List of Publications (From IACS)

2016

1. Doped or Not Doped: Ionic Impurities for Influencing the Phase and Growth of Nanocrystals
   Amit K Guria and Narayan Pradhan
   Chemistry of Materials 2016, 00,00-00.

2. Hybrid Dot-Disk Au-CulnS2 Nanostructures as Active Photocathode for Efficient Evolution of Hydrogen from Water
   B. K Patra, S. Khilari, D. Pradhan and Narayan Pradhan

3. Phosphine Bridge Assisted Formation of Ring-on-disk Au-Cu3P Heterostructure Photocatalysts.

4. Surface Oxidized Dicobalt Phosphide Nanoneedles as a Non-Precious, Durable and Efficient OER Catalyst
   A. Dutta, A. Samantara, S. K. Dutta, B. K. Jena and Narayan Pradhan

5. Au Nanowires Striped Copper Phosphide Platelet Photoelectrocatalysts.
   A. Dutta, A. Samantara, S. Das Adhikari, B. Jena and N. Pradhan

   Amit K Guria, Gyana R. Prusty and Narayan Pradhan*

7. Modulated Binary-Ternary Dual Semiconductor Heterostructures
   Gyanaanjan Prusty, A. K. Guria, I. Mandal, U. Pal and Narayan Pradhan

8. Monodisperse AuCuSn Trimetallic Nanocube Catalysts
   Biplab K Patra, S. Khilari, D. Pradhan and Narayan Pradhan
   Narayan Pradhan *(Invited)* Special Issue-Beyond Conventional Quantum Dots
   *ChemPhysChem*, 2016, 17, 1087-94. (VIP) Special Issue Guest Editor

2015 and Before

10. Diffusion Controlled Shape Architect in Multinary Semiconductor Nanocrystals
    Gyana Ranjan Prusty, Amit K Guria, Biplab K Patra and Narayan Pradhan

11. Dopant-Controlled Selenization in Pd Nanocrystals: The Triggered Kirkendall Effect
    Amit K. Guria, Gyanaranjan Prusty, Biplab K Patra and Narayan Pradhan
    *J. Am. Chem. Soc.* 2015, 137, 5123–5129

12. Metal Semiconductor Heterostructures for Photocatalytic Conversion of Light Energy
    Sumit K Dutta, Shyamal K. Mehetor, Narayan Pradhan

13. Coincident Site Epitaxy at the Junctions of Au-Cu$_2$ZnSnS$_4$ Hetero-nanostructures
    Biplab K Patra, A. Shit, A K Guria, S Sarkar, G Prusty, and Narayan Pradhan

14. Au-SnS Hetero Nanostructures: Size of Au Matters

15. Tuning the Growth Pattern in 2D Confinement Regime of Sm$_2$O$_3$ and the Emerging Room
    Temperature Unusual Superparamagnetism
    Amit K. Guria, K. Dey, S. Sarkar, B. K. Patra, S. Giri and Narayan Pradhan
    *Scientific Report*, 2014 doi:10.1038/srep06514

16. Chemically Sealing the Nanotubes: A Case Study on Sb$_2$S$_3$
    Suresh Sarkar, Amit K Guria, Biplab Patra and Narayan Pradhan

    Riya Bose, A. H. M. Abdul Wasey, Gour P. Das, and Narayan Pradhan

18. Photocatalytic Au-Bi$_2$S$_3$ Heteronanostructures.
Goutam Manna, Riya Bose and Narayan Pradhan


19. Vortex Pattern Self-Assembly in Mn doped ZnSe Nanorods,
Shinjita Acharya, Suresh Sarkar, S. Chacrabarty, Narayan Pradhan


20. Photo-darkening/Photo-brightening of Blue Emitting Doped Semiconductor Nanocrystals
Suresh Sarkar, Amit Kumar Guria, Biplab Kumar Patra and Narayan Pradhan

*Nanoscale*, 2014, 6, 3786-3790.

Heteronanowires
Amit K Guria, S. Sarkar, B. K. Patra and Narayan Pradhan


22. Ag$_2$S-AgInS$_2$: p-n Junction Heteronanostructures with Quasi type-II Band Alignment
Riya Bose, Goutam Manna and Narayan Pradhan

*Chem Comm* 2014,*50*, 3074-3077.

Riya Bose, Goutam Manna and Narayan Pradhan


24. Monodisperse SnS Nanocrystals: In Just 5 Seconds
Biplab K Patra, Suresh Sarkar, Amit K. Guria and Narayan Pradhan


25. Fluorescence Energy Transfer from Doped to Undoped Quantum dots
Suresh Sarkar, Amit Ranjan Maity, Niladri S. Karan and Narayan Pradhan


26. Surface Doping for Hindrance of Crystal Growth and Structural Transformation in
Semiconductor Nanocrystals
Riya Bose, Goutam Manna and Narayan Pradhan


27. Zinc Blende 0D Quantum Dots to Wurtzite 1D Quantum Wires: The Oriented Attachment
and Phase Change in ZnSe Nanostructures
Suresh Sarkar, Shinjita Acharya, Arup Chakraborty, and Narayan Pradhan
28. The Redox Chemistry at the Interface for Retrieving and Brightening the Emission of Doped Semiconductor Nanocrystals
Suresh Sarkar, Biplab K. Patra, Amit K. Guria and Narayan Pradhan

29. Tuning the Emission Colors of Semiconductor Nanocrystals beyond their Bandgap Tunability: All in the Dope,
Santanu Jana, Goutam Manna, Bhupendra Srivastava and Narayan Pradhan

30. Semiconducting and Plasmonic Copper Phosphide Platelets
Goutam Manna, Riya Bose and Narayan Pradhan

31. Influence of doping on semiconductor nanocrystals mediated charge transfer and photocatalytic organic reaction,
Suresh Sarkar, Amit K Guria and Narayan Pradhan

32. Formation of Hetero-epitaxy in Different Shapes of Au-CdSe Metal-Semiconductor Hybrid Nanostructures
Krishnakanta Haldar, Narayan Pradhan and Amitava Patra

33. Anisotropic Zinc Blende ZnSe Nanostructures: The Interface Chemistry and the Retention of Zinc Blende Phase During Growth
Riya Bose, Goutam Manna, and Narayan Pradhan

34. The Rate of Cation Exchange and Change in Optical Properties during Transformation of Ternary to Doped Binary Nanocrystals
Riya Bose, Santanu Jana, Goutam Manna, Supriyo Chakraborty and Narayan Pradhan

35. Material Diffusion and Doping of Mn in Wurtzite ZnSe Nanorods
Shinjita Acharya, Suresh Sarkar and Narayan Pradhan

36. A Controlled Growth Process To Design Relatively Larger Size Semiconductor Nanocrystals
Santanu Jana, Bhupendra B. Srivastava, and Narayan Pradhan


37. Subnanometer Thin β-Indium Sulfide Nanosheets
Shinjita Acharya, Suresh Sarkar, and Narayan Pradhan


38. Mn-Doped Multinary CIZS and AlIZS Nanocrystals
Goutam Manna, Santanu Jana, Riya Bose, and Narayan Pradhan


39. Multifunctional Doped Semiconductor Nanocrystals
Santanu Jana, Bhupendra B. Srivastava, Somnath Jana, Riya Bose, and Narayan Pradhan


40. Short-Lived, Intense and Narrow Bluish-Green Emitting Gold Zinc Sulfide Semiconducting Nanocrystals
Riya Bose, Umamahesh Thupakula, J. K. Bal, and Narayan Pradhan


41. Synthesis of Micrometer Length Indium Sulfide Nanosheets and Study of Their Dopant Induced Photoresponse Properties
Shinjita Acharya, Mrinal Dutta, Suresh Sarkar, Durga Basak, Supriyo Chakraborty, and Narayan Pradhan


42. Ultra-small Color Tunable Cu doped Ternary Nanocrystal Emitters
Suresh Sarkar, Niladri S. Karan and Narayan Pradhan


43. Thermally Controlled Cyclic Insertion/Ejection of Dopant Ions and Reversible Zinc Blende/Wurtzite Phase Changes in ZnS Nanostructures
Niladri S. Karan, Suresh Sarkar, D. D. Sarma, Paromita Kundu, N. Ravishankar, and Narayan Pradhan


44. Doping Cu in Semiconductor Nanocrystals: Some Old and Some New Physical Insights
Bhupendra B. Srivastava, Santanu Jana, and Narayan Pradhan


45. Advances in Light-Emitting Doped Semiconductor Nanocrystals
Narayan Pradhan and D. D. Sarma


46. Correlation of Dopant States and Host Bandgap in Dual-Doped Semiconductor Nanocrystals
   Santanu Jana, Bhupendra B. Srivastava, and Narayan Pradhan


47. Doping Transition Metal (Mn or Cu) Ions in Semiconductor Nanocrystals
   Niladri S. Karan, D. D. Sarma, R. M. Kadam, and Narayan Pradhan


48. Surface Ligand Population Controlled Oriented Attachment: A Case of CdS Nanowires
   Bhupendra B. Srivastava, Santanu Jana, D. D. Sarma and Narayan Pradhan


49. Highly Luminescent Mn-Doped Zn Nanocrystals: Gram-Scale Synthesis
   Bhupendra B. Srivastava, Santanu Jana, Niladri S. Karan, Sayantan Paria, Nikhil R. Jana, D. D.
   Sarma and Narayan Pradhan


50. Doped Semiconductor Nanocrystals and Organic Dyes: An Efficient and Greener FRET
    System
   Suresh Sarkar, Riya Bose, Santanu Jana, Nikhil R Jana and Narayan Pradhan


51. An Alternate Route to High-Quality ZnSe and Mn-Doped ZnSe Nanocrystals
   Shinjita Acharya, D. D. Sarma, Nikhil R. Jana and Narayan Pradhan


52. Chemically Programmed Ultrahigh Density Two-Dimensional Semiconductor Superlattice
    Array
   Narayan Pradhan, Somobrata Acharya, Katsuhiko Ariga, Niladri S. Karan, D. D. Sarma,
   Yoshiki Wada, Shlomo Efrima and Yuval Golan