

Abstracts

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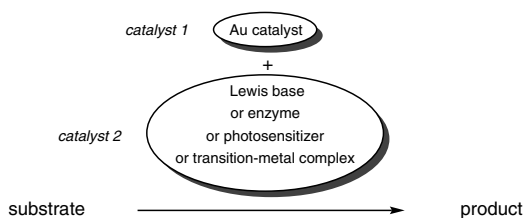
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3.6.17

Organometallic Gold Catalysis in Combination with Enzyme, Organo-, or Transition-Metal Catalysis

I. Celik, S. Hummel, and S. F. Kirsch

This chapter presents a summary of reactions where homogeneous catalysis with gold complexes is combined with other modes of catalysis. It focuses on new synthetic developments in the field of gold catalysis through the merger of gold and organocatalysis. In this context, examples with enzyme catalysis, aminocatalysis, and Brønsted acid catalysis are described, amongst others. Another focus is put on synthetic methods with a new reactivity that is only made possible when gold species are employed in the presence of other transition-metal-based catalysts. The review covers reactions reported until 2018.



Keywords: gold · catalysis · organocatalysis · transition metals · enzymes

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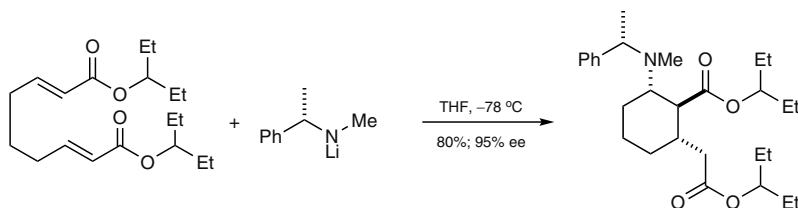
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8.1.6

Lithium Amides

C. T. Nieto, J. Eames, and N. M. Garrido

This chapter describes methods for the synthesis of lithium amides and their applications in C–N and C–C bond formations, including stereoselective transformations.



Keywords: lithium amides · desymmetrization · deprotonation · tetradentate lithium amides · immobilized lithium amides · isomerization · kinetic resolution · enantioselective addition · enantioselective deprotonation · domino reactions

2019

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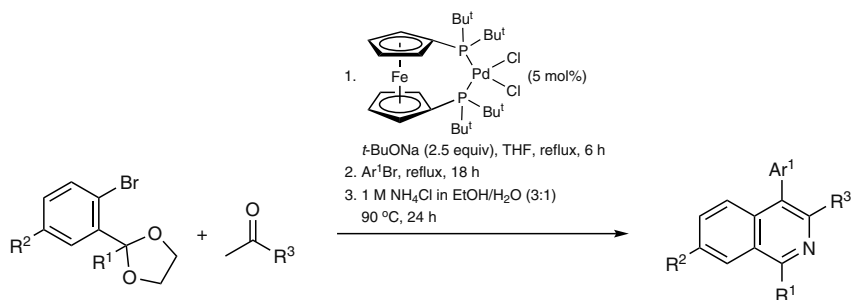
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15.5.4

Isoquinolines*B. S. Pilgrim and M. J. Tucker*

This chapter is an update to the earlier *Science of Synthesis* contributions (Sections 15.5.1, 15.5.2, and 15.5.3) covering the synthesis and reactivity of isoquinolines, isoquinoline *N*-oxides, and isoquinolinium salts. It focuses on the literature published in the period 2003–2016, with a particular emphasis on transition-metal-catalyzed synthetic processes.



Keywords: isoquinolines · isoquinoline *N*-oxides · isoquinolinium salts · heterocycles · nitrogen heterocycles · fused-ring systems · aromatization · cyclization · ring formation · annulation · carbon–nitrogen bonds · condensation reactions · imines · oximes · oxime ethers · cross-coupling reactions · alkaloids

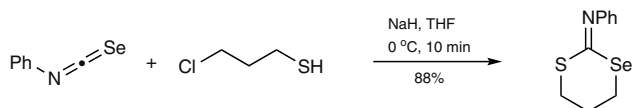
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18.12.26

Imidic Acids and Derivatives, Isoureas and Derivatives, Sulfur and Selenium Equivalent, and Analogously Substituted Methylene phosphines*J. Podlech*

This chapter is an update to the earlier *Science of Synthesis* contribution (Section 18.12) on the preparation of imidic acid derivatives and isoureas, their sulfur, selenium, and phosphorus derivatives, and on their applications in organic synthesis. It focuses on the literature published in the period 2004–2017.



Keywords: carbonohalidimidic acids · carbamimidic halides · carbonimidic diesters · carbonimidothioate diesters · carbonimidoselenoic diesters · isoureas · carbonimidodithioic diesters · carbonimidoselenothioic diesters · isothiureas · isoselenoureas · phosphorus compounds

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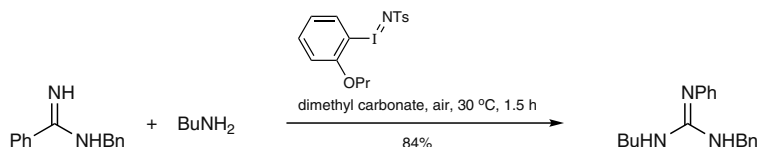
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18.13.2 Guanidine Derivatives

J. Podlech

This chapter is an update to the earlier *Science of Synthesis* contribution (Section 18.13) on the preparation of guanidines, as well on their applications in organic synthesis. It focuses on the literature published in the period 2004–2017.



Keywords: guanidines · cyanamides · carbodiimides · isocyanates · isothiocyanates · ureas · thioureas · isothiouras · isocyanides

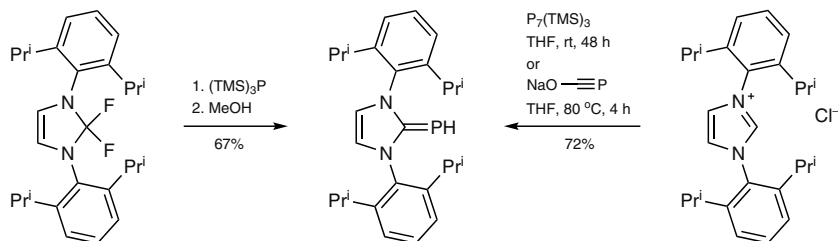
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18.14.6 Phosphorus Analogues of Guanidine

J. Podlech

This chapter is an update to the earlier *Science of Synthesis* contribution (Section 18.14) on the preparation of phosphorus analogues of guanidines, as well on their applications in organic synthesis. It focuses on the literature published in the period 2004–2017.



Keywords: phosphaguanidines · carbodiimides · phosphorylamidines · phosphanes · phosphonium compounds · phosphorus compounds · phosphorylthioamides · chlorophosphanes · phosphonates

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