

SHILPA GOWALKAR

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Education Qualification

Qualification	Name of college, University	Passing Year	CGPA/Percentage
MTech (Green Technology)	Institute of Chemical Technology, Mumbai, Maharashtra	2018	8.77
B.E (Chemical Engineering)	Bharati Vidyapeeth College of Engineering Mumbai University	2015	64.2%
HSC	Bhavan's Jr. College Maharashtra State Board	2011	67.33%
SSC	Mary Immaculate Girls' High School Maharashtra State Board	2009	85.23%

Research Fellow

(2019-present)

Nano catalyst and its application in chemical synthesis

Research Publication

"Rhodium catalyzed selective hydroaminomethylation of bio-renewable eugenol under aqueous biphasic condition." Molecular Catalysis 452 (2018): 108-116.

<https://www.sciencedirect.com/science/article/pii/S2468823118301366>

Project

1. MTech. Research Topic:

Research Topic: Hydroaminomethylation of Eugenol

This project reported a highly selective hydroaminomethylation of natural olefins such as eugenol, estragole, and anethole using homogeneous and recyclable aqueous biphasic catalysis. Rh/TPPTS/CDs catalyzed the reaction as a recyclable system under an aqueous biphasic condition. Various cyclodextrins like α -CD, β -CD, γ -CD, RAME- α -CD, RAME- β -CD, and hp- β -CD were tested, which act as a mass transfer agents. A variety of amines were synthesized in good to excellent yields.

2. B.E. Research Topic:

Research Topic: Solar Dehydrator

This project focused on designing solar cabinet dehydrators, which are easy to use, long-lasting and efficient, and have a low initial investment. The design was done using calculations of moisture, area, energy, drying rate, mass flow rate, etc. After designing, the dryer was tested using bitter melon and tomatoes, and its efficiency was compared to open sun drying. The dryer helped remove moisture efficiently without any damage to the food materials.

Instrumental Knowledge

- Experience in handling High-Pressure Reactor and gases like syngas, CO, CO₂
- Gas chromatography (GC)
- Gas chromatography-mass spectroscopy (GC-MS)
- UV spectroscopy
- ATR-FTIR spectroscopy

Training/Certificates

- Completed Certificate course in 'Industrial Safety and Risk Management at Institute of Chemical Technology, Mumbai- August 2016 to November 2016
- Attended an orientation to 'Chemical Security Risk Management'- October 2016

Strengths

- Vital research and analytical abilities
- Excellent problem-solving skills
- Strong organizational skills
- Ability to log work in a neat and detailed manner

Achievements and Co-Curricular Activities

- Volunteered in organizing the ACS School Festival (Basic Chemistry and Engineering Training Festival) held at the Institute of Chemical Technology, Mumbai, on 21st –22nd March 2018
- Secured first prize in the poster competition in college fest associated with ACES and IChE (2015)
- Certified Bharatanatyam dance teacher
- Taught street children as a part of social activity during the college fest
- Worked as a volunteer in college events
- Volunteered in NSS in junior college