Follow-up on Specific Comments

Line 201: How the MeSH sensitivity was determined presents uncertainty to the MeSH measurements, as the authors mention. Calculating the sensitivity as the average of sensitivities of compounds with similar m/z assumes that the sensitivity is primarily dependent on mass transmission. The authors state that the value used (13.4 ncps/ppb) is at the high range of measured calibration coefficients. It would be good to state what this range in calibration coefficients is. Other work that also has not had an experimentally measured calibration factor for MeSH has used the sensitivity to DMS given their similar collision rate constants and transmission efficiencies (Lawson et al. ACP (2020)). Another paper that measured calibration factors for MeSH and for DMS on a PTR-MS found that they were 3x more sensitive to DMS than MeSH (Novak et al. ACP (2022)). Since the MeSH findings in this paper are so important and have implications for the significance of MeSH in the sulfur budget, it would be good to have a more nuanced discussion of the uncertainty in MeSH based on what the range in calibration factor could be. I suggest this section of the supplemental provides a range in [MeSH] based on applying the average sensitivity of acetone and acetaldehyde, the DMS sensitivity, and the range in sensitivity coefficients in this study.

Line 202: Please provide information on how exactly this uncertainty was estimated. For example, what is the uncertainty in your calibrations, etc. and how does that lead to an overall value of +/- 20 or 30%. The provided reference Baudic et al. (2016) also does not provide this detail on how the uncertainty was calculated. This uncertainty estimation seems low given the lack of calibration to MeSH.

Line 363: I suggest moving the MeSH/(MeSH+DMS) values in Table 1 to a separate column. Also please clarify the unit for MeSH/(MeSH+DMS). This looks like percentage, if so, please add that to the column title.