CURRICULUM VITAE

Personal Information

Name and surname	**Zoran Kokan**
Employment	Ruđer Bošković Institute, Zagreb
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Education

6/**2014**	**Doctor of Science**, Faculty of Science, Zagreb
	Supervisor: Dr. Sc. Srećko Kirin
11/**2008**	**Diploma** in Chemical Sciences, Faculty of Science, Zagreb
	Supervisor: Prof. Marina Cindrić

Working Experience

8/**2021** – today	**Research Associate**, Ruđer Bošković Institute, Zagreb
09/**2018** – 6/**2021**	**Postdoctoral researcher**, Masaryk University, Brno
08/**2017** – 07/**2018**	**Postdoctoral researcher**, University of Warsaw, Warsaw
09/**2014** – 09/**2018**	**Postdoctoral researcher**, Ruđer Bošković Institute, Zagreb
01/**2011** – 08/**2014**	**Doctoral (Dr. sc.) student**, Ruđer Bošković Institute, Zagreb
02/**2009** – 12/**2010**	**Project associate**, Ruđer Bošković Institute, Zagreb
	Organometallic and Inorganic Bioconjugates as Potential Enantioselective Catalysts, Unity Through Knowledge Fund, Supervisor: Dr. Sc. Srećko Kirin

Research Projects

Metalated Bioconjugates in the Function of Metalogelators (**2015**), postdoctoral research project (principal investigator), Croatian Academy of Science and Arts.

Research Experience Abroad

5. Supramolecular Chemistry Group, Department of Chemistry, Faculty of Science, Masaryk University, Brno, Czech Republic, September **2018** – **2021** with Prof. Vladimír Šindelář.

4. Supramolecular Chemistry Laboratory, Biological and Chemical Research Centre, University of Warsaw, Warsaw, Poland, **2017**/**2018**, one year with Dr. Michał J. Chmielewski.

3. Faculty of Chemistry and Chemical Technology, University of Ljubljana, Slovenia, **2015**, 1 month with Professor Iztok Turel.

2. Central South University, Changsha, China, **2014**, 8 days with Professor You-Nian Liu.

1. Chair of Inorganic Chemistry I (Bioinorganic Chemistry), Ruhr University Bochum, Germany, **2011**, 2 months with Professor Nils Metzler-Nolte.

Teaching

- Emilie Maréchal, **erasmus student**, (immediate supervisor), Ruđer Bošković Institute, 2022.

- Carola Rando, **doctoral research**, (immediate supervisor), Masaryk University, 2020.

- Arico Del Mauro, **doctoral research**, (immediate supervisor), Masaryk University, 2020.

- Saša Opačak, **doctoral research**, (immediate supervisor), Faculty of Science, University of Zagreb. 2016–2017.

- Tamara Miljuš, **undergraduate research** in Inorganic chemistry (immediate supervisor), Faculty of Science, University of Zagreb. 2014.

- Kristina Kučanda, **undergraduate research** in Inorganic and organic chemistry (immediate supervisor), Faculty of Science, University of Zagreb. 2014.

- Inorganic Chemistry Lab (Graduate Assistant), Faculty of Science, University of Zagreb.
2011, chemistry majors (2nd year).

- Inorganic Chemistry Lab (Undergraduate Assistant), Faculty of Science, University of Zagreb. 2006–2009, chemistry/biology majors (2nd and 3rd year).

Awards and Recognitions

- 2018 – **Ruđer Bošković Institute yearly award** for the published work: “Metal-induced supramolecular chirality inversion of small self-assembled molecules in solution“ *Chemical Communications* **53** (2017) 1945-1948.

- 2019 – **Ruđer Bošković Institute yearly award** for the published work: “Controlling orthogonal self-assembly through cis-trans isomerization of a non-covalent palladium complex dimer”, *Chemical Communications* **54** (2018) 2097.

- 2019 –**Division of Materials Chemistry award** for the best publication published in 2018**.**

- Rector's Award (University of Zagreb) 2008 for **student research**: "*A rare example of concomitatnt trimorph: Polimorphic species of molybdenum(VI) complex with* N-*salicyl-idene-3-hydroxypiridine*" Advisor: Professor Višnja Vrdoljak.

Peer-reviewing assignments

Total of 6 reviewer assignments.

ACS: Journal of the American Chemical Society (1 review, 2019).

Elsevier: Journal of Molecular Graphics and Modeling (1 review, 2020).

MDPI: Symmetry (1 review, 2021), Catalysts (1 review, 2021), Molecules (1 review, 2021).

CCS: Croatica Chemica Acta (1 review, 2021)

Editor assignments

2021-today; Topic editor in the journal *Symmetry* (IF2021 = 2.94, MDPI)

Scientific Publications

17. C. Rando, J. Vázquez, J. Sokolov, **Z. Kokan**, V. Šindelář, *Highly Efficient and Selective Recognition of Dicyanoaurate(I) by a Bambusuril Macrocycle in Water*, *Angew. Chem. Int. Ed.* **61** (2022). DOI: 10.1002/anie.202210184

16. A. Del Mauro, **Z. Kokan**, V. Šindelář, "*Dynamic [1]rotaxanes via a reversible covalent bond and host–guest anion recognition*", *Chem. Commun.* **58** (2022), 23; 3815-3818.

15. **Z. Kokan**, M. Duskova-Smrckova, V. Šindelář, "*Supramolecular Hydrogelation via Host-Guest Anion Recognition: Lamellar Hydrogel Materials for the Release of Cationic Cargo*", *Chem, 7* (2021), 9; 2473-2490.

14. B. Perić, **Z. Kokan**, S. Kirin, "Induction of Λ-helicity in a zinc com-plex with an alanine-appended amino-pyridine ligand", *Acta crystallographica. Section C*, **C77** (2021), 449-457.

13. M. Kandrnálová, **Z. Kokan**, V. Havel, M. Nečas, V. Šindelář, "*Hypervalent Iodine Based Reversible Covalent Bond in Rotaxane Synthesis*", *Angew. Chem. Int. Ed.* **58** (2019) 18182–18185.

12. M. Pernar, **Z. Kokan**, J. Kralj, Z. Glasovac, L.-M. Tumir, I. Piantanida, D. Eljuga, I. Turel, A. Brozović, S. I.Kirin, "*Organometallic ruthenium(II)-arene complexes with triphenylphosphine amino acid bioconjugates: Synthesis, characterization and biological properties*", *Bioorg. Chem.* **87** (2019) 432–446.

11. S. Opačak, **Z. Kokan**, Z. Glasovac, B. Perić, S. I. Kirin, "*Backdoor induction" of chirality: Trans-1,2-cyclohexanediamine as key building block for asymmetric hydrogenation catalysts*, *Eur. J. Org. Chem.*, (2018) 2115–2128.

10. Z. Kokan and M. J. Chmielewski, *A Photoswitchable Heteroditopic Ion-Pair Receptor*, *J. Am. Chem. Soc.* **140** (2018) 16010–16014.

9. Z. Kokan, B. Kovačević, Z. Štefanić, P. Tzvetkova, S. I. Kirin, "*Controlling orthogonal self-assembly through cis–trans isomerization of a non-covalent palladium complex dimer*", *Chem. Commun.*, **54** (2018) 2094–2097.

8. **Z. Kokan**, B. Perić, M. Vazdar, Ž. Marinić, D. Vikić-Topić, E. Meštrović, S. I. Kirin, "*Metal-Induced Supramolecular Chirality Inversion of Small Self-Assembled Molecules in Solution*", *Chem. Commun.*, **53** (2017) 1945–1948.

7. Z. Kokan, B. Perić, G. Kovačević, A. Brozovic, N. Metzler-Nolte, S. I. Kirin, "*Cis- versus trans-Square-Planar Palladium(II) and Platinum(II) Complexes with Triphenylphosphine Amino Acid Bioconjugates*", *Eur. J. Inorg. Chem.*, (2017) 3928–3937.

6. **Z. Kokan**, Z. Glasovac, M. Majerić Elenkov, M. Gredičak, I. Jerić, S. I. Kirin, *"Backdoor induction" of chirality: Asymmetric hydrogenation with Rh(I) complexes of triphenylphosphane substituted β-turn mimetics*, *Organometallics* **33** (2014) 4005–4015.

5. Z. Kokan, S. I. Kirin, *"Backdoor induction" of chirality in asymmetric hydrogenation with rhodium(I) complexes of amino acid substituted triphenylphosphane ligands*, *Eur. J. Org. Chem.* (2013) 8154–8161.

4. K. Užarević, **Z. Kokan**, B. Perić, N. Bregović, S. I. Kirin: *Concomitant polymorphism in the pseudo-peptide Me_2N-pC_6H_4C(O)-Phe-OEt*, *J. Mol. Struct.* **1031** (2013) 160–167.

3. **Z. Kokan**, S. I. Kirin: *The application of "*backdoor induction*" in bioinspired asymmetric catalysis*, *RSC Adv.* **2** (2012) 5729–5737.

2. M. Rubčić, K. Užarević, I. Halasz, N. Bregović, M. Mališ, I. Đilović, **Z. Kokan**, R. S. Stein, R. E. Dinnebier, V. Tomišić: *Keto-enol desmotropy, polymorphism and solid-state proton transfer: Four solid forms of an aromatic Schiff-base*, *Chem. Eur. J.* **18** (2012) 5620–5631.

1. K. Užarević, M. Rubčić, I. Đilović, **Z. Kokan**, D. Matković-Čalogović, M. Cindrić: *Concomitant conformational polymorphism: Mechanochemical reactivity and phase relationships in the (methanol)*cis*-dioxo-(*N*-salicylidene-2-amino-3-hydroxypyridine)-molybdenum(VI) trimorph*, *Cryst. Growth Des.* **9** (2009) 5327–5333.

Selected Publications

5. A. Del Mauro, Z. Kokan,* V. Šindelář,* *Chem. Commun.* **58** (2022), *23*; 3815.

4. Z. Kokan,* M. Duskova-Smrckova, V. Šindelář,* *Chem,* **7** (2021), *9*; 2473.

3. M. Kandrnálová, Z. Kokan, V. Havel, M. Nečas, V. Šindelář,* *Angew. Chem. Int. Ed.* **58** (2019) 18182.

2. Z. Kokan* and M. J. Chmielewski,* *J. Am. Chem. Soc.* **140** (2018) 16010.

1. Z. Kokan,* B. Kovačević, Z. Štefanić, P. Tzvetkova, S. I. Kirin,* *Chem. Commun*., **54** (2018) 2094.

Conference Abstracts (oral presentations, underlined when presenting author)

8. M. Kandrnálová, Z. Kokan, V. Havel, M. Nečas, and V. Šindelář, "*Hypervalent Iodine Based Reversible Covalent Bond in Rotaxane Synthesis*", *III. simpozij supramolekulske kemije***,** 3.12.**2019**. Book of Abstracts, p12.

7. M. Pernar, Z. Kokan, M. Matković, I. Piantanida, D. Polančec, I. Turel, S. I. Kirin, A. Brozovic: " *Organometallic ruthenium complexes with triphenylphosphane amino acid bioconjugates as possible anticancer compounds* ", Annual Assembly of the Croatian Association for Cancer Research (HDRI), Zagreb, Croatia, 01.12.**2016**.

6. Z. Kokan, B. Perić, S. I. Kirin: Synthesis, characterization, and crystal structures of palladium(II) complexes with aminoacid substituted triphenylphosphine ligands, 21st Slovenian - Croatian Crystallographic Meeting, Pokljuka, Slovenia, 14–17/06/**2012**, Book of Abstracts, p. 57.

5. Z. Kokan, B. Perić, S. I. Kirin: Catalytic hydrogenation using Rh(I) with triphenylphosphine bioconjugates, 9th Meeting of Young Chemical Engineers, Zagreb, 16–17/02/**2012**, Book of Abstracts, p. 43.

4. Z. Kokan: "*Pep fo-sen, a seka*", Competition "Why is my research cool?", Scientific meetings of the third kind (ZS3V), Ruđer Bošković Institute, Zagreb, Croatia, 7–8/7/**2011**.

3. Z. Kokan, Đ. Škalamera, G. Kovačević, B. Perić, S. I. Kirin, Supramolecular Asymmetric Catalysis With Pseudo-Peptide Containing L2M complexes, 22nd Croatian Meeting of Chemists and Chemical Engineers, Zagreb, Croatia, 13–16/2/**2011**, Book of Abstracts, p. 45.

2. B. Perić, Z. Kokan, S. I. Kirin: *Crystal structures of the phosphorus ligand Ph_2P-pC_6H_4-Gly-OMe and two polymorphs of its nitrogen analogue Me_2N-pC_6H_4-Phe-OEt*, 19th Slovenian - Croatian Crystallographic Meeting, Strunjan, Slovenia, 16–20/6/**2010**, Book of Abstracts, str. 25.

1. K. Užarević, I. Đilović, Z. Kokan, M. Cindrić, D. Matković-Čalogović: *Concomitant trimorph of* cis-*dioxo[(*N-*3-oxypirid-2-yl)-salicydeneiminato*-O,N,O'-*methanol]molyb-denum(VI)*, 17th Slovenian-Croatian Crystallographic Meeting*,* Ptuj, Slovenia, 19–22/6/**2008**., Book of Abstracts; str. 35.

Conference abstracts (poster presentations, underlined when presenting author)

19. Z. Kokan, V. Šindelář, "*Bambusuril Anion Receptors as Supramolecular Hydrogelators*", 10th French-Czech Chemistry Meeting, 2-3.9.**2019**. Book of Abstracts p69.

18. Z. Kokan, B. Kovačević, P. Tzvetkova, S. I. Kirin, "*Chiral Induction and Hydrogen-Bonded Self-Assembly of Palladium Complexes with Amino Acid Derived Monodentate Phosphine Ligands*", International Symposium on Macrocyclic and Supramolecular Chemistry (ISMSC) in conjunction with ISACS: Challenges in Organic Materials & Supramolecular Chemistry, 2-6.7.**2017**. Book of Abstracts p59.

17. S. Opačak, Z. Kokan, Z. Štefanić, B. Perić, S. I. Kirin, "*Application of New Chiral Phospine Rh(I) Complexes in Enantioselective Catalytic Hydrogenation Reactions*", 25th Croatian meeting of chemists and chemical engineers, Poreč, Croatia, 19-22.4.**2017**, Abstract Book p. 144.

16. M. Pernar, Z. Kokan, M. Matković, I. Piantanida, D. Polančec, I. Turel, S. I. Kirin, A. Brozovic: "*Organometallic ruthenium complexes with triphenylphosphane amino acid bioconjugates as possible anticancer compounds*", HDIR-4: "*From Bench to Clinic*" - The 4th Meeting with International Participation, 03.-04.11.**2016**., Zagreb; Croatian Journal of Oncology (Libri oncologici), p. 47.

15. B. Perić, Z. Kokan, S. I. Kirin: "*Palladium and Platinum Phosphine Bio-conjugates*", International Conference on Coordination Chemistry, Brest, France, **2016**. Abstract Book p 372.

14. Z. Kokan, S. Opačak, and S. I. Kirin: "*Chiral Induction of Novel Ferrocene-Phosphine Ligands in Enantioselective Hydrogenation*"; Bit's 7th Annual Global Congress of Catalysis, Seoul, South Korea. Book of Abstracts p 152.

13. Z. Kokan, A. Brozović, I. Piantanida, I. Turel, and S. I. Kirin: *Organometallic Ruthenium complexes with triphenylphosphane amino acid bioconjugates: Catalytic and biological properties*, 4th Whole Action Meeting of the COST Action CM1105, Palma de Mallorca, Spain, 28–29/4/**2016**.

12. Z. Kokan, B. Perić, M. Vazdar, E. Leksić, E. Meštrović, and S. I. Kirin: *Aminopyridine bioconjugates in solution and solid-state*, 11th Meeting of young chemical engineers, Zagreb, Croatia, 18–19/2/**2016**.

11. Z. Kokan, B. Perić, J. Makarević, G. Štefanić, L. Frkanec, and S. I. Kirin: *Crystal and gelation properties of naphthalene bioconjugates*, The 29th European Crystallographic Meeting, Rovinj, Croatia, 23–28/8/**2015**. Book of Abstracts MS31-P2, *Acta Cryst*. (2015) **A71**, s450.

10. B. Perić, Z. Kokan, J. Makarević, G. Štefanić, L. Frkanec, S. I. Kirin: *Crystalization, polimorphy and gelation of amino acid disubstituted naphthalene bioconjugates*, Scientific meeting on industrial crystallization, Zagreb, Croatia, 23/01/**2015**.

9. K. Kučanda, Z. Kokan, B. Perić, S. I. Kirin: *Metallated bioconjugates of benzene-1,3,5-tricarbox-amide, 10th Meeting of young chemical engineers,* Zagreb, Croatia 20–21/02/**2014**, Book of Abstracts, p. 157.

8. T. Miljuš, M. Borovina, Z. Kokan, B. Perić, I. Halasz, S. I. Kirin: *Bioconjugates of naphthalene and anthracene,* 10th Meeting of young chemical engineers, Zagreb, Croatia 20–21/02/**2014**, Book of Abstracts, p. 214.

7. I. Đilović, M. Rubčić, K. Užarević, I. Halasz, N. Bregović, M. Mališ, Z. Kokan, R. S. Stein, R. E. Dinnebier, V. Tomišić: *Desmotropy, polymorphism and solid-state proton transfer: four solid forms of an aromatic* o*-hydroxy Schiff base*, Past, Present and Future of Crystallography @ Politecnico di Milano: From Small Molecules to Macromolecules and Supramolecular Structures, Milano, Italija, 6–7/6/**2013**.

6. Z. Kokan, M. Gredičak, I. Jerić, S. I. Kirin: *"Backdoor induction" in bioinspired asymmetric catalysis*, 1st Symposium on Functional Metal Complexes that Bind to Biomolecules, Barcelona, Spain, 9–10/09/**2013**.

5. A. Knežević, T. Ivšić, Z. Kokan, "*Chiral molecule hygiene*", Scientific meetings of the third kind (ZS3V), Ruđer Bošković Institute, Zagreb, Croatia, 7–8/7/**2011**.

4. Z. Kokan, A. Lataifeh, H.-B. Kraatz, S. I. Kirin: *Synthesis and characterization of chiral monodentate pseudo-peptide ligands and supramolecular asymmetric catalysis with their metal complexes*, International Symposium on Molecular Coordination Chemistry, Mülheim an der Ruhr, Germany, 07–09/11/**2010**. Programme and Abstract Book, P-51.

3. Z. Kokan, S. I. Kirin: *Rh(I) catalyzed enantioselective hydrogenation using chiral monodentate pseudo-peptide ligands*, 31st European Peptide Symposium, Kopenhagen, Denmark, 5–9/9/**2010**, P535.

2. Z. Kokan, B. Perić, S. I. Kirin: *Synthesis, characterization and catalytic activity of supramolecular metal complexes with chiral monodentate pseudo-peptide ligands*, 10th European Biological Inorganic Chemistry Conference, Solun, Greece, 22–26/6/**2010**, Program PO-125.

1. Z. Kokan, S. I. Kirin: *Synthesis and characterization of monodentate pseudopeptide ligands with nitrogen or phosphorus donor atoms*, 8th *Meeting of the young chemical engineers*, Zagreb, Croatia, 18–19/2/**2010**, Book of Abstracts, p. 97.

Science Popularisation Activities

10. Croatian radio, radio programme “Science and Society”, 24/5/**2017**, Third programme of Croatian Radio, http://radio.hrt.hr/treci-program/ep/znanost-i-drustvo/210432

9. Croatian educational TV programme, “*Chiral Molecules*” in popular scientific show “Third Element” S3E22, HRT3, 24/3/**2016**, https://www.youtube.com/watch?v=Me63o-aZIqg

8. Seminar: "Discover your ideal material" for foreign students. Organiser: Board of European Students of Technology (BEST), **2014**. Lecturer.

7. Introducing a synthetic chemical laboratory to the University of ZAgreb students. Organiser: Board of European Students of Technology (BEST), **2014**. Lecturer.

6. Lecture to elementary and highschool students: *In the begining, there was chemistry*, Students Accomodation Maksimir, Zagreb, Organiser: Boris Ivetić, Association "Heureka", **2013**. Lecturer.

5. *Ruđer Bošković Institute Open Days*, Zagreb, **2013**. Staff.

4. *Ruđer Bošković Institute Open Days*, Zagreb, **2010**. Staff.

3. *Chemistry Department Open Days*, Faculty of Science, University of Zagreb, **2010**. Ruđer Bošković Institute exhibitor.

2. *Chemistry Department Open Days*, Faculty of Science, University of Zagreb, **2008**. Staff.

1. *11th University of Zagreb Fair*, Zagreb, **2007**. Chemistry Department, Faculty of Science exhibitor.

Other Activities

2009–2015, **technical editor** of the Croatian scientific journal *Croatica Chemica Acta.*

References:

Dr. Srećko I Kirin
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