

Supplementary information

One step microwave-hydrothermal synthesis of rGO-TiO₂ nanocomposites for enhanced electrochemical oxygen evolution reaction

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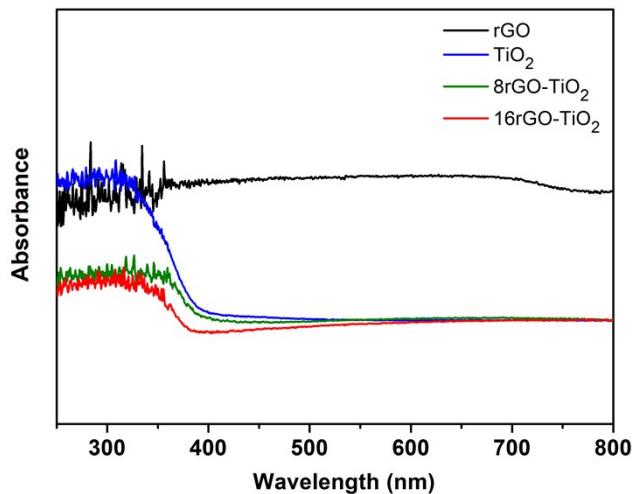


Figure S1. Optical absorption spectra of rGO, TiO₂ and rGO-TiO₂ samples.

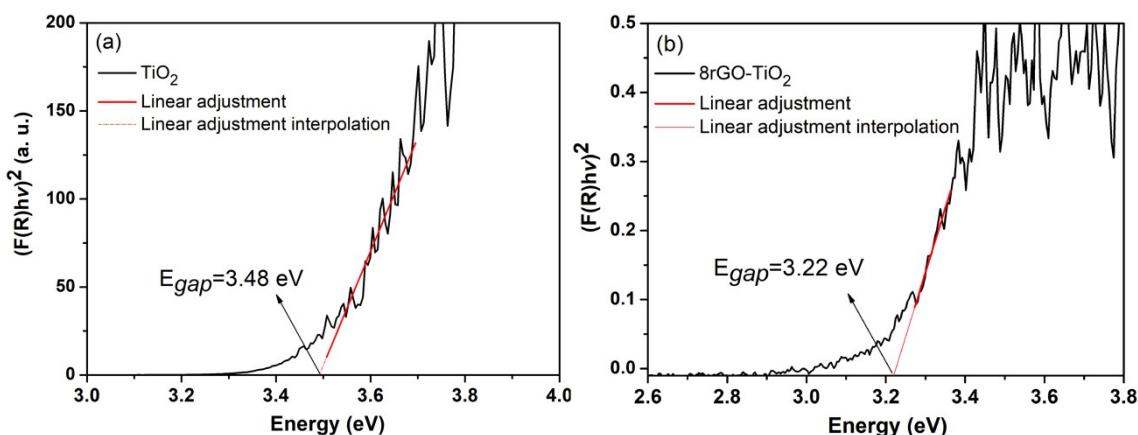


Figure S2. The plot of transformed Kubelka-Munk function $(F(R)hv)^2$ versus energy (eV) for pure (a) TiO₂ and (b) 8rGO-TiO₂ nanocomposite.

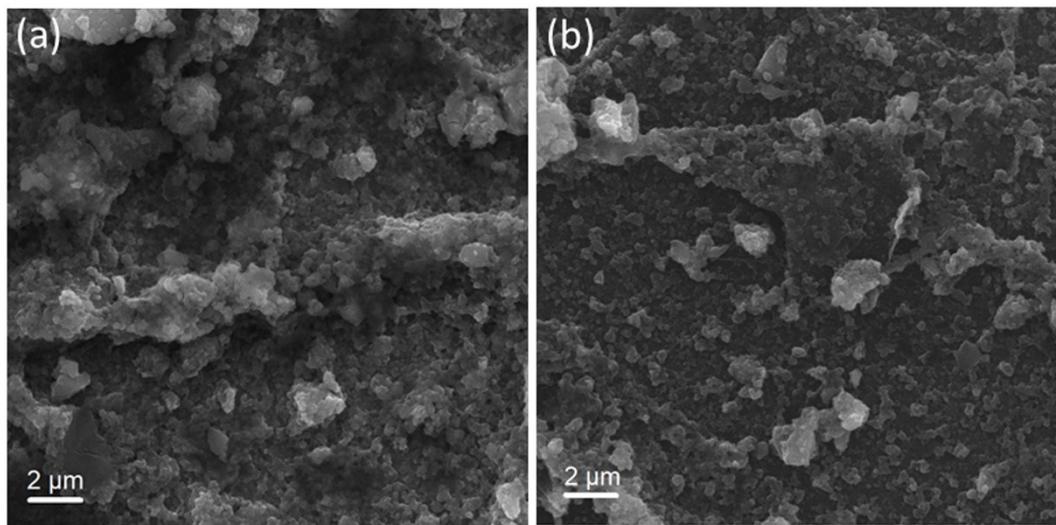


Figure S3. SEM images (a) before and (b) after the chronoamperometric test (4 h) for 16rGO-TiO₂ nanocomposite film.

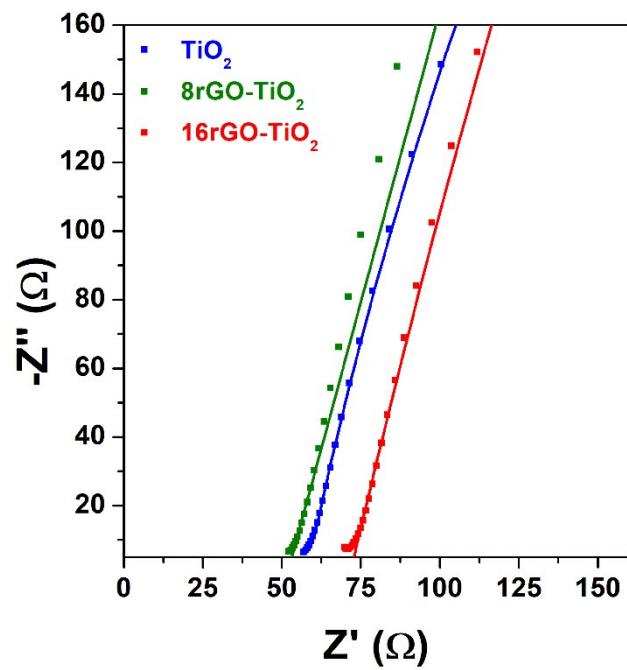


Figure S4. EIS measurements of pure TiO₂, 8rGO-TiO₂ and 16rGO-TiO₂ nanocomposites.

Table S1. Comparison of catalysts activities in OER.

Catalyst	Tafel slope (mV dec ⁻¹) at neutral pH	Tafel slope (mV dec ⁻¹) at alkaline pH	REF
16rGO-TiO ₂	138 (pH=7.0)	76 (pH=14.0)	This work
CeO ₂ /rGO	-	138 (~pH=13)	18
Pure TiO ₂	-	230 (pH=13.7)	59
Modified TiO ₂ -700	-	51 (pH=13.7)	59
rGO-TiO ₂ (RAG3)	-	94, (pH=14.0)	60
Nickel-borate/rGO	176 (pH=9.2)	79 (pH=14)	64
WO ₃ /CC	-	82 (pH=14)	65
TiO ₂ /B-C/B4C	-	61 (~pH=13)	66