

Fig. S1 Daily interpolated distributions of the observed PM_{10} concentration and $PM_{2.5}/PM_{10}$ ratio near the surface on November 23 to 30, 2018.

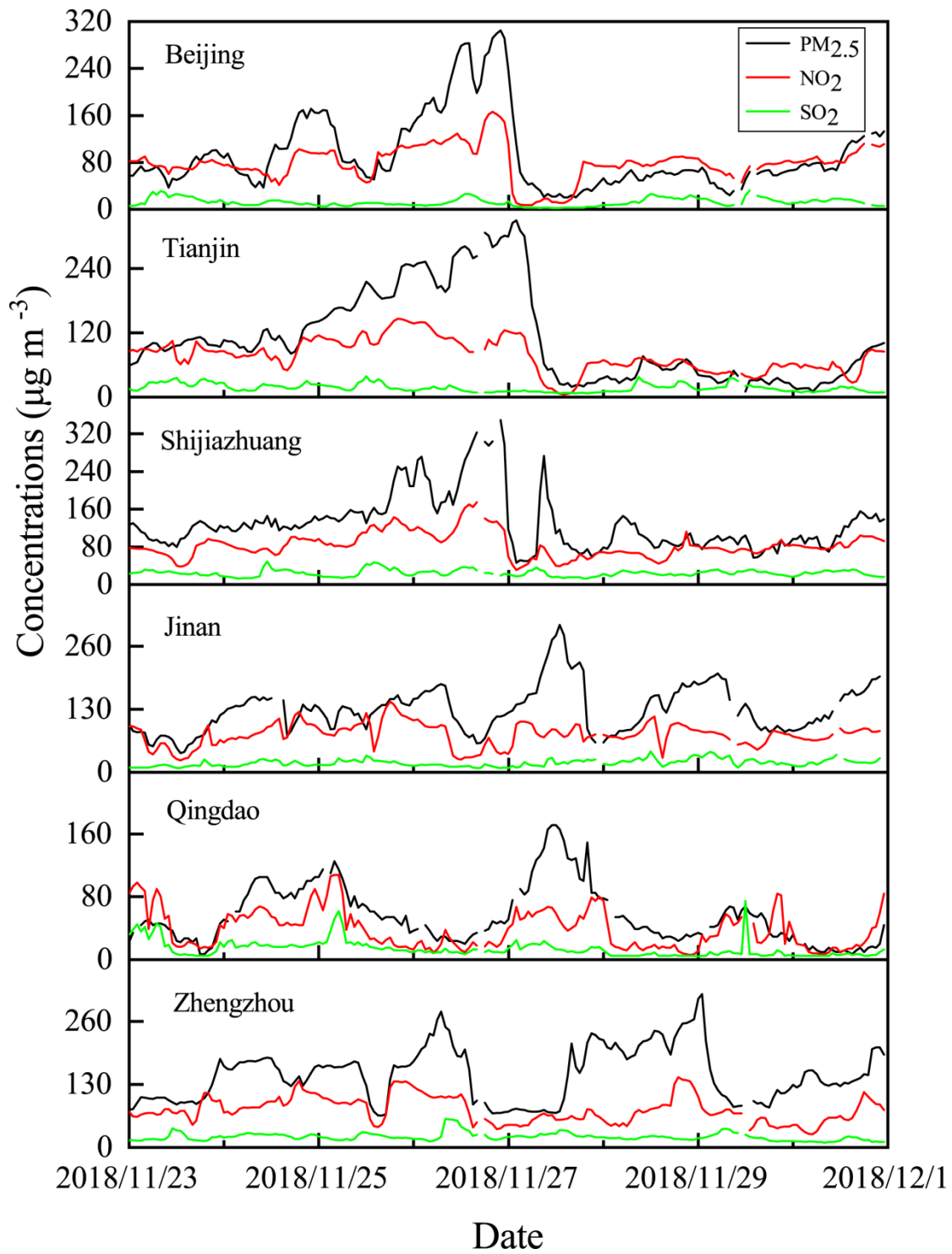


Fig.S2. Hourly concentrations ($\mu\text{g m}^{-3}$) of PM_{2.5} (black line), NO₂ (red line), and SO₂ (green line) in Beijing, Tianjin, Shijiazhuang, Qingdao, Zhengzhou, and Jinan from November 23 to 30, 2018.