

Table 4. Summary of the measured OH reactivity and the missing OH reactivity inside and above the canopy, during the day and the night, taking into account only PTR-MS data or all the data available at each height for OH reactivity calculations. These averages are calculated for the periods when CRM, PTR-MS and others instruments data are available.

	Mean Measured OH reactivity (s ⁻¹)	Mean missing OH reactivity with PTRQi-ToFMS (s ⁻¹)	Missing ROH considering PTRQi-ToFMS data + other measurements (s ⁻¹)
Inside	19.0	7.3	4.3
Day	18.4	7.0	4.1
Night	21.4	9.0	5.6
Stable cool nights	20.5	5.7	2.1
Stable warm nights	41.6	10.9	6.9
Unstable cool nights	7.9	4.5	<LOD
Unstable warm nights	13.5	6.8	3.6
Above	12.6	6.0	4.2
Day	10.4	5.0	3.1
Night	15.5	7.5	5.6
Stable cool nights	14.8	7.5	5.7
Stable warm nights	----	----	----
Unstable warm nights	20.5	7.1	5.2
Unstable cool nights	----	----	----

Table S9: Summary of day/ night mean values of measured OH reactivity, the calculated one from PTR-MS data and from all available measurements, as well as the resulting missing OH reactivity, inside and above the canopy.

	Day/ Night	Measured ROH/ LSCE- CRM (s ⁻¹)	Calculated ROH PTRQi-ToFMS (s ⁻¹)	Calculated ROH PTRQi-ToFMS + other measurements (s ⁻¹)	Missing ROH considering PTRQi-ToFMS (s ⁻¹)	Missing ROH considering PTRQi-ToFMS + other measurements (s ⁻¹)	Mean Temperature (°C)	Mean u* (m/s)	Day/ Night state
Inside canopy	3rd, July	14.5	5.3	7.8	9.2	6.8	22.9	0.4	Cool
	3rd- 4th, July	25.7	16.1	20.1	9.6	5.6	15.6	0.1	Stable/ Cool
	4th, July	20.0	9.9	12.2	10.1	7.7	26.5	0.6	Warm
	4th- 5th, July	45.7	28.2	32.6	17.5	13.1	21.7	0.2	Stable/ Warm
	5th, July	16.7	8.1	10.8	8.7	6.1	28.1	0.4	Warm
	5th- 6th, July	12.6	4.8	8.4	7.8	4.2	18.9	0.3	Unstable/ Stable/ Warm
	6th, July	22.1	11.0	13.9	11.1	8.2	24.2	0.4	Warm
	6th- 7th, July	37.5	33.2	36.9	4.4	< LOD	20.1	0.1	Stable/ Warm
	7th, July	28.1	18.5	21.6	10.0	6.5	28.3	0.4	Warm
	7th- 8th, July	17.9	9.6	13.1	8.7	4.8	21.2	0.4	Unstable/ Warm
Above canopy	8th, July	13.2	7.5	10.3	5.7	2.9	23.0	0.5	Cool
	8th- 9th, July	7.3	2.5	5.3	4.7	< LOD	19.5	0.5	Unstable/ Warm
	9th, July	7.4	3.0	5.3	4.4	< LOD	20.9	0.8	Cool
	9th -10th, July	7.9	3.4	7.1	4.5	< LOD	18.2	0.3	Unstable/ Stable/ Cool
	10th, July	7.7	2.6	4.3	5.1	3.4	20.6	0.5	Cool
	10th-11th, July	13.0	5.1	6.9	8.0	6.1	17.3	0.1	Stable/ Cool
	11th, July	9.5	3.4	5.2	6.1	4.3	20.9	0.4	Cool
	11th- 12th, July	15.8	6.1	7.9	9.7	7.9	17.0	0.1	Stable/ Cool
	12th, July	10.9	3.0	4.7	7.9	6.2	20.5	0.7	Cool
	12th- 13th, July						18.0	0.1	Stable/ Cool
Inside canopy	13th July	6.7	3.1	6.3	3.6	< LOD	20.1	0.4	Cool
	13th- 14th, July	18.7	15.3	19.1	3.4	< LOD	18.0	0.1	Stable/ Cool
	14th, July	8.9	6.7	9.1	< LOD	< LOD	21.2	0.5	Cool
	14th- 15th, July	17.1	12.9	16.0	4.2	< LOD	15.2	0.1	Stable/ Cool
	15th, July a.m	13.3	12.6	15.6	< LOD	< LOD	22.0	0.4	Cool
Above canopy	15th, July p.m	7.0	4.2	5.9	2.9	< LOD			
	15th- 16th, July	15.6	10.8	12.7	4.8	2.9	16.6	0.1	Stable/ Cool
	16th, July	10.0	8.1	9.9	< LOD	< LOD	26.7	0.5	Warm
	16th- 17th, July						21.6	0.1	Stable/ Warm
	17th, July	41.5/ 39.8*	23.3/ 23.0*	26.8/ 25.0*	18.2/ 16.8*	14.7/ 14.8*	28.9	0.4	Warm
1h Inside/ 1h Above canopy	17th-18th, July	20.5/ 20.5*	15.3/ 13.4*	18.4/ 15.3*	5.2/ 7.2*	≈ LOD/ 5.2*	23.2	0.3	Unstable/ Stable/ Warm
	18th, July	11.5/ 8.4*	7.9/ 6.4*	10.3/ 8.1*	3.6/ < LOD*	< LOD/ < LOD*	30.3	0.5	Warm