

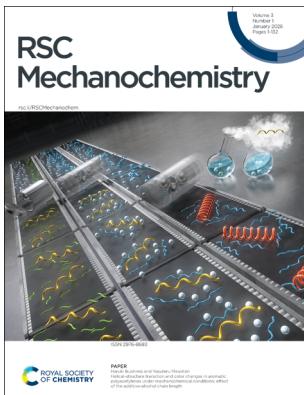
RSC Mechatnochemistry

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.

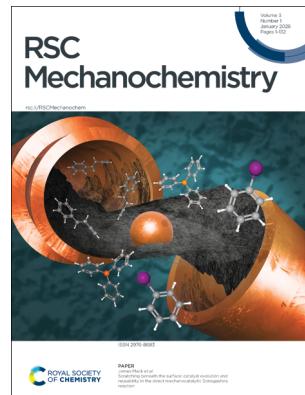
IN THIS ISSUE

ISSN 2976-8683 CODEN RMSED4 3(1) 1–132 (2026)



Cover

See Haruki Ikushima and Yasuteru Mawatari, pp. 38–45. Image reproduced by permission of Yasuteru Mawatari from *RSC Mechatnochem.*, 2026, 3, 38.



Inside cover

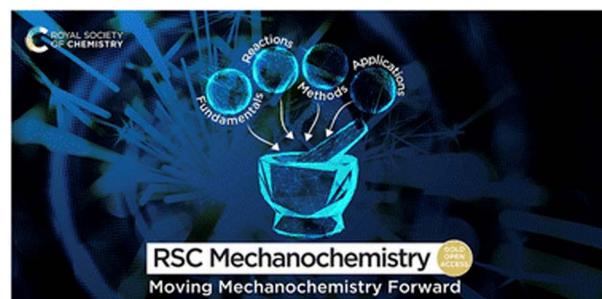
See James Mack *et al.*, pp. 46–55. Image reproduced by permission of Lindsey Barnett and by permission of James Mack and Mennatullah Mohktar from *RSC Mechatnochem.*, 2026, 3, 46.

EDITORIAL

9

Moving mechatnochemistry forward: accelerating and tuning organic synthesis by mechatnochemistry

Isaiah R. Speight* and James Mack*



CONFERENCE REPORT

15

Highlights from the Mech'cheM 2025 conference: New forces in Mechatnochemistry, Montpellier, France, June 4–6, 2025

Xavier Bantrel, Olivia Giani, Laure Monconduit, Nicolas Pétry, Julien Pinaud, Béatrice Roy and Frédéric Lamaty*



EES Catalysis



GOLD
OPEN
ACCESS

Exceptional research on energy
and environmental catalysis

Open to everyone. Impactful for all

rsc.li/EESCatalysis

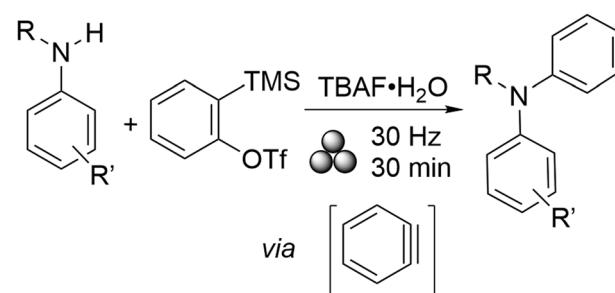
Fundamental questions
Elemental answers

COMMUNICATIONS

23

Benzyne formations and reactions with amines under solvent-free conditions in a mixer mill

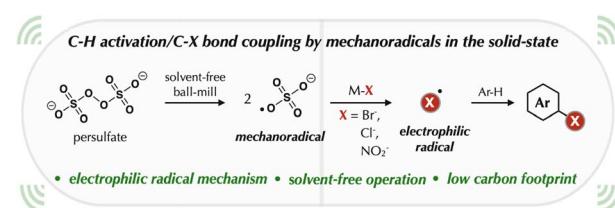
Ganesh Vijay Raskar, Dipankar Roy and Carsten Bolm*



27

Mechanoradical-driven C–H halogenation and nitration of arenes and vicinal dibromination of alkenes in the solid state

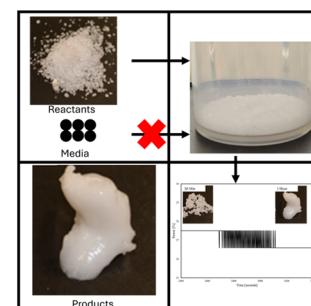
Yongjie Jiang, Xiang Gu, Taoyong Wang and KaKing Yan*



33

Shedding water: using mechanochemistry to drive liquid assisted synthesis of the energetic complex glycine–magnesium tetrahydrate

Tristan W. Kenny and Lori J. Groven*

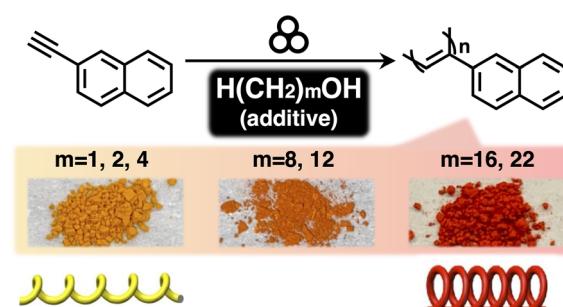


PAPERS

38

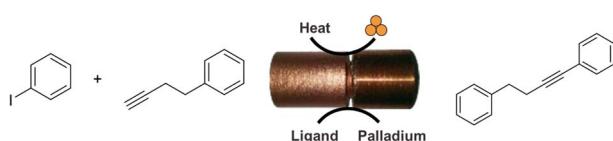
Helical-structure transition and color changes in aromatic polyacetylenes under mechanochemical conditions: effect of the additive-alcohol chain length

Haruki Ikushima and Yasuteru Mawatari*



PAPERS

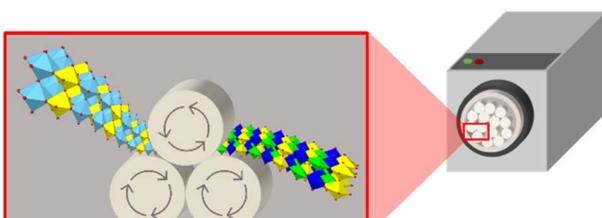
46



Scratching beneath the surface: catalyst evolution and reusability in the direct mechanocatalytic Sonogashira reaction

Sheeniza Shah, Mennatullah M. Mokhtar, Thinh Tran, Kathleen Floyd, Lizette Mella, Tim Dao, Alexandria Garza, James Batteas and James Mack*

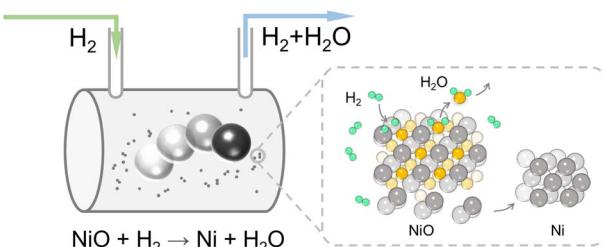
56



Mechanochemical α to β phase transition of U_3O_8

Jordan M. Roach,* Tyler L. Spano and Andrew Miskowiec

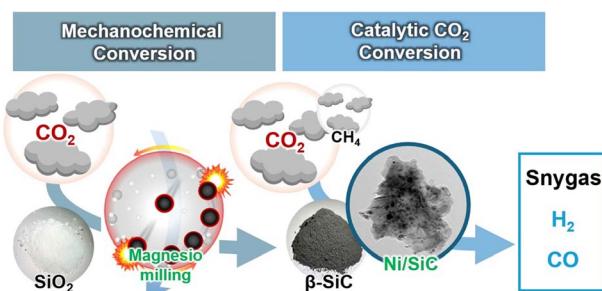
67



Mechanochemical reduction of nickel oxide with continuous hydrogen flow

Jikai Ye, Gang Liu, Christian H. Liebscher and Michael Felderhoff*

76



Solvent-free mechanochemical conversion of CO_2 into mesoporous SiC : a green route to high-performance catalysts

Hae In Lee, Myung Won Seo, Dong Hyun Kim, Hyuk Choi, Ju Hyek Lee, Mi Yoo, Min-Jae Kim, Yong-Sik Ok, Siddheshwar Dadarao Raut, Dong Hyun Lee, Hyun You Kim,* Kyubock Lee* and Won-Chul Cho*

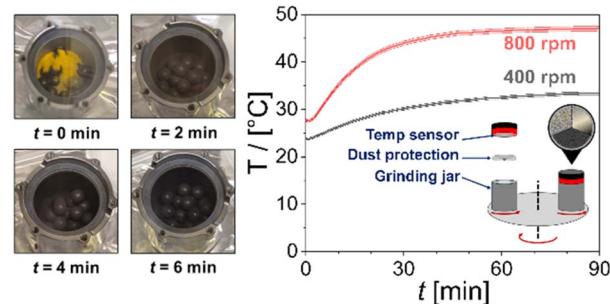


PAPERS

83

Mechanochemical route to high-purity halide perovskites with real-time temperature tracking

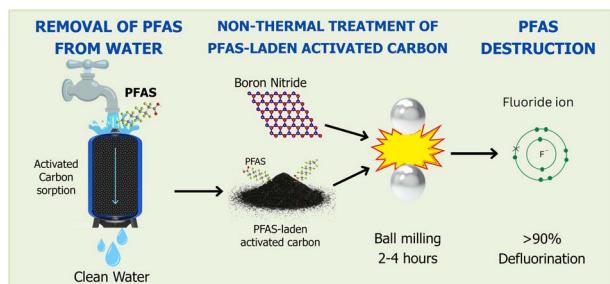
Raphael Neisius, Paola Ragonese, Isabel Gonçalves, Teresa Gatti and Isabella Poli*



92

Using piezoelectric mechanochemistry for solvent-free, nonthermal defluorination of perfluoroalkyl substances (PFAS) contained in carbon-based sorbents

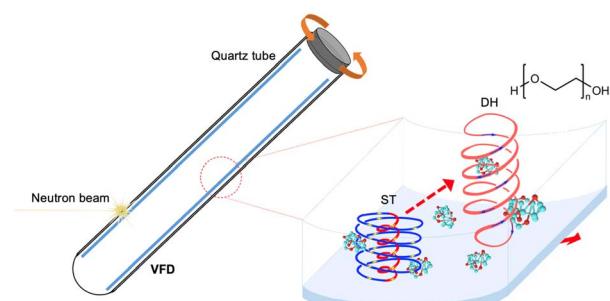
Andres F. Prada,* Jaemin Kim, Linduo Zhao, Fangyu Li, Lee Green and John W. Scott



100

Vortex-fluidic-mediated phase separation of polyethylene glycol and aqueous potassium phosphate characterised by real-time neutron imaging and scattering

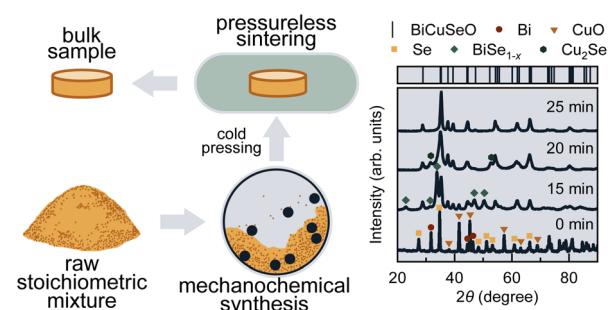
Xuan Luo, Ahmed H. M. Al-Antaki, Andrew E. Whitten, Filomena Salvemini, Evgenia Leivadarou, Wei Zhang, Harshita Kumari and Colin L. Raston*



106

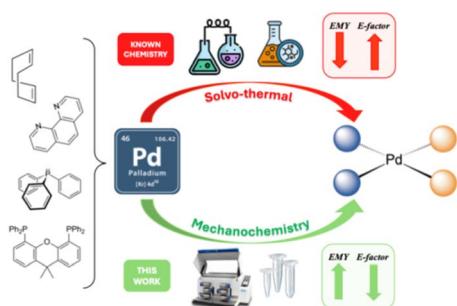
Mechanochemical synthesis of Ba-doped BiCuSeO oxyseLENides: influence of processing conditions on phase formation

Aleksandra Khanina,* Tatyana Sviridova, Alexandra Ivanova, Andrey Voronin and Vladimir Khovaylo*



PAPERS

115



Rapid, efficient and green solid-state mechanosynthesis of palladium complexes

Leonardo Genesin, Eleonora Aneggi, Walter Baratta, Talha Munir, Fabio Trigatti and Daniele Zuccaccia*

