Supplement S1. Setting the activity factors in the MEGAN model

S1.1 Activity factor for light dependency γ_P

The light dependent activity factor γ_P was calculated every 10 min using the following equations.

$$\gamma_P = 0 \text{ for } \sin(a) < 0 \quad (5a)$$

$$\gamma_P = \sin(a)\left\{2.46 \cdot \left[1 + 0.005 \cdot \left(P_{daily} - 400\right)\right] \cdot \phi - 0.9 \cdot \phi^2\right\} \text{ for } \sin(a) > 0 \quad (5b)$$

$$\phi = \frac{P_{\mathrm{ac}}}{(\sin(a) \cdot P_{\mathrm{toa}})} \quad (6)$$

$$P_{\mathrm{toa}} = 3000 + 99 \cdot \cos\left(2 \cdot 3.14 \cdot \frac{(DOY - 10)}{365}\right) \quad (7)$$

where, a is solar angle (degrees), P_{daily} is daily average above canopy PPFD (μmol·m^{-2}·s^{-1}), φ is above canopy PPFD transmission (non-dimensional), P_{ac} is above canopy PPFD (μmol·m^{-2}·s^{-1}), P_{toa} is PPFD at the top of the atmosphere (μmol·m^{-2}·s^{-1}), DOY is day of year. The solar angle a was calculated from the latitude of FM Tama, the solar declination, and the hour angle.

S1.2 Activity factor for temperature dependency γ_T

The temperature dependent activity function γ_{T} was calculated using the following equations.

$$\gamma_T = \frac{E_{\mathrm{opt}} \cdot \mathrm{C_{T2}} \cdot \exp\left(\mathrm{C_{T1}} \cdot \chi\right)}{\{\mathrm{C_{T2}} - \mathrm{C_{T1}} \cdot [1 - \exp(\mathrm{C_{T2}} \cdot \chi)]\}} \quad (8)$$

$$\chi = \frac{\left[\left(\frac{1}{T_{\mathrm{opt}}}\right) - \left(\frac{1}{T_{\mathrm{hr}}}\right)\right]}{0.00831} \quad (9)$$

$$E_{\mathrm{opt}} = 1.75 \cdot \exp\left(0.08 \cdot \left(T_{\mathrm{daily}} - 297\right)\right) \quad (10)$$

$$T_{\mathrm{opt}} = 313 + 0.6 \cdot (T_{240} - 297) \quad (11)$$

where, T_{hr} is hourly average air temperature (K), T_{daily} is daily average air temperature (K), E_{opt} is the maximum normalized emission capacity, T_{opt} is the temperature at which E_{opt} occurs, T_{240} is the average air temperature over the past 240 h (K), and $\mathrm{C_{T1}}$ (=80 kJ·mol^{-1}) and $\mathrm{C_{T2}}$ (=200 kJ·mol^{-1}) are empirical coefficients which represent the energy of activation and deactivation, respectively (Guenther et al., 1999, 2006). Note that when calculating the 10-min value of γ_{T}, the corresponding hourly average air temperature T_{hr} for that time point was used.

S1.3 Activity factor for LAI γ_{LAI}

An activity factor for LAI is estimated as following equation (12):

$$\gamma_{LAI} = \frac{0.49 \cdot LAI}{\sqrt{1 + 0.2 \cdot LAI^2}} \quad (12)$$

As LAI observations are obtained irregularly on a daily basis, the calculation formula uses the LAI value from the observation date closest in time.

S1.4 Activity factor for leaf age γ_{age}

The leaf age activity factor is estimated as following equation (13).

$$\gamma_{\text{age}} = F_{\text{new}} \cdot A_{\text{new}} + F_{\text{gro}} \cdot A_{\text{gro}} + F_{\text{mat}} \cdot A_{\text{mat}} + F_{\text{old}} \cdot A_{\text{old}} \quad (13)$$

where F represents the proportion of leaves, A denotes leaf age-specific activity factor, and the subscripts new, gro, mat, and old indicate new leaves, growing leaves, mature leaves, and old leaves, respectively. The values for A for isoprene are summarized in the table of Guenther et al. (2012), with A_{new}=0.05, A_{gro}=0.6, A_{mat}=1.0, and A_{old}=0.9.

Based on field observations of *Q. serrata* at FM Tama each month, the leaves sprout from April to May, reach maturity from June to mid-September, turn red and fall from mid-October to November, and few dead leaves remain on the branches from December to March. Based on the local phenological knowledge described above, the F values for each leaf age category per month were set as shown in Table below. Note that since leaves are absent from December to March, γ_{age} was set to 0.

Table F_{new}, F_{gro}, F_{mat}, F_{old} for each month.

	F_{new}	F_{gro}	F_{mat}	F_{old}
January[1)]	0	0	0	0
February[1)]	0	0	0	0
March[1)]	0	0	0	0
April	0.8	0.2	0	0
May	0.2	0.6	0.2	0
June	0.05	0.1	0.8	0.05
July	0.05	0.1	0.8	0.05
August	0.05	0.1	0.8	0.05
September	0	0	0.5	0.5
October	0	0	0.2	0.8
November	0	0	0	1.0
December[1)]	0	0	0	0

1) From December to March, all F values for the *Q. serrata* were set to 0.

S1.5 Activity factors for soil moisture γ_{SM} and carbon dioxide γ_{CO_2}

Soil moisture (volumetric water content, m^3/m^3) obtained from the ERA5-Land (Muñoz-Sabater et al., 2021), a land surface-specific dataset provided by the European Centre for Medium-Range Weather Forecasts (ECMWF). Soil moisture varies significantly with depth, and whether plants can absorb water depends on root depth (Guenther et al., 2006). We calculated weighted daily averages of soil moisture content at a spatial resolution of 0.1° for three soil layers (layer 1: 0–7 cm, layer 2: 7–28 cm, layer 3: 28–100 cm) around FM Tama during the calculation period. These values ranged from 0.17–0.43. Based on this data-set, we determined that this forest was likely not experiencing water stress and γ_{SM} was set to 1 for the entire period.

As the area surrounding FM Tama is residential, and CO_2 concentrations during the observation period are expected to show no significant variation from those in the general atmospheric environment, the influence of CO_2 on isoprene emissions is considered constant. Therefore, γ_{CO_2} was set to 1 for the entire period.

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Guenther, A. B., Jiang, X., Heald, C. L., Sakulyanontvittaya, T., Duhl, T., Emmons, L. K., Wang, X.: The Model of Emissions of Gases and Aerosols from Nature version 2.1 (MEGAN2.1): an extended and updated framework for modeling biogenic emissions, Geosci. Model Dev., 5, 1471-1492, https://doi.org/10.5194/gmd-5-1471-2012, 2012.

Supplement Figures

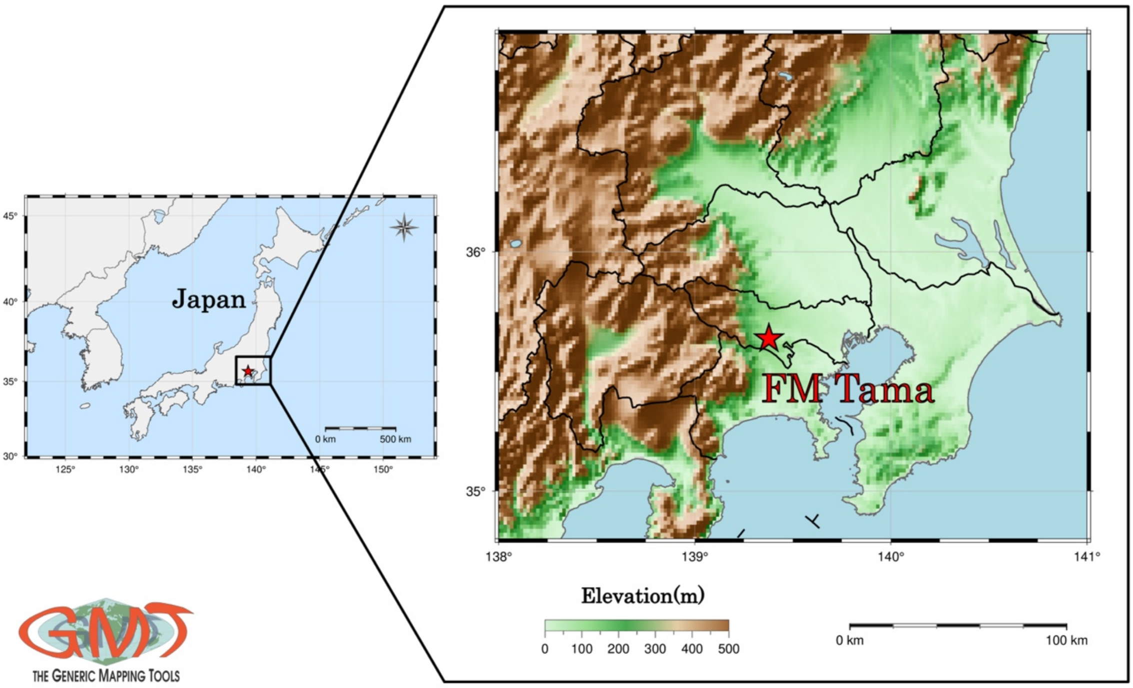

Figure S1: Figure S1 Location Map of the Tokyo University of Agriculture and Technology Field Museum Tamakyuryo (FM Tama).

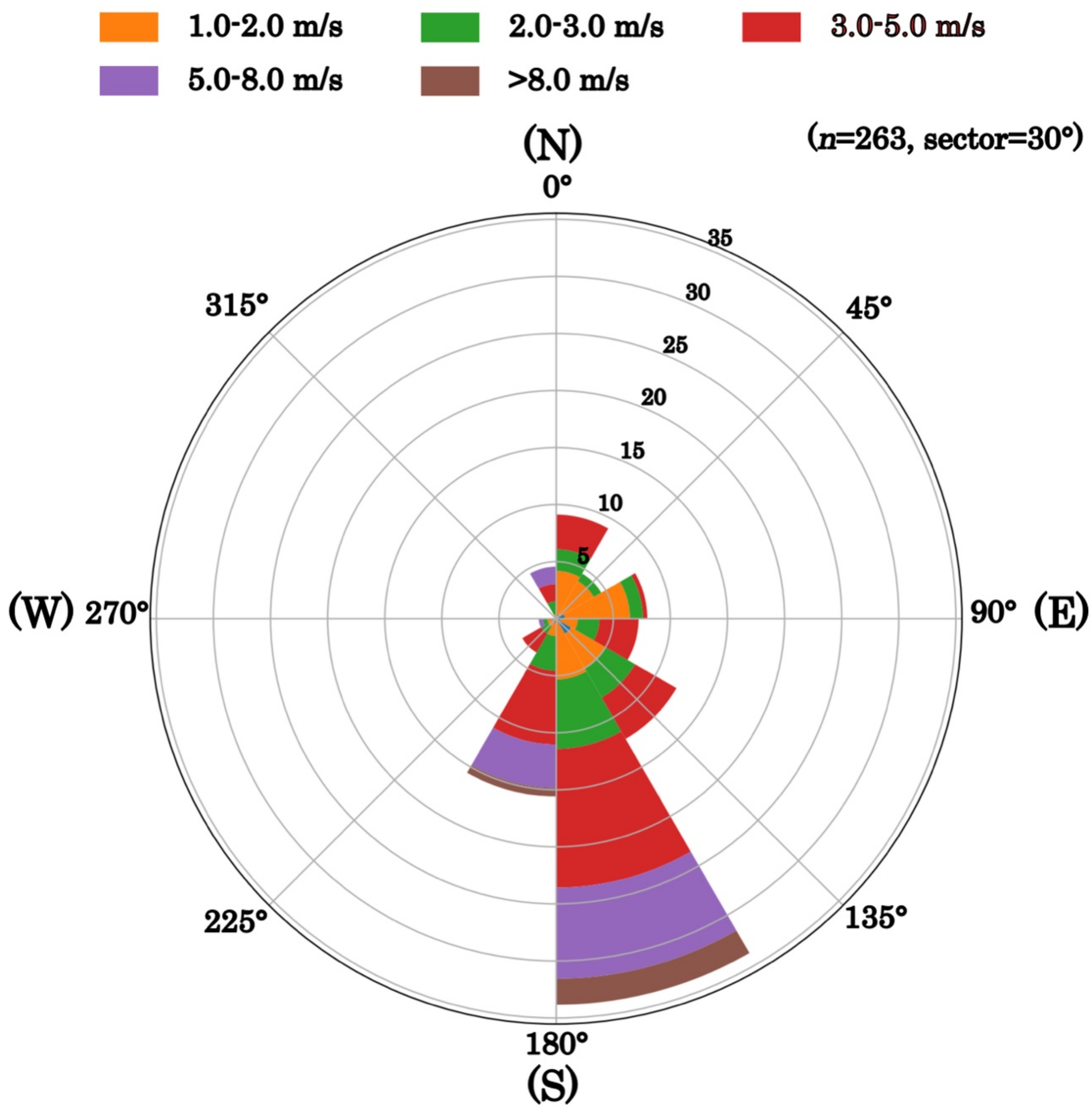

Figure S2: Wind rose for observation dates and times from June 2023 to October 2025.

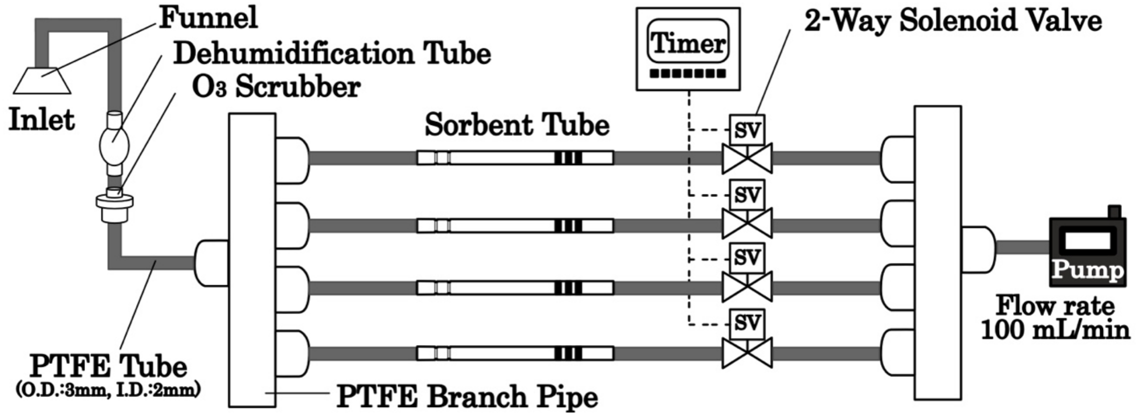

Figure S3: Schematic diagram of the in-house sampling device.

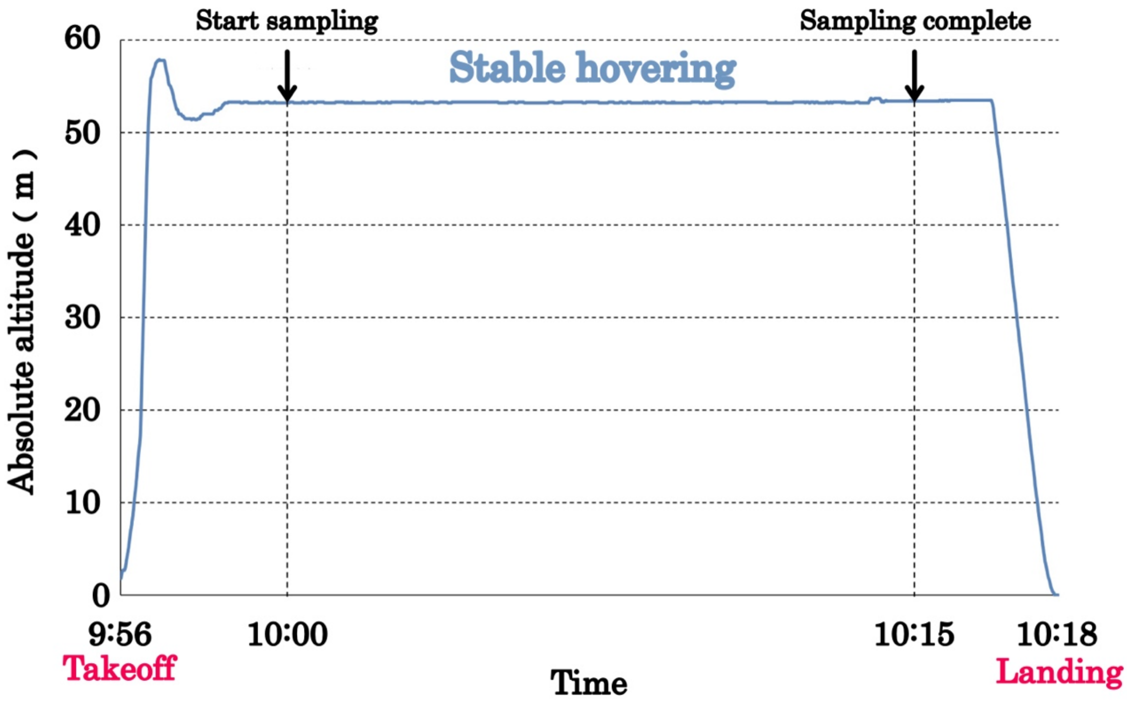

Figure S4: Drone flight altitude chart.

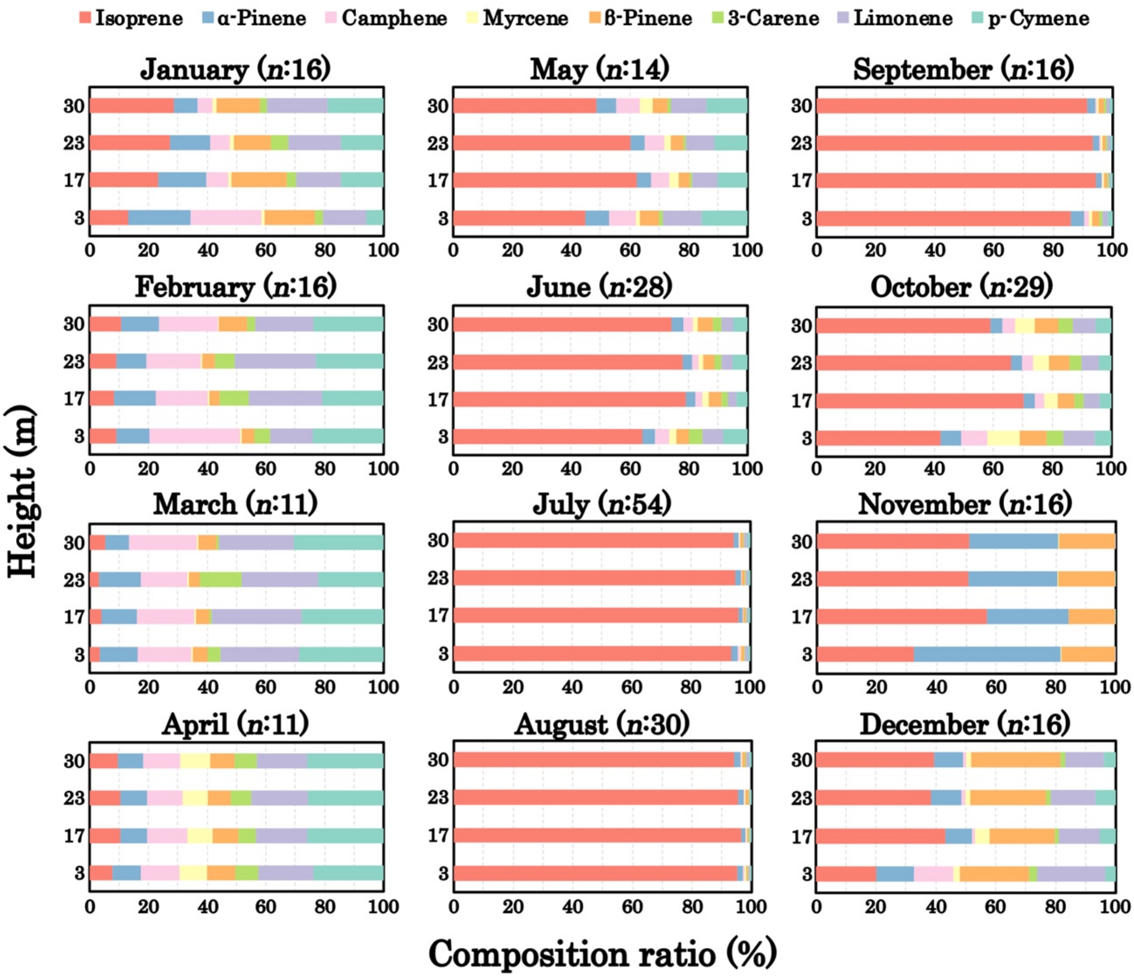

Figure S5: Stacked bar chart of the monthly average composition ratios (%) of each BVOC component by height over a 3-year period.

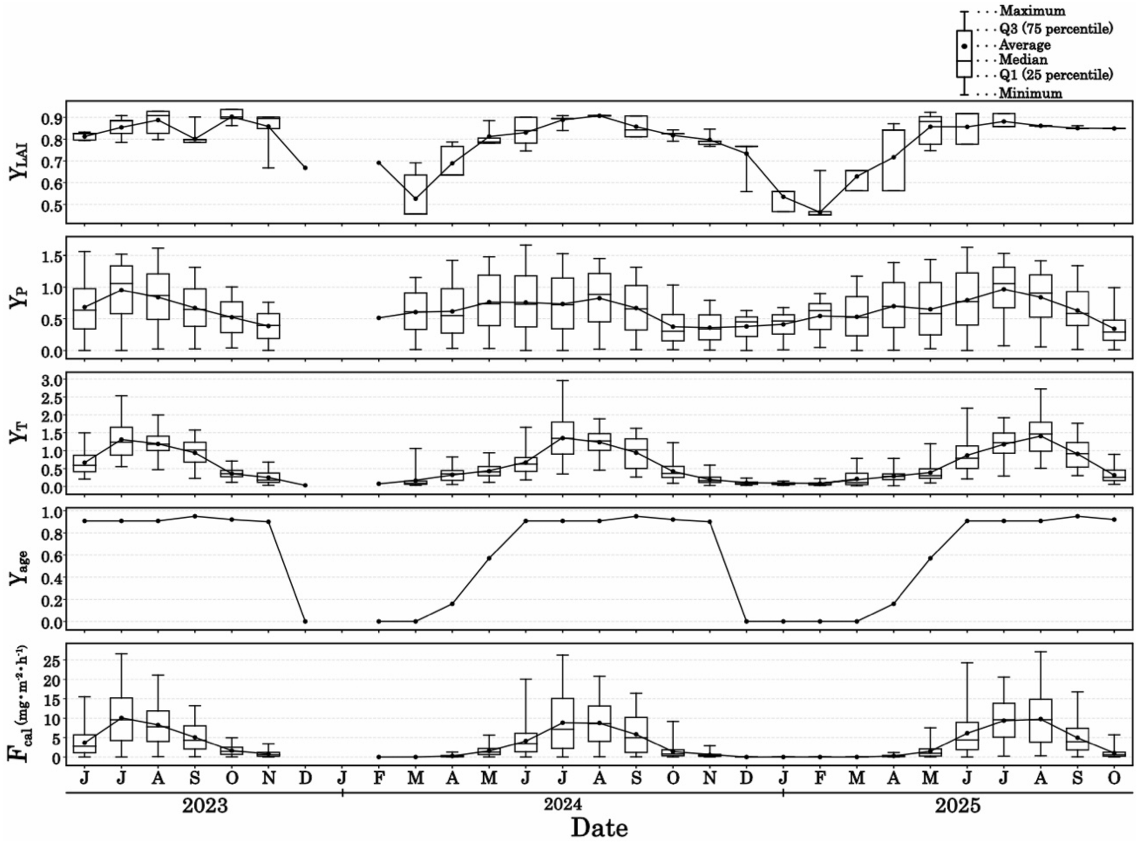

Figure S6: Monthly variation in the overlay of average values on the boxplots of F_{cal} and γ_{LAI}, γ_P, γ_T, γ_{age} calculated by MEGAN model.

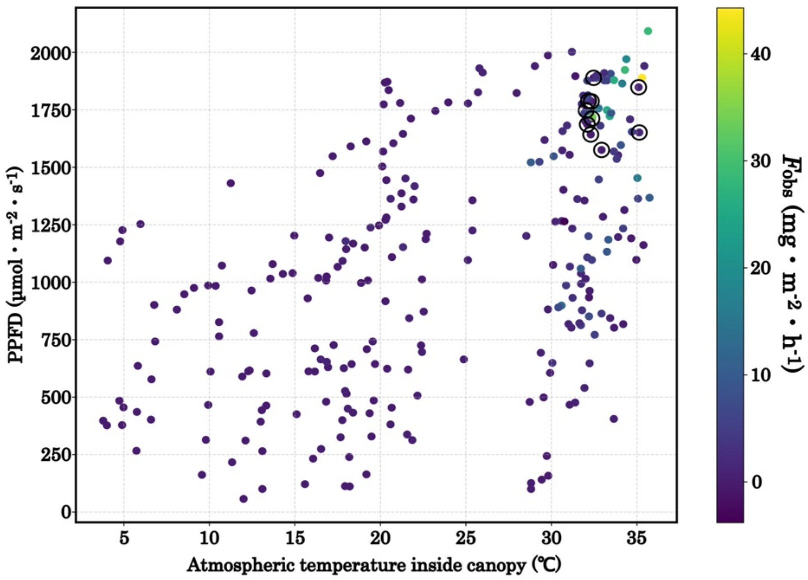

Figure S7: Three-dimensional scatter plot of temperature inside canopy (x-axis), PPFD (y-axis), and F_{obs} (z-axis). The black-circled plots indicate L-F_{obs} where both temperature and PPFD exceeded their respective 75th percentile values, yet F_{obs} fell below the 25th percentile value for that subset.

Table S1. Observation date and time and general meteorological data at FM Tama.

Observation date						Atmos. Temp. (°C)			PPFD (μmol・m⁻²・s⁻¹)			Relative Humidity (%)			Wind Direction (degree)			Wind Velocity (m・s⁻¹)		
Year	Month	Date	Time (JST)	Season 2)	Samp. Time (min)	Ave.	±	Std. 3)	Ave.	±	Std. 3)	Ave.	±	Std. 3)	Min	-	Max 3)	Ave.	±	Std. 3)
2023	June	29	10:00-12:00, 14:00-16:00	Summer	30	30.0	±	1.2	1456	±	615	58.4	±	3.9	55	-	220	1.6	±	0.5
	July	18	10:00-12:00, 14:00-16:00	Summer	30	34.1	±	0.5	1417	±	541	48.6	±	2.5	3	-	349	2.2	±	1.5
	July	28	10:00-10:15, 11:00-11:15, 12:00-12:15, 14:00-14:15, 15:00-15:15	Summer	15	30.6	±	0.8	1650	±	272	63.0	±	2.8	117	-	203	4.8	±	1.5
	July	31	10:00-11:30, 14:00-15:30	Summer	30	31.7	±	0.3	1534	±	509	57.6	±	2.1	154	-	203	4.3	±	0.8
	August	8	10:00-12:00, 14:00-16:00	Summer	30	30.2	±	0.6	913	±	419	65.7	±	3.1	32	-	303	2.0	±	1.4
	September	28	10:00-12:00, 14:00-16:00	Autumn	30	29.9	±	1.8	1219	±	363	63.7	±	6.8	2	-	194	1.6	±	0.7
	Octo	12	10:00-10:15,	Au	15	2	±	0.	1	±	45	5	±	3.	8	-	3	1.	±	0

	ber		11:00-11:15, 12:00-12:15, 14:00-14:15, 15:00-15:15, 16:00-16:15	tumn		0.8 7	079 5	1.0 5	57	2 .3
	October	24	10:00-12:00, 14:00-16:00	Autumn	30	20.8 ± 0.8	1040 ± 355	49.0 ± 5.0	5 - 357	1.1 ± 0.3
	November	30	10:00-12:00, 14:00-16:00	Autumn	30	13.5 ± 1.3	734 ± 351	40.1 ± 5.8	14 - 354	1.4 ± 0.7
	December[1)]	26	10:00-12:00, 14:00-16:00	Winter	30	11.4 ± 0.7	No Data	No Data	180 - 203	6.1 ± 1.4
2024	January[1)]	18	10:00-12:00, 14:00-16:00	Winter	30	13.3 ± 0.2	No Data	No Data	203 - 360	2.2 ± 1.1
	February[1)]	15	10:00-12:00, 14:00-16:00	Winter	30	18.8 ± 1.3	No Data	No Data	158 - 180	7.4 ± 2.5
	March	13	10:00-12:00, 14:00-16:00	Spring	30	11.4 ± 0.7	1290 ± 309	26.8 ± 3.2	0 - 2	5.6 ± 1.2
	April	15	10:00-12:00,	Spr	30	2 ± 0.	1 ± 38	3 ± 3.	1 - 1	4. ± 1

			14:00-16:00	ing		2.1 7	391 5	9.6 2	18 89	4 .6
	May	10	10:00-12:00, 14:00-16:00	Spring	30	19.9 ± 0.3	1582 ± 316	28.5 ± 5.0	159 - 185	7.2 ± 1.4
	June	11	10:00-12:00, 14:00-16:00	Summer	30	25.0 ± 0.3	1474 ± 421	61.4 ± 2.2	147 - 183	5.7 ± 0.8
	July	9	10:00-12:00, 14:00-16:00	Summer	30	29.7 ± 0.5	430 ± 248	65.1 ± 3.4	157 - 272	2.8 ± 1.3
	July	23	10:00-10:15, 11:00-11:15, 12:00-12:15, 14:00-14:15, 15:00-15:15, 16:00-16:15	Summer	15	32.8 ± 0.7	1655 ± 281	59.8 ± 2.9	125 - 215	3.0 ± 0.6
	October	10	10:00-12:00, 14:00-16:00	Autumn	30	18.2 ± 0.4	448 ± 288	72.9 ± 1.6	3 - 359	3.0 ± 0.4
	November	12	10:00-12:00, 14:00-16:00	Autumn	30	18.6 ± 0.8	827 ± 339	63.5 ± 2.2	29 - 172	3.2 ± 0.9
	December	4	10:00-12:00, 14:00-16:00	Winter	30	15.7 ± 0.4	739 ± 309	41.4 ± 3.1	1 - 359	2.8 ± 0.6
2025	January	16	10:00-12:00, 14:00-16:00	Winter	30	4.5 ± 0.7	390 ± 147	40.7 ± 2.1	37 - 171	2.4 ± 0.8

February	6	10:00-12:00, 14:00-16:00	Winter	30	6.1 ± 1.0	988 ± 327	23.2 ± 2.9	21 - 321	3.5 ± 0.9
March	27	10:00-16:00	Spring	120	19.1 ± 1.3	1195 ± 422	58.9 ± 4.8	105 - 191	4.8 ± 2.2
April	16	10:00-16:00	Spring	120	17.2 ± 1.2	1507 ± 318	30.2 ± 3.5	67 - 184	4.5 ± 1.4
May	7	10:00-16:00	Spring	120	19.9 ± 0.7	1376 ± 551	41.1 ± 2.1	0 - 0	4.2 ± 0.6
May	29	10:00-16:00	Spring	120	20.9 ± 4.9	793 ± 364	55.5 ± 13.2	116 - 203	3.3 ± 1.1
July	7	10:00-12:00, 14:00-16:00	Summer	30	31.6 ± 0.4	1247 ± 453	60.2 ± 2.7	88 - 240	2.9 ± 1.3
July	29	10:00-10:17, 11:00-11:17, 12:00-12:17, 14:00-14:17, 15:00-15:17, 16:00-16:17	Summer	17	33.3 ± 0.8	1638 ± 373	49.8 ± 3.5	4 - 183	2.9 ± 1.4
August	6	10:00-12:00, 14:00-16:00	Summer	30	34.8 ± 0.5	1380 ± 451	53.5 ± 2.3	25 - 253	3.0 ± 1.2
August	19	10:00-12:00, 13:00-15:00	Summe	30	31. ± 0.8	151 ± 297	59.5 ± 2.9	124 - 210	3.2 ± 0.7

			r		9	2				
September	9	10:00-12:00, 13:00-15:00	Autumn	30	30.4 ± 0.6	1176 ± 397	67.0 ± 2.0	120	- 187	3.5 ± 1.5
October	28	10:00-12:00, 13:00-15:00	Autumn	30	17.6 ± 0.8	694 ± 372	46.0 ± 2.8	2	- 119	1.7 ± 0.5

1) Due to equipment maintenance at the FM Tana, data acquisition was not possible; therefore, data from the nearest Hachioji air quality monitoring station was used.

2) Based on the Japan Meteorological Agency's definition, the seasons are assigned as follows: March to May is spring, June to August is summer, September to November is autumn, and December to February is winter.

3) Calculated from data at 10:00 AM-4:00 PM (JST) at 25-30m on the flux tower, except for the period from December 2023 to February 2024.

Table S2 Monthly average concentration of each BVOC component by altitude.

Year	Month	Isoprene				α-Pinene				Camphene				Myrcene			
		3m	17m	23m	30m	3m	17m	23m	30m	3m	17m	23m	30m	3m	17m	23m	30m
2023	6	238	435	490	287	3	2	2	3	10	1	1	1	2	2	2	2
	7	484	577	422	355	45	38	57	24	20	4	3	4	2	2	2	2
	8	1300	1710	1273	812	119	120	125	117	39	10	3	1	15	9	6	2
	9	722	3207	2520	1876	68	66	59	68	18	2	1	1	2	2	2	2
	10	223	658	491	382	49	37	31	29	65	42	40	39	103	66	68	66
	11	42	60	58	57	0	0	0	0	0	0	0	0	0	0	0	0
	12	27	35	33	33	11	2	2	2	15	1	1	1	2	6	2	2
2024	1	33	49	51	58	57	25	14	2	42	10	8	6	2	2	2	2
	2	58	69	70	73	49	99	51	63	116	85	80	78	2	2	2	2
	3	8	8	8	9	30	39	57	21	41	48	48	48	1	1	1	1
	4	41	62	70	60	48	53	62	52	55	60	62	60	38	38	44	48
	5	96	307	282	208	33	43	38	44	47	47	47	46	2	21	13	22
	6	158	1108	843	717	24	36	34	32	20	20	20	20	12	22	14	14
	7	2560	4854	3951	3501	39	77	70	64	13	18	18	17	9	14	19	14
	8	600	5239	4732	3736	9	36	35	27	2	16	15	7	17	24	28	12
	10	91	372	247	229	13	29	17	13	12	12	12	12	16	16	16	16
	11	26	156	119	120	104	104	104	104	–	–	–	–	–	–	–	–
	12	19	64	43	49	18	18	18	18	–	–	–	–	–	–	–	–
2025	1	12	12	12	12	18	18	18	18	–	–	–	–	–	–	–	–
	2	9	9	9	9	36	37	36	36	–	–	–	–	–	–	–	–
	3	–	15	16	16	–	6	6	6	–	–	–	–	–	–	–	–

4	10	6	9	9	17	6	8	9	−	−	−	−	−	−	−	−
5	303	494	421	237	33	14	15	12	14	13	13	13	15	14	11	13
6	−	2379	2752	1833	−	118	125	115	−	91	92	91	−	79	60	45
7	3646	6154	6159	3831	54	62	70	55	13	4	4	5	4	3	9	3
8	5794	5418	4578	3147	34	45	62	47	10	11	11	12	5	8	14	9
9	1523	2885	2374	1945	48	56	63	44	25	25	25	25	24	31	24	23
10	180	583	544	280	27	20	21	20	39	15	13	6	4	4	4	4

−: No data

Table S2 (Continued)

Year	Month	β-Pinene				3-Carene				Limonene				p-Cymene			
		3 m	17 m	23 m	30 m	3 m	17 m	23 m	30 m	3 m	17 m	23 m	30 m	3 m	17 m	23 m	30 m
2023	6	2	2	2	2	2	2	2	2	3	3	3	3	2	2	2	2
	7	2	2	2	2	2	2	2	2	3	4	3	4	2	3	2	2
	8	2	3	3	2	2	2	2	2	3	3	3	3	2	2	2	2
	9	18	10	5	24	2	2	2	2	21	21	18	23	5	6	6	7
	10	81	79	83	79	51	49	49	49	102	75	77	77	50	52	52	52
	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	12	11	2	2	2	3	2	2	2	26	16	15	14	4	6	7	4
2024	1	28	2	2	2	5	4	7	3	26	20	21	26	10	19	17	23
	2	22	2	2	37	20	48	29	11	54	119	119	77	90	99	99	92
	3	11	7	7	7	10	2	44	2	61	75	80	53	65	68	68	63
	4	45	45	45	45	31	27	36	36	77	77	99	82	98	115	132	123
	5	22	25	23	22	2	2	2	2	67	66	68	69	71	70	71	70
	6	25	27	24	25	27	28	29	27	41	47	106	45	49	67	73	66
	7	20	26	27	26	9	16	14	14	20	22	25	24	22	33	39	37
	8	10	19	19	12	9	14	13	14	15	16	11	101	23	24	22	28
	10	13	17	13	13	10	10	10	10	12	27	13	12	11	27	11	11
	11	38	58	67	66	–	–	–	–	–	–	–	–	–	–	–	–
	12	4	47	48	60	–	–	–	–	–	–	–	–	–	–	–	–

		2															
2025	1	32	47	27	34	−	−	−	−	−	−	−	−	−	−	−	−
	2	11	31	37	37	−	−	−	−	−	−	−	−	−	−	−	−
	3	−	23	24	28	−	−	−	−	−	−	−	−	−	−	−	−
	4	27	22	23	24	−	−	−	−	−	−	−	−	−	−	−	−
	5	34	23	24	23	15	14	14	13	22	17	18	17	45	45	45	45
	6	−	157	160	154	−	75	99	86	−	97	99	100	−	117	189	119
	7	48	61	71	56	26	11	13	12	47	48	55	42	46	57	59	53
	8	39	53	59	50	7	12	10	9	24	22	27	21	23	27	28	26
	9	50	55	57	56	25	25	25	25	26	27	27	25	37	37	38	36
	10	13	11	13	13	6	6	6	6	8	7	5	11	4	4	4	4

−: No data

Table S3 Monthly statistical values for F_{cal}, γ_{LAI}, γ_P, γ_T, and γ_{age} during the observation period.

Year	Month	F_{cal} (mg•m^{-2}•h^{-1})							γ_{LAI}						
		Min	Max	Ave.	Std.	Q1	Median	Q3	Min	Max	Ave.	Std.	Q1	Median	Q3
2023	6	0.00	15.51	3.68	3.15	1.09	2.78	5.74	0.79	0.83	0.81	0.02	0.80	0.82	0.83
	7	0.00	26.58	10.07	6.50	4.27	9.60	15.21	0.78	0.91	0.85	0.04	0.83	0.88	0.89
	8	0.11	21.10	8.24	4.91	4.03	7.80	11.88	0.80	0.93	0.89	0.05	0.83	0.91	0.93
	9	0.08	13.22	5.08	3.46	2.07	4.34	8.05	0.78	0.90	0.80	0.03	0.78	0.80	0.80
	10	0.04	4.99	1.63	1.11	0.69	1.45	2.50	0.86	0.94	0.90	0.03	0.89	0.90	0.94
	11	0.00	3.42	0.83	0.81	0.18	0.57	1.18	0.67	0.90	0.86	0.07	0.85	0.89	0.90
	12	–	–	–	–	–	–	–	0.67	0.67	0.67	0.04	–	–	–
2024	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69	0.69	0.69	0.30	–	–	–
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.69	0.53	0.10	0.46	0.46	0.63
	4	0.00	1.26	0.25	0.25	0.06	0.17	0.39	0.63	0.79	0.69	0.07	0.63	0.63	0.77
	5	0.02	5.68	1.57	1.21	0.63	1.26	2.19	0.78	0.88	0.81	0.04	0.78	0.79	0.80
	6	0.00	20.06	4.15	3.43	1.33	3.45	6.13	0.75	0.90	0.83	0.06	0.78	0.84	0.90
	7	0.00	26.25	8.85	7.13	2.21	7.15	15.07	0.84	0.91	0.89	0.02	0.89	0.89	0.89
	8	0.08	20.81	8.79	5.50	4.05	8.60	13.14	0.91	0.91	0.91	0.00	0.91	0.91	0.91
	9	0.04	16.41	5.86	4.66	1.18	5.00	10.20	0.81	0.91	0.86	0.04	0.81	0.84	0.91

	10	0.01	9.16	1.37	1.60	0.31	0.77	1.86	0.79	0.84	0.82	0.02	0.82	0.82	0.82
	11	0.00	2.89	0.53	0.50	0.17	0.38	0.69	0.77	0.85	0.80	0.03	0.78	0.79	0.79
	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.77	0.73	0.08	0.77	0.77	0.77
2025	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.56	0.53	0.04	0.47	0.56	0.56
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.66	0.46	0.04	0.45	0.45	0.47
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.66	0.63	0.04	0.56	0.66	0.66
	4	0.00	1.15	0.27	0.23	0.09	0.21	0.41	0.56	0.87	0.72	0.15	0.56	0.84	0.84
	5	0.02	7.53	1.46	1.57	0.26	0.95	2.09	0.75	0.92	0.86	0.07	0.78	0.88	0.90
	6	0.00	24.28	6.16	5.57	1.89	4.40	8.93	0.78	0.92	0.86	0.07	0.78	0.92	0.92
	7	0.21	20.61	9.38	5.20	5.12	9.60	13.83	0.86	0.92	0.88	0.03	0.86	0.86	0.92
	8	0.32	27.10	9.79	6.37	3.85	9.62	14.86	0.86	0.86	0.86	0.00	0.86	0.86	0.86
	9	0.05	16.78	4.99	4.05	1.82	3.96	7.42	0.85	0.86	0.85	0.00	0.85	0.85	0.85
	10	0.01	5.74	1.00	1.13	0.21	0.57	1.23	0.85	0.85	0.85	0.00	0.85	0.85	0.85

−: No data

Table S3 (Continued)

Year	Month	γ_P							γ_T						
		Min	Max	Ave.	Std.	Q1	Median	Q3	Min	Max	Ave.	Std.	Q1	Median	Q3
2023	6	0.00	1.56	0.68	0.40	0.34	0.64	0.98	0.21	1.50	0.66	0.30	0.41	0.59	0.87
	7	0.00	1.52	0.95	0.42	0.58	1.06	1.34	0.56	2.53	1.31	0.49	0.88	1.24	1.65
	8	0.02	1.61	0.84	0.39	0.49	0.87	1.21	0.47	2.00	1.19	0.30	1.00	1.18	1.40
	9	0.02	1.31	0.67	0.33	0.38	0.65	0.97	0.23	1.57	0.94	0.34	0.68	1.02	1.23
	10	0.04	1.00	0.52	0.26	0.28	0.53	0.77	0.12	0.71	0.36	0.13	0.27	0.36	0.45
	11	0.00	0.76	0.38	0.21	0.19	0.39	0.58	0.04	0.68	0.25	0.17	0.12	0.18	0.38
	12	–	–	–	–	–	–	–	0.02	0.05	0.03	0.01	–	–	–
2024	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	2	0.03	0.93	0.51	0.27	–	–	–	0.03	0.17	0.08	0.04	–	–	–
	3	0.02	1.15	0.60	0.32	0.33	0.61	0.91	0.04	1.06	0.17	0.20	0.07	0.09	0.15
	4	0.03	1.42	0.62	0.38	0.27	0.55	0.98	0.06	0.82	0.33	0.17	0.17	0.35	0.44
	5	0.03	1.48	0.76	0.42	0.39	0.73	1.19	0.12	0.94	0.43	0.17	0.30	0.41	0.56
	6	0.00	1.66	0.76	0.44	0.37	0.73	1.18	0.19	1.65	0.67	0.33	0.42	0.63	0.81
	7	0.00	1.53	0.73	0.44	0.34	0.72	1.14	0.35	2.95	1.35	0.58	0.91	1.34	1.80
	8	0.02	1.45	0.82	0.42	0.45	0.88	1.22	0.46	1.89	1.23	0.35	1.01	1.27	1.47
	9	0.01	1.31	0.67	0.37	0.32	0.66	1.03	0.27	1.62	0.94	0.42	0.51	1.02	1.33

	10	0.01	1.03	0.37	0.27	0.15	0.30	0.57	0.09	1.22	0.43	0.23	0.25	0.37	0.56
	11	0.01	0.79	0.36	0.21	0.17	0.34	0.56	0.03	0.60	0.20	0.11	0.12	0.16	0.26
	12	0.00	0.63	0.38	0.17	0.22	0.45	0.53	0.03	0.24	0.10	0.05	0.07	0.08	0.13
2025	1	0.01	0.68	0.41	0.18	0.26	0.46	0.56	0.03	0.15	0.08	0.03	0.06	0.08	0.11
	2	0.05	0.90	0.54	0.23	0.33	0.63	0.74	0.03	0.22	0.08	0.05	0.05	0.06	0.10
	3	0.00	1.17	0.53	0.32	0.23	0.52	0.85	0.02	0.78	0.21	0.22	0.05	0.11	0.37
	4	0.01	1.39	0.70	0.38	0.36	0.69	1.07	0.02	0.78	0.29	0.15	0.20	0.28	0.35
	5	0.03	1.44	0.65	0.42	0.25	0.58	1.07	0.10	1.19	0.39	0.24	0.23	0.30	0.50
	6	0.00	1.63	0.79	0.43	0.40	0.77	1.22	0.21	2.18	0.87	0.45	0.50	0.79	1.13
	7	0.07	1.53	0.97	0.39	0.67	1.06	1.31	0.29	1.92	1.18	0.37	0.93	1.22	1.49
	8	0.06	1.41	0.84	0.38	0.53	0.90	1.19	0.51	2.72	1.41	0.51	0.98	1.46	1.79
	9	0.02	1.34	0.63	0.33	0.39	0.58	0.93	0.31	1.76	0.91	0.42	0.54	0.92	1.23
	10	0.01	0.99	0.34	0.24	0.16	0.29	0.48	0.06	0.90	0.32	0.18	0.17	0.26	0.46

−: No data

Table S3 (Continued)

Year	Month	γage						
		Min	Max	Ave.	Std.	Q1	Median	Q3
2023	6	0.91	0.91	0.91	0.00	0.91	0.91	0.91
	7	0.91	0.91	0.91	0.00	0.91	0.91	0.91
	8	0.91	0.91	0.91	0.00	0.91	0.91	0.91
	9	0.95	0.95	0.95	0.00	0.95	0.95	0.95
	10	0.92	0.92	0.92	0.00	0.92	0.92	0.92
	11	0.90	0.90	0.90	0.00	0.90	0.90	0.90
	12	0.00	0.00	0.00	−	−	−	−
2024	1	−	−	−	−	−	−	−
	2	0.00	0.00	0.00	−	−	−	−
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.16	0.16	0.16	0.00	0.16	0.16	0.16
	5	0.57	0.57	0.57	0.00	0.57	0.57	0.57
	6	0.91	0.91	0.91	0.00	0.91	0.91	0.91
	7	0.91	0.91	0.91	0.00	0.91	0.91	0.91
	8	0.91	0.91	0.91	0.00	0.91	0.91	0.91
	9	0.95	0.95	0.95	0.00	0.95	0.95	0.95
	10	0.92	0.92	0.92	0.00	0.92	0.92	0.92
	11	0.90	0.90	0.90	0.00	0.90	0.90	0.90
	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4	0.16	0.16	0.16	0.00	0.16	0.16	0.16
	5	0.57	0.57	0.57	0.00	0.57	0.57	0.57
	6	0.91	0.91	0.91	0.00	0.91	0.91	0.91
	7	0.91	0.91	0.91	0.00	0.91	0.91	0.91
	8	0.91	0.91	0.91	0.00	0.91	0.91	0.91
	9	0.95	0.95	0.95	0.00	0.95	0.95	0.95
	10	0.92	0.92	0.92	0.00	0.92	0.92	0.92

−: No data