

Pradip Kumar Maity, Ph.D

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Structural Biology Center, 2010 Becker Dr, Lawrence, KS-66047, USA

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Work Status: Green Card (Approved on April 2021)

Summary

Synthetic organic chemist with industrial and academic research experience in the field of organic and drug discovery chemistry with proven capability in lab set-up and multiple project handling to utilize modern chemistry methodology, purification methods and analytical techniques.

Keywords: Multistep Natural Product Synthesis, Small Molecule Synthesis, Library Synthesis, Heterocyclic Chemistry, Metal Mediated Transformations, Ring Opening Metathesis Polymerization (ROMP), Silica and Co/C Magnetic-ROMP Reagents, Sultams, Ruthenium-based Catalyst, Solid Phase Peptide Synthesis, Oligonucleotides, Characterization of Organic Molecules, NMR, HPLC, LC-MS, IR.

Personal and Technical Skills

- Synthesize, purify, and characterize small molecule drug like compounds.
- Develop new synthetic methods and purifications.
- Collaborate with computational and medicinal chemistry team members on the design of compounds
- Production of milligram to multi-gram amounts of the target molecules.
- Diversity oriented synthesis (DOS) approach for diverse sultam libraries.
- Experience in solid and sol. phase peptide and oligonucleotide synthesis and purification.
- Experience with polymer synthesis using ROMP, ATRP and RAFT.
- Synthesis of ROMP-derived high load Si-ROMP and Co/C Magnetic reagents and scavengers.
- Worked with major pharmaceutical CRO Company with big drug discovery FTE programs.
- Skills in lab management, lab organization, student mentor and communication with suppliers.
- Instrument handling: HPLC, FTIR, Peptide Synthesizer, Paar Reactor, Biotage, and Microwave.
- Experience in maintaining and running Bruker NMR, ESI-MS, HRMS, and GC-MS.
- Maintained lab notebook, independently drafted manuscripts, and accuracy of the final publications.

Professional/Research Experience

- ***Research Associate, Synthetic Biology Core Lab, University of Kansas, June 2017 – Present***
 - Solid and Sol Phase Peptide Synthesis, Nucleotide synthesis, fluorescent tagged molecules.
 - Compound synthesis, collaboration with computational and medicinal chemistry team members.
 - Synthesize, purify, and characterize small molecule drug like compounds.
- ***Research Associate, Prof. Jon Tunge, KU, KS July 2016 – June 2017***
Selective hydroformylation of 1,3-butadiene using different ligand and Ru-catalyst towards the desired adipic aldehyde. Catalytic dimerization of acrylates using Ru-catalyst for adipic acid.

- **Postdoctoral Research Associate, Prof. Paul R. Hanson** June 2009 – June 2016
University of Kansas, Kansas
 - Development and application of oligomeric reagents and scavengers in parallel synthesis
 - Scale-up of ROMP-derived high load Si-ROMP and Co/C Magnetic reagents and scavengers for the application in purification-free small molecule parallel synthesis.
 - Facilitated chromatography-free Mitsunobu protocols.
 - Diversity Oriented Synthesis (DOS) approach to the productions of diverse sultam libraries.
 - Synthesized, purified, and characterized ~500 small molecules.
- **Research Scientist SAI Advantium Pharma Limited, Pune, India** Oct 2008 – May 2009
Lead a group of junior chemists towards the multistep synthesis of building blocks followed by focused libraries in a combinatorial fashion. Synthesis included preparation of heterocyclic cores and introduction of different diversities through parallel synthesis followed by purifications.
- **Graduate Research Scholar, NCL, Pune, India Dr. Mukund K Gurjar** 2002–2008
 - Synthesized triazole and tetrazole derivatives using “Click Chemistry”
 - Paul’amide natural product synthesis in 34 steps from polyketide and peptide fragments.
- **Project Assistant (ArQuel pharma), IICB, Kolkata, India** 2001–2002
Project Title: “Library Synthesis of Heterocyclic compounds and purity determined by HPLC”.

Education

- **Ph.D, Chemistry, National Chemical Laboratory, Pune, India** 2002–2008
Dissertation Title: “Synthesis of Biologically Active Multicyclic Frameworks via [3+2] Cycloaddition and Studies Toward the Total Synthesis of Palau’amide”.
- **M.Sc, Chemistry Jadavpur University, Kolkata, India** 1998–2000
Project Title: “Synthesis of Benzofuran and Thiofuran Derivatives”
- **B.Sc, Chemistry, Calcutta University, Kolkata, India** 1994–1998

Fellowship, Affiliation and Membership

- **Project Leader Certification Program, University of Kansas, 2021.**
- **Staff Fellow Program, University of Kansas, Oct 2020- June 2021.**
- **Supervisory Trainee, University of Kansas, 2021.**
- President for KU Postdoctoral Association, 2017
- Judge for the Annual Graduate Research Competition.
- Junior and Senior Research Fellowship (JRF-SRF) CSIR (Govt. of India) (2002-2008)
- Qualified GATE Exam (Govt. of India) 2001
- Member of the *American Chemical Society* (ACS) in Chemistry (2009–Present)
- Workshop on “Contemporary Medicinal Chemistry” in Jan 2015 and “Practical Medicinal Chemistry” in Dec 2009 by Prof. Thomas Prisinzano and Prof. Lester Mitscher, KU.
- Mentor Graduate, Undergraduate and Visiting research students.

Publications

- [1] Qaidi, S. E.; Zhu, C.; McDonald, P.; Roy, A.; **Maity**, P. K.; Rane, D.; Perera, C.; Hardwidge, P. R. High-Throughput Screening for Bacterial Glycosyltransferase Inhibitors. *Frontiers in Cellular and Infection Microbiology*, **2018**, *8*, 435.
- [2] **Maity**, P. K. Tunge, J. Assisted Tandem Catalytic Conversion of Acrylates into Adipic Esters. *ChemCatChem* **2018**, *10*, 3419–3423.
- [3] Faisal, S.; Zang, Q.; **Maity**, P. K.; Brandhoffer, A.; Kearney, P. C.; Reiser, O.; Grass, R. N.; Stoinova, D.; Hanson, P. R. Development and Application of a Recyclable High-Load Magnetic Co/C Hybrid ROMP-Derived Benzenesulfonyl Chloride Reagent and Utility of Corresponding Analogues. *Org. Lett.* **2017**, *19*, 2274–2277.
- [4] Faisal, S.; **Maity**, P. K.; Zang, Q.; Samarakoon, T. B.; Sourk, R. L.; Hanson, P. R. Synthesis and Applications of Hybrid Silica-Supported Alkylating Reagents in One-Pot, Sequential protocols. *ACS Comb. Sci.* **2016**, *18*, 387–393.
- [5] Faisal, S.; **Maity**, P. K.; Zang, Q.; Rolfe, A.; Hanson, P. R. Synthesis of high-load, hybrid silica-immobilized heterocyclic benzyl phosphate (Si-OHBP) and triazolyl phosphate (Si-OHTP) alkylating reagents. *ACS Comb. Sci.* **2016**, *18*, 394–398.
- [6] **Maity**, P. K.; Faisal, S.; Rolfe, A.; Stoinova, D.; Hanson, P. R. Silica-Supported Oligomeric Benzyl Phosphate (Si-OBP) and Triazole Phosphate (Si-OTP) Alkylating Reagents. *J. Org. Chem.* **2015**, *80*, 9942–9950.
- [7] Kainz, Q. M.; Linhardt, R.; **Maity**, P. K.; Hanson, P. R.; Reiser, O. ROMP-based Recyclable Magnetic Acylation Reagents. *Chem. Sus. Chem.* **2013**, *6*, 721–729.
- [8] Zang, Q.; Zhou, A.; Javed, S.; **Maity**, P. K.; Knudtson, C. A.; Bi, D.; Hastings, J. J.; Basha, F. Z.; Hanson, P. R. Synthesis of a Library of 1,5,2-Dithiazepine 1,1-Dioxides. Part 1: A one-pot Sulfonylation/thia-Michael (“cy-click”) Protocol. *Heterocycles* **2012**, *86*, 1661–1674.
- [9] Faisal, S.; Farmann, U.; **Maity**, P. K.; Rolfe, A.; Basha, F. Z.; Organ, M. G.; Hanson, P. R. Facile Triazolation of MACOS-derived Benzofused Sultams Utilizing ROMP-derived OTP Reagents. *ACS Comb. Sci.* **2012**, *14*, 268–272.
- [10] **Maity**, P. K.; Kainz, Q. M.; Faisal, S.; Rolfe, A.; Samarakoon, T. B.; Basha, F. Z.; Reiser, O.; Hanson, P. R. Intramolecular Monomer-on-Monomer (MoM) Mitsunobu cyclization for the Synthesis of Thiadiazepine-dioxides. *Chem. Commun.* **2011**, *47*, 12524–12526.
- [11] Long, T. R.; Saqib, F.; **Maity**, P. K.; Rolfe, A.; Kurtz, R. D.; Klimberg, S. V.; Najjar, M. R.; Basha, F. Z.; Hanson, P. R. “Click”-Capture, Ring-Opening Metathesis Polymerization (ROMP), Release: Facile Triazolation Utilizing ROMP-Derived Oligomeric Phosphates. *Org. Lett.* **2011**, *13*, 2038–2041.
- [12] **Maity**, P. K.; Rolfe, A.; Samarakoon, T. B.; Faisal, S.; Kurtz, R. D.; Long, T. R.; Schätz, A.; Flynn, D. L.; Grass, R. N.; Stark, W. J.; Reiser, O.; Hanson, P. R.* Monomer-on-Monomer (MoM) Mitsunobu Reaction: Facile, Purification Utilizing Surface-Initialized Sequestration. *Org. Lett.* **2011**, *13*, 8–10.
- [13] Rolfe, A.; Loh, J. K.; **Maity**, P. K.; Hanson, P. R. High-load, hybrid Si-ROMP reagents. *Org. Lett.* **2011**, *13*, 4–7.
- [14] Long, T. R.; **Maity**, P. K.; Samakeroon, T. B.; Hanson, P. R. A ROMP-derived Oligophosphate for Application in Facile Benzylolation. *Org. Lett.* **2010**, *12*, 2904–2907.
- [15] Mohapatra, D. K.* **Maity**, P. K.; Shabab, M.; Khan, M. I.; Gurjar, M. K. Synthesis of New Chiral Biologically active Tetracyclic Triazole Derivatives using “Click” Chemistry. *Biog. Med. Chem.*

Lett. **2009**, *19*, 5241–5245.

- [16] Mohapatra, D. K.;* **Maity, P. K.**; Ghorpade, R. V.; Gurjar, M. K. Synthesis of New Chiral 5,6,7,8-Tetrahydro Tetrazolo[1,5-a]pyrazines from α -Amino Acid Derivatives. *Heterocycles* **2009**, *77*, 856–872.
- [17] Mohapatra, D. K.;* **Maity, P. K.**; Chorghade, M. S.; Gurjar, M. K. Synthesis of Unusual Tricyclic Ring Systems of Biological Interest. *Heterocycles* **2007**, *73*, 269–274.
- [18] Mohapatra, D. K.;* **Maity, P. K.**; Gonnade, R. G.; Chorghade, M. S.; Gurjar, M. K. Synthesis of New Chiral 4,5,6,7-Tetrahydro[1,2,3]triazolo[1,5-a]pyrazines from α -Amino Acid Derivatives under Mild Conditions. *Synlett* **2007**, 1893–1896.

Reviewer

- Journal of Organic Chemistry, Tetrahedron, Tetrahedron Letters, BJOC, Organic & Biomolecular Chemistry, Synthetic Communication, OPRD, Current organic Chemistry, BMCL, and more.

Selected Poster and Oral Presentation in Conferences

1. Poster presentation at *CEBC Industry Advisory Board Meeting*, Lawrence, April 24-25, **2017**.
2. Poster presentation at *252nd ACS National Meeting*, Philadelphia, August 21–25, **2016**.
3. Poster presentation at *53rd Annual MIKI Meeting*, Lawrence, KS, April, **2015**.
4. Poster presentation at *248th ACS National Meeting*, San Francisco, CA, August 10–14, **2014**.
5. Oral and Poster presentation at *247th ACS National Meeting*, Dallas, TX, March 16–20, **2014**.
6. Oral presentation at *48th Midwest Regional Meeting*, Springfield, MO, Oct 16–19, **2013**.
7. Poster presentation at *245th ACS National Meeting*, New Orleans, LA, April 7–11, **2013**.
8. Poster presentation at *243rd ACS National Meeting*, San Diego, CA, March 25–29, **2012**.
9. Oral presentation at *46th Midwest Regional Meeting*, St. Louis, Missouri, October 19–22, **2011**.
10. Poster at *Gordon Research Conferences (GRC)*, NH, June 19–24, **2011**.
11. Poster presentation at *49th Annual MIKI Meeting*, Lawrence, KS, April 8–10, **2011**.
12. Poster presentation at *45th Midwest Regional Meeting*, Wichita, KS, October 27–30, **2010**.
13. Poster presentation at *240th ACS National Meeting*, Boston, MA, August 22–26, **2010**.
14. Poster presentation at *44th Midwest Regional Meeting*, Iowa City, IA, October 21–24, **2009**.

Personal Information

Immigration Status: Green Card
Sex: Male
Marital Status: Married

References

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