Catalytic Enantioselective Synthesis of C–N Atropisomeric Heterobiaryls

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Recent Advances in Palladium-Catalyzed Oxidative Couplings in the Synthesis/Functionalization of Cyclic Scaffolds Using Molecular Oxygen as the Sole Oxidant

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Acyclic Quaternary Carbon Stereocenters through Transition-Metal-Catalyzed Enantioselective Functionalization of Unsaturated Hydrocarbons

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Catalytic Enantioselective Synthesis of C–N Atropisomeric Heterobiaryls

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Transition-Metal-Catalyzed Enantioselective Synthesis of Indoles from 2-Alkynylanilines

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Brønsted Acid Catalyzed Direct Annulation of Alkoxyallenes and Naphthols to Chroman Ketals

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Tuning StackPhim Ligands: Applications in Enantioselective Borylation and Alkynylation

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Catalytic Amidomethylative [2+2+2] Cycloaddition of Formaldimine and Styrenes toward N-Heterocycles

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The Use of Propargylamines to Synthesize Amino-1,2,3-triazoles via Cycloaddition of Azides with Allenamines

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Oxidant-Free Selective Synthesis of Functionalized Chroman-4-ones from ortho-Hydroxyacetophenones under HOAc/DMSO Conditions

Synthesis 2022, 54, 2185–2192
DOI: 10.1055/s-0040-1719880

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Cobalt–Tertiary Amine Mediated Peroxy-trifluoromethylation and -halodifluoromethylation of Alkenes with CF₂XBr (X = F, Cl, Br) and tert-Butyl Hydroperoxide

Synthesis 2022, 54, 2193–2204
DOI: 10.1055/a-1702-4445

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Chemoselective Reduction of Tertiary Amides by 1,3-Diphenyl-disiloxane (DPDS)

Synthesis 2022, 54, 2205–2212
DOI: 10.1055/a-1709-3426

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Sc(OTf)₃-Catalyzed [3+2]-Cycloaddition of Diazoacetoacetate Enones and N-Aryl Nitrones: Diastereoselective Synthesis of Functionalized Isoxazolidines with Three Contiguous Stereogenic Centers

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First Total Syntheses of (±)-Callyspongidic Acids and 2-epi-(±)-Callyspongidic Acids

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Efficient Synthesis of N-Carbamoylpropargylamines from α-Amido Sulfones Using Dimethylalkynylaluminum Reagents

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Silver-Catalyzed One-Pot Biarylamination of Quinones with Arylamines: Access to N-Arylamine-Functionalized p-Iminoquinone Derivatives

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Nickel-Catalyzed Reductive Cross-Coupling of Oxalates Derived from α-Hydroxy Carbonyls with Vinyl Bromides

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DMSO-Mediated Difunctionalization of Electron-Deficient Olefins to Access β-Hydroxysulfides with High Chemoselectivity

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Synthesis of Novel Pyrazine-Substituted 1H-Pyrrole-2-carboxamides and Related Tethered Heterocycles

9 examples
4–12 step syntheses
fused bicyclic nitrogen heterocycles

W = NH, CH
X = C, N
Y = C, N
Z = CH, N

Synthesis of 5-Trifluoromethyl-Substituted (Z)-N,N-Dimethyl-N’-(pyrazin-2-yl)formimidamides from 2-Aminopyrazines, LiI/Selectfluor, FSO₂CF₂CO₂Me and DMF under Cu Catalysis

15 examples
55–70% yields

LiI as an iodine source
DMF as a condensation reagent
Domino trifluoromethylation and condensation

Synthesis of Aryloxiranes and Arylcyclopropanes via Deprotonation of Benzyl Chlorides

epoxides and cyclopropanes
Convenient and General Synthesis of C-3-Substituted Het(aryl)indole C-Nucleoside Analogues from Sugar Alkynes

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Sugar
het(aryl) iodide, Pd(PPh3)2Cl2, Cul, Et3N, THF, rt, then
Pd(OAc)2, PPh3, Na2CO3, n-Bu4NCl, DMF, H2O, 70 °C

Sugar

- Up to 87% yield
- Structurally diverse terminal sugar alkynes (including furanosides, pyranosides, and acyclic sugars)
- Various hetaryl iodides (including phenyl, thiophenyl, benzothienyl, and benzofuranyl iodides)
- Broad substrate scope (31 examples)