Synthesis

Reviews and Full Papers in Chemical Synthesis

2020
Vol. 52, No. 18
September II

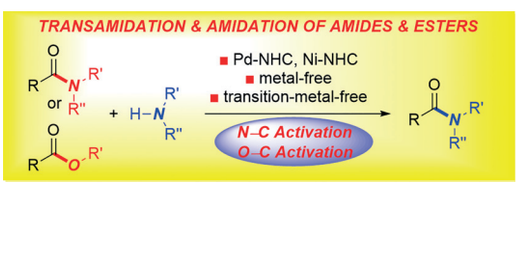
Synthesis

Synthesis **2020**, *52*, 2579–2599
DOI: 10.1055/s-0040-1707101

G. Li
M. Szostak*
Rutgers University, USA

Non-Classical Amide Bond Formation: Transamidation and Amidation of Activated Amides and Esters by Selective N–C/O–C Cleavage

Review



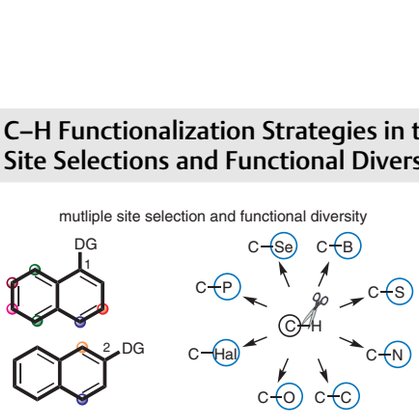
Synthesis

Synthesis **2020**, *52*, 2600–2612
DOI: 10.1055/s-0040-1707855

B. Large
D. Prim*
Université Paris-Saclay, France

C–H Functionalization Strategies in the Naphthalene Series: Site Selections and Functional Diversity

Short Review



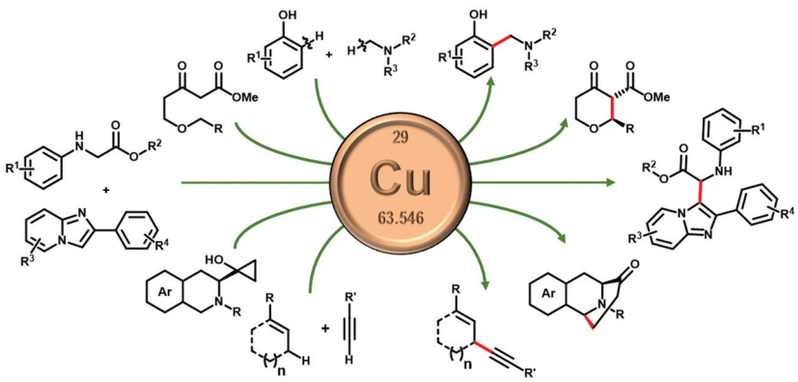
Synthesis

Recent Advances on Copper-Catalyzed C–C Bond Formation via C–H Functionalization

Short Review

Synthesis **2020**, *52*, 2613–2622
DOI: 10.1055/s-0040-1707815

A. A. Almasalma
E. Mejía*
Leibniz Institute for Catalysis, Germany



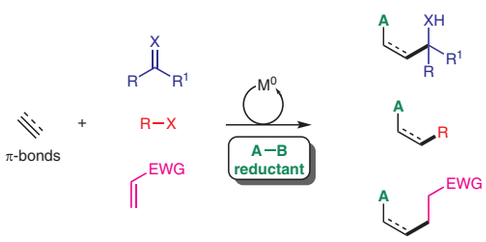
Synthesis

Recent Developments in C–C Bond Formation Using Catalytic Reductive Coupling Strategies

Short Review

Synthesis **2020**, *52*, 2623–2638
DOI: 10.1055/s-0040-1707128

T. Agrawal
J. D. Sieber*
Virginia Commonwealth University, USA



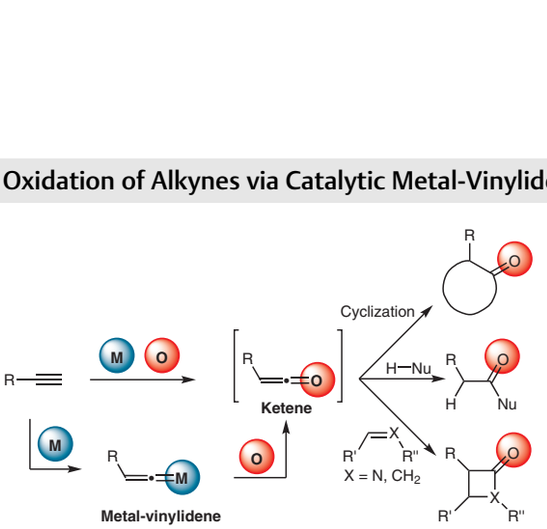
Synthesis

Oxidation of Alkynes via Catalytic Metal-Vinylidenes

Short Review

Synthesis **2020**, *52*, 2639–2649
DOI: 10.1055/s-0040-1707860

A. Álvarez-Pérez
C. Saá*
J. A. Varela*
Universidade de Santiago de Compostela, Spain



Synthesis

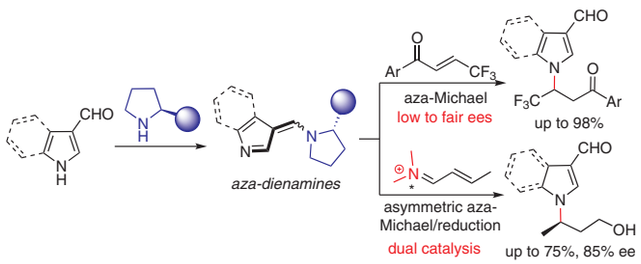
Synthesis **2020**, *52*, 2650–2661
DOI: 10.1055/s-0040-1707176

C.-J. Xu
W. Du
Ł. Albrecht
Y.-C. Chen*
Sichuan University, P. R. of China

Lewis Basic Amine Catalyzed Aza-Michael Reaction of Indole- and Pyrrole-3-carbaldehydes

Feature

2650



Synthesis

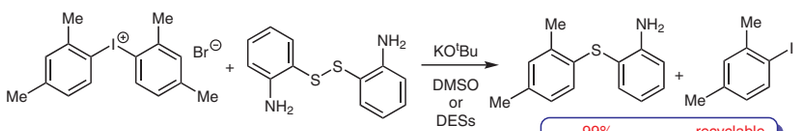
Synthesis **2020**, *52*, 2662–2666
DOI: 10.1055/s-0040-1707823

S. A. Zisopoulou
A. E. Pafili
P. Gkizis
T. Andreou
T. V. Koftis
A. Lithadioti
E. Neokosmidis
J. K. Gallos*
Aristotle University of Thessaloniki, Greece

Environmentally Benign Large-Scale Synthesis of a Precursor to Vortioxetine

PSP

2662



Synthesis

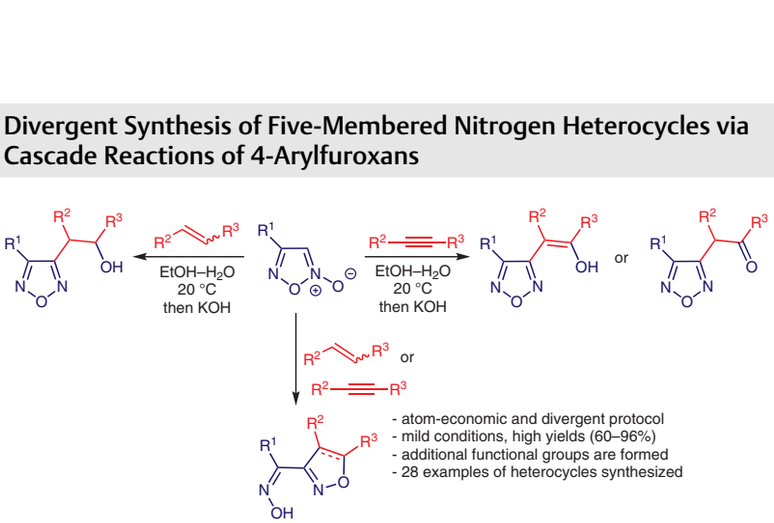
Synthesis **2020**, *52*, 2667–2678
DOI: 10.1055/s-0040-1707393

D. A. Chaplygin
I. V. Ananyev
L. L. Fershtat*
N. N. Makhova
N. D. Zelinsky Institute of Organic Chemistry, Russian Federation

Divergent Synthesis of Five-Membered Nitrogen Heterocycles via Cascade Reactions of 4-Arylfuroxans

Paper

2667



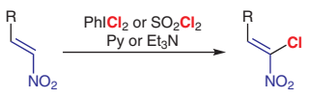
Synthesis

Synthesis **2020**, *52*, 2679–2688
DOI: 10.1055/s-0040-1707396

A. A. Fadeeva
S. L. Ioffe
A. A. Tabolin*
N. D. Zelinsky Institute of Organic Chemistry, Russian Federation

Chlorination of Conjugated Nitroalkenes with $PhICl_2$ and SO_2Cl_2 for the Synthesis of α-Chloronitroalkenes

Paper



- 20 examples
- 55–96% yield
- simple reagents and procedure
- broad scope

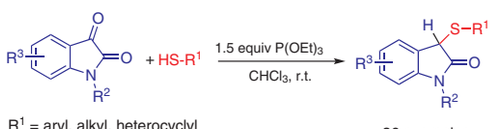
Synthesis

Synthesis **2020**, *52*, 2689–2697
DOI: 10.1055/s-0040-1707147

T. Huang
L. Liu
Q. Wang
D. Kong*
M. Wu*
Hainan Normal University, P. R. of China
Hainan Medical University, P. R. of China

$P(OEt)_3$-Mediated Formal S–H Insertion: Reductive Couplings of Isatins with Thiols to Generate 3-Sulfenylated Oxindoles

Paper



R^1 = aryl, alkyl, heterocyclyl
R^2 = Bn, Et
R^3 = OMe, Me, Et, H, F, Cl, Br

36 examples
51–89% yields

- A rare metal-free S–H bond insertion
- Readily available starting materials
- Obviating the use of hazardous, unstable diazo compounds
- Broadened substrate scope
- Mild reaction conditions

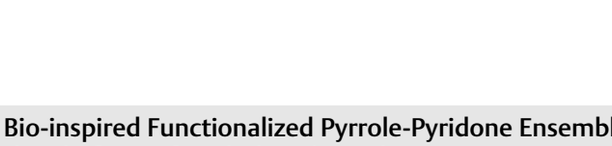
Synthesis

Synthesis **2020**, *52*, 2698–2704
DOI: 10.1055/s-0040-1707148

I. V. Saliy
M. D. Gotsko
L. N. Sobenina
I. A. Ushakov
B. A. Trofimov*
A. E. Favorsky Irkutsk Institute of Chemistry, Russian Federation

Bio-inspired Functionalized Pyrrole-Pyridone Ensembles: Synthesis on the Platform of Acylethynylpyrroles

Paper



R^1 = H, Me, $CH{=}CH_2$, Bn
R^2 = H, Ph, Pr, Bu
R^2–R^3 = $(CH_2)_4$
R^3 = H, Et, Pr
R^4 = Ph, furyl

R^5 = CN, $C(O)NH_2$
R^6 = H, Me

· Mild conditions
· Yield up to 98%

R^7 = CN, H

17 examples

Synthesis

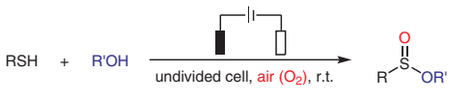
Synthesis **2020**, *52*, 2705–2712
DOI: 10.1055/s-0040-1707966

H. Zhou
J. Duan
D. Xie
J. Yang*
B. Ma
G. Wang
C. Wu
X.-C. Wang*
Northwest Normal University, P. R. of China

Electrochemical Synthesis of Sulfinic Esters via Aerobic Oxidative Esterification of Thiophenols with Alcohols

Paper

2705



- catalyst-free
- air as the sole oxygen source
- mild reaction conditions
- 31 examples, up to 98% yield

Synthesis

Synthesis **2020**, *52*, 2713–2720
DOI: 10.1055/s-0040-1707856

H. Jiang
D. Guo
Y. Zhang
Q.-P. Shen
S. Tang
J. You
Y. Huo
H. Wang
Q.-W. Gui*
Hunan Agricultural University, P. R. of China

Ultrasound-Promoted and Base-Mediated Regioselective Bromination of Imidazo[1,2-*a*]pyridines with Pyridinium Tribromide

Paper

2713

· inexpensive and safe brominating reagent
· mild conditions and ultrasound-promoted
· simple operation and gram scale

31 examples
up to 96% yield

Synthesis

Synthesis **2020**, *52*, 2721–2730
DOI: 10.1055/s-0040-1707889

A. Niermann
H.-U. Reissig*
Freie Universität Berlin, Germany

7-Siloxy-Substituted Hexahydronaphthalene Derivatives: Samarium Diiodide Promoted Synthesis and Typical Reactions

Paper

2721