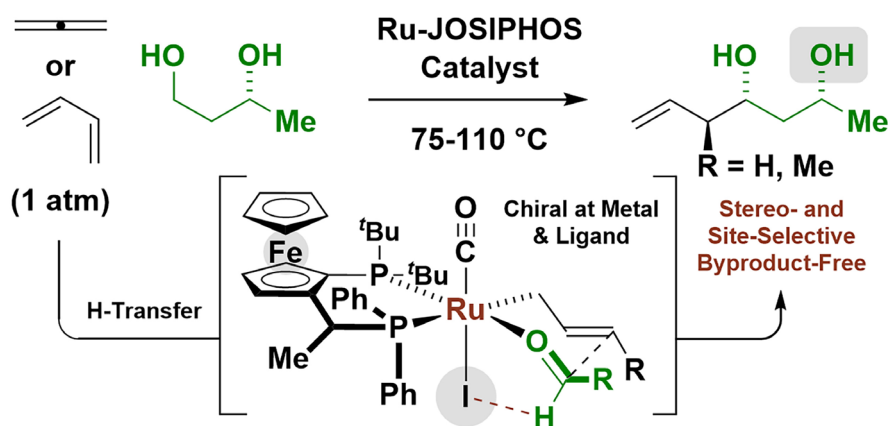


# Synthesis

Reviews and Full Papers in Chemical Synthesis

May 17, 2023 • Vol. 55, 1467–1612



Carbonyl Allylation and Crotylation: Historical Perspective, Relevance to Polyketide Synthesis, and Evolution of Enantioselective Ruthenium-Catalyzed Hydrogen Auto-Transfer Processes

*E. Ortiz, C. Saldares, J. Wu, Y. Cho, C. G. Santana, M. J. Krische*

10

## Synthesis

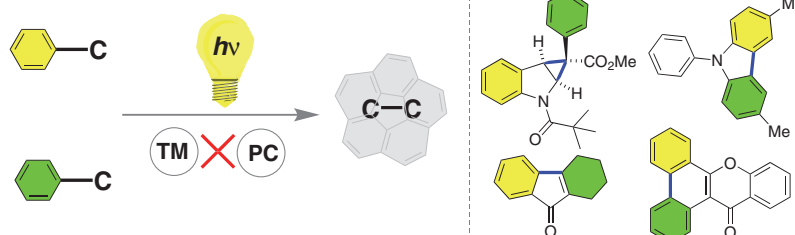
### Catalyst-Free Photoinduced C–C Bond Formations

## Review

*Synthesis* 2023, 55, 1467–1486  
DOI: 10.1055/a-2043-3973

S. K. Bera  
R. Bhanja  
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1467

## Synthesis

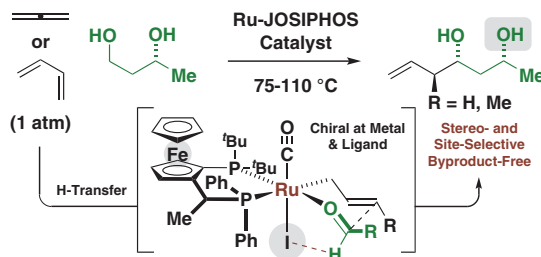
### Carbonyl Allylation and Crotylation: Historical Perspective, Relevance to Polyketide Synthesis, and Evolution of Enantioselective Ruthenium-Catalyzed Hydrogen Auto-Transfer Processes

## Short Review

*Synthesis* 2023, 55, 1487–1496  
DOI: 10.1055/s-0042-1751420

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1487

## Synthesis

Synthesis 2023, 55, 1497–1506  
DOI: 10.1055/a-2006-9754

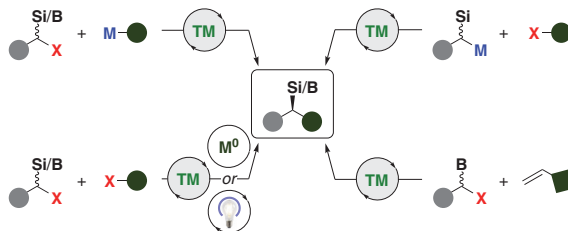
N. Kranidiotis-Hisatomi  
M. Oestreich\*

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## Advances in Enantioconvergent Transition-Metal-Catalyzed Cross-Coupling Reactions of Racemic $\alpha$ -Silyl and $\alpha$ -Boryl Reagents

Short Review

1497



## Synthesis

Synthesis 2023, 55, 1507–1516  
DOI: 10.1055/a-2029-0015

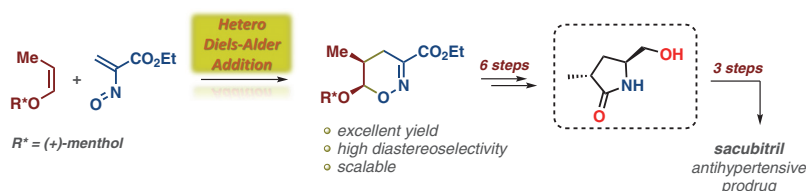
S. A. Zisopoulou  
T. Andreou  
T. V. Koftis  
J. K. Gallos\*  
C. I. Stathakis\*

Aristotle University of Thessaloniki,  
Greece

## Hetero-Diels–Alder Addition of Ethyl 2-Nitrosoacrylate to (Z)-Prop-1-enyl Ethers. Stereoselective Synthesis of a Precursor to Sacubitril

Feature

1507



## Synthesis

Synthesis 2023, 55, 1517–1524  
DOI: 10.1055/s-0042-1752398

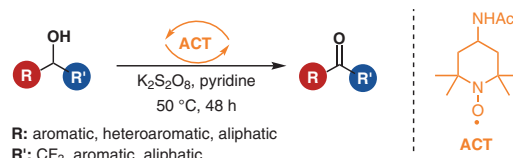
F. Politano  
W. P. Brydon  
N. E. Leadbeater\*

University of Connecticut, USA

## Oxidation of $\alpha$ -Trifluoromethyl and Nonfluorinated Secondary Alcohols to Ketones Using a Nitroxide Catalyst

Paper

1517



- employed to prepare trifluoromethyl ketones and non-fluorinated ketones
- broad substrate scope
- 27 examples; 44–95% yields

## Synthesis

## Synthesis of 2-Alkyl-2-(2-furanyl)-1,3-cyclopentanediones

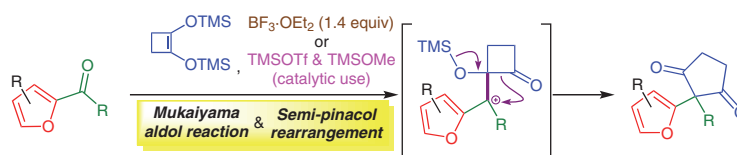
## Paper

1525

*Synthesis* **2023**, *55*, 1525–1532  
DOI: 10.1055/a-2004-1333

**K. Ikeuchi\***  
**Y. Ozoe**  
**R. Kato**  
**T. Suzuki**  
**K. Tanino\***

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## Synthesis

## Tandem Deoxygenative Geminal Fluorosulfonimidation of 1,2-Diketones via Formal N–F Insertion Enabled by Dealkylation-Resistant Phosphoramidite

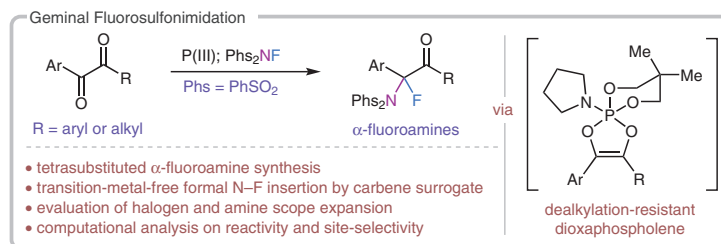
## Paper

1533

*Synthesis* **2023**, *55*, 1533–1542  
DOI: 10.1055/a-2005-4296

**S. Bak**  
**Y. Son**  
**S. Hwang**  
**H. E. Kim**  
**J.-H. Choi\***  
**W.-j. Chung\***

Gwangju Institute of Science and Technology, Republic of Korea



## Synthesis

Transition-Metal-Free Dehydrogenative Cyclization via  $\alpha$ -Csp<sup>3</sup>–H Activation of Ethers and Thioethers

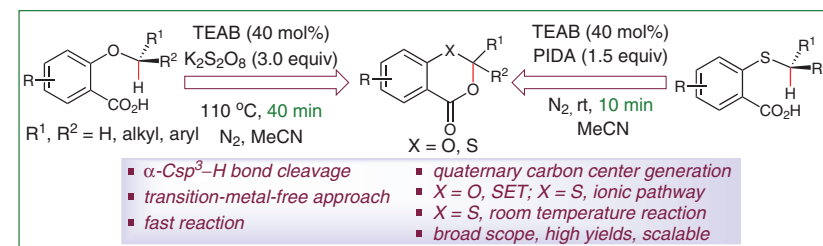
## Paper

1543

*Synthesis* **2023**, *55*, 1543–1552  
DOI: 10.1055/a-2017-6065

**K. Manna**  
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**R. Jana\***

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## Synthesis

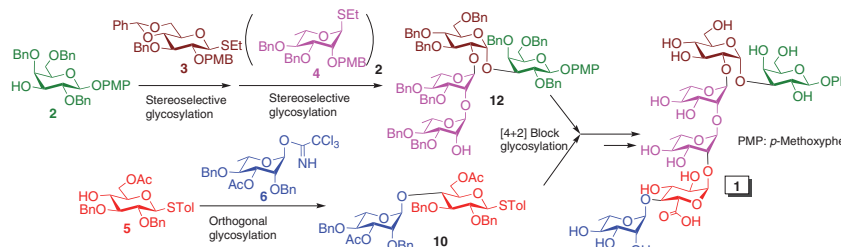
Synthesis 2023, 55, 1553–1560  
DOI: 10.1055/s-0042-1751419

S. Sahaji  
P. Shit  
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Concise Synthesis of the Hexasaccharide Repeating Unit of the Capsular Polysaccharide of *Klebsiella* K19 Strain

Paper

1553



- (a) Use of thioglycosides and trichloroacetimidate derivative as glycosyl donors.  
(b) A combination of NIS and  $\text{HClO}_4\text{-SiO}_2$  glycosylation promoter.  
(c) Construction of hexasaccharide by [4+2] block glycosylation and minimum functional group manipulation.

## Synthesis

Synthesis 2023, 55, 1561–1569  
DOI: 10.1055/a-1994-8251

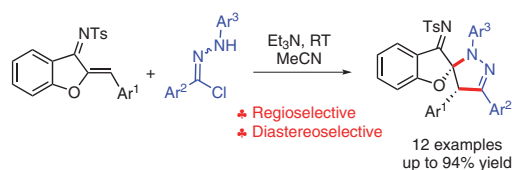
D. Askar  
X. Liu  
A. Obolda\*  
W. Xu\*  
Y. Xu  
G. Wang  
T. Wang  
H. Zhai  
B. Cheng\*

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Shenzhen Polytechnic,  
P. R. of China

## Synthesis of Spiro[benzofuran-2,3'-pyrazol]-3-imines from Aurone-Derived Azadienes and Hydrazonoyl Chlorides via Regio- and Diastereoselective [2+3] Cycloaddition

Paper

1561



## Synthesis

Synthesis 2023, 55, 1570–1576  
DOI: 10.1055/a-1988-5943

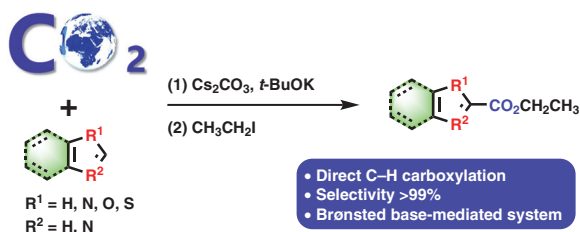
C. Y. Zhang  
Y. J. Chen  
Y. Y. Wang  
X. H. Peng\*

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Base-Mediated Direct Carboxylation of Heteroarenes with  $\text{CO}_2$ 

Paper

1570



## Synthesis

Synthesis 2023, 55, 1577–1585  
DOI: 10.1055/a-1992-6926

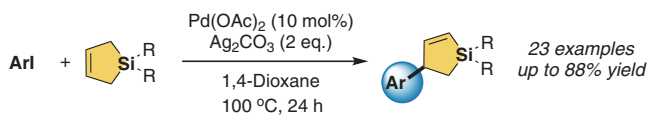
W.-S. Huang  
F.-Y. Ling  
X.-J. Fang  
Y.-M. Cui  
F. Ye  
Z. Xu  
J. Cao  
H. Yang  
L.-W. Xu\*

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P. R. of China  
Hangzhou Normal University,  
P. R. of China

### Synthesis of 2,3-Dihydrosiloles via Palladium-Catalyzed Heck-type Arylation of Silacyclopentenes with Aryl Iodides

Paper

1577



## Synthesis

Synthesis 2023, 55, 1586–1592  
DOI: 10.1055/s-0042-1751435

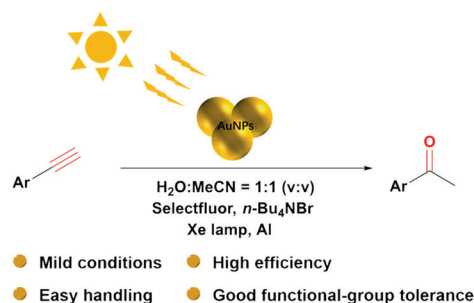
H. Yuan  
K. Su  
M. Ji  
H. Xue  
H. Chen  
Y. Zhang\*

Nanjing Tech University,  
China

### Hydration of Arylacetylenes Promoted by the Photothermal Effect of Gold Nanoparticles

Paper

1586



## Synthesis

Synthesis 2023, 55, 1593–1601  
DOI: 10.1055/a-2011-7334

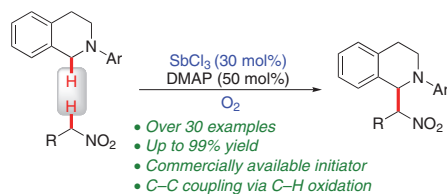
Q. Ma  
S. Zhang  
Y. Li  
H. Ding  
Z. Sun  
Y. Yuan\*  
X. Jia\*

Yangzhou University,  
P. R. of China

### SbCl<sub>3</sub>-Initiated Csp<sup>3</sup>–Csp<sup>3</sup> Coupling between N-Aryltetrahydroisoquinolines and Nitroalkanes via the Aerobic Oxidation of sp<sup>3</sup> C–H Bond

Paper

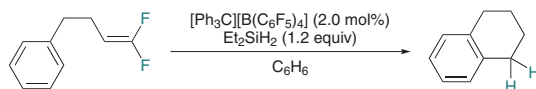
1593



A. Roy  
H. Gao  
H. F. T. Klare  
M. Oestreich\*

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## Silylium Ion Initiated Intramolecular Friedel–Crafts-Type Cyclization of 1,1-Difluoroalkenes with Subsequent Hydrodefluorination of C(sp<sup>3</sup>)–F Bonds



- 14 additional examples
- no need of sacrificial base
- silylation of the C=C bond rather than C(sp<sup>2</sup>)–F bond heterolysis