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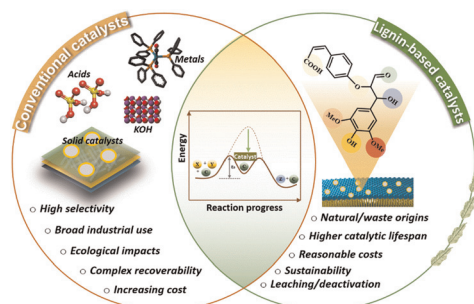
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CRITICAL REVIEWS

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Current approaches, emerging developments and functional prospects for lignin-based catalysts – a review

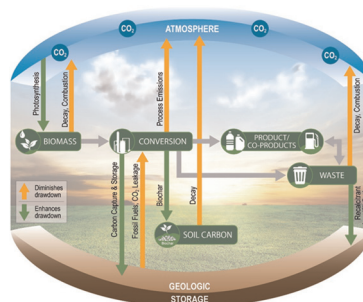
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Leveraging the bioeconomy for carbon drawdown

John P. Dees, William Joe Sagues, Ethan Woods, Hannah M. Goldstein, A. J. Simon and Daniel L. Sanchez*



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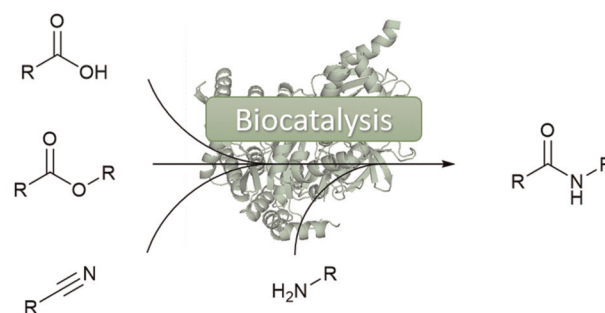


TUTORIAL REVIEWS

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Biocatalytic amide bond formation

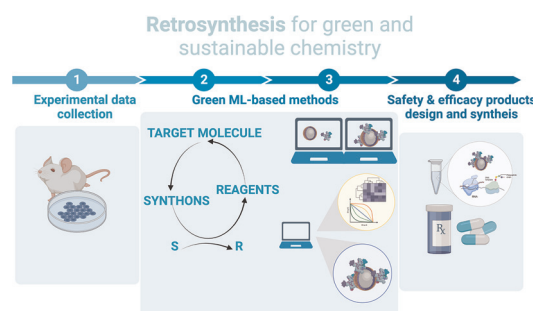
Max Lubberink, William Finnigan and Sabine L. Flitsch*



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Retrosynthesis from transforms to predictive sustainable chemistry and nanotechnology: a brief tutorial review

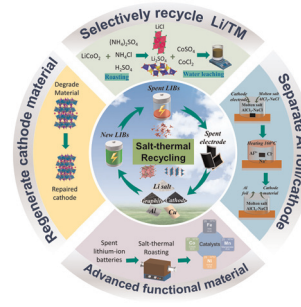
Alicja Mikolajczyk,* Uladzislau Zhdan, Sylvain Antoniotti, Adam Smolinski, Karolina Jagiello, Piotr Skurski, Moussab Harb, Tomasz Puzyn and Jaroslaw Polanski*



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Salt-thermal methods for recycling and regenerating spent lithium-ion batteries: a review

Xin Qu, Beilei Zhang, Jingjing Zhao, Baolong Qiu, Xiang Chen, Fengyin Zhou, Xiangyun Li, Shuaibo Gao, Dihua Wang and Huayi Yin*

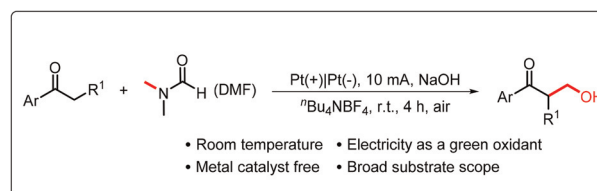


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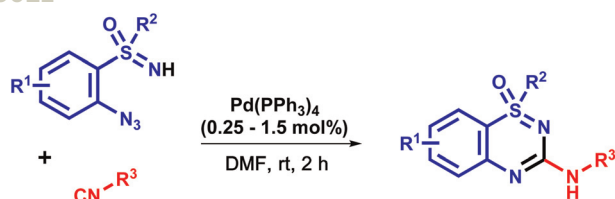
Electrooxidative α -hydroxymethylation of ketones with dimethylformamide as the carbon source

Jin-Ming Zheng, Yi-Fei Li, Yi-Xiang Pan, Xiao-Dong Hu, Xiao-Xia Ye and Ren-Hao Li*



COMMUNICATIONS

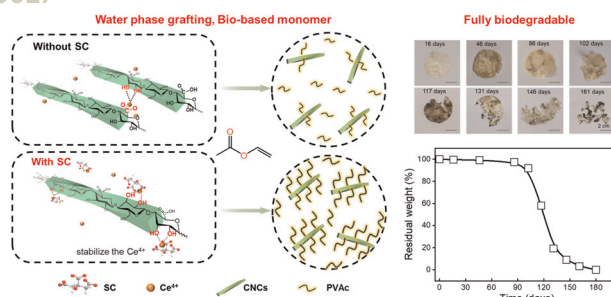
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Synthesis of 3-amino-substituted benzothiadiazine oxides by a palladium-catalysed cascade reaction

René Hommelsheim, Sandra Bausch, Robin van Nahl, Jas S. Ward, Kari Rissanen and Carsten Bolm*

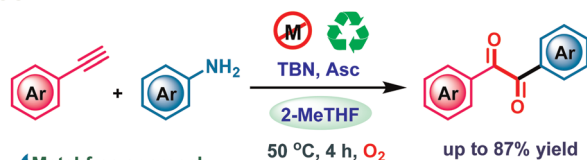
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Highly efficient grafting of polyvinyl acetate onto cellulose nanocrystals in the aqueous phase

Yunxiao Liu, Hongze Xu, Lijuan Zhou and Jianming Zhang*

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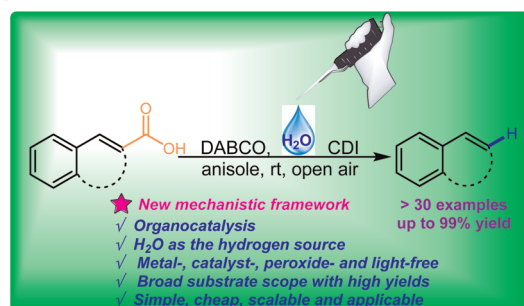
- ✓ Metal-free approach
- ✓ Eco-friendly solvent
- ✓ Broad substrate scope
- ✓ Scale-up synthesis
- ✓ Lower E-factors



Metal-free, 2-MeTHF mediated C(sp)-H functionalization of alkynes with anilines to access diaryl 1,2-diketones bearing lower E-factors

Swadhapriya Bhukta, Rana Chatterjee and Rambabu Dandela*

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A water-promoted catalytic hydrodecarboxylation of conjugated carboxylic acids under open air conditions at room temperature

Zhan-Yong Wang, Ting Yang, Kai-Kai Wang, Dong-Fang Liu, Xueji Ma, Nan Wang, Hong Liu, Aili Sun and Hongxin Liu*

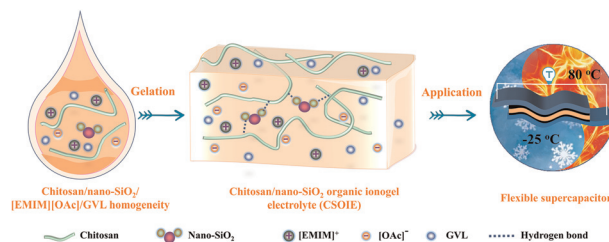


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Use of an [EMIM][OAc]/GVL-based organic electrolyte solvent to engineer chitosan into a nanocomposite organic ionogel electrolyte for flexible supercapacitors

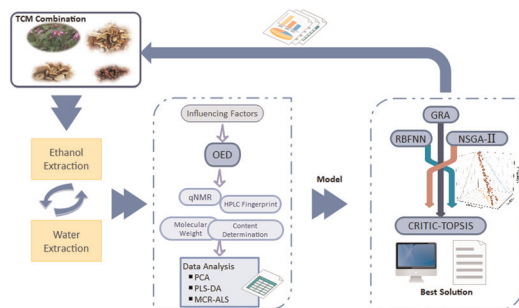
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Machine learning-assisted data-driven optimization and understanding of the multiple stage process for extraction of polysaccharides and secondary metabolites from natural products

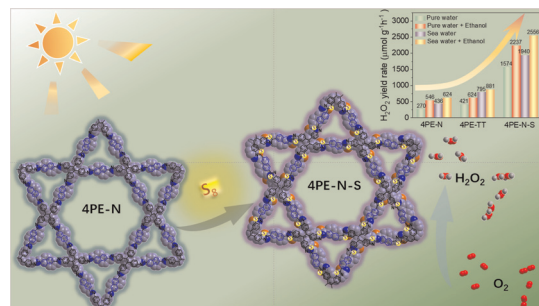
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Extending the π -conjugation system of covalent organic frameworks for more efficient photocatalytic H_2O_2 production

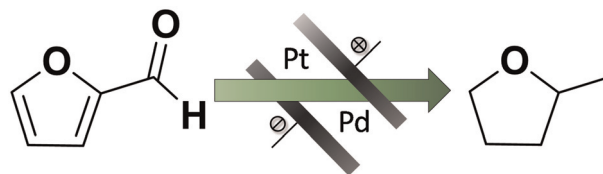
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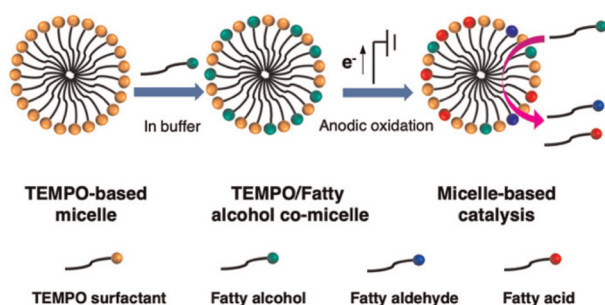
Exploring the electrochemical ring hydrogenation of furanic compounds

Thorben Lenk, Valentin Rueß, Janko Gresch and Uwe Schröder*



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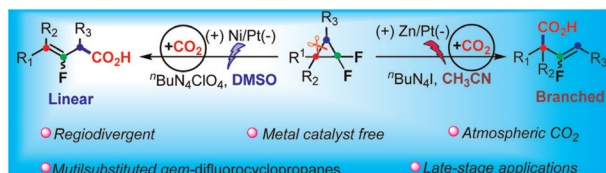
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Nitroxide radical surfactants enable electrocatalytic oxidation of fatty alcohols in water

Chanaka J. Mudugamuwa, Yuan Xie, Kai Zhang, Thomas P. Nicholls, Justin M. Chalker and Zhongfan Jia*

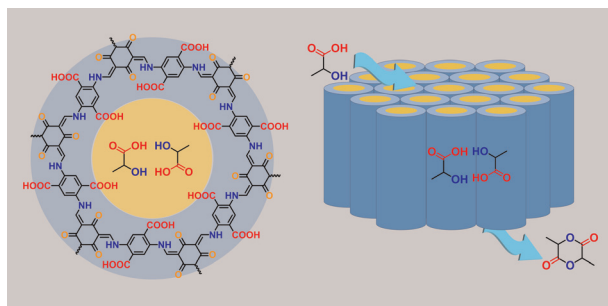
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Regiodivergent electroreductive defluorination carboxylation of *gem*-difluorocyclopropanes

Bin Zhao, Zichen Pan, Jiayu Pan, Hongping Deng, Xiaoli Bu, Mengtao Ma and Fei Xue*

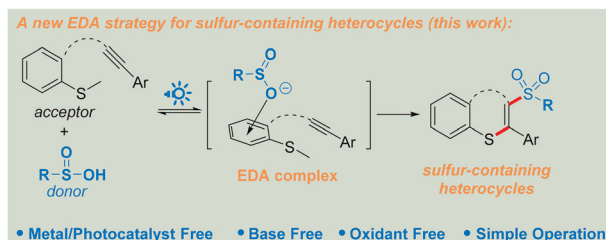
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A "one-step" approach to the highly efficient synthesis of lactide through the confinement catalysis of covalent organic frameworks

Jinyu Zhao, Guangming Guo, Danbo Wang, Hui Liu,* Zhenxiu Zhang, Lishui Sun, Naixiu Ding, Zhibo Li* and Yingjie Zhao*

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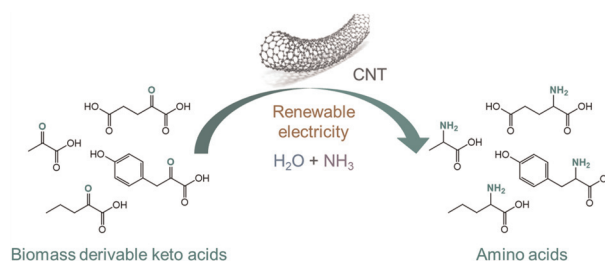
A general electron donor–acceptor complex enabled cascade cyclization of alkynes to access sulfur-containing heterocycles

Wen-Chao Yang,* Yu Sun, Xiao-Bo Bao, Shu-Peng Zhang and Liu-Yu Shen



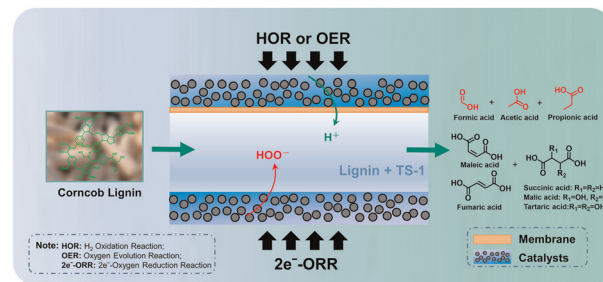
Yiying Xiao, Chia Wei Lim, Jinqun Chang, Qixin Yuan,
Lei Wang* and Ning Yan*

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Lei Wang* and Ning Yan*



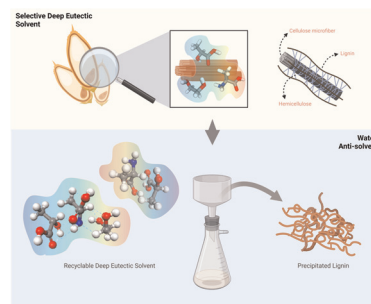
Electrochemical conversion of lignin to short-chain carboxylic acids

Shirong Sun, Xueqing Qiu,* Shuhua Hao,
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Wenli Zhang*



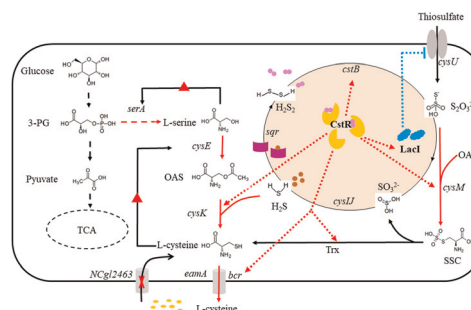
High-purity lignin from selective biomass fractionation with ternary deep eutectic solvents

Liang Ying Ee, Yong Kuok Tan, Jiapei Miao,
Hui Ting Chu and Sam Fong Yau Li*



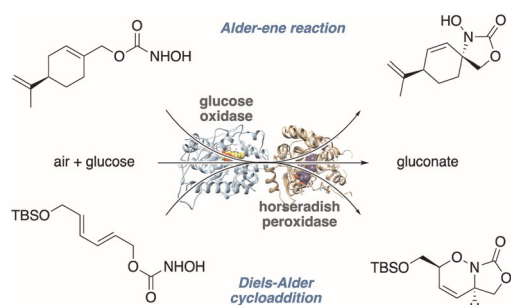
Reprogramming the sulfur recycling network to improve L-cysteine production in *Corynebacterium glutamicum*

Huanmin Du, Jinfang Qiao, Yuting Qi, Lingcong Li,
Ning Xu, Li Shao, Liang Wei* and Jun Liu*



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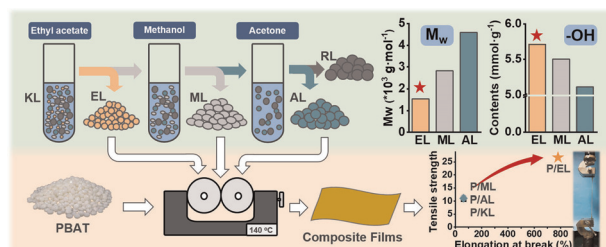
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Peroxidase-induced C–N bond formation via nitroso ene and Diels–Alder reactions

Christina Jäger, Bernhard J. Gregori, Juhana A. S. Aho, Marleen Hallamaa and Jan Deska*

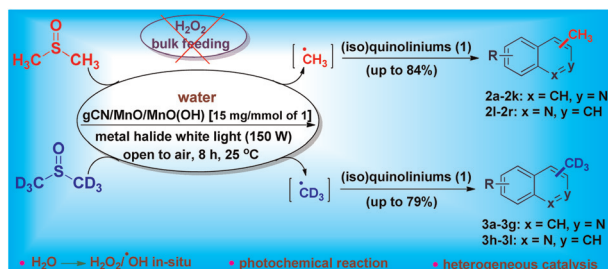
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A strong, tough and cost-effective biodegradable PBAT/lignin composite film via intrinsic multiple noncovalent interactions

Shao-Jun Xiong, Si-Jie Zhou, Hao-Hui Wang, Han-Min Wang, Xiao-Jun Shen, Shixin Yu,* Hui Li, Lu Zheng, Jia-Long Wen, Tong-Qi Yuan* and Run-Cang Sun

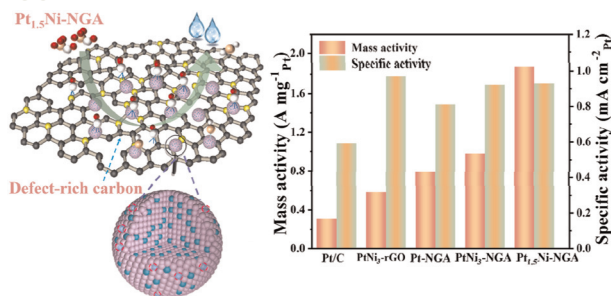
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Activation of DMSO(-d₆) via heterogeneous photo-Fenton-like process with *in situ* production of hydroxyl radicals for the C–H (trideutero) methylation of (iso)quinoliniums

Palani Natarajan,* Aleyana Basak and Onder Metin*

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Xu Chen, Jinyu Zhao, Jie Lian and Xiaomin Wang*



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Amine protection by *in situ* formation of choline chloride-based deep eutectic solvents

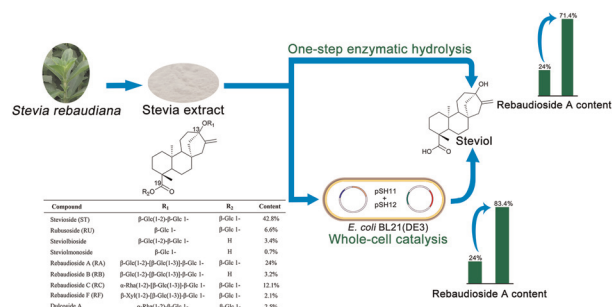
Monica Nardi,* Giuseppina De Luca, Paolo Novelli, Manuela Oliverio, Salvatore Romano and Antonio Procopio



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A strategy to increase rebaudioside A content based on one-step bioconversion of Stevia extract to steviol

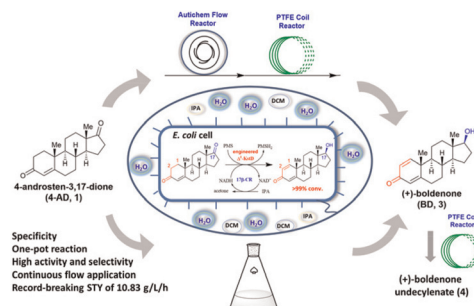
Yu Lin, Manman Wen, Qing Lan, Yu Yin, Ribo Huang,* Hao Pang, Hang Wei and Liqin Du*



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Batch and continuous flow asymmetric synthesis of anabolic-androgenic steroids *via* a single-cell biocatalytic Δ^1 -dehydrogenation and C17 β -carbonyl reduction cascade

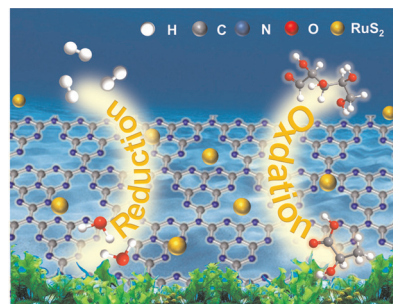
Yajiao Zhang, Minjie Liu, Zixin Yang, Juan Lin,* Zedu Huang* and Fener Chen*



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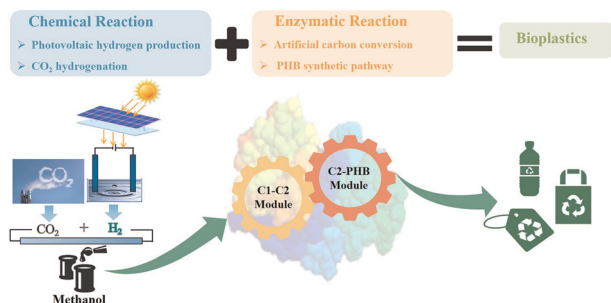
RuS₂@CN-x with exposed (200) facet as a high-performance photocatalyst for selective C–C bond cleavage of biomass coupling with H–O bond cleavage of water to co-produce chemicals and H₂

Xinze Li, Jiliang Ma,* Hongquan Fu, Zhendong Liu, Junqiang Zhang, Rui Cui, Yanzhu Guo, Shuangquan Yao and Runcang Sun*



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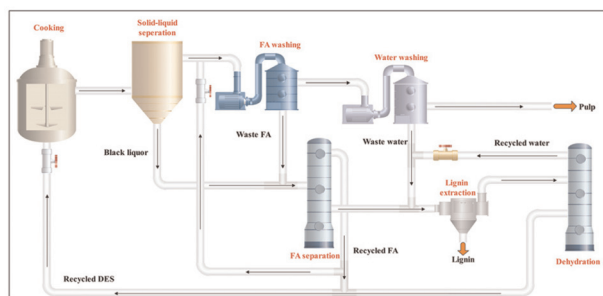
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Hybrid synthesis of polyhydroxybutyrate bioplastics from carbon dioxide

Jie Zhang, Dingyu Liu, Yuwan Liu, Huanyu Chu, Jie Bai, Jian Cheng, Haodong Zhao, Shaoping Fu, Huihong Liu, YuE. Fu, Yanhe Ma* and Huifeng Jiang*

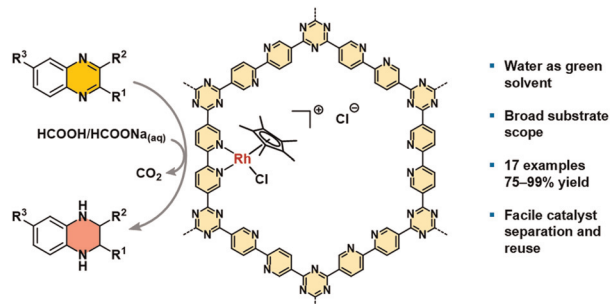
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A low-energy and sustainable pulping technology for eucalyptus slabs using a deep eutectic solvent

Zhaohui Zhang, Jun Xu,* Junxian Xie, Shiyun Zhu,* Jun Li, Guangdong Ying and Kefu Chen

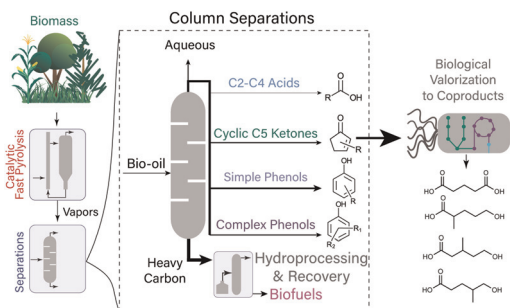
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A recyclable rhodium catalyst anchored onto a bipyridine covalent triazine framework for transfer hydrogenation of N-heteroarenes in water

Jonas Everaert, Karen Leus, Hannes Rijckaert, Maarten Debruyne, Kristof Van Hecke, Rino Morent, Nathalie De Geyter, Veronique Van Speybroeck, Pascal Van Der Voort and Christian V. Stevens*

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Biological conversion of cyclic ketones from catalytic fast pyrolysis with *Pseudomonas putida* KT2440

Andrew J. Borchert, A. Nolan Wilson, William E. Michener, Joseph Roback, William R. Henson, Kelsey J. Ramirez and Gregg T. Beckham*

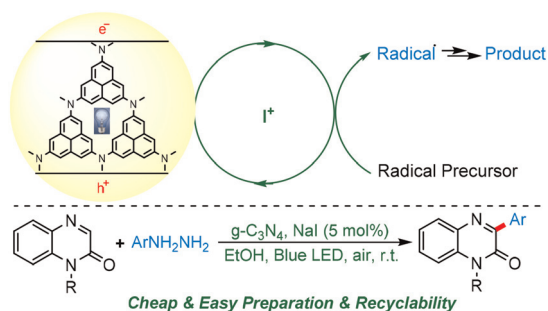


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Semi-heterogeneous g-C₃N₄/NaI dual catalytic C–C bond formation under visible light

Hai-Yang Song, Jun Jiang, Chao Wu, Jia-Chen Hou, Yu-Han Lu, Ke-Li Wang, Tian-Bao Yang and Wei-Min He*



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Synthesis of renewable isoindolines from bio-based furfurals

Feng Xu, Zao Li, Li-Long Zhang, Shengqi Liu, Hu Li,* Yuhe Liao* and Song Yang*

