

Topic List of Chemical Formulas

1. General

Citric acid cycle

2. Carbohydrates

- Glycolysis, gluconeogenesis
- Pentose phosphate pathway (first part)
- Glucuronic acid
- Pathways of hexose metabolism
- Metabolism of fructose and galactose
- Redox shuttles
- Biosynthesis of lactose

3. Amino Acids

- Amino acids, end products of their catabolism
- Biosynthesis of nonessential amino acids
- Intermediates with important biological functions (neurotransmitters, high-energy compounds, tissue hormones)
- Urea-cycle
- Glutathione
- Synthesis of porphyrin (until DALA)

4. Lipids

- Common fatty acids
- Biosynthesis of fatty acids
- Oxidation of fatty acids (with odd and even numbers of carbon atoms, saturated, unsaturated)
- Biosynthesis and catabolism of triacylglycerols
- Biosynthesis and catabolism of phospholipids
- Ketogenesis, utilization of ketone bodies
- Biosynthesis of cholesterol (until the active isoprenes)
- Basic structure of steroid hormones

5. Nucleotides

- Purine bases, nucleosides, nucleotides
- Pyrimidine bases, nucleosides, nucleotides
- De novo biosynthesis of purines (first two steps), biosynthesis of ATP and GTP
- De novo synthesis of pyrimidines
- Catabolism of purines and pyrimidines