

## Research Publications

### Journal Papers:

1. S. Boxi, D. Jana, P. P. Parui and **B. K. Ghorai**, “Dibenzo[*a,c*]phenazine based donor-acceptor (D-A) tetra branched molecules: Fine tuning of optical properties”, *Chemistry Select.*, **2018**, *3*, 6953-6959.
2. K. Mandal, D. Jana, **B. K. Ghorai** and Nikhil R. Jana, “Functionalized chitosan with self-assembly induced and subcellular localization-dependent fluorescence ‘switch on’ property” *New J. Chem*, **2018**, *42*, 5774-5784.
3. S. Biswas, D. Jana, G. Kumar, S. Maji, P. Kundu, U. Ghorai, R. Giri, B. Das, N. Chattopadhyay, **B. K. Ghorai**, S. Acharya, “Supramolecular Aggregates of Tetraphenylethene Cored AIEgen towards Mechanoluminescent and Electroluminescent Devices” *ACS Appl. Mater. Interfaces*, **2018**, *10*, 14966–14977.
4. Kuheli Mandal, Debabrata Jana, **Binay K. Ghorai**, and Nikhil R. Jana, “Fluorescent Imaging Probe from Nanoparticle Made of AIE Molecule” *J Phys Chem C*, **2016**, *120*, 5196–5206.
5. N. Pradhan, D. Jana, **B. K. Ghorai** and N. Jana, “Detection and Monitoring of Amyloid Fibrillation Using Fluorescence ‘Switch-On’ Probe” *ACS Appl. Mater. Interfaces*, **2015** *7*, 25813–25820.
6. D. Jana, S. Boxi, P. P. Parui and **B. K. Ghorai**, “Planar-Rotor architecture based pyrene-vinyl-tetraphenylethylene conjugated systems: photophysical properties and aggregation behavior”, *Org. Biomol. Chem.*, **2015**, *13*, 10663–10674.
7. D. Jana and **B. K. Ghorai**, “Side substituent dependence of photophysical properties of 9-arylanthracene based  $\pi$ -conjugates”, *Bull. Chem. Soc. Jpn.*, **2015**, *88*, 89–96.
8. D. Jana and **B. K. Ghorai**, “Hexaphenylbenzene end-capped tri(p-phenylenevinylene): Synthesis and properties”, *Tetrahedron Lett.* **2014**, *55*, 5203–5206.
9. P. Roy, P. Mitra and **B. K. Ghorai**, “Synthesis of azahomosteroid ring system through intramolecular [4+2] cycloaddition of *in situ* generated azaisobenzofuran intermediates”, *Tetrahedron Lett.* **2013**, *54*, 1440–1443.

10. D. Jana, S. Boxi and **B. K. Ghorai**, “Synthesis of *gem*-tetraphenylethylene oligomers utilizing Suzuki reaction and their aggregation properties”, *Dyes and Pigments* **2013**, *99*, 740–747.
11. D. Jana and **B. K. Ghorai**, “Synthesis and aggregation-induced emission properties of tetraphenylethylene-based oligomers containing triphenylethylene moiety”, *Tetrahedron Lett.* **2012**, *53*, 6838–6842.
12. D. Jana and **B. K. Ghorai**, “Pyridine-cored V-shaped  $\pi$ -conjugated oligomers: synthesis and optical properties”, *Tetrahedron* **2012**, *68*, 7309–7316.
13. D. Jana and **B. K. Ghorai**, “Triphenylpyridine-based star-shaped  $\pi$ -conjugated oligomers with triphenylamine core: Synthesis and photophysical properties”, *Tetrahedron Lett.* **2012**, *53*, 1798–1801.
14. D. Jana and **B. K. Ghorai**, “Synthesis and fluorescence behaviour of star-shaped pyridine and benzene cored stilbenoid compounds” *J. Indian Chem. Soc.* **2012**, *89*, 405–410.
15. P. Roy and **B. K. Ghorai**, “One-pot synthesis of pyrano[4,3-*b*]quinolinones from 2-alkynyl-3-formylquinolines via oxidative 6-*endo-dig* ring closure”, *Tetrahedron Lett.* **2012**, *53*, 235–238.
16. D. Jana and **B. K. Ghorai**, “Synthesis and photophysical properties of tetraphenylethylene-based conjugated dendrimers with triphenylamine core”, *Tetrahedron Lett.* **2012**, *53*, 196–199.
17. P. Roy and **B. K. Ghorai**, “Annulation of furan-bridged 10-membered rings on *N*-heterocycles through [8+2] cycloaddition of dienylazaisobenzofurans and dimethyl acetylenedicarboxylate”, *Tetrahedron Lett.* **2011**, *52*, 5668–5671.
18. P. J. P. Yadav, B. Maiti, **B. K. Ghorai**, P. U. Sastry, A. K. Patra, V. K. Aswal and P. Maiti, “Thermoreversible Gelation of Poly(vinylidene fluoride-*co*-chlorotrifluoroethylene): Structure, Morphology, Thermodynamics, and Theoretical Prediction”, *Macromolecules*, **2011**, *44*, 3029–3038.
19. S. Mukherjee, P. Roy and **B. K. Ghorai**, “One-pot three-component synthesis of quinoxaline, quinazoline and phenazine ring systems using Fischer carbene complexes”, *Synthesis*, **2011**, 1419–1426.

20. P. Roy and **B. K. Ghorai**, “One-pot synthesis of furo[2,3-*h*]quinoline and furo[2,3-*h*]isoquinoline derivatives using Fischer carbene complex”, *Tetrahedron Lett.* **2011**, 52, 251–253.
21. P. J. P. Yadav, A. K. Patra, P. U. Sastry, **B. K. Ghorai** and P. Maiti, “Solvent Retention, Thermodynamics, Rheology and Small Angle X-ray Scattering Studies on Thermoreversible Poly(vinylidene fluoride) Gels” *J. Phys. Chem. B*, **2010**, 114, 11420–11429.
22. P. Roy, D. Jana and **B. K. Ghorai**, “Synthesis and Photophysical Properties of Stilbenoid Dendrimers via Heck Reaction on a Tetraphenylethylene Core”, *Bull. Chem. Soc. Jpn.*, **2010**, 83, 1269–1271.
23. G. P. Jana, S. Mukherjee and **B. K. Ghorai**, “Multicomponent approach for the synthesis of phenanthridine and acridine ring systems via the coupling of Fischer carbene complexes with heteroaromatic *o*-alkynyl Carbonyl derivatives”, *Synthesis*, **2010**, 3179–3189.
24. P. Roy and **B. K. Ghorai**, “One-pot three-component synthesis of quinoxaline and phenazine ring systems using Fischer carbene complexes”, *Beilstein J. Org. Chem.*, **2010**, 6, No. 52. doi:10.3762/bjoc.6.52
25. S. Mukherjee and **B. K. Ghorai**, “Metalation of 2,4-dialkoxy-5-bromopyrimidine and formylation with dimethylformamide: Isolation of unexpectedly formed 2,6-dialkoxy-5-dimethylaminopyrimidine-4-carboxaldehyde”, *Synth. Commun.*, **2010**, 40, 1939–1943.
26. D. Jana and **B. K. Ghorai**, “Design, Synthesis and Optical Response of Pyridine-Cored V-Shaped Stilbenoid Dendrimers”, *Lett. Org. Chem.*, **2010**, 7, 203–207. doi: 10.2174/157017810791112522
27. S. Mukherjee, G. P. Jana and **B. K. Ghorai**, “Synthesis of isoquinolines through the coupling of Fischer carbene complexes with *o*-alkynylpyridine carbonyl derivatives”, *J. Organomet. Chem.*, **2009**, 694, 4100–4106.
28. G. P. Jana and **B. K. Ghorai**, “Tandem Generation and Trapping of Furo[3,4-*c*]isoquinoline Intermediates Leading to the Synthesis of Phenanthridine Ring Systems”, *Lett. Org. Chem.*, **2009**, 6, 372–376.

29. G. P. Jana and **B. K. Ghorai**, "Tandem furo[3,4-*b*]pyridine formation-Diels Alder reaction: an approach to the synthesis of nitrogen containing heterocyclic analogues of 1-arylnaphthalene lignans", *Tetrahedron*, **2007**, 63, 12015–12025.
30. **B. K. Ghorai**, S. Duan, D. Jiang and J. W. Herndon, "Coupling of  $\beta$ -Cyanocarbene-Chromium Complexes with 2-Alkynylbenzoyl Derivatives: A [5+5]-Cycloaddition Approach to Phenanthridines", *Synthesis*, **2006**, (21), 3661–3669.
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35. T. K. Sarkar and **B. K. Ghorai**, "Methyl Epijasmonate: Historical Perspective and Total Synthesis", *J. Indian Chem. Soc.*, **1999**, 76, 693–706.
36. T. K. Sarkar, P. Gangopadhyay, **B. K. Ghorai**, S. K. Nandy and J-M. Fang, "Cyclopentanoid Allylsilane in Synthesis: A Facile Construction of the 5-8 Carbon Framework of Asteriscanolide", *Tetrahedron Lett.*, **1998**, 39, 8365–8366.
37. T. K. Sarkar, **B. K. Ghorai**, S. K. Nandy, B. Mukherjee and A. Banerji, "Stereochemical Control over three Contiguous Stereogenic Center in the Intramolecular Ene Reaction of activated 1,6-Dienes. Application to the Synthesis of ( $\pm$ )- Methyl Cucubate and ( $\pm$ )-Methyl Epijasmonate", *J. Org. Chem.*, **1997**, 62, 6006–6011.
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39. T. K. Sarkar, S. K. Nandy, **B. K. Ghorai** and B. Mukherjee, "Lithium Perchlorate Dispersed on Silica Gel, a Mild and Efficient Catalyst for Intramolecular Ene Reactions of Activated 1,6- and 1,7- Dienes", *Synlett*, **1996**, 97–99.
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42. T. K. Sarkar, S. K. Ghosh, P. S. V. Subba Rao, and **B. K. Ghorai**, "An 'Anomalous' Ozonolysis of an Olefin: Isolation and Crystal Structure of Methyl (4aRS, 8RS, 8aRS)-Decahydro-2, 5-dioxo-quinoline-8-carboxylate", *J. Chem. Research(s)*, **1992**, 394–395 and *J. Chem. Research(M)*, **1992**, 3001–3014.
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