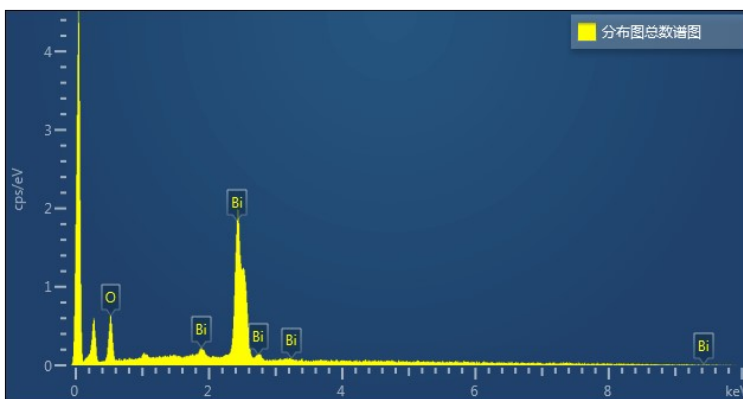


1 Support information



element	Line type	apparent concentration	<i>k</i> specific value	Wt%	Wt% Sigma	Standard sample labels
O	K linear system	0.10	0.00035	10.45	0.40	SiO ₂
Bi	M linear system	0.58	0.00580	89.55	0.40	Bi

2

Figure S1. The EDS element mappings of Bi₂O₃/BiO₂-2

3

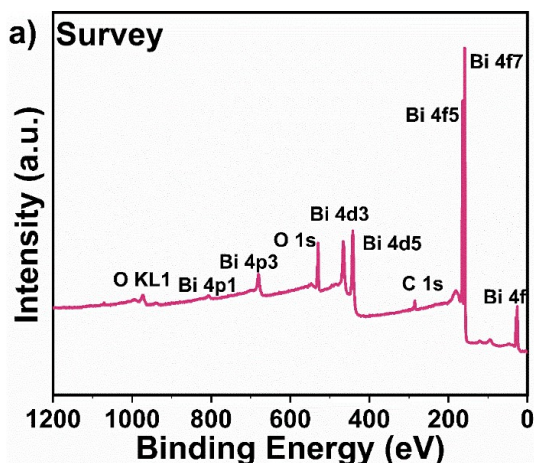


Figure S2. XPS spectra for Bi₂O₃/BiO₂-2 of survey scan

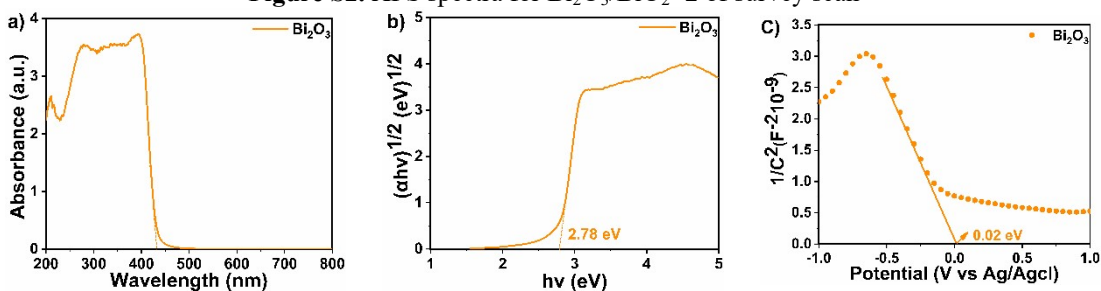


Figure S3. (a) UV-visible diffuse reflectance spectrum of Bi₂O₃, (b) $(\alpha hv)^{1/2}$ vs. $h\nu$ curves of Bi₂O₃, (c) Mott-Schottky plot of Bi₂O₃

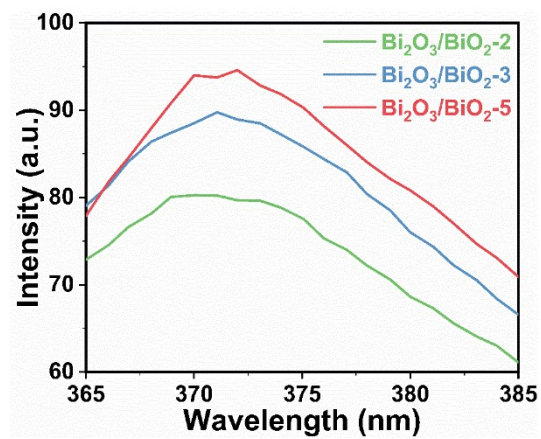


Figure S4. PL spectra of Bi₂O₃/BiO₂

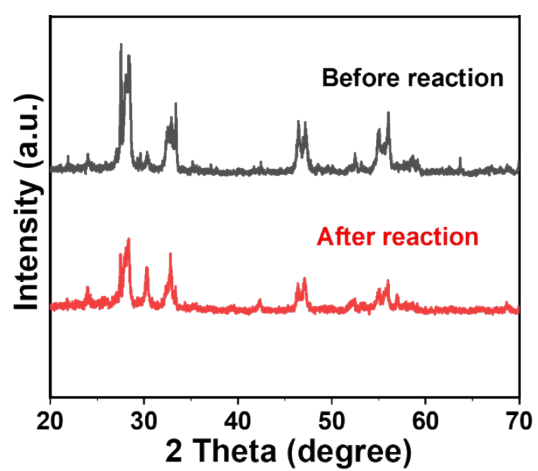


Figure S5. XRD pattern after reaction

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