

MSDE

Molecular Systems Design & Engineering rsc.li/molecular-engineering

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

ISSN 2058-9689 CODEN MSDEBG 9(10) 971-1078 (2024)



Cover
See Husna Nugrahapraja, Isa Anshori *et al.*, pp. 1022-1034.
Image reproduced by permission of Isa Anshori from *Mol. Syst. Des. Eng.*, 2024, 9, 1022. Image created by Pixabay



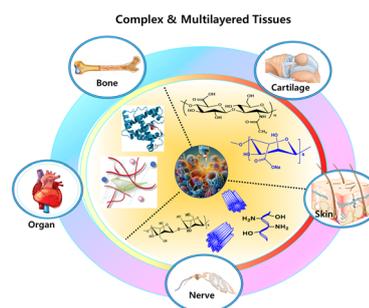
Inside cover
See Insup Noh *et al.*, pp. 976-998.
Image reproduced by permission of Nagaraja Kasula, Pratik Dhokare, Amitava Bhattacharyya & Insup Noh from *Mol. Syst. Des. Eng.*, 2024, 9, 976.

REVIEWS

977

Recent advances in 3D bioprinting of polysaccharide-based bioinks for fabrication of bioengineered tissues

Kasula Nagaraja, Pratik Dhokare, Amitava Bhattacharyya and Insup Noh*



1000

Synthesis and catalytic application of ZSM-48 zeolite

Wen Liu, Yanan Wang, Xinbao Zhang, Fucun Chen, Sujuan Xie, Longya Xu, Xiujie Li* and Xiangxue Zhu*





Advance your career in science

with professional recognition that showcases your **experience, expertise and dedication**

Stand out from the crowd

Prove your commitment to attaining excellence in your field

Gain the recognition you deserve

Achieve a professional qualification that inspires confidence and trust

Unlock your career potential

Apply for our professional registers (RSci, RSciTech) or chartered status (CChem, CSci, CEnv)

Apply now

rsc.li/professional-development

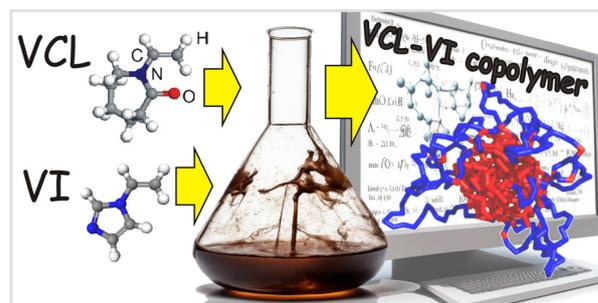


COMMUNICATION

1017

Synthesis and theoretical studies of the conformational behaviour of *N*-vinylcaprolactam/*N*-vinylimidazole copolymers in selective solvent

A. I. Barabanova, A. V. Vorozheykina, M. K. Glagolev,*
P. V. Komarov* and A. R. Khokhlov

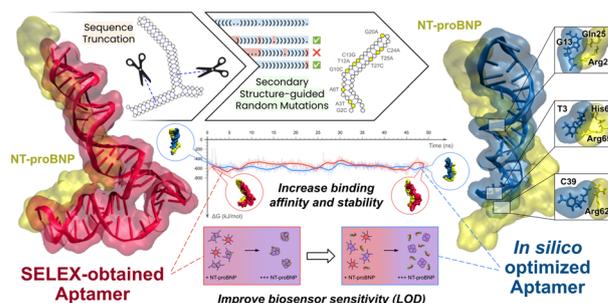


PAPERS

1023

Improving DNA aptamers against a heart failure protein biomarker using structure-guided random mutation approaches for colourimetric biosensor development

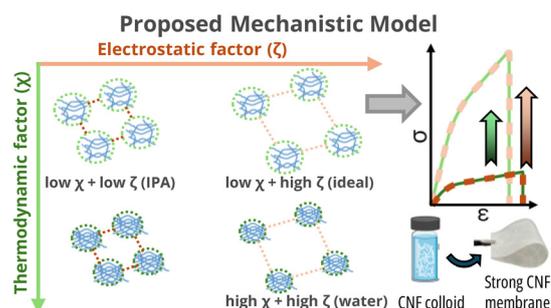
Donny Marcius, Bejo Ropii, Diah Ayu Safitri,
Mokhamad Fakhru Ulum, Husna Nugrahapraja*
and Isa Anshori*



1036

Insights into controlling bacterial cellulose nanofiber film properties through balancing thermodynamic interactions and colloidal dynamics

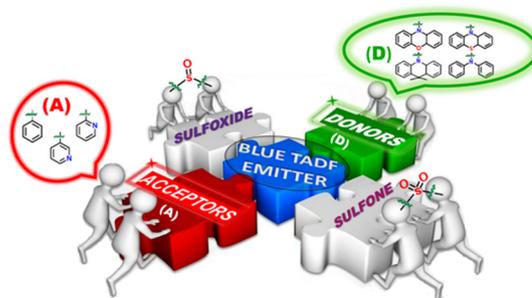
Aban Mandal, Kuotian Liao, Hareesh Iyer, Junhao Lin,
Xinqi Li, Shuai Zhang and Eleftheria Roumeli*

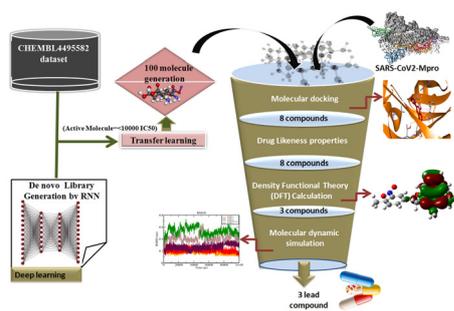


1051

Unravelling the impact of sulfur atom oxidation and donor-acceptor effects on the performance of blue TADF emitters: a detailed computational study

Singaravel Nathiya*





Designing novel inhibitor derivatives targeting SARS-CoV-2 M^{Pro} enzyme: a deep learning and structure biology approach

Tushar Joshi, Shalini Mathpal, Priyanka Sharma, Akshay Abraham, Rajadurai Vijay Solomon* and Subhash Chandra*

