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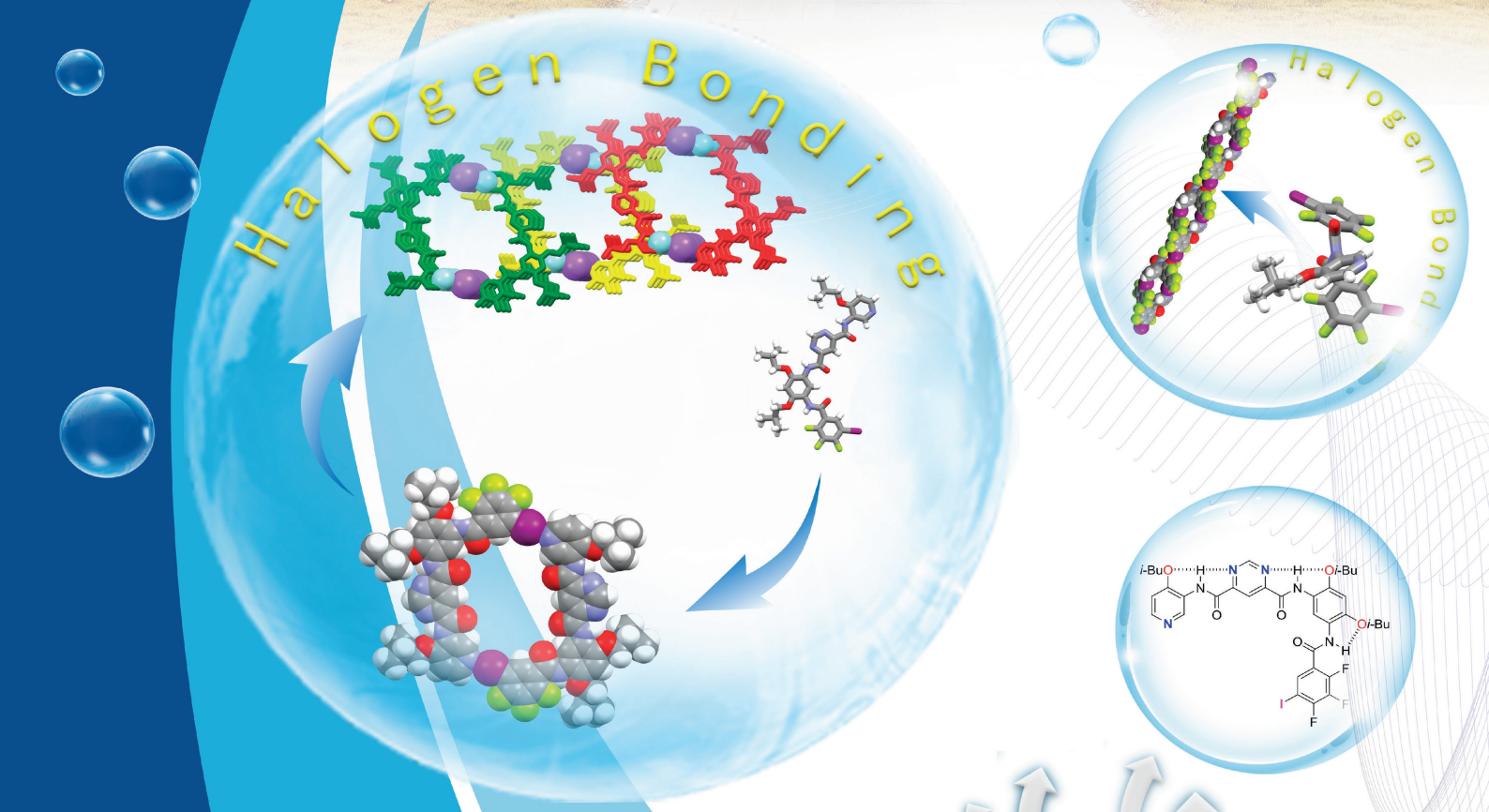

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中国科学院上海有机化学研究所 主办

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(Huaxue Xuebao)

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研究通讯

研究论文

综述

* 通信联系人.

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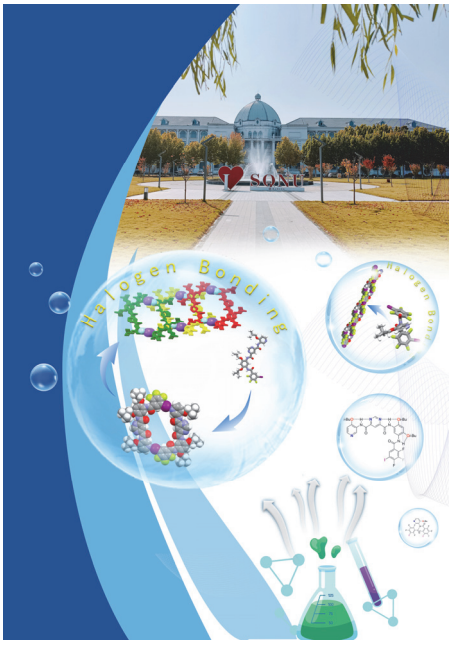
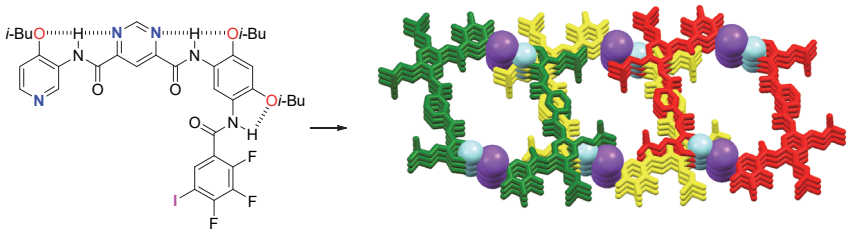
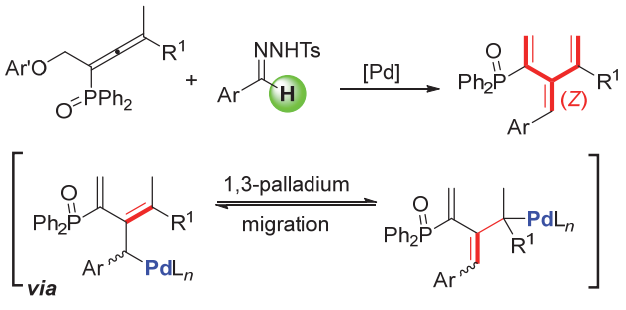


On the cover: Based on the orthogonality of hydrogen and halogen bonds, the assembly of hydrogen-bonded arylamide foldamers into supramolecular helices and macrocycles has been reported, we herein describe halogen bonding can be used to not only make a kind of linear structure similar to the double helix of DNA, but also hold hydrogen-bonded arylamide foldamer inserted with pyrimidine fragment to form planar bimolecular macrocycle in the solid state. Furthermore, driven by intermolecular π-π stacking a three-ring juxtaposed array was formed. [Liu, Xinming *et al.* on page 1365-1368.]

Communication



Based on the synergistic effect of intramolecular hydrogen bonding and intermolecular halogen bonding, a novel supramolecular planar bimolecular macrocycle were constructed.

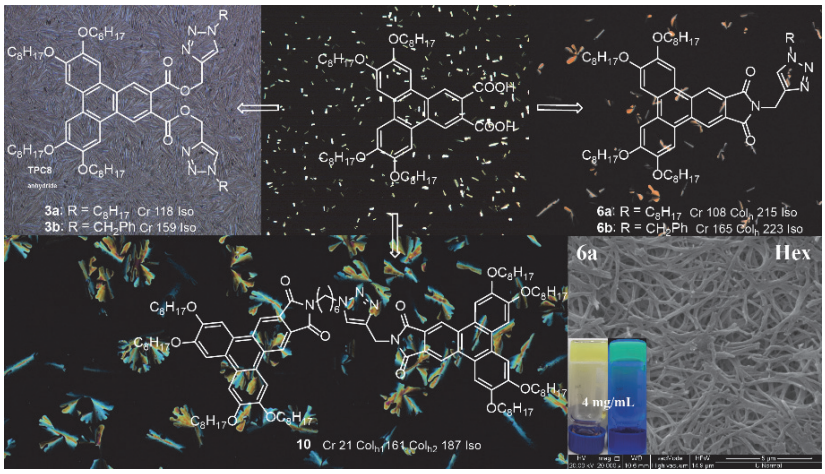


- 1,3-palladium migration process
- simultaneous construction of two C=C bonds
- 31 examples of (*Z*)-[3]dendralene derivatives

(*Z*)-[3]dendralene derivatives were constructed via a 1,3-palladium migration process with broad substrate scope and high stereoselectivity.

Article

Synthesis, Mesomorphism and Gelation Properties of Triazole-Modified Triphenylene 2,3-Dicarboxylic Esters and 2,3-Dicarboxyimides

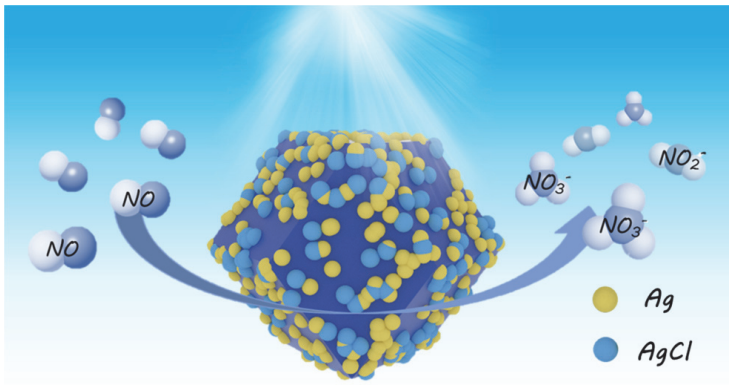


Yin, Dong; Shang, Hongyi; Yu, Wenhao; Xiang, Shikai; Hu, Ping; Zhao, Keqing; Feng, Chun*; Wang, Biqin*

Acta Chim. Sinica **2022**, *80*(10), 1376-1384

Two kinds of triazole-modified triphenylene 2,3-dicarboxylic esters and 2,3-dicarboxyimides were synthesized and the imides represent an interesting example of molecules exhibiting both liquid crystalline and gelling properties.

Study on Preparation of Ag/AgCl/ZIF-8 Composite and Photocatalytic NO Oxidation Performance

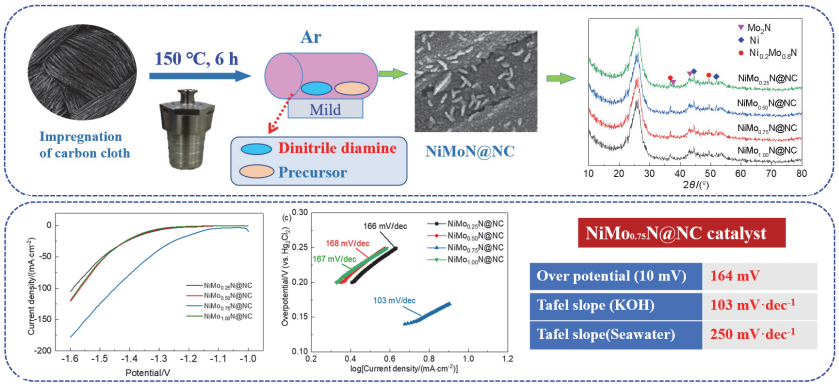


Zhu, Pengfei*; Lou, Chensi; Shi, Yuhan; Wang, Chuanyi*

Acta Chim. Sinica **2022**, *80*(10), 1385-1393

Ag/AgCl/ZIF-8 composite photocatalysts were successfully prepared by photoreduction precipitation method, which were used to effectively improve photocatalytic NO removal performance under visible light irradiation. Among them, the AACZ8-0.075 catalyst displayed the highest NO removal of 43.5% and better stability than that of ZIF-8.

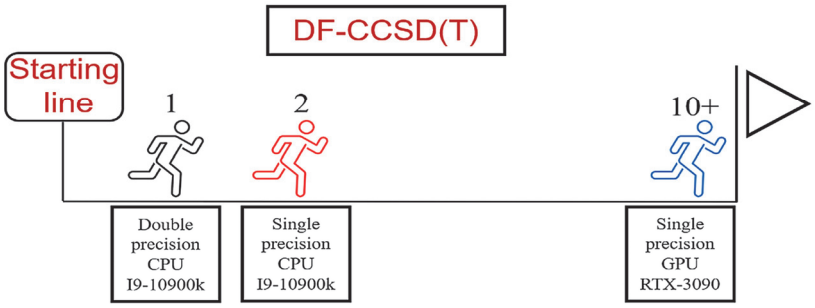
Preparation of Highly Active Transition Bimetallic Nitride NiMoN Hydrogen Evolution Reaction (HER) Catalyst and Its Performance Study in Seawater Electrolysis



Jiang, Bolong*; Cui, Yanyan; Shi, Shunjie; Jiang, Nan; Tan, Weiqiang

Acta Chim. Sinica **2022**, *80*(10), 1394-1400

Single-precision CCSD and CCSD(T) Calculations with Density Fitting Approximations on Graphics Processing Units



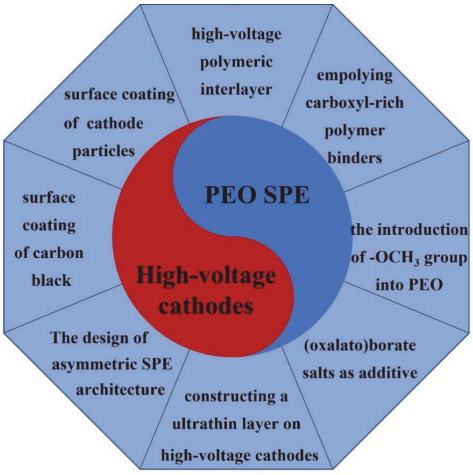
The authors had implemented a DF-CCSD(T) (Density-Fitting Coupled-Cluster approaches within the singles and doubles approximation augmented by a perturbative treatment of triple excitations) program that can employ single-precision data combine with graphics processing units (GPU) for calculation. When calculating on the same CPU, employing single-precision data can increase the calculation speed to two times, and the loss of accuracy is negligible. If a consumer GPU of the same hardware level as CPU is used in combination with single-precision data for DF-CCSD(T) calculation, the computing speed can be increased by dozens of times. Program developed in this work can significantly expand the application scope of DF-CCSD(T).

Wang, Zhifan*; He, Bing; Lu, Yanzhao; Wang, Fan

Acta Chim. Sinica **2022**, *80*(10), 1401-1409

Review

Key Advances of High-voltage Solid-state Lithium Metal Batteries Based on Poly(ethylene oxide) Polymer Electrolytes

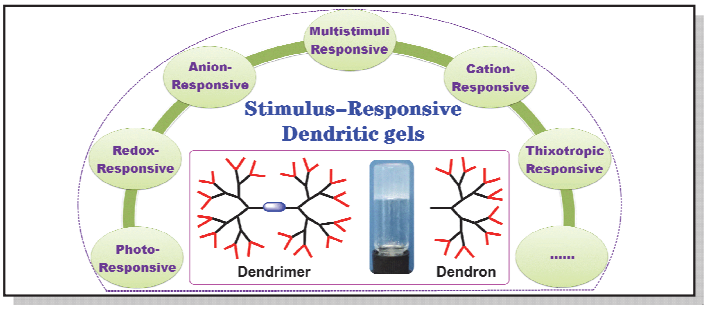


Poly(ethylene oxide) (PEO) based solid-state polymer electrolytes have made a series of significant scientific progress in high-voltage solid-state lithium metal batteries via eight promotion strategies in terms of electrolyte structure, binders, lithium salts and interfacial layers, which are crucial for the development of high energy solid-state lithium batteries.

Tian, Songwei; Zhou, Lixue; Zhang, Bingqian; Zhang, Jianjun*; Du, Xiaofan; Zhang, Hao; Hu, Sijia; Yuan, Zhixiang; Han, Pengxian; Li, Suli; Zhao, Wei; Zhou, Xinhong*; Cui, Guanglei*

Acta Chim. Sinica **2022**, *80*(10), 1410-1423

Progress in Stimulus-Responsive Dendritic Gels

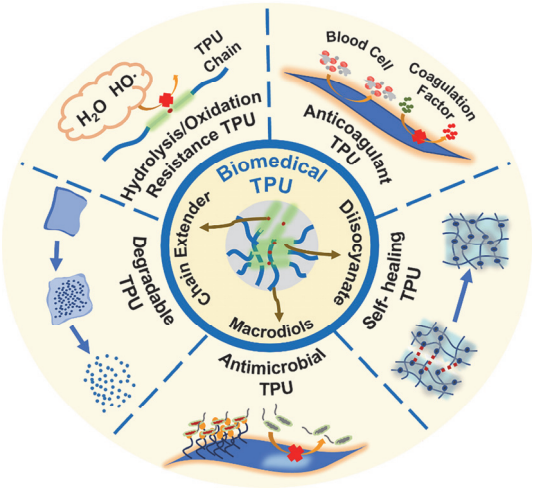


The recent advances of stimulus-responsive dendritic gels, including design strategies and applications are summarized, and the current challenges and future directions are discussed in this review.

Liu, Zhixiong*; Chu, Qingkai; Feng, Yu*

Acta Chim. Sinica **2022**, *80*(10), 1424-1435

Research Progress in Preparation and Biomedical Application of Functional Medical Polyurethane Elastomers

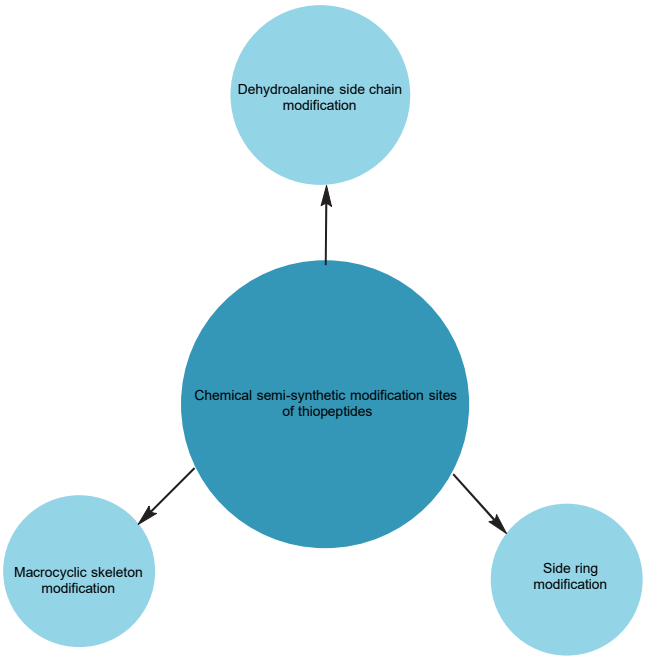


Zhang, Zhenyan; Liu, Lin; Xu, Donghua; Zhang, Ruoyu*; Shi, Hengchong*; Luan, Shifang; Yin, Jinghua

Acta Chim. Sinica **2022**, *80*(10), 1436-1447

The types, characteristics of monomers and the unique microphase separation structures in thermoplastic polyurethane (TPU) elastomer are introduced in this review. The relationship between the chemical/physical structure and the final performance is discussed. Meanwhile, the applications in biomaterials of TPU as antibacterial, anticoagulant, hydrolytic and oxidation resistant, self-healing and degradable materials are emphasized.

Research Progress in Chemical Semi-synthetic Modification of Thiopeptide Antibiotics



Zhu, Fengqiao; Wang, Wengui; Qu, Xudong*; Wang, Shoufeng*

Acta Chim. Sinica **2022**, *80*(10), 1448-1462

In recent years, chemical semi-synthesis has become an important method of modifying thiopeptide antibiotics to improve their physicochemical properties. The complex structure of the thiopeptide antibiotics themselves provides a large number of modifiable sites for chemical semi-synthetic modifications, which are distributed in the dehydroalanine side chain, the macrocyclic skeleton and the side ring, of which the chemical semi-synthetic modification on the dehydroalanine side chain is the most studied.

