

Catching light with Organic Photovoltaics

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The development of organic electronic conductors over the last four decades has given us doped metallic polymers with conductivities >4000 S/cm. Semiconducting polymers with controlled band gap and optical absorption properties and with mobility above 1 cm²/Vs are developed. Photovoltaic energy conversion with organic devices has reached 13% power conversion efficiency, and the energy payback time of these devices under sunlight are months, one order of magnitude faster than for inorganic materials in solar cells. The outcomes of these developments are relevant for catching sunlight to generate electricity on a global scale.