

**Characteristics of polymer solar cells with novel  
electron-accepting materials featuring improved  
light-harvesting**

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Organic solar cells have been extensively studied because of their potential for cheap electricity generation from solar light. Compared to all-small molecule based solar cells, polymer solar cells have advantages in terms of low-cost large area production and better flexibility. To date, in-depth researches have been carried out for the development of electron-donating polymers, leading recently to ~7% power conversion efficiency. However, only few research groups are trying to develop electron-accepting materials. Hence we have attempted to synthesize new electron-accepting materials in order to improve the optical absorption in the near infrared region. In this presentation, we discuss the characteristics of polymer solar cells made using newly synthesized electron-accepting materials which possess capability in extending the light-harvesting property towards near IR regions of solar spectrum.