

Interactive comment on “Determination of alpha;-pinene-derived organic nitrate yields: particle phase partitioning and hydrolysis” by J. D. Rindelaub et al.

J. D. Rindelaub et al.

jrindela@purdue.edu

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Please see the supplemental for replies to each reviewer's comments. Below are the captions for the revised tables and figure.

Table 1. Summary of results for the neutral seed [(NH₄)₂SO₄] and acidic seed [MgSO₄/H₂SO₄] α -pinene oxidation experiments. The A_i and F_i parameters correspond to the concentration of RONO₂ in the gas phase and particle phase, respectively. All concentrations are reported in ppb.

Table 2. Summary of results for the unseeded α -pinene oxidation experiments. The A_i

C1533

and F_i parameters correspond to the concentration of RONO₂ in the gas phase and particle phase, respectively. All concentrations are reported in ppb.

Fig. 6. A.) The ratio of particle phase organic nitrate yield to gas phase organic nitrate yield (F_i/A_i) as a function of experimental relative humidity for both the acidic seed aerosol (•) and neutral seed aerosol (◦) experiments. B.) The gas (•) and particle phase (◦) organic nitrate yields as a function of experimental relative humidity for the acidic seed experiments. In both plots, each data point represents a single experiment.

Please also note the supplement to this comment:

<http://www.atmos-chem-phys-discuss.net/14/C1533/2014/acpd-14-C1533-2014-supplement.pdf>

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 3301, 2014.

C1534

Exp. Date	Seed Aerosol	RH (%)	$\Delta \alpha$ -Pinene (ppb)	A _i (ppb)	F _i (ppb)	RONO ₂ Yield (%)
6/23/2011	Neutral	34.1	655	25	121	22
10/17/2011	Neutral	4.9	433	9.9	122	30
10/24/2011	Neutral	18.9	587	30	150	31
11/3/2011	Neutral	15.1	1257	129	100	18
11/14/2011	Neutral	23.9	461	38	46	18
11/16/2011	Neutral	5.6	104	7.1	23	29
11/19/2011	Neutral	7.8	2026	203	334	26
11/9/2012	Neutral	72.3	3455	110	152	7.6
11/15/2012	Neutral	66.0	3146	65	95	5.1
11/22/2012	Neutral	59.3	3485	104	302	12
11/27/2012	Neutral	51.6	3957	122	377	13
12/1/2012	Neutral	92.9	3021	56	126	6.0
Exp. Date	Seed Aerosol	RH (%)	$\Delta \alpha$ -Pinene (ppb)	A _i (ppb)	F _i (ppb)	RONO ₂ Yield (%)
5/11/2012	Acidic	6.7	3339	482	368	25
5/19/2012	Acidic	20.1	1166	108	181	25
5/24/2012	Acidic	7.8	1922	225	174	21
5/29/2012	Acidic	7.5	576	34	1.7	6.1
6/7/2012	Acidic	4.9	3680	279	299	16
6/12/2012	Acidic	4.0	3704	132	599	20
6/16/2012	Acidic	3.7	2771	342	316	24
6/24/2012	Acidic	7.8	556	5.2	68	13
7/8/2012	Acidic	77.2	348	24	0.0	7.0
7/11/2012	Acidic	78.0	2822	161	0.0	5.7
7/15/2012	Acidic	75.5	1998	132	0.0	6.6
7/22/2012	Acidic	75.5	922	97	0.0	11
7/25/2012	Acidic	74.5	4136	188	16	4.9
7/28/2012	Acidic	83.7	1573	95	0.0	6.0
8/1/2012	Acidic	87.0	3147	117	0.0	3.7
8/5/2012	Acidic	82.0	3480	212	0.0	6.1
8/8/2012	Acidic	59.3	1876	126	0.0	6.7
8/14/2012	Acidic	63.3	4341	135	51	4.3
8/17/2012	Acidic	34.3	2963	198	26	7.5
8/20/2012	Acidic	52.5	1948	33	47	4.1
8/24/2012	Acidic	21.0	4843	219	106	6.7
9/11/2012	Acidic	9.1	3340	275	33	9.2
9/25/2012	Acidic	11.7	4178	128	590	17
6/27/2013	Acidic	11.5	3870	77	451	14

Fig. 1.

C1535

Exp. Date	Seed Aerosol	RH (%)	$\Delta \alpha$ -Pinene (ppb)	A _i (ppb)	F _i (ppb)	RONO ₂ Yield (%)
1/24/2012	NONE	15.6	640	32	75	17
2/1/2012	NONE	22.3	3648	55	166	6.1
2/8/2012	NONE	9.4	1187	78	34	9.4
2/13/2012	NONE	10.4	1294	74	129	16
2/17/2012	NONE	9.7	2515	182	303	19.3
2/28/2012	NONE	12.8	4212	218	198	9.9
3/9/2012	NONE	18.3	155	23	12	23
3/13/2012	NONE	9.6	2730	110	298	15
3/22/2012	NONE	7.5	2217	132	266	18
4/4/2012	NONE	14.4	4082	219	353	14
4/17/2012	NONE	12.0	2505	126	398	21
4/23/2012	NONE	9.2	4737	178	395	12
5/3/2012	NONE	2.4	3652	186	131	8.7
9/19/2012	NONE	8.6	3680	19	287	8.3
9/27/2012	NONE	9.6	3749	115	173	7.7
10/23/2012	NONE	54.2	3475	68	251	9.2
11/2/2012	NONE	67.4	3152	78	391	15
11/6/2012	NONE	86.3	4500	45	97	3.2
1/9/2013	NONE	78.2	3472	50	191	6.9
1/13/2013	NONE	41.9	4445	33	253	6.4
1/16/2013	NONE	63.8	4445	52	272	7.3
1/20/2013	NONE	34.1	3142	34	156	6.1
1/24/2013	NONE	71.0	2311	47	129	7.6

Fig. 2.

C1536

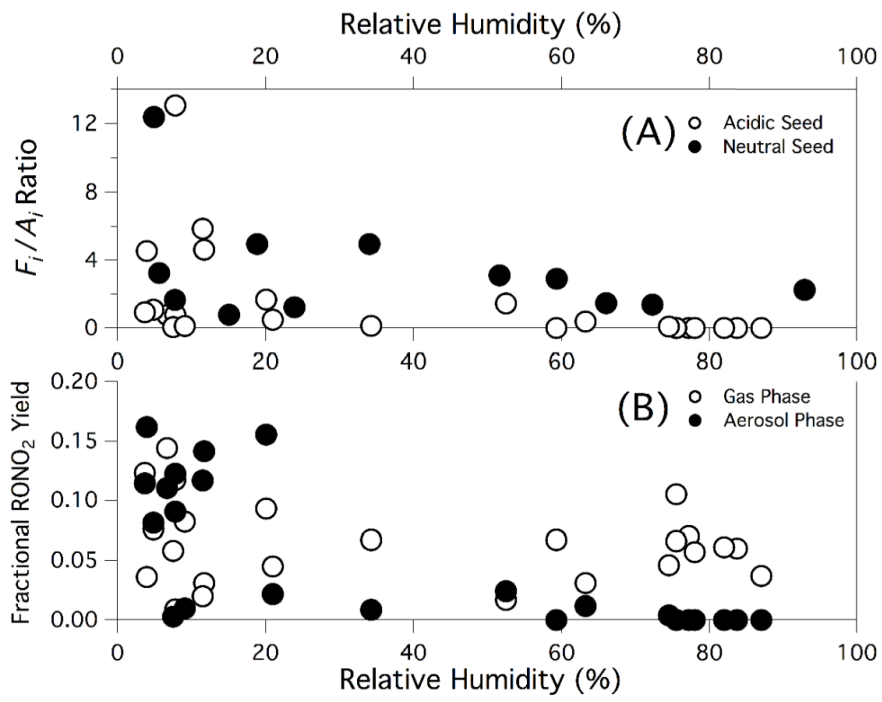


Fig. 3.