

LIST OF PUBLICATIONS FOR THE YEAR 2018-19

1. Charting a Course for Chemistry - [Invited contribution to the Nature Chemistry's 10th anniversary feature - S. Ghosh is one among many authors], A. Aspuru-Guzik; M.-H. Baik, S. Balasubramanian, et al. *Nature Chem.*, **11**, 286 (2019).[IF:25.87]
2. Self-sorting in Supramolecular Assembly of π -Systems - H. Kar and S. Ghosh, *Isr. J. Chem.* DOI: 10.1002/ijch.201900038 (Invited Review Article) (2019).[IF:2.60]
3. Glutathione Triggered Cascade Degradation of an Amphiphilic Poly(disulfide)-Drug Conjugate and Targeted Release - R. Bej and S. Ghosh, *Bioconjugate Chem.*, **30**, 101 (2019).[IF:4.82]
4. Hydrogen Bonding Regulated Supramolecular Nanostructures and Impact on Multivalent Binding - A. Sikder, D. S. Ray, V. K. Aswal and S. Ghosh, *Angew. Chem. Int. Ed.*, **58**, 1606 (2019).[IF:12.10]
5. Fluorescence Resonance Energy Transfer (FRET): A Powerful Tool for Probing Amphiphilic Polymer Aggregates and Supramolecular Polymers - P. Rajdev and S. Ghosh, *J. Phys. Chem. B*, **123**, 327 (Invited Review Article) (2019).[IF:3.14]
6. Multi-stimuli Responsive Directional Assembly of Amphiphilic Donor-Acceptor Alternating Supramolecular Copolymer - S. Chakraborty, D. S. Ray, V. K. Aswal and S. Ghosh, *Chem. Eur. J.*, **24**, 16379 (2018).[IF:5.31]
7. Specific Supramolecular Interaction Regulated Entropically Favorable Assembly of Amphiphilic Macromolecules - P. Dey, P. Rajdev, P. Pramanik and S. Ghosh, *Macromolecules*, **51**, 5182 (2018).[IF:5.91]
8. Naphthalenediimide (NDI)-Conjugated Foldable Polyurethanes: Impact of Chromophoric Location on Hierarchical Supramolecular Assembly and Conductivity - A. Mukherjee, T. Sakurai, S. Seki and S. Ghosh, *ChemNanoMat*, **4**, 860 (Appeared as Cover Feature) (2018).[IF:3.17]
9. Transient Optical-Microwave Spectroscopy for Electron Mobility Assessment in Solids and Gels: A Comprehensive Approach - W. Matsuda, T. Sakurai, G. Ghosh, S. Ghosh and S. Seki, *J. Photopolym. Sci. Technol.*, **31**, 91 (2018).[IF:0.89]

10. Solvent Dependent Pathway Complexity and Seeded Supramolecular Polymerization - G. Ghosh and S. Ghosh, *Chem. Commun.*, **54**, 5720 (2018).[IF:6.31]
11. Morphology Regulation in Redox Destructible Amphiphilic Block Copolymers and Impact on Intracellular Drug Delivery - R. Bej, J. Sarkar, D. S. Ray, V. K. Aswal and S. Ghosh, *Macromol. Biosci.*, **18**, 1800057 (2018).[IF:3.85]
12. Morphology Regulation in Redox Destructible Amphiphilic Block Copolymers and Impact on Intracellular Drug Delivery”, R. Bej, J. Sarkar, D. S. Ray, V. K. Aswal and S. Ghosh, *Macromol. Biosci.*, **18**, 1800057 (2018).[IF:3.85]
13. Synthesis and anti-cancer activities of prolein-containing cyclic peptides and their linear analogs and congeners, Ghosh, K. C.; Duttagupta, I.; Bose, C.; Banerjee, P.; Gayen, A. K. and Sinha, S. *Syn. Commun.*, **49**, 221 (2019).[IF:]
14. Post-Synthesis Spontaneous Coalescence of Mixed Halide Perovskite Nanocubes into Phase Stable Single-Crystalline Uniform Luminescent Nanowires – B. Pradhan, A. Mushtaq, D. Roy, S. Sain, B. Das, U. Kr. Ghorai, S. K. Pal, and S. Acharya, *J. Phys. Chem. Lett.*, **8**, 1805 (2019).[IF:8.7]
15. Tuning Copper Sulfide Nanosheets by Cation Exchange Reactions to Realize Two-dimensional CZTS Dielectric Layers – A. H. Khan, S. Pal, A. Dalui, B. Pradhan, D. D. Sarma and S. Acharya, *Journal of Materials Chemistry A*, **7**, 9782 (2019).[IF:9.9]
16. Realization of Diverse Waveform Converter from a Single Nano-scale Lateral pn Junction Cu₂S-CdS Heterostructure – A. Dalui, M. Pandey, P. Kanti Sarkar, B. Pradhan, A. Vasdev, N. B. Manik, G. Sheet and S. Acharya, *ACS Appl. Mater. Interfaces* **11** (12), 11749 (2019).[IF:8.0]
17. Unidirectional Branching Growth of Dipeptide Single Crystals for Remote Light - Qi Li, Yi. Jia, X. Yang, L. Dai, B. Das, S. Acharya, B. Sun, Y. Yang, X. Liu, K. Ariga and J. Li, *Multiplication and Collection*, *ACS Appl. Mater. Interfaces* **11** (1), 31 (2019).[IF:8.0]
18. Synthesis of High Molecular Weight 1,4-Polynaphthalene for Solution-Processed True Color Blue Light Emitting Diode - Suman Kalyan Samanta, Gundam Sandeep Kumar, Uttam Kumar Ghorai, Ullrich Scherf, Somobrata Acharya and Santanu Bhattacharya*, *Macromolecules*, **51** (20), 8324 (2018).[IF:5.9]

19. Phonon Coupling with Excitons and Free Carriers in Formadinium Lead Bromide Perovskite Nano-Crystals - Supriya Ghosh, Qi Shi, Bapi Pradhan, Pushpendra Kumar, Zhengjun Wang, Somobrata Acharya, Suman Pal*, Toḡnu Pullerits, Khadga Karki*, *J. Phys. Chem. Lett.* **9**, 4245 (2018).[IF:8.7]

20. Hierarchical Heterostructure of Ag-Nanoparticle Decorated Fullerene Nanorods (Ag-FNRs) as an Effective Single Particle Freestanding SERS Substrate - Gundam Sandeep Kumar, Rekha Goswami Shrestha, Qingmin Ji, Jonathan P. Hill, Katsuhiko Ariga, Somobrata Acharya* and Lok Kumar Shrestha*, *Phys. Chem. Chem. Phys.* **20**, 18873 (2018).[IF:3.9]

21. Carbon Nanosheets by Morphology-Retained Carbonization of Two-Dimensional Assembled Anisotropic Carbon Nanorings - Taizo Mori, Hiroyuki Tanaka, Amit Dalui, Nobuhiko Mitoma, Kengo Suzuki, Mutsuyoshi Matsumoto, Nikhil Aggarwal, Archita Patnaik, Somobrata Acharya, Lok Kumar Shrestha, Hirotoshi Sakamoto, Kenichiro Itami* and Katsuhiko Ariga*, *Angew. Chem. Int. Ed.* **57**, 9679 (2018).[IF: 12.1]

22. Transparent, Flexible Silicon Nanostructured Wire Networks with Seamless Junctions for High Performance Photodetector Applications - Mozakkar Hossain, Gundam Sandeep Kumar, S. N. Barimar Prabhava, Emmet D. Sheerin, David McCloskey, Somobrata Acharya, K. D. M. Rao* and John J. Boland, *ACS Nano*, **12**, 4727 (2018). [IF:13.709]

23. Probing Local Electronic Structures of Au-PbS Metal-Semiconductor Nanodumbbells - Anupam Debangshi, Umamahesh Thupakula, Ali Hossain Khan, Gundam Sandeep Kumar, Piyush Kanti Sarkar and Somobrata Acharya*, *ACS Appl. Nano Mater.* **1**, 2104 (2018).[IF awaiting]

24. Simple Synthesis of End Functionalized Regioregular Poly(3-hexylthiophene) by Catalytic Initiated Kumada Catalyst Transfer Polymerization - K. Khawas, S. Daripa, P. Kumari, M. K. Bera, S Malik and B. K. Kuila, *J. Polym. Sci. A, Polym. Chem.*, **57**, 945 (2019).[IF:2.5]

25. Solvent Assisted Enhanced Emission of Cationic Perylene Diimide Supramolecular Assembly in Water: A Perspective from Experiment and Simulation - K. Bag, R. Halder, B. Jana and S Malik, *J. Phys.Chem C*, **123**, 6241 (2019).[IF:4.5]

26. Electrochemical Polymerization of Triphenylamine End-Capped Dendron: Electrochromic and Electrofluorochromic Switching Behaviors - D. C. Santra, S. Nad and S. Malik, *J. Electroanal. Chem.*, **823**, 203 (2018).[IF:3.012]
27. Assembly of Amino Acid containing Naphthalene Diimide-based Molecules: The Role of Intervening Amide Groups in Self-assembly, Gelation, Optical and Semiconducting Properties -N Nandi, K Gayen and A Banerjee, *Soft Matter*, **15**, 3018 (2019).[IF:3.709]
28. Red Emitting Copper Nanoclusters: From Bulk Scale Synthesis to Catalytic Reduction – K Basu, S Paul, R Jana, A Datta and A Banerjee, *ACS Sustain. Chem. Eng.*, **7**, 1998 (2019).[IF:6.140]
29. An amino acid based metallo-hydrogel that acts like an esterase – K. Gayen, K. Basu, D. Bairagi, V. Castelletto, Ian W. Hamley and A. Banerjee, *ACS Applied Bio Materials*, **1**, 1717 (2018).(New journal)
30. Peptide based hydrogel as a scaffold for in situ synthesis of metal nanoparticles: catalytic activity of the nano-hybrid system – S. Paul, K. Basu, K. Sundar Das and A. Banerjee, *ChemNanoMat* , **4**, 882 (2018).[IF:3.173]
31. Carbon nanodot-induced gelation of a histidine based amphiphile: application as a fluorescent ink, and modulation of gel stiffness – S. Paul, K. Gayen, N. Nandi and A. Banerjee, *Chem. Commun.* , **54**, 4341 (2018).[IF:6.290]
32. Tunable Aggregation Induced Multicolour Emission of Organic Nanoparticles by Varying Substituent in Naphthalene Diimide. P Choudhury, S Sarkar and P K Das. *Langmuir*, **34**, 14328 (2018).[IF:3.789]
33. Blood Dots: Hemoglobin-Derived Carbon Dots as Hydrogen Peroxide Sensors and Pro-Dru Activators. D Chakraborty, S Sarkar, and P K Das. *ACS Sustainable Chemistry & Engineering*, **6**, 4661 (2018).[IF:6.14]
34. Glucose Oxidase Mediated Targeted Cancer-Starving Therapy by Biotinylated Self-Assembled Vesicle. S Dinda, S Sarkar and P K Das. *Chem. Commun.* **54**, 99 (2018). [IF:6.290]
35. Tailor-Made Self-Assemblies from Functionalized Amphiphiles: Diversity and Applications. S Sarkar, P Choudhury, S Dinda and P K Das, *Langmuir* **34**, 10449 (2018). (Invited Feature Article, Selected as ACS Editor's Choice).[IF:3.789]

36. Vesicle Formation by Cholesterol based Hydrazone Tethered Amphiphiles: Stimuli Responsive Dissipation of Self-Assembly. D Sarkar, P Choudhury, S Dinda and P K Das, *J. Colloid Interface Sci*, **530**, 679 (2018).[IF:5.091]
37. Nanoscale Nucleic Acid Recognition at Solid-liquid Interface using Xeno Nucleic Acid Probes - H Lahiri, S Mishra and R Mukhopadhyay, *Invited Feature Article in Langmuir* (2019).[IF:3.833]
38. Three-dimensionality promotes adhesion to induce monocyte to macrophage differentiation in THP1 cell lines – A. Bhattacharya, M. Agarwal, R. Mukherjee, P. Sen and D. Kr. Sinha, *Cell Death Disease*, **9**(9):914 (2018). Doi:10.1038/s41419-018-0993-z.
39. 3D Micro-environment regulates NF- κ B dependent adhesion to induce monocyte differentiation – A. Bhattacharya, M. Agarwal, R. Mukherjee, P. Sen and D.K. Sinha, *Cell Death & Disease* (2018). Doi:10.1038/s41419-018-0993-z (Nature Journal).
40. In silico mutation and binding studies of human FVIIa GLA-domain to endothelial protein C receptor : A molecular dynamics simulation approach – S. *ACS Omega*, **4**,496 (2019).[IF:]
41. Phosphatidylcholine in the Groove of Endothelial cell protein C receptor (EPCR) regulates EPCR conformation and Protein C recognition, *Integrative Biology*, **10** (11), 696 (2018).[IF:]
42. Contribution of allosteric disulfide in the structural regulation of membrane-bound tissue factor-factor VIIa binary complex – R. Prasad, S. Banerjee and P. Sen, *J. Biomol. Struct. Dyn.*, (2018). doi.org/10.1080/07391102.2018.1526118.
43. Protease-Activated Receptor2 promotes actomyosin dependent transforming microvesicles generation from human breast cancer – K. Das, R. Prasa A. Singh, A. Bhattacharya, A. Roy, S. Mallik and P. Sen, *Mol. Carcinog*, (2018). Doi:10.1002/mc.22891.
44. A key regulator in coagulation proteases mediated human breast cancer progression through autocrine signaling – K. Das, R. Prasad, S.A. Ansari, A. Roy, A. Mukherjee and P. Sen, *Biomedicine & Pharmacotherapy*, **105**, 395 (2018).[IF:]
45. The Protease Activated Receptor2 Promotes Rab5a Mediated Generation of Pro-metastatic Microvesicles – K. Das, R. Prasad, S. Roy, A. Mukherjee and P. Sen, *Sci. Rep*, **8**, 7357 (2018).[IF:]
46. Synthesis of Phosphatidylsrine and Its Stereoisomers : Their Role in Activation of Blood Coagulation – S. Mallik, R. Prasad, A. Bhattacharya and P. Sen, *ACS Med. Chem. Lett.*, **9**, 434 (2018).[IF:]

47. Discovery and Mechanistic Study of tailor-Made Quinoline Derivatives as Topoisomerase I Poisons with Potent Anticancer Activity – B. Kundu, S.K. Das, S.P. Chowdhuri, A. Mukherjee, D. Bhattacharya, A. Talukdar and B.B. Das, *Journal of Medicinal Chemistry (ACS)*, **62**(7), 3428 (2019).[IF:6.25]
48. Cerberus Nanoparticles : Co targeting of Mitochondrial DNA and Mitochondrial Topoisomerase I in Brdast Cancer Cells – A. Mallick, M.M. Kuman, A. Ghosh, B.B. Das and S. Basu, *ACS Applied Nano Materials*, **1**(5), 2195 (2018).[IF:]
49. A novel Metallogel Based Approach to Synthesize (Mn, Cu) Doped ZnS Quantum Dots and Labelling of MCF-7 Cancer Cells – S. Bhowal, A. Ghosh, S.P. Chowdhuri, R. Mondal and B.B. Das, *Dalton Transactions*, **47**, 6557 (2018).[IF:4.01]
50. Barrierless Proton Transfer in the Weak C–H···O Hydrogen Bonded Methacrolein Dimer upon Nonresonant Multiphoton Ionization in the Gas Phase - P Chatterjee, A K Ghosh, M Samanta, T Chakraborty, *J. Phys. Chem. A*, **122 (25)**, 5563 (2018).[IF:2.84]
51. Modulations of ν_{O-H} and $\nu_{C=O}$ Stretching Frequencies of Difluoroacetic Acid with Internal Rotation of CHF₂ Rotor: A Combined Vapor Phase and Matrix Isolation Infrared Spectroscopy Study - I Bhattacharya, P Banerjee, J Sadhukhan, T Chakraborty, *J. Phys. Chem. A*, **123 (13)**, 2771 (2019).[IF:2.84]
52. From Polymerizable Ionic Liquids to Poly(ionic liquid)s: Structure-Dependent Thermal, Crystalline, Conductivity, and Solution Thermoresponsive Behaviors - Y Biswas, P Banerjee, T K Mandal, *Macromolecules*, **52**, 945 (2019) [IF: 5.9]
53. Tryptophan-Based Styrenyl Homopolymer and Polyzwitterions with Solvent-Induced UCST, Ion-Induced LCST and pH-Induced UCST - S Jana, Md Anas, T Maji, S Banerjee, T K Mandal, *Polym. Chem.*, **10**, 526 (2019).[IF:4.9]
54. Poly [oligo (2-ethyl-2-oxazoline) acrylate]-Based Poly (ionic liquid) Random Copolymers with Coexistent and Tunable LCST-and UCST-Type Phase Transitions - S Jana, Y Biswas, Md Anas, A Saha, T K Mandal, *Langmuir*, **34**,12653 (2018).[IF:3.9]
55. Water Soluble Fluorescent Graphene Nanodots - S Singh, K Mitra, S Senapati, R Singh, Y Biswas, S K Sen Gupta, N Misra, T K Mandal, P Maiti, B Ray, *Chem Nano Mat*, **4**,1177 (2018).[IF:3.0]

56. Chemical Tuning of Zwitterionic Ionic Liquids for Variable Thermophysical Behaviours, Nanostructured Aggregates and Dual-Stimuli Responsiveness - Y Biswas, P Ghosh, T K Mandal, *Chem. Eur. J.*, **24**, 13322 (2018).[IF:5.2]
57. Extended Born-Oppenheimer Equations for Non-Abelian Situations: A Study on NO₃ Radical and 1,3,5-C₆H₃F₃⁺ Radical Cation - S Mukherjee, B Mukherjee, S Sardar, S Adhikari, *Computational and Theoretical Chemistry* 1154, **57** (2019).[IF:1.44]
58. Cubic Perturbed Centrifugally Stabilized Excited State in Orthorhombic Manganites - J Dutta, S Adhikari, N Kovaleva, *Journal of Chemical Physics*, **150**, 064703 (2019).[IF:2.84]
59. Conical Intersections and Nonadiabatic Coupling Terms in 1,3,5-C₆H₃F₃⁺: A Six State Beyond Born-Oppenheimer Treatment - S Mukherjee, J Dutta, B Mukherjee, S Sardar, S Adhikari, *Journal of Chemical Physics*, **150**, 064308 (2019).[IF:2.84]
60. Beyond Born-Oppenheimer treatment on spectroscopic and scattering processes - B Mukherjee, S Ghosh, S Adhikari, *Journal of Physics: Conference Series (invited article)*, **1148**, 012001 (2018).[IF:NA]
61. The TDDVR approach for molecular photo-excitation, molecule-surface and triatomic reactive scattering processes - S Mandal, S Ghosh, S Sardar, S Adhikari, *International Reviews in Physical Chemistry*, **37**, 607 (2018).[IF:9.41]
62. A Beyond Born-Oppenheimer Treatment of Five State Molecular System NO₃ and the Photodetachment Spectra of its anion - B Mukherjee, S Mukherjee, S Sardar, K R Shamasundar, S Adhikari, *Chemical Physics (invited article)*, **515**, 350 (2018).[IF:1.70]
63. Topological effects in vibronically coupled degenerate electronic states: A case study on nitrate and benzene radical cation - S Mukherjee, B Mukherjee, J Dutta, S Sardar, S Adhikari, *ACS omega*, **3**, 12465 (2018).[IF:NA]
64. A multifunctional catenated host for efficient binding of Eu³⁺ and Gd³⁺ - M Nandi, S Bej, T K Ghosh, P Ghosh, *Chem. Commun.*, **55**, 3085 (2019).[IF:6.290]

65. Substitution Effect on Near Infrared Absorbance Based Selective Fluoride Sensing of Indole Functionalized Thiourea Molecules - B Chowdhury, S Sinha, P Ghosh, *Eur. J.Org. Chem.*, 1008 (2019).[IF:2.882]
66. Selective Single-Step Oxidation of Amine to Cross-Azo Compounds with an Unhampered Primary Benzyl Alcohol Functionality - S Sarkar, P Sarkar, P Ghosh, *Org. Lett.*, **20**, 6725 (2018)[IF: 6.492]
67. Naphthalene containing amino-ether macrocycle based Cu(II) templated [2]pseudorotaxanes and OFF/ON fluorescence switching via axle substitution - S Bej, P Ghosh, *Dalton Trans.*, **47**, 13408 (2018).[IF:4.009]
68. Balancing the acidity of the pendant urea arm of bis-heteroleptic ruthenium(II) complex containing pyridyl triazole for improved oxyanion recognition - T Ghosh, P Ghosh, *Dalton Trans.*, **47**, 7561 (2018).[IF:4.009]
69. A hexa-quinoline based C₃-symmetric chemosensor for dual sensing of zinc(II) and PPI in an aqueous medium via chelation induced 'OFF-ON-OFF' emission - S Sinha, B Chowdhury, N N Adarsh, P Ghosh, *Dalton Trans.*, **47**, 6819 (2018).[IF:4.009]
70. Anion dependent thermo-responsive supramolecular superstructures of Cu(II)-macrocycles - S Naskar, B Jana, P Ghosh, *Dalton Trans.*, **47**, 5734 (2018).[IF:4.009]
71. An indolium ion functionalized naphtha imide chemodosimeter for detection of cyanide in aqueous medium - S Maji, B Chowdhury, S Pal, P Ghosh, *Inorg. Chim.Acta*, **483**, 321 (2018).[IF:2.264]
72. Mechanistic Insight into Fast and Highly Efficient Organocatalytic Activity of a Tripodal Dimeric Hexaurea Capsular Assembly in Michael Addition Reactions - T K Ghosh, R Ghosh, P Ghosh, *ACS Omega*, **3**, 10647 (2018) [IF:]
73. Aryl-platform-based tetrapodal 2-iodo-imidazolium as an excellent halogen bond receptor in aqueous medium - S Chakraborty, S Maji, R Ghosh, R Jana, A Datta, P Ghosh, *Chem. Commun.*, **55**, 1506 (2019).[IF: 6.290] (Inter-Faculty Pub.)
74. Supramolecular Synthron Approach in Designing Gels for Advanced Therapeutics - P Dastidar, R Roy, R Parveen, K Sarkar, *Adv. Therap.*, **2**, 1800061(2019).[IF: NA]

75. Mixed Ligand Coordination Polymers for Metallogelation and Iodine Adsorption - S Mondal, P Dastidar, *Cryst. Growth Des.*, **19** (1), 470 (2019).[IF:3.93]
76. Rational Approach Towards Designing Metallogels From a Urea Functionalized Pyridyl Dicarboxylate - Anti-inflammatory, Anti-cancer and Drug Delivery - K Sarkar, P Dastidar, *Chem.AsianJ.*,**14**,194 (2019).[IF:3.69]
77. Rationally Developed Metallogelators Derived from Pyridyl Derivatives of NSAIDs Displaying Anti-inflammatory and Anti-cancer Activities - K Sarkar, S Khasimbi, S Mandal, P Dastidar, *ACS Appl. Mater. Interfaces*,**10**, 30649 (2018).[IF:8.09]
78. Stimuli-responsive Metallogels for synthesizing Ag nanoparticles and Sensing Hazardous Gases - P Biswas, S Ganguly, P Dastidar, *Chem.Asian J.*, **13**,1941 (2018).[IF:3.71]
79. Exfoliated Nanosheets of aCu II CoordinationPolymer Modulate Enzyme Activity of α -Chymotrypsin”, K Sarkar, P Dastidar, *Chem. Eur. J.*, **24**,11297 (2018).[IF:5.20]
80. Rheoreversible Metallogels Derived From Coordination Polymers - S Ganguly, R Parveen, P Dastidar, *Chem. Asian J.*,**13**,1474 (2018).[IF:3.69]
81. Exploring Orthogonal Hydrogen bonding Towards Designing Organic Salt Based Supramolecular Gelators: Synthesis, Structures and Anti-cancer Properties - P Chakroborty, P Dastidar, *Chem. Asian J.*, **13**, 1366 (2018).[IF:3.69]
82. Oxidizing Ability of an Iron-Oxygen Oxidant from a Biomimetic Iron(II)-Benzilate Complex: Reactivity Enhancement through Immobilization on Gold Nanoparticles - D Sheet, R D Jana, T K Paine, *Inorg. Chem.*, **58**, 4828 (2019).[IF:4.7]
83. A Mononuclear Nonheme Iron(IV)-Oxo Complex on N4Py Platform: Selective Oxygen Atom Transfer and C-H Bond Activation - R Singh, G Ganguly, S Malinkin, S Demeshko, F Meyer, E Nordlander, T K Paine, *Inorg. Chem.*, **58**,1862 (2019).[IF:4.7]
84. Combining Anti-proliferative and Anti-inflammatory Activities in Ternary Metal-NSAID Complexes of Polypyridylamine Ligand - T R Lakshman, J Deb, I Ghosh, S Sarkar, T K Paine, *Inorg. Chim. Acta.*, **486**, 663 (2019).[IF:2.05]

85. Bio-inspired Oxidation of 1-Aminocarboxylic Acids by a Nonheme Iron(II) Complex: Mimicking the Activity of 1-Aminocyclopropane-1-Carboxylic Acid Oxidase - R Rahaman, T K Paine, *Z. Anorg. Allg. Chem.*, **644**, 745 (2018).[IF:1.18]
86. Bioinspired Olefin *cis*-Dihydroxylation and Aliphatic C-H Bond Hydroxylation with Dioxygen Catalyzed by a Nonheme Iron Complex - S Chatterjee, S Bhattacharya, T. K. Paine, *Inorg. Chem.*, **57**, 10160 (2018).[IF:4.7]
87. Aliphatic C-H Bond Halogenation by Biomimetic Iron(II)- α -Keto Acid Complexes: Functional Models of Nonheme Iron Halogenases - R D Jana, T K Paine, *Inorg. Chem.*, **57**, 8769 (2018).[IF:4.7]
88. Exploring the Crucial Role of Solvation on the Viability of Sustainable Hydrogen Storage in BN-fullerene: A Combined DFT and Ab initio Molecular Dynamics investigation - G Ganguly, D Halder, A Banerjee, S Basu, A Paul, *ACS Sustainable Chemistry & Engineering* (In Press) (2019).[IF:6.14]
89. Unraveling the Microscopic Origin of Triplet Lasing from Organic Solids - L Paul, A Banerjee, A Paul, K Ruud, S Chakrabarti, *The Journal of Physical Chemistry Letters*, **9**, 4314 (2018).[IF:8.71]
90. A Benzooxazole-Based Probe for the Sensitive Detection of Hydrogen Sulfide: Kinetic and Transition-State Studies and In Vitro Application in HepG2 Cells - K Pal, A S M Islam, C Prodhan, S Bhunya, A Paul, M Ali, *Chemistry Select*, **3**, 7283 (2018).[IF:1.51]
91. Unraveling the Crucial Role of Single Active Water Molecule in the Oxidative Cleavage of Aliphatic C–C Bond of 2,4'-Dihydroxyacetophenone Catalyzed by 2,4'-Dihydroxyacetophenone Dioxygenase Enzyme: A Quantum Mechanics/Molecular Mechanics Investigation”, R N Manna, T Malakar, B Jana, A Paul, *ACS Catalysis*, **8**, 10043 (2018).[IF: 11.38] (Inter-Faculty Pub.)
92. Synthetic Iron Porphyrins for Probing the Differences in the Electronic Structures of Heme a₃, Heme d, and Heme d₁ - Sk Amanullah, P Saha, R Saha, A Dey, *Inorg. Chem.*, **58**, 152,(2018)[IF:4.7]
93. Hydrogen Evolution from Aqueous Solutions Mediated by a Heterogenized [NiFe]-Hydrogenase Model: Low pH Enables Catalysis through an Enzyme-Relevant Mechanism - M E Ahmed, S Chattopadhyay, L Wang, D Brazzolotto, D Pramanik, D Aldakov, J Fize, A Morozan, M Gennari, C Duboc, A Dey, V Artero, *Angew. Chem. Intl. Ed.*, **57**, 16001(2018) [IF:12.4]]

94. Oxygen-Tolerant H₂ Production by [FeFe]-H₂ase Active Site Mimics Aided by Second Sphere Proton Shuttle - ME Ahmed, S Dey, MY Darensbourg, A Dey, *J. Am. Chem. Soc.*, **140**, 12457(2018).[IF: 14.3]
95. O₂ Reduction by Biosynthetic Models of Cytochrome c Oxidase: Insights into Role of Proton Transfer Residues from Perturbed Active Sites Models of CcO - S Mukherjee, M Mukherjee, A Mukherjee, A Bhagi-Damodaran, Yi Lu, A Dey, *ACS Catalysis*, **8**, 8915(2018).[IF:11.4]
96. Rational Design of Mononuclear Iron Porphyrins for Facile and Selective 4e⁻/4H⁺ O₂ Reduction: Activation of O–O Bond by 2nd Sphere Hydrogen Bonding - S Bhunia, A Rana, P Roy, D J Martin, ML Pegis, B Roy, A Dey, *J. Am. Chem. Soc.*, **140**, 9444 (2018).[IF:14.3]
97. Activation of Co(I) State in a Cobalt-Dithiolato Catalyst for Selective and Efficient CO₂ Reduction to CO - S Dey, ME Ahmed, A Dey, *Inorganic Chemistry*, **57**, 5939 (2018).[IF:4.7]
98. Induction of Enzyme-like Peroxidase Activity in an Iron Porphyrin Complex Using Second Sphere Interactions - S Bhakta, A Nayek, B Roy, A Dey, *Inorganic Chem.*, **58**, 2954 (2019). [IF:4.7]
99. Enzyme-regulated DNA-based logic device”, M Debnath, R Paul, D Panda, J Dash, *ACS Synthetic Biology*, **7**, 1456-1464 (2018).[IF:5.38] Highlighted in the Hindu <http://www.thehindu.com/sci-tech/science/iacs-team-designs-logic-devices-for-dna-based-computation/article23627811.ece>; Highlighted in Nature India, <https://www.natureasia.com/en/nindia/article/10.1038/nindia.2018.50>
100. Cell Penetrating Thiazole Peptides Inhibit c-MYC Expression via Site-Specific Targeting of c-MYC G-quadruplex”, D Dutta, M Debnath, D Müller, R Paul, T Das, I Bessi, H Schwalbe, J Dash, *Nucleic Acids Research*, **46**, 5355-5365 (2018).[IF:11.56]
101. In vitro screening of known drugs identified by scaffold hopping techniques shows promising leishmanicidal activity for suramin and netilmicin”, S Khanra, Y P Kumar, J Dash, R Banerjee, *BMC Research Notes*, **11**, 319 (2018).[IF:1.0]
102. Small Molecule Driven Stabilization of Promoter G-quadruplexes and Transcriptional Regulation of c-MYC - T Das, D Panda, P Saha, J Dash, *Bioconjugate Chemistry*, **29**, 2636 (2018).[IF: 4.82]

103. Divergent and Orthogonal Approach to Carbazoles and Pyridoindoles from Oxindoles via Indole Intermediates - T Mandal, G Chakraborti, S Karmakar, J Dash, *Org. Lett.*, **20**, 4759–4763(2018) [IF: 6.49]
104. Guanosine derived supramolecular hydrogels: Recent developments and future opportunities”, T Bhattacharyya, P Saha, **J Dash**, *ACS Omega*, **3**, 2230 (2018).[IF:]
105. The application of click chemistry for targeting quadruplex nucleic acids - P Saha, D Panda, J Dash, *Chem. Commun.*, **55**, 731 (2019).[IF:6.29]
106. Dynamic Generation of G-quadruplex DNA Ligands by Target-Guided Combinatorial Chemistry on a Magnetic Nano-platform - S Jana, D Panda, P Saha, D Pantos, J Dash, *J. Med. Chem.*, **62**, 762 (2019).[IF:6.26]
107. Microwave assisted cross-coupling reactions using palladium nanoparticles in aqueous media - K Dhara, B Parasar, A J Patil, J Dash, *Synthetic Communications*, **1** (2019).[IF:1.38]
108. Chemical Regulation of DNA i-Motifs for Nanobiotechnology and Therapeutics - M Debnath, K Fatma, J Dash, *Angew. Chem. Int. Ed.*, **131**, 2968 (2019).[IF:12.1]
109. Analysis of Pseudo Jahn–Teller Distortion Based on Natural Bond Orbital Theory: Case Study for Silicene - R Bhattacharjee, T Majumder, A Datta, *J. Comput. Chem.*, **40**, 1488 (2019).[IF:3.23]
110. Aggregation induced non-emissive-to-emissive switching of molecular platinum clusters - A George, M P Maman, K Bhattacharyya, S Das Chakraborty, Anjusree S, B C Das, D Senapati, A Datta, S Mandal, *Nanoscale*, **11**, 5914 (2019).[IF:7.23]
111. Intramolecular Singlet Fission in Quinoidal Dihydrothiophene - K Bhattacharyya, D Dey, A Datta, *J. Phys. Chem. C*, **123**, 4749 (2019).[IF:4.48]
112. Transforming atmospheric CO₂ into alternative fuels: a metal-free approach under ambient conditions - S C Sau, R Bhattacharjee, P K Hota, P K Vardhanapu, G Vijaykumar, R Govindarajan, A Datta, S K Mandal, *Chemical Science*, **10**, 1879 (2019).[IF:9.06]

113. Red-Emitting Copper Nanoclusters: From Bulk-Scale Synthesis to Catalytic Reduction - K Basu, S Paul, R Jana, A Datta, A Banerjee, *ACS Sustainable Chemistry & Engineering*, **7**, 1998-2007(2019) [IF:6.14]
114. Design rules for the Generation on Stable Quartet Phases of Nucleobases over Two-Dimensional Materials - T K Mukhopadhyay, A Datta, *J. Phys. Chem. C*, **122**, 28918 (2018). [IF:4.48]
115. Silicon-Doped Nitrogen-Coordinated Graphene as Electrocatalyst for Oxygen Reduction Reaction - C Chowdhury, A Datta, *J. Phys. Chem. C*, **122**, 27233 (2018).[IF:4.48]
116. Strain-Induced Topological Insulator in Methyl-Decorated SiGe Films - T Teshome, A Datta, *J. Phys. Chem. C*, **122**, 25127 (2018).[IF: 4.48] [Part of JPC Special Issue: Young Scientists]
117. Gold(I)-Catalyzed Intramolecular Diels–Alder Reaction: Evolution of Trappable Intermediates via Asynchronous Transition States - N Mandal, A Datta, *J. Org. Chem.*, **83**, 11167-11177 (2018) [IF:4.80]
118. Understanding Thermal and Photochemical Aryl–Aryl Cross-Coupling by the AuI/AuIII Redox Couple”, R Bhattacharjee, A Datta, *Chemistry - A Eur. J*, **24**, 13636 (2018).[IF:5.16]
119. Reactive Molecular Dynamics Simulations of Self-Assembly of Polytwistane and Its Application for Nanofibers - B Saha, A Datta, *J. Phys. Chem. C*, **122**, 19204 (2018).[IF:4.48]
120. Phase Coexistence and Strain-Induced Topological Insulator in Two-Dimensional BiAs - T Teshome, A Datta, *J. Phys. Chem. C*, **122**, 15047 (2018).[IF:4.48]
121. Noble-Metal-Supported GeS Monolayer as Promising Single-Atom Catalyst for CO Oxidation - S Karmakar, C Chowdhury, A Datta, *J. Phys. Chem. C*, **122**, 14488 (2018).[IF: 4.48]
122. Doped Boron Nitride Surfaces: Potential Metal Free Bifunctional Catalysts for Non-aqueous Li-O₂ Batteries - C Chowdhury, A Datta, *Phys. Chem. Chem. Phys.*, **20**, 16485 (2018).[IF: 3.91]

123. Effects of Ancillary Ligands on Redox and Chemical Properties of Ruthenium Coordinated Azoaromatic Pincer - S P Rath, D Sengupta, P Ghosh, R Bhattacharjee, M Chakraborty, S Samanta, A Datta, S Goswami, *Inorg. Chem.*, **57**, 11995 (2018).[IF: 4.7] (Inter-Faculty Pub.)
124. Aryl-platform-based tetrapodal 2-iodo-imidazolium as an excellent halogen bond receptor in aqueous medium - S Chakraborty, S Maji, R Ghosh, R Jana, A Datta, P Ghosh, *Chem. Commun.*, **55**, 1506 (2019).[IF:6.290] (Inter-Faculty Pub.)
125. Metal Binding to A β Peptides Inhibits Interaction with Cytochrome c: Insights from Abiological Constructs - A Sarkar, K Sengupta, S Chatterjee, M Seal, P Faller, S Ghosh Dey, A Dey, *ACS Omega*, **3**(10), 13994, (2018).[IF: NA]
126. Nitrite Reductase Activity of Heme and Copper bound A β Peptides - A K Nath, C Ghosh, M Roy, M Seal, S Ghosh Dey, *Dalton Trans*, (Accepted). [IF: 4.099]
127. Formation of Compound I in Heme bound A β -peptides relevant to Alzheimer's Disease - I Pal, A K Nath, M Roy, M Seal, C Ghosh, A Dey, S Ghosh Dey, *Chem. Sci.* (Under Revision).[IF:9.063]
128. Temperature Induced Single Crystal-to-Single Crystal Transformations With Consequential Changes in Magnetic Properties of Fe(III) Complexes - A Adhikary, S Akhtar, A Pariyar, A S Batsanov, R Mondal, *ACS Omega, Advance article* (2019).[IF: NA]
129. Designing Multifunctional MOFs Using an Inorganic Motif [Cu₃(μ_3 -OH)(μ -Pyz)] As SBU and Their Properties - S Akhtar, S Bala, A De, K S Das, A Adhikary, S Jyotsna, P Poddar, R Mondal, *Cryst. Growth & Des.*, **19**, 992 (2019).[IF:3.97]
130. Designing Ferromagnetism in Cu(II) complexes using an Elusive near-orthogonal bridging mode of pyrazole ring - M Roy, A Adhikary, T Debnath, A K Das, R Mondal, *Polyhedron*, **160**, 46 (2019).[IF:2.06]
131. Multifunctional properties of 1D helical Co(II) coordination polymer: towards single ion magnetic behavior and efficient dye degradation - M Roy, A Adhikary, A K Mondal, R Mondal, *ACS Omega*, **3**, 15315 (2018).[IF:NA]

132. A novel metallogel based approach to synthesize (Mn, Cu) doped ZnS quantum dots and labeling of MCF-7 cancer cells - S Bhowal, A Ghosh, S Paul Chowdhuri, R Mondal, B B Das, *Dalton Trans.*, **47**, 6557 (2018).[IF:4.09]
133. Toxic metal sequestration exploiting an unprecedented low molecular weight hydrogel to metallogel transformation - A De, R Mondal, *ACS Omega*, **3**, 6022 (2018).[IF: NA]
134. Total Synthesis of Pestalotioprolide E and Structural Revision of Pestalotioprolide F - D Paul, S Saha, R K Goswami, *Org. Lett.*, **20**, 4606 (2018).[IF:6.492]
135. Studies toward the Synthesis of Strevertenes A and G: Stereoselective Construction of C1-C19 Segment of the Molecules - T K Kuilya, S Das, D Saha, R K Goswami, *Org. Biomol. Chem.*, **16**, 7595 (2018).[IF:3.564]
136. Total Synthesis of Cytospolide Q", S Chatterjee, G H Mandal, **R K Goswami**, *ACS Omega*, **3**, 7350 (2018).[IF: NA]
137. Highly Enantioselective Synthesis of Functionalized Glutarimide Using Oxidative N-Heterocyclic Carbene Catalysis: A Formal Synthesis of (–)-Paroxetine", A Porey, S Santra, J Guin, *J. Org. Chem.*, DOI:10.1021/acs.joc.9b00320(2019)[IF: 4.805]
138. N-Heterocyclic Carbenes as Chiral Brønsted Base Catalysts: A Highly Diastereo-and Enantioselective 1,6-Addition Reaction", S Santra, A Porey, B Jana, J Guin, *Chem. Sci.*, **9**, 6446-6450(2018)[IF: 9.063]
139. Molecular Oxygen Mediated Radical Dicarbofunctionalization of Olefin with Aldehyde", P Biswas, J Guin, *J. Org. Chem.*, **83**, 5629-5638(2018) [IF: 4.805]
140. Conformational-switch based Strategy Triggered by [18] π Heteroannulenes towards Reduction of Alpha Synuclein (α -Syn) oligomers toxicity - R Chakraborty, S Sahoo, N Halder, H Rath, K Chattopadhyay, *ACS Chem. Neurosci.*, **10**, 573 (2019).[IF:4.21]
141. Molecular structure of a hyperactive antifreeze protein adsorbed to ice - K Meister, C J Moll, S Chakraborty, B Jana, A L DeVries, H Ramløv, H J Bakker, *J. Chem. Phys.*, **150**, 131101(2019).[IF:2.84]
142. Solvent-Assisted Enhanced Emission of Cationic Perylene Diimide Supramolecular Assembly in Water : A Perspective from Experiment and Simulation - K Bag, R

- Halder, B Jana, S Malik, *J. Phys. Chem. C* DOI:10.1021/acs.jpcc.8b11054 (2019).[IF:4.48]
143. Factors Promoting the Formation of Clathrate-like Ordering of Water in Biomolecular Structure at Ambient Temperature and Pressure - S Parui, B Jana, *J. Phys. Chem. B* DOI:10.1021/acs.jpcb.8b11172 (2019).[IF:3.14]
 144. Antifreeze proteins: An unusual tale of structural evolution, hydration and function”, S Chakraborty, B Jana, *Proceedings of the Indian National Academy of Sciences*, **85**, 169 (2019).[IF:NA]
 145. Structural consequences of hereditary spastic paraplegia disease-related mutations in kinesin- M Dutta, M R. Diehl, J N. Onuchic, B Jana, *Proceedings of the National Academy of Sciences, USA*, DOI:https://doi.org/10.1073/pnas.1810622115(2018).[IF:9.50]
 146. Molecular Insights into the Unusual Structure of an Antifreeze Protein with Hydrated Core - S Parui, B Jana, *J. Phys. Chem. B* DOI: 10.1021/acs.jpcb.8b05350 (2018).[IF:3.14]
 147. Molecular mechanisms of the interhead coordination by interhead tension in cytoplasmic dyneins - Q Wang, B Jana, M R. Diehl, M S Cheung, A B. Kolomeisky, J N Onuchic, *Proceedings of the National Academy of Sciences, USA* DOI: https://doi.org/10.1073/pnas.1806688115(2018).[IF:9.50]
 148. Local environment of organic dyes in an ionic liquid-water mixture: FCS and MD simulation - S Nandi[^], S Parui[^], B Jana, K Bhattacharyya, *The Journal of Chemical Physics* **149**, 054501 (2018) [IF:2.84] ([^]:Equal contribution)
 149. Unravelling the Composition Dependent Anomalies of Pair Hydrophobicity in Water-Ethanol Binary Mixtures - R Halder, B Jana, *The Journal of Physical Chemistry B*, **122 (26)**, 6801 (2018).[IF:3.14]
 150. Optimum Number of Anchored Clathrate Water and Its Instantaneous Fluctuations Dictate Ice Plane Recognition Specificities of Insect Antifreeze Protein - S Chakraborty, B Jana, *The Journal of Physical Chemistry B* DOI:10.1021/acs.jpcb.8b00548 (2018).[IF:3.14]
 151. Unraveling the Crucial Role of Single Active Water Molecule in the Oxidative Cleavage of Aliphatic C–C Bond of 2,4'-Dihydroxyacetophenone Catalyzed by 2,4'-Dihydroxyacetophenone Dioxygenase Enzyme: A Quantum

- Mechanics/Molecular Mechanics Investigation - R N Manna, T Malakar, B Jana, A Paul, *ACS Catalysis*, **8**, 10043 (2018).[IF: 11.38] (Inter-Faculty Pub.)
152. Heterodyne-Detected Vibrational Sum Frequency Generation Study of Air-Water-Fluoroalcohol Interface: Fluorocarbon Group-Induced Structural and Orientational Change of Interfacial Water - S Roy, B Biswas, A J Mondal, P C Singh, *J. Phys. Chem C*, **122**, 26928 (2018).[IF:4.48]
153. Contrasting Effects of Guanidinium Chloride and Urea on the Activity and Unfolding of Lysozyme - B Biswas, N A Muttathukatti, G Reddy, P C Singh, *ACS Omega*, **3**, 14119 (2018).[IF:NA]
154. Understanding the Role of Hydrophobic Terminal in the Hydrogen Bond Network of the Aqueous Mixture of 2,2,2-Trifluoroethanol: IR, Molecular Dynamics, Quantum Chemical as Well as Atoms in Molecules Studies - S Mondal, B Biswas, T Nandy, P C Singh, *J. Phys. Chem B*, **122**, 7811 (2018).[IF:3.15]
155. Spectroscopic and Molecular Dynamics Simulation Study of Lysozyme in the Aqueous Mixture of Ethanol: Insights into the Nonmonotonic Change of the Structure of Lysozyme - S Sarkar, B Biswas, P C Singh, *J. Phys. Chem B*, **122**, 7811 (2018).[IF:3.15]
156. The unusual visible fluorescence violating the Kasha's rule suggests the aggregation of guanidinium carbonate in its aqueous medium - B Biswas, P C Singh, *J. Mol. Liq.*, **253**, 211-(2018)[IF:4.51]
157. Cobalt(II) Mediated Desulfurization of Thiophenes, Sulfides and Thiols - T Ganguly, A Das, M Jana, A Majumdar, *Inorg. Chem.* **57**, 11306 (2018).[IF:]
158. Transfer of Hydrosulfide from Thiols to Iron(II): A Convenient Synthetic Route to Nonheme Diiron(II)-hydrosulfide Complexes - N Pal, A Majumdar, *Dalton Trans.* DOI: 10.1039/C8DT04092C (2019).[IF:]
159. ZnSnO₃ Nanoparticle-Based Piezocatalysts for Ultrasound-Assisted Degradation of Organic Pollutants - A Biswas, S Saha and N R. Jana, *ACS Appl. Nano Mater.*, **2**, 1120 (2019).[IF:]
160. Selective Electrochemical Detection of Bisphenol A using Molecular Imprinted Polymer Nanocomposite - H. Ali, S. Mukhopadhyay and N R. Jana, *New J. Chem.*, **43**, 1543 (2019).[IF:3.28]

161. Electronic, Electrical and Magnetic Behaviours of Reduced Graphene-oxide Functionalized with Silica Coated Gold Nanoparticles - D O. Idisi, H Ali, J. A. Oke, S Sarma, S. J. Moloi, S C. Ray, H. T. Wang, N R. Jana, W. F. Pong and André M Strydom, *Appl. Surf. Sci.* **483**, 106 (2019).[IF:4.44]
162. Designed Polymer Micelle for Clearing Amyloid Protein Aggregates via Up-regulated Autophagy - K Debnath, Nihar R Jana and Nikhil R Jana, *ACS Biomaterials Science & Engineering*, **5**, 390 (2018).[IF:4.43]
163. Arginine Terminated, Chemically Designed Nanoparticle for Direct Cell Translocation - S Ghosh, P Panja, C Dalal and N R Jana, *ACS Applied Bio Materials*, **2**, 339 (2018).[IF:]
164. Galactose Multivalency Effect on the Cell Uptake Mechanism of Bioconjugated Nanoparticles - C. Dalal and N. R. Jana, *J. Phys. Chem. C*, **122**, 25651 (2018).[IF:4.48]
165. Anti-amyloidogenic Chemical/Biochemical-Based Designed Nanoparticle as Artificial Chaperone for Efficient Inhibition of Protein Aggregation - N Pradhan, K Debnath, S Mandal, Nihar R. Jana and Nikhil R. Jana, *Biomacromolecules (Perspective)*, **19**, 1721 (2018).[IF:5.74]
166. Colloidal Nanobioconjugate with Complementary Surface Chemistry for Cellular and Subcellular Targeting - A Chakraborty, C Dalal and N R. Jana, *Langmuir (Invited Feature Article)*, **34**, 13461 (2018).[IF:3.78]
167. Galactose-Functionalized, Colloidal-Fluorescent Nanoparticle from Aggregation-Induced Emission Active Molecule via Polydopamine Coating for Cancer Cell Targeting - K Mondal and N R. Jana, *ACS Appl. Nano Mater.*, **1**, 3531 (2018).[IF:]
168. Role of Structural Distortions in Stabilizing Electrosynthesized Blue Emitting Pristine Phosphorene Quantum Dots - M Ozhukil Valappil, K Joshi, L John, S Krishnamurthy, B Jana, A Patra, Vijayamohanan K Pillai and S Alwarappan, *J. Phys. Chem. Lett.*, **10**, 973 (2019).[IF:8.709]
169. Engineering Atomically Precise Copper Nanoclusters with Aggregation Induced Emission - S Maity, D Bain and A Patra, *J. Phys. Chem. C*, **123**, 2506 2019.[IF:4.484]
170. Opportunities and Challenges in Energy and Electron Transfer of Nanoclusters based Hybrid Materials and their Sensing Applications - D Bain, S Maity, and A Patra, *Physical Chemistry Chemical Physics*, **21**, 5863 (2019).[IF:3.906]

171. Current Status and Prospects on Chemical Structure Driven Photoluminescence behaviour of Carbon Dots - M Kr Barman and A Patra, *Journal of Photochemistry and Photobiology C: Photochemistry Reviews*, **37**, 1 (2018).[IF:15.325]
172. Ultrafast Energy Transfer Followed by Electron Transfer in Polymeric Nanoantenna Based Light Harvesting System - B Jana and A Patra, *J. Phys. Chem. C*, **122**, 20144 (2018).[IF:4.484]
173. Ultrafast Carrier Dynamics of Photo Induced Cu Doped CdSe Nanocrystals - A Dutta, R Bera, A Ghosh, and A Patra, *J. Phys. Chem. C*, **122**, 16992 (2018).[IF:4.484]
174. Design of CdS/CdSe Heterostructure for Efficient H₂ Generation and Photovoltaic Applications - R Bera, A Dutta, S Kundu, V Polshettiwar and A Patra, *J. Phys. Chem. C*, **122**, 12158 (2018).[IF:4.484]
175. Ultrafast Relaxation Dynamics of Luminescent Copper Nanoclusters (Cu₇L₃) and Efficient Electron Transfer to Functionalized Reduced Graphene Oxide - S Maity, D Bain, K Bhattacharyya, S Das, R Bera, B Jana, B Paramanik, A Datta and A Patra, *J. Phys. Chem. C*, **122**, 13354 (2018).[IF:4.484]
176. Core-Size Dependent Fluorescent Gold Nanoclusters and Ultrasensitive Detection of Pb²⁺ Ion - D Bain, S Maity, B Paramanik and A Patra, *ACS Sustainable Chem. Eng.*, **6**, 2334 (2018).[IF:6.140]
177. Antibacterial and Photocatalytic Properties of ZnO - 9-Aminoacridine Hydrochloride Hydrate Drug Nanoconjugates - P Mitra, D Dutta, S Das, T Basu, A Paramanik, and A Patra, *ACS Omega*, **3**, 7962 (2018).[IF: pending]
178. Au/CdSe hybrid nanoflowers: a high photocurrent generating photoelectrochemical cells” K Kanta Halder, R Biswas, A Patra, Krishna Kamal Halder and T Sen, *Gold Bulletin*, <https://doi.org/10.1007/s13404-018-0247-y> (2018).[IF:1.767]
179. Nano-bio assemblies for artificial light harvesting systems” D Bain, S Maity and A Patra, *Proc. SPIE* 10507, Colloidal Nanoparticles for Biomedical Applications XIII, 105070C; doi: 10.1117/12.2287324 (2018).[IF: NA]
180. Recent Advances on the Optical Properties of Eu³⁺ ion in Nano- Systems - A Kar and A Patra, *J. Nanosci. Nanotechnol.* **18**, 8047 (2018).[IF: 1.354]
181. Highly sensitive detection and removal of mercury ion using a multimodal nanosensor - S Satapathi , V Kr , M Kr Chini , R Bera, Krishna Kanta Halder and A Patra, *Nano-Structures & Nano-Objects*, **16**, 120 (2018).[IF:0.722]

182. Perspective of dye-encapsulated conjugated polymer nanoparticles for potential applications - B Jana, Santanu Bhattacharya and A Patra, *Bull Mater Sci*, **41**: 122. <https://doi.org/10.1007/s12034-018-1643-x> (2018).[IF:0.925]
183. Further optimization of ITO films at the melting point of Sn and configuration of Ohmic contact at the c-Si/ITO interface - D Das and L Karmakar; *Appl. Surf. Sci.* **481**, 16 (2019).[IF:4.439]
184. Optimization in the nanostructural evolution of hydrogenated silicon germanium thin film in RF-PECVD - D Das and A Dey; *Physica E* 111 20 (2019).[IF: 2.399]
185. Photocatalytic degradation of Rhodamine-B dye by stable ZnO nanostructures with different calcination temperature induced defects - P Nandi and D Das; *Appl. Surf. Sci.* **465**, 546 (2019).[IF:4.439]
186. Nano-diamond and diamond-like carbon thin films for anti-reflecting coating application on silicon solar cells - A Banerjee and D Das; *Mater. Today Proc.*, **5** 23316 (2018). [SNIP: 0.837]
187. Melting point of Sn as the optimal growth temperature in realizing the favored transparent conducting properties of In₂O₃:Sn films - Laxmikanta Karmakar and Debajyoti Das; *J. Alloys Compd.*, **767** 642 (2018).[IF:3.779]
188. Optimization of growth of nanocrystalline silicon germanium thin films synthesized by RF-PECVD - A Dey and D Das; *AIP Conf. Proc.* 1942 080069-1–4(2018).[SNIP:0.300]
189. Low temperature growth of carbon nanotubes by microwave plasma stimulated by CO₂ as weak oxidant and guided by shadow masking - A Roy and D Das; *Diam. Relat. Mater.*, **88**, 204 (2018).[IF:2.232]
190. Maintaining significant ultra-nanocrystallinity in electrically conducting boron doped silicon thin layers for solar cells - D Das and C Patra; *AIP Conf. Proc.* 1942 (2018) 080068-1–4.[SNIP:0.300]

191. Self-doped TiO₂ nanowires in TiO₂-B single phase, TiO₂-B/anatase and TiO₂-anatase/rutile heterojunctions demonstrating individual superiority in photocatalytic activity under visible and UV light - P Makal and D Das; *Appl. Surf. Sci.* **455**, 1106 (2018).[IF: 4.439]
192. Silicon nanostructure arrays prepared by single step metal assisted chemical etching from single crystal wafer - K Sarkar and D Das; *AIP Conf. Proc.* 1942 050123-1–4(2018).[SNIP:0.300]
193. Microstructural association of diverse chemical constituents in nc-SiO_x:H network synthesized by spontaneous low temperature plasma processing - S Samanta and D. Das; *Physica E*, **103** 99 (2018).[IF:2.399]
194. Highly conducting P-type nanocrystalline silicon thin films preparation without additional hydrogen dilution - C Patra and D Das; *AIP Conf. Proc.* 1942 050116-1–4(2018).[SNIP:0.300]
195. Structural studies of n-type nc-Si–QD thin films for nc-Si solar cells - D Das and D Kar; *J. Phys. Chem. Solids*, **111** 115 (2017).[IF: 2.207]
196. Structural, magnetic and optical properties of lanthanum ferrite nanoparticles with application perspective - S.K. Kundu, D.K. Rana, A. Mukherjee, A. Banerjee, D. Das, S. Basu; *Adv. Sci. Lett.* **24**, 913 (2018).[IF: 1.253]
197. Zwitterionic Poly(vinylidene fluoride) Graft Copolymer with Unexpected Fluorescence Property - M. Pakhira, R. Ghosh, S. P. Rath, D. P. Chatterjee and A. K. Nandi, *Langmuir*, **35**, 5525 (2019).[IF:3.83]
198. Engineering of MoS₂ Quantum Dots/PANI Aerogel for High Energy Supercapacitor - S. Das and A. K. Nandi, *Macromol. Symp.*, (In press) (2019) [IF:0.9]
199. Conducting Gels: A Chronicle of Technological Advances - P. Chakraborty, S. Das and A.K. Nandi, *Progress in Polymer Science*, **88**, 189 (2019).[IF:28]
200. Physical and Dielectric Properties of Poly(vinylidene fluoride) / Polybenzimidazole Functionalized Graphene Nanocomposites - N. Maity, A. Mandal, K. Roy and A.K. Nandi, *J. Polym Sc. Part B, Polym. Phys. Ed.*, **57**, 189 (2019).[IF:3.5]

201. Phase Selective Organogel from an Imine Based Gelator to Use in Oil Spill Recovery - S. Mondal, P. Bairi, S. Das and A. K. Nandi, *J. Mater. Chem. A*, **7**, 381 (2019).[IF:9.7]
202. Light Induced Conformational Change of Uracil Anchored Polythiophene Regulating Thermo Responsiveness - R. Ghosh, S. Das, K. Bhattacharyya, D. P Chatterjee, A. Biswas and A. K Nandi, *Langmuir*, **34**, 12401 (2018).[IF:3.8]
203. Injectable Hydrogel of Vitamin B9 for Controlled Release of Both Hydrophilic and Hydrophobic Anticancer Drugs - A. Panja, S. Das, A. Chakraborty, P. Chakraborty, S. Pal, and A. K. Nandi, *ChemMedChem*, **13**, 2427 (2018).[IF:4.0]
204. Quantum Dots Intermediated Novel Synthesis of Dual Oxides of Molybdenum from MoS₂: Quantification of Supercapacitor Efficacy - D. Mandal, P. Routh and A.K. Nandi, *Chem. Asian J*, **13**, 3871 (2018).[IF:4.0]
205. Enhancement of mechanical, electrical and dielectric properties in poly(vinylidene fluoride) composites with two dimensional nanomaterials - N. Maity, A. Mandal and A. K. Nandi, *J. Indian. Chem. Soc*, **95**, 925 (2018).[IF:0.2]
206. Supramolecular Grafting of Doped Polyaniline Leads to an Unprecedented Solubility Enhancement, Radical Cation Stabilization, and Morphology Transformation - N. Maity, A. Dawn, A. Kuila and A. K. Nandi, *J. Mater. Chem. A*, **6**, 12654 (2018).[IF:9.7]
207. Copolymers of Poly(3-thiophene acetic acid) with Poly(3-hexyl thiophene) as Hole Transporting Material for Interfacially Engineered Perovskite Solar Cell by Modulating Band Positions for Higher Efficiency - A. Shit, P. Chal and A. K. Nandi, *Physical Chemistry and Chemical Physics*, **20**, 15890 (2018).[IF:3.9]
208. Conductive MoS₂ Quantum Dot/Polyaniline Aerogel for Enhanced Electrocatalytic Hydrogen Evolution and Photoresponse Properties - S. Das, R. Ghosh, P. Routh, A.

Shit, S. Mondal, A. Panja, and A. K. Nandi, *ACS Appl. Nano Mater.*, **1**, 2306 (2018).[IF:]

209. Microstructure, optical and electrical characterizations of nanocrystalline ZnAl_2O_4 spinel synthesized by mechanical alloying: Effect of sintering on microstructure and properties -G. Maity, P. Maji, S. Sain, S. Das, T. Kar and S.K. Pradhana, *Physica E: Low-dimensional Systems and Nanostructures* **108**, 411 (2019).[IF:2.399]
210. Spectroscopic and Magnetic Investigations of Spin-frustrated Mn Doped CoAl_2O_4 Spinel - S K Pradhan, B Dalal, A Sarkar and S K De, *Physical Chemistry Chemical Physics*, **21** 842 (2019).[IF:3.906]
211. Visible transparent white light emitting ink from a Ce^{3+} sensitized monodispersed Tb, Sm co-doped LaF_3 @C-dot nanocomposite - S Ghosh, C Pal, S Paul, M Saha, D Barman and S K De, *ChemComm*, **54**, 14124 (2018).[IF:6.290]
212. Dielectric and optical properties of Ni doped $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ - S K Pradhan and S. K. De, *Ceramics International*, **44**, 15181 (2018).[IF:3.057]
213. Exchange bias effect in a finite site disordered canted antiferromagnet - S K Pradhan, B Dalal and S. K. De, *J. Phys.: Condens. Matter*, **30** 365801(2018).[IF:2.617]
214. Cation Exchange-Mediated Synthesis of Library of Plasmomagnetic Nanoheterostructures: Transformation of 2-Dimensional-Shaped Fe_7S_8 Nanoplates to Cu-Fe-S-Based Ternary Compound - D Barman, S Ghosh, S Paul, B Dalal, and S K De, *Chem. Mater.*, **30**, 5550 (2018).[IF:9.890]
215. Cation Exchange Mediated Synthesis and Tuning of Bimodal Plasmon in Alloyed Ternary $\text{Cu}_3\text{BiS}_{3-x}\text{Se}_x$ Nanorods - S Paul, S Ghosh, B Dalal, P Chal, B Satpati, and S K De, *Chem. Mater.*, **30**, 5020 (2018).[IF:9.890]
216. Control Synthesis of Air-Stable Morphology Tunable Pb-Free Cs_2SnI_6 Perovskite Nanoparticles and Their Photodetection Properties - S Ghosh, S Paul, and S K De, *Part. Part. Syst. Charact.*, 1800199 (2018).[IF:4.384]

217. Nb-Dopant-Induced Tuning of Optical and Electrical Property of Anatase TiO₂ Nanocrystals - M Saha, S Ghosh, S Paul, B Dalal, and S K De, *ChemistrySelect.*, **3**, 6654 (2018).[IF:1.505]
218. Supported porous nanomaterials as efficient heterogeneous catalysts for CO₂ fixation reactions - P. Bhanja, A. Modak and A. Bhaumik, *Chemistry – A European Journal*, **24**, 7278 (2018).[IF:5.16]
219. Porous iron-phosphonate nanomaterial as an efficient catalyst for the CO₂ fixation at atmospheric pressure and esterification of biomass-derived levulinic acid - S. Ghosh, P. Bhanja, N. Salam, R. Khatun, A. Bhaumik and S. M. Islam, *Catalysis Today*, **309**, 253 (2018).[IF:4.67]
220. A facile route for the syntheses of Ni(OH)₂ and NiO nanostructures as potential candidates for non-enzymatic glucose sensor - N. Pal, S. Banerjee and A. Bhaumik, *J. Colloid & Interface Science*, **516**, 121 (2018).[IF:5.09]
221. Ordered mesoporous γ -Al₂O₃ as highly efficient and recyclable catalyst for the Knoevenagel reaction at room temperature - P. Bhanja, U. Kayal and A. Bhaumik, *Molecular Catalysis*, **451**, 220 (2018).[IF:4.60]
222. N-rich graphitic carbon nitride functionalized graphene oxide nanosheet hybrid as anode for high performance lithium-ion batteries - S. Chenrayan, K. Thangaian, A. Bhaumik, S. Manickam, *Materials Research Express*, **5**, 016307 (2018).[IF:1.15]
223. A Serendipitous Observation of Liquid Phase Size Selectivity inside Mesoporous Silica Nanoreactor in the Reaction of Chromene with Formic Acid - P. Das, S. Ray, P. Bhanja, A. Bhaumik and C. Mukhopadhyay, *ChemCatChem*, **10**, 2260 (2018).[IF:4.67]
224. Fabrication of Ionic-Liquid-Embedded ZnO Nanoparticles: Application of a Synergistic Catalytic Effect to Thiol-Induced 2-Pyridone Synthesis - P. Mondal, A. Bhaumik, S. Chatterjee and C. Mukhopadhyay, *Asian Journal of Organic Chemistry*, **7**, 964 (2018). [IF:2.49]
225. Microporous nanotubes and nanospheres with iron-catechol sites: Lewis acid catalyst and support of Ag nanoparticles for CO₂ fixation reaction - A. Modak, P. Bhanja and A. Bhaumik, *Chemistry – A European Journal*, **24**, 14189 (2018).[IF:5.16]

226. Role of Surface Phenolic-OH groups in N-rich Porous Organic Polymers for Enhancing the CO₂ Uptake and CO₂/N₂ Selectivity: Experimental and Computational Studies - S. K. Das, P. Bhanja, S. Kundu, S. Mondal, A. Bhaumik, *ACS Applied Materials & Interfaces*, **10**, 23813 (2018).[IF:8.09]
227. Pd NPs Decorated N-rich Porous Organic Polymer as an Efficient Catalyst for Upgradation of Biofuels - P. Bhanja, K. Ghosh, S. S. Islam, S. M. Islam and A. Bhaumik, *ACS Omega*, **3**, 7639 (2018).[IF:NA]
228. Chiral copper-salen complex grafted over functionalized mesoporous silica as an efficient catalyst for the asymmetric Henry reactions and synthesis of potent drug ®-isoproterenol - M. Halder, P. Bhanja, M. M. Islam, A. Bhaumik and S. M. Islam, *New Journal of Chemistry*, **42**, 11896 (2018).[IF:3.20]
229. High Performance Catalyst of Shape-specific Ruthenium Nanoparticles for Production of Primary Amines by Reductive Amination of Carbonyl Compounds - D. Chandra, Y. Inoue, M. Sasase, M. Kitano, A. Bhaumik, K. Kamata, H. Hosono, M. Hara, *Chemical Science*, **9**, 5949 (2018).[IF:9.01]
230. Plasmonic gold deposited on mesoporous Ti_xSi_{1-x}O₂ with isolated silica in lattice: An excellent photocatalyst for photocatalytic conversion of CO₂ into methanol under visible light irradiation - R. K. Yadav, V. Amoli, J. Singh, M. K. Tripathi, P. Bhanja, A. Bhaumik, A. K. Sinha, *Journal of CO₂ Utilization*, **27**, 11 (2018).[IF:5.50]
231. Covalent Organic Framework-based Microspheres as Anode Material for Rechargeable Sodium Batteries - B. C. Patra, S. K. Das, A. Ghosh, A. K. Raj, P. Moitra, M. Addicoat, S. Mitra, A. Bhaumik, S. Bhattacharya and A. Pradhan, *Journal of Materials Chemistry A*, **6**, 16655 (2018).[IF:9.93]
232. A new triazine based π -conjugated mesoporous 2D covalent organic framework: It's in vitro anticancer activities - S. K. Das, S. Mishra, K. Manna, U. Kayal, S. Mahapatra, K. D. Saha, S. Dalapati, G. P. Das, A. A Mostafa and A. Bhaumik, *Chemical Communications*, **54**, 11475 (2018).[IF:6.29]
233. Utility of the Ditopic Nature of Magnetically Recyclable NiFe₂O₄ Nano-Catalyst for the Green Synthesis of Two Different Spiro[indoline-pyrrolizine] Scaffolds - S. Basu,

- U. Kayal, S. Maity, P. Ghosh, A. Bhaumik, C. Mukhopadhyay, *ChemistrySelect*, **3**, 12755 (2018).[IF:2.03]
234. Materials with Nanoscale porosity: Energy and Environmental Applications - P. Bhanja, A. Bhaumik, *Chemical Record*, **19**, 333 (2019).[IF:4.89]
235. Porous organic polymers for CO₂ storage and conversion reactions - P. Bhanja, A. Modak, A. Bhaumik, *ChemCatChem*, **11**, 244 (2019).[IF:4.67]
236. IrO₂ and Pt Doped Mesoporous SnO₂ Nanospheres as Efficient Electrocatalysts for the Facile OER and HER - P. Bhanja, B. Mohanty, A. K. Patra, S. Ghosh, B. K. Jena, A. Bhaumik, *ChemCatChem*, **11**, 583 (2019).[IF:4.67]
237. Efficacious Electrochemical Oxygen Evolution from Novel Co(II) Porphyrin-Pyrene based Conjugated Microporous Polymer - S. Bhunia, K. Bhunia, B. C. Patra, S. K. Das, D. Pradhan, A. Bhaumik, A. Pradhan, S. Bhattacharya, *ACS Applied Materials & Interfaces*, **11**, 1520 (2019).[IF:8.09]
238. Ag NPs decorated ordered mesoporous silica as an efficient electrocatalyst for alkaline water oxidation reaction - U. Kayal, B. Mohanty, P. Bhanja, S. Chatterjee, D. Chandra, M. Hara, B. K. Jena, A. Bhaumik, *Dalton Transactions*, **48**, 2220 (2019).[IF:4.09]
239. Mesoporous MCM-41 Silica Supported Pyridine Nanoparticle: A Highly Efficient, Recyclable Catalyst for Expeditious Synthesis of Quinoline Derivatives through Domino Approach - K. Mal, S. Chatterjee, A. Bhaumik and C. Mukhopadhyay, *ChemistrySelect*, **4**, 1776 (2019).[IF:2.03]
240. Ag NPs decorated COF in the presence of DBU as an efficient catalytic system for the CO₂ fixation into propargylic amines for the synthesis of tetramic acids at atmospheric pressure - S. Ghosh, R. A. Molla, U. Kayal, A. Bhaumik, S. M. Islam, *Dalton Transactions*, **48**, 4657 (2019).[IF:4.09]
241. Pt Nanoparticles Supported over Porous Porphyrin Nanospheres for Chemoselective Hydrogenation Reactions - A. Modak, P. Bhanja, A. Bhaumik, *ChemCatChem*, **11**, 1977 (2019).[IF:4.67]

242. Thioether-Functionalized Covalent Triazine Nanospheres: A Robust Adsorbent for Mercury Removal. S. Mondal, S. Chatterjee, S. Mondal, A. Bhaumik, *ACS Sustainable Chemistry & Engineering*, **7**, 7353 (2019).[IF:6.14]
243. A green luminescent MoS₂-CdTe hybrid nanostructure synthesized through surface charge interaction - D. Haldar, S. Bose, A. Ghosh, S. K. Saha, *Nanoscale Adv.* DOI: 10.1039/c8na00388b.
244. Anomalous large negative magneto resistance in transition metal decorated graphene: evidence for electron-hole puddles - C. Majumder, S. Bhattacharya, S. K. Saha, *Phys. Rev. B*, **99**, 045408 (2019).[IF:]
245. Nickel-Doped Silver Sulfide: An Efficient Air-Stable Electrocatalyst for Hydrogen Evolution from Neutral Water - P. Hota, S. Bose, D. Dinda, P. Das, U. K. Ghorai, S. Bag, S. Mondal, S. K. Saha, *ACS Omega*, **3**, 17070 (2018).[IF:]
246. Epichlorohydrin functionalized graphene oxide for superior Li⁺ ion conduction and super capacitor application - P. Hota, M. Miah, A. Gupta, D. Chakravorty, S. K. Saha, *Mater. Chem. Phys.*, **223**, 447 (2019).[IF:]
247. Dual emissive CQD-Tb nanocomposite as fluorescent indicator for highly selective visual detection of Hg(II) in water - T. K. Mondal, U. K. Ghorai, S. K. Saha, *ACS Omega*, **3**, 11439 (2018).[IF:]
248. Na⁺ ion migration on the surface of reduced graphene oxide - M. Banerjee, D. Chakravorty and S. K. Saha, *J. Phys. D: Appl. Phys.*, **51**, 325301 (2018)
249. Induced ferromagnetism and metal-insulator transition due to a charge transfer effect in silver nanoparticle decorated MoS₂ - S. Bag, S. Bhattacharya, D. Dinda, M. V. Jyothirmai, R. Thapa and S. K. Saha, *Phys. Rev. B*, **98**, 014109 (2018).[IF:]
250. Doping Mn(II) in All Inorganic Ruddlesden-Popper Phase of Tetragonal Cs₂PbCl₂I₂ Perovskite Nanoplatelets - A. Dutta, R. K. Behera, S. Deb, S. Baitalik and N. Pradhan, *J. Phys. Chem. Lett.*, **10**, 1954 (2019).[IF:8.87]

251. Presence of Metal Chloride for Minimizing the Halide Deficiency and Maximizing the Doping Efficiency in Mn(II) Doped CsPbCl₃ Nanocrystals – S. Das Adhikari, R. K. Behera, S. Bera and N. Pradhan, *J. Phys. Chem. Lett.*, **10**, 1530 (2019).[IF:8.87]
252. Acid-amine Equilibria for Formation and Long Range Self-Organization of Ultrathin CsPbBr₃ Perovskite Platelets – S. K. Mehetor, H. Ghosh and N. Pradhan, *J. Phys. Chem. Lett.*, **10**, 1300 (2019).[IF:8.87]
253. Insights of Doping and the Photoluminescence Properties of Mn²⁺ Doped Perovskite Nanocrystals – S. Das Adhikari, A. Guria and N. Pradhan, *J. Phys. Chem. Lett.* (Accepted, March 2019) (2019).[IF:8.87]
254. Insights of Diffusion Doping in Formation of Dual-Layered Material and Doped Heterostructure SnS–Sn:Sb₂S₃ for Sodium Ion Storage - S. Bera, A. Ray, A. Guria, S. Mitra, N. Pradhan, *J. Phys. Chem. Lett.*, **10**, 1024 (2019).[IF:8.87]
255. Solvent Polarity: How does this Influence the Precursor Activation, Reaction Rate, Crystal Growth and Doping in Perovskite Nanocrystals? – A. Dutta, R. K. Behera and N. Pradhan, *ACS Energy Lett.*, **4**, 926 (2019).[IF:12.34]
256. Phase Stable Red Emitting CsPbI₃ Nanocrystals: Successes and Challenges - A. Dutta and N. Pradhan, *ACS Energy Lett.*, **4**, 709 (2019).[IF:12.34]
257. Doping Mn²⁺ in Single Crystalline Layered Perovskite Microcrystals – S. K. Dutta, S. Das Adhikari, A. Dutta, N. Pradhan, *ACS Energy Lett.*, **4**, 343 (2019).[IF:12.34]
258. Near-Unity Photoluminescence Quantum Efficiency for All CsPbX₃ (X = Cl, Br and I) Perovskite Nanocrystals: A Generic Synthesis Approach – A. Dutta, R. K. Behera, P. Pal, S. Baitalik and N. Pradhan - *Angew. Chem., Int. Ed.*, (2019).[IF:12.01] <https://doi.org/10.1002/anie.201900374>
259. Annealing CsPbX₃ (X = Cl and Br) Perovskite Nanocrystals at High Reaction Temperatures: Phase Change and Its Prevention – A. Dutta, R. K. Behera, S. K. Dutta, S. Das Adhikari and N. Pradhan, *J. Phys. Chem. Lett.*, **9**, 6599 (2018).[IF:8.87]
260. Blue-Emitting CsPbCl₃ Nanocrystals: Impact of Surface Passivation for Unprecedented Enhancement and Loss of Optical Emission – R. K. Behera, S. Das Adhikari, S. Dutta, A. Dutta and N. Pradhan, *J. Phys. Chem. Lett.*, **9**, 6884 (2018).[IF:8.87]
261. Phase Stable CsPbI₃ Nanocrystals: The Reaction Temperature Matters – A. Dutta, S. Dutta, S. Das Adhikari and N. Pradhan, *Angew. Chem., Int. Ed.*, **57**, 9083 (2018).[IF:12.01]

262. Dot–Wire–Platelet–Cube: Step Growth and Structural Transformations in CsPbBr₃ Perovskite Nanocrystals – L. Peng, A. Dutta, R. Xie, W. Yang and N. Pradhan, *ACS Energy Lett.* **3**, 1247 (2019). [IF:12.34]
263. Layered Perovskites to Mn Doped CsPbCl₃ Perovskite Platelets - S Das Adhikari, A Dutta, S Dutta and N Pradhan, *ACS Energy Lett.*, **3**, 1247 (2019).[IF:12.34]
264. Modulated Triple-Material Nano-Heterostructures: Where Gold Influenced the Chemical Activity of Silver in Nanocrystals – P. Sahu, G. Prusty, A. K. Guria and N. Pradhan, *Small*, **14**, 1801598 (2018).[IF:9.5]
265. Predominated Thermodynamically Controlled Reactions for Suppressing Cross Nucleations in Formation of Multinary Substituted Tetrahedrite Nanocrystals - S. Bera, A. Dutta, M. Sankararao, D. Ghosh and N. Pradhan, *J. Phys. Chem. Lett.*, **9**, 1907 (2018).[IF:8.87]
266. Origin of magnetic moments and presence of spin-orbit singlets in Ba₂YIrO₆ - Abhishek Nag, Sayantika Bhowal, Atasi Chakraborty, M. M. Sala, A. Emenko, F. Bert, P. K. Biswas, A. D. Hillier, M. Itoh, S. D. Kaushik, V. Siruguri, C. Meneghini, I. Dasgupta, and S Ray; *Phys. Rev. B*, **98**, 014431 (2018).[IF:3.836]
267. Effect of Ni doping on the magnetic and electronic properties of half heusler Cu_{1-x}Ni_xMnSb alloys - A. Bandyopadhyay, S.K. Neogi, A. Paul, C. Meneghini, I. Dasgupta, and S Ray; *J. Alloys and Compounds*, **764**, 656 (2018).[IF:3.779]
268. Evolution of magnetic properties in F-doped brownmillerite Ca₂Fe₂O₅ - P Aich, C Meneghini, and S Ray, *Materials Research Express*, **6**, 026103 (2019).[IF:1.151]
269. Development Fluorinated Hexagonal 4H SrMnO₃ : A locally disordered manganite - P Aich, C Meneghini, L Tortora, V Siruguri, S. D. Kaushik, and S Ray; *J. Mater. Chem. C* **7**, 3560 (2019).[IF:5.976]
270. Quantum dot activated indium gallium nitride on silicon as photoanode for solar hydrogen generation - P Kumar, P Devi, R Jain, S. M. Shivaprasad, R. K. Sinha, Guofu Zhou and Richard Nötzel, *Nature Communications Chemistry*, **2**, 4 (2019).[IF:]
271. Recent Advances in Carbon Quantum Dot-Based Sensing of Heavy Metals in Water - P Devi, P. Rajput, A. Thakur, Ki-Hyun Kim, and P Kumar, *TrAC Trends in Analytical Chemistry*, **114**, 171 (2019).[IF:]

272. Citrus limetta Organic Waste Recycled Carbon Nanolights: Photo-electro catalytic, Sensing and Biomedical Applications - A. Thakur, Pooja D., S. Saini, R. Jain, R.K. Sinha, and P Kumar, *ACS Sustainable Chemistry & Engineering*, **7** 505 (2019).[IF:]
273. Green synthesis of glowing carbon dots from Carica papaya waste pulp and their application as a label-free chemo probe for chromium detection in water - Pooja D., Lovepreet Singh, A Thakura and P Kumar, *Sensors & Actuators: B. Chemical*, **283** 363 (2019).[IF:]
274. Electrochemical detection of arsenite with functionalized InGaN/Si(111) electrode - P Kumar, Pooja D, R. Jain, A. Saini, and R. Noetzel, *Materials Letters*, **236** 587 (2018).[IF:]
275. Progress in the Materials for Optical detection of Arsenic in Water - Pooja D., A. Thakur, R. Y Lai, S Saini, R. Jain and P Kumar, *TrAC Trends in Analytical Chemistry*, **110**, 97 (2019).[IF:]
276. Au/ZnO Nanocomposites Decorated ITO Electrodes for Voltammetric Sensing of Selenium in water - R Jain, A Thakur, P Kumar and P Devi, *Electrochimica Acta*, **290**, 291 (2018).[IF:]
277. Ultrafast Carrier dynamics of In_xGa_{1-x}N nanostructures grown directly on Si(111) - P Kumar, P. Devi, P.E.D.S. Rodriguez, M. Kumar, V.D. Shivling, R. Noetzel, C. Sharma, R.K. Sinha, M. Kumar, *Optical Materials*, **79** 475 (2018).[IF:]
278. Metal Ion Sensing and Light Activated Antimicrobial Activity of Aloe-vera Derived Carbon Dots - Pooja D., A. Thakur, S. Bhardwaj, S. Saini, P. Rajput and P Kumar, *Journal of Materials Science: Materials in Electronics*, **29** 17254 (2018).[IF:]
279. Magnetism in cation-disordered double perovskites - A Halder, P Sanyal, T Saha-Dasgupta, *Physical Review B (Rapid)* **99**, 020402 (2019).[IF: 5.1]
280. Hybridization-Switching Induced Mott Transition in Perovskites - A Paul, A Mukherjee, I Dasgupta, A Paramakanti, T Saha-Dasgupta, *Physical Review Letters* **122**, 016404 (2019).[IF: 8.839]

281. MXene: A New Trend in 2D Materials Science - P Chakraborty, T Das, T Saha-Dasgupta, *Comprehensive Nanoscience and Nanotechnology*, 319 (2019)
282. Soft MAX phases with boron substitution: A computational prediction - P Chakraborty, A Chakrabarty, A Dutta, T Saha-Dasgupta, *Physical Review Materials* **2**, 103605 (2018).[IF:]
283. Interplay of alternation and further neighbor interaction in $S=1/2$ spin chains: A case study of $\text{Cs}_2\text{CuAl}_4\text{O}_8$ - B Rahaman, S Kar, A Vasiliev, T Saha-Dasgupta, *Physical Review B*, **98** (14), 144412 (2018).[IF: 3.84]
284. Spin-Order-Induced Ferroelectricity and Magnetoelectric Effect in $\text{LiCuFe}_2(\text{VO}_4)_3$ - Anatoly V Koshchelev, Konstantin V Zakharov, Alexander P Pyatakov, Larisa V Shvanskaya, Alexander A Shakin, Olga S Volkova, Dmitry A Chareev, Sirko Kamusella, Hans-Henning Klauss, Kaimujjaman Molla, Badiur Rahaman, Tanusri Saha-Dasgupta, Alexander N Vasiliev, *Physical Review Applied*, **10** (3), 034008 (2018).[IF: 4.78]
285. $\text{Na}_{1/2}\text{Bi}_{1/2}\text{VO}_3$ and $\text{K}_{1/2}\text{Bi}_{1/2}\text{VO}_3$: New Lead-Free Tetragonal Perovskites with Moderate c/a Ratios - Hajime Yamamoto, Takahiro Ogata, Satyanarayan Patel, Jurij Koruza, Jürgen Rödel, Atanu Paul, Tanusri Saha-Dasgupta, Yuki Sakai, Mitsuru Itoh, Masaki Azuma, *Chemistry of Materials*, **30**, 6728 (2018).[IF: 9.89]
286. Thermodynamic Properties, Mössbauer Study, and First-Principles Calculations of $\text{TlFe}(\text{MoO}_4)_2$ - Alexey V Sobolev, Ekaterina S Kozlyakova, Iana S Glazkova, VA Morozov, Evgeniy A Ovchenkov, Olga S Volkova, Alexander N Vasiliev, Nikolai S Ovanesyan, Yulia M Kadyrova, Elena G Khaikina, Kaimujjaman Molla, Badiur Rahaman, Tanusri Saha-Dasgupta, Sirko Kamusella, H-H Klauss, Igor A Presniakov, *The Journal of Physical Chemistry C*, **122** (34), 19746 (2018).[IF:4.48]
287. A Reduction in Particle Size Generally Causes Body-Centered-Cubic Metals to Expand but Face-Centered-Cubic Metals to Contract - D Nafday, S Sarkar, P Ayyub, T Saha-Dasgupta, *ACS Nano*, **12**, 7246 (2018).[IF:13.7]
288. Canted antiferromagnet superimposed on a buckled kagomé network in $\text{RbMn}_4(\text{PO}_4)_3$ - Olga Yakubovich, Galina Kiriukhina, Larisa Shvanskaya, Olga Maximova, Anatoliy Volkov, Olga Dimitrova, Evgeniy Ovchenkov, Oleg Yumashev, Asif Iqbal, Badiur Rahaman, Tanusri Saha-Dasgupta, Alexander Vasiliev, *Acta Crystallographica Section C: Structural Chemistry*, **74**, 641 (2018).[IF:8.68]

289. Tailoring properties in 2D materials - T. Saha-Dasgupta, *AIP Conference Proceedings* 2005 (1), 020003 (2018)
290. Exploration of unprecedented catalytic dehydrogenation mechanism of methylamine-water mixture in presence of Ru-pincer Complex: A Systematic DFT Study - Tanay Debnath, Tamalika Ash, Avik Ghosh, Subhendu Sarkar and Abhijit Kr. Das, *J. Catalysis*, **363**, 164 (2018)
291. Theoretical exploration of H_2X ($X=O, S, Se$) and HY ($Y=F, Cl, Br$) assisted H_2 -release from ammonia-borane and related compounds: mechanistic insights from theoretical Viewpoint - Avik Ghosh, Tamalika Ash, Tanay Debnath, Abhijit K. Das, *Theor. Chem. Acc.* **137**, 116 (2018)
292. Atmospheric Fate of Criegee Intermediate Formed During Ozonolysis of Styrene in Presence of H_2O and NH_3 : The Crucial Role of Stereochemistry - Tahamida Banu, Kaushik Sen and Abhijit K. Das, *J. Phys. Chem. A*, **122**, 8377 (2018).[IF:]
293. Towards a comprehensive understanding of the Si(100)-2x1 surface termination through hydrogen passivation using methylamine and methanol: a theoretical approach - Tanay Debnath, Tamalika Ash, Subhendu Sarkar and Abhijit K. Das, *J. Molecular Modeling*, **24**, 286 (2018).[IF:]
294. Designing ferromagnetism in Cu(II) complexes using an elusive near-orthogonal bridging mode of the pyrazole ring - Manasi Roy, Amit Adhikary, Tanay Debnath, Abhijit Kumar Das, Raju Mondal*, *Polyhedron*, **160**, 46 (2019).[IF:]
295. Exploration of assisting behavior of molecular- MO_2 ($M=Ti, Zr$) reagents towards the detoxication of Tabun: A DFT study - Tamalika Ash, Tanay Debnath, Subhendu Sarkar, Pradip Gurey and Abhijit Kr. Das, *Chem. Phys. Lett.* **717**, 164 (2019).[IF:]
296. Exploration of tautomerizations of succinimide and maleimide assisted by ammonia and methanol: a theoretical perspective - Subhendu Sarkar, Tamalika Ash, Tanay Debnath and Abhijit K. Das, *Theor. Chem. Acc.*, **138**, 55 (2019).[IF:]
297. H_2 -release from Alcohols, Thiols and compounds with amino functionality promoted by Titanium(II) sandwich complex, $[Cp_2Ti]$: a theoretical approach - Avik Ghosh, Tamalika Ash, Tanay Debnath, Abhijit K. Das, *Structural Chemistry* DOI: 10.1007/s11224-018-1207-0

298. Spatio-temporal regulation of nuclear division by Aurora B kinase Ipl1 in *Cryptococcus neoformans* - N Varshney, S Som, S Chatterjee, S Sridhar, D Bhattacharyya, R Paul and K Sanyal, *PLoS Genet* 15(2): e1007959 (2019).[IF:5.540]

299. Mechanistic three-dimensional model to study centrosome positioning in the interphase cell - S. Som, S. Chatterjee, and R. Paul, *Phys Rev E*, **99**, 012409 (2019).[IF: 2.366]

300. Ordering kinetics in q-state clock model: scaling properties and growth laws - S. Chatterjee, S. Puri and R. Paul, *Phys. Rev. E*. **98**, 032109 (2018).[IF:2.366]

301. Substrate stiffness and mechanical stress due to intercellular cooperativity guides tissue structure - S.Basu, S.Sutradhar, R.Paul, *J. Theo. Biol.*, **457**, 124 (2018).[IF: 2.049]

302. Machine learning prediction of interaction energies in rigid water - S Bose, D Dhawan, S Nandi, R R Sarkar, D Ghosh, *Phys. Chem. Chem. Phys.*, **20(35)**, 22987 (2018).[IF: 3.906]

303. Non-radiative decay of an eumelanin monomer : to be or not to be planar - P Ghosh, D Ghosh, *Phys. Chem. Chem. Phys.*, **21**, 6635 (2019).[IF:3.906]

304. Proton countertransport and coupled gating in the sarcoplasmic reticulum calcium pump - Huan Rui[†], Avisek Das[†], Robert Nakamoto and Benoit Roux *Journal of Molecular Biology* **430**, 5050 (2018)

305. Radion induced inflation on Non-flat Brane and Modulus Stabilization - I Banerjee, S Chakraborty and S SenGupta, *Physical Review D*, **99**, 023515 (2019).[IF:4.568]

306. Tidal Love numbers of black holes and neutron stars in the presence of higher dimensions: Implications of GW170817 - K Chakravarti, S Chakraborty, S Bose and S SenGupta, *Physical Review D.*, **99**, 024036 (2019).[IF:4.568]

307. Fate of Strong Cosmic Censorship Conjecture in presence of higher spacetime dimensions - M Rahaman, S Chakraborty, S SenGupta and A Sen, *Journal of High Energy Physics*, **1903**, 178 (2019).[IF:5.541]

308. Packing extra mass in compact stellar structures: An interplay between Kalb-Ramond field and extra dimensions - S Chakraborty and S SenGupta, *JCAP*, **1805**, 032 (2018).[IF:4.734]

309. Signatures of extra dimensions in gravitational waves from black hole quasi-normal modes - S Chakraborty, K Chakravarti, S Bose and S SenGupta, *Physical Review D.*, **97**, 104053 (2018).[IF:4.568]

310. Inflation driven by Einstein-Gauss-Bonnet Gravity - S Chakraborty, T Paul and S SenGupta, *Physical Review D.*, **98**, 083539 (2018).[IF:4.568]

311. Invisibility of antisymmetric tensor fields in the light of $F(R)$ gravity - A Das, T Paul and S SenGupta, *Phys.Rev. D.*, **98**, 10, 104002 (2018).[IF:4.568]

312. Radion tunneling in modified theories of gravity - T Paul and S SenGupta, *Eur Phys J C.*, **78**, 4, 338 (2018).[IF:5.331]

313. Transport across junctions of a Weyl and a multi-Weyl semimetal - D Sinha and K Sengupta, *Phys. Rev. B*, **99**, 075153 (2019).[IF:3.813]

314. Transport in a thin topological insulator with potential and magnetic barriers - A Udupa, K Sengupta, and D Sen, *Phys. Rev. B*, **98**, 205413 (2018).[IF:3.813]

315. Many-body localized phase of bosonic dipoles in a tilted optical lattice - A Dutta, S Mukerjee, and K Sengupta, *Phys. Rev. B*, **98**, 144205 (2018).[IF:3.813]

316. Quantum dynamics with stochastic resets - B Mukherjee, K Sengupta, and S N Majumdar, *Phys Rev B*, **98**, 104309 (2018).[IF:3.813]

317. Signature of Chaos and Delocalization in a periodically Driven Many Body System : An Out-of-Time-Order Correlation Study - S Roy, S Sinha, and K Sengupta, *Phys. Rev. A.*, **98**, 053631 (2018).[IF:2.909]

318. Josephson junctions of multiple superconducting wires - O Deb, K Sengupta, and D Sen, *Phys. Rev. B.*, **97**, 174518 (2018).[IF:3.813]
319. Periodically driven integrable systems with long-range pair potentials - S Nandy, K Sengupta, and A Sen, *J. Phys. A: Math. Theor.*, **51** 334002 (2018). [IF:1.963]
320. Low-frequency phase diagram of irradiated graphene and a periodically driven spin-1/2 XY chain - B Mukherjee, P Mohan, D Sen and K Sengupta, *Phys. Rev. B.*, **97**, 205415 (2018).[IF:3.813]
321. All-Organic Dual Spin Valves with Well-Resolved Four Resistive-States - A. Banerjee and A. J. Pal; *Small*, **14**, 1801510 (2018).[IF:9.598]
322. Tin(IV) Substitution in $(\text{CH}_3\text{NH}_3)_3\text{Sb}_2\text{I}_9$: Towards Low Band Gap Defect-Ordered Hybrid Perovskite Solar Cells - S. Chatterjee and A. J. Pal; *ACS Appl. Mater. Interfaces*, **10**, 35194-35205 (2018).[IF:8.097]
323. Ligand-Mediated Energy Level Modification in PbS Quantum Dots as Probed by Density of States (DOS) Spectra - B. Kundu and A. J. Pal; *J. Phys. Chem. C* **122**, 11570–11576 (2018).[IF:4.484]
324. Influence of metal substitution on hybrid halide perovskites: Towards lead-free perovskite solar cells - S. Chatterjee and A. J. Pal; *J. Mater. Chem. A*, **6**, 3793–3823 (2018).[IF:9.931]
325. Band-Edges of Hybrid Halide Perovskites under the Influence of Mixed Cation Approach: A Scanning Tunneling Spectroscopic Insight - H. Bhunia, S. Chatterjee, and A. J. Pal; *ACS Applied Energy Materials* **1**, 4351–4358 (2018).[IF:]
326. Self-Doping in Hybrid Halide Perovskites via Precursor Stoichiometry: To Probe Type of Conductivity through Scanning Tunneling Spectroscopy - G. Paul, S. Chatterjee, H. Bhunia, and A. J. Pal; *J. Phys. Chem. C.*, **122**, 20194–20199 (2018).[IF:4.484]

327. Bi₂Se₃ topological insulator at the 2D-limit: Role of halide-doping on Dirac point - S. Khatun, H. Bhunia, and A. J. Pal; *Phys. Chem. Chem. Phys.*, **20**, 17934 – 17941 (2018).[IF:3.906]

328. Voltage-dependent differential conductance (dI/dV) imaging of a polymer:fullerene bulk-heterojunction - G. Paul, B. Kundu, and A. J. Pal; *Organic Electronics*, **59**, 27-31 (2018).[IF:3.680]

329. Heterovalent doping and energy level tuning in Ag₂S thin-films through solution approach: *pn*-junction solar cells - G. Paul, S. Chatterjee, and A. J. Pal; *Solar Energy Materials & Solar Cells*, **182**, 339–347 (2018).[IF:5.018]

330. Band-edges and band-gap in few-layered transition metal dichalcogenides - H. Bhunia and A. J. Pal; *J. Phys. D: Appl. Phys.* **51**, 215102 (2018).[IF:2.373]

331. Band-Engineered PbS Nanoparticles in CH₃NH₃PbI₃ Solar Cells to Extend Activity towards Near-Infrared Region - U. Dasgupta, B. Kundu, and A. J. Pal; *Solar RRL*, **2**, 1800012 (2018).[IF:]

332. Mechanistic Insight into the Formate Production *via* CO₂ Reduction in C-C Coupled Carbon Nanotube Molecular Junctions - S. Pal, S. Narayanaru, B. Kundu, M. Sahoo, S. Bawari, D. K. Rao, A. J. Pal. T. Narayanan; *J. Phys. Chem. C* **122**, 23385–23392 (2018).[IF:4.484]

333. Spin–orbit coupling driven novel magnetism in *d*⁵ 6H-perovskite iridates Ba₃IrTi₂O₉ and Ba₃TiIr₂O₉ - S Bhowal, S Ganguly, I Dasgupta; *Journal of Physics: Condensed Matter*, **31**, 185302 (2019).[IF:2.836]

334. Hybridization-Switching Induced Mott Transition in Perovskites - A Paul, A Mukherjee, I Dasgupta, A Paramekanti and T Saha-Dasgupta; *Phys. Rev. Lett.* **122**, 016404 (2019).[IF:8.839]

335. Unconventional magnetism in the 4d⁴ -based S=1 honeycomb system Ag₃LiRu₂O₆ - R. Kumar, T Dey, P. M. Ette, K. Ramesha, A Chakraborty, I. Dasgupta, J. C. Orain, C. Baines, Sándor Tóth, A. Shahee, S. Kundu, M. Prinz-Zwick, A. A. Gippius, N. Büttgen, P. Gegenwart, and A. V. Mahajan; *Phys. Rev. B*, **99**, 054417 (2019).[IF:3.836]

336. Effect of Ni doping on the magnetic and electronic properties of half heusler $\text{Cu}_{1-x}\text{Ni}_x\text{MnSb}$ alloys A Bandyopadhyay, SK Neogi, A Paul, C Meneghini, I Dasgupta, Sugata Ray, *Journal of Alloys and Compounds*, **764**, 656 (2018).[IF:3.779]
337. Origin of magnetic moments and presence of spin-orbit singlets in Ba_2YIrO_6 A Nag, S Bhowal, A Chakraborty, M. M. Sala, A. Efimenko, F. Bert, P. K. Biswas, A. D. Hillier, M. Itoh, S. D. Kaushik, V. Siruguri, C. Meneghini, I. Dasgupta, and Sugata Ray; *Phys. Rev. B*, **98**, 014431 (2018).[IF:3.836]
338. Study of magnetic and multiferroic properties of α -copper pyrovanadate. S Bhowal, Subham Majumdar and Indra Dasgupta, *AIP Conference Proceedings*, 2005, 020008 (2018).
339. CrO_4 distortion-driven ferroelectric order in $(\text{R},\text{Y})\text{CrO}_4$ ($\text{R}=\text{Sm},\text{Gd},\text{and Ho}$): A new family of multiferroics - A. Indra, K. Dey, J. K. Dey, S. Majumdar, U. Rütt, O. Gutowski, M. v. Zimmermann, and S. Giri; *Phys. Rev. B.*, **98**, 014408 (2018).[IF:3.836]
340. Giant exchange bias effect with low-coercivity in $\text{YbBaCo}_4\text{O}_7$ - K. Dey, S. Majumdar, and S. Giri; *Journal of Alloys and Compounds*, **753**, 329 (2018).[IF:3.779]
341. Coexisting exchange bias effect and ferroelectricity in geometrically frustrated ZnCr_2O_4 - J. K. Dey, S. Majumdar, and S. Giri; *Journal of Physics: Condensed Matter*, **30**, 235801 (2018).[IF:2.617]
342. Magnetic phase inhomogeneity in frustrated intermetallic compound $\text{Sm}_2\text{Ni}_{0.87}\text{Si}_{2.87}$ - S. Pakhira, C. Mazumdar, R. Ranganathan, and S. Giri; *Journal of Alloys and Compounds*, **742**, 391 (2018).[IF:3.779]
343. Observation of short range order driven large refrigerant capacity in chemically disordered single phase compound $\text{Dy}_2\text{Ni}_{0.87}\text{Si}_{2.95}$ - S. Pakhira, C. Mazumdar, D. Choudhury, R. Ranganathan, and S. Giri; *Physical Chemistry Chemical Physics*, **20**, 13580 (2018).[IF:3.906]
344. Unveiling spin-glass transition and antiferromagnetic order by μSR studies in spin-chain $\text{Sm}_2\text{BaNiO}_5$ - A. Indra, K. Dey, A. Bhattacharyya, A. Berlie, and S. Giri; *Journal of Physics: Condensed Matter*, **31**, 165801 (2019).[IF:2.617]

345. Magnetoelastic coupling at spin-glass-like transition in $\text{Sr}_3\text{NiSb}_2\text{O}_9$ - A. Chatterjee, S. Majumdar, S. Chatterjee, A. C. Dippel, O. Gutowski, M. v. Zimmermann, and S. Giri; *Journal of Alloys and Compounds*, **778**, 30 (2019).[IF:3.779]
346. $\text{xS}_\text{x}@\text{ZnS}$ core-shell heterostructures - S Sarkar, AD Mahapatra, D Basak, *Journal of Colloid and Interface Science*, **523**, 245 (2018).[IF:4.23]
347. Revisiting the electrical and optical transmission properties of co-doped ZnO thin films as n-type TCOs - A Mallick, D Basak, *Progress in Materials Science*, **96**, 86, (2018).[IF:31.14]
348. Very high photoresponse towards low-powered UV light under low-biased condition by nanocrystal assembled TiO_2 film - S Mondal, D Basak, *Applied Surface Science*, **427**, 814 (2018).[IF:3.39]
349. Sbottoms as probes to MSSM with nonholomorphic soft interactions - U Chattopadhyay, A K Datta, S Mukherjee and A K Swain, *JHEP*, **1810**, 202 (2018).[IF:5.541]
350. Photon-photon correlations with a V-type three-level system interacting with two quantized field modes - A Pal and B Deb; *Optics Communication*, **431**, 1-9 (2019).[IF:]
351. Theoretical study of the spectroscopic constants and cold elastic collisions of alkaline earth $\text{Mg} + \text{Mg}^+$ system - N Alharzali, D Sardar, Rim Mlika, B. Deb and H. Berriche, *J. Phys. B: At. Mol. Opt. Phys.*, **51**, 195201 (2018).[IF:]
352. Structure, spectroscopy and cold collisions of the $(\text{SrNa})^+$ ionic system, Sana Bellaouini - A Pal, A Rakshit, M Farjallah, B Deb and H Berriche, *Eur. Phys. J. D*, **72**, 131 (2018).[IF:]
353. Fano effect in an ultracold atom-molecule coupled system - Yuqing Li, Guosheng Feng, Jizhou Wu, Jie Ma, B Deb, A Pal, Liantuan Xiao, Suotang Jia, *Phys. Rev. A*, **99**, 022702 (2019).[IF:]
354. Density profiles of two-component Bose–Einstein condensates interacting with a Laguerre–Gaussian beam - A Bhowmik, P Kr Mondal, S Majumder and B Deb, *J. Phys. B: At. Mol. Opt. Phys.*, **51**, 135003 (2018).[IF:]

355. Spectroscopic properties of the molecular ions $\text{BeX} + (\text{X}=\text{Na}, \text{K}, \text{Rb})$: forming cold molecular ions from an ion–atom mixture by stimulated Raman adiabatic process - H Ladjimi, D Sardar, M Farjallah, N Alharzali, S Naskar, Rym Mlika, H Berriche and B Deb, *Molecular Physics*, **116**,1812 (2018).[IF:]
356. Holography on local fields via Radon Transform - S Bhowmick and K Ray, *JHEP*, **1809** 126 (2018).[IF:5.541]
357. Signatures of supersymmetry and $L\mu-L\tau$ gauge boson at Belle-II - H Banerjee and S Roy, *Phys.Rev. D*, **99**, 3, 035035 (2019).[IF:4.568]
358. Supersymmetric gauged $U(1)_{L\mu-L\tau}$ model for neutrinos and the muon $(g-2)$ anomaly - H Banerjee, P Byakti and S Roy, *Phys. Rev. D*, **98**, 7, 075022 (2018). [IF:4.568]
359. Accelerating lattice QCD simulations with 2 flavors of staggered fermions on multiple GPUs using OpenACC - a first attempt - S Gupta and P Majumdar, *Computer Physics Communications*, **228**, 44 (2018).[IF:3.748]
360. Distinctive Collider Signals for a Two Higgs Triplet Model - D K Ghosh, N Ghosh and B Mukhopadhyaya., *Phys.Rev. D*, **99**, 1, 015036 (2019).[IF:4.568]
361. Revisiting the high-scale validity of the type II seesaw model with novel LHC signature – D K Ghosh, N Ghosh, I Saha and A Shaw, *Phys.Rev. D*, **97**, 11, 115022 (2018).[IF:4.568]
362. Onset of Floquet Thermalisation - A Haldar, R Moessner and A Das, *Phys. Rev. B*, **97**, 245122 (2018).[IF:3.813]
363. Multifractality without fine-tuning in a Floquet quasiperiodic chain - S Roy, I M. Khaymovich, A Das and R Moessner, *Sci Post Phys.* **4**, 025 (2018).[IF: 5.25]
364. Steady states of a quasiperiodically driven integrable system - S Nandy, A Sen and D Sen, *Phys. Rev. B*, **98**, 245144 (2018).[IF:3.813]
365. Tuning a random-field mechanism in a frustrated magnet - S S Kunwar, A Sen, T Vojta and R Narayanan, *Phys. Rev. B*, **98**, 024206 (2018).[IF:3.813]
366. Level spectroscopy of quantum antiferromagnets using Monte Carlo simulations - A Sen, *Proc Indian Natn Sci Acad* , **84**, 559 (2018).[IF:]

367. Periodically driven integrable systems with long-range pair potentials - S Nandy, K Sengupta, and A Sen, *J. Phys. A: Math. Theor.*, **51**, 334002 (2018). [IF:1.963]
368. Dark Matter Blind Spots at One-Loop - T. Han, H. Liu, S. Mukhopadhyay, X. Wang, *JHEP*, **1903**, 080 (2019).[IF:5.541]
369. Electroweak Dark Matter at Future Hadron Colliders - T. Han, S. Mukhopadhyay, X. Wang, *Phys. Rev. D*, **98**, 3, 035026 (2018).[IF:4.568]
370. Higgs Couplings at High Scales - D. Gonçalves, T. Han, S. Mukhopadhyay, *Phys.Rev. D*, **98**, 1, 015023 (2018).[IF:4.568]
371. Electric field modulated topological magnetoelectric effect in Bi₂Se₃, - M Mondal, D Chaudhuri, M Salehi, Cheng Wan, N J Laurita, Bing Cheng, Andreas V Stier, Michael A Quintero, Jisoo Moon, Deepti Jain, Pavel P Shibayev, James R Neilson, Seongshik Oh, NP Armitage; *Phys. Rev. B*, **98**, 121106(R) (2018).[IF:]
372. Caloric effects in perovskite oxides - A Barman, S Kar-Narayan and D Mukherjee, *Adv. Mater. Interfaces*, 1900291 (2019).[IF:]
373. Packing extra mass in compact stellar structures: An interplay between Kalb-Ramond field and extra dimensions- S Chakraborty and S SenGupta, *Journal of Cosmology and Astroparticle Physics*, **1805**, 032 (2018).[IF:4.734]
374. Horndeski Theories Confront the Gravity Probe B experiment - S Mukherjee and S Chakraborty, *Physical Review D*, **97**, 124007 (2018).[IF:4.568]
375. Unruh effect for inertial observers through vacuum correlations- K Lochan, S Chakraborty and T. Padmanabhan, *European Physical Journal C.*, **78**, 433 (2018).[IF:5.331]
376. Inverting a normal harmonic oscillator: Physical Interpretation and Applications- K Rajeev, S Chakraborty and T. Padmanabhan, *General Relativity and Gravitation*, **50**, 116 (2018).[IF:1.721]
377. Signatures of extra dimensions in gravitational waves from black hole quasi-normal modes – S Chakraborty, K Chakravarti, S Bose and S SenGupta, *Physical Review D*, **97**, 104053 (2018).[IF:4.568]

378. Field equations for Lovelock gravity: An alternative route - S Chakraborty, *Advances in High Energy Physics*, **2018**, 6509045 (2018).[IF:1.740]
379. On the physical process first law for dynamical black holes - A Mishra, S Chakraborty, AGhosh and S Sarkar, *Journal of High Energy Physics*, **1809**, 034 (2018).[IF:5.541]
380. Late-time acceleration driven by shift-symmetric Galileon in the presence of torsion – R Banerjee, S Chakraborty and P Mukherjee, *Physical Review D*, **98**, 083506 (2018).[IF:4.568]
381. A Comment on Generalized Schwinger Effect - K Rajeev, S Chakraborty and T. Padmanabhan, *European Physical Journal C*, **78**, 836 (2018).[IF:5.331]
382. Noether Current, Black Hole Entropy and Spacetime Torsion - S Chakraborty and R Dey, *Physics Letters B*, **786**, 432 (2018).[IF:4.254]
383. Inflation driven by Einstein-Gauss-Bonnet Gravity - S Chakraborty, T Paul and S SenGupta, *Physical Review D*, **98**, 083539 (2018).[IF:4.568]
384. Decoding Infrared Imprints of Quantum Origins of Black Holes - S Chakraborty and K Lochan, *Physics Letters B*, **789**, 276 (2018).[IF:4.254]
385. Radion induced inflation on Non-flat Brane and Modulus Stabilization - I Banerjee, S Chakraborty and S SenGupta, *Physical Review D*, **99**, 023515 (2019).[IF:4.568]
386. Tidal Love numbers of black holes and neutron stars in the presence of higher dimensions: Implications of GW170817 - K Chakravarti, S Chakraborty, S Bose and S SenGupta, *Physical Review D*, **99**, 024036 (2019).[IF:4.568]
387. Fate of Strong Cosmic Censorship Conjecture in presence of higher spacetime dimensions - M Rahaman, S Chakraborty, S SenGupta and A Sen, *Journal of High Energy Physics*, **1903**, 178 (2019).[IF:5.541]
388. **[Editor's Choice]** Null Boundary Terms for Lanczos-Lovelock Gravity - S Chakraborty and K Parattu, *General Relativity and Gravitation*, **51**, 23 (2018) [IF:1.721]

389. On some novel features of the Kerr-Newman-NUT spacetime - S Mukherjee, S Chakraborty and N Dadhich, *European Physical Journal C.*, **79**, 161 (2018).[IF: 5.331]
390. Does Cyg X-1 have a small accretion disc? - A Ghosh, I Banerjee and S K. Chakrabarti, *Monthly Notices of the Royal Astronomical Society*, **484**, 5802 (2019).[IF:]
391. Low Energy Spectrum of SU(2) Lattice Gauge Theory: An Alternate Proposal via Loop Formulation - I. Raychowdhury, *Eur.Phys.J. C.*, **79**, 3, 235 (2019). [IF:5.331]
392. keV Neutrino Dark Matter in a Fast Expanding Universe - A Biswas, D Borah, D Nanda, *Phys. Lett. B.*, **786**, 364 (2018).[IF:4.254]
393. Monte Carlo simulations of biaxial ordering in systems of uniaxially interacting rodlike ellipsoids - T K Bose, *Phys. Rev. E.*, **98**, 050701(R) (2018).[IF:2.284]
394. Structural Characterization of i-Motif Structure in the Human Acetyl-CoA Carboxylase 1 Gene Promoters and their Role in the Regulation of Gene Expression – M. H. Kaulage, S. Bhattacharya and K. Muniyappa, *ChemBioChem*, **19**, 1078 (2018).[IF:2.774]
395. A unique self-assembly-driven probe for sensing a lipid bilayer: ratiometric probing of vesicle to micelle transition – A. Gulyani, N. Dey and S. Bhattacharya, *Chem. Commun.*, **54**, 5122 (2018).[IF:6.290]
396. A conjugated microporous polymer based visual sensing platform for aminoglycoside antibiotics in water – S. Bhunia, N. Dey, A. Pradhan, S. Bhattacharya, *Chem. Commun.*, **54**, 7495 (2018).[IF:6.290]
397. Smart optical probe for 'equipment-free' detection of oxalate in biological fluids and plant-derived food items – N. Dey, N. Kumari, D. Bhagat, S. Bhattacharya, *Tetrahedron*, **74**, 4457 (2018).[IF:2.645]
398. Microenvironment Sensitive Charge-Transfer Dye for Tandem Sensing of Multiple Analytes at Mesoscopic Interfaces – N. Dey, D. Biswakarma, A. Gulyani, S. Bhattacharya, *ACS Sus. Chem. Eng.*, **6**, 12807 (2018).[IF:6.140]

399. Covalent organic framework based microspheres as an anode material for rechargeable sodium batteries – B. C. Patra, S. K. Das, A. Ghosh, A. K. Raj, P. Moitra, M. Addicoat, S. Mitra, A. Bhaumik, S. Bhattacharya, A. Pradhan, *J. Mater. Chem. A*, **6**, 16655 (2018).[IF:9.931]
400. Synthesis of High Molecular Weight 1,4-Polynaphthalene for Solution-Processed True Color Blue Light Emitting Diode – S. K. Samanta, G. S. Kumar, U. K. Ghorai, U. Scherf, S. Acharya, S. Bhattacharya, *Macromolecules*, **51**, 8324 (2018).[IF:5.914]
401. Metal Complex as an Optical Sensing Platform for Rapid Multimodal Recognition of a Pathogenic Biomarker in Real-Life Samples – N. Dey, D. Biswakarma, S. Bhattacharya, *ACS Sus. Chem. Eng.*, **7**, 569 (2019).[IF:6.140]
402. Colorimetric indicators for specific recognition of Cu²⁺ and Hg²⁺ in physiological media: Effect of variations of signaling unit on optical response – N. Dey, N. Kumari, D. Biswakarma, S. Jha, S. Bhattacharya, *Inorg. Chim. Acta*, **487**, 50 (2019).[IF:2.046]
403. Perfluoroarene induces a pentapeptidic hydrotrope into a pH-tolerant hydrogel allowing naked eye sensing of Ca²⁺ ions – B. Maiti, S. Bhattacharjee, S. Bhattacharya, *Nanoscale*, **11**, 2223 (2019).[IF:7.233]
404. Simultaneous sensing of ferritin and apoferritin proteins using an iron-responsive dye and evaluation of physiological parameters associated with serum iron estimation – N. Dey, A. Ali, M. Kamra, S. Bhattacharya, *J. Mater. Chem. B: Materials for Biology and Medicine*, **7**, 986 (2019).[IF:4.776]
405. Efficacious Electrochemical Oxygen Evolution from a Novel Co(II) Porphyrin /Pyrene-Based Conjugated Microporous Polymer – S. Bhunia, K. Bhunia, B. C. Patra, S. K. Das, D. Pradhan, A. Bhaumik, A. Pradhan, S. Bhattacharya, *ACS Appl. Mater. Inter.*, **11**, 1520 (2019).[IF:8.097]
406. Highly Responsive Fluorescent Assemblies Allow for Unique, Multiparametric Sensing of the Phospholipid Membrane Environment – A. Gulyani, N. Dey, S. Bhattacharya, *Chem. Eur. J.*, **25**, 1507 (2019).[IF:5.160]

407. Simultaneous Detection of Cu²⁺ and Hg²⁺ via Two Mutually Independent Sensing Pathways of Biimidazole Push-Pull Dye – N. Dey, J. Kulhanek, F. Bures, S. Bhattacharya, *J. Org. Chem.*, **84**, 1787 (2019).[IF:4.805]
408. Modulation of Excited-State Proton-Transfer Dynamics inside the Nanocavity of Microheterogeneous Systems: Microenvironment-Sensitive Förster Energy Transfer to Riboflavin – N. Dey, D. Biswakarma, A. Bajpai, J. N. Moorthy, S. Bhattacharya, *ChemPhysChem*, **20**, 881 (2019).[IF:3.075]
409. On-Field Detection of Helicoverpa Armigera Nuclear Polyhedrosis Virus using Luminescent Amphiphilic probe: Screening of Agricultural Crops and Commercial Formulations – N. Dey, D. Bhagat, S. Bhattacharya, *ACS Sus. Chem. Eng.*, **7**, 7667 (2019).[IF:6.140]
410. Tumor Chemosensitization through Oncogene Knockdown Mediated by Unique α -Tocopherylated Cationic Geminis – M. Kamra, B. Maiti, A. Dixit, A. A. Karande, S. Bhattacharya, *Biomacromolecules*, **20**, 1555 (2019).[IF:5.246]
411. Synthesis of Lithium superionic conductor by growth of a nanoglass within mesoporous silica SBA –15 template, S. Chatterjee, R.P. Maiti, M. Miah, S.K. Saha and D. Chakravorty, *J. Phys. D. : Appl. Phys.* 51, 135301 (2018).[IF:2.373]
412. Synthesis of Multilayered structure of nanodimensional silica glass / reduced graphene oxide for advanced electrochemical applications, A. Ghosh, M. Miah, C. Majumder, S. Bag, D. Chakravorty, S.K. Saha, *Nanoscale*, 10, 5539.[IF:7.233]
413. Giant dielectric permittivity in interrupted silver nanowires grown within mesoporous silica, A. Maity, S. Samanta, S. Chatterjee, R.P. Maiti, D. Biswas, S.K. Saha, D. Chakravorty, *J. Phys. D : Appl. Phys.*, 51, 245301 (2018).[IF : 2.373]
414. Na⁺ ion migration on the surface of reduced graphene oxide, M. Banerjee, D. Chakravorty, S.K. Saha, *J. Phys. D. : Appl. Phys.*, 51, 325301 (2018).

415. Magnetic response of Chlorophyll self – assembly within hydrogel: a mechanistic approach towards enhanced photoharvesting, P. Mandal, J.S. Manna, D. Das, R.P. Maiti, M.K. Mitra, D. Chakravorty, *RSC Adv* **8**, 26440 (2018).[IF:2.936]
416. Epichlorohydrin functionalized graphene oxide for superior Li⁺ ion conduction and supercapacitor application, P. Hota, M. Miah, A. Gupta, D. Chakravorty, S.K. Saha, *Materials Chemistry and Physics* **223**, 447 (2019).[IF:2.210]
417. Unitary Coupled Cluster based self-consistent Polarization Propagator Theory: a third order formulation and pilot applications - J Liu, A Asthana, L Cheng and D Mukherjee, *J Chem Phys*, **148**, 244110 (2018) [IF:NA]
418. Orbital Angular Momentum preserving guided mode in helically twisted hollow core photonic crystal fiber at Dirac point - R chattopadhyay and S Kr Bhadra, arXiv:1902.09117
419. First principles study of Ag absorption mechanism in amorphous large silica clusters - S Mitra, R Chattopadhyay, M Pal, G P Das and S Kr Bhadra, *Physica E: Low-dimensional Systems and Nanostructures*, **112** (2019) 26.[IF:2.339]
420. A theoretical prediction of rotating waves in Type -I hydraulic jumps - A K Ray, N Sarkar, A Basu and J K Bhattacharjee, *Phys Lett A*, **382** 3399 (2018).[IF:1.863]
421. Varieties of scaling in magnetohydrodynamic turbulence - A Basu and J K Bhattacharjee, *Phys Rev E*, **98**, 062143 (2018).[IF:2.284]
422. On the properties of a class of higher order Mathieu equations originating from a quantum parametric oscillator - S Biswas and J K Bhattacharjee, *Nonlinear Dynamics*, **96**, 737 (2019).[IF:4.339]
423. Driven active matter : Fluctuations and a hydrodynamic instability - T R Kirkpatrick and J K Bhattacharjee, *Phys Rev Fluids*, **4**, 024306 (2019).[IF:2.021]
424. Cu(OAc)₂ Promoted *ortho* C(sp²)-H Amidation of 8-Aminoquinoline Benzamide with Acyl Azide: Selective Formation of Aryl or Acetyl Amide Based on Catalyst Loading - T Ghosh, P Maity, B C Ranu, *J. Org. Chem.*, **83**, 11758 (2018).[IF:4.81]

425. Palladium-Catalyzed Ligand-Free Decarboxylative Coupling of - Oxocarboxylic Acid with Aryl Diazonium Tetrafluoroborate: An Access to Unsymmetrical Diaryl Ketones - S Panja, P Maity, B C Ranu, *J. Org. Chem.*, **83**, 12609 (2018).[IF:4.81]
426. Cobalt-Copper Catalyzed C(sp²) - N Cross Coupling of Amides or Nitrogenated Heterocycles with Styrenyl or Aryl Halides - T Ghosh, P Maity, B C Ranu, *Chemistry Select*, **3**, 4406 (2018).[IF:1.51]
427. Transition Metal and Oxidant Free Base Mediated Selenation of Bicyclic Arenes at Room Temperature - T Ghosh, N Mukherjee, B C Ranu, *ACS Omega*, **3**, 17540 (2018).[IF: waiting][invited article]
428. Visible Light Photoredox Catalyzed One Pot Stadler–Ziegler Reaction of Heteroaryl Amines with Heteroaryl Thiols at Room Temperature: An Efficient Synthesis of Diheteroaryl Sulphides - S Panja, P Sahu, B C Ranu, *Indian J. Chem.*, **58B**, 183 (2019).[IF: waiting][invited article for a special issue]
429. My Journey through a Green Path”, B C Ranu, *J. Indian Chem. Soc.*, **95**, 1465 (2018).[IF: waiting][Invited article for Acharya J C Ghosh Memorial Award lecture]
430. Recent Developments in C-H Functionalization *via* C-H Bond Activation Using ballMilling and Transition-Metal Catalysts - B C Ranu, T. Ghosh, S. Jalal, *ARKIVOC*, 79-92(2019).[IF: waiting][Invited article for a special issue in honour of Professor George A, Kraus]
431. Domino ring-opening-ring-closing enyne metathesis vs enyne metathesis of norbornene derivatives with alkynyl side chains. Construction of condensed polycarbocycles - R Datta, S Ghosh, *Beilstein J. Org. Chem.*, **14**, 2708 (2018).[IF: 2.56]
432. Structure and electrical conductivity of Ta doped La₂Mo₂O₉ oxide ion conductors, T. Paul and A. Ghosh, *J. Appl. Phys.* **124**, 225102 (2018).
433. Ion conduction phenomenon and electrochemical performance of gel polymer electrolyte in EDLC containing blend polymer host, ionic liquid and mixed carbonate plasticizers, T. Dam and A. Ghosh, *J. Phys. Chem. C*, **122**, 27214 (2018).
434. Solid-state gel polymer electrolytes based on ionic liquids containing imidazolium cations and tetrafluoroborate anions for electrochemical double layer capacitors: Influence of cation size and viscosity of ionic liquids, P. Pal and A. Ghosh, *J. Power Sources*, **406**, 128 (2018).

435. Investigation of ionic conductivity and relaxation in plasticized PMMA-LiClO₄ solid polymer electrolytes, P. Pal and A. Ghosh, *Solid State Ionics*, **319**, 117 (2018).
436. Influence of TiO₂ nano-particles on charge carrier transport and cell performance of PMMA -LiClO₄ based nano-composite electrolytes, P. Pal and A. Ghosh, *Electrochimica. Acta*, **260**, 157 (2018).
437. Highly efficient gel polymer electrolytes for all solid-state electrochemical charge storage devices, P. Pal and A. Ghosh, *Electrochimica Acta*, **278**, 137 (2018).
438. Thermal and structural investigations of xLi₂O-(1-x)Bi₂O₃ (0.25 ≤ x ≤ 0.35) glasses, T. Paul, G. Mountjoy and A. Ghosh, *Int. J. Appl. Glass Sci.*, **9**, 319 (2018).
439. Dynamics of lithium ions in tellurium-phosphate glasses: Correlation with structure, A. Chatterjee and A. Ghosh, *Phys. Chem. Glass: European J. Glass Sci. Technol. Part B*, **59**, 221 (2018).
440. Brownian dynamics of self-regulated particles with additional degree of freedom: Symmetry breaking and homo-chirality”, D Bhattacharyya, S Paul, S Ghosh, D S Ray, *Phys. Rev. E* **97**, 042125 (2018) [IF:2.36]
441. Enhancement of nonlinear response using vibrational resonance in a nonlinear oscillator; sum and difference frequency generation”, D Das, D S Ray, *Eur. Phys. J. B*, **91**, 279(2018) [IF: 1.54]
442. Reduction of kinetic equations to Lienard-Levinson-Smith form: Counting limit cycles”, S Saha, G Gangopadhyay, D S Ray, *Int. J. Appl. Comput. Math*, **5**, 45 (2019) [IF:0.45]
443. An Azoaromatic Ligand as Four Electron Four Proton Reservoir: Catalytic Dehydrogenation of Alcohols by Its Zinc(II) Complex”, R Pramanick, R Bhattacharjee, D Sengupta, A Datta, S Goswami, *Inorg.chem.*, **57**, 6816 (2018) [IF: 4.7]
444. Ligand Redox-Controlled Tandem Synthesis of Azines from Aromatic Alcohols and Hydrazine in Air: One-Pot Synthesis of Phthalazine”, M Chakraborty, D Sengupta, T Saha, S Goswami, *J. Org. Chem.*, **83**, 7771 (2018) [IF: 4.805]

445. Metal-ligand Cooperativity in a Ruthenium(II) Complex of Bis-azoaromatic Ligand for Catalytic Dehydrogenation of Alcohols”, T Saha, R Pramanick, D Sengupta, S Goswami, *Inorganica Chimica Acta.*, **484**,160 (2019) [IF: 2.264] (Invited article)

446. Synthesis, characterization and electrochemical properties of the transition metal (Fe-Zn) complexes of 2,4-di-*tert*-butyl-6-(pyridin-2-ylazo)-phenol ligand”, IChatterjee, M Chakraborty, P Ghosh, S Goswami, *J. Indian Chem. Soc.***95**,771 (2018) [IF:NA](Invited Article)

447. Effects of Ancillary Ligands on Redox and Chemical Properties of Ruthenium Coordinated Azoaromatic Pincer - S P Rath, D Sengupta, P Ghosh, R Bhattacharjee, M Chakraborty, S Samanta, A Datta, S Goswami, *Inorg. Chem.*, **57**,11995 (2018). [IF: 4.7] (Inter-Faculty Pub.)

448. Transparent, flexible silicon nanowire networks with seamless junctions for high performance photodetector applications, Mozakkar Hossain, Gundam Sandeep Kumar, BarimarPrabhava S.N, Emmet D. Sheerin, David McCloskey, Somobrata Acharya, John J. Boland and K. D. M. Rao*, *ACS Nano*,12,4727–4735(2018).[IF:13.9]

449. Cosmetically Adaptable Transparent Strain Sensor for Sensitively Delineating Patterns in Small Movements of Vital Human Organs, Nikita Gupta, K.D.M. Rao, Kartikeya Srivastava, Ritu Gupta, Ankush Kumar, Amy Marconnet, Timothy S Fisher, Giridhar U Kulkarni, *ACS applied materials & interfaces* 10 (50), 44126-44133 (2018).[IF:09]

450. IndrajitMondal, Ankush Kumar, K. D. M. Rao, Giridhar U Kulkarni, Parallel cracks from a desiccating colloidal layer under gravity flow and their use in fabricating metal micro-patterns, *Journal of Physics and Chemistry of Solids*, 118, 232-237, (2018).[IF:2.04]

451. A Solution-Based Fast Fabrication of a High-Performance Unlimited Area Au Nanostructure/Si Heterojunction Photodetector, BharathBannur, K. D. M. Rao, Harish K. N, Giridhar U Kulkarni, *ACS Applied Electronic Materials*, DOI: 10.1021/acsaelm.9b00031, (2019).[IF:NA]

452. Covalent organic framework based microspheres as an anode material for rechargeable sodium batteries – B. C. Patra, S. K. Das, A. Ghosh, A. K. Raj, P.

Moitra, M. Addicoat, S. Mitra, A. Bhaumik, S. Bhattacharya, A. Pradhan, *J. Mater. Chem. A*, **6**, 16655-16663 (2018).[IF:9.931]

453. A combinatorial approach of structure-based virtual screening and molecular dynamics simulation towards the discovery of a highly selective inhibitor for VP9 coat protein of Banna virus – P. Moitra, *Bioorg. Chem.*, **86**, 15-27 (2019). [IF:3.929]
454. Coaxial Nickel–Poly(vinylidene fluoride trifluoroethylene) Nanowires for Magnetoelectric Applications-Chess Boughey, Yonatan Calahorra, Anuja Datta, and Sohini Kar-Narayan, *ACS Appl. Nano Mater.*, **2**, 170 (2019).[IF: N/A]
455. Nanoscale electromechanical properties of template-assisted hierarchical self-assembled cellulose nanofibers-Yonatan Calahorra, Anuja Datta, James Famelton, Doron Kam, Oded Shoseyov and Sohini Kar-Narayan, *Nanoscale*, **10**, 16812 (2018).[IF:7.233]
456. Oscillatory Behavior of the Fermi-Integral and Density of States Functions in a Parabolic Band Semiconductor with Non-Degenerately Doped Impurities - P.K. Chakraborty and B. N. Mondal *International Journal of Theoretical and Mathematical Physics*, **8**, 57 (2018).[IF:]
457. Exact analytical Model for the Evaluation of complex Einstein relation for disordered semiconductor with parabolic band - P.K. Chakraborty, B. N. Mondal and B.K. Chaudhuri, *Open Access Journal of Mathematical and Theoretical Physics*, **2**, 22 (2019).[IF:]
458. Laser induced modulation of optical band gap parameters in the III-V type semiconductors from the density of State (DOS) calculations - P.K. Chakraborty, B. N. Mondal and B.K. Chaudhuri; *Pramana, Journal of Physics*, **92**, 85 (2019).[IF:]
459. SERS active substrates of gold nanoparticles embedded in the pool of 5-CB liquid crystal molecules organized in Langmuir–Reverse Schaefer films: A facile fabrication route to make the topological defects useful - SK Das, M Ghosh, S Ghosh, J Chowdhury; *Applied Surface Science*, **484**, 1263 (2019).[IF:]
460. Infused self-assembly on Langmuir–Blodgett Film: Fabrication of highly efficient SERS active substrates with controlled plasmonic aggregates - S Saha, M Ghosh, J Chowdhury; *Journal of Raman Spectroscopy*, **50(3)**, 330 (2019).[IF:]

461. Near-Field Response on the Far-Field Wavelength-Scanned Surface-Enhanced Raman Spectroscopic Study of Methylene Blue Adsorbed on Gold Nanocolloidal Particles - S Dutta Roy, M Ghosh, J Chowdhury; *The Journal of Physical Chemistry C*, **122** (20), 10981 (2018).[IF:]
462. Magnetic susceptibilities, Raman spectroscopy and crystal field analysis of Pr³⁺ in monoclinic single crystals of PrPO₄ - J Mandal, KN Chattopadhyay, M Ghosh, P K Chakraborti *Materials Chemistry and Physics*, **216**, 387 (2018).[IF:]

Publications in Books/Book Chapter/Monographs FOR THE YEAR 2018-19

1. Porphyrins for the 21st Century : Fundamentals (Volume 1) : Heme Proteins – Structure and Function, Wiley, 2019
2. Colloidal Nanoparticles : Functionalization for Biomedical Applications – N.R. Jana, CRS Press, (2019).
3. Nanocrystalline Diamond : A High-Impact Carbon Nanomaterials for Multifunctional Applications Including as Nanofiller in Biopolymeric Matrices – D. Das, Chapter-V, In Carbon-Based Nanofillers and their Rubber Nanocomposites (1st Edition, Carbon Nano-Objects), Elsevier publication, ed. Yarangalla, Mishra, Thomas, Kalarikkal & Maria (2019) pp. 123. Doi.org/10.1016/B978-0-12-813248-7.00005-5.
4. Encyclopedia of Polymer Applications : Energy : Polymer-Functionalized Graphene – A. K. Nandi, P. Chal and A. Shit, CRC Press, Taylor & Francis Group, New York, USA, DOI:10.1201/9781351019422-140000192 (2018).
5. Encyclopedia of Polymer Applications : Energy : Polymer-Functionalized Graphene – A. K. Nandi, P. Chal and A. Shit, CRC Press, Taylor & Francis Group, New York, USA, DOI:10.1201/9781351019422-140000192 (2018).
6. Lipid Droplets and Embryonic Development – A. Dutta, S. Sarkar and D. Kr. Sinha (Accepted)

LIST OF PUBLICATIONS FOR THE YEAR 2020-21 SUBMITTED BY THE FACULTY MEMBERS

SAIS

1. Structural influence on stimuli-responsive halogen-bonded luminescent supramolecular polymers from heteroditopic isomers - A. Jamadar,[†]C. K. Karan,[†]S. Biswas,[†]A. Das, *CrystEngComm*, **23**, 1695 ([†] equal contribution). (2021).[IF: 3.117]
2. Supramolecular Engineering and Self-Assembly Strategies in Photoredox Catalysis”, A. Bhattacharyya, S. De Sarkar* and A. Das, *ACS Catal.*, **11**,710 (2021).[IF:12.35]
3. Transparent, flexible MAPbI₃ perovskite microwire array passivated with ultra-hydrophobic supramolecular assembly for stable and high-performance photodetectors - K. D. M. Rao*, Mozakkar Hossain, Umesh, Aniket Roy, Anudeepa Ghosh, Gundam Sandeep Kumar, Parikshit Moitra, Tapas Kamilya, Somobrata Acharya and Santanu Bhattacharya, *Nano scale*,**12**, 11986-11996, (2020).[IF:7]
4. Improved device performance of rod like ZnO in a Schottky type photosensor compared to particle like ZnO: Analysis of charge transport - MrinmayDas, Pubali Das, JoydeepDatta, DhananjayDas, Somobrata Acharya and Partha Pratim Ray *Materials Science in Semiconductor Processing*, **130**, 105799 (2021).[IF:]
5. Virstatin-conjugated gold nanoparticle with enhanced antimicrobial activity against *Vibrio cholerae* El Tor biotype - Swapan Kumar Jana, Arin Gucchait, Susmita Paul, Tultul Saha, Somobrata Acharya, Kazi Mirajul Hoque, Anup Kumar Misra, Barun K Chatterjee, Tanaya Chatterjee and Pinak Chakrabarti, *ACS Applied Bio Materials* **4**, 3089 (2021).[IF:]
6. Supramolecular Design Strategies for Color Tuning of Iridium(III) Complexes Using Common Framework of Cyclometalating Ligands - Sandip Biswas, Bidisa Das, Parvej Alam, Arnab Ghatak, Uttam Ghorai, Arijit Ghosh, Benu Brata Das, InamurLaskar and Somobrata Acharya, *The Journal of Physical Chemistry C* **125**, 4730 (2021).[IF:]
7. The Range of Antiferromagnetic Coupling Governs the Conductivity:Semiconducting Behavior and Ammonia Gas Sensing Property of Diamagnetic Hexaradical-Containing Tetranuclear CoIII₄ Cluster and its Nonradical Congener - Prasenjit Sarkar,

- Tukhar Jyoti Konch, Tapas Kamilya, Kalyan Raidongia, Somobrata Acharya and Chandan Mukherjee, *Chemical Communications* **56** (96), 15220 (2020).[IF:]
8. Encapsulation of CsPbBr₃ Nanocrystals by a Tripodal Amine Markedly Improves Photoluminescence and Stability Concomitantly via Anion Defect Elimination - Jayita Pradhan, , Parikshit Moitra, Umesh, Bidisa Das, Pramita Mondal, Gundam Sandeep Kumar, Uttam Ghorai, Somobrata Acharya and Santanu Bhattacharya, *Chemistry of Materials* **32**, 7159 (2020).[IF:]
 9. Transparent, flexible MAPbI₃ perovskite microwire array passivated with ultra-hydrophobic supramolecular assembly for stable and high-performance photodetectors - K.D.M. Rao, Mozakkar Hossain, Umesh, Aniket Roy, Anudeepa Ghosh, Gundam Sandeep Kumar, Parikshit Moitra, Tapas Kamilya, Somobrata Acharya and Santanu Bhattacharya, *Nanoscale*, **12** (22), 11986 (2020).[IF:]
 10. Tuning Intermediate Adsorption in Structurally Ordered Substituted PdCu₃Intermetallic Nanoparticles for Enhanced Ethanol Oxidation Reaction - R. Jana, A. Datta and Sudip Malik, *Chemical Communications*, **57**, 4508 (2021).[IF:6.834]
 11. Morphological Modulation of Conducting Polymer Nanocomposites with Nickel Cobaltite/Reduced Graphene Oxide and Their Subtle Effects on the Capacitive Behaviors - S. Dhibar and Sudip Malik, *ACS Applied Materials & Interfaces*, **12**, 54053 (2020).[IF:8.758]
 12. Design, Synthesis and Electrochromic Behaviors of Donor-Acceptor-Donor type Triphenylamine-iso-Naphthalenediimide Derivatives - S. Nadand Sudip Malik, *ChemElectroChem*, **7**, 4144 (2020).[IF:4.154]
 13. Fabrication of Organic Nanocomposite of Polyaniline for Enhanced Electrochemical Performance, M. Sathish Kumar, P. Das, K. Y. Yasoda, N. K. Kothurkar, Sudip Malik, S. K. Batabyal, *J. Energy Storage*, **31**, 101700 (2020).[IF:3.762]
 14. Redox Responsive Activity Regulation In Exceptionally Stable Supramolecular Assembly And Co-Assembly of a Protein - S. Chakraborty, R. Khamrui and S. Ghosh, *Chem. Sci.*, **12**, 1101 (2021).[IF:9.82]
 15. Confined Supramolecular Polymer in Water with Exceptional Stability, Photoluminescence and Chiroptical Properties - A. Mukherjee, D. S. Pal, H. Kar and S. Ghosh, *Polym. Chem.*, **11**, 7481 (2020).[IF:5.58]

16. Ultrathin Two Dimensional (2D) Supramolecular Assembly and Anisotropic Conductivity of an Amphiphilic Naphthalene-Diimide - A. Mukherjee, T. Sakurai, S. Seki and S. Ghosh, *Langmuir*, **36**, 13096 (2020).[IF:3.88]
17. Synthesis of Cylindrical Micelle from Hydrophilic Polymers Connected with a Single Supramolecular Structure-Directing Unit - P. Dey, P. Rajdev, P. Pramanik, R. Haag and S. Ghosh, *Macromolecules*, **53**, 7044 (2020).[IF:5.98]
18. Polymersome Formation by Amphiphilic Polyglycerol-*b*-Polydisulfide-*b*-Polyglycerol and Glutathione Triggered Intracellular Drug Delivery - R. Bej, K. Achazi, R. Haag and S. Ghosh, *Biomacromolecules*, **21**, 3353 (2020).[IF:6.09]
19. Circularly Polarized Luminescence from Chiral Supramolecular Polymer and Seeding Effect - A. Mukherjee and S. Ghosh, *Chem. Eur. J.*, **26**, 12874 (2020).[IF:4.85]
20. Photo-triggered Supramolecular Assembly - A. Mukherjee and S. Ghosh, *ACS Omega* **5**, 32140 (2020).[IF:3.51]
21. Thiol-Disulfide Exchange Reaction Promoted Highly Efficient Cellular Uptake of Pyridyl Disulfide Appended Nonionic Polymers - R. Bej, A. Ghosh, J. Sarkar, B. B. Das and S. Ghosh, *ChemBioChem.*, **21**, 2921 (2020).[IF:2.57]
22. Controlled Supramolecular Polymerization of π -Systems - G. Ghosh, P. Dey and S. Ghosh, *Chem. Commun.*, **56**, 6757 (2020).[IF:5.99]
23. Synthesis of Protected 3,4- and 2,3-Dimercaptophenylalanines as Building Blocks for *Fmoc*- Peptide Synthesis and Incorporation of the 3,4-Analogue in a Decapeptide Using Solid-Phase Synthesis – I. Banerjee, K.C. Ghosh, E. Oheix, M. Jean, J.V. Naubron, M. Reglier, O. Iranzo and S. Sinha, *J. Org. Chem.*, **86**, 2210 (2021).[IF:]
24. Evaluation of tubulin targeted pyrimidine indole hybrid molecule as an anticancer agent - Chandra Bose, Priyanjalee Banerjee, Jayanta Kundu, Biswadeb Dutta, Indranil Ghosh, Shreya Sinha, Argha Ghosh, Abhishek Barua, Shalini Gupta, Ujjal Das, Siddhartha S. Jana, Surajit Sinha, *ChemSelect*, **5**, 14021 (2020).[IF:]
25. Internal Oligoguanidinium Transporter: Mercury Free Scalable Synthesis, Improvement of Cellular Localization, Endosomal Escape, Mitochondrial Localization and Conjugation with Antisense Morpholino for NANOG Inhibition to Induce Chemosensitisation of Taxol in MCF-7 Cells - J. Kundu, P. Banerjee, C. Bose, U. Das, U. Ghosh and S. Sinha, *Bioconj. Chem.*, **31** (10), 2367 (2020).[IF:]

SBS

26. Stimuli Responsive Multicolour Fluorescence Emission in Carbon Nanodots and Application in Metal Free Hydrogen Evolution from Water - Subir Paul and Arindam Banerjee *Nanoscale Adv.*, **3**, 611 (2021).[IF:]
27. Introduction to peptide soft materials - Arindam Banerjee and Ian W. Hamley *Soft Matter*, 2020, **16**, 9998 (2020).[IF :3.14]
28. A peptide based gel in environmental remediation: removal of toxic organic dyes and hazardous Pb^{2+} and Cd^{2+} ions from waste water and oil spill recovery - Biplab Mondal , Dipayan Bairagi , Nibedita Nandi , Biswanath Hansda , Krishna Sundar Das , Charlotte J. C. Edwards-Gayle, Valeria Castelletto, Ian W. Hamley, Arindam Banerjee, *Langmuir* , **36**, 12942 (2020).[IF : 3.557]
29. Carbon dot mediated trihybrid formation by reduction of GO and in situ gold nanocluster fabrication: Photo switching behaviour and degradation of Chemical Warfare Agent Stimulants - Subir Paul, Niladri Hazra, Soumyajit Hazra and Arindam Banerjee, *J. Mater. Chem. C*, **8**, 15735 (2020).[IF : 7.059]
30. Aging effect on the enhancement of thermal stability, mechanical stiffness and fluorescence property of a histidine-appended naphthalenediimide based two component hydrogel - Kousik Gayen, Nibedita Nandi, Krishna Sundar Das, Daniel Hermida-Merino, Ian W. Hamley and Arindam Banerjee, *Soft Matter*, **16**, 10106 (2020).[IF : 3.14]
31. Top1-PARP1 association and beyond: from DNA topology to break repair, *NAR Cancer* - S.P. Chowdhuri and B.B. Das, 2021(In press)
32. Supramolecular Design Strategies for Color Tuning of Iridium (III) Complexes Using a Common Framework of Cyclometalating Ligands - S Biswas, B Das, P Alam, A Ghatak, UK Ghorai, A Ghosh, B.B. Das and S Acharya, *The Journal of Physical Chemistry C*, **125 (8)**, 4730 (2021).[IF:]
33. Pyridine-pyrazole based Al (iii)'turn on'sensor for MCF7 cancer cell imaging and detection of picric acid - S Saha, A De, A Ghosh, A Ghosh, K Bera, K.S. Das, S Akhtar, N.C. Maiti, B.B. Das and R. Mondal, *RSC Advances* **11 (17)**, 10094 (2021).[IF:]
34. Development of a metabolically stable topoisomerase I poison as anticancer agent B. Kundu, D. Sarkar, S.P. Chowdhuri, S. Pal, A. Ghosh, S.K. Das, A. Mukherjee, D.

- Bhattacharya, B.B. Das, B.B and A. Talukdar, *Eur J Med Chem.*, 202:112551 (2020).[IF:]
35. Thiol-Disulfide Exchange Reaction Promoted Highly Efficient Cellular Uptake of Pyridyl Disulfide Appended Nonionic Polymers - R. Bej, A. Ghosh, J. Sarkar, B.B. Das and S. Ghosh, *Chembiochem.*, <https://doi.org/10.1002/cbic.202000303> (2020).[IF:]
 36. Proteasomal inhibition triggers viral oncoprotein degradation via autophagy-lysosomal pathway - C. Gain, S. Malik, S. Bhattacharjee, A. Ghosh, E.S. Robertson, B.B. Das and A. Saha, *PLoS Pathog.* e1008105. (2020).[IF:]
 37. Reactive oxygen species mediated cytoplasmic stiffening impairs the phagocytic ability of the macrophage - Mahesh Agarwal, Parijat Biswas, Anindita Bhattacharya, Deepak Kumar Sinha *Journal of Cell Science*
 38. MAP Kinase driven actomyosin rearrangement is a crucial regulator of monocyte to macrophage differentiation - Anindita Bhattacharya, Purnam Ghosh, Ramesh Prasad, Arnab Ghosh, Kaushik Das, Abhishek Roy, Suman Mallik, Deepak Kumar Sinha, Prosenjit Sen*, *Cellular Signalling*, **73**, 109691 (2020).[IF:]
 39. Lipase sensing by naphthalene diimide based fluorescent organic nanoparticles: a solvent induced manifestation of self-assembly - D Chakraborty, D Sarkar, A K Ghosh and P K Das, *Soft Matter*, **17**, 2170 (2021).[IF:3.399]
 40. Naphthalimide based fluorescent organic nanoparticles in selective sensing of Fe³⁺ and as a diagnostic probe for Fe²⁺/Fe³⁺ transition - D Sarkar, M Chowdhury and P K Das. *J. Mater. Chem. B*, **9**, 494, (2021).[IF:5.047]
 41. Fabrication of soft-nanocomposites from functional molecules with diversified applications - P Choudhury, S Dinda and P K Das, *Soft Matter*, **16**, 27 (2020) [IF: 3.399]
 42. Molecular modeling of potent novel sulfonamide derivatives as non-peptide small molecule anti-COVID 19 agents - Sayantan Pradhan, Ramesh Prasad, Chittaranjan Sinha, Prosenjit Sen, *Journal of Biomolecular Structure and Dynamics*. (2021)
 43. Alcohol functionality in the fatty acid backbone of sphingomyelin guides the inhibition of blood coagulation - Suman Malik, Ramesh Prasad, Kaushik Das, Prosenjit Sen, *RSC Advance* **11**, 3390 (2021).[IF:]
 44. MAP Kinase driven actomyosin rearrangement is a crucial regulator of monocyte to macrophage differentiation - Anindita Bhattacharya, Purnam Ghosh, Ramesh Prasad,

- Arnab Ghosh, Kaushik Das, Abhishek Roy, Suman Mallik, Deepak Kumar Sinha, Prosenjit Sen*, *Cellular Signalling*, **73** 109691,(2020)
45. How Stable are the Collagen and Ferritin Proteins for Application in Bioelectronics? - Jayeeta Kolay, Sudipta Bera and Rupa Mukhopadhyay, PLOS ONE, (2021).[IF:2.74]
 46. Nanoscale Solid-state Electron Transport via Ferritin: Implications in Molecular Bioelectronics - Tatini Rakshit, Sudipta Bera, Jayeeta Kolay and Rupa Mukhopadhyay, *Nano-structures and Nano-objects, (invited perspective article)* **4**, 100582 (2020).[IF: 4.25]
 47. Switching between blebbing and Lamellipodia depends on the degree of Nonmuscle Myosin II activity – I. Ghosh, R.K. Singh, M. Mishra, S. Kapoor and S.S. Jana, *J. Cell Sci.*,**134**(1):jcs248732 (2021).[IF:4.573]
 48. Molecular conservation and Differential mutation on ORF3a gene in Indian SARS-CoV2 genomes – S.S. Hasan, P.P Choudhury, P. Basu and S.S. Jana, *Genomics.*, 112:3226-3237 (2020).[IF:6.205]
 49. Missense mutations in SARS-CoV2 genomes from Indian patients – S.S. Hasan, P.P. Choudhury, B. Roy and S.S. Jana, *Genomics*, **112**: 4622-4627 (2020).[IF:6.205]
 50. Biomarkers of Metabolic Disorders and Neurobehavioral Diseases in a PCB- Exposed Population: What We Learned and the Implications for Future Research – J.J. Simhadri, C.A. Loffredo, T. Trnovec, L.P. Murinova, G. Nunlee-Bland, J.G. Kope, G. Schoesters, S.S. Jana and S. Ghosh, *Environmental Research*, **191**:110211 (2020).[IF:5.715]
 51. Mechanistic studies of in vitro anti-proliferative and anti-inflammatory activities of the Zn(ii)–NSAID complexes of 1,10-phenanthroline-5,6-dione in MDA-MB-231 cells – J. Deb, T.R. Lakshman, I. Ghosh, S.S. Jana and T.K. Paine, *Dalton Transactions.*, **49** (32), 11375 (2020).[IF:]
 52. Evaluation of tubulin targeted pyrimidine indole hybrid molecule as an anticancer agent – C. Bose, P. Banerjee, J. Kundu, B. Dutta, I. Ghosh, S. Sinha, A. Ghosh, A. Barua, S. Gupta, U. Das, S.S. Jana and S. Sinha, *Chemistry Select.*, doi.org/**10.1002/slct.202003322** (2020).[IF : 1.811]
 53. A Numerical Representation and Classification of Codons to Investigate Codon Alternation Patterns during Genetic Mutations on Disease Pathogenesis – A. Sengupta,

P.P. Choudhury, S. Chakraborty, S. Roy, J.K. Das, D. Mallick and S.S. Jana. bioRxiv. (2020).[IF:]

54. Amino-alcohol Bio-conjugate of Naproxen Exhibits Anti-inflammatory Activity through NF- κ B Signaling Pathway – M.R. Das, A. Banerjee, S. Sarkar, J. Majumder, S. Chakrabarti and S.S. Jana, (2020). bioRxiv

SCS

55. Confinement effects on C–H and C–F stretching vibrational frequencies of difluoromethane in cold inert gas matrixes: a combined infrared spectroscopy and electronic structure theory study - P Banerjee, T Chakraborty, *Eur. Phys. J. D*,**75**,131 (2021) [IF: 1.366]
56. Medium-Dependent Crossover from the Red to Blue Shift of the Donor's Stretching Fundamental in the Binary Hydrogen-Bonded Complexes of CDCl₃ with Ethers and Ketones”, I Bhattacyarya, J Sadhukhan, S Biswas, T Chakraborty, *J. Phys. Chem. A*,**124**, 7259 (2020) [IF: 2.600]
57. Probing the Endo/Exo Isomeric Variants of a Binary Complex of Cyclopropylamine with pFluorophenol by LIF Spectroscopy: A Comparative Study with Ammonia Complex”, S Biswas, S Mondal, P Biswas, T Chakraborty, *J. Phys. Chem. A*,**124**, 5896 (2020) [IF: 2.600]
58. Isomers and Rotamers of DCM in Methanol and in Gas Phase Probed by Ion Mobility Mass Spectrometry in Combination with High Performance Liquid Chromatography”, P Chatterjee, S SDutta, T Chakraborty, *J. Phys. Chem. B*,**124**, 4498 (2020) [IF:.857]
59. Ion transport and relaxation in phosphonium poly(ionic liquid) homo- and co-polymers”, P Banerjee, P Pal, A Ghosh, T K Mandal, *J. Polym. Sci.* 2021, DOI: 10.1002/pol.20210223.
60. Carbon dot cross-linked gelatin nanocomposite hydrogel for pH-sensing and pH-responsive drug delivery”, S K Bhattacharyyaa, M Dule, R Paul, J Dash, Md Anas, T K Mandal, P Das, N C Das, S Banerjee, *ACS Biomater. Sci. Eng.* 2020, **6**, 5662.

61. The role of electron-nuclear coupling on multi-state photoelectron spectra, scattering processes and phase transitions”, J Dutta, S Mukherjee, K Naskar, S Ghosh, B Mukherjee, S Ravi, S Adhikari, *Phys. Chem. Chem. Phys. (Perspective)*, **22**, 27496-27524 (2020). [IF: 3.43]
62. Beyond Born-Oppenheimer Constructed Diabatic Potential Energy Surfaces for F+H₂ Reaction”, B Mukherjee, K Naskar, S Mukherjee, S Ravi, K R Shamasundar, D Mukhopadhyay, S Adhikari; *J. Chem. Phys.* **153**, 174301/1-20 (2020). [IF: 2.991]
63. Non-adiabatic coupling as a frictional force in (He, H, H)⁺ dynamics and the formation of HeH₂⁺”, S Ravi, S Mukherjee, B Mukherjee, S Adhikari, NSathyamurthy, M Baer, *Mol. Phys.* **119**, e1811907 (2020). [IF: 1.571]
64. Non-adiabatic coupling as a frictional force in the formation of H₃⁺: A model dynamical study”, S Ravi, S Mukherjee, B Mukherjee, S Adhikari, NSathyamurthy, M Baer, *Eur. Phys. J. D* **74**, 1-13 (2020). [IF: 1.366]
65. Charge Transfer Processes for H + H₂⁺ Reaction Employing Coupled 3D Wavepacket Approach on Beyond Born-Oppenheimer Based Ab Initio Constructed Diabatic Potential Energy Surfaces”, S Ghosh, T Sahoo, M Baer, S Adhikari, *J. Phys. Chem. A* **125**, 731-745 (2021). [IF: 2.6]
66. A Beyond Born-Oppenheimer Treatment of C₆H₆⁺ Radical Cation for Diabatic Surfaces: Photodetachment Spectra of its Neutral Analogue Using Time-Dependent Discrete Variable Representation”, S Mukherjee, S Ravi, K Naskar, SSardar, S Adhikari, *J. Chem. Phys.* **154**, 094306 (2021). [IF: 2.991]
67. One Pot Dual C-C Coupling Reaction via Site Selective Cascade Formation by Pd(II)-Cryptate of an Amino-ether Heteroditopic Macrobicycle”, S Sarkar, P Sarkar, S Munshi, P Ghosh*, *Chem. Eur. J.* 2021, **27**, 7307-7314.[IF: 4.857]
68. A Cd(II) and Zn(II) selective naphthyl based [2]rotaxane acts as an exclusive Zn(II) sensor upon further functionalization with pyrene”, S Bej, M Nandi, P Ghosh*, *Dalton Trans.* 2021, **50**,294-303.[IF: 4.174]
69. Discriminative Behavior of a Donor–Acceptor–Donor Triad toward Cyanide and Fluoride: Insights into the Mechanism of Naphthalene Diimide Reduction by Cyanide and Fluoride”, B Chowdhury, S Sinha, R Dutta, S Mondal, S Karmakar, P Ghosh*, *Inorg. Chem.* 2020, **59**, 13371-13382.[IF: 4.825]

70. Fluorophoric [2]rotaxanes: post-synthetic functionalization, conformational fluxionality and metal ion chelation”, S Santra, P Ghosh*, *New J. Chem.*, 2020, **44**, 5947- 5964.[IF: 3.288]
71. Cyanide contaminated water treatment by di-nuclear Cu(II)-cryptate: A supramolecular approach”, T K Ghosh, R Ghosh, S Chakraborty, P Saha, S Sarkar*, P Ghosh*, *J. Water Process Eng.*, 2020, **37**, 101364.[IF: 3.465]
72. Anchoring Drugs to a Zinc(II) Coordination Polymer Network: Exploiting Structural Rationale toward the Design of Metallogels for Drug-Delivery Applications”, P Biswas, P Dastidar*, *Inorg. Chem.* 2021, **60**, 3218–3231.[IF: 4.825]
73. Supramolecular Synthon Approach in Designing Organic Sulfonates as Supramolecular Gelators: An Easily Accessible Topical Gel with Antibacterial Properties”, P Chakraborty, H K Datta, P Biswas, P Dastidar*, *Chem. Mater.* 2021, **33**, 2274–2288. [IF: 9.567]
74. Cu(II)-Metallacryptands Self-Assembled to Vesicular Aggregates Capable of Encapsulating and Transporting an Anticancer Drug Inside Cancer Cells”, P Biswas, K Sarkar, P Dastidar*, *Macromol. Biosci.* 2020, 2000044.[IF: 4.37]
75. Supramolecular Hydrogel Derived from a Simple Organic Salt Capable of Proton Conduction”, P Chakraborty, B Das, P Pal, S Datta, S Bera, P Dastidar*, *Chem. Commun.*, 2020, **56**, 5251-5254.[IF: 5.996]
76. Designing Metallogelators Derived from NSAID based Zn(II) Coordination Complexes for Drug Delivery Applications”, S Mondal, P Dastidar*, *Chem. Asian J.* 2020, **15**, 3558–3567.[IF: 4.056]
77. Zn(II)-coordination Polymers with Right- and Left-handed Twist: Multi-functional Metal-Organic Hybrid for Dye Adsorption and Drug-delivery”, S Mondal, P Dastidar*, *Cryst. Growth Des.* 2020, **20**, 7411–7420.[IF: 4.089]
78. Mechanistic studies of in vitro anti-proliferative and anti-inflammatory activities of Zn(II)-NSAID complexes of 1,10-phenanthroline-5,6-dione”, J Deb, T R Lakshman, I Ghosh, S S Jana, T K Paine, *Dalton Trans.*, **49**, 11375 (2020) [IF: 4.174]
79. Recycling of wastewater from tannery industry through membrane-integrated hybrid treatment using a novel graphene oxide nanocomposite”, M Pal, M Malhotra, M K Mandal, T K Paine, P Pal, *J. Water Process. Eng.*, **36**, 101324 (2020) [IF: 3.465]

80. Enhancing Chemo- and Stereo-Selectivity in C-H Bond Oxygenation with H₂O₂ by Nonheme High-Spin Iron Catalysts: Role of Lewis Acid and Multimetal Centers”, R D Jana, A Das, T K Paine, *Inorg. Chem.*, **60**, 5969 (2021) [IF: 4.825]
81. Oxidative Degradation of Toxic Organic Pollutants by Water Soluble Nonheme Iron(IV)-Oxo Complexes of Polydentate Nitrogen Donor Ligands”, S Munshi, R D Jana, T K Paine, *Dalton Trans.*, **50**, 16993 (2021) [IF: 4.174]
82. Understanding the Role of Aromaticity and Conformational Changes in Bond Dissociation Processes of Photo-Protecting Groups”, D Halder, A Paul, *J. Phys. Chem. A*, **124**, 3976 (2020)[IF: 2.6]
83. Comprehending the quadruple bonding conundrum in C₂ from excited state potential energy curves”. I Bhattacharjee, D Ghosh, A Paul, *Chem. Sci.*, **11**, 7009 (2020) [IF: 9.346]
84. Computational Investigation of the Mechanism of FLP Catalyzed H₂ Activation and Lewis Base Assisted Proton Transfer”, M Sultana, A Paul, L Roy, *Chemistry Select*, **5**, 13397 (2020) [IF: 1.811]
85. An [FeFe]-Hydrogenase Mimic Immobilized through Simple Physioadsorption and Active for Aqueous H₂ Production”, Md E Ahmed, D Saha, L Wang, M Gennari, S G Dey, V Artero*, A Dey*, C Duboc*, *ChemElectroChem*, 2021, **8**, 1674-1677[IF: 4.14]
86. Electronic structure and reactivity of heme bound insulin”, M Roy, I Pal, C Dey, A Dey, S G Dey, *J. Porph. Phthal.* 2021,**25**, 511-521. (Dedicated to Professor T. K. Chandrashekar on the occasion of his 65th birthday)[IF: 2.5]
87. Biochemical and artificial pathways for the reduction of carbon dioxide, nitrite and the competing proton reduction: effect of 2nd sphere interactions in catalysis”, S Amanullah, P Saha, A Nayek, ME Ahmed, A Dey, *Chem. Soc. Rev.* 2021, **50**, 3755-3823.[IF: 42.87]
88. Kinetic Isotope Effects on Electron Transfer Across Self-Assembled Monolayers on Gold”, S Chattopadhyay, S Bandyopadhyay, A Dey, *Inorg. Chem.* 2021,**60**, 597–605.[IF: 4.5]
89. Nano-Apples and Orange-Zymes”, S Scott, H Zhao, A Dey, T B Gunnoe, *ACS Catalysis*. 2020, **10**, 23, 14315-14317.[IF: 12.35]
90. Intermediates Involved in Serotonin Oxidation Catalyzed by Cu bound Aβ Peptides”, A Nath, A Ghatak, A Dey*, S G Dey*, *Chem. Sci.* 2021,**12**, 1924-1929.[IF: 9.8]

91. Oxygen Reduction By Iron Porphyrins with Covalently Attached Pendent Phenol and Quinol”, A Singha, A Mondal, A Nayek, S Dey, A Dey*, *J. Am. Chem. Soc.* 2020, **142**, 52, 21810–21828. [IF: 14.61]
92. Elucidation of Factors That Govern the 2e-/2H⁺ vs. 4e-/4H⁺ Selectivity of Water Oxidation by a Cobalt Corrole”, B Mondal, S Chattopadhyay, S Dey, A Mahammed, K Mitra, A Rana, Z Gross*, A. Dey*, *J. Am. Chem. Soc.* 2020, **142**, 21040–21049.[IF: 14.61]
93. Organic Electrosynthesis: When Is It Electrocatalysis?”, A Dey, T B Gunnoe, V R Stamenkovic *ACS Catal.* 2020, **10**, 21, 13156–13158.[IF: 12.35]
94. Electrocatalytic Water Oxidation by a Phosphorus-Nitrogen O=PN₃-Pincer Cobalt Complex”, P Das, Pradip, S Bhunia, P Chakraborty, S Chatterjee, A Rana, K Peramaiah, M Alsabban, I Dutta, A Dey*, K-W Huang*. *Inorg. Chem.* 2020, **60**, 2, 614–622.[IF: 4.81]
95. Repurposing a Bio-inspired NiFe Hydrogenase Model for CO₂ Reduction with Selective Production of Methane as the Unique C-based Product”, M E Ahmed, S Adam, D Saha, J Fize, V Artero*, A Dey*, C Duboc*. *ACS Energy Lett.* 2020, **5**, 3837–3842.[IF: 19.05]
96. A Designed Second-sphere Hydrogen-bond Interaction that Critically Influences the O–O Bond Activation for Herolytic Cleavage in Ferric Iron–Porphyrin Complexes”, S Bhunia, A Rana, S G Dey, A Ivancich*, A Dey*, *Chem. Sci.* 2020, **11**, 2681–2695.[IF: 9.34]
97. Effect of Pendant Distal Residues on the Rate and Selectivity of Electrochemical Oxygen Reduction Reaction Catalyzed by Iron Porphyrin Complexes”, A Ghatak, S Bhunia, A Dey. *ACS Catal.* 2020, **10**, 13136–13148.[IF: 12.5]
98. Electrocatalytic Reduction of Nitrogen to Hydrazine Using a Trinuclear Nickel Complex”, P Saha, Sk Amanullah, A. Dey*, *J. Am. Chem. Soc.* 2020 **142**, 41, 17312–17317.[IF: 14.61]
99. A Single Iron Porphyrin Shows pH Dependent Switch between Push and Pull Effects in Electrochemical Oxygen Reduction”, S Mukherjee, A Nayek, S Bhunia, S G Dey, A Dey*, *Inorg. Chem.* 2020, **59**, 14564–14576.[IF: 4.8]
100. A Heterogeneous Bio-Inspired Peroxide Shunt for Catalytic Oxidation of Organic Molecules”, M Mukherjee, A Dey*, *Chem. Comm.* 2020, **56**, 11593–11596.[IF: 6.5]

101. Catalytic C–H Bond Oxidation Using Dioxygen by Analogues of Heme Superoxide”, M Mukherjee, A Dey*, *Inorg. Chem.* 2020, **59**, 11, 7415–7425.[IF: 4.8]
102. Homogeneous Electrochemical Reduction of CO₂ to CO by a Cobalt Pyridine Thiolate Complex”, ME Ahmed, A Rana, R Saha, S Dey, A Dey*, *Inorg. Chem.* 2020, **59**, 5292-5302.[IF: 4.8]
103. The Role of Porphyrin Peripheral Substituents in Determining the Reactivities of Ferrous Nitrosyl Species”, S Amanullah, A Dey*, *Chem. Sci.* 2020, **11**, 5909-5921.[IF: 9.3]
104. Supramolecular Template-Directed In Situ Click Chemistry: A Bioinspired Approach to Synthesize G-Quadruplex DNA Ligands”, T Bhattacharyya, D Panda, J Dash. *Org. Lett.* 2021, **23**, 3004–3009.
105. Nucleic acid secondary structures for therapeutic and biomolecular device applications”, S Bhattacharyya, J Dash, *Chemical Society Reporter*, 2021.
106. Prolinamide plays a key role in promoting copper-catalyzed cycloaddition of azides and alkynes in aqueous media via unprecedented metallacycle intermediates”, G Chakraborti, R Jana, T Mandal, A Datta, J Dash, *Org. Chem. Frontiers* 2021, doi.org/10.1039/D0QO01150A.
107. Regulation of gene expression by targeting DNA secondary structures”, R Chaudhuri, K Fatma, J Dash, *J. Chem. Sci.* 2021, **133**, 1-17.
108. A DNA nanosensor for monitoring ligand-induced i-motif formation”, P Saha, D Panda, R Paul, J. Dash, *Org. & Biomol. Chem.* 2021, **9**, 1965-1969.
109. Site-Selective Aerobic C–H Monoacylation of Carbazoles Using Palladium Catalysis”, S Maiti, T Mandal, B P Dash, J Dash, *J. Org. Chem.* 2021, **86**, 1396–1407.
110. Recent Update on Targeting c-MYC G-Quadruplexes by Small Molecules for Anticancer Therapeutics”, R Chaudhuri, S Bhattacharya, J Dash, S Bhattacharya, *J. Med. Chem.* 2021, **64**, 42–70.
111. Domino Relay Olefin Metathesis of Triallyl Oxindole and Indole Precursors to Access Cyclic Indoxyls and Carbazoles”, T Mandal, K Dhara, N Parui, J Dash, *ChemCatChem* 2020, **12**, 4754-4759.
112. Carbon dot cross-linked gelatin nanocomposite hydrogel for pH-sensing and pH-responsive drug delivery”, S K Bhattacharyya, M Dule, R Paul, J Dash, Md Anas, T K

- Mandal, P Das, N C Das, S Banerjee, *ACS Biomaterials Science & Engineering*, 2020, **6**, 5662-5674.
113. In vivo experiments demonstrate the potent antileishmanial efficacy of repurposed suramin in visceral leishmaniasis *PLoS*”, S Khanra, S K Jain, J J Jawed, S Ghosh, S Dutta, S A Nabi, J Dash, D Dasgupta, S Majumdar, R. Banerjee, *neglected tropical diseases*, 2020, **14**, e0008575.
 114. Target-directed azide-alkyne cycloaddition for assembling HIV-1 TAR RNA binding ligands”, R Paul, D Dutta, R Paul, J Dash *Angewandte Chemie Int. Edition*, 2020, **132**, 12507-12511.
 115. Reductive aromatization of oxindoles to 3-substituted indoles”, T Mandal, G Chakraborti, J Dash *Tetrahedron Lett.* 2020, **61**, 152109.
 116. Evolutionary structure prediction-assisted design of anode materials for Ca-ion battery based on phosphorene”, C Chowdhury, P Gain, A Datta, *Phys. Chem. Chem. Phys.*, 2021, **23**, 9466 – 9475. [IF: 4.0]
 117. Molecular Dynamics Simulations Reveal Orientation-Dependent Nanotoxicity of Black Phosphorene toward Dimeric Proteins”, T K Mukhopadhyay, A Ghosh, A Datta, *ACS Appl. Nano Mater.* 2021, **4**, 3095-3107. [IF:8.0]
 118. Designing C₆N₆/C₂N van der Waals Heterostructures for Photogenerated Charge Carrier Separation”, M Mukherjee, R Jana, A Datta, *Phys. Chem. Chem. Phys.* 2021, **23**, 3925 - 3933. [IF:4.0]
 119. Molecular Mechanism for the Self-Supported Synthesis of Graphitic Carbon Nitride from Urea Pyrolysis”, T K Mukhopadhyay, L Leherste, A Datta, *J. Phys. Chem. Lett.*, 2021, **12**, 1396 - 1406. [IF:8.0]
 120. Polymorphism Dependent 9-Phosphoanthracene Derivative Exhibiting Thermally Activated Delayed Fluorescence: A Computational Investigation”, A K Pal, K Bhattacharyya, A Datta, *J. Phys. Chem. A*, 2020, **124**, 11025 - 11037. (Josef Michl/Festschrift, JPC Special Issue). [IF:2.8]
 121. Molecular Designs for Expanding the Limits of Ultralong C-C Bonds and Ultrashort H...H Non-bonded Contacts”, N Mandal, A Datta, *Chem. Commun.*, 2020, **56**, 15377-15386. (Feature Article) [IF:6.5]

122. Salicylideneaniline-Based Covalent Organic Frameworks: A New Family of Multistate Second-Order Nonlinear Optical Switches”, J Quertinmont, L Maschio, A Datta, B Champagne, *J. Phys. Chem. C* 2020, **124**, 24451–24459.[IF:4.0]
123. Harnessing the Efficacy of 2-Pyridone Ligands for Pd-Catalyzed (β/γ)-C(sp³)-H Activations”, N Mandal, A Datta, *J. Org. Chem.* 2020, **85**, 13228–13238. [IF: 5.1]
124. Disentangling the liquid phase exfoliation of two-dimensional materials: an “in silico” perspective”, T Mukhopadhyaya, A Datta, *Phys. Chem. Chem. Phys.*, 2020, **22**, 22157-22179.(Perspective Article) [IF: 4.0]
125. Deoxygenation of nitrosoarene by N-heterocyclic carbene (NHC): an elusive Breslow-type intermediate bridging carbene and nitrene”, Anju B S, R Bhattacharjee, S Gupta, S Ahammad, A Datta, S Kundu, *Chem. Commun.*, 2020,**56**, 12166-12169. [IF: 6.5]
126. Heavy-atom tunneling in organic transformations”, S Karmakar, A Datta, *J. Chem. Sci.* 2020, **132**, 127. (Invited Review Article) [IF: 2.5]
127. Delicate Balance of Non-Covalent Forces Govern the Biocompatibility of Graphitic Carbon Nitride towards Genetic Materials”, T Mukhopadhyay, A Datta, *Chem Phys Chem* 2020, **21**, 1836-1846. [IF: 3.5]
128. Transition-Metal Phosphorus Trisulfides and its Vacancy Defects: Emergence of a New Class of Anode Material for Li-Ion Batteries”, R Jana, C Chowdhury, A Datta, *Chem Sus Chem* 2020, **13**, 3855 –3864. [IF: 6.8]
129. Enhanced Photophysical Properties of Bi₂S₃/AgBiS₂ Nanoheterostructures Synthesized via Ag(I) Cation Exchange-Mediated Transformation of Binary Bi₂S₃”, S Paul, B Dalal, R Jana, A Shit, A Datta, S K. De, *J. Phys. Chem. C* 2020, 124, **23**, 12824–12833. [IF: 4.5]
130. Interaction of ApoMyoglobin with Heme-Amylin complex”, I Pal, M Roy, S Ghosh Dey, *J. Inorg. Biochem.***216**,111348(2021) [IF: 3.348]
131. Substrate Oxidation by Cu-A□: Active oxidants involved”, A K Nath, A Ghatak, A Dey, S Ghosh Dey, *Chem. Sci.* **12**, 1924 (2021)[IF: 9.346]
132. Oxygen Reduction By Iron Porphyrins with Covalently Attached Pendent Phenol and Quinol”, A Singha, A Mondal, A Nayek, S Ghosh Dey, A Dey, *J. Am. Chem. Soc.***142**, 21810(2021) [IF: 14.612]

133. A designed second-sphere hydrogen-bond interaction that critically influences the O–O bond activation for heterolytic cleavage in ferric iron–porphyrin complexes”, S Bhunia, A Rana, S Ghosh Dey, A Ivancich, A Dey, *Chem. Sci.* **11**, 2681 (2020)[IF: 9.346]
134. Single Iron Porphyrin Shows pH Dependent Switch between “Push” and “Pull” Effects in Electrochemical Oxygen Reduction”, S Mukherjee, A Nayek, S Bhunia, S Ghosh Dey, A Dey, *Inorg. Chem.***59**, 14564 (2020)[IF: 4.850]
135. Total synthesis: the structural confirmation of natural products”, D Paul, A Kundu, S Saha, R K Goswami. *Chem. Commun.*,**57**, 3307-3322(2021) [IF: 5.994]
136. Intramolecular Heck Reaction in Total Synthesis of Natural Products: An Update”, D Paul, S Das, S Saha, H Sharma, R K Goswami. *Euro JOC.*(2021; doi: 10.1002/ejoc.202100071)[IF: 2.889]
137. CyclodepsipeptideAlveolaride C: Total Synthesis and Structural Assignment”, S Saha, D Paul, R K Goswami. *Chem. Sci.*, **11**, 11259-11265 (2020)[IF: 9.346]
138. Biselyngbyolides A & C: Total Synthesis and Their Anticancer Activities”, D Paul, M H Sahana, P Mandal, P Chakraborti, R K Goswami. *Org. Biomol. Chem.*, **18**, 7151-7164(2020)[IF: 3.412]
139. Applying the Influence of Conformational Freedom on the Network Topologies to Induce Proton Conductivity”, A De, O Basu, T Basu, R Mondal, *Cryst. Growth & Des.*, 2021, **21**, 1461–1472. [I F: 4.089]
140. Lanthanide Clusters of Phenanthroline Containing Pyridine-Pyrazole Based Ligand: Magnetism and Cell Imaging”, A De, S Bala, S Saha, K S Das, S Akhtar, A Ghosh, G –Z Huang, S Paul Chowdhuri, B B Das, M –L Tong, R Mondal, *Dalton Trans.*, 2021, **50**, 3593-3609.[IF: 4.174]
141. Construction of a Series of Metal-Directed MOFs to Explore Their Physical and Chemical Properties”, S Akhtar, P Singha, A De, K S Das, S Saha, S Bala, R Mondal, *New J. Chem*, 2021, **45**, 6438-6449.[IF:3.288]
142. Pyridine-Pyrazole Based Al(III) ‘Turn on’ Sensor for MCF7 Cancer Cell Imaging And Nitroaromatic Detection”, S Saha, A De, A Ghosh, A Ghosh, K Bera, K S Das, S Akhtar, A K Das, B B Das, R Mondal, *RSC Adv.*, 2021, **11**, 10094–10109. [IF:3.119]

143. Utilization of Counter Anions for Charge Transportation in Electrical Device Fabrication of Zn(II) Metal-Organic Frameworks”, K S Das, B Pal, S Saha, S Akhtar, A De, P P Ray*, R Mondal, *Dalton Trans.*, 2020, **49**, 17005–17016. [IF: 4.174]
144. A Free-Standing, Self-Healing Multi Stimuli Gel Showing Cryogenic Magnetic Cooling”, A Adhikary, K S Das, S Saha, M Roy, R Mondal, *Dalton Trans.*, 2020, **49**, 13487–13495.[IF: 4.174]
145. Paradoxical Design of A Serendipitous Pyrazolate Bridging Mode: A Pragmatic Strategy for Inducing Ferromagnetic Coupling”, M Roy, A K Pal, A Adhikary, A Datta, R Mondal, *Dalton Trans.*, 2020, **49**, 13704–13716.[IF: 4.174]
146. Influence of Semirigidity and Diverse Binding Modes of an Asymmetric Pyridine-pyrazole Based Bis-chelating Ligand in Controlling Molecular Architectures and Their Properties”, S Bala, A De, 106. A Adhikary, S Saha, S Akhtar, K S Das, M -L Tong, R Mondal, *Cryst. Growth & Des.*, 2020, **20**, 5698–5708. [IF: 4.089]
147. Hydrogen Bonding Assisted Catalytic Kinetic Resolution of Acyclic β -Hydroxy Amides”, A Porey, B Deb Mondal, J Guin*, *Angew. Chem. Int. Ed.* 2021, **60**, 1-7.[IF: 12.96]
148. A general approach to intermolecular olefin hydroacylation via light induced HAT initiation: an efficient synthesis of long chain aliphatic ketones and functionalized fatty acids”, S Paul, J Guin*, *Chem. Eur. J.* 2021, **27**, 4412-4419.[IF: 4.85]
149. Aerobic Acylarylation of α,β -Unsaturated Amides with Aldehydes”, P Biswas, J Guin*, *Org. Lett.* 2020, **22**, 4294-4299.[IF: 6.09]
150. Fluoride ion promoted NH deprotonation of dioxaphlorin with NIR absorption vs. acid induced facile conversion to aromatic dioxasapphyrin: Synthesis, spectroscopic and theoretical characterization”, B Chakraborty, M H Mahadavaiah, D Usharani, H Rath, *J. Porphyrins Phthalocyanines*, 2021; DOI: 10.1142/S1088424621500425.
151. Targeted Synthesis of meso-Aryl Substituted Aromatic trans-Doubly N-confused Dithia/Diselena [18] porphyrins (1.1.1.1) with NIR Absorption: Spectroscopic and Theoretical Characterization”, S Sahoo, M Sangeetha, S Bera, D Usharani, H Rath, *Org. Biomol. Chem.*, **2020**, **18**, 6058-6062
152. Comparative In vitro Studies of the Topoisomerase I inhibition and Anticancer activities of Metallated N-Confused porphyrins and Metallatedporphyrins”, N Halder, L U Dzhemileva, I R Ramazanov, V A D'yakonov, U M Dzhemilev, H Rath, *ChemMedChem*, 2020, **15**, 632-642

153. Role of Calcium in Modulating the Conformational Landscape and Peptide Binding Induced Closing of Calmodulin”, C Ghosh, B Jana. *Journal of Physical Chemistry B*, <https://doi.org/10.1021/acs.jpcb.1c00783> [IF: 2.857]
154. Mechanistic basis of propofol-induced disruption of kinesin processivity”, M Dutta, S P Gilbert, José N Onuchic, B Jana. *Proceedings of the National Academy of Sciences* 2021,**118** (5) e2023659118 [IF: 9.412]
155. Computational modeling of dynein motor proteins at work”, M Dutta, B Jana. *Chemical Communications*, 2021,**57**, 272-283[IF: 5.99]
156. Exploring the role of hydrophilic amino acids in unfolding of protein in aqueous ethanol solution”, R Halder, B Jana. *Proteins: Structure, Function, and Bioinformatics*, <https://doi.org/10.1002/prot.25999> (2020) [IF: 2.499]
157. On the Correlation between Pair Hydrophobicity and Mixing Enthalpies in Water-Alcohol Binary Mixtures”, R Halder, B Jana. *Journal of Physical Chemistry B*. 124, **37**, 8023–8031, 2020 [IF: 2.857]
158. Structural insight into the effect of polymorphic variation on the functional dynamics of methionine synthase reductase: Implications in neural tube defects”, SSadhukhan, S Maity, S Chakraborty, S Paul, D Munian, A K Pattanayak, B Jana, M Das. *Chemical Biology and Drug Design* <https://doi.org/10.1111/cbdd.13780> (2020) [IF: 2.548]
159. Novel Mechanism of Cholesterol Transport by ABCA5 in Macrophages and Its Role in Dyslipidemia”, A Guha Ray, K Roy Choudhury, S Chakraborty, D Chakravarty, V Chander, B Jana, KNSiddiqui, A Bandyopadhyay. *Journal of Molecular Biology*, 432, **17**, 4922-4941, (2020) [IF: 5.067]
160. Deciphering the Role of the Non-ice-binding Surface in the Antifreeze Activity of Hyperactive Antifreeze Proteins”, P Pal, S Chakraborty, B Jana. *Journal of Physical Chemistry B*, 124, **23**, 4686–4696, (2020) [IF: 2.857]
161. Interaction of α -Synuclein with Phospholipids and the Associated Restructuring of Interfacial Lipid Water: An Interface-Selective Vibrational Spectroscopic Study”, B Biswas, S Roy, J A Mondal, P C Singh, *Angewandte Chemie*, 2020, **59** (50), 22731-22737
162. Evolution of Different Structures of the Fungicide Dodine and Changes in the Associated Water at the Air/Water Interface: Vibrational Sum Frequency Generation Study”, B Biswas, S Sarkar, P C Singh, *J. Phys. Chem. C*, 2020, **124** (33), 18063-18069

163. Molecular aspects of the role of groove and stacked regions of DNA in binding with lipids: Spectroscopic and docking studies”, T Nandy, B Biswas, P C Singh, *J. Mol. Liq.*, 2020, **303**, 112672
164. Alteration of the groove width of DNA induced by the multimodal hydrogen bonding of denaturants with DNA bases in its grooves affects their stability”, S Sarkar, P C Singh, *Biochim. Biophys. Acta (BBA)-General Subjects*, 2020, **1864** (3), 129498
165. Hydrogen bonding of ionic liquids in the groove region of DNA controls the extent of its stabilization: synthesis, spectroscopic and simulation studies”, S Sarkar, P Rajdev, P C Singh, *Phys. Chem. Chem. Phys.*, 2020, **22** (27), 15582-15591
166. Anions of Ionic Liquids Are Important Players in the Rescue of DNA Damage”, S Sarkar, P C Singh, *J. Phys. Chem. Letters*, 2020, **11** (23), 10150-10156
167. Sequence specific hydrogen bond of DNA with denaturants affects its stability: Spectroscopic and simulation studies”, S Sarkar, P C Singh, *Biochim. Biophys. Acta (BBA)-General Subjects*, 2020, **1865** (1), 129735
168. Fluorine Induced Conformational Switching and Modulation in Photophysical Properties of 7-Fluorotryptophan: Spectroscopic, Quantum Chemical Calculation and Molecular Dynamics Simulation Studies”, T Nandy, S Mondal, P C Singh, *J. Photochem. Photobiol.*, 2020, **3**, 100011
169. Thiolate Coordination vs C-S Bond Cleavage of Thiolates in Dinickel(II) Complexes”, A Das, T Ganguly, A Majumdar*, *Inorg. Chem.***60**, 944 (2021)
170. Comprehending the quadruple bonding conundrum in C2 from excited state potential energy curves”, I Bhattacharjee, D Ghosh*, A Paul*, *Chemical Science*, 11(27), 7009 (2020). [IF: 9.346] (ChemSci pick of the week and Highlighted in Chemistry World)
171. Charge transfer in DHICA eumelanin-like oligomers : role of hydrogen bonds”, A Choudhury, D Ghosh*, *Chem. Comm.*, 56(72), 10481 (2020). [IF: 5.996]
172. Computational Aspects towards understanding the photoprocesses in eumelanin”, D Ghosh*, *WIREs: Computational Molecular Science*, e1505 (2020) [IF: 16.778] (Highlighted in Advanced Science News)
173. Effect of dimerization on the non-radiative processes of eumelanin monomer”, P Ghosh, D Ghosh*, *J. Phys. Chem. B*, 125(2), 547 (2021). [IF: 2.857]

174. Configuration interaction trained by neural networks: application to model polyaromatic hydrocarbons”, SK Ghosh, M Rano, D Ghosh*, *J. Chem. Phys.*, 154, 094117 (2021). [IF: 2.991] (Selected as Editor’s pick and included in Special collection in Honor of Women in Chemical Physics and Physical Chemistry)

SMCS

175. Ru-Catalyzed Cross Dehydrogenative Coupling Leading to Si–O and Si–S Bond Formations and Also Stimulating an Alternative Scope for Hydrogenation of C=O, C=N and N=N Bonds - A. Ghosh, T. Debnath, T. Ash, S. Banerjee, A. K. Das, *Chemistry Select*, **5**, 14900 (2020).[IF:]
176. Ammonia and borane activation by Tantalum Carbide cluster anion $Ta_2C_4^-$: A theoretical approach - S. Banerjee, T. Debnath, A. Ghosh, A. K. Das, *Int. J. Hydrogen Energy*, **46**, 8401 (2021).[IF:]
177. Be^{2+} and Mg^{2+} -decorated Sulflower: potential systems for molecular hydrogen storage - S. Banerjee, T. Ash, T. Debnath, A. K. Das, *Int. J. Hydrogen Energy*, **46**, 17827 (2021).[IF:]
178. Pyridine-pyrazole based Al(III) ‘turn on’ sensor for MCF7 cancer cell imaging and detection of picric acid - S. Saha, A. De, A. Ghosh, A. Ghosh, K. Bera, K. S. Das, S. Akhtar, N. C. Maiti, A. K. Das, B. B. Das, R. Mondal, *RSC Adv.*, **11**, 10094 (2021).[IF:]
179. A review of author name disambiguation techniques for the PubMed bibliographic database – D. K. Sanyal, P. K. Bhowmick, and P. P. Das, *Journal of Information Science*, **47**(2), 227 (2021), [IE: 2.410]
180. g_m -index: a new mentorship index for researchers – D. K. Sanyal, S. Dey, and P. P. Das, *Scientometrics*, **123**, 71 (2020), [IF: 2.867].
181. A Critical Review of 3GPP Standardization of Device-to-Device Communication in Cellular Networks – U. N. Kar, and D. K. Sanyal, *SN Computer Science*, **1**(1), 1-18 (2020) [Not SCI-indexed]
182. Two staes - B. V. R. Bhat and M. Mukherjee, *To appear in Hauston J. Math.*

183. Higher rank numerical ranges of normal operators and unitary dilations - Dey, P., Mukherjee, M., arXiv:2105.09877v1
184. Higher rank numerical ranges and unitary dilations - Dey, P., Mukherjee, M., pre-print under preparation.
185. Flocking with a q -fold discrete symmetry: band-to-lane transition in the active Potts model - M Mangeat, S Chatterjee, R Paul, H Rieger, *Phys. Rev. E*, **102**, 042601 (2020).[IF:]
186. SEIRD model to study the asymptomatic growth during COVID-19 pandemic in India - Saptarshi Chatterjee Saptarshi Chatterjee, A Sarkar, M Karmakar, S Chatterjee, and R Paul, *Indian J Phys* (2020). <https://doi.org/10.1007/s12648-020-01928-8>
187. Mechanics of Multicentrosomal Clustering in Bipolar Mitotic Spindles - S Chatterjee, A Sarkar, J Zhu, A Khodjakov, A Mogilner, and R Paul, *Biophys. J.*, 119 (2), 434 (2020).[IF:]
188. Flocking and reorientation transition in the 4-state active Potts model - S Chatterjee, M Mangeat, R Paul, and H Rieger, *EPL*, 130, 66001 (2020).[IF:]
189. Studying the progress of COVID-19 outbreak in India using SIRD model - S Chatterjee, A Sarkar, S Chatterjee, M Karmakar, and R Paul, *Indian J Phys* (2020). <https://doi.org/10.1007/s12648-020-01766-8>
190. Rigidity of Julia Sets of Families of Biholomorphic Mappings in Higher Dimensions. *Comput. Methods Funct. Theory*, S. Bera and R. Pal, (2021), <https://doi.org/10.1007/s40315-021-00360-1>, Online first.
191. ARCH-COMP20 Category Report: Hybrid Systems with Piecewise Constant Dynamics and Bounded Model Checking - Lei Bu, Alessandro Abate, Dieky Adzkiya, Muhammad Syifa'ul Mufid, Rajarshi Ray, Yuming Wu, Enea Zaffanella, *ARCH* (2020), Germany.
192. ARCH-COMP20 Category Report: Continuous and Hybrid Systems with Linear Continuous Dynamics", Matthias Althoff, Stanley Bak, Zongnan Bao, Marcelo Forets, Goran Frehse, Daniel Freire, Niklas Kochdumper, Yangge Li, Sayan Mitra, Rajarshi Ray, Christian Schilling, Stefan Schupp, Mark Wetzlinger, *ARCH*, (2020), Germany.

193. A Contrastive Plan Explanation Framework for Hybrid System Models - Mir Md Sajid Sarwar, Rajarshi Ray, Ansuman Banerjee, *MEMOCODE*,(2020), India.
194. Parallel simulation of cyber-physical systems - Kamal Das, Amit Gurung, Rajarshi Ray, *Innov. Syst. Softw. Eng.* 17(3) (2021).
195. A lizard-inspired quadruped robot based on pressure sensitive adhesion mechanism for wall climbing - S. Nishad, R. Halder, G. Banda, R. Ray, A. Bhattacharya, and A. Thakur. *In Proceedings of the 5th International Conference on Advances in Robotics (AIR)* (2021), India.

SMS

196. The Impact of Aggregation of Quaterthiophenes on the Excited State Dynamics - Srijon Ghosh, Bikash Jana, Arnab Ghosh, Dirk M. Guldi and Amitava Patra, *J. Phys. Chem. Lett.*, **12**, 3424 (2021).[IF:6.71]
197. Hot Hole Cooling and Transfer Dynamics from Lead Halide Perovskite Nanocrystals Using Porphyrin Molecules - Goutam Ghosh, Kritiman Marjit, Srijon Ghosh, Arnab Ghosh, Raihan Ahammed, Abir De Sarkar and Amitava Patra, *J. Phys. Chem. C*, **125**, 10, 5859 (2021).[IF:4.189]
198. One-Dimensional Silver-Thiolate Cluster-Assembly: Effect of Argentophilic Interactions on Excited-State Dynamics - Anish Kumar Das, Subarna Maity, Turbasu Sengupta, Dinesh Bista, Arthur. C. Reber, Amitava Patra,* Shiv N. Khanna,* and Sukhendu Mandal*, *J. Phys. Chem. Lett.*, **12**, 8, 2154 (2021).[IF:6.71]
199. Recent Advances and Perspective on Colloidal Semiconductor Nanoplatelets for Optoelectronic Applications (*Perspective*) - Avishek Dutta, Anusri Medda, and Amitava Patra, *J. Phys. Chem. C*, **125**, 1, 20 (2021).[IF:4.189]
200. Copper Nanocluster (Cu₂₃ NC)-Based Biomimetic System with Peroxidase Activity - Subarna Maity, Dipankar Bain, Sikta Chakraborty, Sarita Kolay, and Amitava Patra, *ACS Sustainable Chem. Eng.*, **8**, 49, 18335 (2020).[IF:7.632]
201. Revealing Complex Relaxation Processes of Collapsed Conjugated Polymer Nanoparticles in presence of Different Shapes of Au Nanoparticles Using Global and

- Target Analysis - Arnab Ghosh, Srijon Ghosh, Goutam Ghosh, Bikash Jana, and Amitava Patra, *J. Phys. Chem. C*, **124**, 48, 26165 (2020).[IF:4.189]
202. Electronic Band Structure and Ultrafast Carrier Dynamics of TwoDimensional (2D) Semiconductor Nanoplatelets (NPLs) in Presence of Electron Acceptor for Optoelectronic Applications - Avisek Dutta, Anusri Medda, Rajesh Bera, Ashima Rawat, Abir De Sarkar and Amitava Patra, *J. Phys. Chem. C*, **124**, 48, 26434 (2020).[IF:4.189]
 203. Electronic Structure Modulation of 2D Colloidal CdSeNanoplatelets by Au₂₅ Clusters for High-Performance Photodetector - Anusri Medda, Avisek Dutta, Dipankar Bain, Manish Kumar Mohanta, Abir De Sarkar and Amitava Patra, *J. Phys. Chem. C*, **124**, 19793 (2020).[IF:4.189]
 204. Identification of Non-radiative Relaxation Processes in Alloy Nanocrystals - Rajesh Bera, Anusri Medda, Avisek Dutta, Sumanta Sain and Amitava Patra, *J. Phys. Chem. C*, **124**, 34, 18823 (2020).[IF:4.189]
 205. Investigation of Morphology Controlled Ultrafast Relaxation Processes of Aggregated Porphyrin - Bodhisatwa Mondal, Rajesh Bera, Sandip K. Nayak, Srijon Ghosh and Amitava Patra, *ChemPhysChem*, **21**, 2196 (2020).[IF:3.144]
 206. Surface motifs regulated aggregation induced emission in gold-silver nanoclusters - Dipankar Bain, Subarna Maity, Amitava Patra, *Chem. Comm.*, **56**, 9292 (2020).[IF: 5.996]
 207. Ultrafast Carrier Dynamics in 2D CdSe Nanoplatelets-CsPbX₃ Composites: Influence of the Halide Composition - Goutam Ghosh, Avisek Dutta, Arnab Ghosh, Srijon Ghosh and Amitava Patra, *J. Phys. Chem. C*, **124**, 10252 (2020).[IF:4.189]
 208. Observation and Analysis of Incoherent Second-Harmonic Generation in Gold Nanoclusters with Six Atoms - Renato Barbosa-Silva, Manoel L da Silva-Neto, Dipankar Bain, Lucas Modesto-Costa, Tarciso Silva de Andrade-Filho, Vinícius Manzoni, Amitava Patra, Cid Bartolomeu de Araujo, *J. Phys. Chem. C*, **124**, 28, 15440 (2020).[IF:4.189]
 209. Hybrid Nanostructures of 2D CdSe Nanoplatelets for High Performance Photodetector Using Charge Transfer Process - Avisek Dutta, Anusri Medda, Rajesh Bera, Krishnendu Sarkar, Sumanta Sain, Praveen Kumar, and Amitava Patra, *ACS Appl. Nano Mater.*, **3**, 4717 (2020).[IF:4.189]

210. Global and Target Analysis of Relaxation Processes of Collapsed State of P3HT Polymer Nanoparticles - Arnab Ghosh, Srijon Ghosh, Goutam Ghosh, Bikash Jana and Amitava Patra, *Phys. Chem. Chem. Phys.*, **22**, 2229 (2020).[IF:3.430]
211. Manipulation of the exciton diffusion length of conjugated polymer nanoparticles: Role of electron and hole scavenger molecules - Arnab Ghosh, Bikash Jana, Ajeet Kumar, Srijon Ghosh and Amitava Patra, *Bull. Mater. Sci*, **43**:174 (1-8) 2020.[IF:1.392]
212. Thiadiazole Based Covalent Organic Framework: Metal-free Electrocatalyst towards Oxygen Evolution Reaction - S Mondal, BP Mohanty, M Nurhuda, S Dalapati, M Addicoat, BK Jena, A Bhaumik, *ACS Catalysis*, **10**, 5623 (2020).[IF:12.35]
213. Facile Synthesis of Nanoporous Transition Metal-Based Phosphates for Oxygen Evolution Reaction - P Bhanja, Y Kim, B Paul, J Lin, SM Alshehri, T Ahamad, YV Kaneti, A Bhaumik, Y Yamauchi, *ChemCatChem*, **12**, 2091 (2020).[IF:4.85]
214. Thaidiazole containing N- and S-rich highly ordered periodic mesoporous organosilica for efficient removal of Hg(II) from polluted water - S Das, S Chatterjee, S Mondal, A Modak, BK Chandra, S Das, GD Nessim, A Majee, A Bhaumik, *Chemical Communications*, **56**, 3963 (2020).[IF:5.96]
215. General Synthesis of Hierarchical Sheet/Plate-Like M-BDC (M = Cu, Mn, Ni, and Zr) Metal-Organic Frameworks for Electrochemical Non-Enzymatic Glucose Sensing - G Gumilar, YV Kaneti, J Henzie, S Chatterjee, J Na, B Yuliarto, N Nugraha, A Patah, A Bhaumik, Y Yamauchi, *Chemical Science*, **11**, 3644 (2020).[IF:9.50]
216. Ag NPs Intercalated at Pore Walls of 2D-Hexagonal Mesoporous Silica: Efficient Catalyst for C–H Oxidation of Hydrocarbons with Molecular Oxygen under Solvent-Free Conditions - R Biswas, SK Das, SN Bhaduri, A Bhaumik, P Biswas, *ACS Sustainable Chemistry & Engineering*, **8**, 5856 (2020).[IF:7.65]
217. Nano-SiO₂@[DABCO(CH₂CH₂CO₂H)]⁺[Br][−] as an Efficient and Recyclable SCILL for Water Mediated Facile Synthesis of Thiol-substituted N-aryl Pentasubstituted Pyrroles - P Mondal, S Chatterjee, K Nurjamal, S Maity, A Bhaumik, G Brahmachari, P Ghosh, C. Mukhopadhyay, *Catalysis Communications*, **139**, 105966 (2020).[IF:3.61]
218. Novel porous metal phosphonates as efficient electrocatalyst for oxygen evolution reaction - P Bhanja, Y Kim, B Paul, YV Kaneti, A Bhaumik, Y Yamauchi, *Chemical Engineering Journal*, **396**, 125245 (2020).[IF:10.61]

219. Catalytic Reduction of CO₂ into Fuels and Fine Chemicals - A Modak, P Bhanja, S Dutta, B Chowdhury, A Bhaumik, *Green Chemistry*, **22**, 4002 (2020).[IF:9.48]
220. Electronic Effect in a Ruthenium Catalyst Designed in Nanoporous N-Functionalized Carbon for Efficient Hydrogenation of Heteroarenes - D Chandra, S Saini, S Bhattacharya, A Bhaumik, K Kamata, M Hara, *ACS Applied Materials & Interfaces*, **12**, 52668 (2020).[IF:8.50]
221. Folic acid-conjugated magnetic mesoporous silica nanoparticles loaded with quercetin: A theranostic approach for cancer management - S Mishra, K Manna, U Kayal, M Saha, S Chatterjee, D Chandra, M. Hara, S Datta, A Bhaumik, KD Saha, *RSC Advances*, **10**, 23148 (2020).[IF:3.07]
222. Green oxidation of alkylaromatics using molecular oxygen over mesoporous manganese silicate catalysts - M Selvaraj, A Bhaumik, MA Assiria, C Subrahmanyam, CS Ha, *Dalton Transactions*, **49**, 9710 (2020).[IF:4.18]
223. Porous organic polymer as an efficient organocatalyst for the synthesis of biofuel ethyl levulinate - M Halder, P Bhanja, MM Islam, A Khan, A Bhaumik, SM Islam, *Molecular Catalysis*, **494**, 111119 (2020).[IF:3.68]
224. Porous organic polymer bearing triazine and pyrene moieties as an efficient organocatalyst - SK Das, A Chowdhury, D Chakraborty, U Kayal, A Bhaumik, *Molecular Catalysis*, **497**, 111198 (2020).[IF:3.68]
225. Functionalized porous organic materials as an efficient media for adsorptive removal of Hg(II) ions - A Modak, P Bhanja, K Selvaraj, A Bhaumik, *Environmental Science: Nano*, **7**, 2887, 7 (2020).[IF:7.65]
226. Morphologically controlled cobalt oxide nanoparticles for efficient oxygen evolution reaction - B Paul, P Bhanja, S Sharma, Y Yamauchi, R Bal and A. Bhaumik, *Journal of Colloid & Interface Science*, **582**, 322 (2021).[IF:7.48]
227. Microporous nickel phosphonate derived heteroatom doped nickel oxide and nickel phosphide: Efficient electrocatalysts for oxygen evolution reaction - P Bhanja, Y Kim, B Paul, YV Kaneti, AA Alothman, A Bhaumik, Y Yamauchi, *Chemical Engineering Journal*, **2021**, 405, 126803 (2021).[IF:10.65]
228. Metformin-templated Nanoporous ZnO and Covalent Organic Framework Heterojunction Photoanode for Photoelectrochemical Water Oxidation - S Chatterjee, P Bhanja, D

- Ghosh, P Kumar, SK Das, S Dalapati, A Bhaumik, *ChemSusChem*, **14**, 408 (2021).[IF:7.96]
229. Catalytic transformation of ethanol to methane and butene together with hydrogen on NiO NPs supported over mesoporous SBA-15 - S Chatterjee, A Ghosh, A Modak, M Selvaraj, B Chowdhury, A Bhaumik, *Molecular Catalysis*, **502**, 111381 (2021).[IF:3.68]
 230. The Design and synthesis of heterogeneous catalysts for environmental applications. R Chatterjee, P Bhanja, A Bhaumik, *Dalton Transactions*, **50**, 4765 (2021).[IF:4.18]
 231. CO₂ Hydrogenation over Functional Nanoporous Polymers and Metal-Organic Frameworks - A. Modak, A. Ghosh, A. Bhaumik and B. Chowdhury, *Advances in Colloid and Interface Science*, **290**, 102349 (2021).[IF:9.92]
 232. Complex dielectric characteristics, ac-conductivity and impedance spectroscopy of B-doped nc-SiO_x:H thin films - Debajyoti Das and Subhashis Samanta; *ACS Appl. Electron. Mater.*..doi.org/10.1021/acsaelm.0c01110 (2021).
 233. Graphitic carbon nitride (g-C₃N₄) incorporated TiO₂-B nanowires as efficient photoanode material in dye sensitized solar cells - Pronay Makal and Debajyoti Das; *Mater. Chem. Phys.*, **266** 124520 (2021).[IF:3.408]
 234. Optoelectronic and structural properties of Ge-rich narrow band gap nc-Si_xGe_{1-x} absorber layer for tandem structure nc-Si solar cells - Amaresh Dey and Debajyoti Das, *J. Phys. Chem. Solids*, **154**, 110055 (2021).[IF:3.442]
 235. Wide optical gap B-doped nc-Si thin films of advanced crystallinity and conductivity on transparent flexible substrates for potential low-cost flexible electronics including nc-Si superstrate *p-i-n* solar cells - Debajyoti Das and Chandraline Patra, *Mater. Adv.*, **2**, 2055 (2021).[IF: N/A]
 236. Reduced Graphene Oxide-Laminated One-Dimensional TiO₂-Bronze Nanowire Composite: An Efficient Photoanode Material for Dye Sensitized Solar Cells - Pronay Makal and Debajyoti Das, *ACS Omega*, **6**, 4362 (2021).[IF:2.87]
 237. Synthesis of single-walled, bamboo-shaped and Y-junction carbon nanotubes using microwave plasma CVD on low-temperature and chemically processed catalysts - Ajay Roy and Debajyoti Das, *J. Phys. Chem. Solids*, **152**, 109971 (2021).[IF:3.442]

238. Low-temperature synthesis of conducting boron-doped nanocrystalline silicon oxide thin films as the window layer of solar cells - Subhashis Samanta and Debajyoti Das, *Curr. Appl. Phys.*, **23**, 42 (2021).[IF:2.281]
239. Reverse Meyer-Neldel rule prevailing in the hole transport of B-doped nc-SiO_x:H thin films sustaining degeneracy and performing as suitable window of nc-Si solar cells - Debajyoti Das and Subhashis Samanta, *Physica E*, **128**, 114615 (2021).[IF:3.570]
240. Prominent c-axis oriented Si-doped ZnO thin film prepared at low substrate temperature in RF magnetron sputtering and its UV sensing in *p*-Si/n-SZO heterojunction structures - Laxmikanta Karmakar and Debajyoti Das, *J. Phys. Chem. Solids*, **151**, 109907 (2021). [IF:3.442]
241. Low temperature growth of a-Si/nc-Si superlattice thin films demonstrating enhanced optical absorption - Debajyoti Das and Kalyan Sarkar, *AIP Conf. Proc.* **2265** (2020) 030300.[IF:0.40]
242. Evolution of nanocrystalline diamond thin films by high-density low-pressure CH₄ plasma in planar inductively coupled plasma CVD - Sucharita Saha and Debajyoti Das; *AIP Conf. Proc.* **2265** 030292 (2020).[IF:0.40]
243. Vertically aligned silicon nanowire arrays prepared by silver assisted single step chemical etching - Kalyan Sarkar and Debajyoti Das, *AIP Conf. Proc.*, **2265** 030135 (2020).[IF: 0.40]
244. Synthesis and characterization of silica encapsulated magnetite nanoparticles - Payel Sahu and Debajyoti Das, *AIP Conf. Proc.*, **2265** 030127 (2020).[IF:0.40]
245. Ternary ZnCdSO composite photocatalyst for efficient dye degradation under visible light retaining Z-scheme of migration pathways for the photogenerated charge carriers - Debajyoti Das and Prami Nandi, *Sol. Energy Mater. Sol. Cells*, **217** 110674 (2020).[IF: 6.984]
246. Low temperature growth of highly conducting boron doped nc-Si thin films on flexible substrates - Debajyoti Das and Chandraline Patra, *AIP Conf. Proc.*, **2244** 110007 (2020).[IF:0.40]
247. Controlling superior crystallinity and conductivity in ultra-thin doped nc-Si layers via H₂-plasma treatment for applications in nc-Si/c-Si heterojunction solar cells - Chandraline Patra and Debajyoti Das, *AIP Conf. Proc.* **2244** 110006 (2020).[IF:0.40]

248. Autogenic single p/n-junction solar cells from black-Si nano-grass structures of *p-to-n* typeself-convertedelectronicconfiguration - Debajyoti Das and Laxmikanta Karmakar; *Nanoscale*, **12** 15371 (2020).[IF:6.895]
249. Biocompatible implant mimicking cartilage: A new horizon for reconstructive facial field - B. K. Biswas, S. Dey, A. Chakrabarty, A. Laha, T. K. Mandal, L. Karmakar and Debajyoti Das, *Artificial Organs*, **44** E494 (2020).[IF:2.259]
250. Synthesis of cost-effective g-C₃N₄/ZnO heterostructure photocatalyst for methylorange (MO) dye degradation - Prami nandi and Debajyoti Das, *AIP Conf. Proc.*, **2220** 140018 (2020).[IF:0.40]
251. Effect of Si incorporation to produce Ge-rich nc-Si_xGe_{1-x} absorber layer for nc-Si solar cells - Amaresh Dey and Debajyoti Das, *AIP Conf. Proc.*, **2220** 090010 (2020).[IF:0.40]
252. Single-step fabrication of single-junction c-Si nano-structured solar cells by optimization of plasma etching parameters - Laxmikanta Karmakar and Debajyoti Das, *J. Alloys Compd.*, **847** 155352 (2020).[IF:4.650]
253. Alkylammonium Halides for Facet Reconstructions and Shape Modulations in Lead Halide Perovskite Nanocrystals - Narayan Pradhan* *Acc. Chem. Res.*, **54**, 1200 (2021). [IF:21.66]
254. Why Do Perovskite Nanocrystals Form Nanocubes and How Can Their Facets Be Tuned? A Perspective from Synthetic Prospects - Narayan Pradhan* *ACS Energy Letters*, **6**, 92 (2021).[IF:19.6]
255. α -Halo Ketone for Polyhedral Perovskite Nanocrystals: Evolutions, Shape Conversions, Ligand Chemistry and Self-assembly - Suman Bera, RK Behera, Narayan Pradhan* *J. Am. Chem. Soc.*, **142**, 20865 (2020).[IF:14.6]
256. Light Emitting Metal-Organic Halide 1D and 2D Structures: Near-unity Quantum Efficiency, Low-loss Optical Waveguide and Highly Polarized Emission - L. Feng, T. Zhang, D. Mondal, S. Teng, Y. Zhang, K. Huang, D. Wang, W. Yang, Priya Mahadevan,* Y. Sheng Zhao,* R. Xie,* and Narayan Pradhan* *Angew. Chem. Int. Ed.*(2021) (Accepted).[IF:12.9]
257. Facets Directed Connecting Perovskite Nanocrystals - Biswajit Hudait, S. K. Dutta, A. Patra, D. Nasipuri and Narayan Pradhan* *J. Am. Chem. Soc.*, **142**, 7207 (2020).[IF: 14.6]

258. Halide Perovskite Nanocrystal Photocatalysts for CO₂ Reduction: Successes and Challenges - Sanjib Shyamal, Narayan Pradhan* *J. Phys. Chem. Lett.*, **11**, 6921 (2020). [IF:6.7]
259. Isotropic CsPbBr₃ Perovskite Nanocrystals beyond Nanocubes: Growth and Optical Properties - Biswajit Hudait, SK Dutta, Narayan Pradhan* *ACS Energy Letters*, **5**, 650 (2020).[IF:19.6]
260. Perovskite Nanocrystal Heterostructures: Synthesis, Optical Properties and Applications - Suman Bera, Narayan Pradhan* *ACS Energy Letters*, **5**, 2858 (2020). [IF:19.6]
261. Halide Perovskite Nanocrystals Photocatalysts for CO₂ Reduction: Success and Challenges - Sanjib Shyamal and Narayan Pradhan* *J. Phys. Chem. Lett.*, **11**, 6921 (2020).[IF:6.7]
262. N,F Codoped TiO₂ Nanoparticles, and Octadecyltrimethoxysilane for Textiles and Visible Light-Based Cleaning Properties - Aritra Biswas, Nikhil R. Jana, Cotton Modified with Silica Nanoparticles, *ACS Appl. Nano Mater.*, **4**, 877 (2021).[IF:]
263. Compressibility of Multicomponent, Charged Model Biomembranes Tunes Permeation of Cationic Nanoparticles - Anurag Chaudhury, Gopal Kishor Varshney, Koushik Debnath, Gangadhar Das, Nikhil R Jana, Jaydeep Kumar Basu, *Langmuir*, **37**, 3550 (2021).[IF:]
264. Penetration and Preferential Binding of Charged Nanoparticles to Mixed Lipid Monolayers: Interplay of Lipid Packing and Charge Density - Anurag Chaudhury, Koushik Debnath, Wei Bu, Nikhil R. Jana, Jaydeep Kumar Basu, *Soft Matter*, **17**, 1963 (2021).[IF:]
265. Nonendocytotic Cell Delivery of Quantum Dot Using Arginine-Terminated Gold Nanoparticles - Suman Pal, Nikhil R. Jana, *J. Phys. Chem. B.*, **124**, 11827 (2020).[IF:]
266. TiO₂-Templated BaTiO₃ Nanorod as a Piezocatalyst for Generating Wireless Cellular Stress - Aritra Biswas, Subhajit Saha, Suman Pal, Nikhil R. Jana, *ACS Appl. Mater. Interfaces*, **12**, 48363 (2020).[IF:]
267. Surface Chemistry- and Intracellular Trafficking- Dependent Autophagy Induction by Iron Oxide Nanoparticles. Prasanta Panja, Koushik Debnath, Nihar R. Jana, Nikhil R. Jana, *ACS Appl. Bio Mater.*, **3**, 5974 (2020).[IF:]

268. Small-Molecule-Functionalized Hyper-branched Polyglycerol Dendrimers for Inhibiting Protein Aggregation - Suman Mandal, Prasanta Panja, Koushik Debnath, Nihar R. Jana, Nikhil R. Jana, *Biomacromolecules*, **21**, 3270 (2020).[IF:]
269. Lipid Raft-Mediated Direct Cytosolic Delivery of Polymer Coated Soft Nanoparticle. Prasanta Panja, Nikhil R. Jana, *J. Phys. Chem. B.*, **124**, 5323 (2020).[IF:]
270. ZnSnO₃-hBN Nanocomposite-based Piezocatalyst: Ultrasound Assisted Reactive Oxygen Species Generation for Degradation of Organic Pollutants. Aritra Biswas, Subhajit Saha, Nikhil R. Jana, *New J. Chem.*, **44**, 9278 (2020).[IF:]
271. Current and Future Perspectives of Carbon and Graphene Quantum Dots: Applications in Next-Generation Energy Harvesters - D. Gosh, P. Devi, K. Kim, and Praveen Kumar*, *Renewable & Sustainable Energy Reviews*, 135 110391 (2021).[IF: 12.11]
272. Surface Plasmon Enhanced Carbon Dot Embellished Multi-faceted Si(111) Nano-heterostructure for Photoelectrochemical Water Splitting - D. Ghosh, K. Roy, K. Sarkar, P. Devi, and Praveen Kumar*, *ACS Applied Materials & Interfaces*, **12** 28792 (2020).[IF:8.76]
273. Chlorophyll(a)/Carbon quantum dot Bio-Nanocomposite Triggered Nano-Structured Silicon as a Photocathode for Photo-electrochemical Water Splitting - K. Roy, D. Ghosh, P. Devi, K. Sarkar, and Praveen Kumar*, *ACS Applied Materials & Interfaces*, **12** 37218 (2020).[IF:8.76]
274. III-V Nanowire-based Ultraviolet to Terahertz Photodetectors: Device Strategies, Recent Developments, and Future Possibilities - K. Sarkar, P. Devi, K. Kim, Praveen Kumar*, *Trends in Analytical Chemistry*, **130** 115989 (2020).[IF:9.80]
275. In-operando Generation and Storage of Hydrogen by Coupling Monolithically Integrated Photoelectrochemical Cell with Clathrate Hydrates Molecular Storage - D. Ghosh, P. Devi, O. Kushwaha, R. Kumar and Praveen Kumar, *ACS Applied Energy Materials*, **3** 6834 (2020).[IF:4.47]
276. Metformin-Templated Nanoporous ZnO and Covalent Organic Framework Heterojunction Photoanode for Photoelectrochemical Water Oxidation - S. Chatterjee, P. Bhanja, D. Ghosh, Praveen Kumar, S. K. Das, S. Dalapati and A. Bhaumik *ChemSusChem* (Accepted 2020).[IF:7.96]

277. Hybrid Nanostructures of 2D CdSe Nanoplatelets for High-Performance Photodetector Using Charge Transfer Process - A. Dutta, A. Medda, R. Bera, K. Sarkar, S. Sain, Praveen Kumar, and A Patra, *ACS Applied Nanomaterials*, **3**, 4717 (2020).[IF:]
278. Surface Engineered hybrid core-shell Si-nanowires for efficient and stable broadband photodetectors - K. Sarkar, P. Devi, A. Lata, V. Lokku and Praveen Kumar*, *Advanced Optical Materials*, **8**, 2000228 (2020).[IF:8.29]
279. Current progress and challenges in photoelectrode materials for the production of hydrogen - A. Thakur, D. Ghosh, P. Devi, K. Kim, Praveen Kumar*, *Chemical Engineering Journal*, **397**, 125415 (2020).[IF:10.65]
280. Modified p-GaN Micro-Wells with Vertically Aligned 2D-MoS₂ for Enhanced Photoelectrochemical Water-Splitting - D. Ghosh, P. Devi, and Praveen Kumar*, *ACS Applied Materials & Interfaces*, **12**, 13797 (2020).[IF:8.76]
281. Ferromagnetism with high magnetoresistance in Ag decorated graphitic carbon nitride - C. Majumder, S. Bhattacharya, T. K. Mondal and S. K. Saha, *J. Magn. Magn. Mater.* (doi.org/10.1016/j.jmmm.2021.167941).[IF:2.717]
282. Ferromagnetic ordering in THAB exfoliated WS₂ nanosheet - A. Debnath, B. K. Shaw, S. Bhattacharya, and S. K. Saha, *J. Phys. D: Appl. Phys.*, **54**, 205001 (2021).[IF:3.169]
283. Synthesis of freestanding 2D CuO nanosheets at room temperature through a simple surfactantfree co-precipitation process and its application as electrode material in supercapacitors - A. Ghosh, M. Miah, A. Bera, S. K. Saha and B. Ghosh, *J. Alloys Compd.*, **862**, 158549, 2021.[IF:4.65]
284. Electrically Driven MOF-Based Blue to Yellow-White Tunable Light Emitting Diodes - F. S. Juang, M. Q. Yao, T. Mondal, and S. K. Saha, *IEEE Access*, **8**, 216986 (2020).[IF:3.745],
285. Interesting photoluminescence behaviour in graphitic carbon nitride quantum dots attached PbCrO₄ colloidal nanostructures - T. K. Mondal and S. K. Saha, *New J. Chem.*, **44**, 16110 (2020).[IF:3.288]
286. Near infrared to visible upconversion photoluminescence from Er/Yb co-doped MoS₂ nanosheets with tunable thickness - D. Haldar, A. Ghosh, U. K. Ghorai, and S. K. Saha *Mater. Res. Bull.*, **129**, 110879 (2020).[IF:4.019]

287. Luminescent Cd II metal–organic frameworks based on isoniazid using a mixed ligand Approach - A Husain, P. Rani, A. Sharma, T. Mondal, S. K. Saha, K. K. Bhasin, M. Trivedi, and G. Kumar, *Cryst Eng Comm*, **22**, 5980 (2020).[IF:3.382]
288. Study of highly porous ZnO nanospheres embedded reduced graphene oxide for high performance supercapacitor application - M. Miah, T. K. Mondal, A. Ghosh, and S. K. Saha, *Electrochimica Acta*, **354**, 136675 (2020).[IF:6.216]
289. Transition from antiferromagnetic to ferromagnetic β -Co (OH) ₂ with higher Curie Temperature - A. Debnath, S. Bhattacharya and S. K. Saha, *J. Phys. D: Appl. Phys.*, **53**, 225004 (2020).[IF:3.169]
290. Judicial design of graphene based nanocomposite harvesting UV-Visible spectrum: Efficient, eco-friendly solar photocatalyst for industrial waste management - K Dutta, D Poddar, S das, N Chattopadhyay and S K Saha, [*Journal of Environmental Chemical Engineering*](#), **9**, 104851 (2021).[IF:4.3]
291. The critical role of stereochemically active lone pair in introducing high temperature ferroelectricity - Rafikul Ali Saha et al., *Inorganic Chemistry*, **60**, 4068 (2021).[IF:]
292. Magnetic polarons and spin-glass behavior in insulating La_{1-x}Sr_xCoO₃ (x=0.125 and 0.15)P - Anil Kumar et al., *Physical Review Research*, **2**, 043344 (2020).[IF:]
293. Coagulating and flocculating Ferrihydrite: Application of Zinc Acetate salt - Samirul Islam, Sanjit Das, Geetanjali Mishra, Bidisa Das, Arindam Malakar, Ilaria Carlomagno, Carlo Meneghini, Giovanni De Giudici, Liliana P. L. Gonçalves, Juliana P. S. Sousa, Yury V. Kolen'ko, Andrei Cristian Kuncser, and Sugata Ray, *Environmental Science: Water Research and Technology*, **6**, 2057 (2020).[IF:]
294. Covalency driven modulation of paramagnetism and development of lone pair ferroelectricity in multiferroic Pb₃TeMn₃P₂O₁₄ - Rafikul Ali Saha, Anita Halder, Tanusri Saha-Dasgupta, Desheng Gu, Mitsuru Itoh and Sugata Ray, *Phys. Rev. B: Rapid Comm.* **101**, 180406(R) (2020).[IF:]

295. Deviation from nonmagnetic $J=0$ state in a pentavalent columnar iridate $\text{Sr}_3\text{NaIrO}_6$ - Abhisek Bandyopadhyay and Sugata Ray, *Bulletin of American Physical Society*, (2020).[IF:]

SPS

296. Rashba Band Splitting in $\text{CH}_3\text{NH}_3\text{PbI}_3$: An Insight from Spin-Polarized Scanning Tunneling Spectroscopy - A. Maiti, S. Khatun, and A. J. Pal, *Nano Letters*, **20**, 292-299 (2020).[IF:11.238]
297. Dynamic Response of Alternating-Current-Driven Light-Emitting Diodes Based on Hybrid Halide Perovskites - R. Chakraborty, G. Paul, and A. J. Pal, *Phys. Rev. Appl.*, **14**, 024006 (2020).[IF:4.194]
298. Role of Individual Bands in the Unusual Temperature-Dependent Bandgap of Methylammonium Lead Iodide - S. Khatun, A. Maiti, G. Das, and A. J. Pal, *J. Phys. Chem. C*, **124**, 19841–19848 (2020).[IF:4.189]
299. Bowing of transport gap in hybrid halide perovskite alloys ($\text{CH}_3\text{NH}_3\text{Sn}_{1-x}\text{Pb}_x\text{I}_3$): Which band is responsible? - S. Khatun, A. Maiti, and A. J. Pal, *Applied Physics Letters*, **116**, 012104 (2020).[IF:3.597]
300. Methylammonium lead iodide: the crown prince of solar cell materials - A. J. Pal, *Current Science*, **119**, 915-918 (2020).[IF:0.756]
301. Defects and their Passivation in Hybrid Halide Perovskites towards Solar Cell Applications - A. Maiti, S. Chatterjee, L. Peedikakkandy, and A. J. Pal, *Solar RRL*, **4**, 2000505 (2020).[IF:7.527]
302. Noncontact Tunneling in Methylammonium Lead Iodide ($\text{CH}_3\text{NH}_3\text{PbI}_3$): Evidence of Bipolar Resistive Switching through Defect Migration - S. Paramanik, S. Chatterjee, and Amlan J. Pal, *ACS Applied Electronic Materials* **2**, 1395–1401 (2020).[IF: Not Available]
303. Bandgap bowing in a zero-dimensional hybrid halide perovskite derivative: spin-orbit coupling versus lattice strain - S. Chatterjee, J. Payne, J. T. S. Irvine, and Amlan J. Pal, *J. Mater. Chem. A.*, **8**, 4416 - 4427 (2020).[IF:11.301]

304. Sulfur-Vacancy Passivation in Solution-Processed Sb_2S_3 Thin-Films: Influence on Photovoltaic-Interfaces, A. Maiti, S. Chatterjee, and A. J. Pal, *ACS Applied Energy Materials*, **3**, 810-821 (2020).[IF:4.473]
305. Bandgap Engineering and Efficient Conversion of a Ternary Perovskite ($\text{Cs}_3\text{Bi}_2\text{I}_9$) to a Double Perovskite ($\text{Cs}_2\text{NaBiI}_6$) with the Aid of Alkali-Metal Sulfide - L. Peedikakkandy, S. Chatterjee, and A. J. Pal, *J. Phys. Chem. C*, **124**, 10878–10886 (2020).[IF:4.189]
306. Structure, Morphology, and Photovoltaic Implications of Halide Alloying in Lead-Free $\text{Cs}_3\text{Sb}_2\text{Cl}_x\text{I}_{9-x}$ 2D-layered Perovskites, G. Paul, A. J. Pal, and B. W. Larson, *Solar RRL*, **4**, 2000422 (2020).[IF:7.527]
307. Surface-modification of Cu_2O nanoparticles towards band-optimized hole-injection layers in CsPbBr_3 perovskite light-emitting diodes - R. Chakraborty, H. Bhunia, S. Chatterjee, and A. J. Pal, *Journal of Solid State Chemistry*, **281**, 121021 (2020).[IF:2.726]
308. Molecular Insights into Photostability of Fluorinated Organic Photovoltaic Blends: Role of Fullerene Electron Affinity and Donor–Acceptor Miscibility - C. P. Brook, G. Paul, V. N. Viswanathan, S. Satyanarayana, K. M. Panidhara, B. W. Larson, A. J. Ferguson, A. J. Pal, P. C. Ramamurthy, S. H. Strauss, O. V. Boltalina, and W. A. Braunecker, *Sustainable Energy & Fuels*, **4**, 5721-5731 (2020).[IF:5.503]
309. Disorder-induced enhancement of entanglement growth in one dimension: Information leakage at the scale of the localization length - R Ghosh and A Das, *Phys. Rev. B*, **103**, 024202 (2021).[IF:3.575]
310. Disorder-free localization and many-body quantum scars from magnetic frustration - Paul A. McClarty, M. Haque, A Sen, and J Richter, *Phys. Rev. B*, **102**, 224303 (2020). (Featured as PRB Editors' Suggestion).[IF:3.575]
311. Dynamics of the vacuum state in a periodically driven Rydberg chain - B Mukherjee, A Sen, D Sen, and K. Sengupta, *Phys. Rev. B*, **102**, 075123 (2020).[IF:3.575]
312. Restoring coherence via aperiodic drives in a many-body quantum system - B Mukherjee, A Sen, D Sen, and K. Sengupta, *Phys. Rev. B*, **102**, 014301 (2020).[IF:3.575]
313. Collapse and revival of quantum many-body scars via Floquet engineering - B Mukherjee, S Nandy, A Sen, D Sen, and K. Sengupta, *Phys. Rev. B*, **101**, 245107 (2020).[IF:3.575]

314. Entanglement measures and nonequilibrium dynamics of quantum many-body systems: A path integral approach - R Ghosh, N Dupuis, A Sen, and K. Sengupta, *Phys. Rev. B*, **101**, 245130 (2020).[IF:3.575]
315. Time- and frequency-domain two-particle correlations of a driven dissipative Bose - Hubbard model, Kingshuk Adhikary, Anushree Dey, Arpita Pal, Subhanka Mal and B. Deb, *Phys. Rev. A*, **103**, 033310 (2021).[IF:3.140].
316. The effects of a Feshbach resonance on spectral shifts in photoassociation of Cs atoms, Yuqing Li, Xiaofeng Wang, Guosheng Feng, Wenliang Liu, Vladimir Sovkov, Jie Ma, Bimalendu Deb, Liantuan Xiao, Suotang Jia, *Phys. Chem. Chem. Phys.*, **23**, 641 (2021).[IF:3.430]
317. Realizing negative index of refraction in an ensemble of ground-state polar molecules with lasers, Dibyendu Sardar, Sauvik Roy, Ghanasyam Remesh, Subhasish Dutta Gupta and Bimalendu Deb, *Optics Communication*, **485**, 126742 (2021).[IF:2.125]
318. Parametric oscillations in a dissipative bosonic Josephson junction , Abhik Kumar Saha, Deb Shnakra Ray and Bimalendu Deb, *J. Phys. B: At. Mol. Opt. Phys.*, **53**, 135301 (2020).[IF:2.115]
319. Interface-induced enhanced magnetocaloric effect in an epitaxial $\text{CoFe}_2\text{O}_4/\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ heterostructure – A. Barman, S. Chatterjee, J. K. Dey, A. Datta, and D. Mukherjee, *Physical Review B*, **102**, 054433 (2020).[IF:3.575]
320. Role of interplay of austenite and martensite phase fractions on the magnetocaloric and magnetoresistance effects across the martensite transition in $\text{Ni}_{45}\text{Mn}_{44}\text{Sn}_7\text{In}_4$ Heusler alloy near room temperature–T. Chabri, K. Ghosh, D. Mukherjee, and T. K. Nath, *Journal of Applied Physics*, **128**, 215106 (2020).[IF:2.286]
321. Effects of transitional hysteresis on the large magnetocaloric and magnetoresistance properties of Ni-Mn-Co-Sn Heusler alloy–T. Chabri, A. Barman, S. Chatterjee, S.A. Mollick, T.K. Nath, and D. Mukherjee, *Journal of Alloys and Compounds*, **863**, 158485 (2021).[IF:4.650]
322. Large electrocaloric effect in lead-free ferroelectric $\text{Ba}_{0.85}\text{Ca}_{0.15}\text{Ti}_{0.9}\text{Zr}_{0.1}\text{O}_3$ thin film heterostructure–A. Barman, S. Chatterjee, C. Ou, Y. Y. Tse, N. Banerjee, S. Kar-Narayan, A. Datta, and D. Mukherjee, *APL Materials*, **9**, 021115 (2021).[IF:4.383]

323. Sub-TeV H^+ Boson Production as Probe of Extra Top Yukawa Couplings – D K Ghosh, Wei-Shu Hou and T Modak, *Phys.Rev.Lett.*, **125** 22, 221801(2020).[IF:9.161]
324. Fingerprinting the contribution of colored scalars to the $H^+ W^- Z(\gamma)$ vertex – N Chakraborty, I.Chakraborty and D.K.Ghosh, *Eur.Phys. J.C.* **80** 12, 1120(2020). [IF:4.389]
325. Highly conducting and transparent low-E window films with high figure of merit values based on RF sputtered Al and In co-doped ZnO -A Mallick, S Ghosh, D Basak, *Materials Science in Semiconductor Processing*, **119**, 105240 (2020).[IF:]
326. High conductivity along with high visible light transparency in Al implanted sol-gel ZnO thin film with an elevated figure of merit value as a transparent conducting layer- A Das, G Das, D Kabiraj, D Basak, *Journal of Alloys and Compounds*, **835**, 155221 (2020).[IF:4.650]
327. Investigation on sub-band gap defects aided UV to NIR broad-band low-intensity photodetection by SnO₂ thin film- AD Mahapatra, D Basak, *Sensors and Actuators A: Physical*, **312**, 112168 (2020).[IF:]
328. Orbital-dependent spin textures in ferroelectric Rashba systems - Subhadeep Bandyopadhyay and I. Dasgupta, *Phys. Rev. B*, **103**, 014105 (2021).[IF:3.575]
329. Electronic structure and transport properties of coupled CdS/ZnSe quantum dots - Simon Liebing, Torsten Hahn, Jens Kortus, Bidisa Das, Arup Chakraborty and Indra Dasgupta, *J. Phys.: Condens. Matter*, **33**, 125002 (2021).[IF:2.707]
330. Gapless Quantum Spin Liquid in the Triangular System Sr₃CuSb₂O₉ - S. Kundu, Aga Shahee, Atasi Chakraborty, K. M. Ranjith, B. Koo, Jörg Sichelschmidt, Mark T. F. Telling, P. K. Biswas, M. Baenitz, I. Dasgupta, Sumiran Pujari, and A. V. Mahajan, *Phys. Rev. Lett.* **125**, 267202 (2020).[IF :8.385]
331. Superconductivity in infinite-layer nickelates: Role of f orbitals - Subhadeep Bandyopadhyay, Priyo Adhikary, Tanmoy Das, Indra Dasgupta, and Tanusri Saha-Dasgupta, *Phys. Rev. B*, **102**, 220502 (*Rapid Communications*) (2020).[IF 5.1]
332. Orbital-selective superconductivity in a two-band model of infinite-layer nickelates - Priyo Adhikary, Subhadeep Bandyopadhyay, Tanmoy Das, Indra Dasgupta, and Tanusri Saha-Dasgupta, *Phys. Rev. B*, **102**, 100501(*Rapid Communications*) (2020).[IF:5.1]

333. Understanding the curious magnetic state of Sr₃OsO₆ - Shreya Das, Anita Halder, Atasi Chakraborty, Indra Dasgupta, and Tanusri Saha-Dasgupta, *Phys. Rev. B*, **101**, 184422 (2020).[IF:3.575]
334. Collapse and revival of Quantum many-body scars via Floquet engineering - B. Mukherjee, S. Nandy, A. Sen, and K. Sengupta, *Phys. Rev. B*, **101**, 245107 (2020). [IF:3.575]
335. Josephson junctions of Weyl- and multi-Weyl semimetals - K. Kulikov, D. Sinha, Yu. M. Shukrinov, and K. Sengupta, *Phys. Rev. B*, **101**, 075110 (2020).[IF:3.575]
336. Electromagnetic control of transport across a barrier on a topological insulator surface - A. Udupa, K. Sengupta and D. Sen, *Phys. Rev. B*, **102**, 045419 (2020).[IF:3.575]
337. Entanglement measures and non-equilibrium dynamics of quantum many-body systems: a path integral approach - R. Ghosh, N. Dupuis, A. Sen and K. Sengupta, *Phys. Rev. B*, **101**, 245130 (2020).[IF:3.575]
338. Restoring coherence via aperiodic drives in a many-body quantum system - B. Mukherjee, A. Sen, D. Sen, and K. Sengupta, *Phys. Rev. B*, **102**, 014301 (2020).[IF:3.575]
339. Dynamics of the vacuum state in a periodically driven Rydberg chain - B. Mukherjee, A. Sen, D. Sen, and K. Sengupta, *Phys. Rev. B*, **102**, 075123 (2020).[IF:3.575]
340. Dynamical transition for a class of integrable models coupled to a bath - M. Sarkar and K. Sengupta, *Phys. Rev. B*, **102**, 235154 (2020).[IF:3.575]
341. A Floquet perturbation theory for periodically driven weakly-interacting fermions - R. Ghosh, B. Mukherjee, and K. Sengupta, *Phys. Rev. B*, **102**, 235114 (2020).[IF:3.575]
342. Magnetization reversal across in superconductor/ insulating ferromagnet /superconductor Josephson junctions on a three-dimensional topological insulator - I. Bobkova, A.M. Bobkov, I.R. Rahomanov, A.A. Mazanik, K. Sengupta, and Yu. M. Shukrinov, *Phys. Rev. B*, **102**, 134505 (2020).[IF:3.575]
343. Ambipolar magneto-optical response of ultralow carrier density topological insulators - Dipanjan Chaudhuri, Maryam Salehi, Sayak Dasgupta, Mintu Mondal, Jisoo Moon, Deepti Jain, Seongshik Oh, and N. P. Armitage, *Phys. Rev. B*, **103**, L081110 (2021). [IF:3.575]
344. Asymmetric dark matter from semi-annihilation - A. Ghosh, D. Ghosh, S. Mukhopadhyay, *JHEP*, **08** 149 (2020).[IF:5.875]

345. Unitarity limits on thermal dark matter in (non-)standard cosmologies -D. Bhatia, S. Mukhopadhyay, *JHEP*, **03**, 133 (2021).[IF:5.875].
346. Magnetic order and surface state gap in $(\text{Sb}_{0.95}\text{Cr}_{0.05})_2\text{Te}_3$ - T. K. Dalui, P. K. Ghose, S. Majumdar, S. K. Mahatha, F. Diekmann, K. Rossnagel, R. Tomar, S. Chakraverty, A. Berlie, and S. Giri, *Phys. Rev. B*, **103**, 064428 (2021).[IF: 3.575]
347. Rhombohedral distortion-driven ferroelectric order and exchange bias effect in geometrically frustrated ZnFe_2O_4 - J. K. Dey, A. Chatterjee, A.-C. Dippel, O. Gutowski, M. V. Zimmermann, S. Majumdar, and S. Giri, *Phys. Rev. Materials*, **5**, 014410 (2021).[IF:3.337].
348. Interplay between positive magnetoresistance and thermoelectric properties by tuning carrier concentration in $\text{Sb}_{2-x}\text{Sn}_x\text{Te}_3$ ($x \leq 0.05$) crystals – T. K. Dalui, P. K. Ghose, S. Majumdar, and S. Giri, *J. Phys.: Condens. Matter*, **32**, 435601 (2020).[IF:2.707]
349. Composites of nanodimensional glass in the system $\text{Na}_2\text{O-SiO}_2/\text{Mesoporous silica}$ and their high ionic conductivity – S. Samanta, A. Maity, S. Chatterjee, S. Giri, and D. Chakravorty, *J. Phys. Chem. Solids*, **142**, 109470 (2020). [IF:3.442]
350. Effect of Microstructure on Ionic Transport in Silica-Based Sodium Containing Nanoconfined Systems and Their Electrochemical Performance as Electrodes – S. Samanta, A. Maity, S. Roy, S. Giri, and D. Chakravorty, *J. Phys. Chem. C*, **124**, 21155 (2020).[IF:4.189]
351. Large ionic conductivity and relaxation studies of lithium silicate nanoglasses grown into TiO_2 nanoparticles – S. Chatterjee, S. Giri, and D. Chakravorty, *J. Non-Crystalline Solids*, **544**, 120175 (2020). [IF:2.6]
352. Large Magnetoelectric Coupling in the Thin Film of Multiferroic CuO – S. Goswami, K. Dey, S. Chakraborty, S. Giri, U. Chowdhury, and D. Bhattacharya, *ACS Omega*, **5**, 22883 (2020).[IF:2.87]
353. Considerably strong magnetodielectric coupling in zircon-type DyVO_4 – K. Dey and S. Giri, *AIP Conference Proceedings*, **2265**, 030435 (2020).[IF:0.4]
354. Enhanced ionic conduction in nanodimensional lithium borosilicate glass confined within mesoporous alumina – S. Samanta, A. Maity, S. Giri, and D. Chakravorty, *AIP Conference Proceedings*, **2265**, 030058 (2020).[IF 0.4]

355. Single crystal growth and structural characterization of $\text{Bi}_{1.8}\text{Sb}_{0.2}\text{Te}_{1.5}\text{Se}_{1.5}$ (BSTS) single crystal – P. K. Ghose, T. K. Dalui, and S. Giri, *AIP Conference Proceedings*, **2265**, 030423 (2020).[IF:0.4]
356. Single crystal growth and structural characterization of Cr doped $\text{Sb}_{1.95}\text{Cr}_{0.05}\text{Te}_3$ single crystal – T. K. Dalui, P. K. Ghose, and S. Giri, *AIP Conference Proceedings*, **2265**, 030422 (2020).[IF:0.4]
357. Signatures of Einstein-Maxwell dilaton-axion gravity from the observed jet power and the radiative efficiency - I. Banerjee, B. Mandal, S. Sengupta, *Phys.Rev.D*, **103**,4, 04406 (2021).[IF:4.568]
358. Implications of Einstein–Maxwell dilaton–axion gravity from the black hole continuum spectrum - I. Banerjee, B. Mandal, S. Sengupta, *Monthly Notices of Royal Astronomical Society (MNRAS)* **500**,1,481(2020).[IF:5.287]
359. Dynamical modelling of disc vertical structure in superthin galaxy ‘UGC 7321’ in braneworld gravity: an MCMC study - A. Komanduri, I. Banerjee, A. Banerjee, S. Sengupta, *Monthly Notices of Royal Astronomical Society (MNRAS)* **499**, 4, 5690 (2020).[IF:5.287]
360. Imprints of the Janis-Newman-Winicour spacetime on observations related to shadow and accretion - S. Sau, I. Banerjee, S. Sengupta, *Phys.Rev.D*, **102**, 6, 064027(2020).[IF:4.568]
361. Implications of axionic hair on the shadow of M87* - I . Banerjee, S. Sau, S. Sengupta, *Phys.Rev.D*, **101**,10,104057 (2020).[IF:4.568]
362. Constraining extra-spatial dimensions with observations of GW170817 – K. Chakravarti, S. Chakraborty, K.S.Phukon, S.Bose, S. Sengupta, *Class.Quant.Grav.*, **37**, 10, 105004 (2020).[IF:3.487]
363. Sclaron tunneling and the fate of antisymmetric tensor fields in $F(R)$ gravity - T. Paul, S. Sengupta, *Class.Quant.Grav.*, **37**, 22, 225012 (2020). [IF:3.487]
364. Supersymmetric gauged $U(1)_{L\mu-L\tau}$ model for electron and muon (g-2) anomaly - H. Banerjee, B. Dutta, S. Roy, *JHEP*, **03**, 211(2021).[IF:5.875]
365. Supersymmetry and unification: a status update -U. Chattopadhyay and S. Roy, *Eur. Phys. J. Special Topics*, **229**, 3043-3046 (2020).[IF:2.707]

366. Spin-phonon coupling and magnon scattering in few-layer antiferromagnetic FePS₃ - Anudeepa Ghosh, Mainak Palit, Sujan Maity, Vivek Dwij, Sumesh Rana, and Subhadeep Datta, *Phys. Rev. B*, **103**, 064431 (2021).[IF:4.036]
367. Observations of ferromagnetic cluster glass and exchange bias behavior in the double perovskite compound La₂Cu_{0.9}Cr_{0.1}IrO₆, - S. K. Pradhan, B. Dalal, R. Kumar, S. Majumdar and S K.De, *J. Phys.: Condens. Matter*, **32**, 305803 (2020). [IF:2.707]
368. The Emergence of an Itinerant Ferromagnetic State in Co-Doped YNi₅: A Critical Behavior Study of the Phase Transition - S. K. Karmakar, S. Giri, and S. Majumdar, *Phys. Stat. Solidi B*, **257**, 2000273 (2020).[IF:1.481]
369. Dielectric and impedance spectroscopy of Nd₂CoIrO₆ double perovskite - R. Datta, S. K. Pradhan, S. Majumdar and S. K. De, *J. Phys.: Condens. Matter*, **32**, 495702 (2020).[IF:2.707]
370. Glassy magnetic state and negative temperature coefficient of resistivity in Mn_{3+δ}In -S. Chatterjee, P. Dutta, S. Giri, S. Majumdar, S. Sadhukhan, S. Kanungo, S. Chatterjee, M. M. Patidar, G. S. Okram, and V. Ganesan, *Phys. Rev. B*, **102**, 214443 (2020).[IF:3.575]
371. Emergence of compensated ferrimagnetic state in Mn_{2-x}Ru_{1+x}Ga ($x = 0.2, 0.5$) alloys - S. Chatterjee, P. Dutta, P. Singha, S. Giri, A. Banerjee and S. Majumdar, *J. Mag. Mag. Mater.*, **532**, 167956 (2021).[IF:2.717]
372. First law of black hole mechanics with fermions – P.B. Aneesh, S. Chakraborty, Sk. Jahanur Hoque and A Virmani, *Classical and Quantum Gravity*, **37**, 205014 (2020).[IF:3.487]
373. Limits of stellar structures in Lovelock theories of gravity – S Chakraborty and N Dadhich, *Physics of the Dark Universe*, **30**, 100658 (2020).[IF:4.473].
374. Strong cosmic censorship conjecture with NUT charge and conformal coupling – M Rahman, S Mitra and S Chakraborty, *Classical and Quantum Gravity* **37**, 195004 (2020).[IF:3.487].
375. Softly broken conformal symmetry with higher curvature terms – S Chakraborty, *Physical Review D*, **102**, 064030 (2020) [IF:4.568]

376. Multipole moments of compact objects with NUT charge: Theoretical and observational implications – S. Mukherjee and S Chakraborty, *Physical Review D*, **102**, 124058 (2020).[IF:4.568]
377. Eddington gravity with matter: An emergent perspective – S Chakraborty and T. Padmanabhan, *Physical Review D*, **103**, 064033 (2020).[IF:4.568]
378. Probing lepton flavor violating decays in MSSM with non-holomorphic soft terms - U. Chattopadhyay, Debottam Das, and Samadrita Mukherjee, *JHEP*, **06**, 015 (2020).[IF: 5.87]

EMERITUS & SENIOR SCIENTISTS

379. Giant Dielectric Constant of Copper Nanowires/Amorphous SiO₂ Composite Thin Films for Supercapacitor Application - A. Maity, S. Samanta, S. Roy, D. Biswas, and D. Chakravorty; *ACS omega*, **5**(21), 12421 (2020).[IF:2.87]
380. Effect of Microstructure on Ionic Transport in Silica-Based Sodium Containing Nanoconfined Systems and Their Electrochemical Performance as Electrodes - S. Samanta, A. Maity, S. Roy, S. Giri and D. Chakravorty; *The Journal of Physical Chemistry C*, **124**(38), 21155 (2020).[IF:4.189]
381. Enhanced ionic conduction in nanodimensional lithium borosilicate glass confined within mesoporous alumina - S. Samanta, A. Maity, S. Giri, and D. Chakravorty; *In AIP Conference Proceedings*, **2265**(1), 030058, AIP Publishing LLC, (2020).[IF: 0.4]
382. Room temperature magnetodielectric effect in composites of cobalt containing silica based nanoglass and mesoporous alumina - A. Maity, S. Samanta, D. Biswas, and D. Chakravorty. *In AIP Conference Proceedings*, **2265**(1), 030053, AIP Publishing LLC, (2020).[IF: 0.4]
383. Instability zones in the dynamics of a quantum mechanical quasi-periodic parametric oscillator - S Biswas, P Chowdhury and J K Bhattacharjee, *Comm. Nonlinear Science and Numerical Simulations*, **93** 105537 (2021).[IF:4.260]
384. Nonlinear parametric oscillator : A tool for probing quantum fluctuations - P Sarkar and J K Bhattacharjee, *Phys Rev E*, **102** 052204 (2020).[IF:2.529]

385. Quantum dynamics in the cubic potential in the semi-classical limit: smearing of the homoclinic bifurcation – A Pal and J K Bhattacharjee, *Phys Open*, **6** 100047 (2021).[IF:0.963]
386. Exotic pairing structures in population –imbalanced fermionic systems: dynamics as a probe - R Dasgupta and J K Bhattacharjee, *Eur. Phys. J B*, **94** 48 (2021).[IF:1.840]
387. Mechanochemically Induced Chalcogenation of Bicyclic Arenes under Solvent, Ligand, Metal, and Oxidant Free Conditions - S Panja, B Paul, S Jalal, T Ghosh, B C Ranu, *Chemistry Select*, **5**, 14198 (2020).[IF:]
388. Direct Asymmetric Arylation of Imines - I N Egorov, S Santra, D S Kopchuk, I S Kovalev, G V Zyryanov, A Majee, B C Ranu, V L Rusinov, O N Chupakhin, *Adv. Synth. Catal.*, **362**, 4293 (2020) (Review)
389. Recent Progress on Carbon-chalcogen Bond Formation Reaction Under Microwave Irradiation - B C Ranu, T Ghosh, L Adak, *Curr. Microwave Chem.*, **7**, 40, (2020). (Review)
390. Sequential ring-closing enyne metathesis and intramolecular Diels–Alder reaction: an approach to the synthesis of the core structure of galiellalactone - R Datta, S Ghosh, J. Chem. Sci., **132**:145, (2020), doi.org/10.1007/s12039-020-01842-w
391. Three-dimensional CsPbCl₃ anode for quasi-solid-state Li-ion and dual-ion batteries: Mechanism of Li⁺ conversion process in perovskite - P. Pal and A. Ghosh, *Physical Review Applied*, **14**, 064010 (2020).[IF:4.194]
392. A robust succinonitrile plastic crystal based ionogel for all-solid-state Li-ion and dual-ion batteries - P. Pal and A. Ghosh, *ACS Appl. Energy Mater.*, **3**, 4295-4304 (2020) [IF:4.473]
393. Broadband dielectric spectroscopy of BMPTFSI ionic liquid doped solid-state polymer electrolytes: Coupled ion transport and dielectric relaxation mechanism - P. Pal and A. Ghosh, *J. Appl. Phys.*, **128**, 084104 (2020).[IF:2.286]
394. Effect of network structure on dynamics of lithium ions in molybdenum phosphate mixed former glasses - A. Chatterjee, S. Majumdar and A. Ghosh, *Solid State Ionics*, **347**, 115238(2020).[IF:3.107]
395. X-ray and neutron scattering studies of the structure of strontium vanadate glasses - U. Hoppe, R. Kranold, A. Ghosh, J. Neuefeind, D. T. Bowron, *Physics and Chemistry*

- of Glasses: European Journal of Glass Science and Technology B*, **61**, 200 (2020). [IF- 0.287]
396. Anti-resonance and stabilization in spatio-temporal dynamics of a periodically driven Gray-Scott reaction-diffusion system - K Pal, D S Ray, *Chemistry Select*, **5**, 10787 (2020).[IF:1.811]
 397. Spatiotemporal anti-resonance in coupled reaction-diffusion systems - K Pal, S Paul, D S Ray, *Phys. Rev. E*, **101**, 052203 (2020).[IF:2.296]
 398. Parametric instability-induced synchronization in chemical oscillations and spatio-temporal patterns - S Paul, K Pal, D S Ray, *Phys. Rev. E*, **102**, 052209 (2020).[IF: 2.296]
 399. Microscopic quantum generalization of classical Liénard oscillators - S Bhattacharyya, A Ghosh, D S Ray, *Phys. Rev. E*, **103**, 012118 (2021).[IF:2.296]
 400. Parametric oscillations in a dissipative bosonic Josephson junction - A K Saha, D S Ray, B Deb, *J. Phys. B: At. Mol. Opt. Phys.*, **53**, 135301 (2020).[IF:2.115]
 401. Vibrational resonance in a driven two-level quantum system, linear and nonlinear response - S Paul, D S Ray, *Phil. Trans. R. Soc. A*, **379**, 20200231 (2021).[IF:3.093]
 402. Charge disproportionate molecular redox for discrete memristive and memcapacitive switching - S Goswami, S P Rath, D Thompson, S Hedstrom, M Annamalai, R Pramanick, B R Ilic, S Sarkar, S Hooda, C A Nijhuis, J Martin, R S Williams, S Goswami, T Venkatesan, *Nat.Nanotechnol.*, **15**, 380 (2020).[IF:]
 403. Colossal current and voltage tunability in an organic memristor via electrode engineering - S Goswami, D Thompson, R S Williams, S Goswami, T Venkatesan, *Applied Materials Today*, **19**, 100626 (2020).[IF:]
 404. An organic approach to low energy memory and brain inspired electronics - S Goswami, S Goswami, T Venkatesan, *Applied Physics Reviews*, **7**, 21303 (2020).[IF:]
 405. Size-selective Pt siderophores based on redox active azo-aromatic ligands - D Sengupta, S Goswami, R Banerjee, M J Guberman-Pfeffer, A Patra, A Dutta, R Pramanick, S Narasimhan, R Pradhan, V Batista, T Venkatesan, S Goswami, *Chem. Sci.*, **11**, 9226 (2020).[IF:]
 406. Nanometer-Scale Uniform Conductance Switching in Molecular Memristors - S Goswami, D Deb, A Tempez, M Chaigneau, S P Rath, M Lal, Ariando; R S Williams, S Goswami, T Venkatesan, *Adv. Mater.*, **32**, 2004370 (2020).[IF:]

407. Reversible Stimuli-Dependent Aggregation-Induced Emission from a “Nonfluorescent” Amphiphilic PVDF Graft Copolymer - M. Pakhira, D. P. Chatterjee, D. Mallick, R. Ghosh, and A. K. Nandi, *Langmuir*, : <https://doi.org/10.1021/acs.langmuir.1c00310>. (2021).[IF:3.6]
408. Fluorescence in “Nonfluorescent” Polymers - D. P. Chatterjee, M. Pakhira and A. K. Nandi, *ACS Omega*, **5**, 30747 (2020).[IF:2.9]
409. A Robust Stimuli Responsive Eu $3+$ - Metallo Organic Hydrogel and Xerogel Emitting White Light - A. Panja, P. Bairi, D. Halder, S. Das and A. K. Nandi, *J. Colloid and Interface Science*, **579**, 531–54 (2020).[IF:7.5]
410. 3D/2D $\text{Bi}_2\text{S}_3/\text{SnS}_2$ heterostructures: superior charge separation and enhanced solar light-driven photocatalytic performance - Sumana Paul, Dulal Barman, Chandra Chowdhury, P. K. Giri and Subodh Kumar De, *CrystEngComm*, **23**, 2276 (2021).[IF:3.117]
411. Control Synthesis and Alloying of Ambient Stable Pb-Free $\text{Cs}_3\text{Bi}_2\text{Br}_{9(1-x)}\text{I}_{9x}$ ($0 \leq x \leq 1$) Perovskite Nanocrystals for Photodetector Application - Sirshendu Ghosh, Sankha Subhra Mukhopadhyay, Sumana Paul, Bapi Pradhan and Subodh Kumar De, *ACS Appl. Nano Mater*, **3**, 11107 (2020).[IF:3.939]
412. Dielectric and impedance spectroscopy of $\text{Nd}_2\text{CoIrO}_6$ double perovskite - Raktim Datta, Suman Kalyan Pradhan, Subham Majumdar and Subodh Kumar De, *J. Phys.: Condens. Matter*, **32**, 495702 (8pp) (2020).[IF:2.707]
413. Enhanced Photophysical Properties of $\text{Bi}_2\text{S}_3/\text{AgBiS}_2$ Nanoheterostructures Synthesized via Ag(I) Cation Exchange- Mediated Transformation of Binary Bi_2S_3 - Sumana Paul, Biswajit Dalal, Rajkumar Jana, Arnab Shit, Ayan Datta, and Subodh Kumar De, *J. Phys. Chem. C*, **124**, 12824–12833 (2020)[IF:4.189]
414. Probing the post-Minkowskian approximation using recursive addition of self-interactions – Soumendra Kishore Roy, Ratna Koley and Parthasarathi Majumdar, *Phys.Rev. D*, **102** 8, 084045 (2020).[IF:4.568]
415. k-essence emergent spacetime as a generalized Vaidya geometry - Goutam Manna, Parthasarathi Majumdar and Bivash Majumder, *Phys.Rev. D*, **101** 12, 124034 (2020).[IF:4.568]

416. Spinning gyroscope in an acoustic black hole: precession effects and observational aspects – Chandrachur Chakraborty and Parthasarathi Majumdar, *Eur.Phys.J.C*, **80**, 6, 493 (2020).[IF:4.590]
417. Gravitational Waves with Orbital Angular Momentum – Pratyusava Baral, Anarya Ray, Ratna Koley and Parthasarathi Majumdar, *Eur.Phys.J.C*, **80**, 4, 326 (2020).[IF:4.590]
418. AKR's Quest for Excellence : Seeds of Physics Nobel 2020 – Parthasarathi Majumdar, *Science and Culture*, **86**, 342 (2020).[IF:2.00]
419. On Some Consistent Tests of Mutual Independence among several Random Vectors of Arbitrary Dimensions - *Statistics and Computing*, **30**, pp 1707-1723 (2020), Springer Nature (Co-authors: Anil Ghosh, Soham Sarkar and Angshuman Roy)
420. Some new Copula-based Distribution-Free Tests of Independence among Several Random Variables - *Sanhkya, Series A*, **1**, pp 1-43, Springer Journals (2020), (Co-authors: Anil Ghosh, C.A.Murthy and Angshuman Roy)

TRC

421. Turn-on solid state luminescence by solvent-induced modification of intermolecular interactions - P Majumdar, M Ghora, R Wannemacher, J Gierschner and S Varghese, *J. Mater. Chem. C*, **8**, 15742 (2020).[7.06]
422. Enabling Control over Mechanical Conformity and Luminescence in Molecular Crystals: Interaction Engineering in Action – M. Ghora, P. Majumdar, M. Anas and S. Varghese, *Chem.-Eur. J.*, **26**, 14488(2020).[4.86]
423. Supramolecular Design Strategies for Color Tuning of Iridium(III) Complexes Using a Common Framework of Cyclometalating Ligands - Sandip Biswas, Bidisa Das, Parvej Alam, Arnab Ghatak, Uttam Kumar Ghorai, Arijit Ghosh, BenuBrata Das, InamurRahamanLaskar and Somobrata Acharya, *J. Phys. Chem. C*, **125**, 4730–4742 (2021).[IF:4.18]
424. Zeolite-Y encapsulated cobalt(II) Schiff-base complexes employed for photocatalytic dye-degradation and upcycling CO₂ - Susheela Kumari, Aishwarya Ramesh, Bidisa Das and Saumi Ray, *Inorganic Chemistry Frontiers*, **8**, 1553-1566 (2021).[IF:5.95]

425. Electronic structure and transport properties of coupled CdS/ZnSe quantum dots - Simon Liebing, Torsten Hahn, Jens Kortus, Bidisa Das, Arup Chakraborty and Indra Dasgupta, *J. Phys.: Condens. Matter* **33** 125002 (2021). [IF: 2.70]
426. Encapsulation of CsPbBr₃ Nanocrystals by a Tripodal Amine Markedly Improves Photoluminescence and Stability Concomitantly via Anion Defect Elimination - Jayita Pradhan, Parikshit Moitra, Umesh, Bidisa Das, Pramita Mondal, Gundam Sandeep Kumar, Uttam Kumar Ghorai, Somobrata Acharya and Santanu Bhattacharya, *Chem. Mater.* 2020, **32**, 7159–7171(2020). [IF:9.56]
427. Coagulating and flocculating Ferrihydrite: Application of Zinc Acetate salt - Samirul Islam, Sanjit Das, Geetanjali Mishra, Bidisa Das, Arindam Malakar, Ilaria Carlomagno, Carlo Meneghini, Giovanni De Giudici, Liliana P. L. Gonçalves, Juliana P. S. Sousa, Yury V. Kolen'ko, Andrei Cristian Kuncser and Sugata Ray, *Environ. Sci.: Water Res. Technol.*, **6**, 2057-2064 (2020). [IF:3.45]
428. Molecular Distribution of Indomethacin: Impact on the Precipitation of Glassy Curcumin pH-Responsive Nanoparticles with Enhanced Solubility - Kajal Sharma, Bidisa Das, Prem Felix Siril, *Crystal Growth & Design*, **20**, 2377-2389 (2020). [IF: 4.15]

DRU

429. First example of engineered β -cyclodextrinylated MEMS devices for volatile pheromone sensing of olive fruit pests – P. Moitra, D. Bhagat, VB Kamble, AM Umarji, R. Pratap and S. Bhattacharya, *Biosensors and Bioelectronics*, **173**, 112728 (2021). [IF:10.257]
430. Cancer Stem Cell-Targeted Gene Delivery Mediated by Aptamer-Decorated pH-Sensitive Nanoliposomes – P. Moitra, S. Misra, K. Kumar, P. Kondaiah, P. Tran, W. Duan and S. Bhattacharya, *ACS Biomater. Sci. Eng.* **7** (6) 2508-2519 (2021). [IF:4.749]
431. Switchable Luminescent Probe for Trace-Level Detection of Spondoptera Litura Nuclear Polyhedrosis Virus via Color-Changing Response – D. Biswakarma, N. Dey, D. Bhagat and S. Bhattacharya, *ACS Agricultural Sci. Tech.*, **1**, 000-000 (2021). [IF:NA]
432. FRET-based ‘ratiometric’ molecular switch for multiple ions with efficacy towards real-time sampling and logic gate applications – N. Dey, N. Kumari and S. Bhattacharya, *Tetrahedron*, **85**, 132007 (2021). [IF:2.645]

433. Antibody-Conjugated Vitamin E-Derived Liposomes for Targeted Gene Transfer – M. Kamra, B. Maiti, P. Saha, A.A. Karande and S. Bhattacharya, *ACS Appl. Bio. Mater.*, **3**, 8375-8385 (2020).[IF:2.57]
434. Breaking the Barrier of Polynucleotide Size, Type and Topology in Smad2 Antisense Therapy Using a Cationic Cholesterol Dimer with Flexible Spacer – S.K. Misra, P. Moitra, P. Kondaiah and S. Bhattacharya, *ACS Appl. Bio. Mater.*, **3**, 7712-7721 (2020).[IF:2.57]
435. Two-component Charge Transfer Hydrogel and with Excellent Sensitivity towards Microenvironment : A Responsive Platform for Biogenic Thiols – D. Biswakarma, N. Dey and S. Bhattacharya, *Soft Matter*, **16**, 9882-9889 (2020).[IF:3.679]
436. Functional Glycopolypeptides : Synthesis and Biomedical Applications – Z. Wang, X. Zhang, Q. Lin, J. Sun, S. Bhattacharya, G. Chen and R. Sheng, *Advances in Polymer Technology*, 1-6 (2020) Article ID 6052078 [IF:2.389] [Open Access, Wiley-Hindawi].

BOOK PUBLICATIONS :

1. Synthesis of Organo-Selenides by Coupling Reaction and C-H Activation –Recent Advances, **B C Ranu**, T Ghosh, S Panja, S Jalal, B. C. Ranu, B Banerjee, De Gruyter, Organoselenium Chemistry, ed. Germany, Ch 1, Pg1-28, 2020
2. Selenoamides, Selenocarbonyls and selenazadienes in organic synthesis – B. Banerjee, **B. C. Ranu**, De Gruyter, Organoselenium Chemistry, ed Germany, Ch. 9, Pg. 347-380, 2020.
3. Recent advances in the synthesis of bioactive five- and six-membered heterocycles catalyzed by heterogeneous metal catalysts - **B. C. Ranu**, T. Ghosh and L. Adak, *Green Synthetic Approaches for Biologically Relevant Heterocycles (Second Edition)*, Volume 2: Green Catalytic Systems and Solvents, Ed.: G. Brahmachari, Elsevier, UK, Chap. 2, pp 11-52, 2021.
4. Use of ball-milling for the synthesis of biologically active heterocycles,– N. Mukherjee, P. Maity, **B. C. Ranu**, *Green Synthetic Approaches for Biologically Relevant Heterocycles (Second Edition)*Volume 1: Advanced Synthetic Techniques, ed. G. Brahmachari, Elsevier, UK Chap. 6, pp 167-188, 2021.

5. Polymer Functionalized graphene – A.K. Nandi, Polymer Chemistry Series No. 35 Published by the Royal Society of Chemistry, P. 1-425, (2021).
6. Exploring Artificial Neural Networks to Model Inter-atomic and Inter-molecular Potential Energy Surfaces - Mayank Dixit, Joseph Daniel and Sankar Prasad Bhattacharyya, *Journal of Indian Chemical Society* (Sadhan Basu Centenary Issue, 2021, Invited)
7. Smart Healthcare Analytics in IoT Enabled Environment. [Series: Intelligent Systems Reference Library, vol 178.], Springer, Cham., 9-33, 2020
8. Springer Proceedings in Physics, Springer, 237-245, 2020.
9. Eur. Phys. J. Special Topics 229 (Guest Edited with S. Roy, IACS), Springer-Verlag GmbH, Germany, 3043-3046 (Editorial on “Supersymmetry and unification : a status update, 2020)
10. Click and combinatorial approaches to quadruplex ligand discovery, J. Dash, P. Saha, K. Fatma, Quadruplex Nucleic Acids as Targets for Medicinal Chemistry, 287 (2020).
11. Functional Models for Dioxygen Activating Nonheme Monoiron Enzymes – I. Ghosh and T.K. Paine, Comprehensive Coordination Chemistry III, Third Edition, Vol 8, Elsevier, [oi.org/10.1016/B978-0-08-102688-5.00019-2](https://doi.org/10.1016/B978-0-08-102688-5.00019-2) (2021).

LIST OF PUBLICATIONS FOR THE YEAR 2019-2020

As per Faculty submission in their Annual Report

1. Structurally Tunable pH-Responsive Luminescent Assemblies from Halogen Bonded Supra- π -Amphiphiles - A. Jamadar, C. K. Karan, L. Roy, A. Das, *Langmuir*, **36**, 3089, (2020).[IF:3.683]
2. Supramolecularly Cross-linked Amphiphilic Block Copolymer Assembly by Dipolar Interaction of a Merocyanine Dye - A. Rajak, C. K. Karan, P. Theato and A. Das, *Polym. Chem.*, **11**, 695 (2020).[IF:4.760]
3. pH-Responsive Graftable Supramolecular Polymer with Tailorable Surface Functionality by Orthogonal Halogen Bonding and Hydrogen Bonding - A. Jamadar, A. Das, *Polym. Chem.*, **11**, 385 (2020).[IF:4.760]
4. Large-area transparent flexible guanidinium incorporated MAPbI₃ microstructures for high-performance photodetectors with enhanced stability - G Sandeep Kumar, M Hossain, K. D. M. Rao and S Acharya, *Nanoscale Horizons*, **5** (4), 696 (2020). [IF:9]
5. Self-Powered and Broadband Photodetectors with GaN: Layered rGO Hybrid Heterojunction – K. Sarkar, M. Hossain P. Devi, K.D.M. Rao and P. Kumar, *Adv. Mater. Interfaces*, **6** (20), 2196 (2019).[IF:4.3]
6. Narrowing Desiccating Crack Patterns by an Azeotropic Solvent for the Fabrication of Nanomesh Electrodes – R. Pujar, A. Kumar, K.D.M. Rao, S. Sadhukhan, T. Dutta, S. Tarafdar and G. U. Kulkarni, *Langmuir*, **35**, 16130 (2019).[IF:3.8]
7. Large-area Transparent Flexible Guanidinium Incorporated MAPbI₃ Microstructures for High-performance Photodetectors with Enhanced Stability - G Sandeep Kumar, P K Sarkar, B Pradhan, M Hossain, K. D. M. Rao and S Acharya, *Nanoscale Horizons* (DOI: 10.1039/c9nh00774a) (2020).[IF: 9.09]
8. Light-Induced Defect Healing and Strong Many-Body Interactions in Formamidinium Lead Bromide Perovskite Nanocrystals - S Ghosh, Qi Shi, B Pradhan, A Mushtaq, S Acharya, K. J. Karki, Tõnu Pullerits and S. K. Pal, *J. Phys. Chem. Lett.*, **11**, 1239 (2020).[IF:7.32]
9. Solution Phase Synthesis of Large-area Ultra-thin Two Dimensional Layered Bi₂Se₃: Role of Cu-Intercalation and Substitution - B Pradhan, A Dalui, S Paul, D. Roy and S.

Acharya, *Materials Research Express*, **6** (12), 124005 (2020).[IF:1.44] (Special issue : Focus on Materials Research in India)

10. Aggregation induction of tetraphenylethyleneAIEgen and its supramolecular aggregates toward light-emitting diodes - P. Mondal, S. Biswas, D. Jana, B. Das, U. K Ghorai, B. K Ghorai and S Acharya, *Journal of Solid State Chemistry*, **282**, 121122 (2020).[IF:2.17] (Invited article)
11. Vortex-Aligned Ordered Film of Crystalline Fullerene C70 Microtubes with Enhanced Photoluminescence and Photovoltaics Properties – P. Bairi, G. Sandeep Kumar, S. Acharya, S. Maji, K. Ariga, and L. Kr Shrestha, *Journal of Nanoscience and Nanotechnology*, **20** (5), 2971 (2020).[IF:1.35] (Special issue on Materials Innovation with Nanoarchitectonics)
12. Unveiling Peritoneum Membrane for a Robust Triboelectric Nanogenerator - T Kamilya, P. Sarkar and S. Acharya, *ACS Omega*, **4** (18), 17684 (2019).[IF:2.58]
13. Introduction of Triboelectric Positive Bioplastic for Powering Portable Electronics and Self-powered Gait Sensor – P. K. Sarkar, T. Kamilya and S. Acharya, *ACS Applied Energy Materials*, **2** (8), 5507 (2019).[IF:]
14. Solid-State Emissive Organic Chromophores: Design, Strategy and Building Blocks - M. K. Bera, P. Pal and S. Malik, *J. Mater. Chem. C*, **8**, 788 (2020).[IF:6.641]
15. Intermingled Network of Syndiotactic Polystyrene / Poly(3-hexylthiophene) - K. Samanta, J.M. Guenet and S. Malik, *Macromolecules*, **52**, 8569 (2019).[IF:5.997]
16. Nanocomposites of Polypyrrole / Graphene Nanoplatelets / Single Walled Carbon Nanotubes for Flexible Solid-State Symmetric Supercapacitor - S. Dhibar, A. Roy and S. Malik, *Euro. Polym. J.*, **120**, 109203 (2019).[IF:3.621]
17. Covalently Linked Benzimidazole-Containing Reduced Graphene oxide / Polyaniline Nanocomposites as Electrode Materials - A. Roy, S. Dhibar, S. Kundu, and S. Malik, *RSC Advances*, **9**, 24646 (2019).[IF:3.05]
18. Pt/Co₃O₄ Surpasses Benchmark Pt/C: An Approach Towards Next Generation Hydrogen Evolution Electrocatalyst - R. Jana, C. Chowdhury, S. Malik and A. Datta, *ACS Applied Polymer Materials*, **2**, 5613 (2019).[IF:]
19. Network of Polyaniline Nanotubes for Wastewater Treatment and Oil/Water Separation - S. Mondal, U. Rana, P. Das and S. Malik, *ACS Applied Polymer Materials*, **1**, 1624 (2019).[IF:]

20. Tunable Nanostructures by Directional Assembly of Donor-Acceptor Supramolecular Copolymer and Antibacterial Activity - S. Chakraborty, R. Barman and S. Ghosh, *J. Mater. Chem. B.*, **8**, 2909 (2020).[IF:5.04]
21. Hyperbranched Polydisulfide - R. Bej, P. Rajdev, R. Barman and S. Ghosh, *Polym. Chem.*, **11**, 990 (2020).[IF:4.76]
22. Self-assembled Polyurethane Capsules with Selective Antimicrobial Activity against Gram- negative *E. coli* - R. Barman, T. Mondal, J. Sarkar, A. Sikder and S. Ghosh *ACS Biomater. Sci. Eng.*, **6**, 654 (2020)[IF:4.51]
23. Disulfide Chemistry in Responsive Aggregation of Amphiphilic Systems - R. Bej, P. Dey and S. Ghosh, *Soft Matter.*, **16**, 11 (2020).[IF:3.39]
24. Supramolecular Nanowire from an Acceptor-Donor-Acceptor Conjugated Chromophore - S. Chakraborty, S. Varghese and S. Ghosh, *Chem. Eur. J.*, **25**, 16725 (2019).[IF:5.16]
25. Original polymorphism in a naphthalene bisimide π -conjugated organogelator: a complex interplay between hydrogen bonding and heterocycle π -stacking - M Diebold, E Christ, L Biniek, L Karmazin, B Heinrich, C Contal, S Ghosh, P J. Mesini, and M Brinkmann, *J. Mater. Chem. C.*, **7**, 13120 (2019).[IF:6.64]
26. Hydrogen-bonding Regulated Assembly of Molecular and Macromolecular Amphiphiles - A. Sikder and S. Ghosh, *Mater. Chem. Front.*, **3**, 2602 (2019).[IF:]
27. Synthesis and Self-assembly of Helical Polymer Grafted from a Foldable Polyurethane Scaffold - R. Barman, P. Dey, T. Mondal and S. Ghosh, *Chem. Asian J.*, **14**, 4741 (2019).[IF:3.69]
28. Directional Supramolecular Assembly of π -Amphiphiles with Tunable Surface Functionality and Impact on the Antimicrobial Activity - A. Sikder, J. Sarkar, R. Barman and S. Ghosh *J. Phys. Chem. B*, **123**, 7169 (2019).[IF:2.92]
29. Organobase Triggered Controlled Supramolecular Ring Opening Polymerization and 2D Assembly - A. Chakraborty, G. Ghosh, D. S. Pal, S. Varghese and S. Ghosh *Chem. Sci.*, **10**, 7345 (2019).[IF:9.55]
30. pH-Responsive Biocompatible Supramolecular Peptide Hydrogel - G. Ghosh, R. Barman, J. Sarkar and S. Ghosh, *J. Phys. Chem. B*, **123**, 5909 (2019).[IF:2.92]

31. Supramolecular Assembly of Molecularly Engineered Protein and Polymer - A. Sikder, D. S. Ray, V. K. Aswal and S. Ghosh, *Chem. Eur. J.*, **25**, 10464 (2019).[IF:5.16]
32. Pd-Catalyzed C-H bond Activation of Indoles for Suzuki Reaction – I. Banerjee, K.C. Ghosh and S. Sinha, *J. Chem. Sci.*, 131:71, 1-9 (2019).[IF:] **SAIS**
33. Dehydrocyclization of Diamine Borane and Amine-Borane Alcohol catalyzed by 1-lithio-2-alkyl-1,2-dihydropyridine and its Na & K analogues : A DFT Analysis of the Reaction Mechanism - A Ghosh, T Debnath, T Ash and A K. Das, *Int. J. Hydrogen Energy*, **44**, 28731 (2019).[IF:]
34. N-Heterocyclic Carbene-Catalyzed Umpolung of Imines for the Enantioselective Synthesis of Dihydroquinoxalines - T Das, A Ghosh, K Balanna, P Behera, R Gonnade, U Marelli, A K. Das and A Biju*, *ACS Catalysis*, **9**, 4065 (2019).[IF:]
35. Comprehensive understanding of bi-functional behavior of PNP-Pincer complexes towards the conversion of CO into methanol and CO₂: A DFT approach - T Ash, T Debnath and A K. Das, *Chemistry Select*, **4**, 10777 (2019).[IF:]
36. Exploration of tautomerizations of succinimide and maleimide assisted by ammonia and methanol: a theoretical perspective - S Sarkar, T Ash, T Debnath and A K. Das, *Theor. Chem. Acc.*, **138**, 55 (2019).[IF:]
37. Formation of stable ionized complexes between coinage metal containing superhalogens and moderately reactive molecules: a DFT approach - S Sarkar, T Ash, T Debnath and A K. Das, *Structural Chemistry*, **30**, 1221 (2019).[IF:]
38. Comprehensive Understanding of Multiple Binding of Artificial Amino Acids with Cu²⁺-Aqua Complex: A DFT Approach - T Ash, T Debnath, A Ghosh and A K. Das, *Structural Chemistry*, **31**, 155 (2020).[IF:]
39. Interaction of moderately reactive molecules with organic superhalogens: a theoretical perspective - S Sarkar, T Ash, T Debnath and A K. Das, *Mol. Phys.*, **118**, 2 (2020).[IF:]
40. Ordering kinetics in a q-state random-bond clock model: Role of vortices and interfaces - S. Chatterjee, S. Sutradhar, S. Puri, R. Paul, *Physical Review E*, **101**, 032128 (2019).[IF:2.35]

41. A novel combinatorial approach of quantitative microscopy and in silico modeling deciphers Arf1-dependent Golgi size regulation - P. Iyer, S. Sutradhar, R. Paul, D. Bhattacharyya, S. Sutradhar, R. Paul, D. Bhattacharyya, *Eur. Phys. J. E*, **42**, 154 (2019).[IF:1.80]
42. Polynomial Shift-like maps – S. Bera, *International Journal of Mathematics*, **30**, 12 (2019).[IF:]
43. Rigidity Theorems for Henon maps-II – S. Bera, *Fundamenta Mathematica*, Accepted.
44. Understanding photon sphere and black hole shadow in dynamically evolving spacetime - A. K. Mishra, S. Chakraborty and S. Sarkar, *Physical Review D*, **99**, 104080 (2019).[IF:4.568]
45. Generalized Schwinger Effect and Particle Production in an Expanding Universe - Ka Rajeev, S. Chakraborty and T. Padmanabhan, *Physical Review D*, **100**, 045019 (2019). [IF: 4.568]
46. Decoding signatures of extra dimensions and estimating spin of quasars from the continuum spectrum - I. Banerjee, S. Chakraborty and S. SenGupta, *Physical Review D*, **100**, 044045 (2019).[IF:4.568]
47. Raychaudhuri equation with zero point length - S. Chakraborty, Dawood Kothawala and Alessandro Pesci, *Physics Letters B*, **797**, 134877 (2019).[IF:4.168]
48. Embedding into flat spacetime and black hole thermodynamics - T.R. Govindarajan and S. Chakraborty, *Modern Physics Letters A*, **34**, 2050013 (2019).[IF:1.367]
49. **[Rapid Communications]** Silhouette of M87*: A New Window to Peek into the World of Hidden Dimensions – I. Banerjee, S. Chakraborty and S. SenGupta, *Physical Review D*, **101**, 041301 (2020).[IF:4.568]
50. Boundary term in the gravitational action is the heat content of the null surfaces – S. Chakraborty and T. Padmanabhan, *Physical Review D*, **101**, 064023 (2020).[IF:4.568]
51. Strong cosmic censorship conjecture in higher curvature gravity - Akash K. Mishra and S. Chakraborty, *Physical Review D*, **101**, 064041 (2020).[IF:4.568]
52. Constraining extra-spatial dimensions with observations of GW170817 – K. Chakravarti, S. Chakraborty, Khun Sang Phukon, Sukanta Bose and S. SenGupta, *Classical and Quantum Gravity*, **37**, 105004 (2020).[IF:3.487]

53. Echoes from braneworld black holes – R. Dey, S. Chakraborty and Niayesh Afshordi, *Physical Review D*, **101**, 104014 (2020).[IF:4.568]
54. NiRh₂O₄: A spin-orbit entangled diamond-lattice paramagnet – S. Das, D. Nafday, T. Saha-Dasgupta and A. Paramekanti, *Phys. Rev. B*, **100**, 140408(R) (2019).[IF:3.73]
55. Electronic and Magnetic State of LaMnO₃ Epitaxially Strained on SrTiO₃: Effect of Local Correlation and Non-local Exchange - H Banerjee, O Janson, K Held, T Saha-Dasgupta, *Phys. Rev. B*, **100**, 115143 (2019).[IF:3.73]
56. Machine-learning-assisted prediction of magnetic double perovskites - A Halder, A Ghosh, TS Dasgupta, *Physical Review Materials*, **3**, 084418 (2019).[IF:4.5]
57. Short-Range and Long-Range Order in AFM–FM Exchange Coupled Compound LiCu₂(VO₄)(OH)₂ - Anatoly Koshchev, Elena Zvereva, Larisa Shvanskaya, Olga Volkova, Mahmoud Abdel-Hafiez, Andrey Gippius, Sergey Zhurenko, Alexey Tkachev, Dmitry Chareev, Norbert Büttgen, Martina Schaedler, Asif Iqbal, Badiur Rahaman, Tanusri Saha-Dasgupta, Alexander Vasiliev, *The J Phys Chem C*, **123**, 17933 (2019).[IF:4.30]
58. Boronated Holey Graphene: A case of 2D Ferromagnetic Metal - D Nafday, H Fang, P Jena, T Saha-Dasgupta, *Physical Chemistry Chemical Physics*, **37**, 2019, DOI: 10.1039/C9CP02936B
59. MXene: A New Trend in 2D Materials Science – P. Chakraborty, T. Das and T. Saha-Dasgupta, *Comprehensive Nanoscience and Nanotechnology*, **319** (2019).[IF:] **SMCS**
60. Hybrid Nanostructures of 2D CdSe Nanoplatelets for High-Performance Photodetector Using Charge Transfer Process - Avisek Dutta, Anusri Medda, Rajesh Bera, Krishnendu Sarkar, Sumanta Sain, Praveen Kumar and Amitava Patra, *ACS Appl. Nano Mater.*, (<https://doi.org/10.1021/acsanm.0c00728>) (2020).[IF: pending]
61. Ultrafast Carrier Dynamics in 2D CdSe Nanoplatelets–CsPbX₃ Composites: Influence of the Halide Composition - Goutam Ghosh, Avisek Dutta, Arnab Ghosh, Srijon Ghosh and Amitava Patra *J. Phys. Chem. C*, **124**, 18, 10252 (2020).[IF:4.309]
62. Global and target analysis of relaxation processes of the collapsed state of P3HT polymer nanoparticles - Arnab Ghosh, Srijon Ghosh, Goutam Ghosh, Bikash Jana and Amitava Patra, *Phys. Chem. Chem. Phys.*, **22**, 2229 (2020).[IF:3.567]
63. Ultrafast Relaxation Processes of Conjugated Polymer Nanoparticles in the Presence of Au Nanoparticles - Arnab Ghosh, Srijon Ghosh, Bikash Jana and Amitava Patra *Chem. Asian J.*, **14**, 4681 (2019).[IF:3.698]

64. Luminescent Au₆ and Au₈ nanoclusters from ligand induced etching of Au nanoparticles - Dipankar Bain, Subarna Maity, Tanay Debnath, Abhijit Kumar Das and Amitava Patra *Mater. Res. Express*, **6**, 124004 (2019).[IF:1.449]
65. Ultrafast Energy Flow Dynamics in a Conjugated Polymer-Based Host–Guest Light-Harvesting System - Srijon Ghosh, Arnab Ghosh, Bikash Jana and Amitava Patra, *J. Phys. Chem. C*, **123**, **43**, 26727 (2019).[IF:4.309]
66. Influence of Shape on Carrier Relaxation Dynamics of CsPbBr₃ Perovskite Nanocrystals - Goutam Ghosh, Bikash Jana, Sumanta Sain, Arnab Ghosh and Amitava Patra, *Phys. Chem. Chem. Phys.*, **21**, 19318 (2019).[IF:3.567]
67. Ultrafast Carrier Dynamics in 2D-2D Hybrid Structures of Functionalized GO and CdSe Nanoplatelets - Soma Das, Avishek Dutta, Rajesh Bera and Amitava Patra, *Phys. Chem. Chem. Phys.*, **21**, 15568 (2019).[IF:3.567]
68. Structural Insight and Ultrafast Dynamics of 2D Porphyrin Nanostructures - Rajesh Bera, Sandipan Nayek, Sandip Kumar Nayak, Biman Jana and Amitava Patra, *J. Phys. Chem. C*, **123**, **25**, 15815 (2019).[IF:4.309]
69. An overview on the current understanding of the photophysical properties of metal nanoclusters and their potential applications - Subarna Maity, Dipankar Bain and Amitava Patra *Nanoscale*, **11**, 22685 (2019).[IF:6.970]
70. Au/CdSe hybrid nanoflowers: a high photocurrent generating photoelectrochemical cells - Krishna Kanta Haldar, Rathindranath Biswas, Amitava Patra, Krishna Kamal Halder and Tapasi Sen, *Gold Bulletin*, **52**:1–7 (2019).[IF:2.279]
71. Role of Structural Distortions in Stabilizing Electrosynthesized Blue Emitting Pristine Phosphorene Quantum Dots - Manila Ozhukil Valappil, Krati Joshi, Lisa John, Sailaja Krishnamurthy, Bikash Jana, Amitava Patra, Vijayamohanan K Pillai and Subbiah Alwarappan, *J. Phys. Chem. Lett.*, **10**, 973 (2019).[IF:7.329]
72. Engineering Atomically Precise Copper Nanoclusters with Aggregation Induced Emission - Subarna Maity, Dipankar Bain and Amitava Patra, *J. Phys. Chem. C*, **123**, 2506 (MOST READ ARTICLE) (2019).[IF:4.309]
73. Opportunities and Challenges in Energy and Electron Transfer of Nanoclusters based Hybrid Materials and their Sensing Applications - Dipankar Bain, Subarna Maity, and Amitava Patra *Phys. Chem. Chem. Phys.*, **21**, 5863 (Perspective, invited). (HOT ARTICLE) (2019).[IF:3.567]
74. Manipulation of the exciton diffusion length of conjugated polymer nanoparticles: Role of electron and hole scavenger molecules - Arnab Ghosh, Bikash Jana, Ajeet Kumar, Srijon Ghosh and Amitava Patra, *Bull. Mater. Sci.*, (invited article) (2019).[IF:0.870]

75. Nanoarchitected Metal Phosphates and Phosphonates: A New Material Horizon toward Emerging Applications - P. Bhanja, J. Na, T. Jing, J. Lin, T. Wakihara, A. Bhaumik, Y. Yamauchi, *Chemistry of Materials*, **31**, 5343 (2019).[IF:10.16]
76. A new triazine-thiophene based porous organic polymer as efficient catalyst for the synthesis of chromenes via multicomponent coupling and catalyst support for facile synthesis of HMF from carbohydrates - S. K. Das, S. Chatterjee, S. Mondal, A. Bhaumik, *Molecular Catalysis*, **475**, 110483 (2019).[IF:4.40]
77. Organically Functionalized Mesoporous SBA-15 Type Material Bearing Fluorescent Sites for Selective Detection of HgII from Aqueous Medium - L. Paul, S. Mukherjee, S. Chatterjee, A. Bhaumik, D. Das, *ACS Omega*, **4**, 17857 (2019).[IF:2.58]
78. An Efficient Mesoporous Cu-Organic Nanorod for Friedländer Synthesis of Quinoline and Click Reactions - S. Elavarasan, A. Bhaumik, M. Sasidharan, *ChemCatChem*, **11**, 4340 (2019).[IF:4.49]
79. Preparation of DABCO-Based Acidic-Ionic-Liquid-Supported ZnO Nanoparticles and Their Application for Ecofriendly Synthesis of N-Aryl Polyhydroquinoline Derivatives - P. Mondal, S. Chatterjee, P. Sarkar, A. Bhaumik, C. Mukhopadhyay, *ChemistrySelect*, **4**, 11701 (2019).[IF:1.71]
80. Chiral Cr (III)-salen complex embedded over sulfonic acid functionalized mesoporous SBA-15 material as an efficient catalyst for the asymmetric Henry reaction - M. M. Islam, P. Bhanja, M. Halder, A. Das, A. Bhaumik, S. M. Islam, *Molecular Catalysis*, **475**, 110489 (2019).[IF:4.40]
81. Creation of DABCO-Based Amphoteric Ionic Liquid Supported TiO₂ Nanoparticles: Execution of Amplified Catalytic Properties on Microwave-Assisted Synthesis of N-Substituted Pyrroles - P. Mondal, S. Chatterjee, A. Bhaumik, S. Maity, P. Ghosh, C. Mukhopadhyay, *ChemistrySelect*, **4**, 3140 (2019).[IF:1.71]
82. Pd-chelated 1,3,5-triazine organosilica as an active catalyst for Suzuki and Heck reactions - S. Elavarasan, K. Kala, I. Muhammad, A. Bhaumik and M. Sasidharan, *Molecular Catalysis*, **476**, 110521 (2019).[IF:4.40]
83. Crystalline Porous Organic Polymer Bearing -SO₃H Functionality for High Proton Conductivity - P. Bhanja, A. Palui, S. Chatterjee, Y. V. Kaneti, J. Na, Y. Sugahara, A. Bhaumik, Y. Yamauchi, *ACS Sustainable Chem. Eng.*, **8**, 2423 (2020).[IF:6.97]

84. A new porous Ni-W mixed metal phosphonate open framework material for efficient photoelectrochemical OER - D. Chakraborty, S. Shyamal, A. Bhaumik, *ChemCatChem*, **12**, 1504 (2020).[IF:4.49]
85. Facile Synthesis of Nanoporous Transition Metal-Based Phosphates for Oxygen Evolution Reaction - P. Bhanja, Y. Kim, B. Paul, J. J. Lin, S. M. Alshehri, T. Ahamad, Y. V. Kaneti, A. Bhaumik, Y. Yamauchi, *ChemCatChem*, **12**, 2091 (2020).[IF:4.49]
86. Novel porous metal phosphonates as efficient electrocatalysts for the oxygen evolution reaction - P. Bhanja, Y. Kim, K. Kani, B. Paul, T. Debnath, J. Lin, A. Bhaumik, Y. Yamauchi, *Chemical Engineering Journal* 396, 125245 (2020).[IF:8.35]
87. Nano-SiO₂@[DABCO(CH₂CH₂CO₂H)]⁺[Br]⁻ as an efficient and recyclable SCILL for water mediated facile synthesis of thiol-substituted N-aryl pentasubstituted pyrroles - P. Mondal, S. Chatterjee, K. Nurjamal, S. Maity, A. Bhaumik, G. Brahmachari, P. Ghosh, C. Mukhopadhyay, *Catalysis Communications* 139, 105966 (2020).[IF:3.67]
88. Solvent-Free Environmentally Benign Approach for the Selective Olefin Epoxidation Catalyzed by Mn (III)-Immobilized Mesoporous Nanoarchitectonics - L. Paul, B. Banerjee, A. Bhaumik and M. Ali, *Journal of Nanoscience and Nanotechnology* 20, 2858-2866 (2020).[IF:1.35]
89. CuO grafted triazine functionalized covalent organic framework as an efficient catalyst for CC homo coupling reaction - S. K. Das, B. K. Chandra, R. A. Molla, M. Sengupta, S. M. Islam, A. Majee and A. Bhaumik, *Molecular Catalysis* 480, 110650 (2020).[IF:4.40]
90. Ti(IV)-containing aluminophosphate material TAPO-25 for photoelectrochemical water oxidation - S. Chatterjee, S. Shyamal, D. Chandra, M. Hara, A. Bhaumik, *Molecular Catalysis*, **486**, 110876. (2020).[IF4.40]
91. Thiadiazole containing N-and S-rich highly ordered periodic mesoporous organosilica for efficient removal of Hg(II) from polluted water - S. Das, S. Chatterjee, S. Mondal, A. Modak, B. K. Chandra, S. Das, G. D. Nessim, A. N. Majee, A. Bhaumik, *Chem. Com.*, **56**, 3963 (2020).[IF:6.16]
92. General synthesis of hierarchical sheet/plate-like M-BDC (M= Cu, Mn, Ni, and Zr) metal-organic frameworks for electrochemical non-enzymatic glucose sensing. G.

- Gumilar, Y. V. Kaneti, J. Henzie, S. Chatterjee, J. Na, B. Yulianto, N. Nugraha, A. Bhaumik, Y. Yamauchi, *Chemical Science*, **11**, 3644 (2020).[IF:9.55]
93. Ag NPs Immobilized Over Functionalized 2D-Hexagonal SBA-15 for Catalytic C–H Oxidation of Hydrocarbons with Molecular Oxygen under Solvent-Free Conditions - R. Biswas, S. K. Das, S. N. Bhaduri, A. Bhaumik, P. Biswas, *ACS Sustainable Chem. Eng.* **8**, 5856 (2020).[IF:6.97]
 94. A Thiadiazole-Based Covalent Organic Framework: A Metal-Free Electrocatalyst toward Oxygen Evolution Reaction. S. Mondal, B. Mohanty, M. Nurhuda, S. Dalapati, R. Jana, M. Addicoat, A. Datta, B. K. Jena, A. Bhaumik, *ACS Catalysis*, **10**, 5623 (2020). [IF:12.22]
 95. ZnO-Cu_xO heterostructure photocatalyst for efficient dye degradation – P. Nandi and D. Das, *J. Phys. Chem Solids*, **143** 109463 (2020).[IF:2.752]
 96. Synthesis of diameter controlled multiwall carbon nanotubes by microwave plasma-CVD on low-temperature and chemically processed Fe nanoparticle catalysts – D. Das and A. Roy, *Appl. Surf. Sci.*, **515**, 146043 (2020).[IF:5.155]
 97. Significant band gap narrowing of reduced monoclinic TiO₂ (B) porous nanowire decorated by ternary hybrid of Cu/Cu₂O-nanoparticle for efficient visible light absorption - P Makal and D. Das. *Mater. Today Proc.*, **18**, 1430 (2019).[IF:0.970]
 98. Optimization of Si doping in ZnO thin films and fabrication of *n*-ZnO:Si/*p*-Si heterojunction solar cells – D. Das and L. Karmakar, *J. Alloys Compd.*, **824**, 153902 (2020).[IF:4.175]
 99. Growth of multiwall carbon nanotubes at 300°C using CO₂ as a weak oxidant to (CH₄+H₂) microwave plasma – A. Roy and D. Das, *Mater. Today Proc.*, **18**, 1411 (2019).[IF:0.970]
 100. Advanced nanocrystallinity with widened optical gap realized via microstructural control in P-doped silicon oxide thin films used as window layer in nc-Si solar cells – D. Das and S. Samanta, *Mater. Chem. Phys.*, **243**, 122628 (2020).[IF:2.781]
 101. Improved TCO characteristics of ZnO:Si films via utilization of Si⁴⁺ ionized donor states and its application in *n*-SZO/*p*-Si heterojunction solar cells – L. Karmakar, and D. Das, *Sol. Energy Mater. & Sol. Cells*, **206**, 110278 (2020).[IF:6.019]
 102. Narrow band gap reduced TiO₂-B:Cu nanowire heterostructures for efficient visible light absorption, charge separation and photocatalytic degradation – D. Das and P. Makal, *Appl. Surf. Sci.*, **506**, 144880. (2020).[IF:5.155]
 103. Electrically active boron doping in the core of Si nanocrystals by planar inductively coupled plasma CVD – C. Patra, and D. Das, *J. Appl. Phys.*, **126**, 155305 (2019).[IF: 2.328]

104. Minimization of reflection-loss from etched nano-structures of single crystal silicon wafers – D. Das and L. Karmakar, *Mater. Today Proc.*, **18**, 1324 (2019).[IF:0.970]
105. Superior photocatalytic dye degradation under visible light by reduced graphene oxide laminated TiO₂-B nanowire composite – P. Makal and D. Das, *J. Environ. Chem. Eng.*, **7**, 103358 (2019).[IF:4.020]
106. Optimization of nano-structured tin doped indium oxide films grown at substrate temperature close to the melting point of tin – L. Karmakar and D. Das, *Mater. Today Proc.*, **18**, 1304 (2019).[IF:0.970]
107. Narrow band gap high conducting nc-Si_{1-x}Ge_x:H absorber layers for tandem structure nc-Si solar cells – A. Dey and D. Das, *J. Alloys Compd.*, **806**, 1529 (2019).[IF:4.175]
108. Influence of manganese on multiferroic and electrical properties of lanthanum ferrite nanoparticles - S. Kundu, D. Rana, A. Banerjee, D. Das and S. Basu, *Mater. Res. Express*, **6**, 085032 (2019).[IF:1.449]
109. Enhanced multiferroic, magnetodielectric and electrical properties of Sm doped LaFeO₃ nanoparticles - S.K. Kundu, D.K. Rana, L. Karmakar, D. Das and S. Basu, *J. Mater. Sci.: Mater. Electron.*, **30**, 10694 (2019).[IF:2.195]
110. Facets Directed Connecting Perovskite Nanocrystals - B. Hudait, S. K. Dutta, A. Patra, D. Nasipuri and N. Pradhan, *J. Am. Chem. Soc.*, **142**, 7207 (2020).[IF:]
111. New Advances in Metal Halide Perovskites - Osman Bakr, M. Leite, Narayan Pradhan, *ACS Energy Letters*, **5**, 2328 (2020).[IF:]
112. Isotropic CsPbBr₃ Perovskite Nanocrystals beyond Nanocubes: Growth and Optical Properties - B. Hudait, S. K. Dutta and N. Pradhan, *ACS Energy Letters*, **5**, 650 (2020).[IF:]
113. Facets and Defects in Perovskite Nanocrystals for Photocatalytic CO₂ Reduction - S. Shyamal, S. K. Dutta, T. Das, S. Sen, S. Chakraborty and N. Pradhan, *J. Phys. Chem. Lett.*, **11**, 3608 (2020).[IF:]
114. Doping Iron in CsPbBr₃ Perovskite Nanocrystals for Efficient and Product Selective CO₂ Reduction - S. Shyamal, S. K. Dutta and N. Pradhan, *J. Phys. Chem. Lett.*, **10**, 7965 (2019).[IF:]
115. Doping the Smallest Shannon Radii Transition Metal Ion Ni(II) for Stabilizing α -CsPbI₃ Perovskite Nanocrystals – R. Kr Behera, A. Dutta, D. Ghosh, S. Bera, S. Bhattacharyya, and N. Pradhan, *J. Phys. Chem. Lett.*, **10**, 7916 (2019).

116. New Inroads in Metal Halide Perovskite Research - Michael Saliba, O. M. Bakr, N. Pradhan, M. Kuno and P. V. Kamat, *ACS Energy Letters*, **4**, 3036 (2019).[IF:]
117. Coupled Halide-Deficient and Halide-Rich Reaction System for Doping in Perovskite Armed Nanostructures - S. K. Dutta and N. Pradhan, *J. Phys. Chem. Lett.*, **10**, 6788 (2019).[IF:]
118. Tips and Twists in Making High Photoluminescence Quantum Yield Perovskite Nanocrystals – N. Pradhan, *ACS Energy Letters*, **4**, 1634 (2019).[IF:]
119. The Journey of Making Cesium Lead Halide Perovskite Nanocrystals: What’s Next –N. Pradhan, *J. Phys. Chem. Lett.*, **10**, 5847 (2019).[IF:]
120. Arms Growth and Facets Modulation in Perovskite Nanocrystals - L. Peng, S. Dutta, D. Mondal, B. Hudait, S. Shyamal, R. Xie, P. Mahadevan and N. Pradhan, *J. Am. Chem. Soc.* **141**, 16160 (2019).[IF:]
121. Energy Conversion with 2D-Architectures and Metal Organic Frameworks - K Sivula, N. Pradhan, P. Christopher, M.C. Wasson, O. Farha and P.V. Kamat, *ACS Energy Letters*, **4**, 2021 (2019).[IF:]
122. Blue Emitting CsPbBr₃ Quantum Rods: The Self-Digestive Formation Process and Long Range Self-Assembly - S. K. Mehetor, H. Ghosh and N. Pradhan, *ACS Energy Letters*, **4**, 1437 (2019).[IF:]
123. The Limiting Heterovalent B-site Doping in CsPbI₃ Nanocrystals: The Phase and Optical Stability - S. Bera, D. Ghosh, A. Dutta, S. Bhattacharyya, S. Chakraborty and N. Pradhan, *ACS Energy Letters*, **4**, 1364 (2019).[IF:]
124. Mn-Doped Semiconductor Nanocrystals: 25 Years and Beyond – N. Pradhan, *J. Phys. Chem. Lett.*, **10**, 2574 (2019).[IF:]
125. Arginine-Terminated Nanoparticles of <10 nm Size for Direct Membrane Penetration and Protein Delivery for Straight Access to Cytosol and Nucleus - P. Panja, N. R. Jana, *J. Phys. Chem. Lett.*, **11**, 2363 (2020).[IF:7.33]
126. Trehalose-Conjugated, Catechin-Loaded Polylactide Nanoparticles for Improved Neuroprotection against Intracellular Polyglutamine Aggregates - S. Mandal, K. Debnath, Nihar R. Jana, Nikhil R. Jana, *Biomacromolecules*, **21**, 1578 (2020).[IF:5.67]
127. Fluorescent Carbon Dots as Intracellular Imaging Probes. – H. Ali, S. Ghosh, N. R. Jana, *Wiley Interdisciplinary Reviews - Nanomedicine and Nanobiotechnology*, e1617 (2020). [IF:6.14]
128. Pharmacologic Vitamin C-Based Cell Therapy via Iron Oxide Nanoparticle-Induced Intracellular Fenton Reaction - S. Pal, N. R. Jana, *ACS Applied Nano Materials*, **3**, 1683 (2020).[IF:]

129. TiO₂ Nanoparticles Co-Doped with Nitrogen and Fluorine as Visible Light-Activated Antifungal Agents - K. Mukherjee, K. Acharya, A. Biswas, N. R. Jana, *ACS Applied Nano Materials*, **3**, 2016 (2020).[IF:]
130. Molecular Imprinted Poly-Cyclodextrin for Selective Removal of Dibutyl Phthalate - J Dolai, H. Ali, N. R. Jana, *ACS Applied Polymer Materials*, **2**, 691 (2020).[IF:]
131. Quercetin Encapsulated Polymer Nanoparticle for Inhibiting Intracellular Polyglutamine Aggregation - K. Debnath, Nihar R. Jana, Nikhil R. Jana, *ACS Applied Bio Materials*, **2**, 5298 (2019).[IF:]
132. Riboflavin-Terminated, Multivalent Quantum Dot as Fluorescent Cell Imaging Probe - C. Dalal, N. R. Jana, *Langmuir*, **35**, 11380 (2019).[IF:3.68]
133. Water Dispersible Red Fluorescent Carbon Nanoparticles via Carbonization of Resorcinol - S. Ghosh, H. Ali, N. R. Jana, *ACS Sustainable Chemistry & Engineering*, **7**, 12629 (2019).[IF:6.97]
134. AIEgen-Conjugated Magnetic Nanoparticles as Magnetic-Fluorescent Bioimaging Probes - K. Mandal, D. Jana, B. K. Ghorai, NR Jana, *ACS Applied Nano Materials*, **2**, 3292 (2019).[IF:]
135. Modified p-GaN Micro-Wells with Vertically Aligned 2D-MoS₂ for Enhanced Photoelectrochemical Water-Splitting - D. Ghosh, P. Devi and P. Kumar, *ACS Applied Materials & Interfaces*, **12**, 13797(2020).[IF:8.45]
136. Boosting Photoelectrochemical performance of GaN Nanowall Network photoanode with Bacteriorhodopsin - P. Devi, A. Thakur, D. Gosh, Senthil K, S.M. Shivaprasad, R.K. Sinha and P. Kumar, *International Journal of Hydrogen Energy*, **45**, 103 (2020).[IF:4.23]
137. Quantum dot activated indium gallium nitride on silicon as photoanode for solar hydrogen generation – P. Kumar, P. Devi, Rishabh Jain, S. M. Shivaprasad, R. K. Sinha, Guofu Zhou & Richard Nötzel, *Nature Communications Chemistry*, **2**, 4 (2019).[IF:]
138. Engineering carbon quantum dots for enhancing broadband photoresponse in silicon process-line compatible photodetector - K. Sarkar, P. Devi, A. Lata, R. Ghosh, and P. Kumar, *Journal of Materials Chemistry C*, **7**, 13182 (2019).[IF:6.64]
139. Green Synthesized Plasmonic Nanostructure decorated TiO₂ Nanofibers for Photoelectrochemical Hydrogen Production - A. Thakur, P. Kumar, S. Bagchi, R.K. Sinha, and P. Devi, *Solar Energy*, **193**, 715 (2019).[IF:4.67]
140. Self-Powered and Broadband Photodetectors with GaN: layered rGO Hybrid Heterojunction - K. Sarkar, M. Hussain, P. Devi, K.D.M. Rao, and P. Kumar, *Advanced Materials Interfaces*, 1900923 (2019).[IF:4.85]
141. Recent Advances in Carbon Quantum Dot-Based Sensing of Heavy Metals in Water - P. Devi, P. Rajput, A. Thakur, Ki-Hyun Kim, and P. Kumar, *TrAC Trends in Analytical Chemistry*, **114**, 171 (2019).[IF: 8.43]

142. Progress in the Materials for Optical detection of Arsenic in Water - P. Devi, A. Thakur, R. Y. Lai, S. Saini, R. Jain, and P. Kumar, *Trends in Analytical Chemistry*, **110**, 97 (2019). [IF:8.43]
143. Citrus limetta Organic Waste Recycled Carbon Nanolights: Photo-electro catalytic, Sensing and Biomedical Applications - A. Thakur, P. D., S. Saini, R. Jain, R.K. Sinha, and P. Kumar, *ACS Sustainable Chemistry & Engineering*, **7**, 505 (2019).[IF:6.97]
144. Green synthesis of glowing carbon dots from Carica papaya waste pulp and their application as a label-free chemo probe for chromium detection in water - P. Devi, L. Singh, A. Thakura, P. Kumar, *Sensors & Actuators: B. Chemical*, **283**, 363 (2019).[IF: 6.40]
145. White light emitting lanthanide based carbon quantum dots as toxic Cr (VI) and pH sensor - T. K. Mondal, S. Mondal, U. K. Ghorai, S. K. Saha, *Journal of colloid and interface science*, **553**, 177 (2019).[IF:6.361]
146. Fe-intercalated few layers reduced graphene oxide: A unique material for supercapacitor applications - M. Miah, T. K. Mondal, S. Bhattacharya, S. K. Saha. *Journal of Applied Physics*, **126**, 034901 (2019).[IF:2.328]
147. Giant enhancement in coercivity of ferromagnetic α -Fe₂O₃ nanosheet grown on MoS₂ - A. Debnath, S. Bhattacharya, T. K. Mondal, H. Tada, S. K. Saha, *Journal of Applied Physics*, **127**, 013901 (2020).[IF:2.328]
148. Facile Approach To Synthesize Nitrogen-and Oxygen-Rich Carbon Quantum Dots for pH Sensor, Fluorescent Indicator, and Invisible Ink Applications - T. K. Mondal, S. K. Saha, *ACS Sustainable Chemistry & Engineering*, **7**, 19669 (2019).[IF- 6.97]
149. Photoluminescence and photo-induced conductivity in 2D siloxene nanosheet for optoelectronic applications - S. Mondal, T. K. Mondal, Y. K. Su, S. K. Saha, *Journal of Colloid and Interface Science*, **562**, 453 (2020).[IF:6.361]
150. Ultra-small amorphous MoS₂ decorated reduced graphene oxide for supercapacitor application - P. Hota, M. Miah, S. Bose, D. Dinda, U. K. Ghorai, Y. K. Su, S. K. Saha, *Journal of Materials Science & Technology*, **40**, 196 (2020).[IF:5.040]
151. Transition from giant linear positive to negative magnetoresistance as a result of the metal insulator transition in cobalt nanosheet decorated graphene with high coercivity - C. Majumder, S. Bhattacharya, S. K. Saha, *Journal of Magnetism and Magnetic Materials*, **506**, 166601 (2020).[IF:2.683]
152. Charge transfer induced ferromagnetism and anomalous temperature increment of coercivity in ultrathin α -Fe₂O₃ decorated graphene 2D nanostructures - S. Bhattacharya, D. Dinda, E. M. Kumar, R. Thapa, S. K. Saha, *Journal of Applied Physics*, **125**, 233904 (2019).[IF:2.328]
153. White light emission from single dye incorporated metal organic framework - T. Mondal, S. Bose, A. Husain, U. K. Ghorai, S. K. Saha, *Optical Materials* **100**, 109706 (2020).[IF:2.687]

154. A MOF functionalized with CdTe quantum dots as an efficient white light emitting phosphor material for applications in displays - T. Mondal, D. Halder, A. Ghosh, U. K. Ghorai, S. K. Saha, *New Journal of Chemistry*, **44**, 55 (2020).[IF:3.069]
155. Observations of ferromagnetic cluster glass and exchange bias behavior in the double perovskite compound $\text{La}_2\text{Cu}_{0.9}\text{Cr}_{0.1}\text{IrO}_6$ – S. Kalyan Pradhan, B. Dalal, R. Kumar, S. Majumdar and S. Kr. De, *J. Phys.: Condens. Matter*, **32**, 305803 (9pp) (2020).[IF:2.711]
156. Unveiling ferrimagnetic ground state, anomalous behavior of the exchange-bias field around spin reorientation, and magnetoelectric coupling in $\text{YbCr}_{1-x}\text{Fe}_x\text{O}_3$ ($0.1 \leq x \leq 0.6$) – B. Dalal, B. Sarkar, S. Rayaprol, M. Das, V. Siruguri, P. Mandal, and S. Kr. De, *Phys. Rev. B*, **101**, 144418 (2020).[IF:3.736]
157. Nanoscale Kirkendall effect driven Au Decorated CdS/CdO Colloidal Nanocomposites for Efficient Hydrogen Evolution, Photocatalytic Dye Degradation and Cr (VI) Reduction – M. Saha, S. Ghosh and S. Kr. De, *Catalysis Today*, **340**, 253 (2020).[IF:4.888]
158. Itinerant and localized paramagnetism in Co doped $\text{CaCu}_3\text{Ru}_4\text{O}_{12}$ – S. Kalyan Pradhan, R. Datta and S. Kr. De, *Mater. Res. Express*, **6**, 126109 (2019).[IF:1.449]
159. Enhanced Magnetic Properties of In–Mn-Codoped Plasmonic ZnO Nanoflowers: Evidence of Delocalized Charge Carrier-Mediated Ferromagnetic Coupling – S. Paul, B. Dalal, M. Das, P. Mandal, and S. Kr. De, *Chem. Mater.*, **31**, 8191 (2019).[IF:10.159]
160. Optical and magnetic properties of $\text{Gd}_{1-x}\text{Sr}_x\text{CrO}_3$ ($0 \leq x \leq 0.15$) – A. Sarkar, B. Dalal and S. Kr. De, *J. Phys.: Condens. Matter*, **31**, 505801 (9pp) (2019).[IF:2.711]
161. Cu_3N Nanocrystals Decorated with Au Nanoparticles for Photocatalytic Degradation of Organic Dyes – D. Barman, S. Paul, S. Ghosh, and S. Kr. De, *ACS Appl. Nano Mater.*, **2** 5009 (2019).[IF:]
162. Identifying the nature of dielectric anomalies in $\text{SrFeO}_{3-\delta}$ - P. Aich, Desheng Fu, Carlo Meneghini, and S. Ray, *J. Magn. Magn. Materials*, **486** 165265 (2019).[IF:2.683]
163. Hopping induced magnetism in the ground state of 6H perovskite iridates - A. Nag, S. Bhowal, M. Moretti Sala, A. Emenko, I. Dasgupta, and S. Ray, *Phys. Rev. Lett.*, **123** 017201 (2019).[IF:9.227]
164. Magnetic ground state of distorted 6H perovskite $\text{Ba}_3\text{CdIr}_2\text{O}_9$ - Md. S. Khan, A. Bandyopadhyay, A. Nag, V. Kumar, A. V. Mahajan, and S. Ray, *Phys. Rev. B*, **100** 064423 (2019).[IF:3.736]
165. Evolution of electronic and magnetic properties in a series of iridate double perovskites $\text{Pr}_{2-x}\text{Sr}_x\text{MgIrO}_6$ ($x = 0, 0.5, 1.0$) – A. Bandyopadhyay, Ilaria Carlomagno, Laura Simonelli, Carlo Meneghini, and S. Ray, *Phys. Rev. B*, **100** 064416 (2019).[IF:3.736]
166. Revisiting Goodenough-Kanamori rules in a new series of double perovskites $\text{LaSr}_{1-x}\text{Ca}_x\text{NiReO}_6$ - S. Jana, P. Aich, P. Anil Kumar, O. K. Forslund, E. Nocerino, V. Pomjakushin, M. Mansson, Y. Sassa, Peter Svedlindh, Olof Karis, and S. Ray, *Scientific Reports*, **9** 18296 (2019).[IF:4.525]

167. Retrospecting the nature of ordering in CaMnO_2 : The role of Mn-O covalency in the local structure – P. Aich, S. Das, Carlo Meneghini, Irene Schiesaro, T. Saha-Dasgupta, and S. Ray, *Physica B*, **581**, 411837 (2020).[IF:1.874] **SMS**
168. Solar Module Installation in India: Concerns, Options, and Roadmap - A. J. Pal, *Current Science*, **116**, 714-722 (2019).[IF:0.756]
169. Nonlayered Tellurene as an Elemental 2D Topological Insulator: Experimental Evidence from Scanning Tunneling Spectroscopy - S. Khatun, A. Banerjee, and A. J. Pal, *Nanoscale*, **11**, 3591-3598 (2019).[IF:6.970]
170. Track the bands: Verwey phase transition in single magnetite nanocrystals - A. Banerjee and A. J. Pal, *J. Phys.: Condens. Matter*, **32**, 055701 (2019).[IF:2.711]
171. Band-edges of bismuth-based ternary halide perovskites ($\text{A}_3\text{Bi}_2\text{I}_9$) through scanning tunneling spectroscopy vis-à-vis impact of defects in limiting the performance of solar cells - A. Maiti, G. Paul, H. Bhunia, and A. J. Pal, *Solar Energy Materials & Solar Cells*, **200**, 109941 (2019).[IF:4.784]
172. Defect-Passivation and Layered-Phase Formation in an Antimony-Based Hybrid Iodide Perovskite-Derivative through Chlorine-Incorporation - G. Paul and A. J. Pal, *J. Phys. Chem. C*, **123**, 13500-13507 (2019).[IF:4.309]
173. Dirac States of 2D Topological Insulators: Effect of Heterovalent Dopant-Content -S. Khatun and A. J. Pal, *Microsc. Microanal.*, **25**, 1437-1441 (2019).[IF:2.495]
174. Photosensitivity and charge injection dynamics of pentacene based thin-film transistors: influence of substrate temperature - D. Panigrahi, S. Khatun, A. Khan, A. Sahoo, S. Chatterjee, A. J. Pal, and A. Dhar, *Organic Electronics*, **70**, 172–178 (2019).[IF:3.495]
175. Gas Induced Confinement-Deconfinement Interplay in Organic-Inorganic Hybrid Perovskite Thin Film Results in Systematic Band Modulation - S. Sasmal, S. K. Sharma, S. Chatterjee, A. J. Pal, S. P. Turaga, A. A. Bettiol, R. G. S. Pala, S. Sivakumar, and S. Valiyaveetil, *ACS Appl. Mater. Interfaces*, **11**, 43708-43718 (2019). [IF:8.456]
176. Dipolar spin glass transition in three dimensions - T K Bose, R Moessner, and A Sen, *Phys. Rev. B*, **100**, 064425 (2019).[IF:3.836]
177. Modeling atom-atom interactions at low energy by Jost-Kohn potentials - S Mal, K Adhikary, D Sardar, A K Saha and B Deb, *J. Phys. B: At. Mol. Opt. Phys.*, **52**, 165004 (2019).[IF:2.115]
178. The effects of trap-confinement and interatomic interactions on Josephson effects and macroscopic quantum self-trapping for a Bose–Einstein condensate - A K Saha, K Adhikary, S Mal, K Rai Dastidar and B Deb, *J. Phys. B: At. Mol. Opt. Phys.*, **52**, 155301 (2019).[IF:2.115]

179. Fermionic versus bosonic two-site Hubbard models with a pair of interacting cold atoms - S Mal, K Adhikary and B Deb, *J. Phys. B: At. Mol. Opt. Phys.*, **52**, 235001 (2019).[IF:2.115]
180. Suppressing deleterious effects of spontaneous emission in creating bound states in cold atom continuum - S Naskar, D Sardar, B Deb and G. S. Agarwal, *J. Phys. B: At. Mol. Opt. Phys.* **52**, 245204 (2019).[IF:2.115]
181. Caloric Effects in Perovskite Oxides – A. Barman, S. Kar-Narayan and D. Mukherjee - *Special Issue: Functional Thin-Film Oxides, Adv. Mater. Interfaces*, **6**, 1900291 (2019).[IF:4.713]
182. Role of future lepton colliders for fermionic Z-portal dark matter models - D. K. Ghosh, T. Katayose, S. Matsumoto, I. Saha, S. Shirai and T. Tanabe, *Phys. Rev. D*, **101**, no.1, 015007 (2020).[IF:4.368]
183. Same-sign tripleton signal for stop quark in the presence of sneutrino dark matter - D K Ghosh, K Huitu, S Mondal, and M Mitra, *Phys. Rev. D*, **99**, 075014(2019).[IF:4.368]
184. $b \rightarrow c\ell\nu$ anomalies in light of extended scalar sectors - A Biswas, , D K Ghosh, S K Patra, A Shaw, *Int. J. Mod. Phys. A*, **34**, no.21, 1950112 (2019).[IF:1.089]
185. Associated Z' production in the flavorful $U_{(1)}$ scenario for R_K^* - S. Dwivedi, A. Falkowski, D. K Ghosh and N. Ghosh, *Eur. Phys. J. C*, **80**, no.3, 263 (2020). [IF:4.843]
186. Correlation between Hall Mobility and Optical Mobility in Aluminium Doped ZnO Films via Boundary Scatterings and Estimation of Donor Compensation Ratio - S Ghosh, D Basak, *Physica status solidi (b)*, **257** (5), 1900682 (2019).[IF:]
187. Highly enhanced ultraviolet to visible room temperature photoluminescence emission ratio in Al implanted ZnO nanorods - A Das, S Ghosh, AD Mahapatra, D Kabiraj, D Basak*, *Applied Surface Science*, **495**, 143615 (2019).[IF:]
188. Enhanced ultraviolet photosensing properties in Bi_2S_3 nanoparticles decorated ZnO nanorods' heterostructure - AD Mahapatra, D Basak, *Journal of Alloys and Compounds*, **797**, 766-774 (2019).[IF:]
189. An Insight into the Influence of Donor Compensating Defects in Doped ZnO Thin Films- S Ghosh, D Basak, *Acta Physica Polonica, A.*, **135** (3), (2019).[IF:]
190. Interplay of covalency, non-cubic crystal field, and spin-orbit coupling: A comparative study of d5, d4, and d3 double perovskite iridates $\text{Sr}_2\text{M}\text{IrO}_6$ (M= Ce, Sc, Ca) - S Bhowal and I Dasgupta, *Journal of Magnetism and Magnetic Materials*, **507**,166827 (2020).[IF:2.683]
191. Interplay between breathing and polar instabilities in transition metal perovskites with active A-sites - A Paul, A Mukherjee, I Dasgupta and T Saha-Dasgupta, *Physical Review Research*, **2**(1), 013333 (2020).[IF:]

192. Comment on Apical Charge Flux-Modulated In-Plane Transport Properties of Cuprate Superconductors - E Pavarini, I Dasgupta, T Saha-Dasgupta and OK Andersen, *Physical Review Letters*, **124** (10), 109701 (2020).[IF:9.227].
193. Origin of Rashba-Dresselhaus effect in the ferroelectric nitride perovskite LaWN₃ - S Bandyopadhyay, A Paul and I Dasgupta, *Physical Review B*, **101** (1), 014109 (2020).[IF:3.836]
194. Theoretical analysis of pressure induced spin crossover phenomenon in a di-nuclear Fe (II) molecular complex - A Chakraborty, A Chakraborty, S Ghosh and I Dasgupta, *Journal of Physics: Condensed Matter*, **32**, 165802 (2020).[IF: 2.836]
195. Study of electronic structure and magnetism in d4 double perovskite iridates A₂ScIrO₆ (A= Ba, Sr) - A Chakraborty and I Dasgupta, *Journal of Magnetism and Magnetic Materials*, **492**, 165708 (2019).[IF:2.683]
196. Hopping-Induced Ground-State Magnetism in 6 H Perovskite Iridates - A Nag, S Bhowal, MM Sala, A Efimenko, I Dasgupta and S Ray, *Physical Review Letters*, **123**, 017201 (2019).[IF:9.227]
197. First principles study of electronic structure, magnetism and ferroelectric properties of rhombohedral AgFeO₂, Jayita Chakraborty and Indra Dasgupta, *Journal of Magnetism and Magnetic Materials*, **487**, 165296 (2019).[IF:2.683]
198. Structural, thermodynamic, and local probe investigations of the honeycomb material Ag₃LiMn₂O₆ - R Kumar, Tusharkanti Dey, PM Ette, K Ramesha, Atasi Chakraborty, I Dasgupta, R Eremina, Sándor Tóth, A Shahee, S Kundu, M Prinz-Zwick, AA Gippius, HA Krug von Nidda, N Büttgen, Philipp Gegenwart and AV Mahajan, *Phys. Rev. B*, **99**, 144429 (2019).[IF:3.836]
199. Holography in de Sitter and anti-de Sitter Spaces and Gel'fand Graev Radon transform- S. Bhowmick, K. Ray and S. Sen, *Phys. Lett. B*, **798**, 134977 (2019). [IF:4.162]
200. Order parameter dynamics of the non-linear sigma model in the large N limit - S. Gemsheim, I. Mandal, K. Sengupta, and Z. Wang, *Eur.Phys. J.B.*, **93**, 40 (2020).[IF:1.440]
201. Josephson junctions of Weyl and multi-Weyl semimetals - K Kulikov, D Sinha, Yu. M. Shukrinov and K. Sengupta, *Phys. Rev. B*, **101**, 075110 (2020).[IF:3.836]
202. Thermal transitions of the modulated superfluid for spin-orbit coupled correlated bosons in an optical lattice - A Dutta, A Joshi, K Sengupta, and P Majumdar, *Phys. Rev. B*, **99**, 195126 (2019).[IF:3.836]
203. Ferromagnetic resonance and magnetic precessions in ϕ_0 junctions - Yu. M. Shukrinov, I. R. Rahmonov, and K. Sengupta, *Phys. Rev. B*, **99**, 224513 (2019).[IF:3.836]
204. Transport across junctions of pseudospin-one fermions -S Nandy, K Sengupta, and D Sen, *Phys. Rev. B*, **100**, 085134 (2019).[IF:3.836]

205. Electrical control of magnetization in superconductor/ferromagnet/superconductor junctions on a three-dimensional topological insulator -M. Nashaat, I. V. Bobkova, A. M. Bobkov, Yu. M. Shukrinov, I. R. Rahmonov, and K. Sengupta, *Phys. Rev. B*, **100**, 054506 (2019).[IF:3.836]
206. Nonlinear characteristics of two-dimensional superconductors: Berezinskii-Kosterlitz-Thouless physics versus inhomogeneity - G Venditti, J Biscaras, S Hurand, N Bergeal, J Lesueur, A Dogra, RC Budhani, Mintu Mondal, John Jesudasan, Pratap Raychaudhuri, S Caprara, L Benfatto, *Physical Review B*, **100** (6), 064506 (2019).[IF:3.836]
207. Ferroelectric order associated with ordered occupancy at the octahedral site of the inverse spinel structure of multiferroic NiFe_2O_4 - J K Dey, A Chatterjee, S Majumdar, A-C Dippel, O Gutowski, M v Zimmermann and S Giri, *Phys. Rev. B* **99**, 144412 (2019).[IF:3.736]
208. High-temperature ferroelectric order and magnetoelectric coupling driven by the magnetic field cooling effect in R_2BaCuO_5 ($\text{R} = \text{Er, Dy, Sm}$) - A Indra, S Mukherjee, S Majumdar, O Gutowski, M v Zimmermann and S Giri, *Phys. Rev. B*, **100**, 014413 (2019).[IF:3.736]
209. Tuning of multiferroic order with Co doping in CuCr_2O_4 : Interplay between structure and orbital order - A Chatterjee, J K Dey, S Majumdar, A-C Dippel, O Gutowski, M v Zimmermann and S Giri, *Phys. Rev. Materials*, **3**, 104403 (2019).[IF:2.926]
210. Natural ferroelectric order near ambient temperature in the orthoferrite HoFeO_3 - K Dey, A Indra, S Mukherjee, S Majumdar, J Strempfer, O Fabelo, E Mossou, T Chatterji and S Giri, *Phys. Rev. B*, **100**, 214432 (2019).[IF:3.736]
211. Multiferroic order and re-entrant spin-glass-like state in DyCrO_4 - A Indra and S Giri, *J. Magn. Magn. Mater.*, **489**, 165467 (2019).[IF:2.683]
212. Multicaloric effect in multiferroic sulpho spinel MCr_2S_4 ($\text{M} = \text{Fe \& Co}$) - K Dey, A Indra, A Karmakar and S Giri, *J. Magn. Magn. Mater.*, **498**, 166090 (2020). [IF:2.683]
213. Decoding signatures of extra dimensions and estimating spin of quasars from the continuum spectrum - I Banerjee, S Chakraborty and S SenGupta, *Phys. Rev. D*, **100**, 044045 (2019).[IF:4.368]
214. Dynamical suppression of spacetime torsion – T Paul and S SenGupta, *Eur.Phys. J.C.*, **79** 591 (2019).[IF:4.843]
215. Does black hole continuum spectrum signal f(R) gravity in higher dimensions? - I Banerjee, B Mandal and S SenGupta, *Phys. Rev. D*, **101**, 024013 (2020).[IF:4.368]
216. Silhouette of M87*: A new window to peek into the world of hidden dimensions - I Banerjee, S Chakraborty and S SenGupta, *Phys. Rev. D*, **101**, 041301(R) (2020).[IF:4.368]

217. Fermionic dark matter via UV and IR freeze-in and its possible X-ray signature - A. Biswas, S. Ganguly and S. Roy, *JCAP*, **03**, 043 (2020).[IF:5.524]
218. Detection of Spin Reversal via Kondo Correlation in Hybrid Carbon Nanotube Quantum Dots – S. Datta, Ireneusz Weymann, Anna Płomińska, Emmanuel Flahaut, Lætitia Marty, Wolfgang Wernsdorfer, *ACS Nano*, **13**, 9, 10029-10035 (2019).[IF:13.903]
219. A supramolecular hydrogel derived from a simple organic salt capable of proton conduction – P. Chakraborty, B. Das, P. Pal, S. Datta, S. Bera and Parthasarathi Dastidar, *Chemical Communications*, **56**, 5251 (2020).[IF:6.164]
220. Microscopic investigation of low dimensional magnet $\text{Sc}_2\text{Cu}_2\text{O}_5$: combined experimental and ab initio approach – J. Sannigrahi, Jörg Sichelschmidt, Bonho Koo, A. Banerjee, S. Majumdar and Sudipta Kanungo, *J. Phys.: Condens. Matter*, **31**, 245802 (2019).[IF:2.711]
221. Octahedral tilting and emergence of ferrimagnetism in cobalt-ruthenium based double perovskites – M. Das, P. Dutta, S. Giri and S. Majumdar, *J. Phys.: Condens. Matter* **31**, 385801 (2019).[IF:2.711]
222. Magnetic states of Ni-Mn-Sn based shape memory alloy: A combined muon spin relaxation and neutron diffraction study - J. Sannigrahi, S. Pramanick, S. Chatterjee, J. S. Lord, D. Khalyavin, A. D. Hillier, D. T. Adroja, and S. Majumdar, *Phys. Rev. B*, **99**, 224401 (2019).[IF:3.736]
223. Magnetic and electric behaviors of DyMn_2O_5 : Effect of hole doping, P.Dutta, M.Das, S. Mukherjee, S. Chatterjee, S.Giri, S.Majumdar, *J. Mag. Mag. Mater.*, **504**, 166698 (2020).[IF:2.683]
224. Cationic disorder: A pathway for demonstrating inverse exchange bias in $\text{Gd}_2\text{CoRuO}_6$ - M. Das, P. Dutta, S. Giri, S. Majumdar, A. Bandyopadhyay, A. K. Yadav, S. N. Jha, D. Bhattacharyya, G. Das, and V. Rajaji, *Phys. Rev. B*, **101**, 064419 (2020).[IF:]
225. A comparative study of the magnetic and transport properties of Dy-In based intermetallic compounds - S .Mondal, P. Dutta, S. Chatterjee, S. Giri, S. Majumdar, *J. Mag. Mag. Mater.*, **505**, 166674 (2020).[IF:2.683]
226. Type III Seesaw for Neutrino Masses in $U(1)_{B-L}$ Model with Multi-component Dark Matter - A Biswas, D Borah and D Nanda, *JHEP*, **1912**, 109 (2019).[IF:5.833]
227. Reconciling dark matter, $R_{K(*)}$ anomalies and $(g-2)\mu$ in an $L_\mu-L_\tau$ scenario - A Biswas and A Shaw, *JHEP*, **1905**, 165 (2019).[IF:5.833]
228. Common origin of baryon asymmetry, dark matter and neutrino mass - A Biswas, S Choubey, L Covi and S Khan, *JHEP*, **1905**, 193 (2019).[IF:5.833]

229. Holographic subregion complexity of boosted black brane and Fisher information - S Karar, R Mishra, and S Gangopadhyay, *Phys. Rev. D*, **100**, 026006 (2019).[IF:4.368] **SPS**
230. Modulation of optoelectronic properties in a donor -acceptor conjugate between a cationic polythiophene and a peptide appended perylenebisimide amphiphile - S Hazra, A Shit, Radhakanta Ghosh, K Basu, A Banerjee and A K Nandi, *J. Mater. Chem. C*, **8**, 3748 (2020).[IF:6.64]
231. A Self-Assembled Peptide-Appended Naphthalene Diimide: A Fluorescent Switch for Sensing Volatile Acid and Basic Vapor - K Gayen, K Basu, N Nandi, K Sundar Das, Daniel Hermida-Merino, Ian W Hamley and A Banerjee, *ChemPlusChem*, **84**, 1673 (2019). [IF:3.44]
232. Self-assembling Peptide-Based Hydrogel: Regulation of Mechanical Stiffness and Thermal Stability and 3D Cell Culture of Fibroblasts - D Bairagi, P Biswas; K Basu, S Hazra; Daniel Hermida-Merino, D Sinha, Ian W Hamley and A Banerjee, *ACS Applied Bio Materials*, **2**, 5235 (2019).[IF:Awaiting]
233. Modulation of Semiconducting Behavior and a Change in Morphology upon Gelation of a Peptide Appended Naphthalenediimide - K Basu, B, Mondal, A Das Mahapatra, N Nandi, D Basak and A Banerjee, *J. Phys. Chem. C*, **123**, 20558 (2019).[IF:4.309]
234. A Proteasomal inhibition triggers viral oncoprotein degradation via autophagy-lysosomal pathway – C. Gain, S Malik, S Bhattacharjee, A. Ghosh, E.S Robertson, B.B Das and A. Saha, *PLoS Pathog.*, **16(2)**:e1008105 2020.[IF: 6.15]
235. SCAN1-TDP1 trapping on mitochondrial DNA promotes mitochondrial dysfunction and mitophagy – A. Ghosh, S. Bhattacharjee, S. Paul Chowdhuri, A. Mallick, I. Rehman, S. Basu and B.B. Das, *Science Advances*, **5(11)**:eaax9778 (2019).[IP:12.80]
236. Non-muscle myosin IIA and IIB differentially modulate migration and alter gene expression in primary mouse tumorigenic cells – D. Halder, S. Saha, R. Singh, I. Ghosh, D. Mallick, S. Dey, A. Ghosh, B.B. Das, S. Ghosh and S.S. Jana, *Mol Biol Cell*. **30 (12)**: 1463 (2019).[IF: 3.90]
237. Reactive oxygen species-mediated cytoplasmic stiffening impairs the phagocytic ability of the macrophage - M Agarwal, P Biswas, A Bhattacharya and D K Sinha, *Journal of Cell Science* **133**: jcs236471 doi:10.1242/jcs.236471 (2020).[IF:]
238. Lipid Droplet metabolism dependent microbial defense in pre-immune zebrafish embryos - A Dutta, S Banerjee and D K Sinha, *BioRxiv*, doi: <https://doi.org/10.1101/478859> (2018).[IF:]
239. Fabrication of Orange Emitting Organic Nanoparticle-Protamine Conjugate: Fluorimetric Sensor of Heparin. A K Ghosh, P Choudhury and P K Das, *Langmuir*, **35**, 15180 (2019).[IF:3.683]

240. Carbon Dots Stimulated Amplification of Aggregation Induced Emission of Size Tunable Organic Nanoparticles. P Choudhury and P K Das, *Langmuir*, **35**, 10582 (2019).[IF: 3.683]
241. Photosensitizer Tailored Surface Functionalized Carbon Dots for Visible Light Induced Targeted Cancer Therapy. M Chowdhury, S Sarkar and P K Das, *ACS Applied Bio Materials*, **2**, 4953 (2019)
242. Metal Ion (Fe²⁺ and Co²⁺) Induced Morphological Transformation of Self-Aggregates of Cholesterol Tethered Bipyridine Amphiphile: Selective Cancer Cell Killing by Pro-Drug Activation. S Dinda and P K Das, *ACS Applied Bio Materials*, **2**, 3737 (2019)
243. Self-assembly of surface functionalized amphiphilic carbon dots: tuning in the morphological manifestation. S Sarkar, S Dinda, P Choudhury and P K Das, *Soft Matter*, **15**, 2863 (2019).[IF:3.399]
244. Morphological transformation of self-assemblies by tuning hydrophobic segment of small amphiphiles D Chakraborty, S Dinda, M Chowdhury and P K Das, *J. Colloid Interface Sci.*, **539**, 414 (2019).[IF:6.361]
245. Microstructure characterization of biocompatible heterojunction hydrogen titanate-Ag₂O nanocomposites for superior visible light photocatalysis and antibacterial activity. S Kundu, S Sain, P Choudhury, S Sarkar, S K Pradhan and P K Das, *Materials Science & Engineering C*, **99**, 374 (2019).[IF:5.08]
246. Non-muscle myosin IIA and IIB differentially modulable migration and alter gene expression in primary mouse tumorigenic cells – D. Halder, S. Saha, R. Sinah, I. Ghosh and S.S. Jana, *Mol. Biol. Cell.*, **30** (12), 1463 (2019).[IF:3.9]
247. Total Synthesis and Stereochemical Assignment of Sunshinamide and Its Anticancer Activity - J Mondal, R Sarkar, P Sen and R Kr Goswami, *Organic Letters*, **22**, 1188 (2020).[IF:6.0]
248. Triple negative breast cancer-derived microvesicles transfer microRNA221 to the recipient cells and thereby promote epithelial-to-mesenchymal transition - K Das, S Paul, A Singh, A Ghosh, A Roy, S Ahmed Ansari, R Prasad, A Mukherjee and P Sen, *J Biol Chem*, doi: 10.1074/jbc.RA119.008619.(American Society for Biochemistry and Molecular Biology journal) (2019).[IF:4.2]
249. Free-energy-based gene mutation detection using LNA probes - H. Lahiri, S. Banerjee and R. Mukhopadhyay, *ACS Sensors*, **4(10)**, 2688 (2019).[IF: 6.944]

250. Electron transport in muscle protein collagen - J. Kolay, S. Bera and R. Mukhopadhyay, *Langmuir*, **35**, 11950 (2019).[IF:3.833]
251. Long-range solid-state electron transport through ferritin multilayers - S. Bera, J. Kolay, P. Pramanik, A. Bhattacharyya and R. Mukhopadhyay, *Journal of Materials Chemistry C*, **7**, 9038 (2019).[IF:6.641] **SBS**
252. Palladium-induced transformation of nematic liquid crystals to robust metallo gel comprising self-assembled nanowires - B. Maiti, S. Bhattacharjee, S. Bhattacharya, *Chem. Commun.*, **55**, 12651-12654 (2019).[IF: 6.164]
253. Engaging Dynamic Surfactant Assemblies in Improving Metal Ion Sensitivity of a 1, 4, 7-Triazacyclononane-Based Receptor: Differential Optical Response for Cysteine and Histidine - B. Maiti, N. Dey, S. Bhattacharya, *ACS Appl. Bio Mater.*, **2**, 2365–2373 (2019).[IF:]
254. Multimodal Ion Sensing by Structurally Simple Pyridine-End Oligo p-Phenylenevinyls for Sustainable Detection of Toxic Industrial Waste - S. KalyanSamanta, N. Dey, N. Kumari, D. Biswakarma, S. Bhattacharya, *ACS Sustainable Chem. Eng.*, **7**, 12304–12314 (2019). [IF: 7.030]
255. A fluorescent supramolecular host for urea - D. Biswakarma, N. Dey, D. Bhagat, S. Bhattacharya, *Materials Today: Proceedings*, **26**, 11-16 (2020).[IF: 0.97]
256. New water-soluble oxyaminochitosans as biocompatible vectors for efficacious anticancer therapy via co-delivery of gene and drug - M. Kamra, P. Moitra, D. Ponnalagu, A. A Karande, S. Bhattacharya, *ACS Appl. Mater. Interfaces*, **11**, 37442–37460 (2019). [IF: 8.33]
257. Gemini-based lipoplexes complement the mitochondrial phenotype in MFN1-Knockout mouse embryonic fibroblasts - M. Muñoz-Úbeda, A. Tolosa-Díaz, S. Bhattacharya, E. Junquera, E. Aicart, P. Natale, I. López-Montero, *Mol. Pharmaceutics*, (doi.org/10.1021/acs.molpharmaceut.9b00449) (2019).[IF: 4.396]
258. Natural tripeptide capped pH-sensitive gold nanoparticles for efficacious doxorubicin delivery both in vitro and in vivo - K. Kumar, P. Moitra, M. Bashir, P. Kondaiah, S. Bhattacharya, *Nanoscale*, **12**, 1067-1074 (2020).[IF: 6.86]
259. A Thermo-responsive Supramolecular Hydrogel that Senses Cholera Toxin B via Color-Changing Response - D. Biswakarma, N. Dey, S. Bhattacharya, *Chem. Commun.*, (doi.org/10.1039/D0CC00839G) (2020).[IF: 6.164]

260. Transparent, flexible MAPbI₃ perovskite microwire array passivated with ultra-hydrophobic supramolecular assembly for stable and high-performance photodetectors - KDM Rao, M. Hossain, A. Roy, A. Ghosh, G. S. Kumar, P. Moitra, T. Kamilya, S. Acharya, S. Bhattacharya, *Nanoscale*, **12**, 11986-11996 (2020).[IF: 6.97]
261. Addressing Multiple Ions Using Single Optical Probe: Multi-Color Response via Mutually Independent Sensing Pathways - N. Dey, S. Bhattacharjee, S. Bhattacharya, *Chemistry Select*, **5**, 452-462 (2020).[IF: 1.716]
262. Switchable Optical Probes for Simultaneous Targeting of Multiple Anions - N. Dey, S. Bhattacharya, *Chem Asian J.* (doi.org/10.1002/asia.201901811) (2020).[IF: 3.698]
263. Specific stabilization of promoter G-Quadruplex DNA by 2,6-disubstituted amidoanthracene-9,10-dione based dimeric distamycin analogues and their selective cancer cell cytotoxicity - S. Roy, A. Ali, M. Kamra, K. Muniyappa, S. Bhattacharya, *Eur. J. Med. Chem.*, **195**, 112202 (2020).[IF: 4.833] **DRU**
264. Molecular Distribution of Indomethacin: Impact on the Precipitation of Glassy Curcumin pH-Responsive Nanoparticles with Enhanced Solubility. K. Sharma, B. Das, P. F. Siril, *Cryst. Growth Des.*, **20**, 2377–2389 (2020).
265. Aggregation induction of tetraphenylethyleneAIEgen and its supramolecular aggregates toward light-emitting diodes, P Mondal, S Biswas, D Jana, B Das, UK Ghorai, BK Ghorai, S Acharya, *Journal of Solid State Chemistry*, **282**, 121122 (2020).
266. Postsynthesis spontaneous coalescence of mixed-halide perovskite nanocubes into phase-stable single-crystalline uniform luminescent nanowires, B. Pradhan, A. Mushtaq, Dipanwita Roy, S. Sain, B. Das, U.K. Ghorai, S. K. Pal, S. Acharya, *The journal of physical chemistry letters*, **10**, 1805-1812 (2019).
267. Palladium–Schiff Base Complexes Encapsulated in Zeolite-Y Host: Functionality Controlled by the Structure of a Guest Complex, S Kumari, K Maddipoti, B Das, S Ray, *Inorganic chemistry*, **58**, 1527-1540 (2019).
268. An insight into the catalytic activity of palladium Schiff-base complexes towards the Heck coupling reaction: routes via encapsulation in zeolite-Y. S Kumari, B Das, S Ray, *Dalton Transactions*, **48**, 15942-15954, (2019).
269. Zn (ii)-based coordination polymer: An emissive signaling platform for the recognition of an explosive and a pesticide in an aqueous system. T Kumar, M Venkateswarulu, B Das, A Halder, RR Koner, *Dalton Transactions*, **48**, 12382-12385 (2019).

270. Tuning Solid-State Luminescence in Conjugated Organic Materials: Control of Excitonic and Excimeric Contributions through π Stacking and Halogen Bond Driven Self-Assembly – P. Majumdar, F. Tharammal, J. Gierschner and S. Varghese*, *ChemPhysChem*, **21**, 616 (2020)[IF: 3.07]
271. Crossed 2D versus Slipped 1D π -Stacking in Polymorphs of Crystalline Organic Thin Films: Impact on the Electronic and Optical Response – M. J. Aliaga-Gosalvez, N. Demitri, M. Dohr, J. C. Roldao, S. K. Park, S. Oh, S. Varghese, S. Y. Park*, Y. Olivier*, B. Milián-Medina*, R. Resel* and J. Gierschner*, *Adv. Opt. Mater.*, **7**, 1900749 (2019).[IF: 7.43]
272. Highly bluish-white light emissive and redox active conjugated poly-N-phenyl anthranilic acid polymer fluoroprobe for analytical sensing - K. R. Das, M. J. Antony*, S. Varghese, *Polymer*, **181**, 121747 (2019).[IF: 3.16]
273. Supramolecular Nanowires from an Acceptor–Donor–Acceptor Conjugated Chromophore – S. Chakraborty, S. Varghese*, S. Ghosh*, *Chem. Eur. J.*, **25**, 16725 (2019).[IF: 5.16]
274. Organobase triggered controlled supramolecular ring opening polymerization and 2D assembly – A. Chakraborty, G. Ghosh, D. S. Pal, S. Varghese and S. Ghosh*, *Chem. Sci.*, **10**, 7345 (2019).[IF: 9.56] **TRC**
275. Palladium-catalyzed Olefination of 4H-Benzo[d][1, 3] oxazin-4-one Derivatives with Activated Alkenes via Preferential Cyclic Imine-N-directed Aryl C-H Activation”, S. Panja, S. Maity, B. Majhi, B. C. Ranu, *Eur. J. Org. Chem.* **2019**, 5777-5786.[IF: 3.029]
276. Recent Advances on Diverse Decarboxylative Reactions of Amino Acids”, M. Rahman, A. Mukherjee, I. Kovalev, D. Kopchuk, G. Zyryanov, M. V. Tsurkan, A. Majee, B. C. Ranu, V. N. Charushin, O. Chupakhin, S. Santra, *Adv. Synth. Catal.* **2019**, *361*, 2161-2214.(review).[IF: 5.619]
277. Ball-milling: An Efficient and Green Approach for Asymmetric Organic Synthesis”, I. N. Egorov, S. Santra, D. S. Kopchuk, I. S. Kovalev, G. V. Zyryanov, A. Majee, B. C. Ranu, V. L. Rusinov, O. N. Chupakhin – *Green Chem.*, **2020**, *22*, 302-315. (review).[IF: 9.405]
278. [2+2] Photocycloaddition reaction in organic synthesis - D. Sarkar, N. K. Bera, S. Ghosh, *Eur. J. Org. Chem.* **1310**, (2020).[IF: 3.029].
279. Vibrational anti-resonance in non-linear coupled systems - P. Sarkar, D. S. Ray, *Phys. Rev. E* **99**, 052221 (2019).[IF: 2.35]

280. Controlling sub-harmonic generation by vibrational and stochastic resonance - P Sarkar, S Paul, D S Ray, *J. Stat. Mech: Theo. and Expt.* 063211 (6) (2019).[IF:2.37]
281. Clusterization of self-propelled particles in a two-component system - S Paul, D Bhattacharyya, D S Ray, *Phys. Rev. E*101, 012611 (2020).[IF:2.35]
282. Systematic designing of bi-rhythmic and tri-rhythmic models of Van der Pol and Rayleigh oscillators - S Saha, G Gangopadhyay, D S Ray, *Communications in Nonlinear Science and Numerical Simulation*, 85, 105234 (2020).[IF:3.967]
283. Di-manganese(0) carbonyl mediated azo bond cleavage and recombination reaction in azo-aromatic ligand: An effect of extended phenolate donor - I Chatterjee, M Chakraborty, S P Rath, T Saha, P Ghosh, S Samanta, S Goswami, *Polyhedron*,**172**, 182-190 (2019). (Invited Article) [IF: 2.284]
284. Charge disproportionate molecular redox for discrete memristive and memcapacitive switching - S Goswami, S P Rath, D Thompson, S Hedström, M Annamalai, R Pramanick, B Robert Ilic, S Sarkar, S Hooda, C A Nijhuis, J Martin, R Stanley Williams, S Goswami, T Venkatesan, *Nature Nanotechnology*, **15**, 380–389(2020).[IF: 33.407]
285. Modulations of ν_{O-H} and $\nu_{C=O}$ Stretching Frequencies of Difluoroacetic Acid with Internal Rotation of CHF_2 Rotor: A Combined Vapor Phase and Matrix Isolation Infrared Spectroscopy Study - I Bhattacharya, P Banerjee, J Sadhukhan, T Chakraborty, *J. Phys. Chem. A*, **123 (13)**, 2771–2779(2019).[IF:2.84]
286. Vesicular Assemblies of Thermoresponsive Amphiphilic Polypeptide Copolymers for Guests Encapsulation and Release - Md. Anas, S Jana, T K Mandal, *Polym. Chem.*11, 2889, (2020) [IF:4.8]
287. Recent Developments in Stimuli-Responsive Poly(ionic liquid)s - P Banerjee, Md Anas, S Jana, T K Mandal, *J. Polym. Res.* DOI: 10.1007/s10965-020-02091-8 (2020).[IF: 1.9]
288. Coulomb Interaction-Driven UCST in Poly(ionic liquid) Random Copolymers - P Banerjee, S Jana, T K Mandal, *Eur. Polym. J.* DOI: 10.1016/j.eurpolymj.2020.109747 (2020).[IF: 3.7]
289. ADT: A Generalized Algorithm and Program for Beyond Born-Oppenheimer Equations of “N” Dimensional Sub-Hilbert Space - K Naskar, S Mukherjee, B Mukherjee, S Ravi, S Mukherjee, S Sardar, S Adhikari*,*Journal of Chemical Theory and Computation*, **16**, 1666-1680 (2020).[IF: 5.313]
290. Beyond Born-Oppenheimer theory for spectroscopic and scattering processes - B Mukherjee, K Naskar, S Mukherjee, S Ghosh, T Sahoo, S Adhikari*,*International Reviews in Physical Chemistry*, **38**, 287-341 (2019).[IF: 10.172]

291. "Non-adiabatic coupling and conical intersection(s) between potential energy surfaces for HeH_2^{+} ", A K Gupta, V Dhindhwal, M Baer, N Sathyamurthy*, S Ravi, S Mukherjee, B Mukherjee, S Adhikari, *Molecular Physics*, e1683243/1-11 (2019). [IF:1.571]
292. Fully coupled ($J > 0$) time-dependent wave-packet calculations using hyperspherical coordinates for the $\text{H} + \text{O}_2$ reaction on the CHIPR potential energy surface - S Ghosh, R Sharma, S Adhikari*, A J C Varandas*, *Physical Chemistry Chemical Physics*, **21**, 20166-20176 (2019). [IF:3.567]
293. Topological studies related to molecular systems formed during the Big Bang: H_3^+ as an example - B Mukherjee, K R Shamasundar, S Adhikari*, M Baer*, *International Journal of Quantum Chemistry*, **119**, e25949/1-11 (2019). [IF: 2.263]
294. Recent advances in recognition, sensing and extraction of phosphates: 2015 onwards - S Pal, T K Ghosh, R Ghosh, S Mondal, P Ghosh*, *Coord. Chem. Rev.*, **405**, 213128 (2020). [IF: 13.476]
295. Selective and efficient removal of perrhenate by an imidazolium based hexapodal receptor in water medium - R Ghosh, T K Ghosh, P Ghosh*, *Dalton Trans.*, **49**, 3093 (2020). [IF: 4.052]
296. Template Directed Syntheses of Electrochemically Active [2]rotaxanes: Anion Binding and Redox Studies - M Nandi, S Bej, S Bhunia, P Ghosh*, *ChemElecChem*, **7**, 1038 (2020). [IF:3.975]
297. Supramolecular Self-Assembly Driven Selective Sensing of Phosphates - S Mondal, T K Ghosh, B Chowdhury, P Ghosh*, *Inorg. Chem.*, **58**, 15993 (2019). [IF: 4.850]
298. Multitasking Behaviour of a Small Organic Compound: Solid State Bright White-Light Emission, Mechanochromism and Ratiometric Sensing of Al(III) and Pyrophosphate - S Sinha, B Chowdhury, U K Ghorai, P Ghosh*, *Chem. Commun.*, **55**, 5127 (2019). [IF: 6.164]
299. Cu(II) templated formation of [n]Pseudorotaxanes ($n=2,3,4$) using a tris-amino ether macrocyclic wheel and multidentate axles - S Bej, M Nandi, T K Ghosh, P Ghosh*, *Dalton Trans.*, **48**, 6853(2019). [IF: 4.052]
300. An Integrated Urea and Halogen Bond Donor Based Receptor for Superior and Selective Sensing of Phosphates - T K Ghosh, S Mondal, S Bej, M Nandi, P Ghosh*, *Dalton Trans.*, **48**, 4538 (2019). [IF: 4.052]
301. Removal of phosphate in presence of interfering sulphate and arsenate by a tripodal thiourea receptor by precipitation through crystallization in semi-aqueous medium - T K Ghosh, R Dutta, S Maji, S Pal, P Ghosh*, *Polyhedron*, **172**, 74 (2019). [IF: 2.067]

302. Design and synthesis of Zn(II)-coordination polymers anchored with NSAIDs: Metallovesicle formation and multi-drug delivery - S Bera, A Chowdhury, K Sarkar, P Dastidar*, *Chem. Asian J.* 2020, **15**, 503 – 510 (IF – 3.698)
303. An Easy Access to Topical Gels of an Anti-cancer Prodrug (5-Fluorouracil Acetic Acid) for Self-drug-delivery Applications - P Chakroborty, P Dastidar*, *Chem. Commun.*, **55**, 7683-7686 (2019).[IF – 6.164]
304. Designing Supramolecular Gelators: Challenges, Frustrations and Hopes - P Dastidar, *Gels*, **5**, 15 (2019).[IF – not available]
305. Supramolecular Gels Derived from Simple Organic Salts of Flufenamic acid: Design, Synthesis, Structures and Plausible Biomedical Application - R Parveen, B Jayamma, P Dastidar*, *ACS Biomater. Sci. Eng.*, **5**, 2180-2189 (2019).[IF – 4.432]
306. Self-assembly of Spherical Organic Molecules from Hollow Vesicular Structures in Water for Encapsulation of an Anticancer Drug and its Release - K Sarkar, S Ahmed, P Dastidar*, *Chemistry—An Asian J.*, **14**, 1992–1999 (2019).[IF:3.698]
307. Effect of Ligand Fields on the Reactivity of O₂-Activating Iron(II)-Benzilate Complexes of Neutral N5 Ligands - S Bhattacharya, R Singh, T K Paine, *Chem. Asian J.*, **15**, 1360 (2020) [IF: 3.70]
308. Oxidative C-N Bond Cleavage of (2-Pyridylmethyl)amine-Based Tetradentate Supporting Ligands in Ternary Cobalt(II)-Carboxylate Complexes - B Chakraborty, I Ghosh, R D Jana, T K Paine, *Dalton Trans.*, **49**, 3463 (2020).[IF: 4.06]
309. Bioinspired Iron(II)- β -Diketonate and Iron(II)- α -Hydroxy Ketone Complexes of a Carbanionic N₃C Ligand: Oxidation of Metal Center vs C-C Bond Cleavage of Co-ligand with Dioxygen - S Banerjee, T K Paine, *Inorg. Chim. Acta*, **501**, 119200 (2020).[IF: 2.43]
310. Bioinspired Oxidation of Oximes to Nitric Oxide with Dioxygen by a Nonheme Iron(II) Complex - S Bhattacharya, T R Lakshman, S Sutradhar, C K Tiwari, T K Paine, *J. Biol. Inorg. Chem.*, **25**, 3 (2020). [IF: 2.54]
311. Dioxygen Reactivity of Iron(II)-Gentisate/1,4-Dihydroxy-2-naphthoate Complexes of N₄ Ligands: Oxidative Coupling of 1,4-Dihydroxy-2-naphthoate - R Rahaman, S Munshi, S Banerjee, B Chakraborty, S Bhunia, T K Paine, *Dalton Trans.*, **48**, 16993 (2019).[IF: 4.06]
312. Nickel Complexes of Ligands Derived from (*o*-Hydroxyphenyl) Dichalcogenide: Delocalised Redox States of Nickel and *o*-Chalcogenophenolate Ligand - S Banerjee, D Sheet, S Sarkar, P Halder, T K Paine, *Dalton Trans.*, **48**, 17355 (2019).[IF:4.06]

313. A High Spin Mn(IV)-Oxo Complex Generated via Stepwise Proton and Electron Transfer from Mn(III)-Hydroxo Precursor: Characterization and C-H Bond Cleavage Reactivity - S Biswas, A Mitra, S Banerjee, R Singh, A Das, T K Paine, P Bandyopadhyay, S Paul, A N Biswas, *Inorg. Chem.*, **58**, 9713 (2019).[IF: 4.85]
314. Highly Selective and Catalytic Oxygenations of C-H and C=C Bonds by a Mononuclear Nonheme High-Spin Iron(III)-Alkylperoxo Species - I Ghosh, S Banerjee, S Paul, T Corona, T K Paine, *Angew. Chem. Int. Ed.*, **58**, 12534 (2019).[IF: 12.26]
315. Atomic layer deposition of amorphous antimony sulfide (a-Sb₂S₃) as semiconductor sensitizer in extremely thin absorber solar cell - N Mahuli, D Halder, A Paul, S K Sarkar*, *J. Vac. Sci. Tech. A: Vacuum, Surfaces, and Films*, **38**, 032407 (2020).[IF:]
316. Frustrated Lewis Acid–Base-Pair-Catalyzed Amine-Borane Dehydrogenation - I Bhattacharjee, S Bhunya, A Paul*, *Inorg. Chem.* **59**, 1046 (2020).[IF:]
317. Understanding the Role of Solvents and Spin–Orbit Coupling in an Oxygen-Assisted SN₂-Type Oxidative Transmetalation Reaction”, B Ghosh, A Banerjee, A Paul*, *Chem. Eur. J.* **25**, 16606 (2019).[IF:]
318. Atomic Layer Deposition of an Sb₂Se₃ Photoabsorber Layer Using Selenium Dimethyldithiocarbamate as a New Se Precursor”, N Mahuli, D Halder, A Paul, S K Sarkar*, *Chem. Mat.* **31**, 7434 (2019).[IF:]
319. Homogeneous Electrochemical Reduction of CO₂ to CO by a Cobalt Pyridine Thiolate Complex”, Md E Ahmed, A Rana, R Saha, S Dey, A Dey, *Inorg. Chem.* **59**, 5292-5302 (2020). [IF:4.85]
320. Resonance Raman Spectroscopy and Density Functional Theory Calculations on Ferrous Porphyrin Dioxygen Adducts with Different Axial Ligands: Correlation of Ground State Wave Function and Geometric Parameters with Experimental Vibrational Frequencies”, A Singha, P K Das, A Dey, *Inorg. Chem.* **58**, 10704-10715 (2020).[IF: 4.85]
321. Hydrogen atom abstraction by synthetic heme ferric superoxide and hydroperoxide species”, A Singha, A Dey, *Chem. Comm.* **55**, 5591-5594 (2019).[IF: 6.61]
322. A bi-functional cobalt-porphyrinoid electrocatalyst: balance between overpotential and selectivity”, SkAmanulla, A Dey, *J. Biol. Inorg. Chem.* (AsBIC-9 spl issue) <https://doi.org/10.1007/s00775-019-01670-5> (2019).[IF: 2.85]
323. Reduction of CO₂ to CO by an Iron Porphyrin Catalyst in the Presence of Oxygen”, B Mondal, P Sen, A Rana, D Saha, A Dey, *ACS Catalysis*, **9**, 3895-3899 (2019).[IF: 12.21]

324. Electron Transfer Control of Reductase versus Monooxygenase: Catalytic C–H Bond Hydroxylation and Alkene Epoxidation by Molecular Oxygen”, M Mukherjee, A Dey, *ACS Central Science Cent. Sci.*, 671-682 (2019).[IF: 12.83]
325. Formally Ferric Heme Carbon Monoxide Adduct”, A Rana, Sk Amanullah, P K Das, A B McQuarters, N Lehnert, A Dey, *J. Am. Chem. Soc.* 141, 5073–5077 (2019).[IF: 14.69]
326. Synthetic Iron Porphyrins for Probing the Differences in Electronic Structures of Heme a₃, Heme d and Heme d₁”, Sk Amanullah, P Saha, R Saha, A Dey, *Inorg. Chem.***58**, 152–164 (2019).[IF:4.85]
327. Induction of Enzyme-Like Peroxidase Activity in an Iron Porphyrin Complex using 2nd sphere interactions”, S Bhakta, A Nayek, B Roy, A Dey, *Inorg. Chem.***58**, 2954-2964 (2019).[IF: 4.85]
328. Effect of Hydrogen Bonding on Innocent and Non-innocent Axial Ligands Bound to Iron Porphyrins”, A Singha, K Mittra, A Dey, *Dalton Trans.* (Special issue, New Talent: Asia Pacific) **48**, 7179-7186 (2019).[IF: 4.05]
329. Role of 2nd Sphere H-bonding Residues in Tuning the Kinetics of the CO₂ Reduction to CO by Iron Porphyrin Complexes”, P Sen, B Mondal, D Saha, A Rana, A Dey, *Dalton Trans.* (Special issue, Bioinspired Reactivity and Coordination Chemistry) **48**, 5965-5977 (2019).[IF: 4.05]
330. In situ Formation of Transcriptional Modulators using Non-canonical DNA i-Motifs”, P Saha, D Panda, D Müller, A Maity, H Schwalbe, J Dash, *Chemical Science***11**, 2058-2067 (2020). [IF:9.556]
331. Ionophore constructed from non-covalent assembly of a G-quadruplex and liponucleoside transports K⁺-ion across biological membranes”, M Debnath, S Chakraborty, Y P Kumar, R Chaudhuri, B Jana, J Dash, *Nature Communications*, **11**, 469 (2020). [IF: 11.880]
332. G-Quadruplex-Specific Cell-Permeable Guanosine–Anthracene Conjugate Inhibits Telomere Elongation and Induces Apoptosis by Repressing the c-MYC Gene”, P Saha, YP Kumar, T Das, D Müller, I Bessi, H Schwalbe, J Dash, *Bioconjugate chemistry* (2019). [IF:4.349]
333. Use of organic polymers for improvement of coking potential of poor coking coal”, D Nag, S Karmakar, L Burgula, J Dash, PS Dash, S Ghorai, *International Journal of Coal Preparation and Utilization*, 1-11, (2019). [IF:2.020]
334. G-Quadruplex-Binding Small Molecule Induces Synthetic Lethality in Breast Cancer Cells by Inhibiting c-MYC and BCL2 Expression”, R Paul, T Das, M Debnath, A Chauhan, J Dash, *ChemBioChem* (2019). [IF: 2.641]
335. Domino Grignard Addition and Oxidation for the One-Pot Synthesis of C²-Quaternary 2-Hydroxyindoxyls”, T Mandal, G Chakraborti, S Maiti, J Dash, *Organic letters* 21 (19), 8044-8048 (2019).[IF: 6.555]

336. Ring Closing Metathesis Approach for the Synthesis of o-Terphenyl Derivatives”, S Karmakar, T Mandal, J Dash, *European Journal of Organic Chemistry* 2019 (34), 5916-5924 (2019).[IF:3.029]
337. KOTBu-Promoted Transition-Metal-Free Transamidation of Primary and Tertiary Amides with Amines”, T Ghosh, S Jana, J Dash, *Organic letters* 21 (17), 6690-6694 (2019). [IF: 6.555]
338. Cytidine-Derived Hydrogels with Tunable Antibacterial Activities”, T Bhattacharyya, R Chaudhuri, KS Das, R Mondal, S Mandal, J Dash, *ACS Applied Bio Materials* 2 (8), 3171-3177 (2019).[IF. - N.A.]
339. A Competitive Pull-Down Assay Using G-quadruplex DNA Linked Magnetic Nanoparticles To Determine Specificity of G-quadruplex Ligands”, D Panda, P Saha, R Chaudhuri, T Prasanth, V Ravichandiran, J Dash *Analytical chemistry* 91 (12), 7705-7711 (2019). [IF: 6.350]
340. Defects in nanosilica catalytically convert CO₂ to methane without any metal and ligand”, A K Mishra, R Belgamwar, R Jana, A Datta, V Polshettiwar*, *Proc. Natl. Acad. Sci. U.S.A* 2020, 117, 6383-6390. [IF: 9.5]
341. Transition-State-like Planar Structures for Amine Inversion with Ultralong C–C Bonds in Diamino-*o*-carborane and Diamino-*o*-dodecahedron”, N Mandal, A K Pal, P Gain, A Zohaib, A Datta*, *J. Am. Chem. Soc.*, **142**, 11, 5331-5337 (2020).[IF:14.5]
342. Screening two dimensional materials for the transportation and delivery of diverse genetic materials”, T K Mukhopadhyay, A Datta*, *Nanoscale*, **12**, 703–719 (2020). [IF: 7.5]
343. Gold-Catalyzed Cross-Coupling Reactions: An Overview of Design Strategies, Mechanistic Studies and Applications”, A Nijamudheen*, A Datta*, *Chem. Eur. J.* , 25, 1 – 47 (2020). [IF: 5.5]
344. Influence of Axial Linkers on Polymerization in Paddle-Wheel Cu(II) Coordination Polymers for the Application of Optoelectronics Devices”, S Jana, R Jana, S Sil, B Dutta, H Sato, Partha P Ray,* A Datta,* Takitsu, CSinha*, *Cryst. Growth Des.*, 19, 6283–6290 (2019).[IF: 4.5]
345. Interaction of a bioactive molecule with surfaces of nanoscale transition metal oxides: experimental and theoretical studies”, P Bandyopadhyay, R Jana, K Bhattacharyya, O I Lebedev, U Dutta, U Sarkar, A Datta *, Md M Seikh*, *New J. Chem.*, **43**, 16621-16628 (2019). [IF: 3.5]
346. Remote Functionalization through Symmetric or Asymmetric Substitutions Control the Pathway of Intermolecular Singlet Fission”, A K. Pal, K Bhattacharyya, A Datta*, *J. Chem. Theory Comput.* **15**, 5014-5023 (2019).[IF: 5.5]

347. Pt/Co₃O₄ Surpasses Benchmark Pt/C: An Approach Toward Next Generation Hydrogen Evolution Electrocatalyst”, R Jana, C Chowdhury, S Malik*, A Datta*, *ACS Appl. Energy Mater.*, **2**, 5613–5621 (2019).[IF: 7.5]
348. Computationally Driven Design Principles for Singlet Fission in Organic Chromophores”, K Bhattacharyya, A Datta*, *J. Phys. Chem. C*, **123**, 19257–19268 (Feature Article, selected as Cover Image) (2019).[IF: 4.5]
349. Hierarchical Noncovalent Interactions between Molecules Stabilize Multicomponent Cocrystals”, S Mandal, T K Mukhopadhyay, N Mandal, A Datta*, *Cryst. Growth Des.*, **19**, 4802–4809 (2019).[IF: 4.5]
350. Topological Phase Transition in Sb₂Mg₃ Assisted by Strain”, T Teshome, A Datta*, *ACS Omega*, **4**, 8701–8706 (2019).[IF: 2.6]
351. A Solution Processed Ultrathin Molecular Dielectric for Organic Field-Effect Transistors”, K Swathi, V Murugesan, K Bhattacharyya, T Kr Mukhopadhyay, A Datta, K S Narayan, *ACS Appl. Electron. Mater.*, 2019,1, 4, 485-493. [IF:7.6]
352. Visible light driven efficient metal free single atom catalyst supported on nanoporous carbon nitride for nitrogen fixation”, K Bhattacharyya, A Datta, *Phys. Chem. Chem. Phys.*, 2019, 21, 12346-12352. [IF:4.3]
353. Analysis of Pseudo Jahn–Teller Distortion Based on Natural Bond Orbital Theory: Case Study for Silicene”, R Bhattacharjee, T Majumder, A Datta, *J. Comput. Chem.*, 2019, 40, 1488–1495. [IF:3.8]
354. Aggregation induced non-emissive-to-emissive switching of molecular platinum clusters”, A George, M P Maman, K Bhattacharyya, S Das Chakraborty, A S, Bikas C Das, D Senapati, A Datta, S Mandal, *Nanoscale*, 2019, 11, 5914–5919. [IF: 7.5]
355. Intramolecular Singlet Fission in Quinoidal Dihydrothiophene”, K Bhattacharyya, D Dey, A Datta, *J. Phys. Chem. C*, 2019, 123, 4749–4754. [IF: 4.5]
356. Transforming atmospheric CO₂ into alternative fuels: a metal-free approach under ambient conditions”, S C Sau, R Bhattacharjee, P K Hota, P K Vardhanapu, G Vijaykumar, R Govindarajan, A Datta, S K Mandal*, *Chemical Science* 2019, 10, 1879-1884. [IF: 10.5]
357. Red-Emitting Copper Nanoclusters: From Bulk-Scale Synthesis to Catalytic Reduction”, K Basu, S Paul, R Jana, A Datta, A Banerjee*, *ACS Sustainable Chemistry & Engineering* 2019, 7, 1998-2007. [IF: 6.8]

358. Peroxidases Activity of Heme-A β complexes", M Roy, I Pal, A K Nath, S Ghosh Dey, *Chem. Comm. Featured Article*, **56**,4505 (2020) [IF: 6.164]
359. Formation of compound I in heme bound A β -peptides relevant to Alzheimer's Disease", I Pal, A K Nath, M Roy, M Seal, C Ghosh, A Dey, S Ghosh Dey, *Chem. Sci.* **10**, 8405, (2019)[IF: 9.556]
360. Active-site environment of Cu bound amyloid β and amylin peptides", I Pal, M Roy, S Ghosh Dey, *J. Biol. Inorg. Chem. Invited Article in Special Issue "Metal Ions and Degenerative Diseases"*, **24(8)**, 1245,(2019) [IF: 3.632]
361. Characterization of the Preprocessed Copper Site Equilibrium in Amine Oxidase and Assignment of the Reactive Copper Site in Topaquinone Biogenesis", C N Adelson, E M Johnston, K M Hilmer, H Watts, S Ghosh Dey, D E Brown, J B Broderick, E M Shepard, D M Dooley, E I Solomon, *J. Am. Chem. Soc.* **141(22)**, 8877, (2019). [IF: 14.695]
362. Total synthesis of nafuredin B", G H Mandal, D Saha, R K Goswami*. *Org. Biomol. Chem.*, **18**, 2346-2359 (2020) [IF: 3.564]
363. Total Synthesis and Stereochemical Assignment of Sunshinamide and Its Anticancer Activity", J Mondal, R Sarkar, P Sen, R K Goswami. *Org. Lett.*, **22**, 1188-1192 (2020)[IF: 6.555]
364. Total Synthesis and Stereochemical Assignment of Penicitide A", D Saha, S Guchhait, R K Goswami. *Org. Lett.* **22**, 745-749 (2020)[IF: 6.555]
365. Studies towards the Synthesis of Macrotermycin C: Stereoselective Construction of Acyclic Skeleton of the Aglycon", S Guchhait, R K Goswami. *Org. Biomol. Chem.*, **17**, 9502-9509 (2019)[IF: 3.564]
366. Ln-MOFs using a Compartmental Ligand with an Unique Combination of hard-soft Terminals and Their Magnetic, Gas Adsorption and Luminescence Properties", S Bhattacharya, S Bala*, R Mondal*, *Cryst Eng Comm*, **21**, 2019, 5665-5672. [IF: 3.117]
367. Temperature-Induced Single-Crystal-to-Single-Crystal Transformations with Consequential Changes in the Magnetic Properties of Fe(III) Complexes", A Adhikary,* S Akhtar, A Pariyar, A S Batsanov, R Mondal*, *ACS Omega*, **4**, 2019, 8731-8738. [IF: 2.584]
368. Designing Multifunctional MOFs Using an Inorganic Motif [Cu₃(μ_3 -OH)(μ -Pyz)] As SBU and Their Properties", S Akhtar, S Bala*, A De, K S Das, A Adhikary, S Jyotsna, P Poddar, R Mondal*, *Cryst. Growth & Des.*, **19**,2019, 992–1004. [IF: 4.153]

369. Designing Ferromagnetism in Cu(II) complexes using an Elusive near-orthogonal bridging mode of pyrazole ring”, M Roy, A Adhikary, T Debnath, A K Das, R Mondal*, *Polyhedron*, **160**,2019, 46–52. [IF: 2.284]
370. Cytidine-Derived Hydrogels with Tunable Antibacterial Activities”, T Bhattacharyya, R Chaudhuri, K S Das, R Mondal, S Mandal, J Dash*, *ACS Appl. Bio Mater.*, **2**,2019, 3171-3177.
371. Highly Enantioselective Synthesis of Functionalized Glutarimide Using Oxidative N-Heterocyclic Carbene Catalysis: A Formal Synthesis of (–)-Paroxetine”, A Porey, S Santra, J Guin, *J. Org. Chem.*,DOI:10.1021/acs.joc.9b00320(2019) [IF: 4.805]
372. Palladium-Catalyzed Decarboxylative ortho-C(sp²)-H Aroylation of N-Sulfoximine Benzamides at Room Temperature”, P Das, P Biswas, J Guin, *Chem. Asian J.*, **15**, 920-925 (2020). [IF: 3.698]
373. Enantioselective α -Amination of Acyclic 1,3-Dicarbonyls Catalyzed by N-Heterocyclic Carbene”, S Santra, U Maji, J Guin, *Org. Lett.*, **22**, 468-473 (2020).[IF: 6.555]
374. Synthesis of Phenolic Compounds via Palladium Catalyzed C-H Functionalization of Arenes”, D Saha, P Das, P Biswas, J Guin, *Chem. Asian J.*, **14**, 4534-4548 (2019). [IF: 3.698]
375. Radical C–H Acylation of Nitrogen Heterocycles Induced by an Aerobic Oxidation of Aldehydes”, S Paul, M Bhakat, J Guin, *Chem. Asian J.*, **14**, 3154-3160 (2019). [IF: 3.698]
376. Redox Associated Variation of HückelAromaticityfrom Lactam Embedded Smallest Antiaromatic *trans*-Doubly N-Confused Porphyrins: Synthesis and Characterization”, N Halder, M Sangeetha, D Usharani,* H Rath*. *The Journal of Organic Chemistry*, 2020, **85**, 2059-2067.[IF:4.805]
377. Tropyliumcation Fused Aromatic [26]Dicarbaporphyrinoids with NIR Absorptions: Synthesis, Spectroscopic and Theoretical Characterization”, K C Sahoo, M Sangeetha, D Usharani,* H Rath*, *Jnl of Porphyrin and Phtallocyanine*, 2020, **24**, 161-170.[IF:1.397]
378. Comparative In vitro Studies of the Topoisomerase I inhibition and Anticancer activities of Metallated N-Confused porphyrins and Metallatedporphyrins”, N Halder, L U Dzhemileva, I R Ramazanov, V A D'yakonov, U M. Dzhemilev, H Rath*. *ChemMedChem*, 2020([cmdc.201900633](#)).[IF:3.016]
379. Conformationally Rigid Ethynylene-Cumulene Conjugated Aromatic [30] Heteroannulenes with NIR Absorption:Synthesis, Spectroscopic and Theoretical Characterization”, K C Sahoo, M S Kumaraswami, D Usharani,* H Rath*, *The Journal of Organic Chemistry*, 2019, **84**, 5203-5212. [IF:4.805]

380. meso-Aryl Substituted Stable Unorthodox 5, 10-Porphodimethenes with β,β and β,β -N-methyl PyrroleConnectivities: Synthesis, Spectroscopic, Solid State and Theoretical Characterization", N Halder, M Sangeetha, D Usharani,* H Rath*, *Org. Biomol. Chemistry*, 2019, **17**, 6131-6135.[IF:3.564]
381. Intersubunit Assisted Folding of DNA Binding Domains in Dimeric Catabolite Activator Protein", C Ghosh, B Jana*, *Journal of Physical Chemistry B*, 124, **8**, 1411-1423 (2020).[IF:2.923]
382. Ionophore constructed from non-covalent assembly of a G-quadruplex and liponucleoside transports K⁺-ion across biological membranes", M Debnath, S Chakraborty, Y P Kumar, R Chaudhuri, B Jana, J Dash*, *Nature Communications*,**11**, Article number:469 (2020). [IF:11.880]
383. Mechanistic study of the ATP hydrolysis reaction in dynein motor protein", R N Manna, M Dutta, B Jana*, *Physical Chemistry Chemical Physics*, **22**, 1534-1542 (2020). [IF:3.567]
384. Role of AAA3 Domain in Allosteric Communication of Dynein Motor Proteins", M Dutta, B Jana*, *ACS Omega* 4, **26**, 21921-21930 (2019).[IF:2.58]
385. Exploring and Engineering the Conformational Landscape of Calmodulin through Specific Interactions", R Halder, B Jana*, *Journal of Physical Chemistry B* 123, **44**, 9321-9327 (2019).[IF:2.923]
386. Relative Solvent Exposure of the Alpha-Helix and Beta-Sheet in Water Determines the Initial Stages of Urea and Guanidinium Chloride-Induced Denaturation of Alpha/Beta Proteins", S Parui, B Jana*, *Journal of Physical Chemistry B* 123, **42**, 8889-8900 (2019)[IF:2.923]
387. Ordered hydration layer mediated ice adsorption of a globular antifreeze protein: A mechanistic insight", S Chakraborty, B Jana*, *Physical Chemistry Chemical Physics*, **21**, 19298-19310 (2019).[IF:3.567]
388. Calcium Ion Implicitly Modulates the Adsorption Ability of Ion-Dependent Type II Antifreeze Proteins on Ice/Water Interface: A Structural Insight", S Chakraborty, B Jana*, *Metallomics*,**11**, 1387-1400 (2019).[IF:4.069]
389. Structural Insight and Ultrafast Dynamics of 2D-Porphyrin Nanostructures", R Bera, S Chakraborty, S K Nayak, B Jana, A Patra*, *Journal of Physical Chemistry C* 123, **25**, 15815-15826 (2019).[IF:4.309]
390. Molecular structure of a hyperactive antifreeze protein adsorbed to ice", K Meister,C J Moll, S Chakraborty, B Jana, Arthur L DeVries, H Ramløv, H J Bakker, *Journal of Chemical Physics*,**150**, 131101 (2019).[IF:2.997]

391. Alteration of the groove width of DNA induced by the multimodal hydrogen bonding of denaturants with DNA bases in its grooves affects their stability", S Sarkar, P C Singh*. *BBA - General Subjects*, 2019, 1864,129498.[IF:3.67]
392. Multimodal Interactions of Dopamine Hydrochloride with the Groove Region of DNA: A Key Factor in the Enhanced Stability of DNA", S Sarkar, A Chowdhury, P C Singh*, *J. Phys. Chem. B*, 2019, 123, 10700-10708.[IF:2.923]
393. Mechanistic Aspects of Fungicide-Induced DNA Damage: Spectroscopic and Molecular Dynamics Simulation Studies", S Sarkar, P C Singh*, *J. Phys. Chem. B*, 2019, 123,8653-8361[IF:2.923]
394. The role of fluorocarbon group in the hydrogen bond network, photophysical and solvation dynamics of fluorinated molecules", B Biswas, P C Singh*, *J. Fluor. Chem.* 2019, 109414.[IF:0.476]
395. Hydrophobic Hydration of Fluoroalkyl (C-F) is Distinctly Different from That of Its Hydrogenated Counterpart (C-H), as Observed by Raman Difference with Simultaneous Curve Fitting Analysis", S Roy, B Biswas, N Ghosh, P C Singh*, J A Mondal*, *J. Phys. Chem. C*, 2019, 123, 27012-27019.[IF:4.309]
396. Does Fungicide "Dodine" Unfold Protein like Kosmo-Chaotropic Agent?", B Biswas, P C Singh*, *J. Phys. Chem. B*, 2019, 123,8240-8246.[IF:2.923]
397. Molecular Level Insight into the Counteraction of Trehalose on the Activity as well as Denaturation of Lysozyme Induced by Guanidinium Chloride", B Biswas, P C Singh*, *Chem. Phys.* 2019, 527, 110489.[IF:2.997]
398. Role of Disulfide Bonds and Topological Frustration in the Kinetic Partitioning of Lysozyme Folding Pathways", N Aswathy Muttathukatti, P C Singh, G Reddy *J. Phys. Chem B*, 2019,123, 3232-3241.[IF:2.923]
399. Solvent organization around the noncanonical part of tyrosine modulates its fluorescence properties", T Nandy, S Mondal, P C Singh*, *Phys. Chem. Chem. Phys.* 2019, 21, 6042-6050.[IF:3.567]
400. Iron(II) Mediated Desulfurization of Organosulfur Substrates Produces Nonheme Diiron(II)-hydrosulfides", T Ganguly, A Das, A Majumdar*, *Inorg. Chem.* **58**, 9998 (2019).[IF:4.850]
401. Comparative Study for the Cobalt(II) and Iron(II) Mediated Desulfurization of Disulfides Demonstrating That the C-S Bond Cleavage Step Precedes the S-S Bond Cleavage Step", T Ganguly, A Majumdar*, *Inorg. Chem.* **59**, 4037 (2020).[IF:4.850]

402. Functional Models for the Mono- and Di-nitrosyl Intermediates of FNORs: Semireduction versus Superreduction of NO", M Jana, C J White, N Pal, S Demeshko, C Kupper, F Meyer, N Lehnert,* A Majumdar*, *J. Am. Chem. Soc.***142**, 6600 (2020).[IF:14.695]
403. Non-radiative decay of an eumelanin monomer: to be or not to be planar", P Ghosh, D Ghosh, *Phys. Chem. Chem. Phys.*, **21**, 6635 (2019) [IF: 3.567]
404. Comparison of TDDFT and multireference treatment of ground and excited states of Fe(II) ammonia octahedral complex", K Seth, D Ghosh, *J. Ind. Chem. Soc.(Special Issue)*, **96**, 801 (2019). [IF:0.158]
405. Effect of microsolvation on the non-radiative decay of eumelanin monomer", P Ghosh, D Ghosh, *Phys. Chem. Chem. Phys.*, **21**, 26123 (2019). [IF:3.567]
406. In the quest for a stable triplet state in small polyaromatic hydrocarbons: an in-silico tool for rational design and prediction", M Rano, S K Ghosh, D Ghosh, *Chem. Sci.*, **10**, 9270 (2019). [IF:9.556]
407. Light induced excited spin-state trapping in spin crossover model system", S Karmakar, D Ghosh, T Saha-Dasgupta, *Int. J. Quant. Chem.*, **120**, e26122 (2020). [IF:2.263]
408. Support vector regression-based Monte Carlo simulation of flexible water clusters", S Bose, S Chakrabarty, D Ghosh, *ACS Omega*, **5**, 7065 (2020). [IF:2.58] **SCS**
409. Maxwell Electrodynamics in Terms of Physical Potentials - Parthasarathi Majumdar and Anarya Ray, *Symmetry*, **11**, 915 (2019).[IF:2.143]
410. Kinematics of Two-particle Scattering in Black Hole Backgrounds - Soumendra Kishore Roy, Ratna Koley and Parthasarathi Majumdar, *Phys.Rev.D* **100** 6, 064052 (2019).[IF:4.368]
411. Some new copula-based distribution-free tests of independence among several random variables - To appear in Sankhya, Series A; A. Goswami (Co-authors: A. Roy, A. K. Ghosh, C. A. Murthy), arXiv:1903.08987v2 [math.ST]. (2019).
412. On some consistent tests of mutual independence among several random vectors of arbitrary dimensions - To appear in Statistics and Computing; A. Goswami (Co-authors: A. Roy, Soham Sarkar and A. K. Ghosh)
413. Test of Mutual Independence among several Random Vectors of Arbitrary Dimensions (2019); A. Goswami, Submitted in *Statistica Sinica* (Co-authors: Anil Ghosh, Soham Sarkar and Angshuman Roy)

414. Large magnetodielectric effect and negative magnetoresistance in NiO nanoparticles, S. Chatterjee, R.P. Maiti, and D. Chakravorty, *RSC Adv.*, 2020, **10**, 13708 (2020).[IF:3.119]
415. Rice–BernasconiGorkov–Eliashberg Effect of Giant DielectricPermittivity in Silica-Based Films Containing Interrupted Silver Nanowires, S.Samanta, A. Maity, S. Chatterjee, R.P. Maiti, D. Biswas, S.Giri, and D. Chakravorty, *Trans Indian Inst Met*, **72**(8), 1963–1969 (2019).[IF:1.205]
416. Composites of nanodimensional glass in the system Na₂O–SiO₂/Mesoporous silica and their high ionic conductivity, S. Samanta, A. Maity, S. Chatterjee, S. Giri, and D. Chakravorty, *Journal of Physics and Chemistry of Solids*, **142**, 109470 (2020). [IF: 3.442]
417. Giant magnetodielectric effect in composites of nanodimensional spin glassof system CoO–SiO₂ and mesoporous silica SBA-15, A. Maity, S. Samanta, R.P. Maiti, S. Chatterjee, D. Biswas, and D. Chakravorty, *Journal of Magnetism and Magnetic Materials*, **491**, 165633 (2019).[IF: 2.717] **Emeritus**
418. How SERS responses of probe molecules depend on topographies of the substrates? A vis-à-vis exploration - S K Das, S Saha, M Ghosh, J Chowdhury - *Vibrational Spectroscopy*, **107**, 103031 (2020).[IF:1.86]
419. SERS active substrates of gold nanoparticles embedded in the pool of 5-CB liquid crystal molecules organized in Langmuir–Reverse Schaefer films: A facile fabrication route to make the topological defects useful - S K Das, M Ghosh, S Ghosh, J Chowdhury - *Applied Surface Science*, **484**, 1263-1273 (2019).[IF:6.1]
420. Simple theoretical analyses of the Burstein–Moss shift (BMS) revisited for n-GaAs semiconductor with and without band-tailing conditions - P K Chakraborty, B N Mondal and G Sardar, *Indian Journal of Physics*, DOI: [10.1007/s12648-020-01730-6](https://doi.org/10.1007/s12648-020-01730-6) (2019).[IF:1.24]
421. Carriers Disappear from Conduction Band Edge with Oscillations for Certain Values of Electric and Parallel Magnetic Fields - P K Chakraborty, B N Mondal and G Sardar *Physics & Astronomy International Journal*, **5**, 3, 214 (2019).
422. Exact analytical Model for the Evaluation of complex Einstein relation for disordered semiconductor with parabolic band - PK Chakraborty, B N Mondal, B K Chaudhuri, *Open Access journal of Mathematical and Theoretical Physics I*, **2**, 22 (2019).[IF:1.99]
423. Laser-induced modulation of optical band-gap parameters in the III–V-type semiconductors from the density-of-state (DOS) calculations - P.K Chakraborty, B.N. Mondal, B. K. Chaudhuri, *Pramana- Journal of Physics.*, **92**, 85 (2019).[IF:1.18] **CSS**

Publications in Books/Monograph :

1. Sensor in Water Pollutants Monitoring : Role of Materials, Springer Verlag, Singapore, ISBN10 9811506701 (2020). (Praveen Kumar)
2. Photocatalytic Degradation of Petrochemical Pollutants. Book : Nano-Materials as Photocatalysts for Degradation of Environmental Pollutants. 1st Edition, Elsevier, UK, ISBN : 9780128185988 (2020). (Praveen Kumar)
3. Materials in Calorimetric Detection of Water Pollutants. Book : Sensors in Water Pollutants Monitoring : Role of Materials' Springer, ISBN 978-981-15-0670-3 (2020). (Praveen Kumar)
4. Organoselenium Chemistry, ed, B C Ranu, B Banerjee, De Gruyter, Germany, (2020) (book). (BC Ranu)
5. Grafting of Electroactive Polymers – A.K. Nandi, R. Ghosh D.P. Chatterjee, *Reactive and Functional Polymers*, ed. Dr. T.J. Gutierrez, Springer Nature USA, Vol. 2, Chapter 4 (2020) (Arun K Nandi)
6. An Invitation to Set Theory, Submitted to American Mathematical Society for publication in its Undergraduate and Graduate Text Book series, 128 pages, decision of AMS awaited. (SM Srivastava)
7. Measure Theory and Probability – A. Goswami, co-authored with B.V. Rao, under progress, Springer International. (Alok Goswami)
8. Porphyrins for the 21st Century : Fundamentals (Volume 1) : Heme Proteins – Structure and Function, Wiley, 2019 (Somdatta Ghosh Dey)
9. Sustainable Photovoltaics, Springer, Cham, 25-85, 2020. (Durga Basak)
10. Title of Monograph: Report on the Physics at the HL-LHC, and Perspectives for the HE-LHC, Beyond the Standard Model physics at the HL-LHC and HE-LHC, CERN Yellow Reports : Monographs, CERN-2019-007 (CERN, Geneva, 2019), 281 pages (2019). (Satyanarayan Mukhopadhyay)
11. Text cum Reference book entitled “Understanding atoms, molecules and materials”, S.P. Bhattacharya and Pranab Sarkar (Visva-Bharti University), by CRC Press.

SCHOOL-WISE LIST OF PUBLICATIONS SUBMITTED BY THE FACULTIES FOR THE YEAR 2021-2022

School of Applied and Interdisciplinary Sciences

Dr. Anindita Das

1. Crystallization-Driven Controlled Two-Dimensional (2D) Assemblies from Chromophore-Appended Poly(L-lactide)s: Highly Efficient Energy Transfer on a 2D Surface - A. Rajak and A. Das, *Angew. Chem. Int. Ed.*, **61**, e202116572 (Selected as Hot paper and featured in the Cover page) (2022).[IF:15.34]
2. Programmed Macromolecular Assembly by Dipole-Dipole Interactions with Aggregation-Induced Enhanced Emission in Aqueous Medium - A. Rajak and A. Das, *ACS Polymers Au*, DOI doi.org/10.1021/acspolymersau.1c00054 (2022).
3. Stimuli-Responsive Luminescent Supramolecular Assemblies and Co-assemblies by Orthogonal Dipole-Dipole Interaction and Halogen Bonding - A. Jamadar, A. K. Singh, L. Roy,* A. Das,* *J. Mater. Chem. C*, **9**, 11893-11904 (2021).[IF:7.393]
4. Recent Developments in Polymeric Assemblies and Functional Materials by Halogen Bonding - S. Biswas and A. Das, *ChemNanoMat*, **7**, 748-772 (2021).[IF:3.154]

Dr. Shinto Varghese

1. Luminescence in Crystalline Organic Materials: From Molecules to Molecular Solids – J. Gierschner, J. Shi, B. Milián-Medina, D. Roca-Sanjuán, S. Varghese, S. Y. Park, *Adv. Optical Mater.*, **9**, 2002251 (2021).[IF:9.926]

Prof. Sudip Malik

1. Effect of Tricarboxylic Acids on the Formation of Hydrogels with Melem or Melamine: Morphological, Structural and Rheological Investigations - P. K. Sukul, P. Das, G. L. Dhakar, L. Das and Sudip Malik*, *Gels*, **8**, 51 (2022).[IF:4.432]
2. Urea-mediated Synthesized Carbon Quantum Dots to tune the Electrochemical Performance of Polyaniline Nanorods for Supercapacitor Device, M.S. Kumar, Y.

Yasoda, P. Das, Sudip Malik*, N K. Kothurkar*, and S. K. Batabyal*, J. Sci. Adv. Mater.Dev., **7**, 100403 (2022).[IF:7.382]

3. Fully Organic Polyaniline Nanotubes as Electrode Material for Durable Supercapacitor - P. Das, S. Mondal and Sudip Malik*, *J. Energy Storage*, **39**, 102662 (2021).[IF:8.907]

Publications in Book Chapter : Prof. Sudip Malik

1. Conjugated Polymer Based Nanocomposites as Electrode Materials in Conjugated Polymer Nanostructures for Energy Conversion and Storage Applications edited by S. Ghosh, Chapter-11 (pp 401-444), S. Dhibar, P. Das, S. Mondal, U. Rana, and Sudip Malik, Wiley-VCH Verlag GmbH & Co., Weinheim, **2021**.
2. 3D Graphene Nanocomposites by Electrospinning for Supercapacitors in Electrospinning of Graphene edited by S. K Tiwari, S. Sahoo and N. Wang, Chapter-04 (pp 93-118), S. Dhibar and Sudip Malik, Springer, Cham, **2021**.

Prof. Suhrit Ghosh

1. A Hierarchical (Macro)molecular Assembly Assisted by Donor-Acceptor Charge-Transfer Interactions Exhibiting Room-Temperature Ferroelectricity - A. Mukherjee, S. Barman, A. Ghosh, A. Datta, A. Datta and S. Ghosh, *Angew. Chem. Int. Ed.*, e202203817 (2022).[IF:15.3]
2. Stable Room Temperature Ferroelectricity in Hydrogen-bonded Supramolecular Assemblies of Ambipolar π -Systems - A. Mukherjee, S. Barman, A. Ghosh, S. Chakraborty, A. Datta, A. Datta and S. Ghosh, *Chem. Sci.*, **13**, 781–788. (2022).[IF: 9.8]
3. Stable room temperature thermoelectric properties in supramolecular assembly of n-type naphthalene-diimide based amphiphile - B. P. Mondal, A. Mukherjee, S. Ghosh and A. Datta, *ChemNanoMat*, **8**, e202100367 (2022).[IF:2.9]
4. Control over multiple Nano- and Secondary Structures in Peptide Self-Assembly - G. Ghosh,* R. Barman, A. Mukherjee, U. Ghosh, S. Ghosh and G. Fernández, *Angew. Chem. Int. Ed.*, **61**, e202113403 (2022).[IF:15.3]
5. Highly Efficient Biofilm Eradication by Antibacterial Two-Dimensional Supramolecular Polymers - A. Mukherjee, R. Barman and S. Ghosh, *Chem. Mater.*, **33**, 8656–8665. (2021).[IF:9.8]
6. Shape Dependent Cellular Uptake of Nanostructures Produced from Supramolecular Structure Directing Unit (SSDU)-Appended Hydrophilic Polymers - P. Rajdev, P. Dey, I. Ghosh, S. S. Jana and S. Ghosh, *ACS Macro Lett.*, **10**, 1467-1473 (2021).[IF:6.9]

7. Thermodynamic Insights of the Protein Adsorption on Supramolecular Assemblies of π -Amphiphiles - P. Rajdev and S. Ghosh, *J. Phys. Chem. B*, **125**, 8981–8988 (2021). [IF:2.9]
8. Core-Substituted Naphthalene-diimides (cNDI) and Related Derivatives: Versatile Scaffold for Supramolecular Assembly and Functional Materials - A. Mukherjee and S. Ghosh, *Org. Mater.*, **3**, 281–292 (2021).
9. Molecular Recognition Driven Bioinspired Directional Supramolecular Assembly of Amphiphilic (Macro)molecules and Proteins - A. Sikder, S. Chakraborty, P. Rajdev, P. Dey and S. Ghosh, *Acc. Chem. Res.*, **54**, 2670–2682 (2021).[IF:22.4]
10. Externally Regulated Specific Molecular Recognition Driven Pathway Selectivity in Supramolecular Polymerization - A. Chakraborty, R. N. Manna, A. Paul and S. Ghosh *Chem. Eur. J.*, **27**, 11458–11467 (2021).[IF:5.2]

Prof. Surajit Sinha

1. Cananginone Abrogates EMT in Breast Cancer Cells through Hedgehog Signaling. C. Bose, U. Das, T.K. Kuilya, J. Mondal, J. Bhadra, P. Banerjee, R.K. Goswami, and S. Sinha, *Chem. Biodiversity*, e202100823 (<https://doi.org/10.1002/cbdv.202100823>) (2022).
2. Molecularly Resolved, Label-free Nucleic Acid Sensing at Solid-liquid Interface using Non-ionic DNA Analogues. T. Mana, J. Kundu, H. Lahiri, S. Bera, J. Kolay, S. Sinha, R. Mukhopadhyay* - *RSC Adv.*, **12**, 9263-9274 (2022).
3. Structural Modifications to the Internal Oligoguanidinium Transporter Uncover Two Potent Analogues that Effectively Deliver the Pro-apoptotic Peptide in Multiple Cancer Cell Lines - S. Gupta, Md. Qasim, A. Gupta, J. Kundu, S. Sinha,* *Bioconj. Chem.*, **33** (1), 121-133 (2022).
4. Self-transfecting GMO-PMO and PMO-GMO chimeras enable gene silencing *in vitro* and *in vivo* zebrafish model and NANOG Inhibition Induce the Apoptosis in Breast and Prostate Cancer Cells - J. Kundu, U. Das, C. Bose, J. Bhadra, and S. Sinha *BioRxiv* (2021) <https://doi.org/10.1101/2021.06.04.447039>. (not peer reviewed).

Prof. Somabrata Acharya

1. Shape tunable two– dimensional ligand– free cesium antimony chloride perovskites - Susmita Paul, Sumanta Sain, Tapas Kamilya, Amit Dalui, Piyush Kanti Sarkar and Somabrata Acharya, *Materials Today Chemistry*, **23**, 100641 (2022).[IF:]
2. Origin of Intense Luminescence from Supramolecular Two-dimensional Molecular Crystals - Sandip Biswas, Gouranga Manna, Bidisa Das, Arpan Bhattacharya, Arun K. Pal, Ayan Datta, Parvej Alam, InamurRahamanLaskar, Pramita Mondal, Mrinmay K

Mukhopadhyay, Milan K. Sanyal,* and Somobrata Acharya*, *Small*, **17**, 2103212 (2021).[IF:13.28]

3. Dimension– Controlled Halide Perovskites Using Templates - Susmita Paul, Katsuhiko Ariga, D. D. Sarma and Somobrata Acharya*, *Nano Today*, **39**, 101181-101194 (2021).[IF:20.72]
4. Improved device performance of rod like ZnO in a Schottky type photosensor compared to particle like ZnO: Analysis of charge transport - Mrinmay Das, Pubali Das, Joydeep Datta, Dhananjay Das, Somobrata Acharya, Partha Pratim Ray*, *Materials Science in Semiconductor Processing*, **130**, 105799-105808 (2021).[IF:]
5. Ordering of ZnS Nanorods at the Air-Liquid Interface: An in-situ X-ray Scattering Study – Santanu Maiti, Gouranga Manna, Sabyasachi Karmakar, Subrata Maji, Mrinmay Mukhopadhyay, Somobrata Acharya and Milan Sanyal*, *The Journal of Physical Chemistry C*, **125**, 12774–12783 (2021).[IF:4.126]
6. Large Stokes Shifted Quaternary Copper Cadmium Sulfide Selenide Quantum Dots Waveguides - Dipanwita Roy, Piyush Kanti Sarkar, Amit Dalui, Uttam Kumar Ghorai, Dharmendra K. Gupta, and Somobrata Acharya*, *J. Mater. Chem. C*, **9**, 8066-8075 (2021).[IF:7.393]

Dr. K.D.M. Rao

1. Layer-by-Layer Assembly-Based Heterointerfaces for Modulating the Electronic Properties of $\text{Ti}_3\text{C}_2\text{T}_x$ MXene - K Karmakar, P Sarkar, J Sultana, N Kurra, K. D. M. Rao, *ACS Applied Materials & Interfaces*, **13 (49)**, 59104-59114, (2021).[IF:9.2]
2. Hot-Spin Casting Synthesis of Freestanding $\text{Cs}_2\text{AgBiBr}_6$ Double Perovskite Facet-Oriented Microcrystals for Efficient Photodetectors - Mozakkar Hossain, MS Sheikh, K. D. M. Rao, *Advanced Materials Interfaces*, **8(18)**, 2100570 (2021).[IF:6.1]
3. Angled-stencil lithography-based metal mesh/ $\text{Ti}_3\text{C}_2\text{T}_x$ MXene hybrid transparent electrodes for low-power and high-performance wearable thermotherapy - Mozakkar Hossain, KP Sabin, K. D. M. Rao, *Journal of Materials Chemistry C*, **9 (19)**, 6257-6267, (2021).[IF:7]

Dr. Anuja Datta, Ramanujan Fellow

1. A Hierarchical (Macro) molecular assembly assisted by donor-acceptor charge-transfer interactions exhibiting room-temperature ferroelectricity - A. Mukherjee, S. Barman, A. Ghosh, A. Datta, Anuja Datta*, and S. Ghosh*, *Angew.Chem.Int.Ed.* **e202203817** (2022).[IF:15.35]

2. Stable room temperature thermoelectric properties in a supramolecular assembly of an n-Type naphthalene-diimide-based amphiphile - B. P. Mondal, A. Mukherjee, S. Ghosh, and Anuja Datta*, *CHEMNANOMAT.*, **8**, e202100367 (2022).[IF:3.154]
3. Stable room temperature ferroelectricity in hydrogen-bonded supramolecular assemblies of ambipolar π -systems - A. Mukherjee, S. Barman, A. Ghosh, S. Chakraborty, A. Datta*, Anuja Datta*, and S. Ghosh*, *Chem. Sci.*, **13**, 781 (2022). [IF:9.825]
4. Role of oxygen vacancies on the low-temperature dielectric relaxor behavior in epitaxial Ba_{0.85}Ca_{0.15}Ti_{0.9}Zr_{0.1}O₃ thin films - S. Chatterjee, A. Barman, S. Barman, T. Chabri, S. Kar-Narayan, Anuja Datta*, D. Mukherjee*, *Phys. Rev. Mater.*, **5**, 064415 (2021).[IF:3.989]
5. Large electrocaloric effect in lead-free ferroelectric Ba_{0.85}Ca_{0.15}Ti_{0.9}Zr_{0.1}O₃ thin film heterostructure - A. Barman, S. Chatterjee, C. Ou, Y. Y. Tse, N. Banerjee, S. Kar-Narayan, Anuja Datta*, D. Mukherjee*, *APL Mater.* **9**, 021115 (2021).[IF: 5.096]

School of Biological Sciences

Prof. Arindam Banerjee

1. Tuning of optoelectronic properties in Nano-hybrids of peptide appended perylenebisimides and carbon-nanodots – Soumyajit Hazra, Subir Paul , Kingshuk Basu, Arun Kumar Nandi, Arindam Banerjee, *J. Phys. Chem. C*, **126**, 5906–5915, (2022).[IF:4.126]
2. Aggregation induced modulation of optoelectronic properties of carbon dots and removal of Cd²⁺ ions with sustainable use in photocurrent generation - Subir Paul, Soumyajit Hazra and Arindam Banerjee, *ACS Sustain. Chem. Eng.*, **9** (38), 12912- 12921 (2021).[IF:8.198]
3. Development of Polythiophene- Tripeptide Covalent Conjugates Showing Excellent Structure Dependent Photophysical and Photocurrent Properties”Sanjoy Mondal, Soumyajit Hazra, Arnab Shit, Dhruba P. Chatterjee, Arindam Banerjee and Arun Kumar Nandi, *J. Phys. Chem C*, **125**, 17518–17529 (2021).[IF:4.126]
4. Solvent directed transformation of self-assembly and optical property of a peptide appended core substituted naphthalenediimide and selective detection of nitrite ion in aqueous medium - Kousik Gayen, Subir Paul, Soumyajit Hazra, Arindam Banerjee, *Langmuir*, **37**, 9577–9587 (2021).[IF:3.882]
5. Tuning of optoelectronic properties of peptide appended core substituted naphthalene diimides: The role of self-assembly of two positional isomers - Kousik Gayen,

Soumyajit Hazra, Arun K Pal, Subir Paul, Ayan Dutta, Arindam Banerjee, *Soft Matter*, **17**, 7168–7176 (2021).[IF:3.679]

Prof. Benu Brata Das

1. TDP1 knock out *Leishmaniadonovani* accumulate Topoisomerase1-linked DNA damage and are hypersensitive to clinically used antileishmanial drugs - S. Roy Chowdhury, S.K. Das, B. Banerjee, S. Paul Chowdhuri, H.K. Majumder and B.B. Das *The FASEB Journal*, **36**(4): e22265. (2022).[IF:5.19]
2. Post-translational regulation of Tyrosyl-DNA phosphodiesterase (TDP1 and TDP2) for their pair of the trapped topoisomerase DNA covalent complex - S. Bhattacharjee, I. Rehman, S. Nandy and B.B. Das, *DNA Repair (Amst)*, **111**:103277 (2022).[IF:4.91]
3. Synergistic Experimental and Theoretical Studies of Luminescent–Magnetic Ln_2Zn_6 Clusters. S. Saha, K.S. Das, T Sharma, S Bala, A Adhikary, G.Z. Huang, M.L. Tong, A. Ghosh B.B. Das, G. Rajaraman, R. Mondal *Inorganic Chemistry*, **61**, **4**, 2141–2153 (2022).[IF:5.16]
4. Trapped topoisomerase-DNA covalent complexes in the mitochondria and their role in human diseases - B.B. Das, A. Ghosh, S. Bhattacharjee, A. Bhattacharya Mitochondrion, **60**:234-24 (2021).[IF:4.16]
5. Supramolecular Design Strategies for Color Tuning of Iridium (III) Complexes Using a Common Framework of Cyclometalating Ligands - S. Biswas, B. Das, P. Alam, A. Ghatak, A. Ghorai, A. Ghosh, B.B. Das and S. Acharya, *The Journal of Physical Chemistry C*, **125** (**8**), 4730-4742 (2021).[IF:4.16]
6. Lanthanide clusters of phenanthroline containing a pyridine-pyrazole based ligand: magnetism and cell imaging. A. De, S. Bala, S. Saha, K.S. Das, S. Akhtar, A. Adhikary, A. Ghosh, G.Z. Huang, S.P. Chowdhuri, B.B. Das, M.L. Tong, R. Mondal *Dalton Trans.*, **10**:3593-3609, (2021).[IF:4.39]
7. Top1-PARP1 association and beyond: from DNA topology to break repair. S.P. Chowdhuri, and B.B. Das *NAR Cancer*, **3**(1): zcab003. (2021).
8. Pyridine-pyrazole based Al(III) 'turn on' sensor for MCF7 cancer cell imaging and detection of picric acid - S. Saha, A. De, A. Ghosh, A. Ghosh, K. Bera, K.S. Das, S. Akhtar, N.C. Maiti, A.K. Das, B.B. Das, R. Mondal, *RSC Adv.* **2021**, **11**(17):10094-10109, (2021).[IF:3.36]

Prof. D.K. Sinha

1. Probing the role of macromolecular crowding in cell volume regulation using fluorescence anisotropy - Parijat Biswas, Dipanjan Ray, Subhamoy Jana and Deepak Kumar Sinha, Under review (Elife)
2. Delineating the complex mechanistic interplay between NF- κ B driven mTOR dependent autophagy and monocyte to macrophage differentiation: a functional perspective - Anindita Bhattacharya, Purnam Ghosh, Arpana Singh, Arnab Ghosh, Arghya Bhowmick, Deepak Kumar Sinha, Abhrajyoti Ghosh, Prosenjit Sen, *Cellular Signalling*, **88** 110150 (2021).[3.937]

Prof. P.K. Das

1. Lipase sensing by naphthalene diimide based fluorescent organic nanoparticles: a solvent induced manifestation of self-assembly - D Chakraborty, D Sarkar, A K Ghosh and PK Das, *Soft Matter*, **17**, 2170 (2021).[IF:3.679]
2. Naphthalimide based fluorescent organic nanoparticles in selective sensing of Fe³⁺ and as a diagnostic probe for Fe²⁺/Fe³⁺ transition - D Sarkar, M Chowdhury and P K Das. *J. Mater. Chem. B*, **9**, 494, (2021).[IF:6.331]
3. Progress and Trends in Self-Assembly Driven Fluorescent Organic Nanoparticles: A Brief Overview - P Choudhury and P K Das. *Journal of the Indian Chemical Society* (Invited Review Article), **98**, 100123 (2021).[IF: 0.284]
4. Paclitaxel Loaded Biotinylated Fe²⁺ Doped Carbon Dot: Combination Therapy in Cancer Treatment - M Choudhury and P K Das. *ACS Applied Bio Materials*, **4**, 5132–5144. (2021).[IF: 3.25]
5. Nipecotic Acid Tethered Naphthalene Diimide based Orange Emitting Organic Nanoparticles as Targeted Delivery Vehicle and Diagnostic Probe towards GABAA Receptor Enriched Cancer Cells - A K Ghosh, M Chowdhury and P K Das, *ACS Applied Bio. Materials*, **4**, 7563–7577 (2021).[IF:3.25]

Prof. Prosenjit Sen

1. Lipid droplet: A functionally active organelle in monocyte to macrophage differentiation and its inflammatory properties - Arpana Singh, Prosenjit Sen, *Biochimica et Biophysica Acta (BBA) - Molecular and Cell Biology of Lipids*, **1866**, 10, 158981, (2021).[IF:4.698]
2. Amphiphilic Perylene Bisimide-Polymer Conjugates by Cystein –Based Orthogonal Strategy: vascular Aggregation, DNA binding, and Cell Imaging - Mahuya Kar, Md Anas, Palash Banerjee, Arpana Singh, Prosenjit Sen, and Tarun K. Mandal, *ACS Appl.Polym.Mater*, **4**, 5, 3697-3710 (2022).[IF:4.089]

Prof. Rupa Mukhopadhyay

1. Molecularly Resolved, Label-free Nucleic Acid Sensing at Solid-liquid Interface using Non-ionic DNA Analogues - Tanushree Mana, Jayanta Kundu, Hiya Lahiri, Sudipta Bera, Jayeeta Kolay, Surajit Sinha and Rupa Mukhopadhyay, *RSC Advances*, **12**, 9263-9274 (2022).[IF:3.361]

Prof. S.S. Jana

1. Substitution of SARS-CoV-2 ORF3a weakens binding with Caveolin-1 – S. Gupta, D. Mallick, K. Banerjee, S. Mukherjee, S. Sarkar, S.T. Lee, P. Basuchowdhuri, S.S. Jana, *Comput Struct Biotechnol J.*, 20:766-778. doi: 10.1016/j.csbj.2022.01.017. *Epub 2022 Jan 31*. PMID: 35126886; PMCID: PMC8802530, (2022).[IF:7.27]
2. Shape-Dependent Cellular Uptake of Nanostructures Produced from Supramolecular Structure-Directing Unit-Appended Hydrophilic Polymers – P. Rajdev, P. Dey, I. Ghosh, R. Khamrui, J. Kar, S.S. Jana, S. Ghosh, *ACS Macro Letters.*, **10**, 1467- 1473, DOI: 10.1021/acsmacrolett.1c00588 (2021).[IF:6.9]
3. Nonmuscle Myosin II in cancer cell migration and mechanotransduction – D. Halder, D. Mallick, A. Chatterjee, S.S. Jana, *Int J Biochem Cell Biol.*,**139**,106058 (2021).[IF: 3.67]
4. MRX8, the conserved mitochondrial YihA GTPase family member is required for de novo Cox1 synthesis at suboptimal temperatures in *Saccharomyces cerevisiae* – Y. Verma, U. Mehra, D.K. Pandey, J. Kar, X. Pérez-Martinez, S.S. Jana, K. Datta, *Mol Biol Cell.*, **25**:mbcE20070457 (2021).[IF:3.5]

School of Chemical Sciences

Dr. Harapriya Rath

1. Chemical transformation of Doubly N-Confused Porphodimethene to variants of (anti)Aromatic Doubly N-Confused Porphyrinoids and σ -aromatic Doubly N-Confused Isophlorinoid via π -reconstructions - Nyancy Halder, Maheshwari Horalavadi Mahadavaiah, Dandamudi Usharani and Harapriya Rath, **Org. Chem. Front.**, DOI: 10.1039/D2QO00160H (2022).[IF:4.82]
2. Protonation and Deprotonation induced NIR absorption in Ferrocenyl bridged N-Confused Porphodimethenes - Nyancy Halder, Sanjay Kottekad, Dandamudi Usharani and Harapriya Rath, **Chem. Asian J.**, e202200108 (*Women in Chemistry-Special Issue*) (2022).[IF:4.568]
3. Tailor-Made Aromatic Porphyrinoids with *NIR Absorption* - Sumit Sahoo, Manik Jana and Harapriya Rath, **Chem. Commun.**, **58**, 1834-1859 (2022).[IF:6.222]
4. NIR Absorbing Aromatic (antiaromatic) Vinylogous Carbaporphyrinoids: Synthesis, Spectroscopic and Solid state Characterization - Sumit Sahoo, Gunasekaran Velmurugan, Buddhadeb Chakraborty, Peter Comba and Harapriya Rath, **Organic Chemistry Frontiers.**, **8**, 6909-6915 (2021).[IF:4.82]
5. Structural isolation of NIR Absorbing Ferrocenyl Bridged N-Confused Fused Expanded Phlorin, N-Confused Porphodimethene and π -extended Corrorin isomer: Synthesis and Characterization - Buddhadeb Chakraborty, Sumit Sahoo, Raja Narayansamy, Dandamudi Usharani and Harapriya Rath, **Dalton Trans.**, **50**, 14421-14431 (2021).[IF:4.39]
6. Ni (II) and Cu (III) Organometallic Complexes of *trans* doubly N-Confused Porphodimethenes: Synthesis, Spectroscopic and Theoretical Characterization - Nyancy Halder, Maheshwari Horalavadi Mahadavaiah, Dandamudi Usharani and Harapriya Rath, **J. Porphyrins Phthalocyanines**, **25**, 966-974 (2021).[IF:1.81]
7. Perimeter Coordinated Diastereomeric Rh (I) Complex of Helically Twisted Weakly Aromatic Hybrid Singly N-Confused β - β Fused Ferrocenoporphyrinoids - Nyancy Halder, Krushna Ch Sahoo, Kumar Gourav, Dandamudi Usharani and Harapriya Rath, **J. Org. Chem.**, **86**, 8015-8026 (2021).[IF:4.35]
8. Fluoride ion promoted NH Deprotonation of Dioxaphlorin with NIR Absorption vs Acid Induced Facile Conversion to Aromatic Dioxasapphyrin: Synthesis, Spectroscopic and Theoretical Characterization - Buddhadeb Chakraborty, Maheshwari Horalavadi

Mahadavaiah, Dandamudi Usharani and Harapriya Rath, *J. Porphyrins Phthalocyanines*, **25**, 436-446 (2021).[IF:1.81]

Prof. Debarshree Ghosh

1. Computational aspects towards understanding the photoprocesses in eumelanin - D. Ghosh - *WIREs Computational Molecular Science*, **11**(3), e1505 (2021) [IF: 25.113]
2. Electron Attachment to Cytosine: The Role of Water – P. Verma, D. Ghosh, A. K. Dutta, *J. Phys. Chem. A*, **125**(22), 4683 (2021).[IF:2.781]
3. Radiationless Decay Processes of an Unnatural DNA Base: Pyrrole-2-Carbaldehyde, P. Ghosh, A. Ghosh and D. Ghosh, *J. Phys. Chem. A*, **125**(25), 5556 (2021).[IF:2.781]
4. Data-driven modeling of $S_0 \rightarrow S_1$ excitation energy in the BODIPY chemical space: High-throughput computation, quantum machine learning, and inverse design - A. Gupta, S. Chakraborty, D. Ghosh and R. Ramakrishnan, *J. Chem. Phys.*, **155**, 244102 (2021).[IF:3.488]

Prof. Satrajit Adhikari

1. Effect of surface temperature on quantum dynamics of H_2 on Cu(111) using a chemically accurate potential energy surface - Joy Dutta, Souvik Mandal, Satrajit Adhikari, Paul Spiering, Jörg Meyer and Mark F Somers; *J. Chem. Phys.*, **154**, 104103(2021).[IF:3.488]
2. Formulation of temperature dependent effective Hartree potential incorporating quadratic over linear molecular DOFs-surface modes couplings and its effect on quantum dynamics of $D_2(v=0, j=0)/D_2(v=0, j=2)$ on Cu(111) metal surface - Joy Dutta, Souvik Mandal and Satrajit Adhikari, *Chem. Phys.*, **552**, 111371(2022).[IF:2.348]
3. Beyond Born–Oppenheimer based diabatic surfaces of $1,3,5-C_6H_3F_3^+$ to generate the photoelectron spectra using time-dependent discrete variable representation approach – Soumya Mukherjee, Satyam Ravi, Joy Dutta, Subhankar Sardar and Satrajit Adhikari; *Phys. Chem. Chem. Phys.*, **24**, 2185-2202(2022).[IF:3.676]
4. HeH_2^+ : structure and dynamics - Satrajit Adhikari, Michael Baer and Narayanasami Sathyamurthy; *Int. Rev. Phys. Chem.*, **41**, 49-93 (2022).[IF:4.762]
5. Jahn–Teller Effect in Orthorhombic Manganites: Ab Initio Hamiltonian and Roto-vibrational Spectrum - Joy Dutta, Satyam Ravi, Soumya Mukherjee, Avik Kumar Ojha and Satrajit Adhikari; *J. Phys. Chem. A*, **126**, 691-709 (2022).[IF:3.488]

Prof. Parthasarathi Dastidar

1. Multi-NSAIDs Based Zn(II) Coordination Complex Derived Metallogelators/Metallogels as Plausible Multi-drug Selfdelivery Systems - Protap Biswas, Hemanta kumar Datta and Parthasarathi Dastidar, *Chem. Commun.*, **58**, 969 (2022).[IF: 6.222]
2. Supramolecular Hydrogel Developed from Mafenide and Indomethacin as Plausible Multi-drug Self-delivery System as Anti-bacterial and Anti-inflammatory Topical Gel - Rajdip Roy, Joydeb Majumder, Hemanta Kumar Datta, Rumana Parveen and Parthasarathi Dastidar, *ACS Appl. Bio Mater.*, **5**, 2, 610–621 (2022).[IF:3.25]
3. Structural Rationale towards Designing Coordination Polymer Based Metallogels Displaying Anti-cancer and Antibacterial Properties - Koushik Sarkar, Hemanta Kumar Datta, Sabir Ahmed and Parthasarathi Dastidar, *Chemistry Select*, **6**, e202103519 (2021).[IF:2.109]

Prof. Abhishek Dey

1. A Bidirectional Bioinspired [FeFe]-Hydrogenase Model - Md E. Ahmed, A. Nayek, A. Križan, N. Coutard, A. Morozan, S. G. Dey, R. Lomoth, L. Hammarström, V. Artero, A Dey; *J. Am. Chem. Soc.*, **144**, **8**, 3614–3625. (2022).[IF:15.4]
2. Selectivity in Electrochemical CO₂ Reduction Accounts of Chemical Research - P Saha, S Amanullah, A Dey*, 11214-11217 (2022).[IF:22]
3. Synthetic heme dioxygen adducts: electronic structure and reactivity Trends in Chemistry - A Singha, K Mittra, A Dey*, **4** (1), 15-31. (2021).[IF:24]
4. O₂ Reduction by Iron Porphyrins with Electron Withdrawing Groups: To Scale or not to Scale Faraday Discuss - Sk Amanullah , P. Saha, A. Dey*, **234**, 143-158 (2022). [IF:3]
5. Activating Fe(I) State of Iron Porphyrinoid with 2nd Sphere Proton Transfer Residues for Selective Reduction of CO₂ to HCOOH via Fe(III/II)–COOH Intermediate(s) - Sk Amanullah, P Saha, A Dey*, *J. Am. Chem. Soc.*, **143** (**34**), 13579-13592 (2021).[IF: 15.4]
6. Contributions to Cytochrome c Inner- and Outer-Sphere Reorganization Energy - S Chattopadhyay, M Mukherjee, B Kandemir, S Bowman, K L Bren*, A. Dey*, *Chem. Sci.*, **12** (**35**), 11894-11913 (2021).[IF:9.8]
7. Rejigging Electron and Proton Transfer to Transition between Dioxygenase, Monooxygenase, Peroxygenase and Oxygen Reduction Activity: Insights from Bio-Inspired Constructs of Heme Enzymes - M Mukherjee, A Dey*, *JACS Au* (9), 1296-1311 (2021).[IF:12.3]

8. Ligand Radical Mediated Water Oxidation by a Family of Copper o-Phenylene Bis-Oxamidate Complexes - S Chattopadhyay, A Ghatak, Y Ro, R Guillot, Z Halime, A Aukauloo*, A Dey*, *Inorg. Chem.*, **60**, 9442–9455 (2021).[IF:5]
9. Proton Relay in Iron porphyrins for Hydrogen Evolution Reaction In org. Chem. (Advances in Small-Molecule Activation) - S Bhunia, A Rana, S Hematian, K Karlin*, A Dey*, *Inorg. Chem.*, **60**, 18, 13876–13887 2021 (2021).[IF:5]
10. Proton reduction in the presence of oxygen by iron porphyrin enabled with 2nd sphere redox active ferrocenes - B Mondal, P Sen, A Dey*, *Chinese Journal of Catalysis*, **42**, 1327-1331. (2021).[IF:6]
11. An [FeFe]-Hydrogenase Mimic Immobilized through Simple Physioadsorption and Active for Aqueous H₂ Production - Md E Ahmed, D Saha, L Wang, M Gennari, S G Dey, V Artero*, A Dey*, C Duboc*, *Chem Electro Chem*, **8**, 1674-1677 (2021). [IF:4.14]
12. Electronic structure and reactivity of heme bound insulin - M Roy, I Pal, C Dey, A Dey, S G Dey; *J. Porph. Phthal.*, **25**, 511-521 (Dedicated to Professor T. K. Chandrashekar on the occasion of his 65th birthday) (2021).[IF:2.5]
13. Biochemical and artificial pathways for the reduction of carbon dioxide, nitrite and the competing proton reduction: effect of 2 nd sphere interactions in catalysis - S Amanullah, P Saha, A Nayek, ME Ahmed, A Dey; *Chem. Soc. Rev.*, **50**, 3755-3823 (2021) [IF: 42.87]

Prof. Amit Majumdar

1. A Monohydrosulfidodinitrosyldiiron Complex That Generates N₂O as a Model for Flavodiiron Nitric Oxide Reductases: Reaction Mechanism and Electronic Structure - N. Pal, C. J. White, S. Demeshko, F. Meyer, N. Lehnert*, A. Majumdar*, *Inorg. Chem.*, **60**, 15890 (2021).[IF:]
2. Reduction of NO by Diiron Complexes in Relation with Flavodiiron Nitric Oxide Reductases”; N. Pal, M. Jana, A. Majumdar*, *Chem. Commun.*, **57**, 8682 (2021).[IF:]
3. Synthesis and Redox Reactions of Binuclear Zinc(II)-thiolate Complexes with Elemental Sulfur - T. Naskar, N. Pal, A. Majumdar*, *New. J. Chem.*, **45**, 22406 (2021).[IF:]
4. Synthesis, Structural Diversity and Redox Reactions in 1, 2 Bis(diphenylphosphinoethane) Nickel(II)-Thiolate Complexes - N. Pal, T. Naskar, A. Majumdar*, *Inorg. Chim. Acta.*, **531**, 120738 (2022).[IF:]

Prof. Ankan Paul

1. Metal-Thiolate Framework for Electrochemical and Photoelectrochemical Hydrogen Generation - S Chatterjee, S Shaymal, M Mukherjee, D Halder, S Chongdar, A Paul and ABhaumik*, *Chem. Sus. Chem.*, e202200114 (2022).[IF:8.08]

2. The Role of Copper Salts and O₂ in the Mechanism of C≡N Bond Activation for Facilitating Nitrogen Transfer Reactions - B Ghosh, A Banerjee, L Roy, R N Manna, R Nath and A Paul*, *Angew. Chem. Int. Ed.*, **61**, 16868 (2022).[IF:15.34]
3. The curious saga of dehydrogenation/hydrogenation for chemical hydrogen storage: A mechanistic Perspective - I Bhattacharjee, M Sultana, S Bhunya and Ankan Paul*, *Chem. Commun.*, **58**, 1672-1684 (Invited Feature Article) (2022).[IF:5.50]
4. Unraveling the Stability of Cyclobutadiene Complexes using Aromaticity Markers - G Ganguly, S Pathak and A Paul*, *Phys. Chem. Chem. Phys.*, **23**, 16005-16012 (2021). [IF:3.68]
5. Reduced Graphene Oxide (rGO) Aerogel: Efficient adsorbent for the elimination of Antimony (III) and (V) from wastewater - S Nundy, A Ghosh*, R Nath, A Paul, A Ali Tahir and T K Mallick, *J. Hazard. Mater.*, **420**, 126554 (2021).[IF:10.59]
6. Externally Regulated Specific Molecular Recognition Driven Pathway Selectivity in Supramolecular Polymerization - A Chakraborty, R N Manna, A Paul* and S Ghosh*, *Chem. Eur. J.*, **27**, 11458-11467 (2021).[IF:5.24]

Prof. Ayan Datta

1. Stereoelectronic and Dynamical Effects Dictate Nitrogen Inversion During Valence Isomerism in Benzene Imine - N Mandal, A Das, C Hajra, Ayan Datta*, *Chem. Sci.* **13**, 704-712 (2022).[IF:9.8]
2. Stable room temperature ferroelectricity in hydrogen-bonded supramolecular assemblies of ambipolar π -systems - A Mukherjee, S Barman, A Ghosh, S Chakraborty, Ayan Datta*, S. Ghosh*, *Chem. Sci.*, **13**, 781-788 (2022).[IF:9.8]
3. Adsorbate-Induced Phase Transformation of Ambient Stable Noncubic Lattices in Au Microcrystallites - C Sow, R Jana, G Mettela, Ayan Datta, G U Kulkarni, *J. Phys. Chem. C*, **126**, 823–831(2022).[IF:4.8]
4. An NHC-Stabilised Phosphinidene for Catalytic Formylation: A DFT-Guided Approach - P Sreejyothi, K Bhattacharyya, S Kumar, P K Hota, Ayan Datta*, Swadhin K Mandal*, *Chemistry – A Eur. J.*, **27**, 11656-11662 (2021).[IF:5.5]
5. Origin of Intense Luminescence from Supramolecular 2D Molecular Crystals - S Biswas, G Manna, B Das, A Bhattacharya, Arun K Pal, Ayan Datta, P Alam, I Rahaman Laskar, P Mondal, M K Mukhopadhyay, M K Sanyal, S Acharya, *Small*, **17**, 2103212 (2021).[IF:9.5]
6. Synthetic and Computational Studies on Rh(III)-Catalyzed Redox-Neutral Cascade of Carbenoid Functionalization and Dephosphonylative Annulation - S Bera, P Mondal, D Sarkar, V Babu Pathi, S Pakrashy, Ayan Datta*, B Banerji*, *J. Org. Chem.*, **86**, 7069-7077 (2021).[IF:5.5]
7. Tuning of the optoelectronic properties of peptide-appended core-substituted naphthalenediimides: the role of self-assembly of two positional isomers - K Gayen, S

- Hazra, A K Pal, S Paul, Ayan Datta, Arindam Banerjee, *Soft Matter*, **17**, 7168-7176 (2021).[IF:6.8]
8. Nickel-cobalt oxalate as efficient non-precious electrocatalyst for improved alkaline oxygen evolution reaction - S Ghosh, R Jana, S Ganguli, H R Inta, G Tudu, H V S R M Koppiseti, Ayan Datta*, Venkataramanan Mahalingam*, *Nanoscale Adv.*, **3**, 3770-3779 (2021).[IF:7.8]
 9. Prolinamide plays a key role in promoting copper-catalyzed cycloaddition of azides and alkynes in aqueous media via unprecedented metallacycle intermediates - G Chakraborti, R Jana, T Mandal, Ayan Datta*, Jyotirmayee Dash*, *Org. Chem. Front.*, **8**, 2434-2441 (2021).[IF:6.8]
 10. Formation of Metallic Polyferrocene Chains under Pressure”; P Gain, R Jana, Ayan Datta*, *J. Phys. Chem. A*, **125**, 3362–3368 (2021).[IF:3.6]
 11. Tuning intermediate adsorption in structurally ordered substituted PdCu₃ intermetallic nanoparticles for enhanced ethanol oxidation reaction - R Jana, Ayan Datta*, Sudip Malik*, *Chem. Commun.*, **57**, 4508-4511 (2021).[IF:7.2]
 12. Novel Tetradentate Phosphonate Ligand Based Bioinspired Co-Metal–Organic Frameworks: Robust Electrocatalyst for the Hydrogen Evolution Reaction in Different Mediums - D Chakraborty, A Chowdhury, M Chandra, R Jana, S Shyamal, M K Bhunia, D Chandra, M Hara, D Pradhan, Ayan Datta, Asim Bhaumik, *Cryst. Growth Des.*, **21**, 2614–2623 (2021).[IF:4.8]
 13. Direct CO₂ capture and conversion to fuels on magnesium nanoparticles under ambient conditions simply using water - S A Rawool, R Belgamwar, R Jana, A Maity, A Bhumla, N Yigit, Ayan Datta, G Rupprechter, Vivek Polshettiwar, *Chem. Sci.*, **12**, 5774-5786 (2021) (Edge Article).[IF:9.8]
 14. Unveiling the Excellent Electrocatalytic Activity of Grain-Boundary Enriched Anisotropic Pure Gold Nanostructures toward Hydrogen Evolution Reaction: A Combined Approach of Experiment and Theory - S Mondal, S K De, R Jana, A Roy, M Mukherjee, Ayan Datta*, B Satpati, D Senapati*, *ACS Appl. Energy Mater.*, **4**, 3017–3032 (2021).[IF:8.8]
 15. Evolutionary structure prediction-assisted design of anode materials for Ca-ion battery based on phosphorene - C Chowdhury, P Gain, Ayan Datta*, *Phys. Chem. Chem. Phys.*, **23**, 9466 – 9475 (2021).[IF:4.3]
 16. Molecular Dynamics Simulations Reveal Orientation-Dependent Nanotoxicity of Black Phosphorene toward Dimeric Proteins - T K Mukhopadhyay, A Ghosh, Ayan Datta*, *ACS Appl. Nano Mater.*, **4**, 3095-3107 (2021).[IF:8.9]
 17. Designing C₆N₆/C₂N van der Waals Heterostructures for Photogenerated Charge Carrier Separation - M Mukherjee, R Jana, Ayan Datta*, *Phys. Chem. Chem. Phys.*, **23**, 3925 – 3933 (2021).[IF:4.3]

18. Molecular Mechanism for the Self-Supported Synthesis of Graphitic Carbon Nitride from Urea Pyrolysis - T K Mukhopadhyay, L Leherter, Ayan Datta*, *J. Phys. Chem. Lett.*, **12**, 1396-1406 (2021).[IF:7.9]

Prof. Biman Jana

1. Kinetic and Thermodynamic Stability Comparison for Fibrillar Form of Small Amyloid- β (1-42) Oligomers Using Scaled Molecular Dynamics - Debasis Saha, Biman Jana*, *Physical Chemistry Chemical Physics*, **23**, 16897-16908 (2021).[IF: 3.676]
2. Differential Hydration of Ice-Binding Surface of Globular and Hyperactive Antifreeze Proteins"; Prasun Pal, Sandipan Chakraborty*, Biman Jana*, *Advanced Theory and Simulations*, 10.1002/adts.202100090 (2021).[IF:4.004]
3. Cold denaturation induced helix-to-helix transition and its implication to activity of helical antifreeze protein - Sridip Parui, Biman Jana*, *Journal of Molecular Liquids*, **338**, 116627 (2021).[IF:6.165]
4. Molecular Insight into the Effect of a Single-Nucleotide Polymorphic Variation on the Structure and Dynamics of Methionine Synthase Reductase and Its Association with Neural Tube Defects - Susanta Sadhukhan, Subhajit Maity, Sandipan Chakraborty, Silpita Paul, Dinesh Munian, Arup Kumar Pattanayak, Biman Jana*, and Madhusudan Das*, *ACS Omega*, **6**, 40, 26372–26380 (2021).[IF:3.512]
5. Curious Case of MAD2 Protein: Diverse Folding Intermediates Leading to Alternate Native States"; Catherine Ghosh and Biman Jana*, *Journal of Physical Chemistry B*, **126**, **9**, 1904–1916 (2022).[IF:2.991]
6. Direct Participation of Solvent Molecules in the Formation of Supramolecular Polymers - Goutam Ghosh, Anwesha Chakraborty, Prasun Pal, Biman Jana*, Suhrit Ghosh, *Chemistry A European Journal*.10.1002/chem.202201082 (2022).[IF:5.236]

Dr. Joyram Guin

1. Heteroarylation of Ethers, Amides, and Alcohols with Light and O₂ - Manotosh Bhakat, Promita Biswas, Jayanta Dey, and Joyram Guin*, *Org. Lett.*, **23**, 6886-6890 (2021).[IF:6.09]
2. 2,5-Cyclohexadiene-1-carbonitrile, 1-(1-methylethyl) - Sourav Dutta and Joyram Guin*, *Electronic Encyclopedia of Reagents for Organic Synthesis (e-EROS)*; Jeffrey Bode (Editor); J. Wiley & Sons, (2021).[IF:]

Prof. Jyotirmayee Dash

1. Thiazole Containing PNA Mimic Regulates *c-MYC* Gene Expression through DNA Gquadruplex - A Gorai, R Chaudhuri, T K Mukhopadhyay, A Datta, J Dash*, *Bioconjugate Chem.* doi: 10.1021/acs.bioconjchem.2c00075 (2022).[IF: 4.774]
2. Cycloaddition of N-sulfonyl and N-sulfamoylazides with alkynes in aqueous media for the selective synthesis of 1,2,3-triazoles - P Thumapati, G Chakraborti, T Mandal, V Ravichandiran, **J Dash***, *Green Chem.*, **24**, 911 (2022).[IF:10.18].
3. Ring closing metathesis for the construction of carbazole and indole-fused natural products (perspective) - T Mandal, **J Dash***, *Org. Biomol. Chem.*, **19**, 9797 (2021). [IF: 3.876]
4. TriazolylDibenzo[a,c]phenazines Stabilize Telomeric G-quadruplex and Inhibit Telomerase - S Pal, K Fatma, V Ravichandiran, **J Dash***, *Asian J. Org. Chem.* **10**, 2921 (2021).[IF:3.319]
5. Potassium tert-Butoxide Promoted Synthesis of Dihydroquinazolinones - T Ghosh, I Mandal, S Basak, **J Dash***, *J. Org. Chem.*, **86**, 14695 (2021)[IF: 4.354]. This article has been recently highlighted in SYNFACTS by Mark Reed (Synfacts 2022, 10.1055/s-0041-1737738).
6. Studies Directed towards the Synthesis of Acridone Family of Natural Products: Total Synthesis of Acronycines and Atalaphyllidines - T Mandal, S Karmakar, A Kapat, **J Dash***, *ACS Omega*, **6**, 27062 (2021). [IF:3.512].
7. A [3+2] Cycloaddition-1,2-Acyl Migration-Hydrolysis Cascade for Regioselective Synthesis of 1,2,3-Triazoles in Water - G Chakraborti, T Mandal, C P Roy, **J Dash***, *ChemComm.*, **57**, 7970 (2021).[IF:6.222].
8. Binding Insights into Quadruplex Selective Carbazole Ligands (Mini review) - D Müller, P Saha, D Panda, **J Dash***, H. Schwalbe*, *Chem. Eur. J.*, **27**, 12726 (2021). [IF:5.236].
9. G4 Sensing Pyridyl-thiazole Polyamide Represses c-KIT Expression in Leukemia Cells - R Paul, D Dutta, T Das, M Debnath, **J Dash***, *Chem. Eur. J.*, **27**, 8590 (2021).[IF: 5.236].
10. Supramolecular Template Directed In Situ Click Chemistry: A Bio-inspired Approach to Synthesize G-quadruplex DNA Ligands - T Bhattacharyya, D Panda, **J Dash***, *Org. Lett.*, **23**, 3004 (2021).[IF:6.005].
11. Nucleic acid secondary structures for therapeutic and biomolecular device applications - (Invited Review Article) S Bhattacharya, **J Dash***, *Chem. Sci. Rep.* (2021).

Prof. Pradyut Ghosh

1. Influence of Triazole Substituents of Bis-heteroleptic Ru(II)-Probes toward Selective Sensing of Dihydrogen Phosphate - S Mondal, K Sarkar, P. Ghosh*, *Inorg. Chem.*, **60**, 9084–9096 (2021).[IF:5.165]

2. Superiority of polymeric scavenger over its hexapodal monomer towards efficient ReO_4^- removal in water - R Ghosh, T K Ghosh, P Ghosh*, *Chem. Commun.*, **57**, 5578-5581 (2021).[IF:6.222]
3. Heteroditopic Macrobicyclic Molecular Vessels for Single Step Aerial Oxidative Transformation of Primary Alcohol Appended Cross Azobenzenes - S Sarkar, P Sarkar, P Ghosh*, *J. Org. Chem.*, **86**, 6648-6664 (2021).[IF:4.354]
4. A pentafluorophenyl functionalized Ru^{II} -probe having halogen bond center toward recognition and sensing of perchlorate and dihydrogen phosphate - S Mondal, A Rashid, P Ghosh*, *J. Organomet. Chem.*, **952**, 122027 (2021).[IF:2.369]

Prof. P.C. Singh

1. DNA-Induced Restructuring of Interfacial Water and the Hydrocarbon Chain of Different Forms of Fungicide at the Water Interface: Vibrational Sum Frequency Generation Study - B Biswas and P C Singh, *J. Phys. Chem. C*, **125** (5), 3001-3008(2021).[IF:]
2. Restructuring of Membrane Water and Phospholipids in Direct Interaction of Neurotransmitters with Model Membranes Associated with Synaptic Signaling: Interface-Selective Vibrational Sum Frequency Generation Study - B Biswas and P C Singh*, *J. Phys. Chem. Lett.*, **12**, 11, 2871–2879 (2021).[IF:]
3. The enhanced dissociation and associated surface structure of the anesthetic propofol at the water interface: vibrational sum frequency generation study - B Biswas and P C Singh*, *Phys. Chem. Chem. Phys.*, **23**, 24646-24651 (2021).[IF:]
4. Signature of the surface hydrated proton and associated restructuring of water at model membrane interfaces: a vibrational sum frequency generation study - B Biswas and PC Singh*, *Phys. Chem. Chem. Phys.*, **23**, 14764-14769 (2021).[IF:]
5. “Sequence specific hydrogen bond of DNA with denaturants affects its stability: Spectroscopic and simulation studies”; S Sarkar and P C Singh*, *BBA - General Subjects*, 1865, 129735(2021)
6. Groove Switching of Hydroxychloroquine Modulates the Efficacy of Binding and Induced Stability to DNA - S Sarkar, S Roy, P C Singh*, *J. Phys. Chem. B*, **125**, **25**, 6889–6896 (2021).[IF:]
7. Spectroscopic and Simulation Studies of the Sequence-Dependent DNA Destabilization by a Fungicide - S Sarkar and P C Singh*, *ACS Omega*, **6**, 22, 14371–14378 (2021).[IF:]
8. Photophysical Properties of Noncanonical Amino Acid 7-Fluorotryptophan Sharply Different from Those of Canonical Derivative Tryptophan: Spectroscopic and Quantum Chemical Calculations - T Nandy and P C Singh*, *J. Phys. Chem. B*, **125**, **23**, 6214–6221 (2021).[IF:]

9. The combined action of cations and anions of ionic liquids modulates the formation and stability of G-quadruplex DNA; S. Sarkar* and P.C. Singh, *Phys. Chem. Chem. Phys.*, **23**, 24497-24504 (2021).[IF:]

Prof. Rajiv Kr. Goswami

1. Asymmetric Total synthesis of Amphirionin 2"; Dhiman Saha, Debabrata Paul and Rajib Kumar Goswami*, *J. Org. Chem.*, **86**, 10006–10022 (2021).[IF:4.354]
2. Total Synthesis and Stereochemical Assignment of Bipolamide A Acetate - Sourya Shankar Auddy, Sanu Saha and Rajib Kumar Goswami, *Org. Biomol. Chem.*, **20**, 3348-3358 (2022).[IF:3.412]
3. Cananginone Abrogates EMT in Breast Cancer Cells through Hedgehog Signaling - Chandra Bose, Ujjal Das, Tapan Kumar Kuilya, Joyanta Mondal, Jhuma Bhadra, Priyanjalee Banerjee, Rajib Kumar Goswami and Surajit Sinha, *Chem. Biodiversity*, **12**, e202100823 (2022).[IF:2.408]

Prof. Raju Mondal

1. Synergistic Experimental And Theoretical Studies Of Luminescent-Magnetic Ln₂Zn₆ Clusters - S Saha, K S Das, T Sharma, S Bala, A Adhikary, G Z Huang, M L Tong, A Ghosh, B B Das, G Rajaraman*, R Mondal* *Inorg. Chem.*, **61**, 2141–2153(2022). [IF: 5.165]
2. A Nd₆ Molecular Butterfly: An Unique All-in-One Material for SMM, MCE and Maiden Photosensitized Opto-electronic Device Fabrication - K S Das, S Saha, B Pal, A Adhikary, S Moorthy, S Bala, S Akhtar, P K Ghosh, S K Singh,* P P Ray,* R Mondal* *Dalton Trans.*, **51**, 1617–1633 (2022).[IF:4.390]
3. Fascinating Interlocked Triacotanuclear Giant Nanocages"; S Bala, S Akhtar, J-L Liu, G -Z Huang, A De, K S Das, S Saha, M L Tong* and R Mondal*, *Chem. Commun.*, **57**, 11177-11180 (2021).[IF:6.222]
4. Applying the Influence of Conformational Freedom on the Network Topologies to Induce Proton Conductivity - A De, O Basu, T Basu and R Mondal* *Cryst. Growth & Des.*, **21**, 1461–1472 (2021).[IF:4.076]
5. Lanthanide Clusters of Phenanthroline Containing Pyridine-Pyrazole Based Ligand: Magnetism and Cell Imaging - A De, S Bala, S Saha, K S Das, S Akhtar, A Ghosh, G Z Huang, S Paul Chowdhuri, B B Das, M L Tong, R Mondal*, *Dalton Trans.*, **50**, 3593–3609 (2021).[IF:4.390]

Prof. S. Ghosh Dey

1. Assembly of redox active metallo-enzymes and metallo-peptides on electrodes: Abiological constructs to probe natural processes - A Sarkar, S Chattopadhyay, M Mukherjee, S Ghosh Dey, A Dey, *Curr. Op. Chem. Biol.*, **68**, 102142 (2022).[IF: 8.82]
2. Simultaneous Binding of Heme and Cu to Amyloid β Peptides: Active Site and Reactivities - A K Nath, S Ghosh Dey, *Dalton Trans.*, **51**, 4986 (2022).[IF:4.39]
3. Bidirectional Bioinspired [FeFe]-Hydrogenase Model - E M Ahmed, A Nayek, A Križan, N Coutard, A Morozan, S Ghosh Dey, R Lomoth, L Hammarström, V Artero, A Dey, *J. Am. Chem. Soc.*, **144**, 3614 (2022).[IF:15.419]
4. Insights from Self Assembled Aggregates of Amyloid β Peptides on Gold Surfaces - C Dey, M Roy, S Ghosh Dey, *ACS Omega*, **7**, 9973 (2022).[IF:3.512]
5. An [FeFe]-Hydrogenase Mimic Immobilized through Simple Physioadsorption and Active for Aqueous H_2 Production - E M Ahmed, D Saha, L Wang, M Gennari, S Ghosh Dey, V Artero, A Dey, C Duboc, *ChemElectroChem.*, **8**, 1674 (2021).[IF: 4.590]
6. Electronic Structure and Reactivity of Heme bound Insulin - M Roy, I Pal, Ishita; C Dey, A Dey, S Ghosh Dey, *J. Porphyr. Phthalocyanines.*, **25**, 511 (2021).[IF:1.811]

Prof. T.K. Paine

1. Selective Oxygenation of C-H and C=C Bonds with H_2O_2 by High-Spin Cobalt(II)-Carboxylate Complexes - I Ghosh, B Chakraborty, A Bera, S Paul and T K Paine, *Dalton Trans.*, **51**, 2480 (2022).[IF:4.39]
2. Hydrogen-Atom and Oxygen-Atom Transfer Reactivities of Iron(IV)-Oxo Complexes of Quinoline-Substituted Pentadentate Ligands - S Munshi, A Sinha, S Yiga, S Banerjee, R Singh, M K Hossain, M Haukka, A F Valiati, R D Huelsmann, E Martendal, R Peralta, F Xavier, O F Wendt, T K Paine and E Nordlander, *Dalton Trans.*, **51**, 870 (2022).[IF:4.39]
3. Structural and Electronic Analysis of Bimetallic Thiolate Complexes of Group-5 Transition Metal Ions - U Kaur, K Saha, S Bairagi, A Das, T Roisnel, T K Paine and S Ghosh, *J. Organomet. Chem.*, **949**, 121943 (2021).[IF:2.37]

Publications in Book Chapter : Prof. T.K. Paine

1. Iron Catalyzed C-H Halogenation Book Chapter for *Handbook of CH-Functionalization (CHF)*, R D Jana and **T K Paine**, John Wiley & Sons, Ltd, 2022

Prof. Tapas Chakraborty

1. Tautomers and Rotamers of Curcumin: A Combined UV Spectroscopy, High-Performance Liquid Chromatography, Ion Mobility Mass Spectrometry, and Electronic Structure Theory Study - Piyali Chatterjee, Subhra Sankar Dutta and Tapas Chakraborty, *J. Phys. Chem. A*, **126**, **10**, 1591–1604 (2022).[IF:2.781]
2. Gas-Phase Oxidation of NO₂ to HNO₃ by Phenol: Atmospheric Implications - Koushik Mondal, Souvick Biswas, Aparajeo Chattopadhyay, Piyali Chatterjee, and Tapas Chakraborty, *ACS Earth Space Chem.*, **5**, **8**, 2131–2141 (2021).[IF:3.475]
3. Confinement effects on C–H and C–F stretching vibrational frequencies of difluoromethane in cold inert gas matrixes: a combined infrared spectroscopy and electronic structure theory study - Pujarini Banerjee and Tapas Chakraborty, *Eur. Phys. J. D*, **75**, 131 (2021).[IF:1.425]

Prof. T.K. Mandal

1. Amphiphilic Perylene Bisimide–Polymer Conjugates by Cysteine-Based Orthogonal Strategy: Vesicular Aggregation, DNA Binding, and Cell Imaging - M. Kar, M. Anas, P. Banerjee, A. Singh, P. Sen, and T. K. Mandal, *ACS Appl. Polym. Mater.*, **4**, 3697 (2022).[IF:]
2. Ionic Liquid-based Unconventional Photoinitiators for Aqueous Polymerization - P. Banerjee, M. Kar, P. Dinda, T. K. Mandal, *Euro. Polym. J.*, **162**, 110870 (2022).[IF:]
3. Anion-Induced Thermoresponsiveness in Cationic Polycysteine and DNA Binding - M. Anas, P. Dinda, M. Kar, T. K. Mandal; *Polym. Chem.*, **12**, 6329 (2021).[IF:]

School of Mathematical and Computational Sciences

Prof. Abhijit K. Das

1. Reduction of sulfur dioxide using superalkalis: A theoretical perspective - S Sarkar, T Debnath, A K Das, *Comput. Theor. Chem.*, **1202**, 113317 (2021).[IF:1.926]
2. Theoretical study of gas-phase detoxication of DMMP and DMPT using ammonia-borane and its analogous compound - T Ash, T Debnath, S Banerjee, A Ghosh, A K Das, *J. Mol. Graph. Model*, **109**, 108037 (2021).[IF:2.518]
3. Computational insights into the Multi-Diels-Alder reactions of neutral C₆₀ and its Li⁺-encapsulated analogue: A DFT study - T Ash, S Banerjee, T Debnath, A K Das, *Int. J. Quantum Chem.*, **122**, e26824 (2022).[IF:2.444]

4. Dehydrogenation of Ammonia-Borane to functionalize neutral and Li^+ -encapsulated C_{60} , C_{70} and C_{36} fullerene cages: A DFT approach - A Ghosh, S Banerjee, T Debnath, A K Das, *Phys. Chem. Chem. Phys.*, **24**, 4022 (2022).[IF:3.676]
5. Effect of O-substitution in imidazole based Zn(II) dual fluorescent probes in the light of arsenate detection in potable water: a combined experimental and theoretical approach - S Biswas, T Chowdhury, A Ghosh, A K Das, D Das, *Dalton Trans.* 51, 7174 (2022).[IF:4.390]

Dr. Debarshi Kr. Sanyal

1. Personal Research Knowledge Graphs - P. Chakraborty, S. Dutta and D. K. Sanyal, *Companion Proceedings of the ACM Web Conference 2022*. (2022)
2. HiCoVA: Hierarchical Conditional Variational Autoencoder for Keyphrase Generation - T. Y. S. S. Santosh, N. R. Varimalla, A. Vallabhajosyula, D. K. Sanyal and P. P. Das. In *Proceedings of the 30th ACM International Conference on Information & Knowledge Management* (2021).
3. Automatic Recognition of Learning Resource Category in a Digital Library - S. Banerjee, D. K. Sanyal, S. Chattopadhyay, P. K. Bhowmick and P. P. Das, In *Proceedings of the 2021 ACM/IEEE Joint Conference on Digital Libraries (JCDL)*. IEEE (2021).
4. Gazetteer-Guided Keyphrase Generation from Research Papers - T. Y. S. S. Santosh, D. K. Sanyal, P. K. Bhowmick and P. P. Das, In *Proceedings of the Pacific-Asia Conference on Knowledge Discovery and Data Mining*. Springer, Cham. (2021).

Dr. Mithun Mukherjee

1. Two roots, Houston - B. V Rajarama Bhat and Mithun Mukherjee, *J. Math.*, **47**, 1, 63-91 (2021).
2. Higher Rank Numerical Ranges of Normal Operators and Unitary Dilations - Pankaj Dey, Mithun Mukherjee, communicated, [arXiv:2105.09877](https://arxiv.org/abs/2105.09877)
3. Generalized Halmos conjectures and constrained unitary dilations - Pankaj Dey, Mithun Mukherjee, communicated, [arXiv:2111.09249](https://arxiv.org/abs/2111.09249)

Dr. Partha Basuchowdhury

1. D155Y substitution of SARS-CoV-2 ORF3a weakens binding with Caveolin-1 - Suchetana Gupta, Ditipriya Mallick, Kumarjeet Banerjee, Shrimon Mukherjee, Soumyadev Sarkar,

Sonny TM Lee, Partha Basuchowdhuri, Siddhartha S Jana. *Computational and Structural Biotechnology*, (2022).[IF:7.3]

Prof. Raja Paul

1. A force-balance model for centrosome positioning and spindle elongation during interphase and anaphase B - A Mallick, A Sarkar, R Paul, *Indian J Phys*, <https://doi.org/10.1007/s12648-022-02309-z> (2022).
2. Mechanics of microtubule organizing center clustering and spindle positioning in budding yeast *Cryptococcus neoformans* - S Chatterjee, S Som, N Varshney, K Sanyal, and R Paul, *Phys. Rev. E*, **104**, 034402 (2021).

Dr. Rajarshi Ray

1. Falsification of hybrid systems with symbolic reachability analysis and trajectory splicing - S Bogomolov, G Frehse, A Gurung, D Li, G Martius and R. Ray, *Nonlinear Analysis: Hybrid Systems*, 42, 101093 (2021).[IF:6.163]
2. Parallel Simulation of Cyber-Physical-Systems - K Das, A Gurung and R. Ray, *Innovations in Systems and Software Engineering*, **17**, 319-331 (2021).[IF:1.07]

Dr. Sayani Bera

1. On a spectral version of Cartan's Theorem (jointly with V. S. Chandel and M. Londhe), *Journal of Geometric Analysis*, **70**, 32 (2022).[IF:1.243]

School of Materials Sciences

Prof. Shyamal Kr. Saha

1. Ferromagnetism with high magnetoresistance in Ag decorated graphitic carbon nitride- C. Majumder, S. Bhattacharya, T. K. Mondal and S. K. Saha, *J. Magn. Magn. Mater.*, 535, 167941 (2021) [IF : 2.993]
2. Three-dimensional bundle-like multiwalled carbon nanotubes composite for supercapacitor electrode application- H. L. Hsu, M. Miah, S. K. Saha, J. H. Chen, L. C. Chen and S. Y. Hsu, *Mater. Today Chem.*, 22, 100569 (2021) [IF : 8.301]

3. Melting of hybrid organic–inorganic perovskites- B. K. Shaw, A. R. Hughes, M. Ducamp, S. Moss, A. Debnath, A. F. Sapnik, M. F. Thorne et al. *Nat. Chem.*, 13, 778 (2021) [IF : 23.19]
4. Room temperature synthesis of GO/Ag₂O nanocomposite: Broad spectral ranged solar photocatalyst and high efficacy antibiotic for waste water treatment- K. Dutta, R. S. Saraffin, B. Dutta, A. Datta, A. Kapuria, S. Ghosh, F. Khan, S. Das, and S. K. Saha, *J. Environ. Chem. Eng.*, 10, 107175 (2022) [IF : 5.909]

Prof. D. Das

1. Two-step visible-light photocatalytic dye-degradation phenomena in Ag₂O impregnated ZnO nanorods via growth of metallic Ag and formation of ZnO/Ag⁰/Ag₂O heterojunction structures — Payel Sahu and Debajyoti Das, *Langmuir* 38, (2022) 4503–4520, [IF: 3.882]
2. Growth of nanostructured diamond films on glass substrates by low-temperature microwave plasma-enhanced chemical vapor deposition for applications in nano-tribology — Debajyoti Das and Ajay Roy, *ACS Appl. Nano Mater.* 5, (2022) 3558–3571, [IF: 5.097]
3. Ag₂O decorated ZnO nanorods demonstrating two-Step visible-light photocatalytic dye-degradation phenomena — Payel Sahu and Debajyoti Das, *Mater. Sci. Eng.*, 1221 (2022) 012047, [IF: 0.51]
4. Diamond-like carbon thin films from low-pressure and high-density CH₄ plasma — Sucharita Saha and Debajyoti Das, *Mater. Sci. Eng.*, 1221 (2022) 012037, [IF: 0.51]
5. Intrinsic, P-doped and B-doped nanocrystalline silicon thin films grown at room temperature on flexible substrates for photovoltaic applications — Chandralina Patra and Debajyoti Das, *Mater. Today Proc.* doi.org/ 10.1016/j.matpr.2022.02.456 (2022) p.1–4, [IF: 1.24]
6. Preparation of boron doped diamond-like carbon films in a low-pressure high-density plasma in RF ICP-CVD — Sucharita Saha and Debajyoti Das, *Mater. Today Proc.* doi.org/ 10.1016/j.matpr.2022.02.450 (2022) p.1–5, [IF: 1.24]
7. Room temperature synthesized highly conducting B-doped nanocrystalline silicon thin films on flexible polymer substrates by ICP-CVD — Chandralina Patra and Debajyoti Das, *Appl. Surf. Sci.* 579 (2022) 152499, [IF: 6.707]
8. Correlation of microstructure factor with the electronic properties of nanocrystalline silicon–germanium thin films — Amaresh Dey and Debajyoti Das, *Mater. Today Proc.* doi.org/ 10.1016/j.matpr.2022.02.432 (2022) p.1–4, [IF: 1.24]
9. Synthesis and characterization of organic ligand capped luminescent silicon nanoparticles — Payel Sahu and Debajyoti Das, *Mater. Today Proc.* doi.org/ 10.1016/j.matpr.2022.02.398 (2022) p.1–6, [IF: 1.24]

10. Synthesis of nanocrystalline diamond embedded diamond-like carbon films on untreated glass substrates at low temperature using ($C_2H_2 + H_2$) gas composition in microwave plasma CVD - Brijmohan Paramanik and Debajyoti Das, *Appl. Surf. Sci.* 579 (2022) 152132, [IF: 6.707]
11. Spectroscopic studies of low-temperature synthesized nanocrystalline silicon oxy-carbide thin films— Sukalyan Shyam and Debajyoti Das, *Mater. Today Proc.* doi.org/ 10.1016/j.matpr.2022.02.380 (2022) p.1–4, [IF: 1.24]
12. The effect of CO_2 addition to the ($C_2H_2 + H_2$) gas system on the low-temperature growth of diamond-like carbon (DLC) with prominent nano-diamond phase— Brijmohan Paramanik and Debajyoti Das, *Mater. Today Proc.* doi.org/ 10.1016/j.matpr.2022.02.396 (2022) p.1–4, [IF: 1.24]
13. ZnO/CdS/CuS heterostructure – A suitable candidate for applications in visible-light photocatalysis— P. Nandi and Debajyoti Das, *J. Phys. Chem. Solids.* 160 (2022) 110344, [IF: 3.995]
14. Effect of HF wet-etching and H_2 -plasma polishing on the low-temperature growth of CNTs on stainless-steel substrates— A. Roy and Debajyoti Das, *J. Phys. Chem. Solids* 160 (2022) 110307, [IF: 3.995]
15. Synthesis of CdS/GO modified ZnO heterostructure for visible light dye degradation applications’— Debajyoti Das and P. Nandi, *Appl. Surf. Sci.* 570 (2021) 151260, [IF: 6.707]
16. Frequency and temperature dependent electrical characteristics of P-doped nc-SiO_x:H thin films— Subhashis Samanta and Debajyoti Das, *Mater. Sci. Engg. B* 272 (2021) 115361, [IF: 4.051]
17. Maintaining superior crystallinity and conductivity in boron-doped nc-Si ultra-thin films by hydrogen plasma treatment — C. Patra and Debajyoti Das, *J. Phys. Chem. Solids* 157 (2021) 110199, [IF: 3.995]
18. Phosphorus-doped nanocrystalline silicon-oxycarbide thin films— Sukalyan Shyam and Debajyoti Das, *J. Alloys Compd.* 876 (2021) 160094, [IF: 5.316]
19. Complex dielectric characteristics, ac-conductivity and impedance spectroscopy of B-doped nc-SiO_x:H thin films— Debajyoti Das and Subhashis Samanta; *ACS Appl. Electron. Mater.* 3 (2021) 1634–1647, [IF: 3.314]
20. CdS Q-dots impregnated TiO₂-B nanowire based photoanodes for efficient photovoltaic conversion in ‘Q-dot co-sensitized DSSC’— Debajyoti Das and Pronay Makal; *Energy & Fuels* 35 (2021) 8246–8262, [IF: 3.605]

Prof. A. Patra

1. Impacts of CsPbBr₃/PbSe Heterostructures on Carrier Cooling Dynamics on Low Carrier Density- Goutam Ghosh, Raju K Biswas, Kritiman Marjit, Srijon Ghosh, Arnab Ghosh, Swapan K Pati and Amitava Patra, *Adv. Opt. Mater.*, 2200030 (2022) [IF: 9.926]
2. Controlling Aggregation-Induced Emission in Bimetallic Gold-Copper Nanoclusters via Surface Motif Engineering -Sikta Chakraborty, Dipankar Bain, Subarna Maity, Sarita Kolay and Amitava Patra, *J. Phys. Chem. C*, 126, 2896-2904 (2022) [IF: 4.126]
3. Self-Assembled Metal Nanoclusters: Driving Forces and Structural Correlation with Optical Properties -Sarita Kolay, Dipankar Bain, Subarna Maity, Aarti Devi, Amitava Patra and Rodolphe Antoine, *Nanomaterials*, 12, 544 (2022) [IF: 5.076]
4. Investigation of Carrier Dynamics of QDs Using Kinetic Model and Ultrafast Spectroscopy -Bikash Jana, Srijon Ghosh, Avisek Dutta, Alexander V. Baranov, Anatoly V. Fedorov and Amitava Patra, *Optical Materials: X*, 13, 100126 (2021) [IF: N/A]
5. Role of Ligand on Photophysical Properties of Nanoclusters with fcc Kernel: A Case Study of Ag₁₄(SC₆H₄X)₁₂(PPh₃)₈ (X = F, Cl, Br) -Anish Kumar Das, Roopesh Mekkat, Subarna Maity, Akhil S. Nair, Subhrajyoti Bhandary, Rohit Bhowal, Amitava Patra, Biswarup Pathak, Deepak Chopra and Sukhendu Mandal, *Inorg. Chem.*, 60, 19270-19277 (2021) [IF: 5.165]
6. Deciphering the Relaxation Mechanism of Red-Emitting Carbon Dots Using Ultrafast Spectroscopy and Global Target Analysis -Srijon Ghosh, Arnab Ghosh, Goutam Ghosh, Kritiman Marjit and Amitava Patra, *J. Phys. Chem. Lett.*, 12, 33, 8080-8087 (2021) [IF: 6.475]
7. Self-Assembly of Copper Nanoclusters: Isomeric Ligand Effect on Morphological Evolution -Sarita Kolay, Subarna Maity, Dipankar Bain, Sikta Chakraborty and Amitava Patra, *Nanoscale Adv.*, 3, 5570-5575 (2021) [IF: 4.38]
8. Implications of Relaxation Dynamics of Collapsed Conjugated Polymeric Nanoparticles for Light-Harvesting Applications -Arnab Ghosh, Srijon Ghosh, Goutam Ghosh, and Amitava Patra, *Phys. Chem. Chem. Phys.*, 23, 27, 14549-14563 (2021) [IF: 3.676]
9. Structural Analysis and Carrier Relaxation Dynamics of 2D CsPbBr₃ Nanoplatelets- Kritiman Marjit, Goutam Ghosh, Srijon Ghosh, Sumanta Sain, Arnab Ghosh, and Amitava Patra, *J. Phys. Chem. C*, 125, 22, 12214–12223 (2021) [IF: 4.126]

Prof. A. Bhaumik

1. Metal-Thiolate Framework for Electrochemical and Photoelectrochemical Hydrogen Generation- S Chatterjee, S Shaymal, M Mukherjee, D Halder, S Chongdar, A Paul and A. Bhaumik, *ChemSusChem* e202200114(2022),[IF : 8.92]

2. Porous organic–inorganic hybrid materials for catalysis, energy and environmental applications- S Chongdar, S Bhattacharjee, P Bhanja and A Bhaumik, *Chemical Communications* 58, 3429-3460(2022),[IF : 6.22]
3. Fabrication of a hollow sphere N, S co-doped bifunctional carbon catalyst for sustainable fixation of CO₂ to cyclic carbonates- A Ghosh, GN Reddy, MS PK, S Chatterjee, S Bhattacharjee, R Maitra, S E Lyubimov, A V Arzumanyan, A Naumkin, A Bhaumik and B Chowdhury, *Green Chemistry* 24, 1673-1692 (2022),[IF : 10.18]
4. Carboxylation of Alkenes and Alkynes Using CO₂ as a Reagent: An Overview- R Chatterjee and A Bhaumik, *Current Organic Chemistry* 26, 60-70 (2022),[IF :2.18]
5. Nanospace Engineering of Triazine–Thiophene-Intertwined Porous-Organic-Polymers via Molecular Expansion in Tweaking CO₂ Capture- N Das, R Paul, DQ Dao, R Chatterjee, K Borah, S Chandra Shit, A Bhaumik and J. Mondal, *ACS Applied Nano Materials* 5, 5302-5315 (2022),[IF : 5.09]
6. Synthesis of cyclic carbonates of different epoxides using CO₂ as a C1 building block over Ag/TUD-1 mesoporous silica catalyst: A solvent free approach- K S Keshri, S Bhattacharjee, A Singha, A Bhaumik and B Chowdhury, *Molecular Catalysis* 522, 112234 (2022),[IF : 5.06]
7. Novel microporous organic-inorganic hybrid metal phosphonates as electrocatalysts towards water oxidation reaction- P Bhanja, B Mohanty, B Paul, A Bhaumik, BK Jena and S Basu, *Electrochimica Acta* **416**, 140277 (2022),[IF : 6.90]
8. Metal-Free Triazine-Based 2D Covalent Organic Framework for Efficient H₂ Evolution by Electrochemical Water Splitting- S Ruidas, B Mohanty, P Bhanja, ES Erakulan, R Thapa, P Das, A Chowdhury, S K Mandal, B K Jena and A Bhaumik, *ChemSusChem* **14**, 5057-5064 (2021),[IF : 8.92]
9. Mixed-Valence Bimetallic Ce/Zr MOF-Based Nanoarchitecture: A Visible-Light-Active Photocatalyst for Ciprofloxacin Degradation and Hydrogen Evolution- SP Tripathy, S Subudhi, A Ray, P Behera, A Bhaumik and K Parida, *Langmuir* 38, 1766-1780 (2022),[IF : 3.88]
10. Green synthesis of C5–C6-unsubstituted 1, 4-DHP scaffolds using an efficient Ni–chitosan nanocatalyst under ultrasonic conditions- S Basu, S Chatterjee, S Ray, S Maity, P Ghosh and A Bhaumik, *Beilstein Journal of Organic Chemistry* 18, 133-142 (2022),[IF : 2.88]
11. The Emerging Roles of Silver nanoparticles to Target Viral Life-Cycle and Detect Viral Pathogens- U Ghosh, K S Ahammed, S Mishra and A Bhaumik, *Chemistry–An Asian Journal* (2022),[IF : 4.56]
12. Soft-templating routes for the synthesis of mesoporous tantalum phosphates and their catalytic activity in glycerol dehydration and carbonylation reactions- K Bhaduri, A Ghosh, A Auroux, S Chatterjee, A Bhaumik and B Chowdhury, *Molecular Catalysis* 518, 112074 (2022),[IF : 5.06]

13. High proton conductivity in a charge carrier-induced Ni (ii) metal–organic framework- D Chakraborty, A Ghorai, P Bhanja, S Banerjee and A Bhaumik, *New Journal of Chemistry* 46, 1867-1876 (2022),[IF : 3.59]
14. Ag nanoparticles immobilized over highly porous crystalline organosilica for epoxidation of styrene using CO₂ as oxidant- S Chatterjee, S Das, P Bhanja, ES Erakulan, R Thapa, S Ruidas, S Chongdar, S Ray and A. Bhaumik, *Journal of CO₂ Utilization* 55, 101843 (2022),[IF : 7.13]
15. Lithium embedded hierarchically porous aluminium phosphonate as anode material for lithium-polymer battery- P Bhanja, T Dam, S Chatterjee, A Bhaumik and A Ghosh, *Materials Science and Engineering: B* **274**, 115490 (2021),[IF : **4.05**]
16. Ultrasound-promoted novel route to triazabenzob[cyclopenta[lm]fluorenes: An efficient NiFe₂O₄@SiO₂–SO₃H nanocatalyst-assisted green synthesis- S Basu, S Chatterjee, A Bhaumik and C Mukhopadhyay, *Applied Organometallic Chemistry* **35**, e6426 (2021),[IF : 4.10]
17. Selective N-formylation of amines catalysed by Ag NPs festooned over amine functionalized SBA-15 utilizing CO₂ as C1 source- S Chongdar, S Bhattacharjee, S Azad, R Bal and A Bhaumik, *Molecular Catalysis* **516**, 111978 (2021),[IF : 5.06]
18. Novel Microporous Metal Phosphonates as Electrocatalyst for the Electrochemical Hydrogen Evolution Reaction- P Bhanja, B Mohanty, S Chongdar, A Bhaumik, B K Jena and S Basu, *ACS Applied Energy Materials*, **4**, 12827-12835 (2021).[IF:6.02]
19. Bifunctional crystalline microporous organic polymers: Efficient heterogeneous catalysts for the synthesis of 5-hydroxymethylfurfural- P Bhanja, S K Sharma, S Chongdar, B Paul and A Bhaumik, *Molecular Catalysis* 515, 111877 (2021),[IF : 5.06]
20. Novel Nanoporous Ti-Phosphonate Metal–Organic Framework for Selective Sensing of 2, 4, 6-Trinitrophenol and a Promising Electrode in an Energy Storage Device- D Chakraborty, S Bej, S Sahoo, S Chongdar, A Ghosh, P Banerjee and A Bhaumik, *ACS Sustainable Chemistry & Engineering* 9, 14224-14237 (2021),[IF : 8.19]
21. Cross-Linked Porous Polymers as Heterogeneous Organocatalysts for Task-Specific Applications in Biomass Transformations, CO₂ Fixation, and Asymmetric Supercapacitor- A Modak, A Ghosh, A R Mankar, A Pandey, M Selvaraj, K K Pant, B Chowdhury and A Bhaumik, *ACS Sustainable Chemistry & Engineering*, **9**, 12431-12460 (2021).[IF:8.19]
22. Nickel Nanoparticles Immobilized over Mesoporous SBA-15 for Efficient Carbonylative Coupling Reactions Utilizing CO₂: A Spotlight- S Chongdar, S Bhattacharjee, S Azad, S Samui, S Dutta, R Bal and A Bhaumik, *ACS Applied Materials & Interfaces* 13, 40157-40171 (2021),[IF : 9.23]
23. Transformation of Wurtzite ZnO to a New Triclinic Nanoporous ZnO Phase via Hydrothermal Treatment with Metformin for Designing Proton Conducting Material- S

- Chatterjee, A Palui, S Chongdar, S Roy, A Ghosh and A Bhaumik, *Chemistry–An Asian Journal* 16, 2261-2266 (2021),[IF : 4.56]
24. Efficient drug delivery vehicles of environmentally benign nano-fibers comprising bioactive glass/chitosan/polyvinyl alcohol composites- M S El-Okaily, A M El-Rafei, M Basha, N T A Ghani, M M H El-Sayed, A Bhaumik and A A Mostafa, *International Journal of Biological Macromolecules* 182, 1582-1589 (2021),[IF : 6.95]
 25. A Tetradentate Phosphonate Ligand-based Ni-MOF as a Support for Designing High-performance Proton-conducting Materials- D Chakraborty, A Ghorai, A Chowdhury, S Banerjee and A Bhaumik, *Chemistry–An Asian Journal* 16, 1562-1569 (2021),[IF : 4.56]
 26. Novel Tetradentate Phosphonate Ligand Based Bioinspired Co-Metal–Organic Frameworks: Robust Electrocatalyst for the Hydrogen Evolution Reaction in Different Mediums- D Chakraborty, A Chowdhury, M Chandra, R Jana, S Shyamal, M. K. Bhunia, D. Chandra, M. Hara, D. Pradhan, A. Datta and A. Bhaumik, *Crystal Growth & Design* 21, 2614-2623 (2021),[IF : 4.07]
 27. Metal-Free Pyrene-Based Conjugated Microporous Polymer Catalyst Bearing N-and S-Sites for Photoelectrochemical Oxygen Evolution Reaction- S K Das, S Shyamal, M Das, S Mondal, A Chowdhury, D Chakraborty, R S Dey and A Bhaumik, *Frontiers in Chemistry* 9, 803860 (2021),[IF : 5.22]
 28. Cu (II)-grafted 2D-hexagonal mesoporous material as an efficient catalyst for Sonogashira CC cross-coupling reaction- L Paul, S Chatterjee, S Mukherjee, T Sen and A Bhaumik, *Materials Today: Proceedings* 45, 3733-3740 (2021),[IF : 1.8]
 29. A new 2D lanthanum based microporous MOF for efficient synthesis of cyclic carbonates through CO₂ fixation- S K Das, A Ghosh, S Bhattacharjee, A Chowdhury, P Mitra and A Bhaumik, *New Journal of Chemistry* 45, 9189-9196 (2021),[IF : 3.59]
 30. Mesoporous porphyrin-silica nanocomposite as solid acid catalyst for high yield synthesis of HMF in water- A Modak, AR Mankar, K K Pant and A Bhaumik, *Molecules* 26, 2519 (2021),[IF : 4.41]
 31. A novel crystalline nanoporous iron phosphonate based metal–organic framework as an efficient anode material for lithium ion batteries- D Chakraborty, T Dam, A Modak, K K Pant, B K Chandra, A Majee and A Bhaumik, *New Journal of Chemistry* 45, 15458-15468 (2021),[IF : 3.59]
 32. Sulfur-containing nitrogen-rich robust hierarchically porous organic polymer for adsorptive removal of mercury: experimental and theoretical insights- A Chowdhury, S K Das, S Mondal, S Ruidas, D Chakraborty, S Chatterjee, M K Bhunia, D Chandra, M. Hara and A. Bhaumik, *Environmental Science: Nano* 8, 2641-2649 (2021),[IF : 8.13]
 33. Solvent-free benzylic oxidation of aromatics over Cu(II)-containing propylsalicylaldehyde anchored on the surface of mesoporous silica catalysts- M Selvaraj,

M A Assiri, S L Rokhum, C Manjunatha, J N Appaturi, S Murugesan, A Bhaumik and Ch Subrahmanyam, *Dalton Transactions*, **50**, 15118-15128 (2021).[IF:4.39]

Prof. Narayan Pradhan

1. Transformation of Metal Halides to Facet-Modulated Lead Halide Perovskite Platelet Nanostructures on A-Site Cs-Sublattice Platform- S Bera, B Hudait, D Mondal, P Mahadevan and N Pradhan, *Nano Letters*, **22**, 1633–1640 (2022).[IF:11.19]
2. Do Halide Perovskites Prefer a Specific Direction for Forming One-Dimensional Nanostructures?- N Pradhan, *ACS Energy Lett.* **7**, 150–153 (2022).[IF:23.1]
3. What Happens to Halide Perovskite Nanocrystals on TEM Grids upon Year-Long Ambient Storage? Surface Ligands versus Crystal Stability- S Dutta, S Bera, Suman, Suvodeep and N Pradhan, *ACS Energy Lett.*, **7**, 773–777 (2022) [IF : 23.1]
4. Introducing B-Site Cations by Ion Exchange and Shape Anisotropy in CsPbBr₃ Perovskite Nanostructures- B Hudait, SK Dutta, S Bera and N Pradhan, *Nano Letters*, **21**, 5277–5284 [IF : 11.19]
5. Chemically Spiraling CsPbBr₃ Perovskite Nanorods- S Bera, S Shyamal and N Pradhan, *J. Am. Chem. Soc.*, **143**, 14895–14906 (2021) [IF : 15.42]
6. Tuning Facets and Controlling Monodispersity in Organic–Inorganic Hybrid Perovskite FAPbBr₃ Nanocrystals- A Patra, S Bera, D Nasipuri and N Pradhan, *ACS Energy Lett.* **6**, 2682–2689 (2021) [IF : 23.1]
7. Cs-Lattice Extension and Expansion for Inducing Secondary Growth of CsPbBr₃ Perovskite Nanocrystals- S Dutta, S Bera, RK Behera, B Hudait and N Pradhan, *ACS Nano*, **15**, 16183–16193 (2021) [IF : 15.88]
8. Why Is Making Epitaxially Grown All Inorganic Perovskite–Chalcogenide Nanocrystal Heterostructures Challenging? Some Facts and Some Strategies- S K Dutta, S Bera and N Pradhan, *Chem. Mater.*, **33**, 3868–3877 (2021) [IF : 9.81]

Professor Sugata Ray

1. Breakdown of atomic spin-orbit coupling picture in an apparently isolated pseudo-one-dimensional iridate: Sr₃NaIrO₆-Abhisek Bandyopadhyay et al.; *Phys. Rev. B*, **105**, 104431 (2022) [IF : 4.036]
2. Mixed-valent metallic pyrochlore iridate: A possible route to non-Fermi liquids- Md. Salman Khan et al.; *Phys. Rev. B*, **105**, 085137 (2022) [IF : 4.036]

3. A Phase inhomogeneity and inapplicability of Jeff=0 description in dilute Ir⁵⁺ doped Ba₂YSb_{1-x}Ir_xO₆ (x = 0.1, 0.2, 0.3)-Md. Salman Khan et al.; *Phys. Rev. B* 104, 214414 (2021) [IF : 4.036]
4. A Colossal Electroresistance response, accompanied by metal-insulator transition, in a mixed-valent vanadate- Rafikul Ali Saha et al.; *Phys. Rev. B* 104, 045149 (2021) [IF : 4.036]

Prof. N.R. Jana

1. Direct Cellular Delivery of Exogenous Genetic Material and Protein via Colloidal Nano-Assemblies with Biopolymer - Ankan Kumar Sarkar, Koushik Debnath, Himali Arora, Pankaj Seth, Nihar R. Jana and Nikhil R. Jana. *ACS Appl. Mater. Interfaces*, 14, 3199-3206 (2022) [IF : 9.23]
2. Inhibiting Protein Aggregation by Small Molecule-Based Colloidal Nanoparticles - Koushik Debnath, Ankan Kumar Sarkar, Nihar R Jana and Nikhil R Jana, *Acc. Mater. Res.*, 3, 54-66 (2022) [IF : NA]
3. Selective Capturing and Fluorescence Turn On" Detection of Dibutyl Phthalate Using Molecular Imprinted Polymer Nanocomposite - Jayanta Dolai, Haydar Ali and Nikhil R Jana, *New. J. Chem.*, 45, 19088-19096 (2021) [IF : 3.59]
4. Biomedical Applications of Functional Polaspartamide-Based Materials- Pradip Das and Nikhil R Jana, *ACS Appl. Polym. Mater.*, 3, 4791-4811 (2021) [IF : 4.1]
5. Generalized synthesis of biomolecule-derived and functionalized fluorescent carbon nanoparticle- Santu Ghosh, Haydar Ali, Suman Pal, Sekhar C Ray and Nikhil R Jana, *Bulletin of Materials Science*, 44, 1-10 (2021) [IF : 1.78]
6. Phosphate-Dependent Colloidal Stability Controls Nonendocytic Cell Delivery of Arginine-Terminated Nanoparticles- Reeddhi Ray, Santu Ghosh and Nikhil R Jana, *J. Phys. Chem. B.*, 125, 9186-9196 (2021) [IF : 2.99]
7. Chemically Designed Nanoscale Materials for Controlling Cellular Processes- Koushik Debnath, Suman Pal and Nikhil R Jana, *Acc. Chem. Res.*, 54, 2916-2927 (2021) [IF : 22.4]
8. Nanoparticle Size Effects in Biomedical Applications- Jayanta Dolai, Kuheli Mandal and Nikhil R Jana, *ACS Appl. Nano Mater.*, 4, 6471-6496 (2021) [IF : 5.1]

Publications in Book Chapter : Prof. N.R. Jana

1. Molecular Architectonics and Nanoarchitectonics. Our Chapter Title: Ligand-Functionalized Nanostructures and Their Biomedical Applications. Springer Link, 445-457, 2021.

Dr. Praveen Kumar

1. Unrevealing Rashba-Dresselhaus splitting assisted magneto-photo-electrochemical water splitting in Asymmetric MoSSe-GaN heterostructures- D Ghosh, K Roy, S Maitra, Praveen Kumar, *ACS Journal of Physical Chemistry Letters*, 13, (2022) 1334. [IF: 6.48]
2. 2D-Heterostructure Assisted Activation of MoS₂ Basal Plane for Enhanced Photoelectrochemical Hydrogen Evolution Reaction- K Roy, S Maitra, D Ghosh, P Devi, Praveen Kumar*, *Chemical Engineering Journal*, 435, (2022) 134963. [IF: 13.27]
3. Intercalation in 2D Transition Metal Chalcogenides: Interlayer Engineering and Applications- D. Ghosh, P. Devi, and Praveen Kumar*, *Progress in Energy* 4, (2022) 022001.
4. A Progressive Journey of 2D-Chalcogenides/Carbides/Nitrides based Broadband Photodetectors: Recent Development, and Future Perspective- S. Maity, K. Sarkar, and Praveen Kumar*, *Journal of Materials Chemistry C* 9, (2021) 14532. [IF: 7.39]
5. Magnetic-Field Induced Sustainable Electrochemical Energy Harvesting and Storage Devices: Recent Progress, Opportunities, and Future Perspectives- K. Roy, P. Devi, and Praveen Kumar*, *Nano Energy* 87, (2021) 106119. [IF: 17.88]
6. Activated hybrid g-C₃N₄/Porous GaN Heterojunction for Tunable Self-powered and Broadband Photodetection- K. Sarkar and Praveen Kumar*, *Applied Surface Science*, 566, (2021) 150695. [IF: 6.71]
7. Current and Future Perspectives of Carbon and Graphene Quantum Dots: Applications in Next-Generation Energy Harvesters- D. Gosh, P. Devi, K. Kim and Praveen Kumar*, *Renewable & Sustainable Energy Reviews*, 135, (2021) 110391. [IF: 14.98]
8. Activated InN nanocolumns as sensitive halogen sensor- R. Jain, V. Lokku, J. Ahmed, M. A. Khan, Praveen Kumar* and P. Devi, *Journal of Materials Science: Materials in Electronics*, 32, (2021) 1759. [IF: 2.48]

Publications in Book Chapter : Dr. Praveen Kumar

1. Materials Advances in Photo-electrochemical Hydrogen Production from Water: Theory, Practice, and Challenges, Springer, 2524-5384, 2022.

Dr. Urmimala Moitra

1. Oxygen Redox Intercalation Cathodes: The Fundamentals and Strategies to Resolve the Challenges, U Maitra and A. K Das, *ACS Applied Energy Materials*, **5**,4522–4535 (2022) [IF : 6.024]
2. Bulk O₂ formation and Mg displacement explain O-redox in Na_{0.67}Mn_{0.72}Mg_{0.28}O₂, E. Boivin, R. A.House, M. A.Pérez-Osorio, J-J Marie, U. Maitra, G. J.Rees, P. and G.Bruce, *Joule*, **5**, 1267-1280 (2021) [IF: 41.248]

School of Physical Sciences

Prof. A.J. Pal

- 1) Carrier recombination in CH₃NH₃PbI₃: Why is it a slow process? - A. Maiti and A. J. Pal, *Reports on Progress in Physics*, **85**, 024501 (2022).[IF:17.264]
- 2) Resistive-switching and memory in halide perovskite nanoparticles through a corona-poling approach: Necessity of type-I core-shell structures - A. Bera, R. Ganguly, R. Chakraborty, and A. J. Pal, *Appl. Phys. Lett.*, **119**, 223501 (2021).[IF:3.791]
- 3) Energy landscape in silver-bismuth-iodide rudorffites: Combining scanning tunneling spectroscopy and Kelvin probe force microscopy - A. Bera, S. Paramanik, A. Maiti, and A. J. Pal, *Phys. Rev. Mater.*, **5**, 095404(2021).[IF: 3.989]
- 4) Defect Passivation of Mn²⁺-Doped CsPbCl₃ Perovskite Nanocrystals as Probed by Scanning Tunneling Spectroscopy: Towards Boosting Emission Efficiencies - R. Chakraborty, A. Maiti, U. Ghorai and A. J. Pal, *ACS Applied Nano Materials*, **4**, 10155–10163 (2021).[IF:5.097]
- 5) Origin of bandgap bowing in Cs₂Na_{1-x}Ag_xBiCl₆ double perovskite solid-state alloys: A paradigm through scanning tunneling spectroscopy - S. Dan, A. Maiti, S. Chatterjee and A. J. Pal, *J. Phys.: Condens. Matter*, **33**, 485701 (2021).[IF:2.333]
- 6) 2D analogue of band-bending in metal–semiconductor junctions: interior to edge-states of single-layered transition metal dichalcogenides A. Banerjee, H. Bhunia, and A. J. Pal, *J. Phys. D: Appl. Phys.*, **54**,105106 (2021).[IF:3.207]

- 7) Reverse bandgap-bowing in nickel-cadmium sulfide alloys ($\text{Ni}_{1-x}\text{Cd}_x\text{S}$) and its origin - S. Paramanik, S. Chatterjee, and A. J. Pal, *J. Phys.: Condens. Matter*, **33** 245703 (2021).[IF:2.333]
- 8) Effect of Cation-Occupancy-Ordering in Double Perovskites to Overcome Hurdles in Carrier Transport: $\text{Cs}_2\text{AgBiBr}_6$ as a Case Study - A. Maiti and Amlan J. Pal, *J. Phys. Chem. C*, **125**, 16324-16333 (2021).[IF: 4.126]

Prof. Arnab Das

1. Dynamical Freezing and Scar Points in Strongly Driven Floquet Matter: Resonance vs Emergent Conservation Laws - A. Haldar, D. Sen. R. Moessner and A. Das, *Phys. Rev. X***11** 021008 (2021).[IF:15.76]
2. Signatures of quantum phase transitions after quenches in quantum chaotic one-dimensional systems - A. Haldar, K. Mallayya, M. Heyl, F. Pollmann, M. Rigol and A. Das, *Phys. Rev. X***11**, 031062 (2021).[IF:15.76]
3. Dynamics and correlations at a quantum phase transition beyond Kibble-Zurek - K. Roychowdhury, R. Moessner and A. Das, *Phys. Rev. B***104**, 014406 (2021).[IF:4.04]
4. Statistical mechanics of Floquet quantum matter: exact and emergent conservation laws - A. Haldar and A. Das, *J. Phys.: Condens. Matter*, **34** 234001 (2022).[IF:2.33]

Prof. Arnab Sen

1. Dynamical relaxation of correlators in periodically driven integrable quantum systems - S. Aditya, S. Samanta, A. Sen, K. Sengupta, and D. Sen, *Phys. Rev.*, **B105**, 104303 (2022).[IF:4.036]
2. Signatures of multifractality in a periodically driven interacting Aubry-Andre model - M. Sarkar, R. Ghosh, A. Sen and K. Sengupta, *Phys. Rev. B***105**, 024301 (2022).[I.F.- 4.036]
3. Minimal model for Hilbert space fragmentation with local constraints - B. Mukherjee, D. Banerjee, K. Sengupta, and A. Sen, *Phys. Rev. B***104**, 155117 (2021) (selected as PRB Editors' Suggestion).[IF:4.036]
4. Quantum Scars from Zero Modes in an Abelian Lattice Gauge Theory on Ladders – D. Banerjee and A. Sen, *Phys. Rev. Lett.*, **126**, 220601 (2021).[IF:9.161]

5. Mobility edge and multifractality in a periodically driven Aubry-Andre model - M. Sarkar, R. Ghosh, A. Sen, and K. Sengupta, *Phys. Rev. B*, **103**, 184309 (2021).[IF: 4.036]

Prof. Bimalendu Deb

1. A model study on superfluidity of a unitary Fermi gas of atoms interacting with a finite-ranged potential - Subhanka Mal and B. Deb, *J. Phys. B: At. Mol. Opt. Phys.*, **55**, 035301 (2022).[IF:]
2. Dynamical phase diagram of a one-dimensional Bose gas in a box with a tunable weak link: From Bose-Josephson oscillations to shock waves - Abhik Kumar Saha and Romain Dubessy, *Phys. Rev. A*, **104**, 023316 (2021).[IF:]

Dr. Devajyoti Mukherjee

1. Effect of Co and Mg doping at Cu site on structural, magnetic and dielectric properties of α - $\text{Cu}_2\text{V}_2\text{O}_7$ - A. K. Kar, B. Chattopadhyay, R. Singha, A. Barman, Md. A. Ahmed, A. Midya, S. Bandyopadhyay, D. Mukherjee, D. Jana, P. Mandal, *Journal of Physics: Condensed Matter*, **34**, 075702, (2021).[IF:2.333]
2. Role of oxygen vacancies on the low-temperature dielectric relaxor behavior in epitaxial $\text{Ba}_{0.85}\text{Ca}_{0.15}\text{Ti}_{0.9}\text{Zr}_{0.1}\text{O}_3$ thin films - S. Chatterjee, A. Barman, S. Barman, T. Chabri, S. Kar-Narayan, A. Datta, and D. Mukherjee, *Physical Review Materials*, **5**, 064415 (2021).[IF:3.989]
3. Large electrocaloric effect in lead-free ferroelectric $\text{Ba}_{0.85}\text{Ca}_{0.15}\text{Ti}_{0.9}\text{Zr}_{0.1}\text{O}_3$ thin film heterostructure - A. Barman, S. Chatterjee, C. Ou, Y. Y. Tse, N. Banerjee, S. Kar-Narayan, A. Datta, D. Mukherjee, *APL Materials*, **9**, 021115 (2021).[IF:5.096]
4. Effects of transitional hysteresis on the large magnetocaloric and magnetoresistance properties of Ni-Mn-Co-Sn Heusler alloy - T. Chabri, A. Barman, S. Chatterjee, S.A. Mollick, T.K. Nath, D. Mukherjee, *Journal of Alloys and Compounds*, **863**, 158485 (2021).[IF:5.316]

Prof. Dilip Ghosh

1. Gamma-ray and synchrotron radiation from dark matter annihilations in ultra-faint dwarf galaxies - P. Bhattacharjee, D. Choudhury, K. Das, D. K. Ghosh and P. Majumdar, *JCAP*, **06**, 041 (2021).[IF:5.839]

2. Dark Matter and Collider Searches in S_3 -Symmetric 2HDM with Vector Like Lepton - I. Chakraborty, D. K. Ghosh, N. Ghosh and S. K. Rai, *Eur. Phys. J. C*, **81**,679 (2021).[IF:4.590]

Prof. Durga Basak

1. Extraordinarily high ultraviolet photodetection by defect tuned phosphorus doped ZnO thin film on flexible substrate - S Mondal, S Ghosh, D Basak, *Materials Research Bulletin*, **144**, 111490, (2021).[IF:4.64]
2. Interplay of defects in low energy nitrogen implanted ZnO nanorods - A Das, D Basak, *Applied Surface Science*, **564**, 150424, (2021).[IF:6.707]
3. Augmented performance towards ultraviolet and visible dual-band photodetection by polyvinyl butyral coated SnO₂ nanorod array film – A D Mahapatra, D Basak, *Surfaces and Interfaces*, **26**, 101342, (2021).[IF:4.837]
4. Efficacy of ion implantation in zinc oxide for optoelectronic applications: A review - A Das, D Basak, *ACS Applied Electronic Materials*, **3 (9)**, 3693-3714, (2021).[IF:3.314]
5. Light-Assisted Resistive Switching Memory Device with Reduced SET/RESET Voltage Using Sol–Gel TiO₂ on Al-Doped ZnO Electrode - S Ghosh, D Basak, *Physica Status Solidi (a)*, **218 (14)**, 2100112 (2021).[IF:1.981]
6. Room temperature deposition of pulsed laser-assisted (Al, In) co-doped ZnO transparent conducting films appropriate for flexible substrates - S Pal, S Ghosh, D Basak, *Journal of Materials Science: Materials in Electronics*, **32 (12)**, 16682-16693 (2021).[IF:2.478]
7. Biodegradable Filter Paper Based Broad-Band Photodetection by Chemical Bath Deposited SnS₂ 2D-Nanosheet Array Film - A Das Mahapatra, D Basak, *ACS Applied Electronic Materials*, **3 (5)**, 2114-2122, (2021).[IF:3.314]

Profeessor Indra Dasgupta

1. Bulk Rashba Spin Splitting and Dirac Surface State in p -Type $(\text{Bi}_{0.9}\text{Sb}_{0.1})_2\text{Se}_3$ Single Crystal - Pradeepta Kumar Ghose, Subhadeep Bandyopadhyay, Tamal Kumar Dalui, Jochi Tseng, Jayjit Kumar Dey, Ruchi Tomar, Suvankar Chakraverty, Subham Majumdar, **Indra Dasgupta**, Saurav Giri, *Rapid Research Letters (RRL)* **16 (4)**, 2100494 (2022).[IF:2.821]

2. Breakdown of atomic spin-orbit coupling picture in an apparently isolated pseudo-one-dimensional iridate: $\text{Sr}_3\text{NaIrO}_6$ - Abhisek Bandyopadhyay, A. Chakraborty, S. Bhowal, Vinod Kumar, M. M. Sala, A. Efimenko, F. Bert, P. K. Biswas, C. Meneghini, N. Büttgen, **I. Dasgupta**, T. Saha Dasgupta, A. V. Mahajan, and Sugata Ray, *Phys. Rev. B*, **105**, 104431 (2022).[IF:4.036]
3. Unusual spin dynamics in the low-temperature magnetically ordered state of $\text{Ag}_3\text{LiIr}_2\text{O}_6$ - Atasi Chakraborty, Vinod Kumar, Sanjay Bachhar, N. Büttgen, K. Yokoyama, P. K. Biswas, V. Siruguri, Sumiran Pujari, **I. Dasgupta**, and A. V. Mahajan, *Phys. Rev. B*, **104**, 115106 (2021).[IF:4.036]
4. Spin-orbit effects in pentavalent Iridates: Models and materials - Sayantika Bhowal and **Indra Dasgupta**, *J. Phys.: Condens. Matter*, **33** 453001 (2021).[IF 2.333]
5. Orbital effects and Affleck-Haldane-type spin dimerization in $\text{Ba}_4\text{Ru}_3\text{O}_{10}$ - J. Sannigrahi, A. Paul, A. Banerjee, D. Khalyavin, A. D. Hillier, K. Yokoyama, A. K. Bera, M. R. Lees, **I. Dasgupta**, S. Majumdar, and D. T. Adroja, *Physical Review B*, **103** (14), 144431 (2021).[IF:4.036]

Prof. Kaushik Ray

1. Conformal Correlation functions in four dimensions from Quaternionic Lauricella system - A Pal and K. Ray, *Nuclear Physics B*, **968**, 115433 (2021). [IF:2.759]
2. Learning scattering amplitudes by heart - S. Barmeier and Koushik Ray, *Physics Letters B*, **820**, 136594 (2021).[IF:4.771]

Prof. Krishnendu Sengupta

1. Conformal Floquet dynamics with a continuous drive protocol - D. Das, R. Ghosh, and K. Sengupta, *JHEP* **05**, 172 (2021).[IF:5.81]
2. Analytic approaches to periodically driven closed quantum systems: Methods and Applications - A. Sen, D. Sen, and K. Sengupta, *J. Phys. Cond. Mat.* **33** 443003 (2021).[IF:2.33]
3. Mobility edge and multifractality in a periodically driven Aubrey-Andre model- M. Sarkar, R. Ghosh, A. Sen, and K. Sengupta, *Phys. Rev. B*, **103**, 184309 (2021).[IF:4.036]

4. A minimal model for Hilbertspace fragmentation with local constraints- B. Mukherjee, D. Banerjee, K. Sengupta, and A. Sen, *Phys. Rev. B*, **104**, 155117 (2021)[selected as Editor's suggestion].[IF:4.036]
5. Signatures of multifractality in aperiodically driven interacting Aubry-André model - M. Sarkar, R. Ghosh, A. Sen, and K. Sengupta, *Phys. Rev. B*, **105**, 024301(2022).[IF:4.036]

Dr. Mintu Mondal

1. Colossal electroresistance response accompanied by metal-insulator transition in a mixed-valent vanadate - Rafikul Ali Saha, Abhisek Bandyopadhyay, Irene Schiesaro, Arnab Bera, Mintu Mondal, Carlo Meneghini, Sugata Ray, *Physical Review B*, **104** (4), 045149 (2021).[IF:]
2. Review of recent progress on THz spectroscopy of quantum materials: Superconductors, Magnetic and Topological materials - Arnab Bera¹, Satyabrata Bera, Sk. Kalimuddin, Sirshendu Gayen, Mohan Kundu, Biswajit Das, and Mintu Mondal, *The European Physical Journal Special Topics*, **230**, 4113–4139 (2021).[IF:]
3. Resistive switching in a MoSe₂-based memory device investigated using conductance noise spectroscopy ambipolar magneto-optical response of ultralow carrier density topological insulators, Biswajit Das, Arnab Bera, Madhupriya Samanta, Satyabrata Bera, Sk. Kalimuddin, Mohan Kundu, Sirshendu Gayen, Kalyan Kumar Chattopadhyay, and MintuMondal, *ACS Appl. Electron. Mater.*, **3**, 7, 3096–3105 (2021).[IF:]

Dr. Satyanarayan Mukhopadhyay

1. Cosmology of complex scalar dark matter: Interplay of self-scattering and annihilation - A. Ghosh, D. Ghosh, S. Mukhopadhyay, *Physical Review D*, **104**, 123543 (2021).[IF:5.296]
2. Revisiting the role of CP-conserving processes in cosmological particle–antiparticle asymmetries - A. Ghosh, D. Ghosh, S. Mukhopadhyay, *Eur. Phys. J. C*, **81**:1038 (2021).[IF:4.590]

Prof. Sourav Giri

1. Structural correlation to ferroelectric order, non-Griffiths like phase and magnetocaloric effect in YbCrO_4 - A. Indra, S. Mukherjee, O. Gutowski, M. Von Zimmermann, S. Majumdar and S. Giri, *Journal of Physics: Condensed Matter*, **34**, 155402 (2022).[IF:2.33]
2. High magneto-Seebeck effect at room temperature in $\text{Bi}_{1.8}\text{Sb}_{0.2}\text{Te}_{3-y}\text{Se}_y$ crystal - P. K. Ghose, T. K. Dalui, A. Chatterjee, S. Majumdar, and S. Giri, *Appl. Phys. Lett.*, **118**, 243901 (2021).[IF:3.79]
3. Cluster glass characteristics of disordered $\text{La}_2\text{CuMnO}_6$ double perovskite oxides - Md. G. Masud and S. Giri, *J. Magn. Magn. Mater.*, **526**, 167759 (2021).[IF:2.99]
4. Significant magneto-elastic coupling at Griffiths-like phase boundaries in low dimensional oxides, ASb_2O_6 (A= Ni and Mn) - A. Chatterjee, A. Indra, O. Gutowski, M. v. Zimmerman, S. Majumdar and S. Giri, *Journal of Physics: Condensed Matter*, **33**, 195701 (2021).[IF:2.33]

Prof. Soumitra SenGupta

1. Unifying an asymmetric bounce to the dark energy in Chern–Simons $F(R)$ gravity - Sergei D. Odintsov, T. Paul, I. Banerjee, R. Myrzakulov and S. SenGupta, *Phys.Dark Univ*, **33** 100864 (2021).[IF:4.243]
2. Critical analysis of modulus stabilization in a higher dimensional $F(R)$ gravity - I. Banerjee, T. Paul and S. SenGupta, *Phys.Rev.D*, **104** 10, 104018 (2021).[IF: 4.568]
3. Looking for extra dimensions in the observed quasi-periodic oscillations of black holes - I. Banerjee, S. Chakraborty and S. SenGupta, *JCAP*, **09** 037 (2021).[IF:5.839]
4. Bouncing cosmology in a curved braneworld - I. Banerjee, T. Paul and S. SenGupta, *JCAP*, **02** 041 (2021).[IF:5.839]
5. Hilltop Inflation and Generation of Helical Magnetic Field - S. Chakraborty, S. Pal and S. SenGupta, *Universe*, **8** 1, 26, (2022).[IF:2.278]

Prof. Sourov Roy

1. Probing L_μ - L_τ models with CEvNS: A new look at the combined COHERENT CsI and Ar data - H. Banerjee, B. Dutta and S. Roy, *Phys. Rev. D*, **104** 015015 (2021).[IF:5.296]

2. When freeze-out occurs due to a non-Boltzmann suppression: a study of degenerate dark sector - A. Biswas, S. Ganguly and S. Roy, *JHEP*, **06**, 108 (2021).[IF:5.81]

Dr. Subhadeep Datta

1. Spin-phonon coupling and magnon scattering in few layer antiferromagnetic FePS₃ - Anudeepa Ghosh, Mainak Palit, SujanMaity, Vivek Dwij, Sumesh Rana, and Subhadeep Datta, *Phys. Rev. B*, **103**, 064431 (2021).[IF:4.036]
2. Magnon polarons in the van der Waals antiferromagnet FePS₃ - D Vaclavkova, M Palit, J Wyzula, S Ghosh, A Delhomme, S Maity, P Kapuscinski, A Ghosh, M Veis, M Grzeszczyk, C Faugeras, M Orlita, S Datta, M Potemski, *Physical Review B*, **104** (13), 134437 (2021).[IF: 4.036]
3. Manipulating edge current in hexagonal Boron Nitride via doping and friction - Bikash Das, SujanMaity, Subrata Paul, KapildebDolui, SubhamParamanik, Sanjib Naskar, Smruti Ranjan Mohanty, Supriya Chakraborty, Anudeepa Ghosh, Mainak Palit, Kenji Watanabe, Takashi Taniguchi, Krishnakumar SR Menon, Subhadeep Datta, *ACS nano*, **15** (12), 20203-20213 (2021).[IF:15.88]

Prof. Subham Majumdar

1. Observation of structural anomaly and low-field magnetocaloric effect in Cu₂OSeO₃ - P. Dutta, M. Das, A. Banerjee, S. Chatterjee and S.Majumdar, *J. Alloys Compounds.*, **886**, 161198 (2021).[IF:5.316]
2. Orbital effects and Affleck-Haldane-type spin dimerization in Ba₄Ru₃O₁₀ - J. Sannigrahi, A. Paul, A. Banerjee, D. Khalyavin, A. D. Hillier, K. Yokoyama, A. K. Bera, M. R. Lees, I. Dasgupta, S. Majumdar, and D. T. Adroja, *Phys. Rev. B*, **103**, 144431(2021).[IF:4.036]
3. Transport properties of Heusler compounds and alloys-Snehashish Chatterjee, Souvik Chatterjee, Saurav Giri and Subham Majumdar, *J. Phys.: Condens. Matter*, **34**, 013001 (2021).[IF:2.333]
4. Competing magnetic interactions and magnetocaloric effect in Ho₅Sn₃ -SumanMondal, Pushpendra Yadav, Anan Bari Sarkar, Prabir Dutta, Saurav Giri, Amit Agarwal and Subham Majumdar, *J. Phys.: Condens. Matter.*, **34**, 025801(2022).[IF:2.333]

5. Mixed-valent metallic pyrochloreiridate: A possible route to non-Fermi liquids-Md Salman Khan, Ilaria Carlomagno, Carlo Meneghini, P. K. Biswas, Fabrice Bert, Subham Majumdar, and Sugata Ray, *Phys. Rev. B*, **105**, 085137(2022).[IF: 4.036]

Dr. Sumanta Chakraborty

1. Ergoregion instability and echoes for braneworld black holes: Scalar, electromagnetic and gravitational perturbations - R. Dey, S. Biswas and S. Chakraborty, *Physical Review D*, **103**, 084019 (2021).[IF:4.568]
2. Perturbations of the almost Killing equation and their implication - S. Chakraborty and J. C. Feng, *Physical Review D*, **103**, 084020 (2021).[IF: 4.568]
3. No-boundary wave function, Wheeler-DeWitt equation and path integral analysis of the bouncing quantum cosmology - K. Rajeev, V. Mondal and S. Chakraborty, *Physical Review D*, **103**, 106008 (2021).[IF:4.568]
4. Gravitational multipole moments for asymptotically de Sitter spacetimes - S. Chakraborty, Sk. J. Hoque and R. Oliveri, *Physical Review D*, **104**, 064019 (2021).[IF:4.568]
5. Looking for extra dimensions in the observed quasi-periodic oscillations of black holes - I. Banerjee, S. Chakraborty and S. SenGupta, *J. of Cosmology and Astroparticle Physics*, **2109**, 037 (2021).[IF:5.839]
6. Tidal heating of black holes and exotic compact objects on the brane - S. Chakraborty, S. Datta and S. Sau, *Physical Review D*, **104**, 104001 (2021).[IF: 4.568]
7. Bound on photon circular orbits in general relativity and beyond – S. Chakraborty, *Galaxies*, **9**, 96 (2021).[IF:3.17]
8. Microscopic origin of Einstein’s field equations and the raison d’etre for a positive cosmological constant - T. Padmanabhan and S. Chakraborty, *Physics Letters B*, **824**, 136828 (2022).[IF:4.771]
9. Hilltop inflation and generation of helical magnetic field - S. Chakraborty, S. Pal and S. SenGupta, *Universe*, **8**, 26 (2022).[IF:2.278]
10. Bouncing with shear: Implications from quantum cosmology – K. Rajeev, V. Mondal and S. Chakraborty, *J. of Cosmology and Astroparticle Physics*, **2201**, 008 (2022).[IF:5.839]

11. Non-trivial time crystal-like ground state for gravitational perturbation in quadratic gravity - S. Chakraborty and S. Ghosh, *Physics of the Dark Universe*, **35**, 100976 (2022).[IF:4.243]
12. Supertranslation at timelike infinity - S. Chakraborty, D. Ghosh, Sk. J. Hoque, A. Khairnar and A. Virmani, *Journal of High Energy Physics*, **2202**, 022 (2022). [IF:5.81]

Emeritus Professor & Senior Scientists

Prof. B.C. Ranu

1. Synthesis of Organosulfur and Related Heterocycles under Mechano-chemical Conditions – T. Chatterjee and B. C. Ranu, *J. Org. Chem.*, **86**, 13895 (2021).[IF: 4,3]
2. Learning Green Chemistry and its Principles from Nature's Process and Development of Green Procedures Mimicking Nature – B. C. Ranu, L. Adak, T. Ghosh, *Chemistry Teacher International*, 23 (2021).<https://doi.org/10.1515/cti-2021-0023>
3. Mechanochemical synthesis of coumarins via Pechmann condensation under solvent-free conditions: An easy access to coumarins and annulated pyrano[2,3-f] and [3,2-f]indoles - A. D. Sharapov,^a R. F. Fatykhov,^a I. A. Khalymbadza,^{*ab} V. V. Sharutin,^c S.Santra,^{*a} G. V. Zyryanov,^{a,b} O. N. Chupakhin^{a,b} and B. C. Ranu, *Green Chemistry*, **24**, 2429 (2022).[IF:10.182]

Publications in Books/Book Chapter/Monographs:

1. Selenophenes– B. C. Ranu, T. Ghosh, L. Adak, and S. Panja,. In: D. Black, StC, J. Cossy, and C. V. Stevens,. Eds., *Comprehensive Heterocyclic Chemistry IV*; Vol. [1], Elsevier,; pp. 653-674 (2022). (Book Chapter)

Prof. Dipankar Chakravorty

1. Studies on Nanoconfinement Effect of NiO-SiO₂ Spin Glass within Mesoporous Al₂O₃ Template – A. Maity, S. Samanta, D. Biswas and D. Chakraborty; *Journal of Alloys and Compounds*, **887**, 161447 (2021).[IF:5.316]

2. Magnetodielectric behaviour of composites of NiO-SiO₂ nanoglass and mesoporous silica SBA-15 – A. Maity, S. Samanta, S. Roy, D. Biswas and D. Chakravorty; *Journal of Non-Crystalline Solids*, **559**, 120997 (2021).[IF:3.531]
3. Stimuli-Responsive coating by simple physical blending route – D.R. Saha, K.R. Kumar, F. Ansari, S.K. Ghosh, A. Datta and D. Chakravorty, *Ceramics International*, **47** (18), 26357 (2021).[IF:4.527]
4. Crossover of positive and negative magnetoconductance of composites of nanosilica glass containing dual transition metal oxides – S. Samanta, A. Maity, A. Chatterjee, S. Giri and D. Chakravorty, *RSC Advances*, **11** (26), 16106 (2021).[IF:3.36]

Prof. J.K. Bhattacharjee

1. Activity induced turbulence in driven active matter - J.K. Bhattacharjee and T. R. Kirkpatrick, *Physical Review Fluids*, **7**, 034602 (2022).[IF:2.537]
2. A randomly stirred model for Bolgiano-Obukhov scaling in turbulence in a stably stratified fluid - J.K. Bhattacharjee, *Phil.Trans.Roy.Soc*, **380**, 20210075.
3. Surface tension and instability in the hydrodynamic white hole of a circular hydraulic jump - J.K. Bhattacharjee and A.K.Ray, *Physical Review Fluids*, **6**, 104801 (2021).[IF:2.537]
4. A new look at quantal time evolution - A. Bhattacharyya, J. K. Bhattacharjee and D. Sinha, *American J. of Physics*, **89**, 627 (2021).[IF:1.022]
5. Universal crossover from Kolmogorov to Bolgiano-Obukhov scaling in turbulence in a stably stratified fluid - J K Bhattacharjee, *Phys. Lett. A.*, **417**, 127682 (2021).[IF:2.654]
6. Emergence of universality in the transmission dynamics of COVID-19 - A. Paul, J. K. Bhattacharjee, A. Pal and S. Chakraborty, *Scientific Reports*, **11**, 18891 (2021).[IF:4.379]

Prof. Subrata Ghosh

1. Intramolecular Diels-Alder Approach to the Construction of Fused Bicyclic 8/6 Ring System of Variecolin - Md. F. Hossain and S. Ghosh, *Chemistry Select.*, **6**, 12209–12211, doi.org/10.1002/slct.202103501. (2021)

Prof. Aswini Ghosh

1. Ionic conduction and relaxation mechanisms in three dimensional CsPbCl₃ perovskite - P Pal, A Ghosh, *J. Appl. Phys.*, **129**, 234102 (2021).[IF:]
2. Ion Transport and Segmental Dynamics in Cross-linked Poly(ethylene glycol) Diacrylate-Based Solid-like Polymer Electrolytes - P Pal, A Ghosh, *J. Phys. Chem. C*, **126**, 4799-4806 (2022).[IF:]
3. Structure of silver molybdate glasses by X-ray and neutron diffraction - U. Hoppe, A. C. Hannon, A. Schöps, A. Ghosh, *J. Non-Cryst. Solids*, **573**, 121143 (2021).[IF:]
4. Structural units of binary vanadate glasses by X-ray and neutron diffraction - U. Hoppe, A. Ghosh, S. Feller, A.C. Hannon, J. Neuefeind, *J. Non-Cryst. Solids*, **572**, 121120 (2021).[IF:]
5. Lithium embedded hierarchically porous aluminium phosphonate as anode material for lithium-polymer battery - P. Bhanja, T. Dam, S. Chatterjee, A. Bhaumik, A. Ghosh, *J. Mater. Sci. Engg. B*, **274**, 115490 (2021).[IF:]
6. Ion transport and relaxation in phosphonium poly (ionic liquid) homo-and co-polymers - P Banerjee, P Pal, A Ghosh, TK Mandal, *J. Polym. Sci.* **59**, 1556 (2021).[IF:]

Prof. Arun K. Nandi

1. Tuning of optoelectronic properties in Nano-hybrids of peptide appended perylenebisimides and carbon-nanodots - S. Hazra, S. Paul, K. Basu, A. K.Nandi and A. Banerjee, *J. Phys. Chem. C*, **126**, 5906 (2022).[IF:4.1]
2. Tailor made synthesis of water-soluble polythiophene-graft-poly(caprolactone-block-dimethylaminoethyl methacrylate) copolymer and their pH tunable self-assembly and optoelectronic properties - U. Halder, S. Mondal, S. Hazra, S. Guin, L. Yeasmin, D. P. Chatterjee, A. K. Nandi, *Eur. Polym. J.*, **168**, 111124 (2022).[IF:4.5]
3. Isomerization-induced Excimer Formation of Pyrene based Acylhydrazone Controlled by Light and Solvent Sensing Aromatic Analytes- S. Mondal, A. Panja, D. Halder, P. Bairi and A.K. Nandi, *J. Phys. Chem. B*, **125**, 13804 (2021).[IF:3.0]
4. Development of Polythiophene-Tripeptide Covalent Conjugates Showing Excellent Structure Dependent Photophysical and Photocurrent Properties - S. Mondal, S. Hazra, A. Shit, D. P. Chatterjee, A. Banerjee and A. K. Nandi, *J. Phys. Chem. C*, **125**, 17518 (2021).[IF:4.1]
5. A Review on Recent Advances on Hybrid Supercapacitors - D.P. Chatterjee and A. K. Nandi, *J. Mater. Chem. A*, **9**, 15880 (2021).[IF:12.7]

Prof. Subodh K. Dev

1. Magnetic and transport properties of the mixed 3d–5d–4f double perovskite $\text{Sm}_2\text{CoIrO}_6$ - Suman Kalyan Pradhan, Biswajit Dalal, Rafikul Ali Saha, Raktim Datta, Subham Majumdar and Subodh Kumar De, *J. Phys.: Condens. Matter*, **33** 335801 (2021).[IF:2.333]
2. Effect of Ru substitution in tellurium bridged copper spin 1/2 system $\text{Ba}_2\text{CuTeO}_6$: Structure, magnetism and optical properties - Suman Kalyan Pradhan, Raktim Datta and Subodh Kumar De, *Journal of Physics and Chemistry of Solids*, **156** 110129 (2021).[IF:3.995]
3. Dielectric and impedance spectroscopy of $\text{Sm}_2\text{CoIrO}_6$ double perovskite - Raktim Datta, Suman Kalyan Pradhan, Souvik Chatterjee, Subham Majumdar and Subodh Kumar De, *Journal of Alloys and Compounds*, **876** 160158 (2021).[IF:5.316]

Prof. Parthasarathi Majumdar

1. Towards an Acoustic Geometry in Slightly Viscous Fluids - M. Pathak and P. Majumdar, *Universe*, **8**205 (2022).[IF:2.278]
2. Holographic bound on area of a compact binary merger remnant - P. Majumdar and A. Ray, *Phys. Rev. D*, **104**044036 (2021).[IF:4.568].

Prof. D.S. Ray

- 1) Emergent traveling waves in spatially extended system with finite memory of transport, P. Ghosh, D. S. Ray, *J. Indian Chem. Soc. {Part of special issue: Professor D C Mukherjee Festschrift}*, **98(5)**, 100072 (2021).[IF:0.284]
- 2) Subharmonics and superharmonics of the weak field in a driven two-level quantum system: Vibrational resonance enhancement, P. Sarkar, S. Paul, D. S. Ray, *Phys. Rev. E*, **104(1)**, 014202 (2021).[IF:2.529]
- 3) Universality in bio-rhythms: A perspective from nonlinear dynamics, S. Saha, G. Gangopadhyay, D. S. Ray, *J. Biosci. {Part of a collection: Emergent dynamics of biological networks}*, **47(1)**, 1 (2022).[IF:1.826]

Prof. S.P. Bhattacharyya

1. Exploring Artificial Neural Networks to model interatomic and intermolecular potential energy surfaces – Mayank Dixit, Joseph Daniel and S.P. Bhattacharyya, *J. Indian Chemical Society* (Prof. Sadhan Basu birth centenary special Issue), **98**, 2021 (2021).

Publications in Books/Book Chapter/Monographs:

1. Understanding Atoms, Molecules and Materials' written with Professor Pranab Sarkar of Visva Bharati University (WB) and submitted to CRC Press in 2021 has now been published (February 2022), pages 1-415 (CRC-Press, Taylor and Francis Group).

CSS Department

1. Decoding the topographical features of more realistic SERS active substrates in presence of the probe molecules from statistical considerations: An in-depth study bridging - S Saha, **M Ghosh**, S Chandra, J Chowdhury, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, **628**, 127319 (2021).[IF:4.539]
2. Probing blood plasma samples for the detection of diabetes using SERS aided by PCA and LDA multivariate data analyses - SK Das, TS Bhattacharya, **M Ghosh**, J Chowdhury, *New Journal of Chemistry*, **45 (5)**, 2670-2682 (2021).[IF:3.591]

School-wise Publications 2022-2023

Emeritus Professors & Senior Scientists

Prof. Dipankar Chakravorty

1. Silver–Nickel Bimetallic Nanowire-Based Transparent Thin-Film Spin-Glass Systems for Magnetic Sensor Applications - A.Maity, S. Samanta and D. Chakravorty; *ACS Applied Nano Materials*, **5**(10), 14551-14560 (2022).[IF:6.14]
2. Studies of magnetization dynamics in sol-gel derived nanocomposites containing transition metal ions and mesoporous templates - A. Maity, S. Samanta and D. Chakravorty; *Journal of Non-Crystalline Solids: X*, **17**, 100163, (2023).[IF:4.88]

Prof. Ashwini Ghosh

1. Highly ion conductive cross-linked ionogels for all-quasi-solid-state lithium-metal batteries, P. Pal and A. Ghosh, *APL Energy*, **1**, 016102 (2023).
2. Onset of vacancy-mediated high activation energy leads to large ionic conductivity in two-dimensional layered $\text{Cs}_2\text{PbI}_2\text{Cl}_2$ Ruddlesden-Popper halide perovskite, N. H. Makani, A. Sahoo, P. Pal, T. Paul, L. S. Tanwar, M. Singh, A. Ghosh, R. Banerjee, *Physical Review Materials*, **6**, 115002 (2022).[IF:3.98]
3. Correlation of structure and ionic-conductivity in phosphate glass using MAS-NMR and impedance spectroscopy: Influence of sodium salt, I. Mandal, S. R. Keshari, L. Lodhi, K. K. Dey, M. Ghosh, A. Ghosh, A. R. Allu, *Physical Review Materials*, **6**, 115403 (2022).[IF:3.98]
4. High ionic conduction and polarity-induced piezoresponse in layered bimetallic $\text{Rb}_4\text{Ag}_2\text{BiBr}_9$ single crystals, M. Singh, T. Paul, P. Pal, A. Sahoo, L.S. Tanwar, N.H. Makani, A. Ghosh, R. Banerjee, *J. Phys. Chem. C*, **126**, 21810 (2022).[IF:4.177]
5. Photoelectrochemical water oxidation over novel semiconducting zinc-based metal–thiolate framework, A. Ghosh, S. Shyamal, A. Palui, R.N. Manna, S. Mondal, M. Jana, A. Ghosh, A. Bhaumik, *ACS Applied Materials & Interfaces*, **14**, 37699 (2022).[IF:10.083]

Prof. D.S. Ray

- 1) Method for direct analytical solution of nonlinear Langevin equation using multiple timescale method: Mean-square displacement, P Sarkar, D Banerjee, S Paul and D S Ray, *Phys. Rev. E* **106**, 024203 (2022) [IF: 2.529]
- 2) Phase diffusion and fluctuations in a dissipative Bose-Josephson junction, A K Saha, D. S. Ray and B Deb, *Rev. E* **107**, 034141 (2023)[IF: 2.529]

Prof. A.K. Nandi

1. Light and Solvent Effect on Isomerization and Excimer Formation of Pyrene - Schiff Base Conjugate Sensing Aromatic Analytes S. Mondal, A. Panja and A.K. Nandi, *Macromol Symp.* 2023, 408, DOI: 10.1002/masy.202100500.[IF: 0.3]
2. Hybrid Polymer Gels for Energy Applications A. K. Nandi and D.P. Chatterjee, *J. Mater Chem. A*, 2023 DOI: 10.1039/D2TA09525D.[IF: 14.5]
3. Polythiophene-g-Poly(methacrylic acid) and Perylene Diimide Appended Peptide Conjugates with Tuneable Photoluminescence, OMEIC and Photo-switching Properties S. Hazra, R. Ghosh, A. Palui, A. Ghosh, A. Banerjee and A. K. Nandi, *J. Mater Chem. C* 2023, 11, 4808 – 4819.[IF: 8.1]
4. Organic Mixed Ion-Electron Conductivity in Polymer Hybrid Systems, S. Hazra, A. Banerjee, A.K. Nandi, *ACS Omega*, 2022, 7, 37, 32849–32862 [IF:4.1]
5. Synthesis of PVDF Based Graft Copolymeric Antifouling Membranes Showing Affinity Driven Immobilization of Nucleobases U. Basak, M. Pakhira, S. Sahoo, S. Majumdar, R. Ghosh, J. Kundu, T. Ghosh, T. Ghosh, A. K. Nandi and D.P. Chatterjee, *ACS Appl. Polym. Mater.* 2022, 4, 5756-5771 [IF: 4.9]
6. Development of poly(vinylidene fluoride) graft random copolymer membrane for antifouling and antimicrobial applications M. Pakhira, S. Ghosh, Surajit Ghosh, D. P. Chatterjee and A. K. Nandi, *J. Ind. Eng. Chem.* 2022, 112, 171–181 [IF:5.3]

Publications in Books/Book Chapter/Monographs:

1. Encyclopedia of Power Sources, 2nd Edition”. Ed. Dr. Peter Kurzweil, Chapter: Supercapacitors: Hybrid Technology – A. K. Nandi, Elsevier, USA, Chapter 13.6, Manuscript No. 00340, 2023.

Prof. Soumitra SenGupta

1. Hunting extra dimensions in the shadow of Sgr A* - Indrani Banerjee, Sumanta Chakraborty, Soumitra SenGupta, *Phys.Rev.D* 106 (2022) 8, 084051.[IF:5.407]
2. Signatures of regular black holes from the shadow of Sgr A* and M87* - Indrani Banerjee, Subhadip Sau, Soumitra SenGupta, *JCAP* 09 (2022) 066.[IF:7.28]

3. Aspects of non-singular bounce in modified gravity theories - Indrani Banerjee, Tanmoy Paul, Soumitra SenGupta, *Gen.Rel.Grav.* 54 (2022) 10, 119
4. Moduli stabilization with bulk scalar in nested doubly warped braneworld model, Arko Bhaumik, Soumitra SenGupta, *Eur.Phys.J.C* 82 (2022) 11, 1079
5. Quasar continuum spectrum disfavors black holes with a magnetic monopole charge - Indrani Banerjee, Vijay ShersinghChawan, Bhaswati Mandal, Siddharth Kumar Sahoo, Soumitra SenGupta, *Phys.Rev.D* 105 (2022) 6, 064073.[IF:5.407]

Prof. Brindaban C. Ranu

1. Solvent Free Synthesis of Organoselenides under Green Condition – S. Dutta, A. Saha, B. C. Ranu, *New J. Chem*, **2022**, 46, 21489-21518; DOI: 10.1039/D2NJ04068A (invited article) [IF:3.925]
2. Mechanochemically Induced Cross Dehydrogenative Coupling Reactions under Ball Milling –I. N. Egorov, A. Mukherjee, S. Santra, D. S. Kopchuk, I. S. Kovalev, Y. Liu, G. V. Zyryanov, A.Majee, O. N. Chupakhin, and B. C. Ranu, *Adv. Synth. Catal.*, **2022**, 364, 2462-2478. DOI:10.1002/adsc.202200296 [IF: 6.058]
3. Benign Metal Catalyzed Carbon-Carbon and Carbon-Heteroatom Bond Formation - B. C. Ranu, L. Adak, N. Mukherjee, and T. Ghosh, *Synlett*, **2023**, 34, 601-621. DOI: 10.1055/a-1904-0152 (invited article for a special issue on Chemical Synthesis and Catalysis in India) [IF:2.454]

Publications in Books/Book Chapter/Monographs:

1. Magnetic Metal Nanoparticle Catalyzed Carbon-Heteroatom Bond Formation and Synthesis of Related Heterocycles- B. C. Ranu, L. Adak, N. Mukherjee, T. Ghosh, *Magnetic Nanocatalysis*, ed, R. Varma and B. Banerjee, De Gruyter, Germany, **2022**, pp 1-48. Doi.org/10.1515/9783110730357.001.
2. Copper Nanoparticles catalyzed carbon-heteroatom bond formation and synthesis of related heterocycles by greener procedures – S. Ahammed and B. C. Ranu, in *Green Bond Forming Reactions-Carbon-Carbon and Carbon-Heteroatom*” edited by R.K. Sharma and B. Banerjee, De Gruyter, Germany, **2022**, pp1-32, *Physical Sciences Reviews* [Online] 2022. DOI: 10.1515/psr-2021-0083 | <https://doi.org/10.1515/9783110797428-001>.

Professor S.P. Bhattacharya

1. Tunneling Dynamics of Kicked Systems : A Route to Tunneling Control – Susmita Kar and S.P. Bhattacharya, *Chem. Phys. Chem*, doi.org/10.1002/cphc-202200468 (Chemistry Europe) (An Invitee contribution)

School of Applied and Interdisciplinary Sciences

Dr. Anindita Das

1. Pathway Complexity in Supramolecular Copolymerization and Blocky Star Copolymers by a Hetero-Seeding Effect-P. Khanra, A. K. Singh, L. Roy, A. Das*, *J. Am. Chem. Soc.* **145**,5270–5284. (2023).[IF:16.383]
2. A Versatile Step-Growth Polymerization Route to Functional Polyesters from an Activated Diester Monomer-S. Biswas, A. Das*, *Chem. Eur. J.* **29**,e202203849 (2023).[IF: 5.02]
3. Solvophobicity-Driven Merocyanine Dye Assembly: Predominant Dipole-Dipole Interactions Over Hydrogen-Bonding-A. Rajak, A. K. Singh, L. Roy*, A. Das*, *ChemNanoMat*, **8**,e202200082 (2022).[IF: 3.82]

Publications in Book Chapter :

- 1) Precision Macro (molecular) Assemblies- A. Rajak, A. Das*, *AsiaChemmagazine* under Federation of Asian Chemical Societies (Published in the special issue covering Chemistry in India) (<https://www.facs.website/copy-of-asiachem-2-1-december-2021>)

Dr. Shinto Varghese

1. Luminescent assemblies of pyrene-containing bent-core mesogens: liquid crystals, π -gels and nanotubes - M. Martínez-Abadía, S. Varghese, J. Gierschner, R. Giménez, M. Blanca , Ros, *J. Mater. Chem. C*, **10**. 12012 (2022).[IF:8.1]

Prof. Somabrata Acharya

1. Postsynthesis Transformation of Halide Perovskite Nanocrystals - Susmita Paul and Somabrata Acharya*, *ACS Energy Lett.* **7**, 6, 2136–2155 (2022).[IF:23.991]
2. Mechanical Manipulation of Archimedean Spirals of an Achiral Pyrazinacene for Chiral Assemblies - Pramita Mondal, Gouranga Manna, Tapas Kamilya, Mrinmay Das, Katsuhiko Ariga, Gary J. Richards, Jonathan P. Hill*and Somabrata Acharya, *Adv. Mater. Interfaces*, **9**, 2200209 (2022).[IF:6.389]

3. Effect of size of CdO on bias dependent conduction and relaxation mechanism by means of Impedance Spectroscopy: Experimental and Theoretical Studies Animesh Layek, Joydeep Datta, Animesh Biswas, Somobrata Acharya and Partha Pratim Ray* *Materials Chemistry and Physics*, **130**, 105799 (2022).[IF:4.778]

Prof. Sudip Malik

1. Solid-State Emissive Zn²⁺ Directed Metallo-Supramolecular Polymers of bis-Terpyridine Appended Aryl substituted Buta-1,3-diene Derivatives: Synthesis, Photo-physical and Electrochemical Properties, P. Pal, A. Datta, R. Jana, A. Datta and Sudip Malik*, *Eur. Polym. J.* in press (2023) doi: 10.1016/j.eurpolymj.2023.112115.[IF: 4.598]
2. Charge Transport and Low-frequency conductance Noise in Metal-nanoparticle Embedded One-dimensional Conducting Polymer Nanotubes: Multiple Resistive Switching Phenomena, S. Bera, P. Das, B. Das, S. Mondal, P K Gupta, A. Bera, Sk Kalimuddin, Sk M. Ahamed, S. Gayen, M. Mondal* and Sudip Malik* *Materials Today Nano.*, **22**, 100312 (2023).[IF:13.34]
3. Fully Organic Electroactive Monomers for Electrochromic Behaviors having High Coloration Efficiency and Long Cycle Stability towards Flexible Solid-State Electrochromic Device, S. Nad, R. Jana, A. Datta and Sudip Malik*, *J. Electroanal. Chem.*, 918, 112484 (2022).[IF:4.598]

Prof. Suhrit Ghosh

1. R. Barman, R. Bej, P. Dey and S. Ghosh, "Cisplatin-Conjugated Polyurethane Capsule for Dual Drug Delivery to Cancer Cell". *ACS Appl. Mater. Interfaces* **2023**, DOI:10.1021/acsami.2c22146.[IF:10.38]
2. A. Nag, K. Banerjee, R. Barman, J. Kar, D. P. Sarkar, S. S. Jana and S. Ghosh, "Direct Correlation between the Secondary Structure of an Amphiphilic Polymer and its Prominent Antiviral Activity". *J. Am. Chem. Soc.* **2023**, *145*, 579–584.[IF:16.38]
3. R. Khamrui, R. Manna, P. Rajdev, A. Paul and S. Ghosh, "Impact of the Hydrogen-Bonding Functional Group on Hydrogelation of Amphiphilic Naphthalene-diimide Derivatives and Non-specific Protein Adsorption" *ACS Appl. Bio Mater.* **2022**, *5*, 5410–5417.[IF: not known yet]
4. S. Barman, S. Bandyopadhyay, A. Ghosh, S. Das, T. Mondal, A. Datta, S. Ghosh and A. Datta, "Ferroelectricity in Hydrogen-Bonded Alternating Donor-

- Acceptor Supramolecular Copolymer” *Chem. Commun.* **2022**, 58, 10508–10511.[IF:6.22]
5. S. Bera, R. Barman and S. Ghosh, “Hyperbranched vs. Linear Poly(disulfide) for Intra-cellular Drug Delivery” *Polym. Chem.* **2022**, 13, 5188-5192.[IF: 5.36]
 6. R. Barman, D. S. Ray, V. K. Aswal and S. Ghosh, “Chain-Folding Regulated Self-Assembly, Outstanding Bactericidal Activity and Biofilm Eradication by Biomimetic Amphiphilic Polymers” *Polym. Chem.* **2022**, 13, 4384-4394.[IF: 5.36]
 7. R. Barman, P. Rajdev, T. Mondal, P. Dey and S. Ghosh, “Amphiphilic Alternating Copolymers with Adjustable Lower Critical Solution Temperature (LCST) and Correlation with Non-specific Protein Adsorption” *ACS Appl. Polym. Mater.* **2022**, 4, 5261–5268.[IF:4.85]
 8. G. Ghosh, A. Chakraborty, P. Pal, B. Jana and S. Ghosh, “Direct Participation of Solvent Molecules in the Formation of Supramolecular Polymers” *Chem. Eur. J.* **2022**, e202201082.[IF:5.02]

Prof. Surajit Sinha

1. Gupta, A.; Gupta, S.; Das, U. and Sinha, S. Guanidinium Functionalized Flexible Azaproline Transporter for Efficient Intracellular Delivery of Proapoptotic Peptide and PDL1 Antisense Morpholino Oligo in Human Carcinoma Cells In Vitro. *Bioconjugate Chem.* **2022**, 33, 907-917 <https://doi.org/10.1021/acs.bioconjugchem.2c00129>. [IF:6.069]
2. J. Kundu, A. Ghosh, U. Ghosh, A. Das, D. Nagar, S. Pattanayak, A. Ghose and S. Sinha: Synthesis of Phosphorodiamidate Morpholino Oligonucleotides Using Trityl and Fmoc Chemistry in an Automated Oligo Synthesizer. *J. Org. Chem.* **2022**, 87, 15, 9466–9478.[IF:4.198]
3. Das, O.; Kundu, J.; Ghosh, A.; Gautam, A.; Ghosh, S.; Chakraborty, M.; Masid, A.; Gauri, S. S.; Mitra, D.; Dutta, M.; Mukherjee, B.; Sinha, S.; Bhaumik, M. AUF-1 knock down in mice overarches butyrate driven hypo-cholesterolemia by conjuring 1 AUF-1-Dicer-1-miR122 hierarchy. *bioRxiv* **2022**, <https://doi.org/10.1101/2022.06.13.496022> *Front. Cell. Infect. Microbiol.* **2022**, 1-20 (doi: 10.3389/fcimb.2022.1011386).[IF:6.073]
4. Gupta, S.; Das, U.; Sinha, S. IGT mediated Nanog siRNA delivery in prostate cancer cells improves chemosensitization of Epirubicin *in vitro*. *Bioorg. Med. Chem. Lett.* **2022**, <https://doi.org/10.1016/j.bmcl.2022.129017>. [IF:2.94]
5. Ghosh, U.; Gupta, S. and Sinha, S. Synthesis of 5'-Thiol Functionalized Morpholino Oligo-nucleotide and Subsequent Conjugation with IGT to Improve Delivery and Antisense Efficacy *In Vitro*. *Bioconjugate Chem.* **2023**, 34, 174–180, <https://doi.org/10.1021/acs.bioconjugchem.2c00587> [IF:6.069]

6. Das, A.; Gupta, S.; Sinha, S. C5-Pyrimidine-Functionalized Morpholino Oligonucleotides Exhibit Differential Binding Affinity, Target Specificity and Lipophilicity. *Org. Biomol. Chem.* 2023, **21**, 1242 - 1253 <https://doi.org/10.1039/D2OB01759H>. [IF:3.89]
7. Ghosh, A.; Akabane-Nakata, M.; Kundu, J.; Harp, J. M.; Madaoui, M.; Egli, M.; Manoharan, M.; and Sinha, S. Synthesis and Biophysical Properties of Phosphorodiamidate Piperidino Oligomers (PPOs). *Org. Lett.* **2023**, 25, 6, 901–906, 10.1021/acs.orglett.2c04067 (Cover art) [IF:6.072]

Books Chapter :

1. *Cis*-Amide Stabilizing Proline Analogs: Synthesis and Applications https://doi.org/10.1142/9789811261664_0001, 1-24.

School of Biological Sciences

Prof. Arindam Banerjee

1. Surface Modification of Carbon Dots via Covalent Peptide Conjugation - Niladri Hazra, Soumyajit Hazra, Subir Paul, Arindam Banerjee, *Chem. Commun.*, 2023, **59**, 4931–4934.[IF: 6.065]
2. Polythiophene-g-Poly (methacrylic acid) and Perylene Diimide Appended Peptide Conjugates with Tuneable Photoluminescence, OMEIC and Photo-switching Properties - Soumyajit Hazra, Arindam Banerjee and Arun K. Nandi *J. Mater. Chem. C*, 2023, **11**, 4808–4819.[IF:8.067]
3. Metallogels from Silver Nanoparticles and Peptide Nanofibers as Antimicrobial Surfaces – Dipayan Bairagi, Purnadas Ghosh, Priyanka Roy, and Arindam Banerjee , *ACS Appl. Nano Mater.* 2023, **6**, 2299–2309.[IF:6.14]
4. Organic Mixed Ion-Electron Conductivity in Polymer Hybrid Systems - Soumyajit Hazra, Arindam Banerjee and Arun K. Nandi *ACS Omega*, 2022, **7**, 2849–32862.[IF:4.13]
5. Amino acid containing amphiphilic hydrogelators with antibacterial and antiparasitic activity - Biplab Mondal, Vivek Kumar Gupta, Biswanath Hansda, Arpita Bhoumik, Tanushree Mondal, Hemanta K. Majumder, Charlotte J. C. Edwards-Gayle, Ian W. Hamley, Parasuraman Jaisankar and Arindam Banerjee, *Soft Matter*, 2022, **18**, 7201–7216.[IF:4.046]

6. A Nanohybrid Containing Cyan-Emitting Copper Nanoclusters and TiO₂ Nanoparticles: Tuning of Optoelectronic Properties – Dipayan Bairagi, Soumyajit Hazra, Kingshuk Basu and Arindam Banerjee, *Chemistry Select*, 2022 (doi.org/10.1002/slct.202201701).[IF:2.307]
7. Yellow Emitting Carbon Dots for Selective Fluorescence Imaging of Lipid droplets in Living Cells - Subir Paul, Anindita Bhattacharya, Niladri Hazra, Kousik Gayen , Prosenjit Sen and Arindam Banerjee, *Langmuir*, 2022, **38**, 8829–8836.[IF:4.33]
8. Copper Nanoclusters for Catalytic Carbon-Carbon and Carbon-Nitrogen Bond Formations - Biplab Mondal, Kingshuk Basu, Rajkumar Jana, Partha Mondal, Biswanath Hansda, Ayan Datta and Arindam Banerjee, *ACS Appl. Nano Mater.* 2022, **5**, 6, 7932–7943.[IF:6.14]

Prof. Benu Brata Das

1. Bhattacharjee S, Rehman I, Basu, S., Nandy S, Richardson J., Das, B.B*. The interplay between symmetric argininedimethylation and ubiquitylation regulates TDP1 proteostasis for the repair of topoisomerase I-DNA adducts. *CellReports*, 2022, **39**,110940.[IP:9.99]
2. Roy Chowdhury S., Das SK., Banerjee B., Paul Chowdhuri S., Majumder H.K., and Das, B.B*. TDP1 knockout *Leishmania donovani* accumulate Topoisomerase1-linked DNA damage and are hypersensitive to clinically used antileishmanial drugs, *TheFASEBJournal*, 2022, 36(4): e22265.[IF:5.84]
3. Bhattacharjee S, Rehman I, Nandy S, Das, B.B*. Post-translational regulation of Tyrosyl-DNA phosphodiesterase(TDP1 and TDP2) for the repair of the trapped topoisomerase-DNA covalent complex. *DNA Repair (Amst)*. 2022;111:103277. [IF:4.4]

Prof. Deepak Kr. Sinha

1. Probing the role of macromolecular crowding in cell volume regulation using fluorescence anisotropy Parijat Biswas, Dipanjan Ray, Subhamoy Jana, Jibitesh Das, Bidisha Sinha, Deepa Kumar Sinha⁸bioRxiv 2022.04.07.487477; doi: <https://doi.org/10.1101/2022.04.07.487477>(a [ls](#)o under review in *elife*)
2. JOCES/2023/261133, Size, location and metabolism are key regulators for lipid droplets' composition in zebrafish embryos: A polarity sensitive spectral imaging investigation Sudipta

Sarkar, Subhasis Mandal, Nandana Nanda, Sayani Haldar, Prosenjit Sen, and Deepak Sinha*
(*Journal of cell sciences*, Under review since march 2023)

Prof. Prasanta Kr. Das

1. Naphthalimide-based azo-functionalized supramolecular vesicle in hypoxia-responsive drug delivery - D Sarkar, M Chowdhury, and PK Das. *Langmuir* 2022, **38**, 3480-3492.[IF:4.331]
2. Folic acid functionalized carbon dot enabled starvation therapy in synergism with paclitaxel against breast cancer.” A Ghosh, AK Ghosh, M Chowdhury and PK Das. *ACS Appl. Bio Mater* 2022, **5**, 2389-2402.
3. Co²⁺ Doped Biotinylated Carbon Dot: A Theranostic Agent for Target Specific Killing of Cancer Cells via Hypoxia Induced Apoptosis.M Chowdhury, S Pal, A Ghosh and P K Das. *Chem. Eur. J.* 2023, e202300928.[IF:5.02]
4. Organic nanoparticles with tunable AIE derived from amino acids appended naphthalenediimide based amphiphiles. D Sarkar, A K Ghosh, A H Khan and P K Das. *Journal of Molecular Liquids*, 2023. **382**, 121824.[IF:6.633]

Prof. Prosenjit Sen

1. A molecular dynamics simulation study to understand the effect of cholesterol and tissue factor palmitoylation on tissue factor-factor VIIa-factor Xa ternary complex in different lipid environments Suparna Banerjee, Prosenjit Sen *Journal of Thrombosis and Haemeostasis*, **21**, 912-932 (2023).[IF:16.04]
2. Late-Stage Functionalization: Total Synthesis of Beauveamide A and Its Congeners and Their Anticancer Activities. Sanu Saha, Sourya Shankar Auddy, Akash Chatterjee, Prosenjit Sen, and Rajib Kumar Goswami *Org. Lett.*, **24**, 7113–7117, (2022).[IF:6.072]
3. Amino acid triggered water-soluble NBD derivatives for differential organelle staining and the role of the chemical moiety for their specific localization. Subhasis Mandal, Arpana Singh, Subhojit Paul, Arnab Ghosh, and Prosenjit Sen *Chem Asian J.* 2022, **17**, e2022008 (2022) doi.org/10.1002/asia.202200837.[IF:4.568]
4. Elucidation of signaling pathways for enhanced exosome release from Mycobacterium infected macrophages and subsequent induction of differentiation.

- Arpana Singh, Kaushik Das, Sampali Banerjee, Prosenjit Sen *Immunology*, **168**, 63–82 (2023). [IF:7.397]
5. Yellow-Emitting Carbon Dots for Selective Fluorescence Imaging of Lipid Droplets in Living Cells Subir Paul, Anindita Bhattacharya, Niladri Hazra, Kousik Gayen, Prosenjit Sen, and Arindam Banerjee *langmuir*, **38**, (2022), 8829–8836. [IF:4.331]
 6. Amphiphilic Perylene Bisimide-Polymer Conjugates by Cystein –Based Orthogonal Strategy: vascular Aggregation, DNA binding, and Cell Imaging .Mahuya Kar, Md Anas, Palash Banerjee, Arpana Singh, Prosenjit Sen, and Tarun k. Mandal, *ACS Appl.Polym.Mater*, **4**, 3697-3710,(2022). [IF:4.855]
 7. Ion-/Thermo-Responsive fluorescent perylene-poly (ionic liquid) conjugates: One-pot microwave synthesis, self-aggregation and biological applications Mahuya Kar , Mahammad Anas , Arpana Singh , Ambuz Basak , Prosenjit Sen , Tarun K. Mandal. *European Polymer Journal* ,**179** ,111561 (2022). [IF:5.546]

Dr. Ritesh Ranjan Paul

1. Kaplan, M.; Oikonomou, C. M.; Wood, C. R.; Chreifi, G.; Ghosal, D.; Dobro, M. J.; Yao, Q.; Pal, R. R.; Baidya, A. K.; Liu, Y.; et al. Discovery of a Novel Inner Membrane-Associated Bacterial Structure Related to the Flagellar Type III Secretion System. *J Bacteriol* **2022**, *204* (8), e0014422. DOI: 10.1128/jb.00144-22. [IF:3.476]
2. Sharma, H.; Mondal, J.; Ghosh, A. K.; Pal, R. R.; Goswami, R. K. Total synthesis of the antibacterial polyketide natural product thailandamide lactone. *Chem Sci* **2022**, *13* (45), 13403-13408. DOI: 10.1039/d2sc04727f. [IF:9.969]
3. Stolovich-Rain, M.; Kumari, S.; Friedman, A.; Kirillov, S.; Socol, Y.; Billan, M.; Pal, R. R.; Das, K.; Golding, P.; Oiknine-Djian, E.; et al. Intramuscular mRNA BNT162b2 vaccine against SARS-CoV-2 induces neutralizing salivary IgA. *Front Immunol* **2022**, *13*, 933347. DOI: 10.3389/fimmu.2022.933347. [IF:8.787]
4. Zacharia, A.; Pal, R. R.; Katsowich, N.; Mannully, C. T.; Ibrahim, A.; Alfandary, S.; Serruya, R.; Baidya, A. K.; Ben-Yehuda, S.; Rosenshine, I.; et al. Activation of the Type III Secretion System of Enteropathogenic Escherichia coli Leads to Remodeling of Its Membrane Composition and Function. *mSystems* **2022**, *7* (3), e0020222. DOI: 10.1128/msystems.00202-22. [IF:7.324]

Prof. Rupa Mukhopadhyay

1. The XNAs - A Troubleshooter for Nucleic Acid Sensing, Tanushree Mana, Budhaditya Bhattacharya, Hiya Lahiri and Rupa Mukhopadhyay*, *ACS Omega*, **7**, 15296-15307 (2022) (*Invited Minireview*).[IF:4.132]

Prof. S.S. Jana

1. Assembly and disassembly dynamics of nonmuscle myosin II control endosomal fission. Kar J, Kar S, Gupta A, Jana SS. *Cell Reports*. Feb 11;42(2):112108. (2023).[IF:9.99]
2. Direct Correlation between the Secondary Structure of an Amphiphilic Polymer and Its Prominent Antiviral Activity. Nag A, Banerjee K, Barman R, Kar J, Sarkar DP, Jana SS, Ghosh S. *J Am Chem Soc*. Jan 11;145(1):579-584. (2023).[IF:16.38]

School of Chemical Sciences

Prof. Abhishek Dey

1. S Bhunia, A Ghatak, A Rana, A Dey Amine Groups in the Second Sphere of Iron Porphyrins Allow for Higher and Selective $4e^-/4H^+$ Oxygen Reduction Rates at Lower Overpotentials, *J. Am. Chem. Soc.* **2023**, 145, 3812-3825.[IF:16.38]
2. S Chattopadhyay, S Samanta, A Sarkar, A Bhattacharya, S Patra, **A Dey**, Silver Nanostructure Modified Graphite Electrode for In-operando SERRS Investigation of Iron Porphyrins during High Potential Electrocatalysis, *J. Chem. Phys.*, **2023**, 158, 044201 [IF:4.30]
3. A. Ghatak, S. Samanta, A. Nayek, S. Mukherjee, S. Ghosh Dey, **A Dey** Second-Sphere Hydrogen-Bond Donors and Acceptors Affect the Rate and Selectivity of Electrochemical Oxygen Reduction by Iron Porphyrins Differently, *Inorg. Chem.* **2022**, 61, 33, 12931–12947.[IF:5.60]
4. A. Nayek, Md E. Ahmed, S. Samanta, S. Dinda, S. Patra, S. G. Dey and **A Dey** Bioinorganic Chemistry on Electrodes: Methods to Functional Modeling, *J. Am. Chem. Soc.* **2022**, 144, 19, 8402–8429.[IF:16.38]
5. S. Bhunia, A. Ghatak, **A. Dey** Second Sphere Effects on Oxygen Reduction and Peroxide Activation by Mononuclear Iron porphyrins and Related Systems, *Chem. Rev.*, **2022**, 122, 14, 12370–12426.[IF:72.08]
6. A Sarkar, S Chattopadhyay, M Mukherjee, SG Dey, **A Dey** Assembly of redox active metallo-enzymes and metallo-peptides on electrodes: Abiological constructs to probe natural processes, *Curr. Op. Chem.Biol.*, **2022**68, 102142.[IF:8.97]
7. Md E. Ahmed, A. Nayek, A. Krizan, N. Coutard, A. Morozan, S. Dey, R. Lomoth, L. Hammarström, V. Artero, **A. Dey** A Bidirectional Bio-Inspired [FeFe]-Hydrogenase Model *J. Am. Chem. Soc.* **2022**, 144, 8, 3614–3625.[IF:16.38]
8. Sk Amanullah, P. Saha, **A. Dey**, Selectivity in Electrochemical CO₂ Reduction *Acc. Chem. Res.* **2022**, 55, 134–144.[IF:24.46]

9. A. Singha, K. Mittra, **A. Dey** Synthetic heme dioxygen adducts: electronic structure and reactivity, *Trends in Chemistry*, **2022**, 4, 15-31.[IF:22.48]

Prof. Amit Majumdar

1. Catalytic Hydrolysis of Thiolates to Alcohols - Ganguly, T.; Bera, A.; Chakraborty, A.; Majumdar, A., *Inorg. Chem.* **2022**, 61, 7377-7386.[IF: 5.60]
2. Polysulfido Chain in Binuclear Zinc(II) Complexes" Hossain, K.; Majumdar, A., *Inorg. Chem.* **2022**, 61, 6295-6310.[IF: 5.60]
3. Binuclear Manganese(II)-Thiolate Complexes: Synthesis, Characterization and Nitrite Induced Structural Changes - Naskar, T.; Jana, M.; Majumdar, A., *J. Mol. Struct.* **2022**, 1262, 133041.[IF:3.841]

Prof. Ankan Paul

1. Room-Temperature Synthesis of 1,3,5-Tri(het)aryl Benzene from Nitroalkenes Using Pd(OAc)₂: Complete Mechanistic and Theoretical Studies - S P Midya, S Mondal, A S M Islam, A Rashid, S Mondal, A Paul and P Ghosh*, *Org. Lett.*, **24**, 4438–4443 (2022).[IF :6.072]
2. Decoding regioselective reaction mechanism of gentisic acid catalyzed by the gentisate 1,2-dioxygenase enzyme - R Nath, R N manna and A Paul*, *Catal. Sci. Technol.*, **12**, 5742-5751 (2022).[IF :6.177]
3. Uncovering the Synchronous Role of Bis-borane with Nucleophilic Solvent as Frustrated Lewis Pair in Metal-Free Catalytic Dehydrogenation of Ammonia-borane- M Sultana, I Bhattacharjee, S Bhunya and A Paul, *Eur. J. Inorg. Chem.*, **e202200311**(2022).[IF:2.551]
4. Impact of the Hydrogen-Bonding Functional Group on Hydrogelation of Amphiphilic Naphthalene-diimide Derivatives and Nonspecific Protein Adsorption—R Khamrui, R N Manna, P Rajdev, A Paul* and S Ghosh*, *ACS Appl. Bio Mater.*, **5**, 5410–5417 (2022). [IF:3.25]
5. Understanding photoenolization of O-methyl acetophenone, and its subsequent [4 + 2] and 1,4 addition of its photoproduct from an aromaticity perspective- D Halder, A K Ray and A Paul *, *J. Phys. Org. Chem.*, **36**, e4456 (2023).[IF:2.155]
6. Mechanism of B-H Redistribution during Reduction of Polyborazylene by Hydrazine- SBhunya, P M Zimmerman and A Paul*, *Eur. J. Inorg. Chem.*, **e202200784** (2023).[IF: 2.551]
7. Metal-Ligand Cooperativity in Mn^I-Catalysed N-Formylation of Secondary Amides and Lactams Using CO₂ at Room Temperature - S Chakraborty, R Nath, A K Ray, A Paul* and S K Mandal*, *Chem. Eur. J.*, **29**, e202202710 (2023).[IF:5.02]

Dr. Avishek Das

1. Atomistic Pictures of Self-Assembled Helical Peptide Nanofibers – Rumela Adhikary and Avishek Das*, *J. Phys. Chem. B*, 126,9476-9492 (2022).[IF:3.466]

Prof. Ayan Datta

1. Two dimensional materials are non-nanotoxic and biocompatible towards cyclotides: evidence from classical molecular dynamics simulations - A Ghosh, TK Mukhopadhyay, Ayan Datta* *Nanoscale*, 2023, 15 (1), 321-336.[IF:7.5]
2. External Electric Field Induces a Mechanistic Crossover in the Reactivity of 1,3- Dienes with Sulfur Dioxide: Sulfolene Versus Sultine - C. Hajra, S. Mandal, and Ayan Datta*, *J. Org. Chem.* 2023, 88, 917–923.[IF:4.5]
3. [(Flu)-(CH₂)₂-(NHC)-CH₂-(NHC)-(CH₂)₂-(Flu)]₂–: an ‘all-organic’hybrid and flexible ligand that enwraps a Ca²⁺ pseudo-tetrahedrally - S Baguli, S Das, M Chakraborty, S Goswami, Ayan Datta*, D Mukherjee*. *Chemical Communications* 2022, 58, 12188-12191.[IF:6.5]
4. A highly contorted push–pull naphthalenediimide dimer and evidence of intramolecular singlet exciton fission - D Bansal, A Kundu, VP Singh, AK Pal, A Datta, J Dasgupta, P Mukhopadhyay, *Chemical Science*, 2022, 13, 11506– 11512.[IF:10.5]
5. Rational Design of Biaxial Tensile Strain for Boosting Electronic and Ionic Conductivities of Na₂MnSiO₄ for Rechargeable Sodium-Ion Batteries - G Sakata Gurmesa, T Teshome, N ErmiasBenti, G AyalehTiruye, Ayan Datta, Y S Mekonnen, C A Geffe. *Chemistry Open* 11 (6), e202100289.[IF:2.5]
6. Negative Thermal Expansion Induced in Tri-graphene and T-graphene by the Rigid- Unit Modes, S. Mondal, Ayan Datta*, *J. Am. Chem. Soc.*, 2022, 144, 16703– 16707.[IF:14.5]
7. Deciphering the Role of Substitution in Transition-Metal Phosphorous Trisulfide (100) Surface: A Highly Efficient and Durable Pt-free ORR Electrocatalyst, R. Jana, C. Chowdhury, A. Datta*, *ChemPhysChem*, 2022, 23, e202200013.[IF:3.5]
8. Metal-Free Kinugasa Reaction Catalyzed by External Electric Field, S. Mandal, Ayan Datta*, *J. Phys. Org. Chem.* 2022, 35, e4327 (A Special Issue in honour of Prof. Barry Carpenter).[IF:3.5]
9. Understanding the Regioselectivity of Ion-pair-Assisted Meta-Selective C(sp²)-H Activation in Conformationally Flexible Arylammonium Salts, P. Mondal, R. Pal, A. K. Pal, S. Das, A. Misra, Ayan Datta*, *J. Org. Chem.* 2022, 87, 9222-9231.[IF:4.5]
10. Performance of Nitrogen Reduction Reaction on Metal Bound g-C₆N₆: Combined Approach of Machine Learning and DFT - M. Mukherjee, S. Dutta, M. Ghosh, P. Basuchowdhuri, Ayan Datta*, *PCCP*, 2022, 24, 17050 - 17058. (Published in a special issue on the Festschrift of Prof. Wolfgang E. Ernst).[IF:4.5]

11. Ferroelectricity in a hydrogen-bonded alternating donor–acceptor supramolecular copolymer - S. Barman, S. Bandopadhyay, A. Ghosh, S. Das, T. Mondal, Ayan Datta, S. Ghosh, A. Datta, *Chem. Commun.*, 2022, 58, 10508-10511.[IF:6.222]
12. Thiazole Containing PNA Mimic Regulates c-MYC Gene Expression through DNA G-Quadruplex - A. Gorai, R. Chaudhuri, T. K. Mukhopadhyay, Ayan Datta, J. Dash, *Bioconjugate Chem.* 2022, 33, 1145 - 1155.[IF:4.5]
13. Fully organic electroactive monomers for electrochromic behaviors having high coloration efficiency and long cycle stability towards flexible Solid-State electrochromic device - S. Nad, R. Jana, Ayan Datta, S. Mallick, *J. Electroanal. Chem.* 2022, 918, 116484.[IF:3.5]
14. Copper Nanoclusters for Catalytic Carbob-Carbon and Carbon-Nitrogen Bond Formations - B. Mondal, K. Basu, R. Jana, P. Mondal, B. Hansda, Ayan Datta*, A. Banerjee*, *ACS Appl. Nano Mater.* 2022, 5, 7932 - 7943.[IF:7.5]
15. Compression Produces a Square-Planar Iron Tetracarbonyl - P. Gain, S. Das, Ayan Datta*, *Inorg. Chem.* 2022, 61, 9055 - 9062.[IF:4.5]
16. Epitaxial Orientation Angle Tuned Disk-on-Rod Nanoheterostructures for Boosting Charge Transfer. S. Sen, R. Jana, S. Bera, S. Shyamal, P. Sahu, Ayan Datta, N. Pradhan, *J. Phys. Chem. Lett.* 2022, 13, 3804-3811.[IF:6.5]
17. A Hierarchical (Macro)molecular Assembly Assisted by Donor-Acceptor Charge- Transfer Interactions Exhibiting Room-Temperature Ferroelectricity - A. Mukherjee, S. Barman, A. Ghosh, Ayan Datta, A. Datta, S. Ghosh, *Angew. Chem. Int. Ed.* 2022, e202203817.[IF:12.5]
18. Substituent Effect of Benzyl Moiety in Nitroquinoxaline Small Molecule upon DNA Binding: Cumulative Destacking of DNA Nucleobases Leading to Histone Eviction - R. Pal, J. Chakraborty, T. K. Mukhopadhyay, A. Kanungo, R. Saha, A. Chakraborty, D. Patra, Ayan Datta, S. Dutta, *Eur. J. Med. Chem.* 2022, 229, 113995.[IF:6.5]
19. Remarkable CO_x Tolerance of Ni(III) active Species in Ni₂O₃ Catalyst for Sustained Electrochemical Urea Oxidation - M Safeer NK, C Alex, Ayan Datta, N. S. John, *J. Mater. Chem. A* 2022, 10, 4209 - 4221.[IF:8.5]
20. Stereoelectronic and Dynamical Effects Dictate Nitrogen Inversion During Valence Isomerism in Benzene Imine - N. Mandal, A. Das, C. Hajra, Ayan Datta, *Chem. Sci.* 2022, 13, 704-712.[IF:10.0]
21. Stable room temperature ferroelectricity in hydrogen-bonded supramolecular assemblies of ambipolar π -systems - A. Mukherjee, S. Barman, A. Ghosh, S. Chakraborty, Ayan Datta, A. Datta, S. Ghosh, *Chem. Sci.*, 2022,13, 781-788.[IF:10.0]

22. Adsorbate-Induced Phase Transformation of Ambient Stable Noncubic Lattices in Au Microcrystallites - C. Sow, R. Jana, G. Mettela, Ayan Datta, G. U. Kulkarni, *J. Phys. Chem. C* 2022, 126, 823–831.[IF:4.5]

Prof. Biman Jana

1. Road-blocker HSP disease mutation disrupts pre-organization for ATP hydrolysis in kinesin through a second sphere control - Rabindranath Manna, José Onuchic*, and Biman Jana*, *PNAS*, **120**, e2215170120, (2023).[IF:12.779]
2. Real-time Observation of Macroscopic Helical Morphologies under OM: A Curious Case of π - π Stacking Driven Molecular Self-assembly of an Organic Gelator Devoid of Hydrogen Bonding- Sourabh Bera, Sushmita Basu, Biman Jana*, and Parthasarathi Dastidar*, *Angew. Chem.*, **135**, e202216447, (2022).[IF:15.336]
3. Number of Hydrogen Bonds Per Unit Solvent Accessible Surface Area: A descriptor of functional states of protein. Prasun Pal, Sandipan Chakraborty*, and Biman Jana*. *J. Phys. Chem. B.*, **126**, 10822-10833, (2022).[IF:3.466]
4. Molecular Factors of Ice Growth Inhibition for Hyperactive and Globular Antifreeze Proteins: Insights from Molecular Dynamics Simulation. Prasun Pal, Rahul Aich, Sandipan Chakraborty*, and Biman Jana*. *Langmuir.*, **38**, 15132-15144, (2022).[IF: 4.331]
5. Identifying the Template for Oligomer to Fibril Conversion for Amyloid- β (1-42) oligomers using Hamiltonian Replica Exchange Molecular Dynamics. Debasis Saha, and Biman Jana*, *ChemPhysChem.*, **23**, e202200393, (2022).[IF:3.52]
6. Direct Participation of Solvent Molecules in the Formation of Supramolecular Polymers. Goutam Ghosh, Anwesha Chakraborty, Prasun Pal, Biman Jana*, and Suhrit Ghosh*. *Chem. Eur. J.*, **28**, e202201082, (2022).[IF:5.236]

Prof. Debasree Ghosh

1. Machine learning matrix product state ansatz for strongly correlated systems - S.K. Ghosh and D. Ghosh, *J. Chem. Phys.*, **158**, 064108 (2023).[IF:4.304]
2. Active learning assisted MCCI to target spin states - K. Seth and D. Ghosh, *J. Chem. Theory Comput.*, **19**, 524 (2023).[IF:6.578]
3. Curious case of singlet triplet gaps in nonlinear polyaromatic hydrocarbons - M. Dey and D. Ghosh, *J. Phys. Chem. Lett.*, **13**, 11795 (2022).[IF:6.88]

4. 4. Mechanism of singlet fission in carotenoids from a polyene model system - S. Santra, J. Ray and D. Ghosh, *J. Phys. Chem. Lett.*, **13**, 6800 (2022).[IF:6.88]
5. 5. Substitution enables significant new decay channels for a non-canonical amino acid - P. Ghosh, T. Nandy, P.C. Singh and D. Ghosh, *Phys. Chem. Chem. Phys.*, **24**, 17695 (2022).[IF:3.676]
6. 6. Photo-processes in biology: A glimpse from computational chemistry and machine learning - D. Ghosh and A. Choudhury, *Asia Chem*, 3(1), 86 (2023).[IF:3.488]

Prof. Harapriya Rath

1. Metallocene incorporated Hybrid Singly N-methyl N-confused Calixphyrins: Synthesis, Characterization, Protonation and deprotonation Studies - Nyancy Halder, M. Jana, S. Kottekad, D. Usharani, * and Harapriya Rath* *Chem. Asian J.* 2022, e202200108 [Invited article, Women in Chemistry-Special Issue].
2. Chemical transformation of Doubly N-Confused Porphodimethene to variants of (anti)Aromatic Doubly N-Confused Porphyrinoids and σ aromatic Doubly N-Confused Isophlorinoid - Nyancy Halder, S. Kottekad, D. Usharani* and Harapriya Rath* *Org. Chem. Front.*, 2022, 9, 2333-2342. (<https://bit.ly/3Jj0Y45>).[IF:5.456]
3. Fluoride ion Coordination-Induced Turn-On Fluorescence of Tailored N-Methyl N-Confused Tripyrromonomethene Analogues - Manik Jana, R. Narayanswamy, D. Usharani*, K. Tripathi and Harapriya Rath* *Org. Biomol. Chem.*, 2022, 20, 6741-6749.
4. N-protected pyrroles as synthons for variants of Core-modified N-confused Calixphyrins: Spectroscopic and Theoretical Characterization - Sumit Sahoo, A. Marzeena, D. Usharani* and Harapriya Rath* *J. Porphyrins Phthalocyanines*, 2022 [Invited Article on the occasion of 70th Birthday of Professor Tomas Torres: <https://doi.org/10.1142/S108842462250064X>].
5. NIR Absorbing Aromatic-Ethylene Bridged Hexaphyrins (2.1.1.2.1.1): Synthesis, Characterization, and Protonation Studies – Sumit Sahoo, M. H. Mahadavaiah, D.Usharani*and Harapriya Rath*, *Organic Letters*, 2023, 25 (9), 1491-1496 (Letter).[IF:6.072]

Dr. Joyram Guin

1. N-Heterocyclic Carbene Catalyzed Desymmetrization of Diols: Access to Enantioenriched Oxindoles Having C3-Quarternary Stereocenter - Sourav Dutta, Arko Porey, Joyram Guin*, *Chem. Commun.*, 2023, Accepted (DOI:10.1039/d3cc00489a).[IF : 6.07]
2. Asymmetric Aminative Dearomatization of 2-Naphthols via Noncovalent N-Heterocyclic Carbene Catalysis - Ujjwal Maji, Bhaskar Deb Mondal, Joyram Guin*, *Org. Lett.* 2023, 25, 2323-2327 (DOI: 10.1021/acs.orglett.3c00700).[IF:6.09]
3. Photocatalytic Incorporation of an Oxime Ether Functional Group at Inert C(sp³)-H Bonds via HAT Jayanta Dey, Subhasis Paul, Manotosh Bhakat, Joyram Guin* *Org. Lett.*, 2022, 24, 8047-8051 (DOI: 10.1021/acs.orglett.2c03300).[IF:6.09]

4. Photocatalytic Aerobic Coupling of Azaarenes and Alkanes via Nontraditional Cl• Generation - Manotosh Bhakat, Bitosik Khatua, Joyram Guin*, *Org. Lett.* 2022, 24, 5276–5280 (DOI: 10.1021/acs.orglett.2c01784).[IF:09]

Publications in Book Chapter :

1. Metal-Free Radical C-H Functionalization via Aldehyde Auto-Oxidation. In Handbook of CH-Functionalization, D. Maiti (Ed.). Wiley-VCH GmbH <https://doi.org/10.1002/9783527834242.chf0093> 1-32, 2022.

Prof. Jyotirmayee Dash

1. Cycloaddition of N-sulfonyl and N-sulfamoylazides with alkynes in aqueous media for the selective synthesis of 1, 2, 3-triazoles, T Prasanth, G Chakraborti, T Mandal, V Ravichandiran, , J Dash*, *Green Chemistry* 24 (2), 911-915.[IF:11.034]
2. Thiazole Containing PNA Mimic Regulates c-MYC Gene Expression through DNA Gquadruplex. A Gorai, R Chaudhuri, T K Mukhopadhyay, A Datta, J Dash*, *Bioconjugate Chem.* (2022) doi: 10.1021/acs.bioconjchem.2c00075 [IF:6.069]
3. Diastereoselective Reversible C-C Bond Exchange of Oxindole-Thiazolidinediones for Dynamic Combinatorial Chemistry. A. Gorai, G. Chakraborti, S. Basak, **J. Dash***, *Organic & Biomolecular Chemistry*, 20, 9307-9312(2022)[IF:3.876]
4. Expanding the Toolbox of Target Directed Bio-Orthogonal Synthesis: In Situ Direct Macrocyclization by DNA Templates. R. Chaudhuri, P. Thumapati, **J. Dash***, *Angew. Chem. Int. Ed.* (2022) 10.1002/ange.202215245 [IF:16.82]
5. Rapid Access to Substituted Indenones via Grignard Reaction and its Application in the Synthesis of Fluorenones using Ring Closing Metathesis N. Parui, T. Mandal, **J. Dash***, *European Journal of Organic Chemistry*. (2023)[IF:3.261]
6. Nucleic Acids as Templates and Catalysts in Chemical Reactions: Target-guided Dynamic Combinatorial Chemistry and In situ Click Chemistry and DNA/RNA Induced Enantioselective Reactions. P. Saha, D. Panda, **J. Dash***, *Chemical Society Reviews*. (2023) [IF:54.56]
7. Putative G-quadruplex Formation in the Upstream Region of mTOR Gene. K. Fatma, P. Saha, T. Das, J. Dash*, *ChemRxiv*, 2022, DOI: **10.26434/chemrxiv-2022-sfsd4-v2**.

Prof. Partha Sarathi Dastidar

1. Design, Synthesis and Structural Insights of a series of Zn(II)-NSAID Based Coordination Complex Derived Metallogels and Their Plausible Applications in Self-drug-delivery - Protap Biswas, Abhishek Dutta and Parthasarathi Dastidar*, *Cryst. Growth Des.* 2023, 23, 342–353.[IF:4.031]
2. Selective Separation of Hazardous Chemicals from Vapor phase by an Easily Accessible Breathing Coordination Polymer Derived from Terpyridyl/terephthalate Mixed Ligands - Sourabh Bera, Parthasarathi Dastidar*, *Chem. Eur. J.*, 2023, 29, e202203133[IF:5.02]
3. Weak Interactions Matter: Real-time Optical Microscopic Observation of Macroscopic Helical Morphologies Arising due to Molecular Self-assembly of a Small Organic Gelator Devoid of Hydrogen Bonding - Sourabh Bera, Sushmita Basu, Biman Jana* and Parthasarathi Dastidar*, *Angew. Chem. Int. Ed.*, 2023, 62(7), e202216447.[IF:15.336]
4. Designing Coordination Polymers as Multi-drug-self-delivery System for Tuberculosis and CancerTherapy: in vitro Viability and in vivo Toxicity Assessment - Protap Biswas , Hemanta Kumar Datta, and Parthasarathi Dastidar*, *Biomater. Sci.*, 2022, 10, 6201-6216.
5. Supramolecular Gels from Simple Bisamides of L-Phenylalanine: Synthesis, Structure and Material Applications - Utsab Manna, Rajdip Roy, Hemanta Kumar Datta and Parthasarathi Dastidar*, *ChemAsianJ.* 2022, e202200660
6. Nitrile Containing Terpyridyl Zn(II)-coordination Polymer Based Metallogelators Displaying Helical Structures: Design, Synthesis, Structures and The 'Drug-like' Action Against Melanoma Cells B16-F10 - Sourabh Bera, Hemanta Kumar Datta and Parthasarathi Dastidar*, *ACS Appl. Mater. Interface*, 2022, in press; <https://doi.org/10.1021/acsami.2c05338>. [IF:10.383]

Prof. Pradyut Ghosh

1. Merging Photocatalytic C–O Cross-Coupling for α -Oxycarbonyl- β - ketones: Esterification of Carboxylic Acids via a Decarboxylative Pathway - S. Mondal, S. Mondal, S. P. Midya, S. Das, S. Mondal, P. Ghosh*, *Org. Lett.* 2023, 25, 184-189.[IF:6.072]
2. Development and Application of Ruthenium(II) and Iridium(III) based Complexes for Anion Sensing - A. Rashid, S. Mondal, P. Ghosh*, *Molecules* 2023, 28(3), 1231. [IF:4.927]
3. Iridium(III) complex of fluorinated cyclometalating ligands and imidazolium-bipyridine as an effective lifetime based phosphates sensor - A. Rashid, S. Mondal, P. Ghosh*, *Inorg. Chim. Acta.* 2023, 121453.[IF:3.118]
4. Superiority of the Supramolecular Halogen Bond Receptor over Its H-Bond Analogue toward the Efficient Extraction of Perrhenate from Water - R. Ghosh, T. K. Ghosh, S. Pramanik, A.S.M. Islam, and P. Ghosh*, *ACS Appl. Mater. Interfaces* 2022, 000–000. [IF:10.380]
5. Room-Temperature Synthesis of 1,3,5-Tri(het)aryl Benzene from Nitroalkenes Using Pd(OAc)₂: Complete Mechanistic and Theoretical Studies - S. P. Midya, S. Mondal, A.S.M. Islam, A. Rashid, S. Mondal, A. Paul, P. Ghosh*, *Org. Lett.* 2022, 24, 4438–4443.[IF:6.072]

6. A Bis-heteroleptic Imidazolium-bipyridine Functionalized Iridium(III) Complex for Fluorescence Lifetime-based Recognition and Sensing of Phosphates - A. Rashid, S. Mondal, S. Mondal, P. Ghosh*, *Chem. Asian J.* 2022, 17, e2022003. [IF:4.839]
7. NDI integrated rotaxane/catenane and their interactions with anions - M. Nandi, S. Bej, P. Ghosh*, *Dalton Trans.* 2022, 51, 13507-13514.[IF:4.569]
8. Development of fluorophoric [2]pseudorotaxanes and [2]rotaxane: Selective sensing of Zn(II), S. Bej, M. Nandi, and P. Ghosh*, *Org. Biomol. Chem.*, 2022, 20, 7284-7293.[IF:3.890]

Prof. Prashant Ch. Singh

1. Understanding of the interactions of biological macromolecules with lipids using vibrational sum-frequency generation spectroscopy - S. Sarkar, A. Bisoi, P.C. Singh*, *J Raman Spectrosc*, 2022, 53, 1828.[IF:2.727]
2. Contrasting Effect of Salts on the Binding of Antimalarial Drug Hydroxychloroquine with Different Sequences of Duplex DNA - A. Bisoi†, S. Sarkar†, P.C. Singh*, *J. Phys. Chem. B*, 2022, 126, 4, 5605-4612.[IF:3.466]
3. Substitution enables significant new decay channels in non-canonical amino acid - P. Ghosh, T. Nandy, P.C. Singh*, D. Ghosh*. *Phys. Chem. Chem. Phys.*, 2022, 24, 17695.[IF:3.676]
4. Spectroscopic and Molecular Dynamics Aspect of Antimalarial Drug Hydroxychloroquine Binding with Human Telomeric G-Quadruplex - S. Sarkar*, A. Bisoi, P.C. Singh*, *J. Phys. Chem. B*, 2022, 126, 4, 5641-5249.[IF:3.366]
5. pH Regulates Ligand Binding to an Enzyme Active Site by Modulating Intermediate Populations - Kushal Singh, Aswathy N. Muttathukattil, Prashant Chandra Singh, Govardhan Reddy*, *J. Phys. Chem. B*, 2022, 126, 47, 9759-9770.[IF:3.366]
6. DNA-induced Reorganization of Water at Model Membrane Interfaces Investigated by Heterodyne-Detected Vibrational Sum Frequency Generation Study - P.C. Singh, M. Ahmed, S. Nihonyanagi*, S. Yamaguchi, T. Tahara*, *J. Phys. Chem. B*, 2022, 126, 4, 840-846.[IF:3.366]
7. Protonation State of Dopamine Neurotransmitter at the Aqueous Interface: Vibrational Sum Frequency Generation Study - B. Biswas and P.C. Singh*, *Langmuir*, 2022, 38, 4, 1380-1385.[IF:4.331]
8. Role of the weak noncovalent interactions in the stability of the aggregated protonated dopamine in the aqueous solution: Spectroscopic and quantum chemical calculation studies - A. Chowdhury and P.C. Singh*, *J. Chem. Sci.*, 2022, 134, 25

Prof. Rajib Kr. Goswami

1. Total Synthesis of Antibacterial Polyketide Natural Product ThailandamideLactone - Himangshu Sharma, Joyanta Mondal, Ananyo K. Ghosh, Ritesh Ranjan Pal and Rajib Kumar Goswami*; *Chem. Sci.*, 13, 13403-13408(2022).[IF:9.97]
2. Late-Stage Functionalization: Total Synthesis of Beauveamide A & its Congeners and Their Anticancer Activities - Sanu Saha, Sourya Shankar Auddy, Akash Chatterjee, Prosenjit Sen and Rajib Kumar Goswami*; *Org. Lett.*, 39, 7113-7117(2022).[IF:6.07]
3. Stereoselective Synthesis of Acyclic Skeleton of Boscartin A - Dhiman Saha, Moinul Haque Sahana, Gour Hari Mandal and Rajib Kumar Goswami*; *Synlett*, 33, 1943-1947(2022).[IF:2.37]
4. Total Synthesis of Strasseriolide A - Moinul Haque Sahana, Dhiman Saha and Rajib Kumar Goswami*; *J. Org. Chem*, 17, 11805–11815(2022) [IF:4.19]
5. Synthesis of Key Skeleton of Phosphoeleganin - Gour Hari Mandal, Dhiman Saha, Sourya Shankar Auddy and **Rajib Kumar Goswami***; *Synlett*, 34, 673-677(2023).[IF:2.37]

Prof. Raju Mondal

1. A Silver Based Integrated System Showing Mutually Inclusive Super Protonic Conductivity and Photo-Switching Behaviour - S.Saha, K. S. Das, P. Pal, S. Hazra, A. Ghosh, S. Bala, A. Ghosh, A. K. Das, Raju Mondal,* *Inorg. Chem.*, 2023, 62, 3485–3497.[IF:5.436]
2. Magnetic and Electric Properties of Pyrazole Based MOFs Grafted With Sulfonic Moiety - S. Saha, M. Das, K. S. Das, R. Datta, S. Bala, J. –L. Liu, P. P. Ray,* and R. Mondal*, *Cryst. Growth & Des.*, 2023, 23, 1104–1118.
3. Synergistic Experimental And Theoretical Studies Of Luminescent-Magnetic Ln₂Zn₆ Clusters - S. Saha, K. S. Das, T. Sharma, S. Bala, A. Adhikary, G. –Z. Huang, M.-L.- Tong, A. Ghosh, B. B. Das, G. Rajaraman*, R. Mondal*, *Inorg. Chem.*, 2022, 61, 2141–2153.[IF:5.436]
4. A Nd₆ Molecular Butterfly: An Unique All-in-One Material for SMM, MCE and Maiden Photosensitized Opto-electronic Device Fabrication - K. S. Das, S. Saha, B. Pal, A. Adhikary, S. Moorthy, S. Bala, S. Akhtar, P. K. Ghosh, S. K. Singh,* P. P. Ray,* R. Mondal*, *Dalton Trans.*, 2022, 51, 1617–1633.[IF:4.569]
5. Design of Dual Purpose Fe-metallogel for Magnetic Refrigeration and Fabrication of Schottky Barrier Diode - S. Saha, B. Pal, K. S. Das, P. K. Ghose, A. Ghosh, A. De, A.K. Das, P.P. Ray,* R. Mondal*, *Chem Select*, 2022, [https://doi.org/ 10.1002/ slct. 202203307](https://doi.org/10.1002/slct.202203307).[IF:2.307]
6. Toxic Metal-Organic Gels Using a Unique Pyridine-Pyrazole Based Ligand with Pb(II), Cd(II) and Hg(II) Salts: Multi-stimuli Responsiveness and Toxic Dye Adsorption - M. Roy*, A. Adhikary, S. Saha, R. Mondal*, *Mater. Adv.*, 2022, 3, 7328– 7338.

Prof. Satrajit Adhikari

1. Accurate Calculation of Rate Constant and Isotope Effect for $F+H_2$ Reaction by Coupled 3D Time-dependent Wave Packet Method on the Newly Constructed *ab initio* Ground Potential Energy Surface - Koushik Naskar, Sandip Ghosh and Satrajit Adhikari; *J. Phys. Chem. A*, **126**, 3311 (2022).[IF:2.944]
2. Trajectory Surface Hopping vs. Quantum Scattering Calculations on D^++H_2 and $H+H_2^+$ Reactions using Ab-initio Surfaces and Couplings - Soumya Mukherjee, Saikat Hazra, Sandip Ghosh, Saikat Mukherjee and Satrajit Adhikari; *Chemical Physics*, **560**, 111588 (2022).[IF:2.348]
3. Construction of Beyond Born-Oppenheimer Based Diabatic Surfaces and Generation of Photoabsorption Spectra: The Touchstone Pyrazine ($C_4N_2H_4$) - Saikat Hazra, Soumya Mukherjee, Satyam Ravi, Subhankar Sardar and Satrajit Adhikari; *Chem. Phys. Chem.***23**, e202200482 (2022).[IF:3.52]
4. Effect of surface temperature on quantum dynamics of D_2 on Cu(111) using a chemically accurate potential energy surface - Joy Dutta, Koushik Naskar, Satrajit Adhikari, Joerg Meyer, and Mark Somers; *J. Chem. Phys.*,**157**, 194112 (2022). [IF:4.304]
5. Beyond Born-Oppenheimer Constructed Diabatic Potential Energy Surfaces for HeH_2^+ - Koushik Naskar, Satyam Ravi, Satrajit Adhikari, Michael Baer and Narayanasami Sathyamurthy; *J. Phys. Chem. A*, **127**, 3832 (2023).[IF:2.944]

Prof. Somdatta Ghosh Dey

1. Role of Redox Active Transition Metals in Alzheimer's Disease and Type 2 Diabetes - I Pal, S Ghosh Dey, *JACS Au*. **3**, 657 (2023).[IF:NA]
2. Spin State Dependent Peroxidase Activity of Heme bound Amyloid β Peptides Relevant to Alzheimer's Disease - A Nath, M Roy, C Dey, A Dey, SGhoshDey, *Chem. Sci.***13**, 14305(2022).[IF:9.969]
3. Heme/Cu-oxygen intermediates of amyloid β peptides associated with Alzheimer's disease - M Roy, S Ghosh Dey, *Advances in Inorganic Chemistry*, 81 of. **2022**.
4. Second-Sphere Hydrogen-Bond Donors and Acceptors Affect the Rate and Selectivity of Electrochemical Oxygen Reduction by Iron Porphyrins Differently - A Ghatak, S Samanta, ANayek, S Mukherjee, A Dey, S Ghosh,*Inorg., Chem.***61**, 12931 (2022).[IF:5.436]
5. Bio-inorganic Chemistry On Electrodes: Methods to Functional Modelling-A Nayek, M E Ahmed, S Samanta, S Dinda, SPatra, S GhoshDey, A Dey,*J. Am. Chem. Soc.***144**, 8402 (2022).[IF:16.383]
6. Second Sphere Interactions in Amyloidogenic Diseases - M Roy, A K Nath, I Pal, S Ghosh Dey, *Chem. Rev.* **122**, 12132, (2022).[IF:72.087]

Prof. Tapan K. Paine

1. Iron(II)- α -Keto Acid Complexes of Tridentate Ligands on Gold Nanoparticles: Effect of Ligand Geometry and Immobilization on Their Dioxygen-Dependent Reactivity - A Bera, D Sheet and T K Paine, *Dalton Trans.*, **52**, 1062 (2023).[IF:4.569]
2. Dioxygen Activation by Redox-Active Bis(aldimine) Ligand Bridged Diruthenium Complex Possessing Singlet Ground State - M Biswas, S Dey, A Das, T K Paine, S Panda and G K Lahiri, *Chem. Eur. J.*, **e202202088** (2022).[IF:5.03]
3. Dioxygen Activation and Mandelate Decarboxylation by Iron(II) Complexes of N₄ Ligands: Evidence for Dioxygen-Derived Intermediates from Cobalt Analogues - R D Jana, B Chakraborty, S Paria, T Ohta, R Singh, S Mandal, S Paul, S Itoh and T K Paine, *Inorg. Chem.* **61**, 10461 (2022).[IF:5.436]

Publications in Books Chapter :

1. Iron Catalyzed C-H Halogenation- R D Jana and T K Paine, Book Chapter for *Handbook of CH-Functionalization (CHF)*, John Wiley & Sons, Ltd, 2022.

Prof. Tapas Chakraborty

1. Photooxidation of 2-Pentanone in the Gas Phase: Photo-Products, Reaction Mechanism, OH Reaction Kinetics, and Atmospheric Implication - Koushik Mondal, Aparajeo Chattopadhyay, Indrani Bhattacharya, Piyali Chatterjee, Subhasis Mandal, and Tapas Chakraborty*, *ACS Earth Space Chem.*, **7**, 2, 449–459 (2023).[IF:3.475].

Prof. Tarun Kr. Mandal

1. Dual Thermoresponsive Boc-Lysine-Based Acryl Polymer: RAFT Kinetics and Anti-Protein-Fouling of Its Zwitterionic Form - P. Dinda, Md. Anas, P. Banerjee and T. K. Mandal, *Macromolecules*, **2022**, *55*, 4011.[IF:6.057]
2. Stimuli-Responsive Triblock Terpolymer Conversion into Multi-Stimuli-Responsive Micelles with Dynamic Covalent Bonds for Drug Delivery through a Quick and Controllable Post-Polymerization Reaction – E. Hlavatovicova, R. Fernandez-Alvarez, K. Bys, S. Kereiche, T. K. Mandal, L. I. Atanase, M. Stepanek, M. Uchman, *Euro. Pharmaceutics*, **2023**, *15*, 288.
3. Ion-/Thermo-Responsive fluorescent perylene-poly (ionic liquid) conjugates: One-pot microwave synthesis, self-aggregation and biological applications – M. Kar, Md. Anas, A. Singh, A. Basak, P. Sen and T. K. Mandal, *Euro. Polym. J.* **2022**, *179*, 111561.[IF:3.862]

School of Mathematical and Computational Sciences

Prof. Abhijit Kr. Das

1. Energetics and Spectroscopic properties of low-lying CaC_6H_2 isomers: an astrochemical perspective - A Ghosh, S Banerjee, S Sarkar, T Debnath, T Ash, R S Roy, A K Das, *Chemistry Select* **7**, e202200763, (2022).[IF:2.307]
2. ZnAl_2O_4 Nanomaterial as Naked Eye Arsenate Sensor: A Combined Experimental and Computational Mechanistic Approach - T Chowdhury, T Chakraborty, A Ghosh, A K Das, D Das *ACS. Appl. Mater. Interfaces*, **14**, 28, 32457 (2022).[IF:10.383]
3. Dual Modification to Stabilize Non-IPR C_{72} Fullerene: A New Theoretical Strategy - S Banerjee, T Ash, T Debnath, A K Das *J. Mol. Graph. Model* **117**, 108289 (2022).[IF:2.942]
4. Advances on Understanding Coke Gasification Process with CO_2 : A Report from Density Functional Theory - T Debnath, K Sen, A Suresh, P S Dash, A K Das *Chemistry Select* **7**, e202201539 (2022).[IF:2.307]
5. Design of Dual Purpose Fe-metallogel for Magnetic Refrigeration and Fabrication of Schottky Barrier Diode - S Saha, B Pal, K S Das, P K Ghose, A Ghosh, A De, A K Das, P P Ray, R Mondal *Chemistry Select*, **7**, e202203307 (2022).[IF:2.307]
6. A New Kind of Sandwich-Electride Complexes of Cyclooctatetraene Ligand $\text{M}^1_2(\eta^8\text{-C}_8\text{H}_8)_2\text{M}^2_2$ ($\text{M}^1=\text{Na}$, K and $\text{M}^2=\text{Ca}$, Mg): A Theoretical Study - R S Roy, A Ghosh, S Banerjee, S Ghosh, A K Das *Phys. Chem. Chem. Phys.*, **25**, 4710 (2023).[IF:3.945]
7. Designing metal-free organic superalkalis by modifying benzene: a theoretical perspective - S Sarkar, T Debnath, A K Das, *Theor. Chem. Acc.*, **142**, 3 (2023).[IF:2.154]
8. A Silver-Based Integrated System Showing Mutually Inclusive Super Protonic Conductivity and Photoswitching Behavior - S Saha, K S Das, P Pal, S Hazra, A Ghosh, S Bala, A Ghosh, A K Das, R Mondal, *Inorg. Chem.*, **62**, 8, 3485 (2023).[IF: 5.436]

Dr. Debarshi Kr. Sanyal

1. Adhya, S., & Sanyal, D. K. (2023). Improving Neural Topic Models with Wasserstein Knowledge Distillation. In *Advances in Information Retrieval: 45th European*

- Conference on Information Retrieval, ECIR 2023, Dublin, Ireland, April 2–6, 2023, Proceedings, Part II* (pp. 321-330). Cham: Springer Nature Switzerland.
2. Adhya, S., Lahiri, A., & Sanyal, D. K. (2023). Do Neural Topic Models Really Need Dropout? Analysis of the Effect of Dropout in Topic Modeling. In *Proceedings of the 17th Conference of the European Chapter of the Association for Computational Linguistics(EACL)* (pp. 2212-2221).
 3. Tokala, Y. S. S. S., Aluru, S. S., Vallabhajosyula, A., Sanyal, D. K., & Das, P. P. (2023). Label informed hierarchical transformers for sequential sentence classification in scientific abstracts. *Expert Systems*, e13238.
 4. Rehman, T., Sanyal, D. K., Majumder, P., & Chattopadhyay, S. (2022). Named Entity Recognition Based Automatic Generation of Research Highlights. In *Proceedings of the Third Workshop on Scholarly Document Processing @ COLING 2022*.
 5. Adhya, S., Lahiri, A., Sanyal, D. K., & Das, P. P. (2022). Improving Contextualized Topic Models with Negative Sampling. In *Proceedings of the 19th International Conference on Natural Language Processing (ICON)* (pp. 128-138).

Dr. Mithun Mukherjee

1. Higher Rank Numerical Ranges of Normal Operators and Unitary Dilations, Pankaj Dey, Mithun Mukherjee, *J. Math Anal. & Appl.* 2 (2023)
2. Generalized Halmos conjectures and constrained unitary dilations, Pankaj Dey, Mithun Mukherjee. *Adv. Oper. Theory* 7 (2022).

Dr. Partha Basuchoudhuri

1. Performance of the nitrogen reduction reaction on metal bound g-C₆N₆: a combined approach of machine learning and DFT - Moumita Mukherjee, Sayan Dutta, Madhusudan Ghosh, Partha Basuchowdhuri, and Ayan Datta. 2022. Pp -17050-17058, *Physical Chemistry Chemical Physics. Phys. Chem. Chem. Phys.* Vol 24.

Prof. Raja Paul

1. Mitotic outcomes and errors in fibrous environments - Aniket Jana, Apurba Sarkar, Haonan Zhang, Atharva Agashe, Ji Wang, Raja Paul, Nir S. Gov, Jennifer G. DeLuca, and Amrinder S. Nain, *PNAS*, 120, 10 e2120536120 (2023)

2. Self-organized criticality of magnetic avalanches in disordered ferrimagnetic material - S Mondal, M Karmakar, P Dutta, S Giri, S Majumdar, R Paul, *Physical Review E* 107 (3), 034106 (2023)

Dr. Rajarshi Ray

1. Mir M. Sajid Sarwar, Rajarshi Ray, Ansuman Banerjee, "A Contrastive Plan Explanation Framework for Hybrid System Models - *ACM Transactions on Embedded Computing Systems*, Vol-2, Issue-2, Article-22, Pages 1-51, 2023.[IF:1.886]
2. Atanu Kundu, Sarthak Das, Rajarshi Ray, "SAT-Reach: A Bounded Model Checker for Affine Hybrid Systems - *ACM Transactions on Embedded Computing Systems*, Vol-2, Issue-2, Article-26, Pages 1-36, 2023.[IF:1.886]

Dr. Savani Bera

1. Bera. S, Pal. R, Verma. K, On the automorphism group of certain Short $\mathbb{C}^2$'s, accepted for publication in IMRN (International Mathematics Research Notices), <https://academic.oup.com/imrn/advance-article/doi/10.1093/imrn/rnac235/6674255>, MCQ [IF:1.28]
2. Bera. S, Dynamics of semigroups of Hénon maps in $\mathbb{C}^2$, accepted for publication in Indiana Univ. Math. J., <https://arxiv.org/abs/2202.06522>. MCQ [IF:1.43]

School of Materials Sciences

Prof. Amitava Patra

1. Atomically Precise Ni Nanoclusters for Improving Hydrogen Evolution Reaction Performance - LipipuspaSahoo, Aarti Devi, Amitava Patra*, *ACS Sustainable Chem. Eng.*, **11**, 4187–4196 (2023).[IF:9.224]
2. Electron Transfer Dynamics from CsPbBr₃ Nanocrystals to Au₁₄₄ Clusters – Kritiman Marjit, Goutam Ghosh, Srijon Ghosh, Debarati Ghosh, Anusri Medda, Amitava Patra*, *ACS Phys. Chem. Au* (2023) (Accepted).[IF:nil]
3. Electronegativity of the Substituent on Surface Motifs Influences the Ultrafast Relaxation Dynamics of Ag₄₄(SR)₃₀⁴⁻ Nanoclusters – Sarita Kolay, Subarna Maity, Sikta Chakraborty, Srijon Ghosh, Amitava Patra*, *J. Phys. Chem. C*, **127**, 3769–3777(2023).[IF:4.177]

4. Experimental and Computational Insights into Luminescence in Atomically Precise Bimetallic $\text{Au}_{6-n}\text{Cu}_n(\text{MPA})_5$ Clusters - Aarti Devi, Harshita Seksaria, Dipankar Bain, Sarita Kolay, Rashi, Abir De Sarkar and Amitava Patra*, *Phys. Chem. Chem. Phys.*, **25**, 9513-9521(2023).[IF:3.676]
5. Cationic Polymer Functionalized Copper Nanocluster-Based Fluorescent Probe for the Selective and Sensitive Detection of S^{2-} Ions - Rashi, Dipankar Bain, Aarti Devi, Sikta Chakraborty and Amitava Patra*, *ACS Sustainable Chem. Eng.*, **11**, 1995–2004(2023).[IF:9.224]
6. Hole Transfer Dynamics of 2D CdSeS Alloy Nanoplatelets for Photon-to-Current Conversion” Soubhik Ghosh, Anusri Medda, Srijon Ghosh and Amitava Patra*, *J. Phys. Chem. C*, **126**, 21882-21890(2022).[IF:4.177]
7. Ultrafast Relaxation Dynamics of Conjugated Polymer Nanoparticles by Tuning Their Interchain Interactions - Srijon Ghosh, Sandipan Chakraborty, Arnab Ghosh, Kritiman Marjit, Goutam Ghosh and Amitava Patra*, *J. Phys. Chem. C*, **126**, 18177-18187(2022).[IF:4.177]
8. Penicillamine-Capped Red-Emitting Gold Nanoclusters for Therapeutic Application -Dipankar Bain, Mimansa, Aarti Devi, Subarna Maity, AsifkhanShanavas and Amitava Patra*, *ACS Sustainable Chem. Eng.*, **10**, 12730–12737(2022).[IF:9.224]
9. Charge Transfer Dynamics of Two-Dimensional Ruddlesden Popper Perovskite in the Presence of Short-Chain Aromatic Thiol Ligands - Debarati Ghosh, Kritiman Marjit, Goutam Ghosh, Srijon Ghosh and Amitava Patra*, *J. Phys. Chem. C*, **126**, 14590-14597(2022).[IF:4.177]
10. 2D CdSe/CdS Core-Shell Nanoplatelets for High-Performance Photodetectors - Avishek Dutta[^], AnusriMedda[^], Soubhik Ghosh, Sumanta Sain and Amitava Patra* ([^]Contributed Equally), *ACS Appl. Nano Mater.*, **8**, 11679-88(2022).[IF:6.140]
11. Unraveling the Effect of Single Atom Doping on the Carrier Relaxation Dynamics of $\text{Mg}_{24}\text{n-}$ Nanoclusters – Subarna Maity, Sarita Kolay, Srijon Ghosh, Sikta Chakraborty, Dipankar Bain and Amitava Patra*, *J. Phys. Chem. Lett.*, **13**, 5581-88(2022).[IF:6.88]
12. Modulating the Carrier Relaxation Dynamics in Heterovalently (Bi^{3+}) Doped CsPbBr_3 Nanocrystals – Kritiman Marjit, Goutam Ghosh, Raju K Biswas, Srijon Ghosh, Swapan K Pati and Amitava Patra*, *J. Phys. Chem. Lett.*, **13**, 5431-40(2022).[IF:6.88]

13. Evidence of Hot Charge Carrier Transfer in Hybrid CsPbBr₃/Functionalized Graphene - Goutam Ghosh, Kritiman Marjit, Srijon Ghosh, Debarati Ghosh and Amitava Patra*, *ChemNanoMat*, **8**, e202200172(2022).[IF:3.82]
14. Silver Nanocluster/MoS₂ Heterostructures for Hydrogen Evolution – Monojit Ghoshal Chowdhury, Lipipuspa Sahoo, Subarna Maity, Dipankar Bain, Ujjal K Gautam and Amitava Patra*, *ACS Appl. Nano. Mater.*, **5**, 7132-7141(2022).[IF:6.140]
15. Impacts of Dopant and Post-Synthetic Heat-treatment on Carrier Relaxation of Cu²⁺ Doped CdSeNanoplatelets – Anusri Medda, Avishek Dutta, Sumanta Sain, Srijon Ghosh, Indranil Sarkar and Amitava Patra*, *J. Phys. Chem. C*, **126**, 7739-7747 (2022). [IF:4.177]

Prof. Asim Bhowmik

1. A novel chemical approach for synthesizing highly porous graphene analogue and its composite with Ag nanoparticles for efficient electrochemical oxygen reduction. SK Das, S Chatterjee, A Banerjee - G Kumar, AK Patra, RS Dey, AJ Pal, A. Bhaumik, *Chemical Engineering Journal*, **451**, 138766 (2023).[IF:16.74]
2. Influence of catalase encapsulation on Cobalt@Nanoporous carbon with multiwall shell for supercapacitor and polyurethane synthesis using carbon dioxide - R Patil, N Kumar, S Bhattacharjee, HY Wu, PC Han, BM Matsagar, KCW Wu, RR. Salunkhe, A Bhaumik, S Dutta, *Chemical Engineering Journal*, **453**, 139874 (2023).[IF:16.74]
3. A metallic nickel site in a complex multimetallic design for controlled CO₂ reduction and symmetric supercapacitor device - R Patil, N Kumar, S Bhattacharjee, BM Matsagar, PC Han, KCW Wu, RR Salunkhe, A Bhaumik, S Dutta, *Materials Today Chemistry*, **28**, 101374 (2023).[IF:7.61]
4. Photo-Responsive Signatures in a Porous Organic Polymer Enable Visible Light-Driven CO₂ Photofixation - N Das, R Paul, S Biswas, R Das, R Chatterjee, A Bhaumik, SC Peter, BM Wong, J Mondal, *ACS Sustainable Chemistry & Engineering*, **11**, 2066-2078 (2023).[IF:9.22]
5. Synthesis of Hollow Mesoporous Silica Nanospheroids with O/W Emulsion and Al (III) Incorporation and Its Catalytic Activity for the Synthesis of 5-HMF from Carbohydrates - A Ghosh, B Chowdhury, A Bhaumik, *Catalysts*, **13**, 354 (2023).[IF:4.50]
6. Tuning of Microenvironment in Covalent Organic Framework via Fluorination Strategy promotes Selective CO₂ Capture - N Das, R Paul, R Chatterjee, DB Shinde, Z Lai, A Bhaumik, J Mondal, *Chemistry–An Asian Journal*, **18**, e202200970. (2023).[IF:4.56]

7. Facile and Green Synthesis of Novel Fluorescent Carbon Quantum Dots and Their Silver Heterostructure: An In Vitro Anticancer Activity and Imaging on Colorectal Cancer - S Mishra, KD Saha, S Chatterjee, P Sahoo, S Kundu, M Pal, A Bhaumik, CK Ghosh, *ACS Omega*, **8**, 4566-4577 (2023).[IF:4.13]
8. AgNPs supported over porous organic polymers for the fixation of CO₂ on propargyl alcohols and amines under solvent-free conditions - A Roy, N Haque, R Chatterjee, S Biswas, A Bhaumik, M Sarkar, SM Islam, *New Journal of Chemistry*, **47**, 6673-6684 (2023).[IF:3.92]
9. Non-Fluorinated and Robust Superhydrophobic Modification on Covalent Organic Framework for Crude-Oil-in-Water Emulsion Separation - S Ruidas, A Das, S Kumar, S Dalapati, U Manna, A Bhaumik, *Angewandte Chemie International Edition*, **61**, e202210507 (2022).[IF:16.82]
10. A new phosphonate based Mn-MOF in recognizing arginine over lysine in aqueous medium and other bio-fluids with “Sepsis” disease remediation - D Chakraborty, S Bej, R Chatterjee, P Banerjee, A Bhaumik, *Chemical Engineering Journal*, **446**, 136916. (2022).[IF:16.74]
11. Synthesis of isocyanate-free polyurethane concocting multiple cyclic carbonates catalyzed by a new microporous zinc phosphonate via CO₂ fixation - S Bhattacharjee, S Chongdar, A Modak, P Bhanja, BK Jena, A Bhaumik, *Green Chemistry*, **24**, 8853-8862 (2022).[IF:11.03]
12. Visible Light-Driven Metal–Organic Framework-Mediated Activation and Utilization of CO₂ for the Thiocarboxylation of Olefins - S Saini, D Chakraborty, ES Erakulan, R Thapa, R Bal, A Bhaumik, SL Jain, *ACS Applied Materials & Interfaces* **14**, 50913-50922 (2022).[IF:10.38]
13. N-Rich, Polyphenolic Porous Organic Polymer and Its In Vitro Anticancer Activity on Colorectal Cancer - SK Das, S Mishra, KD Saha, D Chandra, M Hara, AA Mostafa, A Bhaumik, *Molecules*, **27**, 7326 (2022).[IF:4.91]
14. Ag nanoparticles grafted porous organic polymer as an efficient heterogeneous catalyst for solvent-free A³ coupling reactions - BK Chandra, S Pal, A Majee, A Bhaumik, *Molecular Catalysis*, **531**, 112686 (2022).[IF:5.07]
15. Influence of heteroatom-doped Fe-carbon sphere catalysts on CO₂-mediated oxidative dehydrogenation of ethylbenzene - A Ghosh, A Singha, R Chatterjee, TE Müller, A Bhaumik, B Chowdhury, *Molecular Catalysis*, **535**, 112836 (2022).[IF:5.07]
16. Bifunctional molybdenum phosphate catalyst with tunable acidity–basicity for the sustainable synthesis of glycerol carbonate via solvent-free carbonylation of glycerol with urea - K Bhaduri, A Auroux, A Bhaumik, B Chowdhury, *Applied Organometallic Chemistry*, **36**, e6904 (2022).[IF:4.07]

17. Ni(II)-Incorporated Porphyrin-Based Conjugated Porous Polymer Derived from 2, 6-Diformyl-4-methylphenol as a Catalyst for the Urea Oxidation Reaction - SN Bhaduri, D Ghosh, S Chatterjee, R Biswas, R Banerjee, A Bhaumik, P Biswas, *Inorganic Chemistry* **61**, 18390-18399 (2022).[IF:5.43]
18. A cationic porous polymer as robust and recyclable adsorbent for the removal of harmful dyes from aqueous contaminants - BK Chandra, A Majee, A Bhaumik, *Environmental Science: Nano* **9**, 3943-3956 (2022).[IF:9.47]
19. A Ni(II) Metal–Organic Framework With Mixed Carboxylate and Bipyridine Ligands for Ultrafast and Selective Sensing of Explosive and Photoelectrochemical Hydrogen Evolution - S Bhattacharjee, S Bera, R Das, D Chakraborty, A Basu, P Banerjee, S Ghosh, A Bhaumik, *ACS Applied Materials & Interfaces*, **14**, 20907-20918 (2022). [IF:10.38]
20. Photoelectrochemical Water Oxidation Over Novel Semiconducting Zinc based Metal Thiolate Framework - A Ghosh, S Shyamal, A Palui, RN Manna, S Mondal, M Jana, A Ghosh, A Bhaumik, *ACS Applied Materials & Interfaces*, **14**, 37699-37708 (2022). [IF:10.38]
21. Metal-Free Phosphate Modified Hierarchically Porous Carbon–Silica Nanocomposites for Solvent-Free Glycerol Carbonylation and Esterification Reactions - K Bhaduri, R Chatterjee, A Bhaumik, B Chowdhury, *ACS Sustainable Chemistry & Engineering*, **10**, 11242-11256. (2022).[IF:9.22]
22. Cerium-organic framework as alkaline phosphatase mimics: Ce-OH₂ sites in catalytic dephosphorylation - S Bhattacharjee, T Chakraborty, A Bhaumik, *Inorganic Chemistry Frontiers*, **9**, 5735-5744 (2022).[IF:7.78]
23. Unlocking Molecular Secret in Monomer-Assembly-Promoted Zn-Metalated Catalytic Porous-Organic-Polymer for Light Responsive CO₂ Insertion - C Sarkar, R Paul, DQ Dao, SJ Xu, R Chatterjee, SC Shit, A Bhaumik, J Mondal, *ACS Applied Materials & Interfaces*, 2022, **14**, 37620-37636 (2022).[IF:10.38]
24. A metal-free reduced graphene oxide coupled covalent imine network as anode material for lithium ion batteries - S Mondal, S Ruidas, K Halankar, BP Mandal, A Bhaumik, *Energy Advances*, **1**, 697-703 (2022).[IF:Not available]
25. Bifunctional Metal-Free Heterogeneous Catalyst for the Synthesis of Methanol and Diols from CO₂ and Epoxide - R Chatterjee, S Bhattacharjee, A Bhaumik, *Asian Journal of Organic Chemistry*, 2022, **11**, e202200317 (2022).[IF:3.11]
26. Selective CO₂ reduction to methane catalyzed by mesoporous Ru-Fe₃O₄/CeO_x-SiO₂ in a fixed bed flow reactor - S Roy, DK Mondal, S Chatterjee, A Chowdhury, TS Khan, MA Haider, S Mandal, D Chandra, M Hara, A Bhaumik, *Molecular Catalysis*, **528**, 112486 (2022).[IF:5.07]

27. Highly stable tetradentate phosphonate-based green fluorescent Cu-MOF for anticancer therapy and antibacterial activity - D Chakraborty, D Musib, R Saha, A Das, MK Raza, V Ramu, S Chongdar, K Sarkar, A Bhaumik, *Materials Today Chemistry*, **24**, 100882 (2022).[IF:7.61]
28. Vanadium incorporated Zeolite-Y, a versatile catalyst for inter and intra- molecular haloalkynylation coupling reactions - S Basu, S Chatterjee, A Bhaumik, C Mukhopadhyay, *Journal of Organometallic Chemistry*, **979**, 122494 (2022).[IF:2.34]
29. Dehydrogenase-Functionalized Interfaced Materials in Electroenzymatic and Photoelectroenzymatic CO₂ Reduction - S Dutta, R Patil, S Chongdar, A Bhaumik, *ACS Sustainable Chemistry & Engineering*, **10**, 6141-6156 (2021).[IF:9.22]
30. Mesoporous Zn–Ti Mixed Oxide Nanostructure: A New Bifunctional Catalyst for Partial Oxidation and Bezylation Reactions - N Pal, D Chakraborty, A Bhaumik, M Ali, *Journal of Inorganic and Organometallic Polymers and Materials*, **32**, 3141-3152 (2022). [IF:3.52]
31. A conjugated 2D covalent organic framework as a drug delivery vehicle towards triple negative breast cancer malignancy - SK Das, S Roy, A Das, A Chowdhury, N Chatterjee, A Bhaumik, *Nanoscale Advances*, **4**, 2313-2320 (2022).[IF:5.59]
32. Novel Microporous Iron-Embedded Cobalt Phosphonates Feasible for Electrochemical Overall Water Splitting - P Bhanja, B Mohanty, S Chongdar, A Bhaumik, BK Jena, S Basu, *ACS Applied Energy Materials*, **5**, 3558-3567 (2022).[IF:6.96]

Prof. Debjyoti Das

1. Superior phosphorous doping in nanocrystalline silicon thin films and their application as emitter Layers in silicon heterojunction solar cells, Debajyoti Das and Chandralina Patra; *Energy & Fuels***37** (2023) 6062–6077.[IF:4.654]
2. ZnO/g-C₃N₄ heterostructures: Synthesis, characterization and application as photoanode in dye sensitized solar cells, Debajyoti Das and Prami Nandi; *Sol. Energy Mater. Sol. Cells*, **248** (2022) 112002.[IF: 7.305]
3. Near room-temperature synthesis of transparent conducting fluorine-doped ZnO thin films as window layer for solar cells, B. Paramanik, S. Samanta and Debajyoti Das; *Optical Mater.***133** (2022) 112961.[IF: 3.754]
4. Studies on the impedance characteristics, dielectric relaxation, and ac conductivity in silicon oxycarbide (SiO_xC_y:H) films at the amorphous-to-nanocrystalline transition zone, SukalyanShyam and Debajyoti Das; *ACS Appl. Electron. Mater.***4** (2022) 3880–3896.[IF: 4.494]

5. Structural characteristics, impedance spectroscopy, ac-conductivity and dielectric loss studies on RF-magnetron sputtered F doped ZnO (FZO) thin films, S. Samanta, B. Paramanik and Debajyoti Das; *Ceramics International***48** (2022) 31370–31380.[IF: 5.532]
6. Morphological variations of ZnO nanostructures and its influence on the photovoltaic performance when used as photoanodes in dye sensitized solar cells, Prami Nandi and Debajyoti Das; *Sol. Energy Mater. Sol. Cells***243** (2022) 111811.[IF: 7.305]
7. Optimal H₂-dilution playing key role in accomplishing significant nanocrystallinity with both Si and Ge moieties in SiGe nanocomposite thin film network, Amaresh Dey and Debajyoti Das; *Appl. Surf. Sci.***597** (2022) 153657.[IF: 7.392]
8. Two-step visible-light photocatalytic dye-degradation phenomena in Ag₂O impregnated ZnO nanorods via growth of metallic Ag and formation of ZnO/Ag⁰/Ag₂O heterojunction structures, Payel Sahu and Debajyoti Das; *Langmuir* **38**(2022) 4503–4520.[IF: 4.331]
9. Growth of diamond-like carbon films with significant nanocrystalline phases in a low-pressure high-density CH₄ plasma in ICP-CVD: Effect of negative dc substrate bias, Sucharita Saha and Debajyoti Das; *Appl. Surf. Sci.***596** (2022) 153638.[IF: 7.392]

Prof. Narayan Pradhan

1. Hexahedron symmetry and multidirectional facet coupling of orthorhombic CsPbBr₃ nanocrystals - R K Behera, S Bera and N Pradhan,**ACS Nano*, **17**, 7007-7016 (2023).[IF: 18.03]
2. Chemically sculpturing the facets of CsPbBr₃ perovskite platelet nanocrystals - S Banerjee, S Bera and N Pradhan,* *ACS Nano*, **17**, 678 (2023).[IF:18.03]
3. Facet engineering for amplified spontaneous emission in metal halide perovskite nanocrystals - S K Bera, S Bera, M Shrivastava, N Pradhan* and K V Adarsh,**Nano Lett.*, **22**, 8908 (2022).[IF:12.26]
4. Maneuvering tellurium chemistry to design metal–telluride heterostructures for diverse applications - S Sen, S Bera and N Pradhan,**Chem. Mater.*, **34**, 9329 (2022).[IF:10.05]
5. Facets-directed epitaxially grown lead halide perovskite-sulfobromide nanocrystal heterostructures and their improved photocatalytic activity - R Das, A Patra, S K Dutta, S Shyamal* and N Pradhan,**J. Am. Chem. Soc.*, **144**, 18629 (2022).[IF:16.38]
6. Halide perovskite cluster precursors: A paradigm for obtaining structure- and color- tunable light-emitting nanocrystals - S K Dutta, L Peng, B Hudait, R Xie* and N Pradhan,**ACS Energy Lett.*, **7**, 3177 (2022).[IF:23.99]

7. Lead halide perovskite cube coupled star nanocrystal photocatalysts - S Bera, A Patra, S Shyamal, D Nasipuri and N Pradhan* *ACS Energy Lett.*, **7**, 3015 (2022).[IF:23.99]
8. Reasoning the photoluminescence blinking in CdSe–CdS heteronanostructures as stacking fault-based trap states - E M Thomas, N Pradhan* and K G Thomas,* *ACS Energy Lett.*, **7**, 2856 (2022).[IF:23.99]
9. Tuning crystal plane orientation in multijunction and hexagonal single crystalline CsPbBr₃ perovskite disc nanocrystals S Bera, S Banerjee, R Das and N Pradhan,* *J. Am. Chem. Soc.*, **144**, 7430 (2022).[IF:16.38]

Prof. Nikhil R. Jana

1. Enhanced Therapeutic Applications of Vitamin C via Nanotechnology-Based pro-Oxidant Properties: A Review - Suman Pal, Nikhil R. Jana, *ACS Appl. Nano Mater.*, **5**, 4583–4596 (2022).[IF:6.14]
2. Cytotoxicity of ZnO Nanoparticles under dark conditions via oxygen vacancy dependent reactive oxygen species generation - Aritra Biswas, Uddalok Kar, Nikhil R. Jana, *Phys. Chem. Chem. Phys.*, **24**, 13965-13975 (2022).[IF:3.68]
3. Enhanced Piezocatalysis by Calcium Phosphate Nanowire via Gold Nanoparticle Conjugation - Jayanta Dolai, Aritra Biswas, Reedhi Ray and Nikhil R. Jana, *ACS Appl. Mater. Interfaces*, **14**, 26443-26454 (2022).[IF:10.38]
4. Spontaneous Formation and Growth Kinetics of Lipid Nanotubules Induced by Passive Nanoparticles – Roobala Chelladurai, Koushik Debnath, Nikhil R. Jana and Jaydeep K. Basu, *Soft Matter*, **18**, 7082-7090 (2022).[IF:4.05]
5. Hemin-based Cell Therapy via Nanoparticle-Assisted Uptake, Intracellular Reactive Oxygen Species Generation and Autophagy Induction - Abu Raihan Sarkar, Suman Pal, Ankan Kumar Sarkar, Nikhil R. Jana, *New J. Chem.*, **46**, 21746-21755 (2022).[IF: 3.59]
6. Piezoelectric Nanoparticles for Ultrasound-Based Wireless Therapies - Jayanta Dolai, Aritra Biswas, Nikhil R. Jana, *ACS Appl. Nano Mater.*, **5**, 14038–14050 (2022).[IF:6.14]

7. Nanocomposite with Imprint of Cholesterol for Its Nonenzymatic, Visual, and Smartphone-Based Detection – Jayanta Dolai, Alimpan Modak, Nikhil R Jana, *ACS Appl. Eng. Mater.*,1, 428–435 (2023).[IF:NA]

Publications in Book Chapter :

1. Colloidal Gold Nanorods: Science & Technology, NR Jana, CRC Press, 1-152, 2023.

Dr. Praveen Kumar

1. S. Maity, K. Sarkar, Praveen Kumar*, Layered Heterostructures Based on MoS₂/MoSe₂ Nanosheets Deposited on GaN Substrates for Photodetector Applications, *ACS Applied Nano Materials*, **6** (2023) 4224.[IF:06.14]
2. S. Mandal, D. Ghosh, Praveen Kumar*, Recent Advancement in Heterogeneous CO₂ Reduction Processes in Aqueous Electrolyte, *Journal of Materials Chemistry A* **10** (2022) 19027.[IF:14.51]
3. D Ghosh, K Roy, S Maitra, Praveen Kumar*, Unrevealing Rashba-Dresselhaus splitting assisted magneto-photo-electrochemical water splitting in Asymmetric MoSSe-GaN heterostructures, *ACS Journal of Physical Chemistry Letters*, **13** (2022) 1334.[IF:6.89]
4. K Roy, S Maitra, D Ghosh, P Devi, Praveen Kumar*, 2D-Heterostructure Assisted Activation of MoS₂ Basal Plane for Enhanced Photoelectrochemical Hydrogen Evolution Reaction, *Chemical Engineering Journal*, **435** (2022) 134963.[IF:16.74]
5. D. Ghosh, P. Devi, and Praveen Kumar*, Intercalation in 2D Transition Metal Chalcogenides: Interlayer Engineering and Applications, *Progress in Energy* **4** (2022) 022001.

Publications in Book Chapter :

1. Materials Advances in Photo-electrochemical Hydrogen Production from Water: Theory, Practice, and Challenges, Springer, 2524-5384, 2022.
2. Introduction to Hydrogen and World Energy Scenario”Part of the Materials Horizons: From Nature to Nanomaterials book series (MHFNN), A. Anand, P. Devi and Praveen Kumar, Springer, Electronic ISSN:2524-5392, 2022.

Prof. Shyamal Kr. Saha

1. Solubility tuning of alkyl amine functionalized carbon quantum dots for selective detection of nitroexplosive T.K. Mondal, A. Kapuria, M. Miah, S.K. Saha, *Carbon* (I.F.-11.307) (<https://doi.org/10.1016/j.carbon.2023.03.047>)

2. Synthesis of new mixed metal oxide RuNi_2O_4 phase decorated on reduced graphene oxide for supercapacitor applications S. Bera, M. Miah, T.K. Mondal, A. Debnath, S.K. Saha, *Electrochimica Acta* (I.F.- 7.336) 424, 2022, 140666.
3. Mixed metal sulfides (FeNiS_2) nanosheets decorated reduced graphene oxide for efficient electrode materials for supercapacitor M. Miah, P Hota, T.K. Mondal, R Chen, S. K. Saha *J. Alloys Compd*, 2023, 933, 167648. [IF:6.371]
4. Polysulfide functionalized reduced graphene oxide for electrocatalytic hydrogen evolution reaction and supercapacitor applications A. Kapuria, T.K. Mondal, B.K. Shaw, Y.K. Su, S.K. Saha, *International Journal of Hydrogen Energy* [IF:7.139] (<https://doi.org/10.1016/j.ijhydene.2023.01.214>)
5. Magnetic properties in atomic Co manipulated graphitic carbon nitride, S. Singha, C. Majumdar, T. K. Mondal, A Mondal, S. K. Saha. *Journal of Magnetism and Magnetic Materials*, 2023, 566, 170259. [IF:3.097]
6. Observation of room temperature metal free ferromagnetism in sulfur doped graphitic carbon nitride C. Majumdar, T. K. Mondal, S. Bhattacharya, S. K. Saha, *Journal of Magnetism and Magnetic Materials*, 2022, 559, 169439. [IF:3.097]
7. The role of lone-pair electrons on electrocatalytic activity of copper antimony sulfide nanostructures P. Hota, A. Kapuria, S. Bose, D.K. Maiti, S.K. Saha, *Materials Chemistry and Physics*, 2022, 291 126676. [IF:4.778]

Prof. Sugata Ray

1. Preferred orientation in polycrystalline colossal electroresistive hollandite $\text{PbFe}_x\text{V}_{6-x}\text{O}_{11}$, - Shuvajit Halder and Sugata Ray, *International Journal of Ceramic Engineering and Science* **4**, 309 (2022). [IF:2]
2. Fluorination Induced Asymmetry in Vacancy Ordered Brownmillerite: A Route to Multiferroic Behavior, Payel Aich et al.; *Chemistry of Materials*, **35**, 991 (2023). [IF.: 10.508]
3. Short-range magnetic correlation, metamagnetism, and coincident dielectric anomaly in $\text{Na}_5\text{Co}_{15.5}\text{Te}_6\text{O}_{36}$, Rafikul Ali Saha et al.; *Phys. Rev. B*, **107**, 155105 (2023). [IF:3.908]

Dr. Urmimala Maitra

1. Oxygen Redox Intercalation Cathodes: The Fundamentals and Strategies to Resolve the Challenges U. Maitra*, A. K. Das, *ACS Appl. Energy Mater.*, 2022, 5, 4522-4535. <https://doi.org/10.1021/acsaem.1c04112>
2. Bulk O₂ formation and Mg displacement explain O-redox in Na_{0.67}Mn_{0.72}Mg_{0.28}O₂, E. Boivin, R. A. House, M. A. Perez-Osorio, J. J. Marie, U. Maitra, G. J. Rees, P. G. Bruce, *Joule*, 2021, 5, 1267-1280. doi.org/10.1016/j.joule.2021.04.006. [IF:46.048]

School of Physical Sciences

Dr. Arnab Das

1. *Statistical mechanics of Floquet quantum matter: exact and emergent conservation laws* A. Haldar and A. Das, *J. Phys.: Condens. Matter* 34 234001 (2022). [IF: 2.8]

Dr. Arnab Sen

1. Indrajit Sau, Arnab Sen, Debasish Banerjee, “Weak universality induced by $Q = \pm 2e$ charges at the deconfinement transition of a (2+1)-d U (1) lattice gauge theory, *Phys. Rev. Lett.* 130, 071901 (2023). [IF:9.161]
2. Madhumita Sarkar, Mainak Pal, Arnab Sen, and K. Sengupta, “Quantum order-by-disorder induced phase transition in Rydberg ladders with staggered detuning, *SciPost Phys.* 14, 004 (2023).
3. Bhaskar Mukherjee, Arnab Sen, and K. Sengupta, “Periodically driven Rydberg chains with staggered detuning, *Phys. Rev. B*, 106, 064305 (2022).
4. Saptarshi Biswas, Debasish Banerjee, and Arnab Sen, “Scars from protected zero modes and beyond in U (1) quantum link and quantum dimer models”, *SciPost Phys.* 12, 148 (2022).

Prof. Bimalendu Deb

1. Phase diffusion and fluctuations in a dissipative Bose-Josephson junction, Abhik Kumar Saha, Deb Shankar Ray and Bimalendu Deb, *Phys. Rev. E* **107**, 034141 (2023). [IF:2.70]

Dr. Devjyoti Mukherjee

1. Influence of twin-crystal structures on the temperature dependence of magneto-optic Kerr effect and magnetic anisotropy in epitaxial Ni thin films - N Mondal, A Barman, S Chatterjee, D Mukherjee, *Journal of Magnetism and Magnetic Materials* **564**, 170118, (2022). [IF:3.097]
2. Hidden variable in the electrocaloric effect of ferroics - Ravi Kashikar, Subhashree Chatterjee, Folarin Shola Taofeek, Abhisikta Barman, Shubhankar Barman, Sohini Kar-Narayan, Anuja Datta, Sergey Lisenkov, Devajyoti Mukherjee, I. Ponomareva, *Physical Review Materials*, **6**, 124403 (2022). [IF: 3.989]

Prof. Dilip Kr. Ghosh

1. Signals for vector-like leptons in an S_3 -symmetric 2HDM at ILC Authors : Indrani Chakraborty, Dilip Kumar Ghosh, Nivedita Ghosh, Santosh Kumar Rai. *Eur.Phys.J.C* **82**,6,538 (2022). [IF:4.99]
2. Searching for exotic Higgs bosons at the LHC Authors : Gautam Bhattacharyya, Siddharth Dwivedi, Dilip Kumar Ghosh, Gourab Saha, Subir Sarkar, *Phys.Rev.D*, **106**,5,055032 (2022). [IF:5.40]
3. Long-lived inert Higgs boson in a fast expanding universe and its imprint on the cosmic microwave background Authors : Dilip Kumar Ghosh, Sk Jeessun, Dibyendu Nanda, *Phys.Rev.D*, **106**, 11, 115001 (2022). [IF:5.40]
4. Concealing Dirac neutrinos from cosmic microwave background Authotrs : Anirban Biswas, Dilip Kumar Ghosh, Dibyendu Nanda, *JCAP*, **10**, 006 (2022). [IF:7.28]

Prof. Durga Basak

1. Drastic evolution of point defects in vertically grown ZnO nanorods induced by lithium ion implantation. Amaresh Das and Durga Basak, *Phys. Chem. Chem. Phys.*, 2022, 24, 23858-23869.[IF:3.945]
2. Plasmon assisted high ultraviolet to visible broad band photosensitivity in lateral Ag NPs-TiO₂ nanocomposite film. Sulakshana Mondal and Durga Basak, *Surfaces and Interfaces*, 31, 102090 (2022). [IF: 6.137]
3. Photophysical investigation of the formation of defect levels in P doped ZnO thin films. Sourav Mondal and Durga Basak, *Ceramics International*, 48, 20000-20009 (2022). [IF: 5.532]
4. High performance broad-band ultraviolet-B to visible photodetection based on planar Al-Zn₂SnO₄-Al structure. Shuvaraj Ghosh, Sourav Mondal, Santanu Pal, and Durga Basak, *Sensors and Actuators A: Physical*, 347, 113898 (2022). [IF: 4.291]
5. A look into donor–acceptor compensation in ZnO thin films driven by dopant valence, Shuvaraj Ghosh and Durga Basak, *Appl. Phys. A*, 129, 36 (2023). [IF: 2.983]
6. Ultrafast and Ultrabroadband UV–vis-NIR Photosensitivity under Reverse and Self-Bias Conditions by n⁺-ZnO/n-Si Isotype Heterojunction with >1 kHz Bandwidth. Sourav Mondal, Satwik Halder, and Durga Basak, *ACS Appl. Electron. Mater.*, 5, 1212–1223 (2023).[IF:4.494]
7. Unravelling the crossover amongst band and various hopping conduction mechanisms in Mo doped ZnO thin films owing to carrier localization at defects. Santanu Pal, Tamal Kumar Dalui, and Durga Basak, *Journal of Alloys and Compounds*, 946, 169335 (2023).[IF: 6.371]

Prof. Indra Dasgupta

1. Unlocking the electronic, optical and transport properties of semiconductor coupled quantum dots using first principles methods - Arup Chakraborty, Bidisa Das and Indra Dasgupta, *Int. J. Quantum Chem.* 123, e27101 (2023).[IF:2.437]
2. Exchange interactions and spin dynamics in the layered honeycomb ferromagnet CrI_3 - Subhadeep Bandyopadhyay, Finn Lasse Buessen, Ritwik Das, Franz G Utermohlen, Nandini Trivedi, Arun Paramakanti and Indra Dasgupta, *Phys. Rev. B* 105, 184430 (2022).[IF:3.908]
3. Interplay between structural, magnetic, and electronic states in the pyrochlore iridate $\text{Eu}_2\text{Ir}_2\text{O}_7$. - Manjil Das, Sayantika Bhowal, Jhuma Sannigrahi, Abhisek Bandyopadhyay, Anupam Banerjee, Giannantonio Cibin, Dmitry Khalyavin, Niladri Banerjee, evashibhai Adroja, Indra Dasgupta, and Subham Majumdar, *Phys Rev B*, 105 (13), 134421(2022).[IF:3.908]

Prof. Kaushik Ray

1. Conformal integrals in four dimensions. Aritra Pal and Koushik Ray, *JHEP10(2022)087*. [IF:5.810]

Prof. Krishnendu Sengupta

1. B. Mukherjee, A. Sen, and K. Sengupta, *Periodically driven Rydberg chains with staggered detuning*, *Phys. Rev. B* 106, 064305 (2022).
2. S. Ghosh, K. Saha, and K. Sengupta, *Hinge mode dynamics of periodically driven higher-order Weyl semimetals*, *Phys. Rev. B* 105, 224312 (2022).
3. S. Das, B. Ezhuthachan, A. Kundu, S. Porey, B. Roy, and K. Sengupta, *Out-of-Time-Order correlators in driven conformal field theories*, *JHEP*, 08, 221 (2022).[IF:5.810]
4. M. Sarkar, M. pal, A. Sen, and K. Sengupta, *Quantum order-by-disorder induced phase transition in Rydberg ladders with staggered detuning* *SciPost Phys.* 14, 004 (2023).
5. S. Aditya, K. Sengupta, and D. Sen, *periodically driven model with quasiperiodic potential and staggered hopping amplitudes: engineering of mobility gaps and multifractal states*, *Phys. Rev. B* 107, 035402 (2023).
6. S. Ghosh, I. Paul, and K. Sengupta, *Prethermal fragmentation in a periodically driven Fermionic chain*, *Phys. Rev. Lett.*, **130**, 120401 (2023).[IF:9.161]

Dr. Mintu Mondal

1. Satyabrata Bera, Puspendu Das, Biswajit Das, Sanjoy Mondal, Praduman Kumar Gupta, Arnab Bera, Sk Kalimuddin, Sk Mustak Ahamed, Sirshendu Gayen, Mintu Mondal*, and Sudip Malik, *Charge Transport and Low-frequency conductance Noise in Metal-nanoparticle Embedded One- dimensional Conducting Polymer Nanotubes: Multiple Resistive Switching Phenomena*, *Materials Today Nano*, 22, 100312(2023)

2. Satyabrata Bera, Suman Kalyan Pradhan, Md Salman Khan, Riju Pal, Buddhadeb Pal, Sk Kalimuddin, Arnab Bera, Biswajit Das, Atindra Nath Pal, *Unravelling the nature of spin reorientation transition in quasi-2D vdW magnetic material, Fe₄GeTe₂, Journal of Magnetism and Magnetic Materials* 565, 170257(2023)
3. Arnab Bera, Mohan Kundu, Bikash Das, Sk Kalimuddin, Satyabrata Bera, Deep Singha Roy, Suman Kalyan Pradhan, Sanjib Naskar, Subodh Kumar De, Biswajit Das, and Mintu Mondal*, *Emergence of electric field-induced conducting states in single-crystalline MoTe₂ nanoflakes and its application in memristive devices, Applied Surface Science*, 610, 155409(2023).
4. Kalimuddin Sk, Biswajit Das, Nabamita Chakraborty, Madhupriya Samanta, Satyabrata Bera, Arnab Bera, Deep Singha Roy, Suman Kalyan Pradhan, Kalyan K Chattopadhyay, and Mintu Mondal*, *Nonlinear Coherent Light–Matter Interaction in 2D MoSe₂ Nanoflakes for All-Optical Switching and Logic Applications, Advanced Optical Materials*, **10**, 2200791(2022)

Dr. Satyanarayan Mukhopadhyay

1. Momentum distribution of dark matter produced in inflaton decay: Effect of inflaton-mediated scatterings, A. Ghosh and S. Mukhopadhyay, *PHYSICAL REVIEW D* **106** no.4, 4 (2022).[IF: 5.407]
2. Cannibal dark matter decoupled from the standard model: Cosmological constraints, A. Ghosh, S. Gope and S. Mukhopadhyay, *PHYSICAL REVIEW D* **106** no.10, 103515 (2022).[IF: 5.407]

Prof. Saurav Giri

1. Revealing spin-valve-like and exchange bias effect in Co₃Sn_{1.9}In_{0.1}S₂ crystal – A. Roychowdhury, P. K. Ghose, T. K. Dalui, S. Majumdar and S. Giri, *Applied Physics Letters* **122**,022403 (2023).[IF:3.791]
2. Effect of magnetic phase coexistence on spin-phonon coupling and magnetoelectric effect in polycrystalline Sm_{0.5}Y_{0.5}Fe_{0.58}Mn_{0.42}O₃ – S. Raut, S. Chakravarty, H. S. Mohanty, S. Mahapatra, S. Bhardwaj, A. M. Awasthi, B. Kar, K. Singh, M. Chandra, A. Lakhani, V. Ganesan, M. Mishra Patidar, R. K. Sharma, V. Srihari, H. K. Poswal, S. Mukherjee, S. Giri and S. Panigrahi, *Physica B: Condensed Matter* **651**, 414593 (2023).[IF:2.988]
3. Effect of reentrant spinglass-like states on Schottky Anomaly and exchange bias in polycrystalline Sm_{0.5}Y_{0.5}Fe_{0.58}Mn_{0.42}O₃ – S. Raut, S. Chakravarty, H. S. Mohanty, S. Mahapatra, S. Bhardwaj, A. M. Awasthi, B. Kar, K. Singh, M. Chandra, A. Lakhani, V. Ganesan, M. Mishra

- Patidar, R. K. Sharma, V. Srihari, H. K. Poswal, S. Mukherjee, S. Giri and S. Panigrahi, *Journal of Magnetism and Magnetic Materials* **563**, 169950 (2022).[IF:3.097].
4. Structural distortion driven enhancement of exchange bias effect in $\text{Cu}_{1-x}\text{Co}_x\text{Cr}_2\text{O}_4$ – A. Chatterjee, J. K. Dey, J. C. Tseng, S. Majumdar and S. Giri - *Journal of Magnetism and Magnetic Materials* **562**, 169770 (2022). [IF: 3.097]
 5. Coexisting ferromagnetic component and negative magnetoresistance at low temperature in single crystals of the VdW material GaGeTe - A. Roychowdhury, T. K. Dalui, P. K. Ghose, S. K. Mahatha, N. Wind, K. Rossnagel, S. Majumdar and S. Giri, *Journal of Solid State Chemistry* **312**, 123106 (2022).[IF:2.726]
 6. Ferroelectric order with a linear high-field magnetoelectric coupling in $\text{Na}_2\text{Co}_2\text{TeO}_6$: A proposed Kitaev compound – S. Mukherjee, G. Manna, P. Saha, S. Majumdar and S. Giri, *Physical Review Materials* **6**, 054407 (2022). [IF: 3.98]
 7. Bulk Rashba Spin Splitting and Dirac Surface State in p-Type $(\text{Bi}_{0.9}\text{Sb}_{0.1})_2\text{Se}_3$ Single Crystal – P. K. Ghose, S. Bandyopadhyay, T. K. Dalui, J. Tseng, J. K. Dey, R. Tomar, S. Chakraverty, S. Majumdar, I. Dasgupta and S. Giri, *Physics Status Solidi (rapid research letter)* **16**, 2100494 (2022).[IF:3.277]

Prof. Saurav Ray

1. Imprints of MeV scale hidden dark sector at Planck data - S. Ganguly, S. Roy, A. K. Saha, *Phys. Lett. B*, **834**, 137463 (2022).[IF:4.95]
2. Baryon asymmetry and lower bound on right-handed neutrino mass in fast expanding Universe: an analytical approach - M. Chakraborty, S. Roy, *JCAP* **11**, 053 (2022).[IF:7.280]
3. Secluded dark sector and muon ($g-2$) in the light of fast expanding Universe - S. Ganguly, S. Roy, A. Tapadar, *JCAP*, **02**, 044 (2023).[IF : 7.280]

Dr. Subhadeep Datta

1. Metamagnetism and magnetocaloric properties in a van der Waals antiferromagnet CrOCl - B Das, S Ghosh, T Kundu, R Paramanik, S Maity, M Palit, S Das, Subhadeep Datta, *physica status solidi*, **22042** (2022).
2. Floquet Quantum Thermal Transistor - Nikhil Gupt, Srijan Bhattacharyya, Bikash Das, Subhadeep Datta, Victor Mukherjee, Arnab Ghosh, *Physical Review E* **106** 024110 (2022). [Featured in Physics]
3. Magnetization reversal in chemically synthesized chains of permalloy nanospheres - Subhadeep Datta & Rajdeep Singh Rawat Pinaki Laha, Bipul Kumar Mahato, Rabindranath Gayen, *Applied Physics A* **128**, 394 (2022).

Prof. Subham Majumdar

1. Interplay between structural, magnetic, and electronic states in the pyrochlore iridate $\text{Eu}_2\text{Ir}_2\text{O}_7$ - M Das, S Bhowal, J Sannigrahi, A Bandyopadhyay, A Banerjee, G Cibin, D Khalyavin, N Banerjee, D T Adroja, I Dasgupta and S Majumdar, *Phys. Rev. B* **105**, 134421 (2022).[IF:3.908]
2. Observation of Griffiths-like phase in the quaternary Heusler compound NiFeTiSn - S Chatterjee, S Giri, S Majumdar, P Dutta, P Singha and A Banerjee, *J. Phys.: Condens. Matter* **34**, 295803 (2022).[IF:2.745]
3. Observation of magnetocaloric and magneto-electric anomalies in RCuO family of layered oxides- A Banerjee and S Majumdar, *J. Mag. Mag. Mater.* **556**, 169352 (2022).[IF:3.097]
4. Magnetic Properties, Magnetocaloric and Magnetoresistance Effects in Gd_5In_3 and Tb_5In_3 Compounds- S Mondal, P Dutta, S Chatterjee, A Banerjee, S Giri and S Majumdar, *Phys. Status Solidi B*, **259**, 2200200 (2022).[IF:1.782]
5. Evidence of exchange striction and charge disproportionation in the magnetoelectric material Ni_3TeO_6 - Md Numan, G Das, Md S Khan, G Manna, A Banerjee, S Giri, G Aquilanti and S Majumdar, *Phys. Rev. B* **106**, 214437 (2022).[IF:3.908]
6. Self-organized criticality of magnetic avalanches in disordered ferrimagnetic material- S Mondal, M Karmakar, P Dutta, S Giri, S Majumdar and R Paul, *Phys. Rev. E* **107**, 034106 (2023).[IF:2.707]

Dr. Sumanta Chakraborty

1. Strong cosmic censorship conjecture for a charged BTZ black hole – Chiranjeeb Singha, Sumanta Chakraborty and Naresh Dadhich, *Journal of High Energy Physics*, **2206**, 028 (2022).[IF:5.810]
2. Scalar perturbations around rotating regular black holes and wormholes: Quasi-normal modes, ergoregion instability and superradiance – Edgardo Franzin, Stefano Liberati, Jacopo Mazza, Ramit Dey and Sumanta Chakraborty, *Physical Review D*, **105**, 124051(2022).[IF:4.568]
3. Weiss variation for general boundaries – Justin C. Feng and Sumanta Chakraborty, *General Relativity and Gravitation*, **54**, 67 (2022).[IF:2.840]

4. Implications of the quantum nature of the black hole horizon on the gravitational-wave ringdown – Sumanta Chakraborty, Elisa Maggio, Anupam Mazumdar and Paolo Pani, *Physical Review D*, **106**, 024041 (2022).[IF:4.568]
5. Constraining extra dimensions using observations of black hole quasi-normal modes – Akash K. Mishra, Abhirup Ghosh and Sumanta Chakraborty, *European Physical Journal C*, **82**, 820 (2022).[IF:4.994]
6. Hunting extra dimensions in the shadow of Sgr A* – Indrani Banerjee, Sumanta Chakraborty and Soumitra SenGupta, *Physical Review D*, **106**, 084051 (2022). [IF: 4.568]
7. Gravitational wave memory in wormhole spacetimes – Indranil Chakraborty, Soumya Bhattacharyya and Sumanta Chakraborty, *Physical Review D*, **106**, 104057 (2022).[IF:4.568]
8. Echoes from braneworld wormholes – Shauvik Biswas, Mostafizur Rahman and Sumanta Chakraborty, *Physical Review D*, **106**, 124003 (2022).[IF:4.568]
9. Shielding a charged black hole – Justin C. Feng, Sumanta Chakraborty and Vitor Cardoso, *Physical Review D*, **107**, 044050 (2023).[IF:4.568]

Prof. Utpal Chattopadhyay

1. Associated production of heavy Higgs bosons with a b anti b pair in the nonholomorphic MSSM and LHC searches - U. Chattopadhyay, A.K. Datta, S. Mukherjee and A.K. Swain, *JHEP***08**, 113 (2022).[IF:5.81]
2. Muon and electron ($g-2$) anomalies with non-holomorphic interactions in MSSM - Md. Isha Ali, M. Chakraborti, U.Chattopadhyay and S. Mukherjee, *Eur.Phys.J.C* **83**, 60 (2023).[IF:5.407]
3. Phenomenological analyses with nonholomorphic soft supersymmetry breaking interactions – U. Chattopadhyay and S. Mukherjee, Indian Journal of Physics (published as a review paper in a peer reviewed journal online on March 31, 2023), <https://doi.org/10.1007/s12648-023-02593-3>, To appear within a special issue of Particle Physics in IJP Edited by D.K. Ghosh and S. Roy.[IF:1.78]

CSS Publications

1. Adsorption of 4-Mercapto Pyridine with Gold Nanoparticles Embedded in the Langmuir–Blodgett Film Matrix of Stearic Acid: SERS, XPS Studies Aided by Born–Oppenheimer on the Fly Dynamics, Time–Resolved Wavelet Transform Theory, and DFT, S Saha, B Dutta, **M Ghosh**, J Chowdhury, *ACS omega*, **7** (32), 27818-27830, (2022)
2. Fabrication of gold nanoparticles tethered in heat-cooled calf thymus-deoxyribonucleic acid Langmuir-Blodgett film as effective surface-enhanced Raman scattering sensing platform, R Sinha, S K Das, **M Ghosh** and J Chowdhury, *Frontiers in Chemistry*, **10**, 15 Nov, (2022)
3. Self-assembled gold nanoparticles on the serpentine networks of Calf Thymus-DNA Langmuir-Blodgett films as efficient SERS sensing platform: Fabrication and its application in thiram detection, R Sinha, SK Das, **M Ghosh** , J Chowdhury *Materials Chemistry and Physics*, **295**, 127140, February (2023)