Supporting Information for the article:
"Control of Nanopore Wetting by a Photochromic Spiropyran – a Light-Controlled Valve and Electrical Switch."

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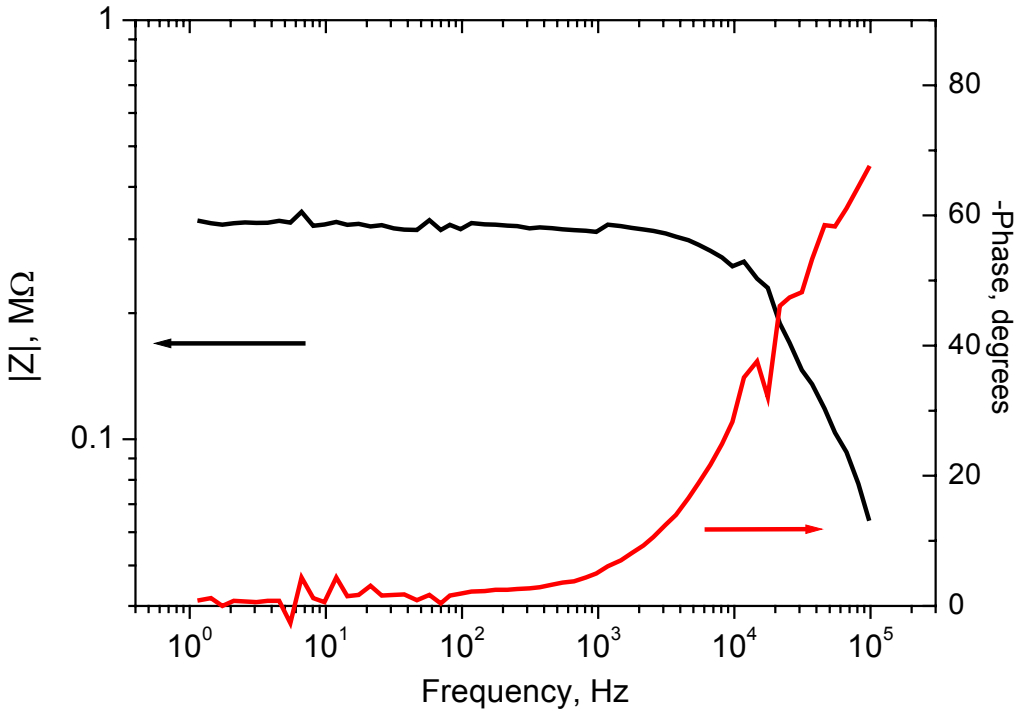

Figure1S. Bode plot for the impedance of a nanoporous alumina membrane modified with a mixture of spiropyran and decanoic acid. Note that the phase is almost zero between 1 Hz and 1 kHz, its increase for f > 1 kHz is due to charging of the membrane.

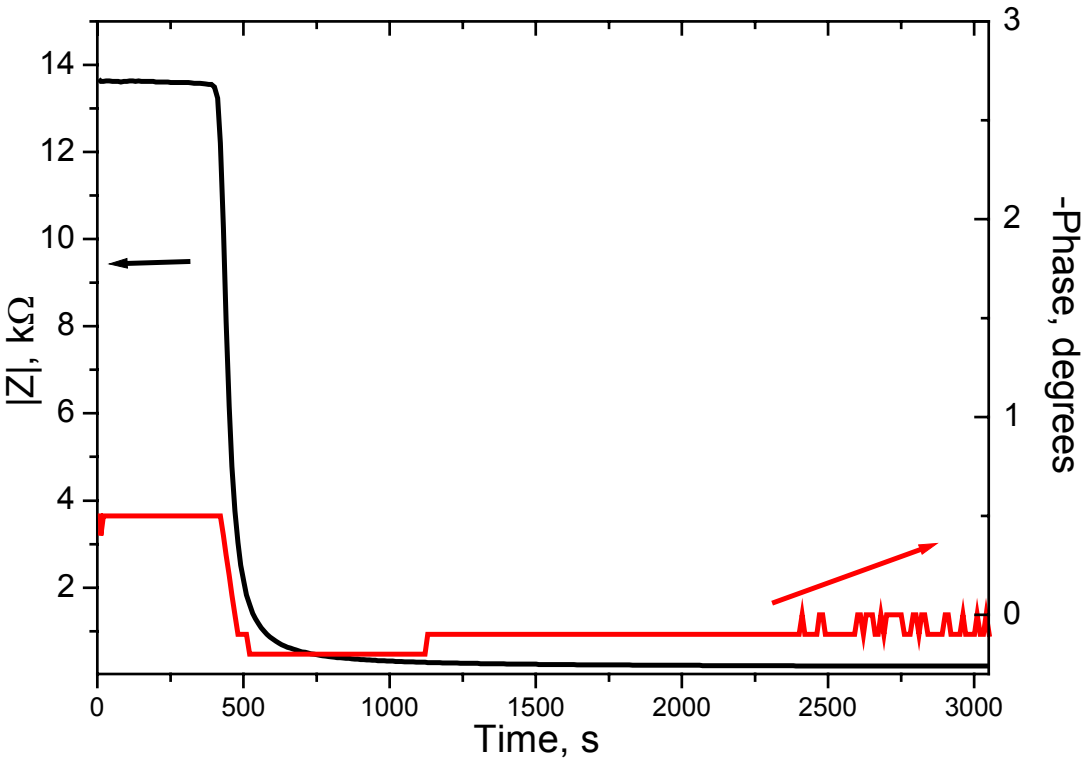

Figure 2S. Variation of the impedance and the phase at 1 kHz for the same membrane as in Figure 1S. Irradiation with 337 nm starts at 400 s.

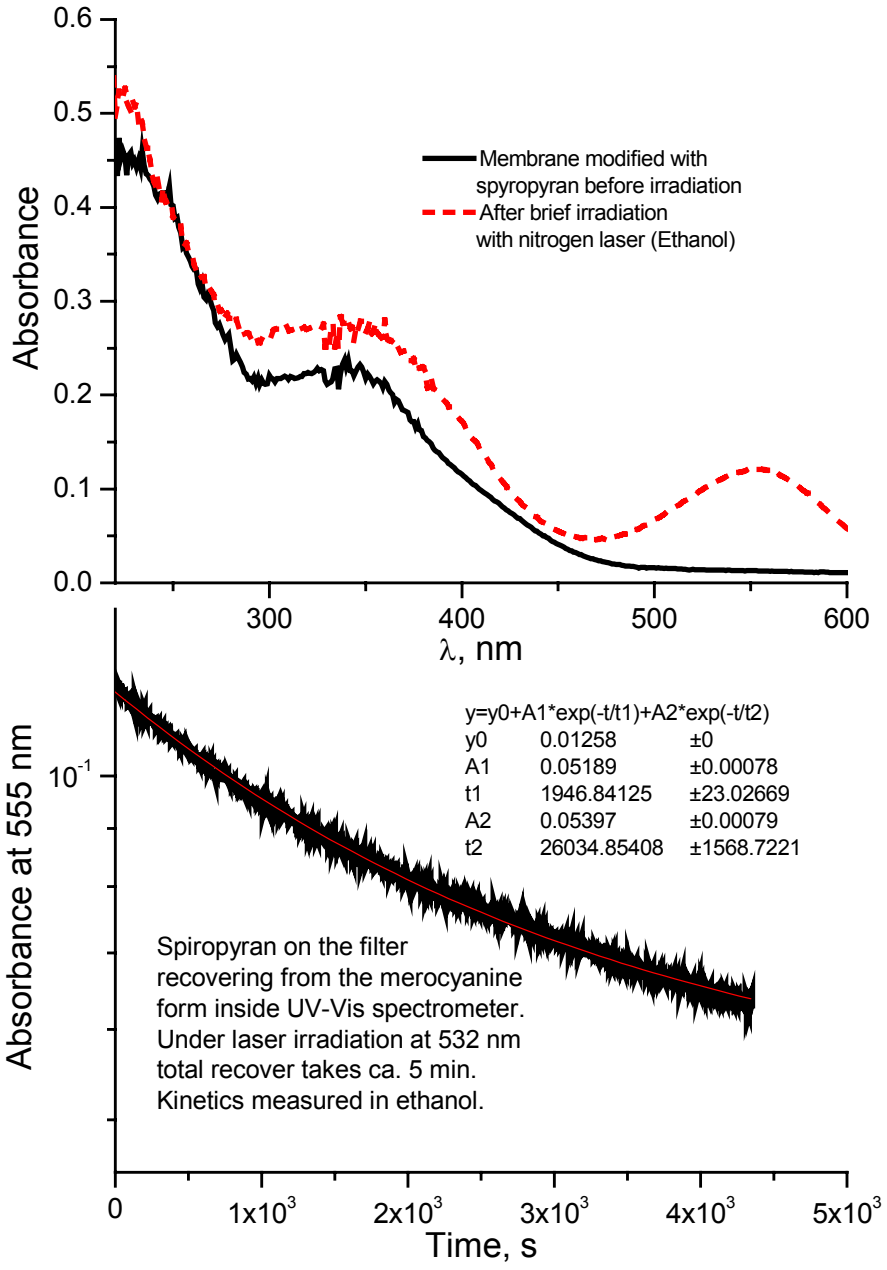

Figure 3S. Top. Absorption spectra of a membrane with immobilized spiropyran after 337 nm (merocyanine form) and 532 nm (spiropyran) irradiation in ethanol. Bottom. Kinetics of merocyanine conversion to spiropyran in the dark. Recorded at 555nm and fitted with two exponentials of similar amplitudes and τ_1 = 32 min, τ_1 = 434 min.

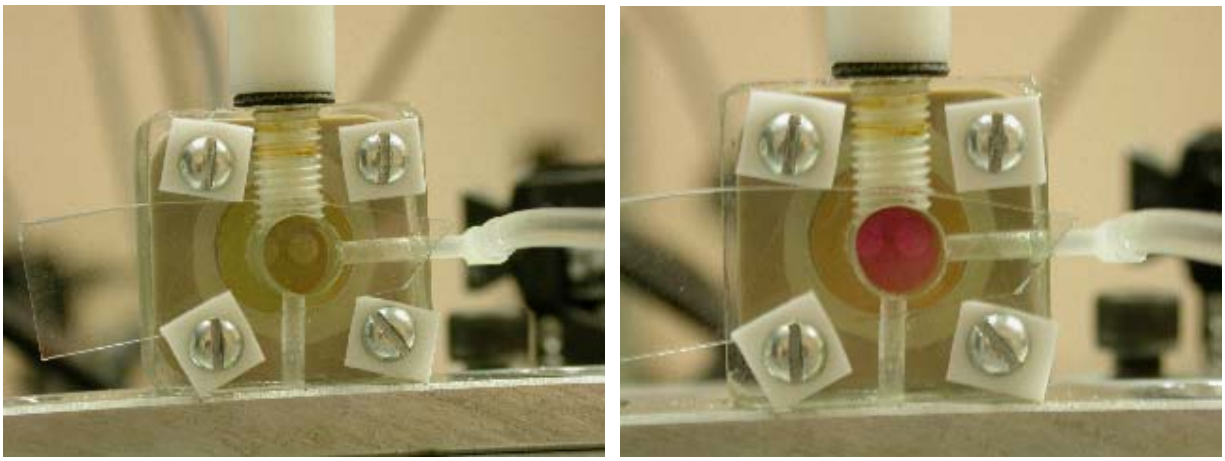

Figure 4S. Image of a membrane modified with spiropyran inside the cell filled with 1 M KCl after 337 nm (merocyanine form, pink) and 532 nm (spiropyran, transparent) irradiations.