

Response to editor's comments

We thank the editor for the detailed comments which have helped us to improve the manuscript. Our point-by-point responses are below. The editor's comments are in black font and our responses are in blue font.

There are several minor issues that need to be point out before publication (see additional comments).

Line 88-89: Here, related references needed to be added.

R: We added references in the revised manuscript. (See line 84)

Line 157-159: In this manuscript, "The mass concentrations of ... NO₃⁻, NH₄⁺, and SO₄²⁻ were measured using an ion chromatography separated on an AS11 column." AS11 column is an anion column in ion chromatography, but NH₄⁺ is also separated by this column in this manuscript, please check this sentence.

R: We thank the editor for pointing out the issue. We changed the sentence in the revised manuscript to "The mass concentrations of the water soluble ions including NO₃⁻, NH₄⁺ and SO₄²⁻ were measured using an ion chromatography (Dionex ICS-5000+, ThermoFisher Scientific, USA) separated on an AS11 column (4*250 mm, Dionex) for anions and a CS12A column (4*250 mm, Dionex) for cations, respectively. Potassium hydrate (KOH) and methane sulfuric acid (MSA) were used as the gradient eluent for anion and cation determination, respectively." (See lines 150-154)

Line 215: Avoid lumping references as in (Fan et al., 2016; Zhang et al., 2020b; Zhao et al., 2016) and all other. Instead summarize the main contribution of each referenced paper in a separate sentence.

R: We changed the sentences in the revised manuscript to "Compared with those measured in other cities in China in summer, the averaged HULIS concentration in Nanjing in summer was comparable with those measured in Guangzhou of 1.70 µg m⁻³ (Fan et al., 2016), Shanghai of 1.61 µg m⁻³ (Zhao et al., 2016) and Xi'an of 1.50 µg m⁻³ (Zhang et al., 2020b). Compared with those measured in winter samples in other cities, our result was comparable with those in Xi'an of 4.50 µg m⁻³ (Zhang et al., 2020b), a little lower than those in the megacity of Shanghai of 5.31 µg m⁻³

(Zhao et al., 2016) and higher than those in the southern coastal city of Guangzhou of $3.60 \mu\text{g m}^{-3}$ (Fan et al., 2016).” (See lines 200-206)

Line 304-305: “proposed by previous studies”, related references needed to be added.

R: We added references in the revised manuscript. (See line 286)

Line 366-367: Please supplement references to prove that “more sensitive for the identification of polar compounds”.

R: We added references in the revised manuscript. (See line 349)

Line 539-548: This sentence is too long.

R: We divided the sentence into two new sentences in the revised manuscript. (See line 520-530)