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functionality, f

of a monomer

Number of covalent bonds that a monomer molecule or monomeric unit in a macromolecule or oligomer molecule can form with other reactants.

Notes:

1. There are no monofunctional monomers.
2. If $f = 2$, a linear chain macromolecule or a macrocycle can be formed.
3. If $f > 2$, a branch point can be formed leading to a branched macromolecule, a network or a micronetwork.
4. Ethene and ethylene glycol are examples of difunctional monomers, glycerol is an example of a trifunctional monomer, and divinylbenzene and pentaerythritol are examples of tetrafunctional monomers.

Source:

PAC, 2007, *79*, 1801 *(Definitions of terms relating to the structure and processing of sols, gels, networks, and inorganic-organic hybrid materials (IUPAC Recommendations 2007))* on page 1805

