Supplementary Material

Rational Regulation of Surface Free Radicals on TiO_2 Nanotube Arrays Via Ag_2O–$AgBiO_3$ Towards Enhanced Selective Photoelectrochemical Detection

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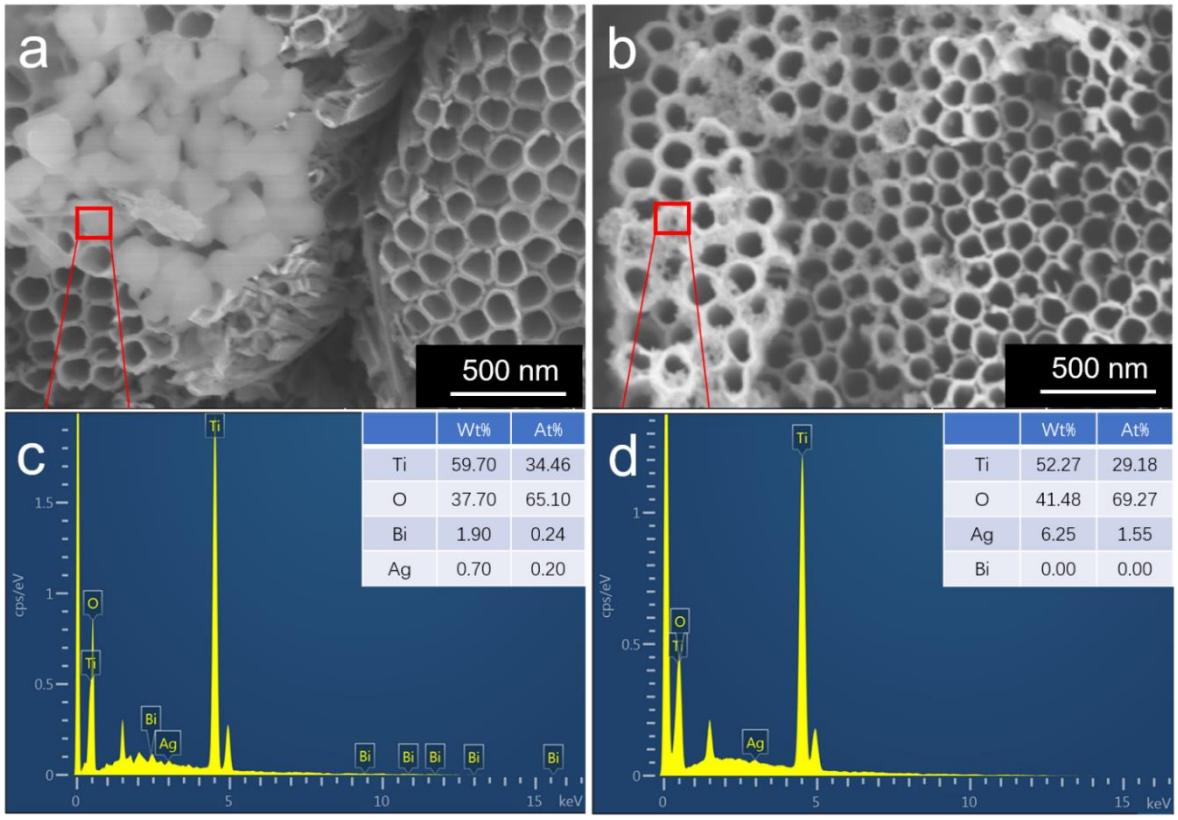

Figure S1. High-resolution SEM images and corresponding EDX spectroscopy results of the co-modified TiO_2 NTAs.

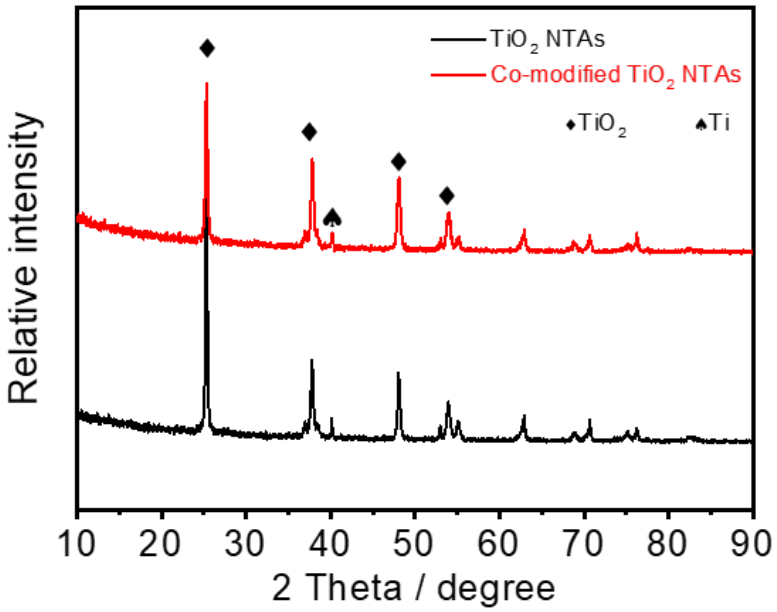

Figure S2. XRD patterns of TiO_2 and co-modified TiO_2 NTAs.

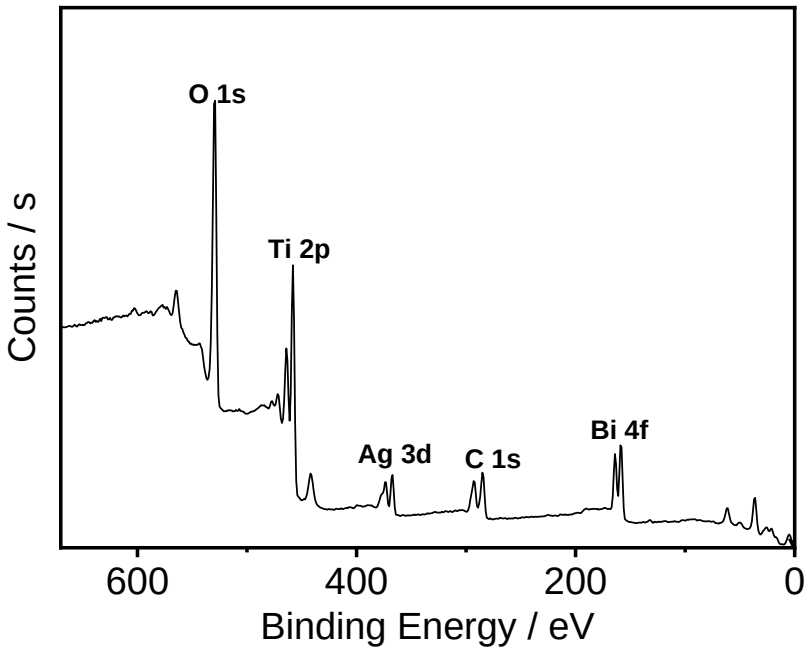

Figure S3. Broad-scan XPS spectra of co-modified TiO_2 NTAs.

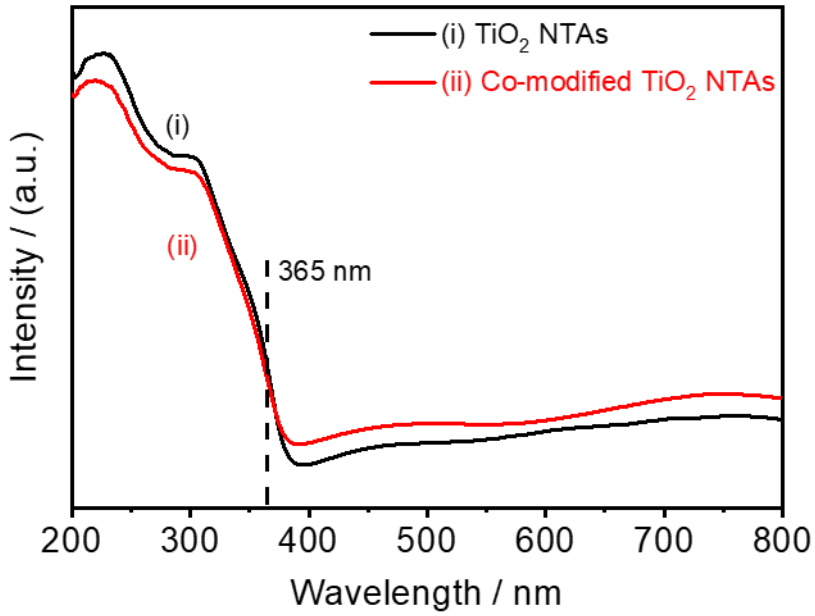

Figure S4. UV-Vis diffuse reflectance of TiO_2 and co-modified TiO_2 NTAs.

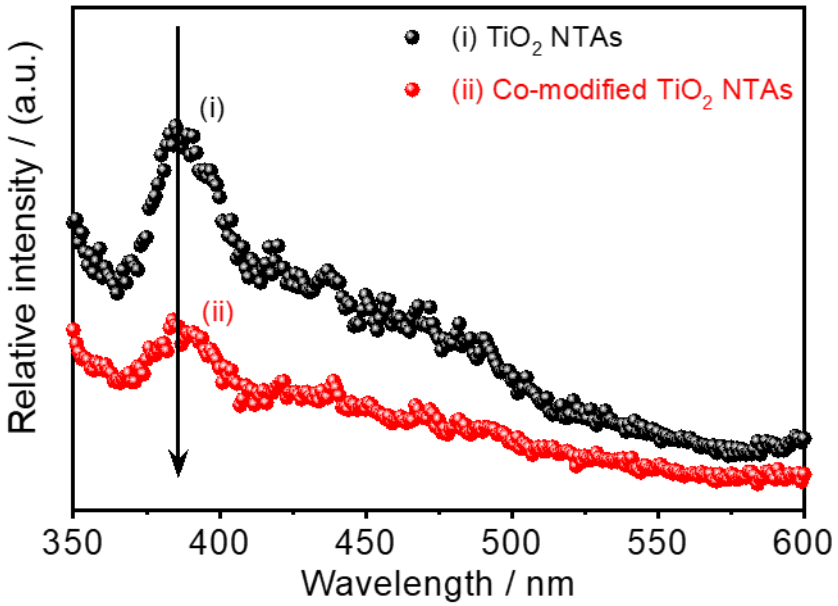

Figure S5. PL emission spectra of TiO_2 and co-modified TiO_2 NTAs.

Table 1. The comparison table of selectivity abilities for as-prepared samples.

	Pristine TiO_2	**Co-modified TiO_2**	**Ag-containing**	**Bi-containing**
Background photocurrent	159.28 μA·cm^{-2}	88.49 μA·cm^{-2}	93.86 μA·cm^{-2}	60.89 μA·cm^{-2}
Current response	11.33 μA·cm^{-2}	25.90 μA·cm^{-2}	18.50 μA·cm^{-2}	20.14 μA·cm^{-2}

Table S2. List of reported parameters of TiO_2-based PEC sensors for glucose detection. The symbol (#) indicates approximately the value extracted from the figure/data reported in each reference, which the author did not mention directly.

Sample	Wavelength	Sensitivity	Linear range	LOD	Refs.
Co-modified TiO_2	365	1.16848 $\mu A \cdot cm^{-2}$ / (mg L^{-1}) or 224.34816 $\mu A \cdot mM^{-1} \cdot cm^{-2}$	0-151.7 mg L^{-1} or 0-0.79 mM	0.6162 mg L^{-1} or 3.209 μM	This work
TiO_2	365	0.40765 $\mu A \cdot cm^{-2}$ / (mg L^{-1}) or 78.2688 $\mu A \cdot mM^{-1} \cdot cm^{-2}$	0-151.7 mg L^{-1} or 0-0.79 mM	3.341 mg L^{-1} or 17.401 μM	This work
Ag/TiO_2	365	194 $\mu A \cdot mM^{-1} \cdot cm^{-2}$	0-0.7 mM	0.53 μM	[1]
Bi/TiO_2	365	254.7 $\mu A \cdot mM^{-1} \cdot cm^{-2}$	0-0.5 mM	4.2 μM	[2]
Bi_2WO_6/TiO_2	365	196.1 $\mu A \cdot mM^{-1} \cdot cm^{-2}$	0-0.6 mM	3.31 μM	[3]
Pt/TiO_2	Xenon lamp	56 $\mu A \cdot mM^{-1} \cdot cm^{-2}$	0.1-4.5 mM	20 μM	[4]
Au/CuS/TiO_2	White light	#178 $\mu A \cdot mM^{-1} \cdot cm^{-2}$	0.1 - 3 μM	0.03 μM	[5]
Ti/TiO_2-rGO-Cu_2O	halogen lamp	0.87 $\mu A \cdot mM^{-1} \cdot cm^{-2}$	0.0007-20 mM	0.21 μM	[6]
TiO_2-MoS_2-GOx	Xe lamp	0.81 $\mu A \cdot mM^{-1} \cdot cm^{-2}$	0.1–10 mM	15 μM	[7]

References

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