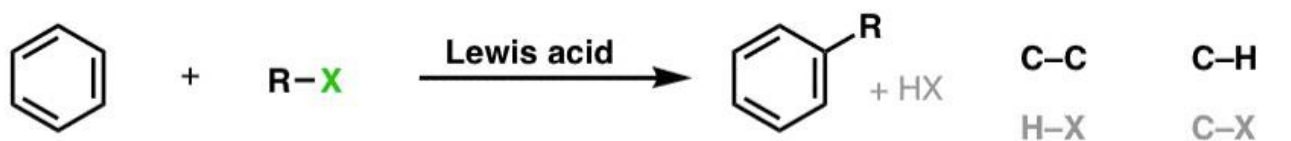


Friedel-Crafts Alkylation

Generic example:



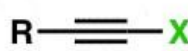
- R-X must be an alkyl halide (typically alkyl chlorides, bromides, or iodides)

- Lewis acid often AlCl_3 but can vary widely (e.g. TiCl_4 , ZrCl_4)

does not work for



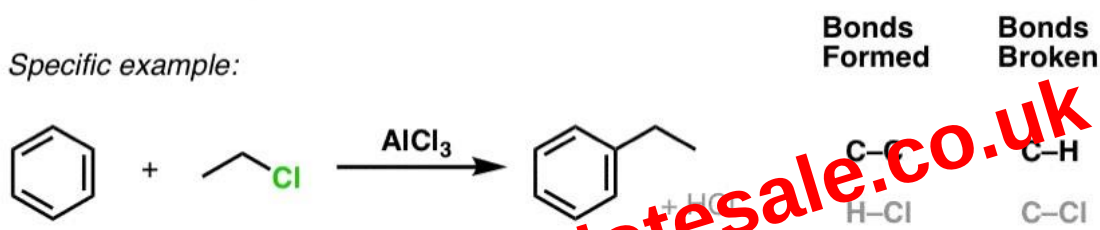
• alkenyl halides



• alkynyl halides

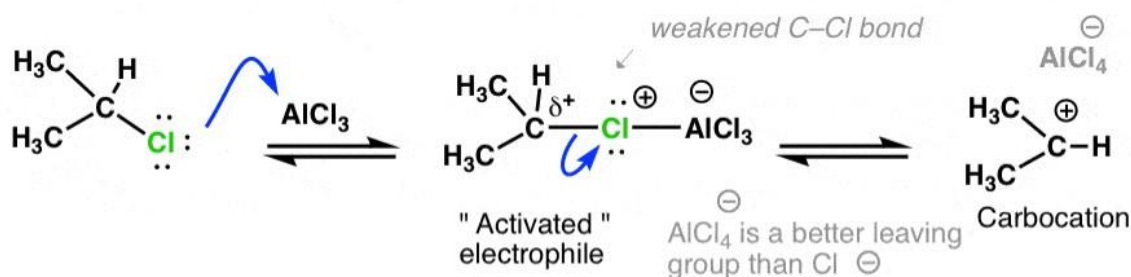
Friedel-Crafts Alkylation

Specific example:



Step 1: Activation of Electrophile with Lewis Acid

In the case of secondary or tertiary alkyl halides, full dissociation to a carbocation likely occurs:



For primary (and methyl) alkyl halides, it is unlikely that a "free" carbocation is present:

