

## CURRICULUM VITAE



**Dr. Bharat A. Makwana.** ✉ Email :- [bhrtchem1@gmail.com](mailto:bhrtchem1@gmail.com)  
**G-7, Shivani Appartment,**  
**IIM road , OPP. AMA**  
**Ahmedabad-380 015 (Guj.)**

**Dr.b.a.makwana@hotmail.com**  
**☎ : 9328954636**



**Dr. Bharat A. Makwana** ✎

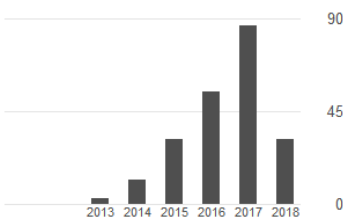
✉ FOLLOWING

Assistant Professor of Chemistry  
 No verified email - [Homepage](#)  
[Supramolecules](#) [Nanosciences](#)

<input type="checkbox"/> TITLE	<input type="checkbox"/> CITED BY	<input type="checkbox"/> YEAR
<input type="checkbox"/> <a href="#">Highly stable antibacterial silver nanoparticles as selective fluorescent sensor for Fe<sup>3+</sup> ions</a> YKA Bharat A. Makwana a, Disha J. Vyas a, Keyur D. Bhatt a, Vinod K. Jain a,† Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 134, 73-80	46 *	2014
<input type="checkbox"/> <a href="#">Calix receptor edifice; scrupulous turn off fluorescent sensor for Fe (III), Co (II) and Cu (II)</a> KD Bhatt, HS Gupte, BA Makwana, DJ Vyas, D Maity, VK Jain Journal of fluorescence 22 (6), 1493-1500	34	2012
<input type="checkbox"/> <a href="#">Highly stable water dispersible calix [4] pyrrole octa-hydrazide protected gold nanoparticles as colorimetric and fluorometric chemosensors for selective signaling of Co (II) ions</a> KD Bhatt, DJ Vyas, BA Makwana, SM Darjee, VK Jain Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 121, 94-100	32	2014
<input type="checkbox"/> <a href="#">Selective recognition by novel calix system ICT based</a>	17	2014

Cited by

	All	Since 2013
Citations	221	221
h-index	8	8
i10-index	7	7



Co-authors

[EDIT](#)

	Prof. (Dr.) V. K. Jain Gujarat University	>
	Dr. Keyur Bhatt Head & Asst. Professor, Depart...	>
	Debdeep Maity National Institute of Science Edu...	>

### EDUCATIONAL DETAILS:

#### Educational Qualifications :

**Title of Thesis : “Prodigious Supramolecular Receptors Derived From Calixarenes and Their Applications”**

**Field of Specialization :** Supramolecular chemistry, Nanotechnology Fluorescence study, Biological study.

**Area of Research :** Synthesis & characterization of supramolecules & Nanoparticles eg. calixresorcinarenes, calixpyrrole, etc Silver, (AgNps), Gold Nanoparticle (AuNps), Copper (CuNps) Pd, Fe, Si etc..

**Ph.D:- From University School of Sciences, Chemistry Department Ahmedabad**

Year: May -2009 – 2013

**Synopsis Submitted (17-04-2013) Thesis Submitted (11-10-2013) Ph. D Viva (Degree 21-06-2014)**

**M.sc-2:- From University School of Sciences, Chemistry Department Ahmedabad**

**AGGREGATE: 60 % (Organic) Year of passing: June -2008**

**M.sc -1:- From University School of Sciences. Ahmedabad.**

**AGGREGATE:55 % Year of passing: June- 2007.**

**B.sc:- From Shri R.K. Parikh Science Collage petlad, Gujarat University.**

**AGGREGATE: 70 % Year of passing: March-April 2006**

**Pre-Graduation:**

Education	Board	percentage	Year of Passing
10+2	G.H.S.E.B	43%	2003
10 <sup>th</sup>	G.S.E.B.	82%	2001

### **COMPUTER SKILLS:**

- Operating System : Windows 7, Millennium XP
- Package : MS Office 2007, 2010, 2013
- Computer Certif. : CCC Certif. (C-DAC) Computer as a voc. sub.  
During F.Y. & S.Y. and Schooling.  
Text Book Data entry (Gujarati), book of Gujarat State Text  
Book Board, Gandhinagar.2005

### **RESEARCH EXPERIENCE**

- **Technical Assistant**(Jan16 – 30 May 2009): at CSIR sponsored major project entitled “Calix[4]resorcinarene and its Derivatives : An Emerging Class of Receptors for ions/Organic analytes in Supramolecular Chemistry”Department of Chemistry, School of sciences ,Gujarat University.
- **Junior Research Fellow** (May 2009 - 2011): At Department of Chemistry, School of sciences, Gujarat University. (**RGNF SCHEME**).
- **Senior Research Fellow** (May 2011 - till date): At Department of Chemistry, School of sciences ,Gujarat University.(**RGNF SCHEME**)

## EXPERIENCE

- Pursuing as **Assistant professor** at HVHP Institute of PG Studies and research, KadiSarva Vishwavidyalaya (KSV), kadi from 24/06/2013
- **Academic experience:** 3 year 6 Month as an **Assistant** of Prof.V. K Jain in Chemistry Department, School of Sciences.
- Worked as **Personal Tutor** in Chemistry (Classes handled- B.Sc&M.Sc Chemistry).
- I have experience at **VASA PHARMACHEM PVT.LTD.**

Till 1 year as an R & D Officer.

## INSTRUMENTS HANDLED:

- Jasco FP-6500 spectrofluorimeter.
- Malvern Zetasizer (Model; ZEN3600) Partical Size Analyzer (**PSA**)
- Jasco V-570 **UV-Vis** spectrophotometer
- Bruker, tensor 27Infrared **FT-IR** Spectrometer,
- Aspect LS Analytical jina**AAS**.
- Nanotrack MPA 150/250 **DLS**
- Inductively Coupled Plasma-Atomic Absorption Spectrometer (**ICP-AES**) JY 2000-2

## PUBLICATIONS:

1. Novel calix[4]pyrrole octahydrazide, metal nanoparticles derived from it and use of the nanoparticles  
**Bharat A. Makwana**, Disha J. Vyas and Keyur D. Bhatt, Vinod K Jain, (***Indian Patent, E-2503/2013-MUM***) (Published June 2015)
2. Water dispersible metal nanoparticles obtained from novel calix[4]resocinarene hydrazides and applications thereof  
**Bharat A. Makwana**, Disha J. Vyas and Keyur D. Bhatt, Vinod K Jain, (***Indian Patent, E-3258/2013-MUM***) (Published June 2015)
3. Selective sensing of Copper(II) ions and Leucine using Fluorescent turn off-on Mechanism from Calix[4]resorcinarene Modified Gold Nanoparticles  
**Bharat A. Makwana\***, Disha J. Vyas, Keyur D. Bhatt , Vinod K Jain  
(**Sensors and Actuators B: Chemical, 240, 278-287, 2017**)
4. A Comparative Study: Metal Nanoparticles as Fluorescent Sensors for Biomolecules and Their Biomedical Application  
**Bharat A. Makwana\***, Disha J. Vyas , Keyur D. Bhatt , Vinod K Jain \*  
(**Sensors and Actuators B: Chemical, 246, 686-695 2017**)
5. An Efficient One Pot Synthesis of Water-Dispersible Calix[4]arenePolyhydrazide Protected Gold Nanoparticles-A “Turn Off” Fluorescent Sensor for Hg[II] Ions  
Disha J. Vyas, **Bharat A. Makwana**, , Hrishikesh S. Gupte , Keyur D. Bhatt, and Vinod K Jain, ***Journal of Nanoscience and Nanotechnology*** Vol. 12, 1–7, 2012.
6. Calix receptor [edifice](#); [scrupulous](#) turn off fluorescent sensor for Fe(III), Co(II) and Cu(II)

- Keyur D. Bhatt, Hrishikesh S. Gupte, **Bharat A. Makwana**, Disha J. Vyasa, Debdeep Maity and Vinod K Jain. *Journal of Fluorescence* (2012) 22:1493–1500.
7. Octa-O-methoxy resorcin[4]arene Amberlite XAD-4 polymeric chelating resin for solid phase extraction, preconcentration, separation and trace determination of Ni(II), Cu(II) Zn(II) and Cd(II) ions  
Disha J. Vyas, **Bharat A. Makwana**, Keyur D. Bhatt, and Vinod K Jain, *American Journal of Analytical Chemistry*, 2013, 4, 238-251.
  8. Highly stable antibacterial silver nanoparticles as selective fluorescent sensor for Fe<sup>3+</sup> ions.  
**Bharat A. Makwana**, Keyur D. Bhatt, Disha J. Vyas, Savan M. Darjee and Vinod K Jain, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 134 (2015) 73-80
  9. Novel Calix[4]pyrrole Octahydrazide Protected Silver Nanoparticles as Selective Colorimetric and Fluorimetric Sensor for Hg(II) Ions in Aqueous Samples  
Keyur D. Bhatt, Disha J. Vyas, **Bharat A. Makwana**, Savan M. Darjee and Vinod K Jain, *Chinese chemical letter* 27, (2016), 753-757
  10. Selective recognition by novel calix system: ICT based chemosensor for metal ions, *Journal of Luminescence*, 146 (2014), 450–457.
  11. Highly stable water dispersible calix[4]pyrrole octa-hydrazide protected gold nanoparticles as colorimetric and fluorometric chemosensors for selective signaling of Co(II) ions, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 121 (2014) 94–100
  12. Green Synthesis of silver Nanoparticle using Leaf Extracts and their microbial activity  
**Bharat A. Makwana**, J. D Patel, U. Panchal, M Panchal *Journal of Advances chemical sciences* 1(3)(2015)82-85.
  13. Synthesis & Spectroscopic Investigation Of Cu(II), Co(II) And Zn(II) Complexes Of Azo Dye Derived From Calix[4]Resorcinarene And Their Biological Screening,  
Hrishikesh S. Gupte, Keyur Bhatt, Vinod K. Jain and **Bharat A. Makwana**, *wjpls*, 2016, Vol. 2, Issue 5, 89-101.
  14. Solid Phase Extraction, Preconcentration and Sequential Separation of U(VI), Th(IV), La(III) and Ce(III) by Octa-O-methoxy resorcin[4]arene based Amberlite XAD-4 Chelating Resin,  
VKJ Keyur D. Bhatt, Disha J. Vyas, Hrishikesh S. Gupte, **Bharat A Makwana** *World Journal of Analytical Chemistry*, 2 (2), 31-41
  15. Synthesis and modeling of calix [4] pyrrole wrapped Au nanoprobe for specific detection of Pb (II): Antioxidant and radical scavenging efficiencies  
A Kongor, M Panchal, M Athar, **B Makwana**, G Sindhav, PC Jha, V Jain  
*Journal of Photochemistry and Photobiology A: Chemistry*, Volume 364, 1 September 2018, Pages 801-810.
  16. Azo resorcin[4]calixpyrrole grafted Amberlite XAD-2 polymer: an efficient solid phase extractant for separation and preconcentration of La(III) and Ce(III) from natural geological samples  
Hrishikesh S. Gupte, Keyur D. Bhatt, Vinod K. Jain, Disha J. Vyas, **Bharat A. Makwana**  
*Journal of Inclusion Phenomena and Macrocyclic Chemistry* Volume 81, Issue 3–4, pp 409–422
  17. Facile synthesis of silver nanoparticle and their potential application  
Ananya Shukla, Bharat A. Makwana  
*American Journal of Nanoscience and Nanotechnology*, 2014; 2(4): 84-92

#### **PUBLISHED BOOK :**

1. Synthesis of Prodigious Supramolecules and Their Characterization (2014) ISSN No 978-3-639-71075-5, Scholar press, Lambert publication, Germany
2. An Introduction to Supramolecules assemblies based on calixarenes (2014) ISSN No 978-3-639-71985-7, Scholar press, Lambert publication, Germany
3. Synthesis of some azocalix[4]pyrrole derivative and their applications (2014) ISSN No 978-3-639-66203-0, Scholar press, Lambert publication, Germany
4. Synthesis Of Acetyl Salicylanilide Derivatives And Microbial Activity (2014) ISSN No 978-3-659-57618-8, Lambert publication, Germany
5. synthesis and characterization of calix[4]pyrrole derivatives via conventional and microwave irradiation method (2014) ISSN No 978-1-312-36035-8, LuLu publication, USA
6. Pharmaceutical Interview Preparation Guide: Viva Voce for Pharma Industries (2018), ISBN-10: 6134905151 ISBN-13: 978-6134905152 LAP LAMBERT Academic Publishing.

#### **OTHER ACHIEVEMENTS:**

- Charusat sponsored Best Thesis Award on 2014 from Gujarat Science academy
- Minor Research Project From GUJCOST, Gandhinagar, Get a Research Fund (2, 70,000).
- Board Of Studies (BOS) Member at C.U Shah University, Surendranagar.

#### **PERSONAL INFORMATION:**

- Date Of Birth : 1<sup>ST</sup> May, 1985
- Wife Name : Mrs. Dipali Bharat Makwana ( Executive ADL)
- Father's Name : Mr. Ambalal.M.
- Mother's Name : Mrs. Kashiben. A.
- Nationality : Indian
- Languages Known : English, Hindi, and Gujarati.
- Interests : Enjoying movies and Music, Bike ride, reading &Traveling
- Membership:**Chemical Research Society of India (CRSI), Banglore LM1453**  
**Member, Gujarat Science Academy (GSA),**  
**American Chemical Society,(ACS) USA**
- Strength : Interest and devotion for field works,  
Faith on god.

#### REFERENCE:

##### **Dr. V. K. Jain**

Research Guide &  
 Professor Of Chemistry,  
 Department of Chemistry,  
 School of Sciences,  
 Gujarat University,  
 Ahmedabad – 380 009,  
 India  
 Mo .No 9327013263  
**drvkjain@hotmail.com**

##### **Dr. (Mrs.) S.K. Menon**

Professor & Head,  
 Department of Chemistry,  
 Ex,Director School of Sciences,  
 Gujarat University,  
 Ahmedabad – 380 009,  
 India  
 Mo .No 9327015426

I hereby declare that all the statements stated above are true and complete to the best of my knowledge and belief and nothing has been concealed / distorted.

YOURS FAITHFULLY

Dr. Bharat A.Makwana

