Supplementary Material

Characterization of Organic Aerosol Produced during Pulverized Coal Combustion in a Drop Tube Furnace

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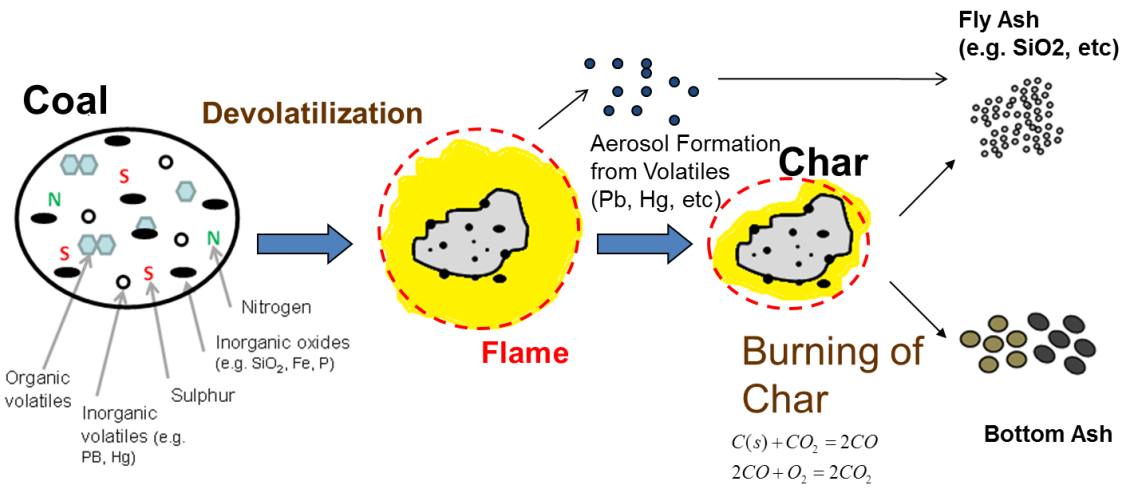


Figure S1. Schematic diagram of combustion process of a single coal particle

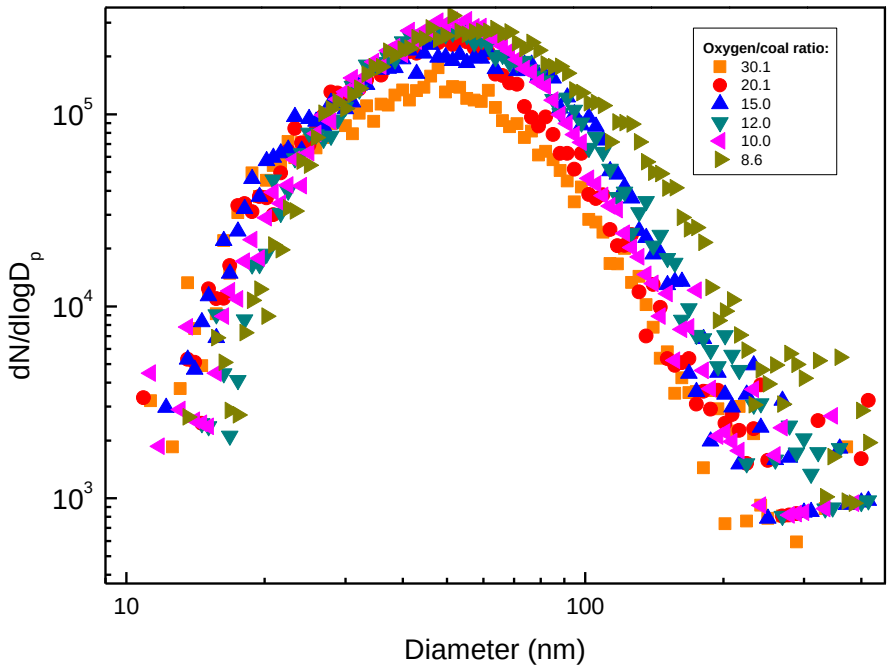


Figure S2. Size distribution of particles from coal combustion under various oxygen/coal ratios

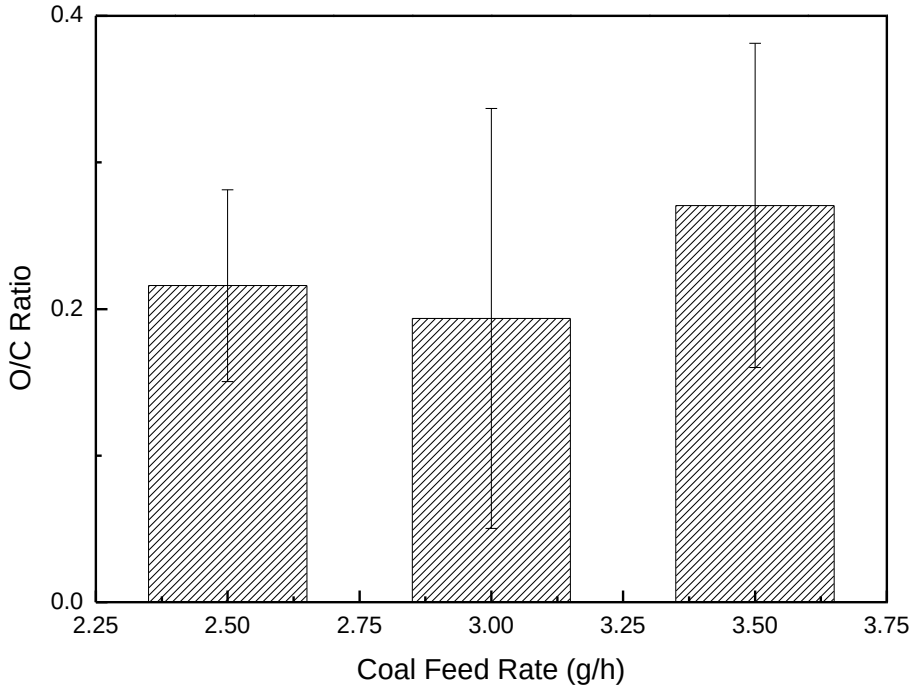
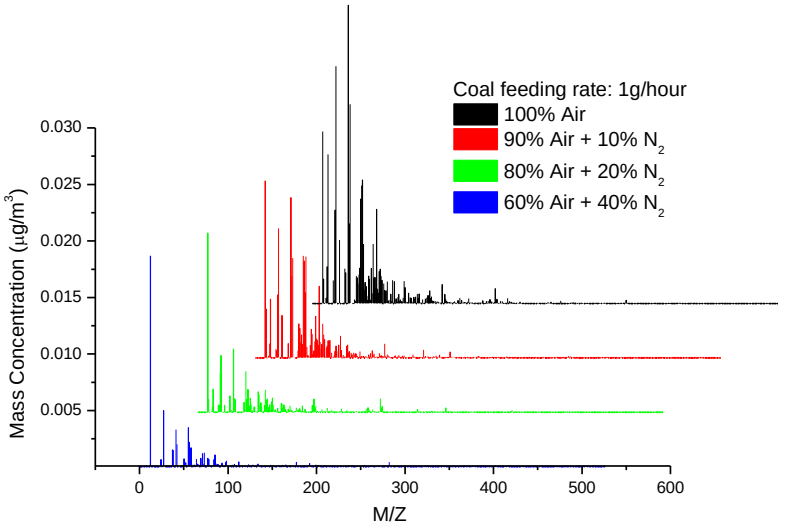


Figure S3. O/C elemental ratios for particulate organic matter from coal combustion at larger coal feed rates (the MS signal is too low to calculate O/C ratio for coal feed rate at 1, 1.5 and 2 g/hr)

A.



B.

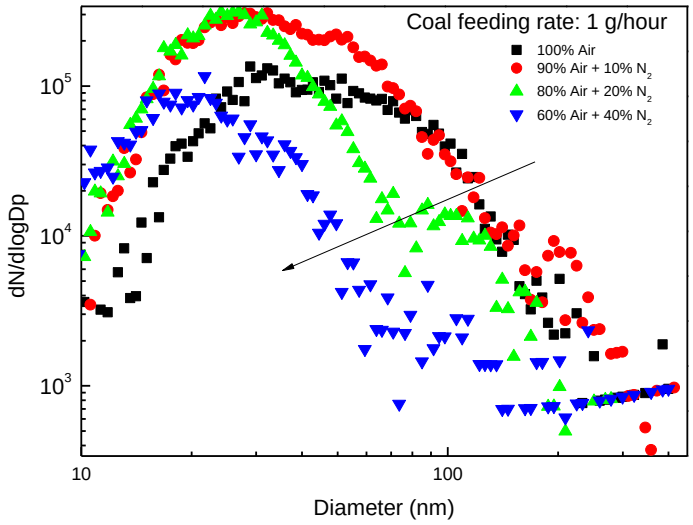


Figure S4. **(A)** Average organic mass spectra and **(B)** size distributions for different air/nitrogen ratios at a lower coal feed rate (1.0 g/h)

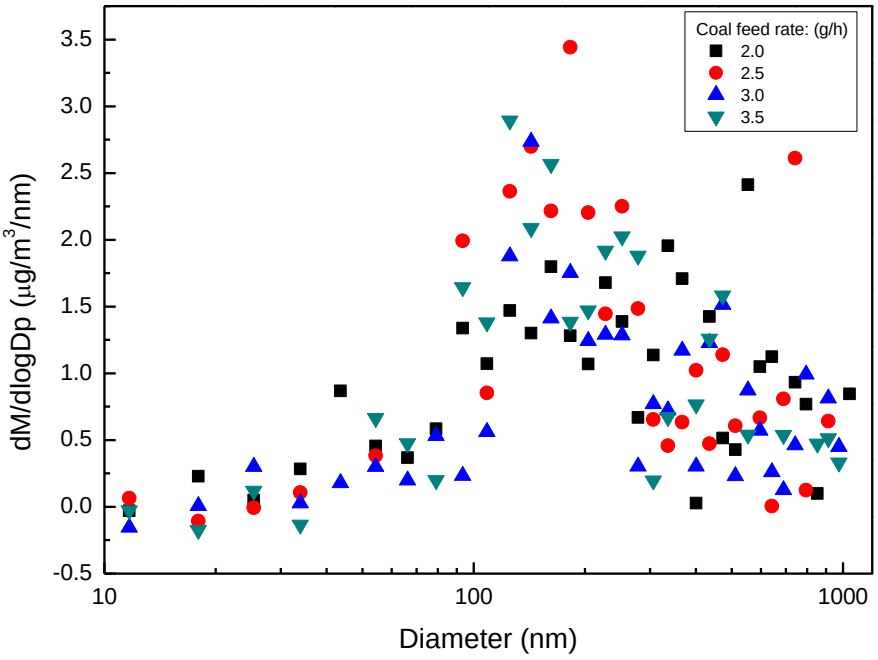


Figure S5. Mass size distribution of particulate organic matter from coal combustion at different coal feed rates (the MS signal is too low to mass size distribution for coal feed rate at 1 and 1.5 g/hr): The aerosol mass spectrometer used in this study is able to measure mass size distribution of organic matters in aerosol particles.