Recent Advances Towards Syntheses of Diterpenoid Alkaloids

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Cyclopropanation Reactions of Semi-stabilized and Non-stabilized Diazo Compounds

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A One-Pot Intramolecular Tandem Michael–Aldol Annulation Reaction for the Synthesis of Chiral Pentacyclic Terpenes

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One-Step Synthesis of 1H-Imidazo[1,5-α]imidazole Scaffolds and Access to their Polyheterocycles

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Synthesis of Aza-polyquinanes via Fischer Indolization and Ring-Rearrangement Metathesis as Key Steps

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Five examples of aza-polyquinanes, containing fused medium rings, were synthesized using a Fischer indolization followed by an N-Alkylation sequence and a Ring-Rearrangement Metathesis (RRM) key step. The aza-polyquinanes bear an indole motif and were characterized by X-ray analysis. Yields up to 91% were obtained.

[3+2]-Cycloaddition of α-Diazocarbonyl Compounds with Arenediazonium Salts Catalyzed by Silver Nitrate Delivers 2,5-Disubstituted Tetrazoles

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The reaction of α-diazocarbonyl compounds with arenediazonium salts catalyzed by silver nitrate (AgNO₃) in THF/DMF at 0 °C to room temperature (r.t.) for 16 h delivered 2,5-disubstituted tetrazoles in 18–82% yield.

Direct Access to Highly Functionalised Benzimidazoles and Benzoxazoles from a Common Precursor

**A. Garrido**
P.-O. Delaye
F. Quintin
M. Abarbri
P. Lameiras
A. Guéffier
J. Thibonnet
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A common precursor was used to access highly functionalized benzimidazoles and benzoxazoles in 11 examples, with yields up to 86%.
Cobalt Used as a Novel and Reusable Catalyst: A New and One-Pot Synthesis of Isatin-Derived N,S-Acetals Using Substituted Isatins and Thiols

C. D. G. da Silva
R. Katla
B. F. dos Santos
J. M. C. Tavares Junior
T. B. Albuquerque
V. L. Kupfer
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Cobalt (II)-ligand
DCM, r.t.
1.5 mol%
R¹ = H, Pr, i-Pr, Me, 4-BrC₆H₄CH₂, Ph
R² = H, Br, Cl
R = H, Me, OMe, F, Cl, NH₂

An Expedient, Direct, Three-Component Approach for the Synthesis of 4-Thioarylpyrroles

V. Rajeshkumar*
C. Neelamegam
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National Institute of Technology Tiruchirappalli, India

AcOH, 120 °C
One-pot thiol-Michael and Paal–Knorr reaction
Formation of one C–S and two C–N bonds

Combining Amines and 3-(2-Pyridyl)-[1,2,3]Triazolo[1,5-a]pyridine: An Easy Access to New Functional Polynitrogenated Ligands

L. Chiassai
R. Ballesteros-Garrido
M. P. Clares
E. García-España
R. Ballesteros*
B. Abarca*
Universitat de València, Spain

Thermal conditions
excess amine
Cu Cat. conditions
4 equiv amine
X = NH₃, OH, NHR, etc.
9 examples up to 96% yield

6 new multidentate compounds
Direct Synthesis of Nitrones via Transition-Metal-Free Ring-Opening of \(N\)-Tosylaziridines with the Nitrogen Atom of Various (E)-Aldoximes and (E)-Ketoximes

X. Li*
W. Yan
R. Zhang
H. Chang
W. Gao
X. Tian*
W. Wei
Taiyuan University of Technology, P. R. of China

$$\text{R}^1 = \text{Ph, R}^2 = \text{H, alkyl}$$
$$\text{R}^2 = \text{alkyl, R}^3 = \text{alkyl}$$
$$\text{R}^3 = \text{Heteroaryl, R}^4 = \text{Me}$$

59 examples
up to 99% yields
up to 100% regioselectivity

Copper-Catalyzed 6-endo-dig O-Cyclization of 2-(But-3-en-1-yn-1-yl)benzamide

R.-X. Wang*
Z. Fang
G. Qiu*
W. Xie
J.-B. Liu*
Jiangxi University of Science and Technology, P. R. of China
Jiaxing University, P. R. of China

$$\text{Cu(TFA)}_2 \text{(10 mol%)}$$
$$\text{THF, reflux}$$

Selected examples:

90%
74%
81%

Bicyclic 1-Azafagomine Derivatives: Synthesis and Glycosidase Inhibitory Testing

T. C. S. Evangelista
O. López*
M. O. Sydnes
J. G. Fernández-Bolaños
S. B. Ferreira
E. Lindbäck*
University of Stavanger, Norway
Universidad de Sevilla, Spain

Potent \(\beta\)-glucosidase inhibitor
Poor \(\beta\)-glucosidase inhibitor

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A Straightforward Conversion of Activated Amides and Haloalkanes into Esters under Transition-Metal-Free Cs$_2$CO$_3$/DMAP Conditions

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Z. Wang*
L. Chen
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A Straightforward Conversion of Activated Amides and Haloalkanes into Esters under Transition-Metal-Free Cs$_2$CO$_3$/DMAP Conditions

R$^1$ = aryl, alkenyl, alkyl, benzyl

C–N bond cleavage

Transition-metal-free
Wide substrate scope
Commercially available

28 examples
up to 88%

N-Alkynyl Pyrrole Based Total Synthesis of Shensongine A

B. J. Reinus
S. M. Kerwin*
Texas State University, USA

Evaluation of Amino Nitriles and an Amino Imidate as Organocatalysts in Aldol Reactions

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A. J. Brown
P. A. Clarke*
University of York, UK