Supplementary material for "A global study of hygroscopicity-driven light scattering enhancement in the context of other in-situ aerosol optical properties"

Titos et al.

Figure S1 shows the variability in the backscattering enhancement factor, f_b(RH=85%), across sites.

Figure S2 shows an example for each site type (rural, marine, urban and Arctic) of the individual relationships between f(RH=85%) and f_b(RH=85%).

Figure S3 shows the relationship of the forcing efficiency enhancement as a function of f(RH).

Figure S4 shows the relationship between the scattering enhancement factor and the single scattering albedo, as a function of the scattering Angström exponent at each individual site.

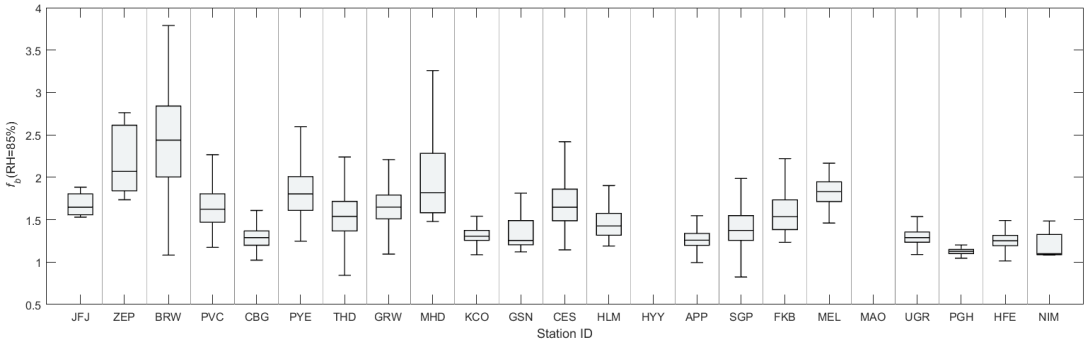

Figure S1. Boxplot of f_b(RH=85%) at λ =550 nm. Sites are sorted by site type and scattering coefficient (from low to high) as in Figure 1 in main text. For each box, the central mark is the median, the box extends vertically between the 25th and 75th percentiles, the whiskers extend to the most extreme data that are not considered outliers.

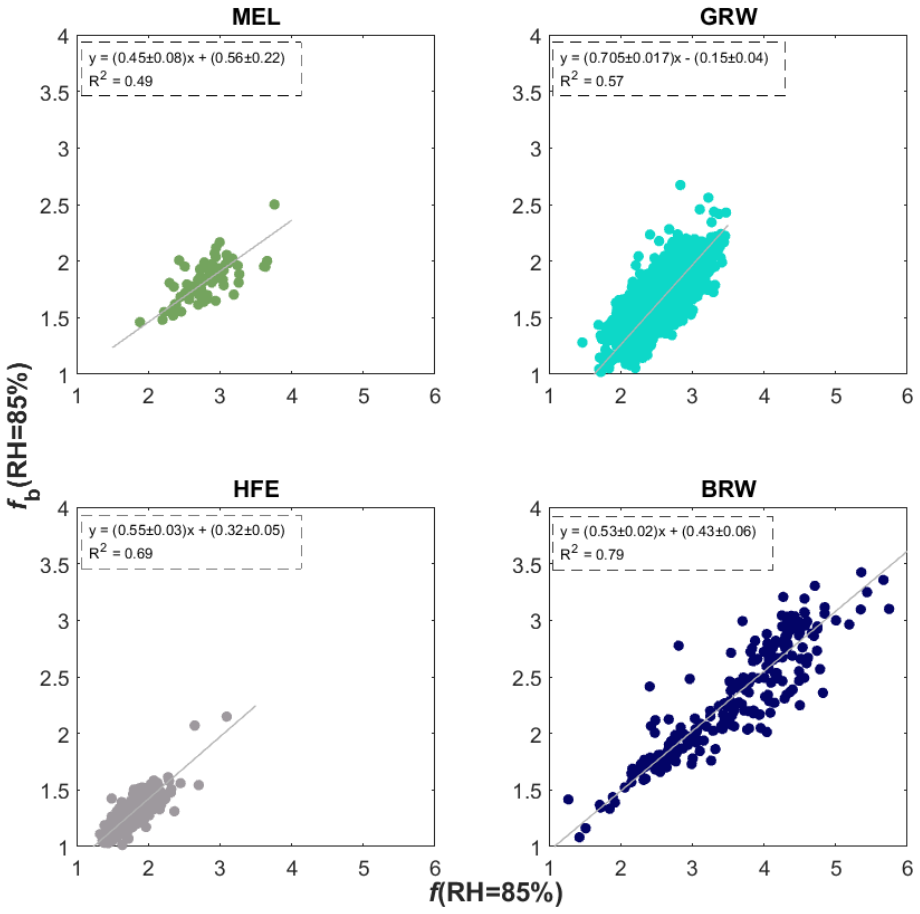

Figure S2. Scatterplot of f_b(RH=85%) versus f(RH=85%) at 550 nm for one site of each site type category. The figure includes the results of a weighted bivariate fit.

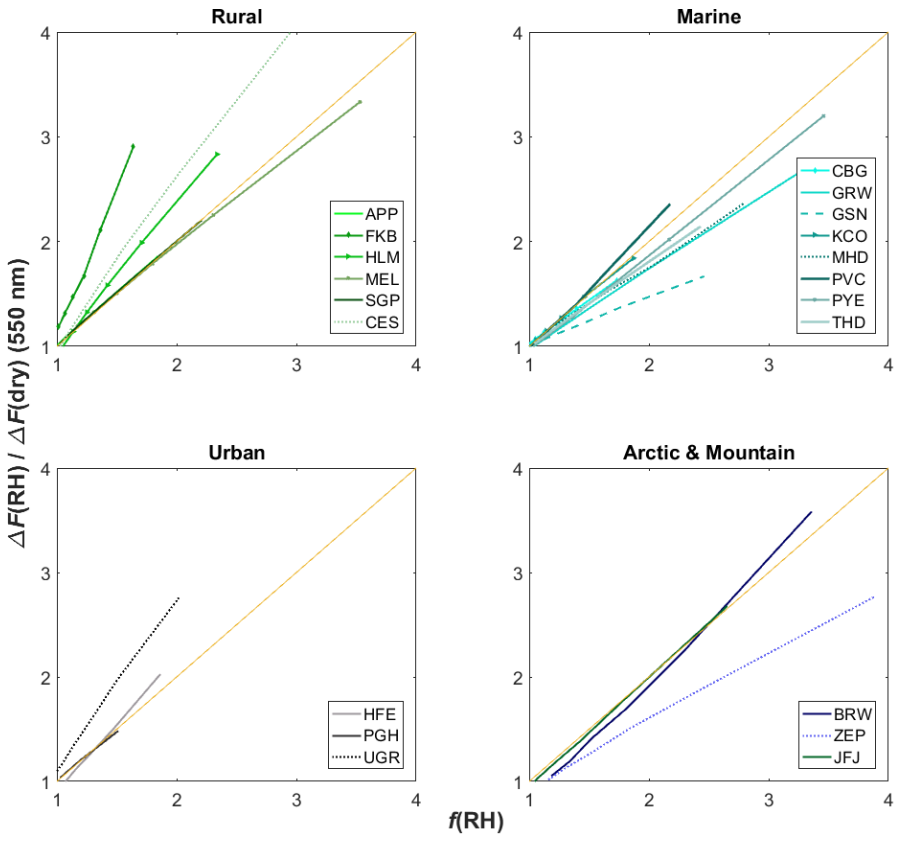

Figure S3. Median values of the radiative forcing at certain RH to the radiative forcing at dry conditions (RH<40%) as a function of f(RH). The yellow line represents the 1:1 line. All variables refer to 550 nm wavelength.

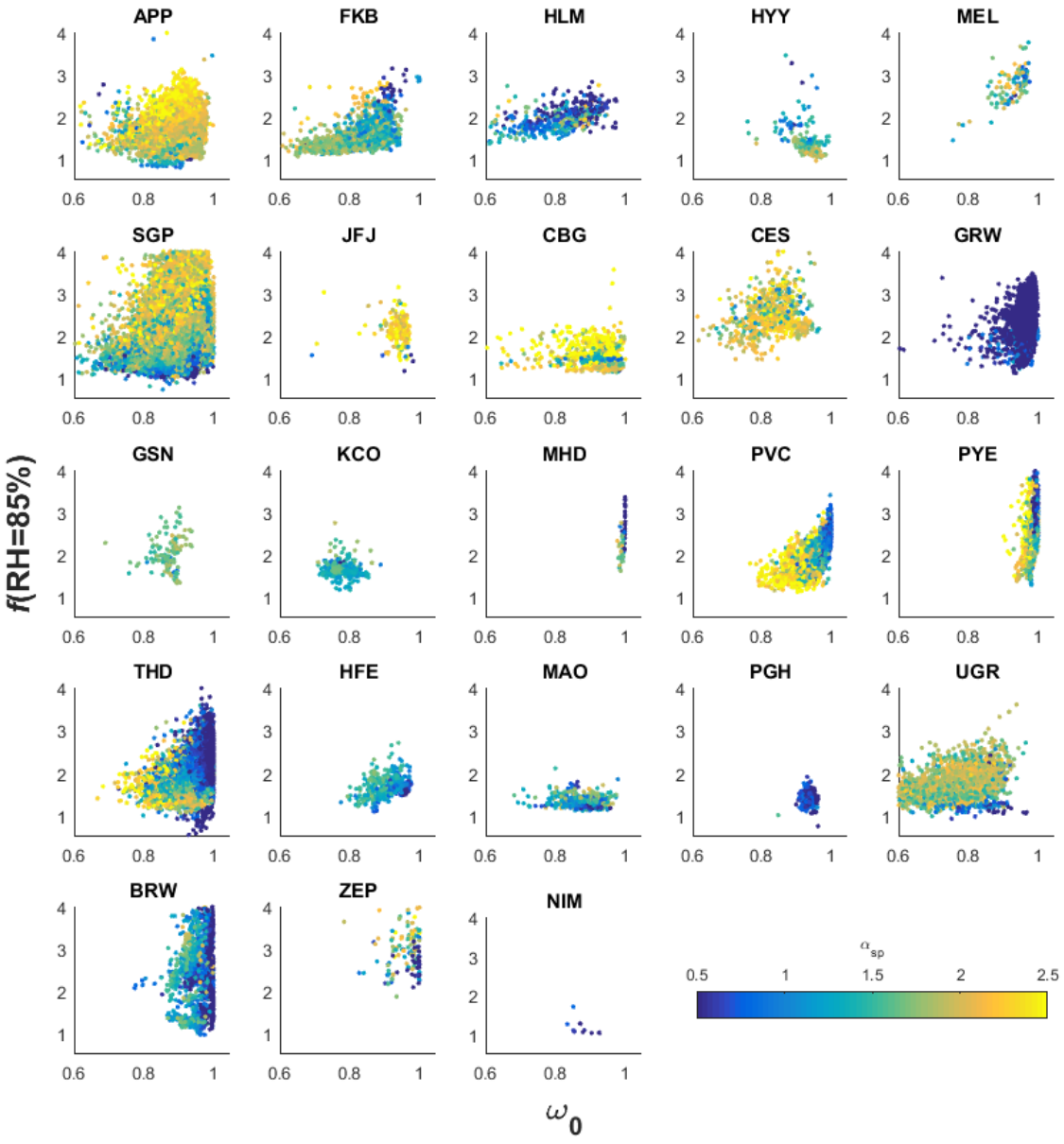

Figure S4. Scatterplot of f(RH=85%) versus single scattering albedo color-coded as a function of scattering Angström exponent at each individual site. All variables refer to 550 nm wavelength, except at HYY that λ =525 nm.