Electronic Supplementary Material (ESI) for Dalton Transactions.

SUPPORTING INFORMATION

"A small bandgap semiconductor, p-type MnV_2O_6, active for photocatalytic hydrogen and oxygen production"

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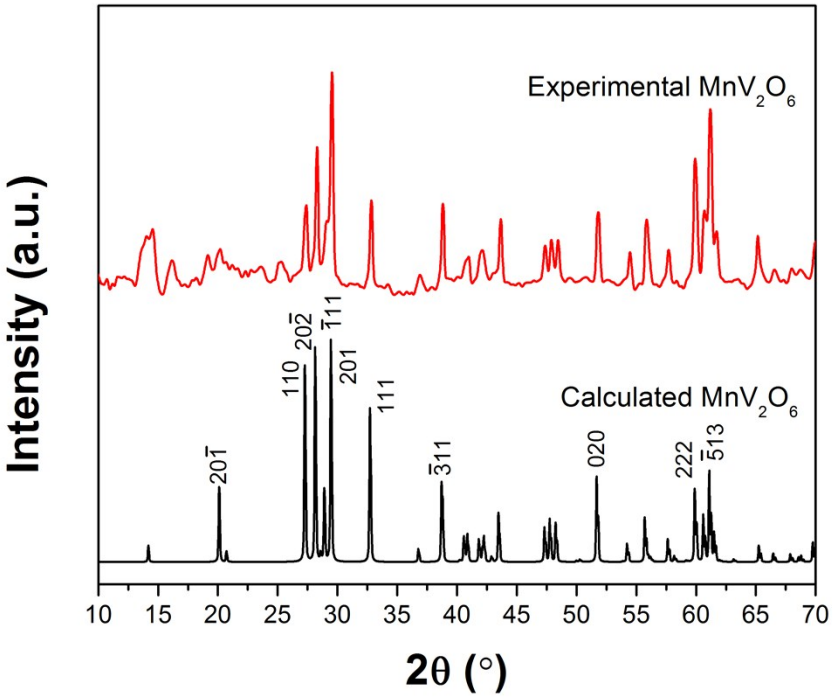

Figure S1. X-ray diffraction patterns calculated for MnV_2O_6 (lower) and from the powder synthesized product (upper)

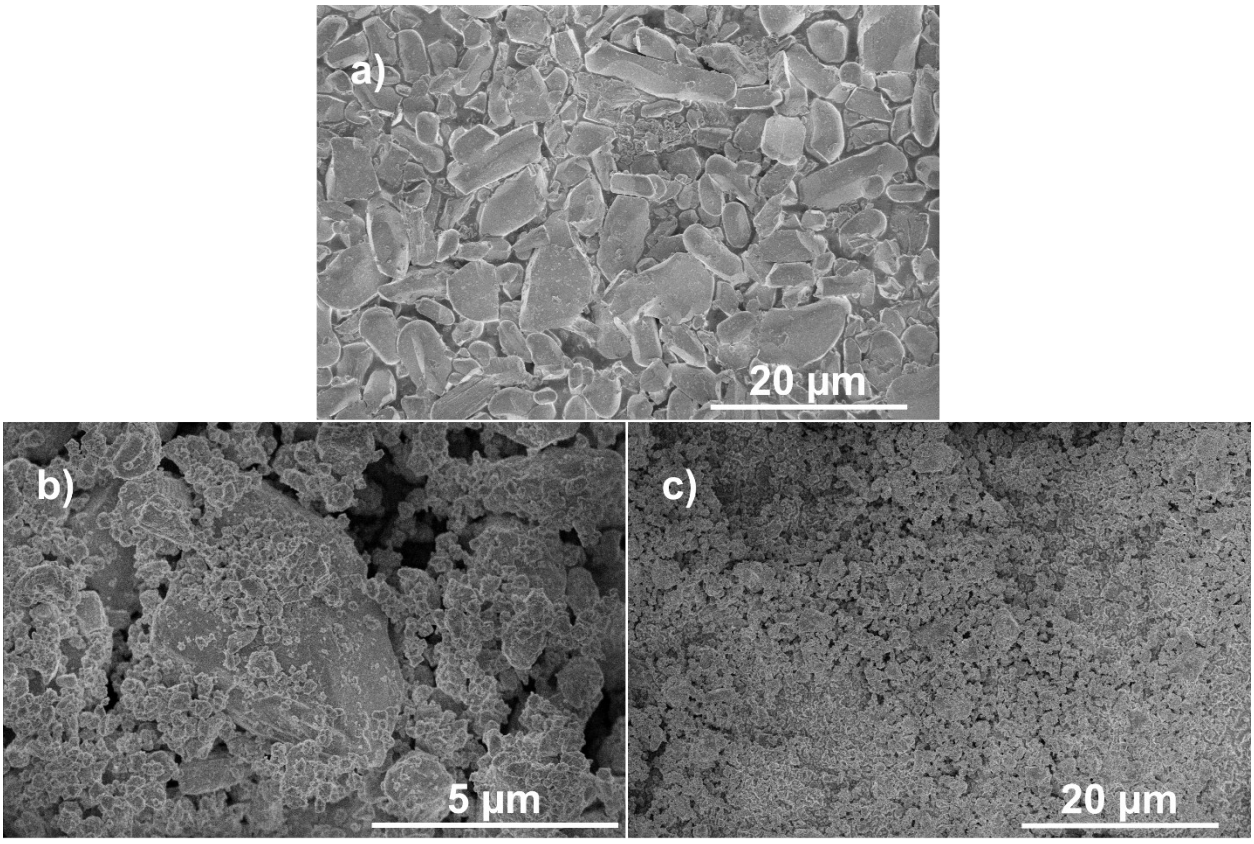

Figure S2. Scanning electron microscopy images of particles of MnV_2O_6 as synthesized (a) and after grinding in an ethanol slurry (b and c).

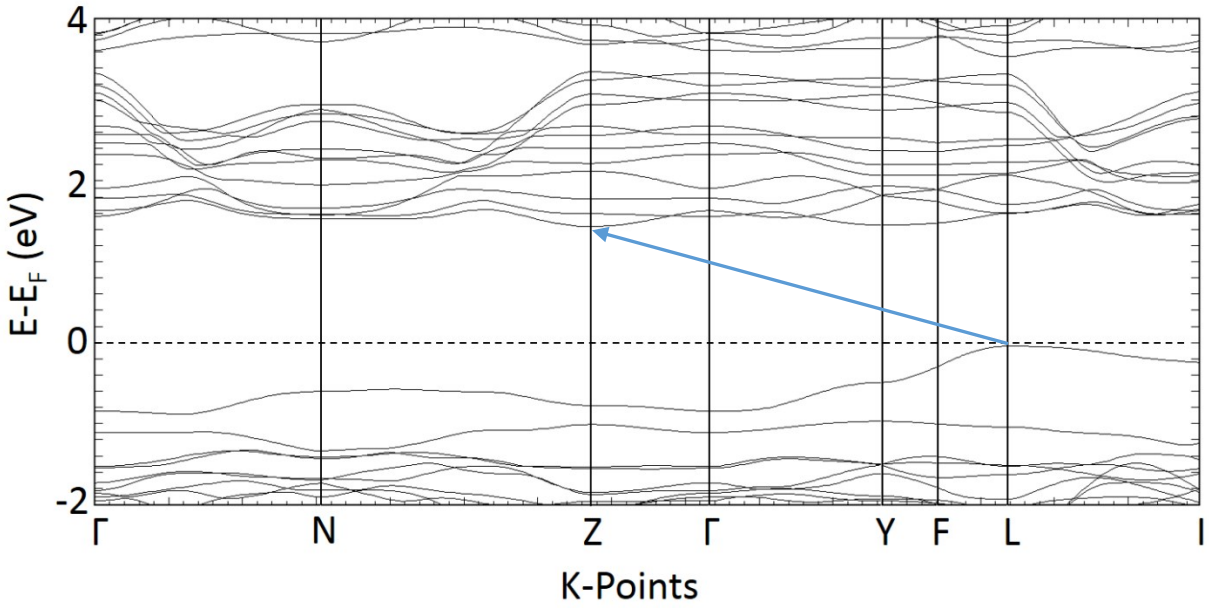

Figure S3. Calculated band structure of MnV_2O_6 with the indirect bandgap between the L and Z *k*-points.

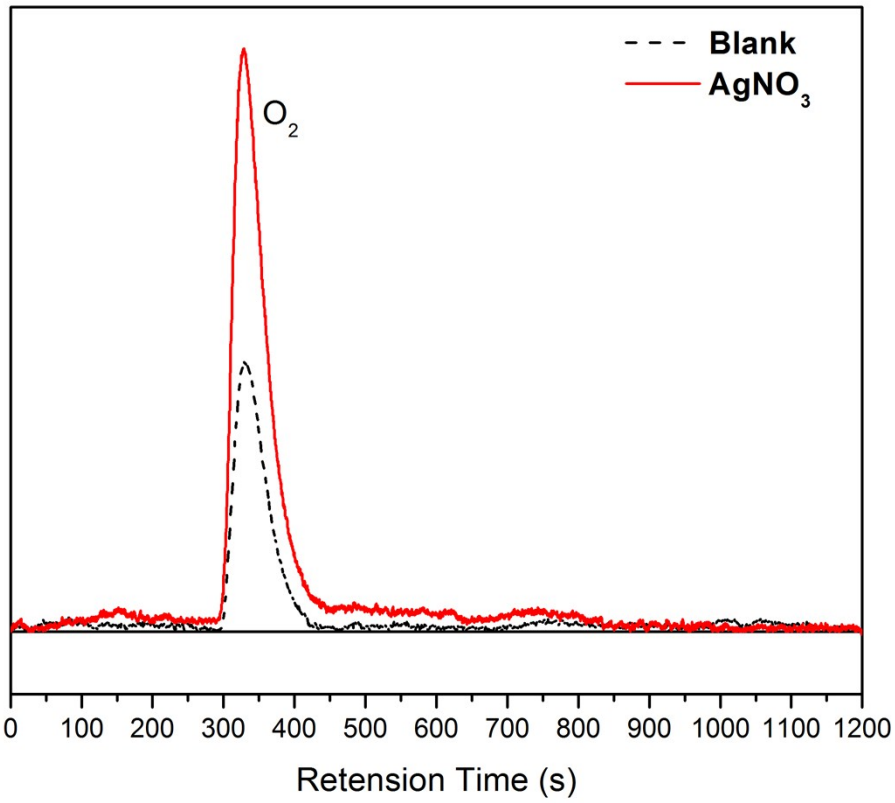

Figure S4. Oxygen production from MnV_2O_6 suspended in a solution of 0.05 M $AgNO_3$ under visible-light irradiation.

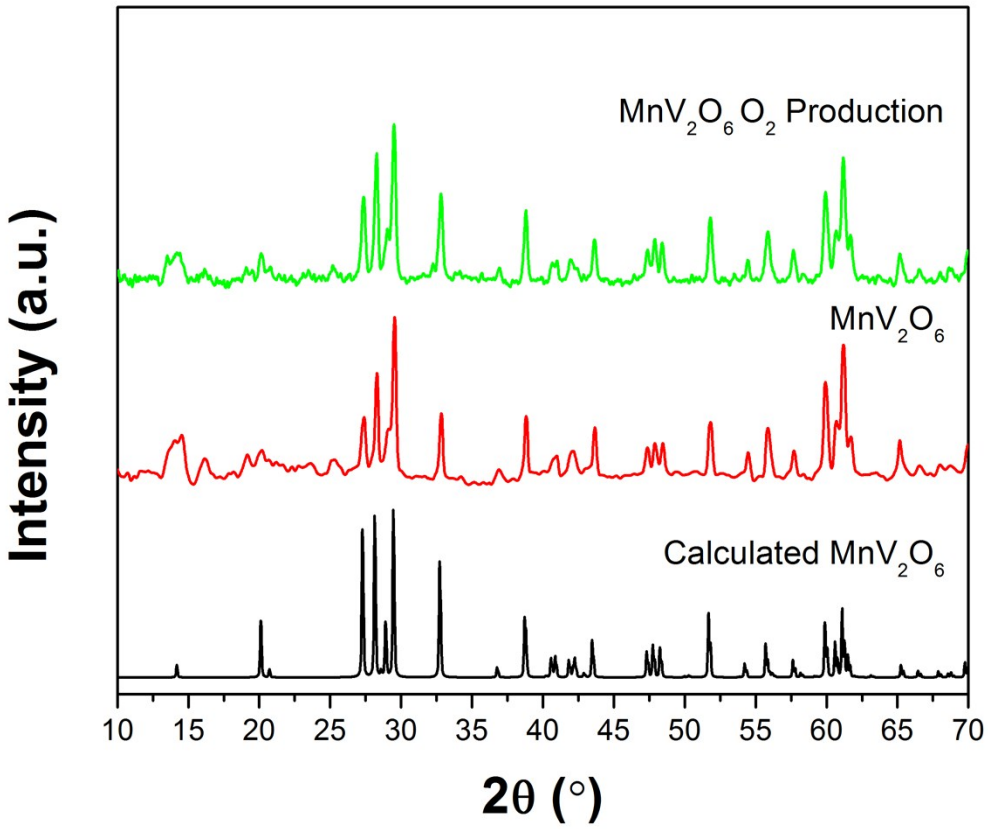

Figure S5. Powder X-ray diffraction of samples of MnV_2O_6 after oxygen production in 0.05 M $AgNO_3$.

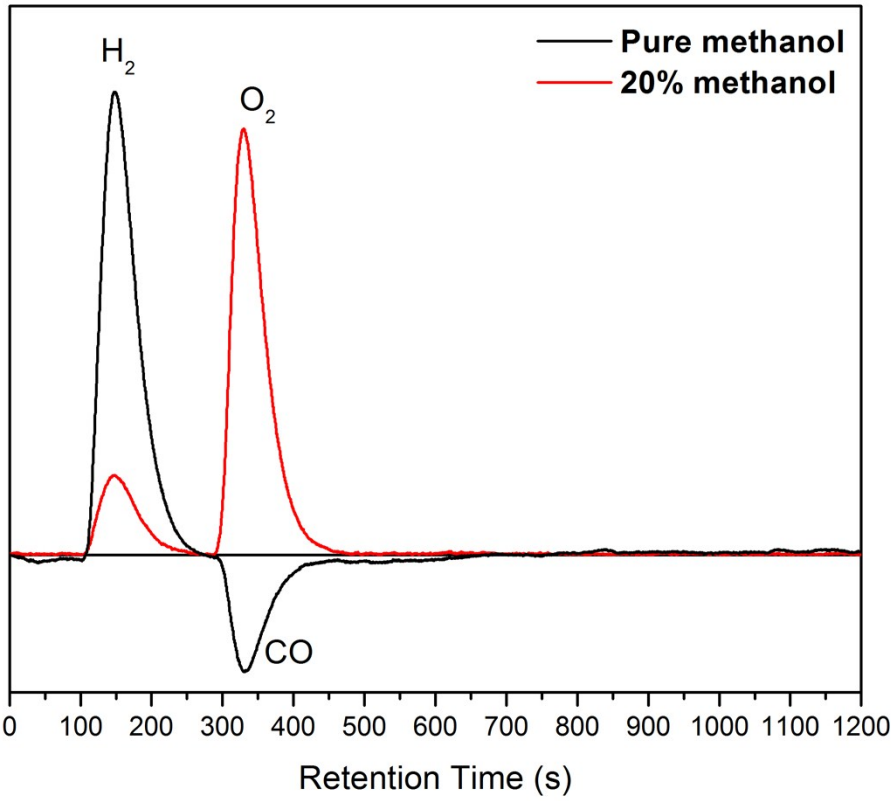

Figure S6. Gas Chromatography results of hydrogen production in pure MeOH and 20% MeOH solutions.

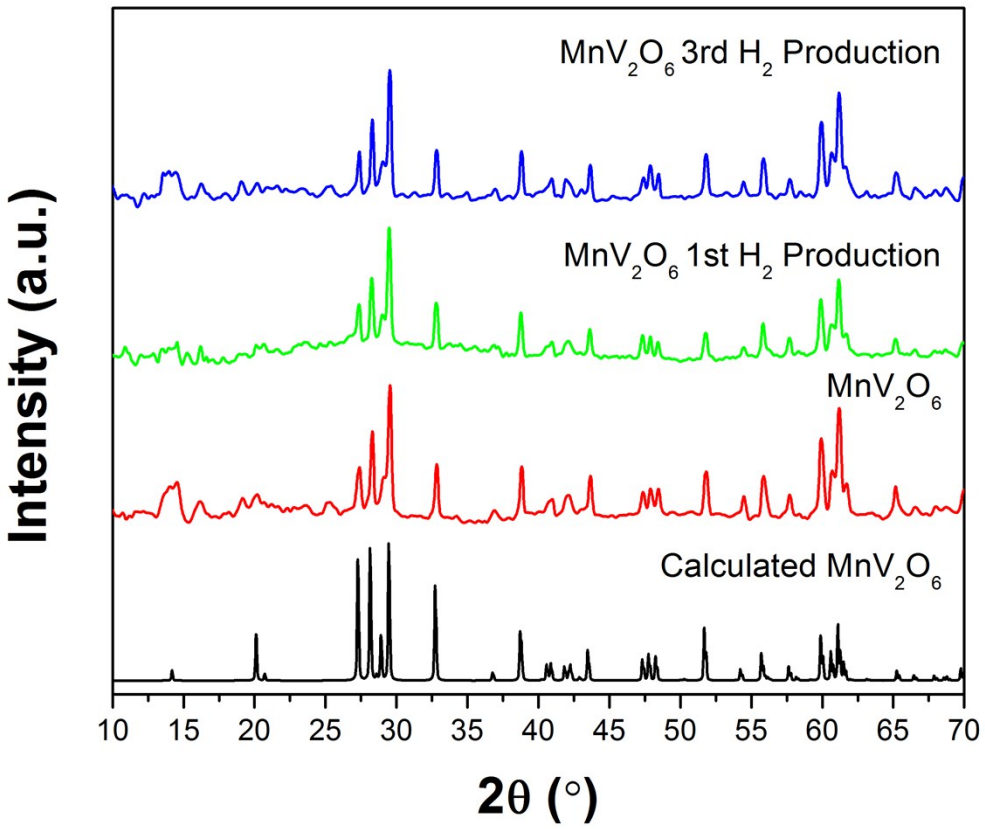

Figure S7. Powder X-ray diffraction of samples of MnV_2O_6 after multiple cycles of hydrogen production in 20% methanol solutions.