Elena V. Grachova, M.Sc., Ph.D., Dr.Sci.

Date of Birth July 24, 1971
Place of Birth St. Petersburg, Russian Federation (Leningrad, U.S.S.R.)
Nationality Russian

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Education and qualification

1988-1993, M.Sc. in Chemistry, SPU
1995-1999, Ph.D. in Inorganic chemistry, *Synthesis, reactivity and dynamic behaviour of the phosphine-carbonyl rhodium clusters*
2002-2003, PostDoc in University of Bielefeld, Germany (Alexander von Humboldt Foundation Research Fellowship) *Transition metal carbonyl clusters containing GaCp* (Cp* = η^5-pentamethylcyclopentadienyl) ligand. Directed synthesis, properties and ligand effect.*
2020, Dr.Sci. in Inorganic chemistry, *Design of supramolecular cluster compounds of coinage metals based on template polydentate ligands*

Scientific field and expertise

Coordination chemistry; organometallic chemistry; transition metal cluster compounds; mixed-metal cluster compounds; nano-scale molecular ensembles; supramolecular compounds; metal-containing molecular entities and materials; molecular emitters

Current and previous positions

1993-1995, Engineer, Institute of Chemistry, SPU
1999-2000, Junior researcher, Institute of Chemistry, SPU
2000-2001/2004-2005, Assistant Professor, Department of General and Inorganic Chemistry, SPU
2005-2021, Associate Professor, Department of General and Inorganic Chemistry, SPU
2021-present, Professor, Institute of Chemistry, SPU

Lecturer experience

1999-2012, Teacher in *"General and Inorganic Chemistry"* for 1st year students (020100. Chemistry; 020201. Fundamental and Applied Chemistry)
2003-2019, Regular Lecturer in *"Coordination chemistry"* for 4th year students (04.03.01. Chemistry)
2004-2019, Regular Lecturer in *"Coordination chemistry"* for 2th year students (04.03.02. Chemistry, Physics and Mechanics of Materials)

2008-2016, Regular Lecturer in *"Design of polynuclear and cluster complexes of transition metals"* for 5th year students (020201. Fundamental and Applied Chemistry)
2010, Lecturer of education workshop (lectures course) *"The Mingos Rule for Metal Clusters with Heavy Elements of the 15th Group: Pro and Contra"*, University of Heidelberg, Germany (academic exchange program)
2012-present, Coordinator of Open Scientific Master's Workshop *"Journal Club"* (04.04.01. Chemistry; 04.04.02. Chemistry, Physics and Mechanics of Materials)
http://chem.spbu.ru/learning/mag-seminar.html
2015, Regular Lecturer in *"Trends and problems of the modern coordination chemistry"* for 4th year students (020201. Fundamental and Applied Chemistry)
2015-2020, Regular Lecturer in *"Modern Inorganic Chemistry"* for 4th year students (04.03.01. Chemistry; 04.03.02. Chemistry, Physics and Mechanics of Materials)
2017-present, team member of the online course *'Inorganic chemistry: an introduction to the chemistry of elements'*; available on portal of SPU; online resources Open Education, Stepik and Coursera
2017, Lecturer of education workshop (lectures course) *"Interdisciplinary aspects of coordination chemistry and luminescence of transition metal complexes"* under supporting of "German-Russian Interdisciplinary Science Center" (G-RISC) in RWTH Aachen University;
2019, Lecturer of multidisciplinary education project of the University of Tromsø (Norway) and the Tomsk State University (Russia) in collaboration with SPU and the University of Oslo (Norway) as the network partners, *'OPS@BE: Optical Probe Sensors at Biological Environments'*
2019, Invited lecture of *International School on Advanced Light-Emitting and Optical Materials (SLALOM 2019)* in ITMO University (St.Petersburg, Russia)
2019-present, Regular Lecturer in *"Coordination chemistry"* for 3th year students (04.03.01. Chemistry)
2021-present, Regular Lecturer in *"Advanced Coordination Chemistry"* (in English) for 2nd year students (04.04.01. Chemistry)
2021-present, Regular Lecturer in *"Inorganic Chemistry"* for 4th year students (03.03.02 Physics)

Professional services

2005-2016, Scientific Secretary of General and Inorganic Chemistry Division, SPU
2016-present, member of the Expert Council of SPU in Chemistry
2021-present, member of the scientific advisory board of the Research Park SPU in Chemistry and Analytics

Reviewer of manuscripts for: ACS, Royal Society of Chemistry, Elsevier, Wiley, Springer, MPDI
2017-present, Reviewer of projects for Russian Science Foundation
2020-2021, Guest Editor of Special Issue 'Organometallic Compounds and Their Applications', Molecules MDPI www.mdpi.com/journal/molecules/special_issues/molecules_organometallic

Awards, individual grants and fellowships

1. **1993**, "Top-five" award for graduated students of the year
2. **1996-1997**, Russian Government Fellowship
3. Research grants of Basic Natural Sciences Centre (St. Petersburg, Russia):
   1997, *Redox processes of nitroso- and nitro compounds in the reactions with the carbonyl clusters of rhodium and heterometal platinum-rhodium clusters*
   1998, *The phosphine-carbonyl rhodium clusters: synthesis and study of the static and dynamic heteroligand effects*

1999, *The phosphite-carbonyl rhodium clusters: synthesis and study of the heteroligand effects*

2005, *The method of "building blocks" in cluster compounds chemistry and its application to create the cluster complexes with direct connection of high and low oxidation levels transition metals,* grant PD05-1.3-197

4. **1998**, Award "Distinguished Young Scientist Research Work", SPU
5. **1999-2000**, INTAS Fellowship for Young NIS Scientists (YSF99-4030), *Study of the halides and pyridines ligand effect on stereochemical nonrigidity of $Rh_6(CO)_{15}L$ derivatives, qualitative and quantitative aspects*, supervisors: Dr. Tunik S. P. (SPU, Russia); Prof. Heaton B. T. (University of Liverpool, UK)
6. **2000-2002**, Government Science Fellowship
7. ***Alexander von Humboldt Foundation support:***

2002/2003, Research Fellowship (IV-1-7109 RUS 1074525), *Transition metal carbonyl clusters containing $GaCp^*$ ($Cp^* = \eta^5$-pentamethylcyclopentadienyl) ligand. Directed synthesis, properties and ligand effect*, supervisor: Prof. Dr. Jutzi P. (University of Bielefeld, Germany)

2003/2004, Return Fellowship for Young Researchers (V-RKS-RUS/1074525), *Mixed-metal clusters: transition metal carbonyl clusters containing $GaCp^*$ ($Cp^* = \eta^5$-pentamethylcyclopentadienyl) fragment. Dynamic behaviour in solution and reactivity toward to carbonyl ligands substitution*, SPU, Russia

2005, Research Resumption Fellowship (V-8121/RUS/1074525), *ECp^* (E = Ga, In; $Cp^* = C_5Me_5$) compounds as building blocks in chemistry of transition metal clusters. Synthesis of "Very-Mixed" carbonyl cluster compounds containing ECp^* fragments*, supervisor: Prof. Dr. Linti G. (University of Heidelberg, Germany)

2006, Residence Allowance Fellowship (3.4-8100/B-RUS/1074525) for *"Very-Mixed" carbonyl cluster compounds containing $InCp^*$ fragments. Synthesis and structure characterization*, supervisor: Prof. Dr. Linti G. (University of Heidelberg, Germany)

2008, Research Resumption Fellowship, *Design of Linked Cluster Systems "Transition metal – Group 13 metal"*, supervisor: Prof. Dr. Linti G. (University of Heidelberg, Germany)

8. **2005**, Vladimir Potanin Foundation Award for the Most Perspective Young Teachers of Higher School
9. **2007-2012**, Academic Exchange Program of SPU and Ruprecht-Karls-Universität Heidelberg "*Low Nuclearity Cluster and Polynuclear Bridging Complexes Design"*
10. **2018,** The Award of SPU for a series of scientific articles *"Phosphorescent transition metal complexes, new approaches to the synthesis and application"*
11. **2019**, The Award of Student Council of Institute of Chemistry SPU *"The Best Lector"*

External grants and projects

1. **1996-1997**, Competitive Centre in Natural Science research grant, *Synthesis and Reactivity of Rhodium and Platinum-Rhodium Carbonyl-Nitrosyl Clusters*, principal investigator Dr. Tunik S.P.
2. **1996-1998**, INTAS-RFBR research grant (95-IN-RU-242), *Multinuclear NMR study of structure and ligand mobility in homo- and hetero-metallic transition metal carbonyl clusters,* in cooperation with University of Liverpool (UK) and University of Aveiro (Portugal), principal investigators: Prof. Heaton B.T. (University of Liverpool, UK) and Dr. Tunik S. P.
3. **2002-2004**, RFBR research grant 02-03-32792, *Chiral Induction in Reactions of Transition Metal Clusters. Study of Stereoselectivity of Diynes Cyclization on the $H_2Os_3(CO)_{10-x}(L^*)$ Clusters*, principal investigator Dr. Tunik S. P.
4. **2005-2006**, Royal Society of Chemistry Grant, *Investigation of solution structure and stereochemical norigidity of transition metal clusters containing chiral hemilabile ligands*, in

cooperation with University of Liverpool (UK), principal investigator Prof. Heaton B.T. (University of Liverpool, UK)

5. **2005-2007**, RFBR research grant 05-03-33266, *Chiral transition metal clusters: new approach to the synthesis, resolution and application in asymmetric catalysis*, principal investigator Dr. Tunik S.P.
6. **2007-2009**, RFBR research grant 07-03-00908, *Synthesis and photophysical studies of heterovalent macrocomplexes, containing transition metal clusters and bifunctional phosphines*, principal investigator Dr. Kurochkin A.V.
7. **2009-2010**, RFBR research grant 09-03-12309, *Effective electroluminescence materials based on a novel class of nanosized supramolecular transition metal complexes: synthetic design, study of the photophysical characteristics and optimization of electroluminescence properties*, principal investigator Prof. Tunik S.P.
8. **2009-2010**, RFBR research grant 09-03-91279, *Molecular architecture with alkynyl/thiolate gold or platinum complexes. Study of their photophysical properties*, principal investigator Prof. Tunik S.P.
9. **2011-2013**, RFBR research grant 11-03-00541, *Supramolecular organometallic cage structures of Au(I) complexes: synthesis, photophysical and electrochemical properties of the "host-guest" compounds*, principal investigator Dr. Koshevoy I.O.
10. **2011-2013**, RFBR research grant 11-03-00974, *Synthesis of a novel class of functionalized heterometallic complexes and investigation of their photophysics and electrochemistry*, principal investigator Prof. Tunik S.P.
11. **2011-2013**, RFBR research grant 11-03-92010, *Heterometallic supramolecular complexes of the copper subgroup metals: synthesis, photophysical properties and application in molecular imaging and electroluminescence technology*, in cooperation with National Taiwan University; principal investigator Prof. Tunik S. P.
12. **2011-2013**, SPU research grant 12.37.132.2011, *Nanosize complexes of transition metals as high-performance luminophors: synthesis and photophysical properties investigation*, principal investigator Prof. Tunik S.P.
13. **2012-2013**, SPU research grant 12.39.1048.2012, *Nanoanalytical "biochip-label-detector" system for screening medical detection*, in cooperation with Institute of Macromolecular Compounds, Russian Academy of Sciences; supervisor Prof. Tennikova T.B., **responsible investigator**
14. **2012-2018,** Research program of cooperation with Institut für Festkörperphysik and Helmholtz Zentrum Berlin für Materialien und Energie Elektronenspeicherring BESSY II (HZB/BESSY II), Russian-German Laboratory at BESSY II; supervisor Dr. Vyalikh D.V. (Institut für Festkörperphysik, Technische Universität Dresden, Germany); **principal investigator of chemistry group**

2012		
2012_1_111048	18.06.2012 – 01.07.2012	Combined photoemission and x-ray absorption study of the Rods-in-belt supramolecular complexes containing gold-copper and gold-silver clusters
2013		
2013_1_120793	17.03.2013 – 01.04.2013	Tunable electronic properties of the 'rods-in-belt' supramolecular complexes
2013_1_121256	13.05.2013 – 20.05.2013	
2013_2_130319	18.11.2013 – 24.11.2013	Tunable electronic properties of the highly ordered Au(I)-Ag(I) and Au(I)-Cu(I) supramolecular aggregates
2014		
14100352-ST	24.02.2014 – 10.03.2014 02.06.2014 – 08.06.2014	Cu vs Fe. Photoemission and X-ray absorption insight into how metal and protein interact
14201378-ST	15.09.2014 – 21.09.2014	Novel family of luminescent Pt(II) complexes: photoemission and X-ray absorption insight into the electronic structure and its modification

2015		
14201051-ST/R	09.02.2015 – 15.02.2015	Tunable electronic properties of the highly ordered Au(I)-Ag(I) and Au(I)-Cu(I) supramolecular aggregates
15202930-ST	07.09.2015 – 13.09.2015	Modification of the electronic structure of the novel family of Pt(II) complexes by n-type doping
2016		
16103663-ST	18.04.2016 – 24.04.2016	Insight into the interfacial chemistry between the novel family of Pt(II) coordination compounds and alkali metals
2018		
18106481-CR/R	19.02.2018 – 25.02.2018	Insight into the electronic structure of novel MoS_2/CNT Hybrid Material for Ultrasensitive Gas Sensing
18106542-CR	26.03.2018 – 19.04.2018	Self-Assembled Supramolecular Complexes with 'Rods-in-Belt' Architecture in the Light of Soft X-rays

15. **2013-2015**, RFBR research grant 13-03-12411, *Novel Luminescent Systems Based on Noble Metal Complexes and Supramolecular Compounds*, principal investigator Prof. Kukushkin V.Yu.
16. **2013-2015**, RFBR research grant 13-04-40342, *Novel polyfunctional labels for bioimaging – covalent bioconjugates based on transition metal complexes* in the frameworks of the project *Development of original methods to study cell structures using a novel class of triplet luminophors based on polynuclear transition metal complexes*, in cooperation with Russian Research Institute for Agricultural Microbiology; principal investigator Prof. Tunik S.P.
17. **2014-2016**, RFBR research grant 14-03-00970, *Metal-organophosphorus luminophores for controllable light generation*, principal investigator Prof. Tunik S.P.; **responsible investigator**
18. **2014-2016**, SPU research grant 0.37.169.2014, *Triplet luminescence emitters and their covalent and noncovalent conjugates with proteins and oligonucleotides – new labels for luminescence microscopy*, principal investigator Dr. Melnikov A.S.; **responsible investigator**
19. **2014-2016**, Ministry of Education and Science of Russian Federation grant, *Development of the nano associated hybrids synthesis method for creating of the labels for medical-biological use* (project number 14.604.21.0078; Registration Number RFMEFI60414X0078); principal investigator Dr. Manshina A.A.; **responsible investigator**
20. **2015**, Research project *Complexes of metals copper subgroup with cyclic aminomethylphosphane ligands: synthesis and photophysical properties investigation*, in cooperation with Laboratory of organometallic and coordination compounds, A.E. Arbuzov Institute of Organic and Physical Chemistry (Kazan, Russian Federation); **principal investigator**
21. **2016-2017**, Research project *Complexes of metals copper subgroup with macrocyclic aminomethylphosphane ligands: synthesis and photophysical properties investigation*, in cooperation with Laboratory of organometallic and coordination compounds, A.E. Arbuzov Institute of Organic and Physical Chemistry (Kazan, Russian Federation); **principal investigator**
22. **2016-2020**, Russian Science Foundation grant 16-13-10064 *NIR molecular emitters based on d-f heterometallic complexes*; **principal investigator**
23. **2018-2022,** Research program of cooperation with European XFEL (scientific instrument FXE), in cooperation with A.E. Arbuzov Institute of Organic and Physical Chemistry (Kazan, Russian Federation); **principal investigator of chemistry group**

Facility, beamline	Experiment number/code	Data	Experiment title
2018			
ESRF, ID09 White Beam Station, Time-resolved Beamline	CH-5623	03.10.2018 – 08.10.2018	Probing aurophilicity in stimuli-responsive dimer complexes: the role of 'host-guest' interactions
2019			

European XFEL, FXE instrument	2266, allocation cycle 201802	14.03.2019 – 17.03.2019	Origins of enhanced aurophilicity in stimuli-responsive dimer complexes and the role of 'host-guest' interactions
2022			
European XFEL, FXE instrument	2906, allocation cycle 202201	14.04.2022 – 17.04.2022	Origins of enhanced aurophilicity in stimuli-responsive dimer complexes and the role of 'host-guest' interactions, continue

24. **2019-2022**, Russian Science Foundation grant 19-73-20055 *New organometallic phosphors: design of triplet emitters with adjustable photophysical characteristics*; **responsible investigator**
25. **2019,** Research project (agreement 46329568) *Synthesis and study of the photophysical properties of binuclear gold complexes based on template phosphine ligands* in collaboration with the Federal Research Center 'Kazan Scientific Center of the Russian Academy of Sciences', A.E. Arbuzov Institute of Organic and Physical Chemistry (Russian Federation); **principal investigator**
26. **2020-2021,** Research project 91192757 *Phosphinine-Based Ligands for the Design of Novel Luminescent Transition Metal Complexes*, Program of Freie Universität Berlin and SPU cooperation in the framework of Strategic Partnership Program, **principal investigator**
27. **2021-2023,** Russian Science Foundation grant 21-13-00052 *Functional hybrid molecular systems based on transition metal complexes*; **principal investigator**
28. **2022,** Research project (ID 99617020) *Design of organic and coordination thermosensitive phosphors as a basis for new generation molecular and nanoscale thermometers for biomedical applications* in collaboration with the Federal Research Center 'Kazan Scientific Center of the Russian Academy of Sciences', A.E. Arbuzov Institute of Organic and Physical Chemistry (Russian Federation); **principal investigator**

Publications

Articles

1. S. Petrovskii, V. Khistiaeva, A. Paderina, E. Abramova and E. Grachova, *Post-Functionalization of Organometallic Complexes via Click-Reaction*, **Molecules** 27 (2022) 6494; DOI: 10.3390/molecules27196494; first published 01 October 2022
2. A. Surkova, A. Bogomolov, A. Paderina, V. Khistiaeva, E. Boichenko, E. Grachova, D. Kirsanov, *Optical multisensor system based on lanthanide(III) complexes as near-infrared light sources for analysis of milk*, **Chemosensors**, 10(7) (2022) 288; DOI: 10.3390/chemosensors10070288; first published 20 July 2022
3. A. Paderina, R. Ramazanov, R. Valiev, C. Müller and E. Grachova, *So Close, Yet so Different: How One Donor Atom Changes Significantly the Photophysical Properties of Mononuclear Cu(I) Complexes*, **Inorg. Chem.**, 61(30) (2022) 11629-11638; DOI: 10.1021/acs.inorgchem.2c01145; first published 5 July 2022; **ON COVER**
4. A.Yu. Baranov, S.O. Slavova, A.S. Berezin, S.K. Petrovskii, D.G. Samsonenko, I.Yu. Bagryanskaya, V.P. Fedin, E.V. Grachova and A.V. Artem'ev, *Controllable synthesis and luminescent behavior of tetrahedral Au@Cu₄ and Au@Ag₄ clusters supported by tris(2-pyridyl)phosphine*, **Inorg. Chem.**, 61 (2022) 10925-10933; DOI: 10.1021/acs.inorgchem.2c01474; first published 1 July 2022
5. S. Petrovskii, A. Senchukova, V. Sizov, A. Paderina, M. Luginin, E. Abramova and E. Grachova, *Efficient photoswitchable organometallic complexes with azobenzene and stilbene units: the case of Au(I)*, **Mol. Syst. Des. Eng.**, 7 (2022) 1249-1262; DOI: 10.1039/D2ME00071G; first published 21 June 2022
6. A. Paderina, A. Melnikov, S. Slavova, V. Sizov, V. Gurzhiy, S. Petrovskii, M. Luginin, O. Levin, I. Koshevoy and E. Grachova, *The tail wags the dog: the far periphery of the coordination environment manipulates the photophysical properties of heteroleptic Cu(I) complexes*, **Molecules** 27(7) (2022) 2250; DOI: 10.3390/molecules27072250; first published 30 March 2022
7. M.A. Kinzhalov, E.V. Grachova and K.V. Luzyanin, *Tuning the Luminescence of Transition Metal Complexes with Acyclic Diaminocarbene Ligands*, **Inorg. Chem. Front.** 9 (2022) 417-439; DOI: 10.1039/D1QI01288F; first published 06 December 2021

8. E.O. Abramova, A.V. Paderina, S.O. Slavova, E.A. Kostenko, E.V. Eliseenkov, S.K. Petrovskii, A.Yu. Gitlina, V.P. Boyarskiy, and E.V. Grachova, *Just Add the Gold: Aggregation-Induced-Emission Properties of Alkynylphosphinegold(I) Complexes Functionalized with Phenylene-Terpyridine Subunits*, **Inorg. Chem.** 60(24) (2021) 18715-18725; DOI: 10.1021/acs.inorgchem.1c02125; first published 26 November 2021
9. E.M. Baranovskii, V.V. Khistiaeva, K.V. Deriabin, S.K. Petrovskii, I.O. Koshevoy, I.E. Kolesnikov, E.V. Grachova and R.M. Islamova, *Re(I) complexes as Backbone Substituents and Cross-linking Agents for Hybrid Luminescent Polysiloxanes and Silicone Rubbers*, **Molecules** 26 (2021) 6866; DOI: 10.3390/molecules26226866; first published 14 November 2021
10. M. Beliaeva, A. Belyaev, E. Grachova, A. Steffen, I. Koshevoy, *Ditopic phosphide oxide group: a rigidifying Lewis base to switch luminescence and reactivity of a disilver complex*, **J. Am. Chem. Soc.** 143(37) (2021) 15045-15055; DOI: 10.1021/jacs.1c04413; first published 07 September 2021
11. Cheng-Ham Wu, K.S. Kisel, Muthu Kumar Thangavel, Yi-Ting Chen, Kai-Hsin Chang, Ming-Rung Tsai, Chia-Yu Chu, Yu-Fang Shen, Pei-Chun Wu, Tzu-Ming Liu, J. Jänis, E.V. Grachova, J.R. Shakirova, S.P. Tunik, I.O. Koshevoy, Pi-Tai Chou, *Functionalizing collagen with vessel-penetrating two-photon phosphorescence probes: A new in vivo strategy to map oxygen concentration in tumor microenvironment and tissue ischemia*, **Adv. Sci.** 8(20) (2021) 2102788; DOI: 10.1002/advs.202102788; first published 19 August 2021
12. A.A. Surkova, A.V. Paderina, A.V. Legin, E.V. Grachova, and D.O. Kirsanov, *Cu(I)-based molecular emitters for quantification of fluoride and phosphate in surface waters*, **Measurement** 184 (2021) 109976; DOI: 10.1016/j.measurement.2021.109976; first published 06 August 2021
13. T. Eskelinen, S. Buss, S. K. Petrovskii, E.V. Grachova, M. Krause, L. Kletsch, A. Klein, C.A. Strassert, I.O. Koshevoy and P. Hirva, *Photophysics and Excited State Dynamics of Cyclometalated [M(Phbpy)(CN)] (M = Ni, Pd, Pt) Complexes: A Theoretical and Experimental Study*, **Inorg. Chem.** 60(12) (2021) 8777-8789; DOI: 10.1021/acs.inorgchem.1c00680; first published 07 June 2021
14. A.V. Paderina, I.O. Koshevoy and E.V. Grachova, *Keep it tight: a crucial role of bridging phosphine ligands in the design and optical properties of multinuclear coinage metal complexes*, **Dalton Trans.** 50 (2021) 6003-6033; DOI: 10.1039/D1DT00749A; first published 09 April 2021. **This article is part of the themed collections: 2021 Frontier and Perspective articles and Dalton Transactions HOT Articles. ON COVER**
15. I. Koshevoy, E. Grachova, K. Kisel, D. Temerova, T. Eskelinen, P. Hirva, J. Shakirova, S. Tunik, N. Kinnunen, A. Melnikov, *Diversifying luminescence of phenanthro-diimine ligands in zinc complexes*, **Inorg. Chem. Front.** 8 (2021) 2549-2560; DOI: 10.1039/D1QI00149C; first published 07 April 2021
16. I.O. Koshevoy, V. Sivchik, A. Kochetov, T. Eskelinen, K.S. Kisel, A.I. Solomatina, E.V. Grachova, S.P. Tunik, P. Hirva, *Modulation of metallophilic and ππ interactions in platinum cyclometalated luminophores with halogen bonding*, **Chem. Eur. J.** 27 (2021) 1787-1794; DOI: 10.1002/chem.202003952; first published 24 September 2020
17. S. Petrovskii, V. Khistiaeva, A. Sizova, V. Sizov, A. Paderina, I. Koshevoy, K. Monakhov, E. Grachova, *Hexavanadate-Organogold(I) Hybrid Compounds: Synthesis by the Azide-Alkyne Cycloaddition and Density Functional Theory Study of an Intriguing Electron Density Distribution*, **Inorg. Chem.** 59(22) (2020) 16122-16126; DOI: 10.1021/acs.inorgchem.0c02621; first published 26 October 2020; **ON COVER**
18. S.K. Petrovskii, A.V. Paderina, A.A. Sizova, A.Yu. Baranov, A.A. Artem'ev, V.V. Sizov and E.V. Grachova, *Luminescence behaviour of Au(I)-Cu(I) heterobimetallic coordination polymers based on alkynyl-tris(2-pyridyl)phosphine Au(I) complexes*, **Dalton Trans.**, 49 (2020) 13430-13439; DOI: 10.1039/D0DT02583F; first published 02 September 2020
19. F. Temerov, K. Pham, P. Juuti, J. Mäkelä, E. Grachova, S. Kumar, S. Eslava, J. Saarinen, *Silver Decorated TiO_2 Inverse Opal Structure for Visible Light Induced Photocatalytic Degradation of Organic Pollutant and Hydrogen Evolution*, **ACS Appl. Mater. Inter.**, 12(37) (2020) 41200-41210; DOI: 10.1021/acsami.0c08624; first published 21 August 2020
20. A.Yu. Gitlina, A. Surkova, M.V. Ivonina, V.V. Sizov, S.K. Petrovskii, A. Legin, G.L. Starova, I.O. Koshevoy, E.V. Grachova, and D.O. Kirsanov, *Cyclometalated Ir(III) complexes as tuneable multiband light sources for optical multisensor systems: feasibility study*, **Dyes Pigments**, (2020) 108428; DOI: 10.1016/j.dyepig.2020.108428; first published 19 April 2020
21. I.D. Strelnik, V.V. Sizov, V.V. Gurzhiy, A.S. Melnikov, I.E. Kolesnikov, E.I. Musina, A.A. Karasik, and E.V. Grachova, *Au(I) binuclear phosphine-alkynyl complexes templated on flexible cyclic phosphine ligand: synthesis and some features of solid-state luminescence*, **Inorg. Chem.**, 59(1) (2020) 244-253; DOI: 10.1021/acs.inorgchem.9b02091; first published 09 December 2019

22. A. Belyaev, S.O. Slavova, I.V. Solovyev, V.V. Sizov, J. Jänisa, E.V. Grachova, I.O. Koshevoy, *Solvatochromic dual luminescence of Eu-Au dyads decorated with chromophore phosphines*, **Inorg. Chem. Front.**, 7 (2020) 140-149; DOI: 10.1039/c9qi01015g; first published 01 November 2019

23. E.V. Grachova, *Design of Supramolecular Cluster Compounds of Copper Subgroup Metals Based on Polydentate Phosphine Ligands*, **Russ. J. Gen. Chem. Int. Ed.**, 89(6) (**2019**) 1102-1114; DOI: 10.1134/S1070363219060045; **Themed issue dedicated to the 150th anniversary of Inorganic Chemistry Department of SPU**; first published 11 July 2019

24. G. Chakkaradhari, T. Eskelinen, C. Degbe, A. Belyaev, A.S. Melnikov, E.V. Grachova, S.P. Tunik, P. Hirva, I.O. Koshevoy, *Oligophosphine-thiocyanate copper(I) and silver(I) complexes and their borane derivatives showing delayed fluorescence*, **Inorg. Chem.**, 58(6) (**2019**) 3646-3660; DOI: 10.1021/acs.inorgchem.8b03166; first published 22 February 2019

25. K.S. Kisel, A.S. Melnikov, E.V. Grachova, A.J. Karttunen, A. Doménech-Carbó, K.Yu. Monakhov, V.G. Semenov, S.P. Tunik, I.O. Koshevoy, *Supramolecular construction of cyanide-bridged Re^{I} diimine multichromophores*, **Inorg. Chem.**, 58(3) (**2019**) 1988-2000; DOI: 10.1021/acs.inorgchem.8b02974; first published 11 January 2019

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Corrections

92. ***Erratum*** Ponomarenko V. I., Krupenya D. V., Grachova E. V., Gindin V. A., Selivanov S. I., Koshevoy I. O., Tunik S. P., Haukka M., Pursiainen J., Pirila P., *Structure, stereochemistry and dynamics of tetranuclear polyhydride clusters containing chiral heterobidentate phosphanes*, **Z. Anorg. Allg. Chem.**, (**2010**) 1153

Contributions to Academic Conferences

1. E. Grachova, A. Paderina, S. Petrovskii, E. Abramova, *Non-covalent interactions in the design of luminophores based on transition metal complexes*, 2nd International Symposium "Noncovalent Interactions in Synthesis, Catalysis, and Crystal Engineering", 14-16 November 2022, Moscow, Russia **Invited**
2. E. Grachova, *Supramolecular systems based on Pt(II) complexes and how to manage them*, XXIII International Chernyaev Conference on Chemistry, Analytics and Technology of Platinum Metals, 3-7 October 2022, Novosibirsk, Russia **Plenary**
3. A.V. Paderina, S.K. Petrovskii, E.V. Grachova, *Pt(II) bis-alkynyl complexes with ligands based on phosphonium salts: synthesis and photophysical properties*, XXIII International Chernyaev Conference on Chemistry, Analytics and Technology of Platinum Metals, 3-7 October 2022, Novosibirsk, Russia
4. A.D. Mironova, S.K. Petrovskii, E.V. Grachova, *Platinum(II) complexes with alkynylpyridinium ligands: Synthesis and photophysical properties*, XXIII International Chernyaev Conference on Chemistry, Analytics and Technology of Platinum Metals, 3-7 October 2022, Novosibirsk, Russia
5. S.K. Petrovskii, A.D. Mironova, E.V. Grachova, *Homoleptic gold(I) bis-alkynyl complexes with intramolecular charge transfer*, XXIII International Chernyaev Conference on Chemistry, Analytics and Technology of Platinum Metals, 3-7 October 2022, Novosibirsk, Russia
6. E. Grachova, *Non-rigid ligands in the design of polynuclear luminescent Au(I) complexes*, III Scientific Conference 'Dynamic processes in the chemistry of elementorganic compounds' dedicated to the 145th anniversary of Academician A.E. Arbuzov, 12-15 September 2022, Arbuzov IOPC FRC Kazan Scientific Center of RAS, Kazan, Russia **Invited**
7. E. Grachova, *Design of functional molecular systems based on lanthanide complexes*, VII Russian Day Rare Earths, 14-16 February 2022, Arbuzov IOPC FRC Kazan Scientific Center of RAS, Kazan, Russia **Invited**
8. S.K. Petrovsky, M. Morse, S. Schmitz, K.M. Monakhov, E.V. Grachova, *Polyoxovanadate – organogold molecular hybrids: a new class of compounds for molecular electronics*, XXVIII International Chugaev Conference on Coordination Chemistry, 3-8 October 2021, Tuapse, Russia
9. A.V. Paderina, Yu.R. Shakirova, I.O. Koshevoy, E.V. Grachova, *New effective method for the synthesis of bis-diimine Rhenium(I) complexes*, XXVIII International Chugaev Conference on Coordination Chemistry, 3-8 October 2021, Tuapse, Russia
10. V.V. Khistyaeva, E.V. Gracheva, I.O. Koshevoy, *Cyclometallated Pt(II) and Pd(II) binuclear complexes based on tridentate ligands: design and photophysical properties*, XXVIII International Chugaev Conference on Coordination Chemistry, 3-8 October 2021, Tuapse, Russia
11. E. Abramova, E. Kostenko, E. Eliseenkov, V. Boyarskiy, E. Grachova, *Aggregation-induced emission in gold(I) complexes bearing with terpyridine fragment*, XXVIII International Chugaev Conference on Coordination Chemistry, 3-8 October 2021, Tuapse, Russia
12. E.V. Grachova, *Transition metal complexes as 'building blocks' of functional molecular systems*, XXVIII International Chugaev Conference on Coordination Chemistry, 3-8 October 2021, Tuapse, Russia
13. Khistiaeva V.V., Grachova E.V., Koshevoy I.O., *So close but different: Pt(II) and Pd(II) binuclear cyclometalated compexes of the tridentate $N^{\cap}N^{\cap}C$ and $N^{\cap}C^{\cap}N$ ligands*, The XII International Conference on Chemistry For Young Scientists Mendeleev 2021, 6-10 September 2021, St Petersburg, Russia
14. E. Grachova, *Complexes of f-elements for the design of multichromic molecular emitters*, VI Russian Day Rare Earths, 17-19 February **2020**, Novosibirsk, Russia

15. E. Grachova, *Design of multicolor molecular emitters based on transition metal complexes for single-molecule-based (SMB) materials*, International School on Advanced Light-Emitting and Optical Materials (SLALOM 2019) ITMO University 12-13 December **2019**, St. Petersburg **Invited**
16. E. Grachova, *Heterometallic complexes constructed of d- and f-blocks: synthesis and structure characterization by soft X-ray*, Workshop on Spin-resolved Photoemission and Electronic Structure of Quantum and Energy Materials, 28-29 October **2019**, Berlin, Germany **Invited**
17. E. Grachova, *Design of multichromophore molecular emitters based on combination of transition metal complexes*, 5th EuChemS Inorganic Chemistry Conference (EICC-5), 24-28 June **2019**, Moscow, Russia **Invited**
18. A. Gitlina, I. Koshevoy, E. Grachova, *Solid-state organization of novel cyclometalated platinum(II) complexes through weak interactions*, 5th EuChemS Inorganic Chemistry Conference (EICC-5), 24-28 June **2019**, Moscow, Russia
19. E. Abramova, E. Kostenko, A. Gitlina, V. Boyarskiy, E. Eliseenkov and E. Grachova, *Gold(I) complexes decorated by flexible alkynyl-terpyridine ligands: some features of luminescence*, 5th EuChemS Inorganic Chemistry Conference (EICC-5), 24-28 June **2019**, Moscow, Russia
20. V. Khistiaeva, A. Gitlina, E.V. Grachova, *Click-chemistry as a convenient way for binding of metalloblocks: design principles for the construction of multi-metallic systems containing Ln(III)*, 5th EuChemS Inorganic Chemistry Conference (EICC-5), 24-28 June **2019**, Moscow, Russia
21. A. Paderina, E. Grachova, J. Shakirova, E. Galenko, and A. Khlebnikov, *Heteroleptic phosphine-diimine Cu(I) and Ag(I) complexes: synthesis and photophysical properties*, 5th EuChemS Inorganic Chemistry Conference (EICC-5), 24-28 June **2019**, Moscow, Russia
22. V.V. Khistyayeva, A.Yu. Gitlina, E.V. Grachova, *Strategy of post-synthetic modification of metalloligands Ir(III) complexes for construction of luminescent d-f dyads*, V Russian Day Rare Earths, 14-15 February **2019**, Nizhny Novgorod, Russia
23. J. Shakirova, E. Grachova, I. Koshevoy, and S. Tunik, *Luminescent heterometallic Au(I)-Cu(I) cluster-capped assemblies: demonstration of post-synthetic modification of the metal cores*, The Russian National Cluster of Conferences on Inorganic Chemistry «InorgChem 2018», 17-21 September **2018**, Astrakhan, Russia
24. Kisel, K.S., Koshevoy, I.O.; Grachova, E.V., and Tunik, S.P, *Synthesis and luminescent properties of zinc(II) complexes based on the 2-pyridyl-1H-phenanthro[9,10-d]imidazole ligands*, The Russian National Cluster of Conferences on Inorganic Chemistry «InorgChem 2018», 17-21 September **2018**, Astrakhan, Russia
25. Elena Grachova, *Molecular emitters based on heavy metal complexes equipped by bipyridine arm: some features of design and photophysical properties*, 3rd STEPS Symposium on Photon Science, 11-12 March **2018**, Moscow, Russia
26. I.V. Solovyev, E.V. Grachova, *Mononuclear complexes of gold(I) as sensitizers of lanthanide luminescence*, IV Russian Rare Earth Day, 15-16 February **2018**, Moscow, Russia
27. S.O. Slavova, V.V. Sizov, I.V. Solovyev, E.V. Grachova, *Quantum-chemical calculations of the electronic structure and excited states of d-f heterometallic ensembles by DFT and TDDFT methods*, IV Russian Rare Earth Day, 15-16 February **2018**, Moscow, Russia
28. V.V. Khistyaeva, E.V. Grachova, *Heterometallic Ir(III)/Ln(III) luminescent dyads: NIR emitters based on d-f systems*, IV Russian Rare Earth Day, 15-16 February **2018**, Moscow, Russia
29. E.V. Grachova, A.Yu. Gitlina, V.V. Khistyaeva, I.V. Solovyev, *Molecular d-f emitters based on heterofunctional polytope ligands: design features and photophysical properties*, IV Russian Rare Earth Day, 15-16 February **2018**, Moscow, Russia
30. Elena Grachova, *Supramolecular cluster complexes of copper subgroup metals: some features of architecture and controlled formation of hybrid nanostructures*, Workshop devoted to 15 Years of Russian-German Laboratory at BESSY II, 7-8 December **2017**, the BESSY II Facility of Helmholtz-Zentrum Berlin, Berlin, Germany **Invited**
31. Solovyev I.V., Belyaev A. A., Grachova E.V., Koshevoy I.O., *Au(I) complexes as sensitizers of Ln(III) emission: synthesis and photophysical study*, 22nd Conference on Organometallic Chemistry (EuCOMC XXII), 9-13 July **2017**, Amsterdam, Netherlands
32. Kisel K.S., Koshevoy I.O., Grachova E.V., Tunik S.P., *A New Generation of Diimine Ligands with Tunable Photophysical Behavior and Their Rhenium(I) Complexes*, 22nd Conference on Organometallic Chemistry (EuCOMC XXII), 9-13 July **2017**, Amsterdam, Netherlands

33. E. Grachova, I. Koshevoy and S. Tunik, *Molecular emitters based on heterofunctional polydental ligands decorated by bipyridine: some features of design and photophysical properties*, 4th EuCheMS Inorganic Chemistry Conference, 2-5 July **2017**, Copenhagen, Denmark
34. V. Khistyaeva, A. Belyaev, E.V. Grachova, and I.O. Koshevoy, *Ambipolar phosphine derivatives to sensibilize Ln(III): synthesis and luminescent Properties***,** 4th EuCheMS Inorganic Chemistry Conference, 2-5 July **2017**, Copenhagen, Denmark
35. A. Gitlina, I. Solovjov, I. Koshevoy and E. Grachova, *Novel cyclometalated Ir(III) complexes as blocks for dual emissive materials: synthesis and photophysical properties*, 4th EuCheMS Inorganic Chemistry Conference, 2-5 July **2017**, Copenhagen, Denmark
36. Slavova S.O., Sizov V.V., Grachova E.V., *Electronic structure and excited states of d-f heterometallic complexes containing a bridging ligand with bipyridyl function,* X International conference of young scientists on Chemistry "Mendeleev 2017" and 2nd school-conference "Directed design of molecules and materials with programmable properties", 4-7 April **2017**, St. Petersburg, Russia
37. Shakirova J.R., Tomashenko O.A., Grachova E.V., Khlebnikov A.F., Tunik S.P., *Orange-red emissive Iridium(III) complexes based on the new type heterocyclic diamine ligands,* X International conference of young scientists on Chemistry "Mendeleev 2017" and 2nd school-conference "Directed design of molecules and materials with programmable properties", 4-7 April **2017**, St. Petersburg, Russia
38. Grachova E.V., *Design of d-f molecular emitters: Au(I) complexes as lanthanide sensitizers*, X International conference of young scientists on Chemistry "Mendeleev 2017" and 2nd school-conference "Directed design of molecules and materials with programmable properties", 4-7 April **2017**, St. Petersburg, Russia **Invited lecture**
39. Khistyaeva V.V., Grachova E.V., *Lanthanide complexes based on a heterocyclic polytope ligand: synthesis and photophysical properties*, III Russian Rare Earth Day, 20-21 February **2017**, Novosibirsk, Russia
40. E.V. Grachova, A.Yu. Gitlina, V.V. Khistyaeva, I.V. Solovjev, *Design of d-f molecular emitters: mononuclear Au(I) complexes as lanthanide sensitizers*, III Russian Rare Earth Day, 20-21 February **2017**, Novosibirsk, Russia **Invited**
41. Grachova E.V., Shakirova J.R., Koshevoy I.O., *Molecular emitters in NIR range based on d-f heterometallic complexes: design of d-block*, Scientific conference of Russian Scientific Foundation "Fundamental chemical studies of the XXI century" 20-24 November **2016**, Moscow, Russia
42. Khistyaeva V.V., Shakirova J.R., Grachova E.V., *Politopic N^4-heterocyclic ligand and lanthanide complexes based on it: synthesis and photophysical properties*, Scientific conference of Russian Scientific Foundation "Fundamental chemical studies of the XXI century" 20-24 November **2016**, Moscow, Russia
43. Shakirova J.R., Tomashenko O.A., Grachova E.V., Khlebnikov A.F., Tunik S.P., *Molecular complex thermometer based on a dual emission in green and red regions of the spectrum,* Scientific conference of Russian Scientific Foundation "Fundamental chemical studies of the XXI century" 20-24 November **2016**, Moscow, Russia
44. Zhukovskaia M.A., Zhukovsky D.D., Grachova E.V., Tunik S.P., *Synthesis and photophysical properties of new binuclear platinum complex with unusual long-wavelength emission*, Scientific conference of Russian Scientific Foundation "Fundamental chemical studies of the XXI century" 20-24 November **2016**, Moscow, Russia
45. Kisel K.S., Koshevoy I.O., Grachova E.V., Tunik S.P., *Luminascence complexes Re(I) and Pt(II) as an independent chromophore centers to create heterometallic molecular emitters*, Scientific conference of Russian Scientific Foundation "Fundamental chemical studies of the XXI century" 20-24 November **2016**, Moscow, Russia
46. Viktoriia Khistyaeva, Julia R. Shakirova, Elena V. Grachova, *Synthesis and luminescent properties of lanthanide complexes on the base of N^4-heterocyclic politopic ligand*, International Student Conference "Science and Progress" St.Petersburg, Peterhof, October 17-21, **2016**
47. Sergey Tunik, Igor Koshevoy and Elena Grachova, *Polynuclear luminescent d10 complexes, design and application in sensing, bioimaging and nanoparticles preparation*, 27th International Conference on Organometallic Chemistry (ICOMC 2016), 17-22 July **2016**, Melbourne, Australia
48. E.V. Grachova, A.A. Penney, V.V. Sizov and S.P. Tunik, *Homo- and heteroleptic Au(I) complexes based on bidentate NHC ligands: some features of the photophysical properties*, 27th International Conference on Organometallic Chemistry (ICOMC 2016), 17-22 July **2016**, Melbourne, Australia
49. Julia Shakirova, Elena Grachova, Sergey Tunik, Olesya Tomashenko and Alexander Khlebnikov, *Gold(I)-alkynyl complexes with a new type N-donor heterocyclic ligand: Synthesis and photophysical properties*, 27th International Conference on Organometallic Chemistry (ICOMC 2016), 17-22 July **2016**, Melbourne, Australia

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51. J.R. Shakirova, O.A. Tomashenko, E.V. Grachova, A.F. Khlebnikov, S.P. Tunik, *Alkynyl complexes of gold(I) based on the new N-donor heterocyclic ligands: synthesis and photophysical properties*, Cluster Conference on Organic Chemistry (ORGCHEM-2016), 27 June - 1 July, **2016**, Repino, St.Petersburg, Russia

52. A.Yu. Gitlina, J.R. Shakirova, E.V. Grachova, *Synthesis, characterization and photophysical properties of a novel cyclometallated complexes Ir(III)*, Cluster Conference on Organic Chemistry (ORGCHEM-2016), 27 June - 1 July, **2016**, Repino, St.Petersburg, Russia

53. I. Strelnik, E. Musina, E. Grachova, A. Karasik, O. Sinyashin, *Luminescent copper(I) and gold(I) complexes of 1,5-diaza-3,7-diphosphacyclooctanes*, 21st International Conference on Phosphorus Chemistry (ICPC 2016), 5-10 June **2016**, Kazan, Russia; Book of abstracts, p.87

54. E.V. Grachova, J.R. Shakirova, I.O. Koshevoy, S.P. Tunik, *Polydental phosphines as templates to build polynuclear luminescence complexes of copper subgroup metals*, 21st International Conference on Phosphorus Chemistry (ICPC 2016), 5-10 June **2016**, Kazan, Russia; Book of abstracts, p.145 **Key note**

55. Grachova E.V., Shakirova Yu.R., Strelnik I.D., Koshevoy I.O., Tunik S.P., *Alkynyl-phosphine Au^I and Au^I-Cu^I complexes based on phosphine template: some features of the photophysical properties*, III EuCheMS Inorganic Chemistry Conference, from 28th June to 1st July **2015**, Wroclaw, Poland.

56. A.A. Makarova, E.V. Grachova, D. Niedzialek, O.Yu. Vilkov, S. Sonntag, A.I. Solomatina, D.V. Krupenya, V.S. Neudachina, A.V. Fedorov, S.P. Tunik, C. Laubschat, D.V. Vyalikh, *Modification of the chemical and electronic structure of novel Pt(II) complexes via incorporation of alkali metals (Li, Na, K, Cs)*, 16th European Conference on Applications of Surface and Interface Analysis ECASIA'15, from September 28th to October 1st, **2015**, Granada (Spain)

57. Anna A. Makarova, Elena V. Grachova, Vera S. Neudachina, Lada Yashina, Anja Blüher, Serguei Molodtsov, Michael Mertig, Hermann Ehrlich, Vera K. Adamchuk, Clemens Laubschat, and Denis Vyalikh, *Insight into Bio-metal Interface Formation in vacuo: Interplay of S-layer Protein with Copper and Iron*, Interdisciplinary Surface Science Conference (ISSC-20), 30 March - 2 April **2015**; Birmingham, United Kingdom

58. Strelnik I.D., Grachova E.V., Musina E.I., Tunik S.P., Karasik A.A., Sinyashin O.G., *Luminescent vapochromism of aminomethylphosphine gold(I) alkynyl complexes*, XXVI International Chugaev Conference on Coordination Chemistry 6-10 October **2014**, Kazan, Russia. Book of abstracts, p.43

59. A. Makarova, E. Grachova, V. Neudachina, .L. Yashina, A. Blueher, S. Molodtsov, M. Mertig, H. Ehrlich, V. Adamchuk, C. Laubschat and D. Vyalikh. *Insight into Bio-metal Interface Formation in vacuo: Interplay of S-layer Protein with Copper and Iron*, 30th European Conference on Surface Science, ECOSS-30, 31 August – 5 September **2014**, Antalya (Turkey). Book of abstracts, p.263

60. Grachova E.V., Shakirova Yu.R., Koshevoy I.O., Tunik S.P., *Photophysical properties of tetranuclear Au^I-Cu^I alkynyl-phosphine clusters based on tridentate phosphine template: alkyne makes the difference*, IV International Workshop on Transition Metal Clusters IWTMC-IV, 8-11 September **2014**, Novosibirsk, Russia, Book of Abstracts, p.60

61. A.A. Makarova, E.V. Grachova, D.V. Krupenya, O. Vilkov, A. Fedorov, D. Usachov, A. Generalov, I.O. Koshevoy, S.P. Tunik, E. Ruehl, C. Laubschat, D.V. Vyalikh, *Insight into the Electronic Structure of the Supramolecular Au−Cu and Au−Ag Self-Assembled Complexes from X-Ray Photoelectron and Absorption Spectroscopy*, Gordon Research Conference "Electronic Processes in Organic Materials", 5/4/**2014** – 5/9/**2014** Renaissance Tuscany IL Ciocco Resort, Lucca (Barga), Italy

62. Makarova A. A., Grachova E. V., Krupenya D. V., Vilkov O., Fedorov A., Usachov D., Generalov A., Koshevoy I. O., Tunik S. P., Rühl E., Laubschat C. and Vyalikh D. V., *Self-assembled supramolecular complexes with "rods-in-belt" architecture in the light of soft X-rays*, 12th International Conference on Atomically Controlled Surfaces, Interfaces and Nanostructures (ACSIN-12), 4-8 November **2013**, Tsukuba, Japan, Book of Abstracts

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64. Makarova A. A., Grachova E. V., Krupenya D. V., Shakirova J. R., Koshevoy I. O., Rühl E., Laubschat C., Tunik S. P., and Vyalikh D. V., *Combined photoemission and X-ray absorption study of the 'rods-in-belt'*

supramolecular complexes containing gold-copper and gold-silver clusters, DPG Spring Meeting of the Condensed Matter Section (SKM), 10-15 March **2013**, Regensburg, Germany, Book of Abstracts

65. Makarova A. A., Grachova E. V., Krupenya D. V., Shakirova J. R., Koshevoy I. O., Rühl E., Laubschat C., Tunik S. P., and Vyalikh D. V., *Combined photoemission and X-ray absorption study of the 'rods-in-belt' supramolecular complexes containing gold-copper and gold-silver clusters*, 4th Joint BER II and BESSY II Users' Meeting 12-14 December **2012**, Berlin-Adlershof, Germany, Book of Abstracts

66. Shakirova J. R., Grachova E. V., Koshevoy I. O. and Tunik S. P., *New supramolecular organometallic Au(I) and Au(I)-Cu(I) cage complexes: synthesis, characterization and properties*, XXV International Conference on Organometallic Chemistry, 1-7 September **2012**, Lisbon, Portugal, Book of Abstracts, p.163

67. Grachova E. V., Shakirova J. R., Koshevoy I. O. and Tunik S. P., *LUMINESCENT TETRANUCLEAR AU^{I}-CU^{I} TRIPHOSPHINE CLUSTERS: PHOTOPHYSICAL PROPERTIES RESPONSE THE NATURE OF ALKYNYL LIGANDS*, XXV International Conference on Organometallic Chemistry, 1-7 September **2012**, Lisbon, Portugal, Book of Abstracts, F3.10

68. Shakirova J. R., Grachova E. V., Koshevoy I. O., Gurzhiy V. V. and Tunik S. P., *Synthesis and Photophysical Properties of a New Type of Polynuclear Alkynyl-Phosphine Au(I)-Cu(I) Complexes based on Tridentate Phosphine Template*, ZiNG Conferences, Coordination Chemistry Conference, Mexico 9-13 December **2011**, Book of Abstracts, p.90

69. Shakirova Ju. R., Grachova E. V., Tunik S. P., Koshevoy I. O., *Synthesis and photophysical properties investigation of the new alkynyl-phosphine Au(I)-Cu(I) complexes*, XXV International Chugaev Conference in Coordination Chemistry, 06-11 June **2011**, Suzdal, Russia, Book of Abstracts, p. 470

70. Shakirova Ju. R., Grachova E. V., Tunik S. P., *Synthesis and photophysical properties investigation of the heterometallic alkynyl-phosphine gold-copper cluster complexes*, Russian Young Scientists Conference "A. E. Favorsky's Ideas and Heritage in organic and organometallic chemistry in XXI century", 23-26 March **2010**, St. Petersburg, Russia, Book of Abstracts, p. 115

71. Monakhov K. Yu., Linti G., Grachova E. V., *The Problem of Metal Centres Interaction in Mixed-Metal Bridging Complexes containing Transition Metal and Group 13 Metal*, XXIV International Chugaev Conference in Coordination Chemistry, 15-19 June **2009**, St. Petersburg, Russia, Book of Abstracts, p. 414

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76. Ostrova P. V., Grachova E. V., Tunik S. P., *Bidentate phosphine oxides as ligands to form "shell" lanthanide complexes*, 15th International Conference on Chemistry of Phosphorus Compounds, St. Petersburg, Russia, May 25-30, **2008**, Book of Abstracts, p. 196

77. Smirnova E. S., Grachova E. V., Tunik S. P., *Design of heterometallic lanthanide complexes using bidentate phosphine oxides*, 15th International Conference on Chemistry of Phosphorus Compounds, St. Petersburg, Russia, May 25-30, **2008**, Book of Abstracts, p. 232

78. Grachova E. V., *Principles of Coordination Chemistry in Molecular Assemblies Design: Synthesis of Heterometalic Polynuclear Lanthanide Complexes*, Alexander von Humboldt Foundation Colloquium "Nano, cogni, chrono: a person in between people and under the control of technology", April 24-26 **2008**, Moscow, Russia, Book of Abstracts, p. 6

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