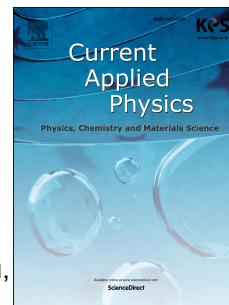


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Pentacene as a hole transport material for high performance planar perovskite solar cells

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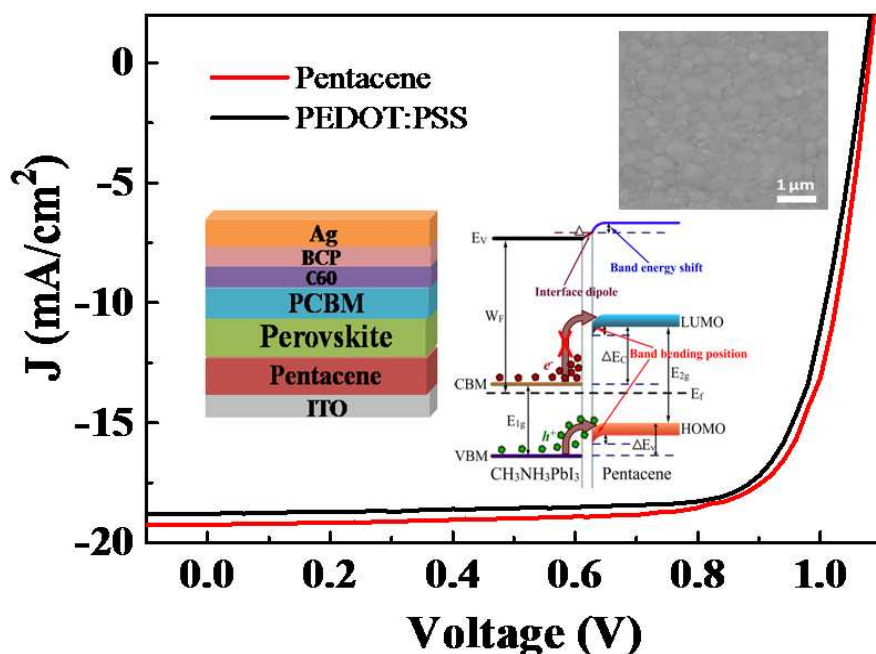
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A cost-effective and efficient organic semiconductor pentacene was developed as a hole transport layer material to substitute classical PEDOT:PSS for planar perovskite solar cells. The pentacene based device exhibits the comparable performance to the PEDOT:PSS based device, which is mainly attributed to the high-efficiency charge extraction derived from the high-quality perovskite film and favorable energy-level alignment together with a desired downward band bending.

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