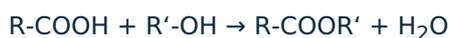


Carboxylic Acids

Carboxylic acids are organic compounds characterized by the presence of the -COOH group. Compared to inorganic acids, they belong to weaker acids. Their strength (i.e. the willingness to split off a proton) depends on the length of the carbon chain (the strength decreases with the length of the chain) and on any substituents (e.g. the presence of a halogen increases the strength - trichloroacetic acid is much stronger than acetic acid). Carboxylic acids (or their salts) are relatively abundant in the human body.

Important functional derivatives of carboxylic acids are esters - compounds formed by the reaction of carboxylic acid and alcohol (or phenol), which are very poorly soluble in water. Esterification takes place in an acid environment (ideally with sulfuric acid, which will support the course of the reaction by binding the resulting water):

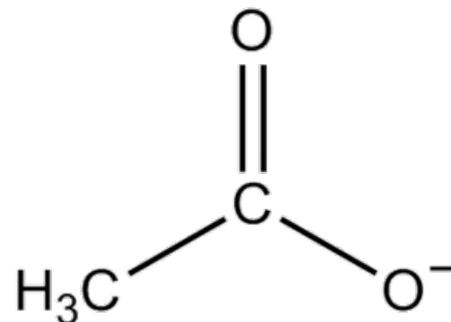


Esters of lower or aromatic carboxylic acids with lower alcohols tend to have a very distinct smell (they are often used as essences - rum, pear, pineapple, etc.) In biochemistry, however, we will mainly be interested in more complex esters - fats and waxes.

Links

Source

Leníček M, Muchová L: Organika I



Acetic acid, an example of a carboxylic acid