

## Kenichi Oyaizu

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### Education

1990 – 1995 Ph. D. Waseda University (Chemistry)  
1986 – 1990 B. S. Waseda University (Chemistry)

### Professional Career

2012.04 – present Professor, Department of Applied Chemistry, Waseda University  
2007.04 – 2012.03 Associate Professor, Waseda University  
2003.10 – 2007.03 Associate Professor, Institute of Colloid & Interface Science, Tokyo University of Science  
1997.04 – 2003.09 Lecturer, Waseda University  
1995.04 – 1997.03 Assistant Professor, Waseda University

### Research Interests

Polymer synthesis; Functional polymers for electronic devices; Multi-electron redox processes

### Recent Selected Publications:

1. Sukegawa, T.; Sato, K.; Oyaizu, K.; Nishide, H. “Efficient Charge Transport of a Radical Polyether/SWCNT Composite Electrode for an Organic Radical Battery with High Charge-storage Density”, *RSC Adv.* **2015**, *5*, 15448 – 15452.
2. Sukegawa, T.; Masuko, I.; Oyaizu, K.; Nishide, H. “Expanding the Dimensionality of Polymers Populated with Organic Robust Radicals Toward Flow Cell Application: Synthesis of TEMPO-crowded Bottlebrush Polymers Using Anionic Polymerization and ROMP”, *Macromolecules* **2014**, *47*, 8611 – 8617.
3. Tokue, H.; Oyaizu, K.; Sukegawa, T.; Nishide, H. “TEMPO/viologen Electrochemical Heterojunction for Diffusion Controlled Redox Mediation: A Highly Rectifying Bilayer-sandwiched Device Based on Cross Reaction at Interface between Dissimilar Redox Polymers”, *ACS Appl. Mater. Interfaces* **2014**, *6*, 4043 – 4049.
4. Oyaizu, K.; Ikeda, H.; Hayo, N.; Kato, F.; Nishide, H. “Ionic Liquid-inspired Redox Shuttles: Properties of a Ferrocenylimidazolium Salt as an Efficient Mediator for Dye-sensitized Solar Cell”, *Chem. Lett.* **2014**, *43*, 1134 – 1136.
5. Kato, R.; Kato, F.; Oyaizu, K.; Nishide, H. “Redox-active Hydroxy-TEMPO Radical Immobilized in Nafion Layer for an Aqueous Electrolyte-based and Dye-sensitized Solar Cell”, *Chem. Lett.* **2014**, *43*, 480 – 482.
6. Sukegawa, T.; Omata, H.; Masuko, I.; Oyaizu, K.; Nishide, H. “Anionic Polymerization of 4-Methacryloyloxy-TEMPO Using an MMA-capped Initiator”, *ACS Macro Lett.* **2014**, *3*, 240 – 243.
7. Chae, I. S.; Koyano, M.; Sukegawa, T.; Oyaizu, K.; Nishide, H. “Redox Equilibrium of a Zwitterionic Radical Polymer in a Non-aqueous Electrolyte for Novel Li<sup>+</sup> Host Material in a Li-ion Battery”, *J. Mater. Chem. A* **2013**, *1*, 9608 – 9611.
8. Sukegawa, T.; Kai, A.; Oyaizu, K.; Nishide, H. “Synthesis of Pendant Nitronyl Nitroxide Radical-containing Poly(norbornene)s as Ambipolar Electrode-active Materials”, *Macromolecules* **2013**, *46*, 1361 – 1367.
9. Sano, N.; Tomita, W.; Hara, S.; Min, C. -H.; Lee, J. -S.; Oyaizu, K.; Nishide, H. “Polyviologen Hydrogel with High-rate Capability for Anodes toward an Aqueous Electrolyte-type and Organic-based Rechargeable Device”, *ACS Appl. Mater. Interfaces* **2013**, *5*, 1355 – 1361.
10. Choi, W.; Endo, S.; Oyaizu, K.; Nishide, H.; Geckeler, K. E. “Robust and Efficient Charge Storage by Uniform Grafting of TEMPO Radical Polymer around Multi-walled Carbon Nanotubes”, *J. Mater. Chem. A* **2013**, *1*, 2999 – 3003.
11. Chae, I. -S.; Koyano, M.; Oyaizu, K.; Nishide, H. “Self-doping Inspired Zwitterionic Pendant Design of Radical Polymers toward a Rocking-chair-type Organic Cathode-active Material”, *J. Mater. Chem. A* **2013**, *1*, 1326 – 1333.