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1 Chapter Goals

1.1 Part 1

- Name the molecules according to *IUPAC*
- Identify the *functional Groups* in a *homologous series*

1.2 Part 2

- Chemical reactions
- Reaction mechanisms

2 Hydrocarbons

Hydrocarbons are molecules made of only carbon and hydrogen atoms covalently bonded to each other. All bonds are nonpolar[1] and covalent. The carbon atoms *always* have 4 bonds.

2.1 The Functional Group

The *functional group* gives the molecule a specific property. It can consist of one or more atoms. It is the only part of the molecule that parttakes in an organic reaction.

2.2 Homologous Series

A *homologous series* is a group of molecules that share a *functional group* but have different numbers of carbons in the *carbon chain*

[1] Difference of electronegativities less than 0.5

2.3 Alkanes

The *alkanes* are molecules made entirely of carbon and hydrogen joined by single covalent bonds. The *-ane* suffix indicates an alkane. The general formula of an alkane is C_nH_{2n+2}

2.3.1 List of Alkanes

1. Methane
2. Ethane
3. Propane
4. Butane
5. Pentane
6. Hexane
7. Heptane
8. Octane