BIO DATA

1. Name: Rina Ghosh

2. Date of Birth: 01.12.1957

3. Permanent Address: 1A, Nabanagar, Jadavpur, Kolkata 700032, India.

4. Present Position: nil
[Superannuated Professor, Department of Chemistry, Jadavpur University, Kolkata].

5. Educational Qualifications:

Examination	Board/University	Class/Div.	Year of degree	Subjects
Ph.D.(Sc.)	Jadavpur Univ.		1986	Title: Structural aspects of Carbohydrate materials Isolated from plant and fish sources
M.Sc.	Jadavpur Univ.	I	1979	Organic Chemistry (Sp.)
B.Sc.	Jadavpur Univ.	I	1977	Chemistry (Hons)
Higher Secondary	West Bengal Board	I	1974	Beng., Engl., Phys., Chem, Maths, Bio (opt)

6. Research Experience:

Fellowship/Post	Department, Institute (Kolkata, India)	Duration
JRF (Univ)	Chemistry, Jadavpur University	16.2.81-4.1.85
SRF (CSIR)	Chemistry, Jadavpur University	5.1.85-7.3.87
RA (CSIR)	Chemistry, Jadavpur University	9.3.87-21.8.89
RA-II (IACS)	Biological Chemistry, IACS	21.8.89-20.8.91
Pool officer (CSIR) (No.13/6316-A/91-pool	Chemistry, Jadavpur University	19.9.91-30.6.92

7. Teaching Experience:

Post held	Institute	Duration
Lecturer in Chemistry	Bolpur College, West Bengal	1.7.92-1.4.95
Lecturer in Chemistry	Tripura University, Agartala	3.4.95-30.6.97
Sr. Lecturer in Chemistry	Tripura University, Agartala	1.7.97-19.1.98
Sr. Lecturer in Chemistry	Jadavpur University	20.1.98-18.9.2000
Reader in Chemistry	Jadavpur University	19.9.2000-30.9.2008
Professor of Chemistry	Jadavpur University	1.10.2008- till now

8. Award/Prize:
Awarded the National Scholarship during Graduate and Postgraduate studies.

9. Research fields: Lewis acid catalysed organic reactions, Development of regio-, chemo- and stereoselective methods in organic synthesis with special reference to carbohydrate field, One-pot synthesis of biologically potent heterocycles, Studies on soft matters including organogelators and the corresponding gels, Synthesis of oligosaccharides related to bacterial polysaccharides, Studies on Chemosensors

10. No. of scholars awarded Ph.D. degree: 12

11. (a) Member of the Editorial Board of journal: Carbohydrate Research

(b) Acting as Referee for reviewing manuscripts of reputed national and international journals :

J. Org. Chem.; Org. Lett.; Synthesis; Synlett; Tetrahedron. Lett.; Tetrahedron; Bioorg. Med. Chem.; Chem. Commun., Soft Matter, Org. Biomol. Chem.; J. Mol. Cat. A (Chem); Catalysis Comm.; Arkivoc; Beilstein J. Org. Chem., Carbohydrate Research; Indian J. Chem.; JSST, *etc*.

12. Major Research Projects:

As Principal investigator:
Completed:

1. "Enantioselective synthesis of cyclopropanes, aziridines and oxiranes using carbohydrate chiral auxiliaries"- **CSIR** Scheme No. 01/1463/97/EMR-II, 1997-2001. (Total ~Rs. 9 Lacs)
2. "Aqua compatible Lewis acids in organic synthesis with special reference to carbohydrate field"-**CSIR** scheme No. 01/1672/00/EMR-II, Dec. 2000 to Mar. 2004. (Total ~Rs. 7 Lacs).

3. "Synthesis of the oligosaccharides related to the O-antigens of *Escherichia coli* of types 8, 78 and 111 and their immunochemical studies"-**CSIR** scheme No. 01/1951/04/EMR-II, Jan. 2005-Dec. 2007.-implemented on Feb. 14, 2005. (Total ~Rs. 6 Lacs).
4. "Low molecular mass organogelators (LMOGs) with special reference to carbohydrate field"- **DST** scheme No. SR/S1/OC-28/2006 dt. 25.01.07 (Total Rs. 12.06 Lacs).
5. "Studies on carbohydrate synthesis with special reference to the synthesis of oligosaccharides related to bacterial lipopolysaccharide of *Pseudomonas aeruginosa*" **CSIR** scheme No.01/2382/10/EMR-II dt. 07/06/2010 (Total Rs. 13 Lacs.
6. "Studies On Carbohydrates With Special Reference To Glycosylation Reactions And Synthesis Of Oligosaccharides Related To Bacterial O- and K-antigens", **DST**-SERB scheme No. SR/S1/OC-61/2012 dt. Dec. 05, 2012 (Total Rs. 25 Lacs).
7. "Synthesis of oligosaccharides …….bacterial antigens", **CSIR**, Scheme No. No.02/0186/14/EMR-II, Total Rs. 8.5 Lacs + amount for scholar.Oct 2014-Sept. 2017.
8. As PI in **collaboration**. "Studies on Anti-thyroidal …….bamboo-shoots of north east…. Thyroid disruption" **DBT-Twin** No. BT/471/NE/TBP/2013; My component: 6.75 Lacs; Jan 2015-still continuing.

Completed as CI:

9. ***As Co-investigator*** (in **collaboration** with Dr. Banasri Hazra, Dept. of Pharm. Tech., J.U.)**:** Development of glycosylated derivatives of diospyrin, a plant derived bioactive naphthoquinonoid, for improved antitumour and antileishmanial properties in vitro and in vivo.- **DAE** scheme No. 2002/37/19/BRNS/572. Duration 2002-2006.

13. Invited lectures (National and International)

1. On the topic 'Studies on Carbohydrate based organogelators and gels' in the 3rd CRSI symposim (Kolkata Chapter) held at IIT, Kharagpur on 6th August, 2005.
2. On the topic "Umpolung" in the Refresher Course, 2006 organised by the Department of Chemistry, Jadavpur University.
3. On the topic "Carbohydrates in disease management" in the Refresher Course, 2008 organised by the Department of Chemistry, Jadavpur University.
4. On the topic "Asymmetric synthesis" in the Refresher Course, 2008 organised by the Department of Chemistry, University of Calcutta.
5. On the topic "Catalytic Asymmetric reactions" in the Refresher Course, 2008 organised by the Department of Chemistry, University of Calcutta.
6. On the topic "Catalytic Asymmetric reactions" in the Refresher Course, 2009 organised by the Department of Chemistry, Jadavpur University, Kolkata.
7. On the topic "Studies on Carbohydrate Derived Low Molecular Mass Organogelators and the Corresponding Gels" in the symposium NATCOSEB-XIV organized by Department of Chemistry, University of Kashmir during 28-30 July, 2009.
8. On the topic "Umpolung reactivity" in the Refresher Course, 2011 organised by the Department of Chemistry, Jadavpur University, Kolkata.
9. On the topic "Tailor-made amphiphiles based on carbohydrates" in the symposium NATCOSEB-XV organized by Department of Chemistry, Tripura University during 27-29 December, 2011.
10. "Highly Optically Pure Medicinally Potent Heterocyclic Scaffolds Derived From Carbohydrates" in the BIT's 3rd Annual "World Congress of Catalytic Asymmetric Synthesis-2012" (WCCAS-2012) at Beijing, China during May 12-14, 2012.

11. "A Journey with Carbohydrates Related to Oligosaccharide Syntheses" in the Satellite International Symposium "Emerging Trends in Glycoscience and Glycotechnology (ETGG)" at IIT, Delhi during January 8-10, 2014.
12. On 'My recent synthetic journey with oligosaccharides related to bacteria' in the 30th Carbohydrate Conference (CARBO–XXX)" during December 29-31, 2015, in Department of Chemistry, Pondicherry University, India.
13. On 'Synthesis of Oligosaccharides of Bacterial Antigens Utilizing One-pot Glycosylation Reactions' in the symposium Emerging Chemistry and Biology of Carbohydrates"(ECBC-2017) during December 18-20, 2017, in the Department of Chemistry, Indian Institute of Technology Kharagpur.
14. On 'Synthesis of Heterocyclic Compounds and Oligosaccharides Utilizing One-Pot Multicomponent Reactions', in the symposium Recent Advances in Molecules and Materials: RA2M 2018' 2nd – 3rd August 2018.
15. On 'Synthesis of Heterocyclic Compounds and Oligosaccharides Utilizing One-Pot Multicomponent Reactions' in the National Symposium on Contributions of Women in Science in India (NSCWSI-2018) during 15-16 February, 2018, organized by The Indian Science News Association (ISNA), Kolkata.
16. On 'My research journey with carbohydrate molecules', Professor A.S. R. Anjaneyulu 60th Birth Day Commemoration Award Lecture, in the 56th Annual Convention of Chemists, Indian Chemical Society, 14-16, November, 2019 at Pt. Ravishankar Shukla University, Raipur.
17. On 'Synthesis of a tetrasaccharide derivative related to the cell wall polysaccharide of B. *anthracis* utilizing one-pot glycosylation reactions' in the International Symposium on Green chemistry, ISGC 2019 held from May 13th to 17th 2019 in La Rochelle, France.
18. On 'Asymmetric Synthesis with special reference to catalytic asymmetric reactions' in the Refresher Course on Chemical Sciences: From Concepts to Applications (RCCHEM2021) in 2021 organised by the Department of Chemistry, Jadavpur University.

14. List of Publications:

1. Characterisation of polysaccharides of *Aloe barbadensis* Miller: Part III. Structure of an acidic oligosaccharide, G. Mandal, R. Ghosh, and A. Das, *Indian J. Chem.*, 22B, **1983**, 890.
1. Structure of the β-D-galactan isolated from the pods of *Dolichos lablab* Linn., R. Ghosh and A. Das, *Carbohydr. Res.*, 126, **1984**, 287.
2. Structure of the carbohydrate portion of the sialoglycopeptide isolated from the skin of the fish M. *armatus*, R. Ghosh, S.K. Sikder and A. Das, *Carbohydr. Res.*, 162, **1987**, 257.
3. Structure of a glucan isolated from Tal fruit (*Borassus flabellifer*), R. Ghosh and A. Das, *Indian J. Chem.*, 26B, **1987**, 1059.
4. Conformational and steric requirements of the side chain for sulfur participation in benzthiepin derivatives, R. Patra, R. Ghosh, S. B. Maiti and A. Chatterjee, *Tetrahedron Lett.*, 30, **1989**, 4279.
5. Structure of the glucan part of a glycopeptide isolated from the native fish Magur (*Clarius batrachus*), M. K. Debnath, R. Ghosh and A. Das, *Indian J. Chem.*, 29B, **1990**, 923.
6. Synthesis of methyl 2-acetamido-2-deoxy-5,6-O-isopropylidene-β-D-galactofuranoside, R. Ghosh and N. Roy, *J. Carbohydr. Chem.*, 11, **1992**, 71.

7. Synthesis of tetrasaccharide repeating unit of the antigen from *Klebsiella* type 83, S. K. Das, R. Ghosh and N. Roy, *J. Carbohydr. Chem.,* 12, **1993**, 693.
8. Synthesis of tetrasaccharide related to the repeating unit of the antigen from *Klebsiella* type 55, S. K. Das, R. Ghosh, A. K. Ray and N. Roy, *Carbohydr. Res.*, 253, **1994**, 301.
9. Studies on changes in tumor inhibitory activities through structural modification of a diospyrin derivative. B. Hazra, S. Pal, R. Ghosh and A. Banerjee, *Med. Sci. Res.*, 22, **1994**, 621.
10. *In vitro* antiplasmodial effects of diospyrin, a plant derived naphthoquinonoid and a novel series of derivatives, B. Hazra, R. Ghosh, A. Banerjee, G.C. Kirby, D.C. Warhurst and J.D. Phillipson, *Phytother. Res.,* 9, **1995**, 72.
11. Vanadium (V) in perchloric acid : a novel use of the reagent for dimerisation of some naphthalene derivatives. B. Hazra, S. Acharya, R. Ghosh, A Patra and A. Banerjee, *Synth. Commun*., 29, **1999**, 1571.
12. $InCl_3$ induced C-glycosylation of per-O-acetyl glycals with allyltrimethylsilane. R. Ghosh, D. De, B. Shown and S.B. Maiti, *Carbohydr. Res.*, 321, **1999**,1.
13. $InCl_3$ in organic synthesis. R. Ghosh, *Indian. J. Chem.*, 40B, **2001**, 550.
14. $InCl_3$ mediated reactions of aldehydes with allyltrimethylsilane. R. Ghosh, D. De, A. Chakraborty and S. B. Maiti, *Indian J. Chem*., 41B, **2002**, 1299.
15. $InCl_3$ –an efficient Lewis acid catalyst for stereoselective O-glycosidation reactions, R. Ghosh, A. Chakraborty, D. K. Maiti and S. B. Maiti, *Indian J. Chem.*, 41B, **2002**, 583.
16. $In(OTf)_3$-a new efficient catalyst for Stereoselective C-glycosylation reactions of glycal derivatives, R. Ghosh, A. Chakraborty and D. K. Maiti, *Synth. Commun*., 33, **2003,** 1623.
17. $InCl_3.3H_2O$: An efficient Lewis Acid Catalyst for Stereoselective O-Glycosidation Reactions of per-O-acetylglycopyranosyl trichloroacetimidates, R. Ghosh, A. Chakraborty and D. K. Maiti, *Indian J. Chem.*, 42B, **2003,** 602.
18. A simple one-pot synthesis of α-amino phosphonates catalysed by $In(OTf)_3$, R. Ghosh, S. Maiti, A. Chakraborty and D. K. Maiti, *J. Mol. Cat. A, Chem*., 210, **2004**, 53.
19. Indium triflate: A reusable catalyst for expeditious chemoselective conversion of aldehydes to acylals. R. Ghosh, S. Maiti, A.Chakraborty, and R.K. Halder, *J. Mol. Cat. A, Chem*., 215, **2004,** 49.
20. Synergistic enhancement of catalytic activity of $InCl_3$ - Me_3SiCl combination towards carbon Ferrier Rearrangement in glycal derivatives. R. Ghosh, A.Chakraborty and S. Maiti, *Arkivoc*, **2004** (xiv) 1.
21. $In(OTf)_3$ Catalysed one pot synthesis of 3,4-dihydropyrimidin-2(1H)-ones. R. Ghosh, S. Maiti and A.Chakraborty, *J. Mol. Cat. A, Chem*., 217, **2004,** 47.
22. Facile catalysed acylation of heteroatoms using $BiCl_3$ generated *in situ* from the procatalyst BiOCl and acetyl chloride, R. Ghosh, S. Maiti and A. Chakraborty. *Tetrahedron Lett*., 45, **2004**, 6775.
23. Highly Stereoselective synthesis of peracylated α-aldopyranosyl chlorides from aldopyranose peracetates and thionyl chloride catalyzed by $BiCl_3$ generated *in situ* from the procatalyst BiOCl. R. Ghosh, A. Chakraborty and S. Maiti, *Tetrahedron Lett*.,45, **2004**, 9631.
24. Facile catalyzed acylation of alcohols, phenols, amines and thiols based on $ZrOCl_2.8H_2O$ and acetyl chloride in solution and in solvent-free condition. R. Ghosh, S. Maiti and A. Chakraborty, *Tetrahedron Lett*.,46, **2005**, 147.
25. One-pot multicomponent synthesis of β-acetamidoketones based on $BiCl_3$ generated *in situ* from the procatalyst BiOCl and acetyl chloride. R. Ghosh, S. Maiti and A. Chakraborty, *Synlett* **2005**, 115; *Erratum* 1344.
26. Chiral 2-C-methylene glycosides and carbohydrate-derived pyrano[2,3-

b][1]benzopyrans: synthesis via $InCl_3$ catalyzed stereoselective Ferrier rearrangement of 2-C-acetoxymethyl glycal derivatives. R. Ghosh, A. Chakraborty, D. K. Maiti and V. G. Puranik, *Tetrahedron Lett*., 46, **2005**, 8047.

27. $ZrOCl_2.8H_2O$: An efficient Lewis acid catalyst for one-pot multicomponent synthesis of β-acetamido ketones. R. Ghosh, S. Maiti, A. Chakraborty, S. Chakraborty and A. K. Mukherjee, *Tetrahedron*, 62, **2006**, 4059.
28. Crystal or low molecular mass organogel based on sugar-derived chiral pyrano[2,3-b]naphtho[1,3-e]pyrans. R. Ghosh, A. Chakraborty, D. K. Maiti, V. G. Puranik, *Org. Lett*. 8, **2006**, 1061.
29. *syn*-N-[2-Methyl-1-{4-methyl-phenyl)-3-oxo-3-phenyl-propyl]-acetamide: Supramolecular structure formed by N-H…O, C-H…O and C-H…π (arene) hydrogen bonds. S. Chakraborty, S. Maiti, R. Ghosh, A. K. Mukherjee, *Acta Cryst*., *E62,* **2006**, 4092.
30. Advances on the use of indium triflate in organic syntheses. R. Ghosh, S. Maiti, *J. Mol. Cat.A. Chem. 264*, **2007**, 1.
31. Bismuth(III) Oxychloride procatalyst based one-pot multicomponent synthesis of β'-acetamido-β-dicarbonyl compounds with special reference to pref-β'-acetamido-β-oxo esters. R. Ghosh, S. Maiti, S. Ghosh, A. K. Mukherjee. *Synthesis*, **2007**, 190.
32. Synthesis and antiproliferative activity of some novel derivativbes of diospyrin, a plant derived naphthoquinonoid. M. Dassarma, R. Ghosh, A. Patra, B. Hazra. *Bioorg. Med. Chem*., 15, **2007**, 3672.
33. Novel glycoconjugates of diospyrin, a quinonoid plant product: synthesis and evaluation of cytotoxicity against human malignant melanoma (A375) and laryngeal carcinoma (Hep 2). M. Dassarma, R. Ghosh, A. Patra, R. Chowdhury, K. Chaudhuri, B. Hazra. *Org. Biomol. Chem*., 5, **2007**, 3115.
34. Synthesis of novel aminoquinonoid analogues of diospyrin and evaluation of their inhibitory activity against murine and human cancer cells, M.Dassarma, R. Ghosh, A. Patra, B. Hazra. *Eur. J. Med. Chem.*, **2008,** *43*, 1878.
35. $ZrOCl_2.8H_2O$ Catalyzed one-pot multicomponent synthesis of β'-acetamido-β-dicarbonyl compounds with special reference to *pref*-selective β'-acetamido-β-ketoesters, R. Ghosh, S. Maiti, S. K. Maity, S. Roy. *Synth. Commun*. **2008**, *38*, 1958.
36. Aryl 4,6-O-arylidene-1-thio-β-D-glycopyranoside based new organogelators and their gels. S. Roy, A. Chakraborty, R. Ghosh. *Carbohydr. Res*. **2008**, *343*, 2523.
37. Synthesis of the repeating trisaccharide unit of the cell wall lipopolysaccharide of E. coli type 8. S. K. Maiti, S. Maity, A. Patra, R. Ghosh. *Tetrahedron Lett*. **2008**, *49*, 5847.
38. Use of Cipher and Cipher-Key in Carbohydrate Nomenclature, A. Banerjee, T. Das, R. Ghosh, *J. Ind. Chem. Soc*. 2009, *86*, 963-968.
39. Convergent synthesis of the tetrasaccharide repeating unit related to the O-antigenic polysaccharide of *Escherichia coli* 78. S. K. Maity, A. Patra, R. Ghosh, *Tetrahedron*, **2010**, *66*, 2809.
40. Tailor-made chiral pyranopyrans based on glucose and galactose and studies on self assembly of some crystals and low molecular weight organogel (LMOG), S. Roy, A. Chakraborty, B. Chattopadhyay, A. Bhattacharya, A. K. Mukherjee, R. Ghosh, *Tetrahedron* **2010**, *66*, 8512.
41. Synthesis of C_{14}- and C_{16}- Carbon Chain Containing Mannitol Diester and Diether Based Non-ionic Amphiphiles and Studies of Their Langmuir Monolayer Films at the Air / Water Interface. S. Roy, K. Maity, S. P. Moulik, R. Ghosh. *Coll. Sur. Sci .A.* **2011**, *377*, 349.
42. $FeCl_3$ mediated arylidenation of carbohydrates, N. Basu, S. K. Maity, S. Roy, S. Singha (in part), R. Ghosh, *Carbohydr. Res*. **2011**, *346*, 534.

43. Efficient one-pot synthesis of functionalized piperidine scaffolds *via* $ZrOC_{l2}.8_{H2}O$ catalyzed tandem reactions of aromatic aldehydes with amines and acetoacetic esters, S. Mishra, R. Ghosh, *Tetrahedron Lett*. **2011**, *52*, 2857.
44. Ecofriendly and sustainable efficient synthesis of bis(indolyl)methanes based on recyclable Brønsted (CSA) or Lewis ($ZrOCl_2.8H_2O$) acid catalysts. S. Mishra, R. Ghosh, *Indian J. Chem*. **2011**, *50B*, 1630.
45. Mechanistic studies on a new catalyst system (CuI-$NaHSO_4.SiO_2$) leading to one-pot synthesis of imidazo[1,2-a]pyridines from reactions of 2-aminopyridines, aldehydes and terminal alkynes. S. Mishra, R. Ghosh, *Synthesis* **2011**, 3463.
46. K_2CO_3 mediated one-pot multicomponent synthesis of medicinally potent pyridine and chromeno[2,3-b]pyridine scaffolds, S. Mishra, R. Ghosh, *Syn. Commun*, **2012**, 42, 2229.
47. Efficient activation of thioglycosides with *N*-(*p*-methylphenylthio)-ε- caprolactam-TMSOTf, S. K. Maity, N. Basu, R. Ghosh, *Carbohydr. Res*. **2012**, *354*, 40.
48. A Three-Component One-Pot Sequential Synthesis of a Common Tetrasaccharide Block Related to the Lipopolysaccharide of the *Escherichia Coli* O9, *Klebsiella pneumonia* O3 and *Hafnia alvei* PCM 1223, S. K. Maity, R. Ghosh, *Synlett* **2012**, *23*, 1919.
49. CuCl catalyzed green and efficient one-pot synthesis of aminoindolizine frameworks *via* three component reactions of aldehydes, secondary amines and terminal alkynes in PEG, S. Mishra, B. Naskar, R. Ghosh, *Tetrahedron Lett*. **2012,** *53***,** 5483.
50. Bio-assay Guided Isolation of α-Glucosidase Inhibitory Constituents from *Eclipta alba (L.) Hassk*, D. Kumar, R. H. Gaonkar, R. Ghosh, B. C. Pal, *Nat. Prod. Comm*., **2012**, *7*, 989.
51. Trichloroisocyanuric acid (TCCA) – TMSOTf: An efficient activator system for glycosylation reactions based on thioglycosides. N. Basu, S. K. Maity, R. Ghosh, *RSC Adv*. **2012**, *2*, 12661.
52. A new triterpenoid saponin from *Glinus oppositifolius* with α-glucosidase inhibitory activity, D. Kumar, V. Shah, R. Ghosh, B. Pal, *Nat. Prod. Res*. **2013**, *27*, 624.
53. α-Glycosidase and α-amylase inhibitory constituents of *Carex baccans*: Bioassay guided isolation and quantification by validated RP-HPLC-DAD. D. Kumar, N. Gupta, R. Ghosh, R. H. Goankar, B. C. Pal, *J. Functional Food*, **2013,** *5*, 211**.**
54. Trichloroisocyanuric acid (TCCA): An efficient reagent for green activation of thioglycosides towards hydrolysis. N. Basu, S. K. Maity, A. Chaudhury, R. Ghosh, *Carbohydr. Res*. **2013**, *369*, 10.
55. Bioactivity guided isolation and quantification of anti-diabetic principle in vitro from Holarrhena antidysenterica L. (Wall). D. Kumar, S. Datta, S. S. Roy, R. H. Gaonkar, J. R. Vedasiromoni, **R. Ghosh,** B. C. Pal, *J. Herbs Spices Med. Plants* **2013**, *20*, 54.
56. Synthesis of tri- and tetra-mannosides based on sequential one-pot three component glycosylation reactions. N. Basu, M. M. Mukherjee, A. Chaudhury, R, Ghosh, *J. Indian Chem. Soc.* **2013**, *90*, 1815. [**Invited Article**. Professor S. K. Talapatra special issue.]
57. Efficient routes toward synthesis of the D-rhamno-trisaccharide related to the A-band polysaccharide of *Pseudomonas aeruginosa*. A. Chaudhury, S. K. Maity and R. Ghosh. *Beilstein J. Chem*. **2014**, *10*, 1488. **Invited Article for Thematic issue.**
58. Synthesis of the Trisaccharide Related to the Lipopolysaccharide of *Burkholderia sp.* HKI-402 (B4) by Sequential One Pot Glycosylation Reactions. N. Basu, M. M. Mukherjee, R. Ghosh, *RSC Adv*. **2014**, *4*, 54084.
59. Comparison of the nature of interactions of two sialic acid specific lectins Saraca indica and Sambucus nigra with N-acetylneuraminic acid by spectroscopic techniques.

Singha, S., Bose, P.P., Ganguly, T., (...), Ghosh, R., *Chatterjee, B.P. J. Luminescence* **2015**, *160*, 119.

60. Expeditious synthesis of the tetrasaccharide cap domain of the *Leishmania donovani* lipopohosphoglycan using one-pot glycosylation reactions. M. M. Mukherjee, N. Basu, R. Ghosh, *RSC Adv*. **2016**, *6*, 45112.
61. Efficient one-pot per-O-acetylation–thioglycosidation of native sugars, 4,6-O-arylidenation and one-pot 4,6-O-benzylidenation–acetylation of S-/O-glycosides catalyzed by $Mg(OTf)_2$, Mukherjee, M. M.; Basu, N. Chaudhury, A; Ghosh, R. *RSCAdv*. **2016**, *6*, 109301.
62. Iron(III) chloride modulated selective 1,2-*trans* glycosylation based on glycosyl trichloroacetimidate donors and its application in orthogonal glycosylation. M. M. Mukherjee, N. Basu and R. Ghosh, *RSC Adv*., **2016**, *6*, 105589.
63. A target oriented expeditious approach towards synthesis of certain bacterial rare sugar derivatives, A. Chaudhury, R. Ghosh, *Org. Biomol. Chem.*, **2017**, *15*, 1444.
64. Synthetic routes towards acidic pentasaccharide related to the *O*-antigen of *E. coli* 120 using one-pot sequential glycosylation reactions. M.M. Mukherjee, R. Ghosh, *J. Org. Chem.*, **2017**, *82*, 5751. *doi: 10.1021/acs.joc.7b00561*.
65. Perimidine based selective colorimetric and fluorescent turn-off chemosensor of aqueous Cu2+: studies on its antioxidant property along with its interaction with calf thymus-DNA. D. Roy, A. Chakraborty, R. Ghosh, *RSC Adv.* **2017**, *7*, 40563.
66. Coumarin based colorimetric and fluorescence on-off chemosensor for F−, CN− and Cu2+ ions, D. Roy, A. Chakraborty, R. Ghosh, *Spectrochim. Acta A: Molec. Biomol. Spectroscopy* **2018**, *191*, 69.
67. Synthetic avenues towards the tetrasaccharide related to *Streptococcus pneumonia* of serotype *6A*. A.Chaudhury, R. Ghosh, *Beilstein J. Org. Chem*. **2018**, *14*, 1095.
68. Carbohydrate Derived Organogelators and the Corresponding Functional Gels Developed in Recent Time, N. Basu , A. Chakraborty , R. Ghosh, *Gels*, **2018**, *4*(2), 52; https://doi.org/10.3390/gels4020052.
69. Metal ion sensing ability and photo-physical properties of 4-hydroxy-3-nitroso-2*H*-chromen-2-one: Interaction studies with calf thymus-DNA, D. Roy, L. Haque, S. Das, A. Chakraborty, R. Ghosh, *J. Luminescence*, **2019**, *206*, 474.
70. A metal free mild and green approach for opening of 4,6-*O*-benzylidene acetals to their corresponding 6-*O*-acetyl derivative: Application in the synthesis of a trisaccharide using one-pot glycosylation reactions, M. M. Mukherjee, N. Basu, S. Nandi and R. Ghosh, *Carbohydr. Res*., **2019**, *476*, 36.
71. An oxidodiperoxido vanadium-based artificial nuclease: DNA binding and cleavage studies, H. Adhikari, R. Ghosh & K. K. Mukherjea, *J. Biomol. Structure Dynamics* **2019**, https://doi.org/10.1080/07391102.2019.1587514, published online on 2nd April, 2019.
72. $FeCl_3$ catalyzed tandem synthesis of optically pure sugar based benzimidazoles, S. Mishra, S. Roy, R. Ghosh, D. Dey and B. Hazra, *J. Indian Chem. Soc*. **2020**, *97*, 197-211.
73. One-pot construction of carbohydrate scaffolds mediated by metal catalysts, M. M. Mukherjee, S. K. Maity and R. Ghosh, *RSC Adv*., **2020**, *10*, 32450-32475.
74. Recent chemical syntheses of bacteria related oligosaccharides using modern expeditious approaches, N. Basu, R. Ghosh, *Carbohydr. Res*., **2021**, *507*, 108295. **Invited Article for Special Issue**.
75. Synthesis, crystal structure and metal ion sensing ability of novel 4-amino-3-nitroso-2*H*-chromen-2-one: Interaction studies with calf thymus-DNA, D. Roy, R. Puttreddy, K. Rissanen, A. Chakraborty, R. Ghosh, *J. Mol. Str*. **2022**, 1264, 133334.

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