

Supplementary data

Table S1. Physical and chemical analyses of Brazilian sparkling wines.

Type

ND = Not Detected

1 = Nature/Extra Brut

*(expressed in tartaric acid)

2 = Traditional Brut

** (expressed in acetic acid)

3 = Charmat Brut

4 = Traditional Rosé Brut

5 = Charmat Rosé Brut

Sample	Method	Type	*Total acidity (g/L)	Malic acid (g/L)	Lactic acid (g/L)	Citric acid (g/L)	**Volatile acidity (g/L)	pH	Sugar (g/L)	Alcohol (% v/v)	Pressure (atm at 20°C)	Free SO ₂ (mg/L)	Total SO ₂ (mg/L)	Time with lees (months)	Number of varieties	Variety 1	% Var.1	Variety 2	% Var. 2	Variety 3	% Var. 3
1	Traditional	4	5.25	0.46	1.78	0.02	0.366	3.42	8.8	11.91	7.55	17.9	189	22	2	Pinot Noir	85	Chardonnay	15		
2	Traditional	4	5.96	1.8	0.66	0.19	ND	3.37	11.4	11.32	5.22	11.6	105	9	3	Trebbiano	60	Chardonnay	35	Pinot Noir	5
3	Traditional	4	5.94	2.08	0.16	0.16	0.348	3.32	8	12.38	6.8	16.2	81	9	1	Merlot	100				
4	Traditional	4	6.59	2.13	0.69	0.36	0.288	3.32	8.8	12.00	6	13.1	117	4	1	Merlot	100				
5	Traditional	4	5.22	0.31	1.49	0.1	0.438	3.54	15	12.02	6.99	43	182	12	2	Chardonnay	70	Merlot	30		
6	Traditional	4	6.45	1.97	0.16	0.17	0.201	3.29	11.4	12.72	5.84	6.3	137	15	1	Pinot Noir	100				
7	Traditional	4	7.25	0.79	1.41	0.39	0.396	3.11	13.4	11.43	6.99	14	76	8	3	Merlot	40	Chardonnay	30	Pinot Noir	30
8	Traditional	4	6.58	1.81	0.97	0.28	0.366	3.23	12.8	10.81	4.06	6.1	79	10	2	Chardonnay	50	Pinot Noir	50		
9	Traditional	4	5.46	0.59	1.91	0.25	0.456	3.52	11.2	12.29	5.82	10.1	101	12	2	Chardonnay	50	Pinot Noir	50		
10	Traditional	4	7.02	2.46	0.52	0.28	ND	3.07	18.2	11.34	6.08	6.5	125	not disclosed	2	Pinot Noir	50	Chardonnay	50		
11	Traditional	4	4.72	0.88	1.15	0.08	0.258	3.5	9	11.92	4.79	12.8	109	12	2	Chardonnay	65	Pinot Noir	35		
12	Traditional	4	7.52	2.47	0.29	0.18	0.276	3.29	8	12.02	5.22	30	109	12	2	Pinot Noir	60	Chardonnay	40		
13	Traditional	4	4.70	0.29	1.99	0.41	0.288	3.43	9.6	11.68	4.67	18.3	70	7	2	Cabernet Sauvignon	70	Merlot	30		

14	Traditional	4	6.24	2.54	0.25	0.09	ND	3.27	10	11.63	7.15	15.6	94	9	2	Pinot Noir	82	Chardonnay	18		
15	Traditional	4	7.85	1.99	0.94	0.05	0.228	3.2	11	10.95	5.07	5.7	170	20	3	Chardonnay	85	Syrah	10	Pinot Noir	5
16	Traditional	4	7.77	2.57	1.07	1.1	0.396	3.36	14.2	11.83	5.47	24.1	71	12	2	Pinot Noir	80	Chardonnay	20		
17	Traditional	4	4.91	0.36	2.11	0.08	0.69	3.59	7.6	11.85	7.37	12.3	100	10	1	Pinot Noir	100				
18	Traditional	4	4.82	0.37	1.71	0.05	0.276	3.27	12.4	11.51	5.65	15.8	97	12	2	Chardonnay	60	Pinot Noir	40		
19	Traditional	4	6.79	3.36	0.5	0.14	0.288	3.4	10.4	11.71	6.41	12.8	165	3	1	Pinot Noir	100				
20	Traditional	4	5.80	1.93	0.56	0.24	0.558	3.46	10.8	11.26	4.66	8.5	96	7	2	Gewürztraminer	80	Pinot Noir	20		
21	Traditional	4	7.07	2.62	0.22	0.23	0.306	3.04	13.4	11.2	5.33	6.8	138	12	2	Merlot	50	Pinot Noir	50		
22	Traditional	4	7.08	3.05	0.27	0.06	0.252	3.33	7.6	11.81	6.65	8.8	147	7	1	Pinot Noir	100				
23	Traditional	4	5.43	0.38	0.45	0.86	0.33	3.44	10	11.96	4.99	24.5	99	6	2	Chardonnay	60	Pinot Noir	40		
24	Traditional	4	6.13	0.36	0.43	0.18	0.306	3.21	12	11.98	6.28	24.8	71	12	2	Pinot Noir	80	Sangiovese	20		
25	Traditional	4	6.38	2.14	0.28	0.3	0.306	3.41	11	11.91	5.98	15.6	189	18	2	Pinot Noir	80	Chardonnay	20		
26	Traditional	4	5.42	0.48	1.42	0.12	0.468	3.53	12.2	11.74	7.23	38.8	108	12	2	Chardonnay	70	Merlot	30		
27	Traditional	4	5.15	0.68	1.98	0.17	0.318	3.38	12	11.22	6.63	16.1	178	36	2	Pinot Noir	90	Chardonnay	10		
28	Traditional	4	5.03	0.36	1.75	0.08	0.546	3.49	8.8	11.81	7.1	27.8	135	12	2	Pinot Noir	50	Sangiovese	50		
29	Traditional	4	5.67	1.34	1.35	0.6	0.42	3.44	4.8	11.01	5.43	7.1	141	not disclosed	1	Pinot Noir	100				
30	Traditional	1	6.51	0.18	2.03	0.18	0.252	3.16	2	11.22	7.06	6	114	48	2	Chardonnay	70	Pinot Noir	30		
31	Traditional	1	7.17	2.5	0.2	0.22	0.222	3.26	1.6	12.09	6.43	9.2	62	60	1	Chardonnay	100				
32	Traditional	1	7.16	1.34	1.22	0.7	0.372	3.14	2	10.05	5.96	12.6	138	60	1	Chardonnay	100				
33	Traditional	1	6.46	2.13	0.98	0.19	ND	3.08	2	11.54	4.96	6.4	105	24	1	Chardonnay	100				
34	Traditional	1	6.50	2.55	0.2	0.29	0.3	3.18	1.4	11.77	6.4	9.9	104	24	2	Chardonnay	70	Riesling Italic	30		
35	Traditional	1	6.23	2.48	0.29	0.28	0.228	3.34	2.2	12.64	5.93	23.1	162	30	1	Chardonnay	100				
36	Traditional	1	6.26	1.6	1.03	0.6	0.51	3.31	3	12.25	5.66	7.2	145	12	1	Chardonnay	100				
37	Traditional	1	6.22	1.3	2.13	0.13	0.468	3.39	2.2	12.14	5.24	15.8	64	18	2	Chardonnay	75	Pinot Noir	25		
38	Traditional	1	6.56	3.26	0.14	0.35	0.282	3.13	2	11.14	5.6	8.3	63	30	2	Chardonnay	70	Pinot Noir	30		
39	Traditional	1	4.55	0.31	2.04	0.2	0.252	3.61	2	12.18	6.37	10.5	61	14	1	Chardonnay	100				
40	Traditional	1	5.02	0.29	2.4	0.26	0.438	3.51	2	10.93	5.19	32.9	64	13	1	Chardonnay	100				
41	Traditional	1	5.43	0.26	2.04	1.00	0.36	3.26	3.8	11.19	5.48	13.8	91	47	2	Chardonnay	85	Pinot Noir	15		
42	Traditional	1	4.85	0.19	2.73	0.01	0.51	3.51	1.8	12.21	5.11	18.5	99	24	2	Chardonnay	70	Pinot Noir	30		
43	Traditional	1	4.59	0.03	2.15	0.01	0.582	3.77	7.8	11.4	4.64	8.9	116	56	2	Chardonnay	90	Pinot Noir	10		
44	Traditional	1	7.50	3.41	0.17	0.14	0.318	3.35	5	11.18	8.2	10.7	117	7	1	Pinot Noir	100				
45	Traditional	1	6.99	2.62	0.51	0.19	0.282	3.43	2.4	11.66	4.38	18	150	24	2	Chardonnay	70	Pinot Noir	30		
46	Traditional	1	7.55	3.08	0.14	0.26	0.36	3.13	2.4	10.79	4.44	10.1	156	36	1	Chardonnay	100				
47	Traditional	1	7.83	2.6	0.87	0.57	0.42	3.37	2.8	11.79	5.57	14.4	135	12	2	Chardonnay	50	Pinot Noir	50		

48	Traditional	1	5.28	0.29	1.96	0.31	0.414	3.4	1.6	11.67	3.65	5.6	144	36	2	Chardonnay	80	Pinot Noir	20		
49	Traditional	1	6.02	0.22	0.72	0.9	0.318	3.41	4	12.03	5.17	6.1	137	6	1	Chardonnay	100				
50	Traditional	1	5.77	2.18	1.31	0.35	ND	3.65	3.8	11.8	5.13	15.8	109	24	3	Chardonnay	40	Pinot Noir	40	Riesling Italice	20
51	Traditional	1	5.94	2.28	3.06	0.39	0.24	3.14	2.4	11.05	5.79	9.7	112	7	3	Cabernet Sauvignon	40	Chardonnay	40	Merlot	20
52	Traditional	1	6.30	0.75	3.23	0.06	0.222	3.33	2.4	11.06	5.11	15.7	127	24	2	Chardonnay	70	Pinot Noir	30		
53	Traditional	1	4.94	0.4	3.11	0.119	0.318	3.47	2	12.18	6.58	11.7	74	6	2	Chardonnay	70	Pinot Noir	30		
54	Traditional	1	6.62	0.15	2.47	1.52	0.198	3.31	5.8	11.87	4.99	5.5	74	18	2	Chardonnay	80	Pinot Noir	20		
55	Traditional	1	7.26	0.31	3.79	0.17	0.282	3.25	4.4	11.88	5.05	9.8	84	24	2	Chardonnay	70	Pinot Noir	30		
56	Traditional	1	6.68	1.98	0.21	0.36	ND	3.38	6	12.13	5.16	15.8	94	12	2	Chardonnay	80	Pinot Noir	20		
57	Traditional	1	5.48	0.52	2.1	0.08	0.33	3.45	4.8	10.77	5.56	11.5	195	40	1	Trebbiano	100				
58	Traditional	1	6.65	2.45	0.42	0.47	ND	3.14	7.2	11.33	4.72	5.8	131	36	1	Pinot Noir	100				
59	Traditional	1	7.31	2.75	0.27	0.27	ND	3.22	1.2	12.02	5.17	6.2	178	9	1	Chardonnay	100				
60	Traditional	1	7.66	0.24	1.36	0.15	0.282	3.28	1.2	12.52	4.2	10.3	104	36	2	Chardonnay	50	Pinot Noir	50		
61	Traditional	1	5.76	0.11	2.46	1.6	ND	3.33	1.2	11.61	4.36	6	134	45	2	Pinot Noir	50	Sangiovese	50		
62	Traditional	1	6.28	1.18	0.11	0.49	ND	3.07	1.8	11.75	5.26	12.8	174	36	1	Glera	100				
63	Traditional	1	6.97	1.29	1.15	0.67	ND	3.15	1.4	11.55	5.26	9.9	182	12	2	Chardonnay	70	Pinot Noir	30		
64	Traditional	1	7.53	2.12	0.12	0.38	ND	3.21	7.6	11.97	5.4	7	157	24	2	Chardonnay	70	Pinot Noir	30		
65	Traditional	1	6.90	1.82	0.38	0.4	ND	3.11	6.8	11.79	4.38	6.7	75	36	2	Chardonnay	60	Pinot Noir	40		
66	Traditional	1	7.27	1.34	1.29	0.26	0.36	3.41	4.4	11.36	5.09	6.8	151	30	2	Chardonnay	80	Pinot Noir	20		
67	Traditional	1	5.20	0.52	1.89	0.09	0.27	3.53	1.4	11.83	4.7	24.6	100	16	1	Pinot Noir	100				
68	Traditional	1	7.44	1.63	0.02	0.38	ND	3.36	1.4	11.85	6.07	15.8	145	12	3	Chardonnay	70	Riesling Italice	15	Trebbiano	15
69	Traditional	1	4.79	3.33	0.25	0.14	ND	3.39	1.6	11.52	6.08	8.6	40	20	2	Chardonnay	60	Pinot Noir	40		
70	Traditional	1	6.63	1.88	0.6	0.73	ND	3.28	3.4	11.65	5.75	11.9	71	18	1	Pinot Noir	100				
71	Traditional	1	6.08	0.21	1.98	1.06	0.252	3.35	1.8	12.19	6.13	6.2	80	18	2	Chardonnay		Pinot Noir			
72	Traditional	1	6.63	1.99	0.17	0.33	ND	3.34	12	11.13	4.17	5.5	98	50	1	Pinot Noir					
73	Traditional	1	4.94	0.17	2.13	0.2	ND	3.47	2	10.81	4.57	32.9	103	41	2	Chardonnay	90	Pinot Noir	10		
74	Traditional	1	5.61	0.15	3.1	0.08	0.33	3.49	1.8	11.85	4.79	11.5	109	41	1	Chardonnay	100				
75	Traditional	1	5.86	1.14	4.11	0.04	0.372	3.53	1.8	11.88	4.47	4.6	106	24	2	Chardonnay	70	Pinot Noir	30		
76	Traditional	1	6.41	1.23	0.51	0.58	0.312	3.46	10.4	11.85	4.16	6.2	161	8	1	Chardonnay					
77	Traditional	1	6.04	2.66	0.14	0.18	ND	3.21	12.6	11.98	3.94	6.7	141	120	2	Pinot Noir	75	Chardonnay	25		
78	Traditional	1	7.19	0.15	1.48	0.27	ND	3.14	2.6	11.83	4.25	16.5	193	12	2	Chardonnay	70	Cabernet Sauvignon	30		
79	Traditional	2	6.18	1.79	0.68	0.28	ND	3.38	14.2	12.26	6.46	10.5	107	12	2	Chardonnay	70	Riesling Italice	30		

80	Traditional	2	6.37	1.23	0.73	0.14	0.528	3.34	10.8	12.52	5.05	6.9	126	12	1	Chardonnay	100				
81	Traditional	2	6.44	0.25	2.26	0.49	0.456	3.27	10.4	11.69	4.51	6.7	142	18	2	Chardonnay	50	Pinot Noir	50		
82	Traditional	2	6.23	0.15	2.25	0.59	0.318	3.4	7	12.55	6.55	7.1	129	24	3	Chardonnay	50	Pinot Noir	40	Riesling Italice	10
83	Traditional	2	6.07	2.32	0.15	0.27	ND	3.37	15.6	12.79	6.53	15.5	81	36	2	Chardonnay	80	Pinot Noir	20		
84	Traditional	2	6.08	1.45	1.14	0.25	0.246	3.37	9.6	12.58	6.18	15.4	125	24	2	Chardonnay	70	Riesling Italice	30		
85	Traditional	2	5.03	1.53	0.04	0.13	ND	3.31	7.6	11.93	5.35	14.5	106	9	1	Vermentino	100				
86	Traditional	2	6.20	2.33	0.06	0.13	0.456	3.36	8.4	12.71	6.75	11.9	112	9	2	Chardonnay	80	Pinot Noir	20		
87	Traditional	2	6.38	2.00	0.62	0.14	0.228	3.31	14.6	11.37	4.11	5	90	6	2	Chardonnay	50	Pinot Noir	50		
88	Traditional	2	6.11	0.7	2.06	0.03	0.3	3.3	10.4	11.98	4.67	14	115	24	2	Chardonnay	70	Pinot Noir	30		
89	Traditional	2	5.84	0.08	1.97	0.03	0.318	3.32	10	11.97	5.31	9	85	24	2	Chardonnay	70	Pinot Noir	30		
90	Traditional	2	7.79	1.5	0.79	0.35	0.246	3.14	16.6	11.65	6.04	8.8	85	8	2	Chardonnay	75	Pinot Noir	25		
91	Traditional	2	6.85	1.09	0.98	0.29	0.258	3.11	8.6	12.3	5.75	6.7	96	12	2	Chardonnay	70	Pinot Noir	30		
92	Traditional	2	7.41	1.8	0.21	0.27	0.21	2.97	9	12.22	6.85	5.9	61	12	1	Chardonnay	100				
93	Traditional	2	6.11	0.02	3.69	0.16	0.27	3.47	10.6	11.55	5.52	8.2	71	48	3	Chardonnay	70	Pinot Noir	20	Merlot	10
94	Traditional	2	7.28	2.23	0.34	0.16	ND	3.26	12.8	11.56	5.73	24.5	129	3	2	Chardonnay	70	Riesling Italice	30		
95	Traditional	2	7.03	2.78	0.26	0.16	ND	3.34	15.6	11.52	5.73	25.3	89	3	2	Chardonnay	70	Riesling Italice	30		
96	Traditional	2	7.29	2.79	0.08	0.21	ND	3.33	9.2	11.45	4.78	14.9	106	5	1	Chardonnay	100				
97	Traditional	2	6.35	1.54	0.53	0.29	ND	3.15	10.6	12.22	4.96	8.2	95	36	2	Chardonnay	70	Pinot Noir	30		
98	Traditional	2	5.27	0.37	1.5	0.24	ND	3.3	10.6	12.00	5.91	11.7	151	36	1	Chardonnay	100				
99	Traditional	2	4.90	0.28	1.73	0.16	0.21	3.41	10.8	12.28	6.41	8.7	125	36	1	Pinot Noir	100				
100	Traditional	2	5.40	0.29	2.18	0.46	0.198	3.29	12.2	11.1	5.24	12.8	48	12	2	Chardonnay	60	Pinot Noir	40		
101	Traditional	2	6.41	2.56	0.89	0.31	0.366	3.36	16.2	11.64	6.41	30.4	63	14	1	Chardonnay	100				
102	Traditional	2	7.93	3.22	0.22	0.27	0.426	3.39	10	12.11	5.17	25.2	66	24	2	Chardonnay	70	Pinot Noir	30		
103	Traditional	2	7.28	3.2	0.13	0.29	0.306	3.33	9	11.86	6.7	10.5	52	7	1	Chardonnay	100				
104	Traditional	2	7.10	2.36	0.18	0.29	0.258	3.28	10.6	12.13	6.88	19.5	129	7	2	Chardonnay	70	Pinot Noir	30		
105	Traditional	2	5.06	0.28	1.72	0.03	0.498	3.43	9.6	11.44	6.03	14.9	56	36	2	Chardonnay	90	Pinot Noir	10		
106	Traditional	2	5.60	0.22	2.07	0.05	0.396	3.58	9.8	10.63	2.15	8	77	12	2	Chardonnay	70	Riesling Italice	30		
107	Traditional	2	6.87	1.86	0.31	0.28	0.33	3.22	7.4	12.3	4.85	13.2	104	48	2	Chardonnay	50	Pinot Noir	50		
108	Traditional	2	7.13	1.61	0.19	0.25	0.27	3.2	8	12.63	4.15	13.4	106	36	1	Chardonnay	100				
109	Traditional	2	6.02	2.13	0.04	0.32	ND	3.44	13.8	12.19	5.88	13.4	133	18	1	Chardonnay	100				
110	Traditional	2	6.20	1.94	0.36	0.44	ND	3.18	11.4	12.2	5.26	6.5	120	36	2	Chardonnay	80	Pinot Noir	20		
111	Traditional	2	7.07	2.43	0.37	0.73	ND	3.11	10.8	11.31	5.81	6.5	114	36	1	Chardonnay	100				

112	Traditional	2	6.66	2.56	0.05	0.39	ND	3.17	13.6	12.3	4.85	13.3	132	48	3	Chardonnay	50	Gros Manseng	30	Pinot Noir	20
113	Traditional	2	5.35	0.25	2.31	0.04	0.33	3.4	12	11.01	5.05	5.4	88	24	3	Chardonnay	50	Riesling Italico	25	Viogner	25
114	Traditional	2	8.00	3.85	0.2	0.44	0.348	3.3	9.8	11.6	5.25	6.8	111	6	1	Sauvignon Blanc	100				
115	Traditional	2	5.12	0.53	1.19	0.76	0.198	3.33	9.6	12.00	6.39	8.9	164	12	3	Chardonnay	65	Riesling Italico	25	Pinot Noir	10
116	Traditional	2	5.78	0.17	2.02	2.04	0.3	3.41	12.2	12.11	4.63	20.8	94	12	2	Chardonnay	60	Pinot Noir	40		
117	Traditional	2	6.55	1.79	0.92	0.8	0.246	3.3	13.2	11.34	5	9.4	119	9	2	Trebbiano	60	Chardonnay	40		
118	Traditional	2	7.97	1.66	0.87	0.63	0.318	3.09	9.4	11.38	6.17	6.6	176	12	1	Chardonnay	100				
119	Traditional	2	6.42	0.26	2.43	1.05	0.504	3.25	9.6	11.62	5.66	8.9	159	18	2	Chardonnay	50	Pinot Noir	50		
120	Traditional	2	7.01	2.99	0.68	0.49	0.24	3.24	8.4	11.63	5.03	6.6	74	12	2	Chardonnay	50	Pinot Noir	50		
121	Traditional	2	7.43	2.13	0.13	0.27	0.216	3.16	12.8	11.71	5.42	8.5	145	12	2	Chardonnay	70	Pinot Noir	30		
122	Traditional	2	6.90	1.86	0.65	0.49	ND	3.05	13.6	11.51	5.17	5.8	71	36	2	Chardonnay	60	Pinot Noir	40		
123	Traditional	2	6.54	2.31	0.7	0.32	0.216	3.27	15.2	10.86	4.2	5.4	89	24	3	Pinot Noir	50	Chardonnay	30	Riesling Italico	20
124	Traditional	2	5.11	0.12	1.41	0.07	0.438	3.39	9.4	12.25	6.64	13	120	4	2	Chardonnay	80	Pinot Noir	20		
125	Traditional	2	4.89	0.27	1.51	0.04	0.336	3.42	9.4	12.42	6.3	11.4	68	6	2	Chardonnay	70	Pinot Noir	30		
126	Traditional	2	5.78	0.29	2.19	0.02	0.27	3.35	9.6	12.07	6.6	17.9	145	5	1	Chardonnay	100				
127	Traditional	2	6.50	0.08	2.82	0.09	0.228	3.15	9.6	11.59	6.3	8.8	61	9	1	Pinot Noir	100				
128	Traditional	2	6.12	0.05	2.31	0.08	0.336	3.27	1.4	12.05	5.46	11.1	71	not disclosed	2	Chardonnay	50	Pinot Noir	50		
129	Traditional	2	6.40	1.08	0.79	0.2	0.366	3.25	7.4	11.62	5.89	8.5	129	12	3	Chardonnay	60	Pinot Noir	25	Riesling Italico	15
130	Traditional	2	6.23	0.62	2.3	0.05	0.276	3.3	9.8	11.24	6.17	9.1	89	12	2	Chardonnay	70	Pinot Noir	30		
131	Traditional	2	6.25	0.27	1.93	0.37	ND	3.33	9.4	11.95	5.73	11.6	106	12	3	Chardonnay	34	Pinot Noir	33	Riesling Italico	33
132	Traditional	2	6.55	1.87	0.03	0.15	ND	3.29	10.2	12.67	5.73	4.6	112	15	2	Chardonnay	80	Pinot Noir	20		
133	Traditional	2	6.36	1.04	0.41	0.5	0.408	3.3	12.2	11.32	6.28	4.4	121	12	2	Chardonnay	68	Riesling Italico	32		
134	Traditional	2	8.02	1.84	0.12	0.33	ND	3.00	14.28	11.74	5.95	10.3	104	2	1	Chardonnay	100				
135	Traditional	2	5.72	2.07	0.71	0.27	ND	3.65	7.46	11.94	5.34	7.4	132	24	3	Chardonnay	40	Pinot Noir	40	Riesling Italico	20
136	Traditional	2	5.69	0.19	1.38	0.33	0.606	3.44	9.8	12.44	6.73	10.2	88	9	3	Chardonnay	55	Cabernet Sauvignon	30	Merlot	15
137	Traditional	2	6.65	2.57	0.2	0.2	0.27	3.36	8.3	13.1	6.66	15.2	120	1	2	Chardonnay	75	Pinot Noir	25		
138	Traditional	2	5.26	0.28	1.48	0.2	0.318	3.38	8.6	11.97	7.06	10.3	94	9	2	Chardonnay	88	Pinot Noir	12		
139	Traditional	2	6.41	2.55	0.15	0.26	ND	3.16	11.6	11.47	5.81	10.2	119	6	2	Chardonnay	93	Pinot Noir	7		
140	Traditional	2	5.77	0.09	2.49	0.16	0.306	3.48	10.6	11.83	5.83	5	74	4	2	Chardonnay	70	Pinot Noir	30		
141	Traditional	1	6.12	0.05	2.31	0.08	0.336	3.27	1.4	12.05	5.46	11.1	71	4	2	Chardonnay	50	Pinot Noir	50		

142	Traditional	1	6.23	0.15	2.25	0.59	0.318	3.4	7	12.55	6.55	7.1	68	25	2	Chardonnay	80	Pinot Noir	20		
143	Charmat	5	5.80	2.16	0.22	0.4	ND	3.42	8.6	12.14	4.53	6.5	95	9	2	Syrah	80	Tempranilho	20		
144	Charmat	5	4.83	1.81	0.12	0.16	0.258	3.32	10.2	11.17	4.72	9	95	2	1	Pinot Noir	100				
145	Charmat	5	5.51	1.31	1.05	0.31	ND	3.27	15.2	10.17	5.03	13	116	1	3	Chardonnay	75	Glera	15	Pinot Noir	10
146	Charmat	5	8.21	3.78	0.28	0.31	0.228	3.11	9.4	11.41	3.79	18.9	135	12	2	Cabernet Sauvignon	50	Merlot	50		
147	Charmat	5	6.26	1.82	0.98	0.6	0.198	3.39	10.2	11.84	4.88	5.6	160	8	3	Merlot	40	Cabernet Sauvignon	35	Petit Verdot	25
148	Charmat	5	7.77	3.05	0.17	0.26	ND	3.1	8.6	11.07	2.15	6.3	61	3	1	Pinot Noir	100				
149	Charmat	5	5.94	2.33	0.45	0.22	ND	3.46	13.2	11.09	5.66	12.8	130	2	3	Pinotage	60	Merlot	30	Pinot Noir	10
150	Charmat	5	6.70	3.33	0.26	0.2	ND	3.52	18.6	10.75	5.64	5.6	140	not disclosed	2	Chardonnay	50	Pinot Noir	50		
151	Charmat	5	6.93	2.91	0.47	0.17	ND	3.11	9.8	11.29	2.44	15.4	133	2	1	Pinot Noir	100				
152	Charmat	5	6.69	2.54	0.45	0.4	0.258	3.28	12.2	11.95	5.52	9.6	143	4	3	Pinot Noir	90	Moscato Branco	7	Lambrusco	3
153	Charmat	5	6.71	2.25	0.72	0.34	ND	3.3	8.2	11.8	5.5	12.4	138	3	2	Chardonnay	75	Pinot Noir	25		
154	Charmat	5	5.69	1.44	0.97	0.41	ND	3.45	10.8	11.77	5.46	9.5	45	3	3	Merlot	55	Chardonnay	40	Malvasia de Cândia	5
155	Charmat	5	6.68	1.83	0.97	0.2	ND	3.23	7.2	11.88	4.11	6.1	147	8	2	Chardonnay	55	Pinot Noir	45		
156	Charmat	5	6.09	1.4	0.88	0.25	0.21	3.45	11.6	11.76	4.75	9.6	146	3	2	Chardonnay	95	Lambrusco	5		
157	Charmat	5	6.02	1.74	0.3	0.97	ND	3.49	12.8	11.24	5.77	8.3	186	6	3	Chardonnay	80	Riesling Italice	15	Pinot Noir	5
158	Charmat	5	6.34	1.45	0.76	0.7	ND	3.31	11.4	11.14	5.12	9.1	87	4	3	Chardonnay	80	Riesling Italice	15	Pinot Noir	5
159	Charmat	5	6.38	1.69	0.16	0.79	ND	3.53	16.6	11.65	6.13	18.9	85	2	2	Chardonnay	90	Cabernet Franc	10		
160	Charmat	5	6.65	2.46	0.27	0.32	0.198	3.2	13.2	11.52	4.3	7.5	111	4	1	Malbec	100				
161	Charmat	5	6.67	2.11	0.2	0.9	0.24	3.26	13.8	11.13	5.16	5.7	70	1	2	Pinot Noir	60	Chardonnay	40		
162	Charmat	5	6.62	2.56	0.28	0.33	ND	3.28	13.6	11.14	5.19	5.5	134	1	2	Chardonnay	50	Pinot Noir	50		
163	Charmat	5	6.68	2.48	0.28	0.36	0.222	3.27	13.8	11.14	5.19	5.7	116	1	2	Chardonnay	50	Pinot Noir	50		
164	Charmat	5	6.65	2.54	0.3	0.35	0.222	3.27	13.8	11.12	4.53	4.8	106	1	2	Pinot Noir	60	Chardonnay	40		
165	Charmat	5	4.73	0.16	2.62	0.31	0.258	3.59	15.2	11.36	5.15	9.6	89	2	3	Glera	45	Trebbiano	45	Pinot Noir	5
166	Charmat	5	6.38	1.42	0.13	0.68	0.318	3.24	15.6	10.98	4.91	7	99	1.5	2	Glera	95	Pinot Noir	5		
167	Charmat	5	7.61	1.67	0.13	0.65	ND	3.24	12.6	11.96	5.95	8.3	181	1.5	1	Pinot Noir	100				
168	Charmat	5	6.58	1.63	0.09	1.21	0.258	3.37	8.8	11.8	5.5	8.6	129	12	2	Malbec	90	Pinot Noir	10		
169	Charmat	5	7.07	1.53	0.16	0.42	0.222	3.08	12.8	11.16	4.66	8.1	78	4	1	Malbec	100				
170	Charmat	5	5.99	0.7	2.18	0.2	0.318	3.37	12.8	11.7	4.21	13.1	152	1	2	Chardonnay	65	Pinot Noir	35		
171	Charmat	5	6.69	1.33	1.18	0.35	0.3	3.27	14.8	10.83	4.25	5.6	138	1	2	Chardonnay	65	Glera	35		
172	Charmat	5	5.53	2.86	0.47	0.26	0.228	3.38	15.2	11.65	5.88	23.3	118	2	3	Chardonnay	90	Pinot Noir	5	Gamay Beaujolais	5

173	Charmat	5	5.21	0.81	1.69	0.2	0.3	3.24	13.8	11.83	4.91	10.4	131	5	3	Pinot Noir	40	Chardonnay	30	Riesling Italiceo	30
174	Charmat	5	6.26	0.32	1.84	0.17	0.342	3.11	9.8	12.12	4.81	8.8	81	44	3	Pinot Noir	72	Chardonnay	25	Riesling Italiceo	3
175	Charmat	5	5.30	0.91	1.17	0.29	ND	3.26	9.6	11.49	4.42	10	67	6	2	Chardonnay	60	Pinot Noir	40		
176	Charmat	5	5.49	1.37	1.12	0.44	ND	3.31	14.8	10.39	5.86	13.6	111	2	3	Chardonnay	50	Pinot Noir	30	Riesling Italiceo	20
177	Charmat	5	6.63	2.67	0.35	0.29	ND	3.29	13.6	10.98	4.56	5.4	90	2	2	Glera	80	Marselan	20		
178	Charmat	5	5.82	0.98	1.93	1.26	0.24	3.6	13.2	11.67	4.94	9.6	102	not disclosed	1	Grenache	100				
179	Charmat	5	5.47	0.42	1.79	0.56	ND	3.19	8.8	11.91	6.76	5.7	129	6	2	Pinot Noir	80	Riesling Italiceo	20		
180	Charmat	5	5.61	0.2	1.95	0.01	ND	3.28	14.6	11.09	4.77	5.5	120	2	2	Pinot Noir					
181	Charmat	5	5.35	1.52	0.85	0.03	ND	3.27	14.6	10.39	5.96	10.5	105	3	3	Riesling Italiceo	55	Chardonnay	25	Merlot	20
182	Charmat	5	5.50	0.2	1.73	0.36	ND	3.3	11.2	11.61	4.34	7.7	139	3	3	Chardonnay	60	Pinot Noir	35	Merlot	5
183	Charmat	5	6.65	2.45	0.25	0.45	ND	3.29	14.2	10.94	4.9	5.7	173	4	1	Pinot Noir	100				
184	Charmat	5	6.66	2.48	0.4	0.28	0.228	3.33	11.4	11.91	6.8	10	150	6	1	Chardonnay	100				
185	Charmat	5	5.93	1.85	0.95	0.4	ND	3.4	12.6	11.65	5.53	10	113	6.5	2	Chardonnay	90	Merlot	10		
186	Charmat	5	6.00	1.83	0.94	0.33	ND	3.4	13.2	11.66	5.37	9.4	152	1	2	Chardonnay	75	Pinot Noir	25		
187	Charmat	5	5.27	0.65	1.68	0.3	0.252	3.51	10.4	12.00	5.35	12.3	52	1	3	Chardonnay	50	Malvasia Bianca	25	Merlot	25
188	Charmat	5	5.30	0.55	1.68	0.2	0.408	3.6	8	10.59	4.76	10.5	70	9	2	Cabernet Sauvignon	75	Merlot	25		
189	Charmat	3	6.92	2.41	0.85	0.15	0.414	3.22	12	11.83	5.65	13.1	85	0	1	Chardonnay	100				
190	Charmat	3	5.27	0.47	2.07	0.11	0.21	3.28	3.2	12.00	3.9	6.6	145	2	1	Shiraz	100				
191	Charmat	3	6.59	3.66	0.17	0.11	ND	3.6	11.6	11.97	4.62	7.1	122	2	1	Chardonnay	100				
192	Charmat	3	6.70	2.92	0.28	0.25	ND	3.13	15.6	10.72	4.97	9.7	140	1	2	Chardonnay	70	Glera	30		
193	Charmat	3	6.32	0.92	0.9	0.88	ND	3.18	10.2	11.15	3.73	26.6	127	8	3	Chardonnay	40	Riesling Italiceo	40	Pinot Noir	20
194	Charmat	3	6.56	1.7	0.11	0.28	0.282	3.15	7.2	11.76	4.67	28.3	143	12	1	Glera	100				
195	Charmat	3	7.19	3.69	0.17	0.41	0.198	3.29	16.2	11.11	4.06	12.7	133	12	1	Chardonnay	100				
196	Charmat	3	6.38	2.1	0.7	0.6	0.21	3.34	7.6	12.2	5.44	15.9	153	12	1	Chardonnay	100				
197	Charmat	3	5.70	0.09	2.01	1.97	ND	3.19	9.8	11.55	5	6.4	186	2	1	Glera	100				
198	Charmat	3	6.28	2.54	0.09	0.39	ND	3.2	11.6	11.15	4.4	5.3	139	1	2	Chardonnay	50	Viogner	50		
199	Charmat	3	5.42	0.6	1.88	0.36	0.282	3.44	12.2	11.06	5.17	143.8	128	3	3	Glera	40	Trebbiano	40	Riesling Italiceo	20
200	Charmat	3	7.58	3.25	0.09	0.72	0.552	3.24	10.6	12.2	5.39	5.68	111	3	1	Chardonnay	100				
201	Charmat	3	6.36	2.25	0.3	0.3	ND	3.21	13.8	11.3	3.16	7	89	2	1	Glera	100				
202	Charmat	3	6.08	1.1	0.3	0.5	0.342	3.31	9.6	12.35	4.61	16.2	119	2	1	Chardonnay	100				
203	Charmat	3	6.53	2.25	0.6	0.2	0.222	3.32	11.2	12.08	5.43	7.7	64	3	1	Chardonnay	100				

204	Charmat	3	5.90	2.4	0.06	0.2	0.27	3.39	11.6	11.36	5.86	11.1	58	3	1	Glera	100				
205	Charmat	3	6.02	2.4	0.29	0.1	ND	3.32	8	12.62	4.86	5.6	162	6	1	Chardonnay	100				
206	Charmat	3	5.80	0.16	2.1	0.4	ND	3.27	10	11.35	4.48	5.8	87	6	1	Pinot Noir	100				
207	Charmat	3	5.74	1.42	0.79	0.2	0.282	3.29	10.8	11.81	4.8	14.4	123	2	1	Riesling Italico	100				
208	Charmat	3	5.77	0.42	2.2	0.15	0.27	3.37	12.2	11.5	4.47	7.9	126	2	1	Riesling Italico	100				
209	Charmat	3	6.35	2.17	0.68	0.2	ND	3.41	12.8	12.24	4.01	10.2	182	3	1	Chardonnay	100				
210	Charmat	3	6.08	2.3	0.1	0.18	ND	3.24	17.8	10.28	3.35	5.1	114	not disclosed	1	Glera					
211	Charmat	3	6.16	0.22	1.79	0.56	0.708	3.27	10.2	12.11	2.86	7.81	68	8	1	Chardonnay	100				
212	Charmat	3	5.27	0.93	1.33	0.26	0.3	3.14	8	12.4	2.52	7.61	152	30	2	Pinot Noir	56	Chardonnay	44		
213	Charmat	3	6.53	2.96	0.14	0.56	0.24	3.34	5.6	12.12	4.96	11.36	117	not disclosed	1	Chardonnay	100				
214	Charmat	3	6.94	3.83	0.13	0.64	ND	3.22	14.8	10.8	4.57	4.56	120	1	1	Glera	100				
215	Charmat	3	5.02	0.68	1.49	0.28	0.24	3.33	11.2	11.54	5.42	3.65	166	5	1	Glera	100				
216	Charmat	3	5.72	0.19	1.7	1.04	0.462	3.25	11.6	11.61	5.63	4.77	108	6	1	Chardonnay	100				
217	Charmat	3	5.96	0.06	1.6	0.27	0.336	3.29	12	11.59	4.49	9.74	96	6	3	Chardonnay	60	Pinot Noir	30	Riesling Italico	10
218	Charmat	3	6.13	1.68	0.85	0.76	0.378	3.24	13.2	11.62	5.76	5.07	96	2	1	Glera	100				
219	Charmat	3	7.19	3.2	0.53	0.41	0.348	3.32	11.6	11.76	5.03	6.9	117	2	3	Pinot Noir	40	Chardonnay	30	Pinot Gris	30
220	Charmat	3	5.66	1.78	1.06	0.52	0.396	3.64	11.4	12.53	4.74	8.62	95	2	3	Chenin Blanc	40	Sauvignon Blanc	40	Verdejo	20
221	Charmat	3	5.77	2.56	0.04	0.43	0.258	3.47	13.6	11.78	4.88	9.74	95	2	3	Glera	40	Chardonnay	30	Riesling Italico	30
222	Charmat	3	6.12	1.67	0.32	0.42	0.558	3.46	15.2	11.48	5.17	6.59	79	12	3	Riesling Italico	50	Chardonnay	45	Pinot Noir	5
223	Charmat	3	6.55	2.01	1.11	0.32	0.426	3.34	14.2	10.88	4.7	19.88	162	6	1	Chardonnay	100				
224	Charmat	3	6.05	2.44	0.02	2.42	0.228	3.41	15.2	11.3	4.4	9.74	142	not disclosed	1	Glera	100				
225	Charmat	3	5.87	1.47	0.04	0.33	0.366	3.21	8.4	12.32	4.6	16.74	129	2	1	Glera	100				
226	Charmat	3	6.61	2.15	0.34	0.81	0.3	3.37	10	12.89	6.26	8.83	95	4	2	Chardonnay	90	Pinot Noir	10		
227	Charmat	3	6.29	2.06	0.66	0.6	0.24	3.41	16.2	12.24	6.3	9.33	89	6	2	Chardonnay	60	Pinot Noir	40		
228	Charmat	3	6.29	2.04	0.67	0.6	0.258	3.41	15.2	12.23	6.13	9.64	72	6	2	Chardonnay	60	Malvasia de Cândia	40		
229	Charmat	3	7.27	3.02	0.02	0.43	0.408	3.19	9.4	11.81	4.74	6.8	82	12	1	Chardonnay	100				
230	Charmat	3	6.11	0.78	2.15	0.18	0.426	3.29	13.8	11.74	5.01	13.09	161	1	1	Chardonnay	100				
231	Charmat	3	6.69	2.92	0.09	0.47	0.288	3.26	14.8	11.59	4.8	19.68	148	1	1	Glera	100				
232	Charmat	3	6.78	2.1	1.05	0.33	0.42	3.33	14.8	11.06	5.5	14.3	106	1	3	Chardonnay	50	Glera	25	Riesling Italico	15
233	Charmat	3	6.65	2.98	0.07	0.43	0.288	3.33	13.6	11.82	4.96	19.48	124	2	2	Chardonnay	67	Riesling Italico	33		
234	Charmat	3	6.26	2.04	0.18	0.37	0.246	3.3	15.2	11.57	5.21	21.4	125	2	1	Glera	100				

235	Charmat	3	5.82	0.05	1.45	1.41	0.27	3.23	12.2	11.11	3.17	13.09	100	not disclosed	1	Glera	100				
236	Charmat	3	7.35	2.61	0.08	0.33	ND	3.38	2	12.73	4.85	9.74	102	8	3	Chardonnay	75	Pinot Noir	15	Riesling Italice	10
237	Charmat	3	6.02	1.79	0.92	0.31	0.36	3.2	10.8	11.99	4.45	6.8	103	8	3	Chardonnay	39	Riesling Italice	34	Pinot Noir	27
238	Charmat	3	6.27	2.29	0.08	0.52	0.216	3.23	19.2	10.24	4.76	4.77	145	not disclosed	1	Glera	100				
239	Charmat	3	5.68	0.11	1.6	0.93	0.27	3.16	8.2	11.09	5.01	3.65	83	1	2	Riesling Italice	50	Trebbiano	50		
240	Charmat	3	5.42	0.09	1.55	0.3	0.636	3.22	13.2	11.2	4.9	25.16	85	6	1	Chardonnay	100				
241	Charmat	3	5.64	0.09	1.95	0.5	0.534	3.39	14.6	10.58	5.04	4.6	95	3	2	Chardonnay	60	Pinot Noir	40		
242	Charmat	3	6.19	2.34	0.1	0.4	0.504	3.54	18.6	11.67	5.19	12.2	151	not disclosed	1	Chardonnay	100				
243	Charmat	3	6.10	1.48	0.04	0.58	0.396	3.28	11.6	11.74	4.68	12.2	125	4	1	Chardonnay	100				
244	Charmat	3	6.01	1.99	0.1	0.53	ND	3.25	20	10.25	4.6	4.7	48	not disclosed	1	Glera	100				
245	Charmat	3	5.95	1.95	0.11	0.53	ND	3.25	18.6	10.17	5	4.6	63	1	1	Glera	100				
246	Charmat	3	5.56	0.13	1.27	0.18	0.24	3.19	8.4	11.07	7.75	4.5	66	1	2	Chardonnay	50	Riesling Italice	50		
247	Charmat	3	6.19	2.12	0.04	0.2	ND	3.24	12.8	10.89	5.03	6	52	4.5	1	Glera	100				
248	Charmat	3	6.19	1.79	0.68	0.33	0.468	3.42	14.2	12.27	6.43	11.1	129	8	2	Chardonnay	90	Glera	10		
249	Charmat	3	4.68	0.03	1.47	0.07	0.336	3.6	12	11.8	4.09	4.8	56	8	1	Chardonnay	100				
250	Charmat	3	6.03	0.12	1.58	0.57	0.378	3.31	11.4	11.72	5.36	5	77	12	2	Chardonnay	90	Riesling Italice	10		
251	Charmat	3	6.32	1.87	0.04	0.31	0.21	3.2	14.2	11.32	6.02	12.6	106	1	1	Glera	100				
252	Charmat	3	6.17	1.6	0.52	0.31	0.24	3.39	13.8	12.43	6.47	12.3	133	18	2	Chardonnay	75	Pinot Noir	25		
253	Charmat	3	5.82	0.6	1.1	0.22	0.288	3.29	14.28	12.45	4.67	7.4	114	1	3	Chardonnay	50	Riesling Italice	25	Malvasia Bianca	25
254	Charmat	3	6.53	0.04	1.67	0.25	0.972	3.54	12.2	12.23	4.3	9.8	111	0.6	2	Cabernet Sauvignon	80	Chardonnay	20		
255	Charmat	3	6.61	2.17	0.74	0.19	0.288	3.32	14.28	10.91	5.35	11.8	164	24	2	Chardonnay	70	Trebbiano	30		
256	Charmat	3	6.14	0.96	1.41	0.5	0.27	3.34	11.36	10.87	5.17	9.8	176	4	2	Chardonnay	80	Pinot Noir	20		
257	Charmat	3	6.04	1.39	0.3	0.19	0.24	3.07	13.88	10.3	3.76	14.6	159	24	1	Glera	100				
258	Charmat	3	6.19	2.31	0.08	0.3	0.714	3.5	10.4	11.04	4.15	6.9	145	4	1	Sauvignon Blanc	100				
259	Charmat	1	7.35	2.61	0.08	0.33	ND	3.38	2	12.73	4.85	9.74	89	3	2	Chardonnay	70	Pinot Noir	30		
260	Charmat	1	5.27	0.47	2.07	0.11	0.21	3.28	3.2	12.0	3.9	6.6	120	9	3	Syrah	70	Arinto	20	Tempranillo	10
261	Charmat	1	6.53	2.96	0.14	0.56	0.24	3.34	5.6	12.12	4.96	11.36	145	1	2	Chardonnay	70	Pinot Noir	30		