

Supporting Information

Phototransformations of $\text{TiO}_2/\text{Ag}_2\text{O}$ composite and their influence on photocatalytic water splitting accompanied by methanol photoreforming

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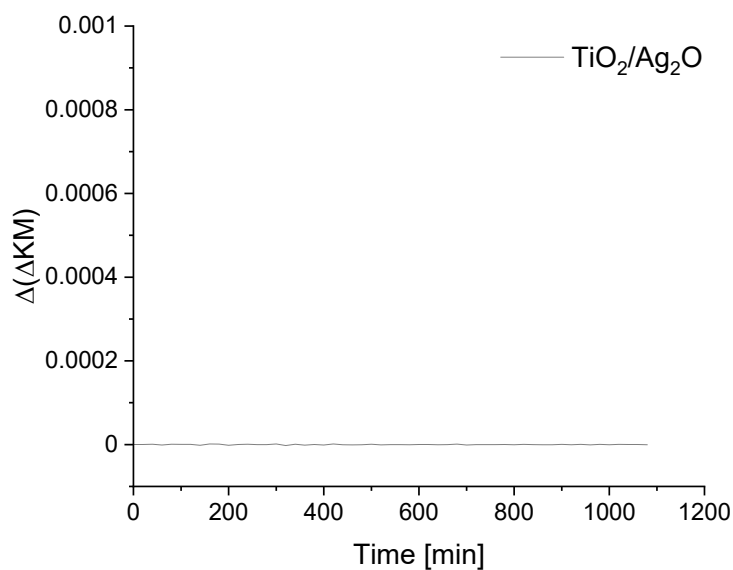


Figure S1. Results revealing changes in the experiment of photostability.

Photostability of the $\text{TiO}_2/\text{Ag}_2\text{O}$ material during measurements was proven by collecting DRS spectra under the same conditions which were applied in SE-DRS tests with no potential applied. No change in the spectra proves a good photostability of the material under applied conditions. Therefore, it is clear that the spectral changes recorded during SE-DRS measurements should be attributed to the material reduction upon the potential change.

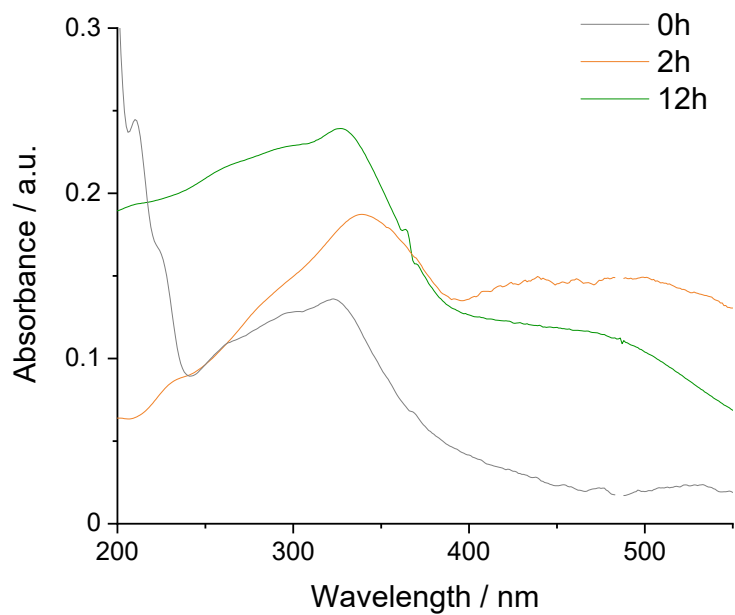


Figure S2. UV-Vis spectra of $\text{TiO}_2/\text{Ag}_2\text{O}$ as-prepared, after 2 and 12 h of irradiation.

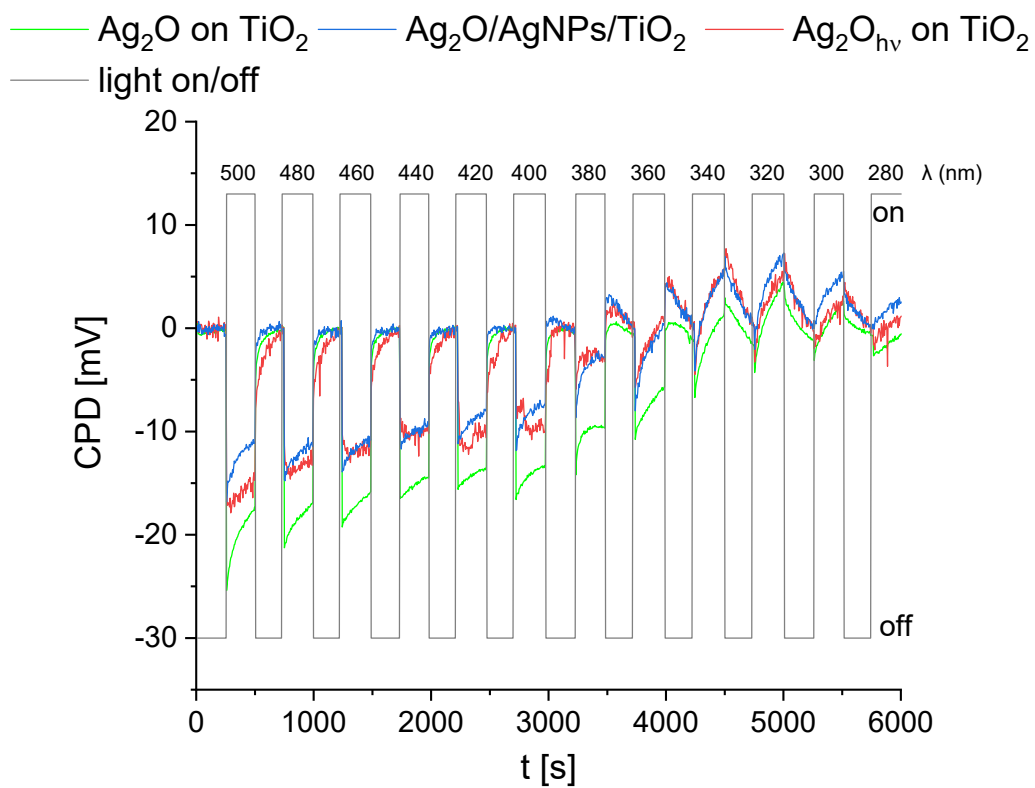


Figure S3. SPV for layered systems: Ag_2O on top of TiO_2 , Ag_2O on top of TiO_2 and AgNPs in the middle, and $\text{Ag}_2\text{O}_{\text{hv}}$ on top of TiO_2 .

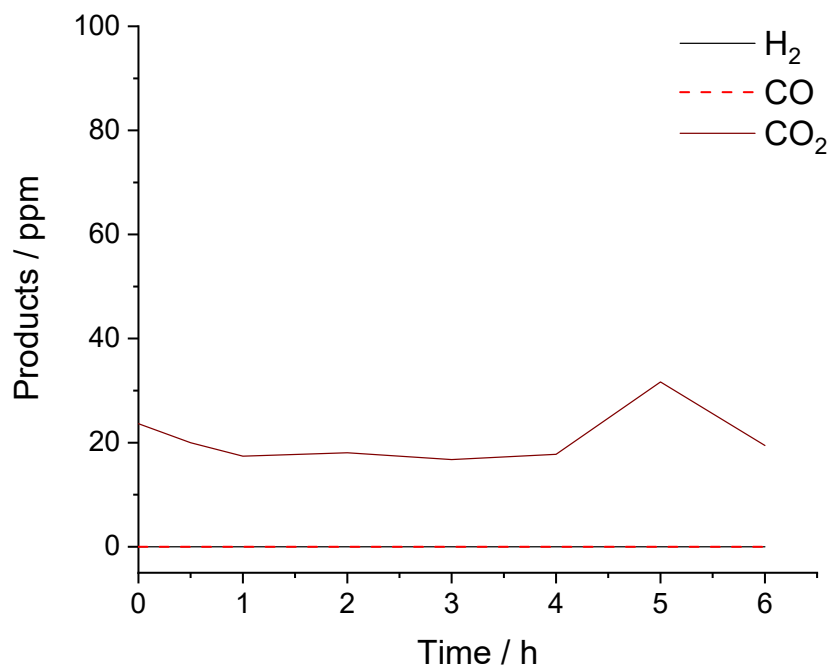


Figure S4. Products of water-splitting/methanol photoreforming processes resulting from bare Ag₂O activity.