BIO-DATA

1. *Name and full correspondence address*: Dr. RIA SANYAL

2. *Email(s) and contact numbers(s):* sanyalria2021@gmail.com; sanyalr.chem@dhwu.ac.in

3. *Affiliation*: Dept. of Chemistry, Diamond Harbour Women's University

4. *Gender (M/F/T)*: F

5. *Category (Gen/SC/ST/OBC)*: Gen

6. *Whether differently abled (Yes/No)*: No

7. *Academic qualification (Undergraduate onwards)*

	Degree	**Year**	**Subject**	**University/Institution**
1.	Ph.D.	2015	Chemistry (Inorganic)	University of Calcutta
2.	M.Sc.	2010	Chemistry	University of Calcutta
3.	B.Sc. (Hons.)	2008	Chemistry	Presidency College, Kolkata

8. *Ph.D. thesis title, Guide's name, Institute/Organization/University, Year of Awards*

Thesis title: Synthesis, characterization and bioactivity of transition and post-transition metal-complexes of designed Mannich and Schiff-base ligands

Guide's name: Dr. Debasis Das, Professor, Department of Chemistry, University of Calcutta, Kolkata-700009.

University: Department of Chemistry, University of Calcutta, 92 A.P.C. Road, Kolkata-700 009.

9. *Work experience (in chronological order)*

S. No.	**Positions held**	**Name of the Institute**	**From**	**To**

1.	Assistant Professor	Diamond Harbour Women's University	01-12-2021	Present
2.	Science Writer (Chemistry)	Journal of Visualized Experiments (JoVE)	07-06-2021	13-12-2021
3.	Managing Editor	BBRC journal, Elsevier	30-09-2021	31-10-2021
4.	Research Affiliate	University of Minnesota	01-11-2020	19-04-2020
5.	Postdoctoral Associate	University of Minnesota	01-11-2018	31-10-2020
6.	Dr. D.S. Kothari Postdoctoral Fellow	Indian Institute of Science, Bangalore	01-09-2016	03-10-2018
7.	Guest Lecturer (Chemistry)	Behala College	15-02-2016	13-08-2016
8.	Guest Lecturer (Chemistry)	Surendranath College	29-09-2015	30-09-2016

10. Professional recognition / Award / Prize / Certificate, Fellowship received by the applicant

S. No.	**Name of award**	**Awarding agency**	**Year**
1.	Newton-Bhabha Researcher Links Workshop Travel Award, IIT Kanpur	Newton-Bhabha Researcher Links Workshop Grant, British Council	2017
2.	International Travel Support Award	SERB	2017
3.	DSKPDF	UGC	2016
4.	Researcher Travel Award	University of Calcutta	2015
5.	Young Scientist Award	Indian Chemical Society	2015

6.	CSIR-NET fellowship	CSIR-UGC	2010
7.	GATE qualified	IIT & IISC	2010
8.	LS (NET)	CSIR-UGC	2009

11. *Publications (List of papers published in SCI journals, in year wise descending order).*

S. No.	**Author(s)**	**Title**	**Name of journal**	**Volume**	**Page**	**Year**
1.	R. Sanyal, A. Bhagi-Damodaran	An enzymatic method for precise oxygen affinity measurements over nanomolar-to-millimolar concentration regime	Journal of Biological Inorganic Chemistry	25	181-186	2020
2.	R. Sanyal, S. Ketkov, S. Purkait, F. A. Mautner, G. Zhigulin, D. Das	Nuclearity dependent solvent contribution on the catechol oxidase activity of novel Copper(II) complexes derived from Mannich-base ligand platforms: synthesis, crystal structure and mechanism.	New Journal of Chemistry	41	8586-8597	2017
3.	S. Mandal, Y. Sikdar, D. K. Maiti, R. Sanyal, D. Das, A.	New pyridoxal based chemosensor for selective detection of Zn^{2+}: application in live cell imaging and	Journal of Photochemistry and Photobiology A : Chemistry	334	86-100	2016

	Mukherjee, S. K. Mandal, J. K. Biswas, S. Goswami	phosphatase activity response				
4.	S. Mandal, Y. Sikder, R. Sanyal, S. Goswami	Experimental and theoretical study on a new copper(II) complex derived from pyridoxal hydrochloride and 1,2-diaminocyclohexane	Journal of Molecular Structure	1128	471-480	2017
5.	R. Sanyal, S. K. Dash, P. Kundu, D. Mondal, S. Roy, D. Das	Novel bioinspired acetato-bridged dinuclear Nickel(II)-Schiff-Base complex: catechol oxidase and in vitro biological activity studies	Inorganica Chimica Acta	453	394–401	2016
6.	R. Sanyal, X. Zhang, P. Chakraborty, C. Zhao, F. A. Mautner, D. Das.	Role of para-substitution in controlling phosphatase activity of dinuclear Ni^{II} complexes of Mannich-base ligands: experimental and DFT studies.	RSC Advances	6	73534-73546	2016
7.	R. Sanyal, X. Zhang, P. Chakraborty, S. Giri, S. Chattopadhya	Role of solvent on phosphatase activity of a dinuclear Ni(II) complex of a Schiff-base ligand: mechanistic	New Journal of Chemistry	40	7388-7398	2016

	y, C. Zhao, D. Das.	interpretation by DFT studies				
8.	R. Sanyal, P. Kundu, E. Rychagova, G. Zhigulin, S. Ketkov, B. Ghosh, S. K. Chattopadhyay, E. Zangrando, D. Das	Catecholase activity of Mannich-based dinuclear Cu^{II} complexes with theoretical modeling: New insight into the solvent role in catalytic cycle	New Journal of Chemistry	40	6623-6635	2016
9.	R. Sanyal, P. Chakraborty, E. Zangrando, D. Das.	Phosphatase Models: Synthesis, Structure and Catalytic Activity of Zinc Complexes Derived from a Phenolic Mannich-base Ligand	Polyhedron	97	55-65	2015
10.	R. Sanyal, X. Zhang, P. Kundu, T. Chattopadhyay, C. Zhao, F. A. Mautner, D. Das	Mechanistic Implications in the Phosphatase activity of Mannich-based Zinc Complexes with Theoretical Modeling	Inorganic Chemistry	54	2315−2324	2015
11.	S. Ganguly, R. Sanyal, R. Mondal.	Tuning Cu^{II} Coordination Polymers Derived from a Bis(pyrazolecarboxylate) Ligand by	European Journal of Inorganic Chemistry	34	5874-5884	2014

		Solvothermal C–H Bond Activation: Synthesis, Structures, Catalysis, and Magnetic Properties				
12.	S. Das, S. Jana, P. Chakraborty, R. Sanyal, D. K. Maiti, N. Guchhait, E. Zangrando, D. Das.	Chemodosimetric Detection of the Acetate Anion by Using the Template Reaction Method via a Fluorescence "Turn-Off" Signal	European Journal of Inorganic Chemistry		5432–5442	2014
13.	P. Chakraborty, J. Adhikary, B. Ghosh, R. Sanyal, S. K. Chattopadhyay, A. Bauzá, A. Frontera, E. Zangrando, D. Das	Relation between the Catalytic Efficiency of the Synthetic Analogues of Catechol Oxidase with Their Electrochemical Property in the Free State and Substrate-Bound State	Inorganic Chemistry	53	8257−8269	2014
14.	S. Das, L. Sorace, A. Guha, R. Sanyal, H. Kara, A. Caneschi, E. Zangrando, D. Das	Syntheses, Characterization, and Magneto–Structural Analyses in $\mu_{1,3}$-Acetato-Bridged Tetracopper(II) and $\mu_{1,3}$- and $\mu_{1,1,3}$-Acetato-	European Journal of Inorganic Chemistry		2753–2765	2014

		Bridged Pentanickel(II) Clusters.				
15.	P. Chakraborty, J. Adhikary, R. Sanyal, A. Khan, K. Manna, S. Dey, E. Zangrando, A. Bauzá, A. Frontera, D. Das	Role of ligand backbone of tridentate Schiff-base on complex nuclearity and bio-relevant catalytic activities of zinc(II) complexes: Experimental and theoretical investigations.	Inorganica Chimica Acta	421	364–373	2014
16.	R. Sanyal, S. K. Dash, S. Das, S. Chattopadhyay, S. Roy, D. Das.	Catecholase activity, DNA cleavage and cytotoxicity of six Zn(II) complexes synthesized from designed Mannich ligands: higher reactivity of mononuclear over dinuclear.	Journal of Biological Inorganic Chemistry	19	1099–1111	2014
17.	R. Sanyal, A. Guha, T. Ghosh, T. K. Mondal, E. Zangrando, D. Das.	Influence of the Coordination Environment of Zinc(II) Complexes of Designed Mannich Ligands on Phosphatase Activity: A Combined	Inorganic Chemistry	2014	85−96	53

		Experimental and Theoretical Study				
18.	A. Guha, R. Sanyal, T. Chattopadhyay, Y.G. Han, T. K. Mondal, D. Das.	Self-assembled nanostructures of specially designed Schiff-bases and their zinc complexes: Preparation, characterization and photoluminescence property.	Journal of Molecular Structure	1042	104–111	2013
19.	A. Guha, K. S. Banu, S. Das, T. Chattopadhyay, R. Sanyal, E. Zangrando, D. Das.	A series of mononuclear nickel(II) complexes of Schiff-base ligands having N,N,O- and N,N,N-donor sites: Syntheses, crystal structures, solid state thermal property and catecholase-like activity.	Polyhedron	52	669–678	2013

12. *Detail of Ph.D.* students: (1) Shabnam Sultana (Enrollment data: 20-02-2024)

13. *Books / Reports / Chapters / General articles, etc.*:

S. No.	**Title**	**Author's name**	**Publisher**	**Year of publication**	**Link**
1	Organoid Technology and the COVID Pandemic	R. Sanyal and Manash K. Paul	IntechOpen	2021	Link

2	The Historical journey from Personalized to Precision medicine: a semantic story	R. Sanyal	StemPeers Newsletter	2021	Link
3	Jobs in the time of corona	R. Sanyal and K. Katti	StemPeers Newsletter	2021	Link
4	Scientific writing: A workshop on language skills	R. Sanyal	The Elixir, IISc Bangalore	2017	Link

14. Any other information (maximum 500 words):

I have a strong background in the study of small molecule mimics of metalloenzymes having redox and hydrolytic activity. My research goal(s) in the past and present comprises of (i) the study and design of "druggable" metalloenzymes crucial to cardiovascular and infectious disease pathways through protein engineering, (ii) enzyme-based method development of gaseous (O2/NO) affinity measurements of specific gas-utilizing enzymes, finally leading to (iii) the development of therapeutic strategies by validation of small molecules and biologics.

Being involved in cross-functional project teams, I have played a key role in the establishment of mechanism for the catalytic pathways of functional mimics of Phosphatase family and Catechol oxidase enzymes and understanding the know-hows of drug discovery.

My core interests lie in successfully implementing diverse technologies from inorganic chemistry and chemical biology to support the development of novel therapeutics for the treatment of unmet medical needs. In my career, I have taken the lead on several collaborative research projects, resulting in 20 publications and securing $1.2 million+ research funding.

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