Electronic Supplementary Material (ESI) for Nanoscale.

Supporting Information

One-step solvothermal fabrication of Cu@PANI core-shell nanospheres for hydrogen evolution

Ting Wang[a], Dan Wu[a], Youliang Wang[a], Tingbo Huang[a], Gary Histand[b], Tingting Wang[a,*], Heping Zeng[a,*]

a. Key Laboratory of Functional Molecular Engineering of Guangdong Province, School of Chemistry and Chemical Engineering, South China University of Technology, Guangzhou, 510641, P. R. China.

b. International School of Advanced Materials, South China University of Technology, Guangzhou, 510641, P. R. China.

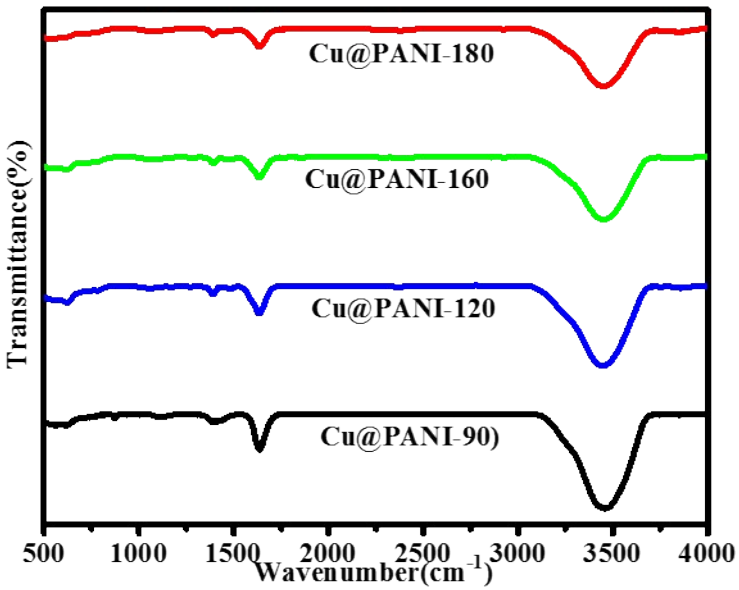

Fig. S1. FTIR spectra of the samples prepared under different temperature

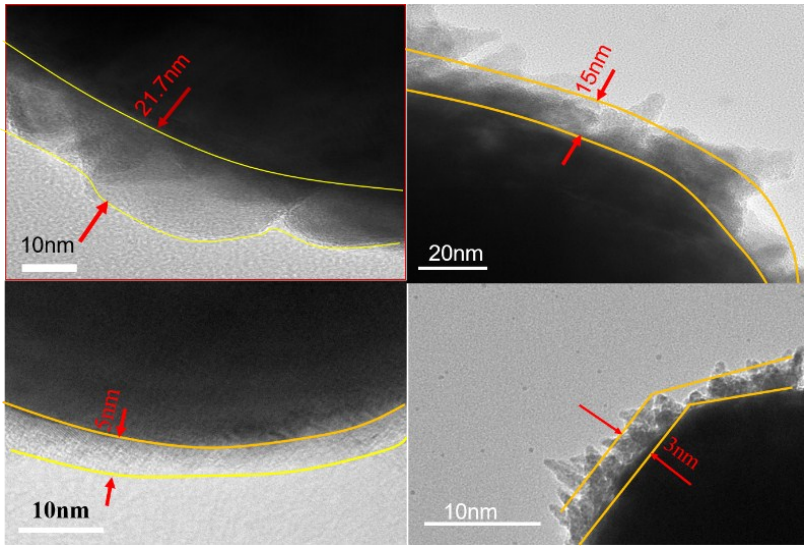

Fig. S2. TEM images for: (a)Cu/PANI-90; (b)Cu/PANI-120; (C)Cu/PANI-160; (d)Cu/PANI-180

Table. S1. Elemental analysis of Cu/PANI composites

element content (wt%) / sample	N	C
Cu/PANI-180	0.19	1.62
Cu/PANI-160	0.23	1.66
Cu/PANI-120	0.28	1.82
Cu/PANI-90	0.44	1.92

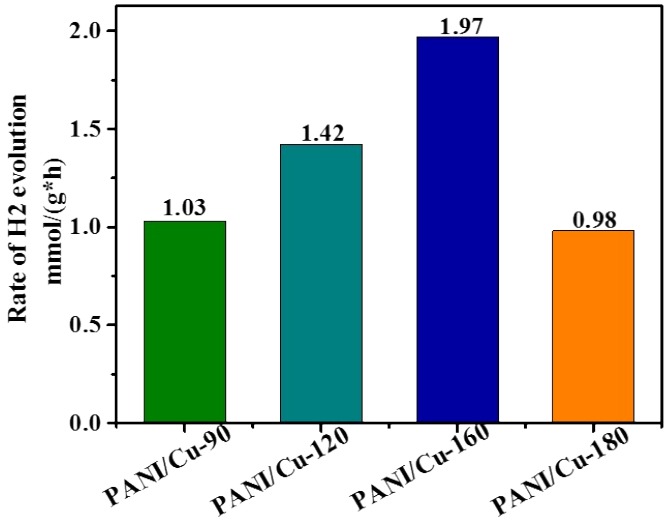

Fig. S3. Photocatalytic H_2 evolution of Cu/PANI composites prepared at different temperature under solar light irradiation

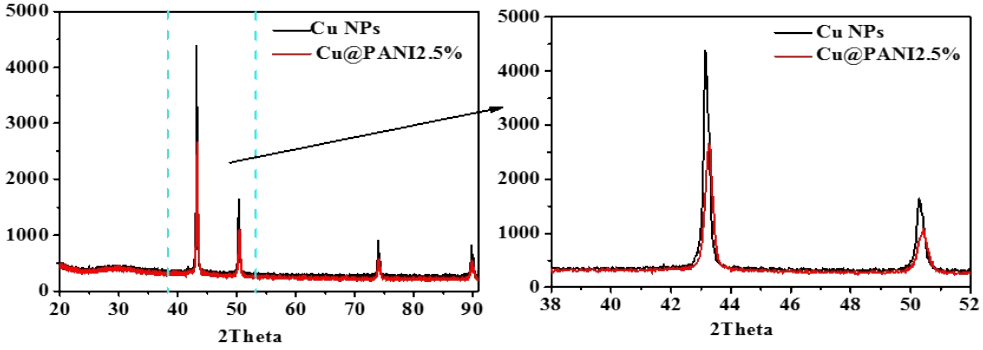

Fig. S4. XRD spectra of Cu NPs and Cu@PANI2.5%

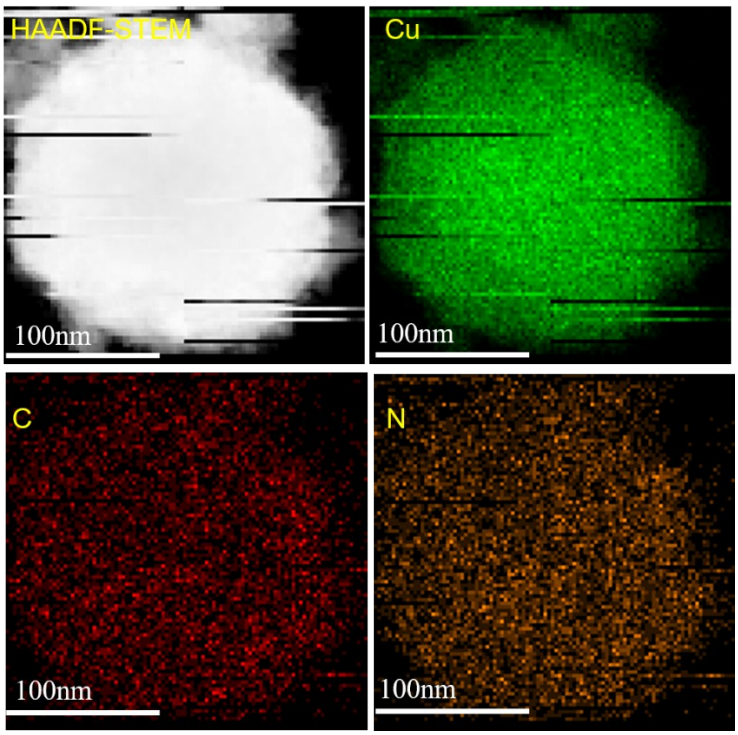

Fig. S5. HAADF-STEM and STEM-EDS elemental mapping images of Cu@PANI2.5% core-shell nanospheres

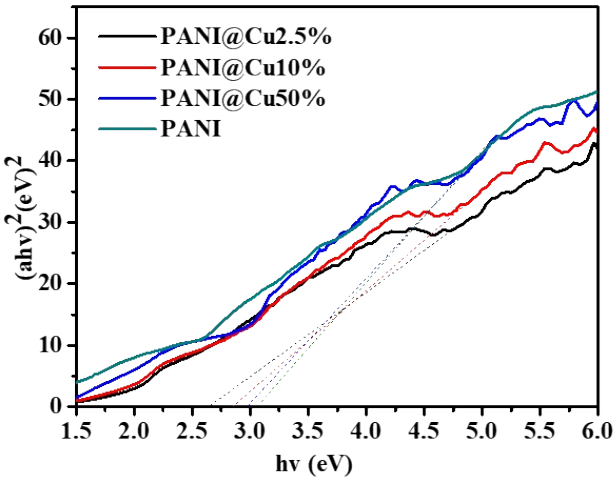

Fig. S6. Relationship of $(ahv)^2$ vs. E (eV) of PANI and Cu@PANI core-shell nanospheres.

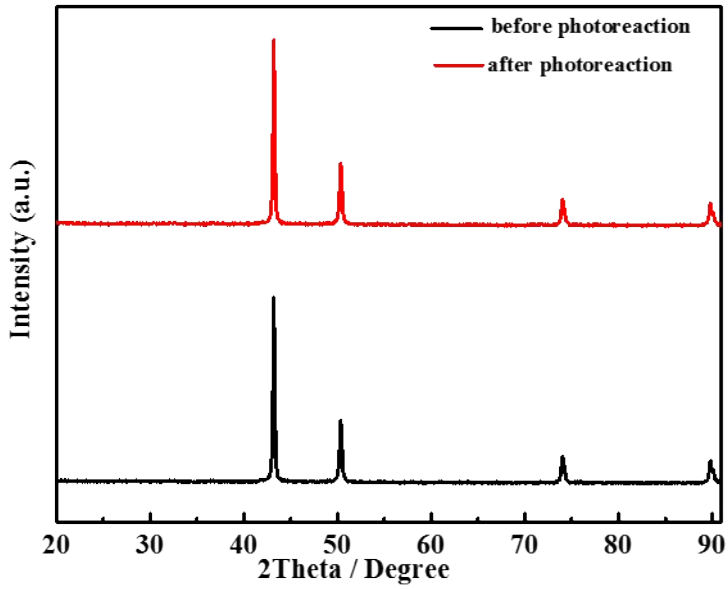

Fig. S7. XRD spectra of Cu@PANI2.5%

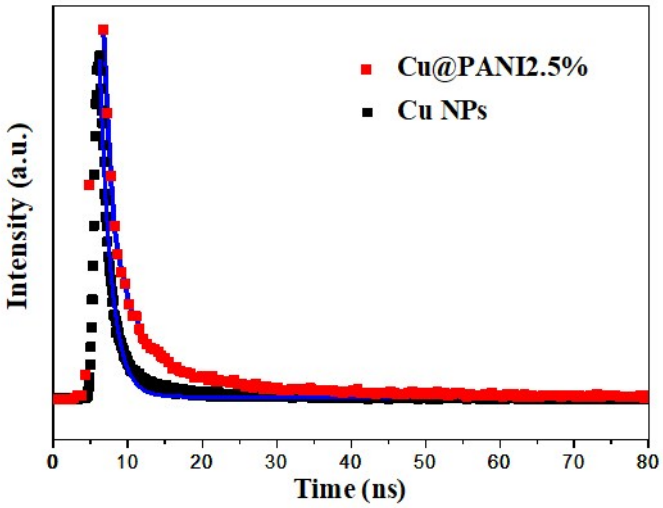

Fig. S8. Time-resolved PL decay profiles for Cu NPs and Cu@PANI2.5% core-shell nanospheres

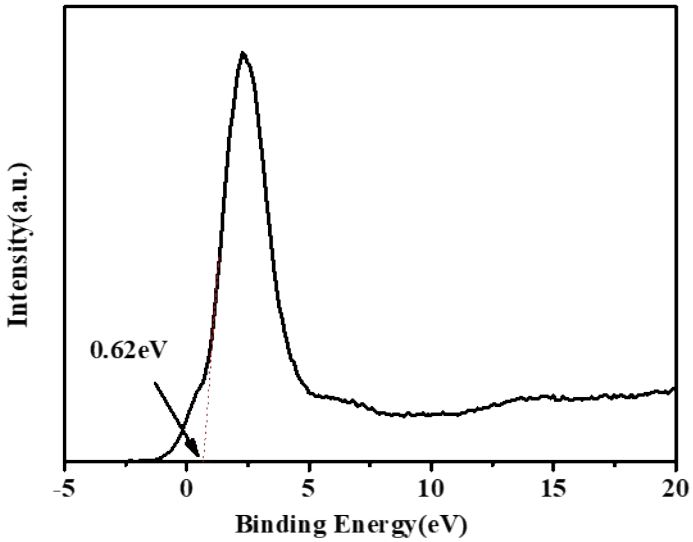

Fig. S9. XPS valence band spectra of Cu@PANI2.5%