



Tamanna Mallick

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Gender: Female **Date of birth**: 26/08/1992 **Nationality**: Indian

ABOUT ME

Tamanna Mallick, PhD with Bio-Organic and Nanomaterial Chemistry from Visva-Bharati University, Santiniketan-731235 and currently worked as National Postdoctoral Fellow in IISERK.

Address: C/o-Tamizuddin Mallick, Vill+P.O-Sagardighi, P.S-Sagardighi, DIST: Murshidabad, PIN-742226, West Bengal (India)

Nationality: Indian

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E-mail ID: mallicktamanna1992@gmail.com

WORK EXPERIENCE

[02/01/2023 – Current]

National Postdoc Fellow (NPDF)

Indian Institute of Science Education and Research Kolkata (IISERK)

City: Kolkata

Country: India

National Postdoctoral Fellow (N-PDF) under the scheme of Science and Engineering Research Board (SERB) in the department of Chemical Science in IISER Kolkata under the mentor Prof. Priyadarshi De.

[19/09/2022 – 15/12/2022]

Research Associate (1)

IIT-Guwahati

City: North-Guwahati, Assam

Country: India

Postdoctoral researcher in the Bhabha Atomic Research Centre (BARC) sponsored project entitled "Life-Like Systems: Fuel-Driven Temporal Control Over Self-Assemblies Utilizing Ternary Complexation" in the Department of Chemistry under Prof. Debapratim Das.

[08/2015 – 08/2021]

Research Scholar

Visva-Bharati University

City: Santiniketan

Country: India

Worked on "**Naturally Occurring Bioactive Compounds and their Synthetic Analogs: A Detailed Study on their Spectroscopic Behaviour and Applications in the Synthesis of Fluorescent Nanomaterials**" under the supervision of Dr. Naznin Ara Begum

[05/2017 – 03/2020]

Project Trainer

Visva-Bharati University

City: Santiniketan

Country: India

Bio-organic Lab,

Trained five students in their M.Sc. projects in three academic years under the supervision of Dr. Naznin Ara Begum

[05/2015 – 07/2015]

Summer Project

Indian Institute of Science Education and Research

City: Kolkata

Country: India

Biopolymer synthesis using RAFT process under the supervision of Prof. Priyadarsi De

[12/2014 – 03/2015]

M.Sc. Project

University of Kalyani

City: Kalyani

Country: India

Palladium catalyzed synthesis of 1,2,3-triazole annulated pyridopyrimidin under the supervision of Dr. Brindaban Roy

EDUCATION AND TRAINING

[05/2022]

PhD in Chemistry

Visva-Bharati University <https://www.visvabharati.ac.in/>

Address: Santiniketan, India

[2013 – 2015]

M. Sc. in Chemistry (specializations: Organic Chemistry)

University of Kalyani <https://klyuniv.ac.in/>

Address: India

[2010 – 2013]

B.Sc. in Chemistry (Hons) with Physics and Mathematics

University of Kalyani <https://klyuniv.ac.in/>

Address: India

[2010]

Higher Secondary Examination

West Bengal Council of Higher Secondary Education <https://wbchse.nic.in/html/index.html>

Address: India

[2008]

Secondary Examination

West Bengal Board of Secondary Education <https://wbbsse.wb.gov.in/Web/Home?l=Z%2F%2F2JeEw6P%2FkXiUjdLauQg%3D%3D>

Address: India

LANGUAGE SKILLS

Mother tongue(s): Bengali

Other language(s): English , Hindi

DIGITAL SKILLS

Microsoft Office | Microsoft Excel | Microsoft Powerpoint | Microsoft Word | Google (Google Meet, Google Docs, Google Classroom, Google Forms, Google Drive, Google Slide)

[Aerobic Cu\(I\)-Catalyzed Site-Selective 1,3-Difunctionalization of Indazole through Cascade C–N and C–O Bond Formation](#)

K. K. Das, A. K. Ghosh, T. Mallick, N. A. Begum, A. Hajra. **Advanced Synthesis & Catalysis**, <https://doi.org/10.1002/adsc.202201162>.

[2022] **[Quantum Dots: Potential Cell Imaging Agent](#)**

Reference: Book: Application of Quantum Dots in Biology and Medicine

T. Mallick, A. Karmakar, Z. Sultana. Application of Quantum Dots in Biology and Medicine, **Springer, Singapore**, 191-207

[2022]

[Carbazole-decorated fluorescent CdS quantum dots: A potential light-harvesting material](#)

T. Mallick, A. Karmakar, M. Kar, S. Dutta, A. Pramanik, S. K. Mondal, D. Mandal, N. A. Begum, **Journal of Physics and Chemistry of Solid**, **164**, 110603.

[2022]

[Understanding the Role of Flavonoid Based Small Molecules in Modulating the Oncogenic Protein-Protein Interactions: A Quest for Therapeutic Arsenal](#)

A. Karmakar, T. Mallick, C. Fouzder, A. Mukhuty, S. Mondal, R. Kundu, N. A. Begum. **Journal of Molecular Structure**, **1248**, 131511.

[2021]

[Exploring the Propensities of Fluorescent Carbazole Analogs toward the Inhibition of Amyloid Aggregation in Type 2 Diabetes: An Experimental and Theoretical Endeavor](#)

T. Mallick, A. Karmakar, A. Mukhuty, C. Fouzder, J. Mandal, S. Mondal, A. Pramanik, R. Kundu, N. A. Begum. **The Journal of Physical Chemistry B**, **125**, 10481-10493.

[2021]

[Towards the development of antioxidant-wrapped graphene-based fluorescent nanomaterials having theranostic potentials: A combined experimental and theoretical study](#)

A. Karmakar, T. Mallick, A. Pramanik, D. Mandal, N. A. Begum. **Carbon Trends**, **4**, 100042.

[2021]

[Exploring the efficacy of naturally occurring biflavone based antioxidants towards the inhibition of the SARS-CoV-2 spike glycoprotein mediated membrane fusion](#)

S. Mondal, A. Karmakar, T. Mallick, N. A. Begum. **Virology**, **556**, 133-139.

[2020]

[Unfolding the Role of a Flavone-Based Fluorescent Antioxidant towards the Misfolding of Amyloid Proteins: An Endeavour to Probe Amyloid Aggregation](#)

A. Karmakar, T. Mallick, C. Fouzder, A. Mukhuty, S. Mondal, A. Pramanik, R. Kundu, D. Mandal, N. A. Begum. **The Journal of Physical Chemistry B**, **124**, 11133-11144.

[2020]

Carbazole Analog Anchored Fluorescent Silica Nanoparticle Showing Enhanced Biocompatibility and Selective Sensing Ability towards Biomacromolecule

T. Mallick, A. Karmakar, J. Bag, S. Sahu, M. Mishra, N. A. Begum. **Dyes and Pigments**, **173**, 107994.

[2020]

Curry Leaf and its Antioxidant Potential: A Systematic Study to Enhance its Activity in Aqueous Medium

D. Kumari, T. Mallick, A. Karmakar, S. Mondal, S. Das, N. A. Begum. **Current Nutrition & Food Science**, **16**, 323-332.

[2019]

Exploration of Synthetic Antioxidant Flavonoid Analogs as Acetylcholinesterase Inhibitors: an Approach towards Finding their Quantitative Structure-Activity Relationship

A. Karmakar, P. Ambure, T. Mallick, S. Das, K. Roy, N. A. Begum. **Medicinal Chemistry Research**, **28**, 723-741.

[2019]

Antioxidant Flavone Functionalized Fluorescent and Biocompatible Metal Nanoparticles: Exploring their Efficacy as Cell Imaging Agents

A. Karmakar, T. Mallick, C. Fouzder, A. Mukhuty, R. Kundu, N. A. Begum. **Nano-Structures & Nano-Objects**, **18**, 100278.

[2018]

Harnessing Carbazole based Small Molecules for the Synthesis of the Fluorescent Gold Nanoparticles: A Unified Experimental and Theoretical Approach to Understand the Mechanism of Synthesis

T. Mallick, A. Karmakar, D. Mandal, A. Pramanik, P. Sarkar, N. A. Begum. **Colloids and Surfaces B: Biointerfaces**, **172**, 440-450.

[2018]

Understanding of the Interactions of ctDNA with an Antioxidant Flavone Analog: Exploring the Utility of the Small Molecule as Fluorescent Probe for Biomacromolecule

A. Karmakar, T. Mallick, M. N. Alam, S. Das, S. Batuta, S. K Chandra, D. Mandal, N. A. Begum. **Journal of Molecular Structure**, **1165**, 276-287.

[2018]

Naturally Occurring Green Multifunctional Agents: Exploration of their Roles in the World of Graphene and Related Systems

A. Karmakar, T. Mallick, S. Das, N. A. Begum. **Nano-Structures & Nano-Objects**, **13**, 1-20.

[2018]

Fluorescent Small Molecules Are BIG Enough To Sense Biomacromolecule: Synthesis of Aromatic Thioesters and Understanding Their Interactions with ctDNA

T. Mallick, A. Karmakar, S. Batuta, G. Ahamed, S. Das, M. N. Alam, M. Mukherjee, N. Das, D. Mandal, N. A. Begum. **ACS omega**, **3 (1)**, 334-348.

[2018]

Degradation of toxic organic dyes in aqueous medium in greener ways: exploring the utility of Indian Curry leaf plant and the nanoparticles synthesized using it

D. Kumari, T. Mallick, P. Padhy, S. Mondal, A. Karmakar, N. A. Begum. **Desalination and Water Treatment**, **129**, 266-278.

CONFERENCES AND SEMINARS

[12/2018]

Poster Presentation on International Conference on Frontiers in Chemical Sciences (FICS)

Indian Institute of Technology Guwahati, India

[2018]

Poster Presentation on International Conference on Advancement in Science and Technology (ICAST)

Visva-Bharati University, Santiniketan, India

[12/2017]

Short Invited talk on International Conference of Molecular Spectroscopy (ICMS)

Mahatma Gandhi University, Kerala, India

[03/2016]

Poster presentation in NATIONAL SYMPOSIUM on \Recent Advances in Chemistry Research

Department of Chemistry, Visva-Bharati University, Santiniketan, India

[2016]

Poster presentation on RSC (EIS) Symposium on Interface between Chemistry and Biology

CSIR-Indian Institute of Chemical Biology, Kolkata, India

RECOMMENDATIONS

PhD Supervisor

Name: Naznin Ara Begum

Phone number: (+91) 9434431810

Email: naznin.begum@visva-bharati.ac.in

Associate Professor

Dept. of Chemistry

Visva-Bharati University

Santiniketan-731235

West Bengal, India

Co-Author

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Email: pranab.sarkar@visva-bharati.ac.in

Professor

Dept. of Chemistry

Visva-Bharati University

Santiniketan-731235

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Teacher

Name: Alakananda Hajra

Phone number: (+91) 9474176402

Email: alakananda.hajra@visva-bharati.ac.in

Associate Professor

Dept. of Chemistry

Visva-Bharati University

Santiniketan-731235

West Bengal, India

HONOURS AND AWARDS

- [2017] **National Eligibility Test (NET) in Chemical Science** Awarding institution: Central Scientific Industrial Research-University Grants Commission
- [2017] **Moulana Azad National Fellowship (MANF)** Awarding institution: University Grants Commission
- [2016] **Graduate Aptitude Test in Engineering (GATE)** Awarding institution: Ministry of Human Resource Development, Government of India
- [2015] **West Bengal State Eligibility Test (WBSET)** Awarding institution: West Bengal College Service Commission
- [2010] **Central Sector Scheme of Scholarship for College & University** Awarding institution: Government of India

SKILLS

Experimental

- Background in Synthetic Organic Chemistry
- Purification and Crystallization techniques

Instruments Handling

- Fluorescence Spectrophotometer (PerkinElmer LS55)
- UV-Vis Spectrophotometer (PerkinElmer Lambda 35)
- FT-IR, 400 MHz NMR spectrometer (Buker)
- Cyclic Voltammetry
- Dynamic Light Scattering
- Thermogravimetric analysis
- Centrifuge Machine

Data Interpretation Skills

FT-IR, ^1H , ^{13}C NMR spectra, DEPT NMR, LCMS, HRMS, XRD, High resolution transmission electron microscopy (HRTEM), Transmission electron microscopy (TEM), Scanning electron microscopy (SEM), Field emission scanning electron microscopy (FESEM), Atomic force microscopy (AFM) and basics structure solution, Molecular Docking and DFT Calculation.

Computer Skills

- **Operating Systems:** Windows and Linux

- **Software:** MS-Office, ChemOffice, MS-Power point, MestreNova, Origin, Gaussian 09W, ImageJ, AutoDock Tools, Vina