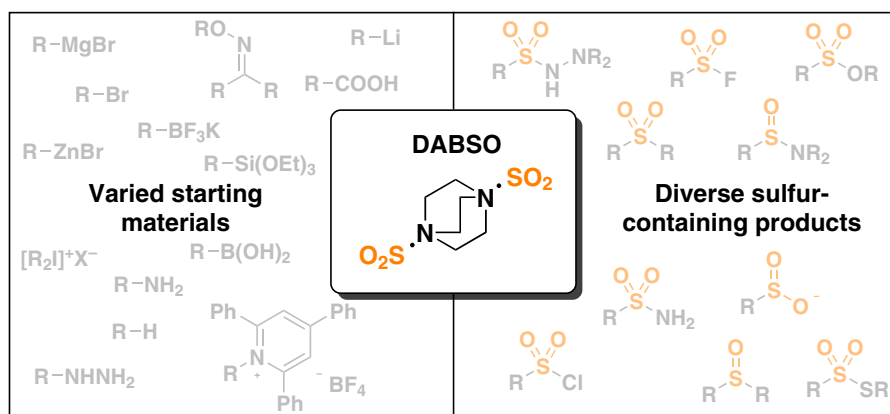


# Synthesis

Reviews and Full Papers in Chemical Synthesis

April 1, 2022 • Vol. 54, 1671–1876



DABSO – A Reagent to Revolutionize Organosulfur Chemistry

*J. A. Andrews, M. C. Willis*

7

## Synthesis

### A Review on the Halodefluorination of Aliphatic Fluorides

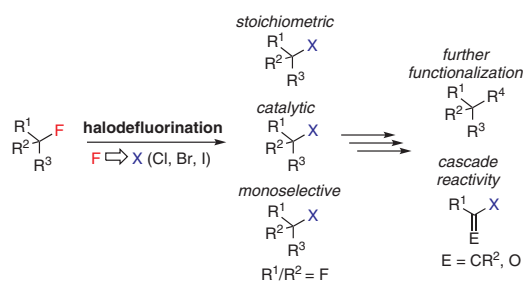
## Review

*Synthesis* 2022, 54, 1671–1683  
DOI: 10.1055/a-1684-0121

R. Gupta  
R. D. Young\*

National University of Singapore,  
Singapore

1671



## Synthesis

### Recent Progress in Chromium-Mediated Carbonyl Addition Reactions

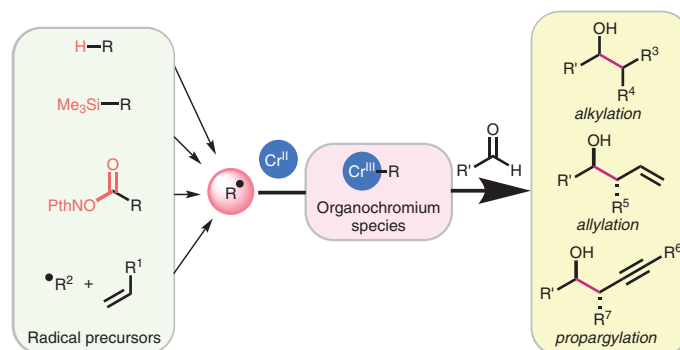
## Short Review

*Synthesis* 2022, 54, 1684–1694  
DOI: 10.1055/a-1696-6429

Y. Katayama  
H. Mitsunuma\*  
M. Kanai\*

The University of Tokyo, Japan

1684



## Synthesis

## DABSO – A Reagent to Revolutionize Organosulfur Chemistry

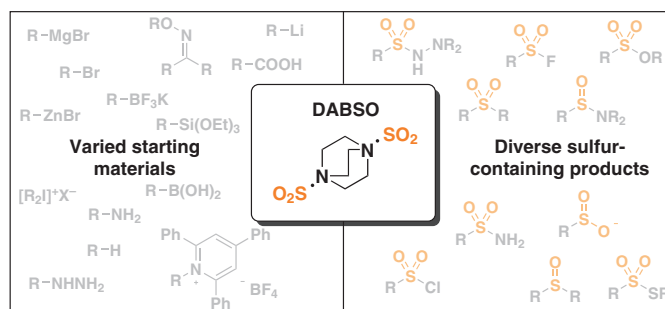
## Short Review

1695

Synthesis 2022, 54, 1695–1707  
DOI: 10.1055/s-0040-1719864

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M. C. Willis\*

University of Oxford, UK



## Synthesis

## Recent Advances in Organocatalyzed Asymmetric Reduction of Prochiral Ketones: An Update

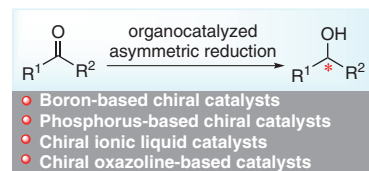
## Short Review

1708

Synthesis 2022, 54, 1708–1720  
DOI: 10.1055/a-1697-7758

X.-L. Qin  
L.-J. Xu  
F.-S. Han\*

Changchun Institute of Applied Chemistry, P. R. of China  
University of Science and Technology of China, P. R. of China



## Synthesis

## Recent Advances in Catalytic Nonenzymatic Kinetic Resolution of Tertiary Alcohols

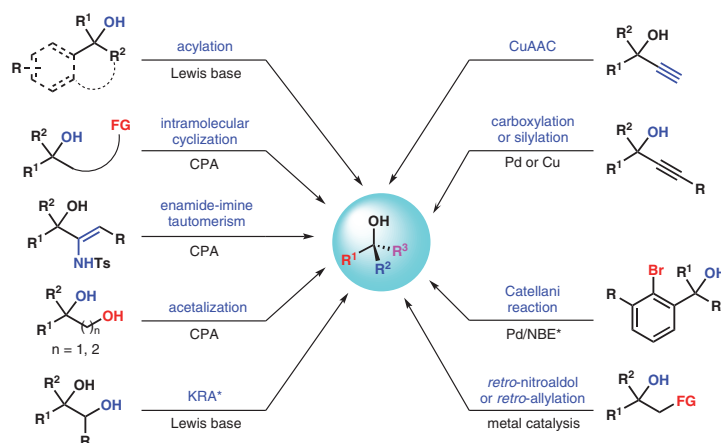
## Short Review

1721

Synthesis 2022, 54, 1721–1732  
DOI: 10.1055/a-1712-0912

B. Ding  
Q. Xue  
S. Jia  
H.-G. Cheng\*  
Q. Zhou\*

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## Synthesis

*Synthesis* 2022, 54, 1733–1744  
DOI: 10.1055/s-0041-1737242

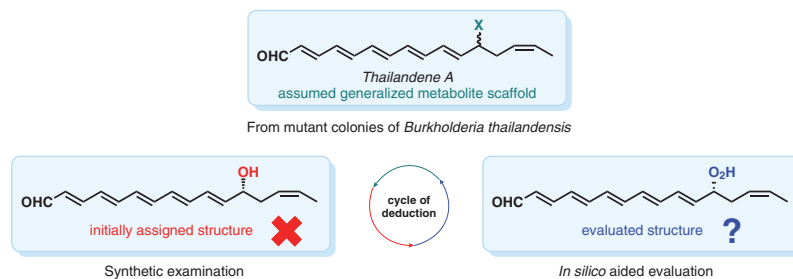
K. G. Primdahl  
Å. Kaupang  
J.-D. Park  
M. R. Seyedsayamdost  
J. M. J. Nolsøe  
M. Aursnes\*

University of Oslo, Norway

## On the Structure of Thailandene A: Synthetic Examination of the Cryptic Natural Product Aided by a Theoretical Approach

Feature

1733



## Synthesis

*Synthesis* 2022, 54, 1745–1752  
DOI: 10.1055/s-0037-1610788

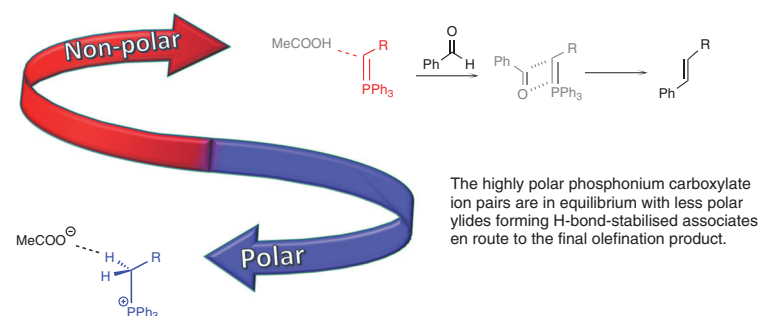
A. C. Vetter  
H. Müller-Bunz  
J. Muldoon  
K. Nikitin\*

University College Dublin,  
Ireland

## Quaternary Phosphonium Carboxylates: Structure, Dynamics and Intriguing Olefination Mechanism

Feature

1745



## Synthesis

*Synthesis* 2022, 54, 1753–1764  
DOI: 10.1055/s-0041-1737764

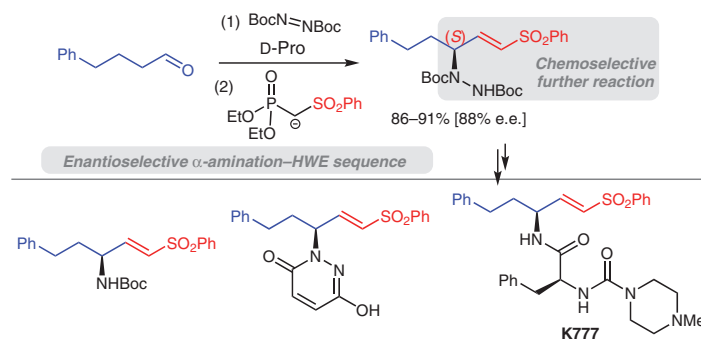
W. Shen  
L. Cunningham  
P. Evans\*

University College Dublin,  
Ireland

## Asymmetric Synthesis of $\gamma$ -Amino-Functionalised Vinyl Sulfones: De Novo Preparation of Cysteine Protease Inhibitors

Feature

1753



## Synthesis

Synthesis 2022, 54, 1765–1774  
DOI: 10.1055/a-1628-5304

D. Ke  
Y. Wu  
L. Zhang  
J. Shao  
Y. Yu  
W. Chen\*

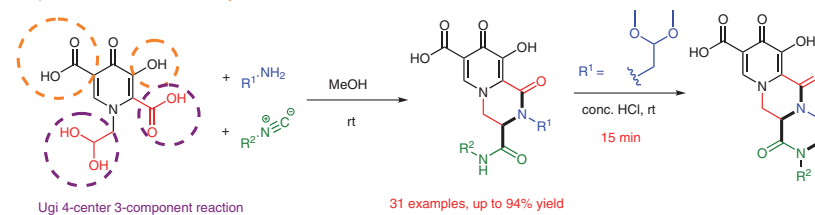
Zhejiang University,  
P. R. of China

## Group-Assisted-Purification Chemistry Strategy for the Efficient Assembly of Cyclic Fused Pyridinones

Paper

1765

Group-Assisted-Purification Chemistry



- High atom efficiency
- Good functional group tolerance
- Gram-scale synthesis (yield up to 85%)

## Synthesis

Synthesis 2022, 54, 1775–1784  
DOI: 10.1055/s-0040-1719841

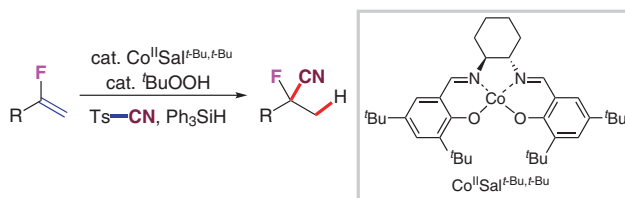
Y. Li  
R. Cui  
T.-R. Wu  
X.-S. Wang\*

University of Science and Technology of China, P. R. of China

Facile Synthesis of Quaternary  $\alpha$ -Fluoronitriles by Cobalt-Catalyzed Hydrocyanation of Monofluoroalkenes

Paper

1775



- \* Co-catalyzed hydrocyanation of monofluoroalkenes
- \* 19 new examples, up to 82% yield
- \* good substrate scope and wide functional group compatibilities

## Synthesis

Synthesis 2022, 54, 1785–1792  
DOI: 10.1055/s-0040-1719863

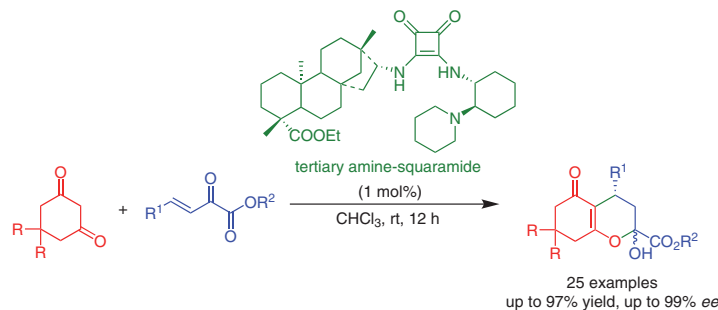
Z.-W. Ma\*  
C.-C. Wang  
X.-P. Chen  
A.-Q. Li  
J.-C. Tao  
Q.-J. Lv\*

Henan University of Animal Husbandry and Economy,  
P. R. of China

Highly Enantioselective Michael Addition of Cyclic Diketones to  $\beta,\gamma$ -Unsaturated  $\alpha$ -Keto Esters Catalyzed by Squaramide Organocatalyst

Paper

1785



## Synthesis

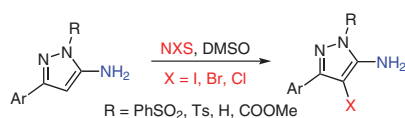
Halogenations of 3-Aryl-1*H*-pyrazol-5-amines

Paper

*Synthesis* **2022**, *54*, 1793–1802  
DOI: 10.1055/a-1684-0308

J. He  
Y. Wei  
Y. Feng  
C. Li  
B. Dai\*  
P. Liu\*

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- Mild reaction conditions
- Broad substrate scope (39 examples)
- Gram-scale synthesis
- Diversified transformations of products

1793

## Synthesis

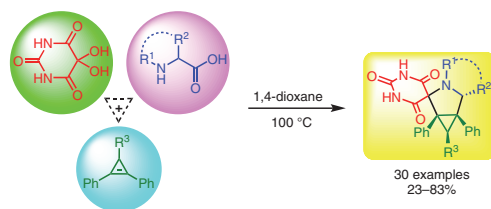
## An Experimental and Theoretical Study of the 1,3-Dipolar Cycloaddition of Alloxan-Derived Azomethine Ylides to Cyclopropenes

Paper

*Synthesis* **2022**, *54*, 1803–1816  
DOI: 10.1055/a-1700-3115

A. S. Filatov  
S. I. Selivanov  
S. V. Shmakov  
A. G. Larina  
V. M. Boitsov\*  
A. V. Stepanov\*

Saint-Petersburg State University, Russian Federation  
Saint Petersburg National Research Academic University of the Russian Academy of Sciences, Russian Federation  
Saint-Petersburg State Institute of Technology, Russian Federation



1803

## Synthesis

## [1,3]-Dithiolo-[4,5-d][1,3-dithiole]-2,5-dione

PSP

*Synthesis* **2022**, *54*, 1817–1822  
DOI: 10.1055/s-0040-1720891

H. Müller\*  
L. Bourcet

ESRF – The European Synchrotron, France



- No safety hazards
- Mild conditions
- Inexpensive reagents
- Eco-friendly
- Product of excellent purity

OPEN ACCESS

1817

## Synthesis

*Synthesis* **2022**, *54*, 1823–1832  
DOI: 10.1055/s-0040-1720922

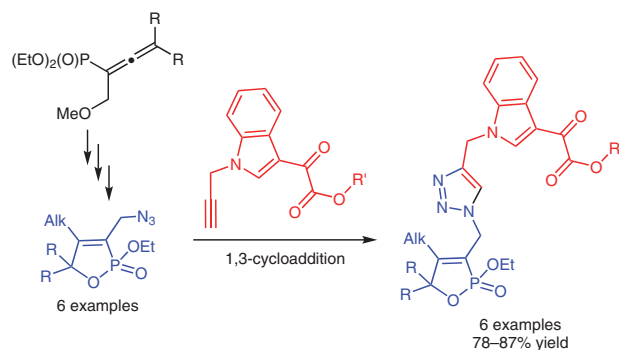
V. K. Brel\*  
E. P. Alekseychuk  
O. I. Artyushin  
L. V. Anikina

Nesmeyanov Institute of Organoelement Compounds Russian Academy of Sciences, Russian Federation

### 4-Alkyl-3-azidomethyl-2-ethoxy-2,5-dihydro-5H-1,2-oxaphosphole 2-Oxides: Synthesis and 1,3-Cycloaddition

Paper

1823



## Synthesis

*Synthesis* **2022**, *54*, 1833–1842  
DOI: 10.1055/a-1644-2930

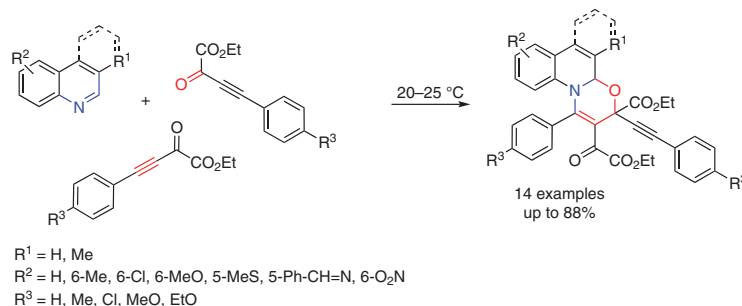
K. V. Belyaeva  
L. P. Nikitina  
V. S. Gen'  
A. V. Afonin  
B. A. Trofimov\*

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

### Oxylacetylenes as Dielectrophiles for Annulation of Quinoline Rings: Synthesis of Highly Functionalized 1,3-Oxazinoquinolines

Paper

1833



## Synthesis

*Synthesis* **2022**, *54*, 1843–1849  
DOI: 10.1055/a-1639-0648

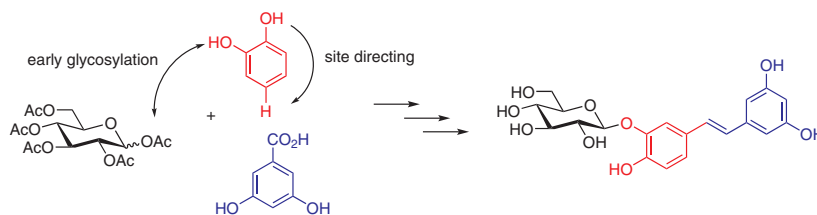
J. Li\*  
X. Wang  
R.-P. Zhang\*  
L. Chen

Yunnan University of Traditional Chinese Medicine, P. R. of China

### Scalable Total Synthesis of Piceatannol-3'-O-β-D-glucopyranoside and the 4'-Methoxy Congener Thereof: An Early Stage Glycosylation Strategy

Paper

1843



Synthesis

Protecting-Group-Free Total Synthesis of Anticancer (±)-Melotinine A

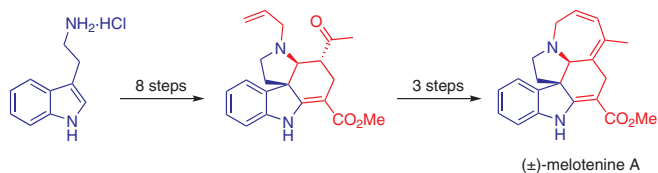
Paper

1850

Synthesis 2022, 54, 1850–1856  
DOI: 10.1055/a-1633-8333

A. Thanetchaiyakup  
H. Rattanarat  
S. Aree  
T. Duangthongyou  
T. Nanok  
N. Chuanopparat  
P. Ngermmeesri\*

Kasetsart University, Thailand



Synthesis

I<sub>2</sub>/DMSO-Promoted Synthesis of Chromeno[4,3-*b*]quinolines through an Imine Formation/Aza-Diels–Alder/Aromatization Tandem Reaction under Metal-Catalyst- and Photosensitizer-Free Conditions

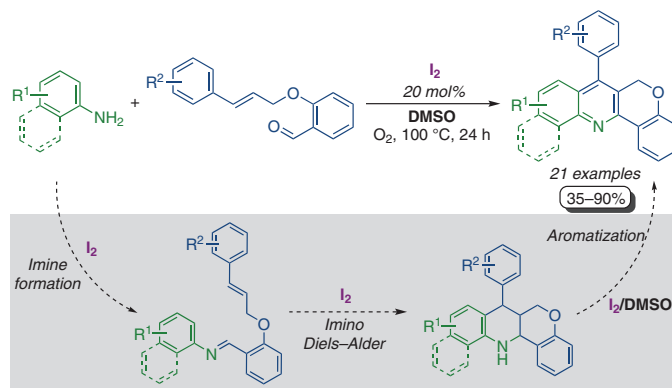
Paper

1857

Synthesis 2022, 54, 1857–1869  
DOI: 10.1055/a-1638-5030

A. Peñaranda Gómez  
C. E. Puerto Galvis  
M. A. Macías  
C. Ochoa-Puentes  
V. V. Kouznetsov\*

Universidad Industrial de Santander, Colombia



Synthesis

Diastereoselective Synthesis of Spirocyclopentene-Indanediones from Isocyanides, Acetylenic Esters, and NH-Acids Compounds

Paper

1870

Synthesis 2022, 54, 1870–1876  
DOI: 10.1055/s-0041-1737817

I. Yavari\*  
P. Ravaghi  
M. Safaei

Tarbiat Modares University, Iran

