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PROFESSIONAL EXPERIENCE

- Director, Indian Institute of Integrative Medicine (CSIR), Jammu (March 2009 onwards)
- Vice-President and Head (Medicinal Chemistry) Piramal Life Sciences (Nicholas Piramal Research Centre), Mumbai (2005-2009): Responsible for new drug discovery projects in the areas of inflammation, cancer, diabetes and drug-resistant infections
- Staff-Scientist-VI at National Institute of Immunology, New Delhi, India (2005-till date)
- Staff-Scientist-V at National Institute of Immunology, New Delhi, India (2001-2005)
- Staff-Scientist-IV at National Institute of Immunology, New Delhi, India (1995-2000)
- Staff-Scientist-III at National Institute of Immunology, New Delhi, India (1991-1995)
- Research Associate at Cambridge University (Dept. of Chemistry) England (1991-1993)
- Scientist at Central Institute of Medicinal & Aromatic Plants Lucknow, India (1986-1990)
- Scientist at Defense R&D organization (Govt. of India), New Delhi, India (1985-1985)
- Research Fellow (CSIR) at Central Drug Research Institute, Lucknow, India (1981-1985)

EDUCATION

- Post-doctoral studies at the Cambridge University, England (with Sir Alan Battersby FRS on biosynthesis of Vitamin B₁₂ and related corrins and porphyrins) (1991-1993)
- Ph.D. (Medicinal Chemistry) from Central Drug Research Institute Lucknow (Thesis Title: Structure, synthesis and medicinal chemistry of polyketide) (1981-1987)
- M.Sc. (Organic Chemistry) from Bundelkhand University, India (1978-1980)

RESEARCH EXPERTISE AND INTERESTS

- 28 years of research experience in organic-synthesis, biosynthesis, medicinal-chemistry, natural-products chemistry, chemical-biology and glycol-biology
- Research and leadership experience in both academic as well as industrial research
- Specific interest in the questions related to the interaction of chemistry and biology
- Communication across the disciplines for new ideas and therapeutic approaches

RECOGNITIONS AND PROFESSIONAL ASSOCIATIONS

- Adjunct Professor, Institute of Life Sciences, Hyderabad (2009 onwards)
- Medal of the Chemical Research Society of India, Bangalore (2005)
- Member of the Editorial Board of the *Journal of Chemical Sciences* (published by the Indian Academy of Sciences, Bangalore (2008 onwards)
- Member of Expert Committee on Drugs & Pharmaceuticals Research Program of the Department of Science and Technology (Govt. of India) (2009 onwards)

- Member of Genetic Engineering Approval Committee (GEAC) of the Ministry of Environment and Forests (Govt. of India) (2009 onwards)
- Member of the High Power Committee of NMITLI program of CSIR (2009 onwards)
- Member Program Advisory Committee (Organic-Chemistry) of the Department of Science and Technology (Govt. of India) (2004 onwards)
- Member of Task Force (Plant Biotechnology) of the Department of Biotechnology (Govt. of India) (2008-onwards)
- Member of Program Advisory Committee (Bio-prospecting & Molecular-Taxonomy) of the Department of Biotechnology (Govt. of India) (2003-2005)
- Member of Expert Committee of the CSIR on the trans-disciplinary research (2005-2008)
- Invited lecture at the Gordon Research Conference (Glycobiology) in USA (2005)
- 45 Invited lectures at the various International and National scientific conferences
- Referee for various journals published by ACS, RSC and Elsevier
- Grant-reviewer for American (NSF), British (Wellcome-Trust) and Indian (DBT, DST and CSIR) national funding agencies
- Received continuous research grants from various Indian (DST, DBT and CSIR) and the US (NIH) funding agencies
- Member of the ACS (USA) and RSC (UK)
- BOYSCAST-Fellowship of DST (Govt. of India) for the Chemical Sciences (1991)
- A number of Ph.D. students supervised both in chemistry and biology (recognized as Ph.D. guide of the Jawaharlal Nehru University, JNU, New Delhi)

VISITING ASSIGNMENTS

- Visiting Scientist (1991) at Cambridge University, England
- Visiting Scientist (1996) at the Institute Armand-Frappier, University of Quebec, Canada
- Visiting Scientist (2000-2001) at Virginia Tech University Blacksburg USA

RESEARCH PUBLICATIONS (In chronological order, 2010 downwards)

1. R. A. Vishwakarma and D. Ruhela
Chemical synthesis of Glycosylphosphatidylinositols (GPI) anchors
The Enzymes, 26, 181-227 (2009)
2. S. K. Deshmukh, P.D. Mishra, A. Kulkarni-Almeida, S. Verekar, M. R. Sahoo, G. Periyasamy, H. Goswami, A. Khanna, A. Balakrishnan and R. A. Vishwakarma
Anti-inflammatory & anticancer activity of Ergoflavin isolated from an endophytic fungus
Chemistry & Biodiversity, 6, 784-789 (2009)
3. V. Deore, N. Yewalkar, D. Bhatia, N. Desai, R. D. Gupte, S. S. Dadarkar, M. G. Jadhav, A. A. Tannu, P. Bhatt, K. Nemmani, R. A. Vishwakarma, S. Sharma, A. Roychowdhury, N. M. Dagia, M. R. Bhonde and S. Kumar
Synthesis and therapeutic evaluation of Pyridyl based novel mTOR Inhibitors
Bioorg. Med. Chem. Lett., 19, 2949-2952 (2009)
4. A. Rodge, P. Gadekar, V. Yadav, D. Kamath, A. Chetrapal-Kunwar, P. Bhatt, S. Srinivasan, S. Sharma, N. M Dagia, and R. A Vishwakarma
Novel derivatives of ISO-1 as potent inhibitors of MIF biological function
Bioorg. Med. Chem. Lett., 19, 4773-4776 (2009)

5. N. M. Dagia, D. V. Kamath, P. Bhatt, R. D. Gupte, S. S. Dadarkar, L. Fonseca, G. Agarwal, A. Chetrapal-Kunwar, S. Balachandran, S. Srinivasan, J. Bose, K. Pari, C. Rao, S. S. Parkale, P. Gadekar, A. H. Rodge, N. Mandrekar, R. A. Vishwakarma, S. Sharma
A fluorinated analog of ISO-1 blocks the recognition and biological function of MIF and is orally efficacious in a murine model of colitis
Eur. J. Pharmacol., 607, 201-212 (2009)
6. Selective killing of leukemia and lymphoma cells expressing ectopically hCG β by a conjugate of curcumin with an antibody against hCG β subunit
H. K. Vyas, R. Pal, R. A. Vishwakarma, N. K. Lohia and G. P. Talwar*
Oncology, 76, 101-111 (2009)
7. D. Goswami, K. Gowrishankar, S. Bilgrami, S. Ghosh, R. Raghupathy, R. Chadda, R. A. Vishwakarma, M. Rao and S. Mayor
Nanoclusters of GPI-anchored proteins are formed by cortical actin-driven activity
Cell, 135, 1085-1097 (2008)
8. S. Bharate, K. V. S. Nemmani and R. A. Vishwakarma
Progress in the discovery and development of small molecule modulators of G-protein coupled receptor (GPR40/FFA1/FFAR1): An emerging target for type 2 diabetes
Expert Opinion in Therapeutic Patents 19, 237-264 (2008)
9. M. Bhonde, R. D. Gupte, S. Dadarkar, M. G. Jadhav, A. A. Tannu, D. Bhatia, P. Bhatt, N. Desai, V. Deore, N. Yewalkar, R. A. Vishwakarma, S. Sharma, S. Kumar, N. Dagia
A Novel mTOR Inhibitor is Efficacious in a Murine Model of Colitis
American Journal of Physiology (Gastrointest Liver Physiol.) 295, G1237-1245 (2008)
10. D. Subramaniam, P. Giridharan, N. Marmu, N. P. Shankernarayanan, R. May, C. W. Houchen, R.P. Ramanujam, A. Balakrishnan, R. A. Vishwakarma* and S. Anant
Activation of apoptosis by 1-hydroxy-5,7-dimethoxy-2-naphthalene carboxaldehyde (HDNC), a novel compound from *A. marmelos*
Cancer Research 68, 8573-8581 (2008)
11. S. B. Bharate, A. Rodge, R. K. Joshi, J. Kaur, S. Srinivasan, S. Senthil Kumar, A. Kulkarni-Almeida, S. Balachandran, A. Balakrishnan and R. A. Vishwakarma*
Discovery of Diacylphloroglucinols as a New Class of GPR40 (FFAR1) Agonists
Bioorg. Med. Chem. Lett. 18, 6357-6361 (2008)
12. S. B. Bharate, T.R. Mahajan, Y.R. Gole, M. Nambiar, T.T. Matan, A. Kulkarni-Almeida, S. Balachandran, H. Junjappa, A. Balakrishnan and R.A. Vishwakarma*
Synthesis and evaluation of pyrazolo[3,4-b]pyridines and its structural analogues as TNF-alpha and IL-6 inhibitors.
Bioorg. Med. Chem. 16, 7167-7176 (2008)
13. M. V. Lohar, R. Mundada, M. Bhonde, A. Padgaonkar, V. Deore, N. Yewalkar, D. Bhatia, M. Rathos, K. Joshi, R. A. Vishwakarma* and S. Kumar
Design and synthesis of novel furoquinoline based inhibitors of multiple targets in the PI3K/Akt/mTOR pathway
Bioorg. Med. Chem. Lett. 18, 3603-3606 (2008)
14. A. Kulkarni-Almeida*, A. Suthar, H. Goswami, RA Vishwakarma, VS Chauhan, A. Balakrishnan and S. Sharma
Novel leads from *Heliotropium ovalifolium*, 4,7,8-trimethoxy-naphthalene-2-carboxylic acid and 6-hydroxy-5,7-dimethoxy-naphthalene-2-carbaldehyde show specific IL-6 inhibitory activity in THP-1 cells and primary human monocytes.
Phytomedicine 15, 1079-1086 (2008)

15. V. Senthil, S. Ramadevi, V. Venkatakrisnan, P. Giridharan, B. S. Lakshmi, R. A. Vishwakarma and A. Balakrishnan
Withanolide induces apoptosis in HL-60 leukemia cells via mitochondria mediated cytochrome c release and caspase activation
Chem. Biol. Interact. 5, 19-30 (2007)
16. N. Manjula, B. Gayathri, K. S. Vinaykumar, N. P. Shankernarayanan, R. A. Vishwakarma and A. Balakrishnan
Inhibition of MAP kinases by crude extract and pure compound isolated from *Commiphora mukul* leads to down regulation of TNF-alpha, IL-1beta and IL-2.
Int. Immunopharmacol. 6, 122-132 (2006)
17. R. A. Vishwakarma, M. T. Anand, R. Arya, D. Vats and A. Bhattacharya*
Glycosylated Inositol Phospholipid from *Entamoeba histolytica*: Identification and Structural characterization
Mol. Biochem. Parasitol. 145, 121-124 (2006)
18. R. Anandharajan, S. Jaiganesh, N.P. Shankernarayanan, R.A. Vishwakarma and A. Balakrishnan
In vitro glucose uptake activity of *Aegles marmelos* and *Syzygium cumini* by activation of Glut-4, PI3 kinase and PPAR γ in L6 myotubes
Phytomedicine, 13, 434-441 (2006)
19. D. Vats, R. A. Vishwakarma, S. Bhattacharya and A. Bhattacharya*
Biosynthesis of Glycosylphosphatidylinositol anchors in *Entamoeba histolytica* and their role in pathogenesis
Infection and Immunity, 73, 8381-8392 (2005)
20. A. Ali, D. C. Gowda and R. A. Vishwakarma*
A new approach to construct full-length glycosylphosphatidylinositols of parasitic protozoa and [4-deoxy-Man-III]-GPI analogues
Chem. Commun. (4), 519-521 (2005)
21. R. A. Vishwakarma* and A. K. Menon
Flip-flop of glycosylphosphatidylinositols (GPI's) across the ER
Chem. Commun. (4) 453-455 (2005)
22. D. Ruhela, P. Chatterjee and R. A. Vishwakarma*
1-Oxabicyclic β -lactams as new inhibitors of elongating MPT—a key enzyme responsible for assembly of cell-surface phosphoglycans of Leishmania parasite
Org. Biomol. Chem. 3, 1043-1048 (2005)
23. R. A. Vishwakarma*, S. Vehring, A. Mehta, A. Sinha, T. Pomorski, A. Herrmann and A. K. Menon*
New fluorescent probes reveal that flippase-mediated flip-flop of Phosphatidylinositol across the ER membrane does not depend on the stereochemistry of the lipid
Org. Biomol. Chem. 3, 1275-1283 (2005)
24. A. Singh, R. Gupta, R. A. Vishwakarma, P. R. Narayanan, C. N. Paramasivan, V. D. Ramanathan and A. K. Tyagi*
Requirement of *mymA* operon for appropriate cell wall ultrastructure and persistence of *Mycobacterium tuberculosis* in the spleens of guinea pigs
Journal of Bacteriology, 187, 4173-4186 (2005)
25. T. Prasad, P. Saini, N. A. Gaur, R. A. Vishwakarma, L. A. Khan, Q. M. R. Haq and

- R. Prasad*
Functional analysis of CalPT1, a sphingolipid biosynthetic gene involved in Multi drug resistance and morphogenesis of *Candida albicans*
Antimicrob. Agents Chemother., 49, 3442-3452 (2005)
26. R. Anandharajan, K. Pathmanathan, N. P. Shankernarayanan, R. A. Vishwakarma* and A. Balakrishnan*
Upregulation of Glut-4 and PPAR-gamma by an isoflavone from *Pterocarpus marsupium* on L6 myotubes: a possible mechanism of action.
J. Ethnopharmacol. 97, 253-260 (2005)
27. D. Ruhela and R. A. Vishwakarma*
A facile and novel route to the antigenic branched phosphoglycan of the protozoan *Leishmania major* parasite
Tetrahedron Letters. 45, 2589-2592 (2004)
28. D. Ruhela and R. A. Vishwakarma*
Iterative synthesis of *Leishmania* Phosphoglycans by Solution, Solid-phase and Polycondensation Approaches without involving any Glycosylation
Journal of Organic Chemistry, 68, 4446-4456 (2003)
29. M. Chawla and R. A. Vishwakarma*
Alkylacylglycerolipid domain of GPI molecules of *Leishmania* is responsible for inhibition of PKC mediated *c-fos* gene expression
Journal of Lipid Research, 44, 594-600 (2003)
30. R. Arya, A. Mehra, S. Bhattacharya, R. A. Vishwakarma, A. Bhattacharya*
Biosynthesis of *Entamoeba histolytica* proteophosphoglycan in-vitro.
Mol. Biochem. Parasitol., 126, 1-8 (2003)
31. P. Giridharan, S. T. Somasundaram, K. Perumal, R. A. Vishwakarma, N. P. Karthikeyan, R. Velmurugan and A. Balakrishnan*
Novel substituted methylenedioxy lignan suppresses proliferation of cancer cells by inhibiting telomerase & activation of *c-myc* and caspases leading to apoptosis
British J. Cancer, 87, 98-105 (2002)
32. D. Ruhela and R. A. Vishwakarma*
Efficient Synthesis of the antigenic phosphoglycans of *Leishmania* Parasite
Chem. Commun., 2024-2025 (2001)
33. S. R. Khan, J. Deutscher, R. A. Vishwakarma, V. Monedero, N. B. Bhatnagar*
The *ptsH* gene from *Bacillus thuringiensis israelensis*: characterization of a novel phosphorylation site on the protein HPr
Eur. J. Biochem., 268, 521-530 (2001)
34. G. Chaturvedi, R. Tewari, Mrigank, N. Agnihotri, R. A. Vishwakarma, N. K. Ganguly*
Inhibition of *Helicobacter pylori* adherence by a peptide derived from neuraminyl lactose binding adhesin
Mol. Cell. Biochem. 228, 83-89 (2001)
35. M. Upreti, D. Ruhela and R. A. Vishwakarma*
Synthesis of the tetrasaccharide cap domain of the antigenic cell surface Lipophosphoglycan of *Leishmania donovani* parasite
Tetrahedron, 56, 6577-6585 (2000)
36. P. Sahai, M. Chawala and R. A. Vishwakarma*

- ¹³C labeling and electrospray mass spectrometry reveal a de novo route for inositol biosynthesis in *Leishmania donovani* parasite
J. Chem. Soc. Perkin 1, 1283-1290 (2000)
37. P. Nakra, V. Manivel, R. A. Vishwakarma and K. V. S. Rao*
B cell responses to a primary response is thermodynamically regulated
Journal of Immunology, 164, 5615-5625 (2000)
38. M. Upreti and R. A. Vishwakarma*
Synthesis of phosphodisaccharide repeat of antigenic Lipophosphoglycan of *Leishmania* parasite
Tetrahedron Letters, 40, 2619-2622 (1999)
39. A. Tyagi, A. and R. A. Vishwakarma*
Recombinant *Bacillus subtilis* whole cell system as a catalyst for enzymatic synthesis of cyclic inositol phosphate
Tetrahedron Letters, 39, 6069-6072 (1998)
40. S. Bharel and R. A. Vishwakarma*
Artemisinin mediated alteration of haemin to δ -meso oxidation product: Relevance to the mechanism of action
J. Chem. Soc. Perkin-1, 2163-2166 (1998)
41. P. Sahai, R. A. Vishwakarma*, S. Bharel, A. Gulati, M. Z. Abidin, P. S. Srivastava, S. K. Jain, HPLC-Electrospray mass spectrometric analysis of artemisinin
Analytical Chemistry, 70, 3084-3087 (1998)
42. B. P. Nayak, R. Tuteja, V. Manivel, R. P. Roy, R. A. Vishwakarma, K. V. S. Rao*
B cell response to a peptide epitope: Kinetic regulation of repertoire discrimination and antibody optimization for epitope
Journal of Immunology, 161, 3510-3519 (1998)
43. S. Bharel, A. Gulati, MZ. Abidin, PS. Srivastava, R. A. Vishwakarma, S. K. Jain*
Enzymatic synthesis of artemisinin from natural and synthetic precursors
J. Nat. Prod., 61, 633-636 (1998)
44. S. Gupta, G. P. Dutta* and R. A. Vishwakarma
Effect of α,β -arteether against primary amoebic meningo-encephalitis in Swiss mice
Indian J. Exp. Biol., 36, 824-825 (1998)
45. S. Ghosal and R. A. Vishwakarma*
Tinocordiside, a new rearranged cadinane sesquiterpene glycoside from *Tinospora cordifolia*
J. Nat. Prod., 60, 839 (1997)
46. P. Sahai and R.A. Vishwakarma*
Phospholipase-A₂ mediated stereoselective synthesis of (R)-3-lyso-1-O-alkyl-*sn*-glycero-3-phosphate and alkyl-acyl analogues: Application for synthesis of radiolabeled biosynthetic precursors of cell surface glyco-conjugates of *Leishmania donovani*
J. Chem. Soc. Perkin-1, 1845-1849 (1997)
47. L. O. Zamir*, S. Balachandran, Y. F. Zheng, G. Caron, A. Nikolakakis, M. E. Nedeia, R. A. Vishwakarma, F. Sauriol and O. Mamer
Acid catalyzed rearrangements of 9-dihydro-13-acetyl-baccatin-III, a major Taxane from *Taxus canadensis*

- Tetrahedron**, 53, 15991-16008 (1997)
48. R. Tripathi, R. A. Vishwakarma and G. P. Dutta*
Plasmodium frigile: Efficacy of arteether against cerebral malaria model
Exp. Parasitol., 87, 290-292 (1997)
49. R. Tripathi, G. P. Dutta* and R. A. Vishwakarma*
Gametocytocidal antimalarial activity of α/β -arteether by oral administration
Amer. J. Trop. Med. Hyg., 54, 652-654 (1996)
50. S. Gupta, P. K. Ghosh, G. P. Dutta* and R. A. Vishwakarma
In-vivo study of artemisinin and its derivatives against primary amebic meningoencephalitis
J.Parasitol. 81, 1012-1013 (1995)
51. Y. Li, A. I. D. Alanine, R. A. Vishwakarma, S. Balachandran, F. J. Leeper and A. R. Battersby*
Biosynthesis of Vitamin B₁₂: Mechanistic studies on transfer of methyl group from C-11 to C-12 and incorporation of ¹⁸Oxygen,
J. Chem. Soc., Chem. Commun., 2407-2508 (1994)
52. S. Balachandran, R. A. Vishwakarma, S. M. Monaghan, A. Prella, N. P. J. Stamford, F. J. Leeper, and A. R. Battersby*
Biosynthesis of porphyrins and related macrocycles: Pulse labeling experiments concerning timing of cobalt insertion in Vitamin B₁₂
J. Chem. Soc., Perkin 1, 487-491 (1994)
53. R. A. Vishwakarma, S. Balachandran, A. I. D. Alanine, N. P. J. Stamford, F. J. Leeper and A. R. Battersby*
Biosynthesis of porphyrins and related macrocycles: Fate of oxygen atoms as precorrin-2 carrying eight labeled carboxyl groups (¹³C¹⁸O₂H) is enzymatically converted to cobyrinic acid
J. Chem. Soc.,Perkin 1, 2893-2899 (1993)
54. R. A. Vishwakarma*, R. Mehrotra, R. Tripathi and G. P. Dutta
Stereoselective synthesis and antimalarial activity of α -artelinic acid
J. Nat. Prod., 55, 1142-1144 (1992)
55. J. S. Tondon, R. Roy, S. Balachandran, and R. A. Vishwakarma*
Epideoxycoleonol, a new antihypertensive labdane diterpenoid from *Coleus forskohlii*
Bioorg. Med.Chem.Lett., 2, 249-253 (1992)
56. R. Tripathi, G. P. Dutta* and R. A. Vishwakarma
Comparison of antimalarial efficacy of α,β and α/β arteether against Plasmodium cynomolgi B
Amer. J. Trop. Med. Hyg., 44, 1991, 560-563 (1991)
57. P. K. Agrawal, R. A. Vishwakarma*, D. C. Jain, R. Roy
High field NMR spectroscopic studies of arteannuin B and a reappraisal of the structure of arteannuin C
Phytochemistry, 30, 1991, 3469-3471 (1991)
58. R. Tripathi, G. P. Dutta* and R. A. Vishwakarma*
Gametocytocidal activity of the antimalarial α/β arteether against Plasmodium cynomolgi B
Amer. J. Trop. Med. Hyg. , 43, 571-575 (1990)

59. R. A. Vishwakarma* and J. S. Tandon
Stereoisomers of coleonol (forskolin) and related diterpenoids
Tetrahedron Letters, 31, 7493-7494 (1990)
60. R. Roy, R. A. Vishwakarma*, N. Varma and J. S. Tandon
Coleonic acid, a new ursane triterpenoid from *Coleus forskohlii*
Tetrahedron Letters, 31, 3467-3470 (1990)
61. R. A. Vishwakarma*
Stereoselective synthesis of α -arteether from artemisinin
J. Nat. Prod., 31, 216-217 (1990)
62. O. Prakash, R. Roy, R. S. Kapil* and R. A. Vishwakarma
Two-dimensional NMR studies of arteether
Indian J. Chem., 29B, 103-107 (1990)
63. R. A. Vishwakarma*
Spiroforskolin, an acid catalyzed rearrangement product of forskolin
Tetrahedron Letters, 30, 131-132 (1989)
64. G. P. Dutta, R. Tripathi and R. A. Vishwakarma
Artemisinin, a new gametocytocidal drug for malaria
Chemotherapy, 35, 200-207 (1989)
65. R. Bajpai, G.P. Dutta*, R. A. Vishwakarma
Blood-schizontocidal activity of new antimalarial arteether against *Plasmodium knowlesi*
Trans.Royal Soc.Trop.Med.Hyg., 83, 484-485 (1989)
66. G. P. Dutta*, R. Bajpai, R. A. Vishwakarma
Comparison of antimalarial efficacy of artemisinin and arteether against *Plasmodium cyanomolgi*
Trans.Royal Soc.Trop.Med.Hyg., 83, 56-58 (1989)
67. K. Kar, A. Nath, R. Bajpai, G. P. Dutta* and R. A. Vishwakarma
Pharmacology of arteether, a new Artemisinin, a new antimalarial drug
J. Ethnopharmacol., 27, 297-305 (1989)
68. K. P. Madhusudanan*, R. A. Vishwakarma, S. Balachandran and S. P. Popli
Mass spectral studies on artemisinin, dihydroartemisinin and arteether
Indian J. Chem., 28B, 1989, 751-754 (1989)
69. R. Mehrotra, B. Ahmed, R. A. Vishwakarma* and R. S. Thakur
Verbacoside: a new luteolin glycoside from *Verbascum thapsus*
J. Nat. Prod., 52, 640-643 (1989)
70. R. Mehrotra, R. A. Vishwakarma*, R. S. Thakur
Abietane diterpenoids from *Coleus zeylanicus*
Phytochemistry, 28, 3135-3137 (1989)
71. G. P. Dutta*, R. Bajpai and R. A. Vishwakarma
Antimalarial efficacy of arteether against multiple drug resistant strain of *Plasmodium yoelii nigeriensis*
Pharmacol. Res., 21, 1989, 415-419 (1989)
72. B. Ahmad and R. A. Vishwakarma*

Coleoside, a new monoterpene glycoside from *Coleus forskohlii*
Phytochemistry, 27, 3309-3311 (1988)

73. K. Kar, G. Shankar, R. Bajpai, G.P. Dutta* and R. A. Vishwakarma
Artemisinin, a potent antimalarial agent: general pharmacological properties
Indian J. Parasitol., 12, 209-212 (1988)
74. S. Balachandran, R. A. Vishwakarma and S. P. Popli*
Studies in medicinal plants Part XVI: A new xanthone from *Hypericum mysorensense*
Indian J. Chem., 27B, 385-386 (1988)
75. A. Singh R. A. Vishwakarma* and A. Husain
Evaluation of *Artemisia annua* strains for higher artemisinin production
Planta Medica, 54, 475-476 (1988)
76. R. A. Vishwakarma*, B. R. Tyagi, B. Ahmed and A. Husain
Variation in Forskolol content in the roots of *Coleus forskohlii*
Planta Medica, 54, 1988, 471-472 (1988)
77. G. P. Dutta*, R. Bajpai, R. A. Vishwakarma
Blood schizontocidal activity of artemisinin (qinghaosu) and a new antimalarial
arteether against *Plasmodium berghei*
Indian J. Parasitol., 11, 253-257 (1987)
78. R. A. Vishwakarma, R. S. Kapil*, S. P. Popli
Studies in medicinal plants Part XVII. New lactones from *Hypericum mysorensense*
Indian J. Chem., 26B, 486-487 (1987)
79. S. Balachandran, R. A. Vishwakarma and S. P. Popli*
Chemical investigation of some *Artemisia* species: search for artemisinin or other
related sesquiterpene lactones with a peroxide bridge
Indian J. Pharm. Sci., 49, 152-154 (1987)
80. R. A. Vishwakarma, R. S. Kapil*, S. P. Popli
Structure of hypericorin
Indian J. Chem., 25B, 1155-1156 (1986)
81. R. A. Vishwakarma, R. S. Kapil*, S. P. Popli
Total synthesis of Keilcorin
Indian J. Chem., 25B, 1021-1025 (1986)
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Studies in medicinal plants: Part XV Novel pyrones from *Hypericum mysorensense*
Indian J. Chem., 25B, 466-468 (1986)
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KEY INVITED LECTURES

1. "Natural products drug discovery: new avenues from new biology" at the Indo-US Symposium on ASU Drugs held at New Delhi (2-4 Dec 2009)
2. "OSDD: Can we make it work for neglected diseases?" at RSC-CSRI Symposium on Chemistry and Innovation held at Piramal Life Sciences, Mumbai (2 Dec 2009)
3. "Chemical biology of GPI molecules of Leishmania species" at 4th International Congress on Leishmania and Leishmaniasis held at Lucknow (3-7 Feb 2009)
4. "Post-translational modifications and drug discovery" at ISCB International Symposium held at BITS Pilani (22-24 Feb 2008)

5. "Chemical Biology of GPI molecules" (Plenary Lecture) at XXII Carbohydrate conference held at National Institute of Pharmaceutical Education and Research, Mohali, Chandigarh (13-15 Dec 2007)
6. "Natural Products as Sources of New Chemical Entities" at the International symposium on "New frontiers in Marine Natural Product Research" held at the National Institute of Oceanography, Goa (23-24 Feb 2007)
7. "Phosphatidylinositol kinases/phosphatases as drug targets for Inflammation and Cancer" at the 11th ISCB International conference on "Advances in drug discovery research" held at Aurangabad (24-26 Feb 2007)
8. "Chemical synthesis of LPG of Leishmania parasite: Application in targeting MPT and GDP-man transporter activities" at the 75th Annual Meeting of the Society of Biological Chemists (India) held at the Jawaharlal Nehru University, New Delhi (8-11 Dec 2006)
9. "Chemistry and Biology of GPI molecules" at the XXI Carbohydrate conference held at University of Delhi (26-29 Nov 2006)
10. New and convergent chemical synthesis of full-length GPI-anchor of Plasmodium falciparum" at the "International Symposium on Proteins and Lipids: Implications in Cellular Functions and Evolution" held the IISc, Bangalore (20-28 Feb 2006)
11. "New and convergent chemical synthesis of full-length GPI-anchor of Plasmodium falciparum" at the International Conference on Malaria held at New Delhi (4-6 Nov 2005)
12. Synthesis and biosynthesis of GPI-anchored Lipophosphoglycan of Leishmania parasite" on 25 November 2005 at the XX Carbohydrate conference held at University of Lucknow (24-26 Nov 2005)
13. "Chemistry and biology of glycosylphosphatidylinositol (GPI) molecules of protozoan parasites" at 11th National Organic Synthesis Symposium held at Goa (25-29 Oct 2005)
14. "New chemical synthesis of full-length GPI molecules of parasitic protozoa: Preparation of novel fluorescent and deoxy-GPI probes and their application in biosynthetic and trans-bilayer distribution studies" at the Gordon Research Conference in Glycobiology held at Ventura, California, USA (6 -11 March 2005)
15. "Synthesis and biosynthesis of GPI-anchored Lipophosphoglycan of Leishmania parasite" at 7th National Symposium in Chemistry held at IACS, Calcutta (4-6 Feb 2005)
16. "Synthesis of Glycosylphosphatidylinositol (GPI) molecules of protozoan parasites" at the 6th International Symposium on Biochemical roles of Eukaryotic cell surface macromolecules held at IICB Calcutta (16-18 Jan 2003)
17. "Towards the Total Synthesis of Leishmania Lipophosphoglycan" at the 17th International Symposium on Glycoconjugates held at Indian Institute of Science Bangalore (12-16 Jan 2003)
18. "Synthesis and Biosynthesis of GPI cell surface molecules of protozoan parasites" at the 7th National Bio-organic Symposium held at GNDU Amritsar (9 -10 Nov 2001)
19. "13C labeling and ESMS reveal de-novo route for myo-inositol biosynthesis in Leishmania parasite" at the 5th IUPAC International symposium on bio-organic chemistry held at NCL Pune (30 Jan - 4 Feb 2000)

20. "Synthesis of the structural domains of antigenic cell surface lipophosphoglycan of Leishmania parasite for biosynthetic and signal transduction studies" at the International symposium on bio-organic chemistry held at I.I.Sc., Bangalore (8 Feb 2000)
21. "Synthesis and biosynthesis of GPI cell surface molecules of protozoan parasites" at the 8th National Organic Synthesis Symposium held at Jaipur (2 March 2000)
22. "Organic synthesis and biosynthesis of GPI cell surface molecules of Leishmania parasite" at the Georgetown University Medical Center, Washington DC (6 Nov 2000)
23. "Synthesis and biosynthesis of Lipophosphoglycan antigenic cell surface molecule of Leishmania donovani parasite" at the Virginia-Tech Department of Chemistry, Blacksburg, Virginia USA (28 Sept 2000)
24. "Synthesis of the structural domains of LPG/GIPLs of Leishmania donovani for biosynthetic and signal transduction studies" at the 5th International symposium on biochemical roles of Eukaryotic cell surface macromolecules held at Indian Institute of Science Bangalore (5 Jan 1999)