

## Publications 2015

1. Debabrata Moitra, Subhenjit Hazra, Barun Kumar Ghosh, Manoj Kumar Patra, Raj Kumar Jani, Sampat Raj Vadera, Narendra Nath Ghosh, 'A facile low temperature method for the synthesis of CoFe<sub>2</sub>O<sub>4</sub> nanoparticles possessing excellent microwave absorption properties' RSC Advances 5, 51130–51134 (2015)
2. Bhanudas Naik, Subhenjit Hazra, Dayananda Desagani, Barun Kumar Ghosh, Manoj Kumar Patra, Sampat Raj Vadera, Narendra Nath Ghosh Preparation of magnetically separable CoFe<sub>2</sub>O<sub>4</sub> supported Ag nanocatalysts and catalysis reaction towards decolorization of variety of dyes RSC Advances 5, 40193–40198 (2015).
3. Subhenjit Hazra, Hrishikesh Joshi, Barun Kumar Ghosh, Asif Ahmed, Timothy Gibson, Paul Millner and Narendra Nath Ghosh Development of a novel and efficient H<sub>2</sub>O<sub>2</sub> sensor by simple modification of a screen printed Au electrode with Ru nanoparticle loaded functionalized mesoporous SBA15 RSC Advances 5, 34390- 34397, (2015).
4. Subhenjit Hazra, Barun Kumar Ghosh, Manoj Kumar Patra, Raj Kumar Jani, Sampat Raj Vadera, Narendra Nath Ghosh A Novel 'One-Pot' Synthetic Method for Preparation of (Ni<sub>0.65</sub>Zn<sub>0.35</sub>Fe<sub>2</sub>O<sub>4</sub>)<sub>x</sub>-(BaFe<sub>12</sub>O<sub>19</sub>)<sub>1-x</sub> nanocomposites and Study of their Microwave absorption and Magnetic properties Powder Technology 279, 10–17 (2015)
5. Mayank Pandey, Girish M Joshi, Kalim Deshmukh, Narendra Nath Ghosh, N Arunai Nambi Raj, 'Electrical conductivity, optical properties and mechanical stability of 3, 4, 9, 10-Perylenetetracarboxylic Dianhydride based organic semiconductor, Journal of Physics and Chemistry of Solids (doi:10.1016/j.jpics.2015.01.002 Accepted 2015).
6. Bhanudas Naik, Subhenjit Hazra, Desagani Dayananda, V. S. Prasad, and Narendra Nath Ghosh 'Preparation of TiO<sub>2</sub> Nanoparticle Loaded MCM-41 and Study of Its Photo-Catalytic Activity Towards Decolorization of Methyl Orange' Journal of Nanoscience and Nanotechnology (doi:10.1166/jnn.2015.10904) 15, 6669- 6674 (2015)).
7. Subhenjit Hazra, Barun Kumar Ghosh, Manoj Kumar Patra, Raj Kumar Jani, Sampat Raj Vadera, Narendra Nath Ghosh, 'One-Pot' Synthetic Method for preparation of (NiFe<sub>2</sub>O<sub>4</sub>)<sub>x</sub>-(SrFe<sub>12</sub>O<sub>19</sub>)<sub>1-x</sub> nanocomposites and their Microwave absorption properties Journal of Nanoscience and Nanotechnology (doi:10.1166/jnn.2015.10491) 15, 6559- 6567 (2015).
8. Barun Kumar Ghosh, Subhenjit Hazra, Bhanudas Naik, Narendra Nath Ghosh, "Preparation of Ru nanocatalysts supported on SBA-15 and their Excellent Catalytic Activity towards Decolorization of Various Dyes", Journal of Nanoscience and Nanotechnology (doi:10.1166/jnn.2015.10650) 15, 6516- 6523 (2015).
9. Desagani Dayananda, Venkateswara R. Sarva, Sivankutty V. Prasad, Jayaraman Arunachalam, Padmanabhan Parameswaran, Narendra N. Ghosh, Synthesis of MgO nanoparticle loaded mesoporous Al<sub>2</sub>O<sub>3</sub> and its defluoridation study Applied Surface Science 329, 1-10 (2015).

10. Barun Kumar Ghosh, Subhenjit Hazra, Bhanudas Naik, Narendra Nath Ghosh, "Preparation of Cu nanoparticle loaded SBA-15 and their Excellent Catalytic Activity in Reduction of Variety of Dyes" Powder Technology 269, 371–378 (2015).
11. Desagani Dayananda, Swapnil Gupta, Venkateswara R. Sarva, Sivankutty V. Prasad, Jayaraman Arunachalam, Narendra N. Ghosh, Preparation of ZrO<sub>2</sub> nanoparticle loaded mesoporous Al<sub>2</sub>O<sub>3</sub>: A promising adsorbent for defluoridation of water, Science. Letters 4: 105 (2015).
12. Desagani Dayananda, Venkateswara Rao Sarva, Sivankutty Vadakkethonippurathu Prasad, Jayaraman Arunachalam, Narendra Nath Ghosh "A simple aqueous solution based chemical methodology for preparation of mesoporous alumina: Efficient adsorbent for defluoridation of water" Particulate Science and Technology 33: 8–16 (2015)
13. Spectroscopic studies for the changes of a Cr(II) compound in solution triggered by the deprotonation of an aqua ligand" Manjuri K. Koley, Amrita Chatterjee, Anjan Chattopadhyay, Periakaruppan T. Manoharan and Aditya P. Koley J. Coord. Chem 68 2065-2095 (2015)
14. "Revealing the active role of the terminal CNO moiety in the photochemical oxaziridine conversion process of some chemopreventive retinyl nitrones through hybrid QM:QM and QM:MM ONIOM calculations Praveen Saini and Anjan Chattopadhyay Chem. Phys. Lett. 633 (2015) 6
15. "A comprehensive spectroscopic investigation of  $\pi$ -(2-naphthyl)-N-methylnitrone: A computational study on photochemical nitrone-oxaziridine conversion and thermal E-Z isomerization processes" Praveen Saini and Anjan Chattopadhyay RSC Advances 5 (2015) 22148
16. "A computational investigation of the photochemical oxaziridine and amide conversion process of open-chain conjugated nitrone with electron-withdrawing trifluoromethyl group on nitrogen Praveen Saini and Anjan Chattopadhyay J. Chem. Sci. 127 (2015) 1757
17. "A Computational Investigation of the Photochemical Reaction Path of some Synthesized and Experimentally Analyzed Small-Chain Conjugated Nitrones" Praveen Saini, Mainak Banerjee and Anjan Chattopadhyay J. Phys. Chem A (2015, just accepted, in press) DOI: 10.1021/acs.jpca.5b1106
18. "Synthesis and photophysical characterization of quasi push–pull dicyanodibenzodioxins and their anti-tumor activity against glioma cell line C6" Subhadeep Banerjee, Anjan Chattopadhyay, Arnab, Meera Haridas, Praveen Saini, Moitreyi Das, Mahesh S. Majik, Yogesh Kr. Maurya, Bioorg. Med. Chem. Lett. 25 (2015) 753
19. "Synthesis and Optical Properties of 1,4- and 1,2-Dicyanodibenzodioxins Possessing Donor– $\pi$ –Acceptor Architecture" Subhadeep Banerjee, Anjan Chattopadhyay, Praveen Saini, Keisham Sarjit Singh SynLett DOI: 10.1055/s-0035-1560991
20. "Amine functionalized tetraphenylethylene: A novel aggregation–induced emission based fluorescent chemodosimeter for nitrite and nitrate ions" Amrita Chatterjee,

Diprati G. Khandare, Praveen Saini, Anjan Chattopadhyay, Mahesh S. Majik, Mainak Banerjee, RSC Advances 5 (2015) 31479

21. A mild and efficient route to 3-vinylchromones in aqueous micellar media, Vikash Kumar, Amrita Chatterjee and Mainak Banerjee, Synthetic Communications, 2015, 45, 2364-2377.
22. "Viscometric Investigation Of Binary, Ternary and Quaternary Liquid Mixtures: Comparative evaluation of Correlative and Predictive models" Ranjan Dey, Aditya Harshavardhan and Shashwat Verma, Journal of Molecular Liquids, 211,686-694 (2015).
23. "Influence of alkyl group and temperature on excess thermodynamic properties of diethylcarbonate and their binary mixtures at 0.1MPa" M.Srilakshmi, K. Narendra, T. Srinivasa Krishna, Ranjan Dey and A.Ratnakar, Journal of Molecular Liquids, 211,854-867(2015) dx.doi.org/10.1016/j.molliq.2015.07.055.
24. "Acoustical, thermophysical and excess properties of binary and higher order multicomponent liquid mixtures" Ranjan Dey, K.S. Raghuvanshi, A. Saini, A. Harshavardhan, Int. J. Sci. Res. (2015) 251-257. <http://www.ijsr.net/conf/ISU-2015/ISU-055.pdf>
25. Shankar B. Dalavi and Rabi N. Panda, Magnetic properties of nanocrystalline Co and Ni synthesized via superhydride reduction route, J. Magn. Mater. 374, 411-416(2015).
26. Shankar B. Dalavi and Rabi N. Panda, Magnetic properties of nano-structured Co and Ni synthesized by modified NaBH<sub>4</sub> reduction route, Part. Sci. Technol. 33(1), 97-101 (2015).
27. Shankar B. Dalavi, M. Manivel Raja and Rabi N. Panda, "FTIR, magnetic and Mössbauer investigations of nano-crystalline Fe<sub>x</sub>Co<sub>1-x</sub> (0.4 ≤ x ≤ 0.8) alloys synthesized via a superhydride reduction route", New J. Chem. 39, 9641-9649 (2015).
28. Shankar B. Dalavi, M. Manivel Raja and Rabi N. Panda, "Magnetic properties of Ni nanoparticle embedded in silica matrix (KIT-6) synthesized via novel chemical route", AIP Conf. Proc. 1665, 050071 (2015).
29. Shankar B. Dalavi and Rabi N. Panda, "Structural and Magnetic Properties of Single Domain PEG- Coated Fe<sub>x</sub>Ni<sub>80-x</sub>Co<sub>20</sub> (x = 20, 40) Ternary Alloys Synthesized by Chemical Method", Trans. Indian Inst. Met., 68(2), 253-257 (2015).
30. Pragnya P. Mishra, M. Manivel Raja and Rabi N. Panda, "Enhancement of magnetic moment in Co substituted Nanocrystalline  $\gamma$ -Fe<sub>3-x</sub>N (0.2 ≤ x ≤ 0.4) synthesized by modified citrate precursor route", Mater. Res. Bull. DOI:10.1016/j.materresbull.2015.11.039.
31. Pragnya Paramita Mishra and Rabi Narayan Panda "Development Of Novel Chemical Synthetic Routes For Nanocrystalline VN, Mo<sub>2</sub>N, And W<sub>2</sub>N Nitride Materials" AIP Conf. Proc. 1665, 050030 (2015).

32. T. Mondal and A. J. C. Varandas, "Structural evolution of the methane cation in subfemtosecond photodynamics", *J. Chem. Phys.* 143, 014304 (2015).
33. Subhadeep Banerjee, Arkivoc, "Phenazines as chemosensors of solution analytes and assensitizers in organic photovoltaics" accepted for publication in 11/2015
34. Rangaraj Prasath, Purushothaman Bhavana, Electronic and conformational features of derivatives of meso-thien-2-ylporphyrins on protonation and perbromination, *Journal of Molecular Structure*, 2015, 1079, 486–493.
35. R. Prasath, P. Bhavana, S. Sarveswari, Seik Weng Ng, Edward R.T. Tiekink, Efficient ultrasound-assisted synthesis, spectroscopic, crystallographic and biological investigations of pyrazole-appended quinolinyl chalcones, *Journal of Molecular Structure*, 2015, 1081, 201–210.
36. Rangaraj Prasath, Purushothaman Bhavana, Conformational features of meso-tetrathienylporphyrins and photosensitising properties of their  $\alpha$ -1-acetyl-2-oxopropyl derivatives, *Journal of Molecular Structure*, 2015, 1094, 73–82.
37. Rangaraj Prasath, Purushothaman Bhavana, Electronic and conformational features of meso-5-aminothien-2-ylporphyrins and its ferrocene coupled dyad and triads, *Journal of Organometallic Chemistry*, 2015, 794, 181–187.
38. Himank Kumar, Vinod Devaraji, Rangaraj Prasath, Manojkumar Jadhao, Ritika Joshi, Purushothaman Bhavana, Sujit Kumar Ghosh, Groove binding mediated structural modulation and DNA cleavage by quinoline appended chalcone derivative, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, 2015, 151, 605–615.
39. Himank Kumar, Vinod Devaraj, Ritika Joshi, Manojkumar Jadhao, Piyush Ahirkar, Rangaraj Prasath, Purushothaman Bhavana, Sujit Kumar Ghosh, Antihypertensive Activity of a Quinoline Appended Chalcone Derivative and its Site Specific Binding Interaction with Relevant Target Carrier Protein, *RSC Advances*, 2015, 5, 65496-65513.
40. Fluorescence Turn-on Chemosensor for the Detection of Dissolved CO<sub>2</sub> Based on Ion-Induced Aggregation of Tetraphenylethylene derivative. Diprati G. Khandare, Hrishikesh Joshi, Mainak Banerjee, Mahesh S. Majik and Amrita Chatterjee *Analytical Chemistry*, 2015, 87, 10871–10877.
41. In situ mechanochemical synthesis of nitrones followed by 1,3-dipolar cycloaddition: a catalyst-free, "green" route to cis-fused chromano[4,3-c]isoxazoles; Zigmee T. Bhutia, Geethika P., Anurag Malik, Vikash Kumar, Amrita Chatterjee, Biswajit Gopal Roy and Mainak Banerjee, *RSC Advances*, 2015, 5, 99566–99572.
42. Determination of persulphates using N, N- diethyl-p-phenylenediamine as colorimetric reagent: Oxidative coloration and degradation of the reagent without bactericidal effect in water. Gokulakrishnan Subramanian, Akhil Mohammed, Halan Prakash. Available online *Chemical Engineering Journal*, 28 October 2015, Volume 286, 15 February 2016, Pages 223–231.

43. Nickel azamacrocyclic complex activated persulphate based oxidative degradation of methyl, Gokulakrishnan Subramanian, Pranav Nalawade, Steven J. Hinder, Suresh C. Pillai, Halan Prakash, RSC Advances. ,2015, 5 ,31716 – 31724.
44. Atul Sharma, Akhtar Hayat , Rupesh K. Mishra, Gaëlle Catanante, Sunil Bhand and Jean Louis Marty “Titanium Dioxide Nanoparticles (TiO<sub>2</sub>) Quenching Based Aptasensing Platform: Application to Ochratoxin A Detection” Toxins 2015, 7(9), 3771-3784; doi:10.3390/toxins7093771
45. Lizy Kanungo, Ruchi Tiwari, Souvik Pal, Sudhir Chandra, Sunil Bhand “A novel fluorescence imaging array device for aflatoxin analysis” Feature Article in SciencAdvancesToday.(2015)<http://www.lognor.com/scienceadvancesToday.aspx>
46. Souvik Pal, Sunil Bhand “Zinc oxide nanoparticle-enhanced ultrasensitive chemiluminescence immunoassay for the carcinoma embryonic antigen” Microchim Acta ( 2015) Vol 182;1643-1651.
47. Pal, Souvik; Sharma, Manoj; Chatterjee, Ratnamala; Bhand, Sunil “Multi-platform nano-immunosensor for aflatoxin M1 in milk” Materials Research Express (2015) Vol. 2 Number 4; 045010.
48. Pranali P Naik, Geetesh Kumar Mishra, Bengt Danielsson, Sunil Bhand “Android integrated urea biosensor for public health awareness” Sensing and Bio-Sensing Research (2015) 3:12-17 Elsevier,
49. Rupesh K. Mishra , Gustavo A. Alonso, Georges Istamboulie, Sunil Bhand, Jean-Louis Marty “Automated flow based biosensor for quantification of binary organophosphates mixture in milk using artificial neural network” Sensors and Actuators B: Chemical (2015) 208:228-237.
50. Geetesh K. Mishra, Atul Sharma, Sunil Bhand “Ultrasensitive detection of streptomycin using flow injection analysis-Electrochemical quartz crystal nanobalance (FIA-EQCN) biosensor” Biosensors and Bioelectronics (2015) 67:532–539
51. Geetesh K Mishra, Gautam Bacher, Utpal Roy, Sunil Bhand “A label free impedemetric immunosensor for detection of Escherichia coli in water” Sci. Lett. J. 2015, 4: 76
52. Bhagaban Behera, Souvik Pal, Lizy Kanungo, Sunil Bhand, Sudhir Chandra “Synthesis and characterization of ZnO-ZnAl<sub>2</sub>O<sub>4</sub> whiskers and their application in biosensors” Sci. Lett. J. 2015, 4: 102