# Electronic Supplementary Information (ESI)

# Deoxofluorination of graphite oxide with sulfur tetrafluoride

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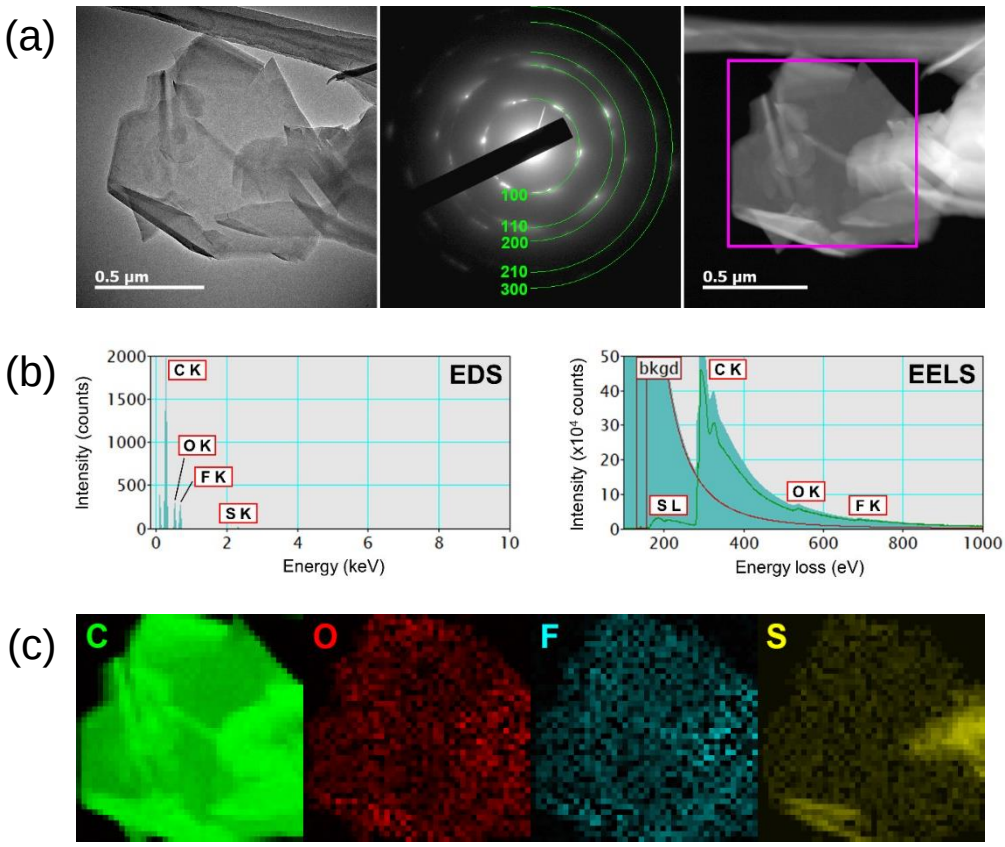


**Fig. S1** TEM and STEM analyses of a flake of FGO-25-10. (a) TEM image (left), ED patterns (center) and annular dark-field STEM image (right). (b) EDS and EELS spectra (left and right, respectively). (c) STEM-EELS chemical maps of carbon (green), oxygen (red), fluorine (blue) and sulfur (yellow) for the area indicated by the purple square in (a). 100, 110, 200, 210, and 300 diffraction correspond to 2.11, 1.24, 1.06, 0.80, and 0.72 Å respectively.

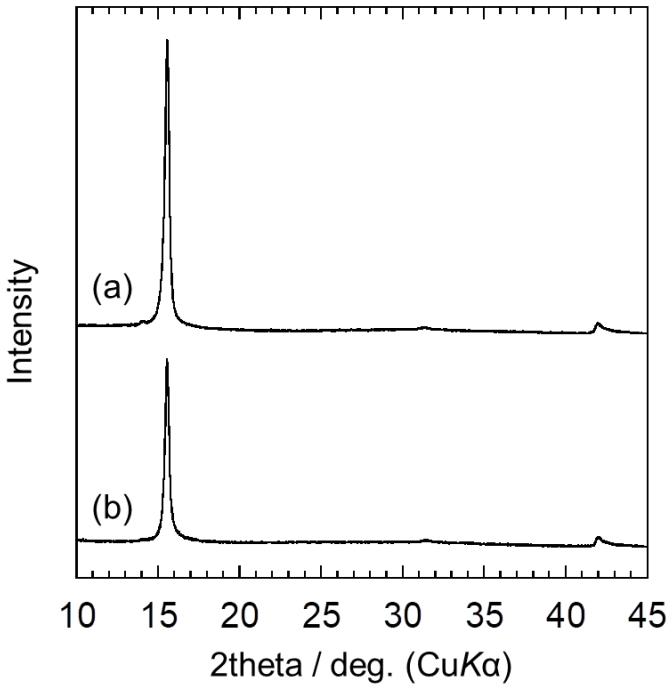


**Fig. S2** X-ray diffraction patterns of GO (a) before and (b) after the reaction with HF (reaction condition 0.5 atm of HF at 150°C for 24 h).

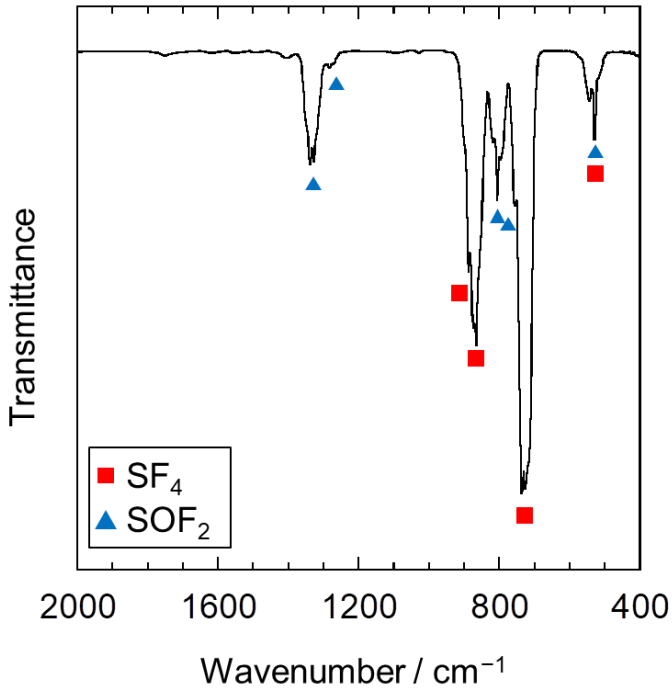


**Fig. S3** Infrared spectra of the residual gas after reacting GO with 5 atm of $SF_4$ in the presence of HF at 150°C for 24 h.

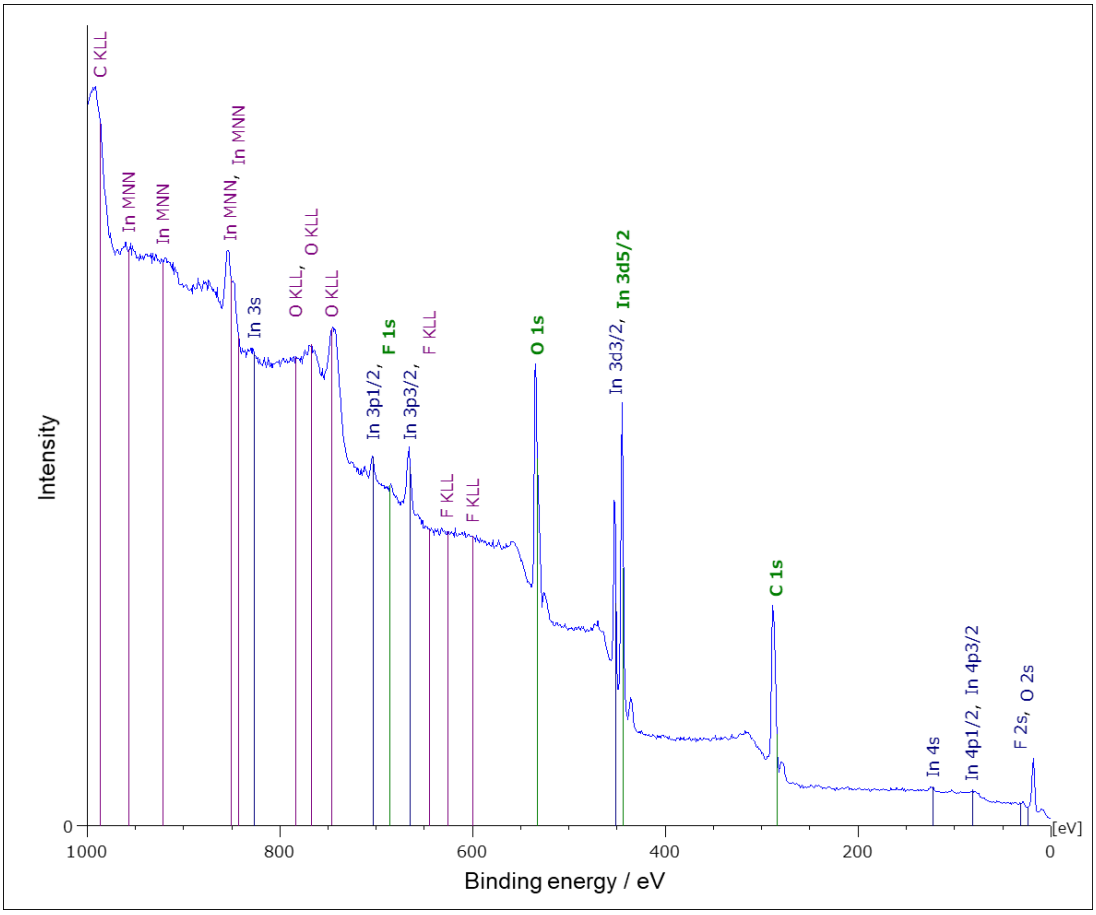


**Fig. S4** Survey spectrum of XPS for pristine GO.

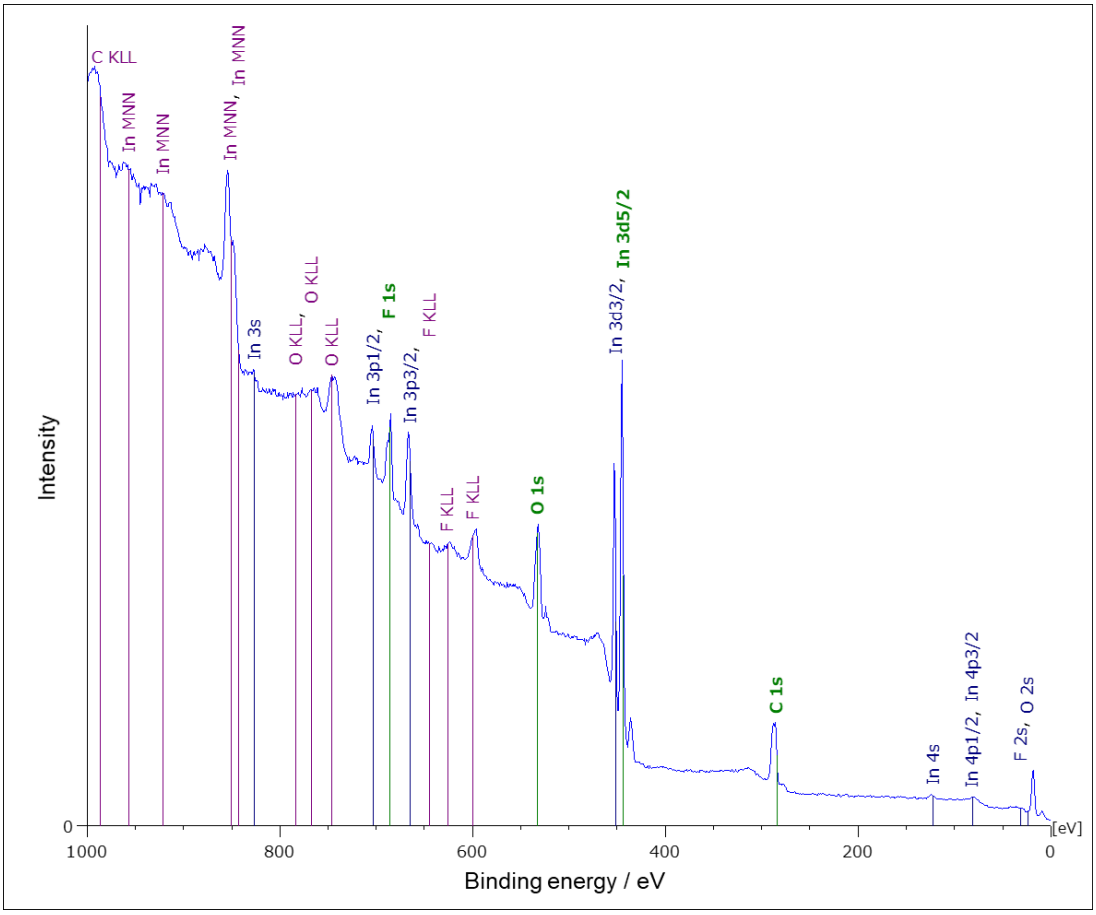


**Fig. S5** Survey spectrum of XPS for FGO-150-5-HF.

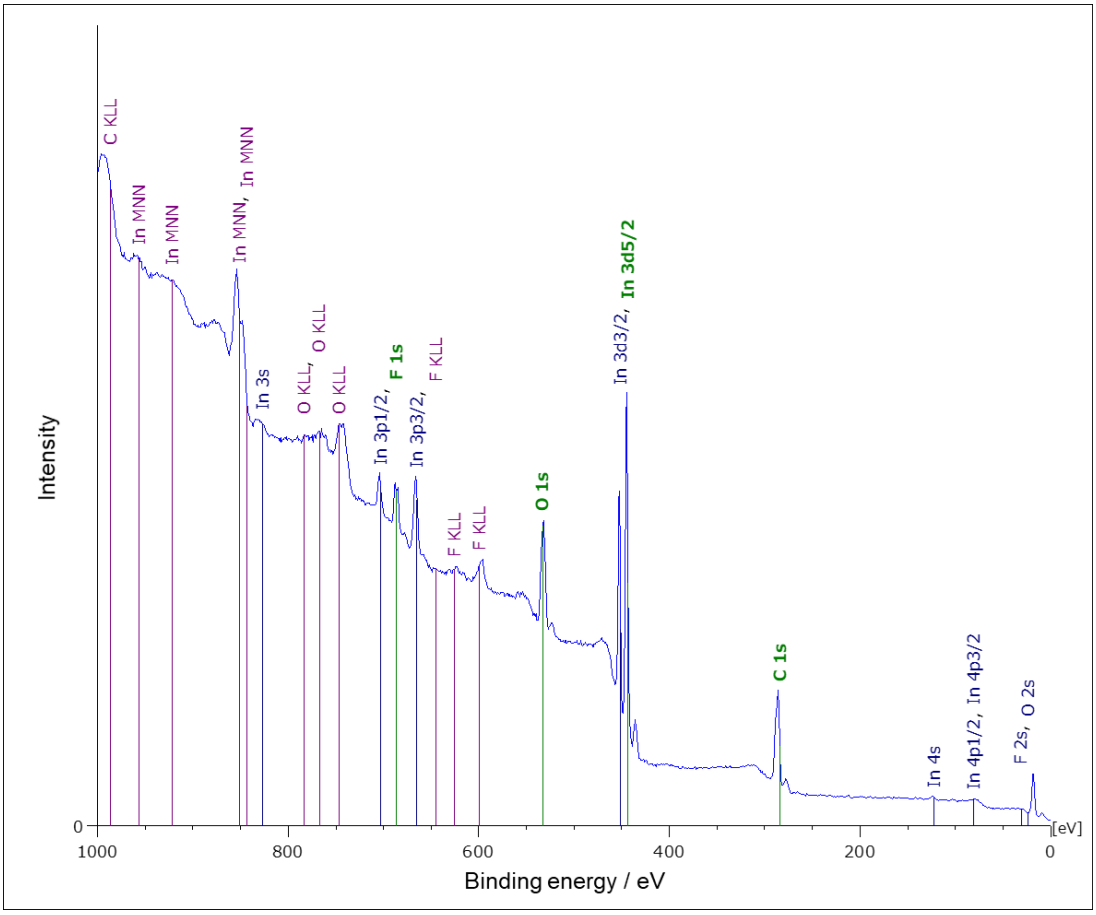


**Fig. S6** Survey spectrum of XPS for FGO-150-5-HF-W.