

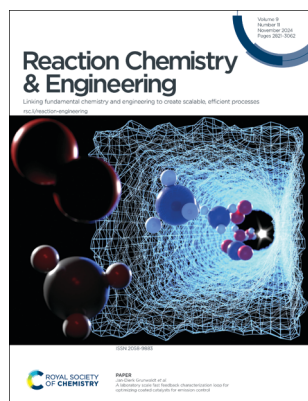
Reaction Chemistry & Engineering

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(11) 2821-3062 (2024)



Cover

See Jan-Dierk Grunwaldt et al., pp. 2868–2881.
Image reproduced by permission of Florian Maurer from *React. Chem. Eng.*, 2024, 9, 2868.



Inside cover

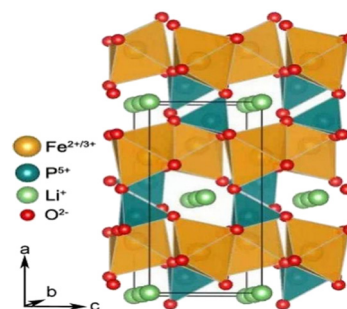
See Aravind Senthil Vel, François-Xavier Felpin et al., pp. 2882–2891.
Image reproduced by permission of François-Xavier Felpin from *React. Chem. Eng.*, 2024, 9, 2882.

REVIEWS

2830

Current research status on the structural properties and modification of LiFePO_4 cathode materials

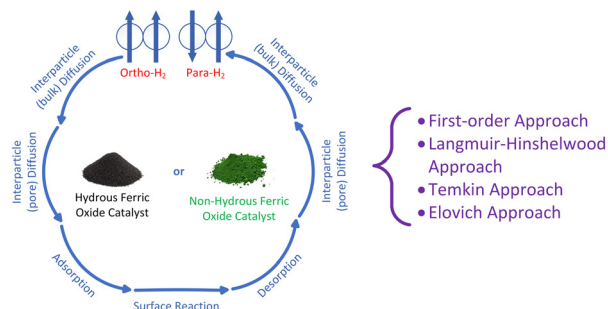
Guo Xiaoying, Bao Yuanyuan, Li Wei,* Zhao Siqin* and Huang Chao



2846

Review of hydrogen ortho-para conversion: experimental data and reaction kinetics

Fuyu Jiao, Saif Al Ghafri, Keelan T. O'Neill, Paul S. Stanwix, Guinevere M. Sellner, Einar O. Fridjonsson, Neil Robinson, Eric F. May and Michael L. Johns*



EES Catalysis

GOLD
OPEN
ACCESS

Exceptional research on energy
and environmental catalysis

Open to everyone. Impactful for all

rsc.li/EESCatalysis

Fundamental questions
Elemental answers

Registered charity number: 207890

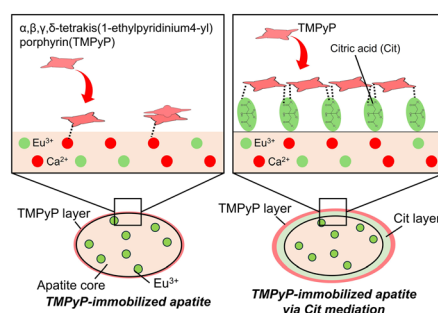


COMMUNICATION

2863

Immobilization of cationic dye on photoluminescent hydroxyapatite particles through a citric acid bonding layer

Daichi Noda, Wanyu Shi, Aiga Yamada, Zizhen Liu and Motohiro Tagaya*

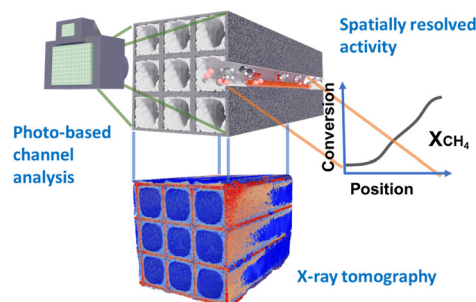


PAPERS

2868

A laboratory scale fast feedback characterization loop for optimizing coated catalysts for emission control

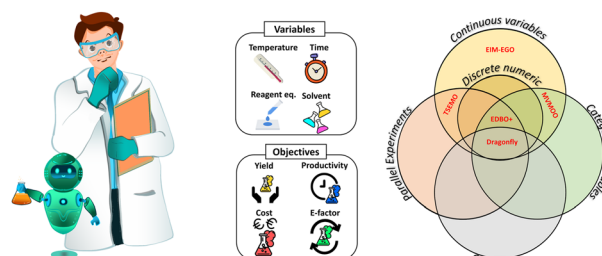
Tim Delrieux, Shweta Sharma, Florian Maurer, Paolo Dolcet, Maximilian Lausch, Anna Zimina, Camilo Cárdenas, Patrick Lott, Maria Casapu, Thomas Lennon Sheppard and Jan-Dierk Grunwaldt*



2882

A Chemist's guide to multi-objective optimization solvers for reaction optimization

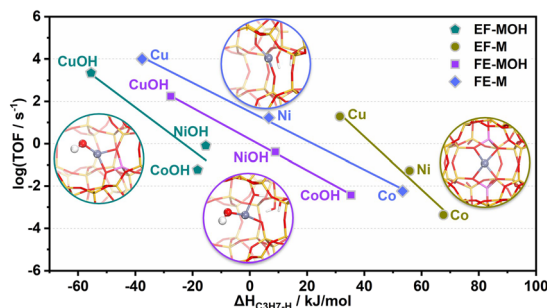
Aravind Senthil Vel,* Daniel Cortés-Borda and François-Xavier Felpin*



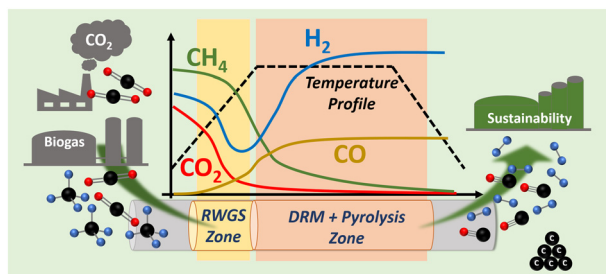
2892

Propane dehydrogenation on an extra-framework and framework-embedded metal site within ZSM-5 zeolite from first-principles microkinetic simulations

Yujue Du, Wende Hu, Yunlei Chen, Chuanming Wang* and Weimin Yang*



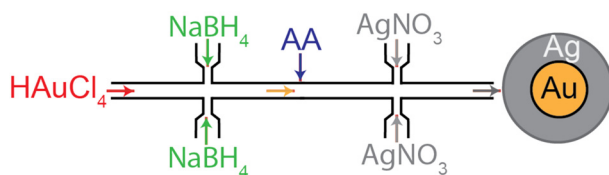
2902



Kinetics of thermal dry reforming of methane for syngas production and solid carbon capture

Manas Mokashi, Akash Bhimrao Shirsath, Sinan Demir, Ahmet Çelik, Patrick Lott,* Steffen Tischer and Olaf Deutschmann

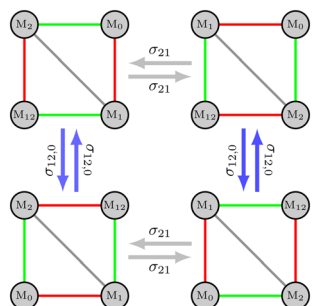
2915



Dual jet-mixing reactor for fully continuous synthesis of core@shell Au@Ag nanocomposites

Pinaki Ranadive, Faiz Khan, Jessica O. Winter* and Nicholas Brunelli*

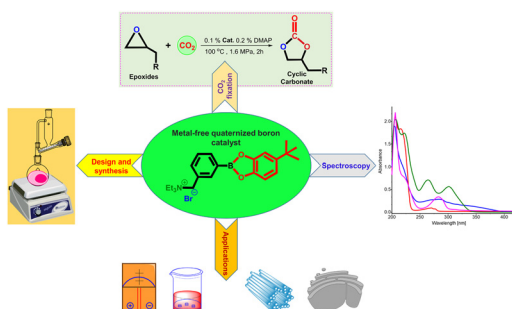
2925



The graph automorphism group of the dissociation microequilibrium of polyprotic acids

Nicolás Salas, Justin López and Carlos A. Arango*

2938



Evaluating metal-free quaternized boronate esters as efficient catalysts for the fixation of CO₂ with epoxides to form cyclic carbonates under suitable conditions

Eyyup Yasar, Emine Aytar and Ahmet Kilic*

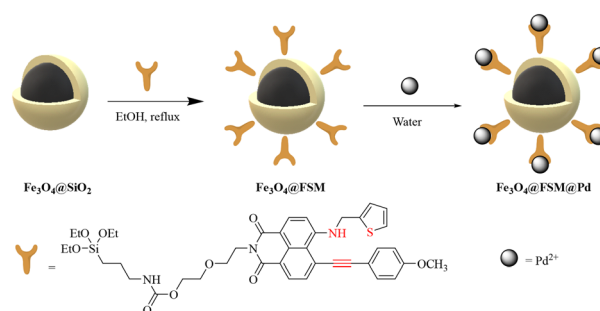


PAPERS

2954

A novel magnetic nanoparticle as an efficient and recyclable heterogeneous catalyst for the Suzuki cross-coupling reaction

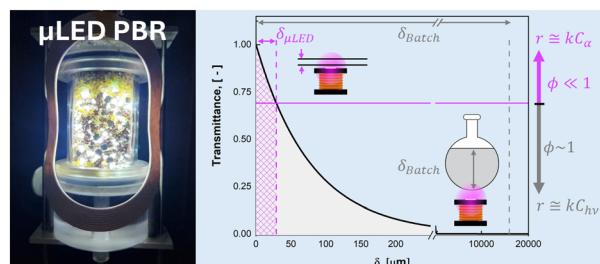
Hui Jin, Mengyu Cui, Peiwen Liu, Zhuo Wang, Tongxia Jin, Yonghui Yang, Weiping Zhu* and Xuhong Qian



2963

Wireless μLED packed beds for scalable continuous multiphasic photochemistry

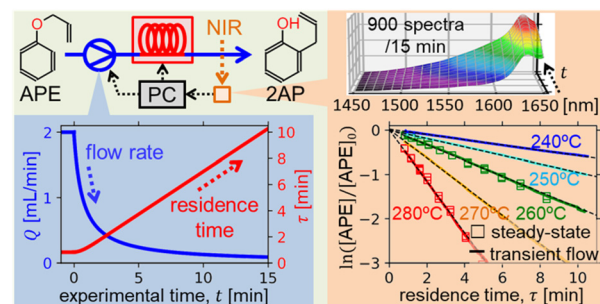
Esai Daniel Lopez, Patricia Zhang Musacchio and Andrew R. Teixeira*



2975

Combination of near-infrared spectroscopy and a transient flow method for efficient kinetic analysis of the Claisen rearrangement

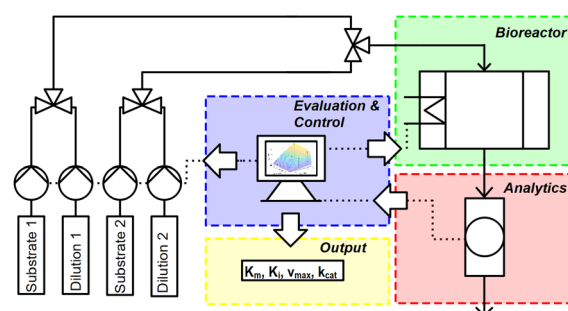
Yoshihiro Takebayashi,* Kiwamu Sue and Sho Kataoka



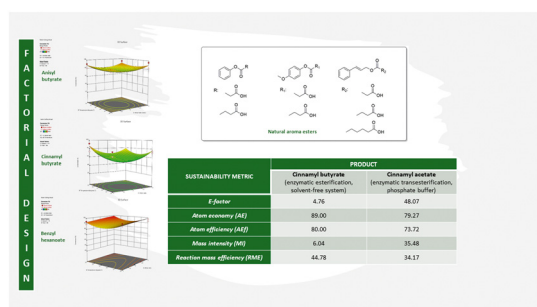
2984

Closed-loop identification of enzyme kinetics applying model-based design of experiments

Leon Hennecke, Lucas Schaare, Mirko Skiborowski and Andreas Liese*



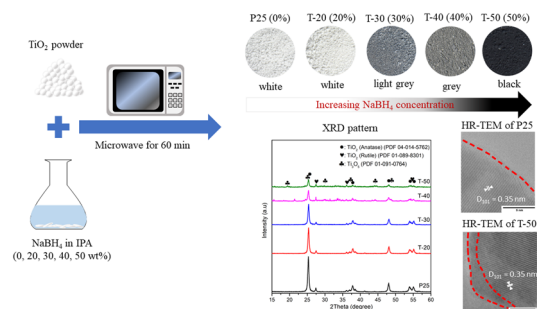
2994



Optimization of reaction parameters for the synthesis of natural aroma esters by factorial design

Adrian Ioan Dudu, Csaba Paizs and Monica Ioana Toşa*

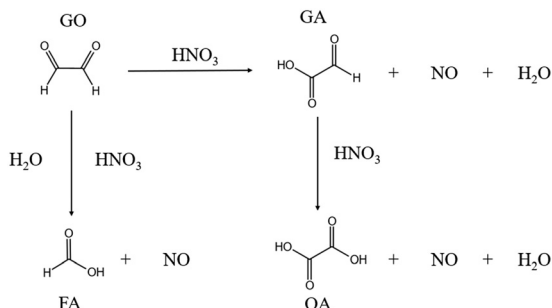
3003



Fabrication of black TiO₂ through microwave heating for visible light-driven photocatalytic degradation of rhodamine 6G

Riska Rachmantyo, Afif Akmal Afkauni, Ricky Reinaldo, Lei Zhang, Arramel Arramel, Muhammad Danang Birowosuto, Arie Wibowo* and Hermawan Judawisastra*

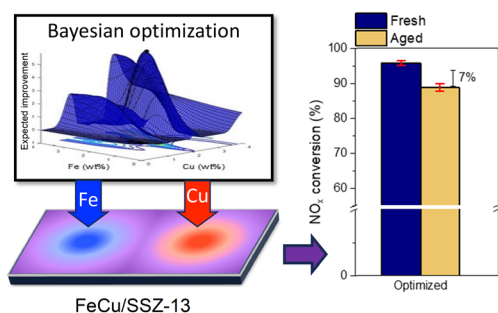
3016



Complete kinetic model and process reengineering of glyoxal oxidation by nitric acid in a capillary microreactor

Junnan Wang, Wei Zhan, Yating Li, Ting Wang, Chengxiang He, Chunying Zhu, Youguang Ma and Taotao Fu*

3029



Bayesian-optimization-based design of highly active and stable Fe-Cu/SSZ-13 catalysts for the selective catalytic reduction of NO_x with NH₃

Sanha Lim, Hwangho Lee, Hyun Sub Kim, Jun Seop Shin, Jong Min Lee* and Do Heui Kim*

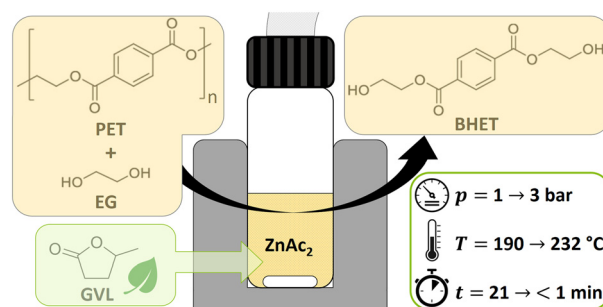


PAPERS

3038

Boosting the kinetics of PET glycolysis

Maria Schlüter, Ryota Enomoto, Shin Makino, Lisa Weihs, Cyra Lina Stamm, Kerstin Wohlgemuth and Christoph Held*



3047

A novel ultra-high vacuum diffusion setup to study Knudsen diffusion

Maria Mourkou, Haiyue Yu, Sander Baltussen, Nicholas Snead, Nidhi Kapil and Marc-Olivier Coppens*

