

Curriculum Vitae

Divya Kushwaha

Assistant Professor
Department of Chemistry,
Mahila Maha Vidhyalaya,
Banaras Hindu University,
Varanasi, Uttar Pradesh, India-221005
Email: divyakush.mmv@bhu.ac.in



Education:

- **PhD, Organic Chemistry** (April 2015), Banaras Hindu University, India
- **Master of Science in Chemistry** (2008-2010), Banaras Hindu University, India
- **Bachelor of Science (Chemistry Hons.)** (2005-2008), Banaras Hindu University, India

Areas of Interest/Specializations: Organic Synthesis, Carbohydrate Chemistry, Cu (I) catalyzed click reaction, Multivalent carbohydrate scaffolds, Carbohydrate based fluorescent probes, Sugar-heterocycle conjugates

Research Experience:

- **Postdoctoral Research** (NPDF-SERB), IIT Bombay, (7th July 2017-29th September 2017)
- **Postdoctoral Research** NIH, NIDDK, Bethesda, MD, USA (April 2015-June 2016)

Teaching Experience:

Courses taught at BHU: CHB 101 (Organic Chemistry I)
CHB 201 (Inorganic Chemistry I)
CHB 04A (Ancillary Chemistry I)
CHB 102/202 (Chemistry practicals for BSc I)
CHB 302/402 (Chemistry practicals for BSc II)

Awards and Scholastic Achievements:

- Selected for **SERB-National Postdoctoral fellowship (N-PDF)** by Science and Engineering Research Board (SERB), India (2017).
- Received **Certificate of appreciation** (2015) for an article 'Click reaction in carbohydrate chemistry: Recent developments and future perspective' for being 'The most cited article' of the journal Current Organic Synthesis.
- **Young Scientist Award** for 'Best paper presentation' in "International Conference on Challenges in Chemistry and Biology of Carbohydrates Carbo XXVIII (2014).
- **Senior Research Fellowship** from University Grant Commission (UGC), India (2013-2014).

- **Junior Research Fellowship** from University Grant Commission (UGC), India (2011-2013).
- Awarded **National Eligibility for Lectureship with JRF** in chemical sciences discipline by UGC, India, 2010.
- Qualified **Common Research Entrance Test (CRET-BHU)**, India and received scholarship (September-December 2010).
- Qualified **Graduate Aptitude Test for Engineering (GATE-2010)** in Chemical Sciences.
- Rewarded for **securing highest marks in high school** (Uttar Pradesh Board) exams in science stream at the district level (**2002**).

Publications:

Research Papers:

1. Behera, A.; Rai, D.; **Kushwaha, D.**; Kulkarni, S. (2018). Total Synthesis of Trisaccharide repeating unit of O-specific polysaccharide of *Pseudomonas fluorescens* BIM B-582. *Organic Letters* (Under Revision).
2. **Kushwaha, D.**; Xu, P.; Kováč, P. (2017). Carbohydrates as potentially versatile core subcarriers for multivalent immunogens. *RSC Advances*, 7, 7591.
3. **Kushwaha, D.**; Tiwari, V.K. (2017). Click Inspired Synthesis of 1,2,3-Triazole-linked 1,3,4-Oxadiazole Glycoconjugates, *Journal of Heterocyclic Chemistry*, 54, 2454.
4. **Kushwaha, D.**; Singh, R.S.; Tiwari, V.K. (2014). Fluorogenic dual click derived bis-glycoconjugated triazolocoumarins for selective recognition of Cu (II) ion, *Tetrahedron Letters*, 55, 4532.
5. **Kushwaha, D.**; Tiwari, V.K. (2013). Click chemistry inspired synthesis of glycoporphyrin dendrimers. *Journal of Organic Chemistry*, 78, 8184.
6. **Kushwaha, D.**; Dwivedi, P.; Kuanar, S.K.; Tiwari, V.K. (2013). Click reaction in carbohydrate chemistry: Recent developments and future perspective, *Current Organic Synthesis*, 10, 90.
7. Biswas, A.; Pandey, R.; **Kushwaha, D.**; Shahid, M.; Tiwari, V.K.; Misra, A.; Pandey, D.S. (2013). Glycosyl based *meso*-substituted dipyrromethanes as fluorescent probes for Cd²⁺ /Cu²⁺ ions, *Tetrahedron Letters*, 54, 4193.
8. **Kushwaha, D.**; Pandey, P.; Kale, R.R.; Tiwari, V.K. (2012). Cu(acac)₂ as novel and efficient catalyst for azide-alkyne cycloaddition reaction: Facile synthesis of regioselective 1,4-triazolyl glycoconjugates, *Trends in Carbohydrate Research*, 4, 45.
9. Kale, R.R.; Prasad, V.; **Kushwaha, D.**; Tiwari, V.K. (2012). Benzotriazole-mediated facile synthesis of novel glycosyl tetrazoles. *Journal of Carbohydrate Chemistry*, 31, 130.
10. Singh, A.; Mishra, B.B.; Kale, R.R.; **Kushwaha, D.**; Tiwari, V.K. (2012). A convenient synthesis of novel glycosyl azitidines under Mitsunobu reaction conditions. *Synthetic Communications*, 42, 3598.

Book Chapters:

1. **Kushwaha, D.**; Baráth, M.; Kováč, P. (2016). Preparation and characterization of 6-Azidoethyl 2,3,4,6-tetra-*O*-acetyl- β -D-glucopyranoside, Carbohydrate Chemistry: proven synthetic methods, Taylor & Francis group, Vol. 4.
2. Tripathi, R.P.; Dwivedi, P.; Sharma, A.; **Kushwaha, D.**; and Tiwari, V.K. (2013). Triazolyl Glycoconjugates in Medicinal Chemistry, Click Chemistry in Glycoscience: New Developments and Strategies by Wiley & Sons, 293-324.
3. Prasad, V.; **Kushwaha, D.**; Mishra, K.B.; Mishra, L.; Tiwari, V.K. (2013). Emerging Role of Room Temperature Ionic Liquids (RTILs) in Carbohydrate Chemistry, Bentham Publishers, Advances in Organic Synthesis, Vol. 4.
4. Kumar, D.; Mishra, B.B.; **Kushwaha, D.**; Tiwari, V.K., (2013). Impact of Solid-supported Cyclization-Elimination Strategies towards the Natural Product Inspired Molecules in Drug Discovery Research Chemistry and Pharmacology of Naturally Occurring Bioactive Compounds, CRC press, Taylor & Francis group, USA.

Invited Talk:

- **Kushwaha, D.** “Applications of Cu(I) catalyzed click reaction in carbohydrate chemistry”, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), NIH, Bethesda, USA, February 6, 2015.

Oral Presentations:

1. **Kushwaha, D.** “Click inspired synthesis of glycoporphyrin dendrimers and their photophysical studies”, International Conference on Challenges in Chemistry and Biology of Carbohydrates Carbo XXVIII, Dehradun, India, January 22, 2014.
2. **Kushwaha, D.** “Expeditive synthesis of glycodendrimers based on porphyrin core”, National Symposium on Chemistry and Environment (NSCE), Varanasi, India, March 16, 2013.

Poster Presentations:

1. **Kushwaha, D.** and Tiwari, V.K., “Click chemistry inspired synthesis of glycoporphyrin dendrimers”, Gordon Research Conference on Carbohydrates, Mount Snow, USA, June 15, 2015.
2. **Kushwaha, D.** and Tiwari, V.K., “Synthesis of porphyrin cored glycodendrimers via convenient route of click reaction”, 15th CRSI National Symposium in Chemistry, Varanasi, February 2, 2013.
3. **Kushwaha, D.** and Tiwari, V.K., “Synthesis of porphyrin cored glycodendrimers via convenient route of click reaction”, International symposium on Drug Development for Orphan/Neglected Diseases (CTDDR), Lucknow, February 27, 2013.

4. **Kushwaha, D.** and Tiwari, V.K., “Synthesis of glycoconjugated porphyrin dendrimers and their photophysical studies”, National Symposium on Organic Synthesis and Advanced Materials, Varanasi, March 2, 2014.

Professional Memberships:

- Chemical Research Society of India (CRSI).
- Association of Carbohydrate Chemists and Technologists (India).
- Society of Materials Chemistry.