

## Molecular distributions of organic aerosols collected over the western North Atlantic

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Marine aerosols were collected over the western North Atlantic from Boston to Bermuda during the cruise of R/V Ronald H. Brown in August 2012 using a high volume air sampler and quartz fiber filter. Aerosol filter samples were analyzed for OC/EC, ions, dicarboxylic acids and various SOA tracers using carbon analyzer, ion chromatograph, GC/FID and GC/MS, respectively. Homologous series of low molecular weight dicarboxylic acids (C2-C12) were detected with a predominance of oxalic acid. Their concentrations decreased from the coastal region to the open ocean. Isoprene SOA tracers and monoterpene SOA tracers were also detected with the higher concentrations near the east coast of North America. Sugar compounds that are derived from pollen (sucrose and fructose) and fungal spores (arabitol, mannitol and trehalose) showed higher concentrations in the coastal region than the open ocean.

**Keywords:** marine aerosols, organic compounds, LMW dicarboxylic acids, SOA tracers, Biomass burning tracers, pollen and fungal spore tracers