

Symposium Program

August 27, Monday

15:00 Arrival, accommodation and registration of participants

19:00 Welcome Party

August 28, Tuesday

08:30 Late registration

09:00 Opening of the Symposium

Oral Session 1: Human Health and Environmental Protection,

Chair: Prof. Mychajlo Soltys

- 09:30 Nanochemistry for solving the problems in endo- and exo-ecology
V.V. Turov, T.V. Krupska, A.P. Golovan, M.T. Kartel 173
- 10:00 Adsorption of model pharmaceuticals by functionalized mesoporous silicas
M. Barczak, M. Wierzbicka 4
- 10:30 Coffee Break; **Poster Session 1: Human health and environment protection & Ion exchange. Chromatography**
- P1.1 Thermal and dielectric properties of PVDF films filled with nanosilicas
Yu. Bolbukh, P. Klonos, P. Pissis, V. Tertykh 11
- P1.2 Structure and conductivity of polymeric films filled with MWCNTs
Yu. Bolbukh, M. Maciejewska, B. Gawdzik, D. Georgopoulos, P. Pissis, V. Tertykh 12
- P1.3 Sol-gel silica glasses with luminescent properties
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- P1.5 Influence of the state of humic acids in aqueous solution on their bactericidal activity in relation to microorganisms of different groups
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- P1.6 Influence of the state of ionic surfactants in aqueous solution on their oxidative degradation by positive corona discharge
S.O. Dolenko, O.V. Mamaenko, M.Yu. Tryfonova 30
- P1.7 Gas sensitive and catalytic properties of Pd/SnO₂ nanomaterials for adsorption semiconductor sensors to methane
G.V. Fedorenko, L.P. Oleksenko, N.P. Maksymovych, H.O. Arinarkhova 35
- P1.8 Nanosized Pt/SnO₂ materials for creation of adsorption semiconductor sensors to hydrogen
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Oral Session 2: Human Health and Environmental Protection (Continued)

Chair: Prof. Bogusław Buszewski

11:30	Adsorption of inorganic and organic arsenic from aqueous solutions by APTES modified montmorillonite <i>V.Yu. Tobilko, L.M. Spasonova, I.A. Kovalchuk, B.Yu. Kornilovych, Yu.M. Kholodko</i>	170
11:50	Surface activity of saponin-rich plant extracts <i>I. Góral, A. Kezwoń, I. Jurek, K. Wojciechowski</i>	48
12:10	Porous polymers modified by silica species as nonsteroidal anti-inflammatory drugs carriers <i>A. Kierys, A. Sienkiewicz, P. Krasucka, M. Grochowicz, R. Kasperek</i>	68
12:30	Synthesis of Al-pillared clays modified by nanoscale zero-valent iron for uranium ion removal <i>O.E. Baschak, I.A. Kovalchuk, B.Yu. Kornilovych</i>	5
12:50	Zeta potential of scorodite and schwertmannite prepared from pure and bioleaching solutions <i>Z. Sadowski, A. Pawłowska</i>	137
13:10	Selected properties of beeswax/rhamnolipids/micro-, macroelements nanoemulsion <i>M. Koczańska, J. Cieśla, A. Bieganowski</i>	71
13:30	Lunch	

Oral Session 3: Ion Exchange and Chromatography

Chair: Prof. Natalie Vlasova

15:00	Application of inverse gas chromatography in characterization of biomaterials and industrial composites (invited lecture) <i>A. Voelkel, B. Strzemińska, K. Adamska, Z. Okulus</i>	178
15:30	Quantitation by HPLC, TLC and TLC-EDA – comparison of the methods <i>I.M. Choma, M. Olszowy, M. Partyka, M. Studziński</i>	23
15:50	Column, kinetic and isotherm studies of C.I. Acid Red 18 on anion exchange resins from aqueous solutions <i>E. Polska-Adach, M. Wawrzkiwicz, Z. Hubicki, P. Telenga</i>	126
16:10	TLC screening analysis of selected plants used for dementia treatment <i>E. Sobstyl, I.M. Choma</i>	146
16:30	Functionalized and non-functionalized polymeric resins adsorbents for azo dye removal from textile waste waters <i>M. Wawrzkiwicz, Z. Hubicki, E. Polska-Adach</i>	180
16:50	Solid-phase extraction of trace amounts of lutetium using Transcarpathian clinoptilolite <i>E.T. Stechyńska, V.O. Vasylechko, G.V. Gryshchouk</i>	152

17:10	Coffee Break; Poster Session 2 – Theoretical problems of adsorption and colloid chemistry; Adsorption and Adsorbents (40)	
P2.1	Transesterification of phosphinic acid esters with chiral alcohols <i>O. Bąk, M. Stankevič, P. Borowski</i>	8
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P2.7	Hybrid structures based on graphene <i>I.B. Olenych, O.I. Aksimentyeva, Yu.Yu. Horbenko</i>	109
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P2.10	Monomolecular films of diacylic diperoxides on the water/air interface <i>V.S. Dutka, O.I. Aksimentyeva, Ya.P. Kovalskiy, N.V. Oshchapovska</i>	32
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P2.12	Relationship between the surface tension of the aqueous solution of surfactants mixture and the adhesion work of solution to mono- and bipolar polymers <i>B. Jańczuk, A. Zdziennicka, K. Szymczyk, J. Krawczyk</i>	56
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P2.32	The influence of acetate buffer pH for adsorption of the purine base derivatives <i>D. Gugala-Fekner, J. Nieszporek, D. Sieńko</i>	52

P2.33	Studies of structural, thermal and adsorption properties of PAA/clays nanocomposites <i>D. Sternik, M. Gierczak</i>	153
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19:30-23:00 Barbeque in Open Air Village Museum

August 29, Wednesday

Oral Session 4: Theoretical problems of adsorption and colloid chemistry

Chair: Prof. Adam Voelkel

09:00	Surface complexation modelling of biomolecule adsorptions onto titania and ceria surfaces <i>N.M. Vlasova, O.V. Markitan</i>	177
09:30	Partitioning of perfume raw materials between water and ionic surfactant micelles <i>A. Lewandowski, K. Szymczyk</i>	93
09:50	Absorption of oxoanions of M ^{VI} (M ^{VI} = Cr, Mo, W) metals on carbon nanostructures: insights into mechanisms from DFT calculations <i>Yu. Hizhnyi, V. Borysiuk, S. Nedilko, A. Shyichuk</i>	54

10:15 Coffee Break; **Poster Session 3 – Adsorption and Adsorbents:**

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P3.3	Effect of geometric modification of fumed nanoscale silica on HSA adsorption <i>A. Chrzanowska, A. Deryło-Marczewska, L.V. Nosach, E.F. Voronin</i>	24
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P3.5	Effect of the SBA-15 N-functionalization on the adsorption of organic contaminants <i>A. Deryło-Marczewska, M. Zienkiewicz-Strzałka, K. Kusmierk, K. Skrzypczyńska, A. Swiatkowski</i>	27
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P3.8	Complexes of Cu(II) ions with selected organic ligands. Surface characterization, structure and magnetic properties <i>W. Ferenc, B. Cristóvão, B. Mirosław, D. Osypiuk, K. Kaabi, F. Lefebvre, Ch. Jelsch, Cherif Ben Nasr</i>	37
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P3.10	Synthesis and characterization of DVB-GMA microspheres modified with inorganic and organic acids <i>K. Fila, A. Bartnicki, D. Kołodyńska, D. Fila, M. Goliszek, B. Podkościelna</i>	40
P3.11	Removal of Auramine-O from water by wrinkled mesoporous carbons <i>J. Gościańska</i>	45
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P3.13	Stabilization in the system: chitosan/alumina <i>E. Grządka, J. Matusiak, M. Paszkiewicz</i>	49
P3.14	The influence of surfactants on the zeta potential of the system: chitosan/alumina <i>E. Grządka, J. Matusiak, M. Paszkiewicz</i>	50

P3.15	Comparison of adsorption of dicarboxylic acids on hydroxyapatite <i>W. Janusz, E. Skwarek</i>	58
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P3.17	Removal of inorganic and organic pollutants onto adsorbents prepared by microwave-assisted chemical activation of pine sawdust <i>J. Kaźmierczak-Rażna, R. Pietrzak, P. Nowicki</i>	65
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P3.23	Influence of the modified starch on the surface properties of the silicon dioxide <i>J. Matusiak, E. Grządka</i>	99
P3.24	Influence of the surfactants on the adsorption and stability of the CMC/n-ZrO ₂ system <i>J. Matusiak, E. Grządka</i>	100
P3.25	Porous silicas modified with tin and iron <i>E. Mączka, L. Ruchomski, M. Kosmulski</i>	101
P3.26	Dispersions of metal oxides in the presence of anionic surfactants <i>L. Ruchomski, E. Mączka, M. Kosmulski</i>	133
P3.27	Monitoring of heavy metal complex oxides adsorption by hybrid microcrystalline cellulose composites using spectroscopic procedures <i>S.G. Nedilko, O.M. Alekseev, V.P. Borisiyuk, V.V. Boyko, S.L. Revo, V.P. Chornii, M.S. Nediello</i>	105
P3.28	Effect of modification methods and phase composition on structural-adsorption parameters of dispersed silicas <i>T.L. Rakitskaya, T.A. Kiose, K.O. Golubchik, V.Y. Volkova</i>	129
P3.29	Adsorption of water vapor by some polyphase forms of mesoporous manganese dioxide <i>T.L. Rakitskaya, A.S. Truba, S.V. Kolotilov, A.V. Nagaevs'ka, P.S. Yaremov, V.Y. Volkova</i>	130

P3.30	The influence of water activity on double layer parameters at the mercury/chlorates(VII) interface in the presence of mixed adsorption layers of 6-mercaptopurine – Triton X-100 <i>A. Nosal-Wiercińska, M. Wiśniewska, W. Kaliszczak, M. Grochowski, S. Yilmaz, G. Saglikoglu, M. Sadikoglu</i>	107
P3.31	Synthesis and study of porous structure of polymeric microspheres based on S,S'thiodi-4,1-phenylenebis(tiomethacrylate) <i>B. Podkościelna, B. Gawdzik, P. Podkościelny, K. Nieszporek</i>	122
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P3.34	Adsorption of diclofenac (non-steroidal anti-inflammatory drug) from aqueous solutions onto halloysite/carbon <i>N. Rędzia, P.M. Słomkiewicz, B. Szczepanik, K. Jedynak</i>	131
P3.35	Modification of porous structure and surface hydrophilicity of silica gel by mechanochemical treatment <i>J. Skubiszewska-Zięba, B. Charmas, K. Kucio</i>	141
P3.36	Graphene-like materials as nanocoating <i>S.V. Sevostianov, A.V. Vasin, A.N. Nazarov, A.M. Slobodyan, P.M. Lytvyn, V.M. Naseka, V.A. Tertykh</i>	138
P3.37	Ornidazole release from antimicrobial composites on the basis of silica <i>O.M. Skurikhina, R.B. Kozakevych, A.S. Omelchuk, O.M. Liubatska, T.V. Murlanova, P.V. Vakuliuk, O.A. Golub, V.A. Tertykh</i>	143
P3.38	Optimization of adsorption removal of anthocyanins from elderberry extracts by fibrous cation exchanger FIBAN K-1 using a central composite design <i>L.M. Soldatkina, V.O. Novotna</i>	148
P3.39	Preconcentration of praseodymium from aqueous solution by Transcarpathian clinoptilolite <i>O.D. Stashkiv, V.O. Vasylechko, G.V. Gryshchouk</i>	150
P3.40	Sorption characteristics of gas-dispersion flame agglomerates <i>V.V. Kutarov, G.S. Dragan, N.I. Poletaev, K.V. Kolesnikov, M.E. Khlebnikova</i>	87
Oral Session 5: Adsorption and Adsorbents		
Chair: Prof. Anna Deryło-Marczewska		
11:30	Study of metal-protein complexes as a novel antiseptic nanocomposites (Invited lecture) <i>B. Buszewski, P. Pomastowski, K. Rafińska, V. Railean-Plugaru</i>	18
12:00	Sorption of heavy metal ions on chitosan modified biochar <i>J. Bąk, D. Kołodyńska</i>	7

12:20	Structure of the surface and luminescence of the semiconductors modified by polymer adsorption <i>O.I. Aksimentyeva, I.B. Olenych, Yu.Yu. Horbenko</i>	1
12:40	Efficiency of using active carbons from agricultural waste for adsorption of organic pollutants from aqueous solutions <i>M. Sęczkowska, M.V. Galaburda, V.M. Bogatyrov, A. Deryło-Marczewska, A.W. Marczewski, A. Chrzanowska</i>	139
13:00	Preparation of activated carbons from household wastes as precursors of organic matter <i>B. Charmas, K. Kucio, M. Jabłońska</i>	19
13:30	Lunch	
15:00	19:30 – Sightseeing in Lublin historical downtown	

August 30, Thursday

Oral Session 6: Catalysis and Catalysts,

Chair: Prof. Jacek Rynkowski

09:00	Acrylic acid synthesis via aldol condensation method using B-P-V-W-O _x catalysts with different supports <i>R.V. Nebesnyi, Z.G. Pikh, V.V. Sydorhuk, S.V. Khalameida, I.I. Shpyrka, K.V. Zavalii</i>	104
09:20	Examples on catalytic conversion of bioalcohols and C ₆ carbohydrates <i>V.V. Brei</i>	16
09:50	Immobilisation of Cu (I/II) onto polyvinylchloride and polyurethane polymers for catalytic nitric oxide generation <i>L. Azizova, L. Mikhalovska, S. Mikhalovsky</i>	2
10:15	Non-ideality in the adsorption of ethanol/ethyl acetate/water mixture on ZIF-8 metal organic framework <i>Gino V. Baron</i> [ISSHAC-10 session]	
10:40	Coffee Break, Poster Session 4: Catalysis and Catalysts; Adsorption and Adsorbents	
P4.1	Composite palladium-containing catalysts based on silicas modified by different functional groups for the hydrogenation of organic compounds <i>T. Chubarova, V. Asaula, D. Volochnyuk, S. Kolotilov, O. Dudarko</i>	26
P4.2	Hybrid organic-inorganic materials with hydrophilic/hydrophobic surface functions <i>V.V. Tomina, N.V. Stolyarchuk, O.A. Dudarko, M. Vaclavikova, I.V. Melnyk</i> ..	172
P4.3	Hierarchical mesoporous zeolites containing various transition metals as catalysts of isomerization <i>A. Feliczak-Guzik, M. Sprynskyy, B. Buszewski, I. Nowak</i>	36
P4.4	The mechanism of low-temperature water gas shift reaction on Pt/TiO ₂ catalyst <i>I. Kocemba, K. Czupryn, J. Rynkowski</i>	70

P4.5	The effect of catalyst concentration on the process of fuel oil cracking in terms of aerosol nanocatalysis technology <i>S.O. Kudryavtsev, S.V. Leonenko, I.I. Zabirko</i>	84
P4.6	Study of cinnamic acids thermal transformations on the nanoceria surface by using IR spectroscopy and TPD-MS <i>T.V. Kulik, N.S. Nastasiienko, B.B. Palianytsia, M. Larsson, M.T. Kartel</i>	85
P4.7	Isomerization of glucose into fructose over MgO-ZrO ₂ catalyst <i>S.I. Levytska, V.V. Brei</i>	91
P4.8	Conversion of D-fructose into ethyl lactate over SnO ₂ /Al ₂ O ₃ catalyst <i>S.V. Prudius, V.V. Brei</i>	127
P4.9	Vapour-phase condensation of ethyl lactate into lactide over SnO ₂ /SiO ₂ catalyst <i>A.M. Varvarin, S.I. Levytska, A.M. Mylin, V.V. Brei</i>	174
P4.10	Physico-chemical properties of novel binary ZnO-SiO ₂ nanocomposites synthesized through the high-thermal processing using carbamide <i>M.A. Nazarkovsky, M.V. Galaburda, V.M. Bogatyrov, V.N. Zaitsev, J. Kai, Y. Xing, W.D.G. Gonçaves, R.C. Rocha, T.D. Saint'pierre, J. Dupont</i>	103
P4.11	The application of chlorinated phenol derivatives for the synthesis of polymeric ion exchangers <i>B. Podkościelna, D. Kołodyńska, B. Gawdzik, Z. Hubicki</i>	123
P4.12	The effect of preparation method on the performance of PtSn/Al ₂ O ₃ catalysts for CO oxidation <i>J. Rynkowski, I. Śmiechowicz, I. Kocemba</i>	134
P4.13	Photocatalytic properties of Cu-containing activated carbons prepared from sulfo-resins <i>J. Skubiszewska-Zięba, K. Kucio, B. Charmas, V. Sydorчук, S. Khalameida</i>	142
P4.14	Physicochemical and photocatalytic properties of mixed perovskites PrCo _x Fe _{1-x} O ₃ <i>V. Sydorчук, O. Zakutevskyy, I. Lutsyuk, O. Pekinchak, Ya. Vakhula, L. Vasylychko</i>	157
P4.15	Ordered mesoporous silicas modified with Nb species as catalysts in oxidation of alcohols <i>A. Wawrzyńczak, I. Nowak</i>	182
P4.16	Role of sorption during electrochemical hydrogen evolution on the Al-based amorphous alloys from alkaline solutions <i>L.M. Boichyshyn, Kh.I. Khrushchuk</i>	10
P4.17	Self-organization of polyaniline macromolecules on polymeric matrix-substrates during applied polymerization <i>Yu.A. Stetsiv, O.M. Vereshchagin, D.M. Nykypanchuk, M.M. Yatsyshyn, M.M. Soltys, O.V. Reshetnyak</i>	155
P4.18	Photocatalysis of methylene blue reduction by the heterostructures of TiO ₂ /polymethene dye <i>I.M. Kobasa, Yu.V. Kropelnytska, O.V. Sema</i>	69

P4.19	The influence of mechanochemical treatment on the properties of CeO ₂ -MoO ₃ system <i>O.A. Diyuk, V.O. Zazhigalov, O.V. Sachuk, O.Yu. Posudievskyy, I.V. Bacherikova, S.M. Shcherbakov, Z. Sawlowicz, A.K. Melnyk</i>	28
P4.20	The study of reduction of CeO ₂ -MoO ₃ systems after ultrasonic and mechanochemical treatments <i>O.V. Sachuk, V.O. Zazhigalov, N.V. Diyuk, I.V. Bacherikova, L.S. Kuznetsova, S.M. Shcherbakov, M.M. Tsyba</i>	136
P4.21	Effect of catalyst composition - (In, Fe, Co) oxides based on Al ₂ O ₃ and ZSM-5 on their activity in propane dehydrogenation with CO ₂ , N ₂ O <i>M.R. Kantserova, T.M. Boichuk, S.M. Orlyk</i>	63
P4.22	Catalytic activity of mordenite-containing rocks in methanol conversion to hydrocarbons <i>A.D. Kustovska, O.I. Kosenko, V.V. Efimenko</i>	86
P4.23	The main features of intermolecular interaction in benzethonium chloride – polyethylene glycol aqueous systems <i>A.V. Sachko, Kh.B. Kynka, V.P. Zakordonskiy</i>	135
P4.24	Adsorption of organic peroxides on the surface of amorphous alloys for the immobilization of drugs <i>O.M. Hertsyk, M.O. Kovbuz, T.G. Pereverzeva, N.L. Pandiak, L.M. Boichyshyn</i>	53
P4.25	Sisal derived activated carbons: new synthesis approach, characterization and application for removal of pharmaceutical compounds <i>T.S. Hubetska, A.S. Mestre, N.G. Kobylinska, A.P. Carvalho, J.R. Garcia</i>	55
P4.26	Spectral manifestation of the participation of dyes in interphase phenomena: instrumental determination of critical micelle concentration of ionic surfactants <i>S.A. Shapovalov, V.K. Ponomariov</i>	140
P4.27	Fluoride anions desorption from titanium oxyhydroxide surface <i>A.V. Dubenko, M.V. Nikolenko, O.Yu. Vashkevich, T.A. Tovstopyat</i>	31
P4.28	Calcium orthophosphates: synthesis and surface properties <i>E.V. Malakhova, M.V. Nikolenko</i>	97
P4.29	Producing methyl acetate from methanol over Ni-Cu based catalysts <i>A.Yu. Kapran, V.I. Chedryk, L.M. Alekseenko</i>	64
P4.30	Factors of the nonmonotonic size dependence of the catalytic activity for the Cu, Fe, Zn oxide nanosystems in the CO oxidation <i>G.R. Kosmambetova, O.Z. Didenko, N.S. Kalchuk, P.E. Strizhak</i>	74
P4.31	Effect of the force treatment of the mixed nanosized CuO–MgO solids on their catalytic activity in the CO oxidation <i>G.R. Kosmambetova, N.S. Kalchuk, P.E. Strizhak</i>	75
P4.32	Effect of acid sites localization in sulfonic resin Amberlyst 15 on its catalytic characteristics in the ethyl- <i>tert</i> -butyl ether synthesis <i>N.V. Vlasenko, Yu.N. Kochkin</i>	176

P4.33	Influence of modification by Zr and La on the porous characteristics of in situ synthesized FCC catalysts <i>L.K. Patrylak, O.P. Pertko, D.V. Molodyi</i>	115
P4.34	Linear hexane isomerization on the H- and NH ₄ -forms of Ni-containing MFI zeolite <i>Yu.G. Voloshyna, M.M. Krylova, O.P. Pertko, L.K. Patrylak</i>	179
Oral Session 7: Adsorption and Adsorbents (Continued), Chair: Prof. Volodymyr Turov		
11:30	The electro-surface properties of modified titanium dioxide in its aqueous suspensions <i>R.S. Petryshyn, M.M. Soltys, Z.M. Yaremko</i>	120
12:00	Investigation on dynamic adsorption of nitrite and nitrate ions on modified carbon adsorbents <i>A. Gierak, I. Łazarska</i>	43
12:20	Hybrid microspheres with lignin – application in sorption processes <i>M. Goliszek, K. Fila, B. Podkościelna</i>	44
12:40	Carbon/metal (Ni, Co) composites as efficient adsorbents in off-line and on-line solid phase extraction (SPE) of explosives <i>W. Tomaszewski, V.M. Bogatyrov, M.V. Galaburda, J. Skubiszewska-Zięba</i> ...	171
13:00	Preparation and characterization of physicochemical properties of composite materials <i>K. Kucio, B. Charmas, S. Pasieczna-Patkowska, A. Nowicka</i>	83
13:30	Lunch	
Oral Session 8: Adsorption and Adsorbents (Continued), Chair: Dr hab. Elzbieta Grządka		
15:00	PZC of exotic oxides: new data and correlations <i>M. Kosmulski</i>	76
15:20	Equilibrium, kinetic and thermodynamic studies of anionic dyes adsorption on corn stalks modified by cetylpyridinium bromide <i>L.M. Soldatkina, M.A. Zavrichko</i>	149
15:40	Strontium ions effect on the methylene blue adsorption on the saw-sedge (<i>Cladium mariscus</i>) surface <i>I. Ostolska, A. Komosa, J. Orzel</i>	111
16:00	Chelating ion exchangers as efficient materials in the process of metal ions sorption from acidic solutions <i>D. Fila, D. Kołodyńska</i>	39
16:20	The anionic polyacrylamide effect on the goethite suspension stability <i>K. Szewczuk-Karpisz, Z. Sokołowska, M. Wiśniewska</i>	161
16:40	Effect of the presence of anionic surfactants and their chemical structure on heavy metal ions removal by sorption <i>A. Wołowicz, K. Staszak, Z. Hubicki</i>	187
19:00 – 23:00	Conference Dinner in Dominican Monastery	

August 31, Friday

Oral Session 9: Session Topic, Adsorption and Adsorbents (Continued),

Chair: Dr. Eugene Aksenenko

09:00	Influence of magnetic field on adsorptive and electrokinetic properties of an interface: SiO ₂ /polymer in non-aqueous solution (ethanoic alcohol) <i>J. Patkowski</i>	114
09:20	Solid phase extraction using acid-modified clinoptilolite for preconcentration of silver and antimicrobial properties of the H-clinoptilolite–Ag composite <i>V.O. Vasylechko, V.O. Fedorenko, O.M. Gromyko, G.V. Gryshchouk, Ya.M. Kalychak, I.L. Us</i>	175
09:40	Synthesis and investigation of physicochemical properties of clays-alginate beads <i>D. Sternik, M. Sęczkowska, A. Deryło-Marczewska</i>	154
10:00	Influence of different surfactants on the adsorption, stability and elektrokinetic properties of the system: carboxymethylcellulose/alumina <i>E. Grządką, M. Paszkiewicz, J. Matusiak</i>	51
10:20	Biopolymers – characterization, modification and chosen applications <i>B. Podkościelna</i>	121
10:40	Closing of the Symposium	
11:20	Coffee Break	
12:00	Lunch	
14:00	Departure of participants	