

Editorial on Deferent Types of Organic Reactions

Gopinathan Anil kumar

School of Chemical Sciences, Mahatma Gandhi University, P. D. Hills P O, Kottayam, Kerala 686560, India

EDITORIAL

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*For Correspondence

Gopinathan Anil kumar, School of Chemical Sciences, Mahatma Gandhi University, P. D. Hills P O, Kottayam, Kerala 686560, India

E-mail: anilgi.kumar81@yahoo.com

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EDITORIAL

There are reactions all over the place. The study of many types of organic reactions is an important component of organic chemistry courses. Let's take a closer look at each of these reactions in this post to learn more about them. Organic reactions are chemical processes that involve organic compounds. Several of these responses have functional group associations. An organic reaction mechanism is a thorough, step-by-step description of how an organic compound reaction happens.

- Substitution reaction
- Elimination reaction
- Addition reaction
- Radical reactions
- Rearrangement reaction

Substitution reaction

To generate a new material, one atom or a group of atoms is substituted by another atom or a group of atoms in a substitution process. Consider a C-Cl bond, in which the carbon atom has a partial positive charge due to the extremely electronegative chlorine atom present. The nucleophile in a nucleophilic substitution process must have a pair of electrons and a high affinity for the electropositive species when compared to the substituent that was initially present.

Elimination reaction

The elimination process is mostly used to convert saturated compounds to unsaturated ones. An elimination reaction is a type of chemical reaction in which multiple atoms from a molecule are eliminated in pairs or groups. Acids and bases, as well as metals, are frequently responsible for the elimination. It can also happen as a result of the high-temperature heating procedure.

Addition reaction

An addition reaction is an organic process in which two or more molecules combine to form a larger one in organic chemistry (the adduct). Chemical compounds having multiple bonds, such as carbon-carbon double bonds (alkenes) or triple bonds (alkynes) and compounds with rings, sometimes known as sites of unsaturation, are prohibited from addition operations. Because they contain double-bond character, molecules with carbon-hetero double bonds, such as carbonyl (C=O) or imine (C=N) groups, can be added. The polar opposite of an addition reaction is an elimination reaction. Dehydration, for example, converts an alkene to an alcohol by reversing the hydration process.

Free radical reactions

Any chemical reaction involving free radicals is referred to as a free-radical reaction. Organic reactions have a lot of this reaction type. Moses Gomberg's discovery of the triphenylmethyl radical in 1900 and Friedrich Paneth's lead-mirror experiment in 1927 were both groundbreaking research into free radical reactions. In this last experiment, tetramethyl lead is degraded into methyl radicals and elemental lead in a quartz tube at high temperatures. In a carrier gas, the gaseous methyl radicals are transported to another portion of the chamber, where they react with lead to form a mirror coating that eventually fades away.

Rearrangement reaction

A rearrangement reaction is an organic process in which an atom, ion, group of atoms, or chemical unit migrates from one atom to another in the same or other species, yielding a structural isomer of the original molecule. Breaking and/or creating C—C, C—O and C—N bonds are the most common rearrangement reactions. The atom from which the group migrates is the migration origin and the atom to which it migrates is the migration terminal.