****Dr. Qazi Naveed Ahmed, PhD**

Principal Scientist, Head Natural Product and Medicinal Chemistry Division,

CSIR-Indian Institute of Integrative Medicine, Canal Road, Jammu-180001, J&K, India.

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Positions held:

Principal Scientist & Head, Natural Products and Medicinal Chemistry (NPMC), CSIR-Indian Institute of Integrative Medicine/Associate Professor in Academy of Scientific and Innovative Research (AcSIR) from 22nd Oct 2017 onwards.

Senior Scientist, Natural Products and Medicinal Chemistry (NPMC), CSIR-Indian Institute of Integrative Medicine/Assistant Professor in Academy of Scientific and Innovative Research (AcSIR) from Oct. 2012 onwards.

Assistant Professor, Higher Education Department 2010-2012.

Awards:

CRSI Bronze Medal (2024).

CNRS-post doc. Fellowship (University of Paris Sud-XI, France) 2008-2009.

CSIR-RA Fellowship 2008.

CSIR-IIIM Best Paper Award 2005.

Area of expertise:

Organic synthesis, medicinal chemistry

In particular applications of functional group-driven synthetic methodologies across glycochemistry, bio-conjugation/bioorthogonal chemistry and late-stage modification of bioactives.

INDEX:

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| **Citations** | **1183** |
| **h-index** | **20** |
| **i10-index** | **29** |

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| **Guided Ph.D Students:** |

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| --- | --- | --- |
| Mr. Anil K. Padala (awarded) | Mr. Satyam Battula (awarded) | Mr. Mohammad Yaqoob Bhat (awarded) |
| Mr. Nagaraju Mupparapu (awarded) | Mr. Narsaiah Battini (awarded) |  |
| Mr. Atul Kumar (awarded) | Mr. Gorav Raina (awarded) |  |
| Mr. Shahnawaz Khan (awarded) | Mr. Javaid Rasool (awarded) |  |
| Mr. Suhail Ahmad Rather (awarded) | Mr. Arif Khan (awarded) |  |

 Current group: Ph.D. Students:

|  |  |  |
| --- | --- | --- |
| Mr. Sajjad Hussain (SRF) | Mr. Junaid Shafi Banday (PA) | Miss Bisma Rasool (SRF) |
| Mr. Feroze Hussain (SRF) | Mr. Tariq Ahmad Dar (JRF) | Miss Zoya Sarwal (PA) |
| Mr. Irshad Ahmad Zargar (SRF) | Miss Bisma Rasool (SRF) | Kabir Hussain (JRF) |
| Miss Norein Sakander (SRF) | Shweta Gadeecha (PA) | Murtaza Ali (JRF) |

Postdoc students:

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| Dr. Sheena Mahajan (SPA) | Dr. Ashiq Hussain Padder (SPA) | Dr. Annah Gupta (WISE) |

**Projects handled (current assessment year):**

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| **S. No**  | **Title of Project**  | **Project Category**  | **Participating Agencies**  | **Your Role as defined**  |
| 1. | (HCP-39)- CSIR Molecules for filing investigational new drug (IND) applications. | CSIR-Mission project | CSIR | **PI** |
| 2. | (HCP-40) - Pan CSIR Cancer Research Program making cancer care affordable empowering Women's health focusing on breast and gynaecological cancer of India Relevance. | CSIR-Mission project  | CSIR | **PI** |
| 3. | (HCP-41) - Antiviral Mission CSIR: Discovery and Pre-Clinical Development of antivirals for COVID-19 and other diseases. | CSIR-Mission project | CSIR | **PI** |
| 4. | Repurposing of antiviral drugs for covid-19 drug (HCP 29) (2020-2021). Completed | R&D | CSIR | **PI** |
| 5. | Medicinal chemistry of natural products for cancer and malaria.  Completed  | (MLP 5006) | CSIR-IIIM, Jammu | **member** |
| 6. | Chemistry of glycoconjugates; new opportunities for basic biology and therapeutics. Completed | (MLP 4016) | CSIR-IIIM Jammu | **PI** |
| 7. | Development of novel synthetic methodologies.  | RC-Approved | CSIR-IIIM Jammu | **PI** |
| 8. | (GAP-3102) - Synthesis of reference standards and in-vitro and in-vivo studies (PK studies) on the metabolites and long-term metabolites. | R&D | **NDTL** | **PI** |
| 9. | (GAP-3113)- Strategic S-P Bond Forming Bio-orthogonal Functionalization Technique: A systematic Analysis, Standardization and Site-Specific Coupling Strategy for Carrier Drugs Conjugates. | R&D | **SERB (DST)** | **PI** |
| 10. | Phytopharma Mission, III | CSIR-Mission Mode project | CSIR | **Nodal PI** |

**Participation in “major programs” and/ or “facility creation” identified at the National level:**

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| **S.No**  | **Title of the Project**  | **Coordinating Agency**  | **Contribution being made by you as representative of your organization\***  |
| 1. | Head of NPMC Division | CSIR | All kinds of administrative jobs related to Department |
| 2. | A CSIR mission program “CSIR Molecules for filing investigational new drug (IND) applications.” | CSIR | IIIM-152 in combination with paclitaxel has moved from Category-2 to Category-1. The combinations works well against drug resistant triple negative breast cancer. There is an unmet need of therapeutics in the area of paclitaxel resistant triple negative breast cancer. |
| 3.  | Synthesis of reference standards and in-vitro and in-vivo studies (PK studies) on the metabolites and long-term metabolites. | NDTL  | Significantly contributed in CSIR-IIIM, by synthesizing and delivering four different secondary metabolites (in gram scale) enlisted in the project to NDTL (National Dope Testing Laboratory). |
| 4. | Strategic S-P Bond Forming Bio-orthogonal Functionalization Technique: A systematic Analysis, Standardization and Site-Specific Coupling Strategy for Carrier Drugs Conjugates. | SERB (DST)  | Successfully developed a new strategic S-P Bond Forming Bio-orthogonal Functionalization Technique. Currently, we also established different one step coupling protocols for the systematic analysis, standardization and application towards developing of alternative site-specific coupling strategies for carrier drugs conjugates. |
| 5. | Antiviral Mission CSIR: Discovery and Pre Clinical Development of antivirals for COVID-19 and other diseases. | CSIR | Contributed to the Antiviral Mission project through development of novel synthetic route for EIDD (an FDA approved life saving drug). |
| 6. | Pan CSIR Cancer Research Program making cancer care affordable empowering Women's health focusing on breast and gynaecological cancer of India Relevance. | CSIR | In the current project, we synthesized different patentable novel analogues of Rucaparib. |
| 7. | Development of novel synthetic methodologies  | RC-approved | Developed novel concept around functional group driven unconventional reactions.  |
| 8. | Repositioning of drugs for Covid-19 CSIR-HQ (HCP00029) Mol bank generation | CSIR-HQ(HCP00029) | Mol bank generation |
| 9. | Phytopharma Mission, III | CSIR-MMP | Successfully drafted SFC & DPR and submitted to HRDG for approval.  |

**Acquisition, operation, and maintenance of “major facilities” of the Institute:**

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| **S.No**  | **Title of the Facility**  | **Your role in brief\***  | **Beneficiaries\***  |
| 1. | Natural Product and Medicinal Chemistry Division | Head of the department | Natural Products & Medicinal Chemistry Division and other associated labs |
| 2. | Protein ligation  | Principal investigator for developing a strategic S-P Bond Forming Bio-orthogonal Functionalization Technique for Site-Specific Coupling Strategy for Carrier Drugs Conjugates. | Natural Products & Medicinal Chemistry Division and other associated labs |
| 3. | Creation of Institutional library of drug-like small molecules with an objective to identify novel hits scaffolds for anticancer and MED therapeutic area  | One of the team members | Institute |

**Notable contributions:**

* In the CSIR mission project for Molecules for filing investigational new drug (IND) applications, IIIM-152 in combination with paclitaxel is considered as a Pre-IND lead against drug resistant triple negative breast cancer and has successfully moved from Category-2 to Category-1.
* In first phase of project (GAP-3102), we successfully carried out the synthesis and delivered four different secondary metabolites to NDTL (National Dope Testing Laboratory) and also performed in-vivo studies (PK studies) around Etamivan sulfate. This collaboration has resulted in patent as well.
* Developed a novel S-P Bond Forming Bio-orthogonal Functionalization Technique and currently established different one step coupling protocols for the systematic analysis, standardization and application towards developing of alternative site-specific coupling strategies for carrier drugs conjugates.
* Acquired external grants of Rs 110 Lakh for “Synthesis of Reference Standards and in-vitro and in-vivo studies (PK studies) on the metabolites and long-term metabolites” from NDTL (Ministry of Youth Affairs & Sports, Government of India).
* Principal Investigator of a CSIR mission program “Progressing CSIR molecules for filing investigational new drug (IND) application where in 1888.20 lakh have been sanctioned under National Laboratories Scheme of CSIR.
* Got projects approved from SERB (DST) and CSIR-FIRST.
* Filling Patent for
	+ The Development of Non-Infringing Process for The Synthesis Of N4-Hydroxycytidine And Its Derivatives for Covid-19. *Patent Application: 0207NF2020*
	+ Amino acid containing Imidazoles (IIIM-152) as Potential stem cell modulator useful against paclitexal resistant triple negative breast cancer. *Patent Application: 202211066609*
* Supervisor to 6 Ph.D., 2 SPA and 2 project assistants ad 6 trainee students where in five Ph.D. students have already defended their thesis.
* Contributed through publications in peer reviewed journals of high impact and as reviewer of prestigious scientific journals.
* Administrative Experience as Member of CSIR-IIIM Committees
* Ph.D. Course Work committee
* AcSIR syllabus framing committee
* Administrative Experience as Member of screening committee for Post Code S-1, 2, 4 & 6 of Advt. No.30/2021.
* Active participation in other Institutional organizational committees (Chairman of Annual Physical Verification Committee for stores).
* Coordinated Symposium on Drug Discovery in one Week One lab program.
* Contributed through publications in peer reviewed journals of high impact such as Organic Letters, Jouranl of Organic Chemistry, Chemical Communication, Chemistry a European Journal etc.
* Currently Heading department of NPMC and nodal PI of phytopharmaceutical CSIR-mission III.

**Publications:**

1. Bhat, S. A; **Ahmed, Q. N**., Bhat, K. A.; DMSO–KOH mediated stereoselective synthesis of Z-enamides: an expeditious route to Z-enamide bearing natural products: *Chem. Commun*., **2024**, 60, 114-117.
2. Hussain, F.; Ahmed, S.: Padder, A. H.; **Ahmed, Q. N.**; Synthesis of mixed phosphorotrithioates via thiol coupling with bis(diisopropylamino)chlorophosphine and sulphenyl chloride: *Org. Biomol. Chem.,* **2024**, 22, 284–288**.**
3. Hussain, F.; Mahajan, S.; Ahmed, S.: and **Ahmed, Q. N.**; Synthesis of unsymmetric phosphorotrithioates by sequential coupling of 1,1-dichloro-N, N-diethylphosphanamine with thiols and sulfenyl chloride, *Org. Biomol. Chem*., **2024**, 22, 2007-2011.
4. Bhat, S. A; Bhat, M. Y.; Rather, S. A.; Jameel, S.: Bhat, K. A.; **Ahmed, Q. N**., I2-DMSO Promoted Deaminative Coupling Reactions of Glycine Esters: Access to 5-(Methylthio) pyridazin-3(2H)-ones, *Organic Letters* **2023**, 25, 14, 2382-2387.
5. Ahmed, S.: Bhat, M. Y.; Hussain, F.; and **Ahmed, Q. N.**; BF3–Et2O Promoted Heteronucleophilic Addition Reactions for the Synthesis of Unsymmetrical gem-Diarylmethyl Thioethers, *Organic Letters* **2023**, 25, 27, 5017-5021.
6. Bhat, M. Y.; Padder, A. H.; Gupta, R; **Ahmed, Q. N**., Tf2O-Promoted Regioselective Heteronucleophilic Ring-Opening Approaches of Tetrahydrofuran: The *Journal of Organic Chemistry* **2023**, 88, 20, 14323-14338.
7. Ahmed, S.: Shafeeq, Z.: Hussain, F.; and **Ahmed, Q. N.**; BF3–Et2O promoted bifunctionalization of aldehydes for the synthesis of arylmethyl substituted organophosphorus compounds: *Chem. Commun*., **2023**, 59, 12334-12337.
8. Ganjoo, A.; Singh, A.P.; Kansal, R.; Ayoub, N.; Shafeeq, H.; Shankar, R.; Q **Ahmed, Q. N.**; Gautam, H.K.; Babu, V.; Ahmed, Z.; Biocatalytic synthesis, in silico analysis and in vitro validation of hydroxamic acids against Histone Deacetylases: 133, **2023**, 241-250.
9. Padder, A. H.; Bhat, M. Y.; H. Rao S. P; Gupta, R; **Ahmed, Q. N**., Microwave-Assisted PEG-400 Medaited Synthesis of 4,5-dihydro-1H-benzo[g]indazole Derivatives: An Enaminone Approach, Volume 8, Issue 12 March 28, **2023** e202204951.
10. Bhat, M. Y.; Ahmed, S.; **Ahmed, Q. N.**, Tf2O- and Cu(OTf)2-Assisted Acylamination Reaction of Unactivated Alcohols with Nitriles: A One-Pot P(IV) Activation, Stereoretention in Cycloalkanols and Deprotection Approach. *The Journal of Organic Chemistry* **2022,** *87* (17), 11608-11624.
11. Rather, S. A.; Athimoolam, S.; **Ahmed, Q. N.**, Q., Cesium-Fluoride-Promoted Synthesis of Stable Organocesium Reagents and Their Ambident Reactivities with Arynes. *Chemistry–A European Journal* **2022,** *28* (40), e202200822.
12. Hussain, F.; Dar, T. A.; **Ahmed, Q. N.**, Coupling of 1-Chloro-N, N-diisopropylphosphanamine-Based Reagents with Alcohols and Thiosulfonates: A Precise Construction of O–P(O)–S Bonds. *Organic Letters* **2022,** *24* (29), 5324-5328.
13. Bhat, S. A.; Bhat, M. Y.; Rather, S. A.; Gani, I.; Bhat, K. A.; **Ahmed, Q. N.**, Iodine, and ammonium persulfate mediated activation of DMSO: an approach to N-formylation of amides and synthesis of isatins. *Organic & Biomolecular Chemistry* **2022,** *20* (42), 8197-8202.
14. Khan, A.; Naaz, F.; Basit, R.; Das, D.; Bisht, P.; Shaikh, M.; Lone, B. A.; Pokharel, Y. R.; **Ahmed, Q. N.**; Parveen, S.; Ali, I.; Singh, S. K.; Chashoo, G.; Shafi, S., 1,2,3-Triazole Tethered Hybrid Capsaicinoids as Antiproliferative Agents Active against Lung Cancer Cells (A549). *ACS Omega* **2022,** *7* (36), 32078-32100.
15. Ahmed, A.; **Ahmed, Q. N.**; Mukherjee, D., Conversion of N-acyl amidines to amidoximes: a convenient synthetic approach to molnupiravir (EIDD-2801) from ribose. *RSC Advances* **2021,** *11* (57), 36143-36147.
16. Rather, S. A.; Bhat, M. Y.; Hussain, F.; **Ahmed, Q. N.**, Sulfonyl-Promoted Michaelis–Arbuzov-Type Reaction: An Approach to S/Se–P Bonds. *The Journal of Organic Chemistry* **2021,** *86* (19), 13644-13663.
17. Raina, G.; Kannaboina, P.; **Ahmed, Q. N.**; Mondal, K.; Das, P., Palladium-Catalyzed Barluenga-Valdes Type Cross-Coupling Reaction: Alkenylation of 7-Azaindoles. *Asian Journal of Organic Chemistry* **2021,** *10* (1), 251-256.
18. Yaqoob Bhat, M.; Kumar, A.; **Ahmed, Q. N.**, Selenium dioxide promoted dinitrogen extrusion/direct selenation of arylhydrazines and anilines. *Tetrahedron* **2020,** *76* (16), 131105.
19. Kumar, A.; Gannedi, V.; Rather, S. A.; Vishwakarma, R. A.; **Ahmed, Q. N.**, Introducing Oxo-Phenylacetyl (OPAc) as a Protecting Group for Carbohydrates. *The Journal of Organic Chemistry* **2019,** *84* (7), 4131-4148.
20. Singh, D.; Kumar, G.; Dheer, D.; Jyoti; Kushwaha, M.; **Ahmed, Q. N.**; Shankar, R., BCl3-Mediated C–N, C–S, and C–O Bond Formation of Imidazo[1,2-a]pyridine Benzylic Ethers. *ACS Omega* **2019,** *4* (3), 4530-4539.
21. Rather, S. A.; Kumar, A.; **Ahmed, Q. N.**, Iodine–DMSO-promoted divergent reactivities of arylacetylenes. *Chemical Communications* **2019,** *55* (31), 4511-4514.
22. Raina, G.; Kannaboina, P.; Mupparapu, N.; Raina, S.; **Ahmed, Q. N.**; Das, P., Programmed synthesis of triarylnitroimidazoles via sequential cross-coupling reactions. *Organic & Biomolecular Chemistry* **2019,** *17* (8), 2134-2147.
23. Chalotra, N.; Ahmed, A.; Rizvi, M. A.; Hussain, Z.; **Ahmed, Q. N.**; Shah, B. A., Photoredox Generated Vinyl Radicals: Synthesis of Bisindoles and β-Carbolines. *The Journal of Organic Chemistry* **2018,** *83* (23), 14443-14456.
24. Mupparapu, N.; Khan, S.; Bandhoria, P.; Athimoolam, S.; **Ahmed, Q. N.**, One-Pot Tandem Approach to Functionalized 3-Hydroxy-2-furanyl-acrylamides. *ACS Omega* **2018,** *3* (5), 5445-5452.
25. Kumar, B.; Battini, N.; **Ahmed, Q. N.**; Ali, A.; Gupta, V. K., X-Ray Study of 7a-(2-Chlorophenyl)-7a,8a,9,10,11,12ahexadronaptho[ 1',2':4,5]furo[3,2-d]pyrrolo[2,1-b]oxazole and 2-(4-fluorophenyl)-2-hydroxynaptho[2,1-b]furan-1(2H)-one. *Crystallography Reports* **2018,** *63* (3), 382-387.
26. Khan, S.; Kumar, A.; Gupta, R.; **Ahmed, Q. N.**, The Ritter Reaction of 2-Oxoaldehydes at Room Temperature: Divergent Behaviour towards Acid Strength. *ChemistrySelect* **2017,** *2* (34), 11336-11340.
27. Kumar, A.; Khan, S.; **Ahmed, Q. N.**, Base-Controlled Reactions through an Aldol Intermediate Formed between 2-Oxoaldehydes and Malonate Half Esters. *Organic Letters* **2017,** *19* (18), 4730-4733.
28. Nageswar Rao, D.; Rasheed, S.; Raina, G.; **Ahmed, Q. N.**; Jaladanki, C. K.; Bharatam, P. V.; Das, P., Cobalt-Catalyzed Regioselective Ortho C(sp2)-H Bond Nitration of Aromatics through Proton-Coupled Electron Transfer Assistance. *The Journal of Organic Chemistry* **2017,** *82* (14), 7234-7244.
29. Kumar, A.; **Ahmed, Q. N.**, A Benzoquinone Imine Assisted Ring-Opening/Ring-Closing Strategy of the RCOCHN1N2 System: Dinitrogen Extrusion Reaction to Benzimidazoles. *European Journal of Organic Chemistry* **2017,** *2017* (19), 2751-2756.
30. Hussain, A.; Qazi, A. K.; Mupparapu, N.; Kumar, A.; Mintoo, M. J.; Mahajan, G.; Sharma, P. R.; Singh, S. K.; Bharate, S. B.; Zargar, M. A.; **Ahmed, Q. N.**; Mondhe, D. M.; Vishwakarma, R. A.; Hamid, A., A novel PI3K axis selective molecule exhibits potent tumor inhibition in colorectal carcinogenesis. *Molecular Carcinogenesis* **2016,** *55* (12), 2135-2155.
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32. Khan, S.; Battula, S.; **Ahmed, Q. N.**, Aroyl group driven [1,2] phosphonate-phosphate/phosphine oxide-phosphinate rearrangement. *Tetrahedron* **2016,** *72* (29), 4273-4279.
33. Kumar, A.; Battini, N.; Kumar, R. R.; Athimoolam, S.; **Ahmed, Q. N.**, Air-Assisted 2-Oxo-Driven Dehydrogenative α,α-Diamination of 2-Oxo Aldehydes to 2-Oxo Acetamidines. *European Journal of Organic Chemistry* **2016,** *2016* (20), 3344-3348.
34. Hussain, A.; Qazi, A. K.; Mupparapu, N.; Guru, S. K.; Kumar, A.; Sharma, P. R.; Singh, S. K.; Singh, P.; Dar, M. J.; Bharate, S. B.; Zargar, M. A.; **Ahmed, Q. N.**; Bhushan, S.; Vishwakarma, R. A.; Hamid, A., Modulation of glycolysis and lipogenesis by novel PI3K selective molecule represses tumor angiogenesis and decreases colorectal cancer growth. *Cancer Letters* **2016,** *374* (2), 250-260.
35. Prabha, E. A. J. Y.; Kumar, S. S.; Padala, A. K.; **Ahmed, Q. N.**; Athimoolam, S., Crystal structure of ethyl 2-[2-(4-methylbenzoyl)-5-p-tolyl-1H-imidazol-1-yl]acetate. *Acta Crystallographica Section E* **2016,** *72* (3), 347-349.
36. Battini, N.; Battula, S.; **Ahmed, Q. N.**, Copper-Assisted Synthesis of 2-Hydroxyphenyl-1,2-diones from Phenols and 2-Oxoaldehydes. *European Journal of Organic Chemistry* **2016,** *2016* (4), 658-662.
37. Padala, A. K.; Kumar, R. R.; Athimoolam, S.; **Ahmed, Q. N.**, Divergent Reactivity of Amino Acid Alkyl Ester Hydrochlorides with 2-Oxoaldehydes: Role of Selenium Dioxide To Promote Regioselective Synthesis of Imidazoles. *Organic Letters* **2016,** *18* (1), 96-99.
38. Padala, A. K.; Saikam, V.; Ali, A.; **Ahmed, Q. N.**, Efficient and practical approach to esters from acids/ 2-oxoacids/ 2-oxoaldehydes &/ 2-oxoesters. *Tetrahedron* **2015,** *71* (50), 9388-9395.
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40. Battula, S.; Kumar, A.; Gupta, A. P.; **Ahmed, Q. N.**, 2-Oxo-Driven N2 Elimination Induced Decarbonylative Cyclization Reaction in Benzotriazoles to 6-Aminophenanthridines. *Organic Letters* **2015,** *17* (22), 5562-5565.
41. Padala, A. K.; Mupparapu, N.; Singh, D.; Vishwakarma, R. A.; **Ahmed, Q. N.**, α-Carbonylimine to α-Carbonylamide: An Efficient Oxidative Amidation Approach. *European Journal of Organic Chemistry* **2015,** *2015* (16), 3577-3586.
42. Mupparapu, N.; Vishwakarma, R. A.; **Ahmed, Q. N.**, Iodine-DMSO promoted C–H (SP3) functionalization approach to α-ketoamides. *Tetrahedron* **2015,** *71* (21), 3417-3421.
43. Kumar, M.; Devari, S.; Kumar, A.; Sultan, S.; **Ahmed, Q. N.**; Rizvi, M.; Shah, B. A., Copper(II)-Triflate-Catalyzed Oxidative Amidation of Terminal Alkynes: A General Approach to α-Ketoamides. *Asian Journal of Organic Chemistry* **2015,** *4* (5), 438-441.
44. Mupparapu , N.; Battini , N.; Battula , S.; Khan , S.; Vishwakarma , R. A.; **Ahmed , Q. N.**, Aminocatalytic Cross-Coupling Approach via Iminium Ions to Different CC Bonds. *Chemistry – A European Journal* **2015,** *21* (7), 2954-2960.
45. Battula, S.; Kumar, A.; **Ahmed, Q. N.**, Metal-free oxidative cleavage of the C–C bond in α-hydroxy-β-oxophosphonates. *Organic & Biomolecular Chemistry* **2015,** *13* (39), 9953-9956.
46. Battula, S.; Vishwakarma, R. A.; Ahmed, Q. N., Cu–benzotriazole-catalyzed electrophilic cyclization of N-arylimines: a methodical tandem approach to O-protected-4hydroxyquinazolines. *RSC Advances* **2014,** *4* (72), 38375-38378.
47. Kumar, S.; Guru, S. K.; Pathania, A. S.; Mupparapu, N.; Kumar, A.; Malik, F.; Bharate, S. B.; **Ahmed, Q. N.**; Vishwakarma, R. A.; Bhushan, S., A novel quinazolinone derivative induces cytochrome c interdependent apoptosis and autophagy in human leukemia MOLT-4 cells. *Toxicology Reports* **2014,** *1*, 1013-1025.
48. Battini, N.; Padala, A. K.; Mupparapu, N.; Vishwakarma, R. A.; **Ahmed, Q. N.**, Unexplored reactivity of 2-oxoaldehydes towards Pictet–Spengler conditions: concise approach to β-carboline based marine natural products. *RSC Advances* **2014,** *4* (50), 26258-26263.
49. Kanchithalaivan, S.; Sivakumar, S.; Ranjith Kumar, R.; Elumalai, P.; **Ahmed, Q. N.**; Padala, A. K., Four-Component Domino Strategy for the Combinatorial Synthesis of Novel 1,4-Dihydropyrano[2,3-c]pyrazol-6-amines. *ACS Combinatorial Science* **2013,** *15* (12), 631-638.
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51. Saikam, V.; Raghupathy, R.; Yadav, M.; Gannedi, V.; Singh, P. P.; **Ahmed, Q. N.**; Sawant, S. D.; Vishwakarma, R. A., Synthesis of new fluorescently labeled glycosylphosphatidylinositol (GPI) anchors. *Tetrahedron Letters* **2011,** *52* (33), 4277-4279.
52. Reddy, D. M.; **Ahmed, Q. N.**; Sawant, S. D.; Bandey, A. H.; Srinivas, J.; Shankar, M.; Singh, S. K.; Verma, M.; Chashoo, G.; Saxena, A.; Mondhe, D.; Saxena, A. K.; Sethi, V. K.; Taneja, S. C.; Qazi, G. N.; Sampath Kumar, H. M., Design and synthesis of spiro derivatives of parthenin as novel anti-cancer agents. *European Journal of Medicinal Chemistry* **2011,** *46* (8), 3210-3217.
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60. 55. Sampath Kumar, H. M.; **Ahmed, Q. N.**; Shafi, S.; Naveen Kumar, V.; Krishna, A. D.; Yadav, J. S., Barbier allylation–Prins reaction of PEG-bound aldehydes—soluble polymer-supported synthesis of 2,4,6-trisubstituted tetrahydropyrans. *Tetrahedron Letters* **2005,** *46* (42), 7205-7207.
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Book published:

1. Published complete book with Science direct on” Chemistry of 2-Oxoaldehydes and 2-Oxoacids” eBook ISBN: **9780128242865** (1st Edition - September 28, **2021**)
2. Encyclopedia of Reagents for Organic Synthesis: **Ahmed, Q. N.**, Khan S., Methyl Glycine. *Encyclopedia of Reagents for Organic Synthesis*

Patents:

1. Kumar, H.M.S.; Sawant, S.D.; **Qazi, N.A.**; Singh, S.K.; Verma, M.; Saxena, A.K.; Sethi, V.K.; Taneja, S.C.; Qazi, G.N. Spiro-derivatives of parthenin as novel anticancer agents (*WO/2009/110007A8*).
2. Kumar, H.M.S.; Saxena, A.K.; Taneja, S.C.; Singh, S.K.; Sethi, V.K.; **Qazi, N.A.**; Sawant, S.D. Reddy, D.M.;, Banday, A.H.; Verma, M.; Qazi, G.N.; Spiro derivatives of parthenin as novel anticancer agents. (*US 2011/0201661 A1*)
3. Combination of AMINO ACID-CONTAINING IMIDAZOLES AND PACLITAXEL FOR TREATMENT OF TRIPLE-NEGATIVE BREAST CANCER (*Patent Application: 202211066609*)
4. NON-INFRINGING PROCESS FOR THE SYNTHESIS OF N4-HYDROXYCYTIDINE AND ITS DERIVATIVES (*Patent Application: 0207NF2020*).
5. SYNTHESIS OF 17- KETOPROSTANOZOL (*Patent Application: IN202311059079 Filed on 01-09-2023*).

Invited talks:

* **Invitation to deliver a CRSI Bronze Medal Lecture at the CRSI-NSC-32** (BITS Pilani, 2-4 Feb 2024).
* **Invitation to deliver a lecture\_Indo-French Joint Lab Seminar\_CSIR-IICT** (1st to 3rd November 2023).
* **Invitation to deliver invited lecture at 60th ACC 2023 IIT-Delhi** (20-21st December 2023).
* **Invitation to Participate in FIC-24,** Central University Rajasthan 2023.
* “**Strategic S-P Bond Forming Bio-orthogonal Functionalization Technique: A Systematic Analysis, Standardization and Site-Specific Coupling Strategy for Conjugates**” Department of Chemistry Laboratory of Catalysis & Organic Synthesis Indian Institute of Technology Roorkee, Uttarakhand-247667 (INDIARSC-CFOS-2022 conference at IIT Roorkee), “01-04th December 2022”.
* “**Strategic S-P Bond Forming Bio-orthogonal Functionalization Technique: A Systematic Analysis, Standardization and Site-Specific Coupling Strategy for Conjugates**” Department of Chemistry and Chemical Sciences, Central University of Jammu International Conference on Recent Advances in Chemical Sciences (RACS-2022), “11th November 2022”.
* Invited to attend prestigious **NOST** conference in Chennai, November **2021**.
* “**The transformative power of functional group driven chemistry**” (International Conference on Chemical & Biological Sciences in Drug Discovery-2019 (IC-CBSDD-**2019**) Berhampur University, Odisha “08-03-**2019**”.
* “**Applications of α-Oxo Driven Reactions in α-Oxoaldehydes and α-Oxoesters for the Generation of Different Exigent Structures**” (International Conference on EMERGING TRENDS IN DRUGS DEVELOPMENT AND NATURAL-PRODUCTS, ETDDNP-**2018**) Department of Chemistry, University of Delhi” 12-01-**2018**”.
* “**2-oxo-driven unconventional reactions**” (11th National Conference, University of Jammu)) Indian Chemical society “03-12-2016”.
* “**2-oxo-driven unconventional reactions**” (52nd International Conference on Annual Convention of Chemists **2015** and International Conference on Recent Advances in Chemical Sciences, Jaipur) Indian Chemical society “28-12-**2015**”.