

## Abstracts

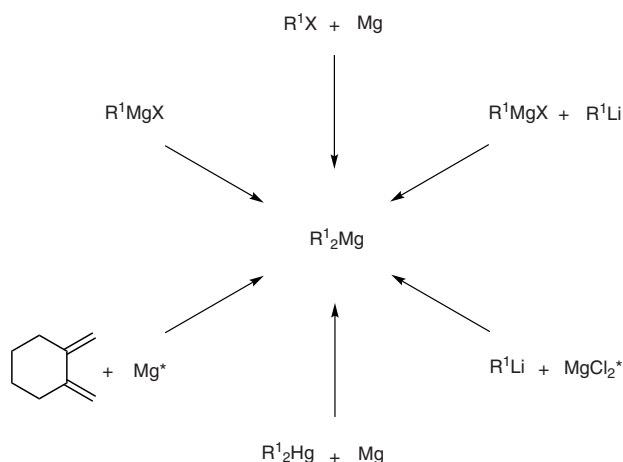
2011

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7.6.15

**Product Subclass 15: Dialkyl- and Diarylmagnesiums***L. Yang and C.-J. Li*

This manuscript is a revision of the earlier *Science of Synthesis* contribution describing methods for the synthesis of dialkyl- and diarylmagnesiums and their applications in organic synthesis.



**Keywords:** alkyl halides · Grignard reagents · magnesium compounds · nucleophilic addition · nucleophilic substitution

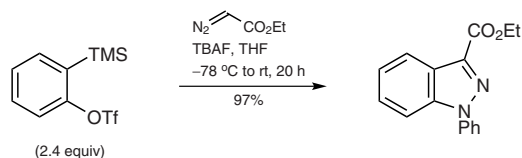
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12.2.5

**1H- and 2H-Indazoles***K. Sapeta and M. A. Kerr*

This manuscript is an update to the earlier *Science of Synthesis* contribution describing methods for the synthesis of 1H- and 2H-indazoles, and related compounds such as 1H-indazol-3(2H)-ones, with emphasis on the literature published in the period 2001–2010. Classic methods toward indazoles involve the condensation/cyclization of hydrazines with 2-acyl- or 2-alkylhaloarenes. New methods and improvements to existing approaches are also discussed, examples of which include cycloadditions of benzyne and diazo compounds, and transition-metal-catalyzed intramolecular aminations.



**Keywords:** indazoles · indazol-3-ones · amination · benzyne · condensation · cross coupling · cyclization · dipolar cycloaddition

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Updated Section ·

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New Contributions

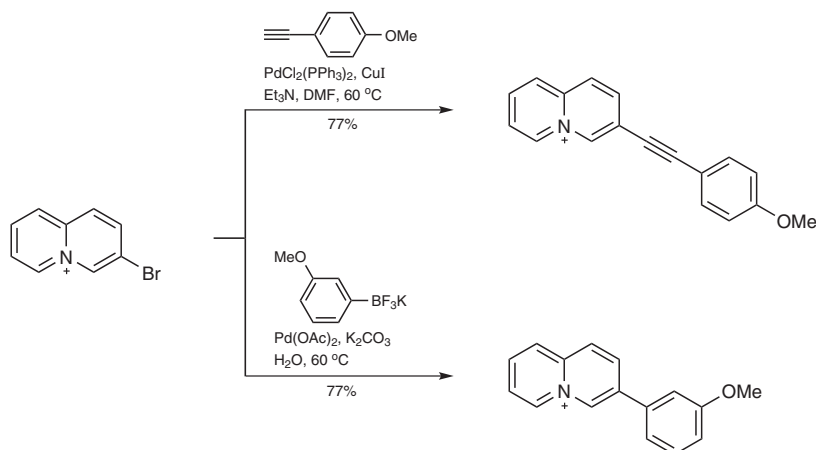
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## 15.7.5 Quinolinium Salts and Benzo Analogues

H. Ihmels

This manuscript is an update to the earlier *Science of Synthesis* contribution describing methods for the synthesis of quinolinium ions and benzannulated analogues. It focuses on the literature published in the period 2002–2010.



**Keywords:** arenes · cyclization · cyclodehydration · metathesis · nitrogen heterocycles · nucleophilic aromatic substitution · palladium-catalyzed coupling · quaternary salts · Stille coupling · Suzuki coupling

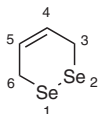
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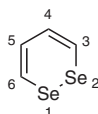
## 16.5.2 1,2-Diselenins

T. J. Hagen

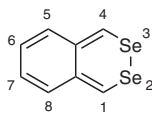
This manuscript is an update to the earlier *Science of Synthesis* contribution describing methods for the synthesis of 1,2-diselenins. The synthesis of various 1,2-diselenin species by ring closure through the formation of one Se–Se and two Se–C bonds is reported.



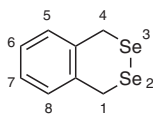
3,6-dihydro-1,2-diselenin



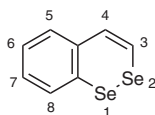
1,2-diselenin



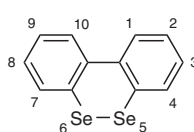
2,3-benzodiselenin



1,4-dihydro-2,3-benzodiselenin



1,2-benzodiselenin



dibenzo[c,e][1,2]diselenin

**Keywords:** 2,3-benzodiselenins · cyclization · 1,2-diselenins · hetarene synthesis · ring-closure reactions · selenation

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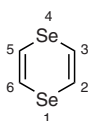
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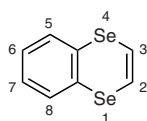
16.6.4 **1,4-Diselenins**

T. J. Hagen

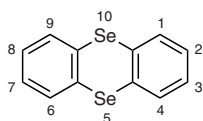
This manuscript is an update to the earlier *Science of Synthesis* contribution describing methods for the synthesis of 1,4-diselenins. The synthesis of various 1,4-diselenin species by ring closure through the formation of two Se—C bonds is reported.



1,4-diselenin



1,4-benzodiselenin



selenanthrene

**Keywords:** cyclization · 1,4-diselenins · hetarene synthesis · photolysis · ring-closure reactions · selanthrenes · thermolysis

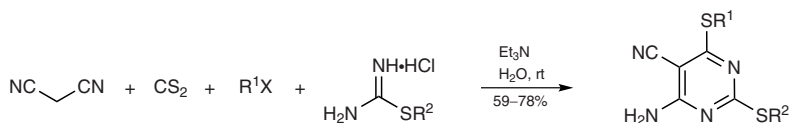
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16.12 **Product Class 12: Pyrimidines**

S. von Angerer

This section provides a detailed review of the methods available for the synthesis of pyrimidines. The pyrimidine ring is an essential component of all forms of life, and is also present in many biologically active substances, therapeutic agents, and pesticides. The synthetic methods for the formation of this important hetarene discussed in this review include the many available ring-closing approaches, syntheses from other ring systems, and also methods involving the introduction of new substituents into pyrimidines and the modification of existing substituents.

R<sup>1</sup> = R<sup>2</sup> = alkyl; X = Br, I

**Keywords:** pyrimidines · pyrimidinones · pyrimidinethiones · pyrimidinamines · uracil · cytosine · cyclization · condensation · aromatization · ring functionalization

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39.17.3 **Acyclic Dialkyl Selenoxides and Derivatives**

T. Shimizu

Dialkylselenium dihalides can be converted into the corresponding selenoxides, as shown in Section 39.17.2.1.2. Some other reactions of dialkylselenium dihalides, such as transformation into dialkylselenium diazides, dehalogenation to selenides, migration of halogens, and addition to cyclic ethers with ring opening of the ether, have also been re-

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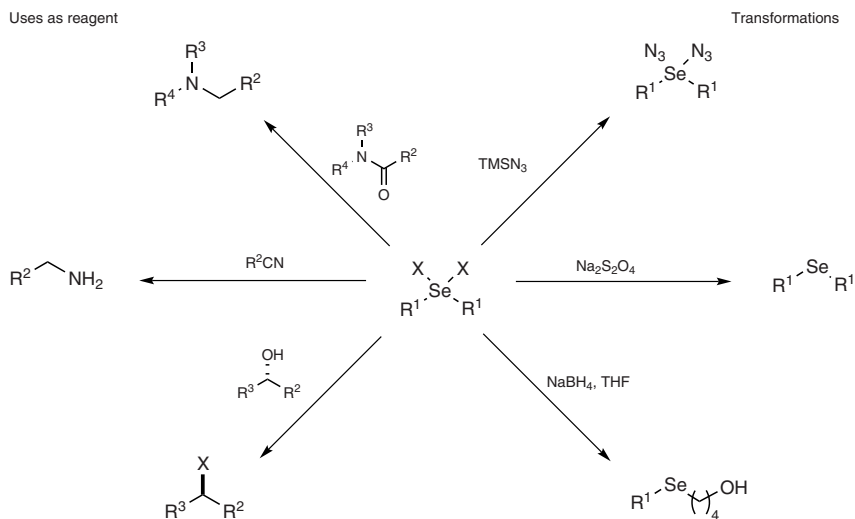
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ported. Dialkylselenium dihalides are also used as reagents in the reduction of amides and nitriles, in the halogenation of alcohols, and as selenation agents. In this update, utilization of dialkylselenium dihalides as reagents and some transformations of acyclic dialkylselenium dihalides are described.



R<sup>1</sup> = alkyl; X = Cl, Br

**Keywords:** dialkylselenium dihalide · dihaloselenurane · reduction · halogenation · selenation