

NAGARAJAN RAJENDRAN

Summary

Aspiring to secure a dynamic research position where I can leverage my education and expertise to contribute meaningfully as a valuable team member. Committed to maximizing my potential, excelling through continuous learning, and staying at the forefront of advancements in modern science and technology.

Contact

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Shenzhen, China.

Skills

- Organic synthesis
- Chemosensor
- Drug discovery
- PNA-RNA binding

Education

- PhD in Chemistry, Karunya Institute of Technology and Sciences, Coimbatore, Tamil Nadu, India (2014 -2019).
- M.Sc. in Chemistry in Karunya Institute of Technology and Sciences, Coimbatore, Tamil Nadu, India (2012-2014).
- B.Sc. in Chemistry in Bharathiyar University, Coimbatore, Tamil Nadu, India (2009-2012).

Experience

Research Associate

The Chinese University of Hong Kong-Shenzhen
December 2023 – till date Shenzhen, China.

- Synthesis of novel PNA monomers to improve the binding affinity towards RNA.

Postdoctoral Fellow

Ewha Womans University
July 2021 - June 2023 South Korea

- Development of research materials on (1s,4s)-2,5-diazabicyclo[2.2.1] heptane-based probes for family VIII bromodomain with high purity for the cancer activity.

Postdoctoral Fellow

Kongju National University
March 2020 - May 2021 South Korea

- Design and Synthesis of novel amino acid-based efficient chemosensors for heavy metal ion sensing.

Project Assistant

Karunya Institute of Technology and Sciences
February 2015 - February 2018 Coimbatore

- Synthesis of highly substituted heterocycles via cyclisation of novel metal carbenoids and investigation of their biological importance.

Publications

1. **Rajendran Nagarajan**, Eswaran Kamaraj, Chong-Hyeak Kim, Ki Hwan Lee, "Novel bis naphthalene-2-ol based colourimetric chemosensor for the dual detection of Fe2+ and CN- ions in physiological pH and its DFT calculation studies" Talanta Open, 2022, 100143.
https://doi.org/10.1016/j.talo.2022.100143

2. **Rajendran Nagarajan**, Balasaheb D. Vanjare, Ki Hwan Lee, "The first Tryptophan based turn-off chemosensor for Fe2+ ion detection" Spectrochim. Acta A, 2021, 262, 120103. https://doi.org/10.1016/j.saa.2021.120103

3. **Rajendran Nagarajan**, Hyang-Im Ryoo, Balasaheb D. Vanjare, Nam Gyu Choi, Ki Hwan Lee, "Novel phenylalanine derivative-based turn-off fluorescent chemosensor for selective Cu2+ detection in physiological pH" J. Photochem. Photobiol. A, 2021, 418, 113435. Rajendran Nagarajan and Hyang-Im Ryoo have contributed equally to this work. https://doi.org/10.1016/j.jphotochem.2021.113435

4. **Rajendran Nagarajan**, Chitra Varadaraju, Ki Hwan Lee, "Recent advancements in the role of N-Heterocyclic receptors on heavy metal ion sensing". Dyes and Pigments, 2021, 191, 109331.
https://doi.org/10.1016/j.dyepig.2021.109331

5. Panneerselvam Rajeswari, **Rajendran Nagarajan**, Sujith K P, Lourdusamy Emmanuvel, "Synthesis of new Copper Catalyst with Pyrazole Based Tridentate Ligand and Study of Its Activity for Azide Alkyne Coupling" Journal of Organometallic Chemistry, 2021, 931, 121627. Panneer Selvam Rajeswari and Rajendran Nagarajan have contributed equally to this work.
https://doi.org/10.1016/j.jorganchem.2020.121627

Pattern

Patent Application Number: 10-2021-0104843
Title: Novel phenylalanine derivative compound and used for detecting copper (Cu2+) ion thereof
Inventors: Ki Hwan Lee, **Rajendran Nagarajan**, Hyang-Im Ryoo, Balasaheb D. Vanjare, Nam Gyu Choi.

Instrumental Expertise

- NMR Spectroscopy: Experience in analysis Bruker NMR spectrometer (500 MHz). Analysis of ^{1}H & ^{13}C NMR spectra
- IR Spectroscopy: Analysis of IR spectral bands of small and complex heterocycles.
- Mass Spectrometry: Analysis of the mass spectral pattern of heterocyclic compounds.
- Ultraviolet Absorption Spectroscopy: Hand-on experience on various types of spectrophotometers like Shimadzu Spectrophotometer (Scinco, Korea) and Jasco-V-680.
- Fluorescence emission Spectroscopy: FS-2 fluorescence spectrometer (Scinco, Korea).
- HPLC-To purify the crude PNA for molecular biology applications.
- Expertise in analysis of IR, ^{1}H, ^{13}C NMR, MS, UV, Fluorescence spectroscopy applied to studying the organic molecules
- Single Crystal XRD: Knowledge on analyzing SXRD as applied to Organic molecules and Coordination Complex
- Expertise in analysis of EDAX as applied to analyzing Coordination Complex

Certification Program

Diploma in computer application in chemistry, NGM College, Pollachi, Bharathiar University. Tamil Nadu, India (2012).
Research ethics for participant researchers (Science and Engineering) conducted by the National Research Foundation of Korea (NRF).
Occupational Safety and Health Education conduct by Ewha Woman's University.

6. Nam Gyu Choi, Balasaheb D. Vanjare, Prasad G Mahajan, **Rajendran Nagarajan**, Hyang Im Ryoo, Ki Hwan Lee, J. Fluoresc 2021, 31, 1739-1749.
https://doi.org/10.1007/s10895-021-02802-4
7.**Rajendran Nagarajan**, Panneerselvam Rajeswari, Lourdusamy Emmanuvel, "Synthesis of a novel tridentate ligand-based palladium catalyst and investigation of its reactivity towards Suzuki, Sonogashira, and Heck coupling reactions." Iranian Journal of Catalysis. 2020, 10, 259-265.
http://ijc.iaush.ac.ir/article_677338.html
8.**Rajendran Nagarajan**, Jayadevan Jayashankaran, Lourdusamy Emmanuvel, "Transition metal-free steric controlled one-pot synthesis of highly substituted N-amino 1,2,3-triazole derivatives via diazo transfer reaction from β-keto esters". Tetrahedron Letters, 2016, 57, 2612–2615.
http://dx.doi.org/10.1016/j.tetlet.2016.04.112
9. **R. Nagarajan**, L. Emmanuvel, "Unusual Cleavage of N-N Bond of 1-Arylamino-1,2,3-triazole Derivatives: A Simple and Alternate Approach to 4,5-Disubstituted-1H-1,2,3-triazoles". Asian Journal of Chemistry, 2019, 31, 1057-1061.
https://doi.org/10.14233/ajchem.2019.21857
10. Panneerselvam Rajeswari, **Rajendran Nagarajan**, Lourdusamy Emmanuvel, "Chitosan supported cobalt (II) complex as an efficient and reusable catalyst for one-pot oxyfunctionalization of olefin via epoxide opening" Res. J. Chem. Environ. 2020, 24, 28-33.
https://worldresearchersassociations.com/Archives/RJCE/Vol(24)2020/June2020.aspx
11. Paneerselvam Rajeswari, **Rajendran Nagarajan**, Lourdusamy Emmanuvel, "Highly regioselective ring-opening of epoxides with sodium azide and aniline using heterogeneous chitosan cobalt (II) complex". Res. J.Chem. Environ. 2019, 23, 129-134.
https://worldresearchersassociations.com/Archives/RJCE/Vol(23)2019/December2019.a spx

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Reviewer in Optical Materials-Elsevier https://www.journals.elsevier.com/optical-materials.
Reviewer in Carbon Letters-Springer https://www.springer.com/journal/42823/

References

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Declaration

I hereby declare that the above-mentioned information is true to the best of my knowledge.

Place:Shenzhen
Date:

Your's truely,

