



PJ ZEON Award for outstanding papers in *Polymer Journal* 2018

Keiji Tanaka, Editor-in-Chief¹

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The three winners of the 2018 PJ ZEON Award have been announced by the Society of Polymer Science Japan (SPSJ) as follows:

Kazutoshi Iijima (Yokohama National University, Japan) for the contribution “*Selective Fabrication of Hollow and Solid Polysaccharide Composite Fibers Using a Microfluidic Device by Controlling Polyion Complex Formation*”, Vol.50, No.12, 2018.

Hiroaki Imoto (Kyoto Institute of Technology, Japan) for the contribution “*Self-association Behavior of Amphiphilic Molecules Based on Incompletely Condensed Cage Silsesquioxanes and Poly(ethylene glycol)s*”, Vol. 50, No. 4, 2018.

Yuya Oaki (Keio University, Japan) for the contribution “*Emergence of Temperature-Dependent and Reversible Color-Changing Properties by the Stabilization of Layered Polydiacetylene through Intercalation*”, Vol. 50, No. 4, 2018.

Drs. Iijima, Imoto, and Oaki received their award certificates and medals at an award ceremony held in conjunction with the SPSJ annual meeting in May 2019 in Osaka. Each winner also received a cash prize of 300,000 JP yen and gave an invited talk based on their respective papers.

On behalf of the editors and editorial board members of *Polymer Journal*, I wish to congratulate Drs. Iijima, Imoto, and Oaki 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] who is under 38 years of age. We are looking forward to receiving your submissions papers and many applications for the 2019 PJ ZEON Award.

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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/c5/pj/pj.htm>) for further information. Finally, we express our sincere appreciation to Zeon Corporation for their generous sponsorship of this award.

About the winners



Kazutoshi Iijima

Kazutoshi Iijima received Ph.D. degree in 2009 from Keio University under the supervision of Professor Toshi-nori Sato. He was a postdoctoral fellow (2009–2013) in the laboratory of Dr. Nobutaka Kiyokawa at the National Research Institute for Child Health and Development and an assistant professor (2013–2018) in the laboratory of Professor Mineo Hashizume at Tokyo University of Science. In 2018, he moved to Yokohama National University as a tenure-track associate professor. His research interests focus on biomaterials for regenerative medicine.

About the award article: The authors reported the fabrication of hollow and solid fibers made of polyion complexes of chondroitin sulfate C (CS) and chitosan (CHI) using a co-axial two-phase microfluidic device. CHI and CS solutions were infused into the core and sheath channels, respectively. Hollow fibers were obtained by using water as the solvent of CS, while solid fibers were obtained by using 20% ethanol. Diameter and of the fibers are controllable by changing preparative conditions. Furthermore, model proteins could be incorporated in the hollow and solid fibers by mixing them in core flow solutions.



Hiroaki Imoto

Hiroaki Imoto received his Ph.D. from Kyoto University in 2012. He was a JSPS research fellow in the group of Prof. Yoshiki Chujo at Kyoto University (2009–2012). In 2012, he joined Display Materials Research Laboratories of JSR corporation. In 2014, he started his academic carrier at Kyoto Institute of Technology as an assistant professor, and was promoted to an associate professor in 2019. His research interests cover organic-inorganic hybrid molecules, polymers, and supramolecules.

About the award article: The authors developed a novel class of amphiphilic molecules based on open-cage silsesquioxanes, denoted as IC-POSS (incompletely condensed polyhedral oligomeric silsesquioxane). The structure-properties relationship of the IC-POSS molecules was examined in detail; thermal properties, size of micelles, lower critical solution temperature, etc. The amphiphilic IC-POSSs formed micelles in water with high dispersibility, independent of the substituents on the POSS cores. This contrasts with the behavior of conventional closed-cage silsesquioxane molecules. Importantly, the IC-POSS cores showed high thermal stability

comparable to the closed-cage analogues, while their crystallinity was significantly lowered.



Yuya Oaki

Yuya Oaki received his Ph.D. in 2006 from Keio University under the supervision of Prof. Hiroaki Imai. Then, he joined the group of Prof. Takashi Kato at the University of Tokyo as a JSPS postdoctoral fellow 2007–2008. His current research interest is nanoscale morphology control of conjugated polymer materials, stimulus-responsive organic layered materials, and inorganic nanosheets.

About the award article: The authors reported stimuli-responsive color-change properties of layered polydiacetylene (PDA). PDA derivatives show color change with application of external stimuli, such as heating and mechanical stress. The authors has focused on the layered crystal structure of PDA and its intercalation chemistry. The color-change properties are tuned by the types of the interlayer guests. The original layered PDA shows the irreversible color transition from blue to red with heating at the threshold temperature. The award article shows that the diamine-intercalated PDA induced the different color-change properties, such as the raise of the color-transition temperature, temperature-dependent color-change, and reversible color change. The color-change behavior gradually varied as the alkyl chain length increased. The results suggest that the stimuli-responsive color-change properties of layered PDA can be tuned by the softness and rigidity using the intercalated guests.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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