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Contents

SECTION 1. Engineering science

<i>Lipyana H.V.</i> CORRELATION ANALYSIS OF THE PROCESS FOR FORMING TOURISM DEMAND IN UKRAINE	5
---	---

<i>Zhezhera I.V., Virko O.S.</i> ЗАСТОСУВАННЯ МЕТОДІВ ОПТИЧНОЇ КОРЕКЦІЇ В ЗАДАЧІ ЗАБЕЗПЕЧЕННЯ ФУНКЦІОНАЛЬНО СТІЙКОГО РУХУ БЕЗПІЛОТНИХ ЛІТАЛЬНИХ АПАРАТІВ	8
--	---

SECTION 2. Agriculture

<i>Ratoshnyuk V.I.</i> OF USING FLOUR NARROW-LEAVED LUPINE OF IN BREAD-BAKING INDUSTRY	11
--	----

SECTION 3. Economics and management

<i>Bogutska O.A.</i> INVESTMENT SUPPORT OF HIGH-TECH INDUSTRIES	16
---	----

<i>Bryl I.V.</i> INTELLIGENCE OF SOCIETY AND INTELLECTUALIZATION OF BUSINESS ECONOMY	20
--	----

<i>Feklistova I.S., Pakulina H.S., Pakulina A.A., Pakulin S.L.</i> LOGICAL SCHEME OF RESEARCH OF MECHANISMS OF SOCIAL POLICY IMPLEMENTATION	24
---	----

<i>Feklistova I.S., Pakulina H.S., Tsyppin Y.A., Pakulin S.L.</i> ACTUAL PROBLEMS OF SOCIAL SPHERE DEVELOPMENT IN THE REGION	28
--	----

<i>Martynyuk A.O.</i> ORGANIZATIONAL AND ECONOMIC REGULATION OF ECOLOGY-ORIENTED AGRICULTURAL PRACTICE	32
--	----

<i>Piletska S., Korytko T.</i> INVESTMENT COOPERATION AND PRODUCTION CO-OPERATION OF UKRAINE AND EU	36
---	----

<i>Ratoshnyuk T.M.</i> PREREQUISITES FOR THE DEVELOPMENT OF ORGANIC HOP-GROWING IN UKRAINE	40
--	----

<i>Shaban K.S.</i> THE MECHANISM OF FORMATION OF MARKETING INNOVATIVE POLICY OF PRINTING ENTERPRISES	44
--	----

SECTION 4. Philology

<i>Terniievska Y.Y.</i> CORRELATION BETWEEN THE CONCEPTS OF LINGUISTIC NORM AND VARIABILITY IN ENGLISH	58
--	----

SECTION 5. Jurisprudence

<i>Gabrelyan A.Y.</i> PROBLEMATICS OF LEGALIZATION OF PROSTITUTION IN UKRAINE	62
---	----

<i>Gorkava V.Y.</i> SUBJECTIVE SIGNS OF ADMINISTRATIVE OFFENSES IN THE FIELD OF ROAD TRAFFIC	66
--	----

<i>Pilipchenko O.O.</i> DIRECTIONS OF OVERCOMING THE SHADOW ECONOMY IN UKRAINE	70
--	----

<i>Storozhenko S.A.</i> SUBJECTIVE SIGNS OF AN ADMINISTRATIVE OFFENSE UNDER ART. 482 OF THE CUSTOMS CODE OF UKRAINE	74
---	----

«New trends in the scientific world»

SECTION 6. Pedagogical sciences

Borysiuk S.O., Borysiuk I.O., Ohonko S.M. SOCIO-PEDAGOGICAL SUPPORT OF INCLUSIVE EDUCATION IN THE CONDITIONS OF A COMPREHENSIVE EDUCATIONAL INSTITUTION 77

Khivrich I.I. DEVELOPMENT OF CREATIVE POTENTIAL OF STUDENTS IS BY INTRODUCTION OF INNOVATIONS IN TECHNOLOGIES IN THE PROCESS OF TEACHING OF PHYSICAL CULTURE 81

Lepeshkin S.A. PRACTICE OF USING THE METHODS OF CINOPEDICOGRAPHY ON LESSONS OF HISTORY IN SECONDARY SCHOOL 84

Ostrianko T.S. PEDAGOGICAL CONDITIONS OF FORMATION OF READINESS OF SCIENTIFIC AND PEDAGOGICAL WORKERS OF THE HIGHER SCHOOL FOR INCLUSIVE EDUCATION 87

Pakulin S.L., Perebeynos V.B., Makhankov H.I., Franken P. EFFECTIVE IMPLEMENTATION OF MODEL OF EXPANSION OF SPACE OF TECHNICAL AND TACTICAL TRAINING OF ATHLETES OF JUDO 90

Savinov V.V., Pakulin S.L. IDENTIFICATION AND FORMATION OF THE CROWN RECEPTION OF THE ATHLETE IN SAMBO 94

SECTION 7. Medical sciences

Myronchenko S.I. INDICATORS OF OXIDATIVE AND NITROSATIVE STRESS AT ULTRAVIOLET-INDUCED DAMAGE OF SKIN IN EXPERIMENT 98

SECTION 8. Pharmaceutical sciences

Baiurka S.V., Karpushyna S.A., Tomarovska L.Y. DETERMINATION OF THE OPTIMUM CONDITIONS FOR SOLVENT EXTRACTION OF ATOMOXETINE FROM BIOLOGICAL FLUIDS 102

Govtvyan D.K. STUDY OF ANTIOXIDANT PROPERTIES OF VEGETABLE EXTRACTS FOR TREATMENT OF SUGAR DIABETES 103

Kazymova L.A. RESEARCH OF THE PROBLEM OF DEMODECOSIS IN STUDENT ENVIRONMENT 107

Merzlikin S.I., Kucher T.V. DEVELOPMENT OF CHROMATOGRAPHIC DETERMINATION METHOD OF DRUGS OF SULFONILUREA DERIVATIVES FOR CHEMICAL-TOXICOLOGICAL ANALYSIS 110

Misiurova S.V., Propisnova V.V. QUALITY OF LABORATORY RESEARCH - GUARANTEE OF PRECLINICAL RESEARCH QUALITY 114

SECTION 9. Arts

Klymenko M.S. CONCEPTUAL FOUNDATIONS OF ALEXANDER ARCHIPENKO'S ART 116

SECTION 10. Psychology

Holovin S.I., Kidalova M.M. EMOTIONAL BARRIERS OF STUDENT YOUNG PEOPLE: PSYCHOLOGICAL FEATURES OF DISPLAY IN THE CONDITIONS OF ADAPTATION PERIOD 119

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**DETERMINATION OF THE OPTIMUM CONDITIONS FOR SOLVENT
EXTRACTION OF ATOMOXETINE FROM BIOLOGICAL FLUIDS**

Summary. The degree of atomoxetine extraction by a range of typical organic solvents depending on pH in the presence of salting out agents has been determined. Data obtained can be used in clinical and forensic analytical toxicology for optimization of atomoxetine extraction from blood and urine.

Key words: atomoxetine; solvent extraction, UV-spectrophotometry.

Atomoxetine ((3R)-N-methyl-3-(2-methylphenoxy)-3-phenylpropan-1-amine hydrochloride) is a thymoleptic of the selective norepinephrine reuptake inhibitor group used in the pharmacotherapy of attention-deficit/hyperactivity disorder. Most of bioanalytical methods developed are based on using solid phase extraction (SPE) in a sample preparation stage. Liquid-liquid extraction is an alternative to SPE. Data for extraction of atomoxetine with organic solvents are not available in the literature. According to our previous studies, a maximum in the degree of extraction of atomoxetine with chlorinated hydrocarbons from both acidic and alkaline solutions did not exceed 16.3 % [1].

Aim. To determine the degree of extraction of atomoxetine with range of typical organic solvents depending on pH in the presence of salting out agents.

Materials and methods. Chloroform, tetrachloromethane, dichloroethane, methylene chloride, diethyl ether, ethyl acetate, hexane, benzene, toluene were tested as organic extractants. The salting out agents were sodium chloride and ammonium sulphate. The atomoxetine concentrations in the organic solvents after single stage extraction were determined using previously developed UV spectrophotometric technique. The calibration curve was described by the equation of $y = (0.00455 \pm 4 \cdot 10^{-5})x + (0.016 \pm 0.005)$ [2].

Results and discussion. Maximum values of 75 % and 80 % in the degree of extraction of atomoxetine were obtained for chloroform at pH of 12 in the presence of sodium chloride and ammonium sulphate respectively.

Conclusions. Use of salting out agents has significantly increased the degree of extraction of atomoxetine from aqueous solutions with organic solvents, in particular with

chloroform. Data obtained can be used in clinical and forensic analytical toxicology for optimization of atomoxetine extraction from blood and urine.

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STUDY OF ANTIOXIDANT PROPERTIES OF VEGETABLE EXTRACTS FOR TREATMENT OF SUGAR DIABETES

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ВИВЧЕННЯ АКТИОКСИДАНТНИХ ВЛАСТИВОСТЕЙ РОСЛИННИХ ЕКСТРАКТІВ ДЛЯ ЛІКУВАННЯ ЦУКРОВОГО ДІАБЕТУ

Abstract. In the model of tetrachloromethane hepatitis in rats, a dense bean extract in a dose of 50 mg/kg showed a more pronounced antioxidant activity than 50 % and 70% of the leaves of chinchilla. Thus, among the extracts studied, the dense bean extract is most promising for further pharmacological studies, with the aim of creating a new herbal remedy for complex treatment of diabetes with antioxidant properties.

Key words: kizil leaf extract, bean extract dense, tetrachloromethane hepatitis in rats.

Анотація. На моделі тетрахлорметанового гепатиту у щурів густий екстракт квасолі у дозі 50 мг/кг проявив більш виражену антиоксидантну активність, ніж 50 % і 70 % екстракт листя кизилу. Таким чином, серед досліджуваних екстрактів, густий