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Corrigendum to "Discontinuities in hygroscopic growth below and above water saturation for laboratory surrogates of oligomers in organic atmospheric aerosols" published in Atmos. Chem. Phys., 16, 12767–12792, 2016

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Due to an image-processing mistake, "Hygroscopic" was erroneously replaced with "Hydroscopic" in the published paper in Figs. 4, 5, 6, and 7. The correct figures with the correct spelling of "Hygroscopic" can be found on the following pages.

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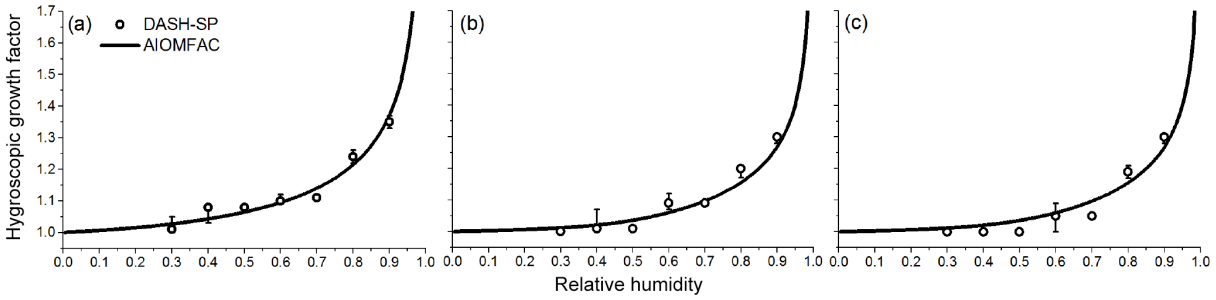

Figure 4. Comparison of hygroscopic growth factors measured with the DASH-SP and those predicted by AIOMFAC for **(a)** PEG200, **(b)** PEG1000, and **(c)** PEG10000 for particles with diameters of 250 nm. For the DASH-SP measurements, symbols indicate the average HGF and error bars indicate the maximum and minimum HGFs derived from repeat measurements.

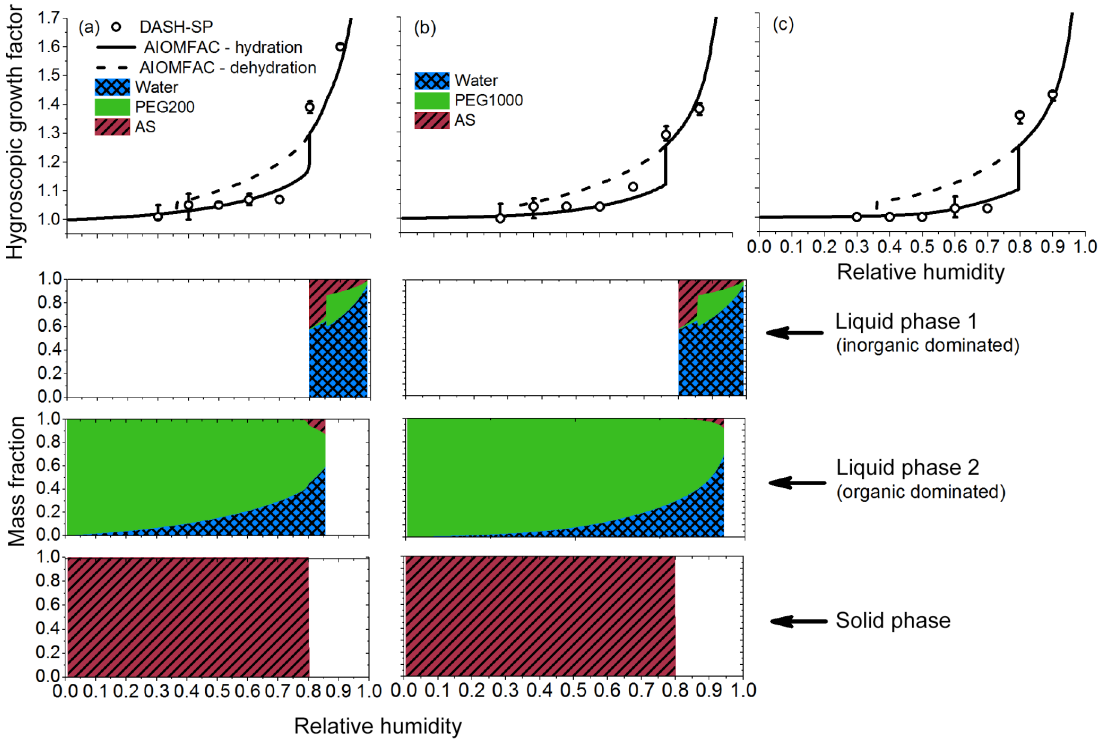

Figure 5. Top panels: comparison of hygroscopic growth factors measured with the DASH-SP and those predicted by AIOMFAC for **(a)** PEG200-AS, **(b)** PEG1000-AS, and **(c)** PEG10000-AS for particles with diameters of 250 nm. For the DASH-SP measurements, symbols indicate the average HGF, and error bars indicate the maximum and minimum HGFs derived from repeat measurements. Panels below the growth curves show the AIOMFAC-predicted chemical composition of three potential phases present in the particles – an inorganic-dominated liquid phase, an organic-dominated liquid phase, and a solid phase – as a function of relative humidity. Further model refinements are needed before the detailed LLE phase behavior of aerosol systems containing high-molecular-mass PEG can be predicted reliably. However, all PEG–AS systems are expected to undergo liquid–liquid phase separation, with the RH at which the two separated phases merge to a single liquid phase increasing with increasing PEG molecular mass.

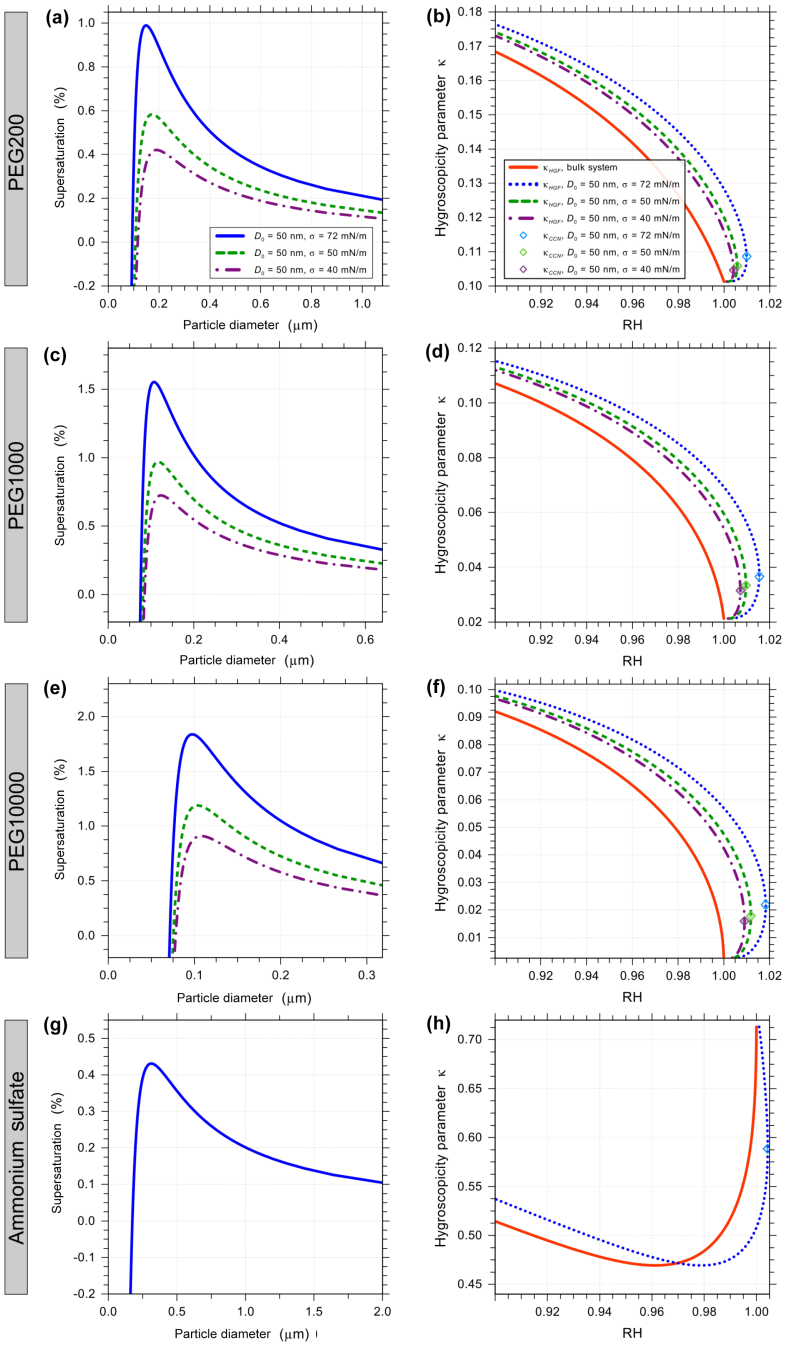

Figure 6. Left panels: Köhler curves (equilibrium water supersaturation vs. wet particle diameter) for the single solute PEG systems and ammonium sulfate. Right panels: predicted hygroscopicity parameter κ in the high-RH range from 90 % RH to > 100 % RH (i.e., up to supersaturated conditions with respect to liquid water). The curves are based on AIOMFAC-predicted HGF and κ-Köhler theory for particles of dry diameter $D_0 = 50$ nm with different values for the air–particle surface tension σ, as indicated in **(a, b)**; all for a temperature of 298.15 K. The red curve shows the prediction for the bulk system for the water activity (equilibrium RH) range from 0.9 to 0.99999. The predicted hygroscopicity parameters at CCN activation, κ_{CCN}, are shown by the open diamonds for the given particle properties (D_0, σ), with error bars denoting the numerical resolution of the corresponding maxima in equilibrium supersaturation (related to the maxima of the Köhler curves). Note the differences in axis scales.

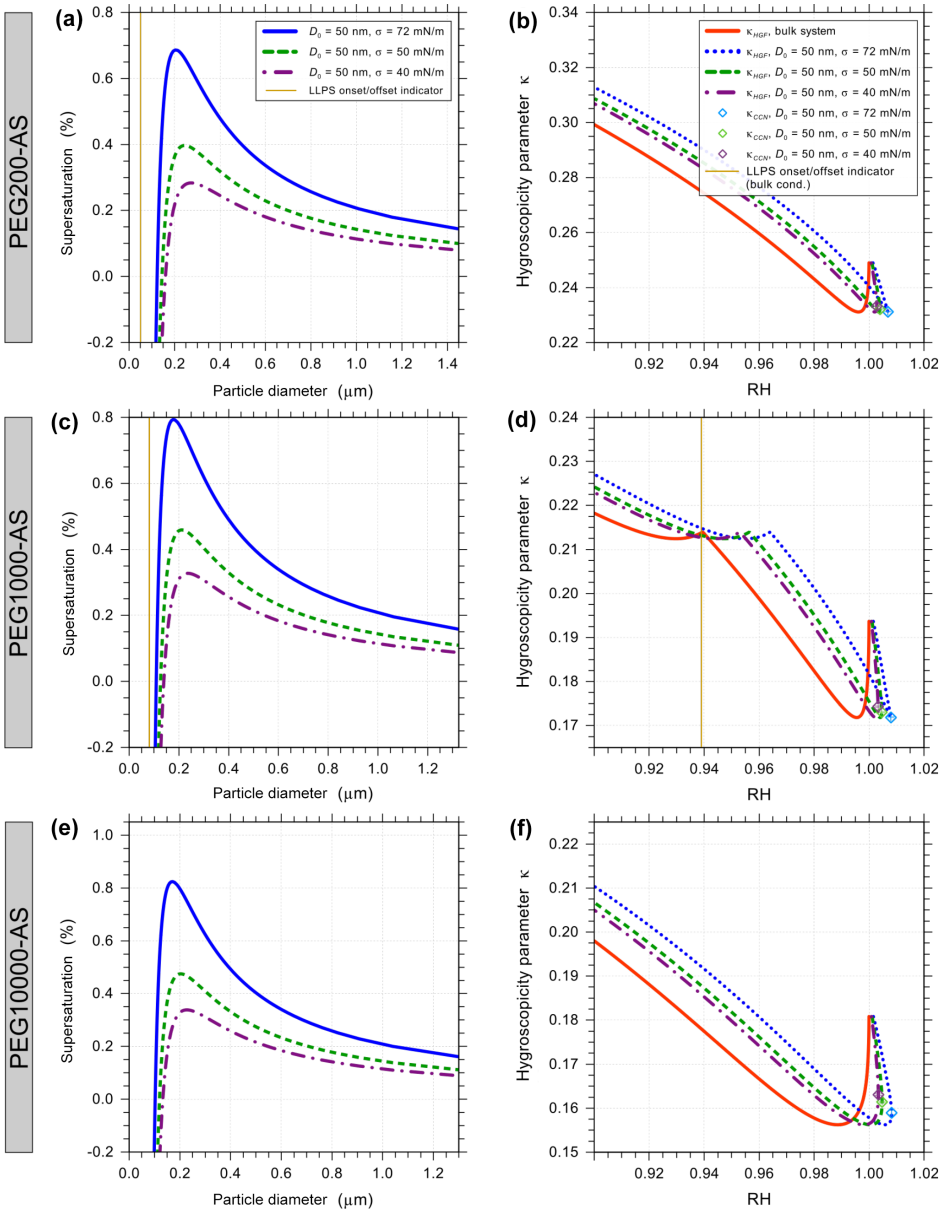

Figure 7. Predicted hygroscopicity properties for the mixed PEG–AS systems with a PEG : AS mass ratio of 2 : 1. Left panels: Köhler curves (equilibrium water supersaturation vs. wet particle diameter). Right panels: predicted hygroscopicity parameter κ in the high-RH range from 90 % RH to > 100 % RH, i.e., up to supersaturated conditions with respect to liquid water. The curves are based on AIOMFAC-predicted HGF and κ-Köhler theory for particles of dry diameter $D_0 = 50$ nm with different values for the air–particle surface tension σ, as indicated in **(a, b)**; all for a temperature of 298.15 K. The red curve shows the prediction for the bulk system for the water activity range from 0.9 to 0.99999. The predicted hygroscopicity parameters at CCN activation, κ_{CCN}, are shown by the open diamonds for the given particle properties (D_0, σ), with error bars denoting the numerical resolution of the corresponding maxima in equilibrium supersaturation (related to the maxima of the Köhler curves). The yellow vertical lines indicate the onset of phase separation, with a LLPS existing at RH or particle diameter below the indicated value and a single, homogeneous liquid phase above it. The predictions for the PEG10000-AS system are here based on a ZSR approach (see Sect. 2.4), which treats the particle as an LLPS system for the whole RH range. Note the differences in axis scales.