**Atmospheric
Chemistry
and Physics
Discussions**

Interactive comment on "The HNO$_3$ forming branch of the HO_2 +NO $reaction : pre-industrial-to-present trends in atmospheric species and radiative forcings"b$

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In my previous post I cited Kanno et al. (2005) for the equilibrium constant of HO$_2$ + H$_2$O <–> HO$_2$ · H$_2$O. I should make clear that Kanno et al. (2005) measured the equilibrium constant only at 297 K, with a value of $5.2 \cdot 10^{-19}$ molec. cm^3. The T-dependence I mentioned is based on an enthalpy ΔH of 7.5 kcal/mole, close to the value of 7.42 kcal/mol reported in the theoretical study of Alongi et al. (2006).

Alongi, K. S., T. S. Dibble, G. C. Shields, and K. N. Kirschner, Exploration of the potential energy surfaces, prediction of atmospheric concentrations, and prediction of vibrational spectra for the HO$_2$—(H$_2$O)$_n$ (n= 1–2) hydrogen bonded complexes, J. Phys.

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Chem. A, 110, 3686–3691, 2006.

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 14801, 2011.