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## EDITORIAL

2118

**Global essay competition: *Young Voices in the Chemical Sciences for Sustainability***

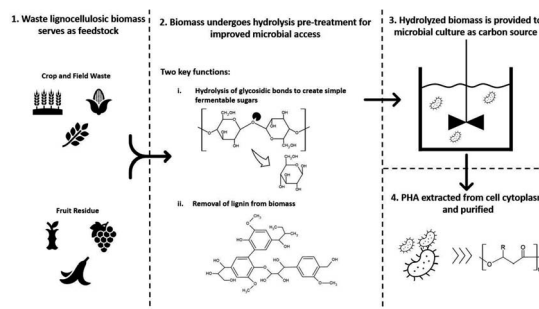


## CRITICAL REVIEWS

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**A review on polyhydroxyalkanoate (PHA) production through the use of lignocellulosic biomass**

Peter Zytner, Deepak Kumar, Abdallah Elsayed, Amar Mohanty, B. V. Ramarao and Manjusri Misra\*



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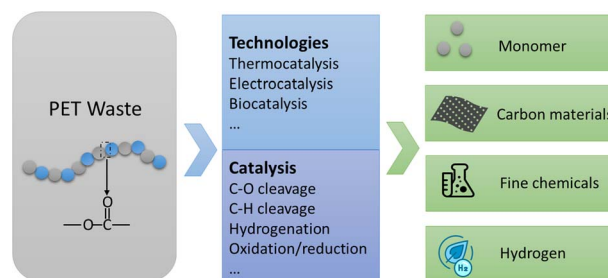


## CRITICAL REVIEWS

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## Chemical recycling of PET to value-added products

Zixian Jia,\* Lin Gao, Lijiao Qin and Jianzhong Yin\*

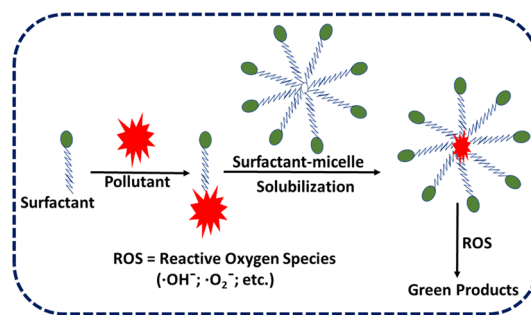


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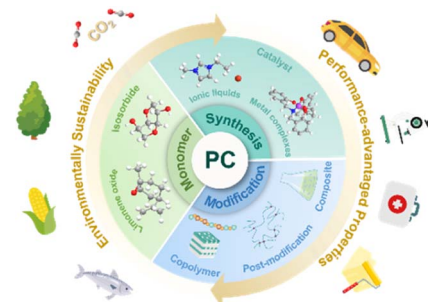
Neha Saxena,\* Md Merajul Islam, Sainu Baliyan and Deepa Sharma



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## Bio-based polycarbonates: progress and prospects

Hao Wang, Fei Xu, Zhencai Zhang, Mi Feng, Ming Jiang and Suojiang Zhang\*

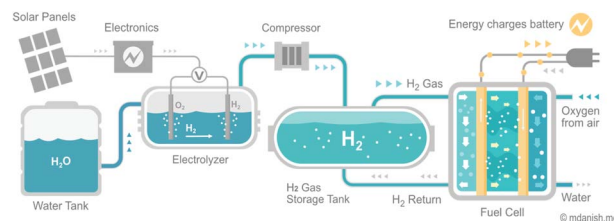


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## Exploring metal oxides for the hydrogen evolution reaction (HER) in the field of nanotechnology

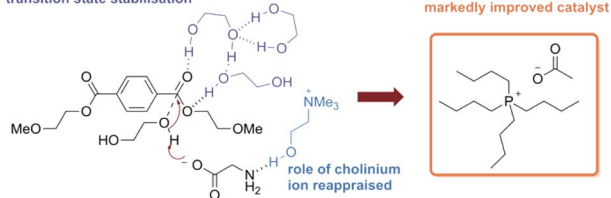
Mir Sayed Shah Danish\*



## COMMUNICATION

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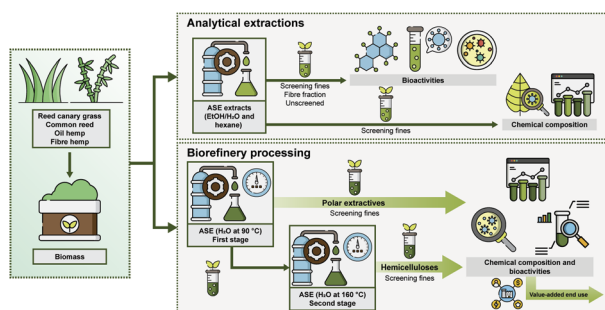


### Cholinium-based ionic liquid catalysts for poly(ethylene terephthalate) glycolysis: understanding the role of solvent and a reappraisal of the cation contribution

Diana Bura, Lorenzo Pedrini, Cristina Trujillo\* and Stephen J. Connon\*

## PAPERS

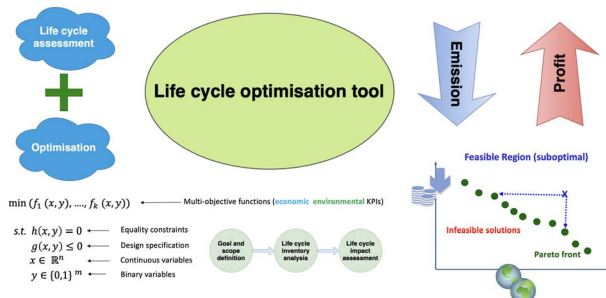
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### Chemical composition and bioactivity of hemp, reed canary grass and common reed grown on boreal marginal lands

Marina Fidelis\*, Jenni Tienaho, Hanna Brännström, Risto Korpinen, Juha-Matti Pihlava, Jarkko Hellström, Paula Jylhä, Jaana Liimatainen, Veikko Möttönen, Jyri Maunuksela and Petri Kilpeläinen

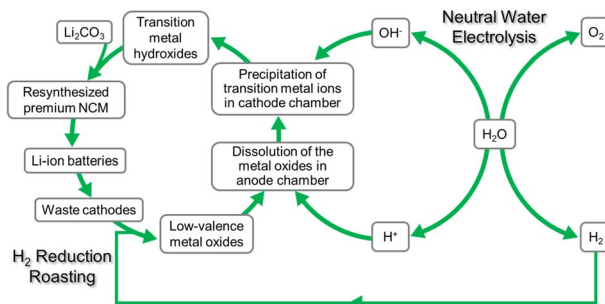
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### Life cycle optimisation tool development for process systems and centralised supply chain design

Xinyang Sun, Alex Durkin and Miao Guo\*

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### The critical role of H<sub>2</sub> reduction roasting for enhancing the recycling of spent Li-ion battery cathodes in the subsequent neutral water electrolysis

Jiayin Zhou, Jihong Ni and Xiaofei Guan\*

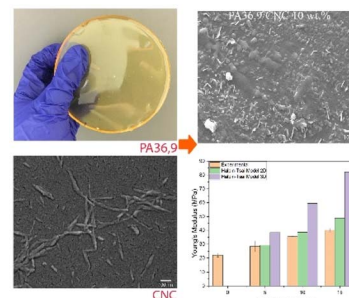


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## Structure and properties of biobased polyamide 36,9/cellulose nanocomposites

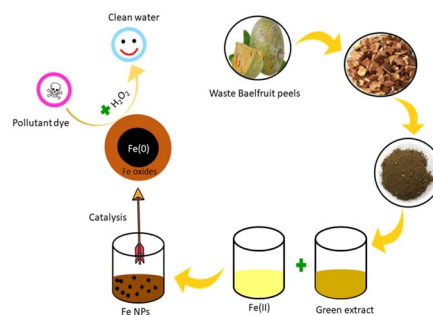
Yeyen Nurhamiyah and Biqiong Chen\*



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Waste mediated synthesis of iron nanoparticles using *Aegle marmelos* peel extract for catalytic degradation of toxic dye contaminants

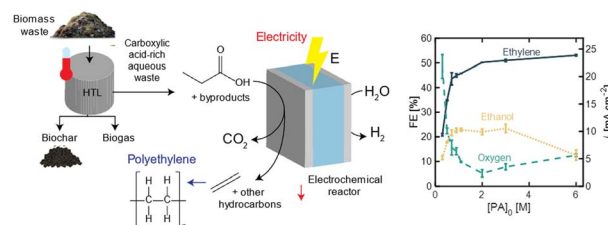
Anju Srivastava, Sriparna Dutta and Reena Jain\*



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## Understanding the electrocatalytic oxidation of propionic acid for the sustainable production of ethylene

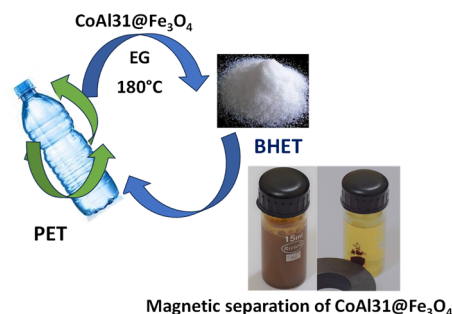
Andrea Angulo, Carolina Elizarraras, Ju Hee Shin, Alexandra van Riel, Toshihiro Akashige and Miguel Modestino\*



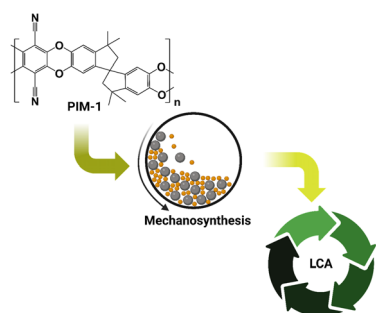
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Co-Al-CO<sub>3</sub> layered double hydroxide: an efficient and regenerable catalyst for glycolysis of polyethylene terephthalate

Deepthi Thomas, Rakesh Ranjan and Benny Kattikanal George\*



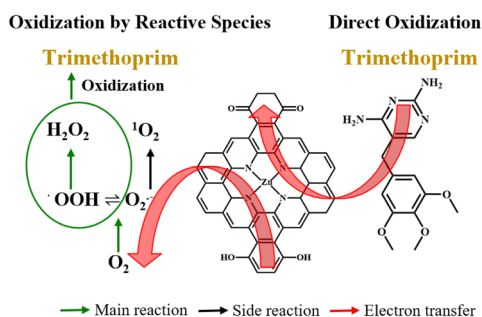
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### Towards sustainable synthesis: a life cycle assessment of polymer of intrinsic microporosity (PIM-1) by green mechanosynthesis

Ching Yoong Loh, Rui Huang, Roy Bell and Ming Xie\*

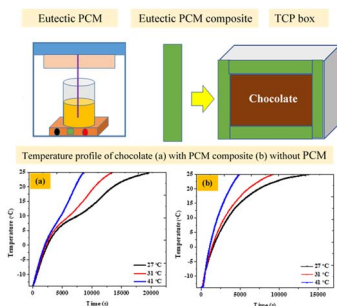
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### Elucidating multiple reaction pathways for the degradation of antibiotics in water by a self-active single-atom zinc catalyst on biochar

Jieming Yuan, Yunkyoung Han, Krishnamoorthy Sathiyam, Virender K. Sharma,\* Abdol Hadi Mokarizadeh, Mesfin Tsige, Jiechao Jiang and Xingmao Ma\*

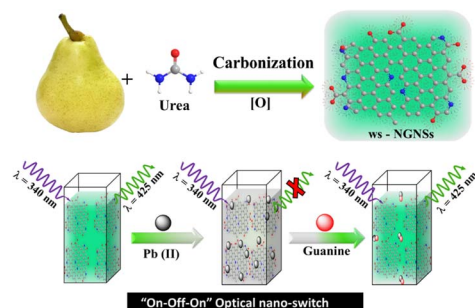
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### A novel shape-stabilized phase change material with tunable thermal conductivity for cold chain applications

Prakhar Dixit, Apoorv Balwani, Tridib Ambardar, Vennapusa Jagadeeswara Reddy, Tushar Kanti Maiti, Adarsh Kumar Pandey, Aravind Dasari\* and Sujay Chattopadhyay\*

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### N-doped graphene nanosheets-based optical nano switch for the selective detection of guanine and Pb<sup>2+</sup>

Vijayendra Kumar Tripathi, Gouri Sankar Das, Raju Kumar Gupta, Manish Srivastava\* and Kumud Malika Tripathi\*



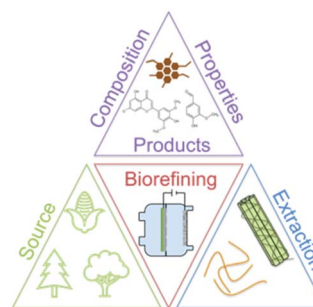


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### The effects of lignin source and extraction on the composition and properties of biorefined depolymerization products

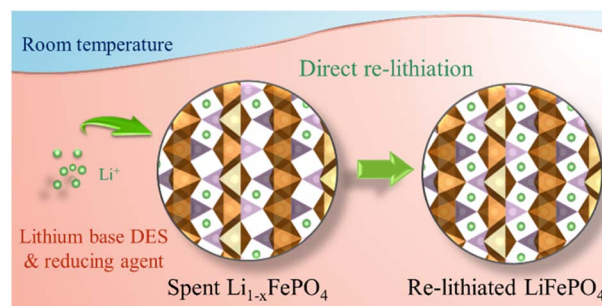
Natalia Obrzut, Rob Hickmott, Lily Shure and Kimberly A. Gray\*



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Tanongsak Yingnakorn, Jennifer Hartley, Jason S. Terreblanche, Chunhong Lei, Wesley M. Dose and Andrew P. Abbott\*



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Teresa Cecchi,\* Zhaojing Gao, Christophe Clement, Yasser Matos Peralta, Olivier Girard and Clara Santato\*

