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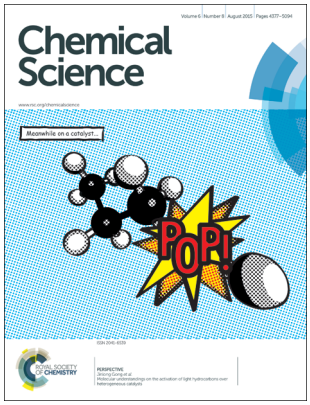
IN THIS ISSUE

ISSN 2041-6539 CODEN CSHCBM 6(8) 4377–5094 (2015)



Cover
See Jinlong Gong *et al.*, pp. 4403–4425.
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Inside cover
See Jean-François Nierengarten, Dirk M. Guldi, Enrique Ortí, Nazario Martín *et al.*, pp. 4426–4432.
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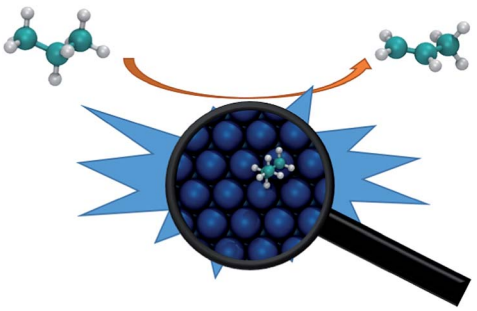
PERSPECTIVE



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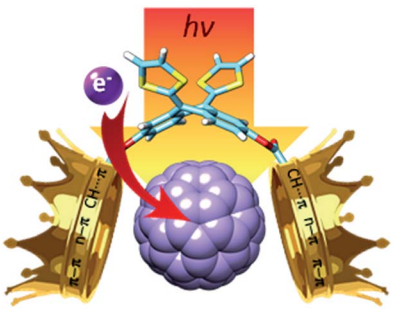

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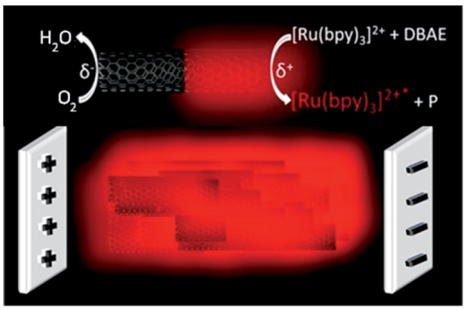

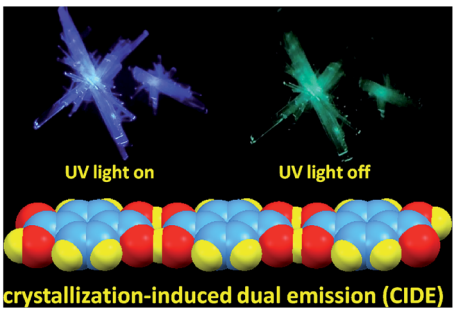

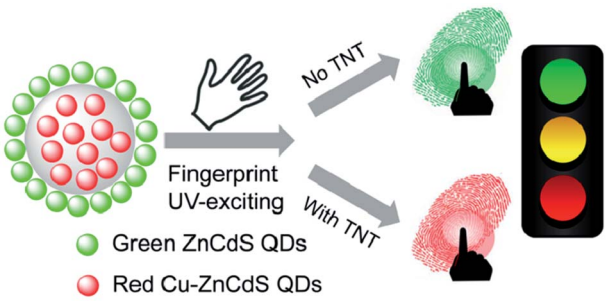

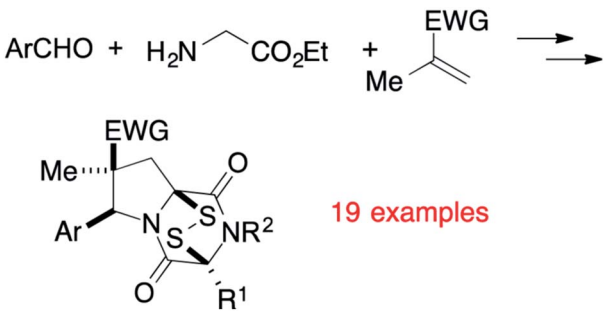

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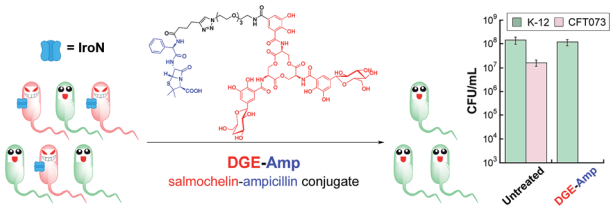
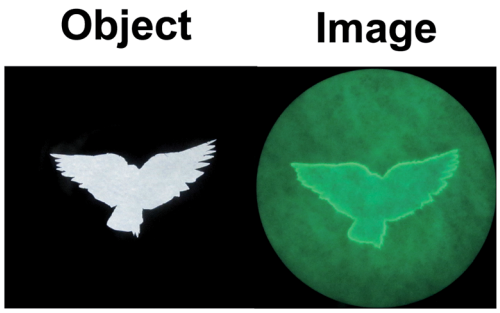


Targeting virulence: salmochelin modification tunes the antibacterial activity spectrum of β-lactams for pathogen-selective killing of *Escherichia coli*

Phoom Chairatana, Tengfei Zheng and Elizabeth M. Nolan*

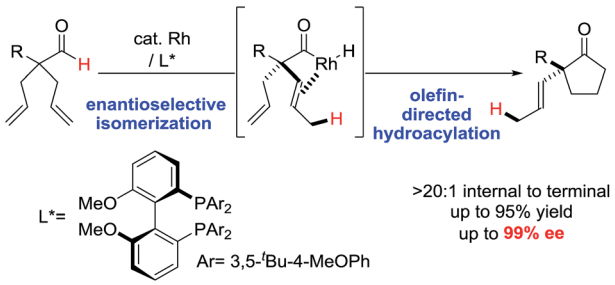
New antibiotics are required to treat bacterial infections and counteract the emergence of antibiotic resistance.



Small molecular logic systems can draw the outlines of objects *via* edge visualization

Jue Ling, Gaowa Naren, Jessica Kelly, David B. Fox and A. Prasanna de Silva

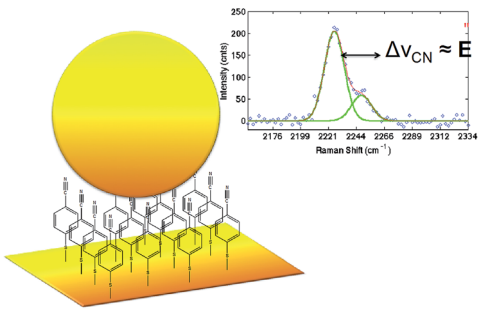
Like a child with a crayon, logical molecules produce outline drawings from a template.



Rh-catalyzed desymmetrization of α-quaternary centers by isomerization-hydroacylation

Jung-Woo Park, Kevin G. M. Kou, Daniel K. Kim and Vy M. Dong*

A Rh-catalyzed desymmetrization of α,α-bis(allyl)aldehydes occurs by enantioselective isomerization followed by olefin-directed hydroacylation.



Alkyl-nitrile adlayers as probes of plasmonically induced electric fields

Daniel T. Kwasnieski, Hao Wang and Zachary D. Schultz*

Adsorbed mercaptoalkylnitriles show Stark shifts on plasmonic surfaces that provide a direct measurement of the induced electric field.

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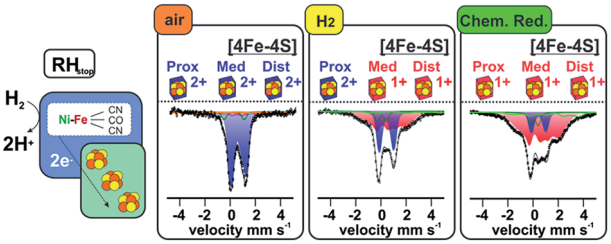
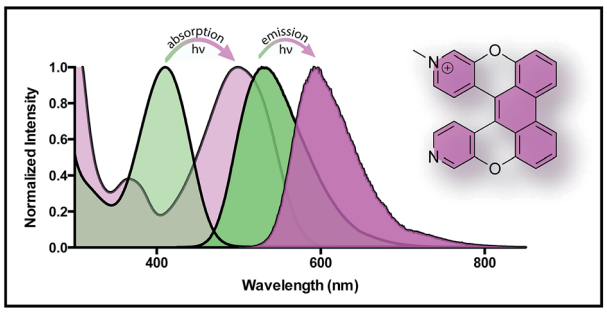
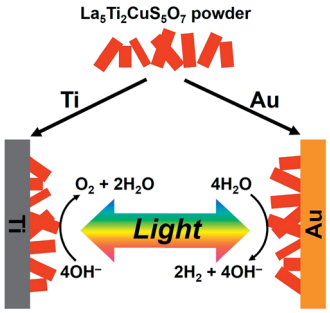
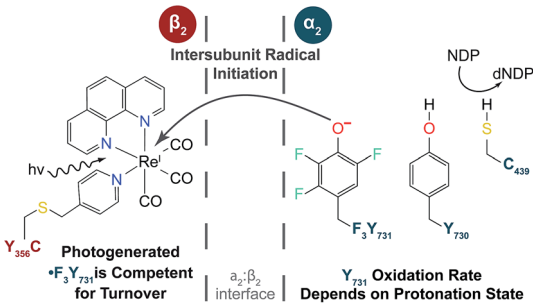
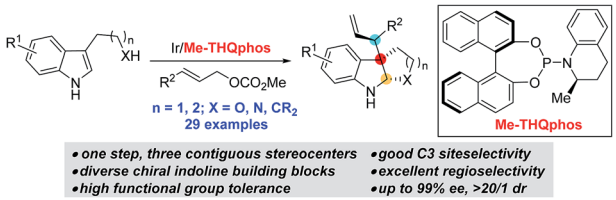






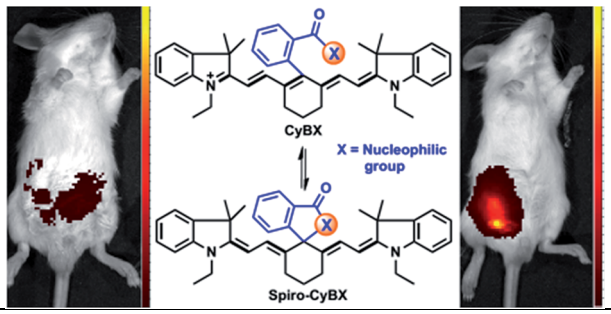




Ligand-enabled Ir-catalyzed intermolecular diastereoselective and enantioselective allylic alkylation of 3-substituted indoles

Xiao Zhang, Wen-Bo Liu, Hang-Fei Tu and Shu-Li You*

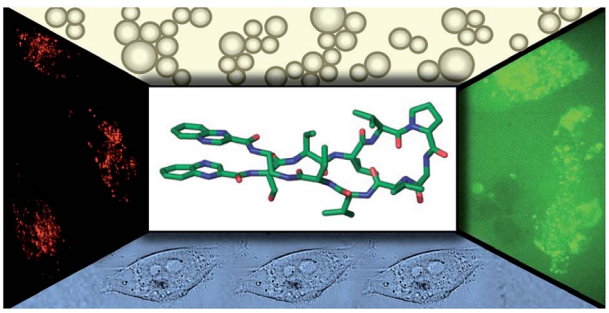
A ligand-enabled Ir-catalyzed diastereoselective and enantioselective allylic alkylation of 3-substituted indoles is reported, providing indoline products containing three contiguous stereocenters in one step with high site-, regio-, diastereo- and enantioselectivities from a wide range of readily available starting materials.



A simple and effective "capping" approach to readily tune the fluorescence of near-infrared cyanines

Longwei He, Weiying Lin,* Qiuyan Xu, Mingguang Ren, Haipeng Wei and Jian-Yong Wang

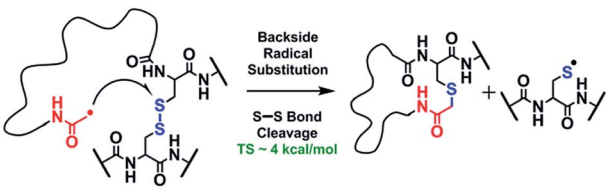
A simple and effective capping approach was introduced to readily tune the fluorescence of NIR cyanines.



A new quinoxaline-containing peptide induces apoptosis in cancer cells by autophagy modulation

Rubí Zamudio-Vázquez, Saška Ivanova, Miguel Moreno, Maria Isabel Hernandez-Alvarez, Ernest Giralt, Axel Bidon-Chanal, Antonio Zorzano,* Fernando Albericio* and Judit Tulla-Puche*

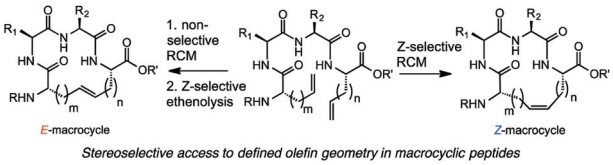
The most cytotoxic compound from a library of quinoxaline-containing peptides is endocyted into HeLa cells, accumulates in acidic compartments, and blocks autophagy by altering lysosomal function, leading to apoptosis activation.



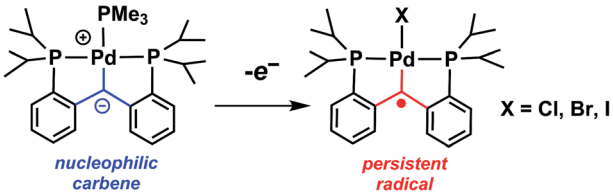
Mechanisms and energetics of free radical initiated disulfide bond cleavage in model peptides and insulin by mass spectrometry

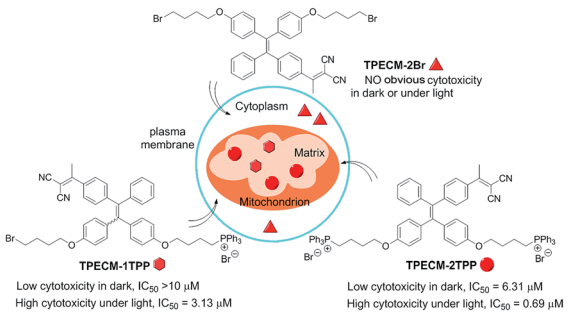
Chang Ho Sohn, Jinshan Gao, Daniel A. Thomas, Tae-Young Kim, William A. Goddard III and J. L. Beauchamp*

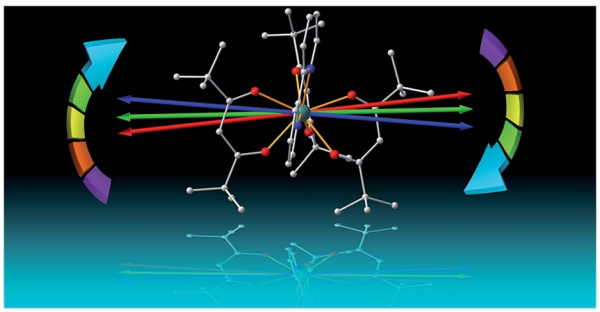
Direct radical substitution at sulfur initiates disulfide bond cleavage by hydrogen-deficient radicals in peptides and proteins.



Stereoselective access to defined olefin geometry in macrocyclic peptides







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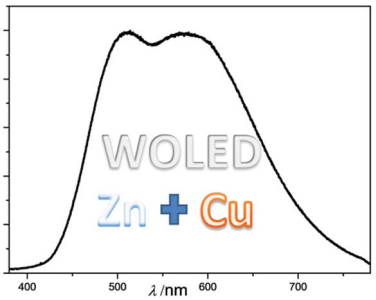

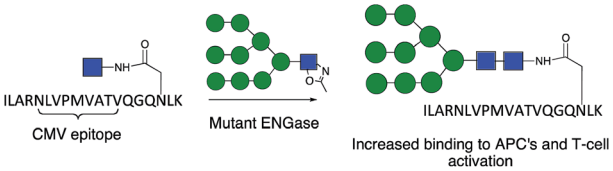

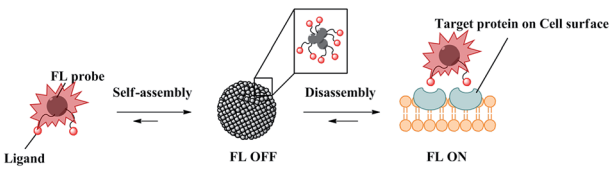

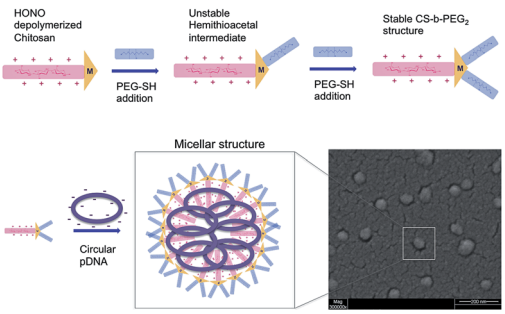

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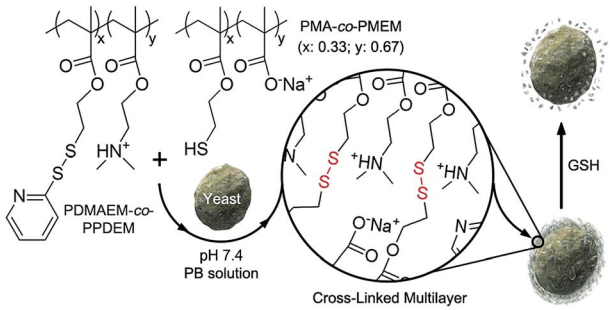

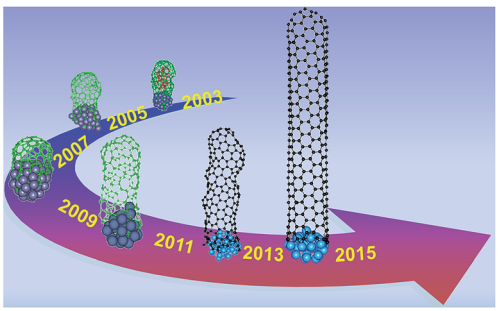

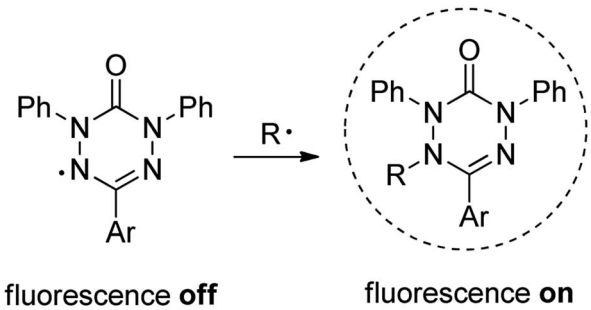

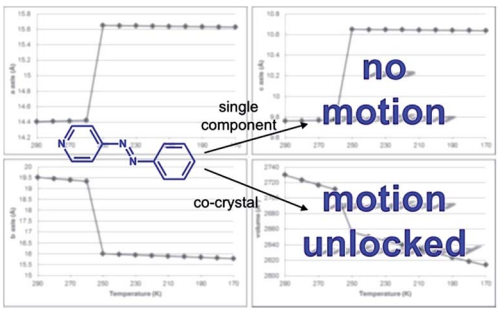

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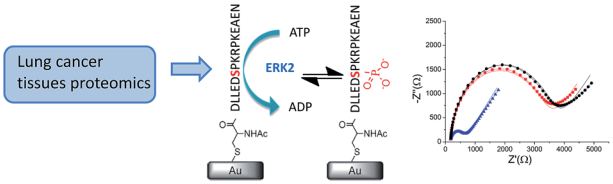

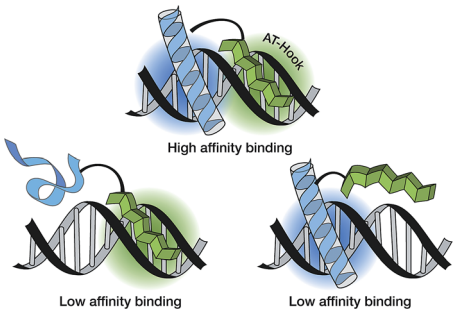

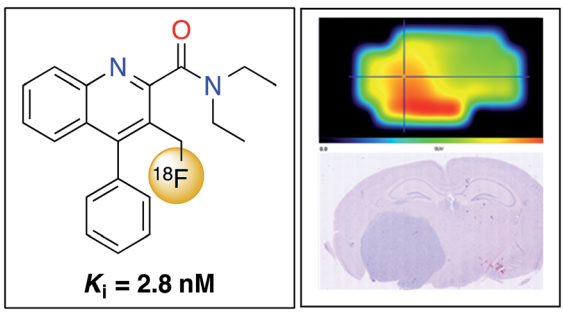

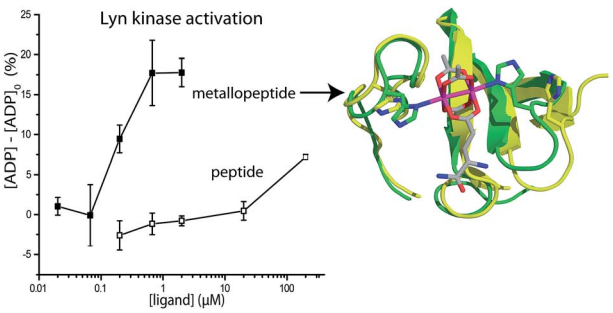

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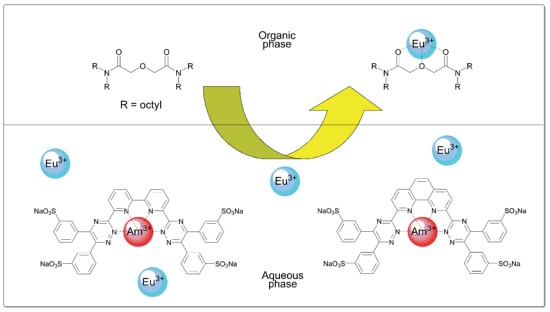

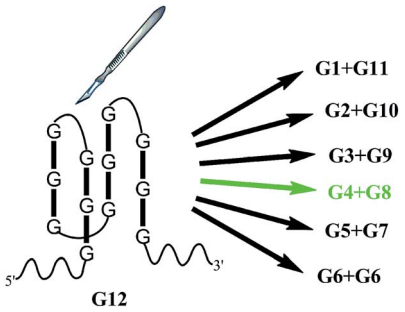

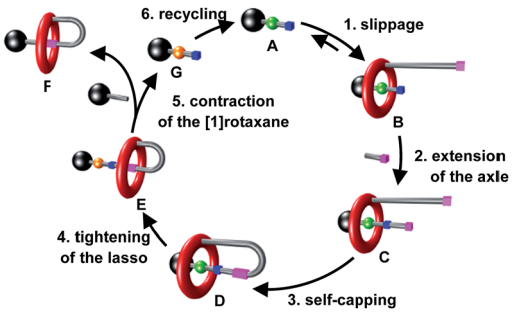

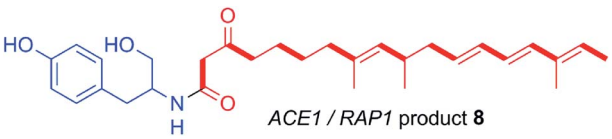

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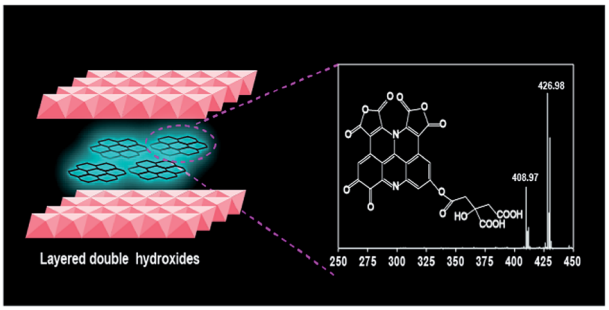
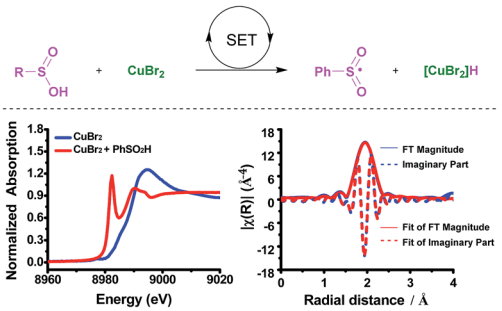


Structure observation of graphene quantum dots by single-layered formation in layered confinement space

Liqing Song, Jingjing Shi, Jun Lu and Chao Lu*

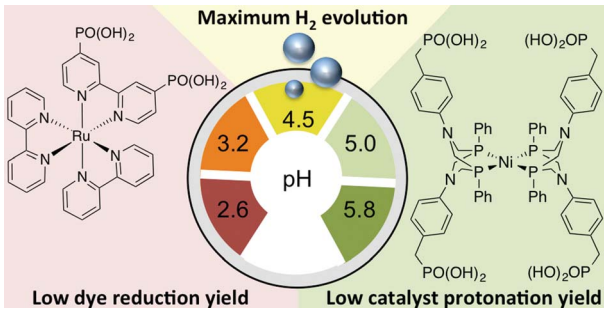
We observe the structure of single-layered graphene quantum dots prepared in the 2D confined space of layered double hydroxides.



Operando X-ray absorption and EPR evidence for a single electron redox process in copper catalysis

Qingquan Lu, Jian Zhang, Pan Peng, Guanghui Zhang, Zhiliang Huang, Hong Yi, Jeffrey T. Miller and Aiwen Lei*

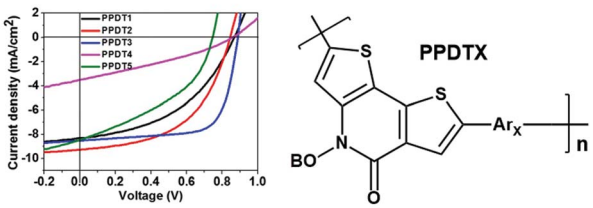
A single electron redox process between Cu(II) and a sulfinic acid, and characterization of the formed Cu(I) are clearly shown using *operando* X-ray absorption and EPR evidence.



Unravelling the pH-dependence of a molecular photocatalytic system for hydrogen production

Anna Reynal,* Ernest Pastor, Manuela A. Gross, Shababa Selim, Erwin Reisner* and James R. Durrant*

The electron-donating ability of the sacrificial agent and the protonation of the catalyst determine the optimum pH for hydrogen production.



Wide bandgap OPV polymers based on pyridinonedithiophene unit with efficiency >5%

Alexander M. Schneider, Luyao Lu, Eric F. Manley, Tianyue Zheng, Valerii Sharapov, Tao Xu, Tobin J. Marks, Lin X. Chen* and Luping Yu*

We report the properties of a new series of wide band gap photovoltaic polymers based on the *N*-alkyl 2-pyridone dithiophene (**PDT**) unit.

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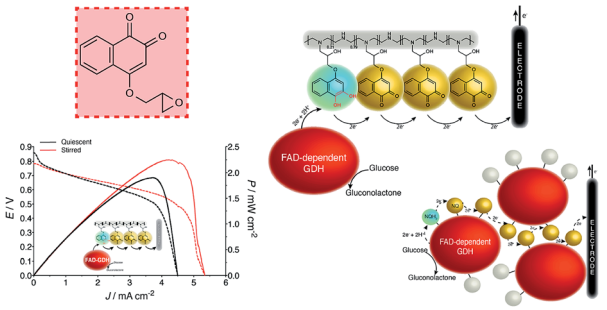

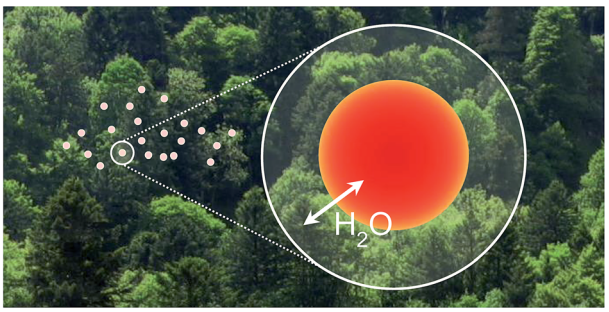

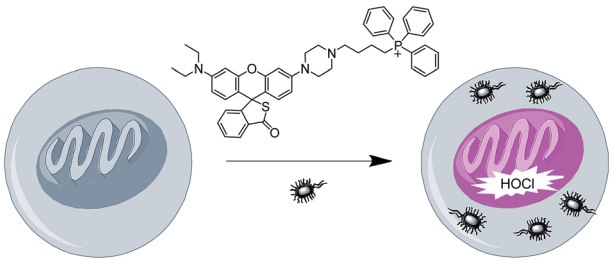

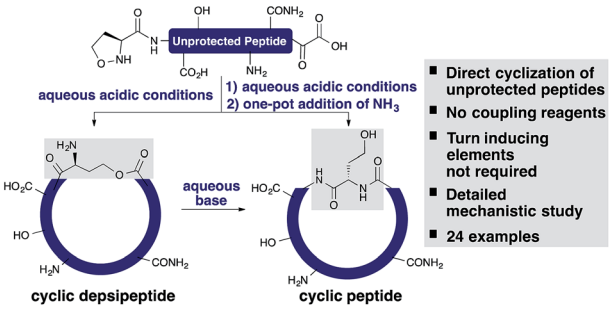

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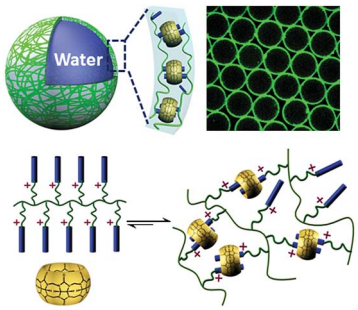

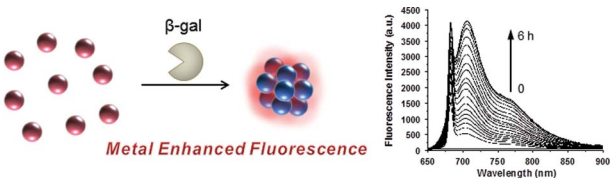

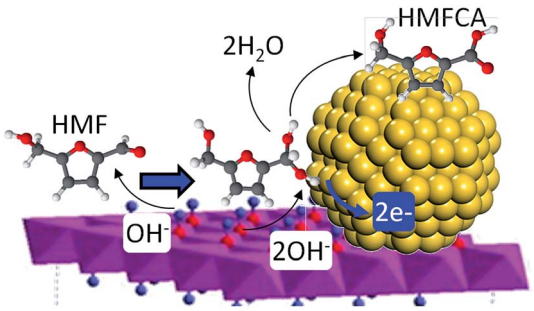

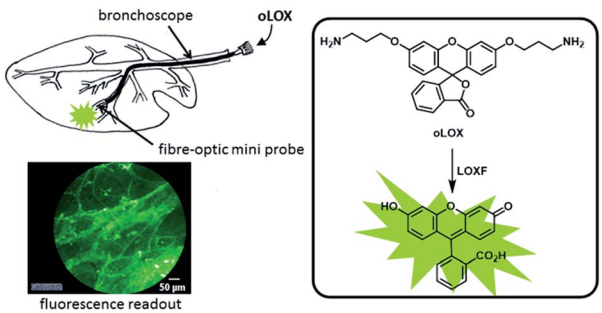

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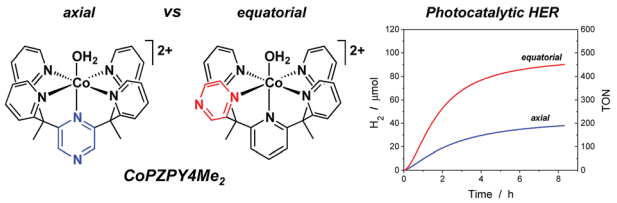
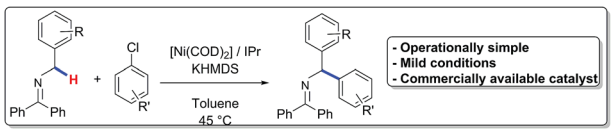


Bioinspired design of redox-active ligands for multielectron catalysis: effects of positioning pyrazine reservoirs on cobalt for electro- and photocatalytic generation of hydrogen from water

Jonah W. Jurss, Rony S. Khnayzer, Julien A. Panetier, Karim A. El Roz, Eva M. Nichols, Martin Head-Gordon,* Jeffrey R. Long,* Felix N. Castellano* and Christopher J. Chang*

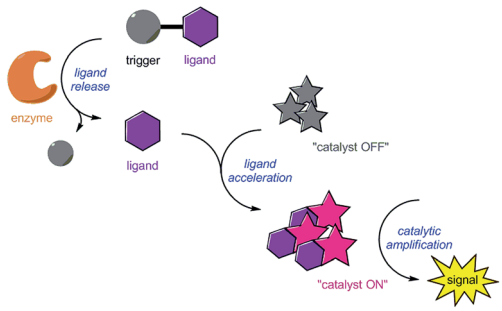
We report the effects of installing redox-active pyrazines at distinct positions in a series of isostructural Co catalysts.



Synthesis of (diarylmethyl)amines using Ni-catalyzed arylation of C(sp^3)–H bonds

José A. Fernández-Salas, Enrico Marelli and Steven P. Nolan*

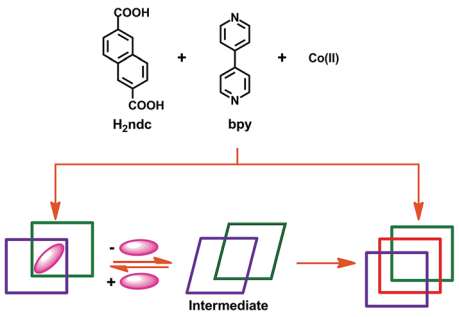
The first nickel catalyzed deprotonative cross coupling between C(sp^3)–H bonds and aryl chlorides is reported, allowing the challenging arylation of benzylimines in the absence of directing group or stoichiometric metal activation.



Signal transduction and amplification through enzyme-triggered ligand release and accelerated catalysis

Sean Goggins, Barrie J. Marsh, Anneke T. Lubben and Christopher G. Frost*

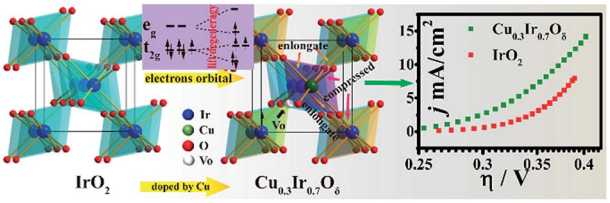
An enzyme-triggered catalytic signal amplification cascade is described through the design of a novel enzyme substrate that selectively activates an organometallic transfer hydrogenation catalyst once triggered.

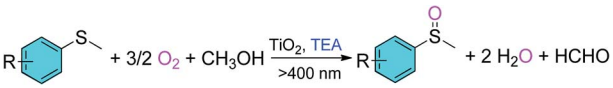


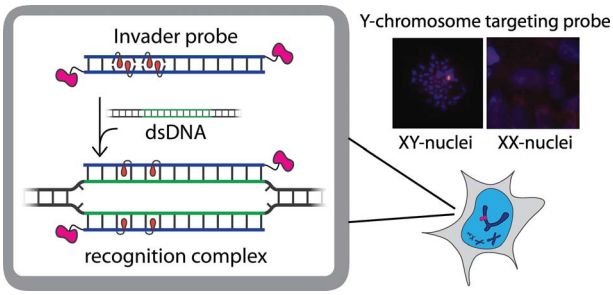
Isolation of a structural intermediate during switching of degree of interpenetration in a metal–organic framework

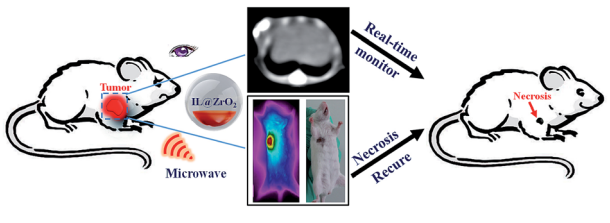
Himanshu Aggarwal, Raj Kumar Das, Prashant M. Bhatt and Leonard J. Barbour*

A structural intermediate has been isolated for the first time during switching of interpenetration from twofold to threefold in the MOF [Co$_2$(ndc)$_2$(bpy)].









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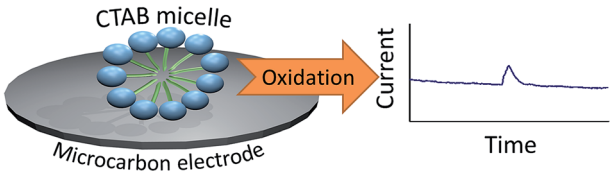

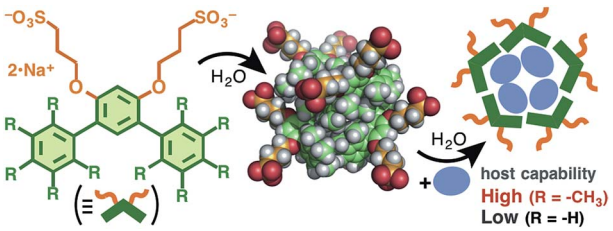

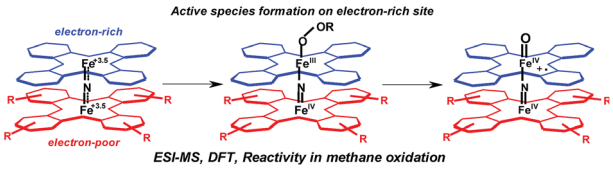

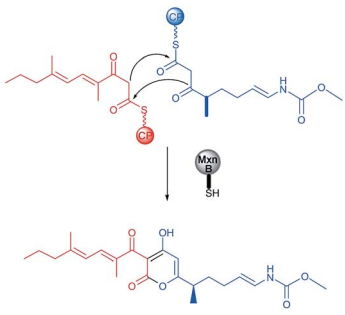

CORRECTIONS

5086

Correction: Pattern-based detection of anion pollutants in water with DNA polyfluorophores

Hyukin Kwon, Wei Jiang and Eric T. Kool*

5087

Correction: Assessing the exchange coupling in binuclear lanthanide(III) complexes and the slow relaxation of the magnetization in the antiferromagnetically coupled Dy_2 derivative

Chun Y. Chow, Hélène Bolvin, Victoria E. Campbell, Régis Guillot, Jeff W. Kampf, Wolfgang Wernsdorfer, Frédéric Gendron, Jochen Autschbach, Vincent L. Pecoraro* and Talal Mallah*

5088

Correction: A supramolecular strategy for tuning the energy level of naphthalenediimide: promoted formation of radical anions with extraordinary stability

Qiao Song, Fei Li, Zhiqiang Wang and Xi Zhang*

5090

Correction: Supramolecularly engineered phospholipids constructed by nucleobase molecular recognition: upgraded generation of phospholipids for drug delivery

Dali Wang, Chunlai Tu, Yue Su, Chuan Zhang, Udo Greiser, Xinyuan Zhu,* Deyue Yan and Wenxin Wang*