RESUME

M. A. HABEEB MUHAMMED

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EDUCATION

- Doctor of Philosophy, Chemistry, Indian Institute of Technology Madras, India, 2010

  Thesis Title: Investigations of Luminescent Gold Quantum Clusters

  Advisor: Prof. T. Pradeep

- Master of Science, Chemistry, Mahatma Gandhi University, Kottayam, India, 2004
- Bachelor of Science, Chemistry, Mahatma Gandhi University, Kottayam, India, 2002

RESEARCH INTEREST

• Chemical synthesis of quantum clusters • Applications of quantum clusters in biology • Photoluminescence studies of quantum clusters

PUBLICATIONS

1. M. A. Habeeb Muhammed and T. Pradeep (2010) Au_{25}@SiO_2: Quantum Clusters in Silica Confinement. *Small*, *7*, 204.

2. M. A. Habeeb Muhammed, P. K. Verma, S. K. Pal, R. Archana, K. Manzoor, N. Shantikumar and T. Pradeep (2010) Luminescent Quantum Clusters of Gold in Bulk by BSA-induced Core Etching of Nanoparticles: Metal ion sensing, Metal Enhanced Luminescence and Biolabeling. *Chem. Eur. J., 16*, 10103.

3. M. A. Habeeb Muhammed, P. K. Verma, S. K. Pal, R. C. A. Kumar, S. Paul, R. V. Omkumar and T. Pradeep (2009) Bright, NIR-Emitting Au_{23} from Au_{25}: Characterization and Applications Including Biolabeling. *Chem. Eur. J., 15*, 10110.

4. M. A. Habeeb Muhammed and T. Pradeep (2009) Aqueous to Organic Phase Transfer of Au_{25} Clusters. *J. Clust. Sci.*, *20*, 365.

5. M. A. Habeeb Muhammed, S. Ramesh, S. S. Sinha, S. K. Pal and T. Pradeep (2008) Two Distinct Fluorescent Quantum Clusters of Gold Starting from Metallic Nanoparticles by pH-Dependent Ligand Etching. *Nano Res*., *1*, 333. (high lighted as back cover page of the issue)

6. M. A. Habeeb Muhammed, A. K. Shaw, S. K. Pal and T. Pradeep (2008) Quantum Clusters of Gold Exhibiting FRET. *J. Phys. Chem. C, 112*, 14324.

7. M. A. Habeeb Muhammed and T. Pradeep (2007) Reactivity of Au_{25} clusters with Au^{3+}. *Chem. Phys. Lett*., *449*, 186.

8. R. Archana, S. Sonali, M. Deepthy, P. Ravindran, M. A. Habeeb Muhammed, T. Pradeep, S. Nair and K. Manzoor (2010) Molecular receptor specific, non-toxic, near-infrared emitting Au cluster-protein nanoconjugates for targeted cancer imaging. *Nanotechnology*, *21*, 055103.

9. E. S. Shibu, M. A. Habeeb Muhammed, K. Kimura and T. Pradeep (2009) Fluorescent superlattices of gold nanoparticles: A new class of functional materials. *Nano Res*., *2*, 220.

10. E. S. Shibu, M. A. Habeeb Muhammed, T. Tsukuda and T. Pradeep (2008) Ligand exchange of $Au_{25}SG_{18}$ leading to functionalized gold clusters: Spectroscopy, kinetics and luminescence. *J. Phys. Chem. C*, *112*, 12168.

BOOK CHAPTER

M. A. Habeeb Muhammed and T. Pradeep (2010) Luminescent quantum clusters of gold as bio-labels. In: Demchenko (Ed.) Advanced fluorescence reporters in chemistry and biology II. Springer, Heidelberg.