

Supporting Information: Production and Characterization of Photocatalytic PEO Coatings Containing TiO₂ Powders Recovered from Wastes

Luca Pezzato ^{1,2,*}, Elena Colusso ¹, Pietro Giovanni Cerchier ^{1,2}, Alessio Giorgio Settimi ^{1,2} and Katya Brunelli ¹

¹ Department of Industrial Engineering, University of Padova, Via Marzolo 9, 35131 Padova, Italy

² 9-Tech srl, Via Triestina Bassa 74, 30020 Eraclea, Italy

* Correspondence: luca.pezzato@unipd.it; Tel.: +39-0498275503

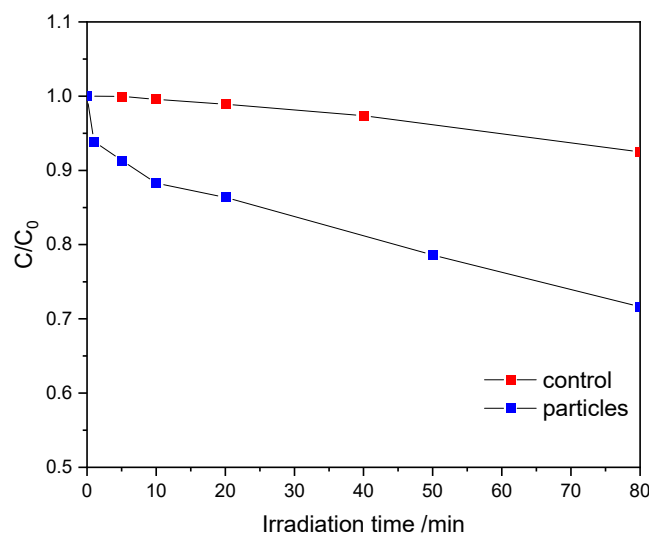
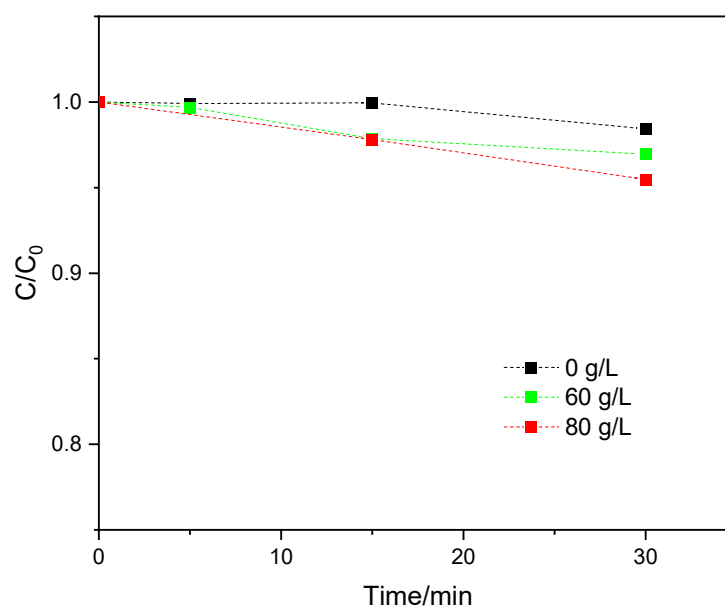


Figure S1. Photocatalytic activity of TiO₂ powder from wastes under UV illumination.

The test was conducted by monitoring the variation of absorbance of a methylene blue solution (30 ppm) in presence of powder (0.5 mg/ml). The solution was maintained in stirring (800 rpm) and irradiated with UV lamp (365 nm, LC5 Hamamatsu, 10 mW/cm²). For each time an aliquot of solution was extracted, centrifuged (14000 rpm × 4 min) to separate the powders, and an absorption spectrum was collected with a UV-VIS spectrophotometer in the 350–850 nm range (Jasco V570).

Table S1. Water contact angles of the different PEO samples.

Sample	WCA (°)
0 g/L	26 ± 10
5 g/L	45 ± 15
10 g/L	16 ± 3
20 g/L	30 ± 13
40 g/L	15 ± 4
60 g/L	14 ± 4
80 g/L	9 ± 2

**Figure S2.** Adsorption of methylene blue in the dark by PEO samples.