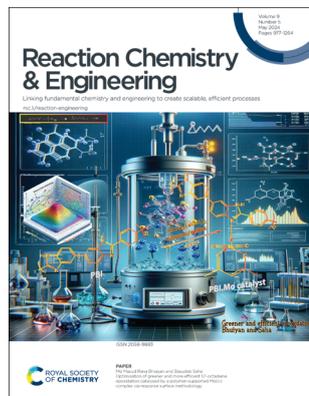# Reaction Chemistry & Engineering

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IN THIS ISSUE

Cover
See Md Masud Rana Bhuiyan and Basudeb Saha,
pp. 1036–1046.
Image reproduced by permission of Md Masud Rana Bhuiyan & Basudeb Saha from *React. Chem. Eng.*, 2024, **9**, 1036.

EDITORIAL

988

New Editor-in-Chief for *Reaction Chemistry & Engineering*

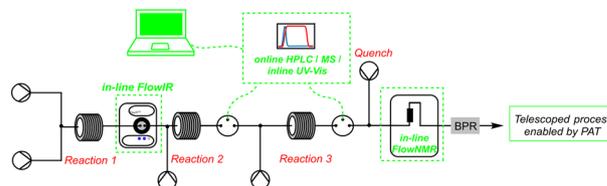Dionisios G. Vlachos, Maria Southall and Klavs F. Jensen

REVIEWS

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The role of PAT in the development of telescoped continuous flow processes

Aoife M. Kearney, Stuart G. Collins* and Anita R. Maguire*

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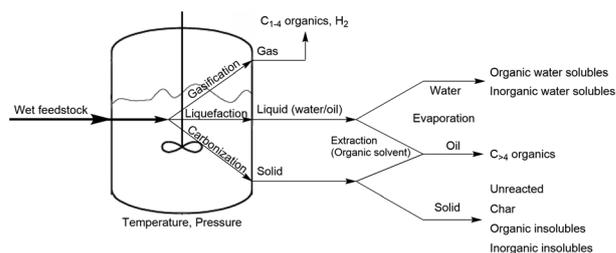Registered charity number: 207890

REVIEWS

1014

Hydrothermal liquefaction of plastics: a survey of the effect of reaction conditions on the reaction efficiency

Matthijs Justin Boel, Hongqi Wang, Ahmad AL Farra, Laura Megido, José Manuel González-LaFuente and N. Raveendran Shiju*
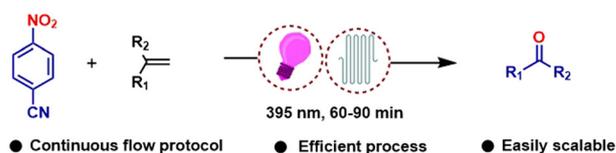
COMMUNICATION

1032

A scalable continuous photo-flow protocol for anaerobic oxidative cleavage of styrenes

Gaurav Prakash, Jagrit Grover, Pramod Pathak, Ankit Kumar Mittal, Pownthurai Balasubramaniam and Debabrata Maiti*

● Continuous flow protocol ● Efficient process ● Easily scalable

PAPERS

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Optimisation of greener and more efficient 1,7-octadiene epoxidation catalysed by a polymer-supported Mo(VI) complex via response surface methodology
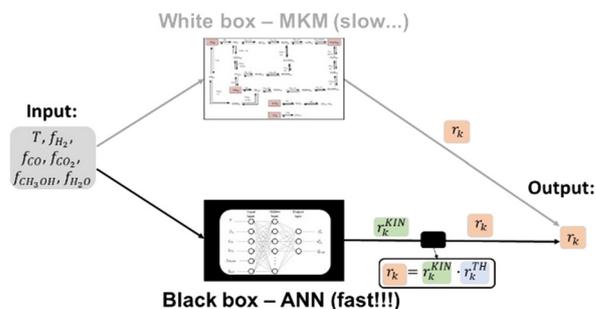
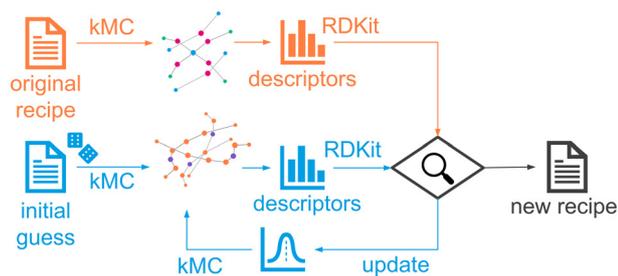Md Masud Rana Bhuiyan and Basudeb Saha*
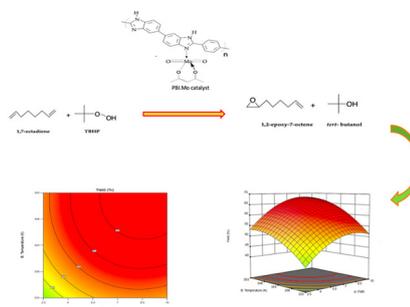
1047

Development of a surrogate artificial neural network for microkinetic modeling: case study with methanol synthesis

Bruno Lacerda de Oliveira Campos,*
Andréa Oliveira Souza da Costa, Karla Herrera Delgado,
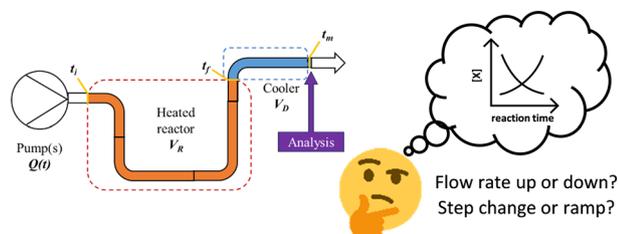Stephan Pitter, Jörg Sauer
and Esly Ferreira da Costa Junior*

PAPERS

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Computer aided recipe design: optimization of polydisperse chemical mixtures using molecular descriptors

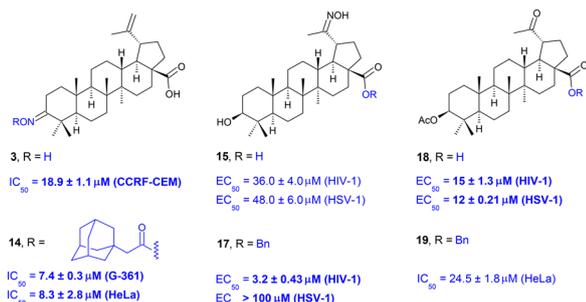Anja MacKenzie, Jakob Schneider, Jan Meyer and Christoph Loschen*

1077

Flow rate up or down?
Step change or ramp?

A comparative study of transient flow rate steps and ramps for the efficient collection of kinetic data

Linden Schrecker, Joachim Dickhaut, Christian Holtze, Philipp Staehle, Marcel Vranceanu, Andy Wieja, Klaus Hellgardt and King Kuok Hii*
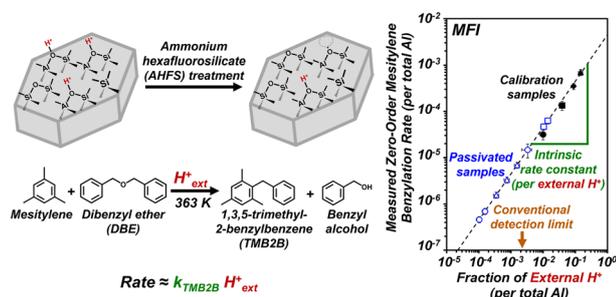
1087

Oxime derivatives of betulonic acid and platanic acid as novel cytotoxic or antiviral agents

Lucie Černá, Uladzimir Bildziukevich, Lucie Rárová, Jana Trylčová, David Šaman, Jan Weber, Petra Lovecká and Zdeněk Wimmer*

1096

Quantification of extracrystalline acid sites in MFI zeolites after post-synthetic passivation treatments using mesitylene benzylation kinetics
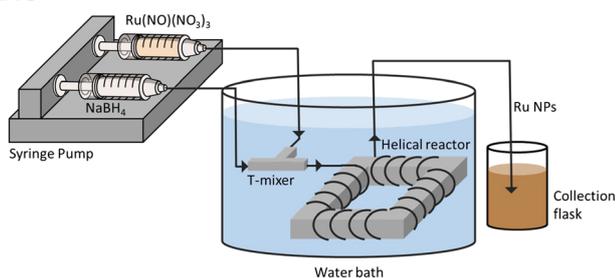
Sopuruchukwu Ezenwa, Geoffrey M. Hopping, Eric D. Sauer, Teah Scott, Savanna Mack and Rajamani Gounder*

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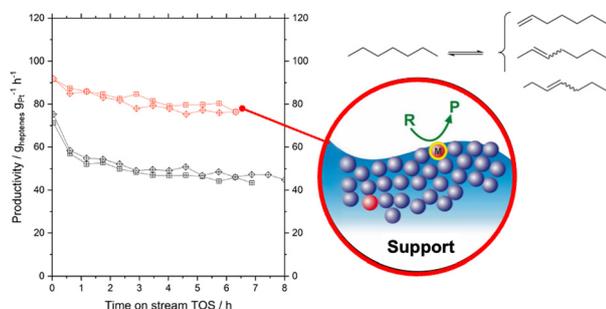
PAPERS

PAPERS

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Continuous synthesis of ruthenium nanoparticles with tuneable sizes using ruthenium nitrosyl nitrate precursor

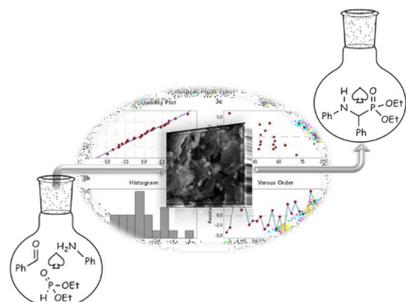Joseph El-Kadi, Eugenio Fenoaltea Pieche, Seung Woo Ko and Laura Torrente-Murciano*

1154

Kinetics of dehydrogenation of *n*-heptane over GaPt supported catalytically active liquid metal solutions (SCALMS)

Oshin Sebastian, Asem Al-Shaibani, Nicola Taccardi, Marco Haumann* and Peter Wasserscheid*

1164

Box–Behnken design for the optimisation of Kabachnik–Fields reaction catalysed by natural kaolinite clay under eco-friendly conditions

Mourad Boukachabia,* Samia Guezane-Lakoud, Hacene Bendjeffal and Maamar Haffas

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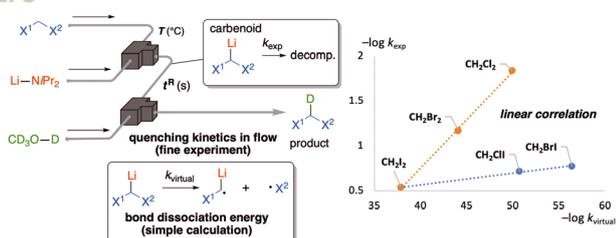
Elucidation of the kinetic stabilities of carbenoid species by integration of theoretical and experimental studies

Kazuhiro Okamoto, Kensuke Muta, Hidetaka Yamada, Ryosuke Higuma, Yosuke Ashikari and Aiichiro Nagaki*

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PAPERS

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Practical and scalable one-pot synthesis of arbekacin

Hongsen Zhang, Chunxiao Wang, Kai Liu, Chao Li* and Renzhong Qiao*

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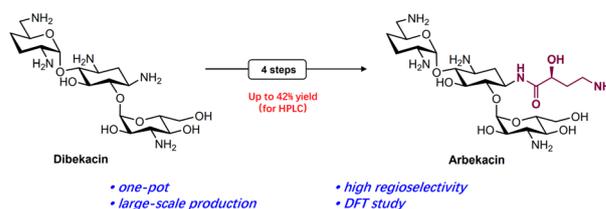**Microkinetic modeling of the homogeneous thermal oligomerization of ethylene to liquid fuel-range hydrocarbons**

Grant Marsden, Alexander Shaw, Matthew A. Conrad, Jeffrey T. Miller and Linda J. Broadbelt*
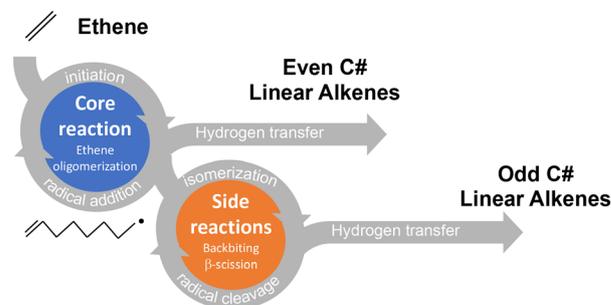
1199

Applying quantum mechanics to deconvolute benchtop ^{1}H NMR reaction data

Jiayu Zhang, Tristan Maschmeyer, Ben Shapiro, Sunil Babu Paudel, Matthew C. Leclerc and Jason E. Hein*
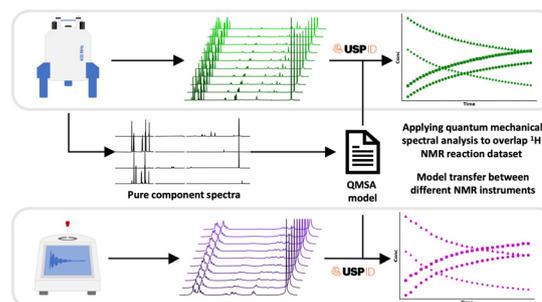
1206

How to actively learn chemical reaction yields in real-time using stopping criteria

Vincent Delmas,* Denis Jacquemin, Aymeric Blondel, Morgane Vacher and Adèle D. Laurent*

PAPERS

1216

BF₃-promoted selective catalytic hydroboration of epoxides to primary alcohols

Yi-Xuan Yao, Hong-Wei Zhang, Chang-Bo Lu, Hong-Yan Shang* and Yuan-Yu Tian*

- High selectivity and yields for primary alcohols
- Alkyl- and aryl-substituted epoxides
- Homogeneous (BF₃·Et₂O) and heterogeneous (BF₃/HY) cat.

1225

Designing of a novel heterogeneous nanocatalyst ZIF-4@HAp for solvent free base catalyzed esterification reaction
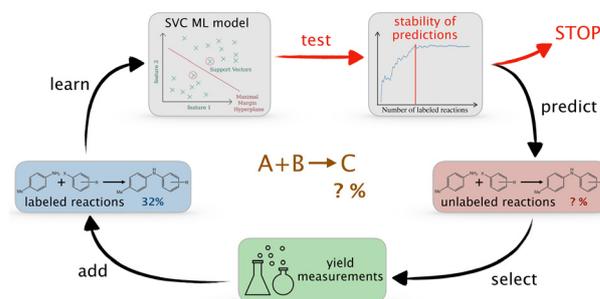
Linkon Bharali, Debarati Chakraborty, Triveni, Juri Kalita and Siddhartha Sankar Dhar*

1235

Pyrolysis of sargassum in a single mode microwave cavity: use of SiC and biochar as microwave absorbers

Randal De La Cruz Iturbides, Lilivet Ubiera, Ulises Jauregui Haza and Isabelle Polaert*

1251

Methane steam reforming over Ni/YSZ cermet anode materials synthesized by different methods

S. Bassil, T. Caillot, F. J. Cadete Santos Aires, F. C. Meunier and A. Kaddouri*

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CORRECTION

1261

Correction: Applying quantum mechanics to deconvolute benchtop ^{1}H NMR reaction data

Jiayu Zhang, Tristan Maschmeyer, Ben Shapiro, Sunil Babu Paudel, Matthew C. Leclerc and Jason E. Hein*