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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UV light

Cu(II) catalysis

Co(II) catalysis

Au(I) catalysis

Synthesis of Bullvalenes

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

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

-R1

= Stereoselective 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

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Pyroles as Dienes in (4+3) Cycloadditions

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Gold Vinylidenes 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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P. Schüler
J. M. Peschel
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Asymmetric Organocatalysis Revisited: Taming Hydrindanes with Jørgensen–Hayashi Catalyst

Y. Stöckl
W. Frey
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B. Claasen
A. Baro
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A Scalable, One-Pot Synthesis of 1,2,3,4,5-Pentacarbomethoxycyclopentadiene

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C. C. Dudley  
J. M. O’Leary  
T. H. Lambert*  
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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_N2Ar Cyclizations of Aryl Fluorides

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

A. I. Leonov  
D. S. Timofeeva  
A. R. Ofial*  
H. Mayr*  
Ludwig-Maximilians-Universität München, Germany
Bromine-Radical-Mediated Site-Selective Allylation of C(sp³)–H Bonds

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A. Maeda
K. Hamaoka
M. Sasano
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National Chiao Tung University, Taiwan

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

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

T. Dohi*
H. Sasa
M. Dochi
C. Yasui
Y. Kita*
Ritsumeikan University, Japan
GlucoSiFA and LactoSiFA: New Types of Carbohydrate-Tagged Silicon-Based Fluoride Acceptors for $^{18}$F-Positron Emission Tomography (PET)

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

Complementary Reactivity of 1,6-Enynes with All-Metal Aromatic Tri-nuclear Complexes and Carboxylic Acids
**Copper-Catalysed Hydroamination of N-Allenylsulfonamides: The Key Role of Ancillary Coordinating Groups**

R. Blieck  
L. A. Perego*  
I. Ciofini  
L. Grimaud*  
M. Taillefer*  
F. Monnier*

Institut Charles Gerhardt Montpellier UMR 5253 CNRS, AM2N, France  
Chimie ParisTech, France  
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**

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

N. D. Zelinsky Institute of Organic Chemistry of the Russian Academy of Sciences, Russian Federation

Plant biomass → HMF → 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**

L. Blank  
M. Fagnoni  
S. Protti  
M. Rueping*

RWTH Aachen University, Germany

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

**Electrophile:** α,β-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 Hydroxyxylamine for Amide-Forming KAHA Ligations

α-keto acid

Cyclic hydroxyxylamine

KAHA ligation
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

R

λ_m = 458 nm

19 examples up to 80% yield

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