

## ***Interactive comment on “Polycyclic aromatic hydrocarbons (PAHs), oxy- and nitro-PAHs in ambient air of Arctic town Longyearbyen, Svalbard” by Tatiana Drotikova et al.***

### **Anonymous Referee #2**

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This manuscript provides a study of PAHs and PAH derivatives (nitro- and oxy-PAHs) in the ambient air of two locations in Svalbard. The study includes results about their atmospheric concentrations, gas/particle partitioning and a tentative of source identification based on measurements in ambient air and at the emission of a coal power plant identified as a probable major contributor in the area of the study. Overall, the manuscript is well written, and the results are scientifically relevant especially in the context of the Arctic region which is still poorly documented about such toxic compounds. However, my major concerns are about the source identification methodology and results together with some statements about the gas/particle partitioning processes of these compounds. Thus, I would recommend the publication of

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this paper in ACP after some major revisions detailed directly into the pdf file of the text.

Please also note the supplement to this comment:

<https://www.atmos-chem-phys-discuss.net/acp-2020-142/acp-2020-142-RC2-supplement.pdf>

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Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2020-142>, 2020.

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