

List of publications: Dr. Ryo Tanaka (Last updated: 2025/03/31)

### Original Articles

88) Ring-Opening Homo- and Copolymerization of Cyclic Esters Catalyzed by Iron(III) Triflate

Yuushou Nakayama, Toshihiko Omori, Ryo Tanaka, Takeshi Shiono

*Catalysts*, **14**, 945 (2024).

87) Main-chain stiff-stilbene photoswitches in solution, in bulk, and at surfaces

Naoki Kaneda, Keiichi Imato, Ayane Sasaki, Ryo Tanaka, Ichiro Imae, Toyooki Hirata, Takuya Matsumoto, Yousuke Ooyama

*Chem. Sci.*, **15**, 20545-20555 (2024).

86) Origin of the Two Major Types of Repeating Units in Poly( $\beta$ -pinene) Obtained by Cationic Polymerization

Oluwaseyi Aderemi Ajala, Shogo Nakaichi, Toshiyuki Oshiki, Yuushou Nakayama, Takeshi Shiono, Ryo Tanaka\*

*Macromolecules*, **57**, 9257-9264 (2024).

85) Biodegradable thermoplastic elastomers synthesized from C7–C10 aliphatic dicarboxylic acids, 2-methyl-1,3-propanediol, and L-lactide

Yuushou Nakayama, Takayoshi Matsu-ura, Ryo Tanaka, Takeshi Shiono, Shodai, Hino, Norioki Kawasaki, Naoko Yamano, Atsuyoshi Nakayama, Rie Tezuka, Kazuya Tanaka

*Polym. Degrad. Stab.*, **229**, 110978 (2024).

84) Commodity Rubber Material with Reversible Cross-linking Ability: Application of Boroxine Cross-links to Ethylene-Propylene Rubber

Yusuke Bando, Shin-ichi Kihara, Hiroya Fujii, Yuushou Nakayama, Takeshi Shiono, Ryo Tanaka\*

*Macromolecules*, **57**, 7565-7574 (2024).

83) Neutron Reflectivity Study on the Adsorption Layer of Polyethylene Grown on Si Substrate

Keisuke Shimokita, Katsuhiko Yamamoto, Noboru Miyata, Motoki Shibata, Yohei Nakanishi, Masato Arakawa, Mikihiro Takenaka, Takumitsu Kida, Katsuhisa Tokumitsu, Ryo Tanaka, Takeshi Shiono, Masako Yamada, Hideki Seto, Norifumi L. Yamada, Hiroyuki Aoki, Tsukasa Miyazaki

*Langmuir*, **40**, 15758-15766 (2024).

82) A Bio-Based Tackifier Synthesized by Room-Temperature Cationic Copolymerization of Isobutene and  $\beta$ -Pinene

Oluwaseyi Aderemi Ajala, Yuushou Nakayama, Takeshi Shiono, Ryo Tanaka\*

*Catalysts*, **14**, 402 (2024).

81) Effect of Short-Chain Branches in High-Molecular-Weight Component on Tensile Properties of Polyethylene Solids

Takumitsu Kida, Ryo Tanaka, Takeshi Shiono, Hiroki Takeshita, Katsuhisa Tokumitsu

*Polymer*, **298**, 126906 (2024).

- 80) Copolymerization of Ethylene with Functionalized 1,1-Disubstituted Olefins Using a Fluorenylamido-Ligated Titanium Catalyst  
Oluwaseyi Aderemi Ajala, Moeko Ono, Yuushou Nakayama, [Ryo Tanaka](#), Takeshi Shiono  
*Polymers*, **16**, 236 (2024).
- 79) Selective synthesis of  $\alpha$ -vinyl- $\omega$ -vinylidene-oligoisoprene as a macromonomer via ethenolysis of polyisoprene  
[Ryo Tanaka](#), Akane Shimmei, Riki Otsuka, Yuushou Nakayama, Takeshi Shiono  
*Polym. J.*, **56**, 335-342 (2024).
- 78) Ring-Opening Polymerization of Lactones Catalyzed by Silicon-Based Lewis Acid  
Yuushou Nakayama, Keiya Katagi, [Ryo Tanaka](#), Takeshi Shiono  
*Int. J. Polym. Sci.*, 4391372 (2023).
- 77) Direct Observation of the Effect of a High-Molecular-Weight Component on the Deformation Behavior of Polyethylene Solids Using the Rheo-Raman Spectroscopic Technique  
Takumitsu Kida, [Ryo Tanaka](#), Takeshi Shiono, Masayuki Yamaguchi  
*Macromolecules*, **56**, 3073-3082 (2023)
- 76) Synthesis, Properties, and Biodegradability of Novel Sequence-Controlled Copolyesters Composed of Glycolic Acid, Dicarboxylic Acids, and C3 or C4 Diols  
Yuushou Nakayama, Keitaro Fukumoto, Yuji Kusu, [Ryo Tanaka](#), Takeshi Shiono, Norioki Kawasaki, Naoko Yamano, Atsuyoshi Nakayama  
*Polymers*, **15**, 1155 (2023).
- 75) Aggregation-induced emission of a bis(imino)acenaphthene zinc complex with tetraphenylethene units  
Takuma Fumoto, [Ryo Tanaka](#), Ooyama Yousuke  
*Dalton Trans.*, **52**, 5047-5055 (2023).
- 74) Synthesis of chain-end functional polydienes using diene comonomer bearing boronic acid masked with diaminonaphthalene  
[Ryo Tanaka](#)\*, Yuina Kuwabara, Yuushou Nakayama, Takeshi Shiono\*  
*Molecules*, **27**, 9007 (2022).
- 73) Impact of methylaluminumoxane oxidation on the ethylene polymerization using Ni catalysts  
[Ryo Tanaka](#)\*, Kenji Sogo, Kenji Komaguchi, Kazuki Ae, Yuushou Nakayama, Takeshi Shiono\*  
*Organometallics*, **41**, 3024-3031 (2022).
- 72) Star polymers with norbornene/1-octene gradient copolymer arms synthesized by an *ansa*-fluorenylamido dimethyltitanium-[Ph<sub>3</sub>C][B(C<sub>6</sub>F<sub>5</sub>)<sub>4</sub>] catalyst system  
Haobo Yuan, Takumitsu Kida, [Ryo Tanaka](#), Zhengguo Cai, Yuushou Nakayama, Shin-ichi Kihara, Takeshi Shiono  
*Polymer*, **249**, 124844 (2022).
- 71) Selective alcoholysis of lactide catalyzed by bulky Lewis pairs of tris(pentafluorophenyl)borane and phosphines  
Yuushou Nakayama, Kentaro Yamaguchi, [Ryo Tanaka](#), Takeshi Shiono  
*Mol. Catal.*, **519**, 112121 (2022).

70) Cyclic olefin copolymer bearing pendant fluorenyl groups with high refractive index and low chromatic dispersion

Haobo Yuan, Takumitsu Kida, Yuma Ishitobi, Ryo Tanaka, Masayuki Yamaguchi, Yuushou Nakayama, Takeshi Shiono

*Macromolecules*, **55**, 125 (2022).

69) Polymerization of Styrene Derivatives Using Anilinonaphthoquinone-ligated Nickel Complexes and Thermal/Rheological Properties of the Produced Polymers

Samiul Islam Chowdhury, Takumitsu Kida, Ryo Tanaka, Yuushou Nakayama, Takeshi Shiono

*Macromol. Chem. Phys.*, **223**, 2100402 (2022).

68) Rheological properties of linear and short-chain branched polyethylene with nearly monodispersed molecular weight distribution

Takumitsu Kida, Yuya Doi, Ryo Tanaka, Takashi Uneyama, Takeshi Shiono, Yuichi Masubuchi

*Rheol. Acta*, **60**, 511-519 (2021).

67) Removal of mononuclear alkylaluminum species in aluminoxane using crosslinked polymer bearing bulky phenoxy groups

Ryo Tanaka\*, Mari Nishizono, Yuushou Nakayama, Takeshi Shiono\*

*Polym. J.*, **53**, 1187-1193 (2021).

66) Improving the Strength of Polyethylene Solids by Simple Controlling of the Molecular Weight Distribution

Takumitsu Kida, Ryo Tanaka, Yusuke Hiejima, Koh-hei Nitta, Takeshi Shiono

*Polymer*, **218**, 123526 (2021).

65) Incorporation of boronic acid functionality into isotactic polypropylene and its application as crosslinking point

Ryo Tanaka, Hiroya Fujii, Takumitsu Kida, Yuushou Nakayama, Takeshi Shiono

*Macromolecules*, **54**, 1267 (2021).

64) Synthesis, Properties, and Biodegradabilities of Thermoplastic Elastomers made from 2-Methyl-1,3-propanediol, Glutaric Acid and Lactide

Lamya Zahir, Takumitsu Kida, Ryo Tanaka, Yuushou Nakayama, Takeshi Shiono, Norioki Kawasaki, Naoko Yamano, Atsuyoshi Nakayama

*Life*, **11**, 43 (2021).

63) A Neutral, Noncoordinating, and Hydrocarbon-soluble Protic Cocatalyst for Olefin Polymerization

Tomoya Nakashima, Yuushou Nakayama, Takeshi Shiono\*, Ryo Tanaka\*

*ACS Catal.*, **11**, 865-870 (2021).

62) Synthesis of thermoplastic elastomers with high biodegradability in seawater

Lamya Zahir, Takumitsu Kida, Ryo Tanaka, Yuushou Nakayama, Takeshi Shiono, Norioki Kawasaki, Naoko Yamano, Atsuyoshi Nakayama

*Polym. Degrad. Stab.*, **184**, 109467 (2021).

- 61) Synthesis and Properties of Block Copolymers Composed of Norbornene/Higher  $\alpha$ -Olefin Gradient Segments Using *ansa*-Fluorenylamidodimethyltitanium-[Ph<sub>3</sub>C][B(C<sub>6</sub>F<sub>5</sub>)<sub>4</sub>] Catalyst System  
Haobo Yuan, Takumitsu Kida, Ryo Tanaka, Zhengguo Cai, Yuushou Nakayama, Takeshi Shiono  
*Polym. Chem.*, **12**, 189-195 (2021).
- 60) Norbornadiene homopolymerization and norbornene/norbornadiene/1-octene terpolymerization by *ansa*-fluorenylamidotitanium-based catalysts  
Hongyi Suo, Haobo Yuan, Ryo Tanaka, Yuushou Nakayama, Wen-Hua Sun, Takeshi Shiono  
*Polym. Chem.*, **11**, 6803-6810 (2020).
- 59) Synthesis and Properties of Biodegradable Thermoplastic Elastomers using 2-Methyl-1,3-propanediol, Succinic Acid and Lactide  
Lamya Zahir, Takumitsu Kida, Ryo Tanaka, Yuushou Nakayama, Takeshi Shiono, Norioki Kawasaki, Naoko Yamano, Atsuyoshi Nakayama  
*Polym. Degrad. Stab.*, **181**, 109353 (2020).
- 58) Synthesis, properties, and biodegradation of sequential poly(ester amide)s containing  $\gamma$ -aminobutyric acid  
Yuushou Nakayama, Kazumasa Watanabe, Ryo Tanaka, Takeshi Shiono, Norioki Kawasaki, Naoko Yamano, Atsuyoshi Nakayama  
*Int. J. Mol. Sci.*, **21**, 3674 (2020).
- 57) Synthesis and Properties of Gradient Copolymers Composed of Norbornene and Higher  $\alpha$ -Olefins Using an *ansa*-Fluorenylamidodimethyltitanium-[Ph<sub>3</sub>C][B(C<sub>6</sub>F<sub>5</sub>)<sub>4</sub>] Catalyst System  
Haobo Yuan, Takumitsu Kida, Hyunchul Kim, Ryo Tanaka, Zhengguo Cai, Yuushou Nakayama, Takeshi Shiono  
*Macromolecules*, **53**, 4323-4329 (2020).
- 56) Effect of Ancillary Ligands as a Part of Counteranion in Neodymium-Catalyzed Isoprene Polymerization  
Ryo Tanaka\*, Yuushou Nakayama, Takeshi Shiono  
*Organometallics*, **39**, 1855-1860 (2020).
- 55) Synthesis of norbornene/divinylbenzene copolymers catalyzed by anilinonaphthoquinone-ligated nickel complexes and their applications for the synthesis of graft polymers  
Samiul Islam Chowdhury, Ryo Tanaka, Yuushou Nakayama, Takeshi Shiono  
*J. Polym. Sci.*, **58**, 1564-1570 (2020).
- 54) Synthesis, properties and biodegradation of periodic copolyesters composed of hydroxy acids, ethylene glycol, and terephthalic acid  
Yuushou Nakayama, Wataru Yagumo, Ryo Tanaka, Takeshi Shiono, Kei Inumaru, Chikara Tsutsumi, Norioki Kawasaki, Naoko Yamano, Atsuyoshi Nakayama  
*Polym. Degrad. Stab.* **174**, 109095 (2020).
- 53) Crystal structure of di- $\mu$ -pentafluorophenyltrihydroborato-tetrakis(tetrahydrofuran)disodium  
Ryo Tanaka\*, Takeshi Shiono  
*Acta Cryst.*, **E76**, 145-147 (2020).

- 52) Coordination-insertion Copolymerization of Norbornene and *p*-Substituted Styrenes using anilinonaphthoquinone-ligated Nickel Complexes  
Samiul Islam Chowdhury, [Ryo Tanaka](#), Yuushou Nakayama, Takeshi Shiono  
*Macromol. Chem. Phys.*, **221**, 1900494 (2020).
- 51) Copolymerization of Norbornene and Conjugated Dienes Using Anilinonaphthoquinone-ligated Nickel Complexes  
Samiul Islam Chowdhury, [Ryo Tanaka](#), Yuushou Nakayama, Takeshi Shiono  
*Polymer*, **187**, 122094 (2020).
- 50) Effect of the number of arms on the mechanical properties of star-shaped cyclic olefin copolymer  
Takumitsu Kida, [Ryo Tanaka](#), Koh-hei Nitta, Takeshi Shiono  
*Polym. Chem.*, **10**, 5578-5584 (2019). (Cover Picture)
- 49) Chain-walking polymerization of 3-heptene with phenyl substituted alpha-diimine nickel catalysts  
Fuzhou Wang, Guoyong Xu, Qingshan Li, [Ryo Tanaka](#), Yuushou Nakayama, Takeshi Shiono  
*Polymer*, **181**, 121801 (2019).
- 48) Copolymerization of Ethylene and Fluoroalkylnorbornene Using Highly Active *ansa*-(Fluorenyl)(amido) titanium-Based Catalysts  
Yanjie Sun, Chen Wang, [Ryo Tanaka](#), Takeshi Shiono, Zhengguo Cai  
*Macromol. Chem. Phys.*, **220**, 1900306 (2019).
- 47) Copolymerization of Norbornene and Styrene with Anilinonaphthoquinone-ligated Nickel Complexes  
Samiul Islam Chowdhury, [Ryo Tanaka](#), Yuushou Nakayama, Takeshi Shiono  
*Polymers*, **11**, 1100 (2019) (Special Issue: Catalytic Polymerization).
- 46) Preparation of Methylaluminoxane from Carbon Dioxide  
Yuuya Okajima, Yuushou Nakayama, Takeshi Shiono, [Ryo Tanaka](#)\*  
*Eur. J. Inorg. Chem.*, **2019**, 2392-2395 (2019)
- 45) *Cis*-1,4 Specific Polymerization of 1,3-butadiene using PNP-pincer Ligated Iron(II) Complexes  
[Ryo Tanaka](#)\*, Kenshi Ikeda, Yuushou Nakayama, Takeshi Shiono  
*Chem. Lett.*, **48**, 525-528 (2019).
- 44) Optically Transparent Functional Polyolefin Elastomer with Excellent Mechanical and Thermal Properties  
Xiangyang Song, Lixin Cao, [Ryo Tanaka](#), Takeshi Shiono, Zhengguo Cai  
*ACS Macro Lett.*, **8**, 299-303 (2019).
- 43) Stereospecific polymerization of conjugated dienes using neodymium alkylborohydride complexes  
[Ryo Tanaka](#)\*, Yuto Shinto, Ryusei Matsuzaki, Yuushou Nakayama, Takeshi Shiono  
*Dalton Trans.*, **48**, 7267-7273 (2019). (Special Issue: New Talent: Asia-Pacific, 2019)
- 42) Efficient Ethylene Copolymerization with Polar Monomers Using Palladium Anilinonaphthoquinone Catalysts  
Lin Ding, Hailong Cheng, Yanqing Li, [Ryo Tanaka](#), Takeshi Shiono, Zhengguo Cai  
*Polym. Chem.*, **9**, 5476-5482 (2018).

- 41) Efficient Control of Ethylene-Norbornene Copolymerization Behavior of Fluorenylamido-Ligated Titanium Complex: Substituent Effects of Amido Ligand and Copolymer Properties  
Huajin Wang, Hailong Cheng, Ryo Tanaka, Takeshi Shiono, Zhengguo Cai  
*Polym. Chem.*, **9**, 4492-4497 (2018).
- 40) Reversible Star Assembly of Polyolefins Using Interconversion between Boroxine and Boronic Acid  
Ryo Tanaka, Naoki Tonoko, Shin-ichi Kihara, Yuushou Nakayama, Takeshi Shiono  
*Polym. Chem.*, **9**, 3774-3779 (2018).
- 39) Effect of Added Phenols and Silanol on the Cocatalyst Activity of Methylaluminoxane  
Ryo Tanaka, Takayuki Yamashita, Naoki Tonoko, Yuushou Nakayama, Takeshi Shiono  
*Kobunshi Ronbunshu*, **75**, 551-556 (2018). (Special issue: Polyolefins)
- 38) Chain-Walking Polymerization of Linear Internal Octenes Catalyzed by  $\alpha$ -Diimine Nickel Catalysts  
Fuzhou Wang, Ryo Tanaka, Qingshan Li, Yuushou Nakayama, Takeshi Shiono  
*Organometallics*, **37**, 1358-1367 (2018).
- 37) Selective synthesis of highly soluble cyclic olefin copolymers with pendant vinyl groups using 1,5-hexadiene as a comonomer Polymer  
Ryo Tanaka, Akane Sasaki, Takuma Takenaka, Yuushou Nakayama, Takeshi Shiono  
*Polymer*, **136**, 109-113 (2018).
- 36) Highly Robust Nickel Catalysts Containing Anilidonaphthoquinone Ligand for Copolymerization of Ethylene and Polar Monomers  
Xia Fu, Lingjun Zhang, Ryo Tanaka, Takeshi Shiono, Zhengguo Cai  
*Macromolecules*, **50**, 9216-9221 (2017).
- 35) Synthesis of Stereodiblock Polybutadiene Using  $\text{Cp}^*\text{Nd}(\text{BH}_4)_2(\text{thf})_2$  as a Catalyst  
Ryo Tanaka\*, Yuto Shinto, Yuushou Nakayama and Takeshi Shiono  
*Catalysts*, **7**, 284 (2017). (Special issue: Catalysts for the Controlled Polymerization of Conjugated Dienes)
- 34) Living polymerization of higher 2-alkene with  $\alpha$ -diimine nickel catalysts: Synthesis and characterization of high molecular weight poly(2-alkene)s  
Fuzhou Wang, Ryo Tanaka, Zhengguo Cai, Yuushou Nakayama, Takeshi Shiono  
*Polymer*, **127**, 88-100 (2017).
- 33) An alternative method for the preparation of trialkylaluminum-depleted modified-methylaluminoxane (dMMAO)  
Ryo Tanaka, Tomoyasu Kawahara, Yuto Shinto, Yuushou Nakayama, Takeshi Shiono  
*Macromolecules*, **50**, 5989-5993 (2017).
- 32) Synthesis of highly thermostable norbornene-isoprene-1-octene terpolymer with titanium catalyst  
Ryo Tanaka, Ryusei Matsuzaki, Yuushou Nakayama, Takeshi Shiono  
*J. Polym. Sci. Part A: Polym. Chem.*, **55**, 2136-2140 (2017).

- 31) Controlled Ring-Opening Polymerization of L-Lactide and  $\epsilon$ -Caprolactone Catalyzed by Aluminum-Based Lewis Pairs or Lewis Acid Alone  
Yuushou Nakayama, Shunsuke Kosaka, Kentaro Yamaguchi, Gentaro Yamazaki, Ryo Tanaka, Takeshi Shiono  
*J. Polym. Sci. Part A: Polym. Chem.*, **55**, 297-303 (2017).
- 30) Theoretical investigation of the mechanism of syndiospecific propylene polymerization using *ansa*-dimethylsilylene(fluorenyl)(amido)titanium complexes  
Ryo Tanaka, Yuushou Nakayama, Takeshi Shiono  
*J. Organomet. Chem.*, **823**, 112-115 (2016).
- 29) Precision Chain-Walking Polymerization of *trans*-4-Octene Catalyzed by  $\alpha$ -Diimine Nickel(II) Catalysts Bearing *ortho-sec*-Phenethyl Groups  
Wang Fuzhou, Ryo Tanaka, Zhengguo Cai, Yuushou Nakayama, Takeshi Shiono  
*Macromol. Rapid Commun.*, **37**, 1375-1381 (2016).
- 28) Synthesis of Highly Branched Polyolefins Using Phenyl Substituted  $\alpha$ -Diimine Ni(II) Catalysts  
Wang Fuzhou, Ryo Tanaka, Zhengguo Cai, Yuushou Nakayama, Takeshi Shiono  
*Polymers*, **8**, 160 (2016).
- 27) Synthesis of stereodiblock polyisoprene consisting of *cis*-1,4 and *trans*-1,4 sequences by neodymium catalyst: change of the stereospecificity triggered by aluminum compound  
Ryo Tanaka\*, Kaede Yuuya, Hiroki Sato, Peter Eberhardt, Yuushou Nakayama, Takeshi Shiono\*  
*Polym. Chem.*, **7**, 1239-1243 (2016).
- 26) Structure-stereospecificity relationships of propylene polymerization using substituted *ansa*-silylene(fluorenyl)(amido) titanium complexes  
Ryo Tanaka, Chie Yanase, Zhengguo Cai, Yuushou Nakayama, Takeshi Shiono  
*J. Organomet. Chem.*, **804**, 95-100 (2016).
- 25) Facile Synthesis of Novel Polyethylene-Based A-B-C Block Copolymers Containing Poly(methyl methacrylate) Using a Living Polymerization System  
Xiangyang Song, Qiong Ma, Zhengguo Cai, Ryo Tanaka, Takeshi Shiono, Robert B. Grubbs  
*Macromol. Rapid Commun.*, **37**, 227-231 (2016).
- 24) The Preparation of Boron-containing Aluminoxanes and their Application as Cocatalysts in the Polymerization of Olefins  
Ryo Tanaka, Takaaki Hirose, Yuushou Nakayama, Takeshi Shiono  
*Polym. J.*, **48**, 67-71 (2016).
- 23) Room-temperature Suzuki-Miyaura cross-coupling reaction with  $\alpha$ -diimine Pd(II) catalysts  
Fuzhou Wang, Ryo Tanaka, Zhengguo Cai, Yuushou Nakayama, Takeshi Shiono  
*Appl. Organomet. Chem.*, **29**, 771-776 (2015).
- 22) Synthesis of Polystyrene-Grafted Cycloolefin Copolymer  
Ryo Tanaka, Manami Goda, Zhengguo Cai, Yuushou Nakayama, Takeshi Shiono  
*Polymer*, **70**, 252-256 (2015).

21) Stereospecific Ring-Opening Metathesis Polymerization of Norbornene Catalyzed by Ruthenium and Osmium Complexes with Chelating Hetero-Donor Ligands

Yuushou Nakayama, Shingo Okuno, Ryo Tanaka, Zhengguo Cai, Takeshi Shiono

*Kobunshi Ronbunshu*, **72**, 460-467 (2015). (Special issue: Perspectives of precise polymer syntheses)

20) Synthesis of Aliphatic Polyesters via Ring-Opening Polymerization of Macrocyclic Oligoesters

Yuushou Nakayama, Keisuke Sakaguchi, Ryo Tanaka, Zhengguo Cai, Takeshi Shiono

*Macromol. Symp.*, **350**, 7-13 (2015).

19) Ethylene-propylene copolymerization behavior of *ansa*-dimethylsilylene(fluorenyl)

(amido)dimethyltitanium complex: application to ethylene-propylene-diene or ethylene-propylene-norbornene terpolymers

Ryo Tanaka, Issei Kamei, Zhengguo Cai, Yuushou Nakayama, Takeshi Shiono

*J. Polym. Sci. Part A: Polym. Chem.*, **53**, 685-691 (2015).

18) Pseudo-living copolymerization of norbornene and  $\omega$ -alkenylborane - synthesis of monodisperse functionalized cycloolefin copolymer

Ryo Tanaka, Tomomi Ikeda, Yuushou Nakayama, Takeshi Shiono

*Polymer*, **56**, 218-222 (2015).

17) Synthesis and application of  $\alpha$ -diimine Ni(II) and Pd(II) complexes with bulky steric groups to polymerization of ethylene and methyl methacrylate

Fuzhou Wang, Ryo Tanaka, Qingshan Li, Yuushou Nakayama, Jianchao Yuan, Takeshi Shiono

*J. Mol. Catal. A: Chem.*, **398**, 231-240 (2015).

16) Synthesis of Biodegradable Thermoplastic Elastomers from  $\epsilon$ -Caprolactone and Lactide

Yuushou Nakayama, Kazuki Aihara, Hitomi Yamanishi, Hiroshi Fukuoka, Ryo Tanaka, Zhengguo Cai, Takeshi Shiono

*J. Polym. Sci. Part A: Polym. Chem.*, **53**, 489-495 (2015).

15) Synthesis and Properties of Polylactide-based Poly(ester-urethane)s with Ionic Groups

Yuushou Nakayama, Toshitaka Ohmori, Ryo Tanaka, Takeshi Shiono, Hiroyuki Shirahama

*J. Jpn. Inst. Energy*, **93**, 921-925 (2014). (Special Articles: JCREN)

14) Synthesis and Properties of Poly( $\epsilon$ -caprolactone)-based Poly(ester-urethane)s Having Quaternary Ammonium Groups

Yuushou Nakayama, Naoki Matsubara, Ryo Tanaka, Zhengguo Cai, Takeshi Shiono, Hiroyuki Shirahama, Chikara Tsutsumi

*J. Jpn. Inst. Energy*, **93**, 916-920 (2014). (Special Articles: JCREN)

13) New Nickel(II) Diimine Complexes Bearing Phenyl and sec-Phenethyl Groups: Synthesis, Characterization, and Ethylene Polymerization Behaviour

Fuzhou Wang, Jianchao Yuan, Qingshan Li, Ryo Tanaka, Yuushou Nakayama, Takeshi Shiono

*Appl. Organomet. Chem.*, **28**, 477-483 (2014).

- 12) Synthesis of multiblock copolymer of poly(*cis*-1,4-butadiene) and poly(3-buten-1-ol)  
Ryo Tanaka, Yuki Kasai, Masahito Shinzawa, Zhengguo Cai, Yuushou Nakayama, Takeshi Shiono  
*Macromol. Chem. Phys.*, **215**, 1792-1796 (2014).
- 11) Synthesis and their thermal, mechanical, and optical properties of A-B-A or A-B block copolymers containing poly(norbornene-*co*-1-octene)  
Ryo Tanaka, Takuya Suenaga, Zhengguo Cai, Yuushou Nakayama, Takeshi Shiono  
*J. Polym. Sci. Part A: Polym. Chem.*, **52**, 267-271 (2014).
- 10) Copolymerization of Ethylene with Isobutylene and Limonene Catalyzed by Titanium Complexes with Various *ansa*-(Fluorenyl)(alkylamido) Ligand  
Yuushou Nakayama, Yuuichi Sogo, Ryo Tanaka, Zhengguo Cai, Takeshi Shiono  
*Engineering Journal*, **17**, 7-12 (2013). (Special Issue: Renewable Energy and Nanotechnology (JCREN 2012))
- 9) Synthesis and Characterization of Polyesters by Polycondensation of Itaconic Acid and Isosorbide  
Yuushou Nakayama, Keisuke Sakaguchi, Ryo Tanaka, Zhengguo Cai, Takeshi Shiono  
*Koubunshi Ronbunshu*, **70(10)**, 559-564 (2013). (Special issue: Polymers toward a sustainable society)
- 8) Copolymerization of Norbornene with  $\omega$ -Alkenylaluminum as a Precursor Comonomer for Introduction of Carbonyl Moieties  
Jang-Woo Lee, Sasiradee Jantasee, Bunjerd Jongsomsit, Ryo Tanaka, Yuushou Nakayama, Takeshi Shiono  
*J. Polym. Sci. Part A: Polym. Chem.*, **51**, 5085-5090 (2013).
- 7) Synthesis and properties of cationic ionomers from poly(ester-urethane)s based on polylactide  
Yuushou Nakayama, Takamichi Inaba, Yosuke Toda, Ryo Tanaka, Zhengguo Cai, Takeshi Shiono, Hiroyuki Shirahama, Chikara Tsutsumi  
*J. Polym. Sci. Part A: Polym. Chem.*, **51**, 4423-4428 (2013).
- 6) Synthesis of high-molecular weight block copolymers of norbornene and propylene with methyl methacrylate initiated by fluorenylamido titanium complex  
Ryo Tanaka, Yuushou Nakayama, Takeshi Shiono  
*Polym. Chem.*, **4**, 3974-3980 (2013).
- 5) Bis(phenoxy-azo)titanium(IV) Complexes: Synthesis, Structure, and Catalytic Activity in Styrene Polymerization  
Ryo Tanaka, Phillip Viehmann, Stefan Hecht  
*Organometallics*, **31**, 4216-4220 (2012).
- 4) Mechanistic Studies on the Reversible Hydrogenation of Carbon Dioxide Catalyzed by an Ir-PNP Complex  
Ryo Tanaka, Makoto Yamashita, Lung Wa Chung, Keiji Morokuma, Kyoko Nozaki  
*Organometallics*, **30**, 6742-6750 (2011).
- 3) Catalytic Hydrogenation of Carbon Dioxide Using Ir(III)-Pincer Complexes  
Ryo Tanaka, Makoto Yamashita, Kyoko Nozaki  
*J. Am. Chem. Soc.*, **131**, 14168-14169 (2009).  
(Highlighted in *Angew. Chem. Int. Ed.* **49**, 6254-6257 (2010).)

2) Synthesis of  $\alpha$ -Heteroarylpropanoic Acid via Asymmetric Hydroformylation Catalyzed by Rh(I)-(R,S)-BINAPHOS and the Subsequent Oxidation

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