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RESEARCH INTERESTS

Synthesis, characterization and applications of atomically precise noble metal clusters in protein templates.

ACADEMIC QUALIFICATIONS

Ph. D. (Chemistry), Indian Institute of Technology (IIT) Madras, India
M. Sc. (Chemistry) Utkal University, India

TEACHING EXPERIENCE

- [1] Teaching assistant, Department of Chemistry, IIT Madras
- [2] Undergraduate course: Chemistry laboratory (CY1002)
- [3] Undergraduate course: Thermodynamics and chemical kinetics (CY1001)
- [4] Post graduate course: Physical chemistry laboratory (CY5024)
- [5] Graduate course: Introduction to research (CY6021)

PUBLICATIONS

JOURNALS & CONFERENCES

- [1]. **J. S. Mohanty**, A. Maity, T. Ahuja, K. Chaudhary, S. Pillalamarri, V. Polshettiwar and T. Pradeep, "Gold cluster-loaded dendritic nanosilica: single particle luminescence and catalytic properties in the bulk", *Nanoscale*, **2021**, 13, 9788-9797. **(SCI Impact Factor 8.30)**
- [2]. **J. S. Mohanty**, K. Chaudhari, S. Chennu and T. Pradeep, "Metal-ion-induced luminescence enhancement in protein protected gold clusters", *J. Phys. Chem. C.*, **2019**, 123, 28969–28976. **SCI Impact Factor 8.30**
- [3]. **J. S. Mohanty**, A. Baksi, H. Lee and T. Pradeep, "Noble metal clusters protected with mixed proteins exhibit intense photoluminescence", *RSC Adv.*, **2015**, 5, 48039-48045.

- [4]. **J. S. Mohanty**, P. L. Xavier, K. Chaudhari, M. S. Bootharaju, N. Goswami, S. K. Pal and T. Pradeep, "Luminescent, Bimetallic, AuAg alloy quantum clusters in protein templates", *Nanoscale*, **2012**, 4, 4255-4262.
- [5]. V. Kumar, P. Srikrishnarka, **J. S. Mohanty**, M. Kannan, R. Nagarajan, and T. Pradeep, "Triboelectric generators for sustainable reduction leading to nanoparticles and nanoclusters", *ACS Sustainable Chem. Eng.*, **2021**, 22, 7431-7436.
- [6]. T. Ahuja, K. Chaudhari, G. Paramasivam, G. Ragupathy, **J. S. Mohanty**, and T. Pradeep, "Toward vibrational tomography of citrate on dynamically changing individual silver nanoparticles", *J. Phys. Chem. C*, **2021**, 125, 3553-3566.
- [7]. P. Bose, P. Chakraborty, **J. S. Mohanty**, Nonappa, A. R. Chowdhuri, E. Khatun, T. Ahuja, A. Mahendranath, and T. Pradeep, "Atom transfer between precision nanoclusters and polydispersed nanoparticles: A facile route for monodisperse alloy nanoparticles and their superstructures", *Nanoscale*, **2020**, 12, 22116-22128.
- [8]. S. Iyengar, S. Pillalamarri, S. Jana, Md. R. Islam, T. Ahuja, **J. S. Mohanty** and T. Pradeep, "Surface treated nanofibers for high current yielding breath humidity sensors for wearable electronics", *ACS Appl. Electron. Mater.*, **2019**, 1, 951-960.
- [9]. T. Gupte, S. Jana, **J. S. Mohanty**, S. Pillalamarri, S. Mukherjee, T. Ahuja, S. Chennu, T. Thomas and T. Pradeep, "Highly-sensitive As³⁺ detection using electrodeposited nanostructured MnO₂ and phase evolution of the active material during sensing", *ACS Appl. Mater. Interfaces*, **2019**, 11, 28154-28163.
- [10]. T. Ahuja, A. Ghosh, S. Mondal, P. Basuri, S. Pillalamarri, J. S. Kumar, **J. S. Mohanty**, S. Bose and T. Pradeep, "Ambient electro spray deposition raman spectroscopy (AESD RS) using soft landed preformed silver nanoparticles for rapid and sensitive analysis", *Analyst*, **2019**, 144, 7412-7420.
- [11]. C. K. Manju, **J. S. Mohanty**, D. Sarkar, S. Chennu and T. Pradeep, "Towards atomically precise luminescent Ag₂S clusters separable by thin layer chromatography", *J. Mater. Chem. C*, **2018**, 6, 5754-5759.
- [12]. S. Bose, Mohd A. Ganayee, B. Mondal, A. Baidya, S. Chennu, **J. S. Mohanty**, T. Pradeep, "Synthesis of silicon nanoparticles from rice husk and their use as sustainable fluorophores for white light emission", *ACS Sustain. Chem. Eng.*, **2018**, 6, 6203-6210.
- [13]. N. Mohammed, A. Baidya, V. Murugesan, A. K. Avula, Mohd A. Ganayee, **J. S. Mohanty**, Tam, Kam (Michael) and T. Pradeep, "Diffusion controlled simultaneous sensing and scavenging of heavy metal ions in water using atomically precise cluster-cellulose nanocrystal composites", *ACS Sustain. Chem. Eng.*, **2016**, 4, 6167-6176.
- [14]. A. Baksi, A. Mitra, **J. S. Mohanty**, H. Lee, G. De and T. Pradeep, "Size evolution of protein protected gold clusters in solution: A combined SAXS-MS investigation", *J. Phys. Chem. C*, **2015**, 119, 2148-2157.
- [15]. K. S. Sugi, I. Chakraborty, T. Udayabhaskararao, **J. S. Mohanty** and T. Pradeep, "Evolution of atomically precise silver clusters to superlattice crystals", *Part. Part. Syst. Character.*, **2013**, 30, 241-243.

CONFERENCES ATTENDED

[1]. A poster on “Noble metal clusters protected with mixed proteins exhibit intense photoluminescence” was presented at Gordon Research Conference: Clusters & Nanostructures, July 09-14, 2017, Mount Holyoke College, USA.

[2]. A poster on “Noble metal clusters protected with mixed proteins exhibit intense photoluminescence” was presented at 20th CRSI National Symposium in Chemistry during Feb 02-05, 2017, held at Gauhati University, Guwahati, India.