

ACSSI - 2024

19th - 22 rd FEBRUARY, 2024

MEENAKSHI COLLEGE FOR WOMEN (Autonomous)

Kodambakkam, Chennal - 600024, India

BOOK OF ABSTRACTS

Sponsored by



Materials Research Society SINGAPORE



Solid State louics Society of Japan



Subramanian - Thangathai Educational Trust



Industrial

Research



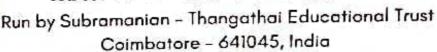
Development Organisation



Royal Eastern

Organized by

MATERIALS RESEARCH CENTER



MEENAKSHI COLLEGE FOR WOMEN

(Autonomous)

Kodambakkam, Chennai - 600024, India



Editors

Dr. S. Selvasekarapandian Dr. K. S. Lakshmi Dr. V. Meenakshi Sundaram Dr. A. R. Kulkarni Dr. C. Sanjeeviraja Dr. K. Hariharan











First Edition: February 2024

Published by

Subramanian - Thangathai Educational Trust (Register, No: 60/BK-IV/2013)

200 - A, Thiruvalluvar Nagar, Ramanathapuram, Coimbatore - 641045, India

18th Asian Conference on Solid State Ionics (ACSSI - 2024) - BOOK OF ABSTRACTS

Copyright © 2024 by Subramanian – Thangathai Educational Trust

All rights reserved. This book, or parts thereof, may not be reproduced in any form or by any means, electronic or mechanical, including photocopying, recording or any information storage and retrieval system now known or to be invented, without written permission from the Publisher

ISBN Number: 978-93-340-1267-5

C2-PP26	A potent Schiff base colorimetric sensor for Ni ²⁺ sensing- A	
	greener Approach	232
	^a Dr. V. Arul deepa*, ^a Dr. B. Medona and ^a K. Brindha	

A potent Schiff base colorimetric sensor for Ni2+ sensing- A greener Approach

Dr. V. Arul deepa, *Dr. B. Medona and *K. Brindha

Fatima College (Autonomous), Madurai, Tamilnadu, India. *E-mail: aruldeepa0608@gmail.com

Abstract

A novel Schiff base chemosensor derived from 2-amino 4-nitro benzophenone was designed and synthesized in a greener approach. It was prepared by microwave irradiation using few drops of acetic acid. The synthesized chemosensor was characterized by ¹H NMR and HR. LCMS mass analysis. Its excellent selectivity towards Ni2+ was examined by both colorimetric and fluorometry sensing techniques. A rapid colour change from yellow to dark brown was observed when Ni2+ was added. Among the employed metals only Ni2+ has notable colour change. In the UV-Visible spectrum a new peak apart from the sensor appeared which also confirms the selectivity in sensing. A significant increase in fluorescence was observed in presence of Ni2+. Among the various metals Zn2+, Cd2+, Cu2+, Cr3+, Pb2+, Mg2+, Fe2+, Fe3+, AP+, Hg2+, Na+, K+, As2+, Ni2+, Ca2+, Bi2+, So42- investigated no major interference was observed even in higher concentration of analytes. The experimental results are further supported by the DFT studies.

Keywords: / Schiff base/ fluorometric sensor / colorimetric sensor / Ni2+ /DFT studies