Supplementary material

Mediterranean nascent sea spray organic aerosol and relationships with seawater biogeochemistry

Evelyn Freney[1], Karine Sellegri[1]*, Alessia Nicosia[1], Jonathan T. Trueblood[1], Matteo. Rinaldi[3], Leah. R. Williams[4], André. S. H. Prévôt[5], Melilotus Thyssen[6], Gérald Grégori[6], Nils Haëntjens[7], Julie Dinasquet[8, 9*], Ingrid Obernosterer[9], France Van-Wambeke[6], Anja Engel[10], Birthe Zäncker[10], Karine Desboeufs[11], Eija Asmi[2], Hilka Timmonen[2], Cécile Guieu[12]

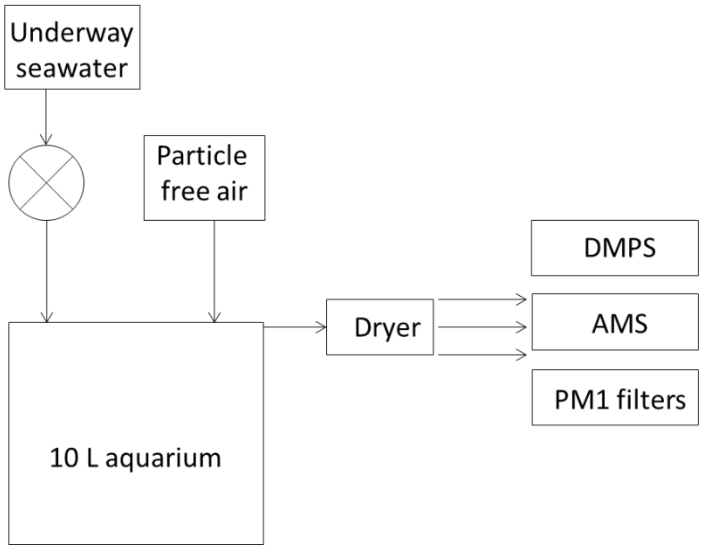

Figure S1. Schematic of sampling set up.

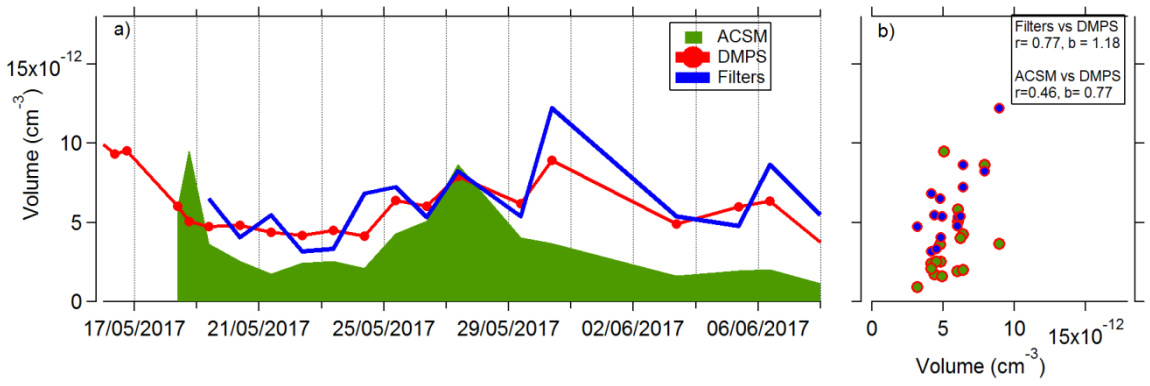

Figure S2: Comparison of volume concentrations obtained from offline filters, DMPS, and ToF-ACSM as a) a function of time and b) comparing concentrations of filters and ACSM with those of the DMPS in a scatter plot.

Positive matrix factorization (PMF)

Pearsons correlation of the different PMF solutions mass spectral profiles with the reference mass spectra of interest for 3, 4, and 5 factor solutions.

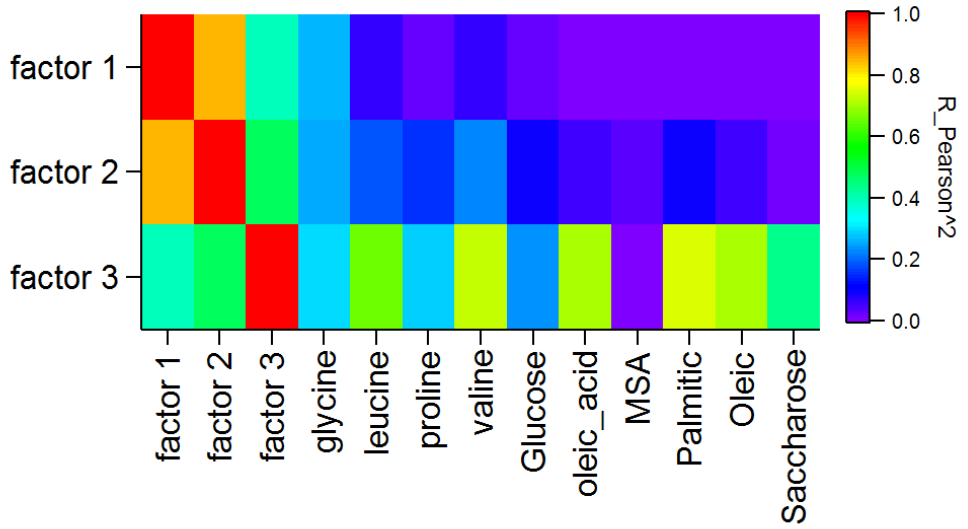

Figure S3: A three factor solution and the corresponding mass spectral profile correlations.

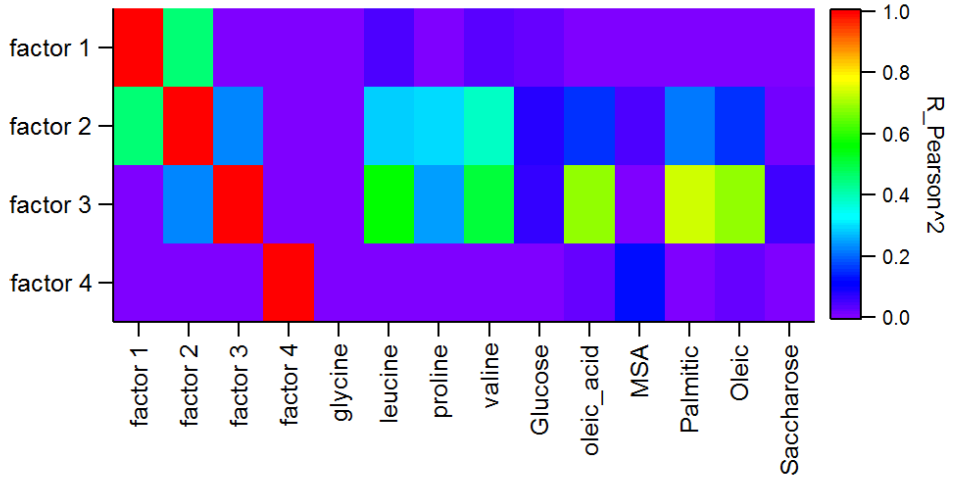

Figure S4: A four factor solution and the corresponding mass spectral profile correlations.

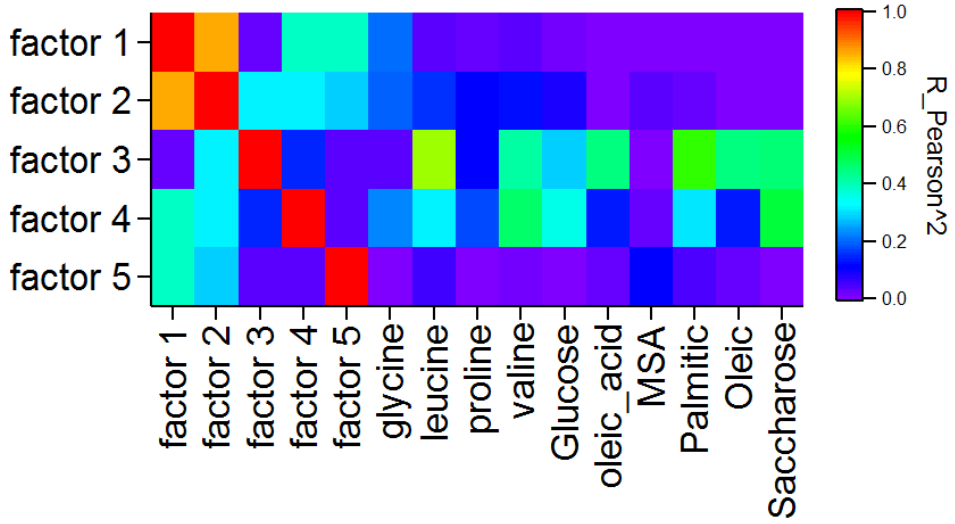

Figure S5: A five factor solution and the corresponding mass spectral profile correlations.

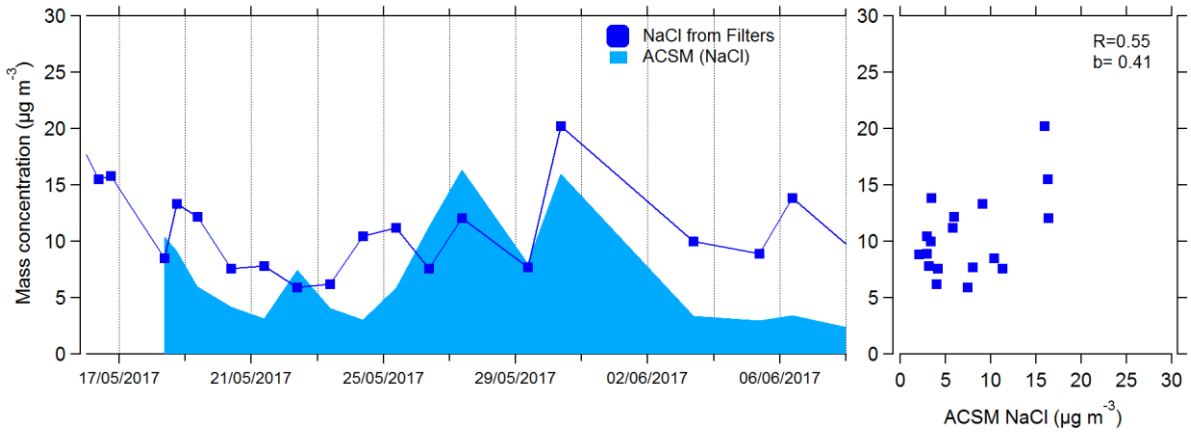

Figure S6. Comparison of NaCl mass concentration measured from filters and measured from ACSM mass spectra.

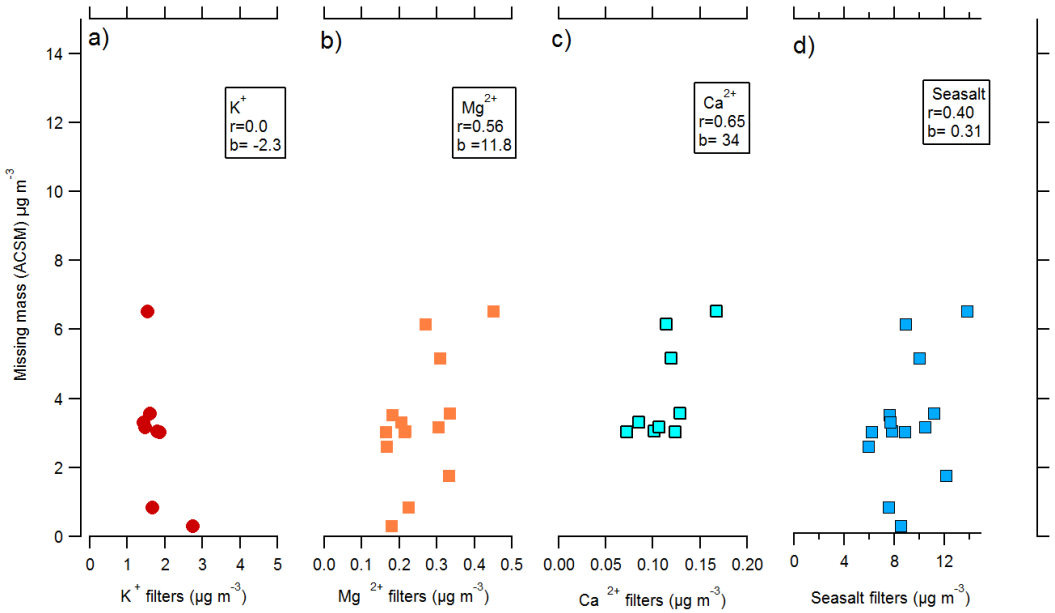

Figure S7: Comparison of the ACSM missing mass with a) K_+, b) Mg^{2+}, c) Ca^{2+}, d) NaCl mass concentrations determined from offline ion chromatography analysis.

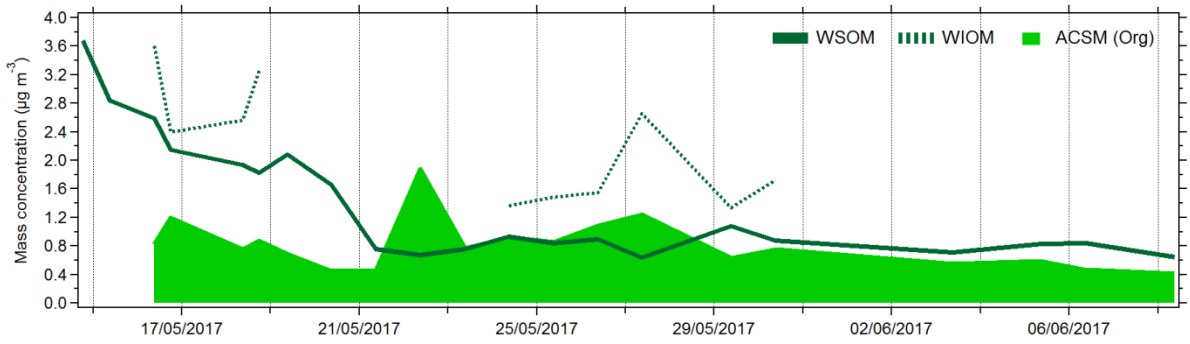

Figure S8: Comparison of organic aerosol measurement by the ACSM with water soluble and water insoluble organic matter (WSOM, WIOM) measured from filters.