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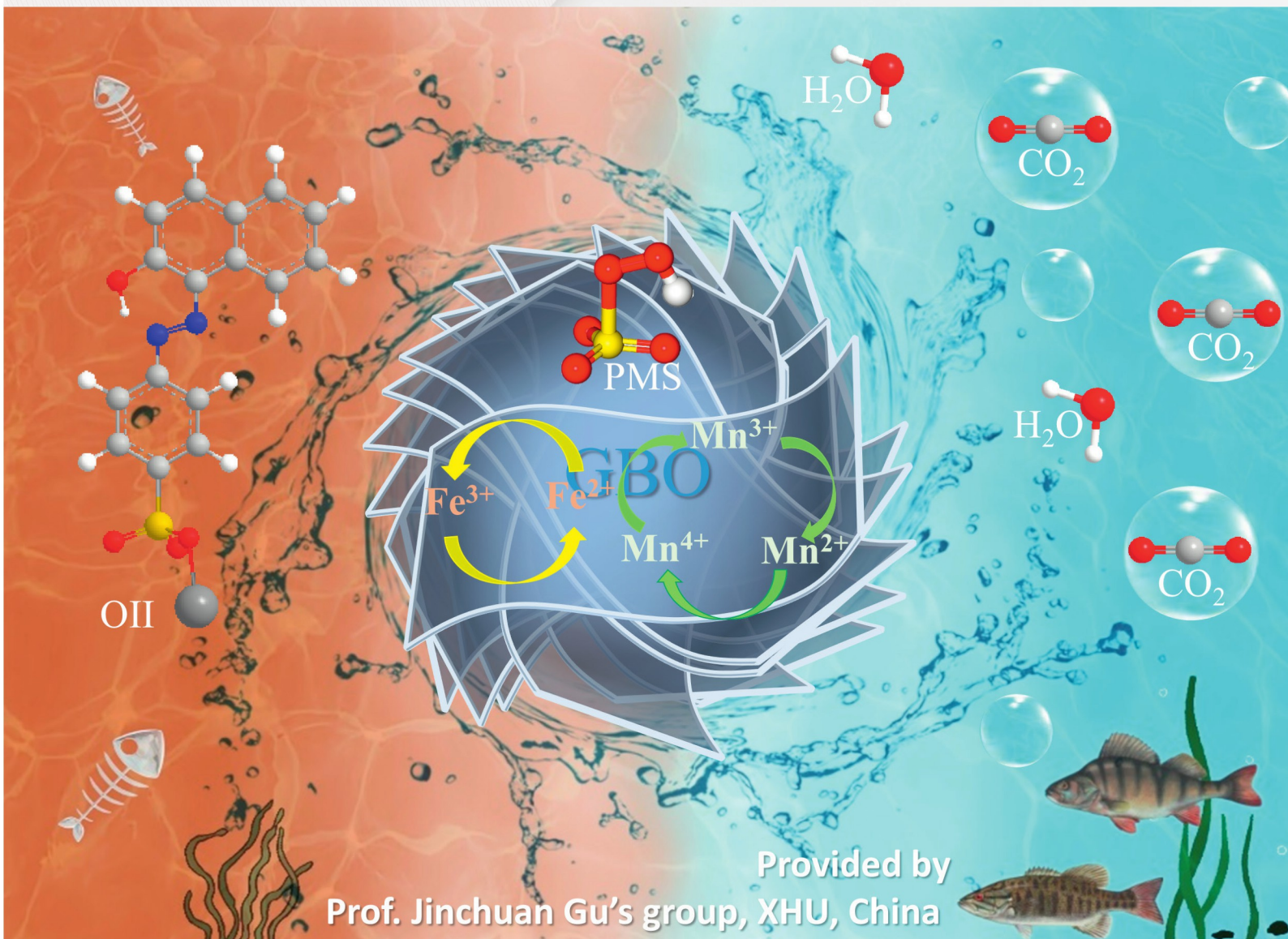
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COMMUNICATION

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on MoS₂ nanosheets as high-efficiency electrocatalysts
for overall water splitting

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Chinese Chemical Society

Institute of Materia Medica, Chinese Academy of Medical Sciences

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Graphical Abstracts/Chin Chem Lett 33 (2022) iii–xiv

Reviews

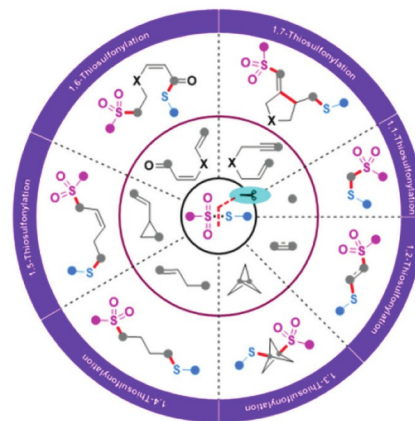
Zeolite-based Fenton-like catalysis for pollutant removal and reclamation from wastewaterZichen Shangguan^{a,b}, Xingzhong Yuan^{a,b}, Longbo Jiang^{a,b}, Yanlan Zhao^{a,b}, Lei Qin^{a,b}, Xuerong Zhou^{a,b}, Yan Wu^c, Jia Wei Chew^d, Hou Wang^{a,b}^a College of Environmental Science and Engineering, Hunan University, Changsha 410082, China^b Key Laboratory of Environment Biology and Pollution Control, Hunan University, Ministry of Education, Changsha 410082, China^c College of Resources and Environment, Hunan Agricultural University, Changsha 410128, China^d School of Chemical and Biomedical Engineering, Nanyang Technological University, Singapore 637459, Singapore

This manuscript reviewed the recent advances and achievements in zeolite-based Fenton-like catalysis and their applications in water treatment.

Chinese Chemical Letters 33 (2022) 4719

**1,*n*-Thiosulfonylation using thiosulfonates as dual functional reagents**Danhua Ge^a, Jia-Wei Chen^a, Pei Xu^b, Jinyin Pan^c, Xue-Qiang Chu^a^a Institute of Advanced Synthesis, School of Chemistry and Molecular Engineering, Nanjing Tech University, Nanjing 211816, China^b Jiangsu Key Laboratory of New Drug Research and Clinical Pharmacy, School of Pharmacy, Xuzhou Medical University, Xuzhou 221004, China^c Sartorius Stedim (Shanghai) Trading Co., Ltd., Shanghai 200000, ChinaThe recent advances of 1,*n*-thiosulfonylation by using thiosulfonates as dual functional reagents have been summarized.

Chinese Chemical Letters 33 (2022) 4732



Communications

Degradation of florfenicol in a flow-through electro-Fenton system enhanced by wood-derived block carbon (WBC) cathode

Li Tian^{a,b}, Qiongfang Zhuo^{a,c}, Jincheng Lu^a, Jingjing Liu^a, Xiaofeng Xu^a, Xiaolin You^{a,b}, Manman Xu^a, Bo Yang^b, Junfeng Niu^a

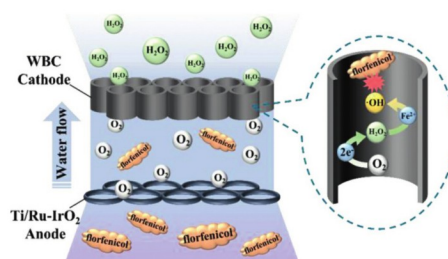
^aSchool of Environment and Civil Engineering, Dongguan University of Technology, Dongguan 523808, China

^bCollege of Chemistry and Environmental Engineering, Shenzhen University, Shenzhen 518060, China

^cGuangdong Provincial Key Laboratory of Environmental Pollution Control and Remediation Technology (Sun Yat-sen University), Guangzhou 510275, China

A flow-through electro-Fenton system with wood-derived block carbon (WBC) cathode was constructed, which can effectively degrade florfenicol with the help of anodic oxygen as oxygen source.

Chinese Chemical Letters 33 (2022) 4740



Simultaneous determination of indole metabolites of tryptophan in rat feces by chemical labeling assisted liquid chromatography-tandem mass spectrometry

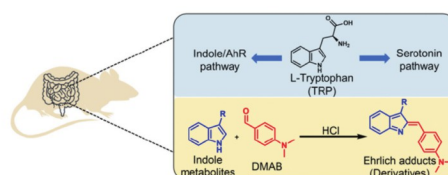
Qin-Feng Zhang^a, Hua-Ming Xiao^a, Jin-Tao Zhan^a, Bi-Feng Yuan^{a,b}, Yu-Qi Feng^{a,b}

^aDepartment of Chemistry, Wuhan University, Wuhan 430072, China

^bSchool of Public Health, Wuhan University, Wuhan 430071, China

We established a method by 4-(dimethylamino)benzaldehyde labeling coupled with LC-MS/MS analysis to simultaneously detect 20 kinds of indole metabolites of tryptophan. With the developed method, multiple endogenous indole metabolites of tryptophan were identified in rat feces with functional dyspepsia intervention by acupuncture.

Chinese Chemical Letters 33 (2022) 4746



Self-powered anti-interference photoelectrochemical immunosensor based on Au/ZIS/CIS heterojunction photocathode with zwitterionic peptide anchoring

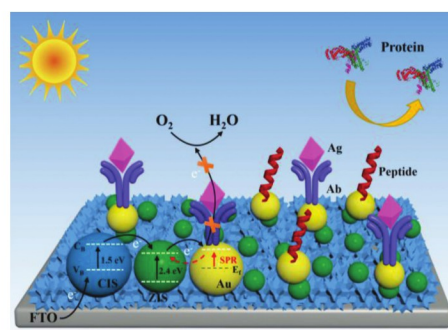
Ze Hu^a, Yaqun Xu^a, Hao Wang^a, Gao-Chao Fan^{a,b}, Xiliang Luo^a

^aShandong Key Laboratory of Biochemical Analysis, College of Chemistry and Molecular Engineering, Qingdao University of Science and Technology, Qingdao 266042, China

^bState Key Laboratory of Chemo/Biosensing and Chemometrics, College of Chemistry and Chemical Engineering, Hunan University, Changsha 410082, China

A novel ternary heterojunction as photocathode and a zwitterionic peptide as antifouling biomaterial were integrated to construct an advanced PEC immunosensor with high sensitivity and good anti-interference for target biomarker detection.

Chinese Chemical Letters 33 (2022) 4750



The role of Cs dopants for improved activation of molecular oxygen and degradation of tetracycline over carbon nitride

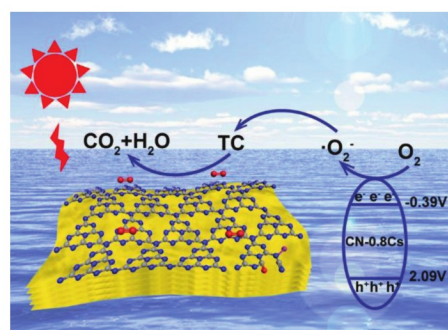
Qian Liu^a, Hui Li^b, Hao Zhang^b, Zhurui Shen^b, Huiming Ji^a

^aSchool of Materials Science and Engineering, Key Laboratory of Advanced Ceramics and Machining Technology, Ministry of Education, Tianjin University, Tianjin 300350, China

^bSchool of Materials Science and Engineering, Nankai University, Tianjin 300350, China

The doping of Cs broadened the light absorption range of CN, promoted the separation and transfer of electrons, made it have obvious O₂ activation ability, and promoted the degradation of TC.

Chinese Chemical Letters 33 (2022) 4756



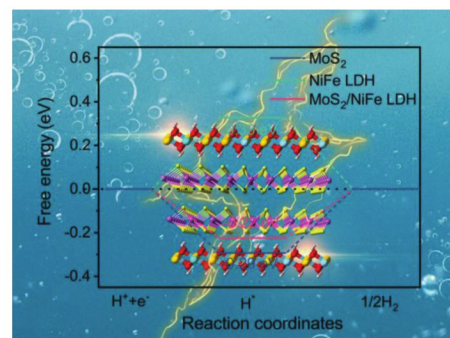
Heterostructures of NiFe LDH hierarchically assembled on MoS₂ nanosheets as high-efficiency electrocatalysts for overall water splitting

Xiao-Peng Li, Li-Rong Zheng, Si-Jie Liu, Ting Ouyang, Siyu Ye, Zhao-Qing Liu

School of Chemistry and Chemical Engineering/Institute of Clean Energy and Materials/Guangzhou Key Laboratory for Clean Energy and Materials//Key Laboratory for Water Quality and Conservation of the Pearl River Delta, Ministry of Education, Guangzhou University, Guangzhou 510006, China

Hierarchical MoS₂/NiFe LDH heterostructure nanosheets work as an effective bifunctional catalyst for overall water splitting. The 3D self-supporting structure allows the exposure of abundant active sites, and the rational heterogeneous interface construction provides a rapid mass and charge transfer channel. DFT calculations indicate that the coupled MoS₂/NiFe LDH with optimized ΔG_{H^+} .

Chinese Chemical Letters 33 (2022) 4761



Activation of sulfite by ferric ion for the degradation of 2,4,6-tribromophenol with the addition of sulfite in batches

Zongping Wang^a, Fan Bai^a, Lisan Cao^a, Siyang Yue^b, Jingwen Wang^a, Songlin Wang^a, Jun Ma^c, Pengchao Xie^a

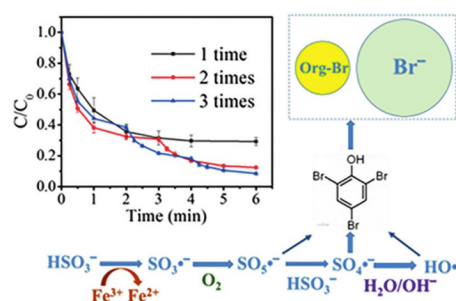
^aSchool of Environmental Science and Engineering, Key Laboratory of Water & Wastewater Treatment (MOHURD), Hubei Provincial Engineering Research Center for Water Quality Safety and Pollution Control, Huazhong University of Science and Technology, Wuhan 430074, China

^bSchool of Architecture & Urban Planning, Huazhong University of Science and Technology, Wuhan 430074, China

^cState Key Laboratory of Urban Water Resource and Environment, Harbin Institute of Technology, Harbin 150090, China

The combined process of ferric ion and sulfite [S(IV)] has been firstly applied to degrade 2,4,6-tribromophenol with dosing S(IV) in batches, in which sulfate radical plays the dominant role with transforming the most bromine contained in the 2,4,6-tribromophenol into bromide.

Chinese Chemical Letters 33 (2022) 4766



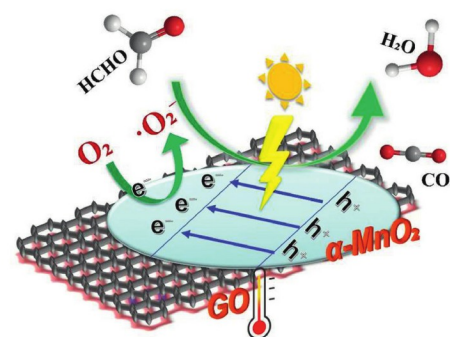
Graphene enhanced α -MnO₂ for photothermal catalytic decomposition of carcinogen formaldehyde

Xiaoshan Zeng, Chuanjia Shan, Mingdi Sun, Danni Ding, Shaopeng Rong

Jiangsu Key Laboratory of Chemical Pollution Control and Resources Reuse, School of Environmental and Biological Engineering, Nanjing University of Science and Technology, Nanjing 210094, China

The α -MnO₂/GO nanohybrids prepared by co-precipitating method could achieve the complete catalytic decomposition of formaldehyde with the solar-light irradiation at ambient temperature. This work proposes a new approach for the utilization of solar energy by combining manganese oxides, and also developed an efficient photothermal-catalyst to control HCHO pollution in indoor air.

Chinese Chemical Letters 33 (2022) 4771



Electrochemical reaction mechanism of porous Zn₂Ti₃O₈ as a high-performance pseudocapacitive anode for Li-ion batteries

Weijie Cheng^a, Qi Feng^{a,c}, Zhanglin Guo^b, Guanjun Chen^a, Yong Wang^a, Lixiong Yin^a, Jiayin Li^a, Xingang Kong^a

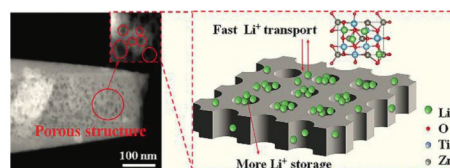
^aSchool of Materials Science and Engineering, Shaanxi University of Science and Technology, Xi'an 710021, China

^bGraduate School of Engineering, Toin University of Yokohama, Kanagawa 225-8503, Japan

^cDepartment of Advanced Materials Science, Faculty of Engineering, Kagawa University, 2217-20 Hayashi-cho, Takamatsu-shi 761-0396, Japan

The porous structure of Zn₂Ti₃O₈ not only promotes the intercalation reaction, but also induces high pseudocapacitance capacity, which boosts the reversible capacity.

Chinese Chemical Letters 33 (2022) 4776



Dual modulation of morphology and electronic structures of VN@C electrocatalyst by W doping for boosting hydrogen evolution reaction

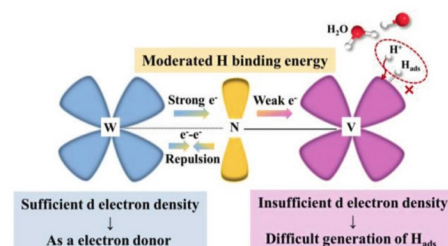
Danyang He^a, Liyun Cao^a, Liangliang Feng^a, Shuainan Li^a, Yongqiang Feng^a, Guodong Li^b, Yifei Zhang^a, Jinhan Li^a, Jianfeng Huang^a

^aSchool of Materials Science & Engineering, International S&T Cooperation Foundation of Shaanxi Province, Xi'an Key Laboratory of Green Manufacture of Ceramic Materials, Shaanxi Key Laboratory of Green Preparation and Functionalization for Inorganic Materials, Key Laboratory of Auxiliary Chemistry and Technology for Chemical Industry, Ministry of Education, Shaanxi University of Science & Technology, Xi'an 710021, China

^bState Key Laboratory of Inorganic Synthesis and Preparative Chemistry, College of Chemistry, Jilin University, Changchun 130012, China

A novel W-doped vanadium nitride nanoparticle anchored on N-doped graphitic carbon framework (WVN@NGC) is synthesized via a one-step simple pyrolysis protocol, exhibiting prominent electrocatalytic HER performance.

Chinese Chemical Letters 33 (2022) 4781



Bromate formation during oxidation of bromide-containing water by the CuO catalyzed peroxymonosulfate process

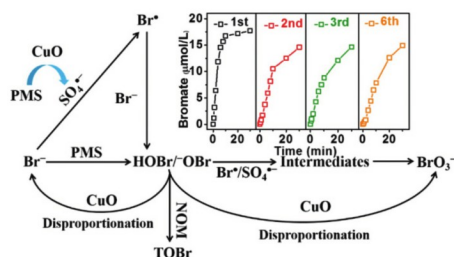
Jingxin Yang^a, Hongrui Ma^a, Chuan Wang^a, Hong Liu^b

^aKey Laboratory for Water Quality and Conservation of the Pearl River Delta, Ministry of Education, Institute of Environmental Research at Greater Bay, Guangzhou University, Guangzhou 510006, China

^bChongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences, Chongqing 400714, China

CuO strongly enhances the bromate formation in the bromide-containing water treated by peroxymonosulfate (PMS). Apart from catalyzing PMS to generate SO₄^{•-} to oxidize bromide to bromate, CuO also catalyzes the formed free bromine to disproportionation to bromate.

Chinese Chemical Letters 33 (2022) 4786



A natural manganese ore as a heterogeneous catalyst to effectively activate peroxymonosulfate to oxidize organic pollutants

Jinchuan Gu^a, Ping Yin^b, Yi Chen^a, Honglin Zhu^a, Rui Wang^c

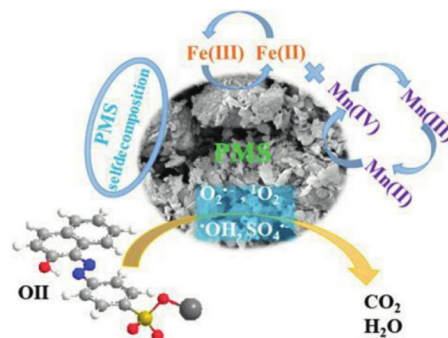
^aSchool of Food and Bioengineering, Civil Engineering and Architecture and Environment, Emergency Science, Xihua University, Chengdu 610039, China

^bSichuan Rongxinkai Engineering Design Co., Ltd., Chengdu 610039, China

^cFaculty of Geosciences and Environmental Engineering, Southwest Jiaotong University, Chengdu 611756, China

A natural Gabonese ore was used as the efficient and reusable catalyst for enhancing heterogeneous activation of peroxymonosulfate by boosting internal electron transfer.

Chinese Chemical Letters 33 (2022) 4792



High sensitivity ratiometric fluorescence temperature sensing using the microencapsulation of CsPbBr₃ and K₂SiF₆:Mn⁴⁺ phosphor

Jingwen Jin^a, Jie Lin^a, Yipeng Huang^a, Linchun Zhang^a, Yaqi Jiang^a, Dongjie Tian^a, Fangyuan Lin^a, Yiru Wang^a, Xi Chen^{a,b,c}

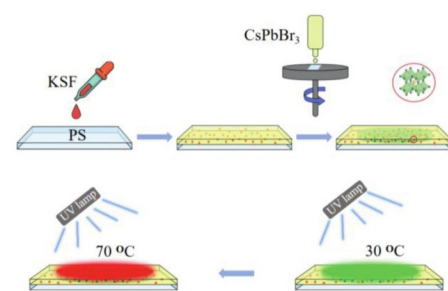
^aDepartment of Chemistry and the MOE Key Laboratory of Spectrochemical Analysis & Instrumentation, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

^bState Key Laboratory of Marine Environmental Science, Xiamen University, Xiamen 361005, China

^cShenzhen Research Institute of Xiamen University, Shenzhen 518000, China

A dual emission sensing film has been prepared for colorimetric temperature sensing using CsPbBr₃ perovskite nanocrystals (CsPbBr₃ NCs) and manganese doped potassium fluorosilicate (K₂SiF₆:Mn⁴⁺, KSF) encapsulated in polystyrene by a microencapsulation strategy. The photoluminescence (PL) color of the CsPbBr₃-KSF-PS film shows obvious change from green to red as the temperature increases from 30 °C to 70 °C, which can be readily recognized by naked eyes under an excitation of 365 nm UV light.

Chinese Chemical Letters 33 (2022) 4798



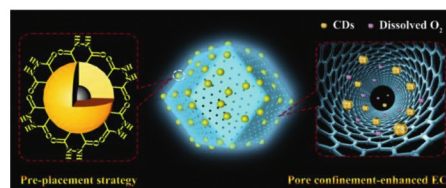
CDs assembled metal-organic framework: Exogenous coreactant-free biosensing platform with pore confinement-enhanced electrochemiluminescence

Xiu-Li Tao, Mei-Chen Pan, Xia Yang, Ruo Yuan, Ying Zhuo

Key Laboratory of Luminescence Analysis and Molecular Sensing (Southwest University), Ministry of Education, College of Chemistry and Chemical Engineering, Southwest University, Chongqing 400715, China

Herein, an efficient ECL nanoluminophor of the CDs assembled MOF was skillfully prepared by taking advantage of the nitrogen and sulfur co-doped CDs (N,S-CDs) with surfaces rich in hydrazide groups as luminophors and MOF as matrix. Due to the pore confinement-enhanced ECL, the anodic ECL signal rose up to 250% of the pure CDs under the exogenous coreactant-free condition.

Chinese Chemical Letters 33 (2022) 4803



Rapid differentiation of simple saccharides based on cluster ions by paper spray tandem mass spectrometry

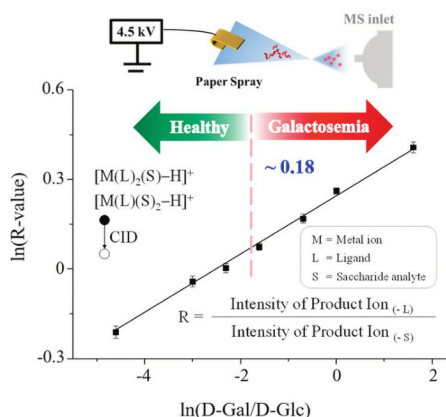
Wangmin Hu^a, Tianyi Li^b, Yulei Yang^a, Shanshan Jia^a, Mei Zhang^a

^aSchool of Chinese Materia Medica, Beijing University of Chinese Medicine, Beijing 102488, China

^bNational Institute for Communicable Disease Control and Prevention, Chinese Center for Disease Control and Prevention, Beijing 102206, China

A derivative-free and ion mobility-free method for the rapid analysis of monosaccharides and disaccharides using paper spray tandem mass spectrometry. The method can be used to rapidly quantify the molar ratio of galactose to glucose in dried plasma samples to aid in the diagnosis of galactosemia.

Chinese Chemical Letters 33 (2022) 4808



A bench-stable reagent for C-4 selective deuteriodifluoromethylation of azines

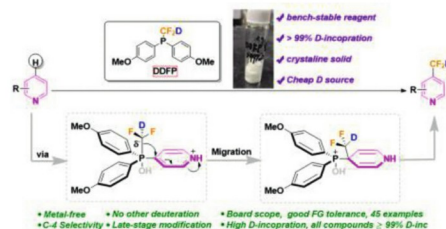
Junqing Liang^a, Lefeng Dong^a, Feng Qian^b, Yijin Kong^a, Mingxia Wang^a, Xiaoyong Xu^a, Xusheng Shao^a, Zhong Li^a

^aShanghai Key Laboratory of Chemical Biology, School of Pharmacy, East China University of Science and Technology, Shanghai 200237, China

^bResearch Center of Analysis and Test, School of Chemistry and Molecular Engineering, East China University of Science and Technology, Shanghai 200237, China

Deuteriodifluoromethyl (CF₂D) is a challenging and important functional group due to difficult deuterium incorporation and lack of effective precursor reagents. We have developed a new deuteriodifluoromethylation reagent in connection with the lack of deuteriodifluoromethylation reagents. The reagent is stable, and preparation is simple, from cheap deuterium source, quantitative deuteration rate, and successfully Deuteriodifluoromethylation of azines at C-4 position without metal catalysis.

Chinese Chemical Letters 33 (2022) 4817



Promotion effect of Au single-atom support graphene for CO oxidation

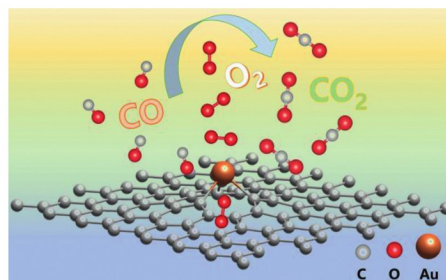
Ping Yan^a, Song Shu^a, Xian Shi^b, Jianjun Li^a

^aCollege of Architecture and Environment, Sichuan University, Chengdu 610065, China

^bInstitute of Fundamental and Frontier Sciences, University of Electronic Science and Technology of China, Chengdu 611731, China

Au single-atom support graphene can effectively enhance the property of oxidizing CO, which follows ER mechanism.

Chinese Chemical Letters 33 (2022) 4822



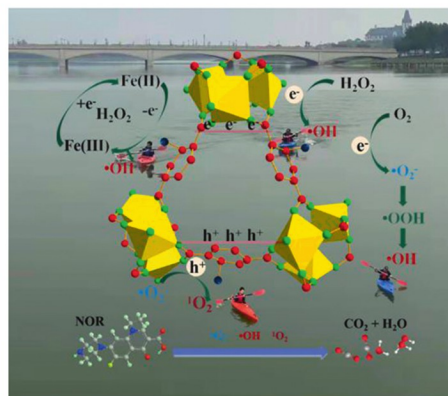
Effective norfloxacin elimination via photo-Fenton process over the MIL-101(Fe)-NH₂ immobilized on α -Al₂O₃ sheet

Qian Zhao, Chong-Chen Wang, Peng Wang

Beijing Key Laboratory of Functional Materials for Building Structure and Environment Remediation/Beijing Energy Conservation & Sustainable Urban and Rural Development Provincial and Ministry Co-construction Collaboration Innovation Center, School of Environment and Energy Engineering, Beijing University of Civil Engineering and Architecture, Beijing 100044, China

MIL-101(Fe)-NH₂@Al₂O₃ (MA) photocatalysts were successfully synthesized by reactive seeding (RS) method on α -Al₂O₃ substrate with excellent performance of photo-Fenton degradation of fluoroquinolone antibiotics.

Chinese Chemical Letters 33 (2022) 4828



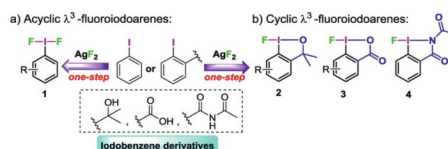
A general method for one-step synthesis of monofluoroiodane(III) reagents using silver difluoride

Jing Ren, Meng-Cheng Jia, Feng-Huan Du, Chi Zhang

State Key Laboratory of Elemento-Organic Chemistry, The Research Institute of Elemento-Organic Chemistry, College of Chemistry, Nankai University, Tianjin 300071, China

Herein we report a new general method for one-step synthesis of four kinds of fluoriodane(III) reagents by treating the corresponding aryl iodides with silver difluoride (AgF₂).

Chinese Chemical Letters 33 (2022) 4834



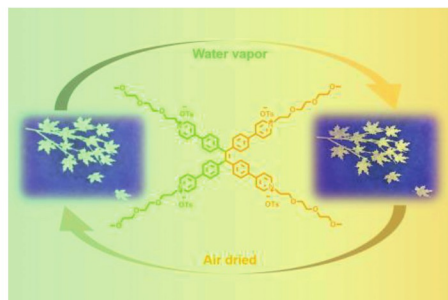
A cationic amphiphilic tetraphenylethylene derivative with hydrochromic sensitive property: Applications in anti-counterfeiting ink and rewritable paper

Qian Xu, Ziyu Qin, Yiling Bei, Shengyu Feng, Xing-Dong Xu

National Engineering Research Center for Colloidal Materials, Key Laboratory of Special Functional Aggregated Materials of Ministry of Education, Shandong Key Laboratory of Advanced Silicone Materials and Technology, School of Chemistry and Chemical Engineering, Shandong University, Jin'an 250100, China

A new cationic amphiphilic TPE-functionalized pyridine salt (TPE-OTs) showed fluorescent color changes from green to yellow as the humidity gradually increased, which was applied as the fluorescent anti-counterfeiting ink.

Chinese Chemical Letters 33 (2022) 4838



Iron-catalyzed hydroaminocarbonylation of alkynes: Selective and efficient synthesis of primary α,β -unsaturated amides

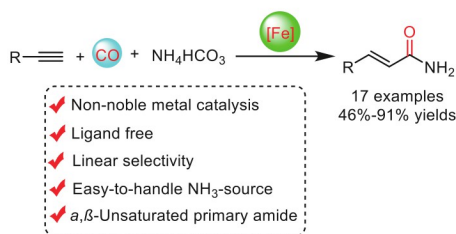
Zijun Huang^{a,b}, Jia Tang^a, Xiongwei Jiang^a, Tianle Xie^a, Minmin Zhang^a, Donghui Lan^a, Shaofeng Pi^a, Zhengde Tan^a, Bing Yi^a, Yuehui Li^b

^aHunan Province Key Laboratory of Environmental Catalysis and Waste Rechemistry, College of Materials and Chemical Engineering, Hunan Institute of Engineering, Xiangtan 411104, China

^bState Key Laboratory for Oxo Synthesis and Selective Oxidation, Suzhou Research Institute of LICP, Lanzhou Institute of Chemical Physics (LICP), Chinese Academy of Sciences, Lanzhou 730000, China

We demonstrate the ligand-free iron-catalyzed selective hydroaminocarbonylation of alkynes using NH₄HCO₃ as the ammonia source for green and efficient synthesis of linear α,β -unsaturated primary amides.

Chinese Chemical Letters 33 (2022) 4842



Polymerization of pyrrole induced by pillar[5]arene functionalized graphene for supercapacitor electrode

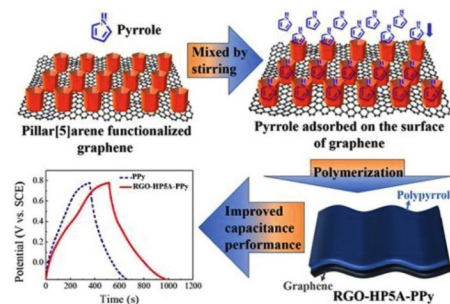
Fang Guo^a, Junqiang Guo^a, Zhiqiang Zheng^a, Tao Xia^a, Aadil Nabi Chishty^a, Liwei Lin^a, Wang Zhang^{a,b}, Guowang Diao^a

^a School of Chemistry and Chemical Engineering, Yangzhou University, Yangzhou 225002, China

^b Department of Applied Bioengineering, Graduate School of Convergence Science and Technology, Seoul National University, Suwon 443-270, South Korea

The preparation of novel graphene-pillar[5]arene-polypyrrole ternary composites (RGO-HP5A-PPy) has been realized via inducing pyrrole to polymerize on the surface of a hydrazide-pillar[5]arene functionalized graphene. RGO-HP5A-PPy composites exhibited high specific capacitance, good rate capability, and long cycle life as an electrode material for supercapacitors because of structural and compositional advantages.

Chinese Chemical Letters 33 (2022) 4846



Palladium-catalyzed base- and solvent-controlled chemoselective allylation of amino acids with allylic carbonates

Yang Zhou^b, Hang Chen^b, Panpan Lei^b, Chunming Gui^a, Haifeng Wang^a, Qiongjiao Yan^a, Wei Wang^a, Fener Chen^{a,c,d}

^a Pharmaceutical Research Institute, Wuhan Institute of Technology, Wuhan 430205, China

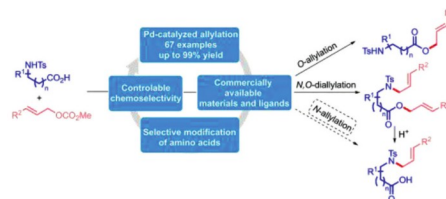
^b Chemical Synthesis and Pollution Control Key Laboratory of Sichuan Province, China West Normal University, Nanchong 637009, China

^c Engineering Center of Catalysis and Synthesis for Chiral Molecules, Department of Chemistry, Fudan University, Shanghai 200433, China

^d Shanghai Engineering Center of Industrial Catalysis for Chiral Drugs, Shanghai 200433, China

The palladium-catalyzed chemoselective allylic alkylation of amino acids was accomplished through controlling the reaction conditions. This protocol provides a rapid and efficient route for synthesizing various important O-allylated, N-allylated, and N,O-diallylated amino acid derivatives.

Chinese Chemical Letters 33 (2022) 4850



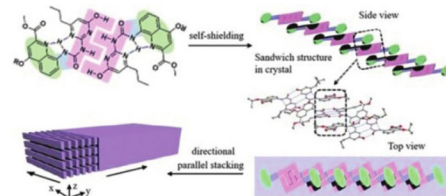
Dimensionally confined nanosheets self-assembled through self-shielding multiple hydrogen bonding interactions in aqueous media

Jing Zhang, Shuaiwei Qi, Hao Yu, Ze Lin, Bao Li, Ming Wang, Zeyuan Dong

State Key Laboratory of Supramolecular Structure and Materials, College of Chemistry, Jilin University, Changchun 130012, China

An excellent building block was designed to construct supramolecular assemblies with clear and definite structures through self-shielding multiple hydrogen bonding interactions in aqueous media.

Chinese Chemical Letters 33 (2022) 4856



Generation of sulfonylureas under photoredox catalysis and their biological evaluations

Xuefeng Wang^{a,b}, Jun Zhang^a, Qi Chen^a, Wei Zhou^b, Jie Wu^{a,c,d}

^a Taizhou Central Hospital (Taizhou University Hospital) & School of Pharmaceutical and Materials Engineering, Taizhou University, Taizhou 318000, China

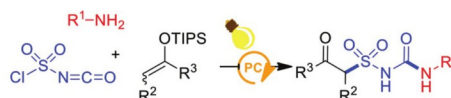
^b Department of Chemistry, Fudan University, Shanghai 200438, China

^c State Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

^d School of Chemistry and Chemical Engineering, Henan Normal University, Xinxiang 453007, China

With the insertion of commercialized chlorosulfonyl isocyanate under photoredox catalysis, alkylsulfonylureas are synthesized in one-pot from the corresponding anilines and silyl enolates. A radical process is proposed, and the anti-cancer and anti-virus screening of these compounds are evaluated.

Chinese Chemical Letters 33 (2022) 4860



- Synthesis of sulfonylureas under photoredox catalysis
- New application of Chlorosulfonyl Isocyanate (CSI)
- Broad substrate scope, column-free workup
- Biological evaluations

Iridium(I)-catalyzed deoxygenation of fluoroalkylsulfoxides with dimethyl diazomalonate to access fluoroalkylthioethers

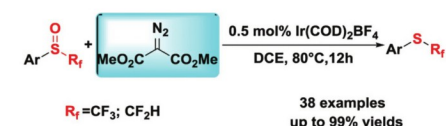
Wenqing Lu^a, Wenlin Li^a, Yicheng Zhou^a, Yongbin Xie^a, Wenbo Chen^{a,b}

^aShanghai Key Laboratory of Materials Protection and Advanced Materials in Electric Power, Shanghai University of Electric Power, Shanghai 200090, China

^bCAS Key Laboratory of Energy Regulation Materials, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

A new method for the preparation of fluoroalkylthioethers including trifluoromethylthioether and difluoromethylthioether by iridium(I)-catalyzed deoxygenation of fluoroalkylsulfoxides with dimethyl diazomalonate was developed.

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- Effective oxygen atom transfer
- Mild reaction conditions
- Good functional groups tolerance
- Easy to scale up

Palladium-catalyzed cyclization of 1-alkynyl-8-iodonaphthalene and double isocyanides for the synthesis of acenaphtho[1,2-*b*]pyrroles

Shangfeng Ren^{a,b}, Keke Huang^a, Jin-Biao Liu^a, Lianpeng Zhang^c, Min Hou^b, Guanyinsheng Qiu^b

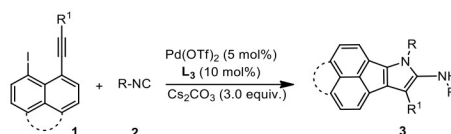
^aSchool of Metallurgical and Chemical Engineering, Jiangxi University of Science and Technology, Ganzhou 341000, China

^bCollege of Biological, Chemical Sciences and Engineering, Jiaying University, Jiaying 314001, China

^cInternational Joint Research Center for Biomass Materials, Southwest Forestry University, Kunming 650224, China

A palladium-catalyzed formal [2 + 2 + 1] cyclization of 1-alkynyl-8-iodonaphthalene with double isocyanides is developed herein. The transformation worked well to produce a series of 7H-acenaphtho[1,2-*b*]pyrrole with a broad reaction scope. Isocyanides play a dual role acting as C1 building block and C1N1 component.

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Cross-coupling of 2-methylquinolines and *in-situ* activated isoquinolines: Construction of 1,2-disubstituted isoquinolinones

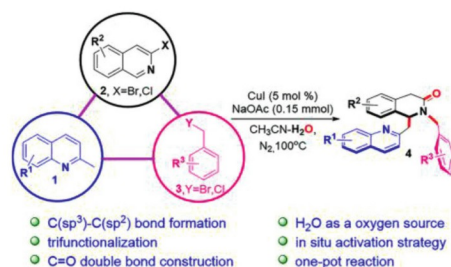
Jianyi Shi^a, Zheng Zeng^b, Shengting Xu^a, Zechun Cai^a, Yuehua Luo^a, Yongbo Fan^a, Zhongzhi Zhu^a, Tingting Wen^a, Xiuwen Chen^a

^aSchool of Biotechnology and Health Sciences, Wuyi University, Jiangmen 529020, China

^bAffiliated Hospital of Guilin Medical University, Guilin 541001, China

Herein, a method was developed to form C(sp³)-C(sp²) bonds through a copper catalyst-promoted cross coupling of 2-methylquinoline and *in-situ* activated 3-haloisoquinoline under mild conditions. The multi-component tandem reaction constructed new C-N, C=O, and C-C bonds in one pot through the sequential functionalization of the N1, C3, and C1 positions of 3-haloisoquinoline. This method can efficiently construct 1,2-disubstituted isoquinolinones through the three-component reaction of 3-halogen isoquinoline, alkyl halide, and 2-methylquinoline.

Chinese Chemical Letters 33 (2022) 4874



Catalytic and highly stereoselective β -mannopyranosylation using a 2,6-lactone-bridged mannopyranosyl *ortho*-hexynylbenzoate as donor

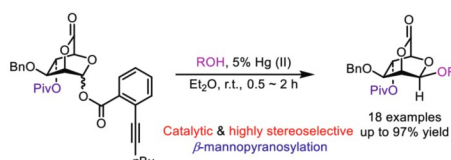
Yingle Feng^a, Jie Yang^a, Chenglin Cai^a, Taotao Sun^a, Qi Zhang^b, Yonghai Chai^a

^aKey Laboratory of Applied Surface and Colloid Chemistry, Ministry of Education and School of Chemistry and Chemical Engineering, Shaanxi Normal University, Xi'an 710119, China

^bSchool of Chemistry and Chemical Engineering, Shaanxi Normal University, Xi'an 710119, China

Glycosylation of 2,6-lactone-bridged mannopyranosyl *ortho*-hexynylbenzoate with various acceptors proceeded smoothly in the presence of 5% Hg(II) at room temperature, resulting in the corresponding β -mannosides in high yield and exclusive β -stereoselectivity.

Chinese Chemical Letters 33 (2022) 4878



MUC1 vaccines using β -cyclodextrin grafted chitosan (CS-g-CD) as carrier *via* host-guest interaction elicit robust immune responses

Hangyan Yu^a, Han Lin^a, Yuntian Xie^a, Mengyuan Qu^a, Min Jiang^a, Jie Shi^a, Haofei Hong^a, Hongrui Xu^b, Ling Li^b, Guochao Liao^c, Zhimeng Wu^a, Zhifang Zhou^a

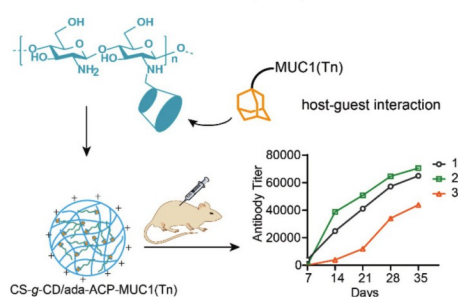
^aThe Key Laboratory of Carbohydrate Chemistry & Biotechnology, Ministry of Education, School of Biotechnology, Jiangnan University, Wuxi 214122, China

^bSuzhou Municipal Center for Disease Control and Prevention, Suzhou 215004, China

^cJoint Laboratory for Translational Cancer Research of Chinese Medicine of the Ministry of Education of the People's Republic of China, International Institute for Translational Chinese Medicine, Guangzhou University of Chinese Medicine, Guangzhou 510006, China

β -Cyclodextrin grafted chitosan (CS-g-CD) was used for constructing MUC1 vaccines *via* host-guest interaction which elicit robust immune responses. The induced antibodies can specifically recognize tumor cells and mediate cytotoxicity against tumor cells.

Chinese Chemical Letters 33 (2022) 4882



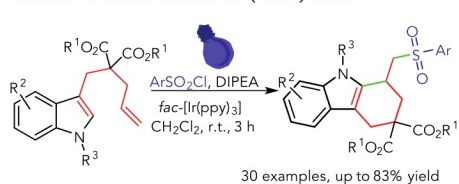
Visible-light-irradiated tandem sulfonylation/cyclization of indole tethered alkenes for the synthesis of tetrahydrocarbazoles

Yingjie Yu, Aiyao Liu, Jingrui He, Chengting Wang, Haibo Mei, Jianlin Han

Jiangsu Co-Innovation Center of Efficient Processing and Utilization of Forest Resources, International Innovation Center for Forest Chemicals and Materials, College of Chemical Engineering, Nanjing Forestry University, Nanjing 210037, China

A visible-light-mediated reaction of indole derivatives employing arylsulfonyl chlorides as sulfonyl surrogates has been developed, which affords multi-substituted tetrahydrocarbazoles as the products in good yields.

Chinese Chemical Letters 33 (2022) 4886



CuBr-promoted domino Biginelli reaction for the diastereoselective synthesis of bridged polyheterocycles: Mechanism studies and *in vitro* anti-tumor activities

Mengting Zeng^a, Ying Xue^b, Yunan Qin^a, Fen Peng^a, Quan Li^a, Ming-Hua Zeng^{a,c}

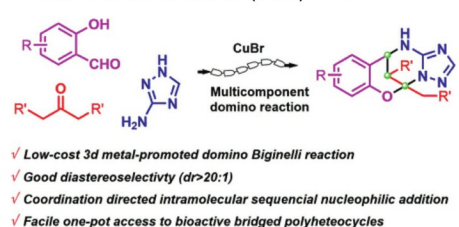
^aHubei Collaborative Innovation Center for Advanced Organic Chemical Materials, Ministry-of-Education Key Laboratory for the Synthesis and Application of Organic Functional Molecules, College of Chemistry and Chemical Engineering, Hubei University, Wuhan 430062, China

^bSichuan Center for Disease Control and Prevention, Chengdu 610041, China

^cKey Laboratory for the Chemistry and Molecular Engineering of Medicinal Resources, School of Chemistry and Pharmaceutical Sciences, Guangxi Normal University, Guilin 541004, China

The first low-cost 3d metal-promoted domino Biginelli reaction among readily available materials was investigated, providing a facile diastereoselective route to potentially bioactive bridged polyheterocycles in a one-pot manner.

Chinese Chemical Letters 33 (2022) 4891



Chinese Chemical Letters 33 (2022) 4896

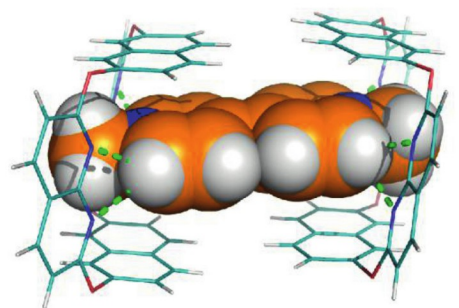
Selective recognition of methyl viologen by an *endo*-functionalized naphthobox

Weier Liu^{a,b}, Linghui Kong^b, Mao Quan^a, Huan Yao^a, Liupan Yang^a, Ho Yu Au-Yeung^b, Wei Jiang^a

^aGuangdong Provincial Key Laboratory of Catalysis and Department of Chemistry, Shenzhen Grubbs Institute, Southern University of Science and Technology, Shenzhen 518055, China

^bDepartment of Chemistry, The University of Hong Kong, Hong Kong, China

An *endo*-functionalized naphthobox shows highly selective binding of methyl viologen over other similar analogues through the formation of multiple C-H \cdots N hydrogen bonds, C-H \cdots π , and π \cdots π interactions.



Simultaneous enhancement of phosphorescence and chirality by host-guest recognition of molecular tweezers

Diankun Jia^{a,b}, Hua Zhong^c, Sixun Jiang^c, Risheng Yao^{a,b}, Feng Wang^c

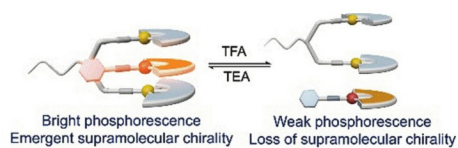
^aSchool of Chemistry and Chemical Engineering, Hefei University of Technology, Hefei 230009, China

^bSchool of Food and Biological Engineering, Hefei University of Technology, Hefei 230009, China

^cCAS Key Laboratory of Soft Matter Chemistry, Department of Polymer Science and Engineering, University of Science and Technology of China, Hefei 230026, China

Two birds, one stone: Molecular tweezer-based host-guest recognition provides an efficient way to enhance and modulate phosphorescence and chirality signals in a simultaneous manner.

Chinese Chemical Letters 33 (2022) 4900



Optically probing molecular shuttling motion of [2]rotaxane by a conformation-adaptive fluorophore

Chengyuan Yu^a, Xiaodong Wang^a, Cai-Xin Zhao^a, Shun Yang^a, Jiaan Gan^b, Zhuo Wang^b, Zhanqi Cao^c, Da-Hui Qu^a

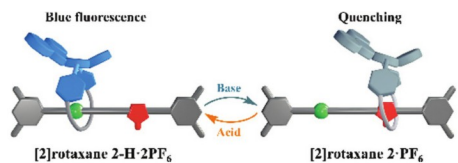
^aKey Laboratory for Advanced Materials and Joint International Research Laboratory of Precision Chemistry and Molecular Engineering, Feringa Nobel Prize Scientist Joint Research Center, Frontiers Science Center for Materiobiology and Dynamic Chemistry, Institute of Fine Chemicals, School of Chemistry and Molecular Engineering, East China University of Science and Technology, Shanghai 200237, China

^bShanghai Gantian Optical Material Co., Ltd., Shanghai 201512, China

^cCollege of Science, Henan Agricultural University, Zhengzhou 450002, China

A bistable [2]rotaxane with a conformation-adaptive macrocycle bearing a 9,14-diphenyl-9,14-dihydroindeno[1,2-b]phenazine (DPAC) unit was synthesized, which could be utilized to optical probe the molecular shuttling motion of the functionalized rotaxane system.

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Metal coordination to a deep cavitated promotes binding selectivities in water

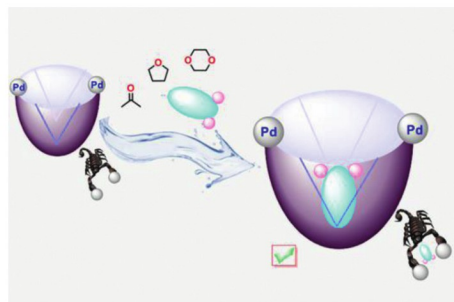
Yong-Qing Chen^a, Hua-Wei Guan^a, Kuppusamy Kanagaraj^a, Julius Rebek^{a,b}, Yang Yu^a

^aCenter for Supramolecular Chemistry and Catalysis and Department of Chemistry, College of Science, Shanghai University, Shanghai 200444, China

^bSkaggs Institute for Chemical Biology and Department of Chemistry, The Scripps Research Institute, La Jolla, CA 92037, United States

Water-soluble cavitands with pyridyl rims coordinate to Pd(II) and confine hydrophilic solvent molecules such as acetone, 1,4-dioxane and tetrahydrofuran.

Chinese Chemical Letters 33 (2022) 4908



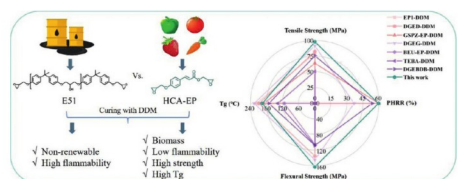
A bio-based epoxy resin derived from *p*-hydroxycinnamic acid with high mechanical properties and flame retardancy

Xin Song, Ze-Peng Deng, Chun-Bo Li, Fei Song, Xiu-Li Wang, Li Chen, De-Ming Guo, Yu-Zhong Wang

The Collaborative Innovation Center for Eco-Friendly and Fire-Safety Polymeric Materials (MoE), National Engineering Laboratory of Eco-Friendly Polymeric Materials (Sichuan), State Key Laboratory of Polymer Materials Engineering, College of Chemistry, Sichuan University, Chengdu 610064, China

A novel bio-based monomer, HCA-EP, with low viscosity is synthesized and used to prepare an epoxy resin having low flammability, high T_g and mechanical properties.

Chinese Chemical Letters 33 (2022) 4912



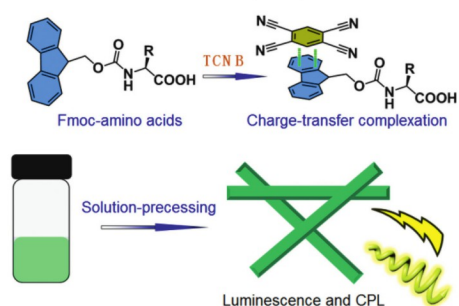
Fmoc-protected amino acids as luminescent and circularly polarized luminescence materials based on charge transfer interaction

Yiran Xia, Aiyao Hao, Pengyao Xing

Key Laboratory of Colloid and Interface Chemistry of Ministry of Education and School of Chemistry and Chemical Engineering, Shandong University, Ji'nan 250100, China

This work illustrates a noncovalent charge-transfer strategy to construct luminescent and chiroptical organic composites based on the easy-accessible and economic chiral N-terminal aromatic amino acids.

Chinese Chemical Letters 33 (2022) 4918



Oral colon-targeted mucoadhesive micelles with enzyme-responsive controlled release of curcumin for ulcerative colitis therapy

Chen Zhang^a, Jiixin Li^a, Meng Xiao^a, Di Wang^a, Yan Qu^a, Liang Zou^b, Chuan Zheng^{a,c}, Jinming Zhang^a

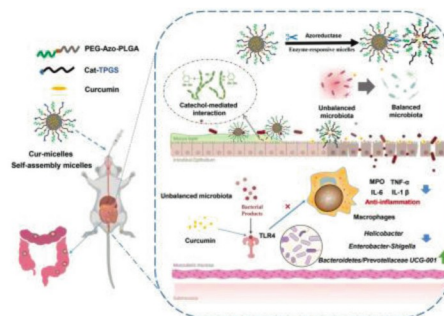
^aState Key Laboratory of Southwestern Chinese Medicine Resources, School of Pharmacy, Chengdu University of Traditional Chinese Medicine, Chengdu 611130, China

^bKey Laboratory of Coarse Cereal Processing, Ministry of Agriculture and Rural Affairs, Chengdu University, Chengdu 610106, China

^cOncology Teaching and Research Department, Hospital of Chengdu University of Traditional of Chinese Medicine, Chengdu 610072, China

The oral colon-targeted mucoadhesive Cur-micelles significantly mitigated colitis symptoms and accelerated colitis repair in DSS-treated mice by regulating the intestinal flora and the levels of pro-inflammatory factors (MPO, IL-6, IL-1 β , and TNF- α) related to TLR4/MyD88/NF- κ B signaling pathway.

Chinese Chemical Letters 33 (2022) 4924



Ruthenium-modified porous NiCo₂O₄ nanosheets boost overall water splitting in alkaline solution

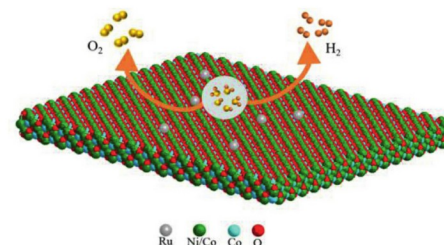
Rui Yang^a, Xuezhao Shi^a, Yanyan Wang^b, Jing Jin^a, Hanwen Liu^a, Jie Yin^a, Yong-Qing Zhao^a, Pinxian Xi^a

^aState Key Laboratory of Applied Organic Chemistry Frontiers Science Center for Rare Isotopes College of Chemistry and Chemical Engineering, Lanzhou University Lanzhou 730000, China

^bLanzhou Jinchuan Advanced Materials Technology Co., Ltd., Jinchang 737100, China

The porous Ru-NiCo₂O₄ nanosheets (NSs) are synthesized and utilized as efficient overall water splitting electrocatalysts. Ru-NiCo₂O₄ NSs possess favorable elements composition and optimized structure property with high oxygen vacancy concentration, more accessible active sites and lower charge transfer barrier. Thus, Ru-NiCo₂O₄ NSs exhibit efficiently catalytic activity for water splitting.

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Toward accurate and efficient dynamic computational strategy for heterogeneous catalysis: Temperature-dependent thermodynamics and kinetics for the chemisorbed on-surface CO

Jun Chen^{a,b,c,d}, Tan Jin^{b,d}, Yihuang Jiang^c, Tonghao Shen^e, Mingjun Yang^f, Zhe-Ning Chen^{b,c,d}

^aFujian Science & Technology Innovation Laboratory for Optoelectronic Information of China, Fuzhou 350108, China

^bState Key Laboratory of Structural Chemistry, Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences, Fuzhou 350002, China

^cState Key Laboratory of Physical Chemistry of Solid Surfaces, Fujian Provincial Key Laboratory of Theoretical and Computational Chemistry, Xiamen University, Xiamen 361005, China

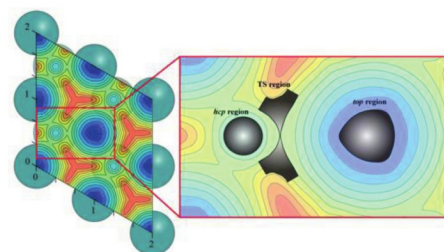
^dUniversity of Chinese Academy of Sciences, Beijing 100049, China

^eMOE Key Laboratory of Computational Physical Sciences, Department of Chemistry, Fudan University, Shanghai 200433, China

^fShenzhen Jingtai Technology Co., Ltd. (XtalPi), Fubao Community, Shenzhen 518045, China

A highly efficient dynamic strategy for the calculation of thermodynamic and kinetic properties in heterogeneous catalysis was proposed on the basis of efficient potential energy surface and MD simulations.

Chinese Chemical Letters 33 (2022) 4936



A TICS-fluorophore based probe for dual-color GSH imaging

Wenjuan Liu^{a,b}, Jie Chen^{a,b}, Qinglong Qiao^a, Xiaogang Liu^c, Zhaochao Xu^a

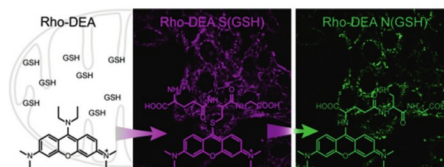
^a CAS Key Laboratory of Separation Science for Analytical Chemistry, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian 116023, China

^b University of Chinese Academy of Sciences, Beijing 100049, China

^c Fluorescence Research Group, Singapore University of Technology and Design, Singapore 487372, Singapore

A TICS-based fluorescent probe Rho-DEA undergoes cascade nucleophilic substitution reactions with the thiol and amino groups of GSH, accompanied by the generation of red and green fluorescence, respectively, enabling dual-color imaging of GSH in cellular mitochondria.

Chinese Chemical Letters 33 (2022) 4943



Insight into the *in vivo* fate of intravenous herpetrine amorphous nanosuspensions by aggregation-caused quenching probes

Lingyu Hang^{a,b}, Chengying Shen^c, Baode Shen^b, Hailong Yuan^{a,b}

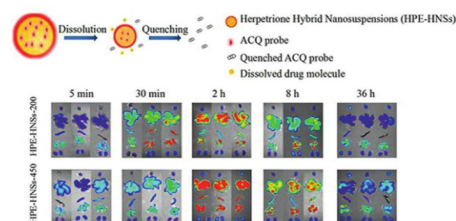
^a Department of Pharmacy, Air Force Medical Center, PLA, Beijing 100142, China

^b College of Pharmacy, Jiangxi University of Chinese Medicine, Nanchang 330004, China

^c Department of Pharmacy, Jiangxi Provincial People's Hospital, Nanchang 330006, China

Following intravenous administration of herpetrine amorphous nanosuspensions, integral herpetrine amorphous nanosuspensions and herpetrine show similar degradation and biodistribution, with rapid clearance from blood circulation and obvious accumulation in liver and lung.

Chinese Chemical Letters 33 (2022) 4948



Distinct structural characteristics define a new subfamily of *Mycoplasma* ferritin

Wenming Wang^{a,b,c}, Xiaojia Liu^a, Yajie Wang^b, Yuan Wang^a, Dan Fu^b, Hongfang Xi^a, Yi Zhao^c, Hongfei Wang^a

^a Institute of Molecular Science, Shanxi University, Taiyuan 030006, China

^b State Key Laboratory of Medicinal Chemical Biology and College of Pharmacy, Nankai University, Tianjin 300350, China

^c Shanxi Key Laboratory of Pharmaceutical Biotechnology, Taiyuan 030006, China

Ferritin from *Mycoplasma* represents some unique characteristics, including a unique ferroxidase center and much lower iron oxidation activity, as well as the channel for iron passthrough. Therefore, it should be classified into a new ferritin subfamily, *Mycoplasma* ferritin (Mfr).

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