Supporting Information

Synthesis of g-C_3N_4/Bi_2O_3/TiO_2 composite nanotubes: Enhanced activity under visible light irradiation and improved photoelectrochemical activity

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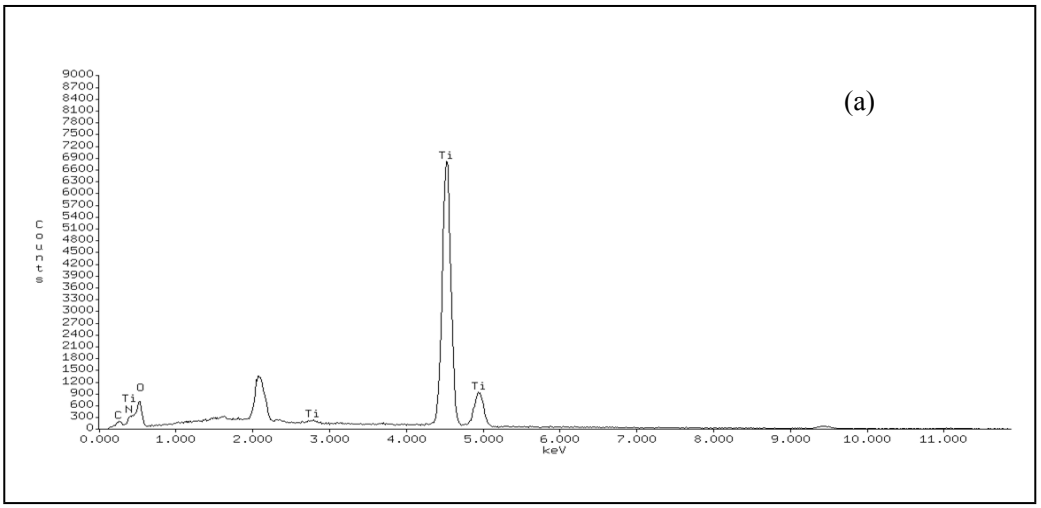

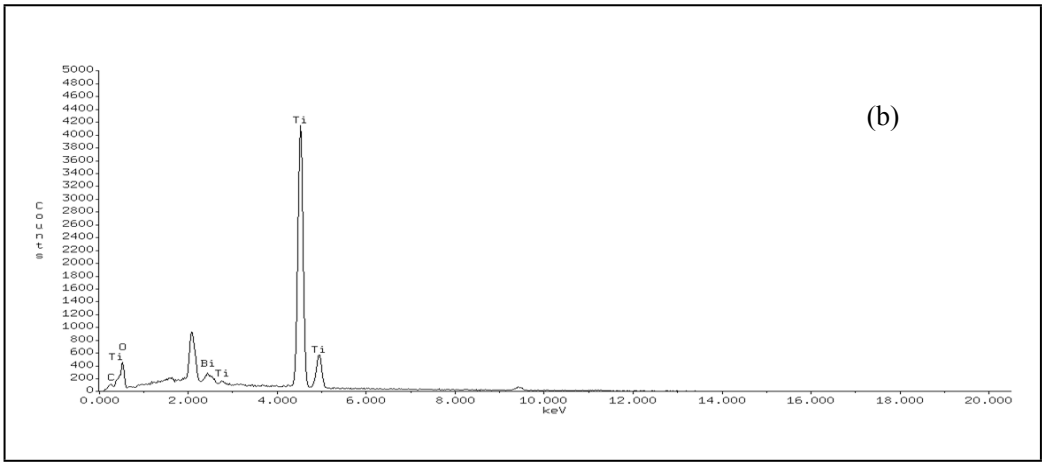

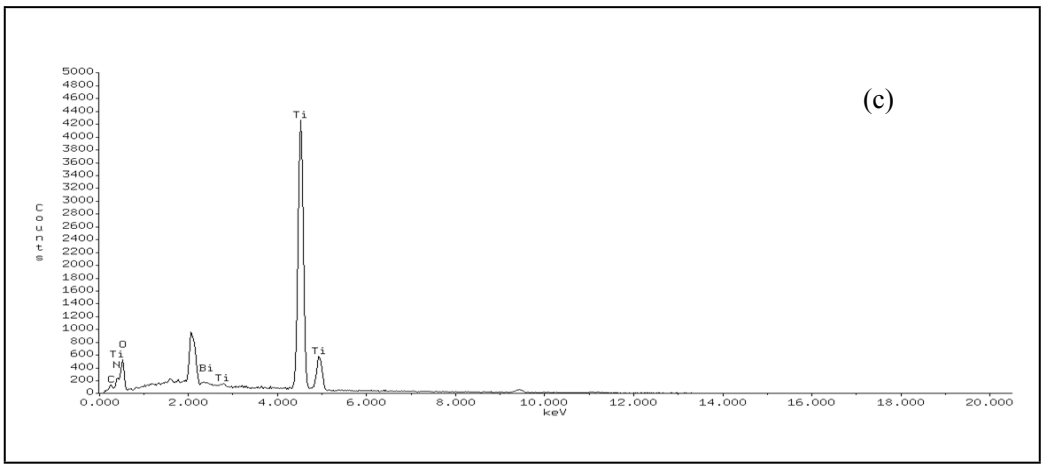

Fig.S1.

Fig.S1.Energy-dispersive X-ray (EDX) spectroscopy of g-C_3N_4/TiO_2-NTs (a), Bi_2O_3/TiO_2-NTs (b), g-C_3N_4/Bi_2O_3/TiO_2-NTs (c).

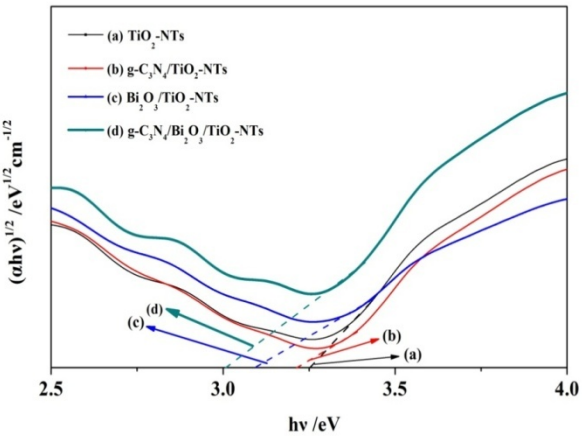

Fig. S2.

Fig. S2. The corresponding Kubelka-Munk transformed reflectance spectraof TiO_2-NTs (a), g-C_3N_4/TiO_2-NTs (b), Bi_2O_3/TiO_2-NTs (c) and g-C_3N_4/Bi_2O_3/TiO_2-NTs (d)

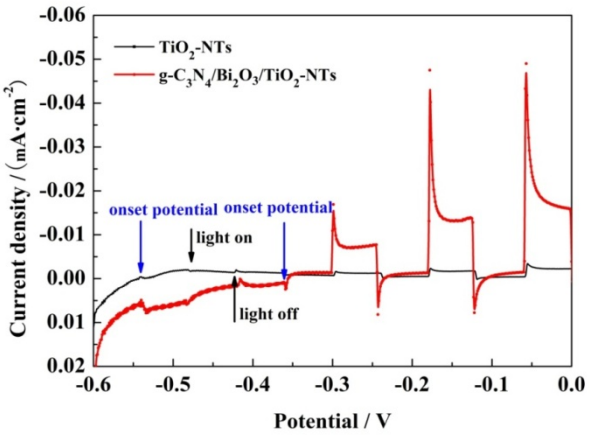

Fig. S3.

Fig. S3. LSVs of TiO_2-NTs and$g$-$C_3N_4/Bi_2O_3/TiO_2$-NTs in 0.1 M $Na_2SO_4$and Na_2SO_3mixed aqueous solution (pH 10.5) under chopped visible light irradiation. Scan rate: 5 mV/s. Light intensity: 100 mW/cm^2.

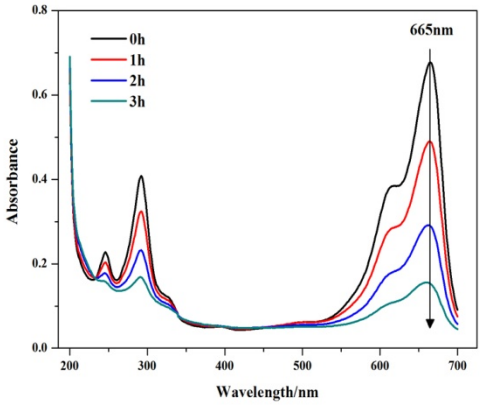

Fig.S4.

Fig. S4.The absorbance spectra of MB degradation at the g-C_3N_4/Bi_2O_3/TiO_2-NTs electrode in PEC process. Applied potential: 3.0 V. Electrolyte: 0.1 M Na_2SO_4, pH = 3.

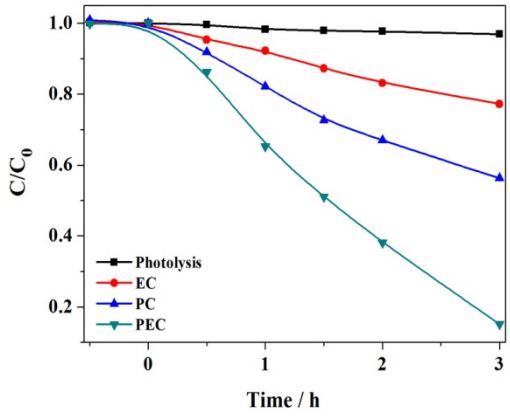

Fig. S5.

Fig.S5.Variation of phenol concentration vs. time at the g-C_3N_4/Bi_2O_3/TiO_2-NTs electrode in EC, PC and PEC processes. Applied potential: 3.0 V. Electrolyte: 0.1 M Na_2SO_4, pH = 3.

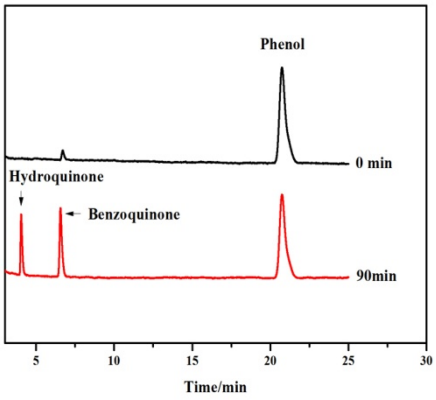

Fig.S6

Fig.S6.The typical HPLC chromatograms of phenol degradation at the g-$C_3N_4/Bi_2O_3/TiO_2$-NTs electrode in PEC process. Applied potential: 3.0 V. Electrolyte: 0.1 M Na_2SO_4, pH = 3.