Supplement of

Measurement report: Chemical characteristics of $PM_{2.5}$ during typical biomass burning season at an agricultural site of the North China Plain

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Figure S1. Location of Gucheng measurement station (red star) and the surrounding provinces.

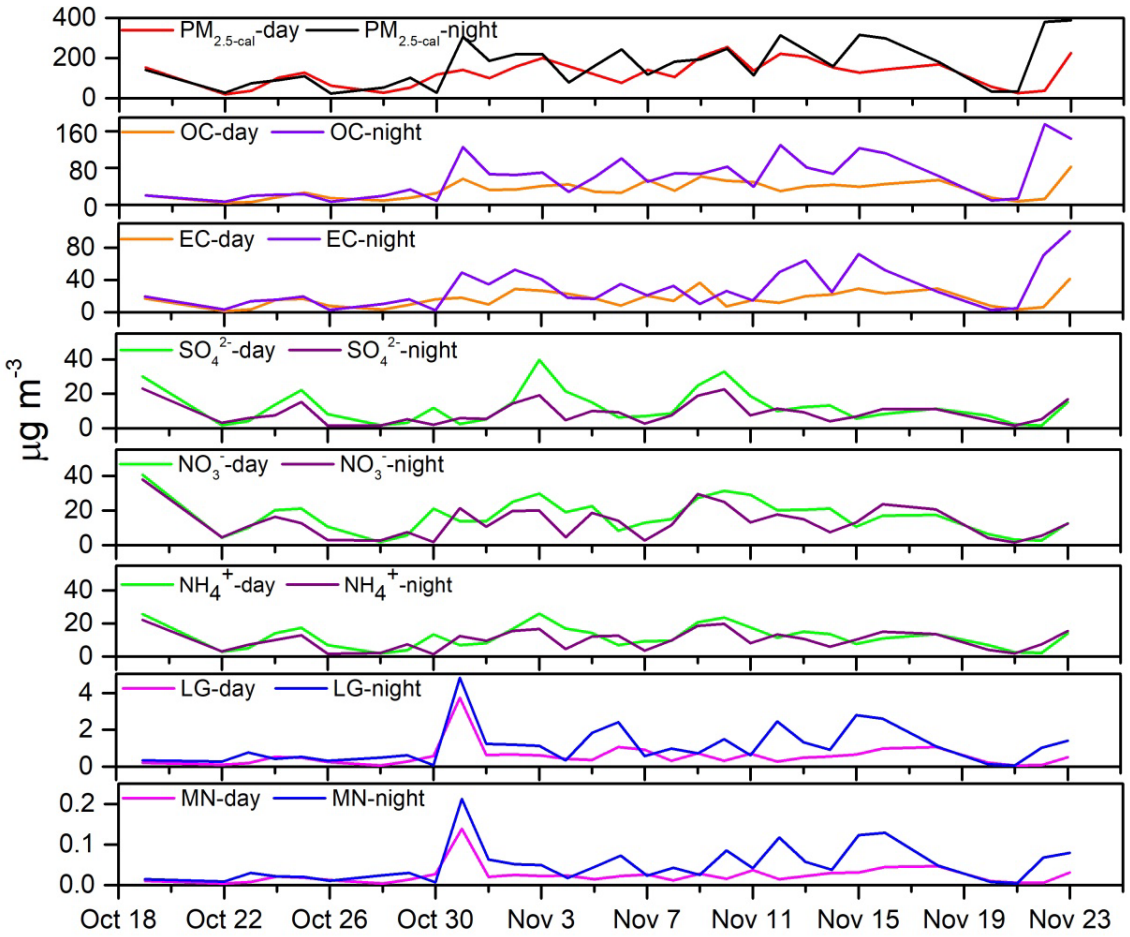

Figure S2. Time-series variation obtained for $PM_{2.5\text{-cal}}$ and its major components (OC, EC, SO_4^{2-}, NO_3^- and NH_4^+), biomass burning tracers (LG and MN) during daytime and nighttime at GC site during the sampling period from19 Oct to 23 Nov 2016.

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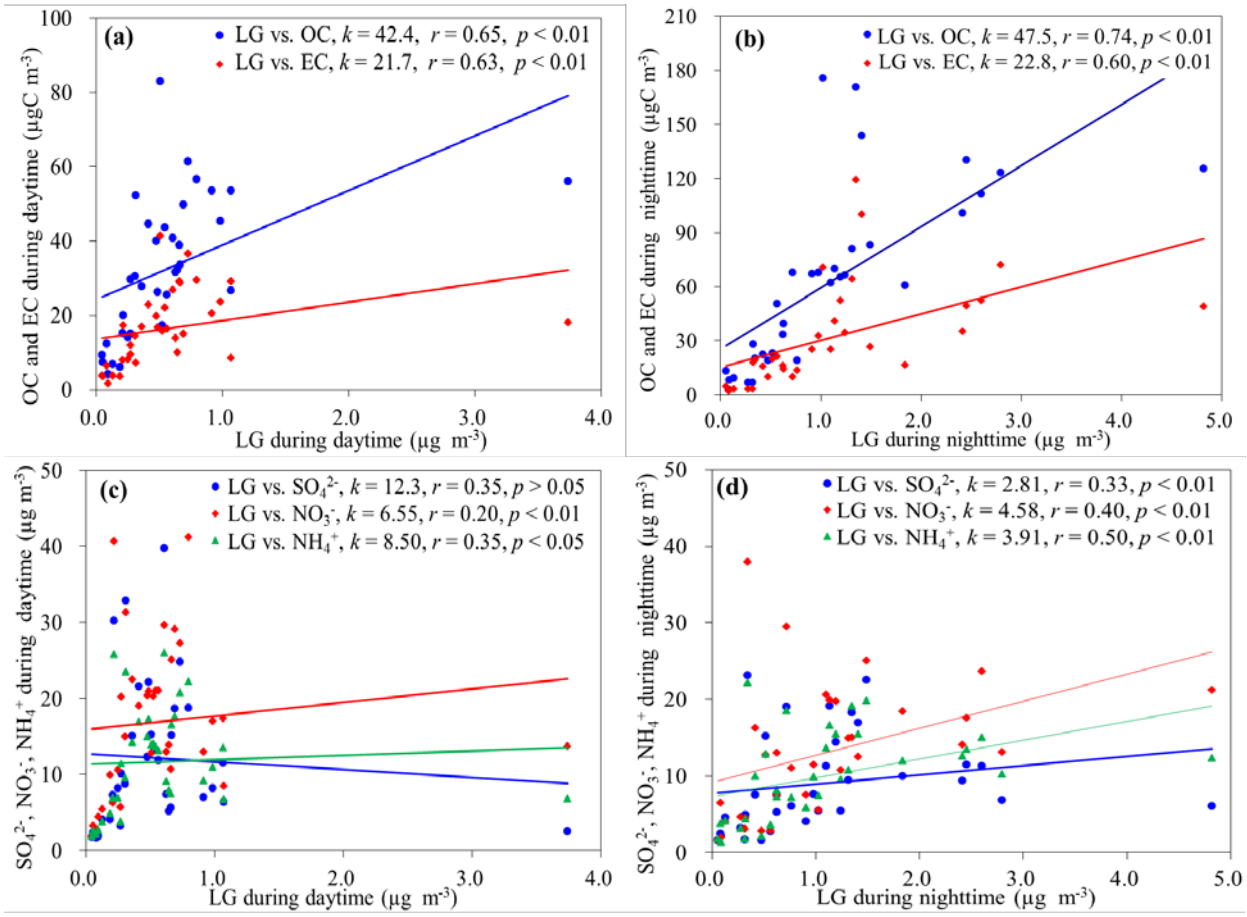

***Figure S3*.** Correlations between LG and OC as well as EC during (a) daytime and (b) nighttime, and scatter plot of LG versus SNA (i.e., SO_4^{2-}, NO_3^- and NH_4^+) during (c) daytime and (d) nighttime.

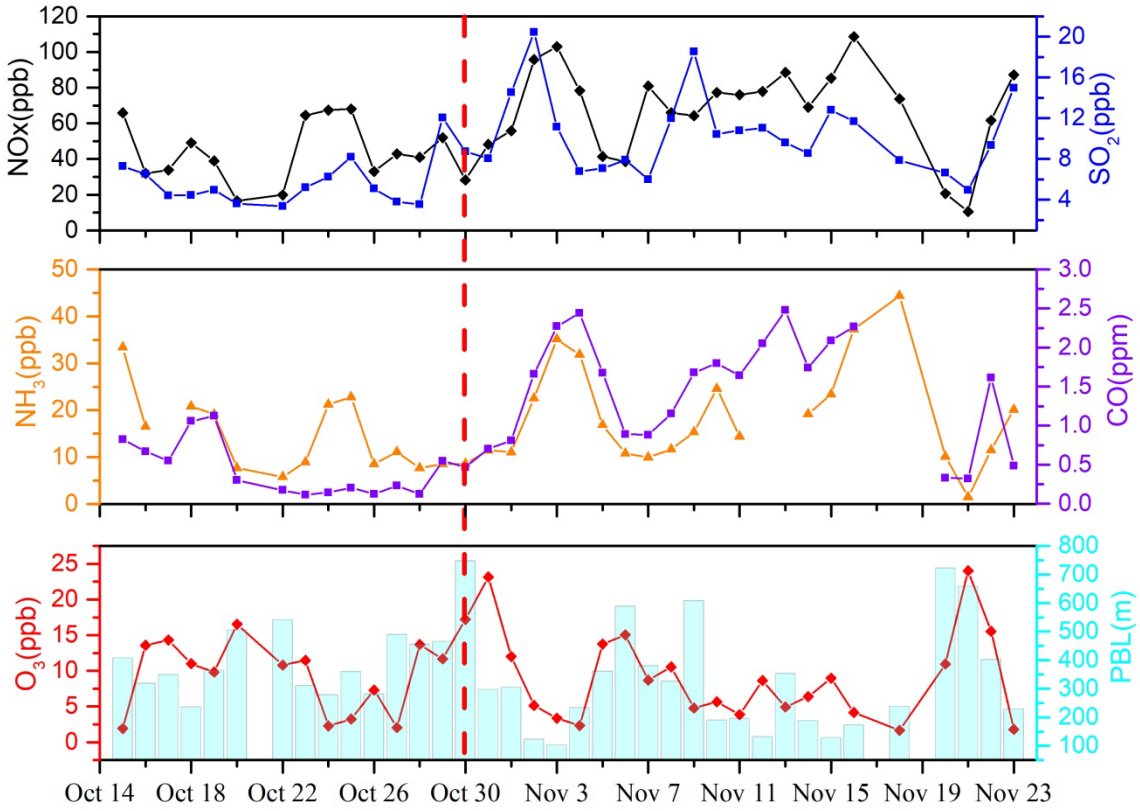

***Figure S4*.** Time-series variation obtained for reactive gases and PBL at GC site during the observation period from15 Oct to 23 Nov 2016.

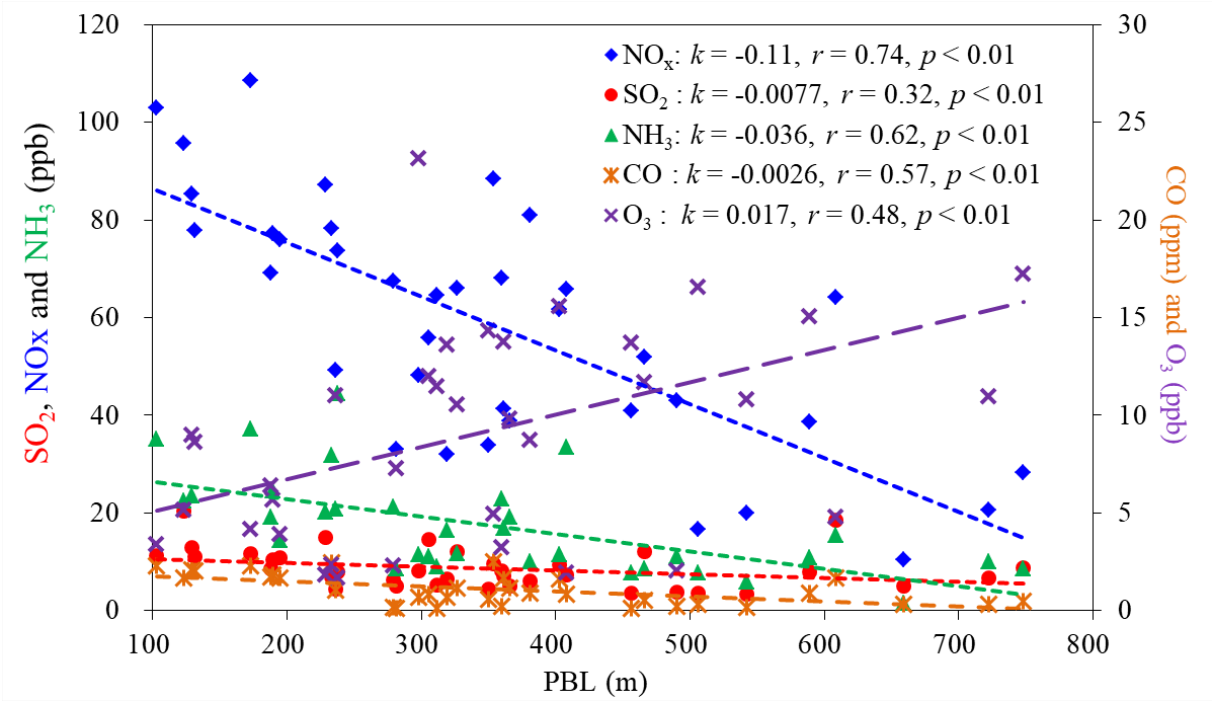

***Figure S5*.** Relationships between daily average PBL and gases at GC site during the observation period.