Supplementary Information

Boron Isotopic Ratio in Brazilian Red Wines: a Potential Tool for Origin and Quality Studies?

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Table S1. Boron concentrations and $^{11}B/^{10}B$ isotopic ratios of Brazilian red wine samples (values in bold indicate a boron concentration above the maximum allowed concentration)

Sample	B / (mg L^{-1})	$^{11}B/^{10}B$	δ11B	Sample	B / (mg L^{-1})	$^{11}B/^{10}B$	δ11B
VV1-1	3.3 ± 0.2	4.045	0.34	SG1-1	6.9 ± 0.2	4.058	3.56
VV1-2	2.9 ± 0.1	4.081	9.24	SG2-1	8.4 ± 0.6	4.057	3.31
VV1-3	2.6 ± 0.2	4.094	12.46	SG2-2	8.3 ± 0.3	4.020	–5.84
VV1-4	4.33 ± 0.07	4.074	7.51	SG2-3	3.46 ± 0.08	4.033	–2.68
VV1-5	8.8 ± 0.6	4.024	–4.85	SG2-4	2.4 ± 0.1	4.044	0.09
VV1-6	2.29 ± 0.03	4.031	–3.12	SG3-1	4.8 ± 0.4	4.043	–0.23
VV1-7	2.29 ± 0.03	4.079	8.75	SG4-1	< 0.070	–	–
VV2-1	3.6 ± 0.2	4.023	–5.10	SG5-1	0.39 ± 0.06	4.021	–5.54
VV2-2	3.53 ± 0.06	4.049	1.33	SG6-1	1.7 ± 0.2	3.920	–30.57
VV2-3	3.7 ± 0.2	4.048	1.08	SG7-1	3.3 ± 0.5	4.064	5.14
VV2-4	2.16 ± 0.07	4.069	6.28	SG8-1	< 0.070	–	–
VV2-5	4.1 ± 0.2	4.050	1.58	SG9-1	0.56 ± 0.01	3.809	–58.02
VV2-6	2.3 ± 0.2	4.062	4.55	SG10-1	< 0.070	4.056	3.06
VV3-1	1.60 ± 0.06	3.857	–46.15	SG11-1	2.9 ± 0.2	4.044	0.17
VV3-2	2.1 ± 0.1	4.053	2.32	SG12-1	2.7 ± 0.3	4.051	1.83
VV3-3	2.40 ± 0.06	4.081	9.24	SG13-1	< 0.070	–	–
VV4-1	2.5 ± 0.3	4.073	7.27	SG13-2	< 0.070	–	–

VV: Vale dos Vinhedos; C: Campanha; SG: Serra Gaúcha; VSF: Vale do São Francisco.

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Table S1. Boron concentrations and $^{11}B/^{10}B$ isotopic ratios of Brazilian red wine samples (values in bold indicate a boron concentration above the maximum allowed concentration) (cont.)

Sample	B / (mg L^{-1})	$^{11}B/^{10}B$	δ11B	Sample	B / (mg L^{-1})	$^{11}B/^{10}B$	δ11B
VV5-1	2.03 ± 0.02	4.078	8.50	SG14-1	< 0.070	–	–
VV6-1	**19.9 ± 1.4**	4.026	–4.36	SG15-1	5.1 ± 0.4	4.055	2.81
VV6-2	**18.0 ± 0.8**	4.042	–0.40	SG15-2	0.92 ± 0.03	3.845	–49.12
VV6-3	**20.4 ± 0.9**	4.042	–0.40	SG16-1	< 0.070	–	–
VV6-4	**16.0 ± 1.1**	4.023	–5.10	SG17-1	< 0.070	–	–
VV7-1	< 0.070	–	–	SG17-2	< 0.070	–	–
VV7-2	< 0.070	–	–	SG18-1	< 0.070	–	–
VV7-3	**18.7 ± 0.4**	4.039	–1.14	SG18-2	< 0.070	–	–
VV7-4	2.4 ± 0.3	4.074	7.51	SG18-3	2.0 ± 0.3	4.050	1.53
VV8-1	0.14 ± 0.16	4.039	–1.04	SG18-4	< 0.070	–	–
VV8-2	**12.6 ± 1.4**	4.043	–0.20	SG19-1	0.7 ± 0.1	3.845	–49.12
VV9-1	2.0 ± 0.10	4.065	5.29	SG19-2	2.5 ± 0.3	4.053	2.42
VV9-2	< 0.070	–	–	SG20-1	0.6 ± 0.1	3.799	–60.50
VV10-1	3.3 ± 0.1	4.06	4.05	SG21-1	< 0.070	–	–
VV10-2	1.94 ± 0.09	4.052	2.07	SG22-1	< 0.070	–	–
VV10-3	3.10 ± 0.02	4.05	1.58	SG22-2	< 0.070	–	–
VV10-4	4.7 ± 0.1	4.035	–2.06	VSF1-1	4.6	4.152	26.80
VV10-5	2.08 ± 0.06	4.045	0.34	VSF1-2	5.6	4.139	23.59
VV10-6	2.36 ± 0.06	4.029	–3.62	VSF1-3	4.4	4.138	23.34
C1-1	0.22 ± 0.20	4.061	4.37	VSF2-1	4.56 ± 0.08	5.152	274.16
C1-2	2.5 ± 0.2	4.072	7.02	VSF2-2	5.6 ± 0.1	4.153	27.05
C1-3	3.6 ± 0.3	4.038	–1.34	VSF3-1	4.4 ± 0.2	4.157	27.97
C1-4	1.6 ± 0.2	4.042	–0.47	VSF3-2	3.89 ± 0.04	4.173	32.00
C2-1	3.5 ± 0.3	4.032	–2.77	VSF3-3	11.1 ± 0.2	4.169	31.01
C2-2	4.1 ± 0.3	4.062	4.42	VSF4-1	4.2 ± 0.1	4.138	23.34
C2-3	4.4 ± 0.1	4.063	4.79	VSF5-1	5.9 ± 0.2	4.11	16.42
C2-4	4.7 ± 0.1	4.033	–2.68				
C2-5	< 0.070	–	–				
C2-6	< 0.070	–	–				

VV: Vale dos Vinhedos; C: Campanha; SG: Serra Gaúcha; VSF: Vale do São Francisco.

Table S2. Boron concentrations and $^{11}B/^{10}B$ isotopic ratios of imported red wine samples (values in bold indicate a boron concentration above the maximum allowed concentration)

Brand	Country	B / (mg L^{-1})	$^{11}B/^{10}B$
P-1	Portugal	1.3 ± 0.2	4.1227
P-2	Portugal	1.01 ± 0.12	4.1289
P-3	Portugal	4.50 ± 0.25	4.1391
P-4	Portugal	1.03 ± 0.07	4.1443
P-5	Portugal	0.09 ± 0.12	4.099
I-1	Italy	2.20 ± 0.14	4.0900
I-2	Italy	0.20 ± 0.09	4.0979
I-3	Italy	3.3 ± 0.2	4.1157
I-4	Italy	1.05 ± 0.10	4.1293
I-5	Italy	1.93 ± 0.24	4.1076
I-6	Italy	6.3 ± 0.3	4.1106
S-1	Spain	**27.1 ± 1.2**	4.1692
S-2	Spain	**22.48 ± 0.48**	4.147
F-1	France	< 0.070	
F-2	France	< 0.070	
F-3	France	**35.0 ± 2.5**	4.121
F-4	France	**30.0 ± 2.2**	4.082
F-5	France	2.77 ± 0.26	4.1653
USA-1	USA	2.78 ± 0.08	4.1344
SA-1	South Africa	5.44 ± 0.13	4.1637
SA-2	South Africa	2.25 ± 0.08	4.3858
SA-3	South Africa	3.47 ± 0.16	4.870
SA-4	South Africa	2.77 ± 0.32	4.998
C-1	Chile	3.60 ± 0.76	4.0639
C-2	Chile	3.87 ± 0.23	4.1316
C-3	Chile	3.12 ± 0.04	4.0854
C-4	Chile	3.77 ± 0.06	4.0946
C-5	Chile	2.30 ± 0.18	4.0889
C-6	Chile	5.44 ± 0.07	4.0759
C-7	Chile	3.5 ± 0.6	4.0966
C-8	Chile	3.40 ± 0.11	4.0728

Table S2. Boron concentrations and $^{11}B/^{10}B$ isotopic ratios of imported red wine samples (values in bold indicate a boron concentration above the maximum allowed concentration) (cont.)

Brand	Country	B / (mg L^{-1})	$^{11}B/^{10}B$
C-9	Chile	2.61 ± 0.30	4.1211
C-10	Chile	4.5 ± 1.1	4.0857
C-11	Chile	2.90 ± 0.19	4.1008
C-12	Chile	2.50 ± 0.40	4.1229
C-13	Chile	4.98 ± 0.32	4.0737
A-1	Argentina	8.99 ± 0.18	4.1026
A-2	Argentina	6.22 ± 0.26	4.0553
A-3	Argentina	5.54 ± 0.34	4.0671
A-4	Argentina	5.07 ± 0.13	4.0605
A-5	Argentina	8.81 ± 0.14	4.1273
A-6	Argentina	4.5 ± 0.7	4.0713
A-7	Argentina	6.42 ± 0.85	4.0647