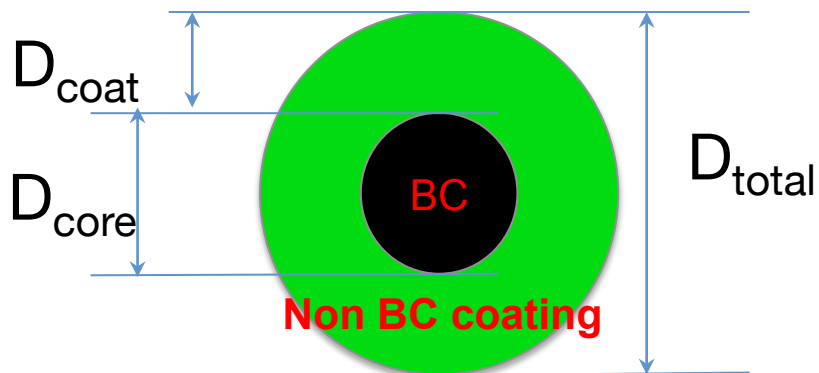


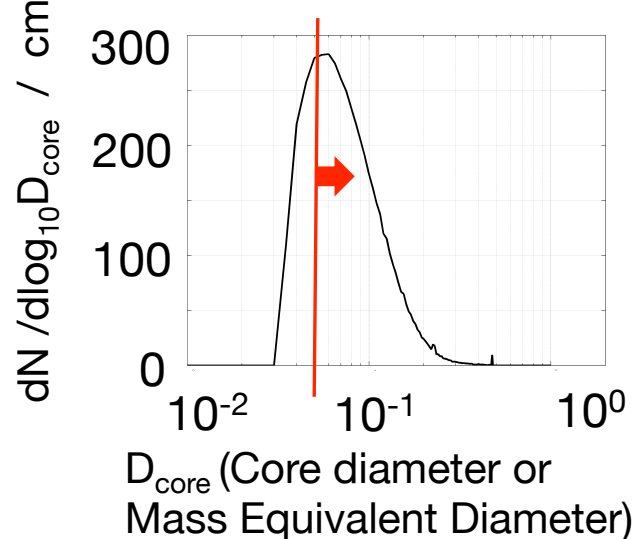
Deriving BC size and mixing state distribution from SP2

Assumed: Spherical shape
Core-shell structure

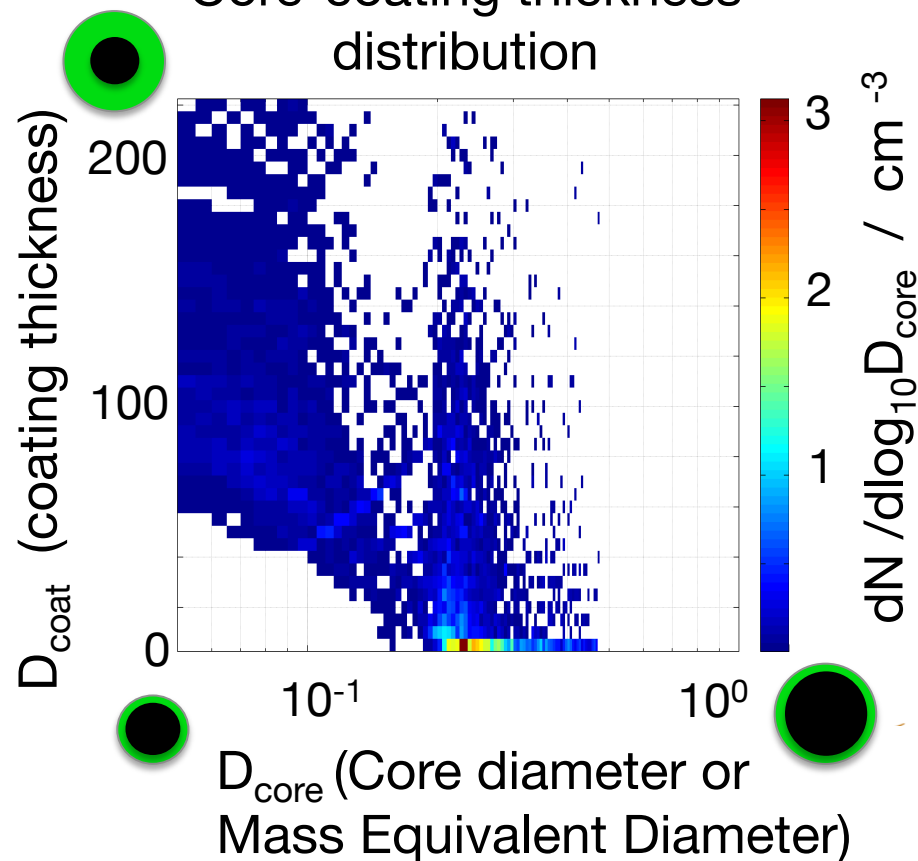


$$\text{Total diameter: } D_{\text{total}} = D_{\text{core}} + D_{\text{coat}} \times 2$$

Core diameter distribution

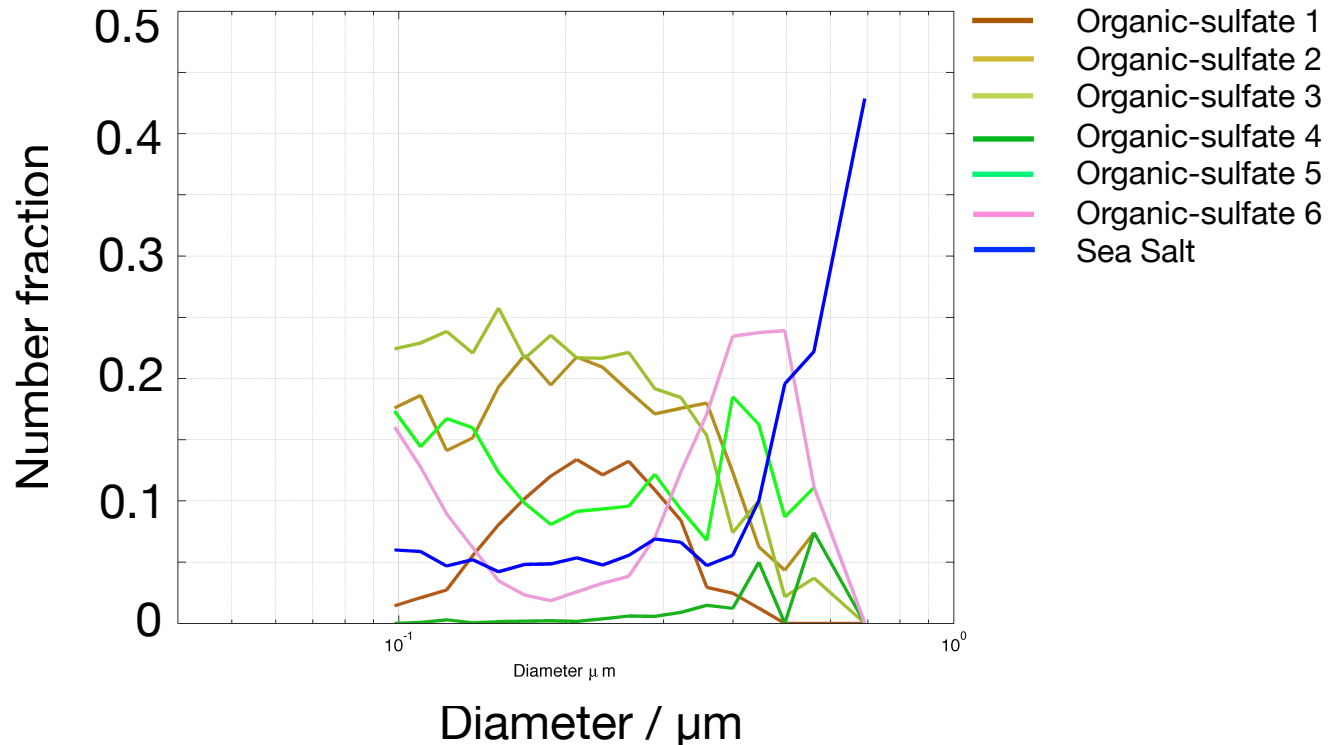


Core-coating thickness distribution



Deriving size and mixing state distribution from SPLAT- II

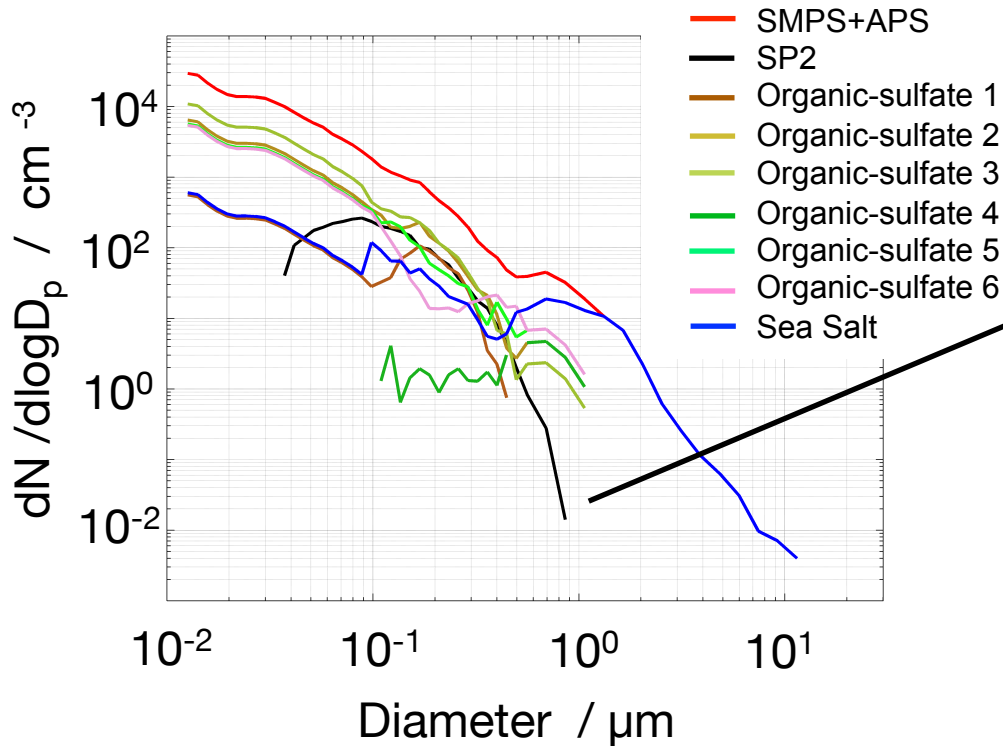
SPLAT-II –measurement
size-resolved number fraction



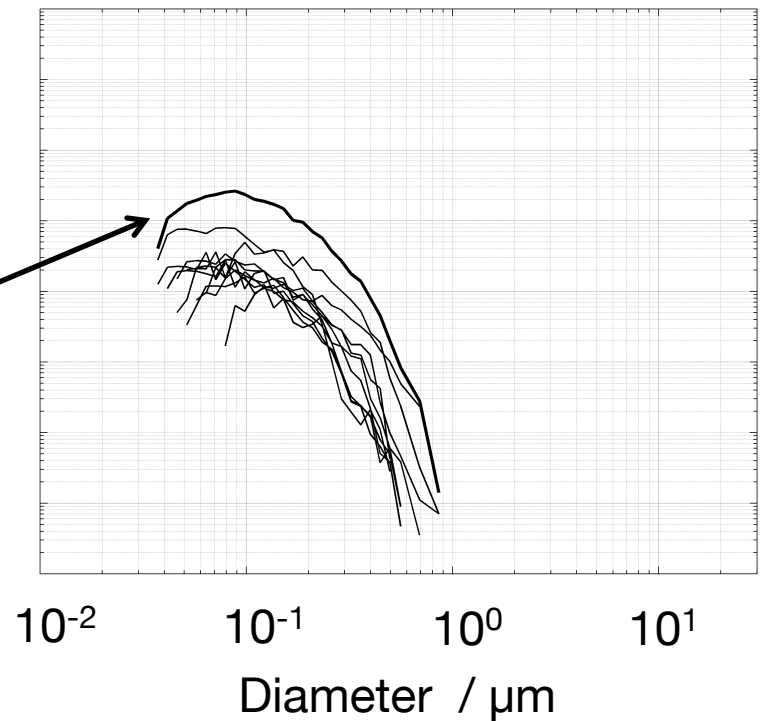
We consider 7 classes from SPLAT, **6 organic-sulfate and sea salt.** They occupy about 75%-80% of number concentration.

Deriving size and mixing state distribution from *SPLAT-II* and *SP2*

Initial size distributions input to the model



Initial size distributions input to the model *derived from SP2*



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