



# On the ultrathin gold film used as buffer layer at the transparent conductive anode/organic electron donor interface

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Résumé en anglais	<p>Previously, we have shown that a gold thin film of only 0.5 nm introduced at the interface between the indium tin oxide or ZnO anode and the organic electron donor in organic photovoltaic cells induces a strong improvement of the cell efficiency. Of course a thickness of 0.5 nm corresponds only to an averaged thickness, the films being too thin to be continuous. For a clear understanding of the physical mechanisms that are responsible for this improved behaviour, it is important to know the fractional coverage and the island height of this thin Au film. In the present work, we have used two different techniques, such as treated scanning electron microscope images and analysis of the inelastic part of peaks of X-ray photoelectron spectroscopy spectra, to estimate the gold coverage and island height of the transparent conductive anode. There is an excellent agreement between the results achieved by both methods. Only 15% of the anode is covered, which proves the high efficiency of gold as an anode buffer layer in organic photovoltaic devices.</p>
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- [4] <http://okina.univ-angers.fr/c.bernede/publications>
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