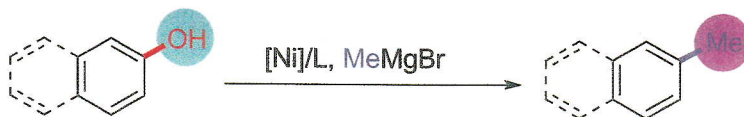


Breaking Report

183
Methylation of Arenols through Ni-catalyzed
C—O Activation with Methyl Magnesium Bromide

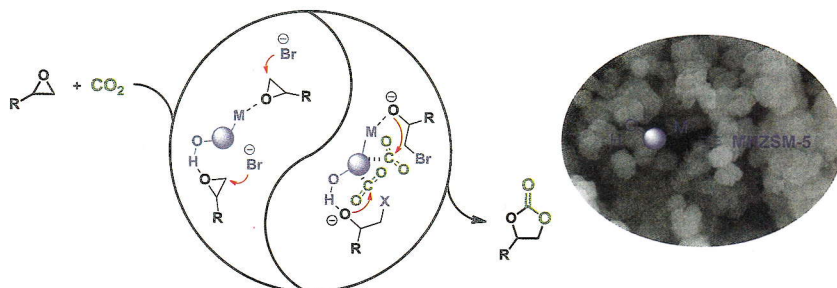


The nickel-catalyzed direct methylation of arenols with methyl Grignard reagent was solved under mild conditions. The transformation was compatible with various functional groups. Benzyl alcohol and biphenols were also suitable substrates.

Wen-Juan Shi, Zhang-Jie Shi*

Comprehensive Reports

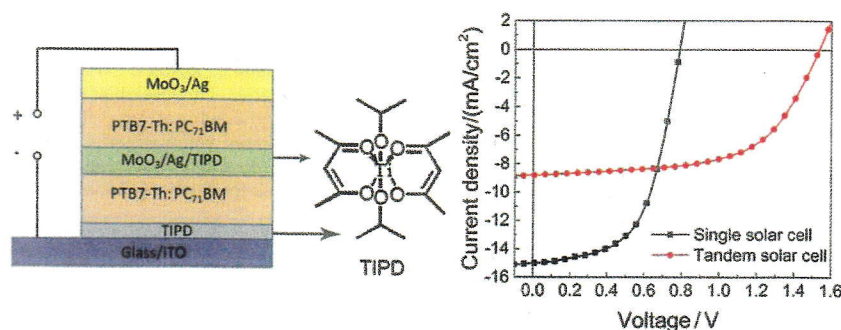
187
Catalytic Conversion of CO₂ to Cyclic Carbonates
through Multifunctional Zinc-Modified ZSM-5
Zeolite



The production of cyclic carbonates via CO₂ implant through multifunctional heterogeneous zeolite catalysis with excellent efficiency is described.

Qing-Ning Zhao, Qing-Wen Song,* Ping Liu,
Qian-Xia Zhang, Jun-Hua Gao, Kan Zhang*

194
Solution-processed Titanium Chelate Used as
Both Electrode Modification Layer and Inter-
mediate Layer for Efficient Inverted Tandem
Polymer Solar Cells

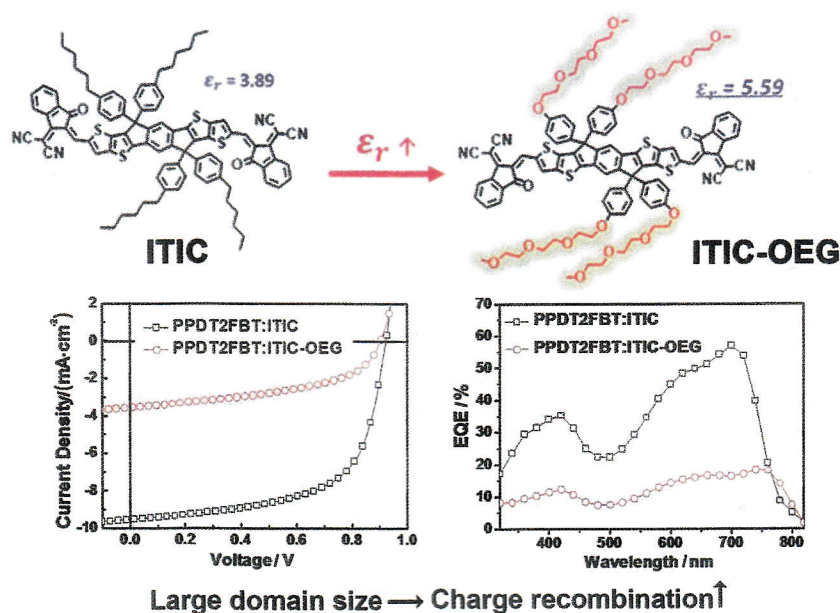


Solution processed titanium (diisopropoxide) bis(2,4-pentanedionate) (TIPD) is utilized as both electrode modification layer and intermediate layer for inverted homo tandem polymer solar cells with a best V_{oc} of 1.54 V which is almost two times that of the single BHJ-PSC (0.78 V), and an enhanced PCE up to 8.11% has been achieved.

Zhenzhen Shi, Hao Liu, Lixing Xia, Yiming Bai,
Fuzhi Wang, Bing Zhang, Tasawar Hayat, Ahmed
Alsaedi, Zhan'ao Tan*

199

A High Dielectric N-Type Small Molecular Acceptor Containing Oligoethyleneglycol Side-Chains for Organic Solar Cells



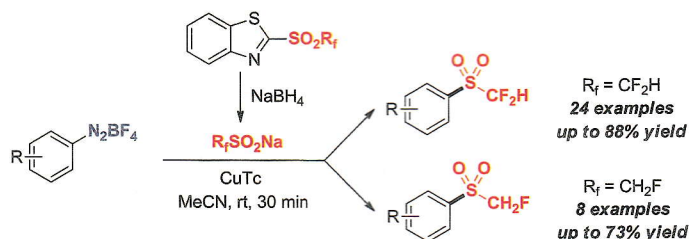
A new nonfullerene acceptor, ITIC-OEG was synthesized by replacing the normal alkyl substituents with OEG side-chains and the dielectric constant was greatly enhanced. The incompatibility between PPDT2FBT and ITIC-OEG (due to high hydrophilic nature of OEG chains) resulted in poor blend morphology, showing inefficient charge separation and significant charge recombination with small J_{SC} and PCE.

Bomee Jang, Changyeon Lee, Young Woong Lee, Donguk Kim, Mohammad Afsar Uddin, Felix Sunjoo Kim, Bumjoon J. Kim,* Han Young Woo*

Concise Reports

206

Copper-Mediated Di- and Monofluoromethanesulfonylation of Arenediazonium Tetrafluoroborates: Probing the Fluorine Effect

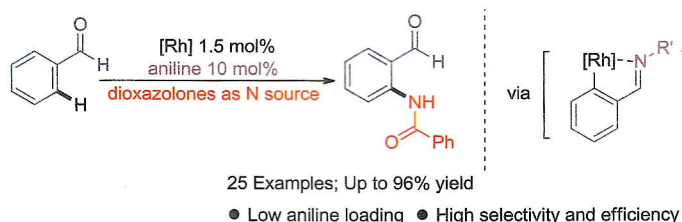


Bo Xing, Chuanfa Ni, Jinbo Hu*

Reactivity order: $CH_2FSO_2Na > CF_2HSO_2Na > CF_3SO_2Na$

213

Rh-catalyzed Transient Directing Group Promoted C—H Amidation of Benzaldehydes Utilizing Dioxazolones

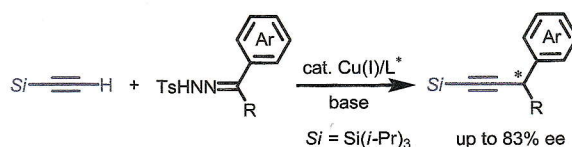


Transition-metal catalyzed C—H functionalization of benzaldehydes is of great interest in organic synthesis. Herein, we developed a transient directing group assisted amidation of benzaldehydes catalyzed by rhodium catalyst. With the employment of 10 mol% of 4-trifluoromethyl aniline, the in situ generated imine groups as the directing group efficiently enable this transformation. By using this protocol, a wide range of benzaldehydes were efficiently converted into the corresponding *N*-(2-formylphenyl)benzamides utilizing dioxazolones as the nitrogen source.

Xiaoyang Wang, Song Song, Ning Jiao*

217

Cu(I)-Catalyzed Asymmetric Cross-Coupling of *N*-Tosylhydrazones and Trialkylsilylalkynes: Enantioselective Construction of C(sp)—C(sp³) Bonds



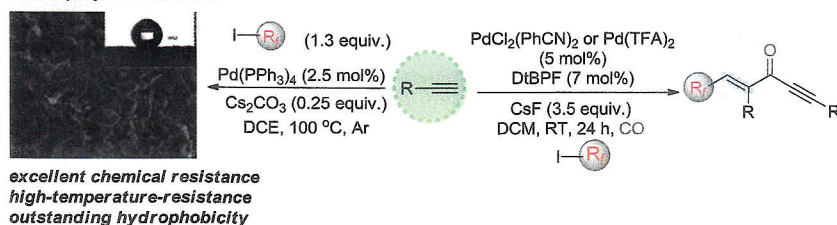
The first catalytic enantioselective C(sp)—C(sp³) cross-coupling reaction between *N*-tosylhydrazones and trialkylsilylalkynes has been developed. With Cu(I) salt and chiral phosphoramidite ligands, coupling products were obtained with moderate to good enantioselectivities (up to 83% ee).

Wen-Dao Chu, Fangfang Guo, Lefei Yu, Junting Hong, Qianyi Liu, Fanyang Mo, Yan Zhang, Jianbo Wang*

223

Diffunctionalization of Alkynes: Synthesis of Novel Fluoropolymer Materials

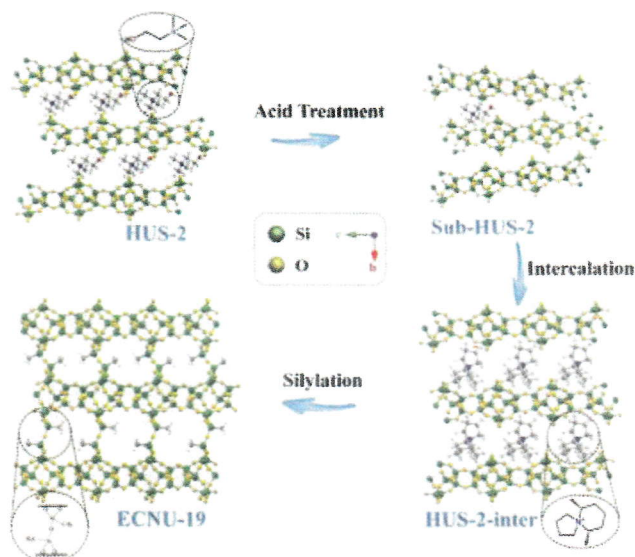
Fluoropolymer Materials



Qiang Wang, Xiwen Yu, Jiani Jin, Yang Wu, Yongmin Liang*

227

Synthesis of Large-Pore ECNU-19 Material (12 × 8-R) via Interlayer-Expansion of HUS-2 Lamellar Silicate

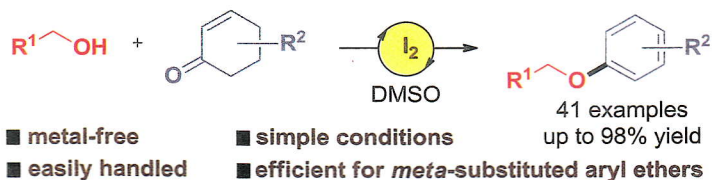


Boting Yang, Jin-Gang Jiang, Hao Xu,* Haihong Wu, Peng Wu*

A large pore ECNU-19 material was postsynthesized by interlayer expansion of lamellar precursor HUS-2 using 1,3-dimethyltetramethoxydisiloxane as silane. The preparing of this novel structure involved a “detemplating disassembly – intercalation reassembly – silylation” procedure.

233

Metal-Free I₂-Catalyzed Highly Selective Dehydrogenative Coupling of Alcohols and Cyclohexenones

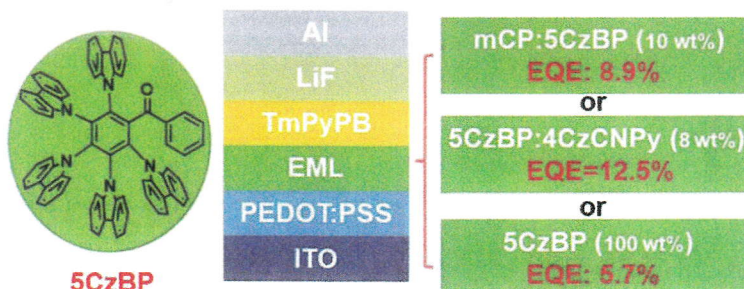


Yu-Feng Liang, Yizhi Yuan, Tao Shen, Song Song, Ning Jiao*

The I₂ catalyzed oxidative dehydrogenative coupling of cyclohexenones and alcohols has been described. DMSO is employed as the mild terminal oxidant. This novel methodology offers a metal-free reaction condition, operational simplicity and broad substrate scope to afford valuable products from inexpensive reagents. Various *meta*-substituted aromatic ethers which are hardly synthesized from the reported methods requiring *meta*-substituted phenols, are efficiently prepared by the present protocol.

241

Twisted penta-Carbazole/Benzophenone Hybrid Compound as Multifunctional Organic Host, Dopant or Non-doped Emitter for Highly Efficient Solution-Processed Delayed Fluorescence OLEDs



Fangfang Wang, Xudong Cao, Ling Mei, Xinwen Zhang,* Jia Hu, Youtian Tao*

Multifunctional penta-carbazole/benzophenone hybrid compound 5CzBP was used as organic host, dopant and non-doped emitter for simple solution-processed thermally activated delayed fluorescence OLEDs and achieved high maximum EQE of 12.5%, 8.9% and 5.7%, respectively.

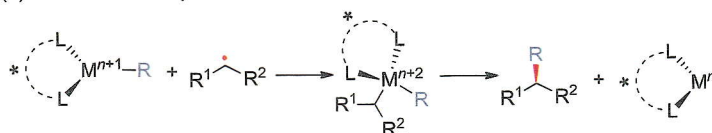
247

Recent Advances in Transition Metal-Catalyzed Asymmetric Radical Reactions

(a) Chiral transition metal complex chelation:



(b) Chiral metal complex combined with radical and reductive elimination:



(c) Chiral metal complex outer-sphere substitution by radical intermediate:



Transition metal-catalyzed asymmetric radical reactions have made remarkable progress recently. This review summarizes recently new concepts and strategies for controlling enantioselectivity in transition metal catalyzed radical transformations.

Kuai Wang, Wangqing Kong*

Meeting Our New Senior Editorial Board Members (pages 257–262)