

Supplementary Materials

Impact of TiO₂ Nanostructures on Dye-Sensitized Solar Cells Performance

Paweł Gnida ¹, Paweł Jarka ², Pavel Chulkin ³, Aleksandra Drygała ², Marcin Libera ⁴, Tomasz Tański ^{2,*}
and Ewa Schab-Balcerzak ^{1,2,*}

¹ Centre of Polymer and Carbon Materials, Polish Academy of Sciences, 34 M. Curie-Skłodowska Str., 41-819 Zabrze, Poland; pgnida@cmpw-pan.edu.pl

² Institute of Engineering Materials and Biomaterials, Silesian University of Technology, 18a Konarskiego Str., 44-100 Gliwice, Poland; pawel.jarka@polsl.pl (P.J.); aleksandra.drygala@polsl.pl (A.D.)

³ Faculty of Chemistry, Silesian University of Technology, 9 Strzody Str., 44-100 Gliwice, Poland; pavel.chulkin@polsl.pl

⁴ Institute of Chemistry, University of Silesia, 9 Szkolna Str., 40-007 Katowice, Poland; marcin.libera@us.edu.pl

* Correspondence: tomasz.tanski@polsl.pl (T.T.); ewa.schab-balcerzak@us.edu.pl (E.S.-B.)

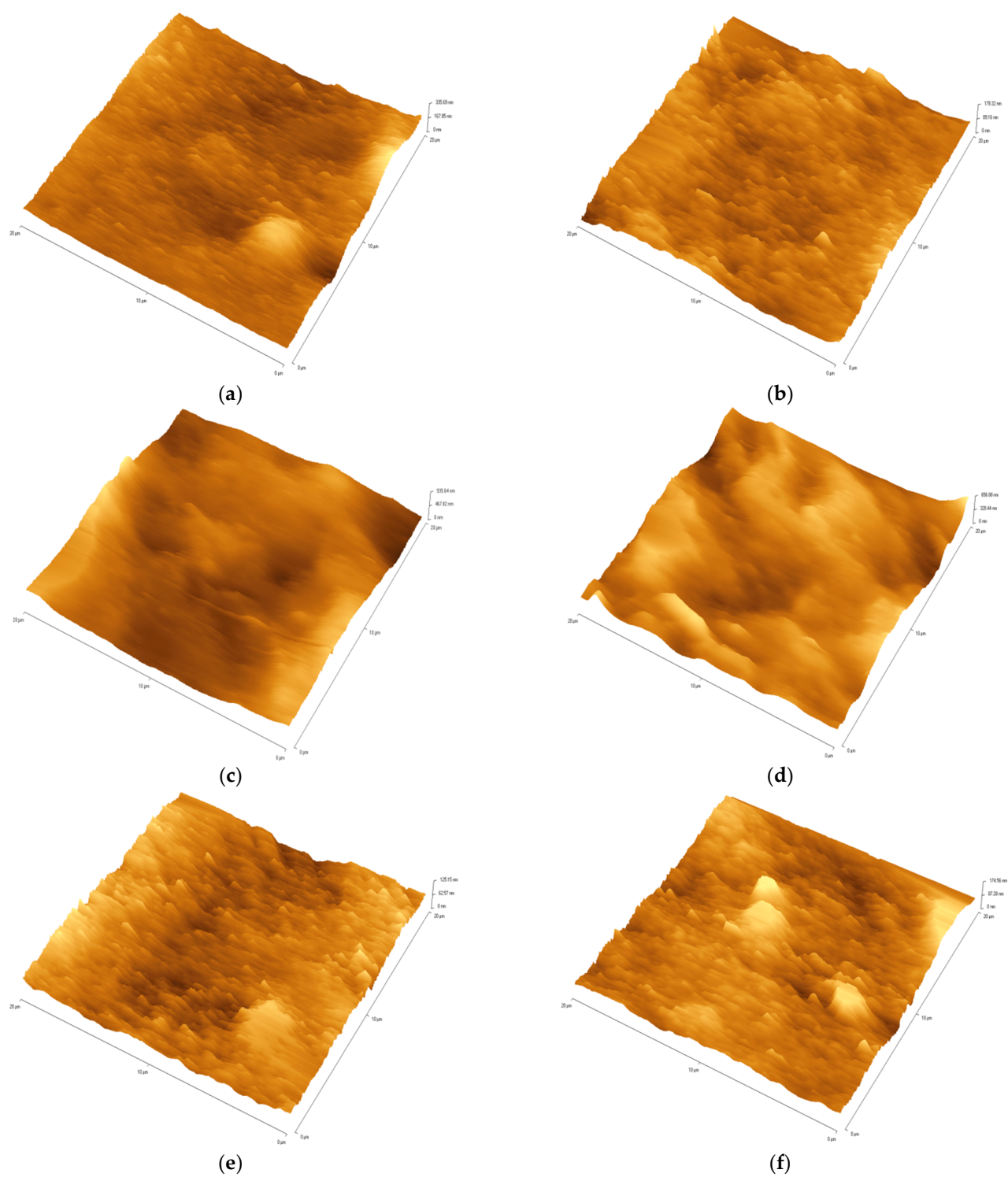


Figure S1. The AFM micrographs of (a) NP TiO₂ without dye, (b) NP TiO₂ with AC-9, (c) NW TiO₂ dye, (d) NW TiO₂ with AC-9, (e) NT TiO₂ dye, (f) NT TiO₂ with AC-9.

Impedance spectra analysis results

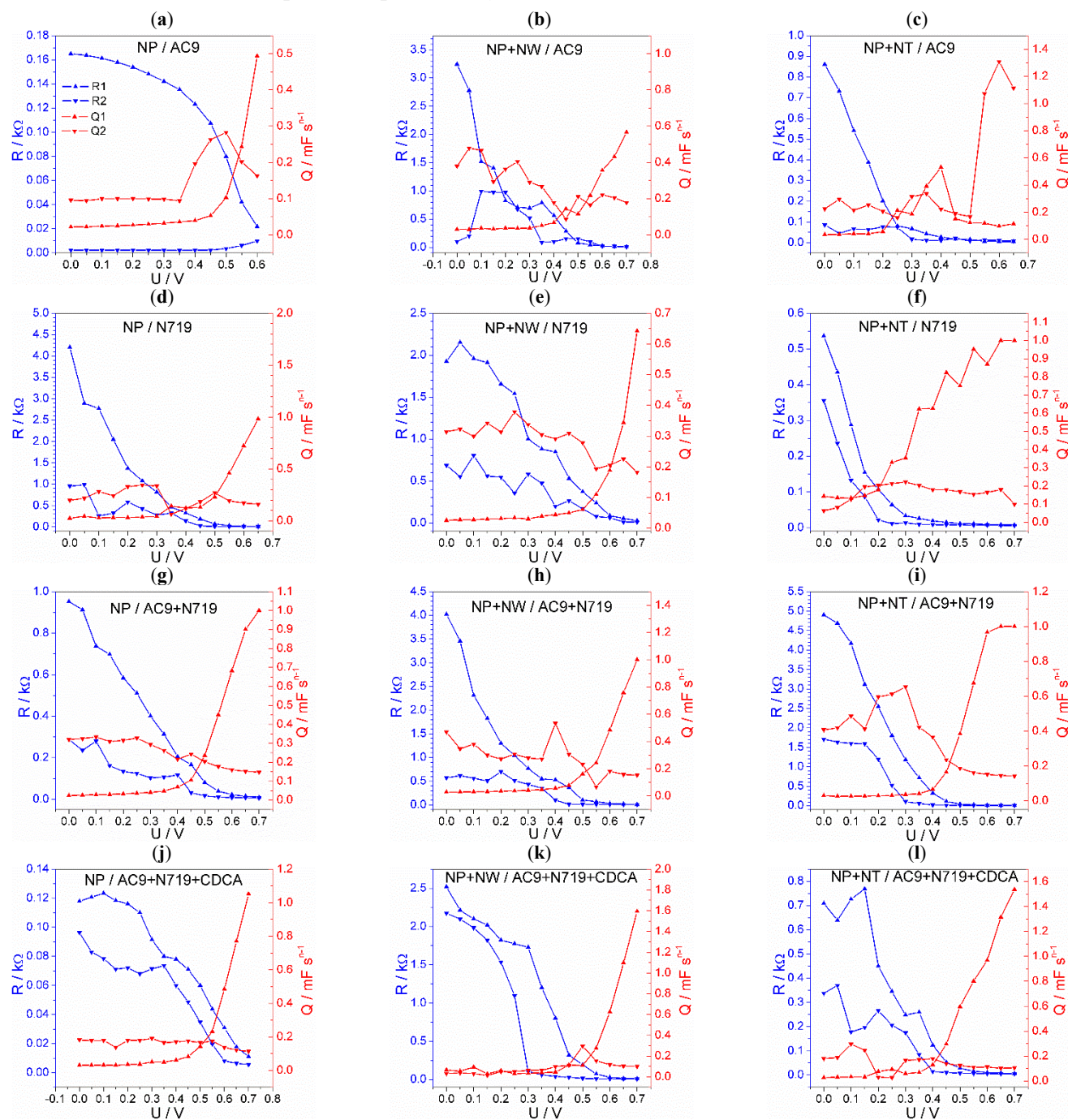


Figure S2. Values of electrode resistances (blue points) and capacitances (red points) calculated from impedance spectra. Table . The columns correspond to different substrates, the rows correspond to different dyes. A common legend is given in (a).

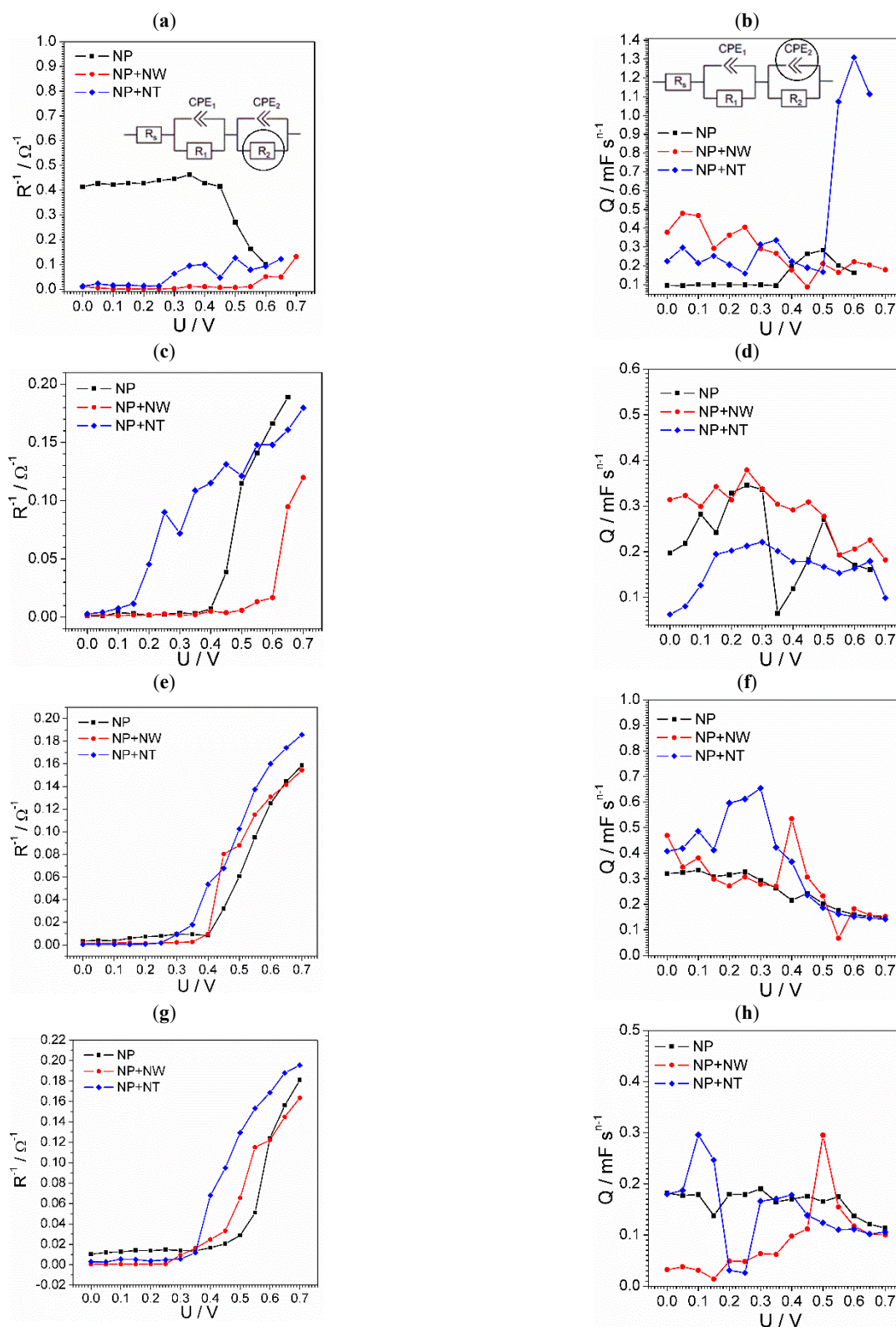


Figure S3. Dependence of platinum electrode inverse resistance (left column) and capacitance (right column) on cell operating voltage for different dyes: AC-9 (a,b), N719 (c,d), mixture of AC-9 and N719 (e,f), mixture of AC-9, N719 and CDCA (g,h).