# Synthesis

**Reviews and Full Papers in Chemical Synthesis** 

March 4, 2025 • Vol. 57, 891–1080



Cobalt-Catalyzed Three-Component Synthesis of  $\alpha$ -Substituted N-Sulfonyl Amines via C(sp<sup>2</sup>)–H Bond Activation

O. A. Olu-Igbiloba, H. Sitzmann, G. Manolikakes

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# **Synthesis**

### Reviews and Full Papers in Chemical Synthesis

2025 Vol. 57, No. 5 March I

Review

891

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#### Syn thesis

Synthesis **2025**, 57, 891–916 DOI: 10.1055/a-2389-4411

F. Sajjad S. Zhang M.-H. Xu\* Southern University of Science and Technology, P. R. of China







VI

Synthesis

Synthesis 2025, 57, 925-936 DOI: 10.1055/a-2380-6425

#### M. A. Horwitz\*

Pusan National University, Korea

National Research and Innova-

tion Agency, Indonesia

Eurofins Villapharma Research, Spain

#### Discovery Process Chemistry: An Innovation Hub at the Interface of Academia, the Pharmaceutical Industry, and Contract Research Organizations

#### **Short Review** 925



Syn <mark>thesis</mark>	Recent Advances in Asymmetric Addition Reactions to Isatins	Short Review
Synthesis <b>2025</b> , 57, 937–952 DOI: 10.1055/a-2376-6463	Organo- or metal- catalyzed	937
K. Xie A. Li BR. Kong ZC. Chen* W. Du YC. Chen* West China School of Pharmacy, Sichuan University, P. R. of China	HO + HO + G + HO + HO	

Syn <mark>thesis</mark>	Harnessing Photoredox and Weak Brønsted Base Dual Catalysis for	Short Review
Synthesis <b>2025</b> , 57, 953–964	Selective C(sp <sup>3</sup> )–H Bond Activation	953
DOI: 10.1055/s-0043-1775423		
S. R. Atriardi	Activation of C(sp <sup>3</sup> )-H Bonds via Photoredox and Base Dual Catalysis	
Y. Anita*	increasing acidity	
S. K. Woo*	increasing actury	

photocatalyzed Base catalyzed SET deprotonation 7 ż Ζ R - H+ - e





VII

#### Syn<mark>thesis</mark>

Synthesis **2025**, 57, 965–972 DOI: 10.1055/a-2412-9549

E. F. Mizobuchi A. C. Burtoloso\* Universidade de São Paulo, Brazil

### The Acylation of $\alpha$ -Carbonyl Sulfoxonium Ylides with N-Hydroxy-phthalimide Esters

# $\begin{array}{c} H^{1} = aryl, alkyl, ester, amide \\ bench-stable reagents \\ mild conditions \\ transition-metal-free \end{array} \qquad \begin{array}{c} THF \\ Cs_{2}CO_{3} \\ 25\ ^{\circ}C \end{array} \qquad \begin{array}{c} H^{1} + H^{2} \\ Cs_{2}CO_{3} \\ 25\ ^{\circ}C \end{array} \qquad \begin{array}{c} H^{1} + H^{2} \\ H^{2} \\$



Feature

965

• Wide substrate scope

Moderate to excellent yields

VIII



Syn <mark>thesis</mark>	Synthesis of FSO <sub>2</sub> -Functionalized Oxindoles via a Radical Fluorosulfo-	Paper
Synthesis <b>2025</b> , 57, 999–1006 DOI: 10.1055/a-2409-5678	nylation/Intramolecular Arylation Cascade	999
N. Yang G. Pei H. Li	$R^{1}\underset{R^{2}}{\square} \xrightarrow{\mathbb{N}}_{R^{2}} \xrightarrow{\mathbb{N}}_{F} \xrightarrow{\mathbb{N}}_{F} \xrightarrow{\mathbb{N}}_{F} \xrightarrow{\mathbb{N}}_{F} \xrightarrow{\mathbb{N}}_{R^{2}} \xrightarrow{\mathbb{N}}_{R^$	
J. Han P. Wang L. Xie S. Liao* Fuzhou University, P. R. of China	Me ↓ N ↓ CF <sub>3</sub> FABI ↓ Visible-Light Catalysis ↓ Wide Reaction Conditions ↓ SufExable Indolinone Products	

Synthesis Synthesis 2025, 57, 1007–1014 DOI: 10.1055/a-2499-2469	Direct Access to 5,6-Dihydropyrido[2′,1′:2,3]pyrido-Fused Imidazo [4,5-c]quinolines via Consecutive C–N and C–C Bond Formation in Deep Eutectic Solvent under Microwave Irradiation	Paper 1007
U. Dasmahapatra B. Choudhury M. G. Ahmad B. Maiti* K. Chanda* Vellore Institute of Technology, India Rabindranath Tagore University, India	R Pyrido[2',1':2,3]- imidazo[4,5-c]quinoline Beep Eutectic Solvent	

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Gram-scale synthesisGood to excellent yield

Broad substrate scope

Mild reaction conditions



IX

Syn <mark>thesis</mark>	Synergistic Pd/Cu-Catalyzed Asymmetric Csp <sup>3</sup> –Csp <sup>3</sup> Coupling of	Paper
Synthesis <b>2025</b> , 57, 1025–1033	1,3-Dienes with 2-Acylimidazoles	1025
DOI: 10.1055/a-2457-0319		
M. Wang		
W. Zi*	$Ar^{1} \rightarrow Ar^{2} N $	
Nankai University, P. R. of China	39 examples	

39 examples up to 95% ee 15:1 dr





х

#### Syn<mark>thesis</mark>

Synthesis **2025**, 57, 1043–1049 DOI: 10.1055/a-2500-6556

#### **K. Endo F. Shibahara**\* Gifu University, Japan

## Imidazo[1,5-a]pyridin-3-ylidene-Catalyzed Oxidative Esterification of Aldehydes: Remarkable Electronic Effect Regarding $\pi$ -Accepting Character of Ring-Fused N-Heterocyclic Carbene

Paper 1043

Oxidant -Ar MeOH. OMe R <sup>⊾</sup>óн R ОН ОН F increased contribution owing to  $\pi$ -accepting character of IPC increa Imidazo[1,5-a]pyridine carbene (IPC) Enhancement of *n*-accepting character by ring-fused structure Controlling electronic properties of carbene Controlling steric hindrance around carbene Ar

Syn <mark>thesis</mark>	Three-Component Synthesis of Cyanopyrazoles Employing	Paper
Synthesis <b>2025</b> , 57, 1050–1058 DOI: 10.1055/a-2497-1767	Diazoacetonitrile	1050
R. Singroha P. Onen U. Yadav R. Kant K. Mohanan*	$Ar^{1} H + Ar^{2} H + Ar^{2} H + Ar^{2} H + N_{2} Ar^{2$	
CSIR-Central Drug Research In- stitute. India	<ul> <li>so examples</li> <li>up to 94% yield</li> </ul>	

Syn <mark>thesis</mark>	First Example of Aryl–Hetaryl Cross-Coupling via [5,5]-Sigmatropic	Paper
Synthesis <b>2025</b> , 57, 1059–1071 DOI: 10.1055/s-0043-1775403	Kearrangement	1059
O. V. Buravov V. O. Tomak S. V. Shishkina V. A. Chebanov* National Academy of Sciences of Ukraine, Ukraine	$H_{2}N \xrightarrow{TMSCN} H_{2}N \xrightarrow{R_{1}} H_{2} $	

#### Syn<mark>thesis</mark>

Synthesis **2025**, 57, 1072–1080 DOI: 10.1055/a-2500-6392

S. Michon M. Garcia F. Cavelier

X. J. Salom-Roig\*

Université de Montpellier, CNRS, ENSCM, France Divergent Synthetic Strategy To Access the Polyketide Subunits of Aurilides: Synthesis of the Southern Fragment of Lagunamides D and D'



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