

EDITORIAL

PJ ZEON Award for outstanding papers in *Polymer Journal* 2015

Polymer Journal (2016) 48, 665–666; doi:10.1038/pj.2016.40

The three winners of the 2015 PJ ZEON Award have been announced by the Society of Polymer Science Japan (SPSJ) as follows:

Tomoyuki Ikai (Kanazawa University, Japan) for the contribution ‘Synthesis of polyisocyanides bearing oligothiophene pendants: higher-order structural control through pendant framework design’, Vol. 47, No. 9, 2015.

Shingo Ito (The University of Tokyo, Japan) for the contribution ‘Formal aryne/ethylene copolymerization to form polyethylene containing *o*-arylene units in the main chain’, Vol. 47, No. 7, 2015.

Takaya Terashima (Kyoto University, Japan) for the contribution ‘Single-chain crosslinked star polymers via intramolecular crosslinking of self-folding amphiphilic copolymers in water’ Vol. 47, No. 10, 2015.

Ikai, Ito and Terashima received their award certificates and medals at an award ceremony held in conjunction with the SPSJ annual meeting in May 2016 in Kobe. Each winner also received a cash prize of 300 000 Japanese yen and gave an invited talk based on their respective papers.

On behalf of the editors and editorial board of *Polymer Journal*, I wish to congratulate Ikai, Ito and Terashima on this honor in recognition of their excellent papers.^{1–3} I hope the award will provide encouragement to these young researchers for their bright future careers. Academic profiles of the winners can be found below this announcement.

The PJ ZEON Award started since 2005 as the successor of The PJ Paper Award, which started since 1992.

This PJ ZEON Award is open to all of the first author of papers published in *Polymer Journal*.⁴ We are looking forward to receiving your submission papers and many applications for the 2016 PJ ZEON Award. Each year, the SPSJ selects up to three most outstanding papers published by young authors in *Polymer Journal*, as recommended by the selection committee and board of directors of the SPSJ. Those who are interested should go to the SPSJ website (<http://main.spsj.or.jp/>) for further information. Finally, we express our sincere appreciation to Zeon Corporation for their generous sponsorship of this award.

Takashi Kato
Editor-in-Chief

The University of Tokyo, Tokyo, Japan
E-mail: hpj@spsj.or.jp

- 1 Ikai, T., Takagi, Y., Shinohara, K., Maeda, K. & Kanoh, S. Synthesis of polyisocyanides bearing oligothiophene pendants: higher-order structural control through pendant framework design. *Polym. J.* **47**, 625–630 (2015).
- 2 Ito, S., Wang, W. & Nozaki, K. Formal aryne/ethylene copolymerization to form polyethylene containing *o*-arylene units in the main chain. *Polym. J.* **47**, 474–480 (2015).
- 3 Terashima, T., Sugita, T. & Sawamoto, M. Single-chain crosslinked star polymers via intramolecular crosslinking of self-folding amphiphilic copolymers in water. *Polym. J.* **47**, 667–677 (2015).
- 4 Kato, T. PJ ZEON Award for outstanding papers in *Polymer Journal* 2014. *Polym. J.* **47**, 413–414 (2015).



Tomoyuki Ikai received his PhD degree (2008) from Nagoya University under the supervision of Professors Yoshio Okamoto and Masami Kamigaito. He joined Nagoya University as Assistant Professor in 2008. In 2009, he moved to Kanazawa University as an assistant professor and was promoted to an associate professor in 2014. His current research concerns the development of chiral functional materials, such as chiral stationary phases and circularly polarized luminescence materials.

About the award article: The authors reported a higher-order structural control of L-alanine-based polyisocyanides bearing oligothiophene (OT) pendants. In the course of a systematic modulation of the pendant framework design, it was found that the polyisocyanide bearing quinquethiophene units with two *n*-hexyl chains successfully formed a right-handed helical conformation with a twisted array of the OT pendants biased by the chirality of the L-alanine residues. This study revealed that the simultaneous interactions of the π - π stacking between the OT pendants and the hydrogen bonding between the pendant amide groups are required to arrange the OT pendants into the helically-twisted fashion.



Shingo Ito received his PhD degree in 2008 from the University of Tokyo under the supervision of Professor Eiichi Nakamura. During that time, he joined the group of Professor Scott E Denmark at University of Illinois at Urbana–Champaign and the group of Professor Masaharu Nakamura at Kyoto University as a predoctoral researcher. In 2008, he moved to the Graduate School of Engineering at the University of Tokyo as an assistant professor. His research interests include the development of novel synthetic methods for functional polymers and aromatic compounds.

About the award article: The authors reported the palladium-catalyzed copolymerization of [2.2.1]oxabicyclic alkenes as aryne equivalents with ethylene to form polyethylenes containing *o*-arylene units in the main chain. The use of bulky alkylphosphine–sulfonate ligands was essential to obtain the desired aryne/ethylene copolymers with high molecular weights and efficient incorporation of *o*-arylene units. The obtained copolymers exhibited excellent thermal properties comparable with linear low-density polyethylenes. This study provides a novel efficient method for the synthesis of functional polyethylene materials.



Takaya Terashima received his PhD degree in polymer chemistry in 2007 from Kyoto University (supervisor: Professor M Sawamoto) and immediately joined as an assistant professor, the faculty of the Department of Polymer Chemistry, Graduate School of Engineering, Kyoto University. From 2009 to 2010, he was a visiting researcher at Eindhoven University of Technology with Professor EW (Bert) Meijer. His research broadly encompasses precision synthesis and functions of designed polymers, with over 60 papers in high-impact journals and international recognitions including: the Award for Encouragement of Research in Polymer Science, the Society of Polymer Science, Japan (2012); the 26th Special Lecture Award for Young Researchers, the Chemical Society of Japan (2012); and the 26th Inoue Research Award for Young Scientists (2010).

About the award article: The awardee reported the synthesis of single-chain cross-linked star polymers consisting of multiple hydrophilic poly(ethylene glycol) (PEG) arms and a hydrophobic core. The double-layered stars are derived from amphiphilic random copolymers of PEG, alkyl and olefin-carrying methacrylates by living radical polymerization. In water, the ternary copolymers self-folded into unimer micelles with the PEG pendants outside and the alkyl and olefin moieties inside. The inner core was subsequently cross-linked to provide the single-chain core-patched star polymers with precision tertiary (self-folded) structures featured by thermo-responsiveness and selective molecular encapsulation.