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Interactive comment on “Fast photolysis of carbonyl nitrates from isoprene” by J.-F. Müller et al.

Anonymous Referee #3

Received and published: 28 January 2014

We received a 'quick' review following submission and the reviewer asked that this serve as his official review. As editor of this paper, I agree to use this as the second review. Signed Paul Wennberg

The present work aims at evaluating the impact of the fast photolysis of carbonyl nitrates on the isoprene oxidation mechanism. It is divided in two parts: First, new recommendations are provided for the estimation of the photolysis rates of carbonyl nitrates based on recently published experimental data. Then, these newly estimated photolysis rates are validated by simulating the isoprene oxidation experiment by Paulot et al., 2009 using a chemical box model. This paper is written in a clear and concise

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style. The work performed here is very interesting since it gathers all empirical, theoretical and experimental data on the photolysis of carbonyl nitrates to provide new recommendations but also evaluates the impact of these new data on the chemistry of isoprene which is a major VOC. From this study, an improved mechanism including the fast photolysis of carbonyl nitrates from isoprene is proposed which can be used for further improvements of the atmospheric chemistry models.

Interactive comment on Atmos. Chem. Phys. Discuss., 13, 31127, 2013.

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