

## Conference Program

*May 24, Wednesday*

**9:00 – 9:45 Registration of participants**

**10:00 – 10:10 Opening of the Conference in the Chuiko Institute of Surface Chemistry of NAS of Ukraine**

*Academician of NAS of Ukraine, Professor M. Kartel*

**Oral Session 1**

*Chair: Professor M. Kartel*

**10:10 – 10:35 V.V. Turov, T.V. Krupskaya, A.P. Golovan, L.S. Andriyko, M.T. Kartel. A binding of water by cellulose matrix of medicinal plants and nanosilica (on the sample of *Hibiscus sabdariffa*) (Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv).**

**10:35 – 11:00 N.S. Voloshina, L.N. Ognichenko, V.E. Kuz'min, G.L. Kamalov. Structural factors of crown ethers interaction with aerosil surface (A.V. Bogatsky Physico-Chemical Institute, NAS of Ukraine, Odessa).**

**11:00 – 11:20 coffee break**

**Oral Session 2**

*Chair: PhD (Chem.) Yu. Bolbukh*

**11:20 – 11:40 A.W. Marczewski, A. Derylo-Marczewska, M. Sęczkowska. Simple models and equations of adsorption kinetics in practical application (Faculty of Chemistry, Maria Curie-Skłodowska University, Lublin, Poland).**

**11:40 – 12:00 A. Derylo-Marczewska<sup>1</sup>, M. Blachnio<sup>1</sup>, A.W. Marczewski<sup>1</sup>, T.M. Budnyak<sup>2</sup>, V.A. Tertykh<sup>2</sup>. Adsorption properties of chitosan-silica composites towards selected dyes (<sup>1</sup>Faculty of Chemistry, Maria Curie-Skłodowska University, Lublin, Poland, <sup>2</sup>Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv).**

**12:00 – 12:15 Ie.V. Dukhopelnikov, E.G. Bereznyak, N.A. Gladkovska, D.A. Pesina, A.A. Herus. Interaction of magnetite nanoparticles with negatively charged dyes (O.Ya. Usikov Institute for Radiophysics and Electronics NAS of Ukraine, Kharkiv).**

**12:15 – 12:30 L.M. Soldatkina, M.A. Zavrichko. Cetylpyridinium bromide-modified corn stalks for removal of Acid Red from aqueous solution (Odessa I.I. Mechnikov National University, Ukraine).**

**12:30 – 12:45 L.M. Soldatkina, V.O. Novotna. Adsorption removal of anthocyanins from red cabbage extracts by bentonite: statistical analysis of main and interaction effects (Odessa I.I. Mechnikov National University, Ukraine).**

**12:45 – 13:00 L.N. Ponomarova<sup>1</sup>, Yu.S. Dzyazko<sup>2</sup>, Y.M. Volkovich<sup>3</sup>, V.E. Sosenkin<sup>3</sup>. Organic-inorganic ion exchangers based on the strongly and weakly acidic polymeric matrices (<sup>1</sup>Sumy National Agrarian University, Ukraine, <sup>2</sup>V.I. Vernadskii Institute of General and Inorganic Chemistry, NAS of Ukraine, Kyiv, <sup>3</sup>A.N. Frumkin Institute of Physical Chemistry and Electrochemistry of the RAS, Moscow).**

**13:00 – 13:15** **Z.Yu. Bunina**<sup>1,2</sup>, K.Yu. Bryleva<sup>1,2</sup>, K.M. Belikov<sup>1,2</sup>. **Sorption performance of ethylene glycol dimethacrylate and methacrylic acid copolymers with different cross-link ratio towards rare earth elements** (<sup>1</sup>*State Scientific Institution “Institute for Single Crystals”, Kharkiv*, <sup>2</sup>*Faculty of Chemistry, V.N. Karazin Kharkiv National University, Ukraine*).

**13:15 – 14:00 break**

**Oral Session 3**

*Chair:* **PhD (Chem.) O. Kazakova**

**14:00 – 14:20** **V.E. Kuz'min**<sup>1</sup>, L.N. Ognichenko<sup>1</sup>, I.F. Burdina<sup>2</sup>, N.G. Sizochenko<sup>3</sup>. **Features of inorganic nanoparticles modelling. Nano-QSAR for cytotoxicity of metal oxides** (<sup>1</sup>*A.V. Bogatsky Physico-Chemical Institute, NAS of Ukraine, Odessa*, <sup>2</sup>*Odessa National Medical University, Ukraine*, <sup>3</sup>*Interdisciplinary Center for Nanotoxicity, Jackson State University, USA*).

**14:20 – 14:40** **A.N. Herega**, Yu.V. Kryvchenko. **Concept of nearest neighborhood at the percolation model of surface defects** (*Odessa National Academy of Food Technologies, Ukraine*).

**14:40 – 14:55** I. Malinowska<sup>1</sup>, **M. Studziński**<sup>1</sup>, H. Malinowski<sup>2</sup>. **The influence of static magnetic field on silica gel free interphase energy** (<sup>1</sup>*Planar Chromatography Department, Chair of Physical Chemistry, Faculty of Chemistry, Maria Curie-Skłodowska University, Lublin, Poland*, <sup>2</sup>*Joint Institute of Nuclear Research, Vexler and Baldin Laboratory of High Energy Physics, Dubna, Russia*).

**14:55 – 15:10** **V.S. Farafonov**, A.V. Lebed, N.O. Mchedlov-Petrossyan. **Localization of the standard Reichardt's indicator in micelles of ionic surfactants from MD simulations** (*Department of Chemistry, V.N. Karazin Kharkiv National University, Ukraine*).

**15:10 – 15:25** **O.D. Kochkodan**, R.S. Zhyla, T.S. Semenenko. **Bulk and surface properties of binary mixtures of surfactants** (*National University of Life and Environmental Sciences of Ukraine, Kyiv*).

**15:25 – 15:40** **N.M. Permyakova**<sup>1</sup>, T.B. Zheltonozhskaya<sup>1</sup>, M.V. Ignatovskaya<sup>2</sup>, V.I. Maksin<sup>2</sup>, O.N. Iakubchak<sup>2</sup>, D.O. Klymchuk<sup>3</sup>. **Stimuli-responsive properties of special micellar nanocarriers and their application for delivery of vitamin E and its analogues** (<sup>1</sup>*Taras Shevchenko National University of Kiev, Ukraine*, <sup>2</sup>*National University of Life and Environmental Sciences of Ukraine*, <sup>3</sup>*M.G. Kholodny Institute of Botany, NAS of Ukraine, Kyiv*).

**15:40 – 15:55** **A.A. Yanovska**<sup>1,2</sup>, S.B. Bolshanina<sup>1</sup>, A.S. Stanislavov<sup>1,2</sup>, V.N. Kuznetsov<sup>1,2</sup>, A.B. Mospan<sup>1</sup>, V.Yu. Illiashenko<sup>2</sup>, Yu.V. Rogulsky<sup>2</sup>. **Synthesis and characterization of Cu-loaded hydroxyapatite-alginate microspheres** (<sup>1</sup>*Sumy State University, Ukraine*, <sup>2</sup>*Institute of Applied Physics, NAS of Ukraine, Sumy*).

**15:55 – 16:10** **M. Sęczkowska**, A.W. Marczewski, A. Deryło-Marczewska, A. Chrzanowska. **Study of influence of process conditions on adsorption kinetics for 4-nitrophenol on active carbon** (<sup>1</sup>*Faculty of Chemistry, Maria Curie-Skłodowska University, Lublin, Poland*).

**16:10 – 16:30 coffee break**

**16:30 – 17:15 Poster session I (1-65)**

*May 25, Thursday*

**Oral Session 4**

*Chair:* **PhD (Phys. & Math.) S. Snegir**

**10:00 – 10:20 S.I. Pokutnyi.** **New nanoheterostructures: artificial atoms and quasimolecules** (*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).

**10:20 – 10:40 O.Yu. Semchuk.** **Features of absorption and emission of laser irradiation by free electrons in ferromagnetic semiconductors** (*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).

**10:40 – 10:55 A. Ievtushenko<sup>1</sup>,** P. Lytvyn<sup>2</sup>, A. Korchovyi<sup>2</sup>, V. Karpyna<sup>1</sup>, O. Olifan<sup>1</sup>, S. Korichev<sup>1</sup>, S. Starik<sup>3</sup>, S. Tkach<sup>3</sup>, E. Kuzmenko<sup>3</sup>, V. Baturin<sup>4</sup>, O. Karpenko<sup>4</sup>, G. Lashkarev<sup>1</sup>. **The structure, morphology and optical properties of nanostructured NiO thin films deposited by magnetron sputtering at diverse conditions** (<sup>1</sup>*I. Frantsevich Institute for Problems of Material Science, NAS of Ukraine*, <sup>2</sup>*V. Lashkarev Institute of Semiconductor Physics, NAS of Ukraine*, <sup>3</sup>*V. Bakul Institute for Superhard Materials, NAS of Ukraine, Kyiv*, <sup>4</sup>*Institute of Applied Physics, NAS of Ukraine, Sumy*).

**10:55 – 11:10 S.V. Dukarov, S.I. Petrushenko,** V.N. Sukhov, O.I. Skryl. **Solubility in thin Cu-Pb and Cu-Bi films** (*V.N. Karazin Kharkiv National University, Ukraine*).

**11:10 – 11:25 S.I. Petrushenko,** S.V. Dukarov, V.N. Sukhov, O.O. Nevgasimov. **Thermal dispersion of polycrystalline Cu and Cu-Pb films** (*V.N. Karazin Kharkiv National University, Ukraine*).

**11:25 – 11:45 coffee break**

**Oral Session 5**

*Chair:* **PhD (Chem.) O. Linnik**

**11:45 – 12:05 I.Yu. Zavalij<sup>1</sup>,** Yu.V. Verbovytskyy<sup>1</sup>, A.R. Kytsya<sup>2</sup>, P.Yu. Zavalij<sup>3</sup>, P.Ya. Lyutyy<sup>1</sup>. **Influence of nano-additives on hydrogenation properties of R-Mg-Ni-based composites** (<sup>1</sup>*Physico-Mechanical Institute, NAS of Ukraine*, <sup>2</sup>*Department of Physical Chemistry of Fossil Fuels InPOCC, NAS of Ukraine, Lviv*, <sup>3</sup>*Department of Chemistry and Biochemistry, University of Maryland, USA*).

**12:05 – 12:20 I.V. Levchenko,** V.M. Tomashyk, I.B. Stratiychuk, G.P. Malanych, A.A. Korchovyi, S.B. Kryvyi. **Features of the interaction between InAs, InSb, GaAs and GaSb and (NH<sub>4</sub>)<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>-HBr-C<sub>4</sub>H<sub>6</sub>O<sub>6</sub> mixtures** (*V. Lashkaryov Institute of Semiconductor Physics, NAS of Ukraine, Kyiv*).

**12:20 – 12:35 O.V. Sachuk,** V.A. Zazhigalov. **Physicochemical studies of mechanochemically modified CeO<sub>2</sub>-MoO<sub>3</sub> system** (*Institute for Sorption and Problems of Endoecology, NAS of Ukraine, Kyiv*).

**12:35 – 12:50 G.V. Lisachuk,** **R.V. Krivobok,** E.V. Chefranov, O.M. Lapuzina, P.S. Korablova, I.G. Krasyuk. **The structure and phase composition of the radiotransparent ceramics** (*National Technical University «Kharkiv Polytechnic Institute», Ukraine*).

**12:50 – 13:05 V.V. Payentko,** E.M. Pakhlov, L.P. Golovkova, V.M. Gun'ko. **Mechanochemical preparation of powder composites with pollen and inorganic carriers** (*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).

**13:05 – 14:00 break**

## **Oral Session 6**

**Chair:** *PhD (Chem.) T. Gromovoy*

**14:00 – 14:20** S.S. Kotsyuda<sup>1</sup>, P.V. Vakuliuk<sup>1</sup>, I.M. Furtat<sup>1</sup>, A.P. Lebed<sup>1</sup>, O.O. Bilyayeva<sup>2</sup>, **A.A. Golub<sup>1</sup>.** **Hybrid antibacterial nanocomposites based on silica** (<sup>1</sup>*National University of Kyiv-Mohyla Academy, Faculty of Natural Sciences, <sup>2</sup>P.L. Shupik National Medical Academy of Postgraduate Education, Kyiv, Ukraine*).

**14:20 – 14:40** **O.A. Viltsanyuk<sup>1</sup>**, R.A. Lutkovskyy<sup>2</sup>, N.M. Rezanova<sup>3</sup>. **Justification efficacy of nanocomposite mesh implants for treatment of abdominal hernias** (<sup>1,2</sup>*Vinnitsa National Pirogov Memorial Medical University, Ukraine, <sup>3</sup>Kyiv National University of Technology and Design, Ukraine*).

**14:40 – 15:00** **T.B. Zheltonozhskaya<sup>1</sup>**, N.M. Permyakova<sup>1</sup>, D.O. Klymchuk<sup>2</sup>, L.R. Kunitskaya<sup>1</sup>, V.I. Maksin<sup>3</sup>, O.O. Kravchenko<sup>3</sup>. **Silver nanoparticle formation in micelles and micelle-like structures of heteropolymers** (<sup>1</sup>*Taras Shevchenko National University of Kyiv, Ukraine, <sup>2</sup>M.G. Kholodny Institute of Botany, NAS of Ukraine, <sup>3</sup>National University of Life and Environmental Sciences of Ukraine, Kyiv*).

**15:00 – 15:15** Iu.P. Mukha, **N.V. Vityuk**, A.M. Eremenko. **Mono- and bimetallic nanoparticles of silver and gold for cancer treatment** (*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).

**15:15 – 15:30** **O.O. Kravchenko<sup>1</sup>**, V.I. Maksin<sup>1</sup>, T.B. Zheltonozhskaya<sup>2</sup>, N.M. Permyakova<sup>2</sup>. **Biological activity and toxicity assessment of polymer/silver composition** (<sup>1</sup>*National University of Life and Environmental Sciences of Ukraine, Kyiv, <sup>2</sup>Taras Shevchenko National University of Kyiv, Ukraine*).

**15:30 – 15:45** **G.A. Dolynskyi**, O.M. Lavrynenko, Yu.S. Shchukin. **Enzyme mimetic activity of nanosized cerium dioxide following different surface modification** (*Institute for Problems in Material Science, NAS of Ukraine, Kyiv*).

**15:45 – 16:00** **A. Chrzanowska**, A. Derylo-Marczewska, A.W. Marczewski, M. Sęczkowska. **Structural and surface properties of biocomposite protein/mesoporous silica** (*Faculty of Chemistry, Maria Curie-Sklodowska University, Lublin, Poland*).

**16:00 – 16:15** **M. Zienkiewicz-Strzalka**, A. Derylo-Marczewska, M. Blachnio. **Silver nanoparticles in composite systems** (*Faculty of Chemistry, Maria Curie-Sklodowska University, Lublin, Poland*).

**16:15 – 16:35 coffee break**

**16:35 – 17:15 Poster session II (66-127)**

**17:15 Conference Closing**

## Poster presentations

### 1. Theory of chemical structure and reactivity of solid surface

1. **E.M. Demianenko<sup>1</sup>, O.S. Kukolevska<sup>2</sup>, A.G. Grebenyuk<sup>1</sup>, I.I. Gerashchenko<sup>1</sup>.** **Simulation of adsorption complexes of 2-hydroxyethyl methacrylate on silica surface** (<sup>1</sup>*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv, <sup>2</sup>Vinnytsia National Pirogov memorial Medical University, Ukraine*).
2. **R. Meshkini Far**, A. Dyachenko, O. Bieda, E. Ischenko. **Surface composition effect of Ni-Fe catalysts in the reaction of CO<sub>2</sub> methanation** (*Faculty of Chemistry, Taras Shevchenko National University of Kyiv, Ukraine*).
3. **A.A. Kravchenko**, E.M. Demianenko, O.V. Filonenko, A.G. Grebenyuk, V.V. Lobanov, M.I. Terets. **A quantum chemical analysis of dependence of the protolytic properties of polysilicate acids on the composition and spatial structures of their molecules** (*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).
4. **D.B. Nasiedkin**, Yu.V. Plyuto, A.G. Grebenyuk. **DFT study on reactivity of graphite carbon atoms in basal-plane positions** (*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).
5. **A.M. Puziy<sup>1</sup>, O.I. Poddubnaya<sup>1</sup>, T.Yu. Gromovoy<sup>2</sup>.** **LDI-ToF investigation of carbon catalyst's surface** (<sup>1</sup>*Institute for Sorption and Problems of Endoecology, NAS of Ukraine, <sup>2</sup>Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).
6. **O. Smirnova**, A. Grebenyuk, V. Lobanov. **Theoretical investigation of pollutant species adsorption on oxygen vacancies or pure and nitrogen-doped titania** (*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).
7. **M.I. Terebinska**, O.I. Tkachuk, V.V. Lobanov. **Effect of SiO<sub>2</sub> dielectric film on the properties of Ge quantum dots** (*Chuiko Institute of Surface Chemistry of NAS of Ukraine, Kyiv*).
8. **A.V. Vakaliuk**, L.M. Grishchenko, T.M. Bezugla. **Acid-base catalysts based on carbon fibers** (*Taras Shevchenko National University of Kyiv, Ukraine*).

### 2. Physical chemistry of surface phenomena

9. **O. Ananina<sup>1</sup>, N. Lvova<sup>2</sup>.** **Modeling of fluorine atoms interaction with the fluorinated diamond surface** (<sup>1</sup>*Zaporizhzhya National University, Physical Faculty, Ukraine, <sup>2</sup>Technological Institute for Superhard and Novel Carbon Materials, Troitsk, Russia*).
10. **O.E. Bashchak<sup>1</sup>, I.A. Kovalchuk<sup>1</sup>, V.Yu. Tobilko<sup>2</sup>, B.Yu. Kornilovich<sup>1,2</sup>.** **Pillared layer silicates with iron nanoparticles for heavy metals removal from aqueous solution** (<sup>1</sup>*Institute for Sorption and Problems of Endoecology, NAS of Ukraine, Kyiv, <sup>2</sup>Igor Sikorsky Kyiv Polytechnic Institute, Ukraine*).
11. **M. Blachnio**, M. Zienkiewicz-Strzałka, A. Derylo-Marczewska, A.W. Marczewski, Sz. Winter. **Studies of dyes adsorption equilibria and kinetics on activated carbons** (*Faculty of Chemistry, Maria Curie-Sklodowska University, Lublin, Poland*).

12. **M. Blachnio**, M. Zienkiewicz-Strzałka, A. Derylo-Marczewska, A.W. Marczewski. **Influence of structural and surface properties of activated carbon on adsorption of pesticides – adsorption equilibrium and kinetics** (*Faculty of Chemistry, Maria Curie-Sklodowska University, Lublin, Poland*).
13. **Yu. Bolbukh**<sup>1</sup>, P. Klonos<sup>2</sup>, V. Tertykh<sup>1</sup>, P. Pissis<sup>2</sup>. **Polyvinylidene fluoride films with bifunctional silica nanofillers** (<sup>1</sup>*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*, <sup>2</sup>*National Technical University of Athens, Physics Department, Greece*).
14. **A. Chrzanowska**, A. Derylo-Marczewska, M. Sęckowska. **UV-Vis DRS and ATR-FTIR spectroscopic studies of porous MCF silica surface with adsorbed lysozyme** (*Faculty of Chemistry, Maria Curie-Sklodowska University, Lublin, Poland*).
15. **A. Derylo-Marczewska**<sup>1</sup>, M. Blachnio<sup>1</sup>, A.W. Marczewski<sup>1</sup>, T.M. Budnyak<sup>2</sup>, V.A. Tertykh<sup>2</sup>. **Hybrid composites and their application for removal of sulfonated azo dyes from aqueous solutions** (<sup>1</sup>*Faculty of Chemistry, Maria Curie-Sklodowska University, Lublin, Poland*, <sup>2</sup>*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).
16. **Ye.M. Fadieiev**, S.S. Smola, N.V. Rusakova. **Immobilization of luminescent Eu(III)  $\beta$ -diketonato-1,10-phenanthroline complexes on aerosils** (*A.V. Bogatsky Physico-Chemical Institute, NAS of Ukraine, Odessa*).
17. **T.V. Fesenko**, O.A. Kazakova, I.V. Laguta, O.N. Stavinskaya. **Ionization of flavonols in mass spectrometric experiment** (*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).
18. **Yu.S. Fetisova**<sup>1</sup>, V.V. Sliesarenko<sup>2</sup>, O.A. Dudarko<sup>2</sup>, **[Yu.L. Zub]** **Adsorption of lead(II) and cadmium(II) ions by mesoporous silica functionalized with diethylphosphatoethyltriethoxsilane via direct template method** (<sup>1</sup>*National University of "Kyiv-Mohyla Academy", Ukraine*, <sup>2</sup>*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).
19. **V. Galysh**<sup>1,2</sup>, M. Kartel<sup>1</sup>, W. Janusz<sup>3</sup>, E. Skwarek<sup>3</sup>. **Strontium ions sorption on composite sorbent based on lignocellulose and hydrated antimony pentoxide** (<sup>1</sup>*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*, <sup>2</sup>*National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Ukraine*, <sup>3</sup>*Department of Radiochemistry and Colloid Chemistry, Maria Curie-Sklodowska University, Lublin, Poland*).
20. **O.V. Goncharuk**<sup>1</sup>, A.P. Ugnivenko<sup>2</sup>, K. Terpilowski<sup>3</sup>, E. Skwarek<sup>3</sup>, V.M. Gun'ko<sup>1</sup>. **Effect of ethonium adsorption on structure formation in nanosilica dispersions** (<sup>1</sup>*Chuiko Institute of Surface Chemistry, NAS of Ukraine*, <sup>2</sup>*Department for Biotechnical Problems of Diagnostic, IPCC, NAS of Ukraine, Kyiv*, <sup>3</sup>*Faculty of Chemistry, Maria Curie-Sklodowska University, Lublin, Poland*).
21. **A.M. Kostruba**<sup>1</sup>, B.I. Rachiy<sup>2</sup>, R.Y. Musiy<sup>3</sup>. **New ellipsometric technique for characterization of ultrathin thermo-responsive coatings in liquid ambient** (<sup>1</sup>*Lviv University of Commerce and Economic*, <sup>2</sup>*Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine*, <sup>3</sup>*Department of Physical Chemistry of Fossil Fuels InPOCC, NAS of Ukraine, Lviv*).
22. **T. Kulik**<sup>1</sup>, B. Palianytsia<sup>1</sup>, K. Kulyk<sup>2</sup>, M. Larsson<sup>2</sup>, M. Kartel<sup>1</sup>. **The surface complexes of carboxylic acids and their thermal transformations into important “green” chemicals** (<sup>1</sup>*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*, <sup>2</sup>*Stockholm University, AlbaNova University Center, Department of Physics, Sweden*).

23. **T.N. Lygovitskaya**<sup>1</sup>, S.S. Naboichenko<sup>2</sup>. **Intermolecular interactions of like-charged oligomeric electrolytes and surfactants in aqueous media** (<sup>1</sup>Saratov National Research University named after N.G. Chernyshevsky, <sup>2</sup>Ural Federal University named after the first President of Russia B.N. Yeltsin, Ekaterinburg, Russia).
24. **F.D. Manilevich**, L.F. Kozin, A.I. Lisogor, A.V. Kutsyi. **Regularities of hydrogen evolution from water at modified tungsten carbide based cathodes** (V.I. Vernadsky Institute of General and Inorganic Chemistry, NAS of Ukraine, Kyiv).
25. **A.W. Marczewski**, M. Sęczkowska, A. Deryło-Marczewska. **Study of dyes adsorption on carbon materials in the multicomponent system** (Faculty of Chemistry, Maria Curie-Skłodowska University, Lublin, Poland).
26. **O.O. Ovcharenko**, N.D. Sakhnenko, M.V. Ved'. **Corrosion resistance of nanocomposite electrochemical coatings Ni-Al<sub>2</sub>O<sub>3</sub>** (National Technical University "Kharkiv Polytechnic Institute", Ukraine).
27. **O.A. Ozerov**<sup>1</sup>, V.I. Kovalchuk<sup>2</sup>, E.K. Zholkovskiy<sup>3</sup>. **Broadening of analyte bands in electroosmotic flow through microchannels with different zeta potentials of walls. Pre-Taylor asymptotic regime** (<sup>1</sup>F.D. Ovcharenko Institute of Biocolloidal Chemistry, NAS of Ukraine, Kyiv).
28. **V.A. Petrova**, V.V. Garbuz. **Sorption-desorption of nitrogen on the surface turbostratic graphene-like boron nitride** (Institute for Problems of Materials Science, NAS of Ukraine, Department for Methods of Analyses of the Inorganic Materials, Kyiv).
29. **O.S. Remez**<sup>1</sup>, T.M. Budnyak<sup>1</sup>, Ie.V. Pylypchuk<sup>1</sup>, D. Sternik<sup>2</sup>, V.M. Gun'ko<sup>1</sup>, V.A. Tertykh<sup>1</sup>. **Adsorption of levofloxacin by glutaraldehyde-crosslinked chitosan-silica cryogels** (<sup>1</sup>Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv, <sup>2</sup>Faculty of Chemistry, Maria Curie-Skłodowska University, Lublin, Poland).
30. **M. Sęczkowska**<sup>1</sup>, M.V. Galaburda<sup>2</sup>, V.M. Bogatyrov<sup>2</sup>, A. Deryło-Marczewska<sup>1</sup>, A.W. Marczewski<sup>1</sup>, A. Chrzanowska<sup>1</sup>. **Preparation and characterization of carbon adsorbents from agricultural wastes** (<sup>1</sup>Faculty of Chemistry, Maria Curie-Skłodowska University, Lublin, Poland, <sup>2</sup>Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv).
31. **S. Sevostianov**<sup>1</sup>, Yu. Bolbukh<sup>1</sup>, P. Klonos<sup>2</sup>, V. Tertykh<sup>1</sup>, P. Pissis<sup>2</sup>. **Composites based on lignin and chemically modified silicas** (<sup>1</sup>Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv, <sup>2</sup>National Technical University of Athens, Physics Department, Greece).
32. **V.V. Sliesarenko**<sup>1</sup>, Yu.S. Fetisova<sup>2</sup>, O.A. Dudarko<sup>1</sup>, **Yu.L. Zub**<sup>1</sup>. **Protopolytic properties of mesoporous silica functionalized with diethylphosphatoethyltriethoxysilane** (<sup>1</sup>Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv, <sup>2</sup>National University of "Kyiv-Mohyla Academy", Ukraine).
33. **S. Snegir**<sup>1,2</sup>. **Diyarethene derivatives for design of downscaled contact electrodes made of Au nanoparticle assemblies** (<sup>1</sup>Chuiko Institute of Surface Chemistry, NAS of Ukraine, <sup>2</sup>Institut des Nanosciences de Paris, Sorbonne Universités UPMC Univ Paris-06, CNRS-UMR 7588, France).
34. **A.F. Tymchuk**, V.V. Tymchuk. **Natural polymers as adsorbents and flocculants** (Odessa I.I. Mechnikov National University, Ukraine).
35. **M. Zhludenko**, O. Bieda, A. Dyachenko, S. Gaidai, E. Ischenko. **Thermodesorption study of surface of bulk Co-Fe catalysts for the reaction of CO<sub>2</sub> hydrogenation** (Faculty of Chemistry, Taras Shevchenko National University of Kyiv, Ukraine).

36. **M. Zienkiewicz-Strzalka**, A. Derylo-Marczewska, M. Blachnio, S. Pikus. **Small-angle X-ray scattering (SAXS) of porous composites** (*Faculty of Chemistry, Maria Curie-Sklodowska University, Lublin, Poland*).

### 3. Chemistry, physics and technology of nanomaterials

37. P.P. Gorbyk, I.V. Dubrovin, **N.V. Abramov**. **Synthesis and magnetic properties of yttrium iron garnet nanoparticles** (*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).
38. L.P. Oleksenko, N.P. Maksymovych, I.P. Matushko, **H.O. Arinarkhova**. **Influence of the platinum additives on sensitivity to H<sub>2</sub> adsorption of semiconductor hydrogen sensors based on nanosized tin dioxide** (*Faculty of Chemistry, Taras Shevchenko National University of Kyiv, Ukraine*).
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48. **O.V. Davidova**<sup>1</sup>, N.E. Drobyshevskaya<sup>1</sup>, E.N. Poddenezhny<sup>1</sup>, A.A. Boiko<sup>1</sup>, M.V. Borysenko<sup>2</sup>. **Thermochemical synthesis of luminescent materials in the Y<sub>2</sub>O<sub>3</sub>-ZnO system doped with Eu<sup>3+</sup> ions** (<sup>1</sup>*Sukhoi Gomel State Technical University, Belarus, <sup>2</sup>Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).
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61. **D.M. Haliarnyk**, O.M. Bakalinska, M.T. Kartel. **Carbon nanomaterials as catalysts in lauroyl peroxide decomposition** (*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).
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63. L.V. Karabanova, **L.A. Honcharova**, N.V. Babkina. **Dynamic mechanical analyses and thermodynamics of POSS-containing nanocomposites based on PU/PHPMA semi-IPNs** (*Institute of Macromolecular Chemistry, NAS of Ukraine, Kyiv*).
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66. **O.V. Kalinkevich**<sup>1,3</sup>, O.Yu. Karpenko<sup>1</sup>, Ya.V. Trofimenko<sup>1</sup>, A.M. Sklyar<sup>2</sup>, V.Yu. Illiashenko<sup>1,3</sup>, A.N. Kalinkevich<sup>1,3</sup>, V.A. Baturin<sup>1</sup>, S.N. Danilchenko<sup>1</sup>. **Formation of antibacterial coatings on chitosan matrices by magnetron sputtering** (<sup>1</sup>*Institute for Applied Physics, NAS of Ukraine, Sumy, <sup>2</sup>Sumy State Pedagogical University, <sup>3</sup>Sumy State University, Ukraine*).
67. **G.I. Khovanets'**, O.Yu. Makido. **Influence of polymeric matrix structure on physico-chemical properties of composites based on TEOS** (*Department of Physical Chemistry of Fossil Fuels InPOCC, NAS of Ukraine, Lviv*).
68. **I.S. Kolesnyk**, V.V. Mykoyda, O.Ya. Dzhodzhyk, V.V. Konovalova, A.F. Burban. **Photocatalytic membranes, modified with TiO<sub>2</sub> nanoparticles** (*National University of "Kyiv-Mohyla Academy", Ukraine*).
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72. **V.A. Levchenko<sup>1</sup>, A.I. Ievtushenko<sup>2</sup>, M.G. Dusheyko<sup>1</sup>, V.A. Karpyna<sup>2</sup>, O.I. Olifan<sup>2</sup>, P.M. Lytvyn<sup>3</sup>, A.A. Korchovy<sup>i</sup><sup>3</sup>, S.P. Starik<sup>4</sup>, S.V. Tkach<sup>4</sup>, S.F. Korichev<sup>1</sup>, E.F. Kuzmenko<sup>3</sup>, G.V. Lashkarev<sup>2</sup>.** **CuAlO<sub>2</sub> films formation using the reactive ion beam sputtering method** (<sup>1</sup>National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Ukraine, <sup>2</sup>I. Frantsevich Institute for Problems of Material Science, NAS of Ukraine, <sup>3</sup>V. Lashkarev Institute of Semiconductor Physic, NAS of Ukraine, <sup>4</sup>V. Bakul Institute for Superhard Materials, NAS of Ukraine, Kyiv).
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78. **G.I. Nazarchuk<sup>1</sup>, I.V. Melnyk<sup>1,2</sup>, M. Vaclavikova<sup>2</sup>, [Yu.L. Zub<sup>1</sup>].** **Comparative characteristic of sorption properties of mesoporous silica with thiourea ligand towards heavy metals** (<sup>1</sup>Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv, <sup>2</sup>Institute of Geotechnics, SAS, Kosice, Slovak Republic).
79. **L.V. Nosach<sup>1</sup>, E.F. Voronin<sup>1</sup>, E.M. Pakhlov<sup>1</sup>, V.M. Gun'ko<sup>1</sup>, B. Charmas<sup>2</sup>, J. Skubiszewska-Zięba<sup>2</sup>.** **Effect of mechanoactivation conditions on bulk density of fumed silica** (<sup>1</sup>Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv, <sup>2</sup>Faculty of Chemistry, Maria Curie-Skłodowska University, Lublin, Poland).
80. **O.I. Oranska**, A.V. Brichka, Yu.I. Gornikov. **Structure and optical properties of Nd<sub>2</sub>O<sub>3</sub>-, Nd<sub>9.33</sub>Si<sub>6</sub>O<sub>26</sub>-fumed silica composites** (Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv).
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82. **S.R. Petrusenko<sup>1</sup>, Ya.O. Vitushinska<sup>1</sup>, V.V. Trachevsky<sup>2</sup>, O.V. Mykhailenko<sup>1</sup>.** **Direct synthesis of some transition metal lactates** (<sup>1</sup>Taras Shevchenko National University of Kyiv, Ukraine, <sup>2</sup>Technical Center of NAS of Ukraine, Kyiv).
83. **Yu.K. Pirskyy<sup>1</sup>, O.S. Krupennikova<sup>1</sup>, G.A. Dolynskyi<sup>2</sup>, O.M. Lavrynenko<sup>2</sup>.** **Cathodic reduction of oxygen in the presence of dispersed Fe<sub>3</sub>O<sub>4</sub>&Ag<sup>0</sup> nanocomposites** (<sup>1</sup>V.I. Vernadskii Institute of General and Inorganic Chemistry, NAS of Ukraine, <sup>2</sup>I.M. Frantsevich Institute of Material Science Problems, NAS of Ukraine, Kyiv).
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92. **A.M. Sklyar<sup>2</sup>**, O.V. Kalinkevich<sup>1</sup>, V.D. Chivanov<sup>1</sup>, S.V. Novikov<sup>1</sup>, A.G. Ryabyshev<sup>1</sup>, A.N. Kalinkevich<sup>1</sup>, S.N. Danilchenko<sup>1</sup>. **Characterization of chitosan iodide by temperature-programmed desorption mass spectrometry method** (<sup>1</sup>*Institute of Applied Physics, NAS of Ukraine, Sumy*, <sup>2</sup>*Sumy State Pedagogical University, Ukraine*).
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95. **S.S. Smola**, Ye.M. Fadieiev, N.V. Rusakova. **Synthesis and luminescent properties of hybrid SiO<sub>2</sub> and SiO<sub>2</sub>/TiO<sub>2</sub> materials doped with Ln(III) aminopolycarboxylates** (*A.V. Bogatsky Physico-Chemical Institute, NAS of Ukraine, Odessa*).
96. **D.L. Starokadomsky**. **Epoxy composites filled with initial and water-hardened inorganic binders (gypsum, cement, chalk)** (*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).
97. **G.M. Starukh<sup>1</sup>**, V.L. Budzinska<sup>2</sup>. **Application of organo/layered double hydroxides for the preparation of polyurethane nanocomposites** (<sup>1</sup>*Chuiko Institute of Surface Chemistry, NAS of Ukraine*, <sup>2</sup>*Institute of Macromolecular Chemistry, NAS of Ukraine, Kyiv*).

98. **I.Ya. Sulym**, M.V. Borysenko. **Thermal degradation of PDMS-400 filled with initial SiO<sub>2</sub>, TiO<sub>2</sub>-ZrO<sub>2</sub>/SiO<sub>2</sub> and CeO<sub>2</sub>-ZrO<sub>2</sub>/SiO<sub>2</sub> nanocomposites** (*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*).
99. **V. Sydorchuk**, S. Khalameida, O. Poddubnaya, A. Puziy. **Cu- and Co-containing active carbons as photocatalysts for rhodamine B degradation** (*Institute for Sorption and Problems of Endoecology, NAS of Ukraine, Kyiv*).
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102. A. Vashchuk<sup>1,2</sup>, A. Fainleib<sup>1</sup>, **O. Starostenko**<sup>1</sup>, O. Grigoryeva<sup>1</sup>, S. Rogalsky<sup>3</sup>, D. Grande<sup>2</sup>. **Structure-property relationships for cyanate ester resin/POSS nanocomposites with dual nanoheterogeneity** (<sup>1</sup>*Institute of Macromolecular Chemistry, NAS of Ukraine, Kyiv*, <sup>2</sup>*Institut de Chimie et des Matériaux Paris-Est, UMR 7182 CNRS – Université Paris-Est Créteil Val-de-Marne, France*, <sup>3</sup>*Institute of Bioorganic Chemistry and Petrochemistry, NAS of Ukraine, Kyiv*).
103. E.V. Polunkin<sup>1</sup>, T.M. Kameneva<sup>1</sup>, **R.S. Zhyla**<sup>2</sup>, P.A. Troshin<sup>3</sup>. **Antioxidant properties of exo-derivatives fullerene** (<sup>1</sup>*Institute of Bioorganic Chemistry and Petrochemistry, NAS of Ukraine*, <sup>2</sup>*National University of Life and Environmental Sciences of Ukraine, Kyiv*, <sup>3</sup>*Institute of Problems of Chemical Physics of the RAS*).

#### **4. Medical, biological and biochemical aspects of research of highly disperse materials**

104. **M.V. Abramov**<sup>1</sup>, A.P. Kusyak<sup>2</sup>, O.M. Kaminskiy<sup>2</sup>, S.P. Turanska<sup>1</sup>, A.L. Petranovska<sup>1</sup>, N.V. Kusyak<sup>2</sup>, P.P. Gorbyk<sup>1</sup>. **Magnetosensitive nanocomposites based on cisplatin and doxorubicin for application in oncology: control of size parameters and bioactivity** (<sup>1</sup>*Chuiko Institute of Surface Chemistry, NAS of Ukraine, Kyiv*, <sup>2</sup>*Ivan Franko Zhytomyr State University, Ukraine*).
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