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Chemical recycling of polyester textile wastes: shifting towards sustainability

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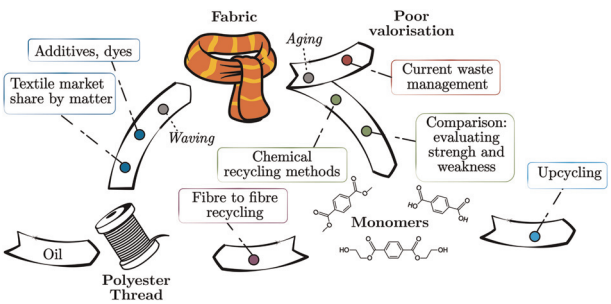

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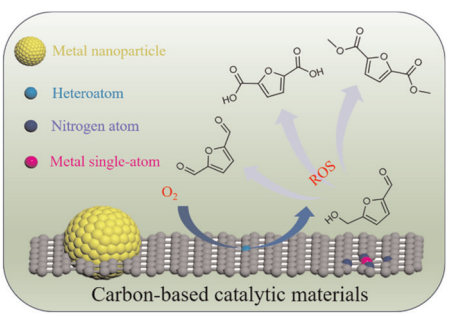
Carbon-based catalytic materials for aerobic oxidative transformation of 5-hydroxymethylfurfural: advancements, challenges, and opportunities

Chao Xie,* Zhiwei Jiang, Yayun Pang, Chenglei Xiao and Jinliang Song*



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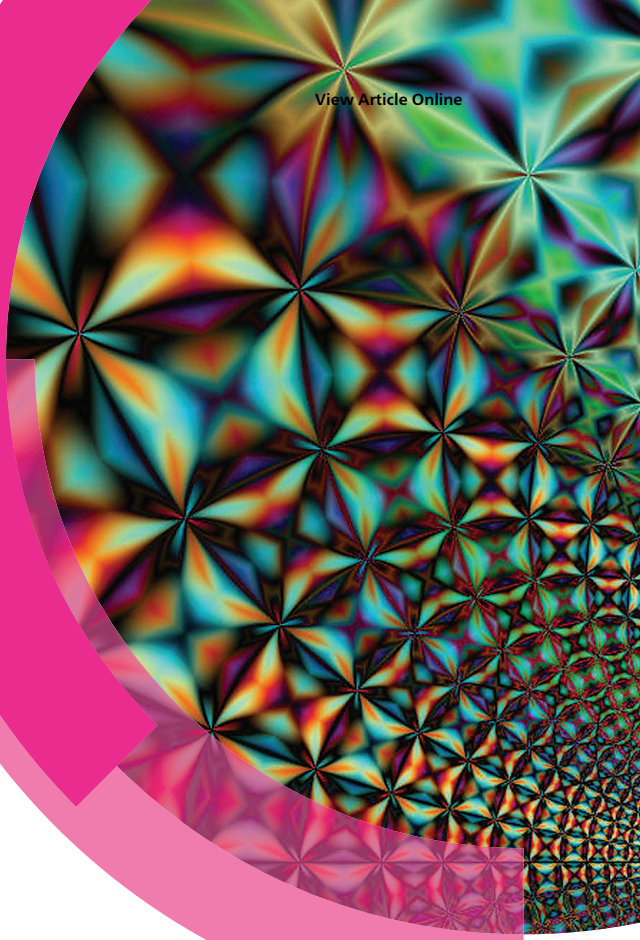

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CRITICAL REVIEWS

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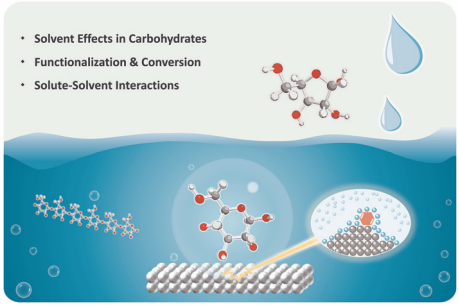
Solvent effects on carbohydrate transformation: insights into chemical pathway modulation

Yaxu Sun, Zhihan Tong, Yanyan Yu, Wanke Cheng, Yilin Li, Suqing Zeng, Yuhan Lou, Yongzhuang Liu, Qinqin Xia and Haipeng Yu*



TUTORIAL REVIEWS

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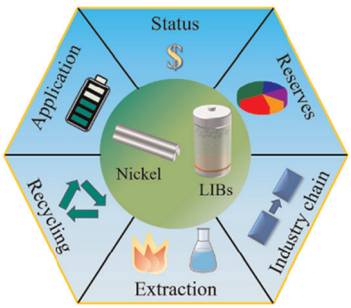
The future nickel metal supply for lithium-ion batteries

Jiale Sun, Haihui Zhou* and Zhongyuan Huang*



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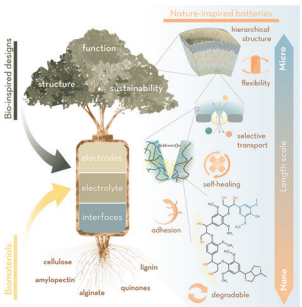
Stefano Tagliaferri, Louis Gaspard, Heather Au, Cecilia Mattevi, Maria-Magdalena Titirici* and Maria Crespo-Ribadeneyra*



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Green polyphenol-based photothermal interfacial evaporation systems toward solar water production

Xiaojiang Liu, Huayan You, Mengying Xie, Qinglin Zeng, Zhaoyuan Li, Mingrui Feng, Qishuo Sun, Xuan Lu, Fang He* and Zhenxing Wang*

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PERSPECTIVE

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A promise to a sustainable future: 10 years of the Green Chemistry Commitment at Beyond Benign

Amy S. Cannon,* John C. Warner, Juliana L. Vidal, Natalie J. O'Neil, Monica M. S. Nyansa, Nimrat K. Obhi and Jonathon W. Moir

COMMUNICATIONS

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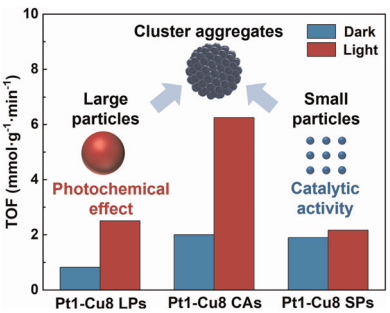

Enhanced photochemical effects of plasmonic cluster catalysts through aggregated nanostructures

Xu Hu, Zhijie Zhu, Yuxuan Zhou, Shuang Liu, Chunpeng Wu, Jiaqi Wang, Yihao Shen, Tianran Yan, Liang Zhang, Jinxing Chen, Kai Feng, Alexander Genest, Günther Rupprechter, Xingda An,* Chaoran Li* and Le He*

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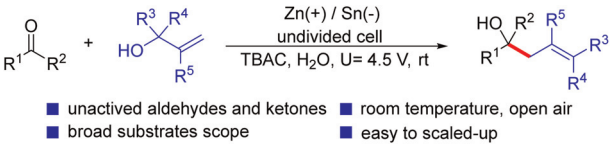

Electrochemical allylation of aldehydes and ketones with allylic alcohols

Jiatai Zhang, Lanlan Zhang, Wei Xie, Meng Chen, Chao Zhang, Yali Qin, Jianyou Zhao, Fan Wang and Zhong-Quan Liu*

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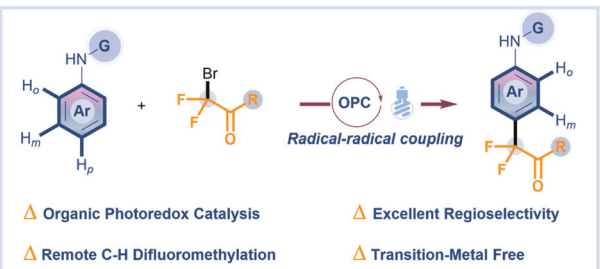

Direct remote Csp^2–H transformation of aromatic amines enabled by organophotoredox catalysis

Quan Gou,* Mengting Yu, Qianqiong Chen, Chengyi Gu, Qianhua Zhu, Ruoxi Ding, Mi Tang, Qingsheng Zhao,* Jianwei Shi and Huisheng Huang*

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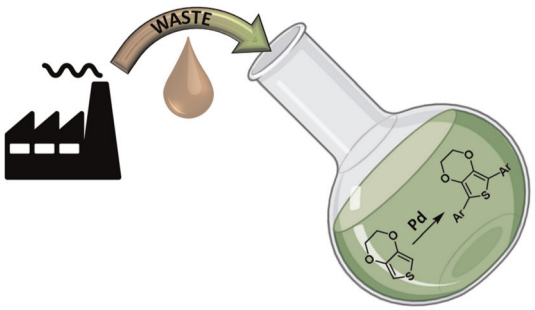
Turning Pd-catalysed direct C–H arylation of thiophene derivatives into green : industrial wastewater as an effective reaction medium

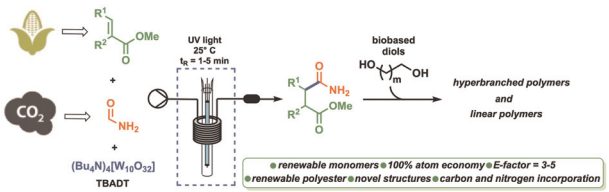
Stefano Nejrotti,* Barbara Centrella, Davide Gallo, Claudia Barolo and Matteo Bonomo*



7019

Incorporation of renewable carbons *via* formamide reactivity for the production of novel biobased polymers

Bianca C. Rocha, Isabela L. A. Dourado, Marialy N. Sanabria, Noemi S. P. Kimura, Priscila H. Cordeiro, Luiz H. Catalani and Leandro H. Andrade*



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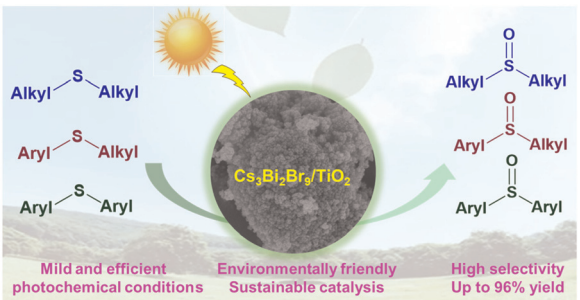
Lead-free perovskite $Cs_3Bi_2Br_9/TiO_2$ composites for atmospheric photocatalytic oxidation of sulfides

Yeye Zheng, Haibo Zhu,* Xinmei Xie, Liu Yang, Qiangwen Fan,* Zhanggao Le and Zongbo Xie*



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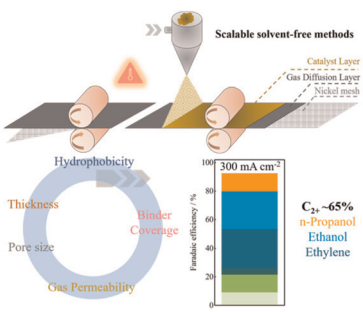
Scalable fabrication of multi-layered Cu-based electrodes *via* solvent-free method for the selective electrochemical conversion of CO_2 to C_{2+} products

Qinhao Chen,* Alexander Kube, Bhawna Rana, Indro Biswas, Tobias Morawietz, Dennis Kopljar and Kaspar Andreas Friedrich*



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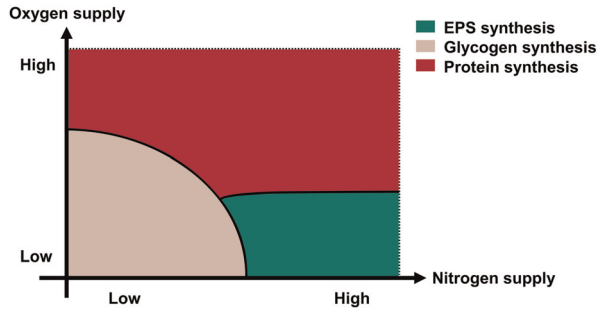
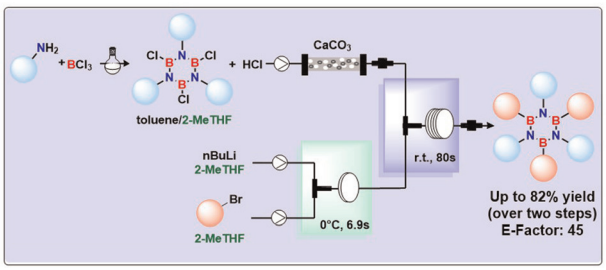


A novel nutritional induction strategy flexibly switching the biosynthesis of food-like products from methane by a methanotrophic bacterium

Zixi Gao, Shuqi Guo, Yunhao Chen, Hansen Chen, Rongzhan Fu, Qiaoqiao Song, Shen Li, Wenyong Lou, Daidi Fan, Yin Li, Shihui Yang,* Ramon Gonzalez* and Qiang Fei*

7059



Efficient access to hexaaryl-substituted borazines in batch and continuous-flow

Alireza Nazari Khodadadi, Ejdi Cela, Dario Marchionni, Fan Huang, Francesco Ferlin and Luigi Vaccaro*

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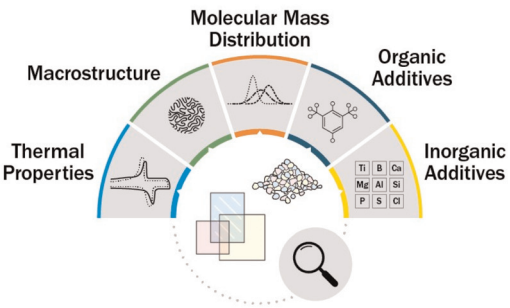

Characterization of polymer properties and identification of additives in commercially available research plastics

Amy A. Cuthbertson, Clarissa Lincoln, Joel Miscall, Lisa M. Stanley, Anjani K. Maurya, Arun S. Asundi, Christopher J. Tassone, Nicholas A. Rorrer* and Gregg T. Beckham*

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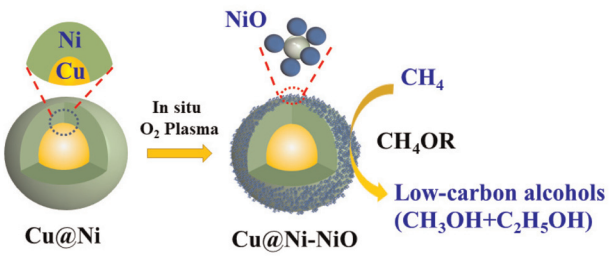

Cold plasma activated Ni^0/Ni^{2+} interface catalysts for efficient electrocatalytic methane oxidation to low-carbon alcohols

Qiang Zhang,* Wei Li, Junyi Peng, Lian Xue and Ge He*

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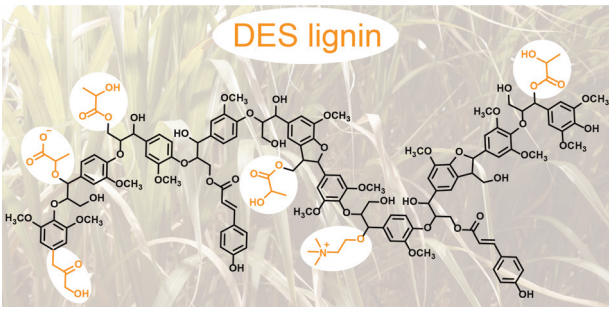
Choline and lactic acid covalently incorporate into the lignin structure during deep eutectic solvent pulping

Gijs van Erven,* Vincent J. P. Boerkamp, Johan W. van Groenestijn and Richard J. A. Gosselink



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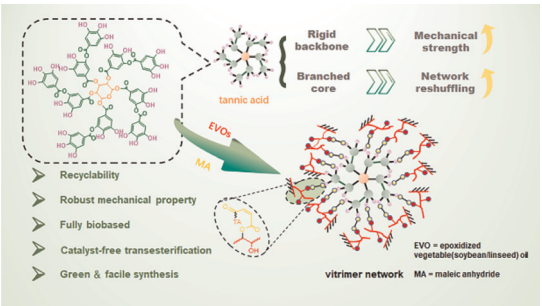
Fully biobased, catalyst-free vitrimers from tannic acid: a facile combination of mechanical robustness, recyclability and sustainability

Jie Li, Benzhi Ju* and Shufen Zhang



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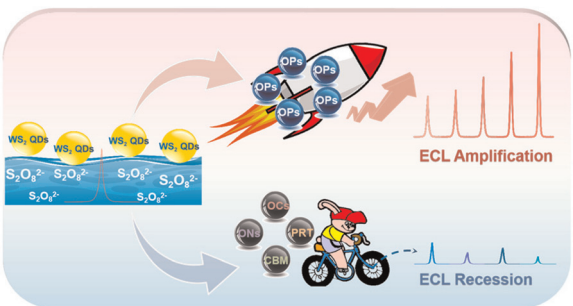
Non-enzymatic signal-on electrochemiluminescence detection of organophosphorus pesticides based on tungsten disulfide quantum dots

Yuzhu Sun, Wendong Liu, Mingyue Chen, Hongfei Ji, Man Jiang, Zhe Hao, Xiyan Li, Shuijian He, Libing Zhang* and Ruizhong Zhang*



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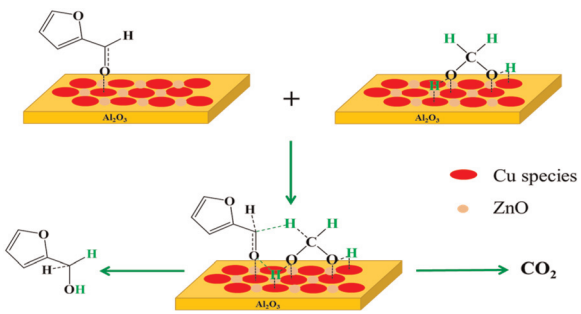
Mild and selective transfer hydrogenation of biomass-derived furfural to furfuryl alcohol over $Cu/ZnO/Al_2O_3$ with methanediol as the hydrogen donor

Shubin Cheng, Qian Lei, Conger Deng, Linlin Liang, Yan Chen, Huiwen Meng, Weixin Lei and Honglin Chen*



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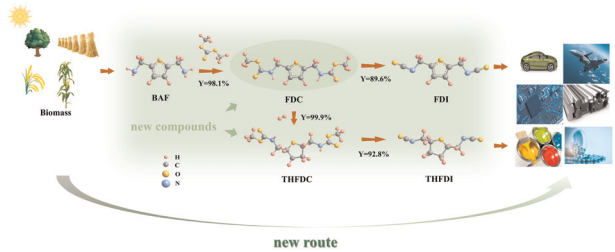

Green and intrinsically safe pathways for the catalytic synthesis of diisocyanates containing the furan ring from 5-hydroxymethylfurfural

Yunhan Bai, Jianqi Tang, Xiaoshu Ding,* Xinqiang Zhao and Yanji Wang*

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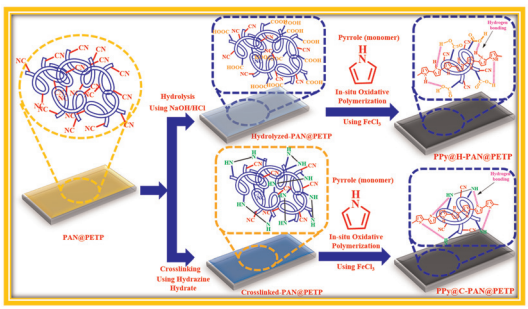

Development of hydrogen bonding stabilized conjugated carbonaceous polyaryl organic solvent nanofiltration membranes for molecular sieving

Umair Baig* and Abdul Waheed*

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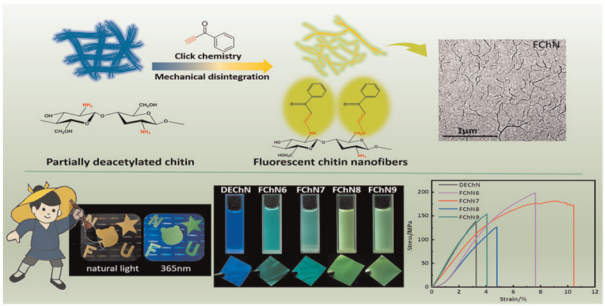

Efficient preparation of fluorescent nanomaterials derived from chitin *via* a modification-first strategy assisted by click chemistry

Yingyin Liu, Bowen Li, Chaoqun Xu, Zicong Shi, Liang Liu, Yimin Fan and Juan Yu*

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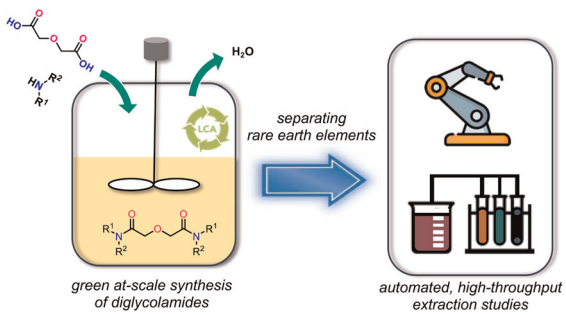

Agile synthesis and automated, high-throughput evaluation of diglycolamides for liquid–liquid extraction of rare-earth elements

Lun An, Yue Yao, Tyler B. Hall, Fu Zhao* and Long Qi*

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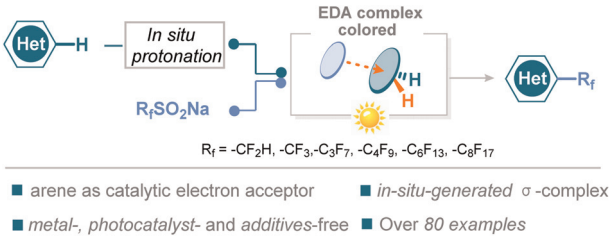
An *in situ* generated proton initiated aromatic fluoroalkylation *via* electron donor–acceptor complex photoactivation

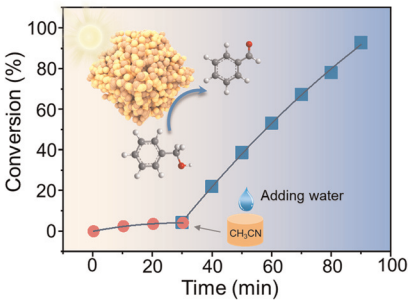
Panyi Huang, Chun Lv, Haijing Song, Chenjing Wang, Junze Du, Jianjun Li, Bin Sun* and Can Jin*



7206

Water enhanced photo-oxidation of alcohols on colloidal quantum dots

Xian Yang, Yanling Su, Teng Wang, Yanfang Hu, Yonglong Li and Wei Xie*



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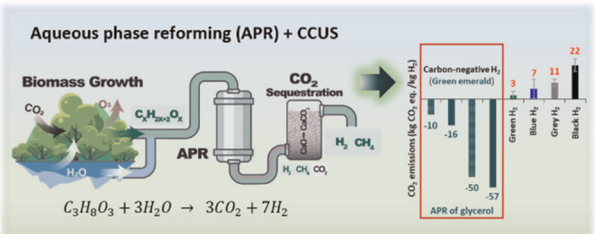
Carbon-negative hydrogen: aqueous phase reforming (APR) of glycerol over NiPt bimetallic catalyst coupled with CO_2 sequestration

Leoncio Santiago-Martínez, Mengting Li, Paola Munoz-Briones, Javiera Vergara-Zambrano, Styliani Avraamidou, James A. Dumesic and George W. Huber*



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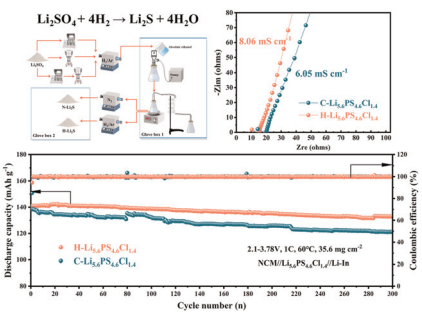
Preparation of high-quality lithium sulfide by reducing lithium sulfate with hydrogen: a green and cost-effective method

Yutao Yang, Rongzheng Tian, Hongzhou Zhang,* Zhenyu Wang,* Lianqi Zhang, Yongan Yang and Dawei Song*



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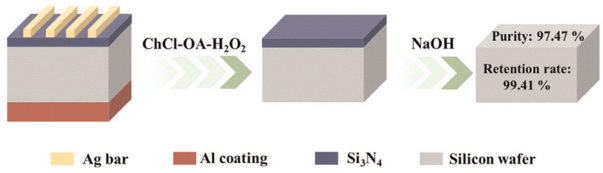

Recovery of crystalline silicon from waste solar cells by a green deep eutectic solvent–hydrogen peroxide system

Ruying Yang, Nengwu Zhu,* Yunhao Xi, Sunjuanzi Gao, Pingxiao Wu and Zhi Dang

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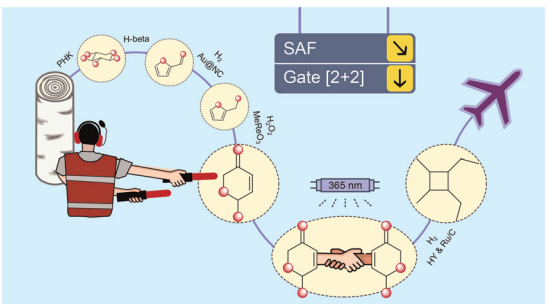

Sustainable aviation fuel from prehydrolysis liquors

Daria Lebedeva, Lars William Schick, Daniel Cracco, Withsakorn Sangsuwan, Gonzalo Castiella-Ona, Dagoberto O. Silva, Alessandro Marson, Erik Svensson Grape, A. Ken Inge,* Liane M. Rossi,* Elena Subbotina,* Alessandro Manzardo* and Joseph S. M. Samec*

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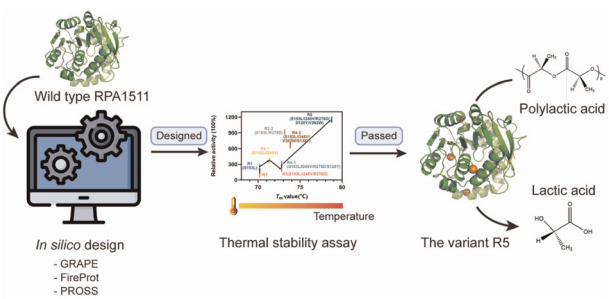
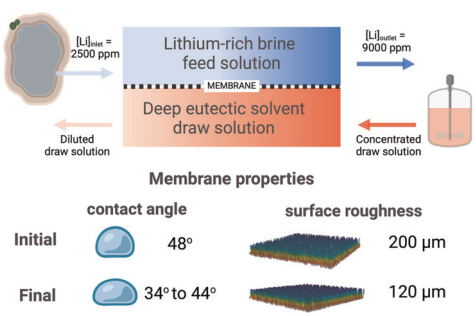


Computational design of an efficient and thermostable esterase for polylactic acid depolymerization

Bin Xie, Jun Zhang, Huashan Sun, Rongrong Bai, Diannan Lu, Yushan Zhu, Weiliang Dong,* Jie Zhou* and Min Jiang

7280



Liquid mining of lithium from brines using a hybrid forward osmosis – freeze concentration process driven by green deep eutectic solvents

Afshin Amani and Georgios Kolliopoulos*

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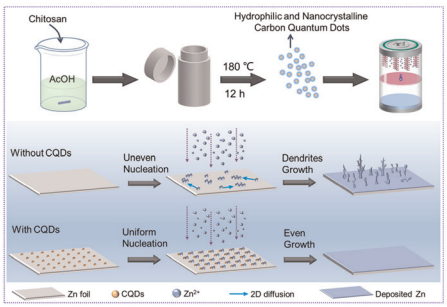
Hydrophilic and nanocrystalline carbon quantum dots enable highly reversible zinc-ion batteries

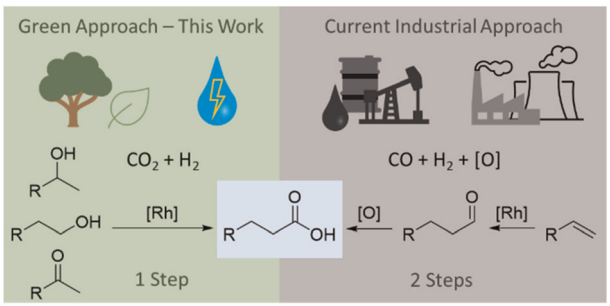
Shuhua Yang,* Zenglong Xu, Song Wang, Jinfeng Sun, Degang Zhao, Bingqiang Cao and Xiutong Wang



7302

Catalytic synthesis of carboxylic acids from oxygenated substrates using CO_2 and H_2 as C1 building blocks

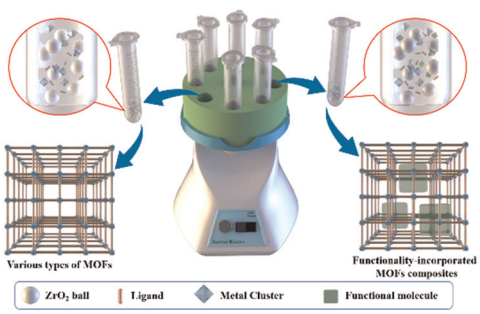
Matilde V. Solmi, Jeroen T. Vossen, Marc Schmitz, Andreas J. Vorholt and Walter Leitner*



7312

Rapid and high-throughput synthesis of diverse MOFs with centrifuge tube grinding strategy

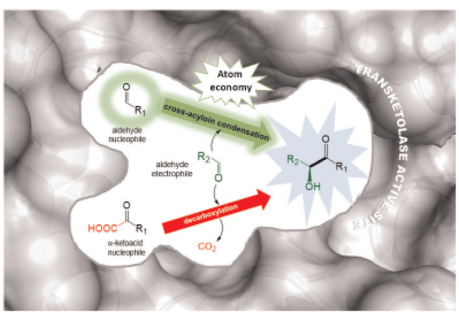
Hao-Cheng Wang, Xiao Liu,* Jian-Gong Ma* and Peng Cheng



7320

Cross-acyloin condensation of aldehydes catalysed by transketolase variants for the synthesis of aliphatic α-hydroxyketones

Giuseppe Arbia, Camille Gadona, Hubert Casajus, Lionel Nauton, Franck Charmantray* and Laurence Hecquet*



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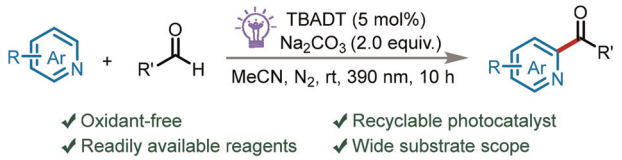
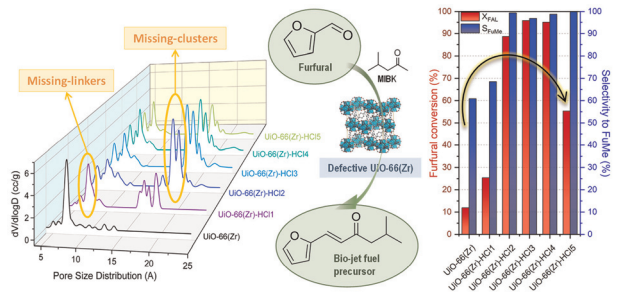
7331



Decatungstate-photocatalyzed direct acylation of N-heterocycles with aldehydes

Zhiyang Zhang, Fukun Cheng, Xinyu Ma, Kai Sun,* Xianqiang Huang, Jiangzhen An, Mei Peng, Xiaolan Chen and Bing Yu*

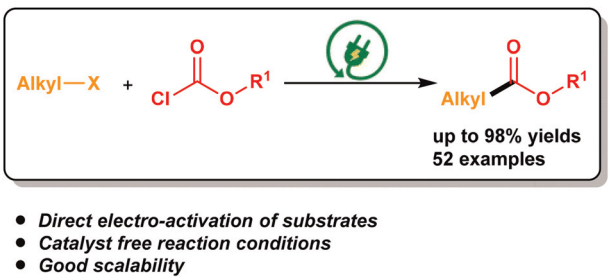
7337



Boosting the activity of UiO-66(Zr) by defect engineering: efficient aldol condensation of furfural and MIBK for the production of bio jet-fuel precursors

María Sanz, Pedro Leo, Carlos Palomino, Marta Paniagua, Gabriel Morales and Juan A. Melero*

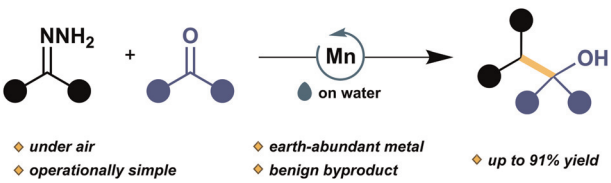
7351



Electrochemically driven cross-electrophile esterification of alkyl halides

Yu Liu, Shentong Xie, Yuqing Yin, Ming Lu, Pengcheng Wang* and Renyi Shi*

7357



Manganese-catalyzed nucleophilic addition of aldehydes to carbonyl compounds *via* hydrazone umpolung on water

Jan Michael Salgado, Durbis J. Castillo-Pazos, Juan D. Lasso, Konstantin L. Stock and Chao-Jun Li*

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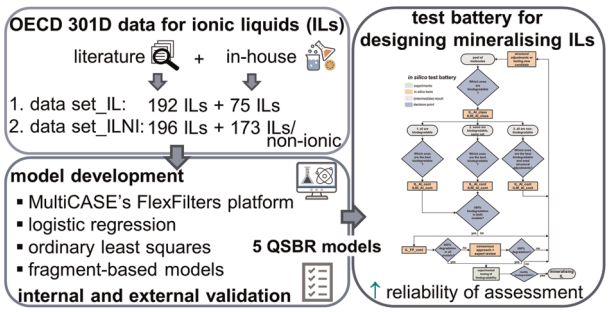
7363

Modelling biodegradability based on OECD 301D data for the design of mineralising ionic liquids

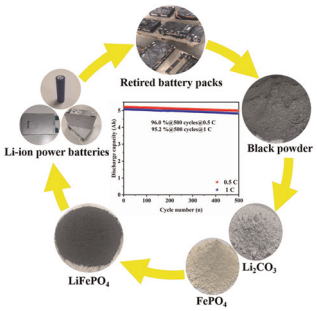
Ann-Kathrin Amsel, Suman Chakravarti, Oliver Olsson and Klaus Kümmerer*



7377

Green and efficient method for the realization of full-component recovery of $LiFePO_4$ black powder

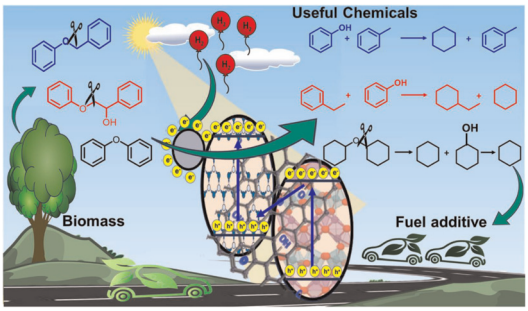
Mai Gao, Fangfang Sun, Wenxiu Peng, Wenbin Dai, Zaiwu Zhang, Lei Zhang, Hongzhou Zhang,* Yue Ma, Lianqi Zhang and Dawei Song*



7384

Advancing sustainable lignin valorisation: utilizing Z-scheme photocatalysts for efficient hydrogenolysis of lignin's β-O-4, α-O-4, and 4-O-5 linkages under ambient conditions

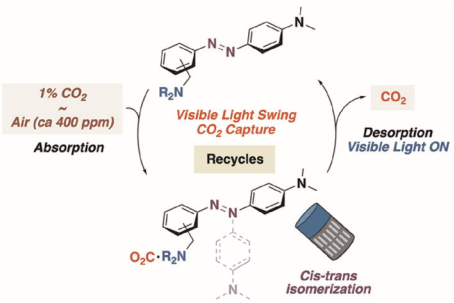
Rajat Ghalta and Rajendra Srivastava*



7406

Light-swing CO_2 capture: photoirradiation-based chemical CO_2 release based on photoisomerization of azobenzene-amine/guanidine derivatives

Ryo Murakami,* Keitaro Shiota, Ayaka Uchida and Fuyuhiko Inagaki*



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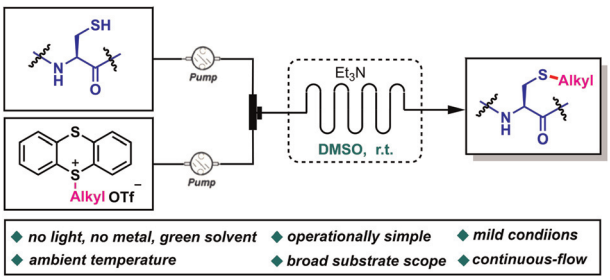
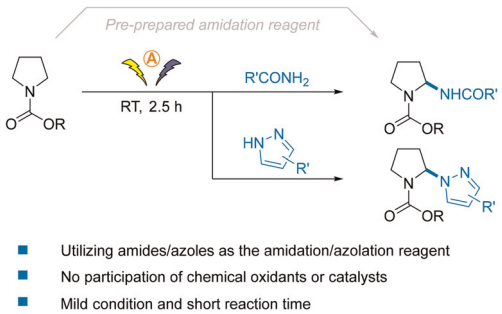
7414



S-Alkylation of cysteine-containing peptides using thianthenium salts as an alkyl source in flow

Hao Lv, Jie Liu, Long-Zhou Qin, Hao Sun, Jian Wang, Shan-Shan Zhu, Xiu Duan, Xin Yuan,* Jiang-Kai Qiu* and Kai Guo*

7419



Electrochemical direct α-amidation and α-pyrazolation of *N*-alkoxy- and *N*-aryloxycarbonyl pyrrolidines

Zhuang Wang, Yuxiu Liu, Hongjian Song and Qingmin Wang*

CORRECTIONS

7424

Correction: Characterization of polymer properties and identification of additives in commercially available research plastics

Amy A. Cuthbertson, Clarissa Lincoln, Joel Miscall, Lisa M. Stanley, Anjani K. Maurya, Arun S. Asundi, Christopher J. Tassone, Nicholas A. Rorrer* and Gregg T. Beckham*

7425

Correction: Microwave facile preparation of highly active and dispersed SBA-12 supported metal nanoparticles

Juan Manuel Campelo, Tomas David Conesa, Maria Jose Gracia, Maria Jose Jurado, Rafael Luque,* Jose Maria Marinas and Antonio Angel Romero

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