

# Synthesis

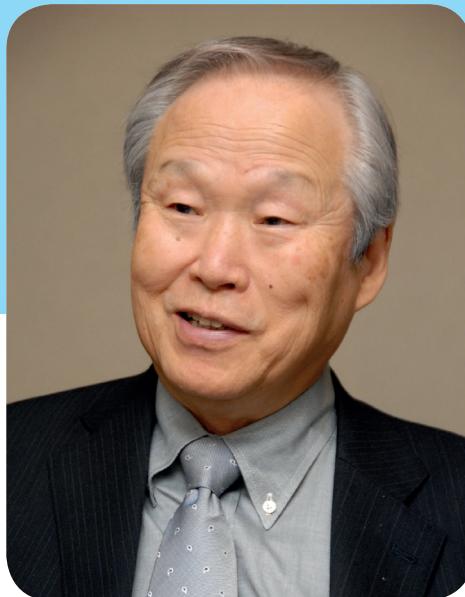
Reviews and Full Papers in Chemical Synthesis

September 16, 2021 • Vol. 53, 3151–3408

## Special Issue (Part II)

Bond Activation – in Honor of Prof. Shinji Murai

*Editor: Hideki Yorimitsu, Guest Editor: Naoto Chatani*



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## Synthesis

Synthesis 2021, 53, 3151–3179  
DOI: 10.1055/a-1485-4666

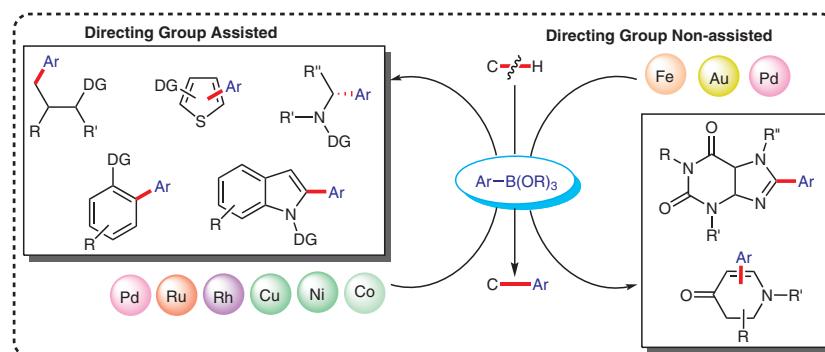
S. Basak  
J. P. Biswas  
D. Maiti\*

Indian Institute of Technology  
Bombay, India

## Transition-Metal-Catalyzed C–H Arylation Using Organoboron Reagents

## Special Topic

3151



## Synthesis

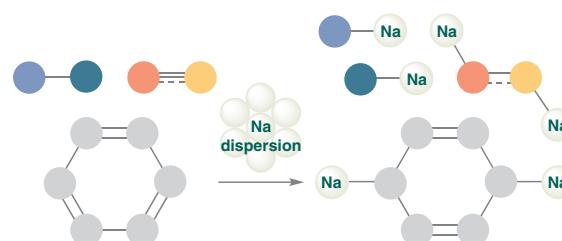
Synthesis 2021, 53, 3180–3192  
DOI: 10.1055/a-1478-7061

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## Recent Advances in the Use of Sodium Dispersion for Organic Synthesis

## Special Topic

3180





**Synthesis**

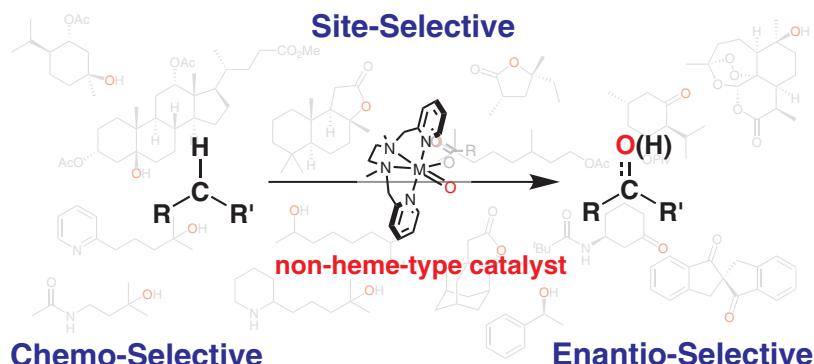
*Synthesis* 2021, 53, 3235–3248  
DOI: 10.1055/a-1525-4335

**Recent Strategies in Non-Heme-Type Metal Complex-Catalyzed Site-, Chemo-, and Enantioselective C–H Oxygenations****Special Topic**

3235

**D. Doiuchi****T. Uchida\***

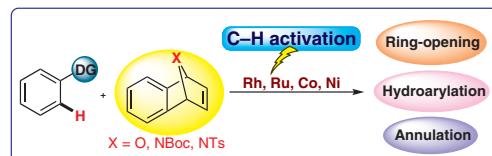
Kyushu University, Japan

**Synthesis**

*Synthesis* 2021, 53, 3249–3262  
DOI: 10.1055/a-1528-1711

**Recent Advances in Transition-Metal-Catalyzed C–H Functionalization Reactions Involving Aza/Oxabicyclic Alkenes****Special Topic**

3249

**P. Sihag****M. Jeganmohan\***Indian Institute of Technology,  
India**Synthesis**

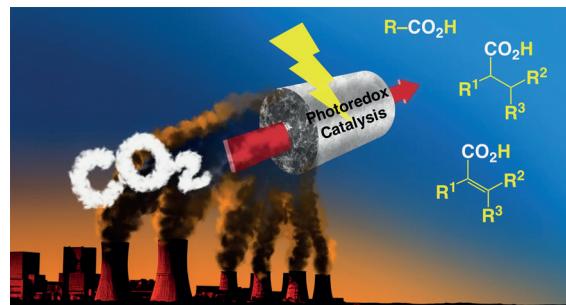
*Synthesis* 2021, 53, 3263–3278  
DOI: 10.1055/a-1577-5947

**Recent Advances in Light-Driven Carbon–Carbon Bond Formation via Carbon Dioxide Activation****Special Topic**

3263

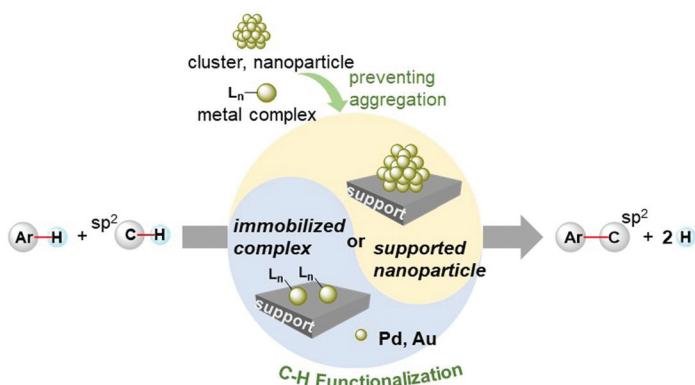
**J. Jung\*****S. Saito\***

Nagoya University, Japan

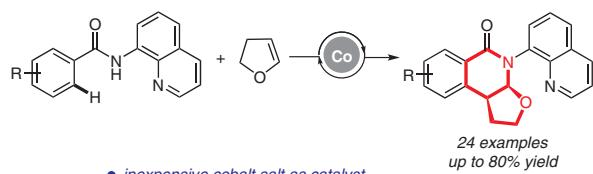


**Synthesis****C–H Bond Functionalization Using Pd- and Au-Supported Catalysts with Mechanistic Insights of the Active Species****Special Topic**

3279

*Synthesis* 2021, 53, 3279–3289  
DOI: 10.1055/a-1468-1455**T. Ishida\*****Z. Zhang****H. Murayama****E. Yamamoto****M. Tokunaga\***Tokyo Metropolitan University,  
Japan  
Kyushu University, Japan**Synthesis****Cobalt-Catalyzed Oxidative [4+2] Annulation of Benzamides with Dihydrofuran: A Facile Route to Tetrahydrofuro[2,3-*c*]isoquinolinones****Special Topic**

3290

*Synthesis* 2021, 53, 3290–3298  
DOI: 10.1055/a-1521-5800**Z.-Z. Zhang\*****G. Zhou****F.-R. Huang****B.-F. Shi\***Chengdu University,  
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Zhejiang University,  
P. R. of China

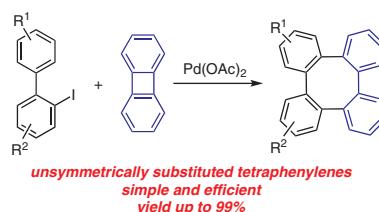
- inexpensive cobalt salt as catalyst
- mild reaction conditions
- excellent regioselectivity and high diastereoselectivity
- good functional group tolerance

**Synthesis****Synthesis of Unsymmetrically Substituted Tetraphenylenes through Palladium-Catalyzed C(sp<sup>2</sup>)-H Activation****Special Topic**

3299

*Synthesis* 2021, 53, 3299–3306  
DOI: 10.1055/a-1416-9737**B. Wan****Y. Zhang\***

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**Synthesis**

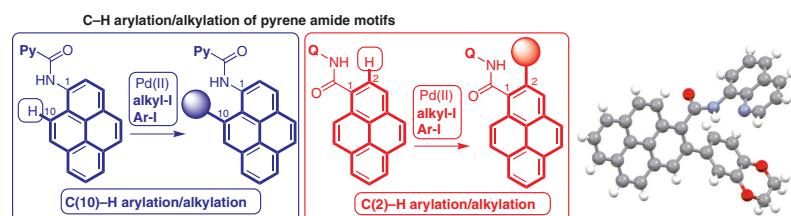
*Synthesis* 2021, 53, 3307–3324  
DOI: 10.1055/a-1472-0881

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**S. Arulananda Babu\***  
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**Pd(II)-Catalyzed Directing-Group-Aided C–H Arylation and Alkylation of Pyrene Core: Synthesis of C1,C2- and C1,C10-Disubstituted Pyrene Motifs**

**Special Topic**

3307

**Synthesis**

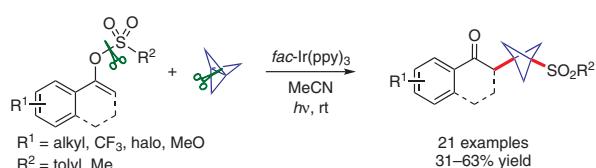
*Synthesis* 2021, 53, 3325–3332  
DOI: 10.1055/a-1484-1028

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**Z. Chen**  
**Z. Wu**  
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Shanghai Institute of Organic  
Chemistry, P. R. of China

**Radical Carbosulfonylation of Propellane: Synthesis of Sulfonyl  $\beta$ -Keto-bicyclo[1,1,1]pentanes**

**Special Topic**

3325

**Synthesis**

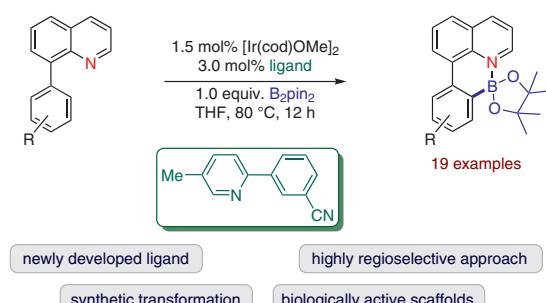
*Synthesis* 2021, 53, 3333–3342  
DOI: 10.1055/a-1506-3884

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**Md E. Hoque**  
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**Iridium-Catalyzed Site-Selective Borylation of 8-Arylquinolines**

**Special Topic**

3333

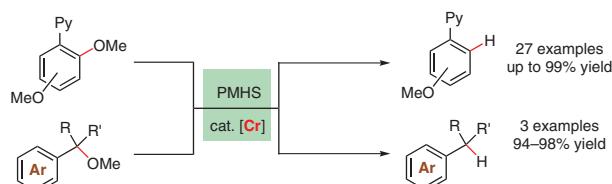


**Synthesis****Chromium-Catalyzed Reductive Cleavage of Unactivated Aromatic and Benzylic C–O Bonds****Special Topic**

3343

*Synthesis* 2021, 53, 3343–3350  
DOI: 10.1055/a-1507-6419

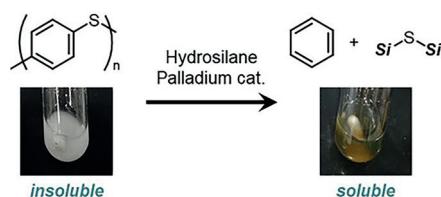
S. Yuan  
L. Ling  
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M. Luo\*  
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**Synthesis****Catalytic Reductive Cleavage of Poly(phenylene sulfide) Using a Hydrosilane****Special Topic**

3351

*Synthesis* 2021, 53, 3351–3354  
DOI: 10.1055/a-1518-9010

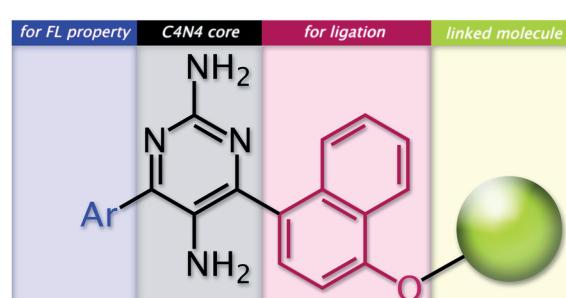
Y. Minami\*  
N. Matsuyama  
Y. Matsuo  
M. Tamura  
K. Sato  
Y. Nakajima\*  
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**Synthesis****Strategic Synthesis of Asymmetrically Substituted C4N4 Fluorophores****Special Topic**

3355

*Synthesis* 2021, 53, 3355–3360  
DOI: 10.1055/a-1516-9399

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**Synthesis**

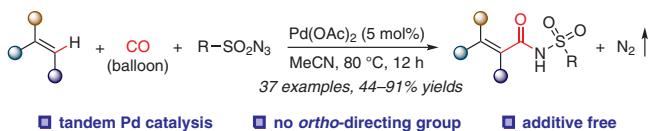
*Synthesis* 2021, 53, 3361–3371  
DOI: 10.1055/a-1401-4486

**Intermolecular C–H Amidation of Alkenes with Carbon Monoxide and Azides via Tandem Palladium Catalysis****Special Topic**

3361

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Lanzhou Institute of Chemical Physics (LICP), University of Chinese Academy of Sciences, P. R. of China  
Soochow University, P. R. of China

**Synthesis**

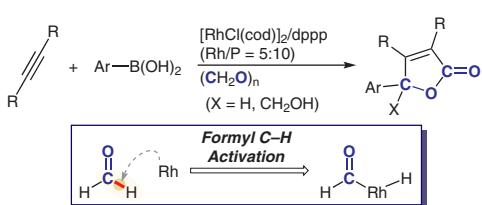
*Synthesis* 2021, 53, 3372–3382  
DOI: 10.1055/a-1468-8377

**Rhodium(I)-Catalyzed CO-Gas-Free Arylative Dual-Carbonylation of Alkynes with Arylboronic Acids via the Formyl C–H Activation of Formaldehyde****Special Topic**

3372

**T. Morimoto\*****C. Wang****H. Tanimoto****L. Artok****K. Kakiuchi**

Nara Institute of Science and Technology (NAIST), Japan

**Synthesis**

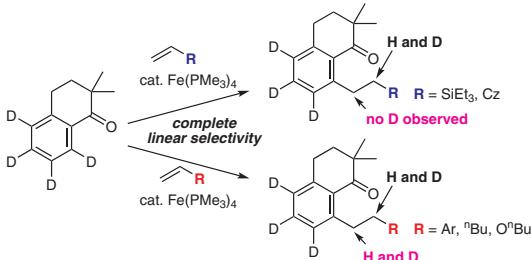
*Synthesis* 2021, 53, 3383–3389  
DOI: 10.1055/s-0040-1706040

**Deuterium-Labeling Studies on the C–H/Olefin Coupling of Aromatic Ketones Catalyzed by Fe(PMe3)4****Special Topic**

3383

**N. Kimura****S. Katta****Y. Kitazawa****T. Kochi****F. Kakiuchi\***

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**Synthesis**

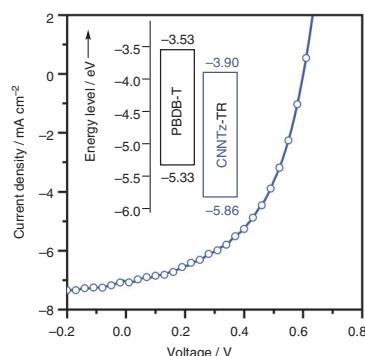
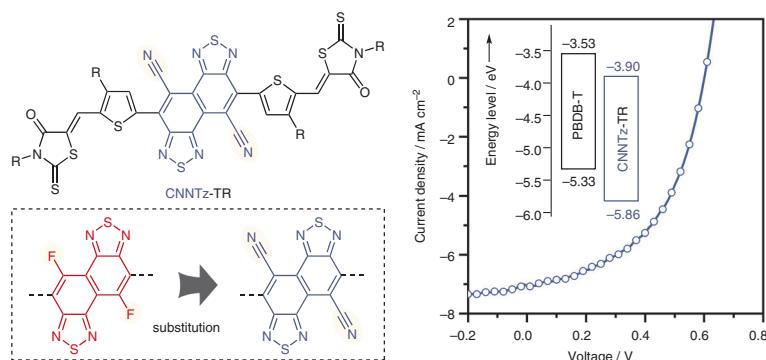
*Synthesis* 2021, 53, 3390–3396  
DOI: 10.1055/a-1528-1632

**Electron-Accepting  $\pi$ -Conjugated Compound Containing Cyano-Substituted Naphthobisthiadiazole as Nonfullerene Acceptor in Organic Solar Cells****Special Topic**

3390

**S. Jinnai****A. Oi****T. Seo****T. Moriyama****R. Minami****S. Higashida****Y. Ie\***

Osaka University, Japan

**Synthesis**

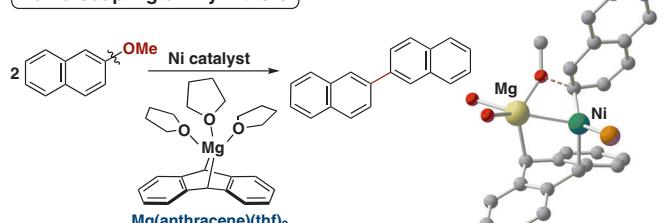
*Synthesis* 2021, 53, 3397–3403  
DOI: 10.1055/a-1509-5944

**Nickel-Catalyzed Homocoupling of Aryl Ethers with Magnesium Anthracene Reductant****Special Topic**

3397

**V. K. Rawat****K. Higashida\*****M. Sawamura\***

Hokkaido University, Japan

**Homo-coupling of Aryl Ethers**

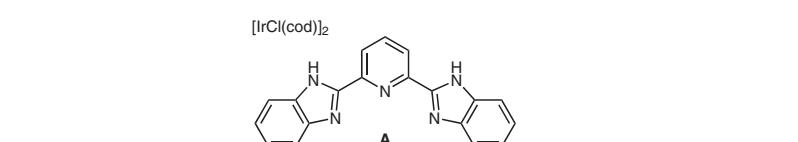
✓ Cooperative actions of Ni-Mg bimetallic system for C–O bond activation

**Synthesis**

*Synthesis* 2021, 53, 3404–3408  
DOI: 10.1055/a-1527-4526

**A New Protocol for Catalytic Reduction of Alkyl Chlorides Using an Iridium/Bis(benzimidazol-2'-yl)pyridine Catalyst and Triethylsilane****Special Topic**

3404

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Japan

R = primary, secondary,  
tertiary, benzyl

150 °C, 12 h, no solvent

14 examples up to 99% yield

- simple catalyst
- simple ligand
- simple hydrosilane
- simple protocol