



Indian J Chem Technol JANUARY 2025 CODEN: ICHTEU 32 (1)1-138 (2025) ISSN: 0971-457X (Print);0975-0991(Online) ijct@niscpr.res.in http://nopr.niscpr.res.in

> 17/03/25 B

Indian Journal of Chemical Technology

Published by CSIR-National Institute of Science Communication And Policy Research New Delhi, INDIA

Indian Journal of Chemical Technology www.niscpr.res.in; http:// nopr.niscpr.res.in

7

VOLUME 32	NUMBER 1	JANUARY 2025
CODEN: ICHTEU	a nustra (200 menerativa) Tanua	ISSN: 0971-457X(Print); 0975-0991 (Online)

CONTENTS

Review

Hydrogel-based bio-inks: Current progress and future directions in 3D printing	11
Sudev Dutta* & Payal Bansal	

Effect of synthetic cold flow additives on properties of biodiesel and biodiesel-diesel blends: A mini-review	25
Aman Kumar Bhonsle, Jayati Trivedi, Jyoti Porwal, Neha Rawat, Tushar Agarwal, Jasvinder Singh	
& Neeraj Atray*	

Papers

Application of CuO nanoparticles on performance and emission characteristics of ternary blends of diesel, waste cooking oil and pumpkin seed oil biodiesel in an IC engine	33
R. Shenbaga Raj*, P. Madhu, C. Sowmya Dhanalakshmi & M Arul Prakash	
Wealth from waste: Multifaceted yeast bio-synthesised sophorolipids using industrial waste by-products as substrate Srija Pal, Niloy Chatterjee, Brajadulal Chattopadhyay, Sriparna Datta & Pubali Dhar*	41
Improvement of sulfur resistance for SCR catalyst at low temperature by HY-Zeolite mixing Dong-Min Ma, Eun-Young Ju & Hea-Kyung Park*	57
Formulating a pesticide in microemulsion with three active components- one-hydrophilic and two-lyophilic Yong-Chol Son, Hye-Song Kwak, Kum-Ju Jang, U-Song Choe, Kum-Ryong Ri & Yong-Bin Ri*	63
Investigation on the feasibility of separation process for extracting benzene from hexane/heptane by ionic liquids Yong-Bin Ri*, Jin-Gun Rim, Gyong-Sim Yu, Song-Min Kim & Jong-Guk Won	69
Corrosion protection of mild steel substrates using silver nanoparticles synthesized from <i>Nicotiana tabacum</i> leaf extract Preeti Jain*, Jeetendra Bhawsar, Archana Lakhani & Balram Patidar	78
Construction of a precision capacitance sensing apparatus consisting of interdigital electrode and capacitance- to-digital converter for determination of trace water contents in organic solvents Mun-Ho Son, Yu-Hwa Ko, Ui-Song O & Chun-yong Ri*	85
Experimental investigation on mass transfer coefficient in airlift reactor involving Boger fluid Nikesh Kumar, Renu Gupta*, Ajay Bansal & Baneesh Patial	92

Green oxygenated compounds as components of B10 fuel 9 Ibrahim G. Mamedov*, Nargiz V. Azimova, Rahman A. Hasretli & Yegana V. Mamedova	8
Screening and druggability analysis of <i>Zingiber officinale</i> bioactive compounds against diabetes mellitus 10 using a computational approach Sasidharan Jayabal, Meenakshi R. Venkateswaran, Murugesan Selvakumar & Sureshkumar Periyasamy*	4
Design of microbial fuel cell for power generation using milk and <i>Lactobacillus</i> bacteria 11 Suyog N. Jain*, Saurabh Kulkarni, Rohit Fulzele, Anil Kumar Thandlam, Yennam Rajesh*, Priyanka Shivde & Satish Rikame	8
 Chitosan-alginate complex for the controlled delivery of α-lipoic acid in diabetes therapy: Modulation by montmorillonite and glutaraldehyde Dikshita Sharma, Atifa Sarkar, Archana Sinha, Suman Dasgupta & Tarun K. Maji* 	5
Authors for correspondence are indicated by (*).	
Improvement of the rest names for SCR entalys? at low temperature by HY 2. other matters of the SC 200 Deng-May Vot 200 Deng-May You & Hen-Kyung Park*	