Cluster

Modern Boron Chemistry:
60 Years of the Matteson Reaction

Editor: Tomislav Rovis
Guest Editors: James P. Morken, Varinder K. Aggarwal

Organoborane-Mediated Hydride Abstraction in Amines

Epimerization & Isomerization

Recent Advances in Catalysis Using Organoborane-Mediated Hydride Abstraction

Cluster Preface: Modern Boron Chemistry: 60 Years of the Matteson Reaction

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Development of Enantioselective Lithium-Isothiourea-Boronate–Catalyzed Matteson Homologations

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52–88% yield
89–98% ee
Transition-Metal-Free Insertion of Diazo Compounds, N-Arylsulfonylhydrazones or Ylides into Organoboronic Acids or Their Derivatives

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Recent Advances in the Preparation and Asymmetric Transformation of α-Haloboron Compounds

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Pd-Catalyzed Homologation of Arylboronic Acids as a Platform for the Diversity-Oriented Synthesis of Benzylic C–X Bonds

K. A. C. Bastick
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Ligand-Enabled Regio- and/or Stereoselective Hydroboration of Alkenes

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Remote Steric Control for Site-Selective Synthesis

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RIKEN Center for Sustainable Resource Science, Japan

Recent Advances in Catalysis Using Organoborane-Mediated Hydride Abstraction

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Boronic Acids and Beyond: ROS-Responsive Prodrugs as Tools for a Safer and More Effective Cancer Chemotherapy

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A Straightforward Synthesis of Emericellamide A Using Matteson’s Homologation Approach

R. Priester
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Chemo-, Regio-, and Stereoselective Access to (E)-Boryl-Substituted Allyl Fluorides via Electrophilic Fluorodesilylation

Y. Jung
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N-Functionalization of 1,2-Azaborines

H. Lee
M. Alvarado
S. Ingram
B. Li
S.-Y. Liu*
Boston College, USA

Photoredox-Catalyzed Radical–Radical Coupling of Potassium Trifluoroborates with Acyl Azoliums

M. Rourke
M. McGill
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Asymmetric Catalytic Hydroboration of Enol Carbamates Enables an Enantioselective Matteson Homologation

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Remote Back Strain: A Strategy for Modulating the Reactivity of Triarylboranes

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S. Ogoshi
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Addition of a Phosphinoboronate Ester to Borole and Borafluorene

M. O. Akram
C. M. Vogels
W. L. Santos
S. A. Westcott
C. D. Martin
Baylor University, USA

Synthesis of (±)-Phyltetralin by Cu/Pd-Catalyzed Arylboration

G. L. Trammel
A. C. Kerlin
C. Zachau
M. K. Brown
Indiana University, USA
**Enantiocontrolled Connective Synthesis of Allenes by Carbenoid Eliminative Cross-Coupling between \( \alpha \)-(Methylthio)vinylcopper Species and \( \alpha \)-(Carbamoyloxy)alkylboronates**

- **Y. Cao**
- **P. R. Blakemore**
- Oregon State University, USA

**Preparation and Use of (\( \gamma \),\( \gamma \)-Dioxyallyl)boronates**

- **S. Nishino**
- **Y. Nishii**
- **K. Hirano**
- Osaka University, Japan

**Direct \( \alpha \)-Trifluoromethylthiolation of Carboxylic Acids Enabled by Boron Catalysis**

- **K. Sun**
- **C.-Y. Huang**
- **M. Sawamura**
- **Y. Shimizu**
- Hokkaido University, Japan
Hemiboronic Acid-Catalyzed Reduction of α,β-Unsaturated Ketones with Reagent-Controlled Chemoselectivity

J. P. G. Rygus
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Metal-Free Directed C–H Borylation of Indoles at the Sterically Congested C2 Position

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J. Bai
J. Lv
Y. Zhao
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Conjugate Addition of Organoboron Compounds to α,β-Unsaturated Ketones Catalyzed by Nickelacycles

K. Semba*
K. Nagase
Y. Nakao*
Kyoto University, Japan
Intramolecular Asymmetric Cyclopropanation Using Air-Stable Alkylboronic Esters

L. Vedani
M. Gnägi-Lux
F. Dénès*
P. Renaud*
University of Bern, Switzerland

1) LiCHCl2, ZnCl2
2) O(Bcat)2

3 new C–C bonds

Boryl Acrylaldehyde: An Elusive Member of the α-Boryl Aldehyde Class of Reagent

A. Trofimova
C. Brien
P. Trinchera
C.-H. Tien
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Direct Amination of Benzylic Pinacol Boronates by an Aminoazanium

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