

Table S2: Average mole fractions for select trace gases (from undiluted samples).

	Laboratory Number																											
	1 (1)	1 (2)	2	2.1	3	4	5	6	6.1	7	8	9	9.1	9.2	10	11	12	13	14	15	16	17	17.1	17.2	18	19	20 (1)	20 (2)
			MD	MS										MD	MS1	MS2								MD	MS			
CFC-12	542.0	541.9	544.6	545.1	548.9			544.3	551.2	534.3		544.4				517.8	542.4		543.9	550.1			544.5	545.0		540.6	543.4	542.6
CFC-11	253.3	253.6	251.9	252.5	260.5			250.0	254.4	253.4		251.2				253.7	255.6		252.1	258.8	255.0		251.5	252.4		256.1	254.6	253.9
CFC-113	80.4	80.4	78.2	78.7	91.9			76.2	75.4	82.0		78.6	78.6			73.2	80.2		77.1	81.4			78.7	78.8		78.3	80.1	80.4
CH3CCI3	22.7	22.9	21.5	22.1	64.6			19.9	20.4	23.6		22.0	22.0			20.5	23.1		20.2	22.6	22.2		22.3	22.2		23.8	23.0	22.9
CCI4	95.1	94.9	92.6	92.2	126.9			90.9	94.3	97.0		92.8	91.4			84.4	94.6		89.8	92.6			92.7	91.0		94.6	95.2	95.0
CHCl3	12.0	12.9	11.4	11.5						9.2		10.3	11.1	11.5		12.2	16.0		12.0	13.0	11.8		11.4	11.5		13.3	12.2	12.8
HCFC-22	173.6	173.1		172.4		173.0							172.6	171.8		166.1	168.5		173.0	174.2	167.0			173.0		168.8	172.8	172.6
HCFC-141b	18.5	18.5		18.8		19.1							18.6	18.7		17.8	17.7		18.5	19.2	18.8			18.7		17.5	18.6	18.7
HCFC-142b	15.8	15.8		16.4		15.7							16.2	16.3		15.9	15.3		16.4	17.2	16.2			16.3		15.4	16.2	15.8
HFC-134a	33.1	33.2		33.3		32.9							33.5	33.3		31.6	31.1		33.2	35.7	33.0			33.4		31.7	33.6	33.2
HFC-152a	5.18	4.95		4.74									4.58	4.73		4.26			4.55		5.05			4.73			5.11	4.90
CH2Cl2	32.2	33.2											30.0			28.5	30.9		29.6	27.0			29.9			27.7	32.8	33.1
CH3Cl	563.9	565.4		559.5									557.4	558.8	584.5	536.4	560.8		635.9	549.0	560.0			560.8		551.3	568.8	566.8
CH3Br	9.44	9.03		9.42									9.74	9.40	9.15	9.30	8.65		9.35	9.58	9.60			9.56		8.93	9.54	9.02
CH3I	0.18	0.17															0.19			0.38	0.20					0.21	0.18	0.18
CH2Br2	0.68	0.69															0.98			0.87						0.86	0.81	0.75
CHBr3	0.47	0.46															0.66			0.60						0.54	0.45	0.52
halon-1211	4.40	4.40		4.49									4.48	4.47		4.44	4.42		4.50	4.28				4.49		4.24	4.40	4.41
halon-1301	2.94	2.91		3.11									3.07	3.12		2.92	2.93		3.16	2.65				3.11			2.95	2.97
halon-2402	0.50	0.44																	0.92	0.46				0.96		0.48	0.50	0.44
CH4	1821.1	1822.8	1820.1		1823.1		1823.7			1829.0		1821.0						1823.5	1822.6	1809.5		1821.4	1820.4		1823.4		1820.8	1822.7
N2O	318.32	318.28	318.24		317.21		318.26			319.65	318.35	318.27					316.96	319.02	318.00	318.10		319.05	318.18				318.31	318.26
SF6	5.54	5.55		5.54		5.68	5.51						5.50	5.52		4.98	5.48	5.52	5.40				5.54	5.37			5.56	5.55
COS (*)	652.1														663.1					624.5						609.4	656.9	

MD: multidetector (ECD or FID)  
MS: mass selective detector  
NOAA data: CFC-12, CFC-11, CFC-113, CH3CCI3, CCI4, h1211, N2O, CH4, and SF6 based on MD analysis (ECD or FID). All others based on GCMS analysis.  
1 (1), 1(2) initial NOAA analysis results for sets (1) and (2)  
20 (1), 20 (2) final NOAA analysis results for sets (1) and (2)  
(\*) winter sample only, data submitted after experiment officially ended