

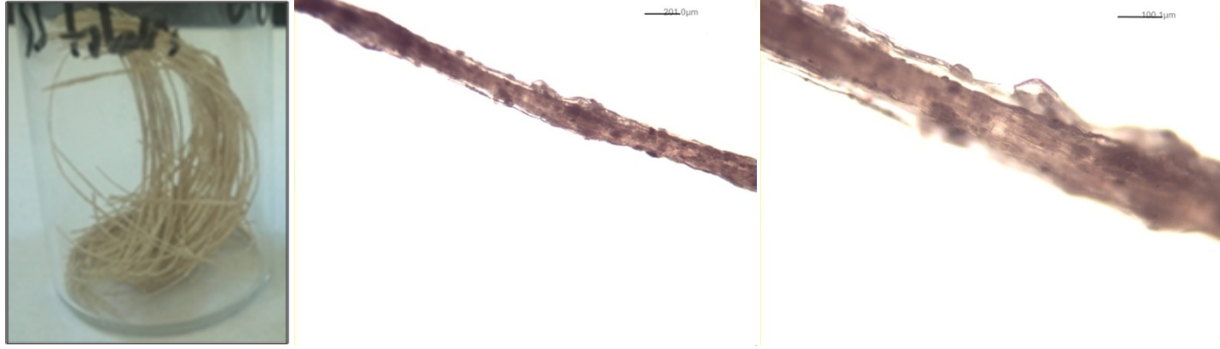
## ELECTRONIC SUPPORTING INFORMATION

### **Surface Modification of Ionic Liquid Spun Chitin Fibers for the Extraction of Uranium from Seawater: Seeking the Strength of Chitin and the Chemical Functionality of Chitosan**

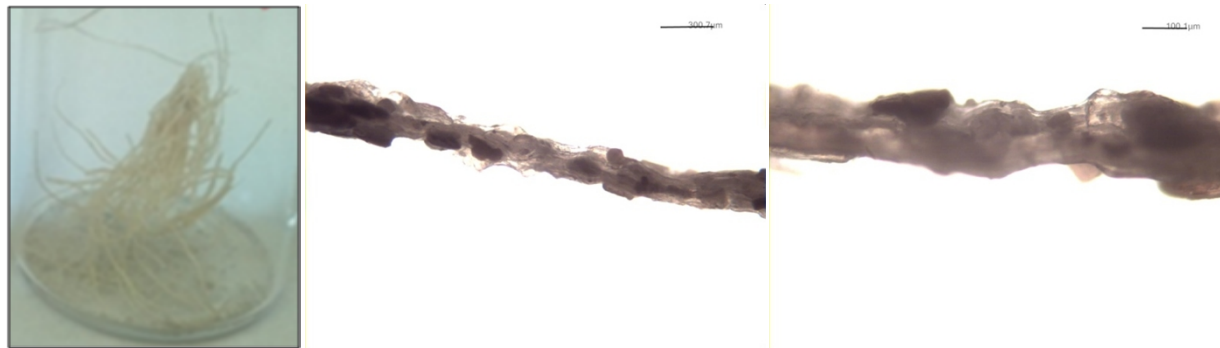
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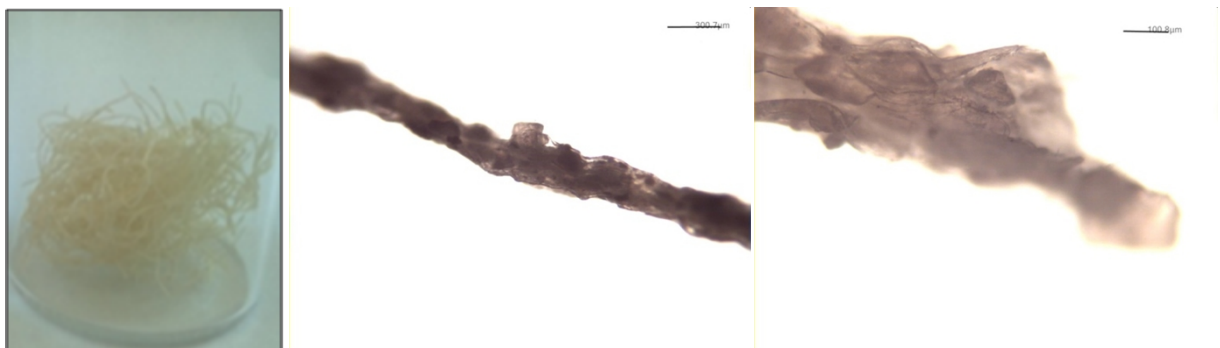
**Fig. S1.** Photograph and optical microscopy of SS fibers (left, 40X, right, 100X).



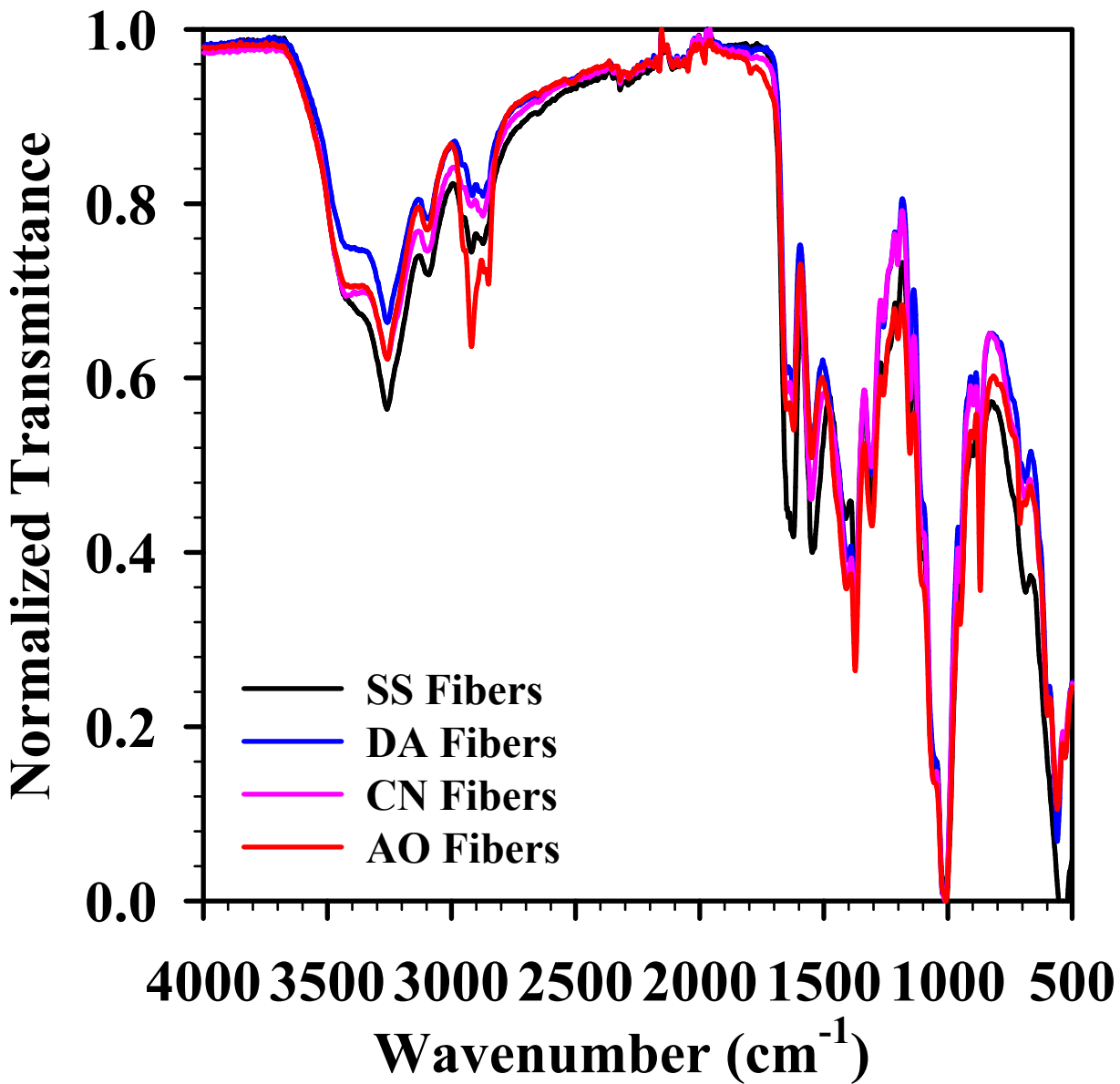
**Fig. S2.** Photograph and optical microscopy of DA fibers (left, 40X, right, 100X).



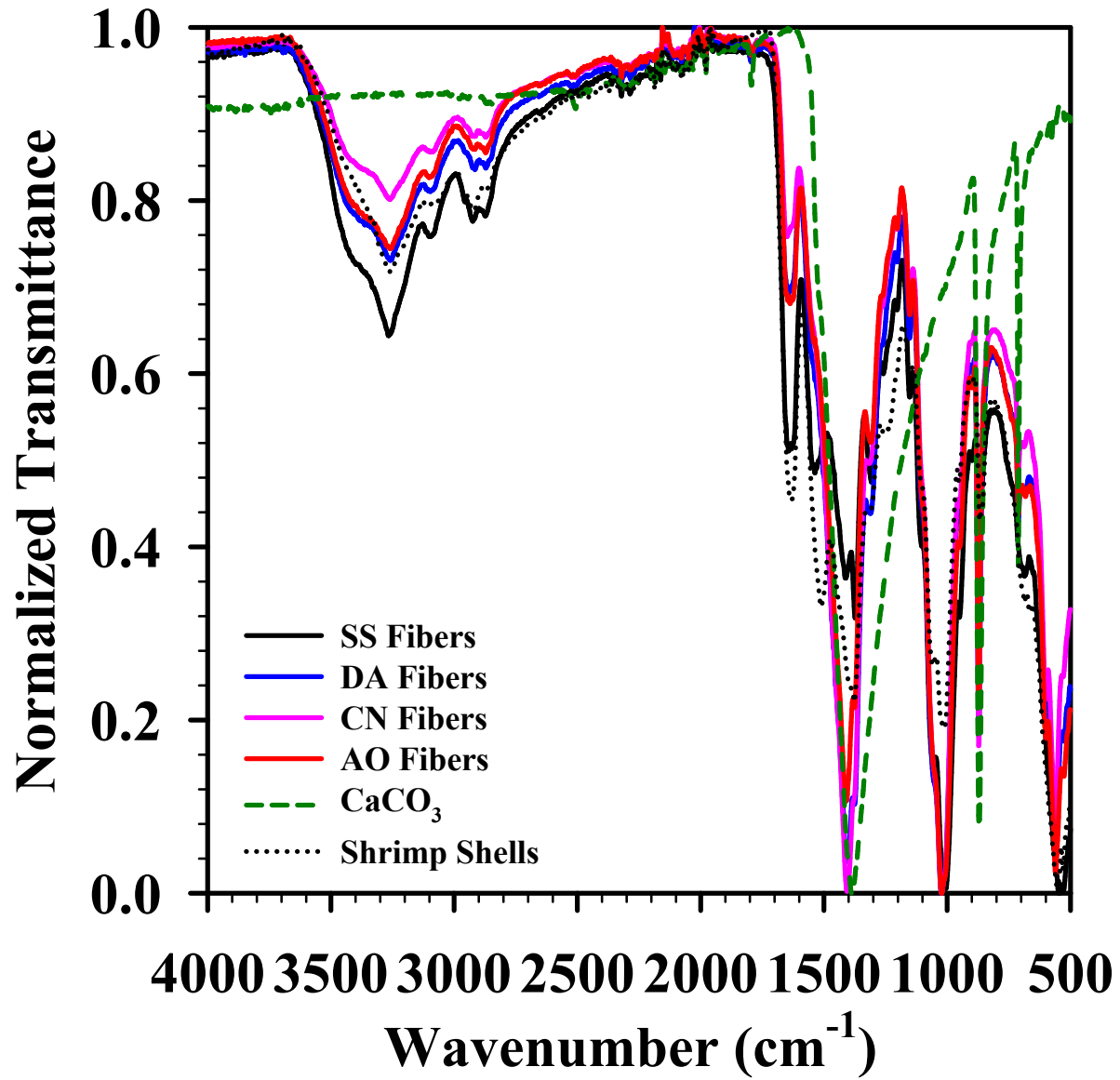
**Fig. S3.** Photograph and optical microscopy of CN fibers (left, 40X, right, 100X).



**Fig. S4.** Photograph and optical microscopy of AO fibers (left, 40X, right, 100X).



**Fig. S5.** Infrared spectroscopy of unground SS (black), DA (blue), CN (pink), and AO (red) fibers.



**Fig. S6.** Infrared spectroscopy of ground SS (black), DA (blue), CN (pink), and AO (red) fibers, dried shrimp shells (dotted black), and CaCO<sub>3</sub> (dashed green).

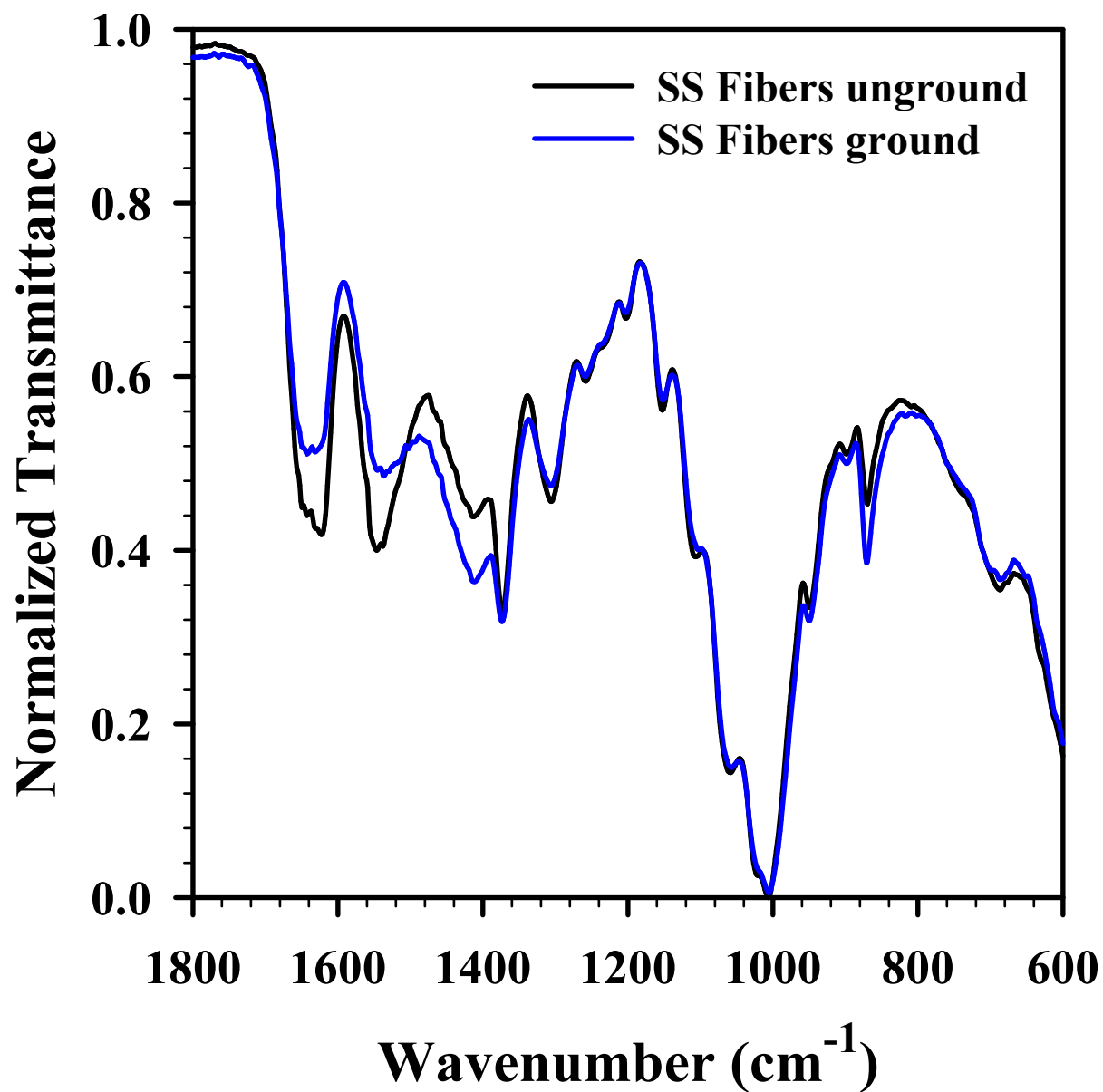


Fig. S7. Detail of IR spectra comparing ground and unground SS fibers.

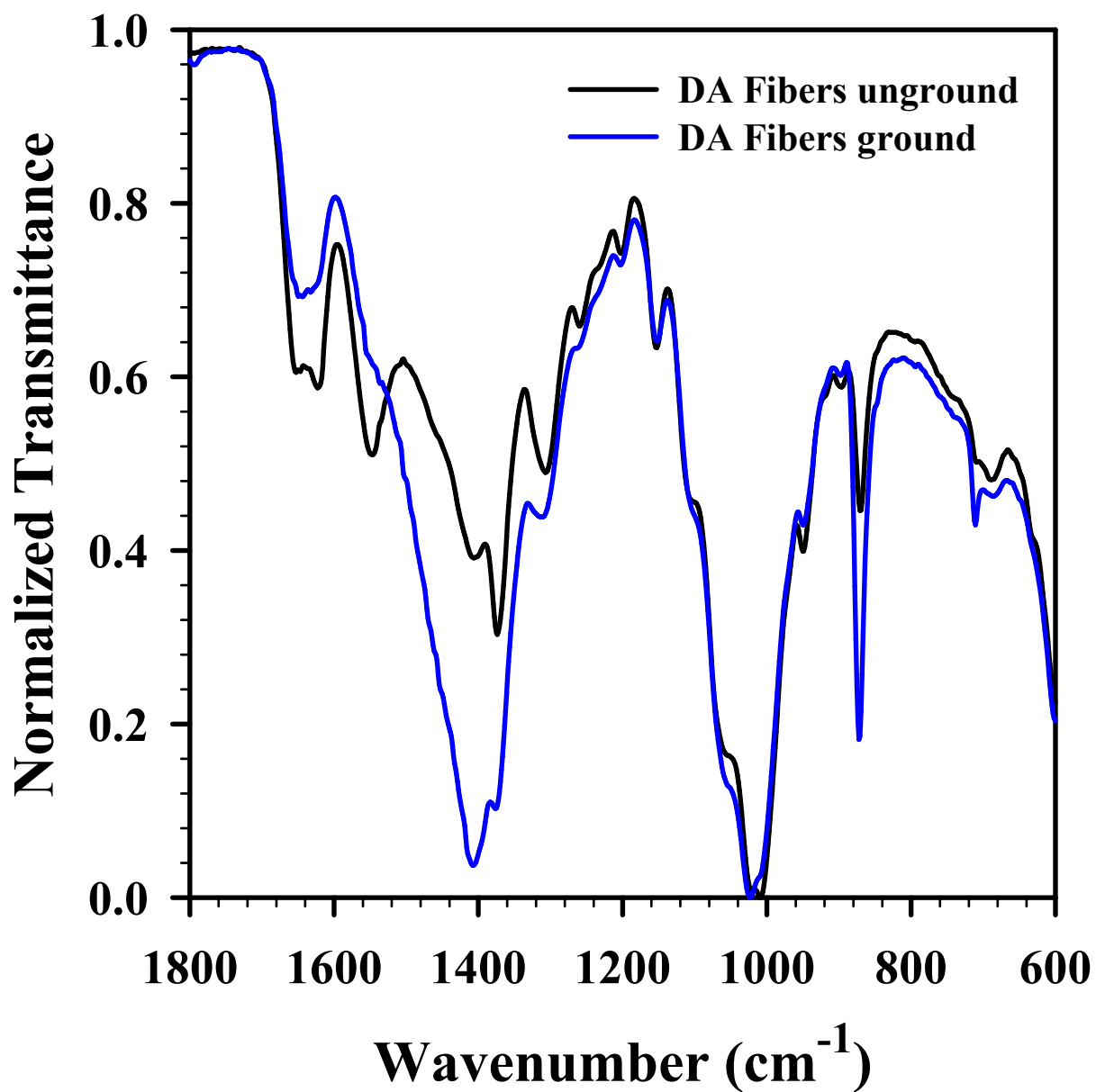
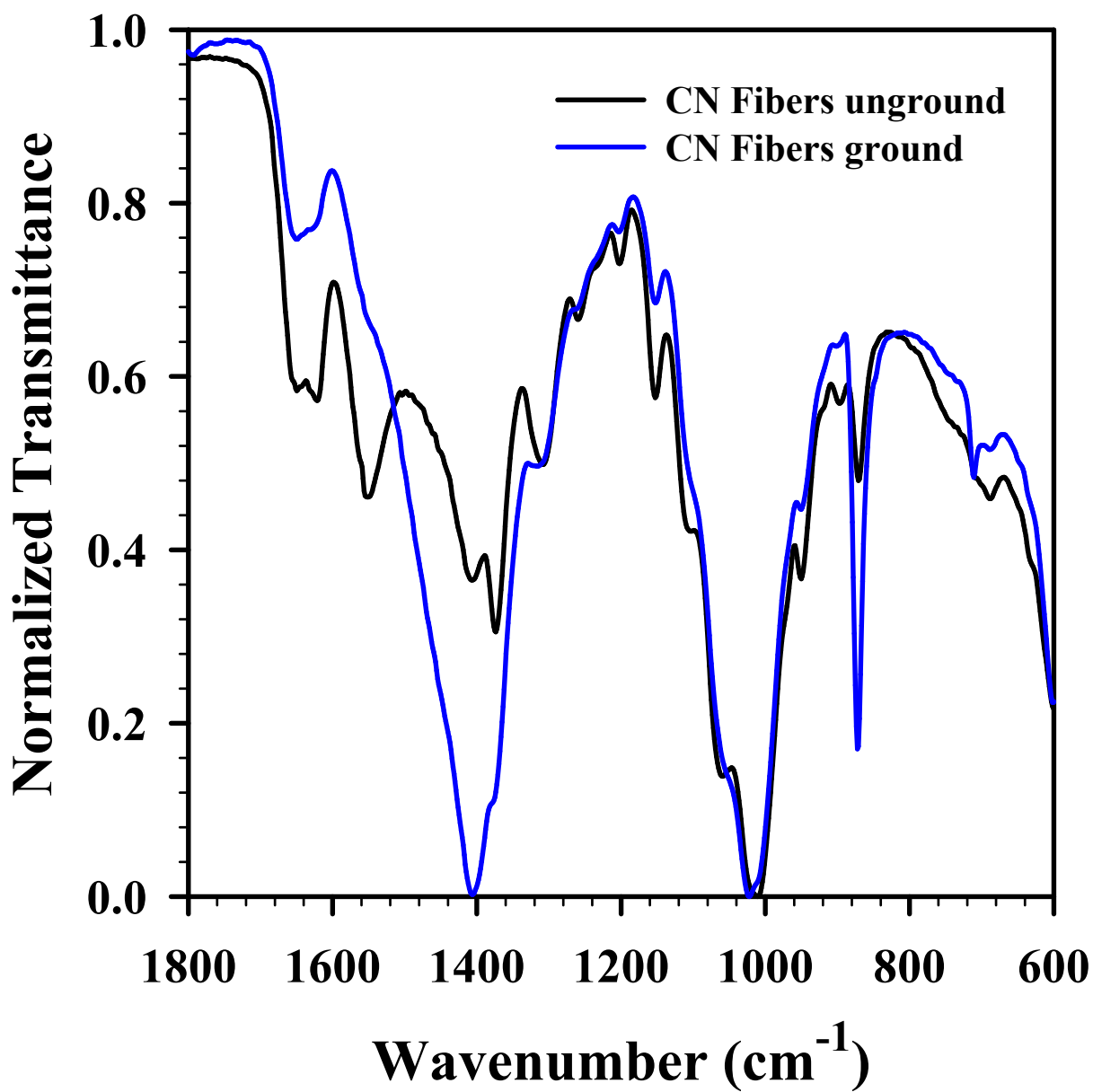


Fig. S8. Detail of IR spectra comparing ground and unground DA fibers.



**Fig. S9.** Detail of IR spectra comparing ground and unground CN fibers.

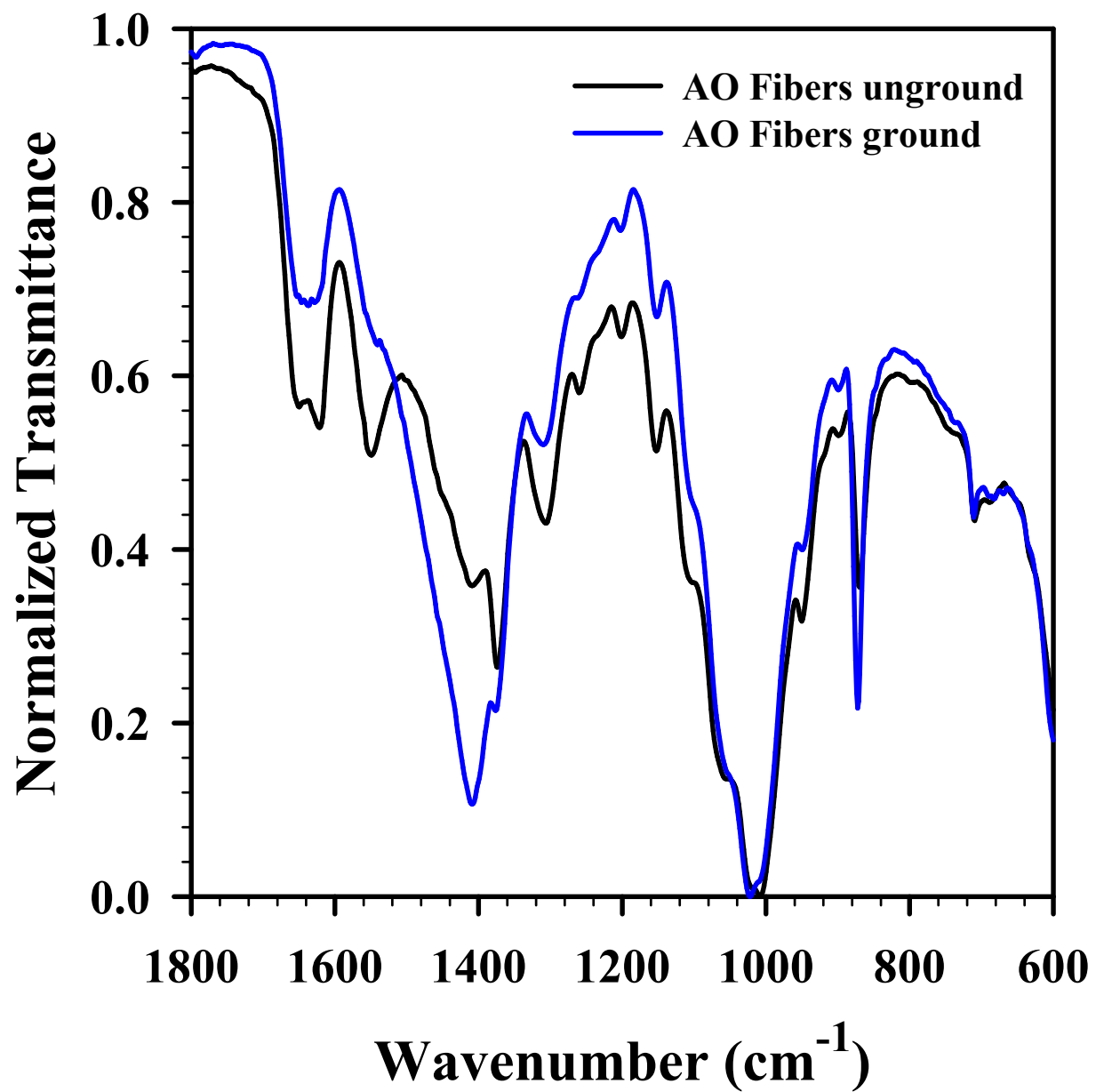


Fig. S10. Detail of IR spectra comparing ground and unground AO fibers.



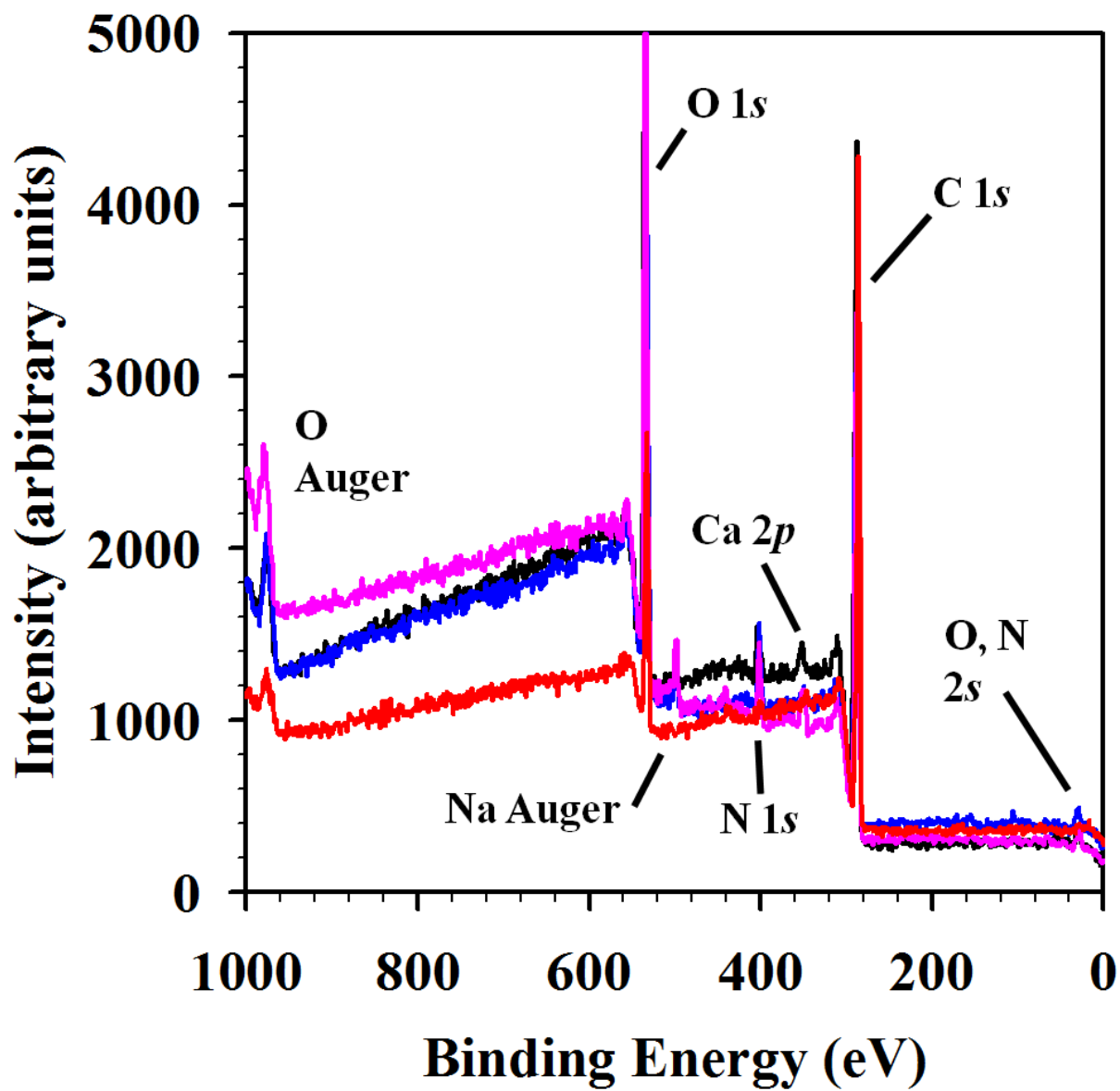


Fig. S11. Assigned XPS survey scans for SS (black), DA (blue), CN (pink), and AO (red) fibers.

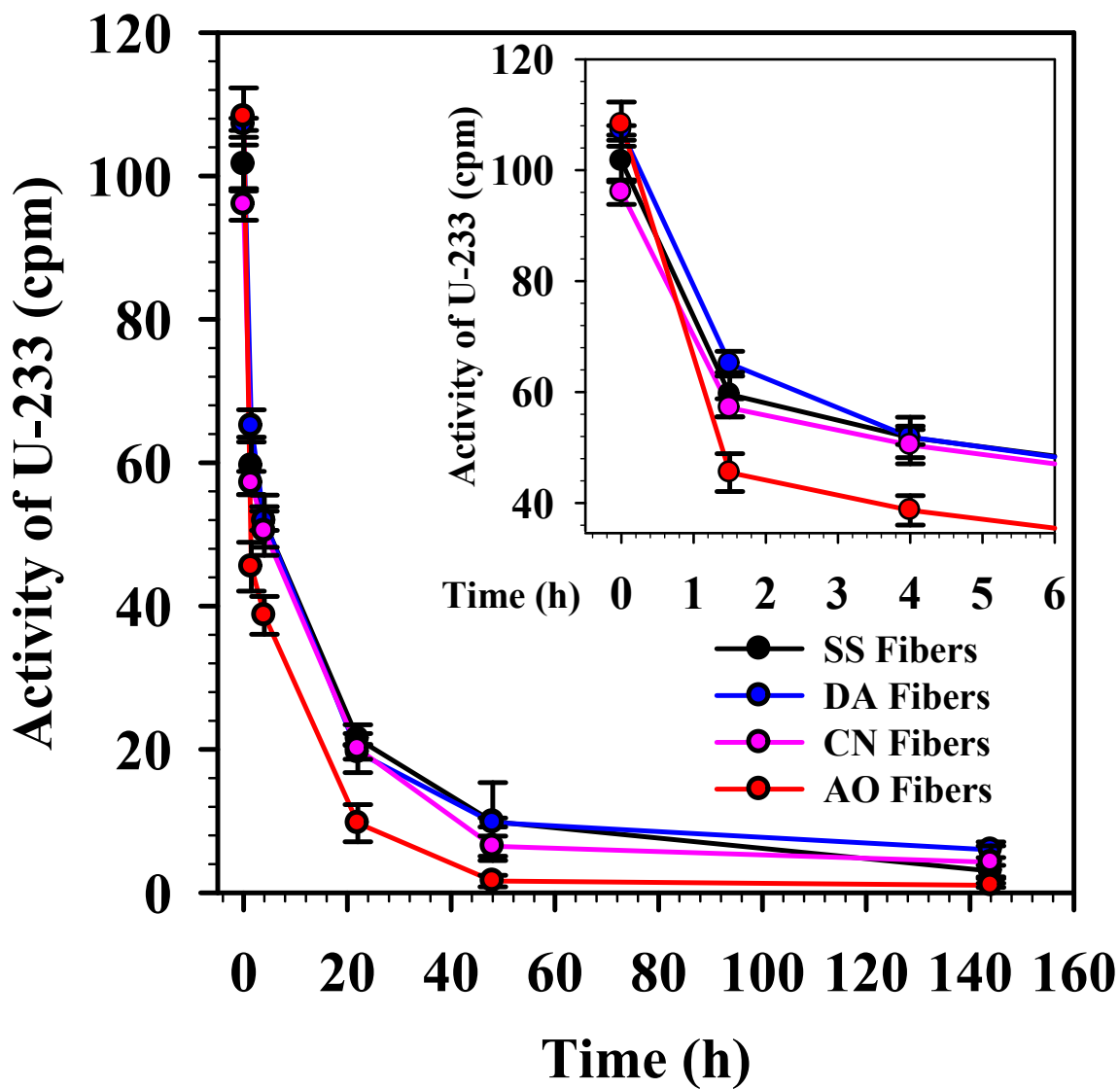


Fig. S12. Activity of  $^{233}\text{UO}_2\text{Cl}_2$  as a function of time for SS, DA, CN, and AO Fibers.