

## List of Papers (Dr. Takeshi Yamada, Kobe Pharmaceutical University)

2023.3.3 update

### 【原著論文】

1. Organocatalytic multicomponent coupling to access a highly functionalised tetracyclic furoindoline: Interrupted Passerini/Joullié–Ugi cascade reaction  
**Takeshi Yamada,\*** Sentaro Okamoto\*,  
*Chemical Communications*, **2022**, 58, 11701-11704. (IF 5.976 (5 years))  
(DOI: 10.1039/D2CC04429C)
2. Design, synthesis, and properties of des-D-ring interphenylene derivatives of 1 $\alpha$ ,25-dihydroxyvitamin D3  
Kouta Ibe, Haruki Nakada, Mayu Ohgami, **Takeshi Yamada,\*** Sentaro Okamoto\*  
*European Journal of Medicinal Chemistry*, **2022**, 243, 114795. (IF 6.427 (5 years))  
(DOI: 10.1016/j.ejmech.114795)
3. Nickel-catalysed cycloaddition oligomerisation of 1,6-diynes to medium-size cyclic polyenes  
Yuhsaku Okabe, **Takeshi Yamada**, Sentaro Okamoto\*,  
*Polymer Chemistry*, **2022**, 13, 6127-6133. (IF 5.056 (5 years))  
(DOI: 10.1039/D2PY01033J)  
**Selected as Front Cover**
4. Deuteration of indole compounds: Synthesis of deuterated auxins, indole-3-acetic acid-d5 and indole-3-butric acid-d5  
**Takeshi Yamada,\*** Kazuki Arai, Rie Kikuchi, Sentaro Okamoto\*  
*ACS Omega* **2021**, 6, 19956-19963. (IF 4.197 (5 years))  
(DOI: 10.1021/acsomega.1c02940)
5. 6-Halo-2-pyridone as an efficient organocatalyst for ester aminolysis  
**Takeshi Yamada,\*** Yusuke Watanabe, Sentaro Okamoto\*  
*RSC Advances* **2021**, 11, 24588-24593. (IF 3.748 (5 years))  
(DOI: 10.1039/d1ra04651a)
6. Pd-catalyzed regio- and stereoselective hydrostannylation of an alkyl ethynyl ether/one-pot Stille coupling enables the synthesis of 14-membered macrolactone of luminamicin  
Akihiro Sugawara, Hirokazu Takada, Tomoyasu Hirose, Aoi Kimishima, **Takeshi Yamada**, Masaki Toda, Toru Kojima, Takanori Matsumaru, Toshiaki Sunazuka\*  
*Organic Letters* **2021**, 23, 1758-1763. (IF 5.592 (5 years))

(DOI: 10.1021/acs.orglett.1c00183)

7. Unified enantioselective total synthesis of 3,6-dioxygenated diketopiperazine natural products, diatretol and lepistamide A, B and C  
Shu Takahashi, Aoi Kimishima, Tomoyasu Hirose, **Takeshi Yamada**, Akihiro Sugawara, Tatsuya Shirahata, Yoshihiko Noguchi, Masato Iwatsuki, Rei Hokari, Aki Ishiyama, Yoshinori Kobayashi, Toshiaki Sunazuka\*  
*Tetrahedron Letters* **2021**, 67, 152895. (IF 2.000 (5 years))  
(DOI: 10.1016/j.tetlet.2021.152895)
8. Dual-mode coupling copolymerization of aryl dialdehyde and alkynylaldehyde monomers via concurrent McMurry olefination and alkyne [2+2+2] cycloaddition trimerization reactions mediated by a low-valent titanium reagent  
Sentaro Okamoto,\* **Takeshi Yamada**, Takaya Uchida, Nana Kikuta, Yu-ya Kimura  
*Polymer* **2021**, 214, 123344. (IF 4.161 (5 years))  
(DOI: 10.1016/j.polymer.2020.123344)
9. Cobalt-catalyzed [2 + 2 + 2] cycloaddition copolymerization of diyne and internal alkyne monomers to highly branched polymers  
Nana Kikuta, Takahiro Shindo, Yu-ki Sugiyama, **Takeshi Yamada**, Sentaro Okamoto\*  
*Polymer* **2021**, 212, 123133. (IF 4.161 (5 years))  
(DOI: 10.1016/j.polymer.2020.123133)  
**Selected as a Key Scientific Article in Advances in Engineering (AIE)**
10. Synthesis and vitamin D receptor affinity of 16-oxa vitamin D<sub>3</sub> analogues  
Kouta Ibe, **Takeshi Yamada**, Sentaro Okamoto\*  
*Organic & Biomolecular Chemistry* **2019**, 17, 10188-10200. (IF 3.464 (5 years))  
(DOI: 10.1039/C9OB02339A)
11. Alkyne [2 + 2 + 2] cyclotrimerization catalyzed by a low-valent titanium reagent derived from CpTiX<sub>3</sub> (X = Cl, O-*i*-Pr), Me<sub>3</sub>SiCl, and Mg or Zn  
Sentaro Okamoto,\* **Takeshi Yamada**, Yu-ki Tanabe, Masaki Sakai  
*Organometallics* **2018**, 37, 4431-4438. (IF 3.541 (5 years))  
(DOI: 10.1021/acs.organomet.8b00678)
12. Synthesis and evaluation of antibacterial activity of bottromycins  
**Takeshi Yamada**, Miu Yagita, Yutaka Kobayashi, Goh Sennari, Hiroyuki Shimamura, Hidehito Matsui, Yuki Horimatsu, Hideaki Hanaki, Tomoyasu Hirose, Satoshi Ōmura,\* Toshiaki Sunazuka\*  
*The Journal of Organic Chemistry* **2018**, 83, 7135-7149. (IF 4.031 (5 years))  
(DOI: 10.1021/acs.joc.8b00045)

13. Stereo- and substituent-enabled divergent synthesis of 5,6-spiroketal analogs of avermectin containing a triazole function  
**Takeshi Yamada**, Yuki Horimatsu, Tomoyasu Hirose, Akihiro Sugawara, Satoshi Ōmura,\* Toshiaki Sunazuka\*  
*Tetrahedron Letters* **2017**, *58*, 3119-3124. (IF 2.000 (5 years))  
(DOI: 10.1016/j.tetlet.2017.06.072)
14. Ivermectin efficacy against *Biomphalaria*, intermediate host snail vectors of Schistosomiasis Naftale Katz,\* Neusa Araújo, Paulo Marcos Zech Coelho, Carlos Medicis Morel, Ana Rosa Linde-Arias, **Takeshi Yamada**, Yuki Horimatsu, Koh Suzuki, Toshiaki Sunazuka,\* Satoshi Ōmura\*  
*The Journal of Antibiotics* **2017**, *70*, 680-684. (IF 3.066 (5 years))  
(DOI: 10.1038/ja.2017.31)
15. Total synthesis and determination of the absolute configuration of naturally occurring mangromicin A, with potent antitrypanosomal activity Hirokazu Takada, **Takeshi Yamada**, Tomoyasu Hirose, Takuma Ishihara, Takuji Nakashima, Yōko Takahashi, Satoshi Ōmura,\* Toshiaki Sunazuka\*  
*Organic Letters* **2017**, *19*, 230-233. (IF 5.592 (5 years))  
(DOI: 10.1021/acs.orglett.6b03512)
16. Organocatalytic site-selective acylation of 10-deacetylbaecatin III Masanori Yanagi, Ryo Ninomiya, Yoshihiro Ueda, Takumi Furuta, **Takeshi Yamada**, Toshiaki Sunazuka, Takeo Kawabata\*  
*Chemical and Pharmaceutical Bulletin* **2016**, *54*, 907-912. (IF 1.833 (5 years))  
(DOI: 10.1248/cpb.c16-00037)
17. Organocatalytic site-selective acylation of avermectin B<sub>2a</sub>, a unique endectocidal drug **Takeshi Yamada**, Koh Suzuki, Tomoyasu Hirose, Takumi Furuta, Yoshihiro Ueda, Takeo Kawabata, Satoshi Ōmura,\* Toshiaki Sunazuka\*  
*Chemical and Pharmaceutical Bulletin* **2016**, *54*, 856-864. (IF 1.833 (5 years))  
(DOI: 10.1248/cpb.16-00205)  
**Selected as Front Cover**
18. Asymmetric total synthesis of indole alkaloids containing an indoline spiroaminal framework **Takeshi Yamada**, Tetsuya Ideguchi-Matsushita, Tomoyasu Hirose, Tatsuya Shirahata, Rei Hokari, Aki Ishiyama, Masato Iwatsuki, Akihiro Sugawara, Yoshinori Kobayashi, Kazuhiko Otoguro, Satoshi Ōmura,\* Toshiaki Sunazuka\*  
*Chemistry – A European Journal* **2015**, *21*, 11855-11864.  
(DOI: 10.1002/chem.201501150)

***Most Accessed Articles in 9/2015 to 8/2016***

19. Jietacins with potent nematocidal activity; efficient isolation of novel analogs and divergent total synthesis of jietacin A, B, C, and D

Akihiro Sugawara, Masahiko Kubo, Takuji Nakashima, Tomoyasu Hirose, Noriaki Tsunoda, Kyoichi Yahagi, Yukihiko Asami, **Takeshi Yamada**, Kazuro Shiomi, Yōko Takahashi, Satoshi Ōmura,\* Toshiaki Sunazuka\*

*Tetrahedron* **2015**, *71*, 2149-2157.

(DOI: 10.1016/j.tet.2015.02.038)

20. Organocatalytic  $\alpha$ -addition of isocyanides to aldehydes

**Takeshi Yamada**, Tomoyasu Hirose, Satoshi Ōmura,\* Toshiaki Sunazuka\*

*European Journal of Organic Chemistry* **2015**, 296-301.

(DOI: 10.1002/ejoc.201403313)

***Most Accessed Articles in 12/2014***

***Highlighted in ChemInform 2015, 46, issue 22.***

21. Asymmetric total synthesis of neoxaline

Tetsuya Ideguchi, **Takeshi Yamada**, Tatsuya Shirahata, Tomoyasu Hirose, Akihiro Sugawara, Yoshinori Kobayashi, Satoshi Ōmura,\* Toshiaki Sunazuka\*

*Journal of the American Chemical Society* **2013**, *135*, 12568-12571.

(DOI: 10.1021/ja406657v)

***Most Read Articles in 9/2013***

***Highlighted in Synfacts 2013, 12, 1263.***

22. Stereoselective synthesis of (*E*)- $\alpha,\beta$ -dehydroamino acid esters

Yoko Yasuno, Makoto Hamada, **Takeshi Yamada**, Tetsuro Shinada,\* Yasufumi Ohfune\*

*European Journal of Organic Chemistry* **2013**, 1884-1888.

(DOI: 10.1002/ejoc.201300112)

23. Efficient synthesis of anhydrorhodovibrin and analogues

**Takeshi Yamada**, Keiji Okada, Tetsuro Shinada, Yasufumi Ohfune,\* Hideki Hashimoto\*

*Synlett* **2012**, *23*, 2980-2984.

(DOI: 10.1055/s-0032-1317678)

24. Three-dimensional solution structure of bottromycin A<sub>2</sub>: a potent antibiotic active against

methicillin-resistant *Staphylococcus aureus* and vancomycin-resistant *Enterococci*

Hiroaki Gouda,\* Yutaka Kobayashi, **Takeshi Yamada**, Tetsuya Ideguchi, Akihiro Sugawara, Tomoyasu Hirose, Satoshi Ōmura, Toshiaki Sunazuka, Shuichi Hirono

*Chemical and Pharmaceutical Bulletin* **2012**, *60*, 169-171.

(DOI: 10.1248/cpb.60.169)

25. Concise asymmetric synthesis of configurationally stable 4-trifluoromethyl thalidomide  
Vadim A. Soloshonok,\* **Takeshi Yamada**, Kazuhiko Sakaguchi, Yasufumi Ohfune\*  
*Future Medicinal Chemistry* **2009**, *1*, 897-908.  
(DOI: 10.4155/fmc.09.63)
26. Efficient asymmetric synthesis of functionalized pyroglutamate core unit common to oxazolomycin and neooxazolomycin using Michael reaction of nucleophilic glycine Schiff base with  $\alpha,\beta$ -disubstituted acrylate  
**Takeshi Yamada**, Kazuhiko Sakaguchi, Tetsuro Shinada, Yasufumi Ohfune,\* Vadim A. Soloshonok\*  
*Tetrahedron: Asymmetry* **2008**, *19*, 2789-2795.  
(DOI: 10.1016/j.tetasy.2008.11.036)
27. Palladium-catalyzed intra-molecular olefin insertion reaction of  $\alpha$ -alkenyl- $\alpha$ -acyloxytrialkylsilane. Synthesis of optically active carbocycle  
Kazuhiko Sakaguchi,\* Takuya Okada, **Takeshi Yamada**, Yasufumi Ohfune\*  
*Tetrahedron Letters* **2007**, *48*, 3925-3928.  
(DOI: 10.1016/j.tetlet.2007.03.029)
28. Efficient asymmetric synthesis of novel 4-substituted and configurationally stable analogues of thalidomide  
**Takeshi Yamada**, Takuya Okada, Kazuhiko Sakaguchi, Yasufumi Ohfune,\* Hisanori Ueki, Vadim A. Soloshonok\*  
*Organic Letters* **2006**, *8*, 5625-5628.  
(DOI: 10.1021/ol0623668)
29. Design, synthesis, and evaluation of a new generation of modular nucleophilic glycine equivalents for the efficient synthesis of sterically constrained  $\alpha$ -amino acids  
Trevor K. Ellis, Hisanori Ueki, **Takeshi Yamada**, Yasufumi Ohfune, Vadim A. Soloshonok\*  
*The Journal of Organic Chemistry* **2006**, *71*, 8572-8578.  
(DOI: 10.1021/jo0616198)
30. Operationally convenient, efficient asymmetric synthesis of enantiomerically pure 4-aminoglutamic acids via methylene dimerization of chiral glycine equivalents with dichloromethane  
Vadim A. Soloshonok,\* **Takeshi Yamada**, Hisanori Ueki, Anna M. Moore, Tanner K. Cook, Kelsey L. Arbogast, Anatolii V. Soloshonok, Collin H. Martin, Yasufumi Ohfune  
*Tetrahedron* **2006**, *62*, 6412-6419.  
(DOI: 10.1016/j.tet.2006.04.023)

31. Michael addition reactions between chiral equivalents of a nucleophilic glycine and (*S*)- or (*R*)-3-[(*E*)-enoyl]-4-phenyl-1,3-oxazolidin-2-ones as a general method for efficient preparation of  $\beta$ -substituted pyroglutamic acids. Cases of topographically controlled stereoselectivity  
Vadim A. Soloshonok,\* Chaozhong Cai, **Takeshi Yamada**, Hisanori Ueki, Yasufumi Ohfune, Victor J. Hruby  
*Journal of the American Chemical Society* **2005**, *127*, 15296-15303.  
(DOI: 10.1021/ja0535561)
32. Palladium-catalyzed allylic alkylation of optically active  $\alpha$ -alkenyl- $\alpha$ -acyloxytrialkylsilane  
Kazuhiko Sakaguchi,\* **Takeshi Yamada**, Yasufumi Ohfune\*  
*Tetrahedron Letters* **2005**, *46*, 5009-5012.  
(DOI: 10.1016/j.tetlet.2005.05.076)
33. Application of modular nucleophilic glycine equivalents for truly practical asymmetric synthesis of  $\beta$ -substituted pyroglutamic acids  
Vadim A. Soloshonok,\* Hisanori Ueki, Trevor K. Ellis, **Takeshi Yamada**, Yasufumi Ohfune  
*Tetrahedron Letters* **2005**, *46*, 1107-1110.  
(DOI: 10.1016/j.tetlet.2004.12.093)
34. Asymmetric synthesis of enantiomerically pure 4-aminoglutamic acids via methylenedimerization of chiral glycine equivalents with dichloromethane under operationally convenient conditions  
Stephan M. Taylor, **Takeshi Yamada**, Hisanori Ueki, Vadim A. Soloshonok\*  
*Tetrahedron Letters* **2004**, *45*, 9159-9162.  
(DOI: 10.1016/j.tetlet.2004.10.111)
35. Application of (*S*)- and (*R*)-methyl pyroglutamates as inexpensive, yet highly efficient chiral auxiliaries in the asymmetric Michael addition reactions  
Chaozhong Cai, **Takeshi Yamada**, Rohit Tiwari, Victor J. Hruby, Vadim A. Soloshonok\*  
*Tetrahedron Letters* **2004**, *45*, 6855-6858.  
(DOI: 10.1016/j.tetlet.2004.07.096)
36. Synthesis of optically active  $\beta$ -alkyl aspartate via [3,3] sigmatropic rearrangement of  $\alpha$ -acyloxytrialkylsilane  
Kazuhiko Sakaguchi,\* Masahiro Yamamoto, Tetsuo Kawamoto, **Takeshi Yamada**, Tetsuro Shinada, Yasufumi Ohfune\*  
*Tetrahedron Letters* **2004**, *45*, 5869-5872.  
(DOI: 10.1016/j.tetlet.2004.05.157)

## 【解説・総説】

### 1. 山田健

βラクトンの Dyotropic 転位を利用した天然物合成

有機合成化学協会誌 2013, 71, 844-845.

(DOI: 10.5059/yukigoseikyokaishi.71.844)

## 【著書】

### 1. 山田健, 砂塚敏明

第24章 有機触媒による創薬を指向した生理活性天然物の実践的合成

“有機分子触媒の開発と工業利用” シーエムシー出版, 264-271 (2018)

(ISBN コード: 978-4-7813-1323-8)

(DOI: 10.1039/C9OB02339A)

2. Kazuro Shiomi, Toshiaki Sunazuka, Yoko Takahashi, Rokuro Masuma, Kazuhiko Otoguro, Haruo Ikeda, Takuji Nakashima, Tomoyasu Hirose, Atsuko Matsumoto, Masato Iwatsuki, Kenichi Nonaka, Hiromi Miura, Yuki Inahashi, Mihoko Mori, Aki Ishiyama, Yukihiro Asami, Yukihiro Sugawara, **Takeshi Yamada**, Rei Hokari, Yoko Suzuki, Hiroshi Tomoda, Tohru Nagamitsu, Jun Inokoshi, Ryuji Uchida, Takashi Fukuda, Nobuhiro Koyama, Hiroshi Tanaka,  
“*Splendid Gifts from Microorganisms, fifth edition*” edited by Satoshi Ōmura, The Kitasato Institute (2015)

## 【紀要】

### 1. 山田健

微生物由来生物活性天然物の全合成と新規有機分子触媒反応の開発

神奈川大学工学研究 2018, 1, 38-43.

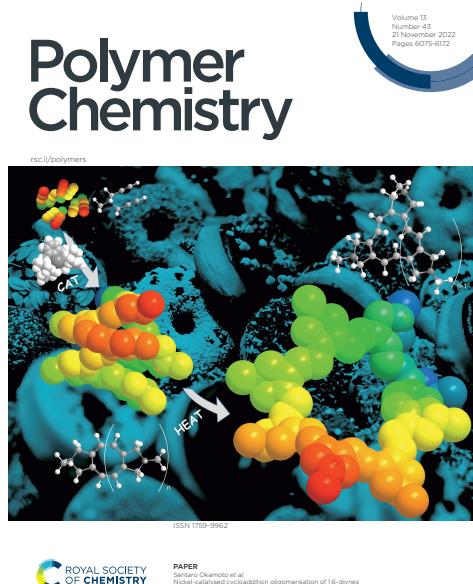
## Cover Picture

- Nickel-catalysed cycloaddition oligomerisation of 1,6-diynes to medium-size cyclic polyenes

Yuhsaku Okabe, **Takeshi Yamada**, Sentaro Okamoto\*

*Polymer Chemistry*, **2022**, *13*, 6127-6133. (IF 5.056 (5 years))

(DOI: 10.1039/D2PY01033J)



- Organocatalytic site-selective acylation of avermectin B<sub>2a</sub>, a unique endectocidal drug

**Takeshi Yamada**, Koh Suzuki, Tomoyasu Hirose, Takumi Furuta, Yoshihiro Ueda, Takeo Kawabata, Satoshi Ōmura,\* Toshiaki Sunazuka\*

*Chemical and Pharmaceutical Bulletin* **2016**, *54*, 856-864. (IF 1.833 (5 years))

(DOI: 10.1248/cpb.16-00205)

