

**Table S1.** Phenolic compounds contents (mg/L of absolute alcohol) and TPI (mg gallic acid equivalent by L of absolute alcohol) of distillates ageing in barrel of American, French and Spanish oak, and Chestnut.

Initial	American Oak		French Oak		Spanish Oak		Chestnut	
	Intense toast	Medium toast	Intense toast	Medium toast	Intense toast	Medium toast	Intense toast	Medium toast
Gallic ac.	n.d.	8.68 ± 0.18 <sup>b</sup>	8.35 ± 0.88 <sup>b</sup>	5.30 ± 0.20 <sup>ab</sup>	4.84 ± 0.11 <sup>ab</sup>	4.81 ± 0.04 <sup>ab</sup>	3.30 ± 0.45 <sup>a</sup>	43.37 ± 2.24 <sup>c</sup>
p-Hidroxybenxoic ac.	n.d.	1.01 ± 0.19 <sup>a</sup>	0.61 ± 0.66 <sup>a</sup>	1.18 ± 0.01 <sup>a</sup>	0.32 ± 0.32 <sup>a</sup>	5.40 ± 0.11 <sup>c</sup>	3.28 ± 0.12 <sup>b</sup>	29.73 ± 0.32 <sup>e</sup>
Syningic ac.	n.d.	4.61 ± 1.48 <sup>a</sup>	4.62 ± 1.21 <sup>a</sup>	5.07 ± 0.28 <sup>a</sup>	3.45 ± 0.14 <sup>a</sup>	6.24 ± 0.12 <sup>a</sup>	5.46 ± 0.03 <sup>a</sup>	9.42 ± 0.45 <sup>b</sup>
Vanillic ac.	n.d.	6.70 ± 1.78 <sup>b</sup>	4.03 ± 0.48 <sup>ab</sup>	5.19 ± 0.11 <sup>ab</sup>	3.17 ± 0.00 <sup>a</sup>	5.42 ± 0.18 <sup>ab</sup>	4.68 ± 0.03 <sup>ab</sup>	11.54 ± 0.24 <sup>c</sup>
Caffeic ac.	n.d.	1.12 ± 0.00 <sup>a</sup>	1.09 ± 0.05 <sup>a</sup>	0.17 ± 0.03	n.d.	n.d.	n.d.	0.29 ± 0.00
Vanillin	n.d.	8.10 ± 0.20 <sup>b</sup>	7.44 ± 0.86 <sup>b</sup>	7.29 ± 0.38 <sup>b</sup>	2.32 ± 0.05 <sup>a</sup>	8.81 ± 0.25 <sup>b</sup>	7.76 ± 0.13 <sup>b</sup>	10.61 ± 0.52 <sup>c</sup>
Coniferylaldehyde	n.d.	12.38 ± 0.60 <sup>b</sup>	13.61 ± 1.37 <sup>bc</sup>	11.61 ± 0.58 <sup>b</sup>	8.45 ± 0.34 <sup>a</sup>	13.87 ± 0.45 <sup>bc</sup>	12.78 ± 0.30 <sup>b</sup>	14.09 ± 0.68 <sup>bc</sup>
Sinapaldehyde	n.d.	20.81 ± 2.05 <sup>b</sup>	24.93 ± 1.67 <sup>bc</sup>	19.73 ± 1.08 <sup>ab</sup>	14.62 ± 0.62 <sup>a</sup>	32.09 ± 1.05 <sup>ce</sup>	28.00 ± 0.65 <sup>cd</sup>	34.38 ± 1.79 <sup>e</sup>
Syringaldehyde	n.d.	22.17 ± 1.63 <sup>d</sup>	19.37 ± 1.48 <sup>bcd</sup>	16.77 ± 0.83 <sup>b</sup>	10.45 ± 0.41 <sup>a</sup>	18.88 ± 0.57 <sup>bcd</sup>	16.89 ± 0.42 <sup>b</sup>	18.12 ± 0.87 <sup>bc</sup>
Furfural	0.73 ± 0.01 <sup>a</sup>	11.59 ± 0.06 <sup>cd</sup>	10.70 ± 0.03 <sup>c</sup>	13.44 ± 0.70 <sup>d</sup>	6.45 ± 0.27 <sup>b</sup>	16.96 ± 0.59 <sup>e</sup>	18.23 ± 0.43 <sup>e</sup>	19.29 ± 0.68 <sup>e</sup>
5-MF	n.d.	2.57 ± 0.40 <sup>bc</sup>	1.98 ± 0.25 <sup>b</sup>	2.16 ± 0.10 <sup>b</sup>	1.10 ± 0.01 <sup>a</sup>	2.88 ± 0.03 <sup>cd</sup>	2.85 ± 0.04 <sup>cd</sup>	2.25 ± 0.01 <sup>bc</sup>
5-HMF	n.d.	7.67 ± 0.24 <sup>b</sup>	6.61 ± 0.33 <sup>b</sup>	7.00 ± 0.24 <sup>b</sup>	3.85 ± 0.12 <sup>a</sup>	9.28 ± 0.30 <sup>c</sup>	9.17 ± 0.18 <sup>c</sup>	9.22 ± 0.23 <sup>c</sup>
TPI	n.d..	546.1 ± 20.0 <sup>a</sup>	514.8 ± 10.8 <sup>a</sup>	557.0 ± 23.8 <sup>a</sup>	412.7 ± 16.1 <sup>a</sup>	935.1 ± 35.2 <sup>b</sup>	843.0 ± 20.1 <sup>b</sup>	1935.4 ± 64.9 <sup>c</sup>
								2259.0 ± 66.1 <sup>d</sup>

