

Curriculum Vitae

Dr. B. Tharmalingam

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Objective

To pursue a challenging position as chemist where I can use my theoretical knowledge, subject expertise and practical thinking to deliver innovative solutions for the problems assigned.

Educational Qualification

Post Doctoral Fellow in Chemistry, Dalian University of Technology, Dalian, China (**Oct-2022 to Dec-2025**).

Doctor of Philosophy in Chemistry, Bharathiar University, Coimbatore-641046, Tamil Nadu, India. (**Nov-2016 to Sep-2021**).

Master of Science in Chemistry, VHNSN College, Virudhunagar, India. (**69%, First class, 2013-2015**).

Bachelor of Science in Chemistry, VHNSN College, Virudhunagar, India. (**70 %, First class, 2010-2013**).

Research Experience

I completed my postdoctoral research in photochemistry and photophysics at **Dalian University of Technology, Dalian, in December 2025**. Prior to this, I obtained my Ph.D. in Inorganic Chemistry in September 2021, with a thesis entitled “**Star-Shaped Triaminoguanidine as a Scaffold for the Construction of Hydrazone-Based Multifunctional Materials and Their Sensing Applications**,” conducted under the supervision of **Dr. B. Murugesapandian** at the Department of Chemistry, Bharathiar University, Coimbatore, Tamil Nadu, India.

I completed a three-year **DST-SERB project (YSS/2015/000037, dated 06.10.2015)** during 2016–2018, entitled “**Design and Synthesis of Polynuclear Complexes Supported by Bis-calix[4]pyrrole Schiff Base Macrotricyclic Ligands and Their Application in Small Molecule Activation**,” under the supervision of Dr. B. Murugesapandian, UGC Assistant Professor, Department of Chemistry, Bharathiar University, Coimbatore–641046, Tamil Nadu, India.

Professional Experience (1 year, 2021-2022)

- ❖ Working as Assistant Professor in Chemistry at Annapoorna Engineering College, Salem, Tamil Nadu, India.

Technical skills

- ❖ Organic : Synthesis of desired molecules,
- ❖ Chromatography : TLC, and Column chromatography
- ❖ Instrument handling : UV-Vis spectroscopy, Photoluminescence spectroscopy, Cyclic voltammetry, Thermogravimetric analysis, Time resolved fluorescence spectroscopy, Scanning electron microscope (SEM), X-ray diffraction (XRD), Dynamic light scattering (DLS), Fourier transforms infrared spectroscopy, NMR spectroscopy Mass spectrometry, Nano-second Transition absorption spectroscopy, and EPR.

Research interests and experience

- ❖ Synthesis of organic molecules with process optimization to improve purity and yield.
- ❖ Characterization of organic molecules and investigation of electron transfer processes.
- ❖ Design and development of multifunctional materials.
- ❖ Structural elucidation of organic molecules using spectroscopic and analytical techniques, including UV-Vis, FT-IR, NMR, mass spectrometry, fluorescence spectroscopy, TGA, cyclic voltammetry, and single-crystal X-ray analysis.

Computer skill

- ❖ Software : Chemdraw, Chem office, Origin, NMR, MS Office, Powder-XRD, simulation metlab and DFT.

List of Publications in Journals

1. **B. Tharmalingam**, A. A. Sukhanov, Y. Pei, G. Sambucari, T. Ramos, J. Zhao, V. K. Voronkova, M. D. Donato, Long-lived charge separated states in spirocompact rhodamine-naphthalenediimide D-A-D systems: synthesis and time-resolved optical and electron paramagnetic resonance spectroscopic studies, *Phys. Chem. Chem. Phys.*, 2026, **28**, 365-382 (**I.F-2.9**).
2. **B. Tharmalingam**, R. K. Kumar, O. Anitha, W. Kaminsky, J. G. Malecki and B. Muresapandian, Tetra-coordinated organoboron complexes with triaminoguanidine-salicylidene based ligands: aggregation induced enhanced emission and mechanoresponsive features, *Dalton Trans*, 2025, **54**, 3897- 3910 (**I.F-3.5**).
3. **B. Tharmalingam**, Recent advances in small-molecules fluorescent probes bearing a triaminoguanidinium unit and their sensing, bioimaging and multifunctional applications, *Anal. Methods*, 2025, **17**, 5579 – 5604 (**I.F-2.6**).

4. **B. Tharmalingam**, M. Mathivanan, G. Dhamodiran, K. S. Mani, M. Paranjothy, and B. Murugesapandian, Star-Shaped ESIPT Active Mechanoresponsive Luminescent AIEgen and its On-Off-On emissive Response to $\text{Cu}^{2+}/\text{S}^{2-}$, *ACS Omega*, 2019, **4**, 12459–12469 (**I.F-3.7**).
5. **B. Tharmalingam**, M. Mathivanan, K. S. Mani, W. Kaminsky, A. Raghunath, J. Mathivanan, P. Ekambaram, and B. Murugesapandian, Selective detection of pyrophosphate anion by zinc ensemble of C_3 -symmetric triaminoguanidine-pyrrole conjugate and its biosensing applications, *Anal. Chim. Acta*, 2020, **1103**, 192-201 (**I.F-5.7**).
6. **B. Tharmalingam**, M. Mathivanan, and B. Murugesapandian, C_3 -symmetric triaminoguanidine based colorimetric and fluorometric chemosensor: sequential detection of $\text{Zn}^{2+}/\text{PPi}$, its RGB performance for detection of Zn^{2+} ion and construction of IMPLICATION logic gate, *Spectrochim Acta. Part A*. 2020, **242**, 118749 (**I.F-4.3**).
7. **B. Tharmalingam**, M. Mathivanan, O. Anitha, and B. Murugesapandian, Development of C_3 symmetric triaminoguanidine-2-naphthol conjugate: Aggregation induced emission, colorimetric and turn-off fluorimetric detection of Co^{2+} ion, smartphone and real sample applications, *J. Photochem. Photobiol. A*, 2021, 406, 112983 (**I.F-4.43**).
8. **B. Tharmalingam**, M. Mathivanan, O. Anitha, W. Kaminsky and B. Murugesapandian, Nitrogen rich triaminoguanidine-pyrrole conjugate as supramolecular synthon for the construction of charge-assisted hydrogen bonded network with various carboxylic acid, *J. Solid State Chem.* 2022, **305**, 122637 (**I.F-3.3**).
9. **B. Tharmalingam**, O. Anitha, J. Aiswarya, and B. Murugesapandian Visualization of latent fingerprints using an AIE-active unsymmetrical azine: 2-naphthol-pyrrole acrylate conjugate and its fluorescent sensing of Cu^{2+} and S^{2-} ions, smartphone and logic gate applications, *J. Photochem. Photobiol. A*, 2023, 442, 114757 (**I.F-4.43**).
10. M. Mathivanan, **B. Tharmalingam**, C.H. Lin, B.V. Pandiyan, V. Thiagarajan, and B. Murugesapandian, ESIPT-active multi-color aggregation-induced emission features of triphenylamine–salicylaldehyde based unsymmetrical azine family, *CrystEngComm*, 2020, **22**, 213-228 (**I.F-3.76**).
11. M. Mathivanan, **B. Tharmalingam**, K. S. Mani, V. Thiagarajan, and B. Murugesapandian, Simple C_3 -symmetric triaminoguanidine-triphenylamine conjugate as an efficient colorimetric sensor for Cu(II) and fluorescent sensor for Fe (III) ions, *Spectrochim Acta. Part A*. 2020, **234**, 118235 (**I.F-4.3**).
12. M. Mathivanan, **B. Tharmalingam**, T. Devaraj, M. Abinayaselvi, C.H. Lin, J. Mathivanan, and B. Murugesapandian, A new 7-diethylamino-4-hydroxycoumarin

based reversible colorimetric/fluorometric probe for sequential detection of Al^{3+} /PPi and its potential use in biodetection and bioimaging applications, *New J. Chem.*, 2021, **45**, 6067-6079, **(I.F 3.92)**.

13. M. Mathivanan, **B. Tharmalingam**, O. Anitha, C.H. Lin, V. Thiagarajan, and B. Murugesapandian, All-in-one Type ESIPT-Active Multi-Stimuli Responsive 7-Diethylamino-4-hydroxycoumarin-Rhodamine B Hydrazone as Molecular Switches and Reversible Photochromic Features of Its Zinc Ensemble, *Mater. Chem. Front.*, 2021, **5**, 8183, **(I.F 8.68)**.
14. K. Santhiya, M. Mathivanan, **B. Tharmalingam**, O. Anitha, S. Ghorai, R. Natarajan, and B. Murugesapandian, A new 7-(diethylamino)coumarin and 4-(diethylamino)phenol appended unsymmetrical thiocarbohydrazone: Detection of moisture in organic solvent and sequential fluorimetric detection of Cu^{2+} ions and cysteine, *J. Photochem. Photobiol. A*, 2022, **432**, 114105, **(I.F 4.3)**.
15. M. Mathivanan, **B. Tharmalingam**, O. Anitha, J. G. Małeckid, B. Murugesapandian, A unique methanol responsiveness, ESIPT, AIE, acidochromism and mechanofluorochromic features of flexible ethylenediamine bridged rhodamin Bdiethylamino- hydroxycoumarin conjugate, *J. Mol. Liq.*, 2023, **382**, 121845, **(I.F 6.63)**.
16. O. Anitha, M. Mathivanan, **B. Tharmalingam**, J. G. Małeckid, B. Murugesapandian, Multi-stimuli Responsiveness of Pyrimidine Bishydrazone: AIE, Tuneable Luminescence, White Light Emission, Mechanochromism, Acidochromism and its Anticounterfeiting Applications, *Dyes Pigm.* 2023, **212**, 111091 **(I.F 5.12)**.
17. **B. Tharmalingam**, K.S. Mani, R. Kumarvel, and R. Rajamanikandan A Novel Aminoguanidine-Based Colorimetric and Fluorescent Probe for Rapid and Reversible Detection of Diethyl Chlorophosphite with Smartphone and Logic Gate Applications, *Chem. Sci*, **(To be submitted)**.
18. **B. Tharmalingam**, Recent progress in smartphone-assisted chemosensors for environmental and biological analysis, *Analyst* **(To be submitted)**

Conference/Seminar/Workshop Attended

1. **Poster Presentation: B.Tharmalingam**, B. Murugesapandian, “Selective Detection of Zn^{2+} and PPi ions by Star-Shaped C_3 -symmetric pyrrole based Probe through Fluorescence “Turn-on-off” Responses in Aqueous Methanol Medium: Application in Live Zebrafish, PCR products and Construction of INHIBIT GATE” in international symposium on Main-group Molecules to Materials (MMM) held at Department of Inorganic and Physical Chemistry, Indian Institute Of Science, Bangalore – Karnataka, India on October, 28-31, 2018.

2. **Poster Presentation: B.Tharmalingam**, B. Murugesapandian, “Selective Detection of Pyrophosphate by Zinc Ensemble of C₃-Symmetric triaminoguanidine-pyrrole Conjugate in Live Zebrafish, DNA PCR products and Construction of INHIBIT GATE”, International conference on INNOVATIONS IN CHEMICAL SCIENCE-2019 (ICICS-2019) held at Kongunadu Arts and Science College, Coimbatore, Tamil Nadu, India.

Personal details

Fathers' Name : **U. Balamurugan**
Date of Birth : 16-11-1991
Gender : Male
Nationality : Indian
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References

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Declaration

I hereby declare that the above-furnished information's are true to the best of my knowledge. If given a chance, I pledge to satisfy my superiors, for the growth of my organization.

(Dr. B. Tharmalingam)