

Green Chemistry

Cutting-edge research for a greener sustainable future

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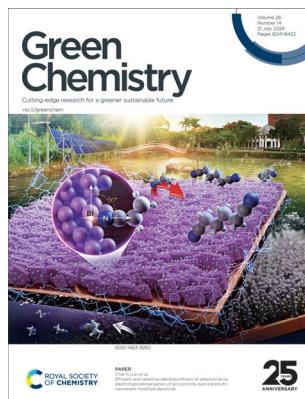
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Cover

See Robert Wojcieszak, Ivaldo Itabaiana *et al.*, pp. 8211–8219.

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Inside cover

Inside cover
See Chia-Yu Lin *et al.*,
pp. 8220–8229.

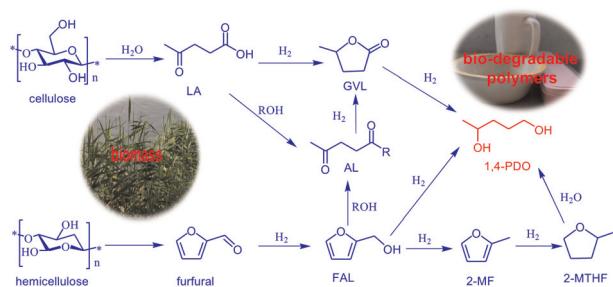
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CRITICAL REVIEWS

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Catalytic production of 1,4-pentanediol from lignocellulosic biomass

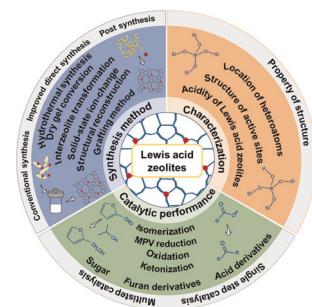
Shanhui Zhu,* Zexiang Lv, Jiamin Wang, Xiangyu Jia, Xiaoming Li, Mei Dong, Jianquo Wang* and Weibin Fan*



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Heteroatom Lewis acid zeolites: synthesis, characterization and application in the conversion of biomass-derived oxygenates

Zijun Yang, Qingfeng Ge and Xinli Zhu*



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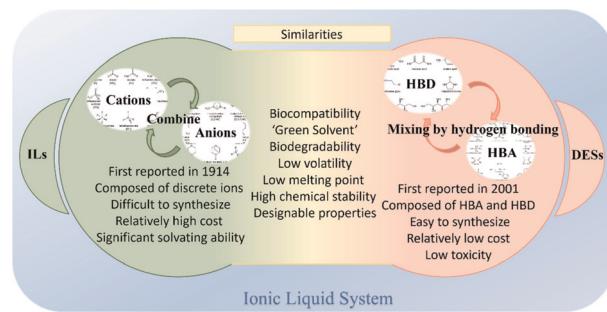
**Fundamental questions
Elemental answers**

CRITICAL REVIEWS

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Review of the application of ionic liquid systems in achieving green and sustainable recycling of spent lithium-ion batteries

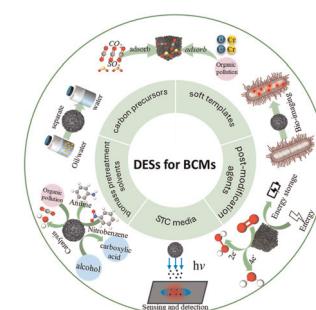
Huiying Shi, Yi Luo, Chengzhe Yin and Leming Ou*



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Emerging applications of deep eutectic solvents in the preparation and functionalization of biomass-derived carbonaceous materials: challenges and prospects

Yiyi Shen, Haiqin Zhou, Xiaotong He, Feng Shen, Zhixiang Xu, Bo Yang, Lingzhao Kong and Lichun Dai*

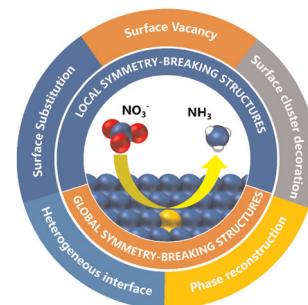


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Symmetry-breaking structure electrocatalysts for nitrate reduction to ammonia

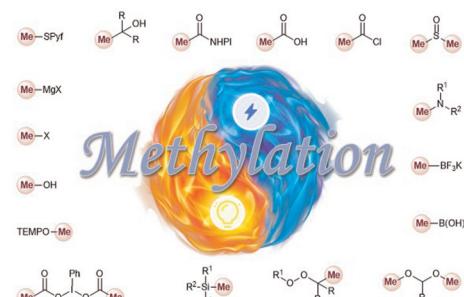
Yifan Han, Jiachangli Shang, Shuai Yin, Rong Cao, Jing Zhang,* Wei Jiang* and Guigao Liu*



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Demystifying the recent photochemical and electrochemical strategies in installing the magic methyl group: a comprehensive overview

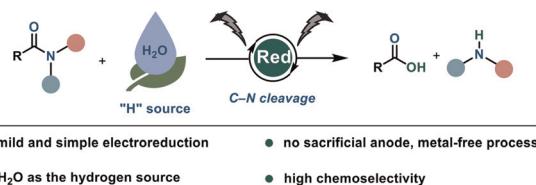
Feiyang Liao, Zenghui Wei, Yunhao Guan, Zhe Zhuang, Kun Xu* and Jiajing Tan*



COMMUNICATION

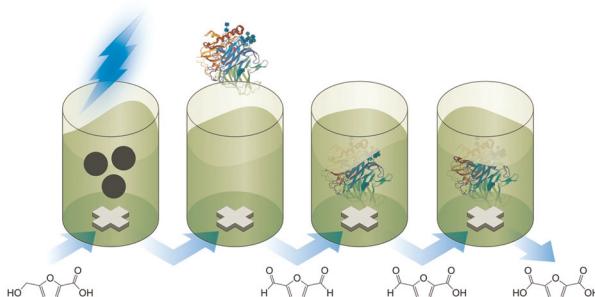
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Electroreductive hydrolysis of amides by H_2O_2

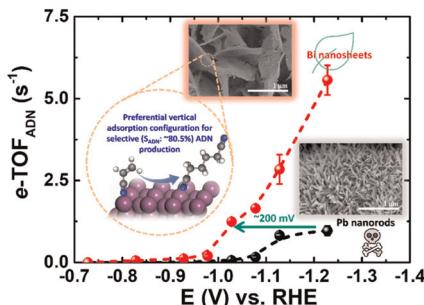


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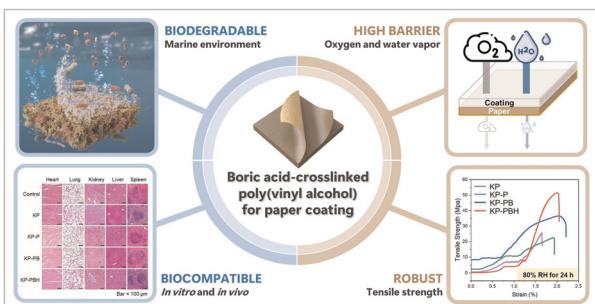
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Highly selective hydrolysis of amides *via* electroreduction

Jin-Yu He, Yan-Zhao Wang, Wen-Xi Duan, Jia-Rong Li,
Hao Xu* and Cuijiu Zhu*

Optimization of 5-hydroxymethylfurfural oxidation via photo-enzymatic cascade process

Marcelo A. do Nascimento, Bernardo Haber, Mauro R. B. P. Gomez, Raquel A. C. Leão, Mariusz Pietrowski, Michał Zieliński, Rodrigo O. M. A. de Souza, Robert Woicieszak* and Ivaldo Itabaiana, Jr*

Efficient and selective electrosynthesis of adiponitrile by electrohydrodimerization of acrylonitrile over a bismuth nanosheet modified electrode

Jia-Sheng Su, Shih-Ching Huang, Ming-Chi Tsai,
Chia-Hui Yen and Chia-Yu Lin*

Boric acid-crosslinked poly(vinyl alcohol): biodegradable, biocompatible, robust, and high-barrier paper coating

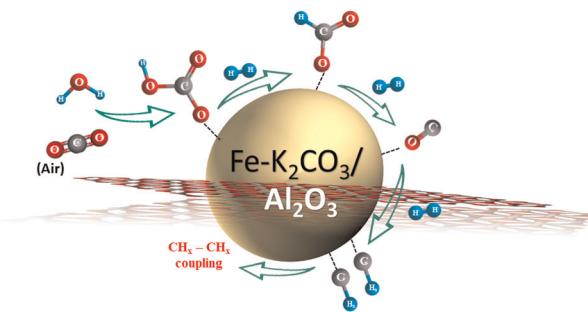
Shinhyeong Choe, Seulki You, Kitae Park, Youngju Kim, Jehee Park, Yongjun Cho, Jongchul Seo, Hanseul Yang and Jaewook Myung*

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Reactive direct air capture of CO₂ to C–C coupled products using multifunctional materials

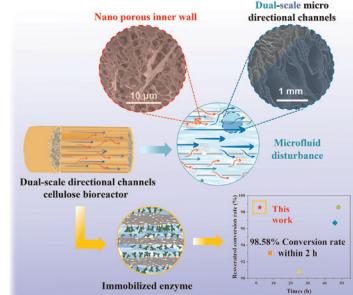
Shazia Sharmin Satter, Johnny Saavedra Lopez, Michael L. Hubbard, Yuan Jiang, Robert A. Dagle and Jotheeswari Kothandaraman*



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Wood-inspired dual-scale directional channel cellulose bioreactors with high mass transfer efficiency for continuous flow catalytic green conversion

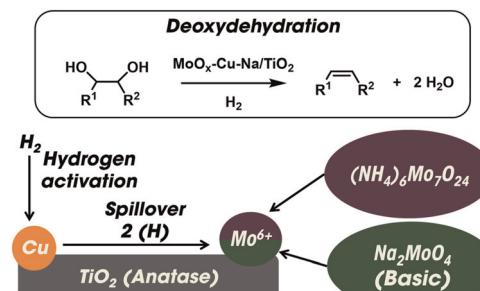
En-Jiang Liu, Yu-Shi Shen, Mei-Yan Ling, Chen-Xi He, Xing Zhou, Jun Wang, Shuai You, Wei-Guo Zhao, Xiao-Hui Yao and Dong-Yang Zhang*



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Non-noble metal heterogeneous catalysts for hydrogen-driven deoxydehydration of vicinal diol compounds

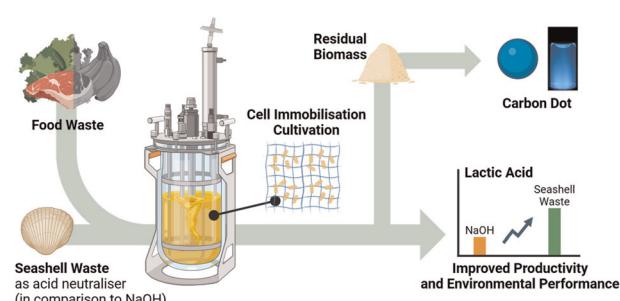
Jianxing Gan, Yoshinao Nakagawa,* Mizuho Yabushita and Keiichi Tomishige*



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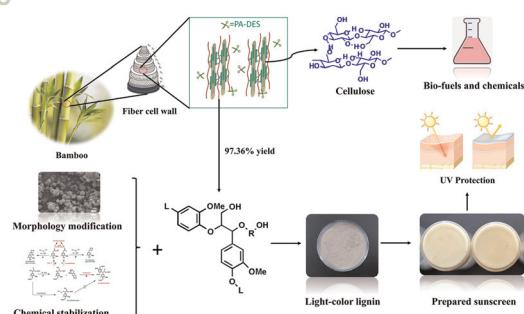
Green synthesis of lactic acid and carbon dots using food waste and seashell waste

Jin-Hua Mou, Ling-Feng Ouyang, Zi-Hao Qin, Ya-Hui Miao, Xin-Tian Jiang, Mui-Choo Jong, Man-Chung Tang, Chenyu Du, Season Si Chen* and Carol Sze Ki Lin*



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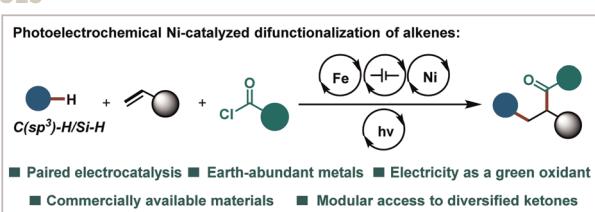
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Low-chromophore lignin isolation from natural biomass with polyol-based deep eutectic solvents

Jinyuan Cheng, Xuelian Zhou, Caoxing Huang, Chang Geun Yoo, Xianzhi Meng, Guigan Fang,* Arthur J. Ragauskas and Chen Huang*

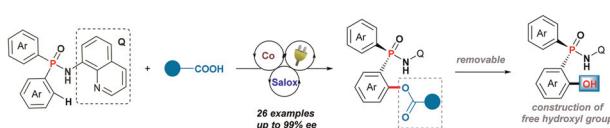
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Photoelectrochemical nickel-catalyzed carboacylation/silanoylation of alkenes with unactivated C/Si–H bonds

Lanfen Wang, Xiangyu Huo, Xiaozhi He, Lutz Ackermann* and Dingyi Wang*

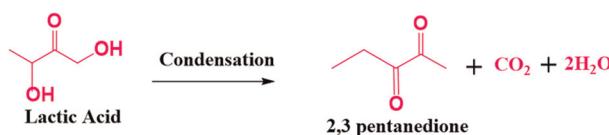
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Electrochemically enabled cobalt catalyzed enantioselective C–H acyloxylation of aryl phosphamide with carboxylic acid

Xuying Xia, Changdi Zheng, Yunfei Hang, Jiyuan Guo, Tao Liu, Dingguo Song, Zhiwei Chen, Weihui Zhong and Fei Ling*

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Highly efficient production of 2,3-pentanedione from condensation of bio-derived lactic acid over polymorphic ZrO₂

Neha Dhiman, B. Moses Abraham, Deepa Agrawal, Sudhakara Reddy Yenumala, Jyoti Porwal and Bipul Sarkar*



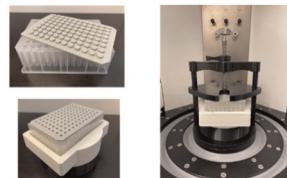
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Nickel-catalyzed cross-coupling aminations via high-throughput mechanochemistry enabled by resonant acoustic mixing

Alice Nanni, Deshen Kong, Chen Zhu and Magnus Rueping*

- ✓ Media-free mixing
- ✓ Reliable and safe
- ✓ Easy scale-up
- ✓ 96-well plate compatible
- ✓ suitable for HTE



8348

Steam-assisted electro-reduction of NiO: a sustainable alternative to conventional hydrogen reduction

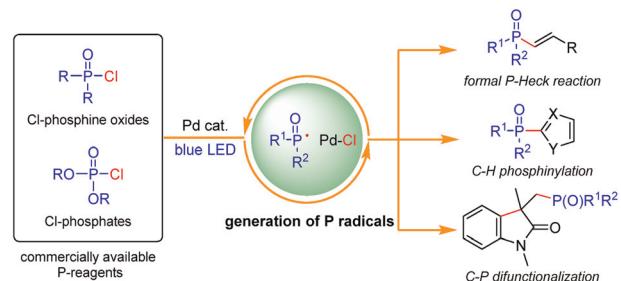
Kaiyu Xie and Ali Reza Kamali*



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A general platform for phosphorylation reactions enabled by photoinduced palladium catalysis

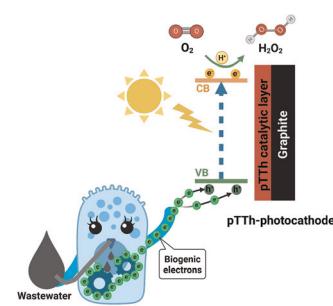
Yu-Jie Zhang, Xue-Song Wang, Jian Cao* and Li-Wen Xu*



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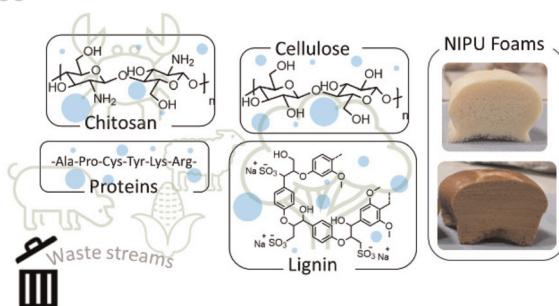
Novel bio-solar hybrid photoelectrochemical synthesis for selective hydrogen peroxide production

Rusen Zou, Babak Rezaei, Xiaoyong Yang, Wenjing Zhang, Stephan Sylvest Keller and Yifeng Zhang*



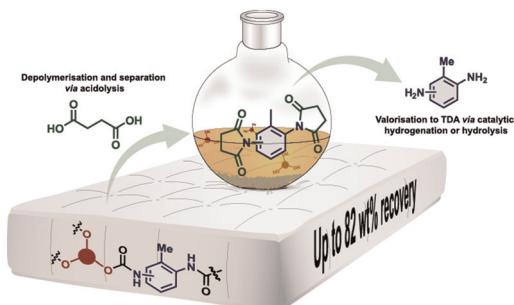
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Valorization of waste biomass for the fabrication of isocyanate-free polyurethane foams

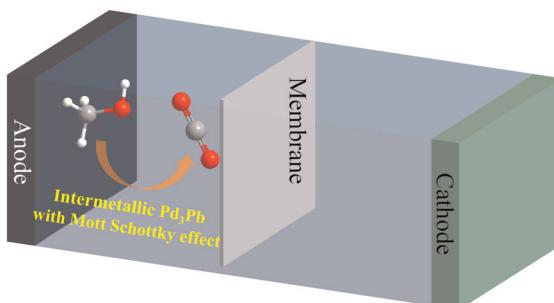
Dagmara Trojanowska, Florent Monie, Giovanni Perotto,* Athanassia Athanassiou, Bruno Grignard, Etienne Grau, Thomas Videl, Henri Cramail* and Christophe Detrembleur*

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Chemical separation of polyurethane via acidolysis – combining acidolysis with hydrolysis for valorisation of aromatic amines

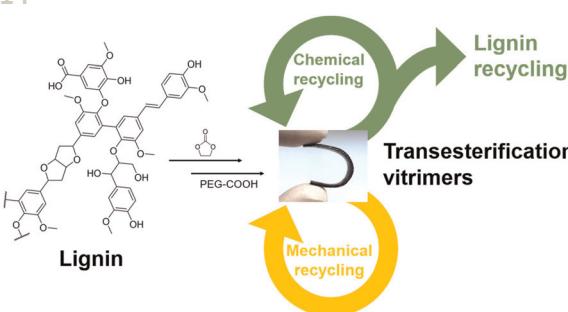
Thomas B. Bech, Bjarke S. Donslund, Steffan K. Kristensen* and Troels Skrydstrup*

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Ultrafine Pd₃Pb intermetallic nanowires with Mott–Schottky effect achieve a complete oxidation pathway for methanol oxidation catalysis

Shuanglong Zhou, Zuochao Wang, Mo Zhang, Xiaoming Mou, Yu Dai, Lei Wang and Jianping Lai*

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Turning lignin into a recyclable bioresource: transesterification vitrimers from lignins modified with ethylene carbonate

Antoine Duval,* Wissam Benali and Luc Avérous*



CORRECTION

8428

Correction: Comparative environmental assessment of zeolites synthesized from chemicals and natural minerals

Xiaoling Chen, Guoxi Xiao, Tiesen Li,* Chan Wang, Qingyan Cui, Xiaojun Bao and Yuanyuan Yue*

