

Abstract Submitted
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Single Electron Transport of Oligothiophene molecules¹ TOSHI-FUMI TERUI, National Institute of Information and Communications Technology, YUTAKA NOGUCHI, Center of Frontier Science, Chiba University, TAKUYA KATAYAMA, MICHIO M. MATSUSHITA, Grad. Sch. of Arts and Sci, University of Tokyo, RIEKO UEDA, National Institute of Information and Communications Technology, TADASHI SUGAWARA, Grad. Sch. of Arts and Sci, University of Tokyo — We examined the fabrication of single-electron transistors (SETs) with oligothiophene derivative or Au nano particle covered with oligothiophene as Coulomb island. The SET device was consisted of a nanogap electrode, a molecular Coulomb island, and back gate electrode. The nanogap electrode was fabricated by the electromigration method. We could obtain the SET characteristics from the electron transport properties of both devices at 11K. Spectra that owing to a molecule was obtained in the electric transport properties of these devices. Moreover, we could obtain the SET characteristics in some devices.

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