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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Evidence of ketene emissions from petrochemical industries and implications for ozone production potential" *by* Chinmoy Sarkar et al.

Anonymous Referee #2

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Sarkar et al. used a PTR-TOF-MS to measure VOCs from the downwind plume of a petrochemical facility in South Korea. They found the signal m/z 43 was high and assigned it to ketene. Using these measurements, they further investigated the environmental implications. The conclusions in this manuscript can only be correct, given the ketene measurement was correct. However, as pointed by Prof. Armin Wisthaler and another reviewer, ketene measurement could be significantly biased. Actually, it might be another species, vinyl acetate, based on measurements in the similar region by Prof. Armin Wisthaler. I strongly agree with Prof. Armin Wisthaler's judgement, as it is well known that m/z 43 or CH3CO+ can be fragmented from a number of compounds, including acetic acid, ethyl acetate. I would recommend the authors consider

the suggestion of Prof. Armin Wisthaler. Even the authors would change the topic from ketene to vinyl acetate, I would also like to see detailed measurements of vinyl acetate by PTR-TOF-MS.

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