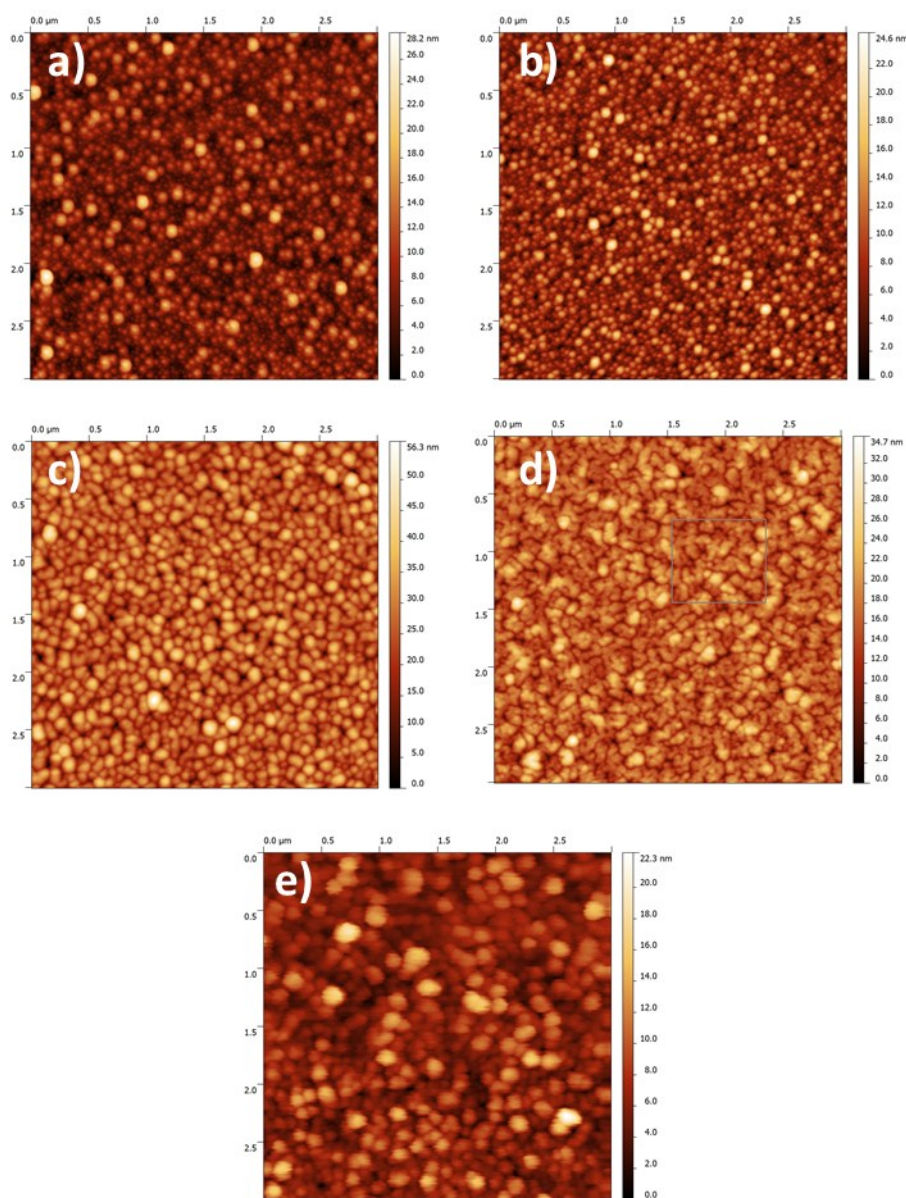


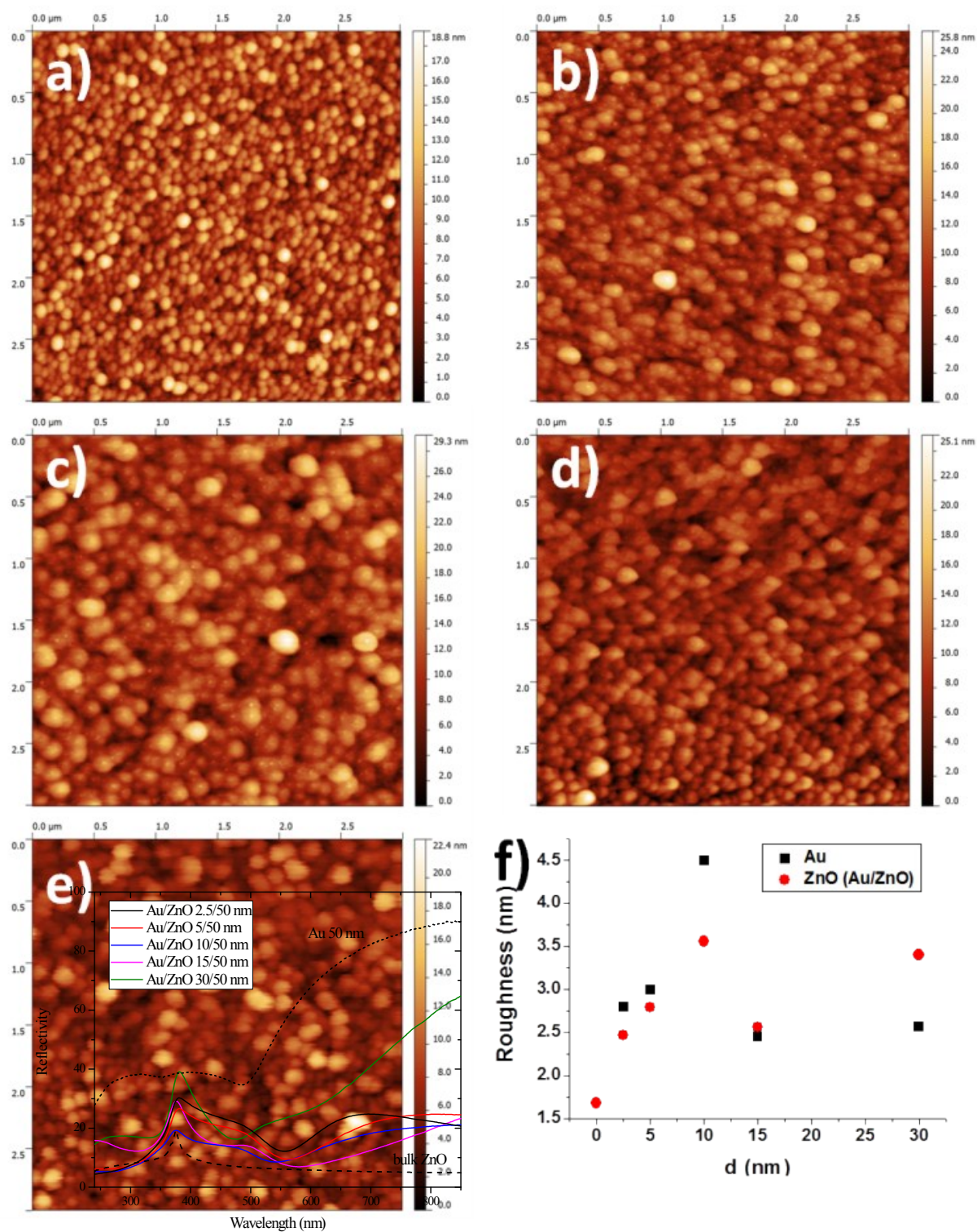
## Supporting Information

### The role of localized plasmons on the optical properties of Au/ZnO nanostructures

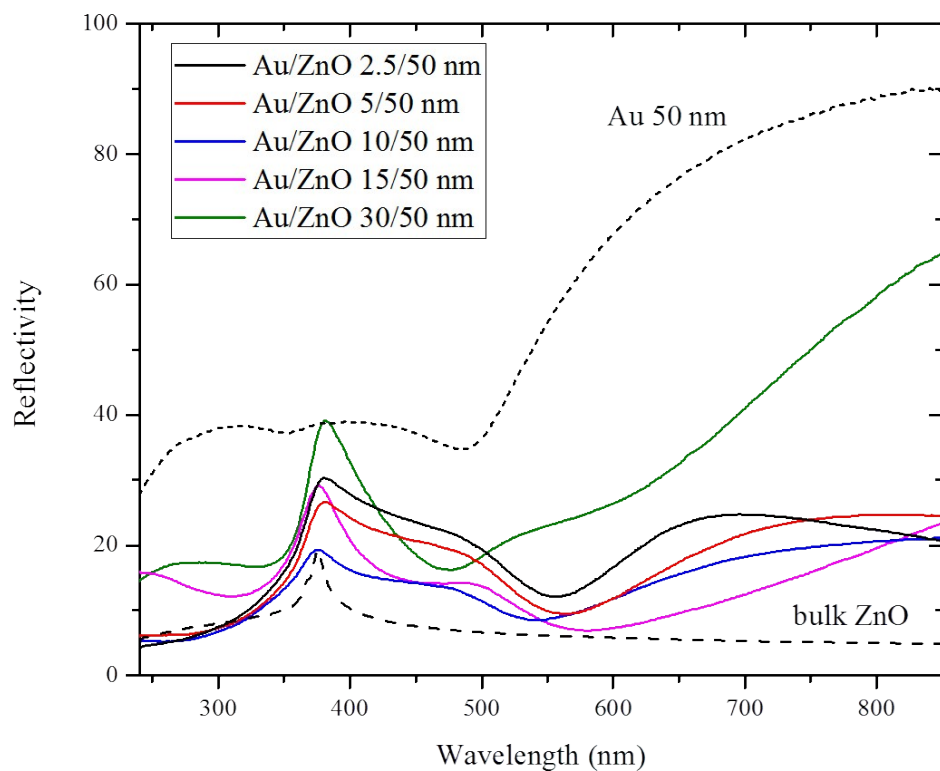
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**Figure S11.** AFM of Au layers with different thickness: a) 2.5 nm, b) 5 nm, c) 10 nm, d) 15 nm and e) 30 nm



**Figure S12** AFM of Au-ZnO nanocomposites with different Au thickness: a) 2.5-50 nm, b) 5-50 nm, c) 10-50 nm, d) 15-50 nm and e) 30-50 nm; f) Roughness dependence as a function of the Au film thickness



**Figure S13.** UV-VIS reflection spectra of Au-ZnO nanostructures with different Au thicknesses. Dashed and dotted curves present, for a comparison absorption spectra of bulk ZnO and Au (~50 nm).