

Dear editor Roya Bahreini,

Thank you very much for your comments. We have revised the manuscript accordingly. The point-by-point responses (in black) to each comment are listed below. And the manuscript also has been improved. Please check the manuscript for details.

#### **specific comments**

Thanks for your response. I appreciate you clarifying the OFP statements. I suggest editing the sentence in L546-547 to "However, due to lack of measurements of OVOC species such as formaldehyde, acetaldehyde, and benzaldehyde in this study, the presented OFPs were underestimated".

Reply: The relative content has been revised in lines 545-546 in the improved manuscript as follows:

However, due to lack of measurements of OVOC species such as formaldehyde, acetaldehyde, and benzaldehyde in this study, the presented OFPs were underestimated.

The sentences currently in L451-453 should be reverted back to the original since the original sentence reads better and that was not the segment I was referring to with the typo (0# Diesel). This typo appears in L437-439 of the ATC2 document.

Reply: Thanks for your advice. The relative sentence has been reverted back to the original version in lines 450-452 in the improved manuscript as follows:

As mentioned above, naphthalene and acetone were the absolute highest two VOC species for OGVs, followed by alkenes, OVOCs and aromatics from exhausts of HFO fuel; but alkenes, OVOCs and alkanes from exhausts of diesel fuels.

The contents involved the typo have been revised in lines 437-439 in the improved manuscript as follows:

In addition, a small scientific research ship (499 t, 5 years, high-speed engine, diesel (0#)) was also tested in this study, whose VOCs profile was given in Fig. S4 for comparison. Obviously, the VOCs profile pattern was very similar with that of inland cargo ships with the same small high-speed engines and diesel (0#) as fuel, indicating the significant impact of engine type and fuel type.

What needs illustration is that the diesel used for this scientific research ship was the same as the four inland ships, which was regular diesel (0#), whose parameters were shown in Table S1.

We hope our replies have addressed your comments.

Sincerely yours,

Fan Zhang on behalf of the authors.