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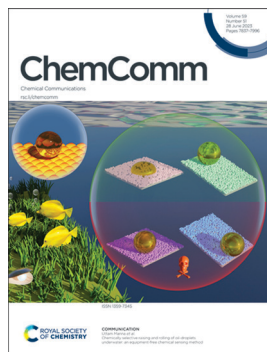
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ISSN 1359–7345 CODEN CHCOFS 59(51) 7837–7996 (2023)



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See Akihiko Kudo *et al.*, pp. 7911–7914.  
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### Inside cover

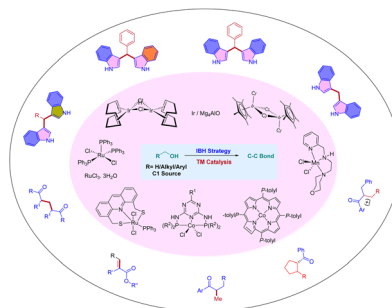
See Uttam Manna *et al.*, pp. 7915–7918.  
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### Transition metal-catalysis in interrupted borrowing hydrogen strategy

Madhu Nallagangula, Murugan Subaramanian, Rohit Kumar and Ekambaram Balaraman\*

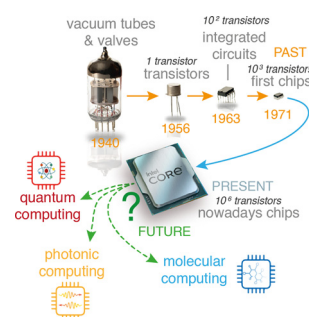


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### Lanthanide-based logic: a venture for the future of molecular computing

Sofia Zanella, Miguel A. Hernández-Rodríguez, Rute A. S. Ferreira and Carlos D. S. Brites\*



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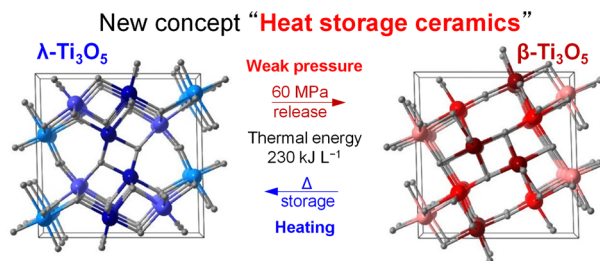
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## FEATURE ARTICLES

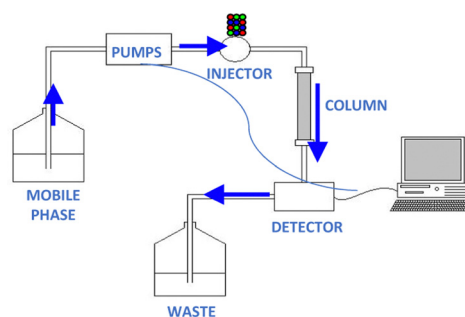
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Long-term heat-storage materials based on  $\lambda$ - $\text{Ti}_3\text{O}_5$  for green transformation (GX)Shin-ichi Ohkoshi,\* Marie Yoshikiyo,\*  
Jessica MacDougall, Yusuke Ikeda and Hiroko Tokoro\*

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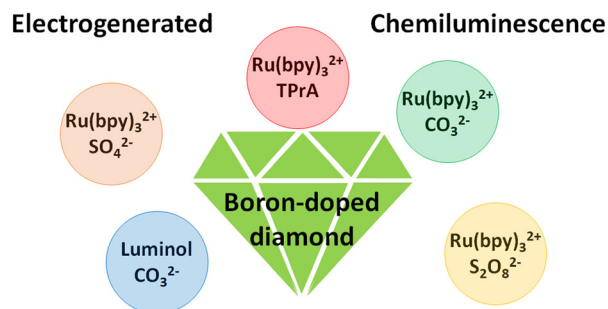
## Understanding and managing peak shape for basic solutes in reversed-phase high performance liquid chromatography

David Victor McCalley



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## Electrogenerated chemiluminescence at boron-doped diamond electrodes

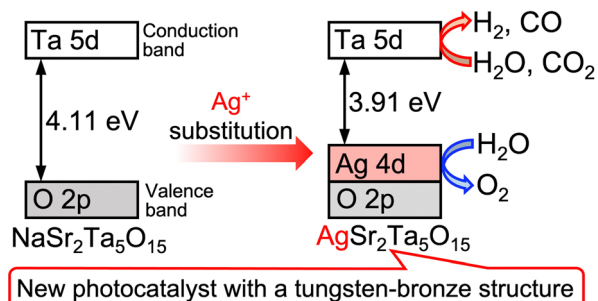
Andrea Fiorani,\* Giovanni Valenti, Francesco Paolucci  
and Yasuaki Einaga

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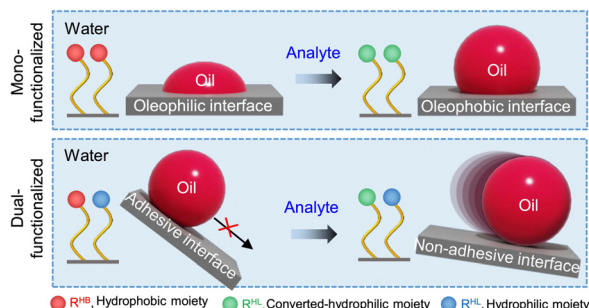
Water splitting and  $\text{CO}_2$  reduction over an  $\text{AgSr}_2\text{Ta}_5\text{O}_{15}$  photocatalyst developed by a valence band control strategy

Tomoaki Takayama, Akihito Iwase and Akihiko Kudo\*



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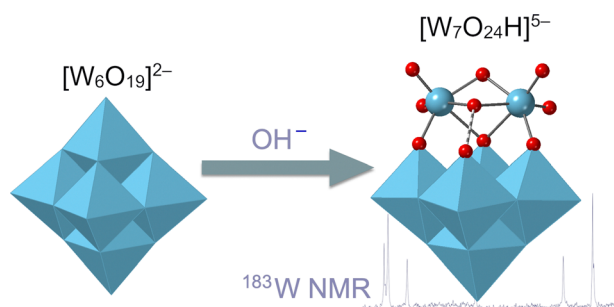
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### Chemically selective raising and rolling of oil-droplets underwater: an equipment-free chemical sensing method

Angana Borbora, Jaysri Das and Uttam Manna\*

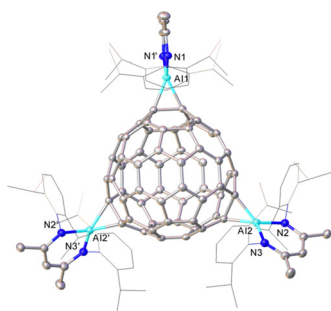
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### A thirty-year old mystery solved: identification of a new heptatungstate from non-aqueous solutions

Dominic Shiels, Magda Pascual-Borràs, Paul G. Waddell, Corinne Wills, Josep-Maria Poblet and R. John Errington\*

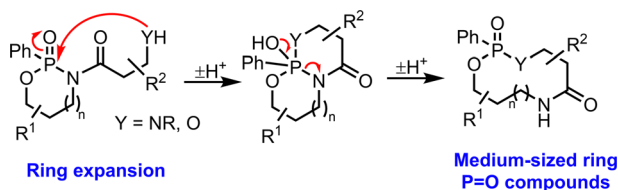
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### A molecular aluminium fulleride

Samuel Ray Lawrence, Tobias Rüffer, Andreas Stasch\* and Robert Kretschmer\*

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### Ring expansion reactions of P=O-containing molecules

Zhongzhen Yang, Jerry K. F. Tam, Jack M. Wootton, Jason M. Lynam\* and William P. Unsworth\*

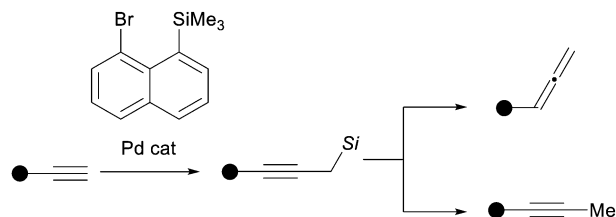


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### Synthesis of propargyl silanes from terminal alkynes via a migratory Sonogashira reaction

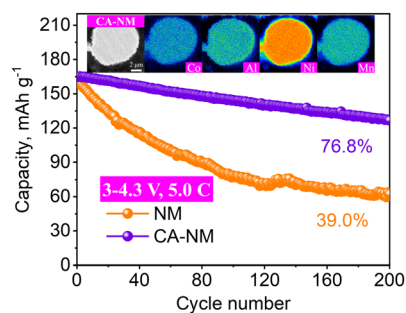
Mikus Puriņš, Lucas Eichenberger and Jérôme Waser\*



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### Cobalt/aluminum co-substitution in a $\text{LiNi}_{0.9}\text{Mn}_{0.1}\text{O}_2$ layered cathode for improving kinetics

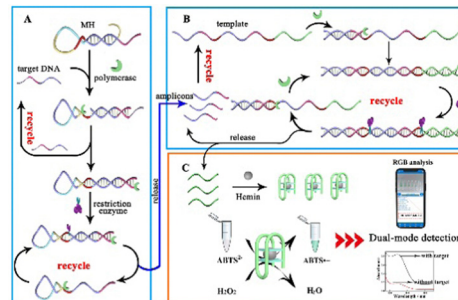
Zhiming Xiao, Bao Zhang, Xinyou He and Xing Ou\*



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### Target-switched artificial biochemical circuit for a versatile and sensitive colorimetric detection platform

Xianzhu Meng, Huiwen Gu, Xiaoli Yin, Hongchao Yi and Ying Chen\*



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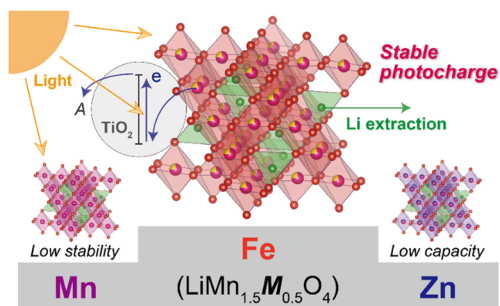
### Dinuclear-gold-catalyzed cyclization of 1,7-enynes with alkyl bromides

Jiajun Li, Xinyi Zhai, Cheng-Long Ji, Weipeng Li and Jin Xie\*



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### Optimizing $\text{LiMn}_{1.5}\text{M}_{0.5}\text{O}_4$ cathode materials for aqueous photo-rechargeable batteries

Kohei Shimokawa,\* Shogo Matsubara, Tomoya Kawaguchi, Akihiro Okamoto and Tetsu Ichitsubo\*

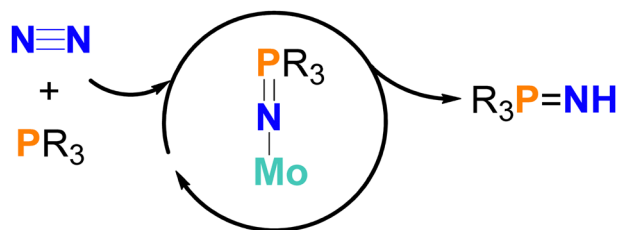
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### $\text{B}(\text{C}_6\text{F}_5)_3$ -catalyzed regio- and stereoselective thiosulfonylation of terminal alkynes with thiosulfonates

Wenjie Qin, Qian Ni, Wenjun Jiao and Yuanhong Ma\*

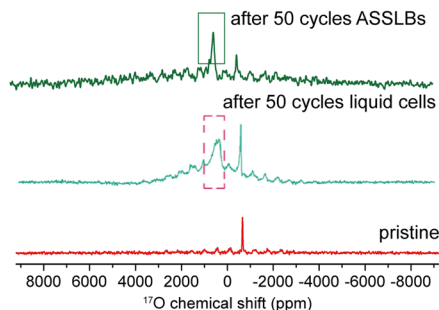
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### A synthetic cycle for iminophosphorane synthesis involving direct intermolecular $\text{N}=\text{P}$ bond formation on $\text{N}_2$ -derived molybdenum nitride

Li Jin, Guoqiang Zhang, Xiaoqin Yang, Jinyi Song, Jin Wang\* and Qian Liao\*

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### Probing the degradation of $\text{LiCoO}_2$ in batteries subjected to high-voltage cycling with $^{17}\text{O}$ solid-state NMR spectroscopy

Guozhong Lu, Fushan Geng, Nianrui Guo, Shouquan Yao, Ming Shen\* and Bingwen Hu\*



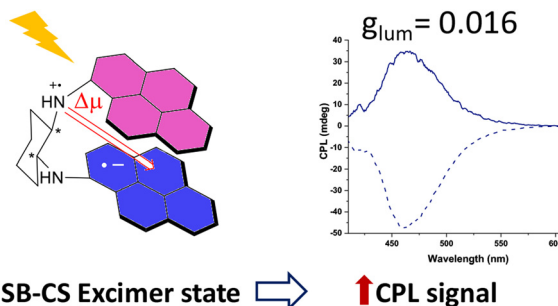


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**Strong circularly polarized luminescence via intramolecular excited-state symmetry-breaking charge separation**

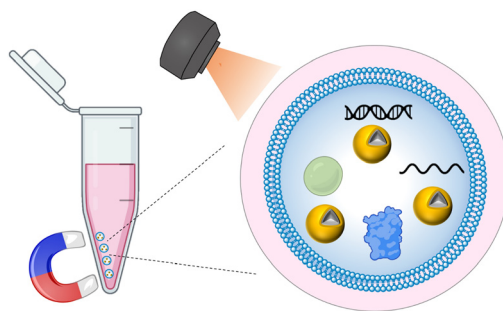
Maria João Álvaro-Martins, Chloé Billiaux, Pascale Godard, Reiko Oda, Guillaume Raffy and Dario M. Bassani\*



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**Integrated separation and detection of exosomes via a label-free magnetic SERS platform**

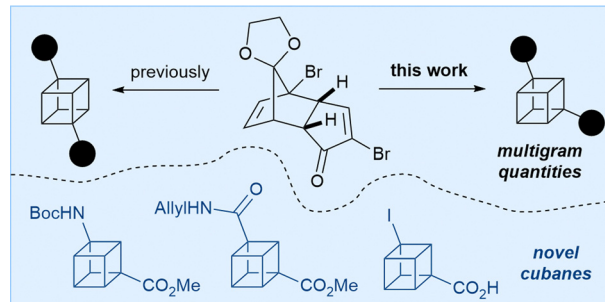
Lingfei Han, Chengcheng Zhu, Zheng Tan, Jin Wang, Xuewei Liao,\* Xing-Hua Xia and Chen Wang\*



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**A practical synthesis of 1,3-disubstituted cubane derivatives**

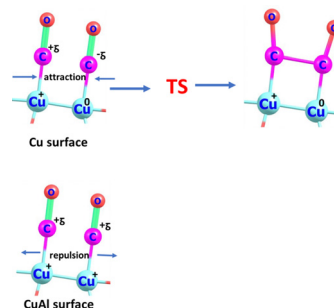
Nahin Kazi, Marine C. Aublette, Sarah L. Allinson and Susannah C. Coote\*



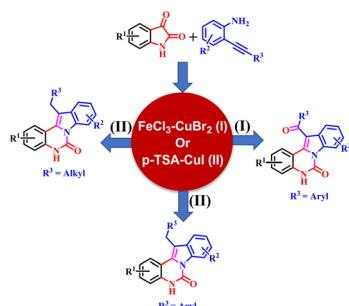
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**Boosting selectivity towards formate production using CuAl alloy nanowires by altering the CO<sub>2</sub> reduction reaction pathway**

Ibrahim M. Badawy, Ghada E. Khedr, Ahmed Hafez, Elsayed A. Ashour and Nageh K. Allam\*



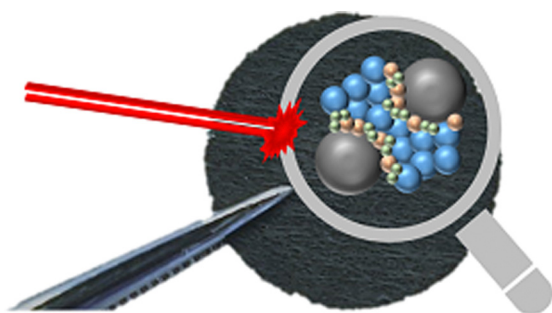
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### Ring expansion and fused cyclization catalysis to construct indoloquinazolinones with functionalization

Ramlal Baidya, Prasenjit Das, Pintu Pratihari and Dilip K. Maiti\*

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### Localised degradation within sulfide-based all-solid-state electrodes visualised by Raman mapping

Jungwoo Lim, Yundong Zhou, Rory H. Powell, Tugce Ates, Stefano Passerini and Laurence J. Hardwick\*

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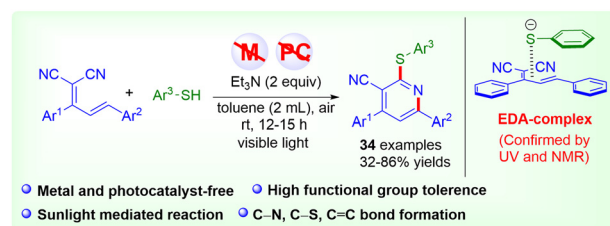


- radical dual difunctionalization of two different alkenes
- ordered-assembly by the intrinsic nucleo/electrophilicity of radicals and alkenes
- abundant aromatic/aliphatic aldehydes as acyl radical source
- readily available alkene substrates
- convenient synthesis of chain elongated  $\beta,\delta$ -functionalized ketones
- Fe-catalyzed four-component acylative azidation at 35 °C

### D–A–D–T-type four-component radical dual-difunctionalization and acylative azidation of two different alkenes

Ren-Xiang Liu, Xin Chen and Luo Yang\*

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### Visible-light driven electron–donor–acceptor (EDA) complex-initiated synthesis of thio-functionalized pyridines

Hirendra Nath Dhara, Amitava Rakshit, Dinabandhu Barik, Koustuv Ghosh and Bhisma K. Patel\*

