

## CURRICULUM – VITAE

**NAME:** Dr. Ravi Tomar  
**MOBILE:** +919015863257  
**E-MAIL:** [dravtomar451@gmail.com](mailto:dravtomar451@gmail.com), [ravit@srmist.edu.in](mailto:ravit@srmist.edu.in)  
**ADDRESS:** Department of Chemistry,  
SRM Institute of Science and Technology, Delhi NCR Campus,  
Modinagar, Uttar Pradesh, India- 201204

**CORRESPONDENCE ADDRESS:** University Residence,  
SRM Institute of Science and Technology, Delhi NCR Campus,  
Modinagar, Uttar Pradesh, India- 201204

**DATE OF BIRTH:** October 14<sup>th</sup>, 1991

**CITIZENSHIP:** Indian

### EDUCATION:

Degree	Course	University	Year
Ph. D.	Chemistry	University of Delhi, Delhi	2019
M.Tech.	Chemical Synthesis and Process Technologies	University of Delhi, Delhi	2015
M.S.	Material Sciences	School of Materials Sciences, JAIST, Japan	2015
B.Sc. (Hons.)	Chemistry	Hindu College, University of Delhi, Delhi	2012

### RESEARCH EXPERIENCE:

- **SERB-TARE Fellow, IIT Delhi** December 2021- Till Date
- **Research Associate (R&D), Sharp Mint Ltd. New Delhi** December 2019 -August 2020
- **Research Assistant & Senior Research Fellowship (SRF), Department of Chemistry University of Delhi, Delhi, INDIA** June2015- November 2019
- **Special Visiting Student, School of Materials Science, JAIST, JAPAN** June2017-August 2017
- **Minor Research Project, Department of Chemistry, University of Delhi, New Delhi, INDIA** May 2013– July 2013
- **Minor Research Project, Department of Chemistry, University of Delhi, New Delhi, INDIA** November 2012– Jan. 2013

### ACADEMIC EXPERIENCE:

- **Assistant Professor, Department of Chemistry, SRM Institute of Science and Technology, Delhi NCR Campus, Modinagar, Uttar Pradesh, India- 201204** November-2023-Till Date

- **Adjunct Professor**, Isfahan University of Technology, Islamic Republic of Iran June-2023- Till Date
- **Associate Professor**, Department of Chemistry  
Maharaja Surajmal Brij University, Bharatpur June-2023- October-2023
- **Assistant Professor**, Department of Chemistry  
Chandigarh University February-2023-June 2023
- **Assistant Professor**, Department of Chemistry  
SGT University September 2020-February-2023
- **Guest Lecturer**, Department of Chemistry, KM College  
University of Delhi, Delhi, INDIA January 2019- March -2019
- **Guest Lecturer**, Department of Chemistry, Sri Guru Teg Bahadur Khalsa  
College, University of Delhi, Delhi, INDIA February 2016-Mar.2016
- **Laboratory Assistant (LA)**, School of Materials Science, JAIST, JAPAN January 2014-Dec. 2014

#### **ADMINISTRATIVE EXPERIENCE:**

- **Associate Dean**, Students' Welfare, SGT University, Gurugram May-2021-February-2023
- **NCC Caretaker officer**, SGT University, Gurugram Oct. 2021-February-2023
- **Guest Editor**, Current Organic Synthesis, Bentham Science Special Issue, 2022
- **Guest Editor**, Current Organic Chemistry, Bentham Science Special Issue, 2021
- **Member**, Sanrachna, SGT University, Gurugram November 2020-February-2023
- **Member**, Academic Associations, SGT University, Gurugram December 2020-February-2023
- **Co-Advisor**, Lavoisier's Association, Department of chemistry, SGT University September 2020-October 2021

#### **SYMPOSIUM /SEMINARS/ INTERNATIONAL CONFERENCES/FDP ORGANIZED:**

- Member-** SYNERGY 2022, the Flagship Technology Festival on 23rd - 24th August 2022 organised by SGT University, Gurugram
- Coordinator-** Online one week Faculty Development Program "Chemistry and Biology Interface for Scientific Transformations" 25th -30th July 2022 organized by SGT University, Gurugram in collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi.
- Member-** International Conference on "Gandhi's Concept of Education and National Education Policy (NEPA-2020): Ideas, Opportunities and Implementation" organized by SGT University, Gurugram at Nehru Memorial Museum and Library, New Delhi on 20-21 July, 2022
- Convenor-** Online one week FDP "Applied Chemistry: A Catalyst for Scientific Transformation", 23rd August - 28th August 2021 at SGT University, Gurugram. (around 900 participants)
- Co-Convenor-** Online workshop "Role of Technology and Some Specific Tools in Research", 28th June - 3rd July 2021, at SGT University, Gurugram. (around 1700 participants)
- Member-** Online workshop "Research Methodology-2021", 22nd -23rd July, 2021 at SGT University, Gurugram
- Member-** 6<sup>th</sup> World Congress on Nanomedical Sciences ISNSCON-2018 and Chemistry-Biology Interface Synergistic in New Frontiers (CBISNF-2019) 7-9th January 2019 Venue: Vigyan Bhawan
- Convenor-** National Conference on "Thieme Chemistry: Science of Synthesis" at Department of Chemistry,

University of Delhi, Delhi-110007, India held on September 28<sup>th</sup>, 2018

**Member-** National Workshop on "Molecular Docking, Dynamics & Biologics Discovery" at Department of Chemistry, University of Delhi, Delhi-110007, India held on 9<sup>th</sup>-10<sup>th</sup> August 2018.

#### **HONORS / AWARDS / SCHOLARSHIPS:**

- **ACS Best poster award**, 6th World Congress on Nanomedical Sciences ISNSCON-2018 and Chemistry-Biology Interface Synergistic in New Frontiers (CBISNF-2019) 7-9 th January 2019 Venue: Vigyan Bhawan
- **JASSO Scholarship 2017**, JAIST from June to August 2017, awarded by the Japanese Government.
- **Senior Research Fellowship**, Department of Chemistry, University of Delhi, Delhi, INDIA
- **International Exchange Fellowship:** JAIST from January to December 2014, awarded by the Japanese Government.
- **All India Rank 38th rank:** Lectureship (NET) in JOINT CSIR-UGC TEST Dec 2013
- **1st rank: entrance test in May 2013 for MS conducted by JAIST.**
- All India Rank 271 rank in IIT-JAM (Joint Admission Test for M.Sc) conducted by IIT Bombay in 2012
- 58TH rank in Entrance exam for M.Sc conducted by the University of Delhi in June 2012
- Scholarship awarded by Central sector scheme of scholarship for college and university students for the year 2010.
- Scholarship awarded by Central sector scheme of scholarship for college and university students for the year 2009.

#### **MEMBERSHIP OF SCIENTIFIC/ACADEMIC SOCIETIES:**

Member- Royal Society of Chemistry, London, U.K.

Member- American Chemical Society, Washington, D.C., United States

#### **ADVISOR/ SUPERVISOR OF THE Ph.D./ M.Sc. THESIS:**

- Ph.D.: 4 (Ongoing)
- M.Sc.: 3

#### **RESEARCH PROJECTS SANCTIONED/ UNDERTAKEN/SUBMITTED:**

S.No.	Title	Funding Agency	Amount	Role	Status
1.	Development of Carbon Dioxide Fixation in the Organic Transformations using Solid Based Catalyst. (Mentor : Prof. K. K. Pant, IIT Delhi)	TARE (SERB-DST)	Rs. 18,30,000	PI	ongoing

#### **PUBLICATIONS:**

1. Sangeeta; Sonaxi; Agrawal, S.;Sarkar, A.; Tomar, R. Synthesis of 1,3-benzodioxole-based procaine-tagged ionic liquids and investigation of its physiochemical and anti-cancer properties against A549 cells. *J. Mol. Liq.* **2023**

(Accepted)

2. Shilpa; Sonaxi; Sangeeta; Tomar, R. Azomycin Based Ionic Liquids as an Anticancer Agent: A Computational Approach, *Rasayan J. Chem.*, **2023** (Accepted)
3. Tomar, R.; Kundra, P.; Sharma, J.; Mohajer, F.; Ziarani, G.M.; Yadav, S. An overview: Synthesis of Menthol using Heterogeneous Catalysis. *Lett. Org. Chem.* **2023** (Accepted), doi: [10.2174/1570178620666230623114308](https://doi.org/10.2174/1570178620666230623114308)
4. Kharab, S.; Yadav, S.; Singh, A.; Sarkar, A.; Tomar, R. Molecular Docking and Physicochemical Studies of 1,3-Benzodioxole tagged Dacarbazine Derivatives as an anticancer agent. *Artif. Cells, Nanomedicine Biotechnol. Artif. Cells, Nanomedicine Biotechnol.* **2023**, *51* (1), 520–530. doi: <https://doi.org/10.1080/21691401.2023.2253470>
5. Yadav, S.; Kharab, S.; Tomar, R.; Agrawal, S.; Sarkar, A. 1,3-benzodioxole tagged lidocaine based ionic liquids as anticancer drug: Synthesis, characterization and in silico study, *ChemistrySelect* **2023**, *8*, e202204535. doi: <https://doi.org/10.1002/slct.202204535>
6. Kumar, L.; Verma, N.; Tomar, R.; Sehrawat, H.; Chandra, R.: Development of bioactive 2-substituted benzimidazole derivatives using an MnOx/HT nanocomposite catalyst, *Dalton Trans.*, **2023**, *52*, 3006-3015 doi: <https://doi.org/10.1039/D2DT02923E>
7. Akbari, A.; Faryabi M. F.; Tomar, R. Efficient method for the synthesis of novel methyl 4-cinnolinecarboxylate, *Molecular Diversity*, **2023**, *27*, 1401–1408 doi: <https://doi.org/10.1007/s11030-022-10497-3>
8. Bendi, A.; Singh, L.; Tomar, R.; Sharma, N. Solvent-Free Synthesis of Glycoside Annulated 1,2,3-Triazole Based Dihydropyrimidinones using Copper Ferrite Nanomaterials as Heterogeneous Catalyst and DFT Studies. *ChemistrySelect*, **2022**, *7* (7), e202103910, doi: <https://doi.org/10.1002/slct.202103910>
9. Kumar, L.; Verma, N.; Sehrawat, H.; Tomar, R.; Kumar, R.; Chandra, R. Successive Oxidation- Condensation Reactions using Multifunctional Gold supported Nanocomposite (Au/MgCe-HDO), *New J. Chem.*, **2022**, *46*, 3472-348. doi: <https://doi.org/10.1039/D1NJ05690E>
10. Ziarani, G. M.; Khademi, M.; yadav, S.; Mohajer, F. Tomar; Recent Advances in the Application of Barbituric Acid Derivatives in Multicomponent Reactions. *Curr. Org. chem.* **2022**, *26* (2), 162-188 doi: <https://doi.org/10.2174/1385272826666211229150318>
11. **Tomar, R.**; Jain, S.; Yadav, P.; Bajaj, B.; Mohajer, F.; Ziarani, G. M.; Conversion of Limonene over Heterogeneous Catalysis: An Overview. *Curr. Org. Syn.* **2022**, *19* (3), 414-425, doi: <https://doi.org/10.2174/1570179418666210824101837>
12. Yadav, P.; Yadav, S.; Atri, S.; **Tomar, R.** A Brief Review on Key Role of Perovskite Oxides as Catalyst. *ChemistrySelect* **2021**, *6* (45), 12947-12959, doi: <https://doi.org/10.1002/slct.202102292>
13. Atri, S.; **Tomar, R.** A Review on the Synthesis and Modification of Functional Inorganic-Organic-Hybrid Materials via Microwave-Assisted Method. *ChemistrySelect* **2021**, *6* (34), 9351-9362, doi: <https://doi.org/10.1002/slct.202102030>
14. Sehrawat, H.; Kumar, N.; Sood, D.; Kumar, L.; **Tomar, R.**; Chandra, R. Unraveling the interaction of an opium poppy alkaloid noscapine ionic liquid with human hemoglobin: Biophysical and computational studies. *J. Mol. Liq.* **2021**, *338*, 116710 <https://doi.org/10.1016/j.molliq.2021.116710>
15. Ziarani, G. M.; RadM.; Mohajer, F.; Sehrawat, H.; **Tomar, R.** Synthesis of Heterocyclic Compounds through Multicomponent Reactions using 6-Aminouracil as starting reagent. *Curr. Org. Chem.* **2021**, *25*(9), 1070-1095. <https://doi.org/10.2174/1385272825666210303112858>
16. Sehrawat, H.; Kumar, N.; **Tomar, R.**; Kumar, L.; Tomar, V.; Madan, J.; Dass, S. K.; Chandra, R. Synthesis and Characterization of Novel 1,3-Benzodioxole Tagged Noscapine Based Ionic Liquids with *in Silico* and *in Vitro* Cytotoxicity Analysis on HeLa Cells. *J. Mol. Liq.* **2020**, *302*, 112525. doi: <https://doi.org/10.1016/j.molliq.2020.112525>
17. Sehrawat, H.; Kumar, N.; Sood, D.; Kumar, L.; **Tomar, R.**; Dass, S. K.; Chandra, R. Mechanistic Interaction of Triflate Based Noscapine Ionic Liquid with BSA: Spectroscopic and Chemoinformatics Approaches. *J. Mol. Liq.* **2020**, *315*, 113695. <https://doi.org/10.1016/j.molliq.2020.113695>
18. Kumar, N.; Sood, D.; **Tomar, R.**; Chandra, R. Antimicrobial Peptide Designing and Optimization Employing Large-Scale Flexibility Analysis of Protein-Peptide Fragments. *ACS Omega* **2019**, *4* (25), 21370–21380. <https://doi.org/10.1021/acsomega.9b03035>
19. Tomar, V.; Kumar, N.; **Tomar, R.**; Sood, D.; Dhiman, N.; Dass, S. K.; Prakash, S.; Madan, J.; Chandra, R. Biological

- Evaluation of Noscapine Analogues as Potent and Microtubule-Targeted Anticancer Agents. *Sci. Rep.* **2019**, *9* (1), 19542. <https://doi.org/10.1038/s41598-019-55839-8>
20. Rathee, G.; Awasthi, A.; Sood, D.; **Tomar, R.**; Tomar, V.; Chandra, R. A New Biocompatible Ternary Layered Double Hydroxide Adsorbent for Ultrafast Removal of Anionic Organic Dyes. *Sci. Rep.* **2019**, *9* (1), 16225. <https://doi.org/10.1038/s41598-019-52849-4>
  21. **Tomar, R.**; Singh, N.; Kumar, N.; Tomar, V.; Chandra, R. Base-Free Suzuki–Miyaura Coupling Reaction Using Palladium(II) Supported Catalyst in Water. *Catal. Letters* **2019**, *149*, 1589–1594. <https://doi.org/10.1007/s10562-019-02723-9>
  22. **Tomar, R.**; Ebitani, K.; Chandra, R. Hydrotalcite-Supported Ceria Nanoparticles as a Heterogeneous Catalyst for One-Pot Synthesis of Imines under Atmospheric Air. *ChemistrySelect* **2019**, *4* (12), 3577–3581. <https://doi.org/10.1002/slct.201900750>
  23. Tomar, R.; Rathee, G.; Chandra, I.; Kumar, N.; Tomar, V.; Chandra, R. Synthesis and Characterization of Magnesium Hydroxide & Cerium Oxide Composite: Application in Organic Transformation. *ChemistrySelect* **2018**, *3* (6), 1645–1649. <https://doi.org/10.1002/slct.201702947>
  24. **Tomar, R.**; Sahni, A.; Chandra, I.; Tomar, V.; Chandra, R. Review of Noscapine and Its Analogues as Potential Anti-Cancer Drugs. *Mini. Rev. Org. Chem.* **2018**, *15* (5), 345–363. <https://doi.org/10.2174/1570193x15666180221153911>
  25. Kumar, N.; Chugh, H.; Sood, D.; Singh, S.; Singh, A.; Awasthi, A. D.; **Tomar, R.**; Tomar, V.; Chandra, R. Biology of Heme: Drug Interactions and Adverse Drug Reactions with CYP450. *Curr. Top. Med. Chem.* **2018**, *18* (23), 2042–2055. <https://doi.org/10.2174/1568026619666181129124638>
  26. Kumar, N.; Chugh, H.; **Tomar, R.**; Tomar, V.; Singh, V. K.; Chandra, R. Exploring the Interplay between Autoimmunity and Cancer to Find the Target Therapeutic Hotspots. *Artif. Cells, Nanomedicine Biotechnol.* **2018**, *46* (4), 658–668. <https://doi.org/10.1080/21691401.2017.1350188>
  27. Kumar, N.; **Tomar, R.**; Pandey, A.; Tomar, V.; Singh, V. K.; Chandra, R. Preclinical Evaluation and Molecular Docking of 1,3-Benzodioxole Propargyl Ether Derivatives as Novel Inhibitor for Combating the Histone Deacetylase Enzyme in Cancer. *Artif. Cells, Nanomedicine Biotechnol.* **2018**, *46* (6), 1288–1299. <https://doi.org/10.1080/21691401.2017.1369423>
  28. **Tomar, R.**; Singh, N.; Rathee, G.; Kumar, N.; Tomar, V.; Chandra, R. Synthesis and Characterization of Hybrid Mg(OH)<sub>2</sub> and CeCO<sub>3</sub>OH Composite with Improved Activity Towards Henry Reaction. *Asian J. Org. Chem.* **2017**, *6* (12), 1728–1732. <https://doi.org/10.1002/ajoc.201700485>
  29. **Tomar, R.**; Sharma, J.; Nishimura, S.; Ebitani, K. Aqueous Oxidation of Sugars into Sugar Acids Using Hydrotalcite-Supported Gold Nanoparticle Catalyst under Atmospheric Molecular Oxygen. *Chem. Lett.* **2016**, *45* (7), 843–845. <https://doi.org/10.1246/cl.160364>
  30. Arya, K.; **Tomar, R.** Microporous Zeolite Catalyst System: An Eco-Approach for Regioselective Synthesis of Pyrimidobenzimidazoles. *Res. Chem. Intermed.* **2015**, *41* (6), 3389–3400. <https://doi.org/10.1007/s11164-013-1441-4>
  31. Arya, K.; **Tomar, R.**; Rawat, D. S. Greener Synthesis and Photo-Antiproliferative Activity of Novel Fluorinated Benzothiazolo[2,3-b]Quinazolines. *Med. Chem. Res.* **2014**, *23* (2), 896–904. <https://doi.org/10.1007/s00044-013-0689-y>

## Editorial Articles

1. Tomar, R.; Madan, J. Ionic Liquids: Synthesis, Characterization and their Applications. *Curr. Org. Syn.* **2022**, *19*(8), 847–848 <https://doi.org/10.2174/157017941908221005112744>
2. Chandra, R; **Tomar, R.** Organic Transformation Using Heterogeneous Catalysts. *Curr. Org. Chem.* **2021**, *25*(3), 331–331. <https://doi.org/10.2174/138527282503210122143159>

## Books

(1) Title : Cerium-based materials: synthesis, properties and applications

Editors: Ramesh Chandra and Ravi Tomar

Publisher: Bentham Book Publisher

ISBN: 978-981-5080-09-4

(2) Title: Hydrotalcite: Synthesis, Characterization and Applications

Editors: Ravi Tomar

Publisher: Bentham Book Publisher

Status: Under review

(3) Title: Ionic Liquids for Organic Synthesis

Editors: Ravi Tomar

Publisher: Bentham Book Publisher

Status: In Production

(4) Title: Solid Base Catalysts: Synthesis, Characterization and Applications

Editors: Prof. Ramesh Chandra, Prof. K. K. Pant and Ravi Tomar

Publisher: Wiley VCH

Status: In Production

## Conference Abstract Published

1. **Tomar, R.;** Tomar, V.; Chandra, R. Synthesis and Characterization of Ce-Bearing Solid Base Catalyst and its Application in Henry Reaction *J. Biomed. Ther. Sci.*, **2018**, 5 (1), S5
2. Rathee, G.; **Tomar, R.;** Tomar, V.; Chandra, R. Synthesis and Characterization of Mixed Magnesium Hydroxide and Cerium dioxide: its Application in Organic Reactions, *J. Biomed. Ther. Sci.*, **2018**, 5 (1), S7
3. Singh N.; **Tomar, R.;** Tomar, V.; Chandra, R. Synthesis and Characterization of Ce-Bearing Solid Base Catalyst and its Application in Suzuki-Miyaura Reaction, *J. Biomed. Ther. Sci.*, **2018**, 5 (1), S11

## Patents

S.No.	Title of Patent	Registration No./Patent No.	Status (Submitted/Published/Granted)
1	Automated Sheet Holder Cleaning Device	202111036399	Published
2	Secured Infant Caressing Device	202211002208	Published

## ABSTRACTS IN SCIENTIFIC MEETINGS/CONFERENCE

1. **Tomar, R.;** Chandra, R. Employment of Cerium-Based Catalysts in Organic Chemistry, *Japan-India Symposium*, School of Materials Science, Japan Advanced Institute of Science and Technology. 7<sup>th</sup> March 2019 [Poster Presentation]
2. **Tomar, R.;** Tomar, V.; Chandra, R. Greener Approaches Towards Organic Transformation Using Heterogeneous Catalysis, 6<sup>th</sup> World Congress on Nanomedical Sciences ISNSCON-2018 & Chemistry Biology Interface Synergistic in New Frontiers 7-9<sup>th</sup> January 2019 (Poster Presentation)
3. **Tomar, R.;** Tomar, V.; Chandra, R. Development of Cerium-Bearing Heterogeneous Catalyst: Application in Organic Chemistry, Emerging Trends in Drugs Development and Natural-Products, Department of Chemistry, University of Delhi, January 12-14<sup>th</sup> 2018, [Oral Presentation]
4. **Tomar, R.;** Tomar, V.; Chandra, R. Synthesis and Characterization of Ce-Bearing Solid Base Catalyst and its Application in Henry Reaction, One-Day Indo-Hungarian Symposium on Recent Advances in Chemistry and Biology, Miranda House, University of Delhi, December, 11<sup>th</sup>, 2017 [Oral Presentation]

5. **Tomar, R.**; Verma, A. K.; Chandra, R. New Insight for Synthetic Elaboration of Noscapine and Its Derivatives as Anticancer Drug, Du-JAIST Indo-Japan Symposium on chemistry of Functional Molecules/Materials. February 26-27, 2016. [Poster Presentation]
6. Sehrawat, H.; **Tomar, R.**; Tomar, V.; Chandra, R. Synthesis and Characterization of Ionic Liquids with Various Applications, Emerging Trends in Drugs Development and Natural-Products”, Department of chemistry, University of Delhi, 12<sup>th</sup>-14<sup>th</sup> January 2018 [Poster Presentation]
7. Sehrawat, H.; **Tomar, R.**; Tomar, V.; Kumar, N.; Chandra, R. Synthesis, In-silico and In-vitro Evaluation of Novel Noscapine based Ionic Liquids showing Potential Anticancer activity, “6<sup>th</sup> world congress on Nanomedical Sciences-ISNSCON-2018”, “Chemistry-Biology Interface 2019” and “Conference on “Science and Technology for the Future of Mankind” from 7<sup>th</sup>-9<sup>th</sup> January 2019 at Vigyan Bhawan, New Delhi. [Poster Presentation]
8. Sehrawat, H.; **Tomar, R.**; Tomar, V.; Chandra, R. Synthesis and Characterization of 1,3-Benzodioxole-MIM/Py Ionic liquids with their anticancer activity on various cell lines. Thieme Chemistry: Science of Synthesis”, Department of Chemistry, University of Delhi, September 28<sup>th</sup>, 2018 [Poster Presentation]
9. **Tomar, R.**; Chandra, I.; Chandra, R. A Chemical approach towards an innovative anti-cancer drug, 23<sup>rd</sup> Annual Convention of Chemists 2016 (National Conference), GITAM University, Visakhapatnam, Andhra Pradesh, India, December 27-29, 2016. [Poster Presentation]
10. **Tomar, R.**; Sharma, J.; Nishimura, S.; Ebitani, K. Synthesis of Aldonic Acids from Aldose Sugars over Hydrotalcite Supported Gold Catalyst in Water with Molecular Oxygen under Base-Free condition, 5<sup>th</sup> Asia Oceania Conference on Green and Sustainable Chemistry (AOC-5-GSC), New Delhi, India 2015.1.15-17 [Poster Presentation]
11. **Tomar, R.**; Sharma, J.; Nishimura, S.; Ebitani, K. Base-Free Oxidation of Sugars into Sugar Acids using Supported Gold Catalyst in Water using Molecular Oxygen, The Irigo Conference 2014, Tsukuba, Ibaraki, Japan, 2014.11.7 [Poster Presentation]