Supporting Information

Contrasting Inland-Coastal Aerosol Mixing States: An Entropy-Based Metric for CCN Activity

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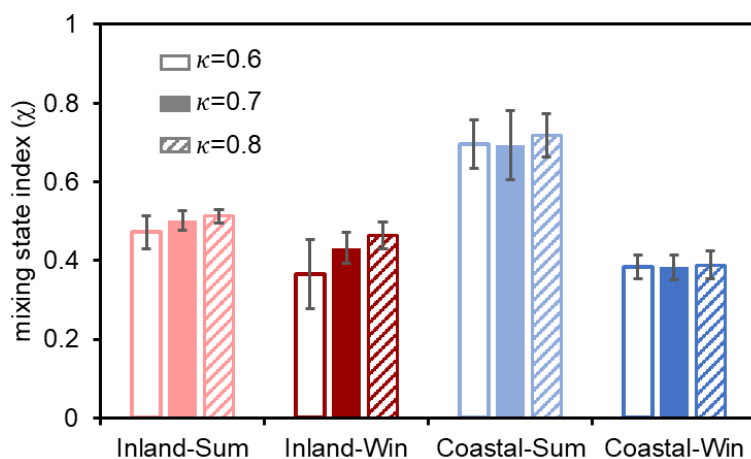
19   **Supplementary Figures**

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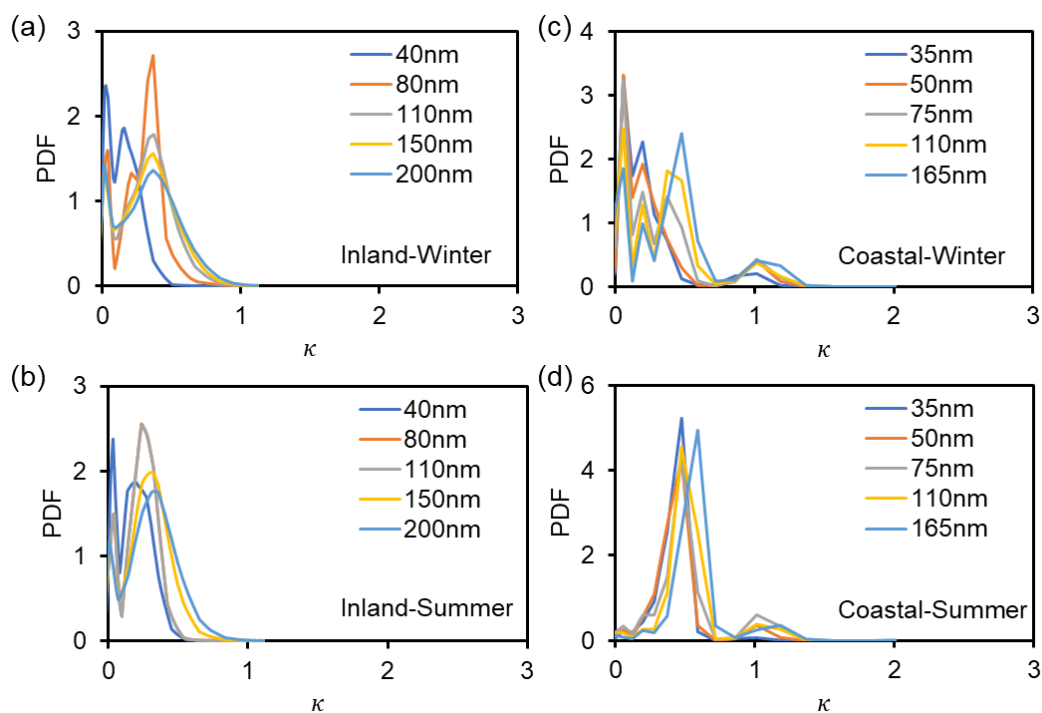
21   **Fig S1.** Sensitivity of the hygroscopic parameter for the group of the hygroscopic

22   species on the mixing state index χ.

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24   **Fig S2.** Mean value of the κ–PDF for aerosols of five diameters during winter and

25   summer periods in Inland (IAP) (a and b) and Coastal (MHD) (c and d) sites.

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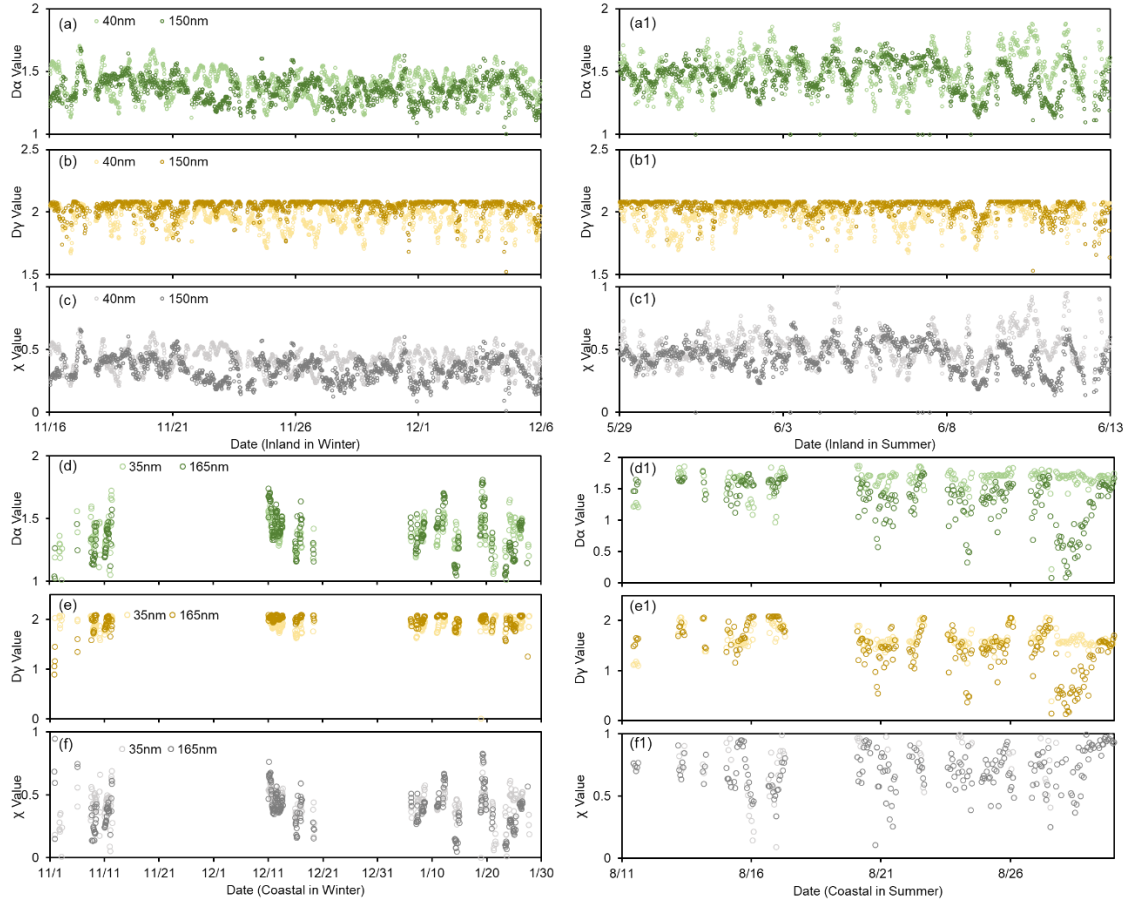
Fig S3. Time series of the average per-particle species diversity Dα, the bulk population

species diversity Dγ, and their affine ratio χ. During winter and summer periods in

Inland (IAP) and Coastal (MHD) sites.

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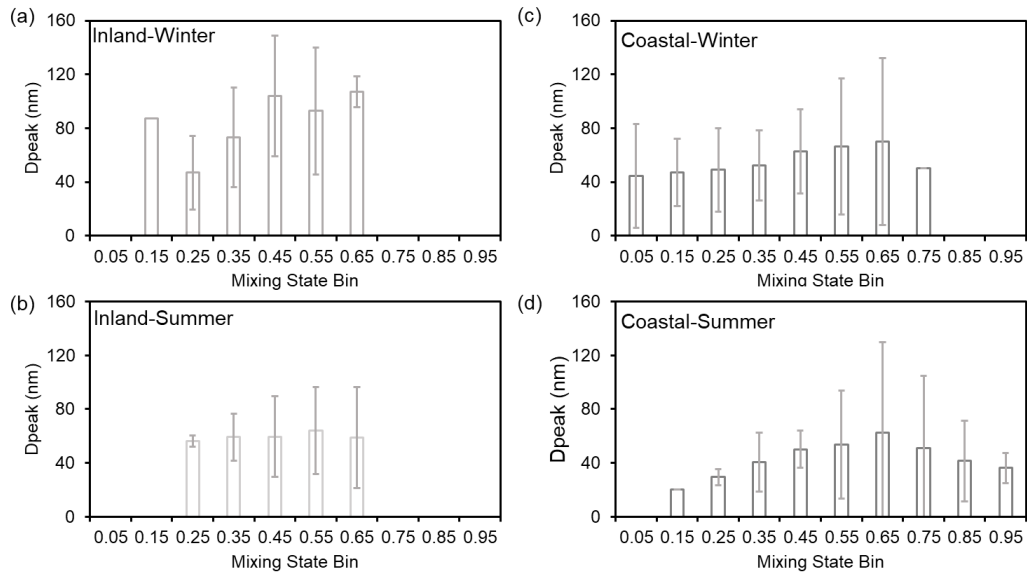
Fig S4. Variation of the peak diameter (D_{peak}) with the mixing state index at the step of

 0.1 during winter and summer periods in Inland (IAP) (a and b) and Coastal (MHD)

33 sites (c and d).

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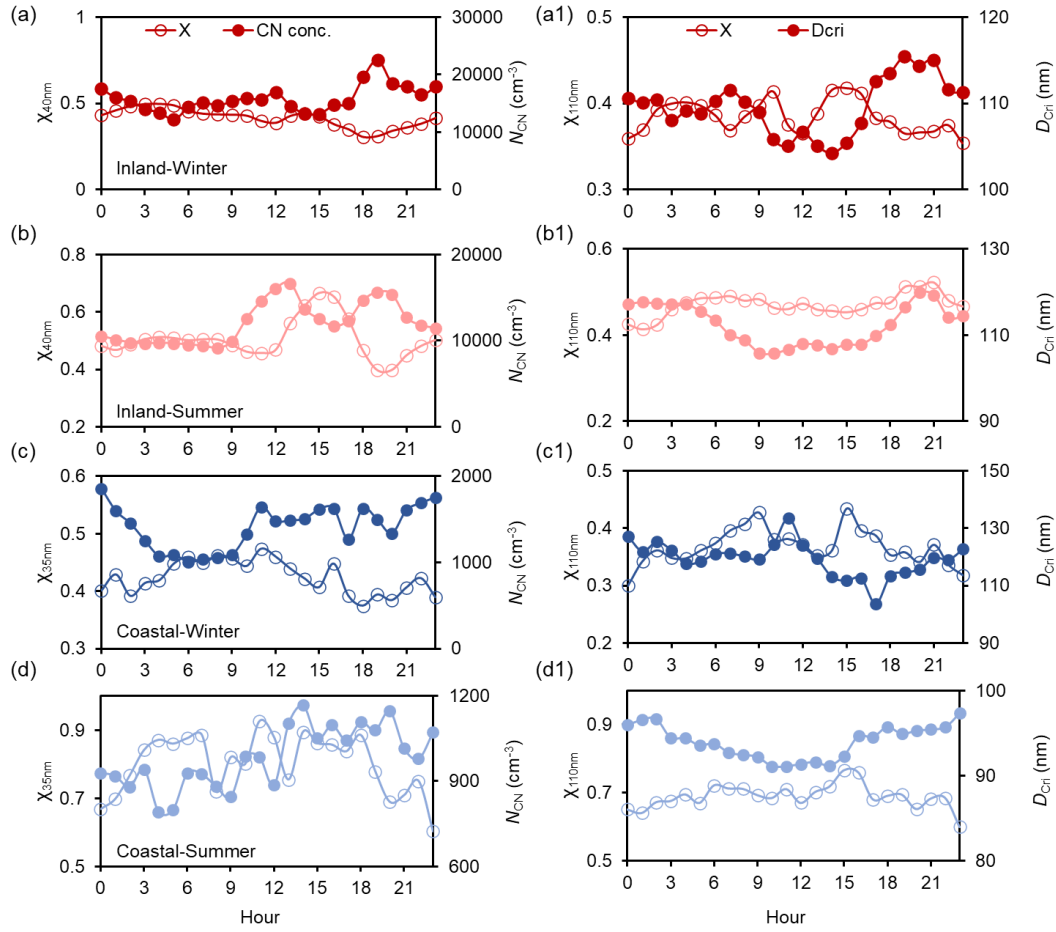
35 **Fig S5.** Diurnal variation of χ and CN concentration during winter and summer periods

36 for 40 nm and 150 nm aerosols in inland and for 35 nm and 165 nm aerosols coastal

37 site.

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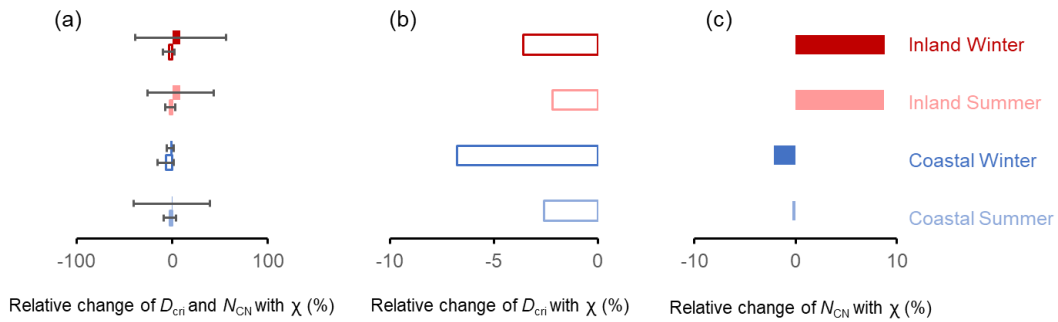
39 **Fig S6.** Relative change of the critical diameter and CN concentration with the mixing

40 state index χ in Inland-winter, Inland-summer, Coastal-winter and Coastal-summer.