

Synthesis

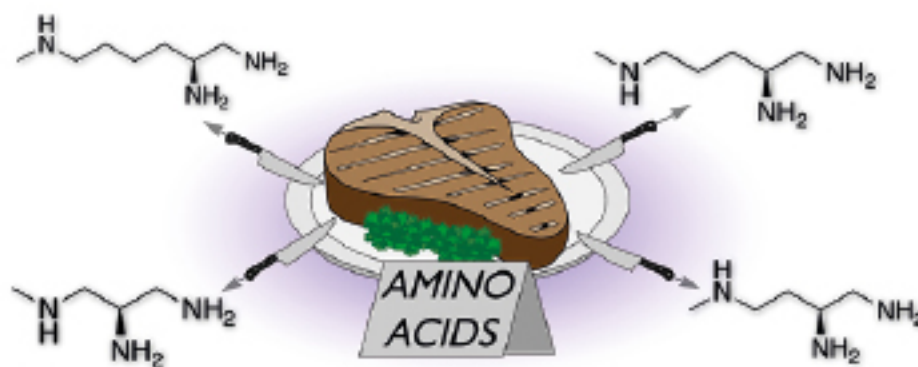
Reviews and Full Papers in Chemical Synthesis

November 3, 2020 • Vol. 52, 3095–3294

Special Topic

Recent Advances in Amide Bond Formation

Editor: Franziska Schoenebeck



Syntheses of Enantiopure 1,2-Ethylenediamines with Tethered Secondary Amines of the Formula $\text{H}_2\text{NCH}_2\text{CH}[(\text{CH}_2)_n\text{NHMe}]\text{NH}_2$ ($n = 1-4$) from α -Amino Acids: New Agents for Asymmetric Catalysis

C. Q. Kabes, J. H. Gunn, M. A. Selbst, R. F. Lucas, J. A. Gladysz

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Synthesis

Synthesis 2020, 52, 3095–3110
DOI: 10.1055/s-0040-1707149

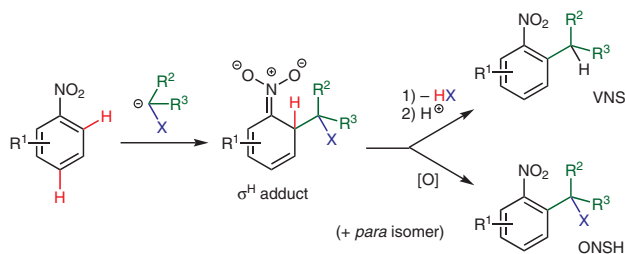
R. Loska*
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Introduction of Carbon Substituents into Nitroarenes via Nucleophilic Substitution of Hydrogen: New Developments

Review

3095



Synthesis

Synthesis 2020, 52, 3111–3128
DOI: 10.1055/s-0040-1707225

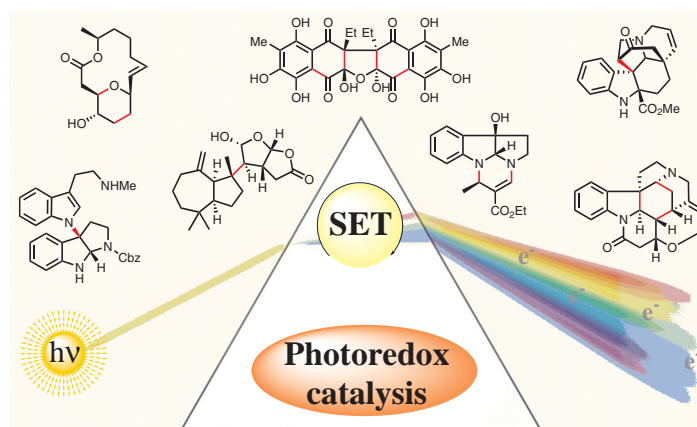
J. B. Mateus-Ruiz
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Visible-Light-Mediated Photoredox Reactions in the Total Synthesis of Natural Products

Short Review

3111



Synthesis

Synthesis 2020, 52, 3129–3139
DOI: 10.1055/s-0040-1707247

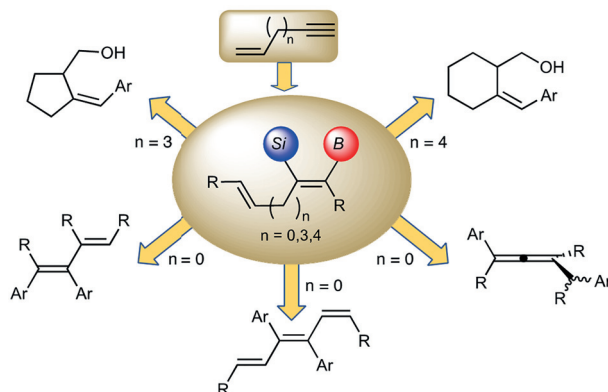
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Silylboranes as Powerful Tools in Organic Synthesis: Stereo- and Regioselective Reactions with 1,*n*-Enynes

Short Review

3129



Synthesis

Synthesis 2020, 52, 3140–3152
DOI: 10.1055/s-0040-1707222

M. Rehan

J. Flegel

F. Heitkamp

J. L. Pergomet

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C. Strohmann

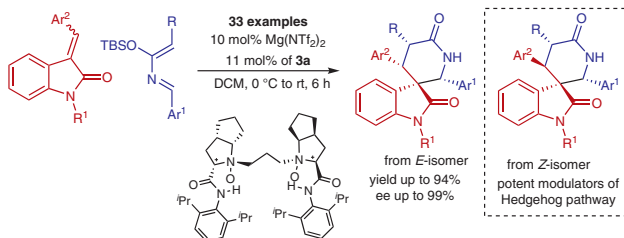
K. Kumar*

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Asymmetric Synthesis of 3,3'-Piperidinoyl Spirooxindoles and Discovery of Stereospecific Cycloadducts as Novel Hedgehog Pathway Modulators

Feature

3140



Synthesis

Synthesis 2020, 52, 3153–3161
DOI: 10.1055/s-0040-1707175

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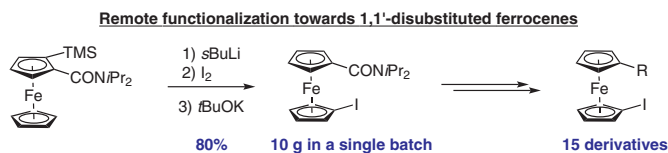
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Remote Deprotometalation-Iodolysis of *N,N*-Diisopropyl-2-trimethylsilylferrocenecarboxamide: A New Route Toward 1,1'-Disubstituted Ferrocenes

PSP

3153



Synthesis

Synthesis **2020**, 52, 3162–3188
DOI: 10.1055/s-0040-1707357

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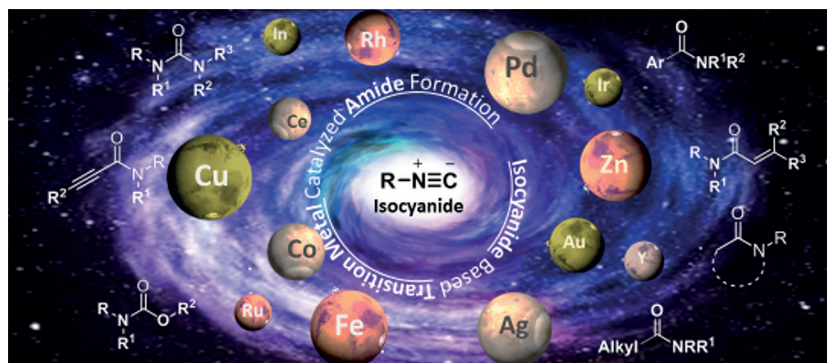
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Transition Metal and Inner Transition Metal Catalyzed Amide Derivatives Formation through Isocyanide Chemistry

Special Topic

3162



Synthesis

Synthesis **2020**, 52, 3189–3210
DOI: 10.1055/s-0040-1706296

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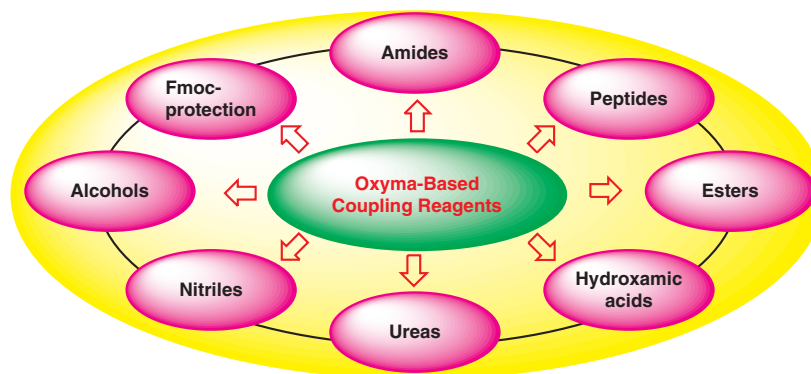
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OxymaPure Coupling Reagents: Beyond Solid-Phase Peptide Synthesis

Special Topic

3189



Synthesis

Synthesis **2020**, 52, 3211–3218
DOI: 10.1055/s-0040-1707124

B. Zhao

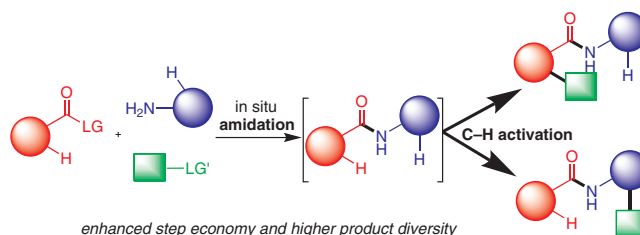
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Step-Economical C–H Activation Reactions Directed by In Situ Amidation

Special Topic

3211



Synthesis

Synthesis 2020, 52, 3219–3230
DOI: 10.1055/s-0040-1707394

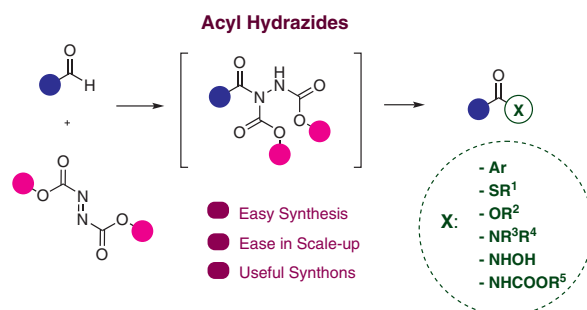
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Synthetic Approaches to Acyl Hydrazides and Their Use as Synthons in Organic Synthesis

Special Topic

3219



Synthesis

Synthesis 2020, 52, 3231–3242
DOI: 10.1055/s-0040-1707133

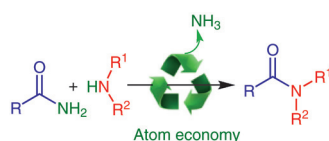
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Amide Synthesis by Transamidation of Primary Carboxamides

Special Topic

3231



Synthesis

Synthesis 2020, 52, 3243–3252
DOI: 10.1055/s-0040-1707132

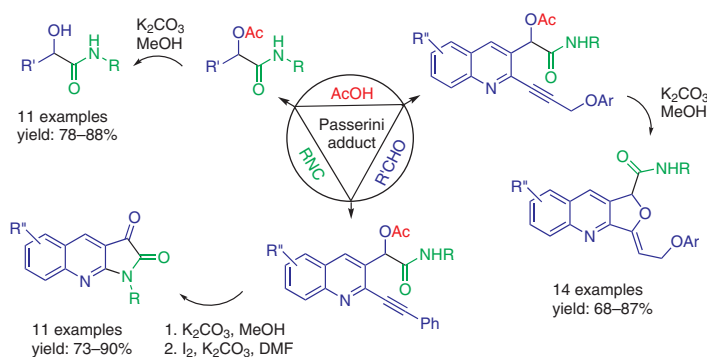
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Highly Selective Synthesis of α -Hydroxy, α -Oxy, and α -Oxo Amides by a Post-Passerini Condensation Transformation

Special Topic

3243



Synthesis

Synthesis 2020, 52, 3253–3262
DOI: 10.1055/s-0040-1707174

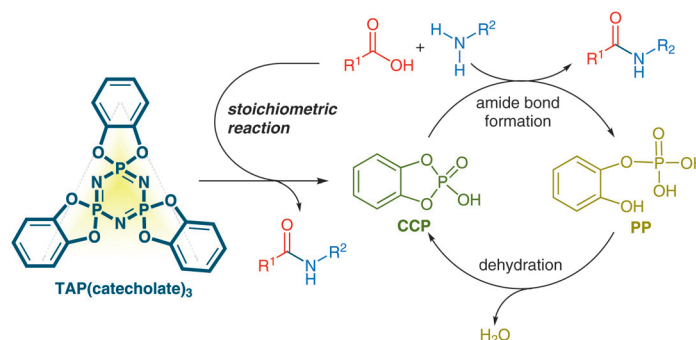
F. S. Movahed
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Tris(*o*-phenylenedioxy)cyclotriphosphazene as a Promoter for the Formation of Amide Bonds Between Aromatic Acids and Amines

Special Topic

3253



Synthesis

Synthesis 2020, 52, 3263–3271
DOI: 10.1055/s-0040-1707864

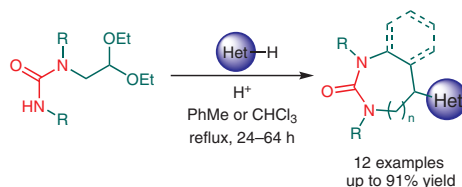
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Nucleophilic Cyclization/Electrophilic Substitution of (2,2-Dialkoxyethyl)ureas: Highly Regioselective Access to Novel 4-(Het)arylimidazolidinones and Benzo[d][1,3]diazepinones

Special Topic

3263



Synthesis

Synthesis 2020, 52, 3272–3276
DOI: 10.1055/s-0040-1707809

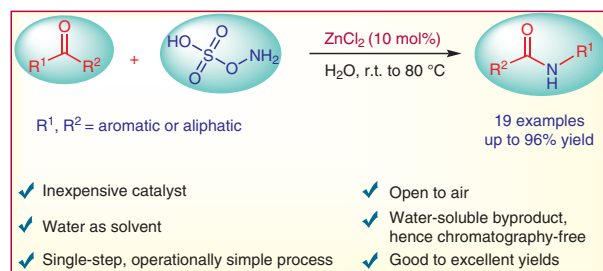
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Zinc(II)-Catalyzed Synthesis of Secondary Amides from Ketones via Beckmann Rearrangement Using Hydroxylamine-*O*-sulfonic Acid in Aqueous Media

Special Topic

3272



Synthesis

Synthesis 2020, 52, 3277–3285
DOI: 10.1055/s-0040-1707146

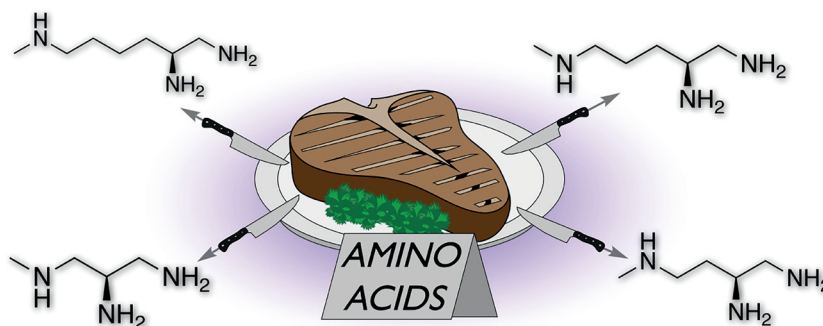
C. Q. Kabes
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M. A. Selbst
R. F. Lucas
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Syntheses of Enantiopure 1,2-Ethylenediamines with Tethered Secondary Amines of the Formula $\text{H}_2\text{NCH}_2\text{CH}[(\text{CH}_2)_n\text{NHMe}]\text{NH}_2$ ($n = 1-4$) from α -Amino Acids: New Agents for Asymmetric Catalysis

Special Topic

3277



Synthesis

Synthesis 2020, 52, 3286–3294
DOI: 10.1055/s-0040-1705892

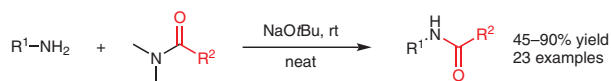
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A Practical Approach for the Transamidation of *N,N*-Dimethyl Amides with Primary Amines Promoted by Sodium *tert*-Butoxide under Solvent-Free Conditions

Special Topic

3286



R^1 = aliphatic, (hetero)aryl; R^2 = H or alkyl

- Transition-metal-free and solvent-free
- Uses 1.5 equiv of NaOtBu and 3.0 equiv of the *N,N*-disubstituted amide
- Compatible with long-chain alkyl groups and heteroatom-containing amines
- Gram-scale reactions with an easy work-up procedure