Curriculum Vitae (CV)

Dr. RASHID ALI

Assistant Professor in the Department of Chemistry
Jamia Millia Islamia (A Central University)
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Hobbies: Reading & Playing Cricket

https://scholar.google.com/citations?hl=en&user=SsWLnyQAAAAJ&view_op=list_works&sortby=pubdate
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Education Background:

- **Ph.D.: Organic Chemistry, IIT Bombay, Mumbai-400076, Maharashtra, India. (2010-2015).**
- **Thesis Title: Diversity-Oriented Approach to Spirocycles and Heterocycles via Olefin Metathesis, Cycloaddition reactions, Fischer Indolization and Suzuki–Miyaura Cross-Coupling Reaction as Key Steps. Supervisor- Professor Sambasivarao Kotha.**
- **M.Sc.: Organic Chemistry, Jamia Millia Islamia, New Delhi-110025, India. (2008-2010).**
- **B.Sc.: (Hons.) Chemistry, Jamia Millia Islamia, New Delhi-110025, India. (2005-2008).**

Professional Experience:

- **Assistant Professor (Stage-II, Level 11): Department of Chemistry, Jamia Millia Islamia, New Delhi-110025, India - A Central University with NAAC Accredited Grade "A^{++}". (02/08/2020-Continue).**
- **Assistant Professor (Stage-I, Level 10): Department of Chemistry, Jamia Millia Islamia, New Delhi-110025, India - A Central University with NAAC Accredited Grade "A^{++}". (02/08/2016-01/08/2020).**
- **Post-doc: Organic and Supramolecular Functional Materials, Sookmyung W. University, Seoul-140 742, South Korea. (11 months).**
- **Research Associate: IIT Bombay, Mumbai-400076, Maharashtra, India. (2 Months).**
- **Teaching Assistant: IIT Bombay, Mumbai-400076, Maharashtra, India. (2011-2013).**

Administrative Responsibilities:

- **Member of Departmental Syllabus Revision Committee for New Education Policy (NEP)-2020; Jamia Millia Islamia (JMI), New Delhi, India. (2022-Continue).**
- **In-charge of the Department Instrumental Facilities, JMI-New Delhi. (2021 to Continue).**

- **Member of Conferences/Seminars/Webinar Committee, JMI-New Delhi. (2021-Continue).**
- **Member of the Departmental Purchase Committee, JMI-New Delhi. (2018-2021).**
- **Member of Board of Studies (BOS) of Department of Chemistry, JMI-New Delhi.**
- **Member of Faculty Committee of Natural Sciences, JMI-New Delhi, India.**

Research Interest:

The main goal of our research group is "Molecular Engineering" in which molecules for specific objectives are carefully designed & constructed.

- **Supramolecular Chemistry: Design, synthesis and evaluation of sensory probes for anion recognition and explosive detection, Anion-π interactions, Chemistry of calixpyrroles, Porphyrins, BODYPYs and other novel supramolecular architectures.**
- **Organic Chemistry: Design, synthesis and applications of "drug like" small molecules particularly, pyrrole & indole-based systems; Synthesis and properties of cyclophanes. Developments of novel green protocols for crucial organic transformations. Synthetic tools mostly employed in our research group are: Metathesis, Fischer indolization, Coupling reactions, Cycloaddition reactions, Annulation's reactions and Macrocyclizations *etc*.**
- **Design, construction, and properties of architecturally interesting bowl-shaped functional materials (fullerene fragments)- their stapling to achieve the total synthesis of fullerenes (C_{60} & C_{70}). Probing the potential applications of some interesting PAHs (e.g., pyrene, truxene, isotruxene and their congeners) for smart functional materials.**

Publication Details & Experience of Research Activities:

- **Total Number of Research Papers Published in Journals. 70**
- **Number of Research Papers Communicated/Under Revision. 03**
- **Number of Book Chapters Published Plus Under Process. 12**
- **Number of Books Published till Date. 03**
- **Number of Books Under Process. 01**
- **Number of Ph.D. Scholars. Thesis Awarded. 01**
- **Number of Scholars Currently Working for Ph.D. Degree. 04**
- **Number of M.Sc. Students Guided for Master's Dissertation. 23**
- **Number of M.Sc. Students Working for Master's Dissertation. 03**
- **Number of Post-doc/Research Assistant Guided. 02**
- **Number of Research Project Completed (2018-2021). 01**
- **Number of Research Fellowships Awarded (2023). 01**

Teaching Activities:

- **Full four semester, Teaching Assistantship at IIT Bombay: Tutor for under-graduate courses.**
- **Teaching to under-graduate, graduate and doctoral students at the Department of Chemistry, Jamia Millia Islamia, New Delhi, India (since August 2, 2016 to till date). Topics taught are: Spectroscopy (NMR, IR, Mass, UV-Vis and EPR) Stereochemistry, reactive intermediates, Pericyclic reactions, Photochemistry, Reagents, Stretegic applications of named reactions, Organometallic Chemistry, Bio-inorganic chemistry, Rearrangements, Fragmentations, Macrolactonisation, Retro-synthesis, Asymmetric synthesis, Multicomponent reactions, Protection and de-protection of functional groups, Supramolecular chemistry, Chemistry of natural products, and Chemical biology. Chemistry Lab to under-graduate and post-graduate students.**

Technical & Instrumental Skills:

- **Expertise in multi-step organic synthesis, column chromatography, and handling of air as well as moisture sensitive chemicals and reagents.**
- **Well versed with scientific softwares such as chemdraw, ARGUS Lab, MS-Office, etc.**
- **Five years' experience of operating 400/500 MHz Brucker and Varian NMR instrument in addition to expertise with UV-Vis as well as spectrofluorometer.**

Professional Recognitions, Awards/Honors & Fellowships:

- **Tasleem Khan Science Award 2004 for 1st Rank in HSC.**
- **Qaumi Taleemi Tanzeem: Sir Syed Ahmed Khan award 2004 for 1st rank in HSC.**
- **Jamia Millia Islamia Merit Scholarship 2008 for 1st position in B.Sc. (H) Chemistry (1st year).**
- **Junior Research Fellowship (UGC-JRF) December-2009 (AIR-316).**
- **Junior Research Fellowship (CSIR-JRF) June-2010 (AIR-115).**
- **Junior Research Fellowship (CSIR-JRF) December-2010 (AIR-43).**
- **Senior Research Fellowship (SRF) 2012-2015.**
- **Graduate Aptitude Test in Engineering (GATE) 2010 (AIR-45).**
- **Graduate Aptitude Test in Engineering (GATE) 2011 (AIR-109).**
- **Graduate Aptitude Test in Engineering (GATE) 2017 (AIR-1208).**
- **Punchsheel Club Society Award 2012 for Excellent Performance in Education.**
- **Special Mention Award 2012 for Exemplary Contribution towards Sports.**
- **Silver Medal in Cricket (PG sports) at IIT Bombay in 2012.**
- **Bronze Medal in Cricket (PG sports) at IIT Bombay in 2013.**
- **Gold Medal in Cricket (PG sports) at IIT Bombay in 2015.**
- **Early Career Research (ECR) Award for Young Scientists-2017.**
- **SERB International Research Experience (SIRE) fellowship for visiting Scientists-2023.**

Research Project(s) Undertaken:

S.No.	Research Projects (File no.)	Funding Agency	Cost (INR)	Duration
1.	**Project Title**:- Investigation of anion-π interactions in beautifully simple yet much effective meso-substituted two and/or four walls functionalized calix[4]pyrroles (C4Ps) **Award Number:**-(ECR/2017/000821) **Role:**-**Principal Investigator (PI)**	**SERB (DST)**	**38,61,744**	**2018-2021 (Completed)**

Ph.D. Thesis Under Progress/Awarded:

S.No.	Students (Year)	Ph.D. Thesis Title
1.	Ishfaq Ahmad Rather (JRF/SRF)	Design, synthesis & applications of functionalized calix[4]pyrroles. Thesis Awarded (29.11.2023).
2.	Shafieq Ahmad Wagay (Non-NET)	Design, synthesis & properties of heterocyclic systems including calix[4]pyrroles based supramolecular receptors. Thesis Submitted (22.11.2023).
3.	Shakeel Alvi (JRF/SRF)	Design, synthesis & properties of functional truxene-based pi-conjugated systems. Thesis to be Submitted.
4.	Ahmad Hasan (Non-NET)	Synthesis & properties of functionalized calix[4]pyrroles. 2019-Continue
5.	Lubna Khan (PMRF)	Design, Synthesis & Properties of strapped Calix[4]pyrroles (C4Ps). 2023-Continue

M.Sc. Projects Dissertations Supervised:

S.N.	Students	Title of Dissertations	Year
1.	Akib	Design and synthesis of *bis*-naphthalenediimide based fluorophores for chemosensors to detect nitroaromatic explosives.	2016-17
2.	Sahad	Synthesis of *bis*-naphthalenediimide based fluorophores for novel chemosensors.	2016-17
3.	Salim	Design and synthesis of bioactive camphor-based indole derivatives.	2017-18
4.	Mohit	Design and synthesis of bowl-shaped oxazole-based electron donors for supramolecular assemblies with C_{60}.	2017-18
5.	Poonam	Construction of concave tetrathiafulvalene type donors as supramoecular partners for C_{60}.	2017-18
6.	Kesar	Design, synthesis, and anion binding studies of *β*-substituted octaethyl-carboxylate calix[4]pyrrole.	2018-19
7.	Himanshu	Design, synthesis, and investigation of anion-*π* interactions in *meso*-3,5-dinitrophenyloctaethylcarboxylate calix[4]pyrrole.	2018-19
8.	Adeel	Design and synthesis of spiro-sumanene *via* metathesis & cycloaddition reaction as key steps.	2018-19

9.	Girish	Design and synthesis of bowl-shaped oxazole and imidazole based electron donor for supramolecular assemblies with C_{60}.	2018-19
10.	Haider	Synthesis and properties of strapped calix[4]pyrrole based molecular switches.	2018-19
11.	Deeksha	Design, synthesis, and anion binding studies of cyclic ketone based four walled *meso*-substituted calix[4]pyrroles.	2019-20
12.	Vivek	Design and synthesis of fluorene based strapped calix[4]pyrrole.	2019-20
13.	Shaista	Design, synthesis, and anion binding studies of β-substituted calix[4]pyrroles.	2019-20
14.	Turban	Synthesis and application of thiophene based cyclophane sensors with Photo-switching property.	2019-20
15.	Lubna	Design, synthesis and properties of crown-based strapped calix[4]pyrrole derivatives.	2020-21
16.	Ashmita	Calix[4]pyrrole based electrochemical sensors: from synthesis to applications.	2020-21
17.	Shaqeeb	Design, synthesis and photophysical properties of isotruxene systems.	2020-21
18.	Ayaaz	Recent developments in functionalized calix[4]pyrrole-based supramolecular entities.	2021-22
19.	Mahim	Recent application of truxene and its congener in solar cell and organic light emitting diodes (OLEDS).	2021-22
20.	Krishna	Recent advances in benzocrownether based ion-pair receptor from synthesis to applications.	2021-22
21.	Sadiya	Synthesis of 1,8-dioxo-octahydroxanthene derivatives through multi-component reaction (MCR) in deep eutectic solvents (DESs).	2022-23
22.	Kalimullah	Design, synthesis, and photophysical properties of naphthalenediimide based boron dipyrromethene (BODIPY).	2022-23
23.	Israr	Design, synthesis and properties of pyrene based strapped Calix[4]pyrrole (C4P).	2022-23

Some Key Publications Along With Impact Factor (2021):

Nature Chemistry - (July 31, 2017). **(IF = 24.267)**

Coord. Chem. Rev. - (July 15, 2020). **(IF = 24.833)**

J. Am. Chem. Soc. - (October 16, 2020). **(IF = 16.383)**

Green Chem. - (June 25, 2021) **(IF = 11.034)**

Chem. Commun. - (June 20, 2019). **(IF = 6.065)**

Chem. Commun. - (August 15, 2016). **(IF = 6.065)**

Top Curr. Chem. - (December 25, 2022). **(IF = 8.905)**

J. Mol. Liq. (September 23, 2022). **(IF = 6.63)**

Adv. Synth. Catal. - (January 22, 2021). **(IF = 5.981)**

Org. Chem. Front. - (October 6, 2022). **(IF = 5.456)**

Chem. Asian J. - (November 22, 2022). **(IF = 4.839)**

ACS Omega. - (April 25, 2022). **(IF = 4.132)**
RSC Advances - (November 22, 2019). **(IF = 4.036)**
Org. Biomol. Chem. - (October 19, 2021). **(IF = 3.890)**
Asian JOC. - (February 3, 2022). **(IF = 3.116)**
Tetrahedron - (March 11, 2015). **(IF = 2.388)**

List of Publications from Ph.D. & Postdoctoral Works:

1. W. Cha, T. Kim, A. Ghosh, Z. Zhang, X. Ke, **Rashid Ali**, V.M. Lynch, J. Jung, W. Kim, S. Lee, S. Fukuzumi, J.S. Park*, J.L. Sessler*, T.K. Chandrashekar* & D. Kim*, **Nature Chemistry, 2017**, 9, 1243–1248. Bicyclic Baired-type Aromaticity.

2. J.Y. Lee, H.D. Root, **Rashid Ali**, W. An, V. Lynch, S. Bähring, I.S. Kim, J.L. Sessler* & J.S. Park*, **J. Am. Chem. Soc., 2020**, 142, 46, 19579–19587. Ratiometric Turn-On Fluorophore Displacement Ensembles for Nitroaromatic Explosives Detection.

3. A. Kim, **Rashid Ali**, S.H. Park, Y.H, Kim & J.S. Park*, **Chem. Commun., 2016**, 52, 11139-11142. Probing and evaluating anion-π interaction in meso-dinitrophenyl functionalized calix[4]pyrrole isomers.

4. W. Cha, A. Ahn, T. Kim, J. Oh, **Rashid Ali**, J.S. Park* & D. Kim*, **Chem. Commun., 2019**, 55, 8301-8304. Changes in macrocyclic aromaticity and formation of charge separated state by complexation of expanded porphyrin and C_{60}.

5. J. Pak, **Rashid Ali** & J.S. Park*, **Bull. Korean Chem. Soc., 2016**, 37, 732-735. Synthesis and properties study of novel unsymmetrical pyrrolo-annulated benzo-diselenadithiafulvalene.

6. S. Kotha*, **Rashid Ali** & A. Tiwari, **Synlett, 2013**, 1921-1926. Diversity-oriented approach to novel spirocyclics via enyne metathesis, Diels–Alder reaction, and a [2+2+2]-cycloaddition as key steps. **(**Highlighted in Synfacts 2013, 9, 1172, A Spirocycle Feast**)**.

7. S. Kotha* & **Rashid Ali**, **Heterocycles, 2014**, 88, 789-797. Diversity-oriented approach to spirobarbituric acid via a [2+2+2] cycloaddition and Diels-Alder reaction as key steps.

8. S. Kotha*, **Rashid Ali** & A. Tiwari, **Synthesis, 2014**, 2471-2480. Design and synthesis of angularly annulated spirocyclics via enyne metathesis and the Diels–Alder reaction as key steps.

9. S. Kotha*, **Rashid Ali** & A. K. Chinnam, **Tetrahedron Lett., 2014**, 55, 4492-4495. Diversity-oriented approach to spirocycles via ring-closing metathesis.

10. S. Kotha* & **Rashid Ali**, **Heterocycles, 2015**, 90, 645-658. Diversity-oriented approach to oxepine derivatives: Further expansion via Diels–Alder reaction.

11. S. Kotha*, **Rashid Ali**, V. Srinivas & N. G. Krishna, **Tetrahedron, 2015**, 71, 129-138. Diversity-oriented approach to spirocycles with indole moiety via Fischer indole cyclization, olefin metathesis and Suzuki–Miyaura cross-coupling reactions.

12. S. Kotha*, **Rashid Ali** & M. K. Dipak, **J. Indian .Chem. Soc., 2015**, 92, 277-281. Bidirectional approach to symmetrical spiro-1,3-bisketone via Grignard reaction and two fold ring-closing metathesis as key steps.

13. S. Kotha* & **Rashid Ali**, **Tetrahedron, 2015**, 71, 1597-1603. Diversity-oriented approach to linearly fused spirocycles via strategic utilization of a [2+2+2] cycloaddition and the Diels–Alder reaction.

14. S. Kotha* & **Rashid Ali**, **Tetrahedron Lett., 2015**, 56, 2172-2175. Diversity-oriented approach to intricate bis-armed spirocyles involving a two-directional [2+2+2] co-trimerization and the [4+2] cycloaddition reaction as key steps.

15. S. Kotha* & **Rashid Ali**, **Tetrahedron Lett., 2015**, 56, 3992-3995. Diversity-oriented approach to spirooxindoles: Application of a green reagent ‘rongalite’.

16. S. Kotha*, A. K. Chinnam & **Rashid Ali**, **Beilstein J. Org. Chem., 2015**, 11, 1123-1128. Hybrid macrocycle formation and spiro annulations on cis-syn-cis-tricyclo[6.3.0.02,6]undeca-3,11-dione and its congeners via ring-closing metathesis.

17. S. Kotha*, M. Saifuddin **Rashid Ali** & G. Sreevani, **Beilstein J. Org. Chem., 2015**, 11, 1367-1372. Spiro annulation of caged polycycles via Grignard reaction and ring-closing metathesis as key steps.

18. S. Kotha* & **Rashid Ali**, **Tetrahedron, 2015**, 71, 6944-6995. 1,2,4,5-Tetrakis(bromomethyl)benzene: A useful building block to spirocycles under operationally simple reaction conditions.

19. S. Kotha* & **Rashid Ali**, **Tur. J. Chem., 2015**, 39, 1190-1198. A convenient route to bis-spirocycles and spiroindole derivatives via green methods such as Fischer indolization, ring-closing metathesis and Suzuki–Miyaura cross-coupling.

20. S. Kotha*, **Rashid Ali** & M. Saifuddin, **Tetrahedron, 2015**, 71, 9003-9011. Diversity-oriented approach to natural product inspired pyrano-carbazole derivatives: Strategic utilization of hetero-Diels–Alder reaction, Fisher indolization and the Suzuki–Miyaura cross-coupling reaction.

21. S. Kotha* & **Rashid Ali**, **Indian J. Chem., 2016**, 55B, 1099-1106. Two directional approach to spirocyclic Ethers via Grignard Reaction and ring-closing metathesis.

22. S. Kotha*, A. K. Chinnam N. Seenivasachary & **Rashid Ali**, **Indian J. Chem.**, **2016**, 55B, 1107-1111. Design and synthesis of polycyclic indoles under green conditions via Fischer indolization.

23. S. Kotha,* N.R. Panguluri, **Rashid Ali**, **Eur. J. Org. Chem.**, **2017**, 5316–5342. Design and synthesis of spirocycles.

24. S. Kotha*, M. Saifuddin, **Rashid Ali** & M.E. Shirbhate, **Indian J. Chem.**, **2017**, 56B, 1231-1236. Two directional approach to spirocycles containing bicyclo[2.2.2]octane system via [2+2+2] co-trimerization and Diels-Alder reaction.

25. S. Kotha,* **Rashid Ali**, N.R. Panguluri, A. Datta, K.K. Kannaujiya, **Tetrahedron Lett.**, **2018**, 59, 4080-4085. Synthesis and photophysical properties of star-shaped blue green emitting π-conjugated spirotruxenes.

26. S. Kotha,* **Rashid Ali**, N.R. Panguluri, A. Deb, **Indian J. Chem.**, **2018**, 57B, 1489-1492. Design and synthesis of spirotruxene and spirofluorene derivatives.

27. S. Kotha,* **Rashid Ali**, **J. Chem. Sci.**, **2019**, 131:66. A simple synthetic strategy to conjugated spirofluorenes.

List of Publications After Joining Jamia Millia Islamia-India

28. I.A. Rather, S.A. Wagay, & **Rashid Ali***, **RSC Advances**, **2019**, 9, 38309–38344. New dimensitions in calix(4)pyrrole: The land of opportunity in suprmolecular chemistry.

29. S.A. Wagay, I.A. Rather, & **Rashid Ali***, **ChemistrySelect.**, **2019**, 4, 12272-12288. Functionalized truxene scaffold: A promising advanced organic material for digital era.

30. I.A. Rather, S.A. Wagay, & **Rashid Ali***, **Coord. Chem. Rev.**, **2020**, 415, 213327. Emergence of anion-π interactions: the land of opportunity in supramolecular chemistry and beyond.

31. R. Siddiqui & **Rashid Ali***, **Beilstein J. Org. Chem.**, **2020**, 16, 248–280. Developments in photoredox catalyzed remote ortho and para C-H bonds functionalization.

32. S. Alvi & **Rashid Ali***, **Beilstein J. Org. Chem.**, **2020**, 16, 2212–2259. Synthetic approaches to bowl-shaped π-conjugated sumanene and its congeners.

33. T. Bera, K. Pandey, & **Rashid Ali***, **ChemistrySelect.**, **2020**, 5, 5239–5267. The Dötz benzannulation reaction: A booming methodology for natural product synthesis.

34. **Rashid Ali***, & S. Alvi, **Tetrahedron, 2020**, 76, 131345. The story of π-conjugated isotruxene and its congeners: from syntheses to applications.

35. **Rashid Ali***, **ChemistrySelect., 2020**, 5, 10795-10815. New dimensions in rongalite chemistry: the land of opportunities in organic synthesis and material sciences.

36. **Rashid Ali*** & R. Siddiqui, **Adv. Synth. Catal., 2021**, 363, 1290-1316. Recent developments in remote meta-C-H bond functionalizations.

37. S.A. Wagay, I.A. Rather, & **Rashid Ali***, **Materials Today: Proceedings, 2021**, 36, 657-678. Functionalized calix[4]pyrroles: Emerging class of ion-pair receptors in supramolecular chemistry.

38. **Rashid Ali***, A.K. Chinnam, & V. Aswar, **Curr. Org. Chem., 2021**, 25, 554-579. The double and triple role of L-(+)-tartaric acid and dimethyl urea: A prevailing green approach in organic synthesis.

39. S. Alvi & **Rashid Ali***, **Beilstein J. Org. Chem., 2021**, 17, 1374–1384. Design, synthesis and photophysical properties of novel star-shaped truxene-based heterocycles utilizing ring-closing metathesis, Clauson–Kaas, Van Leusen and Ullmann-type reactions as key tools.

40. I.A. Rather, & **Rashid Ali***, **Org. Biomol. Chem., 2021**, 19, 5926-5981. Indicator displacement assays: From concept to recent developments.

41. I.A. Rather, & **Rashid Ali***, **Green Chem., 2021**, 23, 5849–5855, A catalytic and solvent-free approach for the synthesis of diverse functionalized dipyrromethanes (DPMs) and calix[4]pyrroles (C4Ps).

42. I.A. Rather, & **Rashid Ali***, **ChemistrySelect., 2021**, 6, 10948-10956, Investigating the role of natural deep eutectic low melting mixtures for the synthesis of symmetrical bisamides.

43. S. Alvi & **Rashid Ali***, **Org. Biomol. Chem., 2021**, 19, 9732 - 9745. An expeditious and highly efficient synthesis of substituted pyrroles using a low melting deep eutectic mixture.

44. W. Ahmed, V. Jayant, S. Alvi, N. Ahmed, A. Ahmed & **Rashid Ali,*** **Asian J. Org. Chem., 2022**, 11, e202100753. Metathesis reactions in total- and natural product fragments syntheses.

45. I.A. Rather, & **Rashid Ali***, **ACS Omega, 2022**, 7, 12, 10649-10659. An efficient and versatile deep eutectic solvent mediated green method for the synthesis of functionalized coumarins.

46. S.A. Wagay, A. Hasan, & **Rashid Ali***, **Results in Chemistry, 2022**, 4, 100338. An efficient low melting mixture mediated green approach for the synthesis of 2-substituted benzothiazoles and benzimidazoles.

47. I.A. Rather, F.A. Sofi, M.A. Bhat, & **Rashid Ali***, **ACS Omega, 2022**, 7, 17, 15082–15089. Synthesis of novel one-walled *meso*-phenylboronic acid functionalized calix[4]pyrrole: A highly sensitive electrochemical sensor for dopamine.

48. S. Alvi, V. Jayant, & **Rashid Ali***, **ChemistrySelect., 2022**, 7, e202200704. Applications of oxone® in organic syntheses: An emerging green reagent of modern era.

49. I.A Rather, S.H. Alotaibi, M.T. Alotaibi, M. Altaf, & **Rashid Ali***, **ACS Omega., 2022**, 7, 40, 35825-35833. Deep eutectic solvent (DES) mediated one-pot multi-component green approach for naphthalimide centred acridine-1,8-dione derivatives and their photophysical properties.

50. I.A. Rather, S. Khan, **Rashid Ali*** & T.A. Khan*, **J. Mol. Liq., 2022**, 367, 120406. Appraisal of adsorptive potential of novel one-walled *meso*-phenylboronic acid functionalized calix[4]pyrrole for liquid phase sequestration of paracetamol.

51. I.A. Rather, **Rashid Ali*,** & A. Ali. **Org. Chem. Front., 2022**, 9, 6416-6440. Recent developments in calix[4]pyrrole (C4P)-based supramolecular functional systems.

52. Rashid Ali* & A. Hassan, **ChemistrySelect., 2022**, 7, e202203610. The criss-cross cycloaddition: A simple access to valuable heterocycles & polymers.

53. Rashid Ali* & R. Siddiqui, **RSC Advances., 2022**, 12 (55), 36073-36102. Dithieno[3,2-b:2′,3′-d]thiophene (DTT): An emerging heterocylic building block for future organic electronic materials & functional supramolecular chemistry.

54. S.A. Wagay, & **Rashid Ali***, **ChemistrySelect., 2023**, 8, e202202779. Unraveling the potential role of deep eutectic solvents (DESs): synthesis of ketazines & pyrazolines.

55. A. Kasprowiak, I.A. Rather, **Rashid Ali*** & P-E. Danjou*, **ChemRxiv, 2023**,. Revisiting *β*-dicyanovinyl substituted calix[4]pyrrole : toward the chemodosimetric detection of hydrazine in solution. (10.26434/chemrxiv-2022-wbssg).

56. I.A. Rather, P.-E. Danjou, & **Rashid Ali*** **Top. Curr. Chem., 2023**, 382:7, 1-93. Aryl and superaryl extended calix[4]pyrroles: From syntheses to potential applications.

57. S.A. Wagay, L. Khan & **Rashid Ali***, **Chem. Asian J., 2023**, 18, e202201080. Recent advancements in ion-pair receptors.

58. I.A. Rather, U. Riaz* & **Rashid Ali***, **J. Mol. Struct., 2023**, 1280, 135065. Experimental and computational and anion binding studies of *meso*-substituted one-walled phthalimide-based calix[4]pyrrole.

59. I.A. Rather, & **Rashid Ali***, **ChemistrySelect., 2023**, 8, e202300749, A facile deep eutectic solvent (DES) mediated green approach for the synthesis of fluorescein and phenolphthalein dyes.

60. A. Kasprowiak, I.A. Rather, **Rashid Ali*** & P-E. Danjou, **J. Mol. Struct., 2023**, 1287, 135694. Revisiting *β*-dicyanovinyl substituted calix[4]pyrrole: toward the chemodosimetric detection of hydrazine in solution.

61. I.A. Rather, M. Alam, U. Riaz* & **Rashid Ali***, **J. Mol. Struct., 2023**, 1290, 135949. Novel synthesis and evaluation of anion-π interactions in one-walled *meso*-cyanophenyl substituted calix[4]pyrrole (C4P): Experimental and computational insights.

62. S.A. Wagay, M. Alam & **Rashid Ali***, **J. Mol. Struct., 2023,** 1291, 135982. Synthesis of two novel fluorescein appended dipyromethanes (DPMs): Naked-eye chemosensors for fluoride, acetate and phosphate anions.

63. S. Alvi, A. Hassan, & **Rashid Ali***, **Polycycl. Aromat. Compd.,**. **2023**, 1-18 The Paal-Knorr pyrroles synthesis: A green perspective. (DOI: 10.1080/10406638.2023.2225676).

64. S. Alvi, M. Alam & **Rashid Ali***, **J. Mol. Liq., 2023**, 390, 122951. A facile catalyst-free one-pot three component synthesis of pharmacologically important indole-centered *4H*-chromenes in a deep eutectic solvent (DES).

65. S.A. Wagay, & **Rashid Ali***, **RSC Advances, 2023**, 13, 30420-30428. Facile synthesis and anion binding studies of fluorescein/benzo-12-crown-4 ether based *bis*-dipyrromethane (DPM) receptors.

66. I.A. Rather, M. Alam, & **Rashid Ali***, **ChemistrySelect., 2023**, 8, e202302138. Probing and evaluating the anion binding effects in one-walled *meso*-phenylboronic acid appended calix[4]pyrrole (C4P) based supramolecular receptors.

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List of Books Published/Under Process:

1. **Rashid Ali**, (***Book Editor***), **2023**, **Book Title**:- ***Cyclodextrins: Core Concepts and New Frontiers.*** **IntechOpen. (ISBN: 978-1-80356-258-2).**

2. I.A. Rather, & **Rashid Ali*** **2023**, (***Authored Book***); **Book Title**:- ***Indicator Displacement Assays (IDAs): An Innovative Molecular Sensing Approach.*** **Bentham Sciences**. **(ISBN: 978-981-5165-91-3).**

3. **Rashid Ali** & S. Salam (***Book Editors***), **2023**, **Book Title**:- **Chemistry and biological activities of ivermectin. Scrivener Publisher (Wiley). (ISBN: 9781394166541).**

4. **Rashid Ali**, (***Book Editor***), **2024**, **Book Title**:- ***Heterocyclic Chemistry-New Perspectives.*** **IntechOpen.** (***In press***).

List of Book Chapters Published/Under Process:

1. **Rashid Ali**,* **2021**, **Book Chapter-02**:- ***Low melting mixture of L-(+)-tartaric acid and N,N'-dimethyl urea: A new arrival in the green organic synthesis***. **Book Title**:- **"Current Topics in Chirality - From Chemistry to Biology,"(ISBN: 978-1-83968-953-6**). **IntechOpen.**

2. I.A. Rather, & **Rashid Ali***, **2021, Book Chapter-06**:- ***Anion-π catalysis: A novel supramolecular approach for chemical and biological transformations.*** **Book Title:- "Current Topics in Chirality - From Chemistry to Biology," (ISBN: 978-1-83968-953-6**). **IntechOpen.**

3. **Rashid Ali***, S. Alvi, & V. Jayant, **2022**, **Book Chapter-08**:- ***Use of oxone®- free of dangerous solvents in organic syntheses: A green perspective.*** **Book Title**:- **Advances in Chemistry Research**. **Volume 73**. (**ISBN: 979-8-88697-097-5**). **Nova Science Publishers, Inc.**

4. **Rashid Ali***, 2022, Book Chapter-01:- ***Historical background - fundamental structural & physiochemical properties of cyclodextrins (CDs).*** Book Title:- **Cyclodextrins: Core Concepts and New Frontiers**. (ISBN: 978-1-80356-258-2). IntechOpen.

5. I.A. Rather, A. Hasan, & **Rashid Ali***, 2022, Book Chapter-05:- ***Cyclodextrin based sensors for the recognition of small molecules.*** Book Title:- **Cyclodextrins: Core Concepts and New Frontiers.** (ISBN:978-1-80356-258-2). IntechOpen.

6. V. Jayant, S. Alvi, & **Rashid Ali***, 2023, Book Chapter-02:- ***Basic strategy and methods of preparation for supermolecules.*** Book Title:- **Pharmaceutical Applications of Supramolecules**. (ISBN: 9783031218996). Springer Nature.

7. S.A. Wagay, I.A. Rather, & **Rashid Ali***, 2023, Book Chapter-11:- ***Unravelling the potential role of green chemistry in carrying out typical condensation reactions of organic chemistry.*** ***Book Title***:- **Nanoparticles in green organic synthesis**. (ISBN: 978-0-323-95921-6). Elsevier, USA.

8. S. Alvi, M.K. Hussain, & **Rashid Ali***, 2023, Book Chapter-02:- ***Historical background, and synthetic approaches to ivermectin (IVM) & its homologues.*** Book Title:- **Chemistry and biological activities of ivermectin. (ISBN: 9781394166541). Scrivener Publisher (Wiley).**

9. M.K. Hussain, **Rashid Ali**, S. Ahamad, M.F. Khan, M. Saquib, & S. Alvi, 2023, Book Chapter-06:- ***Ivermectin: A Potential Repurposed Anti-Cancer therapeutic.*** Book Title:- **Chemistry and biological activities of ivermectin. (ISBN: 9781394166541). Scrivener Publisher (Wiley).**

10. V. Jayant, & **Rashid Ali***, 2023, Book Chapter-09:- ***Potential Applications of Ivermectin (IVM) in Dermatology.*** Book Title:- **Chemistry and biological activities of ivermectin. (ISBN: 9781394166541). Scrivener Publisher (Wiley).**

11. I.A. Rather & **Rashid Ali***, 2024, Book Chapter-xx:- ***Fluorescence sensing by Indicator displacement approach.*** Book Title:- **Fluorescent Chemosensing and Bioimaging**. CRC Press /Taylor & Francis Group, LLC. (Submitted).

12. V. Jayant, R. Kumar, P. Tyagi, **Rashid Ali**, & M. Yusuf, 2024, Book Chapter-xx:- ***Microwave Irradiation (MWI): An Efficient Greener Approach Towards the Sustainable Materials***. Elsevier. (Under Preparation).

Oral Presentations:

1. **In 9th J-NOST Conference-2013 for Research Scholars held at IISER Bhopal, India, (December 4-6, 2013). Diversity oriented approach to spirocyclics via metathesis, [2+2+2] cycloaddition and Diels–Alder reaction as key steps.**

2. **Guest lecture at Gurugram University, Gurugram-122018, Sector-51, Haryana, India, (April 21, 2022). NMR spectroscopy and its potential applications.**

3. **Lecture at Gurugram University, Gurugram-122018, Sector-51, Haryana, India, (May 19 & 25, 2023). Concepts of Supramolecular Chemistry.**

Poster Presentations:

1. **Poster Presentation in ACS Symposium-2012, Department of Chemistry IIT Bombay, Mumbai, Maharashtra, India-400076, (October 2, 2012). Diversity oriented approach to novel spirocyclic compounds via enyne-metathesis, Diels-Alder reaction and [2+2+2] cycloaddition as key step.**

2. **Poster Presentation in In-House Symposium-2012, Department of Chemistry IIT Bombay, Mumbai, Maharashtra, India-400076, (March 10, 2012). Diversity oriented approach to novel spirocyclic compounds via enyne metathesis, Diels-Alder reaction and [2+2+2] cycloaddition as key step.**

Professional Training Programmes Attended:

- **Induction course, 16/12/2016 to 22/12/2016 (One-Week), UGC-MHRD Centre, Jamia Millia Islamia, New Delhi-110025.**
- **124th Orientation programme, 12/02/2019 to 12/03/2019 (Four-Week), UGC-MHRD Centre, Jamia Millia Islamia, New Delhi-110025.**
- **7th Refresher course in Basic Science (Interdisciplinary), 05/11/2019 to 19/11/2019 (Two-Week), UGC-MHRD Centre, Jamia Millia Islamia, New Delhi-110025.**
- **9th Refresher course in Basic Science (Interdisciplinary), 05/10/2021 to 21/10/2021 (Two-Week, *Online*), UGC-MHRD Centre, Jamia Millia Islamia, New Delhi-25.**
- **Interdisciplinary Refresher Course (FDP_177):- 'Advanced Research Methodology'. 22/05/2022 to 05/06/2022 (Two-Week, Online), The Teaching Learning Centre Ramanujan, Delhi University, New Delhi-110019.**

Reviewer of Journals:

- **Reviewer of diverse international Journals such as ACS, Wiley-VCH, Elsevier, RSC, Bentham Science, Nature Springer, MPDI, *etc*.**

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