

List of publications

1. V.R.S. Rao, C.P. Rao and G. Tataiah, "Determination of thallium by sub- and super-equivalence method of isotope dilution analysis", *Radiochem. Radioanal. Letts.*, 29 (1977) 43-46.
2. V.R.S. Rao, C.P. Rao and G. Tataiah, "Determination of thallium using brilliant green by sub and super equivalence method of isotope dilution analysis", *Radiochem. Radioanal. Letts.*, 29 (1977) 261-266.
3. V.R.S. Rao, C.P. Rao and G. Tataiah, "sub and super equivalence method of reverse isotope dilution analysis", *Radiochem. Radioanal. Letts.*, 30 (1977) 365-370.
4. V.R.S. Rao, C.P. Rao and G. Tataiah, "Radiometric titrations of Tl(III) with EDTA", *Radiochem. Radioanal. Letts.*, 33 (1978) 1-6.
5. C.N.R. Rao, U.P. Agarwal, C.P. Rao and J.R. Fernandes, "Study of methanol, 2-methyl-2-propanol, and formamide and their electrolyte solution by Infrared spectroscopy", *J. Phys. Chem.*, 83 (1979) 722-728
6. C.P. Rao, R. Nagaraj, C.N.R. Rao and P. Balaram, "Infrared spectroscopy as a probe for the development of secondary structure in the amino-terminal segment of alamethicin", *FEBS Letts.*, 100 (1979) 244-248.
7. C.P. Rao, P. Balaram and C.N.R. Rao, "C-13 NMR studies of the binding of alkali and alkaline earth metal salts to amides", *J.C.S. Faraday I*, 76 (1980) 1008-1013.
8. C.P. Rao, R. Nagaraj, C.N.R. Rao and P. Balaram, "Infrared studies on the conformation of synthetic alamethicin fragments and model peptides containing α -aminoisobutyric acid", *Biochemistry (USA)*, 19 (1980) 425-431.
9. C.P. Rao, N. Shamala, R. Nagaraj, C.N.R. Rao and P. Balaram, "Hydrophobic channels in crystals of an α -aminobutyric acid pentapeptide", *Biochem. Biophys. Res. Commun.*, 103 (1981) 898-904.
10. A.K. Francis, C.P. Rao, M. Iqbal, R. Nagaraj, M. Vijayan and P. Balaram, "Helical conformations of three crystalline pentapeptide fragments of suzukacillin, a membrane channel forming polypeptide" *Biochem. Biophys. Res. Commun.*, 106 (1982) 1240-1247.

11. C.P. Rao and P. Balaram, "Molecular structure of t-Boc-Leu-Aib-Pro-Val-Aib-OMe, a fragment of alamethicin and suzukacillin: A 3_{10} -helical pentapeptide", *Biopolymers.*, 21 (1982) 2461-2472.
12. C.P. Rao and V.R.S. Rao, "Application of sub- and super-equivalence method of the reverse isotope dilution analysis. Determination of Tl(III) and Tl(I) using ferroin and diethyldithiocarbamate", *Radiochem. Radioanal. Letts.*, 57 (1983) 65-72.
13. C.P. Rao, P. Balaram and C.N.R. Rao, "Infrared spectroscopic study of C_7 intramolecular hydrogen bonds in peptides", *Biopolymers.*, 22 (1983) 2091-2104.
14. C.P. Rao, P. Balaram and C.N.R. Rao, "C-13 nmr studies of the conformational changes in proline oligomers brought about by lithium and calcium salts", *Int. J. Biol. Macromol.*, 5 (1983) 289-294.
15. C.P. Rao, A.M. Rao and C.N.R. Rao "Crystal and molecular structures of alkali- and alkaline-earth-metal complexes of N,N-dimethylformamide", *Inorg. Chem.*, 23 (1984) 2080-2085.
16. J.R. Dorfman, C.P. Rao and R.H. Holm, "Structural diversity of homoleptic ethane-1,2-dithiolate complexes of the first transition series", *Inorg. Chem.*, 24 (1985) 453-454.
17. A.D. Watson, C.P. Rao, J.R. Dorfman and R.H. Holm, "Systematic stereochemistry of metal(II) thiolates: Synthesis and structures of $[\text{M}_2(\text{S}_2\text{C}_2\text{H}_5)_6]^{2-}$ ($\text{M} = \text{Mn(II)}, \text{Ni(II)}, \text{Zn(II)}, \text{Cd(II)}$)", *Inorg. Chem.*, 24 (1985) 2820-2826.
18. C.P. Rao, J.R. Dorfman and R.H. Holm, "Synthesis and structural systematics of ethane-1,2-dithiolato complexes", *Inorg. Chem.*, 25 (1986) 428-439.
19. B.S. Snyder, C.P. Rao and R.H. Holm, "Mono- and bi-nuclear metal(II) complexes of ethane-1,2-dithiolate complexes: Preparation, equilibrium and redox properties of $[\text{Ni}(\text{S}_2\text{C}_2\text{H}_4)_2]^{2-}$ and $[\text{Ni}_2(\text{S}_2\text{C}_2\text{H}_4)_3]^{2-}$, and the structure of $[\text{Ni}_2(\text{S}_2\text{C}_2\text{H}_4)_3]^{2-}$ and $[\text{Pd}(\text{S}_2\text{C}_2\text{H}_4)_2]^{2-}$ ", *Aust. J. Chem.*, 39 (1986) 963-974.
20. R.N. Mukherjee, C.P. Rao and R.H. Holm, "Solution chemistry of ethane-1,2-dithiolate complexes: Equilibria and electron-transfer reactions", *Inorg. Chem.*, 25 (1986) 2979-2989.
21. P.A. Bianconi, R.N. Vrtis, C.P. Rao, I.D. Williams, M.P. Engeler and S.J. Lippard, "Reductive coupling of CO ligands to form coordinated bis(trimethylsiloxy)ethyne in

- seven-coordinate Nb(I) and Ta(I) [M(CO)₂(dmpe)₂Cl] complexes”, *Organometallics*, 6 (1987) 1968-1977.
22. R.N. Vrtis, C. P. Rao, S. Warner and S. J. Lippard, “Carbynes generated from metal carbonyl and isocyanide complexes: Intermediates in the reductive coupling of CO and CNR ligands” , *J. Am. Chem. Soc.* 110 (1988) 2669-2670.
23. G. M. Villacorta, C. P. Rao and S. J. Lippard, “Synthesis and reactivity of binuclear tropocoronand and related organocopper(I) complexes. Catalytic enantioselective conjugate addition of Grignard reagents to 2-cyclohexan-1-one” , *J. Am. Chem. Soc.* 110 (1988) 3175-3182.
24. R. N. Vrtis, , C. P. Rao, S. G. Bott and S. J. Lippard, “Synthesis and stabilisation of tantalum-coordinated dihydroxyacetylene from two reductively coupled carbon monoxide ligands” , *J. Am. Chem. Soc.* 110 (1988) 7564-7566.
25. C. P. Rao, “Easy and economic ways of handling crystals for X-ray diffraction studies” , *J. Appl. Cryst.* 22 (1989) 182-183.
26. J. S. Svendsen, I. Marko, E. N. Jacobsen, C. P. Rao, S. Bott and K. B. Sharpless, “On the structure of osmium tetraoxide-cinchona alkaloid complexes” , *J. Org. Chem.*, 54 (1989) 2263-2264.
27. C. P. Rao, P. S. Sarkar, S. P. Kaiwar and S. Vasudevan, “Chromate reductase activity: Characterisation of Cr(VI) to Cr(III) conversion” , *Proc. Ind. Acad. Sci. (Chem. Sci.)* 102 (1990) 219-230.
28. C. P. Rao and S. P. Kaiwar, “Homoleptic glucose complexes of VO²⁺ and Cr³⁺” , *Inorg. Chim. Acta*, 186 (1991) 11-12.
29. C. P. Rao “Fabrication of simple, sturdy and inexpensive controlled-atmosphere glove box for routine use” , *Res. & Ind.*, 36 (1991) 188-190.
30. R. N. Vrtis, S. Liu, C. P. Rao, S. G. Bott and S. J. Lippard, “Mechanistic studies of the reductive coupling of CO in seven coordinated Nb(I) and Ta(I) dicarbonyl complexes” , *Organometallics*, 10 (1991) 275-285.
31. C. P. Rao, K. Geetha and R. P. Bandwar, “Solution stability of iron-saccharide complexes” , *Bioorg. Med. Chem. Lett.*, 2 (1992) 997-1002.

32. C. P. Rao and S. P. Kaiwar, "Chromate reduction: Reduction of potassium chromate by D-glucose and D-fructose to form Cr(III)- saccharide complexes" , *Carbohydr. Res*, 237 (1992) 195-202.
33. S. P. Kaiwar and C. .P. Rao, "Soluble complexes of early first-row transition-metal ions with D-glucose" , *Carbohydr. Res* 237 (1992) 203-210.
34. J. D. Protasiewicz, P. A. Bianconi, I. D. Willliams, S. Liu, C. P. Rao and S. J. Lippard, "Synthesis and structural characterisation of low-valent Group V phosphine complexes" , *Inorg. Chem.*, 31 (1992) 4134-4142.
35. C. P. Rao and S. P. Kaiwar, "Reduction of potassium chromate by D-fructose, D-galactose, D-mannose, D-glucose and L-sorbose" , *Carbohydr. Res*, 244 (1993) 15-25.
36. C. P. Rao, K. Geetha and M. S. S. Raghavan, "Fe(III) complexes of D-glucose and D-fructose" , *BioMetals*, 7 (1994) 25-29.
37. S. P. Kaiwar, M. S. S. Raghavan and C. P. Rao, "In vitro reducing abilities of various hydroxy-containing molecules including saccharides and its derivatives towards chromates" , *Carbohydr. Res*, 256 (1994) 29-40.
38. S. .P. Kaiwar, R. P. Bandwar, M. S. S. Raghavan and C. P. Rao, "Transition-metal saccharide chemistry: Synthesis and characterisation of some monosaccharide complexes" , *Proc. Indian Acad. Sci. (Chem. Sci.)*, 106 (1994) 743-752.
39. C. P. Rao, S. .Kaiwar and M. S. S. Raghavan, "Transition-metal saccharide chemistry: Synthesis, characterisation, electrochemistry and magnetic studies of Cr(III)-hexose complexes and their *in vitro* interaction with DNA" , *Polyhedron*, 13 (1994) 1895-1906.
40. A. Sreedhara, M.S.S. Raghavan and C. P. Rao, "Transition-metal saccharide interactions: Synthesis and characterisation of vanadyl saccharides" , *Carbohydr. Res*. 264 (1994) 227-235.
41. R.P. Bandwar, M.S.S. Raghavan and C.P. Rao, "Transition-metal saccharide complexes of Mn(II), Co(II), Ni(II), Cu(II) and Zn(II)" , *BioMetals*, 8 (1995) 19-24.
42. S.P. Kaiwar and C.P. Rao, "In vitro reduction of Cr(VI) by low molecular weight biomimetic components: A comparative study using UV-Vis spectroscopy" , *Chem.-Biol. Int.*, 95 (1995) 89-96.

43. G. Asgedom, A. Sreedhara and C. P. Rao, "OxoV(V) Schiff Base complexes of tris(hydroxymethyl)aminomethane with salicylaldehyde and its derivatives: Synthesis, characterization and redox reactivity", *Polyhedron*, 14 (1995) 1873-1879.
44. S. P. Kaiwar, M. S. S. Raghavan and C. P. Rao, "Transition-metal saccharide chemistry and biology: synthesis, characterisation, redox behaviour, Biointeraction and data correlations of Dinuclear Chromium(III) complexes", *J.C.S. Dalton Trans.*, (1995) 1569-1576
45. K. Geetha, M. S. S. Raghavan, S. K. Kulshrestha, R. Sasikala and C. P. Rao, " Transition-metal saccharide chemistry: Synthesis, spectroscopy , electrochemistry and magnetic susceptibility studies of Fe(III) complexes of mono and disaccharide", *Carbohydr. Res.*, 271 (1995) 163-175.
46. G. Asgedom, A. Sreedhara, J. Kivikoski, J. Volkonen and C. P. Rao, " Mononuclear *cis*-Dioxo(V) anionic complexes $[VO_2L]^-$ { $H_2L = [1+1]$ schiff base derived from salicylaldehyde (or substituted derivatives) & 2-amino-2-methylpropan-1-ol}: Synthesis, structure, spectroscopy, electrochemistry and reactivity studies", *J.C.S. Dalton Trans.*, (1995) 2459-2466.
47. R. P. Bandwar and C. P. Rao, " In vitro relative reducing abilities of some hydroxy containing compounds including monosaccharides towards V(V) and Mo(VI)", *Carbohydr. Res.*, 277 (1995) 197-207.
48. R. P. Bandwar and C. P. Rao, "Role of saccharides in reduction and complexation of transition metal ions and the effect of zinc saccharides on some haematological variables", *Proc. Indian Acad. Sci. (Chem. Sci.)*, 108 (1996) 312-312.
49. G. Asgedom, A. Sreedhara, J. Kivikoski, E. Kolehmeinen and C. P. Rao, "Synthesis, Structure, spectral characterization and Photoreactivity studies of monomeric Dioxovanadium(V) Schiff base complexes of trigonal bipyramidal geometry", *J.C.S. Dalton Trans.*, (1996) 93-97.
50. S. P. Kaiwar, A. Sreedhara, M. S. S. Raghavan, C. P. Rao, V. Jadhav and K. N. Ganesh, "Synthesis, Characterization and DNA interaction studies of Cr(III) products isolated from Cr(VI) reduction with SH containing molecules", *Polyhedron*, 15 (1996) 765-774.
51. R. P. Bandwar, M. Giralt, J. Hidalgo and C. P. Rao, " Metal-saccharide chemistry and biology: Saccharide complexes of Zinc and the effect of some complexes on Metallothionein synthesis in Mice" *Carbohydr. Res.*, 284 (1996) 73-84.

52. R. P. Bandwar and C. P. Rao, "Transition metal-saccharide chemistry: synthesis and characterization of D-Galactose, D-Fructose, D-Glucose, D-Xylose, D-Ribose and Maltose complexes of Mn(II)", *Carbohydr. Res.*, 287 (1996) 157-168.
53. G. Asgedom, A. Sreedhara, C.P. Rao and E. Kolehmainen, "Monooxovanadium(V) mixed ligand complexes of Schiff bases and catecholates: Synthesis, spectral and electrochemical characterization", *Polyhedron*, 15 (1996) 3731-3739.
54. A. Sreedhara, C. P. Rao and B. J. Rao, "Transition metal saccharine chemistry and biology: Synthesis, characterization, electrochemistry and epr studies of oxo-vanadium(IV) complexes of saccharides and their derivatives and in vitro interaction of some of these with ribonuclease and deoxyribonuclease". *Carbohydr. Res.*, 289 (1996) 39-53.
55. G. Asgedom, A. Sreedhara, J. Kivikoski, J. Volkonen, E. Kolehmeinen and C. P. Rao, "Alkoxo bound monooxo and dioxovanadium(V) complexes: Synthesis, characterization, X-ray structure, and solution reactivity studies". *Inorg. Chem.* 35 (1996) 5674-5683.
56. A. Sreedhara, N. Susa, A. Patwardhan and C. P. Rao, "One electron reduction of vanadate(V) to oxovanadium(IV) by low molecular weight biocomponents like saccharides and L-ascorbic acid: Effect of oxovanadium(IV) complexes on pUC18 DNA and on lipid peroxidation in isolated rat hepatocytes", *Biochem. Biophys. Res. Commun.*, 224 (1996) 115-120.
57. G. Asgedom, A. Sreedhara, J. Kivikoski and C. P. Rao, "Synthesis and characterization of dimeric vanadyl(IV) complexes of Schiff bases derived from anthranilic acid and salicylaldehyde (or its derivatives) or acetylacetone. Single crystal X-ray structure of the oxidized products", *Polyhedron*, 16 (1997) 643-651.
58. R. P. Bandwar, M. Giralt, J. Hidalgo, C. P. Rao and G. U. Kulkarni, "Transition metal saccharide chemistry and biology: Saccharide complexes of Cu(II) and their in vivo metallothionein synthesis in mice", *J. Inorg. Biochem.*, 66 (1997) 37-44.
59. R. P. Bandwar, M. D. Sastry, R. M. Kadam and C. P. Rao, "Transition metal saccharide chemistry: Synthesis and characterization of D-Glucose, D-Fructose, D-Galactose, D-Xylose, D-Ribose and Maltose complexes of Co(II)", *Carbohydr. Res.*, 297 (1997) 333-339.
60. R. P. Bandwar and C. P. Rao, "Transition metal saccharide chemistry: Synthesis and characterization of D-Glucose, D-Fructose, D-Galactose, D-Xylose, D-Ribose and Maltose complexes of Ni(II)", *Carbohydr. Res.*, 297 (1997) 341-346.

61. C.P. Rao, "Metal-ligand interactions: Structure and reactivity", ed. By Nino Russo and Dennis R. Salahub (Kluwar Academic Publishers, The Netherlands) – a book review, *Indian J. Chem.*, 36A (1997) 354.
62. R. P. Bandwar and C. P. Rao, "Transition metal saccharide chemistry and biology: Vanadyl-monosaccharide complexes and their in vitro effect on pUC-18 DNA", *J. Inorg. Biochem.*, 68 (1997) 1-6.
63. A. Sreedhara, N. Susa and C. P. Rao, "Vanadate and Chromate reduction by saccharide and L-ascorbic acid: Effect of the isolated V(IV) and Cr(III) products on DNA nicking. Lipid peroxidation, cytotoxicity and on enzymatic & non-enzymatic antioxidants", *Inorg. Chim. Acta*, 263 (1997) 189-194.
64. R.P. Bandwar and C. P. Rao, "Transition metal-saccharide chemistry and biology: An emerging field of multidisciplinary interest", *Curr. Sci. (India)*, 72 (1997) 788-796.
65. R. P. Bandwar, S. J. S. Flora, and C. P. Rao. "Influence of Zinc-saccharide complexes on some haematological parameters in rats" *BioMetals*, 10 (1997) 337-341.
66. T. Krishnamoorthy, A. Sreedhara, C.P. Rao and K.V.A. Ramaiah, "Reducing agents mitigate protein synthesis inhibition mediated by various vanadate and vanadyl compounds in reticulocyte lysates", *Arch. Biochem. Biophys.*, 349 (1998) 122-128.
67. C.P. Rao, S.P. Kaiwar and M.S.S. Raghavan, "Chromium toxicity: Spectral and electrochemical studies of Cr(VI) reduction by biomimicking molecules. Comparisons and correlations", *Int. J. Environ. Studies*, 54B (1998) 131-144.
68. C.P. Rao, A. Sreedhara, P.V. Rao, M. B. Verghese, K. Rissanen, E. Kolehmainen, N.K. Lokanath, M.A. Sreedhar and J.S. Prasad, "Synthesis, structure, reactivity and species recognition of oxovanadium(V) and molybdenum(VI) complexes", *J.C.S. Dalton Trans.*, (1998) 2383-93.
69. H. Arakawa, N. Watanabe, R. Tamura and C.P. Rao, "Reduction of potassium chromate by tannins", *Bull. Chem. Soc. Jpn.*, 71 (1998) 1993-1998.
70. C.P. Rao, "Symmetry and spectroscopy of molecules", by K. Veera Reddy (New Age International (P) Limited Publishers, New Delhi) – a book review, *Indian J. Chem.*, 37A (1998) 848.

71. A. Mukhopadhyay, A. Karkamkar, E. Kolehmainen and C.P. Rao, "Transition metal - saccharide chemistry: Synthesis, characterization and solution stability studies of *cis*-dioxomolybdenum saccharide complexes", *Carbohydr. Res.*, 311 (1998).147-154.
72. C.P. Rao, A. Sreedhara, P. V. Rao, N.K. Lokanath, M.A. Sreedhar, J.S. Prasad and K. Rissanen, "Recognition of oxovanadium(V) species and its separation from other metal species through solution complexation by some acyclic ligands", *Polyhedron* , 18 (1999).289-297.
73. C.P. Rao and A. Sreedhara, "Oxo-metal complexes of alkoxo rich ligands and reactivity of vanadium complexes", *Proc. Indian Acad. Sci. (Chem. Sci.)*, 111 (1999) 479-487.
74. P.V. Rao, C.P. Rao, E.C. Wegelus, E. Kolehmainen and K. Rissanen, "Reactivity of *cis*-dichloro-bis(acetylacetonato)titanium(IV) towards hydroxy(-OH)-containing ligands: Reactivity, and isolation and characterisation of products", *Dalton Transactions*, (1999) 4469-4474.
75. C.P. Rao, K. Geetha, M.S.S. Raghavan, A. Sreedhara, K. Tokunaga, T. Yamaguchi, V. Jadhav, K.N. Ganesh, T. Krishnamoorthy, K.V.A. Ramaiah and R.K. Bhattacharyya, "Transition metal saccharide chemistry and biology: Syntheses, characterisation, solution stability and putative bio-relevant studies of iron-saccharide complexes", *Inorg. Chim. Acta*, 297 (2000) 373-382.
76. A. Mukhopadhyay, E. Kolehmainen and C.P. Rao, "Lanthanide-saccharide chemistry: Synthesis and characterisation of Ce(III)-saccharide complexes", *Carbohydr. Res.*, 324 (2000) 30-37.
77. P.V. Rao, C.P. Rao, A. Sreedhara, E.K. Wegelius, K. Rissanen and E. Kolehmainen, "Synthesis, structure and reactivity of trans- UO_2^{2+} complexes of OH-containing ligands", *Dalton Transactions*, (2000) 1213-1218.
78. A. Mukhopadhyay, E. Kolehmainen and C.P. Rao, "Interaction of saccharides with rare earth metal ions: Synthesis and characterisation of Pr(III)- and Nd(III)-saccharide complexes", *Carbohydr. Res.*, 328 (2000) 103-113.
79. A.K. Sah, C.P. Rao, P.K. Saarenketo, E.K. Wegelius, K. Rissanen and E. Kolehmainen, " N -Glycoside of ortho substituted anilines of 4,6-O-Ethylidene-glucopyranose: Synthesis, characterization and structure of -COOH, -Cl and -F substituted glycosylamines and metal ion complexes of -COOH derivative". *Dalton Transactions* (2000) 3681-3687.

80. . A. Mukhopadhyay, E. Kolehmainen and C.P. Rao, "Lanthanide-saccharide chemistry: Synthesis and characterisation of saccharide complexes of Sm(III) (f^5), Eu(III) (f^6) and Dy(III) (f^9) ions", *Indian J. Chem.*, 40A (2001) 1045-1052.
81. A. K. Sah, C P. Rao, P. K. Saarenketo, E. K. Wegelius, E. Kolehmainen and K. Rissanen, "First Crystallographic investigation of complexes of *cis*-VO₂⁺, *cis*-MoO₂²⁺ and *trans*-UO₂²⁺ species with Schiff's base molecules derived from 4,6-O-ethylidene- β -D-glucopyranosylamine", *Eur. J. Inorg. Chem.*, (2001) 2773-2781.
82. T.M. Das, C. P. Rao and E. Kolehmainen , "Synthesis and Characterization of N-glycosyl amines obtained from the reaction between 4,6-O-benzylidene-D-glucopyranose and substituted aromatic amines, and also between 2-(*o*-aminophenyl)benzimidazole and pentoses or hexoses", *Carbohydr. Res.*, 334 (2001) 261-269.
83. A.K. Sah, C. P. Rao, P. K. Saarenketo, E. Kolehmainen and K. Rissanen, "Synthesis, characterization and crystal structures of Schiff's bases obtained from the reactions of 4,6-O-ethylidene- β -D-glucopyranosylamine with substituted salicylaldehydes", *Carbohydr. Res.*, 335 (2001) 33-43.
84. T. Mohan Das, C.P. Rao and E. Kolehmainen, "Interaction of metal ions with N-glycosyl amines: Isolation and characterization of the products of 4,6-O-benzylidene-N-(*o*-carboxyphenyl)- β -D-glucopyranosylamine with different metal ions", *Carbohydr. Res.*, 335 (2001) 151-158.
85. P. V. Rao, C. P. Rao, E. Kolehmainen, E. K. Wegelius and K. Rissanen, "Lower Rim 1,3-Di-derivatives of Calix[4]arene Amides Having Amino Acid Ester and Amines as Pendants", *Chem. Lett.*, (2001) 1176-77.
86. A.K. Sah, C.P. Rao, E.K. Wegelius, E. Kolehmainen and K. Rissanen, "Synthesis, characterization and first crystal structure of Zn(II) complex of N-(2-hydroxybenzylidene)-4,6-O-ethylidene- β -D-glucopyranosylamine", *Carbohydr. Res.*, 336 (2001) 249-255.
87. A.K. Sah, C.P. Rao, P.K. Saarenketo and K. Rissanen, "Structure of the First Tetranuclear Ni(II) Complex Derived From N-(2-hydroxybenzylidene)-4,6-O-ethylidene- β -D-glucopyranosylamine", *Chem. Lett.*, (2001) 1296-97.
88. P.V. Rao, E. Kolehmainen and C.P. Rao, "Synthesis, characterization and structure of Ti(IV) complexes of hydroxy-rich ligands", *Ind. J. Chem.*, 41A (2002) 284-289.

89. A.K. Sah, C.P. Rao, P.K. Saarenketo and K. Rissanen, "Crystal structure of *N*-(2-hydroxybenzylidene)-4,6-*O*-ethylidene- β -D-glucopyranosylamine", *Carbohydr. Res.*, 337 (2002) 79-82.
90. G. Rajsekhar, C.P. Rao, P.K. Saarenketo, E. Kolehmainen and K. Rissanen, "Glycosylamines of 4,6-*O*-butylidene- α -D-glucopyranose: Synthesis and characterization of glycosylamines, and the crystal structure of 4,6-*O*-butylidene-*N*(*o*-chlorophenyl)- β -D-glucopyranosylamine", *Carbohydr. Res.*, 337 (2002) 187-194..
91. T.M. Das, C.P. Rao, E. Kolehmainen, R.M. Kadam and M.D. Sastry, "Interaction of metal ions with D-glucobenzothiazoline: Isolation and characterization of the resultant products", *Carbohydr. Res.*, 337 (2002) 289-296
92. A.K. Sah, C.P. Rao, P.K. Saarenketo, K. Rissanen, G.A. van Albada and J. Reedijk, "Dinuclear Copper Complexes of *N*-(2-Hydroxybenzylidene or 5-Bromo-2-hydroxybenzylidene)-4,6-*O*-ethylidene- β -D-glucopyranosylamine: Coordination Variation and Structural Diversity", *Chem. Lett.* (2002) 348-349.
93. M. Dey, C.P. Rao, P.K. Saarenketo and K. Rissanen, "Synthesis, Structural Diversity, Inter-conversion and Reactivity of Cu(II) Complexes of hydroxy-rich molecules", *Inorg. Chem. Commun.*, 5 (2002) 380-383.
94. M. Dey, C.P. Rao, P. Saarenketo, K. Rissanen and E. Kolehmainen, "Four-, Five- and Six – Coordinated Zn(II)-complexes of –OH-containing ligands: Syntheses, Structure and Reactivity", *Eur. J. Inorg. Chem.*, (2002) 2207-2215.
95. A. Mukhopadhyay, E. Kolehmainen, C.P. Rao, "Synthesis and characterisation of saccharide complexes of La(III) ion", *Indian J. Chem.* 41A (2002) 1621-24.
96. G. Rajsekhar, C.P. Rao, P.K. Saarenketo, E. Kolehmainen and K. Rissanen, "C-S bond cleavage by cobalt: Synthesis, Characterization and Crystal structure determination of 1,2-di(*o*-salicylaldiminophenylthio)-ethane and its Co(III) product with C-S bond cleaved fragments", *Inorg. Chem. Commun.*, 5 (2002) 649-652.
97. G. Rajsekhar, U.B. Gangadharmath, C.P. Rao, P. Guionneau, P.K. Saarenketo, and K. Rissanen, "Synthesis and characterization of 4,6-*O*-butylidene-*N*(2-hydroxybenzylidene)- β -D-glucopyranosylamine: Crystal structures of 4,6-*O*-butylidene- α -D-glucopyranose, 4,6-*O*-butylidene- β -D-glucopyranosylamine and 4,6-*O*-butylidene-

- N*-(2-hydroxybenzylidene)- β -D-glucopyranosylamine”, *Carbohydr. Res.* 337 (2002) 1477-84.
98. C.P. Rao and T. Mohan Das, “Simple perspectives of carbohydrates”, *Khimiya/Chemistry. A Bulgarian J. Chem. Edn.*, 11 (2002) 385-419.
99. M. Dey, C. P. Rao, P. K. Saarenketo, and K. Rissanen, “Mono-, Di- and Tri-nuclear Ni(II) Complexes of N-, O- Donor ligands: Structural Diversity and Reactivity”, *Inorg. Chem. Commun.*, 5 (2002) 924-928.
100. P. V. Rao, C. P. Rao, E.K. Wegelius and K. Rissanen, “2-Hydroxy-1-naphthaldehyde derived Schiff bases: synthesis, characterization and structure”, *J. Chem. Cryst.*, 33 (2003) 139-147.
101. G. Rajsekhar, C.P. Rao and P. Guionneau, “First crystallographic evidence for the formation of β -D-ribopyranosylamine from the ammonialysis of D-ribose”, *Carbohydr. Res.* 338 (2003) 801-805.
102. C.P. Rao and T. Mohan Das, “Saccharide complexes of lanthanides”, *Indian J. Chem.*, 42A (2003) 227-239.
103. T.M. Das, C.P. Rao, N. Kalle and K. Rissanen , “Synthesis and crystallographic characterization of some derivatives of benzimidazole”, *Indian J. Chem.*, 42B (2003) 661-665.
104. G. Rajsekhar, C.P. Rao, K. Nättinen and K. Rissanen, “Unusual interaction extended between the pyranose ring oxygen and Zn(II) center in the complexes derived from 4,6-O-butylidene/ethylidene-N-(α -hydroxynaphthylidene/*o*-hydroxybenzylidene)- β -D-glucopyranosylamine: Evidence for a pseudo-bicapped tetrahedral complex of Zn(II) based on the crystal structure” *Inorg. Chem. Commun.*, 6 (2003) 1156-60.
105. G. Rajsekhar, A. K. Sah, C.P. Rao, P. Guionneau, M. Bharathy, and T. N. GuruRow, “Bis-(μ -saccharide-C-2-oxo) Dinuclear Cu(II) Complexes of 4,6-O-butylidene/ethylidene-N-(α -hydroxynaphthylidene/*o*-hydroxybenzylidene/5-bromo-*o*-

hydroxybenzylidene)- β -D-glucopyranosylamine: Structural Aspects and Data Correlations”, *Dalton Transactions* (2003) 3126-3135.

106. . A. K. Sah, A. Ali, E. K. Wegelius, K. Rissanen and C. P Rao, “A soluble complex of Zn(II) with N₂O₄ core: A structural study”, *Indian J. Chem.*, **42A** (2003) 1888-1891.
107. M. Dey, C.P. Rao, P.K. Saarenketo, K. Rissanen, E. Kolehmainen, and P. Guionneau, “Mn(IV) and Co(III)-complexes of -OH-rich ligands possessing O₂N, O₃N and O₄N cores: syntheses, characterization and crystal structures”, *Polyhedron*, **22** (2003) 3515-3521.
108. C.P. Rao and M. Dey, “Calixarenes: Smart Molecular Hosts”, *Encyclopedia of Nanoscience and Nanotechnology*, **1** (2003) 475-497.
109. G. Rajsekhar, C. P. Rao, P. Saarenketo, K. Nättinen, and K. Rissanen, “Complexation Behaviour of Hexadentate Ligands Possessing N₂O₄ and N₂O₂S₂ Cores: Differential Reactivity Towards Co(II), Ni(II) and Zn(II) Salts and Structures of the Products”, *New J. Chem.*, **28** (2004) 75-84.
110. A. Ali, S. Salunke-Gawali, C. P. Rao, J. Linares, “A first report of the complexes of 5,11,17,23-tetra-tert-butyl-25,27-diethoxycarboxymethoxy-26,28-dihydroxycalix[4]arene with Mn(II), Fe(III), Co(II), Ni(II), Cu(II) and Zn(II)”, *Inorg. Chem. Commun.*, **7** (2004) 1298-1301.
111. A. Ali and C.P. Rao, “Formation of mono- and di-amide-calix[4]arene derivatives from the reaction of *p*-*tert*-butyl-calix[4]arene and α -chloro-*N,N*-diethylacetamide in the presence of sodium hydride”, *Indian J. Chem.*, **44B** (2005) 549-552.
112. J. Dessingou, R. Joseph and C.P. Rao, “A direct fluorescence-on chemo-sensor for selective recognition of Zn(II) by a lower rim 1,3-di-derivative of calix[4]arene possessing bis-{N-(2-hydroxynaphthyl-1-methylimine)} pendants”, *Tetrahedron Letts.*, **46** (2005) 7967-7971.
113. M. Dey, C.P. Rao and P. Guionneau, “Structural characterization and reactivity of Cu(II) complex of *p*-*tert*-butyl-calix[4]arene bearing two imine pendants at lower rim”, *Inorg. Chem. Commun.*, **8** (2005) 998-1001.
114. Amjad Ali, S.J.S. Flora, Geetu Saxena, E. Kolehmainen, B. Mahieu and C.P. Rao , “Synthesis and characterization of Sn(IV) complexes of lower rim 1,3-diacid derivative of calix[4]arene and their protective effects on tissue oxidative stress and

essential metal concentration in lead exposed male Wistar rats”, *J. Inorg. Biochem.*, **100** (2006) 206-213.

115. Kumar, A. Ali, C.P. Rao, “Photo-physical behavior as chemosensor properties of anthracene-anchored 1,3-di-derivatives of lower rim calix[4]arene towards divalent transition metal ions”, *J. Photochem. Photobiol. A*, **177** (2006) 164-169.
116. A. Ali, S. Salunke-Gawali, C.P. Rao and J. Linares, “Mono- and di-nuclear Cu(II) complexes of *p*-*tert*-butyl-calix[4]arene-1,3-diacid derivative: A comparative study of their characterization and catecholase mimetic activity”, *Indian J. Chem.*, **45A** (2006) 853-857.
117. R. Ahuja, N.K. Singhal and C.P. Rao, “Lectins: Chemical, structural and biological aspects including drug targeting”, *Khimiya/Chemistry. A Bulgarian J. Chem. Edn.*, **15** (2006) 275-304.
118. N.K. Singhal, B. Ramanujam, V. Mariappandar and C.P. Rao, “Carbohydrate-Based Switch-On Molecular Sensor for Cu(II) in Buffer: Absorption and Fluorescence Study of the Selective Recognition of Cu(II) Ions by Galactosyl Derivatives in HEPES Buffer”, *Org. Lett.*, **8** (2006) 3525-28.
119. . R. Joseph, A. Gupta and C.P. Rao, “Photophysical properties of the interaction of lower rim 1,3-bis(aminoethoxy)-calix[4]arene derivative with Pb²⁺, Hg²⁺ and Cd²⁺ ions: Recognition of Hg²⁺”, *J. Photochem. Photobiol. A*, **188** (2007) 325-328.
120. R. Ahuja, N.K. Singhal, B. Ramanujam, M. Ravikumar, and C.P. Rao, “Experimental and Computational Studies of the Recognition of Amino Acids by Galactosyl-imine and -amine Derivatives: An Attempt to Understand the Lectin-Carbohydrate Interactions”, *J. Org. Chem.*, **72** (2007) 3430-3442
121. R. Joseph, A. Gupta, A. Ali and C.P. Rao, “Fluorescence and absorption studies on the selective recognition of iodide by lower rim 1,3-bis(aminoethoxy)-*p*-*t*-butyl-calix[4]arene derivative”, *Indian J. Chem.* **46A** (2007) 1095-1100.
122. . A. Ali, C.P. Rao and P. Guionneau, “Influence of alkali and alkaline earth ions on the O-alkylation of the lower rim phenolic-OH groups of p-*tert*-butyl-calix[4]arene to result in amide-pendants: Template action of K⁺ and the structure of K⁺ bound tetra-amide derivative crystallized with a p-*tert*-butyl-calix[4]arene anion”, *J. Chem. Sci.*, **120** (2008) 237-247.

123. R. Joseph, B. Ramanujam, A. Acharya, A. Khutia and C.P. Rao, "Experimental and Computational Studies of Selective Recognition of Hg^{2+} by Amide Linked Lower Rim 1, 3-di-benzimidazole Derivative of Calix[4]arene: Species Characterization in Solution and that in the Isolated Complex, Including the Delineation of the Nano-Structures", *J. Org. Chem.*, **73** (2008) 5745-58.
124. R. Joseph, B. Ramanujam, H. Pal and C.P. Rao, "Lower rim 1,3-di-derivative of calix[4]arene possessing bis-{N-(2-2'-dipyridylamide)} pendants: An unusual dual fluorescence sensor for Zn^{2+} and Ni^{2+} ", *Tetrahedron Letts.*, **49** (2008) 6257-61.
125. G.S. Baghel, B. Ramanujam and C.P. Rao, "Selective Recognition of Cu^{2+} by Di-O-picoly Derivative of 1,1'-Methylene-Bis(2-Naphthol)", *J. Photochem. Photobiol. A*, **202** (2009) 172-177.
126. A. Mitra, B. Ramanujam, and C.P. Rao, 1-(D-glucopyranosyl-2'-deoxy-2'-iminomethyl)-2-hydroxynaphthalene as chemo-sensor for Fe^{3+} in aqueous HEPES buffer based on colour changes observable by naked eye", *Tetrahedron Letts.*, **50** (2009) 776-780.
127. G.S. Baghel, S.M. Shaikh and C.P. Rao, "Metal ion complex of di-O-picoly derivative of 1,1'-methylene-bis(2-naphthol): First crystal structure of a monomeric Cu(II) complex of bis(2-((pyridin-2-yl)methoxy)naphthalen-1-yl)methane", *Inorg. Chim. Acta*, **362** (2009) 2770-2775. doi.org/10.1016/j.ica.2008.12.019
128. A. Kumar, N.K. Singhal, B. Ramanujam, A. Mitra, N.R. Rameshwaram, S.K. Nadimpalli and C.P. Rao, " C_1/C_2 -aromatic-imino-glyco-conjugates: Experimental and computational studies of binding, inhibition and docking aspects towards glycosidases isolated from soybean and jack bean", *Glycoconjugates J.* **26**(4) (2009) 495-510. DOI: 10.1007/s10719-008-9199-4
129. R.K. Pathak, Sk.Md. Ibrahim and C.P. Rao, "Selective recognition of Zn^{2+} in aqueous acetonitrile by salicylaldimine appended triazole linked di-derivatives of calix[4]arene by enhanced fluorescence emission: Role of terminal $-CH_2OH$ moieties in conjunction with the imine in recognition", *Tetrahedron Letts.*, **50** (2009) 2730-2734. DOI: 10.1016/j.tetlet.2009.03.126
130. R. Joseph, B. Ramanujam, A. Acharya and C.P. Rao, "Fluorescence Switch-on Sensor for Cu^{2+} by an Amide Linked Lower Rim 1, 3 -bis(2-picoly)amine Derivative of

Calix[4]arene in Aqueous Methanol”, *Tetrahedron Letts.*, **50** (2009) 2735-2739. DOI: [10.1016/j.tetlet.2009.03.109](https://doi.org/10.1016/j.tetlet.2009.03.109)

131. J.P. Chinta, A. Acharya, A. Kumar and C.P. Rao, “Spectroscopy and Microscopy Studies of the Recognition of Amino Acids and Aggregation of Proteins by Zn(II) Complex of Lower Rim Naphthylidene Conjugate of Calix[4]arene”, *J. Phys. Chem. B.*, **113** (2009) 12075-83.
132. G.S. Baghel and C.P. Rao, “Pamoic acid in forming metallo-organic framework: Synthesis, characterization and first crystal structure of a dimeric Ti(IV) complex”, *Polyhedron* **28** (2009) 3507-14.
133. . N.K. Singhal, A. Mitra, G. Rajsekhar, M.M. Shaikh, Subodh Kumar, P. Guionneau and C.P. Rao, “Role of the orientation of –OH groups on sensitivity and selectivity of the interaction of M^{2+} with ribosyl- and galctosyl-imino-conjugates: Solution recognition studies of M^{2+} in MeOH and selective recognition of Cu^{2+} in HEPES buffer, and first crystal structure determination of dinuclear-Cu(II) complexes based on both the glyco-imino-conjugates”, *Dalton Transactions* (2009) 8432-42..
134. R. Joseph, B. Ramanujam, A. Acharya and C.P. Rao, “Lower rim 1,3-di-{bis-(2-picolyl)}amide derivative of calix[4]arene (L) as ratiometric primary sensor towards Ag^+ and the complex of Ag^+ as secondary sensor towards Cys: Experimental, Computational and Microscopy studies, and INHIBIT Logic Gate Properties of L”, *J. Org. Chem.* **74** (2009) 8181-90. { doi: 10.1021/jo901676s }
135. M. Dey, J.P. Chinta, G.J. Long and C.P. Rao, “Synthesis and characterization of the complexes of Fe(III), Co(III), Ni(II), Cu(II), Zn(II) and UO_2^{2+} with *p*-tert-butylcalix[4]arene bearing two imine pendants linked through salicylyl moiety at the lower rim”, *Indian J. Chem.* **48A** (2009) 1484-91.
136. A. Mitra, J.P. Chinta and C.P. Rao, “1-(D-Glucopyranosyl-2'-deoxy-2'-iminomethyl)-2-hydroxybenzene as chemosensor for aromatic amino acids by switch-on fluorescence”, Accepted in *Tetrahedron Lett.* **51** (2010) 139-142.
137. A. Ali, R. Joseph, B. Mahieu and C.P. Rao, “Synthesis and characterization of a (1+1) cyclic Schiff base of lower rim 1,3-diderivative of *p*-tert-butylcalix[4]arene and its complexes of VO^{2+} , UO_2^{2+} , Fe^{3+} , Ni^{2+} , Cu^{2+} and Zn^{2+} ”, *Polyhedron* **29** (2010) 1035-1040. DOI information: 10.1016/j.poly.2009.12.020

138. M. Dey, A. Ali, A. Acharya & C. P. Rao, "1,3-Di-peptido-conjugates of calix[4]arene and its di-OCH₃ derivatives: Synthesis, characterization and phosphate recognition", *Indian J. Chem.* **49B** (2010) 1098-1108.
139. . R. Joseph, J. P. Chinta and C. P. Rao, "Benzothiazole appended lower rim 1,3-di-amido-derivative of calix[4]arene: Synthesis, structure, receptor properties towards Cu²⁺, iodide recognition and computational modelling", *Inorg. Chimica acta* **363** (2010) 2833-2839.
140. R. Joseph, J. P. Chinta and C. P. Rao, "Lower rim 1,3-di-derivative of calix[4]arene appended salicylidene imine (H₂L): Experimental and computational studies of the selective recognition of H₂L towards Zn²⁺, and sensing phosphate and amino acid by [ZnL]", *J. Org. Chem.*, **75** (2010) 3387-95.
141. R. K. Pathak, A. G. Dikundwar, T. N. Guru Row and C. P. Rao, "A lower rim triazole linked calix[4]arene conjugate as a fluorescence switch on a sensor for Zn²⁺ in blood serum milieus", *Chem. Comm.*, **46** (2010) 4345-47. DOI: 10.1039/c0cc00219d
142. . A. Acharya, B. Ramanujam, A. Mitra and C. P. Rao, "Nano-Fibers Formed Through π...π Stacking of the Complexes of Glucosyl-C2-Salicyl-Imine and Phenylalanine: Characterization by Microscopy, Modeling by Molecular Mechanics and Interaction by α-Helical & β-Sheet Proteins", *ACS Nano*, **4** (2010) 4061-4073.
143. A. Kumar, B. Ramanujam, N.K. Singhal, A. Mitra and C.P. Rao, "Interaction of aromatic-imino-glycoconjugates with jacalin: Experimental and computational docking studies", *Carbohydr. Res.*, **345** (2010) 2491-2498.
144. A. Acharya , B. Ramanujam, J. P. Chinta, and C. P. Rao, "1,3-Diamido-calix[4]arene Conjugates of Amino Acids: Recognition of -COOH Side Chain Present in Amino Acids, Peptides, and Proteins by Experimental and Computational Studies", *J. Org. Chem.*, **76** (2011) 127-137.
145. A. Mitra , A. K. Mittal and C. P. Rao, "Carbohydrate assisted fluorescence turn-on gluco-imino-anthracenyl conjugate as Hg(II) sensor in milk and blood serum milieus", *Chem. Commun.*, **47** (2011) 2565-67.
146. A.K. Bandela, J.P. Chinta, V.K. Hinge, A. G. Dikundwar, T. N. Guru Row and C. P. Rao, "Recognition of polycyclic aromatic hydrocarbons and their derivatives by 1,3-di-naphthalimide conjugate of calix[4]arene: Emission, absorption, crystal structures and computational studies", *J. Org. Chem.*, **76** (2011) 1742-50.

147. R. Joseph and C.P. Rao, "Ion and molecular recognition by lower rim 1,3-di-conjugates of calix[4]arene as receptors", *Chem. Revs.* **111** (2011) 4658-4702.
148. A. Mitra, V.K. Hinge, A. Mittal, S. Bhakta, P. Guionneau and C.P. Rao, "A Zinc-Sensing Glucose-Based Naphthyl Imino Conjugate as a Detecting Agent for Inorganic and Organic Phosphates, Including DNA", *Chem. Eur. J.*, **17** (2011) 8044-8047.
149. R. Joseph, J.P. Chinta and C.P. Rao, "Calix[4]arene-Based 1,3-Diconjugate of Salicylyl Imine Having Dibenzyl Amine Moiety (L): Synthesis, Characterization, Receptor Properties toward Fe^{2+} , Cu^{2+} , and Zn^{2+} , Crystal Structures of Its Zn^{2+} and Cu^{2+} Complexes, and Selective Phosphate Sensing by the [ZnL]", *Inorg. Chem.* **50** (2011) 7050-7058.
150. A. Kumar, J.P. Chinta, A.K. Ajay, M.K. Bhat and C.P. Rao, "Synthesis, characterization, plasmid cleavage and cytotoxicity of cancer cells by a copper(II) complex of anthracenyl-terpyridine", *Dalton Transactions* **40** (2011) 10865-872.
151. A.K. Bandela, J.P. Chinta and C.P. Rao, "Role of the conformational changes brought in the arms of the 1,3-di-capped onjugate of calix[4]arene (L) in turning on the fluorescence of L by Hg^{2+} ", *Dalton Transactions* **40** (2011) 11367-11370.
152. R.K. Pathak, K. Tabbasum, V.K. Hinge and C.P. Rao, "Selective recognition of cysteine in its free and protein bound states by the Zn^{2+} complex of triazole based calix[4]arene conjugate", *Chemistry – A European Journal*, **17** (2011) 13999-14003.
153. A. Mitra and C.P. Rao, "Naked eye sensing of Hg^{2+} using glucose based anthracenyl imino derivative", *Trends in Carbohydrate Research*, **3** (2011) 44-46.
154. R. Rajaganesh, K.K. Kumar, T.M. Das and C.P. Rao, "Spectroscopic investigation of hydrogen bonding interaction in di-*O*-isopropylidene derivatives of monosaccharides" *Trends in Carbohydrate Research*, **3** (2011) 57-63.
155. R.K. Pathak, V.K. Hinge, M. Mondal and C.P. Rao, "Triazole-Linked-Thiophene Conjugate of Calix[4]arene: Its Selective Recognition of Zn^{2+} and as Biomimetic Model in Supporting the Events of the Metal Detoxification and Oxidative Stress Involving Metallothionein", *J. Org. Chem.* **76** (2011) 10039-10049.
156. Balaji Ramanujam, J.P. Chinta and C.P. Rao, "Structural comparisons of the species of recognition of Ni^{2+} , Cu^{2+} , Zn^{2+} , Cd^{2+} , Hg^{2+} and Ag^+ with 1,3-di-conjugates of calix[4]arene by DFT computations", *Ind. J. Chem. A*, **51** (2012) 130-144.

157. J. Dessingou, A. Mitra, K. Tabbasum, G.S. Baghel and C.P. Rao, "A benzimidazole conjugate of 1,1'-thiobis(2-naphthol) as *switch-on* fluorescence receptor for Ag^+ and the complex as secondary recognition ensemble towards Cys, Asp and Glu in aqueous methanolic solution: Synthesis, characterization, ion and amino acid recognition, computational studies and microscopy features", *J. Org. Chem.*, **77** (2012) 371-378.
158. J.P. Chinta and C.P. Rao, "Molecular recognition by calix[4]arene scaffolds", *ISRAPSBulletin*, **24** (2012) 31-42.
159. V.V. Sreenivasu M., K. Tabbasum, J.P. Chinta and C.P. Rao, "1,3-Diamidoquinoline conjugate of calix[4]arene (L) as ratiometric and colorimetric sensor for Zn^{2+} : Spectroscopy, microscopy and computational studies", *Dalton Trans.*, **41** (2012) 1671-1674.
160. G.S. Baghel, J.P. Chinta, A. Kaiba, P. Guionneau and C.P. Rao, "Coordination polymers formed by the mono and dinuclear Cu(II) complexes of 1,1'-methylene/thiobis(2-naphthoxy) acetic acid", *Crystal Growth and Design*, **12** (2012) 914-926.
161. J. Dessingou, K. Tabbasum, A. Mitra, V.K. Hinge and C.P. Rao, "Lower rim 1,3-di{4-antipyrine}amide conjugate of calix[4]arene: Synthesis, characterization and selective recognition of Hg^{2+} and its sensitivity towards pyrimidine bases", *J. Org. Chem.*, **77** (2012) 1406-1413.
162. R.K. Pathak, V.K. Hinge, A. Rai, D. Panda and C.P. Rao, "Imino-phenolic-pyridyl conjugates of calix[4]arene (L_1 and L_2) as primary fluorescence *switch on* sensors for Zn^{2+} in solution and in HeLa Cells, and the recognition of pyrophosphate and ATP by $[\text{Zn}L_2]$ ", *Inorg. Chem.*, **51** (2012) 4994-5005.
163. R.K. Pathak, K. Tabbasum, A. Rai, D. Panda and C.P. Rao, "Pyrophosphate sensing by a fluorescent Zn^{2+} bound triazole linked imino-thiophenyl conjugate of calix[4]arene in HEPES buffer medium: Spectroscopy, microscopy, and cellular studies", *Anal. Chem.*, **84** (2012) 5117-5123.
164. A. Kumar, A. Mitra, A.K. Ajay, M.K. Bhat and C.P. Rao, "Cu(II) complexes of glyco-imino-aromatic conjugates in DNA binding, plasmid cleavage and cell cytotoxicity", *J. Chem. Sci.*, **124** (2012) 1217-1228.
165. A. Acharya, K. Samanta and C.P. Rao, "Conjugates of calixarenes emerging as molecular entities of nanoscience", *Coord. Chem. Revs.*, **256** (2012) 2096-2125.

- a. <http://dx.doi.org/10.1016/j.ccr.2012.05.018>
166. V.V. Sreenivasu M., A. Nehra, V.K. Hinge and C.P. Rao, “Triazole linked picolylimine conjugate of calix[6]arene as a sequential sensor for La^{3+} followed by F^- ”, *Org. Lett.*, **14** (2012) 2968-2971.
167. R.K. Pathak, V.K. Hinge, P. Mondal and C.P. Rao, “Ratiometric fluorescence *off-on-off* sensor for Cu^{2+} in aqueous buffer by a lower rim triazole linked benzimidazole conjugate of calix[4]arene”, *Dalton Transactions*, **41** (2012) 10652-10660. DOI: 10.1039/c2dt30432e.
168. R.K. Pathak, V.K. Hinge, M. Kandula, A. Rai, D. Panda and C.P. Rao, “ Cd^{2+} complex of triazole based calix[4]arene conjugate as selective fluorescent chemo-sensor for Cys”, *Anal. Chem.*, **84** (2012) 6907–6913 <http://dx.doi.org/10.1021/ac301492h>
169. R.K. Pathak, K. Tabbasum, A. Rai, D. Panda and C.P. Rao, “A Zn^{2+} specific triazole based calix[4]arene conjugate (L) as fluorescence sensor for histidine and cysteine in HEPES buffer milieu”, *Analyst*, **137** (2012) 4069-4075
170. G.S. Baghel, J.P. Chinta and C.P. Rao, “Synthesis, characterization of the amido-conjugates of 1, 1'-methylene-bis(2-naphthol) and the recognition of Cu^{2+} in aqueous acetonitrile”, *New J. Chem.*, **36** (2012) 2397 – 2404
171. R.K. Pathak, Jayaraman D and C.P. Rao, “Multiple sensor array of Mn^{2+} , Fe^{2+} , Co^{2+} , Ni^{2+} , Cu^{2+} and Zn^{2+} complexes of a triazole linked imino-phenol based calix[4]arene conjugate for the selective recognition of Asp, Glu, Cys and His”, *Anal. Chem.*, **84** (2012) 8294-8300. DOI information: <http://dx.doi.org/10.1021/ac301821c>
172. J.P. Chinta, B. Ramanujam and C.P. Rao, “Structural aspects of the metal ion complexes of the conjugates of calix[4]arene: Crystal structures and computational models”, *Coord. Chem. Revs.*, **256** (2012) 2762-2794. DOI information: 10.1016/j.ccr.2012.09.001
173. J.P. Chinta and C.P. Rao, “Triazole linked lower rim glycosyl appended 1,3-calix[4]arene conjugates: Synthesis, characterization and their interaction with jacalin”, *Carbohydr. Res.*, **369** (2013) 58-62. <http://dx.doi.org/10.1016/j.carres.2012.09.010>

174. R.K. Pathak, J. Dessingou, V.K. Hinge, A.G. Thawari, A.K. Basu and C.P. Rao, "Quinoline driven fluorescence turn on 1,3-bis-calix[4]arene conjugate based receptor to discriminate Fe^{3+} from Fe^{2+} ", *Anal. Chem.*, **85** (2013) 3707-3714.
175. V.V. Sreenivasu M, V.K. Hinge, K. Tabbasum, R.G. Gonnade and C.P. Rao, "Triazole linked anthracenyl-appended calix[4]arene conjugate as receptor for Co(II): Synthesis, spectroscopy, microscopy and computational studies", *J. Org. Chem.* **78** (2013) 3570-3576.
176. Sivaiah Areti, J.K. Khedkar, C. Ramakrishna and C.P. Rao, "Thiourea linked peracetylated glucopyranosyl - anthraquinone conjugate as reversible *ON* - *OFF* receptor for fluoride in acetonitrile", *Tetrahedron Lett.* **54** (2013) 5629-5634.
177. A. Mitra, Sivaiah Areti, A.K. Mittal, S. Bhakta, and C.P. Rao "Diimino conjugate of glucosyl-cresol as receptor for Cu^{2+} and its complex for cysteine and histidine", *Trends In Carbohydrate Research*, **5** (2013) 1 – 5.
178. J.P. Chinta, J. Dessingou and C.P. Rao, "Synthesis, characterization and ion recognition studies of lower rim 1,3-di{rhodamine} conjugate of calix[4]arene", *J. Chem. Sci.*, **125** (2013) 1455-1461.
179. M. Kandpal, A.K. Bandela, V.K. Hinge, V. R. Rao and C.P. Rao, "Fluorescence and piezoresistive cantilever sensing of trinitrotoluene by an upper rim tetra-benzimidazole conjugate of calix[4]arene and the delineation of the features of the complex by molecular dynamics", *ACS Applied Materials and Interfaces* **5** (2013) 13448-13456.
180. Sivaiah Areti, Deepthi S.Y., K. Samanta, V.K. Hinge, J.K. Khedkar and C.P. Rao, "Glyco-conjugate as selective *switch on* molecule for Hg^{2+} in the presence of albumin proteins, blood serum *milieu* and on silica gel solid support", *RSC Advances* **4** (2014) 16290-16297.
181. V.V. Sreenivasu M, R.K. Pathak, V.K. Hinge, J. Dessingou and C.P. Rao, "A fluorescent di-zinc(II) complex of bis-calix[4]arene conjugate as chemosensing-ensemble for the selective recognition of ATP", *Supramolecular Chem.* **26** (2014) 538 - 546.
182. Jayaraman D., J.K. Khedkar and C.P. Rao, "Chemosensing ability of hydroxynaphthylidene derivatives of hydrazine towards Cu^{2+} : Experimental and computational studies", *J. Chem. Sci.* **126** (2014) 1135-1141.

183. M. Dey, P. Guionneau, P., V.K. Hinge and C.P. Rao, "Structural comparisons of the binding cores formed by 1,3-di-amide derivatives of *p*-tert-butylcalix[4]arene: Arms stabilization through intra-molecular interactions including N-H...O, O-H...Cl and π ...Cl types", *Proc. Natl. Acad. Sci., India, Sect. A Phys. Sci.*, 84 (2014) 297-303. (Special issue on 100 years of crystallography)
184. A. Nehra, V.K. Hinge, and C.P. Rao, "Phenylene-diimine capped conjugate of lower rim 1, 3-calix[4]arene as molecular receptor for Mg^{2+} via arm conformational changes followed by aggregation and mimicking the species by molecular mechanics", *J. Org. Chem.*, 79 (2014) 5763 – 5770.
185. S. Areti, V.K. Hinge and C.P. Rao, "Pyrenyl-imino-C2-glucosyl conjugate: Synthesis, characterization, and ratiometric and reversible OFF - ON receptor for Hg^{2+} ", *Carbohydr. Res.*, 399 (2014) 64-69.
186. V.V. Sreenivasu M, V.K. Hinge, K. Samanta, Deepthi S.Y. and C.P. Rao, "Supramolecular complexation of biological phosphates with acyclic triazolium-linked anthracenyl-1,3-diconjugate of calix[4]arene: Synthesis, Characterization, Spectroscopy, microscopy and computational studies", *Chem. A European Journal* 20 (2014) 14378-14386.
187. K. Tabbasum and C.P. Rao, "Zn²⁺, Cd²⁺ and Cu²⁺ Mediated Formation of Amyloid like Fibrils by the Monomers of β -Sheet Rich Peanut Agglutinin", *RSC Advances* 4 (2014) 53044 - 53054.
188. A.G. Thawari, V.K. Hinge, M. Temgire and C.P. Rao, "Mercuration of apo- α -lactalbumin: Binding of Hg^{2+} followed by protein mediated nanoparticle formation", *RSC Advances* 4 (2014) 53429 – 53436. DOI: 10.1039/c4ra07156e
189. V.V. Sreenivasu M, D.S. Yarramala, K.K. Kondaveeti and C.P. Rao, "Time and concentration dependent reactivity of Cys, Hcy and GSH on the Diels Alder grafted conjugate of 1,3,5-tri-calix[6]arene to bring selectivity for Cys: Spectroscopy and microscopy, and its reactivity in cells", *J. Org. Chem.*, 79 (2014) 10477-10486.
190. V.V. Sreenivasu M, V.K. Hinge and C.P. Rao, "Interaction of a dinuclear fluorescent Cd(II) complex of calix[4]arene conjugate by phosphates and its applicability in cell imaging", *Dalton Transactions*, 44 (2015) 1130-1141.
191. K. Tabbasum and C.P. Rao, "Zn²⁺ and Cu²⁺ induced nanosheets and nanotubes in six different lectins by TEM", *RSC Advances* 5 (2015) 16828-836. DOI: 10.1039/C5RA00481K.

192. S. Areti, J.K. Khedkar, S. Bandaru, R. Teotia, J. Bellare and C.P. Rao, "Coumarine-imino-C2-glucosyl conjugate as receptor for Cu²⁺ in blood serum *milieu*, on silica gel sheet and in Hep G2 cells and the characterization of the species of recognition", *Anal. Chim. Acta* **873** (2015) 80-87. DOI information: 10.1016/j.aca.2015.02.065
193. D.S. Yarramala, S. Doshi and C.P. Rao, "Green synthesis, characterization and anticancer activity of luminescent gold nanoparticles capped with apo- α -lactalbumin", *RSC Advances* **5** (2015) 32761-32767. DOI: 10.1039/C5RA03857J.
194. V.V. Sreenivasu M, S. Bandaru, D.S. Yarramala , K. Samanta, D.S. Mhatre and C.P. Rao, "Binding and ratiometric dual ion recognition of Zn²⁺ and Cu²⁺ by 1, 3, 5-tris-amidoquinoline conjugate of calix[6]arene by spectroscopy and its supramolecular features by microscopy", *Anal. Chem.* **87** (2015) 4988-4995. DOI: 10.1021/acs.analchem.5b00905.
195. A.K. Bandela, V.K. Hinge, D.S. Yarramala and C.P. Rao, "A versatile, reversible and reusable gel of a mono cholestryl conjugated calix[4]arene as functional material to store and release dyes and drugs including doxorubicin, curcumin and tocopherol", *ACS App. Mat. & Interfaces* **7** (2015) 11555-11566.
196. A.K. Bandela, S. Patrudu and C.P. Rao, "A fluorescent 1,3-di-aminonaphthalimide conjugate of calix[4]arene for sensitive and selective detection of trinitrophenol: Spectroscopy, microscopy and computational studies, and the applicability using cellulose strips", *Chemistry A European Journal* **21** (2015) 13364-13374. DOI: 10.1002/chem.201500787
197. A.G. Thawari, K. Tabbasum, V.K. Hinge and C.P. Rao, "Pb²⁺ binding to lentil lectin and its influence on the protein aggregation", *RSC Advances* **5** (2015) 72352-72360. DOI: 10.1039/C5RA06427A.
198. A. Nehra, D.S. Yarramala, V.K. Hinge, K. Samanta and C.P. Rao, "Differentiating phosphates by an Mg²⁺ complex of the conjugate of calix[4]arene via the formation of ternary species and causing changes in the aggregation: Spectroscopy, microscopy and computational modeling", *Anal. Chem.* **87** (2015) 9344 - 9351. DOI: 10.1021/acs.analchem.5b02667.
199. S. Areti, R. Teotia and C.P. Rao, "A water soluble glucopyranosyl conjugate as selective and reactive probe for cysteine in buffer and its application to living cells", *Analyst* **140** (2015) 7391 – 7398. DOI: 10.1039/c5an01626f.

200. S. Areti, S. Bandaru, R. Teotia and C.P. Rao, "A Water soluble 8-hydroxyquinoline conjugate of amino-glucose as receptor for La³⁺ in HEPES buffer, on Whatman cellulose paper and in living cells", *Anal. Chem.* **87** (2015) 12348–12354.
201. S. Areti, S. Bandaru, D.S. Yarramala and C.P. Rao, "Optimizing the electron-withdrawing character on benzene sulfonyl moiety attached to a glyco-conjugate to impart sensitive and selective sensing of cyanide in HEPES buffer and on cellulose paper and silica gel strips", *Anal. Chem.* **87** (2015) 12396-12403.
202. K. Samanta and C.P. Rao, "A Bi-functional Thioether Linked Coumarin Appended Calix[4]arene Acquires Selectivity Towards Cu²⁺ Sensing on Going from Solution to SAM on Gold", *ACS App. Mat. & Interfaces* **8** (2016) 3135-3142. (DOI: 10.1021/acsami.5b10481).
203. A.G. Thawari and C.P. Rao, "Peroxidase-like Catalytic Activity of Copper-Mediated Protein-Inorganic Hybrid Nanoflowers and Nanofibers of β-Lactoglobulin and α-Lactalbumin: Synthesis, Spectral Characterization, Microscopic Features, and Catalytic Activity", *ACS App. Mat. & Interfaces* **8** (2016) 10392 - 10402, (DOI 10.1021/acsami.5b12591).
204. A. Nehra, S. Bandaru, D.S. Yarramala and C.P. Rao, "Differential recognition of anions with selectivity towards F⁻ by calix[6]arene-thiourea conjugate by spectroscopy, microscopy and computational modeling by DFT", *Chemistry A European Journal* **22** (2016) 8903 – 8914. DOI: chem.201600844.
205. A. Nehra, D.S. Yarramala and C.P. Rao, "A 1,3-Capped Calix[4] Conjugate Possessing an Amine Moiety as an Anion Receptor: Reversible Anion Sensing Detected by Spectroscopy and Characterization of the Supramolecular Features by Microscopy", *Chemistry A European Journal* **22** (2016) 8980 – 8989. DOI: chem.201600609R1.
206. S. Areti and C.P. Rao, "Tuning glycoconjugates to acquire selectivity for toxic Hg²⁺ ions", *Trends in Carbohydrate Research* **8(2)** (2016) 1-8.
207. S. Areti, S. K. Verma, J. Bellare and C. P. Rao, "Selenocysteine vs Cysteine: Tuning the Derivatization on Benzenesulfonyl Moiety of a Triazole Linked Dansyl Connected Glycoconjugate for Selective Recognition of Selenocysteine and the Applicability of the Conjugate in Buffer, in Serum, on Silica Gel, and in HepG2 Cells", *Anal. Chem.* **88** (2016) 7259-7267. <http://dx.doi.org/10.1021/acs.analchem.6b01518>.

208. S. Areti, S. Bandaru and C.P. Rao, "Triazole Linked Quinoline Conjugate of Glucopyranose: Selectivity Comparison among Zn^{2+} , Cd^{2+} and Hg^{2+} based on Spectroscopy, Thermodynamics and Microscopy, and Reversible Sensing of Zn^{2+} and the Structure of the Complex by DFT", *ACS Omega* **1** (2016) 626 – 635.
209. K. Samanta, D.S. Ranade, A. Upadhyay, P.P. Kulkarni, and C.P. Rao, "A Bimodal, Cationic, and Water-Soluble Calix[4]arene Conjugate: Design, Synthesis, Characterization, and Transfection of Red Fluorescent Protein Encoded Plasmid in Cancer Cells", *ACS App. Mat. & Interfaces* **9** (2017) 5109-5117, (DOI 10.1021/acsami.6b14656).
210. S. Areti and C.P. Rao, "Integrating glucosyl moiety with the reporting group through linker resulting in conjugates suitable for ion and molecular recognition: Critical analysis of our own demonstrations", *Trends in Carbohydr. Res.* **9** (2017) 35-43.
211. D. S. Yarramala, A. Bakshi, T. Pradeep and C. P. Rao, "Green Synthesis of Protein-Protected Fluorescent Gold Nanoclusters (AuNCs): Reducing the Size of AuNCs by Partially Occupying the Ca^{2+} Site by La^{3+} in Apo- α -Lactalbumin", *ACS Sustainable Chemistry & Engg.* **5** (2017) 6064-606 <http://dx.doi.org/10.1021/acssuschemeng.7b00958>
212. N. Narkhede, B. Uttam, R. Kandi and C.P. Rao, "Silica–Calix Hybrid Composite of Allyl Calix[4]arene Covalently Linked to MCM-41 Nanoparticles for Sustained Release of Doxorubicin into Cancer Cells", *ACS Omega* **3** (2018) 229-239. {DOI:10.1021/acsomega.7b01852}
213. R. Nag, M. Vashishtha and C.P. Rao, "Switching the ion selectivity from Fe^{3+} to Al^{3+} by a triazole-appended calix[4]arene based amphiphile", *Chem. Select.* **3** (2018) 1248-1256. {DOI: 10.1002/slct.201702999}
214. A. Nehra, D.S. Yarramala, S. Bandaru and C.P. Rao, "Cyclohexyl-diimine capped lower rim 1,3-di-derivatized calix[4]arene conjugate as sensor for Al^{3+} by spectroscopy, microscopy, titration calorimetry and DFT computations", *Supramol. Chem.* **30** (2018) 619-626. {DOI: 10.1080/10610278.2018.1424851}
215. A. Upadhyay, R. Kandi and C.P. Rao, "An injectable, self-healing and stress sustainable hydrogel of BSA as a functional biocompatible material for controlled drug delivery in cancer cells", *ACS Sustainable Chemistry & Engg.* **6** (2018) 3321-3330. {DOI: 10.1021/acssuschemeng.7b03485}
216. R. Nag, R. Kandi and C.P. Rao, "Host-Guest Complexation of a Lipoic Acid Conjugate of Calix[4]arene with Pyridinium Moiety on Gold Nanorods for Mitochondrial Tracking

followed by Cytotoxicity in HeLa Cells under 633 nm Laser Light", *ACS Sustainable Chemistry & Engg.* **6** (2018) 8882-8890.

217. A. Upadhyay, R. Kandi and C.P. Rao, "Wheat germ agglutinin modified magnetic iron oxide nanocomplex as cell membrane specific receptor target material for killing breast cancer cells", *J. Mater. Chem. B*, **6** (2018) 5729 - 5737. DOI: 10.1039/c8tb01170b.
218. N. Narkhede, B. Uttam and C.P. Rao, "Inorganic-organic covalent hybrid of polyoxometalate-calixarene: Synthesis, characterization and enzyme mimetic activity", *Inorganica Chimica Acta* **483** (2018) 337-342. <https://doi.org/10.1016/j.ica.2018.08.034>
219. B. Uttam, R. Kandi, M. Althaf Hussain and C.P. Rao, "A fluorescent lower rim 1, 3-di-benzoioxadiazole conjugate of calix[4]arene in selective sensing of fluoride in solution and in biological cells using confocal microscopy", *J. Org. Chem.* **83** (2018) 11850-11859. DOI:10.1021/acs.joc.8b01761
220. S. Polepalli and C. P. Rao, "Drum stick seed powder as smart material for Water Purification: Role of *Moringa Oleifera* Coagulant Protein Coated Copper Phosphate Nanoflowers for the Removal of Heavy Toxic Metal Ions and Oxidative Degradation of Dyes from Water", *ACS Sustainable Chemistry & Engineering* **6** (2018) 15634-15643. DOI: 10.1021/acssuschemeng.8b04138
221. A. Nehra, V.K. Hinge, R. Nag and C.P. Rao, "Selective recognition of Zn²⁺ by a triazole linked thiophenemethylimine based derivative of calix[6]arene and the secondary sensing of biothiols by the corresponding zinc complex", *J. Indian Chem. Soc.* **95** (2018) 1541-1549.
222. B. Uttam, M. Althaf Hussain, S. Joshi and C.P. Rao, "Physico-chemical and ion sensing properties of benzofurazan appended calix[4]arene in solution and on gold nanoparticles using spectroscopy, microscopy, and DFT computations in support of the species of recognition", *ACS Omega* **3** (2018) 16989-16999. DOI: 10.1021/acsomega.8b02848.
223. S. Areti, S. Bandaru, R. Kandi and C.P. Rao, "Role of Aromatic Moiety in the Probe Property toward Picric Acid:Synthesis, Crystal Structure, Spectroscopy, Microscopy, and Computational Modeling of a Knoevenagel Condensation Product of D-Glucose", *ACS Omega* **4** (2019) 1167-1177. DOI:10.1021/acsomega.8b03352
224. D.S. Yarramala, P. Prakash, D.S. Ranade, S. Doshi, P.P. Kulkarni, P. Bhaumik and C.P. Rao, " Cytotoxicity of apo bovine α -lactalbumin complexed with La³⁺ on cancer cells

supported by its high resolution crystal structure", *Scientific Reports* **9** (2019) 1780: 1-11. DOI: 10.1038/s41598-018-38024-1.

225. N. Narkhede, B. Uttam and C.P. Rao, "Calixarene Assisted Pd Nanoparticles in Organic Transformations: Synthesis, Characterization and Catalytic Applications in Water for C-C Coupling, and for the Reduction of Nitroaromatics and Organic Dyes", *ACS Omega* **4** (2019) 4908-4917.
226. Upadhyay and C.P. Rao, "Porous, pH Responsive and Reusable Hydrogel Beads of Bovine Serum Albumin_Au Hybrid as Smart Nano Factories for the Removal of Organic and Inorganic Pollutants from Water: A Detailed Demonstration by Spectroscopy and Microscopy", *ACS Applied Materials and Interfaces* **11** (2019) 7965-7973.
227. Narula and C.P. Rao, "Hydrogel of the Supramolecular Complex of Graphene Oxide and Sulfonatocalix[4]arene as Reusable Material for the Degradation of Organic Dyes: Demonstration of Adsorption and Degradation by Spectroscopy and Microscopy", *ACS Omega* **4** (2019) 5731-5740.
228. S.K. Dinda, A. Upadhyay, S. Polepalli, Md. A. Hussain and C.P. Rao, "Development of Nitro Benzoxadiazole Appended Calix[4]arene Conjugate (L) for Selective Sensing of Trivalent Cr³⁺, Fe³⁺ and Al³⁺ Ions in Solution and in the Solid State and Imaging MCF7 cells by {L+Al³⁺}", *ACS Omega* **4** (2019) 7723-7733.
229. R. Nag, S. Polepalli, Md. A. Hussain and C.P. Rao, "Ratiometric Cu²⁺ Binding, Cell Imaging, Mitochondrial Targeting and Anticancer Activity with Nanomolar IC₅₀ by Spiro-indoline Conjugated Calix[4]arene", *ACS Omega* **4** (2019) 13231-13240.
230. S.K. Dinda, A. Upadhyay, Md. A. Hussain and C.P. Rao, "Interaction of the Zn²⁺ and Cu²⁺ complexes of terpyridine appended glucosyl-conjugate with Wheat Germ Agglutinin and DNA", *Polyhedron* **172** (2019) 148-156. DOI: 10.1016/j.poly.2019.04.014
231. S.K. Dinda, S. Polepalli and C.P. Rao, "Binding of Fe(II)-Complex of Phenanthroline Appended Glycoconjugate with DNA, Plasmid and an Agglutinin Protein", *New J. Chem.* **44** (2020) 11727 - 11738, DOI: 10.1039/D0NJ01524E
232. A.G. Thawari, Piyush Kumar, R. Srivastava and C.P. Rao, "Lysozyme coated copper nanoclusters for green fluorescence and their utility in cell imaging", *Materials Advances* **1** (2020) 1439-1447. {DOI: 10.1039/d0ma00386g}

233. B. Uttam, I. Jahan, S. Sen and C.P. Rao, "Coumarin–Calix[4]arene Conjugate-Anchored SiO₂ Nanoparticles as an Ultrasensor Material for Fe³⁺ to Work in Water, in Serum, and in Biological Cells", *ACS Omega* **5** (2020) 21288-21299, <https://doi.org/10.1021/acsomega.0c03373>
234. S. Polepalli, B. Uttam and C.P. Rao, "Protein – Inorganic Nano Hybrid Sheets of Pd Embedded BSA as Robust Catalyst in Water for Oxidase Mimic Activity and C-C Coupling Reactions, and as Sustainable Material for Micromolar Sensing of Dopamine", *Materials Advances* **1** (2020) 2074-2083 {DOI: 10.1039/d0ma00512f}.
235. Narula, Md. A. Hussain, A. Upadhyay and C.P. Rao, "1,3-di-Naphthalimide Conjugate of Calix[4]arene as Sensitive and Selective Sensor for Trinitrophenol and this turns Reversible when Hybridized with Carrageenan as Beads", *ACS Omega* **5** (2020) 25747-25756, DOI 10.1021/acsomega.0c03060
236. Upadhyay, A. Narula and C.P. Rao, "Copper based Metallogel of Bovine Serum Albumin and its Derived Hybrid Biomaterials as Aerogel and Sheet: Comparative Study of Adsorption, and Reduction of Dyes and Nitroaromatics by These Materials", *ACS Applied Bio Materials* **3** (2020) 8619-8626. <https://doi.org/10.1021/acsabm.0c01028>
237. Sivaiah, R. Nag and C.P. Rao, "Glyco-Conjugate Design and Demonstration as Receptors for the Species of Biological, Ecological and Medical Importance: Support from Spectroscopy and Microscopy", *Chemistry Select* **6** (2021) 2051-2079.
238. R. Nag and C.P. Rao, "Development and Demonstration of Functionalized Inorganic-Organic Hybrid Copper Phosphate Nanoflowers for Mimicking the Oxidative Reactions of Metalloenzymes by Working as a Nanozyme", *J. Mat. Chem. B* **9** (2021) 3523-3532. DOI: 10.1039/D1TB00221J.
239. R. Nag and C.P. Rao, "Supramolecular Conjugates of Calixarenes in Biological Cells by Microscopy", *J. Chem. Sci.*, **133** (2021) 92. <https://doi.org/10.1007/s12039-021-01965-8>
240. B. Uttam, S Polepalli, S. Sinha, A. Majumder, C. P. Rao* "Selective Sensing and Removal of Mercury Ions by Encapsulating Dansyl Appended Calix[4]Conjugate in a Zeolitic Imidazolate Framework as an Organic–Inorganic Hybrid Nanomaterial", *ACS Appl. Nano Mater.* **5** (2022) 8, 11371–11380. <https://doi.org/10.1021/acsanm.2c02459>

241. S. Polepalli, C. P. Rao, “Development of hybrid DNA-copper phosphate nanoflowers as peroxidase enzyme mimics and for colorimetric sensing of phenol”, *Inorganica Chimica Acta*, **536** (2022), 120885. <https://doi.org/10.1016/j.ica.2022.120885>.
242. S. Polepalli, C. P. Rao, “Enhanced DNA nuclease activity of Momordica charantia lectin by biomimetic mineralization as hybrid copper phosphate nanoflowers and as zeolitic imidazole frameworks”, *Int. J. Biol. Macromol.*, **222** (2022), 1925-1935. <https://doi.org/10.1016/j.ijbiomac.2022.09.282>
243. R. Nag and C.P. Rao, “Calixarene-mediated host–guest interactions leading to supramolecular assemblies: visualization by microscopy” *Chem. Commun.*, **58** (2022), 6044-6063. DOI: [10.1039/D2CC01850K](https://doi.org/10.1039/D2CC01850K)
244. V.V.S. Mummidivarapu, R. Joseph, C. P. Rao, R. K. Pathak, “Suprareceptors emerging from click chemistry: Comparing the triazole based scaffolds of calixarenes, cyclodextrins, cucurbiturils and pillararenes”, *Coord. Chem. Rev.* **493** (2023) 215256. <https://doi.org/10.1016/j.ccr.2023.215256>.