Special Topic
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Guest editor: Anthony J. Burke

Taking the Green Road Towards Pharmaceutical Manufacturing
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Recent Advances in Enantioselective Organocatalytic Reactions Enabled by N-Heterocyclic Carbenes (NHCs) Containing Triazolium Motifs

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Recent Developments in Transannular Reactions

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Recent Advances in the Synthesis and Medicinal Chemistry of SF$_5$ and SF$_4$Cl Compounds

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Enantioselective Dearomative Alkynylation of Chromanones: Opportunities and Obstacles

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Synthesis 2022, 54, 4235–4245
DOI: 10.1055/s-0040-1719901
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Tryptanthrin and Its Derivatives in Drug Discovery: Synthetic Insights
Special Topic 4235

Synthesis 2022, 54, 4246–4256
DOI: 10.1055/a-1736-6703
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Impact of Design of Experiments in the Optimisation of Catalytic Reactions in Academia
Special Topic 4246

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Taking the Green Road Towards Pharmaceutical Manufacturing
Special Topic 4257
Synthesis and Antiproliferative Activity of Novel Quercetin-1,2,3-Triazole Hybrids using the 1,3-Dipolar Cycloaddition (Click) Reaction

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Concise Syntheses of Alternariol, Alternariol-9-monomethyl Ether and Their D3-Isotopologues

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Photocatalytic Approach to α,α-Difluoroalkyl Alcohols

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Survey of New, Small-Molecule Isatin-Based Oxindole Hybrids as Multi-Targeted Drugs for the Treatment of Alzheimer’s Disease

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Selective Csp³–F Bond Functionalization with Lithium Iodide

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Palladium/Norbornene-Cocatalyzed Three-Component Synthesis of ortho-Acylated Benzonitriles

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DABCO-Catalyzed [3+2] Cycloaddition of Isatin-Derived Nitrones and Electron-Deficient Dienes via a 1,6-Addition Reaction

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Enantioselective Synthesis of (+)-Agelasidine A Using Thio-Claisen Rearrangement

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Iodine-Promoted N-Acylation of Amines with Hydrazide: An Efficient Metal-Free Amidation

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Stereoselective Conjugate Addition-Enamination of α-Linear N-tert-Butanesulfinyl Ketimines with Nitroolefins

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N-tert-Butanesulfinyl ketimines were treated with nitroolefins in the presence of t-BuOK. The reaction proceeded smoothly in THF at –78 °C for 30 min, producing enaminones with high stereoselectivity. A total of 21 examples were explored, achieving up to 91% yield and greater than 20:1 Z:E ratio.

Palladium-Catalyzed Synthesis of Aryl Ketones from Carboxylic Acids and Arylboronic Acids Using 2-Chloroimidazolium Chloride as a Coupling Reagent

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The palladium-catalyzed cross-coupling of carboxylic acids and arylboronic acids was achieved using 2-chloroimidazolium chloride as a coupling reagent. The reaction was carried out in toluene at 90 °C for 4 h. The coupling was suitable for various carboxylic acids and arylboronic acids, and up to 84% yield was achieved. 35 examples were explored.

The Synthesis and Application of 2-Cyano and -Ester Containing Anilines: Selective Copper-Catalyzed Reductive Amination, N-Benzylation, and Cyclization Reactions

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Selective copper-catalyzed reductive amination, N-benzylation, and cyclization reactions were developed for the synthesis of 2-cyano and -ester containing anilines. Broad substrate scope was observed, with good yields up to 95%. Excellent functional group tolerance was achieved, and regio- and chemoselectivity were demonstrated. The application in the synthesis of indoloindoles and photophysical properties investigation were reported.

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Iodine-Catalyzed Synthesis of Alkylthio-Substituted 1,4-Enediones from Styrenes and Dialkyl Sulfoxides

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Ar
O
SR
I2/K2S2O8
Ar
O
O2 as oxygenating agent
high yields
sulfoxides as thioalkyl sources

R = Me, Et, nPr, nBu
17 examples
81–89% yield

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