Resume

Personal Information

Name MAHMOUD ZAKARIA ALI BASYOUNI ALI MASOUD
Date of Birth 1December,1991.
Nationality Egyptian.
Mobile 080-5739-8208
E-mail Address masoud.mahmoud.081@s.kyushu-u.ac.jp, masoud.mahmoud@kyudai.jp
Address 1-2-1 Shinwa-machi, 104, Hakata-Ku, Fukuoka-Shi, Fukuoka, Japan.

Education and Training

2022-Present PhD Student, Department of Chemistry and Material Sciences, Interdisciplinary Graduate School of Engineering Sciences, **Kyushu University, Japan.**
2019-2020 Training at **Huazhong Agricultural University, Wuhan, China.**
2014-2018 M.S. in Organic Chemistry, **Benha University, Egypt.**
2009-2013 B.S. in Chemistry (Second class excellent honor degree), **Benha University, Egypt.**

Research Interests

My research interests lie primarily in the field of **Polymer Chemistry**, with a focus on the synthesis, characterization, and application of advanced organic materials for use in organic electronics and electro-optic devices. I am particularly interested in:

1. **Ring-Opening Metathesis Polymerization (ROMP)**: Investigating the synthesis of homopolymers and copolymers based on high-strain cyclic alkenes to develop materials with tailored properties for enhanced performance in electronic applications.
2. **TADF-Based Polymers** for **High-Performance OLEDs**: Exploring TADF pendant polymers, exciplex systems, and **multi-resonance (MR) TADF** materials synthesized via ROMP to achieve **high color purity**, **narrowband emission**, and **enhanced efficiency**. Additionally, investigating **inkjet printing** and **solution-processable** fabrication techniques for scalable and cost-effective OLEDs production.

Work Experiences

December 2017- September 2022 Teaching assistant in the Chemistry Department, Faculty of Science, Benha University, Egypt.
March 2015- November 2017 Researcher in the Chemistry Department, Faculty of Science, Benha University, Egypt.
October 2013- February 2015 Medical Representative, PIXEL Pharmaceutical company, Egypt.

Research skills

I have strong expertise in synthesizing and characterizing organic and polymer materials, with extensive hands-on experience in key analytical techniques essential to materials science and organic electronics. My skills include:

- Polymer Characterization
- Optical and Photophysical Analysis
- Electrochemical and Quantum Yield Measurements
- OLED Device Fabrication and Characterization

Publications

First author, Corresponding author, and equally contributed research articles:

[1] **M.Z. Basyouni**, M.E. Abdu, M.F. Radwan, A.M. Spring, Ring-Opening Metathesis Polymerization of Homo- and Copolymers Based on p-Phenylenevinylene and Norbornene-Dicarboximide: Enhanced Thermal Stability for Optoelectronic Applications, J. Mol. Struct. (2025) 142296. https://doi.org/10.1016/J.MOLSTRUC.2025.142296.

[2] **M.Z. Basyouni**, K. Nomura, Y. Goroumaru, M.F. Radwan, M.E. Abdu, A.M. Spring, Controlled synthesis of PPV oligomers by ROMP : impact on optical , structural , and thermal properties, Chem. Pap. (2025). https://doi.org/10.1007/s11696-025-04091-8.

[3] M.E. Abdu, M.F. Radwan, D.A. Elsayed, W.S. Shehab, W.A. Zordok, **M.Z. Basyouni**, A.M. Spring, Controlled synthesis , characterization and computational studies of novel homo and random Co-polymers from carbazolovinylene and phenothiazinovinylene via ROMP chemistry, Polymer. 333 (2025) 128590. https://doi.org/10.1016/j.polymer.2025.128590.

[4] M.F. Radwan, M.E. Abdu, M.M. Elkady, **M.Z. Basyouni**, A.M. Spring, Living ROMP of N -phenothiazinyl norbornene-dicarboximide homopolymer : Synthesis , characterization , and physical behavior insights, Polymer. 321 (2025) 128115. https://doi.org/10.1016/j.polymer.2025.128115.

[5] **M.Z. Basyouni**, M.E. Abdu, M.F. Radwan, A.M. Spring, From monomer to polymer: Controlled synthesis and comprehensive analysis of poly(p-phenylene vinylene) via ROMP, J. Mol. Struct. 1310 (2024). https://doi.org/10.1016/j.molstruc.2024.138001.

[6] **M.Z. Basyouni**, M.F. Radwan, M.E. Abdu, A.M. Spring, Synthesis, Characterization, and Optical Properties of Carbazole-Functionalized Poly(norbornene-dicarboximide) by ROMP, Evergreen 11 (2024) 207–213. https://doi.org/10.5109/7172257

[7] H.I. Mohamed, **M.Z. Basyouni**, A.A. Khalil, K.A. Hebash, A.H. Tantawy, Petroleum-dispersing and antimicrobial activity of newly synthesized polymeric surfactants tethering tetrachlorophthalimide moiety, J. Iran. Chem. Soc. (2020). https://doi.org/10.1007/s13738-020-02023-9.

[8] A.H. Tantawy, H.I. Mohamed, A.A. Khalil, K.A. Hebash, **M.Z. Basyouni**, Novel bioactive imidazole-containing polymeric surfactants as petroleum-collecting and dispersing agents: Synthesis and surface-active properties, J. Mol. Liq. 236 (2017) 376–384. https://doi.org/10.1016/j.molliq.2017.04.040.

Conferences proceeding

[1] **M.Z. Basyouni**, M.F. Radwan, M.E. Abdu, A.M. Spring, Concise Review of TADF: Basic Principles, Material Design, Prospective Applications, and the Role of ROMP in Polymer Synthesis, Int. Exch. Innov. Conf. Eng. Sci. 10 (2024) 597–601. https://doi.org/10.5109/7323322.

[2] M.F. Radwan, **M.Z. Basyouni**, M.E. Abdu, A.G. Taha, P. Xia, A.M. Spring, Unlocking the Potential of Poly(norbornene-dicarboximides): Synthesis, Applications, and Future Prospects, Int. Exch. Innov. Conf. Eng. Sci. 10 (2024) 1114–1121. https://doi.org/10.5109/7323397.

[3] M.E. Abdu, **M.Z. Basyouni**, M.F. Radwan, A.G. Taha, P. Xia, A.M. Spring, Advancements in the Synthetics and Applications of π -Conducting Poly(arylene vinylene) Materials: Mini review, Int. Exch. Innov. Conf. Eng. Sci. 10 (2024) 717–724. https://doi.org/10.5109/7323340.

[4] **M.Z. Basyouni**, J. Ye, A.M. Spring, Conjugated Polymers and ROMP: Synthesis, Applications, and Prospects for Technological Innovations, Int. Exch. Innov. Conf. Eng. Sci. 9 (2023) 405–411. https://doi.org/10.5109/7158031.

workshops

2024 International Sakura Science Event, Kyushu University, japan
2018 Production of hydrogel using radiation technology, Atomic Energy Authority, Egypt.
2017 Ethics of Scientific Research, Scientific Writing, and University Administration, Benha University, Egypt.
2016 Teaching responsible sciences workshop, Benha University, Egypt.
2016 spectroscopy workshop, Central laboratories, Ain shams University, Egypt.

Teaching skills

- Delivering tutorials in organic synthesis to groups of undergraduate students.
- Supervise students to carry out the practical sessions of identification of simple solid and liquid organic compounds.
- Teaching spectroscopy and separation techniques, along with supporting and helping other students in the laboratory. Marking student's performance sheets.

Personal Skills

- Ability to work well under pressure.
- Team leadership abilities and hard worker.
- Good communication skills.
- Interactive and fast enough to digest any new technologies.

Languages

- Arabic: mother tongue.
- English: very good writing and speaking
- Japanese: basic level

Training Courses

- Lab rotation at Chihaya Adachi Sensei's laboratory (OPERA), Kyushu University, focusing on PL quantum yield measurements and OLED device fabrication (February–March 2025).
- Participation and contribution in the training course on spectroscopy separation techniques, insect behavior, and molecular biology at the College of Science, Huazhong Agricultural University, Wuhan, China (March 14, 2019 – February 1, 2020).

Referee

Associate Professor. **Andrew Spring**
Academic Position: Associate Professor Department of Molecular and Material Sciences (MMS) Kyushu University, Japan
Edu-Mail: spring.mark.andrew.284@m.kyushu-u.ac.jp

Associate Professor. **Furuno Hiroshi**
Academic Position: Associate Professor Department of IFC Faculty of Engineering Sciences, Kyushu University Room: E304, Chikushi Campus
Edu-Mail: furuno.hiroshi.770@m.kyushu-u.ac.jp

Associate Professor. **Bahaa Elgendy,**
Academic Position: Associate Professor of Medicinal Chemistry, Department of Anesthesiology & Center for Clinical Pharmacology, Washington University School of Medicine in St. Louis, 2 Pharmacy Place St. Louis, Missouri 63110
Edu-Mail: belgendy@wustl.edu

All relevant documents will be provided upon request