

# Avinash S. Kumbhar

Senior Professor



## Current Position:

**Professor:** Department of Chemistry,  
Savitribai Phule Pune University  
(Formerly University of Pune),  
Pune - 411 007  
Maharashtra, INDIA

## Personal Details:

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DOB : 15<sup>th</sup> April, 1965  
Familial Status : Married  
Nationality : Indian

## University Education & University | College Examinations:

Year	Name of the Institution	Degree	Major Subject Studied
1985	University of Pune, Maharashtra, India.	B. Sc. [Chemistry]	Chemistry
1987	University of Pune, Maharashtra, India.	M.Sc. [Chemistry]	Inorganic Chemistry
1993	University of Pune, Maharashtra, India.	Ph.D. [Chemistry]	Bioinorganic Chemistry
1998-99	University of North, Carolina, Chapel Hill, USA	Post-Doctoral BOYSCAST Fellow	Metal DNA Interactions
2013-14	University of Houston, USA	Fulbright – Nehru Senior Research Fellow	Water Oxidation Complexes

## Academic | Research Experience | Employment:

Designation	Department	Date of Actual Joining	
		From	To
Lecturer	Chemistry	04-11-1991	20-03-2003
Assistant Professor	Chemistry	21-03-2003	21-03-2006
Associate Professor	Chemistry	21-03-2006	20-03-2009
Professor	Chemistry	21-03-2009	Till date
Head of department	Interdisciplinary School of Science (IDSS)	01-01-2019	Till date

### *Awards and Fellowships:*

<i>Sr. No.</i>	<i>Award / Fellowship</i>	<i>Year</i>
1	CRSI- Bronze Medal	2014
2	Fulbright-Nehru Senior Research Fellowship	Oct 2013 - June 2014
3	Journal Grant for International Authors by Royal Society of Chemistry	May 2013 – June 2013
4	Erasmus Mundus Experts II Faculty award	11 Oct – 10 Nov 2012
5	UGC Visiting Fellow	2012
6	Fellow of Maharashtra Academy of Sciences	2010
7	BOYSCAST FELLOWSHIP by DST for Advanced training and research	1998 - 1999
8	The Prof ArunK.Dey Award for the paper presentation at the Convention of Chemists	1995

### *Teaching (Since 1991):*

#### *Topics:*

- 1) Bioinorganic Chemistry.
- 2) Organometallic Chemistry.
- 3) Reaction Mechanism in Inorganic Chemistry.
- 4) Medicinal Inorganic Chemistry.
- 5) Homogenous Catalysis.

### *Current Research Interests:*

- 1) Metal-DNA conjugates
  - DNA Binding studies
  - DNA Condensations
  - Non-viral gene delivery vector
- 2) Metal Organic Framework / Porous coordination polymers for
  - Proton conduction
  - Gas adsorption
- 3) Water Splitting
  - Water oxidation
  - Water reduction/ proton reduction
- 4) Proton coupled electron transfer(PCET) of Ruthenium complexes
- 5) Dye Sensitized Solar Cell (DSSC)
- 6) Pulse Radiolysis for redox chemistry of metal complexes

### *Academic Extension Activities:*

- 1) Participant, Leadership for Academicians Programme (LEAP) organized by IISER Kolkata February 2019
- 2) Course Coordinator, GIAN, Medicinal Inorganic Chemistry 2018.
- 3) Coordinator, Science Club, SPPU, since June 2017.

- 4) Co-coordinator, "Novel Materials" Thrust area under UPE program SPPU, Pune.
- 5) Co-Convener, International Conference on Structural Inorganic Chemistry, December 2014
- 6) Course Coordinator, GIAN Organometallic Chemistry, August 2015
- 7) Member Technical Specifications Drafting Committee, BAMU, February 2017
- 8) Member Ph.D. Admission Committee, Agrochemicals and Pesticides, Shivaji University, May 2017
- 9) Co-Convenor, Modern Trends in Inorganic Chemistry, Conference, December 2017
- 10) Course Coordinator, GIAN Medicinal Inorganic Chemistry, February 2018
- 11) Mentor, 43rd International Chemistry Olympiad, IChO-2016, Tbilisi, Georgia.
- 12) Scientific Observer, 42nd International Chemistry Olympiad, IChO-2015, Baku, Azerbaijan.
- 13) Subject Expert for SRF/RA Selection Committee member in the area of "Inorganic Chemical Sciences (CHEM/22)
- 14) Subject Expert for Ph.D. entrance & registration, JRF to SRF upgradation, Course work at NCL, Agharkar Research Institute, S.P. College, Pune.

#### ***Exam Related Activities:***

- 1) Coordinator, State Eligibility Test (SET), Maharashtra, Chemical Sciences Paper setting, since 2016.
- 2) Member, State Lectureship Eligibility Test (SLET) Gujarat, Chemical Sciences paper setting.
- 3) Member, Chemical Paper Setting, since 2010.
- 4) Member, M.Sc. Entrance Paper Setting since 2000.

#### ***International Exchange Programs:***

- 1) DST-DAAD Personnel Exchange Programme with University of Leipzig, Germany, 2014-2016.
- 2) Erasmus + programme with University of Leipzig, Germany 2018-2021
- 3) Erasmus plus proposal submitted in collaboration with the University of Turku, Finland

#### ***Recent Invited Lectures at National or International Conference | Seminar:***

<i>Sr. No.</i>	<i>Title of Lecture</i>	<i>Title of Conference / Seminar</i>	<i>Organized by</i>	<i>International / National</i>
1.	Metal Polypyridyl Complexes for Diverse applications	Dr. T.R Ingle Memorial National Symposium S.P.College, 14-15 February 2020	S.P.College, Pune	National
2.	Light activated	Trombay Symposium	Indian Society	International

<i>Sr. No.</i>	<i>Title of Lecture</i>	<i>Title of Conference / Seminar</i>	<i>Organized by</i>	<i>International / National</i>
	homogenous water oxidation by metalpolypyridyl complexes	in Radiation and Photochemistry January 5-9, 2020	of Radiation and Photochemical Sciences (ISRAPS) BARC	
3.	Bits of Metal Complexes Pieces of DNA	Bioinorganic Mini symposium 28 <sup>th</sup> June 2019	IIT, Mumbai	National
4.	DNA condensation induced by Ruthenium polypyridyl complexes	Emerging trends in Chemical and Environmental Sciences (ETCES-2019) 3-4 January 2019	Sangamner College	International
5.	DNA condensation by Metal polypyridyl Complexes	Innovations in Frontier Chemistry 8-9 May 2018	IISER, Pune	National
6.	DNA condensation by Ruthenium polypyridyl Complexes	7 <sup>th</sup> National Symposium on Advances in Chemical Sciences 26-27 March 2018	Guru Nanak Dev University, Amritsar	National
7.	Bioinspired Materials for Gene Therapy	Bioinspired Material in Sc	New Arts Science College, Ahmednagar 19-20 January 2018	National
8	DNA Condensation by Ruthenium polypyridyl Complexes	5 <sup>th</sup> Symposium on Advanced Biological Inorganic Chemistry 7-11 January 2017	IACS Kolkotta TIFR, Mumbai	International
9	Acetylcholinesterase and A $\beta$ aggregation Inhibition by Mononuclear Ru(II) Polypyridyl and Heterometallic Ru(II)-Pt(II) Polypyridyl Complexes	8 <sup>th</sup> Asian Biological Inorganic Chemistry Conference 8-12 December 2016	SABIC- University of Auckland, New Zealand	International
10.	Ruthenium (II) polypyridyl complexes as carriers for DNA delivery	Physics of Cancer, University of Leipzig, Germany Nov-2-3, 2012	University of Leipzig	International
11.	Mixed Ligand polypyridyl complexes of Transition	Department of Chemistry University	University of Gottingen	International

<i>Sr. No.</i>	<i>Title of Lecture</i>	<i>Title of Conference / Seminar</i>	<i>Organized by</i>	<i>International / National</i>
	metal and their interactions with biological molecules	of Gottingen Germany Nov.1, 2012		
12.	Mixed Ligand polypyridyl complexes of Transition metal and their interactions with biological molecules	Department of Chemistry University of Marburg Germany. October 30, 2012	University of Marburg Germany	International
13.	Ruthenium(II) Polypyridyl Complexes as DNA Condensing Agents	3 <sup>rd</sup> Asian Conference on Coordination Chemistry Oct. 17-20, 2011	Departments of Chemistry IIT-Kanpur & Delhi	International
14.	Ruthenium(II) Polypyridyl Complexes as DNA Condensing Agents	MTIC-XIV December 10 – 13, 2011	University of Hyderabad	International
15.	Metal Polypyridyl Complexes and their Interactions with DNA	School and Symposium on Advanced Biological Inorganic Chemistry (SaBIC) Nov. 2009	TIFR, Mumbai	International
16.	Metal Complexes-DNA interactions: From Transcription inhibition to synthetic restriction enzymes.	Recent Trends in Modern Biology. November 2008	Department of Zoology,	National
17.	Ruthenium(II) Complexes of Bipyridine Glycouril and their Interactions with DNA	The 4 <sup>th</sup> Asian Biological Inorganic Chemistry Conference, Jeju, South Korea. Nov- 10-13, 2008	Society for Biological Inorganic Chemistry	International
18.	Mixed Ligand Polypyridyl Complexes of Transition metals and their interactions with DNA	In-Course Symposium on Biol Inorganic Chemistry Oct. 10-2010	IIT-Mumbai	National

### ***Ongoing and Completed Research Projects (2000-2012):***

<i>Sr.</i>	<i>Title</i>	<i>Agency</i>	<i>Duration</i>
<i>Ongoing Projects</i>			
1	Water oxidation by dyad assemblies	CSIR	Dec.2016 to Dec. 2020
2	Centre of Advanced Studies Bioinorganic Chemistry & Radiation and Photochemistry Thrust Area	UGC	
<i>Completed Projects</i>			

4	Flexible binuclear transition metal complexes: DNA binding, cleavage and cytotoxicity studies	DST	Jan. 2011 to Jan. 2014
5	Water oxidation by ruthenium polypyridyl complexes	CSIR	Dec.2011 to Dec. 2014
6	Bipyridine functionalized molecular clips: DNA binding studies of their transition metal mixed polypyridyl complexes	DST	Apr. 2007 to Sept. 2010
7	Redox chemistry of transition metal complexes – A radiation chemical study	BARC-UOP	Oct. 2005 to Oct. 2010
8	Metal – based DNA cross linking agents	UGC	Apr. 2007 to Mar. 2010
9	Mixed ligand copper(II) complexes as synthetic hydrolases	DST	Nov. 2006 to Nov. 2009
10	Interaction of transition metal complexes with nucleic acids	Pune Uni. (BCUD)	Aug. 2006 to Mar. 2008
11	Synthesis, characterization and photochemistry of metallo-intercalators with nucleic Acids	BARC-UOP	Nov. 2002 to Nov. 2007
12	DNA metallobinders with spectator ligand specificity	CSIR	Jan. 2001 to Jan. 2004

### *Details of Ph. D Supervision:*

<i>Sr. No.</i>	<i>Name</i>	<i>Title of the thesis</i>	<i>Year</i>	<i>Current Position</i>
1	Dr. Megha Deshpande	Synthesis, characterization and photochemistry of metallo-intercalators with nucleic acids	Nov., 2007	Post-Doctoral Scholar, University of Kentucky, USA
2	Dr. Archika Barve	Synthesis, characterization of mixed ligand copper (II) polypyridyl complexes and their interaction with nucleic acid	Jan., 2009	Scientist, Agharkar Research Institute, Pune
3	Dr. Nazrul Islam	Mixed ligand complexes of Vanadium (III) and their interaction with nucleic acid	Sept. 2009	Professor Rajshahi University, Dhaka, Bangladesh
4	Dr. Vitthal Kawade	Synthesis, characterization and pulse radiolysis study of mixed ligand cobalt complexes of pyridine and polypyridine derivatives	Sept., 2010	Assistant Professor, Ahmednagar College, Ahmednagar
5	Dr. Satish Bhat	Ruthenium (II) complexes of Bipyridine functionalized molecular clips: Redox properties and DNA interactions	Nov., 2011	Principal Investigator, DST Project, Dharwad University, Dharwad
6	Dr. Chandralekha Singh	Investigation of ultrafast dynamics of excited states of donor-acceptor molecules in condense phase	Nov., 2011	Quality Control Officer, Indian Oil Corporation, Mumbai

<i>Sr. No.</i>	<i>Name</i>	<i>Title of the thesis</i>	<i>Year</i>	<i>Current Position</i>
7	Dr. Seyed Ali Ezadyar	Binuclear ruthenium polypyridyl complexes and their interaction with DNA	2012	Professor, University of Iran, Iran
8	Dr. Sughosh Prabhu	Rotational diffusion and photoisomerization studies in condensed media	2013-2015	Post-Doctoral Fellow, Belgium
9	Dr. Nilima Vyas	Ruthenium(II) Polypyridyl complexes as inhibitors of acetylcholinesterase and amyloid-beta peptide aggregation	2011-2016	Teacher, International School, Chinchwad
10	Dr. Sushma Singh	Flexible Binuclear transition metal polypyridyl complexes and their interaction with DNA	2012-2017	Post-Doctoral Fellow Indian Institute of Technology, Mumbai
11	Rahul Khade	Fluorescence study of binuclear ruthenium polypyridyl complexes	2012-2020	Assistant Professor at Institute of Bioinformatics and Biotechnology, SPPU
12	Sakharam Tayade	Metal polypyridyl complexes: Synthesis, characterization and photophysical properties	2013-2020	Awarded
13	Vishwanath Mane	Water splitting by transition metal polypyridyl complexes	2016-Ongoing (Synopsis submitted )	
<i>Post-Doctoral Scholars</i>				
14	Dr. Amita Jadhav	Copper complexes for DSSC	2016-ongoing	
15	Dr. Avinash Chaugule	Porous metal doped carbon material as bifunctionalelectrocatalyst for water splitting	2017-2018	Senior executive at Fujifilm Seriol India Pvt. LTD
16	Dr. Harshad Bandal	Facile synthesis of Fe/ N doped carbon foams for efficient electrocatalytic for water oxidation	2018-ongoing	

***Students recommended for Ph.D (Graduate)/ Post-doctoral studies at abroad:***

<i>Sr.</i>	<i>Name of Student</i>	<i>University</i>
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<i>Sr.</i>	<i>Name of Student</i>	<i>University</i>
1	Souvik Pandey	University of Leipzig
2	Vandana Goswami	Gottingen University
3	Kritee Pant	Helmholtz-Zentrum Dresden-Rossendorf, Germany
4	Hussain Kagalwala	Carnegie Mellon University Pittsburgh, US
5	Nednoor Pramod	University of Kentucky
6	Megha Deshpande	University of Kentucky
7	Gururaj Joshi	University of Kentucky
8	Meenal Godbole	Leiden University, Netherlands
9	Sarita Hardas	University of Kentucky
10	Anindata Das	Carnegie Mellon University Pittsburgh, US
11	Sarang Sangamkar	University of Kentucky
12	Anilkumar Wardhan	Eva women University Seoul
13	Dwaipayan Roy	University of Texas, Arlington
14	Sharique Khan	University of Kentucky
15	R. Shwetha	Mississippi University
16	Siddharam Pujari	Wageningen University, Netherland
17	Shanika Yadav	Ruhr university, Bochum, Germany
18	Vaidehi Lapalika	Technical University Dreshden
19	Mahesh Deshmukh	University of Houston USA

### ***Reviewer of the following Journals:***

- Journal of American Chemical Society
- Angewandte Chemie
- Inorganic Chemistry (ACS)
- Dalton Transaction (RSC)
- European Journal of Medicinal Chemistry
- Chemistry
- Journal of Inorganic Biochemistry
- Journal of Chemical Science
- Indian Journal of Chemistry- Section A
- Monatshefte fur chemie
- Journal of Inclusion Phenomenon
- Journal of Luminescence
- Journal of Physical Chemistry B

### ***Thesis Evaluation:***



- IIT Bombay
- TIFR, Mumbai
- University of Mumbai
- ICT, Mumbai
- University of Illorin, Nigeria
- University of Kathmandu, Nepal
- Shivaji University, Kolhapur
- M.S. University, Baroda
- University of Delhi
- Gujrat University
- Karnatak University, Dharwad
- Calcutta University
- Central University, Hyderabad
- Anna University Chennai
- ACsIR, New Delhi
- North Maharashtra University, Jalgaon.
- UTAR, Malaysia
- IICT Hyderabad

**List of Publications: No of papers 78, Citations: 2393, h index: 22, i10 index: 44**

Sr. No	Title of paper	Authors	Journal details	Year	Impact Factor
78	Tris-heteroleptic ruthenium (II) polypyridyl complexes: Synthesis, structural characterization, photophysical, electrochemistry and biological properties	Satish S Bhat, <b>Avinash S Kumbhar</b> , Neeraja Purandare, Ayesha Khan, Günter Grampp, Peter Lönnecke, Evamarie Hey-Hawkins, Ruchi Dixit, Kumar Vanka	<i>J. inorg. Biochem.</i> 2020, 203, 110903	2020	3.22
77	Heterostructural CuO–ZnO Nanocomposites: A Highly Selective Chemical and Electrochemical NO <sub>2</sub> Sensor	Shivsharan M Mali, Shankar S Narwade, Yuvraj H Navale, Sakharam B Tayade, Renuka V Digraskar, Vikas B Patil, <b>Avinash S Kumbhar</b> , Bhaskar R Sathe	<i>ACS omega.</i> 2019, 4, 20129-20141	2019	2.58
76	Photochemical hydrogen evolution from water by a 1D-network of octahedral Ni <sub>6</sub> L <sub>8</sub> cages	KS Kumar, VS Mane, A Yadav, <b>AS Kumbhar</b> , R Boomishankar	<i>Chem. Commun.</i> 2019, 55, 13156-13159	2019	6.05
75	A copper (ii)-coordination polymer based on a sulfonic–carboxylic ligand exhibits high water-facilitated proton conductivity	SB Tayade, V Lapalikar, D Markad, S Kurungot, B Pujari, AS Kumbhar	<i>Dalton Trans.</i> 48, 2019, 11034-11044	2019	4.05
74	Ionic Liquid-Derived Co <sub>3</sub> O <sub>4</sub> -N/S-Doped Carbon Catalysts for the Enhanced Water Oxidation	AA Chaugule, VS Mane, HA Bandal, H Kim, <b>AS Kumbhar</b>	<i>ACS Sustainable Chem. Eng.</i> 2019, 7, 14889-14898	2019	6.96
73	Coordination polymer of Cd(II) and Pb(II) derived from bipyridine-glycoluril ligand: Influence of metal ion size and counter ion	Sakharam B. Tayade, Datta Markad, <b>Avinash Kumbhar</b> , Andrea Erxleben, Debamitra Chakravarty	<i>Acta Cryst. C</i> , 2019, 75 (8), 1084-1090	2019	8.7
72	One-dimensional self-assembled porous coordination polymer poly[bis(picolinato-	Vitthal A. Kawade, Satish S. Bhat, Sakharam B. Tayade, <b>Avinash S. Kumbhar</b>	<i>Inorg. Chem. Acta</i> , 2018, 483, 539-543	2018	2.3

	N,O)( $\mu$ -1,2-bis(4-pyridyl)ethane-N,N')cobalt(II)] dimethanol				
71	Excited state interaction Of ruthenium(II) Imidazole phenanthroline complex [Ru(bpy) <sub>2</sub> ipH] <sup>2+</sup> with 1,4-Benzoquinone: Simple electron transfer or proton-coupled electron transfer ?	Rahul V. Khade, Sharmishtha Dutta Choudhury, Haridas Pal, <b>Avinash S. Kumbhar</b>	<i>ChemPhysChem</i> 2018, 19, 2380 – 2388	2018	3.1
70	Acetocholinesterase and A- $\beta$ -aggregation inhibition by heterometallic ruthenium (II), Platinum(II) polypyridyl complexes	Sushma B. Singh, Nilima A. Vyas, Mokshada Varma, Prasad Kulkarni, <b>Avinash S. Kumbhar</b>	<i>Inorg. Chem.</i> 2018, 57, 13, 7524-7535	2018	4.85
69	Water Mediated Proton Conductivity in a Hydrogen-Bonded Ni(II)-Bipyridineglycoluril Chloride Self-assembled Framework	Sakharam B. Tayade, Satish S. Bhat, Vitthal A. Kawade, <b>Avinash S. Kumbhar</b> , Vishal M. Dhavale, Rajithlllathvalappil, SreekumarKurungot, Christian Nather	<i>CrystEngComm</i> 2018, 20, 1094-1100	2018	3.8
68	A ruthenium water oxidation catalyst containing a bipyridineglycoluril ligand.	Vishwanath Mane, <b>Avinash Kumbhar</b> , Randolph Thummel ,	<i>Dalton Trans.</i> 2017, 46, 12901-12907	2017	4.2
67	Light-driven hydrogen evolution from water by a tripodalsilane based Co <sup>II</sup> <sub>6</sub> L <sub>8</sub> <sup>1</sup> octahedral cage	Mahesh S. Deshmukh, Vishwanath S. Mane, <b>Avinash S. Kumbhar</b> , Ramamoorthy Boomishankar	<i>Inorg. Chem.</i> 2017,56, 13286-13292	2017	4.85
66	A synthetic route towards 3,4-disubstituted pyrrolidin-2-ones via a Michael addition and reductive ring closing strategy	Monali Dawange, Nilita Parekh, <b>Avinash Kumbhar</b> , WimDehaen, RadhikaKusurkar	<i>New. J. Chem.</i> 2017,41, 3612-3618	2017	3.277
65	Proton Conduction in a Hydrogen-Bonded Complex of Copper(II)-Bipyridine-glycoluril Nitrate	Sakharam B. Tayade, Vishal M. Dhavale, <b>Avinash S. Kumbhar</b> , SreekumarKurungot, Peter Lonneck, Evamarie Hey-Hawkins, BhalchandraPujari	<i>DaltonTrans.</i> 2017, 46, 6968-6974	2017	4.2
64	Synthesis, characterization and antibacterial susceptibility testing of transition metal complexes of Doxycycline	Joshua A. Obaleye, Olufunso O. Abosede, <b>Avinash S. Kumbhar</b> , Olunsola N. Majolagbe	<i>Can. Chem. Trans.</i> 2016, 4, 2, 168-179	2016	-
63	Honeycomb-like self assembly by flexible binuclear ruthenium polypyridyl complexes	Sushma B. Singh, <b>Avinash S. Kumbhar</b> , Ayesha Khan	<i>Chem. Eur. J</i> 2016, 22, 15760-15771	2016	5.77

62	Ruthenium(II) polypyridyl complexes with hydrophobic ancillary ligand as A $\beta$ aggregation inhibitors	Nilima A. Vyas, Shefali N. Ramteke, <b>Avinash S. Kumbhar</b> , Prasad P. Kulkarni, Vinod Jani, Uddhavesh B. Sonawane, Rajendra R. Joshi, Bimba Joshi, Andrea Erxleben	<i>Eur.J.Med. Chem</i> 2016,121,793-802	2016	3.9
61	Antiproliferative activity of ruthenium (II) arene complexes with mono- and bidentate pyridine-based ligands	Stefan Richter, Sushma Singh, Dijana Draca, Anup Kate, Anupa Kumbhar, <b>Avinash S. Kumbhar</b> , Danijela Maksimovic Ivanic, Sanja Mijatovic, Peter Lönnecke and Evamarie Hey-Hawkins	<i>Dalton Trans.</i> , 2016,45,13114-13125	2016	4.2
60	Copper(II) mixed-ligand polypyridyl complexes with doxycycline – structures and biological evaluation	Olufunso O. Abosede, Nilima A. Vyas, Sushma B. Singh, <b>Avinash S. Kumbhar</b> , Anup Kate, Anupa A. Kumbhar, Ayesha Khan, Andrea Erxleben, Peter Smith, Carmen de Kock, Frank Hoffmann and Joshua A. Obaleye	<i>Dalton Trans.</i> , 2016,45, 3003-3012	2016	4.2
59	Synthesis, crystal structure and cytotoxicity studies of <i>cis</i> -dichloro(4,5-diazafluoren-9-one)platinum(II)	A.R.Biju, M.V. Rajashekhara, Satish S. Bhat, Ayesha A. Khan, <b>Avinash S. Kumbhar</b>	<i>Inorg. Chimica Acta</i> 2014, 423, 93-97	2014	2.04
58	Ruthenium(II) Polypyridyl Complex as Inhibitor of Acetylcholinesterase and A $\beta$ Aggregation	Nilima A. Vyas, Satish S. Bhat, <b>Avinash S. Kumbhar</b> , Uddhavesh B. Sonawane, Vinod Jani, Rajendra R. Joshi, Shefali N. Ramteke, Prasad P. Kulkarni, Bimba Joshi	<i>Eur.J.Med. Chem.</i> 2014,75, 375-381	2014	3.447
57	Effects of oxidation on copper binding properties of Ab1-16 peptide: A pulse radiolysis study.	S.N. Ramteke, Y.P. Ginotra, G.Y. Walke, B.N. Joshi, <b>A.S. Kumbhar</b> , R.S. Rapole, P.P. Kulkarni	<i>Free Radical Research</i> 2013, 47, 1046-1053	2013	2.976
56	Self-assembled mononuclear palladium(II) based molecular loops.	Himansu Sekhar Sahoo, Debakanta Tripathy, Sabyasachi Chakraborty, Satish Bhat, <b>Avinash Kumbhar</b> , Dilip Kumar Chand	<i>Inorg. Chimica Acta</i> 2013, 400, 42-50	2013	2.04
55	Synthesis, optimization, and characterization of silver nanoparticles from <i>Acinetobacter calcoaceticus</i> and their enhanced antibacterial activity when combined with antibiotics	Richa Singh, Priyanka Wagh, Sweeti Wadhvani, Sharvari Gaidhani, <b>Avinash Kumbhar</b> , J. Bellare, Balu A. Chopade	<i>International Journal of Nanomedicine</i> 2013,8, 4277-4290	2013	4.383
54	Photophysical properties of 3-(9-anthrylmethyl)pentane-2,4-dione	Vitthal Kawade, Anupa Kumbhar, Avinash Sapre, <b>Avinash Kumbhar</b>	<i>Chemical Physics Letters</i> , 583, 2013, 198-202	2013	1.89

53	Efficient DNA Condensation Induced by Ruthenium(II) Complexes of Bipyridine Functionalized Molecular Clip Ligand"	S.S. Bhat, <b>A.S.Kumbhar</b> , A.A.Kumbhar, A.Khan	<b>Chem.Eur.J.</b> 2012, 18, 16383 – 16392	2012	5.73
52	Binuclear ruthenium(II) polypyridyl complexes: DNA cleavage and mitochondria mediated apoptosis induction	S. A. Ezadyar, <b>A. S. Kumbhar</b> , A. A. Kumbhar, A. Khan	<b>Polyhedron</b> 2012, 36, 45-55	2012	2.01
51	Ruthenium(II) polypyridyl complexes as carriers for DNA delivery	S. S. Bhat, <b>A. S. Kumbhar</b> , A.A. Kumbhar, Ayesha Khan, P. Lönnecke, and E. Hey-Hawkins	<b>Chem. Commun.</b> 2011, 47, 11068-11070	2011	6.83
50	Hydrogen bond directed honeycomb-like porous network structure of tris-(bipyridyl-glycoluril) cobalt(III) chloride	V. A. Kawade, <b>A. S. Kumbhar</b> , A. Erxleben, P. Pachfule, R. Banerjee	<b>CrystEngComm</b> , 2011, 13, 5289-5291	2011	4.03
49	Mixed ligand cobalt(II) picolinate complexes: synthesis, characterization, DNA binding and photocleavage	V. A. Kawade, A. A. Kumbhar, <b>A. S. Kumbhar</b> , C. Näther, A. Erxleben, U. B. Sonawane, R. R. Joshi	<b>Dalton Trans.</b> 2011, 40, 639-650	2011	4.19
48	Bis(maltolato)vanadium (III)-Polypyridyl Complexes: Synthesis, Characterization, DNA Cleavage and Insulin Mimetic Activity	Md. Nazrul Islam, A. A. Kumbhar, <b>A. S. Kumbhar</b> , Matthias Zeller, Raymond J. Butcher, Menakshi Bhat Dusane, and B. N. Joshi	<b>Inorg. Chem.</b> 2010, 49, 8237–8246.	2010	4.76
47	Stabilization of acyclic water tetramer in a Copper(II) malonate framework structure	M.S. Deshpande, <b>A. S. Kumbhar</b> , C.Nather	<b>Dalton Trans.</b> , 2010, 39, 9146.	2010	4.19
46	Self-Association of Ruthenium(II) Polypyridyl Complexes and Their Interactions with Calf Thymus DNA	S. S. Bhat, <b>A. S. Kumbhar</b> , P. Leonnecke, and E. Hey-Hawkins	<b>Inorg. Chem.</b> 2010, 49, 4843–4853	2010	4.76
45	Synthesis, Characterization and Pulse Radiolysis of Cobalt(II) Complexes of 2-Picolinate and Polypyridyl Ligands	V. A., Kawade, <b>A. S. Kumbhar</b> , Naik, D. B., Butcher, R. J.	<b>Dalton Trans.</b> 2010, 5664-5675	2010	4.19
44	Pulse radiolytic studies on cis-dichlorobis(1,10-phenanthroline-5,6-dione)Cobalt(III) complex	V. A. Kawade, S. Gosh, A. V. Sapre, A. S. Kumbhar.	<b>J. Chem. Sci.</b> 2010, 120, 225-232	2010	1.17
43	Mixed-Ligand Copper	<b>A. S. Kumbhar</b> ,	<b>Inorg.</b>	2009	4.8

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42	Synthesis, Characterization and redox chemistry of Ru(II) complexes of N-methyl pyridylquinoxaline	M. S. Kulkarni, <b>A.S. Kumbhar</b> , H. Mohan, B. S. M. Rao	<b>Dalton Trans.</b> 2009, 6185-6191.	2009	4.19
41	Ruthenium (II) bipyridine Complexes and their interactions with DNA	M. S. Deshpande, A. A. Kumbhar, <b>A. S. Kumbhar</b> , M. Kumbhakar, H. Pal, U. Sonawane, R.R. Joshi	<b>Bioconjugate Chem.</b> 2009, 20, 447-459	2009	4.51
40	H-bond directed open-framework of bis (bipy- glycoluril) phosphatocobalt (III) with solvent accessible void space	M. S. Deshpande, <b>A. S. Kumbhar</b> , V. G. Puranik,	<b>CrystEngComm</b> . 2008, 10, 1520-1523	2008	4.03
39	Tetranuclear Manganese (III) salicylaldoxime ensemble	<b>A. S. Kumbhar</b> , Mahesh P. Muley, Subhash B. Padhye, Sudam S. Tavale and Vedavati G. Puranik	<b>Structural Chemistry</b> 2008, 19, 735-740	2008	1.83
38	Pulse radiolytic studies on <i>cis</i> -dichlorobis(2,2'-bipyridine) Cobalt(III) and <i>cis</i> -dichlorobis (1,10-phenanthroline) Cobalt(III) complexes	Smita Ghosh, Avinash V. Sapre, Vitthal A. Kawade & <b>A. S. Kumbhar</b> .	<b>Indian J. Chem.</b> 2008, 47A, 690-694.	2008	0.851
37	Hydrogen Bonding-Directed Metallosupramolecular Structural Motifs Based on a Peripheral Urea Fused Bipyridine Tecton	Deshpande, M. S.; <b>A. S. Kumbhar</b> Puranik, V. G.	<b>Cryst. Growth Design.</b> ; 2008, 8, 1952-1960.	2008	4.891
36	An Unexpected Metal-Promoted Transformation Yields An AnthrylmethylSpiroanthracene	Kumbhar, A. A.; <b>A. S. Kumbhar</b> Puranik, V. G.	<b>J. Org. Chem.</b> 2008, 73, 3559-3561.	2008	4.721
35	Hydrolytic Cleavage of DNA by a Ruthenium(II) Polypyridyl Complex	Deshpande, M. S.; Kumbhar, A. A.; <b>A. S. Kumbhar</b>	<b>Inorg. Chem.</b> 2007, 46, 14, 5450-5452	2007	4.762
34	Supramolecular Self-assembled Ruthenium-Polypyridyl Framework Encapsulating Discrete Water Cluster	Megha S. Deshpande, <b>A. S. Kumbhar</b> Vedavati G. Puranik and K. Selvaraj	<b>Cryst. Growth Design</b> , 2006, 6, 743	2006	4.891
33	Synthesis, characterization, X-ray structure and DNA photocleavage by <i>cis</i> -dichlorobis(diimine)Co	S. Ghosh, A. C. Barve, A. A. Kumbhar, <b>A. S. Kumbhar</b> , V. G. Puranik, P. A. Datar, U. B. Sonawane and R. R. Joshi	<b>J. Inorg. Biochem</b> 2006, 100, 331	2006	3.444

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32	Self-activating nuclease activity of copper(II) complexes of hydroxyl-rich ligands	Sunil S.Tonde, <b>A. S. Kumbhar</b> , S. B.Padhye and R.J. Butcher	<i>J.Inorg. Biochem.</i> , 2006, 100, 51	2006	3.444
31	Bis(1,10-phenanthroline-5,6-dione) diaminoglyoxime	M. S. Deshpande, C. Näther, W. Bensch and <b>A. S. Kumbhar</b>	<i>Acta.Cryst.</i> 2006 , E62, o5910	2006	2.974
30	Mixed-ligand complexes of ruthenium(II) incorporating a diazo ligand : Synthesis, characterization and DNA binding	MeghaS.Deshpande and <b>A. S. Kumbhar</b>	<i>J.Chem.Sci.</i> , 2005, 117, 153-159	2005	1.17
29	DNA-binding studies of mixed ligand cobalt(III) complexes	A. C. Barve, S. Ghosh, A. A.Kumbhar, <b>A. S. Kumbhar</b> and V. G. Puranik	<i>Trans.Met. Chem.</i> , 2005, 30, 312	2005	1.306
28	Theoretical and experimental investigations on the structure and vibrational spectra of 4{[(1Z)-1-methyl-3-oxobut-1-enyl]amino}benzoic acid	K. A.Joshi, M. S. Deshpande, <b>A. S. Kumbhar</b> , R. J. Butcher and S. P. Gejji	<i>J.Mol.Structure , Theochem</i> 2005, 722, 57-63	2005	1.602
27	Pulse radiolysis study of pyridine substituted quinoxalines	M.S.Kulkarni, <b>A. S. Kumbhar</b> , H.Mohan and B.S.M.Rao	<i>Res. Chem. Intermed</i> , 2005, 31, 63	2005	1.22
26	Hartree-Fock and density functional studies on the structure and vibrational frequencies of quinoxalines – the building blocks for dendrimers	<b>A. S. Kumbhar</b> , N. R. Dhumal and S. P. Gejji	<i>J.Mol.Str. THEOCHEM</i> , 2002 589, 310	2002	1.602
25	Nuclease activity of oxo-bridged diiron complexes	<b>A. S.Kumbhar</b> , S. G. Damle, S. Dasgupta, S. Y. Rane,	<i>J.Chem.Res.</i> , (1999) 98	1999	1.17
24	Thermal Studies of Metal-quinone Complexes Role of Aqua Coligations with Copper(II) in Coordination of 2-hydroxy-1,4-naphthoquinone	S. Y. Rane, S. D. Gawali, <b>A. S. Kumbhar</b> , S. B. Padhye and P. P. Bakare	<i>J.Thermal Anal .Calorimetry</i> 1999, 55, 249	1999	2.042
23	Crystal structure of cationic complex of 2 [Co III (APOTSCh [Co II Cl <sub>4</sub> ] <sub>2</sub>	Anupa Murugkar, Ratnamala Bendre, <b>Avinash Kumbhar</b> , Subhash Padhye, Robin Pritchard, CA McAuliffe	<i>Indian Journal of Chemistry</i> 38, 977-980	1998	0.851
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20	Naturally Occuring hydroxynaphthoquinones and their iron complexes as modulators of radiation induced lipid peroxidation in synaptosomes	<b>A.Kumbhar</b> , Jitender, S.Padhye and R.K. Kale	<i>Metal-Based Drugs</i> , 1997, 4, 279	1997	
19	Quintet-triplet magnetic phase transition in dinucleatinglawsone ligands: Magnetostructural evidence involving array of copper (II) centres	SY Rane, Sunita D Gawali, SB Padhye, <b>AS Kumbhar</b> , VG Puranik, PP Bakare, SK Date	<i>Journal of Chemical Sciences</i> 108 (3), 289-289	1997	1.17
18	Synthesis, Spectroscopy, Electrochemistry and Nuclease activity of transition metal complexes of 2-acetylpyridine oxime	<b>A.S.Kumbhar</b> , S.G. Damle, P.P.Kulkarni, D.Srinivas and V. Chatur	<i>Ind.J.Chem.</i> , 1996, 36A, 533	1996	0.851
17	Cytotoxic properties of Iron-hydroxynaphthoquinone complexes in rat hepatocytes	<b>AvinashKumbhar</b> , SubhashPadhye, David Ross	<i>BioMetals</i> , 1996, 9, 235	1996	2.502
16	Catalytic intermediates in carbonylation reactions. Isolation, Spectroscopy, Electrochemical characteristics and Crystal structure of isoquinolinecisdicarbonyltetraiodo Ir(III)	<b>A.S.Kumbhar</b> , S.B. Padhye, A.A.Kelkar, R.P.Patil, R.V. Chaudhari, V.G. Puranik, N.N. Dhaneshwar and S.S.Tawale	<i>Polyhedron</i> 1996, 15, 1931	1996	2.011
15	Thermal and spectral properties of Lanthanide(III) complexes of 3-amino-2-hydroxy-1,4-naphthoquinone	R.C.Chikate, H.A.Bajaj, <b>A.S.Kumbhar</b> , V.C. Kolhe and S.B.Padhye	<i>Thermochim. Acta</i> , 1995, 249, 239-248	1995	2.184
14	DNA strand scission and plasmid curing activity of an Indian Folk medicine constituent – Chitrak	A.Patil, A.Mukherjee, B.Chopade, <b>A. S. Kumbhar</b> and S. Padhye	<i>Recent Advances in Chemotherapy</i> , 1994, 504	1994	
13	Curing of R-plasmids	D. P. Kunte, <b>A. S. Kumbhar</b> ,	<i>Recent</i>	1994	

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12	Inequivalent coordination of thiosemicarbazones ligands in cobalt(III) and chromium(III) complexes	P. B. Sonawane, R.C. Chikate, <b>A. S. Kumbhar</b> , S.B.Padhye and R. J. Doedens	<i>Polyhedron</i> , 1994, 13, 395-401	1994	2.011
11	Synthesis, Spectroscopic and structural characterization of the <i>mer</i> isomer of ammonium bis(phenyl-pyruvic acid thiosemicarbazone) cobalt(III) hemihydrate	P. Sonawane, <b>A. S. Kumbhar</b> S. Padhye and R.Butcher	<i>Trans.Met. Chem.</i> 1994, 19, 277	1994	1.306
10	Thiosemicarbazone complexes of copper(II) : Structural and Biological studies	S. Padhye, R. Chikate, P.Sonawane, <b>A. S. Kumbhar</b> , Yerande R., West D and Liberta A.	<i>Coord.Chem. Rev</i> 1993, 123, 49	1993	12.239
9	Electrochemical, Spectroscopic & structural characterization of the <i>mer</i> isomer of ammonium bis(pyruvic acid thiosemicarbazones)cobalt(III).benzene	Rajeev Chikate, PramilaSonawane, <b>AvinashKumbhar</b> , SubhashPadhye and Ray Butcher	<i>Inorg.Chim. Acta</i> , 1993, 205, 59-65	1993	2.04
8	Crystal and molecular structure of an anchored catechol ligand : 2,3-dihydroxybenzene methanimine(2'-hydroxy methyl phenyl)	V.G.Puranik, S.S. Tavale, <b>A. S. Kumbhar</b> , R.G.Yerande, S.B. Padhye and R.J. Butcher	<i>J.Crystal.Spectr .Res.</i> , 1992, 22, 725	1992	
7	Novel Quinone thio semi carbazones (QTHY) "Hybrid" Non-platinum Antitumor Agents. Inhibition of DNA synthesis in P388Lymphocytic cells by coordinatively unsaturated Cu(II) and Fe(III) complexes of naphthoquinonethiosemicarbazones	SubhashPadhye, Rajeev Chikate, <b>A. S. Kumbhar</b> , J.M.Shallom and M.P. Chitnis	<i>BioMetals</i> , 1992, 5/2, 67	1992	2.502
6	Electrochemical studies of transition metal complexes of 2-acetylpyridine thiosemicarbazones. Part 2. Correlations with spectral & antifungal properties of	<b>A. S. KUMBHAR</b> , SUBHASHPADHYE, DOUGLAS WEST AND ANTHONYLIBERTA	<i>Trans.Met. Chem.</i> 1992 17, 247	1992	1.30



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4	H-bonding interactions in thiosemicarbazones of carboxylic acids. Crystal structure of 2-ketobutyric acid thiosemicarbazone	Pramila Sonawane, Rajeev Chikate, <b>Avinash Kumbhar</b> , Subhash Padhye and Robert Doedens	<i>Acta Cryst.</i> 1991, C47, 2379	1991	2.97
3	Functional models of Water Oxidation Complex in Photosystem II	S. Padhye, R. Yerande, U. Hegde, <b>A. S. Kumbhar</b> , V. Klimov, G. Ananyev, S. Allakhverdiev and S. Zharmukhamedov	<i>“Impact of Global Climatic Changes on Photosynthesis &amp; Plant productivity, 1991</i>	1991	
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