SourovMondal

Corresponding Address
Banaras Hindu University (BHU)
Supervisor: Prof. Biswajit Ray
Polymer Lab, Department of Chemistry,
Institute of Science, , Varanasi-221005. Uttar Pradesh,
Email: sourov.mondal04@bhu.ac.in
Contact number:+91-9614308961

Education:

- Completed Doctor of Philosophy (Ph.D.) in Chemistry from **Institute of Science, Banaras Hindu University (BHU),** Uttar Pradesh (Since 2023).
- Completed Master of Technology (M. Tech.) in Materials Engineering from**Indian Institute Engineering Science and Technology(IIEST)Shibpur**(Since 2016) with **76%.**
- Completed Master of Science (M. Sc.) in Chemistry from J**iwajiUniversity,Gwalior**(Since 2012) with **76%**
- Completed Bachelor of Science (B.Sc. Hons.) in Chemistry from **Burdwan University**, (Since 2010) with **50.25%**

Research Interests:

Synthesis of Polymer and Polymeric materials,Control Radical Polymerization (RAFT, ATRP, ROP), Functionalization of Graphene and its application.

Research Publications:

i. **Pyrene-tagged poly(*N*-vinyl pyrrolidone) as efficient nano-carrier for anticancer drug delivery**
Mitra K, MaityS, HajraA, Singh S, Mondal S, Singh J, MaitiP& Ray B, International Journal of Polymeric Materials and Polymeric Biomaterials, 2023, **doi.org/10.1080/00914037.2182780, 2023**

ii. **Thermosensitive Poly[N-ethyl-N-(3-(isopropylamino)-3-oxopropyl)acrylamide] Polymer and Its Copolymers with Poly(ethylene glycol) methyl ether acrylate**
Mondal S,Kumari A., Mitra K., Ray B.,Synthesis and Characterization of a New, **Polymer Bulletin (Manuscript under communication), 2023**

iii. **Biocompatible thermoresponsive N-isopropyl- N-(3-(isopropylamino)-3-oxopropyl)acrylamidebased random copolymer: synthesis and studies of its composition dependent properties and anticancer drug delivery efficiency**

Mondal S,Kumari A, Mitra K, Verma A, Saha S, Maiti B, Singh R, Manna P P, Maiti P, Watanabe H, Kamigaito M and Ray B, , J. Mater. Chem. B, 10, 8462-8477, 2022,**doi.org/10.1039/D2TB01201D**

iv. **Colorimetric Detection of Hydrogen Peroxide and Cholesterol using Fe3O4 - Brominated GrapheneNanocomposite**
Singh, J; Mondal, S.; Singh, S.; Vishwakarma, S.; Singh, R.; Mitra, K.; Kumari, A.; Sen Gupta, S. K.; Ray, B.. Analytical and Bioanalytical Chemistry,414, 2131–2145, 2022**DOI: 10.1007/s00216-021-03848-w**

v. **Functionalized polyurethane composite gel electrolyte with cosensitizedphotoanode for higher solar cell efficiency using a passivation layer**
Prakash R, Maurya I C, Srivastava P , Mondal S, Ray B and Maiti P, , Nanoscale Adv.,4, 1199-1212, 2022,
doi.org/10.1039/D1NA00801C

vi. **Single crystal investigation, Hirschfield surface and interaction energy framework analyses of structure-directing interactions within two isomorphous Schiff's base multicomponent salts,**
Dutta A, Mondal S, Singh P K , Ray B. Journal of Molecular Structure, 1264, 133224, 2022,
doi.org/10.1016/j.molstruc.2022.133224

vii. **Effect of n-alkyl side chain length on the thermal and rheological properties of polyN-(3-(alkylamino)-N-(3-(isopropylamino)oxopropyl)acrylamide)homopolymers,**
Kumari A, Vishwakarma S, Mitra K, Chen C, Cui S, Biswas CS., Maiti B, Mondal S, Maiti P, Stadler FJ, Ray B, Macromol. Chem. Phys., 2021;2100118,**doi.org/10.1002/macp.202100118**

viii. **Selective Nitration of Phenol to o-Nitrophenol in the Presence of Metal Free Reduced Graphene Oxide at Room Temperature**
Mondal S., Singh J., Singh S., Vishwakarma, S. Mitra K., Kumari A., Singh R., Sen Gupta S. K., Ray B. New J. Chem., 44, 10878-10884. 2020**doi.org/10.1039/D0NJ00885K**

ix. **Synthesis and characterization of poly(N-(3-(hexylamino)-N-(3-(isopropylamino)-3-oxopropyl)acrylamide) homopolymer**
Kumari A, Mitra K, Vishwakarma S, Mondal S,Singh S, Singh R, Singh J, Maiti B, Sengupta SK, Ray B, , J. Polym. Mater.;37: 3-4, 131-152, 2020,
DOI:10.32381/JPM.2020.37.3-4.3

x. **Biocompatible thermosensitive poly[N-propyl-N-(3-(isopropylamino)-3-oxopropyl) acrylamide] and its random copolymers: synthesis, and comparison of its composition dependent properties, and anticancer drug delivery efficiency via in vivo studies,**

Mondal S., Singh R, Kumari A, Mitra K, Verma A, Saha S, Maiti B, Maiti P, Watanabe H, Kamigaito M, Manna P P, and Ray B , **(Manuscript under preparation)**

Research Experience:

1. **Ph. D. thesis title:*"Synthesis of Some New Acrylamide Monomers and Study of the Properties of their Polymers"***

   Achievements from my Doctoral research:

   - Organic synthesis of biocompatible thermoresponsive (N- isopropyl acrylamide) NIPAM-based monomers.
   - RAFT polymerization of this monomers.
   - Structure property relationship of this polymers.
   - Application of this polymer as a nano carrier

2. **M.Tech Project:**

   M.Tech project title:*"Preparation and Characterization of Nanostructure Solid Oxide Fuel Cell Components Materials"*

   Guide's Name: Dr. RajendraNathBasu

   Institutitute name: Fuel Cell and Battery Division, CSIR- Central Glass and Ceramic Research Institute, Kolkata

   Achievements from my M.Tech. project research:

   - Synthesized (gadolinia doped ceria) GDC-carbonate electrolytes showed significantly improved ionic conductivity of low temperature Solid oide fuel cell
   - Investigate the effect of addition of boron oxide (B_2O_3) on the ionic conductivity of GDC-carbonate electrolytes
   - Electrochemical performance of this electrolyte SOFC cuppon cell

3. **Research Guidance:**

   Guided two Ph.D. juniors for their initial research, Department of Chemistry, Institute of Science, Banaras Hindu University India.

   Guided 14 M.Sc. juniors for their six month project course, Department of Chemistry, Institute of Science, Banaras Hindu University India.

4. **Laboratory Skills:**

- Performing reactions at 'inert' and 'cryogenic' condition.
- Organic synthesis and recrystallization.
- Purification technique through thin layer and column chromatography.
- Handling to carry reactive precursors
- Fractional distillation, solvent extraction, simple distillation and rotatory evaporator
- Characterization of samples by NMR, HRMS, GPC, TGA/DSC, TEM/DLS XRD and IR spectra

5. **Instrument handled:**

Gel permeation chromatography (Malvern, Younglin ACME 9000 GPC), ATR (Jasco), HPLC(Younglin ACME 9000), BET surface area analyzer (Quanta Chrome), UV-visible spectroscopy connected with a Peltier system, (Simadzu& Agilent), Dynamic Light scattering (Malvern), Lyophilizer (Labmate).Cary-Eclipse fluorescence spectrophotometer (Agilent Technologies),FTIRPerkinElmer Spectrum version 10.03.05,Differential Scanning Calorimetry (DSC)Mettler STAR SW 10.00 instrument, Electrochemical analyzer

Achievements and Awards:

a) NET JRF, DEC 2016, Joint CSIR- UGC, Govt. of India.

b) Graduate Aptitude Test in Engineering,2014,Govt. of India

Seminars/Conferences attended:

- Contemporary trends and Future prospects of Functional Materials (CTFM-2019), Department of Chemistry, Institute of Science, BHU Varanasi, India, November, 29-30, **2019.**
- National symposium onbrainstorming meetingon chemistry at the (BSCI-2022) BHU Varanasi, India, December, 26-27, **2022**
- National Symposium on Emerging Trends in Chemical Sciences ETCS 2023 BHU Varanasi, India, December, 16-17, **2023**

Personal Information:

Date of Birth: 17th April, 1990.

Gender: Male (M)

Nationality: Indian

.Google scholar page link:https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&authuser=1&q=sourov+mondal+bhu&btnG=

DECLARATION

I hereby declare that the above information is correct to the best of my knowledge.

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❖ *Referees*

1. **Prof. Biswajit Ray**, *Department of chemistry, Institute of Science, Banaras Hindu University, Varanasi-221005, India.*e-mail: *biswajitray2003@yahoo.co.in.,bray@bhu.ac.in(PhD Supervisor).*
2. **Prof. PralayMaiti,***Centre for Material Science and Technology, IIT(BHU), Varanasi-221005, email: pmaiti.mst@itbhu.ac.in,*
3. **Prof. BiswajitMaiti***Department of chemistry, Institute of Science, Banaras Hindu University, Varanasi-221005, India.*e-mail*bmaiti@bhu.ac.in*
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