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FORENSIC ASPECTS OF PSYCHOTROPIC SUBSTANCES

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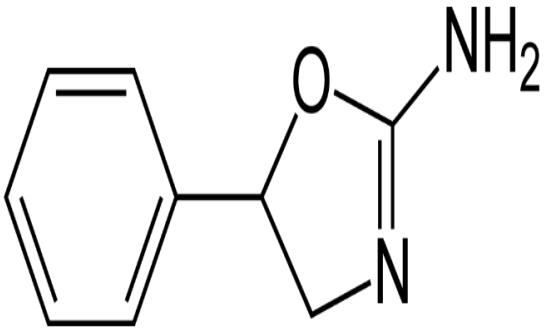
Abstract:
Narcotics and psychotropic drugs affect the nervous system and change the human psyche and behavior. Drugs can be classified according to their origin, pharmacological properties, and effects on the physical and mental state of a person. At the same time, all psychoactive substances generalize the fact that they cause addiction in a person, that is, dependence on taking this substance.

Keywords: narcotics and psychotropic substances.

Usually, in order for any substance to be called a narcotic (narcotic), it must meet the following three criteria:
- psychoactive effect (medical criterion);
- non-medical use of the substance acquires social significance (social criterion);
- prohibition of distribution and consumption in legal documents (legal criterion).

In general, the threat posed by psychotropic and narcotic drugs to the security of the world cannot be measured by anything. According to the British "Lancet" magazine, more than 200 million people in the world take drugs at least once a year.

Here it should be noted that there are several psychotropic substances restricted in circulation in the Republic of Uzbekistan,
and they consist of the following.



Aminorex- Synonyms: aminorex, Aminoxafen, Aminoxafen, Apikvel, 2207-50-3, 2-Oxazolamine, 4,5-dihydro-5-phenyl-2-Amino-5-phenyl-2-oxazoline, McN 742, McN-742 , 2-Oxazoline, 2-Amino-5-phenyl-5-phenyl-4,5-dihydro-2-oxazolamine, NSC-66952, 5-Phenyl-4,5-

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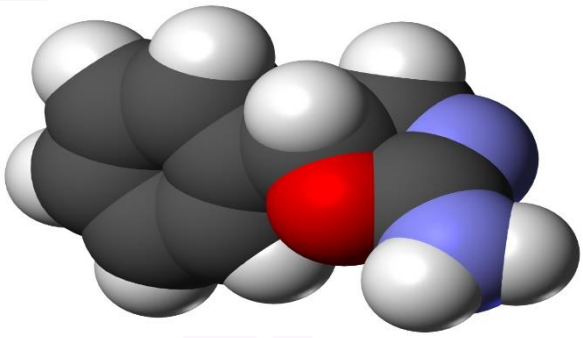
dihydro-1,3-oxazol-2-amine , DEA No. 1585, Apikvel (TN), 2-Amino-4,5-dihydro-5-phenyloxazole, 4,5-Dihydro-5-phenyl-2-oxazolamine, NSK 66952, Menosil (sol /smes, SpecPlus_000839, Aminorex (USAN / MNN), 2-Imino-5-phenyl-oxazolidine, Aminorex fumarate (sol/smes), DivK1c_006935, 2-Oxazolamine, 5-dihydro-5-phenyl-NSC_16630, 5-phenyl-4,5-dihydrooxazol- 2-Amine, 2-Amino-4,5-dihydro-5-phenyloxazole.

Solubility: in water, 1,84 × 10yo3 mg/l ,25 °C (est)



Aminorex (Menocil, Apiquel, aminoxaphene, aminoxaphene, McN-742) — psychostimulant, appetite regulating drug. A structural analogue of amphetamine. The drug was withdrawn from the market after it was found to cause pulmonary hypertension.

Aminorex has a stimulating effect on the central nervous system, typical of amphetamines. Eliminates fatigue, reduces the need for sleep and leads to psychological and physical arousal. With long-term use, psychoses may appear, which may be accompanied by convulsions: visual and auditory hallucinations. Other effects include increased blood pressure and heart rate, increased body temperature, irritability, depression, confusion, aggression, and mood swings. Moderately addictive, not physically addictive. In 1962, Edward John Hurlbert synthesized Aminorex. Studies have shown that its use caused a pronounced anorexic effect in rats. In 1965, the drug became widely used as an appetite suppressant in Austria, Switzerland and Germany. In the pharmacy chain, it was sold under different names - "Menocil", "Apikvel", "Aminoxafen", "McN-742". Later, it was found that the treatment of obesity with this drug led not only to a decrease in body weight, but also to an addictive effect. In addition, in 0.2% of patients, it was accompanied by an increase in pressure in the blood vessels of the pulmonary circulation - pulmonary hypertension. Therefore, since 1972, the use of "Aminoreks" in clinical practice has been canceled. Deaths have also been reported.

Aminorex was intended to be used as an anorexigenic agent with the ability to reduce or almost completely suppress appetite. Because of this, a person begins to eat significantly less food and the weight decreases quickly.

A person who starts taking "Aminorex" not only loses extra weight, but also feels a great increase in physical strength. His mood rises, he seems ready to solve any

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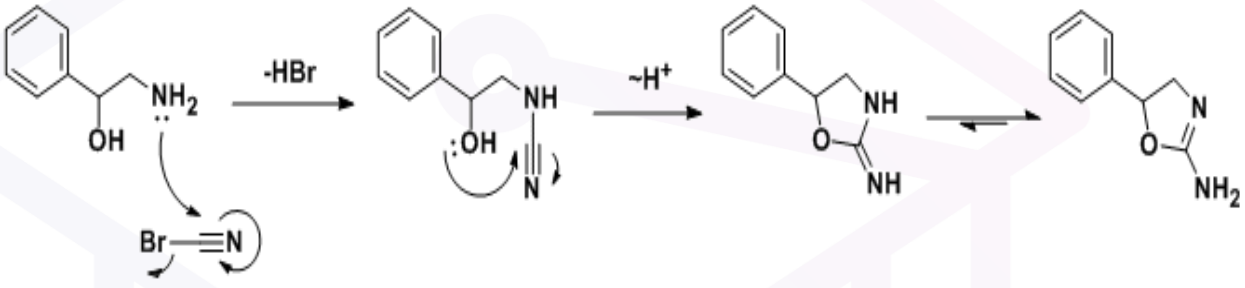
problems easily. This addictive effect causes people to soon lose the ability to enjoy anything without being chemically "doped". Without another pill, they begin to feel depressed, their ability to work drops sharply.

In case of violation of prescribed doses, Aminorex quickly causes irreversible changes in the central nervous system. Clinically, it is manifested by depression, severe mental illness, which is difficult to distinguish from schizophrenia. Also, the drug has a negative effect on the cardiovascular system and the musculoskeletal system, destroys immunity.

To obtain aminorex, a reaction is formed between 2-amino-1-phenylethanol and bromocyanide:



The proton NMR spectrum for Aminorex and its structural targets are shown in Fig. 2. In contrast to the spectrum of methylaminorex, the 1-hour NMR spectrum of the seized sample does not show an absorption region (<3 d) characteristic of the methyl group. The resulting spectrum shows the given structure of aminorex: the phenyl group at 7.35 d, the benzyl triplet of Methine at 5.46 d, the substituted amino group at 5.2 d, and the unequal hydrogen atoms of the methylene group at 4.13 and 3.65 to the phenyl ring at d. The 13C NMR spectrum equally supports the structure of 4,5-dihydro-5-phenyl-2-oxazolamine, there is no methyl signal in the upper field, and the absorption of the remaining carbon with the expected values is 8 (Figure 1) . 3). Splitting analysis of this spectrum shows quaternary and secondary carbon at 160.89 d, 140.62 d and 60.63 d, which is the imino carbon (C-2), the phenyl carbon attached to C-5, and the methylene carbon (corresponds to C-4). The remaining methine carbons showed signals at 128.62 d, 128.14 d, 125.66 d, and 81.43 d assigned as C-5 absorption corresponding to phenyl carbons. M-ass spectrometric analysis was performed on the sample in question by distilling the sample. This method showed the presence of compounds that evaporate at higher temperatures than the object compound. The EI spectrum of the substance is given in Fig. 4. The nature of the fragmentation and the molecular ion show the structure of the aminorex and are in good agreement with the standard spectra 12. Loss of the CONH2 carboxamide

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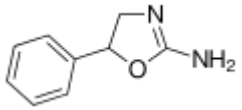
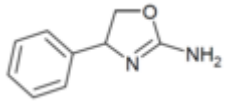
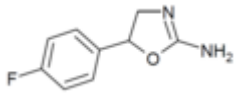
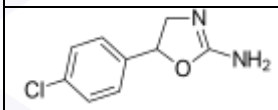
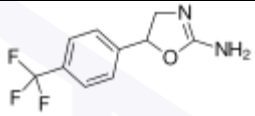
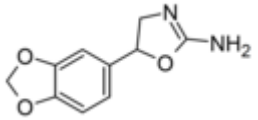
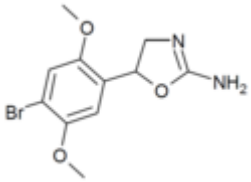
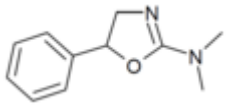
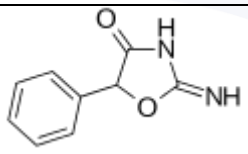
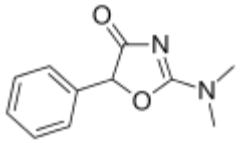
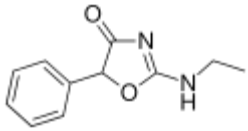
group leads to the formation of a band at 118 m/z, and the formation of protonated benzyl alcohol at km /z = 107 leads to fragments. Other significant components include the tropylium ion (91 m/z) and the phenyl cation at 77 m/z.

Aminorex derivatives

	Aminoreks	5-fenil-4,5-digidro-1,3-oksazol-2-amin
	Reksamino	4-fenil-4,5-digidro-1,3-oksazol-2-amin
	4'-Ftoraminoreks	(4'-FAR) 5- (4-ftorfenil) -4,5-digidro-1,3-oksazol-2-amin
	Klominoreks	5- (4-xlorfenil) -4,5-digidro-1,3-oksazol-2-amin
	Fluminoreks	5- [4- (triftormetil) fenil] -4,5-digidro-1,3-oksazol-2-amin
	Metilendioksiaminoreks	5- (3,4-metilendioksifenil) -4,5-digidro-1,3-oksazol-2-amin
	2C-B-aminoreks (2C-B-AR)	5- (2,5-dimetoksi-4-bromfenil) -4,5-digidro-1,3-oksazol-2-amin
	N, N-dimetilaminoreks (N, N-DMAR)	N, N-dimetil-5-fenil-4,5-digidro-1,3-oksazol-2-amin
	Pemolin	2-amino-5-fenil-1,3-oksazol-4 (5 H) -on
	Tozalinon	2- (dimetilamino) -5-fenil-1,3-oksazol-4 (5 H) -on
	Fenozolon	2-etilamino-5-fenil-1,3-oksazol-4-on

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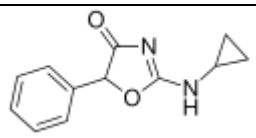
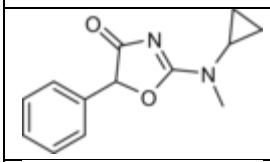
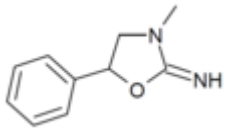
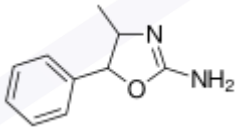
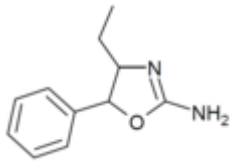
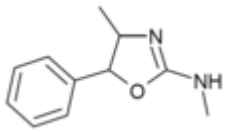
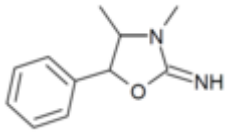
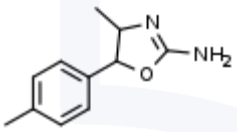
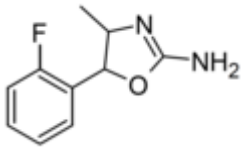
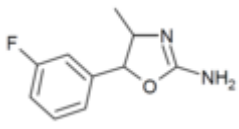
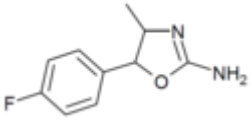
	Siklazodon	2- (siklopropilamino) -5-fenil-1,3-oksazol-4-on
	N-metilsiklazodon	2- (siklopropil (metil) amino) -5-fenil-1,3-oksazol-4-on
	3-Metilaminoreks	3-metil-5-fenil-2-oksazolidinimin
	4-Metilaminoreks (4-MAR)	4-metil-5-fenil-4,5-digidro-1,3-oksazol-2-amin
	4-etilaminoreks (4-EAR)	4-etil-5-fenil-4,5-digidro-1,3-oksazol-2-amin
	4, N-dimetilaminoreks (4, N-DMAR)	4,5-digidro-N, 4-dimetil-5-fenil-2-oksazolamin
	3,4-dimetilaminoreks (3,4-DMAR)	3,4-dimetil-5-fenil-2-oksazolidinimin
	4,4'-dimetilaminoreks (4,4'-DMAR)	4-metil-5- (4-metilfenil) -4,5-digidro-1,3-oksazol-2-amin
	2'-Ftor-4-metilaminoreks (2'-F-4-MAR)	4-metil-5- (2-ftorfenil) -4,5-digidro-1,3-oksazol-2-amin
	3'-Ftor-4-metilaminoreks (3'-F-4-MAR)	4-metil-5- (3-ftorfenil) -4,5-digidro-1,3-oksazol-2-amin
	4'-Ftor-4-metilaminoreks (4'-F-4-MAR)	4-metil-5- (4-ftorfenil) -4,5-digidro-1,3-oksazol-2-amin

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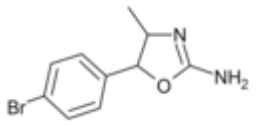
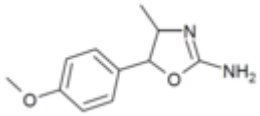
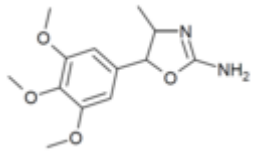
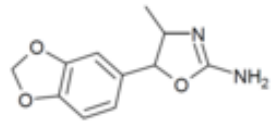
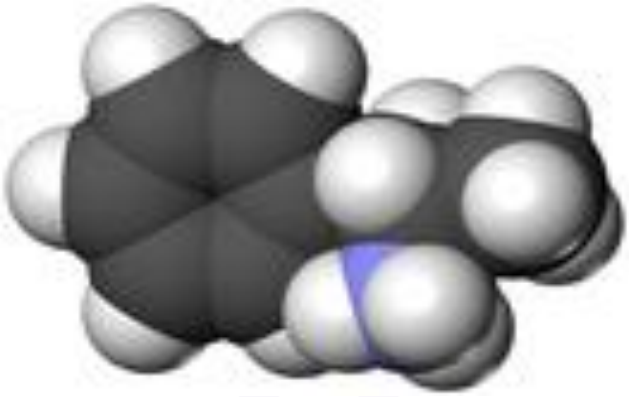
	4'-Brom-4-metilaminoreks (4B-MAR)	4-metil-5- (4-bromfenil) -4,5-digidro-1,3-oksazol-2-amin
	4'-Metoksi-4-metilaminoreks (4'-MeO-4-MAR)	4-metil-5- (4-metoksifenil) -4,5-digidro-1,3-oksazol-2-amin
	3 ', 4', 5'-trimetoksi-4-metilaminoreks (TM-4-MAR)	4-metil-5- (3,4,5-trimetoksifenil) -4,5-digidro-1,3-oksazol-2-amin
	3 ', 4'-Metilendioksi-4-metilaminoreks (MDMAR)	4-metil-5- (3,4-metilendiofenil) -4,5-digidro-1,3-oksazol-2-amin



Levomethamphetamine -
Systematic name: (2R)-1-phenylpropane-2-amine
Traditional name Levamfetamine, l-amphetamine, (-)-(R) - α-phenylethylamine
Chemical formula: $C_9H_{13}N$
Levomethamphetamine, L-Methamphetamine, 33817-09-3 l-Methylamphetamine, (-)-Methamphetamine, (-)-Deoxyephedrine, Levomethamphetamine, R(-)-N-methylamphetamine, l-1-Phenyl-2-methylaminopropane, NSC 6084 , (R)-N-methyl-1-phenylpropane-2-amine, (-)-methyl(alpha-methylphenethyl) amine, l-1-Phenyl-2-methylaminopropane, Benzolethanamine, N, alpha-dimethyl-, (R)-CHEMBL1927030, Vicki, (R)-deoxyephedrine, (R)-methylamphetamine, Benzolethanamine, N, alpha-dimethyl-, (R)-L-dyezoxiephyedrin, inhaler vicks, benzolethanamine, n, alpha-dimethyl-, (-) -phyenylethylamine, n, alpha-dimyethyl-, (-)-levmetamphetamine [usan: usp: mnn] Phenylethylamine, alpha-dimethyl-, D-DB09571, (2R)-N-methyl-1-phenyl-2-propanamine, (-)-2--(Methyl-amino)-1-phenylpropane

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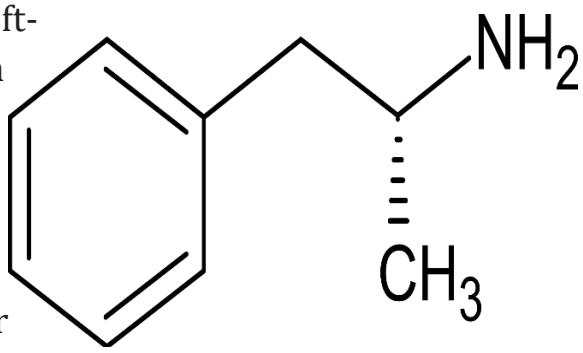

Levoamphetamine (L- amphetamine) is a left-turning isomer of amphetamine, a psychostimulant. In small doses, it has a stronger stimulant effect than its dextrorotatory isomer (dextroamphetamine) due to its interaction with norepinephrine receptors. At higher doses, it has less pronounced central and more pronounced peripheral effects than dextroamphetamine.

Levomethamphetamine passes through the blood-brain barrier and acts as a selective agent that releases norepinephrine (it has little or no effect on the release of dopamine), so it affects the central nervous system, but its effect is qualitatively no different from dextromethamphetamine . Dextromethamphetamine has no euphoric or addictive potential. Its physiological effects include vasoconstriction, which makes it useful for clearing the nose. The half-life of levomethamphetamine is 13.3 to 15 hours, and the half-life of dextromethamphetamine is approximately 10.5 hours. Levomethamphetamine is an active metabolite of the antiparkinsonian drug selegiline. Selegiline, a selective monoamine oxidase β (MAO B) inhibitor, at low doses, also converts levomethamphetamine to levoamphetamine during metabolism, leading to a positive result when tested for amphetamines. Selegiline itself has neuroprotective and neurorescuing effects, but concern about the neurotoxicity of levomethamphetamine has led to the development of an alternative substance such as Rasagiline, a Mao B inhibitor that does not produce toxic metabolites. Adverse Effects: When nasal decongestants are taken in excess, levomethamphetamine has potential side effects similar to other sympathomimetic drugs; these effects include: hypertension (high blood pressure), tachycardia (fast heart rate), nausea, stomach cramps, dizziness, headache, sweating, muscle tension, and tremors.Central side effects may include anxiety, insomnia, and anorexia (loss of appetite).

Non-medical use. In a study of the psychoactive effects of levomethamphetamine, intravenous administration of 0.5 mg/kg (but not 0.25 mg/kg) to recreational methamphetamine users produced a "drug addiction" rating, but the effect was shorter. Levomethamphetamine has not been tested for oral administration. Levomethamphetamine may report as methamphetamine, amphetamine, or both

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in urine drug analysis depending on the subject's metabolism and dose. L-methamphetamine is completely metabolized to L-amphetamine after some time. The method for determining amphetamines in urine is based on liquid-liquid extraction, followed by derivatization using derivatizing agents: trifluoroacetyl anhydride (TFAA) or pentafluoropropionic anhydride (PFPA). Phenylalkylamine derivatives with TFAA or PFPA are determined by chromatography-mass spectrometry. Sample preparation. 2 ml of sodium hydroxide solution (1 M), 5 ml of distilled water, 20 ml of dichloromethane are added to 2 ml of urine and put on a shaker for 30 minutes. The organic layer was filtered through anhydrous sodium sulfate, 50 µl of hydrochloric acid in methanol was added to the extract, evaporated to a dry residue at room temperature, and analyzed by chromatography-mass spectrometry. Chromatomass spectrometry.The research is carried out on an Agilent 6890 gas chromatograph and a chromato-mass spectrometer with an Agilent Technologies 5973 mass selective detector. Chromatograph column quartz on methylphenylsilicon, capillary (30 m x 0.25 mm). The starting temperature of the column is 700C. exposure time at the initial temperature is 1 minute. Carrier gas velocity (helium)- 1.0 ml/min injector, source and quadrupole temperatures are 2800C, 2300C and 1500C respectively. The volume of the injected sample is 1 µl.

Identification of peaks observed in the chromatogram is performed in individual ion scanning mode using electron impact mass spectra, ion mass chromatograms, and mass spectral libraries.

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