

Publications

Total: 45, incl. 1 invited book chapter, 2 reviews;
 1 *Science*, 4 *JACS*, 7 *Angew.Chem.*, 1 *Materials Horizons*, 1 *Chem.Sci.*,
 1 *Nanoscale*, 2 *Chem.Comm.*, 7 *Chem.Eur.J.*

Citations: total: **1359**
h-index: **24**
 average citations per item: **32.36** (Web of Science)

TOP 5 PUBLICATIONS

- Room Temperature Control of Spin States in a Thin Film of a Photochromic Iron(II) Complex. L. Poggini,* M. Milek, G. Londi, A. Naim, G. Poneti, L. Squillantini, A. Magnani, F. Totti, P. Rosa, M. M. Khusniyarov,* M. Mannini,* *Materials Horizons* (impact factor: 14.4) **2018**, 5, 506–513.
- Reversible Photoswitching of a Spin-Crossover Molecular Complex in the Solid State at Room Temperature. B. Rösner, M. Milek, A. Witt, B. Gobaut, P. Torelli, R. H. Fink,* M. M. Khusniyarov,* *Angew. Chem. Int. Ed.* **2015**, 54, 12976–12980.
- Bidirectional Photoswitching of Magnetic Properties at Room Temperature: Ligand-Driven Light-Induced Valence Tautomerism. A. Witt, F. W. Heinemann, M. M. Khusniyarov,* *Chem. Sci.* **2015**, 6, 4599–4609.
- Modulation of Magnetic Properties at Room Temperature: Coordination-Induced Valence Tautomerism in a Cobalt Dioxolene Complex. A. Witt, F. W. Heinemann, S. Sproules, M. M. Khusniyarov,* *Chem. Eur. J.* **2014**, 20, 11149–11162.
- Synthesis, Structure, and Reactivity of an Iron(V) Nitride. J. J. Scepaniak, C. S. Vogel, M. M. Khusniyarov, F. W. Heinemann, K. Meyer,* J. M. Smith,* *Science* **2011**, 331, 1049–1052.

INVITED BOOK CHAPTER

45. Light-Induced Spin-Crossover.
M. M. Khusniyarov,*
Elsevier Reference Module in Chemistry, Molecular Sciences and Chemical Engineering
 (Ed.: J. Reedijk). Waltham, MA: Elsevier, **2015**.

REVIEW ARTICLES

44. Azole-Based Diarylethenes as the Next Step towards Advanced Photochromic Materials.
 A. G. Lvov,* M. M. Khusniyarov, V. Z. Shirinian,
J. Photochem. Photobiol. C. **2018**, 36, 1–23.
43. How to Switch Spin-Crossover Metal Complexes at Constant Room Temperature. (Invited Concept)
M. M. Khusniyarov,*
Chem. Eur. J. **2016**, 22, 15178–15191.

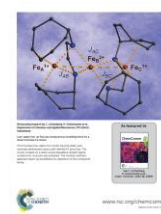
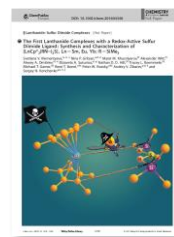


PEER- REVIEWED RESEARCH ARTICLES

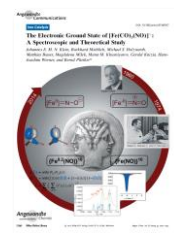
42. Photochromic diarylethene ligands featuring 2-(imidazol-2-yl)pyridine coordination site and their iron(II) complexes.
A. G. Lvov,* M. Mörtel, A. V. Yadykov, F. W. Heinemann, V. Z. Shirinian, M. M. Khusniyarov,* *Beilstein J. Org. Chem.* **2019**, *15*, 2428–2437.
41. Surface effects on a photochromic spin-crossover iron(II) molecular switch adsorbed on highly oriented pyrolytic graphite.
L. Poggini,* G. Londi, M. Milek, A. Naim, V. Lanzilotto, B. Cortigiani, F. Bondino, E. Magnano, E. Otero, P. Saintavit, M.-A. Arrio, A. Juhin, M. Marchivie, M. M. Khusniyarov, F. Totti,* P. Rosa, M. Mannini,
Nanoscale (Impact factor: 7.0) **2019**, *11*, 20006–20014.
40. Phenanthroline-Based Molecular Switches for Prospective Chemical Grafting: A Synthetic Strategy and Its Application to Spin-Crossover Complexes.
M. Mörtel, T. Lindner, A. Scheurer, F. W. Heinemann, M. M. Khusniyarov,* *Inorg. Chem.* **2019**, DOI: 10.1021/acs.inorgchem.9b01424
39. Crossover from Antiferromagnetic to Ferromagnetic Exchange Coupling in a New Family of Bis-(μ -phenoxido)dicopper(II) Complexes: A Comprehensive Magneto-Structural Correlation by Experimental and Theoretical Study.
D. Mondal, M. C. Majee, K. Bhattacharya, J. Long, J. Larionova, M. M. Khusniyarov, M. Chaudhury,*
ACS Omega **2019**, *4*, 10558–10570.
38. Kinetic Control of Interpenetration in Fe-Biphenyl-4,4'-Dicarboxylate Metal-Organic Frameworks by Coordination and Oxidation Modulation.
D. J. Bara, C. Wilson, M. Mörtel, M. M. Khusniyarov, S. Ling, B. Slater, S. Sproules, R. S. Forgan,*
J. Am. Chem. Soc. **2019**, *141*, 8346–8357.
37. Europium and ytterbium complexes with o-iminoquinonato ligands: synthesis, structure, and magnetic behavior.
S. V. Klementyeva,* A. N. Lukoyanov, M. Y. Afonin, M. Mörtel, A. I. Smolentsev, P. A. Abramov, A. A. Starikova, M. M. Khusniyarov,* S. N. Konchenko,
Dalton Trans. **2019**, *48*, 3338–3348.
36. Room Temperature Control of Spin States in a Thin Film of a Photochromic Iron(II) Complex.
L. Poggini,* M. Milek, G. Londi, A. Naim, G. Poneti, L. Squillantini, A. Magnani, F. Totti, P. Rosa, M. M. Khusniyarov,* M. Mannini,*
Materials Horizons (impact factor: 14.4) **2018**, *5*, 506–513.
35. Dinuclear Iron(III) and Cobalt(III) Complexes Featuring a Biradical Bridge: Their Molecular Structures and Magnetic, Spectroscopic, and Redox Properties.
D. Mondal, M. C. Majee, S. Kundu, M. Mörtel, G. Abbas, A. Endo, M. M. Khusniyarov,* M. Chaudhury,*
Inorg. Chem. **2018**, *57*, 1004–1016.
34. Synthesis, Characterization and Properties of Iron(II) Spin-Crossover Molecular Photoswitches Functioning at Room Temperature.
M. Mörtel, A. Witt, F. W. Heinemann, S. Bochmann, J. Bachmann, M. M. Khusniyarov,* *Inorg. Chem.* **2017**, *56*, 13174–13186.

Invited
Cover

33. The First Lanthanide Complexes with a Redox-Active Sulphur Diimide Ligand: Synthesis and Characterization of $[\text{LnCp}^*_2(\text{RN}=\text{S})_2]$, $\text{Ln} = \text{Sm}, \text{Eu}, \text{Yb}$; $\text{R} = \text{SiMe}_3$. **(Hot Paper)**
S. V. Klementyeva, N. P. Gritsan,* M. M. Khusniyarov, A. Witt, A. A. Dmitriev, E. A. Suturina, N. D. D. Hill, T. L. Roemmele, M. T. Gamer, R. T. Boéré,* P. W. Roesky,* A. V. Zibarev,* S. N. Konchenko,*
Chem. Eur. J. **2017**, 23, 1278–1290.
32. Cooperative reduction by Ln^{2+} and Cp^{*-} ions: synthesis and properties of Sm, Eu, and Yb complexes with 3,6-di-*tert*-butyl-*o*-benzoquinone.
N. A. Pushkarevsky,* M. A. Ogienko, A. I. Smolentsev, I. N. Novozhilov, A. Witt, M. M. Khusniyarov, V. K. Cherkasov, S. N. Konchenko,
Dalton Trans. **2016**, 45, 1269–1278.
31. Reversible Photoswitching of a Spin-Crossover Molecular Complex in the Solid State at Room Temperature.
B. Rösner, M. Milek, A. Witt, B. Gobaut, P. Torelli, R. H. Fink,* M. M. Khusniyarov,*
Angew. Chem. Int. Ed. **2015**, 54, 12976–12980.
30. Low-Valent Iron: an Fe(I) ate Compound as a Building Block for a Linear Trinuclear Fe Cluster.
C. Lichtenberg,* L. Viciu, M. Vogt, R. E. Rodriguze-Lugo, M. Adelhardt, J. Sutter, M. M. Khusniyarov, K. Meyer, B. de Bruin, E. Bill, H. Grützmacher,*
Chem. Commun. **2015**, 51, 13890–13893.
29. Bidirectional Photoswitching of Magnetic Properties at Room Temperature: Ligand-Driven Light-Induced Valence Tautomerism.
A. Witt, F. W. Heinemann, M. M. Khusniyarov,*
Chem. Sci. **2015**, 6, 4599–4609.
28. Square-Planar Ruthenium(II) Complexes: Control of Spin State by Pincer Ligand Functionalization. **(Hot Paper)**
B. Askevold, M. M. Khusniyarov, W. Kroener, K. Gieb, P. Müller, E. Herdtweck, F. W. Heinemann, M. Diefenbach, M. C. Holthausen, V. Vieru, L. F. Chibotaru, S. Schneider,*
Chem. Eur. J. **2015**, 21, 579–589.
27. A *cis*-Divacant Octahedral and Mononuclear Iron(IV) Imide.
K. Searles, S. Fortier,* M. M. Khusniyarov, P. J. Carroll, J. Sutter, K. Meyer,* D. J. Mindiola,* K. G. Caulton,*
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26. An Intermediate Cobalt(IV) Nitrido Complex and its N-Migratory Insertion Product.
E. M. Zolnhofer, M. Käß, M. M. Khusniyarov, F. W. Heinemann, L. Maron, M. van Gastel, E. Bill, K. Meyer,*
J. Am. Chem. Soc. **2014**, 136, 15072–15078.
25. Modulation of Magnetic Properties at Room Temperature: Coordination-Induced Valence Tautomerism in a Cobalt Dioxolene Complex.
A. Witt, F. W. Heinemann, S. Sproules, M. M. Khusniyarov,*
Chem. Eur. J. **2014**, 20, 11149–11162.



24. Tuning the Electronic Properties in Ruthenium-Quinone Complexes through Metal Coordination and Substitution at the Bridge.
H. S. Das, D. Schweinfurth, J. Fiedler, M. M. Khusniyarov, S. M. Mobin, B. Sarkar,*
Chem. Eur. J. **2014**, 20, 4334–4346.
23. The Electronic Ground State of $[\text{Fe}(\text{CO})_3(\text{NO})]^-$: A Spectroscopic and Theoretical Study.
J. E. M. N. Klein, B. Miehlich, M. S. Holzwarth, M. Bauer, M. Milek, M. M. Khusniyarov, G. Knizia, H.-J. Werner, B. Plietker,*
Angew. Chem. Int. Ed. **2014**, 53, 1790–1794.
22. Spin Crossover Meets Diarylethenes: Efficient Photoswitching of Magnetic Properties in Solution at Room Temperature.
M. Milek, F. W. Heinemann, M. M. Khusniyarov,*
Inorg. Chem. **2013**, 52, 11585–11592.
21. Tuning Spin-Spin Coupling in Quinonoid-Bridged Dicopper(II) Complexes through Rational Bridge Variation.
D. Schweinfurth, M. M. Khusniyarov,* D. Bubrin, S. Hohloch, C.-Y. Su, B. Sarkar,*
Inorg. Chem. **2013**, 52, 10332–10339.
20. Tetraanionic N_2O_2 -Coordinating Ligands as Potential Building Blocks for Supramolecular Magnetic Networks.
M. Milek, A. Witt, C. Streb, F. W. Heinemann, M. M. Khusniyarov,*
Dalton Trans. **2013**, 42, 5237–5241.
19. Dinuclear Seven-Coordinate Mn(II) Complexes. Effect of Manganese(II)-Hydroxo Species on Water Exchange and Superoxide Dismutase Activity.
D. Lieb, F. C. Friedel, M. Yawer, A. Zahl, M. M. Khusniyarov, F. W. Heinemann, I. Ivanović - Burmazović,*
Inorg. Chem. **2013**, 52, 222–236.
18. Manganese Nitride Complexes in Oxidation States III, IV, and V: Synthesis and Electronic Structure.
H. Kropp, A. E. King, M. M. Khusniyarov, F. W. Heinemann, K. M. Lancaster, S. DeBeer, E. Bill, K. Meyer,*
J. Am. Chem. Soc. **2012**, 134, 15538–15544.
17. Capped-Tetrahedrally Coordinated Fe(II) and Co(II) Complexes Using a “Click”-Derived Tripodal Ligand: Geometric and Electronic Structures.
D. Schweinfurth, S. Demeshko, M. M. Khusniyarov, S. Dechert, V. Gurram, M. R. Buchmeiser, F. Meyer, B. Sarkar,*
Inorg. Chem. **2012**, 51, 7592–7597.
16. Unraveling the Electronic Structures of Low-valent Naphthalene and Anthracene Iron Complexes: X-ray, Spectroscopic and Density Functional Studies.
E.-M. Schnöckelborg, M. M. Khusniyarov, B. de Bruin, F. Hartl, T. Langer, M. Eul, S. Schulz, R. Pöttgen, R. Wolf,*
Inorg. Chem. **2012**, 51, 6719–6730.
15. Metal substitution in a Lindqvist polyoxometalate leads to improved photocatalytic performance.
J. Tucher, Y. Wu, L. C. Nye, I. Ivanovic-Burmazovic, M. M. Khusniyarov, C. Streb,*
Dalton Trans. **2012**, 41, 9938–9943.



14. Square-Planar Iridium(II) and Iridium(III) Amido Complexes Stabilized by a PNP Pincer Ligand. J. Meiners, M. G. Scheibel, M.-H. Lemée-Cailleau, S. A. Mason, M. B. Boeddinghaus, T. F. Fässler, E. Herdtweck, M. M. Khusniyarov,* S. Schneider,*
Angew. Chem. Int. Ed. **2011**, 50, 8184–8187.
13. Tuning the light absorption of a molecular vanadium oxide system for enhanced photooxidation performance. J. Forster, B. Rösner, M. M. Khusniyarov, C. Streb,*
Chem. Commun. **2011**, 47, 3114–3116.
12. Synthesis, Structure, and Reactivity of an Iron(V) Nitride. J. J. Scepaniak, C. S. Vogel, M. M. Khusniyarov, F. W. Heinemann, K. Meyer,* J. M. Smith,*
Science **2011**, 331, 1049–1052.
11. Hidden Noninnocence: Theoretical and Experimental Evidence for Redox Activity of a β -Diketiminato(1-) Ligand. **(Hot Paper)** M. M. Khusniyarov,* E. Bill, T. Weyhermüller, E. Bothe, K. Wieghardt,*
Angew. Chem. Int. Ed. **2011**, 50, 1652–1655.
10. Homoleptic Diphosphacyclobutadiene Complexes $[M(\eta^4\text{-P}_2\text{C}_2\text{R}_2)_2]^{x-}$ (M = Fe, Co; x = 0, 1). R. Wolf,* A. W. Ehlers, M. M. Khusniyarov, F. Hartl, B. de Bruin, G. J. Long, F. Grandjean, F. M. Schappacher, R. Pöttgen, J. C. Slootweg, M. Lutz, A. L. Spek, K. Lammertsma,*
Chem. Eur. J. **2010**, 16, 14322–14334.
9. Unexpected Reactivity Resulting From Modifications of the Ligand Periphery: Synthesis, Structure, and Spectroscopic Properties of Iron Complexes of New Tripodal N-heterocyclic Carbene (NHC) Ligands. C. S. Vogel, F. W. Heinemann, M. M. Khusniyarov, K. Meyer,*
Inorg. Chim. Acta **2010**, 364, 226–237.
8. A Square-Planar Ruthenium(II) Complex with a Low-Spin Configuration. B. Askevold, M. M. Khusniyarov, E. Herdtweck, K. Meyer, S. Schneider,*
Angew. Chem. Int. Ed. **2010**, 49, 7566–7569.

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7. Tuning the oxidation level, the spin state, and the degree of electron delocalization in homo- and heteroleptic bis(α -diimine)iron complexes. M. M. Khusniyarov,* T. Weyhermüller, E. Bill, K. Wieghardt,*
J. Am. Chem. Soc. **2009**, 131, 1208–1221.
6. Characterization of three members of the electron-transfer series $[\text{Fe}(\text{pda})_2]^n$ ($n = 2-, 1-, 0$) by spectroscopy and density functional theoretical calculations [pda = redox non-innocent derivatives of N,N' -bis(pentafluorophenyl)- o -phenylenediamide($2-, 1^{\bullet-}, 0$)]. M. M. Khusniyarov,* E. Bill, T. Weyhermüller, E. Bothe, K. Harms, J. Sundermeyer,* K. Wieghardt,*
Chem. Eur. J. **2008**, 14, 7608–7622.
5. Reversible electron transfer coupled to spin crossover in an iron coordination salt in the solid state. M. M. Khusniyarov,* T. Weyhermüller, E. Bill, K. Wieghardt,*
Angew. Chem. Int. Ed. **2008**, 47, 1228–1231.

4. A series of metal complexes with the non-innocent *N,N'*-bis(pentafluorophenyl)-*o*-phenylenediamido ligand: twisted geometry for tuning the electronic structure. M. M. Khusniyarov, K. Harms, J. Sundermeyer,* B. Sarkar, W. Kaim, J. van Slageren, C. Duboc, J. Fiedler, *Dalton Trans.* **2008**, 1355–1365.
3. Molecular and electronic structures of homoleptic nickel and cobalt complexes with non-innocent bulky diimine ligands derived from fluorinated 1,4-diaza-1,3-butadiene (DAD) and bis(arylimino)acenaphthene (BIAN). M. M. Khusniyarov, K. Harms, O. Burghaus, J. Sundermeyer,* *Eur. J. Inorg. Chem.* **2006**, 2985–2996.
2. New highly fluorinated phenazine derivatives: Correlation between crystal structure and NMR spectroscopy. M. M. Khusniyarov, K. Harms, J. Sundermeyer,* *J. Fluor. Chem.* **2006**, 127, 200–204.
1. Study of the ethylene polymerization over homogeneous and supported catalysts based on 2,6-bis(imino)pyridyl complexes of Fe(II) and Co(II). N. V. Semikolenova,* V. A. Zakharov, E. P. Talsi, D. E. Babushkin, A. P. Sobolev, L. G. Echevskaya, M. M. Khusniyarov, *J. Mol. Cat. A: Chem.* **2002**, 182–183, 283–294.

STATISTICS

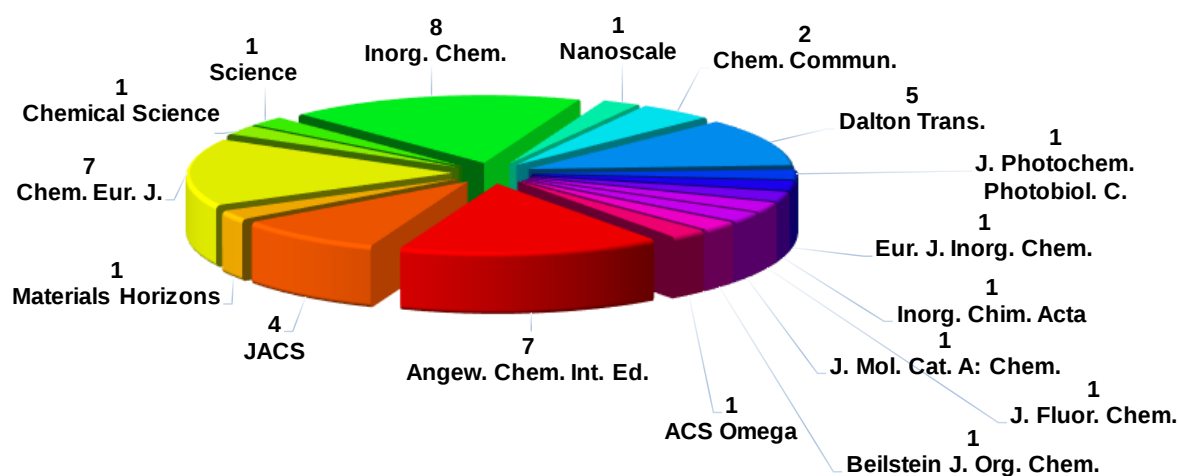


Fig. 1. Distribution of publications.

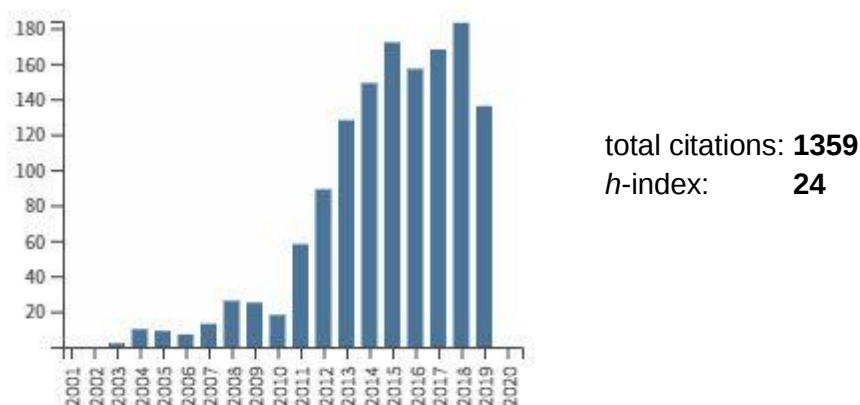


Fig. 2. Citations (Web of Science, 28.10.2019).

OTHER CONTRIBUTION

- Die Elektronenstruktur "einfacher" Eisenkomplexe: Ein sehr komplexes Problem. M. M. Khusniyarov, T. Weyhermüller, E. Bill,* K. Wieghardt, *Jahrbuch* **2009**, Max-Planck-Gesellschaft.

PUBLICITY AND NEWS

4. Molecules becoming bits (trans. from German: "Moleküle werden zu Bits"). *Alexander (aktuelles aus Friedrich-Alexander-Universität)*, Nr. 100, November **2015**. Available online: https://www.fau.de/files/2014/07/fau_magazin_alexander_100.pdf
3. Reversible Photoswitching of a Spin-Crossover Molecular Complex in the Solid State at Room Temperature. *Elettra Sincrotrone Trieste. News*, October 1st, **2015**. Published online: <https://www.elettra.trieste.it/science/top-stories/reversible-photoswitching-of-a-spin-crossover-molecular-complex-in-the-solid-state-at-room-temperature.html>
2. Controlling magnetism with light (German: "Magnetisch durch Licht"). *Friedrich-Alexander-Universität Erlangen-Nürnberg, News*, September 23rd (German: September 18th), **2015**. Published online: English: <https://www.fau.eu/2015/09/23/news/research/controlling-magnetism-with-light/> German: <https://www.fau.de/2015/09/news/wissenschaft/magnetisch-durch-licht/>
1. Heavy Metal of World Science (trans. from Russian: "Тяжёлый рок мировой науки"). *Natalja Bykova, S&T RF – Science and Technologies of Russian Federation*, April 4th, **2011**. Published online: http://www.strf.ru/material.aspx?CatalogId=222&d_no=38442