Peer-Reviewed Journal Publications

Dr. (RUS) Sergei Ivlev

Last updated: November 2026

1. M. R. Buchner, D. F. Bekiş, S. I. Ivlev
Bridging preferences in heteroleptic beryllium phenyl halide complexes
Dalton Trans., **2026**, *55*, *41*, 14676–14680. DOI: 10.1039/d6dt02291j.

2. A. L. Opper, D. Baran, S. I. Ivlev, E. Meggers
Diastereoselective Access to Stereogenic-at-Iron Catalysts with Chiral N-Heterocyclic Carbene Ligands
Organometallics, **2026**, *accepted*. DOI: 10.1021/acs.organomet.6c00321.

3. B. F. Ali, M. Al-Refai, E. Al-Masri, A. Geyer, S. I. Ivlev, N. Aljaar, A. Shuaib
Crystal structure, crystal supramolecularity and Hirshfeld surface analysis of 1,2-dihydro-2-oxopyridine-3-carbonitrile derivatives
Chem. Data Collect., **2026**, *66*, 101269. DOI: 10.1016/j.cdc.2026.101269.

4. D. Baran, F. Jakobi, T. J. B. Zähringer, M. Villa, S. I. Ivlev, P. Ceroni, E. Meggers
Highly Efficient Iron-Catalyzed Asymmetric Hydrosilylation: Photo-acceleration and Positive Non-linear Effect
ACS Catal., **2026**, *16*, *17*, 17514–17524. DOI: 10.1021/acscatal.6c05275.

5. S. I. Ivlev, M. Conrad, C. Wolf, F. Kraus
Refinement of the crystal structure of UOs_2 from single-crystal X-ray diffraction data
IUCrData, **2026**, *11*, *7*, x260691. DOI: 10.1107/S2414314626006917.

6. C. H. Ip, S. Ivlev, U. Koert
Total Synthesis of Voratin C: Formation of the [6,5]-Spiroketal Core through Acid-Mediated Epoxide Cascade Opening
Org. Lett., **2026**, *28*, *28*, 8934–8938. DOI: 10.1021/acs.orglett.6c02323.

7. F. Möller, N. Demirel, T. Krüger, L. Plohnke, J. Schröder, S. I. Ivlev, E. Meggers
Chiral Pyrazolinylidene Complexes for Asymmetric Catalysis
Chem. – Eur. J., **2026**, *32*, *39*, e71426. DOI: 10.1002/chem.71426.

8. B. Zhou, Y. Zheng, X. Xie, M. Hemming, S. I. Ivlev, E. Meggers
Asymmetric Iron-Catalyzed Vicinal C(sp^3)–H Diamination of Carboxylic Acids
Angew. Chem. Int. Ed., **2026**, *65*, 32, e4041858. DOI: 10.1002/anie.4041858.
Angew. Chem., **2026**, *138*, 32, e4041858. DOI: 10.1002/ange.4041858.

9. L. Hinterlang, S. I. Ivlev, E. Meggers
Imidazol-2-ylidene-Based NCCN Ligands for Chiral-at-Iron Catalysis
Organometallics, **2026**, *45*, *12*, 1428–1436. DOI: 10.1021/acs.organomet.6c00132.

10. S. Anhäuser, A. M. Valencia, S. I. Ivlev, M. Zeplichal, A. Terfort, C. Cocchi, G. Witte
Beyond the Edge: Charge-Transfer Excitons in Organic Donor-Acceptor Cocrystals
Adv. Funct. Mater., **2026**, *36*, *37*, e30499. DOI: 10.1002/adfm.202530499.

11. S. Ringelband, J. Pfeiffer, H. Günther, S. Ivlev, F. Tambornino
Polymorphism in Tetramethylammonium Selenocyanate – Crystal Structures of α-, β-, and γ-[NMe_4][SeCN]
Z. Anorg. Allg. Chem., **2026**, *652*, *5,* e202500182. DOI: 10.1002/zaac.202500182.

12. L. Hinterlang, N. Demirel, S. I. Ivlev, E. Meggers
An Achiral Tetradentate Cis-α-Coordinating NCCN Ligand Gives Rise to a Configurationally Stable Chiral-at-Iron Complex for Enantioselective Catalysis
Chem. – Eur. J., **2026**, *32*, *3*, e03221. DOI: 10.1002/chem.202503221.

13. K. Dollberg, S. Seus, M. Knieling, F. Färber, R.-M. Richter, J. D. Nitzsche, K. Mészáros, S. Ivlev, F. Weigend, C. von Hänisch
Synthesis of Lewis Acid-Base Adducts Between PCO^- and Group 13 Lewis Acids
Z. Anorg. Allg. Chem., **2026**, *652*, *1*, e202500155. DOI: 10.1002/zaac.202500155.

14. F. Debbeler, D. Jenisch, C. Souilah, P. Moths, S. Ivlev, A. Casitas
Experimental Electrochemical Potentials of Iodine (III) Reagents
Synthesis, **2025**, *57*, *20*, 2946–2962. DOI: 10.1055/a-2650-7789.

15. S.-Y. Yao, M. Villa, Y. Zheng, A. Fiorentino, B. Ventura, S. I. Ivlev, P. Ceroni, E. Meggers
Cobalt catalyst with exclusive metal-centered chirality for asymmetric photocatalysis
Nat. Commun., **2025**, *16*, 6635. DOI: 10.1038/s41467-025-61727-9.

16. A. L. Opper, X. Nie, S. I. Ivlev, E. Meggers
Chiral β-Lactams by Ruthenium-Catalyzed Enantioselective C–H Carbene Insertion
Eur. J. Org. Chem., **2025**, *28*, *20*, e202500076. DOI: 10.1002/ejoc.202500076.

17. D. Scharf, C. M. Jaschke, S. Ivlev, U. Koert
Synthesis of Functionalized Cyclooctynes as Building Blocks for Non-covalent Surface-Orthogonal Chemistry
Eur. J. Org. Chem., **2025**, *28*, *18*, e202500124. DOI: 10.1002/ejoc.202500124.

18. T. Zimmer, S. I. Ivlev, A. Geyer
Synthesis of β,β-Dinaphthyl Amino Acids: Towards Molecular Gearing in Peptides and Mini-Proteins
Chem. – Eur. J., **2025**, *31*, *25*, e202404465. DOI: 10.1002/chem.202404465.

19. C. Souilah, S. A. V. Jannuzzi, F. J. Becker, D. Demirbas, D. Jenisch, S. Ivlev, X. Xie, S. Peredkov, C. Lichtenberg, S. DeBeer, A. Casitas
Synthesis of Iron(IV) Alkynylide Complexes and Their Reactivity to Form 1,3-Diynes
Angew. Chem. Int. Ed., **2025**, *64*, *10*, e202421222. DOI: 10.1002/anie.202421222.
Angew. Chem., **2025**, *137*, *10*, e202421222. DOI: 10.1002/ange.202421222.

20. N. Demirel, P. Moths, X. Xie, S. I. Ivlev, E. Meggers
Development of Chiral-At-Ruthenium Mesoionic Carbene Catalysts
Chem. – Eur. J., **2025**, *31*, *12*, e202403792. DOI: 10.1002/chem.202403792.

21. B. Buchberger, N. Demirel, X. Xie, S. I. Ivlev, E. Meggers
Coordination-induced axial chirality controls the metal-centred configuration in a stereogenic-at-iron catalyst
Chem. Commun., **2025**, *61*, *9*, 1894–1897. DOI: 10.1039/d4cc06227b.

22. E. K. Albrecht, T. Graubner, S. I. Ivlev, E.-L. Rautama, M. Karppinen, F. Kraus, A. J. Karttunen
Low-Temperature Single-Crystal Structure and Phonon Properties of A-Site Ordered Double Perovskite $CaMnTi_2O_6$
ChemistrySelect, **2024**, *9*, *37*, e202402132. DOI: 10.1002/slct.202402132.

23. N. Demirel, M. Dawor, G. Nadler, S. I. Ivlev, E. Meggers
Stereogenic-at-iron mesoionic carbene complex for enantioselective C–H amidation
Chem. Sci., **2024**, *15*, *38*, 15625–15631. DOI: 10.1039/d4sc03504f.

24. D. F. Bekiş, L. R. Thomas-Hargreaves, S. I. Ivlev, M. R. Buchner
Multinuclear beryllium amide and imide complexes: structure, properties and bonding
Dalton Trans., **2024**, *53*, *37*, 15551–15564. DOI: 10.1039/d4dt02269f.

25. B. Zhou, M. I. Ih, S. Yao, M. Hemming, S. I. Ivlev, S. Chen, E. Meggers
β^3-Tryptophans by Iron-Catalyzed Enantioselective Amination of 3-Indolepropionic Acids
Org. Lett., **2024**, *26*, *39*, 8361–8365. DOI: 10.1021/acs.orglett.4c03130.

26. M. R. Buchner, M. Müller, S. I. Ivlev
Multinuclear Beryllium Chloro Carboxylates
Inorg. Chem., **2024**, *63*, *38*, 17901–17906. DOI: 10.1021/acs.inorgchem.4c03103.

27. T. Graubner, S. S. Rudel, S. I. Ivlev, A. J. Karttunen, F. Kraus
Uranium Cyanides from Reactions in Liquid Ammonia Solution
Eur. J. Inorg. Chem., **2024**, *27*, *16*, e202400041. DOI: 10.1002/ejic.202400041.

28. M. R. Buchner, L. K. Kreuzer, L. R. Thomas-Hargreaves, M. Müller, S. I Ivlev, G. Frenking, S. Pan
Mono-*Ortho*-Beryllated Carbodiphosphoranes: Synthesis, Structure, Bonding and Reactivity
Chem. – Eur. J., **2024**, *30*, *30*, e202400966. DOI: 10.1002/chem.202400966.

29. B. F. Ali, M. Al-Refai, E. Al-Masri, A. Shtaiwi, N. Aljaar, A. Geyer, S. I. Ivlev
Two isomorphous series of 2′-(2,5-dichlorothiophene-3-carbonyl)-1′-(aryl)-1′,2′,5′,6′,7′,7a'-hexahydrospiro[indoline-3,3′-pyrrolizin]-2-one derivatives: X-ray structures, intermolecular interactions, Hirshfeld analysis and molecular docking
J. Mol. Struct., **2024**, *1302*, 137395. DOI: 10.1016/j.molstruc.2023.137395.

30. W. Augustinov, M. Müller, L. R. Thomas-Hargreaves, S. I. Ivlev, M. R. Buchner
Synthesis and derivatives of beryllium triflate
Inorg. Chem., **2024**, *63*, *11*, 5208–5219. DOI: 10.1021/acs.inorgchem.4c00198.

31. X. Nie, C. W. Ritter, M. Hemming, S. I. Ivlev, X. Xie, S. Chen, E. Meggers
Nitrene-Mediated Enantioselective Intramolecular Olefin Oxyamination to Access Chiral γ-Aminomethyl-γ-Lactones
Angew. Chem. Int. Ed., **2023**, *62*, *51*, e202314398. DOI: 10.1002/anie.202314398.
Angew. Chem., **2023**, *135*, *51*, e202314398. DOI: 10.1002/ange.202314398.

32. P. Xiong, S. I. Ivlev, E. Meggers
Photoelectrochemical asymmetric dehydrogenative [2 + 2] cycloaddition between C–C single and double bonds via the activation of two C(sp^3)–H bonds
Nat. Catal., **2023**, *6*, 1186–1193. DOI: 10.1038/s41929-023-01050-y.

33. M. Al-Refai, B. F. Ali, E. K. Al-Masri, I. A Mansi, N. Aljaar, B. Abu-Irmaileh, A. Geyer, S. I. Ivlev
Synthesis, characterization, antibacterial activity and cytotoxicity of (1′R,2′S,7a′S)-2′-(2,5-dichlorothiophene-3-carbonyl)-1′-(aryl)-1′,2′,5′,6′,7′,7a′-hexahydrospiro[indoline-3,3′-pyrrolizin]-2-one derivatives
J. Heterocycl. Chem., **2023**, *60*, *12*, 2009–2022. DOI: 10.1002/jhet.4732.

34. P. Andreetta, R. T. Martin, C. Souilah, Á. Rentería-Gómez, Z. Song, Y. K. Bayat, S. Ivlev, O. Gutierrez, A. Casitas
Experimental and Computational Studies on Cobalt(I)-Catalyzed Regioselective Allylic Alkylation Reactions
Angew. Chem. Int. Ed., **2023**, *62*, *46*, e202310129. DOI: 10.1002/anie.202310129.
Angew. Chem., **2023**, *135*, *46*, e202310129. DOI: 10.1002/ange.202310129.

35. M. R. Buchner, L. R. Thomas-Hargreaves, C. Berthold, D. F. Bekiş, S. I. Ivlev
A Preference for Heterolepticity - *Schlenk* Type Equilibria in Organometallic Beryllium Systems
Chem. – Eur. J., **2023**, *29*, *60*, e202302495. DOI: 10.1002/chem.202302495.

36. M. R. Buchner, S. I. Ivlev
Steric Influence on the Constitution of Beryllium Phosphine Complexes
Eur. J. Inorg. Chem., **2023**, *26*, *29*, e202300199. DOI: 10.1002/ejic.202300199.

37. C. Berthold, M. Müller, S. I. Ivlev, D. M. Andrada, M. R. Buchner
Gauging ambiphilicity of pseudo-halides via beryllium-trispyrazolylborato compounds
Dalton Trans., **2023**, *52*, *38*, 13547–13554. DOI: 10.1039/d3dt02857g.

38. D. Baran, L. Hinterlang, S. I. Ivlev, E. Meggers
Design of Stereogenic-at-Iron Catalysts with a (3+2+1)-Ligand Sphere
Eur. J. Inorg. Chem., **2023**, *26*, *23*, e202300148. DOI: 10.1002/ejic.202300148.

39. F. Han, Y. Xie, X. Xie, S. I. Ivlev, E. Meggers
Chiral-at-Ru Catalyst with Cyclometalated Imidazo[1,5-a]pyridin-ylidene for Enantioselective

Intramolecular Cyclopropanations
Synlett, **2023**, *34*, *12*, 1403–1408. DOI: 10.1055/s-0042-1751372.

40. P. S. Steinlandt, M. Hemming, X. Xie, S. I. Ivlev, E. Meggers
Trading Symmetry for Stereoinduction in Tetradentate, non-C_2-Symmetric Fe(II)-Complexes for Asymmetric Catalysis
Chem. – Eur. J., **2023**, *29*, *32*, e202300267. DOI: 10.1002/chem.202300267.

41. J. Bandemehr, M. Atanasov, S. V. Rao, F. Neese, C. Pietzonka, S. I. Ivlev, F. Kraus
Exchange Interactions and Magnetic Properties of a Molecular Mn_{18}-Ring Complex
Chem. – Eur. J., **2023**, *29*, *30*, e202203449. DOI: 10.1002/chem.202203449.

42. M. R. Buchner, D. Ćoćić, S. I. Ivlev, N. Spang, M. Müller, R. Puchta
Ligand exchange at tetra-coordinated beryllium centres
Dalton Trans., **2023**, *52*, *16*, 5287–5296. DOI: 10.1039/d3dt00713h.

43. D. F. Bekiş, L. R. Thomas-Hargreaves, C. Berthold, S. I. Ivlev, M. R. Buchner
Structure and spectroscopic properties of etherates of the beryllium halides
Z. Naturforsch., B: J. Chem. Sci., **2023**, *78*, *3–4*, 165–173. DOI: 10.1515/znb-2023-0303.

44. C. Schneider, S. Ivlev, C. G. Werncke
A Series of Low-Coordinate Iron Selenido Complexes: Reactivity of a Linear Iron(I) Silylamide towards Selenium
Eur. J. Inorg. Chem., **2023**, *26*, *8*, e202200706. DOI: 10.1002/ejic.202200706.

45. E. Al-Masri, M. Al-Refai, H. T Al-Masri, B. F. Ali, S. Makhseed, L. Salah, B. Ghazal, A. Geyer, S. I. Ivlev, M. Abu-Sini
Synthesis, characterization, crystal structure, and fluorescence behavior of new 4-aryl-6-(2, 5-dichlorothiophen-3-yl)-2-methylpyridine-3-carbonitrile derivatives
J. Mol. Struct., **2023**, *1271*, 134034. DOI: 10.1016/j.molstruc.2022.134034.

46. N. Demirel, J. Haber, S. I Ivlev, E. Meggers
Improving the Configurational Stability of Chiral-at-Iron Catalysts Containing Two N-(2-Pyridyl)-Substituted N-Heterocyclic Carbene Ligands
Organometallics, **2022**, *41*, *24*, 3852–3860. DOI: 10.1021/acs.organomet.2c00492.

47. X. Nie, C.-X. Ye, S. I. Ivlev, E. Meggers
Nitrene-Mediated C−H Oxygenation: Catalytic Enantioselective Formation of Five-Membered Cyclic Organic Carbonates
Angew. Chem. Int. Ed., **2022**, *61*, 48, e202211971. DOI: 10.1002/anie.202211971.
Angew. Chem., **2022**, *134*, 48, e202211971. DOI: 10.1002/ange.202211971.

48. S. S. Rudel, H. L. Deubner, T. G. Müller, T. Graubner, S. I. Ivlev, F. Kraus
$[U(NH_3)_{10}]^{4+}$ Cations in Azide, Bromide, and Iodide Ammoniates and a Hydrolysis Product with an unprecedented $[U(H_2O)_9]^{4+}$ Cation
Z. Anorg. Allg. Chem., **2022,** *648, 21*, e202200211. DOI: 10.1002/zaac.202200211.

49. D. Bischof, M. W. Tripp, S. I. Ivlev, U. Koert, G. Witte
Solvent Polarity Influenced Polymorph Selection of Polar Aromatic Molecules
Cryst. Growth Des., 2022, 22, 12, 6857–6862. DOI: 10.1021/acs.cgd.2c01069.

50. T. Roider, O. A. Kleykamp, S. I. Ivlev, R. W. Hoffmann, U. Tallarek
Catalyst-Free Indirect C−F Activation of 3-Perfluoroalkyl Indoles
Eur. J. Org. Chem., **2022**, *38*, e202201025. DOI: 10.1002/ejoc.202201025.

51. S. Inacker, J. Fanelli, S. I. Ivlev, N. A. Hampp
Intramolecular Coumarin-Dimer Containing Polyurethanes: Optical Tuning via Single- and Two-Photon Absorption Processes
Macromolecules, **2022**, *55*, *19*, 8461–8471. DOI: 10.1021/acs.macromol.2c01374.

52. F. Han, P. H. Choi, C.-X. Ye, Y. Grell, X. Xie, S. I. Ivlev, S. Chen, E. Meggers
Cyclometalated Chiral-at-Ruthenium Catalyst for Enantioselective Ring-Closing C(sp3)–H

Carbene Insertion to Access Chiral Flavanones
ACS Catal., **2022**, *12*, *16*, 10304–10312. DOI: 10.1021/acscatal.2c02423.

53. M. R. Buchner, N. Spang, S. I. Ivlev
Hydrolysis and oxidation products of phosphine adducts to beryllium chloride
Z. Naturforsch., B: J. Chem. Sci., **2022**, *77*, *6*, 381–390. DOI: 10.1515/znb-2022-0015.

54. L. R. Thomas-Hargreaves, C. Berthold, W. Augustinov, M. Müller, S. I. Ivlev, M. R. Buchner
Reactivity of Diphenylberyllium as a Brønsted Base and Its Synthetic Application
Chem. – Eur. J., **2022**, *28*, *35*, e202200851. DOI: 10.1002/chem.202200851.

55. R. E. Stene, T. Graubner, S. I. Ivlev, A. J. Karttunen, F. Kraus
A Symmetric F−H−F Hydrogen Bond in Strontium Bifluoride, $Sr[HF_2]_2$
Z. Anorg. Allg. Chem., **2022,** *648 (10)*, e202100374. DOI: 10.1002/zaac.202100374.

56. C. Souilah, S. A. V. Jannuzzi, D. Demirbas, S. Ivlev, M. Swart, S. DeBeer, A. Casitas
Synthesis of Fe^{III} and Fe^{IV} Cyanide Complexes Using Hypervalent Iodine Reagents as Cyano-Transfer One-Electron Oxidants
Angew. Chem. Int. Ed., **2022**, *61*, e202201699. DOI: 10.1002/anie.202201699.
Angew. Chem., **2022**, *134*, e202201699. DOI: 10.1002/ange.202201699.

57. P. Xiong, M. Hemming, S. I. Ivlev, E. Meggers
Electrochemical Enantioselective Nucleophilic α-C(sp3)–H Alkenylation of 2-Acyl Imidazoles
J. Am. Chem. Soc., **2022**, *144*, *15*, 6964–6971. DOI: 10.1021/jacs.2c01686.

58. H. L. Deubner, T. Graubner, M. R. Buchner, F. Weigend, S. I. Ivlev, A. J. Karttunen, F. Kraus
Surprises in the Solvent-Induced Self-Ionization in the Uranium Tetrahalide UX_4 (X = Cl, Br, I)/Ethyl Acetate System
ACS Omega, **2022**, *7*, *14*, 11995–12003. DOI: 10.1021/acsomega.2c00175.

59. D. Bischof, M. W. Tripp, P. E. Hofmann, C.-H. Ip, S. I. Ivlev, M. Gerhard, U. Koert, G. Witte
Regioselective Fluorination of Acenes: Tailoring of Molecular Electronic Levels and Solid-State Properties
Chem. – Eur. J., **2022**, *28*, e202103653. DOI: 10.1002/chem.202103653.

60. M. P. Beller, S. Ivlev, U. Koert
Preussochromone Puzzle: Structural Revision of Preussochromones E and F by Total Synthesis
Org. Lett., **2022**, *24*, *3*, 912–915. DOI: 10.1021/acs.orglett.1c04261.

61. D. Baran, S. I. Ivlev, E. Meggers
Deracemization of Chiral-at-Ruthenium Catalyst by Diastereoselective Dynamic Resolution
Organometallics, **2022**, *41*, *1*, 52–59. DOI: 10.1021/acs.organomet.1c00602.

62. L. R. Thomas-Hargreaves, S. Pan, S. I. Ivlev, G. Frenking, M. R. Buchner
π Back-Donation from a Beryllium Dibromide Fragment at the Expense of Its σ Strength
Inorg. Chem., **2022**, *61*, *1*, 700–705. DOI: 10.1021/acs.inorgchem.1c03449.

63. L. R. Thomas-Hargreaves, M. Müller, N. Spang, S. I. Ivlev, M. R. Buchner
Behavior of Lewis Bases toward Diphenylberyllium
Organometallics, **2021**, *40*, *22*, 3797–3807. DOI: 10.1021/acs.organomet.1c00524.

64. M. Sachs, S. I. Ivlev, M. Etter, M. Conrad, A. J. Karttunen, F. Kraus
DFT-Guided Crystal Structure Redetermination and Lattice Dynamics of the Intermetallic Actinoid Compound UIr
Inorg. Chem., **2021**, *60*, *21*, 16686–16699. DOI: 10.1021/acs.inorgchem.1c02578.

65. E. Al-Masri, M. Al-Refai, H. Tomah Al-Masri, B. F. Ali, A. Geyer, S. I. Ivlev, N. Aljaar
Synthesis, crystal structure, crystal supramolecularity and Hirshfeld surface analysis of (E)-1-(2,5-dichlorothiophen-3-yl)-3-o-tolylprop-2-en-1-one
Chem. Data Collect., **2021**, *36*, 100786. DOI: 10.1016/j.cdc.2021.100786.

66. M. R. Buchner, L. R. Thomas-Hargreaves, L. K. Kreuzer, N. Spang, S. I. Ivlev
Dimethylsulfide Adducts of the Beryllium Halides
Eur. J. Inorg. Chem., **2021**, *47*, 4990–4997. DOI: 10.1002/ejic.202100812.

67. C. Berthold, L. R. Thomas-Hargreaves, S. I. Ivlev, M. R. Buchner
An approach towards the synthesis of lithium and beryllium diphenylphosphinites
Z. Naturforsch., B: J. Chem. Sci., **2021**, *76*, *10–12*, 651–658. DOI: 10.1515/znb-2021-0104.

68. Y. Grell, X. Xie, S. I. Ivlev, E. Meggers
Enantioselective α-Fluorination and α-Chlorination of *N*-Acyl Pyrazoles Catalyzed by a Non-C_2-Symmetric Chiral-at-Rhodium Catalyst
ACS Catal., **2021**, *11*, 11396–11406. DOI: 10.1021/acscatal.1c02901.

69. N. Demirel, J. Qin, S. Ivlev, K. Harms, E. Meggers
Catalytic Enantioselective Oxidative Homocoupling of 2-Acyl Imidazoles
Adv. Synth. Catal., **2021**, *363, 20,* 4695-4700. DOI: 10.1002/adsc.202100837.

70. J. Bandemehr, F. Zimmerhofer, S. I. Ivlev, C. Pietzonka, K. Eklund, A. J. Karttunen, H. Huppertz, F. Kraus
Syntheses and Characterization of the Mixed-Valent Manganese(II/III) Fluorides Mn_2F_5 and Mn_3F_8
Inorg. Chem., **2021**, *60*, *17*, 12651–12663. DOI: 10.1021/acs.inorgchem.1c01833.

71. D. Bischof, M. Zeplichal, S. Anhäuser, A. Kumar, M. Kind, F. Kramer, M. Bolte, S. I. Ivlev, A. Terfort, G. Witte
Perfluorinated Acenes: Crystalline Phases, Polymorph-Selective Growth, and Optoelectronic Properties
J. Phys. Chem. C., **2021**, *125*, *34*, 19000–19012. DOI: 10.1021/acs.jpcc.1c05985.

72. C. Zhang, A. Z. Gao, X. Nie, C. Ye, S. I. Ivlev, S. Chen, E. Meggers
Catalytic α-Deracemization of Ketones Enabled by Photoredox Deprotonation and Enantioselective Protonation
J. Am. Chem. Soc., **2021**, *143*, *33*, 13393–13400. DOI: 10.1021/jacs.1c06637.

73. S. I. Ivlev, F. Kraus
Barium bis-[tetra-fluorido-bromate(III)]
IUCrData, **2021**, *6*, x210735. DOI: 10.1107/S2414314621007355.

74. P. S. Steinlandt, X. Xie, S. Ivlev, E. Meggers
Stereogenic-at-Iron Catalysts with a Chiral Tripodal Pentadentate Ligand
ACS Catal., **2021**, *11*, *12*, 7467–7476. DOI: 10.1021/acscatal.1c01675.

75. U. Müller, S. Ivlev, S. Schulz, C. Wölper
Automated Crystal Structure Determination has its Pitfalls: Correction to the Crystal Structures of Iodine Azide
Angew. Chem., **2021**, *133 (32)*, 17592–17594. DOI: 10.1002/ange.202105666.
Angew. Chem. Int. Ed., **2021**, *60 (32)*, 17452–17454. DOI: 10.1002/anie.202105666.

76. E. Winterling, S. Ivlev, E. Meggers
Chiral-at-Ruthenium Catalysts with Mixed Normal and Abnormal N-Heterocyclic Carbene Ligands
Organometallics, **2021**, *40*, *8*, 1148–1155. DOI: 10.1021/acs.organomet.1c00095.

77. Y. Hong, T. Cui, S. Ivlev, X. Xie, E. Meggers
Chiral-at-Iron Catalyst for Highly Enantioselective and Diastereoselective Hetero-Diels-Alder Reaction
Chem. – Eur. J., **2021**, *27 (33)*, 8557–8563. DOI: 10.1002/chem.202100703.

78. S. Schneider, S. Ivlev, C. von Hänisch
Stibine as a reagent in molecular chemistry - targeted synthesis of primary and secondary

stibanyl-gallanes and their lighter homologues
Chem. Commun., **2021**, *57*, 3781–3784. DOI: 10.1039/D0CC08419K.

79. Z. Zhou, Y. Tan, X. Shen, S. Ivlev, E. Meggers
Catalytic enantioselective synthesis of β-amino alcohols by nitrene insertion
Sci. China: Chem., **2021**, *64*, 452–458. DOI: 10.1007/s11426-020-9906-x.

80. X. Nie, Z. Yan, S. Ivlev, E. Meggers
Ruthenium Pybox-Catalyzed Enantioselective Intramolecular C–H Amination of Sulfamoyl Azides en Route to Chiral Vicinal Diamines
J. Org. Chem., **2021**, *86*, *1*, 750–761. DOI: 10.1021/acs.joc.0c02279.

81. B. Scheibe, R. Haiges, S. I. Ivlev, A. J. Karttunen, Ulrich Müller, K. O. Christe, F. Kraus
Difluorochloronium(III) Fluoridometallates – from Molecular Building Blocks to (Helical) Chains
Eur. J. Inorg. Chem., **2020**, *47*, 4483–4496. DOI: 10.1002/ejic.202000845.

82. J. Bandemehr, S. I. Ivlev, A. J. Karttunen, F. Kraus
Preparation of Two Quantum-Chemically Predicted, Isomeric $[Br_4F_{13}]^-$ Anions in the Solid State
Eur. J. Inorg. Chem., **2020**, *48*, 4568–4576. DOI: 10.1002/ejic.202000875.

83. H. L. Deubner, S. I. Ivlev, F. Kraus
Rerefinement of the crystal structure of tri-chlorido-sulfonium-(IV) hexa-chlorido-uranate(V), $(SCl_3)[UCl_6]$
IUCrData, **2020**, *5*, x200960. DOI: 10.1107/S2414314620009608.

84. Y. Tan, S. Chen, Z. Zhou, Y. Hong, S. Ivlev, K. N. Houk, E. Meggers
Intramolecular C(sp^3)–H Bond Oxygenation by Transition-Metal Acylnitrenoids
Angew. Chem., **2020**, *132 (48)*, 21890–21894. DOI: 10.1002/ange.202009335.
Angew. Chem. Int. Ed., **2020**, *59 (48)*, 21706–21710. DOI: 10.1002/anie.202009335.

85. G. Wang, Z. Zhou, X. Shen, S. Ivlev, E. Meggers
Asymmetric catalysis with a chiral-at-osmium complex
Chem. Commun., **2020**, *56*, 7714–7717: DOI: 10.1039/D0CC03280H.

86. P. E. Hofmann, M. W. Tripp, D. Bischof, Y. Grell, A. L. C. Schiller, T. Breuer, S. I. Ivlev, G. Witte, Ulrich Koert
Unilaterally Fluorinated Acenes: Synthesis and Solid-State Properties
Angew. Chem., **2020**, *132 (38)*, 16644–16648. DOI: 10.1002/ange.202006489.
Angew. Chem. Int. Ed., **2020**, *59 (38)*, 16501–16505. DOI: 10.1002/anie.202006489.

87. Z. Zhou, Y. Tan, T. Yamahira, S. Ivlev, X. Xie, R. Riedel, M. Hemming, M. Kimura, E. Meggers
Enantioselective Ring-Closing C–H Amination of Urea Derivatives
Chem, 2020, 6(8), 2024–2034. DOI: 10.1016/j.chempr.2020.05.017.

88. C.-X. Ye, S. Chen, F. Han, X. Xie, S. Ivlev, K. N. Houk, E. Meggers
Atroposelective Synthesis of Axially Chiral N-Arylpyrroles by Chiral-at-Rhodium Catalysis
Angew. Chem., **2020**, *132 (32)*, 13654–13658. DOI: 10.1002/ange.202004799.
Angew. Chem. Int. Ed., **2020**, *59 (32)*, 13552–13556. DOI: 10.1002/anie.202004799.

89. M. A. Nowroozi, K. Wissel, M. Donzelli, N. Hosseinpourkahvaz, S. Plana-Ruiz, U. Kolb, R. Schoch, M. Bauer, A. M. Malik, J. Rohrer, S. Ivlev, F. Kraus, O. Clemens
High cycle life all-solid-state fluoride ion battery with La_2NiO_{4+d} high voltage cathode
Commun. Mater., **2020**, *1*, 27. DOI: 10.1038/s43246-020-0030-5.

90. R. Stene, B. Scheibe, S. I. Ivlev, A. J. Karttunen, W. Petry, Florian Kraus
Photochemical Synthesis of Tungsten Pentafluoride, WF_5
Z. Anorg. Allg. Chem., **2020**, *647 (4)*, 218–224. DOI: 10.1002/zaac.202000177.

91. L. Li, F. Han, X. Nie, Y. Hong, S. Ivlev, E. Meggers
Complementing Pyridine-2,6-bis(oxazoline) with Cyclometalated N-Heterocyclic Carbene for

Asymmetric Ruthenium Catalysis
Angew. Chem., **2020**, *132 (30)*, 12491–12495. DOI: 10.1002/ange.202004243.
Angew. Chem. Int. Ed., **2020**, *59 (30)*, 12392–12395. DOI: 10.1002/anie.202004243.

92. J. Bandemehr, C. Stoll, G. Heymann, S. I. Ivlev, A. J. Karttunen, M. Conrad, H. Huppertz, F. Kraus
The Crystal Structure of MnF_3 Revisited
Z. Anorg. Allg. Chem., **2020**, *646 (13)*, 882–888. DOI: 10.1002/zaac.202000025.

93. F. Kraus, S. I. Ivlev, J. Bandemehr, M. Sachs, C. Pietzonka, M. Conrad, M. Serafin, B. G. Müller
Synthesis and Characterization of Manganese Tetrafluoride β-MnF_4
Z. Anorg. Allg. Chem., **2020**, *646 (18)*, 1481–1489. DOI: 10.1002/zaac.202000048.

94. J. Bandemehr, J. Klippstein, S. I. Ivlev, M. Sachs, F. Kraus
Laboratory synthesis and characterization of Knasibfite $K_3Na_4[SiF_6]_3[BF_4]$ and the homologous Ge compound $K_3Na_4[GeF_6]_3[BF_4]$
Z. Kristallogr., **2020**, *235 (8–9)*, 247–254. DOI: 10.1515/zkri-2019-0068.

95. B. Scheibe, S. I. Ivlev, A. J. Karttunen, F. Kraus
Synthesis and Characterization of the Tetrafluoridochlorates(III) *A*$[ClF_4]$ (*A* = K, Rb, Cs)
Eur. J. Inorg. Chem., **2020**, *14*, 1319–1324. DOI: 10.1002/ejic.202000106.
Corrigendum: *Eur. J. Inorg. Chem.*, **2022**. DOI: 10.1002/ejic.202100979.

96. A. V. Malin, S. I. Ivlev, R. V. Ostvald, F. Kraus
Redetermination of the crystal structure of caesium tetrafluoridobromate(III) from single-crystal X-ray diffraction data
IUCrData **2020**, *5*, x200114. DOI: 10.1107/S2414314620001145.

97. A. V. Malin, S. I. Ivlev, R. V. Ostvald, F. Kraus
Rubidium tetrafluoridobromate(III): redetermination of the crystal structure from single-crystal X-ray diffraction data
IUCrData **2019**, *4 (11)*, x191595. DOI: 10.1107/S2414314619015955.

98. J. Bandemehr, M. Sachs, S. I. Ivlev, A. J. Karttunen, F. Kraus
PbF$[Br_2F_7]$, a Fluoridobromate(III) of a p-Block Metal
Eur. J. Inorg. Chem., **2019**, *1*, 64–70. DOI: 10.1002/ejic.201901041.

99. H. L. Deubner, M. Sachs, J. Bandemehr, S. I. Ivlev, A. J. Karttunen, S. R. Kachel, B. P. Klein, L. Ruppenthal, M. Schöniger, C. K. Krug, J. Herritsch, J. M. Gottfried, J. N. M. Aman, J. Schmedt auf der Günne, F. Kraus
Binary Lead Fluoride Pb_3F_8
Chem. – Eur. J., **2019**, *25 (68)*, 15656–15661. DOI: 10.1002/chem.201903954.

100. S. I. Ivlev, M. Conrad, F. Kraus
HKLF5Tools: a program for processing diffraction data from non-merohedrally twinned crystals
Z. Kristallogr. – Cryst. Mater., **2019**, *234 (6)*, 415–418. DOI: 10.1515/zkri-2018-2147.

101. S. I. Ivlev, A. J. Karttunen, M. Hoelzel, M. Conrad, F. Kraus
The Crystal Structures of α- and β-F_2 revisited
Chem. – Eur. J., **2019**, *25 (13)*, 3310–3317. DOI: 10.1002/chem.201805298.

102. H. L. Deubner, S. S. Rudel, M. Sachs, C. Pietzonka, A. J. Karttunen, S. I. Ivlev, M. Müller, M. Conrad, U. Müller, F. Kraus
A Revised Structure Model for the UCl_6 Structure Type, Novel Modifications of UCl_6 and UBr_5, and a comment on the Modifications of Protactinium Pentabromides
Chem. – Eur. J., **2019**, *25 (25)*, 6402–6411. DOI: 10.1002/chem.201900389.

103. S. Ivlev, M. Conrad, M. Hoelzel, A. Karttunen, F. Kraus
The Crystal Structures of α- and β-Nitrogen Trifluoride
Inorg. Chem., **2019**, *58*, *9*, 6422–6430. DOI: 10.1021/acs.inorgchem.9b00628.

104. B. Scheibe, J. Bruns, G. Heymann, M. Sachs, A. Karttunen, C. Pietzonka, S. Ivlev, H. Huppertz, F. Kraus
UF_4 and the High-Pressure Polymorph HP-UF_4
Chem. – Eur. J., **2019**, *25 (30)*, 7366–7374. DOI: 10.1002/chem.201900639.

105. S. I. Ivlev, K. Gaul, M. Chen, A. J. Karttunen, R. Berger, F. Kraus
Synthesis of $[Br_3][MF_6]$ (*M* = Sb, Ir), Quantum Chemical Study of $[Br_3]^+$ Structure, Bonding, and Relativistic Effects compared to $[XBr_2]^+$ (*X* = Br, I, At, Ts) and $[TsZ_2]^+$ (*Z* = F, Cl, Br, I, At, Ts)
Chem. – Eur. J., **2019**, *25 (22)*, 5793–5802. DOI: 10.1002/chem.201900442.

106. E. V. Melnik, S. N. Shkarina, S. I. Ivlev, V. Weinhardt, T. Baumbach, M. V. Chaikina, M. A. Surmeneva, R. A. Surmenev
***In vitro* degradation behaviour of hybrid electrospun scaffolds of polycaprolactone and strontium-containing hydroxyapatite microparticles**
Polym. Degrad. Stab., **2019**, *167*, 21–32. DOI: 10.1016/j.polymdegradstab.2019.06.017.

107. S. I. Ivlev, A. V. Malin, A. J. Karttunen, R. V. Ostvald, F. Kraus
Reactions of $KBrF_4$ with Platinum Metals
J. Fluorine Chem., **2019**, *218,* 11–20. DOI: 10.1002/zaac.201800405.

108. R. A. Surmenev, S. Shkarina, D. S. Syromotina, E. V. Melnik, R. Shkarin, I. I. Selezneva, A. M. Ermakov, Sergei I. Ivlev, A. Cecilia, V. Weinhardt, T. Baumbach, T. Rijavec, A. Lapanje, M. V. Chaikina, M. A. Surmeneva
Characterization of biomimetic silicate- and strontium-containing hydroxyapatite microparticles embedded in biodegradable electrospun polycaprolactone scaffolds for bone regeneration
Eur. Polym. J., **2019**, *113,* 67–77. DOI: 10.1016/j.eurpolymj.2019.01.042.

109. J. Linnera, S. I. Ivlev, F. Kraus, and A. J. Karttunen
F-bridged Anions of Bromine and Gold: Predictions of Unexpected Behavior
Z. Anorg. Allg. Chem., **2019**, *645 (3),* 284–291. DOI: 10.1002/zaac.201800405.

110. S. I. Ivlev, M. R. Buchner, A. J. Karttunen, and F. Kraus
Synthesis and Characterization of the pyridine–bromine trifluoride (1/1) complex $[py{\cdot}BrF_3]$
J. Fluorine Chem., **2018**, *215,* 17–24. DOI: 10.1016/j.jfluchem.2018.08.009.

111. S. I. Ivlev, T. G. Müller, M. Hoelzel, A. J. Karttunen, F. Kraus
A Neutron Diffraction and Quantum-Chemical Study of $[Mn(ND_3)_6](N_3)_2$
Z. Anorg. Allg. Chem., **2018**, *644 (21)*, 1349–1353. DOI: 10.1002/zaac.201800217.

112. S. Shkarina, R. Shkarin, V. Weinhardt, E. Melnik, G. Vacun, P. Kluger, K. Loza, M. Epple, S. I. Ivlev, T. Baumbach, M. A. Surmeneva, R. A. Surmenev
3D biodegradable scaffolds of polycaprolactone with silicate-containing hydroxyapatite microparticles for bone tissue engineering: high-resolution tomography and in vitro study
Sci. Rep., **2018**, *8*, 8907. DOI: 10.1038/s41598-018-27097-7.

113. S. I. Ivlev, A. J. Karttunen, M. R. Buchner, M. Conrad, F. Kraus
The Interhalogen Cations $[Br_2F_5]^+$ and $[Br_3F_8]^+$
Angew. Chem., **2018**, *130 (44)*, 14850–14855. DOI: 10.1002/ange.201803708.
Angew. Chem. Int. Ed., **2018**, *57 (44)*, 14640–14644. DOI: 10.1002/anie.201803708.

114. S. I. Ivlev, F. Kraus
Redetermination of the crystal structure of $K[BrF_4]$ from single-crystal X-ray diffraction data
IUCrData, **2018**, *3 (5)*. DOI: 10.1107/S2414314618006466.

115. S. I. Ivlev, A. J. Karttunen, M. R. Buchner, M. Conrad, R. V. Ostvald, F. Kraus
Synthesis and Characterization of Barium Hexafluoridoosmates
Crystals, **2018**, *8 (1)*, 11–24. DOI: 10.3390/cryst8010011.

116. M. A. Nowroozi, S. Ivlev, J. Rohrer, O. Clemens
La_2CoO_4: A New Intercalation Based Cathode Material for Fluoride Ion Batteries with Improved Cycling Stability
J. Mater. Chem. A, **2018**, *6,* 4658–4669. DOI: 10.1039/C7TA09427B.

117. S. I. Ivlev, T. Soltner, A. J. Karttunen, M. J. Muehlbauer, A. J. Kornath, and F. Kraus
Syntheses and Crystal Structures of Sodium Hydrogen Fluorides NaF·*n*HF (*n* = 2, 3, 4)
Z. Anorg. Allg. Chem., **2017**, *643,* 1436–1443. DOI: 10.1002/zaac.201700228.

118. S. I. Ivlev, A. J. Karttunen, R. V. Ostvald, F. Kraus
$Br_2F_7^-$ and $Br_3F_{10}^-$: Peculiar anions showing μ_2- and μ_3-bridging F-atoms
Chem. Commun., **2016**, *52*, 12040–12043: DOI: 10.1039/c6cc06761a.

119. S. I. Ivlev, R. V. Ostvald, F. Kraus
A New Look at $NaBrF_4$: The Most BrF_3-Rich Tetrafluoridobromate(III) by Mass
Monatsh. Chem., **2016**, 147, 1661–1668. DOI: 10.1007/s00706-016-1799-2.

120. S. I. Ivlev, D. V. Akimov, N. B. Egorov, F. Kraus
Synthesis and characterization of $LiClO_4 \cdot H_2O$
Monatsh. Chem., **2016**, *147*, 279–288. DOI: 10.1007/s00706-015-1603-8.

121. S. I. Ivlev, A. J. Karttunen, R. V. Ostvald, F. Kraus
$RbBrF_4$ revisited
Z. Anorg. Allg. Chem., **2015**, *641*, 2593–2598. DOI: 10.1002/zaac.201500647.

122. S. I. Ivlev, V. I. Sobolev, M. Hoelzel, A. J. Karttunen, T. Müller, I. I. Gerin, R. V. Ostvald, F. Kraus
Synthesis and Characterization of Barium Tetrafluoridobromate(III) $Ba(BrF_4)_2$
Eur. J. Inorg. Chem., **2014**, 6261–6267. DOI: 10.1002/ejic.201402849.

123. S. I. Ivlev, P. Woidy, V. I. Sobolev, I. I. Gerin, R. V. Ostvald, F. Kraus
On Tetrafluorobromates(III): Crystal Structures of the Dibromate $CsBr_2F_7$ and the Monobromate $CsBrF_4$
Z. Anorg. Allg. Chem., **2013**, *639*, 2846–2850. DOI: 10.1002/zaac.201300290.

124. S. I. Ivlev, P. Woidy, F. Kraus, I. I. Gerin, R. V. Ostvald
Tetrafluorobromates for Urban Mining of Noble Metals: A Case Study on Iridium Metal
Eur. J. Inorg. Chem., **2013**, 4984–4987. DOI: 10.1002/ejic.201300618.

125. S. I. Ivlev, V. I. Sobolev, V. V. Shagalov, R. V. Ostvald, I. I. Gerin
***Ab initio* confirmation of BrF_4^- anion geometry in potassium tetrafluoridobromate**
Fundamental Research **2013**, *8-3*, 610–614. URL
Original citation in Russian: Ивлев С.И., Соболев В.И., Шагалов В.В., Оствальд Р.В., Жерин И.И. Квантово-химическое обоснование формы аниона BrF_4^- в составе тетрафторобромата калия // Фундаментальные исследования. – 2013. – №8-3. – С. 610-614

126. S. I. Ivlev, V. I. Sobolev, V. V. Shagalov, R. V. Ostvald, I. I. Gerin
Phase diagram of potassium fluoride–bromine trifluoride system
Bulletin of Tomsk Polytechnic University **2013**, *322*, 38–41. PDF
Original citation in Russian: Ивлев С.И., Соболев В.И., Шагалов В.В., Оствальд Р.В., Жерин И.И. Диаграмма состояния системы фторид калия–трифторид брома // Известия Томского политехнического университета. – 2013. – Т. 322. – № 3. – С. 38-41.

127. V. I. Sobolev, V. Radchenko, S. I. Ivlev, R. V. Ostvald, V. D. Filimonov, I. I. Gerin
Alkali and alkaline-earth metal fluorohalogenates in organic synthesis
The Bulletin of Tomsk Polytechnic University **2013**, *322*, 44–49. PDF
Original citation in Russian: Соболев В.И., Радченко В.Б., Ивлев С.И., Оствальд Р.В., Филимонов В.Д., Жерин И.И. Фторгалогенаты щелочных и щелочноземельных металлов в органическом синтезе // Известия Томского политехнического университета. – 2013. – Т. 322. – № 3. – С. 44-49.

128. V. V. Shagalov, R. V. Ostvald, I. I. Gerin, S. I. Ivlev, V. I. Sobolev
The basics of synthesis of potassium tetrafluoridobromate using bromine trifluoride
Russ. Phys. J. **2012**, *55 (special issue)*, 60–64.
Original citation in Russian: Шагалов В.В., Оствальд Р.В., Жерин И.И., Ивлев С.И., Соболев В.И. Физико-химические основы синтеза тетрафторобромата калия с использованием трифторида брома // Известия вузов. Физика. – 2012. – Т. 55. – № 2/2. – С. 60-64.

129. V. I. Sobolev, S. I. Ivlev, V. V. Shagalov, R. V. Ostvald, A. A. Matyskin
Construction of an air-drying installation using moisture adsorption on zeolites
Russ. Phys. J. **2012**, *55 (special issue)*, 96–99.
Original citation in Russian: Соболев В.И., Ивлев С.И., Шагалов В.В., Оствальд Р.В., Матыскин А.В. Разработка установки для создания осушенной атмосферы путем сорбции влаги воздуха на цеолите // Известия вузов. Физика. – 2012. – Т. 55. – № 2/2. – С. 96-99.