

**Solution Processable Broadband Transparent Mixed Metal Oxide
Nanofilm Optical Coatings via Substrate Diffusion Doping**

Colm Glynn^{a,b}, Damien Aureau^c, Gillian Collins^{a,d}, Sally O'Hanlon^a, Arnaud Etcheberry^c,
and Colm O'Dwyer^{a,b*}

^aDepartment of Chemistry, University College Cork, Cork, T12 YN60, Ireland

*^bMicro-Nano Systems Centre, Tyndall National Institute, Lee Maltings, Cork, T12 R5CP,
Ireland*

*^cCentre de Spectroscopie, Institut Lavoisier de Versailles, Université de Versailles Saint
Quentin-en-Yvelines, 78035 Versailles Cedex, France*

^dAMBER@CRANN, Trinity College Dublin, Dublin 2, D02 PN40, Ireland

Supporting Information

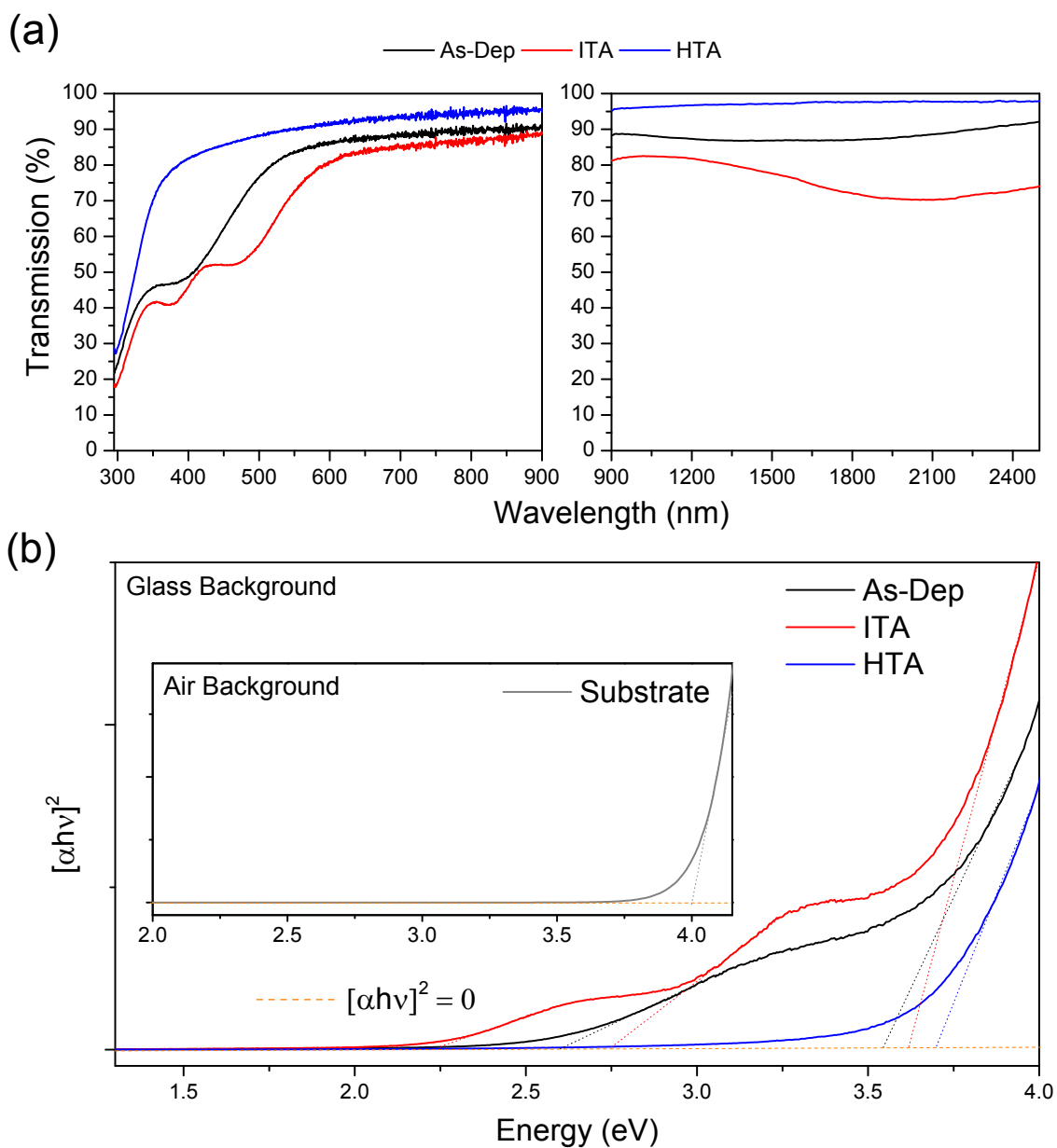


Figure S1. UV-Vis transmission spectra of the As-Dip, ITA and HTA samples using the glass substrate as the 100% transmission background.

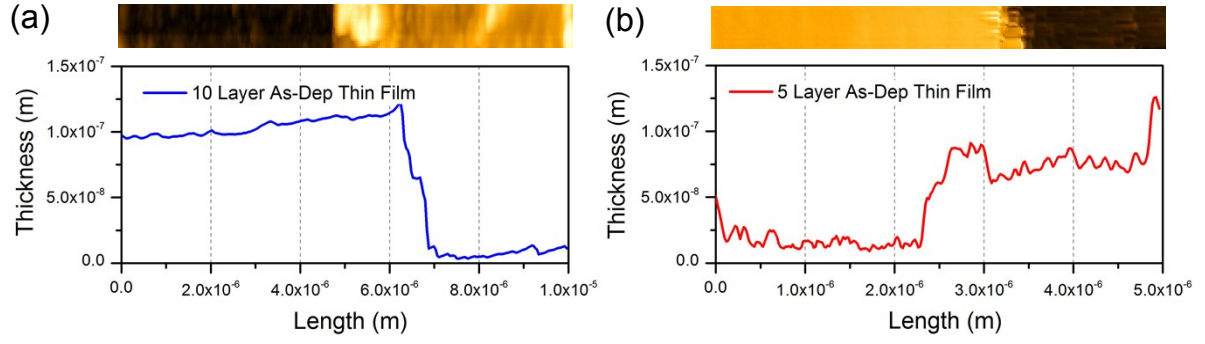


Figure S2. Plot of thickness profile and corresponding AFM image for (a) 10 layer and (b) 5 layer As-Dop thin films on glass substrates measured using AFM

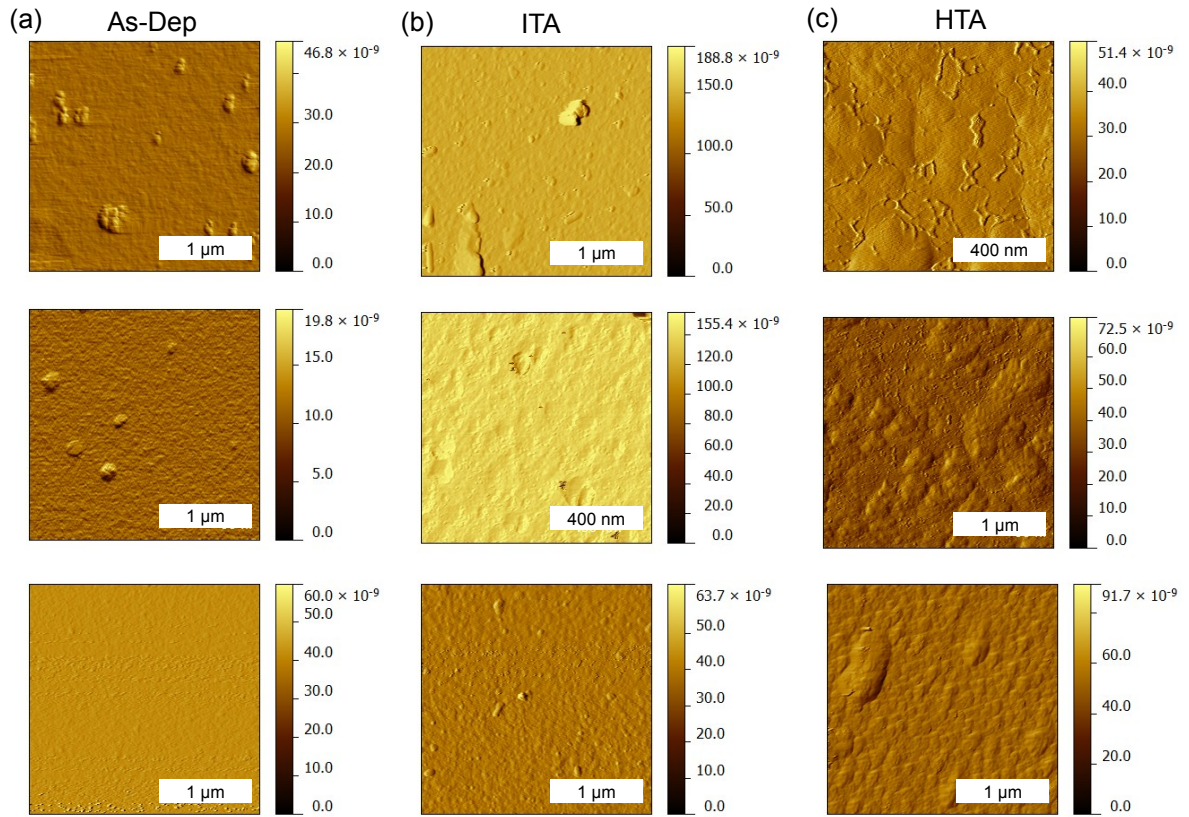


Figure S3. AFM images of the surface for (a) As-Dop, (b) ITA and (c) HTA samples.

As-Dep			
	LTA	ITA	HTA
1 hour			
5 hours			
10 hours			
24 hours			
48 hours			
72 hours			

Figure S4. Optical images of the As-Dep, LTA, ITA and HTA samples over time showing the changes to transparency of the samples due to diffusion effects.

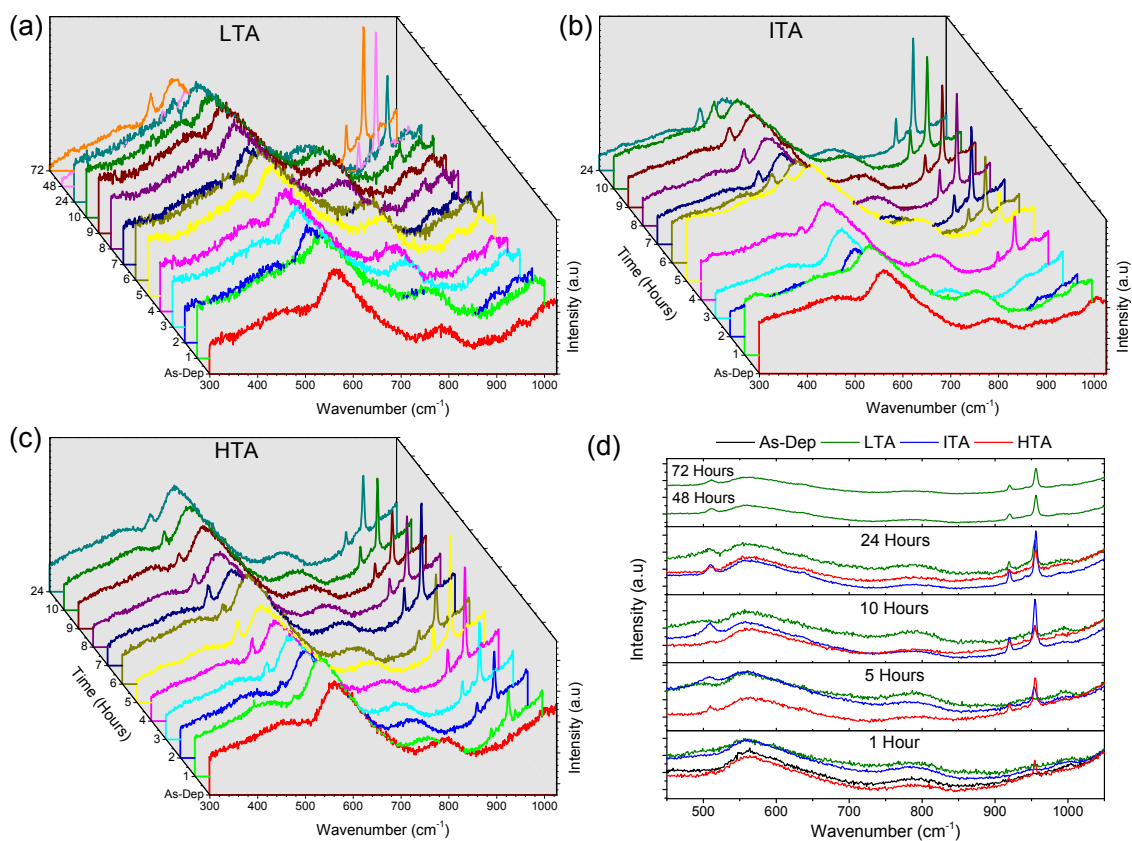


Figure S5. Time dependent Raman scattering spectroscopy for the (a) LTA, (b) ITA and (c) HTA samples. (d) Comparison between the Raman scattering spectra of the different samples at different of thermal treatment times.