Professor Diwan S Rawat, FRSC, CChem (London)
Department of Chemistry, University of Delhi
E. Mail: diwansrawat@gmail.com, dsrawat@chemistry.du.ac.in
Mobile No : 9810232301
ORCID No: orcid.org/0000-0002-5473-7476
Web of Science ResearcherID: B-1150-2008
Scopus Author ID: 35498443400
Date of Birth : January 1, 1970

Visiting Professor:

Japan Advanced Institute of Science and Technology (JAIST), Japan.

Associate Editor:

- Nature Scientific Reports, Impact Factor : 4.122 (**2019 – 2021**).
- RSC Advances (Royal Society of Chemistry), Impact Factor : 3.049 (**2016 – 2020**).

International Editorial Board Member :

- Journal of Biochemical and Molecular Toxicology (Wiley), **Impact Factor : 3.61** (**2016 – 2020**).
- Anti-Cancer Agents in Medicinal Chemistry (Bentham), **Impact Factor 3.14** (**2007-Till Date*)***.
- Marine Drugs (MPDI), **Impact Factor 3.978** (**2005-2015**).
- Indian Journal of Heterocyclic Chemistry (**2013-Till Date**)

Expertise : Development of small organic molecules as antimalarial, antimicrobial, anticancer and anti-Parkinson agents. Nanocatalysis

Total Publications: 157 ; **Citations :** 5646 ; **h-index :** 44; **i10-index:** 119
Patents : 7

PhD Supervision : 25

EDUCATION:

Ph. D, Organic Chemistry, Central Drug Research Institute (CDRI), Lucknow, UP/ Kumaun University, Nainital, Uttrakhand, India, 1998.

Thesis Title: **Studies on Nitrogen Heterocyclics Related to Purines and Xanthines**

M.Sc.*, Chemistry, Kumaun University, Nainital, Uttrakhand, India, 1993, **First Position in the University.**

AWARDS/HONORS:

- **Special Appreciation Award**, University of Delhi (**2021**).
- **Platinum Jubilee Lecture**, Indian Science Congress (**2021**).
- **Pratap Bhaiya Smiriti Alankar**, Awarded by Acharya Narendra Dev Shiksha Nidhi, Nainital (**2020**).

- **Sectional President (Chemical Sciences),** Indian Science Congress Association (**2019 – 2020**).
- **Brand Ambassador,** Bentham Science Publishers (**2017**).
- **Associate Editor,** RSC Advances (**2016, Impact Factor 3.84**).
- **Fellow,** Royal Society of Chemistry (**FRSC, 2016**).
- **CChem,** Royal Society of Chemistry (**London, 2016**)
- **Professor SP Hiremath Memorial Award**, Indian Council of Chemist, **2016**.
- **Professor RC Shah Memorial Lecture Award**, Indian Science Congress, **2015 – 16**.
- **Visiting Professor,** Japan Advanced Institute of Science and Technology (JAIST), Japan.
- **Gold Badge and Diploma**, International Scientific Partnership Foundation, Russia (**2015**).
- **Executive Member:** Indian Society of Chemist and Biologist (**2013-2015**).
- **VC`s Pratik Chinha Samman**, Kumaun University Nainital, November, **2011**.
- **Young Scientist Award**, Indian Society of Chemist and Biologist (ISCB), **2010.**
- **Elected Life Member**, The National Academy of Sciences, Allahabad **2007.**
- **Prof. D. P. Chakraborty 60th Birth Anniversary Commemoration Award 2007** (Awarded by Indian Chemical Society).
- **Young Researcher Award**, Chemical Research Society of India (CRSI) **2007**.
- **Merit Certificate** (**MSc Topper**), Kumaun University, Nainital, UK, India, **1993**.

GUEST EDITRO OF SPECIAL JOURNAL ISSUES:

- **Current Protein *and* Peptide Science (Impact Factor 3.154; *2015*);**
- **Anti-Cancer Agents in Medicinal Chemistry (Impact Factor 3.14; *2013*); http://benthamscience.com/cmcaca/Special-Issues.htm).**
- **Anti-Cancer Agents in Medicinal Chemistry (Impact Factor 3.14; Two issues, *2008*).**
- **Indian Journal of Chemistry-Section B (Impact Factor 0.66; 2009).**

AFFILIATIONS:

- Indian Chemical Society, India [Life member since 1996, F 4685].
- UP Association for the Advancement of Science and Technology, India [Life member since 2000].
- Chemical Research Society of India [Life member since 2008, LM 1109].
- Indian Society of Chemist and Biologist [Life member since 2009, LF 499/09].
- Association of Chemistry Teachers, India [Life member since 2013].
- Elected Life Member, The National Academy of Sciences, Allahabad **2007.**
- Indian Science Congress Association, India [Life member since 2013, L 23152].
- Indian Council of Chemist, India [Life Member since 2014, LF/1686].
- Association of Chemistry Teachers, India [Life member since 2013, LM 1301].

RESEARCH/TEACHING EXPERIENCE: Over 22 Years

Academic Experience:

- **Professor**, Department of Chemistry, University of Delhi, Delhi, 110007, India **(March 2010-Till Date**).

- **Associate Professor**, Department of Chemistry, University of Delhi, Delhi, 110007, India **(July 2006-March 2010**).

- **Reader**, Department of Chemistry, University of Delhi, Delhi, 110007, India **(July 2003-July 2006**).

- **Assistant Professor**, Department of Medicinal Chemistry, National Institute of Pharmaceutical Education and Research (NIPER), Mohali, Punjab, India (**November 2002-July 2003**).

- **National Institute of Health (NIH) Postdoctoral Fellow**, Department of Medicinal Chemistry and Molecular Pharmacology, Purdue University, West Lafayette, IN, USA (**September 2001-November 2002**).

- **American Cancer Society (ACS) Postdoctoral Fellow**, Department of Chemistry, Indiana University, Bloomington, IN, USA (**November 1999 - September 2001**).
- **Research Fellow**, Central Drug Research Institute, Lucknow, India (**April 1994 - August 1997**).

Industrial Expereicne:

- **Scientist, R & D Department**, **Lupin Laboratories Ltd. Mandideep, M.P., India** (**September 1998- November 1999**). Involved in the process and development of Lisinopril, quinalapril based antihypertensive drugs, and handled reaction on 50 kg scale.

- **R & D Executive**, **Panchsheel Org. Ltd. MP, India.** (**August 1997- September 1998**). Process and development of Loperamide hydrochloride, promethazine hydrochloride, and triclosan. Handled reaction on 50 kg scale.

Expert-Funding Agencies:

- **Member, INSPIRE Fellowhip NBHF/HOPE Committee**, DST **(2019 – 2022).**
- **Member, Subject Expert Committee,** Women Scientist Scheme-A (WOS-A), DST **(2016 – 2020).**
- **Member Expert Committee,** Technological Intervention for Addressing Societal Needs (TIASN), Department of Science & Technology (DST), New Delhi (**2016 – 2019**).
- **Project Advisory Committee (PAC),** International Cooperation Division (ICD), Department of Science & Technology (DST), New Delhi (**2014 – 2019**).
- **UGC-Nominee, SAP Programme**, Department of Chemistry, Shivaji University, Kolhapur (**2013 - 2018**).
- **UGC-Nominee, SAP Programme**, Department of Chemistry, Guru Nanak Dev University, Amritsar (**2015 - 2020**).
- **Member project evaluation committee**, Uttarakhand State Council for Science and Technology (UCOST), Dehradun, Uttrakhnad (**2007 –2014**).

Board of Higher Studies/Advisory Committee/ Committee of Courses:

- **Member, Board of Studies**:
  Guru Nanak Dev University, Amritsar **(2021 – 2022**), Central University, Mizoram (**2018 - 2021**). Guru Nanak Dev University, Amritsar (**2018 – 2020**). Kumaun University, Nainital, UA (**2012-2015, 2020-2023**). HNB Garhwal University, Srinagar, Srinagar (Garhwal), UA (**2012-2014; 2014–2017; 2017-2019**). MJP Rohilkhand University, Bareilly (**2013-2015**). Gautam Budha University, Noida (**2016 - 2018**). Faculty of Technology, Kumaun University, Nainital,

UA (**2016-2019**). Uttrakhand Open University, Chemistry, Haldwani (**2014-2016**). Jamia Hamdard University, Department of Pharmaceutical Chemistry, Delhi (**2013 – 2016**). Amity University, Gurgaon, School of Applied Sciences (**2018-2020**). SRM University, Sonepat, (**2017-2019**). Amity University, School of Natural Sciences, Gurgaon (**2014-2016**). Amity University, Centre for Phytomedicine and Phytochemistry, Noida (**2014-2016, 2019-2021**).

- **Member, Institutional Advisory Board (IAB)/Departmental Advisory Board (DAB),** National Council of Educational Research and Training (NCERT) (**2017-2020**).
- **Visitors Nominee, Academic Council Member,** HNB Garhwal University, Srinagar, Srinagar (Garhwal), UA (**2016-2018**).
- **Member Advisory Committee**, University Science Instrumentation Center-Central Instrument Facility (USIC-CIF), University of Delhi, (**2010 – 2015**).
- **Member Committee of Courses**, University of Delhi, Delhi, (**March 2010 – Till Date**).
- **Co-ordinator, CPDHE Refresher Course**, University of Delhi, (**February 15th to March 9th, 2010**).
- **Member, Project Review Committee**, Department of Scientific and Industrial Research (DSIR), Delhi.
- **Jury Member** 2nd and 3rd National Level Exhibition and Project Competition (NLEPC)- 2013 under INSPIRE Awards component of Department of Science and Technology, **2012, 2013**.
- **Member young scientist award committee**, Uttarakhand State Council for Science and Technology (UCOST), Dehradun, Uttranchal (**2007 – 2014**).

Development of Teaching Materials/Review of Text Books:

- Member, Development of need based package for the orientation of master trainers in Science for Hr. Sec. Stage (Chemistry, NCERT), **December 26-29, 2011**
- Member, Development of In-service Teacher Training Material through Interactive Audio Visual Presentation in Chemistry for Hr. Sec. Stage (Chemistry, NCERT), **November 24-28, 2008**.
- Member, Quick Review of NCERT Textbooks for Higher Secondary Stage (Chemistry-Practical), August-September **2007, 2006, 2004**.
- Member curriculum development committee for BSc courses, M. Tech in Chemical Synthesis and Process Technologies, University of Delhi.
- Member, Bureau of Indian Standards, New Delhi.

COURSES TAUGHT:

- **MSc (University of Delhi, 2003 onwards)**
  1. Paper 102A: Organic Stereochemistry
  2. Paper 102B; Study of Reactive Intermediates
  3. Paper 202A: Spectroscopy
  4. Paper 202B: Methods in Organic Synthesis
  5. Paper 3201B: Heterocyclic Chemistry
  6. Paper 4203A: Terpens and Stereiods
  7. Paper 4203B: Alkaloids and Polyphenols

- **M.Tech-CSPT (University of Delhi)**
  1. Paper 102B: Name Reaction in Organic Synthesis
  2. Paper 201A: Reagents in Organic Synthesis
  3. Paper 201B: Newer Synthetic Reactions and Methodologies

- **M. Pharm (NIPER Mohali, 2002-2003)**
    1. Metals in organic synthesis

- **PhD (University of Delhi, 2003 onwards)**

    1. Unit-XXV: Medicinal Chemistry
    2. Unit XXXVI: Spectroscopy: Applications for Organic Chemist

RESEARCH GRANTS FUNDED:

1. Electronic control of thermal Bergman cyclization reactions: A new approach towards the development of novel enediyne anticancer molecules; **Department of Science and Technology (DST) New Delhi**, **Duration: 2004-2007**.

2. Design and synthesis of Tetraoxanes and Tetraoxane based modular molecules as potential antimalarial agents, **Council of Scientific and Industrial Research (CSIR), New Delhi**, **Duration: 2004-2008.**

3. Syntheses and Biological Evaluation of Phidolopin Analogues, **University Grants Commission (UGC), New Delhi**, **Duration: 2007-2010.**

4. Synthesis of substituted tetraoxanes and tetraoxane-aminoquinoline/amine conjugates as potential antimalarial agents, **Department of Science and Technology (DST) New Delhi**, **Duration: 2009-2012.**

5. Synthesis, anticancer activity, QSAR, and mechanistic studies of curcumin derivatives, **DU-PURSE Grant, University of Delhi**, **Duration: 2012-2013.**

6. Design and Syntheses of Novel 4-Aminoquinoline-triazine/triazole and 4-Aminoquinoline-Curcumin Conjugates as Potential Antimalarial Agents, **University Grants Commission (UGC), New Delhi**, **Duration: 2012-2015.**

7. Synthesis and anti-cancer activity evaluation of C5-curcuminoids and C5-curcuminoid-hybrids, **Council of Scientific and Industrial Research (CSIR), New Delhi**, **Duration: 2012-2015.**

8. Synthetic Nurr1 ligand as novel neuroprotective therapeutics to treat Parkinson's disease, **The Michael J. Fox Foundation, USA, Duration 2014 – 2016.**

9. Aminoquinoline-pyrimidine based molecular hybrids: Synthesis, antimalarial activity, docking and heme binding studies" **SERB- Govt of India** (**File Number: EMR/2014/001127**) 2015 – 2018.

10. Development of nanocatalysts for the sustainable synthesis of novel C5-curcuminoid-indolizine/quinoline/benzofuran hybrids as anticancer agents" **DST- Govt of India** (**File Number: DST/INT/JSPS/P-214/2016**). 2016 – 2018.

11. Imidazolopyridine based molecular hybrids: Synthesis, anti-tubercular activity and mode of action studies. Council of Scientific and Industrial Research (CSIR), Delhi, **2017-2020.**

12. "Nanocatalysis for sustainable organic transformations" UGC Mid Career Award, **University Grants Commission (UGC), New Delhi**, **Duration: 2021-2023.**

LIST OF PUBLICATIONS (Toal Publications: 157, Citations: 5580, h-index: 45, i-10 index = 119).

Key Publications:

American Chemical Society: J. Am. Chem. Soc. (**IF = 14.357**); ACS Chem. Biol. (**IF = 4.952**); Org. Lett. (**IF = 6.492**); ACS Sus. Chem. Engg. (**IF = 8.198**); J. Org. Chem. (**IF = 4.805**); Inorg. Chem. (**IF = 4.70**); ACS Med. Chem. Lett. (**IF = 3.975**); J. Agric. Food Chem. (**IF = 3.412**), ACS Omega (**IF = 2.54**).

Royal Society: Green Chem. (**IF = 9.48**); Chem. Commun. (**IF = 6.29**); RSC Adv (**IF = 3.11**); New J. Chem. (**IF = 3.201**); Org. Biomol. Chem. (**IF = 3.562**); Med. Chem. Commun. (**IF = 2.722**).

Elsevier Publication: Eur. J. Med. Chem. (**IF = 5.572**); BBA Biomembrane (**IF = 4.647**); Biorg. Med. Chem. (**IF = 3.12**); Biorg. Med. Chem. Lett. (**IF = 2.65**); Tetrahedron Lett (**IF = 2.39**).

Wiley Publication: Med. Res. Rev. (**IF = 12.11**); Adv. Synth. Catal. (**IF = 6.453**); ChemCatChem (**IF = 4.83**); Chemistry - An Asian Journal (**IF: 3.692**); FEBS J (**IF = 4.25**); Asian J. Org. Chem. **(IF = 3.275)**; Chem. Biol. Drug. Des. (**IF = 2.802**).

Research work Highlighted in the Cover Page:

- **Tetrahedron Letters** 59 (24), 13 June **2020**
- **Tetrahedron Letters** 59 (24), 13 June **2018**
- **Tetrahedron Letters** 57 (4), 5 October **2016**
- **ACS Sustainable Chemistry and Engineering 3 (1), 2015**

Research work Highlighted by Synfacts:

Green Chemistry 22, 3170 **(2020)** — **SYNFACTS** 2020, 16(08): 0995
Tetrahedron Letters 59, 2341 **(2018)** — **SYNFACTS** 2018, 14(08): 0883
Chemistry - An Asian Journal 12, 785 (**2017**) — **SYNFACTS** 2017, 13(07), 0766
Tetrahedron Letters 57, 4468 **(2016)** — **SYNFACTS** 2016, 12(12), 1314
RSC Advances 6, 2935 **(2016)** — **SYNFACTS** 2016, 12(4), 0427
RSC Advances 5, 92121 **(2015)** — **SYNFACTS** 2016, 12(2), 0214

PUBLICATIONS (Representative Publications):

MEDICINAL CHEMISTRY (Selected)

(Molecule has entered in clinical trails for the Parkinson treatment)

US 2017/0209441 A1; PCT/US2013/28329; WO2013134047 A3

1. Aparna Bahuguna, Srishti Rawat, **Diwan S. Rawat*** QcrB in Mycobacterium tuberculosis: The new drug target of antitubercular agents, **Med. Res. Rev. DOI: 10.1002/med.21779 (2021). Impact Factor: 12.11.**

2. Aparna Bahuguna, P. V. Bharatam, **Diwan S. Rawat*** 3D QSAR studies on cationic amphiphilic indole derivatives for antimycobacterial activity, **J. Biochem. Mol. Toxicol. DOI: 10.1002/jbt.22675 (2021). Impact Factor: 3.606.**

3. Gagandeep, Manisha Singh, Saqib Kidawi, Ujjalkumar Subhash Das, Thirumurthy Velpandian, Ramandeep Singh, **Diwan S. Rawat***, Mono-carbonyl Curcuminoids as Anti-Tuberculosis Agents With Their Moderate *In-vitro* Metabolic Stability on Human Liver Microsomes" **J. Biochem. Mol. Toxicol. http://doi.org/10.1002/jbt.22754 (2021). Impact Factor: 3.606.**

4. Aparna Bahuguna, **Diwan S. Rawat*** Recent trends and strategies for the anti-tubercular drug development, **Med. Res. Rev. 40, 263-292 (2020). Impact Factor: 12.11.**

5. Garima Arora, Gagandeep, Assirbad Behura, Tannu Priya Gosain, R. P. Shaliwal, Saqib Kidwai, Padam Singh, Shamseer Kulangara Kandi, Rohan Dhiman, **Diwan S. Rawat** and Ramandeep Singh, NSC 18725, a pyrazole derivative inhibits growth of intracellular *Mycobacterium tuberculosis* by induction of autophagy **Front. Microbiol. 10, 3051 – 3063 (2020), Impact Factor: 4.259.**

6. Gagandeep, Prince Kumar, Shamseer Kulangara Kandi, Kasturi Mukhopadhyay, **Diwan S. Rawat***, Synthesis of novel monocarbonyl curcuminoids, evaluation of their efficacy against MRSA, including ex vivo infection model and their mechanistic studies, **Eur. J. Med. Chem. 195, 112276 (2020). *Impact Factor:* 5.572.**

7. Mohit Tripathi, Dale Taylor, Shabana I. Khan, Babu L. Tekwani, Prija Ponnan, Thirumurthy Velpandian, Ujjalkumar Das, **Diwan S. Rawat*** Hybridization of fluoro-amodiaquine (FAQ) with pyrimidines: Synthesis, *in vitro* and *in vivo* antimalarial potency of FAQ-pyrimidines, **ACS Med. Chem. Lett. 10, 714–719 (2019). *Impact Factor:* 3.975.**

8. S. S. Maurya, A. Bahuguna, S. I. Khan, D. Kumar, R. Kholiya, **Diwan S. Rawat***, *N*-Substituted aminoquinoline-pyrimidine hybrids: Synthesis, *in vitro* antimalarial activity evaluation and docking studies. **Eur. J. Med. Chem. 162, 277 – 289 (2019), *Impact Factor:* 5.572.**

9. Prince Kumar, S. K. Kandi, S. Manohar, K. Mukhopadhyay, **Diwan S. Rawat***, Monocarbonyl curcuminoids with improved stability as antibacterial agents against *Staphylococcus aureus and their mechanistic studies*, **ACS Omega, 4, 675 – 687 (2019), *Impact Factor:* 2.584.**

10. B. Negi, P. Poonan, M. F. Ansari, D. Kumar, S. Aggarwal, R. Singh, A. Azam, **Diwan S Rawat*** Synthesis, antiamoebic activity and docking studies of metronidazole-triazole-styryl hybrids. **Eur. J. Med. Chem.** 150, 633 – 641 **(2018). *Impact Factor:* 5.572.**

11. P. Linga Reddy, Shabana I. Khan, Prija Ponnan, Mohit Tripathi, **Diwan S. Rawat*** Design, synthesis and evaluation of 4-aminoquinoline-purine hybrids as potential antiplasmodial agents; **Eur. J. Med. Chem.** 126, 675-686 **(2017). Impact Factor: 5.572.**

12. Beena Negi, Deepak Kumar, **Diwan S. Rawat*,** Marine peptides as anticancer agents: A remedy to mankind by nature, **Curr. *Protein* Pept. Sci.** 18, 885-904 **(2017). *Impact Factor:* 3.154.**

13. Rohit Kholiya, Shabana I. Khan, Aparna Bahuguna, Mohit Tripathi, **Diwan S. Rawat*** N-Piperonyl substitution on aminoquinoline-pyrimidine hybrids: Effect on the antiplasmodial potency; **Eur. J. Med. Chem.** 131, 126 – 140 **(2017). *Impact Factor:* 5.572.**

14. Shiv Shyam Maurya, Shabana I. Khan, Deepak Kumar, Aparna Bahuguna, **Diwan S. Rawat*** Synthesis, antimalarial activity, heme binding and docking studies of *N*-substituted 4-aminoquinoline-pyrimidine molecular hybrids; **Eur. J. Med. Chem.** 129, 175 – 185 **(2017). Impact Factor: 5.572.**

15. Beena Negi, Deepak Kumar, Widuranga Kumbukgolla, Sampath Jayaweera, Prija Ponnan, Ramandeep Singh, Sakshi Agarwal, **Diwan S. Rawat***, Anti-methicillin resistant *Staphylococcus aureus* activity, synergism with oxacillin and molecular docking studies of metronidazole-triazole hybrids, **Eur. J. Med. Chem. 115, 426 – 437 (2016). Impact Factor: 5.572.**

16. Amit Anthwal, Kundan Singh, M.S.M. Rawat, Amit K. Tyagi, Ashanul Haque, Imran Ali, **Diwan S. Rawat*** Synthesis of 4-piperidone based curcuminoids with anti-inflammatory and anti-proliferation potential in human cancer cell lines, **Anti Cancer Agents Med Chem, 16, 841-851 (2016). Impact Factor: 3.14.**

17. Seema Joshi**,** Rikeshwer Prasad Dewangan**,** Mohammad Shahar Yar**,** **Diwan S.Rawat**, Santosh Pasha**,** N-Terminal aromatic tag induced self-assembly of tryptophan-arginine rich ultra-short sequences and their potent antibacterial activity, **RSC Adv, 5, 68610 – 68620 (2015), *Impact Factor:* 3.11.**

18. Deepak Kumar, Beena Negi, **Diwan S. Rawat*** The current anti-TB agents and the challenges ahead. **Fut. Med. Chem. 7, 1981 – 2003 (2015), Invited article. *Impact Factor:* 4.01.**

19. Sunny Manohar, V. Satya Pavan, Dale Taylor, Deepak Kumar, Prija Ponnan, Lubbe Wiesner, **Diwan S. Rawat***, Highly active 4-aminoquinoline-pyrimidine based molecular hybrids as potential next generation antimalarial agents, **RSC Adv** 5, 28171 – 28186 **(2015) *Impact Factor:* 3.11.**

20. Mohit Tripathi, Shabana I. Khan, Anuj Thakur, Prija Ponnan, **Diwan S. Rawat***, 4-Aminoquinoline-pyrimidine-aminoalkanols: Synthesis, *in vitro* antimalarial activity, docking studies and ADME predictions, **New J. Chem.** 39, 3474 – 4383 **(2015). *Impact Factor:* 3.277.**

21. Deepak Kumar, Garima Khare, Beena, Saqib Kidwai, Anil K. Tyagi, Ramandeep Singh, **Diwan S. Rawat*,** Novel isoniazid-amidoether derivatives: Synthesis, characterization and antimycobacterial activity evaluation, **Med. Chem. Commun.** 6, 131 - 137 **(2015). *Impact Factor:* 2.722.**

22. Shamseer K. Kandi, Sunny Manohar, Christian E. Vélez Gerena, Beatriz Zayas, Sanjay V. Malhotra, **Diwan S. Rawat***; C5-curcuminoid-4-aminoquinoline based molecular hybrids: Design, synthesis

and mechanistic investigation of anticancer activity, **New J. Chem.** 39, 224 - 234 **(2015). *Impact Factor:* 3.277.**

23. Deepak Kumar, Shabana I. Khan, Prija Poonan, **Diwan S. Rawat*** "4-Aminoquinoline-pyrimidine hybrids: Synthesis, antimalarial activity, heme binding and docking studies" **Eur. J. Med Chem.** 89, 490 - 502 **(2015). *Impact Factor:* 5.572.**

24. Rini Joshi, Vishwajeet Rohil, Shvetambri Arora, **Diwan S. Rawat**, H. G. Raj et al, The competence of 7, 8-diacetoxy-4-methylcoumarin and other polyphenolic acetates in mitigating the oxidative stress and their role in angiogenesis, **Curr. Topics Med. Chem. 15, 179 – 186 (2015). *Impact Factor:* 3.632**.

25. Deepak Kumar, Shabana I. Khan, Prija Poonan, **Diwan S. Rawat*,** Triazine-pyrimidine based molecular hybrids: Synthesis, docking studies and antimalarial activity evaluation, **New J. Chem.** 38, 5087-5095 **(2014). *Impact Factor:* 3.277. [Most downloaded article].**

26. Deepak Kumar, Shabana I. Khan, Prija Ponnan, **Diwan S. Rawat*** Synthesis, antimalarial activity, heme binding and docking studies of 4-aminoquinoline-pyrimidine based molecular hybrids, **RSC Adv** 4, 63655 – 63669 **(2014) *Impact Factor:* 2.936.**

27. Deepak Kumar, Beena, Garima Khare, Saqib Kidwai, Anil K. Tyagi, Ramandeep Singh, **Diwan S Rawat*** Synthesis of novel 1,2,3-triazole derivatives of isoniazid and their *in vitro* and *in vivo* antimycobacterial activity evaluation, **Eur. J. Med Chem.** 81, 301 - 313 **(2014). *Impact Factor:* 5.572.**

28. Beena, K. Kranthi Raj, Shadab Miyan Siddiqui, D. Ramachandran, Amir Azam, **Diwan S. Rawat,*** Metronidazole-Triazole Hybrids as *Entamoeba histolytica* Thioredoxin Reductase Inhibitors and their *In Vitro* Antiamoebic Activity Evaluation. **Chem. Med. Chem.** 9, 2439 - 2444 **(2014). Impact Factor: 4.816.**

29. Sunny Manohar, Mohit Tripathi, **Diwan S Rawat*,** 4-Aminoquinoline based molecular hybrids as antimalarials: An Overview, **Curr. Top. Med. Chem.** 14, 1706 - 1733 (**2014**). ***Impact Factor:* 3.885 (Invited Article)**.

30. Amit Anthwal, Kundan Singh, M.S.M. Rawat, Amit K. Tyagi, Bharat B. Aggarwal, **Diwan S. Rawat*** C5-curcuminoid-dithiocarbamate based molecular hybrids: Synthesis, anti-inflammatory and anti-cancer activity evaluation. **RSC Adv** 4, 28756 - 28764 (**2014**). ***Impact Factor:* 3.11.**

31. Amit Anthwal, U. Chinna Rajesh, M. S. M. Rawat, Bhavana Kushwaha, Jagdamba P Maikhuri, Vishnu L. Sharma, Gopal Gupta, **Diwan S. Rawat*** Novel metronidazole-chalcone conjugates with potential to counter drug resistance in *Trichomonas vaginalis,* **Eur. J. Med. Chem.** 79, 89 - 94 **(2014). *Impact Factor:* 5.572.**

32. Amit Anthwal, Bandana Thakur, M. S. M. Rawat, **Diwan S. Rawat**, Amit K. Tyagi, Bharat B. Aggarwal, Synthesis, characterization and *in vitro* anticancer activity of C-5 curcumin analogues with potential to inhibit TNF-α-induced NF-κB activation, **BioMed. Res. Int. http://dx.doi.org/10.1155/2014/ 524161 (2014). *Impact Factor:* 2.88.**

33. Anuj Thakur, Sunny Manohar, Christian E. Vélez Gerena, Beatriz Zayas, Vineet Kumar, Sanjay V. Malhotra, **Diwan S Rawat*,** Novel 3,5-bis(arylidiene)-4-piperidone based monocarbonylanalogs

of curcumin: Anticancer activity evaluation and mode of action study, **Med. Chem. Commun.** 5, 576 - 586 **(2014), *Impact Factor:* 2.722.**

34. Anuj Thakur, Shabana I. Khan, **Diwan S. Rawat***, Synthesis of piperazine tethered 4-aminoquinoline-pyrimidine hybrids as potent antimalarial agents. **RSC Adv.** 4, 20729 - 20736 (**2014**). ***Impact Factor:* 3.11.**

35. Beena, Deepak Kumar, Widuranga Kumbukgolla, Sampath Jayaweera, MaiAnn Bailey, Torey Alling, Juliane Ollinger, Tanya Parish, **Diwan S Rawat***, Antibacterial activity of adamantyl substituted cyclohexane diamine derivatives against methicillin resistant *Staphylococcus aureus* and *Mycobacterium tuberculosis*, **RSC Adv.** 4, 11962 - 11966 **(2014). *Impact Factor:* 3.11.**

36. U. Chinna Rajesh, Archana Gupta, **Diwan S. Rawat*,** Approaches to the total synthesis of natural quinolizidine alkaloid (+)-epiquinamide and its isomers: An overview, **Curr. Org. Synth.** 11, 627 – 646 (**2014**). ***Impact Factor:* 2.778**.

37. Deepak Kumar, K. Kranthi Raj, Sanjay V. Malhotra, **Diwan S Rawat*** Synthesis and anticancer activity evaluation of resveratrol-chalcone conjugate. **Med. Chem. Commun**. 5, 528 - 535 **(2014). *Impact Factor:* 2.722**.

38. Sunny Manohar, Antonella Pepe, Christian E. Vélez Gerena, Beatriz Zayas, Sanjay V. Malhotra and **Diwan S Rawat*** Anticancer activity of 4-aminoquinoline-triazine based molecular hybrids, **RSC Adv.** 4, 7062 - 7067 **(2014). *Impact Factor:* 3.11.**

39. K. Arya, R. Tomar, **Diwan S Rawat**, Greener synthesis and photo-antiproliferative activity of novel fluorinated benzothiazolo[2, 3-b]quinazolines. **Med. Chem. Res.** 23, 896 - 904 **(2014). *Impact Factor:* 1.621.**

40. **Diwan S Rawat*,** Ram Singh, Plant derived secondary metabolites as anti-cancer agents. **Anti-Cancer Agents-Med. Chem.** *13*, 1551 (**2013**) **Editorial, Impact Factor: 3.14.**

41. Anuj Thakur, Mohit Tripathi, U. Chinna Rajesh and **Diwan S Rawat**,* Ethylenediammonium-diformate (EDDF) in PEG_{600}: An efficient ambiphilic novel catalytic system for the one-pot synthesis of *4H*-pyrans *via* Knoevenagel condensation. **RSC Adv.** 3, 18142 – 18148 (**2013**). ***Impact Factor:* 3.11.**

42. Sunny Manohar, Shabana I. Khan, Shamseer K. Kandi, Kranthi Raj, Guojing Sun , Xiaochuan Yang, Angie D. Calderon Molina, Nanting Ni, Binghe Wang, **Diwan S Rawat*,** Synthesis and cytotoxic potential of new monocarbonyl analogues of Curcumin. **Bioorg. Med. Chem. Lett.** 23, 112-116 *(***2013***). ***Impact Factor:* 2.65.**

43. Beena, **Diwan S. Rawat*** "Antituberculosis drug research: A critical overview" **Med. Res. Rev.** 33, 693–764 **(2013)**, ***Impact Factor:* 12.11 *(*ranked #1 among the medicinal chemistry journals).**

44. Sunny Manohar, Shabana I. Khan, **Diwan S. Rawat***, 4-Aminoquinoline-triazine based hybrids with improved *in-vitro* antimalarial activity against CQ-sensitive and CQ-resistant strains of *P. falciparum.* **Chem. Biol. Drug Des. *81,*** 625-630 **(2013). *Impact Factor:* 2.802.**

45. Beena, Deepak Kumar, **Diwan S Rawat*** Synthesis and antioxidant activity of thymol and carvacrol based Schiff bases, **Bioorg. Med. Chem. Lett. 23,** 641-645 (**2013**). ***Impact Factor:* 2.65.**

46. Deepak Kumar, K. Kranthi Raj, MaiAnn Bailey, Torey Alling, Tanya Parish, **Diwan S Rawat*** Antimycobacterial activity evaluation and time-kill kinetic and 3D QSAR study of C-(3-aminomethyl-cyclohexyl)-methylamine derivatives, **Bioorg. Med. Chem. Lett.** 23, 1365-1369 (**2013**) ***Impact Factor:* 2.65.**

47. Sunny Manohar, U. Chinna Rajesh, Shabana I. Khan, Babu L. Tekwani, **Diwan S. Rawat***, Novel 4-aminoquinoline-pyrimidine based hybrids with improved *in vitro* and *in vivo* antimalarial activity, **ACS Med. Chem. Lett.** 3, 555-559 (**2012**). **Impact factor: 3.975.**

48. Kapil Arya, U. Chinna Rajesh, **Diwan S. Rawat*** Proline confined FAU zeolite: Hybrid heterogeneous catalyst for one pot synthesis of spiroheterocycles via mannich type reaction. **Green Chemistry,** 14, 3344-3351 **(2012)**, **Impact factor: 9.405.**

49. Seema Joshi, Gopal S. Bisht, **Diwan S. Rawat**, Santosh Pasha, Comparative mode of action of novel hybrid peptide CS-1a and its rearranged amphipathic analog CS-2a**, FEBS Journal**, **279**, 3776 - 3790 (**2012**), **Impact factor: 4.25.**

50. Seema Joshi, Rikeshwer P. Dewangan, **Diwan S. Rawat** and Santosh Pasha**,** Synthesis, antibacterial activity and mode of action of novel linoleic acid-dipeptide-spermidine conjugates**, Org. Biomol. Chem.** *10*, 8326-8335 **(2012). Impact factor: 3.696.**

51. K. Arya, **Diwan S. Rawat**, A. Dandia, H. Sasai "Zeolite supported Bronsted-acid ionic liquids: an eco approach for synthesis of spiro[indole-pyrido[3,2-e]thiazine] in water under ultrasonication" **Green Chemistry** 14, 1956-1963 **(2012)**, **Impact factor: 9.405.**

52. Nitin Kumar, Ram Singh, **Diwan S. Rawat*** "Tetraoxanes: Synthetic and medicinal chemistry perspective**" Med. Res. Rev.** *32,* 581-610 **(2012). Impact Factor: 12.11** ***(*ranked #1 among the medicinal chemistry journals**).

53. N. Kumar, S. I. Khan, H. Atheaya, R. Mamgain, **Diwan S. Rawat*** "Synthesis and *in vitro* antimalarial activity of tetraoxane-amine/amide conjugates" **Eur. J. Med. Chem.** *46*, 2816-2827 **(2011). *Impact Factor:* 5.572. *[Listed in Malria world web site; http://www.malariaworld.org/article/synthesis-and-vitro-antimalarial-activity-tetraoxane-amineamide-conjugates?utm].***

54. N. Kumar, M. Sharma, **Diwan S. Rawat*, "**Medicinal chemistry prospective of trioxanes and tetraoxanes" **Curr. Med. Chem**. *18,* 3889-3928 (**2011**) ***Impact Factor:* 4.862** [***Listed in Global Medical Discovery web site as a lead articlel].***

55. S. Manohar, S. I. Khan, **Diwan S. Rawat*** "Synthesis of 4-aminoquinoline-1,2,3-triazole and 4-aminoquinoline-1,2,3-triazole-1,3,5-triazine hybrids as potential antimalarial agents" **Chem. Biol. Drug Des.** *78*, 124-136 **(2011)**. ***Impact Factor:* 2.802.**

56. M. Sharma, P. Joshi, N. Kumar, S. Joshi, R. K. Rohilla, N. Roy, **Diwan S. Rawat***, **"**Synthesis, antimicrobial activity and structure activity relationship study of *N,N*-dibenzyl-cyclohexane-1,2-diamine derivatives**"** **Eur. J. Med. Chem.** 46, 480-487 **(2011). *Impact Factor:* 5.572.** [***Listed in LeadDiscovery web site; Listed in ChemInform Vol 42, Issue 21, May 4, 2011]***.

57. S. Joshi, G. S. Bisht, **Diwan S. Rawat**, A. Kumar, R. Kumar, S. Pasha "Interaction studies of novel cell selective antimicrobial peptides with model membranes and *E. coli* ATCC11775" **BBA-Biomembranes** 1798, 1864-1875 (**2010**). ***Impact Factor:*** **4.647.**

58. D. Kumar, S. Joshi, R. K Rohilla, N. Roy, **Diwan S. Rawat*** "Synthesis and antibacterial activity of benzyl-[3 (benzylamino-methyl)-cyclohexylmethyl]-amine derivatives" **Bioorg. Med. Chem. Lett.** *20,* 893-895 **(2010). *Impact Factor:* 2.65.** [***Listed in LeadDiscovery web site***]. ***Citations: Over 5.***

59. S. Manohar, S. I. Khan, **Diwan S. Rawat*** "Synthesis and antimalarial activity and cytotoxicity of 4-aminoquinoline-triazine conjugates" **Bioorg. Med. Chem. Lett.** *20,* 322-325 (**2010**). ***Impact Factor:*** **2.65.** [***Listed in LeadDiscovery web site, and Malria world web site http://www.malaria-world.org/taxonomy/term/954/0]***. **MOST CITED PAPER. This paper as been selected as top 0.6% articles published from 2010-2014 by the web of science (ranked 382 out of 62651).**

60. N. Kumar, S. I. Khan, Beena, G. Rajalakshmi, P. Kumaradhas, **Diwan S. Rawat*** "Synthesis, antimalarial activity and cytotoxicity of substituted 3,6-diphenyl-[1,2,4,5]tetraoxanes**"** **Bioorg. Med. Chem.** *17,* 5632-5638 **(2009)**. ***Impact Factor:*** **3.108.**

61. N. Kumar, S. I. Khan, M. Sharma, H. Aethaya, **Diwan S. Rawat*** "Iodine-catalyzed one-pot synthesis and antimalarial activity evaluation of symmetrically and asymmetrically substituted 3,6-diphenyl [1,2,4,5]tetraoxanes" **Bioorg. Med. Chem. Lett.** *19,* 1675-1677 **(2009). *Impact Factor:*** **2.65.** [***Listed in LeadDiscovery web site]. [Listed in ChemInform Vol 40, Issue 31, August 4, 2009].***

62. N. Agarwal, R. Kumar, P. Dureja, **Diwan S. Rawat*** "Schiffs bases as potential fungicides and nitrification inhibitors" **J. Agric. Food Chem**. *57,* 8520-8525 (**2009**). ***Impact Factor:*** **3.412.**

63. Beena, N. Kumar, R. K. Rohila, N. Roy, **D. S. Rawat*** "Synthesis and antibacterial activity evaluation of metronidazole-triazole conjugates" **Bioorg. Med. Chem. Lett.** *19,* 1396-1398 (**2009**). ***Impact Factor:*** **2.65.**

64. **Diwan S. Rawat**, A. J. Krzysiak, R. A. Gibbs. "Synthesis and biochemical evaluation of 3,7-disubstituted farnesyl diphosphate analogs." **J. Org. Chem**. *73*, 1881-1887 **(2008). *Impact Factor:*** **4.805.**

65. H. Atheaya, S. I. Khan, R. Mamgain, **Diwan S. Rawat***, "Synthesis, thermal stability, antimalarial activity of symmetrically and asymmetrically substituted tetraoxanes." **Bioorg. Med. Chem. Lett**. *18*, 1446-1449 (**2008**). ***Impact Factor:*** **2.65.**

66. **Diwan S. Rawat***, Recent advances in cancer chemotherapy-part II, **Anti-Cancer Agents-Med. Chem.** *8,* 240 (**2008**) Editorial, **Impact Factor: 3.14.**

67. R. Singh, M. Sharma, P. Joshi, **Diwan S. Rawat*** "Clinical status of anti-cancer agents derived from marine sources" **Anti-Cancer Agents-Med. Chem.** *8,* 603-617 (**2008**) [***Editorial Board Member Issue***]. **Impact Factor: 3.14.**

68. J. Krzysiak, **Diwan S. Rawat**, S. Scott, J. Pais, M. Harrison, C. Fierke, R. A. Gibbs, "Combinatorial modulation of protein prenylation" **ACS Chemical Biology** 2, 385-389 (**2007**). ***Impact Factor:* 4.952.**

69. G. S. Bisht, **Diwan S. Rawat**, A. Kumar, R. Kumar, S. Pasha**.** Antimicrobial activity of rationally designed amino terminal modified peptides**, Bioorg. Med. Chem. Lett.** *17,* 4343-4346 (**2007**)**.** ***Impact Factor:* 2.65.**

70. M. C. Joshi, G. S. Bisht, **Diwan S. Rawat*** "Syntheses and antibacterial activity of phendioxy substituted cyclic enediynes." **Bioorg. Med. Chem. Lett**. *17,* 3226-3230 (**2007**). ***Impact Factor:* 2.65.**

71. **Diwan S. Rawat*,** M. C. Joshi, P. Joshi, H. Aethaya. Marine peptides and related compounds in clinical trials **Anti-Cancer Agents-Med. Chem.** *6,* 33-40 (**2006**). **Impact Factor: 3.14.**

72. **Diwan S. Rawat**, J. M. Zaleski, "Geometric and electronic control of thermal Bergman cyclization" **Synlett** 393-421 (**2004**). ***Impact Factor:* 2.763.**

73. M. J. McFarland, A. C. Porter, F. R. Rakhshan, **Diwan S. Rawat**, R. A. Gibbs, E. L. Barker, "A Role for caveolae/lipid rafts in the uptake and recycling of the endogenous cannabinoid anandamide". **J. Biol. Chem.** *279,* 41991-41997 (**2004**). ***Impact Factor:* 5.581.**

74. P. J. Benites, R. C. Holmberg, **Diwan S. Rawat**, B. J. Kraft, L. J. Klein, D. G. Peters, H. H. Thorp, J. M. Zaleski "Metal-ligand charge-transfer-promoted photoelectronic Bergman cyclization of copper metalloenediynes: Photochemical DNA cleavage via C-4′ H-atom abstraction." **J. Am. Chem. Soc**. 125, 6434-6446 (**2003**). ***Impact Factor:* 14.357.**

75. **Diwan S. Rawat**, R. A. Gibbs, "Synthesis of 7-substituted farnesyl diphosphate analogues". **Org. Letts.** 4, 3027-3030 (**2002**). ***Impact Factor:* 6.492.**

76. **Diwan S. Rawat**, J. M. Zaleski, "Mg^{2+} -Induced thermal enediyne cyclization at ambient temperature". **J. Am. Chem. Soc**. 123, 9675-9676 (**2001**). ***Impact Factor:* 14.357.**

77. **Diwan S. Rawat**, P. J. Benites, C. Incarvito, A. L. Rheingold, J. M. Zaleski, "The contribution of ligand flexibility to metal center geometry modulated thermal cyclization of conjugated pyridine and quinoline metalloenediynes of Copper(I) and Copper(II)". **Inorg. Chem.** 40, 1846-1857 (**2001**). ***Impact Factor:* 4.70.**

78. P. J. Benites*, **Diwan S. Rawat***, J. M. Zaleski, "Metalloenediynes: Ligand field control of thermal Bergman cyclization reactions". **J. Am. Chem. Soc**. 122, 7208-7217 (**2000**). **[*Authors contributed equally].** ***Impact Factor:* 14.357.**

79. **Diwan S. Rawat**, J. M. Zaleski, "Syntheses and thermal reactivities of symmetric and asymmetric enediynes: Steric control of Bergman cyclization reactions". **Chem. Commun**. 2493-2494 (**2000**). ***Impact Factor:* 6.29. *[Listed in ChemInform Vol 32, Issue 15, April 10, 2001].***

80. **Diwan S. Rawat**, J. M. Zaleski, "Geometric and electronic control of thermal Bergman cyclization" **Synlett** 393-421 (**2004**). ***Impact Factor:*** **2.763.**

81. M. J. McFarland, A. C. Porter, F. R. Rakhshan, **Diwan S. Rawat**, R. A. Gibbs, E. L. Barker, "A Role for caveolae/lipid rafts in the uptake and recycling of the endogenous cannabinoid anandamide". **J. Biol. Chem.** *279*, 41991-41997 (**2004**). ***Impact Factor:*** **5.581.**

82. P. J. Benites, R. C. Holmberg, **Diwan S. Rawat**, B. J. Kraft, L. J. Klein, D. G. Peters, H. H. Thorp, J. M. Zaleski "Metal-ligand charge-transfer-promoted photoelectronic Bergman cyclization of copper metalloenediynes: Photochemical DNA cleavage via C-4′ H-atom abstraction." **J. Am. Chem. Soc**. 125, 6434-6446 (**2003**). ***Impact Factor:*** **14.357.**

83. **Diwan S. Rawat**, R. A. Gibbs, "Synthesis of 7-substituted farnesyl diphosphate analogues". **Org. Letts.** 4, 3027-3030 (**2002**). ***Impact Factor:*** **6.492.**

84. **Diwan S. Rawat**, J. M. Zaleski, "A convenient method for the synthesis of 1,8-bis(pyridin-3-oxy)oct-4-ene-2,6-diyne". **Synth. Commun**. 32, 1489-1494 (**2002**). ***Impact Factor:*** **1.05**.

85. **Diwan S. Rawat**, J. M. Zaleski, "Mg^{2+} -Induced thermal enediyne cyclization at ambient temperature". **J. Am. Chem. Soc**. 123, 9675-9676 (**2001**). ***Impact Factor:*** **14.357**

86. **Diwan S. Rawat**, P. J. Benites, C. Incarvito, A. L. Rheingold, J. M. Zaleski, "The contribution of ligand flexibility to metal center geometry modulated thermal cyclization of conjugated pyridine and quinoline metalloenediynes of Copper(I) and Copper(II)". **Inorg. Chem.** 40, 1846-1857 (**2001**). ***Impact Factor:*** **4.70.**

87. P. J. Benites*, **Diwan S. Rawat***, J. M. Zaleski, "Metalloenediynes: Ligand field control of thermal Bergman cyclization reactions". **J. Am. Chem. Soc**. 122, 7208-7217 (**2000**). **[*Authors contributed equally]. *Impact Factor:*** **14.357.**

88. **Diwan S. Rawat**, J. M. Zaleski, "Syntheses and thermal reactivities of symmetric and asymmetric enediynes: Steric control of Bergman cyclization reactions". **Chem. Commun**. 2493-2494 (**2000**). ***Impact Factor:*** **6.29.** ***[Listed in ChemInform Vol 32, Issue 15, April 10, 2001].***

CATALYSIS (Selected)

1. Kamlesh Kumar, Penny Joshi, **Diwan S. Rawat*** (±)-Camphor sulfonic acid assisted IBX based oxidation of 1° and 2° alcohols, **Tetrahedron Letts. https://doi.org/10.1016/j.tetlet.2021.153298 (2021), *Impact Factor:* 2.415.**

2. Manish Rawat, **Diwan S. Rawat*** CuO@NiO nanocomposite catalyzed synthesis of biologically active indenoisoquinoline derivatives, **ACS Sustainable Chem. Engg. 8, 13701–13712 (2020). Impact Factor: 8.198.**

3. Gunjan Purohit, Aneeta Kharkwal, **Diwan S. Rawat*,** CuIn-ethylxanthate a "versatile precursor" for photosensitization of graphene-quantum dots and nanocatalyzed synthesis of

imidazopyridines with ideal green chemistry metrics. **Asian J Org. Chem. https://doi.org/10.1002/ajoc.202000460 (2020). Impact Factor: 3.275.**

4. Upasana Gulati, Srishti Rawat, **Diwan S. Rawat*,**Transition-metal-free, one-pot, tandem C1-indolylation and N-alkylation of tetrahydroisoquinoline in biodegradable PEG Solvent, **Tetrahedral Lett.** https://doi.org/10.1016/j.tetlet.2020.152304 **(2020). Impact Factor: 2.379. (Cover page).**

5. Upasana Gulati, U. Chinna Rajesh, **Diwan S. Rawat*,** JM Zaleski, MgO@Ag hybrid nanocatalysts for activation of CO_2 at ambient pressure to afford esters and lactones, **Green Chem. 22**, 3170-3177 **(2020). Impact Factor: 9.48. Synfacts, 2020, 16(08), 0955**

6. Gunjan Purohit, Aneeta Kharkwal **Diwan S. Rawat*,** CuIn-ethylxanthate a "versatile precursor" for photosensitization of graphene-quantum dots and nanocatalyzed synthesis of imidazopyridines with ideal green chemistry metrics. **ACS Sustainable Chem. Engg. 14, 5544–5557. (2020). Impact Factor: 8.198.**

7. Upasana Gulati, U. Chinna Rajesh, **Diwan S. Rawat***, Renewable RGO@CuI nanocomposites for redox triggered single electron transfer (SET) reaction under aerobic and anaerobic conditions, **ChemCatChem, 12, 3728 – 3736 (2020). Impact Factor: 4.83.**

8. Upasana Gulati, U. Chinna Rajesh, **Diwan S. Rawat*,** Magnetically recoverable Ni@CuI hybrid nanocatalysts to afford spiropyrroline heterocycles from ketoximes and alkenes, **Asian J. Org. Chem. 9, 1059 – 1064 (2020). Impact Factor: 3.275.**

9. Gunjan Purohit, **Diwan S. Rawat***, Oliver Reiser, Palladium nanocatalysts encapsultated on porous silica@magnetic carbon-coated cobalt nanoparticles for sustainable hydrogenations of nitroarenes, alkenes and alkynes, **ChemCatChem, 12, 569 – 575 (2020). Impact Factor: 4.83.**

10. Kamlesh Kumar, Prashant Kumar, Penny Joshi, **Diwan S Rawat***, IBX-TfOH mediated oxidation of alcohols to aldehydes and ketones under mild reaction conditions, **Tetrahedron Letters, doi.org/10.1016/j.tetlet.2020.151749 (2020). *Impact Factor:* 2.379. Featured in Org. Chem. Highlights: Oxidation (https://www.organic-chemistry.org/Highlights/2021/25January.shtm**

11. Gunjan Purohit, **Diwan S. Rawat*,** Hierarchically porous mixed oxide sheet like copper-aluminium (CuAl-MO) nanocatalyzed synthesis of 2-alkynyl-pyrrolidines/piperidines and their ideal green chemistry metrics. **ACS Sustainable Chem. Engg.** 7, 19235–19245 **(2019). Impact Factor: 8.198.**

12. Girjesh Kumar Verma, Manish Rawat, **Diwan S. Rawat*** [Cp*Co(CO)I_2] Catalysed C—C bond formation and [2+2+2] annulation of 1,3-dicarbonyls to terminal alkynes, **Eur. J. Org. Chem. 4101–4104 (2019). Impact Factor: 3.029.**

13. Manish Rawat, **Diwan S Rawat**, CuI@Al_2O_3 catalyzed synthesis of 2-aminonicotinonitriles derivatives under solvent free condition, **Tetrahedron Lett. 60, 1153 – 1157 (2019), [Highlighted in the Cover Page], *Impact Factor:* 2.379.**

14. Upasana Gulati, U. Chinna Rajesh, and **Diwan S. Rawat*** RGO@CuO Nanocomposites From A Renewable Copper Mineral Precursor: A Green Approach For Decarboxylative C(sp^3)-H Activation Of Proline Amino Acid To Afford Value-Added Synthons. **ACS Sustainable Chem. Eng.** 6, 10039−10051 **(2018). Impact Factor: 8.198.**

15. Manish Rawat and **Diwan S. Rawat*** Copper oxide nanoparticle catalysed synthesis of imidazo[1,2-a]pyrimidine derivatives, their optical properties and selective fluorescent sensor towards zinc ions. **Tetrahedron Lett.** 59, 2341 – 2346 **(2018). [Highlighted in the Cover Page], *Impact Factor:* 2.379. [Highlighted by Synfacts 2018; 14(08): 0883]**.

16. G. Purohit, U. Chinna Rajesh, **Diwan S. Rawat***, Hierarchically porous sphere-like copper oxide (HS-CuO) nanocatalyzed synthesis of benzofuran isomers with anomalous selectivity and their ideal green chemistry metrics. **ACS Sustainable Chem. Eng.** 5, 6466 – 6477 **(2017). Impact Factor: 8.198.**

17. U. Gulati, U. Chinna Rajesh, N. Bunekar, **Diwan S. Rawat*** Decarboxylative coupling strategy to afford N-heterocycles driven by silica nanosphere embedded copper oxide (Cu@SiO_2-NS). **ACS Sustainable Chem. Eng.** 5, 4672 – 4682 **(2017). Impact Factor: 8.108.**

18. G. Purohit, U. Chinna Rajesh, **Diwan S. Rawat***, Hierarchically porous sphere-like copper oxide (HS-CuO) nanocatalyzed synthesis of benzofuran isomers with anomalous selectivity and their ideal green chemistry metrics. **ACS Sustainable Chem. Eng.** 5, 6466 – 6477 **(2017). Impact Factor: 8.918.**

19. P. Linga Reddy, Mohit Tripathi, R. Arundhathi, **Diwan S. Rawat***, Chemoselective hydrazine-mediated transfer hydrogenation of nitroarenes by Co_3O_4 nanoparticles immobilized on a Al/Si-mixed oxide support, **Chemistry - An Asian Journal**, 12, 785 – 791 (**2017**). **Impact Factor: 4.592. [Highlighted by Synfacts 2017; 13(07): 0766]**.

20. U. Gulati, S. Rawat, U. Chinna Rajesh, **Diwan S. Rawat*** CuO@Fe_2O_3 catalyzed C1-alkynylation of tetrahydroisoquinolines (THIQs) *via* A3 coupling and its decarboxylative strategies, **New J. Chem.** 41, 8341-8346 **(2017)**. **Impact Factor: 3.269.**

21. Archana Gupta, Rohit Kholiya, **Diwan S. Rawat,*** Lewis acid mediated tetrahydrofuran synthesis *via* [3+2] cycloaddition reaction of 2-arylcyclopropyl ketones with aldehydes, **Asian J. Org. Chem.** 6, 993 – 997 **(2017). Impact Factor: 3.275.**

22. P. Linga Reddy, R. Arundhathi, Mohit Tripathi, Prashant Chauhan, Ning Yan, **Diwan S. Rawat*** Solvent free oxidative synthesis of 2-substituted benzimidazoles by immobilized cobalt oxide nanoparticles on alumina/silica support, **ChemSelect**, 2, 3889 – 3895 **(2017). Impact Factor: 1.505.**

23. U. Chinna Rajesh, Upasana Gulati and **Diwan S. Rawat*** Cu(II)-Hydromagnesite catalyzed synthesis of tetrasubstituted propargylamines and pyrrolo[1,2-a]quinolines *via* KA2, A3 couplings and their decarboxylative versions, **ACS Sustainable Chem. Eng. 4, 3409 – 3419 (2016). Impact Factor: 8.198.**

24. Upasana Gulati, U. Chinna Rajesh and **Diwan S. Rawat***, CuO/Fe_2O_3 NPs: Robust and magnetically recoverable nanocatalyst for decarboxylative A3 and KA2 coupling reactions under neat

conditions, **Tetrahedron Letters, 57, 4468 – 4472 (2016) [Highlighted in the Cover Page] [Synfacts 2016, 12(12), 1314]. *Impact Factor:* 2.379.**

25. P. Linga Reddy, R. Arundhathi, Mohit Tripathi and **Diwan S. Rawat*** CuI nanoparticles mediated expeditious synthesis of 2-substituted benzimidazoles using molecular oxygen as oxidant, **RSC Adv, 6, 53596 - 53601 (2016). *Impact Factor:* 3.11.**

26. U. Chinna Rajesh, V. Satya Pavan, **Diwan S. Rawat***, Copper supported hematite NPs as magnetically recoverable nanocatalysts for one-pot synthesis of aminioindolizines and pyrrolo[1,2-a]quinolines, **RSC Adv, 6, 2935 – 2943 (2016). *Impact Factor:* 3.11. Highlighted in SYNFACTS 2016, 12(4), 0427.**

27. U. Chinna Rajesh, V. Satya Pavan, **Diwan S. Rawat***, Hydromagnesite rectangular thin sheets as efficient heterogeneous catalysts for the synthesis of novel 3-substituted indoles *via* Yonemitsu-type condensation in water, **ACS Sustainable Chem. Eng.** 3, 1536 – 1543 **(2015). Impact Factor: 8.198.**

28. P. Linga Reddy, R. Arundhathi, **Diwan S. Rawat*** Cu(0)@Al_2O_3/SiO_2 NPs: Efficient reusable catalyst for the cross coupling reactions of aryl chlorides with amines and anilines, **RSC Adv**, 5, 92121-92127 (**2015**). *Impact Factor:* **3.11. Highlighted in SYNFACTS 2016, 12(2), 0214.**

29. Anuj Thakur, P. Linga Reddy, Mohit Tripathi, **Diwan S. Rawat***, Facile construction of 3-indolochromenes and 3-indoloxanthenes via EDDF catalyzed one-pot three component reactions. **New J. Chem.** 39, 6253 – 6260 **(2015).** *Impact Factor:* **3.277.**

30. U. Chinna Rajesh, Gunjan Purohit, **Diwan S. Rawat*** Facile one-pot synthesis of N-heterocycles using CuI/CSP composites as efficient recyclable nanocatalysts with anomalous selectivity under green conditions, **ACS Sustainable Chem. Eng.** 3, 2397 – 2404 **(2015). Impact Factor: 8.198.**

31. U. Chinna Rajesh, Rohit Kholiya, Anuj Thakur, **Diwan S. Rawat*,** [TBA][Gly] ionic liquid promoted multi-component synthesis of 3-substituted indoles and indolyl-4*H*-chromenes" **Tetrahedron Lett.** 56, 1790 - 1793 **(2015) *Impact Factor:* 2.379.**

32. U. Chinna Rajesh, Jinfeng Wang, Stuart Prescott, Takuya Tsuzuki, **Diwan S. Rawat***, RGO/ZnO nanocomposite: An efficient sustainable heterogeneous amphiphilic catalyst for the synthesis of 3-substituted indoles in water. **ACS Sustainable Chem. Eng. 3, 9 – 18 (2015) [Highlighted in the Cover Page]. Impact Factor: 8.198.**

33. U. Chinna Rajesh, Divya, **Diwan S. Rawat*,** Functionalized superparamagnetic Fe_3O_4 as an efficient quasi-homogeneous catalyst for multi-component reactions, **RSC Adv** 4, 41323-41330. **(2014).** *Impact Factor:* **3.11.**

34. U. Chinna Rajesh, Rohit Kholiya, V. Satya Pavan, **Diwan S. Rawat*** Catalyst free, ethylene glycol promoted one-pot three component synthesis of 3-amino alkylated indoles *via* Mannich-type reaction, **Tetrahedron Letters**, 55, 2977 - 2981 **(2014). *Impact Factor:* 2.379.**

35. U. Chinna Rajesh, Sunny Manohar, **Diwan S Rawat***, Hydromagnesite as an efficient novel recyclable heterogeneous solid base catalyst for the synthesis of flavanones, flavanols and 1,4-dihydropyridines in water. **Adv. Synth. Catal.** 355, 3170 - 3178 **(2013). *Impact Factor:* 6.453; *Listed in*** ChemInform 04/2014; 45(16).

PATENTS:

1. **Diwan S Rawat*,** Binghe Wang, Nitin Kumar, Sunny Manohar, Xiaochuan Yang, Guojing Sun, Curcumin analogues and methods of making and using thereof. Patent No: **US 9884825B2 (February 6, 2018); PCT/US2013/053216 (2014).**

2. **Diwan S Rawat***, Sunny Manohar, Ummadisetty Chinna Rajesh, Deepak Kumar, Anuj Thakur, Mohit Tripathi, Panyala Linga Reddy, Shamseer Kulangara Kandi, Satyapavan Vardhineni, Kwang-Soo, and Chun-Hyung Kim, Amino-quinoline based hybrids and uses thereof**. Pub no: US 2017/0209441 A1 (July 27, 2017); EP Application No. 13758678, filed 10/7/2014; PCT/US2013/28329, filed 2/28/2013; WO2013134047 A3, PCT/US2013/028329 (2013).**

3. **Diwan S Rawat*,** Sunny Manohar, U. Chinna Rajesh, Amino-quinoline based hybrids and uses thereof, **IN 283657 (2017).**

4. **Diwan S. Rawat,*** Mukul Sharma, Nilanjan Roy, Rajesh K. Rohilla, Preparation of Substituted cyclohexane-1,2-diamine derivatives and related compounds as antimicrobial agents. **IN 2008DE01462 A 20120914 (2012).**

5. **Diwan S. Rawat,*** Nitin Kumar, Mukul Sharma, Symmetrically and asymmetrically substituted tetraoxane compounds, methods of preparation and uses thereof. **IN 2008DE02103 A 20100423 (2010).**

6. Jeffrey M. Zaleski; **Diwan Singh Rawat,** Enediyne compounds and methods related thereto. **US Patent No: US 7,211,603 B1 (2007).**

7. Jeffrey M. Zaleski; **Diwan Singh Rawat,** Compounds, compositions, and methods for photodynamic therapy. **US Patent No: US 6,828,439 B1 (2004).**

BOOK/BOOK CHAPTERS:

- **Bioactive Marine Natural Products**: Dewan S. Bhakuni and **Diwan S. Rawat,** ISBN: 1-4020-3472-5 (**2005**), **Publishers: Springer, New York, USA, and Anamaya Publisher, New Delhi, India. Citations: Over 450.**

- Book was forwarded by **Sir Derek Barton,** Noble Laureate.

- Book was reviewed by ***Journal of American Chemical Society***, and comments were published in ***J. Am. Chem. Soc.*** *128*, 4494 (**2006**).

- **Book chapter entitled** "Six-Membered Rings With 1,2,4-Oxygen or Sulfur Atoms" Comprehensive Heterocyclic Chemistry IV; B978-0-12-818655-8.00095-0 (**(Wiley). Authros:** *Diwan S.Rawat,* Girjesh Verma* **(2021).**

- Book chapter entitled **"Organometallic and Organosulphur Compounds"** e-book on "Organic Chemistry" published by **National Science Digital Library,** [http://nsdl.niscair.res.in/dspace/handle/123456789/179/items-by-author?author=Rawat%2C+Diwan+S], **2008.**

- Book chapter entitled **"Synthetic and Clinical Status of Marine Derived Anticancer Peptides"** in a book series Compendium of Bioactive Natural Products, Volume 7, Chapter 1, **M/S. Studium Press LLC , USA; Authros:** *Diwan S.Rawat,* Ram Singh, Nitin Kumar, Mukul Sharma, and M. S. M. Rawat* P. 1-28 **(2010).**

- Book chapter entitled "Marine Natural Alkaloids as Anti-Cancer Agents" on ***Opportunity, Challenge and Scope of Natural Products in Medicinal Chemistry'*** Authors: Deepak Kumar, and **Diwan S Rawat*,** PP 213-268 (**2011**); ISBN: 978-81-308-0448-4 (http://www.trnres.com/ebookcontents.php?id=95).

- Reviewed a book entitled **"Natural Products Chemistry"** to be published by Elsevier (**June 2007**).

- Reviewed a book entitled **"Organic Reaction Mechanism"** to be published by Macmillan India Ltd (**June 2008**).

- **Edited** especial issues of Anti-Cancer Agents in Medicinal Chemistry (*Published by Bentham*).

- Research Paper ***J. Am. Chem. Soc***. *123*, 9675-9676 (**2001**) has been mentioned in the book entitled "Strategic Applications of Named Reactions in Organic Synthesis" Publisher: Elsevier, ISBN: 0-12-429785-4, p 56.

- Developed on youtube lectures on Organic Spectroscopy of students and faculty members (https://www.youtube.com/channel/UCd6J69xYw4dvjbxXOTa62AQ).

PhD SUPERVISED: 25

SUPERVISION OF DOCTORAL THESIS (Under Progress):

- ***Registered PhD students:***, Manish Rawat, Gagandeep Sandhu, Rahul Kumar, Sashikant Tiwari.

RESEARCH ASSOCIATE/RESEARCH SCIENTIST:

- **Dr. Prija Poonan** (DS Kothari Fellow, **2014 – 2018**)
- **Dr. Archana Gupta** (DST Women Scientist, **2014 – Till Date**)
- **Dr Praveen K Verma (DS Kothari Fellow 2015 – 2016)**
- **Dr Girijesh K Verma (DS Kothari Fellow 2015 – Till Date)**
- **Dr Anita Kharakwal (NPDF-DST, June 2017 – Till Date)**
- **Dr. K. Kranthi Raj (2012 – 2013)**
- **Dr Ram Singh** (*Current Address: Assistant Professor, Delhi Technological University, Delhi*).