

SUPPORTING INFORMATION

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Separation of thorium ions from wolframite and scandium concentrates using graphene oxide

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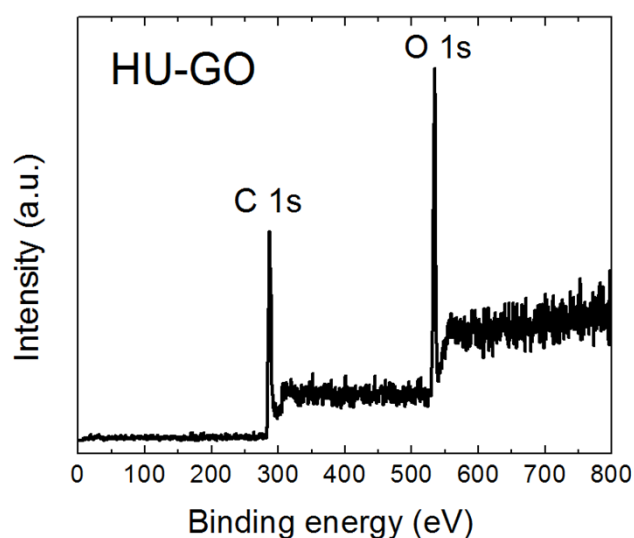


Figure S11 XPS survey spectrum of the starting graphene oxide.

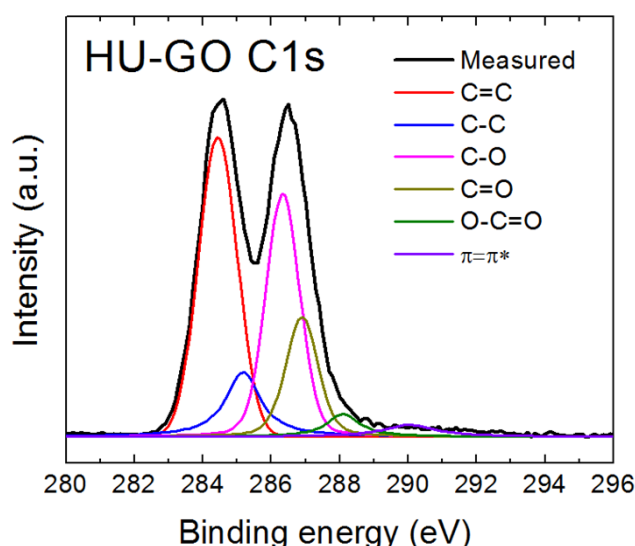


Figure S12 The high-resolution XPS spectrum of C1s peak from the starting graphene oxide.

Table S11. Results of C1s fitting for the starting graphene oxide.

Sample	-C=C	C-C	C-O	C=O	O-C=O	$\pi=\pi^*$
HU-GO	38.86	10.63	29.54	14.58	3.53	2.858

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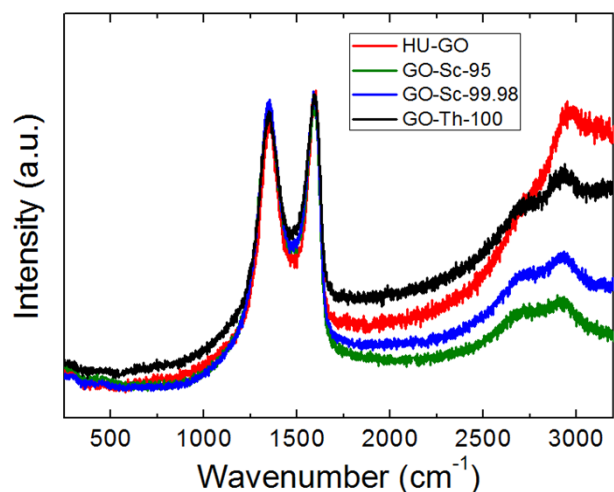


Figure S13 Raman spectra of the starting graphene oxide and Th and/or Sc doped graphene oxides.

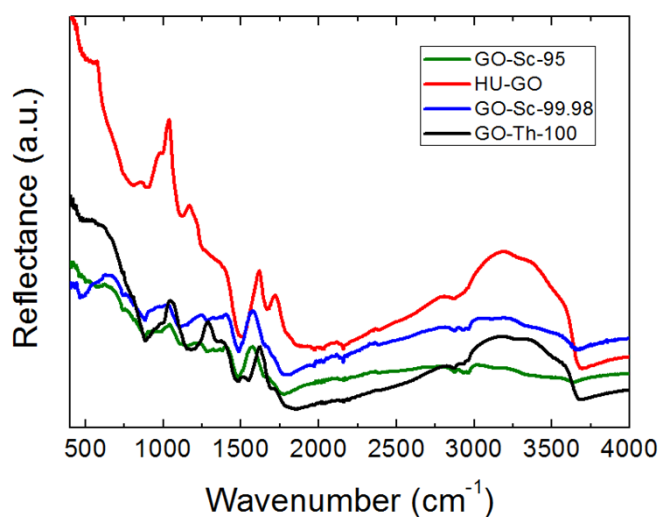


Figure S14 FT-IR spectra of the starting graphene oxide and Th and/or Sc doped graphene oxides.

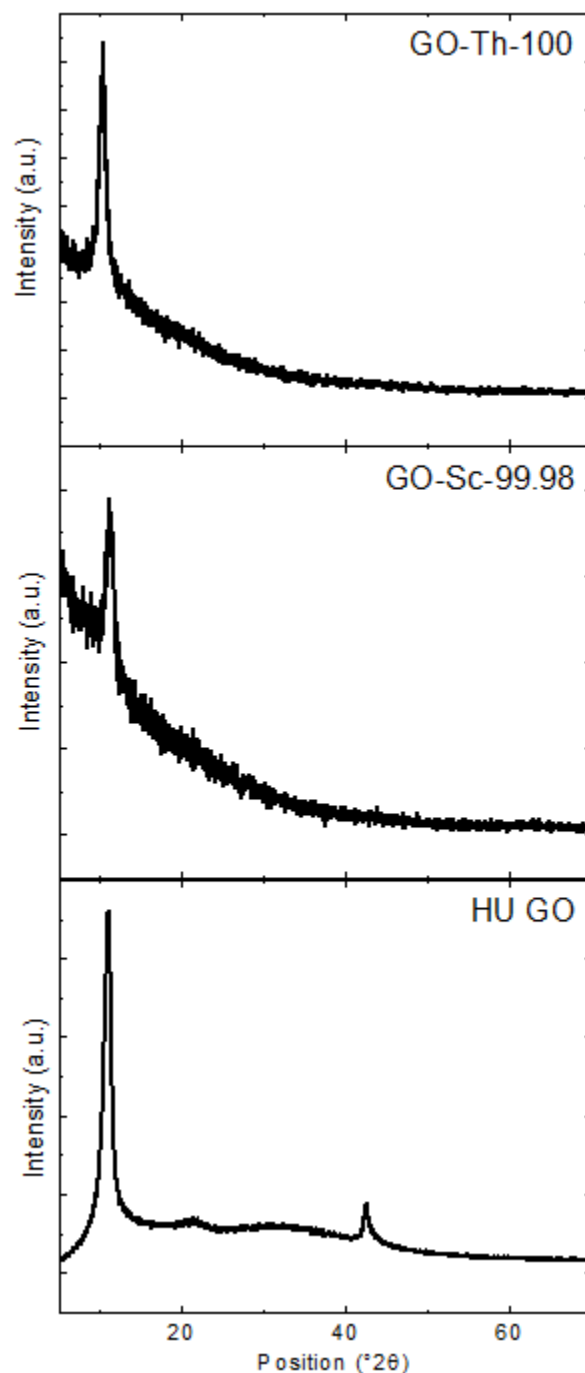


Figure S15 X-ray diffractogram of the starting graphene oxide and Th and/or Sc doped graphene oxides.