

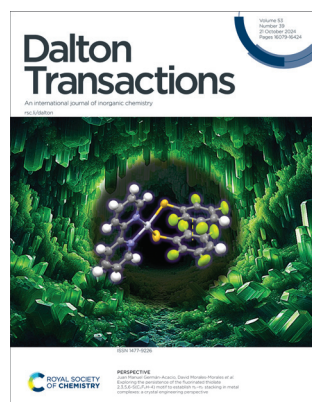
# Dalton Transactions

An international journal of inorganic chemistry incorporating Acta Chemica Scandinavica  
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## IN THIS ISSUE

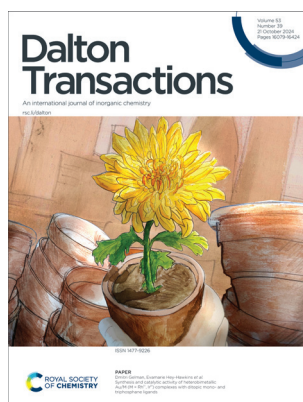
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### Cover

See Juan Manuel Germán-Acacio, David Morales-Morales *et al.*, pp. 16090–16127.

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### Inside cover

See Dmitri Gelman, Evamarie Hey-Hawkins *et al.*, pp. 16159–16169.

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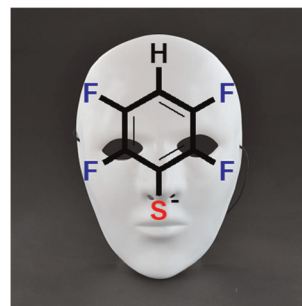
Acknowledgement: Artwork by Christoph Selg

## PERSPECTIVE

16090

### Exploring the persistence of the fluorinated thiolate 2,3,5,6-S(C<sub>6</sub>F<sub>4</sub>H-4) motif to establish $\pi_F-\pi_F$ stacking in metal complexes: a crystal engineering perspective

Everardo Jaime-Adán, Juan Manuel Germán-Acacio,\* José Carlos Páez-Franco, Victor H. Lara, Viviana Reyes-Marquez and David Morales-Morales\*

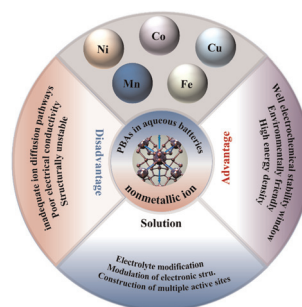


## FRONTIERS

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### Unlocking the structure and cation synergistic modulation of Prussian blue analogues with double redox mechanism for improved aqueous nonmetallic ion storage

Hao Fu, Lingqian Ye and Jun Yang\*



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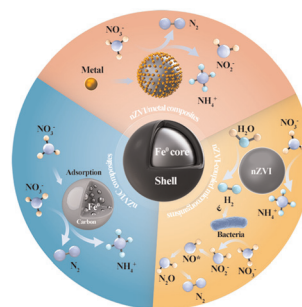
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## A critical review of nitrate reduction by nano zero-valent iron-based composites for enhancing N<sub>2</sub> selectivity

Yanyan Pei, Junlan Chen, Wei Cheng,  
Wenzhong Huang, Renyu Liu and Zhuwu Jiang\*

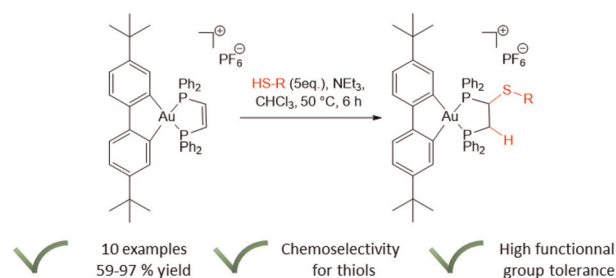


## COMMUNICATIONS

16144

## Post-metallation functionalization of the [(C<sup>∧</sup>C)Au(P<sup>∧</sup>P)]<sup>+</sup> scaffold through a hydrothiolation reaction

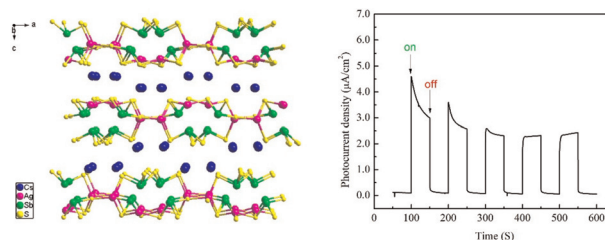
Jeannine Yang, Clément Soep, Jérémy Forté,  
Héloïse Dossmann and Benoît Bertrand\*



16149

## Syntheses, crystal structures and photocurrent responses of Cs<sub>2</sub>Ag<sub>2</sub>Sb<sub>2</sub>S<sub>5</sub> and CsAgSb<sub>4</sub>S<sub>7</sub> with thiourea as a mineralizer

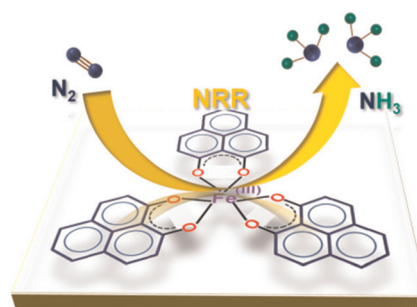
Yan Liu,\* Changyan Yu, Zhihe Xie, Ming Cao,  
Dongyuan Miao, Zhiwei Xue\* and Yanhua Li\*



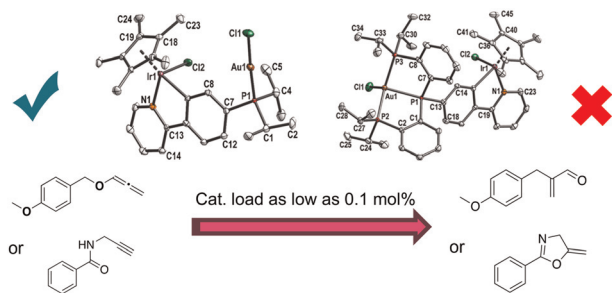
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## Electrocatalytic nitrogen reduction to ammonia at low potential using a phenalenyl-based iron(III) complex

Santosh R. Waghela, Ashadul Adalder,  
Jayeeta Bhattacharjee, Nilmadhab Mukherjee,  
Sourav Paul and Uttam Kumar Ghorai\*



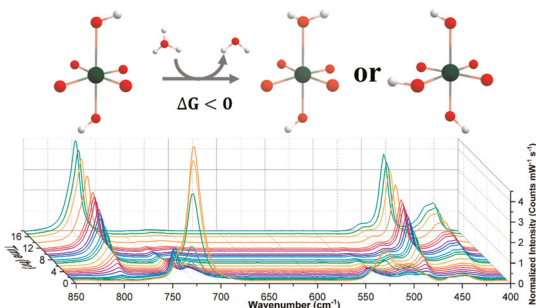
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### Synthesis and catalytic activity of heterobimetallic Au/M (M = Rh<sup>III</sup>, Ir<sup>III</sup>) complexes with ditopic mono- and triphosphane ligands

Ivana Predarska, Wieland Körber, Peter Lönnecke, Dmitri Gelman\* and Evamarie Hey-Hawkins\*

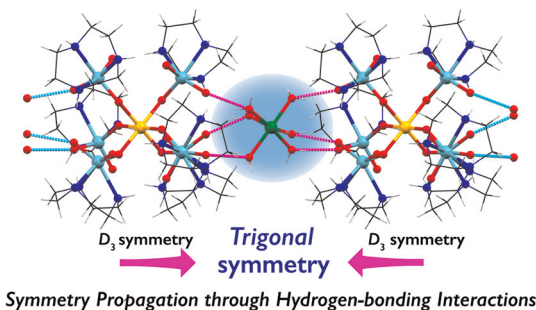
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### Probing the protonation and reduction of heptavalent neptunium with computational guidance

Grant C. Benthin, Harindu Rajapaksha, Emma L. Markun, Sara E. Mason\* and Tori Z. Forbes\*

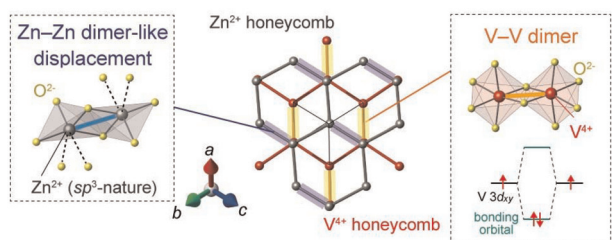
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### Controlling the symmetry of hexamondentate 3d-transition metal complexes through symmetry propagation from high-symmetry Ti–Mo and Zr–Mo clusters via hydrogen-bonding interactions

Ryoji Mitsuhashi,\* Yuya Imai, Sugiarto, Hiroshi Sakiyama, Yuji Kikukawa and Yoshihito Hayashi\*

16195



### ZnVO<sub>3</sub>: an ilmenite-type vanadium oxide hosting robust V–V dimers

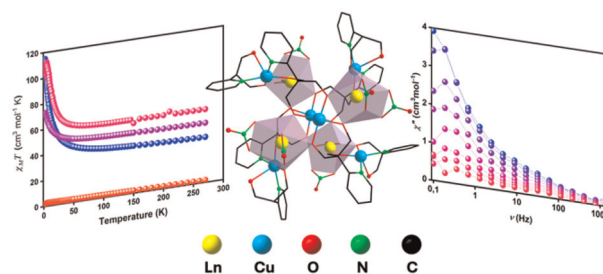
Hajime Yamamoto,\* Takumi Nishikubo, Shintaro Kobayashi, Kazuki Takahashi, Masaki Azuma, Shogo Kawaguchi and Tadashi Abukawa



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### A new family of heterometallic $[\text{Cu}_6\text{M}_4]$ ( $\text{M} = \text{Gd}$ , $\text{Tb}$ , $\text{Dy}$ and $\text{Y}$ ) clusters derived from the combined use of selected pyridyl poly-alcohol ligands

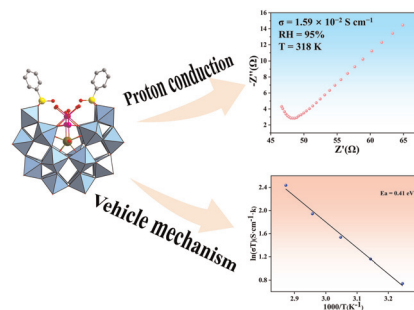
Antonis Anastassiades, Dimitris I. Alexandropoulos, Christian D. Buch, Stergios Piligkos\* and Anastasios J. Tasiopoulos\*



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### A Dawson-type $\{\text{P}_4\text{W}_{24}\}$ modified using phenylphosphonic acid with excellent proton conductivity

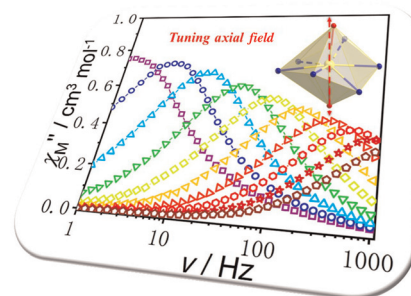
Jiayu Liu, Wenjing Lei, Shihao Zhang, Huafeng Li, Siyu Liu, Pengtao Ma, Jingping Wang\* and Jingyang Niu\*



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### Modulation of the magnetic properties of mononuclear $\text{Dy}(\text{III})$ complexes by tuning the coordination geometry and local symmetry

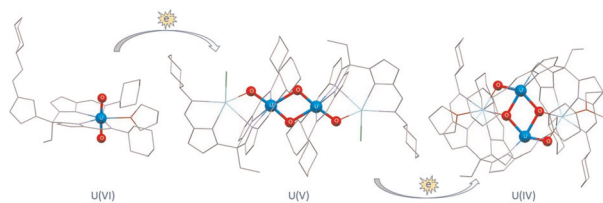
Xuejuan Zhou, Huiliang Qin, Zhaopeng Zeng, Shuchang Luo,\* Tao Yang, Peipei Cen\* and Xiangyu Liu\*



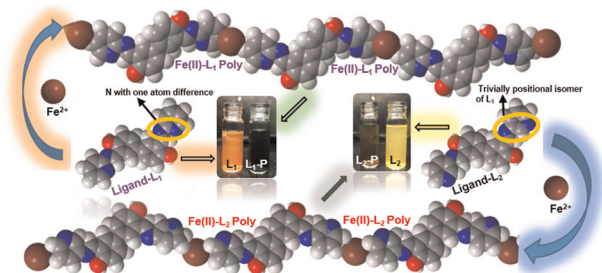
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### Controlled and sequential single-electron reduction of the uranyl dication

Tom J. N. Obey, Gary S. Nichol and Jason B. Love\*



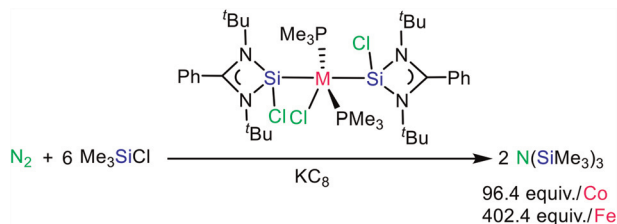
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### Trivial positional isomerism in ligands triggering different properties in Fe(II)-metallopolymers; design, synthesis, and characterization

Shubham Bawa, Anil Kumar, Gaurav Kumar Nim, Jayanta Bera, Samaresh Ghosh, Satyajit Sahu, Prasenjit Kar and Anasuya Bandyopadhyay\*

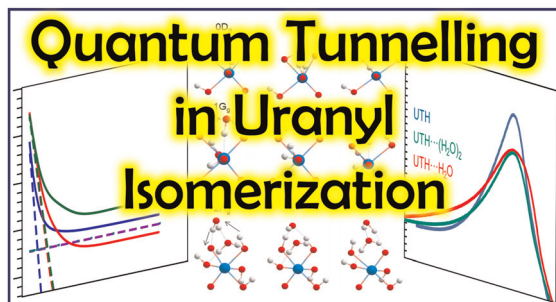
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### Dinitrogen silylation catalyzed by silylene cobalt(I) and silylene iron(I) chlorides

Qingqing Fan, Qingshuang Li, Hongjian Sun and Xiaoyan Li\*

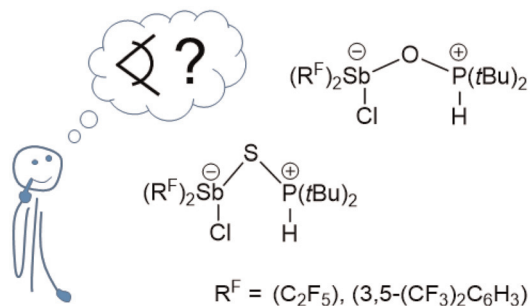
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### Quantum tunnelling effect in the *cis*-*trans* isomerization of uranyl tetrahydroxide

Yeshayahu Ben-Eliyahu\* and Sebastian Kozuch\*

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### Adducts of Lewis acidic stibanes with phosphane chalcogenides

Jonas Krief, Hannah Koch, Beate Neumann, Hans-Georg Stammer, Jan-Hendrik Lamm, Andreas Mix and Norbert W. Mitzel\*

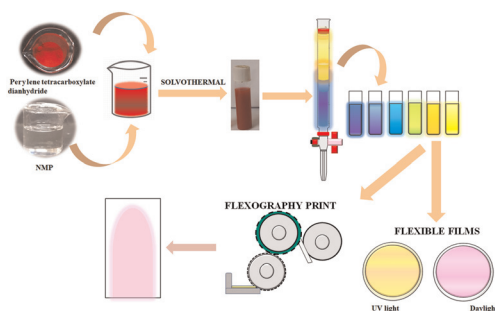


## PAPERS

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### Yellow emissive and high fluorescence quantum yield carbon dots from perylene-3,4,9,10-tetracarboxylic dianhydride for anticounterfeiting applications

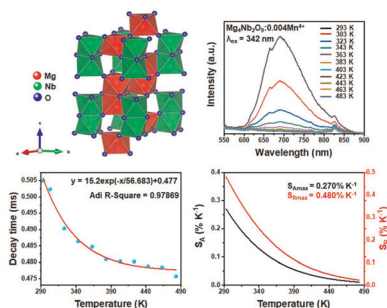
Namratha Ullal, Bibekananda Sahoo, Dhanya Sunil,\*  
Suresh D. Kulkarni, Udaya Bhat K. and Anand P. J.



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### Mn<sup>4+</sup>-doped rare-earth-free Mg<sub>4</sub>Nb<sub>2</sub>O<sub>9</sub> phosphors for optical temperature sensing

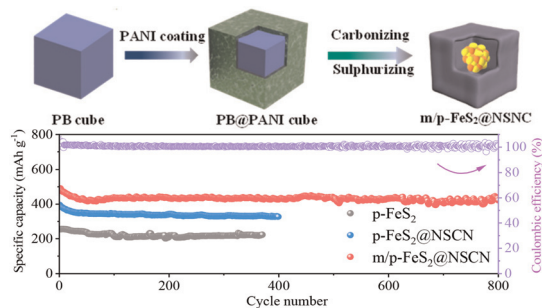
Weiwei Xiang and Jae Su Yu\*



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Jie Wang, Jinwen Qin,\* Minxia Jiang, Yixin Wang,  
Baifeng Yang\* and Minhua Cao\*



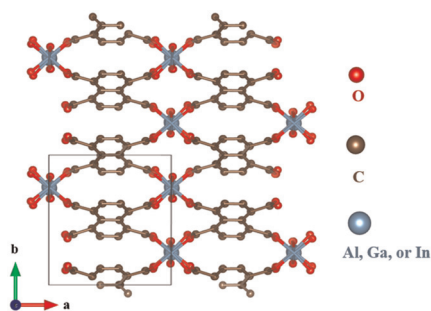
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### Platinum(II) bis(arylacetyl) complexes bearing diarylamino-substituted bipyridine ligands for solution-processable phosphorescent OLED applications

Wai-Yeung Wong,\* Zheng Xie, Qiwei Wang, Lu Jiang,  
Junlong Li, Baohua Zhang, Xiuyu Yi, Zhiyuan Xie\* and  
Jianzhang Zhao



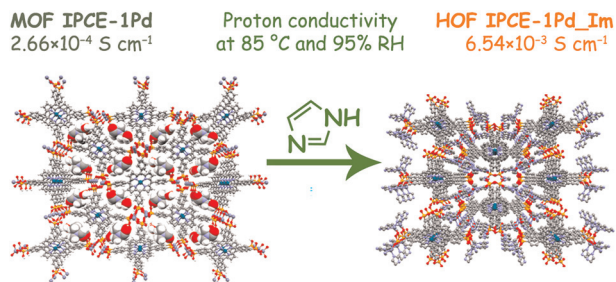
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### Compositional dependence of uniaxial zero thermal expansion and zero linear compressibility in metal–organic framework MIL-122 (Al, Ga, In)

Lei Wang,\* Ying Chen and Cong Wang

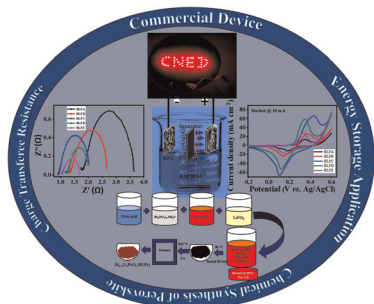
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### An unexpected imidazole-induced porphyrinylphosphonate-based MOF-to-HOF structural transformation leading to the enhancement of proton conductivity

Ekaterina A. Zhigileva, Yulia Yu. Enakieva,\* Vladimir V. Chernyshev,\* Ivan N. Senchikhin, Liudmila I. Demina, Alexander G. Martynov, Irina A. Stenina, Andrey B. Yaroslavtsev, Yulia G. Gorbunova and Aslan Yu. Tsvadze

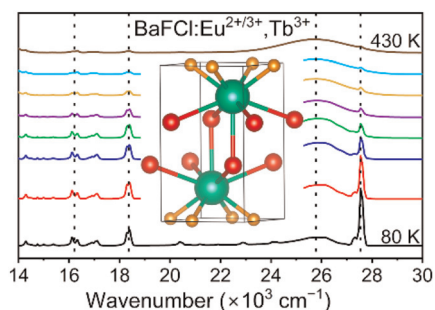
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### A simple but efficient Li-doping approach for enhancing supercapacitor performance of the BiFeO<sub>3</sub> perovskite nanostructures

Yaser A. Al-Hasani, Tariq M. Al-Hejri, Vijaykumar V. Jadhav\* and Rajaram S. Mane\*

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### Luminescence of nanocrystalline BaFCl codoped with Eu<sup>2+/3+</sup> and Tb<sup>3+</sup>

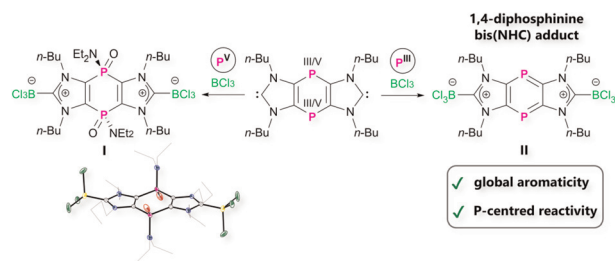
Nishani T. Manamperi, Sachini W. Sivirathne, Alyssa M. Erlenbeck, S. Sameera Perera and Federico A. Rabuffetti\*



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### Synthesis of P-bridged, planar bis(NHC) $\text{BCl}_3$ adducts

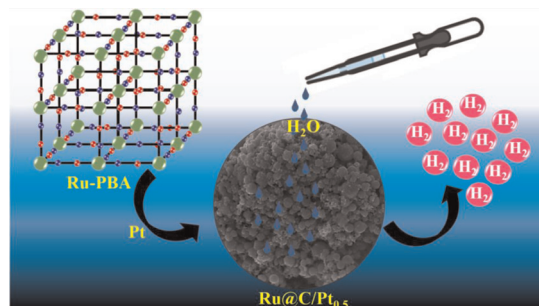
Tatjana Terschüren, Gregor Schnakenburg and Rainer Streubel\*



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### Ru Prussian blue analogue-derived Ru nanoparticles composited with a trace amount of Pt as an efficacious electrocatalyst for the hydrogen evolution reaction

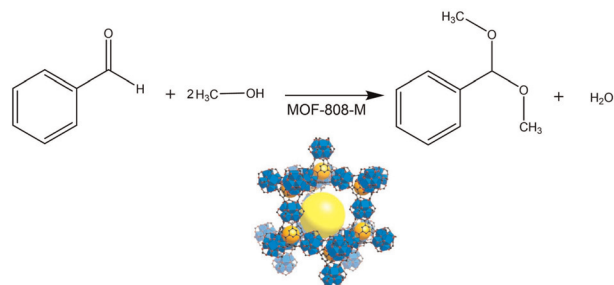
Manisha Sadangi, Chandrima Chakravarty, Joydeep Bhattacharjee\* and J. N. Behera\*



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### Catalytic evaluation of MOF-808 with metallic centers of Zr(IV), Hf(IV) and Ce(IV) in the acetalization of benzaldehyde with methanol

Yazmín Arellano, César Pazo, Vanesa Roa, Yoan Hidalgo-Rosa, Ximena Zarate, Jaime Llanos, Nestor Escalona and Eduardo Schott\*



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### Sonohydrothermal synthesis of zeolite A and its phase transformation into sodalite

William's Nzodom Djozing, Sabine Valange, Sergey I. Nikitenko and Tony Chave\*

