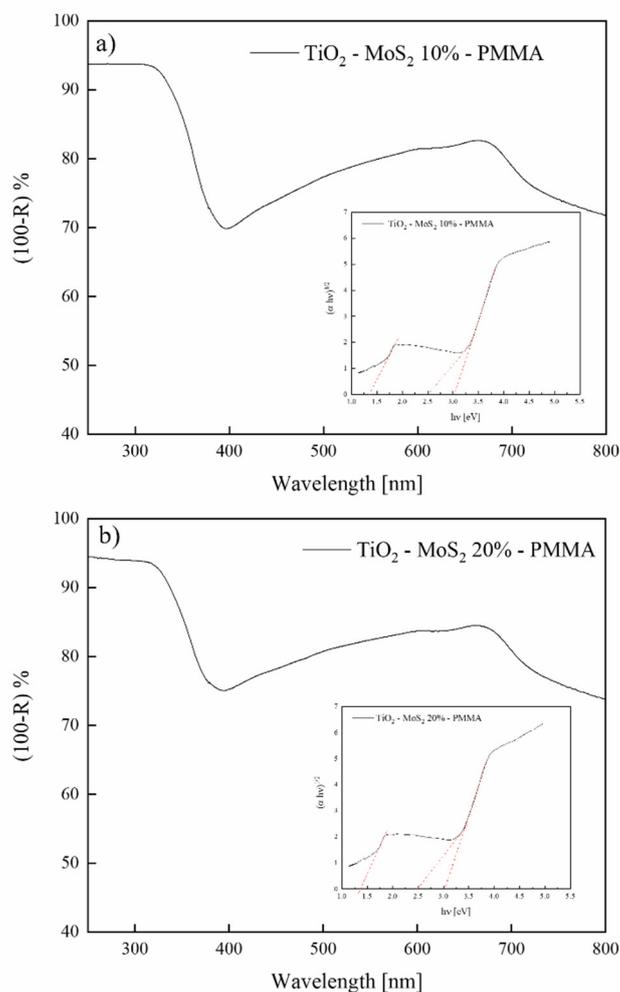
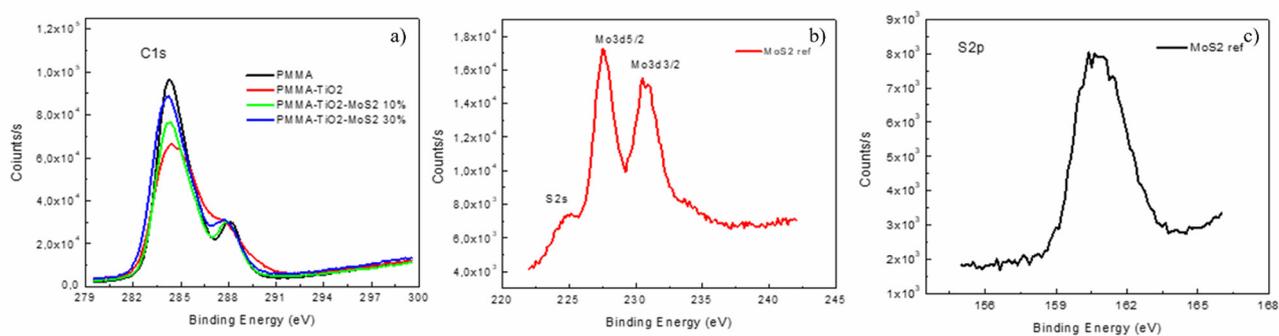


## Supplementary Information



**Figure S1.** (100-Reflectance)% spectra of TiO<sub>2</sub> - 10% MoS<sub>2</sub> - PMMA (a), and TiO<sub>2</sub> - 20% MoS<sub>2</sub> - PMMA (b) sample. The insets of the figures show the Tauc-plots (continuous line) and the relative fit (dashed line) for all the samples.



**Figure S2:** XPS spectra recorded for (a) C1s for all studied samples; (b) Mo3d for the commercial MoS<sub>2</sub>; (c) S2p for the commercial MoS<sub>2</sub>.