



Organic and Polymeric Thin Film Materials for Solar Cells

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Message from the Guest Editor

The massive consumption of traditional fossil energy has caused serious resource depletion and environmental pollution. One of the most urgent solutions is to find alternative renewable energy sources. Solar energy stands out because it is environmentally friendly and not subject to geographical restrictions. Solar cells are one of the most effective ways to use solar energy. Organic and polymeric solar cells have many competitive advantages, including convenient material chemical structure fine tuning, frontier orbitals (HOMOs and LUMOs), energy gap, material durability, as well as the low cost and versatility of solution-based large-scale industrial processing and manufacturing, including sophisticated polymer solution printing technology or roll-to-roll (R2R) film processing protocols. In addition, organic and polymeric semiconductors exhibit higher light absorption coefficients than their inorganic counterparts, which opens up possibilities for the production of extremely thin solar panels or films that can save a lot of material. The aim of this Special Issue is to highlight the progress and phenomena related to organic and polymeric thin film materials for solar cells.





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