

Synthesis

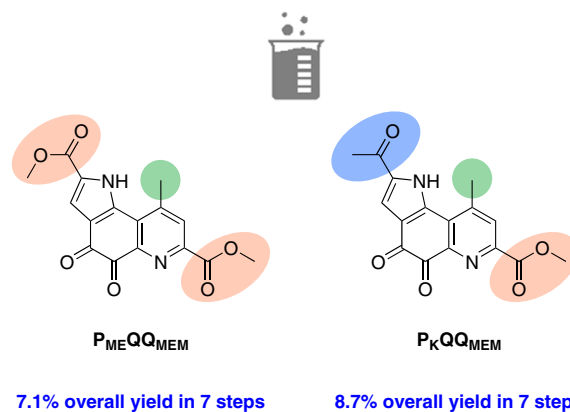
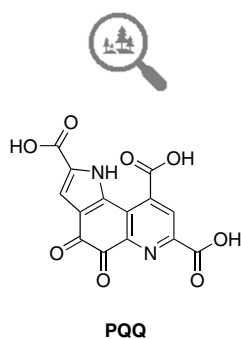
Reviews and Full Papers in Chemical Synthesis

March 16, 2023 • Vol. 55, 857–1006

Special Topic

Synthetic Advancements Enabled by Phosphorus Redox Chemistry

Editor: Corinna Schindler, Guest Editor: Valerie Schmidt



Modular Synthesis of New Pyrroloquinoline Quinone Derivatives

R. Janßen, V. A. Vetsova, D. Putz, P. Mayer, L. J. Daumann

6

Synthesis

Synthesis **2023**, 55, 857–867
DOI: 10.1055/a-1983-5059

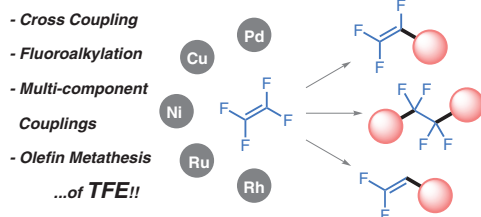
R. Doi
Y. Zhou
S. Ogoshi*

Osaka University, Japan

Transformation of Tetrafluoroethylene Using Transition-Metal Complexes

Short Review

857



Synthesis

Synthesis **2023**, 55, 868–876
DOI: 10.1055/s-0042-1751398

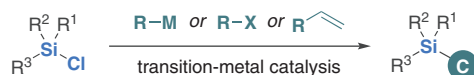
Y.-H. Yang
X. Pang
X.-Z. Shu*

Lanzhou University,
P. R. of China

Transition-Metal-Catalyzed Cross-Coupling of Chlorosilanes

Short Review

868



Synthesis

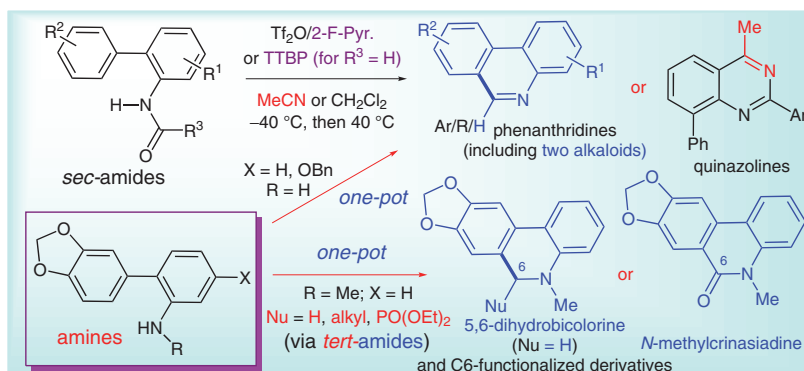
Synthesis 2023, 55, 877–891
DOI: 10.1055/a-1957-4343

X.-Y. Su

P.-Q. Huang*

Xiamen University, P. R. of China

Tf₂O-Promoted Morgan–Walls Reaction: From a Flexible Approach to Functionalized Phenanthridines and Quinazolines to the Short and Divergent Total Syntheses of Alkaloids



Synthesis

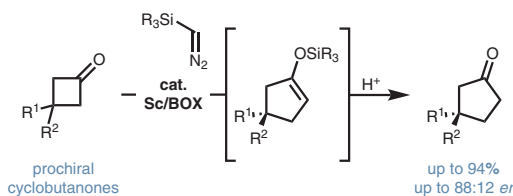
Synthesis 2023, 55, 892–898
DOI: 10.1055/s-0042-1751386

M. Tenberge

J. M. Wahl*

Johannes Gutenberg-Universität,
Germany

Lewis Acid Catalysed Asymmetric One-Carbon Ring-Expansion of Prochiral Cyclobutanones



Synthesis

Synthesis 2023, 55, 899–906
DOI: 10.1055/a-1948-3234

H. Fujimoto

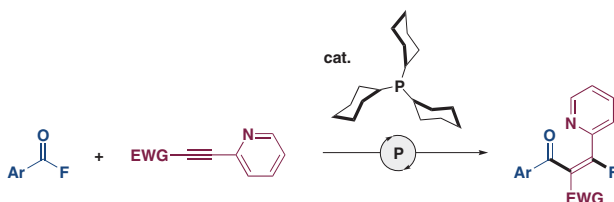
S. Yamamura

N. Takenaka

M. Tobisu*

Osaka University, Japan

Phosphine-Catalyzed Z-Selective Carbonyl Fluorination of Alkynoates Bearing an N-Heteroarene Unit



Synthesis

Synthesis 2023, 55, 907–918
DOI: 10.1055/a-1959-2742

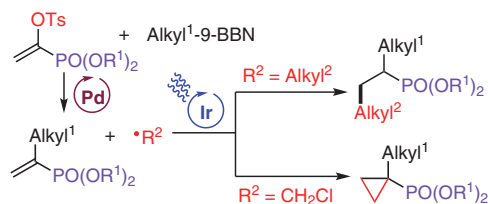
L. Zhang*
J. Shi
Y. Fang*

Zhejiang Pharmaceutical University, P. R. of China
Ningbo University of Technology, P. R. of China

An Alternative to the Arbuzov Reaction: Generation and Transformation of α -Dialkyl-Substituted Methylphosphonate Carbanions via an SET Reduction Process

Special Topic

907



Synthesis

Synthesis 2023, 55, 919–926
DOI: 10.1055/a-1994-2301

D. Picthall
B. A. Surgenor
P. Kilian*

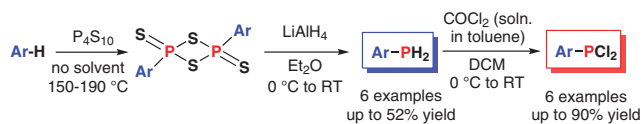
University of St. Andrews, UK

Convenient and Scalable Synthesis of Aryldichlorophosphines and Primary Arylphosphines via Perthiophosphonic Anhydrides

Special Topic

OPEN ACCESS

919



all steps scalable to milligram quantities
minimum purification required

Synthesis

Synthesis 2023, 55, 927–933
DOI: 10.1055/a-1902-5592

C. R. Woof
T. G. Linford-Wood
M. F. Mahon
R. L. Webster*

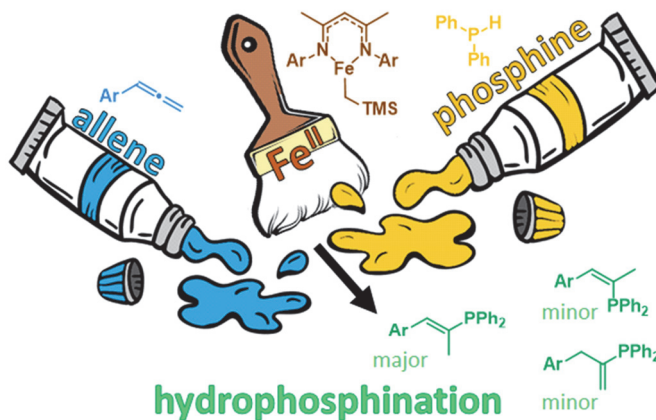
University of Bath, UK

Catalytic Hydrophosphination of Allenes Using an Iron(II) β -Diketiminato Complex

Special Topic

OPEN ACCESS

927



Synthesis

Synthesis 2023, 55, 934–944
DOI: 10.1055/a-1948-3003

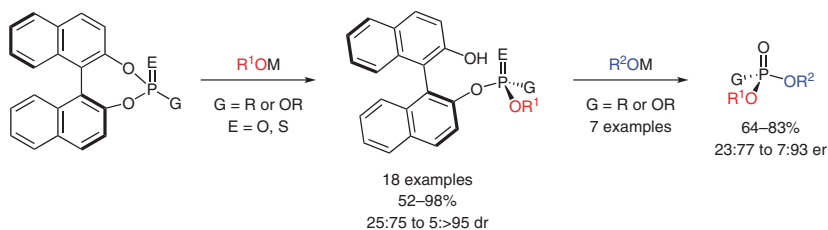
C. Endo
Y. Inoue
T. Maruyama
M. Minoura
T. Murai*

Gifu University, Japan

Two-Step Transesterification of Phosphates, Phosphorothioates, and Phosphonates with a Binaphthyl Group for the Synthesis of *P*-Chirogenic Phosphates and Phosphonates

Special Topic

934



Synthesis

Synthesis 2023, 55, 945–958
DOI: 10.1055/a-1961-8504

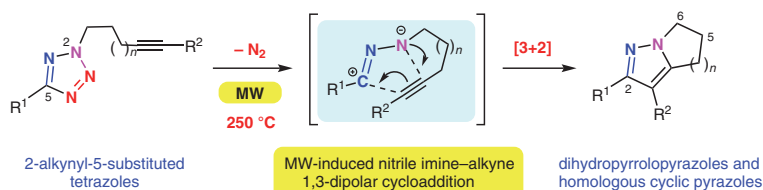
H. Yoneyama
M. Adachi
A. Morita
M. Nakagawa
M. Baba
K. Yamawaki
N. Hayama
S. Harusawa
Y. Usami*

Osaka Medical and Pharmaceutical University, Japan

Synthesis of 5,6-Dihydro-4*H*-pyrrolo[1,2-*b*]pyrazoles and Homologs from 5-Substituted 2-(Alkynyl)tetrazoles via Microwave-Induced Intra-molecular Nitrile-Imine–Alkyne 1,3-Dipolar Cycloaddition

Paper

945



Synthesis

Synthesis 2023, 55, 959–966
DOI: 10.1055/s-0042-1751389

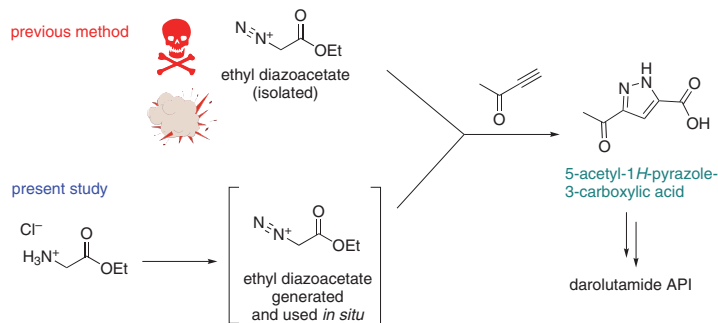
B. Szilágyi
A. Egyed
I. Mándity
T. Nagy
K. Kátai-Fadgyas
B. Volk*
G. M. Keserű*

Research Centre for Natural Sciences, Hungary
Egis Pharmaceuticals Plc., Hungary

Safe and Efficient Continuous-Flow Synthesis and Batchwise Hydrolysis of Ethyl 5-Acetyl-1*H*-pyrazole-3-carboxylate: A Key Synthon of Darolutamide

Paper

959



Synthesis

Synthesis 2023, 55, 967–976
DOI: 10.1055/a-1953-1849

W. C. de Souza

R. N. Lima

I. S. de Jesus

J. T. M. Correia*

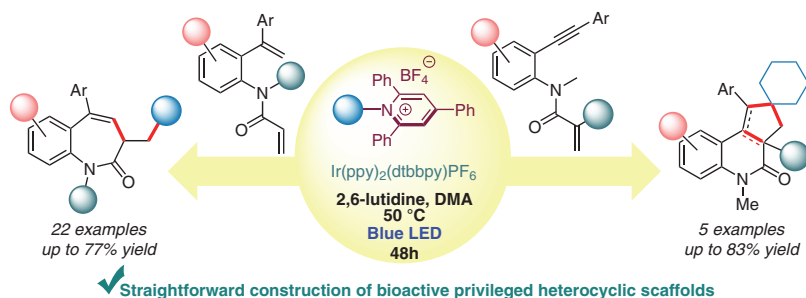
M. W. Paixão*

Federal University of São Carlos,
Brazil

Synthesis of Benzoazepinone Derivatives via Photoredox Deaminative Radical Cascade Alkylation of 1,7-Dienes and 1,7-Enynes

Paper

967



Synthesis

Synthesis 2023, 55, 977–988
DOI: 10.1055/s-0042-1751382

N. T. Pokhodylo*

M. A. Tupychak

E. A. Goreschnik

M. D. Obushak

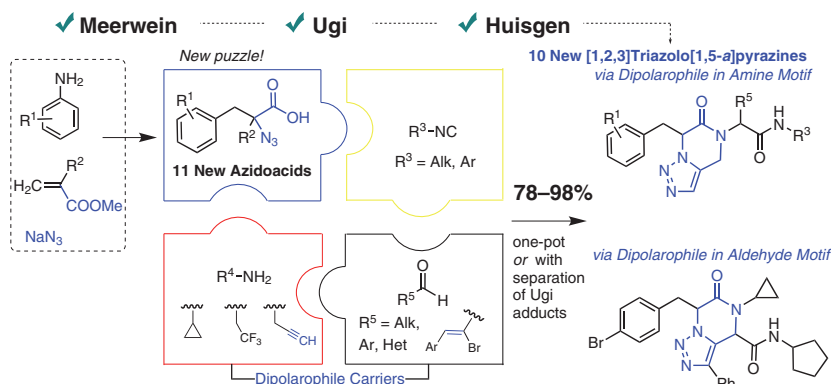
Ivan Franko National University
of Lviv, Ukraine

The Synthesis of Novel 7-(Substituted benzyl)-4,5-dihydro[1,2,3]-triazolo[1,5-a]pyrazin-6(7H)-ones via Tandem Ugi–Huisgen Reactions

Paper

OPEN
ACCESS

977



Synthesis

Synthesis 2023, 55, 989–999
DOI: 10.1055/a-1975-4377

Z. Huang

L. Dai

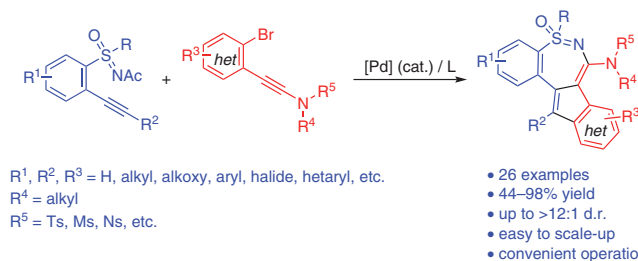
Z. Chen*

Jiangxi Normal University,
P. R. of China

Palladium-Catalyzed Double Carbopalladation/*syn*-Insertion Cascade toward a Pragmatic Synthesis of Aminated Polyheterocyclic 1,2-Benzothiazepine 1-Oxides

Paper

989



Synthesis 2023, 55, 1000–1006
DOI: 10.1055/s-0041-1738426

1000

R. Janßen

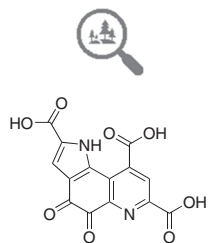
V. A. Vetsova

D. Putz

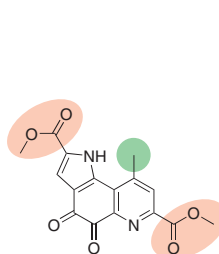
P. Mayer

L. J. Daumann*

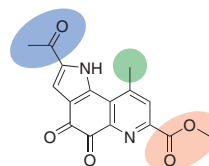
Ludwig-Maximilians-Universität
München, Germany



PQQ

P_{ME}QQ_{MEM}

7.1% overall yield in 7 steps

P_KQQ_{MEM}

8.7% overall yield in 7 steps