

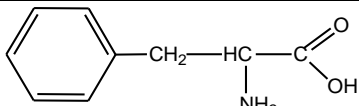
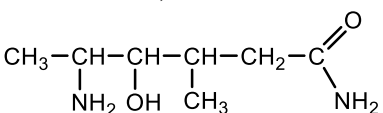
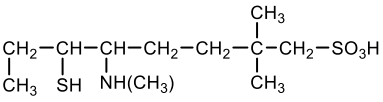
## Diagnostic testing

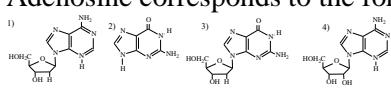
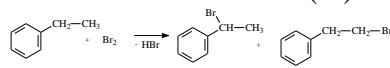
### Discipline "Chemistry"

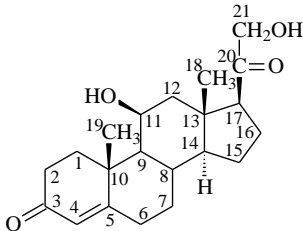
#### Term 1

Curriculum	<b>31.05.01</b>
Specialty	<b>General medicine</b>
Form of education	<b>full-time</b>
Designer Department	<b>Chemistry</b>
Graduate Department	<b>Internal Diseases</b>

Tested Competence	Exercise	Answer options	Question difficulty type
GPC-5.3 GPC-5.4	A carbon atom in the $sp^2$ -hybrid state corresponds to a bond angle of $120^\circ$ ; $3\sigma$ and $1\pi$ bonds	1) . Yes 2). No	Short
GPC-5.3 GPC-5.4	The most polar covalent bond in a molecule: 1) HCl ; 2) $H_2S$ ; 3) $Cl_2$ ; 4 ) HF;	1) HCl ; 2) $H_2S$ ; 3) $Cl_2$ ; 4 ) HF;	Short
GPC-5.3 GPC-5.4	Of the listed pairs of molecules, the structural isomers are: 1) acetone - propane; 2) vinyl chloride - chloroethene ; 3) $\beta$ -D- glucopyranose - $\alpha$ -D- glucopyranose ; 4) $\beta$ - aminopropanoic acid - $\alpha$ - aminopropanoic acid; 5) D- alanine - L- alanine .	1) acetone - propane; 2) vinyl chloride - chloroethene ; 3) $\beta$ -D- glucopyranose - $\alpha$ -D- glucopyranose ; 4) $\beta$ - aminopropanoic acid - $\alpha$ - amine opanoic acid; 5) D- alanine - L- alanine .	Short
GPC-5.3 OPK-5.4	Electrophilic reagents are "___". 1) particles that donor a pair of electrons; noble gas atoms; 2) particles that accept a pair of electrons; cations; 3) halide ions; particles that donor a pair of electrons;	1) particles that donor a pair of electrons; noble gas atoms; 2) particles that accept a pair of electrons; cations; 3) halide ions; particles that donate a pair of electrons;	Short
GPC-5.3 GPC-5.4	A nucleophile is a particle that "_____". 1) attaches a proton; supplies a free orbital for the formation of a chemical bond; 2) attacks a positively charged carbon atom; supplies a pair of electrons to form a chemical bond; 3) attaches electrons; attaches a proton;	1) attaches a proton; supplies a free orbital for the formation of a chemical bond; 2) attacks a positively charged carbon atom; supplies a pair of electrons to form a chemical bond; 3) attaches electrons; attaches a proton;	Short
GPC-5.3 GPC-5.4	Name the compound according to the IUPAC nomenclature, the formula of which is:	1). 2-amino-3-benzenepropanol-1; 2). 2-amino-3-phenylpropanoic acid-1;	Average

	 <p>1). 2-amino-3-benzenepropanol-1; 2). 2-amino-3-phenylpropanoic acid-1; 3). 1-phenyl-2-aminopropanecarboxylic acid-3; 4). 2-amino-1-phenylpropanecarboxy-3.</p>	<p>3). 1-phenyl-2-aminopropanecarboxylic acid-3; 4). 2-amino-1-phenylpropanecarboxy-3.</p>	
GPC-5.3 GPC-5.4	<p>Name the compound according to the IUPAC nomenclature, the formula of which is:</p>  <p>1). 3-methyl-4-hydroxy-5-aminohexanamide-1; 2). 5-amino-4-hydroxy-3-methylhexanamide-1; 3). 2-amino-3-hydroxy-4-methylhexanecarbonyl-1; 4). 2-amino-3-hydroxy-4-methylhexanecarbamide-1.</p>	<p>1). 3-methyl-4-hydroxy-5-aminohexanamide-1; 2). 5-amino-4-hydroxy-3-methylhexanamide-1; 3). 2-amino-3-hydroxy-4-methylhexanecarbonyl-1; 4). 2-amino-3-hydroxy-4-methylhexanecarbamide-1.</p>	Average
GPC-5.3 GPC-5.4	<p>Name the compound according to the IUPAC nomenclature, the formula of which is:</p>  <p>1). 3-methyl-4-hydroxy-5-aminohexanamide-1; 2). 5-amino-4-hydroxy-3-methylhexanamide-1; 3). 2-amino-3-hydroxy-4-methylhexanecarbonyl-1; 4). 2-amino-3-hydroxy-4-methylhexaneurea-1.</p>	<p>1). 3-methyl-4-hydroxy-5-aminohexanamide-1; 2). 5-amino-4-hydroxy-3-methylhexanamide-1; 3). 2-amino-3-hydroxy-4-methylhexanecarbonyl-1; 4). 2-amino-3-hydroxy-4-methylhexaneurea-1.</p>	Average
GPC-5.3 OPK-5.4	<p>Two sugar solutions were mixed: 280 g of a solution with a mass fraction of 10% and 780 g of 40%. What is the mass fraction of sugar in the resulting solution.</p> <p>1) 32%; 2) 10%; 3) 40%; 4) 25%;</p>	<p>1) 32%; 2) 10%; 3) 40%; 4) 25%;</p>	Average
GPC-5.3 GPC-5.4	<p>How many electrons are involved in the reduction process in the reaction (before setting the coefficients): <math>\text{MnO}_2 + \text{KClO}_3 + \text{KOH} \rightarrow \text{K}_2\text{MnO}_4 + \text{KCl} + \text{H}_2\text{O}</math></p> <p>eleven; 2) 2; 3) 3; 4) 6;</p>	<p>eleven; 2) 2; 3) 3; 4) 6;</p>	Average
GPC-5.3 OPK-5.4	<p>For a cyclohexane molecule, the most energetically favorable is:</p> <p>1) bath (boat) conformation ; 2) chair conformation ; 3) flat conformation ;</p>	<p>1) bath (boat) conformation ; 2) chair conformation ; 3) flat conformation ; 4) all conformations are energetically equivalent;</p>	Average

	4) all conformations are energetically equivalent; 5) hindered conformation .	5) hindered conformation .	
GPC-5.3 GPC-5.4	The weakening of acidity takes place in the series: 1) propanol-1, propanediol-1,2, propanetriol-1,2,3 2) propanetriol-1,2,3, propanediol-1,2, propanol-2 3) propanol-1, propanol-2, propanetriol-1,2,3 4) propanol-2, propanol-1, propanediol-1,2.	1) propanol-1, propanediol-1,2, propanetriol-1,2,3 2) propanetriol-1,2,3, propanediol-1,2, propanol-2 3) propanol-1, propanol-2, propanetriol-1,2,3 4) propanol-2, propanol-1, propanediol-1,2.	Average
GPC-5.3 GPC-5.4	In which order are the compounds arranged in order of increasing basicity? 1) methylamine, dimethylamine , aniline; 2) methylamine, aniline, dimethylamine ; 3) aniline, methylamine, dimethylamine ; 4) dimethylamine , aniline, methylamine.	1) methylamine, dimethylamine , aniline; 2) methylamine, aniline, dimethylamine ; 3) aniline, methylamine, dimethylamine ; 4) dimethylamine , aniline, methylamine.	Average
GPC-5.3 GPC-5.4	Adenosine corresponds to the formula:  1) 2) 3) 4)	1) 2) 3) 4)	Average
GPC-5.3 GPC-5.4	The number of carbon atoms and the number of double bonds in linolenic acid, respectively, are: 1) From 18 : 2 2) From 18 : 3 3) From 17 : 3 4) From 17:2 .	1) From 18 : 2 2) From 18 : 3 3) From 17 : 3 4) From 17:2 .	Average
GPC-5.3 GPC-5.4	With complete acid hydrolysis of the product of exhaustive acetylation, 1 mol of cellobiose is formed: 1) 1 mol of cellobiose + 1 mol of acetic acid 2) 2 mol glucose + 8 mol acetic acid 3) 1 mol of cellobiose + 8 mol of acetic acid 4) hydrolysis does not occur.	1) 1 mol of cellobiose + 1 mol of acetic acid 2) 2 mol glucose + 8 mol acetic acid 3) 1 mol of cellobiose + 8 mol of acetic acid 4) hydrolysis does not occur.	High
GPC-5.3 GPC-5.4	For the 1,3- dimethylcyclohexane molecule , the following are energetically more favorable: 1) chair conformation ; 2) axial position of methyl groups; 3) equatorial position of methyl groups; 4) bath conformation ; 5) all conformations are energetically equivalent.	1) chair conformation ; 2) axial position of methyl groups; 3) equatorial position of methyl groups; 4) bath conformation ; 5) all conformations are energetically equivalent.	High
GPC-5.3 GPC-5.4	For the reaction of ethylbenzene with bromine (reaction S <sub>R</sub> , the scheme is shown below), select the correct statement ( s ): 	1) predominantly formed 1-bromo-1-phenylethane;	High

	<ol style="list-style-type: none"> <li>1) predominantly formed 1-bromo-1-phenylethane;</li> <li>2) predominantly formed 1-bromo-2-phenylethane;</li> <li>3) the main product is formed from a benzyl-type radical;</li> <li>4) the main product is formed from the primary radical;</li> <li>5) the main product has optical activity.</li> </ol>	<ol style="list-style-type: none"> <li>2) predominantly formed 1-bromo-2-phenylethane;</li> <li>3) the main product is formed from a benzyl-type radical;</li> <li>4) the main product is formed from the primary radical;</li> <li>5) the main product has optical activity.</li> </ol>	
GPC-5.3 GPC-5.4	<p>A consistent increase in the acidity of compounds occurs in the series:</p> <ol style="list-style-type: none"> <li>1) benzoic acid</li> <li>2) salicylic acid</li> <li>3) p-aminobenzoic acid;</li> </ol>	<ol style="list-style-type: none"> <li>3) p-aminobenzoic acid;</li> <li>1) benzoic acid; 2) salicylic acid</li> </ol>	High
GPC-5.3 GPC-5.4	<p>chiral centers in the corticosterone molecule (the formula is given below) . Chiral centers are carbon atoms with numbers:</p>  <ol style="list-style-type: none"> <li>1) 5,8,9,10,11,13,14;</li> <li>2) 8,9,10,11,13,14,17;</li> <li>3) 9,10,11,13,14,17,18;</li> <li>4) 10,11,13,14,17,18,19;</li> <li>5) 11,13,14,17,18,19,21.</li> </ol>	<ol style="list-style-type: none"> <li>1) 5,8,9,10,11,13,14;</li> <li>2) 8,9,10,11,13,14,17;</li> <li>3) 9,10,11,13,14,17,18;</li> <li>4) 10,11,13,14,17,18,19;</li> <li>5) 11,13,14,17,18,19,21.</li> </ol>	High