

Interactive comment on “The Improved Comparative Reactivity Method (ICRM): measurements of OH reactivity at high-NO_x conditions in ambient air” by Wenjie Wang et al.

Anonymous Referee #1

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The authors are presenting an innovative approach to address two well-known analytical artifacts in the CRM OH reactivity - the pyrrole photolysis and the OH recycling issues. This starts from improving the reactor, particularly, to prevent UV photon leaks and introduce excess NO.

The manuscript is easy to follow and has merits to the atmospheric chemistry community particularly who intends applying the CRM method for their field observations or using the dataset for the research. I would recommend the publication of this manuscript after addressing following points.

- 1) The reaction of CO with OH will produce HO₂, which ends up recycling OH in the C1

excess NO environment. Please include the discussion in the manuscript.

- 2) It is certainly a good start to test the ICRM reactor with three VOCs but likely VOCs with various function groups required to evaluate. If the authors could suggest the list of compounds to be tested and provide justification, that would trigger follow up studies from other research groups.

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2020-437, 2020.