Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Information

Oxide Planar *p-n* Heterojunction Prepared by Low Temperature Solution Growth for UV-Photodetector Application

O. Lupan,*[a,b] S. Koussi-Daoud,[a] B. Viana,[a] T. Pauporté*[a]

[a] Institut de Recherche de Chimie Paris, UMR8247, PSL Research University, Chimie ParisTech, CNRS, 11 rue P. et M. Curie, 75231, Paris, cedex 05, France.
[b] Department of Microelectronics and Biomedical Engineering, Technical University of Moldova, 168 Stefan cel Mare Blvd., MD-2004, Chisinau, Republic of Moldova

E-mails : thierry.pauporte@chimie-paristech.fr; lupanoleg@yahoo.com

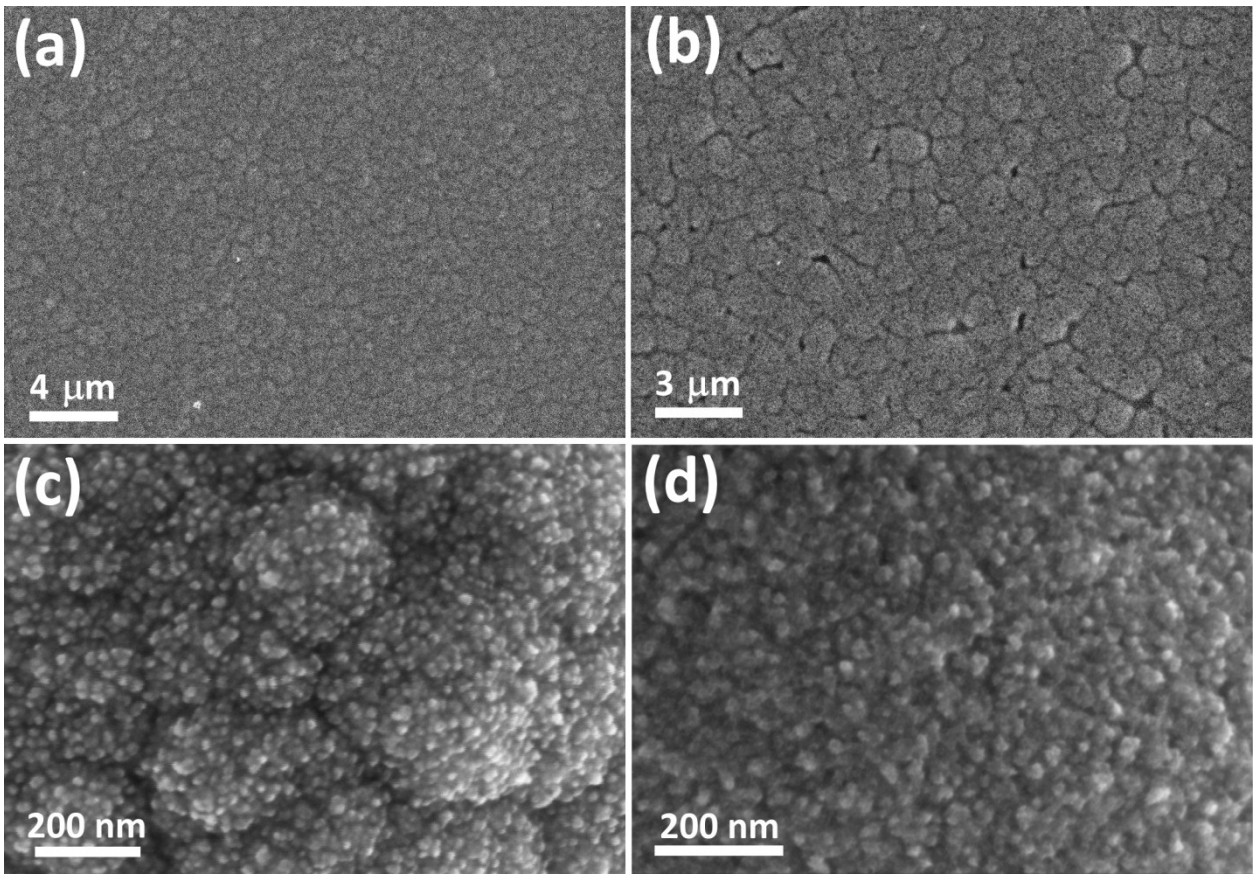

Figure S1. SEM top-view images of the NiO deposited layer on ZnO/FTO/glass substrate at different magnifications.

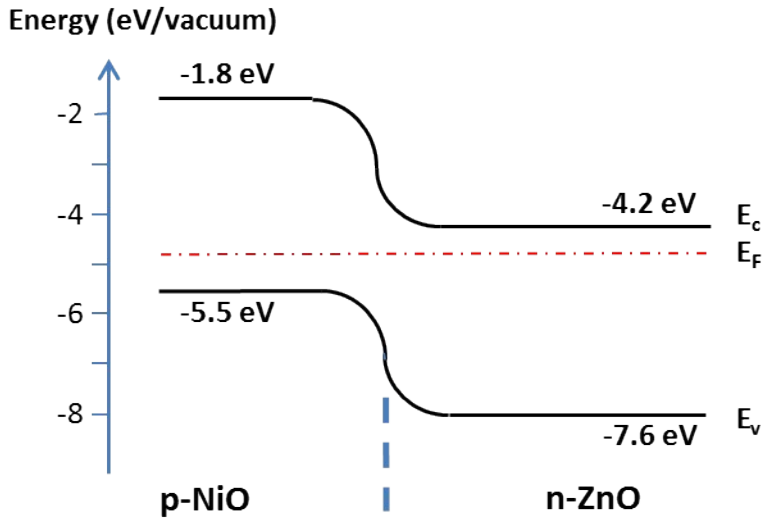

Figure S2. Schematic energy band diagram of *p*-NiO/*n*-ZnO heterojunction at equilibrium.

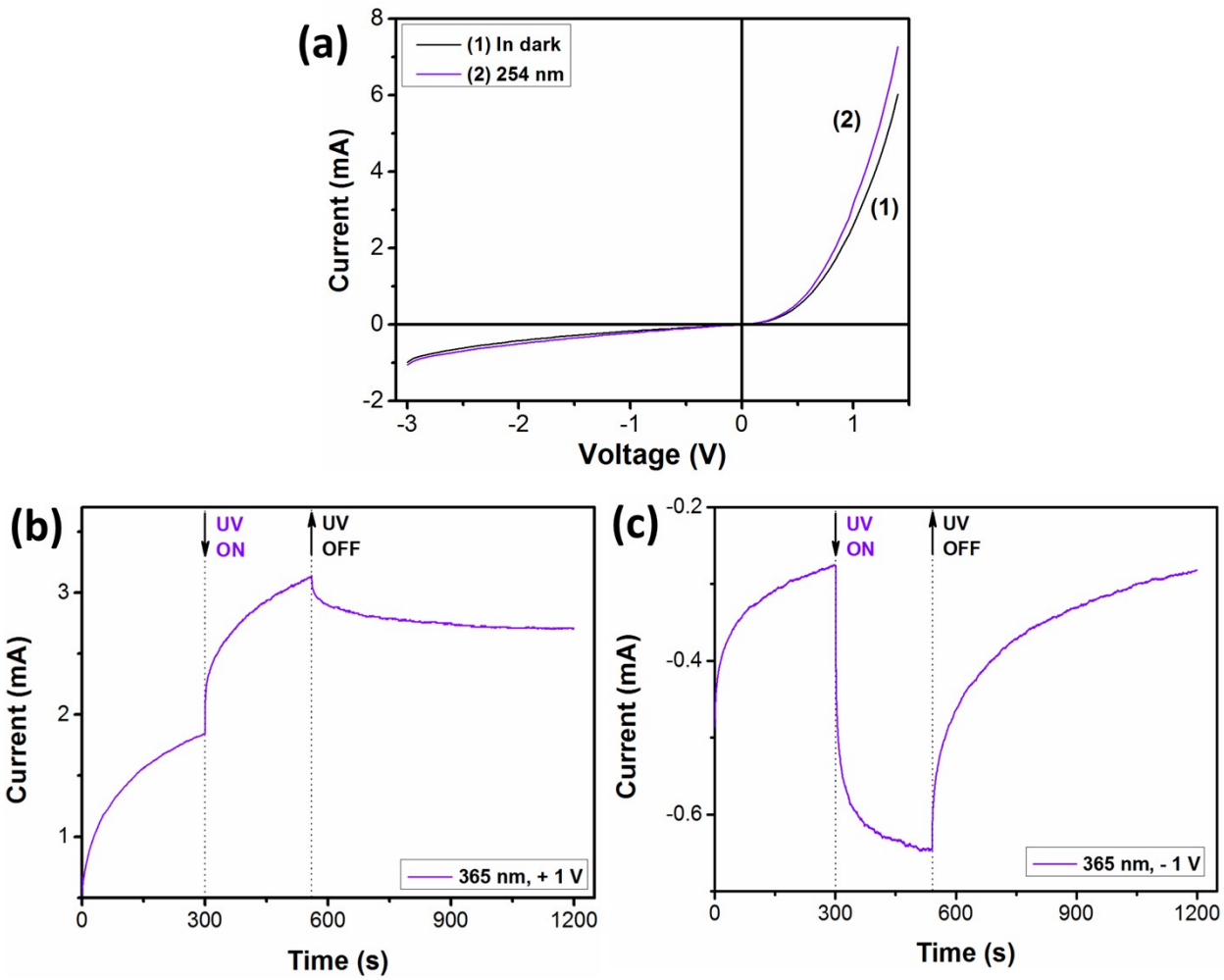

Figure S3. (a) Typical current-voltage characteristics of the *p*-NiO/*n*-ZnO heterostructure based device in the dark and under UV illumination (λ = 254 nm). (b,c) Transient UV (λ = 365 nm) response at lower intensity at (b) + 1 V and (c) – 1 V applied voltage bias.