



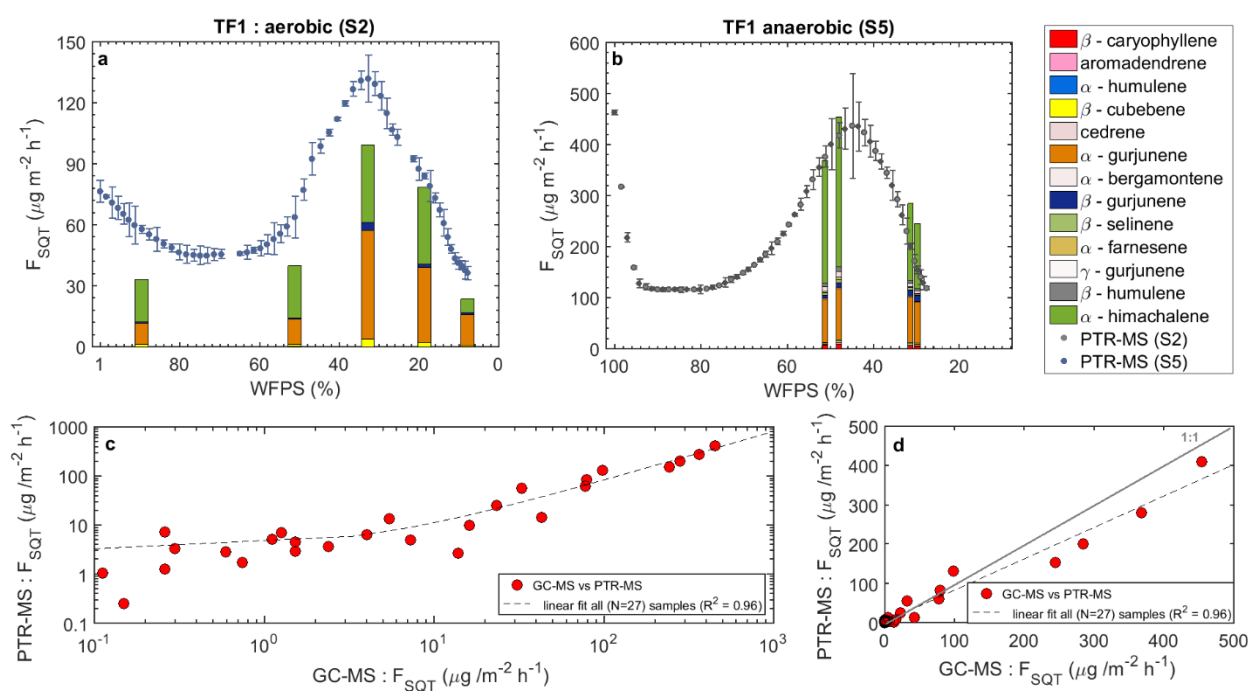
Supplementary information for
Strong sesquiterpene emissions from Amazonian soils

Bourtsoukidis et, al.

Sample number	Depth	Ecosyst.	Pit	Coordinates	Elev. (m)	Soil type	BD (g/cm ³)	pH	Clay (%)	Σ_{RB} (m mol kg ⁻¹)	Sum of bases (cmol kg ⁻¹)	Index П	T (°C)	Conditions	
1													30	Aerobic	
2													30	Aerobic	
3		Terra Firme (TF1)	Pit 1	02 08'06" S, 59 00'07"W	127	Ferralsol	0,51	3,6	81	7,79	2,45	0	30	Aerobic	
4													30	Aerobic	
5													30	Anaerobic	
6													20	Aerobic	
7		Terra Firme (TF2)	Pit 2	02 08'13" S, 58 59'31"W	145	Ferralsol	0,53	3,5	81	7,8	3,41	0	30	Aerobic	
8													30	Anaerobic	
9													30	Aerobic	
10		Terra Firme (TF3)	Pit 3 (ATTO)	2 08'38.8"S, 58 59'59.6"W	126	Ferralsol	0,52	n.d.	n.d.	n.d.	n.d.	n.d.	20	Aerobic	
11													30	Anaerobic	
12													20	Flood	
13	0 - 5 cm	Terra Firme (TF4)	Pit 4	13 04'35.53"S, 52 22'36.61"W	246	Ferralsol	0,86*	4,6	48,9*	28,3*	2,32*	0*	30	Aerobic	
14													30	Aerobic	
15		Terra Firme (TF5)	Pit 5	13 04'44.73"S, 52 23'10.21"W	378	Ferralsol	0,86*	4,5	48,9*	28,3*	2,32*	0*	30	Aerobic	
16													30	Aerobic	
17													20	Aerobic	
18		Floodplain Terrace (FLT1)	Pit 6	02 13'24" S, 59 01'56"W	40	Alisol	0,83	3,7	65	20,59	2,38	2	30	Aerobic	
19													30	Anaerobic	
20													20	Aerobic	
21		Floodplain Terrace (FLT2)	Pit 7	02 14'03.5" S, 59 01'58.4"W	30	Alisol	0,87	3,5	64,5	22,57	4,18	1	30	Aerobic	
22													30	Anaerobic	
23												20	Aerobic		
24		White sand (WS)	Pit 8	2 11'24.9"S, 59 01'13"W	36	Podzol / Arenosol	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	20	Aerobic	
25													20	Aerobic	
26		Terra Firme (TF1)	Pit 1	02 08'06" S, 59 00'07"W	127	Ferralsol	0,81	4,2	85	n.d.	0,51	n.d.	30	Anaerobic	
27													20	Aerobic	
28		Terra Firme (TF2)	Pit 2	02 08'13" S, 58 59'31"W	145	Ferralsol	0,80	3,8	83	n.d.	0,99	n.d.	30	Anaerobic	
29													20	Aerobic	
30		Terra Firme (TF3)	Pit 3 (ATTO)	2 08'38.8"S, 58 59'59.6"W	126	Ferralsol	0,80	n.d.	n.d.	n.d.	n.d.	n.d.	30	Anaerobic	
31													20	Aerobic	
32	10 - 15 cm	Floodplain Terrace (FLT1)	Pit 6	2 13'24"S, 59 01'56"W	40	Alisol	1,18	3,8	65	n.d.	0,71	n.d.	30	Anaerobic	
33													30	Aerobic	
34		Floodplain Terrace (FLT2)	Pit 7	02 14'03.5" S, 59 01'58.4"W	30	Alisol	1,11	4,3	62	n.d.	1,24	n.d.	30	Anaerobic	
35			White sand (WS)	Pit 8	2 11'24.9"S, 59 01'13"W	36	Podzol / Arenosol	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	20	Aerobic
36														20	Aerobic
37	45 - 50 cm	Terra Firme (TF1)	Pit 1	02 08'06" S, 59 00'07"W	127	Ferralsol	1,09	4,5	81	n.d.	0,25	n.d.	20	Aerobic	
38													20	Aerobic	
39		Terra Firme (TF3)	Pit 3 (ATTO)	2 08'38.8"S, 58 59'59.6"W	126	Ferralsol	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	20	Aerobic	

40	Floodplain Terrace (FLT1)	Pit 6	02 13'24" S, 59 01'56"W	40	Alisol	1,29	4,3	65,5	n.d.	0,42	n.d.	20	Aerobic
41	Floodplain Terrace (FLT2)	Pit 7	2 14'03.5"S, 59 01'58.4"W	30	Alisol	1,19	4,5	71	n.d.	0,72	n.d.	20	Aerobic
42	White sand (WS)	Pit 8	2 11'24.9"S, 59 01'13"W	36	Podzol / Arenosol	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	20	Aerobic

Supplementary Table 1 | Sample characteristics and treatments. An overview of the soil desiccation experiments is presented for the different soil types, depths, temperature and conditions. All plateau soils were classified as Ferralsol with advanced state of pedogenetic development, low nutrient and high clay content. Terrace soils were classified as Alisols, which are intermediate aged soils with relatively high element content on a clay bases. Similarly, total reserve bases (Σ_{RB} ; the sum of total cations Ca, Mg, K and Na are presented only for the first 10cm of soil depth) was approximately three times higher in the terrace soils indicating that these soils display a lower pedogenetic development compared to the TF soils. Anaerobic conditions were achieved by the use of cleaned compressed air and anaerobic by using a pressurized bottle of nitrogen (6.0). As “flood” we refer to a single experiment (S9) where anaerobic conditions were achieved by flooding the soil sample to 3 times its soil saturation capacity. Incubation temperature indicates the temperature inside each chamber. The values that were not defined are indicated with n.d. while the * symbol indicates the values for a pit in the vicinity (12°55'15.49'' S , 52°22'22.75''W).



Supplementary Figure 1 | Comparison of PTR-MS and GC-MS measurements. During a. aerobic (sample S2) and b. anaerobic (sample S5) desiccation of TF1 soils. The markers indicate the measurement points from PTR-MS and the error bars the std (N=4) of each measurement point. The stacked bar plots indicate the GC-MS measurements with the respective SQT species to be denoted at the colored legend on the right. In c, all simultaneous measurements (N = 27) between PTR-MS and GC-MS appear as red circles together with a linear regression fit. In d, the same points are plotted in linear scale to illustrate the possible underestimation of the PTR-MS measurements.