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ISSN 2041-6539 CODEN CSHCBM 15(2) 401–782 (2024)

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See Hui Liu, Yuancheng Wang, Yingjie Zhao *et al.*, pp. 458–465. Image reproduced by permission of Yingjie Zhao from *Chem. Sci.*, 2024, **15**, 458.

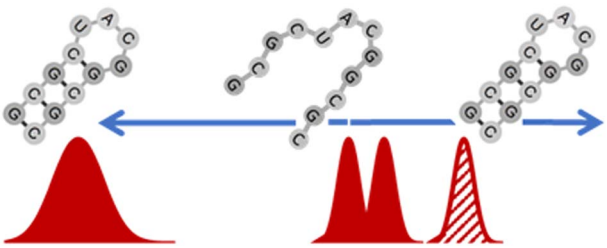
Inside cover
See Anne Staubitz *et al.*, pp. 466–476. Image reproduced by permission of Sandra Míguez Lago from *Chem. Sci.*, 2024, **15**, 466.

PERSPECTIVES

414

Biomolecular infrared spectroscopy: making time for dynamics

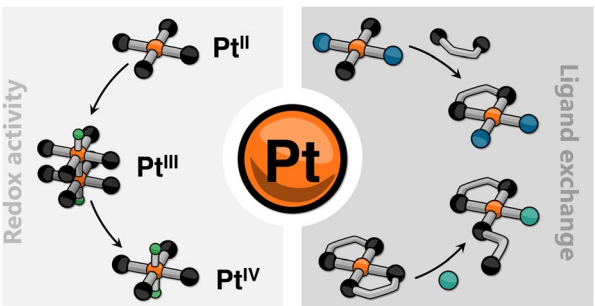
Neil T. Hunt



431

Responsive macrocyclic and supramolecular structures powered by platinum

Miguel A. Soto* and Mark J. MacLachlan*



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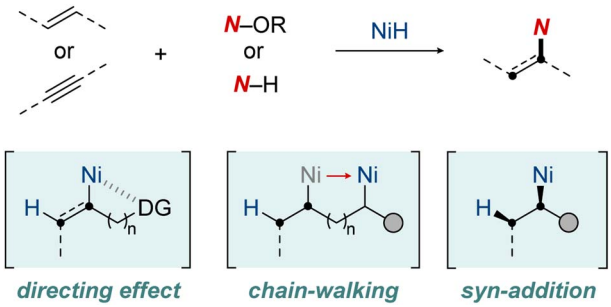
REVIEW

442

NiH-catalyzed C–N bond formation: insights and advancements in hydroamination of unsaturated hydrocarbons

Changseok Lee, Hyung-Joon Kang and Sungwoo Hong*

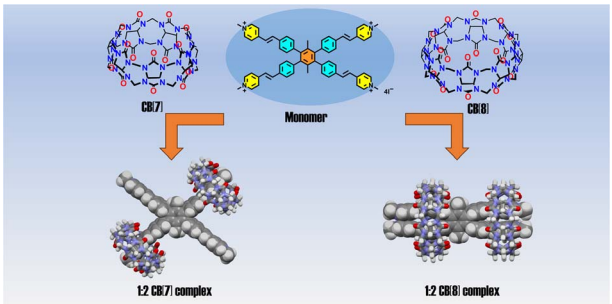


EDGE ARTICLES

458

Cucurbituril-based supramolecular host–guest complexes: single-crystal structures and dual-state fluorescence enhancement

Hui Wang, Hui Liu,* Mingsen Wang, Jiaheng Hou, Yongjun Li, Yuancheng Wang* and Yingjie Zhao*



466

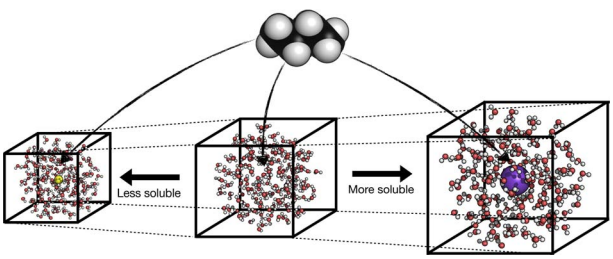
Boosting quantum yields and circularly polarized luminescence of penta- and hexahelicenes by doping with two BN-groups

Yannik Appiarius, Sandra Míguez-Lago, Pim Puylaert, Noah Wolf, Sourabh Kumar, Martin Molkenthin, Delia Miguel, Tim Neudecker, Michal Juríček, Araceli G. Campaña and Anne Staubitz*

477

Free-energy decomposition of salt effects on the solubilities of small molecules and the role of excluded-volume effects

Stefan Hervø-Hansen,* Daoyang Lin, Kento Kasahara and Nobuyuki Matubayasi*



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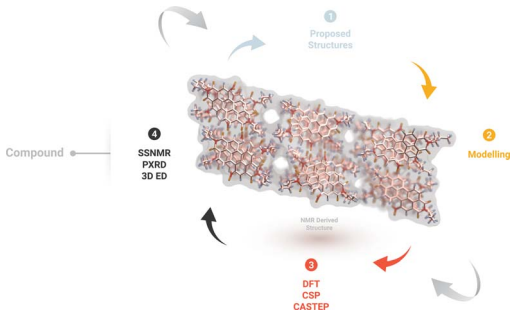
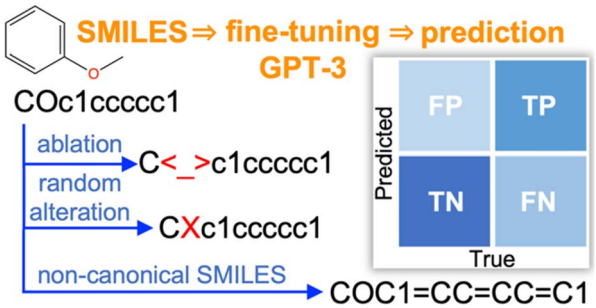


Unveiling the topology of partially disordered microcrystalline nitro-perylenediimide with X-aggregate stacking: an integrated approach

Renny Mathew, Aniruddha Mazumder, Praveen Kumar, Julie Matula, Sharmarke Mohamed,* Petr Brazda,* Mahesh Hariharan* and Brijith Thomas*

500



Fine-tuning GPT-3 for machine learning electronic and functional properties of organic molecules

Zikai Xie, Xenophon Evangelopoulos, Ömer H. Omar, Alessandro Troisi, Andrew I. Cooper* and Linjiang Chen*

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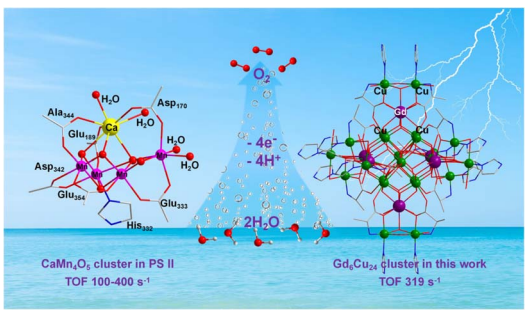

Soluble Gd_6Cu_{24} clusters: effective molecular electrocatalysts for water oxidation

Jia-Nan Chen, Zhong-Hua Pan, Qi-Hao Qiu, Cheng Wang, La-Sheng Long, Lan-Sun Zheng and Xiang-Jian Kong*

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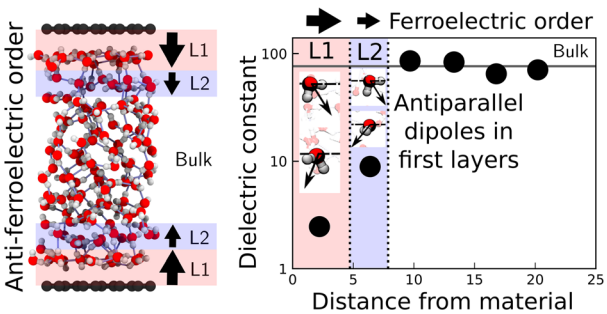

Origin of dielectric polarization suppression in confined water from first principles

T. Dufils, C. Schran, J. Chen, A. K. Geim, L. Fumagalli and A. Michaelides

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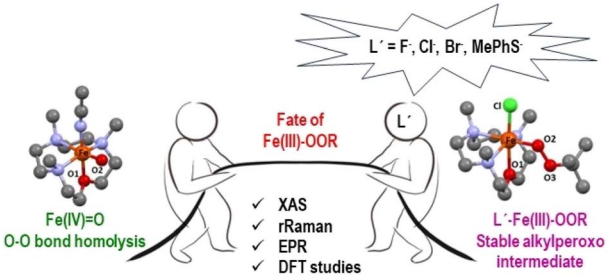
A high-spin alkylperoxo–iron(III) complex with *cis*-anionic ligands: implications for the superoxide reductase mechanism

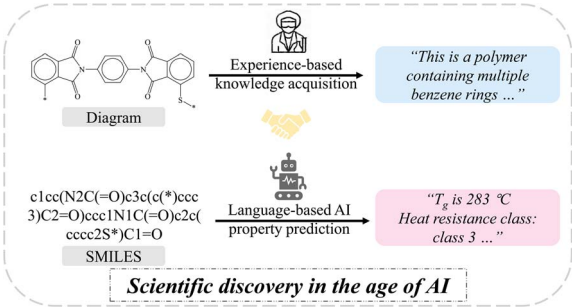
Tarali Devi, Kuheli Dutta, Jennifer Deutscher, Stefan Mebs, Uwe Kuhlmann, Michael Haumann, Beatrice Cula, Holger Dau, Peter Hildebrandt and Kallol Ray*



534

PolyNC: a natural and chemical language model for the prediction of unified polymer properties

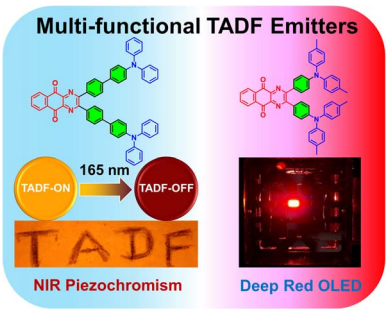
Haoke Qiu, Lunyang Liu,* Xuepeng Qiu, Xuemin Dai, Xiangling Ji and Zhao-Yan Sun*



545

Thermally activated delayed fluorescence emitters showing wide-range near-infrared piezochromism and their use in deep-red OLEDs

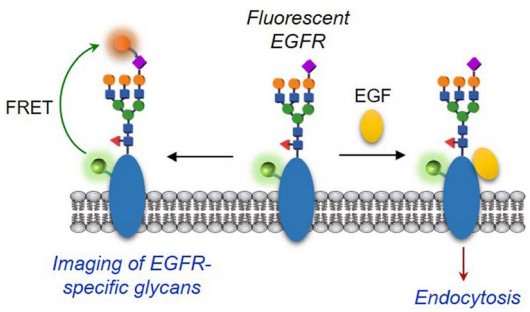
Pagidi Sudhakar, Abhishek Kumar Gupta, David B. Cordes and Eli Zysman-Colman*



555

Engineering of cell-surface receptors for analysis of receptor internalization and detection of receptor-specific glycosylation

Chang-Hee Lee, Sookil Park, Sanggil Kim, Ji Young Hyun, Hyun Soo Lee and Injae Shin*



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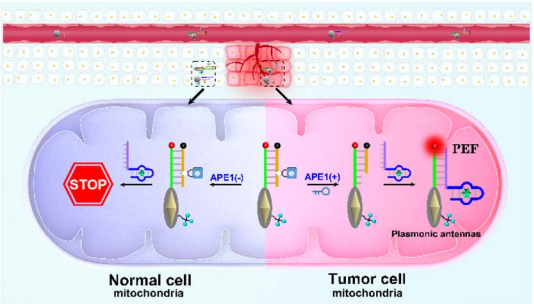

Light and endogenous enzyme triggered plasmonic antennas for accurate subcellular molecular imaging with enhanced spatial resolution

Shuwei Chen, Yue Yin, Xiaozhe Pang, Congkai Wang, Lei Wang, Junqi Wang, Jiangfei Jia, Xinxue Liu, Shenghao Xu* and Xiliang Luo*

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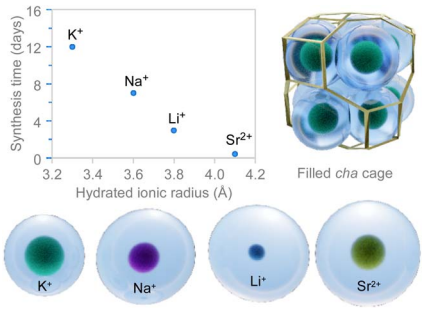

Highly efficient synthesis of zeolite chabazite using cooperative hydration-mismatched inorganic structure-directing agents

Adam J. Mallette, Gabriel Espindola, Nathan Varghese and Jeffrey D. Rimer*

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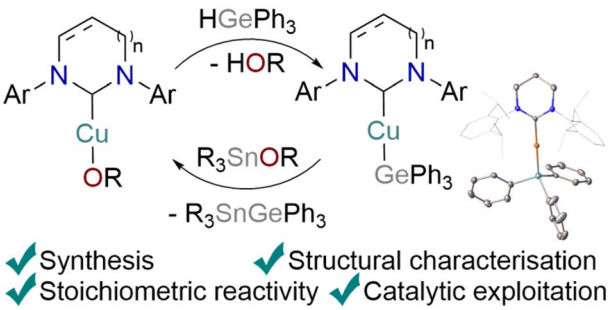

The structures and reactivity of NHC-supported copper(I) triphenylgermyls

Rex S. C. Charman, Nick J. Evans, Laura E. English, Samuel E. Neale, Petra Vasko, Mary F. Mahon* and David J. Liptrot*

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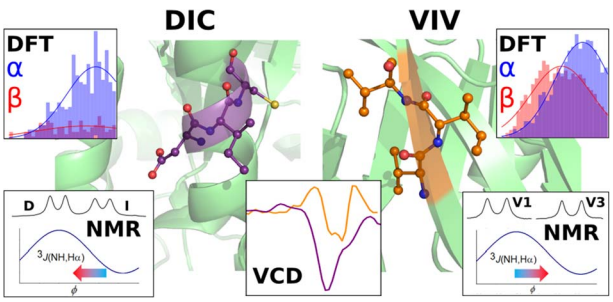

What are the minimal folding seeds in proteins? Experimental and theoretical assessment of secondary structure propensities of small peptide fragments

Zuzana Osifová, Tadeáš Kalvoda,* Jakub Galgonek, Martin Culka, Jiří Vondrášek, Petr Bouř, Lucie Bednárová, Valery Andrushchenko,* Martin Dračínský* and Lubomír Rulíšek*

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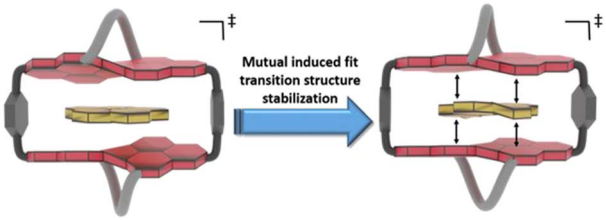
Mutual induced fit transition structure stabilization of corannulene's bowl-to-bowl inversion in a perylene bisimide cyclophane

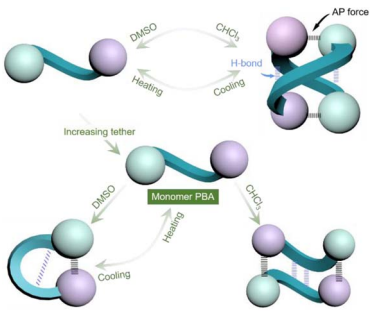
Manuel Weh, Asja A. Kroeger, Olga Anhalt, Amir Karton* and Frank Würthner*



618

Selective chiral dimerization and folding driven by arene–perfluoroarene force

Qiuhong Cheng, Aiyou Hao* and Pengyao Xing*



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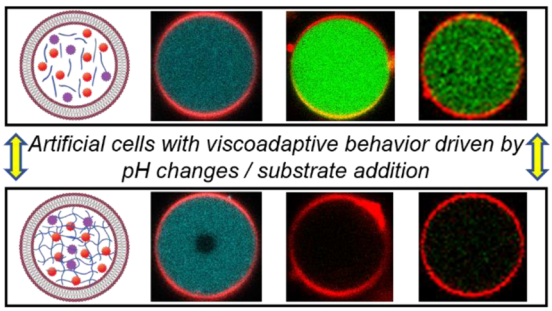
Artificial cells with viscoadaptive behavior based on hydrogel-loaded giant unilamellar vesicles

Antoni Llopis-Lorente, Maaike J. G. Schotman, Heorhii V. Humeniuk, Jan C. M. van Hest,* Patricia Y. W. Dankers* and Loai K. E. A. Abdelmohsen*



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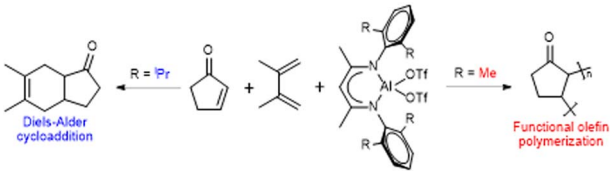
Lewis acid catalysed polymerisation of cyclopentenone

Deepamali Dissanayake, Alysia Draper, Zhizhou Liu, Neelofur Jaunnoo, Joris J. Haven, Craig Forsyth, Alasdair I. McKay, Tanja Junkers* and Dragoslav Vidović*



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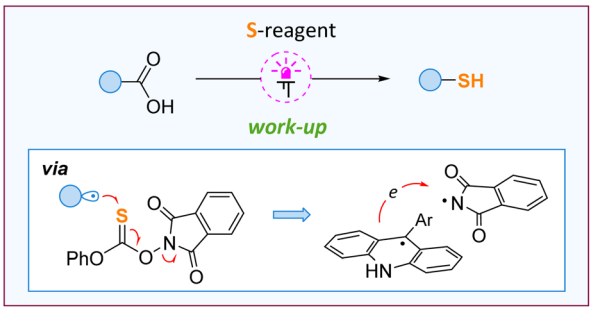

Direct conversion of carboxylic acids to free thiols *via* radical relay acridine photocatalysis enabled by N–O bond cleavage

Dmitry L. Lipilin, Mikhail O. Zubkov, Mikhail D. Kosobokov and Alexander D. Dilman*

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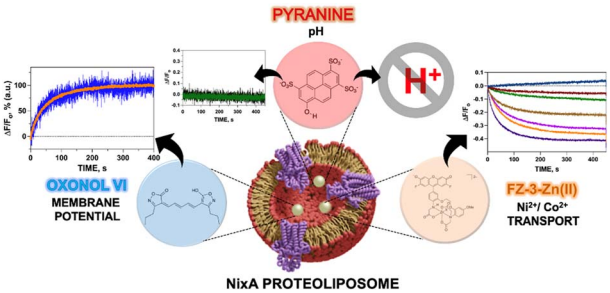

Metal selectivity and translocation mechanism characterization in proteoliposomes of the transmembrane NiCoT transporter NixA from *Helicobacter pylori*

Jayoh A. Hernandez, Paul S. Micus, Sean Alec Lois Sunga, Luca Mazzei, Stefano Ciurli and Gabriele Meloni*

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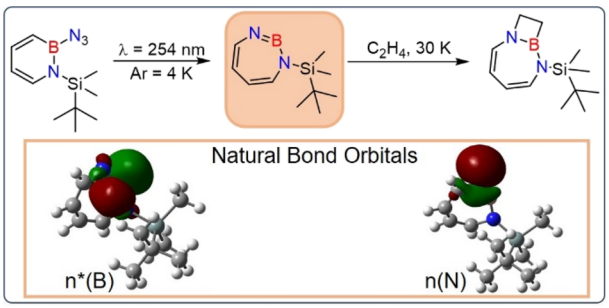

Strain induced reactivity of cyclic iminoboranes: the (2 + 2) cycloaddition of a 1*H*-1,3,2-diazaborepine with ethene

Divanshu Gupta, Ralf Einholz and Holger F. Bettinger*

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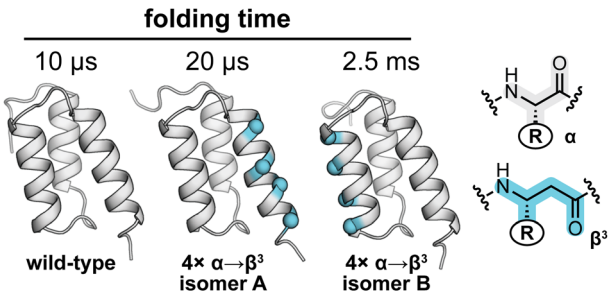

Effects of altered backbone composition on the folding kinetics and mechanism of an ultrafast-folding protein

Jacqueline R. Santhouse, Jeremy M. G. Leung, Lillian T. Chong* and W. Seth Horne*

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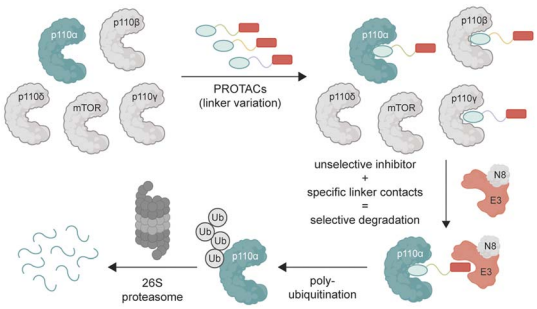
A high affinity pan-PI3K binding module supports selective targeted protein degradation of PI3Kα

Werner Theodor Jauslin, Matthias Schild, Thorsten Schaefer, Chiara Borsari, Clara Orbegozo, Lukas Bissegger, Saule Zhanybekova, Danilo Ritz, Alexander Schmidt, Matthias Wymann* and Dennis Gillingham*



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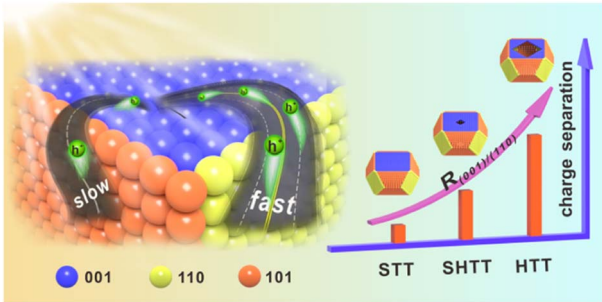
Hollow anatase TiO_2 tetrakaidecahedral crystals with an active {001}/{110} redox interface toward high-performance photocatalytic activity

Liming Sun, Yaya Yuan, Xiaoxiao He,* Wenwen Zhan, Dong Li, Yanli Zhao,* Xiao-Jun Wang and Xiguang Han*



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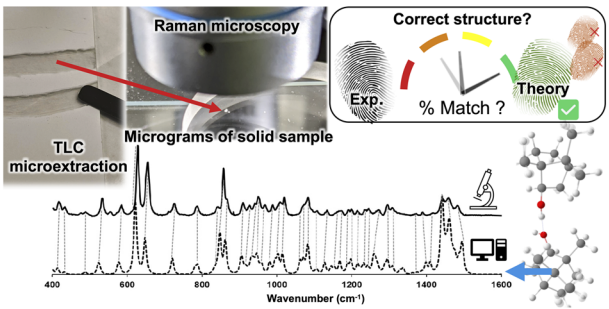
Towards routine organic structure determination using Raman microscopy

Jason Malenfant, Lucille Kuster, Yohann Gagné, Kouassi Signo, Maxime Denis, Sylvain Canesi* and Mathieu Frenette*



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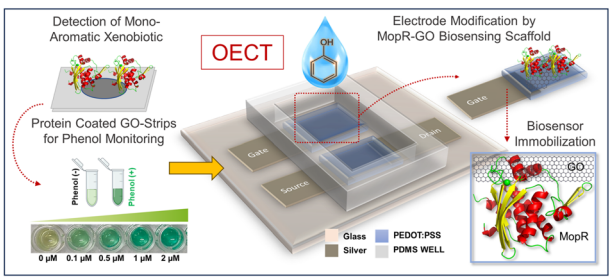
Ultrasensitive detection of aromatic water pollutants through protein immobilization driven organic electrochemical transistors

Subhankar Sahu, Lokesh Kumar, Sumita Das, Dipti Gupta* and Ruchi Anand*



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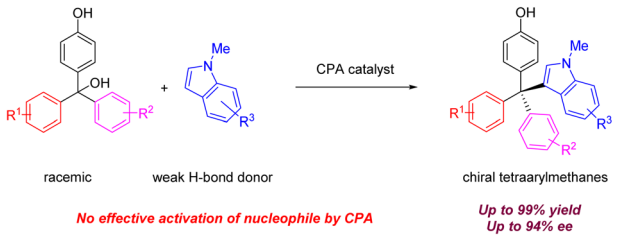

Primary activation of *para*-quinone methides by chiral phosphoric acid for enantioselective construction of tetraarylmethanes

Zhengyu Han, Biao Zhu, Yu Zang, Chaoshen Zhang,* Xiu-Qin Dong, Hai Huang* and Jianwei Sun*

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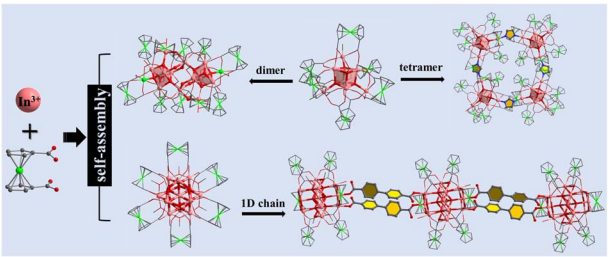

Aggregate assembly of ferrocene functionalized indium-oxo clusters

Rong Zhang, Jiajing Lan, Fei Wang,* Shumei Chen* and Jian Zhang*

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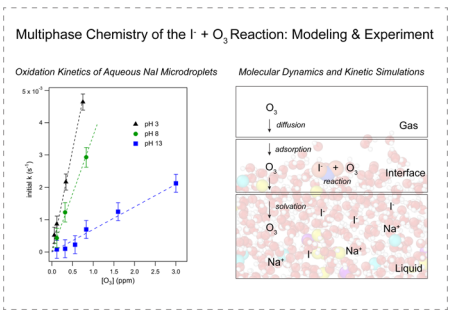

Iodide oxidation by ozone at the surface of aqueous microdroplets

Alexander M. Prophet, Kritanjan Polley, Gary J. Van Berkel, David T. Limmer and Kevin R. Wilson*

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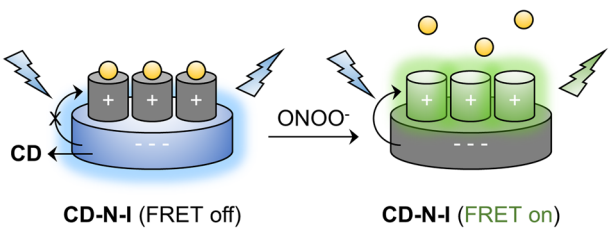

Selective FRET nano probe based on carbon dots and naphthalimide–isatin for the ratiometric detection of peroxynitrite in drug-induced liver injury

Yueci Wu, Lu-Lu Sun, Hai-Hao Han,* Xiao-Peng He,* Weiguo Cao* and Tony D. James*

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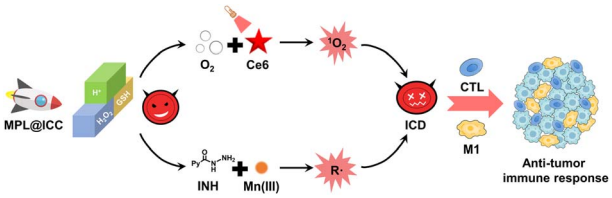
Mn(III)-mediated carbon-centered radicals generate an enhanced immunotherapeutic effect

Jiaxuan Li, Baifei Hu, Zelong Chen, Jiahui Li, Wenjuan Jin, Yi Wang, Yichen Wan, Yinghua Lv, Yuxin Pei,* Hongtao Liu* and Zhichao Pei*



CORRECTION

778

Correction: Molecular basis of sulfolactate synthesis by sulfolactaldehyde dehydrogenase from *Rhizobium leguminosarum*

Jinling Li, Mahima Sharma, Richard Meek, Amani Alhifthi, Zachary Armstrong, Niccolay Madiedo Soler, Mihwa Lee, Ethan D. Goddard-Borger, James N. Blaza, Gideon J. Davies* and Spencer J. Williams*