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ISSN 1463–9076 CODEN PPCPFQ 27(30) 15805–16270 (2025)

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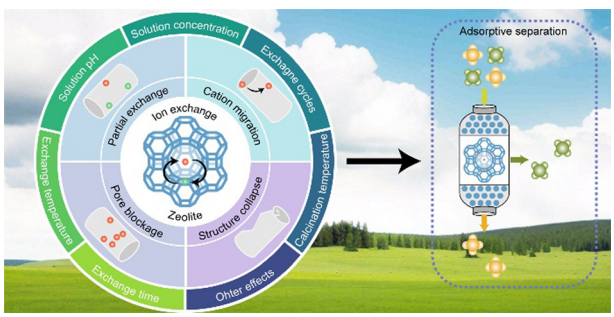
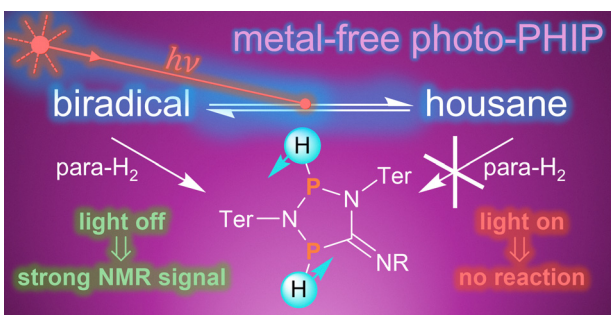
See Tiesen Li, Yuanyuan Yue *et al.*, pp. 15819–15834. Image reproduced by permission of Tiesen Li from *Phys. Chem. Chem. Phys.*, 2025, **27**, 15819.

Inside cover
See Kazuteru Shinozaki *et al.*, pp. 15850–15857. Image reproduced by permission of Kazuteru Shinozaki from *Phys. Chem. Chem. Phys.*, 2025, **27**, 15850.

TUTORIAL REVIEW



COMMUNICATIONS



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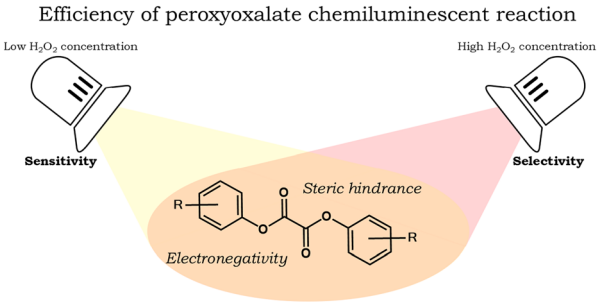

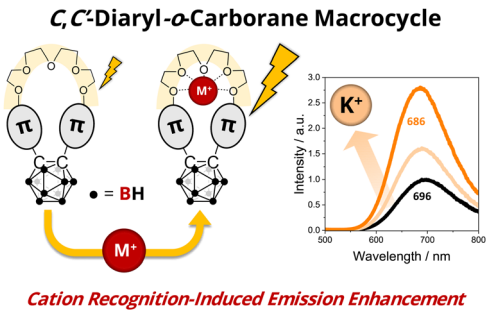

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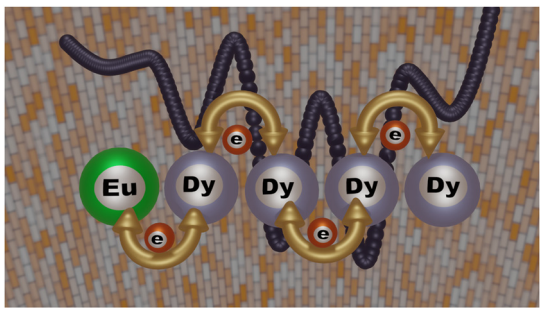

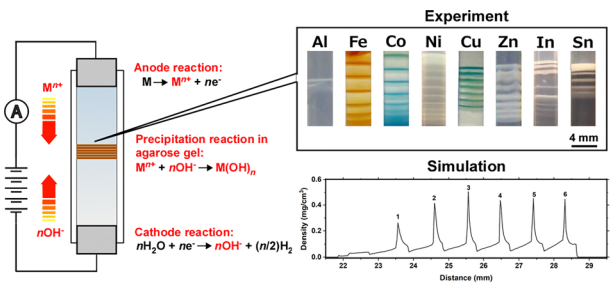

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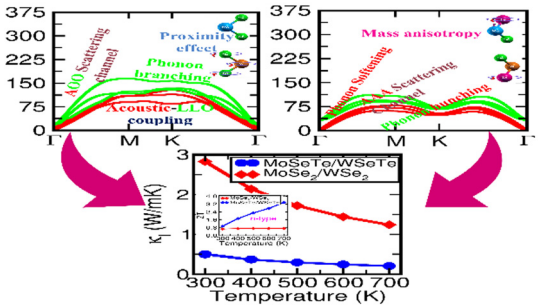

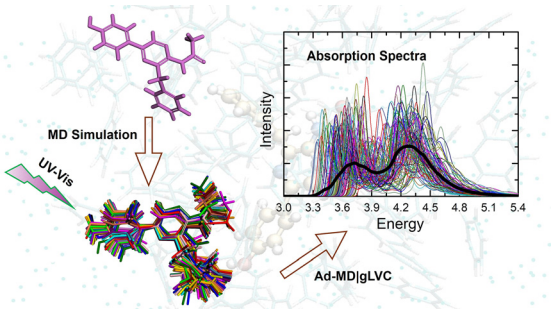

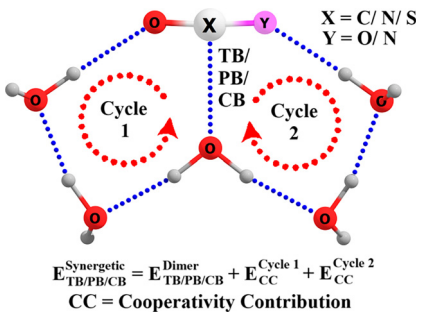

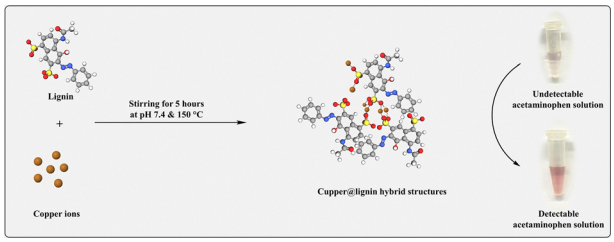

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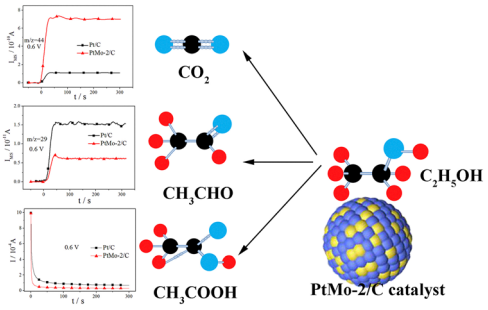
16030

Ethanol electro-oxidation on a carbon-supported Pt–Mo electrocatalyst: a study by pinhole on-line differential electrochemical mass spectrometry

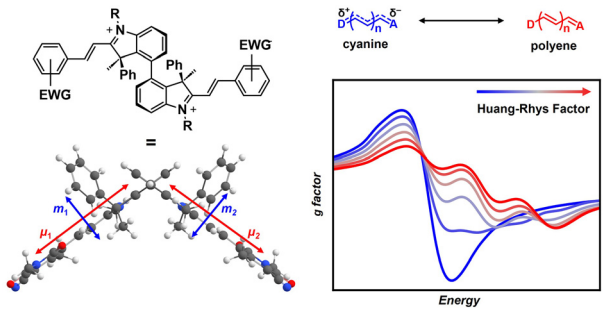
Kyong–Mi Kim, Kyong–Sik Ju* and Sung–Nam Pak



16039

Chiroptical properties of axially chiral indolenine merocyanine dimers: role of the Huang–Rhys factor and interchromophore mixing of electric and magnetic transition dipole moments

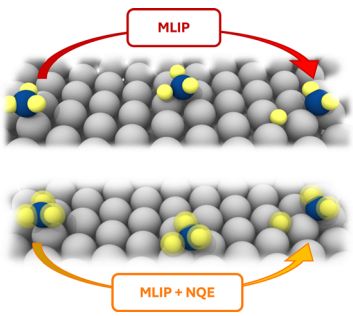
Emely Freytag, Michael Hofer, Michael Kopp, Marco Holzapfel, Matthias Stolte, Frank Würthner, Thomas Renger* and Christoph Lambert*



16051

Nuclear quantum effects of metal surface-mediated C–H activation

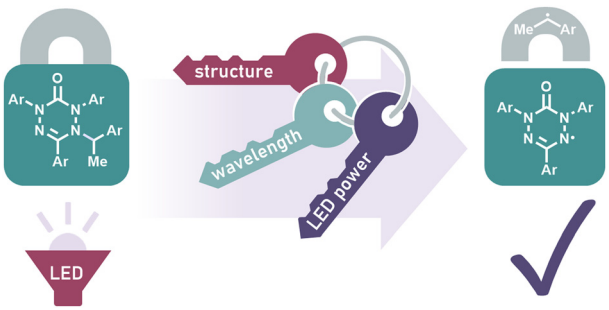
Rhys J. Bunting, Sam Shepherd, Nikhil Rampal, Sneha Akhade, David M. Wilkins* and Tuan Anh Pham*



16057

Photolysis of labile bonds towards radical generation: case study of alkyl verdazyls

Ekaterina S. Kovalskaya, Alexander E. Kurtsevich, Darya E. Votkina, Rashid R. Valiev,* Pavel S. Postnikov* and Pavel V. Petunin*



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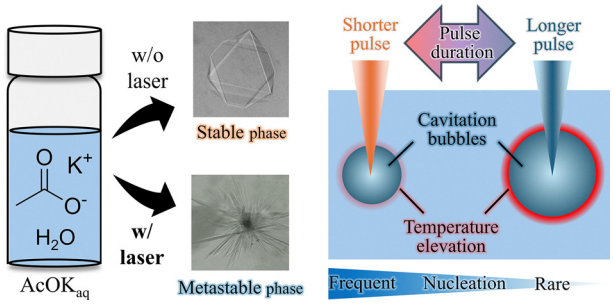
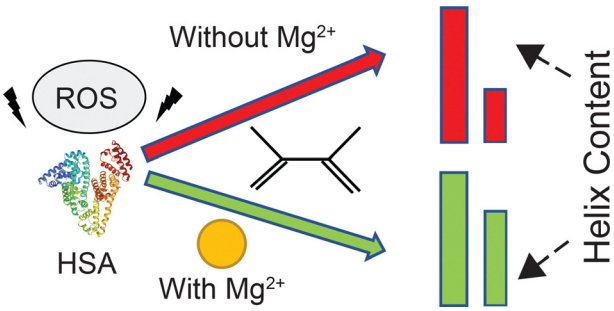
16067



Metastable-phase crystallization of potassium acetate triggered by focused irradiation with ultrashort laser pulses

Hozumi Takahashi* and Hiroshi Y. Yoshikawa*

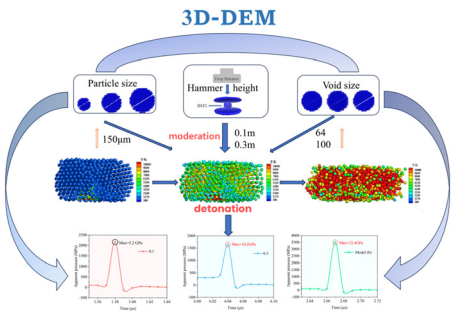
16077



Effect of magnesium(II) on the glycation-induced oxidative stress of human serum albumin: a spectroscopic investigation

Debdip Brahma, Utkarsh Sinha and Amar Nath Gupta*

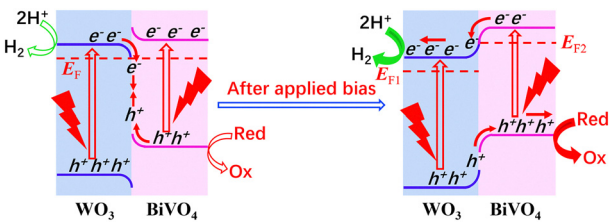
16090



A 3D-DEM study on influencing factors of ignition, combustion, and detonation of single HMX particles with voids

Jing Liu, Zhi-Xin Bai,* Fu-Sheng Liu and Qi-Jun Liu*

16103



Efficient photoelectrocatalytic performances using a $WO_3/BiVO_4$ heterojunction photoanode: applied bias-promoted photoinduced charge transfer and separation

Yunni Liu, Yuna Kang, Zhenyi Zhang and Jun Lin*

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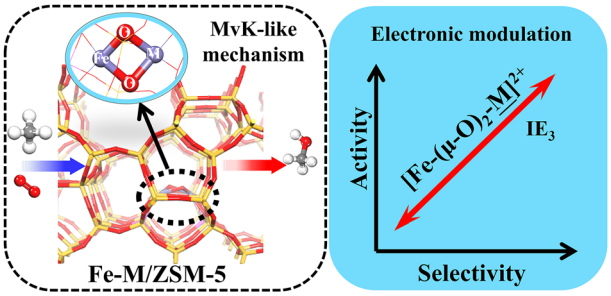

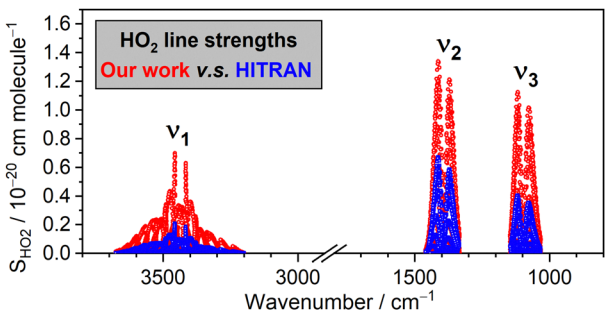

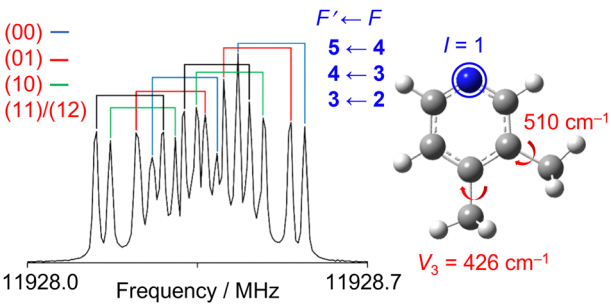

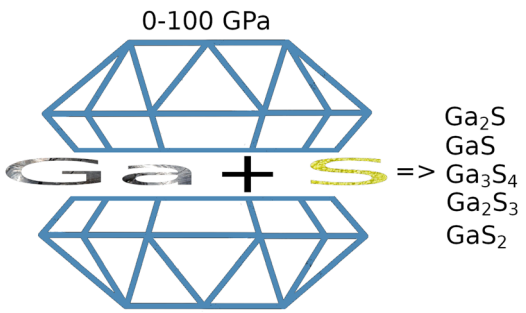

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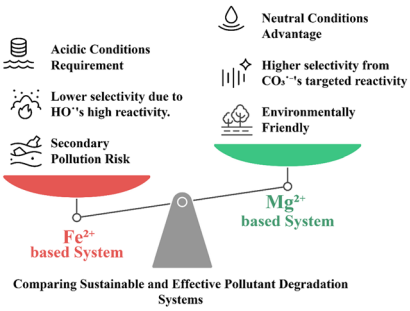
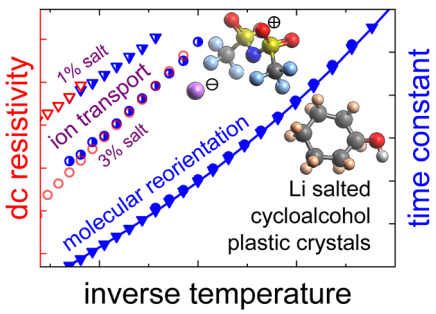
16153



Magnesium(II)-bicarbonate complexes catalyze the Fenton-like reaction under nearly neutral conditions: kinetics and mechanism

Anushka Lucas, Dalia Gitin, Tomer Zidki, Prashant H. Desai, Alexander I. Shames, Virender K. Sharma, Haya Kornweitz,* Yael Albo* and Dan Meyerstein*

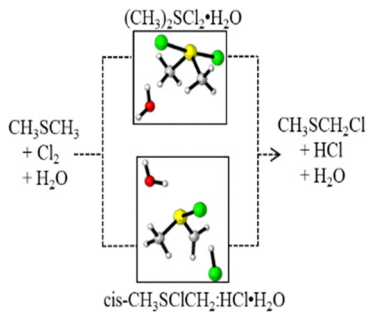
16161



Coupling and decoupling of molecular reorientation and charge transport in Li-salt-doped cycloalcohol ion conductors

Sofiane Lansab, Yannik Hinz, Bastian Grabe, Peter Lunkenheimer and Roland Böhmer

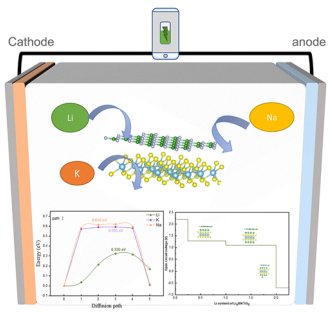
16172



A study of the atmospherically relevant reaction between dimethyl sulphide (DMS) and Cl_2 in the absence and presence of water using electronic structure methods

Lydia Rhyman,* Edmond P. F. Lee, Ponnadurai Ramasami* and John M. Dyke*

16182



Exploring the enhanced anode performance of BN/TiS_2 heterostructures for Li/Na/K-ion batteries *via* first-principles calculations

Qi Wang, Xing Wei, Mengya Li, Yan Zhang, Yun Yang, Jian Liu, Ye Tian, Ziyuan Li, Shijie Wei and Li Duan*

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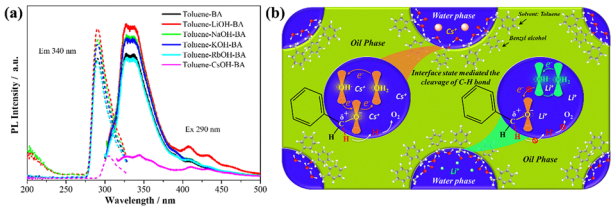

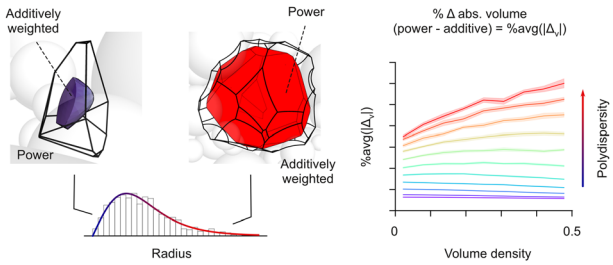

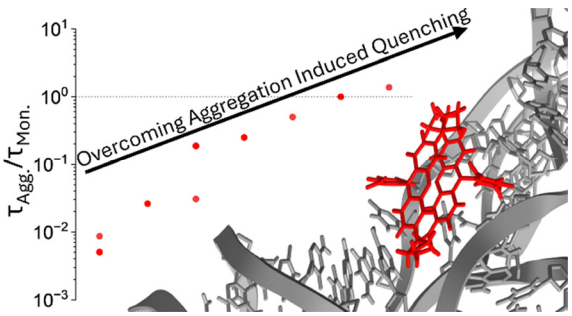

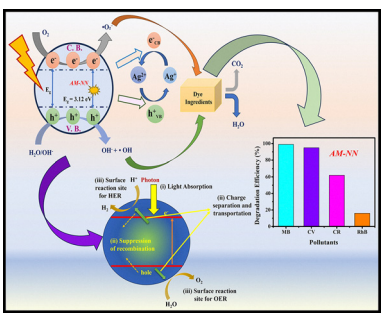

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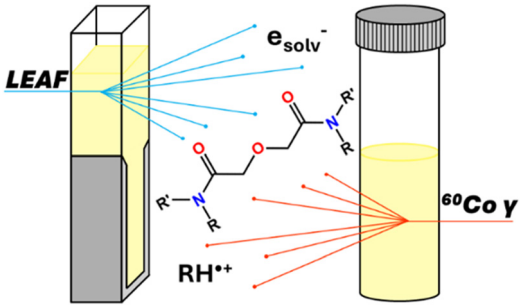

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