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A multidisciplinary journal focussing on all fundamental science and technological aspects of catalysis

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IN THIS ISSUE

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Cover

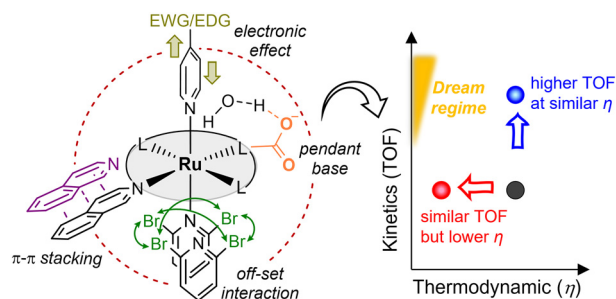
See Wei-Yu Lin *et al.*, pp. 1633–1639.
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PERSPECTIVE

1598

Tuning primary and secondary coordination spheres of ruthenium complexes for the homogeneous water oxidation reaction: a perspective from catalytic activity and overpotential

Hao-Chen Ma, Shun-Chien Hsiao and Yu-Heng Wang*

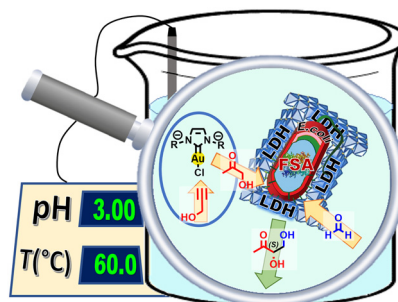


COMMUNICATIONS

1623

Aldolase and N-heterocyclic carbene gold(I) catalysts: compartmentalization and immobilization on anionic clays for concurrent hybrid catalysis at acidic pH

Cédric Gastaldi, Virgil Hélaïne, Muriel Joly, Arnaud Gautier, Claude Forano* and Christine Guérard-Hélaïne*



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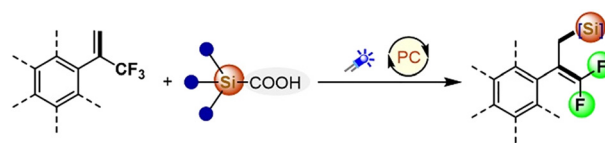


COMMUNICATIONS

1628

Visible-light-induced decarboxylation/defluorosilylation protocol for synthesis of *gem*-difluoroalkenes

Pan Gao,* Liping Cui, Guodong Zhang* and Feng Chen*



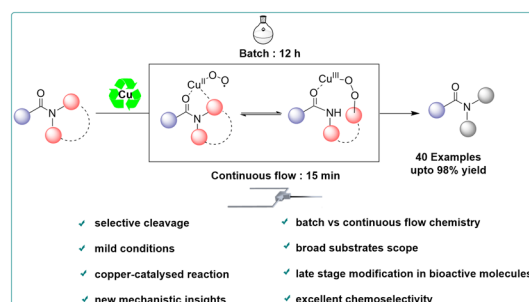
- ✓ bench stable silyl radical precursor
- ✓ without additional HAT reagents
- ✓ metal-free conditions
- ✓ broad substrate scope
- ✓ blue LEDs as a light source
- ✓ inexpensive reagents

PAPERS

1633

The copper-catalyzed oxidative radical process of site selective C–N bond cleavage in twisted amides: batch and continuous-flow chemistry

Karthick Govindan, Nian-Qi Chen, Hsing-Yin Chen, Sodio C. N. Hsu and Wei-Yu Lin*

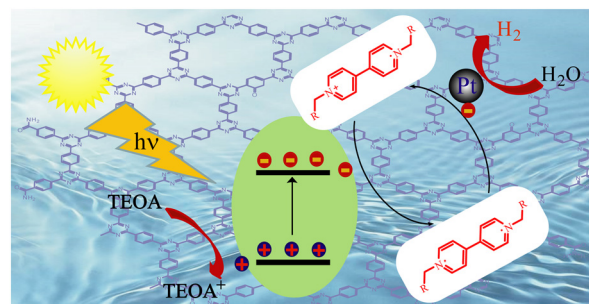


- ✓ selective cleavage
- ✓ mild conditions
- ✓ copper-catalysed reaction
- ✓ new mechanistic insights
- ✓ batch vs continuous flow chemistry
- ✓ broad substrates scope
- ✓ late stage modification in bioactive molecules
- ✓ excellent chemoselectivity

1640

Energy bands matched photocatalysis enhancement based on viologen derivatives electron-transfer-mediator

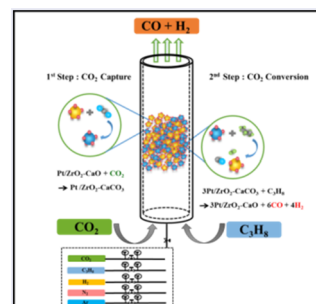
Fang Niu, Jia-Lin Zhu, Yong Ding, Li-Ming Tao* and Jun Jin*



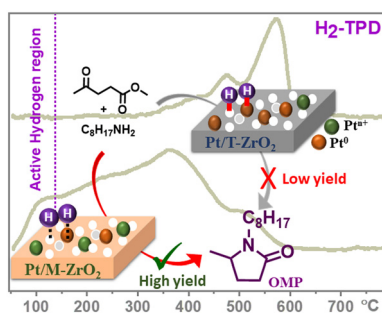
1650

CO₂ capture and conversion to syngas via dry reforming of C₃H₈ over a Pt/ZrO₂–CaO catalyst

Jingjing Dong, Yang Peng, Juanting Li, Zhong-wen Liu and Rongrong Hu*



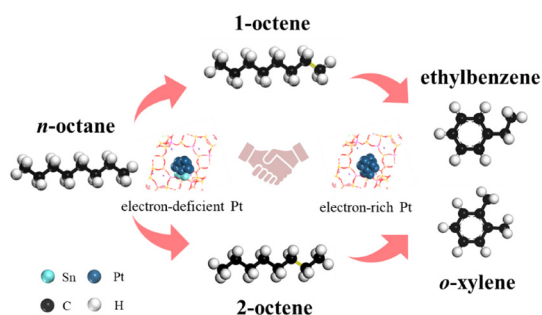
1666



Accelerated H₂ activation over Pt/M-ZrO₂ for the reductive amination of levulinic acid esters under benign conditions

Kanika Saini, Sahil Kumar, Ramandeep Kaur, Srinivasarao Arulananda Babu and Shunmugavel Saravanamurugan*

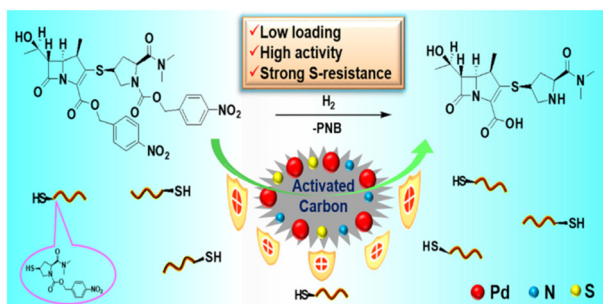
1677



Highly efficient Sn-modified Pt/KY catalyst for *n*-octane reforming: the synergistic effect of Pt in different electronic states

Mengxia Yan, Baoshan Wu,* Yong Yang and Yongwang Li

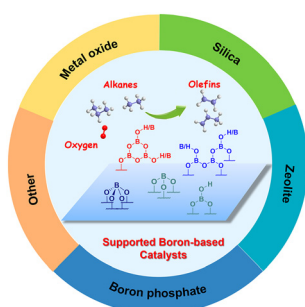
1686



Pd/N, S co-doped activated carbon as a highly-efficient catalyst for the one-pot synthesis of meropenem

Yuefeng Li, Fengmei Xiong, Jiangmei Yan, Zhaowen Wang, Tao Hong, Zhixiang Zhang, Yu Li* and Xinli Jing*

1696



Supported boron-based catalysts for oxidative dehydrogenation of light alkanes to olefins

Wen-Duo Lu, Bin Qiu, Zhan-Kai Liu, Fan Wu and An-Hui Lu*

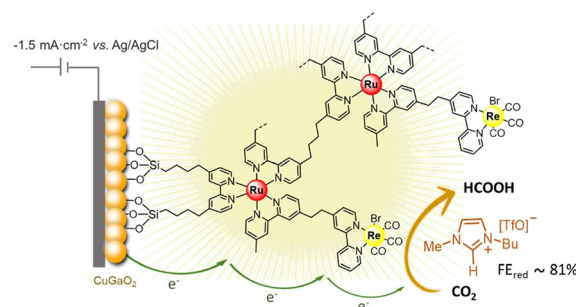


PAPERS

1708

Solar-driven CO₂ reduction catalysed by hybrid supramolecular photocathodes and enhanced by ionic liquids

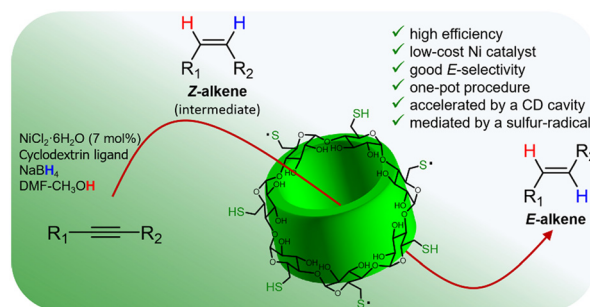
Roger Miró, Hilmar Guzmán, Cyril Godard,* Aitor Gual,* Federica Zammillo, Thomas J. S. Schubert, Boyan Iliev, Angelica Chiodoni, Simelys Hernández* and Miriam Díaz de los Bernardos*



1718

E-Selective semi-hydrogenation of alkynes via a sulfur-radical mediation over cyclodextrin-modified nickel nanocatalyst

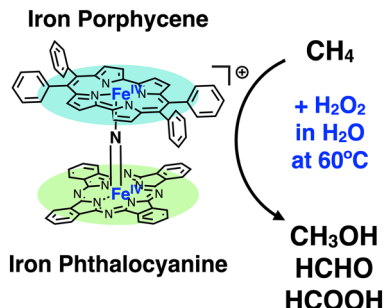
Yatao Su, Xiu Wang, Qianwen Lin, Qi Shen, Shuangwen Xu, Liping Fang and Xin Wen*



1725

Evaluation of CH₄ oxidation activity of high-valent iron-oxo species of a μ-nitrido-bridged heterodimer of iron porphycene and iron phthalocyanine

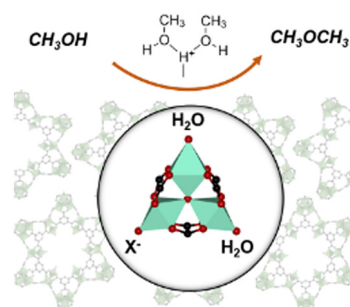
Yasuyuki Yamada,* Yusuke Miwa, Yuka Toyoda, Quan Manh Phung, Kin-ichi Oyama and Kentaro Tanaka*



1735

Active sites, kinetics, and inhibiting species in the catalytic dehydration of methanol over MIL-100(Cr)

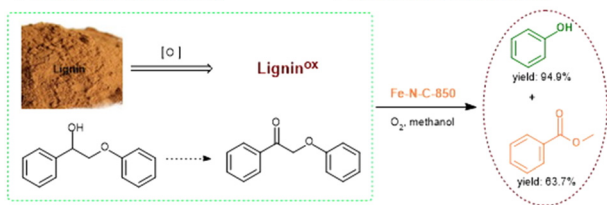
Mengying Li, Jiakang Chen, Jacklyn N. Hall and Praveen Bollini*



1748

- Green and sustainable processes
- Valorization of renewable feedstocks

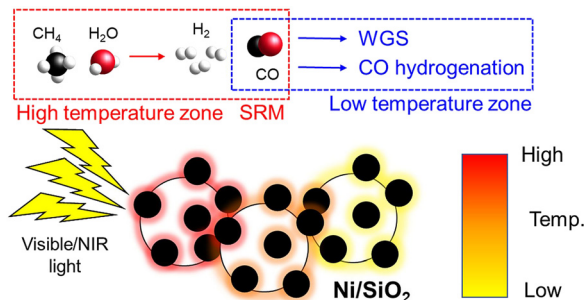
- High efficiency and good selectivity
- Easy separation of iron-based catalyst



A sustainable iron-catalyzed aerobic oxidative C–C and C–O bond cleavage of a lignin model to phenol and methyl benzoate

Shaoyuan Guo, Xinli Tong,* Lingwu Meng and Guobao Yang

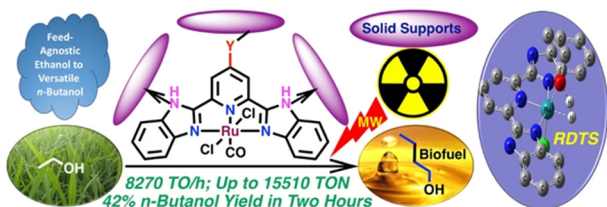
1755



Photothermal steam reforming of methane over silica-supported nickel catalysts with temperature gradients

Wirya Sarwana, Daichi Takami, Akira Yamamoto* and Hisao Yoshida

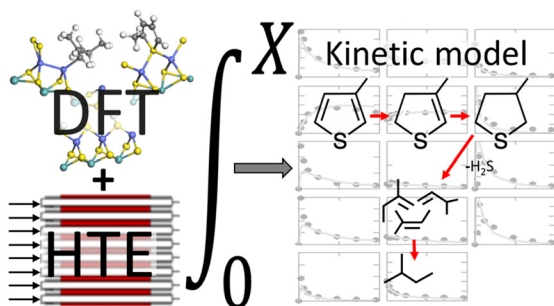
1763



Microwave-assisted pincer-ruthenium catalyzed Guerbet reaction for the upgradation of bio-ethanol to bio-butanol

Kanu Das, Lakshay Kathuria, Raksh Vir Jasra, Sunil Dhole and Akshai Kumar*

1777



High-throughput experimentation based kinetic modeling of selective hydrodesulfurization of gasoline model molecules catalyzed by CoMoS/Al₂O₃

Ekaterina Galand, Fabien Caron, Etienne Girard, Antoine Daudin, Mickael Rivallan, Pascal Raybaud, Jean-Marc Schweitzer and Yves Schuurman*

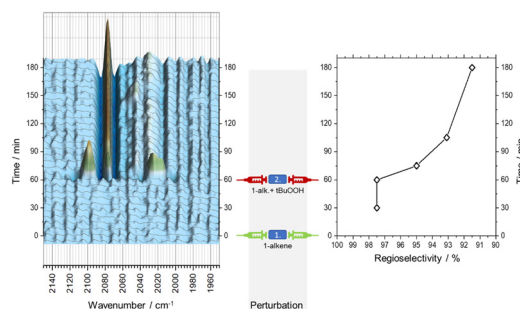


PAPERS

1788

Operando characterization of rhodium catalyst degradation in hydroformylation

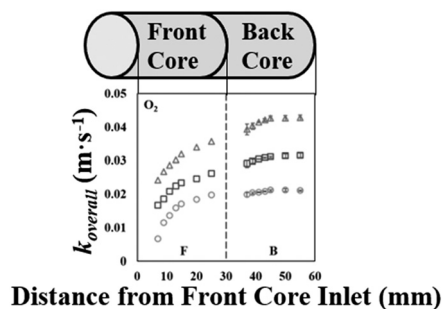
Martin Gerlach,* Froze Jameel,
Andreas Seidel-Morgenstern, Matthias Stein*
and Christof Hamel



1802

Investigation of the deactivation of a washcoated monolith using a spatially resolved technique

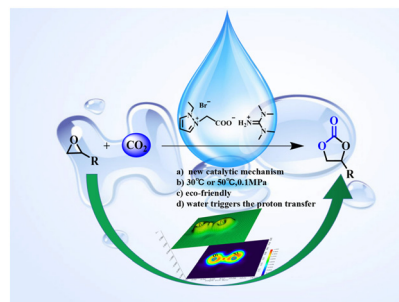
Yuhan Wang, Cristina Stere, Geoffrey McCullough,*
Mingyang Li and Alexandre Goguet*



1818

Role of water in dual-ionic pyrazolium salt promoted conversion of CO₂ at atmospheric pressure and room temperature

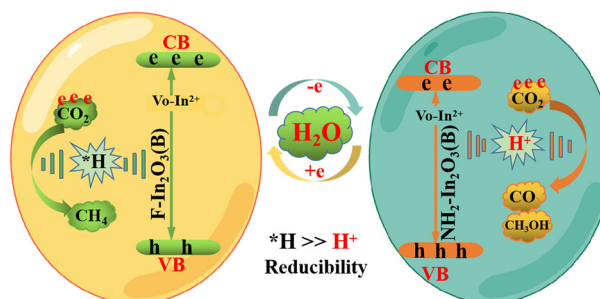
Danning Zheng, Fang Liu, Tengfei Wang,
Zhengkun Zhang, Hans Ågren, Jinglai Zhang,*
Mårten S. G. Ahlquist* and Li Wang*



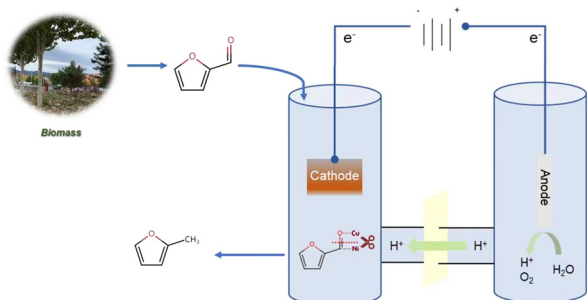
1830

Modification of In₂O₃ by electronic promoters to regulate electron transfer behavior of CO₂/H₂O adsorption and the selectivity of photocatalytic CO₂ reduction

Hong Wang, Zhongming Wang, Mingquan Xiao,
Zizhong Zhang, Xianzhi Fu* and Wenxin Dai*



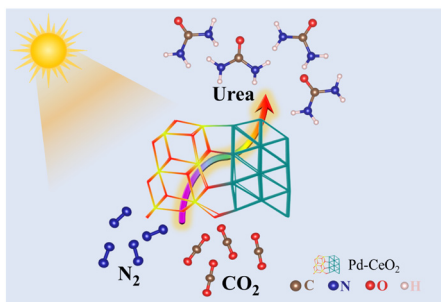
1846



Electrocatalytic reduction of furfural for selective preparation of 2-methylfuran over a trace Ni assisted Cu catalyst

Yiming Cui, Ze Wang* and Songgeng Li

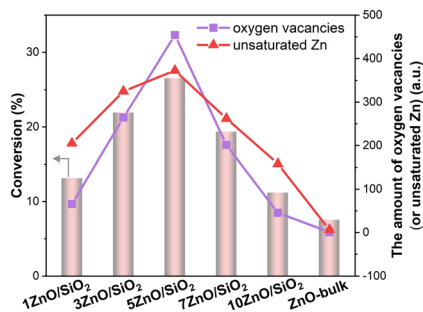
1855



Photocatalytic C-N coupling towards urea synthesis with a palladium-supported CeO₂ catalyst

Shuyi Yang, Jiayi Deng, Jiaying Chen, Qingmei Tan, Tianren Liu, Ke Chen, Dongxue Han,* Yingming Ma,* Mengjiao Dai and Li Niu

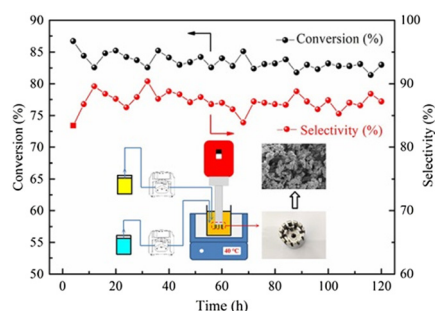
1866



Particle size effect of SiO₂-supported ZnO catalysts in propane dehydrogenation

Xianxian Shi, Si Chen, Shang Li, Yuqi Yang, Qiaoqiao Guan, Jiani Ding, Xinyu Liu, Qin Liu, Wenlong Xu and Junling Lu*

1874



CsCu_{0.1}H_{2.9}PMo₁₁VO₄₀ catalyst synthesized via a high shear mixer facilitated precipitation method for selective oxidation of methacrolein to methacrylic acid

YanJun Li,* Shuai Wang, Qian Wang, Mingyuan Zhu, Wenjuan Shan and Yuanyuan Liu*

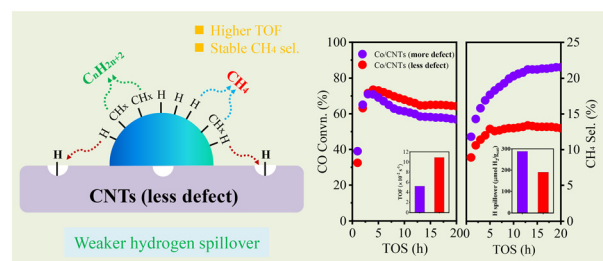


PAPERS

1888

Hydrogen spillover effects in the Fischer–Tropsch reaction over carbon nanotube supported cobalt catalysts

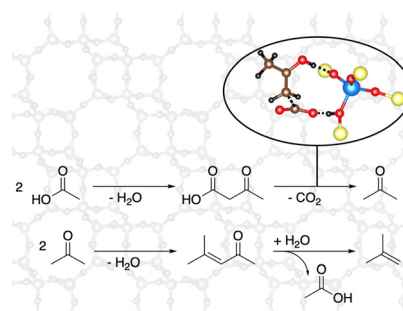
Heng Zhang, Anliang Dong, Bing Liu, Jie Chen, Yuebing Xu and Xiaohao Liu*



1905

A computational investigation of the decomposition of acetic acid in H-SSZ-13 and its role in the initiation of the MTO process

Philipp Huber and Philipp N. Plessow*



CORRECTION

1918

Correction: Stereo-selective synthesis of non-canonical γ -hydroxy- α -amino acids by enzymatic carbon–carbon bond formation

Rui Zhang, Jiamu Tan, Zhenzhen Luo, Haihong Dong, Ningshan Ma and Cangsong Liao*

