The authors thank the editor and anonymous referees for reviewing our manuscript, and particularly providing valuable comments and suggestions. Our responses in form of point-by-point are given.

The manuscript provides a comprehensive analysis of nitrogen-containing organic compounds (NOCs) in fine particulate matter ($PM_{2.5}$) in the southeastern Tibetan Plateau (TP). The authors have conducted a detailed field study and employed robust analytical methods to identify the sources and concentrations of NOCs, emphasizing the significant impact of biomass combustion and cross-border transport. The study is well-structured, and the results are important for understanding the atmospheric chemistry and climate implications in this sensitive high-altitude region. I recommend the manuscript for publication after addressing these minor points.
Response: We thank the referee for the positive comment.

Abstract: the abstract would benefit from a brief mention of the specific analytical techniques used to quantify NOCs, which would provide readers with a better understanding of the study's methodological robustness.
Response: We agree that including a brief mention of the specific analytical techniques used to quantify NOCs in the abstract would enhance the readers' understanding of the study's methodological robustness. We will revise the abstract to include this information. It now reads, "... We conducted field sampling at a regional background sampling site in Gaomeigu, in the southeastern margin of TP from March 11th to May 13th in 2017, followed by laboratory analysis of the NOCs collected on the filters..."

Introduction: The introduction provides a good background on the significance of NOCs and the TP region. It would be helpful to include a brief discussion on the potential implications of NOCs on local human health and ecosystems, in addition to their climatic impact.
Response: We appreciate your suggestion to include a discussion on the potential implications of NOCs on local human health and ecosystems. This addition will provide a more comprehensive overview of the significance of NOCs beyond their climatic impact.
In the revised Introduction, it now reads, "...The increased input of reactive nitrogen from human activities, such as fertilizer production, adversely affects terrestrial and aquatic ecosystems and human health by impacting air, soil, and water quality (De Vries, 2021). These effects have profound implications for atmospheric chemistry and climate, necessitating a deeper understanding of NOC sources and atmospheric processes in the climate-sensitive region of TP..."

line 232: provide a more detailed explanation of the criteria used to segment the campaign into EC1-EC5 periods. For instance, specifying the exact meteorological parameters and concentration thresholds that define each period would enhance clarity.
Response: The criteria for segmenting the campaign into EP1-EP5 periods were based

primarily on mass concentration thresholds. Specifically, high pollution episodes were identified by NOC concentrations that were 4-5 times higher than those observed during clean periods. Meteorological parameters and their impacts on regional transport and secondary formation processes are discussed in detail later in the manuscript.

line 254-261: The mean concentrations of protein-type and non-protein-type FAAs are provided, but it would be useful to discuss the potential reasons for the observed differences in their concentrations. For example, what environmental or biological processes might account for the higher prevalence of protein-type FAAs.
Response: We appreciate your suggestion to discuss the potential reasons for the observed differences in the concentrations of protein-type and non-protein-type FAAs. In our study, the higher prevalence of protein-type FAAs could be attributed to several environmental and biological processes including source contribution, atmospheric processes, and meteorological conditions. These aspects were discussed in Section 3.4 and 3.5.

line 298: add references for "…Urea can be released into the atmosphere through agricultural activities and biomass burning, and it can also be formed secondarily in the atmosphere through chemical reactions…"
Response: Now added.

line 329: While Simoneit et al. (2003) is cited for the formation mechanisms, it would be useful to reference additional studies that have observed similar formations of alkyl amides and nitriles in biomass burning contexts. This would help to further validate the findings and place them within a broader research context.
Response: We have cited the following papers.
Munila Abudumutailifu, Xiaona Shang, Lina Wang, Miaomiao Zhang, Huihui Kang, Yunqian Chen, Ling Li, Ruiting Ju, Bo Li, Huiling Ouyang, Xu Tang, Chunlin Li, Lin Wang, Xinke Wang, Christian George, Yinon Rudich, Renhe Zhang, Jianmin Chen. Unveiling the Molecular Characteristics, Origins, and Formation Mechanism of Reduced Nitrogen Organic Compounds in the Urban Atmosphere of Shanghai Using a Versatile Aerosol Concentration Enrichment System. *Environmental Science & Technology* **2024**, *58* (16) , 7099-7112.
Ma, Y. J., Xu, Y., Yang, T., Xiao, H. W., and Xiao, H. Y.: Measurement report: Characteristics of nitrogen-containing organics in PM2.5 in Ürümqi, northwestern China – differential impacts of combustion of fresh and aged biomass materials, Atmos. Chem. Phys., 24, 4331-4346, 10.5194/acp-24-4331-2024, 2024.

line 383: While other sources accounted for less than 10%, it would be beneficial to briefly mention what these sources are and their potential impact. Even minor contributors can provide important context for a comprehensive understanding of NOC

sources.

Response: We have now mentioned these sources. It now reads, "... Specifically, for FAAs (Figure 5b), secondary sources (39.6%) and biomass burning (37.3%) are the two major contributors, while other sources accounted for less than 10% including agriculture activities, crustal sources, industry-related, coal combustion, and traffic emissions..."

Conclusion: Suggest areas for future research that could build on this study. For instance, further investigation into the specific chemical pathways of NOC formation during transport, or more detailed source apportionment studies in different regions, could be valuable.

Response: We agree that identifying areas for future research would enhance the conclusion and provide direction for subsequent studies.

In the revised conclusion section, it now reads, "... For future research, we suggest further investigation into the specific chemical pathways involved in the formation of NOCs during atmospheric transport, which could involve controlled laboratory experiments and field studies. Additionally, more detailed source apportionment studies in different regions, including urban, rural, and remote areas, would provide a comprehensive understanding of the sources and contributions of NOCs. By addressing these areas, future research can further enhance our understanding of NOCs and inform effective policy measures to mitigate their adverse effects..."

Figure 1: There is a minor typographical error in the description of the clean period: "5/6 to -5/11" should be corrected to "5/6 to 5/11". Consistency in date formats will prevent confusion.

Response: Revised.