PERSONAL INFORMATION

Akanksha Singh Baghel



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Sex Female | Date of birth 15/01/1995 | Nationality INDIAN

EDUCATION AND TRAINING

2018- Present

Doctor of Philosophy in Chemistry

Indian Institute Technology Patna, Bihar, INDIA

Supervisor: **Dr. Amit Kumar**

- Status: Thesis Submitted

Research Areas:

- Remote C-H functionalization: Site-selective functionalization of C-H bond in aromatic and aliphatic systems.
- Application of metal catalysis in the development of novel synthesis routes for functionalized organic molecules from readily available starting materials.

2015-2017

M. Sc. Organic Chemistry

Deen Dayal Upadhyaya Gorakhpur University

- Status: Completed with an aggregate of 76%

2012-2015

B. Sc. Chemistry (HONS)

Banaras Hindu University

- Status: Completed with an aggregate of 8.45

SEMINAR/ CONFERENCES

- Participated in the First Virtual JNOST Conference (JNOST-16) Organized by the Indian Institute of Science, Bangalore, India, from October 31 – November 1, 2020, and presented a poster entitled **One-pot Multiple C-C bond Formation via Pd (II)-Catalyzed reaction: Synthesis of Succinimide-fused-Dihydrophenanthrenes**
- Participated in the 29th CRSI NATIONAL SYMPOSIUM IN CHEMISTRY Organized by IISER Mohali, India, from July 7 – 9, 2022, and presented a poster entitled **Ruthenium (II)-Catalyzed Functionalization of Aryl-amide via WeaklyCoordinating Primary amide as Directing Group.**
- Selected for DST-sponsored **Hands-on Training on Molecular Characterization Using NMR, XRD, and LC_MS organized by SAIF IIT Patna (15th -July 21, 2022)** under the STUTI scheme.
- Participated in the 16th RSC-CRSI joint Symposium and 30th CRSI NATIONAL SYMPOSIUM IN CHEMISTRY Organized by JNU, Delhi,

India, from Feb 2 – 5, 2023, and presented a poster entitled **One-pot Multiple C-C bond Formation via Pd (II)-Catalyzed reaction: Enroute Synthesis of Succinimide-fused-Dihydrophenanthrenes.**

- Participated in the International Conference on Recent Advances on Materials Chemistry and Catalysis (RAMCC-2023), Dibrugarh University from 1-3 March 2023**,** and presented a poster entitled **Ruthenium(II)-Catalyzed Bis-alkynylation of Aromatic Amides via Double C–H Bond Activation**

PUBLICATIONS

1). **Baghel, A. S**.; Jaiswal, Y.; Kumar, A., **Pd(II)-Catalyzed One-Pot Multiple C–C Bond Formation: En Route Synthesis of Succinimide-Fused Unsymmetrical 9,10-Dihydrophenanthrenes from Aryl Iodides and Maleimides.** *Org. Lett.* **2020,** *22*, 1908-1913.

2). **Baghel, A. S.;** Aghi, A.; Kumar, A., **Ru(II)-Catalyzed Controlled Cross-Dehydrogenative Coupling of Benzamides with Activated Olefins via Weakly Coordinating Primary Amides.** *J.Org. Chem.* **2021,** *86*, 9744-9754.

3). **Baghel, A. S**.; Kumar, A., **Ru(II)-catalyzed external auxiliary-free primary amide-directed inverse Sonogashira reaction on (hetero)arylamides**. *Chem. Commun.* **2022,** *58*, 11304-11307.

4). **Baghel, A. S**.; Pratap, R.; Kumar, A**., Ru(II)-Catalyzed Weakly Coordinating Carbonyl-Assisted Dialkynylation of (Hetero)Aryl Ketones**. *J. Org. Chem.* **2023,** *88*, 8542-8552.

5). Aghi, A.; **Baghel, A. S**.; Kumar, A., **Synthesis of Non-anomeric Spiro-Fused Bicyclic Sugar Derivatives by Light-Mediated 1,5-Hydrogen Atom Transfer (HAT) Process.** *Eur. J. Org. Chem* **2022,** *2022*, e2022008.

6). Hassan, A.; **Baghel, A. S**.; Das, N.; Kumar, A., **Palladium(II)-immobilized triptycene based hypercrosslinked polymers: An efficient, green, and reusable heterogenous catalyst for Suzuki-Miyaura cross-coupling reaction.** *Chem. Asian J.* 2023, e202300778.

REFERENCES

- **Dr. Amit Kumar** (Associate Professor, IIT Patna)
  amitkt@iitp.ac.in
- **Dr. Neeladri Das** (Associate Professor, IIT Patna)
  neeladri@iitp.ac.in

PERSONAL SKILLS

- Project management.
- Excellent lab management.

- Leadership (Teaching , Mentoring)
- Quick learner to new situations (culture, language, skills)

ACADEMIC RESPONSIBILITIES

- Teaching Assistant
- Workshop Organizer
- Mentoring Interns, Undergraduates and Postgraduates

MOTHER TONGUE
OTHER LANGUAGE (S)

Hindi
English

COMPUTER SKILLS

- Good command of Microsoft Office™ tools.
- **Software Skills**: MS Office | Chemdraw | Mestre Nova (for NMR analysis) | OPUS (for FTIR) | Apex (for XRD Analysis) | Origin |
- Programming: Java
- Operating systems worked on: Windows, Ubuntu.

HANDS-ON EXPERIENCE (ON INSTRUMENTS)

- **Instruments Background**: IR (Infrared Spectroscopy), Nuclear Magnetic Resonance(NMR), X-ray diffraction (XRD), High-Resolution Mass Spectroscopy(HRMS), UV-Vis spectrophotometer, Spectro Fluorometer.

LABORATORY SKILLS

- **Separation Technique**: Chromatography (column, ion exchange, paper, TLC, HPLC) solvent extraction, fractional distillation, gravimetric separation, rotary evaporation.
- **Spectroscopic Technique**: NMR, UV-visible, FTIR, Fluorescence, colorimetric determination.
- **Others**: Organic synthesis, purification of compounds, crystallization, qualitative inorganic organic analysis

ADDITIONAL INFORMATION
HONORS AND AWARDS

- Awarded Best Poster Prize at the 16th RSC-CRSI joint Symposium and 30th CRSI National Symposium in Chemistry Organized at the JNU, Delhi, India from Feb 2 – 5, 2023
- Served IIT Patna as Secretary, Students' Welfare Board (2020-2021) at Student's Gymkhana IIT Patna
- Served IIT Patna as Secretary, Mess (2019-2020) at Student's Gymkhana IIT Patna
- Qualified: Graduate Aptitude Test in Engineering (GATE) with AIR 1418.