



Supplement of

Numerical investigation on retrieval errors of mixing states of fractal black carbon aerosols using single-particle soot photometer based on Mie scattering and the effects on radiative forcing estimation

Jia Liu et al.

Correspondence to: Jia Liu (liujia@hbu.edu.cn)

The copyright of individual parts of the supplement might differ from the article licence.

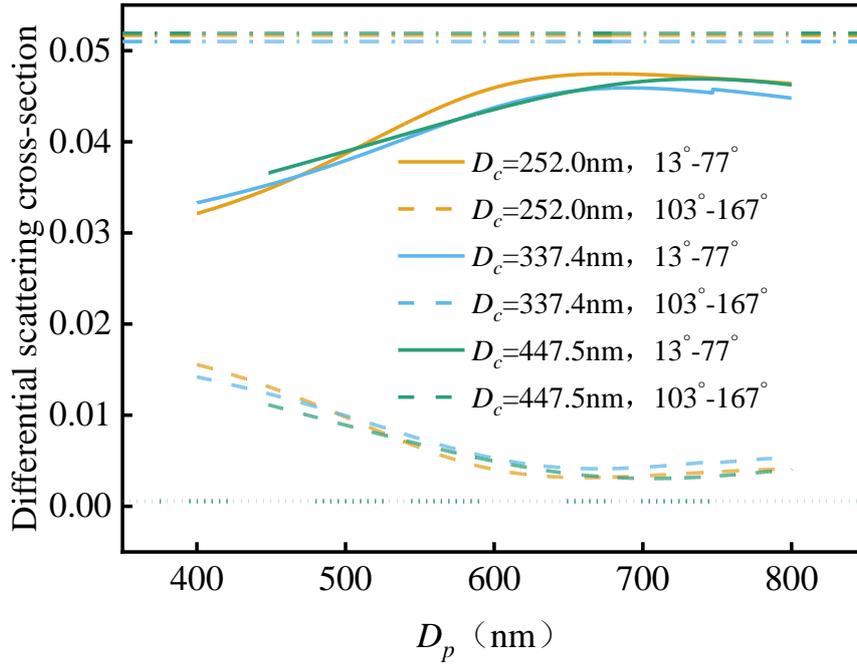


Figure S1. The variation of differential scattering cross-sections with coated particle diameter D_p of core-shell models with $D_c=252.0$ nm, 337.4 nm, 447.5 nm. The solid and dotted lines indicate differential scattering cross-sections integral from 13° to 77° and from 103° to 167° . The dot-dashed and short-dotted lines indicate the maximum value of the forward differential scattering cross-section and the minimum value of the backward differential scattering cross-section of the corresponding fractal models.

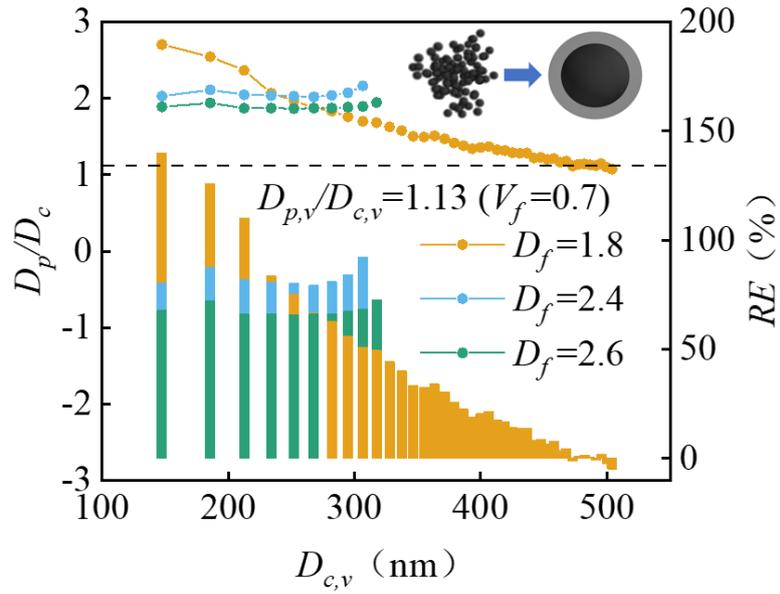


Figure S2. Retrieved mixing state (D_p/D_c) and relative error (RE) as functions of volume equivalent diameter ($D_{c,v}$) for thinly coated BC particles with $D_f = 1.8, 2.4, 2.8$ and $D_{p,v}/D_{c,v} = 1.13$. The colored lines stand for retrieved D_p/D_c and the colored bars stand for RE .