

LIST OF PUBLICATIONS

Books and Reviews:

1. Bacher, F., and Arion, V.B. Ruthenium Compounds as Antitumor Agents: New Developments. In: Reedijk, J. (Ed.) Elsevier Reference Module in Chemistry, Molecular Sciences and Chemical Engineering. Waltham. MA: Elsevier. 21-Nov-2014 doi: 10.1016/B978-0-12-409547-2.11353-8.
2. Primik, M. F.; Filak, L. F.; Arion, V. B. Metal-based indolobenzazepines and indoloquinolines: from moderate cdk inhibitors to potential antitumor drugs in *Advances in Organometallic Chemistry and Catalysis: The Silver/Gold Jubilee International Conference on Organometallic Chemistry Celebratory Book*, First Edition, Edited by Armando J. L. Pombeiro, 2014, John Wiley & Sons, pp. 605–617.
3. Stepanenko, I. N.; Büchel, G. E.; Keppler, B. K.; Arion, V. B. Osmium complexes withazole heterocycles as potential antitumor drugs in *Encyclopedia of Metalloproteins* (R. H. Kretsinger, V. N. Uversky, E. A. Permyakov (Eds), Springer, New York, 2013, pp. 1596–1614.
4. Jakupec, M. A.; Galanski, M.; Arion, V. B.; Hartinger, C. G.; Keppler, B. K. Antitumour metal compounds: more than theme and variations. *Dalton Trans.* 2008, 183–194.
5. Galanski, M.; Arion, V. B.; Jakupec, M. A.; Keppler, B. K., Recent developments in the field of tumor-inhibiting metal complexes. *Curr. Pharm. Des.* 2003, 9, 2078–2089.
6. Arion, V.; Revenco, M.; Gradinaru, J.; Simonov, Yu.; Kravtsov, V.; Gerbeleu, N.V.; Saint-Aman, E., Adams, F. Mixed macrocyclic coordination compounds containing thiosemicarbazide and crown-ether moieties (Synthesis, structure and properties), *Rev. Inorg. Chem.* 2001, 21, pp. 1–42.
7. Gerbeleu, N.V.; Arion, V.B.; Burgess, J. *Template synthesis of macrocyclic compounds*, Wiley-VCH, Weinheim, 1999, 565 p.
8. Gerbeleu, N.V.; Arion, V.B. in *Complex formation and stereochemistry of coordination compounds* (Ed. by Buslaev, Yu.), Nova Science Publishers: Commack, N.Y., 1996, pp. 133–204.
9. Gerbeleu, N. V.; Arion, V. B. *Template Synthesis of Macrocyclic Compounds*, Stiintsa, Kishinev, 1990, 372 pp (in Russian).

Full papers and communications

10. Nikolić, S.; Ćirić, I.; Roller, A.; Arion, V. B.; Grgurić-Šipka, S. Conversion of hydrazides into dihydrazides in the presence of ruthenium(II)-arene complex. *New J. Chem.* 2017, in print.
11. Laguta, O. V.; El Hamzaoui, H.; Bouazaoui, M.; Arion, V. B.; Razdobreev, I. M. Magnetic circular dichroism in Bismuth-doped silica glass. *Sci. Rep.* 2017, 7:3178, doi:10.1038/s41598-017-03464-8.

12. Sîrbu, A.; Palamarciuc, O.; Babak, M. V.; Lim, J. M.; Ohui, K.; Enyedy, E. A.; Shova, S.; Darvasiová, D.; Rapta, P.; Ang, W. H.; Arion, V. B. Copper(II) thiosemicarbazone complexes induce marked ROS accumulation and promote nrf2-mediated antioxidant response in highly resistant breast cancer cells. *Dalton Trans.* 2017, 46, 3833–3847.
13. Zaltariov, M. F.; Hammerstad, M.; Arabshahi, H. J.; Jovanović K.; Richter, K. W.; Cazacu, M.; Shova, S.; Balan, M.; Andersen, N. H.; Radulović, S.; Reynisson, J.; Andersson, K. K.; Arion, V. B. New iminodiacetate-thiosemicarbazone hybrids and their copper(II) complexes are potential ribonucleotide reductase R2 inhibitors with high antiproliferative activity. *Inorg. Chem.* 2017, 56, 3532–3549.
14. Shova, S.; Cazacu, M.; Novitchi, G.; Zoppellaro, G.; Train, C.; Arion, V. B. An iron(III)-centred ferric wheel $\text{Fe}_6\{\text{Fe}_6\}$ with a siloxane-based bis-salicylidene Schiff base. *Dalton Trans.* 2017, 46, 1789–1793.
15. Bacher, F.; Dömötör, O.; Enyedy, E.A.; Filipovic, L.; Radulovic, S.; Smith, G.S.; Arion, V.B. Complex formation reactions of gallium(III) and iron(III/II) with L-proline-thiosemicarbazone hybrids: A comparative study. *Inorg. Chim. Acta* 2017, 455, 505–513.
16. Dragancea, D.; Talmaci, N.; Shova, S.; Novitchi, G.; Darvasiova, D.; Rapta, P.; Breza, M.; Galanski, M.; Kozisek, J.; Martins, N. M. R.; Martins, L.M.D.R.S.; Pombeiro, A.J.L. Vanadium(V) complexes with substituted 1,5-bis(2-hydroxybenzaldehyde)carbohydrazones and their use as catalyst precursors in oxidation of cyclohexane. *Inorg. Chem.* 2016, 55, 9187–9203.
17. Zaltariov, M.-F.; Cazacu, M.; Sacarescu, L.; Vlad, A.; Novitchi, G.; Train, C.; Shova, S.; Arion, V.B. Oxime-bridged Mn_6 clusters inserted in one-dimensional coordination polymer. *Macromolecules* 2016, 49, 6163–6172.
18. Dobrova, A.; Platzer, S.; Bacher, F.; Milunovic, M.N.M.; Dobrov, A.; Spengler, G.; Enyedy, E.A.; Novitchi, G.; Arion, V. B. Structure–antiproliferative activity studies on L-proline- and homoproline-4-N-pyrrolidine-3-thiosemicarbazone hybrids and their nickel(II), palladium(II) and copper(II) complexes. *Dalton Trans.* 2016, 45, 13427–13439.
19. Pantic, D.N.; Arandjelovic, S.; Radulovic, S.; Roller, A.; Arion, V.B.; Grguric-Sipka, S. Synthesis, characterization and cytotoxic activity of organoruthenium(II)-halido complexes with 1*H*-benzimidazole-2-carboxylic acid. *J. Organomet. Chem.* 2016, 819, 61–68.
20. Dömötör, O.; Rathgeb, A.; Kuhn, P.-S.; Popovic-Bijelic, A.; Bacic, G.; Enyedy, A. E.; Arion, V. B. Investigation of the binding of cis/trans- $[\text{MCl}_4(1\text{H-indazole})(\text{NO})]^-$ (M = Ru, Os) complexes to human serum albumin. *J. Inorg. Biochem.* 2016, 159, 37–44.
21. Kuhn, P.-S.; Meier, S. M.; Jovanović, K. K.; Sandler, I.; Freitag, L.; Novitchi, G.; González, L.; Radulović, S.; Arion, V. B. Ruthenium carbonyl complexes with azole heterocycles – synthesis, X-ray diffraction structures, DFT calculations, solution behavior, and antiproliferative activity. *Eur. J. Inorg. Chem.* 2016, 1566–1576.
22. Apeland, I. M.; Rosenberg, M. G.; Arion, V. B.; Kählig, H.; Brinker, U. H. Intermolecular reactions of a foiled carbene with carbonyl compounds: the effects of trishomocyclopropyl stabilization. *J. Org. Chem.* 2015, 80, 11877–11887; doi: 10.1021/acs.joc.5b01988.

23. Kuhn, P.-S.; Cremer, L.; Gavriluta, A.; Jovanović, K. K.; Filipović, L.; Hummer, A. A.; Büchel, G. E.; Dojčinović, B. P.; Meier, S. M.; Rompel, A.; Radulović, S.; Tommasino, J. B.; Luneau, D.; Arion, V. B. Heteropentanuclear oxalato-bridged nd-4f ($n = 4, 5$) metal complexes with NO ligand: synthesis, crystal structures, aqueous stability and antiproliferative activity. *Chem. Eur. J.* 2015, 21, 13703–13713; doi: 10.1002/chem.201502026.
24. Laguta, O.; El Hamzaoui, H.; Bouazaoui, M.; Arion, V. B.; Razdobreev, I. Magnetic circular polarization of luminescence in bismuth-doped silica glass. *Optica* 2015, 2, 663–666.
25. Cazacu, M.; Shova, S.; Soroceanu, A.; Machata, P.; Bucinsky, L.; Breza, M.; Rapta, P.; Telser, J.; Krzystek, J.; Arion, V. B. Charge and spin states in Schiff Base metal complexes with a disiloxane unit exhibiting a strong non-innocent ligand character: synthesis, structure, spectroelectrochemistry, and theoretical calculations. *Inorg. Chem.* 2015, 54, 5691–5706.
26. Bucinsky, L.; Malcek, M.; Biskupic, S., Jayatilaka, D.; Büchel, G. E.; Arion, V. B. Spin contamination analogy, Kramers pairs symmetry and spin density representations at the 2-component unrestricted Hartee-Fock level of theory. *Comp. Theor. Chem.* 2015, 1065, 27–41.
27. Bacher, F.; Dömötör, O.; Chugunova, A.; May, N.; Filipović, L.; Radulović, S.; Enyedy, É. A.; Arion, V. B. Strong effect of copper(II) coordination on antiproliferative activity of thiosemicarbazone-piperazine and thiosemicarbazone-morpholine hybrids. *Dalton Trans.* 2015, 44, 9071–9090.
28. Laguta, O.; El Hamzaoui, H.; Bouazaoui, M.; Arion, V. B.; Razdobreev, I. Anti-Stokes photoluminescence in Ga/Bi co-doped sol-gel silica glass. *Opt. Lett.* 2015, 40, 1591–1594.
29. Dank, C.; Kirchknopf, B.; Mastalir, M.; Kählig, H.; Felsinger, S.; Roller, A.; Arion, V. B.; Gstach, H. Hybrids of salicylalkylamides and Mannich bases: control of the amide conformation by hydrogen bonding in solution and in the solid state. *Molecules* 2015, 20, 1686–1711; doi: 10.3390/molecules20011686.
30. Gavriluta, A.; Claiser, N.; Tommasino, J. B.; Novitchi, G.; Druta, V.; Iasco, O.; Kuhn, P.-S.; Arion, V. B.; Luneau, D. Osmium-nitrosyl oxalate-bridged lanthanide-centred pentanuclear complexes: synthesis, crystal structures and magnetic properties. *Eur. J. Inorg. Chem.* 2015, 1616–1624.
31. Tsymbal, L. V.; Andriichuk, I. L.; Lampeka, Ya. D.; Arion, V. B. Two-dimensional coordination polymers based on pyridine-containing cations of Cu(II) and Ni(II) and 1,3,5-benzenetricarboxylate anion and their supramolecular structure. *J. Struct. Chem.* 2014, 55, 1466–1473.
32. Bacher, F.; Dömötör, O.; Kaltenbrunner, M.; Mojovic, M.; Popović-Bijelić, A.; Gräslund, A.; Ozarowski, A.; Filipović, L.; Radulović, S.; Enyedy, É. A.; Arion, V. B. Effects of terminal dimethylation and metal coordination of proline-2-formylpyridine thiosemicarbazone hybrids on lipophilicity, antiproliferative activity and hR2 RNR inhibition. *Inorg. Chem.* 2014, 53, 12595–12609.

33. Zaltariov, M.-F.; Alexandru, M.; Cazacu, M.; Shova, S.; Novitchi, G.; Train, C.; Dobrov, A.; Kirillova, M. V.; Alegria, E. C. B. A.; Pombeiro, A. J. L.; Arion, V. B. Tetranuclear copper(II) complexes with macrocyclic and open-chain disiloxane ligands as catalyst precursors for hydrocarboxylation and oxidation of alkanes and 1-phenylethanol. *Eur. J. Inorg. Chem.* 2014, 4946–4956.
34. Kuhn, P.-S.; Büchel, G.; Jovanovic, K.; Filipovic, L.; Radulovic, S.; Rapta, P.; Arion, V. B. Osmium(III)-analogues of KP1019: electrochemical and chemical synthesis, spectroscopic characterization, X-ray crystallography, hydrpolytic stability and anti-proliferative activity. *Inorg. Chem.* 2014, 53, 11130–11139.
35. Garci, A.; Dobrov, A. A.; Riedel, T.; Orhan, E.; Dyson, P. J.; Arion, V. B.; Therrien, B. Strategy to optimize the biological activity of arene ruthenium metalla-assemblies. *Organometallics* 2014, 33, 3813–3822.
36. Filak, L. K.; Kalinowski, D. S.; Bauer, T. J.; Richardson, D. R.; Arion, V. B. Effect of the piperazine unit and metal-binding site position on the solubility and anti-proliferative activity of ruthenium(II)- and osmium(II)-arene complexes of isomeric indolo[3,2-*c*]quinolone-piperazine hybrids. *Inorg. Chem.* 2014, 53, 6934–6943.
37. Bucinsky, L.; Kuckova, L.; Malcek, M.; Kozisek, J.; Biskupic, S.; Jayatilaka, D.; Büchel, G.; Arion, V. B. Picture change error in quasirelativistic electron/spin density, Laplacian and bond critical points. *Chem. Physics* 2014, 438, 37–47.
38. Dragancea, D.; Shova, S.; Enyedy, E. A.; Breza, M.; Rapta, P.; Carella, L. M.; Rentschler, E.; Dobrov, A.; Arion, V. B. Copper(II) complexes with 1,5-bis(2-hydroxybenzaldehyde)carbohydrazone. *Polyhedron* 2014, 80, 180–192.
39. Rathgeb, A.; Böhm, A.; Novak, M. S.; Gavriluta, A.; Dömötör, O.; Tommasino, J. B.; Enyedy, É. A.; Shova, S.; Meier, S.; Jakupec, M. A.; Luneau, D.; Arion, V. B. Ruthenium-nitrosyl complexes with glycine, L-alanine, L-valine, L-proline, L-serine, L-threonine, and L-tyrosine: synthesis, X-ray diffraction structures, spectroscopic and electrochemical properties, and antiproliferative activity. *Inorg. Chem.* 2014, 53, 2718–2729.
40. Razdobreev, I.; El Hamzaoui, H.; Arion, V. B.; Bouazaoui, M. Photoluminescence in Ga/Bi co-doped silica glass. *Opt. Exp.* 2014, 22, 5659–5674.
41. Alexandru, M.; Cazacu, M.; Arvinte, A.; Shova, S.; Turta, C.; Simionescu, B. C.; Dobrov, A.; Alegria, E. C. B. A.; Martins, L. M. D. R. S.; Pombeiro, A. J. L.; Arion, V. B. μ -Chlorido-bridged dimanganese(II) complexes of the Schiff base derived from [2+2] condensation of 2,6-diformyl-4-methylphenol and 1,3-bis(3-aminopropyl)tetramethyldisiloxane: Structure, Magnetism, Electrochemical Behaviour and Catalytic Oxidation of Secondary Alcohols. *Eur. J. Inorg. Chem.* 2014, 120–131.
42. Mojić, M.; Savić, A.; Bulatović, M.; Poljarević, J. M.; Miljković, D.; Sabo, T. J.; Mijatović, S.; Maksimović-Ivanić, D.; Grgurić-Šipka, S. Synthesis, X-ray structure and strong in vitro cytotoxicity of novel organoruthenium complexes. *J. Organomet. Chem.* 2014, 749, 142–149.
43. Ivanović, I.; Jovanović, K. K.; Gligorijević, N.; Radulović, S.; Arion, V. B.; Sheweshein, K. S. A. M.; Tešić, Ž. Lj. Ruthenium-arene complexes with substituted picolinato ligands: Synthesis structure, spectroscopic properties and antiproliferative activity. *J. Organomet. Chem.* 2014, 749, 343–349.

44. Dobrov, A.; Göschl, S.; Jakupec, M. A.; Popović-Bijelić, A.; Gräslund, A.; Rapta, P.; Arion, V. B. A highly cytotoxic modified paullone ligand bearing a TEMPO free-radical unit and its copper(II) complex as potential hR2 RNR inhibitors. *Chem. Commun.* 2013, 49, 10007–10009.
45. Milunovic, M. N. M.; Martins, L. M. D. R. S.; Alegria, E. C. B. A.; Pombeiro, A. J. L.; Krachler, R.; Trettenhahn, G.; Turta, C.; Shova, S.; Arion, V. B. Hexanuclear and undecanuclear iron(III) carboxylates as catalyst precursors for cyclohexane oxidation. *Dalton Trans.* 2013, 42(40), 14388–14401.
46. Primik, M. F.; Göschl, S.; Meier, S. M.; Eberherr, N.; Jakupec, M. A.; Enyedy, E. A.; Novitchi, G.; Arion, V. B. Dicopper(II) and dizinc(II) complexes with nonsymmetric dinucleating ligands based on indolo[3,2-c]quinolines: synthesis, structure, cytotoxicity and intracellular distribution. *Inorg. Chem.* 2013, 52(17), 10137–10146.
47. Bacher, F.; Enyedy, E. A.; Nagy, N. V.; Rockenbauer, A.; Bognár, G. M.; Trondl, R.; Novak, M. S.; Klapproth, E.; Kiss, T.; Arion, V. B. Copper(II) complexes with highly water-soluble L- and D-proline thiosemicarbazone conjugates as potential inhibitors of topoisomerase II α . *Inorg. Chem.* 2013, 52, 8895–8908.
48. Gavriluta, A.; Novak, M.; Tommasino, J. B.; Meier, S. M.; Jakupec, M. A.; Luneau, D.; Arion, V. B. Osmium-nitrosyl complexes with glycine, picolinic acid, L-Proline and D-Proline: synthesis, structures and antiproliferative activity. *Zeitschrift für anorganische und Allgemeine Chemie* 2013, 639, 1590–1597.
49. Arion, V. B.; Platzer, S.; Rapta, P.; Machata, P.; Breza, M.; Vegh, D.; Dunsch, L.; Telsler, J.; Shova, S.; MacLeod, T. C. O.; Pombeiro, A. J. L. Marked stabilization of redox states and enhanced catalytic activity in galactose oxidase models based on transition metal S-methylisothiosemicarbazones with –SR group in ortho-position to the phenolic oxygen. *Inorg. Chem.* 2013, 52, 7524–7540.
50. Meier, S. M.; Novak, M.; Kandioller, W.; Jakupec, M. A.; Arion, V. B.; Metzler-Nolte, N.; Keppler, B. K.; Hartinger, C. G. Identification of the structural determinants for anticancer activity of a ruthenium arene peptide conjugate. *Chem. Eur. J.* 2013, 19, 9297–9307.
51. Gavriluta, A.; Büchel, G. E.; Freitag, L.; Novitchi, G.; Tommasino, J. B.; Jeanneau, E.; Kuhn, P.-S.; González, L.; Arion, V. B.; Luneau, D. Mechanism elucidation of the cis-trans isomerization of an azole ruthenium-nitrosyl complex and its osmium counterpart. *Inorg. Chem.* 2013, 52, 6260–6272.
52. Büchel, G.; Gavriluta, A.; Novak, M.; Meier, S. M.; Jakupec, M. A.; Cuzan, O.; Turta, C.; Tommasino, J. B.; Jeanneau, E.; Novitchi, G.; Luneau, D.; Arion, V. B. Striking difference in antiproliferative activity of ruthenium- and osmium-nitrosyl complexes with azole heterocycles. *Inorg. Chem.* 2013, 52, 6273–6285.
53. Berger, M.L.; Hammerschmidt, F.; Qian, R.; Hahner, S.; Schirbel, A.; Stichelberger, M.; Schibli, R.; Yu, J.; Arion, V.B.; Woschek, A.; Öhler, E.; Zolle, I.M. [³H]Metyrapol and 4-[¹³¹I]iodometomidate label overlapping, but not identical binding sites on rat adrenal membranes. *Mol. Pharm.* 2013, 10, 1119–1130.

54. Soroceanu, A.; Cazacu, M.; Shova, S.; Turta, C.; Kožišek, J.; Gall, M.; Breza, M.; Rapta, P.; MacLeod, T.C.O.; Pombeiro, A.J.L.; Telser, J.; Dobrov, A.; Arion, V.B. Copper(II) complexes with Schiff bases containing a disiloxane unit: synthesis, structure, bonding features and catalytic activity for benzyl alcohol aerobic oxidation. *Eur. J. Inorg. Chem.* 2013, 1458–1474.
55. Bučinský, L.; Büchel, G. E.; Ponc, R.; Rapta, P.; Breza, M.; Kožišek, J.; Gall, M.; Biskupič, S.; Fronc, M.; Schiessl, K.; Cuzan, O.; Prodius, D.; Turta, C.; Shova, S.; Zając, D. A.; Arion, V.B. On the electronic structure of the *mer, trans*-[RuCl₃(1*H*-indazole)₂(NO)], a hypothetical metabolite of the antitumor drug candidate KP1019: experimental and DFT study, *Eur. J. Inorg. Chem.* 2013, 2505–2519.
56. Meier, S.M.; Hanif, M.; Adhiresan, Z.; Pichler, V.; Novak, M.; Jirkovsky, E.; Jakupec, M. A.; Arion, V. B.; Davey, C. A.; Keppler, B. K.; Hartinger, C. G. Novel metal(II) arene 2-pyridinecarbothioamides: a rationale to orally active organometallic anticancer agents. *Chem. Sci.* 2013, 4, 1837–1846.
57. Filak, L.K.; Goeschl, S.; Heffeter, P.; Ghannadzadeh Samper, K.; Egger, A.E.; Jakupec, M.A.; Keppler, B.K.; Berger, W.; Arion, V.B. Metal-arene complexes with indolo[3,2-*c*]-quinolines: effects of ruthenium vs osmium and modifications of the lactam unit on intermolecular interactions, antitumor activity, cell cycle and cellular accumulation. *Organometallics* 2013, 32, 903–914.
58. Kurzwernhart, A.; Kandioller, W.; Bächler, S.; Bartel, C.; Martić, S. Maruszak, M.; Mühlgassner, G.; Jakupec, M.; Kraatz, H.-B.; Bednarski, P. J.; Arion, V. B.; Marko, D.; Keppler, B.; Hartinger, C. Structure-activity relationships of targeted Ru(η^6 -*p*-cymene) anticancer complexes with flavonol-derived ligands. *J. Med. Chem.* 2012, 55, 10512–10522.
59. Arion, V.B.; Dobrov, A.; Göschl, S.; Jakupec, M.A.; Keppler, B.K.; Rapta, P. Ruthenium- and osmium-arene-based paullones bearing a TEMPO free-radical unit as potential anticancer drugs. *Chem. Commun.* 2012, 48, 8559–8561.
60. Milunovic, M.N.M.; Enyedy, E.A.; Nagy, N.V.; Kiss, T.; Trondl, R.; Jakupec, M.A.; Keppler, B.K.; Krachler, R.; Novitchi, G.; Arion, V.B. *L*- and *D*-proline thiosemicarbazone conjugates: coordination behavior in solution, and the effect of copper(II) coordination on their antiproliferative activity. *Inorg. Chem.* 2012, 51, 9309–9321.
61. Hummer, A.; Bartel, C.; Arion V.B.; Jakupec, M.A.; Meyer-Klaucke, W.; Geraki, T.; Quinn, P.; Mijovilovich, A.; Keppler, B.K.; Rompel, A. X-ray absorption spectroscopy of an investigational anticancer gallium(III) drug: interaction with serum proteins, elemental distribution pattern and coordination of the compound in tissue. *J. Med. Chem.* 2012, 55(11), 5601–5613.
62. Gavrish, Lampeka, Solid state structural variations in copper(II) complexes of open-chain and macrocyclic malonamide-derived ligands. *Crystal Growth Des.* 2012, 12, 4388–4396.
63. Filak, L.K.; Göschl, S.; Hackl, S.; Jakupec, M.A.; Arion, V.B. Ruthenium- and osmium-arene complexes of 8-substituted indolo[3,2-*c*]quinolones: synthesis, X-ray diffraction structures, spectroscopic properties, and antiproliferative activity. *Inorg. Chim. Acta* 2012, 2012, 393, 252–260.

64. Kainz, K.P.; Virtbauer, J.; Kaehlig, H.; Arion, V.; Donath, O.; Reznicek, G.; Huber, W.; Marian, B.; Krenn, L. Two unusual methylidenecyclopropane glucosides from *Metaxya rostrata* C. Presl. *Helv. Chim. Acta* 2012, 95, 1531–1537.
65. Ginzinger, W.; Egger, A.; Mühlgassner, G.; Arion, V.B.; Jakupec, M.A.; Galanski, M.; Berger, W.; Keppler, B.K. Water soluble cationic derivatives of indirubin, the active anticancer component from *Indigo naturalis*, *Chem. Biodiversity*, 2012, 9, 2175–2185.
66. Büchel, G.E.; Stepanenko, I.N.; Hejl, M.; Jakupec, M.A.; Keppler, B.K.; Heffeter, P.; Berger, W.; Arion, V.B. Osmium(IV) complexes with 1*H*- and 2*H*-indazoles: tautomer identity versus spectroscopic properties and antiproliferative activity. *J. Inorg. Biochem.* 2012, 113, 47–54.
67. Mühlgassner, G.; Bartel, C.; Schmid, W.F.; Jakupec, M.A.; Arion, V.B.; Keppler, B.K. Biological Activity of Ruthenium and Osmium Arene Complexes with Bidentate Paullone-based Ligands in Human Cancer Cells. *J. Inorg. Biochem.* 2012, 116, 180–187.
68. Kurzwehnart, A.; Kandioller, W.; Bartel, C.; Baechler, S.; Trondl, R.; Mühlgassner, G.; Jakupec, M.A.; Arion, V.B.; Marko, D.; Keppler, B.K.; Hartinger, C.G. Targeting the DNA-topoisomerase complex in a double-strike approach with a topoisomerase inhibiting moiety and covalent DNA binder. *Chem. Commun.* 2012, 48, 4839–4841.
69. Hanif, M.; Nazarov, A.A.; Legin, A.; Groessl, M.; Arion, V.B.; Jakupec, M.A.; Tsybin, Yu.O.; Dyson, P.; Keppler, B.K.; Hartinger, C.G. Maleimide-functionalized organometallic ruthenium anticancer agents for the delivery of cytotoxic moieties to the tumour tissue. *Chem. Commun.* 2012, 48, 1475–1477.
70. Lampeka, Ya.D.; Tsymbal, L.V.; Barna, A.V.; Shulga, Yu.L.; Shova, S.; Arion, V.B. Catenation control in the two-dimensional coordination polymers based on tritopic carboxylate linkers and azamacrocyclic nickel(II) complexes. *Dalton Trans.* 2012, 41, 4118–4125.
71. Razdobreev, I.; El Hamzaoui, H.; Bouwmans, G.; Bouazaoui, M.; Arion, V.B. Photoluminescence of sol-gel silica fiber perform doped with bismuth-containing heterotrimeric complex. *Optical Materials Express* 2012, 2, 205–213.
72. Ginzinger, W.; Mühlgassner, G.; Arion, V.B.; Jakupec, M.A.; Roller, A.; Galanski, M.; Reithofer, M.; Berger, W.; Keppler, B.K. A SAR Study of Novel Antiproliferative Ruthenium and Osmium Complexes with Quinoxalinone Ligands in Human Cancer Cell Lines. *J. Med. Chem.* 2012, 55, 3398–3413.
73. Stepanenko, I.N.; Casini, A.; Edefe, F.; Novak, M.S.; Arion, V.B.; Dyson, P.J.; Jakupec, M.A., Keppler, B.K. Conjugation of organoruthenium(II) 3-(1*H*-benzimidazol-2-yl)-pyrazolo[3,4-*b*]pyridines and indolo[3,2-*d*]benzazepines to recombinant human serum albumin: a strategy to enhance cytotoxicity in cancer cells. *Inorg. Chem.* 2011, 50(24), 12669–12679.
74. Popovic-Bijelic, A.; Kowol, C.R.; Lind, M.; Luo, J.; Himo, F.; Enyedy, E.A.; Arion, V.B.; Gräslund, A. Ribonucleotide reductase inhibition by metal complexes of 3-aminopyridine-2-carboxaldehyde thiosemicarbazone (Triapine): a combined experimental and theoretical study. *J. Inorg. Biochem.* 2011, 105, 1422–1431.

75. Stepanenko, I.N.; Novak, M.S.; Mühlgassner, G.; Roller, A.; Hejl, M.; Arion, V.B.; Jakupec, M.A.; Keppler, B.K. Organometallic 3-(1H-benzimidazol-2-yl)-pyrazolo[3,4-b]pyridines as potential anticancer agents. *Inorg. Chem.* 2011, 50, 11715–11728.
76. Mulzer, J.; Huisgen, R.; Arion, V.; Sustmann, R. 1-[(E)-2-Arylethenyl]-2,2-diphenylcyclopropanes: kinetics and mechanism of rearrangement to cyclopentenes. *Helv. Chim. Acta* 2011, 94(8), 1359–1388.
77. Su, K.-J.; Pačar, M.; Mieusset, J.-L.; Arion, V.B.; Brinker, U.H. Quest for even higher stabilized foiled carbenes. *J. Org. Chem.* 2011, 76(18), 7491–7496.
78. Scafidi-Domianello, Yu.; Legin, A.; Jakupec, M.A.; Arion, V.B.; Galanski, M.; Kukushkin, V.Yu.; Keppler, B.K. Synthesis, characterization and cytotoxic activity of novel potentially pH-sensitive non-classical platinum(II) complexes featuring 1,3-dihydroxyacetone oxime ligands. *Inorg. Chem.* 2011, 50, 10673–10681.
79. Pichler, V.; Valiahdi, S.M.; Jakupec, M.A.; Arion, V.B.; Galanski, M.; Keppler, B.K. Mono-carboxylated diaminedichloridoplatinum(IV) complexes selective synthesis, characterization, and cytotoxicity. *Dalton Trans.* 2011, 40(32), 8187–8192.
80. Büchel, G.E.; Stepanenko, I.N.; Hejl, M.; Jakupec, M.A.; Keppler, B.K.; Arion, V.B. En route to osmium analogs of KP1019: synthesis, structure, spectroscopic properties and antiproliferative activity of trans-[Os^{IV}Cl₄(Hazole)₂]. *Inorg. Chem.* 2011, 50(16), 7690–7697.
81. Enyedy, E.A.; Primik, M.F.; Kowol, C.R.; Arion, V.B.; Kiss, T.; Keppler, B.K. Interaction of Triapine and related thiosemicarbazones with iron(III/II) and gallium(III). *Dalton Trans.* 2011, 40, 5895–5905.
82. Pluemanupat, W.; Abraham, M.; Brecker, L.; Wolschann, P.; Karpfen, A.; Arion, V.B.; Widhalm, M. Synthesis and conformation of chiral biheteroaryls. *J. Org. Chem.* 2011, 76, 3222–3230.
83. Arion, V.B.; Rapta, P.; Telsler, J.; Shova, S.S.; Breza, M.; Luspai, K.; Kozisek, J. Synthesis, electronic structures, and EPR/UV-Vis-NIR spectroelectrochemistry of nickel(II), copper(II), and zinc(II) complexes with a tetradentate ligand based on S-methylisothiopsemicarbazide. *Inorg. Chem.* 2011, 50, 2918–2931.
84. Filak, L.K.; Muehlgassner, G.; Bacher, F.; Roller, A.; Galanski, M.; Jakupec, M.A.; Keppler, B.K.; Arion, V.B. Ruthenium- and osmium-arene complexes of 2-substituted indolo[3,2-c]quinolines: synthesis, structure, spectroscopic properties, and antiproliferative activity. *Organometallics* 2011, 30, 273–283.
85. Brinker, U.H.; Walla, P.; Krois, D.; Arion, V.B. Study of the structure and photochemical decomposition of azidoadamantanes entrapped in α - and β -cyclodextrin. *Eur. J. Org. Chem.* 2011, 1249–1255.
86. Hanif, M.; Meier, S.; Kandioller, W.; Bytzeck, A.; Hejl, M.; Hartinger, C.G.; Nazarov, A.A.; Arion, V.B.; Jakupec, M.A.; Dyson, P.J.; Keppler, B.K. From hydrolytically labile to hydrolytically stable Ru(II)-arene anticancer complexes with carbohydrate-derived co-ligands. *J. Inorg. Biochem.* 2011, 105, 224–231.
87. Foteeva, L.S.; Trofimov, D.A.; Kuznetsova, O.V.; Kowol, C.R.; Arion, V.B.; Keppler, B.K.; Timerbaev, A.R. A quantitative structure-activity approach for lipophilicity estimation of antitumor complexes of different metals using microemulsion electrokinetic chromatography. *J. Pharm. Biomed. Anal.* 2011, 55, 409–413.

88. Kundu, A.; Peterlik, H.; Krssak, M.; Bytzek, A.K.; Pashkunova-Maric, I.; Arion, V.B.; Helbich, T.; Keppler, B.K. Strategies for the covalent conjugation of a bifunctional chelating agent to albumin: synthesis and characterization of potential MRI contrast agents. *J. Inorg. Biochem.* 2011, 105, 250-255.
89. Pashkunova-Martic, I.; Kremser, C.; Galanski, M.; Arion, V.B.; Debbage, P.; Jaschke, W.; Keppler, B.K. Lectin-Gd loaded chitosan hydrogel nanoparticles: a new biospecific contrast agent for magnetic resonance imaging (MRI). *Molecular Imaging and Biology*, 2011, 13, 16–24.
90. Pashkunova-Martic, I.; Kremser, C.; Galanski, M.; Schluga, P.; Arion, V.B.; Debbage, P.; Keppler, B.K. Lectin conjugates as biospecific contrast agents for magnetic resonance imaging. Coupling of *Lycopersicon esculentum agglutinin* to linear water-soluble DTPA-loaded oligomers. *Molecular Imaging and Biology*, 2011, 13, 432–442.
91. Primik, M.; Göschl, S.; Jakupec, M.A.; Roller, A.; Keppler, B.K.; Arion, V.B. Structure-activity relationships of highly cytotoxic copper(II) complexes with modified indolo[3,2-c]quinoline ligands. *Inorg. Chem.* 2010, 49, 11084–11095.
92. Hrobarik, P.; Sigmundova, I.; Zahradnik, P.; Kasak, P.; Arion, V.; Franz, E.; Clays, K. Molecular engineering of benzothiazolium salts with large quadratic hyperpolarizabilities: can auxiliary electron-withdrawing groups enhance nonlinear optical responses? *J. Phys. Chem.* 2010, 114, 22289–22302.
93. Su, K.-J.; Mieusset, J.-L.; Knoll, W.; Brecker, L.; Arion, V.B.; Brinker, U.H. Efforts toward distorted spiropentanes. *J. Org. Chem.* 2010, 75, 7494–7497.
94. Razdobreev, I.; El Hamzaoui, H.; Bigot, L.; Arion, V.; Boumans, G.; Le Rouge, A. Optical properties of bismuth-doped pure silica sol-gel core photonic crystal fiber. *Optics Express* 2010, 18, 19479–19484.
95. Hanif, M.; Henke, H.; Meier, S.; Martic, S.; Labib, M.; Kandioller, W.; Jakupec, M.A.; Arion, V.B.; Kraatz, H.-B.; Keppler, B.K.; Hartinger, C.G. Is the reactivity of M(II)-arene complexes of 3-hydroxy-2(1H)-pyridones to biomolecules the anticancer activity determining parameter? *Inorg. Chem.* 2010, 49, 7957–7963.
96. Hanif, M.; Nazarov, A.A.; Hartinger, C.G.; Kandioller, W.; Jakupec, M.A.; Arion, V.B.; Dyson, P.J.; Keppler, B.K. Osmium(II) – versus Ruthenium(II)–Arene Carbohydrate-based Anticancer Compounds: Similarities and Differences. *Dalton Trans.* 2010, 39, 7345–7352.
97. Novitchi, G.; Ciornea, V.; Costes, J.-P.; Gulea, A.; Kazheva, O.N.; Shova, S.; Arion, V.B. Heterometallic Cr₂/Ag₂ 1D Polymer: Synthesis, Structure and Properties. *Polyhedron* 2010, 29, 2258–2261.
98. Scaffidi-Domianello, Yu.; Meelich, K.; Jakupec, M.A.; Arion, V.B.; Kukushkin, V.Yu.; Galanski, M.; Keppler, B.K. Novel cis- and trans-configured bis(oxime)platinum(II) complexes – synthesis, characterization, and cytotoxic activity. *Inorg. Chem.* 2010, 49, 5669–5678.
99. Widhalm, M.; Abraham, M.; Arion, V.B.; Saarsalu, S.; Maeorg, U. A modular approach to a new class of phosphinohydrazones and their use in asymmetric allylic alkylation reactions. *Tetrahedron: Asymmetry* 2010, 21, 1971–1982.

100. Enyedy, É.A.; Nagy, N.V.; Zsigó, É.; Kowol, C.R.; Arion, V.B.; Keppler, B.K.; T. Kiss, Comparative solution equilibrium study of the interactions of copper(II), iron(II) and zinc(II) with Triapine (3-aminopyridine-2-carboxaldehyde thiosemicarbazone) and related ligands. *Eur. J. Inorg. Chem.* 2010, 1717–1728.
101. Knoll, W.; Mieusset, J.-L.; Arion, V.B.; Brecker, L.; Brinker, U. 2H-Azirines from a concerted addition of alkylcarbenes to nitrile groups. *Org. Lett.* 2010, 12, 2366–2369.
102. Djinovic, V.M.; Galanski, M.; Arion, V.B.; Keppler, B.K. Synthesis and structures of novel 1-methylcytosinato-bridged (ethylenediamine)platinum(II) and platinum(III) dinuclear complexes. *Dalton Trans.* 2010, 39, 3633–3643.
103. Kasser, J.H.; Kandioller, W.; Hartinger, C.G.; Nazarov, A.A.; Arion, V.B.; Dyson, P.J.; Keppler, B.K. Mannich products of kojic acid and N-heterocycles and their Ru(II)-arene complexes: Synthesis, characterization and stability. *J. Organomet. Chem.* 2010, 695(6), 875–881.
104. Filak, L.K.; Mühlgassner, G.; Jakupec, M.A.; Heffeter, P.; Berger, W.; Arion, V.B.; Keppler, B.K. Organometallic indolo[3,2-*c*]quinolines versus indolo[3,2-*d*]benzazepines: structural and spectroscopic characterization, and biological efficacy. *Journal of Biological Inorganic Chemistry*, 2010, 15, 903–918.
105. Primik, M.F.; Mühlgassner, G.; Jakupec, M.A.; Zava, O.; Dyson, P.J.; Arion, V.B.; Keppler, B.K. Highly cytotoxic copper(II) complexes with modified paullone ligands. *Inorg. Chem.* 2010, 49, 302–311.
106. Kowol, C.R.; Trondl, R.; Arion, V.B.; Jakupec, M.A.; Lichtscheidl, I.; Keppler, B.K. Fluorescence properties and cellular distribution of the investigational anti-cancer drug Triapine (3-aminopyridine-2-carboxaldehyde thiosemicarbazone) and its zinc(II) complex. *Dalton Trans.* 2010, 39, 704–706.
107. Grgurić-Šipka, S.; Ivanović, I.; Rakić, G.; Todorović, N.; Malešević, N.; Radulović, S.; Arion, V.B.; Keppler, B.K.; Tešić, Ž.Lj. Ruthenium(II)-arene complexes with functionalized pyridines: synthesis, characterization and cytotoxic activity. *Eur. J. Med. Chem.* 2010, 45, 1051–1058.
108. Büchel, G.; Stepanenko, I.N.; Hejl, M.; Jakupec, M.A.; Arion, V.B.; Keppler, B.K. [Os^{IV}Cl₅(Hazole)]⁻ complexes: synthesis, structure, spectroscopic properties and antiproliferative activity. *Inorg. Chem.* 2009, 48, 10737–10747.
109. Kowol, C.R.; Trondl, R.; Heffeter, P.; Arion, V.B.; Jakupec, M.A.; Roller, A.; Galanski, M.; Berger, W.; Keppler, B.K. Impact of metal coordination on cytotoxicity of 3-aminopyridine-2-carboxaldehyde thiosemicarbazone (triapine) and novel insights into terminal dimethylation. *J. Med. Chem.* 2009, 52(16), 5032–5043.
110. Kandioller, W.; Hartinger, C.G.; Nazarov, A.A.; Bartel, C.; Skocic, M.; Jakupec, M.; Arion, V.B.; Keppler, B.K. Maltol-derived ruthenium-cymene complexes with tumor inhibiting properties: the impact of ligand-metal bond stability on anticancer activity. *Chemistry – A European Journal* 2009, 15, 12283–12291.
111. Kandioller, W.; Hartinger, C.G.; Nazarov, A.A.; Kuznetsov, M.L.; John, R.O.; Bartel, C.; Jakupec, M.A.; Arion, V.B.; Keppler, B.K. *Organometallics* 2009, 28(15), 4249–4251.

112. Wagner, G.; Arion, V.B.; Brecker, L.; Krantz, C.; Mieusset, J.-L.; Brinker, U.H. Controllable selective functionalization of a cavitand via solid state photolysis of an encapsulated phenyl azide. *Org. Lett.* 2009, 11(14), 3056–3058.
113. Mieusset, J.-L.; Schrems, A.; Abraham, M.; Arion, V.B.; Brinker, U.H. Stepwise insertion of carbenes into C–H bonds: the case of foiled carbenes. *Tetrahedron* 2009, 65, 765–770.
114. Wieland, M.; Su, K.-J.; Wagner, G.; Brinker, U.H.; Arion, V.B. 1,2,4,5-Tetrakis(diazomethyl)benzene. *Acta Cryst.* 2009, C65(5), o240–o242.
115. Kandioller, W.; Hartinger, C.G.; Nazarov, A.A.; Kasser, J.; John, R.; Jakupec, M.A.; Arion, V.B.; Dyson, P.J.; Keppler, B.K. Tuning the anticancer activity of maltol-derived ruthenium complexes by derivatization of the 3-hydroxy-4-pyrone moiety. *J. Organomet. Chem.* 2009, 694, 922–929.
116. Grguric-Sipka, S.; Stepanenko, I.N.; Lazic, J.M.; Bartel, C.; Jakupec, M.A.; Arion, V.B.; Keppler, B.K. Synthesis, X-ray diffraction structure, spectroscopic properties and antiproliferative activity of a novel ruthenium complex with constitutional similarity to cisplatin. *Dalton Trans.* 2009, 3334–3339.
117. Fleischer, A.; Roller, A.; Arion, V.B.; Keppler, B.K.; Mohr, F. Synthesis and structures of palladium(II) and platinum(II) complexes containing heterocyclic thiolate ligands formed by cycloaddition reactions of coordinated azides. *Can. J. Chem.* 2009, 87, 146–150.
118. Kasser, J.; Nazarov, A.A.; Hartinger, C.G.; Wdziekonski, B.; Dani, C.; Kuznetsov, M.L.; Arion, V.B.; Keppler, B.K. A one step/one pot synthesis of *N,N*-bisphosphonomethyl of amino acids and their effects on adipogenic and osteogenic differentiation of human mesenchymal stem cells. *Bioorg. Med. Chem.* 2009, 17(9), 3388–3393.
119. Cebrián-Losantos, B.; Reisner, E.; Kowol, C.R.; Roller, A.; Shova, S.; Arion, V.B.; Keppler, B.K. Synthesis and reactivity of the aquation product of the antitumor complex trans-[Ru^{III}Cl₄(indazole)₂][−]. *Inorg. Chem.* 2008, 47, 6513–6523.
120. Mieusset, J.-L.; Billing, P.; Abraham, M.; Arion, V.B.; Brecker, L.; Brinker, U.H. 2-Methoxy- Δ^3 -1,3,4-oxadiazoline, a multipurpose precursor for the generation of a carbene, an ylide, or a diazo compound. *Eur. J. Org. Chem.* 2008, 5336–5345.
121. Reithofer, M.R.; Valiahdi, S.M.; Galanski, M.; Jakupec, M.A.; Arion, V.B.; Keppler, B.K. Novel endothelium containing platinum(IV) complexes – synthesis, characterization, and cytotoxic activity. *Chemistry & Biodiversity* 2008, 5, 2160–2170.
122. Egger, A.; Cebrian-Losantos, B.; Stepanenko, I.N.; Krokhin, A.A.; Eichinger, R.; Jakupec, M.A.; Arion, V.B.; Keppler, B.K. Hydrolysis and cytotoxic properties of osmium(II)/(III)-DMSO-azole complexes. *Chemistry & Biodiversity* 2008, 5, 1588–1593.
123. Schuecker, R.; John, R.O.; Jakupec, M.A.; Arion, V.B.; Keppler, B.K. Water-soluble mixed-ligand ruthenium(II) and osmium(II) arene complexes with high antiproliferative activity. *Organometallics* 2008, 27, 6587–6595.
124. Reisner, E.; Arion, V.B.; Keppler, B.K.; Pombeiro, A.J.L. Electron-transfer activated metal-based anticancer drugs. *Inorg. Chim. Acta* 2008, 361, 1569–1583.

125. Kowol, C.R.; Reisner, E.; Chiorescu, I.; Arion, V.B.; Galanski, M.; Deubel, D.V.; Keppler, B.K. An electrochemical study of antineoplastic gallium, iron and ruthenium complexes with redox non-innocent α -N-heterocyclic chalcogenemicarbazones. *Inorg. Chem.* 2008, 47, 11032–11047.
126. Dobrov, A.; Arion, V.B.; Shova, S.; Roller, A.; Rentschler, E.; Keppler, B.K. Spontaneous resolution of a triple-stranded dinickel(II) helicate generated via intermolecular transamination reaction of S-methylisothiocarbohydrazide in the presence of Ni²⁺. *Eur. J. Inorg. Chem.* 2008, 4140–4145.
127. Berger, I.; Hanif, M.; Nazarov, A.A.; Hartinger, C.H.; John, R.; Kuznetsov, M.L.; Groessl, M.; Schmitt, F.; Zava, O.; Biba, F.; Arion, V.B.; Galanski, M.; Jakupec, M.A.; Juillerat-Jeanneret, Dyson, P.J.; Keppler, B.K. In Vitro Anticancer Activity and Biologically-Relevant Metabolization of Organometallic Ruthenium Complexes with Carbohydrate-based Ligands. *Chemistry – A European Journal* 2008, 14, 9046–9057.
128. Stepanenko, I.; Krokhin, A.A.; John, R.; Roller, A.; Arion, V.B.; Jakupec, M.A.; Keppler, B.K. Synthesis, structure, spectroscopic properties, and antiproliferative activity in vitro of novel osmium(III) complexes withazole heterocycles. *Inorg. Chem.* 2008, 47, 7338–7347.
129. Ginzinger, W.; Arion, V.B.; Giester, G.; Galanski, M.; Keppler, B.K. Synthesis and structural peculiarities of gallium complexes with novel paullone derivatives. *Central Eur. J. Chem.* 2008, 6, 340–346.
130. Mieusset, J.-L.; Bespokoev, A.; Pacar, M.; Abraham, M.; Arion, V.B.; Brinker, U.H. Intermolecular reactions of foiled carbenes with N–H bonds: evidence for an ylidic pathway. *J. Org. Chem.* 2008, 73, 6551–6558.
131. Chiorescu, I.; Deubel, D.; Arion, V.B.; Keppler, B.K. Computational electrochemistry of ruthenium anticancer agents. Unprecedented benchmarking of implicit solvation methods. *J. Chem Theory Comput.* 2008, 4, 499–506.
132. Bicker, W.; Chiorescu, I.; Arion, V.B.; Lämmerhofer, M.; Lindner, W. Contributions to chromatographic chiral recognition of permethrinic acid stereoisomers by a quinine carbamate chiral selector: evidence from X-ray diffraction, DFT computations, NMR and thermodynamic studies. *Tetrahedron: Asymmetry* 2008, 19, 97–110.
133. Reithofer, M.; Galanski, M.; Arion, V.B.; Keppler, B.K. Unprecedented twofold intramolecular hydroamination in diam(m)ine-dicarboxylatodichloridoplatinum(IV) complexes–ethane-1,2-diamine vs ammine ligands. *Chem. Commun.* 2008, 1091–1093.
134. Wang, Y.; Sturm, T.; Steurer, M.; Arion, V.B.; Mereiter, K.; Spindler, F.; Weissensteiner, W. Synthesis, coordination behavior and use in asymmetric hydrogenations of Walphos-type ligands. *Organometallics* 2008, 27, 1119–1127.
135. Habala, L.; Dworak, C.; Nazarov, A.A.; Hartinger, C.G.; Abramkin, S.A.; Arion, V.B.; Lindner, W.; Galanski, M.; Keppler, B.K. Methyl-substituted trans-1,2-cyclohexanediamines as new ligands for oxaliplatin-type complexes. *Tetrahedron* 2008, 64, 137–146.
136. Gaich, T.; Arion, V.; Mulzer, J. Synthesis of the cyclobutane moiety of providencin. *Heterocycles* 2007, 74, 855–862.

137. Reisner, E.; Arion, V. B.; Keppler, B. K.; Pombeiro, A. J. L. Electron-transfer activation of anionic ruthenium(III) anticancer drugs. From Abstracts of Papers, 234th ACS National Meeting, Boston, MA, United States, August 19-23, 2007, INOR-899.
138. Reithofer, M.; Valiahdi, S.M.; Arion, V.B.; Galanski, M.; Keppler, B.K. Novel di- and tetracarboxylatoplatinum(IV) complexes – synthesis, characterization, cytotoxic activity, and DNA platination. *J. Med. Chem.* 2007, 50, 6692–6699.
139. Schmid, W.F.; John, R.O.; Arion, V.B.; Jakupec, M.A.; Keppler, B.K. Highly antiproliferative ruthenium(II) and osmium(II) arene complexes with paullone derived ligands *Organometallics* 2007, 26, 6643–6652.
140. Schmid, W.F.; John, R.O.; Mühlgassner, G.; Hefeter, P.; Jakupec, M.A.; Galanski, M.; Berger, W.; Arion, V.B.; Keppler, B.K. Metal-based paullones as putative CDK inhibitors for targeted antitumor chemotherapy. *J. Med. Chem.* 2007, 50, 6343–6355.
141. Wang, Y.; Weissensteiner, W.; Spindler, F.; Arion, V.B.; Mereiter, K. Synthesis and use in asymmetric hydrogenations of solely planar chiral 1,2-disubstituted and 1,2,3-trisubstituted ferrocenyl diphosphines: a comparative study. *Organometallics* 2007, 26, 3530–3540.
142. El-khateeb, M.; Shawakfeh, K.; Shawakfeh, L.; Arion, V.B.; Roller, A. Indenyl complexes of ruthenium containing thiolate ligands. Structure of IndRu(dppe)SPh. *Transition Met. Chem.* 2007, 32, 523–527.
143. Kasak, P.; Arion, V.B.; Widhalm, M. (R,R,R)-Tris(2-hydroxy-1-methylethyl)- and (S,S,S)-tris(2-hydroxy-2-methylethyl)phosphine: water-soluble chiral trialkylphosphines with C₃-symmetry. *Tetrahedron Letters* 2007, 48, 5665–5668.
144. Kowol, C.R.; Eichinger, R.; Jakupec, M.A.; Galanski, M.; Arion, V.B.; Keppler, B.K. Effect of metal ion complexation and chalcogen donor identity on the antiproliferative activity of 2-acetylpyridine *N,N*-dimethyl(chalcogen)-semicarbazones. *J. Inorg. Biochem.* 2007, 101, 1946–1957.
145. Gelmboldt, V.O. Ganin, E.V.; Fonari, M.S.; Simonov, Yu.A.; Koroeva, L.V.; Ennan, A.A.; Basok, S.S.; Shova, S.; Kählig, H.-P.; Arion, V.B.; Keppler, B.K. Two new “onium” fluorosilicates, the products of interaction of fluorosilicic acid with 12-membered macrocycles: structures and spectroscopic properties. *Dalton Trans.* 2007, 2915–2924.
146. Budzisz, E.; Malecka, M.; Keppler, B.K.; Arion, V.B.; Andrijewski, G.; Krajewska, U.; Rozalski, M. Synthesis, structure, protolytic properties, alkylating and cytotoxic activity of novel platinum(II) and palladium(II) complexes with pyrazole derived ligands. *Eur. J. Inorg. Chem.* 2007, 3728–3735.
147. Grguric-Sipka, S.; Kowol, C.R.; Valiahdi, S.-M.; Eichinger, R.; Jakupec, M.A.; Roller, A.; Shova, S.; Arion V.B., Keppler, B.K. Ruthenium(II) complexes of thiosemicarbazones: the first water soluble complex with pH-dependent antiproliferative activity. *Eur. J. Inorg. Chem.* 2007, 2870–2878.
148. Cebrian-Losantos, B.; Krokhn, A.A.; Stepanenko, I.N.; Eichinger, R.; Jakupec, M.A.; Arion, V.B.; Keppler, B.K. Osmium NAMI-A analogs: synthesis, structural and spectroscopic characterization, and antiproliferative properties. *Inorg. Chem.* 2007, 46, 5023–5033.

149. Schmid, W.F.; Zorbas-Seifried, S.; John, R.O.; Arion, V.B.; Jakupec, M.A.; Roller, A.; Galanski, M.; Chiorescu, I.; Zorbas, H.; Keppler, B.K. The first ruthenium-based paullones: synthesis, X-ray diffraction structures, spectroscopic and antiproliferative properties in vitro. *Inorg. Chem.* 2007, *46*, 3645–3656.
150. Groessel, M.; Reisner, E.; Hartinger, C.G.; Eichinger, R.; Semenova, O.; Timerbaev, A.R.; Jakupec, M.A.; Arion, V.B.; Keppler, B.K. Structure-activity relationships for NAMI-A-type complexes (HL)[trans-RuCl₄L(S-dmsO)ruthenate(III)] (L = imidazole, indazole, 1,2,4-triazole, 4-amino-1,2,4-triazole, and 1-methyl-1,2,4-triazole): aquation, redox properties, protein binding, and antiproliferative activity. *J. Med. Chem.* 2007, *50*, 2185–2193.
151. Tiefenbacher, K.; Arion, V.B.; Mulzer, J. A Diels-Alder approach to (-)-ovalicin. *Angew. Chem. Int. Ed.* 2007, *46*(15), 2690–2693.
152. Su, K.-J.; Miesusset, J.-L.; Arion, V.B.; Brecker, L.; Brinker, U.H. Cope rearrangement versus a novel tandem retro-Diels-Alder reaction with role reversal. *Org. Lett.* 2007, *9*, 113–115.
153. Stepanenko, I.N.; Cebrian-Losantos, B.; Arion, V.B.; Krokhin, A.A.; Nazarov, A.A.; Keppler, B.K. The complexes [OsCl₂(azole)₂(dmsO)₂] and [OsCl₂(azole)(dmsO)₃]: synthesis, structure, spectroscopic properties and catalytic hydration of chloronitriles. *Eur. J. Inorg. Chem.* 2007, 400–411.
154. Kowol, C.R.; Berger, R.; Eichinger, R.; Roller, A.; Jakupec, M.A.; Schmidt, P. P.; Arion, V.B.; Keppler, B.K. Gallium(III) and iron(III) complexes of α -N-heterocyclic thiosemicarbazones: synthesis, characterization and cytotoxic study. *J. Med. Chem.* 2007, *50*, 1254–1265.
155. Kasak, P.; Arion, V.B.; Widhalm, M. A chiral phosphine-olefin rhodium complex as an efficient catalyst for the asymmetric conjugate addition. *Tetrahedron: Asymmetry* 2006, *17*, 3084–3090.
156. Egger, A.; Schluga, P.; Hartinger, C.G.; Arion, V.B.; Keppler, B.K. Impact of biological reductants on GMP binding of trans-[Ru^{III}Cl₄(Hind)₂] and preparation of a model nucleobase adduct. *Metal Ions in Biology and Medicine* 2006, *9*, 24–29.
157. Eichinger, R.; Kowol, C.R.; Arion, V.B.; Jakupec, M.A.; Keppler, B.K. Divergent effects of complexation with gallium(III) or iron(III) on the antitumor potency of 2-acetylpyridine-4N-dimethylthiosemicarbazone. *Metal Ions in Biology and Medicine* 2006, *9*, 30–34.
158. John, R.; Arion, V.B.; Jakupec, M.A.; Keppler, B.K. Ruthenium(II)-arene complex with heterocyclic ligands as prospective antitumor agent. *Metal Ions in Biology and Medicine* 2006, *9*, 40–45.
159. Meelich, K.; Galanski, M.; Arion, V.B.; Jakupec, M.A.; Schluga, P.; Hartinger, C.G.; Graf v. Keyserlingk, N.; Keppler, B.K. Activation of anticancer platinum complexes by tumoral acidity. *Metal Ions in Biology and Medicine* 2006, *9*, 52–58.
160. Rotenburger, C.; Galanski, M.; Arion, V.B.; Görls, H.; Weigand, W.; Keppler, B.K. Synthesis and characterization of (trans-(1R,2R)-diaminocyclohexane) platinum(II) coordinated to sulfur and selenium amino acids. *Eur. J. Inorg. Chem.* 2006, 3746–3752.

161. Rudnev, A.V.; Foteeva, L.S.; Kowol, C.; Berger, R.; Jakupec, M.A.; Arion, V.B.; Timerbaev, A.R.; Keppler, B.K. Preclinical characterization of anticancer gallium(III) complexes: solubility, stability, lipophilicity and binding to serum transport proteins. *J. Inorg. Biochem.* 2006, 100, 1819–1826.
162. Felzmann, W.; Arion, V.B.; Mulzer, J. Synthesis of a highly substituted cis-decalin: tether-controlled exo-selective trans-annular Diels-Alder (TADA) reaction. *Org. Lett.* 2006, 8, 3849–3851.
163. Sheddan, N.A.; Arion, V.B.; Mulzer, J. Effect of allylic and homoallylic substituents on cross metathesis: synthesis of prostaglandins I_{2α} and J₂. *Tetrahedron Lett.* 2006, 47, 6689–6693.
164. Meelich, K.; Galanski, M.; Arion, V.B.; Keppler, B.K. Bis(aminoalcohol)dicarboxylatoplatinum(II) complexes – elegant synthesis via ring-opening of bis(2-aminoalcoholato-κ²N,O)-platinum(II) species with dicarboxylic acids. *Eur. J. Inorg. Chem.* 2006, 2476–2483.
165. Walla, P.; Arion, V.B.; Brinker, U. Solvent- and temperature-tuned orientation of ferrocenyl azide inside β-cyclodextrin. *J. Org. Chem.* 2006, 71, 3274–3277.
166. Trettenhahn, G.; Nagl, M.; Neuwirth, N.; Arion, V.B.; Jary, W.; Pöchlauer, P.; Schmid, W. A hexanuclear iron(III) carboxylate with an [Fe₆(μ₃-O)(μ₂-OH)]¹¹⁺ core as an efficient catalyst for cycloalkane oxidation. *Angew. Chem. Int. Ed. Engl.* 2006, 45, 2794–2798; *Angew. Chem.* 2006, 118, 2860–2865.
167. Dobrov, A.; Arion, V.B.; Kandler, N.; Ginzinger, W.; Jakupec, M.A.; Rufinska, A.; Graf von Keyserlingk, N.; Galanski, M.; Kowol, C.; Keppler, B.K. The first metal-based paullone derivative with high antiproliferative activity in vitro. *Inorg. Chem.* 2006, 45, 1945–1950.
168. Jakupec, M.A.; Arion, V.B.; Kapitza, S.; Reisner, E.; Eichinger, A.; Pongratz, M.; Marian, B.; Graf von Keyserlingk, N.; Keppler, B.K. KP1019 (FFC14A) from bench to bedside: preclinical and early clinical development – an overview. *Int. J. Clin. Pharmacol. Ther.* 2005, 12, 595–596.
169. Baca, S.G.; Revenco, M.D.; Vincent, J.B.; Arion, V.B.; Gerbeleu, N.V. Heterotrinnuclear propionate of chromium(III) and iron(III) with imidazole [Cr₂FeO(O₂CC₂H₅)₆(Im)₃]NO₃: Synthesis, crystal structure and properties. *Advances in Coordination, Bioinorganic and Inorganic Chemistry*, Melnik, M.; Sima, J. and Tatarko, M. (Eds), Slovak Technical University Press, Bratislava, 2005, pp. 312–318.
170. Dragancea, D.; Arion, V.B.; Shova, S.; Rentschler, E.; Gerbeleu, N.V. Azine-bridged octanuclear copper(II) complexes assembled from one stranded ditopic thiocarbohydrazone. *Angew. Chem. Int. Ed. Engl.* 2005, 44, 7938–7942; *Angew. Chem.* 2005, 117, 8152–8156.
171. Reisner, E.; Arion, V.B.; Eichinger, A.; Kandler, N.; Giester, G.; Pombeiro, A.J.L.; Keppler, B.K. Tuning of redox properties for the design of ruthenium anticancer drugs: Part 2. Synthesis, crystal structures and electrochemistry of potentially antitumor [Ru^{III/II}Cl_{6-n}(azole)_n]^z (n = 3, 4,6) Complexes. *Inorg. Chem.* 2005, 44, 6704–6716.
172. Reisner, E.; Arion, V.B.; Rufinska, A.; Chiorescu, I.; Schmid, W.F.; Keppler, B.K. Isomeric [RuCl₂(dmsO)₂(indazole)₂] complexes: ruthenium(II)-mediated coupling reaction of acetonitrile with 1H-indazole. *Dalton Transactions* 2005, 2355–2364.

173. Jakupec, M.A.; Reisner, E.; Eichinger, A.; Pongratz, M.; Arion, V.B.; Galanski, M.; Hartinger, C.G.; Keppler, B.K. Redox-active antineoplastic ruthenium complexes with indazole: correlation of in vitro potency and reduction potential. *J. Med. Chem.* 2005, 48, 2831–2837.
174. Hartinger, C.; Nazarov, A.; Arion, V.B.; Giester, G.; Kuznetsov, M.; Galanski, M.; Keppler, B.K. 1,1'-Bis(oxazoline-2-yl)-ferrocenes: investigations on the complexation behaviour toward $[\text{Pd}(\eta^3\text{-allyl})\text{Cl}]_2$. *Eur. J. Inorg. Chem.* 2005, 1589–1600.
175. Egger, A.; Arion, V.B.; Reisner, E.; Cebrian-Losantos, B.; Shova, S.; Trettenhahn, G.; Keppler, B.K. Reactions of potent antitumor complex $\text{trans-}[\text{Ru}^{\text{III}}\text{Cl}_4(\text{indazole})_2]^-$ with DNA-relevant nucleobase and thioethers: an insight into biological action. *Inorg. Chem.* 2005, 44, 122–132.
176. Reisner, E.; Arion, V.B.; Keppler, B.K.; Pombeiro, A.J.L.; Kukushkin, V.Yu. First Data on structure-activity relations for the antitumor complexes $[\text{RuCl}_4(\text{azole})_2]^-$. *Rossiiskii Khimicheskii Zhurnal* 2004, 48, 4, 137–139.
177. Galanski, M.; Baumgartner, C.; Meelich, K.; Arion, V.B.; Fremuth, M.; Jakupec, M.A.; Schluga, P.; Hartinger, C.G.; Graf v. Keyserlingk, N.; Keppler, B.K. Synthesis, crystal structure and pH dependent cytotoxicity of (SP-4-2)-bis(2-aminoethanolato- κ^2 N,O)platinum(II) - a representative of novel pH sensitive anticancer platinum complexes. *Inorg. Chim. Acta* 2004, 357, 11, 3237–3244.
178. Galanski, M.; Yasemi, A.; Slaby, S.; Jakupec, M.A.; Arion, V.B.; Rausch, M.; Nazarov, A.A.; Keppler, B.K. Synthesis, crystal structure and cytotoxicity of new oxaliplatin analogues indicating that improvement of anticancer activity is still possible. *Eur. J. Med. Chem.* 2004, 39, 707–714.
179. Reisner, E.; Arion, V.B.; Guedes da Silva, M.F.C.; Lichtenecker, R.; Eichinger, A.; Keppler, B.K.; Kukushkin, V.Yu.; Pombeiro, A.J.L. Tuning of redox potentials for the design of ruthenium anticancer drugs – an electrochemical study of $[\text{trans-RuCl}_4\text{L}(\text{DMSO})]^-$ and $[\text{trans-RuCl}_4\text{L}_2]^-$ complexes, where L = imidazole, 1,2,4-triazole, indazole. *Inorg. Chem.* 2004, 43, 7083–7093.
180. Costes, J.-P.; Dahan, F.; Novitchi, G.; Arion, V.; Shova, S.; Lipkowski, J. Macrocyclic and open-chain $\text{Cu}^{\text{II}}\text{-4f}$ (4f = Gd^{III} , Ce^{III}) complexes with planar diamino chains: structures and magnetic properties. *Eur. J. Inorg. Chem.* 2004, 7, 1530–1537.
181. Pongratz, M.; Schluga, P.; Jakupec, M.A.; Arion, V.B.; Hartinger, C.G., Allmaier, G., Keppler, B.K. Transferrin binding and transferring-mediated cellular uptake of the ruthenium coordination compound KP1019, studied by means of AAS, ESI-MS and CD spectroscopy. *J. Anal. At. Spectrom.*, 2004, 19, 46–51.
182. Arion, V.B.; Nazarov, A.A.; Hartinger, C.G.; Giester, G.; Keppler, B.K. Crystal structure of 1-bromo-1'-[(2S)-N-(1-hydroxy-3-methylbutane-2-yl)]-ferroceneamide. *J. Appl. Organomet. Chem.* 2003, 17, 723–724.
183. Hartinger, C.; Nazarov, A.A., Chevchenko, V.; Arion, V.B.; Galanski, M.; Keppler, B.K. Synthesis, crystal structures, and electrospray ionisation mass spectrometry investigations of ether- and thioether-substituted ferrocenes. *Dalton Trans.* 2003, 15, 3098–3102.

184. Arion, V.B., Reisner, E., Fremuth, M., Jakupec, M.A., Keppler, B.K.; Kukushkin, V.Yu.; Pombeiro, A.J.L. Synthesis, X-ray diffraction structures, spectroscopic, and anti-tumor properties of isomeric (1*H*-1,2,4-triazole)Ru(III) complexes. *Inorg. Chem.* 2003, 42, 6024–6031.
185. Galanski, M.; Baumgartner, C.; Arion, V.; Keppler, B.K. Bis(2-aminobutanol)dichloroplatinum(II) complexes and their singly and doubly ring-closed butanolato species – novel prodrugs for platinum-based antitumour chemotherapy? *Eur. J. Inorg. Chem.* 2003, 2619–2625.
186. Nazarov, A.A.; Hartinger, C.G.; Arion, V.B.; Giester, G.; Keppler, B.K. Synthesis of ferrocenylglucose phosphonite and bisphosphonite: Pd(II) and Pt(II) complexes, Pd-catalyzed allylic alkylation. *Tetrahedron*, 2002, 58, 8489-8492.
187. Overgaard, J.; Rentschler, E.; Timco, G.A.; Gerbeleu, N.V.; Arion, V.; Bousseksou, A.; Tuchagues, J.P., Larsen, F.K. Multi-temperature X-ray diffraction, Mössbauer spectroscopy and magnetic susceptibility studies of a solvated mixed-valence trinuclear iron formate $[\text{Fe}_3\text{O}(\text{HCO}_2)_6(\text{NC}_5\text{H}_4\text{CH}_3)_3] \cdot 1.3(\text{NC}_5\text{H}_4\text{CH}_3)$. *J. Chem. Soc. Dalton Trans.* 2002, 15, 2981–2986.
188. Arion, V.B.; Jakupec, M.A.; Galanski, M.; Unfried, P.; Keppler, B.K. Synthesis, structure, spectroscopic and in vitro antitumour studies of a novel gallium(III) complex with 2-acetylpyridine ⁴N-dimethylthiosemicarbazone. *J. Inorg. Biochem.* 2002, 91, 298–305.
189. Hartinger, C.G.; Nazarov, A.A.; Arion, V.B.; Giester, G.; Jakupec, M.; Galanski, M.; Keppler, B.K. Novel glucose-ferrocenyl derivatives: synthesis and properties. *New J. Chem.* 2002, 26, 671–673.
190. Arion, V.B.; Kravtsov, V.Ch.; Gradinaru, J.I.; Simonov, Yu.A.; Gerbeleu, N.V.; Lipkowski, J.; Wignacourt, J.-P.; Vezin, H.; Mentre, O. Potassium-controlled synthesis of heterotopic macrocycles based on isothiosemicarbazide. *Inorg. Chim. Acta* 2002, 328, 123–133.
191. Moutet, J.-C.; Saint-Aman, E.; Ungureanu, E.-M.; Arion, V.; Gerbeleu, N.; Revenco, M. Heterodinucleating macrocyclic compounds designed for electrochemical recognition. *Electrochimica Acta* 2001, 46, 2733–2740.
192. Gradinaru, J.I.; Simonov, Yu.A.; Arion, V.B.; Bourosh, P.N.; Popovici, M.A.; Bel'skii, V.K., Gerbeleu, N.V. Synthesis, structure and spectroscopic properties of nickel(II) macrocyclic and open-chain complexes resulted from 1-phenyl-butane-1,3-dione mono-*S*-methylisothiosemicarbazone template self-condensation. *Inorg. Chim. Acta* 2001, 313, 30–36.
193. Arion, V.; Brunet, J.J.; Neibecker, D. The first crystallographic characterization of an ironcarbonyl dihydride. Single crystal structure, Mössbauer spectra and thermal behaviour of $\text{H}_2\text{Fe}(\text{CO})_2[\text{P}(\text{OPh})_3]_2$. *Inorg. Chem.* 2001, 40, 2628–2630.
194. Arion, V.B.; Kravtsov, V.Ch.; Goddard, R.; Bill, E.; Gradinaru, J.I.; Gerbeleu, N.V.; Levitschi, V.; Vezin, H.; Simonov, Yu.A.; Lipkowski, J.; Bel'skii, V.K. Oxovanadium(IV) and oxovanadium(IV)-barium(II) complexes with heterotopic macrocyclic ligands based on isothiosemicarbazide. *Inorg. Chim. Acta* 2001, 317, 33–44.
195. Arion, V.B.; Wignacourt, J.-P.; Conflant, P.; Drache, M.; Lagrenee, M.; Cousin, O.; Vezin, H.; Ricart, G.; Joppek, W.; Klein, H.-W. New metallomacrocyclic complexes based on acetamidrazone. *Inorg. Chim. Acta* 2000, 303, 228–237.

196. Gradinaru, J.; Gerbeleu, N.; Arion, V.; Simonov, Yu.; Popovici, M.; Bourosh, P. Template synthesis and structure of hexaazamacrocyclic complexes of nickel(II), copper(II), cobalt(II) and cobalt(III) based on S-alkylisothiosemicarbazide. *Russ. J. Inorg. Chem.* 2000, **45**, 533–537.
197. Arion, V.B.; Beer, P.D.; Drew, M.G.B.; Hopkins, P. Anion recognition by nickel(II) and cobalt(III) complexes with quadridentate ligands based on isothiosemicarbazide. *Polyhedron* 1999, **18**, 451–458.
198. Arion, V.B.; Bill, E.; Reetz, M.T.; Goddard, R.; Stöckigt, D.; Massau, M.; Levitsky, V. Synthesis, structure and characterization of zinc(II), copper(II), zinc(II), barium(II) and copper(II) barium(II) complexes of macrocyclic heteronucleating ligands based on isothiosemicarbazides. *Inorg. Chim. Acta* 1998, **282**, 61–70.
199. Arion, V.; Wieghardt, K.; Weyhermüller, T.; Bill, E.; Leovac, V.M.; Rufinska, A. Synthesis, structure, magnetism, and spectroscopic properties of some mono- and dinuclear nickel complexes containing noninnocent pentane-2,4-dione bis(S-alkylisothiosemicarbazionate)-derived ligands. *Inorg. Chem.* 1997, **36**, 661–669.
200. Palanchuk, S.V.; Lipkowski, J.; Arion, V.B.; Simonov, Yu.A.; Gerbeleu, N.V. Synthesis and structure of nickel(II) complexes with the amidrazone-based O,N, N, O – ligand. *J. Coord. Chem.* 1995, **21**, 884–887.
201. Reetz, M.T.; Arion, V.B.; Goddard, R.; Simonov, Yu.A., Kravtsov, V.Ch.; Lipkowski, J. Synthesis and structure of metallomacrocycles based on isothiosemicarbazides. *Inorg. Chim. Acta* 1995, **238**, 23–33.
202. Reetz, M.T.; Arion, V.B.; Trültzsch, R.; Buschmann, H.-J.; Cleve, E. Unusual complexation behaviour of metallomacrocycles based on isothiosemicarbazides with respect to alkali and alkaline earth metal ions: Novel 2:1 associates. *Chem. Ber.* 1995, **128**, 1089–1093.
203. Dvorkin, A.; Bourosh, P.; Simonov, Yu.; Arion, V.; Gradinaru, J.; Gerbeleu, N. The crystal structures of [6-nitro-12,14-dimethyl-3,9-bis(propylsulphonyl)-1,2,4,8,10,11-hexaazacyclotetradeca-2,4,6,9,12,14-hexaenato(2-)-N¹, N⁴, N⁸, N¹¹]nickel(II) and [12,14-dimethyl-3,9-bis(ethylsulphonyl)-1,2,4,8,10,11-hexaazacyclotetradeca-2,4,6,9,12,14-hexaenato(2-)-N¹, N⁴, N⁸, N¹¹]nickel(II). *Polyhedron*, 1995, **14**, 571–577.
204. Gerbeleu, N.V.; Palanchuk, S.S.; Simonov, Yu.A.; Dvorkin, A.A.; Bourosh, P.N.; Reetz, M.T.; Arion, V.B.; Töllner, K. Nickel(II) and copper(II) complexes with amidrazone-based ligands: structure and catalytic activity. *Polyhedron*, 1995, **14**, 521–527.
205. Leovac, V.M.; Jovanovic, L.S.; Ceslevic, V.I.; Bjelica, L.J.; Arion, V.B.; Gerbeleu, N.V. Transition metal complexes with the thiosemicarbazide-based ligands. XXIII. Synthesis, physicochemical properties and voltammetric characterization of iron(III) complexes with terdentate and quadridentate thiosemicarbazide derivatives. *Polyhedron*, 1994, **13**, 3005–3014.
206. Cesljevic, V. I.; Leovac, V. M.; Poleti, D.; Gerbeleu, N. V.; Arion, V. B. Transition metal complexes with thiosemicarbazide-based ligands. Part XXI. Nickel(II) complexes with acetylacetone and acetonylacetone mono- and bis(S-methylisothiosemicarbazones). *J. Serb. Chem. Soc.* 1994, **59**, 103–109.

207. Arion, V.B.; Gerbeleu, N.V.; Levitsky, V.G.; Simonov, Yu. A.; Dvorkin, A.A.; Bourosh, P.N. Template synthesis, structure and properties of a bis(macrocyclic) dinickel(II) complex based on a 14-membered hexaaza unit. *J. Chem. Soc. Dalton Trans.* 1994, 1913–1916.
208. Leovac, V.M.; Cesljevic, V.I.; Gerbeleu, N.V.; Simonov, Yu.A.; Dvorkin, A.A.; Arion, V.B. Transition metal complexes with the thiosemicarbazide based ligands. Part XII. Synthesis, structure and template reaction of ammine[2,4-pentanedione S-methylisothiosemicarbazonato(2-)]nickel(II) dihydrate. *Transition Met. Chem.*, 1993, 18, 309–311.
209. Arion, V.B.; Simonov, Yu.A.; Gerbeleu, N.V.; Dvorkin, A.A.; Gradinaru, D.I.; Malinowsky, T.I. Template synthesis and structure of pentacoordinate cobalt(III) complex with [2,4-pentanedione bis(S-methylisothiosemicarbazone)]. *Dokl. Akad. Nauk*, 1992, 325, 502–507.
210. Gerbeleu, N.V.; Arion, V.B.; Leovac, V.M.; Simonov, Yu.A.; Dvorkin, A.A.; Bourosh, P.N. Transition metal complexes with thiosemicarbazide-based ligands. Part XV. Template synthesis and structure of nickel(II) and copper(II) complexes with quadridentate N¹, N⁴-asymmetric isothiosemicarbazide. *J. Serb. Chem. Soc.* 1992, 57, 761–770.
211. Gerbeleu, N.V.; Arion, V.B.; Simonov, Yu.A.; Zavodnik, V.E.; Turta, K.I.; Stavrov, S.S.; Pasinsky, A.A.; Ellert, O.G.; Gradinaru, D.I.; Birca, M.S. Synthesis, geometrical and electronic structure of iron mononitrosyl complexes with bis(S-alkylisothiosemicarbazones) of β-dicarbonyl compounds. *Inorg. Chim. Acta* 1992, 202, 173–181.
212. Gerbeleu, N.V.; Simonov, Yu.A.; Arion, V.B.; Leovac, V.M.; Turta, K.I.; Indrichan, K.M.; Gradinaru, D.I.; Zavodnik, V.E.; Malinowsky, T.I. Transition metal complexes with thiosemicarbazide-based ligands. Part 14. Iron(IV) complexes with 2,4-pentanedione bis(S-alkylisothiosemicarbazones). Crystal and molecular structure of iodo{2,4-pentanedione bis(S-ethylisothiosemicarbazonato(3-))}iron(IV). *Inorg. Chem.* 1992, 31, 15, 3264–3268.
213. Gerbeleu, N.V.; Arion, V.B.; Indrichan, K.M.; Simonov, Yu.A. Template synthesis, structure and properties of nickel(II) coordination compounds with chelating and macrocyclic ligands based on β-diketones and S-substituted isothiosemicarbazides. In *Metal β-Diketonates*, 1991, 2, 43-54 (in Russian).
214. Palii, S.P.; Zagorevskii, D.V.; Indrichan, K.M.; Gerbeleu, N.V.; Nekrasov, Yu.S.; Arion, V.B. Mass spectrometry of transition metal coordination compounds with tetradentate ligands. *Rev. Roum. Chim.*, 1991, 36, 1045–1054.
215. Gerbeleu, N.V.; Arion, V.B.; Simonov, Yu.A.; Zavodnik, V.E.; Turta, K.E.; Stavrov, S.S.; Pasinsky, A.A.; Ellert, O.G.; Gradinaru, D.I.; Birca, M.S. Template synthesis, geometrical and electronic structure of iron nitrosyl complex with [pentan-2,4-dione bis(S-methylisothiosemicarbazone)]. *Teor. i Eksper. Khim.* 1991, 27, 376–381.
216. Minkina, L.S.; Revenco, M.D.; Kocin, S.G.; Arion, V.B.; Garnowsky, A.D.; Vasil'chenko, I.S. The polar properties of metal chelates of cis-planar tetradentate ligands based on O(S,Se)-alkylisohalcogensemicarbazides. *Koord. Khim.*, 1991, 17, 501–504.

217. Gerbeleu, N.V.; Indrichan, K.M.; Arion, V.B. Mass spectra of nickel(II) complexes with tetradentate Schiff bases of S-substituted thiosemicarbazides with pentan-2,4-dione and 3-oxo-pentan-2,4-dione. *Teor. i Eksper. Khim.*, 1991, 27, 205–211.
218. Gerbeleu, N.V.; Simonov, Yu.A.; Arion, V.B.; Zavodnik, V.E.; Gradinaru, D.I.; Indrichan, K.M. Template synthesis and structure of cobalt(III) complexes with [3-oxo-pentan-2,4-dione bis(S-alkylisothiosemicarbazones)]. *Zh. Neorg. Khim.* 1991, 36, 906–913.
219. Gerbeleu, N.V.; Gradinaru, D.I.; Arion, V.B.; Indrichan, K.M. Template synthesis of the unsymmetrical hexaazamacrocyclic nickel(II) complexes. *Zh. Neorg. Khim.* 1991, 36, 100–103.
220. Gerbeleu, N.V.; Simonov, Yu.A.; Arion, V.B.; Gradinaru, D.I.; Zavodnik, V.E.; Indrichan, K.M.; Malinowsky, T.I. Template synthesis and structure of [3,10-bis(alkylthio)-1,2,4,8 9,11-hexaazacyclotetradeca-2,4,6,9,11,13-hexaenato(2-) N¹, N⁴, N⁸, N¹¹]nickel(II). *Zh. Neorg. Khim.*, 1991, 36, 96–99.
221. Ciugureanu, D.G.; Zhovmir, F.K.; Arion, V.B.; Revenco, M.D. Spectrophotometric study of acid dissociation of polyfunctional derivatives based on thiosemicarbazide. *Zh. Obshch. Khim.*, 1990, 60, 1966–1970.
222. Palii, S.P.; Indrichan, K.M.; Gerbeleu, N.V.; Arion, V.B.; Zagorevsky, D.V.; Nekrasov, Yu. S. H-D exchange in some macrocyclic complexes of nickel(II) under electron impact. *Org. Mass Spectrom.*, 1990, 25, 151–153.
223. Simonov, Yu.A.; Gerbeleu, N.V.; Bourosh, P.N.; Arion, V.B.; Garnowsky, A.D.; Sobolev, A.N.; Alekseenko, V.A. Crystal and molecular structure of [9-(2'-tosylaminophenyl)-6-methylthio-3-acetyl-5,7,8-triazanona-3,6,8-trien-2-one]. *Zh. Strukt. Khim.*, 1990, 31, 199–202.
224. Gerbeleu, N.V.; Indrichan, K.M.; Palli, S.P.; Arion, V.B.; Timoshenko, M.M.; Chijov, Yu.V. The study of nickel(II) complexes with tetradentate ligands based on chalcogensemicarbazides by mass spectrometry and photoelectron spectroscopy. *Zh. Strukt. Khim.* 1990, 31, 77–84.
225. Gerbeleu, N.V.; Arion, V.B.; Simonov, Yu.A.; Bourosh, P.N.; Dvorkin, A.A.; Indrichan, K.M. Preparation and structure of oxovanadium(IV) and zinc(II) complexes of unsymmetrical N¹, N⁴-isothiosemicarbazides. *Zh. Neorg. Khim.* 1990, 35, 918–925 or *Russ. J. Inorg. Chem.* 1990, 35, 515–518.
226. Bourosh, P.N.; Arion, V.B.; Simonov, Yu.A.; Gerbeleu, N.V.; Malinowsky, T.I. Crystal and molecular structure of [2-butylthio-5,7,12-trimethyl-13-acetyl-1,3,4,8,11-pentaazacyclotetradeca-2,4,6,12,14-pentaenato(2-) N¹, N⁴, N⁸, N¹¹] nickel(II). *Zh. Strukt. Khim.*, 1990, 31, 180–183.
227. Gerbeleu, N.V.; Arion, V.B.; Simonov, Yu.A.; Bourosh, P.N.; Malinowsky, T.I.; Indrichan, K.M.; Garnowsky, A.D.; Alekseenko, V.A. Synthesis and structure of nickel(II) and copper(II) complexes of S-methylisothiosemicarbazide derivative - quadridentate N₃O ligand. *Zh. Neorg. Khim.* 1990, 35, 77–81 or *Russ. J. Inorg. Chem.* 1990, 35, 42–45.
228. Garnowsky, A.D.; Gerbeleu, N.V.; Kocin, S.G.; Minkina, L.S.; Vasil'chenko, I.S.; Arion, V.B.; Indrichan, K.M. Chemistry of 3d metal complexes with ligands based on thio- and selenoderivatives of o-oxybenzaldehydes. Copper(II) chelate with S-methyl-N¹, N⁴-di(thiosalicylidene)isothiosemicarbazide. *Koord. Khim.* 1989, 15, 1330–1333.

229. Bourosh, P.N.; Simonov, Yu.A.; Arion, V.B.; Sobolev, A.N.; Gerbeleu, N.V.; Pakhopol, V.S. Crystal structures of [9-(2'-hydroxyphenyl)-6-propylthio-3-acetyl-5,7,8-triazanona-3,6,8-trien-2-one] and [9-(2'-oxyphenyl)-6-allylthio-3-acetyl-2-one-5,7,8-triazanona-3,6,8-trienato(-)-2'-olato(-) O, O', N⁵, N⁸]copper(II). *Krystallografiya* 1989, 34, 637–641.
230. Indrichan, K.M.; Palii, S.P.; Zagorevsky, D.V.; Gerbeleu, N.V.; Nekrasov, Yu.S.; Arion, V.B. Mass spectrometry study of oxovanadium(IV), cobalt(II), nickel(II), copper(II) and zinc(II) complexes of ligands derived from S-substituted isothiosemicarbazides, salicylaldehyde and 3-formylacetylacetone. *Izv. Akad. Nauk SSSR. Ser. khim.* 1989, 10, 2248–2256.
231. Garnowsky, A.D.; Gerbeleu, N.V.; Kocin, S.G.; Arion, V.B.; Minkina, L.S.; Indrichan, K.M.; Vasil'chenko, I.S.; Revenco, M.D. Complexes with chalcogen atoms in ligand surrounding: metal chelates of azomethines derived from thio(seleno)salicylaldehyde. *Dokl. Akad. Nauk SSSR* 1989, 306, 872–875.
232. Gerbeleu, N.V.; Yampol'skaya, M.A.; Shova, S.G.; Birca, M.S.; Simonov, Yu.A.; Turta, K.I.; Spataru, F.A.; Arion, V.B.; Dvorkin, A.A. Iron(III) complexes of unsymmetrical N¹, N⁴-disubstituted S-methylisothiosemicarbazide. *Zh. Neorg. Khim.* 1989, 34, 877–883.
233. Gerbeleu, N.V.; Kogan, V.A.; Arion, V.B.; Lukov, V.V.; Indrichan, K.M. Nickel(II) and copper(II) complexes of hexaazamacrocyclic ligand based on [nitromalondialdehyde bis(S-methylisothiosemicarbazone)]. *Zh. Neorg. Khim.* 1989, 34, 107–111.
234. Simonov, Yu.A.; Bourosh, P.N.; Arion, V.B.; Mazus, M.D.; Gerbeleu, N.V. Crystal structure of nickel(II) complex of 14-membered macroheterocycle based on S-methylisothiosemicarbazide. *Krystallografiya* 1988, 33, 1535–1537.
235. Gerbeleu, N.V.; Garnowsky, A.D.; Arion, V.B.; Bourosh, P.N.; Simonov, Yu.A.; Alekseenko, V.A.; Indrichan, K.M.; Khokhlov, A.V. Synthesis and structure of nickel(II), copper(II) and cobalt(II) complexes of tetradentate unsymmetrical Schiff base. *Zh. Neorg. Khim.* 1988, 33, 1781–1788.
236. Gerbeleu, N.V.; Simonov, Yu.A.; Revenco, M.D.; Arion, V.B.; Pakhopol, V.S.; Bourosh, P.N.; Indrichan, K.M.; Palii, S.P. Template synthesis and structure of nickel(II) complexes with tetradentate unsymmetrical ligands. *Koord. Khim.* 1988, 14, 806–812.
237. Kocin, S.G.; Arion, V.B.; Minkina, L.S.; Garnowsky, A.D.; Gerbeleu, N.V.; Indrichan, K.M. Nickel(II) complexes with N₂S₂ and N₂OS ligands derived from S-methylisothiosemicarbazide and o-mercaptobenzaldehyde. *Zh. Obshch. Khim.* 1988, 58, 574–577.
238. Gerbeleu, N.V.; Arion, V.B.; Indrichan, K.M. Nickel(II) complexes of pentaazamacrocyclic ligands. *Zh. Neorg. Khim.* 1988, 33, 385–390 or *Russ. J. Inorg. Chem.* 1988, 33, 214–217.
239. Gerbeleu, N.V.; Arion, V.B.; Indrichan, K.M. Nickel(II) complexes of quadridentate chelating and macrocyclic ligands based on acetylacetone and S-methyliselenosemicarbazide. *Zh. Neorg. Khim.* 1988, 33, 107–112 or *Russ. J. Inorg. Chem.* 1988, 33, 59–62.

240. Simonov, Yu.A.; Gerbeleu, N.V.; Bourosh, P.N.; Arion, V.B.; Revenco, M.D.; Pakhopol, V.S.; Malinowsky, T.I. Template synthesis, crystal and molecular structure of [9-(2'-oxyphenyl)-6-methylthio-3-acetyl-2-one-5,7,8-triazanona-3,6,8-trienato(-)-2'-olato(-) O, O', N⁵, N⁸]nickel(II). *Dokl. Akad. Nauk SSSR* 1987, 297, 608–612.
241. Popov, M. S.; Konunova, Ts. B.; Ivanov, N. V.; Arion, V. B. Ed. By Barba N. A. Zirconium(IV) and hafnium(IV) complexes with vinylmandelic acid. From *Sint. Fiz.-Khimicheskoe Issled. Koord. Polim. Soedin.* 1986, 14–16.
242. Simonov, Yu.A.; Gerbeleu, N.V.; Bourosh, P.N.; Arion, V.B.; Dvorkin, A.A.; Malinowsky, T.I. Structure of [3,10-bis(propylthio)-5,7,12,14-tetramethyl-1,2,4,8,9,11-hexaaza-cyclotetradeca-2,4,6,9,11,13-hexaenato(2-) N¹, N⁴, N⁸, N¹¹] nickel(II). *Dokl. Akad. Nauk SSSR* 1986, 288, 1107–1111.
243. Arion, V.B.; Gerbeleu, N.V.; Indrichan, K.M. Template synthesis and study of nickel(II) complexes of tetradentate ligands based on S-alkylisothiosemicarbazides and pentan-2,4-dione. *Zh. Neorg. Khim.* 1986, 31, 126–130.
244. Gerbeleu, N.V.; Arion, V.B.; Indrichan, K.M. Template synthesis and study of new type of nickel(II) hexaazamacrocyclic complexes. *Zh. Neorg. Khim.* 1985, 30, 3124–3129.
245. Gerbeleu, N.V.; Arion, V.B.; Indrichan, K.M. Template synthesis and study of nickel(II) complexes with [pentan-2,4-dione bis(S-methylisothiosemicarbazone)] and [3-oxo-pentan-2,4-dione bis(S-methylisothiosemicarbazone)]. *Zh. Neorg. Khim.* 1985, 30, 2833–2837.
246. Gerbeleu, N.V.; Simonov, Yu.A.; Arion, V.B.; Shova, S.G.; Malinowsky, T.I. Template synthesis, crystal and molecular structure of [2,10-bis(methylthio)-5,7,14-trimethyl-13-acetyl-1,3,4,8,9,11-hexaazacyclotetradeca-2,4,6,9,12,14-hexaenato(2-) N¹, N⁴, N⁸, N¹¹]nickel(II). *Dokl. Akad. Nauk SSSR* 1985, 283, 633–637.
247. Shova, S.G.; Simonov, Yu.A.; Arion, V.B.; Revenco, M.D.; Malinowsky, T.I. Crystal structure of S-methylisothiosemicarbazidium nitrate. *Dokl. Akad. Nauk SSSR* 1985, 282, 1142–1146.
248. Simonov, Yu.A.; Bel'sky, V.K.; Gerbeleu, N.V.; Shova, S.G.; Arion, V.B. Crystal and molecular structure of {2,4-pentanedione bis[S-methylisothiosemicarbazonato(2-)]}nickel(II) iodide. *Dokl. Akad. Nauk SSSR* 1985, 282, 620–624.
249. Arion, V.B.; Gerbeleu, N.V.; Indrichan, K.M. Iron(II), nickel(II), copper(II) and zinc(II) complexes of acetylacetonone bis-thiosemicarbazone. *Zh. Neorg. Khim.* 1985, 30, 126–130.
250. Gerbeleu, N.V.; Turta, K.I.; Canic, V.M.; Arion, V.B. Iron(III) complexes of salicylaldehyde S-methylisothiosemicarbazone. *Koord. Khim.* 1980, 6, 446–450.

Patents

1. Patent USSR SU1146305 A1 19850323. Nickel(II) complexes with pentane-2,4-dione bis(S-alkyl- or S-benzyl-thiosemicarbazones) and method of their synthesis. N.V. Gerbeleu, V.B. Arion, K.M. Indrichan. *Byull. Izobret.* 1985, N° 11.
2. Patent USSR SU1169973 A1 19850730 A1 19850730. Nickel(II) complexes with tetradentate hexaazamacrocyclic ligands based on thiosemicarbazide and pentane-2,4-dione and method of their synthesis. *Byull. Izobret.* 1985, N° 28.

3. Patent USSR SU1249020 A1 19860807. [2-Alkylthio-5,7,12-trimethyl-13-acetyl-1,3,4,8,11-pentaazacyclotetradeca-2,4,6,12,14-pentaenato(2-)-N¹, N⁴, N⁸, N¹¹]nickel(II)./N.V. Gerbeleu, V.B. Arion, K.M. Indrichan. *Byull. Izobret.* 1986, N° 21.