

Supplementary information

Table S1: Alcohols in 26 samples of crystal cachaça produced in three different mesoregions of the state of Paraíba. CA – Cachaças do Agreste, CM – Cachaças da Mata; CS – Cachaças do Sertão. All data is present: average of concentration, Tukey test* and standard deviation. All results are in mg/L.

Sample	Alcohols								
	3-Methyl-1-butanol	2-Methyl-1-butanol	2-Heptanol	1-Octen-3-ol	1-Octanol	2-Nonanol	Phenylethyl Alcohol	2-Undecanol	1-Dodecanol
CA-01	199.95 ± 9.37 ^{klm}	67.05 ± 7.08 ^{kl}	3.66 ± 0.25 ^f	0,00	4.18 ± 0.54 ^ē	2.49 ± 0.13 ^{hi}	9.44 ± 1.09 ^{ijk}	3.35 ± 0.32 ^{def}	4.21 ± 0.30 ^{cd}
CA-02	486.60 ± 3.63 ^{ab}	173.28 ± 7.55 ^{bc}	0,00	0,00	3.32 ± 0.01 ^{ghi}	3.07 ± 0.01 ^{gh}	44.69 ± 4.14 ^{bc}	0,00	0,00
CA-03	101.76 ± 11.32 ^{no}	35.29 ± 2.63 ^{mn}	2.56 ± 0.19 ^ē	0.25 ± 0.02 ^a	2.18 ± 0.16 ^{ij}	2.45 ± 0.20 ^{hi}	7.71 ± 0.59 ^{ijkl}	1.21 ± 0.10 ^{hi}	3.00 ± 0.21 ^a
CA-04	251.64 ± 11.04 ^{ijk}	81.17 ± 4.04 ^{ijk}	5.34 ± 0.03 ^d	0,00	9.20 ± 0.45 ^b	3.05 ± 0.11 ^{gh}	12.18 ± 1.66 ^{hi}	1.10 ± 0.15 ^{hi}	5.29 ± 0.58 ^c
CA-05	69.18 ± 2.69 ^o	22.58 ± 0.49 ^{no}	1.30 ± 0.07 ^h	0.19 ± 0.02 ^{ef}	1.75 ± 0.05 ^j	1.22 ± 0.07 ^{jk}	5.19 ± 0.54 ^{ijklm}	1.39 ± 0.22 ^{ghi}	2.40 ± 0.13 ^a
CA-06	185.55 ± 1.21 ^{lm}	61.64 ± 3.21 ^{kl}	5.55 ± 0.11 ^{cd}	0,00	4.07 ± 0.34 ^ē	3.56 ± 0.10 ^ē	3.86 ± 0.22 ^{klm}	2.47 ± 0.49 ^{degh}	2.34 ± 0.29 ^a
CA-07	334.29 ± 8.57 ^ē	121.04 ± 4.22 ^{gh}	8.08 ± 0.20 ^a	1.29 ± 0.05 ^b	6.67 ± 0.46 ^d	5.57 ± 0.30 ^{cd}	21.08 ± 0.98 ^{ef}	3.50 ± 0.39 ^{de}	7.43 ± 0.94 ^b
CA-08	299.59 ± 21.49 ^{ghi}	103.35 ± 11.16 ^{hi}	6.68 ± 0.58 ^b	0.76 ± 0.06 ^{cd}	6.44 ± 0.38 ^{de}	7.53 ± 0.74 ^b	13.11 ± 1.25 ^{ghi}	6.97 ± 0.79 ^c	8.08 ± 0.71 ^{ab}
CA-09	187.26 ± 7.12 ^{lm}	65.58 ± 5.15 ^{kl}	4.47 ± 0.44 ^a	0.79 ± 0.05 ^{cd}	7.07 ± 0.62 ^d	3.84 ± 0.21 ^ē	12.55 ± 1.37 ^{ghi}	2.84 ± 0.25 ^{deē}	3.02 ± 0.23 ^a
CA-10	265.63 ± 16.18 ^{hij}	97.82 ± 0.96 ^{ij}	8.19 ± 0.62 ^a	0.87 ± 0.05 ^c	7.40 ± 0.30 ^{cd}	4.91 ± 0.40 ^{de}	0.41 ± 0.06 ^m	5.88 ± 0.66 ^c	8.82 ± 0.71 ^a
CA-11	260.93 ± 5.33 ^{ij}	102.32 ± 1.92 ^{hi}	0,00	0.80 ± 0.05 ^{cd}	4.33 ± 0.51 ^ē	1.66 ± 0.23 ^{ij}	26.59 ± 3.00 ^a	3.87 ± 0.29 ^d	7.33 ± 0.89 ^b
CA-12	209.47 ± 3.64 ^{ijklm}	84.12 ± 5.37 ^{ijk}	8.15 ± 0.07 ^a	0.58 ± 0.02 ^d	3.59 ± 0.28 ^{ghi}	7.26 ± 0.01 ^b	0,00	1.92 ± 0.27 ^{ēh}	0,00
CA-13	525.00 ± 17.93 ^a	200.72 ± 6.78 ^a	0,00	1.34 ± 0.05 ^b	12.49 ± 0.48 ^a	11.86 ± 0.75 ^a	41.04 ± 1.78 ^{cd}	19.02 ± 1.42 ^a	0,00
CA-14	121.43 ± 1.52 ^{no}	54.72 ± 1.02 ^{lm}	0,00	0,00	2.30 ± 0.11 ^{hij}	0.86 ± 0.11 ^{kl}	1.21 ± 0.08 ^{lm}	0.98 ± 0.11 ^{hi}	0,00
CA-15	216.04 ± 7.71 ^{kl}	77.83 ± 1.85 ^{jk}	6.23 ± 0.21 ^{bc}	0.60 ± 0.01 ^d	3.00 ± 0.39 ^{ghij}	6.15 ± 0.19 ^c	8.80 ± 1.11 ^{ijk}	6.34 ± 0.94 ^c	3.20 ± 0.05 ^{de}
CA-16	2.54 ± 0.44 ^p	136.66 ± 4.44 ^{ēē}	0,00	0,00	6.00 ± 0.16 ^{de}	1.67 ± 0.14 ^{ij}	90.12 ± 6.22 ^a	0,00	0,00
CA-17	401.23 ± 20.22 ^{de}	153.84 ± 7.47 ^{cde}	0,00	0,00	3.72 ± 0.19 ^{ēh}	1.70 ± 0.02 ^{ij}	5.17 ± 0.92 ^{ijklm}	0,00	0,00
CA-18	149.47 ± 8.18 ^{mn}	1.57 ± 0.10 ^o	0,00	0,00	4.24 ± 0.54 ^ē	1.71 ± 0.02 ^{ij}	11.56 ± 0.33 ^{hij}	2.18 ± 0.03 ^{ēgh}	0,00
CA-19	211.14 ± 16.58 ^{ijkl}	67.70 ± 7.89 ^{kl}	0,00	0.61 ± 0.09 ^d	4.37 ± 0.40 ^ē	3.02 ± 0.37 ^{gh}	13.01 ± 1.21 ^{ghi}	1.44 ± 0.15 ^{ghi}	0.79 ± 0.06 ^f
CA-20	451.08 ± 9.10 ^{bcd}	155.93 ± 7.15 ^{cde}	0,00	1.78 ± 0.24 ^a	11.86 ± 0.69 ^a	3.80 ± 0.46 ^ē	19.17 ± 1.33 ^ē	5.96 ± 0.44 ^c	0,00
CM-01	465.76 ± 17.98 ^{abc}	156.95 ± 1.84 ^{cde}	0,00	1.60 ± 0.27 ^a	8.85 ± 1.19 ^{bc}	4.08 ± 0.30 ^{ef}	21.75 ± 1.30 ^{ef}	8.72 ± 0.93 ^b	0,00
CM-02	426.66 ± 60.67 ^{bcdde}	163.60 ± 11.44 ^{cd}	0,00	0,00	3.66 ± 0.42 ^{ēhi}	0,00	48.06 ± 3.65 ^b	0,00	4.31 ± 0.52 ^{cd}
CM-03	454.61 ± 8.60 ^{bcd}	186.70 ± 8.36 ^{ab}	0,00	0,00	5.14 ± 0.26 ^{ef}	5.06 ± 0.14 ^d	16.51 ± 1.04 ^{ēh}	0,00	0,00
CM-04	384.49 ± 14.71 ^{ef}	145.14 ± 6.12 ^{def}	0,00	0,00	7.09 ± 0.73 ^d	0,00	36.07 ± 4.64 ^d	0,00	0,00
CS-01	325.28 ± 28.79 ^c	123.68 ± 2.43 ^{ēh}	0,00	0,00	6.94 ± 0.01 ^d	0,00	1.09 ± 0.01 ^{lm}	0,00	0,00
CS-02	410.10 ± 44.33 ^{cde}	158.52 ± 22.78 ^{cde}	4.25 ± 0.65 ^{ef}	0,00	3.35 ± 0.30 ^{ghi}	0.70 ± 0.08 ^{kl}	0.31 ± 0.08 ^m	1.16 ± 0.12 ^{hi}	0,00

CA - Cachaças of Agreste; CM - Cachaças of Mata; CS - Cachaças of Sertão. different letters in the same column differ by tukey test (0.05)

Table S2: Esters in 26 samples of crystal cachaça produced in three different mesoregions of the state of Paraíba. CA – Cachaças do Agreste, CM – Cachaças da Mata; CS – Cachaças do Sertão. All data is present: average of concentration, Tukey test* and standard deviation. All results are in mg/L.

Sample	Esters																
	Ethyl Acetate	Ethyl butanoate	Isoamyl acetate	Ethyl pentanoate	Ethyl hexanoate	Ethyl heptanoate	Ethyl octanoate	Phenethyl acetate	Ethyl nonanoate	Ethyl decanoate	Isoamyl octanoate	Ethyl undecanoate	Ethyl laurate	Ethyl myristate	Ethyl palmitate	Ethyl linoleate	Ethyl Oleate
CA-01	41.10 ± 1.12 ^{km}	2.50 ± 0.19 ^g	7.21 ± 0.68 ^{op}	0,00	25.07 ± 2.04 ^{ijkmn}	3.37 ± 0.20 ^{hij}	616.37 ± 26.66 ^j	0,00	40.01 ± 0.51 ^f	1811.73 ± 35.47 ^g	37.98 ± 2.30 ^{hi}	0,00	926.08 ± 37.60 ^k	185.65 ± 5.04 ^g	216.10 ± 0.82 ^g	11.14 ± 0.11 ^{degh}	7.67 ± 0.88 ^c
CA-02	67.95 ± 1.82 ^{gh}	4.99 ± 0.07 ^b	9.56 ± 0.59 ^{imno}	5.65 ± 0.61 ^b	111.94 ± 5.11 ^c	11.40 ± 0.91 ^b	1928.91 ± 13.99 ^a	29.74 ± 2.68 ^{cd}	78.27 ± 2.34 ^{cd}	5157.26 ± 125.00 ^a	91.75 ± 7.94 ^c	0,00	3416.16 ± 202.57 ^a	293.52 ± 7.58 ^c	577.65 ± 56.35 ^b	15.10 ± 2.00 ^d	7.13 ± 0.90 ^c
CA-03	30.20 ± 4.07 ^{mnop}	0.74 ± 0.06 ^k	5.93 ± 0.43 ^{opq}	0,00	17.06 ± 0.34 ^{klmno}	1.86 ± 0.32 ^{gh}	219.56 ± 8.47 ^{mn}	7.42 ± 0.71 ^{hij}	10.81 ± 0.76 ^{mm}	603.82 ± 53.01 ^l	12.48 ± 0.75 ^{klm}	3.97 ± 0.33 ^{ik}	356.47 ± 12.94 ^{mnop}	45.78 ± 0.89 ^{mnop}	127.55 ± 1.06 ^{ik}	14.55 ± 1.25 ^d	5.60 ± 0.81 ^{cd}
CA-04	81.00 ± 3.82 ^a	1.91 ± 0.12 ^{gh}	11.90 ± 0.74 ^{klmn}	0,00	48.04 ± 5.05 ^c	4.91 ± 0.10 ^{efgh}	756.16 ± 15.71 ^{hi}	16.77 ± 0.97 ^{efgh}	15.18 ± 0.26 ^{klmn}	1272.78 ± 30.82 ^{ij}	15.57 ± 0.50 ^{kl}	4.55 ± 0.18 ^{ik}	595.59 ± 6.47 ^{mn}	23.39 ± 0.74 ^{op}	26.63 ± 2.02 ^{lm}	2.77 ± 0.28 ^{kl}	0,00
CA-05	66.02 ± 0.65 ^{gh}	0.66 ± 0.02 ^k	9.07 ± 0.40 ^{imno}	0,00	11.12 ± 0.63 ^{no}	2.13 ± 0.14 ^{jk}	173.68 ± 2.82 ^m	4.30 ± 0.22 ^{ij}	6.51 ± 0.59 ^h	323.45 ± 4.40 ^m	2.13 ± 0.34 ^m	2.23 ± 0.12 ^{jk}	145.28 ± 5.39 ^p	21.60 ± 1.20 ^{op}	72.17 ± 3.92 ^{klm}	2.16 ± 0.28 ^l	3.19 ± 0.23 ^{efg}
CA-06	35.25 ± 1.94 ^{mnop}	0.69 ± 0.09 ^k	6.76 ± 0.60 ^{mnopq}	0,00	6.94 ± 0.49 ^p	2.09 ± 0.13 ^{gh}	303.79 ± 3.95 ^{hi}	6.70 ± 0.47 ^{hij}	17.19 ± 0.29 ^{klmn}	1008.23 ± 9.43 ^{jk}	9.34 ± 0.20 ^{klm}	5.80 ± 0.11 ^{ij}	497.13 ± 14.27 ^{mnop}	66.91 ± 4.76 ^{klmn}	77.08 ± 6.25 ^{hi}	4.47 ± 0.29 ^{ijkl}	0,00
CA-07	31.01 ± 1.39 ^{mnop}	1.53 ± 0.04 ^{hij}	19.62 ± 1.00 ^g	0,00	23.26 ± 1.17 ^{ijklmno}	6.31 ± 0.27 ^{opq}	869.41 ± 8.23 ^{gh}	19.87 ± 1.96 ^{defgh}	37.03 ± 2.19 ^{gh}	2227.95 ± 24.91 ^a	34.54 ± 2.30 ^{hij}	13.74 ± 0.90 ^g	1150.87 ± 64.79 ^{hij}	86.92 ± 3.77 ^{ijkl}	27.47 ± 1.98 ^{lm}	2.32 ± 0.25 ^{kl}	0,00
CA-08	122.33 ± 8.92 ^c	1.51 ± 0.13 ^{hij}	15.51 ± 1.65 ^{hijkl}	0,00	34.34 ± 2.16 ^{ghijkl}	6.02 ± 0.49 ^{def}	1084.84 ± 44.23 ^{de}	29.65 ± 2.15 ^{cd}	73.04 ± 3.83 ^{de}	3059.25 ± 31.90 ^{cd}	87.36 ± 3.05 ^{cd}	31.96 ± 1.97 ^{bc}	1411.91 ± 53.59 ^{gh}	250.66 ± 25.98 ^{de}	300.65 ± 16.32 ^{de}	33.08 ± 1.62 ^b	13.89 ± 0.85 ^b
CA-09	44.61 ± 2.07 ^{ijkl}	0.90 ± 0.06 ^{jk}	8.57 ± 0.71 ^{mnop}	0,00	17.58 ± 1.09 ^{klmno}	4.18 ± 0.49 ^{efgh}	403.68 ± 12.84 ^k	11.31 ± 0.99 ^{ghij}	20.37 ± 1.54 ^{ijkl}	1101.64 ± 31.72 ^k	13.28 ± 0.75 ^{klm}	8.05 ± 0.54 ^{hi}	662.06 ± 25.51 ^m	89.82 ± 12.52 ^{ijkl}	140.29 ± 7.96 ^{hijkl}	11.90 ± 0.90 ^{defg}	4.09 ± 0.44 ^{de}
CA-10	50.66 ± 2.86 ^{ijk}	2.98 ± 0.22 ^{def}	23.46 ± 2.70 ^{gh}	0,00	44.97 ± 3.93 ^{gh}	7.05 ± 1.00 ^{cd}	983.04 ± 46.84 ^{ef}	14.30 ± 0.23 ^{ghij}	72.51 ± 3.11 ^{de}	2248.87 ± 44.85 ^a	56.32 ± 1.11 ^g	20.81 ± 1.19 ^a	1051.12 ± 9.72 ^{ij}	116.08 ± 3.10 ^{ij}	164.33 ± 10.06 ^{ghij}	9.57 ± 0.65 ^{efgh}	3.34 ± 0.43 ^{efg}
CA-11	26.83 ± 2.32 ^{op}	1.46 ± 0.15 ^{hij}	29.43 ± 2.62 ^{bc}	0,00	22.11 ± 0.44 ^{ijklmno}	3.73 ± 0.61 ^{ghij}	569.72 ± 24.14 ^l	48.06 ± 3.58 ^b	41.98 ± 1.51 ^f	1552.20 ± 0.34 ^{gh}	30.37 ± 0.22 ^{ij}	11.56 ± 0.25 ^{gh}	912.72 ± 225.19 ^{ijkl}	77.76 ± 35.95 ^{ijklm}	24.92 ± 14.60 ^{lm}	2.55 ± 1.36 ^{kl}	0,00
CA-12	77.88 ± 0.38 ^{ef}	1.62 ± 0.01 ^b	17.05 ± 0.50 ^{ghij}	0,00	40.19 ± 3.67 ^{ghij}	3.38 ± 0.15 ^{hij}	637.28 ± 9.09 ^{ij}	0,00	9.22 ± 0.65 ^{mm}	1281.87 ± 5.00 ^{hij}	10.92 ± 0.09 ^{klm}	3.59 ± 0.18 ^{ik}	678.44 ± 19.74 ^{klm}	51.59 ± 1.40 ^{imno}	137.01 ± 5.84 ^{hijkl}	6.82 ± 1.04 ^{hijkl}	0,00
CA-13	113.14 ± 6.32 ^{cd}	2.44 ± 0.23 ^g	20.13 ± 1.41 ^{ef}	0,00	32.40 ± 2.60 ^{ghijkl}	6.98 ± 0.62 ^{cd}	1460.50 ± 68.69 ^c	30.76 ± 5.78 ^{cd}	129.03 ± 6.99 ^g	4691.41 ± 177.88 ^b	109.04 ± 9.75 ^{ab}	57.49 ± 1.87 ^a	2322.14 ± 160.05 ^d	394.98 ± 35.95 ^b	204.70 ± 16.08 ^{gh}	8.03 ± 0.91 ^{ghij}	0,00
CA-14	15.45 ± 0.21 ^g	0.37 ± 0.07 ^k	3.14 ± 0.34 ^g	0,00	30.40 ± 0.11 ^{ijklm}	1.26 ± 0.15 ^k	148.40 ± 0.29 ^m	3.86 ± 0.31 ^{ij}	12.11 ± 0.26 ^{imn}	663.36 ± 0.45 ^l	7.66 ± 0.11 ^m	0,00	290.59 ± 3.42 ^{op}	8.77 ± 0.35 ^p	4.16 ± 0.13 ^{lm}	0.63 ± 0.05 ^l	0,00
CA-15	109.31 ± 3.13 ^d	3.23 ± 0.05 ^{de}	11.73 ± 0.42 ^{klmn}	0,00	41.05 ± 2.81 ^{gh}	4.60 ± 0.02 ^{efgh}	789.49 ± 16.49 ^{gh}	8.66 ± 0.40 ^{ghij}	25.39 ± 1.05 ^{ij}	1805.30 ± 28.58 ^g	13.84 ± 0.54 ^{klm}	14.52 ± 0.54 ^g	939.41 ± 10.35 ^{jk}	99.60 ± 9.66 ^{ijk}	127.64 ± 11.05 ^{ijk}	1.64 ± 0.16 ^l	1.17 ± 0.16 ^{gh}
CA-16	154.46 ± 3.33 ^a	2.98 ± 0.11 ^{def}	18.74 ± 0.43 ^{gh}	0,00	14.89 ± 0.93 ^{mnop}	6.05 ± 0.32 ^{def}	560.29 ± 14.73 ^j	508.41 ± 16.09 ^a	23.47 ± 0.29 ^{ijkl}	1441.46 ± 34.74 ^{hi}	21.38 ± 0.37 ^{jk}	11.89 ± 1.35 ^{gh}	633.46 ± 12.13 ^m	27.79 ± 2.73 ^{mnop}	121.08 ± 11.42 ^{jk}	13.04 ± 1.18 ^{de}	3.60 ± 0.43 ^{de}
CA-17	45.61 ± 3.64 ^{ijkl}	1.57 ± 0.12 ^{hi}	15.86 ± 1.02 ^{ghij}	0,00	48.42 ± 2.10 ^f	4.94 ± 0.52 ^{efgh}	1174.71 ± 79.68 ^d	11.85 ± 1.50 ^{ghij}	86.01 ± 4.48 ^g	2811.62 ± 151.13 ^d	105.13 ± 10.10 ^d	27.06 ± 3.13 ^{cd}	1447.31 ± 104.27 ^g	174.64 ± 8.12 ^g	434.37 ± 58.48 ^c	13.26 ± 0.03 ^{de}	7.61 ± 0.57 ^c
CA-18	73.25 ± 2.20 ^{efg}	2.56 ± 0.12 ^f	38.52 ± 1.14 ^d	4.03 ± 0.71 ^c	92.25 ± 6.86 ^d	5.54 ± 0.31 ^{defgh}	1745.04 ± 46.44 ^b	27.85 ± 0.99 ^{opq}	67.52 ± 3.38 ^g	4518.50 ± 198.28 ^b	121.29 ± 10.24 ^a	26.73 ± 3.23 ^d	2238.42 ± 104.62 ^b	159.68 ± 12.78 ^{gh}	199.98 ± 8.95 ^{gh}	4.02 ± 0.71 ^{ijkl}	1.26 ± 0.18 ^{gh}
CA-19	60.20 ± 7.69 ^{hij}	3.50 ± 0.24 ^{cd}	9.85 ± 1.40 ^{imn}	3.43 ± 0.22 ^c	159.22 ± 16.33 ^a	3.43 ± 0.32 ^{hij}	343.05 ± 26.50 ^k	9.27 ± 0.71 ^{ghij}	13.80 ± 1.49 ^{imn}	854.50 ± 29.54 ^{kl}	4.59 ± 0.23 ^{mn}	3.01 ± 0.19 ^{ik}	565.45 ± 6.23 ^{mn}	289.19 ± 6.17 ^{cd}	368.15 ± 22.75 ^{cd}	23.59 ± 2.83 ^d	14.12 ± 1.36 ^b
CA-20	135.87 ± 4.67 ^b	8.67 ± 0.52 ^a	27.08 ± 1.95 ^{cd}	8.78 ± 1.21 ^a	64.25 ± 2.18 ^a	15.95 ± 2.17 ^a	1403.20 ± 48.75 ^c	16.34 ± 1.64 ^{efgh}	76.06 ± 4.97 ^d	3015.56 ± 116.73 ^{cd}	43.81 ± 4.11 ^{gh}	35.56 ± 3.60 ^b	1567.91 ± 111.73 ^{ef}	212.69 ± 7.56 ^{ef}	376.29 ± 30.33 ^c	7.30 ± 0.30 ^{ghij}	7.62 ± 0.46 ^c
CM-01	32.42 ± 1.13 ^{mnop}	2.35 ± 0.09 ^g	14.33 ± 1.35 ^{ijkl}	0,00	16.05 ± 2.17 ^{lmno}	8.32 ± 0.48 ^c	876.31 ± 20.01 ^{gh}	18.09 ± 0.01 ^{efgh}	103.33 ± 3.29 ^p	2969.38 ± 15.36 ^{cd}	66.28 ± 1.55 ^{ef}	59.75 ± 1.15 ^a	2062.06 ± 29.93 ^{bc}	500.19 ± 13.12 ^a	786.08 ± 45.83 ^a	60.72 ± 5.34 ^a	27.76 ± 1.76 ^a
CM-02	24.56 ± 2.11 ^{op}	5.18 ± 0.43 ^b	8.82 ± 1.43 ^{mnop}	4.17 ± 0.29 ^c	47.51 ± 0.78 ^g	4.48 ± 0.50 ^{efgh}	832.01 ± 19.87 ^{gh}	25.67 ± 2.25 ^{def}	35.85 ± 3.47 ^{gh}	2042.49 ± 158.00 ^{ef}	77.37 ± 4.22 ^{de}	26.78 ± 3.82 ^d	1006.42 ± 61.06 ^{ij}	127.35 ± 9.98 ^{hi}	156.45 ± 5.97 ^{ghij}	7.58 ± 0.65 ^{ghij}	3.42 ± 0.28 ^{def}
CM-03	39.60 ± 0.38 ^{klmno}	2.73 ± 0.04 ^{ef}	31.67 ± 0.86 ^b	7.96 ± 0.31 ^a	30.97 ± 0.03 ^{hijkl}	4.17 ± 0.68 ^{ghij}	1124.33 ± 17.01 ^d	32.71 ± 1.95 ^c	43.38 ± 1.31 ^f	3230.85 ± 25.77 ^c	86.39 ± 3.00 ^{cd}	34.54 ± 1.13 ^b	1762.30 ± 44.03 ^{de}	235.95 ± 7.92 ^a	781.26 ± 47.00 ^a	12.60 ± 0.91 ^{def}	27.88 ± 1.67 ^a
CM-04	52.82 ± 1.35 ^{ij}	2.42 ± 0.34 ^g	8.97 ± 0.67 ^{mnop}	4.15 ± 0.41 ^c	31.89 ± 1.55 ^{gh}	7.51 ± 0.76 ^{cd}	909.07 ± 18.91 ^g	13.97 ± 0.93 ^{ghij}	55.41 ± 2.23 ^f	2001.74 ± 52.04 ^{ef}	44.86 ± 3.96 ^{gh}	36.99 ± 1.34 ^b	1007.39 ± 49.07 ^{ij}	95.80 ± 5.10 ^{ijk}	269.06 ± 4.96 ^{ef}	15.67 ± 1.57 ^d	3.89 ± 0.57 ^{de}
CS-01	37.45 ± 4.30 ^{imno}	3.95 ± 0.42 ^c	12.84 ± 1.00 ^{ijkl}	3.33 ± 0.17 ^c	142.21 ± 13.57 ^b	7.53 ± 0.49 ^{cd}	1453.35 ± 81.06 ^c	10.40 ± 1.08 ^{ghij}	16.26 ± 0.85 ^{klm}	2807.60 ± 137.76 ^d	34.67 ± 3.17 ^{hij}	12.30 ± 1.40 ^{gh}	1220.86 ± 72.71 ^{gh}	21.89 ± 0.49 ^{op}	3.01 ± 0.14 ^m	0,00	0,00
CS-02	29.45 ± 2.86 ^{op}	0.93 ± 0.07 ^{jk}	5.04 ± 0.65 ^{opq}	0,00	29.81 ± 2.53 ^{ijklm}	2.61 ± 0.35 ^{ijk}	1124.60 ± 91.14 ^d	3.27 ± 0.09 ^{ij}	30.04 ± 0.07 ^{hij}	3069.90 ± 105.42 ^{cd}	61.72 ± 0.39 ^f	18.29 ± 0.34 ^{ef}	1852.86 ± 16.53 ^{cd}	124.46 ± 0.32 ^{hij}	164.40 ± 17.50 ^{ghij}	3.59 ± 0.24 ^{ijkl}	3.39 ± 0.22 ^{ef}

CA - Cachaças do Agreste; CM - Cachaças da Mata; CS - Cachaças do Sertão. different letters in the same column differ by tukey test (0.05)

Table S3: Terpenes in 26 samples of crystal cachaça produced in three different mesoregions of the state of Paraíba. CA – Cachaças do Agreste, CM – Cachaças da Mata; CS – Cachaças do Sertão. All data is present: average of concentration, Tukey test* and standard deviation. All results are in mg/L.

Sample	Terpenes																													
	α-Cymene	Limonene	p-Cymene	Menthol	L-menthol	β-Cycloctal	Citronelol	δ-Elemene	Eugenol	β-Elemene	(E)-β-Fanene	γ-Mauroleone	α-Curcumene	α-Mauroleone	Cuparene	α-Fanene	γ-Cadiene	δ-Cadiene	α-Calcotrene	glenol	α-Crocalene	Epicubanol	Cadalene	Nerolidol	2,3-Dihydrofarnesol	trans-Farnesol	Farnesol formate	2,3-Dihydro farnesyl acetate	Farnesyl acetate, (E,E)	
CA-01	0.00	1.42 ± 0.27 ^h	1.13 ± 0.14 ^{hi}	2.29 ± 0.28 ^h	27.75 ± 0.84 ^h	2.15 ± 0.19 ^{hi}	4.15 ± 0.44 ^{hi}	1.89 ± 0.09 ^h	0.00	7.20 ± 0.23 ^h	6.78 ± 0.36 ^{hi}	0.00	1.60 ± 0.27 ^h	49.30 ± 2.48 ^h	2.44 ± 0.20 ^h	6.15 ± 0.55 ^{hi}	3.35 ± 0.27 ^h	198.36 ± 5.44 ^h	22.66 ± 0.74 ^h	9.52 ± 0.96 ^h	13.79 ± 1.39 ^h	14.55 ± 1.24 ^h	149.14 ± 12.93 ^h	101.50 ± 11.91 ^{hi}	22.82 ± 1.33 ^{hi}	7.97 ± 0.25 ^{hi}	9.07 ± 0.86 ^{hi}	3.98 ± 1.08 ^{hi}	0.00	
CA-02	0.00	0.00	2.15 ± 0.09 ^h	0.00	0.00	0.00	6.38 ± 0.59 ^{hi}	12.32 ± 1.54 ^h	0.00	41.83 ± 3.73 ^h	34.37 ± 2.03 ^{hi}	80.75 ± 7.49 ^h	192.99 ± 11.50 ^h	161.39 ± 20.28 ^h	7.02 ± 0.07 ^h	28.89 ± 3.88 ^{hi}	146.44 ± 20.23 ^h	708.16 ± 61.55 ^h	112.56 ± 11.38 ^h	62.98 ± 2.45 ^h	53.50 ± 2.65 ^h	70.01 ± 4.33 ^h	653.86 ± 28.36 ^h	284.75 ± 15.77 ^h	89.07 ± 10.90 ^{hi}	36.84 ± 2.13 ^h	29.50 ± 2.53 ^h	26.93 ± 2.60 ^h	53.47 ± 5.62 ^h	
CA-03	1.35 ± 0.14 ^{hi}	0.00	3.30 ± 0.37 ^h	4.70 ± 0.64 ^h	35.43 ± 4.14 ^h	0.71 ± 0.10 ^h	2.81 ± 0.31 ^h	0.00	0.77 ± 0.15 ^h	0.00	4.17 ± 0.38 ^{hi}	0.00	0.05 ± 0.02 ^h	0.00	0.59 ± 0.10 ^h	2.47 ± 0.37 ^{hi}	0.00	0.00	0.00	0.00	0.32 ± 0.04 ^h	0.00	1.65 ± 0.10 ^h	46.81 ± 2.61 ^{hi}	6.91 ± 0.98 ^{hi}	5.74 ± 0.64 ^{hi}	3.64 ± 0.31 ^{hi}	0.00	0.89 ± 0.08 ^h	
CA-04	0.00	0.00	2.91 ± 0.33 ^h	3.12 ± 0.19 ^h	27.31 ± 1.02 ^h	3.05 ± 0.08 ^h	3.10 ± 0.17 ^{hi}	0.00	3.80 ± 0.23 ^h	0.00	4.53 ± 0.38 ^{hi}	0.00	0.00	0.00	0.00	2.59 ± 0.24 ^{hi}	0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.74 ± 4.76 ^{hi}	71.90 ± 2.53 ^{hi}	4.66 ± 0.54 ^{hi}	0.00	3.20 ± 0.11 ^{hi}	6.56 ± 0.35 ^h	
CA-05	0.00	0.00	0.00	0.00	0.00	0.00	0.72 ± 0.11 ^{hi}	0.00	0.00	0.00	1.89 ± 0.14 ^h	0.00	0.17 ± 0.02 ^h	0.00	0.00	1.13 ± 0.10 ^h	0.00	1.26 ± 0.08 ^h	0.00	0.00	0.00	0.00	2.65 ± 0.18 ^h	25.44 ± 0.51 ^{hi}	2.56 ± 0.12 ^h	1.69 ± 0.10 ^{hi}	3.96 ± 0.18 ^{hi}	0.00	0.29 ± 0.02 ^h	
CA-06	0.00	0.00	0.00	0.00	22.07 ± 0.16 ^h	2.47 ± 0.01 ^h	4.97 ± 0.21 ^{hi}	0.00	0.49 ± 0.04 ^h	0.00	3.52 ± 0.28 ^{hi}	0.00	0.00	0.00	0.00	1.14 ± 0.14 ^{hi}	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.45 ± 0.52 ^{hi}	18.14 ± 0.61 ^{hi}	5.38 ± 0.48 ^{hi}	0.00	2.76 ± 0.28 ^{hi}	4.36 ± 0.46 ^h	
CA-07	0.00	0.00	0.57 ± 0.05 ^h	7.57 ± 0.09 ^h	61.96 ± 1.61 ^h	1.53 ± 0.01 ^h	6.31 ± 0.54 ^{hi}	0.00	3.55 ± 0.41 ^h	0.00	12.98 ± 1.60 ^{hi}	0.00	0.74 ± 0.07 ^h	0.00	0.00	5.58 ± 0.38 ^{hi}	0.00	0.00	0.00	0.00	0.00	0.00	5.28 ± 0.30 ^{hi}	175.31 ± 16.39 ^h	19.15 ± 1.29 ^{hi}	12.71 ± 0.94 ^{hi}	6.71 ± 1.00 ^{hi}	3.69 ± 0.15 ^{hi}	12.42 ± 1.11 ^{hi}	
CA-08	0.00	0.00	2.90 ± 0.21 ^h	6.28 ± 0.54 ^h	61.33 ± 5.61 ^h	3.45 ± 0.13 ^h	6.82 ± 0.53 ^{hi}	0.00	0.00	0.00	17.83 ± 2.16 ^{hi}	0.00	0.00	0.00	1.58 ± 0.11 ^h	4.94 ± 0.53 ^{hi}	0.00	0.00	0.00	0.00	0.00	0.00	4.60 ± 0.42 ^{hi}	109.27 ± 6.04 ^{hi}	24.70 ± 2.05 ^h	15.72 ± 1.97 ^{hi}	10.30 ± 0.67 ^{hi}	9.79 ± 0.92 ^h	16.09 ± 1.87 ^h	
CA-09	0.00	0.00	1.54 ± 0.19 ^{hi}	0.00	0.00	2.75 ± 0.31 ^{hi}	3.62 ± 0.24 ^{hi}	0.00	0.53 ± 0.06 ^h	0.00	4.79 ± 0.35 ^{hi}	0.00	0.00	0.00	0.00	1.22 ± 0.08 ^h	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61.30 ± 6.54 ^{hi}	8.13 ± 0.65 ^{hi}	5.72 ± 0.36 ^{hi}	3.96 ± 0.32 ^{hi}	1.31 ± 0.09 ^h	5.28 ± 0.58 ^h	
CA-10	0.00	4.24 ± 0.30 ^h	1.35 ± 0.11 ^{hi}	0.00	0.00	3.02 ± 0.14 ^h	5.79 ± 0.45 ^{hi}	0.00	0.00	0.00	7.69 ± 0.51 ^{hi}	0.00	0.00	0.00	4.78 ± 0.24 ^h	5.04 ± 0.45 ^{hi}	0.00	0.00	0.00	0.00	0.00	0.00	2.22 ± 0.25 ^h	109.59 ± 11.08 ^{hi}	9.45 ± 0.65 ^{hi}	7.40 ± 0.40 ^{hi}	8.45 ± 0.68 ^{hi}	2.80 ± 0.29 ^{hi}	15.06 ± 1.64 ^h	
CA-11	0.00	0.00	1.17 ± 0.01 ^{hi}	1.43 ± 0.01 ^{hi}	0.00	1.78 ± 0.15 ^h	3.52 ± 0.66 ^{hi}	0.00	0.00	0.00	9.03 ± 0.83 ^{hi}	0.00	0.38 ± 0.06 ^h	0.00	0.00	7.73 ± 0.68 ^{hi}	0.00	0.00	0.00	0.00	0.00	0.00	1.19 ± 1.12 ^h	0.00	107.66 ± 45.33 ^{hi}	16.84 ± 11.28 ^{hi}	6.03 ± 4.45 ^{hi}	8.60 ± 4.03 ^{hi}	17.95 ± 9.89 ^{hi}	35.38 ± 18.30 ^h
CA-12	0.00	0.00	0.00	0.00	0.00	0.00	3.55 ± 0.08 ^{hi}	0.00	1.44 ± 0.16 ^h	0.00	6.24 ± 0.40 ^{hi}	0.00	0.00	0.00	3.74 ± 0.14 ^{hi}	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50 ± 0.13 ^h	46.60 ± 2.51 ^{hi}	9.88 ± 1.15 ^{hi}	3.88 ± 0.52 ^{hi}	4.52 ± 0.10 ^{hi}	1.75 ± 0.07 ^{hi}	3.09 ± 0.08 ^h	
CA-13	1.33 ± 0.15 ^{hi}	0.00	9.70 ± 0.82 ^h	13.16 ± 1.66 ^h	114.55 ± 5.16 ^h	10.19 ± 1.03 ^h	11.74 ± 1.15 ^h	0.00	0.00	0.00	36.67 ± 2.13 ^h	0.00	2.72 ± 0.26 ^h	0.00	8.88 ± 0.90 ^h	27.15 ± 0.24 ^h	0.00	3.77 ± 0.17 ^h	0.00	0.00	0.00	0.00	9.71 ± 1.41 ^{hi}	125.74 ± 9.18 ^h	0.00	0.00	13.80 ± 1.65 ^h	0.00	0.00	
CA-14	0.00	0.26 ± 0.02 ^h	0.43 ± 0.02 ^h	1.21 ± 0.16 ^h	13.26 ± 0.17 ^h	0.00	3.62 ± 0.01 ^{hi}	0.00	0.00	0.00	19.28 ± 2.50 ^h	0.00	1.67 ± 0.04 ^{hi}	0.00	0.00	11.73 ± 0.84 ^{hi}	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.45 ± 2.61 ^{hi}	11.05 ± 1.34 ^{hi}	4.82 ± 0.89 ^{hi}	2.53 ± 0.12 ^{hi}	4.43 ± 0.14 ^{hi}	8.32 ± 0.49 ^h	
CA-15	0.00	0.00	0.00	0.00	14.37 ± 0.94 ^h	0.00	4.47 ± 0.23 ^{hi}	0.00	0.00	0.00	9.28 ± 1.10 ^h	1.84 ± 0.18 ^h	0.45 ± 0.03 ^h	3.02 ± 0.22 ^h	0.00	5.71 ± 0.52 ^{hi}	0.00	8.50 ± 0.35 ^h	2.51 ± 0.12 ^h	0.00	0.60 ± 0.01 ^h	0.00	22.56 ± 1.06 ^h	81.87 ± 5.55 ^{hi}	6.28 ± 0.81 ^h	7.29 ± 0.35 ^{hi}	5.31 ± 0.70 ^{hi}	1.51 ± 0.08 ^h	7.72 ± 0.67 ^h	
CA-16	18.25 ± 0.78 ^h	17.61 ± 1.03 ^h	14.42 ± 0.62 ^h	22.00 ± 2.71 ^h	93.14 ± 0.81 ^h	0.00	6.44 ± 0.45 ^{hi}	0.00	0.00	0.00	15.78 ± 2.16 ^{hi}	0.00	0.43 ± 0.08 ^h	0.00	0.00	8.77 ± 0.91 ^{hi}	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.35 ± 0.22 ^h	100.84 ± 12.46 ^{hi}	9.53 ± 0.95 ^{hi}	8.30 ± 1.26 ^{hi}	9.06 ± 0.67 ^{hi}	0.70 ± 0.06 ^h	7.03 ± 0.21 ^h
CA-17	0.00	0.00	0.00	0.00	0.00	1.99 ± 0.15 ^h	5.04 ± 0.65 ^{hi}	0.00	0.00	0.00	19.33 ± 2.66 ^h	5.45 ± 0.37 ^{hi}	0.93 ± 0.10 ^h	0.00	3.99 ± 0.64 ^h	8.80 ± 0.86 ^{hi}	0.00	32.70 ± 2.91 ^h	7.29 ± 0.92 ^h	0.00	3.56 ± 0.14 ^h	7.48 ± 0.02 ^h	44.30 ± 3.41 ^h	160.91 ± 19.48 ^h	20.23 ± 3.45 ^{hi}	10.63 ± 0.19 ^{hi}	11.62 ± 1.28 ^h	0.00	0.00	
CA-18	1.25 ± 0.04 ^h	0.83 ± 0.01 ^{hi}	2.00 ± 0.21 ^{hi}	4.58 ± 0.22 ^h	60.99 ± 5.23 ^h	1.89 ± 0.20 ^{hi}	0.00	0.00	0.00	28.59 ± 1.15 ^h	8.67 ± 0.81 ^{hi}	0.00	0.00	0.00	15.63 ± 1.79 ^{hi}	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.63 ± 0.29 ^{hi}	64.59 ± 6.08 ^{hi}	5.38 ± 0.19 ^{hi}	7.21 ± 0.34 ^{hi}	8.63 ± 1.18 ^{hi}	28.04 ± 2.48 ^h	
CA-19	0.00	1.17 ± 0.06 ^{hi}	0.61 ± 0.11 ^{hi}	6.78 ± 0.22 ^h	43.58 ± 2.71 ^h	1.37 ± 0.18 ^h	1.74 ± 0.22 ^h	0.00	0.00	0.00	2.07 ± 0.08 ^h	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34 ± 0.01 ^h	17.95 ± 0.86 ^h	0.61 ± 0.09 ^h	1.14 ± 0.11 ^h	1.49 ± 0.16 ^h	0.00	
CA-20	3.40 ± 0.42 ^h	0.00	5.15 ± 0.37 ^h	8.75 ± 1.20 ^h	77.61 ± 4.76 ^h	0.00	4.95 ± 0.01 ^{hi}	0.00	0.00	0.00	18.98 ± 1.59 ^h	8.22 ± 1.14 ^{hi}	0.93 ± 0.10 ^h	5.05 ± 0.58 ^h	4.86 ± 0.12 ^h	11.32 ± 0.03 ^{hi}	0.00	19.37 ± 1.35 ^h	7.12 ± 0.51 ^{hi}	0.00	2.98 ± 0.23 ^{hi}	0.00	21.48 ± 2.16 ^{hi}	151.70 ± 2.65 ^{hi}	19.63 ± 0.03 ^{hi}	9.34 ± 1.00 ^{hi}	18.00 ± 1.38 ^h	5.03 ± 0.59 ^{hi}	31.67 ± 2.47 ^h	
CM-01	0.00	0.00	4.62 ± 0.15 ^h	0.00	0.00	5.79 ± 0.24 ^h	3.45 ± 0.42 ^{hi}	0.00	0.00	0.00	46.24 ± 2.35 ^h	11.77 ± 0.42 ^h	4.57 ± 0.09 ^{hi}	10.96 ± 0.55 ^h	35.48 ± 2.23 ^h	0.00	9.38 ± 1.02 ^{hi}	0.00	10.83 ± 0.87 ^h	10.31 ± 0.37 ^h	0.00	3.60 ± 0.40 ^{hi}	0.00	7.71 ± 0.45 ^{hi}	385.63 ± 17.06 ^h	6.78 ± 0.47 ^{hi}	8.32 ± 0.43 ^{hi}	24.70 ± 0.93 ^h	1.80 ± 0.14 ^{hi}	14.49 ± 0.99 ^h
CM-02	0.63 ± 0.10 ^h	3.75 ± 0.44 ^h	2.92 ± 0.37 ^h	0.00	0.00	2.10 ± 0.38 ^{hi}	7.92 ± 0.99 ^h	0.00	0.00	0.00	16.55 ± 1.91 ^{hi}	0.00	0.87 ± 0.09 ^h	0.00	0.00	9.38 ± 1.02 ^{hi}	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84 ± 0.27 ^h	123.25 ± 16.29 ^h	46.14 ± 3.79 ^h	17.95 ± 2.88 ^h	7.86 ± 1.20 ^{hi}	30.22 ± 3.60 ^h	35.84 ± 4.97 ^h
CM-03	1.97 ± 0.30 ^h	15.40 ± 0.92 ^h	2.87 ± 0.33 ^h	0.00	13.36 ± 1.23 ^h	8.57 ± 0.42 ^h	0.00	0.00	0.00	0.00	26.19 ± 0.66 ^h	0.00	2.13 ± 0.15 ^{hi}	0.00	13.04 ± 1.24 ^h	23.26 ± 1.40 ^h	0.00	0.00	7.39 ± 0.34 ^h	0.00	2.16 ± 0.24 ^{hi}	0.00	5.58 ± 0.49 ^{hi}	71.12 ± 7.06 ^{hi}	0.00	0.00	0.00	5.11 ± 0.17 ^{hi}	46.04 ± 1.14 ^h	
CM-04	5.11 ± 0.59 ^h	0.00	17.12 ± 0.52 ^h	13.88 ± 0.55 ^h	77.05 ± 0.18 ^h	1.52 ± 0.19 ^h	3.83 ± 0.41 ^{hi}	0.00	0.00	0.00	40.95 ± 3.49 ^h	5.86 ± 0.31 ^{hi}	2.46 ± 0.18 ^{hi}	7.62 ± 0.22 ^h	0.00	30.56 ± 1.12 ^{hi}	0.00													

Table S4: Ketones in 26 samples of crystal cachaça produced in three different mesoregions of the state of Paraíba. CA – Cachaças do Agreste, CM – Cachaças da Mata; CS – Cachaças do Sertão. All data is present: average of concentration, Tukey test* and standard deviation. All results are in mg/L.

Sample	Ketones			
	3-Octanone	2-Nonanone	2-Undecanone	β -Damascenone
CA-01	0,00	0.45 \pm 0.04 ^{hij}	7.77 \pm 0.72 ^a	12.75 \pm 0.76 ^{ijklm}
CA-02	0,00	0.87 \pm 0.07 ^{cd}	0,00	28.87 \pm 2.71 ^{def}
CA-03	0,00	0.16 \pm 0.03 ^m	0,00	9.45 \pm 0.95 ^{lmn}
CA-04	0,00	0.93 \pm 0.13 ^{cd}	0,00	18.89 \pm 2.63 ^{ghijk}
CA-05	0,00	0.17 \pm 0.02 ^m	3.89 \pm 0.30 ^{zh}	4.77 \pm 0.14 ^{mn}
CA-06	0,00	0.63 \pm 0.03 ^{fg}	5.72 \pm 0.37 ^{efg}	11.09 \pm 0.55 ^{klmn}
CA-07	0,00	0.94 \pm 0.06 ^{cd}	4.69 \pm 0.49 ^{fg}	26.85 \pm 0.46 ^{defg}
CA-08	0,00	0.48 \pm 0.04 ^{ghi}	13.68 \pm 1.90 ^b	40.43 \pm 2.72 ^b
CA-09	0,00	0,00	0,00	20.13 \pm 1.32 ^{ghij}
CA-10	0.55 \pm 0.08 ^b	0.81 \pm 0.06 ^{de}	10.65 \pm 0.83 ^d	26.27 \pm 1.21 ^{efgh}
CA-11	0.70 \pm 0.12 ^a	0.28 \pm 0.05 ^{lm}	6.64 \pm 0.42 ^{ef}	18.90 \pm 0.04 ^{ghijk}
CA-12	0,00	0.41 \pm 0.05 ^{hijkl}	0,00	17.95 \pm 0.75 ^{hijk}
CA-13	0,00	1.33 \pm 0.08 ^a	16.49 \pm 1.39 ^a	40.54 \pm 3.20 ^b
CA-14	0,00	0.28 \pm 0.03 ^{klm}	1.34 \pm 0.04 ⁱ	12.26 \pm 0.05 ^{ijklmn}
CA-15	0,00	0.65 \pm 0.02 ^{ef}	7.09 \pm 0.07 ^a	11.92 \pm 0.45 ^{ijklmn}
CA-16	0,00	0,00	1.91 \pm 0.13 ^{hi}	34.86 \pm 2.51 ^{bcd}
CA-17	0,00	0.35 \pm 0.03 ^{hijkl}	11.94 \pm 0.35 ^{bcd}	34.30 \pm 3.15 ^{bcd}
CA-18	0,00	0.41 \pm 0.02 ^{hijkl}	0,00	116.23 \pm 10.01 ^a
CA-19	0,00	0.44 \pm 0.01 ^{hijkl}	0,00	4.18 \pm 0.72 ⁿ
CA-20	0,00	1.03 \pm 0.10 ^{bc}	11.12 \pm 1.48 ^{cd}	24.53 \pm 1.81 ^{efgh}
CM-01	0,00	0.45 \pm 0.03 ^{hijk}	13.26 \pm 0.50 ^{bc}	33.94 \pm 1.89 ^{bcd}
CM-02	0,00	0.30 \pm 0.04 ^{ijklm}	10.50 \pm 1.47 ^d	15.33 \pm 1.48 ^{ijkl}
CM-03	0,00	1.17 \pm 0.07 ^{ab}	10.49 \pm 0.84 ^d	38.51 \pm 2.34 ^{bc}
CM-04	0,00	0.45 \pm 0.06 ^{hij}	7.28 \pm 0.58 ^a	30.71 \pm 2.50 ^{cdef}
CS-01	0,00	0.54 \pm 0.05 ^{gh}	0,00	23.60 \pm 1.80 ^{ghi}
CS-02	0,00	0,00	0,00	23.45 \pm 0.48 ^{ghi}

CA - Cachaças of Agreste; CM - Cachaças of Mata; CS - Cachaças of Sertão.
different letters in the same column differ by tukey test (0.05)

Table S5: Aldehydes in 26 samples of crystal cachaça produced in three different mesoregions of the state of Paraíba. CA – Cachaças do Agreste, CM – Cachaças da Mata; CS – Cachaças do Sertão. All data is present: average of concentration, Tukey test* and standard deviation. All results are in mg/L.

Sample	Aldehydes				
	Hexanal	Heptanal	Nonanal	Decanal	Undecanal
CA-01	0.50 ± 0.03 ^{kl}	0,00	13.10 ± 0.75 ^{def}	3.05 ± 0.04 ^{ghi}	2.32 ± 0.18 ^e
CA-02	1.41 ± 0.03 ^{efg}	0,00	8.37 ± 0.36 ^{gh}	4.41 ± 0.63 ^{bcd}	5.13 ± 0.29 ^a
CA-03	0.28 ± 0.02 ^l	0,00	4.24 ± 0.73 ^{ij}	1.24 ± 0.11 ^{lm}	0,00
CA-04	0.44 ± 0.03 ^{kl}	0,00	8.90 ± 0.34 ^{gh}	3.18 ± 0.26 ^{ghi}	1.13 ± 0.13 ^g
CA-05	0.43 ± 0.02 ^{kl}	0,00	3.03 ± 0.27 ^j	0.99 ± 0.16 ^m	0,00
CA-06	1.63 ± 0.11 ^{de}	0,00	11.89 ± 0.45 ^{efg}	2.04 ± 0.15 ^{ijklm}	0,00
CA-07	3.01 ± 0.19 ^{ab}	0,00	22.47 ± 1.54 ^b	3.51 ± 0.38 ^{efgh}	2.72 ± 0.11 ^{de}
CA-08	2.13 ± 0.28 ^c	0,00	28.79 ± 2.19 ^a	3.69 ± 0.18 ^{defg}	0,00
CA-09	1.01 ± 0.07 ^{ghi}	0,00	10.47 ± 1.28 ^{efgh}	1.43 ± 0.09 ^{klm}	0,00
CA-10	1.77 ± 0.12 ^{cde}	0,00	19.69 ± 1.98 ^{bc}	2.58 ± 0.18 ^{ghijk}	3.20 ± 0.31 ^d
CA-11	1.14 ± 0.03 ^{gh}	4.05 ± 0.14 ^c	12.01 ± 1.24 ^{efg}	2.58 ± 0.46 ^{ghijk}	0,00
CA-12	0.62 ± 0.02 ^{ijkl}	0,00	3.78 ± 0.46 ^j	1.52 ± 0.26 ^{ijklm}	0,00
CA-13	0.96 ± 0.09 ^{hi}	5.02 ± 0.62 ^b	31.03 ± 2.85 ^a	5.20 ± 0.91 ^{bc}	0,00
CA-14	0.40 ± 0.08 ^l	1.45 ± 0.05 ^d	3.20 ± 0.35 ^j	1.00 ± 0.09 ^m	0,00
CA-15	2.73 ± 0.17 ^b	0,00	9.14 ± 0.62 ^{gh}	2.75 ± 0.01 ^{ghi}	2.22 ± 0.12 ^e
CA-16	0.42 ± 0.08 ^{kl}	0,00	8.25 ± 0.77 ^{ghi}	2.28 ± 0.22 ^{ijkl}	0,00
CA-17	1.41 ± 0.15 ^{efg}	3.90 ± 0.18 ^c	23.63 ± 2.66 ^b	2.97 ± 0.23 ^{ghi}	0,00
CA-18	0.89 ± 0.03 ^{hij}	0,00	22.50 ± 1.06 ^b	9.89 ± 0.47 ^a	2.91 ± 0.23 ^d
CA-19	0.85 ± 0.14 ^{hij}	0,00	9.98 ± 0.73 ^{gh}	2.72 ± 0.01 ^{ghij}	0,00
CA-20	1.87 ± 0.04 ^{cd}	0,00	20.60 ± 2.53 ^b	5.41 ± 0.47 ^b	4.61 ± 0.46 ^b
CM-01	3.25 ± 0.33 ^a	12.59 ± 0.67 ^a	23.35 ± 0.95 ^b	5.44 ± 0.61 ^b	5.01 ± 0.35 ^{ab}
CM-02	0.82 ± 0.13 ^{hijk}	0,00	8.02 ± 0.53 ^{ghi}	2.65 ± 0.25 ^{ghij}	0,00
CM-03	1.01 ± 0.12 ^{hi}	0,00	14.36 ± 0.07 ^{de}	3.52 ± 0.18 ^{defgh}	0,00
CM-04	1.50 ± 0.14 ^{def}	0,00	16.14 ± 0.62 ^{cd}	2.38 ± 0.35 ^{hijkl}	0.71 ± 0.08 ^g
CS-01	0.65 ± 0.10 ^{ijkl}	0,00	11.48 ± 1.19 ^{efg}	4.73 ± 0.69 ^{bcd}	1.67 ± 0.18 ^f
CS-02	0.28 ± 0.05 ^l	0,00	6.75 ± 0.36 ^{hij}	4.07 ± 0.59 ^{cd}	3.84 ± 0.07 ^c

CA - Cachaças of Agreste; CM - Cachaças of Mata; CS - Cachaças of Sertão. different letters in the same column differ by tukey test (0.05)