

Figure S1. Meteorological conditions at the Yufa site from 15 August to 9 September 2006 during the CAREBeijing campaign.

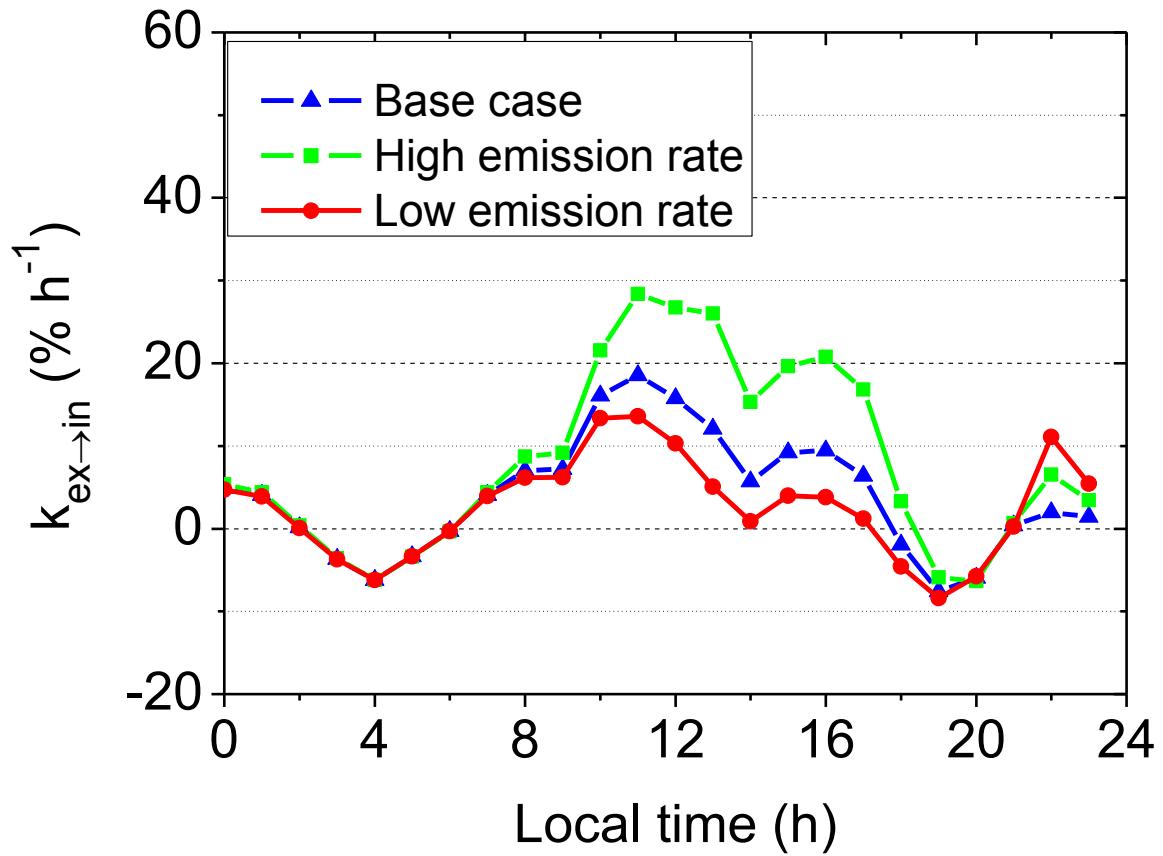


Figure S2. Sensitivity of the actual turnover rate of soot (NVP), $k_{\text{ex} \rightarrow \text{in}}$, to the emission rate, $(\partial[\text{EC}]/\partial t)_{\text{Emis}}$. The base case is the same as the case of $\beta = 0.6$ in Fig. 6. In high/low emission cases, the emission rate has been increased/reduced by a factor of two, respectively.

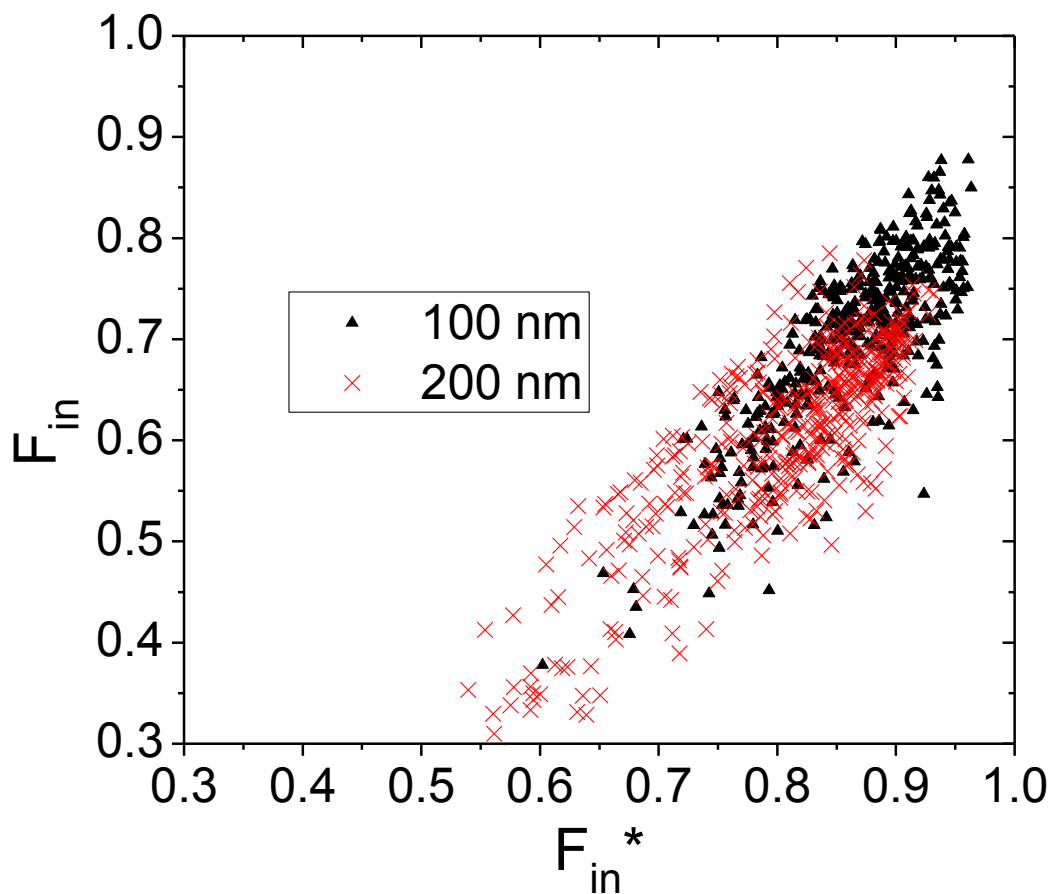


Figure S3: Comparison of F_{in} by different definitions. F_{in} (y-axis) is calculated the same as in the paper ($45 \% < D_{p,300^\circ C}/D_p < 82 \%$ were considered as internally mixed soot particles). F_{in}^* (x-axis) is calculated by considering all particles with $D_{p,300^\circ C}/D_p < 82 \%$ as internally mixed soot particles.