

Synthesis

Synthesis 2020, 52, 1315–1345
DOI: 10.1055/s-0039-1690058

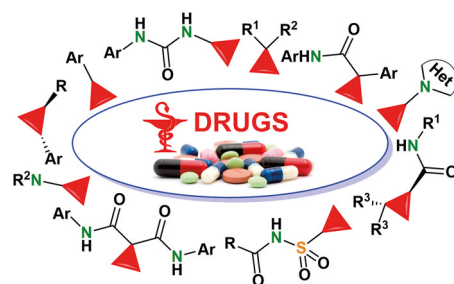
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Synthetic Approaches to Contemporary Drugs that Contain the Cyclopropyl Moiety

Review

1315



Synthesis

Synthesis 2020, 52, 1346–1356
DOI: 10.1055/s-0039-1690842

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F.-L. Qing

L. Chu*

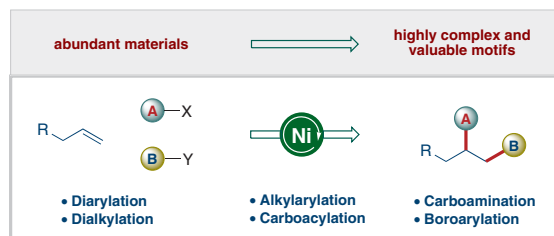
Donghua University,
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Recent Advances in Nickel-Catalyzed Three-Component Difunctionalization of Unactivated Alkenes

Short Review

1346

Nickel-Catalyzed Three-Component Difunctionalization of Unactivated Alkenes



Synthesis

Synthesis 2020, 52, 1357–1368
DOI: 10.1055/s-0039-1690839

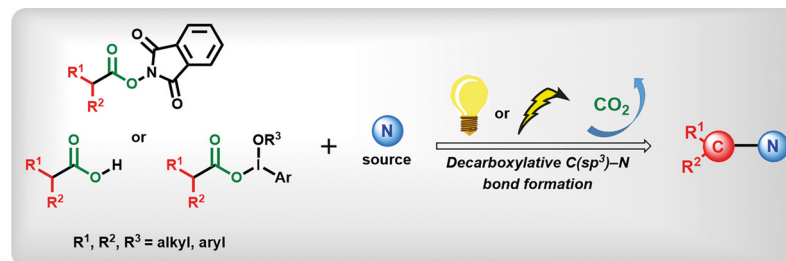
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Recent Developments in Photochemical and Electrochemical Decarboxylative C(sp³)-N Bond Formation

Short Review

1357



Synthesis

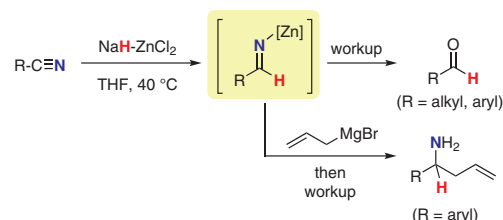
Synthesis 2020, 52, 1369–1378
DOI: 10.1055/s-0039-1690838

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Controlled Reduction of Nitriles by Sodium Hydride and Zinc Chloride

Feature

1369



Synthesis

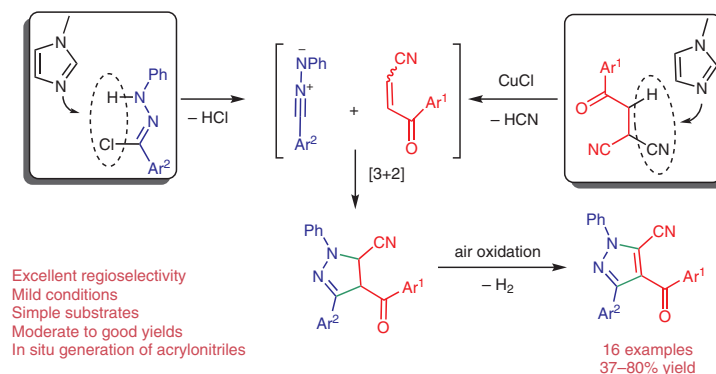
Synthesis 2020, 52, 1379–1386
DOI: 10.1055/s-0039-1691591

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Copper-Catalyzed Tandem Dehydrocyanation and [3+2] Cycloaddition Reactions of Phenacylmalononitriles: Regioselective Synthesis of Functionalized 4-Benzoyl-5-cyanopyrazoles under Mild Conditions

Paper

1379



Synthesis

Synthesis 2020, 52, 1387–1397
DOI: 10.1055/s-0039-1691597

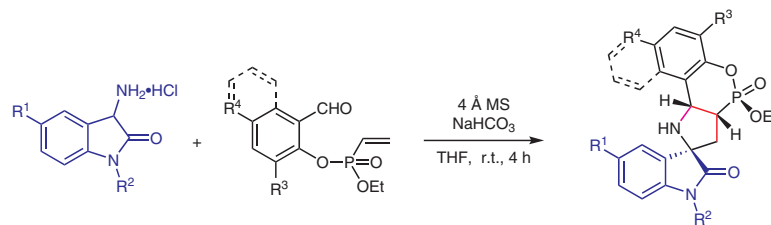
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1,3-Dipolar Cycloaddition of 3-Amino Oxindole-Based Azomethine Ylides and O-Vinylphosphonylated Salicylaldehydes for Diastereoselective Synthesis of Oxindole Spiro-P,N-polycyclic Heterocycles

Paper

1387



R = MeO, Cl, Br, F, alkyl, H Bn

28 examples, up to 96% yield
Only *cis*-selective intramolecular dipolar cycloaddition
Three new bonds (C–N, 2 C–C), two new P,N-heterocycles
Mild reaction conditions
Potential biological activity of the products

Synthesis

Synthesis 2020, 52, 1398–1406
DOI: 10.1055/s-0039-1690053

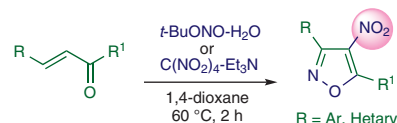
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K. S. Sadovnikov
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T. S. Kuznetsova
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Synthesis of 4-Nitroisoxazoles via NO/NO₂-Mediated Heterocyclization of Aryl-Substituted α,β -Unsaturated Ketones

Paper

1398



R = Ar, Hetaryl
R¹ = Alk, Ar
19 examples
up to 80% yield

Synthesis

Synthesis 2020, 52, 1407–1416
DOI: 10.1055/s-0039-1691564

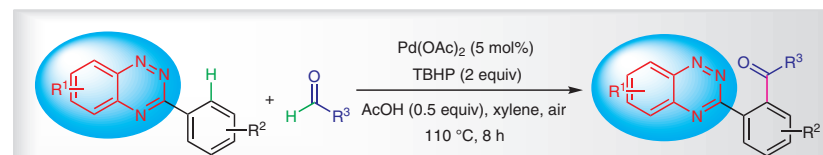
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Palladium-Catalyzed *ortho*-Monoacylation of Arenes with Aldehydes via 1,2,4-Benzotriazine-Directed C–H Bond Activation

Paper

1407



R¹ = Me, *i*-Pr, Cl
R² = Me, OMe, Cl
R³ = aryl, heteroaryl, alkyl

25 examples
50–85% yield

- ✓ bioactive 1,2,4-benzotriazine as the directing group
- ✓ aryl, heteroaryl and alkyl aldehydes, good FG tolerance
- ✓ open atmosphere
- ✓ high regioselectivity
- ✓ good yields
- ✓ easy to scale up

Synthesis

Synthesis 2020, 52, 1417–1424
DOI: 10.1055/s-0037-1610739

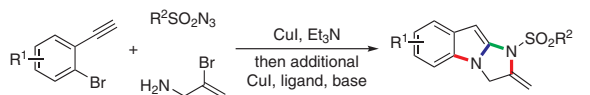
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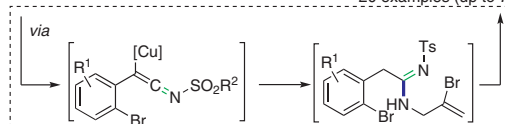
One-Pot Copper-Catalyzed Three-Component Reaction of Sulfonyl Azides, Alkynes, and Allylamines To Access 2,3-Dihydro-1*H*-imidazo[1,2-*a*]indoles

Paper

1417



20 examples (up to 77% yield)



- ◆ Easily available copper catalyst
- ◆ One-pot process
- ◆ Four C–N bonds being constructed
- ◆ High step-economy

Synthesis

Synthesis 2020, 52, 1425–1434
DOI: 10.1055/s-0037-1610750

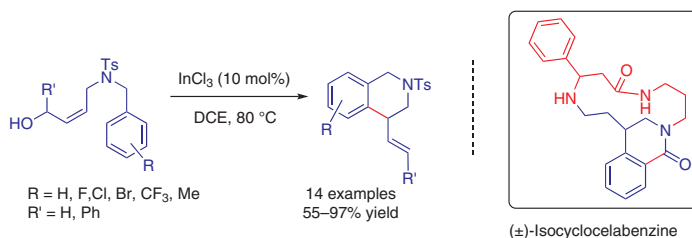
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Synthesis of 4-Vinyl-1,2,3,4-tetrahydroisoquinoline from *N*-Tethered Benzyl-Alkenol Catalyzed by Indium(III) Chloride: Formal Synthesis of (±)-Isocyclocelabenzine

Paper

1425



Synthesis

Synthesis 2020, 52, 1435–1443
DOI: 10.1055/s-0039-1690808

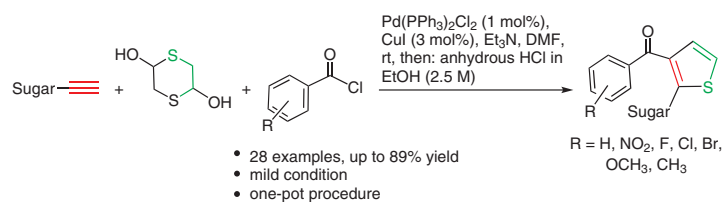
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Facile Synthesis of Novel Benzoylthiophene C-Nucleoside Analogues via Coupling of Sugar Alkynes, Aroyl Chlorides, and 1,4-Dithiane-2,5-diol

Paper

1435



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K. S. Rangappa*
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Cyclization of Active Methylene Isocyanides with α -Oxodithioesters Induced by Base: An Expedient Synthesis of 4-Methylthio/Ethoxy-carbonyl-5-acylthiazoles

