

Supplement of

Conifer leaf wax acts as a source of secondary fatty alcohols in atmospheric aerosols

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Figure S1: Sampling positions of leaves on Sakhalin fir branches, as referred to in this study.



Figure S2: (a) Mass size distribution of bulk water-insoluble organic carbon (WIOC) compared with that of *n*-nonacosan-10-ol (2–9 May 2024). (b) A scatterplot of the mass concentrations between *n*-nonacosan-10-ol and bulk WIOC (2–9 May 2024).

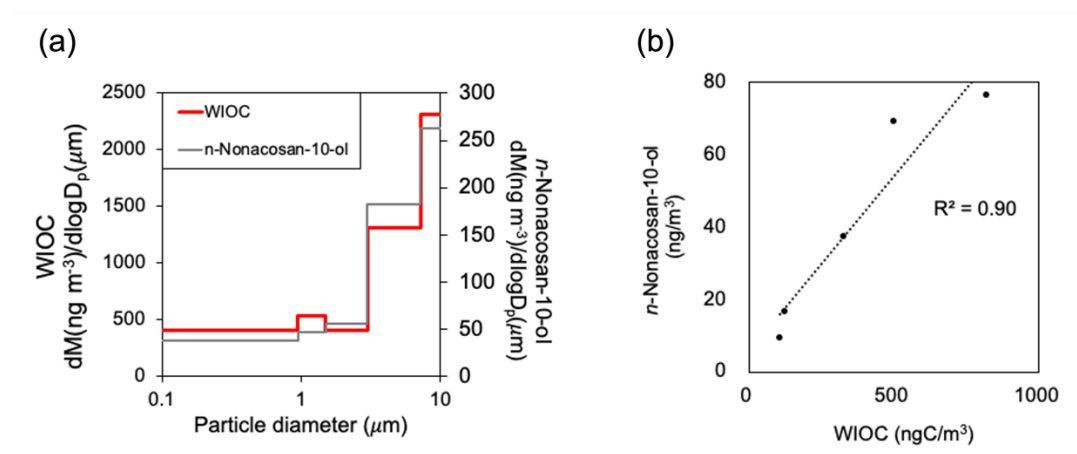


Table S1: Concentrations of *n*-nonacosan-10-ol in each aerosol sample.

Season	Sampling Period	Concentration (ng m ⁻³)				
		Backup (D _p <0.95 μm)	Stage 4 (D _p = 0.95–1.5 μm)	Stage 3 (D _p = 1.5–3.0 μm)	Stage 2 (D _p = 3.0–7.2 μm)	Stage 1 (D _p >7.2 μm)
Spring	May 2–9, 2024	76.6	9.41	16.7	69.4	37.6
	May 9–16, 2024	15.8	0.02	53.0	23.6	44.7
	May 16–23, 2024	28.3	10.4	19.8	70.9	64.4
Summer	August 1–8, 2023	1.54	0.01	1.21	1.31	0.66
Autumn	October 3–10, 2023	0.46	0.46	1.20	1.33	0.15
	October 10–17, 2023	4.89	3.67	5.36	9.62	2.56
	October 17–24, 2023	2.42	3.01	5.31	1.46	1.35

Table S2: The mass of *n*-nonacosan-10-ol per conifer (*Abies sachalinensis*) leaf in the free and free + esterified forms from samples collected on May 9th,2024.

Sampling Date	Leaf weight (mg)	<i>n</i> -nonacosan-10-ol mass in free form (μg)	<i>n</i> -nonacosan-10-ol mass in the free + esterified forms (μg)
May 9, 2024	6.69	77.1	78.4
	7.53	62.2	64.4
	5.94	67.9	71.5

Table S3: The mass of *n*-nonacosan-10-ol per Sakhalin fir (*Abies sachalinensis*) leaf in different position of one branch in spring (25 May 2023) and autumn (3 Oct 2023).

Season	Sampling date	Sampling position	Leaf weight (mg)	<i>n</i> -nonacosan-10-ol mass (μg)
Spring	May 25, 2023	Top	3.16	41.5
			2.93	44.8
			3.22	40.7
		Middle	15.5	90.3
			10.6	94.0
			10.2	102.7
Autumn	October 3, 2023	Top	3.59	39.4
			2.70	36.9
			3.01	20.6
		Middle	3.26	63.8
			4.57	68.3
			2.57	69.3
		Deep yellow	3.06	133.9
			3.24	165.8
			3.24	147.3

Table S4: Mass of *n*-nonacosan-10-ol in each leaf sample.

Season	Sampling Date	Leaf weight (mg)	<i>n</i> -nonacosan-10-ol mass (µg)
Spring	May 9, 2024	8.46	78.9
	May 16, 2024	6.69	50.1
	May 23, 2024	4.17	57.2
Summer	August 1, 2023	3.26	16.9
		4.51	14.3
		4.58	17.3
Autumn	October 3, 2023	0.46	63.8
	October 17, 2023	10.4	53.8
	October 31, 2023	6.37	57.2
Winter	January 30, 2024	2.60	16.9
		4.51	14.3
		4.58	17.3