

# Aerosol hygroscopicity over the South-East Atlantic Ocean during the biomass burning season: Part II – Influence of burning conditions on CCN hygroscopicity

Haochi Che<sup>1,2</sup>, Lu Zhang<sup>2</sup>, Michal Segal-Rozenhaimer<sup>3\*</sup>, Caroline Dang<sup>4</sup>, Paquita Zuidema<sup>5</sup>, Arthur J. Sedlacek III<sup>6</sup>

<sup>1</sup>Department of Geosciences, University of Oslo, Oslo, 0315, Norway

<sup>2</sup>Department of Environmental Science, iClimate, Aarhus University, Roskilde, 4000, Denmark

<sup>3</sup>Bay Area Environmental Research Institute, NASA Ames Research Center, Moffett Field, CA, USA

<sup>4</sup>NASA Ames Research Center, Moffett Field, California, 94035, USA

<sup>5</sup>Rosenstiel School of Marine and Atmospheric Sciences, University of Miami, Miami, FL, USA

<sup>6</sup>Brookhaven National Laboratory, Upton, NY, USA

\*Performed this work while at Tel-Aviv University

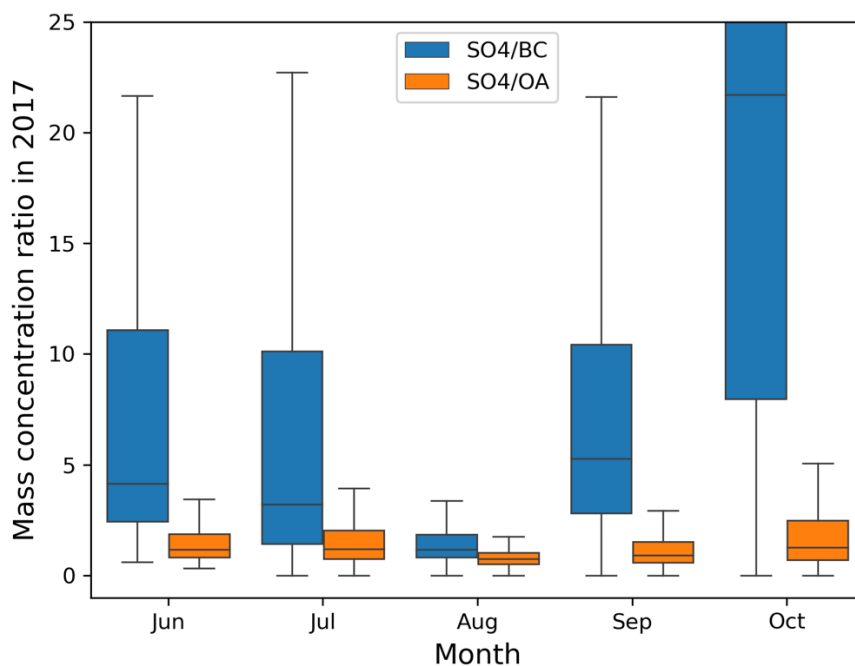


Figure S1. Monthly percentiles (10%, 25%, 50%, 75%, and 90%) of mass concentration ratio of SO4/BC and SO4/OA in 2017.

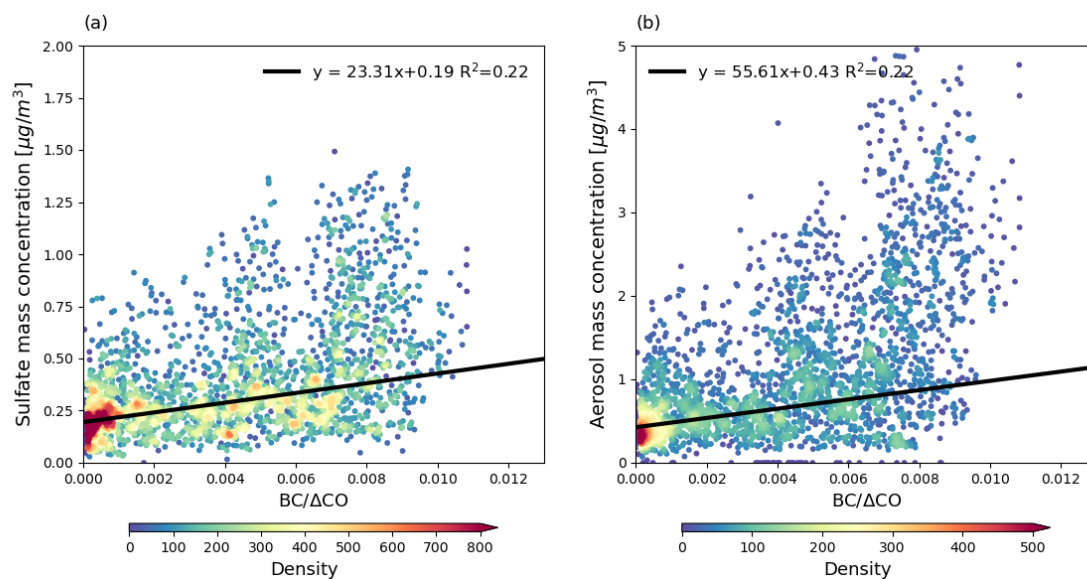


Figure S2. Relationships between BC/ΔCO and (a) the mass concentration of sulfate aerosols, and (b) the total mass of aerosol particles during the BB season in 2017, where the total mass is the sum of the species observed by ACSM and BC measured by SP2. The black lines represent linear regressions, with the corresponding equations displayed in the legend. The color scale indicates data density, represented as the count of data points within gridded 50x50 bins.