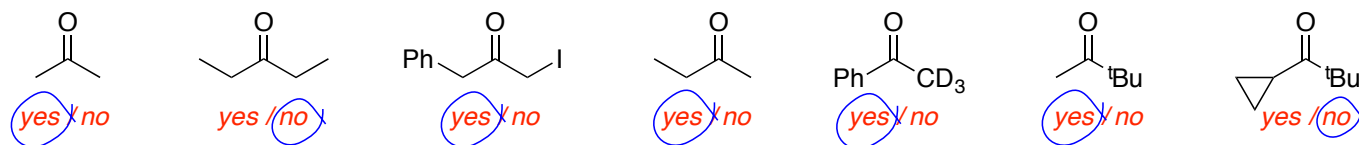
enolate

triiodination

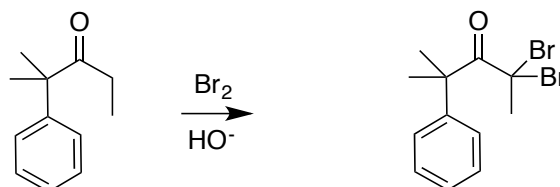
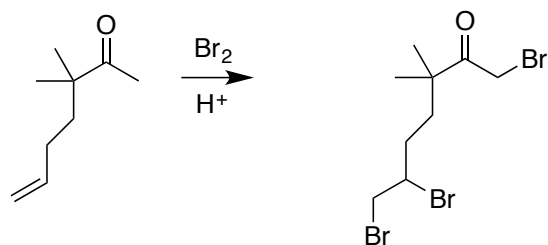
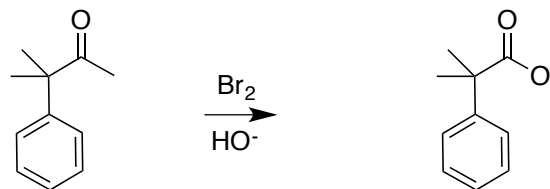
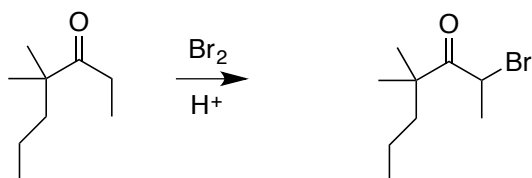
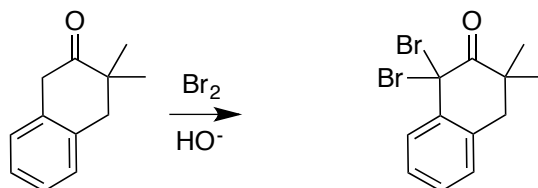
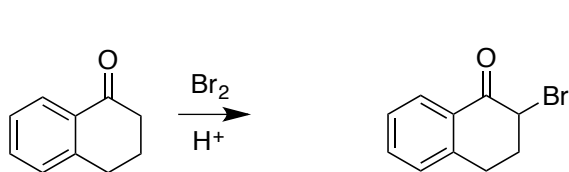


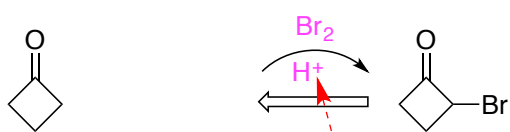
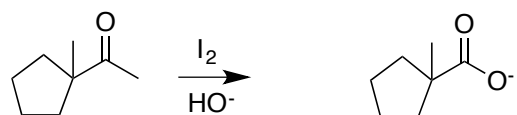
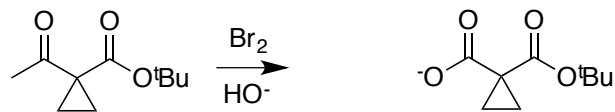
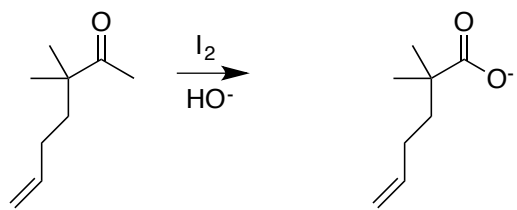
tetrahedral intermediate

slower

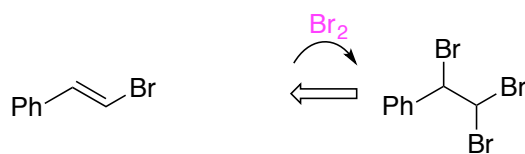
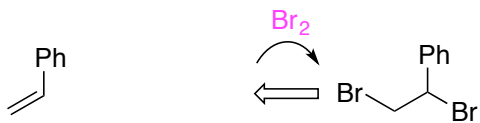
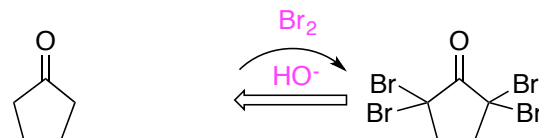


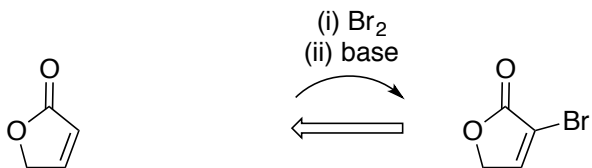
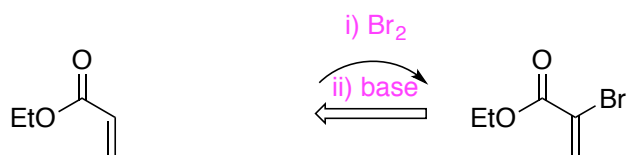
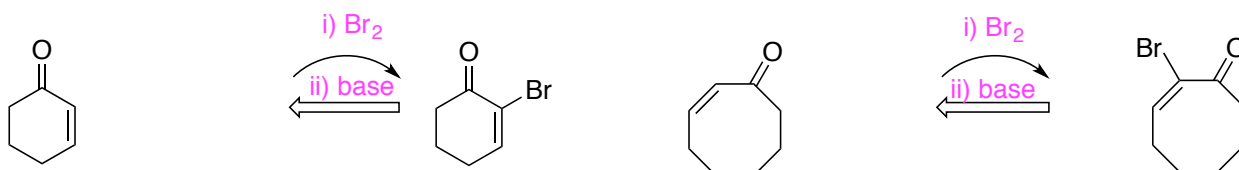
D. Choosing Acidic Or Basic Conditions For Halogenations





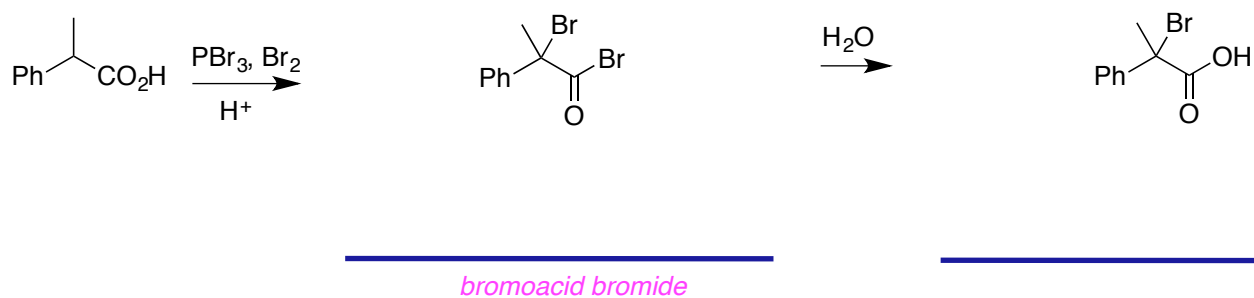
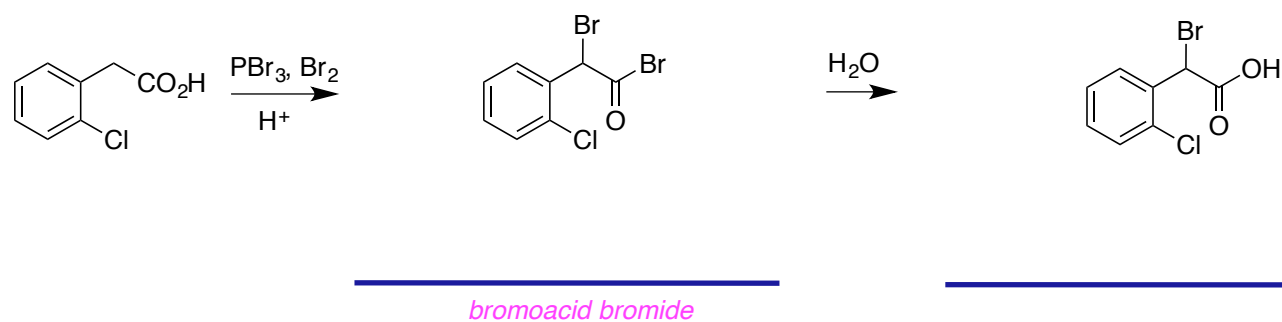
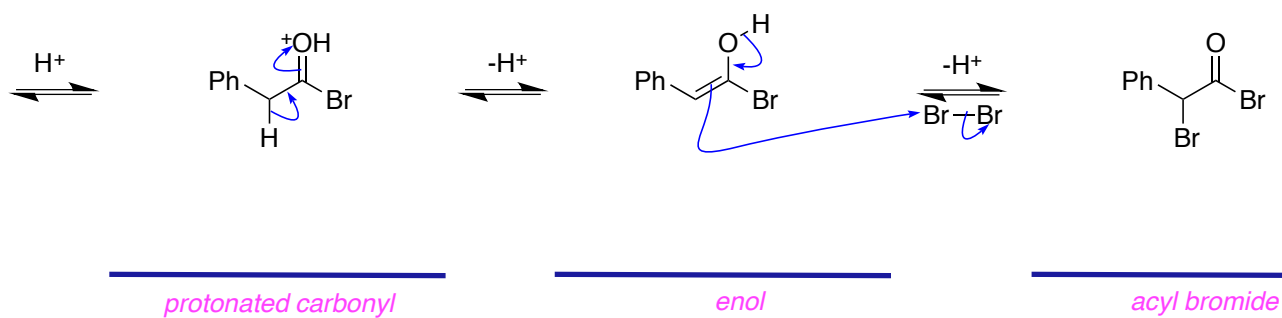
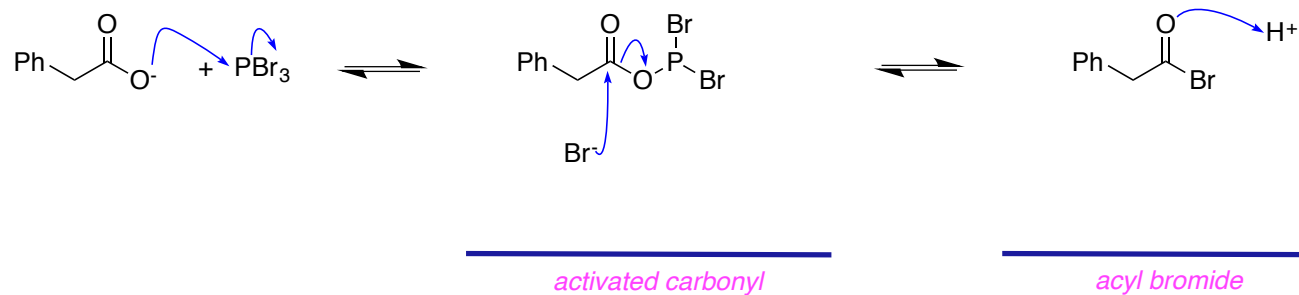
indicate conditions



*E1cb*

E. α -Halogenation Of Carboxylic Acids

Mechanism



Syntheses Featuring α -Bromo Acids S_N2 