

# ChemComm

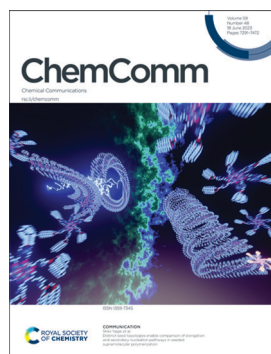
Chemical Communications

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## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 59(48) 7291-7472 (2023)



### Cover

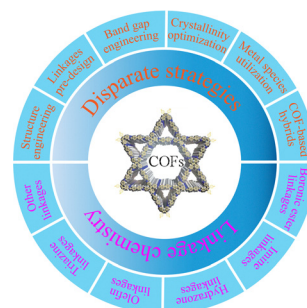
See Shiki Yagai *et al.*,  
pp. 7375-7378.  
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from *Chem. Commun.*,  
2023, 59, 7375.

## HIGHLIGHT

7302

### Recent advances on covalent organic frameworks (COFs) as photocatalysts: different strategies for enhancing hydrogen generation

Chang-Cheng Gu, Feng-Hua Xu,\* Wei-Kang Zhu, Run-Juan Wu, Lu Deng, Jun Zou, Bai-Cheng Weng\* and Ri-Long Zhu\*

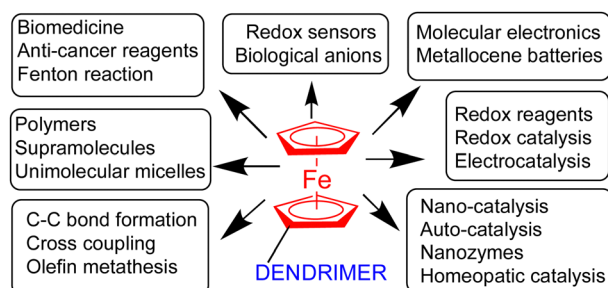


## FEATURE ARTICLES

7321

### From sandwich complexes to dendrimers: journey toward applications to sensing, molecular electronics, materials science, and biomedicine

Didier Astruc



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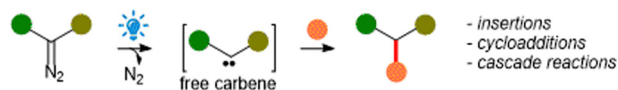


## FEATURE ARTICLES

7346

## Visible light-mediated photolysis of organic molecules: the case study of diazo compounds

Rafael D. C. Gallo, Guilherme Cariello, Tales A. C. Goulart and Igor D. Jurberg\*



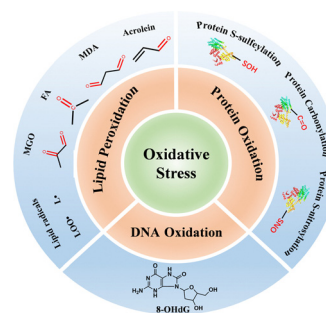
## Unlocking free carbenes using visible light:

- mild reaction conditions
- straightforward, simple reaction set-ups
- broad scope

7361

## Recent progress of oxidative stress associated biomarker detection

Jingjing Li, Limeng Pan, Wei Pan, Na Li\* and Bo Tang\*

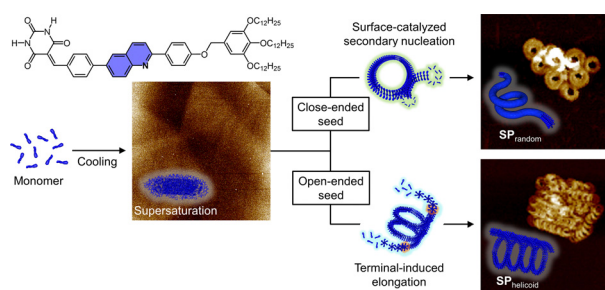


## COMMUNICATIONS

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## Distinct seed topologies enable comparison of elongation and secondary nucleation pathways in seeded supramolecular polymerization

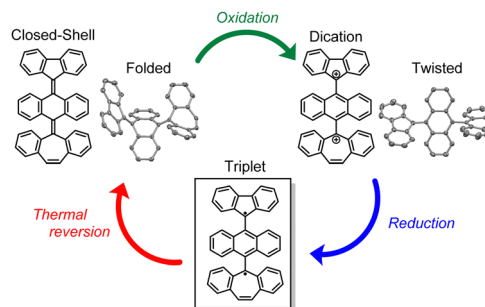
Hiroki Itabashi, Keigo Tashiro, Shumpei Koshikawa, Sougata Datta and Shiki Yagai\*



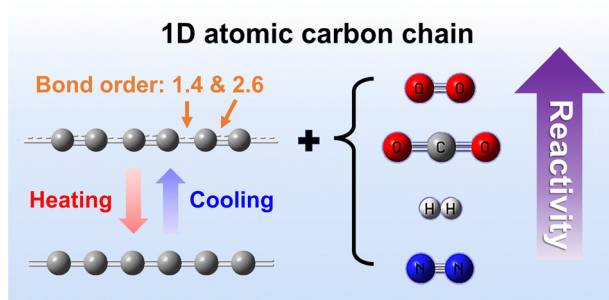
7379

## Synthesis and structural evaluation of closed-shell folded and open-shell twisted hexabenz[5.6.7]quinarene

Tomohiko Nishiuchi,\* Kazuyuki Uchida and Takashi Kubo\*



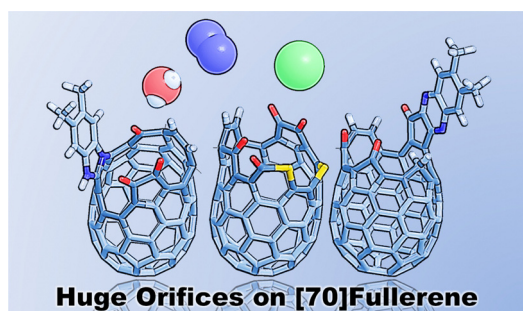
7383



### Structural transition and chemical reactivity of atomic carbon chains

Siyuan Fang, Xiao Tong, Dario Stacchiola and Yun Hang Hu\*

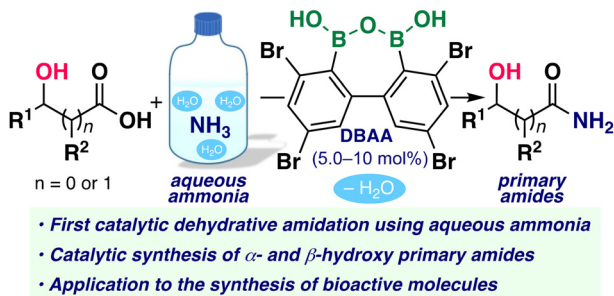
7387



### Synthesis of open-[70]fullerenes bearing huge orifices

Yoshifumi Hashikawa, Shumpei Sadai and Yasujiro Murata\*

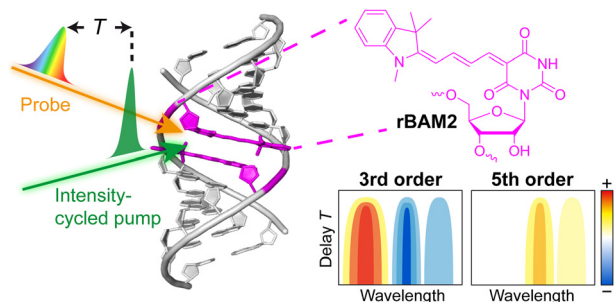
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### Catalytic dehydrative amide bond formation using aqueous ammonia: synthesis of primary amides utilizing diboronic acid anhydride catalysis

Naoya Takahashi, Hinata Iwasawa, Tatsuhito Kinashi, Kazuishi Makino and Naoyuki Shimada\*

7395



### Excitonic coupling of RNA-templated merocyanine dimer studied by higher-order transient absorption spectroscopy

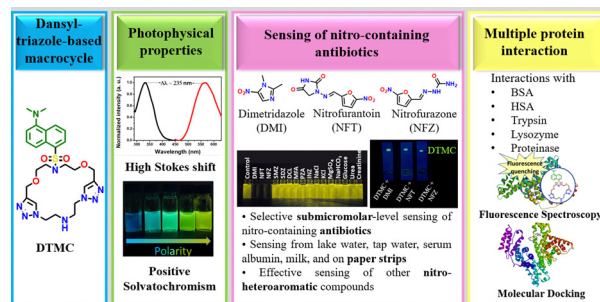
Julia Dietzsch, Ajay Jayachandran, Stefan Mueller, Claudia Höbartner\* and Tobias Brixner\*



7399

### Dansyl-triazole-based fluorescent macrocycle for selective detection of nitro-antibiotic drugs and protein interaction

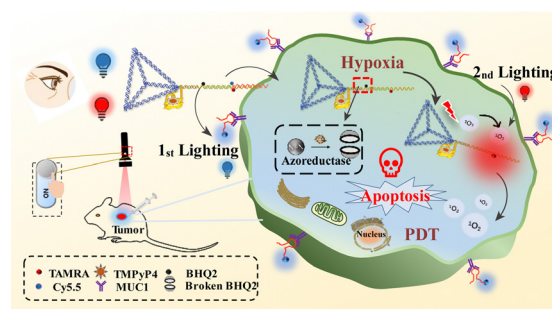
Liya Thurakkal, Rakhi Mol K. M. and Mintu Porel\*



7403

### A two-step lighting DNA tetrahedral nanoprobe for precise imaging-guided photodynamic therapy of tumors

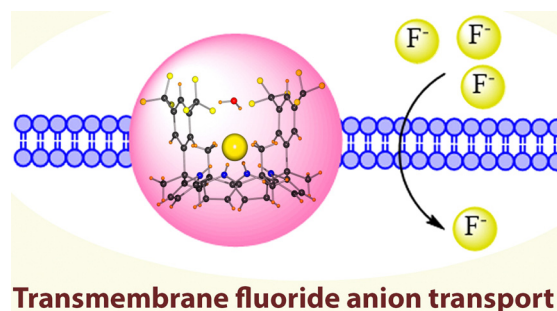
Fan Wu, Yuancheng Li, Lijuan Wang, Can Peng, Youhui Zeng, Jinfeng Yang,\* Huijun Zhou\* and Jing Zheng\*



7407

### Transmembrane fluoride anion transport by meso-3,5-bis(trifluoromethyl)phenyl picket calix[4]pyrrole

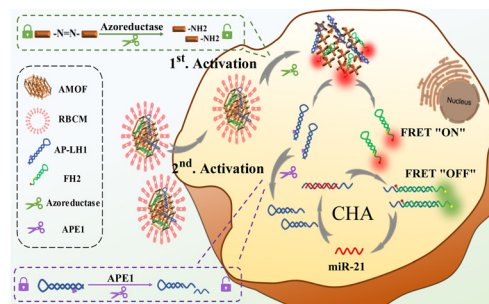
Ashoke Kumar Patra, Soumya Srimayee, Dibakar Halder, Anik Roy, Souvik Mukherjee, Somenath Kundu, Maidul Hossain,\* Rajat Saha,\* Chang-Hee Lee,\* Debasis Manna\* and Indrajit Saha\*



7411

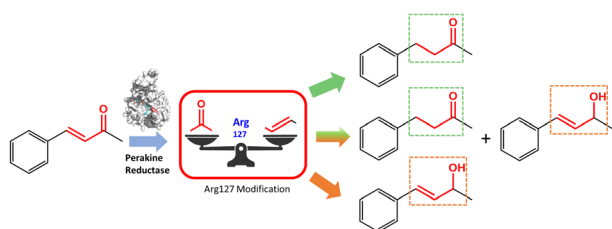
### An azoreductase activatable, endonuclease-gated nanodevice for spatiotemporal amplification imaging of microRNA-21 in hypoxic tumor cells

Can Peng, Fan Wu, Youhui Zeng, Bo Liu,\* Ruiying Peng and Jing Zheng\*



## COMMUNICATIONS

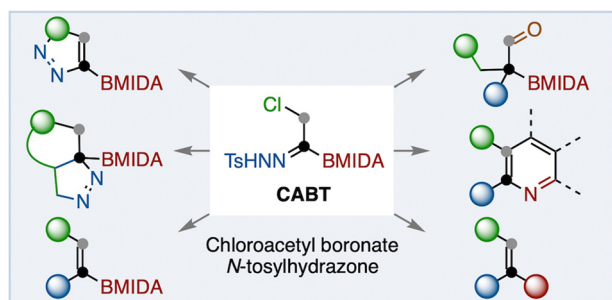
7415



### Switching the chemoselectivity of perakine reductase for selective reduction of $\alpha,\beta$ -unsaturated ketones by Arg127 mutation

Zehao Zhang, Yun Zhou, Hong Zhao, Yihang Wu\* and Lianli Sun\*

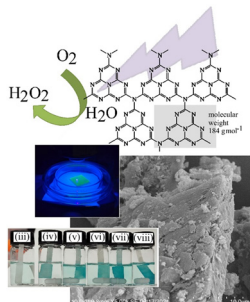
7419



### Chloroacetyl boronate *N*-tosylhydrazone as a versatile synthetic building block

Ryuya Miyazaki, Kei Muto\* and Junichiro Yamaguchi\*

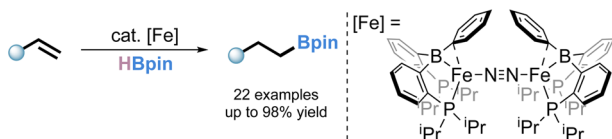
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### Nanophase-photocatalysis: loading, storing, and release of H<sub>2</sub>O<sub>2</sub> using graphitic carbon nitride

Akalya Karunakaran, Katie J. Francis, Chris R. Bowen, Richard J. Ball, Yuanzhu Zhao, Lina Wang, Neil B. McKeown, Mariolino Carta, Philip J. Fletcher, Remi Castaing, Mark A. Isaacs, Laurence J. Hardwick, Gema Cabello, Igor V. Sazanovich and Frank Marken\*

7427



### Olefin hydroboration catalyzed by an iron-borane complex

Laura A. Grose and Darren Willcox\*

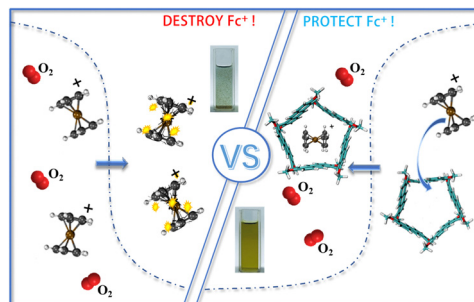


## COMMUNICATIONS

7431

**Complexation with pagoda[n]arene ( $n = 4, 5$ ) protects ferrocenium from oxidation**

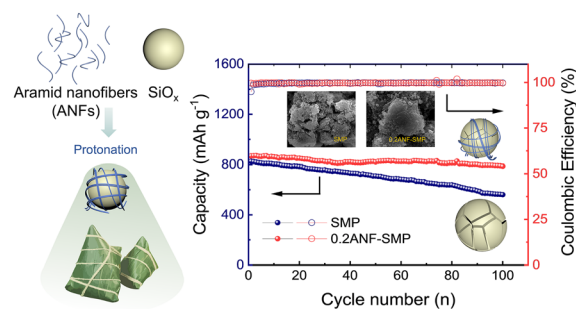
Gui-Hua Chen, Yi-Meng Duan, Ying Li, Xiao-Ni Han, Kun-Peng Wang,\* Zhi-Qiang Hu\* and Chuan-Feng Chen\*



7435

**Reducing volume expansion in micro silicon anodes via aramid nanofibers for stable lithium-ion batteries**

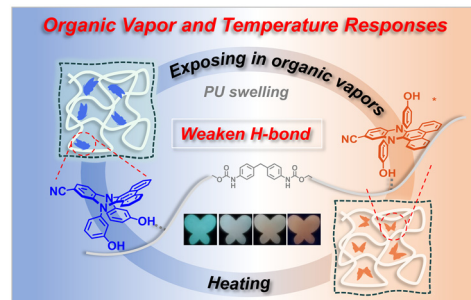
Qingqing Liu, Wei Tang, Chen Yang, Wenlong Cai,\* Feng Chen\* and Qiang Fu



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**H-bond interaction traps vibrating fluorophore in polyurethane matrix for bifunctional environmental monitoring**

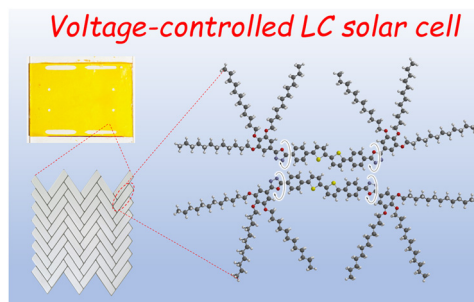
Wen Li, Mengyuan Qiao, Ziyu Chen, Xin Jin, Yonghao Su, Xuanying Chen, Lifang Guo,\* Zhiyun Zhang\* and Jianhua Su



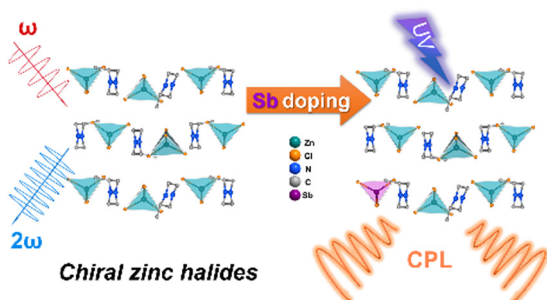
7443

**Highly luminescent and photoconductive columnar liquid crystals with a thiophene-oxadiazole backbone**

Konstantin Iakoubovskii\* and Masafumi Yoshio\*



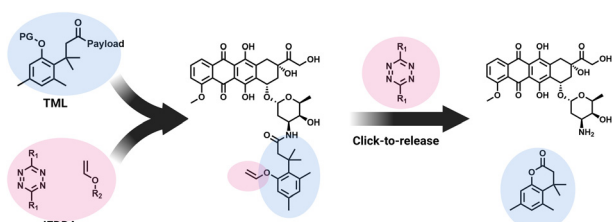
7447



### Circularly polarized luminescence and nonlinear optical harmonic generation based on chiral zinc halides

Xiao Han, Puxin Cheng, Wenqing Han, Rongchao Shi, Junjie Guan, Geng Li and Jialiang Xu\*

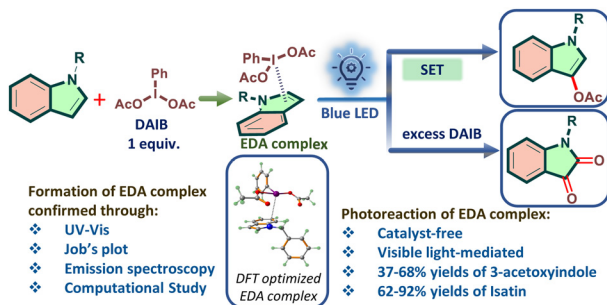
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### Tetrazine-induced activation of a trimethyl lock as a click-to-release system for protected doxorubicin

Julia Friederich, Chunfa Xu, Patrick Raunft, Hazel L. S. Fuchs and Mark Brönstrup\*

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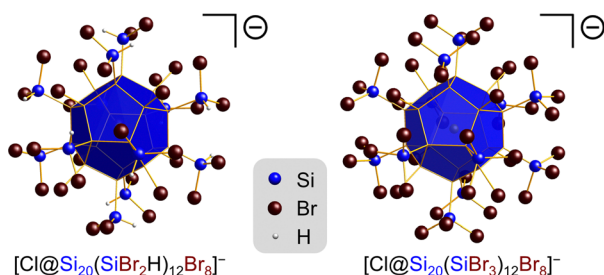


### Visible-light driven acetoxylation and dioxygenation of indoles via electron donor-acceptor complexes

Aditya Paul, Arunava Sengupta and Somnath Yadav\*

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### Br-Substituted Silafullerenes



### Brominated [20]silafullerenes: pushing the limits of steric loading

Marcel Bamberg, Thomas Gasevic, Michael Bolte, Alexander Virovets, Hans-Wolfram Lerner, Stefan Grimme, Markus Bursch and Matthias Wagner\*

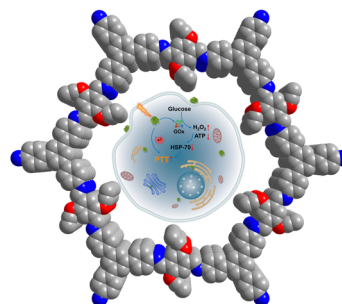




7463

### A covalent organic framework-based nanoreactor for enhanced photothermal therapy *via* inhibiting intracellular heat defense systems

Yan-An Li,\* Jing-Jing Wan, Wen-Yan Li, Qun Guan and Yu-Bin Dong\*



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### Heteroannulation of bicyclobutane derivatives *via* Au-catalyzed hydration to enol ethers and intramolecular cyclization giving spirocyclobutanes

Masaharu Takatsuki, Hiroshi Aoyama, Kenichi Murai, Mitsuhiro Arisawa\* and Makoto Sako\*

