Supporting Information

Nanostructured TaON/Ta₃N₅ as highly efficient type II heterojunction photoanode for photoelectrochemical water splitting

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Figure S1. Tauc plots of a) bare Ta_3N_5 and b) TaON.



Figure S2. Current-potential curves for photoanodes with various thicknesses of TaON layer collected in the 1 M NaOH solution (pH 13.6) with a scan rate of 30 mV/s under simulated AM 1.5G solar light at the chopped light condition.



Figure S3. Cross-sectional SEM image of TaON/Ta₃N₅ (mix) photoanode film.



Figure S4. Current-potential curves for $TaON/Ta_3N_5$ (mix) collected in the 1 M NaOH solution (pH 13.6) with a scan rate of 30 mV/s under simulated AM 1.5G solar light at the chopped light condition.



Figure S5. Mott-Schottky plot for a) the Ta_3N_5 and b) TaON electrodes. The Mott-Schottky plots were measured at frequencies of 1000 Hz in 1 M NaOH aqueous solution.



Figure S6. Current-potential curves for $FTO/Ta_3N_5/TaON$ reverse heterojunction collected in the 1 M NaOH solution (pH 13.6) with a scan rate of 30 mV/s under simulated AM 1.5G solar light at the chopped light condition.