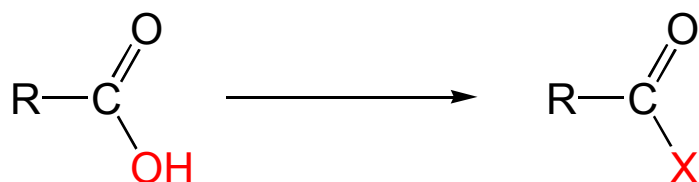
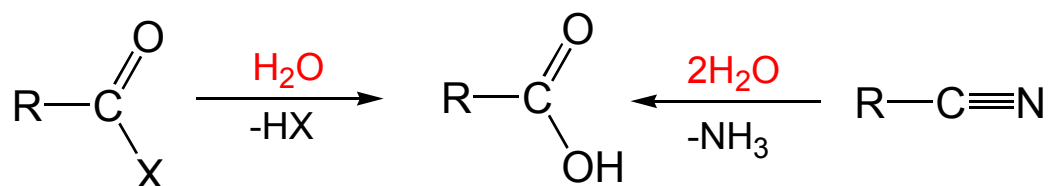


KARBONSAVSZÁRMAZÉKOK

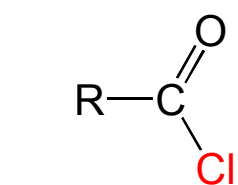
Levezetés



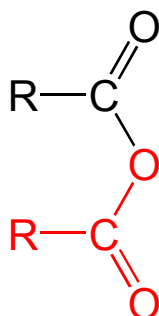
Kémiai rokonság



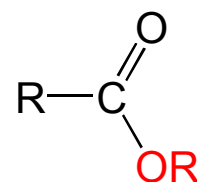
A karbonsavszármazékok típusai



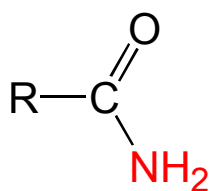
karbonsavklorid



karbonsavanhidrid



karbonsavészter



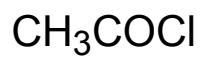
karbonsavamid



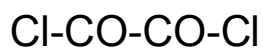
karbonsavnitril

Példák

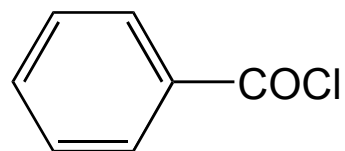
karbonsavkloridok



acetil-klorid

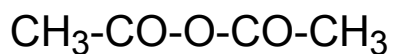


oxalil-klorid

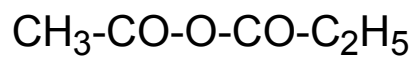


benzoil-klorid

karbonsavanhidridek

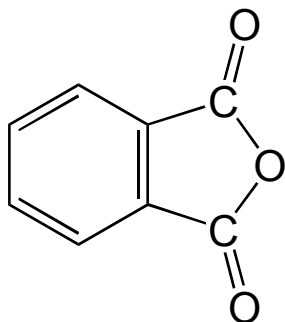


ecetsav-anhidrid

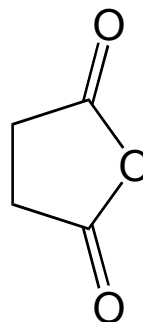


ecetsav-propionsav-anhidrid

gyűrűs anhidridek



ftálsavanhidrid



borostyánkősav-anhidrid

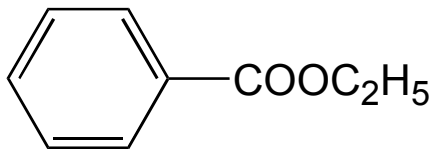
karbonsavészterek



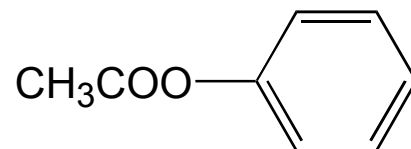
etil-formiát



metil-acetát

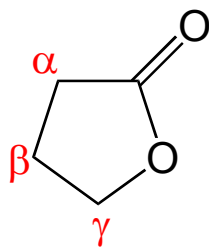
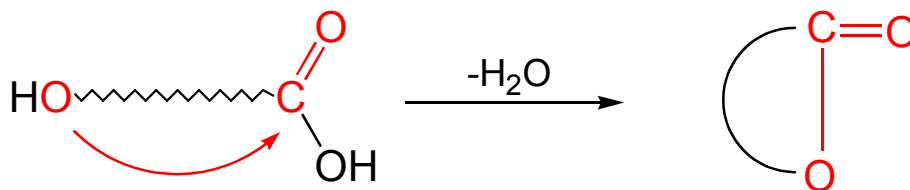


etil-benzoát

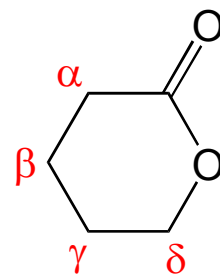


fenil-acetát

laktonok (gyűrűs észterek)



γ -butirolakton

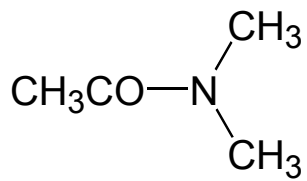


δ -valerolakton

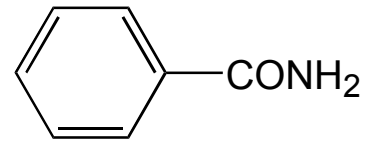
karbonsavamidok



formamid

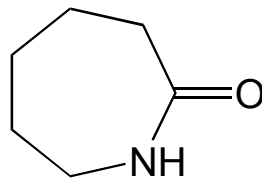
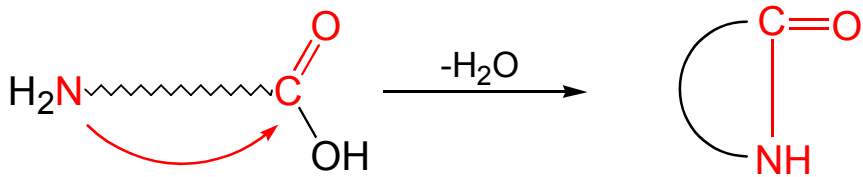


N,N-dimetilacetamid



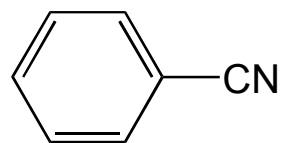
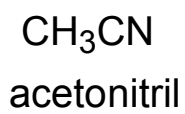
benzamid

laktámok (gyűrűs amidok)



ϵ -kaprolaktám

karbonsavnitrilek

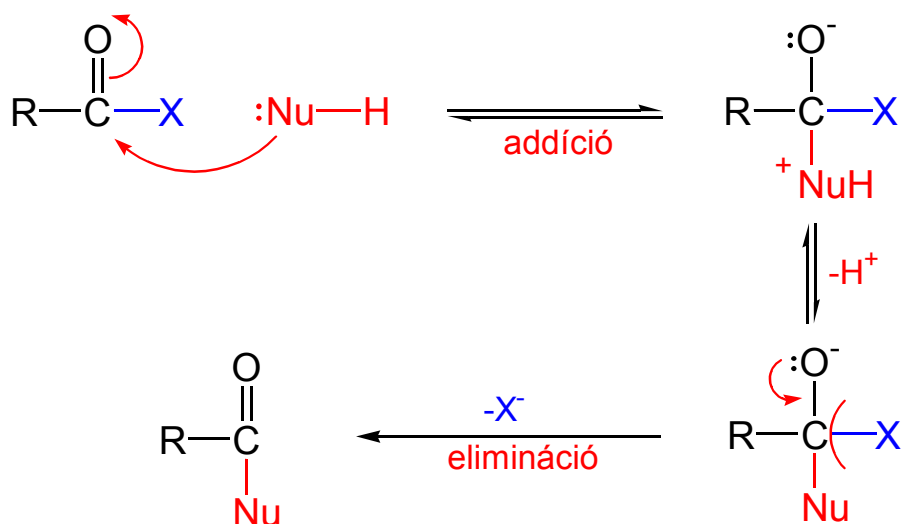


benzonitril

A KARBONSAVSZÁRMAZÉKOK REAKTIVITÁSA

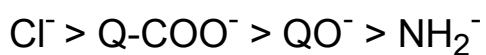
Szubsztitúció a karbonil-szénatomon

Mechanizmus

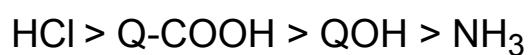


Reaktivitás

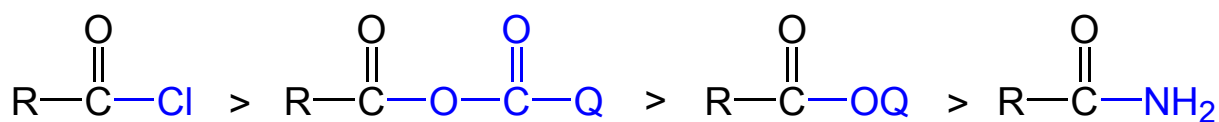
$:X^-$ távozó csoport



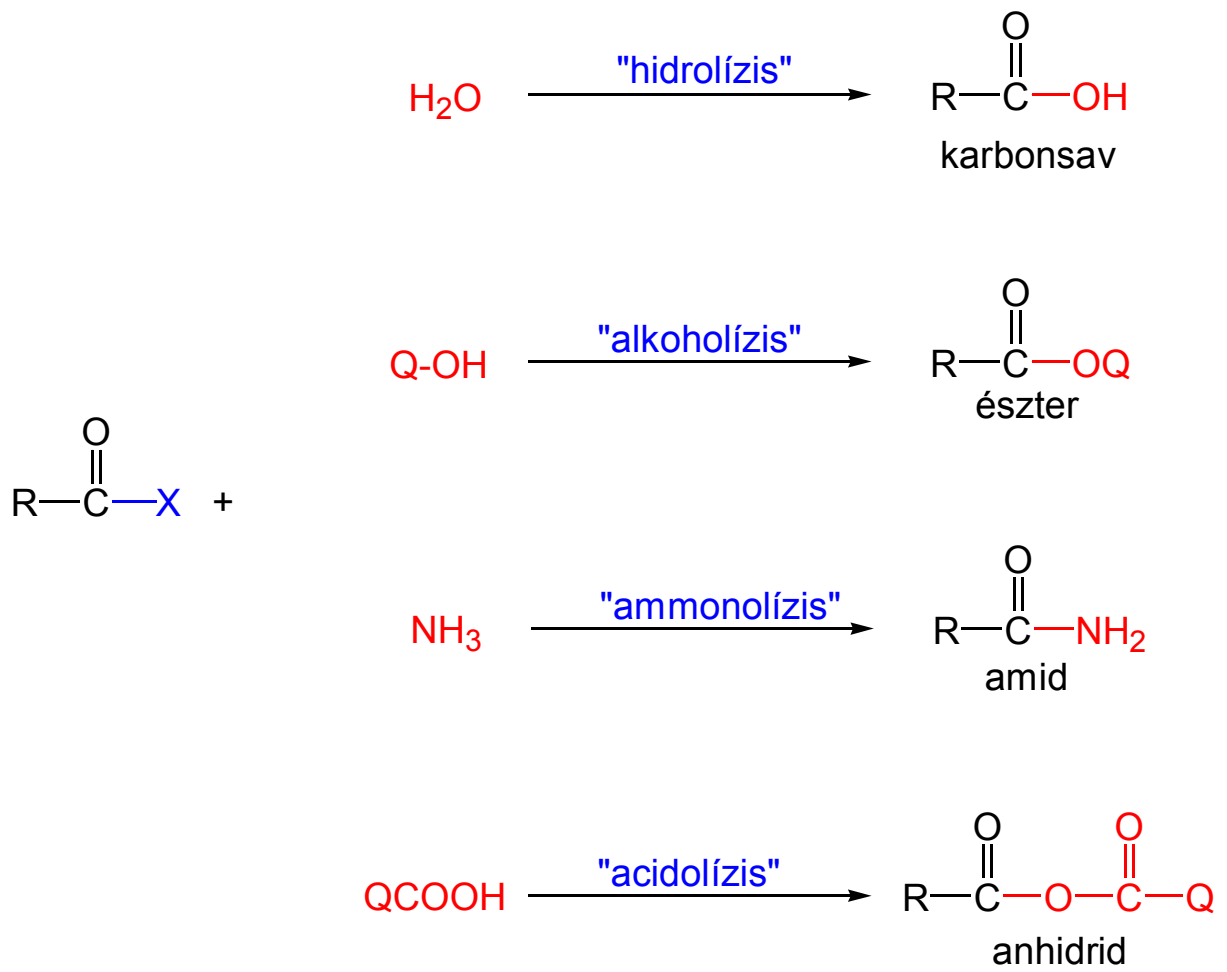
savi erősség



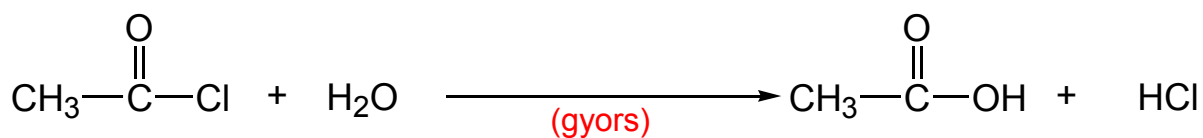
Reaktivitási sorrend



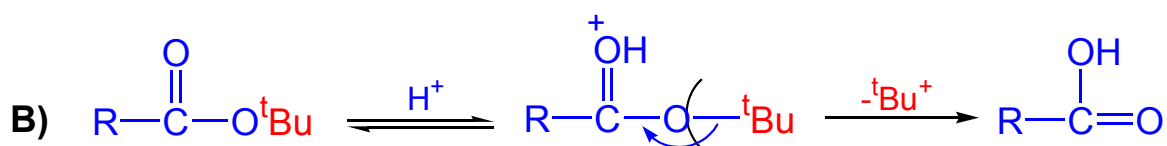
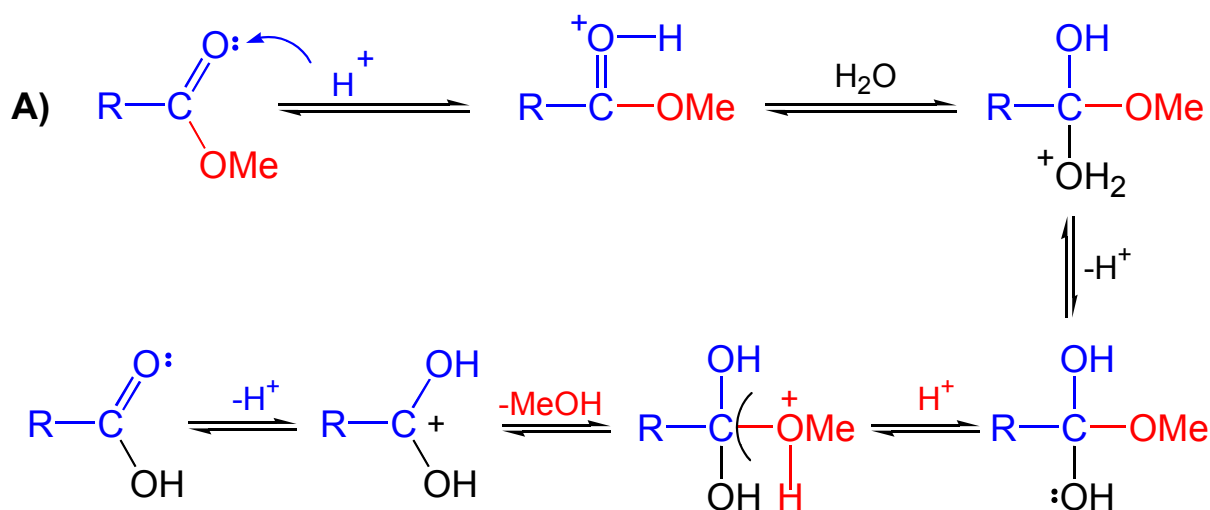
Reakciótípusok



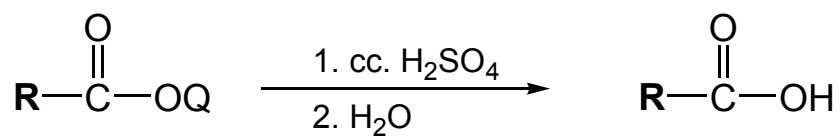
A karbonsavszármazékok hidrolízise



Az észterek savas hidrolízise

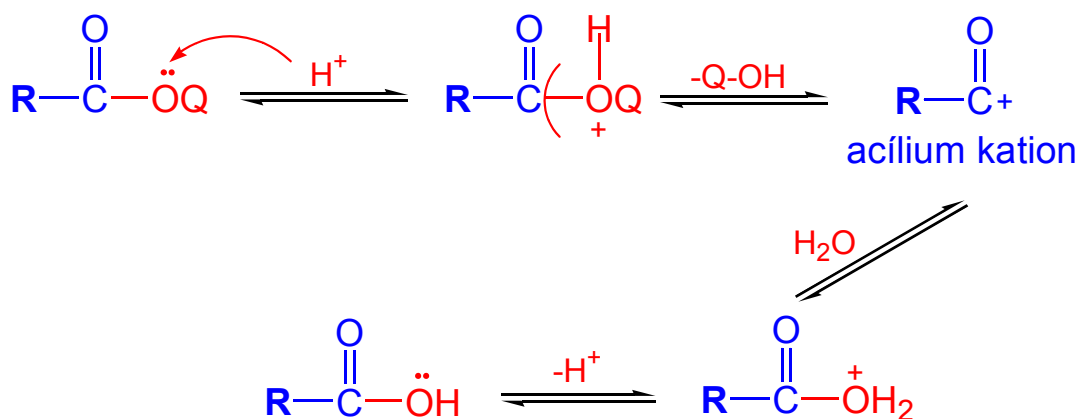


Árnyékolt karbonilcsoportot tartalmazó észterek hidrolízise

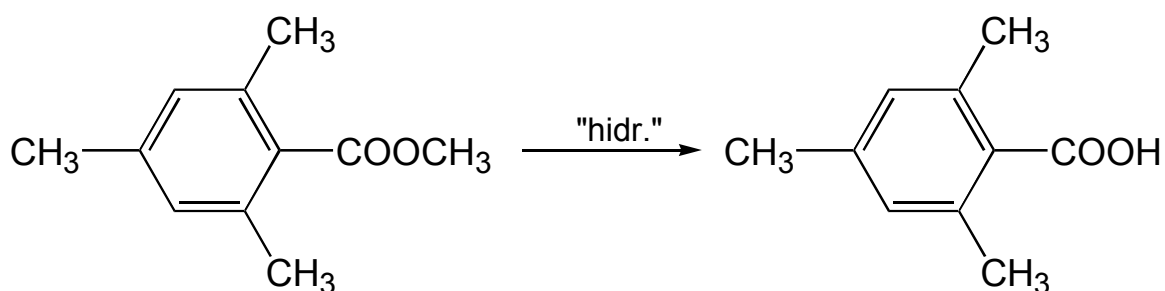


(R: nagy térigényű csoport)

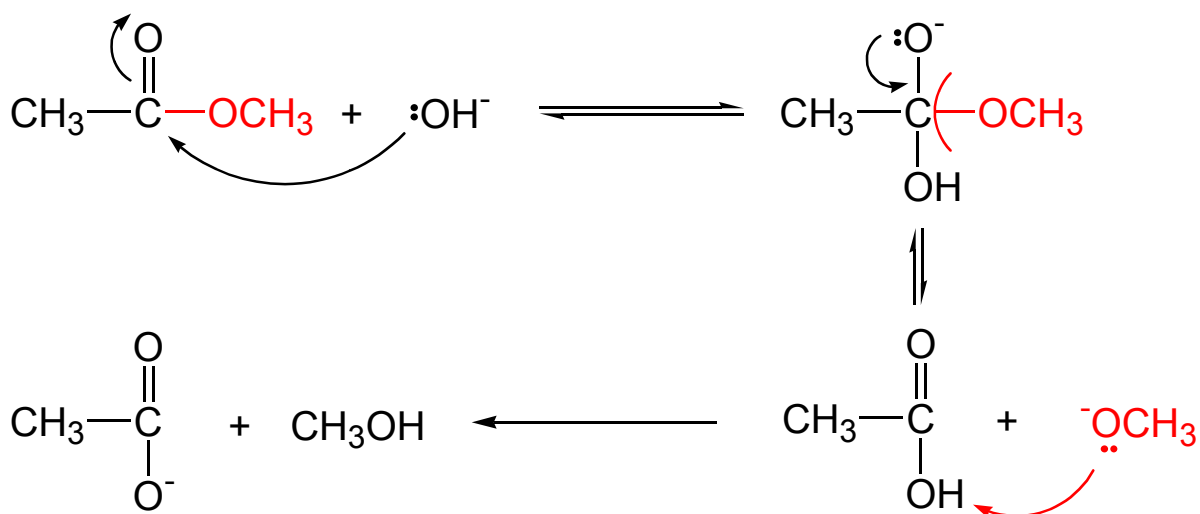
Mechanizmus



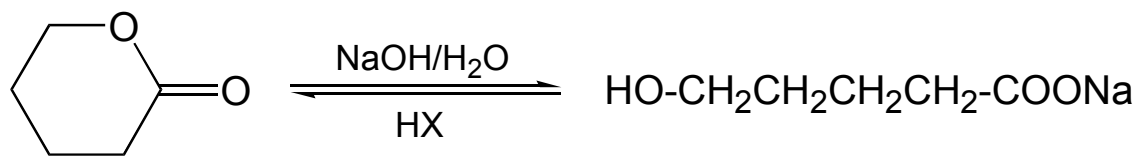
Példa



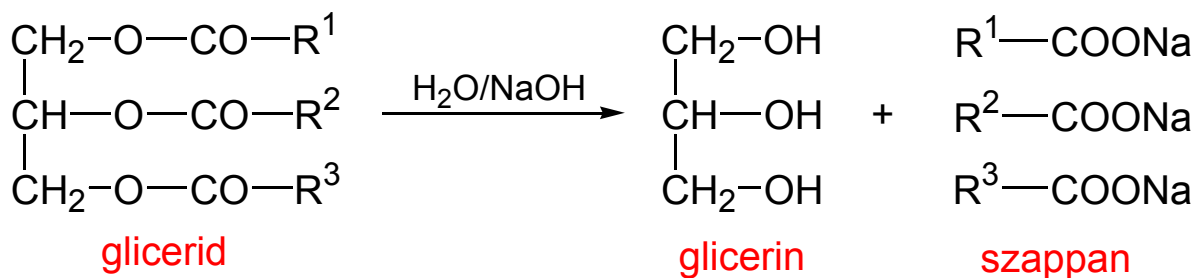
Az észterek lúgos hidrolízise (elszappanosítás)



Laktonok hidrolízise



Gliceridek hidrolízise



C₁₃H₂₇COOH

mirisztinsav

C₁₅H₃₁COOH

palmitinsav

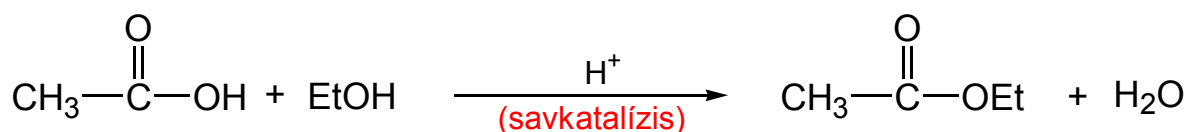
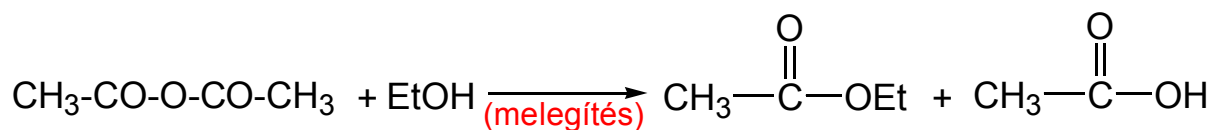
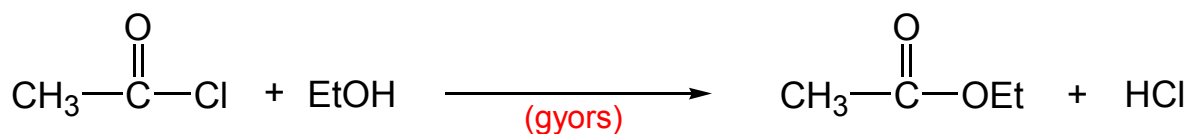
C₁₇H₃₅COOH

sztearinsav

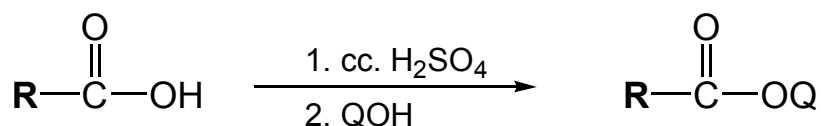
C₈H₁₇-CH=CH-C₇H₁₄COOH

olajsav

A karbonsavszármazékok alkoholízise

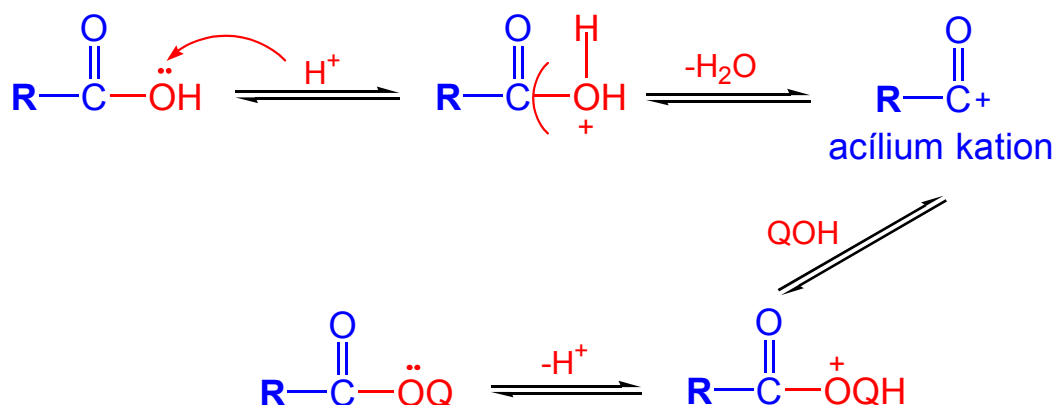


Árnyékolt karbonilcsoportot tartalmazó karbonsavak alkoholízise

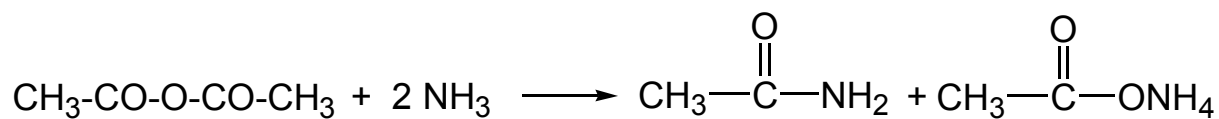
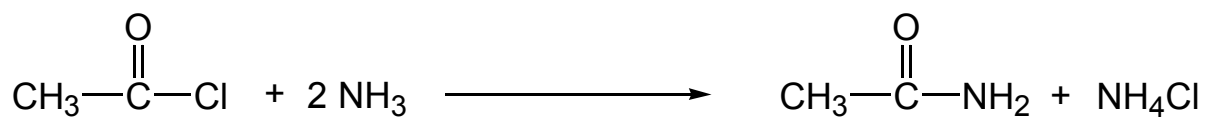
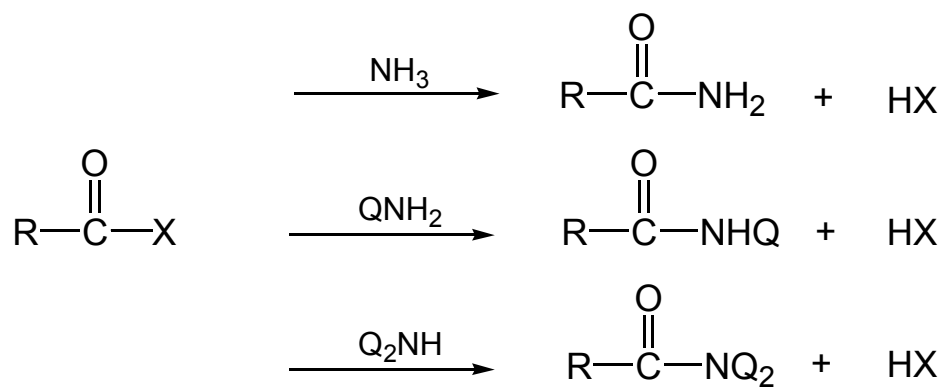


(R: nagy térigényű csoport)

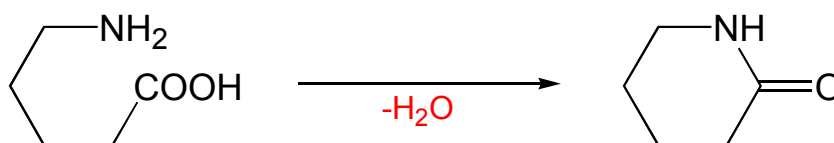
Mechanizmus



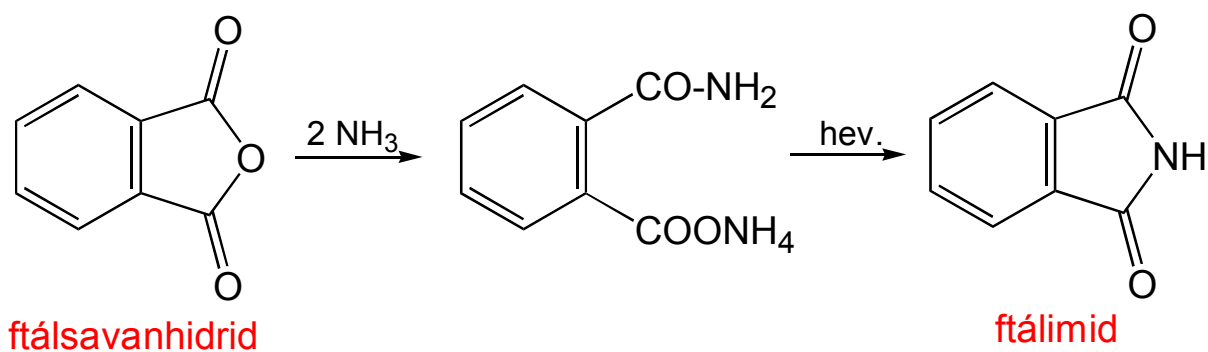
A karbonsavszármazékok ammonolízise



Laktámok

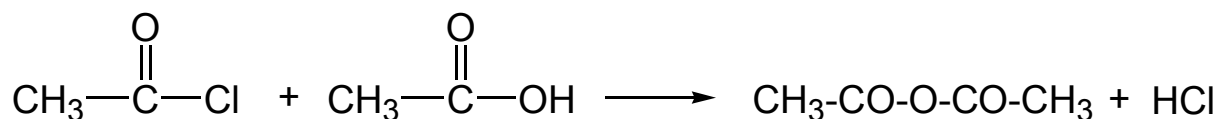


Gyűrűs anhidridek reakciója ammóniával

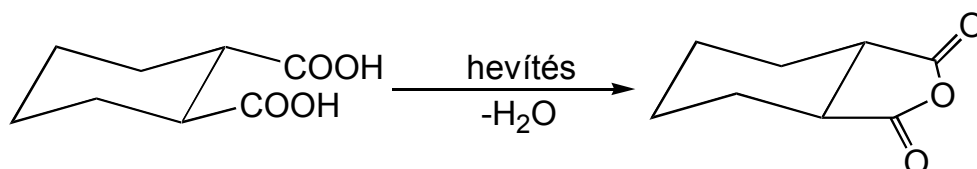
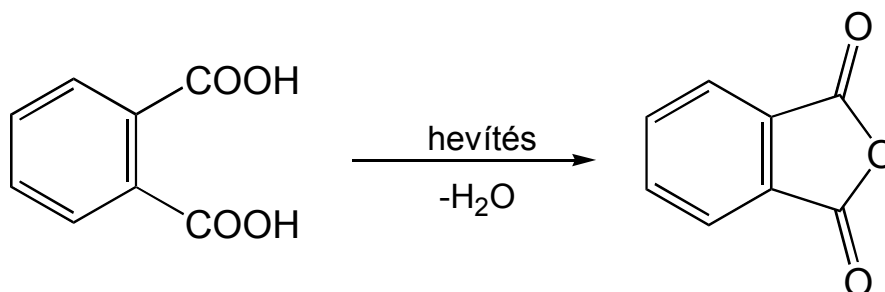


Savanhidridek előállítása

Savkloridok reakciója karbonsavakkal (acidolízis)

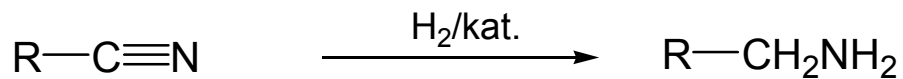
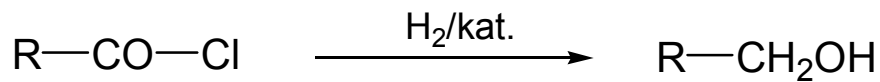


Dikarbonsavak átalakítása gyűrűs anhidridekké

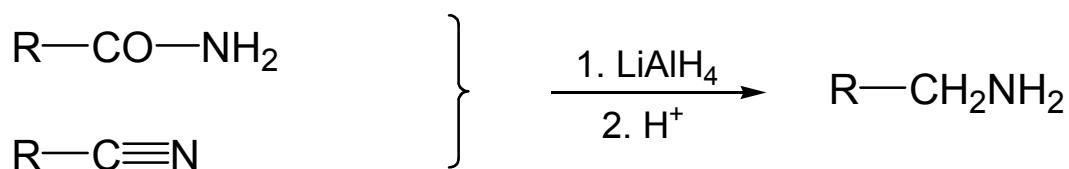
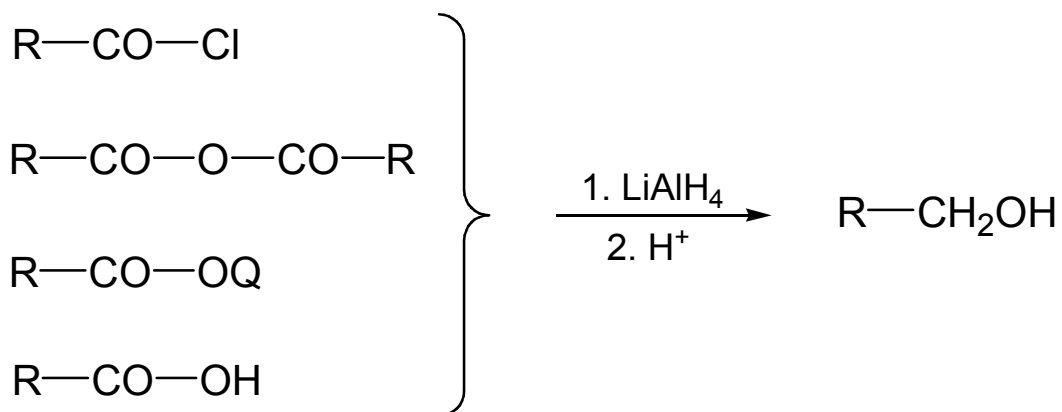


A karbonsavszármazékok redukciója

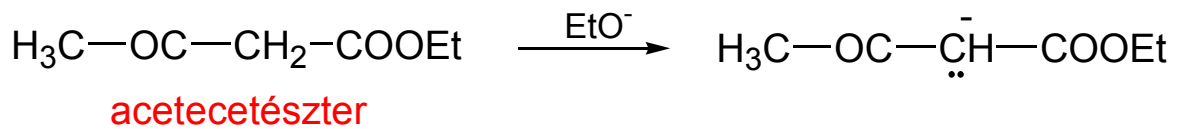
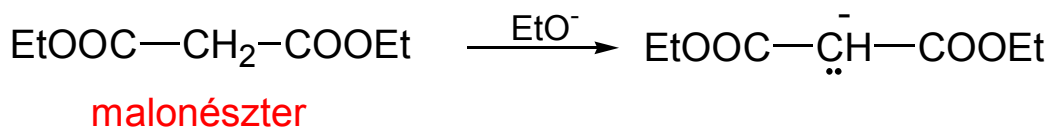
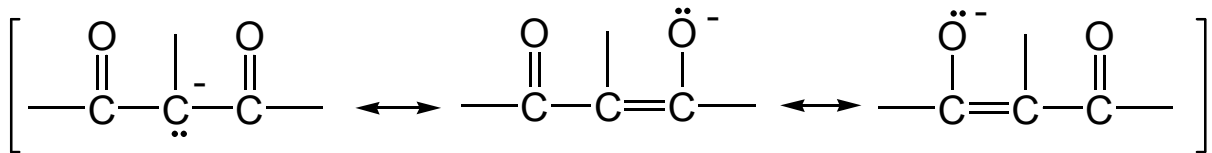
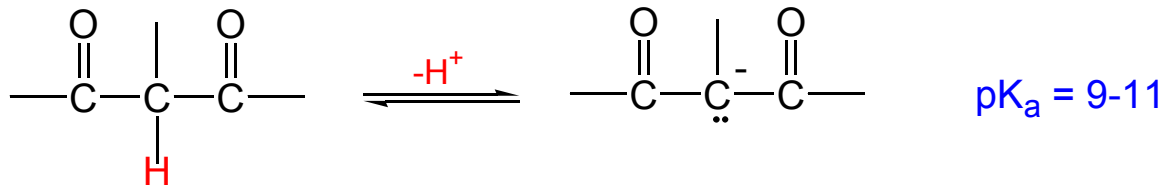
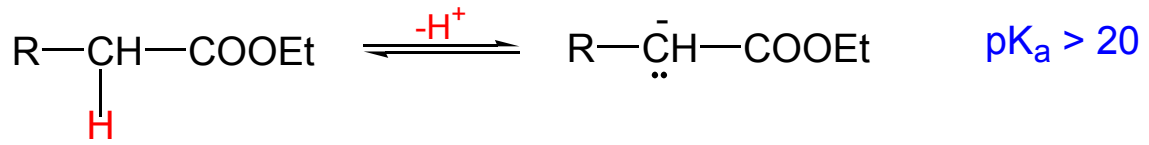
Katalitikus hidrogénezés



Redukció LiAlH₄-del



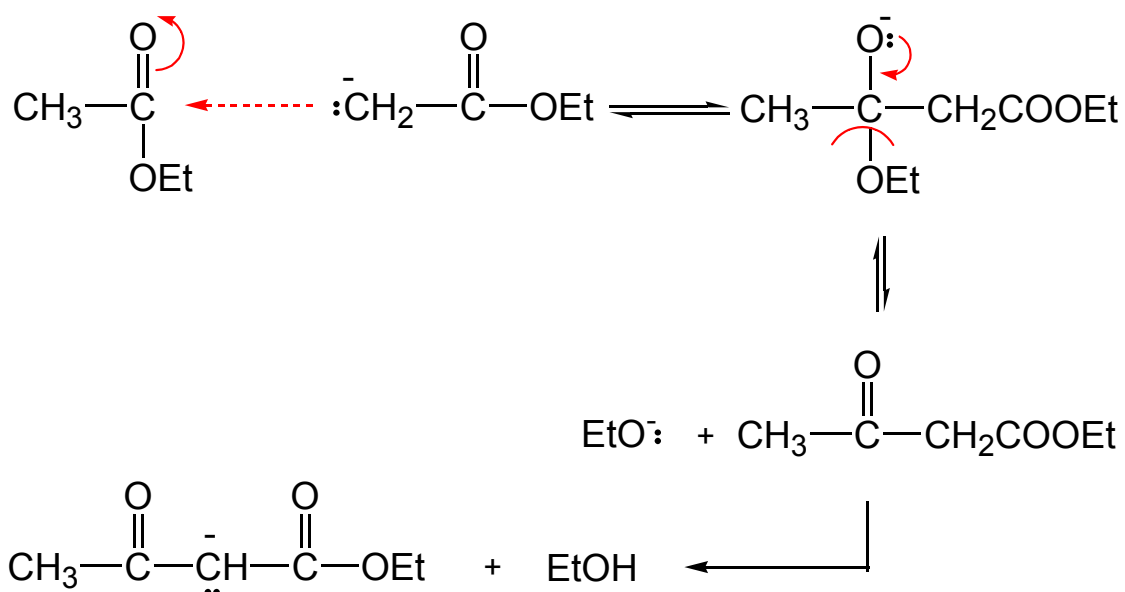
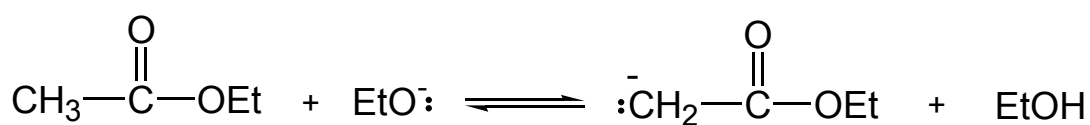
Az észterek savassága



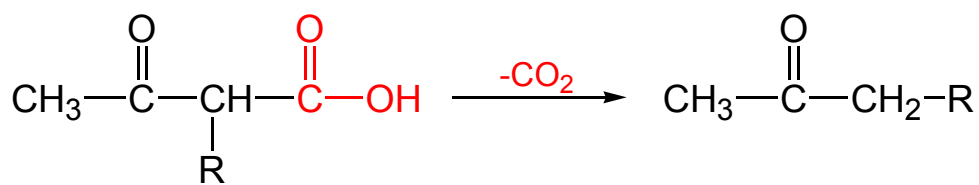
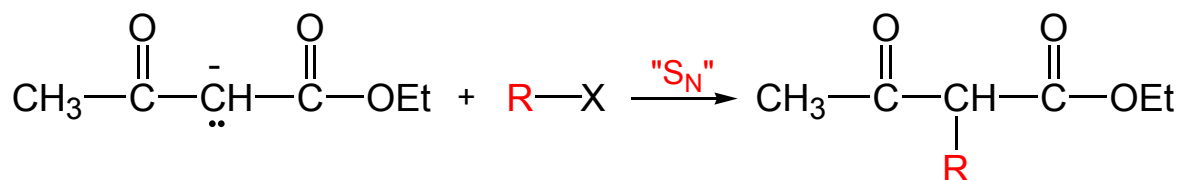
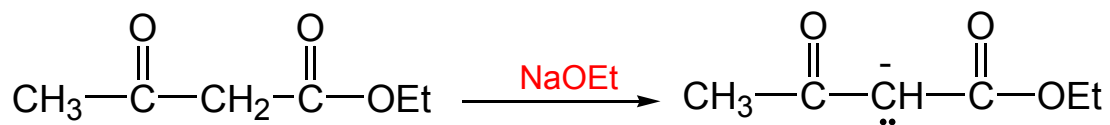
Claisen kondenzáció



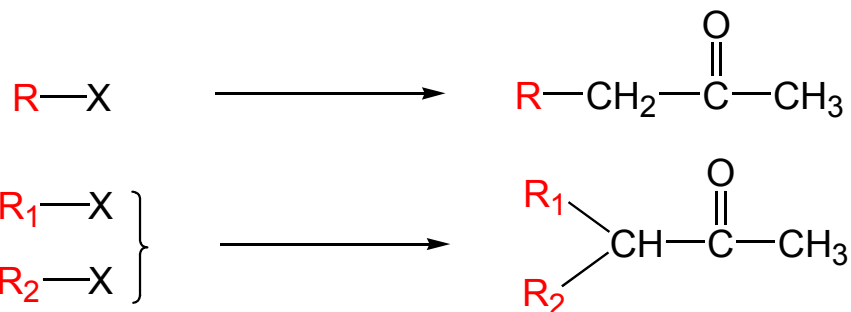
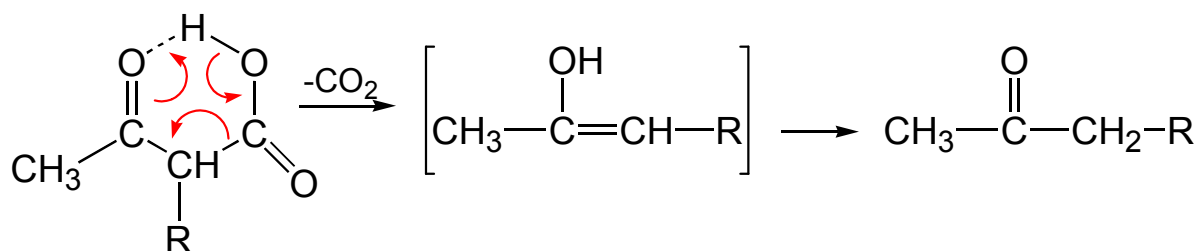
Mechanizmus



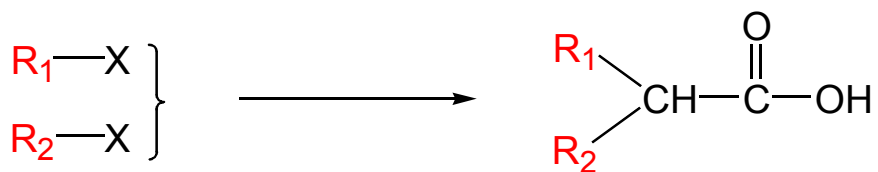
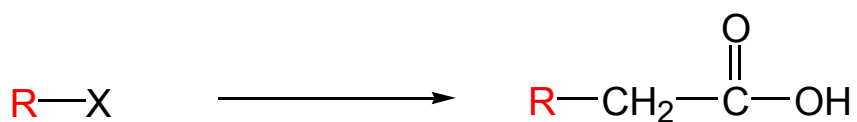
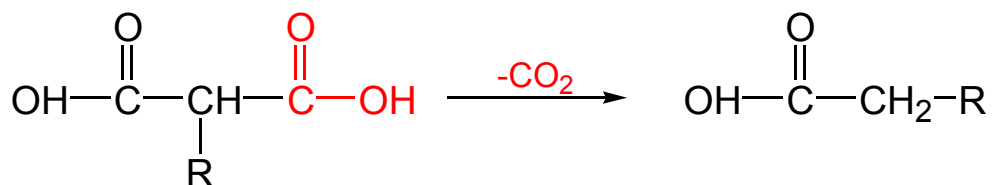
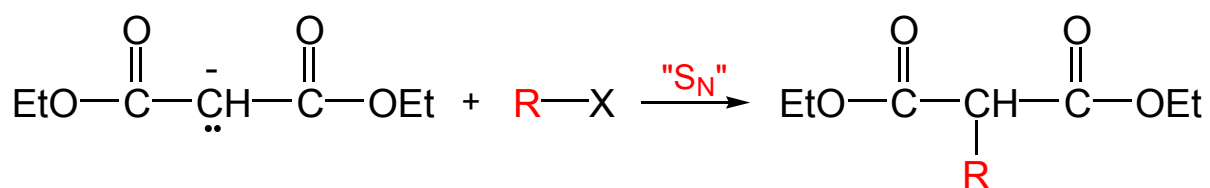
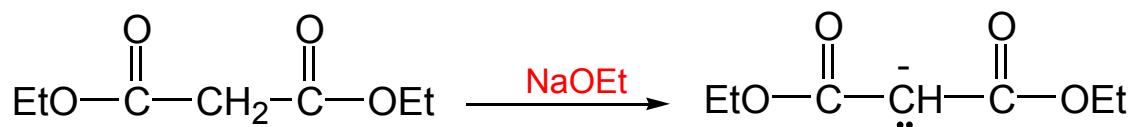
Acetecetészter szintézisek



Dekarboxilezés



Malonészter szintézisek



Szénsvszármazékok

Levezetés

