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Cutting-edge research for a greener sustainable future

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

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See Paweł Mateusz Nowak, pp. 4625–4640.

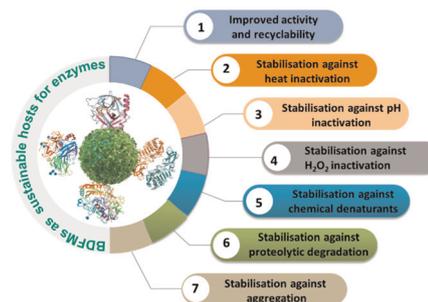
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Biomass-derived functional materials as carriers for enzymes: towards sustainable and robust biocatalysts

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



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Paweł Mateusz Nowak

Unified Greenness Theory



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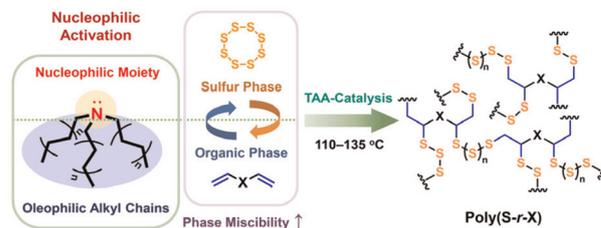


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Inverse vulcanization of elemental sulfur catalyzed by trialkyl amines

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*

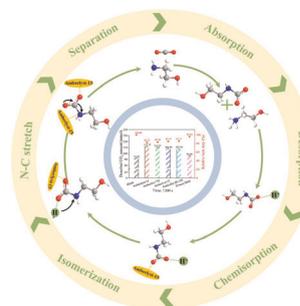
Facile and Fast Inverse Vulcanization of Elemental Sulfur (ES) using Unreactive Crosslinkers under Eco-friendly Trialkyl Amines (TAAs) Catalysis



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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*



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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*

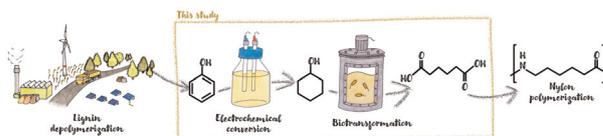


- Metal, external redox reagent free
- Three-component cascade reaction
- Cleavage of C-N bond and high effective construction of C-N/C-O/C-S bonds in one pot

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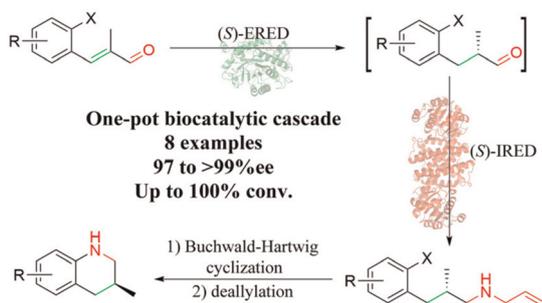
Integrated electrosynthesis and biosynthesis for the production of adipic acid from lignin-derived phenols

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



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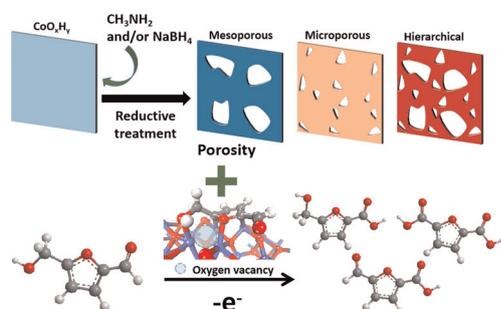
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Chemo-enzymatic synthesis of chiral 3-substituted tetrahydroquinolines by a sequential biocatalytic cascade and Buchwald–Hartwig cyclization

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

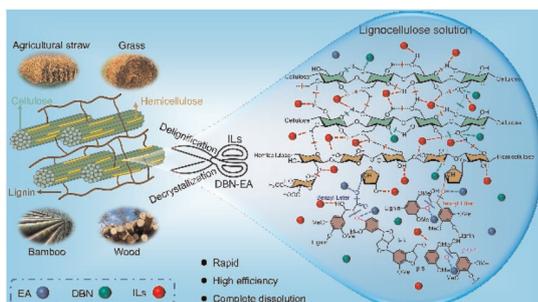
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Room-temperature fabrication of defective CoO_xH_y nanosheets with abundant oxygen vacancies and high porosity as efficient 5-hydroxymethylfurfural oxidation electrocatalysts

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

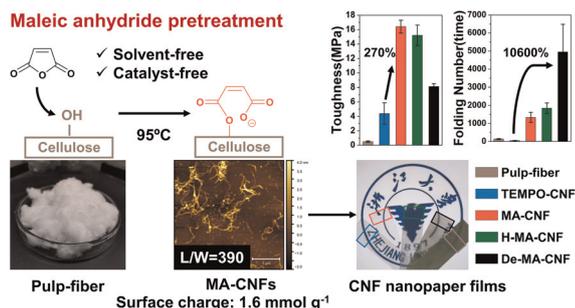
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Robust ionic liquid/ethanolamine-superbase solvents enable rapid, efficient and mild dissolution of lignocellulosic biomass

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

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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*

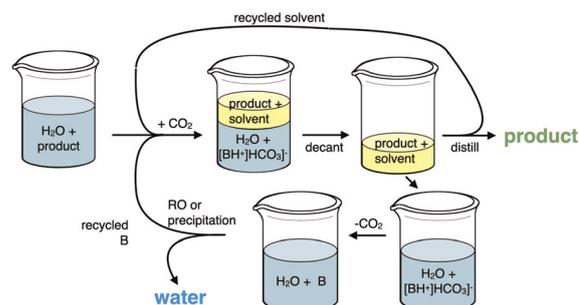


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A CO₂-responsive method for separating hydrophilic organic molecules from aqueous solutions: solvent-assisted switchable water

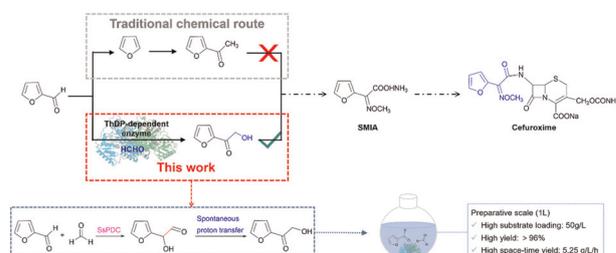
Vanessa Saab Liberato, Tatiana Felix Ferreira, Alex Redmond MacDonald, Bernardo Dias Ribeiro, Maria Alice Zarur Coelho and Philip G. Jessop*



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

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



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

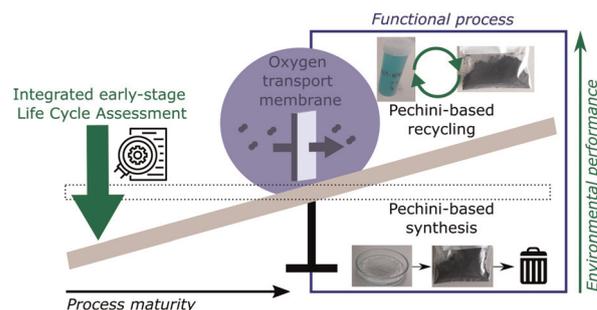
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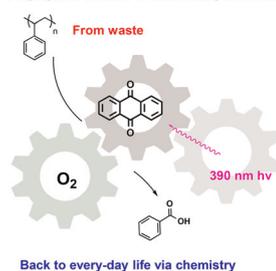
Recycling process development with integrated life cycle assessment – a case study on oxygen transport membrane material

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



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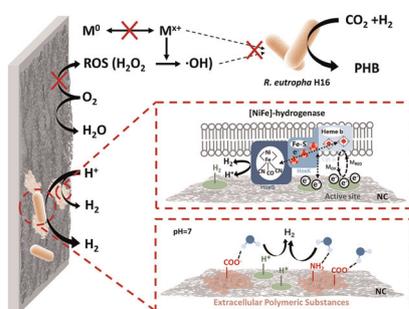
Photochemical Aerobic Upcycling of Polystyrene Plastics to Commodity Chemicals



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

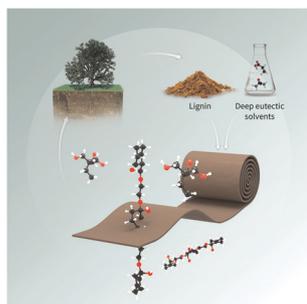
Nikolaos F. Nikitas, Elpida Skolia, Petros L. Gkizis, Ierasia Triandafillidi and Christoforos G. Kokotos*

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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*

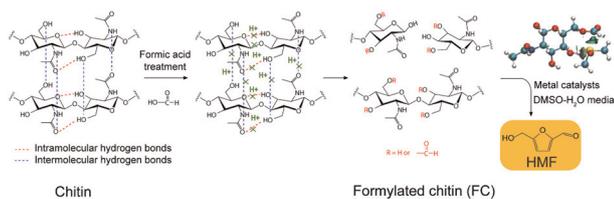
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A lignin-based membrane fabricated with a deep eutectic solvent

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*

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

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

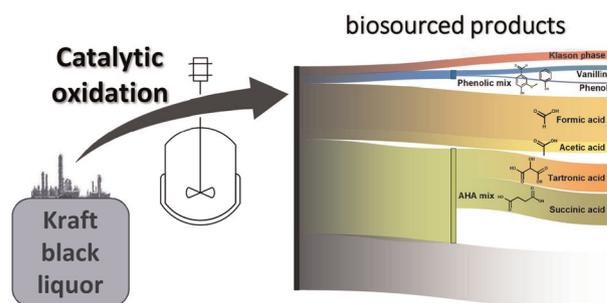


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Potential of catalytic oxidation of kraft black liquor for the production of biosourced compounds

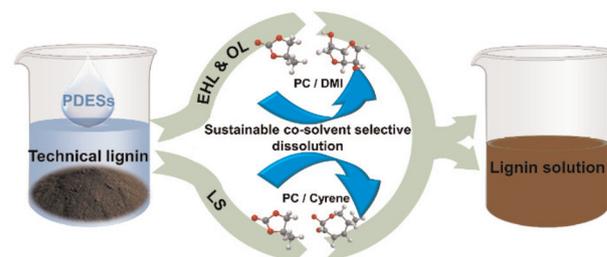
Léa Vilcoq,* Nicolas Chaussard, Antonio Hernández Mañas, Olivier Boyron, Manel Taam, Frédérique Bertaud, Pascal Fongarland and Laurent Djakovitch*



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

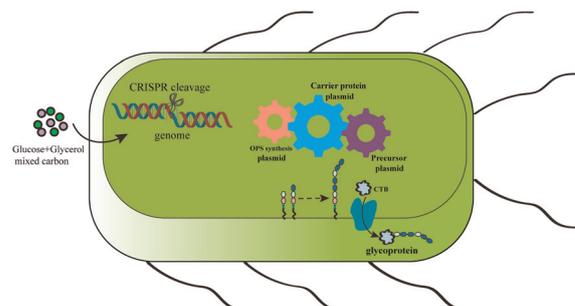
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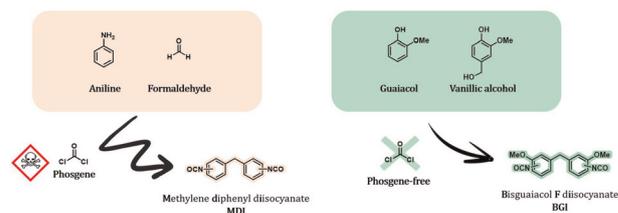
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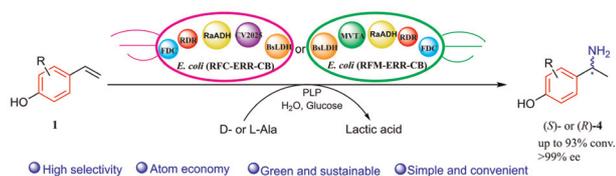
Lignin-based bisguaicol diisocyanate: a green route for the synthesis of biobased polyurethanes

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



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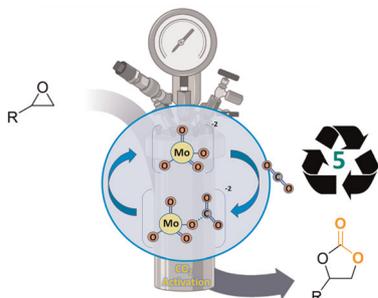
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Biocatalytic formal regio- and enantioselective Markovnikov hydroamination of aryl alkenes to chiral amines

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

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

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

CORRECTION

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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*

