

## Supporting Information

### The photoenhanced aging process of soot by the heterogeneous ozonization reaction

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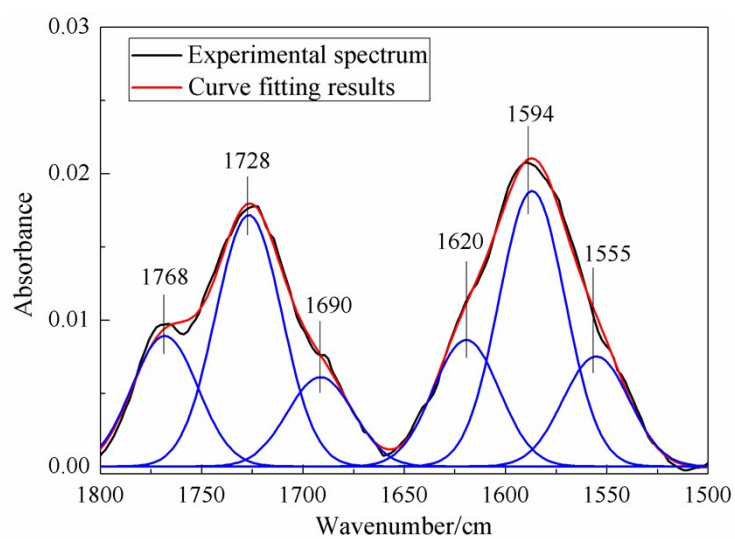


Fig. S1. Fitting results for ATR-IR spectra in the range of 1800-1500 cm<sup>-1</sup> of soot aged by O<sub>3</sub> (2 ppm) for 5 h

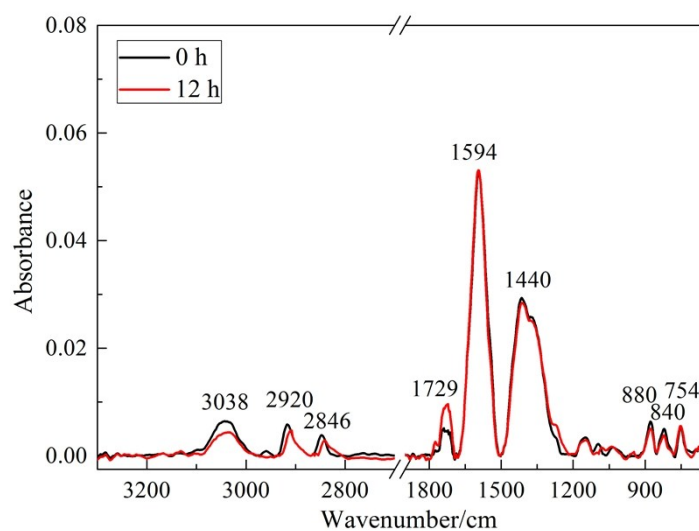


Fig. S2. Changes of IR spectra of elemental carbon aged by O<sub>3</sub> (2 ppm) for 12 h under simulated sunlight

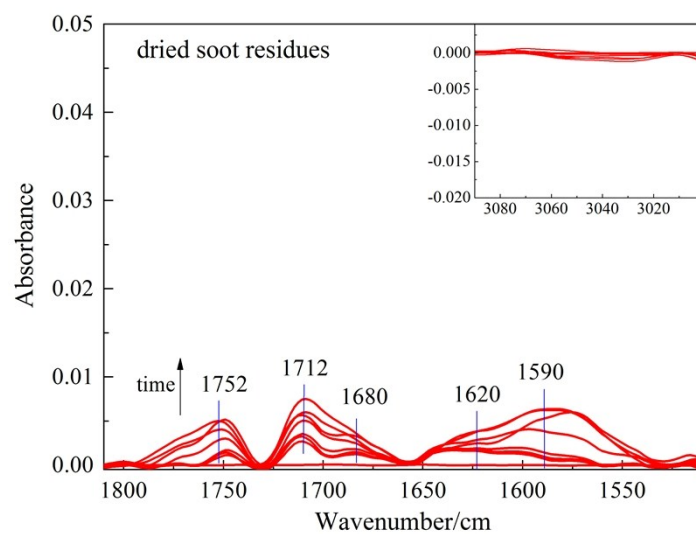


Fig. S3. Temporal changes of ATR-IR spectra in the range of 1800-1500  $\text{cm}^{-1}$  (The inset corresponds to ATR-IR spectra in the range of 3090-3000  $\text{cm}^{-1}$ ) for dried soot residues after *n*-hexane extraction toward  $\text{O}_3$  (2 ppm) under simulated sunlight

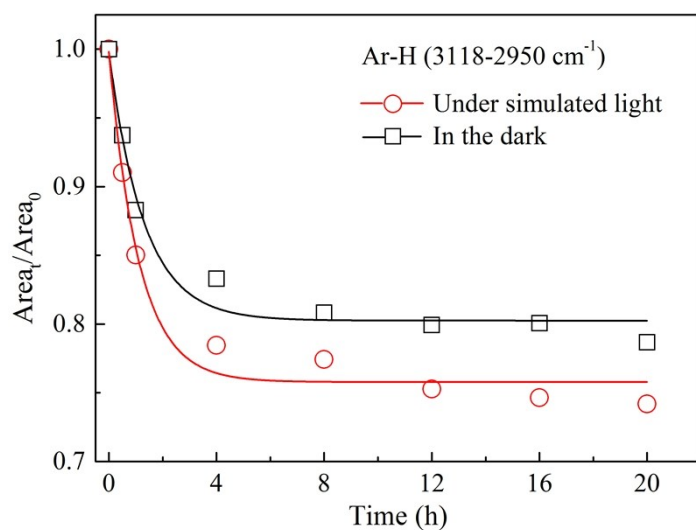


Fig. S4. Temporal changes of integrated areas of Ar-H (3118-2950  $\text{cm}^{-1}$ ) on soot during the aging process by 2 ppm  $\text{O}_3$  in the dark and under simulated sunlight