Deployment of Aziridines for the Synthesis of Alkaloids and Their Derivatives

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Synthetic Approaches to Nitro-Substituted Isoxazoles

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Silicon-Tethered Frameworks as Directing Groups for Carbon–Carbon and Carbon–Heteroatom Bond Formation

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Palladium-Catalyzed Formation of Substituted Tetrahydropyrans: Mechanistic Insights and Structural Revision of Natural Products

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Practical Synthesis of Precursors of Cyclohexyne and 1,2-Cyclohexadiene

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From Bioactive Pyrrolidino[3,4-c]pyrrolidines to more Bioactive Pyrrolidino[3,4-b]pyrrolidines via Ring-Opening/Ring-Closing Promoted by Sodium Methoxide

**Paper**

Synthesis 2019, 51, 1565–1577
DOI: 10.1055/s-0037-1611356

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**RING-OPENING/RING-CLOSING EPIMERIZATION**

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NaOMe (1.2 equiv) → MeOH
reflux 36 h
11 examples 40–98%

antibacterial and antymycobacterial agents

Palladium-Catalyzed C–H Bond Monofluorination of 2-Arylbenzo[d]oxazinone Using Nitrate as Crucial Promoter

**Paper**

Synthesis 2019, 51, 1578–1584
DOI: 10.1055/s-0037-1611700

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**Palladium-Catalyzed C–H Bond Monofluorination**

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PdCl2 nitrate salt → DCE, 100 °C under air

22 examples up to 86% yield

1. Highly site-selective
2. Green: nitrate as promoter and reaction under air

One-Pot Synthesis of N-Arylated Amines by Hydroaminomethylation of 2,5-Dihydrofuran with Aromatic Amines

**Paper**

Synthesis 2019, 51, 1585–1594
DOI: 10.1055/s-0037-1610681

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**One-Pot Synthesis of N-Arylated Amines**

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[Rh(cod)2]BF4 (0.005 mmol) + PPh3 (0.025 mmol)
H2/CO (4 MPa, 3:1)

Conv. 57–99%
Yield 40–99%

29 examples

Available olefins and syngas
An Efficient Catalytic Amidation of Esters Promoted by N-Heterocyclic Carbenes

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Nickel-Catalyzed Decarboxylative Coupling of Alkynyl Carboxylates with Aryl Tosylates and Mesylates

A. Howard
S. Klemann
S. Kolling
K. Little
E. Plasek
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A Facile Synthetic Approach to Nonracemic Substituted Pyrroloallocolchicine Starting from Natural Colchicine

E. S. Shcheglevina
E. V. Svirshchevskaya
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1,8,10-Substituted Anthracenes – Hexafunctional Frameworks via Head-to-Tail Photodimerisation

P. Niermeier
J.-H. Lamm
J.-H. Peters
B. Neumann
H.-G. Stammler
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Oxidative Dearomatization and Sigmatropic 1,3-Acyl Shift in Excited State: Aromatics to Embellished cis-Hydindanes

R. Sahu
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Indian Institute of Technology Bombay, Mumbai, India

Morpholin-2-one Derivatives via Intramolecular Acid-Catalyzed Hydroamination

A. Hadi Aldmairi
D. W. Knight*
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Selective ortho-Metalation of a Fluoroarene with Knochel–Hauser Base and Reactions with Various Electrophiles

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S. Eswaran  
Y. Jiang  
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C3-Allylation of Indoles via an Iridium-Catalyzed Branch-Selective Ring-Opening Reaction of Vinylcyclopropanes

L. Yu  
Z.-Q. Zhu  
M. Sun  
G.-J. Mei*  
F. Shi*  
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Copper-Catalyzed Synthesis of Dibenzo[b,f]imidazo[1,2-d][1,4]oxazepine Derivatives via a Double Ullmann Coupling Reaction

X.-Y. Chen  
Z.-H. Li  
J.-Q. Liu*  
X.-S. Wang*  
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Lewis Acid Catalyzed Regio- and Diastereoselective Synthesis of Spiroisoxazolines via One-Pot Sequential Knoevenagel Condensation/1,3-Dipolar Cycloaddition Reaction

H. Yazdani
A. Bazgir*
Shahid Beheshti University G.C., Iran

- One-pot synthesis
- Gram scale
- Broad synthetic application
- Broad substrate scope
- Mild reaction conditions
- Cheap Lewis acid

10 examples (64–84%) high diastereo- and regioselectivity
5 examples (74–83%) high regioselectivity
6 examples (76–85%) new ligands for C–C coupling

Palladium-Catalyzed Carbonylation of Coumarin C(sp²)–H Bonds: A New Entry to Arylcoumarin Ketones

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S. Rajai-Daryasarei
M. Soheilizad
R. Kabiri
S. Ansari
M. Shabanian
R. Pashazadeh*
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27 examples 68–88% yield
5 examples 70–78% yield