Dipeptide-Based Phosphonium Salt Catalysis: Application to Enantioselective Synthesis of Fused Tri- and Tetrasubstituted Aziridines

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Bifunctional phosphonium salt aza-Darzens

52 examples
85–99% yield
all >20:1 dr
up to >99.9% ee

R3
O
X
Y
n
X = Br, Cl
Y = H, O, CH2
n = 0, 1, 2
R2 = aryl
R1 = H, alkoxy, alkyl, aryl, halogen
R2 = H, ester

Iridium-Catalyzed Asymmetric C–H Borylation Enabled by Chiral Bidentate Boryl Ligands

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DG = amine, amide

up to 96% ee

up to 96% ee
Recent Advances in the Synthesis of Acridines and Phenazines

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Reprogramming Nonribosomal Peptide Synthesis by Surgical Mutation

D. L. Niquille
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Base-Controlled One-Pot Chemoselective Suzuki–Miyaura Reactions for the Synthesis of Unsymmetrical Terphenyls

X. Li*
F. Feng
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Copper Aluminate Spinel in Click Chemistry: An Efficient Heterogeneous Nanocatalyst for the Highly Regioselective Synthesis of Triazoles in Water

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Advantages:
* Simple removal of the catalyst
* Short reaction time
* High yields
* High diversity
* Green solvent

Highly Chemoselective Solvent-Free Synthesis of 1,3,5-Triaryl-1,5-diketones: Crystallographic Investigation and Intramolecular Weak Bifurcated H Bonds Involving Aliphatic C–H Group

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Acetic Acid Catalysed One-Pot Synthesis of Pyrrolo[1,2-α]quinoxaline Derivatives

P. N. M. Allan M. I. Ostrowska B. Patel* London Metropolitan University, UK
Direct Synthesis of N-Functionalized Dipropargylamine Linkers as Models for Use in Peptide Stapling

A. Renzetti*
R. N. Rutherford
K. Fukumoto
D. Kunciw
H. F. Sore
D. R. Spring*

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Stereoselective Synthesis of the A,E-Ring Bicyclic Core of Calyciphylline B-Type Alkaloids

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S. Raghavan*

Indian Institute of Chemical Technology, India

Copper(II)-Catalyzed C–N Coupling of Aryl Halides and N-Nucleophiles Promoted by Quebrachitol or Diethylene Glycol

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Q. Zhou
Y. Fu
Y. Chen
G. Chen*

Shenyang Pharmaceutical University, P. R. of China
Yunnan Institute of Tropical Crops, P. R. of China
Synthesis of Acetamides from Aryl Amines and Acetonitrile by Diazotization under Metal-Free Conditions

Y.-F. Zeng
Y.-N. Li
N.-N. Zhang
H. Kang
P. Duan
F. Xiao
Y. Guo
X. Wen*
University of South China, P. R. of China

CH₃CN, H₂O
TfOH, t-BuONO, 60 °C

R = OMe, OH, CO₂Et, CF₃,
NO₂, F, Cl, Br, I
X = C, N

without metal catalyst
selective to aromatic amines
22 examples up to 85% yield

α-D-Galacturonic Acid as Natural Ligand for Selective Copper-Catalyzed N-Arylation of N-Containing Heterocycles

C. Yuan*
Y. Zhao
L. Zheng
Jinzhou Medical University, P. R. of China

K₂CO₃ (3.0 equiv)
in aq DMSO under Ar
80–120 °C

CuBr (5 mol%)
GalA (10 mol%)
abundant source
eco-friendly
selective
water soluble

Copper(I)-Catalyzed Sulfenylation of 1,3-Dicarbonyl Substrates with Disulfides under Mild Conditions

J. Zhao
F. Yang
Z. Yu
X. Tang
Y. Wu
C. Ma
Q. Meng*
Dalian University of Technology,
P. R. of China

HIGH ATOM ECONOMY
MILD CONDITIONS
SIMPLE PROCEDURE WITH UP TO 95% YIELD

16 examples up to 95% yield
Preparation of α-L-Rhamnosides by Open and Conventional Glycosylations for Studies of the rHPL Lectin

**Synlett**

2019, 30, 2185–2192
DOI: 10.1055/s-0039-1690710

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Preparation of α-L-Rhamnosides by Open and Conventional Glycosylations for Studies of the rHPL Lectin

**Letter**

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**Open** or **Conventional glycosylations**

1. \( R = \text{NHCD}_{3} \) or \( \text{SPh} \)
2. \( R = \text{H} \) or \( R = \text{Ac} \)

**Lectin binding studies:**
1. 2: Higher binding affinity

**48–62%**, 7 steps
or
**54–76%**, 9–10 steps

A Chemoenzymatic Formal Synthesis of Epoxyquinols A and B

**Synlett**

2019, 30, 2193–2197
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A Chemoenzymatic Formal Synthesis of Epoxyquinols A and B

**Letter**

2193

**Ralstonia eutropha B9** whole cells

**BZDO** benzoate dioxygenase

Catalytic Asymmetric Synthesis of Atropisomeric Quinolines through the Friedländer Reaction

**Synlett**

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Catalytic Asymmetric Synthesis of Atropisomeric Quinolines through the Friedländer Reaction

**Letter**

2198

**CPA** (10 mmol%)  
**PhCN**, 5 Å MS, 20 h

17 examples

up to 94% yield
or
up to 95% ee