



Organic Functional Groups in Submicron Particles during the International Chemistry Experiment in the Arctic Lower Troposphere (ICEALOT)

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Organic particles may have unique direct and indirect impacts on the climate of the North Pole, especially during springtime Arctic haze. The composition and physical properties of this aerosol fraction are largely unconstrained. The ICEALOT research cruise traveled from Woodshole to Tromso, north of Svalbard, and to Iceland during the ice-free months of March and April of 2008. Analysis by Fourier Transform Infrared (FTIR) spectroscopy to identify and quantify organic functional groups has shown two unique features of the aerosol: (1) a larger fraction of alcohol groups than measured previously in North America and (2) a frequent signal of substantial organosulfate groups in the Eastern North Atlantic. Time series and composition proportions are presented to indicate source regions.