Supplementary material for "The simulated source apportionment of light absorbing aerosols: Effects of microphysical properties of partially-coated black carbon"

Jie Luo^{1,2}, Zhengqiang Li^{2,4}, Jibing Qiu^{1,3}, Ying Zhang^{2,4}, Cheng Fan², Li Li², Hailing Wu^{2,4}, Peng Zhou⁶, Kaitao Li², and Qixing Zhang⁵

Correspondence: Zhengqiang Li (lizq@radi.ac.cn)

¹Zhejiang Laboratory, Hangzhou, Zhejiang 311100, China.

²State Environment Protection Key Laboratory of Satellite Remote Sensing, Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing 100101, China

³Institute of Computing Technology, Chinese Academy of Sciences, Beijing 100190, China

⁴University of Chinese Academy of Sciences, Beijing 100049, China

⁵State Key Laboratory of Fire Science, University of Science and Technology of China, Hefei, Anhui 230026, China

⁶School of Surveying and Land Information Engineering, Henan Polytechnic University

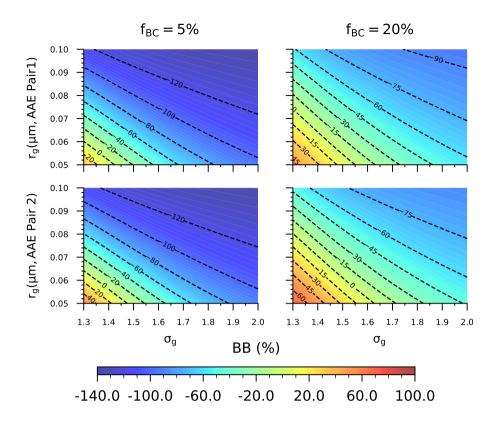


Figure S1. The BB fraction (%) of spherical BC with different size distributions, where the wavelength pair is 470 - 950 nm, $\alpha_{\rm ff} = 1$, $\alpha_{\rm BB} = 2$.

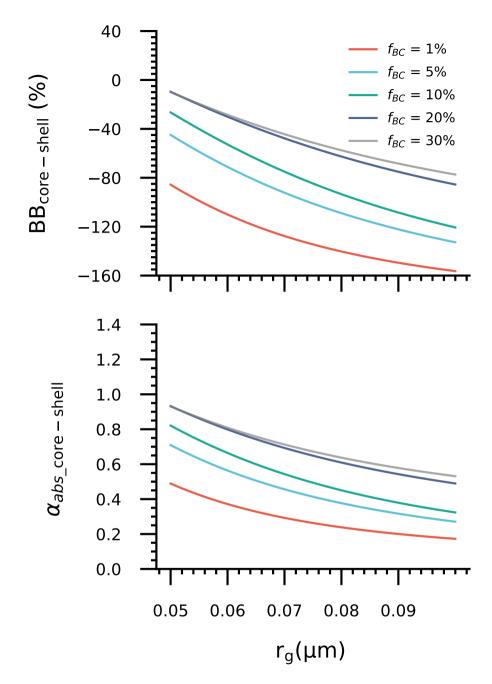


Figure S2. The variations of BB fraction (%) and AAE with rg for BC with different coating fractions, where the wavelength pair is 470 – 950 nm, $\sigma_{\rm g}$ = 1.6, $\alpha_{\rm ff}$ =1, $\alpha_{\rm BB}$ =2.

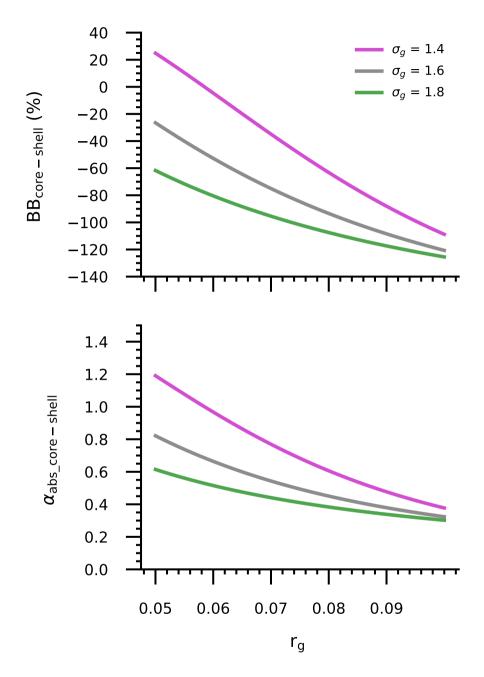


Figure S3. The variations of BB fraction (%) and AAE with r_g for BC with different σ_g , where the wavelength pair is 470 – 950 nm, f_{BC} = 10%, $\alpha_{\rm ff}$ =1, $\alpha_{\rm BB}$ =2.