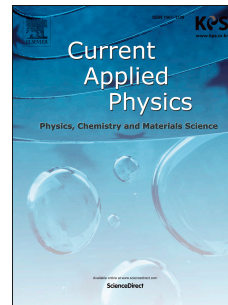


# Accepted Manuscript

Enhanced ambipolar charge transport in staggered carbon nanotube field-effect transistors for printed complementary-like circuits

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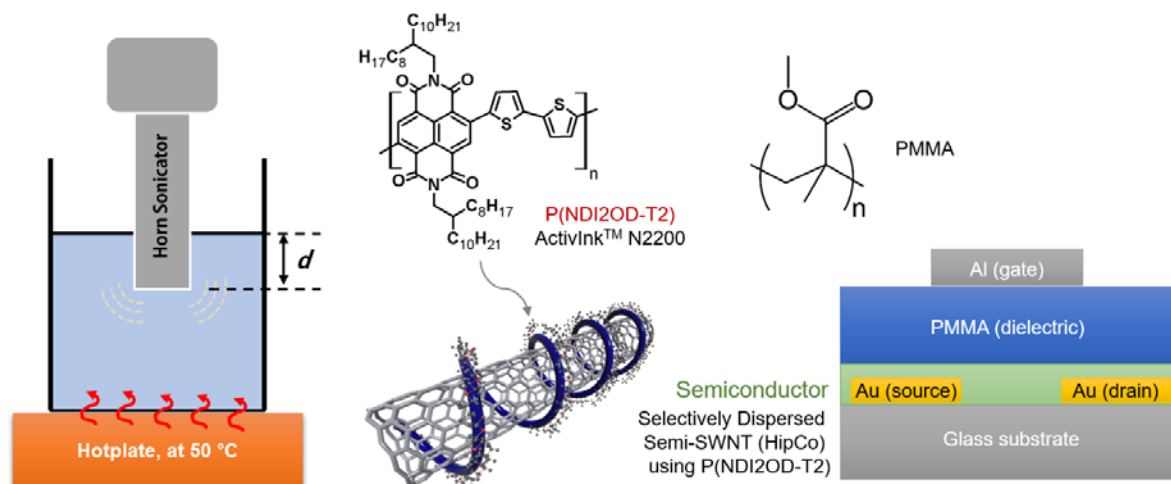
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Highlight for review

Enhanced ambipolar charge transport characteristics of the semi-SWNT field-effect transistors (FETs) based on a top-gated staggered device structure. The sorted semi-SWNTs solution was used simply to form a well-percolated CNT-network, and the top-gate and bottom-contact FETs showed relatively high and equivalent electron and hole mobilities with very high on/off-current ratios and steep subthreshold slopes. A reliable complementary-like electronic circuit based on the equivalent ambipolar charge transport behavior of semi-SWNTs. The inverters showed a good switching threshold near the ideal point at half the driving bias, high gain, low hysteresis, and stability under repeatable operating conditions.

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