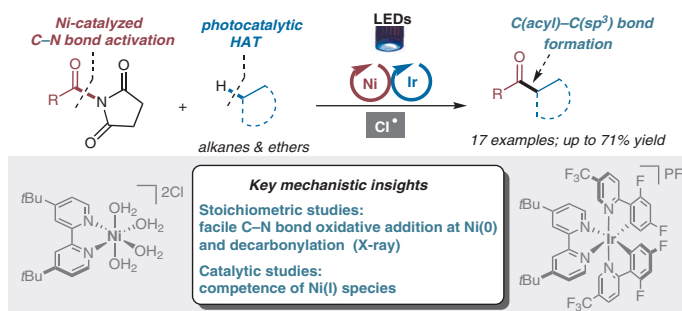


Cluster

Modern Nickel-Catalyzed Reactions (Part I)

Editor: Ruben Martin, Guest Editor: Gary A. Molander

Synthetic development and mechanistic studies



C(sp³)-H Bond Acylation with *N*-Acyl Imides under Photoredox/Nickel Dual Catalysis

T. Kerackian, A. Reina, T. Krachko, H. Boddaert, D. Bouyssi, N. Monteiro, A. Amgoune

Synlett

Synlett 2021, 32, 1473–1478
DOI: 10.1055/a-1503-7339

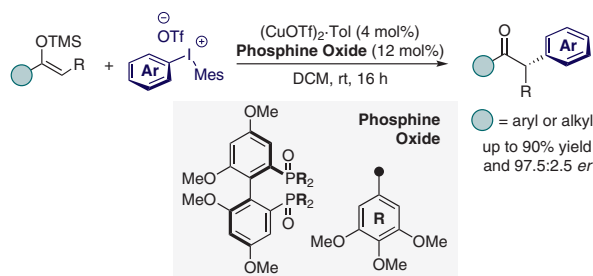
M. Escudero-Casao
G. Licini
M. Orlandi*

University of Padova, Italy

Cu(I)–Bis(phosphine) Dioxides as Catalysts for the Enantioselective α -Arylation of Carbonyl Compounds

Synfacts

1473



Synlett

Synlett 2021, 32, 1479–1483
DOI: 10.1055/a-1478-2280

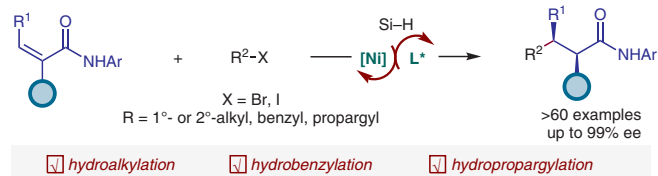
L. Shi
W. Shu*

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

Nickel-Catalyzed Electronically Reversed Enantioselective Hydrocarbofunctionalizations of Acrylamides

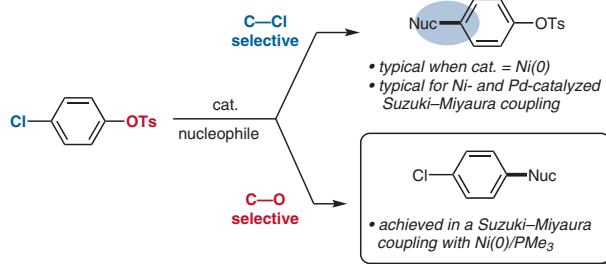
Synfacts

1479



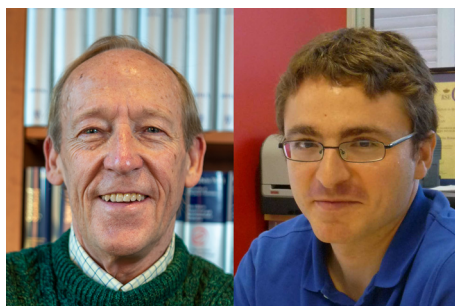
Synlett 2021, 32, 1484–1491
DOI: 10.1055/a-1503-6330

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S. R. A. Neufeldt*
Montana State University, USA



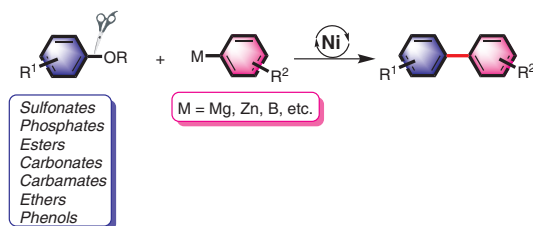
Synlett 2021, 32, A–B
DOI: 10.1055/s-0040-1720393

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Synlett 2021, 32, 1494–1512
DOI: 10.1055/a-1349-3543

H. Diao
Z. Shi
F. Liu*
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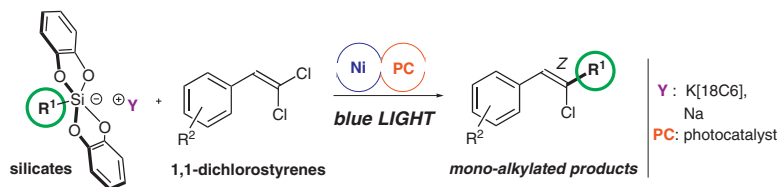
Synlett 2021, 32, 1513–1518
DOI: 10.1055/a-1374-9384M. Abdellaoui
A. Millanvois
E. Levernier
C. Ollivier*
L. Fensterbank*

Sorbonne Université, France

Visible-Light-Mediated Z-Stereoselective Monoalkylation of β,β -Dichlorostyrenes by Photoredox/Nickel Dual Catalysis

Cluster

1513



Synlett

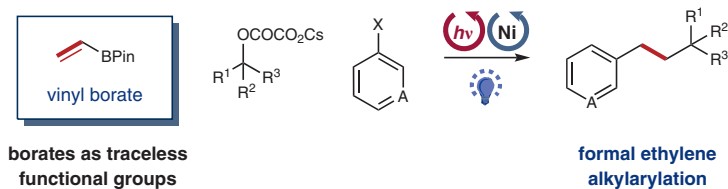
Synlett 2021, 32, 1519–1524
DOI: 10.1055/a-1320-6946X. Feng
L. Guo
S. Zhu*
L. Chu*

Donghua University, P. R. of China

Borates as a Traceless Activation Group for Intermolecular Alkylarylation of Ethylene through Photoredox/Nickel Dual Catalysis

Cluster

1519



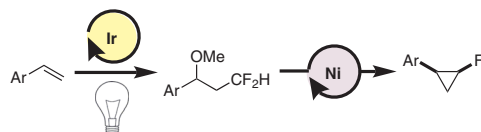
Synlett

Synlett 2021, 32, 1525–1530
DOI: 10.1055/s-0040-1706013E. L. Lucas
T. M. McGinnis
A. J. Castro
E. R. Jarvo*University of California-Irvine,
USA

Nickel-Catalyzed Cross-Electrophile Coupling of the Difluoromethyl Group for Fluorinated Cyclopropane Synthesis

Cluster

1525

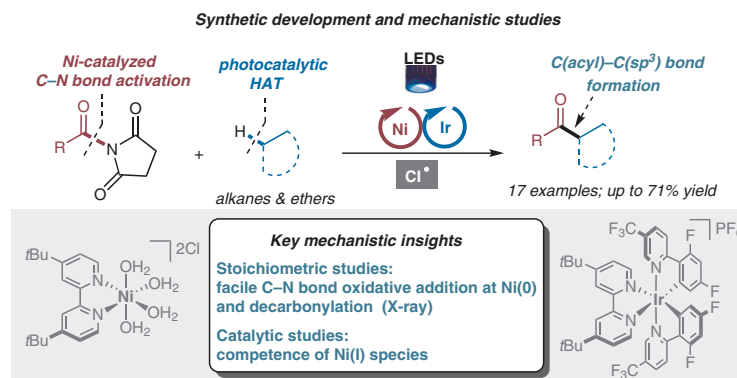


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C(sp³)-H Bond Acylation with *N*-Acyl Imides under Photoredox/ Nickel Dual Catalysis

Cluster

1531

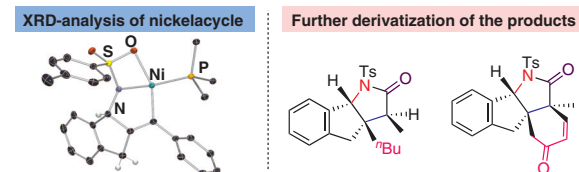
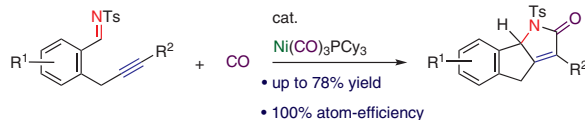
Synlett 2021, 32, 1531–1536
DOI: 10.1055/s-0040-1707301T. Kerackian
A. Reina
T. Krachko
H. Boddart
D. Bouysi
N. Monteiro
A. Amgoune*
Univ Lyon, France

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Ni(0)-Catalyzed Synthesis of Polycyclic α,β -Unsaturated γ -Lactams via Intramolecular Carbonylative Cycloaddition of Yne-imines with CO

Cluster

1537

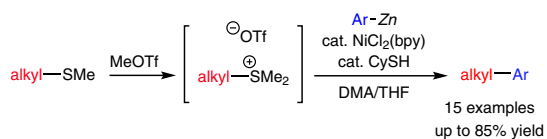
Synlett 2021, 32, 1537–1541
DOI: 10.1055/s-0040-1707308K. Ashida
Y. Hoshimoto
S. Ogoshi*
Osaka University, Japan

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Nickel-Catalyzed Negishi-Type Arylation of Trialkylsulfonium Salts

Cluster

1542

Synlett 2021, 32, 1542–1546
DOI: 10.1055/s-0040-1707817H. Minami
K. Nogi
H. Yorimitsu*
Kyoto University, Japan

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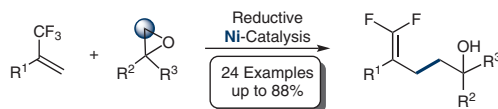
Synlett 2021, 32, 1547–1550
DOI: 10.1055/s-0040-1707170Z. Lin
Y. Lan
C. Wang*

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

Ligand-Free Nickel-Catalyzed Reductive Allylic Defluorinative Cross-Coupling of α -Trifluoromethyl Alkenes with Epoxides

Cluster

1547



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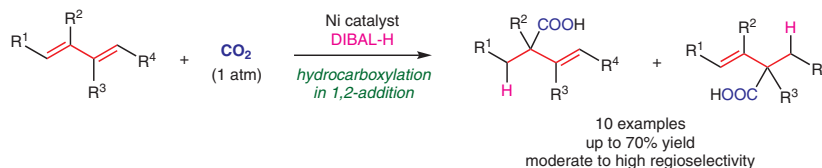
Synlett 2021, 32, 1551–1554
DOI: 10.1055/s-0040-1336-8034Y. Luo
B. Chan
T. Fukuda
G. Onodera
M. Kimura*

Nagasaki University, Japan

Nickel-Catalyzed Carboxylation of Conjugated Dienes with Carbon Dioxide and DIBAL-H for the Synthesis of β,γ -Unsaturated Carboxylic Acids

Cluster

1551



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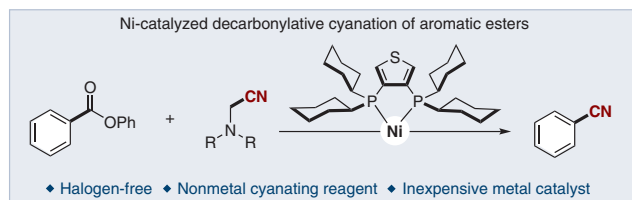
Synlett 2021, 32, 1555–1559
DOI: 10.1055/s-0040-1705943K. Iizumi
M. B. Kurosawa
R. Isshiki
K. Muto
J. Yamaguchi*

Waseda University, Japan

Decarbonylative Synthesis of Aryl Nitriles from Aromatic Esters and Organocyanides by a Nickel Catalyst

Cluster

1555



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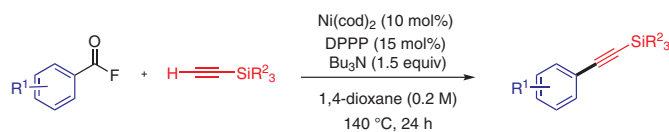
Synlett 2021, 32, 1560–1564
DOI: 10.1055/s-0040-1705954Q. Chen
L. Fu
J. You
Y. Nishihara*

Okayama University, Japan

Nickel-Catalyzed Decarbonylative Alkynylation of Acyl Fluorides with Terminal Alkynes under Copper-Free Conditions

Cluster

1560



- decarbonylative coupling
- copper-free
- broad substrate scope

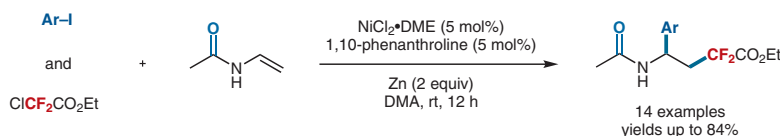
25 examples
25–90% yields

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Synlett 2021, 32, 1565–1569
DOI: 10.1055/s-0040-1706553Q.-W. Zhao
Z.-F. Yang
X.-P. Fu
X. Zhang*Zhengzhou University, P. R. of
China
Shanghai Institute of Organic
Chemistry, P. R. of ChinaAccess to α,α -Difluoro- γ -amino Acids by Nickel-Catalyzed Reductive Aryldifluoroacetylation of *N*-Vinylacetamide

Cluster

1565

14 examples
yields up to 84%

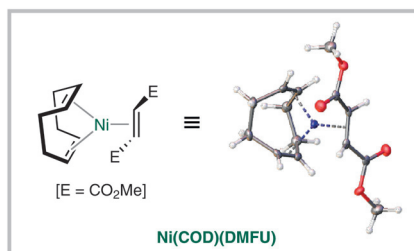
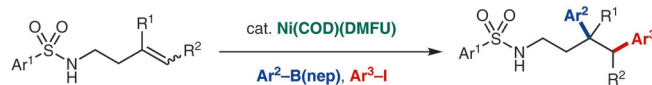
Synlett

Synlett 2021, 32, 1570–1574
DOI: 10.1055/a-1344-6040N. Kim
V. T. Tran
O. Apolinar
S. R. Wisniewski
M. D. Eastgate
K. M. Engle*The Scripps Research Institute,
USA

Ni(COD)(DMFU): A Heteroleptic 16-Electron Precatalyst for 1,2-Diarylation of Alkenes

Cluster

1570



- well-defined, all-in-one precatalyst
- operationally simple synthesis
- head-to-head comparisons with $[Ni(COD)_2 + DMFU]$
(10 examples, up to 20% yield improvement)