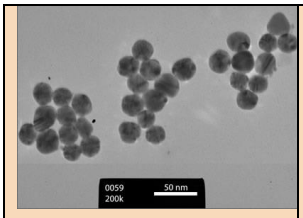
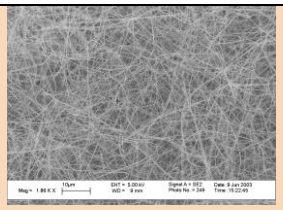
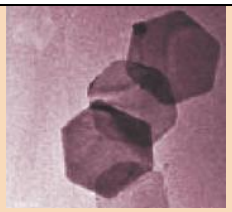
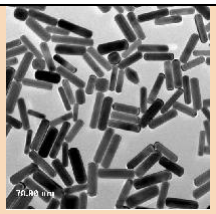
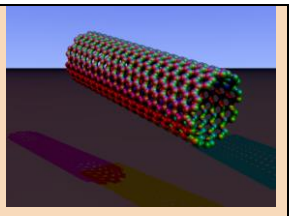






Dr. Shivram S. Garje

(Profile updated on 27-08-2023)

Contact

Professor and Head. Department of Chemistry, University of Mumbai, Vidyanagari, Santacruz (E), Mumbai – 400 098, INDIA

Email: ssgarje@chem.mu.ac.in

PROFILE

EDUCATIONAL QUALIFICATIONS			
B.Sc. (Chemistry)	*1991*	*1st Div.*	*University of Mumbai, Mumbai, India*
M.Sc. (Inorganic Chemistry)	*1993*	*1st Div.*	*University of Mumbai, Mumbai, India*
Ph.D. (Chemistry)	*1997*	-	*University of Mumbai, Mumbai, India* *Title of the Ph. D. thesis: The Organometallic Chemistry of Some Arsenic and Antimony Compounds* *Place of Research work and supervisor: Chemistry Division, Bhabha Atomic Research Centre, Trombay, Mumbai- 400085 with Dr. V. K. Jain*
Postdoc.	*2005-06*	-	*University of Manchester, UK* *Research Field: Nanomaterials and thin films* *Place of Research work and supervisor: School of Chemistry and Materials with Prof. Paul O'Brien*

PROFESSIONAL EXPERIENCE	
June 1993 - Dec.1993	*"**Trainee Quality Control Chemist**" USV Ltd, Mumbai, India*
Jan.1994 - Jan.1998	*"**Research Fellow**" Chemistry Division, Bhabha Atomic Research Centre, Trombay, Mumbai, India*
Jan.1998 - Jan.1999	*"**Lecturer in Inorganic Chemistry**", Department of Chemistry, University of Pune, Ganeshkhind, Pune- 411 007, India*
Aug.1999- Jan. 2000	*"**Lecturer in Inorganic Chemistry**", Department of Chemistry, Institute of Science, Fort, Mumbai - 400 032, India*
Jan. 2000- May 2004	*"**Lecturer in Inorganic Chemistry**", Department of Chemistry, University of Mumbai, Santacruz (E), Mumbai- 400 098, India*
May 2004- Jan. 2006	*"**Lecturer (Sr. Scale) in Inorganic Chemistry**", Department of Chemistry, University of Mumbai, Santacruz (E), Mumbai- 400 098, India*
Jan. 2006- May 2009	*"**Assistant Professor (Sr. Scale) in Inorganic Chemistry**", Department of*

	Chemistry,University of Mumbai, Santacruz (E), Mumbai- 400 098, India
May 2009- March 2014	*"**Associate Professor in Inorganic Chemistry**", Department of Chemistry, University of Mumbai, Santacruz (E), Mumbai- 400 098, India*
March 2014 to date	*"**Professor**", Department of Chemistry, University of Mumbai, Santacruz (E), Mumbai- 400 098, India*

OTHER POSITIONS HELD	
Apr 2019- May 2022	*I/c Director, University of Mumbai's Garware Institute of Career Education and Development, University of Mumbai*
Sept 2021 till date	*I/c Director, UoM-Western Regional Instrumentation Centre, University of Mumbai*
Sept 2022 till date	*I/c Director, National Centre for Nanoscience and Nanotechnology, University of Mumbai*
Jan 2020- Sept 2022	*Associate Dean, Science and Technology, University of Mumbai*
Sept 2022 till date	*Officiating Dean, Science and Technology, University of Mumbai*

AWARDS AND HONORS	
1994-1995	*"**Junior Research Fellowship**", Department of Atomic Energy, Government of India*
1994	*"**Prof. B. C. Halder Young Scientist Award**", Indian Chemical Society for the best paper presentation in Inorganic Chemistry Section*
1996-1997	*"**Senior Research Fellowship**", Department of Atomic Energy, Government of India*
1996	*"**Prof. A. K. Dey Young Scientist Award**", Indian Chemical Society for the best paper presentation in Inorganic Chemistry Section*
2002	*"**Young Scientist Research Award**", Department of Atomic Energy, Government of India*
2004	*"**BOYSCAST Fellowship**", Department of Science and Technology, Government of India*
2008	*"**Performance Based Incentive Award**", University of Mumbai*

MEMBERSHIP OF PROFESSIONAL SOCIETIES/COMMITTEES	
1.	*Life member of Indian Chemical Society*
2.	*Life member of Indian Association of Chemistry Teachers*
3.	*Life member of Material Research Society of India*
4.	*Member of Royal Society of Chemistry, UK*
5.	*Life member of Indian Society for Materials Chemistry*
6.	*Life member of Chemical Research Society of India*
7.	*Executive Council Member, Indian Chemical Society, Mumbai Chapter (2007 to 2015)*
8.	*Executive Council Member, Materials Research Society of India, Mumbai Chapter (2012 to 2015)*
9.	*Joint Secretary, Indian Chemical Society, Mumbai Chapter (2016 to 2018)*
10.	*Vice President, Indian Chemical Society, Mumbai Chapter (2019 to date)*

Back to home

TEACHING ACTIVITIES	
***Total teaching experience to date**: 25 + years at PG level*	
A.	***Courses taught***
	Theory: *CHEM 102, Unit-I: Inorganic Reaction Mechanisms* *CHEM 202, Unit-III: Environmental Chemistry* *CHEM 321, Unit-II: (a) Synthesis of Inorganic Materials , (b) Different methods for single crystal growth, (c) Thin Film Preparation* *CHEM 321, Unit-IV: Crystal Defects and Non-stoichiometry* *CHEM 323, Unit-III: Electron Spin Resonance Spectroscopy* *CHEM 323, Unit-IV: Mossbauer Spectroscopy* *CHEM 421, Unit-III: (a) Optical Properties of Solids, (b)Thermal properties of solids* *CHEM 422, Unit-I: Organometallic Chemistry of Main Group Elements* *CHEM 423, Unit-I: (a) Infrared spectroscopy, (b) NMR Spectroscopy* ***Labs:*** *CHEM 106: Inorganic Chemistry Practical -I* *CHEM 206: Inorganic Chemistry Practical -II* *CHEM 326: Inorganic Chemistry Practical -III* *CHEM 327: Inorganic Chemistry Practical -IV* *CHEM 426: Research Project*

RESEARCH RELATED ACTIVITIES		
Total citations:** 1171, **h-index:** 18, **i10-index:** 34 **(source-** Google Scholar**)		
Research papers in refereed journals	*Published*	*67*
Research papers presented in conferences		*88*
Book chapter		*01*
Research projects	*Completed*	*03*
Research students	*M. Sc. (by research)(completed)*	*05*
	Ph. D. (completed)	*10*
	(working)	*05*
	Postdoc. (completed) *(UGC-Dr. D. S. Kothari Postdoc. Fellow)*	*02*
Patent/s	*Granted*	*02*
	Filed	*01*

Research Projects		
1. Title	:	*Synthesis, Spectroscopic and Structural Studies of Semicarbazone and Thiosemicarbazone Complexes of Main Group Metals*
Funding Agency	:	*University of Mumbai*
Amount	:	*Rs. 10,000*
Period	:	*2000-2001*

2. Title	*:*	*Design and Development of Group 15 Molecular Precursors for MOCVD*
Funding Agency	*:*	*BRNS, Department of Atomic Energy, Govt. Of India*
Amount	*:*	*Rs. 7,50,000*
Period	*:*	*2002-2005*

3. Title	*:*	*Development of metal chalcogenide nanomaterials and their carbon based nanocomposites using single source molecular precursors for supercapacitor applications*
Funding Agency	*:*	*SERB, DST, Govt. Of India*
Amount	***:***	*Rs. 32, 01, 285*
Period	*:*	*2017-2021*

Patents:
Granted-1: (Patent no. 334573, Date: 21-11-2011
Title: The novel oxalate ceramic method for the synthesis and production of spinel ferrites.
Granted-2: (Patent no. 397994, Date: 24-06-2021)
Title: Green synthesis of Surfactant capped Palladium doped TiO_2 nanocomposites and their catalytic activity.
Published-1: (Application no. 202121028353, Date: 24-06-2021)
Title: Synthesis of novel quaternary Pd/OCNT@CdS@TiO_2 nanocomposite and its catalytic activity.

Supervision of Research Students			
M. Sc. (by research)	*Degree awarded*	:	*5*
Ph. D.	*Degree awarded*	*:*	*10*
	Thesis submitted	:	*0*
	Currently working	:	*5*
Postdoc.	*Completed*	:	*2 (UGC-Dr. D. S. Kothari Postdoc. Fellow)*

Group members			
Ph. D.			
Sr. No.	***Name***	***Status***	***Present position***
1.	*Dr. Sujit Dattaram Disale*	*Degree awarded (2010)*	*Industry*
2.	*Dr. Anil Mahadeo Palve*	*Degree awarded (2010)*	*Academics*
3.	*Dr. Yogesh Suresh Niwate*	*Degree awarded (2010)*	*Industry*
4.	*Dr. Ajay Vittalrao Gole*	*Degree awarded (2012)*	*Academics*
5.	*Dr. Jasmine Bijaya Biswal*	*Degree awarded (2013)*	*Academics*
6.	*Dr. Narayan Vijay Sawant*	*Degree awarded (2013)*	*Industry*
7.	*Dr. Amol S. Pawar*	*Degree awarded (2016)*	*Academics*
8.	*Dr. Jagruti S. Suroshe*	*Degree awarded (2018)*	*Academics*
9.	*Dr. Rashmi A. Badhe*	*Degree awarded (2021)*	*Academics*
10.	*Dr. Aleem Ansari*	*Degree awarded (2022)*	*Academics*

Postdoc			
Sr. No.	***Name***	***Status***	***Present position***
1.	*Dr. Kanchan Samant*	*UGC-Dr. D. S. Kothari Postdoctoral Fellow (2012-2014, Completed)*	*Academics*
2.	*Dr. Deepak Babar*	*UGC-Dr. D. S. Kothari Postdoctoral Fellow (2017 to 2021)*	*Research*

M. Sc. (By research)			
Sr. No.	***Name***	***Status***	***Present position***

1.	*Ms. Mamta Pal*	*Degree awarded (2003)*	*Academics*
2.	*Ms. Kishori S. Dalvi*	*Degree awarded (2004)*	*Industry*
3	*Mr. Narayan Vijay Sawant*	*Degree awarded (2005)*	*Industry*
4.	*Ms. Jasmine Bijaya Biswal*	*Degree awarded (2007)*	*Academics*
5.	*Mr. Balasaheb P. Bade*	*Degree awarded (2007)*	*Industry*

Reviewer of the Journals	
Name of Journal	***Publisher***
Applied Organometallic Chemistry	*John Wiley and Sons*
ACS Applied Materials & Interfaces	*American Chemical Society*
Journal of Crystal Growth	*Elsevier*
Synth. React. Inorg. Met.-Org. Nano-Met. Chem.	*Taylor and Francis*
Structural Chemistry	*Springer*
Applied Physics A	*Springer*
J. Korean Chem. Soc.	*Korean Chem. Society*
Materials Letters	*Elsevier*
Crystal Research and Technology	*Wiley-VCH*
J. Mol. Struct.	*Elsevier*
Green and Sustainable Chemistry (GSC)	*Scientific Research Publishing*
J. Alloys and Compds.	*Elsevier*
Chem. Lett.	*The Chemical Society of Japan*
J. Mater. Res.	*Springer*

Back to home

Research highlights

Our research is focused on development of simple, eco-friendly single source molecular precursors (SSPs) which can lead to phase pure and uniform morphology nanoparticles and thin films. The SSPs contain desired elements which are required in the final material in a single molecule. They have some distinct advantages over conventional multiple source precursors. These include their low toxicity, no or limited pre-reactions, control on stoichiometry, control on volatility using suitable ligands, etc.

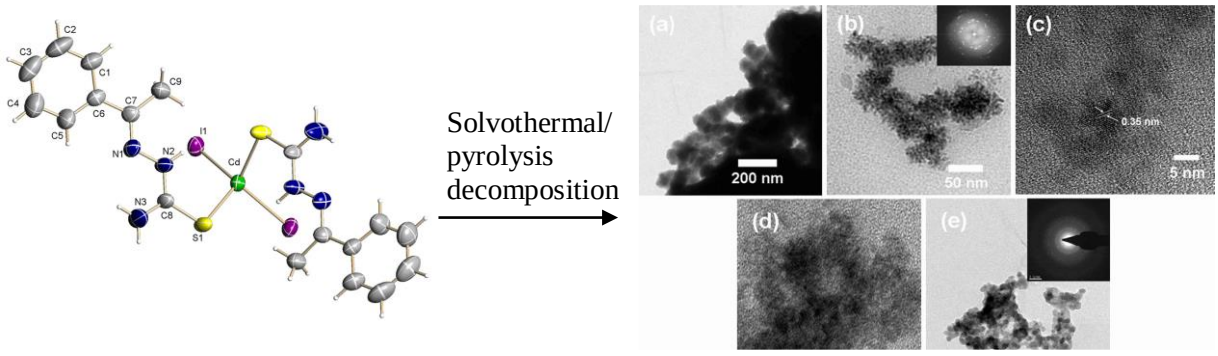
MAJOR RESEARCH AREAS

(I) Synthesis of single-source molecular precursors

In view of the enormous applications of the nanomaterials, it is important to develop the precursors which can lead to phase pure nanoparticles having uniform morphology. Conventionally, metal chalcogenide nanoparticles and thin films are prepared from non-ecofriendly starting materials under drastic conditions. Therefore, there is a need to replace such toxic chemicals in the preparation of these materials. We have developed a green approach for the synthesis of metal chalcogenide nanoparticles and thin films. In this, instead of using multiple source precursors which contain one source for metal and another one for chalcogen, SSPs are employed. For example, for the preparation of CdS nanoparticles and thin films, cadmium thiosemicarabazone complexes have been used as SSPs. Thus, it is greener and safer approach. Moreover, it is possible to control the phase and morphology of the resulting material.

(II) Preparation of metal chalcogenide nanoparticles

Along with SSPs, we have also demonstrated use of milder and safer preparation methods for the synthesis of nanomaterials. The nanoparticles are prepared by pyrolysis/ solvothermal decomposition methods. These preparation methods use much milder conditions and they are safer.



Cd(acetophenone thiosemicarbazone)$_2$ complex **CdS nanoparticles**

Related publications:

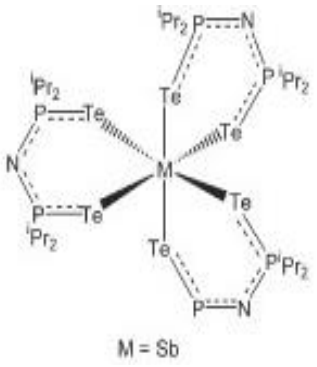
A. M. Palve, P. V. Joshi, V. Puranik and ***S. S. Garje****, Polyhedron,* ***61*** *(2013) 195-201; A. M. Palve and* ***S. S. Garje****, J. Cryst. Growth,* ***326*** *(1) (2011) 157-162; S. D. Disale and* ***S. S. Garje****, J. Organomet. Chem.,* ***696*** *(2011) 3328-3336; A. M. Palve and* ***S. S. Garje****, Bull. Mater. Sci.,* ***34*** *(4) (2011) 667-671; J. B. Biswal and* ***S. S. Garje****, J. Solid State Chem.,* ***204*** *(2013) 348-355.*

Back to home

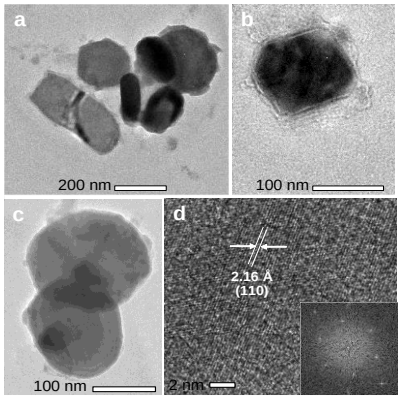
(III) Preparation of metal chalcogenide thin films

Thin films are prepared from SSPs using aerosol-assisted chemical vapour deposition (AACVD) technique.

Thin films containing Sb_2Te_3 nanoplates



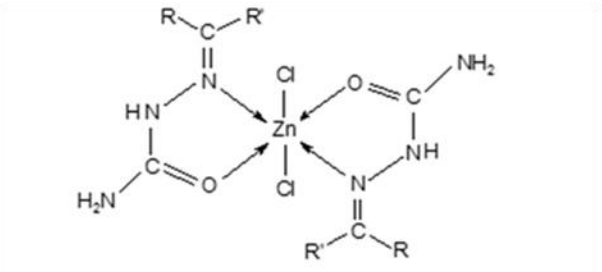
AACVD



$[Sb\{(TePPr^{i}{}_2N)_2\}_3]$ **Sb_2Te_3 nanoplates**

Morphology tuned ZnO thin films

The morphology of the thin films can be tuned by controlling deposition parameters like temperature, precursor concentration, solvent, carrier gas flow rate, etc. in AACVD technique.

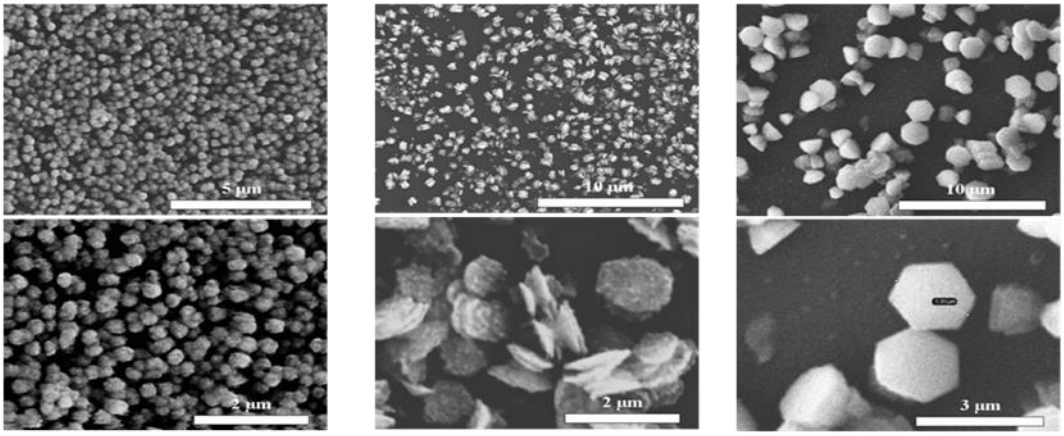


Where, R' = H, R = CH=CH-C_6H_5 **(1)**, R' = CH_3, R = C_6H_4F **(2)**, R' = H, R = C_6H_5 **(3)** and R' = H, R = C_6H_4Cl **(4)**

AACVD

ZnO thin films

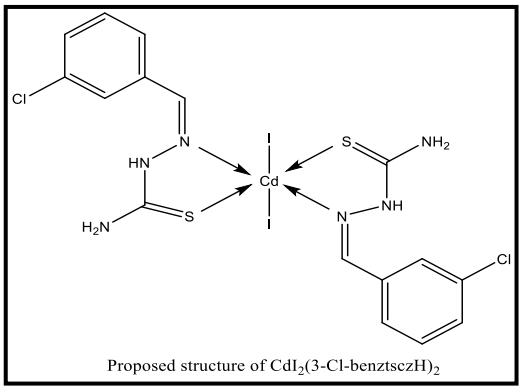
[Back to home]



350°C 400°C 450°C

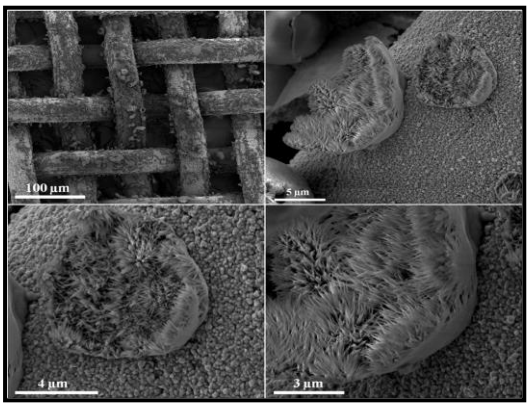
SEM images of ZnO thin films obtained using AACVD of $ZnCl_2(cinnamsczH)_2$

Morphology tuned CdS thin films



Proposed structure of $CdI_2(3\text{-Cl-benztsczH})_2$

AACVD



$CdI_2(3\text{-Cl-benztsczH})_2$ molecular precursor **CdS nanowires**

Related publications:

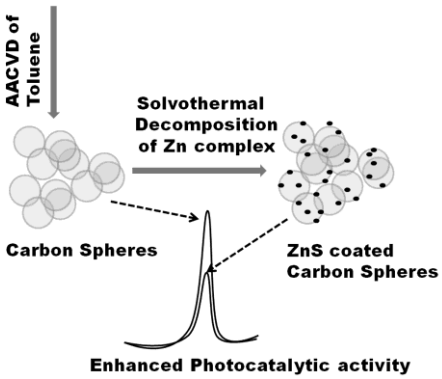
S. S. Garje, *D. J. Eisler, J. S. Ritch, M. Afzaal, P. O'Brien, and T. Chivers, J. Am. Chem. Soc.,* ***128*** *(10) (2006) 3120-3121;* ***S. S. Garje****, J. S. Ritch, D. J. Eisler, M. Afzaal, P. O'Brien and T. Chivers, J. Mat. Chem.,* ***16*** *(2006) 966-969;* ***S. S. Garje****, M. C. Copsey, M. Afzaal, P. O'Brien, and T. Chivers, J. Mat. Chem.,* ***16*** *(2006) 4542-4547; B. P. Bade,* ***S. S. Garje****, Y. S. Niwate, M. Afzaal and P. O'Brien, Chem. Vap. Dep.,* ***14*** *(2008) 292-295; J. B. Biswal, N. V. Sawant and* ***S. S. Garje****, Thin Solid Films,* ***518*** *(12) (2010) 3164-3168*

(IV) Preparation of carbon based metal chalcogenide nanocomposites and their applications.

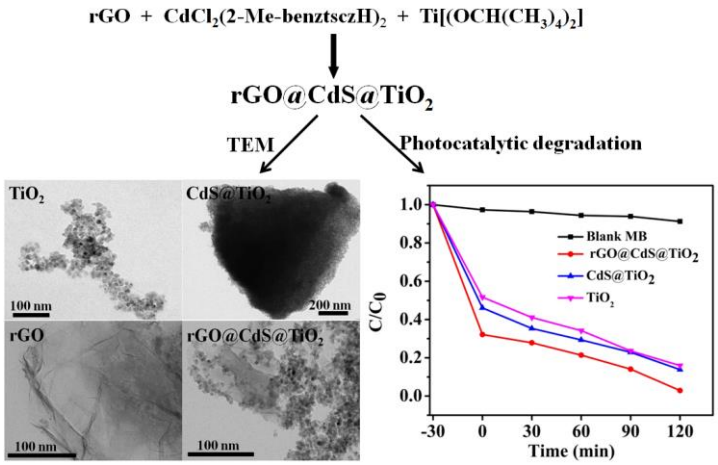
Metal chalcogenide coatings on carbon based materials like carbon sphere enhance photocatalytic activity due to enhanced surface area and synergistic effect.

[Back to home]

Enhanced photocatalytic activity of ZnS coated carbon spheres

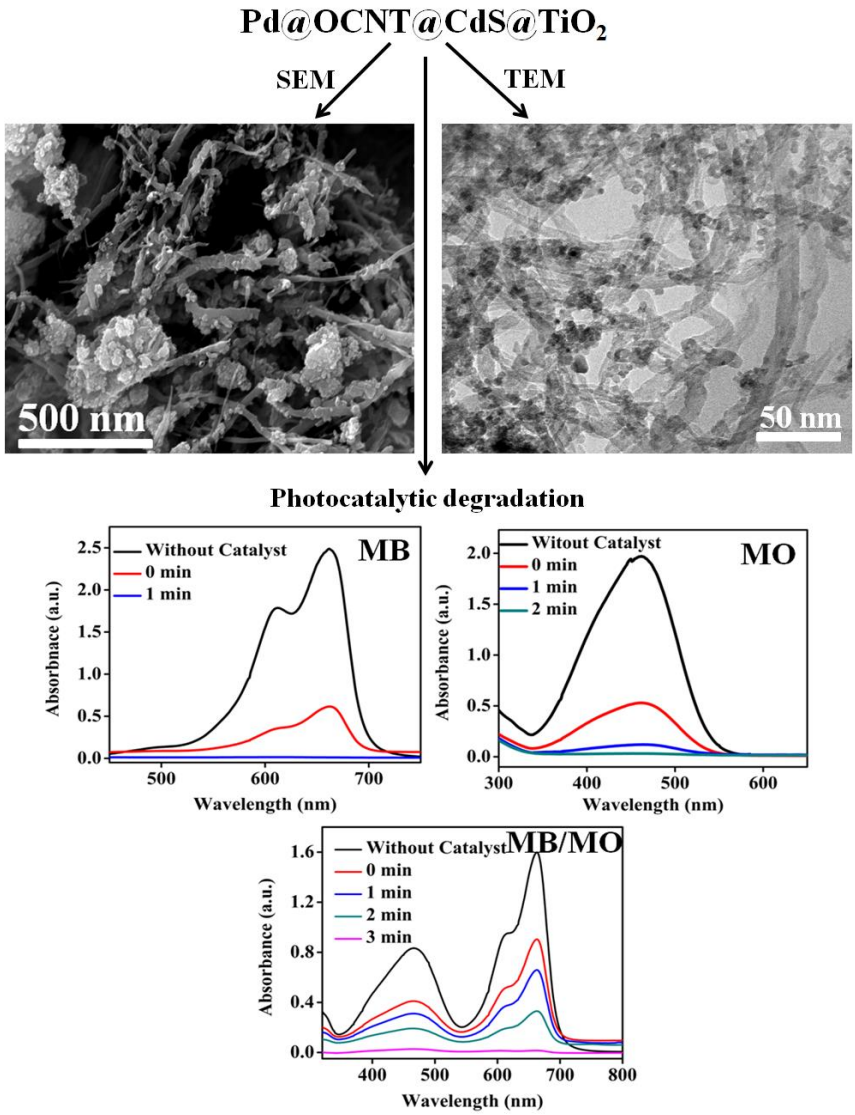


Carbon based ternary nanocomposite (rGO@CdS@TiO_2) and their applications



Back to home

Carbon based quaternary nanocomposite (Pd@OCNT@CdS@TiO_2) and their applications



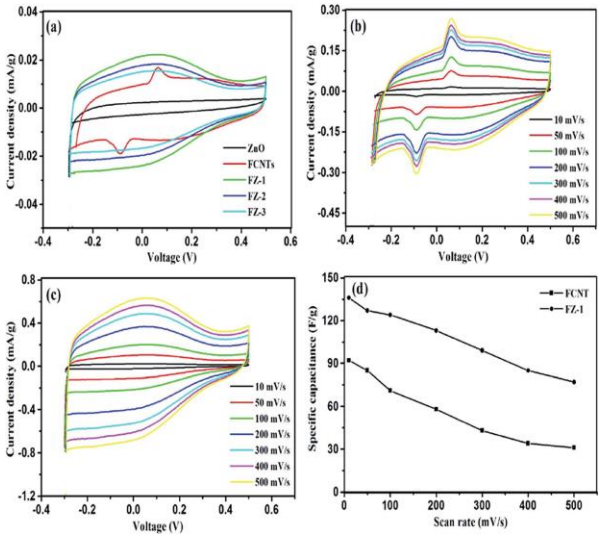
Related publications:

K. M. Samant, J. S. Suroshe and ***S. S. Garje****, European J. Inorg. Chem., **(3)** (2014) 499-505.*

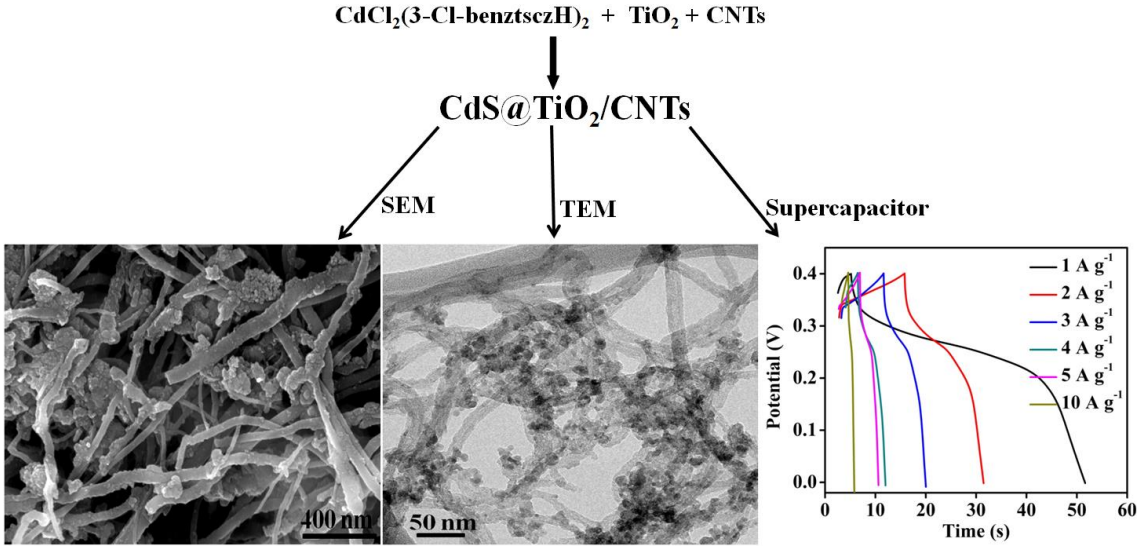
Back to home

(V) Applications of nanocomposites in supercapacitors.

Carbon nanotube/ZnO composites coated on a glassy carbon electrode have been found to be better suprcapacitor materials.

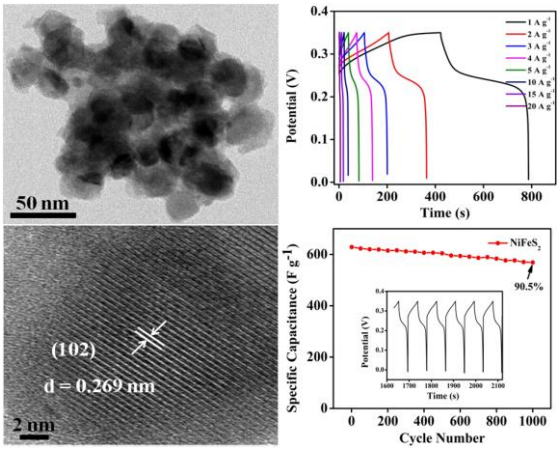


Carbon based ternary nanocomposite ($CdS@TiO_2@CNTs$)



Back to home

Bimetallic transition metal sulphide and their applications as electrode materials in supercapacitors

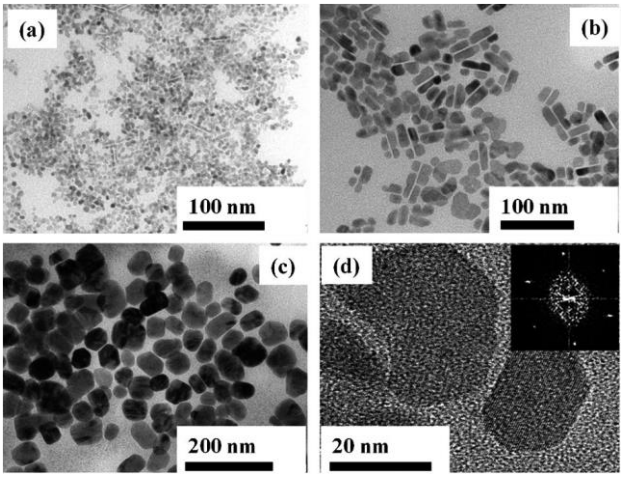


Related publication:

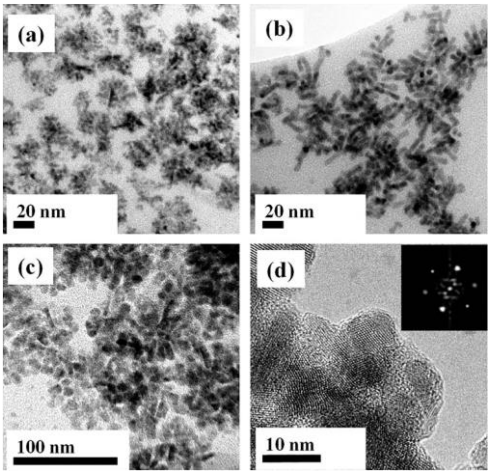
J. S. Suroshe and ***S. S. Garje****, J. Mater. Chem. A****, 3*** *(2015) 15650–15660.*

A. Ansari, R. A. Badhe, ***S. S. Garje****, Mater. Lett., 281 (2020) 128636.*

(VI) Study of Morphological Influence of halide moieties in the precursors.

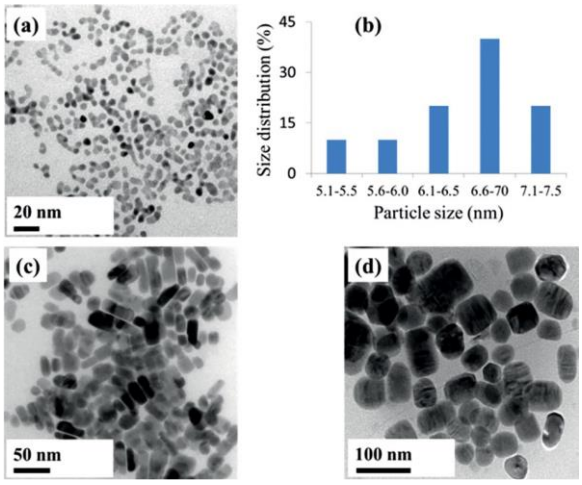


TEM images of CdS nanoparticles synthesized from Bis (cinnamaldehyde thiosemicarbazone) cadmium(II) Chloride

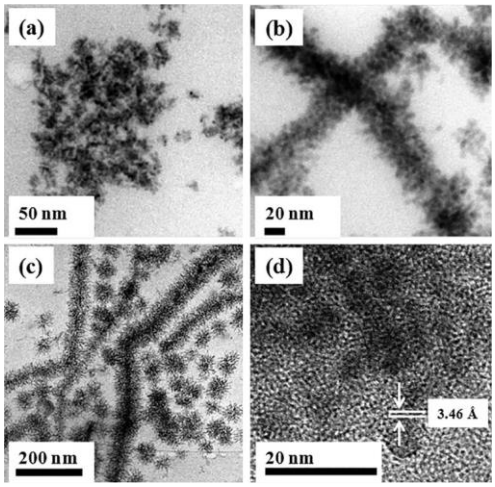


TEM images of CdS nanoparticles synthesized from Bis(cinnamaldehyde Thiosemicarbazone) cadmium(II) Iodide

[Back to home]

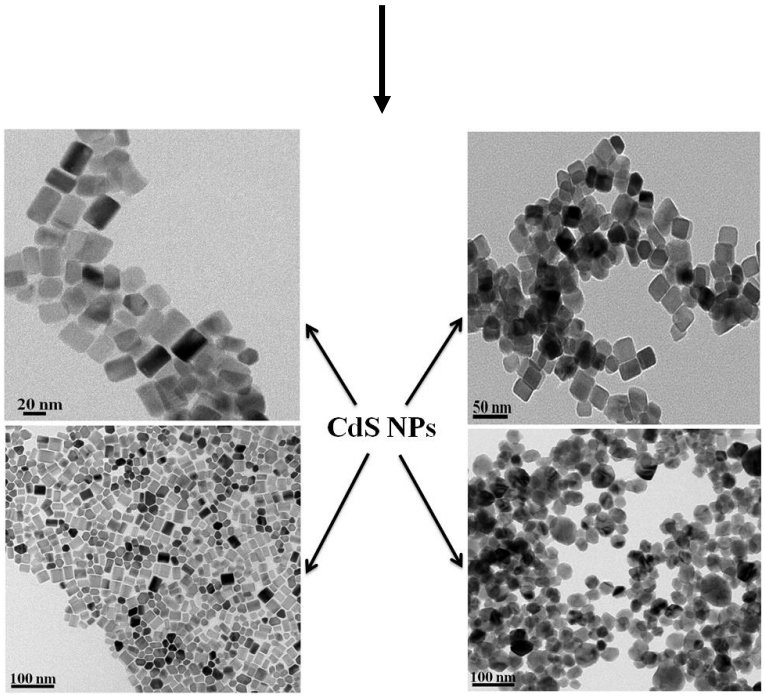


TEM images of CdS nanoparticles synthesized from Bis(4-fluoroacetophenone Thiosemicarbazone) cadmium(II) Chloride



TEM images of CdS nanoparticles synthesized from Bis(4-fluoroacetophenone Thiosemicarbazone) cadmium(II) Iodide

$CdCl_2$(3-Chlorobenzaldehyde thiosemicarbazone)$_2$ complex



TEM images of CdS nanoparticles synthesized from Bis(3-Chlorobenzaldehyde Thiosemicarbazone) cadmium(II) Chloride

Related Publications:

A. S. Pawar, S. C. Masikane, S. Mlowe, ***S. S. Garje*** *and N. Revaprasadu, European J. Inorg. Chem.,* ***(3)****, (2016) 366-372.*

Back to home

Publications of Dr. Shivram S. Garje	
Book chapter	
1.	*Nanostructured Materials for Type III Photovoltaics* *S. S. Garje, J. S. Suroshe and N. Revaprasadu, Nanoscience & Nanotechnology Series No. 45 Nanostructured Materials for Type III Photovoltaics, Edited by Peter Skabara and Mohammad Azad Malik, © The Royal Society of Chemistry 2018, Pages 367 – 392.* **DOI: *http://dx.doi.org/10.1039/9781782626749-00367***

Journal papers	
1.	*Facile synthesis of CeO_2 nanoparticles and their applications in photodegradation of methylene blue and as supercapacitor electrode material.* *I. D. Yadav, A. Ansari, D. Yadav, **S. S. Garje**, Bull. Mater. Sci. **46 (2)** (2023) 86.* ***DOI: https://doi.org/10.1007/s12034-023-02921-7***
2.	*One pot solvothermal synthesis of bimetallic copper iron sulfide ($CuFeS_2$) and its use as electrode material in supercapacitor applications* *Aleem Ansari, Rashmi A. Badhe, Dipak G. Babar and **S. S. Garje**, Appl. Surf. Sci. Adv., **9** (2022) 100231.* ***DOI: https://doi.org/10.1016/j.apsadv.2022.100231***
3.	*Transition metal complexes as promoters of direct electron transfer from gold electrodes to cytochrome c* *S. Ray, D. Yadav, **S. S. Garje** and S. Mazumdar, J. Chem. Sci., **133(3)** (2021) 1-11.* ***DOI: https://doi.org/10.1007/s12039-021-01960-z***
4.	*Single-step production of a TiO_2@MoS_2 heterostructure and its applications as a supercapacitor electrode and photocatalyst for reduction of Cr(VI) to Cr(III).* *Ajay Lathe, Aleem Ansari, Rashmi A. Badhe, Anil M. Palve and **S. S. Garje**, ACS Omega, **6** (20) (2021) 13008–13014.* ***DOI: https://doi.org/10.1021/acsomega.1c00121***
5.	*Study of optical properties of TiO_2 nanoparticles and CdS@TiO_2 nanocomposites and their use for photocatalytic degradation of Rhodamine B under natural light irradiation.* *R. A. Badhe, A. Ansari, **S. S Garje**, Bull. Mater. Sci., **44** (2021) 11.* ***DOI: https://doi.org/10.1007/s12034-020-02313-1***
6.	*Effect of temperature on morphologies and optical study of ZnO thin films deposited by aerosol assisted chemical vapor deposition technique.* *A. M. Palve, **S. S. Garje**, Semicond. Sci. Technol., **36** (2) (2020) 025007.* ***DOI: https://doi.org/10.1088/1361-6641/abcdfa***
7.	*One pot synthesis of bimetallic transition metal sulfide $NiFeS_2$ nanocomposite and its use as a high performance supercapacitor material.* *A. Ansari, R. A. Badhe, **S. S. Garje**, Mater. Lett., **281** (2020) 128636.* ***DOI: https://doi.org/10.1016/j.matlet.2020.128636***
8.	*Nitrogen and phosphorus co-doped carbon dots for selective detection of nitro explosives.* *D. G. Babar, **S. S. Garje**, ACS omega, **5** (6), (2020) 2710-2717.*

	DOI: https://doi.org/10.1021/acsomega.9b03234
9.	*Photocatalytic performance of ZnO carbon composites for the degradation of methyl orange dye.* *P. A. Borade, J. S. Suroshe, K. Bogale, **S. S. Garje**, S. M. Jejurikar, Mater. Res. Express, **7** (1) (2020) 015512.* ***DOI: https://doi.org/10.1088/2053-1591/ab6648***
10.	*Preparation of CdS–TiO_2-Based Palladium Heterogeneous Nanocatalyst by Solvothermal Route and Its Catalytic Activity for Reduction of Nitroaromatic Compounds.* *A. Ansari, R. A Badhe, **S. S. Garje**, ACS omega, **4** (12) (2019) 14937-14946.* ***DOI: https://doi.org/10.1021/acsomega.9b01726***
11.	*Cadmium chloride and cadmium iodide thiosemicarbazone complexes as single source precursors for CdS nanoparticles.* *S. C. Masikane, S. Mlowe, A. S. Pawar, **S. S. Garje** and N. Revaprasadu, Russ. J. Inorg. Chem., **64** (8) (2019) 1063-1071.* ***DOI: https://doi.org/10.1134/S0036023619080072***
12.	*Ligand-based stoichiometric tuning in copper sulfide nanostructures and their catalytic ability.* *M. Jain, D. G. Babar and **S. S. Garje**, Applied Nanoscience, **9** (3) (2019) 353-367.* ***DOI: https://link.springer.com/article/10.1007/s13204-018-0915-5***
13.	*One-Pot Synthesis of Pd-Based Ternary Pd@CdS@TiO_2 Nanoclusters via a Solvothermal Route and Their Catalytic Reduction Efficiency toward Toxic Hexavalent Chromium.* *R. A. Badhe, A. Ansari and **S. S. Garje**, ACS Omega, **3** (2018) 18663−18672.* ***DOI: https://pubs.acs.org/doi/10.1021/acsomega.8b02924***
14.	*Synthesis of bare and surface modified TiO_2 nanoparticles via single source precursor and insights into their interactions with Serum Albumin.* *A. Ansari, S. Sachar and **S. S. Garje**, New J. Chem., **42** (2018) 13358-13366.* ***DOI:https://pubs.rsc.org/en/content/articlelanding/2018/nj/c8nj02253d#!divAbstract***
15.	*Preparation of Iron sulfide nanomaterials from Iron (II) thiosemicarbazone complexes and their application in photodegradation of methylene blue.* *J. S. Suroshe, S. Mlowe, **S. S. Garje**, N. Revaprasadu, J. Inorg. Organomet Polym., **28** (3) (2018) 603-611.* ***DOI: https://doi.org/10.1007/s10904-018-0816-9***
16.	*Lead (II) halide cinnamaldehyde thiosemicarbazone complexes as single source precursors for oleylamine-capped lead sulfide nanoparticles.* *S. Masikhane, C. Gervas, S. Mlowe, A. S. Pawar, **S. S. Garje**; N. Revaprasadu, J. Mater. Sc.: Mat. Electronics, **29** (2) (2018) 1479-1488.* ***DOI: https://link.springer.com/article/10.1007/s10854-017-8056-2***
17.	*High temperature phase transformation of iron sulfide.* *S. Mlowe, N. Revaprasadu, **S. S. Garje**, ICDD DXC-2016 Proceeding, **60** (2017) 87-94.* ***DOI**: **http://www.icdd.com/resources/axasearch/volume_1.asp***
18.	*Designing the morphology of PbS nanoparticles through a single source precursor method.* *M. J. Moloto, K. P. Mubiayi, N. Revaprasadu and **S. S. Garje**, J. Saudi Chem. Soc. **21** (2017) 593–598.* ***DOI: https://doi.org/10.1016/j.jscs.2017.02.002***
19.	*Zinc thiosemicarbazone complexes: Single source precursors for alkylamine capped ZnS*

	nanoparticles. *A. S. Pawar, S. Mlowe,* ***S. S. Garje****, M. P. Akerman, N. Revaprasadu, Inorg. Chim. Acta,* ***463*** *(2017) 7–13.* ***DOI: http://dx.doi.org/10.1016/j.ica.2017.04.009***
20.	*Synthesis and characterization of CdS nanocrystallites and OMWCNT-supported cadmium sulfide composite and their photocatalytic activity under UV light irradiation.* *A. S. Pawar,* ***S. S. Garje*** *and N. Revaprasadu, Mater. Chem. Phy.,* ***183*** *(2016) 366- 374.* ***DOI: http://dx.doi.org/10.1016/j.matchemphys.2016.08.040***
21.	*Magnetic Iron Sulfide Nanoparticles for Potential Applications in Gas Sensing* *S. Mlowe,* ***S. S. Garje****, T. Moyo and N. Revaprasadu, MRS Advances,* ***1 (03)*** *(2016) 235 – 240.* ***DOI: https://doi.org/10.1557/adv.2016.12***
22.	*Preparation of CdS Nanoparticles from Thiosemicarbazone Complexes: Morphological Influence of Chlorido and Iodido Ligands.* *A. S. Pawar, S. C. Masikane, S. Mlowe,* ***S. S. Garje*** *and N. Revaprasadu, European J. Inorg. Chem.,* ***(3)****, (2016) 366-372.* ***DOI****:* ***http://onlinelibrary.wiley.com/doi/10.1002/ejic.201501125/full***
23.	*Synthesis of Co_9S_8 and CoS nanocrystallites using Co(II) thiosemicarbazone complexes as single-source precursors.* *Amol S. Pawar and* ***S. S. Garje****, Bull. Mater. Sci.,* ***38 (7)*** *(2015) 1843-1850.* ***DOI: https://link.springer.com/article/10.1007/s12034-015-1050-5***
24.	*Capacitive behaviour of functionalized carbon nanotube/ZnO composites coated on glassy carbon electrode.* *J. S. Suroshe and* ***S. S. Garje****, J. Mater. Chem. A,* ***3*** *(2015) 15650–15660.* ***DOI: http://pubs.rsc.org/en/content/articlelanding/2015/ta/c5ta01725d#!divAbstract***
25.	*Room temperature magnetism in zinc nano ferrite synthesized by a novel oxalate-ceramic method.* *K. K. Bhatt, Y. S. Niwate,* ***S. S. Garje*** *and D. C. Kothari, Materials Chemistry and Physics,* ***161*** *(2015) 256 – 259.* ***DOI: http://dx.doi.org/10.1016/j.matchemphys.2015.05.047***
26.	*Deposition of cobalt and nickel sulfide thin films from thio- and alkylthio-urea complexes as precursors via the aerosol assisted chemical vapour deposition technique.* *L. P Mgabi, B. S. Dladla, M. A Malik,* ***S. S. Garje****, J. Akhtar and N. Revaprasadu, Thin Solid Films,* ***564*** *(2014) 51-57.* ***DOI: https://doi.org/10.1016/j.tsf.2014.04.086***
27.	*One-pot solvothermal coating of carbon spheres with ZnS nanocrystallites and their use in the photodegradation of dyes.* *K. M. Samant, J. S. Suroshe and* ***S. S. Garje****, European J. Inorg. Chem.,* ***(3)*** *(2014) 499-505.* ***DOI: http://onlinelibrary.wiley.com/doi/10.1002/ejic.201301288/full***
28.	*A convenient synthesis of antimony sulfide and antimony phosphate nanorods using single source dithiolatoantimony(III) dialkyldithiophosphate precursors.* *J. B. Biswal,* ***S. S. Garje*** *and N. Revaprasadu, Polyhedron,* ***80*** *(2014) 216-222.* ***DOI: http://dx.doi.org/10.1016/j.poly.2014.04.017***
29.	*Bismuth(III) dialkyldithiophosphates: Facile single source precursors for the preparation of bismuth sulfide nanorods and bismuth phosphate thin films.*

	*J. B. Biswal, **S. S. Garje**, J. Nuwad and C. G. S. Pillai, J. Solid State Chem., **204** (2013) 348-355.* ***DOI: https://doi.org/10.1016/j.jssc.2013.06.011***
30.	*Synthesis and Characterization of Antimony Carboxylates.* *C. Vatsa , A. S. Pawar and **S. S. Garje** , Inter. J. Chem. Studies, **1**(3) (2013) 73-81. ISSN: 2321-4902.* ***DOI: http://www.chemijournal.com/search/?q=GARJE***
31.	*Synthesis and X-ray single crystal structure of a cadmium(II) acetophenone thiosemicarbazone complex and its use as a single-source precursor for the preparation of CdS nanocrystallites and thin films.* *A. M. Palve, P. V. Joshi, V. Puranik and **S. S. Garje**, Polyhedron, **61** (2013) 195-201.* ***DOI: http://dx.doi.org/10.1016/j.poly.2013.05.052***
32.	*Preparation of antimony sulfide nanostructures from single source antimony thiosemicarbazone precursors.* *J. B. Biswal and **S. S. Garje**, Synth. React. Inorg. Met.-Org. Nano-Met. Chem., **43 (4)** (2013) 461-465.* ***DOI: http://dx.doi.org/10.1080/15533174.2012.740747***
33.	*Study of the antibacterial activity of ZnO Nanoparticles.* *A. Surti, S. Radha and **S. S. Garje**, American Inst. Phys. Proceedings, **1512** (2013) 450-451. ISBN 978-0-7354-1133-3.* ***DOI: http://doi.org/10.1063/1.4791105***
34.	*Preparation of nickel sulfide thin films and nanocrystallites using nickel furfuraldehyde thiosemicarbazone as single-source precursor.* *A. V. Gole and **S.S. Garje**, Adv. Mater.Res., **383-390** (2012) 3828-3834. ISSN: 1022-6680.* ***DOI: https://www.scientific.net/AMR.383-390.3828***
35.	*Preparation of ternary metal chalcogenide ($M_{1-x}Fe_xS$, M = Cd and Zn) nanocrystallites using single source precursors.* *S. D. Disale and **S. S. Garje**, J. Organomet. Chem., **696** (2011) 3328-3336.* ***DOI: https://doi.org/10.1016/j.jorganchem.2011.07.001***
36.	*A facile synthesis of ZnS nanocrystallites by pyrolysis of single molecule precursors, $Zn(cinnamtscz)_2$ and $ZnCl_2(cinnamtsczH)_2$.* *A. M. Palve and **S. S. Garje**, Bull. Mater. Sci., **34 (4)** (2011) 667-671.* ***DOI: https://link.springer.com/article/10.1007/s12034-011-0179-0***
37.	*Preparation of zinc sulfide nanocrystallites from single-molecule precursors.* *A. M. Palve and **S. S. Garje**, J. Cryst. Growth, **326 (1)** (2011) 157-162.* ***DOI: https://doi.org/10.1016/j.jcrysgro.2011.01.087***
38.	*Synthesis, structural and thermal studies of some biologically active antimony semicarbazones and thiosemicarbazones.* *N. V. Sawant, J. B. Biswal and **S. S. Garje**, J. Coord. Chem., **64 (10)** (2011) 1758-1769.* ***DOI: http://dx.doi.org/10.1080/00958972.2011.572163***
39.	*Preparation of tin chalcogenide nanoparticles using tribenzyltin(IV) semi- and thiosemicarbazone precursors.* *Y. S. Niwate and **S. S. Garje**, Synth. React. Inorg. Met.-Org. Nano-Met. Chem., **41 (1)** (2011) 36-43.* ***DOI: http://www.tandfonline.com/doi/full/10.1080/15533174.2010.522674***

40.	*Deposition of copper-doped iron sulfide ($Cu_xFe_{1-x}S$) thin films using aerosol- assisted chemical vapour deposition technique.* *S. D. Disale and **S. S. Garje**, Appl. Organomet. Chem., **24** (2010) 734-740.* ***DOI: http://onlinelibrary.wiley.com/doi/10.1002/aoc.1676/full***
41.	*Synthesis of single phase magnetite, Fe_3O_4 nanocrystallites using single source precursor. S. D. Disale and **S. S. Garje**, American Inst. Phys. Proceedings, **1276** (2010) 356-361. ISBN 978-0-7354-0825-8.* ***DOI: http://doi.org/10.1063/1.3504326***
42.	*Single source precursor approach to prepare tin sulfide nanocrystallites and thin films.* *Y. S. Niwate and **S. S. Garje**, American Inst. Phys. Proceedings, **1276** (2010) 56-61. ISBN 978-0-7354-0825-8.* ***DOI: http://doi.org/10.1063/1.3504342***
43.	*Preparation of palladium sulfide nanocrystallites using palladium thiosemicarbazones as single-source precursors.* *A. V. Gole and **S. S. Garje**, II National Conference on Advanced Materials-processing, characterization and applications (NCAM-2010) proceedings, (2010) 60-64. ISBN 93-80697-09-0.*
44.	*Deposition of rod-shaped antimony sulfide thin films from single-source antimony thiosemicarbazone precursors.* *J. B. Biswal, N. V. Sawant and **S. S. Garje**, Thin Solid Films, **518** (12) (2010) 3164-3168.* ***DOI: https://doi.org/10.1016/j.tsf.2009.08.046***
45.	*Preparation of nanostructured zinc oxide from single source precursors.* *A. M. Palve and **S. S. Garje**, Synth. React. Inorg. Met.-Org. Nano-Met. Chem., **40** (2010) 153-156.* ***DOI: http://www.tandfonline.com/doi/full/10.1080/15533171003629071***
46.	*Growth of nanocrystalline FeS and FeS_2 using iron (II) cinnamaldehyde thiosemicarbazone complexes as single-source precursors.* *S. D. Disale and **S. S. Garje**, Adv. Sci. Lett., **3** (1) (2010) 80-86.* ***DOI: https://doi.org/10.1166/asl.2010.1092***
47.	*Synthesis, characterization and biological activity studies of phenylarsenic(III) semi- and thio-semicarbazones.* *J. B. Biswal, **S. S. Garje** and B. L. Jadhav, Main Group Met. Chem. **32** (6) (2009) 297-308.* ***DOI: https://doi.org/10.1515/MGMC.2009.32.6.297***
48.	*A convenient synthesis of nanocrystalline chalcopyrite, $CuFeS_2$ using single-source precursors.* *S. D. Disale and **S. S. Garje**, Appl. Organomet. Chem., **23** (2009) 492-497.* ***DOI: http://onlinelibrary.wiley.com/doi/10.1002/aoc.1553/full***
49.	*Tribenzyltin(IV)chloride thiosemicarbazones: Novel single-source precursors for growth of SnS thin films.* *B. P. Bade, **S. S. Garje**, Y. S. Niwate, M. Afzaal and P. O'Brien, Chem. Vap. Dep., **14** (2008) 292-295.* ***DOI: http://onlinelibrary.wiley.com/doi/10.1002/cvde.200806687/full***
50.	*Synthesis and spectral studies of some bismuth(III) and (V) thiosemicarbazone complexes.* *J. B. Biswal and **S. S. Garje**, Main Group Met. Chem., **30** (2-3) (2007) 75-82.* ***DOI: https://doi.org/10.1515/MGMC.2007.30.2-3.75***

51.	*Growth of semiconductor thin films and nanoparticles using single-source precursors: An overview.* *S. D. Disale, Y. S. Niwate, and **S. S. Garje**, Bionano Frontier, **1** (1) (2007) 1-6. ISSN 0974-0678.* ***DOI: http://bionanofrontier.org/vol-1-issue-1-2007/***
52.	*Aerosol-assisted chemical vapour deposition of indium telluride thin films from $\{In(\mu\text{-}Te)[N(^{i}Pr_2Pte)_2]\}_3$.* ***S. S. Garje,** M. C. Copsey, M. Afzaal, P. O'Brien, and T. Chivers, J. Mat. Chem., **16** (2006) 4542-4547.* ***DOI: http://pubs.rsc.org/en/content/articlelanding/2006/jm/b608700k#!divAbstract***
53.	*A new route to antimony telluride nanoplates from a single-source precursor.* ***S. S. Garje**, D. J. Eisler, J. S. Ritch, M. Afzaal, P. O'Brien, and T. Chivers, J. Am. Chem. Soc., **128** (10) (2006) 3120-3121.* ***DOI: http://pubs.acs.org/doi/abs/10.1021/ja0582408***
54.	*Chemical vapour deposition of II-VI semiconductor thin films using $M[(TeP^{i}Pr_2)_2N]_2$ (M = Cd, Hg) as single-source precursors.* ***S. S. Garje**, J. S. Ritch, D. J. Eisler, M. Afzaal, P. O'Brien and T. Chivers, J. Mat. Chem., **16** (2006) 966-969.* ***DOI: http://pubs.rsc.org/en/content/articlelanding/2006/jm/b515362j#!divAbstract***
55.	*Synthesis, characterization and biological activity of some triphenylantimony(V) monochlorosemicarbazone complexes.* *N. V. Sawant and **S. S. Garje**, Main Group Met. Chem., **28** (4) (2005) 213-221.* ***DOI: https://doi.org/10.1515/MGMC.2005.28.4.213***
56.	*Triphenylantimony(V)dichloride molecular adducts with some thiosemicarbazones.* *K. Dalvi, M. Pal and **S. S. Garje,** Indian J. Chem., **43A** (2004) 1667-1671.* ***DOI: http://nopr.niscair.res.in/handle/123456789/20411***
57.	*Chemistry of arsenic, antimony and bismuth compounds derived from xanthtate, dithiocarbamate and phosphorus based ligands.* ***S. S. Garje** and V. K. Jain, Coord. Chem. Rev., **236** (2003) 35-56.* ***DOI: https://doi.org/10.1016/S0010-8545(02)00159-5***
58.	*Synthesis of tertiary arsines containing N, N'-dimethylaminobenzyl group.* ***S. S. Garje** and V. K. Jain, Indian J. Chem., **40A** (2001) 983-985.* ***DOI: http://nopr.niscair.res.in/handle/123456789/18563***
59.	*The chemistry of organo-arsenic, antimony and bismuth compounds: An overview.* ***S. S. Garje** and V. K. Jain, Main Group Met. Chem., **22** (1) (1999) 45-58.* ***DOI: https://doi.org/10.1515/MGMC.1999.22.1.45***
60.	*Synthesis and characterization of arsacycloalkanes and their palladium and platinum complexes, and X-ray structure of $[PdCl_2(PhAsCH_2CH_2CH_2CH_2CH_2)_2]$.* ***S. S. Garje**, V. K. Jain and B. Varghese, App. Organomet. Chem., **13** (1999) 47-51.* ***DOI:http://onlinelibrary.wiley.com/doi/10.1002/(SICI)1099-0739(199901)13:1%3C47::AID-AOC813%3E3.0.CO;2-Y/full***
61.	*Synthesis and characterization of triorganoarsenic(V) and –antimony(V) diphenylphosphinates.* ***S. S. Garje** and V. K. Jain, Main Group Met. Chem., **21** (2) (1998) 77-83.* ***DOI: https://doi.org/10.1515/MGMC.1998.21.2.77***

62.	*Synthesis and characterization of triorgano-arsenic(V) and –antimony(V) complexes of 2-pyridinol and 2-methoxyphenol.* ***S. S. Garje** and V. K. Jain, Main Group Met. Chem., **20** (12) (1997) 755-760.* ***DOI: https://doi.org/10.1515/MGMC.1997.20.12.755***
63.	*Synthesis and characterization of organoarsenic(III) xanthates and dithiocarbamates.* *X- ray crystal structures of $RAs(S_2CNEt_2\}_2$, R = Me and Ph.* ***S. S. Garje**, V. K. Jain and E. R. T. Tiekink, J. Organomet.Chem., **538** (1997) 129-134.* ***DOI: https://doi.org/10.1016/S0022-328X(96)06905-7***
64.	*Synthesis and characterization of alkylarsenic(III) dialkylmono- and –dithiophosphates.* ***S. S. Garje** and V. K. Jain, Main Group Met. Chem., **20** (4) (1997) 217-222.* ***DOI: https://doi.org/10.1515/MGMC.1997.20.4.217***
65.	*Synthesis and characterization of organoarsenic(III) dialkylthiophosphates.* ***S. S. Garje** and V. K. Jain, Main Group Met. Chem., **19** (6) (1996) 355-360.* ***DOI: https://doi.org/10.1515/MGMC.1996.19.6.355***
66.	*Triorganoantimony(V) bis(dialkylthiophosphates): Synthesis and characterization.* ***S. S. Garje** and V. K. Jain, Main Group Met. Chem., **18** (8) (1995) 387-390.* ***DOI: https://doi.org/10.1515/MGMC.1995.18.8.387***
67.	*Synthesis and characterization of dibutylgermanium(IV) dialkylthiophosphates.* ***S. S. Garje**, V. B. Mokal and V. K. Jain, Indian J. Chem., **34A** (1995) 809-810.* ***DOI: http://nopr.niscair.res.in/handle/123456789/40279***

Back to home

CONTRIBUTIONS IN SYMPOSIA, CONFERENCES AND REPORTS	
1.	*Synthesis of Metal Chalcogenide Nanomaterials and their Applications.* *I. D. Yadav and **S. S. Garje**, 34th Research Scholar Meet, Indian Chemical Society, Mumbai Branch, K.C. College, HSNC University, Mumbai, 24-25 March 2023.* *OP-8*
2.	*Hydrothermal synthesis of CeO_2 nanoparticles and their application as supercapacitor electrode material.* *I. D. Yadav, D. Yadav and **S. S. Garje**, International conference on "Greener synthesis and catalysis" Recent development & opportunities, KLE College, Navi Mumbai, 14 March 2023.* *OP-3*
3.	*Hydrothermal synthesis of CeO_2 nanoparticles and their application as a photocatalyst for degradation of methylene blue.* *I. D. Yadav and **S. S. Garje**, International International Conference on Sustainability: Integrated and Scientific Approach (ICS-2022) in Virtual Mode, University of Mumbai, 4-6 August 2022.* *OP-1*
4.	*Solvothermal synthesis of bimetallic transition metal sulfide $NiFeS_2$ nanocomposite and its application as an electrode material in supercapacitors.* *A. Ansari, R. A. Badhe and **S. S. Garje**, 2nd Virtual international Conference on Molecules to Materials (MTM-2021), Department of Applied Chemistry, S. V. National Institute of Technology (SVNIT), Surat, India, 17-18 December 2021.*

	OP-19
5.	*One step solvothermal synthesis of $NiCo_2S_4$/CNTs nanocomposite and study of its electrochemical properties.* *R. A. Badhe, A. Ansari and **S. S. Garje**, 2nd Virtual International Conference on. Chemical Sciences in Sustainable Technology and Development. (IC^2S^2TD-2021), Department of Chemistry, S. V. National Institute of Technology (SVNIT), Surat India, 24-26 November 2021.* *YRS-03*
6.	*Synthesis and characterization of CoS nanoparticles by solvothermal decomposition of molecular precursor and their energy storage application.* *A. Raut, R. A. Badhe and **S. S. Garje**, National conference on Recent trends in Science 2020' (NCRTC-2020)', The Institute of Science, Mumbai, Mumbai-400032, India, 13-14 February 2020.* *OP-02*
7.	*Solvothermal synthesis of NiS nanoparticles using molecular precursor for high performance supercapacitor application.* *K. Aarya, R. A. Badhe, A. Ansari and **S. S. Garje**, National conference on Recent trends in Science 2020' (NCRTC-2020)', The Institute of Science, Mumbai, Mumbai-400032, India, 13-14 February 2020.* *PP-12*
8.	*Facile synthesis of bare TiO_2 nanoparticles and TiO_2@Pd nanocomposites and their application as catalysts for reduction of nitro aromatic compounds.* *D. Kedare, A. Ansari and **S. S. Garje**, National conference on Recent trends in Science 2020' (NCRTC-2020)', The Institute of Science, Mumbai, Mumbai-400032, India, 13-14 February 2020.* *OP-01*
9.	*Applications of transition metal chalcogenide nanoparticles and their composites for environmental remediation.* *R. A. Badhe and **S. S. Garje**, 32nd Research Scholar Meet (RSM-2020), K. C. College, Mumbai-400020, India, 7-8 February 2020.* *OP-10*
10.	*Synthesis, characterization and applications of TiO_2 nanoparticles and its nanocomposites.* *A. Ansari and **S. S. Garje**, 32nd Research Scholar Meet (RSM-2020), K. C. College, Mumbai-400020, India, 7-8 February 2020.* *OP-09*
11.	*Low-temperature solvothermal synthesis of CdS@TiO_2 nanocomposites as high performance photocatalysts for degradation of RhB under solar light irradiation.* *R. A. Badhe, A. Ansari and **S. S. Garje**, 7th Interdisciplinary Symposium on Materials Chemistry (ISMC-2018), Bhabha Atomic Research Centre, Mumbai-400085, India, 4-7 December 2018.* *C-110*
12.	*Copper Sulphide Nanostructures and Nanocomposites: Efficient Photocatalysis for Dye Degradation.* *D. G. Babar, M. Jain and **S. S. Garje**, National symposium on Electrochemistry in Materials and Devices (NSEMD-2018), CSIR-CSMCRI, Bhavnagar-364001, India, 28-29 September 2018.* *P-50*
13.	*Synthesis and characterization of rGO@CdS@TiO_2 nanocomposites and their application as photocatalysts for degradation of methylene blue.* *A. Ansari, R. A. Badhe and **S. S. Garje**, National symposium on Electrochemistry in Materials and Devices (NSEMD-2018), CSIR-CSMCRI, Bhavnagar-364001, India, 28-29 September 2018.*

	P-48
14.	*Solvothermal synthesis of Pd-based ternary Pd@CdS@TiO_2 nanoclusters and their application as catalysts for reduction of Cr(VI) using formic acid.* *R. A. Badhe, A. Ansari and **S. S. Garje**, National symposium on Electrochemistry in Materials and Devices (NSEMD-2018), CSIR-CSMCRI, Bhavnagar-364001, India, 28-29 September 2018.* *P-47*
15.	*Synthesis of lead oxide nanoparticles using Zingiber Officinate extract via solvothermal method for photocatalytic degradation of crystal violet dye.* *P. L. Salaskar, R. A. Badhe and **S. S. Garje**, National seminar on Recent trends in Science and Technology for sustainable development 2018' (RTSTSD-2018)', The Institute of Science, Mumbai, Mumbai-400032, India, 22-23 March 2018.* *P-10*
16.	*Green synthesis of silver nanoparticles and their application in photocatalytic degradation of methylene blue.* *B. B. Mane, A. Ansari and **S. S. Garje**, National seminar on Recent trends in Science and Technology for sustainable development 2018' (RTSTSD-2018)', The Institute of Science, Mumbai, Mumbai-400032, India, 22-23 March 2018.* *P-7*
17.	*Preparation of cadmium oxide nanoparticles using rhizome extract and its photocatalytic study.* *P. L. Salaskar, S. S. Colaco, R. A. Badhe and **S. S. Garje**, National Conference on Recent Developments in Chemical Sciences (RDCS-2018)' Department of Chemistry, University of Mumbai, Mumbai-400098, India, 8-9 March 2018.* *PP-64*
18.	*Synthesis and characterization of bare and surfactant assisted silver nanoparticles via green route.* *K. Shaikh, B. B. Mane, A. Ansari and **S. S. Garje**, National Conference on Recent Developments in Chemical Sciences (RDCS-2018)' Department of Chemistry, University of Mumbai, Mumbai- 400098, India, 8-9 March 2018.* *PP-33*
19.	*Solvothermal synthesis of cadmium sulfide nanoparticles fabricated from surfactants using single source precursor and their photocatalytic activity under visible light irradiation.* *R. A. Badhe, A. Ansari and **S. S. Garje**, National Conference on Recent Developments in Chemical Sciences (RDCS-2018)' Department of Chemistry, University of Mumbai, Mumbai-400098, India, 8-9 March 2018.* *PP-73*
20.	*Synthesis of bare and surfactant coated TiO_2 nanoparticles and their photocatalytic activity under visible light irradiation.* *A. Ansari, R. A. Badhe and **S. S. Garje**, National Conference on Recent Developments in Chemical Sciences (RDCS-2018)' Department of Chemistry, University of Mumbai, Mumbai-400098, India, 8-9 March 2018.* *OP-2*
21.	*Synthesis and characterization of zinc chlcogenides and their carbon based composites for photodegradation of dyes and supercapacitors.* *J. S. Suroshe and **S. S. Garje**, 8^{th} Indian Youth Science Congress, University of Mumbai, Mumbai-400098, India, February 16-18, 2017.*
22.	*Synthesis, characterization and applications of carbon based materials and their composites with transition metal chacogenide nanoparticles.*

	*J. S. Suroshe and **S. S. Garje**, 29th Research Scholars' Meet, Indian Chemical Society-Mumbai branch, St. Xaviers' College, Dhobi Talao, Mumbai–400 001, India, 17-18 Feb. 2017.* *Abstr. No.13*
23.	*Functionalized Carbon Nanotube/ZnO Composite Materials for Supercapacitors.* *J. S. Suroshe and **S. S. Garje**, 6th Interdisciplinary Symposium on Materials Chemistry (ISMC-2016),* *Bhabha Atomic Research Centre, Mumbai, INDIA, organized by Society for Materials Chemistry, India, 6-10 December 2016.* *Abstr. No. O-111.*
24.	*High temperature phase transformation of iron sulfide.* *S. Mlowe, N. Revaprasadu and **S. S. Garje*** *65th Annual conference on applications of X-ray analysis, Denver X-ray conference, Illinois, USA, 1-5 August 2016.* *D-123*
25.	*Synthesis, characterization and photocatalytic degradation studies of metal chalcogenides and their carbon based composites.* *A. S. Pawar and **S. S. Garje**, 27th Research Scholars' Meet, Indian Chemical Society-Mumbai branch, Sathye College, Vile Parle (E), Mumbai–400 057, India, 20-21 Feb. 2015.* *Abstr. No.1*
26.	*Synthesis and characterization of CdS nanoparticles and their photocatalytic activity for the degradation of organic dyes* *S. T. Palkar, A. S. Pawar and **S. S. Garje**, National Conference on Advances and Innovations in Chemical Sciences (NCAICS-2015), Department of Chemistry, University of Mumbai, Mumbai-400098, India, 12-13 February 2015.* *PP-16*
27.	*PbS nanoparticles as catalyst for the photocatalytic degradation of methylene blue and crystal violet* *S. R. Godage, A. S. Pawar and **S. S. Garje**, National Conference on Advances and Innovations in Chemical Sciences (NCAICS-2015), Department of Chemistry, University of Mumbai, Mumbai-400098, India, 12-13 February 2015.* *PP-17*
28.	*Photocatalytic activity of CdS and CdZnS nanoparticles* *S. S. Sawant, J. S. Suroshe and **S. S. Garje**, National Conference on Advances and Innovations in Chemical Sciences (NCAICS-2015), Department of Chemistry, University of Mumbai, Mumbai-400098, India, 12-13 February 2015.* *PP-18*
29.	*Synthesis and characterization of Cu_2S and Cu_9S_5 nanoparticles and their application as photocatalysts* *H. A. Shaikh, J. S. Suroshe and **S.S. Garje**, National Conference on Advances and Innovations in Chemical Sciences (NCAICS-2015), Department of Chemistry, University of Mumbai, Mumbai-400098, India, 12-13 February 2015.* *PP-19*
30.	*Synthesis, characterisation and applications of carbon spheres and their composites with metal sulphide/metal oxides* *J. S. Suroshe and **S. S. Garje**, National Conference on Advances and Innovations in Chemical Sciences (NCAICS-2015), Department of Chemistry, University of Mumbai, Mumbai- 400098, India, 12-13 February 2015.*

	OP-1.
31.	*Photocatalytic activity of ZnO/FCNT (1:1) and ZnO/FCNT (2:1) composites.* *J. S. Suroshe and **S. S. Garje**, 17th CRSI National Symposium in Chemistry (NSC-17),* *National Chemical Laboratory, Pune, India, 6-8 February 2015.* *Poster-119.*
32.	*Synthesis, Characterization and Photocatalytic Properties of CdS Nanoparticles Dotted on the Surface of Carbon Nanotubes.* *A.S. Pawar and **S. S. Garje**, 17th CRSI National Symposium in Chemistry (NSC-17), National Chemical Laboratory, Pune, India, 6-8 February 2015.* *Poster-89.*
33.	*Photocatalytic Degradation of Crystal Violet using CdS Nanocrystallites and CdS-OMWCNT Composite under UV Light Irradiation.* *A.S. Pawar and **S. S. Garje**, 5th Interdisciplinary Symposium on Materials Chemistry (ISMC-2014),* *Bhabha Atomic Research Centre, Mumbai, INDIA, organized by Society for Materials Chemistry, India, 9-13 December 2014.* *Abstr. No. C-114.*
34.	*ZnO/Carbon Spheres Composite for Photocatalytic Degradation of Methyl Orange.* *J. S. Suroshe and **S. S. Garje**, 5th Interdisciplinary Symposium on Materials Chemistry (ISMC-2014),* *Bhabha Atomic Research Centre, Mumbai, INDIA, organized by Society for Materials Chemistry, India, 9-13 December 2014.* *Abstr. No. O-104.*
35.	*Synthesis and characterization of cobalt sulfide nanocrystallites and its use as catalyst for photodegradation of methylene blue.* *A. S. Pawar and **S. S. Garje**, 16th CRSI National Symposium in Chemistry (NSC-16), Department of Chemistry, Indian Institute of Technology-Bombay, Mumbai, India, 7-9 February 2014.* *Abstr. No. 436.*
36.	*Preparation of nanoscale zinc oxide from single-source molecular precursor.* *A. M. Palve and **S. S. Garje**, National seminar on 'Recent advances in materials sciences' (RAMS-2014), MPAS College, Panvel- 410206, India, 18 Jan. 2014.* *P-26.*
37.	*Photocatalytic degradation of methylene blue using CdS nanocrystallites and O-MWCNT supported CdS composite under UV radiation.* *A. S. Pawar and **S. S. Garje**, 2nd International Conference on Physics of Materials and Materials Based Fabrication (ICPM-MDS-2014), Department of Physics, Shivaji University, Kolhapur, India, 13-15 January 2014.* *PE-01.*
38.	*Synthesis, characterization, X-ray single crystal structure of CdI_2(acetophenone thiosemicarbazone) complex and its use as single-source molecular precursor.* *A. M. Palve and **S. S. Garje**, International Union of Materials Research Societies - International Conference in Asia (IUMRS-ICA-2013), Indian Institute of Science, Bangalore, India, 16-20 December 2013.* *ABS - 1029 – ICA.*
39.	*Synthesis, characterization and applications of carbon spheres-ZnS hybrid material.* *J. S. Suroshe, K. M. Samant and **S. S. Garje**, Symposium on Modern Trends in Inorganic Chemistry-*

	XV (MTIC-XV), Indian Institute of Technology, Roorkee, India, 13-16 December 2013. *P-184*
40.	*Design and development of single-source molecular precursors for the preparation of metal chalcogenide nanocrystallites and thin films for sensing applications.* ***S. S. Garje**, The 2013 IBSA workshop on advanced materials, organized by India-Brazil-South Africa (IBSA) Nanotechnology Initiative, held at Saint George Hotel and Conference Centre, Centurion, South Africa, 17– 20 March 2013.*
41.	*Synthesis and characterization of Group-V metal chalcogenides and phosphates using single source precursors.* *J. B. Biswal and **S. S. Garje**, 25th Research Scholars' Meet, organized by Indian Chemical Society-Mumbai branch, held at Vivekanand Education Society's College of Arts, Science and Commerce, Chembur, Mumbai–400 071, India, 15-16 Feb. 2013.* *Abstr. No.17.*
42.	*Preparation of cobalt sulfide nanocrystallites using Co(II) thiosemicarbazone complexes as single-molecule precursors.* *A. S. Pawar and **S. S. Garje**, 4th Interdisciplinary Symposium on Materials Chemistry (ISMC-2012),* *Bhabha Atomic Research Centre, Mumbai, INDIA, organized by Society for Materials Chemistry, India, 11-15 December 2012.* *E-63.*
43.	*A convenient synthesis of antimony phosphate and antimony sulfide nanorods from single source precursors.* *J. B. Biswal and **S. S. Garje**, 4th Interdisciplinary Symposium on Materials Chemistry (ISMC-2012),* *Bhabha Atomic Research Centre, Mumbai, INDIA, organized by Society for Materials Chemistry, India, 11-15 December 2012.* *E-62.* *(Paper was selected for **3rd Best Poster Presentation Award**).*
44.	*Study of the antibacterial activity of ZnO Nanoparticles.* *Arjuman Surti, S. Radha and **S. S. Garje**, 57th DAE-Solid State Physics Symposium, Indian Institute of Technology-Bombay, Mumbai, India, 3-7 December 2012.* *C-521.*
45.	*Preparation of nickel sulfide thin films using nickel thiosemicarbazone complexes, $NiCl_2(LH)_2$ (LH = thiosemicarbazone ligands) as single source precursors.* *A. V. Gole and **S. S. Garje**, State Level Seminar on Synthesis and Characterization of Nanomaterials, Vikas College, Mumbai, India, 11 February 2012.*
46.	*Preparation of cadmium sulfide nanocrystallites using Cd(II) thiosemicarbazone complexes as single-molecule precursors.* *A. M. Palve and **S. S. Garje**, International Conference on Nanoscience and Technology (ICONSAT-2012), International Advanced Research Centre for Powder Metallurgy & Nanomaterials, Hyderabad, India, 20-23 January 2012.* *RA-78.*
47.	*Preperation of $Bi_{12.8}O_{19.2}$ nanorods and Bi_2S_3 thin films from bismuth semi- and thiosemicarbazone precursors.* *N. Sawant and **S. S. Garje,** 2nd International Conference on Advanced Nanomaterials and Nanotechnology (ICANN-2011), Indian Institute of Technology, Guwahati, India, 8-10 December 2011.*

	A-1221.
48.	*Formation of bismuth sulfide nanorods and bismuth phosphate thin films from single source precursors.* *J. B. Biswal, **S. S. Garje**, J. Nuwad and C. G. S. Pillai, 2nd International Conference on Advanced Nanomaterials and Nanotechnology (ICANN-2011), Indian Institute of Technology, Guwahati, India, 8-10 December 2011.* *A-1092.*
49.	*Preparation of nickel sulfide thin films and nanocrystallites using nickel furfuraldehyde thiosemicarbazone as single-source precursor.* *A. V. Gole and **S.S. Garje**, 2nd International Conference on Manufacturing Science and Technology - ICMST 2011, organized by International Association of Computer Science and Information Technology, held in Singapore, 16-18 September 2011.* *Abstr. No. T007.*
50.	*Organotin(IV) and indium(III) semi- and thiosemicarbazone complexes: single source precursors for the preparation of tin and indium chalcogenide nanoparticles and thin films.* *Y. S. Niwate and **S. S. Garje**, 23rd Research Scholars' Meet, organized by Indian Chemical Society-Mumbai branch, held at Acharya and Marathe College, Chembur, Mumbai–400 071, India, 25-26 Feb. 2011.* *Abstr. No.26.*
51.	*Preparation of nickel and palladium chalcogenide thin films and nanoparticles using semi- and thiosemicarbazone complexes as single source precursors.* *A. V. Gole and **S. S. Garje**, 23rd Research Scholars' Meet, organized by Indian Chemical Society-Mumbai branch, held at Acharya and Marathe College, Chembur, Mumbai–400 071, India, 25-26 Feb. 2011.* *Abstr. No.4.*
52.	*Deposition of cadmium sulfide thin films from Cd(II) thiosemicarbazone complexes as single-molecule precursors using AACVD technique.* *A. M. Palve and **S. S. Garje**, International Conference on Supramolecular Chemistry and Nanomaterials (ICSN-2011,) Department of Chemistry, University of Mumbai, Mumbai- 400098, India, 14-16 February 2011.* *Abstr. No.14.*
53.	*Preparation of nickel oxide nanoparticles from nickel semicarbazone complexes.* *A. V. Gole and **S. S. Garje,** International Conference on Fundamental and Applications of Nanoscience and Technology (ICFANT-10), Jadhavpur University, Kolkatta, INDIA, 9-11 Dec. 2010.* *P-012.*
54.	*Indium(III) chloride semicarbazone complexes: Single source precursors for deposition of* *In_2O_3 thin films* *Y. S. Niwate and **S. S. Garje,** International Symposium on Materials Chemistry (ISMC-10), Bhabha Atomic Research Centre, Mumbai, INDIA, 7-11 Dec. 2010.* *D-20.*
55.	*The deposition of palladium dulfide thin films using palladium thiosemicarbazones as single-source precursors.* *A. V. Gole and **S. S. Garje,** International Symposium on Materials Chemistry (ISMC-10), Bhabha Atomic Research Centre, Mumbai, INDIA, 7-11 Dec. 2010.* *D-12.*

56.	*Preparation of bismuth sulfide nanoparticles using bismuth thiosemicarbazones as single-source precursors.* *J. B. Biswal and **S. S. Garje,** International Symposium on Materials Chemistry (ISMC-10), Bhabha Atomic Research Centre, Mumbai, INDIA, 7-11 Dec. 2010.* *E-41.*
57.	*Preparation of palladium sulfide nanocrystallites using palladium thiosemicarbazones as single-source precursors.* *A. V. Gole and **S. S. Garje**, II National Conference on Advanced Materials-processing, characterization and applications (NCAM-2010), PSN College of Engineering and Technology,* *Tirunelveli, Tamilnadu-627152, India, 25-27 August 2010.* *Abstr. No. 31.*
58.	*Preparation of zinc sulfide nanocrystallites from single-molecule precursors.* *A. M. Palve and **S. S. Garje**, International Union of Materials Research Societies - International Conference on Electronic Materials (IUMRS-ICEM-2010), Seoul, KINTEX, Korea, 22-27 August 2010.* *D-O-14.*
59.	*Preparation of nickel sulfide nanoparticles and thin films from nickel thiosemicarbazone complexes.* *A. V. Gole and **S. S. Garje**, International Conference on Nanomaterials: Synthesis, Characterization and Applications (ICN-2010), Centre for Nanoscience & Nanotechnology, Mahatma Gandhi University, Kottayam, Kerala-686560, India, 27-29 April 2010.* *IL-185.*
60.	*Preparation of antimony sulfide nanocrystallites using antimony thiosemicarbazone precursors.* *J. B. Biswal and **S. S. Garje**, International Conference on Nanomaterials: Synthesis, Characterization and Applications (ICN-2010), Centre for Nanoscience & Nanotechnology, Mahatma Gandhi University, Kottayam, Kerala-686560, India, 27-29 April 2010.* *IL-183.*
61.	*A facile preparation of tin oxide nanocrystallites and thin films from tribenzyltin (IV)chloride semicarbazone complexes.* *Y. S Niwate and **S. S. Garje**, National Conference on Synthesis and Applications of Novel Materials (NCSANM-2010), Department of Chemistry, University of Mumbai, Mumbai- 400098, India, 4-5 March 2010.* *Abstr. No. 6.*
62.	*Novel single source precursors for zinc and cadmium chalcogenide nanoparticles and thin films.* *A. M. Palve and **S. S. Garje**, 22nd Research Scholars' Meet, Indian Chemical Society-Mumbai branch, Sathye College, Vile Parle (E), Mumbai–400 057, India, 19-20 Feb. 2010.* *Abstr. No. 23.*
63.	*Study of iron chalcogenolato complexes as single source precursors for the preparation of iron chalcogenide nanoparticles and thin films.* *S. D. Disale and **S. S. Garje**, 22nd Research Scholars' Meet, Indian Chemical Society-Mumbai branch, Sathye College, Vile Parle (E), Mumbai–400 057, India, 19-20 Feb. 2010.* *Abstr. No. 15*
64.	*Antibacterial effect of ZnO nanoparticles.* *A. Surti, P. Ekhare, S. Radha, S. Disale and **S. S. Garje**, International Conference on Nano Science and Technology (ICONSAT-2010), IIT-Bombay, Mumbai, India, 17-20 February 2010.*

65.	*The deposition of flower-like nickel sulfide thin films using nickel thiosemicarbazones as single-source precursors.* *A. V. Gole and **S. S. Garje**, International Conference on Emerging Trends in Chemistry (ETIC- 2010), Department of Chemistry, University of Pune, India, 5-7 January 2010.* *IPA-O-21.*
66.	*Single source precursor approach to prepare tin sulphide nanocrystallites and thin films.* *Y. S Niwate and **S. S. Garje**, International Conference on Advanced Nanomaterials and Nanotechnology (ICANN-2009), Indian Institute of Technology, Guwahati, India, 9-11 December 2009.* *A-460.*
67.	*Synthesis of single phase magnetite, Fe_3O_4 nanocrystallites using single source precursor.* *S. D. Disale and **S. S. Garje**, International Conference on Advanced Nanomaterials and Nanotechnology (ICANN-2009), Indian Institute of Technology, Guwahati, India, 9-11 December 2009.* *F-079.*
68.	*Aerosol assisted chemical vapor deposition of ZnO thin films using single source precursors.* *A. M. Palve and **S. S. Garje**, International Workshop on Nanotechnology and Advanced Functional Materials (NTAFM 09), National Chemical Laboratory, Pune, INDIA, 9-11 July 2009.* *PS-101.*
69.	*Novel single source precursors for deposition of ZnS thin films by AACVD technique.* *A. M. Palve and **S. S. Garje**, National Conference on Chemistry of Materials (NCCM 2009), Department of Chemistry, University of Mumbai, Mumbai, INDIA, 20-21 Feb. 2009.* *OP-15.* *(Paper was awarded **3rd Best Presentation Award**).*
70.	*Synthesis of In_2S_3 nanocrystallites using novel single source precursors.* *Y. S. Niwate and **S. S. Garje**, International Symposium on Materials Chemistry (ISMC-08), Bhabha Atomic Research Centre, Mumbai, INDIA, 2-6 Dec. 2008.* *F-006.*
71.	*Single source approach for the growth of nanocrystalline chalcopyrite ($CuFeS_2$) using solvothermal and pyrolysis methods.* *S. D. Disale and **S. S. Garje**, International Symposium on Materials Chemistry (ISMC-08), Bhabha Atomic Research Centre, Mumbai, INDIA, 2-6 Dec. 2008.* *F-005.*
72.	*Preparation of ZnS nanoparticles from single source precursors.* *A. M. Palve and **S. S. Garje**, 26th Annual conference of the Indian Council of Chemists, Dr. H. S. Guor University, Sagar, M. P., INDIA, 26-28 Feb. 2008.* *CSYA-3.*
73.	*Organotin (IV) thio-semicarbazones: synthesis, characterization and use as precursors for growth of nanocrystalline tin sulfide.* *Y. S. Niwate and **S. S. Garje**, 44thAnnual Convention of Chemists, Indian Chemical Society, Mahathma Gandhi Institute of Applied Sciences, Jaipur, INDIA, 23-27 Dec. 2007.* *ING(AP)-6.* *(Paper was awarded **Prof. B. C. Halder Memorial Award**).*
74.	*Growth of nanocrystalline FeS and FeS_2 by using Iron (II) thio-semicarbazones as single-source*

	precursors. *S. D. Disale and **S. S. Garje**, 44th Annual Convention of Chemists, Indian Chemical Society, Mahathma Gandhi Institute of Applied Sciences, Jaipur, INDIA, 23-27 Dec. 2007.* *ING(AP)-8.*
75.	*Synthesis, characterization and CVD studies of $Bz_3SnCl(LH)$ (LH = thiosemicarbazones of salicylaldehyde and 4 – chlorobenzaldehyde).* *B. P. Bade, **S. S. Garje**, M. Afzaal and P. O'Brien, International Conference on Emerging Trends in Chemical Sciences, University of Mumbai, Mumbai, INDIA, 23-25 Jan. 2007.* *(OP-6).*
76.	*Synthesis and characterization of some phenylarsenic(III)semi- and thiosemicarbazones.* *J. Biswal and **S. S. Garje**, 43rd Annual Convention of Chemists, Indian Chemical Society, B. A. M. University, Aurangabad, INDIA, 23-27 Dec. 2006.* *ING(AP)-3.*
77.	*Synthesis and structural studies of some tribenzyltin(IV)semicarbazones.* *B. P. Bade and **S. S. Garje**, 41th Annual Convention of Chemists, Indian Chemical Society, University of Delhi, Delhi, INDIA, 23-27 Dec. 2004.* *ING(PP)-82.*
78.	*Synthesis and characterization of some antimony(III) semi- and thiosemicarbazones.* *J. Biswal and **S. S. Garje**, 41th Annual Convention of Chemists, Indian Chemical Society, University of Delhi, Delhi, INDIA, 23-27 Dec. 2004.* *ING(AP)-12.*
79.	*Trioganoantimony(V) and monoorganoantimony(III) complexes with thiosemicarbazones: Synthesis and spectral studies.* *K. S. Dalvi and **S. S. Garje**, 23rd Annual conference of the Indian Council of Chemists, K. C. College, Mumbai, INDIA, 29-31 Oct. 2004.* *IP-34.*
80.	*Preparation of organoarsenic precursors.* *K. P. Chaudhari, P. P. Phadnis, H. Mahalakshmi, **S. S. Garje** and V. K. Jain* *BARC report (BARC/2003/I-004).*
81.	*Synthesis and characterization of some triphenylantimony(V)semicarbazone complexes.* *N. Sawant, and **S. S. Garje**, 40th Annual Convention of Chemists, Indian Chemical Society, Bundhelkhand University, Jhansi, U. P., INDIA, 23-27 Dec. 2003.* *ING(AP)-8.*
82.	*The chemistry of some triphenylantimony(V)thiosemicarbazone complexes.* *K. S. Dalvi, M. Pal and **S. S. Garje**, 40th Annual Convention of Chemists, Indian Chemical Society, Bundhelkhand University, Jhansi, U. P., INDIA, 23-27 Dec. 2003.* *ING(AP)-2.*
83.	*Synthesis, structures and bonding in organo-arsenic and –antimony complexes with phosphorus based acid, xanthate and dithocarbamate ligands.* ***S. S. Garje**, 2nd Winter School in Organometallic Chemistry, I. I. T. Kharagpur, INDIA, 8-13 January 2001.*
84.	*The coordination chemistry of some heterocyclic organoarsenic compounds.* ***S. S. Garje**, V. K. Jain and B. Varghese, International Symposium on Metallo-organic Chemistry at*

	the Dawn of 21st Century, University of Rajasthan, Jaipur, INDIA, 16-18 March 1998. *P-38.*
85.	*Synthesis and characterization of organo-arsenic and –antimony complexes with phosphorus based acids, xanthates and dithocarbamates.* ***S. S. Garje** and V. K. Jain, 9th Research Scholars' Meet, Indian Chemical Society-Mumbai branch, D. G. Ruparel College of Arts, Science and Commerce, Mumbai – 400 016, INDIA, 7-8 Feb. 1997.*
86.	*Chemistry of organoarsenic(III) complexes containing anionic mono- and dithio ligands.* ***S. S. Garje** and V. K. Jain, 33rd Annual Convention of Chemists, Indian Chemical Society, P. S. G. College of Technology, Coimbatore, T. N., INDIA, 26-29 Dec. 1996.* *ING(YS)-10.* *(Paper was selected for **Prof. A. K. Dey Memorial Award**).*
87.	*Di-n-butylgermanium(IV) bis(monothiophosphates): Synthesis and characterization.* *V. B. Mokal and **S. S. Garje**, 31st Annual Convention of Chemists, Indian Chemical Society, B. H. U., Varanasi, U. P., INDIA, 21-24 Dec. 1994.* *ING(OP)-38.*
88.	*Synthesis and characterization of triphenylantimony(V) dialkylmonothiophosphates.* ***S. S. Garje**, 31st Annual Convention of Chemists, Indian Chemical Society, B. H. U., Varanasi, U. P., INDIA, 21-24 Dec. 1994.* *ING(YS)-5.* *(Paper was awarded **Prof. B. C. Halder Memorial Award**).*

OTHER CONFERENCES/SYMPOSIA/WINTER SCHOOLS/WORKSHOPS ATTENDED	
1.	*One day lecture series 'INSPIRE' organized by Department of Physics, University of Mumbai, India on 22nd February 2011.*
2.	*Workshop on 'Microscopy for Nanomaterials' held at Department of Physics, University of Mumbai, India on 26th March 2009.*
3.	*Resource Generation Camp in Chemistry (a part of Indian Chemistry Olympiad Programme) held at Homi Bhabha Centre for Science Education, Mumbai – 400 088 during 1-5 October 2008.*
4.	*DST's SERC Winter School in "Bioinorganic Chemistry" held at I.I.T.-Bombay, Mumbai – 400 076 during 17-30 November 2007.*
5.	*Computational Drug Discovery in Pharma R & D, organized by School of Pharmacy and Technology Management, SVKM's NMIMS University, Mumbai, India during 6-7 August 2007.*
6.	*Characterization of Nanostructured Systems, organized by UGC-DAE Consortium for Scientific Research, Mumbai Centre & Department of Physics, University of Mumbai, held at Department of Physics, University of Mumbai, India during 14-16 June 2007.*
7.	*MC7-Functional Materials of 21st Century, organized by Royal Society of Chemistry, UK, held at University of Edinburgh, UK during 5-8 July 2005.*
8.	*"National Workshop on Advanced Methods for Materials Characterization (NWMC)" organized by Materials Research Society of India (MRSI), held at CTCRS Auditorium, Anushaktinagar, Mumbai – 400 094 during 11-15 Oct. 2004.*
9.	*Winter school on "Main Group Chemistry", held at I.I.T.-Bombay, Mumbai – 400 076 during 18-30 March 2002.*
10.	*"38th Annual Convention of Chemists" held at Jai Narayan Vyas University, Jodhpur during 26-29 Dec. 2001.*

11.	*Workshop on "Research in Chemistry at College Level-Problems and Perspectives", organized by Indian Chemical Society-Mumbai branch, held at Wilson College, Mumbai-400 007 on 22nd Sept. 2000.*
12.	*Workshop on "Technical Reporting Skills", organized by Indian Chemical Society-Mumbai branch, held at Wilson College, Mumbai-400 007 on 14th Dec. 1996.*

INVITED LECTURES DELIVERED AT VARIOUS UNIVERSITIES, COLLEGES AND RESEARCH INSTITUTES	
1.	*Recent developments in Nanoscience and Nanotechnology.* *Second International-E-Conference on 'Recent Trends in Chemical Science, Physical Science, Life Science and Computer Technology', Anjuman Islam Janjira Degree College of Science, 15th March 2023*
2.	*Nanomaterials for sustainable development and environmental remediation.* *Refresher Course in Chemistry – Recent Advances in Chemical Sciences and Technology, MU, 23rd September 2021*
3.	*National conference on 'Advances in Chemical Sciences and Sustainable Development' (ACSSD-2021), B. N. Bandodkar College, Thane- 410206 (1st Feb. 2021).*
4.	*Recent developments in materials chemistry.* *Refresher Course in CHEMISTRY – RECENT TRENDS IN CHEMISTRY EDUCATION AND RESEARCH, SGBAU, 28th November 2020*
5.	*'National conference on Recent trends in Science 2020' (NCRTC-2020)', The Institute of Science, Mumbai, Mumbai-400032, India, 13-14 February 2020.*
6.	*Nanotechnology: One solution for many problems.* *UGC refresher course in Chemistry organized by the Department of Chemistry, University of Mumbai (20th November 2018).*
7.	*Tuning properties of nanomaterials for smart applications.* *UGC refresher course in Chemistry organized by the UGC-Human Resource Development Centre, S. P. Pune University, Pune held at Modern College of Arts, Science and Commerce, Pune-411005 (13th Oct 2018).*
8.	*Nuclear magnetic Resonance (NMR)-A molecular signature.* *UGC refresher course in Chemistry organized by the Department of Chemistry, University of Mumbai (7th November 2017).*
9.	*Nanomaterials: Preparation, properties and few applications.* *UGC refresher course in Chemistry organized by the Department of Chemistry, University of Mumbai (25th October 2016).*
10.	*Recent advances in coordination chemistry.* *UGC refresher course in Chemistry organized by the Department of Chemistry, Babasaheb Ambedkar Marathwada University (26th June 2015).*
11.	*Preparation of semiconductor nanoparticles and thin films via bottom up approach.* *UGC refresher course in Chemistry organized by the Department of Physics, University of Mumbai (27th December 2014).*
12.	*Single-source Molecular Precursors- A Facile Route to Nanomaterials and Thin Films.* *5th Interdisciplinary Symposium on Materials Chemistry (ISMC-2014),* *Bhabha Atomic Research Centre, Mumbai, INDIA, organized by Society for Materials Chemistry, India, (13th December 2014).*

13.	*Coordination chemistry and nanomaterials.* *UGC refresher course in Chemistry organized by the Department of Chemistry, University of Mumbai (28th October 2014 & 10th November 2014).*
14.	*Coordination compounds- A convenient route to nanomaterials and thin films.* *UGC refresher course in Chemistry organized by the Department of Chemistry, Babasaheb Ambedkar Marathwada University (23rd June 2014).*
15.	*Molecules to materials.* *5th International Conference on Nanoscience & Nanotechnology (NanoAfrica2014) organized by South African Nanotechnology Initiative, held at Vaal University of Technology, Vanderbijlpark, South Africa (31st March 2014).*
16.	*Nanomaterials and thin films.* *National seminar on 'Recent advances in materials sciences' (RAMS-2014), MPAS College, Panvel-410206 (18 Jan. 2014).*
17.	*Chemical routes to nanomaterials and thin films.* *UGC refresher course in Chemistry organized by Department of Chemistry, University of Pune (14th November 2013).*
18.	*Organometallics.* *UGC refresher course in Chemistry organized by the Department of Chemistry, University of Mumbai (25th November 2013).*
19.	*Coordination chemistry.* *UGC refresher course in Chemistry organized by the Department of Chemistry, University of Mumbai (12th November 2013).*
20.	*Coordination compounds-Theory and applications.* *National Conference on "Recent Trends in Co-ordination Chemistry" Organized by Department of Chemistry, K. B. Patil College, Vashi (4 October 2013).*
21.	*Preparation of nanomaterials and thin films: Chemical approach.* *UGC refresher course in Chemistry organized by the Department of Chemistry, Babasaheb Ambedkar Marathwada University (22nd July 2013).*
22.	*Development of simple molecular precursors for the preparation of nanomaterials and thin films.* *Department of Chemistry, University of Zululand (15th March 2013).*
23.	*Organometallic chemistry: Theory and applications.* *UGC refresher course in Chemistry organized by Department of Chemistry, University of Pune (25th May 2012).*
24.	*Conventional chemistry, unconventional routes for the preparation of inorganic materials.* *UGC refresher course in Chemistry organized by Department of Chemistry, University of Pune (25th May 2012).*
25.	*Organometallic chemistry.* *UGC refresher course in Chemistry organized by the Department of Chemistry, Sant Gadge Baba Amravati University, Amravati (24th March 2012).*
26.	*Preparation of nanomaterials and thin films: A novel single-source precursors approach.* *UGC refresher course in Chemistry organized by the Department of Chemistry, Sant Gadge Baba Amravati University, Amravati (24th March 2012).*
27.	*Simple chemical routes for the preparation of metal chalcogenide nanoparticles and thin films.* *State Level Seminar on Synthesis and Characterization of Nanomaterials, Vikas College, Mumbai*

	(11th February 2012).
28.	*Instrumental techniques for the characterization of nanomaterials and thin films.* *UGC refresher course in Chemistry organized by the Department of Chemistry, University of Mumbai (9th December 2011).*
29.	*Mössbauer spectroscopy.* *UGC refresher course in Chemistry organized by the Department of Chemistry, University of Mumbai (9th December 2011).*
30.	*Organometallic compounds.* *UGC refresher course in Pure and Applied Chemistry organized by the Department of Chemistry, Goa University (8th April 2011).*
31.	*Novel single-source precursors approach for the preparation of metal chalcogenide nanoparticles and thin films.* *UGC refresher course in Pure and Applied Chemistry organized by the Department of Chemistry, Goa University (8th April 2011).*
32.	*Simple chemical routes for the preparation of nanoparticles and thin films.* *UGC sponsored 'State Level Workshop on Chemistry of Materials' Shri. Pancham Khemraj College, Sawantwadi (5th March 2011).*
33.	*Organometallic chemistry.* *UGC refresher course in Chemistry organized by the Department of Chemistry, University of Mumbai (16th October 2010).*
34.	*Inorganic materials.* *UGC refresher course in Chemistry organized by the Department of Chemistry, University of Mumbai (6th October 2010).*
35.	*Use of coordination compounds for the preparation of inorganic materials.* *National Seminar on "Advances in Coordination Chemistry" organized by Rajarshi Chhatrapati Shahu College, Kolhapur – 416 003, India (18th August 2010).*
36.	*Preparation of metal chalcogenide nanoparticles and thin films using single-molecule precursors.* *UGC-SAP sponsored workshop on 'Synthesis of nanomaterials' organised by Department of Physics, University of Mumbai, Mumbai-400098, India (23rd February 2010).*
37.	*Novel chemical routes for functional materials.* *UGC sponsored state level seminar on 'New trends in chemistry' organised by MPASC college, Panvel (9th February 2010).*
38.	*Organometallic chemistry-An overview.* *UGC refresher course in Chemistry organized by the Department of Chemistry, Babasaheb Ambedkar Marathwada University (16th December 2009).*
39.	*Semiconductor nanoparticles and thin films.* *UGC refresher course in Chemistry organized by the Department of Chemistry, Babasaheb Ambedkar Marathwada University (16th December 2009).*
40.	*Designing of molecular precursors for inorganic materials.* *UGC refresher course in Chemistry organized by the Department of Chemistry, University of Mumbai (8th December 2009).*
41.	*A journey through organometallic chemistry.* *UGC refresher course in Chemistry organized by the Department of Chemistry, Goa University (31st March 2009).*

42.	*Chemical routes for development of inorganic materials.* *UGC refresher course in Chemistry organized by the Department of Chemistry, Goa University (31st March 2009).*
43.	*Developments in inorganic materials.* *'Two days state level seminar on Recent Advances in Chemistry' held at Department of Chemistry, C. K. Thakur College, Panvel (9th January 2009).*
44.	*Characterization of inorganic molecules and materials.* *UGC refresher course in Analytical Chemistry organized by Department of Chemistry, University of Pune (29th November 2008).*
45.	*Science beyond basic needs.* *UGC Summer School on 'Recent Advances in Basic Sciences' organized by Academic Staff College and Department of Chemistry, University of Mumbai (14th August 2008).*
46.	*Single molecule precursors-A novel route to semiconductor thin films.* *National Seminar organized by Dnyanprassarak Mandal's College of Arts, Science and Commerce, Mapusa, Goa (9th March 2007).*
47.	*Molecules to materials.* *State level seminar on "Recent trends in Analytical Chemistry" organized by S.S.G.M. College, Kopargaon, Maharashtra (17th Feb. 2007).*
48.	*Preparation of inorganic materials: Role of organometallic compounds.* *UGC refresher course in Organometallics and Materials Science organized by Department of Chemistry, University of Mumbai* *(Oct. 2001).*
49.	*Synthesis and structural elucidation of some organo-arsenic and –antimony compounds.* *UGC refresher course in Organometallics and Materials Science organized by Department of Chemistry, University of Mumbai* *(Oct. 2001).*
50.	*Organometallics.* *UGC refresher course in "Instrumental Techniques in Chemistry" organized by Department of Chemistry, University of Mumbai (2nd December 2000).*
51.	*Some aspects of acid-base and redox reactions in inorganic chemistry.* *UGC refresher course in Inorganic Chemistry organized by Department of Chemistry, University of Pune (7th April 1999).*
52.	*Organometallic chemistry.* *UGC refresher course in Inorganic Chemistry organized by Department of Chemistry, University of Pune (5th April 1999).*

****

Back to home