Transition-Metal-Catalyzed Alkyl Heck-Type Reactions

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Sulfur Betaines from S-Propargyl Xanthates. Unusual Chemistry from a Simple Functional Group

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Conformational Dynamics in Asymmetric Catalysis: Is Catalyst Flexibility a Design Element?

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Rigidity is not a required design element for highly selective asymmetric catalysts.

Synthesis of Bullvalenes: Classical Approaches and Recent Developments

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Transition-Metal-Catalyzed Alkenyl sp² C–H Activation: A Short Account

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University of Science and Technology of China, P. R. of China

H

R¹

R²

M = Pd, Pt, Ru, Cu, etc.

Steroselective alkene synthesis
Atom economical
Versatile products
Synthesis of cyclic alkenes
Including macrocycles
**Advancements in Visible-Light-Enabled Radical C(sp)²–H Alkylation of (Hetero)arenes**

A. C. Sun  
R. C. McAtee  
E. J. McClain  
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**Pyroles as Dienes in (4+3) Cycloadditions**

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**Gold Vinlylenes as Useful Intermediates in Synthetic Organic Chemistry**

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Recent Advances in the Application of Ring-Closing Metathesis for the Synthesis of Unsaturated Nitrogen Heterocycles

E. J. Groso
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Straightforward One-Pot Syntheses of Silylamides of Magnesium and Calcium via an In Situ Grignard Metalation Method

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Asymmetric Organocatalysis Revisited: Taming Hydrindanes with Jørgensen–Hayashi Catalyst

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**A Scalable, One-Pot Synthesis of 1,2,3,4,5-Pentacarbomethoxycyclo-pentadiene**

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“A new one-pot procedure
+ major improvement in ease of reaction and purification

**General Synthetic Approach to Rotenoids via Stereospecific, Group-Selective 1,2-Rearrangement and Dual S_NAr Cyclizations of Aryl Fluorides**

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K. Ohmori*
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**Metal Enolates – Enamines – Enol Ethers: How Do Enolate Equivalents Differ in Nucleophilic Reactivity?**

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Bromine-Radical-Mediated Site-Selective Allylation of C(sp³)–H Bonds

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An Asymmetric Organocatalytic Aldol Reaction of a Hydrophobic Aldehyde in Aqueous Medium Running in Flow Mode

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S. Ratnam
Y. Yamashita
N. Adebar
M. Pieper
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V. Hessel
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Oxidative Coupling of N-Methoxyamides and Related Compounds toward Aromatic Hydrocarbons by Designer μ-Oxo Hypervalent Iodine Catalyst

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GlucoSiFA and LactoSiFA: New Types of Carbohydrate-Tagged Silicon-Based Fluoride Acceptors for $^{18}$F-Positron Emission Tomography (PET)

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Alkali Metal Effects in Trans-Metal-Trapping (TMT): Comparing LiTMP with NaTMP in Cooperative MTMP/Ga(CH$_2$SiMe$_3$)$_3$ Metalation Reactions

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Complementary Reactivity of 1,6-Enynes with All-Metal Aromatic Tri-nuclear Complexes and Carboxylic Acids

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Copper-Catalysed Hydroamination of N-Allenylsulfonamides: The Key Role of Ancillary Coordinating Groups

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PSL University, Sorbonne Université, France
Institut Universitaire de France, IUF, France

Unsaturated moieties enhancing substrate-catalyst binding

- Regio- and stereoselective
- Mild conditions, room temperature
- Up to 90% yield
- Mechanistic studies

Synthesis of 2-Azidomethyl-5-ethynylfuran: A New Bio-Derived Self-Clickable Building Block

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L. V. Romashov
K. I. Galkin
P. G. Kislitsyn
V. P. Ananikov*

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Self-clickable building block suitable for intermolecular cycloaddition

Visible Light-Promoted Formation of C–B and C–S Bonds under Metal- and Photocatalyst-Free Conditions

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S. Protti
M. Rueping*

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- no photocatalyst
- visible-light-promoted
- metal- and additive-free
**Lewis Acid Promoted Trapping of Chiral Aza-enolates**

**Electrophile:** $\alpha,\beta$-unsaturated esters, ketones

- **One-pot reaction**
- **3 chiral centers, dr up to 6:1**

**Organocatalytic Desymmetrisation of Fittig’s Lactones: Deuterium as a Reporter Tag for Hidden Racemisation**

- **15 examples**
- **up to 85% yield**
- **up to 93% ee**

**Synthesis and Evaluation of Cyclic Acetals of Serine Hydroxylamine for Amide-Forming KAHA Ligations**
Visible-Light-Induced Decarboxylative C–H Adamantylation of Azoles at Ambient Temperature

X = S, O, NR'
R = Me, OMe, CF₃, F, Cl, Br, CO₂Et

19 examples

λ_max = 458 nm up to 80% yield

- C–H Adamantylation
- Visible-light-promoted decarboxylation
- No stoichiometric oxidants
- No expensive Ir or Ru photocatalysts
- Ambient reaction temperature

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