

Surface-directed Molecular Assembly in Organic Electronics

Kilwon Cho

Department of Chemical Engineering, Pohang University of Science and Technology,
Pohang 37673, Korea
Email: kwcho@postech.ac.kr

Microstructure in organic semiconductor thin films has been regarded as the key factor determining the performance of the organic electronics. In the case of organic field effect transistors (OFETs) and organic photovoltaics (OPVs), the control of the surface characteristics of underlying substrates can govern the mesoscale and/or nanoscale ordering of the semiconductor assembled on them. Here, we present various approaches for controlling the growth of organic semiconductors on gate dielectrics and electrodes to achieve high performance OFETs and OPVs.

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