Supplement of Atmos. Chem. Phys., 16, 1511–1530, 2016
http://www.atmos-chem-phys.net/16/1511/2016/
doi:10.5194/acp-16-1511-2016-supplement

Atmospheric Chemistry and Physics Open Access EGU

Supplement of

Origin of oxidized mercury in the summertime free troposphere over the southeastern US

V. Shah et al.

Correspondence to: V. Shah (vshah@uw.edu)

Table S1. Summary of Hg(II) observations for each NOMADSS flight.

Flight number	Hg(II) filter	Hg(II) DL ($pg\,m^{-3}$)	Number of Hg(II) observations[a]	Hg(II)[b] ($pg\,m^{-3}$)	Hg(II)/THg[c] (%)
RF-01	Quartz wool	228	41 (0)	-	-
RF-02	Quartz wool	147	0 (0)	-	-
RF-03	Quartz wool	148	32 (11)	194 ± 31	12 ± 2
RF-04	Quartz wool	160	24 (10)	221 ± 39	15 ± 2
RF-05	Quartz wool	134	72 (2)	163 ± 13	10 ± 1
RF-06	Quartz wool	114	87 (41)	262 ± 41	20 ± 4
RF-07	Quartz wool	58	48 (29)	145 ± 43	10 ± 3
RF-08	Quartz wool	116	91 (26)	178 ± 69	11 ± 4
RF-09	Quartz wool	94	118 (108)	269 ± 85	18 ± 6
RF-10	Quartz wool	134	92 (15)	219 ± 54	15 ± 4
RF-11	Quartz wool	70	81 (25)	147 ± 63	10 ± 5
RF-12	Quartz wool	140	102 (19)	208 ± 72	15 ± 6
RF-13	Quartz wool	83	60 (13)	132 ± 24	9 ± 2
RF-14	Quartz wool	138	80 (15)	232 ± 44	17 ± 4
RF-15	Cation exchange membrane	107	77 (0)	-	-
RF-16	Cation exchange membrane	91	119 (71)	330 ± 191	23 ± 14
RF-17	Cation exchange membrane	68	127 (38)	143 ± 38	10 ± 3
RF-18	Cation exchange membrane	72	126 (69)	125 ± 36	9 ± 2
RF-19	Cation exchange membrane	116	126 (35)	154 ± 33	11 ± 2

[a] In parenthesis: number of ADL Hg(II) observations.
[b] Mean and standard deviations for ADL Hg(II) observations.
[c] For observations where Hg(II) was ADL.

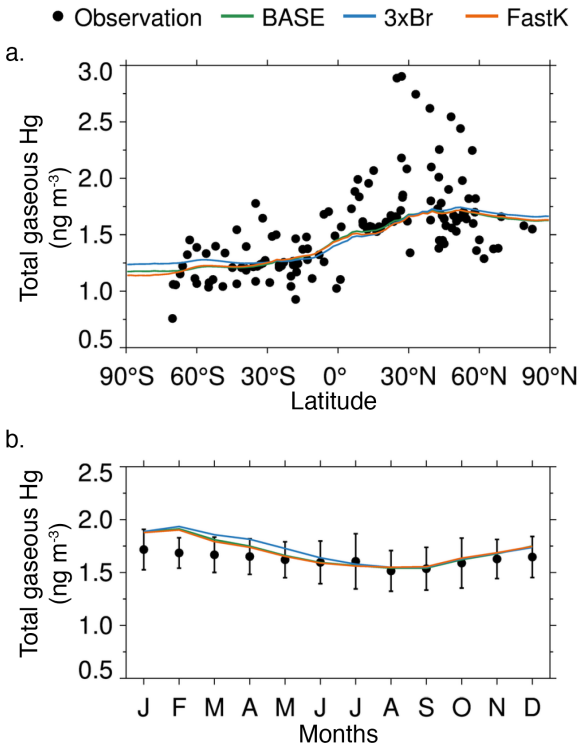

Figure S1. Comparison between observed and modeled total gaseous Hg at the surface: **a**) inter-hemispheric gradient and **b**) seasonal cycle at midlatitudes. The observational data is from Holmes et al. (2010) and references therein. The observations in panel **a** include annual means for 39 land-based sites during 2000-2008 and measurements from four ship cruises. The model results in panel **a** are the annual and zonal means for the three simulations (BASE, 3xBr, FastK) for the year 2013. The observations in panel **b** are monthly means for 15 land-based sites in North America and Europe. The model results in panel **b** are the monthly means at the site locations for the three simulations for the year 2013.

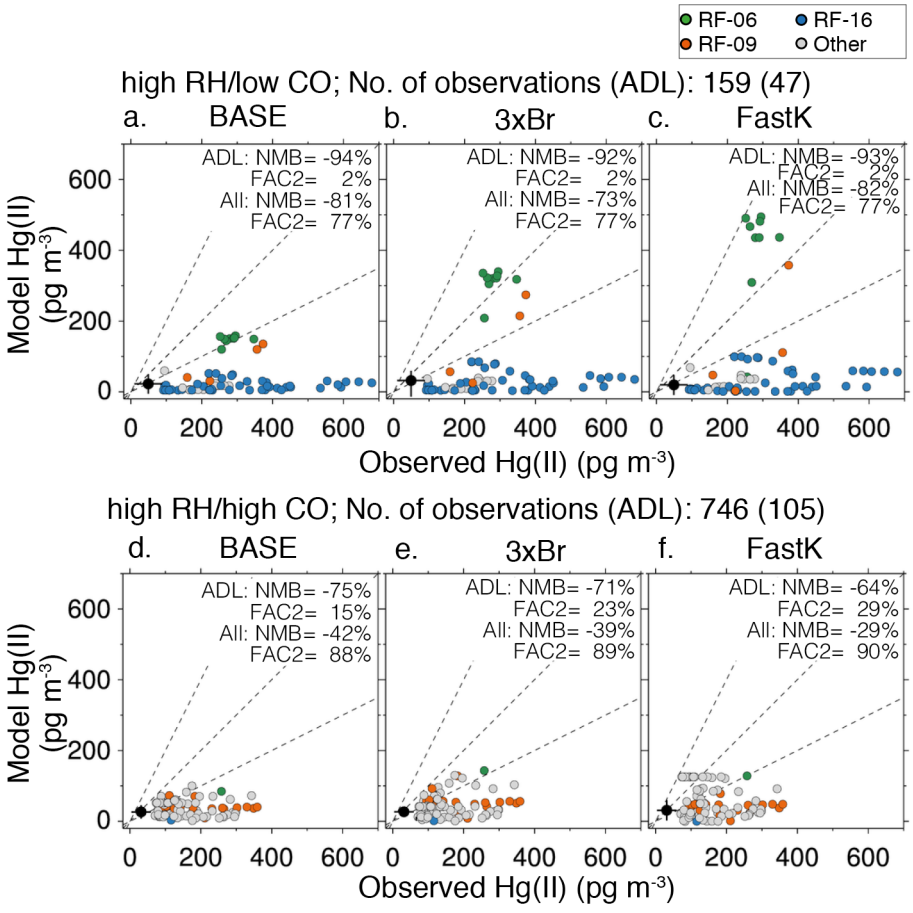

Figure S2. Same as Figure 5, except for the "high RH/low CO" and "high RH/high CO" categories.

References

Holmes, C. D., Jacob, D. J., Corbitt, E. S., Mao, J., Yang, X., Talbot, R., and Slemr, F.: Global atmospheric model for mercury including oxidation by bromine atoms, Atmos. Chem. Phys., 10, 12 037–12 057, doi:10.5194/acp-10-12037-2010, 2010.