

Table S1: Volatile compounds (mg/L) detected after second alcoholic fermentation (2nd AF) and after 12 months of storage “sur lie” in control (CTRL) and chitosan treated (KT) samples. In the same row, different letters indicate significant differences according to Tukey’s test ($p < 0.05$). $n = 3$.

Compound	Sample			
	CTRL_2 nd AF	KT 2 nd AF	CTRL_12M	KT_12M
Acids				
Isobutyric acid	138.85 c	343.51 b	681.92 a	662.07 a
Butanoic acid	450.39 b	546.82 ab	693.80 a	693.88 a
Pentanoic acid	322.51 c	429.56 b	458.33 a	472.92 a
n-Hexanoic acid	3522.00 b	4628.71 a	4010.38 ab	4320.18 ab
Octanoic acid	5343.60 b	6849.02 a	5975.78 ab	6364.81 ab
Decanoic acid	897.58 b	1623.73 a	1032.51 b	1168.24 ab
Benzoic acid	n.d.	n.d.	49.12 a	53.60 a
3-Furancarboxylic acid	132.37 b	215.43 b	615.71 a	589.72 a
Dodecanoic acid	54.00 b	87.68 a	84.46 ab	85.29 ab
Myristic acid	34.49 a	32.30 a	n.d.	n.d.
Palmitic acid	131.44 b	205.32 ab	219.57 ab	310.22 a
Octadecanoic acid	90.07 c	138.23 bc	151.68 b	273.03 a
sum	11117.30 b	15100.30 a	13973.26 a	14993.94 a
Alcohols				
Isobutyl alcohol	1797.79 c	2696.20 b	3628.61 a	3194.76 ab
n-Butanol	21.58 b	28.24 b	45.41 a	40.25 a
3-Penten-2-ol	353.30 a	315.34 a	97.77 b	96.79 b
3-Methyl-1-butanol	64819.35 a	69251.64 a	60668.26 b	65410.32 a
2-Hexanol	327.29 a	265.77 b	41.21 c	49.64 c
3-Methyl-1-pentanol	19.16 c	24.23 bc	36.23 ab	43.23 a
n-Hexanol	394.22 a	431.55 a	414.87 a	435.65 a
3-ethoxy-1-propanol	22.48 a	21.70 a	27.69 a	26.48 a
3-Hexen-1-ol	349.88 a	385.37 a	397.35 a	384.58 a
(s)-3-ethyl-4-methyl-1-pentanol	12.21 b	22.46 b	63.96 a	55.16 a
Butane-2,3-diol	1379.79 b	1873.32 a	1918.33 a	1901.45 a

Compound			Sample		
1-Octanol	n.d.	n.d.	28.92	a	33.42 a
1-methoxy-2-butanol	20.37	b	18.36	b	58.01 a
Furfuryl alcohol	13.23	b	22.91	a	16.87 ab
3-(methylthio) 1-Propanol	233.97	b	321.25	ab	418.04 a
1,3-Propanediol, diacetate	59.09	b	91.04	a	31.72 c
Benzyl Alcohol	174.32	b	224.59	ab	327.31 a
2-phenylethanol	26507.25	ab	29177.35	a	17895.51 b
4-vinyl-2-methoxyphenol	29.71	b	38.99	b	122.44 a
Glycerol	69.89	c	197.23	bc	675.86 a
4-vinylphenol	91.93	b	145.26	b	310.59 a
4-hydroxy-benzeneethanol	5617.09	b	7036.45	ab	8834.09 a
sum	102313.90	b	112589.25	a	96059.05 b
Esters					
Isoamyl acetate	827.96	b	1031.97	a	202.64 c
Ethyl caproate	742.17	a	774.61	a	757.80 a
Ethyl pyruvate	26.97	c	21.13	c	91.12 a
Ethyl lactate	12180.48	ab	11268.33	b	14401.08 ab
Ethyl caprylate	1037.45	a	1059.89	a	841.35 b
Ethyl 3-hydroxypropionate	34.70	b	40.45	ab	40.92 ab
2-Furancarboxylic acid, ethyl ester	18.09	b	20.42	b	53.24 a
Decanoic acid, ethyl ester	92.02	b	119.93	a	112.38 ab
Diethyl succinate	1605.02	b	1811.84	b	4062.96 a
1,3-Propanediol diacetate	59.09	b	91.04	a	31.72 c
ethyl 4-hydroxybutanoate	435.89	b	670.47	a	220.22 c
β-phenethyl acetate	213.62	a	252.99	a	134.24 b
Diethyl malate	4956.34	b	7077.68	a	6688.51 ab
Diethyle 2-hydroxypentanedioate	400.52	c	488.92	bc	1173.09 ab
Ethyl 5-oxotetrahydro-2-furancarboxylate	732.09	b	1000.19	ab	1144.74 a
ethyl 2-hydroxy-3-phenylpropanoate	66.00	b	177.16	a	169.67 a

Compound		Sample				
(+)-Diethyl L-tartrate	n.d.	n.d.	1404.67	a	1084.19	a
Ethyl hydrogen succinate	11694.75 ^b	14260.33 ^{ab}	18489.94 ^{ab}		22892.76 ^a	
Octadecanoic acid methyl ester	n.d.	n.d.	72.31 ^b		108.67 ^a	
Pentanedioic acid diethyl ester	108.66 ^a	114.50 ^a	157.35 ^a		144.38 ^a	
Isobutyl phenylacetate	33.05 ^b	51.02 ^a	n.d.		n.d.	
sum	35264.85 ^c	40332.86 ^b	50249.97 ^a		57151.80 ^a	
Others						
Acetoin	264.29 ^b	314.05 ^{ab}	357.89 ^a		361.96 ^a	
2-Hydroxy-3-pentanone	32.80 ^b	134.37 ^a	28.01 ^b		36.52 ^b	
2-Furaldehyde	n.d.	n.d.	154.89 ^a		151.58 ^a	
cis-5-hydroxy-2-methyl-1,3-dioxane	25.15 ^c	33.48 ^c	80.68 ^b		109.65 ^a	
2-Methyl-3-thiolanone	n.d.	24.30 ^a	23.34 ^a		21.10 ^a	
trans-4-hydroxymethyl-2-methyl-1,3-dioxolane	^c	^b	^a		^a	
	16.34	26.69	46.60		76.07	
cis-5-hydroxy-2-methyl-1,3-dioxane	20.62 ^b	28.44 ^b	64.53 ^a		86.50 ^a	
Benzothiazole	19.67 ^b	29.91 ^{ab}	48.01 ^a		32.39 ^{ab}	
2,3-dihydroxypyrazine	177.50 ^c	264.65 ^{bc}	403.56 ^{ab}		463.75 ^a	
Ethyl 5-oxotetrahydro-2-furancarboxylate	732.08 ^b	1000.19 ^{ab}	1144.73 ^a		1189.90 ^a	
HMF	n.d.	n.d.	50.98 ^a		65.46 ^a	
Acetovanillone	33.83 ^d	49.94 ^c	189.45 ^b		234.78 ^a	
sum	1322.28 ^c	1939.50 ^b	2592.67 ^a		2829.65 ^a	