

This manuscript by She et al. evaluated the model performances in simulating volatile organic compounds (VOCs) in summer in multiple cities in China by using the CMAQ model. The author also investigated the influences of adjusting VOC emissions on O<sub>3</sub> simulations and discussed the sensitivities of O<sub>3</sub> to different VOCs. This study enriches our understanding of model performances in simulating VOCs and provides insights for developing VOC emission inventories in the future. The study is logically designed and the manuscript is well organized. I have some editorial suggestions as follows:

- Line 70: substantial underprediction of => a substantial underprediction of
- Lines 73-75: “notable effects on air pollutants” vague. What pollutants? “enhance model performance” => “improve model performance”.
- Line 97: There have been studies evaluating VOC predictions in China so that “for the first time” may not be appropriate. It is recommended to commence a new paragraph from here and add the key findings of this study.
- Lines 100-106: Please rephrase this sentence.
- Line 108: “Observation description” => “Observation data”
- Line 111: “VOC measurement” => “VOC measurements”
- Line 113: “collection devices” => “sampling devices”
- Line 119: “formaldehydes” => “formaldehyde”
- Line 222: “The observed ratios of TVOCs predictions ...” This is confusing. Do you mean “the ratio of observed to predicted TVOCs”?
- Lines 239-241: Please rephrase this sentence.
- Line 254: Remove “Regarding alkenes”.
- Line 259: “predicted content” => “predicted concentration”
- Line 260: ACYE was lower than what? “predicted HCHO” => “HCHO”
- Line 262: Remove “that” before “the majority of emitted VOCs”.
- Line 313: “concentration differences” => “differences”
- Line 316: “NO<sub>2</sub> concentrations was” => “NO<sub>2</sub> concentration was”
- Line 355: “aromatic” => “aromatics”
- Lines 387-389: Does “ratio” mean the fraction of TVOCs? However, in line 211, “ratio” is specifically referred to as the prediction/observation ratio.
- Line 393: Do you mean “urban and background areas”?
- Line 403: “with a decrease of 6.91 ppbV compared to the observation values” This is confusing. Are the alkanes underpredicted by 6.91 ppbV?
- Line 410: “different regions and urban background areas” => “urban and background areas in different regions”
- Line 421: “a notable monoterpene” => “an important monoterpene”;  
“including”=>“originating from”
- Line 436: “substantial variation” => “a substantial variation”
- Line 500: “Through considering” => “After considering”; “the MEIC model” => “the MEIC inventory”
- Line 516: “inaccuracies” => “uncertainties”