

Supplementary Table 1 The sensory evaluation standard for jujube wine

Items	Finished indicators	Scores (points)
Colour (10 points)	Light yellow	7–10
	Light brown	4–7
	Dark brown	0–4
Clarity (10 points)	Clear and transparent	7–10
	Slight turbidity or precipitation	4–7
	High turbidity or sedimentation	0–4
Taste (10 points)	Full bodied, mellow coordination, sweet and sour taste	7–10
	Alcohol is lighter, sour, sweet	4–7
	Alcohol is very light, too sour, too sweet, or too bitter	0–4
Aroma (10 points)	Fruitiness is pure, elegant, strong wine aroma	7–10
	Fruitiness is lighter, wine aroma is lighter	4–7
	Fruitiness is very light, wine aroma is very light	0–4
Typicality (10 points)	Perfect, elegant, have a unique style of jujube	7–10
	Jujube characteristic style is not sufficient	4–7
	Jujube characteristic style is very inadequate, does not have the typical characteristics	0–4

Supplementary Table 2 Concentration ($\mu\text{g L}^{-1}$) of the volatile compounds in different treatment jujube wines after being cold stabilised for two months

Compounds	Technological factors						Threshold ($\mu\text{g L}^{-1}$)	Odour activity value	Characteristic odour
	Full-red period (1:1)	Full-red period (1:3)	Full-red period (1:5)	White-ripe period (1:1)	White-ripe period (1:3)	White-ripe period (1:5)			
2,3-Butanediol	39.67 $\pm$ 2.28 ^a	55.27 $\pm$ 6.78 ^a	26.43 $\pm$ 1.28 ^a	47.42 $\pm$ 3.88 ^a	37.44 $\pm$ 2.45 ^a	43.95 $\pm$ 6.30 ^a	120000	<0.1	Fruity, sweet, butter
2-Phenylethanol	28.59 $\pm$ 1.08 ^a	26.96 $\pm$ 3.89 ^a	26.75 $\pm$ 2.54 ^a	29.56 $\pm$ 2.21 ^a	26.78 $\pm$ 1.66 ^a	29.68 $\pm$ 2.45 ^a	1 400	<0.1	Roses, honey, floral
Ethyl butyrate	132.96 $\pm$ 3.30 ^a	103.45 $\pm$ 12.13 ^{cd}	97.18 $\pm$ 2.30 ^d	135.96 $\pm$ 9.22 ^a	121.34 $\pm$ 0.54 ^b	111.64 $\pm$ 9.01 ^c	20	4.86-6.80	Pineapple, apple
Ethyl 2-methylbutyrate	60.16 $\pm$ 7.26 ^a	57.32 $\pm$ 8.65 ^a	34.50 $\pm$ 2.30 ^b	39.89 $\pm$ 8.65 ^b	38.38 $\pm$ 2.38 ^b	18.68 $\pm$ 1.12 ^c	18	1.04-3.34	Fruity, green apple
Ethyl isovalerate	177.33 $\pm$ 9.87 ^a	62.76 $\pm$ 4.39 ^c	51.77 $\pm$ 1.19 ^d	82.37 $\pm$ 5.35 ^b	67.33 $\pm$ 8.57 ^c	71.51 $\pm$ 3.57 ^c	3	17.26-59.11	Fruity, lemon, anise
Isoamyl acetate	531.36 $\pm$ 26.57 ^a	80.45 $\pm$ 5.63 ^e	133.41 $\pm$ 7.68 ^d	218.07 $\pm$ 18.73 ^c	289.27 $\pm$ 20.24 ^b	228.84 $\pm$ 11.44 ^c	30	2.67-17.71	Banana
Ethyl hexanoate	696.66 $\pm$ 34.83 ^a	268.89 $\pm$ 18.82 ^e	386.8 $\pm$ 22.28 ^d	450.12 $\pm$ 27.65 ^c	549.60 $\pm$ 37.58 ^b	707.41 $\pm$ 35.37 ^a	14	19.21-50.53	Banana, green apple
Ethyl heptanoate	55.48 $\pm$ 2.77 ^a	41.92 $\pm$ 2.93 ^b	54.63 $\pm$ 2.18 ^a	21.67 $\pm$ 8.27 ^c	46.97 $\pm$ 3.24 ^b	57.37 $\pm$ 2.87 ^a	300	0.07-0.19	Fruity
Methyl octanoate	33.24 $\pm$ 1.66 ^b	31.96 $\pm$ 2.24 ^b	29.2 $\pm$ 1.17 ^b	50.24 $\pm$ 9.36 ^a	59.08 $\pm$ 6.53 ^a	58.15 $\pm$ 2.91 ^a	200	0.15-0.30	Intense citrus
Ethyl benzoate	78.99 $\pm$ 3.95 ^b	96.88 $\pm$ 6.78 ^a	92.54 $\pm$ 3.7 ^a	29.80 $\pm$ 1.55 ^d	35.99 $\pm$ 3.38 ^c	40.96 $\pm$ 2.05 ^c	60	0.50-1.61	Fruity, floral
Diethyl succinate	30.66 $\pm$ 1.53 ^b	35.01 $\pm$ 2.45 ^a	29.86 $\pm$ 1.19 ^b	31.87 $\pm$ 2.27 ^b	27.46 $\pm$ 1.04 ^b	22.98 $\pm$ 1.72 ^c	1200	<0.1	Fruity, melon
Ethyl octanoate	620.34 $\pm$ 31.02 ^d	508.01 $\pm$ 30.56 ^e	568.3 $\pm$ 22.73 ^d	759.35 $\pm$ 18.85 ^c	1119.37 $\pm$ 30.58 ^b	1473.72 $\pm$ 73.69 ^a	2000	0.25-0.74	Sweet, floral, fruity, banana, pear
Ethyl phenylacetate	26.22 $\pm$ 1.31 ^{bc}	23.54 $\pm$ 1.65 ^d	23.86 $\pm$ 0.96 ^{cd}	31.24 $\pm$ 1.15 ^a	31.14 $\pm$ 0.89 ^a	27.86 $\pm$ 1.39 ^b		-	Honey
Isoamyl hexanoate	17.86 $\pm$ 0.89 ^b	18.22 $\pm$ 1.28 ^b	16.55 $\pm$ 0.66 ^b	25.76 $\pm$ 2.17 ^a	24.56 $\pm$ 3.57 ^a	24.32 $\pm$ 1.22 ^a		-	
Phenethyl acetate	23.58 $\pm$ 1.18 ^c	24.35 $\pm$ 1.7 ^c	23.5 $\pm$ 0.94 ^c	47.86 $\pm$ 3.89 ^a	41.37 $\pm$ 4.50 ^a	29.89 $\pm$ 1.49 ^b	250	0.09-0.19	Fruity, honey, floral
Ethyl nonanoate	21.76 $\pm$ 1.09 ^{bc}	24.04 $\pm$ 1.68 ^b	26.29 $\pm$ 1.05 ^a	23.85 $\pm$ 0.69 ^b	19.87 $\pm$ 1.94 ^c	26.29 $\pm$ 1.31 ^a	1300	<0.1	Fruity, roses
Ethyl decanoate	138.83 $\pm$ 6.94 ^f	299.19 $\pm$ 20.94 ^c	213.17 $\pm$ 8.53 ^e	248.77 $\pm$ 15.42 ^d	351.70 $\pm$ 20.78 ^b	581.03 $\pm$ 29.05 ^a	200	0.69-2.91	Fruity, fatty, pleasant
Isoamyl caprylate	36.46 $\pm$ 1.82 ^c	38.95 $\pm$ 2.73 ^c	36.94 $\pm$ 1.48 ^c	18.18 $\pm$ 1.23 ^d	50.17 $\pm$ 4.59 ^b	76.07 $\pm$ 3.8 ^a	125	0.15-0.61	Fruity, cheese, floral
Ethyl dodecanoate	26.47 $\pm$ 1.32 ^d	110.38 $\pm$ 7.73 ^a	45.99 $\pm$ 1.84 ^c	46.56 $\pm$ 3.25 ^c	60.25 $\pm$ 6.28 ^b	114.79 $\pm$ 5.74 ^a	1500	<0.1	Oily, fatty, fruity
Benzeneacetaldehyde	119.36 $\pm$ 5.97 ^e	248.43 $\pm$ 12.39 ^b	285.46 $\pm$ 11.42 ^a	147.68 $\pm$ 10.66 ^d	253.60 $\pm$ 5.84 ^b	201.06 $\pm$ 10.05 ^c	1	119.36-285.46	Floral, honey
Butylated hydroxytoluene	16.89 $\pm$ 0.84 ^c	17.85 $\pm$ 1.25 ^c	18.18 $\pm$ 0.73 ^c	43.56 $\pm$ 5.58 ^a	38.26 $\pm$ 2.47 ^a	25.35 $\pm$ 1.27 ^b	0.2	84.45-217.80	Phenolic

Odour threshold and characteristic odour reported in the literature (Noguerol-Pato et al., 2012; Bordiga et al., 2014; Cai et al., 2014).

Values are presented as mean $\pm$ SD (n = 3). Different letters in each column indicate significant differences according to LSD test ($P < 0.05$).