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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Thermodynamics of reactions of ClHg and BrHg radicals with atmospherically abundant free radicals" *by* T. S. Dibble et al.

T. S. Dibble et al.

tsdibble@esf.edu

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Revised reply to referee K. A. Peterson

We misread Dr. Peterson's comment in part 2 of our reply. He was not referring to OHgBr and OHgCl. Rather, his group has previous shown that atomic mercury bonds to ClO and BrO at the halogen atom of the XO (to make HgXO) much more strongly than to the oxygen of the XO (to make HgOX). We had overlooked his work, and our calculations had only considered the second case. We will clarify the connectivity of the systems we studied and briefly discuss the potentially more important isomers studied by Dr. Peterson. Most importantly, our comments on the ability of ClO and BrO to

initiate oxidation of gaseous elemental mercury (GEM) need to be revised to reflect the potential for Hg + XO –> HgXO to initiate oxidation of GEM. We thank Dr. Peterson for promptly correcting us via email.

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 17887, 2012.