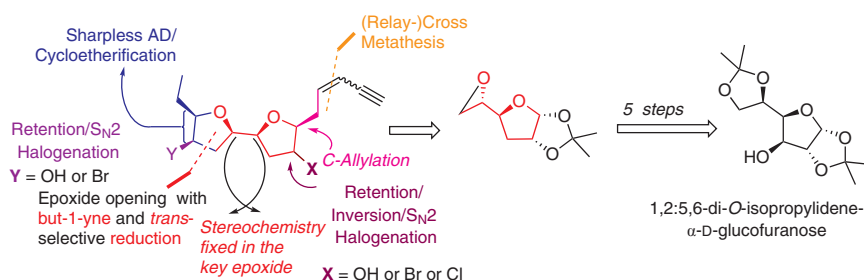


# Synthesis

Reviews and Full Papers in Chemical Synthesis

August 17, 2021 • Vol. 53, 2713–2910



Unified Approach for the Total Synthesis of Bis-THF C<sub>15</sub> Acetogenins: A Chloroenyne from *Laurencia majuscula*, Laurendecumenyne B and Laurefurenynes A/B

S. Senapati, N. A. Unmesh, M. N. Shet, I. Ahmad, N. Ajikumar, C. V. Ramana

16

## Synthesis

*Synthesis* 2021, 53, 2713–2739  
DOI: 10.1055/a-1493-6331

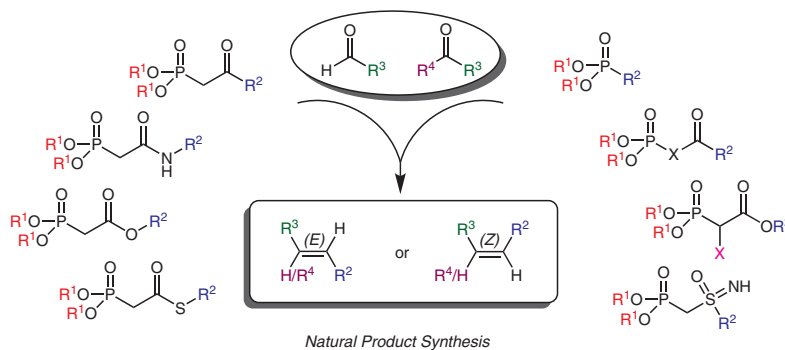
**D. Roman**  
**M. Sauer**  
**C. Beemelmanns\***

Leibniz Institute for Natural  
Product Research and Infection  
Biology – Hans-Knöll-Institute  
(HKI), Germany

## Applications of the Horner–Wadsworth–Emmons Olefination in Modern Natural Product Synthesis

Review

2713



## Synthesis

*Synthesis* 2021, 53, 2740–2766  
DOI: 10.1055/a-1493-6840

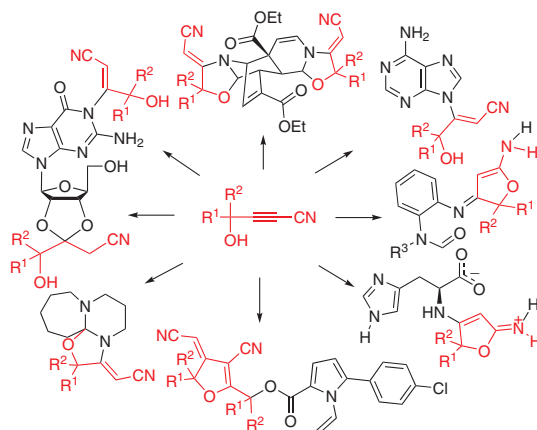
**B. A. Trofimov\***  
**A. G. Mal'kina**

A. E. Favorsky Irkutsk Institute of  
Chemistry, Russian Federation

## Cyanoacetylenic Alcohols: Molecules of Interstellar Relevance in the Synthesis of Essential Heterocycles, Amino Acids, Nucleobases and Nucleosides

Review

2740



## Synthesis

Synthesis 2021, 53, 2767–2776  
DOI: 10.1055/a-1463-4266

S. P. Roche\*

Florida Atlantic University, USA

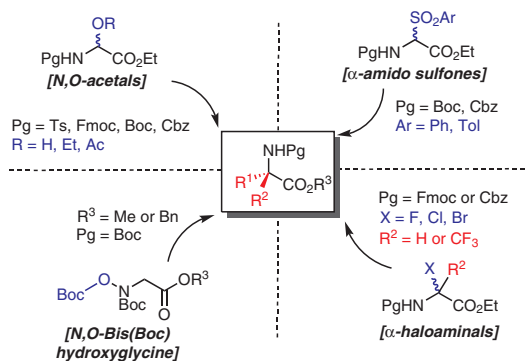
## In the Pursuit of (Ald)Imine Surrogates for the Direct Asymmetric Synthesis of Non-Proteinogenic $\alpha$ -Amino Acids

Short Review

2767

### (Ald)Imine Surrogates: Walking on a Tightrope!

Between stability and reactivity



## Synthesis

Synthesis 2021, 53, 2777–2786  
DOI: 10.1055/a-1472-7999

M. Majdecki

P. Niedbała

A. Tyszka-Gumkowska

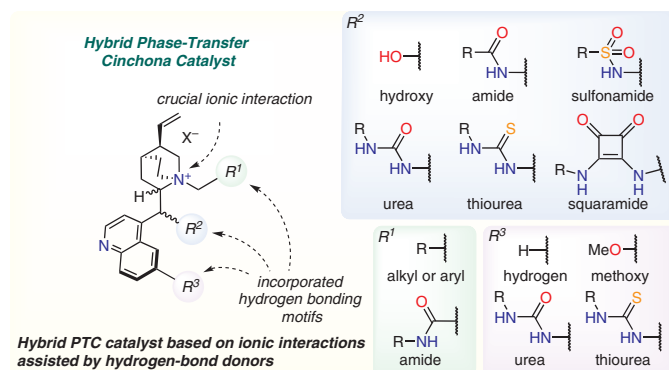
J. Jurczak\*

Polish Academy of Sciences,  
Poland

## Assisted by Hydrogen-Bond Donors: Cinchona Quaternary Salts as Privileged Chiral Catalysts for Phase-Transfer Reactions

Short Review

2777



## Synthesis

Synthesis 2021, 53, 2787–2797  
DOI: 10.1055/a-1464-2524

S. Zhang

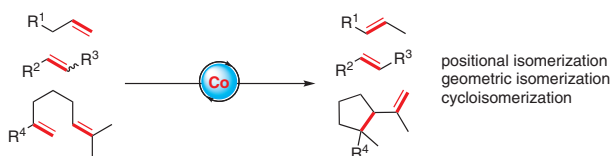
M. Findlater\*

Texas Tech University, USA

## Cobalt-Catalyzed Isomerization of Alkenes

Short Review

2787



## Synthesis

Synthesis 2021, 53, 2798–2808  
DOI: 10.1055/a-1472-7914

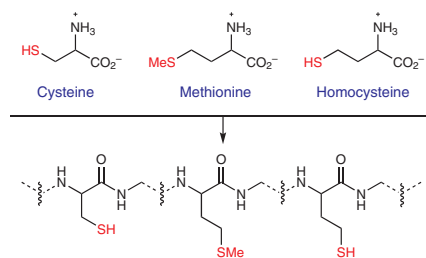
S. Youssef-Saliba  
Y. Vallée\*

Université Grenoble Alpes,  
France

## Sulfur Amino Acids: From Prebiotic Chemistry to Biology and Vice Versa

## Short Review

2798



## Synthesis

Synthesis 2021, 53, 2809–2818  
DOI: 10.1055/a-1463-4219

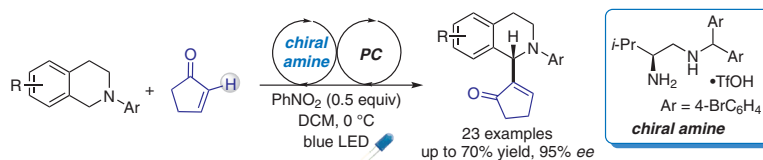
Z. Jia  
Q. Yang  
S. Luo\*

University of Chinese Academy  
of Sciences, Beijing,  
P. R. of China  
Tsinghua University, Beijing,  
P. R. of China

## Photoredox-Mediated Asymmetric Cross-Dehydrogenative Coupling of Enones and Tertiary Amines by Chiral Primary Amine Catalysis

## Feature

2809



## Synthesis

Synthesis 2021, 53, 2819–2827  
DOI: 10.1055/s-0040-1720693

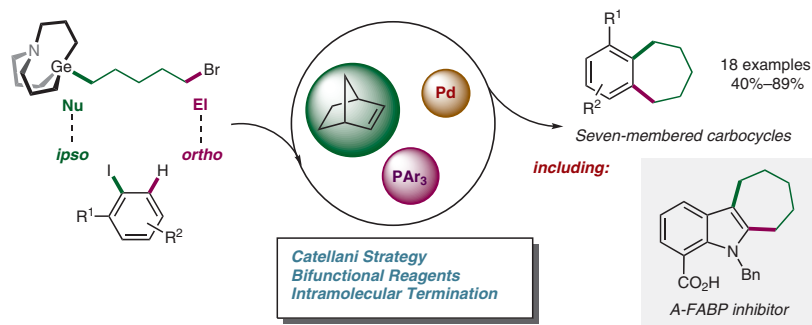
X.-Y. Xie  
W.-T. Jiang  
B. Xiao

University of Science and Tech-  
nology of China, P. R. of China

## Alkyl Carbagermatrane Enabled Synthesis of Seven-Membered Carbocycle-Fused Aromatics through Catellani Strategy

## Feature

2819



## Synthesis

## Proton-Mediated Practical Synthesis of McGeachin-Type Bisaminals

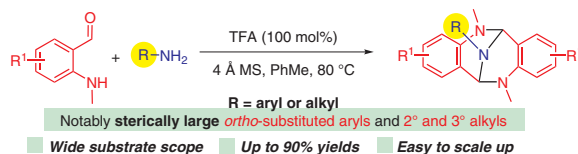
Paper

2828

Synthesis 2021, 53, 2828–2840  
DOI: 10.1055/a-1490-1241

Y. Chen  
T. Wang  
H. Du\*  
J. Xu\*  
Z. Yang\*

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Technology, P. R. of China



Wide substrate scope Up to 90% yields Easy to scale up

## Synthesis

## Synthesis of Highly Functionalized 4-Amino-2-(trifluoromethyl)-1H-pyrroles

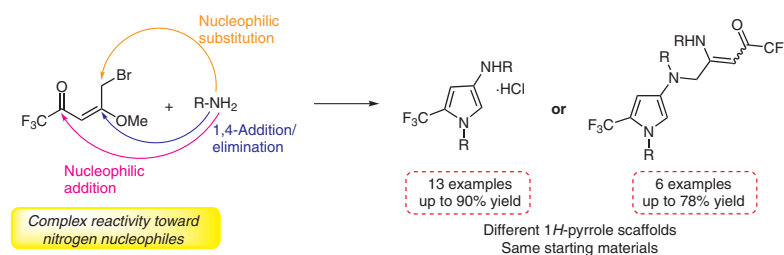
Paper

2841

Synthesis 2021, 53, 2841–2849  
DOI: 10.1055/a-1503-9057

L. L. Zachow  
M. Mittersteiner  
E. C. Aquino  
H. G. Bonacorso  
M. A. P. Martins  
N. Zanatta\*

Universidade Federal de Santa  
Maria, Brazil



## Synthesis

Nickel-Catalyzed Difunctionalization of Alkynyl Bromides with Thiosulfonates and *N*-Arylthio Succinimides: A Convenient Synthesis of 1,2-Thiosulfonylethenes and 1,1-Dithioethenes

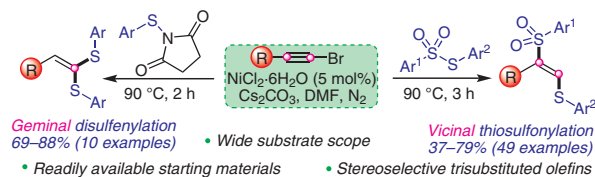
Paper

2850

Synthesis 2021, 53, 2850–2864  
DOI: 10.1055/a-1482-2486

A. H. Kumari  
J. J. Kumar  
G. R. Krishna  
R. J. Reddy\*

Osmania University, India



## Synthesis

*Synthesis* **2021**, 53, 2865–2873  
DOI: 10.1055/a-1503-8068

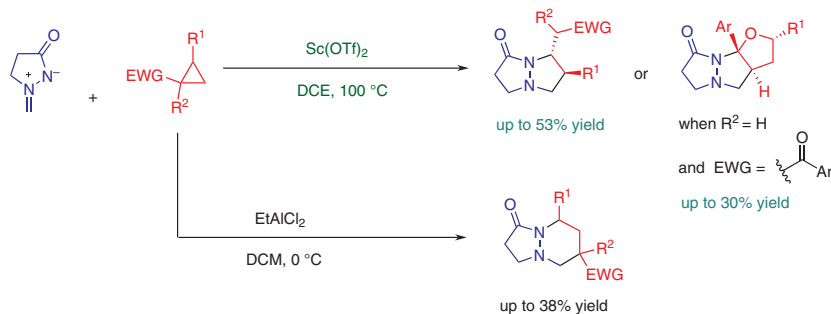
R. Mandadapu  
A. S. Dehade  
S. A. Shete  
M. Montgomery  
V. Sikervar\*  
R. Sonawane\*

Syngenta Biosciences Pvt. Ltd.  
Santa Monica Works, India

## Lewis Acid Mediated [3+2] and [3+3] Annulations of an Azomethine Imine with Donor–Acceptor Cyclopropanes

Paper

2865



## Synthesis

*Synthesis* **2021**, 53, 2874–2880  
DOI: 10.1055/a-1478-9088

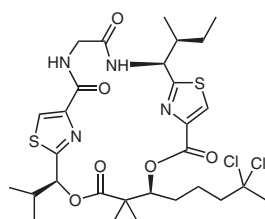
Y. Zhang  
Y. Liu\*  
Y. Du\*

Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, P. R. of China  
Yantai University, P. R. of China

## First Total Synthesis of 27-Deoxylyngbyabellin A

Paper

2874



27-Deoxylyngbyabellin A

10 linear steps, 9.7% overall yield

## Synthesis

*Synthesis* **2021**, 53, 2881–2888  
DOI: 10.1055/a-1481-2023

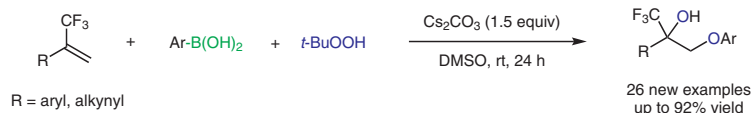
H. Li  
C. Zhu\*

South China University of Technology, P. R. of China

Dual Roles of TBHP-Enabled Regioselective Hydroetherification of (Trifluoromethyl)alkenes with Boronic Acids: Access to  $\alpha$ -Trifluoromethyl  $\beta$ -Aryloxy Tertiary Alcohols

Paper

2881



- ✦ Three-starting-materials four-component strategy
- ✦ TBHP as the oxidant and the nucleophile
- ✦ Broad substrate scope and functional group tolerance
- ✦ High yields with exclusive regioselectivity

## Synthesis

Synthesis 2021, 53, 2889–2896  
DOI: 10.1055/a-1488-4467

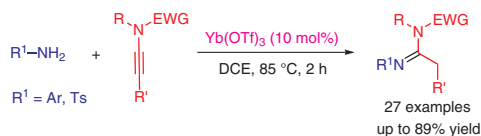
X. Zeng\*  
Q. Gu  
W. Dai  
Y. Xie  
X. Liu  
G. Wu

Nantong University,  
P. R. of China

### Yb(OTf)<sub>3</sub>-Mediated Regioselective Hydroamination of Ynamides with Anilines and *p*-Toluenesulfonamide

Paper

2889



## Synthesis

Synthesis 2021, 53, 2897–2902  
DOI: 10.1055/a-1477-6043

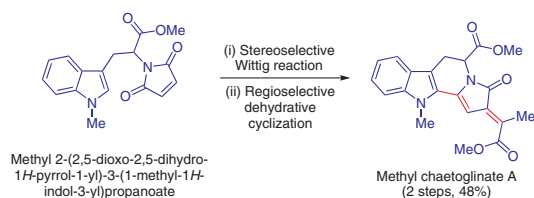
S. V. Shelar  
N. P. Argade\*

National Chemical Laboratory  
(CSIR), India

### Wittig Reactions of Maleimide-Derived Stabilized Ylides with Alkyl Pyruvates: Concise Approach to Methyl Ester of ( $\pm$ )-Chaetogline A

Paper

2897



## Synthesis

Synthesis 2021, 53, 2903–2910  
DOI: 10.1055/a-1500-1407

S. Senapati  
N. A. Unmesh  
M. N. Shet  
I. Ahmad  
N. Ajikumar  
C. V. Ramana\*

National Chemical Laboratory,  
India

### Unified Approach for the Total Synthesis of Bis-THF C<sub>15</sub> Acetogenins: A Chloroenyne from *Laurencia majuscula*, Laurendecumenyne B and Laurefurenynes A/B

Paper

2903

