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Cutting-edge research for a greener sustainable future

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IN THIS ISSUE

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Cover

See Peiyuan Yao, Qiaqing Wu, Dunming Zhu *et al.*, pp. 4667–4673.

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Inside cover

See Paweł Mateusz Nowak, pp. 4625–4640.

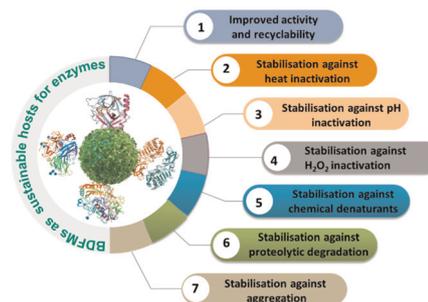
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CRITICAL REVIEW

4591

Biomass-derived functional materials as carriers for enzymes: towards sustainable and robust biocatalysts

Meena Bisht,* Sarath Kumar Thayallath, Pranav Bharadwaj, Gregory Franklin and Dibyendu Mondal*



PERSPECTIVE

4625

What does it mean that “something is green”? The fundamentals of a Unified Greenness Theory

Paweł Mateusz Nowak

Unified Greenness Theory



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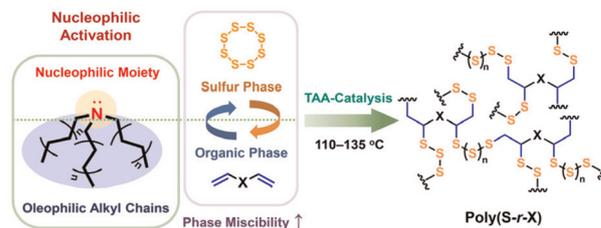


4641

Inverse vulcanization of elemental sulfur catalyzed by trialkyl amines

Jae Hyuk Hwang, Ji Mok Lee, Jong Hwi Seo, Guk Yun Noh, Wonmoo Byun, Seonggeon Kim, Woohwa Lee, Sungmin Park,* Dong-Gyun Kim* and Yong Seok Kim*

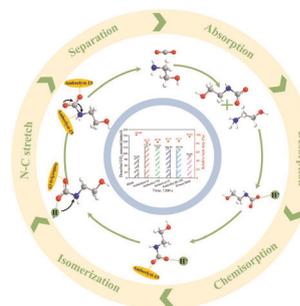
Facile and Fast Inverse Vulcanization of Elemental Sulfur (ES) using Unreactive Crosslinkers under Eco-friendly Trialkyl Amines (TAAs) Catalysis



4647

Evaluation of hybrid amines and alcohol solvent with ion-exchange resin catalysts for energy-efficient CO₂ capture

Qiang Sun, Jia Xiong, Hongxia Gao,* Teerawat Sema, Wilfred Olson and Zhiwu Liang*



4656

An electrochemical-enabled cascaded cyclization of enamines with potassium thiocyanate and alcohols to access 2-alkoxythiazoles

Dandan Li,* Long Chen, Yang Jin, Xiaochen Wang, Long Liu, Yilin Li, Gongyuan Chen, Guanhao Wu, Yujie Qin, Leilei Yang, Mengke Wang, Lulu Zhao, Zhihong Xu and Jiangwei Wen*

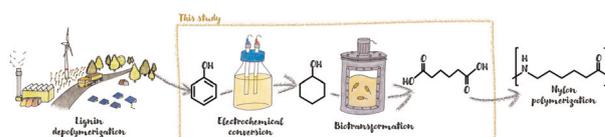


- Metal, external redox reagent free
- Three-component cascade reaction
- Cleavage of C-N bond and high effective construction of C-N/C-O/C-S bonds in one pot

4662

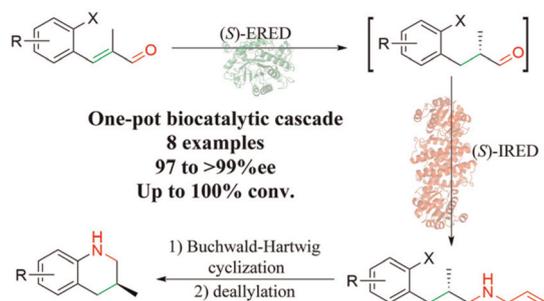
Integrated electrosynthesis and biosynthesis for the production of adipic acid from lignin-derived phenols

Micjel Chávez Morejón, Alexander Franz, Rohan Karande* and Falk Harnisch*



PAPERS

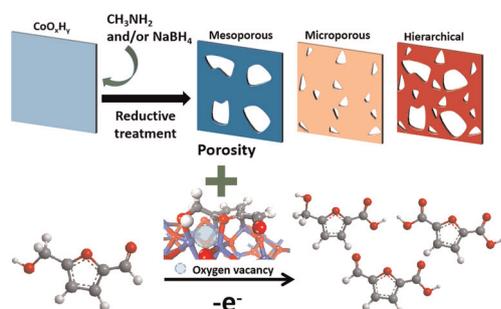
4667



Chemo-enzymatic synthesis of chiral 3-substituted tetrahydroquinolines by a sequential biocatalytic cascade and Buchwald–Hartwig cyclization

Zefei Xu, Jinhui Feng, Peiyuan Yao,* Qiaqing Wu* and Dunming Zhu*

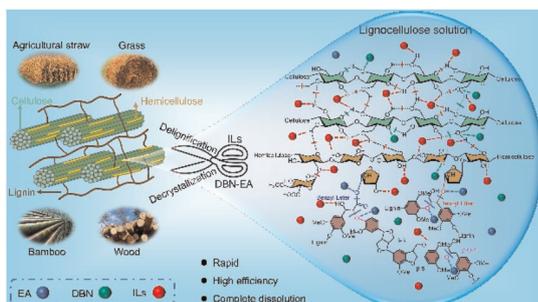
4674



Room-temperature fabrication of defective CoO_xH_y nanosheets with abundant oxygen vacancies and high porosity as efficient 5-hydroxymethylfurfural oxidation electrocatalysts

Ruyi Zhong, Puwei Wu, Qi Wang, Xiting Zhang, Lei Du, Yunhua Liu, Huakang Yang, Meng Gu, Z. Conrad Zhang, Limin Huang* and Siyu Ye*

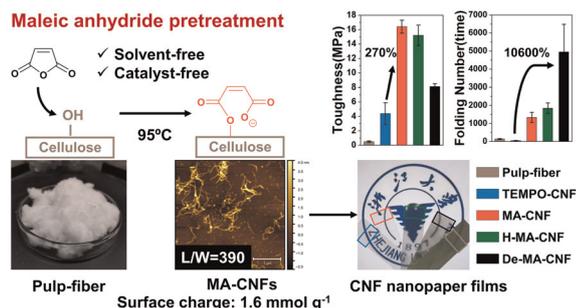
4685



Robust ionic liquid/ethanolamine-superbase solvents enable rapid, efficient and mild dissolution of lignocellulosic biomass

Yang Wang, Huan Wang, Lan Chen, Weitao Wang, Zhaohui Yang, Zhimin Xue* and Tiancheng Mu*

4696



Eco-friendly cellulose nanofibrils with high surface charge and aspect ratio for nanopaper films with ultrahigh toughness and folding endurance

Da Zhang, Kexia Jin, Khak Ho Lim, Suyun Jie, Wen-Jun Wang and Xuan Yang*

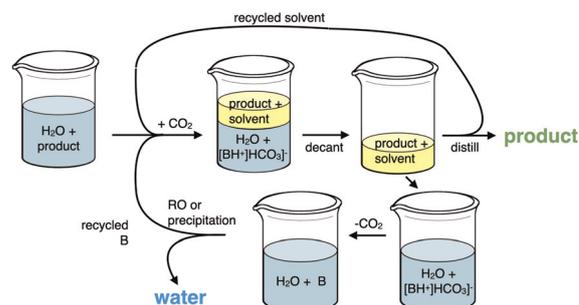


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4705

A CO₂-responsive method for separating hydrophilic organic molecules from aqueous solutions: solvent-assisted switchable water

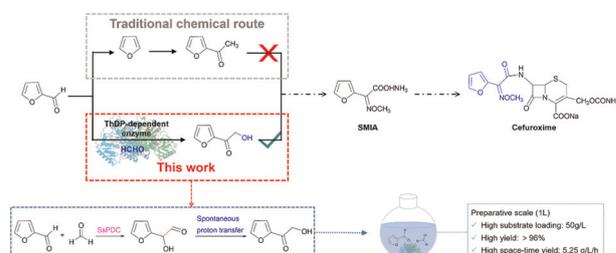
Vanessa Saab Liberato, Tatiana Felix Ferreira, Alex Redmond MacDonald, Bernardo Dias Ribeiro, Maria Alice Zarur Coelho and Philip G. Jessop*



4713

Biosynthesis of 2-furylhydroxymethylketone, an intermediate of cefuroxime, from furfural and formaldehyde using a ThDP-dependent enzyme

Xianghe Zhang, Hao Wei, Xinlin Wei, Tengting Qi, Xinrui Zong, Zixi Liu, Jie Qin, Xiuzhen Gao,* Gengxiu Zheng* and Qinyuan Ma*



4723

High-purity polypropylene from disposable face masks via solvent-targeted recovery and precipitation

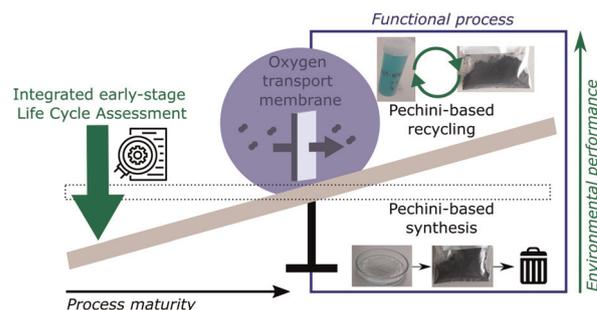
Jiuling Yu, Aurora del Carmen Munguía-López, Victor S. Cecon, Kevin L. Sánchez-Rivera, Kevin Nelson, Jiayang Wu, Shreyas Kolapkar, Victor M. Zavala, Greg W. Curtzwiler, Keith L. Vorst, Ezra Bar-Ziv and George W. Huber*



4735

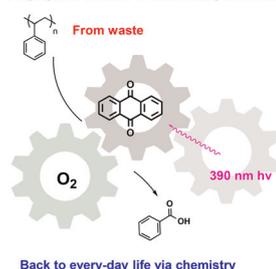
Recycling process development with integrated life cycle assessment – a case study on oxygen transport membrane material

Melanie Johanning, Marc Widenmeyer,* Giamper Escobar Cano, Vanessa Zeller, Sebastian Klemenz, Guoxing Chen, Armin Feldhoff and Anke Weidenkaff



4750

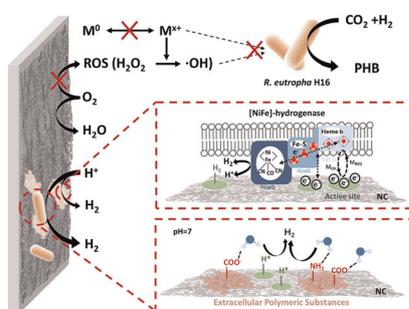
Photochemical Aerobic Upcycling of Polystyrene Plastics to Commodity Chemicals



Photochemical aerobic upcycling of polystyrene plastics to commodity chemicals using anthraquinone as the photocatalyst

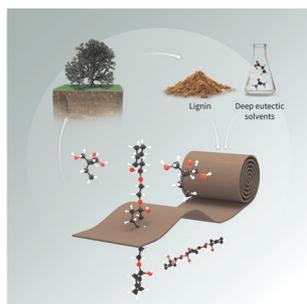
Nikolaos F. Nikitas, Elpida Skolia, Petros L. Gkizis, Ierasia Triandafillidi and Christoforos G. Kokotos*

4760

Efficient CO_2 conversion by biocompatible N-doped carbon nanosheets coupled with *Ralstonia eutropha*: synergistic interactions between microbial and inorganic catalysts

Jiani Yao, Youzhi Li, Siyuan Xiu, Shujie Zheng, Ying Huang, Zijing Zhou, Yang Hou, Bin Yang, Lecheng Lei and Zhongjian Li*

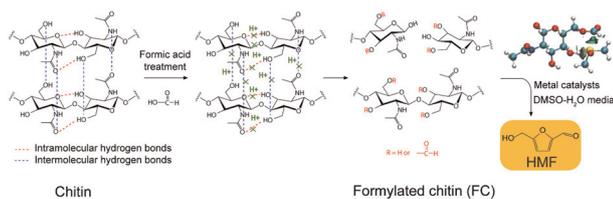
4769



A lignin-based membrane fabricated with a deep eutectic solvent

Abaynesh Yihdego Gebreyohannes, Sandra L. Aristizábal, Liliana Silva, Eyad A. Qasem, Stefan Chisca, Lakshmeesha Upadhyaya, Daniyah Althobaiti, João A. P. Coutinho and Suzana P. Nunes*

4781



Efficient conversion of chitin into 5-hydroxymethylfurfural via a simple formylation step under mild conditions

Chunxiao Gong, Zhaoyang Ju, Kuichuan Sheng and Ximing Zhang*

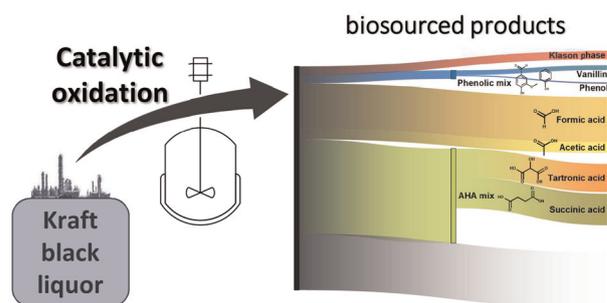


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4793

Potential of catalytic oxidation of kraft black liquor for the production of biosourced compounds

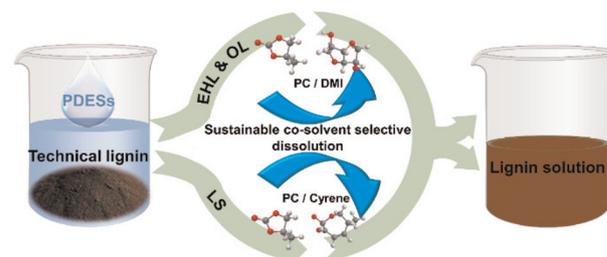
Léa Vilcoq,* Nicolas Chaussard, Antonio Hernández Mañas, Olivier Boyron, Manel Taam, Frédérique Bertaud, Pascal Fongarland and Laurent Djakovitch*



4808

Sustainable polar aprotic/poly-deep eutectic solvent systems for highly efficient dissolution of lignin

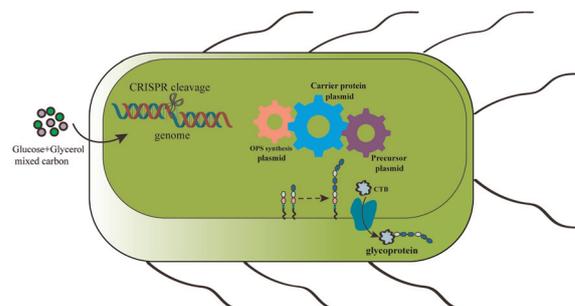
Qiaoling Liu, Yang Wang, Jing Bian, Ming-Fei Li, Jun-Li Ren, Xiang Hao* and Feng Peng*



4818

Sustainable production of a polysaccharide-based glycoprotein by simultaneous conversion of glucose and glycerol in engineered *Escherichia coli*

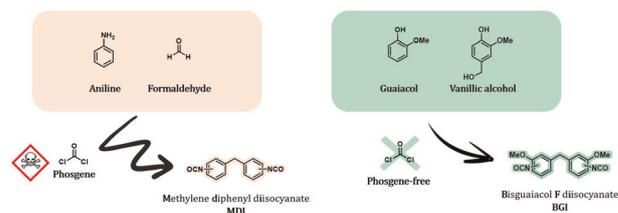
Yuhui Wang, Xiaohan Wang, Guozhen Ma, Lijie Xie, Dan Liu, Yanling Wang, Xinyu Zhao, Yingying Su, Andrei V. Perepelov, Peng Ding, Xiao Zhang, Bo Xu, Bin Liu* and Di Huang*



4833

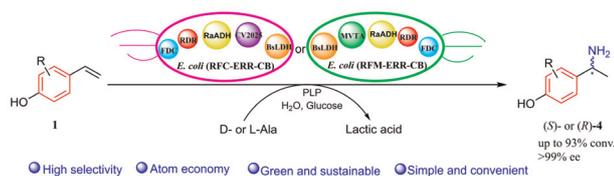
Lignin-based bisguaiacol diisocyanate: a green route for the synthesis of biobased polyurethanes

Sébastien Lemouzy, Aliénor Delavarde, Frédéric Lamaty, Xavier Bantreil, Julien Pinaud and Sylvain Caillot*



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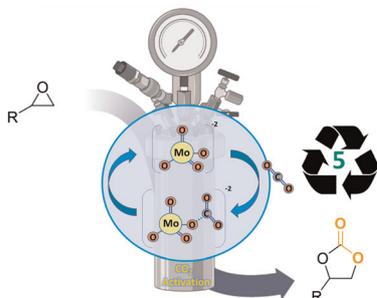
4840



Biocatalytic formal regio- and enantioselective Markovnikov hydroamination of aryl alkenes to chiral amines

Qi Jin, Jingqi Zhang, Shuangping Huang, Lili Gao, Honghong Chang and Jiandong Zhang*

4849



Molybdate ionic liquids as halide-free catalysts for CO₂ fixation into epoxides

Nicola Bragato, Alvise Perosa, Maurizio Selva, Giulia Fiorani* and Roberto Calmanti*

CORRECTION

4861

Correction: Sustainable pathway to furanics from biomass via heterogeneous organo-catalysis

Sanny Verma, R. B. Nasir Baig, Mallikarjuna N. Nadagouda, Christophe Len and Rajender S. Varma*

