CURRICULUM VITAE

***Name***  Prof. NAVEEN K. KHARE

Professor Incharge, Faculty of Yoga & Alternative Medicine, University of Lucknow

Director, Institute of Pharmaceutical Sciences, University of Lucknow

` Former Head of the Chemistry Department, University of Lucknow

***Date of Birth*** AUGUST 17, 1958

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***Academic Qualifications***

*1) Ph.D.* 1985, UNIVERSITY OF LUCKNOW, LUCKNOW.

*2) Master of Science* 1979, PASSED WITH FIRST DIVISION FROM UNIVERSITY OF

*(Organic Chemistry)* LUCKNOW.

*3) Bachelor of Science* 1977, PASSED WITH FIRST DIVISION FROM UNIVERSITY OF

LUCKNOW.

# Positions held

1. TEACHING POST GRADUATE & UNDERGRADUATE STUDENTS AT DEPARTMENT OF CHEMISTRY, UNIVERSITY OF LUCKNOW, LUCKNOW SINCE MAY 1988, LECTURER (20.05.1988 - 26.07.1998); ASSOCIATE PROFESSOR (27.07.1998 –26.07.2006); PROFESSOR (27.07.2006-TILL DATE).
2. HEAD OF THE CHEMISTRY DEPARTMENT, UNIVERSITY OF LUCKNOW SINCE AUG. 31, 2019.

3) ON SABATICAL AS VISITING SCIENTIST AT SOUTHERN RESEARCH INSTITUTE, U.S.A.SINCE JAN.9, 1999 TO JAN.8, 2002.

4) VISITING RESEARCH ASSOCIATE WITH PROF. G.O. ASPINALL, DEPARTMENT OF CHEMISTRY, YORKUNIVERSITY, TORONTO, CANADA SINCE JULY 1991 TO NOV. 1992.

5) POST DOCTORAL FELLOW WITH PROF.G.O.ASPINALL AT DEPARTMENT OF CHEMISTRY, YORKUNIVERSITY, TORONTO, CANADA SINCE NOVEMBER 1986 TO MAY 1988.

6) POST DOCTORAL RESEARCH ASSOCIATE AT MEDICINAL CHEMISTRY, CENTRAL DRUG RESEARCH INSTITUTE, LUCKNOW SINCE OCTOBER 1984 TO OCTOBER 1986.

**significant achievements (Academic/Administrative):**

1. **Visited Southern Research Institute, USA** in Jan. 1999 for three years and worked on a N.I.H. sponsored project involving synthesis of variety of novel target compounds related to mycobacterial diseases such as tuberculosis & leprosy. This work involves the stereo- & regio selective synthesis of di & oligosaccharides heteroanalogs as potential inhibitors of mycobacterial glycosyl transferases in which the interglycosidic oxygen and/or ring oxygen has been replaced by sulfur. Simultaneously, I was also engaged in the synthesis of carbocyclic nucleosides as hypoxanthine guanine phosphoribosyl transferase (HGPRT) inhibitors. These compounds are not only difficult to handle but also involve a tedious route in multistep synthesis.
2. Also visited twice to the **Chemistry Department of YORK University, Toronto, Canada** on the Scholarship of National Research Council of Canada in 1986 to 1988 as **post Doc Fellow** and in 1991 to 1992 as **visiting fellow**. In my first visit, I was engaged in the synthesis of neoglycoconjugates of mono to oligosaccharides as synthetic antigens for the detection of Mycobacterial infections through serodiagnosis. In my second visit to York University, I was working in the stereoselective synthesis of unusual heptoses of define configuration followed by synthesis of tetrasaccharides units present in *O-*antigen chain of *Campylobacter jejuni* to further my research capabilities as synthetic carbohydrate chemist.
3. Editor, **Carbohydrate News Letter** published by Association of Carbohydrate Chemists and Technologists of India (ACCTI), 2007-2011.
4. Elected President of Association of Carbohydrate Chemists and Technologists of India (ACCTI), ([www.accti.in](http://www.accti.in)) (2018-Till Date), Vice President (2014-2018), **Honorary Secretary** (2008-2014) as well as Joint Secretary of ACCTI (2005-2008) and Executive Member of ACCTI (1995-1998 & 2003-2005).
5. One of the Editors, **Trends in Carbohydrate Research** ([www.trendscarbo.com](http://www.trendscarbo.com/)), a peer reviewed, fast track quarterly open access International e journal published from India since 2009.
   1. The issues of **Trends in Carbohydrate Research**, Volume 3, No. 3, September 2011 and Volume 10, No. 4, Dec. 2018 were fully compiled by me with language copy editing, typesetting and reference validation after getting all the submitted manuscripts refereed from the expert reviewers.
6. **Installation and operation of F.T.I.R. laboratory at Chemistry Department, Lucknow University** under D.S.T. – F.I.S.T. project as its In-charge since 2003.
7. **Ten Ph. D. Students** who received their degrees under my supervision-

Dr. Alok Kumar Jain Dr. Vijay S. Gupta

Dr. Pawan K. Srivastava Dr. Jayant Srivastava

Dr. Versha Gupta Dr. Pradeep Neupane

Dr. Mohit Saxena Dr. Stuti Gupta

Dr. Mukul R. Gupta Dr. Arpita Srivastava

1. **Four Ph. D. Students** who received their degrees under my co-supervision-

Dr. Ritu Mahajan Dr. Sapna Dixit

Dr. Sangeeta Srivastava Dr. Ruchi Chandra

1. **Two M. Phil. Students** who completed their dissertation under my supervision-

Ms. Trina Dutta Ms. Prachi Dixit

1. **Two post doctoral** candidates who completed their project under my Mentorship-

Dr. Pratibha Pandey (DST-Woman Scientist)

Dr. Ajay Arya (DS Kothari, UGC)

1. **Six Research Scholars** are presently working under my supervision-

Ms. Kratima Thakur Ms. Divya Mishra

Ms. Rehana Khan Ms. Kriti Chaurasia

Mr. Uday Raj Ms. Sadhana Vishwakarma

1. **Research projects**

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| **Funding agencies** | **Title of the Project** | **Duration** |
| C.S.I.R., New Delhi | Synthesis of Oligosaccharide as Artificial Antigen | Jan. 1994 – Jan. 1997 |
| U.G.C., New Delhi | Isolation & Synthesis of bioactive steroidal glycosides | 1st Jan. 1993– 31st Dec. 1998 |
| D.S.T., New Delhi | Isolation & Synthesis of Bacterial……….and antitumor agents | 7th Nov. 2003– 6th Nov. 2006 |
| C.S.I.R., New Delhi | Synthesis of Oligosaccharides related to Bacterial Polysaccharide | 21st August 2003 to 20th August 2008 |
| C.S.T., UP | Isolation & Synthesis of substituted pregnane& cardiac glycosides as anticancer &cardiotonic agents | Aug 2004 – July 2007 |
| D.S.T., New Delhi | Stereoselective synthesis of glycosides of potential aglycons as biologically active agents | May 2012 – April 2015 |
| U.G.C., New Delhi | Synthesis of Natural Product Inspired Heterocycles of Medicinal Interest | Aug. 2013 – July 2016 |
| U.G.C., New Delhi | Enantio and Diastereodivergent Dual catalysis: A Cooperative catalysis for the synthesis of chiralbuilding blocks used in pharmaceuticals and natural products | June 2015 – May 2018 |

1. Written One Chapter of the book “**Progress in the Chemistry of Natural Products**” vol. 9, 61, 1997. Founded by L. Echmeister, Edited by W. Hertz, G.W. Kirby, R.E.Moore, W. Steglich & Ch.Tamm. Published by Springer Verlag, New York.
2. Also helped in writing monograph “**Compendium of Indian Med. Plants**” Vol.1, 1990 of Publication & Information Directorate, New Delhi.
3. Delivered many **Invited Lectures** on Carbohydrate Chemistry, Natural Product Chemistry and Spectroscopy in various Conferences, Academic Staff Colleges and Universities.
4. Organized three conferences at Chemistry Department, University of Lucknow as Convener-

**XII Carbohydrate Conference, 1997, XXII CARBO, 2005 and National Seminar on Natural Product & Organic Synthesis 2012**

1. **Refereed many manuscripts**, which were submitted to Carbohydrate Research, Phytochemistry, J. Natural Product, J. Applied Polymer Science, Ind. J. Chemistry, Natural Product Chemistry and Trends in Carbohydrate Research.
2. Worked as **Director, UG/PG/Ph.D. Admission-2013,** University of Lucknow, 2013.
3. Worked as **Director**, Development & Planning Board, University of Lucknow, 2012.
4. Worked **as Deputy Coordinator,** JEE-B.Ed. 2010conducted by University of Lucknow, 2010.
5. Worked as **Deputy Coordinator** in the core team for the successful conduct of **C.P.M.T. – 2008** by University of Lucknow, 2008.
6. Worked as **Superintendent**, P.G. Results, University of Lucknow (2003-2005).
7. Worked as **Superintendent**, U.G. Results (Science & Commerce), University of Lucknow (2008-2012).
8. **Got cash award** for best paper entitled “Stereoselective synthesis of di and trisaccharide fragment related to the *O*-polysaccharide of *Acetobacter xylinum* as artificial antigen” in “**International Symposium on Drug Development**” held at C.D.R.I., Lucknow, 1994.
9. During my term as **member of Board of Studies** and Departmental Committee, **framed the syllabus M.Sc. in Pharmaceutical Chemistry** in 1995 and also keeping in view of the recent advancement, **courses of Under Graduate and Post Graduate were framed** in 2005 for Carbohydrate Chemistry, Natural Product Chemistry and Spectroscopy after consulting the syllabi of U.G.C., C.S.I.R. and other competitive exams.
10. Attended many International Conferences/Symposia-
    1. XXVIII International Carbohydrate Conference on CHALLENGES IN CHEMISTRY AND BIOLOGY OF CARBOHYDRATES, Dehradun, Jan. 20-22, 2014.
    2. Humboldt Kolleg & International conference, University of Lucknow, 2012
    3. 222ND A.C.S. Meeting, CHICAGO, IL, USA, 2001
    4. 219TH A.C.S. Meeting, SAN FRANCISCO, CA, USA, 2000.
    5. International Symposium: Global Challenges in Drug Development at C.D.R.I., Lucknow, INDIA, 1994 & received cash award for best paper.
    6. International Carbohydrate Symposium at Paris, France, 1992.
    7. North American Chemical Society Meeting at University of Toronto, Canada, 1988.
    8. Gordon Research Conference on Carbohydrate, Tilton, New Hampshire, USA, 1987.
    9. Also attended various National Conferences/Symposia.
11. **Order of Merit for Best Teacher Award** by the Chemical Research Society of India (CRSI) on July 21, 2012.
12. **Best Teacher Award** on Teacher's Day by Awadhnama Educational and Charitable Foundation given on September 5, 2015 at NBRI Auditorium, Lucknow.
13. Received the ACCTI **- Life Time Achievement Award–2015**, conferred on Dec. 29, 2015 at Pondicherry University in the XXX Carbohydrates Conference held on Dec. 29-31, 2015.
14. **Director, IGNOU**, Lucknow University Study Center (27220), Lucknow University, Lucknow (01.08.16-31.07.2018).
15. Given **Prof. M.P. Khare Memorial Lecture Award-2016** with cash reward of Rs. 15000.00 at International Carbohydrate Conference, Delhi University, Delhi, Nov. 14-16, 2016.
16. Elected as **Fellow of Association of Carbohydrate Chemists & Technologists (F-ACCTI)** for outstanding contribution in the area of Synthetic Carbohydrate Chemistry & Naturally occurring Steroidal Glycosides at International Carbohydrate Conference, Delhi University, Delhi on 14.11.2016.
17. **State Coordinator**, J.E.E B.Ed. 2017-19 and 2018-20 conducted by University of Lucknow.
18. **State Coordinator**, UPCPAT-2017 (AYUSH) conducted by University of Lucknow.
19. **Honorary Librarian, Tagore Library,** Lucknow University, Lucknow, 2018-2020.
20. **Organizing Secretary, International Carbohydrate Conference (CARBO-XXXIV)** held on Dec. 5-7, 2019 at Chemistry Department, University of Lucknow to commemorate the centenary year celebrations of University of Lucknow.
21. **Coordinator, Cooperative Landing Library,** University of Lucknow, 2019-2020.
22. **Advisor, J.E.E.-B.Ed.** 2020-2022 conducted by University of Lucknow.
23. **Coordinator,** M.Sc. Pharmaceutical Chemistry, University of Lucknow, 2011-2014 and 2019 till date.
24. **Revised & Restructured the CBCS programme of M.**Sc. Chemistry and M.Sc. Pharmaceutical Chemistry, launched YouTube Channel of the Department, Our Pupil Day (OPD) programme as Head, Chemistry Department, University of Lucknow in 2020.

## *RESEARCH PUBLICATIONS*

1. STRUCTURE OF DIGOXOSE. **CARBOHYDRATE RESEARCH** 129, 179-187 (1984).

2. TWO PREGNANE ESTER GLYCOSIDES FROM PERGULARIA PALLIDA. **PHYTOCHEMISTRY** 23, 2931-2935 (1984).

3. SARCOGENIN, A PREGNANE DERIVATIVE FROM PERGULARIA PALLIDA AND SARCOSTEMMA BREVISTIGMA. **PHYTOCHEMISTRY** 25, 491-493 (1986).

4. A NOVEL PREGNANE DERIVATIVE FROM SARCOSTEMMA BREVISTIGMA. **JOURNAL OF NATURAL PRODUCTS** 50, 600-603 (1987).

5. STEREOSELECTIVE SYNTHESIS OF PYRUVIC 4,6-ACETALS OF D-HEXOPYRANOSE RESIDUES. **CARBOHYDRATE RESEARCH** 200, 247-256 (1990).ALSO PRESENTED IN **NORTH AMERICAN CHEMICAL SOCIETY MEETING, TORONTO,** 1988.

6. SYNTHESIS OF ALLYL GLYCOSIDES FOR CONVERSION INTO NEOGLYCOPROTEINS BEARING EPITOPES OF MYCOBACTERIUM GLYCOLIPID ANTIGENS, **CARBOHYDRATE RESEARCH** 216, 337-355 (1991). ALSO PRESENTED IN **NORTH AMERICAN CHEMICAL SOCIETY MEETING, TORONTO,** 1988.

7 STRUCTURE OF THE GLYCOPEPTIDOLIPID ANTIGEN OF SEROVAR 20 ON THE MYCOBACTERIUM AVIUM SERO COMPLEX, SYNTHESIS OF ALLYL GLYCOSIDES OF THE OUTER DI & TRISACCHARIDES UNITSOF THE ANTIGENS OF THE SEROVARS 14 AND 20 AND SEROLOGY OF DERIVED NEOGLYCOPROTEIN, **CARBOHYDRATE RESEARCH** 216, 357-373 (1991). ALSO PRESENTED IN **INTERNATIONAL CARBOHYDRATE SYMPOSIUM**, STOCKHOLM, 1988.

8. Synthesis of oligosaccharides as artificial antigens,**“Trends in Carbohydrate Chemistry” 85, 1991.**

9. DIASTEREOSELECTIVITY IN THE SYNTHESIS OF D-GLYCERO-D-ALDOHEPTOSES BY 2-TRIMETHYL SILYL THIAZOLE HOMOLOGATION FROM HEXODIALDO -1,5-PYRANOSE DERIVATIVE**, CANADIAN JOURNAL OF CHEMISTRY** 72, 237 (1994). ALSO RESENTED IN **INTERNATIONAL CARBOHYDRATE SYMPOSIUM**, PARIS, 1992.

10. SYNTHESIS OF NEOGLYCOCONJUGATES AS ARTIFICIAL ANTIGENS, **JOURNAL OF CARBOHYDRATE CHEMISTRY** 13, 63 (1994). ALSO PRESENTED IN **INTERNATIONAL CARBOHYDRATE SYMPOSIUM,** PARIS, 1992.

11. STEREOSELECTIVE SYNTHESIS OF DI & TRISACCHARIDE FRAGMENT RELATED TO THE O-POLYSACCHARIDE OF ACETOBACTER XYLINUM AS ARTIFICIAL ANTIGENS, PRESENTED **AT INTERNATIONAL SYMPOSIUM: GLOBAL CHALLENGES IN DRUG DEVELOPMENT,** CENTRAL DRUG RESEARCH INSTITUTE, LUCKNOW 1994 ANDGOTCASH AWARD FOR BEST PAPER.

12. SYNTHESES OF SUITABLY PROTECTED GLYCOSYL ACCEPTORSAND DONORS OF D-GLUCOSE AND D-MANNOSE LEADING TO MONO AND DIGLYCOSYL NEOGLYCOPROTEINS. **IX CARBOHYDRATE CONFERENCE** 1993 AT CDRI, LUCKNOW AND PUBLISHED AS A CHAPTER IN A BOOK **“Trends in Carbohydrate Chemistry”,** ED. P.L.SONI, P. 5, 1995, Surya Publication, Dehradun.

13. SYNTHESES OF OLIGOSACCHARIDES INVOLVING α-L-RHAMNOPYRANOSIDE DERIVATIVES FOR CONVERSION INTO NEOGLYCOPROTEINS. **IX CARBOHYDRATE CONFERENCE,** 1993 AT CDRI, LUCKNOW AND PUBLISHED AS A CHAPTER IN A **BOOK “Trends in Carbohydrate Chemistry”** ED. P.L. SONI, P-17, 1995, Surya Publication, Dehradun.

14. GLYCOSYL IMIDATES: A STEREOSELECTIVE FACILE SYNTHESIS OF OLIGOMERS AS ALLYL GLYCOSIDES RELATED TO ANTIGENIC DETERMINANTS OF BACTERIAL O-LIPOPOLYSACCHARIDE FOR CONVERSION INTO NEOGLYCOCONJUGATE. **GLYCOCONJUGATE JOURNAL** 12, 416, 1995.ALSO PRESENTED IN **XIII INTERNATIONAL SYMPOSIUM ON GLYCOCONJUGATES** AT SEATTLE, WASHINGTON, U.S.A., AUGUST 1995.

15. STANDARDISED INTERMEDIATES FOR THE SYNTHESIS OF SOME MODEL BACTERIAL O-ANTIGENS. A REGIO AND STEREO SELECTIVE SYNTHESIS OF 1,2, TRANS DISACCHARIDE AS ALLYL GLYCOSIDES SUITABLE FOR CHAIN EXTENSION**. INDIAN JOURNAL OF CHEMISTRY,** 36B, 745,1997.

16. TWO BIOLOGICAL IMPORTANT OLIGOSACCHARIDES FROM MARSDENIA ROYLEI. **INTERNATIONAL CARBOHYDRATE SYMPOSIUM** AT MILAN, ITALY, JULY 1996.

17. CARDIAC GLYCOSIDES. A REVIEW ARTICLE.**PROGRESS IN CHEMISTRY OF NATURAL PRODUCTS**, EDITED BY W. HERTZ, Ch. TAMM, PUBLISHED BY SPRINGER VERLAG 69, 61 (1997).

18. STRUCTURE OF ROYLEOSE**. XI CARBOHYDRATE CONFERENCE**, IICB, CALCUTTA, NOV. 1996 AND DETAILED PAPER ACCEPTED IN A BOOK **“TRENDS IN CARBOHYDRATE CHEMISTRY”** 3, 65-67, (1996). ED. P.L. SONI, SURYA PUBLICATION.

19. A STEREO SELECTIVE SYNTHESIS OF OLIGOMERS AS ALLYL GLYCOSIDES RELATED TO ANTIGENIC DETERMINANTS OF BACTERIAL O-LIPOPOLYSACCHARIDES, **CARBOHYDRATE LETTERS,** 3, 247-254, 1999.

20. NMR STUDIES OF OLIGOSACCHARIDES AS GLYCAL OF RARE DEOXY SUGARS FROM MARSEDENIA ROYLEI, **NATIONAL SYMPOSIUM ON MAGNETIC RESONANCE,**IND. INSTITUTE OF SCIENCES, BANGALORE, FEB. 1998.

1. APPLICATION OF NMR TECHNIQUES IN OLIGOSACCHARIDES SYNTHESIS RELATED TO BACTERIAL O- ANTIGENS, **NATIONAL SYMPOSIUM ON MAGNETIC RESONANCE,** INDIAN INSTITUTE OF SCIENCES, BANGALORE, FEB.1998.

22. STRUCTURAL STUDIES OF TRISACCHARIDES FROM MARSEDENIA ROYLEI, **XIX INTERNATIONAL CARBOHYDRATE SYMPOSIUM**, UNIVERSITY OF CALIFORNIA, SAN DIEGO, CA, USA.

23. TWO OLIGOSACCHARIDES FROM *MARSEDENIA ROYLEI*, **PHYTOCHEMISTRY**, 50, 1353, 1999.

1. TRISACCHARIDES FROM *MARSEDENIA ROYLEI*, **PHYTOCHEMISTRY**, 52, 675, 1999.

25. EFFICIENT, CONVERGENT SYNTHESIS OF OLIGOSACCHARIDES RELATED TO *ECHERICHIA COLI* O:25 SUITABLE FOR CHAIN EXTENSION**, XII CARBOHYDRATE CONFERENCE,** CHEMISTRY DEPARTMENT, LUCKNOW UNIVERSITY, LUCKNOW, NOV. 1997.

26. STEREOSELECTIVE SYNTHESIS OF DISACCHARIDES CORRESPONDING TO ANTIGENIC FACTOR 9 OF CANDIDA GUILLIERMONDII SUITABLE FOR CHAIN EXTENSION**, XII CARBOHYDRATE CONFERENCE,** CHEMISTRY DEPARTMENT, LUCKNOW UNIVERSITY, LUCKNOW, NOV. 1997, ALSO PUBLISHED IN A BOOK **TRENDS IN CARBOHYDRATE CHEMISTRY,** 4, 51, 1999. ED. P.L. SONI, SURYA PUBLICATION, DEHRADUN.

27. STRUCTURAL STUDIES OF A NOVEL TETRASACCHARIDE FROM MARSDENIA ROYLI, **XII CARBOHYDRATE CONFERENCE,** CHEMISTRY DEPARTMENT, LUCKNOW UNIVERSITY, LUCKNOW, NOV. 1997.

28. RARE TRIDEOXY SUGAR FROM MARSDENIA ROYLI, **XII CARBOHYDRATE CONFERENCE,** CHEMISTRY DEPARTMENT, LUCKNOW UNIVERSITY, LUCKNOW, NOV. 1997.

1. SYNTHESIS OF 1,2-TRANS LINKED OLIGOMERS AS ALLYL GLYCOSIDES USING N

TRICHLOROACETIMIDATE GLYCOSYL DONORS, **XIII CARBOHYDRATE CONFERENCE**, FRI, DEHRADUN, NOV. 1998.

1. SYNTHESIS OF 4-THIOARABINOFURANOSE DISACCHARIDES AS INHIBITORS OF MYCOBACTERIAL GLYCOSYLTRANSFERASES. **219TH AMERICAN CHEMICAL SOCIETY MEETING,**SAN FRANCISCO, CA, USA., MARCH 2000.

31. STEREOSELECTIVE SYNTHESIS OF SOME 1,2-TRANS-LINKED OLIGOMERS AS ALLYL GLCOSIDE USING TRICHLOROACETIMIDATE DONORS**. INDIAN J. CHEMISTRY** 39B, 346, 2000.

1. SYNTHESIS AND ACTIVITY OF THIO-LINKED ARABINOSE DISACCHARIDES AGAINST MYCOBACTERIUM TUBERCULOSIS (MTB) AND M. AVIUM COMPLEX (MAC). **40th INTERSCIENCE CONFERENCE ON ANTIMICROBIAL AGENTS AND CHEMOTHERAPY (ICAAC),** TORONTO, ON, CANADA, SEPTEMBER 2000.

33. SYNTHESIS OF DISACCHARIDES RELATED TO THE MYCOBACTERIAL ARABINOGALACTAN**. CARBOHYDRATE LETTERS,** 2001, 4(2), 117-122.

34. STEREOSELECTIVE & REGIOSELECTIVE SYNTHESIS OF PENTASACCHARIDE RELATED TO E.COLI O:25. **20TH INTERNATIONAL CARBOHYDRATE SYMPOSIUM,** HAMBURG, GERMANY, AUGUST-SEPTEMBER 2000. ORAL PRESENTATION.

1. ENANTIOSELECTIVE ROUTE TO A KEY INTERMEDIATE IN THE SYNTHESIS OF CARBOCYLIC PHOSPHORIBOSYLTRANSFERASE TRANSITION STATE ANALOGUES. **TETRAHEDRON**, 57, 9899, 2001.
2. STRUCTURAL STUDIES OF PREGNANE & THEIR GLYCOSIDES FROM MARSDENIA ROYLEI. **21TH INTERNATIONAL CARBOHYDRATE SYMPOSIUM**, AUSTRALIA, JULY 2002.

37. ISOLATION AND STRUCTURAL STUDIES OF PREGNANES & THEIR GLYCOSIDES FROM MARSDENIA ROYLEI. **PHYTOCHEMISTRY,** 64, 1327-1333, 2003.

38. Synthesis, Opioid Recepter Binding, and Functional Activity of 5\*- Substituted 17-Cyclopropyl methylpyrido[2\*,3\*:6,7] morphinans.**Bioorganic and Medicinal Chemistry Letters.**13, 529-532, 2003.

1. NOVEL LIGANDS FOR THE OPIOID RECEPTORS: SYNTHESIS AND STRUCTURE-ACTIVITY RELATIONSHIPS AMONG 5'-ARYL AND 5'-HETEROARYL 17-CYCLOPROPYLMETHYL-4,5α-POXYPYRIDO [2',3':6,7] MORPHINANS. **Bioorganic and Medicinal Chemistry.**  11, 4143-4154, 2003.
2. Identification of opioid ligands possessing mixed micro agonist/delta antagonist activity among pyridomorphinans derived from naloxone, oxymorphone, and hydromorphone [correction of hydropmorphone]. **J. Med. Chem.** 47(6), 1400-12, 2004. (Erratum in: **J. Med. Chem**. 47(10), 2716, 2004).
3. SYNTHESIS OF 4-THIOARABINOFURANOSE DISACCHARIDES AS MIMICS IN INHIBITING THE MYCOBACTERIAL GLYCOSYLTRANSFERASES. INVITED LECTURE IN **XVIII CARBOHYDRATE CONFERENCE,** I.A.C.S., KOLKATTA 2003.

42. ISOLATION & STRUCTURE ELUCIDATION OF OLIGOGLYCOSIDES FROM *HOYA LONGIFOLIA*. **XIX CARBOHYDRATE CONFERENCE**, FRI, DEHRADUN, 2004.

43. CHEMICAL APPROACH TO THE SYNTHESIS OF HEPTASACCHARIDE REPEATING UNIT OF *BURKHOLDERIA CEPACIA*. **XIX CARBOHYDRATE CONFERENCE**, FRI, DEHRADUN, 2004.

44. AN EFFICIENT CHEMICAL SYNTHESIS OF TRISACCHARIDE BUILDING BLOCK OF HEPTASACCHARIDE REPEATING UNIT OF BURKHOLDERIA CEPACIA. **XIX CARBOHYDRATE CONFERENCE**, FRI, DEHRADUN, 2004.

45. PHYTOCHEMICAL INVESTIGATION OF *HOYA LONGIFOLIA*. **XX CARBOHYDRATE CONFERENCE**, Lucknow University, LUCKNOW, 2005.

46. THREE PREGNANE GLYCOSIDES FROM *PERGULARIA PALLIDA*, **NATURAL PRODUCT COMMUNICATION,** 2**,** 27-33, 2007.

47. ISOLATION & STRUCTURE ELUCIDATION OF RARE DEOXY HEXOSES FROM MARSDENIA ROYLEI. **XX CARBOHYDRATE CONFERENCE**, Lucknow University, LUCKNOW, 2005.

48. NOVEL PREGNANE GLYCOSIDES FROM PERGULARIA PALLIDA. **XX CARBOHYDRATE CONFERENCE**, Lucknow University, LUCKNOW, 2005.

49. GLYCOSIDATION OF BIOACTIVE LEAD MOLECULES FROM PLANTS. **XX CARBOHYDRATE CONFERENCE**, Lucknow University, LUCKNOW, 2005.

50. CHEMICAL APPROACH TO THE SYNTHESIS OF PENTASACCHARIDE REPEATING UNIT OF ESCHERICHIA COLI 0141. **XX CARBOHYDRATE CONFERENCE**, Lucknow University, LUCKNOW, 2005.

51. ISOLATION & STRUCTURE ELUCIDATION OF PREGNANE AND ITS TRIGLYCOSIDE FROM THE MEMBERS OF ASCLEPIADACEAE FAMILY. **XXI CARBOHYDRATE CONFERENCE**, DELHI UNIVERSITY, DELHI, 2006.

52. Sugar Building blocks related to bacterial cell wall for oligosaccharide synthesis. INVITED LECTURE, **XXI CARBOHYDRATE CONFERENCE**, DELHI UNIVERSITY, DELHI, 2006.

53. Synthesis of oligosaccharide fragments related to different bacterial strains. **XXII CARBOHYDRATE CONFERENCE**, NIPER, MOHALI, CHANDIGARH, 2007.

54. Synthesis of trisaccharide building block related to the repeating unit of exopolysaccharide of *Burkholderia cepacia*. INVITED LECTURE, **XXII CARBOHYDRATE CONFERENCE**, NIPER, MOHALI, CHANDIGARH, 2007.

1. SYNTHESIS OF 4-DEOXY-4-THIOARABINOFURANOSYL DISACCHARIDES, ANALOGS OF MYCOBACTERIAL ARABINOGALACTAN. **INDIAN JOURNAL CHEMISTRY, SEC. B,** 47B, 1748-1752, 2008.

56. Synthesis of trisaccharide repeating unit related to *Klebsiella* 012 serotype. **CARBOHYDRATE RESEARCH**, 343, 2822-2825, 2008.

AND ALSO PRESENTED AS “Synthesis of trisaccharide repeating unit of *Klebsiella 0:12* serotype”.**XXI CARBOHYDRATE CONFERENCE**, DELHI UNIVERSITY, DELHI, 2006.

1. Absolute configuration of calogenin and its 20-keto derivative, **INDIAN JOURNAL CHEMISTRY, SEC. B**, 47B, 1744-1747, 2008.
2. A NEW PREGNANE GLYCOSIDE FROM MARSDENIA ROYLEI AS POTENTIAL ANTIOXIDANT AND ANTIDYSLIPIDEMIC AGENT, **jOURNAL OF ASIAN NATURAL PRODUCT RESEARCH**, 10, 1023-1028, 2008
3. GLYCOSYLATION STRATEGIES IN OLIGOSACCHARIDE SYNTHESIS, **TRENDS IN CARBOHYDRATE RESEARCH**, 1, 18-51, 2009.

60. Two pregnane oligoglycosides from *Marsdenia roylei*. **Natural product research**, [23](http://www.informaworld.com/smpp/title%7Edb=all%7Econtent=t713398545%7Etab=issueslist%7Ebranches=23#v23) ([14](http://www.informaworld.com/smpp/title%7Edb=all%7Econtent=g914523694)), 1342 – 1354, 2009.

AND ASLO PRESENTED AS “Isolation and structure elucidation of pregnane oligoglycosides from *Marsdenia roylei*”. XXII CARBOHYDRATE CONFERENCE, NIPER, MOHALI, CHANDIGARH, 2007.

61. Synthesis of blocked trisaccharide analogue related to the repeating unit of the *O*-antigen form*E. coli* :025. **INDIAN JOURNAL CHEMISTRY, SEC. B,** 48B, 848-852, 2009.

AND ALSO PRESENTED AS “SYNTHESIS OF DI & TRISACCHARIDE BUILDING BLOCKS OF THE PENTASACCHARIDE REPEATING UNITS RELATED TO O-ANTIGEN FROM E. COLI 0:25”. **XX CARBOHYDRATE CONFERENCE**, Lucknow University, LUCKNOW, 2005.

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