A High-Throughput Approach to Discovery: Heck-Type Reactivity with Aldehydes

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Palladium-Catalyzed Annulation via Acyl C–H Bond Activation

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Development of Novel C–H Bond Transformations and Their Application to the Synthesis of Organic Functional Molecules

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The Invention of New Methodologies: An Opportunity for Dating Natural Products

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Cover Page: Atropisomerism – In Memoriam Kurt Mislow

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Cluster Preface: Atropisomerism

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Prologue: Atropisomerism

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α-Alkylation of N–C Axially Chiral Quinazolinone Derivatives Bearing Various ortho-Substituted Phenyl Groups: Relation between Diastereoselectivity and the ortho-Substituent

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Dynamic Covalent Chemistry within Biphenyl Scaffolds: Effects from Endocyclic to Exocyclic Sulfonamides

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Synthesis and Conformational Analysis of 10-Mesitylanthracene-1,8-diyl Oligomers

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Atropisomerism in the 2,3,4,5-Tetrahydro-1H-1,5-benzodiazepine Nucleus: Effects of Central Chirality at C3 on the N-Mesylation Reaction

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Transmission of Point Chirality to Axial Chirality for Strong Circular Dichroism in Triaryl methylium-o,o-dimers

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Toward a Catalytic Atroposelective Synthesis of Diaryl Ethers Through C(sp²)–H Alkylation with Nitroalkanes

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Stereodynamic Analysis of New Atropisomeric 4,7-Di(naphthalen-1-yl)-5,6-dinitro-1H-indoles

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A Planar-Chiral Pillar[5]arene-Based Monophosphine Ligand with Induced Chirality at the Biaryl Axis

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Effect of Regioisomerism on the Efficiency of 1-Phenylpyrrole-Type Atropisomeric Amino Alcohol Ligands in Enantioselective Organometallic Reactions

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Configurationally Stable Atropisomeric Acridinium Fluorophores

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Cobalt Vanadium Oxide Supported on Reduced Graphene Oxide for the Oxidation of Styrene Derivatives to Aldehydes with Hydrogen Peroxide as Oxidant

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Catalyst (0.02 g), 65 °C, MeCN (5 mL)
H₂O₂ (30 wt%, 3 equiv), 6 h

R¹ = aryl
R² = H, NO₂, Ph

Combining Oxoammonium Cation Mediated Oxidation and Photo-redox Catalysis for the Conversion of Aldehydes into Nitriles

J. Nandi
M. L. Witko
N. E. Leadbeater*
University of Connecticut, USA

R = aryl, hetaryl
(NH₄)₂S₂O₈

• ammonium persulfate as oxidant and nitrogen source
• dual catalytic system of photocatalyst and ACT
• 12 examples 13–74% yield

Pd-Catalyzed Oxidation of Aldimines to Amides

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Pd(OAc)₂, TBHP

R¹ = Br, Cl, F, Me, NO₂
R² = CF₃, NO₂, COMe, Br, Cl, F, Me, t-Bu, OCF₃, OMe

21 examples up to 85% yield
Synlett 2018, 29, 2195–2198
DOI: 10.1055/s-0037-1610245

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Synthesis of 1,4-Diketones via Titanium-Mediated Reductive Homocoupling of α-Haloketones

\[
\begin{align*}
R &= \text{aryl or heteroaromatic} \\
X &= \text{Cl or Br}
\end{align*}
\]

11 examples
22–90%

Facile Construction of Hydantoin Scaffolds via a Post-Ugi Cascade Reaction

17 examples, yield 42–77%
Two steps and one purification
Short reaction times
Atom economy
One-pot protocol
Microwave irradiation

Iridium/f-Amphox-Catalyzed Asymmetric Hydrogenation of Styrylglyoxylamides

16 examples
96–99% yield
94–98% ee
Chemoselective and Metal-Free Synthesis of Aryl Esters from the Corresponding Benzylic Alcohols in Aqueous Medium Using TBHP/TBAI as an Efficient Catalytic System

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A. Ghatak
A. K. Das
S. Bhar*
Jadavpur University, India

\[ \text{MeCO} \quad \text{(88%)} \]

\[ \text{OH} \quad \text{R = Me} \]

\[ \text{tBuOOH (2 mol equiv)} \]

\[ \text{(Bu)}_4\text{N}^+ \text{I}^- \text{ (20 mol\%)} \]

\[ \text{Imidazole (2 mol equiv)} \]

\[ \text{H}_2\text{O, 8 h, 80 °C} \]

\[ \text{MeOH} \]

\[ \text{COOMe} \]

\[ \text{OH} \]

\[ \text{(88%)} \]

\[ \text{R = H} \]