There is a current debate on the driving mechanism(s) of NPF in urban environments, more specifically, sulfuric acid-amine clustering or oxidized organics originating from traffic emissions. The lockdown during COVID-19 pandemic provided a unique chance to definitively resolve this issue. Very simply put, if the strength of NPF reduced significantly during the lockdown, the dominant role of traffic emissions can be confirmed. A recent paper by Shen et al., (2021), that is also cited in this study, showed that NPF was stronger during the lockdown, which may suggest the less important role of traffic emissions in NPF in Beijing. In this study, the authors show consistent observational results with what have been reported by Shen et al., (2021), and further extended the mechanistic understanding of such NPF enhancement by performing detailed molecule-level analyses on NPF precursors, i.e., sulfuric acid and oxygenated organics. The authors found that the enhanced NPF were an overall result of two facts: first, the sulfuric acid-amine clustering remained as the driving mechanism and led to a similar J1.5; second, the growth and survival of very small particles were enhanced by the elevated abundance of condensable oxidized organics.

Overall, I think this paper presents a significant advance in the understanding of NPF in urban environments, and thus I recommend accepting it for publication with a few minor comments/questions that I hope the authors can answer:

- **Line 216 -218** "In addition, the concentration of OOMs increased by about 50% during the lockdown. This is because the concentration of volatile organic compounds (VOCs) only declined slightly in the lockdown period (Shen et al., 2021b), but the photochemistry was much more enhanced.”

  The overall pollution level was more serve during lockdown period. So will some of the OOMs be able to transport from other region(s) to the measurement site along with PM$_{2.5}$, and thus leading to the enhancement of OOM concentration?
2. Line 285 “... range of our observations (Fig. S6).” Is this Fig. S6 should be Fig. S5?

3. Line 291 “periods (Fig. S7). This is less than ...” Is this Fig. S7 should be Fig. S6?

4. Line 334-336 “When the NO concentration declined from the pre-lockdown period to the lockdown period, the ratio of C_6-H_{7,9,11,13}O_N concentration to C_6-H_{7,9,11,13}O_{5} concentration decreased as well. Will the photolysis of nitrogen-containing aromatic OOMs influence the ratio of C_6-H_{7,9,11,13}O_N concentration to C_6-H_{7,9,11,13}O_{5} Concentration? And what will happen if color Fig. 5 (A) with UVB?

5. Line 340 – 342 “They have a double bond equivalent (DBE) of 1, suggesting that they originate from aliphatic rather than aromatic precursors”

It seems that the authors have some criteria to infer the VOC precursor of OOMs. Is this based on some published results? I would like the authors to reply with more details.