

# Supplementary Materials: TiO<sub>2</sub>-SiO<sub>2</sub>-PMMA Terpolymer Floating Device for the Photocatalytic Remediation of Water and Gas Phase Pollutants

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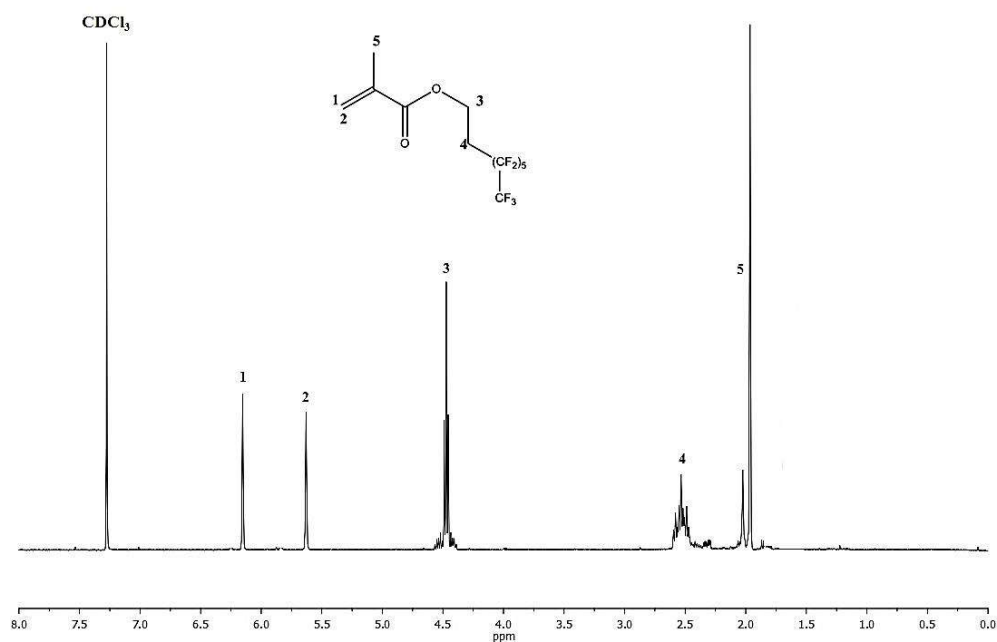
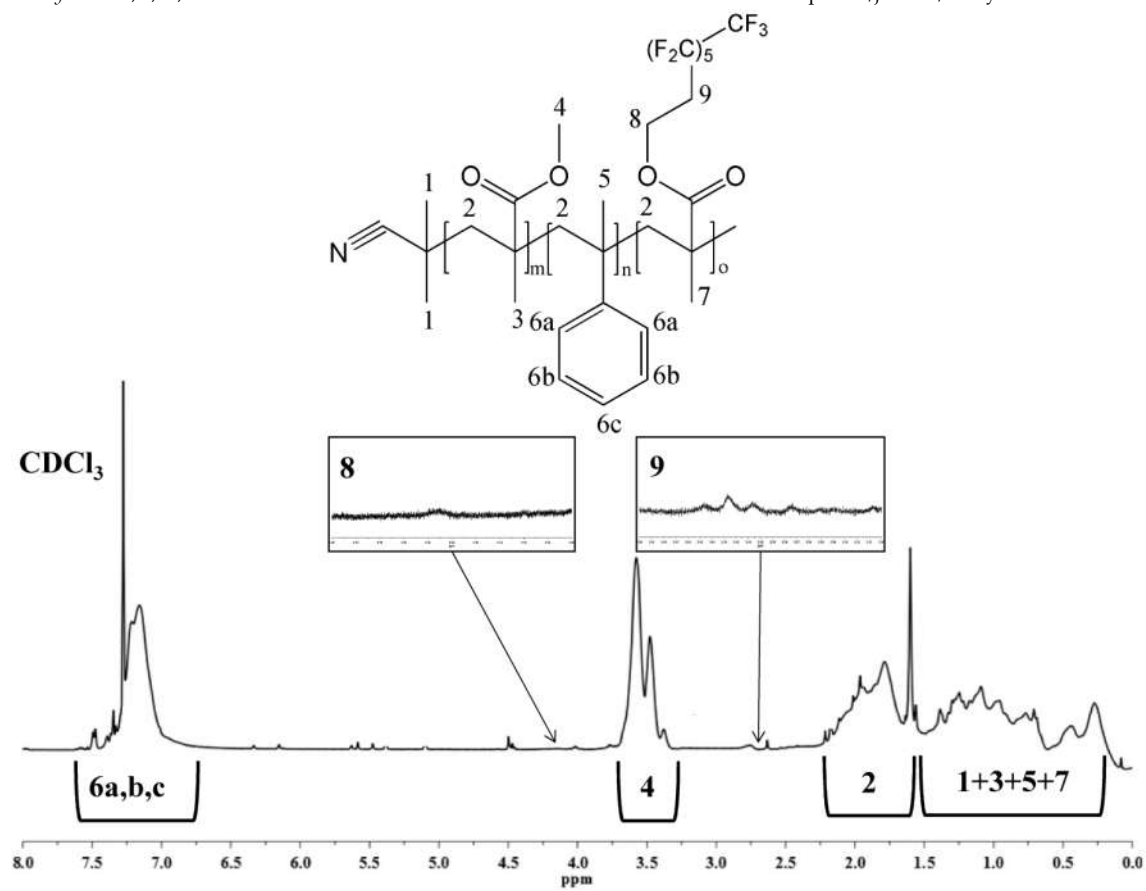


Figure S1. <sup>1</sup>H NMR spectrum of POMA monomer.

Figure S2.  $^1\text{H}$  NMR spectrum of MMA- $\alpha$ -methylstyrene-POMA polymer.

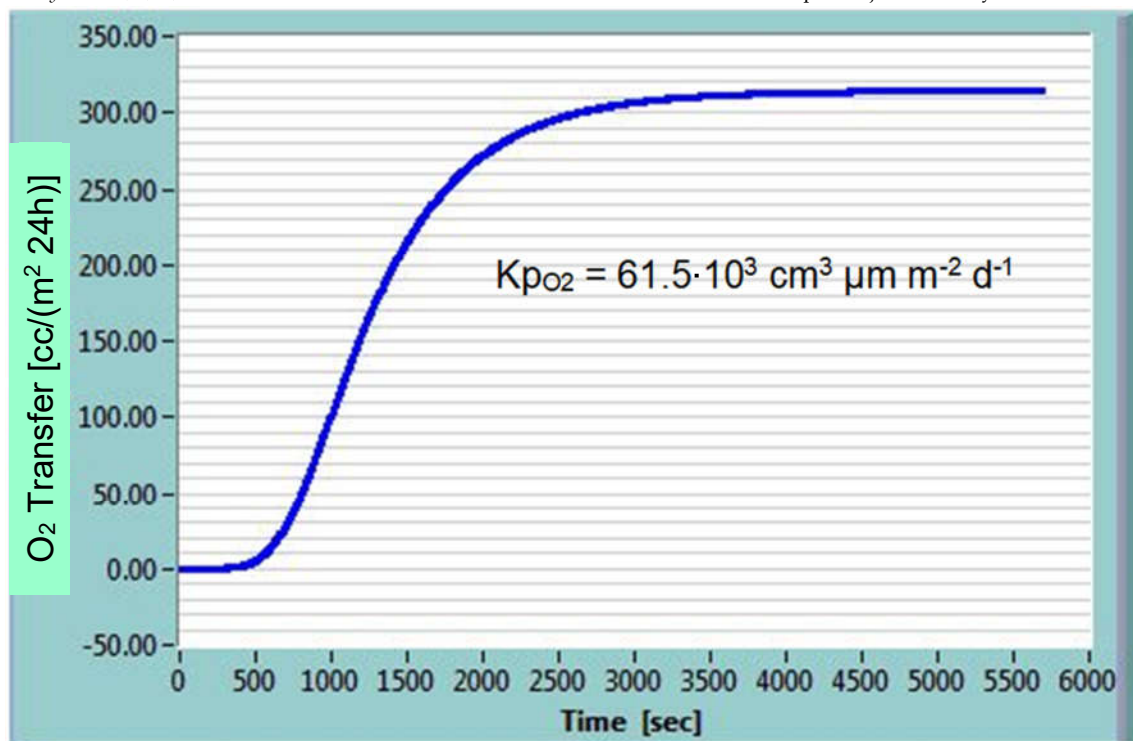


Figure S3. O<sub>2</sub> transfer with respect to time of the synthesized MMA\_α-methylstyrene\_POMA.

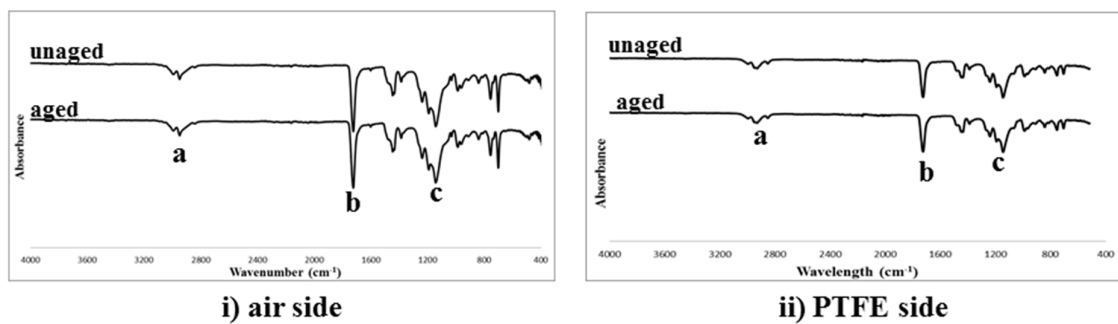


Figure S4. FT-IR spectra of MMA\_α-methylstyrene\_POMA collected before and after the UV stability test at the air (i) and PTFE (ii) side.

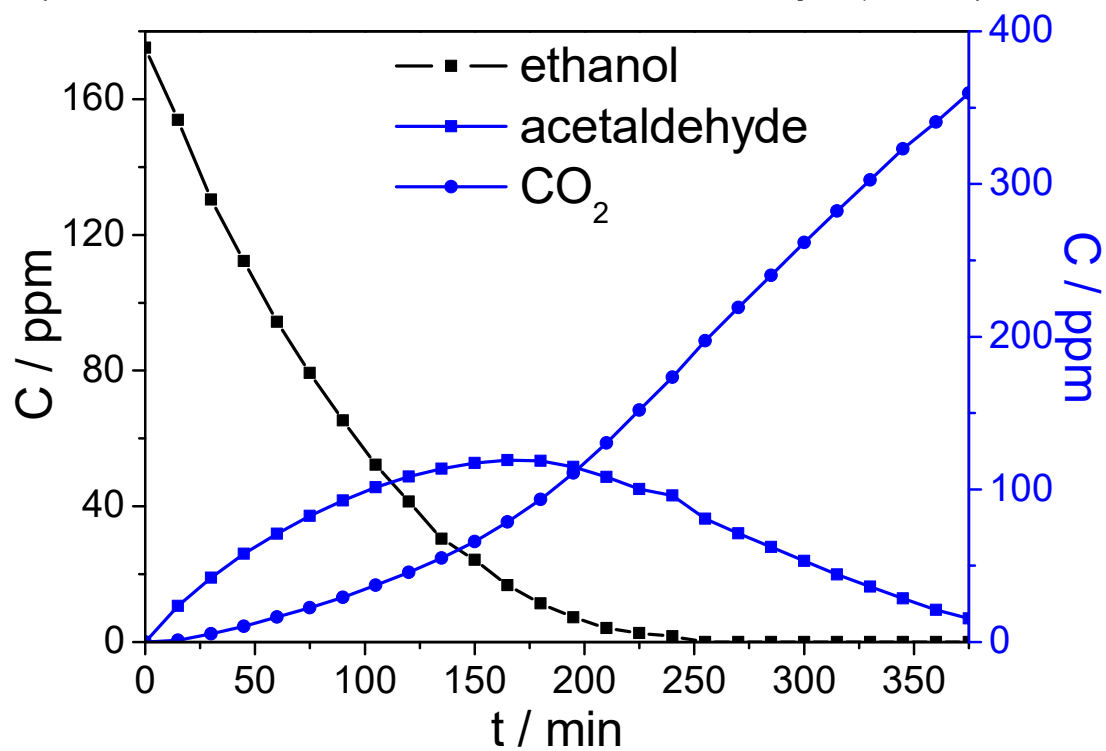


Figure S5. Ethanol disappearance and acetaldehyde and CO<sub>2</sub> formation during the photocatalytic test under UV irradiation.

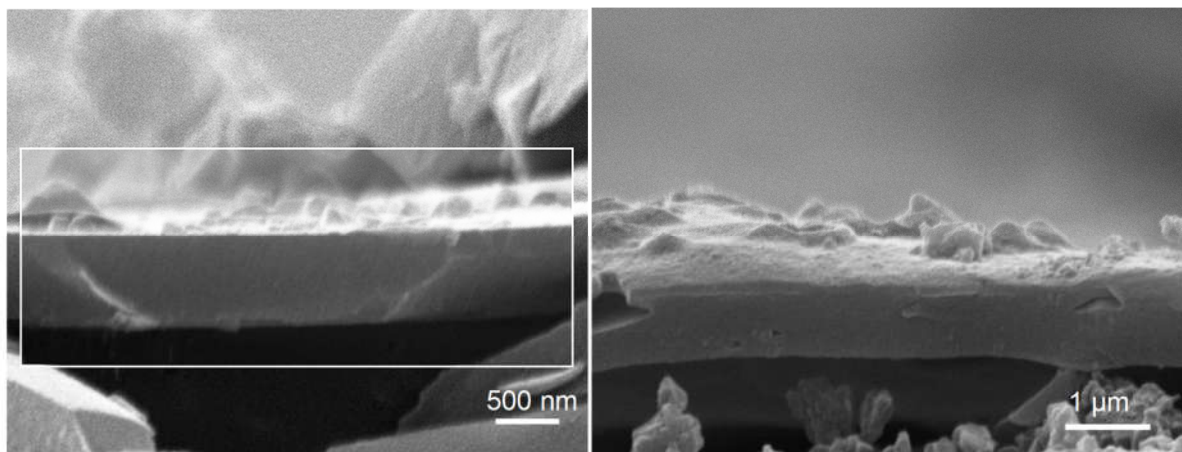


Figure S6. Cross-sectional SEM images after UV irradiation for over 15 hours in working conditions.