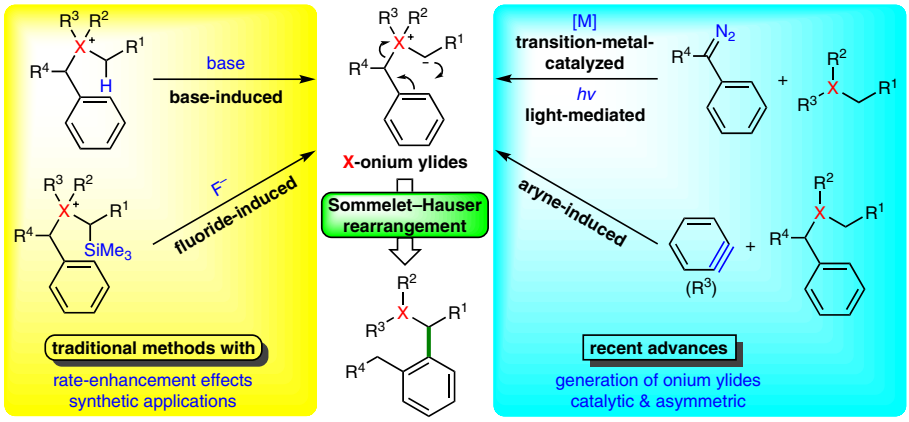
Synthesis

Reviews and Full Papers in Chemical Synthesis

December 15, 2022 • Vol. 54, 5337–5550



Recent Advances in the Generation of Onium Ylides for Sommelet–Hauser Rearrangements

E. Tayama

24

Thieme

Synthesis

Reviews and Full Papers in Chemical Synthesis

2022
Vol. 54, No. 24
December II

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Synthesis

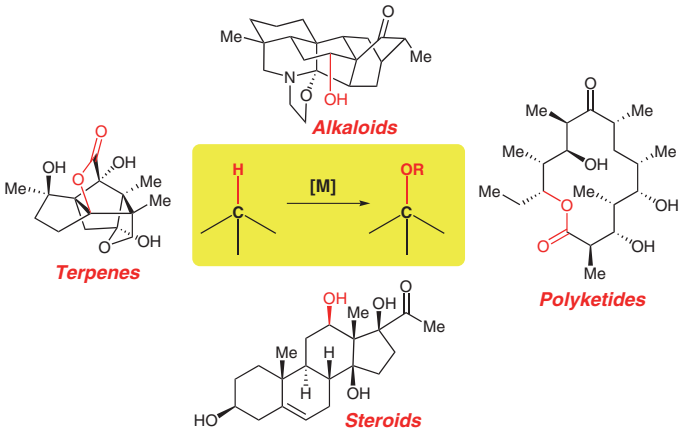
Metal-Catalyzed C–H Bond Oxidation in the Total Synthesis of Natural and Unnatural Products

Review

5337

Synthesis **2022**, *54*, 5337–5359
DOI: 10.1055/a-1918-4338

V. C. S. Santana
M. C. V. Fernandes
I. Cappuccelli
A. C. G. Richieri
E. C. de Lucca Jr.*
University of Campinas, Brazil



Synthesis

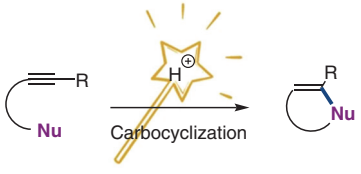
Brønsted Acid Catalyzed Carbocyclizations Involving Electrophilic Activation of Alkynes

Review

5360

Synthesis **2022**, *54*, 5360–5384
DOI: 10.1055/a-1927-8439

P. Hermange
J. Gicquiaud
M. Barbier
A. Karnat
P. Y. Toullec*
Univ. Bordeaux, France



Nu: alkyne, alkene, arene, alkane

Synthesis

Synthesis **2022**, *54*, 5385–5399
DOI: 10.1055/a-1914-7261

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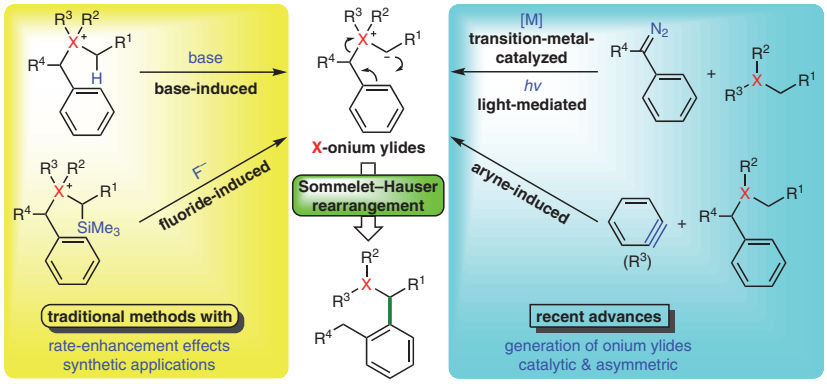
Recent Advances in the Generation of Onium Ylides for Sommelet–Hauser Rearrangements

Short Review



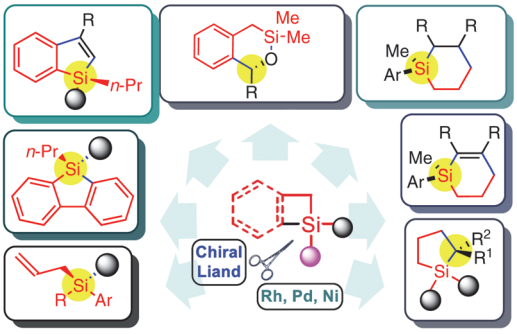
Synthesis

Synthesis **2022**, *54*, 5400–5408
DOI: 10.1055/a-1929-4890

W.-S. Huang
Q. Wang
H. Yang
L.-W. Xu*
Central South University, P. R. of China
Hangzhou Normal University, P. R. of China

State-of-the-Art Advances in Enantioselective Transition-Metal-Mediated Reactions of Silacyclobutanes

Short Review



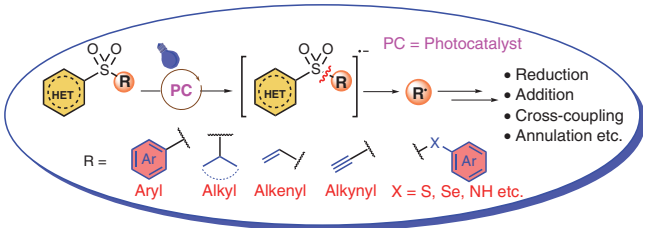
Synthesis

Synthesis **2022**, *54*, 5409–5422
DOI: 10.1055/a-1900-8895

B. Paul
H. Paul
I. Chatterjee*
Indian Institute of Technology Ropar, India

Photoredox-Mediated Desulfonylative Radical Reactions: An Excellent Approach Towards C–C and C–Heteroatom Bond Formation

Short Review



Synthesis

Insights into the Reactivity of 2-Hydroxycyclobutanones with Thiols Corroborated by Quantum Chemical DFT Investigations and NMR and Raman Analysis

Feature

5423

Synthesis **2022**, *54*, 5423–5433
DOI: 10.1055/a-1912-1096

S. Porcu
M. C. Cabua
V. Velichko
J.-P. Baltaze
A. Frongia
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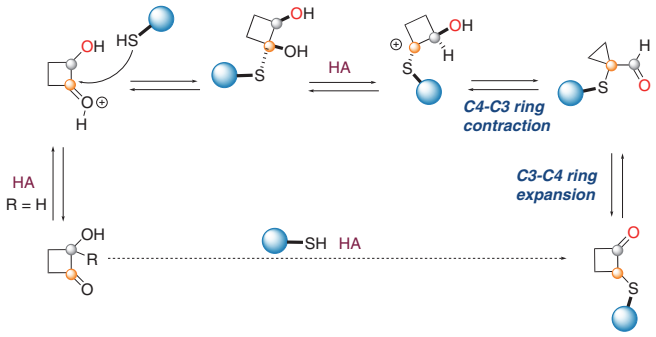

Synthesis

Unexpected Pyridinyl Group Mediated Metal-Free Wacker-Type Oxidation en Route to Pyrido[2,1-*a*]isoindol-5-ium Salts

Feature

5434

Synthesis **2022**, *54*, 5434–5444
DOI: 10.1055/a-1938-2521

D. Shi
T. Zeng
X. Lei
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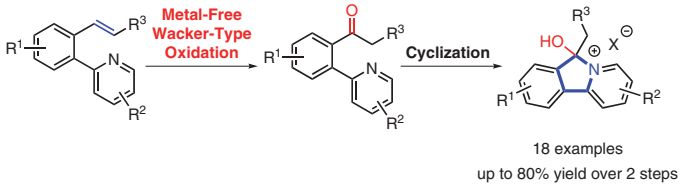


Synthesis

A Three-Component Approach to (Hetero)arenes with Two *N*-Containing Heterocycle Motifs

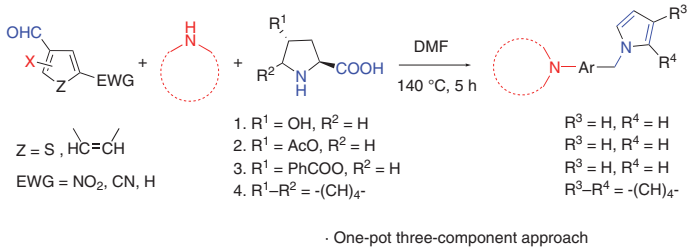
Paper

5445

Synthesis **2022**, *54*, 5445–5450
DOI: 10.1055/a-1920-3041

Y. Zhang
Y. Zhang
H. Qiu
L. Wang
X. Ge*
Z. Wang*
X. Yu*

East China University of Science and Technology, P. R. of China
Linyi University, P. R. of China
Beijing Union University, P. R. of China



- One-pot three-component approach
- 16 examples, up to 94% yield
- Simple operation
- 68% yield at 5 gram scale

Synthesis

Synthesis **2022**, *54*, 5451–5460
DOI: 10.1055/a-1929-2650

S. Kim
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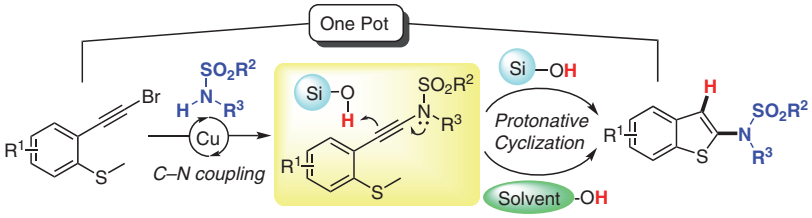
Yeungnam University, Republic of Korea

One-Pot Synthesis of 2-Sulfonamidobenzo[*b*]thiophenes Enabled by a Mild Protonative Activation of Ynamides



Synthesis

Synthesis **2022**, *54*, 5461–5470
DOI: 10.1055/a-1933-3709

Z.-H. Du*
M. Yuan
B.-X. Tao
T.-Y. Ding
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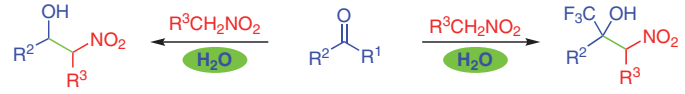
Lanzhou University, P. R. of China

Efficient Catalyst-Free Henry Reaction between Nitroalkanes and Aldehydes or Trifluoromethyl Ketones Promoted by Tap Water



24 examples
up to 96% yield

R^1 = H or CF_3
R^2 = alkyl, aryl

21 examples
up to 98% yield

- Reusable tap water medium
- Broad substrate scope and excellent yields
- Catalyst-free and additive-free
- Biologically active products

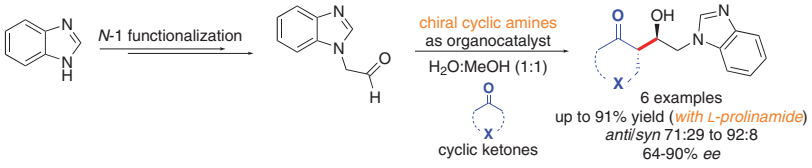
Synthesis

Synthesis **2022**, *54*, 5471–5478
DOI: 10.1055/a-1911-6793

L. Lafuente
L. G. Maidana
J. A. Bisceglia
A. M. Iribarren
E. S. Lewkowicz*

Universidad Nacional de Quilmes, Argentina

Organocatalytic Synthesis of Benzimidazole Derivatives



Synthesis

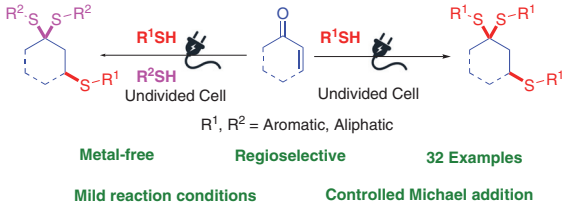
Synthesis **2022**, *54*, 5479–5490
DOI: 10.1055/a-1898-9752

L. Yadav
Maneesha
K. K. Dabaria
P. K. Jat
A. Gurjar
S. S. Badsara*
University of Rajasthan, India

Electrochemical Cascade Thia-Michael and Thioacetalization of Cyclic Enones

Paper

5479



Synthesis

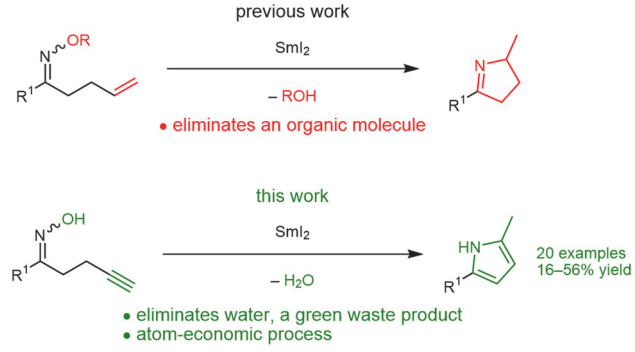
Synthesis **2022**, *54*, 5491–5499
DOI: 10.1055/a-1932-5749

Y. Wang
L. Zhang
S. Zhang*
Soochow University,
P. R. of China

A Method for Pyrrole Synthesis through Intramolecular Cyclization of γ-Alkynyl Oximes Promoted by SmI_2

Paper

5491



Synthesis

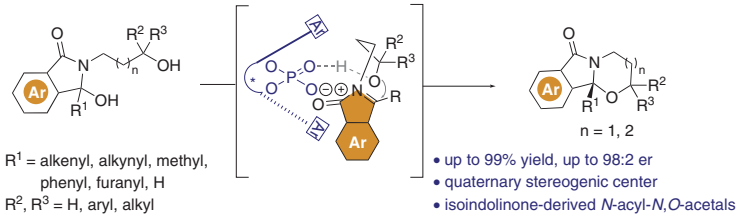
Synthesis **2022**, *54*, 5500–5508
DOI: 10.1055/s-0040-1720040

J.-L. Wang
B. Mao*
Zhejiang University of Technology, P. R. of China

Asymmetric Synthesis of 3,3-Disubstituted Isoindolinones Enabled by Organocatalytic Functionalization of Tertiary Alcohols

Paper

5500



Synthesis

Synthesis **2022**, *54*, 5509–5519
DOI: 10.1055/s-0040-1720042

K. Haraguchi*
N. Hannda
M. Wakasugi
M. Maruyama
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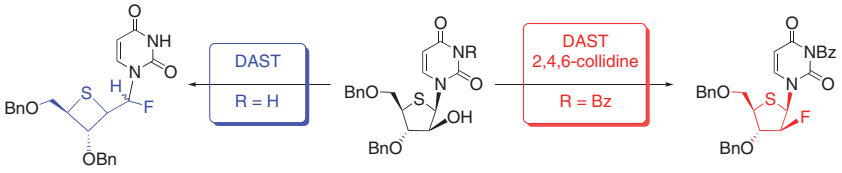
DAST-Mediated Fluorination of 1-[4-Thio-β-D-arabinofuranosyl]uracil: Investigation of Thiolane vs Thietane Formation and Stereoselective Synthesis of 4′-ThioFAC



Synthesis

Synthesis **2022**, *54*, 5520–5528
DOI: 10.1055/a-1918-4406

E. Yoshioka
H. Takahashi
A. Kubo
M. Ohno
F. Watanabe
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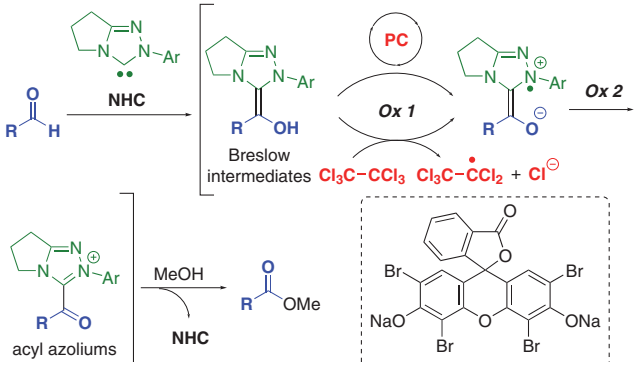
H. Miyabe*
Hyogo Medical University, Japan

N-Heterocyclic Carbene Catalyzed Cross Dehydrogenative Coupling of Aldehydes with Methanol: Combined Use of Eosin Y and Hexachloroethane



Synthesis

Synthesis **2022**, *54*, 5529–5539
DOI: 10.1055/a-1898-9675

A. Sebris
I. Novosjolova*
M. Turks*
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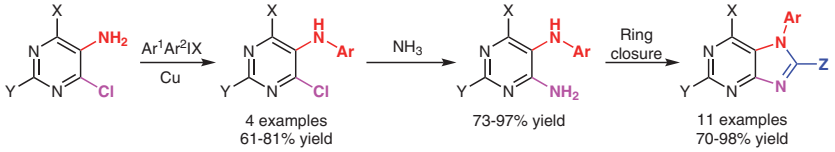
Synthesis of 7-Arylpurines from Substituted Pyrimidines



Synthesis

Synthesis **2022**, *54*, 5540–5550
DOI: 10.1055/s-0042-1751361

Protecting-Group-Free Synthesis of Novel Cannabinoid-Like 2,5-Dihydrobenzoxepines

G.-N. Nguyen
E. N. Jordan
O. Kayser*
TU Dortmund University, Germany