

SUPPLEMENT

## **Photomineralization mechanism changes the ability of dissolved organic matter to activate cloud droplets and to nucleate ice crystals**

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### **This file includes:**

Figs. S1 to S2  
References for SI citations

### **Other supplementary materials for this manuscript include the following:**

Datasets S1, S2, S3 and S4 corresponding to data presented in Figs. 1, 2(A), 2(B) and 2(C), respectively will be deposited in the ETH Research Collection data repository.

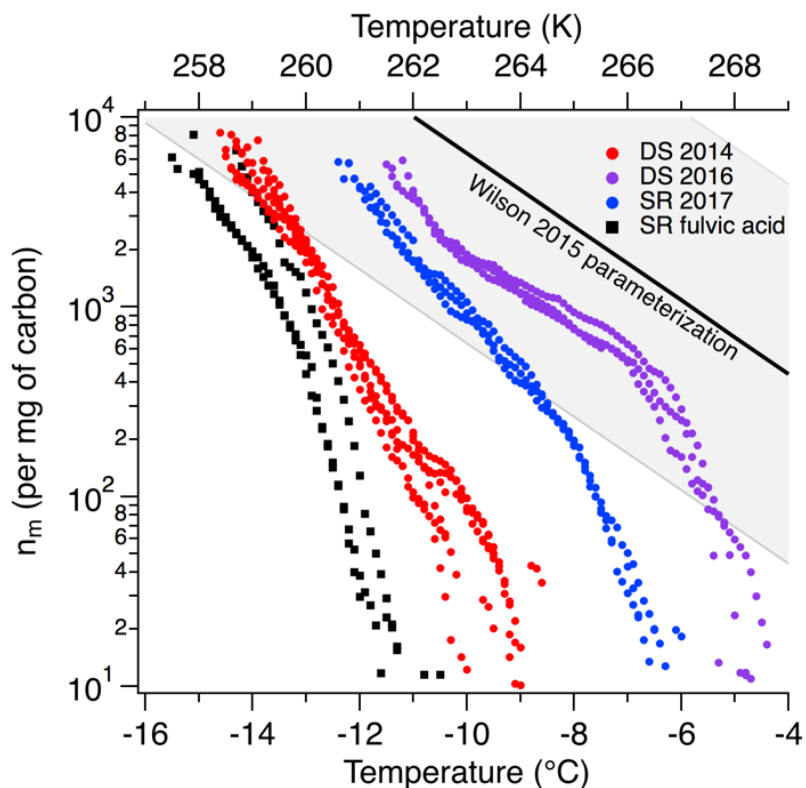


Figure S1. Calculated nm values of DOM. The FF curves in Fig. 2A are normalized by TOC content to obtain the corresponding nm values. The depicted data represents triplicates, and were not averaged to show reproducibility of the measurement. The Wilson 2015 parameterization for nm of INPs in the sea surface microlayer is also shown for comparison (Wilson et al., 2015).

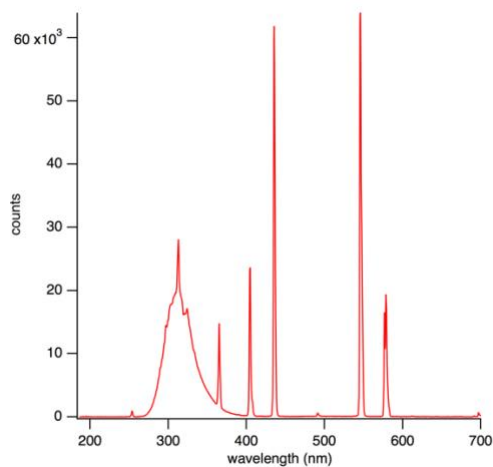


Figure S2: Output of the photochemical reactor (Rayonet) as a function of wavelength measured by a portable UV/Vis spectrophotometer (Ocean Optics).

## References

Wilson, T. W., Ladino, L. A., Alpert, P. A., Breckels, M. N., Brooks, I. M., Browse, J., Burrows, S. M., Carslaw, K. S., Huffman, J. A., Judd, C., Kilhau, W. P., Mason, R. H., McFiggans, G., Miller, L. A., Najera, J. J., Polishchuk, E., Rae, S., Schiller, C. L., Si, M., Temprado, J. V., Whale, T. F., Wong, J. P. S., Wurl, O., Yakobi-Hancock, J., Abbatt, J. P. D., Aller, J. Y., Bertram, A. K., Knopf, D. A. and Murray, B. J.: A marine biogenic source of atmospheric ice-nucleating particles, *Nature*, 525(7568), 234–238, 2015.