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## IN THIS ISSUE

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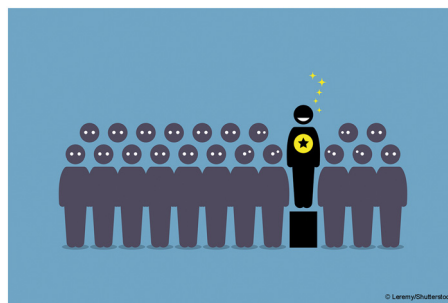
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## EDITORIAL

1818

### Outstanding Reviewers for *Reaction Chemistry & Engineering* in 2022

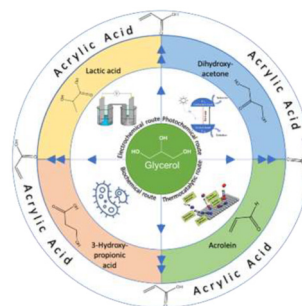


## REVIEW

1819

### Conversion of glycerol to acrylic acid: a review of strategies, recent developments and prospects

Umar C. Abubakar, Yash Bansod, Luke Forster, Vincenzo Spallina and Carmine D'Agostino\*



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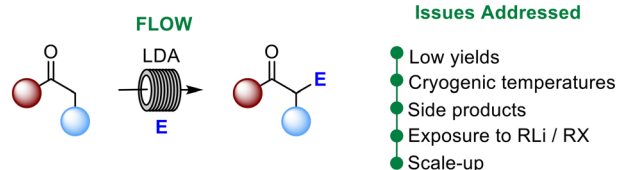


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1839

The  $\alpha$ -alkylation of ketones in flow

Ella Cooper, Emma Alcock, Mark Power and Gerard McGlacken\*

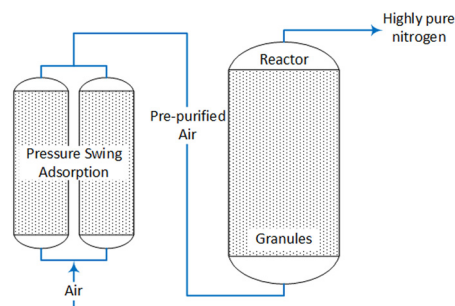


## PAPERS

1843

## Energetic optimization of thermochemical air separation for the production of sustainable nitrogen

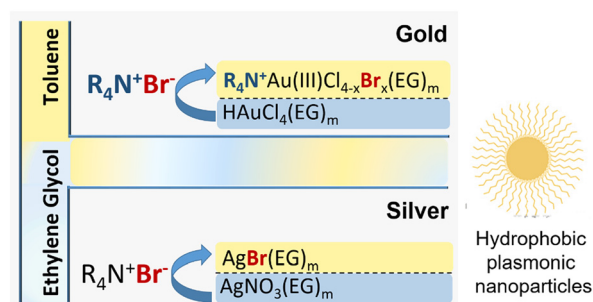
Lena Klaas,\* Brendan Bulfin, Dorottya Kriechbaumer, Nicole Neumann, Martin Roeb and Christian Sattler



1855

## A biphasic batch and continuous flow synthesis of hydrophobic gold and silver nanoparticles

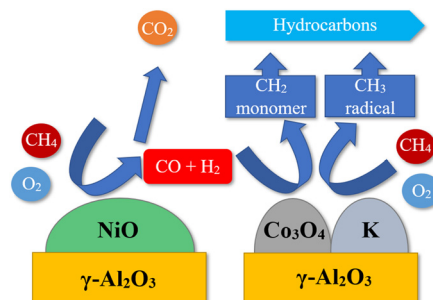
Monica Distaso\* and Wolfgang Peukert



1868

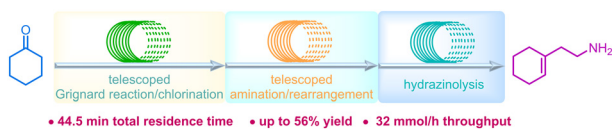
Direct conversion of methane to value-added hydrocarbons using hybrid catalysts of Ni/Al<sub>2</sub>O<sub>3</sub> and K-Co/Al<sub>2</sub>O<sub>3</sub>

Thitiwut Sukprom, Pooripong Somchuea, Sarannuch Sringam, Thongthai Witoon, Metta Chareonpanich, Pawin lamprasertkun, Kajornsak Faungnawakij, Günther Rupprechter and Anusorn Seubsai\*



## PAPERS

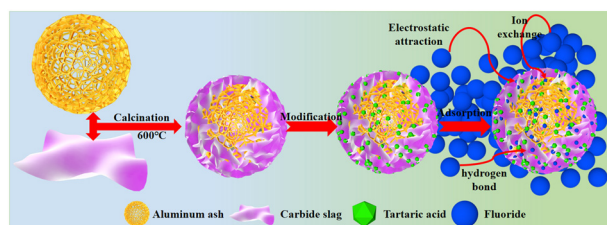
1882



### An integrated five-step continuous flow synthesis of 2-(1-cyclohexenyl)ethylamine: a key intermediate for morphinans

Zhining Li, Shiqi Huang, Yuan Tao, Meifen Jiang, Dang Cheng, Li Wan\* and Fener Chen\*

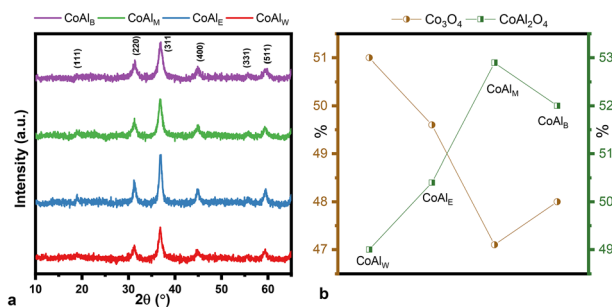
1888



### High value-added utilization of secondary aluminum ash & carbide slag: preparation of a high-performance adsorbent for rapid removal of fluoride from wastewater

Yuanchuan Ren, Tao Xia, Guangfei Qu,\* Nanqi Ren, Ping Ning, Xiuping Chen, Yuyi Yang, Zuoliang Wang and Yan Hu

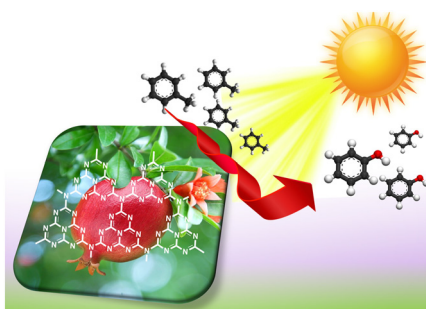
1901



### Effect of solvent, in the sol-gel synthesis of CoAl<sub>2</sub>O<sub>4</sub>, on the structure and catalytic properties in 1,4-butanediol dehydrocyclization

Gheorghița Mitran,\* Tam Le Phuong Nguyen and Dong-Kyun Seo\*

1914



### Sustainable and green synthesis of C- and N-doped nanoporous g-C<sub>3</sub>N<sub>4</sub>: powerful sunlight-responsive photocatalysts for aerobic oxidation of toluene

Mina Tavakolain, Mitra Jafari, Mohammad Reza Ebrahimian, Mohammad Reza Rahimpour\* and Mona Hosseini-Sarvari\*

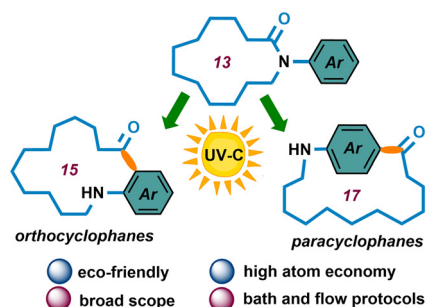


## PAPERS

1923

## Diversity-oriented synthesis of medium-sized cyclophanes *via* the photo-fries rearrangement of *N*-aryl lactams

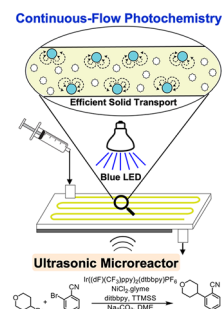
Piotr Szcześniak\* and Bartłomiej Furman\*



1930

## Heterogeneous photochemical reaction enabled by an ultrasonic microreactor

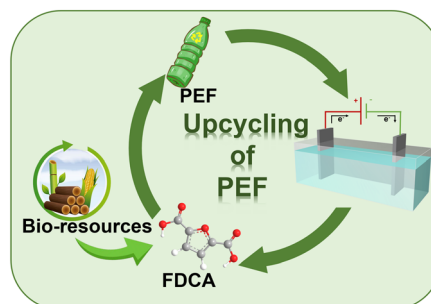
Aniket P. Udepurkar, Kakasaheb Y. Nandiwale, Klavs F. Jensen\* and Simon Kuhn\*



1937

## Electrocatalytic valorization of waste polyethylene furanoate (PEF) bioplastics for the production of formic acid and hydrogen energy

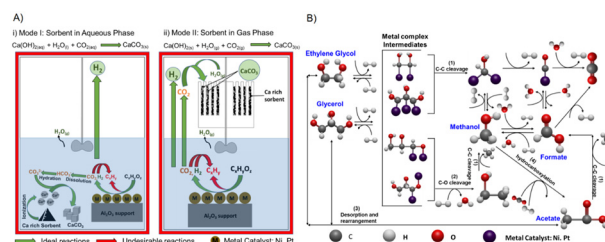
Liwen Ren, Sen Yang, Jianying Wang, Ting Zhang, Xin Li, Tianfu Wang\* and Yixin Zhao\*



1943

## Integrated low carbon H<sub>2</sub> conversion with *in situ* carbon mineralization from aqueous biomass oxygenate precursors by tuning reactive multiphase chemical interactions

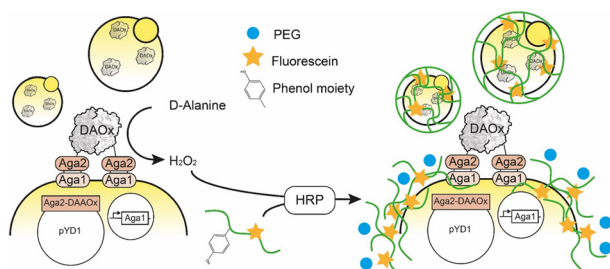
Prince Ochonma, Christopher Noe, Sohaib Mohammed, Akanksh Mamidala and Greeshma Gadikota\*





## PAPERS

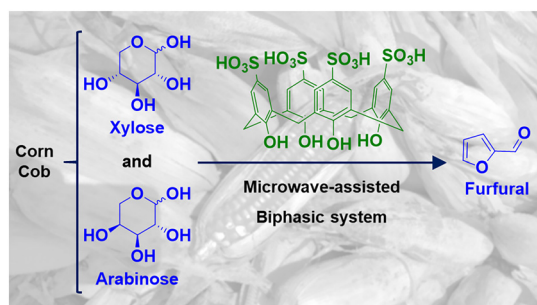
1960



### Directed evolution of *Rhodotorula gracilis* D-amino acid oxidase using single-cell hydrogel encapsulation and ultrahigh-throughput screening

Christoph K ng, Rosario Vanella and Michael A. Nash\*

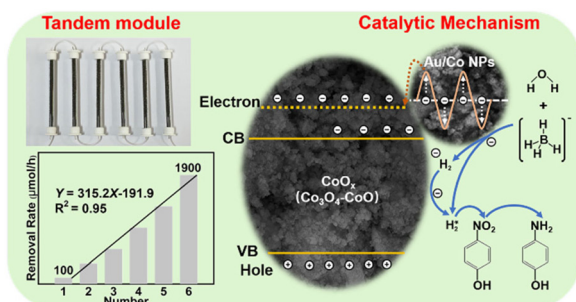
1969



### Green synthesis of furfural from xylose and corn cob biomass

Gabriel Abranches Dias Castro, Rodrigo Candido Batista, Rita de C ssia Superbi de Sousa, Ang lica de C ssia Oliveira Carneiro and Sergio Antonio Fernandes\*

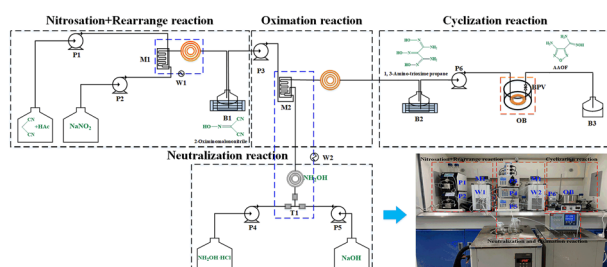
1981



### High-efficiency reactor and its tandem module with Au-Co-CoO<sub>x</sub>-coated glass beads for continuous-flow reduction of dyeing wastewater

Li Sun,\* Mengying Sun, Yuan Zhi, Hua Zhang, Yuejin Shan, Binlin Dou, Jian Chen and Lixin Zhang

1993



### Continuous-flow and safe synthesis of 3-amino-4-amidoximinofurazan

Shichun Weng, Wei Feng, Wenqian Wu, Zichao Guo,\* Junjie Li, Huanhuan Chen, Liping Chen and Wanghua Chen

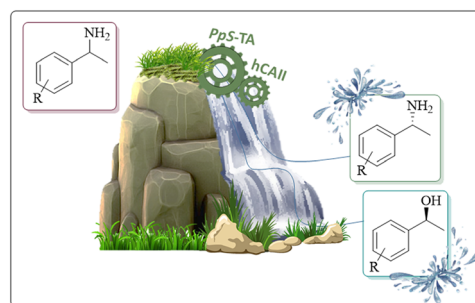


## PAPERS

2001

### Transaminase – carbonic anhydrase bi-enzymatic cascade for preparation of (*R*)-1-arylethan-1-amines and (*S*)-1-arylethan-1-ols

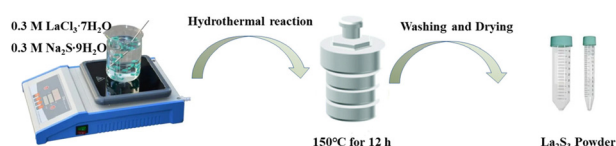
Laura Edit Barabás, Diana Maria Scrob, Andrea Varga, Loránd Kiss, Monica Ioana Toşa and Csaba Paizs\*



2011

### Ru/La<sub>2</sub>S<sub>3</sub> nanorods as an electrocatalyst for efficient N<sub>2</sub> fixation under ambient conditions

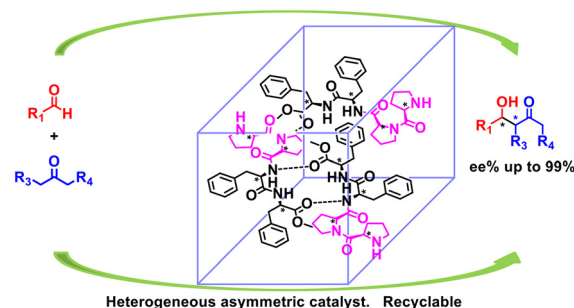
Wang Yingshu,\* Wang Hong, Tang Yixin, Shu Yu, Zhao Suying, Hong Lu and Xu Zhenqi



2022

### Asymmetric aldol reaction catalyzed by amino acid tetrapeptides (L-Pro-L-Pro-L-Phe-L-Phe-OMe)

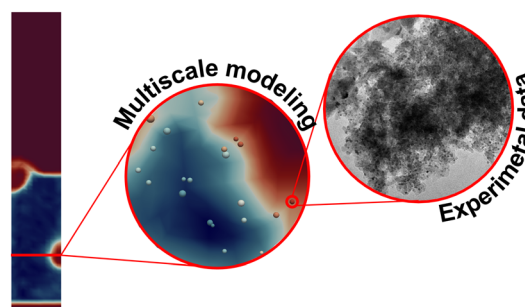
Yaodong Wang, Yudan Wang,\* Lijia Liu,\* Kexiao Sang, Chunhong Zhang\* and Toshifumi Satoh



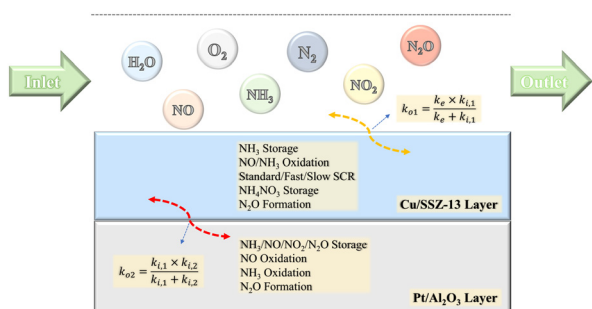
2029

### A combined experimental and multiscale modeling approach for the investigation of lab-scale fluidized bed reactors

Riccardo Uglietti, Daniele Micale, Damiano La Zara, Aristeidis Goulas, Luca Nardi, Mauro Bracconi, J. Ruud van Ommen\* and Matteo Maestri\*



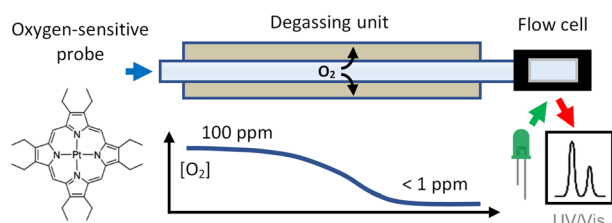
2040



### Modeling and analysis of ammonia oxidation and nitrous oxide formation on a dual-layer ammonia slip catalyst for diesel after-treatment

Dongwei Yao,\* Yuxi Li, Feng Wu, Weiyang Jin, Ziyang Zhang, Xiaohan Hu and Jiadong Hu

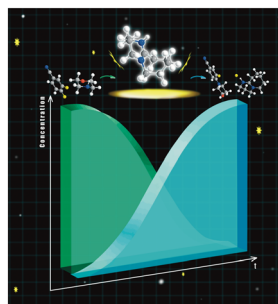
2052



### Efficient degassing and ppm-level oxygen monitoring flow chemistry system

Paulius Baronas, Jacob Lynge Elholm and Kasper Moth-Poulsen\*

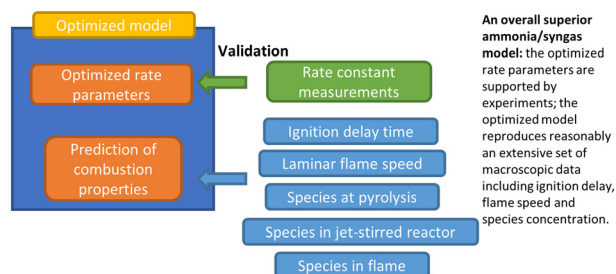
2060



### Mechanistic insights into amination *via* nucleophilic aromatic substitution

Junu Kim, Yusuke Hayashi, Sara Badr, Kazuya Okamoto, Toshikazu Hakogi, Haruo Furukawa, Satoshi Yoshikawa, Hayao Nakanishi and Hirokazu Sugiyama\*

2071



### An optimized model for ammonia/syngas combustion

Wenyu Li, Chun Zou\* and Hong Yao





2086

## Utilizing solid polyamines in a rotary bed to capture CO<sub>2</sub> in an energy and cost-efficient manner

Jubao Gao, Jun Yan, Xueyi Song, Youkun Gao, Gaofeng Deng, Zhichao Wang\* and Lingdi Cao\*

