

Electronic supplementary information

Vanadium-doped TiO₂ anatase nanostructures: role of V in solid solution formation and their effect on the optical properties

W. Avansi Jr.^{a*}, R. Arenal^{b,c}, V. R. de Mendonça^d, C. Ribeiro^e and E. Longo^f

^a Departamento de Física, Universidade Federal de São Carlos - UFSCar, P.O. Box 676, CEP, 13565-905 São Carlos, São Paulo, Brasil.

^b Laboratorio de Microscopias Avanzadas (LMA), Instituto de Nanociencia de Aragon (INA), Universidad de Zaragoza, Calle Mariano Esquillor, 50018 Zaragoza, Spain.

^c ARAID Foundation, Calle Mariano de Luna, 50018 Zaragoza, Spain.

^d – Departamento de Química, Universidade Federal de São Carlos - UFSCar, São Carlos, Brasil.

^e – Laboratório Nacional de Nanotecnologia aplicada ao Agronegócio - LNNA, Embrapa Instrumentação, 13560-970-São Carlos, SP, Brasil.

^f - Instituto de Química, Universidade Estadual Paulista, Araraquara, São Paulo, Brasil.

* Corresponding author: Tel.: +55 16 3351 9753.

E - mail: w_avansi@yahoo.com.br.

Figure S1. Mean size distribution of the as-obtained V_xTi_{1-x}O₂ samples: (a) TiO₂ (pristine); (b) V_{0.04}Ti_{0.96}O₂; (c) V_{0.07}Ti_{0.93}O₂; (d) V_{0.16}Ti_{0.74}O₂; (e) V_{0.25}Ti_{0.75}O₂ and (f) V_{0.40}Ti_{0.60}O₂. The mean width distribution of all the samples was estimated based on the measurement of at least 150 nanostructures appearing in the FE-SEM images and by fitting the resulting distribution using a Gaussian function.

