Intermolecular Reactions of Pyridyl Radicals with Olefins via Photo-redox Catalysis

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Quick Access to Pyridines through 6π-3-Azatriene Electrocyclization: Concise Total Synthesis of Suaveoline Alkaloids

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Rhodium-Catalyzed Synthesis of Organosulfur Compounds using Sulfur

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Evolution of a Chemical Strategy Toward the Synthesis of Unsymmetrically Oxidized Nuphar Alkaloids

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Cluster Cover Page
Cluster Preface: Organosulfur and Organoselenium Compounds in Catalysis

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Photocatalytic Oxidative C–H Thiolation: Synthesis of Benzothiazoles and Sulfenylated Indoles

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Unusual Kinetic Profiles for Lewis Base-Catalyzed Sulfenocyclization of ortho-Geranylphenols in Hexafluoroisopropyl Alcohol

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Catalyst-Controlled Regio- and Stereoselective Bromolactonization with Chiral Bifunctional Sulfides

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Catalyst-Controlled Regio- and Stereoselective Bromolactonization with Chiral Bifunctional Sulfides

Sulfide Catalyst

S = S-endo

11 examples
up to 96% yield
up to >50:1 regioselectivity
up to 86:14 er

Chiral Bifunctional Sulfide

Synthesis of Novel C2-Symmetric Sulfur-Based Catalysts: Asymmetric Formation of Halo- and Seleno-Functionalized Normal- and Medium-Sized Rings

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Synthesis of Novel C2-Symmetric Sulfur-Based Catalysts: Asymmetric Formation of Halo- and Seleno-Functionalized Normal- and Medium-Sized Rings

C2-symmetric bifunctional chiral catalyst

Y = O and S
82% (up to 31% ee)

Activation of Quinolines by Cationic Chalcogen Bond Donors

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T. Steinke
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Activation of Quinolines by Cationic Chalcogen Bond Donors

2 Equivalents

Without any activating agent and selected Lewis acids
Scalable Synthesis of a Chiral Selenium π-Acid Catalyst and Its Use in Enantioselective Iminolactonization of β,γ-Unsaturated Amides

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Diphenyl Diselenide Catalyzed Oxidative Degradation of Benzoin to Benzoic Acid

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Organoselenium-Catalyzed Aza-Wacker Reactions: Efficient Access to Isoquinolinium Imides and an Isoquinoline N-Oxide

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Imine Derivatives (Hydrazones and Oximes) as Nitrogen Sources in Electrophilic Selenium Catalysis
Rhodium-Catalyzed Asymmetric Addition of Arylboronic Acids to Glyoxylates: Access to Optically Active Substituted Mandelic Acid Esters

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[Structural formula]

[Reaction conditions]
0.1 M KOH, 1,4-dioxane, 40 °C

[Results]
70–99% yield, up to 83% ee

Sodium Selenosulfate from Sodium Sulfite and Selenium Powder: An Odorless Selenylating Reagent for Alkyl Halides to Produce Dialkyl Diselenide Catalysts

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X. Jiang*
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East China Normal University, P. R. of China

[Reaction conditions]

[Results]
18–78% yield

Organoselenium-Catalyzed Polymerization of Aniline with Hydrogen Peroxide as Oxidant

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Q. Xu*
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[Reaction conditions]

[Results]
82% yield
Tetrabutylammonium Iodide-Promoted Acyloxylation–Peroxidation of Alkenes with Carboxylic Acid and tert-Butyl Hydroperoxide

Xinxiang University, P. R. of China
Shangqiu Normal University, P. R. of China

[reaction scheme]

Single-Step Dual Functionalization: One-Pot Bromination-Cross-Dehydrogenative Esterification of Hydroxy Benzaldehydes with CCl₃Br – A Comparison with Selectfluor

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[reaction scheme]

NHC-Catalyzed Synthesis of Benzazole-Phosphine Ligands under an Air Atmosphere

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[reaction scheme]