

Supplementary materials

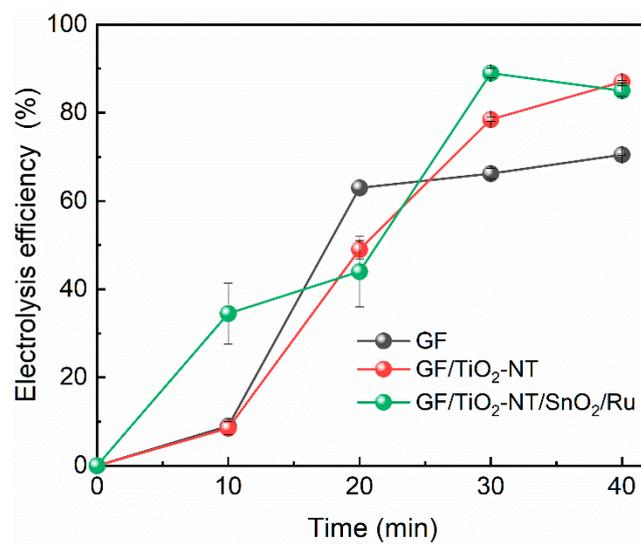


Figure S1. Degradation efficiency of glyphosate on GF, GF/TiO₂-NT and GF/TiO₂-NT/SnO₂/Ru electrodes.

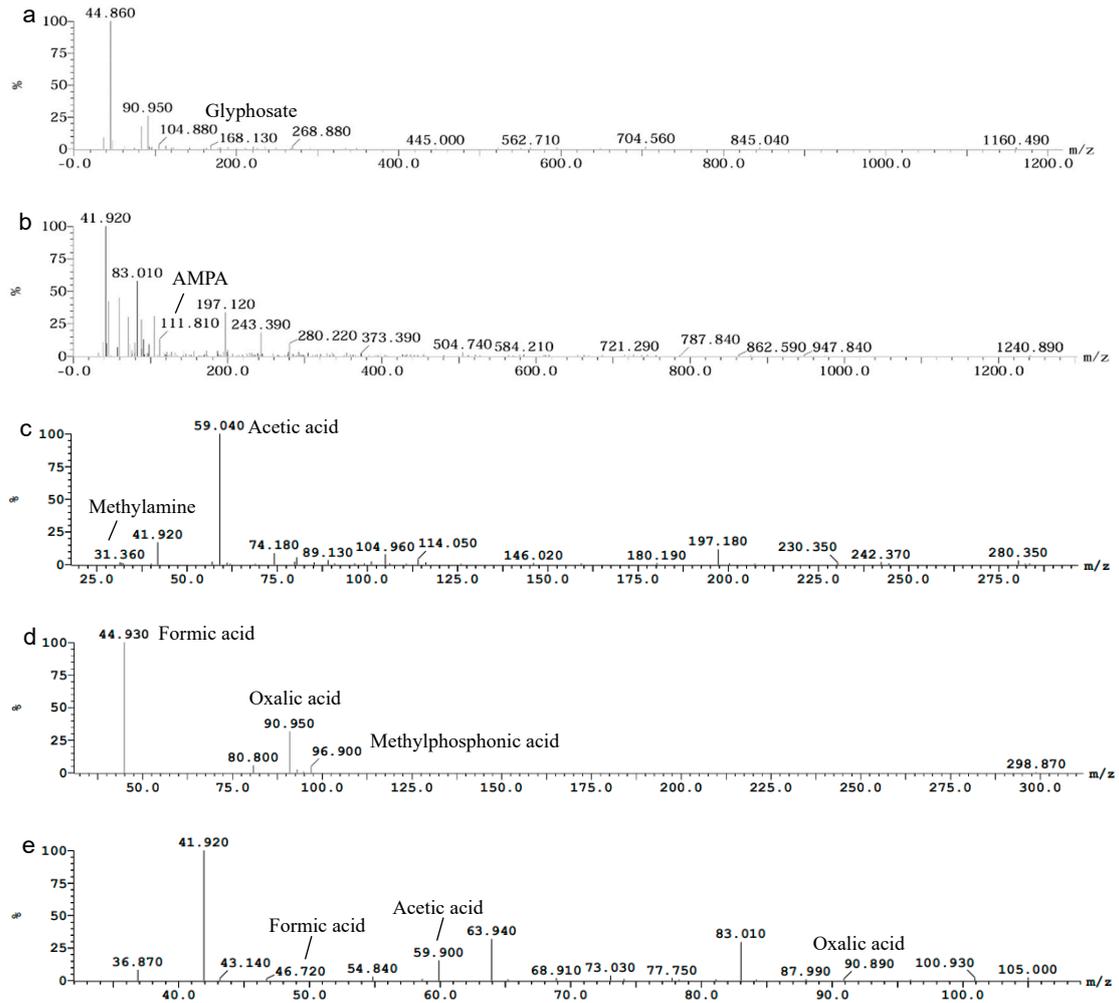


Figure S2. LC-MS spectroscopy of glyphosate electrolysis solution at different times (a: 0 min, b,c,d: 5 min, e: 40 min).

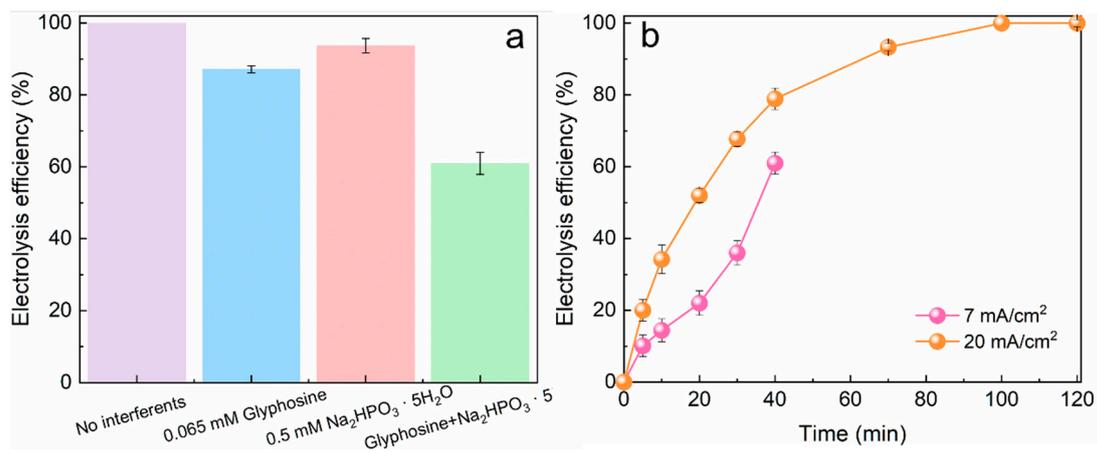


Figure S3. (a) Influences of glyphosine, $\text{NaH}_2\text{PO}_3 \cdot 5\text{H}_2\text{O}$, coexistence of glyphosine and $\text{NaH}_2\text{PO}_3 \cdot 5\text{H}_2\text{O}$ on glyphosate degradation; (b) Effect of current densities on glyphosate degradation efficiency in simulated actual glyphosate wastewater.

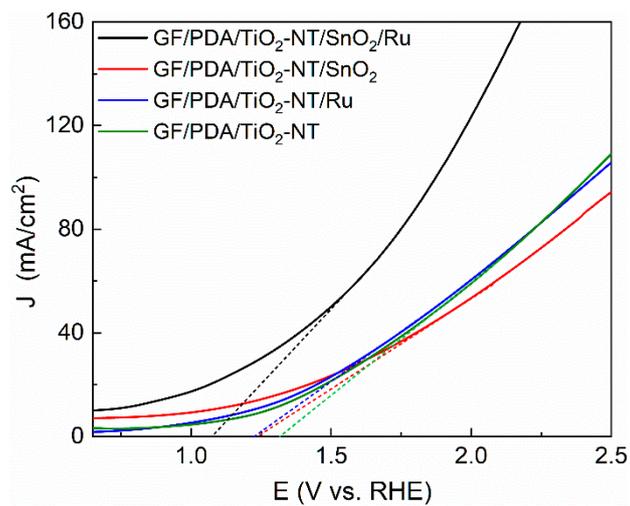


Figure S4. LSV curves of GF/PDA/TiO₂-NT, GF/PDA/TiO₂-NT/Ru, GF/PDA/TiO₂-NT/SnO₂, GF/PDA/TiO₂-NT/SnO₂/Ru electrodes in 0.5 M Na₂SO₄, scan rate: 50 mV/s.

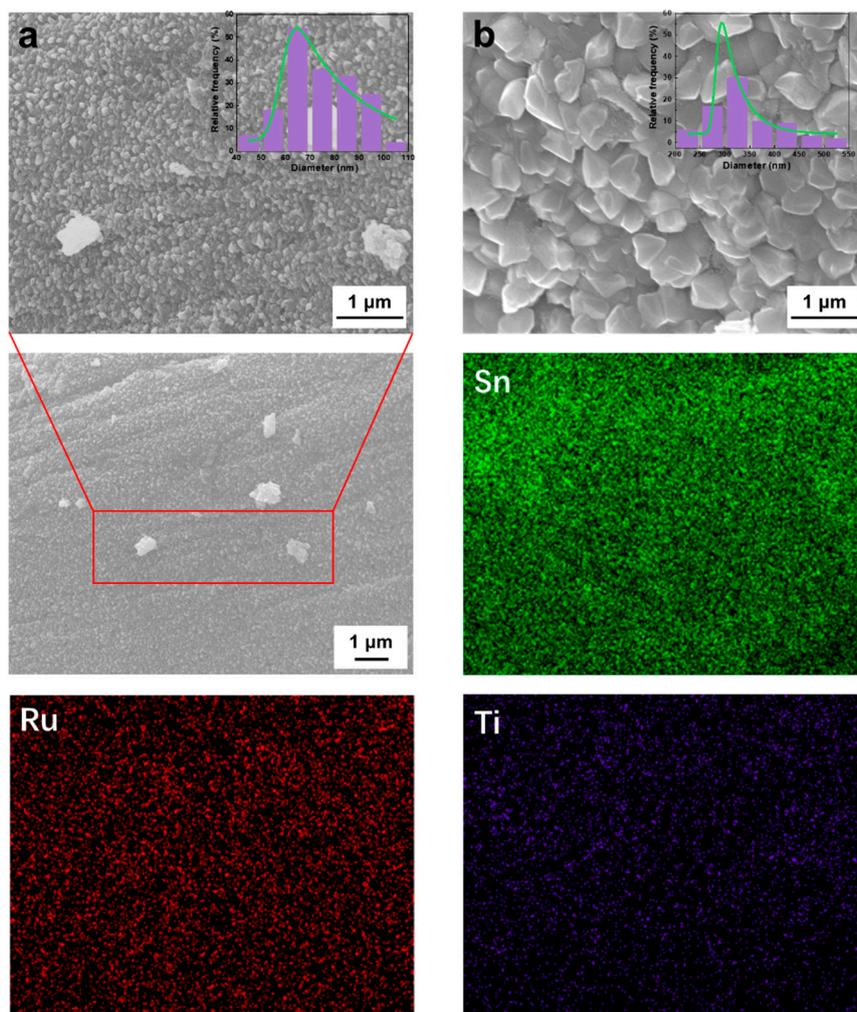


Figure S5. SEM images of the (a) GF/PDA/TiO₂-NT/SnO₂/Ru and (b) GF/PDA/TiO₂-NT/SnO₂ electrodes after eight times electrolysis. EDS mapping of the GF/PDA/TiO₂-NT/SnO₂/Ru after eight times electrolysis.

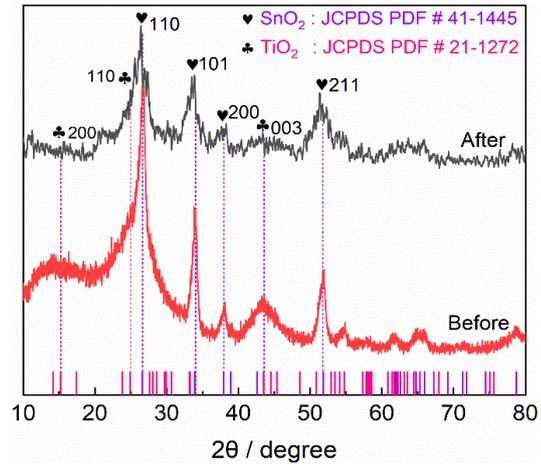


Figure S6. Comparison of XRD patterns of GF/PDA/TiO₂-NT/SnO₂/Ru electrode before and after degradation of glyphosate.

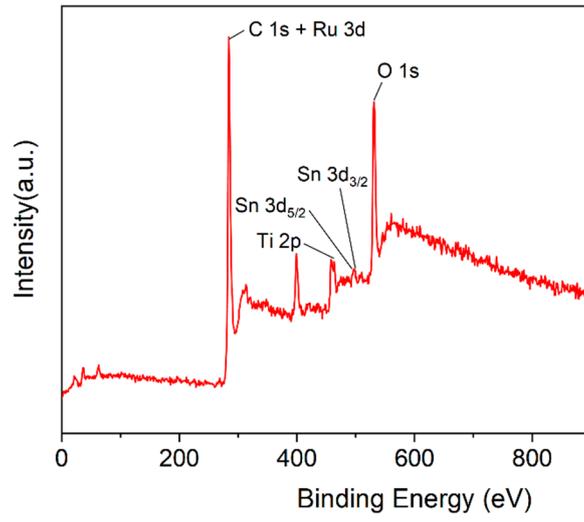


Figure S7. A full-scale XPS spectrum of GF/PDA/TiO₂-NT/SnO₂/Ru after degradation of glyphosate.

Table S1. Degradation efficiency and energy consumption under different current densities.

Current density	Degradation efficiency	Energy consumption
3 mA/cm ²	75%	0.22 Wh/L
5 mA/cm ²	91%	0.21 Wh/L
7 mA/cm ²	100%	0.14 Wh/L
10 mA/cm ²	97%	0.17 Wh/L