masse molaire ethanol :	46 g/mol	densite ethanol :	0.79	taux volumique d'alcool (%)
masse molaire sucre :	180 g/mol	densite sucre :	1.55	*taux massique de sucre (g/L)*
				attenuation (%)

	1.020	1.025	1.030	1.035	1.040	1.045	1.050	1.055	1.060	1.065	1.070	1.075	1.080	1.085	1.090	1.095	1.100	1.105	1.110	1.115	1.120	1.125	1.130	1.135	1.140	1.145	1.150
0.990			5.3%	5.9%	6.6%	7.2%	7.9%	8.6%	9.2%	9.9%	10.5%	11.2%	11.8%	12.5%	13.2%	13.8%	14.5%	15.1%	15.8%	16.4%	17.1%	17.8%	18.4%	19.1%	19.7%	20.4%	21.1%
			1.2	*2.9*	*4.5*	*6.1*	*7.7*	*9.3*	*11.0*	*12.6*	*14.2*	*15.8*	*17.4*	*19.1*	*20.7*	*22.3*	*23.9*	*25.5*	*27.2*	*28.8*	*30.4*	*32.0*	*33.6*	*35.3*	*36.9*	*38.5*	*40.1*
			96.5%	93.0%	90.5%	88.5%	86.8%	85.5%	84.4%	83.5%	82.7%	82.0%	81.4%	80.9%	80.4%	80.0%	79.6%	79.3%	78.9%	78.7%	78.4%	78.2%	77.9%	77.7%	77.5%	77.4%	77.2%
0.992		4.3%	5.0%	5.7%	6.3%	7.0%	7.6%	8.3%	8.9%	9.6%	10.3%	10.9%	11.6%	12.2%	12.9%	13.6%	14.2%	14.9%	15.5%	16.2%	16.8%	17.5%	18.2%	18.8%	19.5%	20.1%	20.8%
		1.3	*2.9*	*4.6*	*6.2*	*7.8*	*9.4*	*11.0*	*12.7*	*14.3*	*15.9*	*17.5*	*19.1*	*20.8*	*22.4*	*24.0*	*25.6*	*27.2*	*28.9*	*30.5*	*32.1*	*33.7*	*35.3*	*37.0*	*38.6*	*40.2*	*41.8*
		95.5%	91.7%	88.9%	86.8%	85.2%	83.9%	82.9%	82.0%	81.3%	80.6%	80.1%	79.6%	79.2%	78.8%	78.5%	78.2%	77.9%	77.6%	77.4%	77.2%	77.0%	76.8%	76.7%	76.5%	76.4%	76.2%
0.994	3.4%	4.1%	4.7%	5.4%	6.1%	6.7%	7.4%	8.0%	8.7%	9.3%	10.0%	10.7%	11.3%	12.0%	12.6%	13.3%	13.9%	14.6%	15.3%	15.9%	16.6%	17.2%	17.9%	18.6%	19.2%	19.9%	20.5%
	1.4	*3.0*	*4.6*	*6.3*	*7.9*	*9.5*	*11.1*	*12.7*	*14.4*	*16.0*	*17.6*	*19.2*	*20.8*	*22.5*	*24.1*	*25.7*	*27.3*	*28.9*	*30.6*	*32.2*	*33.8*	*35.4*	*37.0*	*38.7*	*40.3*	*41.9*	*43.5*
	94.1%	89.7%	86.8%	84.8%	83.2%	82.0%	81.1%	80.3%	79.6%	79.0%	78.6%	78.2%	77.8%	77.5%	77.2%	76.9%	76.7%	76.5%	76.3%	76.1%	76.0%	75.8%	75.7%	75.6%	75.5%	75.4%	75.3%
0.996	3.2%	3.8%	4.5%	5.1%	5.8%	6.4%	7.1%	7.8%	8.4%	9.1%	9.7%	10.4%	11.1%	11.7%	12.4%	13.0%	13.7%	14.3%	15.0%	15.7%	16.3%	17.0%	17.6%	18.3%	18.9%	19.6%	20.3%
	3.1	*4.7*	*6.3*	*7.9*	*9.6*	*11.2*	*12.8*	*14.4*	*16.1*	*17.7*	*19.3*	*20.9*	*22.5*	*24.2*	*25.8*	*27.4*	*29.0*	*30.6*	*32.3*	*33.9*	*35.5*	*37.1*	*38.7*	*40.4*	*42.0*	*43.6*	*45.2*
	86.8%	83.9%	82.0%	80.6%	79.6%	78.8%	78.2%	77.6%	77.2%	76.8%	76.5%	76.2%	76.0%	75.8%	75.6%	75.4%	75.3%	75.1%	75.0%	74.9%	74.8%	74.7%	74.6%	74.5%	74.4%	74.4%	74.3%
0.998	2.9%	3.6%	4.2%	4.9%	5.5%	6.2%	6.8%	7.5%	8.2%	8.8%	9.5%	10.1%	10.8%	11.4%	12.1%	12.8%	13.4%	14.1%	14.7%	15.4%	16.1%	16.7%	17.4%	18.0%	18.7%	19.3%	20.0%
	4.8	*6.4*	*8.0*	*9.6*	*11.3*	*12.9*	*14.5*	*16.1*	*17.7*	*19.4*	*21.0*	*22.6*	*24.2*	*25.9*	*27.5*	*29.1*	*30.7*	*32.3*	*34.0*	*35.6*	*37.2*	*38.8*	*40.4*	*42.1*	*43.7*	*45.3*	*46.9*
	79.6%	78.2%	77.2%	76.5%	76.0%	75.6%	75.3%	75.0%	74.8%	74.6%	74.4%	74.3%	74.2%	74.1%	74.0%	73.9%	73.8%	73.7%	73.7%	73.6%	73.6%	73.5%	73.5%	73.4%	73.4%	73.4%	73.3%
1.000	2.6%	3.3%	3.9%	4.6%	5.3%	5.9%	6.6%	7.2%	7.9%	8.6%	9.2%	9.9%	10.5%	11.2%	11.8%	12.5%	13.2%	13.8%	14.5%	15.1%	15.8%	16.4%	17.1%	17.8%	18.4%	19.1%	19.7%
	6.5	*8.1*	*9.7*	*11.3*	*13.0*	*14.6*	*16.2*	*17.8*	*19.4*	*21.1*	*22.7*	*24.3*	*25.9*	*27.6*	*29.2*	*30.8*	*32.4*	*34.0*	*35.7*	*37.3*	*38.9*	*40.5*	*42.1*	*43.8*	*45.4*	*47.0*	*48.6*
	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%	72.4%
1.002	2.4%	3.0%	3.7%	4.3%	5.0%	5.7%	6.3%	7.0%	7.6%	8.3%	8.9%	9.6%	10.3%	10.9%	11.6%	12.2%	12.9%	13.6%	14.2%	14.9%	15.5%	16.2%	16.8%	17.5%	18.2%	18.8%	19.5%
	8.2	*9.8*	*11.4*	*13.0*	*14.7*	*16.3*	*17.9*	*19.5*	*21.1*	*22.8*	*24.4*	*26.0*	*27.6*	*29.2*	*30.9*	*32.5*	*34.1*	*35.7*	*37.4*	*39.0*	*40.6*	*42.2*	*43.8*	*45.5*	*47.1*	*48.7*	*50.3*
	65.1%	66.6%	67.5%	68.2%	68.8%	69.2%	69.5%	69.7%	70.0%	70.1%	70.3%	70.4%	70.6%	70.7%	70.8%	70.8%	70.9%	71.0%	71.1%	71.1%	71.2%	71.2%	71.3%	71.3%	71.3%	71.4%	71.4%
1.004	2.1%	2.8%	3.4%	4.1%	4.7%	5.4%	6.1%	6.7%	7.4%	8.0%	8.7%	9.3%	10.0%	10.7%	11.3%	12.0%	12.6%	13.3%	13.9%	14.6%	15.3%	15.9%	16.6%	17.2%	17.9%	18.6%	19.2%
	9.9	*11.5*	*13.1*	*14.7*	*16.4*	*18.0*	*19.6*	*21.2*	*22.8*	*24.5*	*26.1*	*27.7*	*29.3*	*30.9*	*32.6*	*34.2*	*35.8*	*37.4*	*39.0*	*40.7*	*42.3*	*43.9*	*45.5*	*47.2*	*48.8*	*50.4*	*52.0*
	57.9%	60.8%	62.7%	64.1%	65.1%	65.9%	66.6%	67.1%	67.5%	67.9%	68.2%	68.5%	68.8%	69.0%	69.2%	69.3%	69.5%	69.6%	69.7%	69.9%	70.0%	70.1%	70.2%	70.3%	70.3%	70.4%	70.4%
1.006	1.8%	2.5%	3.2%	3.8%	4.5%	5.1%	5.8%	6.4%	7.1%	7.8%	8.4%	9.1%	9.7%	10.4%	11.1%	11.7%	12.4%	13.0%	13.7%	14.3%	15.0%	15.7%	16.3%	17.0%	17.6%	18.3%	18.9%
	11.6	*13.2*	*14.8*	*16.4*	*18.1*	*19.7*	*21.3*	*22.9*	*24.5*	*26.2*	*27.8*	*29.4*	*31.0*	*32.6*	*34.3*	*35.9*	*37.5*	*39.1*	*40.7*	*42.4*	*44.0*	*45.6*	*47.2*	*48.9*	*50.5*	*52.1*	*53.7*
	50.7%	55.0%	57.9%	60.0%	61.5%	62.7%	63.7%	64.5%	65.1%	65.7%	66.2%	66.6%	66.9%	67.3%	67.5%	67.8%	68.0%	68.2%	68.4%	68.6%	68.8%	68.9%	69.0%	69.2%	69.3%	69.4%	69.5%
1.008	1.6%	2.2%	2.9%	3.6%	4.2%	4.9%	5.5%	6.2%	6.8%	7.5%	8.2%	8.8%	9.5%	10.1%	10.8%	11.4%	12.1%	12.8%	13.4%	14.1%	14.7%	15.4%	16.1%	16.7%	17.4%	18.0%	18.7%
	13.3	*14.9*	*16.5*	*18.1*	*19.8*	*21.4*	*23.0*	*24.6*	*26.2*	*27.9*	*29.5*	*31.1*	*32.7*	*34.3*	*36.0*	*37.6*	*39.2*	*40.8*	*42.4*	*44.1*	*45.7*	*47.3*	*48.9*	*50.5*	*52.2*	*53.8*	*55.4*
	43.4%	49.2%	53.1%	55.8%	57.9%	59.5%	60.8%	61.8%	62.7%	63.5%	64.1%	64.6%	65.1%	65.6%	65.9%	66.3%	66.6%	66.9%	67.1%	67.3%	67.5%	67.7%	67.9%	68.1%	68.2%	68.4%	68.5%
1.010	1.3%	2.0%	2.6%	3.3%	3.9%	4.6%	5.3%	5.9%	6.6%	7.2%	7.9%	8.6%	9.2%	9.9%	10.5%	11.2%	11.8%	12.5%	13.2%	13.8%	14.5%	15.1%	15.8%	16.4%	17.1%	17.8%	18.4%
	15.0	*16.6*	*18.2*	*19.8*	*21.5*	*23.1*	*24.7*	*26.3*	*27.9*	*29.6*	*31.2*	*32.8*	*34.4*	*36.0*	*37.7*	*39.3*	*40.9*	*42.5*	*44.1*	*45.8*	*47.4*	*49.0*	*50.6*	*52.2*	*53.9*	*55.5*	*57.1*
	36.2%	43.4%	48.2%	51.7%	54.3%	56.3%	57.9%	59.2%	60.3%	61.2%	62.0%	62.7%	63.3%	63.9%	64.3%	64.8%	65.1%	65.5%	65.8%	66.1%	66.3%	66.6%	66.8%	67.0%	67.2%	67.4%	67.5%
1.012	1.1%	1.7%	2.4%	3.0%	3.7%	4.3%	5.0%	5.7%	6.3%	7.0%	7.6%	8.3%	8.9%	9.6%	10.3%	10.9%	11.6%	12.2%	12.9%	13.6%	14.2%	14.9%	15.5%	16.2%	16.8%	17.5%	18.2%
	16.7	*18.3*	*19.9*	*21.5*	*23.2*	*24.8*	*26.4*	*28.0*	*29.6*	*31.3*	*32.9*	*34.5*	*36.1*	*37.7*	*39.4*	*41.0*	*42.6*	*44.2*	*45.8*	*47.5*	*49.1*	*50.7*	*52.3*	*53.9*	*55.6*	*57.2*	*58.8*
	28.9%	37.6%	43.4%	47.6%	50.7%	53.1%	55.0%	56.6%	57.9%	59.0%	60.0%	60.8%	61.5%	62.2%	62.7%	63.2%	63.7%	64.1%	64.5%	64.8%	65.1%	65.4%	65.7%	65.9%	66.2%	66.4%	66.6%
1.014	0.8%	1.4%	2.1%	2.8%	3.4%	4.1%	4.7%	5.4%	6.1%	6.7%	7.4%	8.0%	8.7%	9.3%	10.0%	10.7%	11.3%	12.0%	12.6%	13.3%	13.9%	14.6%	15.3%	15.9%	16.6%	17.2%	17.9%
	18.4	*20.0*	*21.6*	*23.2*	*24.8*	*26.5*	*28.1*	*29.7*	*31.3*	*33.0*	*34.6*	*36.2*	*37.8*	*39.4*	*41.1*	*42.7*	*44.3*	*45.9*	*47.5*	*49.2*	*50.8*	*52.4*	*54.0*	*55.6*	*57.3*	*58.9*	*60.5*
	21.7%	31.8%	38.6%	43.4%	47.0%	49.9%	52.1%	53.9%	55.5%	56.8%	57.9%	58.9%	59.7%	60.4%	61.1%	61.7%	62.2%	62.7%	63.2%	63.6%	63.9%	64.3%	64.6%	64.9%	65.1%	65.4%	65.6%
1.016	0.5%	1.2%	1.8%	2.5%	3.2%	3.8%	4.5%	5.1%	5.8%	6.4%	7.1%	7.8%	8.4%	9.1%	9.7%	10.4%	11.1%	11.7%	12.4%	13.0%	13.7%	14.3%	15.0%	15.7%	16.3%	17.0%	17.6%
	20.1	*21.7*	*23.3*	*24.9*	*26.5*	*28.2*	*29.8*	*31.4*	*33.0*	*34.7*	*36.3*	*37.9*	*39.5*	*41.1*	*42.8*	*44.4*	*46.0*	*47.6*	*49.2*	*50.9*	*52.5*	*54.1*	*55.7*	*57.3*	*59.0*	*60.6*	*62.2*
	14.5%	26.1%	33.8%	39.3%	43.4%	46.6%	49.2%	51.3%	53.1%	54.6%	55.8%	56.9%	57.9%	58.7%	59.5%	60.2%	60.8%	61.3%	61.8%	62.3%	62.7%	63.1%	63.5%	63.8%	64.1%	64.4%	64.6%
1.018	0.3%	0.9%	1.6%	2.2%	2.9%	3.6%	4.2%	4.9%	5.5%	6.2%	6.8%	7.5%	8.2%	8.8%	9.5%	10.1%	10.8%	11.4%	12.1%	12.8%	13.4%	14.1%	14.7%	15.4%	16.1%	16.7%	17.4%
	21.8	*23.4*	*25.0*	*26.6*	*28.2*	*29.9*	*31.5*	*33.1*	*34.7*	*36.3*	*38.0*	*39.6*	*41.2*	*42.8*	*44.5*	*46.1*	*47.7*	*49.3*	*50.9*	*52.6*	*54.2*	*55.8*	*57.4*	*59.0*	*60.7*	*62.3*	*63.9*
	7.2%	20.3%	28.9%	35.2%	39.8%	43.4%	46.3%	48.7%	50.7%	52.3%	53.8%	55.0%	56.1%	57.0%	57.9%	58.7%	59.3%	60.0%	60.5%	61.0%	61.5%	61.9%	62.3%	62.7%	63.1%	63.4%	63.7%
1.020	0.0%	0.7%	1.3%	2.0%	2.6%	3.3%	3.9%	4.6%	5.3%	5.9%	6.6%	7.2%	7.9%	8.6%	9.2%	9.9%	10.5%	11.2%	11.8%	12.5%	13.2%	13.8%	14.5%	15.1%	15.8%	16.4%	17.1%
	23.5	*25.1*	*26.7*	*28.3*	*29.9*	*31.6*	*33.2*	*34.8*	*36.4*	*38.0*	*39.7*	*41.3*	*42.9*	*44.5*	*46.1*	*47.8*	*49.4*	*51.0*	*52.6*	*54.3*	*55.9*	*57.5*	*59.1*	*60.7*	*62.4*	*64.0*	*65.6*
	0.0%	14.5%	24.1%	31.0%	36.2%	40.2%	43.4%	46.1%	48.2%	50.1%	51.7%	53.1%	54.3%	55.3%	56.3%	57.1%	57.9%	58.6%	59.2%	59.8%	60.3%	60.8%	61.2%	61.6%	62.0%	62.4%	62.7%