

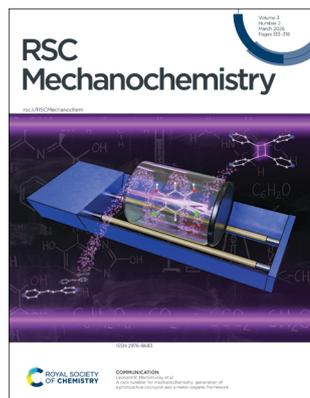
# RSC Mechanochemistry

rsc.li/RSCMechanochem

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

## IN THIS ISSUE

ISSN 2976-8683 CODEN RMSED4 3(2) 133–318 (2026)



### Cover

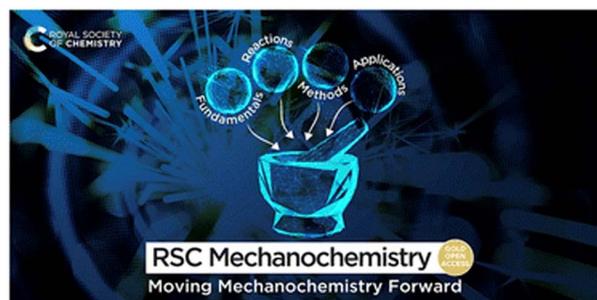
See Leonard R. MacGillivray *et al.*, pp. 191–194. Image reproduced by permission of Alexios Plessas from *RSC Mechanochem.*, 2026, 3, 191.

## EDITORIAL

141

### Moving mechanochemistry forward: mechanocatalysis

Ferdi Schüth and Claudia Weidenthaler

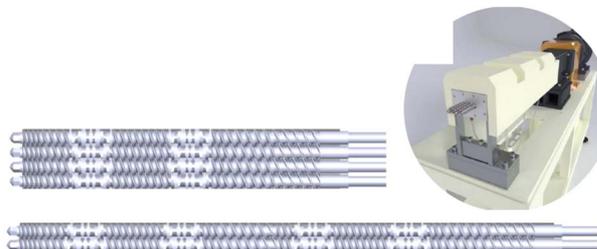


## REVIEWS

144

### Flow-through mechanochemical synthesis by reactive extrusion

Paolo Freisa, Luciano Lattuada, Alessandro Barge and Giancarlo Cravotto\*



# EES Catalysis

GOLD  
OPEN  
ACCESS

Exceptional research on energy  
and environmental catalysis

Open to everyone. Impactful for all

[rsc.li/EESCatalysis](https://rsc.li/EESCatalysis)

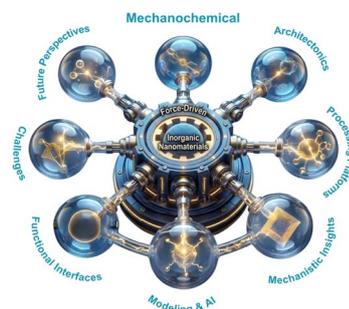
Fundamental questions  
Elemental answers

## REVIEWS

161

## Force-driven architectonics of inorganic nanomaterials: pathways to smart and functional interfaces

Mohammed Ali Dheyab,\* Wesam Abdullah, Sara Abdulwahab, Sadeen Metib Alsarayreh, Mothana Hussein Tarawneh, Mutaz Mohammad Alsardi, Mansour A. Alanazi and Azlan Abdul Aziz



## COMMUNICATIONS

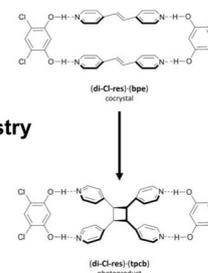
191

## A rock tumbler for mechanochemistry: generation of a photoactive cocrystal and a metal–organic framework

Christopher Hartwick, Karah A. Putnam, Alexios K. Plessas, Akalanka B. Ekanayake, Cheryl K. Henke, Michael A. Sinnwell, Alexei V. Tivanski and Leonard R. MacGillivray\*



mechanochemistry



195

## Biasing mechanistically distinct reaction pathways by mechanochemistry

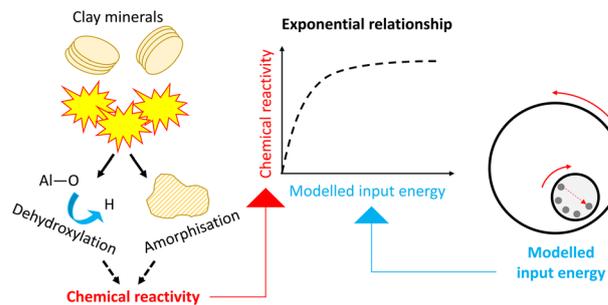
Hao Luo, Zhongye Huang, Yongning Lai, Yongjie Jiang, Taoyong Wang and KaKing Yan\*



201

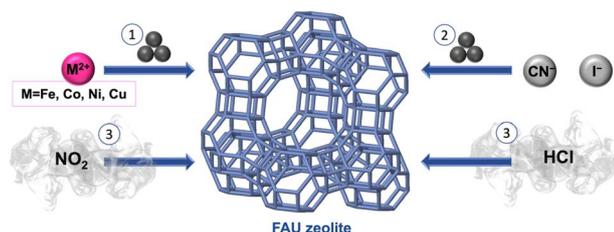
## Relationships between milling input energy and chemical reactivity for mechanochemical activation of clays

Alastair T. M. Marsh,\* Sreejith Krishnan, Suraj Rahmon, Susan A. Bernal and Xinyuan Ke\*



## COMMUNICATIONS

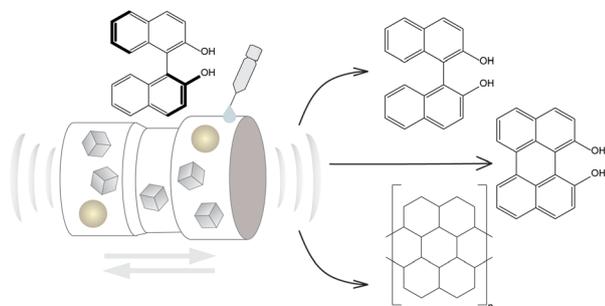
213



### Encapsulation of (pseudo)halogen metal complexes in zeolite Y cages by mechanochemistry

Damjan Šinjori, Emilija Petrović-Hadžar, Nikola Jakupec and Ana Palčić\*

218

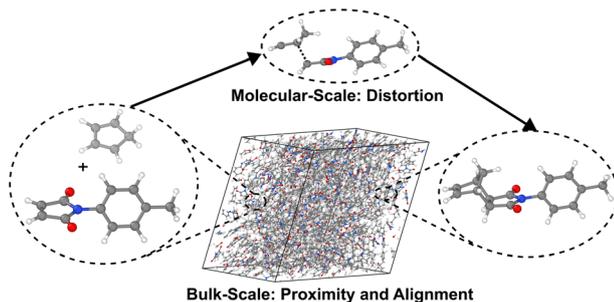


### When chirality breaks: mechanochemical degradation of biaryl atropisomers

Leon Poljanić, Tom Leysens, Laurent Collard and Daniel M. Baier\*

## PAPERS

224



### A classical potential-based framework for modeling mechanochemical reactivity *via* molecular distortion: demonstration for a Diels–Alder reaction

Sourabh Kumar, Robert W. Carpick and Ashlie Martini\*

235



### Motion matters: the role of milling ball trajectories in mechanochemical reactions

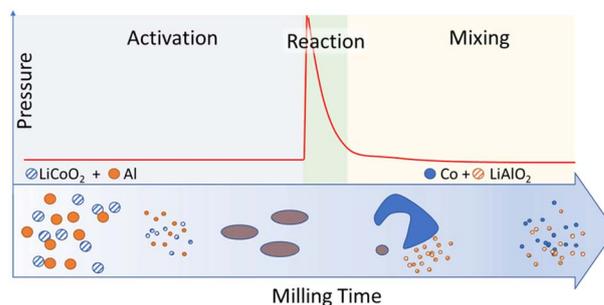
Marisol Fabienne Rappen, Justus Mäder, Sven Grätz and Lars Borchardt



243

### Mechanistic investigation of the mechanochemical reduction of $\text{LiCoO}_2$ with Al in the context of lithium-ion battery recycling

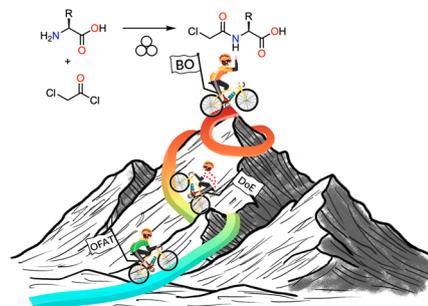
Raphael Sieweck, Arseniy Bokov, Oleksandr Dolotko, Thomas Bergfeldt, Udo Geckle, Michael Knapp and Helmut Ehrenberg



254

### Smart mechanochemistry: optimizing amino acid acylation with one factor at a time, design of experiments and machine learning methods

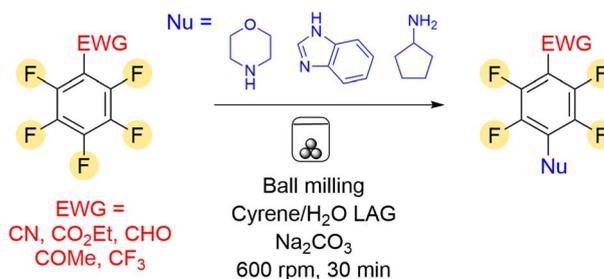
Adrien Gallego, Matthieu Lavayssiere, Xavier Bantreil, Nicolas P  try, Julien Pinaud, Olivia Giani\* and Fr  d  ric Lamaty\*



265

### Sustainable mechanochemical synthesis of functionalisable fluorinated scaffolds for drug discovery using green LAG

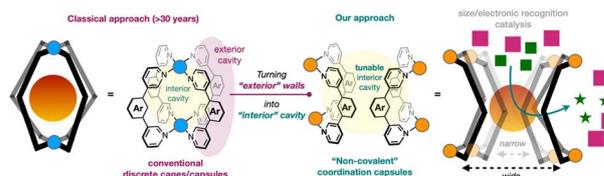
Adam G. Buchanan, Elizabeth T. Areola, Maryam Farrukh Butt, Yan Kiu Lee, Jasper Murphy, Annie E. Taylor, Avninder S. Bhambra and George W. Weaver\*



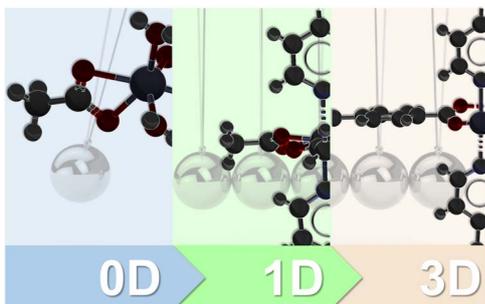
273

### Mechanochemical synthesis of bent metallacycles and confinement catalysis in the solid-state

Peiyi Wang, Shi Li, Fang-Zi Liu and KaKing Yan\*



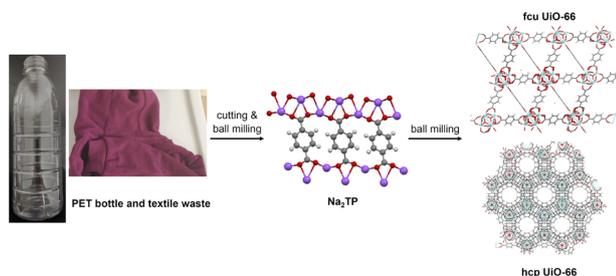
280



### Shaping coordination polymers by ball milling

Giorgio Cagossi, Beatrice Piombo, Andrea Daolio, Paolo P. Mazzeo, Alessia Bacchi and Paolo Pelagatti\*

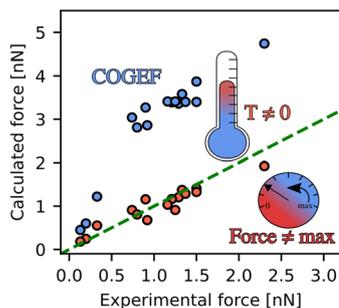
293



### Selective mechanochemical conversion of post-consumer polyethylene terephthalate waste into hcp and fcu UiO-66 metal–organic frameworks

Tomislav Stolar,\* Dilara Bayram, Anastasia May, Remie Sundermann, Carsten Prinz, Klas Meyer, Anett Myxa, Jana Falkenhagen and Franziska Emmerling\*

301



### Ab initio force prediction for single molecule force spectroscopy made simple

Pooja Bhat, Wafa Maftuhin and Michael Walter\*

309



### High-throughput C–H activation in a bead-beater homogenizer: fast and regioselective access to 2-arylindoles

Mainak Banerjee,\* Shravya B., Aboj Chatterjee, Shamima Hussain and Amtita Chatterjee\*

