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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Synthesis 2019, 51, 1516–1528
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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

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

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

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An Efficient Catalytic Amidation of Esters Promoted by N-Heterocyclic Carbenes

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**Paper**  
Synthesis 2019, 51, 1595–1602  
DOI: 10.1055/s-0037-1610355

**Chemical Equation:**

$$
\text{R}^1\text{OAr} + \text{HN} + \text{R}^2 \xrightarrow{\text{THF, r.t., 30 min}} \text{R}^1\text{N} \text{R}^2 \text{O} \text{R}^3
$$

- primary and secondary amines compatible
- 28 examples, 60–97% yield

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

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**Paper**  
Synthesis 2019, 51, 1603–1610  
DOI: 10.1055/s-0037-1609636

**Chemical Equation:**

$$
\text{Ni(COD)}_2 (10 \text{ mol\%}) + \text{PMe}_3\text{HBF}_4 (30 \text{ mol\%}) \xrightarrow{\text{dioxane or diglyme, 80–140 °C}} \text{Ar} \text{R}^1\text{O}, \text{OAr}
$$

- Ar = Aryl
- R1 = OTs, OMs
- R2 = H, Me, OMe, F, CF3
- 47–99% yield

A Facile Synthetic Approach to Nonracemic Substituted Pyrroloallocolchicinoids Starting from Natural Colchicine

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E. V. Svirshchevskaya  
H.-G. Schmalz  
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**Paper**  
Synthesis 2019, 51, 1611–1622  
DOI: 10.1055/s-0037-1610673

**Chemical Equation:**

- 6 steps
- 14 examples
- via Fischer indole synthesis
1,8,10-Substituted Anthracenes – Hexafunctional Frameworks via Head-to-Tail Photodimerisation

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J.-H. Peters
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Oxidative Dearomatization and Sigmatropic 1,3-Acyl Shift in Excited State: Aromatics to Embellished cis-Hydrindanes

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

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Selective ortho-Metalation of a Fluoroarene with Knochel–Hauser Base and Reactions with Various Electrophiles

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C3-Allylation of Indoles via an Iridium-Catalyzed Branch-Selective Ring-Opening Reaction of Vinylcyclopropanes

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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

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Lewis Acid Catalyzed Regio- and Diastereoselective Synthesis of Spiroisoxazolines via One-Pot Sequential Knoevenagel Condensation/1,3-Dipolar Cycloaddition Reaction

- 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

27 examples 68–88% yield
5 examples 70–78% yield