Hydrolysis reactions

1) Carboxylic acid hydrolysis
2) Alkyl halide hydrolysis
3) Condensation reactions
4) Hydration reactions

Hydrolysis reactions

This reaction is called "acyl transfer".

- If an ester is converted to another ester, this alcoholysis reaction is called "transesterification". Alcohol occurs in the environment.

Degradation mechanisms

- Oxidation
- Hydrolysis
- Racemization
- Decarboxylation
- Enolization

- Epimerization
- Dehydration
- Dimerization
- Cyclisation (ring closure)
- Photolysis reactions

The most typical example ;

Benzylpenicillin (penicillin G) H_2O penicillic acid

lactam ring is formed.

Fragmented.

Hydrolyzed functional groups

Esters, lactones, amides, lactams, oximes, imides, malonic ureas, nitrogen

- Rasemization reactions Under some conditions it is said to convert the active isomer to the inactive form. The isomer that is subjected to racemization is not effective. Sample; epinephrine, pilocarpine, ergotamine and tetracyclines.

- Decarboxylation reactions
- Some dissolved carboxylic acids (p-amino salicylic acid, carbenicillin, ticarcillin, etc.) lose CO2 from the carboxyl group when heated. The decarboxylation-resulting activity is reduced.

- Enolization reactions

Some compounds used as drugs are subjected to a keto-enol tautomerization reaction in solution. The keto form turns into enol form, a balance is established, and in consequence, inactive products form.