



Printable Thin Film Organic/Perovskite Solar Cells: From Materials to Device Stability

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■ Printing has been considered as the most power technology for precision additive manufacturing of organic electronics. In Suzhou Institute of Nano-Tech and Nano-Bionics (SINANO), the printed photovoltaic research group has been working on printing process for organic/perovskite solar cells for several years. With the efforts we have made, we are now able to print transparent silver nanowires (AgNW) electrode with highly balanced conductivity and transparency,[1,2,3] highly conductive ZnO interfacial materials to smooth the interface charge transport and injection[4], as well as the photoactive layer with favorable nanophase separation[5], and a highest power conversion efficiency of over 17% was successfully achieved for 1 cm² flexible PET substrate. By proper interfacial protection, degradation of OPVs can also be minimized, yielding a T_{80} over 25,000 hours.[6] In this presentation, I will give a brief introduction on these recent achievements.

■ References

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