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Electronic Supplementary Information

Kinetics of TiO_2 photochromic response in different hole scavenger solvents

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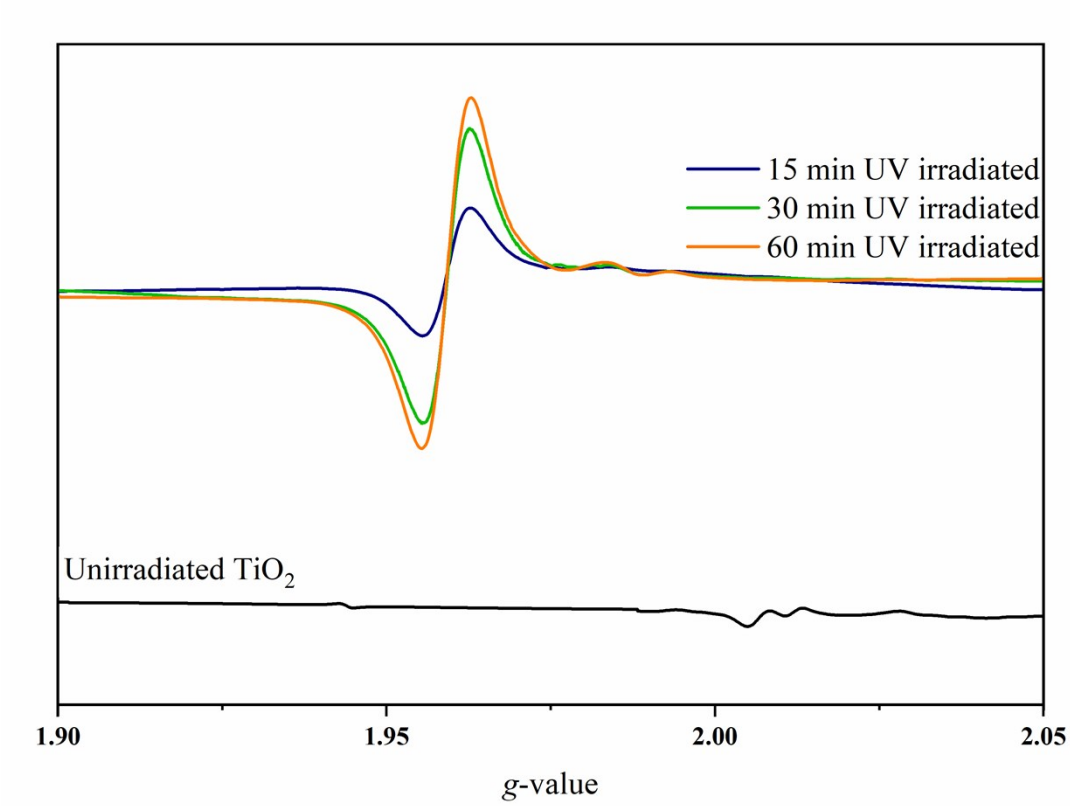

Figure S1. EPR spectra of unirradiated TiO_2 colloid and UV irradiated TiO_2 colloid for 15, 30 and 60 min. The peaks at g=2.0036, 2.0096 and 2.026 correspond to Ti^{4+}-O^{2-} species, but peak at g=1.957 corresponds to Ti^{3+}

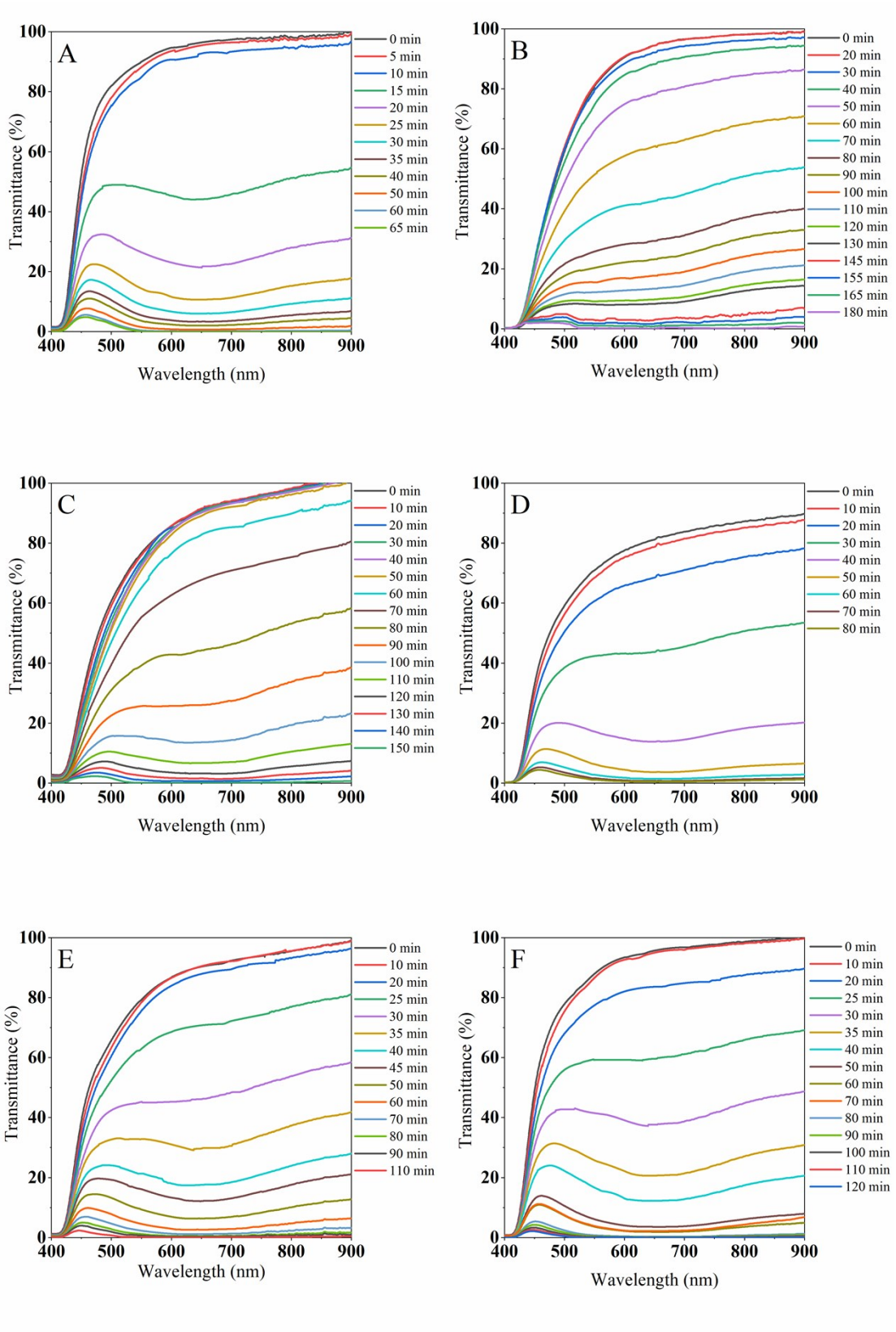

Figure S2. Transmittance spectra in the 400-900 nm part of the spectra during UV irradiation for TiO_2 NPs in different solvents. A) Ethanol; B) *n*-Propanol; C) *i*-Propanol; D) *n*-Butanol; E) *n*-Pentanol; F) *n*-Hexanol.

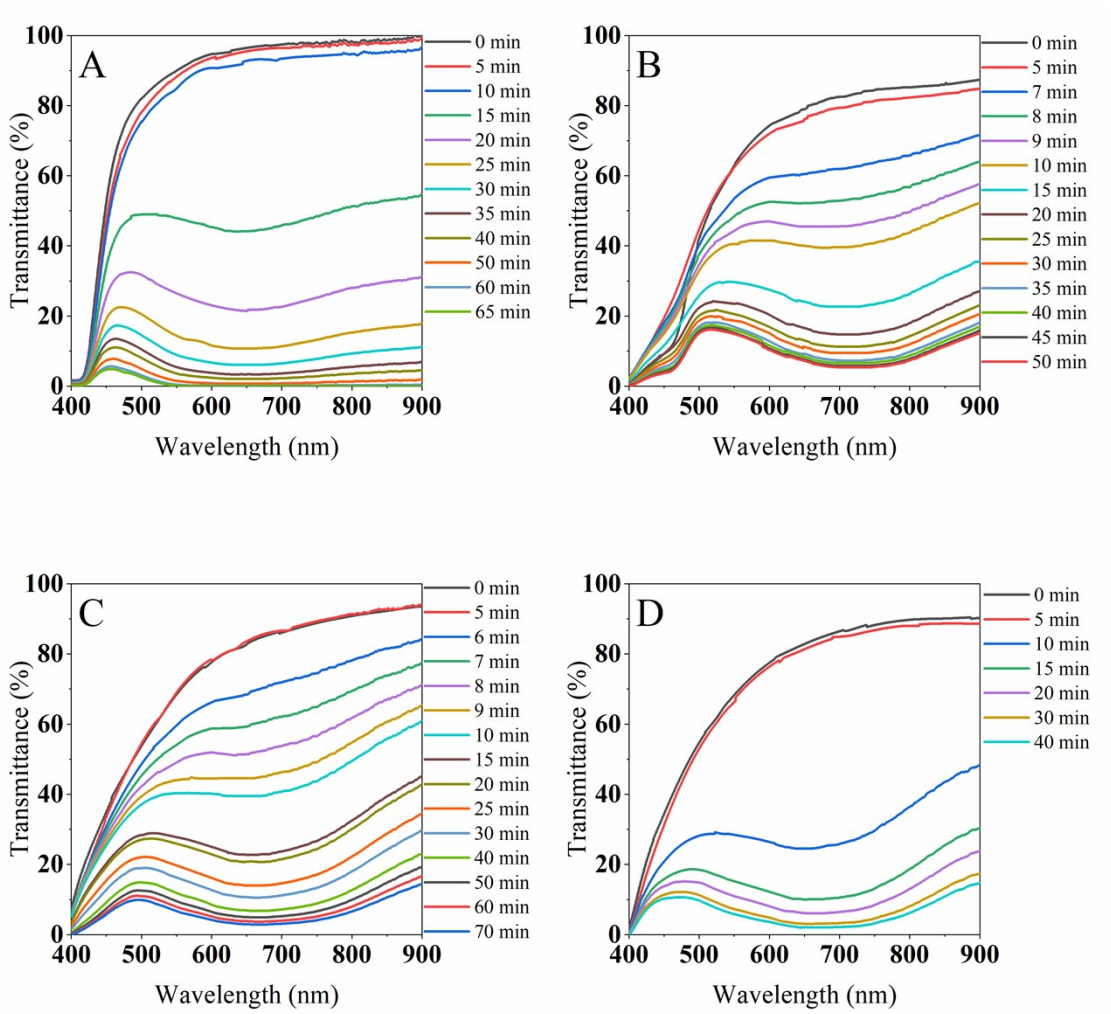

Figure S3. Transmittance spectra in the 400-900 nm part of the spectra during UV irradiation for TiO_2 NPs in ethanol and with different hole scavenger additions. A) Pure ethanol; B) 50 mol% of MEA; C) 50 mol% DEA; D) 50 mol% TEA.

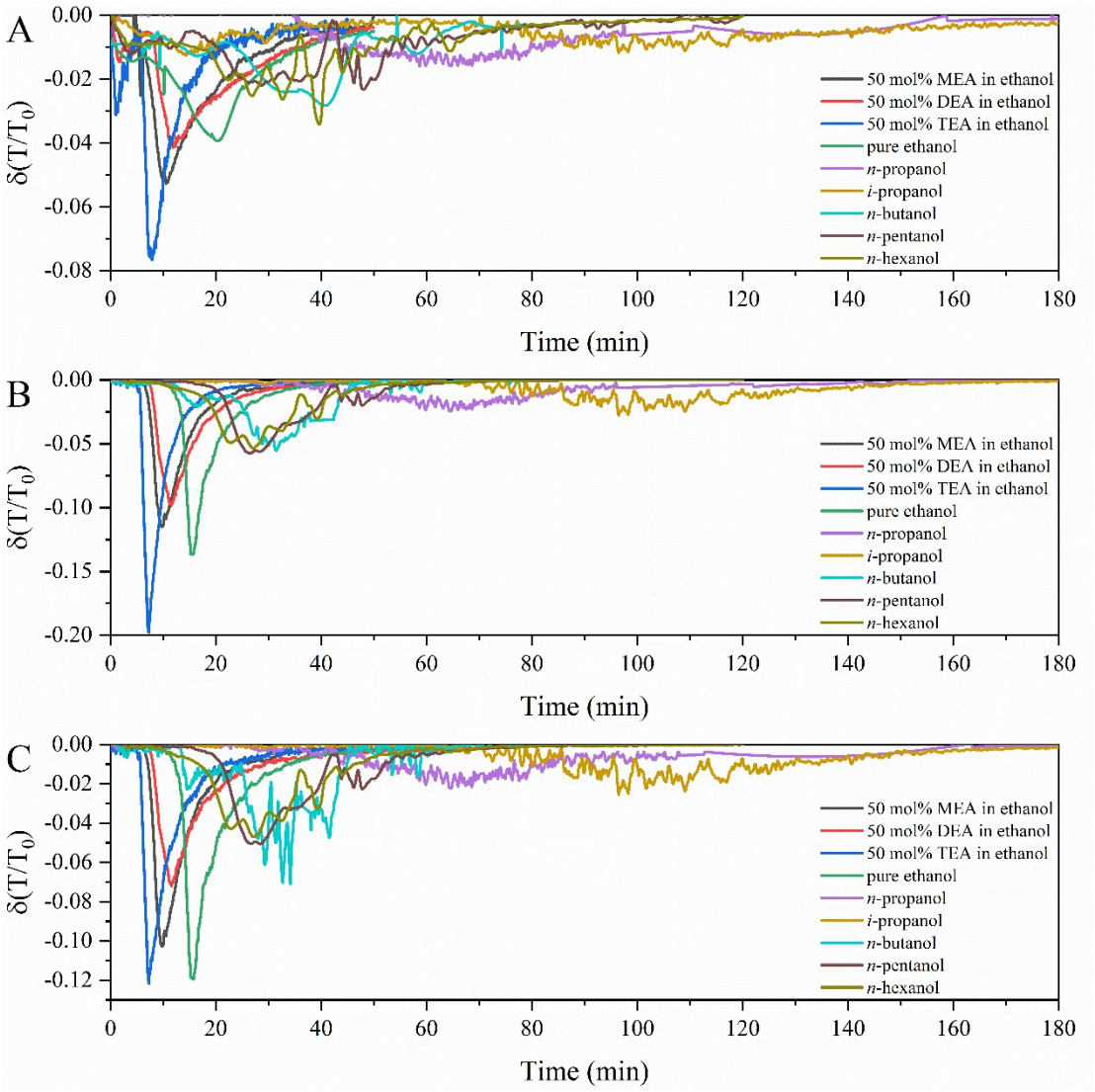

Figure S4. $\delta(T/T_0)$ plots as a function of time during UV irradiation for NPs in different solvents and with different additional hole scavengers measured at A) 450 nm; B) 600 nm; C)900 nm.

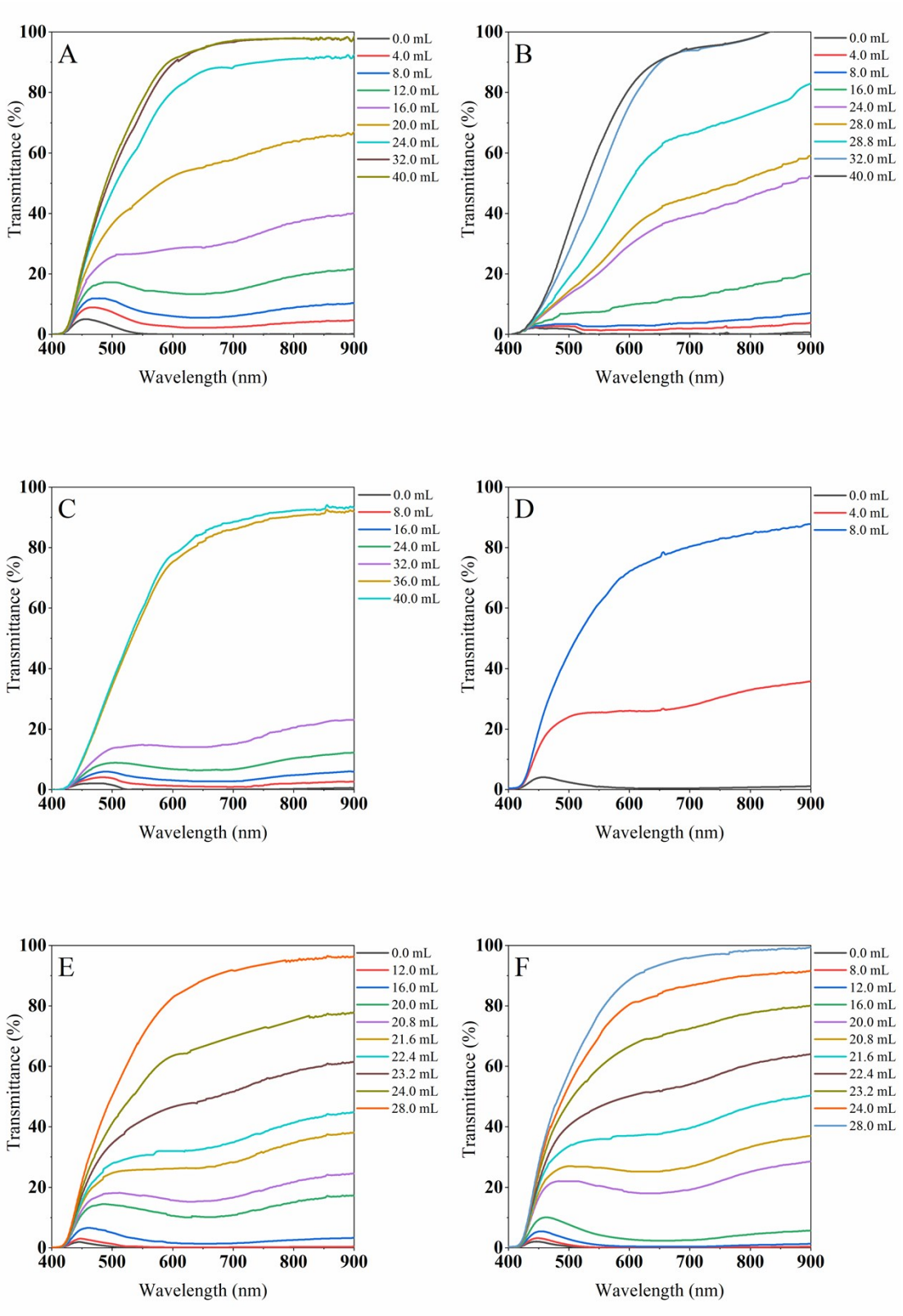

Figure S5. Transmittance spectra in the 400-900 nm part of the spectra during recovery with air injection for TiO_2 NPs in different solvents. A) Ethanol; B) *n*-Propanol; C) *i*-Propanol; D) *n*-Butanol; E) *n*-Pentanol; F) *n*-Hexanol.

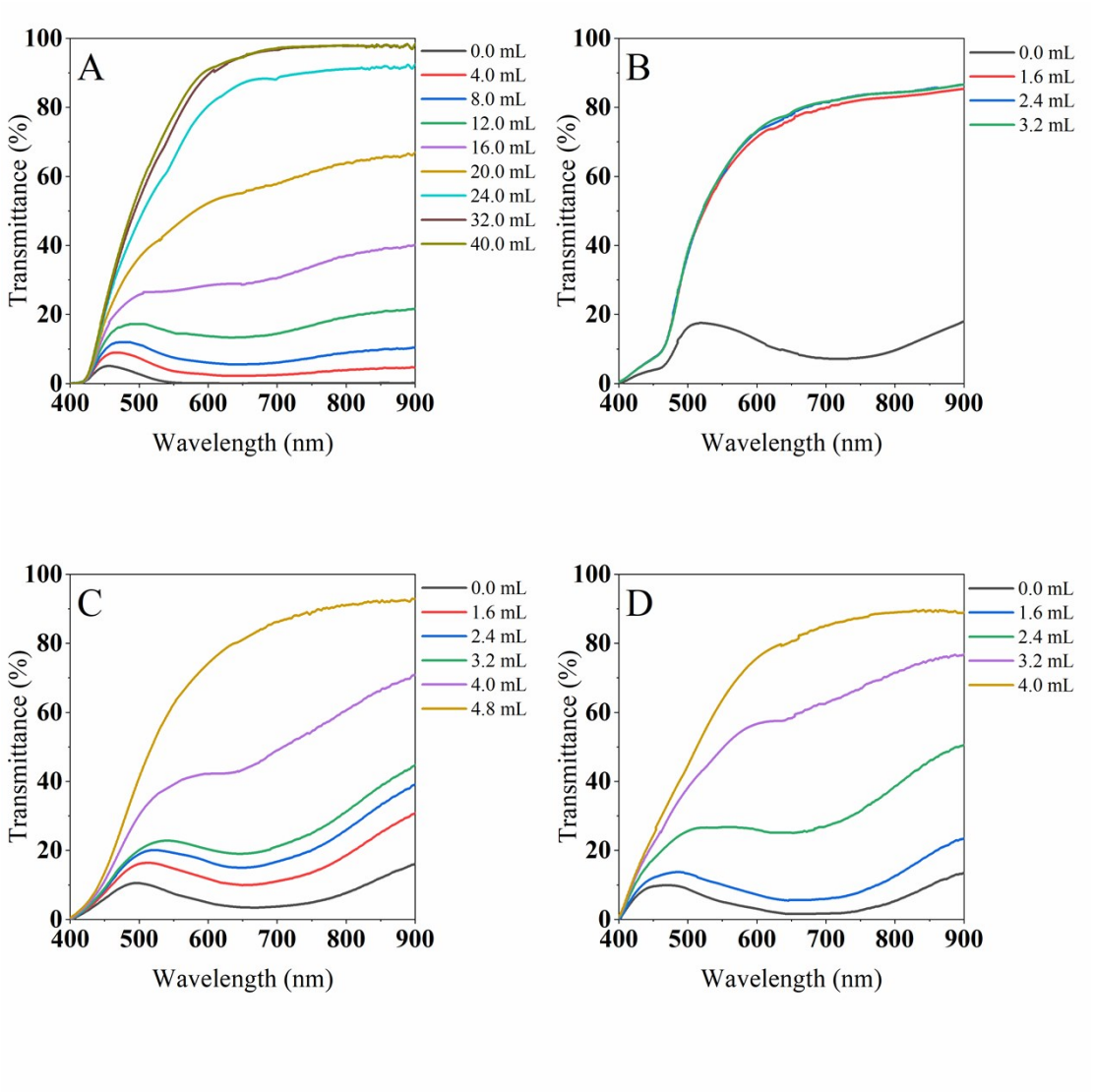

Figure S6. Transmittance spectra in the 400-900 nm part of the spectra during recovery with air injection for TiO_2 NPs in ethanol and with different hole scavenger additions. A) Pure ethanol; B) 50 mol% of MEA; C) 50 mol% DEA; D) 50 mol% TEA.

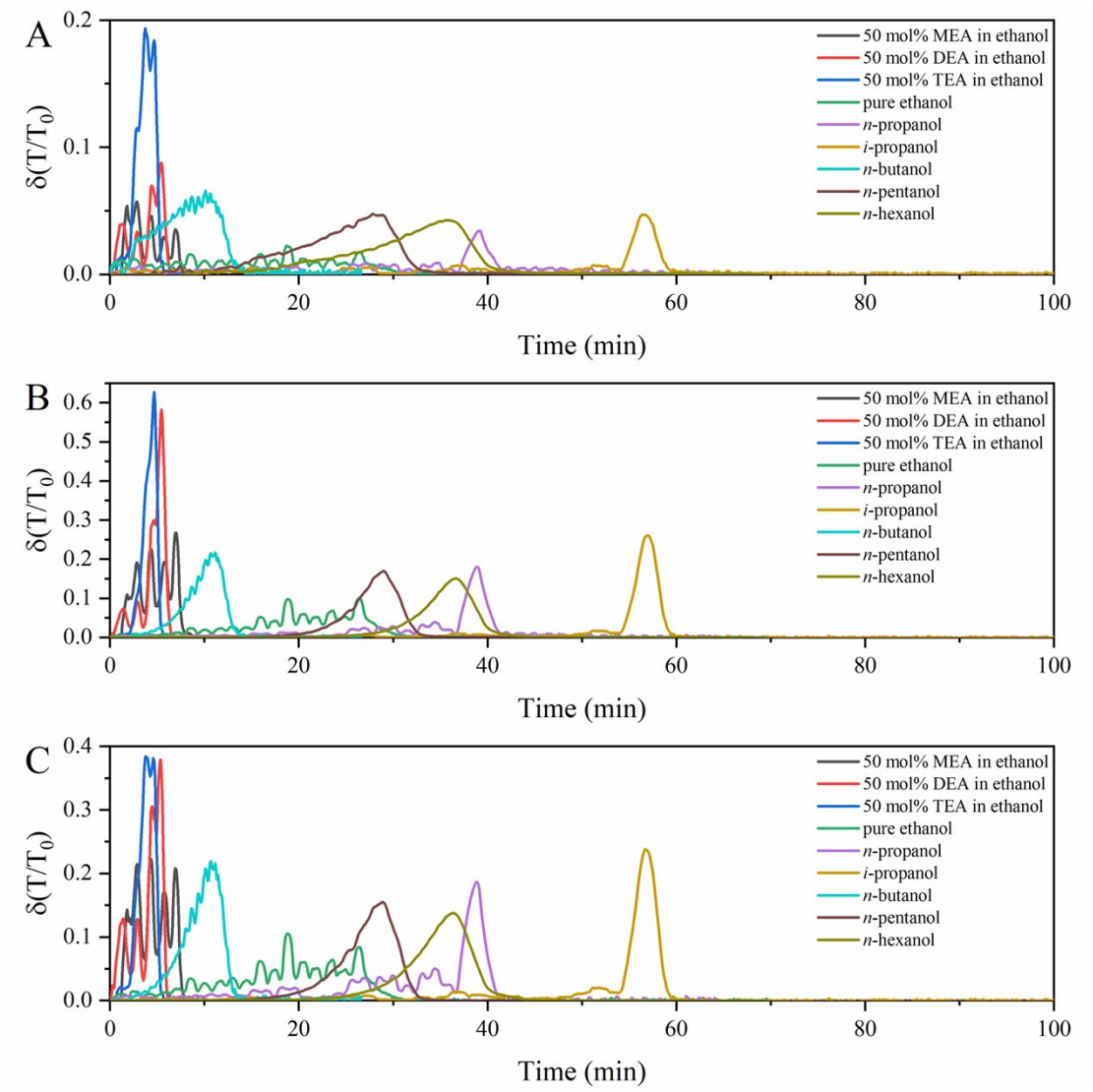

Figure S7. $\delta(T/T_0)$ plots as a function of time during recovery with air injection for NPs in different solvents and with different additional hole scavengers measured at A) 450 nm; B) 600 nm; C) 900 nm.