

Supplemental Data for:

Joseph, C.M.L., E.A. Albino, S.E. Ebeler, and L.F. Bisson. 2015.

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Supplemental Table 1 *Brettanomyces* strains screened for aroma characteristics with added aromatic amino acids.

UCD VEN strain number	Genus	Species	Source	Other collection number ^a
605 ^b	<i>Brettanomyces</i>	<i>bruxellensis</i>	Beer, USA	UCD FST 71-12
615 ^c	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Napa Valley, California, USA	
734	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, USA	
738	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Missouri	
752	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, France	
860	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine	
2027	<i>Brettanomyces</i>	<i>custersianus</i>	Beer (Bantu), South Africa	CBS 4805, UCD FST 82-28
2029	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Cabernet Sauvignon	
2030	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 1972 Cabernet Sauvignon, Napa Valley, California, USA	
2041	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Fruit, Thailand	
2042	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Simi Valley, California, USA	
2043	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Simi Valley, California, USA	
2046	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 1999, Merlot, Amador County, California, USA	
2047	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 2001, Cabernet Sauvignon, Carneros, California, USA	
2048	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 1999, Pinot noir, Carneros, California, USA	
2049	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Pinot noir, New Zealand	
2050	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 2001, Chardonnay, New Zealand	
2051 ^b	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 2001, Pinot noir, Carneros, California, USA	
2052	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 2001, Zinfandel, Paso Robles, California, USA	
2053	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 2001, Cabernet Sauvignon, Sonoma Valley, California, USA	
2054	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 2001, Cabernet Sauvignon, Napa Valley, California, USA	
2055	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, red, California, USA	
2058 ^c	<i>Brettanomyces</i>	<i>bruxellensis</i>	Must	CBS 73, UCD FST 82-30
2059	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Cabernet Sauvignon, 1975	UCD FST 77-105
2060	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 2001, Cabernet Sauvignon, Chile	
2062	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Champagne	UCD FST 75-41
2063	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Cabernet Sauvignon, 1975	UCD FST 77-106
2065	<i>Brettanomyces</i>	<i>anomalus</i>	Wine, white, Italy, pellicle	DBVPG 4051
2066	<i>Brettanomyces</i>	<i>anomalus</i>	Wine, white, Italy, pellicle	DBVPG 4052
2067	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 2000, Pinot noir, Healdsburg, California, USA	
2075	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Alexander Valley, California, USA	
2076	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, British Columbia, Canada	
2077 ^c	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 2001, Chile	
2078	<i>Brettanomyces</i>	<i>bruxellensis</i>	Beer (lambic), Belgium	CBS 72, CE 41
2079	<i>Brettanomyces</i>	<i>bruxellensis</i>	Beer (lambic), Belgium	CBS 74, CE 41
2080	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine	CE 116
2081	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine	CE 119
2082 ^c	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine	CE120
2083	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine	CE122
2084	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine	
2085	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine	CE 50
2091 ^{b,c}	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Bordeaux, France, 1957	CBS 2797
2092 ^b	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Sparkling Mosselle, Germany, 1957	CBS 2796
2093	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, New York, USA	
2094	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, California, USA	
2254	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 2002, Chile	
2255	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 1999, Syrah, Pope Valley, California, USA	
2347	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 2002, Chile	

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Supplemental Table 1 *Brettanomyces* strains screened for aroma characteristics with added aromatic amino acids.

UCD VEN strain number	Genus	Species	Source	Other collection number ^a
2385	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Washington, USA	
2386	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Washington, USA	
2387	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Washington, USA	
2388	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Livermore, California, USA	
2396	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Portugal	Port. 1791
2397	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Portugal	Port. 1792
2398	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Portugal	Port. 2127
2399	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Portugal	Port. 1600
2400	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Portugal	Port. 2114
2401	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Portugal	Port. 1327
2402 ^b	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Portugal	Port. 1679
2403	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Washington, USA	
2404 ^b	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Portugal	Port. 1700
2405	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Portugal	Port. 2101
2406	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Portugal	Port. 2113
2407	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Washington, USA	
2408 ^b	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 2000 France	
2409	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Mexico	
2420	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Oregon, USA	
2421	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Oregon, USA	
2422	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Mexico	
2423	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Mexico	
2426	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, 2001, Sicily, Italy	
2456	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Napa Valley, California, USA	
2459	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Napa Valley, California, USA	
2467	<i>Brettanomyces</i>		Wine, Uruguay	
2484	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Semillon/Sauvignon Blanc blend, Colorado, USA	
2485	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Red, North Carolina, USA	
2486	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Starfruit, Thailand	
2490	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Napa Valley, California, USA	
2492	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Syrah, Lodi, California, USA	
2493	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Zinfandel Rose', Colorado, USA	
2494	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Chardonnay, Sonoma Valley, California, USA	
2503	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, South Africa	
2504 ^b	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, South Africa	
2505	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, South Africa	
2506	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, South Africa	
2507	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Uruguay	
2508	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Uruguay	
2509 ^b	<i>Brettanomyces</i>	<i>bruxellensis</i>	Wine, Uruguay	

^aUCD FST: Phaff Yeast Collection, University of California, Davis, USA; CBS: Centraalbureau voor Schimmelcultures, Fungal Biodiversity Centre, Utrecht, The Netherlands; DBVPG: Collection of Yeasts, Dipartimento di Biologia Vegetale, Perugia, Italy.

^bStrains chosen from initial screen for further GC-MS analysis.

^cStrains used for GC-MS-O analysis.

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Supplemental Table 2 Non-IUPAC (International Union of Pure and Applied Chemistry) chemical names and their IUPAC equivalents.

Common chemical name	IUPAC chemical name
Isoamyl alcohol	3-Methyl-1-butanol
Ethyl butyrate	Ethyl butanoate
Butyric acid	Butanoic acid
Ethyl isovalerate	Ethyl 3-methylbutanoate
Ethyl valerate	Ethyl pentanoate
Ethyl 2-methyl butyrate	Ethyl 2-methylbutanoate
2-Ethylhexanol	2-Ethylhexan-1-ol
Ocimene	3,7-Dimethyl-1,3,7-octatriene
Phenethyl alcohol	2-Phenylethanol
Phenethyl formate	2-Phenylethyl formate
4-Ethylguaiacol	4-Ethyl-2-methoxy-phenol
2-Methoxy-4-vinylphenol	4-Ethenyl-2-methoxyphenol
2-Methoxyphenethyl alcohol	2-(4-Methoxyphenyl) ethanol
Amyl-octanoate	Pentyl octanoate
Bisabolene	1-Methyl-4-(6-methylhepta-2,5-dien-2-yl)cyclohex-1-ene
Phenethyl alcohol	2-Phenylethanol
Phenethyl acetate	1-Phenylethyl acetate
Isoamyl alcohol	3-Methyl-1-butanol
Isovaleric acid	3-Methylbutanoic acid
Phenylacetaldehyde	2-Phenylacetaldehyde
Ethyl butyrate	Ethyl butanoate
Ethyl isobutyrate	Ethyl 2-methylpropanoate
Octanol	Octan-1-ol
Decanol	Decan-1-ol