

**Thematic plan of lectures
on the elective course “Identification of organic compounds”
for the 2nd year students of the pharmaceutical faculty
during the spring**

№	The topic of lecture	Number of hours
1.	The structure of organic compounds. The most important classes of organic compounds as the basis for the identification of organic compounds. Relationship structure-activity (properties). Methods of separation and purification of organic compounds. Sensitivity and selectivity of chemical reactions. Approaches to the characteristics of organic compounds: the most important physicochemical constants, elemental analysis.	2
2.	Physical methods of analysis: spectroscopic methods of investigation (NMR, EMR, IR, UV), mass spectrometry, diffractometry, chromatographic methods. Chemical methods of identification of organic compounds: general requirements, approaches to selection.	2
3.	Identification by analytical-functional groups: saturated, unsaturated hydrocarbons, arenes, alcohols, phenols, amines, carbonyl compounds, acids and their functional derivatives.	2
4.	Identification by analytic-functional groups: heterophunctional compounds (amino acids, hydroxy acids, monosaccharides). Identification of heterocyclic compounds (N- and S-containing heterocycles). Identification of the main classes of biologically active compounds (proteins, proteins).	2
5.	Identification of the main classes of biologically active compounds (di- and polysaccharides), lipids. Quantitative analysis as the basis for clinical laboratory diagnosis. Basic methods of quantitative analysis.	2
Totally		10

**Thematic plan of practical classes
on the elective course “Identification of organic compounds”
for the 2nd year students of the pharmaceutical faculty
during the spring**

№	The topic	Number of hours
1.	The structure of organic compounds. The most important classes of organic compounds as the basis for the identification of organic compounds. Relationship structure-activity (properties). Methods of separation and purification of organic compounds. Sensitivity and selectivity of chemical reactions. Approaches to the characteristics of organic compounds: the most important physicochemical constants, elemental analysis.	2
2.	Physical methods of analysis: spectroscopic methods of research (NMR, EMR, IR-, UV-), mass spectrometry, diffractometry, chromatographic methods Chemical methods of identification of organic compounds: general requirements, approaches to choice..	2
3.	Identification by analytical and functional groups: saturated, unsaturated hydrocarbons, arenes.	2
4.	Identification by analytical-functional groups: alcohols, phenols, amines.	2
5.	Identification by analytical-functional groups: carbonyl compounds, carboxylic acids and their functional derivatives.	2
6.	Identification by analytical-functional groups: heterofunctional compounds (amino acids, hydroxy acids, monosaccharides).	2
7.	Identification of heterocyclic compounds (N- and S-containing heterocycles).	2
8.	Identification of the main classes of biologically active compounds (proteins, proteins).	2
9.	Identification of the main classes of biologically active compounds (di- and polysaccharides).	2
10.	Identification of the main classes of biologically active compounds (lipids). Quantitative analysis - the basis for clinical laboratory diagnosis: basic methods.	2
Totally		20

**Thematic plan of individual work
on the elective course “Identification of organic compounds”
for the 2nd year students of the pharmaceutical faculty
during the spring**

№	The topic of lecture	Number of hours
1.	The structure of organic compounds. The most important classes of organic compounds as the basis for the identification of organic compounds. Relationship between structure and activity (properties).	4
2.	Methods of separation and purification of organic compounds. Sensitivity and selectivity of chemical reactions.	4
3.	Approaches to the characteristics of organic compounds: the most important physicochemical constants, elemental analysis.	4
4.	Physical methods of analysis: spectroscopic methods of investigation (NMR, EMR, IR, UV).	4
5.	Physical methods of analysis: mass spectrometry, diffractometry, chromatographic methods.	4
6.	Chemical methods of identification of organic compounds: general requirements, approaches to selection.	4
7.	Identification by analytical-functional groups: saturated, unsaturated hydrocarbons, arenes.	4
8.	Identification by analytical-functional groups: alcohols, phenols, amines.	4
9.	Identification by analytical-functional groups: carbonyl compounds, acids and their functional derivatives.	4
10.	Identification by analytical-functional groups: heterofunctional compounds (amino acids, hydroxy acids, monosaccharides).	4
11.	Identification of heterocyclic compounds (N- and S-containing heterocycles).	4
12.	Identification of the main classes of biologically active compounds (proteins, proteins).	4
13.	Identification of the main classes of biologically active compounds (di- and polysaccharides).	4
14.	Identification of the main classes of biologically active compounds, lipids.	4
15.	Quantitative analysis as the basis for clinical laboratory diagnosis. Basic methods of quantitative analysis.	4
Totally		60