

【原著論文】

## 2017年

1. Xuan Zhang, Zhanqiang Xu, Weili Si, Kazuaki Oniwa, Ming Bao, Yoshinori Yamamoto, Tienan Jin\*  
Synthesis of extended polycyclic aromatic hydrocarbons by oxidative tandem spirocyclization and 1,2-aryl migration.  
*Nat. Commun.* **8**, 15073 (2017). DOI: 10.1038/ncomms15073
2. Hui Shang, Hidekazu Shimotani, Susumu Ikeda, Thangavel Kanagasekaran, Kazuaki Oniwa, Tienan Jin, Naoki Asao, Yoshinori Yamamoto, Hiroyuki Tamura, Kenta Abe, Miyuki Kanno, Masayuki Yoshizawa, Katsumi Tanigaki  
Comparative Study of Single and Dual Gain-Narrowed Emission in Thiophene/Furan/Phenylene Co-Oligomer Single Crystals.  
*J. Phys. Chem. C* **121**, 2364–2368 (2017). DOI:10.1021/acs.jpcc.6b10827

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3. Jian Zhao, Zhanqiang Xu, Kazuaki Oniwa, Naoki Asao, Yoshinori Yamamoto, Tienan Jin\*  
FeCl<sub>3</sub>-Mediated Oxidative Spirocyclization of Difluorenylidene Diarylethanes Leading to Dispiro[fluorene-9,5'-indenole[2,1-a] indene-10',9"-fluorene]s.  
*Angew. Chem. Int. Ed.* **55**, 259-263 (2016). DOI:10.1002/anie.201507794
4. Balaram S. Takale, Xiujuan Feng, Ye Lu, Ming Bao, Tienan Jin, Taketoshi Minato, Yoshinori Yamamoto\*  
Unsupported nanoporous gold catalyst, AuNPore, for chemoselective hydrogenation reactions under low pressure: an effect of residual silver on the reaction.  
*J. Am. Chem. Soc.* **138**, 10356-10364 (2016). DOI:10.1021/jacs.6b06569
5. Hon Eong Ho, Kazuaki Oniwa, Yoshinori Yamamoto, Tienan Jin\*  
*N*-Methyl Transfer Induced Copper-Mediated Oxidative Diamination of Alkynes.  
*Org. Lett.* **18**, 2487–2490 (2016). DOI: 10.1021/acs.orglett.6b01067
6. Kazuaki Oniwa, Hiromasa Kikuchi, Thangavel Kanagasekaran, Hidekazu Shimotani, Susumu Ikeda, Naoki Asao, Yoshinori Yamamoto, Katsumi Tanigaki, Tienan Jin\*  
Biphenyl end-capped bithiazole co-oligomers for high performance organic thin film field effect transistors.  
*Chem. Commun.* **52**, 4926-4929 (2016). DOI:10.1039/c6cc01352j
7. Kazuaki Oniwa, Hiromasa Kikuchi, Hidekazu Shimotani, Susumu Ikeda, Naoki Asao, Yoshinori Yamamoto, Katsumi Tanigaki, Tienan Jin\*  
2-Positional pyrene end-capped oligothiophenes for high performance organic field effect transistors.  
*Chem. Commun.* **52**, 4800-4803 (2016). DOI:10.1039/c6cc00948d
8. Shuai Mu, Kazuaki Oniwa, Tienan Jin, Naoki Asao, Masahiro Yamashita, Shinya Takaishi  
A highly emissive distyrylthieno[3,2-b]thiophene based red luminescent organic single crystal: Aggregation induced emission, optical waveguide edge emission, and balanced ambipolar carrier transport.  
*Org. Electron.* **34**, 23-27 (2016). DOI:10.1016/j.orgel.2016.04.001

**Publication List****Tienan Jin (金 鉄男)**

9. Xianwei Guo, Jiahui Han, Pan Liu, Luyang Chen, Yoshikazu Ito, Zelang Jian, Tienan Jin, Akihiko Hirata, Fujun Li, Takeshi Fujita, Naoki Asao, Haoshen Zhou, Mingwei Chen\*  
Hierarchical nanoporosity enhanced reversible capacity of bicontinuous nanoporous metal based Li-O<sub>2</sub> battery.  
*Sci. Rep.* **6**, 33466 (2016). DOI:10.1038/srep33466
10. Jing Xu, Ming Zhao, Shin-ichi Yamaura, Tienan Jin, Naoki Asao\*  
Core-shell Pd-Pt nanoparticles as efficient catalysts for electrooxidation of formic acid.  
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11. Weili Si, Xuan Zhang, Shirong Lu, Takeshi Yasuda, Naoki Asao, Liyuan Han, Yoshinori Yamamoto, Tienan Jin\*  
Manganese powder promoted highly efficient and selective synthesis of fullerene mono- and biscycloadducts at room temperature.  
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12. Hon Eong Ho, Yoshifumi Ishikawa, Naoki Asao, Yoshinori Yamamoto, Tienan Jin\*  
Highly efficient heterogeneous aerobic cross-dehydrogenative coupling via C-H functionalization of tertiary amines by nanoporous gold skeleton catalyst.  
*Chem. Commun.* **51**, 12764-12767 (2015). DOI:10.1039/c5cc04856g
13. Weili Si, Xuan Zhang, Naoki Asao, Yoshinori Yamamoto, Tienan Jin\*  
Ni-Catalyzed direct 1,4-difunctionalization of [60]fullerene with benzyl bromides.  
*Chem. Commun.* **51**, 6392-6394 (2015). DOI:10.1039/c5cc01534k
14. Hua Jiang, Giovanni Ferrara, Xuan Zhang, Kazuaki Oniwa, Ashraful Islam, Liyuan Han, Ying-Ji Sun, Ming Bao, Naoki Asao, Yoshinori Yamamoto, Tienan Jin\*  
Triflic Acid-Mediated Cascade Cyclization of Aryldiyynes for Synthesis of Indeno[1,2-*c*]chromenes and Application to Dye-Sensitized Solar Cells.  
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Efficient thieno[3,2-*a*]carbazole-based organic dyes for dye-sensitized solar cells.  
*Tetrahedron* **71**, 6534-6540 (2015). DOI:10.1016/j.tet.2015.04.018
16. Daniel M. Packwood\*, Kazuaki Oniwa, Tienan Jin, Naoki Asao  
Charge transport in organic crystals: Critical role of correlated fluctuations unveiled by analysis of Feynman diagrams.  
*J. Chem. Phys.* **142**, 144503 (2015). DOI:10.1063/1.4916385
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- Highly chemoselective reduction of imines using a AuNPore/PhMe<sub>2</sub>SiH/water system and its application to reductive amination.  
*Tetrahedron* **71**, 7154-7158 (2015). DOI:10.1016/j.tet.2014.11.023
18. Jian Zhao, Naoki Asao, Yoshinori Yamamoto, Tienan Jin\*  
Pd-Catalyzed cascade cyclization of *o*-alkynylarylborides with dialkylalkynes via consecutive carbopalladation.  
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Thieno[2,3,*a*]carbazole donor-based organic dyes for high efficient dye-sensitized solar cells.  
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*J. Am. Chem. Soc.* **136**, 9540-9543 (2014). DOI:10.1021/ja503252k
21. Xuan Zhang, Weili Si, Ming Bao, Naoki Asao, Yoshinori Yamamoto, Tienan Jin\*  
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Carboxylic Acid-Catalyzed Highly Efficient and Selective Hydroboration of Alkynes with Pinacolborane.  
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The Synergistic effect of nanoporous AuPd alloy catalysts on highly chemoselective 1,4-hydrosilylation of conjugated cyclic enones.  
*Chem. Commun.* **50**, 3344-3346 (2014). DOI:10.1039/c3cc49524h
24. Weili Si, Shirong Lu, Naoki Asao, Ming Bao, Yoshinori Yamamoto, Tienan Jin\*  
NBS-Promoted oxidation of fullerene monoradicals leading to regioselective 1,4-difunctional fullerenes.  
*Chem. Commun.* **50**, 15730-15732 (2014). DOI:10.1039/c4cc07780f
25. Weili Si, Shrong Lu, Ming Bao, Naoki Asao, Yoshinori Yamamoto, Tienan Jin\*  
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*Org. Lett.* **16**, 620-623 (2014). DOI:10.1021/ol403573r
26. Balaram S. Takale, Shan Mou Tao, Xiao Qiang Yu, Xiu Juan Feng, Tienan Jin, Ming Bao, Yoshinori Yamamoto\*  
Exclusive Chemoselective Reduction of Imines in the Coexistence of Aldehydes Using AuNPore Catalyst.

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- Org. Lett.* **16**, 2558-2561 (2014). DOI:10.1021/ol500958p
27. Jian Zhao, Tienan Jin\*, Ashraful Islam, Eunsang Kwon, Md. Akhtaruzzaman, Naoki Asao, Liyuan Han, Khalid A. Alamry, Samia A. Kosa, Abdullah Mohamed Asiri, Yoshinori Yamamoto  
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*Tetrahedron* **70**, 6211-6216 (2014). DOI:10.1016/j.tet.2014.01.001
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Chemoselective Reduction of  $\alpha,\beta$ -Unsaturated Aldehydes using an Unsupported Nanoporous Gold Catalyst.  
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*J. Am. Chem. Soc.* **135**, 10222-10225 (2013). DOI:10.1021/ja403382d
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Remarkable Catalytic Property of Nanoporous Gold on Activation of Diborons for Direct Diboration of Alkynes.  
*Org. Lett.* **15**, 5766-5769 (2013). DOI:10.1021/ol4028013
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Unsupported Nanoporous Gold Catalyst for Highly Selective Hydrogenation of Quinolines.  
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33. Shirong Lu, Weili Si, Ming Bao, Yoshinori Yamamoto, Tienan Jin\*  
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*Org. Lett.* **15**, 4030-4033 (2013). DOI:10.1021/ol401876n
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Deuterium Isotope Effect on BHJ Solar Cells. Enhancement of Organic Photovoltaic Performances using Monobenzyl Substituted Deuterofullerene Acceptors.  
*Org. Lett.* **15**, 5674-5677 (2013). DOI:10.1021/ol4026606
35. Kazuaki Oniwa, Thangavel Kanagasekaran, Tienan Jin\*, Md. Akhtaruzzaman, Yoshinori Yamamoto, Hiroyuki Tamura, Ikutaro Hamada, Hidekazu Shimojani, Naoki Asao, Susumu Ikeda\*, Katsumi Tanigaki\*

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- Single Crystal Biphenyl End-Capped Furan-Incorporated Oligomers: Influence of Unusual Packing Structure on Carrier Mobility and Luminescence.  
*J. Mater. Chem. C* **1**, 4163-4170 (2013). DOI:10.1039/c3tc30220b
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Structure-property relationship of different electron donors: novel organic sensitizers based on fused dithienothiophene  $\pi$ -conjugated linker for high efficiency dye-sensitized solar cells.  
*Tetrahedron* **69**, 3444-3450 (2013). DOI:10.1016/j.tet.2013.02.058
38. Shirong Lu, Tienan Jin\*, Takeshi Yasuda, Ashraful Islam, Md. Akhtaruzzaman, Liyuan Han, Khalid A. Alamry, Samia A. Kosa, Abdullah Mohamed Asiri, Yoshinori Yamamoto\*  
Functional 2-benzyl-1,2-dihydro[60]fullerenes as acceptors for organic photovoltaics: facile synthesis and high photovoltaic performances.  
*Tetrahedron* **69**, 1302-1306 (2013). DOI:10.1016/j.tet.2012.11.099

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39. Mei Yan, Tienan Jin\*, Yoshifumi Ishikawa, Taketoshi Minato, Takeshi Fujita, Luyang Chen, Ming Bao, Naoki Asao, Mingwei Chen, Yoshinori Yamamoto  
Nanoporous Gold Catalyst for Highly Selective Semihydrogenation of Alkynes: Remarkable Effect of Amine Additives.  
*J. Am. Chem. Soc.* **134**, 17536-17542 (2012). DOI:10.1021/ja3087592
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*Angew. Chem. Int. Ed.* **51**, 802-806 (2012). DOI:10.1002/anie.201107505
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NaOH-Catalyzed Dimerization of Monofunctionalized Hydrofullerenes: Transition-Metal-Free, General, and Efficient Synthesis of Single-Bonded [60]Fullerene Dimers.  
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42. Fan Yang, Md. Akhtaruzzaman, Ashraful Islam, Tienan Jin\*, Ahmed El-Shafei, Chuanjiang Qin, Liyuan Han, Khalid A. Alamry, Samia A. Kosa, Mahmoud A. Husseine, Abdullah Mohamed Asiri, Yoshinori Yamamoto

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Tienan Jin (金 鉄男)

- Structure-Property Relationship of Naphthalene Based Donor- $\pi$ -Acceptor Organic Dyes for Dye-Sensitized Solar Cells: Remarkable Improvement of Open-Circuit Photovoltage.  
*J. Mater. Chem.* **22**, 22550-22557 (2012). DOI:10.1039/c2jm34363k
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Cascade cyclization of aryldiynes using iodine: synthesis of iodo-substituted benzo[b]naphtho[2,1-d]thiophene derivatives for dye-sensitized solar cells.  
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Synthesis of New Donor-Acceptor-Donor Materials via Au-catalyzed Double Cascade Cyclization.  
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47. Shirong Lu, Tienan Jin\*, Ming Bao, Yoshinori Yamamoto\*  
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*J. Am. Chem. Soc.* **133**, 12842-12848 (2011). DOI:10.1021/ja204982w
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Facile Synthesis of Diiodinated Dihydronaphthalenes and Naphthalenes via Iodine Mediated Electrophilic Cyclization.

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 Facile Synthesis of 3,4-Diiododihydrothiophenes via Electrophilic Iodocyclization.  
*Tetrahedron Lett.* **52**, 936-938 (2011). DOI:10.1016/j.tetlet.2010.12.075
53. Tienan Jin\*, Junichi Uchiyama, Masafumi Himuro, Yoshinori Yamamoto\*  
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*Tetrahedron Lett.* **52**, 2069-2071 (2011). DOI:10.1016/j.tetlet.2010.10.094
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 Gold-catalyzed regiospecific intermolecular hydrothiolation of allenes.  
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 Palladium-Catalyzed Three-Component [3+2] Cycloaddition of Propargyl Trifluoroacetates, Ethylidene Malononitriles, and Allyltributylstannane.  
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 Benzannulation from Alkyne without Metallic Catalysts at Room Temperature to 100 °C.  
*Org. Lett.* **12**, 388-390 (2010). DOI:10.1021/ol902742u

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59. Tienan Jin\*, Masafumi Himuro, Yoshinori Yamamoto\*  
 Triflic Acid Catalyzed Synthesis of Spirocycles via Acetylene Cations.  
*Angew. Chem. Int. Ed.* **48**, 5893-5896 (2009). DOI:10.1002/anie.200901771
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61. Tienan Jin\*, Fan Yang, Chunli Liu, Yoshinori Yamamoto\*

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TfOH-catalyzed intramolecular alkyne-ketone metathesis leading to highly substituted five-membered cyclic enones.

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62. Tienan Jin\*, Yoshinori Yamamoto\*

Gold-catalyzed Synthesis of Polycyclic Enones from Carbon Tethered 1,3-Enynyl Carbonyls via Tandem Heteroenyne Metathesis and Nazarov Reaction.

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63. Tienan Jin\*, Fukuzou Kitahara, Shin Kamijo, Yoshinori Yamamoto\*

Synthesis of 5-Substituted 1H-Tetrazoles by the Copper-catalyzed [3+2] Cycloaddition of Nitriles and Trimethylsilyl Azide.

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*Tetrahedron Lett.* **49**, 2824-2827 (2008). DOI:10.1016/j.tetlet.2008.02.115

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Gold-Catalyzed Intramolecular Carbocyclization of Alkynyl Ketones Leading to Highly Substituted Cyclic Enones.

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An efficient, facile, and general synthesis of 1*H*-indazoles by 1,3-dipolar cycloaddition of arynes with diazomethane derivatives.

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Facile Deallylation Protocols for the Preparation of *N*-Unsubstituted Triazoles and Tetrazoles.

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- Synthesis of 1-substituted tetrazoles via the acid-catalyzed [3+2] cycloaddition between isocyanides and trimethylsilyl azide.
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- Copper-catalyzed synthesis of N-unsubstituted 1,2,3-triazoles from nonactivated terminal alkynes.
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- Tetrazole synthesis via the palladium-catalyzed three component coupling reaction.
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