

**Figure S1:** Example of recorded variation in aerosol species mass concentrations from  $24^{th}$  August -  $5^{th}$  September, 2011. DOY = day of year.

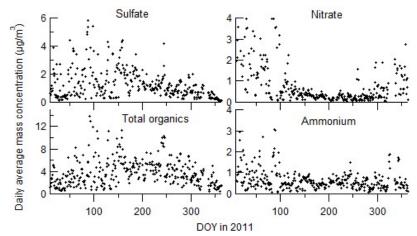


Figure S2: Seasonal variation in aerosol species mass concentrations in 2011. DOY = day of year.

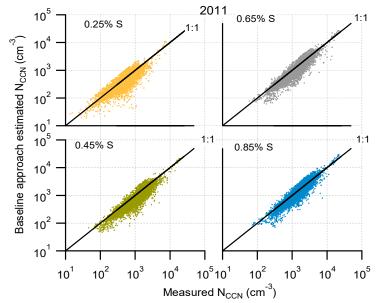


Figure S3: Baseline approach estimated vs. measured  $N_{CCN}$  at 0.25%, 0.45%, 0.65%, and 0.85% S for all data from 2011.

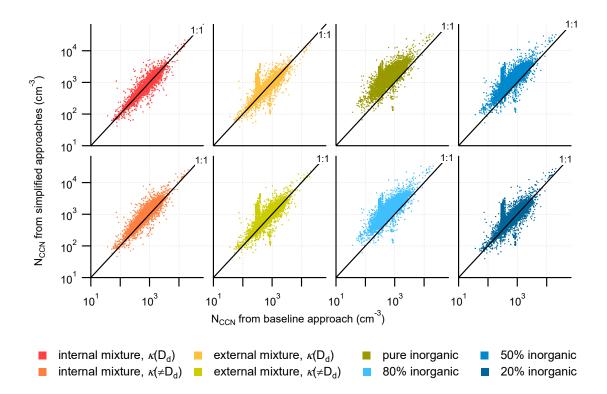


Figure S4: N<sub>CCN</sub> estimated from simplified approaches vs. baseline approach at 0.45% for all 2011 data.

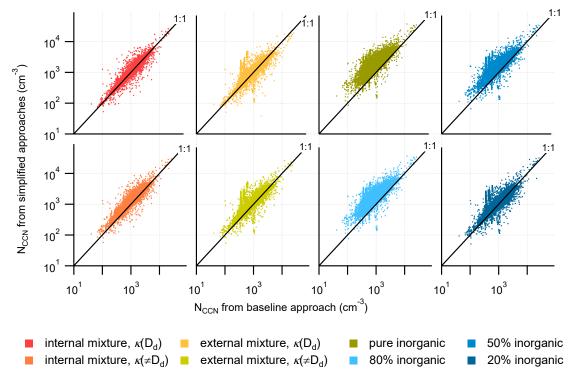


Figure S5: N<sub>CCN</sub> estimated from simplified approaches vs. baseline approach at 0.65% for all 2011 data.