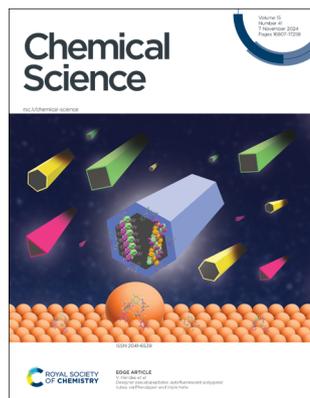


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ISSN 2041-6539 CODEN CSHCBM 15(41) 16807–17258 (2024)



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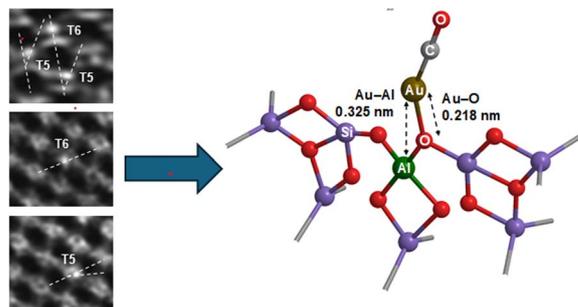
**Inside cover**  
See Matthew J. Fuchter, Xiaohong Zhang, Eli Zysman-Colman *et al.*, pp. 16917–16927. Image reproduced by permission of Eli Zysman-Colman from *Chem. Sci.*, 2024, **15**, 16917. Image created by Ettore Crovini.

## PERSPECTIVE

16821

### Mononuclear metal complex catalysts on supports: foundations in organometallic and surface chemistry and insights into structure, reactivity, and catalysis

Bruce C. Gates

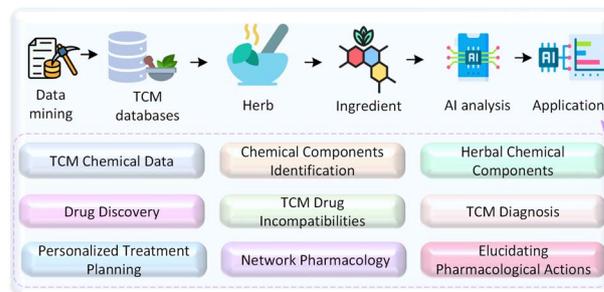


## REVIEWS

16844

### AI empowering traditional Chinese medicine?

Zhilin Song, Guanxing Chen and Calvin Yu-Chian Chen\*



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# EES Batteries

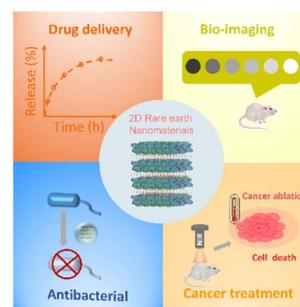
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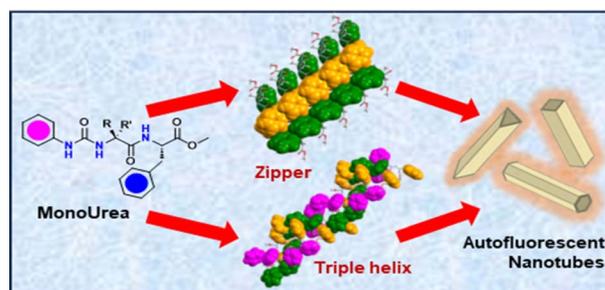
## REVIEWS

16887

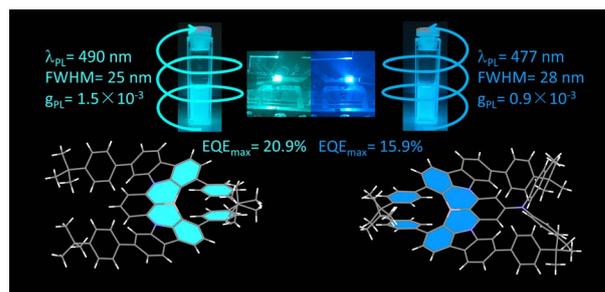
**Two-dimensional nanomaterials based on rare earth elements for biomedical applications**Mingjun Bai, Hao Wan,<sup>\*</sup> Ying Zhang, Siqi Chen, Chunyin Lu, Xiaohu Liu,<sup>\*</sup> Gen Chen, Ning Zhang and Renzhi Ma<sup>\*</sup>

## EDGE ARTICLES

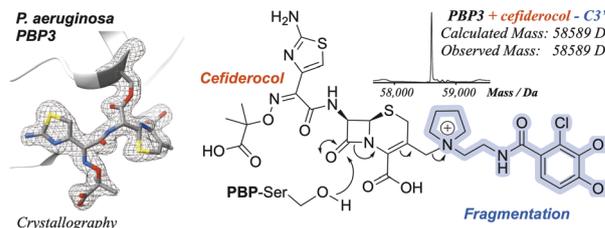
16908

**Designer pseudopeptides: autofluorescent polygonal tubes via Phe-zipper and triple helix**V. Haridas,<sup>\*</sup> Govind P. Maurya and Souvik Dutta

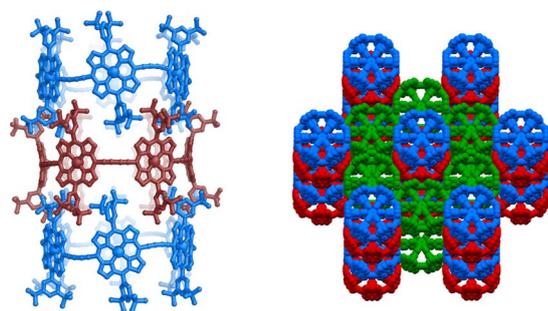
16917

**Helically chiral multiresonant thermally activated delayed fluorescent emitters and their use in hyperfluorescent organic light-emitting diodes**Jingxiang Wang, Dongyang Chen, Juan Manuel Moreno-Naranjo, Francesco Zinna, Lucas Frédéric, David B. Cordes, Aidan P. McKay, Matthew J. Fuchter,<sup>\*</sup> Xiaohong Zhang<sup>\*</sup> and Eli Zysman-Colman<sup>\*</sup>

16928

**Structural basis of *Pseudomonas aeruginosa* penicillin binding protein 3 inhibition by the siderophore-antibiotic cefiderocol**Helen G. Smith, Shyam Basak, Victor Aniebok, Matthew J. Beech, Faisal M. Alshref, Mark D. Allen, Alistair J. M. Farley and Christopher J. Schofield<sup>\*</sup>

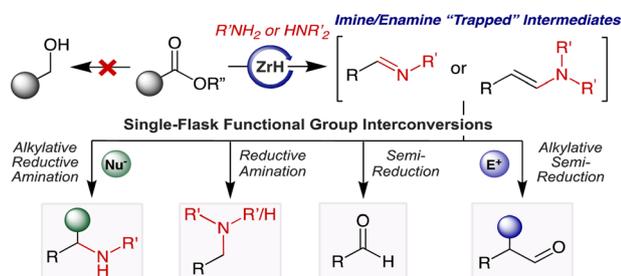
16938



### Polymorphism and flexibility of six-porphyrin nanorings in the solid state

Wojciech Stawski\* and Harry L. Anderson\*

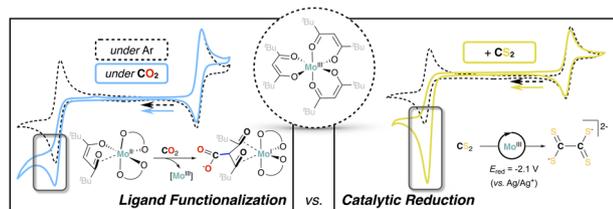
16947



### Direct conversion of esters to imines/enamines and applications to polyester waste upcycling

Rebecca A. Kehner, Weiheng Huang and Liela Bayeh-Romero\*

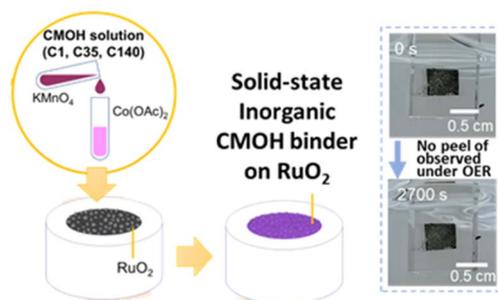
16954



### Chemical and redox non-innocence in low-valent molybdenum $\beta$ diketonate complexes: novel pathways for $\text{CO}_2$ and $\text{CS}_2$ activation

Fabio Masero and Victor Mougel\*

16966



### A robust inorganic binder against corrosion and peel-off stress in electrocatalysis

Joey Andrew A. Valinton, Meng-Yu Lin, Cheng-Han Tsai, Cheng-Te Tsai, Ming-Jia Chiu, Cheng-chau Chiu\* and Chun-Hu Chen\*



16977

**Making an inverted Keggin ion lacunary**

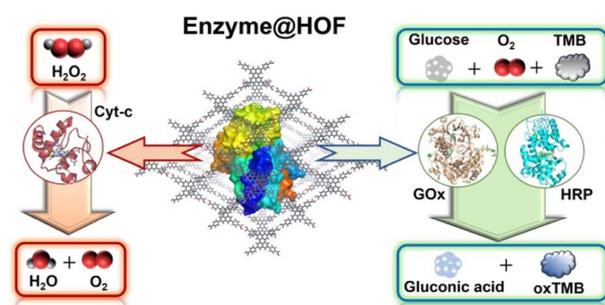
Lu-Lu Liu, Zi-Yu Xu, Peng Yi, Chao-Qin Chen, Zhong-Ling Lang\* and Peng Yang\*



16987

**Facile and scale-up syntheses of high-performance enzyme@meso-HOF biocatalysts**

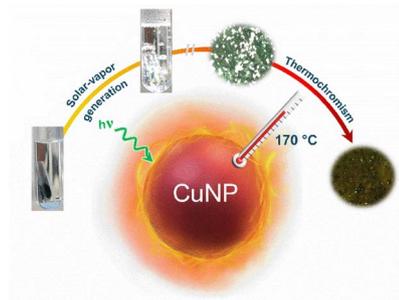
Zhengyi Di, Yu Qi, Xin-Xin Yu, Hai-Ruo Li, Meng-Xuan Zuo, Tian-Tian Ren, Cheng-Peng Li\* and Yanli Zhao\*



16997

**Plasmon-powered chemistry with visible-light active copper nanoparticles**

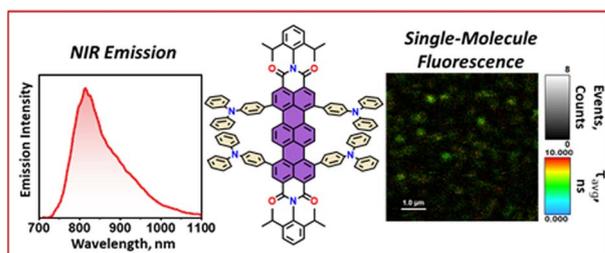
Shreya Tyagi, Radha Krishna Kashyap, Ankit Dhankhar and Pramod P. Pillai\*



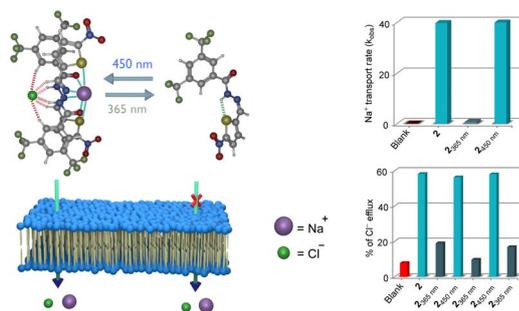
17007

**Single-molecule detection of a terylenediimide-based near-infrared emitter**

Suvarna Sujilkumar, Philip Daniel Maret, Kavya Vinod, Athira T. John and Mahesh Hariharan\*



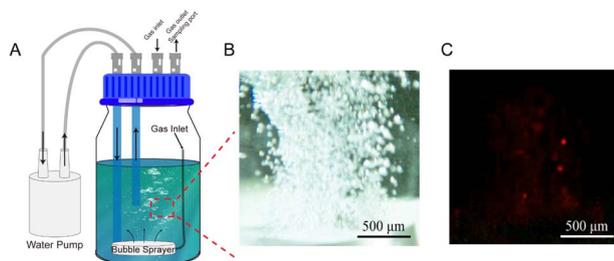
17017



### Acylhydrazone-based reversibly photoswitchable ion pair transporter with OFF-ON cotransport activity

Sandip Chattopadhyay, Paras Wanjari and Pinaki Talukdar\*

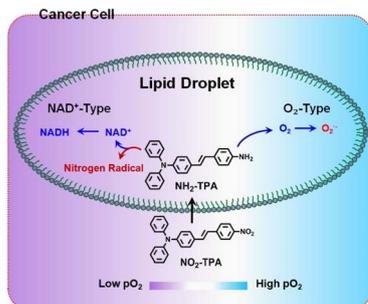
17026



### Methane C(sp<sup>3</sup>)-H bond activation by water microbubbles

Juan Li, Jinheng Xu, Qingyuan Song, Xinxing Zhang,\* Yu Xia\* and Richard N. Zare\*

17032



### Tumor oxygen microenvironment-tailored electron transfer-type photosensitizers for precise cancer therapy

Yiting Yang, Yafu Wang, Yang Liu, Kui Wang, Ge Wang, Yonggang Yang, Won Jun Jang, Tony D. James, Juyoung Yoon\* and Hua Zhang\*

17041



### Dynamic handedness inversion of self-organized helical superstructures enabled by novel thermally stable light-driven chiral hydrazone switches

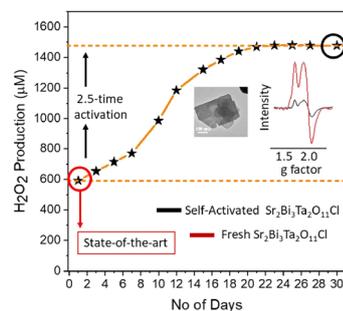
Jingyu Chen, Zichen Wang, Yuexin Yu, Jun Huang, Xinyu Chen, Tongji Du, Xinyue Song, Haiyang Yuan, Shuai Zhou, Xiang-Guo Hu, Xingping Zeng, Shengliang Zhong\* and Ruochen Lan\*



17049

### A surface reconstruction route for increasingly improved photocatalytic H<sub>2</sub>O<sub>2</sub> production using Sr<sub>2</sub>Bi<sub>3</sub>Ta<sub>2</sub>O<sub>11</sub>Cl

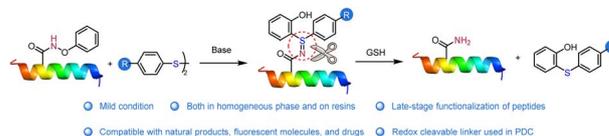
Maqsuma Banoo, Arjun Kumar Sah, Raj Sekhar Roy, Komalpreet Kaur, Bramhaiah Kommula, Dirtha Sanyal and Ujjal K. Gautam\*



17058

### Intermolecular sulfur atom transfer cascade enabled late-stage introduction of sulfilimines into peptides

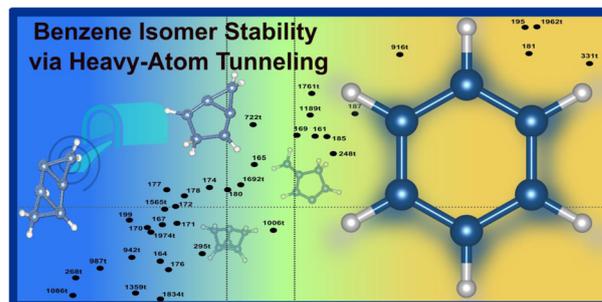
Zeyuan He, Yuyang Liu, Guangjun Bao, Yiping Li, Xiufang Zhao, Quan Zuo, Kai Li, Wangsheng Sun\* and Rui Wang



17064

### Heavy-atom tunnelling in benzene isomers: how many tricyclic species are truly stable?

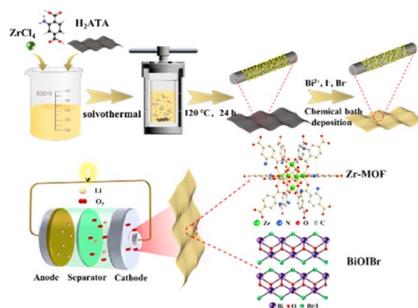
Sindy Julieth Rodríguez\* and Sebastian Kozuch\*



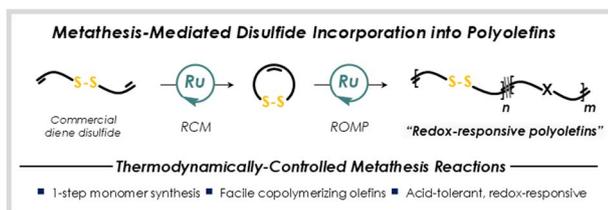
17073

### Promoting oxygen electrode reaction kinetics in photo-assisted Li–O<sub>2</sub> batteries through heterostructure design and built-in electric field construction

Yinglei Tao, Tao Wang,\* Xingyu Yu, Ke Gong, Hao Gong, Haixia Chen, Xiaoli Fan, Aidi Zhang, Xianli Huang, Kun Chang and Jianping He



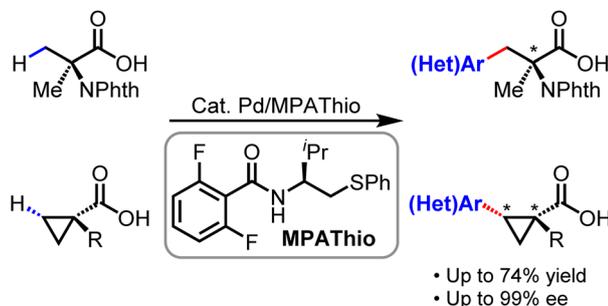
17084



### Degradable polyolefins prepared by integration of disulfides into metathesis polymerizations with 3,6-dihydro-1,2-dithiine

Hong-Gyu Seong, Thomas P. Russell and Todd Emrick\*

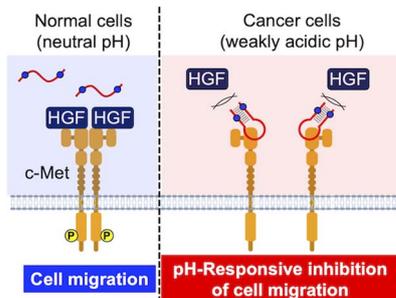
17092



### Synthesis of chiral $\alpha$ -amino acids via Pd(II)-catalyzed enantioselective C–H arylation of $\alpha$ -aminoisobutyric acid

Zi-Yu Zhang, Tao Zhang, Yuxin Ouyang, Peng Lu, Jennifer X. Qiao and Jin-Quan Yu\*

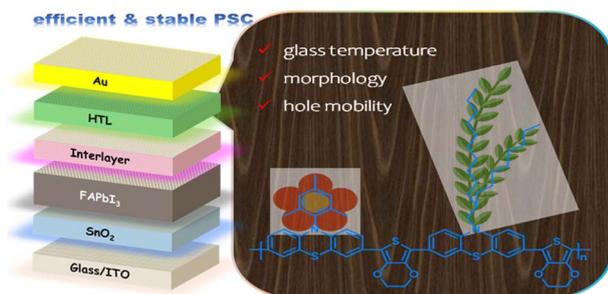
17097



### Selective inhibition of cancer cell migration using a pH-responsive nucleobase-modified DNA aptamer

Yuyuan Chen, Kunihiko Morihiro,\* Yui Nemoto, Akito Ichimura, Ryosuke Ueki, Shinsuke Sando and Akimitsu Okamoto\*

17103



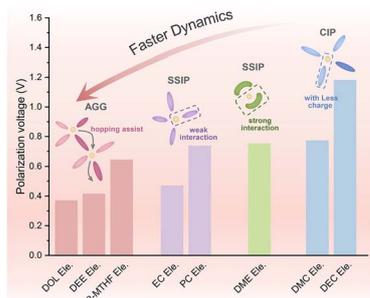
### An alternating copolymer of phenothiazine and ethylenedioxythiophene for perovskite solar cells: effects of flexible and rigid substituent alternation

Bing Zhang, Yaohang Cai, Lifei He, Niansheng Xu,\* Yi Yuan, Jing Zhang, Yuyan Zhang\* and Peng Wang\*





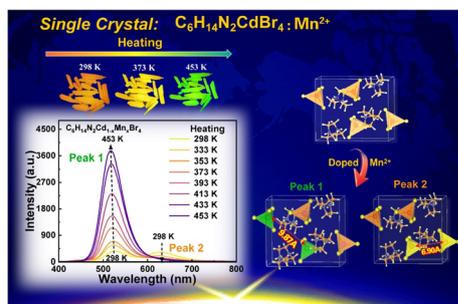
17161



### Solvation structure dependent ion transport and desolvation mechanism for fast-charging Li-ion batteries

Zhenyu Fan, Jingwei Zhang, Lanqing Wu, Huaqing Yu, Jia Li, Kun Li and Qing Zhao\*

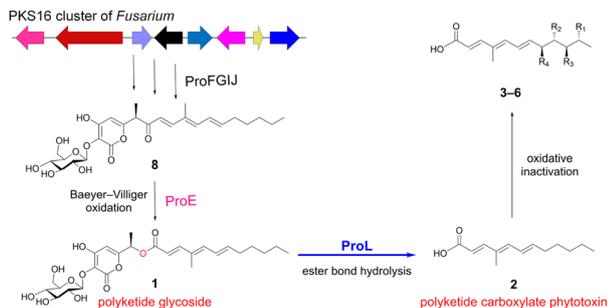
17173



### Dual-emissive luminescence in OIHMH single crystals: tunable red-green emissions via Mn<sup>2+</sup> doping and theoretical insights

Qianrong Jin, Rui Wu, Yuexiao Pan,\* Yihong Ding, Hongzhou Lian, Jun Lin\* and Liyi Li\*

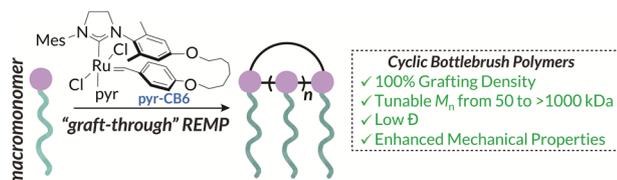
17183



### Discovery of a polyketide carboxylate phytotoxin from a polyketide glycoside hybrid by $\beta$ -glucosidase mediated ester bond hydrolysis

Xin Wang, De-Kun Kong, Hua-Ran Zhang and Yi Zou\*

17193



### A general synthesis of cyclic bottlebrush polymers with enhanced mechanical properties via graft-through ring expansion metathesis polymerization

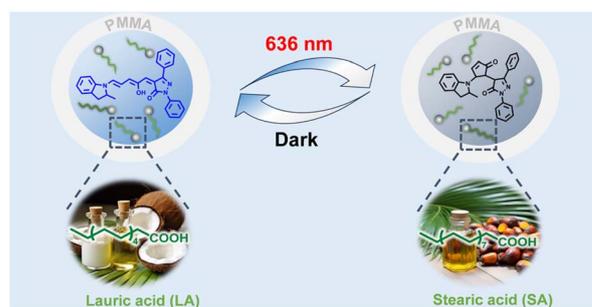
Matthew J. Elardo, Adelaide M. Levenson, Ana Paula Kitos Vasconcelos, Meredith N. Pomfret and Matthew R. Golder\*



17200

### A DASA displaying highly efficient and rapid reversible isomerization within sustainable nano/micro capsules: one step closer to sustainability

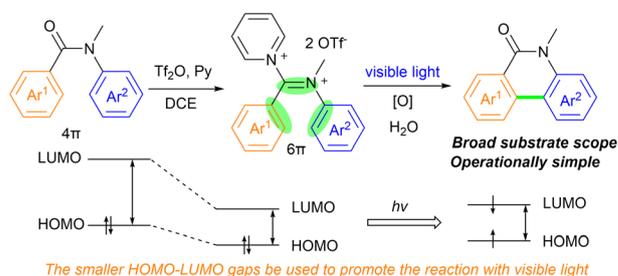
Baoshuo Liu, Xinnian Fan, Hao Ma, Yutong Xie, Haojun Fan, Qiang Yan and Jun Xiang\*



17210

### Visible light-induced Mallory reaction of tertiary benzanilides via iminium intermediates

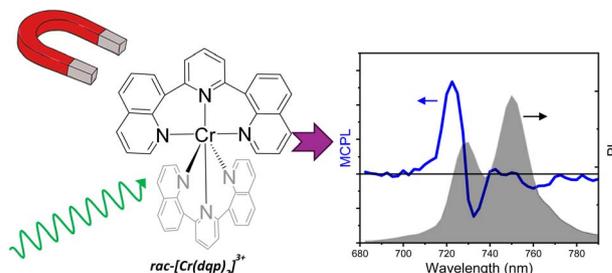
Xiaoqiang Ma, Si Wang, Zhanyong Tang, Jialin Huang, Tianhao Jia, Xingda Zhao and Depeng Zhao\*



17217

### Magnetic circularly polarized luminescence from spin-flip transitions in a molecular ruby

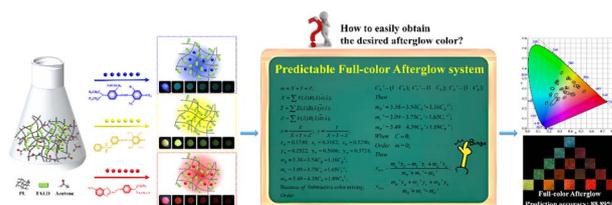
Alessio Gabbani, Maxime Poncet, Gennaro Pescitelli, Laura Carbonaro, J. Krzystek, Enrique Colacio, Claude Piguet, Francesco Pineider, Lorenzo Di Bari, Juan-Ramón Jiménez\* and Francesco Zinna\*



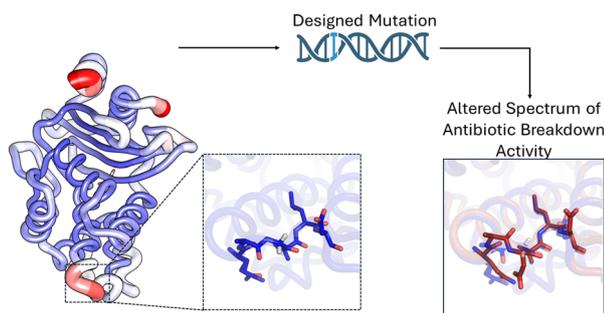
17224

### Simplifying complexity: integrating color science for predictable full-color and on-demand persistent luminescence using industrial disperse dyes

Guowei Xiao, Xiaoyan Wang, Xiaoyu Fang, Jinmei Du, Yang Jiang, Dagang Miao, Dongpeng Yan\* and Changhai Xu\*



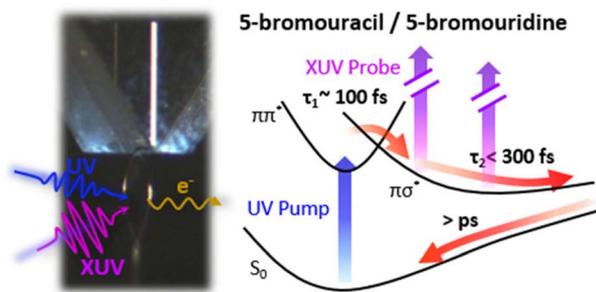
17232



### Dynamical responses predict a distal site that modulates activity in an antibiotic resistance enzyme

Michael Beer, Ana Sofia F. Oliveira, Catherine L. Tooke, Philip Hinchliffe, Angie Tsz Yan Li, Balazs Balega, James Spencer\* and Adrian J. Mulholland\*

17245



### Dynamics of photoexcited 5-bromouracil and 5-bromo-2'-deoxyuridine studied by extreme ultraviolet time-resolved photoelectron spectroscopy in liquid flat jets

Do Hyung Kang, Masafumi Koga, Neal Haldar and Daniel M. Neumark\*

