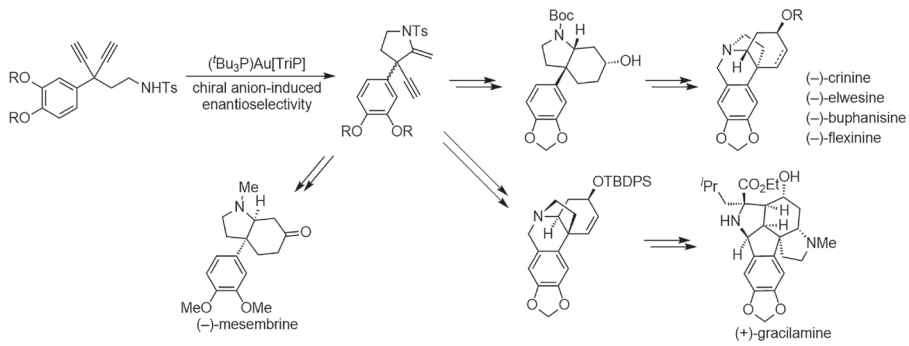
Synthesis

Reviews and Full Papers in Chemical Synthesis

October 15, 2024 • Vol. 56, 3083–3232



A Comprehensive Approach to C3a-Aryl-Substituted Hydroindole Alkaloids by Utilizing Enantioselective Gold Catalysis

J. K. Yu, C. Czekelius

20

Thieme

Synthesis

Reviews and Full Papers in Chemical Synthesis

2024
Vol. 56, No. 20
October II

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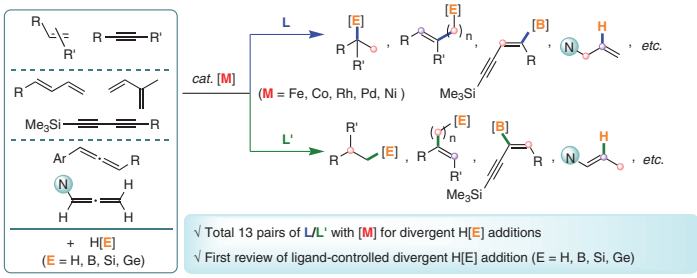
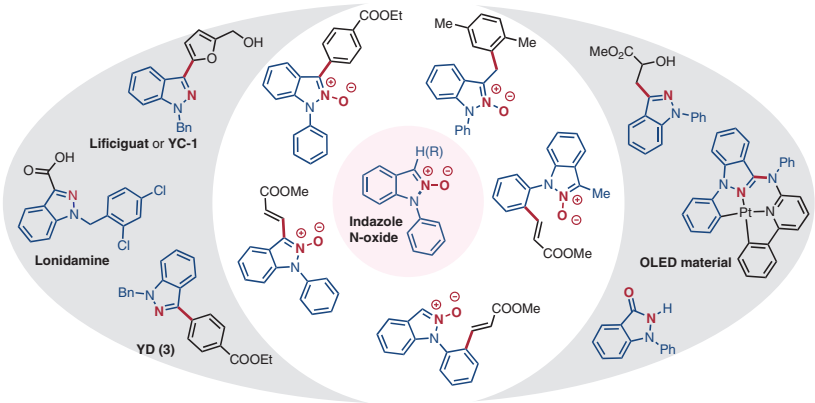




Synthesis

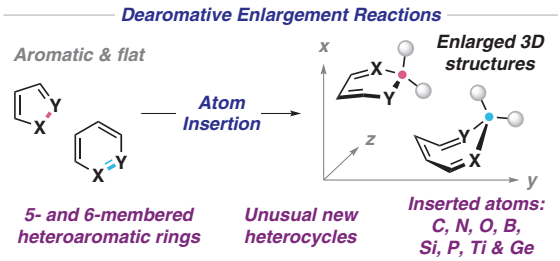
Synthesis **2024**, *56*, 3119–3130
DOI: 10.1055/a-2335-8799

Modern Dearomative Enlargement of Heteroaromatic Rings

Short Review

3119

X. Moreau
C. Ghiazza*
Université Paris-Saclay, France



Synthesis

Synthesis **2024**, *56*, 3131–3141
DOI: 10.1055/a-2368-8500

Lewis Acid Mediated Synthesis of 4-Aminoquinoline Derivatives from 2-Aminobenzonitriles and Activated Alkynes *via* Aza-Michael and Annulation Reactions

Feature

3131

B. Porashar
A. K. Saikia*
Indian Institute of Technology Guwahati, India

R^1 = H, F, Cl, Br, NO_2, CF_3, OMe, Me
R^2 = OEt, OMe, Ph
R^3 = CO_2Et, CO_2Me, aryl, (het)aryl, alkyl

27 examples
(up to 87% yield)

- C–N and C–C bond formation
- inexpensive Fe(III) salt promoted
- gram-scale synthesis
- easily available starting materials

Synthesis

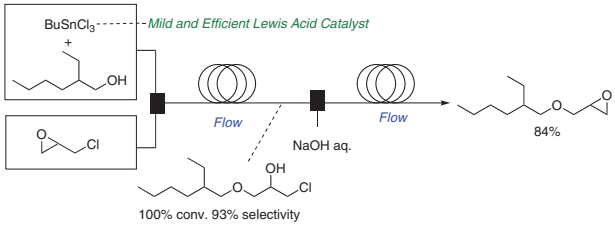
Synthesis **2024**, *56*, 3142–3146
DOI: 10.1055/a-2359-8893

Efficient Flow Synthesis of Glycidyl Ether Using $BuSnCl_3$ as a Mild Lewis Acid

Paper

3142

T. Kasakado
M. Nakamura
A. Nishizawa
T. Hosomi
I. Ryu
T. Fukuyama*
Osaka Metropolitan University, Japan



Synthesis

Synthesis **2024**, *56*, 3147–3159
DOI: 10.1055/s-0043-1775389

A Comprehensive Approach to C3a-Aryl-Substituted Hydroindole Alkaloids by Utilizing Enantioselective Gold Catalysis

Paper

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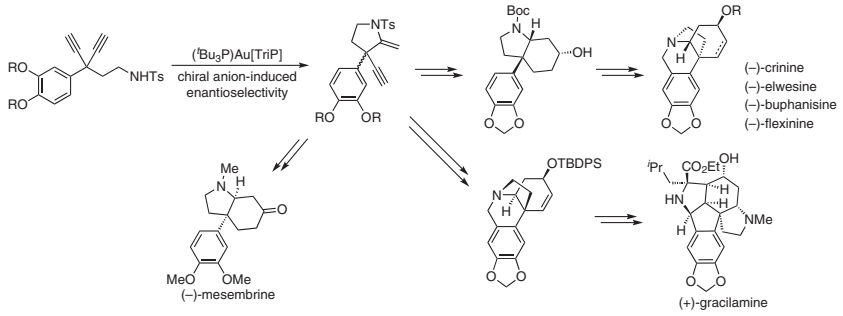
C. Czekelius*
Heinrich-Heine-Universität Düsseldorf, Germany



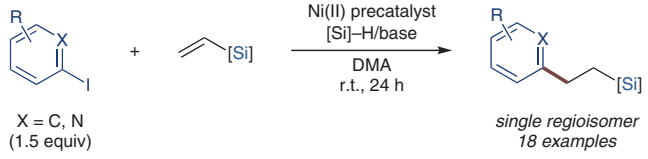
Synthesis

Synthesis **2024**, *56*, 3160–3166
DOI: 10.1055/a-2367-2434

Ni–H-Catalyzed Chemo- and Regioselective Hydroarylation of Vinylsilanes

Paper

D. Brösamlen
M. Oestreich*
Technische Universität Berlin, Germany



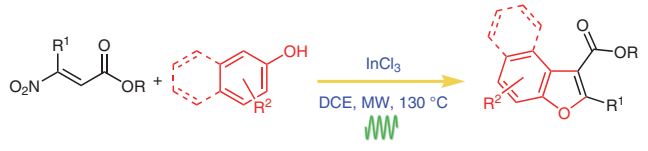
Synthesis

Synthesis **2024**, *56*, 3167–3172
DOI: 10.1055/a-2367-1877

β-Nitroacrylates and Phenols as Key Precursors of Arenofuran-3-carboxylates

Paper

B. Bassetti
M. Principi
R. Ballini
M. Petrini
A. Palmieri*
University of Camerino, Italy



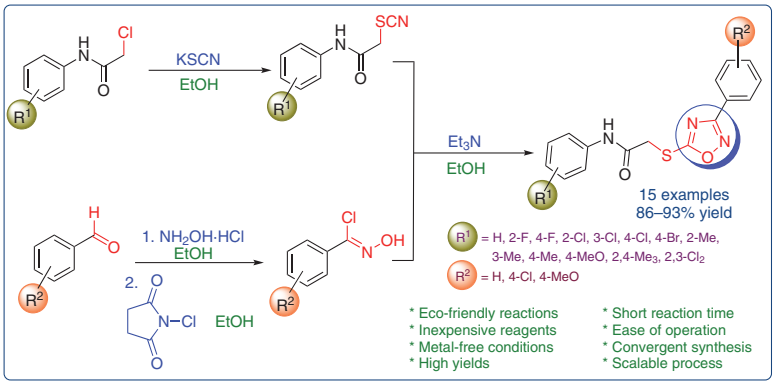
Synthesis

Synthesis **2024**, *56*, 3173–3180
DOI: 10.1055/s-0043-1775390

V. Y. Radhakrishna
G. L. Khatik
V. A. Nair*
Amrita Vishwa Vidyapeetham, Amritapuri Campus, India

1,3-Dipolar Cycloaddition Reaction of Nitrile Oxide to Thiocyanates: An Efficient and Eco-Friendly Synthesis of *N*-Aryl-2-((3-aryl-1,2,4-oxadiazol-5-yl)thio)acetamides

Paper



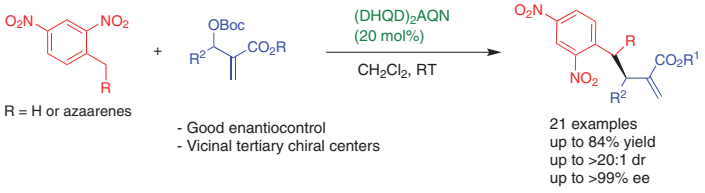
Synthesis

Synthesis **2024**, *56*, 3181–3190
DOI: 10.1055/a-2361-0011

Y.-D. Wu
B.-W. Huang
Y.-C. Chen
J.-L. Han*
National Chung Hsing University, Taiwan R.O.C.

Asymmetric Organocatalytic Benzylation of Morita–Baylis–Hillman Carbonates with 2,4-Dinitrotoluene Derivatives

Paper



Synthesis

Synthesis **2024**, *56*, 3191–3198
DOI: 10.1055/a-2359-8967

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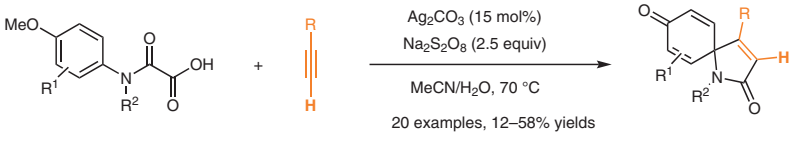
R.-X. Liang*
Y.-X. Jia
College of Chemical Engineering, P. R. of China

Silver-Catalyzed Dearomative [3+2] Spiroannulation of Aryl Oxamic Acids with Alkynes

Paper



- non-C3-substituents
- mild conditions
- broad substrate scope

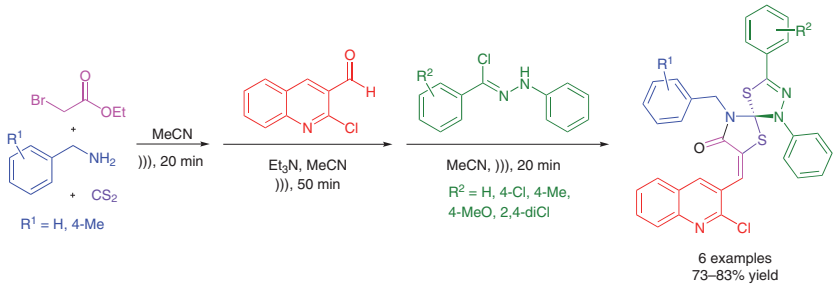
Synthesis

Synthesis **2024**, *56*, 3199–3205
DOI: 10.1055/s-0043-1775386

Regio- and Chemoselective Synthesis of 4,6-Dithia-1,2,9-triazaspiro-[4.4]non-2-en-8-ones through an Ultrasound-Promoted One-Pot Sequential Pseudo-Five-Component Reaction

Paper

A. Alizadeh*
E. A. Chelebari
R. Rezaiyehraad
Department of Chemistry, Tarbiat Modares University, Iran



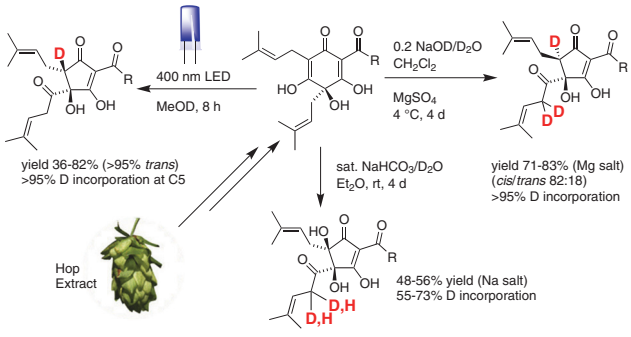
Synthesis

Synthesis **2024**, *56*, 3206–3214
DOI: 10.1055/a-2359-8813

Selective Synthesis of Deuterated cis- and trans-Isohumulones and trans-Isohumulinones

Paper

B. C. Hamper*
H. J. Campbell
R. Luo
M. Murphy
P. Gleason
T. Smith
R. Jagan
University of Missouri-St. Louis, USA



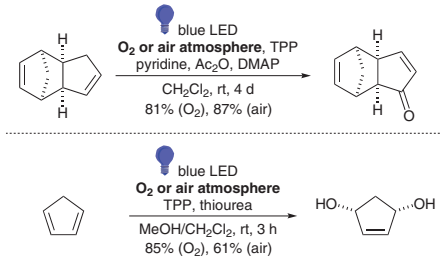
Synthesis

Synthesis **2024**, *56*, 3215–3219
DOI: 10.1055/a-2361-0069

Efficient Oxidation with Singlet Oxygen from 5,10,15,20-Tetraphenylporphyrin under Blue LED Irradiation and Air Atmosphere: Simplified Preparation of Key Building Blocks for Natural Product Synthesis

Paper

M. Hasumi
T. Tsutsumi
D. Shikama
I. Hayakawa*
Nihon University, Japan



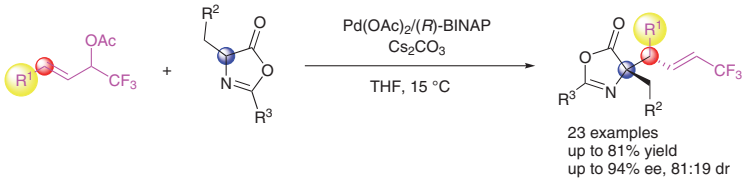
Synthesis

Synthesis **2024**, *56*, 3220–3232
DOI: 10.1055/a-2360-8289

Palladium-Catalyzed Asymmetric Allylic Alkylation of Azlactones: An Efficient Access to Unsaturated Trifluoromethylated α-Amino Acid Derivatives Possessing α-Quaternary Stereogenic Centers

S. Zhang
L. Sun
D. Li
J. Zhao
J. Qu
Y. Zhou*

Dalian University of Technology, P. R. of China



- Good yields, exclusive regioselectivity and good stereoselectivity
- Mild reaction conditions
- Readily scalable to gram scale
- Diverse transformations