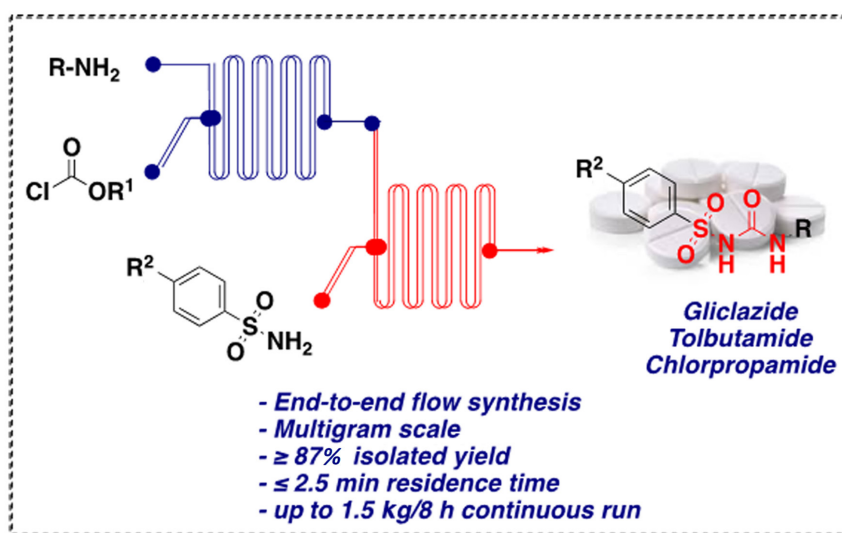


# Synthesis

Reviews and Full Papers in Chemical Synthesis

March 2, 2022 • Vol. 54, 1157–1460



Rapid Multigram-Scale End-to-End Continuous-Flow Synthesis of Sulfonylurea Antidiabetes Drugs: Gliclazide, Chlorpropamide, and Tolbutamide

C. R. Sagandira, P. Watts

5

## Synthesis

*Synthesis* 2022, 54, 1157–1202  
DOI: 10.1055/a-1679-8205

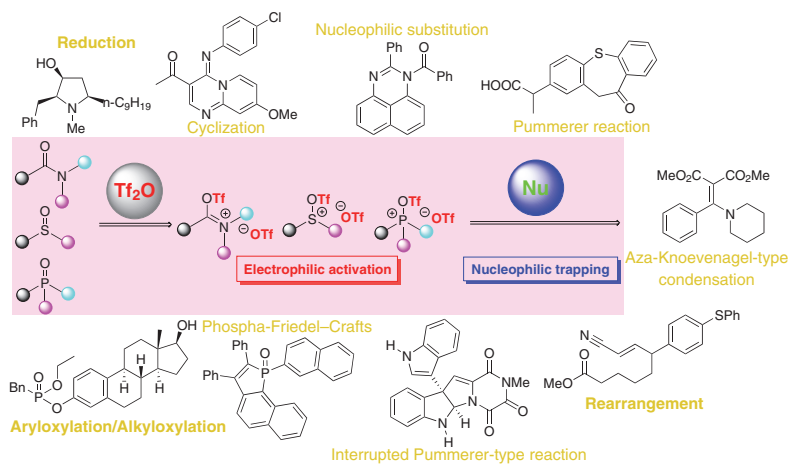
H. Huang  
J. Y. Kang\*

University of Nevada Las Vegas,  
USA

## Triflic Anhydride (Tf<sub>2</sub>O)-Activated Transformations of Amides, Sulfoxides and Phosphorus Oxides via Nucleophilic Trapping

## Review

1157



## Synthesis

*Synthesis* 2022, 54, 1203–1216  
DOI: 10.1055/a-1684-0772

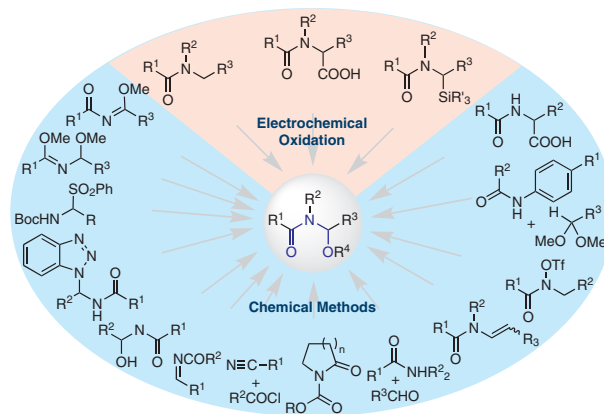
X.-Y. Ma\*  
F.-Q. Shao  
X. Hu  
X. Liu

Sichuan University of Science  
& Engineering, P. R. of China

## Progress in the Synthesis of *N*-Acyl-*N,O*-acetals

## Short Review

1203



## Synthesis

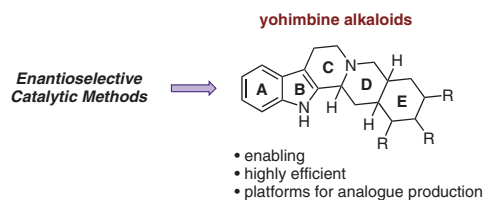
*Synthesis* **2022**, *54*, 1217–1230  
DOI: 10.1055/a-1684-2942

**E. R. Miller**  
**K. A. Scheidt\***  
Northwestern University, USA

## Enantioselective Syntheses of Yohimbine Alkaloids: Proving Grounds for New Catalytic Transformations

## Short Review

1217



## Synthesis

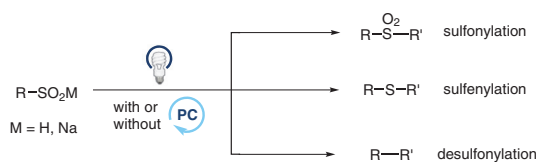
*Synthesis* **2022**, *54*, 1231–1249  
DOI: 10.1055/a-1671-0085

**Z. Lu**  
**M. Shang**  
**H. Lu\***  
Nanjing University, P. R. of China

## Organic Sulfinic Acids and Salts in Visible Light-Induced Reactions

## Short Review

1231



## Synthesis

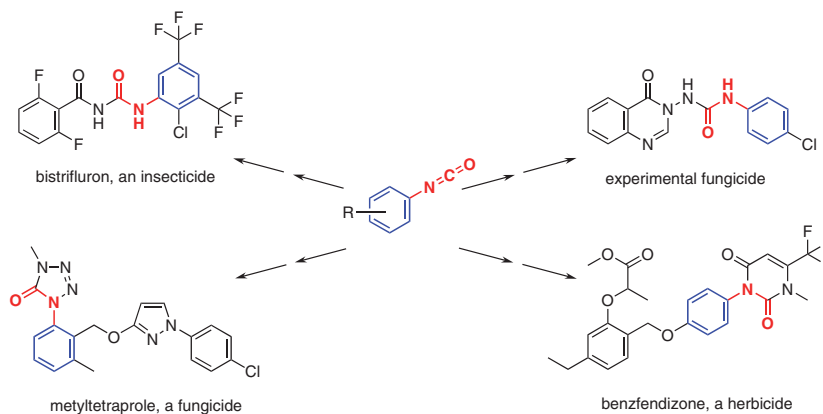
*Synthesis* **2022**, *54*, 1250–1260  
DOI: 10.1055/a-1678-8528

**C. Lamberth\***  
Syngenta Crop Protection AG,  
Switzerland

## Organic Isocyanates and Isothiocyanates: Versatile Intermediates in Agrochemistry

## Short Review

1250



## Synthesis

Synthesis 2022, 54, 1261–1271  
DOI: 10.1055/a-1675-8404

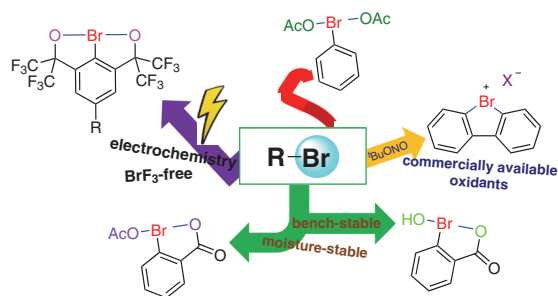
B. Winterson  
T. Patra  
T. Wirth\*

Cardiff University, UK

## Hypervalent Bromine(III) Compounds: Synthesis, Applications, Prospects

Short Review

OPEN ACCESS 1261



## Synthesis

Synthesis 2022, 54, 1272–1286  
DOI: 10.1055/a-1671-6856

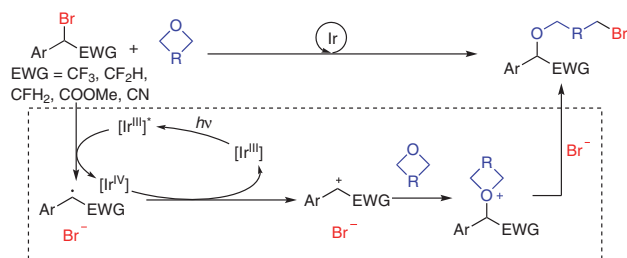
C. Kuang  
C. Ni  
Y. Gu  
J. Hu\*

Shanghai Institute of Organic Chemistry, P. R. of China

## Photoredox-Catalyzed Ring-Opening Addition Reaction between Benzyl Bromides and Cyclic Ethers

Feature

1272



## Synthesis

Synthesis 2022, 54, 1287–1300  
DOI: 10.1055/a-1681-3972

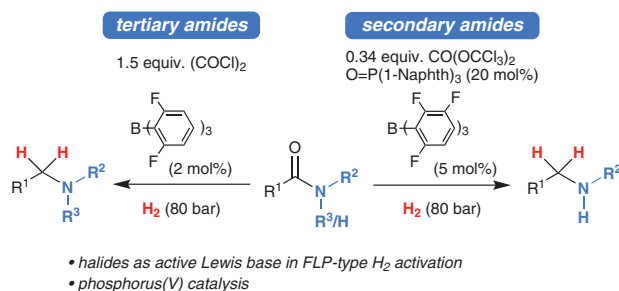
L. Köring  
N. A. Sitte  
J. Paradies\*

Paderborn University, Germany

## Towards the Development of Frustrated Lewis Pair (FLP) Catalyzed Hydrogenations of Tertiary and Secondary Carboxylic Amides

Feature

1287



## Synthesis

*Synthesis* **2022**, *54*, 1301–1308  
DOI: 10.1055/a-1668-9694

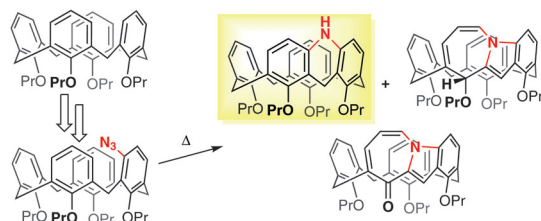
M. Tlustý  
V. Eigner  
P. Lhoták\*

University of Chemistry and  
Technology, Prague,  
Czech Republic

## Azide Decomposition as a Pathway to Intramolecularly Upper-Rim-Bridged Calix[4]arenes

Feature

1301



## Synthesis

*Synthesis* **2022**, *54*, 1309–1320  
DOI: 10.1055/s-0040-1720890

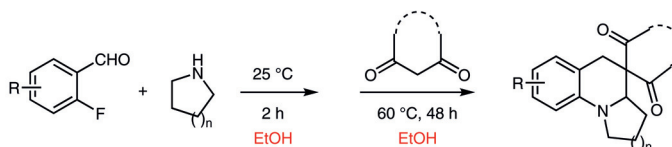
L. Yu  
B. Qiu  
P. Dong  
J. Xiao\*  
S. Yu\*

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

Facile Synthesis of Spirocyclic Tetrahydroquinolines via C(sp<sup>3</sup>)–H Functionalization in a Cascade Redox Process

Paper

1309



- High step- and atom-economy
- *In situ* installation of hydride donor and acceptor
- Using renewable EtOH as a solvent
- Catalyst-free at room temperature

## Synthesis

*Synthesis* **2022**, *54*, 1321–1328  
DOI: 10.1055/a-1669-0463

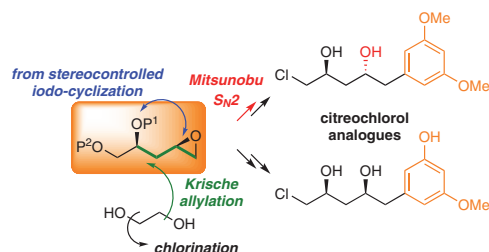
C.-K. Lin\*  
B.-H. Hsieh  
C.-F. Wu

National Chung Hsing University,  
Taiwan

## Total Synthesis of Citreochlorol Monochloro Analogues via a Catalytically Enantioselective Carbonyl Allylation

Paper

1321



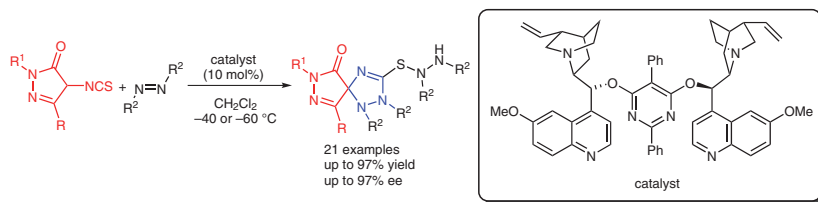
## Synthesis

*Synthesis* 2022, 54, 1329–1338  
DOI: 10.1055/a-1672-5707

S. Wei  
W. Wang  
A. Xue  
S. Nawaz  
J. Qu  
B. Wang\*

Dalian University of Technology,  
P. R. of China

## Enantioselective Construction of Multi-Nitrogen-Containing Spirocycles: Asymmetric [3+2] Annulation of 4-Isothiocyanatopyrazolones with Azodicarboxylates



- 4-Isothiocyanatopyrazolones as efficient synthons for synthesis of triazolines
- Excellent stereocontrol
- High efficiency
- Wide substrate scope

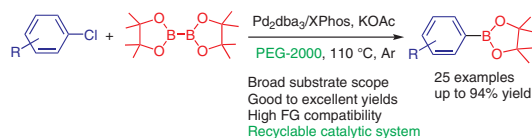
## Synthesis

*Synthesis* 2022, 54, 1339–1346  
DOI: 10.1055/s-0037-1610787

M. Cai\*  
C. Luo  
C. Xu  
B. Huang\*

Jiangxi Normal University,  
P. R. of China

## Recyclable Pd<sub>2</sub>dba<sub>3</sub>/XPhos/PEG-2000 System for Efficient Borylation of Aryl Chlorides: Practical Access to Aryl Boronates



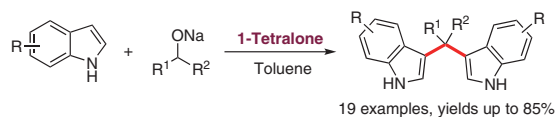
## Synthesis

*Synthesis* 2022, 54, 1347–1352  
DOI: 10.1055/a-1668-9910

X. Chen  
Y. Liu  
H. Jin  
B. Zhou\*

Zhejiang University of Technology,  
P. R. of China

## Synthesis of Bis(indolyl)methanes through an Alkylation Reaction of Indoles with Sodium Alkoxides



- ✓ Transition-metal-free
- ✓ Readily available substrates
- ✓ Easy operation
- ✓ Gram-scale synthesis

## Synthesis

Synthesis 2022, 54, 1353–1364  
DOI: 10.1055/a-1674-6564

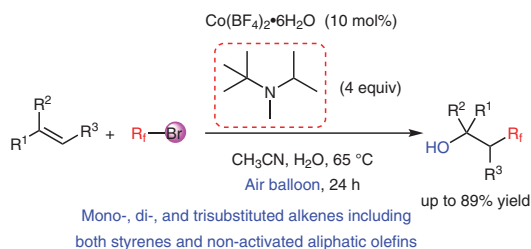
Q. Sun  
L. Pang  
S. Mao  
W. Fan\*  
Y. Zhou  
J. Xu  
S. Li\*  
Q. Li\*

Anhui Agricultural University,  
P. R. of China  
Zhengzhou Tobacco Research In-  
stitute of CNTC, P. R. of China  
Sun Yat-Sen University,  
P. R. of China  
South China University of Tech-  
nology, P. R. of China

## Cobalt-Catalyzed Hydroxyperfluoroalkylation of Alkenes with Perfluoroalkyl Bromides and Atmospheric Oxygen

Paper

1353



## Synthesis

Synthesis 2022, 54, 1365–1374  
DOI: 10.1055/a-1664-2282

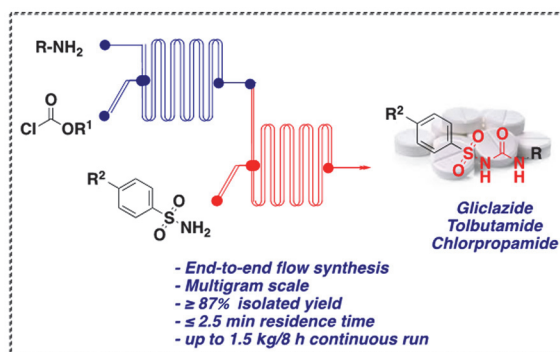
C. R. Sagandira  
P. Watts\*

Nelson Mandela University,  
South Africa

## Rapid Multigram-Scale End-to-End Continuous-Flow Synthesis of Sulfonylurea Antidiabetic Drugs: Gliclazide, Chlorpropamide, and Tolbutamide

Paper

1365



## Synthesis

Synthesis 2022, 54, 1375–1387  
DOI: 10.1055/s-0041-1737291

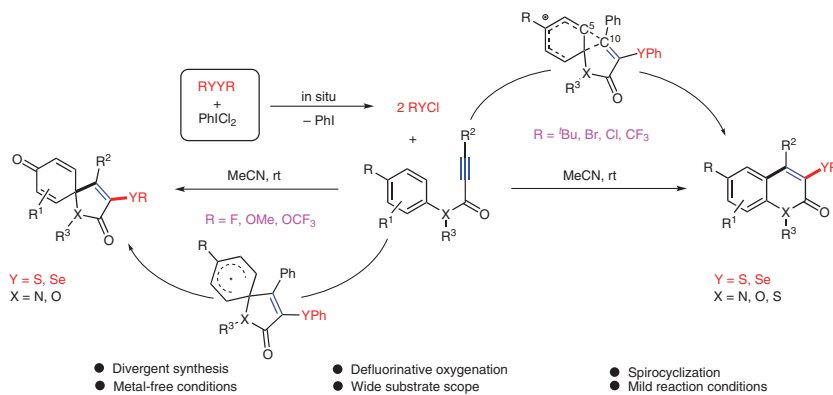
X. Li  
B. Zhang  
Z. Yu  
D. Zhang  
H. Shi  
L. Xu  
Y. Du\*

Tianjin University, P. R. of China

Divergent Synthesis of Chalcogenylated Quinolin-2-ones and Spiro[4,5]trienones via Intramolecular Cyclization of *N*-Arylpropynamides Mediated by Diselenides/Disulfides and PhICl<sub>2</sub>

Paper

1375



Synthesis

The Preparation and Application of Diaryliodonium Salts Derived from Gemfibrozil and Gemfibrozil Methyl Ester

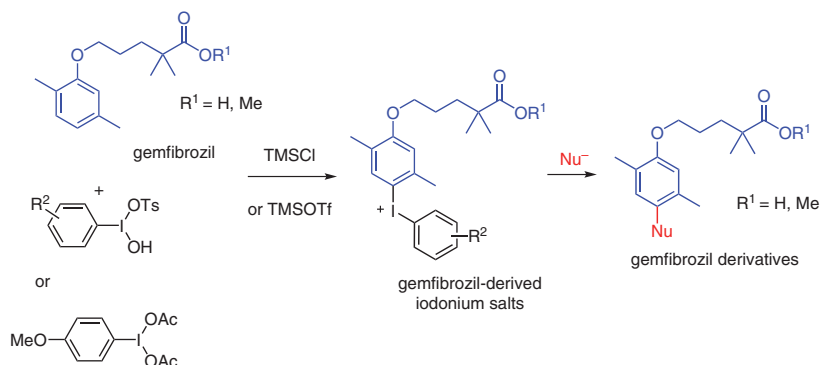
Paper

1388

Synthesis 2022, 54, 1388–1394  
DOI: 10.1055/a-1679-7753

J. Zhou  
Z. Bao  
P. Wu\*  
C. Chen\*

Wuyi University, P. R. of China  
International Healthcare Innovation Institute (Jiangmen),  
P. R. of China  
Tsinghua University, P. R. of China  
Nankai University, P. R. of China



Synthesis

Synthesis of a New Phorbazole and Its Derivatives

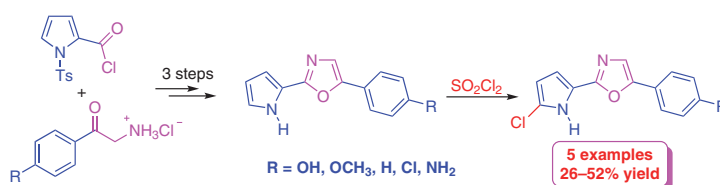
Paper

1395

Synthesis 2022, 54, 1395–1403  
DOI: 10.1055/a-1655-6078

I. W. Muderawan\*  
W. A. Loughlin  
D. J. Young\*

Ganesha University of Education,  
Indonesia  
Charles Darwin University,  
Australia



Synthesis

Total Synthesis of (–)-Aristoquinoline via an Intramolecular Nitrilium Ion Cyclization

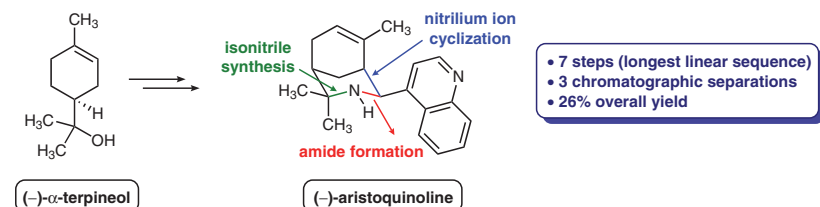
Paper

1404

Synthesis 2022, 54, 1404–1412  
DOI: 10.1055/s-0041-1737276

P. D. Gujarati  
K. P. Reber\*

Towson University, USA





## Synthesis

Synthesis 2022, 54, 1413–1421  
DOI: 10.1055/s-0040-1719856

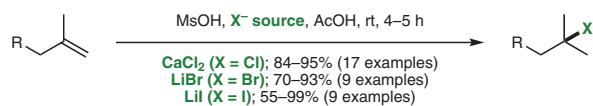
X. Bertrand  
P. Paquin  
L. Chabaud  
J.-F. Paquin\*

Université Laval, Canada

## Hydrohalogenation of Unactivated Alkenes Using a Methanesulfonic Acid/Halide Salt Combination

Paper

1413



- Mild conditions
- Readily available solid reagents
- No additional purification generally required

## Synthesis

Synthesis 2022, 54, 1422–1430  
DOI: 10.1055/a-1672-2260

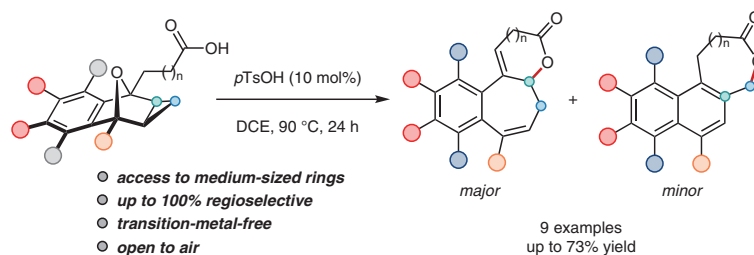
A. Ho  
A. Pounder  
S. Koh  
M. P. Macleod  
E. Carlson  
W. Tam\*

University of Guelph, Canada

## Acid-Catalyzed Intramolecular Ring-Opening Reactions of Cyclopropanated Oxabenzonorbornadienes with Carboxylic Acid Nucleophiles

Paper

1422



## Synthesis

Synthesis 2022, 54, 1431–1445  
DOI: 10.1055/a-1654-4111

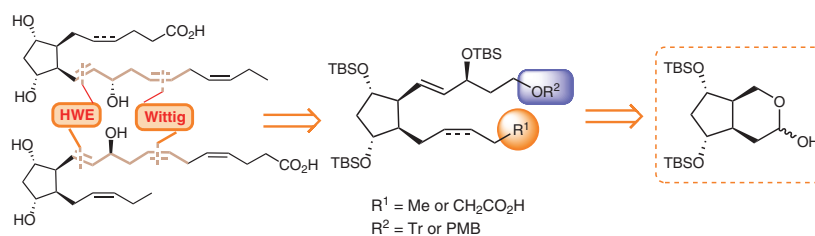
A. Guy  
J. Merad  
T. Degrange  
G. Reversat  
V. Bultel-Poncé  
T. Durand  
J.-M. Galano  
C. Oger\*

Univ. Montpellier, France

Total Synthesis of DHA and DPA<sub>n-3</sub> Non-Enzymatic Oxylipins

Paper

1431



Synthesis 2022, 54, 1446–1460  
DOI: 10.1055/a-1649-5460

M. Tryniszewski  
M. Barbasiewicz\*  
University of Warsaw, Poland

