

Supplemental Data for:

Niimi J, Boss PK, Jeffery DW and Bastian SEP. 2018.

Linking the sensory properties of Chardonnay grape *Vitis vinifera* cv. berries to wine characteristics.

Am J Enol Vitic 69:113-124. doi: 10.5344/ajev.2017.17083.

Supplemental Table 1 Harvest dates and mean wet chemistry measures of vintage 2015 and 2016 samples.
TA, titratable acidity.

Geographical indication	Sample ID	2015				2016			
		Harvest date	Brix	pH	TA	Harvest date	Brix	pH	TA
Adelaide Hills	ADL1	19 Feb	22.7	3.47	9.89	18 Feb	20.6	3.11	6.40
	ADL2	26 Feb	22.3	3.23	9.34	18 Feb	19.5	3.21	6.15
Barossa Valley	BV1	3 Feb	21.6	3.28	10.40	1 Feb	20.3	3.30	7.76
	BV2	13 Feb	24.4	3.52	8.60	— ^a	—	—	—
Clare Valley	CV1	2 Feb	22.0	3.37	8.71	4 Feb	20.9	3.25	6.49
	CV2	2 Feb	21.1	3.43	8.80	1 Feb	20.3	3.25	6.40
	CV3	2 Feb	21.5	3.41	9.24	4 Feb	19.2	3.29	6.50
Coonawarra	CWA1	15 Feb	20.9	3.12	12.52	17 Feb	21.6	3.20	6.94
Eden Valley	EV1	16 Feb	22.3	3.34	9.49	11 Feb	19.1	3.23	8.05
	EV2	13 Feb	20.9	3.17	9.23	—	—	—	—
	EV3	16 Feb	22.5	3.22	10.00	11 Feb	22.7	3.30	5.99
	EV4	—	—	—	—	11 Feb	21.2	3.23	7.73
	EV5	—	—	—	—	11 Feb	20.2	3.26	6.86
McLaren Vale	McV1	6 Feb	22.7	3.33	10.82	—	—	—	—
	McV2	6 Feb	22.0	3.41	9.72	—	—	—	—
Langhorne Creek	LC1	10 Feb	22.6	3.42	10.92	15 Feb	20.7	3.33	6.15
Padthaway	PWY1	—	—	—	—	2 Feb	21.0	3.27	6.33
Riverland	RVL1	23 Jan	21.3	3.31	12.95	—	—	—	—
	RVL2	23 Jan	21.8	3.32	11.60	—	—	—	—
	RVL3	4 Feb	24.4	3.58	8.38	28 Jan	20.9	3.62	4.78
	RVL4	11 Feb	23.9	3.55	7.01	28 Jan	20.1	3.39	6.76
	RVL5	4 Feb	22.4	3.55	6.71	29 Jan	22.1	3.65	5.41
	RVL6	4 Feb	23.6	3.50	7.90	28 Jan	22.7	3.59	5.74
	RVL7	11 Feb	25.8	3.70	8.45	29 Jan	19.0	3.44	6.71
	RVL8	4 Feb	23.9	3.48	7.81	29 Jan	21.1	3.53	5.86
	RVL9	12 Feb	24.8	3.61	7.38	29 Jan	21.3	3.53	6.38
	RVL10	—	—	—	—	28 Jan	24.7	3.46	5.95
	RVL11	—	—	—	—	29 Jan	21.1	3.47	6.19
Robe	RBE1	24 Feb	22.2	3.22	8.64	17 Feb	21.6	3.21	5.74
Wrattonbully	WBY1	15 Feb	23.9	3.38	9.56	17 Feb	21.9	3.31	6.30

^a—, samples not harvested within the vintage.

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Supplemental Table 2 Mean intensities of Chardonnay berry sensory attributes that were significantly different in the 2015 vintage. Sample codes can be found in Supplemental Table 1.

Sample	Ph_color	Ph_firmness	Ph_pedicel	P_pedicel	P_juiciness	P_detach	P_gelat'	P_sweetness	P_acidity	P_green apple	P_apple juice
ADL1	38.1	117.0	46.4	39.6	86.5	43.2	91.2	75.5	72.4	81.0	47.3
ADL2	61.5	106.2	46.3	48.0	96.7	41.8	78.5	89.7	62.9	65.7	63.6
BV1	69.3	89.1	58.5	66.5	101.5	71.8	63.6	95.3	59.8	47.1	75.0
BV2	91.8	64.0	45.8	57.5	87.7	55.9	73.8	107.0	48.9	44.8	91.8
CV1	85.8	101.6	57.6	50.6	92.7	61.9	77.2	91.0	59.0	50.8	64.7
CV2	102.6	84.5	63.6	77.3	107.7	70.3	80.6	95.1	60.5	46.3	75.8
CV3	73.1	102.1	61.9	60.1	97.5	64.6	75.3	84.2	65.1	57.0	57.5
CWA1	26.3	115.1	71.4	58.1	89.8	58.6	90.9	65.7	100.3	78.1	42.8
EV1	41.2	102.4	74.0	64.6	92.5	64.9	81.8	86.5	70.0	67.0	65.2
EV2	32.0	114.3	79.7	89.9	100.8	53.0	80.7	74.7	93.1	73.8	48.9
EV3	67.4	104.3	56.4	61.3	96.2	47.3	84.2	84.9	68.3	69.1	57.0
LC1	78.4	96.5	62.5	61.8	94.5	63.2	74.5	96.7	53.6	54.6	69.3
McV1	115.7	84.2	53.5	75.2	94.9	48.4	65.8	100.3	49.0	33.1	82.2
McV2	95.6	89.4	61.1	73.3	102.2	52.5	67.2	101.1	52.1	50.2	79.3
RBE1	63.3	98.2	47.5	63.9	102.9	43.7	66.8	101.9	54.1	55.1	71.8
RVL1	89.0	77.4	49.2	44.1	103.3	90.5	68.2	92.7	57.3	49.1	60.2
RVL2	94.2	83.0	42.4	44.8	103.9	91.9	64.4	87.6	58.4	43.1	65.6
RVL3	45.8	104.6	55.9	21.7	95.0	62.3	74.8	99.5	51.4	41.2	78.4
RVL4	46.0	80.9	54.3	45.2	65.3	84.2	108.5	91.5	54.0	46.8	67.4
RVL5	49.6	93.1	55.6	38.6	86.5	71.1	67.6	88.5	50.5	45.0	70.8
RVL6	56.3	77.9	47.7	51.3	90.4	84.6	75.4	98.7	54.6	43.0	77.2
RVL7	35.7	79.9	54.1	30.6	78.8	67.7	84.9	86.2	58.1	48.3	66.7
RVL8	70.6	89.7	53.1	48.1	91.9	83.1	76.2	93.1	53.3	40.8	76.9
RVL9	62.4	91.8	47.6	38.5	98.7	53.5	69.1	104.5	53.0	42.6	79.3
WBY1	49.4	102.9	47.0	28.2	88.9	49.6	75.1	92.8	60.5	59.7	61.9
p value	<0.001	<0.001	0.001	<0.001	0.005	<0.001	0.006	<0.001	<0.001	<0.001	<0.001

Sample	P_tropical	P_citrus	SK_acidity	SK_thickness	SK_bitterness	SD_color	SD_astirin' uncrushed	SD_astirin' crushed	SD_bitterness	SD_tannic
ADL1	29.5	44.3	38.0	76.4	25.2	75.2	31.4	72.4	73.5	72.5
ADL2	37.1	42.5	39.3	69.3	26.5	91.7	28.9	74.8	48.4	66.9
BV1	48.2	33.0	49.7	53.9	39.2	94.6	45.6	85.2	57.9	86.8
BV2	52.0	26.1	43.5	57.3	24.1	89.6	25.9	75.4	51.6	72.6
CV1	41.1	33.5	49.4	57.3	30.7	83.4	39.4	83.5	66.5	80.2
CV2	53.9	34.3	58.2	65.4	39.2	78.6	41.8	95.4	82.1	93.5
CV3	42.8	36.4	52.3	69.6	34.5	70.4	40.9	96.6	76.4	92.1
CWA1	25.8	50.0	42.5	88.9	30.9	53.0	24.6	92.6	81.4	89.8
EV1	35.4	30.2	37.4	70.8	28.1	74.9	25.4	98.4	87.8	101.9
EV2	24.2	39.2	36.3	84.4	27.4	56.4	20.6	94.7	77.5	91.7
EV3	33.3	47.1	30.9	71.5	35.3	72.2	25.8	86.9	61.5	86.6
LC1	48.4	29.4	46.6	60.8	31.3	83.3	29.5	70.1	53.0	66.5
McV1	47.9	30.3	50.6	70.4	42.6	109.4	33.6	81.8	61.2	87.6
McV2	49.9	24.2	40.6	65.4	38.6	91.5	32.7	84.4	59.6	77.7
RBE1	52.5	38.2	36.8	64.2	29.2	83.9	22.9	74.7	63.6	66.8
RVL1	48.8	33.7	59.7	54.9	34.7	105.1	54.8	98.7	60.2	91.5
RVL2	45.9	28.1	52.7	58.6	38.8	101.7	50.1	103.5	63.4	101.1
RVL3	51.0	33.9	55.7	55.4	27.4	110.3	37.5	69.6	53.6	76.0
RVL4	44.5	30.4	50.0	74.6	33.4	109.1	29.7	60.9	40.8	67.5
RVL5	35.3	30.8	44.4	47.4	28.8	113.9	42.9	59.2	39.2	68.9
RVL6	44.3	32.1	49.2	60.9	28.9	108.3	42.1	81.9	59.2	80.3
RVL7	45.4	30.2	48.8	73.0	24.8	114.1	28.0	60.5	42.7	68.3
RVL8	45.7	29.4	47.8	63.8	27.3	106.5	35.6	75.3	50.3	72.2
RVL9	53.5	29.4	49.9	63.8	29.5	104.6	27.8	66.6	49.8	67.9
WBY1	38.2	28.8	34.1	57.0	23.5	83.2	21.0	77.9	54.0	77.0
p value	0.001	0.034	<0.001	<0.001	0.005	<0.001	<0.001	<0.001	<0.001	<0.001

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Supplemental Table 3 Mean intensities of Chardonnay berry sensory attributes that were significantly different in the 2016 vintage. Sample codes can be found in Supplemental Table 1.

Sample	Ph_color	Ph_firmness	Ph_pedicel	P_pedicel	P_juiciness	P_gelatinous	P_sweetness	P_acidity	P_apple juice	SK_green
ADL1	60.0	95.2	60.2	49.4	107.0	59.3	79.3	36.2	48.2	41.1
ADL2	61.9	86.7	58.8	70.4	108.6	55.2	77.8	33.9	51.8	46.8
BV1	58.6	92.6	55.5	44.7	102.9	52.8	68.7	29.9	38.2	36.4
CV1	82.2	101.9	61.7	43.7	102.7	52.4	74.8	26.1	47.8	35.2
CV2	88.9	92.0	53.1	45.6	102.9	52.4	73.5	24.3	47.3	41.5
CV3	49.4	101.4	58.4	42.4	97.8	45.9	66.3	26.8	35.8	38.2
CWA1	58.0	91.9	61.1	54.4	107.9	58.5	85.9	29.8	54.7	37.6
EV1	50.7	100.2	68.5	43.4	96.9	47.4	67.8	34.3	44.4	46.7
EV3	72.8	83.8	54.2	59.9	106.8	55.3	82.3	25.3	53.6	45.2
EV4	63.4	99.9	66.0	46.2	92.6	47.1	66.9	35.7	41.2	50.7
EV5	39.5	100.7	61.6	52.7	94.9	48.8	62.7	37.3	40.7	50.6
LC1	69.0	87.3	55.7	53.4	107.1	54.8	82.2	26.2	52.3	42.8
PWY1	58.4	96.8	58.7	49.1	107.1	58.7	72.9	26.3	48.4	40.4
RBE1	70.3	92.2	54.4	42.8	105.1	55.8	80.0	28.0	53.2	40.2
RVL3	57.0	91.4	51.4	27.6	94.8	58.8	69.6	23.6	41.6	34.3
RVL4	49.7	97.5	67.1	43.1	102.9	63.6	69.8	29.1	44.9	40.6
RVL5	54.8	86.2	58.4	31.3	99.5	61.7	73.4	24.1	41.1	36.4
RVL6	59.1	86.2	59.0	43.1	102.9	64.8	76.6	23.9	48.1	38.1
RVL7	34.7	98.6	66.6	35.5	96.4	62.7	68.5	30.2	40.4	38.4
RVL8	53.1	98.4	58.8	39.4	100.2	63.8	73.3	26.0	47.8	44.8
RVL9	39.4	92.7	67.4	47.9	100.1	64.4	72.3	25.4	41.8	37.0
RVL10	75.2	98.3	63.6	34.3	95.9	69.3	77.6	25.6	46.7	38.1
RVL11	70.5	98.3	62.4	35.5	94.3	68.9	69.3	31.7	40.9	35.8
WBY1	50.6	91.0	56.2	42.6	99.3	49.7	72.8	31.2	45.2	39.6
<i>p</i> value	<0.001	0.009	0.025	<0.001	0.001	<0.001	<0.001	<0.001	0.007	<0.001

Sample	SK_thickness	SK_bitterness	SK_astringency	SK_disintegrat	SK_tannic	SD_color
ADL1	73.2	24.1	42.1	72.6	65.9	87.8
ADL2	70.1	24.8	45.5	69.8	59.1	82.5
BV1	60.6	22.4	42.5	65.9	65.2	99.7
CV1	61.2	22.9	42.4	63.9	59.1	103.2
CV2	63.8	23.6	47.8	66.6	73.4	109.6
CV3	59.3	22.1	40.3	61.9	69.7	99.7
CWA1	75.0	22.5	41.1	72.3	54.1	87.4
EV1	61.2	27.3	56.2	65.5	73.8	95.8
EV3	63.6	25.2	41.7	69.2	65.5	96.2
EV4	64.1	30.0	55.3	69.8	73.0	105.7
EV5	62.4	30.8	55.1	67.4	75.9	94.2
LC1	64.2	24.1	41.3	66.3	57.9	90.9
PWY1	64.4	22.1	36.6	67.6	52.7	87.4
RBE1	64.1	23.4	39.7	67.1	52.7	86.2
RVL3	62.4	20.4	35.9	65.1	61.4	111.4
RVL4	69.3	23.6	40.7	71.7	62.5	90.7
RVL5	62.9	22.6	38.3	66.4	53.2	94.9
RVL6	70.9	24.0	41.5	70.9	60.6	97.7
RVL7	70.9	23.1	44.2	69.7	56.4	92.5
RVL8	71.5	22.4	41.8	69.9	63.4	102.0
RVL9	65.8	21.6	34.1	65.1	57.1	88.1
RVL10	69.1	22.9	44.8	68.6	66.9	103.7
RVL11	68.1	23.1	49.5	70.0	64.9	97.0
WBY1	55.4	22.4	38.9	62.6	51.7	102.0
<i>p</i> value	0.001	0.013	<0.001	0.003	<0.001	<0.001

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Supplemental Table 4 Mean intensities of Chardonnay wine attributes that were significantly different in the 2015 vintage. Sample codes can be found in Supplemental Table 1.

Sample	A_tropical	A_peach	A_honey	A_medicinal	A_green	A_earthy	T_sourness	T_sweetness	T_bitterness	F_citrus	F_tropical	F_peach
ADL1	57.2	34.3	29.4	62.4	38.6	44.8	81.1	27.2	45.2	76.4	41.4	26.2
ADL2	68.4	46.9	35.1	34.3	26.1	28.3	79.0	35.0	45.6	68.1	45.5	37.9
BV1	51.6	33.0	25.2	43.4	35.7	36.1	69.6	34.5	38.6	68.2	43.7	32.5
BV2	73.8	45.9	33.1	38.9	33.4	24.1	67.9	50.1	51.9	55.8	55.4	41.4
CV1	54.2	37.7	32.2	45.1	31.4	32.9	75.5	36.8	38.2	66.6	45.3	36.5
CV2	59.8	34.5	29.5	46.6	34.7	32.1	72.6	32.7	40.0	68.1	44.6	33.9
CV3	60.3	41.8	27.1	50.4	29.0	35.2	89.1	29.8	45.0	73.0	47.2	34.1
CWA1	74.8	49.3	40.0	31.9	32.8	26.8	102.9	29.3	36.6	90.8	44.8	31.0
EV1	75.0	48.3	35.8	36.5	32.2	26.3	85.2	40.7	36.6	69.2	56.0	39.3
EV2	66.5	46.2	35.6	27.6	25.2	19.2	95.8	33.1	35.6	78.7	40.6	30.6
EV3	56.8	40.5	30.2	46.5	33.7	31.6	82.3	32.5	43.2	71.8	42.0	27.8
LC1	59.8	44.1	37.8	36.9	33.5	26.8	75.5	42.5	48.0	69.7	49.0	40.6
McV1	71.9	45.9	29.1	53.9	35.8	37.2	77.1	44.7	43.0	66.6	53.1	40.3
McV2	52.0	38.0	29.9	53.5	32.5	39.4	79.7	34.9	43.5	67.2	49.8	30.8
RBE1	82.1	55.6	45.8	28.2	29.1	24.7	80.2	36.7	42.0	66.7	57.5	42.8
RVL1	52.0	40.3	30.2	49.6	28.5	38.4	73.7	31.9	43.4	65.8	44.2	30.0
RVL2	60.1	49.3	39.1	40.0	28.3	36.5	88.1	35.1	40.5	74.6	52.2	42.1
RVL3	74.6	51.2	34.5	33.3	25.1	20.3	74.3	44.7	38.6	63.8	52.2	41.6
RVL4	47.4	38.4	32.5	63.9	42.7	48.5	76.8	40.2	59.4	70.4	40.0	40.6
RVL5	65.9	42.8	32.4	38.6	27.2	28.4	72.5	34.4	43.6	58.2	50.5	36.8
RVL6	75.8	48.4	34.3	38.6	36.4	28.7	68.7	41.8	48.8	61.7	51.5	38.7
RVL7	81.9	53.0	30.8	35.2	35.0	29.2	75.7	43.8	48.3	70.5	67.4	49.5
RVL8	52.6	35.5	27.5	45.6	36.2	33.6	74.1	37.3	41.7	57.9	48.6	34.6
RVL9	63.4	41.8	32.2	40.4	32.5	27.2	73.9	38.1	50.2	68.3	54.7	45.0
WBY1	84.7	56.0	33.0	49.5	35.4	32.3	84.1	38.0	36.6	76.7	60.4	46.4
<i>p</i> value	<0.001	0.006	0.003	<0.001	0.017	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Sample	MF_astringency	MF_heat	MF_viscosity	AT_length	AT_bitterness	AT_sourness	AT_heat	AT_astringency
ADL1	91.2	69.2	60.1	101.9	52.2	88.8	68.2	86.9
ADL2	84.1	65.6	61.8	102.0	50.6	76.0	63.4	76.1
BV1	76.7	62.9	57.2	99.5	47.4	73.5	64.1	68.8
BV2	76.4	76.2	68.1	98.5	61.0	67.1	69.9	67.2
CV1	81.4	64.2	59.8	101.2	45.6	79.4	60.0	75.9
CV2	80.0	59.7	59.3	84.1	44.1	75.3	57.8	69.8
CV3	85.0	60.8	52.3	96.0	49.5	84.2	60.7	73.2
CWA1	98.3	53.3	45.6	109.1	36.5	94.7	50.9	86.4
EV1	77.9	65.2	56.7	97.1	42.3	84.3	66.3	81.4
EV2	87.7	62.8	53.0	101.7	37.3	93.5	54.2	79.1
EV3	86.1	61.8	58.7	100.9	40.6	88.1	63.2	75.4
LC1	80.9	73.4	65.2	98.4	55.6	78.1	70.7	78.5
McV1	76.3	66.5	61.2	102.1	55.9	81.8	67.3	77.9
McV2	82.9	69.9	59.9	96.8	55.4	81.4	68.6	80.2
RBE1	85.8	64.4	58.3	106.5	45.5	78.4	61.6	82.3
RVL1	78.5	58.3	62.1	89.1	39.8	68.7	50.9	69.7
RVL2	80.5	53.6	57.3	88.7	46.0	77.0	48.5	76.4
RVL3	86.1	72.9	65.4	100.4	48.5	79.4	65.2	75.0
RVL4	77.9	71.5	63.2	93.7	60.4	70.4	65.5	69.5
RVL5	79.1	64.1	59.1	95.9	48.9	70.4	60.1	73.7
RVL6	71.4	59.9	61.5	90.8	54.3	66.2	56.9	63.8
RVL7	76.5	68.3	65.5	97.9	52.7	74.0	62.3	68.4
RVL8	78.0	65.5	59.1	101.0	54.9	73.6	66.5	69.1
RVL9	82.3	68.6	61.1	105.2	55.8	74.7	70.2	76.5
WBY1	86.7	68.4	62.2	106.0	43.1	84.4	62.3	75.2
<i>p</i> value	0.021	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.012

Supplemental Data for:

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Supplemental Table 5 Mean intensities of Chardonnay wine attributes that were significantly different in the 2016 vintage. Sample codes can be found in Supplemental Table 1.

Sample	A_tropical fruits	A_honey	A_medicinal	T_sourness	T_sweetness	F_citrus	F_tropical fruits	F_peach	F_medicinal	MF_astringency
ADL1	46.4	20.5	43.3	77.2	28.7	66.8	31.3	15.8	23.9	62.1
ADL2	47.0	19.4	46.5	81.5	19.2	68.6	25.9	12.1	30.4	68.4
BV1	55.4	15.7	34.4	58.2	40.1	59.4	40.2	19.2	27.7	53.5
CV1	61.0	26.2	25.7	60.8	39.3	62.2	39.6	18.4	24.6	60.6
CV2	60.3	21.9	28.6	66.5	29.4	67.6	38.9	15.2	24.1	65.7
CV3	64.5	24.6	25.2	67.9	29.8	65.0	40.0	16.3	19.4	64.0
CWA1	47.4	16.7	50.4	77.4	19.6	69.4	31.1	11.9	25.8	66.4
EV1	55.4	31.4	22.0	69.7	36.7	73.4	37.7	16.7	22.6	69.9
EV3	53.6	18.2	34.5	62.2	37.7	65.1	38.2	17.4	21.4	62.9
EV4	54.9	23.1	27.4	69.0	36.5	69.1	38.6	13.6	23.4	66.4
EV5	66.9	24.9	25.7	59.7	38.6	59.9	50.9	20.9	20.8	62.0
LC1	45.5	18.9	51.0	75.3	26.5	61.0	28.9	17.7	32.3	66.8
PWY1	47.7	18.8	38.5	67.2	29.4	60.4	34.3	16.6	34.4	66.9
RBE1	41.0	16.0	67.5	81.5	25.3	68.8	28.1	15.4	45.3	71.1
RVL3	72.0	17.1	35.4	64.5	37.9	65.4	53.6	20.8	24.5	62.6
RVL4	71.6	21.4	21.7	69.0	33.1	64.9	44.3	18.3	19.3	62.6
RVL5	65.9	20.1	27.2	54.3	47.7	43.7	52.0	25.4	24.0	53.9
RVL6	64.3	19.5	28.9	66.2	38.0	71.2	38.4	17.9	20.7	67.3
RVL7	67.6	22.9	27.2	71.0	35.7	65.0	44.4	16.7	17.4	61.5
RVL8	55.9	22.2	20.6	65.6	34.9	63.4	37.1	16.1	20.7	61.6
RVL9	58.3	22.6	24.2	67.0	41.4	68.7	49.0	16.3	17.2	68.1
RVL10	45.4	20.2	44.6	78.7	28.2	69.5	28.1	16.0	31.9	80.0
RVL11	58.6	16.7	22.9	71.9	32.2	67.6	37.9	15.1	15.6	66.9
WBY1	47.8	13.1	52.9	72.6	27.4	71.6	30.6	13.9	32.3	71.4
<i>p</i> value	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	<0.001	<0.001

Sample	MF_heat	AT_sourness	AT_heat	AT_astringency
ADL1	39.0	75.3	33.2	60.3
ADL2	43.3	83.6	35.0	56.3
BV1	39.4	61.2	37.9	54.7
CV1	40.4	68.1	38.8	59.6
CV2	40.7	64.9	36.9	66.8
CV3	37.5	70.4	30.1	53.3
CWA1	38.0	84.5	31.9	66.0
EV1	39.6	73.4	36.2	66.4
EV3	42.3	73.8	34.8	60.0
EV4	41.0	64.7	37.2	61.0
EV5	38.1	68.4	35.3	58.2
LC1	41.6	74.0	37.0	66.0
PWY1	43.5	73.2	36.9	63.4
RBE1	45.7	79.6	39.8	69.0
RVL3	43.6	62.2	39.4	62.3
RVL4	37.7	72.2	35.3	64.2
RVL5	42.6	48.4	37.2	62.0
RVL6	47.9	71.6	44.0	70.9
RVL7	35.1	71.7	34.3	53.3
RVL8	38.3	69.2	41.4	66.1
RVL9	44.9	70.9	40.1	66.1
RVL10	52.8	77.8	49.3	71.9
RVL11	39.7	69.7	35.9	63.8
WBY1	44.1	75.6	38.0	66.4
<i>p</i> value	0.002	<0.001	0.006	<0.001

Supplemental Data for:

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Supplemental Table 6 Mean minimum monthly temperatures and total growing degree day (GDD) summations for the sampling sites of Chardonnay in the 2015 and 2016 vintages. Regions are BV: Barossa Valley, EV: Eden Valley, CV: Clare Valley, LC: Langhorne Creek, McV: McLaren Vale, RVL: Riverland, CWA: Coonawarra, WBY: Wrattontully, ADL: Adelaide Hills, ROBE: Robe, and PWY: Padthaway.

2015 Vintage	Geographical indication	Minimum monthly temperature (°C)					GDD Total
		Oct	Nov	Dec	Jan	Feb	
	ADL	8.5	10.5	11.2	12.5	13.7	1295.6
	BV & EV	8.2	11.2	11.5	14.2	14.9	1466.5
	CV	8.5	11.3	12.0	14.7	15.3	1510.1
	CWA & WBY	7.9	7.9	10.1	12.3	13.1	1201.4
	LC	10.2	11.7	13.1	14.9	15.0	1443.2
	McV	12.4	14.4	14.8	16.6	17.7	1624.3
	RBE	10.9	11.9	13.2	13.9	14.2	1071.7
	RVL	9.4	12.7	13.9	16.6	16.6	1896.3
	Range	4.5	6.5	4.7	4.3	4.6	824.6
2016 Vintage							
	ADL	10.3	10.4	12.8	13.9	13.3	1482.5
	BV + EV	10.9	10.9	14.6	15.5	13.5	1649.9
	CV	10.6	11.2	15.5	15.7	13.8	1670.5
	CWA + WBY	9.2	9.8	11.3	13.2	12.5	1380.9
	LC	10.3	12.4	14.0	15.3	14.6	1554.6
	PWY	8.7	9.3	12.0	13.0	12.5	1452.1
	RBE	11.1	11.8	13.8	14.1	14.2	1123.6
	RVL	11.7	12.9	16.3	17.3	15.5	2071.9
	Range	3.0	3.6	5.0	4.3	3.0	948.3

Supplemental Data for:

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Supplemental Table 7 Pearson correlations between berry sensory assessment (BSA) and wine sensory attributes with monthly minimum temperatures (°C) across the two vintages.

Attribute categories in BSA denote Ph: physical, P: pulp, SK: skin, and SD: seed. Attribute categories in wine denote A: aroma, T: taste, F: flavor, MF: mouthfeel, and AT: aftertaste.

Vintage/attribute	Oct	Nov	Dec	Jan	Feb
2015 BSA					
Ph_color	0.474 ^{***}	0.463 *	0.367	0.324	0.419 *
Ph_firmness	-0.315	-0.542	-0.546	-0.617 **	-0.595 **
P_detachability	-0.045	0.316	0.416 *	0.603 **	0.487 *
P_sweetness	0.502 *	0.534 **	0.521 **	0.455 *	0.461 *
P_acidity	-0.528 **	-0.640 **	-0.662 **	-0.599 **	-0.589 **
P_green apple	-0.506 **	-0.695 **	-0.748 **	-0.791 **	-0.769 **
P_apple juice	0.472 *	0.588 **	0.549 **	0.537 **	0.559 **
P_tropical	0.491 *	0.554 **	0.583 **	0.538 **	0.513 **
P_citrus	-0.426 *	-0.545 **	-0.569 **	-0.617 **	-0.615 **
SK_acidity	0.172	0.439 *	0.507 **	0.614 **	0.563 **
SK_bitterness	0.430 *	0.417 *	0.333	0.331	0.428
SD_color	0.461 *	0.685 **	0.777 **	0.769 **	0.730 **
SD_astringent uncru'	0.100	0.399 *	0.406 *	0.498 *	0.476 *
SD_bitterness	-0.269	-0.360	-0.474 *	-0.442 *	-0.380
2016 BSA					
P_pedicel	-0.519 **	-0.595 **	-0.585 **	-0.604 **	-0.605 **
P_juiciness	-0.513 *	-0.405 *	-0.541 **	-0.563 **	-0.399
P_detachability	-0.512 *	-0.664 **	-0.518 **	-0.635 **	-0.708 **
P_gelatinous	0.473 *	0.634 **	0.412 *	0.518 **	0.695 **
P_sweetness	-0.306	-0.139	-0.406 *	-0.368	-0.157
P_acidity	-0.227	-0.448 *	-0.412 *	-0.390	-0.449 *
P_apple juice	-0.387	-0.268	-0.485 *	-0.474 *	-0.283
SD_color	0.266	0.210	0.429 *	0.400	0.186
2015 Wine					
T_sourness	-0.235	-0.493 *	-0.452 *	-0.457 *	-0.436 *
T_bitterness	0.224	0.374	0.397 *	0.358	0.325
F_citrus	-0.305	-0.598 **	-0.525 **	-0.532 **	-0.521 **
MF_astringency	-0.275	-0.620 **	-0.551 **	-0.634 **	-0.622 **
AT_length	-0.049	-0.415 *	-0.365	-0.489 *	-0.468 *
AT_bitterness	0.448 *	0.517 **	0.507 **	0.424 *	0.456 *
AT_sourness	-0.185	-0.481 *	-0.524 **	-0.565 **	-0.486 *
AT_astringency	0.109	-0.299 *	-0.293 *	-0.483 *	-0.414 *
2016 Wine					
A_tropical fruits	0.552 **	0.483 *	0.686 **	0.682 **	0.499 *
A_medicinal	-0.489 *	-0.355	-0.669 **	-0.654 **	-0.388
T_sourness	-0.253	-0.142	-0.427 *	-0.401	-0.146
T_sweetness	0.569 **	0.429 *	0.637 **	0.631 **	0.434 *
F_tropical fruits	0.509 *	0.418 *	0.600 **	0.607 **	0.432 *
F_peach	0.436 *	0.423 *	0.502 *	0.493 *	0.422 *
F_medicinal	-0.458 *	-0.354	-0.554 **	-0.604 **	-0.379
AT_sourness	-0.414 *	-0.350	-0.504 **	-0.513 *	-0.352
AT_heat	0.405 *	0.466 *	0.375	0.406 *	0.474 *

a*: significant at $p < 0.05$ and **: significant at $p < 0.01$.