

CURRICULAM VITAE

Dr. Ennus Khaim Pathan

Ph.D. (Organic Chemistry), Indian Institute of Technology, Bombay

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D.O.B: 22-June-1989

RESEARCH INTEREST

Total Synthesis in Carbohydrate Chemistry, Synthetic Methodology, and Glycan synthesis, Medicinal and Bioorganic Chemistry.

Summary

A seasoned and conscientious academician with almost 8 years of experience in Academics, Research, publication, Education sector. Has hands on experience in innovative research in the area of total synthesis in carbohydrate chemistry, intermediate in vaccine development and pharma industries, and also capable of adapting and creating competitive and friendly working professional environment as well as teaching methodologies efficient at evaluating and monitoring the process of the students/team members and there by taking effective measurement for performance improvisation. Possesses excellent analytical and interpersonal skills.

EDUCATION

Ph.D. Chemistry (Organic Chemistry), 2021, Department of Chemistry
Indian Institute of Technology Bombay, Maharashtra, India.

Thesis: Total Synthesis of Repeating Units of *Bacteroides fragilis* PS A1,
Streptococcus pneumoniae SP1 and *Acinetobacter baumannii* strain 24

Advisor: Prof. Suvarn S. Kulkarni

Grade: AB

M.Sc. Chemistry, 2012

Shri Chhatrapatti shivaji mahavidyalya omerga, Maharashtra
Division: First

B.Sc. Physics, Chemistry and Mathematics 2010

Shri Chhatrapatti shivaji mahavidyalya omerga, Maharashtra
Division: First

PROFESSIONAL EXPERIENCE

Research Associate (IITB)

Department of Chemistry,
Indian Institute of Technology Bombay, Mumbai

March. 2020 to Continue

<u>Teaching assistant (IITB)</u> Department of Chemistry, Indian Institute of Technology Bombay, Mumbai	2016 to 2017 (two year)
<u>Project Assistant-II (CSIR-NCL)</u> National chemical laboratory, Organic division, homi bhaba road, Pashan, Pune, Maharashtra	Jan 2013 to Dec. 2013
<u>Senior Research Fellow-CSIR (SRF-CSIR)</u> Department of Chemistry, Indian Institute of Technology Bombay, Mumbai	Jan. 2016 to Dec. 2018
<u>Junior Research Fellow-CSIR (JRF-CSIR)</u> Department of Chemistry, Indian Institute of Technology Bombay, Mumbai	Jan. 2014 to Dec. 2015

HONORS AND AWARDS

- Secured **All India Rank-28** in CSIR NET-JRF Exam conducted by CSIR-UGC in Dec 2013
- Secured Rank **All India Rank 1090** in GATE Exam in March 2013.
- Best Oral and Poster Award title is "Zwitterionic Oligosaccharide in Bacterial Glycans" in Chemical Frontiers Goa 2019. (Bharatratna Prof. C.N Rao given award)
- Gold medal winner for 3 times in Sports at IIT-Bombay (Department of Chemistry).

KEY SKILLS

Synthesis:

Total synthesis and methodology in natural products, Glycosylation, Synthesis of rare sugars, Glyco-Macrocyclic, Glycomimetics, Glycoconjugates, and New Chemical Entities (NCE).

Handling:

Milligram to Multigram Synthesis, Air, Light, Hazardous and Moisture Sensitive Reactions.

Technical:

Operated 400 & 500 Bruker NMR, Operated Bruker Mass-Spectrometer, FT-IR, Polarimeter, HPLC, Flash Chromatography, Microwave synthesizer, glovebox, Sonicator, Lyphylisor.

Scientific Database:

ChemOffice, Topspin, Reaxys, SciFinder, DiscoverGate, Endnote

RESEARCH AND EXPOSURE

Ph.D. Thesis

Carbohydrates are essential for vaccine development due to the presence of cell surface glycan's on many infectious agents which play a crucial role in pathogenesis. Infections due to various pathogens are on the rise, so carbohydrate-based vaccines have been developed. Carbohydrates on their own are very poor in eliciting immune response and they do not bind strongly with the MHC II complex and thus fail to elicit T-cell immunity. Carbohydrates need to be conjugated with carrier proteins, to enhance the immune response. In my thesis we synthesized Zwitterionic polysaccharides (ZPSs) PS A1, Streptococcus pneumonia SP1 and Acinetobacter baumannii strain 24 which is very important in vaccine development.

PUBLICATIONS

- [Pathan, E. K.](#); Ghosh, B.; Podilapu, A. R.; Kulkarni, S. S. Total Synthesis of Zwitterionic Polysaccharide A1 Repeating Unit of *Bacteroides fragilis* J. Org. Chem. **2021**, *86*, 6090-6099.
- [Pathan, E. K.](#); Kulkarni, S. S. Total Synthesis of Trisaccharide Repeating Unit of *Streptococcus Pneumoniae* SP1 via One-Pot Glycosylation *Manuscript under review*.
- [Pathan, E. K.](#); Singh, K; Kulkarni, S. S. Total Synthesis of Trisaccharide Repeating Unit of *Acinetotobacter baumannii* strain 24. *Manuscript under preparation*.

PARTICIPATION AND POSTER PRESENTATION (Conference and Symposium)

- Participated in Recent instrumental techniques in Coordination Chemistry in Jan 2011.
- Participated in Spectroscopy Techniques Advances in Madhavrao patil college Murum in Feb 2012.
- Participated in Advances in Glycochemistry in Jan 2014.
- Participated in 16th CRSI National Symposium in Chemistry at IIT BOMBAY in Feb 2014.
- Participated In House Symposium at IIT Bombay in Oct 2014.
- Participated in In House Symposium at IIT Bombay in Dec 2015.

- Presented poster CARBO XXXI at University of Delhi in Nov 2016.
- Participated as a *facilitator* at the salters' chemistry camp at IIT Bombay in 2017.
- Participated in In House Symposium at IIT Bombay in March 2017.
- Participated in In ICOS 21 at IIT Bombay in Dec 2016.
- Presented poster In House Symposium at IIT Bombay in March 2018.
- Presented poster In J-NOST at IICT Hyderabad in Nov 2018.
- Presented poster In Chemical Frontiers at Goa in June 2019.

PERSONAL DETAILS

Date of Birth	June, 22 1989
Address	Muskan pan stall, near loharekar hospital omerga, ta omerga dist –Osmanabad, Maharashtra, 413606
Languages	English, Hindi and Marathi