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Multicomponent reactions: development, scope, and applications

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You have been a fantastic supervisor providing me freedom to design and execute my own ideas in chemistry project, that guided me to grow as an independent researcher. Thanks for making me a better researcher, problem solver, and boosting my confidence on a whole other level. It has been a pleasure for me benefiting from your great work ethics, fine mind, your integrity, and knowledge. Your advice on my personal front as well as on career path have been invaluable.

I still remember the first time we met in your office. After a discussion about projects, you told me that, in these four years focus on not only professional but also on personal growth. This thing really helps me throughout these 4 years, and which was much needed for me. And that's why in these four years very good things happen with me, like selection in Lindau Nobel laureates Meeting 2015, or getting prestigious travel grants or awards. I participated in social groups like GISA (Groningen Indian Student Association) or volunteer in UMCG conference to build-up social confidence. Also, even my magic tricks which I showed you at dinner at Charry's apartment or in famelab and even at MCR symposium. These things really gives me the confidence in public speaking. Thank you very much for everything.

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My office mate, Qian and Markella, hope we had a nice time in office. Best wishes to both of you! Arianna, thanks for being nice talkative officemate, sharing snacks and being always volunteer for my magic tricks. Also for planning barbecue. Gita, thank you very much for tons of memories.

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Lavakarach Bhetua Saglyna!!!

Ajay Chandgude

May 22, 2017

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Education

PhD in Drug Design-Department of Pharmacy July 2013-June 2017

University of Groningen, The Netherlands

Supervisor: **Prof. Alexander Domling**

Thesis: **"Multicomponent Reactions: Development, Scope, and Applications"**.

Master Degree - M. Tech. (Pharm.) in Pharmaceutical Technology (Bulk Drugs) June 2010-June 2012

National Institute of Pharmaceutical Education and Research, Mohali, Punjab, India

8.38 CGPA (CGPA on ten point scale)

Supervisor: **Dr. Sankar K. Guchhait**

Thesis: **"Development of multicomponent reactions for the synthesis of Imidazoheterocycles: preparation of Zolpidem"**.

Bachelor Degree - B. Pharmacy August 2006- May 2010

University of Pune, Pune.

S.V.P.M's College of Pharmacy, Malegaon (B.K.), Tal-Baramati, Dist-Pune, Maharashtra, India

First class with 65.12%

12th (HSC), 2006, First class with 74.67% 10th (SSC), 2004, Distinction with 79.86%

Publications

1. A. L. Chandgude, A. Dömling, **Direct amination of alpha-hydroxy amide**, *Asian J. Org. Chem.* **2017**, DOI: 10.1002/ajoc.201700277.
2. A. L. Chandgude, J. Li, A. **Dömling**, **2-Nitrobenzyl Isocyanide as a Universal Convertible Isocyanide** *Asian J. Org. Chem.* **2017**, DOI: 10.1002/ajoc.201700177.
3. A. L. Chandgude, A. Dömling, **N-Hydroxyimide Ugi Reaction toward α -Hydrazino Amides** *Org. Lett.*, **2017**, 19, 1228–1231
4. A. L. Chandgude, A. Dömling, **Unconventional Passerini Reaction toward α -Aminoxy-amides** *Org. Lett.*, **2016**, 18, 6396–6399.

5. A. L. Chandgude, A. Dömling, **An efficient Passerini tetrazole reaction (PT-3CR)** *Green Chem.* **2016**, 18, 3718-3721.
6. A. L. Chandgude, A. Dömling, **Convergent Three-Component Tetrazole Synthesis** *Eur. J. Org. Chem.* **2016**, 2383-2387.
7. T. Zarganes-Tzitzikas, A. L. Chandgude, A. Dömling, **Multicomponent Reactions, Union of MCRs and Beyond** (Review) *Chem. Record*, **2015**, 15, 981-996.
8. S. K. Guchhait, A. L. Chandgude, G. Priyadarshani, **CuSO₄-glucose for in situ generation of controlled Cu (I)-Cu (II) bicatalysts: multicomponent reaction of heterocyclic azine and aldehyde with alkyne, and cycloisomerization toward synthesis of N-fused imidazoles** *J. Org. Chem.* **2012**, 77, 4438-4444.

Manuscripts under Review/Preparation

1. A. L. Chandgude, ... A. Dömling, MCR towards oxazinane-tetrazole synthesis, in Review.
2. A. L. Chandgude, A. Dömling, The Passerini Reaction-Scope, Chirality and Applications, In preparation.
3. A. L. Chandgude, A. Dömling, MCR towards the synthesis of indoles, in preparation.

Patent

Potent non-covalent inhibitors of caspase-1, Patent will be file soon.

Awards/Scholarships/Grants

1. **Erasmus Mundus PhD** scholarship from the European commission (2013-2016).
2. **PhD Scholarship** from University of Groningen (2016-2017).
3. **Travel grant** from Volkswagen Foundation, "Aging: Cellular Mechanisms and Therapeutic Opportunities, a Herrenhausen Symposium", September 2015, Hanover, Germany.
4. **Selection in the "65th Lindau Nobel Laureates Meeting**, June 2015", Lindau, Germany.
5. **Travel Grant** from Konstanz Research School Chemical Biology, University of Konstanz for the Autumn School "Chemical Biology" October 2015, Konstanz, Germany.
6. **The Alzheimer's Drug Discovery Foundation (ADDF) "Young Investigator Scholarship"**, 16th International Conference on Alzheimer's Drug Discovery on October 2015, Jersey City, NJ. (did not accepted).
7. **SCI Travel Bursary Award**, "9th RSC / SCI symposium on Proteinase Inhibitor Design" April 2015; Basel, Switzerland.
8. Awarded **NIPER** fellowship by ministry of Chemicals and Fertilizers, Government of India during Master degree, 2010-2012.
9. Qualified Graduate Aptitude Test of Pharmacy GPAT-2010.
10. Qualified Graduate Aptitude Test in Engineering (GATE) 2010, in Biotechnology; and GATE 2009, in Pharmaceutical Sciences, conducted by Council for Technical Education, Govt. of India.

Conferences / Presentations

Oral presentations:

1. Medicinal Chemistry and Bioanalysis – Mini Symposium, Groningen, The Netherlands: News from Passerini Reaction. March 2017.
2. Medicinal Chemistry and Bioanalysis seminars, Groningen, The Netherlands: Potent non-covalent inhibitors of caspase-1. June 2015.
3. 9th RSC/SCI symposium on Proteinase Inhibitor Design, Basel, Switzerland: Potent non-covalent inhibitors of caspase-1. April 2015.

Poster presentations:

1. Autumn School Chemical Biology, Symposium, Konstanz, Germany. A. Chandgude. et al. Potent non-covalent inhibitors of caspase-1. October 2015
2. Aging: Cellular Mechanisms and Therapeutic Opportunities, a Herrenhausen Symposium, Hannover, Germany. A. Chandgude. et al. Potent and selective inflammasome inhibitors for healthy aging. September 2015.
3. 9th RSC / SCI symposium on Proteinase Inhibitor Design, Basel, Switzerland. A. Chandgude. et al. Potent non-covalent inhibitors of caspase-1. April 2015.
4. FIGON Dutch Medicines Days, Ede, The Netherlands. A. Chandgude. et al. Potent non-covalent inhibitors of caspase-1. October 2014.
5. MCB2014; Joining forces in pharmaceutical analysis and medicinal chemistry conference, Groningen, The Netherlands. A. Chandgude. et al. Discovery and Design of Noncovalent Small Molecule Inhibitors of Cysteine Protease Caspase-1. August 2014.

Supervision / Mentor Experience

Project Supervisor and thesis advisor to 2 master degree Students (6 and 9 months projects) and 2 bachelor students (2 and 9 months projects)

Assisted organic chemistry bachelor degree practical 2015 (3 Weeks course)

Extracurricular activities

- Participant in "Fame Lab 2017 local heat", Groningen.
- Contestant "ESN's Got Talent Show Groningen, 2017" as Magician (Card Magic).
- Event manager of "Groningen Indian Student Association (GISA)", Groningen, 2015.
- Volunteer and sessions coordinator at the "GSMS PhD Development Conference" Groningen, The Netherlands, June 2015.
- Invited speaker as young researcher in "India Event, April 2015" at University of Groningen.
- General Course on Intellectual Property" 2012 "from WIPO Worldwide Academy.
- Runner up in "Play competition" (role played: Actor and director) at S.V.P.M's College of Pharmacy, Malegaon, 2008.

Personal Information

Nationality: Indian Date of birth: November 16th 1988

Languages English, Hindi, Marathi (Mother Tongue).