

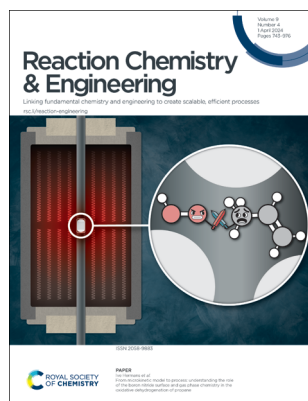
Reaction Chemistry & Engineering

Bridging the gap between chemistry and chemical engineering
rsc.li/reaction-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 2058-9883 CODEN RCEEBW 9(4) 743-976 (2024)



Cover

See Ivo Hermans *et al.*,
pp. 795–802.
Image reproduced
by permission of
Matthew Wisniewski
from *React. Chem. Eng.*,
2024, 9, 795.

REVIEW

753

Biomass-based graphene aerogel for the removal of emerging pollutants from wastewater

Vijayendra Kumar Tripathi, Manish Shrivastava,
Jaya Dwivedi, Raju Kumar Gupta,* Lokesh Kumar Jangir*
and Kumud Malika Tripathi*

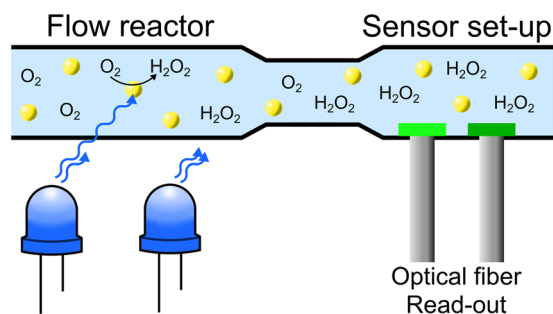


COMMUNICATIONS

777

At-line monitoring of hydrogen peroxide released from its photocatalytic and continuous synthesis

Anders Ø. Tjell, Lars-Erik Meyer, Barbara Jud, Selin Kara
and Torsten Mayr*





Environmental Science: Atmospheres

GOLD
OPEN
ACCESS

Connecting communities
and inspiring new ideas

rsc.li/submittoEA

Fundamental questions
Elemental answers



Registered charity number: 207890

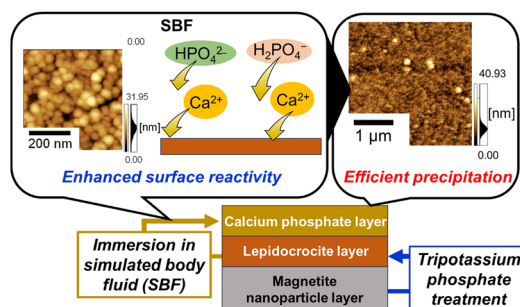


COMMUNICATIONS

782

Surface treatment of magnetite nanoparticle thin films with potassium phosphate for calcium phosphate precipitation

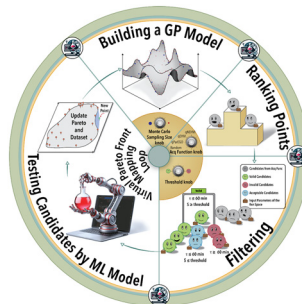
Reo Kimura, Kazuto Sugimoto, Iori Yamada and Motohiro Tagaya*



787

Digital Pareto-front mapping of homogeneous catalytic reactions

Negin Orouji, Jeffrey A. Bennett, Sina Sadeghi and Milad Abolhasani*

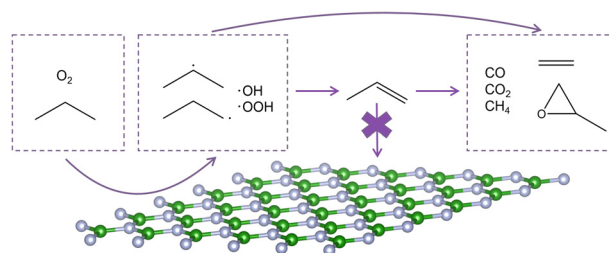


PAPERS

795

From microkinetic model to process: understanding the role of the boron nitride surface and gas phase chemistry in the oxidative dehydrogenation of propane

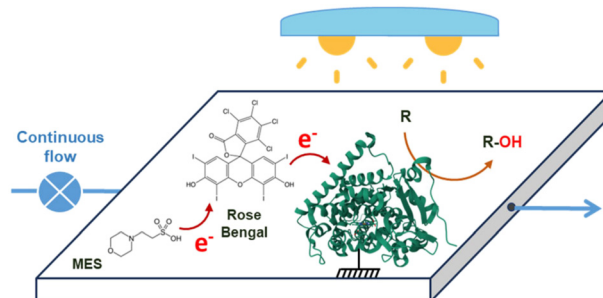
Unni Kurumbail, William P. McDermott, Edgard A. Lebrón-Rodríguez and Ive Hermans*



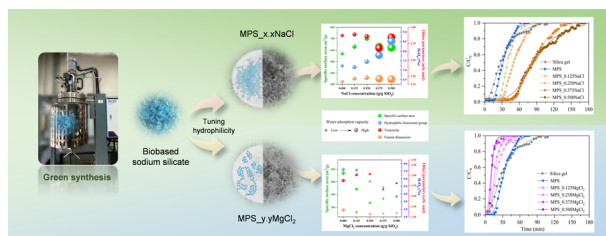
803

Mediated electron transfer in a photo-bioreactor: continuous flow hydroxylation using cytochrome P450 BM3 in NADPH-free conditions

Ali Fendri, Donya Valikhani and Joelle N. Pelletier*



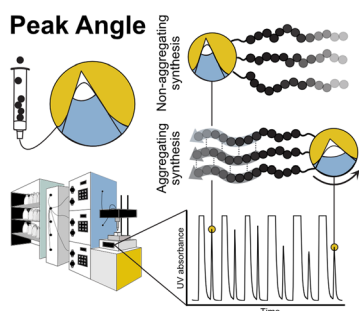
816



Green synthesis of surfactant-free mesoporous silica with strong hydrophilicity via metal salt modifications for moisture adsorption

Pariyawalee Sangteantong, Kunpirom Chainarong, Waleeporn Donphai and Metta Chareonpanich*

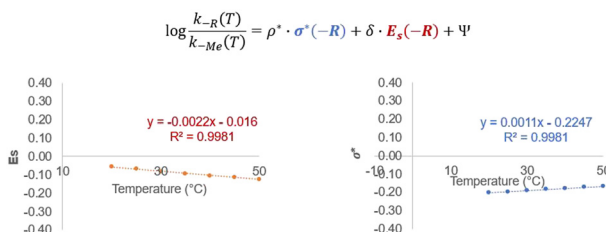
825



A robust data analytical method to investigate sequence dependence in flow-based peptide synthesis

Bálint Tamás, Pietro Luigi Willi, Héloïse Bürgisser and Nina Hartrampf*

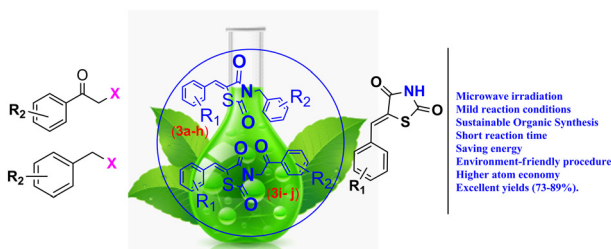
833



Temperature effect on the steric and polar Taft substituent parameter values

Sindi Baco, Marcel Klinksiek, Mélanie Mignot, Christoph Held, Julien Legros and Sébastien Leveneur*

842



A safe and new strategy for *N*-arylation of 2,4-thiazolidinediones via microwave irradiation using base catalyst K₂CO₃ in DMF

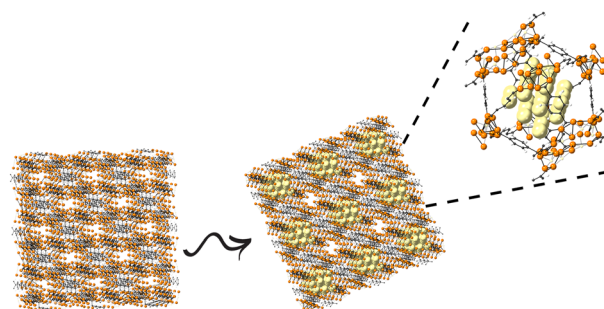
Ragini C. Patil, Nita M. Khiratkar, Sumeer Ahmed, Joazaizulfazli Jamalis, Aso Hameed Hasan, Malika Berredjem, Sarkar M. A. Kawsar and Ajmal R. Bhat*



849

Encapsulation of $\text{Ti}_x\text{Fe}_y\text{La}_m\text{O}_z$ nanoparticles into $\text{NH}_2\text{-MIL-125(Ti)}$ to fabricate a promising photocatalyst for the C–N coupling reaction

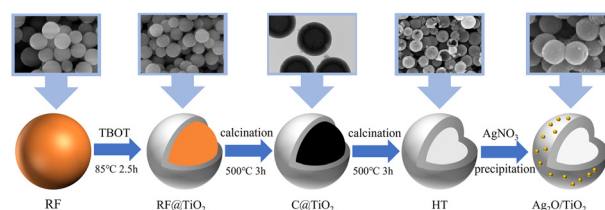
Yahya Absalan,* Mohammad Rafsanjani Dehghazi, Reza Samavati, Kambiz Souri and Mostafa Gholizadeh



861

Synthesis of hollow sphere structured TiO_2 loaded with Ag_2O and its photocatalytic activity

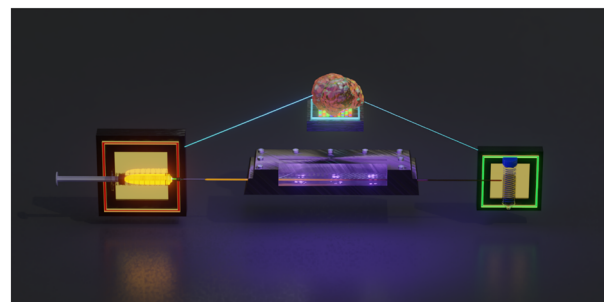
Hejin Liu, Ying Liu, Xueqin Wang,* Peng Qiao, Wenyi Wang, Mei Zhang, Yanxiu Liu* and Hua Song



872

Machine-learning assisted optimisation during heterogeneous photocatalytic degradation utilising a static mixer under continuous flow

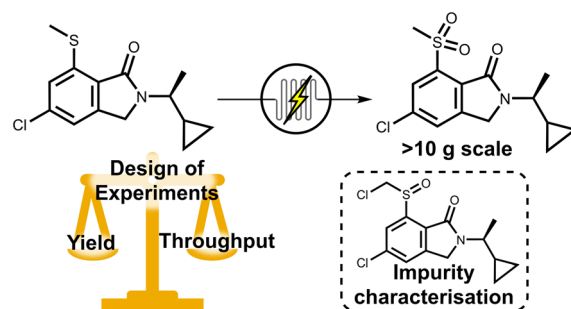
Thomas M. Kohl, Yan Zuo, Benjamin W. Muir, Christian H. Hornung, Anastasios Polyzos, Yutong Zhu, Xingdong Wang and David L. J. Alexander*



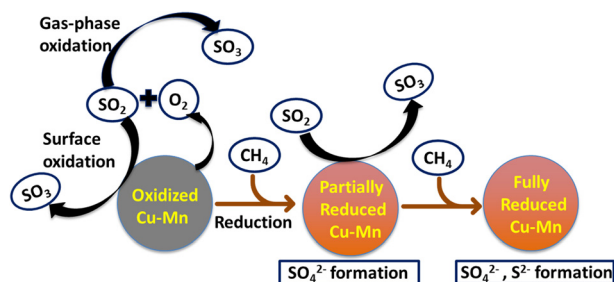
883

The electrochemical oxidation of a thioether to form an API intermediate and the effects of substrate electronics on impurity formation

Hamish R. Stephen,* Holly Longhurst, Michael Nunn, Christopher D. Parsons and Matthew Burns*



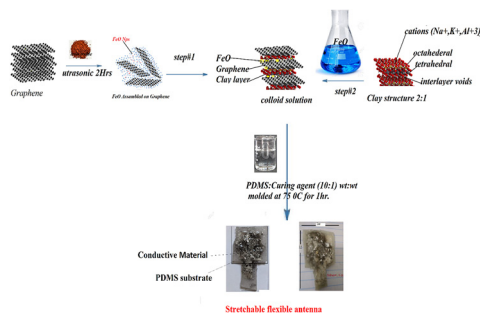
888



Interaction of SO_2 with a Cu–Mn oxide oxygen carrier during chemical looping with oxygen uncoupling

Turna Barua and Bihter Padak*

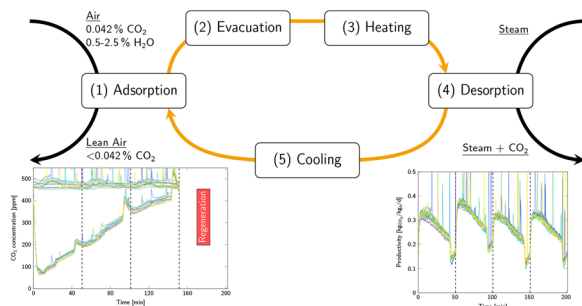
901



Fabrication and evaluation of a flexible antenna device composed of a compatible iron-oxide clay in a PDMS graphene matrix

Ameen Abdelrahman, Fouad Erchiqui and Mourad Nedil

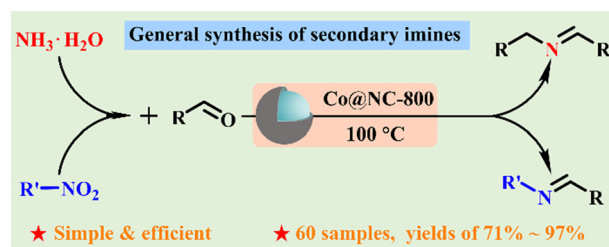
910



Experimental study of CO_2 capture from air via steam-assisted temperature-vacuum swing adsorption with a compact kg-scale pilot unit

H. M. Schellevis and D. W. F. Brilman*

925



General synthesis of secondary imines via reductive coupling of carbonyl and nitro compounds employing a reusable cobalt catalyst

Chaochong Zhang, Yurong He, Peng Zhou,* Yuandie Ma, Ziliang Yuan, Guoqiang She, Zhe Zheng, Juncheng Hu, Qingqing Jiang, Jason Chun-Ho Lam, Bo Han,* Zehui Zhang* and Bing Liu*

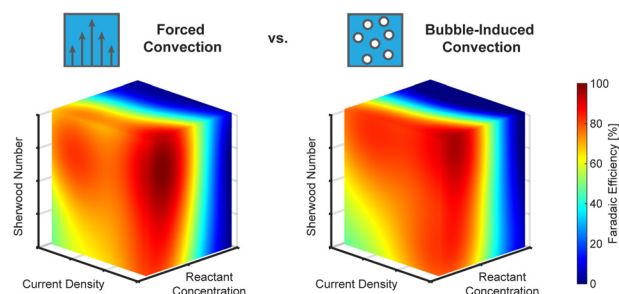


PAPERS

930

Understanding the effects of forced and bubble-induced convection in transport-limited organic electrosynthesis

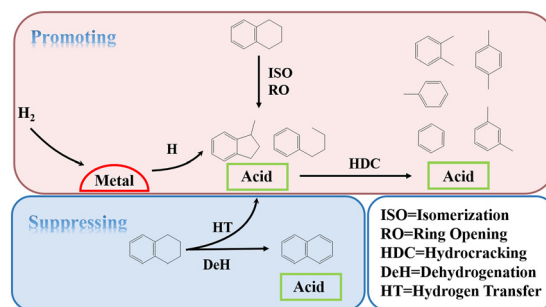
Casey K. Bloomquist, Melisa Dogan, James S. Harris, Benjamin D. Herzog, William J. Tenn III, Eray S. Aydil* and Miguel A. Modestino*



940

Dominant role of zeolite in coordination between metal and acid sites on an industrial catalyst for tetralin hydrocracking

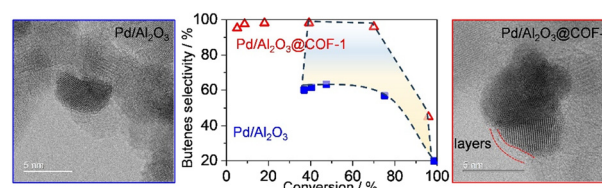
Jiayao Qi, Hanqiong Jia, Fei Wang, Hang Gao, Bo Qin,* Xinwei Zhang, Jinghong Ma, Yanze Du and Ruifeng Li*



950

Palladium particle-catalyzed selective butadiene hydrogenation: effect of covalent organic framework modification

Xianming Li, Yi Wang, Qiao Yuan, Xintai Chen, Xiaoling Mou,* Xiangen Song, Li Yan, Ronghe Lin* and Yunjie Ding*

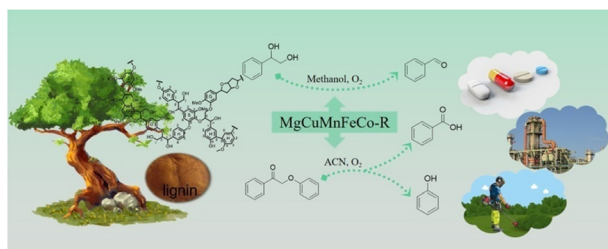


959

Continuous flow synthesis of the ionizable lipid ALC-0315

Jakob B. Wolf, Ju Weon Lee, Matthew B. Plutschack, Dario Cambié, Andreas Seidel-Morgenstern and Peter H. Seeberger*





Selective aerobic oxidative C–C bond cleavage using a high-entropy oxide-derived multimetallic catalyst

Shaoyuan Guo, Xinli Tong,* Jipeng Wang and Hang Tang

