Electronic Supplementary Information

Nanostructure-Assisted Charge Transfer in α-Fe_2O_3/g-C_3N_4 Heterojunctions for Efficient and Highly Stable Photoelectrochemical Water Splitting

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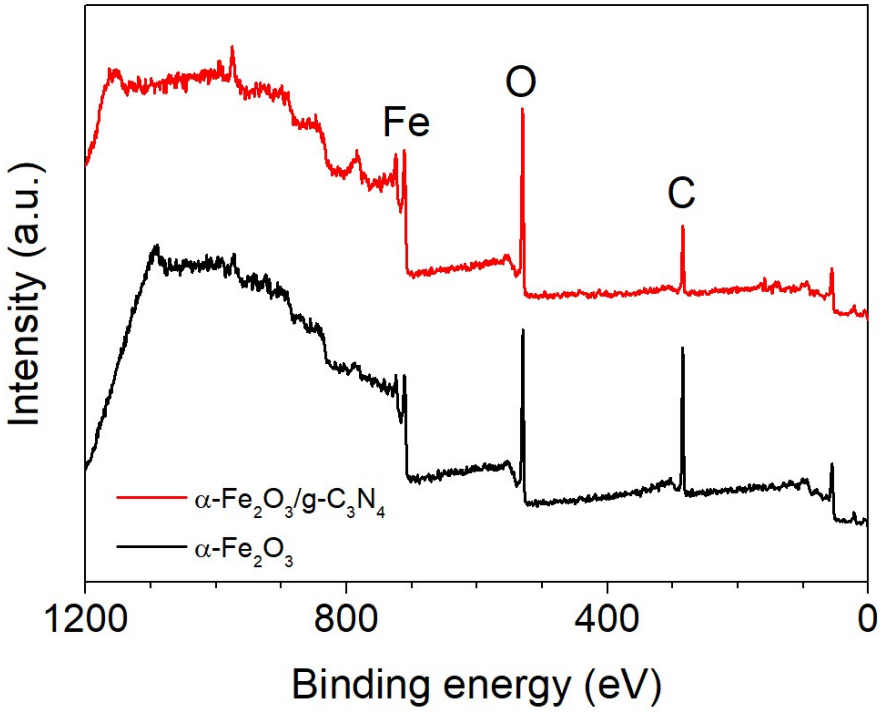

Fig. S1 XPS survey spectra of α-Fe_2O_3 and α-Fe_2O_3/g-C_3N_4 thin films.

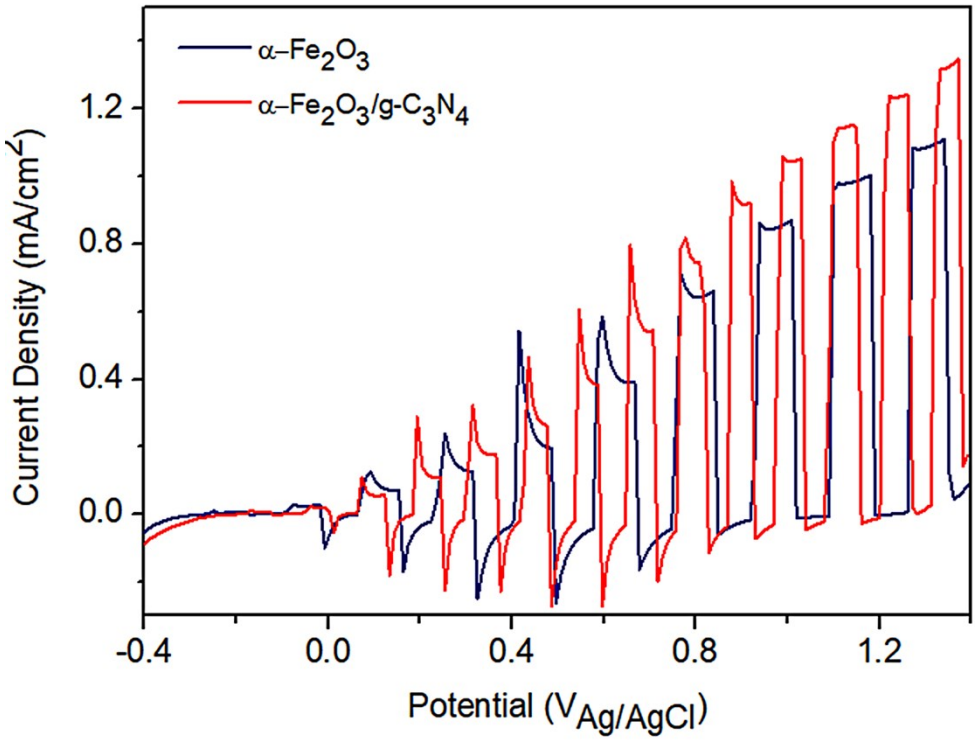

Fig. S2 Photocurrent density-voltage (J-V) curves of α-Fe_2O_3 and α-Fe_2O_3/g-C_3N_4 photoanodes under chopped condition.

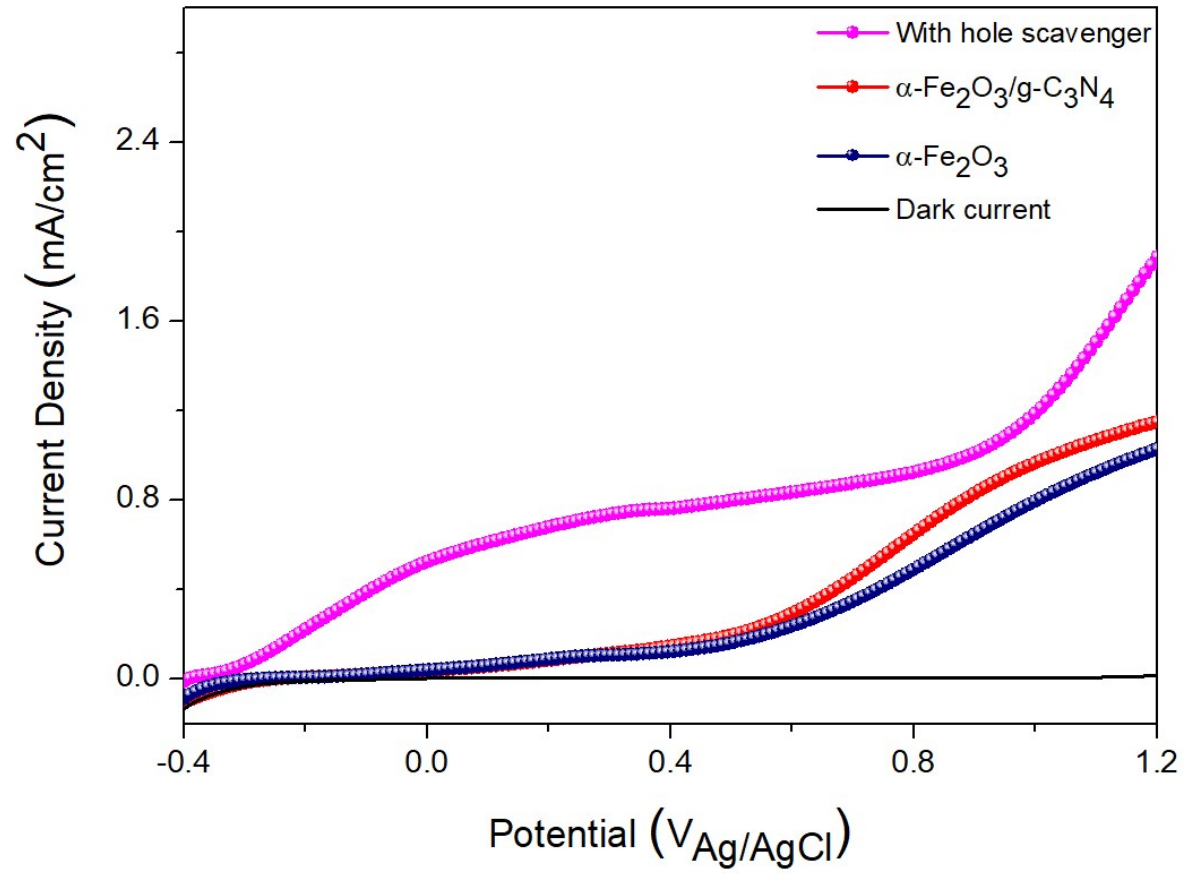

Fig. S3 Photocurrent density-voltage (J-V) curves of α-Fe_2O_3 and α-Fe_2O_3/g-C_3N_4 photoanodes with and without Na_2SO_3 hole scavenger.

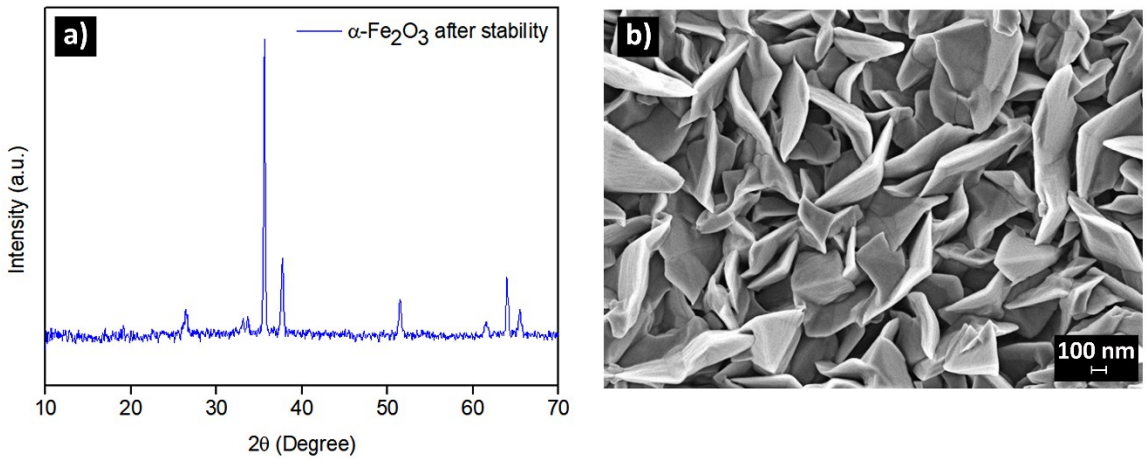

Fig. S4 a) XRD patterns and b) top view FESEM images of α-Fe_2O_3 photoanode after 12h stability test.

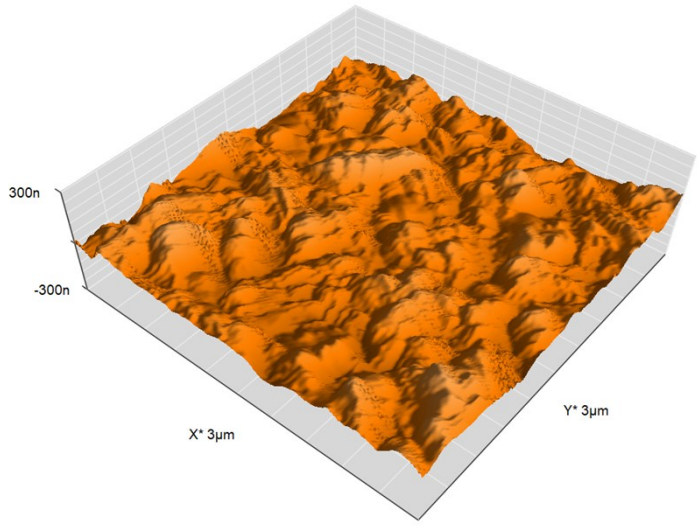

Fig. S5 3-dimensional view of AFM image of smooth α-Fe_2O_3 photoanode

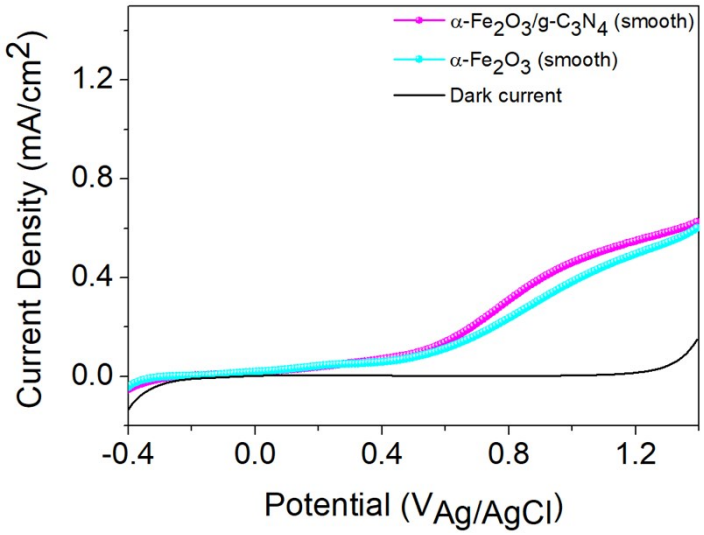

Fig. S6 Photocurrent density-voltage (J-V) curves of smooth α-Fe_2O_3 and α-Fe_2O_3/g-C_3N_4 photoanodes

Table S1 O and Fe atomic ratio evaluated from the XPS data of survey spectra.

Sample	**α-Fe2O3**	**α-Fe_2O_3/g-C_3N_4**
O (at%)	58.1	59.3
Fe (at%)	41.9	40.7
O/Fe	1.387	1.457