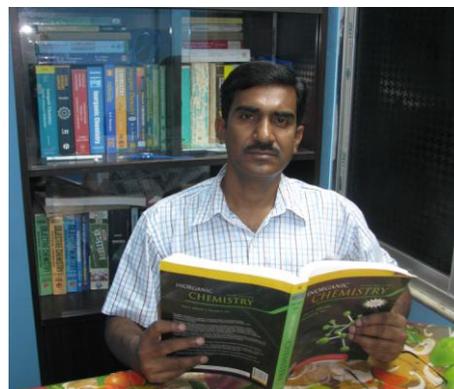


Faculty Information

Name: Dr. Rajesh Koner

Designation: Assistant Professor

- **Department:** Chemistry
- **Qualification:** M.Sc., Ph.D.
- **Contact No:** 9830132102
- **Email Id:** rk_cu_chem@yahoo.co.in/
rkbgc2010@gmail.com



- **Area of Specialization:** *Inorganic Chemistry*
- **Research Interest:** Designed Synthesis of exchange-coupled 3d-4f and 3d-3d complexes with preorganized acyclic and macrocyclic ligand environments and studies of their supramolecular interactions and magnetic properties.
- **Teaching Experience:** 8 years
- **Professional Membership:**
 1. Life member of 'Indian Association for the Cultivation of Science'.
 2. Life member of 'Association of Environmental Analytical Chemistry of India (AEACI)'
- **Awards**
 1. **Recipient Sir P. C. Ray Research Award; Department of Chemistry, University of Calcutta, India, 2005.**
 2. **National Scholarship for top ten in Chemistry (Hons), University of Burdwan, 1999.**
- **Special Achievements:**
 1. **Post Doctoral Fellowship, Center for Research in Nanoscience and Nanotechnology, University of Calcutta, India, 2009.**
 2. **Post Doctoral Fellowship, School of Chemistry, Tel Aviv University, Israel, 2008.**

• Important list of Publications

1. Ferromagnetic Exchange in Two Dicopper(II) Complexes using a μ -Alkoxy- μ -7-Azaindolate Bridge – Y.-C. Chou, S.-F. Huang, **R. Koner**, G.-H. Lee, Y. Wang, S. Mohanta and H.-H. Wei, *Inorg. Chem.* **2004**, *43*, 2759 – 2761.
2. Syntheses, Crystal Engineering, and Magnetic Property of a Cyano-Bridged One-Dimensional $Gd^{III}Fe^{III}$ Coordination Polymer Self-Assembled to Two-Dimension due to Supramolecular Interaction – **R. Koner**, M. G. B. Drew, A. Figuerola, C. Diaz and S. Mohanta, *Inorg. Chim. Acta*, **2005**, *358*, 3041 – 3047.
3. Two New Diphenoxo-Bridged Discrete Dinuclear $Cu^{II}Gd^{III}$ Compounds with Cyclic Diimino Moieties: Syntheses, Structures, and Magnetic Properties – **R. Koner**, G.-H. Lee, Y. Wang, H.-H. Wei and S. Mohanta, *Eur. J. Inorg. Chem.* **2005**, 1500–1505.
4. Strongly Hydrogen Bonded Interlocked Infinite Double Helices in a Crown Ether Based Gadolinium(III) Hexacyanoferrate(III) Supramolecule – **R. Koner**, M. Nayak, G. Ferguson, J. N. Low, C. Glidewell, P. Misra and S. Mohanta, *Cryst. Eng. Commun.* **2005**, *7*, 129 – 132.
5. Syntheses, Structures, and Magnetic Properties of Diphenoxo-Bridged $M^{II}Ln^{III}$ Complexes Derived from *N,N'*-Ethylenebis(3-Ethoxysalicylaldimine) ($M = Cu$ or Ni , $Ln = Ce - Yb$): Observation of Surprisingly Strong Exchange Interactions – **R. Koner**, H.-H. Lin, H.-H. Wei and S. Mohanta, *Inorg. Chem.* **2005**, *44*, 3524–3536.
6. Hydrogen Bonded One-Dimensional Zigzag Pairs and Helical Dimers in an Enolic 4-Terpyridone Based Nickel(II) Dicyanamide Supramolecule – M. Nayak, **R. Koner**, H. Stoeckli-Evans, and S. Mohanta, *Cryst. Growth & Design* **2005**, *5*, 1907 – 1912.
7. Syntheses, Structures, and Magnetic Properties of Mononuclear Cu^{II} and Tetranuclear $Cu^{II}_3M^{II}$ ($M = Cu, Co, \text{ or } Mn$) Compounds Derived from *N,N'*-ethylenebis(3-ethoxysalicylaldimine): Cocrystallization due to Potential Encapsulation of Water – M. Nayak, **R. Koner**, H.-H. Lin, U. Flörke, H.-H. Wei and S. Mohanta, *Inorg. Chem.* **2006**, *45*, 10764 – 10773.
8. Crystal Engineering and Magnetic Properties of a 2D Cyano-Bridged $Ni^{II}Fe^{II}$ Network Formed Through Reduction of Ferricyanide – M. Nayak, P. Kundu, P. Lemoine, **R. Koner**, H.-H. Wei and S. Mohanta, *Polyhedron* **2006**, *25*, 2007 – 2014.
9. Hydrated Hexacyanometallate (III) Salts of Triqua (18-crown-6) Lanthanoid (III) and Tetraqua (18-crown-6) Lanthanoid (III) Cations Containing Nine- and Ten-coordinate Lanthanoids – P. Misra, **R. Koner**, M. Nayak, S. Mohanta, J. N. Low, G. Ferguson and C. Glidewell, *Acta Cryst.* **2007**, *C63*, m440 – m444.
10. Syntheses, Characterization, Spectroscopy, and Quantum Chemical Calculation of Two 2-(*N*-2'-aminopyridyl)pyridinium Salts: Observation of an Acyclic Water Pentamer – P. Misra, M. Nayak, P. Lemoine, **R. Koner** and S. Mohanta, *J. Coord. Chem.* **2008**, *61*, 1088 – 1101.
11. Self-assembled $[2 \times 1 + 1 \times 2]$ heterotetranuclear $Cu^{II}_3Mn^{II} / Cu^{II}_3Co^{II}$ and $[2 \times 2 + 1 \times 3]$ heptanuclear Cu^{II}_7 compounds derived from *N,N'*-*o*-phenylenebis(3-ethoxysalicylaldimine): structures and magnetic properties – M. Nayak, S. Hazra, P. Lemoine, **R. Koner**, C. R. Lucas and S. Mohanta, *Polyhedron*, **2008**, *27*, 1201 – 1213.
12. The first coordination polymer of lanthanum(III) with a naphthalene-1,4,5,8-tetracarboxylic 1,8-anhydride derivative – **R. Koner** and I. Goldberg, *Acta Cryst.* **2008**, *C64*, m264-m266.

- 13 The Coordination Polymers Poly[μ -4,4-bipyridyl-di- μ -formato-copper(II)] and catena-poly[[[diaqua(1-benzofuran-2,3-dicarboxylato)copper(II)]- μ -1,2-di-4-pyridylethane] dihydrate] – **R. Koner** and I. Goldberg, *Acta Cryst.* **2009**, C65, m185-m189.
- 14 Square-grid Coordination Networks of Diaquabis(4,4'-bipyridyl)copper(II) Crosslinked by Hydrogen Bonds Through two Monoanions of 1-Benzofuran-2,3-dicarboxylic Acid and Five Molecules of Water – **R. Koner** and I. Goldberg, *Acta Cryst.* **2009**, C65, m62-m65.
- 15 Probing the Supramolecular Interaction Synthons of 1-Benzofuran-2,3-dicarboxylic Acid in Its Monoanionic Form – **R. Koner** and I. Goldberg, *Acta Cryst.* **2009**, C65, m37-m41.
- 16 Supramolecular Reactivity of Naphthalene-1,4,5,8-tetracarboxylic Acid Towards Transition Metal Ions: Coordination Polymers and Discrete Complexes With Cu^{II}, Ni^{II} and Co^{II} – **R. Koner** and I. Goldberg, *Cryst. Eng. Comm.* **2009**, 11, 367-374.
- 17 Square-Grid Coordination Networks of (5,10,15,20-Tetra-4-pyridylporphyrinato) Zinc(II) in Its Clathrate With Two Guest Molecules of 1,2-Dichlorobenzene: Supramolecular Isomerism of the Porphyrin Self-assembly – **R. Koner** and I. Goldberg, *Acta Cryst.* **2009**, C65, m139 – m142.
- 18 Two- and Three-Dimensional Hydrated Coordination Polymers of Diaqualanthanum(III) Ions With 2-Hydroxypropanedioate, Oxalate and Acetate Anions as Bridging Ligands – **R. Koner** and I. Goldberg, *Acta Cryst.* **2009**, C65, m160 –m164.
- 19 A Unique Two-Dimensional Coordination Network of 1-Benzofuran-2,3-dicarboxylate With Lanthanum(III) Obtained by Solvothermal Synthesis – **R. Koner** and I. Goldberg, *Acta Cryst.* **2009**, C65, m149-m151.
- 20 Crystal Engineering of Molecular Networks. Hydrogen Bonding Driven Two-Dimensional Assemblies of tetrapyridylporphyrin with benzene Tri- and Tetra-Carboxylic Acids– **R. Koner** and I. Goldberg, *Cryst. Eng. Comm.* **2009**, 11, 1217-1219.
- 21 Magnetic and Electrochemical Properties of a Heterobridged μ -Phenoxido- μ -1,1-Azide Dinickel(II) Compound: A Unique Example Demonstrating the Bridge Distance Dependency of Exchange Integral – **R. Koner**, S. Hazra, M. Fleck, A. Jana, C. R. Lucas and S. Mohanta, *Eur. J. Inorg. Chem.* **2009**, 4982 –4988.
- 22 Cocrystallized Dinuclear-Mononuclear Cu^{II}₃Na^I and Double-Decker-Triple-Decker Cu^{II}₅K^I₃ Complexes Derived from *N,N'*-Ethylenebis(3-ethoxysalicylaldehyde) – S. Hazra, **R. Koner**, M. Nayak, H. A. Sparkes, J. A. K. Howard and S. Mohanta, *Cryst. Growth & Design* **2009**, 9, 3603 – 3608.
- 23 Role of Coordinated Water and Hydrogen Bonding Interaction in Stabilizing Monophenoxo-Bridged Triangular Cu^{II}M^{II}Cu^{II}Compounds (M = Cu, Co, Ni or Fe) Derived from *N,N'*-Ethylenebis(3-Methoxysalicylaldehyde): Syntheses, Structures, and Magnetic Properties – S. Majumder, **R. Koner**, P. Lemoine, M. Nayak, M. Ghosh, S. Hazra, C. R. Lucas and S. Mohanta, *Eur. J. Inorg. Chem.* **2009**, 4887–4894.
- 24 Syntheses, Structures, and Magnetic Properties of Heterobridged Dinuclear and Cubane Type Tetranuclear Complexes of Nickel(II) Derived from a Schiff Base Ligand – S. Hazra, **R. Koner**, P. Lemoine, E. Carolina Sañudo and S. Mohanta, *Eur. J. Inorg. Chem.* **2009**, 3458 –3466.
- 25 Role of Water and Solvent for the Formation of Three Mononuclear Copper(II) Crystals: a New Type of Hydrate Isomerism in Coordination Chemistry – S. Hazra,

- R. Koner**, M. Nayak, H. A. Sparkes, J. A. K. Howard and S. Mohanta, *Eur. J. Inorg. Chem.* **2009**, 4887–4894.
- 26 Syntheses, structures, absorption and emission properties of a tetraaminodiphenolmacrocylic ligand and its dinuclear Zn(II) and Pb(II) complexes – S. Hazra, S. Majumder, M. Fleck, **R. Koner** and S. Mohanta, *Polyhedron* **2009**, *28*, 2871–2878.
- 27 Syntheses, Crystal Structures and Mass Spectroscopy of Mononuclear Ni^{II} Inclusion Product and Self-Assembled [2×1+1×2] Ni^{II}₃M^{II} (M = Cu, Ni, Co, Fe or Mn) Cocrystals Derived from *N,N'*-Ethylenebis(3-Ethoxysalicylaldehyde) – S. Sarkar, M. Nayak, M. Fleck, S. Dutta, U. Flörke, **R. Koner** and S. Mohanta, *Eur. J. Inorg. Chem.* **2009**, 735–743.
- 28 Supramolecular dimers of metal complexes resulted from designed host-guest interaction – M. Nayak, S. Sarkar, P. Lemoine, **R. Koner**, H. A. Sparkes, J. A. K. Howard and S. Mohanta, *Eur. J. Inorg. Chem.* **2009**, 744–752.
- 29 Syntheses, Structures, and Magnetic Properties of Diphenoxo-Bridged Cu^{II}Ln^{III} and Ni^{II}(Low-Spin)Ln^{III} Compounds Derived from a Compartmental Ligand (Ln = Ce–Yb) – A. Jana, S. Majumder, L. Carrella, M. Nayak, T. Weyhermueller, S. Dutta, D. Schollmeyer, E. Rentschler, **R. Koner**, and S. Mohanta, *Inorg. Chem.* **2010**, *49*, 9012–9025.
- 30 Syntheses, crystal structure and magnetic properties of [2×1+1×2]heterotetrametallic and [1×1+1×1]heterodimetalliccocrystals of copper(II) and iron(II/III) – A. Jana, **R. Koner**, T. Weyhermueller, P. Lemoine, M. Ghosh and S. Mohanta, *Inorg. Chim. Acta* **2011**, *375*, 263–270.
31. Syntheses, crystal structures and magnetic properties of trinuclear and [3 × 1 + 1 × 2] pentanuclear complexes derived from a compartmental ligand: Role of solvent on nuclearity and number of components-A. Jana, **R. Koner**, M. Nayak, P. Lemoine, S. Dutta, M. Ghosh, S. Mohanta, *Inorg. Chim. Acta* **2011**, *365*, 71–77.

Books Published:

1. Higher Secondary (Class – XII) Practical Chemistry (Bengali version; ISBN: 81-87284-45-5), Kotha-O-Kahani Publishers, Kolkata, **2014**.
2. Higher Secondary (Class – XI) Practical Chemistry (Bengali version; ISBN: 81-87284-65-X), Kotha-O-Kahani Publishers, Kolkata, **2016**.
3. Science Book (Physics & Chemistry): Class - X (Bengali Version, Provisional T. B. No. TRIPURA/SC1/49/2016/PROVI dated November 17, **2016**)