

Supplemental Information for
Atmospheric Photolytic Reduction of Hg(II) in Dry Aerosols

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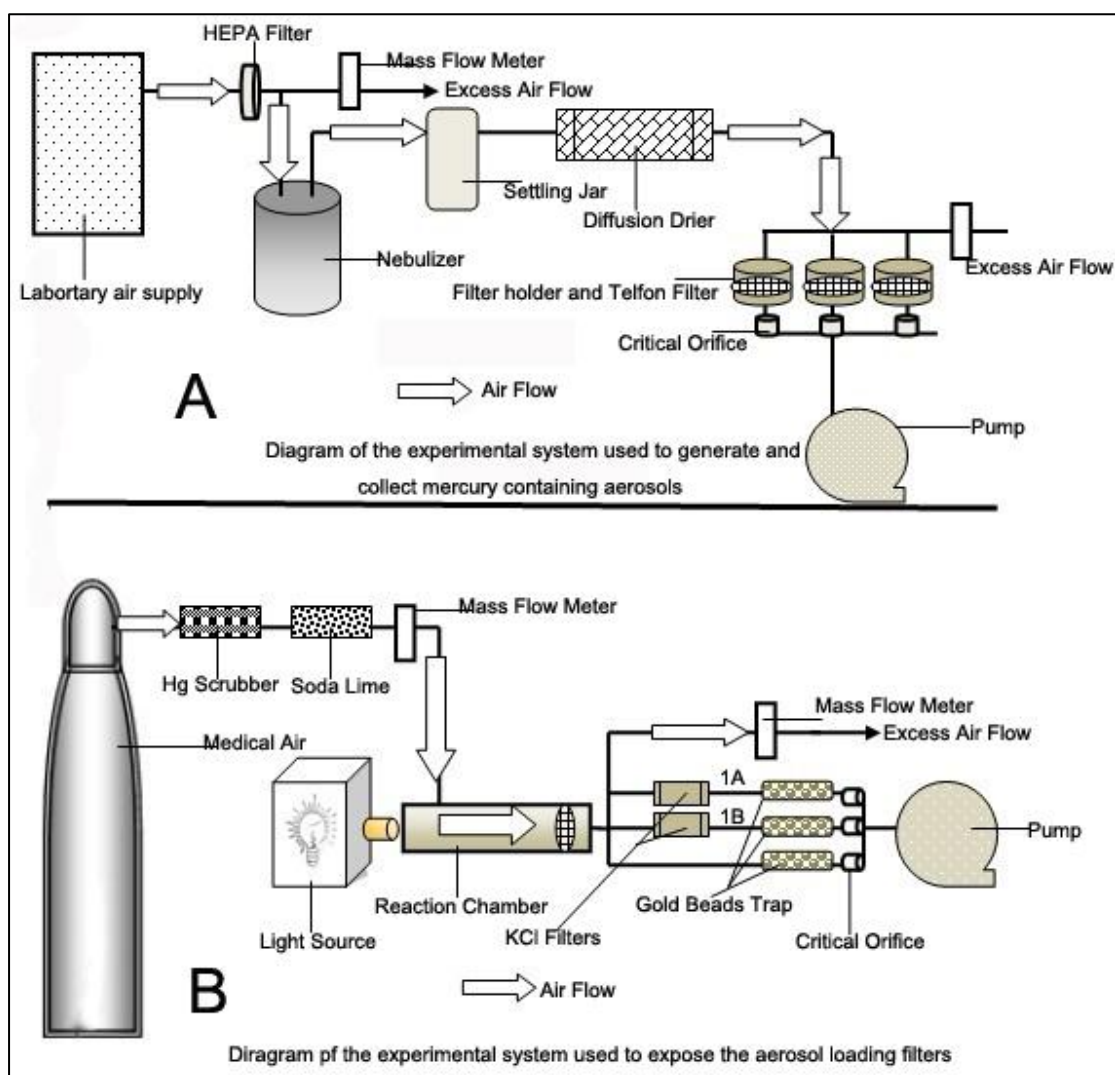


Figure S1. Diagrams of the experimental systems for aerosol generation, collection and mercury reduction experiments

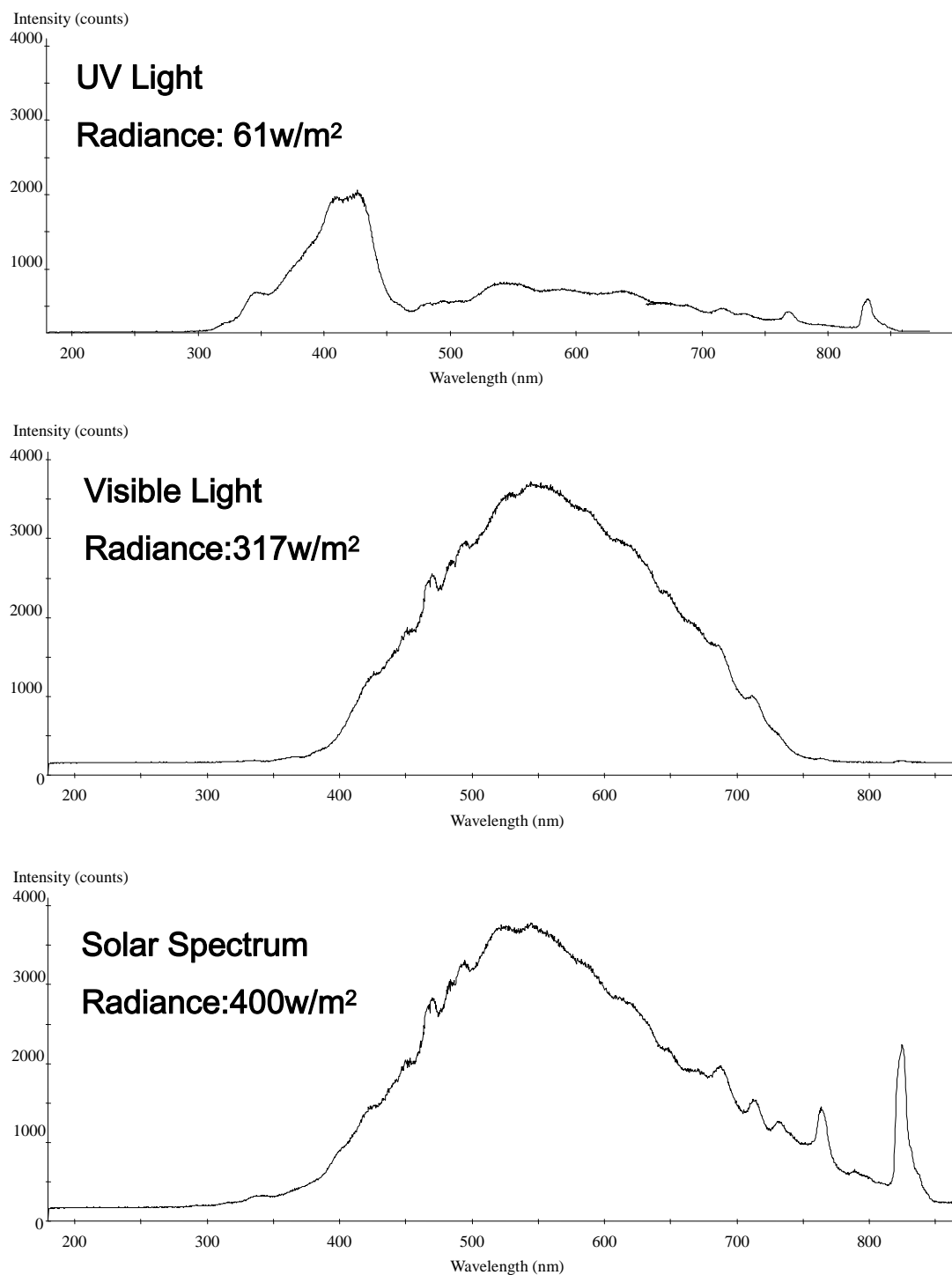
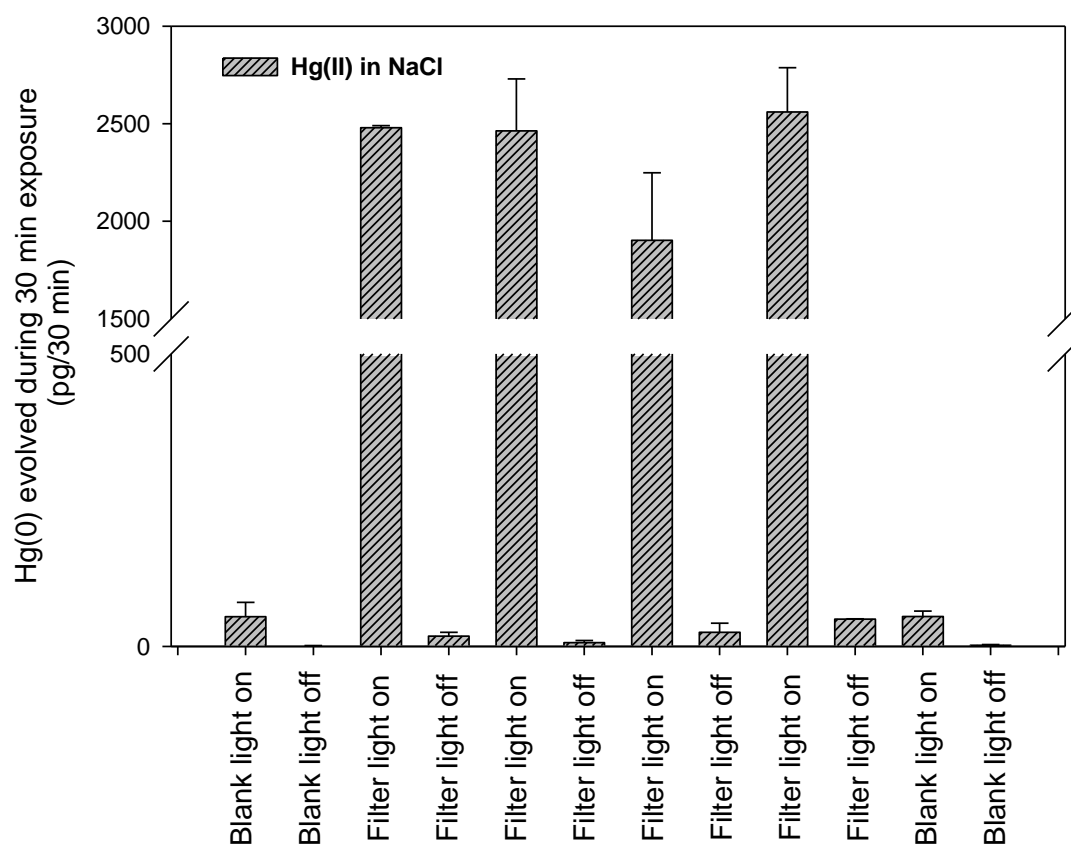


Figure S2. Spectrums of the light sources used in the mercury reduction tests



*For the blank test, the value is expressed by the total Hg(0) emission, while for the filters, the values is expressed by the Hg(0) evolved per 1 mg loading weight.

Fig S3. Hg(0) evolved during continuous blank and exposure test under UV light

Table S1. Estimated NaCl, FeCl₃ and FeCl₂, and measured Hg(II) values of the synthetic aerosol particles

Matrix compounds	Estimated values (ng/mg)				Measured values (ng/mg)
	NaCl	FeCl ₃	FeCl ₂	DFO	Hg
NaCl and HgCl ₂	1.00×10 ⁶	0	0	0	140.16
NaCl, FeCl ₃ and HgCl ₂	7.83×10 ⁵	2.17×10 ⁵	0	0	120.06
NaCl, FeCl ₂ and HgCl ₂	8.22×10 ³	0	1.78×10 ³	0	159.33
NaCl, FeCl ₃ , DFO and HgCl ₂	4.16×10 ³	1.16×10 ³	0	4.68×10 ³	85.53

Table S2. Percent of Hg(0) evolved during 30 min exposure for the matrix compounds under different light sources

Matrix compounds	NaCl and HgCl ₂ /%			NaCl, FeCl ₃ and HgCl ₂ /%			NaCl, FeCl ₂ and HgCl ₂ /%			NaCl, DFO, FeCl ₃ and HgCl ₂ /%		
UV light	1.95	1.15	1.41	0.03	0.04	0.01	0.66	0.72	0.57	—	—	—
Visible light	5.27	7.64	6.13	0.20	0.26	0.30	0.84	1.10	1.27	—	—	—
Solar spectrum	11.13	8.88	9.64	2.17	0.99	0.82	5.55	7.56	5.11	7.08	5.15	4.90