

Abstract

"Field-effect transistors based on monocrystals of conjugated oligomers"

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The aim of this work is to study the electrical properties of single crystals of 4 thiophene-phenylene molecules with the same core and different terminal substituents in the geometry of the field-effect transistor. To achieve this goal, the following tasks were carried out: single crystals were grown on the basis of each compound; organic field-effect transistors are created on the basis of these single crystals; for fabricated devices, their current-voltage characteristics were measured; based on the measured current-voltage characteristics, the electrical properties of single crystals are determined. The differences in the mobility of charge carriers of single crystals are explained by the difference in molecular packing.