Table S3. DNA microarray analysis of strain A1.
Fuluorescence intensity in the table was normalized by RMA algorithm.

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity				Normalized fluorescence intensity				Normalized fluorescence intensity				Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1	3618	3419	70.2	18.2		43.0	49.7	66.1	61.8	49.6	41.9	82.7	73.4	89.3	70.9	77.7	78.1	74.3	105.1	65.9	94.3
SPH2	306	3760	60.5	20.0		45.6	45.4	55.2	43.7	47.4	61.3	65.7	48.7	53.0	53.0	97.3	55.0	117.1	50.9	58.9	70.2
SPH3	165	2083	130.9	53.6		120.6	115.2	154.5	95.3	113.6	96.5	200.5	135.5	74.4	128.3	183.2	106.0	284.8	94.4	80.0	111.5
SPH4	93	457	653.8	638.8		249.4	278.3	649.8	374.3	342.9	327.9	1036.7	334.1	245.4	962.3	1282.6	427.6	2735.4	601.9	312.6	299.1
SPH5	60	1387	214.0	98.1		161.8	95.8	175.9	183.7	135.0	155.4	244.0	245.6	220.7	415.4	320.4	148.6	391.9	281.4	175.0	72.8
SPH6	1053	3601	65.2	10.6		61.8	48.4	60.2	50.5	56.8	65.1	52.4	57.8	65.9	79.0	65.1	77.5	81.2	78.9	70.7	72.6
SPH7	495	2782	91.1	25.3		81.2	68.8	71.5	92.3	70.1	107.3	85.5	81.6	56.1	81.7	111.6	156.5	100.6	123.7	68.2	101.6
SPH8	627	2261	117.3	27.0		115.6	115.4	137.4	99.1	124.6	134.0	134.1	94.3	132.6	132.9	141.6	76.3	175.1	81.3	78.2	104.2
SPH9	3447	3554	66.5	19.8		67.8	70.9	48.2	76.3	55.1	91.0	46.3	50.4	61.1	71.8	54.5	78.1	53.8	50.3	64.4	123.8
SPH10	696	3381	71.0	14.7		68.5	66.9	61.9	60.5	51.2	59.8	81.6	55.6	56.8	88.7	62.8	97.7	78.9	99.2	73.3	72.9
SPH11	2067	3321	73.0	24.7		84.1	53.0	51.6	62.7	58.4	61.9	59.9	62.6	97.1	70.1	53.1	100.2	57.4	71.5	77.6	146.6
SPH12	792	639	480.9	184.9		403.2	307.0	365.7	338.6	399.9	442.5	431.0	263.8	470.2	751.9	512.8	479.1	924.4	357.9	452.2	793.8
SPH13	507	2668	95.6	40.9		66.1	68.6	68.7	63.0	60.3	77.0	116.7	62.8	125.1	155.2	87.1	116.0	92.7	69.9	209.7	91.1
SPH14	2046	3172	77.6	19.2		55.6	89.4	71.1	72.6	87.4	126.6	81.2	67.9	61.0	77.1	64.3	73.8	68.1	61.3	69.1	114.5
SPH15	429	817	370.0	267.5		401.0	455.3	212.5	156.7	595.1	554.6	186.4	104.1	1066.7	702.8	218.9	143.0	555.7	187.3	225.1	154.1
SPH16	411	317	932.6	598.8		953.5	1303.6	991.7	1102.0	1007.1	1376.3	361.4	1627.0	2093.8	1874.8	399.4	398.1	403.6	553.2	263.6	211.9
SPH17	1737	2233	118.7	54.1		94.6	85.8	103.0	128.9	81.1	60.2	77.5	83.5	181.9	137.9	80.3	256.7	77.9	133.8	204.3	112.2
SPH18	1431	3424	70.1	19.5		65.4	57.4	55.7	81.4	57.4	54.9	54.8	66.9	84.5	72.2	58.1	88.3	55.2	56.1	87.0	126.3
SPH19	663	1306	226.7	141.7		152.4	140.0	264.6	333.5	268.0	361.0	621.0	352.6	243.8	124.1	192.7	197.7	90.9	120.2	85.4	79.6
SPH20	294	57	3798.3	3641.1		1027.0	1502.1	1812.4	1934.8	2812.1	5152.8	11285.4	602.0	11753.3	8668.2	1559.3	791.2	4017.8	1358.0	4184.8	2311.2
SPH21	267	939	315.7	355.4		235.9	99.7	114.4	121.7	475.8	95.6	209.2	84.9	225.2	193.5	175.2	237.1	155.4	431.5	1493.0	703.5
SPH22	555	1469	197.6	110.5		113.0	90.5	100.9	127.3	235.3	128.9	183.9	105.3	470.7	261.2	104.8	144.2	194.8	366.3	326.5	208.5
SPH23	369	327	903.6	512.3		595.9	591.1	607.2	556.9	1102.4	985.0	851.2	580.4	791.6	690.1	530.6	344.8	1651.3	2398.5	1158.7	1022.3
SPH24	2790	1695	169.0	73.2		210.4	202.0	140.0	182.9	243.1	381.2	138.9	164.2	211.9	127.3	111.7	91.2	102.2	164.2	148.7	83.4
SPH25	2316	3467	68.7	11.0		64.8	60.6	53.4	82.5	60.9	78.4	55.7	56.4	67.2	74.5	75.1	93.7	61.9	69.3	77.6	67.7
SPH26	2586	3208	76.5	32.2		64.0	51.2	53.0	115.8	49.7	56.0	59.4	65.9	81.8	65.3	63.3	147.3	53.1	56.6	99.5	141.9
SPH27	465	802	381.1	215.6		242.3	242.4	318.8	196.8	276.5	268.3	478.3	399.8	260.6	636.1	627.7	204.1	1006.8	241.3	385.9	311.5
SPH28	579	2423	108.1	28.7		99.7	99.8	113.4	84.4	87.4	77.7	101.6	168.9	82.1	112.3	104.4	163.2	103.5	126.7	67.7	136.4
SPH29	918	3370	71.3	19.6		61.5	83.5	70.4	74.0	49.7	56.3	60.2	133.4	66.3	73.6	56.3	91.4	59.6	69.1	69.5	65.3
SPH30	2433	674	458.2	329.6		200.2	522.1	185.1	243.7	183.8	489.6	703.4	406.3	1014.8	573.6	136.1	183.0	191.1	230.7	960.9	1107.2
SPH31	831	1292	229.0	107.0		262.4	388.7	143.3	148.5	163.7	259.3	253.1	186.2	491.4	353.7	106.0	121.9	140.8	167.2	218.0	259.6

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH32	2712	3175	77.4	14.6		66.2	96.0	81.4	92.5	61.5	71.9	65.5	81.5	97.0	102.9	66.4	74.9	60.4	54.5	81.6	84.5
SPH33	585	898	332.9	135.7		358.6	504.5	413.9	602.2	225.5	299.2	211.8	453.1	533.3	350.6	298.7	317.5	220.9	181.0	175.0	181.3
SPH34	852	676	456.8	212.1		744.3	542.8	459.4	520.3	744.1	712.7	269.1	670.0	601.0	607.4	242.2	264.7	364.4	175.2	215.9	175.0
SPH35	519	3290	74.0	23.1		59.7	57.1	59.5	53.8	49.3	64.1	99.6	49.8	86.4	80.3	67.8	68.5	129.6	60.6	108.0	89.9
SPH36	459	2501	104.2	27.9		72.9	80.5	85.8	95.7	79.6	98.0	113.2	77.5	183.3	130.6	96.4	107.0	104.8	94.8	138.5	108.7
SPH37	927	2323	113.7	32.3		77.4	81.5	90.1	90.2	78.1	109.4	146.3	68.8	132.7	147.9	90.3	143.5	120.6	135.4	129.9	177.5
SPH38	264	3442	69.5	11.5		89.4	77.6	58.5	62.8	91.4	67.6	69.1	49.7	77.5	69.3	60.9	56.5	68.4	81.6	68.2	63.9
SPH39	1149	2664	95.8	21.5		125.2	98.2	87.6	89.8	131.9	81.7	89.7	60.2	115.7	91.7	73.2	60.2	108.7	119.1	111.1	89.4
SPH40	387	2499	104.4	50.9		60.7	83.6	109.4	90.7	80.9	96.6	107.2	91.2	95.6	83.3	150.9	70.8	262.0	162.6	64.0	61.7
SPH41	336	3859	57.5	8.5		60.6	55.3	53.4	55.5	48.6	68.4	55.7	42.4	58.8	60.9	53.2	65.8	59.9	78.5	53.2	50.5
SPH42	387	2908	85.7	57.7		60.0	63.4	81.8	59.0	79.8	57.2	73.1	53.5	70.2	70.9	100.8	42.0	156.4	278.9	67.3	57.4
SPH43	1002	3690	62.6	9.6		53.9	62.1	60.0	54.7	48.7	70.4	66.3	55.6	54.8	65.9	68.8	59.4	76.0	53.3	66.2	85.3
SPH44	1710	3801	59.3	12.1		56.1	61.1	53.9	51.9	53.2	67.3	54.3	45.3	46.2	56.6	50.0	62.6	76.3	64.2	55.9	93.7
SPH45	1065	3261	74.7	20.6		61.4	62.7	51.8	64.9	61.2	61.9	61.9	61.6	121.5	104.5	62.1	57.6	97.8	95.5	91.0	77.4
SPH46	1230	3153	77.9	27.8		55.7	50.3	68.4	77.6	54.5	59.3	76.7	60.0	93.1	82.2	88.8	55.6	162.9	79.7	74.0	107.9
SPH47	888	3489	68.1	20.3		54.1	42.6	76.1	68.0	54.2	46.6	74.0	53.3	85.1	68.3	87.4	60.3	126.3	63.7	54.2	74.7
SPH48	1809	3062	80.6	20.0		74.0	55.4	63.5	70.6	70.3	65.1	71.9	63.9	81.7	75.2	74.9	78.6	101.2	123.5	102.0	118.4
SPH49	852	3948	52.6	9.6		53.2	52.3	44.6	59.9	45.2	47.4	46.0	46.5	69.2	49.8	43.8	57.8	42.2	48.7	58.7	76.0
SPH50	1704	3856	57.6	6.8		56.9	53.0	53.0	58.0	49.8	61.2	54.0	50.5	69.9	62.0	48.6	64.9	59.6	52.4	70.7	56.8
SPH51	618	1454	200.2	102.0		431.8	335.0	296.2	200.9	340.3	118.9	237.9	155.4	112.0	118.0	224.5	121.9	115.7	119.4	101.5	173.6
SPH52	1782	658	471.5	229.2		708.2	753.3	532.0	476.8	931.3	860.4	346.3	438.5	253.0	221.9	339.3	344.1	216.5	228.2	455.3	438.9
SPH53	1368	1961	139.9	47.9		194.9	171.7	177.7	149.5	230.2	176.5	126.4	150.7	95.8	89.2	144.5	82.1	133.2	175.6	64.6	75.6
SPH54	900	1845	149.5	44.0		179.3	160.6	126.1	114.7	215.0	178.7	161.9	100.4	115.5	144.2	215.5	88.4	222.4	158.7	109.2	101.3
SPH55	687	3111	79.0	13.6		76.1	70.5	67.1	56.1	73.7	101.2	73.1	71.0	76.8	86.0	75.6	100.0	85.6	92.2	98.2	61.4
SPH56	699	1132	266.8	83.4		337.6	388.3	344.6	351.9	300.8	232.4	224.9	347.2	220.1	191.6	311.6	112.0	304.3	287.1	134.2	180.4
SPH57	441	1321	225.3	299.7		60.0	64.1	221.9	78.4	80.1	61.8	380.4	100.8	55.3	244.1	521.4	77.8	1230.0	246.9	83.4	97.9
SPH58	999	2741	93.0	19.7		87.8	68.0	98.1	77.0	73.8	58.9	111.1	101.8	115.4	70.2	107.8	97.9	126.9	102.8	79.8	110.0
SPH59	849	3662	63.4	14.0		54.9	46.8	51.7	63.2	55.8	60.2	53.2	56.3	89.0	57.6	56.1	77.4	55.1	62.3	80.3	93.9
SPH60	852	3142	78.2	15.2		72.7	54.4	69.6	109.3	72.2	59.4	69.3	69.3	88.4	77.4	65.9	102.1	74.2	83.5	96.0	87.1
SPH61	1530	3827	58.6	8.2		48.6	53.1	49.7	49.8	55.9	74.5	58.6	55.1	54.6	54.4	56.8	73.5	56.1	68.2	60.7	67.6
SPH62	2115	3384	71.0	18.5		64.6	49.4	58.5	78.0	59.4	51.7	55.2	58.9	84.5	64.1	63.7	82.3	82.1	72.9	87.4	122.7
SPH63	534	2700	94.5	47.9		74.0	62.2	81.7	63.5	64.5	74.4	138.8	63.4	65.6	105.7	171.2	75.5	233.4	87.3	63.0	87.6
SPH64	1299	3280	74.2	24.2		53.3	66.9	64.9	53.5	56.1	68.3	93.5	68.5	76.9	87.3	97.4	69.2	146.8	57.0	79.6	48.1
SPH65	1014	2433	107.3	58.8		67.8	53.5	122.8	83.9	68.8	85.8	137.1	67.0	64.7	148.9	162.6	75.0	291.0	108.7	80.7	98.4

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH66	879	3743	61.3	6.6		59.8	68.1	56.9	58.4	53.1	55.9	61.6	50.5	69.7	54.8	74.9	64.9	67.6	58.9	60.5	64.6
SPH67	561	2894	86.1	18.0		77.0	77.8	76.6	126.4	62.0	88.8	68.9	97.5	84.7	85.8	68.8	115.3	77.3	68.7	102.5	99.8
SPH68	738	3397	70.8	12.4		77.2	84.4	62.2	75.1	52.3	75.3	62.7	63.5	67.6	69.6	50.1	96.6	62.2	69.4	87.5	76.5
SPH69	885	3626	64.5	18.4		75.2	61.3	51.3	72.0	49.9	54.0	48.3	57.3	68.8	63.3	43.1	108.3	47.6	73.4	58.8	100.1
SPH70	7821	3789	59.6	8.4		70.5	70.1	52.2	63.1	56.8	62.1	61.3	48.1	69.1	52.2	49.9	61.7	51.6	56.1	53.3	75.9
SPH71	1554	3532	66.9	10.2		75.9	80.8	56.5	63.1	68.6	90.8	55.2	55.4	70.9	69.4	54.9	57.5	65.9	66.9	64.1	74.6
SPH72	759	2590	99.0	50.7		92.1	88.5	58.1	71.9	75.1	125.0	85.7	66.5	76.4	87.3	71.7	226.0	74.0	56.6	115.3	214.3
SPH73	1347	3877	57.0	15.7		46.6	47.6	43.2	55.2	44.9	63.7	45.7	48.6	54.8	53.2	53.5	70.0	48.6	55.6	75.8	105.0
SPH74	2118	3905	55.6	9.0		55.9	51.7	58.3	58.0	46.8	66.5	43.7	48.1	61.6	52.9	44.1	68.0	47.9	60.0	74.5	51.3
SPH75	1173	529	565.5	480.1		910.4	298.5	542.5	646.7	1338.3	186.0	85.6	314.7	214.4	99.1	352.4	904.2	57.7	296.2	1397.6	1403.5
SPH76	1521	2223	119.3	41.0		154.7	191.0	185.6	159.9	145.8	89.5	67.8	154.0	91.1	90.1	106.3	129.3	71.7	80.2	80.5	110.5
SPH77	162	2428	107.7	33.6		75.2	127.9	106.8	127.7	67.9	176.6	63.1	110.4	93.8	109.2	76.7	168.7	87.8	80.0	133.1	117.6
SPH78	1275	2286	116.0	41.0		73.1	169.9	145.3	170.4	76.9	155.8	71.6	194.6	67.9	105.0	89.2	138.1	94.6	88.9	92.0	123.2
SPH79	867	816	370.4	212.1		347.3	703.7	633.2	572.2	299.7	471.2	163.7	748.2	239.5	234.0	520.4	363.8	236.9	184.5	118.4	89.8
SPH80	822	376	783.2	420.8		744.5	1231.9	1406.1	1209.1	598.6	825.2	407.4	1582.3	517.1	498.2	1190.4	829.8	530.0	477.5	280.3	202.4
SPH81	1212	1113	271.0	151.6		331.8	477.8	498.7	392.3	243.2	221.4	120.9	575.0	182.3	140.9	315.8	313.7	121.4	184.8	77.5	138.6
SPH82	627	1153	261.0	90.7		211.4	306.5	379.3	356.7	205.7	212.5	174.0	485.3	257.6	251.9	307.7	308.1	192.6	206.6	166.4	154.1
SPH83	2949	1625	178.2	100.2		278.2	303.0	177.5	137.6	221.2	207.3	90.0	457.2	96.4	111.6	79.9	140.7	88.8	191.9	113.6	156.6
SPH84	1125	495	602.7	265.3		742.6	927.3	723.8	775.9	1016.0	783.3	336.1	919.7	497.5	432.8	624.7	774.0	227.5	292.0	323.4	247.2
SPH85	1158	435	685.5	368.5		614.5	1441.6	1246.9	958.6	590.7	769.1	384.2	1187.7	525.6	371.8	709.2	888.1	226.9	338.3	360.8	354.6
SPH86	639	800	382.6	217.6		423.2	785.6	660.9	525.4	371.6	385.8	195.6	678.3	186.8	186.9	486.5	583.8	111.6	167.9	205.9	165.5
SPH87	132	333	880.2	484.0		1004.9	1556.8	1421.0	1415.8	910.6	688.0	801.4	1274.3	572.9	347.0	1405.7	1428.1	251.1	396.3	384.6	223.9
SPH88	1617	171	1552.7	572.6		1938.0	2207.5	2108.2	2127.3	1962.4	1428.2	1756.3	2253.6	1173.3	821.3	1892.4	1729.1	436.9	1029.8	1053.6	925.8
SPH89	849	651	474.2	122.6		457.2	544.2	553.9	639.1	546.1	413.5	657.1	541.9	526.3	288.0	447.0	569.0	215.0	343.1	460.9	384.4
SPH90	1134	1189	252.1	101.1		279.9	468.0	374.0	325.6	276.0	187.8	195.2	353.4	238.1	138.1	250.5	318.9	102.7	252.4	158.4	115.0
SPH91	1710	3057	80.8	13.7		73.6	86.6	75.8	70.7	83.1	75.7	72.0	69.9	65.4	87.7	101.8	91.2	108.2	96.8	58.9	74.8
SPH92	285	2549	101.5	44.0		82.9	78.6	78.4	117.9	78.5	81.7	64.8	71.2	216.2	87.8	195.4	127.5	94.6	74.7	79.1	94.8
SPH93	1671	2640	97.1	36.6		75.6	63.9	90.9	67.1	52.0	147.4	66.9	72.9	133.2	107.5	171.7	157.8	96.9	97.9	77.9	74.7
SPH94	1719	2207	120.6	48.2		74.3	77.4	126.1	92.7	95.7	67.0	114.8	124.2	196.4	193.4	139.5	82.6	207.8	171.1	63.9	102.4
SPH95	465	488	614.9	232.7		439.2	569.8	594.4	501.7	766.9	554.7	435.3	618.2	1236.3	855.9	417.3	543.7	598.7	934.3	464.5	307.9
SPH96	324	445	669.3	491.9		965.1	666.4	542.6	446.1	2134.9	614.1	305.1	881.1	859.3	1018.4	385.0	157.8	811.0	701.0	123.7	96.7
SPH97	291	2182	122.4	36.5		148.8	158.6	143.8	131.6	178.7	110.2	136.9	178.3	104.0	76.5	103.3	148.9	67.2	63.5	109.2	98.2
SPH98	1002	809	373.4	193.7		466.6	603.8	568.7	526.1	535.9	447.6	467.2	641.2	258.2	165.0	399.4	428.8	159.9	98.4	89.7	118.5
SPH99	957	1249	239.6	123.0		296.9	408.7	376.2	299.8	264.0	279.8	191.0	521.9	141.6	115.4	244.6	231.7	137.3	84.8	106.6	133.6

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH100	1323	904	331.3	189.0		387.9	594.0	557.1	488.4	345.6	307.6	318.1	676.9	137.9	143.8	465.8	382.8	147.9	90.0	114.6	142.5
SPH101	1176	2227	118.9	34.0		132.1	138.9	132.7	167.0	114.3	88.6	84.0	166.3	156.0	72.9	99.2	116.1	80.6	71.2	117.4	165.6
SPH102	300	1300	227.8	88.6		194.3	221.8	263.0	190.0	250.0	261.4	207.5	208.5	145.0	293.0	312.8	152.4	481.2	224.5	127.9	112.2
SPH103	192	1839	149.9	53.1		168.4	259.7	149.8	148.3	232.0	164.6	83.5	203.3	146.8	83.7	114.1	174.4	64.6	155.2	104.3	145.5
SPH104	1734	88	2778.6	1326.1		2451.8	3913.2	3818.7	3250.5	2454.3	2153.9	3119.9	3529.3	1550.3	1154.5	3997.1	5290.8	589.6	4276.6	1533.1	1373.8
SPH105	927	489	612.4	453.4		1178.1	1018.8	862.3	773.1	1166.5	1532.3	333.1	879.7	117.4	177.2	568.6	304.6	429.8	216.0	151.9	88.8
SPH106	1794	1587	183.1	91.0		227.8	283.2	301.0	211.1	178.8	146.6	131.4	416.5	123.2	133.1	202.5	198.8	113.2	88.0	97.4	77.6
SPH107	1305	874	343.7	217.4		231.8	542.1	656.7	470.3	219.8	372.6	236.1	762.1	143.2	187.1	618.6	487.9	254.6	115.7	118.3	81.8
SPH108	870	1938	141.8	72.1		149.0	225.9	222.1	251.8	140.1	135.8	73.8	274.6	85.6	71.7	156.6	188.0	61.0	60.0	76.1	97.0
SPH109	1098	1818	152.6	85.2		154.7	276.5	281.4	223.2	171.0	155.4	80.4	316.0	80.5	86.9	169.9	174.6	63.9	63.9	54.8	88.7
SPH110	1065	1051	285.6	141.8		440.2	426.3	421.3	402.8	409.1	285.9	177.0	499.7	205.6	104.5	333.0	367.3	118.0	108.4	143.9	126.8
SPH111	1113	254	1128.6	551.8		1720.0	1283.5	1576.2	1465.0	2220.8	1214.5	1182.9	1269.4	768.4	565.3	1382.3	1629.3	405.4	336.5	507.3	530.3
SPH112	684	383	769.4	457.7		1296.2	780.5	998.7	906.3	1851.0	955.7	1119.9	994.5	471.7	298.2	825.8	826.2	269.8	278.5	218.6	218.4
SPH113	2592	417	715.5	395.3		878.0	913.4	1157.4	1053.6	964.4	809.4	698.8	1304.2	277.3	250.1	961.8	1167.9	280.3	307.4	293.6	129.8
SPH114	1323	911	329.8	91.5		393.5	407.0	418.7	363.0	420.4	443.8	265.5	459.6	198.6	250.8	305.7	342.3	356.8	207.8	244.0	198.9
SPH115	942	75	3255.1	1909.5		4741.4	4727.8	3656.8	3970.5	5829.8	5976.9	1128.6	5807.3	3684.0	3927.6	2662.8	2343.4	674.2	1582.2	864.0	503.6
SPH116	708	311	944.9	367.7		1237.6	1253.4	1135.8	1126.4	1270.9	1541.2	861.7	1381.1	1141.7	745.8	794.9	716.9	641.3	617.9	320.2	331.0
SPH117	660	820	366.7	124.6		411.6	532.5	365.8	466.5	413.8	578.1	289.7	501.4	405.5	393.8	261.3	298.9	210.7	400.6	162.2	174.3
SPH118	360	1474	197.4	100.6		137.0	147.5	176.6	134.0	130.5	173.9	259.7	132.6	130.9	328.0	230.6	148.3	513.4	154.9	159.3	201.0
SPH119	93	3866	57.4	34.2		49.3	36.2	59.3	44.5	49.1	34.3	64.8	40.2	62.7	54.8	88.8	41.0	174.5	37.3	39.8	42.2
SPH120	1038	2960	84.2	18.4		76.6	55.1	63.2	86.1	80.3	81.4	81.5	68.3	93.0	97.7	60.8	130.6	99.7	92.8	82.2	97.6
SPH121	291	3585	65.6	14.1		59.3	55.7	59.0	56.7	57.8	83.9	66.7	54.9	81.2	56.2	50.6	90.2	50.8	74.7	59.6	92.5
SPH122	963	2877	87.3	35.7		70.3	45.8	65.4	51.6	56.3	73.7	73.6	64.2	68.4	120.0	76.5	147.0	94.3	168.3	92.3	129.3
SPH123	1656	3899	56.0	15.0		52.4	43.6	43.4	55.7	50.9	52.7	49.7	48.7	75.3	46.9	55.7	61.9	57.7	53.1	44.7	104.0
SPH124	1566	2492	104.7	31.7		76.6	69.5	88.3	89.1	61.2	76.4	108.2	84.3	141.4	130.0	142.9	100.9	160.6	128.5	74.5	141.9
SPH125	1686	3543	66.8	14.4		54.9	56.9	51.5	81.6	57.5	69.6	58.8	60.2	102.6	59.0	65.6	63.9	66.1	52.3	89.5	78.1
SPH126	2559	3824	58.6	11.9		54.4	49.4	48.4	69.9	52.2	59.6	46.8	51.0	84.7	53.5	50.3	60.7	49.4	53.8	75.1	78.4
SPH127	414	3159	77.8	27.0		65.1	58.4	56.0	58.2	64.9	65.7	67.5	59.2	75.7	66.1	58.7	106.5	70.0	101.9	130.3	141.1
SPH128	612	3778	60.0	13.8		60.5	48.6	48.5	61.3	48.3	49.9	59.1	57.4	84.4	52.9	52.0	80.5	44.7	69.6	53.8	89.4
SPH129	492	3711	62.1	15.2		66.9	50.1	49.6	81.9	64.0	49.7	51.9	50.6	104.7	54.2	59.1	70.6	56.7	46.0	68.1	70.0
SPH130	591	3786	59.7	16.4		57.4	42.5	49.7	67.8	50.1	44.7	50.0	56.2	87.5	64.8	46.8	78.8	45.4	55.3	58.5	99.8
SPH131	192	3942	52.9	9.2		57.0	46.8	39.0	54.8	43.0	59.2	51.7	42.3	53.8	51.2	53.0	70.4	47.2	45.9	71.1	60.0
SPH132	1482	3594	65.4	11.6		62.5	48.7	51.1	56.0	56.4	55.3	68.0	58.9	73.4	71.9	73.3	67.1	75.0	92.2	78.6	57.5
SPH133	354	2780	91.2	37.4		71.1	56.1	83.2	67.2	74.1	96.1	100.2	66.2	72.4	127.0	97.2	76.1	212.7	73.2	75.1	111.0

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH134	87	197	1396.1	719.7		1108.4	1133.1	1373.6	1121.0	1327.3	1415.7	1753.1	1061.0	721.5	1369.7	1993.4	695.0	3608.1	2014.1	989.1	653.5
SPH135	213	698	443.4	334.1		259.0	271.2	321.7	210.2	348.6	329.8	319.1	253.3	228.0	274.6	355.0	199.7	702.1	1441.1	896.1	685.8
SPH136	171	194	1428.0	1173.3		600.5	526.5	944.1	677.6	822.2	600.9	1145.8	499.6	879.1	1561.6	1440.9	649.4	2517.6	4830.8	2706.7	2445.4
SPH137	891	1254	238.7	204.4		132.4	142.3	195.3	116.9	176.3	111.3	198.4	98.5	234.3	277.5	219.1	143.0	437.3	939.7	235.2	162.5
SPH138	354	3451	69.0	19.9		55.7	46.8	51.2	72.6	44.9	60.4	64.4	61.8	77.9	74.7	54.2	86.6	58.2	99.0	77.2	119.0
SPH139	81	2288	115.9	75.5		95.2	64.0	77.4	88.5	55.4	81.1	89.0	75.3	82.2	86.7	76.7	281.8	81.7	250.4	103.5	266.1
SPH140	2079	3209	76.5	18.2		78.8	55.2	61.7	71.3	64.9	87.3	75.7	63.3	68.2	68.2	69.1	77.6	116.8	77.2	67.6	120.6
SPH141	156	2396	109.6	26.1		83.5	75.9	102.4	76.6	107.5	80.4	124.3	87.2	121.8	103.9	120.5	130.5	159.6	119.8	157.0	102.1
SPH142	288	429	700.3	611.5		267.5	248.4	877.9	590.1	320.0	411.3	1046.0	877.0	241.7	1140.8	1311.2	213.0	2547.1	452.2	460.8	200.0
SPH143	1149	3228	75.8	17.2		56.5	52.8	66.4	83.6	52.4	103.0	69.5	75.6	65.8	81.5	68.0	112.9	81.0	72.8	73.5	97.5
SPH144	504	3413	70.3	16.8		56.6	51.3	62.6	55.1	50.7	54.4	67.4	68.0	74.4	98.8	72.7	81.0	78.3	87.4	60.0	106.8
SPH145	390	3084	79.9	34.7		56.7	59.0	57.9	87.2	48.8	78.5	58.2	62.6	64.2	95.3	55.9	184.9	70.5	73.2	98.4	127.2
SPH146	1089	3600	65.3	22.0		54.6	48.2	52.9	58.3	49.4	75.6	59.5	52.1	54.4	72.7	48.2	77.6	57.6	64.1	82.1	136.8
SPH147	606	3644	63.9	10.8		61.0	49.6	52.9	69.3	51.5	71.1	66.0	47.8	53.2	58.8	64.0	72.7	79.0	80.0	67.4	78.3
SPH148	639	2246	117.9	34.1		77.5	73.3	94.6	116.6	91.3	109.6	104.3	94.8	103.1	132.4	151.5	122.4	126.5	127.3	146.9	213.7
SPH149	477	3888	56.5	11.8		51.2	47.1	49.6	48.1	48.1	49.5	51.9	49.7	60.4	52.9	65.9	59.2	67.7	47.4	64.2	92.1
SPH150	465	3847	57.9	16.7		50.9	46.4	45.3	55.9	43.7	62.3	47.5	50.3	72.1	50.3	43.7	68.6	47.3	62.1	72.6	108.2
SPH151	285	3202	76.6	19.0		61.1	50.9	71.0	65.4	55.6	76.0	88.1	58.1	75.1	82.2	115.5	74.4	110.1	102.8	69.8	68.9
SPH152	141	263	1104.8	432.8		1710.4	1328.0	1555.9	1322.7	1455.4	1231.5	1423.9	1335.6	740.2	652.5	1339.8	875.7	1223.6	881.9	447.6	152.5
SPH153	348	1268	234.6	110.9		417.9	374.4	322.8	246.9	370.5	344.6	190.8	340.6	117.9	141.0	201.2	125.2	145.1	212.9	97.1	104.5
SPH154	138	153	1718.2	534.0		1775.5	1883.0	2260.6	2221.3	1757.7	1662.0	1770.3	1418.0	1223.6	1562.1	1937.4	1668.8	2387.0	2571.6	796.6	596.4
SPH155	321	568	535.6	168.3		635.7	577.5	671.9	506.3	683.8	464.7	624.6	419.0	333.2	516.3	631.0	362.0	801.8	757.0	406.5	177.8
SPH156	342	2991	82.7	14.6		69.9	71.1	73.8	68.5	66.4	71.5	81.0	77.8	70.1	86.2	83.7	101.8	97.1	110.1	84.8	109.5
SPH157	300	3114	79.0	29.4		64.4	53.7	60.2	85.6	50.3	100.1	60.8	87.6	63.4	106.1	68.4	80.0	71.9	71.2	67.4	172.4
SPH158	453	3004	82.4	22.1		58.2	44.9	66.0	75.7	54.6	79.6	83.8	99.8	70.0	111.0	90.7	82.9	112.4	124.7	92.4	72.4
SPH159	678	2644	96.7	30.7		62.4	63.4	82.1	80.8	72.8	89.2	80.3	87.5	86.7	140.7	77.9	171.3	94.6	123.3	96.0	138.5
SPH160	630	1540	187.7	110.5		108.0	74.3	184.1	121.1	107.7	109.9	258.1	192.0	149.0	242.0	308.2	118.7	525.7	197.6	124.5	181.8
SPH161	393	3746	61.2	11.0		58.1	50.1	43.1	63.1	51.7	65.2	49.6	61.9	75.8	58.5	54.3	81.5	56.1	59.9	76.1	74.2
SPH162	2871	2831	89.2	82.6		55.9	59.2	58.8	66.2	63.9	61.6	68.9	63.5	68.5	74.3	58.4	105.3	70.2	395.8	78.5	77.4
SPH163	279	885	338.8	908.5		104.3	89.6	93.0	74.0	130.5	126.1	165.4	90.4	96.8	130.4	77.9	86.0	123.0	3744.1	156.3	132.1
SPH164	141	1575	183.7	171.9		73.7	79.6	202.4	133.8	113.9	78.9	277.8	95.7	103.2	264.2	311.8	71.7	757.9	160.0	134.5	80.9
SPH165	1959	2435	107.1	35.3		141.1	147.2	143.0	110.7	180.9	63.5	85.0	135.5	90.9	71.3	121.2	109.0	98.7	89.7	59.1	67.7
SPH166	1374	1013	294.7	155.5		438.8	546.9	325.2	248.9	377.2	589.9	490.0	370.7	159.6	166.5	212.0	160.3	189.5	165.7	155.7	118.6
SPH167	612	1841	149.8	73.1		102.6	121.8	218.1	210.3	79.0	135.3	90.4	370.3	114.9	137.5	148.9	167.2	124.0	195.2	95.9	86.0

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH168	927	1674	171.9	57.8		208.7	153.0	147.4	157.7	278.7	90.1	225.4	157.9	226.5	117.4	105.0	95.4	211.7	214.3	238.1	122.5
SPH169	411	875	343.6	160.0		300.0	186.6	296.7	253.5	354.1	360.3	361.4	249.6	269.1	294.2	370.2	142.8	756.5	640.8	451.5	209.8
SPH170	1221	909	330.3	100.8		296.8	278.0	278.1	300.7	357.8	417.5	274.7	264.4	306.6	452.6	322.2	230.0	618.1	399.2	221.8	265.6
SPH171	1377	847	354.8	189.5		575.2	405.1	304.1	246.8	679.2	533.2	272.3	797.7	262.5	232.2	232.3	308.5	202.5	267.1	180.0	177.5
SPH172	297	1394	212.4	146.8		402.4	368.2	196.8	127.6	367.4	326.5	156.1	566.7	132.1	113.7	124.2	73.9	123.8	163.7	80.2	75.1
SPH173	1125	1308	226.6	162.2		519.4	313.2	268.8	208.3	311.5	323.6	145.8	629.9	180.2	116.1	135.4	131.8	89.8	117.3	77.7	56.2
SPH174	1104	1860	148.4	39.1		209.5	169.6	140.6	187.6	206.5	152.3	149.9	126.6	207.4	122.7	125.5	156.7	92.2	120.5	87.2	119.0
SPH175	66	364	804.5	277.0		1262.4	860.8	915.5	1071.3	1111.2	1011.3	906.6	716.3	987.5	745.9	765.0	786.7	626.7	537.3	373.7	194.5
SPH176	486	3218	76.2	14.7		94.6	84.7	89.8	86.6	93.3	67.0	64.0	94.8	85.6	63.1	65.5	56.6	59.4	58.9	64.5	90.2
SPH177	69	374	787.9	257.5		1075.4	790.3	883.7	608.9	1074.9	996.7	757.7	1209.9	925.0	1029.6	646.2	533.6	614.8	661.3	567.0	231.8
SPH178	669	1103	273.2	100.4		405.8	357.6	317.0	222.5	428.2	316.4	284.9	405.1	325.9	276.1	211.9	130.7	258.5	170.6	123.4	136.5
SPH179	945	2347	112.4	19.6		122.0	163.5	116.3	106.7	92.3	101.0	109.6	109.3	85.6	105.4	114.3	116.5	142.0	120.2	86.0	108.2
SPH180	972	1203	248.8	197.2		130.6	105.1	204.7	138.5	136.7	125.1	274.0	189.5	97.5	222.2	385.6	152.2	461.3	885.0	255.4	218.1
SPH181	651	314	935.3	1374.8		246.6	205.6	210.7	156.9	455.2	107.7	265.8	100.8	555.0	558.1	295.2	549.5	321.2	3039.4	3530.9	4365.6
SPH182	474	3863	57.5	10.5		52.4	50.7	46.3	46.2	48.4	76.0	58.5	43.7	53.3	58.4	50.0	69.7	62.9	59.3	66.3	77.2
SPH183	1215	3087	79.8	23.0		51.9	59.0	68.8	103.5	66.0	57.1	140.2	50.2	91.6	71.7	91.4	79.6	88.4	71.6	89.9	95.8
SPH184	2025	3448	69.2	22.5		55.7	47.3	54.7	54.0	51.7	54.2	115.6	48.3	68.0	56.2	63.9	64.6	88.0	73.6	97.3	113.5
SPH185	99	2746	92.7	48.8		58.3	50.4	72.7	61.0	71.2	74.9	245.1	64.1	82.7	117.7	77.9	55.8	116.7	81.3	151.7	100.8
SPH186	1317	2209	120.3	32.9		89.2	112.7	142.6	79.2	99.0	85.3	117.1	121.1	129.9	142.3	145.9	98.5	215.0	117.4	131.3	97.6
SPH187	390	3846	58.0	7.6		51.5	54.3	52.3	53.5	50.2	62.7	51.5	58.9	60.6	61.8	52.4	69.4	52.3	58.7	58.6	78.4
SPH188	651	2007	136.7	53.6		149.0	111.0	117.6	73.8	159.8	102.4	169.1	87.4	88.7	163.8	176.5	111.5	300.0	140.2	110.1	126.2
SPH189	2157	2400	109.3	39.0		92.1	66.6	93.8	91.5	79.0	98.9	120.8	70.3	90.5	111.2	150.8	112.4	233.2	112.0	110.0	115.9
SPH190	360	1536	188.1	231.3		109.4	73.0	105.6	127.5	114.6	91.8	114.0	77.1	134.0	88.7	125.5	344.8	74.3	1015.9	213.1	200.1
SPH191	519	404	735.2	812.9		363.5	255.4	372.5	341.4	445.2	272.6	452.4	179.2	430.4	528.1	637.1	1213.5	347.9	3482.2	1341.8	1099.8
SPH192	747	372	793.2	730.8		409.3	310.9	411.9	491.1	667.1	520.7	600.5	248.8	436.4	774.3	688.1	910.7	492.6	3321.0	1186.3	1221.9
SPH193	465	1675	171.8	104.5		160.2	117.9	102.1	178.3	192.4	103.4	117.1	85.4	219.7	108.2	103.9	173.1	83.9	498.8	282.8	220.9
SPH194	957	259	1113.3	537.9		1003.8	784.6	509.7	576.0	1381.8	1208.9	1216.9	329.9	1352.0	1420.7	783.0	659.2	1356.7	916.3	2401.0	1912.4
SPH195	537	2239	118.4	42.6		126.5	106.2	69.9	82.3	204.9	171.4	139.7	55.0	124.7	134.5	79.2	88.3	114.5	85.8	186.8	124.5
SPH196	747	2258	117.4	55.0		98.0	99.0	62.2	66.5	197.1	259.2	123.9	57.2	101.1	125.8	84.1	67.1	131.7	86.8	171.5	147.5
SPH197	588	535	558.3	253.9		421.5	435.4	397.8	247.7	862.5	746.2	545.3	265.9	603.3	724.4	519.8	311.0	1262.1	466.6	586.9	537.2
SPH198	417	1705	166.4	98.7		181.7	198.0	79.4	81.1	347.6	361.1	87.9	70.6	309.8	232.8	82.7	104.7	166.8	86.8	134.1	137.1
SPH199	336	2028	135.6	28.6		111.9	155.4	114.3	117.0	210.6	146.0	145.4	120.1	163.7	135.9	140.3	133.2	148.0	84.1	137.1	106.7
SPH200	2403	2655	96.2	27.5		118.5	114.1	103.6	103.8	150.1	101.5	66.6	144.5	94.5	70.3	77.3	110.6	55.7	76.5	67.1	85.2
SPH201	1260	3552	66.5	13.8		58.3	51.5	60.9	50.5	46.9	75.3	54.0	59.9	69.3	65.6	77.5	79.5	74.9	93.2	88.6	58.5

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH202	2382	3520	67.4	11.6		49.9	58.8	66.7	75.3	52.5	60.7	59.2	65.2	69.1	58.1	69.8	69.4	71.3	85.1	71.9	95.5
SPH203	1356	3361	71.5	30.8		53.6	43.2	56.6	77.0	46.4	67.7	59.5	65.5	59.6	67.7	69.4	60.7	73.9	177.9	74.3	91.3
SPH204	1020	2551	101.3	75.1		72.9	51.4	71.9	101.1	54.1	61.2	78.5	54.9	172.6	71.4	74.5	86.0	90.2	357.4	87.5	135.0
SPH205	1101	2983	83.0	84.7		53.4	45.1	58.8	60.2	59.1	57.0	57.5	45.7	110.7	56.9	58.4	64.8	76.2	395.0	50.1	79.0
SPH206	1704	1995	138.0	249.1		53.5	46.7	73.9	61.5	59.9	73.7	92.9	57.8	80.5	81.4	105.7	63.5	136.4	1068.5	71.7	79.9
SPH207	1362	1697	168.5	334.5		67.0	69.5	78.2	110.2	85.2	55.2	94.4	80.7	115.9	87.3	108.5	70.9	104.9	1420.8	92.2	55.3
SPH208	105	1190	252.0	444.6		128.7	157.9	120.4	76.0	234.3	119.6	169.5	118.7	137.3	143.5	157.6	88.7	224.9	1911.7	141.6	101.4
SPH209	2010	1965	139.6	77.4		137.3	249.5	197.1	184.5	93.9	112.5	80.3	360.4	149.8	93.2	125.6	133.2	71.6	86.4	71.7	87.5
SPH210	714	1247	240.2	170.4		203.8	501.3	422.5	434.1	186.9	239.4	79.5	631.2	299.3	96.8	199.6	143.2	80.7	122.8	85.3	117.4
SPH211	771	853	352.3	197.8		311.4	627.5	561.8	462.3	308.7	490.5	152.4	833.0	308.2	254.2	318.6	363.4	166.0	196.3	154.8	127.3
SPH212	504	1699	168.3	63.2		156.7	268.2	229.5	246.7	120.2	160.9	114.5	283.1	153.1	144.8	171.9	214.4	101.0	155.3	98.5	73.6
SPH213	1365	1893	145.5	42.3		142.2	220.4	212.9	185.1	123.4	132.1	101.6	220.0	125.8	110.6	152.5	151.5	87.4	123.5	111.5	127.9
SPH214	1131	1869	147.4	66.8		249.0	256.4	242.2	204.8	152.3	83.9	127.0	226.7	150.2	81.3	124.8	118.3	75.0	104.5	82.0	79.4
SPH215	1230	1357	217.8	80.2		265.1	266.6	344.8	352.6	217.0	151.7	206.7	294.9	203.2	178.7	305.8	175.0	128.0	192.5	104.3	98.8
SPH216	1326	2749	92.6	12.9		92.5	87.7	98.1	118.9	92.3	83.0	76.7	94.7	96.4	79.8	92.1	86.2	82.1	120.3	78.6	102.3
SPH217	996	670	460.1	99.9		572.2	485.3	512.8	403.4	568.6	471.5	500.8	542.5	473.9	381.9	478.5	406.1	344.4	634.7	303.8	280.2
SPH218	492	2248	117.8	22.6		98.9	122.3	129.9	169.2	102.5	143.6	91.0	131.7	133.1	118.1	105.2	127.1	77.9	113.6	94.4	125.9
SPH219	687	3247	75.0	17.1		91.6	94.8	86.8	79.3	95.6	85.6	56.9	83.6	68.9	58.9	50.2	85.2	47.2	94.1	66.2	55.5
SPH220	1002	1926	142.8	25.3		181.1	165.5	123.4	157.2	130.0	161.9	123.5	163.5	122.6	117.0	111.9	157.2	92.2	164.8	154.8	159.0
SPH221	1719	502	597.7	230.6		868.8	742.6	581.1	578.4	883.7	816.6	1067.0	456.2	355.8	296.0	554.0	626.4	266.1	337.2	586.5	546.8
SPH222	339	530	563.1	173.3		610.9	597.3	463.5	443.6	655.3	649.1	661.1	347.2	365.0	418.8	502.9	677.4	489.2	1056.9	644.1	427.9
SPH223	1152	2561	100.9	23.1		101.1	83.3	79.2	68.6	92.3	110.0	91.4	79.2	75.0	114.9	93.8	107.0	131.3	105.5	154.0	128.7
SPH224	1155	2896	86.1	49.6		57.8	59.3	53.8	63.7	48.4	92.3	130.4	66.0	73.7	61.5	60.4	114.5	74.1	66.5	249.9	105.4
SPH225	1281	3465	68.8	30.7		46.2	44.8	63.4	52.1	46.2	46.9	93.2	74.5	60.0	65.3	88.3	51.4	170.2	66.1	61.6	70.4
SPH226	453	1939	141.8	92.1		67.9	75.7	111.5	113.5	80.6	90.4	172.8	163.3	131.9	174.4	252.2	105.9	436.9	94.7	103.7	93.5
SPH227	1083	2678	95.2	46.2		67.8	53.9	110.1	62.3	67.3	55.0	164.1	146.3	59.3	79.4	140.3	53.7	206.1	72.7	105.3	79.8
SPH228	1188	3443	69.4	16.9		74.4	57.9	59.3	68.0	58.0	97.2	81.3	51.7	51.6	70.5	81.5	53.8	112.2	65.8	59.8	68.0
SPH229	849	3387	70.9	20.8		57.0	49.4	66.3	52.5	55.2	72.5	67.0	53.5	57.1	77.2	81.6	70.0	136.7	82.0	76.8	80.1
SPH230	876	3166	77.7	22.4		61.1	62.3	61.9	66.9	56.0	114.0	68.1	59.8	66.3	97.4	71.8	72.1	131.4	107.8	70.6	75.1
SPH231	1095	3773	60.2	14.2		50.8	55.9	44.4	46.4	57.5	77.9	54.9	42.2	59.4	66.6	43.7	72.4	92.4	63.3	58.6	76.9
SPH232	1197	929	321.3	382.2		114.7	94.3	138.0	90.6	167.5	298.8	200.4	118.2	563.7	505.1	237.0	97.1	1580.3	670.1	162.5	102.3
SPH233	1059	2415	108.5	27.8		78.4	69.6	83.9	86.7	105.5	141.5	101.8	86.7	106.2	96.8	94.7	127.6	118.3	136.3	126.4	176.1
SPH234	714	2574	100.3	27.5		97.9	86.4	111.5	113.4	89.9	73.9	90.5	90.4	91.4	126.4	103.2	81.1	184.8	80.8	68.4	114.8
SPH235	1125	444	669.8	417.2		703.2	439.8	588.9	428.9	773.6	361.3	461.8	209.1	1032.3	865.1	959.1	776.8	1937.1	265.5	515.1	399.7

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH236	852	276	1069.4	608.8		1311.3	1439.1	1989.1	1618.9	1136.2	931.4	443.1	1413.2	851.8	522.8	2033.1	1738.6	872.5	323.7	236.5	249.7
SPH237	1407	28	6346.7	2890.6		6567.4	5022.9	8852.7	10150.0	5662.8	6942.2	4372.7	8523.9	6715.1	6751.4	10275.1	10754.4	4828.9	1666.0	2417.5	2043.8
SPH238	1335	1555	186.2	118.3		161.4	214.0	360.4	294.6	83.8	107.7	118.3	302.4	78.9	80.3	396.7	371.9	135.9	80.5	101.7	90.1
SPH239	2259	27	6572.5	7348.0		12222.0	6362.7	13022.5	18675.4	1659.7	1077.6	1397.3	5654.8	1942.9	1639.3	17194.3	21221.3	990.1	459.7	905.1	735.4
SPH240	843	270	1086.8	439.8		1929.5	1139.6	1394.0	1187.7	630.1	421.0	687.6	806.6	817.7	758.0	1815.9	1670.5	910.7	1293.8	1098.7	827.6
SPH241	972	3195	76.7	19.4		60.8	59.6	70.0	69.7	72.7	63.6	72.1	72.6	71.1	70.4	63.3	68.8	92.6	133.1	78.9	108.4
SPH242	858	1661	172.9	130.1		84.7	81.9	205.4	97.9	119.4	74.6	236.8	110.9	114.0	262.4	390.7	88.4	535.3	180.0	79.1	105.4
SPH243	552	3192	76.8	17.9		87.2	63.6	63.1	74.2	59.3	81.5	82.8	100.5	65.5	60.9	71.8	65.6	86.6	127.6	63.0	76.3
SPH244	318	1907	144.5	100.3		124.8	118.3	111.0	89.5	77.2	87.2	186.6	161.9	73.6	108.0	144.7	69.0	319.3	442.4	84.6	113.5
SPH245	2046	2377	110.8	42.2		72.1	86.8	78.4	116.7	69.5	155.2	84.7	80.8	76.2	165.2	91.2	185.4	75.3	103.2	185.1	147.5
SPH246	573	2779	91.2	26.5		134.7	123.5	101.8	106.1	136.9	89.5	73.4	77.3	108.6	106.1	81.4	71.1	76.4	62.6	56.6	53.2
SPH247	606	1826	151.8	49.9		166.6	148.1	124.0	132.3	162.4	86.4	202.0	72.7	260.0	209.6	101.2	130.0	136.5	140.8	140.2	216.3
SPH248	789	2846	88.5	17.7		70.6	75.2	73.9	95.2	77.2	81.6	72.2	74.9	113.0	84.4	75.8	104.4	76.8	102.7	113.2	125.4
SPH249	393	3831	58.5	8.5		57.3	57.4	74.5	59.6	51.0	49.8	58.9	71.7	50.8	46.3	53.3	52.2	67.5	58.2	56.8	70.7
SPH250	1116	2120	127.3	62.3		87.8	236.8	255.9	202.5	88.0	151.6	92.1	178.4	107.4	63.4	146.1	131.6	69.8	61.9	81.5	82.2
SPH251	1425	308	950.6	639.0		745.5	1695.5	2092.4	1836.2	786.0	1073.8	678.9	1255.4	1089.7	580.3	1232.6	1569.6	130.8	200.1	134.5	107.8
SPH252	1257	704	439.2	309.8		292.2	922.8	1076.1	820.9	387.3	471.5	293.4	538.1	609.0	273.0	476.8	558.3	61.5	99.4	74.5	72.0
SPH253	2829	275	1069.7	714.5		681.4	2028.8	2410.1	1767.6	745.4	1202.3	1063.1	1241.6	1511.3	743.1	1400.9	1695.2	125.0	245.8	142.1	112.2
SPH254	1443	62	3542.2	2126.6		3407.7	5956.2	6425.7	5881.7	4297.9	4537.6	2312.9	2909.5	6277.1	3798.3	3970.6	4602.8	326.9	1263.3	425.1	282.1
SPH255	279	59	3650.2	2684.7		1976.8	5861.9	9280.7	7407.0	1940.6	3512.1	2468.4	3928.0	5043.6	2974.2	5970.2	5725.7	411.5	1103.3	392.4	407.8
SPH256	714	135	1923.0	1316.4		1123.4	2750.6	4713.0	3619.5	1392.7	1705.7	1623.6	2045.5	2661.8	1573.8	2887.9	3275.0	203.2	773.6	215.3	204.3
SPH257	1743	155	1701.5	1139.5		919.5	2271.3	3979.1	3324.8	1217.8	1448.1	1477.9	2114.3	2213.9	1229.4	2684.0	2865.7	200.2	840.5	223.9	213.8
SPH258	351	123	2070.7	1474.8		834.5	3035.1	5077.6	3378.2	892.6	1428.9	1251.0	2995.5	2669.5	1463.8	4000.8	3274.2	333.7	2139.0	215.6	140.8
SPH259	390	507	590.9	383.9		259.3	844.0	1457.6	838.8	364.2	457.4	382.2	714.7	836.6	520.5	905.0	983.8	113.1	641.1	86.0	50.1
SPH260	738	241	1189.4	694.7		779.0	1178.2	1991.9	1703.5	862.6	927.1	826.1	884.8	1739.5	1079.2	1167.4	1661.4	590.0	3011.5	390.6	236.9
SPH261	993	208	1322.9	1097.2		734.3	1174.8	1405.4	1125.4	2119.5	2075.4	653.2	795.5	3964.6	3261.1	635.5	691.8	172.5	1916.4	248.7	191.8
SPH262	993	1081	278.2	133.7		122.3	407.9	375.2	387.0	230.1	407.4	137.5	272.3	465.0	434.2	180.4	308.6	95.5	391.1	115.1	122.0
SPH263	510	324	909.7	546.8		350.1	862.0	1256.3	1046.5	705.1	1118.9	497.9	973.1	2161.0	1896.7	930.8	887.5	290.6	1044.9	306.6	227.8
SPH264	2604	954	307.9	245.9		149.2	290.4	359.9	338.0	395.1	409.8	133.7	323.3	1035.4	641.5	203.4	177.2	71.3	221.9	70.4	105.6
SPH265	2478	1309	226.5	194.3		189.6	100.1	441.6	590.6	83.0	91.5	120.1	734.0	110.6	113.5	220.0	272.1	167.6	172.3	106.6	111.3
SPH266	852	1794	155.0	103.1		111.1	74.3	261.3	344.9	87.7	63.0	103.9	428.4	117.4	100.0	168.6	133.5	171.7	107.4	90.1	116.2
SPH267	1056	83	2939.7	1863.7		3660.5	1987.7	1907.0	1966.4	7151.5	6333.0	1568.6	2155.5	3625.8	4535.1	1224.5	1265.4	4675.9	1452.9	2042.7	1483.5
SPH268	1344	309	946.9	631.2		1378.8	1419.6	867.3	789.8	2027.8	2244.2	326.0	1439.1	1242.0	924.7	491.6	435.7	822.1	344.3	234.3	163.7
SPH269	549	648	476.0	150.8		588.7	556.1	509.5	503.9	640.7	636.7	470.6	552.1	418.8	430.8	506.0	249.6	746.8	300.5	244.1	261.4

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH270	966	2473	105.3	38.9		84.2	110.3	112.4	89.6	91.4	71.8	117.8	98.0	106.5	109.4	178.0	92.6	210.6	83.8	59.7	68.5
SPH271	2712	344	865.9	513.2		359.7	330.6	705.5	817.6	544.6	322.0	1395.7	443.1	929.2	908.8	513.3	714.3	1370.7	735.7	2011.0	1751.8
SPH272	327	76	3236.2	1191.5		3005.4	2599.5	2191.3	2697.3	3607.8	3438.8	1968.6	1871.4	3904.8	4332.3	1783.9	1692.4	5460.4	3815.7	4519.2	4889.7
SPH273	1263	283	1038.8	611.1		1308.1	1862.2	1904.1	1969.7	704.1	1251.7	325.0	1749.2	1046.1	831.9	1195.4	1111.5	403.1	440.3	344.6	174.2
SPH274	213	803	380.0	101.1		328.4	471.1	468.2	383.2	429.7	248.4	340.2	467.2	317.4	327.8	532.4	353.3	502.6	453.8	291.4	164.2
SPH275	1626	3921	54.5	9.3		54.9	58.6	47.6	54.1	45.4	75.2	39.7	54.8	59.4	48.7	41.2	64.8	50.7	52.7	59.3	65.5
SPH276	954	1229	244.2	109.2		413.8	341.8	384.4	340.3	359.5	142.6	239.3	234.9	158.9	85.7	309.4	324.8	141.4	119.3	117.8	193.6
SPH277	114	1520	190.3	88.9		159.2	232.9	134.2	103.4	314.8	123.3	303.0	92.3	270.6	199.9	134.6	81.5	312.5	155.6	323.4	103.5
SPH278	387	1245	240.4	122.8		219.7	258.1	244.6	165.0	201.9	269.3	216.5	203.9	121.5	258.1	298.4	119.7	489.4	542.7	107.5	129.9
SPH279	783	1753	159.6	45.8		184.0	230.1	157.6	134.0	249.5	174.5	96.1	172.7	126.7	178.6	86.7	141.6	134.1	218.3	123.4	145.7
SPH280	630	1690	169.9	63.3		177.8	142.6	116.8	154.7	231.3	139.5	107.7	88.1	348.1	202.4	141.5	222.8	218.4	139.0	140.4	147.6
SPH281	1944	536	558.0	256.6		908.6	793.9	731.8	882.2	708.9	541.3	466.3	870.0	604.6	296.3	683.8	533.5	188.8	185.7	344.0	187.7
SPH282	1146	2508	103.9	29.8		101.8	107.1	98.9	104.7	80.0	131.7	82.4	93.4	76.6	100.3	88.6	136.9	97.7	81.5	84.9	195.3
SPH283	963	2921	85.2	21.4		74.7	118.2	83.2	68.3	142.0	74.5	80.9	66.1	97.9	77.6	68.0	57.5	93.7	75.4	99.8	85.2
SPH284	90	1165	258.2	54.1		211.0	219.5	215.5	271.5	241.1	316.8	241.0	195.9	254.0	295.7	256.9	262.5	419.3	229.6	281.3	219.6
SPH285	555	2006	136.8	31.9		107.7	181.1	157.5	104.7	97.7	158.4	120.3	139.2	97.5	193.4	121.0	179.4	153.5	130.1	148.5	98.9
SPH286	1497	741	410.7	171.4		605.1	702.1	606.7	578.9	378.5	440.8	261.3	656.2	382.4	310.7	446.4	309.2	265.1	234.4	215.9	177.9
SPH287	510	394	750.7	391.9		1135.6	1393.0	1106.0	1075.3	869.6	981.3	387.6	1228.0	793.4	830.8	674.9	352.7	534.6	284.2	161.1	203.1
SPH288	720	1708	165.7	81.5		169.6	259.0	264.9	226.2	139.0	188.4	94.4	373.9	154.8	175.7	134.7	98.2	116.4	97.6	73.3	85.7
SPH289	1860	2275	116.5	43.1		107.5	106.9	121.7	109.9	85.8	115.7	95.6	249.9	104.1	88.3	139.1	115.8	174.2	91.3	89.4	69.4
SPH290	360	753	404.6	501.2		136.0	144.6	468.9	157.2	200.5	151.9	747.9	232.2	187.5	620.9	912.9	67.8	2025.7	161.7	180.7	77.2
SPH291	2256	3344	72.3	19.7		54.0	61.1	71.7	62.6	63.2	55.4	82.0	56.0	68.3	61.5	92.2	59.6	129.4	72.4	71.2	95.9
SPH292	1707	2200	121.2	25.9		144.2	116.8	124.0	126.4	161.0	100.5	136.9	83.9	118.0	102.2	130.4	182.6	93.2	96.2	108.7	114.1
SPH293	174	2086	130.6	70.2		54.6	70.9	127.3	89.5	78.7	77.4	201.1	104.9	161.9	186.1	219.3	78.3	308.7	155.6	110.3	65.0
SPH294	450	2714	94.0	23.3		81.4	71.5	79.6	90.9	68.1	90.9	74.6	91.4	95.4	133.7	87.6	99.2	161.1	96.8	95.5	87.2
SPH295	444	1660	172.9	169.3		72.8	76.4	201.2	103.7	97.8	69.0	271.0	131.1	106.7	244.6	314.0	68.3	734.5	127.1	82.2	66.7
SPH296	1008	856	351.4	93.7		466.2	498.1	430.4	445.2	386.9	412.0	370.2	416.8	292.6	250.8	302.0	308.2	197.8	180.3	310.0	354.4
SPH297	135	833	359.9	207.9		419.6	693.5	652.7	551.2	182.4	199.0	365.0	400.6	81.1	250.5	526.8	200.3	662.2	338.2	123.2	112.8
SPH298	1137	2124	127.0	83.9		150.3	399.8	169.9	228.1	89.6	76.7	92.8	116.0	82.3	68.2	109.4	89.6	92.8	95.4	69.7	101.4
SPH299	2040	795	384.0	381.9		534.0	297.5	795.0	957.8	78.4	51.3	97.0	991.7	142.4	93.5	660.7	1056.4	97.9	64.6	137.2	89.0
SPH300	60	36	5203.5	6997.8		2611.0	2485.9	1462.6	3718.0	4565.1	1077.0	2990.7	484.7	65.0	126.4	8876.0	13749.7	272.7	89.5	17871.5	22809.6
SPH302	2655	1383	214.2	179.6		617.2	165.0	209.2	294.2	68.5	59.1	59.6	574.5	250.3	161.6	249.5	401.5	79.7	88.9	67.8	80.2
SPH303	1431	813	370.8	363.7		583.1	955.8	340.7	294.8	141.2	227.3	177.8	1073.4	102.6	154.1	194.5	98.9	204.3	1149.0	124.5	110.8
SPH304	1203	2504	104.1	30.7		93.0	130.5	123.4	143.1	77.9	86.2	67.7	132.3	98.0	63.9	84.3	129.3	62.8	106.3	100.4	166.5

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH305	93	880	339.9	243.9		182.2	538.9	602.4	423.8	184.9	198.2	253.6	659.0	142.3	160.6	511.7	101.8	490.9	857.0	64.1	66.9
SPH306	735	3046	81.1	18.7		65.1	108.9	89.7	92.8	62.1	60.3	58.0	103.7	64.8	69.6	70.2	95.8	85.0	107.0	62.9	101.8
SPH307	1167	2002	137.4	35.3		171.0	181.9	167.3	185.7	138.1	146.6	110.5	138.1	128.6	99.4	104.6	147.0	84.2	177.9	71.8	144.9
SPH308	1011	1248	239.6	234.7		444.5	334.2	51.7	66.6	440.1	304.5	52.0	57.9	472.9	363.2	42.6	89.6	128.6	864.4	56.4	64.8
SPH309	2124	1790	155.7	139.8		297.9	603.1	63.9	69.0	174.8	193.8	69.1	58.6	115.3	101.8	80.2	63.6	95.2	256.6	81.8	166.7
SPH310	894	1266	235.5	263.4		523.7	1116.8	99.6	102.8	229.7	376.0	130.4	64.7	164.1	171.3	142.2	93.7	158.3	206.0	95.4	93.8
SPH311	1110	1727	163.5	178.5		375.1	762.4	69.1	79.9	204.3	209.4	75.4	62.8	116.8	107.5	106.0	79.4	100.0	99.6	71.2	96.2
SPH312	1077	3733	61.5	16.1		63.3	112.5	46.2	63.7	56.8	62.8	44.3	44.5	56.6	65.8	52.6	75.1	52.3	57.6	61.8	68.4
SPH313	1203	3237	75.3	22.9		89.5	144.6	51.9	60.5	71.9	80.8	63.0	54.3	76.3	68.4	58.0	78.9	59.6	60.6	89.8	96.9
SPH314	375	2773	91.5	37.5		84.8	221.2	79.6	61.3	94.2	82.8	88.8	65.5	79.5	93.2	99.9	77.2	113.6	53.2	85.0	85.0
SPH315	573	1111	271.3	157.1		262.5	397.3	385.7	341.0	214.0	260.4	79.4	437.8	220.0	264.9	235.3	161.7	199.7	698.3	100.8	82.3
SPH316	2175	787	387.9	224.6		447.6	768.2	650.4	521.1	308.4	478.6	245.5	864.0	428.0	290.9	366.5	227.1	172.9	129.1	156.4	151.3
SPH317	162	149	1751.9	983.6		2258.3	3588.3	2583.9	2382.5	1232.0	2105.4	1064.1	3124.7	1678.2	1422.1	2308.6	927.5	2195.8	651.0	396.0	111.7
SPH318	1473	2605	98.4	48.1		96.4	202.7	116.4	91.5	67.5	86.4	66.5	224.2	92.1	74.1	64.9	94.0	54.5	69.3	106.1	68.0
SPH319	1200	2620	97.9	24.9		94.4	127.4	88.2	128.2	86.9	85.7	71.1	136.7	117.3	103.2	69.2	101.4	66.1	66.8	86.8	137.1
SPH320	447	1631	177.5	82.7		198.3	312.4	223.7	201.0	168.4	193.2	87.7	393.8	206.2	173.3	108.5	137.0	93.7	112.5	119.4	111.6
SPH321	516	3308	73.3	17.0		66.9	90.2	64.8	78.7	57.0	85.2	54.7	108.9	76.4	72.1	64.5	74.4	47.9	69.3	58.3	103.3
SPH322	390	3597	65.3	18.6		52.9	79.7	57.6	65.4	51.7	77.8	43.0	97.7	111.8	63.3	52.4	58.8	44.9	55.5	65.6	67.0
SPH323	582	2069	132.1	48.8		122.5	165.9	168.0	119.1	83.7	121.1	106.8	280.8	81.0	118.1	127.4	149.4	105.4	104.6	90.4	169.8
SPH324	1269	1503	192.5	68.6		129.8	225.0	268.4	190.9	94.2	115.1	189.9	320.4	175.1	210.4	214.4	159.8	331.9	131.6	145.3	177.8
SPH325	1188	3852	57.7	13.1		57.0	58.9	49.2	55.1	44.1	57.9	41.6	64.6	72.8	50.8	47.7	79.6	41.2	48.2	79.8	75.4
SPH326	489	3578	65.8	17.6		51.7	73.7	65.6	60.0	55.9	72.0	50.4	82.3	76.2	63.6	50.7	70.9	51.3	58.2	51.0	119.0
SPH327	750	3849	57.9	9.0		54.0	62.3	54.8	60.9	44.0	55.1	45.8	65.7	70.5	54.5	49.6	67.4	50.4	53.9	60.9	76.1
SPH328	687	2270	116.8	91.1		72.4	80.7	73.9	67.4	65.1	73.7	257.9	86.8	78.8	73.9	71.6	83.3	65.5	87.6	352.4	278.4
SPH329	1176	1997	137.9	155.7		60.2	61.4	57.9	65.2	58.5	58.2	496.7	79.7	67.6	62.7	64.5	91.9	68.3	64.3	458.6	390.5
SPH330	786	2382	110.4	54.5		67.4	83.9	78.4	86.9	64.1	115.2	265.9	71.7	78.4	104.8	92.7	105.8	121.9	71.7	168.6	189.0
SPH331	1008	3405	70.5	25.3		57.8	53.3	48.6	87.9	48.8	59.3	105.6	55.8	82.3	56.3	41.9	82.6	48.4	69.1	99.8	130.9
SPH332	1176	3275	74.3	40.0		55.2	45.9	54.1	57.7	53.5	59.5	191.5	47.5	62.2	56.2	60.1	67.1	71.9	53.2	114.2	139.5
SPH333	888	2497	104.5	85.2		49.3	47.3	74.8	68.9	54.8	66.9	402.0	52.5	69.4	125.2	92.5	87.2	145.2	82.5	128.2	125.6
SPH334	942	1676	171.7	243.3		53.4	56.5	90.3	64.0	64.5	63.8	1045.0	66.9	79.0	135.1	139.3	57.0	220.2	112.6	290.5	209.1
SPH335	1665	1277	232.5	441.1		57.9	54.1	63.0	74.3	57.0	52.9	1764.3	59.3	70.5	63.9	70.6	68.2	116.9	89.4	679.2	378.3
SPH336	924	2744	92.7	24.8		79.4	94.9	67.1	72.3	92.9	141.2	77.0	77.9	66.4	113.8	68.5	98.2	72.3	104.2	116.8	140.4
SPH337	1986	2526	102.8	56.1		142.7	75.8	64.7	54.1	258.7	199.0	100.7	61.1	56.4	86.5	89.7	84.0	131.5	87.6	65.1	86.6
SPH338	723	1629	177.6	52.0		257.6	174.4	165.5	168.8	314.5	178.7	223.8	153.4	136.8	141.3	119.3	152.8	121.1	211.2	142.7	180.5

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH339	1011	2386	110.3	27.5		79.2	72.2	84.0	103.8	77.5	113.8	103.4	96.0	105.7	146.6	107.5	157.1	154.9	97.9	123.3	142.0
SPH340	1278	2369	111.4	59.3		69.4	60.7	92.2	84.1	77.3	91.2	175.5	85.9	48.1	124.8	191.4	51.8	247.6	197.5	103.0	82.3
SPH341	594	1855	148.9	69.4		71.2	70.1	132.4	133.1	91.9	90.8	149.6	110.8	124.1	139.0	170.5	129.6	266.6	311.0	145.1	247.3
SPH342	2172	3709	62.1	10.3		60.2	54.0	54.5	66.3	50.2	79.4	59.6	48.2	51.6	67.5	63.9	68.5	72.2	48.6	71.7	77.9
SPH343	1839	740	411.3	234.3		752.0	722.7	471.2	523.6	846.1	516.4	269.4	491.2	392.4	199.2	351.1	507.3	89.1	158.8	162.9	127.9
SPH344	1527	312	940.5	337.7		1526.1	1267.5	1160.2	1096.6	1352.0	1026.1	932.7	874.2	795.4	650.8	1181.3	1114.6	336.5	416.2	570.9	746.9
SPH345	495	878	341.1	107.4		442.0	499.9	330.6	316.0	362.4	358.5	268.4	410.4	352.8	381.8	213.5	178.3	305.4	563.9	303.7	170.5
SPH346	327	3238	75.3	11.9		88.5	81.3	65.8	66.2	87.1	90.8	63.3	65.0	71.5	65.4	60.8	74.8	64.2	84.2	76.6	99.5
SPH347	441	1618	180.0	64.3		221.7	224.5	153.2	226.1	253.0	155.6	167.4	199.7	122.2	114.3	119.6	195.1	142.9	347.9	107.7	129.3
SPH348	558	557	541.8	193.3		550.4	521.6	569.9	660.7	576.6	452.9	435.7	431.9	434.9	389.4	612.2	365.3	703.3	1155.9	387.0	420.9
SPH349	912	1123	268.4	125.4		468.5	321.4	286.0	326.5	590.4	330.9	172.4	313.9	228.7	198.6	219.0	239.1	181.3	181.0	136.8	100.2
SPH350	825	999	297.9	180.5		631.8	218.6	516.6	562.1	551.6	123.7	123.4	344.5	142.2	232.8	359.1	350.6	216.4	124.1	150.0	118.5
SPH351	591	2488	104.8	38.4		65.8	166.1	137.8	102.0	50.1	116.4	76.4	196.1	75.3	97.7	95.3	101.1	139.5	87.7	77.9	91.2
SPH352	1140	2085	130.7	74.9		91.7	227.5	192.2	124.6	61.5	139.9	94.6	349.1	83.7	89.2	153.0	93.9	159.6	87.7	63.3	79.1
SPH353	771	1565	184.8	67.9		202.3	267.8	304.2	226.0	214.0	148.8	128.1	328.3	170.4	135.4	166.6	182.3	118.6	139.2	123.2	102.0
SPH354	450	336	876.1	460.5		830.4	1627.3	1503.6	1266.8	976.3	1275.2	508.8	1622.7	650.9	580.8	918.5	728.5	498.6	522.9	219.2	287.8
SPH355	1056	1035	289.6	161.2		308.8	535.1	500.6	457.2	248.0	355.4	160.9	600.3	173.7	156.1	277.1	333.6	106.0	183.4	96.8	141.1
SPH356	510	2032	135.4	72.7		141.2	255.8	243.2	158.3	149.5	121.9	88.2	275.8	91.3	58.2	194.1	104.0	50.9	103.2	61.3	69.8
SPH357	2304	2427	107.8	39.0		110.0	185.4	149.1	136.9	122.0	94.4	85.2	177.4	90.1	57.8	109.4	111.0	58.4	101.0	63.5	73.5
SPH358	1365	1181	253.5	202.6		163.4	191.3	207.2	204.1	209.6	194.1	190.4	212.4	160.9	215.0	222.0	242.9	288.1	1002.5	209.3	142.2
SPH359	1281	2216	119.6	23.0		87.1	172.7	145.1	138.5	108.4	107.1	106.1	146.4	127.4	113.4	106.2	121.2	108.0	93.8	96.9	135.7
SPH360	909	920	325.1	122.9		267.3	359.2	419.3	272.1	281.2	322.3	410.0	509.8	151.2	321.5	456.8	233.2	577.6	257.1	210.4	153.1
SPH361	792	947	313.6	80.7		355.7	430.3	407.8	330.4	296.8	322.0	319.8	483.6	293.2	232.1	364.5	222.4	204.1	274.2	211.7	268.5
SPH362	558	876	342.8	198.6		240.3	594.4	521.5	386.0	272.5	356.8	276.2	894.8	261.1	169.1	433.8	388.5	127.8	168.8	239.0	154.6
SPH363	714	720	431.5	308.8		292.0	854.4	569.1	623.1	291.2	586.3	324.7	1307.7	257.0	143.7	407.4	419.2	90.4	187.8	360.6	189.9
SPH364	954	436	685.0	345.2		649.3	1138.8	765.5	818.3	578.4	637.6	519.3	1574.9	426.1	293.9	612.7	673.6	165.1	321.1	956.9	828.8
SPH365	750	74	3286.4	1014.0		3926.7	3480.9	3875.8	4084.0	3469.3	2114.9	2539.0	4350.2	2527.7	1674.9	3454.5	4188.2	998.3	3550.7	4203.6	4143.4
SPH366	843	186	1467.1	539.7		1796.2	2003.0	2289.1	2040.6	1449.6	1560.5	1052.9	1369.5	1914.9	1364.1	1962.9	1750.7	708.0	540.6	900.1	770.7
SPH367	2583	1472	197.5	108.2		202.4	420.3	335.4	250.7	139.1	205.3	127.7	299.1	124.7	120.2	253.6	340.2	103.1	81.4	77.7	79.1
SPH368	432	1504	192.4	86.9		95.0	102.4	117.0	133.8	121.5	154.2	174.9	127.7	175.8	237.3	152.2	308.0	246.3	404.7	264.7	263.4
SPH369	2073	2077	131.2	90.3		72.3	72.7	113.7	77.5	115.6	106.3	444.8	71.5	113.2	163.4	128.6	102.1	191.5	143.3	99.8	82.7
SPH370	564	2047	133.9	30.4		151.0	151.9	122.2	172.6	178.4	189.3	122.5	109.3	125.7	139.2	98.0	135.6	85.9	88.8	144.3	127.8
SPH371	741	768	396.4	97.7		500.2	485.9	461.2	400.9	548.7	326.4	367.6	415.1	502.9	391.1	410.2	414.9	358.1	336.6	262.8	159.5
SPH372	1818	2817	89.8	24.6		98.5	135.7	123.3	87.2	105.7	88.2	63.2	126.9	65.7	62.5	70.5	92.0	65.8	109.4	77.2	65.3

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH373	777	2945	84.6	18.8		79.5	65.5	69.0	83.2	72.6	57.9	75.5	74.6	120.6	75.0	75.0	98.3	96.5	115.0	81.6	114.2
SPH374	1005	1222	245.3	64.1		213.1	201.9	228.7	199.9	274.1	195.3	286.9	193.8	279.1	292.2	272.5	234.3	320.9	402.9	184.9	143.9
SPH375	498	870	345.5	121.0		329.4	303.8	322.9	210.8	384.1	298.3	426.4	332.1	262.6	331.2	439.8	195.6	475.1	676.2	347.9	191.0
SPH377	1431	2005	136.9	55.6		96.6	51.2	278.1	164.1	115.6	79.0	114.0	90.9	142.4	111.2	190.2	147.6	178.2	177.6	87.6	166.4
SPH378	1389	1532	188.4	141.8		149.4	81.7	533.9	445.1	130.5	86.2	121.8	115.1	122.1	104.5	299.8	367.4	138.0	112.7	77.7	129.1
SPH379	576	1868	147.7	66.8		84.3	114.1	238.3	123.3	83.4	117.8	148.8	103.0	74.4	192.2	243.4	139.0	310.1	120.6	103.9	165.8
SPH380	804	1591	182.7	53.6		175.4	169.9	161.4	175.1	211.2	122.1	152.7	176.1	218.5	226.9	206.2	149.3	334.5	203.3	101.3	139.4
SPH381	480	3010	82.4	17.6		68.6	65.8	71.0	71.8	54.1	112.6	67.4	69.1	84.6	100.8	80.1	112.1	99.9	75.2	87.0	97.6
SPH382	396	3939	53.1	8.2		50.9	47.0	45.2	59.8	51.1	52.3	57.7	46.0	74.7	46.7	46.0	48.7	48.8	49.9	59.8	64.4
SPH383	837	3649	63.7	7.3		67.4	56.8	59.9	66.8	58.5	61.1	55.1	65.1	75.3	58.6	52.1	70.4	61.2	65.8	66.0	79.4
SPH384	1311	3689	62.6	18.1		65.6	55.5	47.1	51.8	49.2	67.4	51.6	56.8	54.2	55.9	44.7	97.5	50.8	60.4	98.7	94.9
SPH385	684	3430	69.9	14.0		53.7	42.8	59.6	71.5	50.6	64.2	81.6	61.9	84.4	83.8	77.7	79.7	86.2	61.4	71.0	88.5
SPH386	513	3547	66.6	16.7		49.1	57.4	65.3	58.3	41.7	59.8	69.2	55.0	61.1	91.7	69.7	65.4	111.3	58.4	78.1	74.1
SPH387	1035	3556	66.4	9.3		62.4	61.6	68.7	71.3	55.8	66.5	60.7	61.0	80.5	58.7	85.4	54.4	80.1	57.3	66.8	70.8
SPH388	1440	3842	58.1	9.3		55.4	51.4	56.3	62.9	50.2	55.0	55.9	50.1	50.7	58.0	62.8	68.0	87.4	51.3	55.2	58.8
SPH389	333	3595	65.3	16.3		60.6	57.1	51.5	68.7	71.0	82.7	47.1	53.5	62.4	70.8	44.6	92.1	50.2	55.5	77.5	100.1
SPH390	831	3622	64.7	16.2		58.8	46.1	58.9	51.9	51.1	54.4	63.2	59.3	83.3	54.5	67.7	80.7	59.0	55.3	84.2	107.6
SPH391	858	2766	91.8	29.4		62.1	61.8	86.2	75.3	58.8	85.0	117.9	87.1	68.0	116.2	123.1	85.2	152.6	81.2	141.4	66.8
SPH392	1110	3525	67.2	12.5		53.0	52.3	59.8	62.9	53.4	68.7	86.6	51.2	55.8	78.4	74.1	77.6	84.6	62.2	70.7	83.8
SPH393	1137	2717	94.0	31.1		78.3	59.5	83.2	101.6	67.2	53.9	144.2	73.8	103.4	71.6	113.2	81.6	92.8	85.1	167.0	127.0
SPH394	1383	3658	63.5	16.6		57.4	44.5	56.4	48.1	46.3	55.0	75.1	51.8	66.2	53.2	79.6	77.1	75.3	47.9	104.3	77.4
SPH395	600	3911	55.3	11.8		42.6	42.8	45.8	61.5	49.6	64.1	52.9	44.2	59.3	59.3	52.9	58.3	46.0	62.7	89.9	53.6
SPH396	1659	2537	102.3	28.4		71.8	72.0	92.2	76.7	61.5	89.0	117.3	69.8	84.9	123.3	138.8	121.6	146.7	143.5	111.7	116.6
SPH397	2304	2682	95.1	26.7		77.4	63.7	83.6	73.9	52.9	82.6	117.9	69.2	81.0	101.1	121.4	102.4	153.1	122.0	99.3	119.9
SPH398	141	2934	84.8	29.8		58.4	61.2	62.8	70.6	56.6	104.7	69.5	69.1	77.6	101.0	66.5	165.4	72.3	82.4	123.1	115.0
SPH399	129	3740	61.4	20.7		61.7	55.1	47.9	47.7	47.6	84.2	42.7	42.9	55.7	71.1	48.8	78.5	55.4	46.1	75.6	121.3
SPH400	1416	2984	83.0	35.2		64.3	70.6	63.1	87.9	62.5	90.6	58.0	75.7	74.5	80.7	63.3	205.1	70.2	74.5	74.7	111.5
SPH401	678	3080	80.0	12.3		68.7	70.0	68.7	67.0	67.9	64.8	83.3	73.8	93.0	95.4	71.5	98.5	92.5	92.0	80.0	93.9
SPH402	1032	3232	75.5	15.3		53.4	59.8	59.3	74.5	57.5	82.4	69.7	67.2	84.4	100.2	75.3	70.2	95.6	67.2	89.6	100.9
SPH403	780	3187	77.1	22.5		50.7	58.0	50.6	70.5	51.2	65.9	67.1	65.3	109.7	94.1	61.4	122.2	92.3	79.3	91.2	103.8
SPH404	855	3260	74.7	16.8		59.2	58.8	66.4	60.3	56.4	97.5	82.5	50.9	59.8	75.2	102.6	82.0	97.2	71.1	82.1	92.9
SPH405	1464	2777	91.4	26.7		73.7	66.2	68.5	71.2	104.9	109.0	83.1	59.3	68.6	125.3	72.8	88.7	155.8	123.2	91.9	99.5
SPH406	165	2565	100.8	34.0		107.1	75.5	97.9	64.8	170.3	126.7	91.4	100.8	123.3	174.2	89.1	68.7	103.3	71.9	86.7	60.4
SPH407	1272	973	303.5	372.0		469.3	274.5	98.3	112.0	1606.2	467.3	139.1	120.8	437.1	187.4	85.4	87.2	167.5	277.0	170.4	156.6

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH408	1452	1831	151.5	63.3		191.9	165.7	119.2	111.5	343.0	197.8	111.7	85.6	168.9	115.8	147.0	113.4	121.2	91.1	206.3	133.3
SPH409	1047	1139	264.7	141.1		549.6	293.2	218.2	237.0	527.9	380.1	185.9	104.6	285.7	163.2	178.0	345.8	96.5	87.5	372.8	209.8
SPH410	1698	1972	139.3	79.2		74.3	86.8	98.7	82.7	77.1	126.0	135.4	80.4	225.1	285.9	160.1	102.5	340.4	156.6	94.7	101.3
SPH411	495	1519	190.4	120.5		98.6	117.0	94.4	107.9	88.4	228.1	103.1	96.9	321.7	413.3	130.0	249.4	479.5	185.0	144.0	189.1
SPH412	1245	1050	285.8	292.0		116.0	277.0	142.6	76.6	114.6	214.9	193.6	132.7	506.2	843.8	236.5	95.7	1092.6	328.6	102.2	99.2
SPH413	1200	3523	67.3	23.2		51.2	97.8	61.1	47.2	48.8	85.0	46.3	45.9	66.0	94.8	65.5	54.0	125.3	79.9	60.2	47.9
SPH414	969	3267	74.6	12.6		58.5	83.9	58.0	60.7	58.5	93.8	64.9	76.0	90.4	82.0	65.6	82.8	82.9	81.2	88.4	65.6
SPH415	1530	2994	82.6	31.5		62.3	63.6	94.8	79.4	58.6	71.2	79.8	155.0	62.9	98.3	91.8	70.2	156.2	53.7	60.2	63.8
SPH416	165	959	307.3	237.7		136.1	132.7	611.3	917.0	110.0	83.3	214.4	417.5	240.7	178.1	511.7	551.7	372.1	218.9	84.7	136.3
SPH417	765	3181	77.3	37.6		64.9	66.3	60.8	57.3	52.1	76.5	130.9	50.4	56.8	61.0	69.6	90.8	64.2	46.8	194.5	93.6
SPH418	3270	3727	61.7	13.4		60.3	63.8	54.3	47.3	51.0	80.5	65.9	47.9	49.0	70.8	51.0	61.5	61.5	50.0	90.4	82.5
SPH419	1221	799	382.8	403.8		380.1	578.1	408.3	369.9	297.3	831.5	203.8	1716.0	190.9	223.2	158.4	104.8	219.7	102.1	208.1	132.4
SPH420	234	447	668.2	679.5		557.8	966.7	722.3	717.8	443.9	1660.1	346.3	2791.7	198.0	401.0	362.2	203.4	612.0	204.1	295.0	208.4
SPH421	1794	3300	73.6	46.2		53.5	47.0	52.9	68.7	58.7	41.4	51.3	55.0	194.4	184.3	58.6	54.0	83.6	63.9	54.3	56.6
SPH422	66	3178	77.4	25.2		64.5	73.8	59.4	112.0	75.3	68.4	50.3	64.1	127.4	84.9	53.3	99.5	54.9	66.8	59.5	124.7
SPH423	666	2129	126.4	47.1		130.0	162.8	112.5	102.1	162.3	130.0	89.9	130.1	101.1	140.8	97.0	89.6	104.6	277.7	108.1	84.2
SPH424	936	1834	150.6	68.5		231.3	186.5	129.8	127.3	269.4	158.8	85.7	243.9	120.6	93.2	90.9	103.0	82.7	275.9	97.8	113.3
SPH425	828	508	590.7	306.9		676.2	562.0	470.3	559.7	861.4	540.5	347.2	753.2	612.7	480.7	328.3	477.3	506.9	1589.7	394.3	291.5
SPH426	591	1508	191.8	119.7		190.0	171.9	133.1	109.8	206.6	134.4	196.4	151.5	173.6	154.1	138.4	177.2	160.3	630.3	179.6	161.9
SPH427	378	1053	285.5	130.6		304.8	391.0	257.8	237.2	440.2	397.2	285.6	357.5	202.2	150.9	192.1	172.1	203.9	632.3	164.7	178.2
SPH428	318	220	1265.6	425.1		1601.0	1579.7	1360.8	1336.6	1748.3	1701.6	1687.2	1877.0	986.2	777.8	1127.2	1094.8	792.5	1377.1	716.5	485.7
SPH429	2376	1477	197.1	87.8		229.0	316.6	240.0	223.7	261.1	190.8	202.3	428.7	157.7	108.9	150.7	167.8	83.0	99.3	140.6	154.2
SPH430	1146	1467	197.8	94.0		195.0	243.5	292.9	307.7	151.3	165.8	208.1	335.4	73.7	74.9	189.5	243.4	65.9	362.3	141.8	114.4
SPH431	246	343	867.2	591.9		773.5	1059.8	1078.8	1002.5	772.2	565.4	1258.4	1095.4	406.5	276.0	997.8	1257.2	151.2	2583.9	333.6	263.0
SPH432	189	61	3556.4	2042.0		3184.3	4041.3	3698.9	4225.0	3809.3	3481.1	4070.5	3994.2	2612.9	2173.1	3460.5	4101.8	863.7	10088.7	1751.0	1346.0
SPH433	471	39	4981.5	2575.4		4872.9	4895.5	5188.0	6216.4	6225.8	7234.3	3392.5	4330.9	4577.3	4172.6	3316.6	5724.6	1455.6	12787.6	2581.2	2732.5
SPH434	1917	910	330.2	174.7		251.7	512.1	551.7	528.2	179.8	132.8	226.3	682.4	385.3	179.4	445.5	449.5	170.6	218.7	173.7	195.8
SPH435	420	782	390.1	272.4		229.0	246.6	319.7	196.5	355.2	287.9	1253.4	240.0	317.8	476.0	509.9	274.4	764.1	336.5	249.1	186.1
SPH436	150	1898	145.1	25.5		140.8	165.6	132.8	129.7	141.0	172.0	128.8	128.6	104.0	138.4	142.7	146.0	161.4	145.5	126.2	217.9
SPH437	903	1784	156.2	28.0		168.1	138.9	194.7	129.8	185.7	175.3	147.5	213.1	116.9	179.0	129.4	124.2	161.7	138.8	160.5	135.7
SPH438	534	1135	265.4	132.5		245.6	175.5	166.6	198.8	388.9	106.5	211.4	96.5	534.7	311.6	188.0	228.9	422.7	140.5	442.3	388.0
SPH439	1968	2309	114.8	23.6		112.3	101.7	117.3	81.1	160.9	69.8	107.5	104.1	133.9	91.9	138.7	131.4	139.5	120.6	126.1	100.5
SPH440	1173	993	298.4	83.9		381.9	370.1	369.6	366.0	377.9	355.5	196.3	317.4	121.6	218.3	318.9	396.5	222.2	252.0	210.1	300.5
SPH441	522	1459	199.4	72.1		256.1	302.4	245.9	205.1	243.6	221.0	138.0	339.4	107.5	111.6	277.3	159.3	128.7	164.6	150.9	138.4

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH442	570	969	305.1	100.2		350.2	383.2	410.2	430.1	251.4	371.5	187.9	432.6	223.7	231.6	411.3	398.8	217.3	220.4	164.3	197.3
SPH443	579	1460	199.3	75.4		217.7	313.9	288.4	269.3	193.9	260.9	154.1	252.3	177.9	128.3	181.6	310.2	98.2	115.4	124.8	102.5
SPH444	117	2911	85.7	23.1		83.0	71.9	85.7	66.8	161.8	82.6	73.0	89.1	108.1	86.8	81.9	67.4	86.2	62.1	84.7	79.7
SPH445	570	25	7096.7	4603.1		12105.5	4528.3	3394.6	3944.6	13914.5	6350.2	8952.1	2489.5	11468.9	4575.4	4000.2	5019.4	549.4	4029.2	14701.6	13523.6
SPH446	738	1572	183.9	103.7		109.8	128.1	141.4	111.7	224.8	265.1	158.1	150.4	122.0	160.9	199.8	88.0	357.3	474.5	141.3	109.9
SPH447	2490	2045	134.0	63.2		95.7	95.9	122.1	82.2	166.2	134.2	132.9	111.1	102.0	166.2	162.7	51.0	288.9	251.3	117.1	64.2
SPH448	702	1102	273.3	156.6		347.4	205.5	154.3	162.8	508.1	364.8	145.5	203.2	366.3	486.1	155.9	91.7	445.6	520.4	108.5	106.3
SPH449	75	1359	217.3	89.4		129.0	140.6	197.7	212.5	121.9	163.5	232.1	175.1	135.8	322.5	269.9	229.6	469.1	296.6	197.4	183.2
SPH450	468	2547	101.7	76.0		61.7	50.0	107.6	64.6	76.3	53.8	150.5	68.0	71.7	84.0	105.3	43.9	265.0	301.0	49.2	74.3
SPH451	1317	3782	59.8	13.8		55.0	47.4	53.6	58.4	58.2	61.4	49.9	47.3	59.6	50.7	72.0	47.6	88.0	92.2	49.9	66.0
SPH452	1020	1089	276.8	388.8		88.4	68.3	110.2	83.7	98.3	73.4	121.9	185.3	299.6	544.2	131.9	57.6	1021.2	1391.7	82.8	71.1
SPH453	486	2193	121.9	83.0		70.5	67.4	100.0	74.3	79.1	85.8	124.5	102.8	98.3	122.5	141.4	71.4	383.0	251.7	68.2	110.3
SPH454	1113	2776	91.4	17.7		97.4	80.7	65.1	99.8	80.6	107.3	72.1	108.3	80.9	96.8	79.9	90.5	72.3	86.8	110.4	132.9
SPH455	1209	1334	221.7	96.7		135.2	155.5	188.5	146.3	152.1	232.3	222.7	239.4	126.1	287.5	236.4	208.5	425.0	456.1	177.4	157.5
SPH456	1101	2450	106.2	31.0		84.2	83.4	94.7	85.4	78.5	89.7	101.1	93.9	117.6	102.5	96.3	187.3	115.9	167.1	79.9	122.6
SPH457	807	2139	125.9	34.3		77.8	87.7	121.8	117.3	87.0	132.8	160.1	98.6	130.8	170.5	130.6	139.7	211.6	99.7	124.0	125.2
SPH458	1056	777	392.2	163.2		365.1	301.1	223.0	207.8	634.0	386.2	420.1	256.7	489.1	310.0	246.5	232.7	398.4	461.8	787.0	555.5
SPH459	1839	2564	100.8	19.9		124.6	147.2	92.9	94.8	97.2	99.7	87.6	136.6	82.1	104.5	91.1	80.6	110.7	89.4	95.3	78.2
SPH460	1080	2304	115.0	33.2		95.0	145.6	124.7	85.5	129.7	183.1	101.8	130.7	98.5	132.9	124.8	67.7	166.2	102.9	67.1	83.2
SPH461	1071	2922	85.2	20.5		80.5	110.5	106.9	63.4	85.6	108.5	79.4	101.1	77.1	89.5	92.0	48.6	115.0	87.1	50.2	67.7
SPH462	1590	2681	95.1	17.9		93.7	120.7	85.4	89.0	95.4	111.0	68.6	118.6	109.9	93.4	73.1	112.7	64.9	109.0	75.6	100.5
SPH463	690	407	728.9	423.6		434.6	1329.7	1244.4	1148.7	264.0	600.9	261.6	1306.3	998.5	1098.1	1042.0	524.8	608.1	362.3	245.5	193.3
SPH464	705	2158	124.3	62.1		86.4	177.5	221.6	182.2	65.7	93.9	84.6	278.5	96.9	141.7	139.3	82.5	115.1	60.2	69.4	94.2
SPH465	3624	2062	132.6	86.6		70.8	75.0	84.1	80.0	72.8	80.9	265.6	88.0	76.7	101.1	107.6	87.9	106.8	261.6	336.4	225.8
SPH466	1062	2742	92.9	52.1		67.0	74.9	49.0	67.8	63.3	87.4	138.7	59.7	50.5	72.9	59.7	101.1	64.4	110.5	234.5	185.6
SPH467	1197	3064	80.5	21.0		93.0	68.3	59.2	79.1	68.3	108.6	62.7	77.4	87.5	90.5	50.2	87.6	53.7	126.9	103.2	72.5
SPH468	519	872	345.1	235.4		295.9	184.4	158.5	206.7	395.8	205.4	303.8	153.9	266.3	275.2	161.7	171.4	405.7	951.3	714.1	671.5
SPH469	618	1854	149.0	32.1		134.6	134.9	126.7	106.2	164.8	135.2	109.9	115.4	161.7	226.4	128.8	175.7	165.6	139.7	169.7	188.5
SPH470	1416	128	2014.4	4051.7		148.0	86.7	141.8	112.4	142.3	140.9	7848.1	119.8	141.5	211.2	289.8	137.0	288.2	153.9	11917.9	10351.4
SPH471	1755	2299	115.2	130.1		52.8	50.7	49.3	56.9	51.9	70.8	190.0	50.3	55.6	67.3	66.9	87.0	82.9	69.7	529.4	311.5
SPH472	1095	506	593.6	956.1		96.8	84.2	201.3	94.8	123.4	105.9	1441.6	127.0	85.1	274.8	385.2	69.0	555.7	361.4	3585.0	1907.0
SPH473	849	811	372.1	623.5		89.8	86.4	94.0	92.7	89.7	92.3	854.3	89.9	105.9	143.2	111.0	104.2	140.7	195.5	2297.2	1367.2
SPH474	744	1632	177.5	278.2		64.0	57.3	51.3	63.2	64.3	61.1	296.3	59.5	78.9	53.2	62.6	83.8	72.7	91.5	1071.1	609.1
SPH475	2037	3182	77.2	31.8		62.2	45.8	55.2	58.6	63.2	71.0	86.5	58.0	61.7	71.7	57.5	57.6	97.3	156.9	144.2	88.4

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH476	687	3030	81.7	10.9		70.0	79.4	66.4	98.6	78.8	94.4	69.2	91.6	94.1	78.1	87.0	76.3	80.3	66.7	79.4	96.5
SPH477	1683	921	324.8	106.3		208.8	235.3	274.2	277.8	237.6	402.4	249.2	304.0	205.1	442.6	272.0	411.5	333.4	610.0	355.4	377.5
SPH478	1269	1636	177.2	48.6		140.6	241.5	219.1	182.4	150.8	171.3	121.2	229.9	122.9	158.0	191.0	152.5	159.1	299.2	132.6	163.7
SPH479	1701	3276	74.3	11.8		68.7	85.8	90.3	83.0	55.7	65.3	65.7	95.8	71.1	69.2	63.0	75.7	73.4	73.9	60.4	91.2
SPH480	642	1788	155.9	60.7		106.8	112.1	170.3	131.8	133.4	83.0	201.7	142.2	143.9	124.5	221.3	126.7	339.7	160.3	118.4	179.0
SPH481	750	381	773.6	281.1		922.6	782.2	837.8	947.1	1046.3	1177.2	510.9	848.6	917.5	1068.6	685.1	428.3	1078.8	470.5	344.5	312.3
SPH482	747	1262	237.3	225.2		233.2	202.0	187.1	200.8	119.0	104.7	247.2	173.2	117.0	183.3	194.8	156.1	220.1	1063.1	264.5	131.4
SPH483	1236	3363	71.4	15.0		64.8	74.0	59.1	56.2	66.9	78.8	58.8	53.3	63.8	79.6	62.2	103.9	78.8	58.6	88.6	95.8
SPH484	1062	3883	56.7	9.8		50.9	65.1	45.0	46.6	57.2	77.0	44.9	61.9	55.4	67.0	41.4	54.1	63.7	50.8	63.8	63.2
SPH485	1506	3566	66.1	10.9		58.6	81.2	61.7	66.5	64.0	63.1	47.9	68.1	97.0	56.8	67.5	61.8	61.6	63.5	71.3	67.0
SPH486	867	1827	151.7	33.5		163.9	168.1	157.7	149.2	191.1	144.6	115.0	174.4	239.4	138.5	108.1	151.2	100.1	138.9	153.8	133.5
SPH487	1362	1375	214.9	98.4		345.5	318.1	349.9	298.7	294.2	210.5	182.4	344.6	164.1	96.8	212.4	211.5	84.6	120.5	116.8	88.0
SPH488	1227	3628	64.5	14.5		50.9	90.1	74.2	77.7	50.7	62.1	43.2	97.1	60.1	59.7	63.6	59.0	59.8	61.3	71.3	51.6
SPH489	1086	3368	71.3	13.5		58.5	76.7	67.3	78.8	62.3	56.8	56.1	94.4	85.7	69.1	99.4	76.8	75.5	60.5	66.5	56.0
SPH490	1122	3169	77.6	17.7		53.5	96.0	74.8	63.8	60.3	89.0	65.4	109.7	84.3	78.8	75.3	112.9	80.9	58.8	59.2	78.9
SPH491	1422	3692	62.6	12.7		48.9	47.7	64.3	70.3	48.7	49.2	61.6	69.7	84.1	67.0	80.8	54.0	81.9	52.5	51.4	68.8
SPH492	606	3012	82.3	11.3		78.7	95.4	87.1	79.9	80.1	103.4	64.6	100.7	75.6	75.2	86.5	74.6	90.1	66.6	72.5	86.4
SPH493	1725	2633	97.4	23.7		75.2	81.2	94.2	76.2	78.5	85.6	89.0	101.1	83.9	120.3	114.5	90.5	156.4	117.9	125.5	67.8
SPH494	1680	1633	177.5	119.5		128.7	196.7	207.1	114.9	108.3	109.5	319.4	283.4	65.8	194.0	279.4	52.5	500.8	115.4	95.1	68.9
SPH495	606	357	830.2	635.3		1720.6	1480.1	645.3	608.1	539.2	522.1	2309.7	1784.1	378.8	502.3	347.7	143.7	639.3	196.7	781.4	683.5
SPH496	531	1288	229.7	84.4		316.7	300.1	304.3	268.4	384.7	139.9	314.0	271.7	282.2	158.7	195.0	137.2	188.6	129.8	171.4	112.8
SPH498	525	757	402.8	167.5		521.8	584.5	584.3	537.0	594.5	523.1	394.6	582.6	396.9	278.2	376.1	390.6	129.9	218.8	198.6	133.5
SPH499	747	117	2123.2	1325.9		3864.0	2746.8	1937.8	2016.4	4545.9	4441.0	964.1	1885.1	966.4	1078.4	893.0	1041.8	1102.7	3774.9	1675.8	1036.9
SPH500	438	604	502.6	351.2		1024.6	728.8	508.7	482.1	1214.7	892.2	245.3	480.6	193.3	227.1	159.0	184.4	217.5	952.9	344.6	185.4
SPH501	516	877	341.4	183.2		518.4	462.4	313.7	326.1	574.3	519.4	177.5	299.3	236.3	222.2	158.4	210.4	168.9	803.6	242.5	228.1
SPH502	339	2503	104.1	39.8		167.1	150.5	121.8	130.7	138.7	112.2	70.4	82.2	102.8	68.3	72.1	80.3	74.6	178.4	67.4	47.9
SPH503	1290	143	1796.7	762.5		1904.0	2091.8	2321.1	2466.1	2242.8	2349.2	982.5	3170.7	1953.3	1751.0	2069.8	2390.1	1024.8	585.7	817.7	626.3
SPH504	294	2219	119.5	48.6		110.2	215.1	195.8	172.3	128.8	83.4	66.3	144.1	99.7	88.9	155.1	156.6	82.5	55.3	81.2	76.2
SPH505	876	512	587.6	391.3		489.6	997.2	1165.5	966.7	466.3	363.1	535.3	926.2	271.2	178.5	1233.5	999.0	164.0	286.5	216.6	142.9
SPH506	1653	692	447.1	301.7		409.8	690.4	907.0	791.1	313.0	354.7	302.4	680.7	182.1	166.2	781.8	954.6	101.4	247.7	144.4	126.2
SPH507	240	2887	86.7	15.4		86.7	77.7	72.5	98.0	84.7	65.7	79.3	81.3	83.4	99.4	76.9	73.7	112.3	90.5	79.5	124.9
SPH508	1113	3125	78.5	18.7		67.5	61.0	64.4	109.2	71.6	49.1	64.3	73.6	105.5	95.8	63.6	97.5	58.6	89.0	96.1	89.9
SPH509	741	797	383.2	186.0		338.1	373.0	542.6	323.6	311.3	210.9	560.4	344.0	300.8	515.1	476.5	177.1	899.1	357.5	274.3	126.3
SPH510	825	2322	113.8	35.5		132.2	118.4	89.8	105.8	123.5	202.0	133.6	116.4	67.1	99.1	65.9	106.0	79.4	172.0	112.7	97.0

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH511	261	2310	114.8	39.5		114.9	146.1	93.7	93.7	98.5	195.0	85.6	166.5	80.7	85.8	72.4	103.1	71.5	156.7	98.9	174.1
SPH512	402	1482	195.8	97.1		180.2	252.6	134.5	169.8	148.1	420.0	136.3	301.8	108.0	145.8	137.2	172.2	126.7	401.3	130.3	168.5
SPH513	1308	2627	97.7	26.8		84.0	121.5	68.3	90.6	83.7	161.7	77.3	121.8	53.5	81.7	96.8	126.2	85.4	116.0	84.5	109.8
SPH514	714	3580	65.8	21.8		69.0	59.8	43.0	53.8	51.4	116.5	52.0	57.2	45.4	61.7	52.1	87.8	58.8	55.5	77.5	110.6
SPH515	1524	2693	94.7	17.3		72.1	80.3	74.7	82.5	96.7	121.5	84.0	126.4	73.2	99.5	93.0	102.0	96.2	115.0	85.5	112.4
SPH516	951	3401	70.6	12.5		65.4	82.5	69.4	72.1	62.9	57.7	61.7	78.2	99.8	81.2	58.0	82.5	53.6	58.4	67.2	79.6
SPH517	885	3018	82.0	12.8		101.0	74.7	78.7	81.5	87.7	63.3	70.5	85.4	93.4	73.0	70.5	104.8	60.4	88.9	90.0	88.9
SPH518	1209	1149	261.7	112.4		297.0	459.0	408.9	376.7	206.2	238.2	187.1	481.2	194.4	165.6	306.2	178.5	144.3	191.1	154.8	197.6
SPH519	825	742	410.4	249.1		610.3	730.5	528.6	481.1	491.1	628.4	163.6	977.0	441.0	309.3	296.2	372.1	104.4	133.7	123.3	175.4
SPH520	1377	1584	183.2	99.3		261.3	332.8	201.7	210.3	218.1	208.8	122.4	453.5	123.1	103.6	151.8	118.7	102.3	128.3	86.4	108.1
SPH521	1059	3210	76.4	16.5		56.3	75.9	73.9	75.5	64.2	87.7	50.4	100.2	61.3	83.8	66.1	98.3	68.4	111.0	71.6	78.5
SPH522	1170	2439	106.7	36.6		97.5	87.7	109.1	97.7	64.2	82.7	88.1	222.4	135.3	101.6	117.7	110.0	125.7	82.0	69.5	115.4
SPH523	1146	1797	154.5	69.5		189.6	244.9	253.1	283.0	146.3	180.2	106.9	187.7	87.3	73.9	166.1	207.7	86.2	72.2	98.0	89.5
SPH524	972	1037	288.6	114.1		403.4	477.3	388.6	286.0	412.3	271.2	194.5	422.8	245.6	253.0	286.8	382.9	142.2	120.6	197.4	133.5
SPH525	912	1320	225.4	69.7		285.9	318.0	286.0	326.6	218.3	201.7	146.8	216.9	131.8	182.8	211.9	358.5	176.5	136.9	193.4	215.0
SPH526	351	696	444.4	135.3		477.1	437.4	622.5	546.3	410.9	339.2	438.3	556.9	439.1	370.2	522.5	446.7	573.6	596.4	189.9	143.6
SPH527	921	1453	200.4	49.9		264.8	205.3	218.4	168.2	262.5	144.2	268.3	236.1	209.9	203.1	158.4	169.4	159.1	272.7	125.3	141.3
SPH528	384	215	1305.6	623.0		950.0	928.3	848.7	912.3	996.0	704.4	1576.4	578.1	1673.7	1586.2	739.1	674.4	1901.5	2133.9	2315.1	2371.3
SPH529	60	141	1820.0	873.8		1230.4	1125.3	1246.3	1237.1	1324.2	981.2	2307.2	742.9	2253.4	2266.4	1104.0	1153.3	2836.7	2782.0	3010.9	3518.2
SPH530	1512	273	1077.2	620.9		732.0	677.4	723.3	757.0	911.0	720.8	1320.8	542.0	924.5	1131.7	685.1	1015.3	1028.4	3150.6	1474.8	1441.3
SPH531	1329	2752	92.5	37.5		81.7	77.6	68.7	74.4	70.4	90.7	72.6	77.0	79.9	79.0	64.0	104.7	95.6	75.0	172.0	196.2
SPH532	750	250	1160.0	386.1		1597.4	1325.9	1362.8	1325.6	1556.1	1428.0	1065.6	1755.2	1056.2	871.9	1276.9	1426.6	560.1	491.4	696.4	764.4
SPH533	75	169	1558.1	392.5		2079.8	1652.3	1868.5	2057.6	1651.5	1831.7	1154.0	1728.2	1590.0	1556.2	1979.8	1411.7	1513.3	1057.9	1106.2	691.0
SPH534	417	1073	281.3	152.2		277.8	481.8	440.2	475.5	223.2	359.2	122.7	402.0	134.1	188.3	341.3	539.8	159.7	122.2	105.2	128.0
SPH535	270	265	1098.9	377.3		1007.0	1062.7	1214.5	1786.5	763.2	954.1	657.2	1111.8	616.9	840.9	968.8	1555.3	578.7	1295.7	1632.2	1537.6
SPH536	459	218	1285.1	374.2		1281.3	1232.5	1773.8	1817.7	1014.9	1348.3	827.6	1896.1	920.4	879.2	1568.4	1485.8	671.1	1508.1	1315.5	1021.2
SPH537	561	691	448.3	252.2		433.3	504.7	674.4	729.2	347.1	542.9	154.8	1040.2	238.2	285.9	516.8	676.9	164.0	515.9	148.8	199.0
SPH538	1038	1832	151.3	42.6		136.0	189.1	210.5	177.5	134.9	149.9	89.3	223.0	125.1	112.1	132.7	204.2	83.7	164.0	175.6	113.9
SPH539	468	1002	297.0	181.5		197.0	170.2	312.7	148.9	159.9	165.6	511.1	197.1	82.9	380.1	505.9	164.2	736.5	500.5	297.3	222.8
SPH540	1422	1720	164.4	172.4		94.6	61.4	71.5	66.8	83.4	66.1	524.8	74.3	102.7	110.9	83.4	69.3	82.3	134.8	499.5	504.6
SPH541	408	1906	144.5	120.4		81.7	73.6	79.5	84.2	90.1	71.4	358.1	76.7	113.9	91.1	90.1	94.4	119.8	92.8	426.0	368.5
SPH542	330	1463	198.6	131.7		131.6	145.7	125.8	118.1	140.1	82.0	297.4	96.2	197.6	260.7	128.6	155.0	184.8	129.7	582.0	402.1
SPH543	1272	3701	62.3	18.6		57.3	56.9	53.5	66.5	49.6	60.9	53.7	51.9	62.1	60.1	42.6	81.8	54.3	57.9	63.1	124.1
SPH544	369	1874	147.2	48.0		87.1	87.1	130.3	119.4	104.4	110.3	177.9	108.9	128.2	171.8	171.1	184.5	247.5	119.5	185.5	220.8

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH545	858	3428	70.0	11.0		68.6	62.5	64.0	70.0	54.1	67.8	66.3	59.3	68.1	64.6	76.4	84.1	82.2	76.9	58.0	96.7
SPH546	498	1273	233.7	90.4		347.7	315.2	266.9	302.8	437.3	194.9	140.8	270.8	254.7	259.0	202.2	213.0	140.9	157.2	107.9	127.5
SPH548	894	2060	132.7	41.4		115.3	97.6	128.5	133.2	107.6	91.3	91.8	119.1	141.7	144.3	123.3	236.0	124.1	150.3	99.7	219.4
SPH549	1023	730	422.5	231.2		541.2	659.5	744.5	853.3	370.0	529.0	247.0	651.2	276.3	163.6	459.4	535.9	147.2	273.5	154.9	153.1
SPH550	585	3918	54.9	8.9		55.9	51.4	56.2	45.9	47.6	56.9	45.9	60.1	50.8	50.9	61.3	54.1	47.0	46.9	71.8	75.7
SPH551	561	2951	84.4	21.2		74.2	91.0	84.4	71.9	69.2	94.8	69.8	92.2	89.4	76.8	77.9	149.9	58.2	89.6	61.9	98.8
SPH552	1983	3129	78.5	17.8		66.6	102.3	93.4	85.6	63.4	101.1	57.2	114.6	61.4	72.1	79.9	93.3	61.0	63.1	64.5	76.0
SPH553	966	486	616.5	436.9		599.9	1382.6	1216.5	1024.8	467.8	625.4	186.8	1279.8	413.7	277.5	955.2	764.4	178.9	136.1	205.6	148.6
SPH554	1029	2228	118.9	50.9		96.6	177.5	194.6	172.7	65.5	148.7	59.9	219.2	91.9	70.1	124.0	144.9	75.7	75.7	83.8	101.4
SPH555	606	1739	161.5	46.2		120.9	198.7	224.8	173.9	104.4	145.4	103.6	270.9	138.5	141.5	186.1	205.2	145.0	146.8	115.7	162.5
SPH556	879	2152	125.1	42.1		71.3	145.6	202.9	150.4	71.7	85.5	114.1	187.2	98.2	111.2	175.0	120.5	166.9	108.7	72.8	119.9
SPH557	651	3450	69.1	15.9		63.4	94.5	84.3	88.5	55.0	72.2	48.8	85.0	58.2	58.2	59.6	91.2	51.4	50.3	63.6	81.1
SPH558	426	1052	285.5	110.8		206.5	471.5	426.3	442.5	170.1	216.9	250.6	468.4	203.9	184.5	298.3	363.9	244.1	237.5	217.4	165.8
SPH559	1212	593	509.8	392.2		377.2	670.7	798.1	804.4	197.1	331.9	264.3	1779.5	203.6	307.9	535.1	345.0	575.5	413.4	215.7	337.7
SPH560	630	2003	137.1	35.8		159.6	169.3	161.5	99.7	152.6	141.3	159.7	116.1	98.8	139.9	197.3	153.8	179.6	94.1	93.0	78.0
SPH561	2043	3029	81.7	16.0		78.8	92.7	84.2	78.6	67.0	89.8	68.2	79.8	74.3	70.0	58.0	94.0	66.5	79.0	106.0	120.2
SPH562	3696	3358	71.7	9.7		73.4	87.7	65.1	73.2	77.6	68.5	72.5	64.5	84.0	82.2	62.6	74.0	66.1	51.7	61.4	82.3
SPH563	3510	1221	245.6	43.8		213.6	322.1	260.1	299.6	204.2	243.1	204.9	286.3	282.0	217.6	232.5	295.5	233.9	176.2	270.6	186.9
SPH564	909	3098	79.4	12.3		85.8	70.1	74.0	88.0	89.5	69.8	64.6	58.8	103.3	90.5	64.4	78.7	72.6	92.8	85.4	81.7
SPH565	993	2733	93.5	19.5		91.7	98.7	98.5	84.1	131.2	87.4	94.0	119.7	75.0	115.6	84.5	59.8	100.8	110.6	65.6	78.7
SPH566	924	1694	169.3	36.4		193.1	169.6	190.1	190.0	253.1	113.2	162.7	162.2	150.3	154.1	159.0	144.0	167.1	234.2	133.2	133.1
SPH567	318	1458	199.4	95.6		180.6	226.0	209.0	155.8	234.6	311.2	161.3	213.1	133.5	148.4	143.3	129.5	213.6	496.2	146.7	87.3
SPH568	456	2389	110.0	25.4		114.3	139.0	107.5	121.0	154.5	122.0	63.2	114.1	113.2	107.2	80.9	77.9	88.0	151.7	110.8	94.7
SPH569	801	1218	246.8	80.4		419.4	327.6	252.1	223.6	378.7	233.9	281.7	221.5	185.4	252.7	206.0	122.1	294.6	242.2	145.4	161.9
SPH570	1401	1386	214.0	103.2		290.8	160.8	217.3	130.0	382.5	230.8	264.8	155.1	198.4	186.8	249.8	80.0	451.4	245.1	110.9	69.2
SPH571	2439	2494	104.6	21.6		89.4	85.2	97.4	89.8	110.9	108.6	90.3	98.7	91.7	91.0	98.4	88.3	114.2	167.9	117.6	134.9
SPH572	369	2404	109.1	43.5		89.6	94.1	113.2	76.6	102.1	74.4	96.7	77.5	86.1	132.7	114.0	99.4	161.5	249.0	85.0	93.0
SPH573	690	1557	185.9	60.0		165.9	135.0	114.2	129.5	190.7	185.9	180.5	91.1	210.6	280.2	121.5	156.0	229.4	266.0	259.3	259.1
SPH574	1707	456	654.4	402.8		472.9	760.4	1148.6	1167.0	351.2	290.5	644.6	611.6	345.5	295.3	1448.9	1364.6	385.3	475.5	433.4	275.7
SPH575	1602	460	649.0	451.3		541.3	917.3	1276.6	1161.6	348.3	344.9	638.9	638.1	352.0	253.6	1558.7	1314.4	279.4	181.9	326.6	251.1
SPH576	489	2651	96.4	21.9		95.0	112.2	109.1	116.9	102.9	76.8	76.1	110.6	98.9	77.1	119.1	144.3	67.4	68.9	72.8	95.0
SPH577	1080	707	436.1	241.3		412.2	313.9	392.0	274.9	593.9	265.5	479.5	152.9	495.7	485.4	490.5	291.1	1236.3	293.6	421.5	378.0
SPH578	1641	1567	184.6	46.0		147.9	131.3	128.8	137.4	242.1	229.3	264.9	134.6	199.2	203.4	165.1	162.0	247.1	145.3	201.4	213.4
SPH579	5130	1813	152.8	70.2		160.1	125.8	105.8	70.7	268.5	285.3	253.5	91.9	140.3	190.8	88.6	88.6	174.0	116.0	204.1	81.4

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH580	1863	1703	166.5	65.1		155.2	117.3	116.0	137.3	217.2	179.3	235.5	138.3	336.6	141.9	92.4	121.6	112.6	120.6	195.9	246.5
SPH581	2121	701	441.7	231.4		400.0	290.2	271.7	206.4	622.1	559.8	880.2	211.9	711.6	633.6	240.6	95.6	647.6	279.4	674.2	341.7
SPH582	1227	609	501.5	342.1		339.2	218.9	181.6	171.2	615.6	452.9	1024.5	177.5	706.6	754.6	100.7	178.3	628.4	381.3	1202.7	889.3
SPH583	3468	1233	243.1	145.4		182.2	117.0	107.6	114.5	284.4	224.1	373.0	110.0	442.0	313.3	81.3	75.7	327.6	192.1	550.8	394.6
SPH584	1956	998	297.9	217.4		172.6	141.3	147.9	138.6	319.8	207.5	569.7	122.8	349.8	293.3	98.6	105.8	349.1	290.1	892.0	567.6
SPH585	126	454	659.7	762.8		300.6	170.6	159.4	216.2	377.8	346.5	820.1	128.8	504.4	506.8	131.5	198.0	886.2	822.9	2282.4	2703.5
SPH586	438	1740	161.5	92.1		91.0	66.4	99.9	107.0	105.6	130.5	425.0	80.9	231.6	239.6	112.2	152.9	141.6	133.1	204.9	261.1
SPH587	1965	2485	104.9	42.2		51.2	62.4	85.0	69.8	68.7	88.5	189.7	62.5	110.6	165.3	130.5	96.6	174.8	97.7	125.5	99.2
SPH588	1065	1998	137.8	87.7		67.1	83.2	84.2	125.5	118.0	138.0	267.5	77.0	401.1	217.4	89.3	84.3	122.5	107.0	113.7	108.8
SPH589	1491	1302	227.2	254.0		134.3	105.7	195.7	159.2	201.5	182.9	1155.3	116.6	333.1	201.6	156.1	138.5	124.9	204.2	125.2	99.8
SPH590	321	716	432.7	313.9		169.1	146.7	171.9	158.8	440.4	232.4	537.1	236.7	674.8	562.5	121.2	134.4	817.8	577.0	1175.6	767.1
SPH591	1014	2474	105.2	43.0		71.7	88.3	85.9	84.0	100.8	79.9	211.6	70.7	208.1	94.8	82.3	89.9	85.4	93.9	118.3	118.3
SPH592	876	1537	188.0	193.6		89.3	70.4	72.4	69.4	104.4	90.1	348.6	68.5	789.4	348.6	88.5	99.0	355.4	76.4	232.4	105.9
SPH593	231	193	1429.0	1731.5		125.9	122.4	268.7	200.1	520.5	263.4	3166.5	157.8	5435.4	3449.2	484.9	249.5	4183.6	393.7	2329.0	1514.0
SPH594	1257	1550	186.7	176.1		55.8	46.4	67.9	69.6	165.6	112.2	558.3	58.0	514.3	241.5	81.8	87.3	202.4	80.9	496.0	148.8
SPH595	483	296	989.1	1152.4		132.3	115.4	294.4	241.1	320.3	238.0	1152.8	162.5	3785.4	2165.1	553.0	517.8	3389.5	535.3	1266.8	955.0
SPH596	450	147	1763.7	2124.1		209.1	112.6	336.0	440.1	432.0	151.3	1801.5	183.0	7075.0	4293.5	676.0	1385.3	5662.1	1184.7	2380.8	1896.1
SPH597	1071	668	461.7	518.8		72.3	60.4	101.6	139.3	81.9	63.4	495.3	68.0	1856.0	913.7	150.0	343.8	909.0	311.2	1180.9	640.7
SPH598	1479	2052	133.2	84.3		84.9	48.1	83.7	94.8	98.9	82.8	390.7	68.4	238.2	161.0	118.4	103.7	196.2	89.4	129.1	142.9
SPH599	990	1715	165.0	75.7		98.7	93.2	135.4	121.2	101.9	139.8	224.2	157.4	140.1	234.5	251.2	142.4	385.1	162.3	141.6	110.5
SPH600	2031	778	392.1	167.5		415.2	612.7	615.6	520.2	322.9	347.4	291.6	715.8	354.7	275.2	535.8	439.0	269.1	163.9	233.6	160.6
SPH601	1080	3426	70.0	15.3		78.3	85.9	63.3	72.4	79.5	111.0	61.0	80.0	68.0	59.9	53.1	79.1	57.0	55.1	62.2	54.3
SPH602	285	3045	81.1	21.6		69.3	55.1	70.5	102.6	65.2	77.6	67.9	80.2	87.3	82.2	70.6	140.4	56.5	71.5	101.3	100.3
SPH603	3588	2131	126.3	30.1		99.8	103.8	181.4	160.8	95.2	93.8	100.0	133.7	127.0	117.2	164.9	166.3	144.6	94.4	99.4	138.9
SPH604	624	784	388.7	169.1		346.5	280.4	721.5	571.8	358.5	227.4	247.5	430.6	300.7	276.1	680.1	611.6	418.3	318.6	190.2	240.1
SPH605	786	3434	69.8	25.5		54.8	47.0	68.9	79.3	45.1	60.0	75.4	53.5	62.5	56.7	80.6	64.7	154.4	73.6	56.1	83.2
SPH606	2631	3445	69.4	16.2		61.0	62.3	54.7	55.1	52.4	88.7	71.6	53.0	73.9	85.1	62.7	70.8	79.2	55.7	72.3	112.3
SPH607	768	3503	67.7	15.8		62.2	55.2	61.6	58.0	48.6	75.7	75.7	53.4	64.9	54.3	71.4	78.8	111.9	60.9	62.7	87.4
SPH608	531	3758	60.7	9.7		61.5	53.2	53.5	57.4	58.5	54.0	57.9	49.6	76.0	54.4	57.2	63.7	61.9	53.5	72.2	86.1
SPH609	1359	3741	61.4	13.5		63.5	50.0	50.9	69.0	53.0	51.7	55.4	51.6	94.2	51.9	52.4	64.4	56.1	68.1	59.6	90.1
SPH610	330	1669	172.3	38.8		214.7	134.6	141.3	149.0	171.0	152.1	202.3	118.2	124.8	157.5	169.5	139.4	229.9	198.0	218.2	235.5
SPH611	1023	1691	169.6	38.1		152.7	223.3	209.0	166.0	229.4	136.9	152.7	239.9	126.5	109.1	178.9	178.4	144.7	164.3	141.9	159.8
SPH612	672	2916	85.4	19.9		94.2	104.3	82.0	76.8	87.8	109.5	69.9	122.5	67.3	75.3	66.6	90.8	67.1	121.2	65.5	66.4
SPH613	372	1213	247.5	122.9		235.7	346.0	284.1	213.3	234.7	235.5	234.2	484.3	103.0	140.2	256.8	113.1	242.3	542.3	149.5	145.5

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH614	975	1017	293.9	166.9		258.3	487.0	354.0	279.6	257.4	349.9	227.4	544.2	143.4	161.6	234.3	144.8	281.5	721.5	118.5	138.7
SPH615	1794	891	335.5	134.4		438.2	436.3	503.3	395.2	364.1	258.3	294.3	644.7	223.0	203.7	349.1	244.8	230.8	439.4	179.3	162.9
SPH616	1668	2889	86.5	28.9		71.8	102.4	87.4	86.2	53.3	100.5	67.9	65.1	54.8	79.6	81.2	83.6	98.9	179.5	92.4	79.0
SPH617	981	719	431.6	422.6		306.5	265.1	270.2	272.8	394.9	248.8	249.9	245.9	241.3	272.2	249.7	337.1	406.0	1955.1	557.1	633.8
SPH618	549	255	1118.6	1016.4		768.6	526.1	666.2	631.6	916.1	605.4	641.4	530.3	1006.3	996.9	435.5	662.8	1537.4	4606.1	1795.1	1572.2
SPH619	600	379	777.9	1140.0		366.9	392.7	510.2	518.1	494.3	291.6	341.2	389.2	513.3	499.2	350.2	462.4	660.6	5009.2	940.9	706.0
SPH620	1533	1681	171.2	76.5		256.6	314.9	231.6	249.6	186.1	183.7	96.6	291.9	131.1	80.9	161.9	123.4	116.5	98.6	84.7	131.6
SPH621	1218	1659	173.0	84.4		172.2	270.7	172.6	211.7	193.8	244.5	68.7	393.0	200.3	126.0	159.8	186.7	80.4	125.0	83.4	79.0
SPH622	309	288	1009.9	576.2		1014.5	1786.6	1443.3	1316.9	1047.1	1706.3	306.0	2236.8	960.3	946.8	907.9	837.3	413.4	690.9	359.7	184.5
SPH623	651	1702	167.2	83.3		166.7	327.3	231.1	248.9	160.5	151.1	77.2	324.6	203.0	104.6	132.1	201.6	72.5	107.4	86.6	79.2
SPH624	933	1891	145.8	63.2		126.9	263.9	200.2	159.8	128.6	131.1	89.8	289.3	120.4	141.0	156.8	182.1	75.8	116.1	61.7	89.0
SPH625	963	2023	135.8	77.3		92.9	273.7	210.2	141.8	115.0	98.7	97.4	348.2	92.4	83.3	150.5	93.0	74.5	118.3	96.1	86.4
SPH626	1035	1259	237.5	204.0		164.9	633.5	378.4	248.2	123.8	301.1	102.4	790.6	117.5	119.4	210.0	176.7	129.3	114.0	119.3	71.7
SPH627	180	443	675.4	325.7		798.4	1566.9	884.4	602.3	583.6	747.4	354.1	1052.7	625.1	667.5	648.6	317.0	586.0	813.9	265.7	292.9
SPH628	534	990	299.2	143.4		354.6	516.3	424.5	276.6	270.8	292.9	155.2	490.8	210.7	194.1	185.7	242.0	130.7	615.9	264.0	163.0
SPH629	594	3274	74.4	13.6		86.6	95.6	71.5	94.5	82.7	71.9	64.5	75.8	81.0	52.4	57.8	71.9	58.1	73.6	59.6	92.1
SPH630	714	2582	99.9	17.3		107.8	125.4	119.5	87.2	91.1	88.2	87.9	131.6	79.7	78.3	100.8	98.1	82.6	124.7	102.1	92.7
SPH631	948	907	330.5	108.2		372.0	539.6	410.6	309.1	378.5	491.5	373.3	258.3	230.5	248.0	299.4	367.6	259.3	419.1	196.2	135.8
SPH632	711	697	443.9	168.6		326.0	410.2	393.4	375.8	444.3	411.8	384.0	343.0	351.5	330.5	325.2	352.8	514.6	988.2	644.5	506.1
SPH633	1011	807	374.8	139.0		336.6	359.0	401.4	310.0	373.2	197.8	423.3	347.5	418.3	350.7	503.5	244.7	529.3	748.4	278.5	174.5
SPH634	2976	737	415.9	255.3		407.5	502.2	621.0	615.7	343.8	473.4	191.9	619.9	262.6	191.1	796.2	942.0	86.9	370.8	100.4	128.9
SPH635	435	3769	60.3	10.9		47.8	64.5	62.2	62.9	44.5	60.3	52.7	68.5	64.4	56.7	60.6	59.3	46.6	89.9	53.9	70.2
SPH636	447	1800	154.3	86.5		123.0	199.0	192.6	122.5	109.8	81.0	114.0	203.4	82.2	73.4	269.6	151.8	111.4	409.3	104.9	120.6
SPH637	2832	500	598.6	311.3		577.5	855.6	770.1	777.8	608.9	590.2	443.6	1102.0	215.3	208.8	814.1	927.8	237.0	1009.8	276.1	162.4
SPH638	1473	977	303.0	243.9		256.7	354.4	364.7	336.9	206.9	255.0	157.1	637.8	128.6	74.6	226.2	360.9	71.3	1052.3	210.4	154.3
SPH639	444	477	629.5	469.0		619.1	711.4	867.9	945.8	537.8	699.6	306.8	925.0	161.7	226.9	531.5	763.6	181.5	2062.8	291.3	238.7
SPH640	798	642	479.0	224.9		544.8	626.5	704.8	771.0	522.2	525.8	370.0	698.5	240.2	203.7	544.9	763.7	184.8	639.8	180.0	144.1
SPH641	828	750	405.9	214.4		387.3	661.1	672.2	626.2	370.9	386.4	283.9	847.3	210.9	229.0	533.7	322.0	278.9	472.6	96.9	115.4
SPH642	762	1409	208.9	97.6		158.6	318.6	328.5	355.9	187.9	261.5	145.9	382.6	91.4	142.5	236.9	172.3	151.4	238.2	88.4	82.0
SPH643	204	1438	203.4	107.4		170.2	295.6	352.1	169.6	175.0	121.4	258.5	375.2	127.7	160.9	302.2	146.1	374.8	96.6	62.5	66.6
SPH644	531	202	1364.5	1175.5		545.4	1167.8	1592.2	998.4	533.0	897.2	1817.9	1609.9	555.3	2152.0	2238.3	934.1	5153.1	542.8	734.4	360.5
SPH645	84	439	681.8	323.1		466.6	781.3	853.2	851.0	458.9	531.9	777.4	1203.3	331.6	605.6	1012.0	543.4	1351.3	657.9	294.0	189.2
SPH646	768	1747	160.7	50.1		196.3	185.1	205.3	162.6	135.4	140.4	197.9	182.3	100.7	152.4	209.6	124.1	269.2	137.0	83.6	88.9
SPH647	1563	2573	100.4	37.3		74.8	73.3	107.3	71.0	66.5	78.9	135.3	112.1	79.8	107.9	119.0	67.5	205.0	143.3	93.9	70.6

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH648	873	2115	128.0	41.3		155.0	129.7	169.6	84.1	138.4	109.5	132.5	173.1	82.5	123.2	152.2	77.1	226.3	107.9	114.4	71.8
SPH649	2334	2955	84.3	16.6		73.6	82.5	77.7	71.9	70.3	64.1	85.8	121.1	78.4	74.0	99.4	75.5	102.1	76.3	79.4	115.8
SPH650	1527	542	554.5	294.4		650.0	760.2	884.2	825.5	584.5	566.7	531.5	867.6	286.0	240.9	919.8	950.3	185.9	137.3	235.5	246.4
SPH651	663	1914	143.9	35.6		125.0	168.2	193.7	151.7	121.5	110.4	132.3	124.3	109.8	118.9	165.2	237.2	107.2	130.9	173.0	133.5
SPH652	624	1819	152.6	51.1		150.7	155.0	186.2	200.9	143.7	107.0	137.8	117.9	183.9	114.2	175.2	262.4	85.2	84.9	107.2	229.4
SPH653	1368	3893	56.3	7.6		53.1	48.4	49.6	50.5	50.0	66.0	55.0	44.1	58.4	58.5	51.3	63.0	64.6	53.1	70.2	65.3
SPH654	1011	2833	89.1	18.1		83.8	117.9	102.0	86.0	82.6	112.5	70.9	117.9	74.9	90.2	64.3	108.7	63.5	89.9	71.8	87.8
SPH655	666	3097	79.4	36.1		85.5	146.4	117.8	79.8	63.8	101.9	55.9	164.0	55.2	45.9	69.9	79.4	56.9	48.9	46.7	52.4
SPH656	777	315	934.3	625.2		932.8	1826.2	1759.8	1886.7	776.4	890.2	467.9	2041.0	310.1	234.2	986.5	1044.9	240.5	263.1	555.2	734.0
SPH657	585	3807	59.1	12.1		50.8	42.2	46.5	59.9	46.7	67.6	51.2	46.8	60.1	80.1	56.8	53.3	79.8	65.0	76.5	62.3
SPH658	1428	3272	74.5	27.8		51.0	47.2	63.3	49.9	49.5	68.2	79.0	67.2	80.3	129.4	72.2	74.8	113.0	134.3	54.8	57.6
SPH659	1029	2530	102.6	42.8		86.9	57.2	81.1	58.4	61.6	91.6	94.8	96.6	187.6	201.3	90.5	74.3	155.8	105.8	90.6	108.3
SPH660	639	2220	119.4	54.2		65.8	60.7	70.6	113.5	67.5	104.0	80.7	91.9	113.2	173.3	78.1	126.1	137.1	207.0	231.5	188.9
SPH661	78	1976	138.9	104.1		65.4	66.2	107.1	68.0	90.6	82.5	159.9	86.7	150.4	152.6	104.6	69.0	236.7	483.5	183.1	116.3
SPH662	1410	313	937.7	630.3		646.2	919.5	553.7	498.9	442.5	769.0	676.6	783.0	2098.7	2412.3	480.8	189.5	1777.9	1250.0	801.6	702.4
SPH663	1983	983	300.4	296.4		272.9	211.8	621.9	753.3	72.6	70.9	67.8	1065.9	172.7	161.0	425.3	508.2	78.5	82.0	111.2	129.8
SPH664	1026	623	491.9	501.2		489.9	387.2	1160.7	1275.6	77.1	87.2	81.9	1620.1	367.9	196.7	814.6	854.4	73.7	89.8	97.2	195.7
SPH665	1488	452	660.4	720.4		757.4	560.4	1569.7	1912.1	61.8	77.2	74.3	2014.4	287.5	235.9	1453.5	1181.1	92.0	81.9	94.8	113.3
SPH666	735	298	978.1	663.0		797.4	540.4	2026.1	2328.6	308.7	235.8	445.4	2174.4	521.9	479.0	1249.7	1137.6	564.3	989.0	917.9	932.9
SPH667	957	597	505.9	240.2		469.0	365.6	359.9	385.1	341.9	344.4	695.5	349.6	368.8	382.5	318.5	320.0	565.4	1042.6	883.5	902.0
SPH668	975	2789	90.9	33.7		73.5	66.2	70.9	83.3	77.3	67.9	67.9	90.3	101.5	87.3	65.2	94.0	64.5	167.0	102.4	174.6
SPH669	1986	3438	69.6	25.5		63.3	59.3	54.9	57.9	49.2	68.8	72.9	57.1	71.8	64.7	55.0	49.1	95.6	154.9	62.8	75.7
SPH670	1035	946	314.0	84.7		327.3	339.1	370.0	383.6	320.5	341.5	253.8	346.1	278.6	342.7	268.7	243.5	305.4	534.1	218.0	151.0
SPH671	678	801	381.6	207.2		680.4	613.4	429.8	638.2	333.5	328.9	180.5	565.5	332.4	351.4	196.1	228.4	165.7	756.5	164.5	140.6
SPH672	534	3226	76.0	33.2		87.6	112.4	61.0	52.9	66.3	54.9	70.0	57.8	91.1	57.3	62.5	46.6	84.4	182.9	63.9	64.5
SPH673	1434	952	310.2	138.7		431.3	465.7	287.9	304.0	548.6	394.3	540.8	257.4	355.2	362.5	181.2	211.1	190.8	149.0	165.9	117.3
SPH674	543	341	871.0	328.5		1002.7	978.6	940.2	1005.7	894.6	798.0	1447.5	593.9	1416.0	1312.8	688.0	803.0	798.4	450.0	388.2	417.7
SPH675	384	2070	131.8	29.5		161.7	176.2	181.9	170.7	133.4	118.1	113.7	126.0	99.7	141.8	103.4	118.5	100.9	128.9	85.0	149.5
SPH676	1344	682	453.3	166.0		701.6	545.1	659.1	711.8	477.6	515.0	239.2	578.9	338.4	364.0	517.1	506.2	218.5	362.9	279.3	238.0
SPH677	447	2242	118.2	49.6		219.8	210.7	118.8	136.3	181.0	104.0	80.9	155.2	82.0	87.5	107.3	99.7	60.4	67.3	106.1	73.5
SPH678	1311	1022	292.6	152.2		469.3	446.8	393.8	426.8	407.6	415.0	135.0	522.7	263.7	161.6	214.9	360.4	94.3	92.3	102.1	175.8
SPH679	1428	984	300.3	137.3		470.7	481.4	376.9	348.2	467.7	365.5	170.4	486.0	173.3	180.6	280.1	392.6	162.1	106.9	171.5	170.7
SPH680	324	2018	136.1	79.5		127.3	81.0	279.4	294.2	73.6	61.6	76.3	224.1	112.8	91.3	210.8	197.4	137.3	83.9	69.1	56.6
SPH681	666	1230	243.8	106.5		257.6	193.8	417.8	455.6	217.5	89.2	190.3	234.7	217.1	218.0	374.9	262.1	319.5	247.1	113.8	91.8

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH682	1404	2812	89.9	12.8		110.3	96.6	84.4	85.6	102.1	104.9	77.6	83.8	95.0	69.7	97.5	84.7	77.4	74.9	110.9	83.5
SPH683	357	2262	117.2	19.9		91.1	124.1	116.0	102.8	94.9	139.7	118.4	88.8	121.6	127.3	147.4	128.8	151.8	94.4	126.6	102.3
SPH684	1446	1573	183.9	69.2		169.2	253.6	274.3	207.3	145.7	133.5	117.9	300.4	102.0	118.9	275.6	271.5	148.8	171.7	104.4	147.4
SPH685	600	297	987.8	557.4		1308.6	999.4	739.2	720.3	1589.6	1561.3	833.2	1042.2	2127.4	1595.3	437.0	333.1	644.3	1349.1	308.2	216.0
SPH686	750	221	1261.3	866.7		2334.3	1404.1	894.9	839.9	2598.0	3255.5	942.2	1193.7	2097.8	1366.1	457.1	725.7	423.3	453.8	725.1	469.2
SPH687	828	614	497.1	267.0		636.4	542.8	417.5	415.0	728.5	821.4	399.5	632.3	1174.1	647.8	292.7	301.5	255.8	321.9	211.5	154.9
SPH688	1752	517	581.1	270.9		938.6	811.4	667.7	672.9	1033.7	860.5	546.9	794.6	723.8	328.6	460.6	432.7	201.5	370.6	312.7	141.1
SPH689	1071	1423	206.5	51.6		249.9	226.3	241.4	304.2	182.5	192.7	152.8	217.1	188.4	199.5	184.5	304.7	109.4	163.9	170.5	216.3
SPH690	762	239	1199.1	498.4		2002.2	1693.1	1736.4	1998.5	1429.0	1340.8	687.2	1222.4	1214.2	1080.5	1207.4	1241.1	539.6	665.4	685.6	441.9
SPH691	642	2698	94.5	28.8		152.4	99.7	86.1	84.0	169.5	110.8	68.6	79.2	86.6	88.7	75.7	96.2	65.1	97.4	68.7	83.9
SPH692	894	365	803.3	370.7		1493.5	874.7	616.9	585.3	1628.7	992.7	933.8	286.4	1067.4	865.2	453.2	550.9	796.8	362.0	730.8	614.0
SPH693	900	1269	234.3	61.5		313.1	327.0	309.1	304.6	243.6	154.3	259.8	229.1	181.2	157.5	241.9	250.7	139.0	157.7	229.8	249.9
SPH694	237	2061	132.7	56.6		114.2	123.1	88.5	159.6	107.3	166.1	76.5	128.0	120.5	170.5	78.6	296.6	63.3	102.0	142.8	185.2
SPH695	102	634	483.7	245.7		241.4	233.0	370.4	314.2	293.1	320.9	664.7	327.0	228.3	606.2	622.8	480.1	1155.2	568.1	705.6	608.0
SPH696	1743	2798	90.6	17.6		75.4	78.4	68.5	88.4	73.4	82.1	109.5	75.3	65.7	90.9	96.6	109.5	92.4	106.4	117.4	119.4
SPH697	1170	2614	98.0	35.6		67.6	66.9	100.1	68.2	68.3	80.8	110.5	88.2	82.4	101.5	139.0	69.8	188.1	103.3	156.6	77.4
SPH698	912	3475	68.6	9.5		60.3	65.6	62.9	51.5	59.4	77.8	64.8	71.9	76.5	79.2	64.8	69.9	87.2	76.5	56.4	72.4
SPH699	636	957	307.7	138.9		250.1	265.4	282.4	268.9	215.6	226.1	273.6	191.6	209.2	235.5	321.3	181.6	289.9	630.9	603.5	478.2
SPH700	684	1196	250.4	80.3		252.0	288.3	194.9	121.8	238.7	234.2	302.1	186.0	178.3	226.2	210.0	225.1	249.8	393.5	450.4	254.7
SPH701	1638	1117	269.9	77.0		369.1	314.8	226.1	210.5	317.7	241.8	368.2	209.4	207.6	261.6	220.6	187.1	263.5	196.0	460.6	263.2
SPH702	591	2059	132.7	35.9		164.5	137.2	98.9	134.6	133.5	104.3	120.6	108.5	118.7	147.1	87.4	164.3	86.5	117.6	181.1	219.0
SPH703	1272	2710	94.2	15.5		118.4	91.2	85.7	77.4	96.9	101.4	93.2	78.7	96.2	87.9	80.1	115.9	84.3	70.0	107.3	121.8
SPH704	1062	3221	76.1	23.3		65.2	63.9	59.0	88.3	72.9	54.6	69.7	64.1	76.8	60.5	79.0	126.2	55.8	67.7	78.2	135.2
SPH705	792	1499	192.9	94.1		134.6	107.1	221.8	184.1	200.2	106.2	287.0	134.5	103.2	113.2	283.4	375.7	184.6	386.8	140.7	123.0
SPH706	558	1688	170.1	51.3		160.6	129.3	167.8	193.6	171.0	106.8	182.9	133.9	126.6	118.5	197.0	323.3	134.2	200.4	192.7	183.1
SPH707	702	3790	59.6	9.9		61.2	77.4	53.5	67.8	55.6	70.5	50.5	60.2	64.9	45.5	48.8	52.1	56.8	65.4	48.4	75.5
SPH708	1983	3767	60.3	9.2		60.8	52.1	54.5	70.9	53.2	52.5	45.7	60.8	75.8	58.7	68.6	63.1	54.7	55.4	79.1	59.8
SPH709	522	1046	287.1	54.5		285.4	268.1	295.8	414.9	292.5	260.6	235.2	302.7	226.2	334.0	307.6	301.6	305.4	232.2	347.2	184.4
SPH710	1329	3841	58.1	4.7		55.2	53.2	55.6	56.5	53.2	56.2	52.9	62.8	55.7	59.5	55.0	60.9	56.9	61.5	65.8	69.0
SPH711	678	3732	61.6	14.9		64.3	51.3	51.1	54.7	42.3	90.7	53.3	69.4	51.7	64.4	65.7	58.6	73.0	45.4	95.1	54.0
SPH712	843	2879	87.2	20.4		63.6	59.3	78.3	126.8	52.8	86.5	90.0	122.4	77.0	93.8	83.2	86.4	103.9	83.5	105.4	82.7
SPH713	1551	2706	94.3	39.1		69.0	65.2	87.6	137.9	60.1	70.6	85.5	215.7	53.1	82.6	88.8	87.6	103.3	82.0	97.4	122.2
SPH714	3705	2484	104.9	67.8		82.0	53.8	105.5	194.5	47.5	80.1	91.5	326.7	58.2	87.8	93.3	108.5	106.6	78.7	77.3	86.4
SPH715	1464	2472	105.3	54.7		56.9	56.6	95.6	138.5	62.8	82.7	102.1	279.1	70.3	101.7	121.0	70.6	150.2	70.0	98.5	127.9

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH716	135	2786	91.0	39.5		62.4	56.3	83.7	67.8	63.8	60.4	114.1	62.3	79.7	107.1	130.9	85.1	215.8	81.1	89.3	95.7
SPH717	1764	3719	61.9	9.5		52.8	53.3	55.8	52.7	57.7	61.2	52.9	59.7	58.1	61.6	59.6	66.6	74.3	60.8	83.0	80.1
SPH718	969	3161	77.8	16.3		68.0	67.7	75.6	62.4	66.1	68.3	88.3	67.3	69.9	69.6	94.0	91.6	117.8	102.8	73.7	61.6
SPH719	2571	2903	85.9	24.6		76.5	141.8	79.0	99.0	74.7	115.6	60.6	76.6	68.1	69.3	66.6	125.9	49.8	91.0	90.9	88.4
SPH720	2199	1212	247.9	189.7		258.7	782.5	445.6	312.8	214.1	217.1	76.2	173.9	88.2	113.2	243.7	219.7	122.0	506.6	95.0	96.3
SPH721	2289	3302	73.5	15.4		60.8	115.5	82.6	79.0	61.8	64.5	56.2	93.7	76.7	60.4	78.6	80.9	74.1	60.7	64.7	65.8
SPH722	504	2628	97.6	28.7		80.8	157.8	106.2	121.9	64.7	83.2	76.0	121.1	66.9	75.6	72.3	132.0	70.1	97.6	99.2	135.6
SPH723	810	2481	105.0	29.3		104.5	162.3	150.5	146.0	86.1	85.2	51.3	97.3	115.1	79.4	111.8	123.4	77.4	96.8	98.9	94.2
SPH724	639	2757	92.2	29.8		95.2	172.0	137.7	113.6	83.7	71.4	54.1	99.6	78.8	76.1	87.1	100.0	59.1	82.1	99.0	66.2
SPH725	1086	2082	130.9	35.7		137.1	169.5	206.6	150.7	117.8	99.2	107.4	124.8	112.7	123.6	207.9	118.3	124.4	95.8	101.9	97.1
SPH726	1020	325	908.8	1075.9		2240.7	3757.9	149.8	114.0	1653.1	2347.3	206.0	141.0	939.1	1188.8	229.0	156.4	747.4	318.4	148.6	203.0
SPH727	1326	1080	278.6	310.6		533.6	1241.0	61.5	111.7	414.1	493.3	77.1	100.0	528.1	260.1	70.7	125.9	101.9	135.1	91.8	111.3
SPH728	1209	1388	213.9	228.5		452.5	903.1	56.8	58.3	310.4	382.7	70.4	44.3	319.5	274.3	71.1	49.4	155.7	139.7	84.7	49.3
SPH729	912	362	805.0	791.9		1547.9	1995.0	155.1	88.6	1308.9	1139.6	265.3	81.7	907.7	1078.9	320.0	122.7	871.0	2715.3	149.5	132.4
SPH730	594	1260	237.5	221.5		96.6	130.1	123.8	122.5	155.5	124.8	358.1	127.1	119.5	191.0	134.4	155.3	244.5	155.5	812.5	748.7
SPH731	1317	2146	125.5	33.8		128.7	148.4	155.4	148.0	124.7	93.7	97.9	220.0	123.6	76.6	138.0	121.2	88.7	118.2	123.5	102.0
SPH732	663	2387	110.3	30.9		105.5	173.7	128.0	110.5	121.1	125.7	85.9	169.3	64.3	80.0	117.6	88.2	88.8	110.0	121.8	73.7
SPH733	2313	2361	111.6	31.5		115.9	163.7	129.6	97.1	120.7	124.1	80.1	195.7	81.9	91.3	101.0	107.7	85.4	115.4	94.7	82.0
SPH734	669	624	491.3	194.7		575.3	344.5	398.4	373.1	638.1	363.2	953.3	311.0	534.7	452.5	419.1	403.2	284.6	352.0	873.9	583.5
SPH735	960	1689	170.1	91.2		202.7	152.6	105.7	101.5	301.1	208.3	189.1	140.5	107.2	111.0	78.3	112.5	84.3	142.9	406.2	277.3
SPH736	810	2135	126.2	27.1		168.4	105.6	97.9	103.5	164.3	90.8	133.0	107.5	145.3	124.9	136.6	108.9	149.4	102.9	172.6	107.4
SPH737	1212	3604	65.2	9.1		62.7	56.5	55.6	73.5	59.3	51.4	63.0	64.5	75.6	56.7	59.6	81.8	71.5	59.9	75.2	76.4
SPH738	339	1242	241.2	74.3		343.7	326.2	232.7	215.4	284.3	391.5	196.1	274.0	166.2	249.0	119.4	154.8	171.7	258.6	195.6	280.0
SPH739	1647	2795	90.7	23.9		94.7	83.1	75.2	67.3	103.3	79.2	77.1	63.1	111.3	87.1	80.4	69.4	149.4	99.8	78.4	133.0
SPH740	1017	2876	87.3	22.1		58.5	55.7	73.5	83.5	63.7	85.5	96.6	73.9	73.5	89.2	112.3	89.4	136.7	102.8	83.8	118.5
SPH741	1416	2593	99.0	55.2		83.3	53.4	90.7	57.5	66.0	76.0	138.2	63.0	56.8	99.5	134.7	56.9	274.3	133.7	86.9	113.2
SPH742	510	3295	73.8	25.9		60.3	52.2	59.4	49.7	59.8	54.9	82.6	56.7	62.8	69.1	116.9	80.8	148.5	81.6	74.5	71.3
SPH743	1407	3826	58.6	8.8		49.8	51.3	51.6	48.7	53.3	59.9	56.0	51.7	61.7	71.9	71.0	54.1	76.8	52.7	58.9	67.5
SPH744	1311	2775	91.4	14.6		82.1	99.6	95.8	76.3	72.2	105.0	80.2	88.6	61.8	90.1	81.3	107.3	104.9	112.3	104.3	100.5
SPH745	477	3409	70.5	14.4		67.7	91.9	65.2	95.5	49.6	69.5	51.0	83.0	56.3	63.0	71.3	96.3	68.2	62.4	69.0	67.8
SPH746	1299	3441	69.5	12.8		66.6	103.6	73.4	82.0	53.8	61.7	58.1	81.4	65.4	57.3	63.8	72.7	53.0	71.9	69.8	77.7
SPH747	417	3637	64.3	22.2		59.4	60.6	68.5	62.5	59.5	77.4	49.8	52.9	56.2	51.9	40.1	73.1	44.7	56.3	78.3	137.0
SPH748	231	629	489.5	186.7		400.5	721.0	774.5	635.5	422.6	436.9	467.8	602.6	301.5	465.5	741.7	378.2	468.7	662.5	171.2	181.7
SPH749	1560	2818	89.8	20.5		84.6	94.1	105.3	132.0	80.3	80.9	64.7	96.3	79.0	78.3	105.6	97.9	53.8	124.7	71.5	87.9

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH750	516	2079	131.0	43.1		121.7	192.8	215.7	165.2	105.9	82.9	92.3	148.1	117.0	108.4	179.7	178.8	108.4	113.3	77.3	88.5
SPH751	1482	3287	74.0	14.2		73.4	91.3	68.6	80.2	75.3	65.0	56.0	83.4	66.7	59.1	62.4	91.1	53.8	66.4	98.9	93.1
SPH752	471	3533	66.9	13.0		69.2	80.1	63.5	60.6	71.5	62.2	64.5	62.1	63.4	65.5	47.1	74.0	47.3	57.0	82.9	99.3
SPH753	1053	3630	64.5	11.0		63.0	48.9	57.5	55.6	47.5	62.3	62.6	53.0	80.3	66.9	63.9	84.4	63.9	66.8	80.6	74.8
SPH754	2601	3213	76.3	23.9		62.3	62.9	58.6	58.4	59.2	95.8	61.3	64.8	66.4	102.3	66.4	81.3	63.9	108.3	66.2	142.3
SPH755	981	2334	113.4	26.0		104.9	161.0	92.9	101.6	124.3	151.7	59.3	127.0	127.8	134.2	86.3	93.2	110.1	134.8	104.8	99.9
SPH756	1353	3337	72.5	12.4		57.1	70.7	56.7	72.9	51.7	86.9	55.8	73.3	67.5	82.1	72.7	79.9	95.7	74.2	77.5	85.0
SPH757	474	1733	162.7	64.2		115.2	102.0	165.2	134.4	119.9	106.6	198.5	151.4	123.1	190.7	259.8	124.6	334.6	221.5	127.1	128.3
SPH758	360	3930	53.8	8.5		73.7	45.7	48.5	54.9	49.7	57.0	43.3	54.3	69.5	49.1	50.5	56.4	58.8	57.9	43.2	48.7
SPH759	708	2854	88.2	20.6		57.3	84.5	95.0	83.1	58.9	85.9	92.1	108.7	67.0	91.8	108.4	63.1	132.8	110.7	87.8	84.0
SPH760	993	3619	64.8	11.4		59.5	67.9	61.2	68.1	47.5	70.2	47.7	85.9	61.0	75.0	58.5	86.1	56.1	61.4	56.7	73.4
SPH761	426	1393	212.4	56.2		266.1	201.1	179.8	224.6	242.4	130.9	153.8	127.3	260.1	238.1	164.6	150.0	228.7	318.8	269.1	243.2
SPH762	105	2290	115.9	30.9		104.5	135.0	91.9	111.0	116.8	96.6	72.4	84.4	155.8	170.1	91.2	117.2	147.5	169.8	90.8	99.5
SPH763	1224	3779	59.9	10.0		58.2	50.9	66.9	64.0	45.1	52.8	54.2	53.2	62.7	57.5	53.6	69.9	51.8	86.2	63.7	68.0
SPH764	1305	2863	87.9	34.3		51.9	62.5	70.5	68.4	64.5	98.6	93.1	100.2	50.3	83.3	120.0	59.1	169.1	152.3	86.5	76.6
SPH765	570	1930	142.5	77.2		96.3	109.6	102.2	104.4	162.1	102.0	142.6	111.4	95.4	141.2	112.3	152.9	145.8	417.4	167.7	117.0
SPH766	1890	1762	159.0	37.6		215.3	178.5	169.3	114.8	180.0	149.9	203.2	178.1	181.6	173.3	179.8	90.5	161.3	167.4	96.7	104.1
SPH767	585	66	3486.4	2092.5		3740.3	2805.6	2161.9	2770.9	4486.2	4655.8	2151.4	591.4	6296.5	7738.4	2553.1	2369.4	7400.7	1498.5	2483.9	2078.5
SPH768	1218	3506	67.6	13.8		52.3	63.1	68.1	63.5	55.8	58.0	69.2	51.2	75.6	74.6	88.5	53.8	78.6	100.2	56.3	73.4
SPH769	234	1561	185.5	85.0		166.5	71.7	126.3	108.5	118.3	114.3	168.2	201.5	321.4	354.0	140.9	215.1	132.7	187.8	204.5	335.8
SPH770	2169	3576	65.8	10.5		66.1	53.5	47.7	65.7	58.3	69.4	51.6	77.5	75.6	71.1	61.2	78.6	55.1	70.4	68.3	83.3
SPH771	1227	1692	169.5	83.0		209.6	172.7	130.8	123.0	149.8	115.9	408.5	162.7	95.8	105.1	199.8	292.7	82.8	124.0	135.6	202.4
SPH772	654	2375	111.0	23.7		108.1	95.5	94.9	95.7	119.7	97.7	156.9	100.9	76.7	80.2	111.1	158.4	120.8	109.6	111.1	137.9
SPH773	1053	3251	75.0	15.2		87.2	111.5	82.7	77.6	71.6	76.2	62.1	103.1	66.8	60.9	76.6	73.2	60.9	68.0	62.9	58.0
SPH774	378	2716	94.0	32.9		108.5	159.7	105.3	129.2	100.9	89.3	56.4	135.1	108.2	64.3	69.3	84.0	49.5	58.6	59.9	125.9
SPH775	753	1878	146.7	53.2		211.4	236.2	143.4	133.4	218.5	151.4	88.6	236.8	159.1	100.2	102.0	157.1	81.1	106.6	126.7	95.1
SPH776	732	2118	127.6	19.0		97.8	149.1	135.7	163.9	130.7	104.8	106.0	144.3	111.5	139.1	107.1	134.6	118.6	118.2	135.8	144.5
SPH777	894	2641	97.1	25.4		75.9	74.2	73.8	73.0	82.0	124.0	96.8	92.8	73.0	89.8	109.8	127.8	124.5	83.4	93.3	159.8
SPH778	897	3563	66.3	10.1		48.4	57.7	69.7	58.4	52.1	60.7	71.1	76.0	78.6	83.3	75.7	65.6	65.7	54.9	72.6	70.3
SPH779	996	3240	75.2	13.8		62.1	61.9	70.3	69.8	63.7	67.2	78.2	80.6	77.4	72.4	79.1	66.0	91.6	117.5	69.7	75.5
SPH780	1131	3345	72.2	14.0		67.2	68.5	72.2	56.6	59.9	81.0	59.9	71.6	56.9	55.6	88.8	79.8	72.7	99.0	67.1	98.5
SPH781	816	3599	65.3	11.8		49.6	50.9	67.3	53.4	55.1	66.6	67.2	65.1	65.4	67.5	82.0	70.2	67.2	62.5	57.7	96.8
SPH782	831	3412	70.3	22.1		59.8	48.5	50.6	72.3	58.2	93.5	53.0	61.2	79.0	81.2	59.0	84.3	48.9	54.9	89.9	131.1
SPH783	1059	2675	95.4	30.8		70.8	60.8	70.6	97.1	66.9	68.6	69.1	82.8	152.8	112.0	85.9	137.3	74.5	106.5	122.7	147.4

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH784	1047	3253	74.9	21.0		60.1	50.6	58.7	86.0	51.8	55.7	52.6	75.1	89.2	91.9	71.5	89.6	65.0	72.2	104.6	123.1
SPH785	1608	3398	70.7	12.9		47.0	52.3	68.6	79.8	54.6	80.2	66.9	68.2	70.8	80.0	59.2	77.4	72.0	97.1	74.4	83.2
SPH786	840	1876	146.8	54.1		108.3	104.9	133.0	82.7	147.2	165.5	224.5	117.7	70.8	223.5	160.2	102.0	269.8	149.4	152.0	137.9
SPH787	429	3665	63.3	6.4		71.4	59.5	56.7	52.9	64.0	75.8	66.8	64.3	61.1	57.6	62.1	70.6	69.5	55.9	66.0	58.2
SPH788	828	1008	296.2	90.7		256.1	335.8	267.5	248.5	313.0	332.3	321.9	284.0	381.4	429.9	292.5	157.7	494.1	281.2	168.0	175.6
SPH789	87	363	804.9	286.1		565.5	634.1	703.6	591.5	688.2	731.7	897.1	751.7	889.2	1440.1	698.0	662.5	1453.3	1059.3	602.9	509.8
SPH790	1299	3243	75.1	10.8		64.0	69.9	84.5	74.6	70.7	73.4	87.4	61.6	64.9	78.2	69.2	80.5	100.9	78.2	59.8	83.2
SPH791	513	1641	176.6	176.7		50.3	91.5	181.1	93.3	118.7	105.2	350.0	99.4	97.1	229.6	347.8	44.7	736.6	132.8	96.8	50.0
SPH792	1008	2760	92.0	32.3		68.8	76.6	101.5	67.3	73.0	93.1	113.5	90.1	63.2	130.8	108.3	67.3	189.1	76.4	78.1	75.1
SPH793	1278	1888	146.0	53.8		125.7	167.7	169.7	106.3	138.2	127.2	191.5	98.7	86.5	132.1	149.3	111.3	245.3	278.0	108.1	100.6
SPH794	261	1289	229.5	192.0		81.5	446.8	362.8	113.0	118.7	90.2	380.7	126.0	102.3	204.0	510.2	69.2	701.2	189.5	117.0	59.2
SPH795	2280	1381	214.3	150.2		259.3	618.0	322.6	340.4	228.5	156.3	292.1	72.7	108.3	104.2	161.4	384.9	63.7	64.5	131.1	120.1
SPH796	1563	844	356.3	232.2		385.5	1065.8	574.4	529.8	268.4	366.2	318.5	126.3	182.7	225.6	308.7	483.8	102.4	220.8	301.2	240.9
SPH797	681	2295	115.5	45.7		71.1	67.5	161.5	126.7	94.0	75.5	118.3	112.4	99.2	188.6	205.7	85.6	182.7	111.4	73.1	74.0
SPH798	1389	3495	67.9	8.8		63.5	61.5	62.0	77.5	52.2	63.3	68.0	72.3	60.9	62.8	65.6	73.5	75.8	87.9	61.8	76.8
SPH799	1371	3016	82.1	19.2		76.0	87.1	73.6	61.7	82.0	80.7	81.2	67.1	71.0	70.9	92.4	78.6	125.1	64.0	74.0	128.5
SPH800	639	1849	149.2	53.8		223.4	202.6	187.4	135.3	276.5	159.8	142.5	160.5	102.5	109.6	168.4	113.9	113.4	133.7	89.3	68.6
SPH801	726	1928	142.6	58.7		93.9	98.6	143.7	79.8	149.6	161.2	153.5	111.8	122.7	158.1	243.2	90.5	299.3	156.8	135.7	82.5
SPH802	891	3501	67.7	17.4		59.6	53.7	51.6	72.1	55.3	63.6	45.4	68.2	99.3	75.6	53.2	98.2	51.1	62.7	80.1	93.4
SPH804	3012	2826	89.2	21.4		101.1	78.3	79.8	60.0	128.1	94.9	114.7	68.3	73.2	85.1	100.8	82.9	132.7	81.1	80.9	65.4
SPH805	1356	3094	79.5	17.6		84.2	55.9	71.7	65.6	87.9	86.1	100.8	64.0	66.3	87.8	81.4	78.3	92.6	56.6	123.8	68.6
SPH806	492	3054	80.8	24.1		75.1	55.1	53.6	83.0	66.9	97.1	77.8	68.6	73.2	82.4	61.9	136.6	62.6	66.8	110.6	122.0
SPH807	615	3297	73.7	11.2		66.3	82.0	71.4	78.5	67.8	72.5	64.5	61.9	86.6	92.5	72.8	79.0	64.1	50.2	89.0	79.9
SPH808	1536	3765	60.4	12.5		63.9	57.8	57.8	70.0	46.6	57.6	47.6	56.4	77.7	63.4	52.7	68.1	46.9	48.6	57.5	93.6
SPH809	1023	2571	100.5	27.6		91.6	107.2	127.4	127.4	92.1	94.6	87.3	125.1	59.4	103.6	170.5	101.8	100.7	69.3	79.9	69.8
SPH810	627	95	2655.7	1571.6		2984.1	3164.6	5089.5	6882.1	1844.0	2279.6	1644.8	3000.4	1912.9	1853.6	3593.6	3335.8	1652.1	1095.7	1030.4	1127.6
SPH811	666	1137	265.1	172.0		415.3	671.3	465.8	467.0	203.3	199.9	94.4	87.8	109.3	253.8	227.0	312.4	137.0	377.7	131.4	88.1
SPH812	1032	2014	136.3	52.2		138.5	273.4	124.5	119.5	122.5	106.8	91.7	71.2	133.3	171.6	119.4	171.7	95.2	226.4	101.2	113.8
SPH813	795	2619	97.9	24.1		61.1	68.5	90.9	96.6	93.8	77.1	94.1	85.7	79.8	111.8	125.6	83.1	116.3	127.8	153.4	101.0
SPH814	1002	1902	144.9	70.6		105.2	80.2	162.4	76.2	110.5	125.0	227.2	95.4	111.1	167.2	263.4	86.6	308.2	200.9	95.2	103.3
SPH815	465	3222	76.0	16.8		48.8	62.1	83.7	67.1	60.7	61.4	80.0	67.2	68.5	95.2	113.4	75.9	104.1	78.0	72.0	78.5
SPH816	852	1236	242.5	33.9		223.1	236.8	228.4	233.9	219.6	245.5	249.3	258.1	206.6	344.8	264.8	267.9	257.6	218.8	223.4	201.2
SPH817	198	794	384.3	327.0		232.8	312.0	405.6	247.6	329.6	231.2	613.9	364.8	138.1	425.0	1073.8	66.4	1198.2	327.7	118.5	64.3
SPH818	309	165	1593.8	2949.5		162.7	102.6	169.7	113.6	236.5	134.8	6740.9	126.3	557.6	331.3	262.8	182.1	338.3	245.4	8095.5	7700.0

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH819	1158	2451	106.2	50.0		65.2	70.3	97.3	62.2	90.6	77.0	236.9	94.3	84.3	103.8	92.8	94.5	84.4	80.2	198.0	168.1
SPH820	735	1687	170.1	229.8		71.6	60.1	77.8	80.9	91.1	71.0	168.2	75.4	991.5	352.9	86.7	110.5	108.7	113.1	124.2	138.5
SPH821	1623	3720	61.9	11.7		59.5	41.7	53.0	53.2	52.4	78.0	57.9	59.3	62.0	70.6	49.2	84.3	63.8	58.7	80.1	66.2
SPH822	1665	660	467.3	185.6		721.1	638.8	608.0	457.8	634.1	654.9	428.3	748.5	497.9	416.1	399.5	384.5	175.4	241.6	216.1	254.3
SPH823	1233	2380	110.6	40.3		190.9	151.9	96.8	95.9	176.5	100.3	76.5	79.2	80.6	77.9	95.4	149.0	57.0	73.1	125.8	142.3
SPH824	1512	1411	208.7	41.8		257.9	264.1	207.8	237.3	248.6	264.8	215.5	191.2	223.2	208.5	170.7	226.4	141.0	143.2	189.7	148.9
SPH825	1689	1206	248.6	54.1		310.5	315.8	257.1	275.3	301.2	232.0	332.3	185.5	238.4	193.5	260.6	262.5	197.0	128.3	237.8	249.6
SPH826	354	3052	81.0	17.9		66.6	74.7	67.0	76.8	65.2	66.7	71.9	78.2	69.8	68.2	91.3	78.7	114.8	124.0	80.5	101.9
SPH827	273	470	637.6	319.1		578.4	880.9	934.9	964.9	389.7	276.5	641.4	635.3	394.1	179.3	965.9	1329.0	177.2	547.2	625.9	681.2
SPH828	321	16	8397.9	2841.0		7564.2	11685.6	8320.5	9252.8	5254.9	5526.8	5119.7	5380.4	9457.7	12358.1	11836.7	13536.0	10030.6	6640.7	6657.3	5744.0
SPH829	792	712	433.9	185.2		522.2	367.3	331.5	293.2	536.7	367.8	672.9	197.3	268.6	288.7	239.6	322.9	400.4	657.5	806.1	670.2
SPH830	1092	163	1623.1	743.7		1345.4	1635.2	1521.9	1592.9	1183.3	1167.3	3582.8	731.5	694.9	895.1	1541.8	1988.7	1381.4	1699.0	2401.6	2607.2
SPH831	1416	3432	69.9	11.1		55.2	73.3	76.9	75.5	71.4	72.8	58.6	102.0	73.4	67.4	65.1	65.0	72.5	73.5	56.6	59.1
SPH832	246	1109	271.7	142.9		154.2	137.0	221.0	160.9	231.7	200.2	358.1	141.8	282.9	405.6	336.5	138.9	583.7	560.9	241.8	191.4
SPH833	1557	1879	146.7	29.3		121.6	94.5	128.7	140.2	97.1	140.2	160.2	158.6	133.0	177.0	180.4	185.7	188.6	144.4	128.2	168.4
SPH834	2793	3804	59.3	13.1		62.1	51.0	47.1	63.4	52.7	63.5	44.5	50.3	61.7	50.8	58.2	90.2	45.4	52.1	79.0	76.2
SPH835	1407	3805	59.2	9.5		62.3	53.8	49.1	63.2	50.3	56.2	50.6	63.3	62.7	65.2	50.6	68.9	54.3	59.0	51.8	86.3
SPH836	603	1744	161.0	47.6		215.7	191.9	145.3	95.8	259.4	180.0	151.7	231.1	153.4	141.6	130.0	75.8	161.5	174.3	146.0	123.4
SPH837	1245	2512	103.7	17.2		111.8	116.3	91.3	99.5	152.3	122.4	102.3	98.0	86.2	91.3	82.7	97.3	112.1	108.9	99.0	87.8
SPH838	882	3514	67.5	13.9		74.2	98.5	61.7	68.3	89.2	73.1	56.5	65.0	82.9	58.4	53.7	62.2	51.6	48.7	61.9	74.2
SPH839	339	1228	244.3	292.5		87.3	72.5	104.9	115.6	85.5	105.5	793.8	145.5	76.0	121.7	117.7	102.4	157.9	128.8	775.8	918.5
SPH840	735	440	678.0	1085.4		173.4	167.3	130.3	173.0	189.9	180.6	2858.7	182.3	205.7	169.8	136.1	186.3	217.0	157.7	3077.0	2642.3
SPH841	1044	382	773.0	1461.6		69.6	87.3	85.6	96.7	92.6	68.2	4052.4	80.9	181.0	101.0	84.8	121.8	100.7	68.0	3605.2	3472.6
SPH842	1431	257	1117.8	2129.5		118.8	107.8	116.2	108.0	105.0	92.8	5438.9	86.5	148.7	191.3	108.7	146.6	224.4	103.1	5451.3	5337.0
SPH843	999	2858	88.1	16.4		81.2	90.6	89.5	109.3	78.7	81.1	62.6	100.8	88.3	70.7	86.3	104.1	70.0	110.0	68.6	117.0
SPH844	1068	836	359.3	124.2		584.0	454.7	422.7	481.3	495.9	336.1	395.6	464.3	305.2	199.2	307.7	420.5	138.1	259.6	233.1	251.4
SPH846	687	1314	226.1	118.9		250.6	427.3	353.6	298.6	168.8	182.4	112.2	464.1	193.0	178.5	236.7	169.9	110.8	321.0	72.7	76.9
SPH847	672	895	334.0	157.8		344.2	570.3	528.8	509.5	214.6	285.1	200.6	652.5	257.7	257.8	371.9	374.0	214.2	301.7	113.8	148.0
SPH848	1365	2215	119.8	53.0		102.6	200.0	226.2	151.3	62.7	106.6	68.6	183.9	81.1	81.6	120.3	168.5	59.9	139.3	61.4	102.7
SPH849	501	824	364.4	206.1		277.8	658.7	660.0	535.5	244.6	244.2	249.3	498.7	177.4	187.1	643.7	662.5	223.7	300.5	99.3	167.4
SPH850	354	586	514.4	300.5		269.2	710.3	920.1	781.4	266.8	372.5	529.4	627.4	210.1	295.0	1094.0	564.2	815.5	584.1	101.6	89.4
SPH851	705	1479	196.9	79.6		184.0	349.9	301.2	286.5	166.1	198.3	165.0	305.3	154.9	129.9	227.2	228.7	137.8	142.1	95.0	79.0
SPH852	816	1252	239.3	104.7		144.7	237.8	220.7	177.6	355.7	170.0	317.4	207.5	162.6	195.4	180.9	344.6	154.4	111.9	501.3	345.6
SPH853	384	1134	266.0	198.4		163.5	194.5	166.4	198.7	245.1	153.9	467.0	177.4	149.1	173.7	154.7	251.5	145.5	151.9	688.7	774.1

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH854	1398	1216	247.1	388.6		71.5	48.4	59.3	57.6	101.5	54.2	1267.7	66.7	96.4	54.9	69.7	57.4	74.2	103.5	881.8	888.2
SPH855	777	42	4632.6	4031.7		9760.8	3400.4	2624.7	3095.1	16535.6	7864.9	1656.5	2520.4	3915.3	4303.0	2091.2	2460.4	1519.5	7943.7	2128.0	2303.1
SPH856	747	258	1117.6	1842.4		1372.3	403.2	494.3	518.3	1289.7	1164.1	440.7	1411.1	341.2	507.1	306.7	307.7	606.9	7863.9	452.7	401.0
SPH857	321	2869	87.6	14.1		77.2	71.9	72.3	119.3	92.6	84.8	79.7	85.1	88.3	81.5	71.3	86.3	93.8	109.8	107.8	79.9
SPH858	1179	610	498.8	214.8		698.4	697.6	316.1	254.9	687.8	682.5	368.1	144.7	758.7	807.6	357.8	295.7	528.9	679.9	407.3	294.8
SPH859	90	284	1036.2	527.8		1120.0	496.6	919.6	579.2	1459.1	664.9	768.6	259.2	1088.3	1685.3	1318.7	720.3	2327.3	1570.2	790.9	811.7
SPH860	1677	930	320.9	185.8		197.0	203.8	644.0	360.0	520.8	443.4	106.6	184.0	589.1	341.6	588.6	330.1	83.6	182.1	222.3	137.0
SPH861	954	2165	123.5	29.0		118.8	116.9	157.8	115.9	140.7	85.3	114.8	112.1	107.4	105.3	155.0	141.8	119.3	196.3	80.4	108.5
SPH862	978	2576	100.3	36.4		86.2	73.4	95.3	71.8	101.3	66.5	119.2	84.8	76.5	95.6	107.4	74.8	167.7	200.9	79.2	103.7
SPH863	1053	3376	71.1	10.0		65.6	65.5	60.2	73.5	61.8	72.6	73.7	63.9	92.3	61.8	70.0	71.7	68.6	95.9	72.5	67.7
SPH864	972	2703	94.4	15.1		116.9	122.9	81.8	77.6	120.5	103.3	97.6	99.1	88.6	87.2	86.2	77.8	79.1	90.7	81.9	99.9
SPH865	1083	3697	62.4	8.0		68.4	65.5	50.9	54.6	59.0	64.2	65.9	56.1	59.8	70.7	50.0	80.3	55.9	65.4	62.7	69.3
SPH866	1617	1507	192.0	60.0		264.6	189.9	124.4	122.4	339.2	241.5	197.2	175.8	223.9	248.7	136.9	180.3	191.4	150.7	164.4	121.2
SPH867	1860	3263	74.6	20.5		61.8	56.9	53.1	76.7	56.2	74.7	73.1	66.0	83.2	73.3	59.5	114.7	63.8	60.0	105.0	116.5
SPH868	1290	3481	68.4	21.8		74.3	110.6	81.9	101.3	63.5	48.6	59.1	75.0	83.9	40.0	64.2	54.5	37.5	42.4	65.0	92.8
SPH869	861	1899	145.1	65.0		119.5	237.2	216.2	203.2	138.3	129.2	115.5	282.8	87.4	72.3	139.6	209.7	75.1	67.4	117.4	110.6
SPH870	1257	2388	110.1	43.5		131.3	173.6	180.1	137.0	98.8	103.4	75.9	193.8	68.0	60.3	114.5	115.1	50.8	69.6	93.5	95.3
SPH871	252	326	905.0	348.3		735.1	1197.8	1309.6	1480.4	655.8	813.2	827.7	1360.1	393.6	595.7	1215.7	1324.5	726.6	701.0	595.4	548.0
SPH872	756	3314	73.2	13.1		58.2	71.9	95.2	66.6	57.3	83.1	71.0	78.5	58.9	74.8	82.1	61.8	93.5	81.9	52.5	83.3
SPH873	927	1422	207.0	80.6		178.7	271.9	328.5	311.7	147.2	229.0	200.1	333.5	86.1	107.0	253.5	220.3	188.5	231.8	131.1	93.2
SPH874	318	1043	287.7	117.0		320.3	522.8	421.1	371.9	260.4	307.2	280.6	466.6	149.4	114.0	286.8	214.6	134.4	308.4	178.6	265.5
SPH875	630	316	933.9	355.6		840.4	1182.3	854.1	1052.8	835.3	1065.5	957.0	1083.1	415.3	301.4	808.1	1131.5	374.3	1002.4	1639.0	1399.6
SPH876	831	1127	268.0	135.4		277.0	446.1	433.9	372.3	300.3	284.0	150.3	504.1	100.8	99.5	339.7	372.1	107.5	222.4	120.1	158.3
SPH877	468	1119	269.1	109.0		265.3	379.6	373.4	311.8	228.1	280.0	210.4	423.4	115.1	132.8	356.3	285.7	228.1	451.3	101.6	163.0
SPH878	915	1615	180.3	86.7		130.2	170.4	194.8	160.1	165.4	186.7	176.9	235.4	72.2	170.1	207.9	126.1	275.5	435.1	93.8	84.8
SPH879	879	1261	237.4	92.9		270.0	326.5	343.1	404.2	275.0	258.9	147.6	322.5	136.4	102.3	253.9	206.5	111.0	319.6	153.4	168.1
SPH880	1020	1748	160.3	40.6		172.0	239.6	183.5	168.5	169.0	188.3	237.3	118.6	149.4	125.5	141.3	161.6	134.8	118.7	167.2	88.9
SPH881	936	1116	270.2	94.5		333.6	371.0	236.2	210.2	365.8	256.9	308.8	190.8	385.9	353.5	145.2	107.9	231.5	426.2	204.3	195.5
SPH882	999	863	348.0	224.3		352.1	363.2	336.0	351.4	329.6	340.9	269.2	329.5	300.1	240.5	223.7	189.0	229.4	1161.4	333.9	218.0
SPH883	663	1342	220.8	63.6		272.6	331.0	301.8	232.8	215.2	198.7	237.9	284.1	143.6	180.0	220.1	181.7	150.9	284.5	203.5	95.0
SPH884	804	1168	257.6	76.5		377.8	319.1	343.5	379.6	264.0	267.1	302.5	268.0	184.3	172.9	211.3	256.0	138.1	284.5	209.2	144.0
SPH885	1383	3535	66.8	12.9		57.4	48.1	54.7	58.2	54.2	81.7	70.7	60.2	57.5	74.4	64.9	68.2	76.4	62.3	93.0	87.7
SPH886	681	3339	72.5	16.4		65.2	58.0	70.5	45.6	68.2	56.5	93.3	68.7	68.9	75.2	99.4	74.0	102.4	52.9	70.5	90.1
SPH887	531	1773	157.8	77.9		119.9	82.0	141.7	132.1	122.2	68.4	272.5	120.5	148.6	196.8	211.8	99.1	379.7	125.3	132.5	172.2

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH888	240	3627	64.5	11.2		53.2	54.9	60.2	58.7	51.5	63.0	64.5	55.1	69.4	63.5	54.3	82.4	69.6	62.6	80.9	88.7
SPH889	342	3716	62.0	14.8		61.5	53.5	56.6	56.4	59.7	72.9	70.6	48.0	63.7	63.9	78.8	52.9	104.4	40.9	58.3	50.2
SPH890	1638	2442	106.5	21.9		91.8	99.1	82.6	98.9	94.8	142.8	110.3	86.9	88.1	107.9	98.3	100.4	113.6	116.7	103.1	168.5
SPH891	1143	1124	268.4	127.0		248.3	177.3	195.2	286.2	287.6	215.2	223.7	158.9	182.4	258.2	125.3	302.1	258.2	248.8	620.6	506.3
SPH892	1311	269	1087.4	2185.4		61.7	56.3	62.0	83.4	62.7	73.1	5296.0	61.2	67.5	69.7	70.0	84.1	99.7	77.0	5539.5	5635.3
SPH893	711	97	2558.6	4984.1		89.0	67.9	235.5	98.7	97.1	97.9	13050.7	140.3	113.0	288.3	492.7	219.9	948.6	305.1	12933.6	11758.9
SPH894	1671	871	345.3	597.8		58.3	52.7	53.1	70.5	54.9	66.8	1461.7	60.1	60.6	60.4	70.3	165.5	60.1	70.3	1763.9	1395.5
SPH895	885	144	1788.2	3728.0		89.6	52.5	66.3	98.2	62.2	57.0	10930.3	64.2	106.3	60.2	79.3	76.7	62.8	67.0	8415.4	8322.6
SPH896	663	420	711.8	1428.7		54.2	60.0	59.7	59.5	52.3	120.2	4603.2	62.9	63.8	72.1	66.4	86.3	62.7	62.4	3099.4	2804.3
SPH897	654	655	473.4	965.4		54.3	44.3	52.4	49.9	42.8	71.8	3347.4	46.3	51.9	51.2	49.4	57.5	61.7	49.0	1915.4	1629.6
SPH898	897	826	363.3	683.1		52.7	49.2	57.0	56.0	51.6	50.8	2168.6	51.0	64.2	62.8	49.2	70.4	52.5	54.5	1680.5	1242.7
SPH899	984	2410	108.7	41.9		101.4	73.9	68.3	113.6	86.3	93.7	211.1	103.2	104.1	103.2	84.3	132.5	69.4	59.7	156.3	178.1
SPH900	1518	2694	94.7	28.6		102.2	67.2	97.0	68.6	60.3	91.5	108.5	88.0	71.6	107.6	127.2	76.7	174.3	97.4	108.6	68.2
SPH902	1203	675	457.4	410.1		285.7	316.8	777.9	859.6	230.6	209.4	494.4	1022.4	83.3	109.6	1316.2	1062.3	113.6	162.9	132.5	140.7
SPH903	1176	2172	123.1	73.8		76.0	86.7	164.0	142.8	103.1	91.7	121.5	318.6	74.4	60.7	248.5	187.1	61.6	68.2	72.8	91.8
SPH904	1428	1034	290.1	217.6		159.3	263.9	350.9	436.1	181.8	191.9	325.0	831.5	83.2	119.4	664.1	484.7	114.6	86.5	135.6	213.1
SPH905	933	2895	86.1	37.0		60.3	53.4	54.4	87.8	72.4	66.6	127.6	67.1	84.1	69.8	54.5	92.4	57.3	101.8	146.7	181.5
SPH906	990	2963	84.1	63.0		49.7	40.8	50.2	60.5	44.4	47.4	70.2	54.5	74.1	66.0	53.4	65.4	51.3	164.7	203.2	249.5
SPH907	1254	3036	81.5	56.5		43.2	44.4	52.3	61.9	47.3	58.8	64.2	54.9	66.4	62.7	57.7	89.4	53.6	119.2	176.4	251.0
SPH908	1707	2341	112.7	129.6		52.9	48.5	52.0	65.0	67.6	69.0	103.6	63.6	56.5	81.0	75.1	76.6	96.4	60.1	551.5	283.7
SPH909	918	1548	186.8	241.6		67.6	77.8	93.8	74.5	90.1	110.0	165.8	101.0	103.1	141.7	99.3	98.2	149.3	70.3	971.1	575.0
SPH910	1032	2017	136.1	56.6		93.5	69.1	113.0	102.4	102.6	85.3	136.7	112.7	97.1	132.2	162.7	157.1	207.9	143.9	301.7	158.9
SPH911	1416	3806	59.2	13.1		71.8	46.3	42.3	65.2	49.0	66.4	46.0	51.3	73.2	61.0	48.3	63.1	51.0	48.7	81.8	81.4
SPH912	1062	3892	56.4	10.6		52.1	44.2	49.2	52.8	44.1	53.7	50.0	58.7	61.9	52.1	58.8	84.9	55.6	57.0	51.6	75.5
SPH913	4296	3575	65.8	13.2		57.1	52.7	49.8	67.2	50.1	85.9	57.9	63.9	59.1	66.9	57.8	86.4	66.0	60.4	85.8	86.5
SPH914	7890	3822	58.6	18.9		48.3	50.4	37.5	62.4	50.0	69.7	43.8	47.6	51.4	58.0	49.8	90.0	46.2	57.0	63.4	112.6
SPH915	2325	3560	66.3	26.6		57.6	50.7	44.9	78.3	58.2	52.0	54.2	61.9	90.2	62.0	45.5	72.3	51.3	61.2	65.5	155.6
SPH916	1647	3542	66.8	14.7		74.2	70.4	68.8	72.1	51.2	93.6	50.8	70.2	51.4	63.1	50.5	102.2	55.9	68.5	63.9	61.4
SPH917	789	1621	179.4	100.5		280.4	250.8	424.3	328.5	136.2	86.2	164.4	218.8	133.2	82.6	211.3	176.5	107.6	95.5	89.8	84.7
SPH918	717	3586	65.6	15.2		56.6	52.2	49.5	61.2	58.5	58.7	76.4	56.4	60.7	65.2	59.4	64.5	57.5	73.2	93.9	105.9
SPH919	294	3053	81.0	16.1		76.4	60.9	67.2	85.4	68.9	83.6	76.2	72.5	64.7	96.3	65.4	117.2	86.3	73.0	93.6	107.6
SPH920	285	1374	214.9	78.5		269.2	278.5	226.5	171.4	279.8	310.4	130.1	339.4	210.2	333.3	186.9	161.2	180.0	155.6	102.2	103.9
SPH921	297	2307	114.9	53.7		89.4	104.7	83.3	105.8	101.1	75.4	85.9	57.0	71.1	91.4	93.6	149.0	84.8	205.5	214.9	225.6
SPH922	333	289	1008.1	818.0		777.4	857.6	536.2	520.9	1025.5	343.1	1027.0	117.7	719.9	724.5	430.5	780.4	970.1	1442.8	3206.3	2649.7

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH923	339	422	709.7	449.9		365.0	415.0	574.2	342.2	619.5	314.3	450.9	238.2	1317.8	1313.5	494.1	747.3	1860.4	576.3	1025.3	701.6
SPH924	1905	2284	116.1	31.3		113.7	118.7	120.1	160.6	93.5	88.0	105.6	153.0	133.6	112.4	97.3	187.1	68.2	77.4	99.4	129.1
SPH925	1146	2878	87.2	10.9		70.9	91.3	91.3	73.5	106.5	83.3	89.1	82.7	99.0	90.3	101.2	86.9	94.3	69.6	91.2	74.8
SPH926	1770	840	357.4	229.2		495.0	834.5	705.1	738.8	257.5	255.4	199.8	354.4	134.8	140.6	406.4	446.2	208.5	249.4	139.0	153.6
SPH927	1041	2011	136.5	34.7		178.2	200.8	177.0	175.4	140.2	144.8	125.7	135.6	101.5	97.4	138.0	108.0	123.8	159.8	87.4	90.6
SPH928	438	3164	77.7	12.3		76.7	90.7	84.8	80.6	68.2	64.8	73.5	67.8	70.9	63.8	73.4	88.3	67.5	107.6	71.0	93.6
SPH929	762	1992	138.1	36.0		133.4	104.8	196.6	147.4	95.5	129.2	126.9	127.7	96.7	109.5	158.4	189.9	147.4	211.2	97.6	136.6
SPH930	1890	2739	93.2	29.9		66.1	70.1	178.1	89.5	67.7	57.4	106.1	87.2	76.9	87.5	115.1	112.6	120.6	106.0	69.3	81.5
SPH931	1206	1840	149.9	104.3		78.0	70.2	377.2	146.1	69.4	105.8	130.4	125.0	101.2	114.8	204.9	414.5	195.7	69.9	91.5	103.7
SPH932	1218	2857	88.1	41.9		79.7	77.4	75.5	82.7	85.3	56.5	240.7	65.5	82.9	75.6	83.2	70.3	79.0	79.6	72.7	102.8
SPH933	360	2720	93.8	41.8		80.9	80.3	73.6	76.8	79.4	68.6	233.4	63.3	70.9	117.2	77.4	78.3	95.7	77.5	139.2	88.7
SPH934	588	3040	81.3	29.5		66.2	60.3	76.2	57.2	63.8	71.3	176.1	59.1	73.9	91.2	96.3	65.1	98.9	103.8	60.9	80.6
SPH935	3327	1279	231.8	389.5		65.6	50.5	49.6	59.3	48.2	59.9	770.0	44.7	53.9	63.6	45.9	60.8	55.1	52.8	1207.9	1021.7
SPH936	1509	3676	63.0	11.1		68.4	48.4	53.9	73.0	53.4	64.3	74.0	56.2	66.5	53.0	58.9	61.3	64.2	49.5	71.5	90.8
SPH937	705	3803	59.3	12.5		61.2	48.3	48.3	67.5	51.2	60.3	52.1	55.8	64.5	68.9	51.3	53.0	50.4	50.2	67.9	97.4
SPH938	1374	3687	62.7	14.0		58.6	48.9	63.0	46.4	65.9	48.4	67.2	54.6	64.5	63.8	73.4	69.9	106.2	56.4	59.3	56.3
SPH939	996	191	1441.4	2907.6		94.0	72.8	79.1	75.4	68.3	102.7	7935.0	88.2	100.8	100.5	80.5	160.7	91.7	116.5	6492.0	7404.2
SPH940	1017	3091	79.6	22.1		58.4	68.5	74.1	56.3	61.5	69.3	76.9	73.7	53.4	78.7	103.5	93.8	127.4	116.9	97.8	63.6
SPH941	1749	3440	69.5	11.9		60.4	71.9	63.6	82.0	62.8	66.4	67.1	69.1	87.5	59.0	57.4	78.6	50.4	71.6	67.6	96.8
SPH942	708	2274	116.6	18.2		136.2	124.8	126.0	117.0	130.7	115.0	139.5	140.8	85.7	96.3	103.8	125.9	121.9	98.0	83.0	121.1
SPH943	1164	3315	73.1	13.9		65.4	62.5	70.2	56.0	56.7	76.3	96.2	74.8	82.1	63.5	97.0	66.0	99.5	64.2	70.4	69.3
SPH944	1266	3322	73.0	16.1		67.0	52.9	56.2	75.9	63.2	80.8	68.1	57.2	57.3	69.7	68.6	95.8	80.7	83.6	75.3	115.1
SPH945	939	1316	225.9	86.9		287.4	334.3	285.4	213.4	344.1	206.9	179.8	415.0	132.6	160.7	258.2	149.7	216.6	175.1	126.6	128.2
SPH946	1845	1040	287.9	188.9		396.2	561.8	351.2	380.1	373.9	491.3	152.5	715.4	82.9	116.0	200.4	278.1	139.1	166.6	99.7	101.4
SPH947	330	360	816.4	351.9		1472.9	1362.8	1056.2	576.5	1347.1	1017.3	460.5	989.8	695.2	557.7	641.0	271.0	634.5	679.0	742.1	558.6
SPH948	1110	2116	127.7	47.0		131.2	195.8	168.3	206.2	92.7	97.6	103.5	203.7	69.5	92.8	139.7	174.0	89.8	97.7	80.0	101.4
SPH949	1104	552	548.0	109.1		615.6	614.8	709.5	759.3	466.5	382.6	485.2	624.7	391.3	502.2	622.2	432.7	615.5	482.3	530.3	532.8
SPH950	1542	3224	76.0	16.1		72.3	113.6	78.8	84.0	61.1	105.1	56.4	78.1	57.0	73.3	72.9	69.4	89.4	77.8	61.8	65.2
SPH951	2466	3317	73.1	11.3		58.7	77.2	73.0	57.3	57.7	88.6	71.1	75.9	63.7	75.2	85.6	78.5	95.6	79.7	63.5	67.8
SPH952	429	3924	54.2	7.1		57.3	64.3	54.9	56.7	46.1	53.6	46.1	63.2	67.5	44.6	48.9	62.5	48.7	51.7	49.7	51.7
SPH953	1149	618	493.8	313.6		720.1	1074.5	850.3	700.4	466.7	776.4	290.5	869.8	185.5	178.7	576.4	566.3	132.5	218.2	149.1	145.2
SPH954	879	560	540.6	299.7		833.7	967.7	922.3	1034.9	514.2	627.6	301.9	702.2	355.4	231.9	588.8	690.3	126.0	354.6	158.3	239.3
SPH955	927	2940	84.7	17.5		88.0	93.3	83.7	72.9	94.4	104.3	76.3	62.6	55.6	74.4	79.9	124.1	94.4	68.3	78.5	104.4
SPH956	1239	1918	143.6	65.1		183.2	297.1	189.4	179.8	196.9	112.7	109.5	236.4	127.3	75.0	103.6	139.9	60.0	70.7	112.3	103.5

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH957	1077	565	537.0	247.3		811.3	843.8	836.5	718.0	609.1	460.4	561.9	533.1	244.0	210.2	687.4	885.8	158.7	225.8	426.8	379.0
SPH958	168	207	1335.8	255.0		1295.6	1537.2	1569.2	1652.4	1277.1	1166.0	950.0	1173.6	1021.8	1087.7	1638.4	1494.7	1159.0	1818.0	1368.3	1164.6
SPH959	336	101	2407.4	606.1		3087.0	2870.2	2525.7	2922.7	2578.6	1661.5	1769.9	1947.2	2354.5	1898.9	2980.2	3409.1	1287.6	2842.7	2524.5	1858.7
SPH960	120	157	1683.3	803.5		2299.1	854.1	1228.8	1550.0	2513.8	756.7	1816.7	448.9	1024.4	873.6	2818.2	3212.4	1560.2	2386.3	1957.9	1632.0
SPH961	210	771	393.7	180.5		629.2	264.3	326.1	315.5	707.5	168.2	369.9	132.0	194.1	242.3	492.8	648.2	303.4	555.7	442.0	508.6
SPH962	237	282	1039.4	376.2		1392.5	692.0	862.4	1249.0	1590.2	583.3	928.2	561.6	704.7	781.8	1220.8	1914.7	883.0	1081.4	1235.7	949.4
SPH963	66	1750	160.1	55.0		165.7	231.6	223.3	128.3	216.2	139.3	146.6	159.3	77.3	100.9	207.7	163.3	178.3	247.2	102.8	73.0
SPH964	174	1274	233.4	73.7		178.3	278.2	355.5	257.0	180.9	147.2	255.8	276.1	188.6	146.9	316.3	205.1	326.9	323.7	157.8	140.0
SPH965	111	2179	122.4	38.2		98.9	197.6	151.2	79.5	115.8	124.6	119.5	155.2	65.8	113.8	164.9	157.2	147.4	118.7	87.3	61.1
SPH966	462	1490	195.0	51.8		227.5	248.7	259.5	172.8	262.0	206.4	237.4	257.1	174.5	172.9	200.9	158.9	181.8	124.5	148.8	86.0
SPH967	141	3985	43.3	7.2		53.1	46.4	40.9	47.8	39.9	50.3	40.8	35.0	48.4	34.5	36.4	43.0	38.2	33.7	46.1	58.5
SPH968	312	770	394.9	164.4		344.8	284.8	485.9	453.9	340.2	326.4	492.9	332.9	216.5	312.2	517.3	427.8	549.4	839.8	237.1	157.0
SPH969	87	3364	71.4	25.9		60.3	50.2	49.9	106.4	54.1	52.8	45.6	55.5	113.7	64.2	57.4	112.5	52.4	74.7	75.1	117.7
SPH971	462	2068	132.2	23.5		117.2	119.1	121.9	126.9	126.6	125.0	143.1	103.7	142.4	155.0	104.3	139.6	147.2	111.9	130.5	200.5
SPH972	354	1496	194.0	64.9		147.1	129.8	183.3	181.5	201.0	126.9	205.5	108.1	195.4	264.3	159.9	260.2	334.7	125.7	291.6	188.5
SPH973	1737	2314	114.6	24.5		134.4	114.7	120.6	113.6	120.3	78.8	102.1	81.2	99.2	80.9	130.5	136.7	109.7	101.4	139.2	169.8
SPH975	63	301	961.4	328.2		1003.5	749.9	752.0	676.9	993.1	535.3	769.4	397.3	1131.0	1338.8	780.7	940.5	1280.6	1024.4	1446.7	1562.5
SPH976	267	2332	113.4	21.4		122.2	115.8	85.2	93.0	112.5	98.5	114.0	82.2	127.0	120.9	90.1	163.9	128.2	105.6	114.4	141.4
SPH977	519	685	451.5	100.8		519.2	439.0	387.6	482.8	514.1	545.4	515.4	584.9	404.3	452.9	402.5	379.3	437.1	624.8	270.4	264.3
SPH979	261	1399	212.0	50.4		142.8	177.3	218.2	202.7	174.9	193.9	260.6	212.7	198.8	193.3	195.6	180.6	288.6	353.3	195.5	202.5
SPH980	831	2480	105.0	24.7		83.9	102.9	104.4	93.0	87.4	122.7	111.1	68.8	93.1	149.1	105.9	76.6	158.4	118.7	119.8	84.8
SPH982	141	935	317.8	129.9		356.2	329.3	499.9	503.2	347.5	232.6	372.7	464.8	209.7	225.3	393.3	443.7	321.6	165.3	112.9	107.4
SPH983	105	192	1436.7	620.0		1253.0	2200.6	2241.6	1966.6	984.5	1408.6	1257.6	1585.9	1138.3	1042.3	2612.8	1817.2	1531.2	1109.0	435.0	403.3
SPH984	495	1969	139.4	24.6		135.4	126.1	135.3	178.8	152.2	126.7	113.8	114.9	124.4	128.5	119.8	188.8	143.9	169.6	164.4	107.6
SPH985	1230	428	701.1	170.1		936.2	765.1	717.8	938.0	834.1	587.6	913.4	549.0	809.6	632.2	628.1	875.5	417.1	473.1	562.0	578.5
SPH986	450	738	411.6	175.2		543.0	451.3	424.8	314.0	672.7	588.1	666.5	447.6	402.2	393.5	474.6	168.0	532.6	118.6	253.8	134.0
SPH987	237	3223	76.0	22.8		67.2	53.5	81.8	59.7	78.9	60.1	91.2	60.7	85.2	66.4	110.1	54.6	139.4	56.7	72.5	78.2
SPH988	1287	2581	100.0	19.3		127.7	68.6	98.6	106.3	90.8	77.8	90.8	113.8	145.9	87.5	102.3	86.2	110.4	96.2	85.8	112.0
SPH989	2034	2467	105.5	21.2		87.1	80.3	96.3	100.8	64.8	108.5	124.1	85.4	135.5	142.0	110.2	133.4	117.9	103.6	98.5	100.3
SPH990	1818	1005	296.8	99.3		196.3	293.7	315.8	267.3	218.1	187.6	359.2	288.5	356.4	382.8	369.3	267.4	555.3	336.8	168.7	184.8
SPH991	1623	2019	136.0	41.6		149.0	180.6	167.4	156.0	121.5	124.6	161.9	228.5	91.4	142.8	142.9	70.1	157.3	114.3	81.9	85.9
SPH992	291	1830	151.5	60.3		160.2	123.0	98.5	196.9	131.7	178.2	115.4	119.9	171.2	150.6	93.9	331.1	88.6	95.9	172.5	195.8
SPH993	993	1892	145.6	63.6		118.2	118.4	153.8	111.7	103.2	133.4	171.0	158.9	82.5	163.4	229.6	118.6	341.2	127.6	106.2	91.4
SPH994	387	1609	181.0	80.8		114.5	126.1	160.9	141.0	146.0	160.9	199.2	128.7	152.3	136.8	249.2	125.2	385.1	353.8	175.7	140.8

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH995	636	746	409.3	182.8		323.0	244.1	314.3	308.9	427.7	354.9	397.6	292.3	276.7	481.3	361.4	301.1	628.5	985.9	504.0	346.3
SPH996	1191	1347	219.2	87.0		184.6	195.1	195.1	284.9	194.4	195.4	202.8	186.5	180.2	236.8	196.1	517.6	178.8	135.2	257.6	165.9
SPH997	627	2859	88.0	23.5		82.2	63.0	85.4	77.0	77.1	80.7	108.0	67.3	49.9	105.7	103.9	101.0	152.2	95.3	76.1	83.8
SPH998	525	563	538.4	267.6		512.3	702.3	713.4	653.2	463.0	383.0	645.9	589.4	255.0	484.9	780.9	354.0	1224.6	557.7	198.8	95.4
SPH999	1236	1086	277.1	143.5		388.2	494.0	307.6	263.5	496.9	566.4	167.9	275.3	169.4	140.8	168.1	129.3	169.5	349.5	209.1	139.0
SPH1000	867	1276	233.0	590.1		59.7	60.6	55.7	62.2	302.2	2434.2	58.5	67.3	57.6	77.0	67.2	80.6	69.9	136.5	75.2	63.8
SPH1001	1884	2234	118.6	40.0		104.8	101.6	138.1	89.0	133.3	77.1	132.0	119.4	82.1	113.6	182.1	88.3	226.1	135.1	80.6	94.6
SPH1002	2724	1610	180.7	77.2		256.4	278.8	264.6	179.4	258.1	164.9	156.2	301.9	107.9	85.6	204.7	225.6	63.3	146.2	105.4	92.3
SPH1003	444	2138	126.0	30.6		171.8	159.4	104.3	100.8	141.3	116.2	110.1	94.7	128.5	143.8	76.0	119.0	95.1	186.9	117.2	150.3
SPH1004	684	566	536.7	310.2		500.2	380.5	456.8	274.9	610.4	376.9	790.4	324.1	234.7	598.7	754.7	270.1	1138.1	1259.4	307.9	309.0
SPH1005	147	368	796.8	325.1		957.0	561.6	712.9	550.9	1011.6	465.9	1123.4	471.1	700.1	804.0	922.9	374.0	1490.5	1355.0	701.7	546.5
SPH1006	918	933	319.4	100.0		409.9	377.2	304.6	284.0	437.4	258.4	458.9	254.5	214.6	200.1	285.2	273.4	235.9	551.5	325.2	239.1
SPH1007	1143	525	567.7	176.9		682.1	622.5	574.9	544.0	781.8	621.9	885.6	755.0	514.8	416.1	495.7	377.3	249.2	761.1	454.5	347.0
SPH1008	1230	868	346.0	193.0		384.8	515.7	526.3	471.3	442.4	694.3	232.0	690.1	179.1	159.6	332.0	252.5	258.1	171.2	110.2	116.1
SPH1009	735	1471	197.5	67.6		150.4	303.8	264.3	292.3	148.0	224.6	135.0	334.6	169.3	166.0	167.5	187.6	134.0	117.1	213.9	151.7
SPH1010	933	2383	110.4	37.3		97.4	165.2	145.9	123.3	91.7	140.6	72.3	191.0	132.1	92.0	77.6	94.5	58.0	64.6	105.0	114.9
SPH1011	1392	3176	77.4	22.7		71.5	125.4	105.6	75.2	59.6	95.4	64.2	117.6	61.3	64.5	77.4	86.2	54.4	48.9	60.6	70.8
SPH1012	1071	3065	80.5	19.7		83.7	82.0	63.7	97.7	102.8	108.0	65.4	114.7	75.5	58.9	64.1	86.7	64.5	52.5	102.7	64.6
SPH1013	1230	2557	101.0	36.3		80.0	123.6	110.4	80.1	187.1	121.4	113.2	116.5	57.3	79.5	116.1	65.3	157.6	73.9	68.7	66.1
SPH1014	1392	3876	57.0	8.2		54.7	69.4	54.8	60.7	67.3	71.9	53.3	63.6	55.3	51.3	50.8	63.6	51.4	41.2	51.3	51.9
SPH1015	1089	926	322.6	73.4		238.3	303.9	368.9	300.1	376.7	460.6	350.4	396.3	221.7	346.7	289.3	337.8	370.8	166.7	273.8	360.4
SPH1016	1404	1122	268.9	120.3		323.6	286.7	275.5	261.4	561.2	414.7	335.0	399.7	125.3	155.2	219.8	185.6	167.9	104.5	288.3	197.6
SPH1017	1521	1178	254.1	89.9		281.4	266.8	220.3	220.7	416.0	387.4	327.5	314.4	120.4	154.2	181.8	354.9	162.3	155.0	293.2	209.6
SPH1018	1746	1853	149.0	51.8		178.3	140.7	118.7	97.8	296.8	205.7	187.5	167.7	92.6	115.1	103.9	116.5	142.3	112.0	149.4	159.3
SPH1019	273	708	434.9	229.5		657.6	480.1	312.0	423.1	976.8	836.5	526.7	404.3	165.1	288.3	236.1	211.3	321.5	281.3	557.3	280.9
SPH1020	1101	339	874.6	424.1		1166.1	709.8	621.5	760.9	1972.3	1336.6	1100.7	659.9	350.9	543.4	424.2	532.2	624.8	791.1	1264.5	1135.2
SPH1021	456	1299	228.0	130.4		210.2	152.2	143.7	141.2	479.8	186.5	309.3	148.5	134.3	120.3	121.1	141.9	160.2	272.1	470.7	455.4
SPH1022	1785	2418	108.3	27.4		71.6	78.9	81.5	95.2	75.6	120.0	105.9	93.1	83.9	113.8	133.7	107.0	163.2	137.0	132.0	140.9
SPH1023	2313	3244	75.1	16.9		64.6	61.5	59.6	65.3	66.1	72.7	76.1	73.8	91.2	66.7	78.6	76.7	68.8	67.6	81.3	130.6
SPH1024	624	2252	117.6	51.2		54.0	64.6	83.6	87.5	76.8	110.8	131.3	94.2	72.4	174.9	138.8	175.6	170.0	108.7	96.7	242.5
SPH1025	2667	3549	66.6	14.5		53.2	46.1	53.3	79.3	61.5	64.7	66.2	60.0	64.9	76.0	59.3	85.2	54.3	101.5	58.5	81.4
SPH1026	729	2830	89.2	35.7		59.5	64.4	58.8	71.5	66.1	70.8	69.3	65.9	95.7	82.3	60.5	141.0	86.0	165.3	112.6	157.2
SPH1027	1299	3017	82.1	30.3		65.1	59.4	64.3	62.5	69.0	64.6	78.2	62.9	58.7	85.0	77.8	110.2	100.6	180.1	82.6	92.2
SPH1028	417	848	354.0	151.0		422.3	235.3	251.5	226.8	509.2	154.8	307.9	246.9	406.4	369.7	235.4	238.3	271.1	558.1	658.9	571.2

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1029	1329	659	467.9	130.4		536.4	400.8	418.2	401.7	602.4	240.2	423.6	334.5	605.3	492.2	351.1	420.1	397.3	471.1	747.0	644.3
SPH1030	1239	3077	80.2	44.8		60.5	49.6	56.5	63.6	86.1	62.5	77.0	71.6	64.2	72.9	48.5	55.4	49.7	227.0	124.0	114.7
SPH1031	1200	1095	275.2	162.9		268.2	121.7	150.5	202.3	405.8	279.7	534.6	216.7	174.0	185.2	130.6	166.7	168.2	258.0	689.9	450.8
SPH1032	858	2281	116.3	49.9		86.4	76.9	81.7	68.0	141.6	115.4	179.8	93.9	82.8	94.6	87.9	82.5	86.2	155.9	187.3	239.5
SPH1033	1434	2210	120.3	17.0		109.2	118.8	139.8	100.4	108.7	140.3	113.6	117.4	78.1	137.3	138.2	131.5	135.5	118.3	112.1	124.9
SPH1034	855	351	851.1	328.7		1326.1	1011.5	817.0	922.1	1268.6	1552.3	743.2	696.2	786.6	689.5	1045.2	807.7	338.0	483.3	688.4	442.7
SPH1035	1101	2483	105.0	17.3		122.0	126.5	118.9	106.8	109.5	96.5	93.9	127.8	94.7	91.4	108.8	134.5	75.8	93.5	98.4	80.7
SPH1036	264	3840	58.3	14.9		56.7	45.7	43.2	70.6	51.1	53.1	40.7	55.0	99.2	56.9	49.5	71.0	42.0	61.9	66.9	68.6
SPH1037	363	293	1000.6	433.5		1259.9	904.5	1500.5	1380.1	1439.4	872.0	484.0	1320.5	846.3	586.7	1346.7	1282.7	403.4	1563.7	448.9	370.2
SPH1039	774	73	3297.4	1742.4		4867.4	3769.3	4279.6	4428.5	4583.2	4998.0	812.0	5041.2	2303.9	1963.7	5282.4	5018.8	623.9	2533.5	1225.7	1027.6
SPH1040	960	539	556.6	230.4		894.5	867.9	796.1	912.9	607.0	538.6	478.1	514.1	498.6	333.0	504.2	689.4	180.3	550.1	345.1	195.9
SPH1041	594	2188	122.1	63.6		152.9	297.1	210.3	145.6	116.5	85.1	94.9	153.7	85.5	67.5	140.5	131.7	52.6	54.0	71.9	93.6
SPH1042	900	306	955.3	271.2		1107.6	1408.3	1078.3	1250.9	988.6	1318.8	1149.8	944.6	610.3	632.0	789.6	1076.8	464.9	818.4	965.9	679.8
SPH1043	1002	1415	208.3	76.2		243.4	304.4	241.3	233.0	249.5	183.0	134.0	387.3	158.6	181.1	207.0	142.4	171.2	281.7	94.1	120.4
SPH1044	1200	3621	64.7	22.2		48.1	51.4	53.2	48.6	55.9	73.1	57.5	40.4	40.0	70.5	58.4	70.4	117.5	89.4	56.9	104.4
SPH1045	942	3753	60.9	15.7		50.4	44.4	46.1	65.3	44.2	54.4	64.2	54.4	66.6	58.5	57.8	84.3	55.6	46.5	88.4	94.0
SPH1046	1215	2541	102.1	22.2		76.2	64.5	82.0	94.9	70.9	112.2	121.9	92.8	84.1	117.1	116.5	134.4	100.6	110.0	119.8	135.4
SPH1047	666	1663	172.5	75.3		109.0	82.0	156.3	128.4	129.1	84.0	283.6	147.4	160.4	178.6	281.8	81.2	329.1	192.2	205.0	212.4
SPH1048	783	3139	78.2	22.3		75.4	54.2	71.3	57.9	61.5	64.3	119.0	65.0	66.8	64.2	73.6	63.5	112.4	84.0	95.3	123.6
SPH1049	744	3383	71.0	21.3		67.3	51.4	53.1	53.2	74.7	70.5	58.7	61.7	50.8	73.2	63.3	87.5	66.4	76.6	137.3	89.7
SPH1050	1224	2725	93.6	31.1		79.2	59.4	64.0	67.2	77.8	97.0	139.0	77.8	54.4	84.5	89.0	119.2	108.8	81.4	151.3	148.2
SPH1051	702	2607	98.4	53.9		61.9	53.3	74.1	52.5	63.8	74.1	198.7	69.8	54.5	88.3	108.9	62.8	154.9	75.8	211.9	168.5
SPH1052	675	1074	281.3	244.8		112.4	104.3	169.8	82.8	161.8	114.6	588.2	160.4	79.9	222.9	291.7	135.3	466.8	235.2	892.7	681.6
SPH1053	483	1171	256.8	121.2		132.2	129.5	153.1	209.1	114.6	229.9	353.5	170.6	143.2	279.4	308.7	294.4	403.4	231.0	490.6	465.3
SPH1054	726	3110	79.1	18.4		69.1	47.5	65.6	82.6	57.3	65.8	79.9	62.7	82.9	96.8	94.5	82.5	117.0	83.8	70.6	106.7
SPH1055	483	2522	102.9	18.3		69.1	85.7	102.6	79.5	90.8	98.5	101.2	97.0	114.9	101.8	120.8	87.9	121.6	140.5	115.4	118.5
SPH1056	1002	2362	111.6	30.8		189.0	98.9	74.6	119.8	117.8	100.3	75.0	99.1	147.1	92.9	83.7	138.4	108.5	102.7	90.2	148.3
SPH1057	318	2974	83.3	22.6		115.7	84.3	67.6	72.4	104.2	60.5	65.5	64.3	99.8	92.6	52.1	100.2	55.2	116.9	112.5	68.4
SPH1058	474	2355	111.9	48.8		108.0	91.5	86.0	92.3	99.6	77.8	84.6	82.2	163.6	97.7	72.8	130.6	61.5	190.0	106.3	245.7
SPH1059	249	1983	138.5	54.3		135.0	185.1	143.6	134.9	144.6	109.9	129.8	145.3	118.1	115.7	93.0	83.4	133.2	321.0	100.0	123.3
SPH1060	1539	3559	66.3	12.7		54.8	57.6	53.5	70.5	56.8	64.7	55.2	61.0	63.5	71.9	55.8	86.0	59.0	93.5	70.4	87.3
SPH1061	1395	2609	98.2	25.7		106.7	105.7	73.7	82.8	85.9	159.2	78.4	91.7	62.4	103.1	77.4	136.2	87.4	120.9	119.8	80.2
SPH1062	270	1971	139.3	78.5		81.2	141.5	122.9	72.7	109.6	112.4	128.1	135.9	107.5	217.9	142.0	68.2	332.8	298.4	89.3	68.4
SPH1063	1212	3066	80.4	16.5		73.5	68.1	68.2	90.3	65.6	68.3	69.2	77.6	78.7	73.0	74.1	102.1	74.5	114.2	71.8	116.8

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1064	468	2208	120.5	48.9		115.3	192.9	157.9	150.4	123.5	96.7	69.1	205.1	70.8	71.1	88.1	159.7	50.2	185.7	94.8	96.8
SPH1065	684	243	1185.2	758.1		1367.5	1993.6	2142.5	1876.3	1060.1	957.9	398.7	2026.3	445.9	241.4	1831.5	1786.2	263.2	1937.1	383.7	250.9
SPH1066	774	915	326.6	170.5		423.1	507.2	540.7	487.7	331.5	289.6	141.8	535.1	158.9	105.3	303.2	428.1	96.8	548.2	146.0	181.7
SPH1067	1395	307	951.8	659.1		1528.4	1706.1	1549.4	1453.5	995.9	1480.9	384.6	2409.9	401.3	405.9	966.6	499.7	481.2	512.9	264.5	187.9
SPH1068	636	1070	281.8	177.6		346.4	506.3	525.6	355.5	244.1	372.6	127.9	706.7	139.9	141.8	238.2	151.6	136.4	297.9	113.9	104.1
SPH1069	771	471	633.9	179.7		767.4	730.8	814.5	901.9	787.4	686.3	730.9	855.1	553.7	626.0	535.2	592.5	479.6	325.1	382.0	374.4
SPH1070	768	432	695.5	470.0		1411.5	652.4	405.0	515.7	1960.2	796.2	319.8	216.1	1106.9	577.7	443.8	581.4	207.2	302.4	915.3	715.9
SPH1071	585	1999	137.8	81.9		220.9	134.4	90.0	114.9	377.5	204.6	64.9	60.5	142.1	139.2	72.5	165.3	55.4	71.4	171.3	119.2
SPH1072	588	2959	84.2	27.5		119.6	86.5	64.6	84.2	160.2	103.7	57.7	79.9	103.4	92.0	57.7	68.0	56.2	61.4	76.0	76.0
SPH1073	324	493	605.4	192.1		709.7	687.0	560.9	414.1	852.6	1018.0	572.8	730.3	705.4	763.4	464.4	349.4	611.2	469.4	481.6	296.6
SPH1074	1797	1063	283.0	100.9		340.7	492.0	393.8	347.2	323.1	298.0	248.4	422.4	290.3	220.4	220.9	236.4	166.3	233.6	103.6	190.6
SPH1075	690	1991	138.1	27.2		115.6	110.6	139.6	144.3	114.2	136.3	120.7	128.8	114.2	181.1	136.8	162.5	210.0	147.2	133.2	114.9
SPH1076	1731	2365	111.6	17.0		121.7	113.4	109.2	109.2	100.8	115.2	85.4	148.5	126.8	116.2	113.9	93.2	115.9	96.9	85.2	133.8
SPH1077	1539	2935	84.7	23.6		66.8	65.5	73.9	57.3	93.7	87.3	85.7	63.6	78.2	80.7	95.0	64.1	137.0	116.4	65.7	124.7
SPH1078	618	1924	142.9	53.3		157.9	133.2	136.6	109.3	254.0	180.1	133.6	76.5	108.7	133.0	165.4	86.0	255.0	166.1	109.3	82.7
SPH1079	855	3014	82.2	14.6		92.8	95.2	74.5	75.0	100.5	113.3	81.9	55.7	70.1	68.8	68.8	79.8	72.6	84.5	94.6	87.3
SPH1080	2490	1054	285.3	115.0		306.2	257.0	258.6	187.7	466.0	468.1	371.9	130.1	179.9	394.4	290.7	189.9	444.5	299.8	170.0	150.1
SPH1081	738	1526	189.3	72.8		259.3	267.1	293.1	227.1	292.6	196.3	165.6	285.7	128.7	129.0	188.2	134.2	111.9	163.8	84.4	101.4
SPH1082	2595	2298	115.3	43.9		185.7	173.3	146.4	129.2	158.6	175.2	92.1	135.0	67.5	83.6	102.4	124.1	75.3	79.4	51.9	64.4
SPH1083	1305	928	322.2	134.0		369.2	506.7	412.4	394.6	395.2	355.0	201.6	385.3	260.5	201.2	350.6	338.3	160.4	581.9	139.2	102.7
SPH1084	1155	883	339.0	304.6		219.8	438.8	426.9	365.0	239.6	337.8	199.0	463.5	132.7	180.4	342.8	342.4	128.0	1386.5	108.5	111.7
SPH1085	885	1923	143.2	114.0		132.3	172.2	124.2	100.5	212.7	162.7	106.8	166.8	67.1	81.0	84.5	98.1	74.8	540.1	79.8	86.7
SPH1086	1242	299	971.2	1013.4		892.9	1157.9	848.4	761.2	898.4	1617.2	573.8	1016.7	488.1	484.2	429.0	670.1	254.5	4549.7	452.0	445.8
SPH1087	183	212	1318.1	333.6		1595.9	1307.3	1316.4	1206.9	1945.3	1331.4	1144.5	1231.0	1273.4	1371.8	800.3	943.9	1006.6	2090.2	1128.6	1396.0
SPH1088	1383	503	596.8	253.4		577.7	947.5	893.8	755.1	529.2	675.5	412.1	1177.0	454.9	388.2	666.5	654.4	425.0	472.4	273.6	245.5
SPH1089	1140	1384	214.0	105.4		215.6	364.8	333.3	213.1	229.4	217.6	149.5	494.5	127.9	137.6	242.9	184.2	157.4	121.7	142.3	92.1
SPH1090	645	627	490.5	185.4		543.5	654.1	691.5	548.8	552.1	590.1	354.7	906.3	451.0	407.7	566.4	501.6	398.3	287.1	222.6	172.7
SPH1091	1284	1877	146.7	69.1		145.4	297.0	210.6	172.8	134.4	136.5	81.0	297.4	107.7	110.8	142.5	158.7	90.5	97.3	72.5	92.4
SPH1092	1770	901	332.3	171.1		337.3	576.4	546.7	499.5	269.7	291.6	189.9	687.5	282.8	201.1	374.2	428.2	147.2	153.3	189.6	141.9
SPH1093	936	1723	164.0	59.3		188.9	273.7	235.4	190.8	157.3	166.3	111.7	291.4	165.7	122.3	153.8	131.2	106.7	116.7	104.6	106.7
SPH1094	795	1179	254.1	64.0		230.1	312.7	334.9	263.0	210.2	271.3	201.2	432.9	186.7	193.8	260.8	259.7	188.6	252.4	217.7	249.4
SPH1095	1092	1408	209.0	58.5		228.7	278.6	220.1	264.6	220.2	187.3	130.9	344.5	202.8	139.2	205.8	227.9	111.8	182.8	167.0	232.5
SPH1096	426	759	402.1	207.2		513.4	584.4	429.6	522.8	668.7	908.5	216.0	500.9	237.7	272.7	275.0	312.8	149.2	427.3	168.4	246.7
SPH1097	1038	1064	282.8	88.2		460.4	373.1	387.1	392.2	356.1	291.7	223.2	281.4	250.9	181.5	281.3	180.7	170.7	201.1	219.8	273.8

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1098	795	585	515.6	230.0		843.6	878.1	746.0	769.3	635.5	515.8	348.7	648.8	542.9	376.1	548.6	507.5	301.3	231.4	194.0	161.2
SPH1099	489	3051	81.0	13.9		91.8	113.4	81.1	87.7	82.1	89.0	58.0	93.4	67.9	77.8	74.6	88.4	70.8	68.4	62.8	89.2
SPH1100	1359	2843	88.7	27.7		73.3	87.4	80.3	93.6	59.7	95.0	68.2	88.3	64.3	130.5	100.9	81.5	169.2	65.5	70.6	90.7
SPH1101	1416	1201	249.2	71.7		394.2	265.9	307.4	308.7	336.1	223.5	338.3	215.9	188.1	169.6	257.5	242.4	160.1	179.6	242.9	156.3
SPH1102	243	1816	152.8	43.1		145.4	100.7	115.8	159.9	177.3	173.7	137.6	124.8	126.5	194.4	123.1	248.3	137.1	84.4	209.2	186.7
SPH1103	579	1155	259.8	147.5		177.4	279.8	267.6	119.6	207.7	166.3	358.6	231.2	360.8	445.9	374.6	100.0	643.2	171.2	166.1	86.4
SPH1104	900	2063	132.6	37.1		136.7	170.3	159.9	121.7	104.5	151.2	188.7	157.5	70.1	114.6	170.3	95.3	181.1	95.0	121.7	82.3
SPH1105	357	253	1135.9	416.3		1166.4	1618.7	1337.3	1328.2	1488.1	1736.4	1734.9	1186.2	666.5	903.4	1335.7	1166.5	793.1	394.0	712.6	607.1
SPH1106	423	1617	180.2	33.3		141.9	160.5	185.4	216.1	173.3	153.8	188.5	171.5	194.6	155.0	209.9	218.0	249.7	117.2	190.5	156.5
SPH1107	636	1162	258.8	71.6		196.3	244.3	268.4	239.2	276.9	253.2	308.5	269.3	210.3	386.9	317.4	193.5	406.7	176.1	140.0	253.8
SPH1108	78	2253	117.6	43.8		85.9	79.0	142.3	100.1	106.7	65.3	187.1	107.7	109.0	126.6	150.1	78.1	223.0	59.6	133.0	127.4
SPH1109	213	300	966.3	374.5		890.4	1428.2	1154.3	1307.3	866.8	863.5	590.2	897.1	750.9	470.0	1494.9	1323.9	236.4	1368.3	1197.0	622.0
SPH1110	447	210	1321.0	725.2		1226.3	1620.5	1616.0	1686.8	855.3	960.0	1252.7	966.9	774.1	490.4	2575.5	3084.7	244.4	853.5	1469.9	1459.8
SPH1111	1767	810	373.0	171.2		297.7	515.6	528.4	550.8	266.3	286.7	291.8	404.1	194.3	196.6	544.7	794.4	157.7	259.9	347.1	332.2
SPH1112	1980	583	520.4	222.9		583.9	678.0	609.9	636.8	711.6	341.8	336.0	638.9	327.1	238.4	468.7	853.5	176.4	957.9	365.4	401.7
SPH1113	1704	2048	133.8	29.5		166.9	141.5	121.0	123.8	182.7	132.8	159.8	109.7	130.5	104.5	116.2	115.9	123.5	95.9	201.5	113.8
SPH1114	1764	892	335.0	118.5		352.8	346.9	393.7	398.1	583.0	368.6	296.9	474.5	401.1	231.0	308.2	392.9	224.4	335.3	104.5	148.7
SPH1115	1149	620	493.1	240.5		534.9	630.2	706.0	604.2	851.2	696.4	349.4	874.4	612.9	339.1	414.3	466.3	298.0	369.1	62.8	80.8
SPH1116	993	345	865.5	388.9		1171.5	1017.7	1198.1	1304.6	1231.7	1112.1	355.0	1234.5	1063.7	847.9	876.2	949.3	519.1	691.3	151.4	124.0
SPH1117	303	902	332.1	165.0		326.9	288.9	325.3	390.5	498.9	412.3	159.6	614.7	627.5	407.0	153.1	356.8	271.6	325.6	63.7	91.3
SPH1118	1665	310	945.3	702.7		683.3	678.5	1060.1	912.4	833.7	1099.3	279.0	1872.1	2533.9	2228.5	528.0	535.1	913.9	717.6	143.1	106.2
SPH1119	3099	2727	93.6	26.3		88.4	73.5	69.1	120.3	84.6	72.9	81.9	84.0	85.2	97.0	76.0	142.5	73.4	90.5	96.7	161.9
SPH1120	735	1209	248.2	87.7		400.6	278.7	202.9	189.4	471.6	267.4	296.8	199.9	275.7	282.0	178.2	157.8	195.5	159.8	237.7	177.0
SPH1121	663	569	534.9	135.7		692.2	632.4	426.2	443.0	740.6	548.7	532.5	512.7	805.3	594.8	399.5	364.9	547.3	350.5	571.9	396.0
SPH1122	582	217	1289.5	1401.4		785.1	779.9	790.1	659.7	960.7	706.5	476.2	332.8	2317.1	2460.0	899.7	678.8	6068.2	736.5	1012.7	968.4
SPH1123	1176	378	779.9	325.8		838.4	598.1	549.4	605.2	1246.8	732.6	937.2	370.3	1243.6	928.5	515.7	405.0	757.4	358.8	1405.5	985.3
SPH1124	1800	533	559.2	458.0		1057.8	1395.4	996.2	907.8	530.3	960.0	202.7	1283.2	250.0	196.2	362.3	262.0	163.2	146.9	141.4	92.4
SPH1125	471	177	1518.6	1384.3		2598.1	4346.7	3066.7	2554.9	1304.4	2242.3	516.9	3804.6	636.9	471.3	1098.9	723.7	302.9	284.3	199.0	145.3
SPH1126	1671	1144	262.7	238.7		490.2	808.4	440.1	371.8	307.7	280.6	82.0	692.0	147.5	83.4	131.0	90.7	57.7	58.8	67.5	94.8
SPH1127	2673	246	1170.2	1020.7		2604.1	3162.8	2050.4	1765.9	1208.6	1912.7	317.8	2606.4	581.5	512.8	591.1	484.5	345.7	222.6	187.8	169.2
SPH1128	2085	2563	100.8	27.1		111.2	150.1	100.8	111.7	94.0	91.7	67.9	92.0	150.3	138.7	70.9	95.2	67.4	111.3	70.0	90.2
SPH1129	834	523	574.3	253.1		559.2	763.8	559.7	600.1	522.2	508.1	485.8	533.5	1324.6	948.5	341.2	325.0	469.2	389.3	441.6	416.1
SPH1130	861	886	338.7	183.0		614.0	438.9	232.4	187.5	633.6	622.8	305.9	243.4	503.0	498.7	253.3	120.0	271.6	181.0	136.0	176.9
SPH1131	1491	1770	158.1	32.0		176.8	198.4	146.6	140.0	212.0	133.4	157.6	202.0	210.1	142.0	130.5	156.5	138.3	111.9	150.5	123.6

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1132	804	2022	135.8	46.7		118.4	211.2	183.3	140.8	131.4	190.5	85.6	212.0	68.3	110.9	152.0	173.0	90.7	93.7	122.1	88.5
SPH1133	411	236	1214.2	588.0		1503.1	1568.2	2056.5	2247.1	1044.5	1432.2	495.8	1262.7	1195.2	1130.5	1703.3	1343.9	558.7	1396.0	255.8	233.6
SPH1134	447	467	644.7	107.0		599.7	540.9	608.3	570.0	708.3	560.6	828.6	475.9	854.0	648.7	582.3	562.0	716.4	712.5	752.3	593.9
SPH1135	318	173	1547.8	615.2		1907.4	1520.8	870.8	731.3	1982.0	1605.5	1562.1	523.4	1672.5	1735.8	1158.0	805.2	2032.8	2936.7	2043.8	1676.4
SPH1136	957	769	395.2	179.5		370.9	330.6	454.0	272.3	379.2	328.0	382.8	315.9	218.3	490.5	593.0	273.8	763.2	760.7	247.3	143.2
SPH1137	822	2283	116.2	22.1		81.9	158.5	152.5	119.7	102.6	118.9	104.6	157.0	100.2	124.7	101.7	107.9	104.3	113.5	110.9	101.0
SPH1138	651	3678	62.9	15.3		47.2	89.2	75.6	72.8	48.6	72.8	50.0	97.2	66.0	53.5	58.7	52.4	50.2	50.0	54.4	68.3
SPH1139	438	419	712.9	226.3		537.1	964.0	956.5	798.8	568.9	499.2	532.6	875.4	1043.0	986.6	810.3	687.3	847.3	287.9	548.2	463.3
SPH1140	828	673	458.5	210.0		430.9	746.7	736.1	593.6	371.5	505.3	397.4	551.1	372.4	307.9	722.2	768.1	251.2	171.1	279.7	131.2
SPH1141	471	1001	297.3	140.5		269.9	609.6	479.3	405.1	244.1	381.5	232.8	399.2	146.3	276.0	380.8	276.2	304.1	131.9	97.2	122.5
SPH1142	666	1897	145.4	40.9		150.5	241.3	191.0	135.2	172.8	156.7	137.8	161.0	85.2	134.7	176.5	107.2	163.9	85.7	126.1	100.2
SPH1143	1302	3680	62.9	11.4		55.7	53.4	59.7	89.4	53.1	60.0	58.5	59.3	71.5	49.1	62.2	60.4	65.9	50.5	78.3	79.5
SPH1144	1590	1365	216.3	54.7		259.8	261.5	216.0	196.9	321.2	226.1	181.4	249.4	224.7	230.3	152.1	291.7	167.8	100.2	185.5	196.6
SPH1145	771	1549	186.7	92.9		337.3	279.5	245.3	246.0	370.2	196.8	126.8	260.9	156.7	83.1	163.8	136.0	79.9	81.6	106.6	117.3
SPH1146	645	3710	62.1	11.1		79.7	79.1	63.2	62.7	59.8	76.8	55.8	77.8	60.9	51.1	53.0	50.0	51.8	54.2	49.2	69.0
SPH1147	1086	1197	250.2	88.5		256.7	340.1	368.1	336.5	240.7	181.9	188.8	421.8	216.4	190.8	260.9	340.7	169.3	113.7	233.8	142.4
SPH1148	648	3230	75.7	18.0		79.0	84.5	94.2	99.0	79.6	55.8	64.6	98.9	86.2	53.9	75.2	91.0	57.8	41.9	58.5	91.5
SPH1149	1716	1226	244.9	135.6		226.5	362.0	323.7	367.2	88.6	171.1	101.2	208.3	189.7	214.8	302.2	277.5	133.0	636.1	148.6	168.8
SPH1150	1194	1916	143.8	60.3		94.6	157.0	162.5	152.3	86.3	126.4	90.9	160.5	141.6	168.1	126.4	285.5	71.4	83.4	128.8	264.9
SPH1151	867	3825	58.6	7.6		62.0	45.0	52.9	53.0	45.2	70.7	54.0	60.7	60.8	57.9	63.1	59.3	69.2	53.9	62.9	66.7
SPH1152	2337	1175	254.5	64.5		252.1	328.5	335.9	290.6	259.0	198.6	210.1	352.7	242.0	208.4	314.1	298.0	176.8	112.3	247.6	244.7
SPH1153	852	3264	74.6	13.8		68.9	54.9	67.1	62.3	61.7	74.8	72.5	64.4	90.8	80.5	65.5	83.0	77.4	67.5	104.9	97.4
SPH1154	912	1501	192.6	192.8		83.8	88.9	93.8	78.2	80.5	161.8	98.3	98.2	582.8	624.1	105.2	102.0	209.9	511.6	81.5	81.7
SPH1155	885	2041	134.6	137.4		61.1	63.9	75.0	52.5	53.8	81.9	90.7	89.5	481.9	464.0	105.8	59.3	166.7	180.5	49.7	76.9
SPH1156	1230	1019	293.2	283.3		105.5	123.9	187.6	156.5	123.5	155.9	212.7	194.8	1001.3	958.5	242.9	127.2	464.8	335.2	136.0	165.4
SPH1157	1185	1871	147.3	144.3		77.3	63.3	65.4	75.7	73.9	104.0	81.9	108.3	456.3	548.1	105.5	79.7	205.1	156.2	79.0	76.8
SPH1158	1308	401	739.0	1366.2		129.5	96.0	152.6	128.6	114.1	205.6	141.5	297.4	4076.9	4281.5	155.1	119.4	789.0	933.4	97.0	106.3
SPH1159	1404	1779	156.8	181.6		71.6	61.8	77.9	101.6	73.2	88.1	78.3	112.0	677.6	549.2	82.0	103.3	98.1	165.6	56.2	111.5
SPH1160	1233	1579	183.5	194.3		69.5	81.2	105.4	90.8	79.4	116.2	98.2	177.3	709.7	618.9	164.6	70.0	186.3	221.3	70.8	76.6
SPH1161	2235	3704	62.2	14.8		55.8	53.1	53.0	56.6	51.0	70.5	56.7	52.3	86.0	81.3	47.2	57.1	57.8	55.8	61.3	100.6
SPH1162	849	3242	75.1	12.1		67.5	72.7	66.2	89.0	87.0	92.3	69.1	72.2	68.3	75.7	70.4	100.6	82.0	57.5	57.6	74.0
SPH1163	3987	3534	66.9	11.1		55.3	59.9	55.6	80.9	56.5	71.3	55.5	71.7	79.9	66.4	51.3	73.5	63.7	65.2	71.9	91.0
SPH1164	2676	2338	113.0	33.5		140.7	129.6	109.3	118.0	163.1	82.9	134.1	134.6	186.3	72.2	94.3	92.9	84.5	63.3	107.5	94.2
SPH1165	1812	3646	63.8	7.8		55.0	58.7	55.6	70.4	58.2	61.6	71.7	57.4	76.1	68.3	64.1	64.9	71.7	49.7	62.3	75.0

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1166	702	3894	56.3	10.7		48.6	51.6	44.6	52.6	46.7	52.8	57.7	51.8	68.4	62.3	54.8	51.9	86.2	48.2	69.6	52.9
SPH1167	528	3962	51.4	7.9		54.7	63.0	42.4	50.0	62.3	57.2	50.3	39.7	63.6	50.4	47.8	42.0	59.1	42.8	51.6	45.0
SPH1168	2277	735	416.8	193.3		388.2	480.4	202.1	235.3	555.4	643.7	296.1	148.5	725.8	639.4	228.3	295.7	598.5	266.5	655.3	309.7
SPH1169	2286	1339	221.0	274.8		61.6	614.0	75.4	87.9	56.0	994.6	58.1	76.2	580.0	315.3	56.0	104.7	65.6	54.6	118.5	217.8
SPH1170	579	3115	79.0	23.9		57.8	67.3	67.6	49.1	76.1	73.3	88.9	52.3	80.3	73.6	100.8	59.3	122.1	65.5	132.7	96.9
SPH1171	1137	666	463.0	341.5		188.6	172.7	236.6	261.1	518.1	332.1	1180.4	184.2	230.9	299.0	414.8	179.1	446.1	1136.7	917.8	709.3
SPH1172	897	1215	247.2	184.6		158.9	101.8	158.8	162.2	231.1	153.3	495.7	121.6	157.5	114.6	159.2	158.9	128.3	390.7	560.4	701.7
SPH1173	2235	1363	216.7	121.9		145.4	146.5	230.9	271.8	173.9	188.7	632.2	163.4	184.8	110.4	252.3	286.9	129.9	148.6	186.5	214.6
SPH1174	999	731	419.5	153.0		465.9	684.0	513.6	593.9	416.0	471.1	350.0	604.4	411.0	324.4	479.4	517.8	180.2	306.0	253.1	140.7
SPH1175	2271	2030	135.5	35.2		123.5	194.9	166.9	178.6	112.4	142.4	103.3	205.8	144.4	101.9	121.2	149.9	99.5	101.8	121.8	100.3
SPH1176	1287	3215	76.2	14.4		70.1	69.9	64.7	66.0	81.6	87.7	60.1	83.0	82.3	91.2	66.9	74.8	76.7	74.4	55.0	115.5
SPH1177	924	3117	78.9	17.9		79.2	90.0	68.0	55.4	95.0	93.4	66.1	49.9	70.2	75.6	71.4	76.3	121.2	85.1	66.8	98.8
SPH1178	1482	2656	96.2	20.1		108.6	66.8	81.3	108.3	78.4	89.5	71.8	78.9	124.2	95.6	100.6	130.4	106.6	69.9	111.8	116.8
SPH1179	1413	3862	57.5	10.5		59.1	52.2	45.1	58.0	62.8	70.3	45.6	46.5	63.1	81.6	54.6	64.2	52.1	43.7	53.6	68.1
SPH1180	1284	3739	61.4	12.8		85.6	66.5	45.9	80.6	59.4	75.4	45.2	51.8	65.7	66.3	47.3	71.9	47.6	49.1	59.9	64.8
SPH1181	1311	2357	111.8	60.6		126.3	95.2	86.0	45.2	174.5	140.4	149.9	57.0	65.6	172.6	168.5	58.5	257.4	53.5	59.7	77.9
SPH1182	1224	3838	58.3	14.2		63.9	47.9	44.9	64.4	59.5	53.5	43.6	49.7	89.6	63.3	41.4	73.9	47.7	42.3	72.3	74.3
SPH1183	1296	3763	60.4	14.8		90.0	61.2	44.7	56.9	93.8	72.5	48.8	44.1	58.8	60.4	57.4	67.4	52.1	41.5	61.2	56.1
SPH1184	918	3660	63.4	13.4		76.0	64.1	44.7	79.3	76.0	65.8	55.9	53.8	82.5	58.2	42.5	77.6	50.1	46.5	71.7	70.7
SPH1185	1941	3598	65.3	16.7		74.6	63.2	46.1	66.9	94.4	71.4	50.4	50.7	77.0	60.3	42.1	78.1	50.8	45.4	82.1	91.0
SPH1186	1140	3675	63.0	12.8		74.0	53.9	46.9	63.2	61.3	84.4	57.9	51.1	56.9	89.1	63.2	64.6	63.5	43.0	57.4	77.3
SPH1187	1533	3411	70.4	21.2		57.4	74.4	59.2	47.1	61.1	122.5	60.6	60.2	48.5	80.0	73.3	59.3	110.5	58.3	89.8	64.3
SPH1188	1296	3936	53.3	9.7		63.3	49.3	43.4	60.7	57.5	51.2	46.2	50.7	78.9	42.6	45.8	54.7	45.7	44.7	63.9	54.7
SPH1189	1047	2928	84.9	21.4		89.2	124.0	57.5	81.2	120.7	110.2	55.3	79.8	95.6	75.5	78.8	90.4	65.7	66.4	64.6	104.3
SPH1190	840	2212	120.0	60.1		168.8	158.2	79.0	64.9	212.5	262.0	95.5	72.7	107.6	184.8	98.4	75.1	127.0	75.0	67.9	71.2
SPH1191	1095	3408	70.5	22.0		98.3	109.2	47.3	46.1	99.1	103.3	49.1	50.5	62.3	78.1	53.6	67.8	69.9	56.4	83.6	52.7
SPH1192	1611	2506	103.9	48.1		163.2	152.0	70.0	59.1	175.5	222.1	70.9	89.3	100.4	101.3	76.9	71.2	90.6	64.3	93.1	63.1
SPH1193	987	1765	158.7	105.7		352.1	217.5	94.3	81.0	411.4	278.1	71.0	105.0	175.6	165.6	71.3	91.8	92.7	89.0	79.6	163.3
SPH1194	1539	2076	131.3	66.3		230.2	152.6	86.2	95.0	277.5	252.7	89.4	87.6	171.9	119.7	91.3	95.3	98.6	80.7	78.8	92.7
SPH1195	630	2027	135.6	92.4		304.6	151.0	80.6	60.5	359.9	266.1	72.3	78.3	126.7	156.8	76.3	93.4	102.3	84.0	76.4	80.8
SPH1196	840	370	794.8	1203.4		618.3	166.6	64.0	69.2	1615.2	961.7	116.2	53.3	2784.8	4329.6	85.2	60.1	993.4	581.3	122.6	94.6
SPH1197	1653	3154	77.9	18.1		80.1	66.5	56.3	87.5	77.1	94.6	54.8	53.6	85.4	95.0	56.6	77.4	66.7	78.1	111.4	105.5
SPH1198	1143	3963	51.3	9.2		47.6	46.2	38.7	57.8	49.6	56.1	40.3	47.5	69.0	55.8	47.4	54.0	45.7	43.2	50.0	71.9
SPH1199	1329	3508	67.6	11.0		64.1	58.0	58.4	53.4	61.3	82.9	56.7	60.8	66.8	68.5	63.0	68.3	74.8	70.1	79.8	95.1

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1200	840	948	313.5	125.0		272.0	227.3	250.9	183.7	236.9	216.1	364.3	172.2	387.9	428.2	348.9	211.3	661.8	284.2	340.9	428.7
SPH1201	954	2569	100.5	13.7		114.6	92.8	87.1	89.6	132.3	99.0	95.9	101.7	106.4	105.5	79.5	82.4	116.6	107.1	92.8	105.4
SPH1202	777	1847	149.3	38.8		189.5	219.9	155.2	175.7	217.7	147.8	141.1	146.1	150.8	168.3	112.4	133.9	91.5	88.6	137.3	112.2
SPH1203	501	2263	117.2	33.8		105.5	109.0	90.5	109.0	112.6	120.0	84.9	113.1	103.7	152.0	88.5	196.2	92.0	83.2	129.8	185.3
SPH1204	1266	2919	85.2	17.2		71.5	108.5	88.4	69.8	80.2	87.9	82.9	79.2	79.4	91.5	91.3	79.4	137.5	75.1	69.1	72.5
SPH1205	1716	1324	224.8	78.8		304.6	317.1	206.5	181.3	202.6	239.2	184.3	345.8	180.2	191.4	139.1	132.2	171.5	398.4	256.1	146.7
SPH1206	1233	1487	195.4	76.8		303.7	214.9	156.4	110.0	234.1	176.9	250.6	201.6	98.4	190.4	181.0	93.5	245.6	362.9	218.4	88.2
SPH1207	978	1000	297.4	219.6		270.8	217.5	327.7	147.9	212.1	157.4	499.1	280.6	131.1	374.2	628.5	56.3	907.6	249.1	199.9	98.1
SPH1208	633	1208	248.4	131.5		436.9	548.2	319.8	307.0	342.6	307.2	142.7	354.9	249.7	163.8	173.9	133.7	136.0	145.1	85.1	127.3
SPH1209	1788	2140	125.9	58.4		140.4	231.7	187.7	152.4	148.1	126.2	60.2	240.7	144.5	95.0	100.4	126.8	54.8	53.5	73.7	77.5
SPH1210	852	31	5892.0	4974.5		12899.0	6996.9	6109.2	7419.9	10714.9	17897.9	5410.8	9115.8	89.7	84.9	4343.8	4454.4	98.7	606.0	4189.9	3840.7
SPH1211	1167	1700	167.5	99.2		304.3	221.0	166.3	161.6	295.1	405.5	166.5	233.3	79.4	100.0	97.7	99.4	75.9	65.9	110.0	98.1
SPH1212	1257	864	347.7	167.7		346.6	205.9	381.3	430.7	607.4	186.1	354.5	468.9	256.4	333.1	495.7	113.0	732.3	222.5	236.5	193.0
SPH1213	1254	2168	123.4	76.0		69.6	69.2	137.4	85.1	99.8	75.5	196.8	119.1	92.3	170.3	186.8	62.6	356.2	113.8	73.8	65.6
SPH1214	3579	2054	133.2	41.2		139.5	195.0	193.8	169.2	128.8	148.1	85.7	182.6	101.4	114.8	134.6	179.7	74.0	86.1	92.7	104.5
SPH1215	357	1443	202.1	82.0		267.8	222.5	159.0	182.4	239.9	128.0	88.5	159.2	410.4	265.1	120.7	132.8	297.3	219.9	137.9	202.2
SPH1216	480	2566	100.7	30.5		78.8	103.0	96.1	72.4	68.8	100.4	85.0	91.2	62.0	122.0	130.2	100.7	167.4	160.3	92.0	81.1
SPH1217	1176	2601	98.6	19.8		101.1	98.4	100.1	89.5	80.4	84.1	75.0	126.5	96.0	126.8	102.5	69.8	116.4	138.8	89.8	82.5
SPH1218	1134	3814	58.8	7.5		63.0	68.5	49.5	67.2	52.9	62.0	47.9	62.7	54.0	51.9	55.6	62.9	53.4	55.4	58.8	74.7
SPH1219	396	2873	87.5	19.2		73.1	110.3	86.2	115.1	56.9	73.6	62.9	125.7	95.5	74.5	87.8	89.5	70.5	84.4	88.5	105.3
SPH1220	984	3625	64.6	10.5		56.1	75.3	63.1	71.5	53.3	69.4	51.1	66.0	67.7	69.0	48.5	83.9	49.2	61.3	74.0	74.0
SPH1221	921	3910	55.5	7.8		55.9	51.8	45.0	66.7	46.4	67.8	47.1	56.4	52.3	52.7	50.6	58.2	52.7	55.1	55.8	72.8
SPH1222	1155	3794	59.5	12.2		53.0	70.8	49.2	70.8	41.6	89.9	46.9	60.6	59.1	60.5	49.1	60.6	57.2	57.9	50.1	74.4
SPH1223	267	3933	53.8	10.3		50.6	58.1	48.3	50.4	42.4	48.0	42.6	71.1	59.2	45.7	44.6	58.1	45.7	51.9	75.1	68.6
SPH1224	1065	3283	74.1	19.0		67.6	70.6	50.3	63.4	56.8	102.4	55.4	60.3	58.0	98.4	62.4	97.7	72.9	96.8	67.5	105.1
SPH1225	1131	2893	86.3	20.5		95.8	57.4	71.7	88.2	52.4	75.8	78.5	70.9	81.6	93.4	92.5	91.7	80.0	108.3	104.2	137.6
SPH1226	369	3908	55.5	8.1		47.9	47.9	48.2	57.6	49.0	49.9	58.7	57.6	49.1	62.7	61.3	50.4	67.1	45.1	64.7	70.7
SPH1227	318	3961	51.5	9.7		57.8	48.1	41.5	49.9	44.5	53.9	46.4	40.9	46.6	50.4	50.8	75.3	47.8	40.9	63.2	65.6
SPH1228	2187	3355	71.8	20.8		58.3	56.6	56.8	70.0	64.0	60.4	58.6	57.6	70.3	72.8	69.1	94.4	66.8	55.9	125.6	112.0
SPH1229	1671	3653	63.5	12.9		69.3	62.7	51.9	68.5	47.2	58.8	66.6	53.4	66.5	59.5	48.9	79.5	52.0	62.4	70.4	98.8
SPH1230	570	3978	48.4	10.5		50.6	44.5	37.2	50.9	43.5	53.0	43.6	42.4	55.7	42.8	37.3	61.9	39.8	46.8	45.3	78.5
SPH1231	1023	3922	54.3	10.0		51.6	52.1	40.9	60.6	44.1	72.4	51.6	47.0	49.6	56.4	51.3	49.7	53.7	49.3	58.4	80.1
SPH1232	1065	3402	70.6	16.9		63.3	61.4	52.6	71.4	60.8	70.7	55.4	55.1	63.1	96.7	63.0	85.8	65.6	88.9	62.4	112.8
SPH1233	1296	3463	68.8	24.5		88.5	73.2	45.1	75.1	48.8	50.3	49.3	57.5	86.0	53.7	47.7	74.9	47.6	139.1	84.8	79.9

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1234	597	389	757.3	767.3		193.4	203.1	888.2	322.7	286.5	229.3	1133.6	268.3	356.9	1483.6	1815.0	407.3	2994.0	469.5	573.6	491.3
SPH1235	1014	2302	115.1	46.5		175.5	143.8	112.5	89.6	246.8	117.5	90.9	116.7	100.7	115.3	79.6	81.4	94.1	147.3	54.1	75.5
SPH1236	690	2328	113.5	39.3		167.5	116.8	90.7	86.6	186.3	120.1	85.3	115.2	101.2	98.3	76.2	95.2	109.6	206.0	78.2	83.1
SPH1237	843	1345	219.6	73.1		379.1	231.1	181.3	162.1	343.1	334.6	134.7	205.5	234.9	248.4	146.1	190.6	191.2	167.6	190.2	173.0
SPH1238	213	1488	195.3	67.2		267.3	304.1	247.4	197.6	306.9	220.4	95.8	266.5	162.8	166.0	150.8	141.8	173.5	193.1	111.2	120.3
SPH1239	1236	3346	72.2	23.9		131.0	75.8	50.8	63.2	90.8	70.2	47.4	63.6	101.2	53.1	43.8	83.3	49.1	72.2	60.4	98.7
SPH1240	1956	2759	92.2	43.3		72.4	51.2	82.2	73.1	70.2	56.1	129.2	86.0	60.9	107.5	115.8	62.2	188.8	187.2	62.0	69.8
SPH1241	1419	2444	106.4	20.2		145.5	109.0	85.4	100.5	131.0	94.3	80.4	127.9	121.4	95.9	100.5	114.0	82.8	87.0	94.1	133.3
SPH1242	1587	2611	98.1	36.6		157.6	142.7	79.0	88.5	174.4	141.6	73.8	79.0	96.0	79.1	71.7	93.5	60.4	49.7	108.2	75.1
SPH1243	1257	1746	160.7	64.3		283.5	245.4	138.5	140.4	255.9	241.0	132.0	197.0	142.6	162.8	140.0	89.6	92.7	82.7	125.1	102.0
SPH1244	1851	3391	70.9	16.5		91.1	94.9	63.6	55.9	103.3	80.5	64.6	89.4	74.8	68.3	68.2	63.2	57.5	46.6	52.6	59.4
SPH1245	2091	2514	103.7	27.2		92.5	85.9	88.7	77.5	126.6	107.9	85.1	118.0	68.7	143.0	129.2	92.6	162.5	69.3	121.4	90.2
SPH1246	1302	2279	116.4	30.8		114.9	102.3	146.5	136.1	99.9	123.3	153.2	108.7	70.2	106.2	189.2	101.6	135.0	109.0	101.2	65.4
SPH1247	996	1100	274.4	87.9		299.3	223.8	244.0	204.0	362.7	192.7	414.2	233.0	311.2	321.7	409.0	220.7	399.1	212.8	224.1	117.5
SPH1248	1284	3365	71.4	27.7		71.2	62.1	47.6	55.9	65.1	86.4	59.9	55.1	58.3	79.6	52.7	80.8	70.1	165.8	53.0	78.2
SPH1249	1041	3488	68.1	23.6		51.2	52.0	53.0	56.3	61.7	70.5	59.0	63.5	88.3	83.8	55.8	56.1	69.9	147.2	60.4	60.7
SPH1250	705	3754	60.9	11.0		59.2	58.7	46.1	62.7	53.8	76.9	49.7	49.7	56.5	66.8	51.0	61.7	57.0	74.8	86.3	64.2
SPH1251	1383	3853	57.7	11.6		55.1	48.2	42.6	43.4	54.4	63.0	51.0	49.5	68.3	53.3	53.5	62.8	54.0	65.4	87.1	72.3
SPH1252	333	3873	57.2	16.2		60.8	46.9	43.6	56.7	55.6	51.4	40.5	46.2	71.0	56.7	40.8	67.1	39.1	79.1	59.8	99.9
SPH1253	84	3513	67.5	19.5		74.8	53.1	45.9	73.9	56.1	53.3	49.5	59.1	95.5	60.4	50.7	95.2	42.9	93.8	97.8	78.3
SPH1254	744	3617	64.8	17.6		67.4	60.5	43.9	45.8	75.4	59.5	57.8	54.2	79.6	64.7	51.0	73.8	58.7	64.2	61.4	119.5
SPH1255	2445	3885	56.6	10.2		48.4	49.6	42.4	73.8	46.5	50.7	56.8	47.9	65.0	58.2	53.5	64.4	48.5	77.1	56.5	66.9
SPH1256	273	2881	87.2	25.0		60.0	65.8	53.7	74.3	69.4	117.3	67.4	88.9	83.5	123.1	72.0	134.4	80.8	122.1	81.2	101.3
SPH1257	384	3342	72.3	21.3		74.3	47.9	56.3	58.1	100.7	62.7	71.0	66.7	63.3	75.9	85.7	44.6	124.9	96.1	76.0	52.2
SPH1258	1047	3367	71.3	11.6		70.1	53.4	53.7	84.2	65.3	73.7	59.5	74.0	84.1	85.9	60.1	85.6	61.3	68.0	77.1	84.6
SPH1259	477	3734	61.5	18.5		56.9	41.1	48.0	64.3	52.4	57.9	52.4	58.7	74.7	57.7	50.6	85.3	54.4	51.4	59.5	118.7
SPH1260	2007	2630	97.5	24.5		79.9	60.5	79.8	106.5	77.0	99.7	92.6	79.1	77.2	119.4	99.2	115.1	99.5	151.1	82.3	140.4
SPH1261	81	2260	117.4	55.0		88.6	76.6	115.9	104.2	113.7	55.7	102.7	75.3	76.3	90.9	163.9	57.9	231.4	236.7	137.7	150.7
SPH1262	945	3531	67.0	10.3		67.1	58.5	61.3	70.5	62.7	57.8	68.1	65.3	100.1	66.6	64.1	67.7	55.7	77.1	61.1	68.3
SPH1263	1203	3718	61.9	12.5		51.9	48.6	61.3	60.1	48.2	78.2	52.4	57.9	96.9	67.2	57.2	67.8	52.9	54.8	66.4	68.8
SPH1264	393	3529	67.1	11.8		65.8	52.3	51.3	83.9	64.7	67.7	55.2	65.8	95.2	65.1	70.0	68.5	64.2	52.9	70.8	79.8
SPH1265	720	2704	94.4	35.9		109.0	86.2	72.4	95.8	84.7	81.5	85.4	84.5	82.1	82.7	61.4	139.7	65.5	65.2	106.1	207.8
SPH1266	1188	2513	103.7	38.8		69.8	71.5	152.7	77.3	72.1	77.2	124.0	129.4	84.2	113.5	152.1	93.8	202.5	69.1	84.6	85.2
SPH1267	1080	1420	207.4	160.1		90.4	106.0	290.4	122.5	111.5	117.3	319.2	231.6	101.3	235.9	561.4	95.5	583.7	114.4	124.3	113.8

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1268	1200	2645	96.7	31.0		57.1	68.2	174.4	112.4	64.3	77.8	92.5	139.9	82.9	79.2	132.5	94.5	114.1	85.4	85.8	86.0
SPH1269	774	3695	62.4	15.9		50.6	43.8	55.1	57.9	49.5	65.3	44.0	63.6	68.7	60.1	56.9	102.0	46.0	76.0	79.1	80.4
SPH1270	918	3203	76.6	22.8		61.1	67.2	54.8	83.0	60.5	64.4	67.7	73.5	75.3	61.8	58.0	109.4	60.3	132.3	81.0	114.6
SPH1271	1191	1246	240.3	87.9		194.8	123.7	205.4	168.9	201.6	176.4	239.8	150.5	202.5	289.9	305.6	169.3	442.1	296.8	382.6	295.6
SPH1272	906	2539	102.2	23.6		138.0	105.8	124.0	105.8	136.3	81.8	105.4	118.3	136.7	86.0	101.3	81.0	75.3	99.2	67.5	72.8
SPH1273	336	1188	252.4	117.9		208.9	181.0	298.3	218.5	248.9	160.7	345.1	218.2	191.5	234.4	475.6	172.7	522.6	333.3	146.9	81.7
SPH1274	561	1194	251.4	114.0		183.3	190.2	308.0	180.2	204.6	135.4	378.5	220.8	190.9	272.2	445.2	167.0	532.9	287.3	182.5	143.9
SPH1275	264	1403	210.2	215.9		167.9	107.2	103.1	135.9	199.1	74.1	198.0	113.0	154.7	112.0	101.1	121.6	105.6	955.1	366.5	348.4
SPH1276	942	1378	214.5	258.7		114.0	95.8	119.6	124.6	152.2	103.1	208.8	118.7	127.0	178.2	142.1	125.9	158.6	1163.6	315.5	183.7
SPH1277	261	2764	91.8	42.3		87.0	79.1	97.5	80.4	71.5	88.1	79.7	93.1	92.5	71.0	69.4	61.5	100.4	244.4	65.0	88.7
SPH1278	369	1421	207.2	79.9		249.2	175.5	218.1	137.3	289.0	275.4	202.3	216.9	181.8	279.1	218.6	80.4	346.3	276.4	100.1	69.3
SPH1279	447	2057	133.1	28.3		131.7	106.0	90.3	104.2	156.7	166.8	100.8	131.7	133.6	154.5	114.0	196.4	139.1	119.5	123.7	159.9
SPH1280	1512	2771	91.6	17.3		125.0	83.9	76.1	66.1	123.4	100.9	69.2	107.3	88.3	99.9	78.4	81.7	83.7	90.9	86.9	103.6
SPH1281	384	3982	46.2	5.6		45.7	42.7	41.1	39.4	46.9	57.4	44.6	48.1	51.4	46.9	40.7	47.0	48.8	35.8	46.4	55.6
SPH1282	1047	3633	64.4	18.9		60.0	44.7	52.5	81.8	49.4	70.7	56.8	58.6	79.0	59.2	50.9	110.7	45.8	53.5	60.2	97.2
SPH1283	465	3742	61.3	13.1		51.3	45.6	54.2	56.6	54.2	54.5	61.8	54.7	94.9	69.6	49.7	77.7	50.6	61.6	65.6	78.3
SPH1284	1998	2962	84.1	17.1		75.8	63.8	66.7	65.9	58.6	93.5	90.6	83.5	69.3	95.5	91.5	83.9	83.9	114.0	91.0	117.8
SPH1285	264	2851	88.3	13.5		70.3	72.4	83.0	93.6	79.6	75.8	101.8	65.7	85.9	83.1	100.3	95.9	96.6	96.1	96.9	115.7
SPH1286	945	2905	85.8	17.9		69.6	77.3	81.2	79.0	70.6	61.9	96.3	64.4	92.0	77.1	110.6	73.9	119.1	98.7	115.9	85.9
SPH1287	114	3474	68.6	10.6		69.0	61.2	53.7	80.1	58.7	63.8	73.9	65.4	82.5	66.3	59.1	69.6	53.7	70.4	79.9	90.5
SPH1288	957	1943	141.6	21.5		147.7	116.0	148.7	118.1	146.3	120.4	168.9	149.3	133.2	145.5	116.6	135.7	136.6	197.4	158.4	127.6
SPH1289	936	3425	70.1	22.1		67.0	58.5	50.3	101.9	51.7	83.4	49.7	53.7	65.4	75.0	51.6	123.6	54.6	59.7	74.3	101.0
SPH1290	1053	3292	73.8	10.8		63.4	54.5	61.4	68.7	79.9	75.2	68.1	65.1	76.5	81.0	70.8	98.2	70.7	85.7	84.6	78.0
SPH1291	918	2931	84.8	16.4		68.8	63.9	80.6	97.2	74.0	83.7	75.4	76.3	104.3	93.7	64.0	95.2	80.4	72.1	118.1	109.4
SPH1292	1125	2455	106.1	35.5		103.6	89.4	91.8	77.2	87.8	116.7	105.4	90.5	87.2	103.9	90.3	110.8	84.7	79.9	163.3	215.0
SPH1293	1692	3943	52.9	11.1		59.5	47.4	43.1	64.6	43.9	45.6	47.0	50.8	79.3	45.4	49.3	50.3	35.3	55.4	66.0	63.1
SPH1294	933	3502	67.7	14.3		85.1	58.0	48.1	80.3	58.6	74.4	56.6	67.3	87.6	52.9	50.8	86.8	54.2	66.6	66.9	88.7
SPH1295	960	2732	93.5	27.4		88.4	69.5	60.3	125.1	69.3	99.2	69.9	80.5	99.2	117.8	74.0	141.7	72.6	90.8	151.5	86.4
SPH1296	600	3928	54.1	17.7		42.2	42.6	42.3	51.0	41.9	72.5	44.1	46.7	52.2	51.9	35.4	100.6	43.4	48.9	66.8	82.4
SPH1297	459	3950	52.5	14.7		50.1	42.3	40.3	49.8	42.7	59.5	38.7	44.6	54.2	46.1	39.5	86.2	47.3	50.2	62.4	85.5
SPH1298	264	3304	73.5	21.2		59.2	45.8	61.8	85.3	63.7	63.6	60.9	67.0	101.2	70.4	46.5	93.8	51.6	93.2	94.1	117.3
SPH1299	708	3548	66.6	16.5		64.9	52.2	55.2	57.8	48.2	67.6	54.7	64.2	78.1	74.1	45.0	101.0	50.9	71.9	92.0	87.8
SPH1300	870	3757	60.8	13.5		68.4	54.5	50.9	70.9	50.3	57.4	56.3	49.6	94.3	55.0	48.3	69.5	47.5	57.4	57.8	84.8
SPH1301	315	3761	60.5	13.3		52.8	51.2	44.1	65.2	50.9	63.6	48.9	48.1	62.5	67.2	52.2	95.2	58.0	56.8	74.7	76.6

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1302	366	2626	97.7	35.3		66.8	84.5	73.8	93.9	89.0	111.2	73.9	73.1	123.5	107.9	63.1	147.2	55.6	72.2	160.9	166.5
SPH1303	291	3250	75.0	25.7		64.0	46.2	54.9	105.6	72.2	69.4	52.8	71.3	137.9	73.3	54.9	108.3	45.8	71.2	70.6	101.0
SPH1304	315	822	365.3	182.8		337.9	221.3	249.2	230.7	409.9	242.9	412.8	258.8	270.1	369.1	277.1	385.2	355.2	976.1	524.9	324.0
SPH1305	885	3095	79.5	18.3		80.4	74.9	72.6	74.7	79.4	74.3	71.4	87.9	85.2	83.6	52.7	130.6	49.1	75.5	100.6	78.5
SPH1306	1014	3136	78.3	13.4		78.8	74.2	54.1	60.2	61.8	88.8	72.1	73.3	75.6	108.9	78.8	92.9	89.0	80.6	84.0	79.6
SPH1307	2070	2920	85.2	23.8		68.9	73.8	70.0	87.9	74.9	88.0	70.2	71.7	110.0	86.2	66.8	144.9	71.3	57.3	127.1	94.6
SPH1308	873	3453	69.0	18.2		58.0	62.2	60.0	55.1	71.6	56.6	74.5	57.4	55.9	68.0	69.1	72.2	73.5	65.0	132.0	73.3
SPH1309	732	1067	282.6	86.3		307.9	293.2	343.9	190.0	348.4	273.0	341.0	200.2	320.0	339.2	292.5	175.0	498.6	188.2	210.3	199.3
SPH1310	366	3969	50.2	7.1		47.6	47.0	43.2	62.0	51.3	50.3	50.9	47.8	68.2	44.6	51.3	44.5	41.6	46.6	48.3	57.8
SPH1311	1317	2898	86.1	17.8		77.6	60.6	76.1	72.5	74.3	107.5	91.5	67.5	87.3	111.3	96.8	94.0	116.7	73.6	64.2	105.7
SPH1312	1203	3279	74.2	11.6		74.5	67.3	69.8	64.9	90.0	58.0	84.1	57.3	72.2	70.8	87.4	75.2	99.9	80.2	69.2	67.1
SPH1313	1383	1234	243.1	81.7		157.1	181.8	300.0	231.2	148.2	142.8	284.5	205.8	167.3	221.2	400.3	323.8	393.2	197.2	271.0	264.2
SPH1314	1083	1851	149.1	82.6		161.8	117.7	256.6	216.7	67.7	68.8	91.8	351.6	97.6	104.7	253.0	191.6	116.9	116.4	70.8	102.4
SPH1315	891	1187	252.9	216.7		364.2	191.4	474.4	486.3	68.0	60.3	111.3	800.9	125.2	134.4	449.4	399.9	140.5	63.5	79.5	97.6
SPH1316	612	2064	132.5	83.3		201.4	122.7	203.9	216.9	58.3	68.4	72.4	350.7	90.5	69.2	132.8	219.5	68.7	63.1	76.8	104.4
SPH1317	807	2364	111.6	25.5		161.1	116.8	127.8	130.4	153.4	75.9	111.9	106.0	102.7	88.4	120.0	67.6	106.7	129.5	97.2	90.1
SPH1318	1641	2860	88.0	18.9		82.1	58.9	73.9	94.7	69.2	78.3	86.1	82.3	139.1	87.2	84.6	112.4	74.3	89.4	89.4	106.6
SPH1319	669	3799	59.4	14.8		52.5	55.6	50.4	46.6	52.8	95.9	59.7	46.6	56.2	74.7	55.0	50.0	86.7	42.3	60.9	64.1
SPH1320	1932	2452	106.2	25.6		118.9	95.9	105.2	92.5	119.3	95.5	122.7	83.1	115.3	143.3	82.0	93.9	85.8	175.1	80.5	90.2
SPH1321	1128	179	1498.2	2886.3		94.5	67.1	130.2	70.4	119.3	95.8	208.4	108.2	6140.6	8148.4	161.1	97.9	7481.0	790.0	131.6	127.0
SPH1322	666	1082	278.0	486.5		54.7	41.2	49.5	55.0	51.7	76.6	61.3	47.9	1582.8	1324.6	69.2	61.3	681.2	119.6	75.4	96.4
SPH1323	1668	2348	112.3	96.9		53.2	60.3	63.2	68.8	54.0	85.9	66.6	59.2	324.7	343.0	80.2	65.5	239.0	69.1	75.3	89.6
SPH1324	729	2163	123.9	69.7		203.4	150.9	69.1	107.5	346.7	131.8	74.3	76.2	131.8	104.2	67.8	114.9	70.9	100.4	94.8	137.8
SPH1325	678	967	305.2	321.2		703.0	604.0	99.0	82.0	1158.0	746.8	129.9	104.7	274.6	219.9	103.5	104.2	136.2	234.3	79.4	103.2
SPH1326	2229	167	1591.2	2503.8		3280.0	3217.0	81.6	101.9	7411.9	7424.2	115.9	62.5	1162.7	1065.6	111.3	71.3	259.3	864.9	80.7	147.9
SPH1327	297	3759	60.7	9.9		65.7	51.2	51.3	60.1	64.4	56.7	50.8	52.7	84.3	47.1	61.0	69.9	57.8	63.4	59.0	75.3
SPH1328	543	2462	105.7	21.5		145.3	119.2	111.2	95.0	152.6	82.5	82.6	94.8	116.1	109.2	98.0	76.8	101.6	121.7	88.6	96.2
SPH1329	477	1176	254.4	73.9		160.5	258.6	287.2	248.6	224.5	163.2	261.3	424.0	263.1	331.2	305.7	175.7	336.9	267.6	154.2	207.8
SPH1330	930	1843	149.7	36.5		170.3	188.2	168.6	123.8	210.2	144.0	87.3	166.5	150.3	173.7	165.3	110.4	177.7	166.4	95.2	96.8
SPH1331	324	49	4087.7	1283.4		4318.6	5124.4	5533.4	5588.2	3537.8	3681.3	3700.4	6270.7	2727.5	2369.0	4469.4	4127.8	1493.8	5323.8	3797.4	3339.0
SPH1332	273	694	445.7	182.7		473.5	648.8	594.8	486.7	482.9	321.5	356.2	730.4	166.8	283.3	451.9	329.9	299.1	802.0	501.5	201.4
SPH1333	1212	1606	181.1	48.8		177.9	249.8	206.7	210.4	126.9	134.6	138.4	264.2	148.5	118.4	190.0	168.7	114.4	226.3	178.9	243.7
SPH1334	1197	2289	115.9	24.3		113.6	122.9	149.7	119.2	109.2	89.5	101.2	153.6	168.9	83.5	111.4	116.5	81.8	105.5	107.3	121.1
SPH1335	1299	1524	189.5	61.4		192.7	186.2	237.9	204.2	202.9	224.4	214.1	170.2	191.7	205.3	243.8	145.0	326.9	78.2	85.1	123.8

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1336	75	1235	242.9	137.6		82.6	128.1	281.8	114.4	190.2	127.1	290.2	178.9	105.2	325.3	394.7	249.3	568.2	455.7	215.0	179.6
SPH1337	654	637	481.9	113.3		567.3	344.7	630.0	658.3	658.0	438.9	421.7	522.4	529.2	467.1	490.0	478.8	346.4	255.0	474.0	428.0
SPH1338	2796	1522	189.7	83.8		258.1	282.5	230.7	296.8	324.4	148.5	164.4	310.2	148.0	82.3	171.6	192.5	74.6	90.0	124.4	135.9
SPH1339	789	1101	274.1	176.4		250.0	205.5	620.7	732.6	167.2	101.4	251.9	393.5	218.9	216.0	334.6	262.8	235.9	165.0	131.2	98.2
SPH1340	339	578	527.0	123.2		667.6	571.1	513.7	539.9	640.8	651.2	538.2	532.5	540.5	508.5	614.6	378.0	715.5	374.3	369.8	276.0
SPH1341	825	1031	291.0	96.9		485.5	419.4	267.1	213.1	412.0	372.9	224.2	237.1	384.9	246.2	276.4	245.1	181.5	143.9	317.2	229.7
SPH1342	600	446	668.3	209.0		990.2	802.0	639.5	651.1	974.8	683.9	619.3	516.7	1054.2	672.7	603.2	382.6	437.4	330.6	740.5	593.9
SPH1343	1560	2267	117.0	44.5		78.4	109.1	113.9	67.8	104.6	158.1	161.9	105.2	57.6	129.3	148.0	79.2	239.2	101.7	123.6	94.3
SPH1344	1164	2809	90.1	14.1		88.1	108.2	80.6	86.7	91.1	100.5	122.4	84.2	71.7	80.4	74.7	89.0	80.7	78.3	93.3	111.3
SPH1345	1473	3751	61.0	11.2		55.8	75.3	51.9	61.8	55.9	64.1	59.5	51.8	67.7	55.0	54.9	65.1	46.5	47.5	88.0	75.0
SPH1346	465	1337	221.2	48.7		188.9	226.6	218.1	194.6	219.4	189.3	252.9	159.7	143.2	185.5	232.4	210.7	266.9	220.7	298.7	331.9
SPH1347	861	1589	182.8	69.5		195.0	277.5	257.4	268.5	156.9	163.2	128.6	292.8	132.1	87.7	155.5	259.2	69.1	127.5	182.4	171.9
SPH1348	654	1977	138.9	64.8		195.4	256.3	225.1	167.7	119.6	99.4	90.8	250.8	65.6	83.8	166.9	132.1	49.6	88.3	124.5	106.2
SPH1349	1173	3174	77.5	25.0		68.9	136.8	109.0	90.0	59.4	76.8	55.6	116.4	57.9	63.5	74.9	89.4	53.5	48.1	67.5	72.2
SPH1350	1086	2697	94.6	35.0		73.2	157.3	104.9	124.6	62.3	83.1	62.5	184.1	87.9	70.5	84.4	100.2	68.1	62.9	81.7	105.8
SPH1351	978	3493	67.9	21.6		54.6	62.5	62.6	95.3	44.2	67.3	48.6	75.9	84.7	59.7	53.7	125.9	44.2	55.3	64.7	87.4
SPH1352	867	2634	97.4	23.6		68.2	70.9	85.3	86.3	71.6	73.6	120.0	84.4	89.9	119.7	144.9	135.1	89.2	107.4	99.8	111.2
SPH1353	921	2900	86.0	20.2		75.6	71.9	80.7	86.7	65.0	99.0	73.6	83.1	84.7	84.5	76.1	120.8	82.7	66.5	81.3	143.2
SPH1354	1419	3766	60.4	10.6		50.1	50.0	57.1	61.0	54.0	49.0	56.3	52.1	64.2	64.1	67.9	76.3	61.9	46.1	83.3	72.2
SPH1355	1527	2925	85.0	32.8		51.6	61.3	87.5	63.8	57.8	79.9	127.8	78.1	62.7	94.1	144.8	89.4	162.6	64.5	61.2	72.6
SPH1356	711	108	2305.4	1704.0		3772.1	5301.0	3751.9	3997.6	2378.8	3841.9	512.5	5041.7	1594.2	1417.2	1238.3	1183.1	719.4	1329.8	472.1	334.2
SPH1357	834	2194	121.8	111.5		69.3	61.2	62.2	63.6	70.7	109.1	469.7	59.5	55.3	91.9	69.8	117.8	118.5	62.2	300.0	168.6
SPH1358	726	1146	262.3	420.5		68.0	60.2	64.1	64.1	61.0	82.6	1028.2	61.9	64.8	86.5	66.0	75.6	68.7	52.6	1210.5	1082.1
SPH1359	303	266	1097.0	2016.4		185.6	138.0	150.9	126.6	274.6	161.5	5843.2	113.5	138.1	174.2	206.8	141.2	257.4	101.6	5091.8	4447.7
SPH1360	693	545	553.0	1002.9		114.4	90.4	78.8	68.4	153.4	116.0	3168.4	69.2	91.6	102.2	84.1	67.3	137.9	81.3	2323.0	2101.0
SPH1361	306	1371	215.6	380.9		72.4	66.9	48.3	74.0	83.3	51.7	1434.5	59.5	87.9	55.6	48.0	55.3	49.1	38.2	786.5	439.1
SPH1362	1701	543	554.3	999.6		119.8	125.9	93.5	94.6	149.4	144.7	3354.1	90.9	104.6	97.2	90.2	141.4	82.8	80.9	2264.2	1835.0
SPH1363	486	1686	170.3	227.0		73.1	69.2	54.4	74.6	59.6	76.5	725.0	66.6	118.4	53.5	53.9	72.9	53.2	55.3	665.5	452.4
SPH1364	735	1431	205.4	317.7		64.6	66.2	61.2	62.7	69.1	73.0	1020.2	56.3	63.9	63.8	61.3	69.2	58.6	53.0	884.6	559.5
SPH1365	699	524	567.8	897.3		126.3	126.2	171.4	146.0	162.2	163.7	3060.7	160.7	110.2	205.7	218.7	160.6	269.1	147.3	1768.6	2087.3
SPH1366	1014	591	510.2	571.6		136.8	147.6	667.7	646.0	117.2	205.0	155.6	144.1	1836.4	490.0	757.0	1899.3	396.2	132.4	234.6	196.8
SPH1367	1086	3482	68.4	15.0		57.4	54.5	71.3	59.3	61.7	57.4	75.9	65.6	69.2	66.4	75.4	69.4	115.3	47.7	76.5	71.7
SPH1368	765	2595	98.9	18.2		101.5	95.9	97.9	86.0	104.4	84.8	98.5	115.9	89.8	82.2	106.0	103.0	147.8	84.7	68.3	116.0
SPH1369	843	3001	82.5	15.4		86.0	91.7	75.9	74.9	77.1	103.3	90.5	81.0	59.9	89.5	92.9	77.3	119.1	69.1	60.9	70.5

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1370	1062	2464	105.7	34.9		81.6	92.2	88.7	111.1	81.4	105.2	70.8	90.6	83.5	99.9	77.0	145.9	142.1	75.1	151.0	194.4
SPH1371	1074	1090	276.6	230.4		221.1	215.6	229.0	166.1	291.7	181.9	244.8	189.0	204.7	307.7	304.7	138.3	1111.6	305.4	109.7	204.8
SPH1372	942	2713	94.1	14.2		87.3	106.9	91.1	92.5	118.9	102.1	76.7	118.3	98.1	88.0	90.2	76.9	93.6	65.9	101.3	97.4
SPH1373	300	1568	184.5	55.2		227.7	172.7	206.3	146.3	276.4	184.9	182.4	244.4	160.3	205.3	202.9	121.0	274.0	153.0	94.7	99.2
SPH1374	777	286	1031.2	519.1		918.4	1054.6	1859.5	1556.6	1574.1	591.3	286.0	1226.5	290.4	490.7	1573.7	1488.4	336.5	1394.3	880.0	978.7
SPH1375	1686	679	453.9	252.9		475.2	595.2	932.4	699.4	733.5	198.0	238.3	614.9	95.0	143.0	552.4	532.6	99.8	300.6	655.0	396.9
SPH1376	723	558	541.0	341.0		538.3	847.9	1243.4	910.0	823.6	262.6	280.8	866.5	138.1	172.6	824.3	561.3	100.0	288.7	478.9	319.4
SPH1377	759	555	544.4	376.6		553.5	799.2	1341.1	1078.4	782.6	236.7	167.1	853.6	154.3	133.9	801.8	694.8	88.9	253.6	403.4	367.3
SPH1378	936	180	1495.6	1037.2		1542.4	1533.6	3797.4	2582.8	2362.8	621.1	593.7	2225.1	616.5	435.3	2368.0	2511.4	258.9	476.9	1149.5	853.6
SPH1379	1287	962	306.1	204.9		382.3	469.7	718.2	485.4	550.5	147.3	103.0	515.3	90.4	108.6	410.7	383.1	86.5	133.5	164.5	148.0
SPH1380	693	2458	106.0	28.6		132.9	98.7	112.4	121.6	101.9	73.3	66.3	101.4	119.7	93.1	74.4	132.0	64.8	108.0	123.5	172.9
SPH1381	1038	1836	150.4	49.4		130.4	113.1	127.4	115.0	134.9	134.0	142.8	154.6	116.2	170.7	158.5	143.5	312.8	205.3	125.9	121.8
SPH1382	621	2550	101.5	39.0		83.6	75.8	69.8	67.9	107.8	102.0	81.6	82.1	101.1	140.5	68.8	69.4	211.1	139.0	140.3	82.8
SPH1383	549	232	1232.9	944.7		833.0	751.5	515.0	642.9	1146.6	1694.8	621.1	658.8	1128.7	1552.1	521.2	366.7	4261.8	1565.5	1892.9	1574.1
SPH1384	1314	1351	218.8	171.6		133.7	160.1	151.7	142.3	141.7	208.0	238.8	170.1	120.9	317.9	356.8	126.9	806.5	170.9	138.4	115.5
SPH1385	360	2560	101.0	58.2		163.1	244.1	113.3	69.7	132.0	94.6	59.2	52.7	50.1	83.5	61.1	94.3	78.4	206.7	56.6	56.0
SPH1386	483	1476	197.2	152.9		175.9	192.8	122.2	110.9	342.9	642.2	79.4	128.2	164.5	181.7	95.3	80.4	294.3	387.2	84.6	72.4
SPH1387	1143	2308	114.8	46.2		151.1	223.3	122.2	105.0	176.0	120.8	73.2	181.8	103.7	97.9	95.0	63.4	103.3	76.2	66.8	77.8
SPH1388	1389	914	328.8	126.6		476.8	473.1	530.1	466.2	278.2	259.2	215.1	507.5	239.4	229.1	367.8	341.5	274.4	295.5	134.8	171.3
SPH1389	1266	2105	128.8	30.6		125.0	151.5	121.6	181.1	98.5	86.5	94.6	147.7	167.0	118.6	103.2	126.0	187.7	104.6	131.8	114.8
SPH1390	351	1859	148.5	43.6		115.3	115.7	114.1	153.9	127.2	145.5	161.3	140.4	133.2	206.4	129.9	152.3	285.7	148.1	139.4	108.4
SPH1391	765	1716	164.9	60.8		148.9	174.0	142.3	115.6	169.7	114.4	191.8	135.9	145.8	189.8	171.7	96.8	361.7	208.8	132.9	137.9
SPH1392	1050	945	314.0	139.3		437.5	201.0	194.3	184.6	465.1	317.8	317.1	284.5	337.5	355.3	201.8	157.2	598.0	168.1	562.5	242.2
SPH1394	141	4	64271.4	343.1		64435.4	64388.7	64460.7	63804.4	64435.4	64076.5	64460.7	64484.4	64572.9	64572.9	63664.1	64484.4	63597.0	63885.4	64584.8	64435.4
SPH1395	69	1	64485.7	126.1		64435.4	64388.7	64460.7	64788.6	64435.4	64603.5	64460.7	64484.4	64572.9	64572.9	64393.2	64484.4	64468.5	64201.8	64584.8	64435.4
SPH1396	435	652	474.1	160.2		717.7	571.9	493.1	473.6	848.6	557.6	578.0	508.5	331.9	289.0	414.7	499.5	263.8	324.1	402.0	312.3
SPH1397	831	238	1202.1	350.9		1619.2	1248.1	1442.0	1297.0	1759.4	1363.8	1552.2	1349.5	889.6	781.4	1466.2	1333.6	883.5	823.8	847.6	576.9
SPH1398	1998	587	514.4	237.2		542.7	662.2	774.2	624.4	416.5	429.7	257.6	800.3	395.3	368.9	601.0	364.7	487.0	1085.0	227.7	193.0
SPH1399	198	3294	73.8	14.2		59.6	82.1	56.3	87.2	69.4	55.0	62.1	67.3	81.6	67.8	61.5	91.0	87.4	95.1	63.5	94.2
SPH1400	354	1147	262.2	124.3		389.4	195.1	176.8	138.4	486.6	207.6	172.9	105.8	252.3	382.0	149.2	181.3	450.2	164.5	379.5	364.4
SPH1401	372	461	648.0	328.0		517.2	846.1	669.6	601.6	788.4	657.4	620.2	976.8	383.1	373.6	417.2	879.4	376.5	1591.3	419.5	250.3
SPH1402	354	176	1519.6	2163.4		889.0	1441.1	1502.7	1316.9	844.8	1177.3	614.7	2270.5	497.2	461.0	996.0	1353.0	519.5	9412.2	519.1	498.6
SPH1403	417	366	800.5	921.6		698.2	862.7	832.3	582.3	699.6	786.4	357.9	1363.6	304.2	227.4	578.4	638.1	223.5	4060.6	425.1	167.5
SPH1404	252	468	643.5	496.9		567.9	693.7	629.3	659.2	543.3	574.0	298.2	925.4	333.3	401.5	475.2	530.1	333.1	2409.9	489.9	431.2

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1405	1485	2173	123.0	29.3		163.8	193.1	121.2	110.2	136.7	132.3	129.5	164.0	100.9	105.0	100.6	84.3	119.0	110.0	101.4	96.8
SPH1406	1251	3075	80.3	27.7		72.8	68.7	62.9	54.2	81.8	64.8	81.8	66.4	83.6	83.2	78.2	60.2	173.4	97.8	92.7	61.7
SPH1407	681	3652	63.5	18.9		52.9	55.3	49.8	62.2	61.1	54.8	49.6	51.5	70.7	58.0	56.5	64.5	113.1	52.2	57.7	106.1
SPH1408	156	3374	71.2	32.1		78.3	59.9	53.9	68.1	58.1	53.7	65.3	58.2	87.7	50.2	51.6	66.6	51.6	73.7	77.9	183.9
SPH1409	249	1138	265.0	163.9		142.0	167.1	216.3	230.3	154.0	125.9	464.1	191.3	132.6	243.5	221.1	204.4	453.3	132.7	685.8	475.5
SPH1410	2874	780	391.4	404.0		291.1	390.3	211.4	190.2	394.4	194.2	845.2	404.1	115.8	89.8	151.3	127.8	125.4	136.8	1454.7	1140.0
SPH1411	948	2577	100.2	23.1		139.5	135.7	89.5	77.6	102.7	113.4	85.3	90.6	111.9	106.4	65.6	132.2	71.9	91.5	114.7	75.3
SPH1412	795	2320	113.9	28.9		143.3	187.6	107.1	102.9	107.9	109.1	96.4	123.0	86.1	105.2	104.2	80.5	131.5	132.9	66.2	139.2
SPH1413	1131	1679	171.5	49.7		182.6	236.7	155.4	166.5	221.4	182.3	129.3	160.5	140.4	188.0	88.4	176.8	91.9	247.8	128.6	247.4
SPH1414	1173	2989	82.7	24.7		95.5	73.2	70.5	83.1	97.4	65.5	57.1	75.3	87.6	94.9	58.9	146.1	55.7	55.5	88.9	118.7
SPH1415	1146	3327	72.9	23.2		47.6	58.7	68.3	61.5	56.9	52.2	88.9	72.5	75.4	73.2	96.2	65.9	146.2	74.4	67.5	60.6
SPH1416	1584	2036	135.1	39.5		83.2	102.1	120.0	174.3	99.6	68.4	109.7	195.5	148.3	113.4	149.9	104.3	179.3	177.2	174.3	162.6
SPH1417	282	1904	144.8	52.9		144.8	147.9	185.9	146.4	161.0	110.6	121.6	248.0	82.2	112.8	124.2	98.7	241.8	82.0	211.6	96.9
SPH1418	2052	3311	73.2	19.7		64.0	51.6	49.0	78.6	62.0	83.6	64.7	56.0	61.7	76.7	69.8	78.2	85.4	72.4	132.9	85.5
SPH1419	600	3147	78.1	15.2		83.8	62.9	66.9	104.1	92.6	67.6	65.7	88.2	68.6	69.0	62.4	108.9	73.4	62.5	81.9	90.8
SPH1420	816	1364	216.4	65.3		276.2	290.5	241.2	231.9	268.9	270.7	222.7	314.9	268.0	162.3	169.4	129.4	184.0	91.8	135.1	205.5
SPH1421	2175	3705	62.2	13.9		54.1	59.6	58.4	88.9	45.8	57.0	48.0	74.5	90.8	47.0	54.5	71.6	52.0	56.2	64.4	72.6
SPH1422	1197	1154	260.9	95.8		408.1	345.7	369.2	348.2	360.4	184.0	209.3	272.2	202.2	166.3	373.6	281.6	114.7	134.9	227.2	176.8
SPH1423	1536	2498	104.5	21.5		131.5	109.4	120.3	125.6	92.7	106.5	81.8	133.5	125.2	91.1	112.5	114.3	85.1	102.8	56.1	83.0
SPH1424	657	2449	106.3	25.0		84.8	81.2	99.0	97.4	94.9	77.0	129.2	112.8	103.2	126.2	138.6	96.2	168.4	101.1	73.8	117.0
SPH1425	861	582	522.9	210.9		691.9	743.2	690.8	723.0	583.7	576.4	405.3	965.0	316.7	439.0	545.7	342.3	571.0	242.5	333.5	196.4
SPH1426	360	478	624.0	374.4		1041.7	954.6	965.7	1065.3	694.1	754.6	411.0	1428.5	281.2	301.3	528.7	407.2	394.5	428.4	180.9	146.9
SPH1427	861	706	436.5	143.7		633.9	479.6	563.5	678.3	501.9	474.3	340.0	660.1	389.0	322.8	326.0	431.3	281.9	413.4	283.8	203.5
SPH1428	357	1057	284.6	100.2		216.8	269.0	328.3	268.9	232.5	183.1	290.1	275.5	171.2	311.9	471.6	206.9	502.4	409.4	231.5	183.8
SPH1429	201	607	501.8	164.9		539.8	510.5	551.2	360.8	523.4	295.3	387.5	473.7	751.1	666.2	706.1	286.9	766.2	468.6	520.1	221.1
SPH1430	582	1356	217.9	75.5		252.5	353.6	334.1	280.6	241.0	175.7	145.3	273.4	212.5	222.4	247.6	131.4	206.9	214.5	95.8	98.6
SPH1431	723	2599	98.7	28.8		99.5	142.9	127.8	128.8	89.0	99.0	53.2	123.0	97.4	95.2	76.0	149.5	64.8	61.0	85.8	85.9
SPH1432	915	3298	73.7	14.7		70.4	91.2	88.8	74.5	63.9	67.5	56.3	110.0	78.0	67.8	76.5	84.1	62.0	52.0	61.5	74.6
SPH1433	261	544	553.5	210.7		513.4	642.7	629.2	713.9	348.9	448.5	362.8	1050.7	733.0	624.2	449.5	766.7	183.4	588.3	470.5	329.6
SPH1434	429	788	387.7	118.0		405.6	536.0	466.1	428.4	302.7	327.5	292.2	674.8	384.5	500.2	427.4	282.0	348.5	190.4	297.8	339.5
SPH1435	540	3833	58.5	13.5		69.8	72.0	58.4	65.7	50.9	51.4	48.8	85.5	83.5	46.5	45.8	63.7	45.9	45.0	46.8	55.6
SPH1436	1710	3351	72.0	20.9		76.9	83.6	71.6	70.3	55.1	57.2	53.4	122.8	79.1	54.7	68.4	85.8	47.5	64.0	52.3	108.7
SPH1437	771	3170	77.6	11.7		72.0	76.9	77.2	84.2	56.2	71.5	63.1	87.9	70.5	70.1	73.8	105.9	82.6	74.5	84.6	90.3
SPH1438	1302	3561	66.3	17.1		61.2	67.1	90.5	56.2	51.1	54.8	50.1	115.7	80.3	65.4	65.4	70.5	56.6	65.8	51.2	59.1

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1439	1677	2987	82.8	28.8		63.0	117.9	101.2	72.6	71.8	79.8	57.7	163.9	52.0	77.2	64.1	115.3	63.6	76.4	68.5	79.7
SPH1440	594	1959	140.6	49.6		106.4	156.9	189.4	170.0	83.9	80.3	127.2	255.7	131.7	91.1	178.5	119.7	136.1	182.8	70.4	168.8
SPH1441	648	1957	140.6	52.2		75.3	153.6	177.1	152.9	94.0	72.5	127.7	238.4	153.9	103.5	209.7	91.7	185.9	209.2	102.1	102.5
SPH1442	2331	3316	73.1	27.1		52.8	61.8	64.7	90.3	60.1	71.8	64.3	80.4	52.4	77.5	61.7	70.0	62.7	70.5	60.6	167.9
SPH1443	1230	2331	113.5	29.1		77.1	134.0	132.4	136.4	83.6	101.9	103.9	167.5	87.8	98.1	120.9	123.2	73.1	115.3	92.7	167.5
SPH1444	555	2591	99.0	25.4		72.2	110.1	111.9	126.3	83.9	64.7	71.4	156.5	119.9	95.2	88.6	117.5	67.8	99.4	82.4	116.5
SPH1445	1185	2465	105.7	32.6		87.8	113.8	102.8	101.0	62.6	111.0	79.2	111.1	78.5	93.3	107.0	186.2	72.0	88.0	132.6	163.5
SPH1446	714	3567	66.1	15.0		65.8	80.8	73.2	73.8	55.5	57.6	55.1	107.6	65.2	51.1	64.4	81.8	51.7	49.8	58.1	65.8
SPH1447	1230	2995	82.6	26.1		61.5	105.0	77.1	74.0	65.5	90.1	58.1	146.0	59.9	72.5	67.1	129.4	60.0	66.5	88.1	101.1
SPH1448	441	616	496.1	271.6		639.9	566.7	427.6	440.6	817.4	1116.6	530.2	1000.0	327.0	355.2	278.6	356.7	261.6	197.1	342.1	280.3
SPH1449	498	2885	87.0	19.1		84.1	82.1	83.9	97.0	72.7	79.0	69.6	147.7	79.4	72.5	76.8	94.9	87.0	68.3	101.4	95.3
SPH1450	405	3592	65.4	11.6		72.0	69.6	63.5	76.9	63.8	67.3	43.9	75.7	65.0	49.4	60.3	75.4	50.1	56.4	68.8	88.4
SPH1451	906	1563	185.3	50.0		254.5	251.6	220.4	203.3	229.4	162.8	123.1	269.7	170.6	165.7	165.4	123.2	142.7	217.2	124.8	140.5
SPH1452	231	548	549.4	202.8		545.8	449.5	383.8	401.2	477.2	480.2	549.5	364.5	698.5	822.1	378.4	350.4	761.9	411.2	1073.8	642.3
SPH1453	453	1821	152.3	24.4		154.7	130.1	163.7	156.8	163.0	125.7	137.4	169.9	137.4	143.4	142.3	121.8	187.6	194.6	189.7	118.5
SPH1454	2217	1157	259.4	67.4		198.8	289.6	290.4	294.7	234.6	221.7	271.7	328.1	232.7	230.8	190.6	338.6	167.3	165.9	415.0	280.4
SPH1455	840	617	495.7	200.9		640.2	512.7	532.9	461.5	489.8	468.4	524.1	482.4	362.7	496.2	785.9	304.7	1014.0	438.0	260.3	157.5
SPH1457	138	1223	245.2	63.5		340.7	249.2	181.5	172.8	335.1	221.9	207.1	134.4	288.0	361.0	234.8	260.2	280.0	240.8	204.7	210.8
SPH1458	1587	2431	107.5	37.7		103.5	134.6	97.9	77.8	132.2	91.9	126.3	66.2	120.0	133.5	118.6	69.9	214.9	77.9	69.9	84.9
SPH1459	1044	3461	68.9	15.1		99.6	89.9	47.6	53.8	80.1	74.7	53.3	68.8	64.0	75.0	56.1	70.5	51.8	68.1	60.8	88.1
SPH1460	729	1015	294.2	152.6		387.9	774.0	300.8	224.0	317.6	334.7	205.4	263.9	326.3	291.5	333.7	114.0	339.5	227.3	155.3	111.3
SPH1461	759	425	705.0	360.4		554.5	818.3	385.0	324.3	471.2	655.4	689.0	380.5	1119.6	1169.8	254.6	146.9	1060.5	918.2	1212.9	1118.9
SPH1462	843	2346	112.5	34.1		131.4	189.0	100.5	84.4	99.0	94.2	94.7	105.1	109.1	182.8	55.2	135.6	105.8	96.3	121.7	95.5
SPH1463	873	2509	103.8	20.0		91.2	127.2	80.1	106.8	98.0	135.5	67.2	107.4	115.4	109.2	78.6	141.3	100.0	104.8	94.2	103.1
SPH1464	516	2401	109.3	23.8		78.4	96.2	90.5	122.9	100.9	160.4	125.2	98.7	88.9	131.9	116.6	85.8	151.4	91.6	96.5	112.8
SPH1465	1452	3854	57.7	8.6		63.5	45.4	48.5	51.6	49.9	65.4	58.2	50.5	49.5	57.1	53.8	73.4	54.2	64.7	68.7	68.5
SPH1466	1089	3952	52.3	6.8		58.5	45.7	47.7	56.3	43.5	59.3	48.1	43.5	52.3	47.4	52.1	54.3	58.3	46.8	67.7	56.0
SPH1467	198	1457	199.6	222.7		52.6	47.6	220.2	61.4	102.1	62.7	370.9	142.6	71.5	303.0	468.5	53.2	883.3	198.9	101.7	53.9
SPH1468	2130	3975	48.9	5.6		42.4	40.7	39.0	49.8	42.0	52.5	51.4	44.1	55.7	48.9	51.8	50.6	49.4	50.6	57.6	55.2
SPH1469	507	3858	57.6	12.9		46.3	47.6	47.7	55.3	48.5	89.1	49.7	48.8	57.3	52.8	58.1	58.3	55.7	49.2	76.7	79.8
SPH1470	3087	3369	71.3	18.4		57.0	58.3	54.1	90.7	51.8	75.9	63.9	61.1	88.2	71.0	60.2	102.3	57.6	60.6	74.3	113.6
SPH1471	600	81	2980.1	1859.5		3392.3	2369.7	2257.3	2538.9	5989.6	6790.0	3873.4	1967.3	2230.2	1717.7	1642.3	1195.3	738.5	905.1	5414.9	4659.7
SPH1472	285	923	324.6	101.6		290.5	237.5	321.2	254.4	340.2	298.0	340.7	264.5	299.3	405.8	334.4	249.6	555.7	542.3	277.6	182.2
SPH1473	381	1698	168.4	74.6		133.6	103.6	133.0	134.9	183.4	91.1	130.9	114.4	197.8	161.1	141.8	336.8	127.0	139.8	339.7	225.2

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1474	1653	2187	122.1	44.7		125.1	66.8	141.8	189.7	133.7	86.4	101.6	114.7	79.3	115.7	148.9	244.8	93.2	123.7	95.8	92.1
SPH1475	2121	818	369.5	304.1		1053.4	366.4	385.5	488.2	1108.0	285.4	306.7	462.9	188.8	93.4	296.3	341.4	99.1	120.9	140.7	174.4
SPH1476	1017	187	1463.9	783.5		2106.5	2333.1	1596.7	1814.6	2196.6	2632.2	940.4	2712.9	1469.0	968.6	1193.8	1508.2	343.2	514.8	582.6	509.6
SPH1477	627	303	956.0	531.1		1063.3	1818.8	1393.3	1283.1	1010.0	1707.9	473.9	1480.8	1251.4	510.8	781.3	1260.3	164.2	450.1	387.1	259.2
SPH1478	1710	1304	227.0	99.7		312.0	315.5	301.7	278.0	383.3	190.2	202.6	348.2	136.7	74.9	210.8	247.4	77.8	313.9	126.9	112.6
SPH1479	525	1023	292.4	100.8		189.7	347.4	420.5	326.0	226.0	208.5	201.9	355.3	170.8	207.1	335.0	214.6	328.6	548.7	279.0	319.9
SPH1480	468	1225	245.1	104.6		160.8	259.0	281.2	262.8	222.8	139.1	180.0	306.1	164.2	179.9	237.0	213.3	258.6	593.5	203.9	259.6
SPH1481	585	1637	177.2	84.6		110.8	166.4	166.0	148.2	129.9	147.3	130.8	197.6	93.5	164.7	152.7	124.8	178.7	459.0	232.2	232.7
SPH1482	495	1911	144.2	41.4		109.7	138.8	133.8	157.3	146.1	139.3	116.9	150.7	113.7	162.3	105.3	175.2	122.2	280.6	123.5	131.0
SPH1483	1323	3500	67.8	16.4		57.0	52.4	65.6	64.4	48.0	71.6	55.5	67.6	61.6	81.6	53.9	83.9	67.9	58.7	80.5	114.5
SPH1484	729	1367	216.2	43.4		251.1	224.0	246.0	266.8	268.7	208.8	152.2	283.2	204.7	201.1	193.0	263.0	144.7	166.1	179.2	206.4
SPH1485	654	3926	54.1	10.6		55.4	49.5	52.7	53.2	42.1	48.1	49.3	48.1	79.8	47.0	62.4	49.1	44.9	71.1	45.5	67.6
SPH1486	1515	1170	257.5	55.7		309.6	224.3	238.2	224.9	317.9	281.8	226.0	358.5	201.4	287.3	193.9	232.7	168.5	220.5	298.3	336.1
SPH1487	687	1085	277.2	338.6		1301.1	879.3	169.7	124.8	108.0	98.9	150.8	203.5	443.9	267.0	162.4	85.9	140.4	135.7	85.1	79.1
SPH1488	1371	3011	82.3	21.6		97.0	79.7	87.8	64.1	63.1	73.5	96.2	80.2	47.1	71.8	90.4	66.2	138.7	86.9	67.0	107.6
SPH1489	1914	1846	149.3	68.5		104.1	86.9	174.5	125.9	106.4	70.7	205.3	151.4	120.4	168.2	265.0	112.6	325.3	167.9	112.9	90.6
SPH1490	1584	3360	71.5	15.7		61.1	49.4	56.4	69.1	53.6	66.1	88.6	69.4	94.0	78.6	98.8	63.4	74.1	55.9	70.3	95.8
SPH1491	1326	2755	92.3	55.3		62.4	52.5	98.8	57.5	56.4	58.0	187.7	63.4	61.3	86.9	147.4	58.2	246.3	97.4	72.8	70.2
SPH1492	651	1866	147.7	122.1		59.9	68.6	118.8	57.5	80.7	96.6	348.8	89.1	75.1	171.8	276.4	76.0	488.3	137.8	148.4	69.7
SPH1493	864	2042	134.4	43.1		74.7	85.6	97.4	130.4	92.1	104.2	151.7	104.8	150.7	149.0	126.1	210.6	112.4	158.3	189.5	213.5
SPH1494	891	2125	127.0	71.7		92.1	103.0	114.2	85.7	140.0	91.0	158.0	114.4	70.0	135.0	167.3	81.9	141.8	371.4	90.2	76.1
SPH1495	1173	1808	153.5	75.3		103.2	165.2	147.1	154.0	133.5	173.7	98.0	153.7	110.4	146.4	111.5	154.4	95.2	419.4	161.6	129.1
SPH1496	747	1418	207.8	161.2		120.2	169.2	161.3	204.1	143.3	103.0	153.5	144.9	185.5	109.4	103.7	142.9	90.0	703.1	367.3	422.9
SPH1497	1245	851	353.2	103.8		361.3	492.0	530.5	472.6	285.3	299.9	354.1	415.1	358.6	357.6	411.6	432.3	178.5	195.5	259.8	245.7
SPH1498	570	384	769.2	376.3		662.6	560.6	821.8	549.3	701.2	592.3	1176.0	489.1	768.4	946.1	1114.1	480.8	1892.5	673.3	529.1	349.3
SPH1499	1419	119	2104.1	2469.9		921.8	1471.1	1496.3	1713.1	846.0	1073.1	7213.5	1807.3	622.1	353.4	944.1	1098.8	173.3	253.5	7444.8	6233.3
SPH1500	468	893	334.8	78.3		443.9	426.7	420.3	427.5	358.4	243.1	336.8	308.0	422.1	277.9	276.8	294.4	187.6	247.9	323.3	362.1
SPH1501	1095	532	561.1	554.0		274.8	319.5	473.2	448.0	212.7	268.1	1820.4	309.6	238.0	260.1	308.3	264.6	292.4	331.6	1728.0	1428.8
SPH1502	1509	279	1042.6	1811.7		228.8	232.5	354.1	479.0	171.8	158.0	6100.9	276.4	132.2	175.8	254.7	249.2	193.0	130.2	4012.3	3533.3
SPH1503	633	2844	88.7	36.7		92.3	100.6	99.1	96.0	77.5	100.4	211.9	104.7	62.0	59.1	66.9	77.2	68.4	69.1	77.7	55.7
SPH1504	717	3385	71.0	13.5		74.9	88.0	60.2	66.2	60.5	101.9	71.1	66.6	58.6	66.1	58.4	75.1	52.6	64.6	91.9	78.6
SPH1505	861	3569	66.0	12.1		55.5	59.1	65.0	50.4	72.9	64.9	64.1	61.8	65.4	56.0	65.6	57.7	70.6	73.5	68.9	104.4
SPH1506	420	1728	163.1	54.4		228.4	216.7	189.4	137.0	242.5	159.6	103.5	240.8	122.4	167.7	163.5	95.3	212.4	152.0	101.8	77.3
SPH1507	555	2866	87.8	18.1		80.8	80.6	74.8	82.0	99.2	86.2	58.1	81.6	93.4	97.3	70.6	103.4	66.7	86.5	113.6	129.9

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1508	333	905	331.2	185.5		235.3	287.7	291.4	247.1	173.0	189.7	276.0	237.6	541.3	805.9	220.0	141.0	652.7	344.2	422.8	233.6
SPH1509	768	510	588.6	261.4		495.7	613.7	994.3	909.7	328.1	364.7	535.8	1027.3	596.8	545.1	979.5	478.0	413.8	637.0	292.5	205.5
SPH1510	1413	1736	162.0	96.6		91.2	132.5	232.2	220.2	64.3	81.8	119.5	453.4	252.5	165.6	172.4	191.0	104.1	116.0	108.6	87.1
SPH1511	693	1793	155.1	46.6		96.0	125.7	164.1	186.8	95.5	148.1	139.7	245.5	197.4	204.3	115.9	234.8	143.6	117.0	117.2	149.7
SPH1512	1029	1278	232.3	135.9		279.7	349.4	417.6	431.2	213.0	180.5	150.8	466.5	114.7	75.8	284.5	339.4	71.6	89.9	153.3	98.8
SPH1513	237	745	409.7	273.8		435.6	568.9	792.3	805.8	289.9	266.1	262.9	737.3	186.7	138.1	686.9	798.5	117.5	123.4	171.8	172.7
SPH1514	1569	1958	140.6	72.3		179.9	214.1	232.8	213.2	140.5	103.2	107.9	280.7	152.1	62.9	156.7	174.7	43.9	50.1	67.4	69.7
SPH1515	1269	1461	198.9	97.3		266.0	330.9	302.5	262.5	210.0	274.9	121.5	385.9	94.0	103.1	158.9	220.4	79.0	78.4	115.8	178.6
SPH1516	375	805	377.0	425.9		133.4	92.8	262.2	291.7	138.0	107.9	168.5	242.3	1853.1	670.4	200.6	317.6	615.9	307.2	314.8	315.4
SPH1517	987	2206	120.6	44.7		169.9	177.9	80.2	100.2	198.2	94.5	71.2	78.9	209.4	139.2	90.0	109.0	115.1	107.5	79.3	109.9
SPH1518	849	611	498.0	221.6		538.3	495.5	791.1	907.5	387.3	357.8	322.0	804.8	247.7	573.5	643.9	368.0	679.1	460.9	184.7	205.7
SPH1519	783	2084	130.8	57.2		137.9	140.3	156.7	139.3	127.5	124.3	78.0	305.2	161.0	171.4	99.0	81.3	135.9	84.9	89.2	60.2
SPH1520	693	3553	66.5	9.6		60.0	59.8	56.9	64.0	53.7	64.9	64.4	81.1	73.2	72.2	67.3	58.7	79.6	55.9	85.9	66.8
SPH1521	735	3348	72.0	12.2		66.5	64.4	65.5	84.6	61.5	74.2	64.4	82.5	68.4	63.2	89.9	59.0	102.9	74.7	60.6	69.3
SPH1522	1284	2695	94.7	22.8		100.8	101.6	82.1	81.4	76.0	76.1	71.8	132.5	120.8	92.1	75.3	94.8	65.9	81.9	132.6	129.4
SPH1523	3924	1172	256.3	95.6		343.7	462.5	302.1	286.4	385.6	262.0	163.2	302.6	275.1	216.8	253.9	266.6	114.3	111.4	158.6	195.8
SPH1524	1017	2099	129.1	60.4		287.2	179.0	103.0	90.2	219.4	189.7	106.2	140.9	99.4	117.8	78.0	119.6	70.1	80.0	82.0	102.2
SPH1525	957	2552	101.2	23.9		121.0	109.2	110.5	94.8	94.9	78.6	176.5	91.5	83.3	82.6	104.8	74.1	93.9	94.9	112.2	97.2
SPH1526	1149	1115	270.7	80.6		303.9	294.8	382.0	336.8	174.7	177.6	357.6	284.4	197.9	275.5	422.4	295.7	264.8	210.7	215.8	137.4
SPH1527	603	2250	117.7	35.6		135.6	150.3	160.0	195.8	121.4	79.7	95.1	145.6	91.0	77.3	92.6	146.6	68.3	100.4	98.3	125.7
SPH1528	1179	1884	146.3	36.7		140.0	129.4	137.0	109.3	143.5	142.0	166.7	194.0	117.7	159.4	187.5	90.4	230.2	168.6	116.4	108.0
SPH1529	1455	1287	230.2	78.9		367.6	326.8	231.5	217.0	333.2	292.2	283.0	311.2	183.8	191.2	181.8	143.9	150.3	208.7	153.9	107.7
SPH1530	852	2701	94.5	31.5		80.8	85.9	96.1	72.6	77.0	59.6	110.0	75.5	71.2	70.9	131.1	96.5	130.2	184.4	79.5	90.3
SPH1531	741	2440	106.6	23.0		103.3	98.8	128.2	97.0	100.7	98.7	111.4	92.5	68.6	88.7	142.5	116.2	118.4	162.0	86.0	92.7
SPH1532	333	1525	189.4	49.9		173.8	166.9	215.7	197.8	165.3	107.6	201.0	137.7	94.7	177.0	270.9	214.2	224.8	269.5	229.7	183.1
SPH1533	270	3041	81.3	17.8		77.4	52.6	80.9	64.9	80.9	85.7	98.2	72.4	67.7	87.7	96.9	69.5	125.9	99.1	78.1	62.9
SPH1534	3645	3800	59.3	9.5		65.3	50.4	54.6	68.2	49.7	53.9	51.7	60.0	78.9	54.9	49.9	63.7	50.6	53.3	73.4	71.0
SPH1535	1587	3468	68.7	16.3		63.0	58.8	56.2	62.9	53.8	95.6	66.0	63.5	50.3	81.5	62.1	73.7	67.2	60.4	70.8	113.9
SPH1536	1776	3573	65.9	12.7		54.4	46.0	61.0	64.5	56.1	50.7	64.9	68.4	73.8	63.1	80.6	83.5	71.1	54.3	68.1	93.6
SPH1537	1095	3875	57.1	12.1		53.6	54.3	43.1	50.6	44.5	79.3	51.9	42.5	50.7	56.2	51.9	76.7	61.9	52.8	63.5	79.7
SPH1538	582	3798	59.4	7.9		71.7	48.7	48.2	56.8	48.0	62.6	63.1	52.7	61.5	55.3	69.8	56.3	65.5	56.5	61.7	71.8
SPH1539	411	2785	91.0	23.7		68.6	60.6	81.3	87.9	63.0	80.3	107.5	76.1	78.0	86.0	124.2	112.4	140.1	72.2	122.3	95.1
SPH1540	780	1368	216.1	49.1		198.7	184.0	204.3	163.2	231.9	173.2	207.2	184.4	190.3	198.8	298.2	148.7	322.6	246.7	279.8	225.2
SPH1541	2436	3747	61.2	10.3		69.3	61.4	51.0	61.0	51.9	57.6	57.6	55.4	63.5	50.7	53.0	71.7	58.9	56.9	67.3	91.7

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1542	270	2692	94.7	19.4		123.1	125.8	97.2	112.0	101.9	83.0	83.6	130.4	84.7	72.1	75.8	86.2	67.3	82.1	98.4	91.5
SPH1543	894	2648	96.5	15.7		105.3	90.6	84.9	106.9	95.0	110.6	76.3	115.0	106.5	91.8	90.0	130.3	66.1	88.0	87.7	99.3
SPH1544	1128	3550	66.6	10.8		61.7	81.1	63.8	69.4	73.5	73.8	54.4	67.4	92.6	68.8	62.5	59.9	53.2	71.6	60.8	50.4
SPH1545	1470	2376	110.9	24.9		65.2	87.6	99.4	127.2	96.6	110.2	113.6	114.6	77.6	131.4	111.8	162.9	145.7	102.7	97.9	129.4
SPH1546	999	3661	63.4	11.9		58.4	54.3	65.9	69.0	57.9	60.0	59.5	64.3	79.6	55.4	59.8	65.7	68.5	48.6	50.5	97.7
SPH1547	801	2397	109.4	45.6		72.2	52.7	94.1	92.7	79.1	65.4	236.6	80.5	119.8	105.2	132.3	99.6	165.1	97.1	102.6	155.9
SPH1548	1977	3268	74.6	10.5		74.1	58.1	68.5	77.6	63.3	62.8	75.5	63.1	70.0	71.3	96.7	83.1	84.9	73.3	82.5	88.3
SPH1549	567	3795	59.4	15.0		62.6	44.5	48.5	59.1	49.3	78.8	47.8	45.3	58.0	54.6	47.1	89.8	52.5	50.6	77.9	84.6
SPH1550	687	3645	63.9	10.6		59.8	52.9	58.2	66.9	53.1	51.7	64.0	55.4	66.5	63.8	66.0	78.5	64.7	54.1	90.2	75.9
SPH1551	363	3028	81.7	18.8		84.5	54.7	63.9	86.7	61.2	71.0	74.0	70.2	100.4	88.7	82.5	105.6	78.0	59.1	115.1	111.8
SPH1552	1782	2143	125.7	105.3		67.0	60.9	68.5	68.2	58.8	69.8	195.9	59.8	83.8	127.4	104.4	94.0	155.2	67.4	446.7	282.5
SPH1553	1272	1231	243.3	81.6		272.4	154.7	151.6	207.6	358.6	262.9	413.9	137.0	263.3	285.7	176.4	207.5	273.5	136.8	324.6	267.1
SPH1554	711	938	317.0	174.7		174.4	158.1	406.9	250.1	234.4	133.4	471.3	259.0	243.0	397.3	559.9	216.4	778.6	399.5	220.9	169.2
SPH1555	3636	3082	80.0	17.6		67.6	66.8	92.3	77.3	59.7	68.8	99.6	77.5	55.4	68.0	90.2	85.7	81.7	127.3	74.4	87.7
SPH1556	1173	1029	291.2	140.8		181.1	225.5	482.4	343.5	209.9	208.3	429.3	276.1	102.0	256.1	569.4	224.4	477.4	389.1	168.2	116.5
SPH1557	318	980	301.1	450.3		145.3	145.4	133.1	181.3	124.7	142.3	188.8	117.5	210.7	246.6	130.8	452.7	133.1	1957.4	320.0	188.4
SPH1558	633	235	1219.6	837.3		1779.4	1313.5	1487.0	1531.8	1175.0	1251.6	579.7	2122.2	738.6	532.2	1130.3	1177.6	349.9	3632.9	434.2	278.0
SPH1559	546	1068	282.5	139.0		322.7	161.6	252.6	217.5	282.0	177.7	203.3	295.4	220.5	245.0	308.4	294.7	234.0	771.7	304.6	228.4
SPH1560	636	1576	183.6	116.4		125.9	204.9	261.8	128.0	568.3	85.8	96.4	151.4	102.0	99.5	160.4	180.5	121.8	234.5	241.2	175.4
SPH1561	636	1634	177.5	147.1		146.9	229.8	250.5	140.2	689.8	104.3	80.6	151.0	67.6	104.2	197.2	194.5	89.8	108.7	183.4	100.9
SPH1562	216	1571	184.0	102.5		131.9	194.7	231.7	160.3	496.5	151.9	89.6	144.2	137.6	86.0	186.4	160.7	86.6	129.4	290.5	265.7
SPH1563	930	2816	89.8	29.4		62.6	60.0	72.5	80.1	65.5	78.3	91.8	65.2	95.3	99.8	103.1	97.6	109.0	102.5	72.6	181.6
SPH1564	543	1485	195.6	159.3		186.3	93.3	100.3	106.0	183.9	88.4	268.1	79.0	124.3	103.6	105.1	71.3	173.4	554.7	569.3	322.4
SPH1565	5769	2608	98.3	22.2		108.8	138.7	124.3	93.9	105.0	112.6	105.0	126.0	77.8	68.7	113.0	102.0	70.4	71.5	80.5	75.2
SPH1567	399	1780	156.7	71.4		119.3	114.1	139.6	105.5	283.3	115.0	203.1	116.4	122.4	114.0	250.9	104.1	326.4	177.1	95.5	121.4
SPH1568	309	2841	88.8	20.9		80.6	89.6	78.2	60.7	127.4	124.6	97.7	66.0	73.9	93.6	91.9	64.8	107.1	79.2	114.1	71.5
SPH1569	897	3785	59.7	12.5		55.8	60.7	52.1	68.1	54.2	52.5	55.6	50.4	69.2	57.6	39.9	86.0	48.1	68.6	53.2	83.6
SPH1570	1050	3359	71.6	15.9		68.1	71.0	53.6	62.7	57.1	74.5	56.3	59.4	67.5	78.2	52.2	93.3	70.4	83.0	109.9	88.0
SPH1571	555	3060	80.7	18.8		71.9	82.0	63.3	69.9	70.4	78.0	76.8	65.7	112.9	74.2	75.2	79.4	60.2	102.2	79.4	130.4
SPH1572	519	1169	257.6	110.0		185.2	243.3	234.7	134.2	231.8	301.2	283.7	139.6	309.0	328.6	291.6	138.4	312.1	576.7	276.1	135.2
SPH1574	204	636	481.9	118.3		366.7	562.4	428.3	347.7	581.9	618.4	418.8	343.9	623.0	646.0	457.1	266.0	553.6	603.0	472.3	421.7
SPH1575	849	1061	284.0	186.4		186.0	232.1	199.2	101.9	333.7	326.9	300.0	123.0	651.9	657.0	349.8	107.4	509.2	288.6	114.1	63.8
SPH1576	165	3286	74.0	23.7		60.3	81.8	57.6	51.7	73.4	83.1	64.8	54.7	145.5	107.5	70.4	51.2	76.0	65.7	72.4	68.4
SPH1577	555	2579	100.2	26.1		103.7	104.9	69.2	85.6	99.6	120.2	103.5	64.2	128.7	168.7	78.7	110.4	100.7	66.9	106.8	91.1

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1578	1623	1136	265.4	181.7		209.0	228.5	145.6	110.3	350.4	290.1	264.8	145.1	753.8	627.8	185.2	89.5	244.2	280.9	161.8	159.6
SPH1579	1308	829	361.8	207.7		304.4	312.7	184.8	180.6	337.1	303.1	265.4	128.4	646.8	708.1	170.3	240.8	250.2	835.0	436.8	484.7
SPH1580	1293	1148	262.0	108.6		271.1	440.2	411.0	317.4	284.9	323.3	257.9	432.1	194.8	143.3	310.8	266.5	133.9	115.3	151.0	138.8
SPH1581	972	1815	152.8	78.6		226.3	308.0	239.7	219.7	160.7	114.4	119.3	286.6	105.9	74.8	120.4	137.3	64.4	68.1	85.4	114.3
SPH1582	501	1372	215.6	100.2		246.1	396.3	280.9	352.6	169.9	164.5	122.2	339.3	192.6	112.1	193.1	328.2	67.6	128.2	112.6	243.2
SPH1583	447	2100	129.0	58.4		107.7	259.6	207.3	210.3	97.0	130.6	78.0	185.3	116.5	66.3	96.4	156.2	55.7	111.5	92.9	92.5
SPH1584	717	710	434.6	264.7		344.7	324.2	395.1	327.7	335.7	279.0	521.5	257.6	246.5	320.3	286.1	226.0	345.4	884.3	1184.6	675.4
SPH1585	1437	2103	128.9	24.3		166.9	156.1	120.9	107.3	130.0	115.6	143.7	106.3	99.1	114.0	147.6	99.5	158.1	168.2	121.1	108.2
SPH1586	891	1588	182.9	100.4		126.3	95.4	172.9	103.8	131.5	96.2	247.4	133.3	112.2	254.0	230.2	148.8	379.2	426.6	158.0	110.1
SPH1587	783	1264	236.2	167.3		149.1	117.9	251.5	112.8	171.4	107.3	404.0	169.1	127.5	241.7	443.0	157.0	713.9	361.5	117.8	133.8
SPH1588	2001	2438	106.7	41.7		62.0	80.7	131.6	69.2	71.1	90.8	141.5	85.2	66.0	176.8	131.1	88.6	207.6	86.0	105.9	113.5
SPH1589	174	2613	98.1	54.6		60.6	61.2	110.9	63.9	48.7	72.7	130.2	69.7	59.4	130.0	163.9	81.0	264.4	71.3	87.5	93.7
SPH1590	303	1379	214.3	221.8		95.8	82.4	285.6	97.5	104.7	74.0	400.3	122.5	126.2	282.1	536.1	72.4	871.8	97.1	102.0	78.9
SPH1591	1779	3545	66.7	14.0		73.5	44.3	57.3	70.2	44.7	64.6	62.8	64.0	67.9	58.0	82.0	77.6	89.0	56.9	61.3	93.7
SPH1592	333	2437	106.9	28.9		132.3	112.9	118.0	121.1	88.5	79.3	81.8	142.5	150.9	128.5	99.7	150.7	75.8	68.0	91.0	68.8
SPH1593	2946	3158	77.9	8.7		78.3	75.7	82.1	81.1	76.3	70.8	78.8	76.8	68.4	70.4	91.1	81.1	97.6	60.0	75.9	81.5
SPH1594	1506	1648	175.1	44.0		127.1	128.1	194.9	206.7	138.6	106.1	207.8	194.7	217.4	194.5	208.4	186.8	262.4	131.9	122.6	174.3
SPH1595	414	1596	182.3	48.2		147.3	151.4	219.9	201.5	159.1	127.7	195.0	283.9	220.2	169.7	238.6	192.5	206.0	109.8	189.5	104.0
SPH1596	1095	1512	191.0	71.4		248.5	206.4	214.8	156.7	312.7	233.1	200.8	353.9	95.9	134.4	174.2	109.4	123.5	201.5	148.7	141.9
SPH1597	678	2144	125.6	31.2		132.0	116.7	133.6	105.0	193.1	91.2	150.8	139.8	89.4	128.8	125.7	97.8	186.3	125.2	95.1	99.5
SPH1598	714	3026	81.8	21.5		67.0	104.3	109.4	109.6	67.5	87.9	60.9	113.4	92.5	56.6	84.2	93.5	51.8	49.2	71.6	89.3
SPH1599	786	842	357.0	190.9		349.8	467.2	641.1	469.6	318.3	275.2	227.1	697.3	186.5	179.3	624.2	554.8	204.6	149.2	220.8	146.8
SPH1600	270	1680	171.5	78.1		191.9	292.4	253.4	332.8	179.5	151.8	75.7	250.0	152.7	99.1	178.8	182.8	80.4	99.8	137.6	84.5
SPH1601	852	1475	197.4	147.5		109.6	119.4	188.3	125.6	161.0	92.9	354.8	137.6	128.7	131.7	355.1	78.1	651.1	134.0	261.1	128.5
SPH1602	81	1207	248.4	155.3		193.3	134.7	142.8	272.0	163.7	205.3	236.7	108.2	127.8	226.5	221.0	531.2	179.6	335.8	205.4	690.4
SPH1603	114	3750	61.0	15.1		57.6	59.4	59.6	55.9	61.7	45.4	63.9	53.1	78.2	58.6	97.5	41.1	81.7	41.8	48.8	71.6
SPH1604	1356	3022	81.9	17.0		101.0	88.0	66.5	100.2	96.9	76.3	63.9	99.3	80.6	72.6	72.8	93.0	51.2	71.9	64.8	111.3
SPH1605	1386	2913	85.6	18.6		79.7	109.6	104.0	84.2	71.1	92.9	69.3	119.6	58.2	89.4	78.1	95.6	68.5	65.2	71.6	112.6
SPH1606	213	1726	163.8	48.8		146.7	214.2	222.8	219.7	133.0	138.5	126.6	202.3	134.2	135.7	196.1	239.3	112.6	94.3	205.8	99.2
SPH1607	1008	2058	133.0	56.0		105.1	82.8	113.0	107.8	80.0	101.2	165.7	94.1	134.8	176.8	247.6	117.4	272.1	101.7	113.0	114.5
SPH1608	831	3947	52.6	10.7		47.9	45.5	40.1	52.3	39.1	67.8	42.3	40.3	61.0	63.0	44.8	75.3	57.8	51.8	54.5	58.1
SPH1609	747	3881	56.8	11.0		42.6	38.2	48.9	52.7	45.2	54.2	56.6	51.6	54.6	59.8	64.4	67.0	78.1	55.8	63.8	75.7
SPH1610	1065	3396	70.8	13.0		58.9	52.2	60.6	60.0	61.1	70.0	84.8	56.3	70.3	91.5	84.1	65.3	90.5	84.4	63.8	78.4
SPH1611	1071	2583	99.8	25.5		76.9	69.2	93.1	61.6	95.8	111.4	87.1	83.8	84.7	102.3	85.8	109.3	138.2	158.0	113.9	125.7

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1612	1134	2170	123.2	44.7		89.6	63.6	120.7	103.6	97.4	70.1	160.1	101.6	99.2	134.5	155.1	106.3	246.2	120.3	131.2	171.7
SPH1613	2904	2679	95.2	28.5		70.6	60.4	86.6	80.2	71.5	66.7	109.5	85.6	99.4	93.4	89.5	93.3	172.1	93.8	142.5	107.8
SPH1614	1752	2004	137.0	66.8		105.3	109.7	120.7	158.0	103.0	69.1	198.4	105.1	80.7	76.8	144.3	129.5	87.2	142.6	318.7	243.7
SPH1615	897	1772	158.0	40.9		178.4	143.2	161.3	187.7	182.9	91.0	210.0	130.6	74.3	97.8	176.6	173.9	154.7	213.8	180.3	172.3
SPH1616	2307	8	16982.9	7433.0		29956.3	15504.1	13158.4	16916.2	32564.9	10768.7	14500.1	8853.5	11378.1	11376.6	16477.9	17822.4	30895.4	15297.7	13023.4	13233.6
SPH1617	1419	6	25040.1	8501.2		44018.0	30436.4	23013.6	27511.4	38120.9	23181.4	15012.6	15258.2	23554.7	28210.7	23678.8	21669.7	34700.9	21136.5	15967.3	15170.9
SPH1618	321	72	3311.8	1283.4		6099.8	3767.8	3543.2	4580.1	5157.1	2076.3	1475.6	2270.3	2484.3	3047.1	3407.0	3448.1	4565.9	1737.0	2666.3	2662.1
SPH1619	2019	2010	136.6	54.3		168.1	202.6	158.7	205.1	160.8	76.4	69.0	157.8	112.6	98.0	165.4	248.8	75.3	86.9	99.1	100.9
SPH1620	1365	3246	75.0	13.5		62.4	61.0	72.4	76.9	65.4	58.2	84.5	73.2	96.1	62.7	93.6	89.3	80.1	96.4	60.4	67.9
SPH1621	279	3104	79.2	12.6		71.5	73.1	66.2	75.8	66.7	73.1	77.2	69.2	86.4	83.0	73.6	97.7	70.5	89.7	80.8	113.3
SPH1623	1104	1749	160.1	91.8		154.6	166.7	136.7	109.7	209.7	232.9	109.1	135.0	140.4	119.5	127.9	86.8	175.6	468.1	96.4	92.6
SPH1624	1515	2603	98.5	70.2		70.6	79.1	67.8	68.9	100.8	135.1	78.2	58.8	76.6	76.4	64.8	59.7	109.1	350.9	84.4	94.2
SPH1625	840	356	831.8	548.8		526.2	438.1	420.8	495.2	781.1	525.5	791.7	325.6	1139.6	716.7	335.9	460.0	825.6	2061.1	1785.7	1680.2
SPH1626	924	1602	181.8	100.1		255.6	131.5	274.1	395.6	191.4	97.3	98.8	375.4	103.3	99.0	216.2	211.3	153.8	128.4	75.6	100.7
SPH1627	1509	225	1252.1	729.5		1877.0	1885.8	803.9	871.2	2386.9	2157.9	485.0	551.8	527.2	858.3	325.4	652.0	791.7	2063.5	2059.0	1737.2
SPH1628	999	3611	65.1	13.5		71.8	67.7	49.4	56.1	61.8	81.3	65.3	58.7	56.4	78.3	42.2	51.8	60.6	67.6	95.9	76.2
SPH1629	402	100	2455.4	1621.2		1554.7	1276.2	1320.5	1457.3	1734.2	1674.9	2503.6	1332.6	3101.8	2342.9	1505.1	1964.0	2933.0	1877.3	6300.9	6407.7
SPH1630	594	1167	257.7	84.8		327.8	335.3	279.8	230.3	368.4	340.5	183.0	334.6	392.9	249.7	223.1	220.7	185.2	132.1	205.4	114.4
SPH1631	972	224	1253.5	400.6		1441.3	1396.0	1380.2	1457.9	1464.0	1688.9	1000.8	1511.3	2021.3	1512.2	1152.7	1005.5	1061.0	556.9	892.5	513.1
SPH1632	2739	1445	201.8	53.6		224.4	276.4	238.1	210.7	220.8	203.7	215.3	297.6	126.3	133.9	197.8	269.9	140.4	164.8	181.4	127.9
SPH1633	729	105	2356.3	763.0		2313.5	2626.6	2275.0	2005.8	2797.0	1605.0	4420.0	1120.4	2820.8	2227.5	2590.2	2223.9	1990.8	1244.1	2867.8	2572.3
SPH1634	561	547	550.0	343.6		390.9	358.8	207.3	180.9	785.1	509.0	552.2	182.5	918.7	1271.9	224.8	158.8	967.4	476.3	940.7	674.5
SPH1635	168	292	1004.4	685.5		693.6	619.2	376.0	277.7	1427.4	697.6	1087.1	297.8	1580.2	1859.8	429.4	208.5	2549.4	871.2	1745.2	1350.5
SPH1636	702	2213	120.0	40.5		121.6	230.2	159.0	107.6	127.5	134.5	90.3	179.7	109.2	94.4	118.6	98.1	91.2	88.8	100.6	68.5
SPH1637	591	1440	203.1	52.0		200.0	186.6	165.7	207.6	197.5	168.1	138.2	230.9	216.3	234.0	158.4	300.0	100.4	238.9	213.1	293.9
SPH1638	1263	1936	141.9	84.7		113.2	101.2	105.3	119.9	127.0	80.1	120.7	131.9	168.0	111.1	101.9	144.3	85.2	441.6	129.7	188.6
SPH1639	624	2178	122.5	38.5		186.3	194.6	116.5	116.1	131.1	152.1	85.1	165.0	132.4	97.7	76.9	80.8	71.5	146.8	91.4	115.4
SPH1640	639	1413	208.6	81.1		376.1	301.2	191.0	170.2	290.3	251.1	101.2	277.9	231.6	218.2	124.8	109.6	146.6	266.7	168.6	113.3
SPH1641	798	1317	225.7	47.9		305.1	252.5	240.5	184.4	259.4	245.3	219.4	285.0	214.1	275.1	195.4	173.4	211.9	255.7	128.4	166.1
SPH1642	1395	1312	226.4	60.1		247.9	155.0	143.5	185.6	219.3	276.3	192.3	171.5	229.7	320.8	178.4	351.2	208.7	194.0	254.9	293.4
SPH1643	909	2393	109.8	38.5		74.0	87.2	103.6	72.4	91.0	99.7	109.2	90.4	90.0	137.9	120.5	88.1	216.3	176.8	115.1	85.2
SPH1644	669	1389	213.4	105.5		132.0	165.6	180.7	131.8	277.5	118.1	168.7	160.2	201.9	413.5	161.4	138.3	347.7	442.9	263.4	111.4
SPH1645	651	1975	139.0	41.5		83.3	101.1	148.4	130.7	118.8	74.1	135.7	110.9	129.5	139.9	146.1	126.2	210.8	176.3	229.8	162.8
SPH1646	3087	3179	77.4	10.8		60.4	70.4	72.9	84.0	66.2	67.6	62.1	83.6	86.1	85.3	82.7	83.5	100.4	85.5	71.0	76.3

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1647	1278	1664	172.5	51.3		150.8	147.1	162.5	164.8	119.5	120.2	115.3	160.1	239.2	201.8	134.6	181.2	164.6	319.7	195.9	182.5
SPH1648	1152	3389	70.9	22.1		66.4	58.4	47.5	70.4	57.2	91.2	54.0	54.9	58.8	77.4	64.4	133.1	57.7	68.7	68.6	105.6
SPH1649	546	3436	69.7	12.7		60.6	51.0	66.4	72.0	54.0	56.0	66.1	63.7	86.4	69.9	74.0	72.0	61.6	82.9	99.2	78.7
SPH1650	291	940	315.6	181.8		177.3	219.3	432.8	267.4	185.8	182.6	366.3	305.4	146.0	383.3	748.2	299.9	689.5	322.4	215.8	107.3
SPH1651	450	2715	94.0	33.0		68.0	97.1	142.8	106.7	72.0	65.1	82.3	91.0	68.1	64.3	174.5	139.6	105.0	92.9	63.4	71.6
SPH1652	1731	2585	99.5	22.0		83.4	76.6	80.0	109.5	81.5	63.0	87.9	100.5	156.2	120.2	117.6	101.5	104.6	113.7	98.7	97.8
SPH1653	1329	3577	65.8	10.7		53.5	63.6	63.6	54.3	52.9	87.3	59.7	60.1	64.3	88.2	64.4	74.4	74.0	62.3	60.0	69.9
SPH1654	684	3109	79.1	22.8		54.9	57.2	64.9	56.1	54.0	86.5	100.1	63.6	63.4	83.4	105.1	76.2	137.7	89.2	88.0	85.3
SPH1655	396	2604	98.4	24.4		101.2	74.9	90.6	101.3	78.1	83.8	155.7	86.2	113.9	75.7	99.7	81.8	85.2	108.2	87.5	151.2
SPH1656	1077	2588	99.2	32.1		69.6	57.9	75.1	82.7	76.8	86.5	135.6	85.0	105.8	93.2	100.1	108.0	100.4	84.2	139.4	187.8
SPH1657	639	264	1101.8	1053.5		595.8	348.3	910.9	403.0	760.4	686.7	1875.3	542.3	585.3	1695.6	1667.2	497.7	4636.8	774.1	963.4	686.2
SPH1658	936	2924	85.1	19.7		93.3	57.3	59.6	85.3	118.3	86.4	85.2	67.1	119.5	82.4	83.2	94.3	74.5	57.6	112.6	85.1
SPH1659	870	2874	87.5	17.4		89.9	96.6	76.6	90.1	101.9	71.9	83.7	92.3	135.4	81.2	71.2	64.8	74.7	71.4	103.4	94.2
SPH1660	1284	3206	76.5	16.3		65.6	78.3	65.4	89.1	75.2	87.3	56.5	95.7	66.6	71.3	73.7	123.0	68.8	58.5	78.1	71.4
SPH1661	714	3634	64.4	9.8		78.2	79.5	58.9	71.0	69.7	73.3	51.4	66.3	66.4	65.9	50.0	70.7	51.1	62.9	49.0	66.0
SPH1662	813	1862	148.1	35.0		214.3	206.2	196.8	146.3	153.3	157.3	122.3	163.9	153.1	150.5	151.0	104.0	108.1	117.8	121.4	103.5
SPH1663	189	526	567.0	199.3		589.0	697.7	660.5	436.3	561.3	412.5	569.1	585.1	557.4	796.2	785.7	350.7	1030.6	339.4	451.7	249.1
SPH1664	495	204	1361.3	639.0		2481.7	2461.4	1499.9	1802.8	1030.3	1630.1	552.2	2344.8	1370.2	1482.0	944.7	915.1	931.8	946.5	750.8	637.1
SPH1665	573	125	2037.8	1226.9		4581.8	4338.5	2389.6	2487.5	1620.0	2252.0	963.5	3638.6	1845.0	2188.0	1395.3	893.9	1577.3	939.5	845.4	648.5
SPH1666	525	1510	191.3	126.8		332.1	487.6	177.2	175.4	196.9	201.3	81.2	449.9	205.9	149.5	82.9	129.6	83.0	126.0	103.1	79.3
SPH1667	2145	859	349.1	203.4		693.0	663.7	379.5	329.2	344.8	403.9	252.5	770.2	408.0	350.3	210.6	139.2	194.2	162.3	165.0	119.2
SPH1668	6432	2802	90.3	37.4		124.2	152.9	73.4	79.6	85.5	89.8	49.4	186.4	95.6	63.3	59.8	74.9	58.1	60.2	77.0	114.4
SPH1669	1350	3020	81.9	13.9		91.8	101.7	101.6	99.4	83.8	63.3	76.0	98.5	88.7	68.9	87.6	66.8	70.7	64.9	75.3	71.3
SPH1670	648	764	398.9	234.7		321.2	230.6	320.1	292.7	365.3	200.3	326.2	272.5	295.9	305.6	277.3	313.3	291.3	930.6	927.6	711.2
SPH1671	528	3270	74.6	33.5		78.9	64.0	53.2	80.1	72.3	62.2	51.0	58.4	53.4	67.1	53.9	74.6	43.4	183.1	84.6	112.7
SPH1672	534	494	603.6	271.6		562.4	833.9	825.5	1021.3	440.2	585.0	258.7	871.0	730.9	706.5	592.8	682.1	179.6	926.5	240.5	201.2
SPH1673	474	1027	291.4	170.6		343.8	527.1	523.6	362.6	230.4	503.6	132.6	577.0	265.4	259.6	337.5	219.3	110.9	97.6	83.2	88.3
SPH1674	1344	1377	214.5	127.5		212.1	369.9	338.4	308.1	178.1	356.1	90.5	511.7	143.1	120.4	180.8	230.5	83.7	85.1	112.2	111.4
SPH1675	891	715	432.7	141.5		463.2	595.4	557.4	592.7	399.8	445.9	320.5	722.2	334.6	390.4	471.0	487.5	136.1	297.2	359.7	350.4
SPH1676	1464	2825	89.3	27.1		79.0	133.1	100.0	112.0	70.4	87.7	58.5	137.5	90.1	61.7	81.1	124.3	52.2	70.2	63.7	106.6
SPH1677	576	107	2311.3	1224.8		1422.2	2270.9	1143.2	1184.3	2821.5	5030.4	1709.7	1254.6	2156.4	2574.0	1012.5	1151.2	4551.4	2190.8	3198.5	3309.8
SPH1678	483	3477	68.5	13.7		73.1	70.4	57.6	54.2	60.7	52.6	73.6	54.8	83.1	59.8	86.6	65.2	75.5	55.2	72.6	101.3
SPH1679	1230	3284	74.1	14.7		55.8	58.5	63.9	69.7	58.7	69.7	79.6	64.6	73.2	74.5	84.3	66.6	80.4	84.7	86.2	115.2
SPH1680	939	686	451.2	187.4		477.6	503.8	654.9	778.4	422.4	355.8	377.7	439.6	346.9	348.5	614.3	812.2	193.7	239.9	465.4	187.4

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1681	462	172	1549.3	697.4		1211.0	941.5	1587.2	2028.6	1069.5	1073.0	942.3	974.6	1120.8	1121.9	1474.3	2545.5	827.4	2417.0	2812.1	2641.4
SPH1682	756	464	645.9	176.9		855.7	645.2	767.3	990.2	941.5	605.3	541.7	534.6	513.4	514.5	497.9	633.5	407.2	623.4	811.5	450.9
SPH1683	846	1535	188.1	60.4		237.8	238.8	257.4	294.6	253.7	171.0	126.6	225.4	190.7	145.1	144.0	175.9	88.5	217.8	126.0	116.8
SPH1684	828	2507	103.9	23.0		113.8	138.9	135.9	119.8	97.9	75.3	86.3	112.1	92.9	82.2	112.5	89.4	83.0	149.4	94.4	78.7
SPH1685	1878	2372	111.2	19.9		85.0	108.3	113.0	100.2	100.7	83.0	109.5	120.8	107.6	99.5	106.5	132.3	90.6	125.3	141.7	155.4
SPH1686	207	1994	138.0	36.5		98.6	142.5	131.9	181.7	95.2	157.5	89.4	161.8	141.7	153.9	104.1	213.2	94.9	109.9	162.7	168.7
SPH1687	1194	427	703.9	217.6		412.3	537.4	813.1	705.2	489.9	719.3	923.2	522.7	1054.7	1002.7	966.5	886.9	703.8	617.1	526.9	380.1
SPH1688	894	1159	258.9	124.5		255.2	360.0	369.0	295.6	270.3	295.1	147.3	580.7	158.6	155.3	256.3	207.1	126.9	397.4	137.5	130.1
SPH1689	1047	475	630.9	327.6		608.3	902.2	994.6	884.4	730.6	835.6	475.1	1379.5	698.3	397.7	725.5	437.5	380.8	301.4	219.0	124.5
SPH1690	996	678	454.8	207.8		399.5	673.4	718.3	653.9	363.3	424.9	386.1	936.8	267.7	375.8	535.2	357.1	531.6	291.8	210.7	151.3
SPH1691	348	713	433.3	229.3		295.9	573.4	706.5	473.9	302.7	449.2	357.1	975.5	219.9	339.0	653.1	416.0	649.3	230.9	161.3	129.8
SPH1692	987	1427	205.6	94.5		151.9	289.2	319.1	235.4	196.7	222.9	194.1	457.5	106.3	161.9	249.4	167.7	223.2	120.8	100.8	92.9
SPH1693	522	1759	159.1	62.1		129.0	262.4	223.4	164.3	167.8	111.8	140.9	310.6	166.0	130.5	179.4	111.2	157.4	88.9	126.8	75.8
SPH1694	822	455	658.2	295.0		796.2	870.4	1018.6	937.4	808.5	739.7	679.2	1269.0	562.2	452.0	667.9	552.5	431.2	217.1	340.3	188.6
SPH1695	1107	190	1448.1	591.2		1380.2	1669.8	1998.7	2130.5	1314.6	1309.7	1225.3	2996.6	1255.0	1120.7	1571.3	1693.8	1425.6	662.4	741.6	673.8
SPH1696	63	134	1938.9	848.6		1637.1	2344.9	3062.5	2749.5	1618.5	2102.2	1959.2	3700.8	1445.2	1381.7	2692.9	1810.8	2230.0	786.2	832.9	667.9
SPH1697	1338	729	423.1	207.6		447.8	611.8	629.9	583.4	442.5	477.3	433.0	958.4	241.6	223.4	432.9	387.3	325.0	155.5	262.0	157.7
SPH1698	1113	628	489.9	197.9		490.3	613.6	676.9	695.1	523.5	586.3	491.2	1009.5	392.5	417.5	456.8	366.2	333.2	272.4	297.5	216.3
SPH1699	771	577	527.8	209.7		501.0	590.6	656.9	701.4	579.5	659.1	435.3	1128.2	355.8	340.6	576.6	476.3	456.4	404.7	384.3	197.7
SPH1700	156	723	428.8	198.0		322.8	442.7	686.2	519.1	354.9	335.2	494.3	860.5	209.3	294.0	661.8	368.7	611.0	355.9	207.8	136.0
SPH1702	3765	1799	154.4	55.3		93.1	163.4	211.0	245.4	83.2	131.9	126.2	275.3	125.9	112.1	151.1	205.8	121.1	101.9	172.8	149.5
SPH1703	72	1011	295.5	135.0		151.7	266.7	298.5	388.3	130.5	275.3	191.4	430.7	237.7	206.9	280.7	694.3	219.2	393.8	293.0	270.2
SPH1704	1326	2102	129.0	74.8		66.5	169.4	241.5	211.2	67.5	75.1	93.1	317.2	89.2	78.7	159.1	131.6	148.8	63.1	68.5	82.8
SPH1705	795	647	476.9	343.9		199.3	387.0	791.8	747.0	234.4	351.8	487.6	1121.2	106.9	299.4	1008.6	668.9	869.5	142.8	101.4	113.1
SPH1706	1443	1151	261.6	106.4		241.6	258.1	218.6	258.2	378.3	251.4	448.4	252.5	165.7	156.1	197.6	242.8	164.4	94.5	451.4	405.9
SPH1707	1008	584	520.0	192.7		677.5	626.3	649.5	497.7	608.4	687.8	468.3	719.7	525.2	578.4	679.2	336.6	685.5	261.1	224.2	94.9
SPH1708	783	873	344.6	127.1		393.0	386.0	503.9	347.7	461.8	361.2	504.7	381.2	279.8	324.7	474.7	234.7	441.8	151.3	167.3	99.7
SPH1709	957	1538	187.9	51.1		207.1	235.5	249.4	236.1	162.1	190.0	129.1	294.7	142.6	172.4	184.3	188.8	150.4	155.0	216.9	92.0
SPH1710	1266	2683	95.1	18.7		83.7	99.8	93.3	106.3	89.2	79.8	87.8	125.7	121.1	63.0	87.0	116.2	84.0	99.9	66.5	117.9
SPH1711	1329	1677	171.7	60.0		145.4	196.4	184.8	116.2	138.5	177.4	191.2	223.0	77.2	113.5	147.8	159.2	96.4	296.1	267.4	216.6
SPH1712	324	1009	295.9	177.2		274.2	430.7	441.3	344.9	276.9	273.3	173.6	603.0	122.1	91.9	385.6	187.1	134.7	694.5	142.6	159.0
SPH1713	663	2419	108.3	37.7		121.5	156.9	139.5	138.0	102.8	88.7	60.6	182.8	73.0	74.3	111.7	107.9	51.1	152.6	88.8	82.5
SPH1714	3114	3755	60.8	11.4		53.5	57.0	69.2	58.9	49.2	46.8	59.0	56.6	75.9	57.7	84.3	47.2	69.9	56.1	53.2	78.8
SPH1715	1236	2724	93.7	26.4		77.7	72.2	101.9	103.5	69.8	72.8	126.7	79.3	97.7	74.7	128.1	151.3	70.0	65.3	123.7	84.0

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1716	783	981	300.7	212.5		206.9	171.0	394.6	354.9	192.9	118.8	400.6	210.0	163.6	185.7	828.6	771.2	245.6	196.8	233.4	137.2
SPH1718	573	3730	61.6	9.0		56.4	59.1	53.6	59.5	46.7	76.0	58.4	65.4	65.9	51.1	53.2	71.1	76.1	56.8	73.2	62.9
SPH1719	594	2597	98.9	51.3		50.0	53.2	63.3	107.2	56.9	75.8	81.2	84.2	111.5	111.0	94.3	143.7	65.0	67.1	242.1	175.1
SPH1720	1131	3262	74.6	15.4		67.2	64.7	72.6	76.0	55.3	83.1	68.6	79.7	71.6	72.3	68.4	115.8	71.8	49.8	81.4	96.0
SPH1721	102	1084	277.8	129.6		153.9	177.2	178.0	359.0	121.4	360.2	241.5	266.7	237.3	307.6	215.7	497.6	245.1	101.9	491.1	490.0
SPH1722	1128	3940	53.0	8.4		42.6	47.4	49.5	59.9	46.3	46.2	49.7	58.6	75.0	42.1	52.5	57.0	49.3	52.3	59.4	60.2
SPH1723	303	2390	109.9	35.3		63.0	80.9	116.9	116.5	74.8	80.3	169.1	143.0	68.8	82.8	133.7	86.7	158.0	91.6	147.1	145.8
SPH1724	870	3289	74.0	27.1		75.7	55.7	67.0	67.9	54.1	82.0	83.3	75.2	63.8	73.4	66.6	71.9	62.2	48.3	169.1	68.0
SPH1725	348	3925	54.1	10.7		48.9	54.1	47.3	54.0	49.0	77.6	46.9	52.9	59.0	45.7	43.0	62.7	50.6	42.0	54.7	77.9
SPH1726	258	1652	174.1	179.6		68.3	48.4	121.4	197.7	69.3	55.4	356.1	174.8	117.6	70.6	79.4	65.5	77.2	110.6	647.1	525.7
SPH1727	2145	1285	230.7	231.8		79.3	74.4	175.7	300.1	69.5	66.4	456.7	234.9	105.5	111.2	102.6	123.5	112.9	152.7	796.1	729.7
SPH1728	804	2359	111.7	25.0		79.1	82.0	128.6	143.1	64.3	88.5	127.9	129.0	111.8	95.1	100.9	133.8	122.8	117.8	154.2	109.1
SPH1729	2106	2745	92.7	65.0		78.3	47.8	188.5	287.7	53.7	42.1	62.2	148.8	103.6	47.6	84.7	77.6	62.8	54.4	67.0	75.9
SPH1730	441	1956	140.6	90.7		49.9	67.4	199.5	129.4	98.5	73.2	225.4	281.1	64.2	107.6	243.9	75.4	351.1	85.1	112.4	86.3
SPH1731	813	3677	63.0	15.7		57.0	46.4	65.9	72.9	53.0	42.2	68.8	87.0	71.4	57.1	66.5	55.2	52.7	43.6	66.2	101.4
SPH1732	132	2034	135.3	43.4		108.8	79.8	116.6	171.7	89.8	92.1	120.4	225.3	89.9	134.5	95.9	172.7	138.4	160.7	190.7	177.9
SPH1733	1719	2702	94.4	33.1		67.2	65.2	102.5	121.8	61.6	77.8	91.1	198.6	90.2	106.0	78.5	94.5	77.2	81.4	77.2	120.5
SPH1734	1593	2625	97.7	37.3		66.2	57.3	98.1	70.1	71.9	62.2	134.2	106.0	58.2	113.0	140.0	93.3	199.2	86.4	101.1	105.9
SPH1735	651	2819	89.8	49.0		49.6	53.1	96.6	89.4	57.0	67.8	135.0	115.8	47.5	85.1	156.2	57.2	230.1	66.7	64.4	64.9
SPH1736	1440	3518	67.5	11.9		57.4	49.6	63.6	67.9	46.3	62.7	73.7	78.6	59.2	68.4	77.1	61.9	86.1	61.7	80.7	85.0
SPH1737	942	1946	141.4	58.6		70.3	69.3	120.1	136.8	73.8	145.5	165.2	137.4	94.6	201.6	208.0	161.0	289.0	89.0	162.6	138.8
SPH1738	2193	3214	76.3	23.5		52.6	42.9	80.2	68.3	49.8	66.4	94.6	92.8	63.2	90.2	84.3	65.8	138.4	59.7	97.3	73.4
SPH1739	717	3971	49.8	6.5		49.2	39.8	54.0	43.4	42.6	46.6	54.7	51.0	49.3	52.6	44.1	56.2	50.9	47.3	47.5	66.9
SPH1741	114	3000	82.5	24.5		80.3	65.1	86.2	82.7	80.0	56.4	89.3	70.7	60.3	70.6	98.1	64.6	116.0	66.4	79.0	154.9
SPH1742	432	2669	95.6	41.0		70.4	73.6	105.7	67.3	100.5	55.8	140.7	94.2	74.6	118.1	169.7	65.9	189.8	40.9	82.5	80.3
SPH1743	861	3666	63.3	10.4		50.2	54.5	65.3	68.4	50.7	56.8	57.0	53.1	65.5	64.1	70.4	66.0	85.7	57.2	64.1	83.2
SPH1744	828	3378	71.1	15.4		68.2	61.6	62.1	87.5	67.1	49.7	80.2	51.7	96.0	54.2	78.3	59.8	85.6	59.4	78.0	97.8
SPH1745	633	2316	114.5	57.0		110.4	73.0	110.8	75.9	77.2	80.5	183.2	88.8	62.6	148.8	172.0	79.7	281.1	92.1	112.9	83.7
SPH1746	876	3843	58.1	9.3		47.6	48.7	55.8	48.1	46.0	59.2	65.7	49.8	55.0	70.8	60.3	67.5	79.5	56.2	58.5	60.5
SPH1747	1836	1932	142.4	85.9		342.3	288.8	82.4	91.6	154.2	109.1	69.8	71.2	244.8	211.9	75.3	109.0	169.1	81.5	73.2	103.9
SPH1748	186	2454	106.1	39.6		187.2	105.7	62.7	56.3	112.1	82.0	67.4	74.8	121.3	178.7	93.5	113.1	151.2	65.4	117.5	108.8
SPH1749	387	1016	294.0	110.3		377.9	387.1	313.5	231.9	335.5	354.4	243.7	439.8	215.7	295.8	329.3	147.7	511.0	130.4	268.7	120.9
SPH1750	855	1559	185.7	42.9		190.2	274.2	203.3	191.4	162.5	195.1	132.2	249.2	199.0	167.9	225.0	215.6	151.5	114.4	143.8	155.6
SPH1751	762	1735	162.1	48.6		151.4	211.1	229.8	174.2	172.7	149.0	141.1	260.3	139.9	141.5	214.1	184.7	129.3	82.7	115.0	97.8

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1752	546	869	345.8	166.8		388.9	452.4	583.8	458.3	355.3	342.4	318.0	655.3	175.1	185.9	568.4	299.1	337.8	132.2	170.1	110.6
SPH1753	2142	2123	127.1	76.7		103.2	204.7	191.1	138.7	132.2	91.8	82.3	356.8	76.4	73.9	183.3	111.7	73.8	73.8	81.6	57.8
SPH1754	942	2218	119.5	41.8		147.1	179.9	170.8	133.1	126.0	149.5	112.6	202.6	49.6	75.7	108.0	102.0	92.0	85.5	94.1	83.6
SPH1755	888	465	645.2	253.0		814.7	808.8	1027.0	1177.7	496.2	760.5	503.8	761.4	583.6	442.9	764.0	714.1	248.0	473.3	436.3	310.8
SPH1756	783	1696	168.9	100.3		122.2	90.3	89.7	123.9	180.4	77.9	104.2	80.6	253.1	285.6	103.4	120.3	402.5	112.5	327.6	227.8
SPH1757	861	2770	91.6	21.6		124.6	104.7	86.7	83.5	101.0	50.5	85.7	104.5	125.9	83.0	79.8	62.3	80.7	73.4	122.0	97.1
SPH1758	2073	415	719.9	384.9		854.2	428.2	502.0	618.9	938.8	568.2	816.2	491.8	493.2	575.2	382.2	530.0	719.3	410.2	1793.5	1397.0
SPH1759	468	559	540.9	175.4		536.1	346.9	478.2	433.3	600.7	443.7	544.1	542.8	229.1	550.9	462.9	342.8	709.2	867.9	789.3	776.6
SPH1760	780	462	647.2	512.1		589.5	697.0	533.4	554.8	401.0	704.4	398.5	1250.0	1851.9	1704.4	265.4	202.0	424.4	212.5	292.2	274.5
SPH1761	831	498	598.9	623.4		369.5	508.1	508.4	423.5	274.1	818.8	263.8	1192.9	2235.2	1796.6	212.9	124.5	345.6	233.4	146.8	127.7
SPH1762	657	2353	112.1	35.3		88.1	163.9	117.3	97.1	79.2	164.1	81.8	197.8	115.2	123.8	99.1	122.4	86.1	82.4	89.3	86.6
SPH1763	696	814	370.6	156.1		226.6	394.7	381.4	280.3	226.6	237.1	443.5	272.8	312.8	501.8	306.6	152.2	735.9	410.3	404.4	642.5
SPH1764	840	860	349.0	176.7		385.0	325.5	280.7	232.5	375.1	228.8	327.0	311.8	389.5	257.7	170.1	166.6	284.1	333.2	848.3	668.5
SPH1765	543	1966	139.5	45.2		149.2	109.2	101.7	104.2	134.4	137.6	116.0	127.6	102.8	151.4	90.9	126.7	111.7	213.4	213.1	242.5
SPH1766	1071	1814	152.8	32.8		147.0	205.3	172.4	144.4	154.9	151.5	94.7	197.0	179.8	154.7	117.1	153.0	135.2	202.6	106.4	129.1
SPH1767	1140	1056	285.1	112.9		192.8	285.0	417.9	272.4	148.5	238.5	335.4	366.9	202.3	269.8	479.5	175.6	507.2	325.7	145.7	197.7
SPH1768	1887	2897	86.1	21.4		72.7	125.2	98.3	102.4	78.4	54.1	73.4	110.9	91.6	65.6	92.2	66.7	87.5	77.3	59.6	121.4
SPH1769	528	1425	205.7	66.7		152.1	327.7	233.2	170.7	127.7	147.7	158.4	293.9	136.6	207.6	272.5	198.9	322.3	213.8	187.4	140.9
SPH1770	1086	3200	76.6	21.0		65.8	113.3	91.2	91.8	63.7	61.8	50.4	121.1	75.8	73.2	66.5	95.5	49.5	58.6	65.7	82.1
SPH1771	1044	491	611.2	223.1		698.3	914.6	911.1	909.3	579.6	481.9	420.8	939.8	643.9	547.2	598.0	729.9	271.8	375.5	444.8	313.5
SPH1772	288	650	475.0	138.9		481.8	585.6	733.4	720.5	420.2	489.9	386.9	448.2	367.0	398.7	659.8	538.3	317.0	417.9	367.4	267.4
SPH1773	582	271	1086.2	413.3		1467.1	1565.3	1552.4	1484.2	1145.4	1024.4	1259.2	1177.9	973.0	778.7	1529.6	1335.7	360.4	444.2	821.3	461.1
SPH1774	1452	2980	83.1	20.0		89.7	113.9	84.7	70.7	94.8	106.0	67.9	102.6	58.9	83.1	62.6	98.7	54.2	54.4	78.5	108.7
SPH1775	1860	1166	258.2	82.9		292.7	316.7	239.1	294.4	310.2	223.1	231.9	236.8	236.0	161.6	227.2	409.2	104.5	145.4	399.4	302.5
SPH1776	888	414	721.6	170.1		843.4	605.1	777.8	716.8	662.8	566.5	681.3	557.7	457.9	690.1	1005.4	810.2	705.7	1126.6	762.1	575.5
SPH1777	1407	1763	158.8	70.1		146.3	71.8	152.9	144.0	139.9	80.1	182.9	84.7	132.8	120.4	223.1	347.1	94.7	203.0	195.3	222.4
SPH1778	417	703	439.5	520.8		1117.0	82.4	320.5	655.0	639.4	108.0	79.4	78.8	302.7	111.8	1699.9	1374.3	66.1	108.2	148.4	139.5
SPH1779	903	1873	147.2	147.5		421.4	52.4	126.8	151.7	235.5	51.1	48.1	52.2	107.9	54.6	511.2	318.9	47.9	65.2	62.0	48.1
SPH1780	759	1390	213.4	52.3		315.2	214.3	185.9	212.6	243.7	202.0	147.1	208.3	270.0	279.4	270.8	234.0	172.7	169.8	146.8	141.5
SPH1781	1251	3417	70.3	12.7		90.6	65.2	60.5	58.7	78.7	70.4	69.2	53.6	73.6	66.4	73.2	103.2	73.6	54.7	64.7	68.1
SPH1782	2307	1513	190.9	73.9		121.9	105.1	143.4	116.8	114.7	155.2	226.8	141.8	265.1	312.5	194.2	150.3	347.5	211.8	189.9	257.2
SPH1783	306	249	1164.9	991.3		437.2	363.0	756.7	560.0	473.7	485.7	1261.6	957.4	3020.1	3310.9	1449.4	283.0	2818.0	1003.2	746.0	712.5
SPH1784	1083	2121	127.2	41.6		84.0	93.1	101.6	93.1	84.1	132.4	139.6	92.6	70.8	156.5	154.9	123.6	177.8	219.8	167.2	144.6
SPH1785	759	2914	85.5	23.6		78.4	55.7	87.2	97.9	64.6	82.3	82.0	83.0	83.5	78.5	86.1	76.7	84.4	159.3	109.2	59.3

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1786	1380	2743	92.9	20.2		72.9	64.8	77.0	68.9	76.9	113.5	97.1	79.3	66.8	106.9	110.9	97.6	109.6	114.9	103.1	126.1
SPH1787	348	2996	82.6	18.2		89.2	71.0	81.3	79.7	72.1	55.8	81.7	63.4	93.3	70.8	96.2	86.4	126.4	62.5	80.7	111.3
SPH1788	1107	3472	68.6	11.6		52.4	61.6	61.8	73.3	48.6	80.7	75.9	71.6	63.3	72.0	64.1	70.5	76.6	54.1	79.8	92.1
SPH1789	690	3717	62.0	14.6		46.5	45.2	50.5	64.1	56.8	65.4	52.5	54.1	68.2	78.0	49.3	90.1	63.0	45.9	88.4	74.2
SPH1790	789	2670	95.5	35.9		91.8	66.1	71.7	90.7	66.8	92.9	91.2	79.8	97.2	117.4	82.0	102.1	95.8	74.3	88.5	220.2
SPH1791	726	2954	84.3	17.6		86.3	66.7	66.8	88.8	62.7	90.2	66.2	89.5	85.4	85.2	69.0	114.5	65.8	93.9	97.0	121.6
SPH1792	1188	3177	77.4	17.3		69.4	54.0	63.3	77.6	66.3	86.1	81.8	66.4	78.4	71.7	69.4	88.5	65.1	74.6	98.1	127.8
SPH1793	654	3917	55.0	8.6		48.7	43.2	45.8	51.8	48.3	65.5	59.5	48.8	49.8	61.5	53.9	50.9	71.2	54.5	54.3	71.5
SPH1794	420	2943	84.6	20.1		66.5	59.9	71.5	76.4	60.8	72.3	93.5	73.5	93.7	93.3	96.6	94.3	118.6	63.1	92.5	127.8
SPH1795	747	2020	135.8	27.5		194.8	136.8	152.4	119.5	141.2	111.4	117.3	125.5	120.0	112.7	149.4	139.5	142.4	102.2	112.5	195.6
SPH1796	837	2081	131.0	58.9		224.3	128.4	120.9	122.6	110.4	124.7	99.5	91.5	84.7	95.1	104.8	152.0	121.2	93.6	107.4	314.0
SPH1797	750	3700	62.3	18.9		63.1	52.4	45.0	86.5	42.6	78.1	51.1	50.1	81.4	61.3	42.1	79.7	47.1	45.7	105.6	64.6
SPH1798	432	3964	51.2	8.5		44.3	47.7	45.4	57.7	44.4	56.1	44.0	46.8	67.0	49.7	43.4	58.5	46.2	40.8	63.0	64.0
SPH1799	99	3679	62.9	18.8		56.5	48.5	44.1	90.5	44.1	78.4	44.1	60.2	68.9	61.4	49.0	96.9	42.3	51.3	83.0	87.5
SPH1800	987	3884	56.7	13.7		44.2	42.7	47.2	50.9	41.0	60.2	58.0	54.1	48.4	57.8	53.1	87.4	48.5	60.0	85.5	68.6
SPH1801	897	3968	50.6	8.0		47.1	40.3	45.1	42.9	50.4	50.3	45.4	46.6	50.4	52.9	55.2	57.0	72.1	44.4	47.5	61.9
SPH1802	696	3624	64.6	20.5		63.1	53.8	53.2	67.5	46.7	79.6	55.6	54.9	62.2	60.6	48.6	69.0	56.6	53.5	74.9	133.6
SPH1803	462	2482	105.0	32.0		92.2	65.7	90.4	72.8	83.6	76.3	127.4	81.0	109.4	132.2	139.4	108.9	187.2	76.7	109.0	127.8
SPH1804	828	3536	66.8	27.6		50.2	54.7	51.5	84.9	46.9	52.0	47.6	64.5	94.6	63.1	47.1	87.1	39.1	73.8	61.8	150.5
SPH1805	222	3613	65.0	28.8		40.9	52.0	41.9	86.8	40.8	91.8	42.6	53.6	83.2	61.6	41.8	142.0	40.2	48.9	76.3	95.7
SPH1806	315	3977	48.4	17.0		45.2	43.5	39.4	47.2	39.5	42.4	43.0	42.6	62.2	42.2	36.7	52.7	35.8	35.6	62.3	104.4
SPH1807	318	3956	51.9	9.2		50.9	49.2	43.7	58.8	44.2	58.5	43.6	47.6	49.9	55.7	41.2	57.9	50.2	40.5	65.9	73.2
SPH1808	1359	3664	63.3	10.6		66.7	50.7	52.7	63.6	57.9	56.6	69.7	53.9	82.9	59.1	67.3	75.5	50.5	55.5	67.9	82.6
SPH1809	447	3564	66.2	22.7		51.7	47.6	41.8	60.0	60.2	66.7	58.7	56.5	61.9	56.4	54.6	107.7	46.9	74.2	90.7	123.7
SPH1810	1506	3670	63.1	34.6		55.6	46.3	48.5	68.0	43.2	62.0	49.3	50.8	74.1	47.5	48.4	78.5	39.0	44.0	69.8	184.8
SPH1811	678	3901	55.7	12.2		50.8	44.7	44.3	49.9	46.2	76.1	44.8	51.0	66.3	54.4	49.6	76.1	47.6	48.9	79.3	61.4
SPH1812	1026	3681	62.9	14.4		67.5	46.3	49.0	71.7	58.0	50.2	52.5	62.7	100.2	63.7	58.1	71.2	47.0	54.6	71.4	82.2
SPH1813	1695	3784	59.7	15.0		56.4	45.4	44.5	70.9	51.7	47.5	47.5	57.7	67.4	57.1	52.3	74.3	53.8	56.4	68.3	104.5
SPH1814	396	3310	73.3	15.8		70.6	50.6	71.5	80.1	55.7	63.0	73.8	62.2	101.7	69.6	75.3	63.2	70.3	73.4	76.7	114.6
SPH1816	867	3898	56.0	14.4		48.1	48.5	45.6	51.2	46.4	55.8	50.3	51.8	68.8	50.8	47.1	59.8	53.2	44.8	73.4	100.7
SPH1817	357	3395	70.8	14.3		62.9	55.2	66.2	64.0	54.4	68.4	71.9	71.5	66.1	68.1	83.2	67.4	78.4	53.6	93.2	107.8
SPH1818	759	3479	68.5	17.9		58.7	49.7	60.3	59.5	52.1	54.7	73.7	50.3	65.9	72.0	72.5	74.5	96.7	51.6	101.1	102.6
SPH1819	273	3583	65.6	18.4		50.5	46.5	56.8	71.5	45.0	64.9	52.3	54.4	92.6	66.6	51.6	87.5	51.7	69.1	82.1	107.4
SPH1820	774	3698	62.4	13.4		48.9	43.9	51.6	79.9	44.6	67.8	50.5	53.6	67.4	74.8	56.4	78.0	69.3	52.8	82.6	76.2

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1821	1152	3584	65.6	11.1		60.8	50.3	59.4	69.1	49.7	85.4	60.3	58.0	65.9	71.7	58.1	89.9	69.1	66.1	60.8	75.7
SPH1822	2094	3909	55.5	11.6		51.5	48.3	45.1	53.6	45.9	58.9	54.3	45.5	50.4	60.4	53.0	56.1	66.2	46.1	92.3	60.5
SPH1823	981	3671	63.1	16.3		58.4	53.4	49.3	60.6	46.8	84.3	49.3	56.6	73.9	65.1	46.2	78.8	53.2	48.2	89.0	95.9
SPH1824	894	2373	111.1	64.4		113.5	76.1	66.9	80.8	90.7	69.0	71.9	81.3	129.3	71.7	69.8	161.3	79.7	104.1	303.2	208.7
SPH1825	999	2127	126.6	26.0		109.3	104.5	114.0	114.5	88.7	129.8	123.6	112.6	116.3	189.9	137.0	117.0	169.8	134.5	155.1	108.6
SPH1826	1986	3792	59.5	11.3		55.7	44.6	49.8	59.5	45.7	56.3	44.9	55.4	77.2	61.6	59.5	67.0	57.9	67.7	64.4	85.7
SPH1827	1143	1823	152.2	35.6		173.7	161.8	159.8	108.9	169.1	175.7	121.8	207.1	87.1	119.9	182.2	152.9	190.8	110.9	190.8	122.1
SPH1828	978	2313	114.6	21.0		120.5	106.9	106.3	81.5	129.0	139.9	90.0	148.7	78.7	110.1	127.3	124.2	110.0	129.9	136.8	93.4
SPH1829	498	3143	78.2	23.7		71.8	70.7	61.2	61.7	78.3	91.2	53.8	70.6	69.1	91.3	62.8	94.9	58.5	55.8	126.1	132.7
SPH1830	2067	1199	249.9	250.1		105.1	138.8	662.0	559.2	47.4	95.2	68.0	702.6	75.2	101.1	607.2	478.2	92.0	87.5	63.9	114.5
SPH1831	192	199	1382.6	1661.9		584.7	550.8	4152.0	3562.7	144.1	130.8	300.2	4052.6	338.3	432.9	4204.8	2559.2	456.6	281.9	189.3	181.0
SPH1832	720	1968	139.4	97.0		82.9	75.0	296.4	275.7	62.9	63.9	94.6	352.8	94.8	109.4	260.5	135.4	82.8	65.9	76.6	101.0
SPH1833	588	2890	86.3	19.6		88.3	62.6	65.1	108.3	71.7	122.7	73.9	83.5	83.5	103.4	73.3	96.7	72.7	57.5	109.6	107.7
SPH1834	507	2217	119.6	26.8		81.8	130.5	116.7	165.9	69.4	116.9	105.3	148.5	96.2	115.1	128.7	131.2	112.3	98.7	164.9	131.3
SPH1835	960	3089	79.7	26.8		76.0	116.1	91.7	111.7	72.4	67.4	47.4	103.4	101.4	51.3	60.3	134.9	50.2	61.4	72.5	56.5
SPH1836	465	2340	112.7	46.1		148.1	187.8	157.1	154.4	138.3	102.6	78.3	184.2	95.9	60.5	87.9	147.5	56.0	54.1	74.6	76.3
SPH1837	471	1253	238.9	119.6		325.8	381.0	351.8	350.4	276.5	282.9	132.8	373.4	128.9	135.0	304.7	385.6	91.9	73.7	113.1	114.6
SPH1838	1143	671	460.0	214.6		642.5	765.3	803.4	603.5	406.9	535.6	268.1	740.9	257.3	288.6	565.2	543.4	164.8	210.4	270.6	293.9
SPH1839	771	900	332.4	146.1		477.2	538.5	507.2	529.6	296.4	339.5	161.3	498.6	147.3	217.4	384.4	397.6	162.2	282.4	224.4	154.5
SPH1840	1305	606	501.9	148.0		517.8	569.1	577.7	578.1	529.5	505.0	417.0	580.5	523.1	341.2	661.9	810.0	202.5	261.4	513.2	442.7
SPH1841	939	1942	141.7	40.2		179.6	195.2	180.7	147.4	187.3	179.0	107.3	174.3	91.6	101.5	121.2	136.9	96.6	76.0	117.8	175.4
SPH1842	990	2853	88.2	28.3		63.4	77.5	60.0	89.2	65.5	112.9	65.6	68.0	92.1	125.3	68.0	110.1	66.1	68.5	143.1	136.4
SPH1843	333	887	338.5	187.6		622.3	716.9	502.2	581.8	384.7	287.9	165.4	351.1	136.5	122.6	324.0	322.9	134.7	394.5	224.0	144.2
SPH1844	270	403	736.4	310.3		1062.1	1295.8	1089.6	1056.3	706.7	767.8	374.6	762.2	442.4	565.7	625.0	613.9	610.4	1151.6	300.5	357.4
SPH1845	1734	2167	123.4	27.1		140.1	180.8	119.8	136.4	107.8	172.0	89.8	129.9	90.7	120.2	96.3	145.6	110.1	111.5	95.0	128.4
SPH1846	402	1455	199.7	68.8		223.1	251.4	275.7	333.8	209.2	220.5	168.5	288.7	76.6	167.4	214.8	187.1	207.1	147.1	114.2	110.7
SPH1847	804	2810	90.0	21.9		77.6	78.9	81.9	117.3	57.4	121.4	87.9	90.1	61.9	99.3	67.2	78.8	80.8	90.4	119.3	130.0
SPH1848	432	3539	66.8	11.5		84.4	58.8	64.1	48.8	67.8	80.6	62.7	55.1	54.7	61.6	67.4	60.1	67.7	71.5	70.1	93.1
SPH1849	504	2722	93.7	19.4		114.1	91.0	110.5	76.9	117.8	68.8	100.1	82.1	106.6	90.6	99.0	70.4	84.8	125.5	56.9	104.6
SPH1850	1128	955	307.9	187.7		660.8	232.7	355.9	333.4	614.5	158.9	141.3	272.1	92.5	109.5	227.6	212.5	121.4	300.8	564.5	527.7
SPH1851	711	1049	286.2	196.3		475.5	172.0	305.5	245.0	772.1	143.5	192.7	221.6	98.9	144.1	248.1	181.1	148.9	121.8	572.6	535.7
SPH1852	1503	145	1775.0	3691.5		75.3	69.2	82.6	80.9	89.1	107.7	11137.5	81.7	69.2	90.6	91.6	106.9	89.5	79.8	8459.1	7688.8
SPH1853	339	156	1685.3	3609.6		56.6	48.4	51.0	94.9	54.6	59.2	11656.5	63.8	103.6	58.2	60.1	64.1	53.0	54.7	7366.4	7119.3
SPH1854	924	124	2046.3	4231.0		68.6	85.0	104.3	66.4	80.3	66.6	11909.0	73.7	65.5	102.8	174.0	76.2	162.3	97.7	8994.5	10614.0

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1855	336	1480	196.9	88.6		152.7	119.0	162.8	99.4	197.0	132.2	346.7	110.8	84.6	218.2	356.1	128.4	314.3	207.3	261.7	259.6
SPH1856	168	3061	80.7	12.9		93.6	71.3	88.0	89.1	71.8	60.1	104.9	77.1	65.5	65.3	83.7	78.5	85.1	77.7	76.6	102.4
SPH1857	192	3435	69.7	16.9		49.5	65.4	75.5	67.2	68.8	65.6	123.3	65.4	57.2	59.0	67.3	51.0	74.9	64.4	78.3	82.0
SPH1858	66	3372	71.2	18.9		68.3	65.7	93.2	68.0	65.4	53.8	80.4	69.7	47.1	52.8	90.0	56.4	116.7	93.9	61.9	56.3
SPH1859	297	2840	88.8	20.6		61.4	66.5	90.9	83.3	80.8	104.8	92.1	81.5	59.7	101.6	86.2	75.0	100.7	141.8	111.8	83.2
SPH1860	69	3067	80.4	22.7		62.1	56.4	91.7	61.6	58.3	120.2	89.2	55.2	55.6	87.1	111.7	87.5	118.6	81.1	61.8	88.0
SPH1861	1305	695	444.5	348.0		281.5	176.7	421.0	243.7	350.4	313.2	964.2	254.4	221.2	505.8	700.5	117.8	1438.2	651.8	264.2	208.1
SPH1862	264	1257	238.0	205.9		106.3	119.7	220.4	97.6	187.8	101.1	333.0	159.4	108.1	359.3	350.8	103.9	927.3	282.6	195.2	154.9
SPH1863	108	1106	272.8	158.6		202.2	258.3	460.5	346.6	211.2	119.6	430.0	292.1	169.4	276.6	515.4	212.1	597.7	78.8	115.1	78.5
SPH1864	1182	3748	61.2	12.5		58.6	58.7	46.9	51.8	43.5	73.9	52.8	52.0	52.0	63.1	58.0	73.1	69.9	55.7	85.8	82.7
SPH1865	1305	1889	146.0	21.1		114.9	114.9	138.4	143.2	141.7	152.8	153.6	117.0	171.7	166.1	147.3	151.4	176.9	174.9	118.5	152.6
SPH1866	1092	3663	63.3	14.7		61.5	57.2	47.2	48.5	71.8	92.1	52.3	52.3	54.3	69.1	56.8	79.2	79.9	70.4	80.9	39.9
SPH1867	354	1385	214.0	107.1		280.7	208.0	133.9	147.4	333.4	381.8	166.0	131.7	116.2	176.1	209.8	78.6	468.9	276.9	172.1	142.0
SPH1868	309	2391	109.9	30.3		109.6	74.9	85.7	97.1	119.8	142.0	83.4	92.1	101.8	147.1	83.0	114.1	100.3	168.7	76.5	162.7
SPH1869	543	3356	71.8	13.8		79.9	60.8	57.1	87.3	73.2	53.0	61.0	70.4	92.4	73.5	62.9	65.0	70.4	61.2	75.4	104.6
SPH1870	678	2197	121.6	46.7		111.5	74.8	105.8	76.4	98.4	138.9	176.6	86.7	71.3	121.0	132.9	117.7	263.6	136.7	115.4	118.2
SPH1871	1110	531	563.0	394.8		638.1	398.1	215.4	227.0	689.5	793.2	481.9	297.2	1259.0	1513.9	189.0	98.3	883.2	479.9	547.5	296.9
SPH1872	933	1376	214.7	249.4		90.1	84.3	72.0	76.8	92.3	106.4	497.8	83.6	195.5	159.7	80.7	64.6	160.8	91.7	876.8	701.6
SPH1873	1107	2147	125.5	93.1		60.6	65.4	86.8	69.3	72.5	65.0	294.2	76.3	113.0	96.9	108.1	71.1	126.5	78.6	264.6	358.9
SPH1874	804	1554	186.3	223.8		86.8	66.5	73.2	79.9	74.8	85.4	392.9	105.5	123.8	124.0	77.7	84.1	80.2	80.5	761.7	684.0
SPH1875	732	1967	139.4	141.3		58.0	63.2	66.7	74.3	60.9	57.2	313.5	75.4	117.1	97.0	72.8	80.5	97.5	84.3	541.1	371.4
SPH1876	549	689	449.5	669.3		209.6	123.6	156.7	134.9	188.7	103.9	1448.9	112.5	148.4	125.1	182.7	94.6	163.6	106.5	1938.2	1953.7
SPH1877	441	2133	126.3	102.2		81.2	66.4	67.8	86.6	98.9	81.4	333.7	64.7	81.7	82.9	88.1	98.3	80.3	55.9	367.6	284.8
SPH1878	1632	3464	68.8	14.8		64.2	47.9	62.9	62.3	57.8	113.7	67.3	67.1	67.1	61.4	57.8	80.5	69.6	62.0	78.0	81.5
SPH1879	705	2285	116.1	33.1		115.3	107.7	87.2	61.0	149.3	69.7	109.1	77.7	99.6	170.8	110.0	134.4	171.0	140.5	138.0	116.3
SPH1880	1206	3088	79.7	21.7		68.0	72.3	64.4	53.7	60.7	105.0	76.4	67.3	48.1	102.2	79.3	82.2	99.6	131.7	90.8	74.0
SPH1881	1317	2631	97.4	28.8		83.7	67.5	105.5	82.0	74.5	74.4	96.6	90.7	85.8	105.5	85.1	83.3	77.2	163.3	122.3	160.9
SPH1882	1644	1348	219.1	212.5		167.2	78.4	90.3	88.9	224.9	125.7	584.6	85.4	95.2	109.8	82.6	127.7	119.2	260.2	795.0	470.8
SPH1883	483	1905	144.7	171.2		413.6	53.5	49.1	58.3	412.0	63.1	204.0	47.4	56.4	64.1	48.0	53.6	65.2	592.6	81.6	51.8
SPH1884	801	1184	253.3	325.6		1165.8	70.6	80.9	132.9	783.2	78.4	342.8	92.2	80.7	78.6	83.5	182.0	75.3	641.3	87.5	77.9
SPH1885	1134	1493	194.7	228.1		799.6	63.7	80.6	83.5	581.1	58.0	466.5	80.7	78.9	58.3	89.3	130.1	58.7	341.3	57.4	88.3
SPH1886	2151	2196	121.7	149.9		604.8	56.7	57.1	50.3	371.4	66.0	98.6	59.8	55.5	66.9	64.4	62.4	75.4	77.0	81.3	100.3
SPH1887	1545	2159	124.2	27.8		158.5	162.2	161.6	154.3	130.4	117.4	93.6	146.0	97.6	111.1	118.6	128.4	85.8	83.0	142.1	96.5
SPH1888	189	47	4319.2	891.5		4787.0	4989.2	5390.3	5095.5	4048.6	5119.0	3869.4	3687.6	4059.3	4170.3	5620.9	3975.1	5091.9	2269.1	3599.3	3334.3

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1889	2304	834	359.9	145.0		383.5	574.2	468.1	592.9	411.7	377.6	199.7	557.8	327.4	221.1	335.2	448.0	112.7	174.0	277.7	297.2
SPH1890	207	67	3484.2	1034.3		4336.5	4551.1	4399.2	4234.6	3991.3	5476.1	3100.4	3625.0	3383.2	3200.9	3496.4	3722.6	1896.9	2112.2	2291.6	1929.4
SPH1891	675	1058	284.4	102.7		348.0	455.0	472.2	368.3	291.4	282.2	280.6	371.5	199.3	189.3	322.7	302.0	155.8	195.1	177.5	138.9
SPH1892	867	917	326.4	129.0		440.5	534.0	489.8	449.2	348.3	261.2	416.6	396.4	166.7	143.8	353.4	373.0	113.4	306.3	241.7	188.3
SPH1893	954	377	782.6	260.9		850.1	992.4	852.7	940.1	526.4	709.0	598.4	1154.1	566.4	668.6	760.6	659.3	628.9	1463.2	415.1	736.4
SPH1894	930	2109	128.3	35.1		156.5	169.3	130.2	128.2	128.9	159.1	118.2	218.9	77.3	98.8	101.6	83.3	106.5	125.5	120.3	130.9
SPH1895	327	2407	108.9	21.2		127.2	104.4	83.6	96.4	120.8	99.5	77.5	155.1	112.2	108.8	105.3	138.7	89.7	82.4	117.6	123.4
SPH1896	1257	2829	89.2	21.3		110.7	95.2	82.2	74.1	107.6	114.7	100.2	85.9	85.0	66.6	69.4	92.6	65.1	45.1	117.1	115.5
SPH1897	2244	2646	96.6	22.6		128.0	94.7	78.1	88.5	116.2	80.4	118.8	68.0	118.3	98.2	68.3	117.3	63.9	78.0	98.6	131.2
SPH1898	3246	3965	50.9	6.8		49.4	44.5	41.7	48.9	44.5	55.3	41.7	44.8	61.8	56.8	52.6	62.0	54.1	48.4	48.6	59.2
SPH1899	1353	1801	154.2	70.8		97.6	114.6	117.3	114.0	78.3	133.9	141.7	118.4	165.2	288.8	153.4	132.2	278.7	304.2	117.4	111.8
SPH1900	882	1738	161.7	124.4		71.5	74.6	155.1	73.5	79.1	98.3	219.9	78.5	121.0	224.9	300.3	77.3	513.6	310.6	109.4	79.2
SPH1901	1362	3715	62.0	14.2		66.2	47.8	46.9	60.0	50.1	65.6	53.2	48.4	57.7	72.3	61.4	59.3	64.8	106.5	64.1	68.3
SPH1902	1068	3904	55.6	8.0		45.7	48.2	42.7	56.0	45.5	61.9	51.8	55.6	49.1	59.1	57.7	69.8	57.2	59.3	62.2	68.0
SPH1903	1245	2192	122.0	28.7		151.3	159.9	103.0	116.5	108.2	101.5	105.6	180.6	155.5	109.1	106.8	78.2	84.7	115.7	138.5	136.7
SPH1904	1866	3357	71.7	11.8		71.0	55.9	59.4	65.8	49.4	77.2	63.8	65.0	81.7	93.8	70.4	83.2	77.7	80.4	68.3	84.1
SPH1905	1470	1096	275.0	178.2		129.9	110.9	252.2	142.2	143.3	173.7	366.2	206.4	497.2	572.1	292.3	133.8	716.2	295.9	187.7	179.5
SPH1906	1134	3471	68.7	14.4		56.2	51.1	64.1	52.4	59.7	62.6	71.4	60.9	90.3	72.0	63.9	75.3	87.4	63.6	64.3	103.8
SPH1907	900	3005	82.4	16.8		73.0	61.4	81.7	74.0	77.0	58.2	91.1	84.0	98.0	83.0	106.9	69.2	92.6	105.2	107.1	56.7
SPH1908	936	1322	225.0	208.2		83.4	91.8	216.3	107.1	110.6	90.3	275.6	120.2	162.5	221.0	371.9	113.3	536.9	854.3	145.6	99.1
SPH1909	1191	2632	97.4	34.5		70.3	60.9	73.1	76.3	63.6	86.6	97.3	95.3	101.5	98.5	96.6	113.4	92.0	193.2	80.8	158.6
SPH1910	1047	1514	190.9	43.6		209.2	265.3	208.6	201.8	235.3	198.6	196.6	185.1	217.0	175.7	170.1	106.8	177.5	240.2	99.0	167.1
SPH1911	1500	3836	58.4	11.7		62.6	80.7	55.7	59.2	42.8	61.0	46.4	50.9	52.9	48.7	61.7	63.5	47.4	48.0	71.5	81.0
SPH1912	147	3510	67.6	19.3		68.6	56.3	56.4	66.2	53.6	60.4	56.7	53.2	89.2	55.7	52.8	109.0	45.2	65.0	100.4	92.4
SPH1913	3105	3157	77.9	17.3		58.1	60.5	80.1	98.7	67.8	60.6	70.5	68.0	96.3	68.1	73.9	98.0	65.1	88.1	73.5	118.9
SPH1914	3267	3668	63.2	16.2		69.5	114.9	70.2	66.1	46.9	50.5	47.5	54.0	57.0	61.1	59.6	70.7	48.9	72.6	59.9	62.4
SPH1915	1626	1646	175.5	72.0		189.7	280.4	184.6	201.3	146.4	155.1	114.2	161.6	136.7	116.8	142.1	174.2	133.3	397.6	122.4	150.8
SPH1916	1347	2674	95.4	21.7		68.7	77.1	84.3	83.6	61.9	90.6	89.5	91.4	113.8	95.4	108.5	115.0	96.8	104.5	89.8	155.1
SPH1917	1116	3044	81.2	19.3		64.7	106.8	70.5	65.5	68.8	92.0	68.1	95.8	55.1	116.1	79.3	116.4	86.2	61.0	76.4	75.9
SPH1918	357	3683	62.9	15.3		58.8	50.0	55.7	65.5	53.1	56.5	52.5	60.1	88.0	55.9	45.8	68.0	56.8	64.5	67.8	106.9
SPH1919	603	1861	148.2	125.6		68.3	65.1	132.9	73.9	108.9	99.0	171.4	88.8	61.6	148.3	179.4	66.6	302.8	558.0	147.5	99.3
SPH1920	621	2162	123.9	55.9		74.7	66.5	132.2	85.4	78.7	68.5	160.6	98.1	97.2	216.1	177.0	84.9	256.3	123.4	156.1	106.8
SPH1921	1620	630	489.3	170.3		621.9	702.5	657.7	492.4	668.8	371.2	483.9	774.6	281.9	224.8	597.8	477.3	352.0	245.0	500.8	376.9
SPH1922	717	3162	77.8	23.3		46.3	57.5	82.2	57.3	48.5	64.3	82.4	102.5	59.5	91.6	88.5	66.8	135.2	90.7	73.0	98.0

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1923	900	3511	67.6	11.4		52.3	54.7	62.9	74.5	43.4	58.6	71.4	80.4	69.0	68.4	76.0	68.0	82.9	64.4	68.3	85.7
SPH1924	1209	2617	98.0	53.8		163.8	87.9	143.8	127.8	46.6	62.4	52.6	243.9	73.7	62.1	106.1	138.8	56.0	57.8	57.7	87.0
SPH1925	648	2031	135.5	57.1		71.3	105.5	169.4	128.0	110.0	88.5	230.2	146.9	104.3	177.4	210.4	78.9	255.5	82.7	109.8	98.5
SPH1926	261	1529	189.0	67.8		166.8	194.1	246.4	187.5	151.2	153.6	184.5	209.6	185.9	172.9	324.1	104.5	349.1	141.3	143.1	109.0
SPH1927	1992	1265	236.2	43.3		274.6	263.2	286.8	289.1	187.8	219.3	193.6	251.7	248.2	227.1	210.5	206.0	168.9	195.1	232.0	325.1
SPH1928	963	1948	141.4	55.8		138.5	170.1	214.7	203.0	113.0	109.3	87.6	281.1	146.3	173.7	110.2	135.5	87.3	84.5	129.9	77.7
SPH1929	495	400	740.6	457.2		585.4	500.0	373.4	561.1	603.5	679.0	424.3	388.6	646.1	930.9	264.4	288.8	902.4	1486.1	1412.8	1803.3
SPH1930	1260	2907	85.8	11.0		90.4	105.8	77.4	97.2	87.0	95.5	78.6	74.8	105.2	80.3	84.5	71.7	74.5	72.8	91.1	85.7
SPH1931	5898	2395	109.6	20.8		90.7	83.0	97.8	90.4	110.2	119.7	105.1	133.7	87.0	105.0	128.0	113.9	115.5	115.2	94.3	164.8
SPH1932	2193	2035	135.3	38.9		101.4	84.2	115.0	101.5	93.3	138.0	149.5	134.6	112.2	159.9	192.9	128.0	234.3	165.6	121.5	133.1
SPH1933	1023	2301	115.1	25.8		101.6	135.6	125.8	93.2	90.9	90.6	102.5	160.4	77.8	142.0	128.7	110.3	148.8	76.5	134.9	121.9
SPH1934	1791	1044	287.5	153.3		163.9	156.7	286.6	286.6	77.8	98.8	342.2	595.8	367.1	249.7	312.6	400.8	162.2	125.6	496.9	476.4
SPH1935	4680	1241	241.4	147.9		104.6	167.3	284.4	237.4	78.6	67.2	285.3	623.0	338.7	215.1	297.5	212.7	99.9	98.0	433.1	319.2
SPH1936	1041	2056	133.1	61.2		83.7	74.9	127.8	85.6	85.5	130.6	172.5	98.0	83.7	145.0	260.8	109.7	276.9	88.4	148.0	158.2
SPH1937	435	2845	88.6	27.9		59.6	61.5	84.8	77.2	78.1	61.4	130.3	65.3	75.5	107.5	110.5	82.5	157.4	64.8	109.0	92.9
SPH1938	486	3070	80.3	18.8		56.9	58.6	74.1	96.2	54.2	72.2	78.0	76.7	79.9	78.2	119.1	86.6	94.1	61.1	112.9	86.4
SPH1939	1239	3691	62.6	13.3		61.6	49.1	55.3	81.1	61.6	42.9	53.5	64.3	86.0	46.2	61.8	55.6	64.4	57.2	74.7	86.1
SPH1940	1782	1919	143.4	50.7		110.3	110.9	172.9	150.4	113.2	101.4	168.7	212.8	70.0	153.6	223.6	141.3	246.5	113.1	86.0	119.6
SPH1941	132	922	324.8	246.1		153.0	143.1	322.5	182.6	177.1	184.4	560.6	280.6	155.7	416.6	510.3	183.4	1112.2	323.8	278.1	212.0
SPH1942	180	3090	79.6	21.0		65.2	45.2	64.5	100.6	75.9	71.6	77.6	83.7	100.1	71.8	59.8	108.3	69.6	100.3	58.1	121.7
SPH1943	636	3647	63.8	16.2		42.9	50.9	65.4	47.4	49.5	55.0	72.5	53.8	67.6	56.7	80.0	57.1	98.6	95.7	63.0	64.7
SPH1944	3240	2971	83.3	19.1		77.4	62.8	66.1	63.8	108.6	87.7	94.2	69.6	71.7	58.9	87.4	91.3	92.4	124.0	108.5	68.9
SPH1945	822	1097	275.0	209.6		519.4	198.2	190.8	170.6	979.1	323.2	206.2	107.1	159.3	242.7	198.9	220.6	238.8	237.6	268.4	138.3
SPH1946	504	3612	65.0	9.9		71.8	64.5	50.4	55.9	58.2	72.9	51.7	77.9	56.7	71.2	55.8	83.4	62.3	76.6	65.4	66.0
SPH1947	801	2093	129.8	20.4		115.7	135.0	143.0	130.4	119.0	140.0	103.3	182.7	94.4	141.9	139.0	116.9	132.7	132.1	139.6	110.7
SPH1948	819	2587	99.3	18.4		89.5	101.9	90.3	84.6	74.2	102.5	83.1	95.1	116.4	130.9	85.0	134.3	110.2	82.1	87.0	121.2
SPH1949	1422	2886	86.7	17.9		70.4	59.4	76.1	90.8	92.0	57.5	78.9	76.6	97.2	114.3	80.4	89.0	123.2	98.8	81.2	101.6
SPH1950	924	594	508.7	284.1		819.0	846.4	598.0	592.6	898.5	1058.1	554.6	491.2	199.7	284.7	511.5	211.4	483.3	212.4	158.4	218.5
SPH1951	831	1486	195.4	88.5		275.5	391.2	258.7	293.2	235.0	204.1	178.3	274.9	108.0	124.1	185.6	183.0	157.9	87.5	103.6	66.6
SPH1952	885	2598	98.7	25.7		103.1	134.5	110.8	80.5	109.4	86.4	82.5	146.8	106.4	74.0	91.1	148.7	74.6	78.0	72.4	79.7
SPH1953	2034	1662	172.7	65.7		221.5	265.2	248.4	196.5	165.7	135.4	113.5	291.7	143.3	81.9	213.3	221.7	86.1	108.8	155.2	114.6
SPH1954	1002	1769	158.2	40.7		124.4	184.3	164.1	172.4	121.6	173.6	126.9	248.8	100.0	170.2	132.4	207.6	99.7	201.4	150.0	154.0
SPH1955	723	3362	71.5	12.7		66.6	83.5	78.7	76.5	56.0	83.8	69.1	92.7	51.3	61.5	79.9	77.9	87.3	55.6	64.6	59.2
SPH1956	987	2291	115.7	25.5		146.8	134.1	123.9	144.5	125.1	112.9	85.7	154.4	130.8	120.4	101.9	130.5	64.1	89.2	90.2	96.2

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1957	609	950	312.7	51.0		336.3	322.8	381.9	402.7	271.4	287.8	295.5	302.5	360.6	352.0	312.3	360.4	235.7	232.3	248.2	300.8
SPH1958	735	1239	241.7	95.5		428.8	350.0	293.2	308.3	355.1	247.4	272.7	295.1	249.6	204.6	197.6	133.7	131.7	84.6	145.9	169.5
SPH1959	456	3821	58.7	11.0		63.1	50.4	51.8	70.7	58.0	60.6	65.0	49.3	59.4	45.8	50.5	69.4	59.9	44.6	52.8	87.5
SPH1960	1299	1670	172.2	69.7		226.5	212.6	129.8	77.9	292.4	253.6	241.3	103.0	130.1	175.3	157.4	68.2	244.1	213.7	98.3	130.9
SPH1961	930	104	2366.3	1902.9		1470.3	719.5	763.7	859.4	1969.8	1473.7	3572.7	987.3	1729.2	2604.9	702.6	762.7	2921.8	6234.3	5112.6	5977.1
SPH1962	639	776	392.3	362.3		262.8	208.7	249.9	184.4	259.0	201.9	486.3	220.0	260.8	298.5	205.6	170.1	266.9	1579.4	819.3	603.0
SPH1963	426	1594	182.5	98.7		211.9	288.5	178.5	157.6	268.4	307.0	112.9	439.3	93.3	144.8	129.3	173.3	98.8	87.3	147.6	81.5
SPH1964	1431	256	1118.3	786.4		1453.5	1816.5	1530.3	1595.2	1349.6	2182.8	347.6	2927.7	1002.5	595.7	768.0	1201.3	281.1	296.5	258.0	286.0
SPH1965	870	595	508.6	462.7		736.9	830.9	721.7	681.5	565.6	1160.2	151.3	1746.2	336.7	158.6	370.4	279.0	100.5	112.9	108.4	77.1
SPH1966	1539	353	843.4	661.8		1239.0	1301.4	1155.7	1274.2	843.2	1891.6	200.9	2369.6	872.6	394.7	533.8	693.8	128.5	213.3	181.6	201.4
SPH1967	534	305	955.3	909.0		1568.7	1476.6	1214.8	1455.7	982.0	2824.5	162.9	2917.8	627.4	406.7	509.9	625.0	120.2	160.7	141.3	91.2
SPH1968	474	654	473.7	466.2		811.5	733.8	622.7	620.6	449.6	1461.7	77.3	1497.5	277.3	260.2	204.0	299.9	67.4	68.3	65.4	61.5
SPH1969	252	121	2088.5	1612.6		3585.3	2859.1	2949.7	3143.8	2027.6	5412.1	479.5	4913.7	1550.7	1697.7	1749.6	1467.6	771.0	518.9	154.4	136.1
SPH1970	885	857	350.4	144.3		482.6	522.8	513.3	483.1	302.5	451.9	179.6	608.6	292.9	229.5	359.3	320.6	288.4	282.6	132.1	156.3
SPH1972	1890	1220	245.6	302.0		141.0	160.8	169.5	154.0	146.4	181.7	172.1	174.3	114.9	192.4	214.4	183.5	256.7	1371.3	166.5	130.3
SPH1973	528	213	1317.1	1154.9		391.3	309.3	379.8	466.7	695.8	568.7	493.8	712.6	1787.6	2626.6	295.8	631.4	3626.9	2817.8	2767.8	2501.2
SPH1974	678	1534	188.2	28.2		205.7	204.6	186.6	155.0	249.3	195.6	178.7	217.3	159.9	157.8	193.6	220.7	192.2	138.8	174.3	180.4
SPH1975	855	3148	78.1	18.9		94.7	104.0	96.3	82.7	99.2	90.8	76.2	103.6	77.1	45.5	71.7	71.3	60.2	48.2	65.2	62.3
SPH1976	771	1755	159.3	43.9		171.6	239.5	208.2	160.6	158.4	167.3	138.8	255.2	122.8	146.8	152.2	170.5	96.0	119.9	119.0	122.2
SPH1977	624	1152	261.1	85.6		311.5	378.3	392.5	351.4	255.7	189.0	189.6	410.4	231.3	186.4	291.2	263.1	155.1	184.6	161.4	226.6
SPH1978	1929	1362	216.8	56.6		248.9	314.5	285.3	239.9	228.9	187.6	165.6	327.8	215.7	144.5	214.1	223.8	151.4	178.0	196.2	147.3
SPH1979	1008	978	302.8	206.4		142.2	233.9	197.5	145.8	185.2	258.2	253.3	146.2	389.7	632.3	236.1	196.1	926.7	234.0	368.4	299.7
SPH1980	1281	1398	212.0	57.4		153.8	198.1	228.3	183.6	169.8	194.6	246.7	204.4	184.9	321.8	285.7	120.0	327.8	191.8	188.6	191.9
SPH1981	519	3946	52.6	7.3		43.0	48.2	48.7	40.1	46.3	61.4	47.6	48.3	61.8	61.2	54.0	63.9	53.3	60.9	51.4	51.8
SPH1982	558	1848	149.2	52.3		103.0	125.5	171.1	160.8	109.8	131.4	161.9	163.6	88.9	143.9	148.4	70.9	235.1	283.8	134.6	154.8
SPH1983	609	330	896.4	1883.1		116.6	121.1	216.7	307.8	134.0	173.6	290.4	142.4	215.3	278.6	257.5	112.4	411.1	249.2	6452.8	4863.4
SPH1984	528	2349	112.3	85.2		52.6	53.3	95.2	54.5	55.9	70.9	154.6	75.5	74.0	133.9	116.1	58.4	221.0	53.9	373.8	153.9
SPH1985	354	1622	179.0	169.7		64.9	92.5	193.8	69.5	122.4	77.5	296.1	110.0	113.6	238.1	366.2	72.1	724.2	111.6	121.8	89.1
SPH1986	1110	244	1185.1	408.0		1308.8	1121.1	918.2	733.7	1749.0	2171.3	1458.2	1040.6	1043.3	987.0	958.3	500.6	1537.0	993.0	1412.5	1028.2
SPH1987	300	808	374.4	203.5		187.6	316.6	506.9	374.3	234.7	251.5	396.8	368.8	144.1	429.0	505.0	220.9	849.7	766.2	272.3	165.3
SPH1988	1725	1204	248.8	102.1		241.7	424.4	322.1	246.9	235.4	253.0	157.3	494.1	156.3	148.7	203.4	132.3	207.7	353.4	191.1	212.4
SPH1989	135	1195	251.2	101.3		303.1	320.0	319.2	282.4	323.2	171.4	137.1	431.0	271.1	185.5	139.3	174.0	126.8	447.5	202.3	184.6
SPH1990	1398	850	353.4	169.4		361.4	460.2	486.8	531.6	253.7	558.4	168.5	736.4	196.8	309.7	430.6	343.0	183.7	308.4	179.0	146.9
SPH1992	66	2699	94.5	46.2		135.4	153.8	147.4	146.2	75.6	65.4	61.0	189.4	122.0	58.1	76.0	62.0	67.2	43.8	59.5	49.6

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH1993	993	337	875.7	479.9		1596.1	1177.6	1085.8	1137.0	1020.4	1549.0	592.5	1612.3	814.4	502.5	881.9	951.1	282.0	206.7	413.8	187.8
SPH1994	2577	226	1246.1	678.1		1257.0	1684.4	2032.7	1979.7	1130.1	1118.3	872.2	1967.3	564.9	378.1	1682.2	2549.3	172.8	1142.2	701.3	705.9
SPH1995	996	573	532.2	259.5		501.8	394.5	310.0	353.2	902.1	714.3	367.9	400.3	548.6	570.7	165.6	233.9	701.8	385.1	1063.3	902.0
SPH1996	435	1777	157.3	73.1		132.6	112.8	307.2	309.4	147.5	92.1	112.7	88.9	85.9	88.6	163.8	261.6	149.4	145.1	164.6	154.1
SPH1997	84	1895	145.4	89.8		73.1	119.9	192.6	115.9	96.3	84.4	191.8	108.7	68.6	153.3	217.5	53.9	308.8	367.6	91.8	82.9
SPH1998	498	469	639.6	269.6		603.7	614.2	720.1	758.6	508.4	467.9	684.2	522.7	702.1	444.0	884.5	638.0	476.1	1481.7	452.7	275.1
SPH1999	561	332	883.8	246.4		965.0	1021.9	912.1	804.1	854.5	1115.8	909.8	740.6	1424.0	1067.4	770.5	487.7	441.7	747.2	1146.9	730.7
SPH2000	2427	3227	75.9	15.8		66.5	63.8	64.1	76.3	74.3	68.9	73.1	56.5	124.3	73.5	70.8	91.6	65.7	78.1	78.0	89.2
SPH2001	915	3379	71.1	8.7		69.2	53.9	63.3	66.5	58.6	78.9	60.5	72.2	85.9	74.4	71.6	79.0	75.0	73.0	74.8	80.6
SPH2002	495	1714	165.0	56.6		170.7	235.0	223.9	209.6	159.5	110.4	145.8	96.0	145.0	147.0	257.4	263.4	146.0	137.7	98.7	93.8
SPH2003	1350	2335	113.3	25.4		93.5	113.4	125.2	104.8	84.1	100.9	116.4	95.1	101.3	91.3	146.5	154.4	125.2	170.7	85.8	104.3
SPH2004	237	482	622.4	337.4		674.0	488.8	421.8	398.6	853.9	500.6	290.0	247.5	1311.0	1040.1	383.8	321.5	1167.4	935.4	593.2	330.1
SPH2005	681	934	317.9	97.1		272.3	227.1	270.3	235.5	338.4	295.3	303.7	261.3	225.3	524.5	364.0	270.3	416.0	521.6	343.7	217.2
SPH2006	2127	3328	72.8	11.4		72.1	70.6	65.1	69.7	70.6	48.8	62.7	83.2	89.4	71.4	68.1	72.9	62.4	92.3	76.0	90.0
SPH2007	1230	2917	85.4	28.8		93.7	93.2	84.6	89.3	69.4	65.0	61.5	107.2	170.1	60.9	60.0	108.6	46.1	79.3	94.3	83.6
SPH2008	969	2329	113.5	45.5		76.0	211.7	78.5	103.6	59.8	103.7	63.7	112.4	159.4	149.4	65.7	83.4	83.9	135.7	160.3	169.0
SPH2009	2268	1944	141.6	36.0		137.1	125.1	126.8	167.0	110.6	156.7	124.0	113.4	119.7	203.6	134.4	133.6	119.3	130.3	120.0	243.7
SPH2010	99	1021	292.6	98.5		321.7	165.3	186.1	182.9	344.1	313.9	456.8	294.9	406.9	318.2	144.0	373.5	138.9	322.8	353.4	358.7
SPH2011	495	767	396.7	227.9		443.4	275.2	190.4	227.7	654.0	697.9	973.9	232.9	569.0	470.6	160.0	174.2	400.3	301.6	309.5	266.4
SPH2012	885	1731	162.7	44.3		160.5	124.7	147.5	110.2	185.2	109.2	203.3	144.2	155.3	151.0	121.5	154.4	163.3	170.4	220.7	282.2
SPH2013	210	835	359.8	161.5		290.0	219.2	481.0	238.6	233.2	245.5	445.0	278.4	421.3	744.9	454.0	320.9	655.8	291.4	217.3	220.5
SPH2014	213	739	411.5	287.7		237.3	191.2	549.8	145.0	249.8	174.4	625.5	305.8	423.7	862.2	737.0	242.7	1098.9	371.7	281.5	87.9
SPH2015	423	2589	99.1	21.1		121.8	84.7	74.9	75.2	116.3	83.7	81.4	106.9	108.2	125.9	69.7	109.7	76.8	105.0	137.7	107.7
SPH2016	798	2226	119.0	16.4		134.3	106.8	121.3	98.3	133.4	122.0	121.3	102.6	93.9	136.2	107.8	120.6	140.1	145.0	96.2	123.8
SPH2017	1410	3781	59.9	18.3		55.0	45.1	45.0	57.2	44.0	66.6	52.3	45.1	53.0	72.3	44.3	56.1	51.7	68.7	98.8	102.8
SPH2018	747	1214	247.4	220.1		177.4	99.0	89.4	115.9	248.8	185.7	240.3	86.0	148.4	236.7	96.5	171.4	231.0	283.5	899.6	649.7
SPH2019	762	497	599.5	342.1		276.1	215.3	339.2	368.4	321.1	213.2	724.9	322.5	908.7	876.2	307.8	645.6	791.3	947.8	1191.2	1143.2
SPH2020	999	3201	76.6	15.3		80.0	67.7	64.2	74.2	96.7	73.9	72.8	66.6	68.8	80.2	69.4	99.0	71.0	69.0	55.6	116.2
SPH2021	912	3538	66.8	8.6		61.2	50.2	57.7	72.4	63.8	57.7	59.0	73.9	72.2	72.5	68.2	64.3	63.5	76.8	73.2	82.9
SPH2022	1275	3100	79.3	22.5		67.8	49.7	55.5	78.8	70.0	66.9	54.1	95.5	115.9	113.9	58.1	98.6	63.7	79.6	86.5	114.6
SPH2023	582	2820	89.7	39.6		64.8	69.5	60.8	58.5	56.3	81.3	70.0	65.7	153.5	140.8	78.4	60.9	187.9	94.1	72.2	120.2
SPH2024	714	3252	74.9	16.3		78.5	72.6	62.2	63.9	60.0	83.2	65.0	93.1	65.2	70.3	63.0	118.8	66.9	58.7	94.5	82.7
SPH2025	993	2961	84.1	15.4		85.8	112.6	83.9	86.8	68.7	101.7	70.5	114.6	67.2	66.9	95.6	74.6	87.8	69.1	77.1	82.5
SPH2026	774	3151	77.9	19.2		71.9	114.5	80.3	66.3	61.1	110.3	63.6	116.4	79.1	72.6	63.5	67.4	55.3	66.4	78.3	80.1

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2027	864	726	425.6	133.3		584.9	607.9	479.1	375.1	515.7	488.4	316.8	715.2	327.4	413.2	396.9	429.8	258.1	377.9	263.5	259.1
SPH2028	1245	2910	85.7	17.6		94.1	93.6	81.5	79.7	72.9	86.1	86.4	82.6	64.4	66.4	82.3	112.3	71.5	67.3	99.3	130.8
SPH2029	894	3669	63.2	18.1		57.3	54.9	55.6	78.2	57.1	49.9	58.4	64.4	94.8	54.8	44.9	67.2	45.1	49.6	68.0	111.4
SPH2030	1911	3390	70.9	12.3		53.0	56.1	60.3	70.5	63.5	73.8	67.8	66.0	77.1	80.6	73.0	104.7	76.5	73.0	59.5	78.9
SPH2031	1410	2169	123.3	38.8		129.5	103.0	106.1	86.4	94.0	97.9	130.5	99.4	108.7	154.8	125.8	78.3	149.5	228.8	103.1	176.8
SPH2032	303	2080	131.0	54.4		102.0	108.5	121.3	111.5	115.0	69.7	147.7	99.7	122.4	126.0	112.8	68.4	164.8	274.0	236.5	115.5
SPH2033	756	881	339.9	160.4		223.6	234.1	333.9	246.1	253.4	209.2	426.6	192.2	383.9	550.6	385.5	221.6	782.8	478.7	318.3	197.1
SPH2034	1572	2653	96.3	15.5		77.3	90.8	84.2	109.9	83.3	97.1	100.6	96.5	115.4	100.6	78.4	106.2	74.6	132.1	89.3	104.6
SPH2035	240	791	386.3	141.9		443.6	293.3	354.6	245.4	545.7	358.7	367.1	318.4	427.4	641.7	492.6	156.9	620.6	381.3	376.3	157.3
SPH2036	501	2184	122.3	31.1		138.1	143.2	175.5	182.3	114.7	91.1	109.4	115.8	124.5	100.2	143.8	148.0	70.7	111.0	104.2	84.5
SPH2037	831	541	554.7	124.6		541.9	662.5	754.6	683.8	548.0	506.9	593.2	644.3	521.2	443.8	716.8	619.7	452.4	515.8	331.5	338.6
SPH2038	1218	2912	85.6	16.9		80.1	101.8	89.7	99.2	94.0	92.7	66.2	86.3	79.6	75.9	61.6	123.9	59.3	101.2	71.9	86.6
SPH2039	1260	2967	83.5	22.9		63.0	53.9	89.9	87.0	63.6	80.9	83.5	66.9	62.5	76.3	113.8	81.8	132.3	127.9	73.7	79.1
SPH2040	1194	3541	66.8	12.6		57.9	51.1	60.3	71.5	51.2	69.3	58.7	59.3	70.8	66.6	64.9	99.2	58.7	63.8	83.1	81.6
SPH2041	1035	2899	86.0	21.1		79.5	64.5	61.8	96.8	97.0	84.7	73.0	64.5	86.7	88.0	68.8	99.3	77.2	74.3	139.1	121.1
SPH2042	1413	1014	294.5	63.7		363.4	249.5	257.5	237.7	391.4	335.2	367.7	167.4	318.8	302.7	272.4	231.5	362.0	237.5	351.8	266.0
SPH2043	1770	1370	215.7	40.0		235.7	179.2	177.4	171.3	248.7	275.7	202.2	170.4	293.9	222.3	192.1	245.0	191.4	177.9	262.6	204.9
SPH2044	666	1129	267.6	55.6		251.4	226.9	220.3	208.5	338.1	290.1	294.5	178.7	349.3	266.2	243.9	239.2	278.5	242.8	393.4	260.0
SPH2045	381	1131	267.0	67.7		319.4	215.3	194.0	210.7	391.6	233.7	312.9	161.0	391.8	243.6	213.9	269.3	248.1	275.2	339.9	252.5
SPH2046	1599	1419	207.5	96.6		253.5	151.7	142.4	90.8	317.9	177.6	256.0	113.4	132.5	171.6	146.8	101.8	209.5	368.1	407.5	278.9
SPH2047	708	1284	230.8	110.2		176.9	146.9	171.5	128.5	164.7	181.8	257.5	160.9	164.2	232.9	172.3	169.1	300.0	308.1	467.2	490.4
SPH2048	1578	3672	63.0	14.3		42.1	61.6	63.5	57.2	46.7	81.2	61.3	61.2	49.0	53.9	76.7	50.0	92.8	56.9	81.9	72.5
SPH2050	1782	2986	82.8	18.7		82.2	99.5	84.7	56.2	59.7	66.7	101.4	90.4	56.5	80.2	111.4	74.8	108.0	85.6	104.8	63.5
SPH2051	1431	3775	60.2	8.6		59.3	65.5	50.5	58.9	49.5	72.8	59.1	50.4	50.2	53.4	55.3	67.5	66.6	59.6	65.9	77.9
SPH2052	1719	3324	72.9	24.7		52.5	65.3	60.9	58.9	69.3	61.4	65.2	57.5	92.5	62.4	57.4	61.6	60.9	146.8	85.6	108.5
SPH2053	570	219	1265.8	744.6		2061.4	2518.1	1535.6	1320.7	1996.0	2198.0	637.7	2234.8	1277.7	1116.1	864.9	424.9	579.6	820.4	383.3	283.0
SPH2054	801	1396	212.3	89.5		303.2	364.6	184.6	216.9	275.4	363.1	114.4	303.8	162.4	155.3	117.2	113.1	105.3	262.2	211.5	144.2
SPH2055	957	561	539.5	120.5		586.7	587.9	505.1	710.7	517.9	516.4	391.4	724.9	724.8	520.7	376.9	427.6	424.2	509.1	690.7	417.7
SPH2056	495	579	526.3	136.7		493.7	496.9	600.3	732.9	478.6	468.8	342.8	716.0	729.2	659.1	572.6	514.2	510.3	276.0	469.8	359.5
SPH2057	483	130	1990.9	512.7		2200.9	1884.8	2107.0	2616.7	1910.5	2499.7	2202.7	2558.9	2444.2	2425.4	1865.0	1621.6	2094.0	1044.5	1426.9	952.0
SPH2058	510	1850	149.2	169.4		98.9	86.9	71.4	90.3	90.3	84.9	79.4	88.9	106.6	98.1	63.5	134.9	77.0	55.0	570.6	590.6
SPH2059	3684	3229	75.7	20.1		99.2	65.8	68.2	81.6	114.8	52.6	55.6	71.1	84.2	57.9	54.2	84.3	48.9	73.1	99.9	100.6
SPH2060	753	1678	171.6	59.3		139.8	112.4	130.9	162.7	198.0	128.4	111.3	186.1	175.8	139.5	132.7	197.7	164.2	157.5	330.8	277.5
SPH2061	1230	2202	120.9	74.1		92.5	93.4	94.5	101.2	118.2	87.8	95.2	114.3	91.1	74.4	89.3	96.6	71.1	377.7	156.6	181.2

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2062	408	1340	221.0	130.3		170.6	196.9	210.0	199.8	172.2	126.0	178.8	177.0	103.2	129.7	156.7	164.7	120.9	489.3	456.3	483.4
SPH2063	690	390	755.2	495.5		779.8	532.4	602.9	732.8	915.1	672.7	347.3	412.6	367.9	383.7	545.7	1284.6	193.9	654.9	1667.5	1989.4
SPH2064	1161	412	721.9	271.9		1084.6	967.8	662.7	702.6	1172.2	1058.4	331.1	530.1	520.2	533.4	570.5	992.0	277.3	585.6	858.3	703.5
SPH2065	1794	3015	82.2	17.5		74.5	58.0	83.3	59.2	60.8	64.5	110.0	72.8	73.0	83.2	90.0	95.3	98.1	78.1	107.3	106.4
SPH2066	1002	3313	73.2	14.5		80.9	60.6	66.2	62.1	55.4	66.5	80.2	70.0	107.4	67.9	84.9	63.4	101.1	64.3	67.2	72.7
SPH2067	1383	2273	116.6	42.9		192.0	104.2	112.4	110.7	61.2	75.4	89.5	189.5	192.1	90.0	141.4	113.0	111.0	87.7	64.0	132.0
SPH2068	552	2312	114.7	62.8		104.7	99.7	91.3	122.1	82.1	68.7	90.5	152.4	337.0	87.7	106.5	102.0	75.1	121.0	81.6	112.4
SPH2069	1005	2958	84.2	37.6		55.6	58.1	83.5	47.3	84.2	55.4	138.1	68.6	67.4	85.3	158.7	77.8	169.9	57.2	71.3	69.2
SPH2070	1380	1990	138.2	42.5		85.3	106.7	140.6	149.3	91.4	90.3	148.6	130.0	155.4	158.2	216.9	143.0	227.1	82.6	160.8	125.6
SPH2071	1236	1318	225.7	63.7		340.9	262.6	260.9	212.2	276.8	242.6	260.4	310.8	195.1	231.5	217.3	145.2	236.3	91.7	172.3	154.4
SPH2072	2079	1450	201.5	110.7		258.6	164.4	291.0	359.7	197.9	120.9	156.2	503.2	159.7	99.8	171.2	236.1	69.5	91.0	149.3	194.7
SPH2073	654	1145	262.5	81.9		272.3	371.4	230.9	221.5	400.1	348.1	392.4	196.0	341.0	248.2	201.7	200.7	137.8	237.6	219.6	181.1
SPH2074	618	661	467.2	146.4		467.7	642.7	512.6	434.8	516.8	514.3	452.8	573.1	624.0	467.9	384.2	346.2	242.4	769.3	253.6	272.7
SPH2075	636	148	1759.2	556.8		1563.1	1853.4	1575.5	1367.0	1619.5	3234.6	2312.1	1911.8	1258.6	1630.3	1312.0	813.5	1407.2	2264.7	2113.6	1910.5
SPH2076	783	1256	238.1	66.5		291.7	294.6	235.8	217.5	223.1	302.5	331.0	343.0	223.6	202.4	170.0	141.1	147.2	191.9	316.6	177.3
SPH2077	585	2926	85.0	12.6		89.0	121.7	77.5	80.9	85.0	94.7	74.7	87.8	79.1	81.2	77.9	83.2	67.2	74.8	85.5	99.2
SPH2078	606	1263	236.3	54.8		299.7	276.7	263.6	277.0	255.3	225.4	288.7	215.3	265.5	182.6	207.3	256.6	159.0	121.7	310.7	175.5
SPH2079	1215	2296	115.4	17.0		144.1	121.8	120.3	135.7	121.9	98.9	125.9	127.9	114.6	100.4	117.3	114.8	79.8	85.1	118.3	120.1
SPH2080	756	1925	142.9	29.1		187.0	178.9	142.8	160.5	187.7	149.3	129.1	168.1	147.9	129.0	133.7	105.4	141.0	83.5	127.2	115.2
SPH2081	906	1336	221.4	87.0		150.3	131.6	246.8	154.1	184.2	153.8	320.5	184.6	147.2	256.8	369.6	181.7	428.5	265.4	193.9	173.9
SPH2082	1713	3418	70.2	13.8		60.0	62.0	80.8	56.2	84.5	59.6	78.2	62.5	70.3	74.2	84.5	55.1	78.9	102.1	63.0	52.1
SPH2083	1521	1112	271.2	165.8		361.8	311.2	452.2	514.3	186.5	113.0	266.3	387.4	106.4	94.0	460.0	559.4	71.4	94.4	176.6	185.0
SPH2084	78	511	588.1	335.3		566.1	576.7	956.7	1014.8	376.2	286.0	644.4	780.0	208.9	260.2	1145.2	1201.0	378.2	228.5	440.6	345.8
SPH2085	1962	756	403.0	126.5		484.8	603.1	537.2	548.3	435.7	310.3	368.5	594.5	369.8	322.5	443.7	430.2	287.7	256.9	240.2	213.9
SPH2086	714	505	594.9	114.1		659.7	592.6	677.8	546.5	528.8	527.4	630.6	533.9	497.7	586.0	856.6	501.2	790.5	624.7	572.9	391.4
SPH2087	651	189	1452.0	249.6		1544.3	1609.4	1870.3	1810.1	1192.3	1314.6	1632.7	1512.4	1290.5	1273.0	1734.6	1409.3	999.6	1578.8	1318.4	1141.0
SPH2088	1113	2532	102.6	23.0		122.1	86.7	104.9	83.4	106.2	99.9	98.1	96.3	70.1	95.8	71.7	127.6	96.7	131.3	91.4	159.1
SPH2089	675	1791	155.4	27.9		172.0	119.1	156.6	147.7	184.4	92.6	151.8	164.4	137.8	152.0	188.1	142.4	203.6	184.8	135.2	154.1
SPH2090	234	965	305.5	87.3		495.6	330.9	291.3	242.4	410.7	342.1	246.0	320.0	278.6	257.9	219.7	313.6	167.0	344.1	428.1	200.3
SPH2091	876	2836	88.9	17.5		59.6	86.5	80.9	88.7	70.2	73.5	80.4	103.8	111.5	93.9	87.8	85.4	85.8	111.4	75.6	128.1
SPH2092	1332	450	661.8	194.9		636.0	619.0	522.3	512.0	962.6	829.0	768.8	644.7	520.1	487.5	412.2	481.5	637.4	545.3	1012.0	997.8
SPH2093	537	453	660.1	268.1		630.4	579.8	508.0	625.1	695.8	727.5	788.5	464.5	535.4	370.7	362.1	480.1	503.9	765.4	1210.4	1313.5
SPH2094	1179	828	362.4	141.0		319.4	410.3	411.9	501.6	342.8	348.1	314.8	508.7	373.9	244.5	335.6	726.0	110.9	367.7	304.5	176.9
SPH2095	423	52	3971.3	1334.3		3612.3	2633.9	3602.2	4854.5	3552.7	3861.6	2700.4	3061.1	4449.6	4584.5	4477.9	7617.1	2163.7	2566.4	4661.2	5141.6

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2096	468	602	503.2	155.2		568.2	704.7	629.5	617.4	455.8	620.0	428.1	575.1	488.0	453.8	669.4	347.5	621.8	485.7	188.7	198.1
SPH2097	678	514	587.5	286.3		728.8	1023.4	1074.7	868.7	573.8	906.7	332.5	795.7	426.0	388.4	683.3	467.9	322.1	406.0	214.8	186.2
SPH2098	408	1125	268.3	120.5		322.3	457.9	429.8	407.6	271.0	356.9	156.3	406.2	185.2	154.0	218.2	320.0	108.3	257.1	118.4	124.1
SPH2099	888	786	388.0	144.9		313.1	595.4	587.8	520.4	363.7	479.7	261.4	649.0	294.7	307.1	471.1	366.5	335.3	266.4	239.5	157.2
SPH2100	102	608	501.5	232.7		285.5	476.5	462.5	397.5	545.5	767.7	252.2	470.8	363.7	430.4	263.1	295.3	558.1	1024.3	965.6	464.9
SPH2101	1284	483	621.0	251.9		555.1	833.9	767.6	865.0	514.5	915.3	402.5	676.7	413.9	301.8	438.3	625.8	282.6	1225.5	615.0	502.1
SPH2102	537	80	3010.3	1441.0		3069.3	6145.3	4727.4	4580.9	2365.5	3486.3	1958.9	2766.4	1613.8	1411.5	3754.9	4710.3	1477.7	1249.1	2458.3	2388.5
SPH2103	741	546	550.2	285.2		552.6	1142.7	898.7	766.8	436.5	572.4	426.1	538.7	319.1	242.5	666.5	1025.9	208.2	197.9	412.8	396.2
SPH2104	702	1024	291.9	108.0		215.6	570.6	491.2	311.2	190.8	201.6	289.1	326.1	196.7	198.7	346.2	322.3	271.2	274.2	268.4	197.0
SPH2105	687	2580	100.2	18.6		69.8	144.1	129.7	100.9	81.4	93.1	107.9	103.6	81.1	100.5	100.1	102.0	104.3	112.8	90.2	81.3
SPH2106	1200	589	510.9	453.8		917.3	542.5	841.5	732.9	461.5	655.1	182.4	1881.8	245.4	189.2	448.9	545.3	170.9	95.5	151.4	113.6
SPH2107	1413	1140	264.4	128.2		432.8	307.3	378.3	350.3	260.3	234.0	146.6	580.6	163.1	164.0	280.6	338.5	154.1	166.5	153.2	119.4
SPH2108	138	976	303.1	178.3		391.8	283.4	435.8	492.4	303.1	167.6	126.8	733.7	239.4	131.3	330.0	559.4	139.8	175.1	138.0	202.3
SPH2109	1458	1593	182.5	57.9		199.3	253.4	236.7	238.9	123.5	196.2	110.4	252.6	136.2	161.7	188.2	290.7	112.7	130.2	134.3	155.1
SPH2110	993	346	862.7	1063.5		593.6	425.6	1764.6	2211.6	141.7	102.4	126.5	907.1	512.5	416.7	2315.1	3685.0	173.2	165.0	142.3	121.0
SPH2111	483	2122	127.1	25.1		147.1	84.6	116.6	101.9	111.2	112.3	169.2	112.2	94.3	117.3	144.8	120.0	142.7	141.4	159.7	158.2
SPH2112	1827	1437	204.2	59.8		222.8	200.2	235.1	233.4	162.3	175.0	206.2	264.6	162.5	128.5	284.9	229.0	107.8	102.0	290.2	263.1
SPH2113	315	304	955.4	418.7		779.6	739.9	1447.0	1047.7	728.6	687.6	1243.9	797.1	475.2	849.4	1570.6	780.8	1779.3	1447.2	465.0	446.9
SPH2114	648	961	306.3	125.1		269.4	356.1	511.9	361.1	206.1	288.5	416.4	429.3	103.5	240.6	428.0	226.2	487.6	268.5	142.6	164.3
SPH2115	780	2740	93.1	20.4		79.9	71.3	75.4	89.0	97.0	97.1	94.9	66.9	84.6	90.9	105.0	112.0	120.2	79.2	146.4	80.1
SPH2116	1386	3618	64.8	9.7		60.9	53.9	67.1	51.7	53.4	61.7	73.5	52.9	85.8	63.4	72.8	77.8	69.6	58.2	66.5	68.2
SPH2117	72	3265	74.6	25.0		68.3	53.6	60.1	66.5	58.4	67.0	71.6	55.4	82.9	86.5	61.7	84.9	52.3	105.9	66.8	151.2
SPH2118	540	3093	79.5	30.0		57.4	55.2	72.2	63.0	73.1	51.9	80.0	52.6	73.6	67.1	73.9	67.2	91.9	111.1	168.0	114.2
SPH2119	807	2982	83.0	25.0		63.5	57.9	69.3	103.6	76.4	52.8	78.0	65.6	88.5	67.1	75.8	77.6	77.0	139.1	104.5	132.2
SPH2120	936	1424	205.9	146.3		121.8	72.1	130.2	75.2	259.3	99.6	473.5	91.2	71.5	119.6	204.2	133.1	352.9	192.3	490.6	407.1
SPH2121	342	3120	78.8	30.6		66.9	52.9	61.0	48.4	99.3	55.9	135.6	57.1	52.4	65.3	72.3	59.8	111.6	88.9	148.8	84.5
SPH2122	891	3205	76.5	15.1		64.9	61.1	70.4	65.0	83.6	76.0	93.9	76.5	52.2	66.7	79.8	61.3	75.8	103.9	93.5	100.1
SPH2123	984	3696	62.4	8.7		54.6	51.5	55.6	55.3	61.7	63.6	74.8	54.9	79.1	72.4	61.7	58.6	76.6	56.5	64.0	58.2
SPH2124	864	2567	100.6	21.4		96.4	76.4	82.8	73.5	100.9	113.3	101.6	87.8	145.2	112.6	109.3	125.3	132.4	75.5	96.4	80.2
SPH2125	408	1985	138.4	30.5		97.1	90.0	101.9	154.4	127.8	134.1	130.1	113.0	160.6	176.8	129.4	170.1	185.7	121.3	140.1	181.5
SPH2126	1209	3212	76.3	20.1		56.9	60.5	64.3	67.8	70.1	73.0	89.4	64.1	56.1	79.7	91.4	73.2	129.2	64.2	111.0	70.0
SPH2127	816	3255	74.8	12.8		67.2	58.7	65.6	79.8	54.3	53.7	79.7	72.3	85.6	77.0	84.7	80.6	95.2	68.0	94.8	80.3
SPH2128	1221	3605	65.2	12.3		53.6	45.5	59.0	67.4	53.5	68.3	82.0	51.7	62.2	57.6	64.4	65.6	76.6	64.2	81.6	90.0
SPH2129	654	3526	67.1	20.2		82.2	59.6	54.7	56.7	54.5	69.8	46.7	57.1	64.5	65.0	57.1	88.7	45.1	79.9	64.7	127.8

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2130	1023	3571	66.0	10.8		69.4	48.6	60.6	62.9	57.1	58.9	72.7	62.7	67.8	67.0	72.5	55.1	91.0	85.0	58.3	65.8
SPH2131	756	2477	105.2	21.4		105.3	71.0	94.1	95.4	109.4	86.1	119.0	82.2	88.4	96.6	125.5	87.3	148.7	114.5	124.8	135.2
SPH2132	465	3820	58.7	9.4		76.5	51.9	51.2	62.8	50.0	51.9	49.5	54.7	75.1	54.0	62.5	67.0	56.4	47.6	56.4	71.5
SPH2133	396	635	482.1	344.8		748.2	314.8	283.3	181.4	1400.1	573.2	418.6	97.1	624.8	357.6	356.3	173.3	388.2	112.8	847.5	837.0
SPH2134	276	2470	105.3	49.8		163.2	90.3	82.9	91.3	237.7	84.1	79.6	57.1	165.1	74.0	71.9	116.9	64.6	60.3	153.8	92.5
SPH2135	720	3650	63.7	18.9		55.4	44.5	51.4	84.8	53.4	48.2	64.4	59.5	109.4	49.1	58.5	64.1	49.9	50.0	92.2	84.4
SPH2136	837	3407	70.5	16.9		63.4	44.2	66.2	64.4	54.7	62.1	104.0	64.4	78.8	58.3	80.5	63.4	96.7	52.4	82.0	92.3
SPH2137	1311	3976	48.8	5.1		49.2	41.2	42.4	54.1	43.7	50.7	44.2	49.0	50.1	56.2	40.1	51.9	49.4	53.3	49.7	55.8
SPH2138	1848	3558	66.4	17.9		67.0	52.5	46.9	50.7	45.0	73.2	68.8	57.1	78.9	61.2	54.8	93.3	53.9	61.3	93.4	104.1
SPH2139	588	3338	72.5	22.7		58.3	47.2	61.0	62.8	48.0	62.3	84.8	53.3	52.8	97.6	95.2	72.6	119.6	64.0	111.9	68.0
SPH2140	1326	3797	59.4	18.6		56.4	44.5	46.7	48.7	54.3	52.3	80.6	47.5	60.7	49.2	53.6	60.2	49.7	43.4	104.5	98.0
SPH2141	732	1350	218.9	270.0		116.0	76.4	84.9	100.0	71.1	133.1	404.3	66.2	101.3	106.7	101.2	177.1	104.6	99.2	893.2	866.5
SPH2142	546	1901	144.9	178.9		47.6	46.0	66.7	48.2	62.6	68.3	449.2	48.1	53.2	70.5	96.7	74.2	115.6	55.7	643.4	372.8
SPH2143	1869	3562	66.3	22.4		52.9	55.7	50.5	64.2	60.4	56.2	63.4	59.2	97.7	59.3	51.7	72.6	44.8	54.8	83.7	133.9
SPH2144	1137	3686	62.7	14.6		52.8	57.1	47.8	58.5	44.1	73.2	63.7	53.3	55.1	70.7	57.5	76.3	64.0	47.2	98.0	84.5
SPH2145	489	1937	141.8	67.8		92.3	64.6	126.8	96.9	89.8	89.7	285.7	111.9	90.5	136.6	203.5	117.7	279.9	117.7	207.4	158.6
SPH2146	522	3609	65.1	14.9		51.4	61.0	53.1	60.2	63.9	69.2	76.3	55.6	73.7	57.4	61.1	88.0	62.0	36.0	98.0	74.7
SPH2147	1914	1077	279.0	502.0		41.5	34.0	51.5	57.5	38.9	44.9	1102.6	46.0	74.1	51.8	49.1	49.9	50.5	44.3	1536.9	1189.8
SPH2148	1560	3796	59.4	13.3		50.9	46.6	48.3	56.4	42.4	63.6	78.2	54.2	55.7	60.3	49.6	69.7	56.7	49.3	80.4	88.0
SPH2149	192	3081	80.0	28.1		56.2	49.5	60.9	70.7	55.8	68.8	86.8	59.8	79.8	70.5	97.5	93.2	71.5	74.2	151.7	133.7
SPH2150	432	3937	53.3	12.1		56.5	50.4	41.4	53.7	40.4	53.0	44.6	49.5	78.7	50.0	44.7	65.1	41.4	45.3	58.8	79.4
SPH2151	354	3305	73.4	18.9		67.5	59.0	52.1	68.1	59.6	77.0	64.9	79.6	75.4	75.4	62.7	123.3	48.7	81.1	105.9	74.9
SPH2152	363	3326	72.9	21.8		58.9	54.0	57.0	69.3	47.3	83.6	54.3	68.4	86.5	94.4	51.6	89.8	62.5	59.4	119.5	109.8
SPH2153	327	866	346.6	320.9		124.4	114.4	319.5	159.7	149.0	178.3	778.2	192.9	86.7	443.7	731.7	179.4	1269.4	239.9	233.5	344.4
SPH2154	237	3225	76.0	17.5		62.7	69.0	59.5	63.8	53.8	78.2	81.0	62.2	78.2	71.3	89.2	84.4	81.0	66.1	128.0	87.5
SPH2155	1008	3777	60.0	12.5		51.6	49.2	50.3	58.1	47.3	73.0	52.3	54.3	54.0	65.6	61.8	81.3	53.9	47.5	86.9	73.7
SPH2156	858	3860	57.5	13.2		53.3	46.7	49.4	55.5	43.5	52.4	50.0	55.3	73.8	49.7	53.6	92.1	51.5	48.9	75.9	68.8
SPH2157	663	3522	67.4	13.7		54.5	57.3	52.4	69.9	52.8	57.9	86.8	57.3	63.0	80.5	69.5	92.4	56.5	62.4	90.1	74.6
SPH2158	909	2436	106.9	108.2		51.4	53.7	60.9	65.2	48.1	73.4	199.0	52.9	57.0	99.0	91.8	65.2	102.1	52.7	481.0	156.3
SPH2159	1500	1668	172.3	151.9		72.6	74.9	99.4	62.1	87.1	120.1	438.1	77.0	65.1	134.1	154.5	109.1	189.7	117.8	556.6	399.0
SPH2160	1560	3150	78.0	28.7		58.0	47.7	63.1	72.1	54.3	90.2	158.4	55.8	63.5	74.6	63.5	77.1	70.1	73.1	104.4	121.7
SPH2161	1530	2965	83.9	25.6		71.9	69.0	62.6	61.7	57.0	126.0	116.7	61.0	64.3	76.7	69.8	112.9	84.7	67.6	117.9	122.6
SPH2162	1500	3544	66.7	19.8		58.8	55.8	49.5	78.0	55.0	55.7	58.4	54.5	74.0	55.3	60.6	117.0	51.1	53.7	93.0	97.5
SPH2163	573	3673	63.0	16.9		53.1	46.2	52.8	64.9	46.3	55.3	83.2	49.1	81.2	59.9	68.8	67.1	53.4	41.5	83.4	101.8

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2164	561	2657	96.2	43.5		63.2	50.6	81.2	54.8	59.2	76.1	189.6	83.6	63.3	108.2	131.8	82.4	157.4	82.7	172.2	82.8
SPH2165	303	3071	80.3	22.3		80.5	57.8	71.3	74.0	52.6	80.9	83.8	63.1	58.9	85.2	128.6	79.3	131.5	65.2	81.0	90.9
SPH2166	603	3462	68.9	20.9		67.9	44.3	49.6	78.1	52.9	51.8	66.4	48.8	108.7	73.8	65.8	87.4	55.2	60.7	73.9	116.5
SPH2167	1062	3446	69.4	23.9		55.9	54.9	55.9	77.0	50.4	62.7	62.3	65.7	83.3	66.2	52.2	88.3	57.4	45.8	88.8	143.8
SPH2168	1017	2774	91.5	26.3		67.1	63.4	101.8	80.0	73.8	91.5	127.6	87.9	90.8	90.1	134.3	76.8	154.7	63.7	73.4	87.0
SPH2169	1104	2864	87.9	26.1		59.4	59.2	70.5	84.6	58.9	138.6	77.6	73.0	74.3	95.2	107.6	85.4	105.8	65.2	135.5	115.8
SPH2170	657	2662	95.9	25.1		66.1	64.4	85.5	82.1	89.5	75.6	111.3	62.6	111.3	117.1	119.0	123.4	95.8	98.2	80.0	152.8
SPH2171	2193	3768	60.3	11.0		59.2	52.2	56.3	58.9	47.7	60.0	55.3	48.3	49.9	60.8	66.0	68.9	72.4	48.2	85.7	75.5
SPH2173	1659	3455	69.0	14.9		52.6	60.7	55.9	84.0	56.9	61.1	59.9	59.3	72.1	87.8	53.9	93.6	61.8	65.3	83.1	96.0
SPH2174	1077	3256	74.8	21.2		51.0	66.8	82.5	59.0	63.8	66.4	96.4	82.0	87.3	81.6	91.3	49.7	132.6	56.9	57.3	72.5
SPH2175	1002	2659	96.0	19.5		63.9	82.2	86.3	100.9	73.2	75.6	102.9	107.3	87.1	125.5	103.4	100.0	137.0	79.0	111.9	100.5
SPH2176	786	2719	93.9	27.0		90.7	69.5	93.5	81.7	66.7	61.8	97.5	97.6	153.0	132.6	105.0	62.8	89.0	76.6	86.6	137.8
SPH2177	837	2272	116.6	27.4		95.5	91.4	92.0	134.7	87.1	89.9	119.9	145.5	148.7	152.6	122.9	96.9	152.5	98.4	84.4	154.0
SPH2178	711	2610	98.2	30.4		76.4	66.7	97.8	67.9	80.7	66.9	112.2	123.0	137.6	121.9	149.3	72.2	152.4	83.1	92.5	70.1
SPH2179	699	3392	70.9	10.3		71.2	66.1	54.5	74.9	58.1	83.2	68.9	66.0	92.4	79.2	58.8	77.9	80.1	62.0	75.0	65.4
SPH2180	837	2796	90.7	36.8		79.2	67.4	62.8	61.6	53.7	70.6	71.1	101.1	173.1	175.6	70.6	80.8	122.1	89.2	94.8	77.1
SPH2181	816	3941	53.0	9.2		47.9	55.2	53.2	52.1	47.6	56.4	50.2	42.4	47.6	50.7	67.3	57.7	67.9	35.2	48.2	68.5
SPH2182	1014	2642	96.9	19.2		71.9	96.5	102.3	77.5	94.3	133.4	80.6	90.1	61.8	121.4	80.0	104.6	114.6	103.4	113.0	104.6
SPH2183	1218	2671	95.5	14.7		102.0	106.0	85.1	72.5	107.3	93.1	99.7	126.5	86.6	89.2	90.0	86.9	87.9	121.4	76.0	97.7
SPH2184	1443	3772	60.2	8.0		58.5	51.5	50.8	64.6	45.3	66.5	72.1	50.5	63.5	66.5	57.9	66.4	58.9	54.9	64.0	71.7
SPH2185	1041	2306	114.9	141.1		59.7	47.1	61.7	63.1	56.5	63.2	622.1	60.6	57.8	82.3	85.4	66.6	105.9	59.9	143.5	203.2
SPH2186	1110	2145	125.6	73.3		80.8	67.8	74.2	76.5	64.2	123.4	269.2	85.1	80.5	116.5	100.3	188.4	99.9	74.2	276.7	231.6
SPH2187	960	2195	121.8	230.3		50.9	44.4	49.2	51.9	40.5	49.7	974.4	45.8	54.1	45.0	64.0	54.7	68.5	43.6	146.1	166.5
SPH2188	972	1360	217.0	562.2		54.4	50.6	55.7	62.6	45.5	58.3	2317.3	44.4	53.1	55.7	62.2	78.1	77.7	65.5	161.1	229.4
SPH2189	1800	663	464.0	1521.2		84.1	44.4	59.2	57.1	61.3	53.0	6164.0	54.3	71.5	50.8	66.0	58.6	70.1	60.3	195.3	274.4
SPH2190	837	1030	291.1	850.3		57.9	56.9	54.1	64.7	53.9	76.1	3475.1	62.9	77.8	60.3	61.6	76.5	55.6	52.4	225.3	146.1
SPH2191	1476	2033	135.4	287.1		51.0	50.7	48.1	64.6	45.6	59.5	1210.5	62.2	74.2	59.1	51.8	79.2	59.8	61.5	80.6	107.7
SPH2192	912	1934	142.1	267.9		60.8	49.8	50.9	58.8	57.2	71.5	1139.2	58.0	71.9	92.9	59.0	72.4	64.3	71.5	182.3	113.0
SPH2193	795	1539	187.8	455.8		49.7	46.4	71.1	55.3	57.3	56.2	1894.6	64.9	70.9	65.4	99.0	53.6	105.9	88.0	141.7	85.0
SPH2194	591	1325	224.8	400.9		150.7	81.6	82.4	111.5	148.0	95.7	1706.8	101.6	100.6	73.8	80.3	102.7	99.3	110.5	344.0	206.8
SPH2195	411	1523	189.6	264.7		131.6	85.3	92.9	96.8	152.2	122.6	1173.2	81.8	83.7	122.8	122.7	99.7	146.6	145.7	219.7	155.8
SPH2196	3099	3934	53.6	10.6		56.2	46.8	44.9	41.3	55.8	49.1	57.2	48.0	70.4	51.6	46.9	58.2	41.3	48.9	59.6	81.4
SPH2197	1113	3713	62.1	11.6		62.5	54.8	49.8	56.1	56.6	62.4	58.8	57.9	65.9	64.2	60.9	76.6	54.5	47.6	68.7	96.1
SPH2198	1299	3935	53.6	8.7		45.5	42.6	45.7	59.1	54.3	48.2	46.0	59.1	64.5	48.6	45.9	55.3	48.9	54.2	71.5	67.5

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2199	945	3083	80.0	20.4		67.7	57.4	65.0	73.5	58.9	59.8	79.1	80.1	85.4	76.2	78.3	124.5	82.0	72.2	92.6	127.1
SPH2200	3189	3816	58.7	12.7		64.0	46.5	52.1	60.4	48.1	48.5	54.7	52.9	61.9	55.6	48.3	62.8	58.6	50.3	83.6	91.6
SPH2201	957	3589	65.4	14.0		61.6	57.2	50.8	57.8	57.6	95.7	58.7	65.9	49.4	58.7	56.8	88.1	58.2	78.3	65.8	86.5
SPH2202	1227	3891	56.5	9.7		48.5	49.1	51.2	69.7	42.4	60.2	50.1	52.0	52.1	59.7	55.7	75.4	47.3	52.6	65.8	72.2
SPH2203	2868	3414	70.3	15.4		67.0	61.3	66.1	50.1	56.9	83.6	70.9	61.8	59.7	74.4	79.7	61.8	118.4	70.6	71.2	71.4
SPH2204	825	1803	154.1	62.9		116.3	105.4	138.9	108.6	175.4	96.9	160.4	99.5	153.0	182.6	217.0	109.2	331.7	118.7	230.9	121.7
SPH2205	1539	2600	98.6	22.9		110.6	112.6	81.4	88.4	134.5	88.0	85.7	66.5	114.7	98.9	75.2	113.1	76.1	81.4	150.4	100.6
SPH2206	639	1373	215.6	70.1		219.2	174.5	159.0	137.7	277.8	161.8	162.3	131.0	369.5	233.9	177.2	253.5	278.5	150.4	314.8	247.7
SPH2207	1413	3388	70.9	22.0		63.6	57.2	62.2	59.4	47.1	96.3	54.8	65.7	58.4	70.4	61.3	116.1	50.4	59.7	104.7	107.2
SPH2208	1158	3699	62.3	13.3		56.3	53.9	74.7	82.7	49.4	46.7	54.5	64.3	85.8	43.3	79.1	60.9	73.9	53.3	53.9	64.8
SPH2209	1248	3072	80.3	15.4		72.7	75.6	88.3	82.4	68.9	81.5	84.0	74.4	66.7	77.6	70.1	119.8	71.0	55.1	97.8	99.2
SPH2210	1044	2707	94.3	15.9		83.0	80.3	96.3	116.3	75.1	98.6	82.2	107.2	80.3	98.7	97.0	126.1	79.3	72.5	105.5	110.1
SPH2211	669	2637	97.3	26.1		81.4	81.8	132.1	144.5	80.1	88.7	88.6	112.3	75.7	76.0	137.3	93.2	107.8	70.5	60.0	127.0
SPH2212	1158	3198	76.7	19.5		106.7	78.5	60.8	60.7	123.0	89.3	50.5	76.3	70.3	61.4	65.3	95.3	69.7	58.1	72.1	88.8
SPH2213	918	3878	57.0	11.9		55.2	58.8	52.2	59.1	47.4	74.2	44.4	49.3	55.2	53.8	47.7	64.5	55.3	48.9	52.8	92.4
SPH2214	1575	2761	91.9	50.6		59.0	58.1	60.9	76.6	73.8	61.4	70.3	85.5	250.6	174.8	76.2	95.4	95.8	69.3	72.3	91.1
SPH2215	549	2495	104.5	71.3		58.4	51.1	73.1	80.5	58.3	64.4	92.6	92.3	328.8	216.4	100.6	72.4	124.9	87.4	97.8	73.8
SPH2216	966	2088	130.1	150.6		58.5	63.1	62.2	58.5	54.5	78.4	75.9	97.3	468.6	553.7	64.1	65.1	102.8	82.8	80.6	115.1
SPH2217	672	3590	65.4	12.8		67.2	53.6	54.6	75.6	49.5	52.7	52.0	72.1	81.8	76.4	52.9	82.7	48.8	72.5	74.4	80.3
SPH2218	975	3882	56.8	12.8		49.3	48.0	50.1	70.3	43.5	58.9	47.1	61.0	66.5	58.9	38.1	70.5	43.0	47.6	78.9	76.4
SPH2219	813	2029	135.6	45.8		123.3	124.4	120.8	125.4	95.7	98.1	116.7	122.4	143.4	108.2	126.7	202.3	96.6	117.4	177.1	271.1
SPH2220	1983	1577	183.6	85.3		155.7	301.6	319.9	282.0	158.2	138.7	116.7	345.0	209.4	166.4	178.8	185.0	116.9	84.1	86.3	93.1
SPH2221	3033	3494	67.9	39.1		68.8	47.6	50.3	57.4	53.7	48.2	55.2	56.0	79.8	50.7	50.0	85.5	47.4	41.9	89.5	204.1
SPH2222	222	3736	61.5	11.3		58.3	60.0	60.4	45.6	51.6	81.5	64.1	54.2	53.0	68.5	58.7	51.4	79.2	49.1	79.9	68.2
SPH2223	405	1313	226.1	62.5		242.1	268.3	246.1	206.2	203.4	197.1	281.7	322.8	134.0	244.7	302.8	192.7	322.4	152.8	146.5	153.8
SPH2224	1017	2268	117.0	48.4		87.7	97.5	96.2	129.3	87.8	142.6	77.2	130.4	73.8	106.7	89.9	214.1	80.6	108.7	104.5	244.7
SPH2225	504	643	478.3	125.3		423.9	421.2	501.6	445.2	424.7	406.8	354.5	329.1	673.9	489.6	384.2	443.2	420.5	481.4	666.1	786.7
SPH2226	1074	1055	285.3	164.8		451.0	421.2	234.4	247.2	249.7	238.9	292.6	589.7	168.9	164.2	169.4	114.8	170.0	679.4	221.7	151.0
SPH2227	1116	2237	118.5	36.6		109.1	131.7	111.2	134.1	90.8	104.1	80.6	118.1	114.9	96.1	104.9	210.2	80.0	85.9	132.6	190.8
SPH2228	495	1456	199.7	84.4		225.0	138.2	165.8	167.0	312.4	117.9	177.8	106.1	278.2	170.8	215.8	431.8	119.4	140.7	217.1	211.8
SPH2229	2598	1397	212.2	90.3		202.3	327.9	283.8	242.8	199.1	243.2	129.5	439.9	215.9	194.7	206.0	259.4	133.7	114.3	104.5	98.2
SPH2230	570	3819	58.7	10.8		76.2	69.4	47.6	49.1	56.4	70.8	40.4	65.0	57.0	69.0	40.8	59.8	61.8	51.4	57.0	67.5
SPH2231	1329	1107	272.3	146.0		173.4	518.7	476.8	250.9	155.7	256.2	147.1	219.3	520.0	258.4	409.8	397.3	153.3	227.2	89.7	102.6
SPH2232	699	2592	99.0	14.7		89.8	97.6	97.4	122.4	83.7	99.2	89.4	96.9	87.5	98.6	93.1	96.8	74.2	119.9	107.4	130.2

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2233	519	2363	111.6	24.4		88.3	91.7	103.1	118.7	90.5	115.6	89.9	106.2	91.9	125.8	93.6	165.9	104.9	132.3	106.2	161.7
SPH2234	453	1569	184.4	272.2		121.3	95.1	143.9	87.3	172.8	152.8	93.3	96.3	168.4	106.0	85.9	149.3	92.0	1198.8	90.3	96.1
SPH2235	567	1105	272.8	248.4		261.6	162.7	182.2	204.6	397.4	255.9	158.3	174.2	346.4	168.6	139.3	233.5	120.4	1162.7	202.9	193.9
SPH2236	1275	2902	85.9	20.4		71.3	54.1	69.0	69.7	84.2	93.8	110.8	66.1	63.0	90.0	89.7	94.8	90.8	134.9	104.2	88.6
SPH2237	984	2505	104.0	96.9		66.7	49.6	45.1	81.4	50.4	49.8	273.3	61.3	79.6	52.3	70.3	62.4	47.1	66.5	356.2	251.7
SPH2238	1422	2126	126.7	123.6		56.2	50.0	60.8	73.5	60.8	101.1	301.3	61.4	79.4	72.1	64.4	92.1	88.9	73.7	473.8	317.5
SPH2239	1041	2385	110.4	87.1		56.4	58.9	65.9	70.1	61.4	61.0	329.3	59.7	75.6	80.3	69.2	72.5	106.7	83.6	259.8	255.5
SPH2240	828	2091	129.8	141.4		46.4	47.5	64.4	51.5	58.1	66.6	365.6	51.2	56.0	100.0	68.1	73.7	112.4	72.1	515.5	328.2
SPH2241	1059	2177	122.6	144.1		49.7	41.7	61.1	60.5	51.1	50.6	528.4	56.5	55.7	63.1	70.1	67.6	88.3	70.0	408.0	239.1
SPH2242	1239	918	326.2	474.3		69.8	64.2	109.4	92.3	80.9	83.7	1420.2	73.7	113.8	107.6	121.3	96.7	222.8	166.4	1278.4	1118.5
SPH2243	993	796	383.3	626.7		56.7	52.1	89.6	66.7	59.9	56.4	1546.7	67.5	90.9	90.1	136.2	63.2	196.5	181.9	1726.1	1652.4
SPH2244	2025	3620	64.8	9.8		71.6	75.8	49.6	60.3	70.0	74.6	59.3	68.7	74.0	73.0	47.6	72.1	48.0	64.7	57.5	69.1
SPH2245	381	2946	84.6	43.5		75.6	60.8	59.4	56.9	90.9	50.4	60.1	47.3	127.7	115.5	74.3	53.1	204.0	148.5	56.7	72.4
SPH2246	645	3880	56.8	9.0		64.4	65.8	55.6	62.4	66.8	43.0	47.9	54.2	59.0	49.4	44.2	49.6	58.2	76.5	55.6	57.2
SPH2247	264	516	582.5	579.6		642.8	553.9	571.8	519.1	353.7	306.0	398.5	871.1	275.7	413.1	551.1	253.4	524.2	2651.6	242.9	191.1
SPH2248	693	2705	94.4	79.6		66.9	60.4	58.6	68.0	52.4	61.7	55.4	70.8	82.4	64.8	61.7	121.6	52.7	55.5	337.4	239.7
SPH2249	456	596	508.2	811.1		172.2	128.1	190.4	186.0	123.1	101.3	175.0	149.2	280.3	367.2	321.1	262.5	285.8	238.9	2480.2	2670.1
SPH2250	1158	1812	152.9	48.2		187.1	201.5	188.1	197.4	154.2	231.7	117.9	243.2	147.5	119.8	108.7	118.0	113.2	104.5	105.7	107.4
SPH2251	225	2009	136.7	41.6		232.5	173.8	113.1	125.5	190.4	139.9	94.8	176.2	126.5	153.5	77.8	153.0	93.0	98.1	106.2	132.1
SPH2252	1848	1683	170.7	60.5		120.6	156.4	268.6	156.9	99.6	158.9	150.6	263.3	251.4	229.7	224.5	123.1	196.6	141.2	97.5	92.6
SPH2253	1941	2721	93.7	15.2		78.0	65.5	80.7	97.4	97.6	94.6	85.9	88.5	106.6	86.8	89.2	124.0	110.9	78.7	101.0	114.4
SPH2254	1257	1785	156.2	77.4		118.3	110.3	163.9	113.5	132.1	108.4	224.0	139.9	108.0	127.7	254.8	69.9	392.5	140.2	141.8	153.4
SPH2255	1896	3470	68.7	16.0		58.4	48.5	62.5	76.4	57.1	50.1	58.4	55.3	77.9	56.3	85.4	72.5	82.4	107.8	67.6	82.7
SPH2256	888	334	879.2	771.1		413.5	260.0	590.3	557.7	682.0	318.3	658.0	286.5	390.3	522.0	554.5	1008.8	1100.7	3134.9	1986.6	1603.5
SPH2257	807	1970	139.4	220.3		61.2	62.9	98.0	79.7	100.0	61.8	84.3	76.6	80.0	73.0	78.4	85.7	114.5	963.1	121.9	88.7
SPH2258	564	485	618.6	635.3		363.6	504.3	1188.8	2231.6	322.9	65.7	882.9	420.3	248.7	233.3	663.9	1872.0	121.1	448.1	189.0	141.8
SPH2259	1014	1369	216.0	126.2		232.1	266.2	234.6	176.6	226.4	111.6	180.5	130.3	97.4	127.7	199.5	172.9	172.1	646.8	210.4	270.6
SPH2260	408	430	695.8	414.3		1523.9	615.9	1026.8	1189.4	345.5	231.9	208.8	809.1	833.4	837.2	767.6	1328.9	416.8	455.2	291.1	251.4
SPH2261	768	1283	230.9	69.4		222.3	332.7	272.8	224.8	279.4	110.2	315.7	184.2	163.9	215.1	253.5	135.9	228.2	347.2	251.7	156.9
SPH2262	2682	951	310.5	221.9		300.3	226.8	204.8	165.9	394.1	247.4	501.1	170.8	180.4	203.5	149.4	237.8	178.4	165.1	901.1	741.1
SPH2263	717	2352	112.2	27.0		151.2	132.9	108.6	128.3	108.0	99.8	87.3	119.8	130.9	107.9	75.2	108.9	67.3	72.8	146.3	149.6
SPH2264	3150	1552	186.4	46.1		188.0	245.2	154.5	144.3	175.8	295.6	159.5	228.2	110.0	186.6	143.4	206.3	153.8	228.0	172.3	191.9
SPH2265	1080	1900	144.9	81.7		281.6	243.5	119.3	93.8	170.7	175.2	118.7	355.6	66.5	95.8	95.1	81.4	95.5	109.6	121.3	95.2
SPH2266	588	2297	115.3	56.0		188.0	197.4	93.7	83.0	153.4	102.6	125.0	248.5	69.4	73.8	71.6	76.6	72.9	57.4	144.5	86.7

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2267	666	1599	181.9	111.2		246.8	232.0	132.2	95.3	217.7	350.6	180.5	503.6	91.2	104.0	108.3	132.5	121.9	118.7	106.1	168.1
SPH2268	543	644	478.0	271.0		704.6	680.2	324.1	413.8	585.9	757.0	533.2	1205.1	270.0	360.8	198.1	267.5	230.1	169.9	583.3	363.7
SPH2269	1290	1183	253.4	172.8		466.0	433.5	192.6	232.0	348.0	400.4	230.7	700.6	126.9	138.6	105.6	108.3	125.6	98.3	243.3	103.5
SPH2270	1416	3101	79.3	26.2		92.7	107.3	64.6	71.5	81.6	89.6	99.5	154.1	68.5	49.1	46.4	72.5	66.4	54.7	75.4	75.2
SPH2271	1308	919	325.8	162.6		444.8	391.3	321.6	239.3	355.8	432.3	380.4	824.1	174.9	248.5	256.9	152.3	330.0	301.4	183.6	175.8
SPH2272	537	1442	202.6	77.4		227.2	292.3	274.3	324.7	203.2	257.4	165.3	313.5	98.9	121.5	189.6	224.3	110.0	91.3	130.0	218.8
SPH2273	1095	1446	201.8	92.8		239.4	289.0	355.6	265.8	259.8	215.8	173.7	374.0	155.7	112.4	228.3	180.9	93.7	109.7	66.1	108.6
SPH2274	1137	2938	84.7	21.6		88.4	111.4	107.7	77.9	93.9	80.7	62.0	111.2	68.4	75.1	67.2	94.2	58.6	67.1	61.0	130.2
SPH2275	684	2543	102.0	16.9		85.3	113.9	98.1	105.8	89.8	143.6	94.1	114.2	69.8	98.5	93.1	120.0	98.1	92.4	115.5	99.8
SPH2276	717	3331	72.8	14.4		67.7	57.3	70.9	66.4	66.8	59.0	80.6	69.9	83.1	65.2	80.5	68.2	92.9	49.5	78.4	108.7
SPH2277	993	2119	127.4	63.9		98.0	156.5	210.1	126.8	67.6	102.4	72.8	92.5	293.1	230.0	107.7	95.3	68.6	112.6	101.7	103.5
SPH2278	210	367	797.0	1124.0		274.9	419.8	603.9	419.6	104.4	269.4	176.2	237.9	3073.9	4085.5	301.1	282.3	275.4	988.0	719.3	519.8
SPH2279	3138	120	2091.5	3407.3		295.1	383.7	891.2	597.8	177.4	523.9	247.9	532.6	10144.2	10896.3	420.9	294.4	1989.7	3625.1	1455.6	987.3
SPH2280	1476	2602	98.6	18.2		85.7	105.4	87.9	129.1	78.1	86.1	71.0	106.6	108.3	114.3	91.3	99.4	78.6	94.6	103.3	137.2
SPH2281	1455	1776	157.4	35.2		182.2	174.4	240.2	182.0	159.0	176.6	180.7	178.7	117.9	121.2	146.8	138.6	108.3	102.0	160.3	149.7
SPH2282	579	2417	108.3	18.5		109.1	96.7	97.1	95.4	152.3	94.4	119.3	118.0	104.8	96.3	102.3	75.4	118.5	125.9	131.1	97.0
SPH2283	1929	2546	101.7	31.3		106.2	79.4	77.6	64.1	106.5	108.9	106.9	82.4	77.4	110.4	84.5	65.1	149.6	184.2	107.6	117.0
SPH2284	1800	2456	106.1	36.3		100.5	72.2	69.9	94.4	95.7	122.7	78.3	74.5	118.1	112.2	69.6	110.9	121.6	87.4	200.1	169.3
SPH2285	1134	1960	140.0	44.3		207.5	197.9	159.2	141.0	198.1	158.8	112.8	184.7	178.9	119.0	121.2	74.0	112.2	85.4	83.7	105.6
SPH2286	387	1400	210.8	85.0		149.5	195.0	233.0	173.4	154.6	196.4	182.7	184.1	159.5	238.3	301.5	150.7	460.2	309.7	121.0	163.5
SPH2287	2316	3096	79.4	21.7		81.6	104.2	76.1	72.6	76.8	69.8	64.4	137.3	66.5	83.2	67.0	93.8	50.6	57.7	63.8	104.8
SPH2288	1023	78	3158.1	3822.7		5372.5	3606.0	139.8	110.6	7694.2	13449.7	150.1	201.7	3950.1	4491.1	202.7	132.9	6615.5	4133.4	181.8	98.0
SPH2289	501	395	746.6	877.2		1348.6	955.1	131.3	102.2	2179.2	2928.9	107.1	105.3	680.9	656.1	115.7	62.8	658.5	1729.5	95.5	89.4
SPH2290	756	1294	228.7	172.8		286.1	186.6	142.0	133.4	287.6	338.2	137.8	124.6	238.5	178.5	107.9	200.0	151.4	824.2	117.3	205.4
SPH2291	882	2244	118.0	50.1		112.8	86.4	86.6	96.7	109.1	92.9	84.4	99.7	98.6	111.7	118.4	127.0	102.7	295.7	120.1	145.0
SPH2292	408	896	333.8	316.0		120.3	104.8	313.7	168.2	164.9	105.0	503.5	229.6	147.9	453.5	807.3	112.9	1261.2	483.5	158.9	206.2
SPH2293	978	3970	49.9	12.8		43.6	38.2	34.0	44.0	45.4	61.7	51.9	42.3	46.9	60.4	41.2	57.8	46.0	36.8	82.3	66.3
SPH2294	738	3343	72.3	14.9		63.2	67.5	62.7	62.8	82.3	76.4	62.2	65.6	105.3	67.7	60.8	82.7	56.4	61.8	104.5	74.7
SPH2295	741	2718	93.9	15.4		111.9	105.2	99.1	128.0	99.2	107.3	79.3	92.1	95.3	86.5	76.7	78.9	78.9	105.5	87.7	70.8
SPH2296	69	1150	261.7	293.7		97.7	96.4	322.4	120.3	183.4	103.1	433.2	142.2	86.5	245.5	584.8	75.0	1224.1	247.2	102.2	122.3
SPH2297	1608	3588	65.5	13.6		59.8	58.4	48.7	83.5	44.9	72.4	58.6	57.3	72.5	63.6	58.6	84.9	64.1	55.3	70.0	95.4
SPH2298	1572	3574	65.9	13.0		54.9	43.4	51.0	59.5	55.4	81.0	72.3	52.8	57.3	85.6	80.0	64.7	84.6	66.0	73.6	71.9
SPH2299	1569	3802	59.3	5.5		60.3	53.8	49.2	55.7	58.4	62.5	59.2	55.1	54.6	57.2	59.0	64.2	57.3	63.3	67.9	70.8
SPH2300	84	3144	78.1	47.3		42.1	47.0	92.4	52.3	45.1	54.3	128.9	49.7	45.3	66.5	143.8	47.9	215.3	72.0	74.4	72.8

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2301	747	3528	67.1	16.6		51.2	54.5	58.7	85.3	55.5	51.5	69.3	62.4	82.9	63.8	54.8	76.2	63.0	54.9	75.8	114.0
SPH2302	2274	2623	97.7	32.5		76.9	53.0	95.2	67.8	88.0	97.0	137.9	71.3	78.3	116.1	151.3	84.8	175.1	79.3	91.6	100.2
SPH2303	1659	3923	54.2	8.9		52.4	49.9	44.4	55.1	50.6	54.9	47.5	54.1	62.9	55.7	46.9	53.7	48.8	46.9	62.6	81.2
SPH2304	1032	3774	60.2	13.5		54.5	49.8	58.1	57.8	49.8	49.9	57.3	59.5	55.1	56.0	85.6	49.5	80.0	53.1	54.1	92.8
SPH2305	948	2243	118.1	58.8		71.4	72.7	152.4	92.6	76.4	74.8	145.7	93.1	69.7	165.3	287.3	101.9	175.4	150.3	88.0	72.0
SPH2306	480	2947	84.5	17.0		82.9	75.1	91.9	77.8	93.1	69.6	106.0	103.3	69.8	84.8	106.9	81.9	83.2	51.0	111.4	63.6
SPH2307	552	2379	110.6	22.5		118.3	82.3	88.4	104.7	154.1	83.7	126.2	107.3	141.8	123.4	88.1	132.1	106.2	81.0	127.0	104.3
SPH2308	1914	3480	68.5	21.1		64.5	48.1	60.5	77.8	47.3	63.9	56.6	58.3	96.0	58.2	53.2	104.9	51.3	60.5	75.0	119.3
SPH2309	462	3207	76.5	10.8		70.5	77.5	70.3	87.4	73.1	65.0	78.5	86.8	80.6	61.1	71.1	88.4	82.6	58.2	74.8	98.6
SPH2310	1170	3776	60.1	12.3		49.4	58.3	49.7	69.8	54.3	64.8	53.9	54.8	82.3	51.1	48.9	74.6	49.6	47.6	67.9	84.6
SPH2311	1080	3572	65.9	20.5		52.5	51.4	67.8	44.2	49.9	66.8	75.3	65.4	44.3	85.5	105.6	58.8	110.6	51.0	76.6	48.6
SPH2312	2037	3957	51.8	9.5		56.6	46.9	44.9	45.1	44.1	57.5	50.0	42.5	53.6	56.2	42.3	58.8	49.6	43.1	78.9	58.7
SPH2313	2016	2933	84.8	26.4		78.5	61.3	68.5	78.9	64.4	63.2	86.7	73.8	87.5	71.9	73.5	115.5	81.5	79.0	104.4	167.8
SPH2314	2760	3636	64.3	17.3		57.6	58.9	48.3	73.2	50.5	78.2	52.1	54.5	60.5	68.0	47.1	77.2	49.1	52.4	98.5	102.3
SPH2315	1821	122	2075.9	1322.5		3105.5	1173.2	883.3	1079.1	4496.6	2188.6	3506.1	786.3	2961.3	2412.4	530.4	789.3	1378.9	713.2	4054.0	3156.4
SPH2316	1170	2266	117.0	48.3		100.4	110.8	110.8	98.8	98.3	84.6	135.3	88.8	131.7	111.4	117.1	91.7	101.2	75.3	286.5	129.8
SPH2317	675	3152	77.9	14.6		72.5	60.2	67.8	85.8	72.7	67.7	72.2	71.9	114.0	91.5	65.5	76.5	92.6	69.6	98.7	67.4
SPH2318	810	574	530.2	177.1		497.0	608.4	431.9	424.8	582.0	580.7	615.3	432.3	638.9	672.1	613.6	217.9	1001.8	360.3	387.6	417.9
SPH2319	633	1468	197.7	86.8		159.4	227.8	174.7	108.1	185.2	164.1	158.7	161.3	218.8	338.6	163.5	149.0	463.0	153.3	173.0	165.3
SPH2320	1650	3427	70.0	12.6		71.0	66.2	61.8	75.1	61.3	61.8	57.7	53.4	76.8	70.2	66.0	83.2	58.9	76.1	105.7	74.4
SPH2321	1953	230	1235.8	712.9		1931.9	1949.1	1443.3	1071.6	2645.3	2131.1	220.0	583.2	1275.7	915.9	1509.3	991.6	1486.0	1148.6	258.9	210.5
SPH2322	390	2811	90.0	22.0		113.2	101.0	96.1	106.9	113.8	70.5	79.4	124.3	124.7	85.2	87.8	59.1	78.0	71.2	63.4	64.9
SPH2323	1032	724	426.2	303.5		304.5	169.0	318.1	233.5	343.5	311.2	427.9	216.0	206.3	472.6	394.6	225.2	861.1	1371.2	542.1	423.3
SPH2324	1950	2517	103.4	21.5		87.2	89.9	114.3	108.1	79.8	91.2	102.6	88.2	106.3	105.6	95.2	143.0	99.0	82.3	100.8	160.7
SPH2325	1491	2515	103.5	28.0		153.7	132.2	119.6	127.6	110.5	89.1	103.8	143.4	100.4	54.4	91.2	86.4	66.8	67.9	93.8	116.1
SPH2326	900	1401	210.5	30.4		224.9	241.2	220.5	189.4	226.2	206.7	188.0	265.5	168.2	178.1	230.9	201.8	170.5	195.2	265.5	195.9
SPH2327	828	2183	122.3	25.0		158.7	153.9	156.2	125.4	150.2	97.9	122.1	151.7	112.3	83.3	122.2	109.9	93.2	93.8	117.8	109.0
SPH2328	924	1441	202.7	29.2		210.0	215.1	206.0	190.5	236.1	239.3	176.8	233.7	192.3	177.3	203.5	183.2	164.5	217.3	251.3	146.8
SPH2329	2019	995	298.4	145.7		570.6	484.6	359.1	333.2	547.3	294.1	243.9	441.8	213.7	140.6	221.3	271.3	103.3	147.0	219.5	182.7
SPH2330	1041	17	8356.9	3272.6		12778.3	11166.0	8468.9	8851.0	13076.3	13513.7	5154.4	11631.0	6238.5	4961.7	6928.4	6883.0	5119.8	2766.3	8795.7	7376.9
SPH2331	1242	198	1389.3	763.8		2840.5	2250.8	1355.8	1453.9	2216.6	2409.2	571.0	2239.5	1245.9	922.9	905.9	834.1	543.7	469.6	1221.1	748.9
SPH2332	1578	146	1771.4	1246.0		3022.1	2361.6	1783.9	1677.6	2818.0	3459.8	516.4	4819.9	1773.5	1673.6	826.9	669.6	1013.1	631.2	782.1	513.7
SPH2333	1065	184	1481.3	649.0		1183.0	1726.7	2253.0	2217.7	1100.9	1225.1	1689.2	1416.3	2067.9	1575.3	2378.9	2331.4	745.9	567.7	644.1	578.5
SPH2334	732	1685	170.4	65.7		166.1	170.4	174.3	128.2	160.7	145.2	151.3	198.7	333.5	313.1	128.4	116.5	190.7	121.3	102.5	125.8

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2335	276	1929	142.5	56.7		136.5	155.0	132.3	80.0	210.6	122.5	181.9	107.6	219.0	182.0	166.7	69.6	255.5	96.1	103.1	62.2
SPH2336	564	424	706.3	615.7		295.8	355.5	803.1	583.1	349.5	314.4	1004.1	571.3	373.8	1089.9	1340.7	293.7	2666.1	504.5	542.1	213.1
SPH2337	657	1429	205.6	81.3		198.6	173.2	200.7	126.1	201.3	88.8	260.2	139.0	138.9	134.8	371.9	196.4	221.7	366.7	287.6	184.1
SPH2338	411	1331	222.0	72.2		174.6	145.6	153.5	110.6	364.7	210.2	279.0	138.2	167.2	241.9	226.5	226.2	271.9	257.6	343.2	241.0
SPH2339	669	1237	242.4	110.3		373.4	376.0	275.0	200.0	242.2	216.3	249.1	480.2	101.0	170.2	304.1	117.1	267.0	294.1	138.5	73.4
SPH2340	333	1060	284.2	107.9		328.6	307.1	234.1	202.0	364.6	247.7	200.3	251.0	256.8	227.3	164.9	181.5	353.5	312.0	619.5	296.7
SPH2341	717	626	490.9	132.5		576.9	521.5	465.8	420.1	627.1	511.0	344.2	481.7	525.0	323.1	365.7	226.7	535.7	631.0	754.5	544.5
SPH2342	762	476	629.7	208.1		668.6	838.8	430.5	399.4	942.7	886.5	808.7	583.2	780.3	643.2	303.3	245.9	559.5	549.6	788.2	646.9
SPH2343	492	879	340.6	341.8		143.2	157.1	605.4	475.3	79.3	100.3	150.3	1387.0	711.7	531.6	264.1	183.1	215.9	141.2	190.5	113.5
SPH2344	1119	1028	291.3	252.4		141.0	133.5	544.0	535.3	112.1	96.8	157.1	996.3	471.1	422.4	355.2	148.6	286.0	103.9	80.0	77.4
SPH2345	1002	1120	269.0	145.6		198.4	247.7	271.8	293.2	121.0	136.5	139.3	338.3	505.4	631.1	217.3	210.1	447.8	228.7	156.4	161.8
SPH2346	66	534	558.6	160.1		718.1	578.4	817.2	689.0	603.1	405.5	557.6	623.1	624.2	442.2	696.0	461.3	280.5	385.9	739.4	315.9
SPH2347	273	302	956.9	250.6		1097.6	894.6	1120.9	1248.8	939.4	785.9	889.9	1039.8	1007.9	928.1	978.9	1099.0	424.4	429.9	1369.8	1054.9
SPH2348	780	2411	108.7	37.4		99.2	121.5	88.2	111.3	60.7	60.8	81.5	145.8	195.5	179.0	82.6	100.4	115.3	106.6	96.6	94.0
SPH2349	825	549	549.4	86.4		712.0	595.4	673.3	634.3	582.1	501.4	600.9	593.4	511.1	446.0	594.4	460.7	410.6	486.6	520.5	467.0
SPH2350	621	3848	57.9	7.5		54.5	53.8	46.6	46.8	54.9	60.8	61.0	53.7	54.6	54.7	55.1	72.1	57.9	62.9	73.4	63.7
SPH2351	2133	2180	122.4	22.9		109.6	145.5	137.3	138.5	93.2	117.7	120.4	144.2	75.0	150.8	152.3	120.9	129.8	105.7	90.5	126.8
SPH2352	1239	798	383.0	138.4		387.8	516.9	551.3	562.3	387.2	404.1	345.4	633.9	328.4	340.1	421.5	367.6	264.5	340.5	171.4	105.9
SPH2353	930	1007	296.4	89.8		369.7	450.8	373.9	295.6	311.3	298.2	160.5	420.9	371.9	302.3	291.7	212.8	181.5	327.8	204.4	169.4
SPH2354	237	2823	89.5	18.1		102.3	74.9	85.2	91.8	145.9	69.2	75.1	89.2	99.1	77.1	80.2	80.9	80.6	84.0	103.0	92.8
SPH2355	987	1833	150.8	46.7		190.6	239.0	174.0	178.8	166.8	115.2	104.4	163.9	157.8	141.9	142.1	233.3	101.0	130.8	82.3	90.3
SPH2356	486	838	358.9	132.2		391.8	514.5	536.1	563.0	315.9	417.4	231.5	429.4	347.0	225.7	425.9	467.3	123.0	340.7	226.6	186.8
SPH2357	522	11	12558.6	2628.3		10346.3	8406.5	10856.6	13834.8	9119.5	12612.7	12926.8	10800.2	15441.9	16893.5	12801.6	14979.6	16014.8	8766.8	13060.3	14075.9
SPH2358	1500	388	761.7	239.8		573.3	639.5	715.1	862.0	648.8	704.4	949.9	770.9	694.8	410.4	820.7	1108.1	309.8	709.4	1209.5	1060.7
SPH2359	723	431	695.7	231.3		701.2	775.5	881.9	825.9	642.5	760.1	942.5	900.4	365.8	393.8	898.8	1086.4	306.7	420.9	637.8	591.6
SPH2360	456	747	407.9	118.4		500.0	469.3	455.1	432.9	447.8	425.7	554.3	546.2	260.9	246.6	439.5	511.4	181.1	207.1	399.9	448.7
SPH2361	1023	116	2179.1	950.6		2409.8	1706.3	1845.9	1889.6	2753.4	2119.1	4337.7	2230.0	1510.0	1174.0	2424.3	2657.6	557.7	928.4	3492.5	2828.7
SPH2362	1011	520	575.8	453.1		274.6	283.0	340.7	318.3	375.5	245.1	1170.5	246.7	347.5	365.1	667.4	884.8	201.5	438.0	1530.2	1524.2
SPH2363	1428	2880	87.2	22.4		70.5	59.1	76.0	75.8	92.1	106.1	74.5	73.0	71.6	120.1	80.6	80.5	95.2	79.6	149.9	90.9
SPH2364	3192	2842	88.8	24.3		79.0	63.5	65.0	71.4	98.5	109.6	92.3	69.6	81.5	109.5	112.7	74.7	157.2	76.5	71.9	87.7
SPH2365	1701	3165	77.7	26.2		56.7	55.8	56.3	74.7	64.6	137.1	68.7	62.1	58.8	86.0	57.2	129.9	72.6	63.7	107.9	90.5
SPH2366	1506	1604	181.7	105.0		174.4	174.1	135.7	123.0	143.8	221.3	90.9	109.4	275.1	482.9	118.5	154.3	341.9	122.9	85.7	153.0
SPH2367	1413	1517	190.6	55.7		233.1	158.1	145.3	138.4	224.9	235.8	160.6	120.1	306.8	264.5	179.5	149.8	263.0	170.3	149.2	150.2
SPH2368	4398	3916	55.0	7.8		53.8	46.2	48.7	70.5	46.5	58.1	51.4	49.7	59.2	55.5	50.6	59.5	44.6	56.0	70.8	58.4

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2369	846	3496	67.8	12.2		61.8	52.0	58.2	76.0	58.2	53.4	73.5	50.7	80.9	75.0	75.9	71.5	92.2	55.9	73.1	77.2
SPH2370	204	3394	70.8	15.8		63.3	58.3	54.5	74.6	76.5	76.5	59.8	56.8	92.6	105.1	56.4	62.9	76.2	51.9	73.4	94.1
SPH2371	1044	812	372.0	162.0		612.0	562.7	540.3	542.9	518.0	486.7	172.5	393.2	266.3	249.8	433.1	379.0	206.1	161.9	302.4	124.7
SPH2372	486	1988	138.3	110.9		82.3	79.4	179.6	76.4	86.8	66.3	234.2	132.7	67.9	154.2	333.6	50.1	441.7	72.6	91.2	64.0
SPH2373	1764	1546	186.9	292.0		68.7	65.2	61.5	73.1	67.2	85.2	1163.0	66.9	79.9	89.6	73.0	102.5	67.3	61.0	569.3	296.5
SPH2374	1107	1464	198.4	80.0		176.4	161.0	141.3	138.3	180.0	169.9	343.1	110.8	139.0	240.0	145.6	203.6	209.3	171.4	228.0	416.7
SPH2375	1338	2968	83.5	14.2		74.6	82.6	68.8	67.3	74.8	94.6	67.5	119.9	89.3	79.5	71.5	100.8	83.2	77.3	95.1	89.2
SPH2376	291	65	3489.0	1954.8		3683.0	3696.1	3041.3	4119.6	3777.5	5378.2	1529.3	5520.1	1460.7	1498.2	5179.7	7642.2	324.9	982.7	3866.2	4123.8
SPH2377	1641	437	684.1	354.9		736.6	597.0	607.4	806.3	975.6	867.4	477.8	1090.1	284.9	242.0	828.6	1391.5	111.6	181.3	837.5	910.8
SPH2378	801	1752	159.7	46.6		160.6	137.3	184.4	136.1	142.0	84.5	211.9	159.7	120.4	191.6	255.5	152.1	227.4	167.6	137.4	87.5
SPH2379	243	1828	151.7	49.2		224.3	220.8	157.7	134.7	201.7	213.4	130.8	219.0	102.5	104.8	108.0	95.7	126.7	168.3	124.5	93.9
SPH2380	1446	2277	116.5	21.6		129.0	118.3	113.6	110.7	153.9	105.4	100.7	171.4	121.2	133.5	115.8	101.5	94.8	98.5	97.9	97.6
SPH2381	351	2343	112.6	78.0		130.5	65.6	61.5	59.7	270.4	105.2	70.4	57.3	178.6	311.5	64.3	54.1	126.9	98.1	85.2	61.9
SPH2382	1527	3421	70.2	14.9		70.6	71.5	56.8	82.9	53.6	77.4	61.0	70.7	58.5	71.5	70.9	78.4	61.3	56.8	65.6	115.8
SPH2383	645	1174	255.1	79.0		168.9	269.9	335.4	266.6	145.3	151.5	203.1	418.9	261.1	360.0	289.0	323.2	267.6	251.0	173.4	196.7
SPH2384	1527	3135	78.3	16.5		73.2	89.9	68.2	79.6	58.1	61.0	59.6	99.3	81.6	82.8	74.5	116.4	60.5	74.5	100.3	73.2
SPH2385	906	1709	165.7	106.6		99.9	114.5	148.5	122.3	133.6	100.5	173.5	131.7	149.0	162.4	153.9	109.9	239.1	544.6	123.1	144.2
SPH2386	240	2336	113.2	44.0		72.5	102.3	132.4	88.8	111.2	64.0	157.2	94.7	99.3	114.8	179.5	89.5	219.5	147.5	74.6	63.4
SPH2387	291	2677	95.3	26.0		88.6	72.5	92.8	93.4	103.4	49.7	96.0	81.4	133.4	75.8	120.3	66.7	102.7	155.2	107.9	84.6
SPH2388	435	3642	64.0	11.1		57.3	52.1	55.3	59.3	54.8	66.5	60.4	52.0	68.2	75.6	70.0	69.6	74.8	47.5	89.7	71.2
SPH2389	264	3735	61.5	13.2		62.2	43.1	44.3	76.4	54.9	49.6	63.8	60.2	66.8	51.9	67.5	55.2	56.0	63.9	71.1	96.5
SPH2390	522	2098	129.1	65.3		80.6	70.7	141.8	72.7	84.0	93.8	188.2	108.0	51.0	202.3	212.5	70.7	267.8	202.0	127.9	92.1
SPH2391	225	1953	140.8	58.5		82.7	87.5	117.5	97.9	76.8	160.4	176.3	105.8	62.0	155.7	163.6	216.0	280.3	153.8	120.3	196.0
SPH2392	2439	3032	81.5	17.9		69.6	55.8	72.0	64.6	58.9	69.3	80.1	72.0	72.5	100.4	87.9	92.2	106.9	85.9	118.2	98.4
SPH2393	540	2814	89.9	29.7		78.1	64.2	89.5	80.6	75.3	72.4	109.1	67.2	82.6	77.5	144.2	58.8	170.5	101.3	76.5	90.5
SPH2394	192	3540	66.8	13.8		56.8	53.1	69.9	52.1	57.5	51.8	70.1	70.0	65.8	70.6	80.6	52.7	101.4	73.4	58.1	84.3
SPH2395	195	3870	57.3	6.1		49.1	54.1	54.8	52.2	51.5	61.1	59.6	50.2	52.9	55.0	56.7	68.3	69.9	60.1	61.3	60.1
SPH2396	279	1582	183.5	72.8		143.4	137.5	212.6	110.1	177.2	149.6	273.3	165.5	88.7	166.2	263.4	121.0	372.4	207.5	218.5	128.5
SPH2397	480	1725	163.9	26.3		147.8	134.4	145.1	150.5	147.1	173.4	173.6	158.9	110.2	193.7	175.2	200.5	213.0	147.1	172.4	179.2
SPH2398	624	2531	102.6	18.3		76.5	85.5	90.9	88.8	80.6	114.2	101.6	105.9	104.3	109.2	82.1	108.8	144.8	104.7	127.5	117.0
SPH2399	1356	2043	134.4	50.8		92.9	71.3	123.3	116.2	93.8	72.0	182.6	90.5	96.8	155.4	203.5	124.1	254.0	157.6	164.6	152.1
SPH2400	447	2973	83.3	25.3		51.8	52.1	76.4	67.9	49.1	73.3	90.8	61.8	76.7	114.8	121.9	98.4	121.7	64.5	109.1	101.8
SPH2401	219	3809	58.9	11.0		51.0	49.1	48.5	55.2	50.3	71.4	47.5	57.4	64.7	68.0	54.3	72.2	50.0	50.5	83.6	68.8
SPH2402	2235	3460	68.9	19.6		56.1	58.2	54.7	69.9	51.8	78.6	60.1	62.7	49.8	75.8	59.4	83.2	71.9	66.8	70.9	132.5

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2403	120	3791	59.6	10.4		55.2	46.9	53.2	62.0	63.3	55.5	66.4	48.5	72.3	48.0	80.2	56.8	57.0	55.9	52.6	79.5
SPH2404	369	1651	174.1	54.5		113.6	123.0	154.7	161.6	119.3	163.9	178.2	130.9	109.7	255.4	198.4	190.0	312.6	165.9	204.3	204.3
SPH2405	495	1865	147.7	115.7		77.2	62.6	158.0	66.3	86.2	105.4	256.7	96.7	57.9	153.0	268.2	89.5	510.0	169.1	92.2	114.9
SPH2406	1176	2652	96.3	25.2		74.3	65.3	69.0	87.4	81.3	96.7	85.3	90.2	90.9	81.7	102.8	150.4	101.4	100.8	108.6	155.1
SPH2407	1545	2837	88.9	30.4		62.4	49.6	72.2	84.8	60.4	66.1	106.3	69.3	62.2	108.0	101.1	94.1	126.7	118.9	77.5	163.3
SPH2408	2712	3682	62.9	19.0		64.7	46.3	54.4	59.2	47.3	46.9	60.0	51.7	79.8	53.0	53.9	84.1	58.3	50.0	78.1	118.3
SPH2409	579	3944	52.9	9.7		52.2	51.1	44.9	49.4	45.0	60.0	44.0	50.3	49.1	55.0	42.5	78.3	48.1	53.1	51.4	71.4
SPH2410	912	3749	61.1	11.5		60.0	51.8	53.5	66.2	45.4	56.5	57.3	63.9	73.1	61.3	53.9	85.1	52.5	56.4	54.5	85.6
SPH2411	360	3073	80.3	24.5		58.0	55.1	59.1	60.4	53.8	91.3	79.1	67.6	69.8	90.5	73.2	82.0	104.5	103.6	87.9	148.2
SPH2412	663	3906	55.6	7.1		48.8	43.0	48.9	54.7	49.3	51.1	53.7	58.0	63.7	64.8	53.6	70.3	59.1	55.2	52.7	62.4
SPH2413	459	3537	66.8	14.7		77.7	56.3	53.7	69.8	46.8	72.9	62.1	52.7	64.0	56.1	60.5	79.6	77.4	57.4	76.3	106.2
SPH2414	492	3329	72.8	26.2		57.5	49.7	60.6	83.2	60.1	51.7	67.3	58.2	78.9	66.9	64.3	98.0	59.8	102.0	55.1	152.0
SPH2415	225	3967	50.7	8.8		48.0	39.7	42.2	54.4	46.8	51.2	42.5	45.4	69.1	50.1	44.2	62.9	42.1	55.9	51.3	64.6
SPH2416	714	3920	54.7	9.0		59.4	42.3	46.0	52.3	50.5	49.1	47.5	44.6	54.1	58.0	47.4	62.9	56.0	73.3	65.6	66.8
SPH2417	1029	3371	71.2	16.8		61.6	57.4	64.5	47.0	54.1	70.9	79.1	57.5	64.4	83.2	89.5	83.3	101.5	72.2	53.2	100.4
SPH2418	1170	2558	101.0	32.9		94.5	58.0	88.6	95.1	58.3	74.5	96.7	88.0	111.5	100.8	118.9	136.6	115.5	115.8	71.1	192.8
SPH2419	1845	3469	68.7	21.8		53.8	43.8	69.8	58.2	52.8	43.6	90.8	52.3	70.5	63.5	96.9	61.4	126.5	70.4	84.0	60.8
SPH2420	1044	2870	87.5	66.0		47.4	51.0	64.0	60.6	57.3	52.1	71.6	56.4	61.1	90.6	88.7	83.8	96.1	317.7	59.0	143.1
SPH2421	795	763	399.4	644.1		132.7	129.2	223.6	144.6	149.3	77.3	245.1	100.0	161.2	240.9	251.8	188.3	230.3	2704.5	818.6	593.5
SPH2422	819	2478	105.1	37.0		61.7	82.4	117.7	87.4	78.3	74.3	118.5	72.7	120.0	146.0	127.8	90.0	214.5	95.0	97.1	98.7
SPH2423	1089	3069	80.3	22.6		64.2	66.9	75.2	74.1	60.7	94.0	81.5	62.2	83.5	91.4	74.1	70.1	117.3	70.7	56.6	143.2
SPH2424	486	3708	62.2	5.6		72.0	56.6	60.4	60.9	63.7	59.4	53.0	60.2	64.6	61.4	60.4	64.7	70.3	53.3	62.1	71.4
SPH2425	822	1601	181.8	82.1		116.9	123.1	157.9	115.3	136.1	158.2	305.2	117.4	116.7	197.5	226.2	89.2	350.0	324.1	225.5	149.7
SPH2426	1143	3180	77.3	11.6		80.5	58.2	70.8	85.2	66.8	66.9	82.8	73.2	94.6	86.9	75.3	66.4	69.1	73.9	83.6	102.6
SPH2427	1014	3074	80.3	14.3		78.0	62.7	66.8	76.1	61.3	81.6	74.5	71.2	108.9	87.7	75.9	113.4	80.7	75.4	86.0	84.1
SPH2428	627	3382	71.0	25.8		61.4	62.0	48.2	91.1	59.0	81.7	53.9	51.3	69.7	61.0	48.6	108.8	48.9	53.2	101.6	135.5
SPH2429	1968	3199	76.6	17.1		68.7	65.8	64.3	86.2	75.5	85.1	55.8	59.6	84.7	70.9	67.3	79.4	74.0	63.5	103.5	122.0
SPH2430	1299	3737	61.5	10.3		58.8	55.4	56.1	65.3	54.3	47.9	54.0	50.7	65.0	56.1	58.7	80.3	53.7	79.9	70.7	76.3
SPH2431	981	1922	143.2	36.6		122.2	125.4	111.8	116.0	161.5	138.1	156.1	106.0	160.0	235.7	109.6	141.1	173.2	165.1	88.9	180.7
SPH2432	600	3236	75.4	36.6		66.2	49.5	53.3	67.9	66.6	49.1	84.1	55.7	77.6	64.6	65.9	66.4	57.7	67.7	114.9	199.0
SPH2433	1590	3640	64.1	7.8		53.4	55.8	58.2	66.7	54.5	70.3	61.4	57.2	56.9	63.4	65.2	72.8	72.0	65.2	73.1	79.0
SPH2434	1959	3959	51.7	8.3		45.8	46.7	43.6	47.2	48.9	73.1	46.7	41.9	54.7	59.3	57.9	44.8	53.7	46.1	54.4	62.3
SPH2435	411	3919	54.8	5.7		56.5	43.1	58.9	58.0	49.0	49.0	55.5	47.3	66.7	54.5	56.6	58.3	59.1	50.9	55.8	57.5
SPH2436	1512	3702	62.3	12.2		56.0	58.2	78.6	75.6	55.0	55.5	48.3	53.0	83.6	51.1	82.8	56.6	68.6	58.7	46.7	67.8

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2437	1776	3352	72.0	19.4		51.0	60.5	50.4	69.4	53.5	76.1	62.4	64.1	66.2	81.1	65.2	82.0	81.4	59.5	109.3	118.9
SPH2438	348	3555	66.4	17.5		57.3	55.7	57.9	70.1	49.7	50.2	61.6	61.8	73.5	74.8	57.6	66.8	71.6	54.4	75.7	123.8
SPH2439	1182	3684	62.8	9.3		54.7	65.9	54.6	63.5	65.4	56.0	56.6	53.9	64.8	77.6	61.6	58.8	63.9	52.2	69.3	86.7
SPH2441	891	2964	83.9	16.6		77.1	68.5	90.8	90.1	110.8	65.0	71.2	104.5	82.9	65.3	92.3	109.1	67.7	60.0	90.2	97.3
SPH2442	930	1835	150.5	81.4		115.8	159.5	241.2	193.0	141.8	57.5	102.1	164.7	71.9	81.8	339.7	294.9	133.0	65.0	124.6	120.9
SPH2443	1101	2939	84.7	26.8		73.8	83.8	109.1	95.1	78.2	54.9	59.5	93.6	69.2	51.1	112.7	114.4	59.5	49.0	121.3	130.0
SPH2444	939	2055	133.2	45.1		144.2	131.5	178.9	102.0	135.7	83.8	121.3	102.5	85.0	113.1	187.5	177.3	112.2	54.3	185.5	215.5
SPH2445	1845	2521	103.0	19.1		131.2	116.2	123.4	112.0	95.6	92.7	90.8	107.7	113.1	114.5	99.8	106.7	122.3	62.9	91.6	67.0
SPH2446	912	2667	95.7	16.1		96.5	69.7	83.1	102.9	82.4	88.3	76.3	100.2	121.6	99.3	97.2	104.1	95.5	133.7	83.5	96.6
SPH2447	933	2421	108.1	21.4		95.3	78.0	123.2	101.9	78.6	88.2	97.8	159.9	104.4	119.6	124.3	100.2	126.5	121.0	89.6	121.8
SPH2448	1041	29	6065.6	7521.8		3552.2	2112.3	11816.1	11008.8	329.6	466.9	379.2	27582.6	11618.9	12509.5	8649.8	5588.3	629.5	312.0	253.4	240.6
SPH2449	489	322	919.8	1409.3		459.5	410.9	1796.4	1380.5	81.6	183.2	125.2	5764.5	907.1	695.5	1554.3	857.6	191.2	153.5	69.6	86.9
SPH2450	1281	858	349.3	386.6		133.8	202.9	417.4	306.6	175.6	303.7	101.4	1573.4	902.7	509.8	281.5	189.7	180.2	145.1	96.0	68.7
SPH2451	1134	211	1320.7	2012.8		454.5	809.8	222.8	174.2	582.3	2275.6	135.5	268.2	6256.5	6070.5	151.7	108.0	2037.7	1388.9	77.0	118.2
SPH2452	489	665	463.4	609.4		174.1	311.8	162.8	150.1	250.7	985.1	163.4	244.3	2407.5	1227.4	222.5	105.8	461.9	335.0	108.3	104.6
SPH2453	1281	837	359.1	408.4		181.4	183.0	590.3	377.5	113.3	217.3	120.7	1737.2	654.8	439.2	428.6	225.3	149.5	93.2	111.8	122.1
SPH2454	348	1713	165.1	45.8		193.3	161.9	133.6	124.4	279.7	204.6	160.8	127.9	147.0	186.8	123.2	101.1	230.5	141.4	149.6	176.1
SPH2455	2148	3447	69.3	13.1		69.0	67.5	64.0	67.7	53.8	55.9	60.0	77.5	75.5	66.9	60.0	78.6	60.8	61.4	107.0	83.7
SPH2456	1068	3931	53.8	9.3		52.0	49.4	44.6	58.9	50.2	49.1	50.2	48.6	73.4	47.3	53.1	65.1	47.4	42.3	56.0	72.7
SPH2457	1062	3330	72.8	20.8		58.0	57.1	61.6	69.4	64.7	75.2	64.5	55.2	70.8	68.9	85.4	85.2	90.8	50.4	70.1	138.0
SPH2458	897	3955	52.1	6.9		42.3	42.8	48.2	60.2	45.2	58.2	48.0	51.1	59.7	50.8	52.3	47.0	51.6	51.7	56.7	67.5
SPH2459	1074	2998	82.6	25.2		55.8	50.3	64.8	94.6	59.3	58.4	68.1	89.1	99.4	107.8	85.0	123.1	70.8	60.5	130.1	104.4
SPH2460	624	3808	59.1	10.7		70.0	63.3	58.3	59.9	66.7	68.4	56.8	61.3	47.6	43.1	85.7	50.9	57.9	44.1	58.5	52.8
SPH2461	2064	2181	122.4	37.2		112.2	158.4	199.2	92.4	108.1	145.1	96.9	166.9	113.7	86.2	179.9	132.3	110.3	75.3	88.4	92.8
SPH2462	1632	3568	66.0	8.9		70.4	51.9	52.7	62.3	58.8	69.7	68.8	63.5	77.0	72.6	60.7	84.5	70.9	55.2	69.1	68.3
SPH2463	168	3954	52.1	9.4		47.5	43.7	42.0	62.0	44.2	51.5	45.7	51.6	75.4	45.1	53.8	54.2	44.0	48.4	56.9	67.3
SPH2464	177	3851	57.8	10.6		47.1	56.1	48.3	60.1	53.3	60.3	59.0	51.7	62.9	60.0	46.5	63.9	52.1	48.8	63.7	90.6
SPH2465	102	3527	67.1	11.8		62.6	59.1	56.9	93.2	53.5	78.7	57.1	68.6	70.3	66.3	59.1	81.8	51.4	60.9	77.9	76.6
SPH2466	552	3241	75.2	18.6		72.2	54.1	61.6	91.0	58.3	99.6	59.3	66.0	82.2	73.4	58.3	103.8	65.9	53.7	101.6	101.7
SPH2467	972	1722	164.3	57.5		159.4	173.3	219.7	105.8	173.6	129.0	206.9	192.8	116.4	159.8	260.1	124.3	287.8	99.6	92.4	128.1
SPH2468	303	982	300.6	107.6		281.2	383.9	458.0	399.5	237.6	242.0	285.8	408.3	169.4	258.4	414.8	482.1	244.0	153.5	212.6	178.4
SPH2469	921	827	362.9	119.9		293.3	455.1	543.7	479.4	254.9	414.6	306.9	551.9	207.6	323.6	507.0	437.5	265.3	222.7	320.1	222.7
SPH2470	1482	2292	115.7	34.2		105.2	153.4	131.9	121.6	92.0	148.4	90.1	195.1	66.6	112.0	100.0	113.6	80.3	147.8	69.4	123.4
SPH2471	582	734	418.2	147.3		400.6	404.6	452.5	369.8	491.1	464.2	472.8	474.5	304.0	408.7	602.4	272.4	786.0	407.3	189.7	190.4

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2472	615	3163	77.7	16.2		78.2	63.3	63.5	61.0	65.5	94.7	81.6	58.8	71.6	68.6	69.7	86.8	106.5	70.7	110.5	92.6
SPH2473	513	2988	82.8	17.6		68.1	67.8	78.7	99.9	63.3	69.2	103.4	70.5	83.6	75.9	118.1	73.6	111.6	77.8	65.2	97.8
SPH2474	2007	3632	64.5	19.4		63.1	56.0	61.6	47.2	58.0	76.6	56.3	48.8	54.7	60.7	74.2	56.8	80.5	56.1	53.0	127.8
SPH2475	774	1719	164.5	42.7		189.4	238.3	155.6	177.2	173.0	219.1	133.2	211.4	151.1	170.5	94.1	107.2	129.2	218.9	125.8	138.5
SPH2476	423	1275	233.2	96.6		350.9	432.6	281.5	298.4	260.3	279.9	137.2	311.6	247.6	169.7	161.7	281.3	78.1	182.9	152.9	104.1
SPH2477	1491	323	916.9	306.0		1226.1	1256.0	996.5	1010.1	1112.0	1111.9	577.5	924.6	1440.0	1086.6	1065.7	784.9	535.1	593.1	522.0	427.9
SPH2478	1074	2649	96.5	27.6		79.5	99.0	115.1	85.8	90.4	66.6	122.7	100.6	75.8	85.2	131.8	71.3	158.6	127.4	72.0	62.3
SPH2479	1074	2855	88.2	13.6		99.2	87.4	81.0	93.4	102.0	101.9	75.0	95.1	78.0	93.8	80.0	60.2	88.2	81.0	77.7	116.9
SPH2480	831	3128	78.5	18.2		70.0	87.0	77.5	93.1	67.5	87.3	71.8	132.3	62.7	66.1	66.4	69.7	75.6	66.2	63.4	99.4
SPH2481	753	2575	100.3	18.3		84.7	114.9	104.7	92.8	93.2	66.8	89.1	131.2	94.3	82.5	114.8	88.7	110.8	136.1	90.7	109.1
SPH2482	630	1781	156.5	31.7		130.1	180.0	158.7	148.7	147.0	159.9	117.9	211.5	111.3	194.5	154.1	136.0	208.8	183.9	116.6	145.6
SPH2483	759	1406	209.2	65.1		303.9	295.6	180.6	206.4	328.1	247.0	145.2	225.8	223.6	146.2	143.0	151.7	152.3	284.1	166.0	147.9
SPH2484	351	2293	115.7	23.7		106.4	99.5	101.0	110.9	157.2	143.1	91.7	97.8	99.9	119.1	81.0	94.8	117.4	155.5	139.9	135.3
SPH2485	1851	2327	113.6	42.3		85.6	105.8	95.2	90.4	98.8	131.9	69.1	111.9	95.5	122.2	87.9	129.4	111.0	259.4	107.7	115.6
SPH2486	348	2185	122.2	31.2		120.9	121.5	115.1	127.0	109.4	126.5	78.1	91.0	135.2	113.6	102.7	165.5	94.9	90.7	175.7	187.7
SPH2487	786	3657	63.5	8.8		56.0	66.2	66.9	57.7	54.8	69.5	52.0	63.4	62.1	77.9	70.7	74.0	62.4	56.5	48.9	76.7
SPH2488	975	1448	201.6	51.0		249.6	202.8	201.2	237.2	255.7	215.3	142.7	271.8	179.1	224.3	159.2	221.8	93.9	116.7	245.0	209.4
SPH2489	606	1684	170.7	67.1		290.5	229.9	190.1	179.5	256.4	274.1	124.6	236.5	124.2	134.8	138.8	140.9	90.8	84.3	115.3	120.4
SPH2490	693	1619	179.9	51.4		217.4	202.7	178.2	228.4	172.6	262.8	129.7	192.0	137.7	174.4	149.2	291.1	109.6	120.7	132.4	179.5
SPH2491	312	272	1080.8	245.7		1094.4	1071.1	1193.2	1521.3	928.0	1297.0	955.6	860.0	971.4	1255.5	1354.2	1458.2	839.4	633.3	914.9	944.7
SPH2492	120	421	710.0	170.9		820.7	843.8	872.7	917.1	710.2	782.4	567.2	742.8	678.2	666.8	972.6	758.6	606.1	352.7	671.6	397.3
SPH2493	687	1872	147.2	55.6		115.8	138.6	122.9	106.6	92.0	168.8	108.9	164.8	218.1	311.5	125.2	129.3	186.9	147.1	93.4	125.8
SPH2494	1488	3783	59.8	9.2		49.8	48.0	50.2	51.2	56.4	51.1	60.5	60.3	81.4	60.4	58.1	70.0	64.3	72.7	63.1	58.5
SPH2495	1713	151	1727.0	4084.1		57.6	41.2	84.5	51.5	57.2	119.6	137.6	65.4	11062.1	13098.4	100.3	73.1	1879.7	597.8	119.4	86.5
SPH2496	279	2748	92.6	39.9		67.2	56.6	80.1	66.2	70.3	80.2	88.3	75.5	90.2	123.5	130.3	85.5	111.8	219.4	71.3	65.4
SPH2497	1005	2245	117.9	83.5		103.8	99.9	112.4	69.3	106.3	83.4	123.5	113.9	77.1	88.4	124.6	72.1	138.7	420.4	67.3	85.6
SPH2498	99	3900	56.0	13.0		64.2	50.5	47.1	58.3	49.4	47.9	59.8	46.9	75.1	50.1	46.0	54.8	46.0	48.1	56.6	94.6
SPH2499	1455	2778	91.4	20.2		99.9	72.2	77.6	75.8	63.7	90.4	111.3	72.9	63.7	95.0	106.5	106.7	139.9	87.2	99.3	99.7
SPH2500	906	3724	61.8	14.8		43.9	70.2	62.6	51.1	46.1	106.3	51.2	52.8	49.2	70.0	65.7	68.5	69.5	57.7	63.5	60.8
SPH2501	96	773	392.9	302.9		193.6	226.1	165.7	513.3	181.9	520.8	182.0	274.7	296.8	567.4	158.7	1121.3	115.7	199.3	588.3	980.7
SPH2502	411	474	631.6	487.4		354.8	319.6	615.1	371.2	425.6	446.8	884.4	337.1	574.9	970.7	861.3	354.5	2271.6	542.1	510.4	265.8
SPH2503	420	931	320.8	304.2		143.2	176.3	391.6	123.1	276.9	144.8	534.4	159.2	147.7	444.7	708.0	114.7	1251.8	244.3	201.7	70.7
SPH2504	1905	3551	66.5	12.1		68.5	54.0	62.6	63.6	62.5	56.6	51.9	65.0	87.8	63.7	63.7	77.8	55.7	72.1	62.6	96.8
SPH2505	1638	2901	86.0	26.0		98.5	66.8	64.0	66.7	169.1	88.3	77.4	62.3	93.8	84.5	68.2	91.9	109.3	81.2	79.1	74.1

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2506	1506	3269	74.6	8.4		73.9	68.6	70.5	69.6	60.6	74.2	74.0	58.5	83.7	82.7	74.5	80.3	82.3	68.9	81.2	89.5
SPH2507	426	2367	111.5	53.6		54.8	59.0	102.2	71.7	73.5	57.6	180.7	76.4	90.9	127.3	171.5	79.8	236.0	103.1	175.1	124.7
SPH2508	1674	3325	72.9	68.7		48.6	41.1	44.5	60.7	42.9	51.5	321.6	50.2	76.0	46.3	40.7	61.4	45.0	54.8	69.7	111.3
SPH2509	384	2788	91.0	132.2		49.6	47.5	39.6	48.0	38.7	69.3	581.6	51.5	55.7	59.5	43.1	78.1	43.5	57.2	109.5	82.9
SPH2510	2967	2972	83.3	65.5		61.2	48.4	51.2	93.3	51.0	62.4	313.6	51.6	65.2	64.4	52.0	87.1	47.5	62.4	86.5	135.1
SPH2511	930	625	490.9	1300.7		58.9	39.9	103.2	60.7	63.9	65.1	5296.9	50.6	52.3	98.5	133.8	70.9	213.7	94.7	748.3	703.3
SPH2512	1188	260	1111.7	3356.6		63.3	46.7	69.6	58.5	86.9	77.5	13535.2	53.9	71.9	94.4	76.1	61.0	115.6	64.1	1750.8	1561.4
SPH2513	645	3857	57.6	15.3		52.7	48.0	47.9	53.3	51.3	42.3	71.2	42.2	75.2	46.4	61.9	63.7	63.0	38.8	64.9	98.4
SPH2514	1161	657	472.1	1459.7		63.8	53.9	61.4	74.0	70.9	59.8	5934.6	67.6	71.0	75.8	84.8	82.1	83.4	76.2	375.5	318.9
SPH2515	1191	1758	159.2	347.0		53.4	48.0	60.8	62.5	68.7	63.4	1458.2	62.0	64.0	76.7	64.3	78.8	77.1	71.3	132.4	105.1
SPH2516	765	2827	89.2	84.5		77.5	70.0	61.1	65.1	75.8	71.3	403.9	61.2	87.9	67.5	59.4	88.1	54.3	56.5	67.2	60.4
SPH2517	1134	1718	164.6	68.3		135.5	343.4	147.6	101.2	132.0	101.2	247.1	123.8	148.0	175.1	218.5	116.7	254.7	160.6	99.1	129.2
SPH2518	612	1909	144.3	85.6		206.0	388.5	83.3	75.8	173.8	199.1	150.6	69.8	238.1	87.6	116.3	57.2	170.7	114.5	76.5	100.7
SPH2519	672	3423	70.1	43.5		84.5	221.0	44.4	52.1	73.4	91.8	46.0	41.6	86.9	58.3	40.6	69.6	45.9	54.1	56.9	55.0
SPH2520	633	1640	176.6	182.9		264.1	784.6	51.9	78.2	214.9	304.9	65.6	67.7	284.4	162.6	65.4	99.5	83.4	112.9	81.2	104.4
SPH2521	1071	2203	120.9	99.3		192.1	446.7	54.5	83.2	136.1	139.1	57.8	60.7	188.6	159.5	55.1	85.2	60.6	72.4	82.4	60.7
SPH2522	960	329	899.6	1142.4		2416.7	3650.9	52.1	71.8	1986.7	2135.1	62.3	64.3	1815.1	1135.4	56.2	107.0	331.3	328.8	70.7	109.3
SPH2523	1032	46	4383.7	5545.2		11885.5	15403.5	114.5	151.4	9223.6	13804.5	171.2	122.0	7551.4	7113.2	225.0	294.1	2002.4	1605.5	231.3	239.6
SPH2524	1371	14	9045.0	12106.8		23165.8	35044.9	108.5	65.8	15707.4	32501.2	137.8	94.3	13716.5	14328.2	140.6	127.8	5838.3	3483.4	95.2	164.5
SPH2525	1998	206	1345.9	1700.3		3533.2	4974.4	108.6	68.4	2349.5	4652.4	152.2	69.3	1968.1	1719.7	167.3	65.5	680.2	736.1	164.3	125.8
SPH2526	1317	2758	92.2	24.6		95.0	123.8	98.6	116.7	65.8	83.0	61.1	139.7	107.4	75.4	88.8	125.3	59.5	84.1	67.1	84.0
SPH2527	1083	830	361.8	211.3		350.2	656.2	682.7	577.2	279.4	370.9	190.2	776.2	203.2	221.7	449.2	385.9	250.4	161.1	133.7	100.9
SPH2528	831	1856	148.8	49.9		128.6	261.9	148.4	168.7	141.5	157.3	69.0	238.3	200.1	148.0	97.9	122.0	132.5	123.2	143.0	100.6
SPH2529	1128	894	334.5	389.6		229.0	129.8	115.2	143.3	261.6	123.3	375.5	72.4	355.0	264.8	114.4	202.7	213.0	152.9	1437.0	1161.7
SPH2530	1002	113	2196.1	1920.9		1472.3	805.9	735.6	641.4	2000.7	983.5	2924.1	249.1	2804.6	3146.1	994.5	640.7	4094.8	1184.8	6552.4	5907.1
SPH2531	1278	2660	96.0	48.3		85.7	69.5	57.9	68.9	112.7	92.7	101.3	51.7	123.9	107.4	59.7	76.9	75.3	66.6	252.1	133.8
SPH2532	1110	825	363.8	305.4		212.7	139.7	141.8	83.9	371.7	165.6	389.8	71.6	411.9	340.4	161.7	93.5	514.6	735.5	955.2	1031.3
SPH2533	792	1205	248.8	173.2		169.9	155.2	213.8	116.6	191.3	151.8	320.0	200.6	146.6	208.1	317.2	98.7	500.2	778.5	273.5	138.1
SPH2534	1341	1917	143.7	60.2		94.8	77.6	123.9	99.5	92.9	154.8	163.9	131.2	84.1	151.4	232.3	149.8	304.8	197.7	104.5	136.6
SPH2535	1467	2199	121.2	45.7		92.1	89.7	111.5	86.3	102.0	135.7	146.2	154.3	80.5	132.6	181.0	72.7	249.9	96.7	118.3	90.2
SPH2536	618	3231	75.6	14.0		87.6	53.0	60.3	66.1	59.3	75.1	83.0	63.1	75.8	84.5	77.2	92.8	80.9	76.8	66.0	107.3
SPH2537	900	3745	61.2	7.3		78.1	54.6	52.5	55.4	51.1	63.5	57.6	59.0	60.8	62.3	60.9	65.4	61.9	72.5	55.7	68.5
SPH2538	699	3235	75.4	12.5		71.8	53.1	71.5	75.5	58.5	62.6	78.2	70.4	84.4	83.7	90.9	63.7	88.2	77.1	76.0	101.0
SPH2539	972	2941	84.7	18.3		56.2	58.7	77.8	88.2	58.6	100.3	81.8	71.7	69.3	80.5	94.0	94.8	107.9	115.3	102.1	97.4

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2540	573	3132	78.3	21.8		61.7	44.4	86.8	79.9	55.9	48.8	83.3	88.6	71.3	73.1	102.2	76.3	104.8	129.7	65.9	80.6
SPH2541	777	2516	103.4	25.3		101.2	99.3	104.1	119.6	80.8	84.4	84.7	180.3	74.5	87.2	103.5	129.3	97.3	89.6	102.8	116.7
SPH2542	684	2232	118.8	45.5		129.3	161.1	152.6	131.9	92.2	130.0	83.4	259.1	88.0	102.2	87.7	113.9	87.3	89.5	74.8	117.0
SPH2543	855	717	432.3	295.7		454.8	560.2	762.3	779.1	379.5	360.9	162.7	1265.7	375.7	357.8	441.4	273.0	220.3	251.4	169.0	102.3
SPH2544	1959	1858	148.6	87.8		268.4	287.7	116.1	150.7	84.2	85.6	101.1	365.3	117.3	81.3	86.6	123.4	76.2	218.4	101.5	114.2
SPH2545	867	1751	159.8	30.2		187.4	189.5	164.4	134.8	168.1	101.4	145.0	199.7	142.6	140.2	184.9	115.7	182.2	202.6	160.2	137.2
SPH2546	1887	1326	224.7	166.6		221.7	131.6	116.9	113.0	262.6	144.5	275.0	162.9	126.6	113.8	93.4	106.5	169.2	356.9	681.2	519.8
SPH2547	567	2606	98.4	24.2		111.5	121.1	71.9	89.8	129.2	78.7	95.4	91.5	103.2	76.8	73.0	75.7	68.0	114.2	129.4	144.8
SPH2548	957	521	575.6	328.5		464.9	715.5	909.1	834.0	472.6	292.7	334.3	973.4	220.3	168.3	905.1	928.9	195.8	1132.5	364.8	297.2
SPH2549	618	274	1075.1	602.8		870.8	1886.0	1810.8	1418.7	921.1	769.6	825.4	2157.6	593.8	340.3	1716.6	1687.0	302.1	656.8	597.5	647.0
SPH2550	591	1353	218.6	129.4		251.7	476.5	364.9	237.0	152.4	154.9	105.3	448.8	100.8	83.7	355.4	243.6	114.5	192.0	115.8	101.0
SPH2551	1092	3024	81.9	25.2		89.2	140.4	108.3	90.2	66.0	60.0	60.1	127.5	70.3	58.0	81.8	89.4	54.9	63.6	70.0	80.3
SPH2552	372	3953	52.2	10.2		62.1	61.8	47.6	52.1	50.3	48.6	45.8	55.9	78.8	39.5	47.3	48.7	39.2	41.8	53.2	62.3
SPH2553	1203	1612	180.6	91.1		140.0	141.1	162.9	139.4	113.5	156.9	482.3	170.9	85.9	176.6	206.5	125.2	276.7	173.0	147.9	190.1
SPH2554	123	2345	112.5	81.0		77.1	85.5	134.0	55.2	96.8	80.5	154.8	90.9	53.0	109.1	212.5	57.0	371.3	99.9	72.2	50.9
SPH2555	1353	1293	228.8	49.5		307.8	287.2	248.6	270.4	253.5	306.4	207.3	277.1	170.4	164.3	216.4	203.1	177.6	198.1	191.0	182.1
SPH2556	2379	1505	192.4	85.8		228.5	296.0	263.7	231.8	258.7	148.5	165.4	378.5	99.6	103.1	201.5	259.8	129.9	108.4	73.8	130.7
SPH2557	1512	1645	175.7	53.9		205.7	268.3	226.3	204.3	205.3	206.9	139.4	276.1	130.1	116.3	140.7	153.7	95.2	145.6	174.4	122.5
SPH2558	999	1177	254.3	102.9		319.9	424.1	374.7	310.8	308.5	334.6	170.3	428.6	147.5	205.5	163.0	240.2	161.9	116.4	201.8	161.3
SPH2559	924	2191	122.0	46.8		114.6	166.4	156.5	154.7	91.7	118.7	91.6	246.8	130.2	78.8	103.7	165.7	86.9	64.9	75.1	105.7
SPH2560	804	1531	188.5	53.6		158.1	221.4	234.4	242.1	140.1	223.1	133.8	311.4	145.6	142.8	160.1	250.0	171.3	132.1	142.2	206.7
SPH2561	1062	1402	210.5	104.1		262.5	374.6	347.0	395.4	185.1	128.5	145.5	309.9	120.2	137.6	250.2	253.8	67.5	118.0	107.2	165.4
SPH2562	888	592	510.1	261.8		442.4	686.8	718.8	750.4	273.8	268.0	559.5	692.2	332.8	270.6	894.2	1046.0	234.0	158.4	421.4	413.0
SPH2563	549	223	1254.9	659.4		1174.7	1622.8	2006.9	1836.9	622.7	636.6	1793.8	1671.4	679.9	588.7	2442.6	2063.8	551.0	378.2	1015.7	992.8
SPH2564	999	2154	124.7	34.0		135.9	158.8	119.8	126.8	107.2	123.6	112.6	166.2	122.0	90.1	107.6	170.6	54.3	75.5	155.4	168.6
SPH2565	1017	1978	138.9	49.6		141.9	168.5	157.6	148.5	131.0	68.4	186.4	188.5	97.7	80.5	107.8	194.3	66.6	101.6	239.0	143.6
SPH2566	1443	1202	249.0	120.0		236.0	263.0	227.2	217.1	341.1	226.7	509.1	236.2	135.0	142.5	170.3	199.9	155.7	95.8	507.7	321.0
SPH2567	2331	2950	84.4	14.7		105.4	114.2	81.5	83.7	94.7	95.7	76.3	70.2	80.0	76.6	66.5	95.0	58.8	73.2	84.8	94.0
SPH2568	1989	3078	80.2	13.9		86.6	70.5	69.2	83.4	74.0	59.7	81.4	76.4	72.1	77.8	63.4	92.4	76.1	83.2	105.2	111.6
SPH2569	1164	2111	128.3	39.6		138.6	158.2	130.2	102.3	98.2	94.8	93.8	243.6	93.3	121.4	136.7	107.9	134.5	178.6	123.8	96.7
SPH2570	1020	1666	172.4	68.2		205.5	318.1	233.7	224.8	167.7	146.6	110.0	297.0	154.1	108.0	160.3	188.5	117.8	128.1	106.3	91.2
SPH2571	489	3410	70.4	7.6		66.0	71.9	81.7	59.1	61.1	79.6	65.7	60.5	70.1	75.0	69.5	62.3	77.2	73.7	82.3	71.3
SPH2572	447	99	2459.5	1505.7		2218.3	1059.6	1853.4	1133.4	2921.9	2152.9	2696.6	1489.1	1888.8	3440.3	2352.3	977.2	7306.7	3616.0	2153.6	2091.9
SPH2573	1173	1896	145.4	35.1		189.9	165.0	211.5	124.6	154.6	88.7	146.4	159.1	172.7	145.3	190.4	117.9	130.4	119.3	96.1	114.7

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2574	210	792	385.5	223.5		299.2	190.0	598.9	655.1	122.8	139.1	313.6	427.9	281.8	433.2	837.4	670.7	597.0	223.7	222.9	155.1
SPH2575	657	2847	88.4	17.3		129.9	102.8	74.9	67.1	116.1	82.1	79.3	98.6	84.6	84.6	73.9	73.4	97.6	74.4	77.6	97.8
SPH2576	1134	2155	124.6	33.1		182.3	174.2	139.4	103.2	132.1	89.8	169.8	130.2	112.6	94.7	118.7	161.9	87.8	76.6	103.4	117.5
SPH2577	1290	1807	153.5	53.2		228.0	220.7	188.0	163.0	186.4	112.8	190.5	237.2	176.8	92.3	166.6	99.5	90.1	84.0	115.9	104.9
SPH2578	774	1864	147.8	25.4		168.8	166.5	146.1	124.0	219.9	148.7	111.1	140.9	145.4	154.7	144.4	115.1	152.2	156.3	144.7	125.4
SPH2579	1074	3505	67.6	24.9		48.0	47.0	46.5	69.5	60.8	75.8	43.7	69.7	65.0	78.3	50.2	107.3	48.4	46.2	99.1	126.7
SPH2580	675	1817	152.7	33.6		128.6	140.0	151.9	122.4	186.6	214.5	112.3	157.5	111.9	131.0	153.0	202.9	180.9	194.9	118.6	136.5
SPH2581	294	3871	57.3	12.8		59.9	54.9	45.6	55.1	54.4	73.0	47.4	58.4	55.3	54.3	41.5	82.0	46.1	49.7	52.3	86.9
SPH2582	429	2325	113.7	36.4		73.6	72.1	94.9	114.7	79.0	122.3	92.1	99.2	90.5	129.0	152.0	129.7	145.6	87.7	122.2	213.7
SPH2583	1074	1981	138.7	47.9		119.9	116.5	132.1	121.3	121.3	97.1	112.4	79.0	203.6	161.7	151.7	281.6	137.0	102.1	150.9	130.4
SPH2584	576	992	298.5	124.7		238.6	238.5	259.4	256.2	297.5	137.8	208.2	111.7	499.9	336.7	327.0	479.9	271.7	174.3	511.5	427.6
SPH2585	813	1164	258.4	95.0		246.4	228.5	253.0	233.2	259.6	136.8	181.0	100.1	382.1	231.4	330.1	412.9	216.8	189.1	446.8	285.7
SPH2586	786	1092	276.0	67.6		195.6	296.2	380.5	376.6	264.8	209.5	203.7	305.5	207.1	291.4	291.4	382.6	198.6	220.0	337.9	254.1
SPH2587	507	1478	197.0	60.0		150.6	217.6	214.2	320.3	96.4	228.9	146.2	205.0	194.5	196.0	176.7	287.4	120.0	151.5	177.6	269.1
SPH2588	153	2737	93.4	32.2		76.5	73.4	59.2	102.7	72.4	134.0	59.7	71.7	84.4	112.4	67.8	175.4	70.5	119.8	122.8	92.6
SPH2589	411	3499	67.8	17.2		53.8	73.7	58.4	64.7	48.2	92.7	48.3	62.3	55.7	71.4	66.8	92.8	73.8	62.3	51.9	108.0
SPH2590	1092	3887	56.6	15.2		47.2	61.3	47.9	68.7	55.7	50.9	45.1	55.1	102.6	46.7	44.1	61.4	43.8	50.8	49.9	74.8
SPH2591	1119	2594	98.9	25.4		126.1	137.7	107.4	119.3	102.3	84.9	75.4	150.9	96.3	104.6	70.8	96.6	64.5	73.9	69.9	102.3
SPH2592	1311	3530	67.0	21.3		65.2	76.4	68.3	81.4	56.5	55.4	48.9	62.5	106.7	51.7	54.0	62.6	41.2	56.9	61.8	122.7
SPH2593	1110	1811	152.9	49.0		128.9	164.9	158.1	219.1	125.3	155.1	89.4	151.6	132.3	174.1	110.2	202.4	97.8	83.7	194.4	259.8
SPH2594	81	168	1577.6	1114.9		975.1	662.6	1151.1	626.0	1230.0	937.8	2198.9	904.4	1499.4	2701.6	2284.8	532.9	5049.9	1386.0	1675.0	1426.7
SPH2595	1065	2021	135.8	30.4		101.8	161.7	139.9	166.7	127.4	185.8	102.9	166.5	104.0	131.1	94.1	152.0	108.5	105.4	149.9	175.0
SPH2596	633	3171	77.6	20.1		71.8	106.2	84.3	103.5	67.4	75.1	59.1	125.4	86.2	71.4	71.8	76.3	59.6	45.1	63.4	74.5
SPH2597	678	3473	68.6	18.1		62.6	81.9	77.7	66.3	61.4	62.4	59.8	94.7	82.5	54.4	57.0	64.9	43.4	54.6	58.5	116.3
SPH2598	1149	2790	90.8	34.7		83.2	140.5	105.6	114.3	72.1	76.5	52.8	184.0	98.7	69.5	64.2	94.5	51.2	76.4	63.1	106.8
SPH2599	1464	2422	108.1	50.9		80.0	162.5	136.6	106.5	73.4	124.2	71.2	196.6	57.9	100.3	72.0	233.6	91.3	88.5	66.1	69.2
SPH2600	771	2784	91.1	31.2		70.5	129.6	108.1	94.8	67.3	100.4	52.8	164.8	81.9	68.1	79.8	132.7	55.5	58.8	92.3	100.3
SPH2601	621	2350	112.3	87.6		131.9	246.3	182.2	92.8	102.7	102.0	56.6	369.5	52.0	65.3	109.0	84.1	51.2	48.3	53.8	48.7
SPH2602	1797	129	2005.0	1972.4		1463.0	4980.9	3597.1	3175.8	919.1	2388.3	620.7	6920.0	771.8	598.3	3395.0	2269.5	331.6	252.0	229.0	168.1
SPH2603	270	1982	138.6	39.0		124.6	139.5	117.7	134.4	147.7	99.2	122.2	97.6	231.1	189.4	108.9	106.6	129.1	170.2	103.7	195.8
SPH2604	300	861	348.7	105.7		360.9	359.2	252.8	269.6	427.5	202.9	487.6	247.6	554.0	488.5	210.8	252.7	333.4	355.7	415.1	361.3
SPH2605	705	1346	219.5	156.2		104.5	184.1	208.2	127.7	138.7	171.6	195.2	216.2	192.6	286.8	269.7	79.7	474.8	675.3	121.4	65.6
SPH2606	1104	1141	264.2	69.1		215.8	217.3	195.3	211.0	245.8	221.1	216.2	165.2	343.8	371.6	229.1	255.5	327.6	279.2	388.0	344.7
SPH2607	1218	3190	77.0	26.3		59.3	57.3	60.3	65.8	73.4	62.7	71.6	63.1	89.6	61.3	56.8	68.7	78.6	89.8	154.1	119.7

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2608	729	504	595.4	612.7		352.9	440.2	259.1	250.9	399.2	259.2	2047.7	379.7	475.0	498.7	175.0	127.2	302.9	209.6	1791.9	1556.8
SPH2609	666	509	589.2	489.9		349.2	333.3	342.5	310.5	362.9	308.4	1965.9	338.1	703.3	634.9	296.4	195.9	511.0	286.1	1382.6	1105.6
SPH2610	735	152	1720.4	2043.8		575.7	586.0	421.4	481.9	550.7	608.4	6908.3	497.5	2575.7	2163.9	372.1	271.2	1242.3	616.7	4495.3	5159.7
SPH2611	906	13	10832.8	11573.8		2517.2	2793.1	1948.1	2175.9	2175.0	2713.2	36928.1	1831.5	19964.6	23626.7	1590.9	1796.2	18231.9	7394.0	24436.1	23201.6
SPH2612	519	373	788.8	487.2		430.1	515.4	802.7	693.0	464.2	616.2	1031.1	587.0	289.3	988.2	1384.3	629.9	2281.9	917.2	610.4	380.3
SPH2613	1323	1118	269.4	135.1		323.8	527.4	427.4	302.4	326.6	250.9	169.0	535.4	232.5	237.8	282.6	199.5	134.3	115.4	149.4	96.1
SPH2614	849	2236	118.5	32.0		144.9	191.0	139.0	136.8	91.9	119.5	74.2	151.2	111.1	86.0	105.9	128.8	85.8	93.9	87.6	148.6
SPH2615	2733	2500	104.3	39.1		130.7	139.3	100.3	101.1	211.1	111.2	89.4	134.2	109.6	54.0	62.1	78.1	64.6	63.8	103.2	116.6
SPH2616	1725	3188	77.1	18.1		69.5	66.8	61.0	68.9	111.4	74.0	66.1	75.0	78.6	66.3	59.0	65.0	73.8	124.7	81.5	91.6
SPH2617	1392	963	305.8	92.6		354.3	399.7	241.4	309.1	400.9	464.3	387.1	322.1	285.5	232.0	216.9	292.9	149.5	144.9	395.2	296.4
SPH2618	1095	1802	154.2	73.4		338.2	230.5	131.4	147.3	245.1	244.9	156.6	155.6	102.2	118.3	97.1	114.1	70.6	83.0	124.1	107.8
SPH2619	411	328	900.8	394.6		1678.1	748.8	630.2	728.8	1551.9	1193.3	1265.5	567.4	782.2	921.3	458.9	661.7	538.8	345.1	1163.5	1176.7
SPH2620	1935	3509	67.6	15.0		52.3	49.3	50.5	63.6	56.8	83.3	66.9	59.2	58.2	59.0	80.9	69.8	74.9	67.4	104.6	84.5
SPH2621	927	2562	100.9	25.1		75.8	84.9	93.3	85.0	82.3	73.0	125.4	85.2	94.5	100.2	146.8	103.1	157.5	94.7	86.0	126.5
SPH2622	66	2461	105.8	38.2		52.8	71.8	96.3	82.7	66.4	94.9	106.0	98.9	104.5	115.3	118.2	137.0	193.9	84.7	182.0	87.7
SPH2623	2007	1613	180.5	56.0		130.8	150.6	184.9	177.6	159.5	134.4	179.4	156.0	147.2	200.8	236.4	195.5	361.2	186.6	134.5	152.1
SPH2625	168	1416	208.1	49.6		264.0	218.8	195.1	153.0	309.6	233.2	161.0	182.7	226.6	308.5	170.1	152.4	194.6	185.3	181.9	192.3
SPH2626	972	806	374.9	96.8		378.6	354.6	323.2	332.2	281.3	349.2	269.0	311.2	543.3	315.3	273.8	506.3	359.2	595.5	380.4	425.3
SPH2627	1191	63	3536.1	1616.7		3841.9	5140.6	4963.5	4167.7	3948.0	4416.0	2785.7	6606.0	2628.0	1739.7	5082.8	3676.1	680.6	3901.3	1753.2	1247.1
SPH2628	351	86	2817.6	1489.8		3316.3	3649.2	3306.9	3495.9	3242.8	2737.7	2025.5	4704.1	1598.9	944.7	4116.8	4151.0	520.7	5377.0	974.9	919.9
SPH2629	570	35	5471.1	2681.6		5684.6	6401.4	7737.2	7462.4	5425.1	4989.0	4015.8	9704.1	3061.9	2639.7	7622.5	8911.4	1280.0	8267.4	1964.2	2370.2
SPH2630	462	34	5545.4	2705.2		4430.0	6761.0	8020.3	7292.3	5260.9	4062.9	5964.6	8407.1	3685.8	2608.9	10012.2	10131.9	1315.4	5335.0	3066.7	2370.7
SPH2631	696	278	1052.1	576.9		932.5	1376.4	1434.7	1134.5	1216.4	699.6	1339.3	1908.9	627.4	314.5	1601.5	2113.9	159.0	1119.8	513.0	341.4
SPH2632	468	87	2800.5	1735.9		2645.3	4293.0	4898.0	4629.6	3130.6	2603.4	2027.4	4971.3	1325.4	702.2	3926.9	5630.0	412.0	1764.5	1121.0	728.0
SPH2633	378	181	1494.0	905.0		1466.0	2169.2	2324.3	2240.0	1584.5	1188.7	1013.2	2768.1	798.7	354.4	2387.1	3131.2	203.0	980.8	690.1	604.6
SPH2634	4134	499	598.7	346.5		670.6	900.6	814.9	660.8	744.2	894.4	938.4	1292.0	299.2	167.2	567.9	803.8	104.0	231.1	258.9	231.1
SPH2635	4218	196	1422.8	643.3		1675.3	1872.9	1675.9	1682.2	2223.9	1746.1	1854.6	2198.4	1013.4	532.4	1821.2	1977.9	256.8	485.8	944.3	804.2
SPH2636	120	22	7317.3	3550.3		6641.9	9772.4	10611.1	9965.2	6232.3	7136.4	5161.4	11960.8	4744.9	3806.5	10928.0	10694.2	1892.0	12059.2	2690.7	2779.4
SPH2637	471	19	8242.6	3872.4		7771.0	11579.2	11674.3	11630.3	7693.8	8385.7	5761.4	11976.0	5149.6	3664.2	12623.8	11945.9	2330.0	13048.5	3197.1	3451.4
SPH2638	2097	170	1557.5	892.7		1702.9	2040.2	2436.4	2102.5	1848.6	1211.4	1443.8	3110.3	653.1	396.5	2339.8	2621.0	241.8	1783.5	650.9	337.7
SPH2639	1191	68	3431.1	1612.0		3782.0	5098.7	4829.9	4044.8	4169.4	4115.1	2325.4	6748.6	2229.8	1650.4	4612.8	3752.2	609.1	3618.5	1853.2	1456.8
SPH2640	312	21	7625.7	4340.7		9273.1	12307.6	11479.0	10467.7	8410.7	10747.1	4955.7	16495.4	3735.8	3497.9	11864.3	6786.1	2331.3	4259.4	2990.2	2409.5
SPH2641	639	18	8251.4	5758.1		9365.0	13068.2	14947.0	12921.3	6472.4	7618.2	3997.6	18787.1	3021.7	2006.4	13810.5	12849.3	951.0	9808.2	1093.9	1304.8
SPH2642	636	26	6995.9	5364.4		6685.9	10792.1	13212.0	11063.3	5156.9	5938.0	3291.5	16080.6	2114.1	965.5	13248.6	11874.3	533.1	10136.9	533.2	308.7

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2643	315	23	7284.7	5627.2		7643.0	11702.0	13389.1	12756.0	5436.4	5730.5	3224.5	17867.0	2161.5	1105.7	11647.1	13084.0	582.1	8991.9	635.2	599.3
SPH2644	825	79	3017.1	2307.6		2498.9	5060.2	5830.9	4936.8	2098.5	2267.0	1512.9	6389.2	1156.8	416.7	5830.1	5522.4	190.6	4060.1	271.0	231.7
SPH2645	276	71	3322.5	2511.1		2689.9	5895.6	5939.8	5310.0	1849.8	2999.6	1504.8	6921.5	1281.7	688.4	6459.0	6618.5	248.4	3881.3	405.3	466.6
SPH2646	336	50	4015.8	2969.2		3383.1	6951.9	7131.2	6074.6	2449.7	3131.1	2139.2	8366.9	1632.9	935.9	7908.1	8027.9	401.3	4585.4	600.7	533.7
SPH2647	786	114	2194.0	1589.4		1976.1	3224.4	4003.9	3286.6	1447.2	1892.0	978.7	4545.4	1166.8	620.9	4120.2	4797.9	214.0	2105.0	365.4	359.1
SPH2648	438	109	2274.7	1630.7		1977.0	3593.3	4261.5	3747.4	1659.3	2104.1	1043.4	5420.3	1256.4	594.0	3299.8	4217.0	204.4	2249.9	412.4	354.5
SPH2649	267	102	2388.1	1740.0		2264.8	3766.6	4723.0	3775.9	2032.2	2089.6	1116.1	5550.0	1015.4	602.5	4094.1	4291.9	358.4	1805.7	442.9	280.6
SPH2651	369	133	1947.1	1250.9		2307.7	2950.9	3414.3	3134.7	2092.0	1682.2	619.1	3821.0	839.5	551.3	2874.2	3311.9	259.7	2384.0	548.3	362.0
SPH2652	321	91	2725.4	1603.4		2869.9	3894.5	4333.8	3819.3	3199.2	2558.2	841.7	5361.6	1339.6	824.3	3819.1	4604.5	376.7	3732.7	1063.3	968.8
SPH2653	540	45	4461.0	2728.5		5562.0	6882.2	7123.8	6190.8	5502.1	3491.1	1557.1	8732.5	2144.5	1177.5	6668.7	6961.7	601.6	6249.8	1324.3	1205.4
SPH2654	306	161	1635.7	1097.7		1743.2	2518.1	2716.1	2158.7	1885.4	1225.9	547.2	3717.6	738.6	339.8	2427.7	2388.5	155.4	2763.8	481.6	363.3
SPH2655	396	60	3631.6	2204.6		4074.2	6034.5	5883.8	4797.4	3958.8	2841.2	1189.0	7022.0	1657.3	1120.7	6198.6	5210.6	582.1	5075.8	1452.3	1006.9
SPH2656	579	41	4824.6	2679.6		5140.3	7309.0	8672.0	6351.2	5579.2	3909.5	2113.7	8374.1	2845.7	1377.2	8063.3	6467.5	951.7	6220.5	1846.5	1972.3
SPH2657	354	385	768.5	547.3		745.6	1328.5	1388.9	1193.9	710.4	518.0	280.6	1721.0	308.0	94.8	1286.2	1263.6	70.9	1011.7	181.8	192.2
SPH2658	525	150	1743.0	998.2		1796.3	2474.0	2608.3	2489.8	2171.0	1357.1	817.3	3255.2	1055.8	494.1	2746.8	3187.2	185.0	1795.4	785.8	668.3
SPH2659	183	90	2729.2	1517.4		2819.0	3789.0	4093.9	3926.3	2794.6	2131.9	1433.8	4964.6	1300.7	863.4	4833.1	4518.6	401.0	3243.8	1383.0	1170.7
SPH2660	435	261	1107.7	724.3		1116.4	1669.9	1768.7	1445.1	1115.6	758.6	433.5	2389.4	532.2	299.7	1905.4	2173.8	124.6	1214.4	464.6	310.8
SPH2661	1407	10	12893.8	8148.2		11276.5	19227.8	22738.7	19444.2	9501.8	9256.5	5426.3	24527.6	5426.6	4098.7	22475.6	23404.1	4221.8	17622.1	3611.7	4040.2
SPH2662	114	30	6063.2	3407.9		4436.3	7820.4	10197.2	9123.2	4698.3	4697.3	2693.2	11289.7	3709.5	3072.1	9440.8	10478.8	2026.9	8918.1	2196.3	2212.9
SPH2663	390	111	2236.7	1333.0		1843.8	3577.3	3561.5	3029.9	1916.3	1860.9	770.8	3695.9	1265.0	785.0	3385.6	3387.2	287.6	4487.3	897.0	1035.4
SPH2664	978	82	2960.4	1570.3		3479.6	4157.2	4544.1	3723.8	3542.5	2717.2	1461.1	4682.6	1703.7	1099.5	4291.3	3769.8	533.8	5458.3	1292.8	909.4
SPH2665	390	1541	187.6	98.4		200.3	237.1	188.7	152.9	336.7	182.7	101.0	244.2	136.3	118.0	138.1	134.5	100.8	472.3	118.4	140.2
SPH2666	3132	621	492.7	226.6		285.5	559.3	660.1	468.5	291.5	273.4	1104.2	714.2	189.8	339.9	610.6	481.1	367.2	552.9	622.4	362.2
SPH2667	1398	1949	141.3	44.4		175.1	201.7	173.2	137.2	197.3	132.7	132.1	93.1	94.1	94.3	220.7	142.2	132.9	167.0	76.6	91.1
SPH2668	507	185	1476.1	375.8		1786.9	1601.8	1516.8	1512.0	1955.5	1984.0	1760.9	1798.5	1580.2	1565.9	1508.4	1309.9	898.0	951.9	1174.8	712.8
SPH2669	117	2319	114.1	44.5		74.5	67.0	114.9	85.5	101.8	64.4	177.3	76.5	102.5	157.7	147.4	92.0	187.2	59.1	135.2	181.9
SPH2670	5466	2471	105.3	23.2		79.3	82.9	107.5	107.3	78.2	91.7	141.1	89.6	104.2	136.5	124.8	93.0	132.1	136.2	110.4	70.0
SPH2671	615	553	547.8	197.9		588.4	486.7	412.0	466.4	624.3	439.1	1071.6	438.5	609.5	433.9	344.7	292.1	393.1	624.2	791.3	749.1
SPH2672	1371	2318	114.2	28.2		115.0	97.3	106.7	121.6	125.5	87.0	106.5	99.7	109.7	81.2	112.7	130.3	92.1	205.7	125.3	111.1
SPH2673	450	2525	102.8	26.2		108.1	153.0	110.5	108.0	106.3	79.3	75.7	142.2	145.1	82.5	107.3	109.4	84.1	64.6	87.4	80.9
SPH2674	528	3444	69.4	12.0		83.9	100.5	66.4	67.8	69.5	67.7	53.9	82.0	65.8	60.4	66.1	77.8	62.7	52.4	71.6	62.3
SPH2675	1326	2753	92.4	22.8		82.0	111.1	77.1	86.4	87.7	126.5	65.0	128.5	76.7	74.8	75.9	139.6	77.9	94.3	72.1	103.2
SPH2676	834	3122	78.7	27.8		71.2	126.1	98.1	67.8	73.1	79.9	65.1	157.2	49.3	62.3	64.1	67.1	70.6	89.7	57.2	60.9
SPH2677	840	2767	91.7	27.1		93.5	136.6	115.8	97.4	74.5	93.4	72.3	162.6	66.2	65.2	101.3	70.5	76.6	92.4	72.5	76.9

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2678	765	1657	173.2	59.5		166.2	169.5	166.2	217.4	133.3	217.9	122.4	195.4	95.0	151.4	148.8	333.5	114.4	108.3	223.7	208.5
SPH2679	1926	793	385.2	336.9		430.9	566.3	495.0	553.3	341.5	683.1	160.2	1437.2	89.7	67.2	257.3	300.2	66.6	257.7	231.8	225.2
SPH2680	1158	2468	105.5	19.0		106.4	110.1	104.0	133.0	95.0	93.6	112.4	114.4	128.6	103.9	76.6	132.8	59.2	107.9	108.3	101.9
SPH2681	1392	1760	159.1	68.4		201.8	179.7	126.9	129.9	294.3	271.5	113.1	170.8	94.9	92.8	65.9	90.7	96.0	221.6	192.0	203.8
SPH2682	1311	1620	179.9	68.1		195.3	288.0	173.8	119.9	248.5	349.3	127.4	202.4	117.1	123.5	108.3	125.3	146.2	159.1	194.8	199.6
SPH2683	543	1319	225.7	71.7		224.8	333.7	241.4	236.3	238.9	359.7	163.4	307.8	163.7	175.7	142.8	133.9	150.0	226.3	315.4	196.5
SPH2684	540	242	1188.2	316.5		1281.5	1800.6	1468.5	1601.7	1162.5	1501.1	861.3	1332.0	1215.3	1180.9	1221.6	957.6	1029.0	1018.6	826.2	553.4
SPH2685	255	234	1223.4	526.4		1271.9	1443.5	1472.6	1223.3	1059.2	838.9	772.2	874.1	1599.8	1914.8	1337.2	892.1	2640.4	1006.4	652.7	575.1
SPH2686	753	3914	55.2	10.9		48.8	41.0	51.5	47.2	51.6	47.0	50.2	47.5	52.4	45.8	59.9	60.3	64.3	61.7	73.5	81.4
SPH2687	2124	3003	82.4	17.0		53.1	64.9	66.8	74.6	68.3	105.1	88.2	75.8	75.0	80.4	86.5	103.5	107.7	72.0	87.0	110.4
SPH2688	1215	2339	112.9	24.6		126.4	128.6	118.8	99.3	112.2	129.0	86.9	108.8	90.6	100.8	89.5	178.8	89.2	87.8	139.7	119.8
SPH2689	156	1987	138.3	44.3		169.1	117.3	111.1	115.0	121.2	148.0	105.8	154.1	132.0	164.0	97.9	189.4	88.2	100.1	134.8	265.3
SPH2690	414	3811	58.8	9.6		61.2	51.5	49.0	57.9	60.9	72.9	50.4	57.3	62.5	62.8	46.5	79.8	46.1	52.0	62.1	68.7
SPH2691	891	3239	75.3	12.1		77.8	75.4	64.4	76.1	80.9	82.7	63.1	80.1	61.0	69.5	72.6	110.1	70.8	77.1	83.5	59.6
SPH2692	1473	2572	100.5	16.1		91.7	76.5	95.7	83.3	119.6	104.1	105.6	99.7	136.4	93.7	100.2	81.6	114.7	81.3	109.5	113.8
SPH2693	345	2618	97.9	27.3		64.2	71.0	82.5	97.2	92.3	65.9	108.3	146.8	82.6	101.2	118.5	83.9	147.4	66.7	106.9	131.7
SPH2694	3159	3416	70.3	9.9		60.1	64.1	62.4	71.2	51.9	58.5	75.0	83.2	71.3	78.9	71.3	85.5	76.6	62.5	67.8	84.3
SPH2695	1464	3366	71.3	17.0		60.8	50.9	56.8	89.0	47.8	61.4	66.5	67.5	95.2	58.3	66.8	91.1	65.7	71.0	86.9	105.9
SPH2696	1212	3643	63.9	16.1		63.5	53.5	46.0	78.5	52.6	61.1	53.7	59.1	76.8	52.7	48.6	80.5	46.7	82.9	63.0	103.2
SPH2697	411	2224	119.0	34.6		134.4	101.5	129.0	163.7	141.5	75.0	80.6	147.8	110.4	133.6	82.0	99.0	90.4	156.4	74.4	184.7
SPH2698	756	1566	184.8	78.2		287.1	182.6	204.1	207.2	374.1	255.3	100.7	218.8	156.6	107.4	169.8	237.7	86.2	114.4	138.5	116.2
SPH2699	207	3886	56.6	11.2		53.9	58.7	39.2	57.4	52.3	83.5	58.0	44.9	48.8	63.8	52.3	65.7	53.0	40.9	66.7	67.0
SPH2700	594	3204	76.6	18.8		68.8	69.9	74.4	77.6	78.3	67.4	89.8	58.4	73.9	57.6	103.0	52.4	110.1	58.0	70.6	114.5
SPH2701	2268	2952	84.4	21.0		72.8	60.7	67.6	81.2	59.1	82.0	78.9	74.8	95.7	97.1	76.8	101.7	116.2	59.3	90.9	134.8
SPH2702	2799	3121	78.7	13.8		64.5	61.0	77.4	82.2	59.7	85.7	66.2	84.7	78.5	71.6	96.5	97.7	82.3	72.5	70.8	108.6
SPH2703	591	1786	156.1	88.4		137.4	137.7	226.8	102.8	136.2	111.0	252.1	121.0	94.8	155.7	278.0	56.4	390.9	136.9	75.9	83.5
SPH2704	2274	3659	63.5	6.2		65.4	51.3	59.7	58.2	52.9	71.5	64.4	60.7	70.5	59.1	70.8	66.4	69.3	65.0	61.7	68.3
SPH2705	468	1516	190.7	149.4		95.5	63.9	174.7	116.6	113.6	126.3	261.1	123.0	91.6	266.6	389.9	132.8	657.1	108.7	155.5	173.6
SPH2706	1509	2663	95.9	21.6		69.4	77.8	105.0	84.9	60.4	88.7	132.8	105.6	87.0	83.5	129.2	95.6	135.2	99.6	87.1	92.9
SPH2707	1221	3949	52.5	6.2		49.9	59.7	53.3	57.3	40.5	48.3	51.7	62.2	65.6	51.4	52.3	44.8	49.6	51.4	50.5	52.0
SPH2708	993	3656	63.5	10.6		50.9	50.6	55.6	63.0	52.4	63.2	59.1	64.8	70.0	59.6	63.9	67.6	63.7	75.4	61.6	94.1
SPH2709	840	862	348.5	251.5		654.7	527.2	755.7	615.9	639.0	139.5	224.2	452.3	102.5	70.4	519.8	475.0	73.9	118.1	83.6	125.0
SPH2710	1461	55	3880.2	3252.0		9026.6	4877.9	6929.9	7595.1	8710.1	1918.8	1763.5	3255.5	509.9	528.1	6870.3	6616.2	912.7	1552.6	590.7	425.3
SPH2711	1659	3685	62.8	10.3		68.8	56.8	51.1	62.4	58.7	81.1	56.8	48.3	48.6	69.0	61.1	57.6	61.3	82.0	67.6	73.0

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2712	1167	118	2118.7	2719.0		4794.5	617.0	1458.7	1479.1	8532.9	605.4	213.4	701.3	187.8	142.0	646.5	1019.2	81.1	879.9	6712.6	5828.0
SPH2713	75	338	874.7	1145.2		1860.4	449.1	602.6	230.4	3296.5	291.8	305.1	242.3	431.3	311.0	325.0	132.6	287.1	335.4	3887.8	1006.0
SPH2714	864	979	301.7	96.1		277.2	346.3	482.6	357.7	265.7	299.7	344.2	374.7	134.7	246.8	481.8	239.3	320.0	265.0	211.6	180.3
SPH2715	933	1586	183.1	45.9		178.9	240.3	258.7	171.5	169.9	199.8	190.4	233.2	101.7	130.6	230.2	200.8	178.5	196.3	139.9	109.5
SPH2716	423	1931	142.4	39.1		160.2	153.0	166.3	163.0	219.9	143.4	155.0	210.9	80.4	91.7	125.3	91.4	124.8	143.8	111.1	137.9
SPH2717	657	2333	113.4	23.9		134.7	153.1	120.6	98.8	123.6	137.5	104.8	119.5	92.2	88.0	107.3	106.4	141.1	135.6	83.4	67.2
SPH2718	651	1436	204.5	61.9		246.4	294.2	233.9	304.8	244.9	219.4	160.0	267.9	150.5	175.4	158.3	212.8	96.2	234.4	159.9	113.7
SPH2719	1080	1240	241.4	81.1		257.6	278.0	236.6	275.2	255.6	141.5	198.9	252.6	229.1	161.9	179.9	353.4	83.8	415.5	227.1	316.1
SPH2720	516	783	389.9	484.2		192.8	110.8	110.0	121.6	318.6	162.5	546.7	110.6	133.8	155.3	76.5	101.5	248.7	817.3	1672.1	1360.3
SPH2721	1188	3610	65.1	8.8		73.6	80.0	62.1	67.8	73.8	57.5	59.0	81.3	66.6	60.5	56.9	59.4	48.8	63.5	67.6	62.8
SPH2722	1176	1291	229.0	84.0		344.6	253.9	196.5	148.8	435.5	258.8	171.8	206.8	222.0	300.9	179.8	125.6	304.5	209.9	132.1	172.2
SPH2723	2205	2867	87.6	14.1		82.0	80.8	77.7	113.7	75.9	87.8	75.7	82.6	94.5	83.6	74.2	111.7	67.3	90.5	111.1	92.8
SPH2724	1125	1518	190.5	65.9		178.8	167.9	274.8	169.4	176.8	153.5	144.8	203.9	138.8	232.4	219.3	139.0	159.6	390.3	170.5	127.6
SPH2725	924	1072	281.4	115.4		330.0	353.6	403.6	313.4	263.8	218.3	208.1	337.1	154.7	271.3	268.1	154.3	174.4	614.3	239.2	198.2
SPH2727	1005	1500	192.9	61.6		208.8	318.7	265.6	196.8	179.0	179.6	150.3	256.9	167.3	193.4	231.5	255.6	120.0	109.7	94.1	158.2
SPH2728	66	3983	46.0	6.0		41.7	47.7	41.2	43.2	40.5	57.3	42.7	38.7	48.6	49.2	42.2	43.8	57.0	39.4	52.0	51.1
SPH2729	711	1767	158.2	273.7		63.2	53.7	54.2	63.4	82.5	79.4	72.7	63.7	229.0	165.7	68.2	97.5	79.6	1170.2	91.6	97.1
SPH2730	2571	3296	73.8	24.8		53.2	56.9	50.3	69.9	55.5	65.4	54.6	55.8	88.6	142.2	57.2	81.6	75.9	105.3	69.4	98.8
SPH2731	1299	3459	68.9	18.7		65.0	50.8	50.6	66.9	60.4	55.0	60.5	68.1	126.0	92.3	55.4	79.0	71.0	57.6	70.4	73.8
SPH2732	276	3864	57.4	14.1		49.9	47.9	42.8	47.3	43.7	63.0	48.4	43.4	68.1	75.3	44.3	65.8	55.0	89.0	59.1	76.2
SPH2733	2463	2378	110.6	33.4		74.2	75.1	111.8	116.9	82.6	102.7	91.6	104.5	116.5	220.5	117.8	100.3	124.8	123.6	94.7	112.2
SPH2734	1380	760	401.5	325.1		314.6	231.6	262.4	262.6	346.0	218.2	185.2	360.7	1121.3	1263.7	190.2	201.3	363.2	583.9	303.3	216.5
SPH2735	2385	3086	79.9	25.2		64.2	62.9	55.0	69.7	73.0	97.3	64.4	66.7	149.3	120.7	68.2	80.4	98.7	70.7	76.8	59.6
SPH2736	1209	3810	58.9	15.9		43.9	47.5	43.5	59.0	49.2	80.2	45.0	48.7	63.9	65.8	45.4	81.5	47.6	52.4	75.1	93.1
SPH2737	711	2772	91.6	19.0		93.2	78.6	68.7	86.7	101.9	121.5	87.2	67.3	90.1	126.5	72.6	93.5	105.9	119.8	75.3	76.1
SPH2738	762	615	496.2	208.8		742.3	422.9	274.9	229.6	803.0	475.2	465.2	205.9	657.8	655.5	341.2	279.3	841.3	453.7	686.2	404.6
SPH2739	825	1734	162.6	51.4		192.6	190.5	170.3	112.0	195.7	252.6	120.4	193.3	131.1	208.2	161.7	102.5	158.9	236.8	90.3	85.1
SPH2740	1350	2457	106.1	22.3		91.0	78.5	86.7	91.9	94.7	143.1	90.9	100.0	150.6	138.1	101.9	101.6	109.6	117.5	79.4	121.7
SPH2741	1842	2074	131.6	29.4		99.6	90.7	109.4	141.6	101.8	115.7	102.6	166.5	125.5	172.9	144.1	185.6	132.7	142.7	109.3	164.1
SPH2742	675	1462	198.8	20.9		226.0	183.5	182.5	208.0	195.1	168.6	188.9	195.9	231.5	184.9	188.5	250.0	189.1	202.9	191.6	193.4
SPH2743	1581	2527	102.8	20.3		95.6	125.0	121.2	114.6	107.7	103.2	97.2	122.3	72.4	90.4	133.9	68.9	130.4	87.4	90.5	83.6
SPH2744	444	3217	76.2	18.9		68.9	88.6	68.6	102.6	73.4	77.1	53.4	84.8	54.2	73.3	63.6	100.7	56.9	66.7	65.6	120.7
SPH2745	1446	3674	63.0	14.8		58.6	64.5	51.7	96.1	55.9	57.5	52.8	84.4	84.3	51.5	49.3	79.2	45.4	56.8	58.5	61.3
SPH2746	741	2416	108.4	26.2		121.6	136.5	113.3	110.4	126.5	120.8	64.8	139.4	150.2	93.0	88.6	132.8	67.9	76.9	90.8	101.0

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2747	1233	2469	105.3	35.4		132.7	187.3	108.4	130.5	107.7	97.8	74.6	138.9	131.9	69.3	94.5	85.9	48.8	55.5	98.8	122.5
SPH2748	1362	1407	209.0	81.2		346.5	340.5	256.6	211.8	319.0	242.9	183.7	258.1	190.8	127.1	228.1	164.4	110.2	103.6	158.9	102.5
SPH2749	690	1333	221.7	54.0		237.3	310.3	279.1	312.4	234.0	178.2	158.6	263.7	244.5	177.7	177.8	234.5	141.9	149.7	234.4	213.7
SPH2750	864	1433	205.1	71.5		256.1	332.9	256.0	350.7	193.1	196.6	152.7	219.4	170.6	136.2	157.8	258.7	91.5	126.5	204.9	178.5
SPH2751	309	188	1455.2	842.0		1915.7	894.7	798.6	625.4	2375.1	1472.4	1520.2	662.0	1299.0	1186.2	418.7	460.0	1666.9	2082.6	3412.1	2494.0
SPH2752	426	903	331.9	199.8		458.4	300.0	182.1	177.8	629.9	393.6	258.2	149.9	293.0	191.8	83.9	123.3	315.4	527.1	815.0	411.4
SPH2753	1335	1768	158.2	53.9		205.9	199.0	166.4	149.6	166.8	128.9	105.7	237.4	195.8	112.7	118.6	134.3	116.3	283.3	126.9	84.1
SPH2754	345	1639	176.8	51.6		194.4	213.8	199.3	164.4	164.4	175.1	119.0	246.4	263.0	163.7	156.6	119.2	142.5	273.8	121.9	111.5
SPH2755	72	3981	47.8	8.4		46.3	51.7	37.3	62.1	39.7	48.0	37.2	40.6	51.3	48.4	40.6	55.5	40.1	47.7	64.2	54.0
SPH2756	771	2384	110.4	40.0		97.9	108.8	103.7	76.9	135.2	71.5	82.8	47.3	137.4	130.7	97.6	104.5	229.8	104.3	119.2	118.5
SPH2757	1191	986	300.1	182.5		243.8	209.5	187.5	152.1	260.6	182.5	208.9	230.6	312.9	254.6	158.9	159.2	308.3	697.7	509.0	725.8
SPH2758	813	277	1057.5	1099.4		642.9	449.3	471.7	572.8	719.7	658.1	712.9	487.4	833.9	879.7	459.9	553.0	1215.1	4900.5	1565.2	1798.4
SPH2759	1902	3318	73.1	14.7		72.5	54.3	65.0	62.4	59.0	57.3	79.6	64.3	79.3	69.2	71.2	77.4	116.2	80.8	75.1	85.1
SPH2760	1056	3386	70.9	11.2		64.6	80.3	77.7	62.7	70.3	61.9	74.3	89.5	87.8	58.0	71.7	67.7	82.9	73.4	47.4	64.8
SPH2761	1086	1243	241.1	212.8		110.6	156.9	282.1	121.0	128.9	103.2	280.1	239.2	98.3	233.1	380.4	58.8	590.1	854.4	128.8	91.0
SPH2762	1191	1180	253.7	126.8		162.9	183.6	288.9	187.6	160.2	196.9	313.3	234.6	290.5	396.5	285.2	146.4	509.1	498.2	128.2	76.4
SPH2763	1014	1804	154.0	78.5		92.2	72.3	151.4	78.9	102.5	115.0	223.3	148.3	83.9	187.6	242.0	96.5	351.3	255.2	132.8	130.9
SPH2764	132	1741	161.3	63.4		128.7	166.8	101.1	141.3	143.5	189.7	151.1	154.9	82.8	162.1	106.5	129.1	105.1	318.6	245.7	254.7
SPH2765	1005	843	357.0	173.2		213.7	559.4	258.1	249.5	436.9	835.4	265.8	360.7	568.4	436.0	260.5	180.2	251.8	249.3	317.2	268.3
SPH2766	2220	3603	65.2	14.1		57.2	65.0	54.4	61.3	61.4	78.6	56.3	59.8	58.2	59.2	58.9	63.0	62.4	54.8	84.0	108.8
SPH2767	546	1193	251.6	96.0		339.4	407.7	377.9	289.9	223.2	192.5	162.6	375.8	206.4	259.6	356.4	193.2	239.8	169.6	92.8	139.3
SPH2768	807	3458	68.9	13.0		74.5	71.2	67.0	78.4	57.5	97.8	53.0	81.6	64.9	64.7	62.0	83.5	58.8	59.4	48.4	80.1
SPH2769	393	3938	53.1	7.8		50.3	61.2	52.3	69.1	50.5	48.5	41.3	64.0	47.9	50.9	50.7	62.5	42.7	47.3	52.4	57.4
SPH2770	2088	3354	71.9	10.3		67.5	61.3	67.4	81.4	57.1	91.4	73.9	73.4	61.9	72.0	67.7	75.4	64.1	65.3	75.5	94.5
SPH2771	900	2222	119.3	46.1		79.7	131.9	158.4	101.7	84.6	104.0	141.4	183.9	63.9	141.7	205.8	81.7	190.3	75.2	80.5	84.4
SPH2772	1539	3009	82.4	11.4		102.0	89.1	83.8	82.2	84.6	78.7	70.6	96.8	78.2	78.9	76.3	95.4	67.4	97.2	75.3	61.3
SPH2773	771	3839	58.3	13.5		48.4	43.7	49.7	56.3	47.8	57.6	100.1	52.5	69.1	51.8	57.7	55.0	53.0	53.9	72.4	63.0
SPH2774	1263	785	388.6	777.5		82.3	54.7	102.3	86.7	67.4	61.2	3065.3	81.3	79.1	112.8	145.6	100.1	184.4	100.5	1227.6	666.9
SPH2775	987	1757	159.2	289.8		57.4	46.8	39.7	50.1	43.6	71.8	1143.4	43.7	58.6	54.8	51.7	58.5	52.7	47.5	533.2	194.1
SPH2776	777	1980	138.7	207.8		50.1	54.8	48.4	79.7	49.2	85.8	862.7	52.7	54.8	75.4	56.3	89.5	58.4	59.2	345.2	196.5
SPH2777	978	1732	162.7	232.6		70.3	53.7	54.2	81.0	61.7	65.0	919.4	71.1	88.7	59.2	62.0	95.3	58.8	82.3	490.4	290.1
SPH2778	978	3688	62.6	6.0		74.9	70.3	56.3	62.3	66.6	58.1	60.7	51.5	67.2	58.8	62.5	59.4	68.5	58.0	66.3	60.6
SPH2779	1011	619	493.4	204.4		787.5	558.5	654.1	592.4	693.2	509.5	359.8	924.4	419.2	382.2	551.6	380.8	335.1	349.9	236.5	160.0
SPH2780	1554	1104	273.1	185.5		424.3	355.3	458.9	423.4	369.3	402.4	172.8	721.8	115.3	103.1	264.6	181.1	94.9	81.7	130.4	70.6

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2781	72	54	3884.5	1172.4		4454.4	3023.3	5352.8	5274.3	3198.8	3327.4	2956.4	4465.1	3515.0	3839.3	5634.6	5389.4	2927.3	1250.9	3507.3	4035.5
SPH2782	1512	137	1833.3	723.2		1985.9	1301.5	1922.6	1999.7	1710.0	1172.0	1520.1	1697.1	1645.4	1528.6	2469.1	3583.8	1076.4	556.0	2662.7	2501.5
SPH2783	1218	3579	65.8	16.8		59.4	51.3	59.1	121.6	60.4	48.8	61.1	60.5	61.8	66.4	60.0	67.0	72.0	54.8	66.3	81.7
SPH2784	765	3353	71.9	10.5		74.3	58.2	62.8	67.8	71.6	68.0	83.6	60.6	67.8	62.6	64.4	97.1	71.3	73.7	84.1	83.3
SPH2785	1017	3565	66.1	9.7		58.0	44.1	65.7	64.5	61.3	62.9	61.2	69.7	74.4	62.8	65.1	72.1	67.4	61.2	81.6	86.1
SPH2786	687	2948	84.5	25.1		63.5	65.9	74.4	71.4	54.7	80.5	75.4	84.3	66.4	104.4	79.9	131.7	79.0	64.6	116.9	139.1
SPH2787	1278	2578	100.2	55.1		72.5	59.4	106.0	62.3	59.7	87.1	122.2	68.6	61.3	117.7	171.1	74.5	272.9	69.8	93.9	104.4
SPH2788	582	1200	249.2	267.7		86.7	71.8	316.9	72.9	121.8	80.1	561.7	129.3	137.9	348.7	478.1	80.2	1074.2	159.2	187.8	79.9
SPH2789	1044	1528	189.0	132.7		79.3	78.5	187.6	95.2	77.6	100.2	436.3	127.6	93.8	187.8	316.2	82.7	440.6	104.9	381.0	235.0
SPH2790	1908	2616	98.0	38.2		70.8	63.5	148.2	140.9	70.1	60.6	84.6	123.6	72.9	81.8	152.0	172.4	107.8	50.3	69.4	99.5
SPH2791	1005	774	392.6	199.9		318.2	210.5	548.6	590.5	255.2	223.6	317.4	678.9	721.5	622.8	475.9	308.6	533.8	157.7	198.2	120.3
SPH2792	936	3257	74.8	17.9		116.7	79.1	62.4	69.8	91.9	61.4	63.3	67.5	58.3	104.6	80.1	63.2	90.6	62.1	52.9	73.1
SPH2793	129	3895	56.2	13.1		91.8	57.9	49.4	47.7	60.0	58.5	50.2	41.7	62.2	43.4	46.1	62.5	50.8	42.1	60.8	74.8
SPH2794	606	290	1007.9	984.6		1034.2	452.9	260.3	233.0	1678.9	945.6	797.4	181.4	2543.6	3808.6	277.7	198.3	1469.8	528.5	777.7	939.3
SPH2795	981	2690	94.8	21.1		79.7	133.7	94.6	95.7	101.0	81.1	90.3	98.9	142.4	105.5	110.2	64.8	83.2	67.4	79.4	89.2
SPH2796	1407	3146	78.1	17.0		74.1	81.8	73.2	90.7	84.6	95.2	52.8	91.4	91.1	65.4	63.1	94.8	58.3	53.0	69.4	110.7
SPH2797	1815	631	486.1	228.2		573.3	704.4	691.0	572.5	507.1	309.7	318.9	818.2	417.0	346.1	525.6	290.4	268.7	989.3	259.5	185.4
SPH2798	1203	888	338.3	103.8		341.8	409.8	360.3	367.7	250.9	260.0	239.7	340.9	292.6	397.0	289.5	319.2	277.7	666.3	231.9	366.8
SPH2799	768	2852	88.3	25.6		127.0	120.2	64.3	72.9	81.3	104.0	55.6	142.0	104.4	90.7	53.7	82.9	64.1	89.6	74.3	85.7
SPH2800	2142	2747	92.6	32.7		70.9	65.7	78.3	97.6	57.1	105.0	70.6	64.1	75.9	107.3	70.4	172.2	91.9	85.1	113.8	156.2
SPH2801	588	598	505.2	104.0		614.2	432.4	508.2	461.7	532.0	513.7	595.2	468.2	525.4	611.5	647.5	421.7	550.3	580.8	382.7	238.3
SPH2802	441	1143	263.3	104.8		212.1	226.0	387.9	342.5	250.0	189.4	282.0	332.3	159.3	200.9	459.0	229.7	351.1	379.8	141.4	69.0
SPH2803	93	1432	205.2	91.9		239.5	188.8	270.8	164.8	284.1	111.0	231.5	165.5	152.3	212.5	355.3	86.1	298.3	357.5	95.3	69.8
SPH2804	516	2000	137.8	38.3		136.9	109.2	143.1	104.6	159.2	102.7	170.3	73.3	119.1	163.0	197.2	111.6	218.3	136.4	155.1	104.1
SPH2805	861	662	465.9	483.2		169.8	107.3	215.3	241.7	374.7	82.8	823.8	117.8	139.9	120.1	282.9	737.6	68.7	1148.1	1304.2	1519.0
SPH2806	60	2101	129.0	72.9		61.3	69.0	78.3	97.7	152.7	82.7	172.0	58.8	55.9	170.1	156.4	319.9	209.4	193.3	116.5	69.8
SPH2807	1473	3466	68.7	15.4		68.1	60.9	50.5	63.3	65.6	78.6	57.9	53.5	65.2	88.4	59.0	88.9	54.7	72.1	65.2	108.1
SPH2808	1176	1578	183.5	67.6		183.1	138.3	141.7	106.8	326.9	322.7	195.5	109.2	141.5	221.4	164.4	150.3	224.0	136.1	235.3	139.2
SPH2809	1473	1838	150.0	48.9		115.3	109.7	111.1	111.6	242.2	166.7	184.0	115.5	135.6	135.0	119.4	160.2	131.7	142.1	139.7	280.3
SPH2810	396	677	456.4	218.5		533.9	386.1	273.2	363.8	949.6	931.1	275.4	301.8	606.7	618.9	278.1	299.2	347.5	343.3	379.0	414.6
SPH2811	429	2624	97.7	51.9		74.0	65.3	50.8	64.5	185.5	187.1	60.6	55.3	114.2	107.0	57.0	93.9	76.4	70.5	88.0	213.2
SPH2812	1611	1867	147.7	116.4		143.7	101.9	73.2	79.1	502.9	355.3	80.2	73.0	163.1	149.4	98.5	139.0	96.5	102.1	103.9	100.7
SPH2813	3180	1782	156.5	149.6		137.4	96.5	78.7	94.7	492.3	569.8	72.5	70.9	189.8	113.1	82.7	109.8	104.1	92.1	100.3	98.6
SPH2814	1596	1344	219.6	188.6		218.4	128.5	81.7	89.6	436.6	803.4	141.4	99.8	376.4	321.5	112.6	170.3	133.3	172.3	109.4	118.9

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2815	591	397	744.9	1110.3		755.6	449.2	80.8	80.4	3108.5	3672.3	132.2	67.3	1366.3	1073.9	131.3	77.0	543.5	252.1	63.9	63.2
SPH2816	411	434	686.2	855.0		620.7	545.9	157.0	142.8	2736.4	2782.2	226.1	126.9	903.8	893.6	341.2	121.2	755.1	346.9	126.5	153.5
SPH2817	174	3639	64.1	12.1		57.7	63.2	50.4	49.4	56.7	85.8	76.9	45.2	68.9	81.3	65.4	65.5	81.5	61.1	60.3	56.9
SPH2818	135	2685	94.9	76.0		48.6	44.1	92.6	60.4	67.2	54.6	166.5	60.1	51.9	94.4	293.9	44.6	250.6	82.2	61.5	45.9
SPH2819	906	3744	61.2	9.3		66.0	59.7	54.8	69.9	62.1	63.3	52.1	55.4	65.6	57.8	52.7	65.1	48.0	55.0	65.0	87.5
SPH2820	369	3951	52.5	10.0		55.8	48.6	42.6	56.9	47.5	55.4	49.6	46.6	61.8	50.3	44.4	64.7	40.9	41.9	52.7	79.5
SPH2821	654	2012	136.3	35.8		166.5	189.6	144.2	133.0	132.9	108.3	100.2	157.0	111.9	125.7	124.9	149.5	74.6	125.1	114.9	222.9
SPH2822	666	3855	57.7	10.6		69.4	59.2	45.9	49.7	48.6	73.4	44.5	52.1	62.5	47.8	51.4	77.3	48.8	58.2	68.9	64.9
SPH2823	1359	2156	124.4	23.4		168.6	156.5	114.3	119.7	165.8	132.4	121.9	110.8	128.2	128.4	87.8	119.4	99.5	91.4	117.7	128.9
SPH2824	903	1332	221.7	86.0		328.2	235.7	185.1	157.6	453.5	240.3	325.0	181.2	259.5	230.5	154.9	125.8	169.3	152.3	186.5	162.6
SPH2825	495	2240	118.2	38.7		142.1	131.0	102.5	98.5	243.9	91.9	113.1	99.7	114.6	95.1	82.9	118.3	105.3	153.9	110.8	87.9
SPH2826	2049	3112	79.0	14.8		88.9	84.0	73.9	86.2	85.1	61.2	73.5	86.3	87.6	57.9	60.9	91.4	56.4	82.3	76.3	112.4
SPH2827	1512	490	612.2	192.7		808.8	900.4	838.1	875.9	631.6	613.2	401.9	688.1	430.9	403.3	638.3	723.6	217.6	588.8	532.5	501.5
SPH2828	168	1405	209.6	74.8		266.5	197.1	256.5	294.8	148.6	137.4	96.5	138.3	205.0	228.6	293.9	367.2	120.6	245.8	196.9	160.0
SPH2829	399	402	737.8	171.5		787.9	672.7	812.2	938.4	697.0	579.1	506.3	533.2	853.3	765.1	1037.7	848.0	838.8	904.4	597.7	433.7
SPH2830	999	2420	108.2	29.2		98.8	79.4	82.4	73.6	102.7	92.0	96.1	70.9	131.2	131.6	88.8	130.4	107.3	119.3	169.3	156.6
SPH2831	666	3130	78.4	12.4		71.1	74.1	67.0	64.1	74.3	65.3	78.8	61.1	87.5	86.9	84.3	100.5	82.4	85.7	69.1	102.4
SPH2832	858	3490	68.0	12.8		60.6	57.2	62.1	58.2	53.7	79.1	52.7	58.9	66.9	74.7	63.5	58.8	90.2	88.5	76.3	87.2
SPH2833	795	1974	139.0	98.3		81.2	62.7	109.1	75.5	79.7	103.1	183.4	77.7	73.4	131.5	252.3	101.5	332.3	381.7	105.4	74.3
SPH2834	1329	2661	96.0	26.1		78.9	84.7	78.7	69.8	94.0	149.2	82.3	67.9	87.6	101.5	89.0	105.8	121.6	157.2	76.9	90.9
SPH2835	1977	1551	186.5	133.3		118.4	83.3	107.8	103.2	227.2	535.9	175.7	93.8	123.5	225.6	143.7	115.1	482.5	137.6	179.6	131.5
SPH2836	273	2040	134.8	78.8		67.5	76.6	102.1	65.5	124.2	274.5	152.3	69.8	76.7	196.1	155.3	105.1	335.0	104.4	179.5	72.7
SPH2837	426	927	322.3	305.1		91.5	107.8	235.8	106.2	138.5	83.8	341.6	131.2	735.7	983.4	398.1	89.3	971.5	221.1	324.7	197.2
SPH2838	2694	2985	82.9	16.5		78.8	76.8	82.4	72.5	63.7	85.4	82.7	62.3	63.6	87.9	94.1	78.0	124.1	79.6	82.6	112.3
SPH2839	1188	2957	84.2	22.1		58.6	67.0	84.9	60.9	64.9	79.2	104.2	59.3	79.6	78.8	109.5	78.5	123.3	73.7	98.3	127.3
SPH2840	993	2861	88.0	27.9		54.6	68.2	82.8	69.5	83.8	81.5	103.4	66.1	75.2	96.5	93.7	87.9	138.5	75.3	68.0	162.9
SPH2841	285	964	305.5	268.4		137.1	129.1	267.1	128.4	155.2	206.2	428.1	271.0	111.4	477.2	574.7	198.7	1166.5	332.3	164.0	141.5
SPH2842	1236	680	453.7	441.2		180.1	203.2	461.5	220.7	208.9	309.7	812.2	432.0	177.8	760.1	892.9	116.8	1820.5	283.0	241.4	137.9
SPH2843	213	2090	129.9	52.4		180.2	118.3	132.8	199.8	119.7	87.2	110.3	165.7	77.9	65.0	102.2	89.1	116.9	251.5	76.8	184.1
SPH2844	165	3131	78.4	27.0		49.9	62.8	72.7	50.4	65.4	78.3	88.5	55.4	61.5	130.1	88.0	80.8	146.8	78.6	87.0	57.7
SPH2845	2196	1452	200.5	153.4		87.0	110.4	129.4	100.4	106.5	93.1	217.7	114.5	530.6	470.1	175.5	60.5	484.5	193.9	211.1	123.0
SPH2846	375	540	556.6	631.1		254.9	162.2	180.2	173.9	366.4	181.5	559.9	114.5	489.8	438.4	189.0	297.9	899.5	444.6	2297.8	1854.7
SPH2847	1509	972	304.0	153.1		243.4	267.8	244.5	166.1	365.0	405.5	276.9	127.2	325.2	479.8	270.6	154.3	768.1	281.4	233.1	254.8
SPH2848	1503	295	995.7	750.5		1135.5	716.6	743.1	624.3	1097.4	1059.8	759.2	391.1	1128.4	1622.8	806.7	422.2	3540.6	726.8	717.4	438.4

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2849	1371	906	330.6	155.9		314.6	261.9	305.5	280.1	302.4	228.7	200.6	130.0	576.9	524.5	311.5	275.0	728.6	384.8	285.3	179.1
SPH2850	108	2317	114.4	34.0		107.2	125.2	92.6	102.4	136.0	106.5	62.4	58.0	175.2	133.8	88.9	127.0	166.9	153.2	82.8	111.5
SPH2851	960	1352	218.8	100.2		154.8	134.9	189.8	145.2	248.8	180.2	268.3	142.9	166.9	220.2	248.4	91.7	348.7	511.6	231.6	216.4
SPH2852	1194	3102	79.3	13.3		84.0	69.7	68.7	62.6	68.1	80.6	77.9	66.9	93.0	78.5	68.9	117.6	83.4	80.3	88.6	80.3
SPH2853	2109	2460	105.9	25.0		134.7	138.8	120.0	100.5	109.7	94.9	77.6	139.4	95.2	92.1	89.2	144.5	76.5	60.8	119.2	101.7
SPH2854	1065	2398	109.4	25.3		110.3	115.7	107.2	108.7	133.1	84.7	100.4	90.5	165.8	126.7	88.9	110.5	109.1	62.4	147.2	89.0
SPH2855	789	1489	195.2	63.2		195.8	175.5	182.6	196.2	235.2	141.8	172.1	121.0	346.6	321.0	151.2	173.0	214.9	126.3	218.6	150.5
SPH2856	1008	1033	290.5	302.4		173.4	203.4	297.8	367.6	80.4	101.7	106.5	184.4	85.3	95.7	977.1	1057.7	100.0	116.0	403.4	296.9
SPH2857	198	2791	90.8	24.8		80.8	69.8	68.4	132.3	69.8	118.1	78.1	66.4	87.7	78.5	85.8	127.4	77.5	66.3	131.0	115.2
SPH2858	828	3587	65.6	13.6		60.4	58.7	54.0	63.2	50.3	61.4	70.9	59.4	56.0	73.3	46.5	94.9	57.4	80.8	87.5	74.2
SPH2859	1266	3861	57.5	10.2		47.3	44.6	44.5	50.9	46.8	72.3	57.2	53.9	48.8	68.4	58.8	62.4	76.6	61.5	68.4	57.8
SPH2860	1335	3306	73.4	12.7		68.5	71.3	77.3	99.1	57.2	63.6	70.1	83.8	72.2	67.8	72.8	71.8	79.4	50.3	70.6	98.6
SPH2861	669	3021	81.9	25.2		84.8	62.1	76.1	61.8	70.4	82.3	82.1	60.3	76.3	102.6	70.0	79.8	107.6	49.2	87.3	157.7
SPH2862	387	1238	241.9	94.8		252.6	165.8	140.0	146.3	366.5	188.6	262.3	111.6	375.5	343.4	148.9	199.3	390.2	169.8	302.0	307.4
SPH2863	852	2137	126.2	21.4		117.6	110.1	115.3	149.5	107.5	108.4	133.1	108.1	135.1	146.6	106.1	129.7	169.2	93.5	157.8	130.8
SPH2864	639	1465	198.4	59.2		306.1	257.0	252.0	213.9	228.3	239.4	160.3	240.3	104.2	160.8	229.3	229.7	141.3	101.9	155.5	153.8
SPH2865	1032	2113	128.0	26.3		149.0	138.8	143.2	112.9	130.5	128.9	87.1	161.6	110.6	112.8	159.4	137.9	122.8	83.5	172.5	97.0
SPH2866	1470	2953	84.4	13.2		86.0	89.9	95.5	89.4	71.5	86.2	78.4	98.5	102.7	73.8	107.9	77.9	86.7	77.8	69.4	58.0
SPH2867	1272	2708	94.3	22.1		63.9	94.4	126.9	78.4	95.8	82.8	105.0	104.6	94.2	82.2	138.1	71.7	128.1	78.1	66.9	97.0
SPH2868	1071	554	547.8	227.2		754.0	774.2	839.3	756.3	559.9	510.3	473.4	622.4	416.8	384.5	846.4	801.6	280.0	222.8	269.6	252.8
SPH2869	759	956	307.8	123.3		403.8	414.8	438.6	487.5	362.7	282.5	163.1	349.6	221.4	217.5	470.7	286.4	191.2	389.8	129.6	115.4
SPH2870	642	391	755.0	395.4		764.2	708.4	729.2	948.8	566.0	364.5	1222.3	757.3	599.6	377.5	568.2	692.8	199.0	476.6	1681.4	1424.1
SPH2871	747	287	1020.1	427.6		1277.1	1968.6	1301.0	1119.0	1251.0	1474.7	1203.4	1233.9	881.3	784.7	947.4	830.9	521.9	292.2	872.0	362.2
SPH2872	759	845	356.3	155.9		311.9	712.7	479.6	470.0	376.7	413.1	282.7	549.1	292.3	215.5	381.1	465.6	147.5	138.6	269.2	195.0
SPH2873	444	601	503.3	241.6		493.0	877.8	727.6	733.7	373.8	532.7	486.7	790.7	476.7	317.8	563.3	841.1	180.5	157.1	363.9	136.2
SPH2874	327	178	1510.1	472.4		1278.5	2160.2	1946.6	1934.1	1104.9	1548.4	1469.6	1787.2	1753.9	1628.4	1811.6	2065.6	1277.2	521.0	1154.5	719.7
SPH2875	348	96	2649.6	850.6		2084.6	3640.0	3638.5	3009.7	1622.0	2853.4	2557.1	2591.8	2795.7	2976.7	4072.5	2945.4	3334.8	1158.0	1642.2	1471.9
SPH2876	222	358	820.8	198.3		946.0	981.3	1080.9	928.4	792.7	782.4	667.8	743.2	831.2	889.3	987.6	1135.9	516.4	412.6	831.3	605.5
SPH2877	729	700	442.2	120.9		415.6	510.0	607.0	547.6	390.3	310.2	355.9	397.5	501.5	339.7	515.4	694.7	222.0	384.1	367.2	516.7
SPH2878	732	1036	289.3	105.8		237.2	237.6	323.0	192.9	261.2	173.2	358.1	236.4	176.5	299.1	433.0	252.1	459.9	531.5	237.8	218.5
SPH2879	729	1098	274.9	130.7		163.1	145.2	175.4	198.4	183.3	334.6	202.4	246.5	177.5	420.4	175.1	410.8	202.1	599.7	396.5	366.8
SPH2880	606	1217	246.8	147.4		258.4	201.4	163.1	159.2	334.3	315.8	145.3	161.5	182.8	200.3	98.6	108.2	237.4	711.4	333.7	337.9
SPH2881	771	953	308.1	110.0		339.2	344.9	277.9	244.7	416.1	343.7	237.5	371.4	297.7	204.5	169.5	132.9	346.1	606.9	280.0	316.4
SPH2882	558	2730	93.6	28.3		88.1	148.1	100.0	104.7	94.9	133.7	71.9	132.8	73.3	73.8	54.9	69.4	79.1	128.3	67.5	76.5

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2883	1884	2839	88.8	23.0		71.8	121.9	84.5	81.7	92.4	151.7	68.0	119.9	82.0	73.3	79.6	88.3	79.2	83.8	76.4	67.1
SPH2884	480	2205	120.7	28.3		100.4	126.7	93.5	96.5	134.7	116.7	89.7	121.6	112.7	171.3	102.1	123.3	182.7	108.3	93.5	157.2
SPH2885	720	575	530.1	241.0		515.6	804.9	489.3	475.8	486.3	854.2	308.5	927.3	738.8	788.2	322.9	216.1	718.2	267.9	283.0	285.2
SPH2886	564	112	2215.7	1278.3		2004.5	3105.1	1736.5	1729.4	2532.1	5000.2	1036.6	3392.2	3237.4	3280.6	1162.0	693.9	3670.8	1039.3	1131.9	699.0
SPH2887	1062	537	556.9	354.5		737.2	816.6	487.2	608.9	864.3	1509.0	178.0	963.7	520.1	380.0	249.5	191.1	389.4	486.5	297.5	230.9
SPH2888	1656	1886	146.1	54.7		202.8	225.4	172.7	134.1	250.9	169.2	88.4	222.3	99.1	129.4	95.8	148.6	96.7	109.2	105.1	87.8
SPH2889	615	2171	123.2	34.9		157.0	122.7	93.1	96.8	201.3	159.0	116.8	99.3	180.2	132.9	100.6	101.6	133.9	83.5	103.4	89.1
SPH2890	981	216	1303.8	1395.7		437.6	406.0	461.3	455.8	493.5	590.5	1034.2	298.8	1431.4	1732.9	506.9	493.7	1889.1	1393.2	4319.6	4916.4
SPH2891	768	2276	116.5	90.3		91.7	83.0	78.6	85.4	74.2	96.7	69.3	82.8	63.5	103.7	66.3	110.1	83.1	88.3	373.7	313.9
SPH2892	516	1354	218.5	243.2		98.1	144.1	175.1	100.2	133.5	97.8	78.1	116.9	206.7	159.5	111.5	104.9	175.7	124.5	809.3	860.4
SPH2893	1983	466	645.0	1324.8		76.8	88.7	89.9	109.2	95.4	140.7	85.0	101.8	3961.4	4072.1	80.3	109.5	658.6	363.5	180.6	106.6
SPH2894	2019	2834	89.0	26.3		47.8	61.1	103.8	61.8	60.5	61.5	103.2	76.7	92.6	110.4	123.7	83.1	137.5	80.9	106.3	113.0
SPH2895	204	174	1545.4	999.1		1177.1	1337.9	1681.7	1995.6	1171.0	1125.2	1225.2	1429.9	926.2	1582.1	1590.9	1248.0	1705.0	5052.3	882.5	596.1
SPH2896	417	418	714.6	491.3		600.7	606.3	776.7	884.5	580.4	526.1	634.4	691.9	365.8	653.0	661.9	484.6	832.6	2453.5	390.0	291.5
SPH2897	285	294	1000.4	244.2		1210.6	932.7	933.1	864.0	1512.4	941.6	1219.0	660.7	1324.5	1255.3	995.9	625.3	880.9	751.2	979.9	919.4
SPH2898	1029	3033	81.5	20.9		75.9	58.0	73.9	61.6	77.7	75.0	84.1	65.6	63.6	84.4	99.9	62.2	109.8	113.4	70.7	128.6
SPH2899	336	3483	68.3	10.9		53.8	49.0	75.5	67.1	64.1	63.5	63.6	57.2	68.7	64.6	75.3	95.1	68.4	75.5	73.3	78.6
SPH2900	276	3787	59.7	7.2		60.6	53.8	48.5	66.2	56.1	61.4	53.7	51.2	67.4	58.5	64.4	69.0	58.2	51.2	60.1	74.2
SPH2901	273	1775	157.4	72.8		123.4	91.5	168.7	104.9	113.0	106.1	217.2	140.6	104.8	190.4	282.0	149.0	348.7	175.7	97.9	105.0
SPH2902	873	3119	78.8	16.6		70.5	55.2	85.5	65.0	67.1	75.6	82.6	84.4	58.7	81.6	99.6	88.4	111.2	90.0	51.5	94.0
SPH2903	438	1672	172.2	63.1		113.4	113.3	139.7	173.3	102.1	248.8	148.0	116.8	111.8	226.6	153.5	294.8	192.0	129.8	210.6	280.1
SPH2904	207	3837	58.4	9.0		55.8	65.2	50.8	49.2	56.1	60.6	67.4	46.1	45.8	57.7	58.6	62.4	68.0	49.4	62.1	78.6
SPH2905	219	1258	237.9	66.4		225.6	269.8	240.0	212.5	268.9	277.4	231.0	242.8	248.3	342.8	249.8	151.3	379.5	196.6	134.6	135.5
SPH2906	174	1121	269.0	113.8		241.1	403.1	472.6	324.1	218.2	203.2	289.9	476.4	128.5	210.6	325.4	205.1	337.6	225.8	123.2	119.0
SPH2907	309	2330	113.5	41.4		120.6	101.6	139.6	82.4	98.6	123.9	153.8	123.3	86.7	99.1	140.2	71.9	234.9	80.9	90.8	67.3
SPH2908	822	2711	94.1	18.3		67.0	75.5	102.6	79.0	86.7	81.7	96.0	93.9	126.0	93.3	97.5	111.1	135.4	74.3	91.6	93.9
SPH2909	264	2038	134.9	42.3		134.6	85.8	121.2	72.9	109.3	83.3	163.2	125.0	181.4	96.5	171.1	139.0	184.7	107.7	219.3	163.9
SPH2910	327	2153	125.1	37.5		95.1	96.5	131.1	97.1	115.6	119.3	180.4	124.9	69.3	136.6	140.1	102.4	176.0	212.3	110.0	94.2
SPH2911	1605	2249	117.7	58.1		84.7	77.5	127.5	64.5	89.9	130.2	163.2	81.1	75.1	168.6	172.4	66.0	286.1	121.8	102.9	72.2
SPH2912	2040	3834	58.5	8.2		63.1	54.7	46.9	53.4	53.1	72.9	60.2	45.3	52.1	57.4	53.0	67.7	61.8	56.1	66.2	71.4
SPH2913	405	3134	78.3	33.6		48.7	58.3	53.1	95.5	54.8	90.9	60.1	58.6	93.3	87.3	64.4	113.6	51.5	42.4	109.3	170.9
SPH2914	411	2824	89.3	23.1		64.5	64.2	76.7	77.0	67.9	137.6	87.9	79.4	71.5	107.5	100.9	92.6	129.2	65.9	114.3	92.3
SPH2915	780	3635	64.3	17.4		51.4	52.6	56.5	53.2	62.9	64.7	78.8	59.4	49.2	64.3	71.3	51.3	122.3	63.1	66.4	61.9
SPH2916	411	3484	68.3	11.2		64.5	57.4	74.1	68.9	60.7	53.8	80.4	57.2	68.3	66.1	78.6	61.2	93.8	55.1	82.2	70.9

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2917	3612	3498	67.8	15.6		55.8	48.9	64.0	74.2	54.2	73.3	69.7	56.5	55.5	56.5	83.6	69.7	101.9	61.1	60.9	99.1
SPH2918	735	2612	98.1	27.3		66.3	74.0	89.2	93.8	77.7	75.8	107.8	79.5	87.6	92.3	126.3	157.8	114.9	64.3	132.5	129.4
SPH2919	1089	1774	157.8	67.3		116.9	105.7	156.7	110.4	116.6	167.4	209.2	109.8	101.6	222.6	202.7	134.8	364.1	123.6	154.1	128.9
SPH2920	381	2174	122.8	68.4		63.8	68.3	126.9	76.0	76.5	96.6	162.4	98.9	100.6	169.9	177.9	112.0	343.3	92.9	109.1	89.9
SPH2921	372	3770	60.3	16.0		50.8	41.7	52.3	62.8	48.6	51.3	54.7	54.2	73.4	49.9	52.2	80.5	59.8	47.9	100.6	83.3
SPH2922	294	2883	87.1	25.6		78.9	53.0	65.9	71.3	58.8	69.5	87.8	69.7	78.5	98.3	77.7	136.0	93.7	137.2	96.9	121.1
SPH2923	1323	2214	119.8	48.8		66.1	74.7	140.6	135.4	80.2	78.8	206.4	100.6	95.7	138.8	205.3	93.0	206.8	79.8	124.0	91.3
SPH2924	804	3278	74.2	14.7		84.5	85.3	76.9	67.8	101.0	66.5	76.6	78.0	63.6	59.6	92.0	53.6	97.7	67.7	55.8	61.5
SPH2925	99	3049	81.1	30.6		73.2	78.7	98.1	59.7	80.4	77.0	131.7	60.4	51.3	92.3	96.3	58.3	163.4	68.1	54.0	53.7
SPH2926	69	2990	82.7	37.1		62.1	59.9	77.0	57.7	53.6	78.9	135.7	52.2	54.4	76.6	130.9	65.8	186.8	83.9	69.4	78.7
SPH2927	1647	1583	183.4	131.2		94.3	65.6	157.3	95.4	119.3	75.7	351.5	97.6	103.3	161.1	348.4	72.1	494.1	129.7	355.6	212.7
SPH2928	504	2443	106.5	76.5		72.0	54.7	68.2	76.6	69.4	88.0	157.2	56.4	108.2	65.2	80.3	77.7	88.8	57.7	282.3	301.0
SPH2929	720	2136	126.2	26.2		110.3	98.1	122.9	148.6	91.3	150.5	100.7	118.2	100.7	131.5	112.2	166.3	118.6	146.8	183.1	119.2
SPH2930	495	3193	76.8	18.6		73.1	67.8	79.4	62.7	82.4	71.1	109.0	56.6	60.2	72.5	84.3	56.3	104.3	54.0	112.5	82.7
SPH2931	465	3124	78.6	18.7		68.5	74.2	74.2	62.4	64.5	123.6	111.5	61.1	53.0	71.4	77.0	66.3	92.6	81.8	88.3	86.6
SPH2932	783	1658	173.0	81.7		132.8	109.6	126.7	152.8	136.6	136.2	219.0	109.7	120.9	155.1	160.3	163.7	197.0	113.7	353.6	380.6
SPH2933	1389	2175	122.7	63.0		85.6	74.9	107.2	88.8	92.5	60.7	199.1	91.3	110.3	88.9	142.7	89.8	132.5	78.3	271.7	248.4
SPH2934	426	1250	239.6	175.6		139.0	108.2	175.5	108.7	144.7	117.3	483.8	132.5	77.7	176.8	327.7	178.7	575.5	100.8	583.7	403.0
SPH2935	1575	1305	226.9	194.3		99.4	58.4	160.6	121.8	115.2	64.7	622.4	102.6	111.6	180.7	277.6	95.5	525.7	158.0	626.5	309.1
SPH2936	930	1912	144.1	97.0		71.8	57.7	103.0	68.5	69.5	94.7	198.6	71.6	81.2	130.8	190.7	93.9	254.9	139.4	279.4	399.8
SPH2937	678	2904	85.9	24.5		67.3	65.9	60.2	60.6	65.3	95.0	74.9	59.5	124.4	81.9	100.2	80.9	94.7	96.4	101.7	145.0
SPH2938	1152	3116	78.9	15.6		85.9	68.7	61.7	74.6	77.6	55.8	64.3	56.7	97.8	75.0	106.4	72.6	97.4	88.1	97.5	82.7
SPH2939	1908	1430	205.5	167.9		98.2	96.7	146.4	98.7	114.8	157.7	236.5	113.8	123.9	264.3	323.5	161.4	785.8	162.4	199.3	203.8
SPH2940	2136	1358	217.6	206.9		275.4	250.3	479.5	350.8	52.3	104.2	59.8	823.8	77.3	111.6	332.1	235.6	82.0	57.2	83.6	105.6
SPH2941	462	2287	116.0	49.7		94.4	115.7	169.4	189.8	52.9	70.0	90.1	242.5	145.4	100.7	112.1	105.7	113.5	59.0	85.4	108.7
SPH2942	1614	3452	69.0	9.6		64.6	62.1	48.3	76.7	62.0	63.9	64.9	63.0	67.5	66.1	77.4	90.8	74.0	77.4	76.6	69.2
SPH2943	762	3189	77.1	22.8		69.8	50.8	51.3	59.6	67.0	78.2	71.9	66.7	64.8	81.8	73.9	98.6	123.6	72.5	131.8	70.8
SPH2944	390	2756	92.3	50.0		63.8	59.4	78.0	59.2	67.1	54.7	130.0	70.1	91.1	89.1	151.7	62.0	252.1	82.9	79.2	86.6
SPH2945	1377	2496	104.5	36.3		64.6	72.1	90.8	96.8	83.9	74.2	112.4	81.9	91.6	106.4	119.7	132.2	221.2	116.3	104.4	104.2
SPH2946	1080	1328	224.3	140.8		209.2	281.3	154.7	188.0	157.8	315.7	81.6	336.0	368.4	217.0	112.3	94.4	192.3	636.1	132.8	111.0
SPH2947	660	2075	131.4	41.4		183.3	135.0	82.8	95.7	146.1	154.3	99.2	108.3	104.8	182.8	83.1	177.9	111.6	220.1	108.0	109.9
SPH2948	60	1963	139.8	81.0		104.9	97.2	104.8	88.4	70.6	104.8	75.5	81.4	158.0	125.4	88.5	114.4	208.3	226.6	210.1	378.2
SPH2949	1002	1729	163.1	64.6		132.8	166.0	134.1	120.3	96.7	187.7	134.9	144.1	91.8	191.1	198.8	152.4	371.3	178.8	185.2	123.7
SPH2950	1203	2979	83.1	16.8		66.2	98.2	67.8	95.0	55.8	97.7	72.2	88.2	62.1	81.0	66.3	87.2	110.1	84.5	87.0	110.3

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity					
					Sample information																
					Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
Accession	Length		Average	SD	Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2951	621	3234	75.4	28.8		62.6	71.3	63.0	67.2	57.2	65.5	67.6	75.7	84.9	83.4	55.3	67.4	66.5	63.4	76.5	179.1
SPH2952	1200	1986	138.3	42.6		117.8	212.3	144.0	137.7	120.1	122.7	101.1	163.2	101.3	144.6	131.1	115.7	259.4	126.5	112.2	103.6
SPH2953	1707	3281	74.2	16.1		99.2	102.0	77.4	77.2	69.8	72.9	62.7	75.2	82.1	53.3	50.4	62.2	71.9	63.3	63.6	103.9
SPH2954	735	1626	178.1	64.6		194.9	278.4	162.2	121.4	167.4	239.2	124.9	229.1	144.1	191.7	166.8	119.3	330.7	172.9	114.8	92.6
SPH2955	1803	342	867.8	550.7		851.0	1082.6	758.4	823.9	782.6	1060.5	637.4	1044.6	838.9	1001.5	735.1	267.7	2644.9	887.0	199.9	268.8
SPH2956	75	854	352.2	169.0		264.1	404.5	316.9	422.8	298.7	460.4	229.6	455.3	227.9	426.4	262.8	260.5	821.4	504.1	158.5	121.7
SPH2957	1026	158	1676.7	1823.9		2553.3	2833.0	239.1	191.7	4299.2	6395.4	289.6	261.4	1852.4	1536.1	342.1	385.1	1675.8	3418.6	296.5	258.5
SPH2960	204	285	1035.1	599.5		673.1	708.8	730.4	735.7	642.0	534.3	1070.3	657.1	1261.2	1493.1	926.7	715.6	3006.5	1364.4	1182.0	861.2
SPH2961	129	527	566.6	556.5		309.0	215.6	279.6	382.1	346.9	323.5	505.5	229.4	220.7	687.6	433.5	377.4	2263.2	1574.1	388.1	529.5
SPH2962	807	3607	65.2	14.8		70.9	51.5	50.0	51.6	68.9	51.8	61.0	54.5	82.0	64.6	64.6	61.5	109.9	62.4	69.5	68.4
SPH2963	159	3380	71.0	18.9		55.7	57.0	56.2	59.1	50.3	94.7	64.9	69.0	55.2	91.2	61.2	89.2	89.4	62.0	65.7	115.7
SPH2964	111	3980	48.3	8.5		40.5	47.4	40.4	52.6	47.4	53.3	46.5	39.7	44.0	48.6	43.7	46.3	63.3	39.8	48.0	70.8
SPH2965	1554	2269	116.9	90.5		56.1	72.6	89.7	88.8	94.5	77.2	128.7	144.3	94.1	116.6	140.0	69.5	442.5	97.8	81.8	75.4
SPH2966	876	3979	48.4	11.5		44.5	42.6	36.9	52.2	37.4	49.8	43.2	43.4	53.1	48.2	41.1	44.7	47.7	42.6	62.0	84.5
SPH2967	1008	1366	216.3	69.0		314.2	308.1	237.2	200.4	241.8	169.7	135.5	350.1	156.7	208.8	169.4	179.8	234.2	284.9	136.9	132.8
SPH2968	1131	3282	74.1	16.6		75.1	73.7	66.3	71.6	79.3	66.3	54.9	89.8	77.4	61.3	53.8	72.5	59.3	70.6	93.8	120.6
SPH2969	1467	3056	80.8	13.3		89.3	77.7	66.6	83.8	103.3	57.1	84.5	66.0	86.6	72.3	67.9	106.3	83.5	76.9	91.9	78.9
SPH2970	228	69	3367.4	2372.3		4600.1	7704.1	5469.6	5386.7	2777.8	6985.3	372.2	3910.1	1034.9	1195.3	4612.5	4420.6	484.0	2997.1	1153.7	775.2
SPH2971	1248	1693	169.5	56.6		155.1	255.3	205.7	208.5	134.0	111.5	135.9	253.3	139.3	117.4	188.3	143.7	224.8	247.8	93.2	97.4
SPH2972	1299	1673	172.1	55.9		170.4	244.4	176.2	235.5	114.4	137.4	102.4	280.5	127.5	115.8	134.1	187.8	148.6	265.0	154.6	159.1
SPH2973	693	56	3833.7	2180.9		3267.3	1716.4	1592.7	2245.0	5304.1	3153.4	3449.4	978.1	3456.5	3900.5	1419.9	3249.7	5309.4	7846.5	6740.1	7709.8
SPH2974	1089	944	314.7	109.8		484.4	375.8	307.5	294.8	474.7	307.6	402.7	261.3	445.3	340.4	283.0	151.8	377.0	220.4	186.6	122.1
SPH2975	414	162	1626.1	437.0		1936.5	1858.2	1560.2	1675.7	1814.3	1850.2	1658.0	1186.6	2086.2	2191.0	1507.9	1120.3	2419.3	1061.3	1103.8	988.6
SPH2976	702	1511	191.3	60.0		282.2	287.7	220.9	251.9	249.3	162.0	157.0	201.8	191.7	155.2	133.9	208.5	85.2	97.7	160.9	214.2
SPH2977	669	1434	204.8	55.7		259.3	277.6	211.6	198.1	289.9	246.6	219.7	239.3	154.2	218.4	170.9	168.4	233.9	79.6	177.1	131.9
SPH2978	1506	1574	183.7	110.2		142.5	283.7	155.5	106.3	136.2	155.6	140.0	212.9	427.3	375.1	84.1	83.1	330.3	118.2	101.8	87.3
SPH2979	564	406	731.4	460.6		602.9	1039.4	675.7	629.3	533.8	595.5	798.6	883.5	1564.2	1755.4	358.4	213.0	1198.3	330.0	302.7	221.7
SPH2980	1035	762	400.8	216.5		458.3	635.5	419.4	303.6	395.0	366.7	465.7	521.2	750.6	818.8	198.0	141.9	505.6	169.3	132.0	130.9
SPH2981	1041	291	1005.3	510.3		1038.8	1411.9	947.3	934.3	862.0	1006.4	1184.1	1216.4	2053.8	1821.6	624.2	485.8	1423.9	422.9	415.3	236.8
SPH2982	4023	2650	96.5	17.8		97.0	83.9	94.1	73.2	96.6	114.3	96.0	87.8	88.6	114.1	99.8	90.0	147.0	101.4	86.9	73.2
SPH2983	3300	562	539.4	188.1		424.5	522.3	722.3	556.4	447.8	332.5	706.1	580.0	406.3	404.6	933.7	778.1	711.4	488.1	394.9	221.2
SPH2984	759	975	303.2	117.6		342.0	441.1	408.8	418.6	301.6	267.3	278.3	531.9	315.0	281.5	284.7	376.7	172.1	219.5	113.7	98.6
SPH2985	1464	994	298.4	123.0		404.5	507.2	462.8	247.3	413.9	418.4	297.1	376.9	219.0	204.0	365.0	142.4	194.5	238.0	163.9	119.8
SPH2986	519	1018	293.4	115.7		396.3	431.3	409.9	513.7	314.9	347.0	118.5	295.2	269.1	250.3	195.3	320.6	173.9	363.3	168.8	126.6

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH2987	291	15	8889.5	2545.0		11795.6	6884.3	7633.2	9399.7	12201.7	9229.8	6226.4	4314.0	8273.2	9251.3	5914.7	7125.2	14137.9	9675.7	10432.6	9737.2
SPH2988	1230	380	774.0	386.4		1182.1	1251.1	1126.3	1140.4	1074.2	903.6	470.3	1155.8	370.6	273.5	876.3	1036.6	262.6	693.5	266.0	300.9
SPH2989	705	1108	271.9	95.8		298.9	412.7	369.5	376.0	241.6	250.6	227.2	363.6	264.7	152.1	341.4	394.7	151.8	219.8	148.9	136.4
SPH2990	768	600	504.5	235.6		604.2	683.2	750.1	729.4	470.5	289.8	531.2	646.3	479.4	313.8	887.0	809.5	302.8	181.7	220.0	173.0
SPH2991	1818	1701	167.3	40.5		193.3	188.3	188.9	196.5	189.9	137.8	137.9	178.0	245.7	139.8	141.6	227.1	85.4	151.5	139.0	136.9
SPH2992	1398	93	2706.5	857.7		3631.5	2322.1	2710.3	3494.4	4316.1	4218.8	3466.8	2603.3	1574.6	1976.0	2163.5	2186.1	2038.8	1857.4	2667.2	2077.0
SPH2993	663	912	329.5	111.9		362.7	504.6	461.8	397.7	303.5	350.4	252.6	398.8	309.1	361.1	468.3	201.1	380.1	237.0	180.5	102.1
SPH2994	318	237	1205.4	315.1		1170.2	1497.6	1480.6	1390.9	908.9	1230.0	1134.2	972.3	1438.3	1349.8	1835.7	1326.0	1254.7	979.2	716.9	601.2
SPH2995	198	262	1106.4	302.5		1084.1	1128.5	1054.2	704.9	953.8	730.3	1007.1	670.7	1177.7	1168.8	1384.7	928.6	1877.7	1108.4	1373.8	1349.2
SPH2996	1422	201	1367.4	831.3		3539.2	2431.7	1726.0	1364.5	1170.5	1549.7	588.1	1675.7	1691.2	1523.1	1350.7	985.3	1275.1	638.9	201.3	168.1
SPH2997	612	721	430.8	346.0		1477.3	832.5	484.0	424.9	582.0	419.3	133.8	629.7	406.7	320.5	266.3	328.6	177.1	223.3	113.3	74.1
SPH2998	180	1071	281.5	198.4		888.9	527.1	307.4	291.6	284.0	173.7	95.3	395.4	299.3	246.9	180.8	266.5	121.0	123.8	103.8	198.6
SPH2999	897	423	707.6	407.2		1746.9	1155.6	997.6	780.3	638.1	522.7	308.9	809.6	935.8	926.4	715.6	666.5	475.3	332.0	181.1	129.7
SPH3000	1467	1047	286.9	92.3		419.3	259.7	408.4	310.6	193.2	133.8	348.5	311.6	185.0	212.6	344.2	364.5	290.7	407.5	238.7	162.3
SPH3001	237	693	446.4	160.1		528.5	440.4	562.3	380.4	691.0	305.6	516.3	346.8	534.4	420.9	634.3	345.4	657.3	462.3	182.9	133.9
SPH3002	450	98	2506.1	1102.0		1693.6	1299.0	1828.3	2295.8	1792.7	1645.1	4086.6	1607.0	3259.4	2930.9	2168.5	2791.5	1875.5	1671.0	5039.0	4114.2
SPH3003	738	209	1321.9	601.0		2661.4	1281.2	958.7	911.1	2747.1	1093.2	1498.5	1109.2	1532.3	1481.6	724.2	731.0	854.0	948.4	1424.4	1194.0
SPH3004	1422	916	326.5	241.6		251.3	221.5	735.4	624.1	137.5	138.4	156.1	500.8	194.1	188.5	543.5	859.5	151.4	153.0	141.4	227.4
SPH3005	543	1737	161.8	72.7		127.6	134.9	214.2	127.8	158.3	111.3	186.3	137.9	94.7	161.0	298.9	151.1	352.0	151.4	87.5	94.4
SPH3006	642	70	3345.8	1482.5		3158.3	4659.7	3456.9	3303.3	2979.7	3579.3	3113.2	2879.2	6485.4	6427.5	3220.2	2944.7	3050.7	1603.9	1340.9	1330.5
SPH3007	1563	2832	89.1	23.1		134.1	109.0	100.0	98.6	110.7	75.7	74.3	83.8	76.8	67.5	61.1	115.7	59.9	115.0	60.3	83.8
SPH3008	1353	2050	133.5	24.0		123.9	108.0	126.5	117.8	110.4	98.4	160.9	126.6	126.1	153.8	133.7	143.5	111.3	151.8	152.2	190.9
SPH3009	783	1570	184.1	62.1		307.4	235.7	214.6	199.8	280.9	109.8	183.5	246.0	207.6	112.7	181.3	141.0	160.2	116.6	111.6	137.9
SPH3010	1218	1481	196.4	46.6		193.5	230.0	172.8	155.7	281.0	239.4	240.4	195.9	117.7	194.9	205.7	193.2	261.6	125.5	190.6	144.4
SPH3011	291	2466	105.5	32.6		109.2	126.5	105.1	112.8	131.5	90.2	94.7	133.1	85.8	85.5	66.6	196.6	63.5	73.9	95.9	117.8
SPH3012	939	852	353.1	105.8		481.0	495.0	431.4	467.2	437.5	352.4	299.8	423.9	362.4	257.4	254.8	467.3	216.7	181.9	274.5	247.0
SPH3013	426	571	534.2	203.3		712.6	891.2	693.1	729.2	566.8	638.6	384.0	849.6	386.5	307.7	548.7	518.0	269.7	417.7	394.8	239.5
SPH3014	507	1282	231.1	100.2		214.4	423.1	386.2	303.3	239.5	209.0	130.7	365.0	145.9	127.6	257.2	243.4	163.3	270.2	131.1	87.4
SPH3015	498	1597	182.1	58.2		152.9	265.0	225.9	231.3	174.0	256.1	100.0	262.1	122.5	163.9	150.1	211.0	93.4	131.5	143.2	231.4
SPH3016	2793	1913	144.0	81.5		204.9	273.2	244.1	159.4	171.1	103.9	77.7	325.6	90.5	73.9	127.4	162.9	59.5	73.4	71.6	85.3
SPH3017	933	1311	226.4	89.9		239.8	335.2	362.8	295.3	181.4	197.4	150.9	286.4	171.9	125.8	270.9	350.7	99.3	305.6	130.3	119.4
SPH3018	804	1327	224.5	54.7		256.7	205.7	187.5	198.5	232.6	193.0	195.1	199.0	276.4	278.7	206.2	245.7	161.7	380.2	160.3	215.0
SPH3019	450	572	533.6	643.4		280.3	325.4	465.1	273.0	294.1	179.2	537.4	313.8	293.2	441.3	777.0	205.6	1174.4	2728.2	171.1	79.2
SPH3020	1104	890	335.6	250.2		158.5	144.4	222.7	293.3	244.6	120.3	375.0	93.0	264.6	207.4	307.8	409.9	267.8	1082.6	695.5	482.3

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3021	387	103	2378.6	1772.9		879.3	576.3	841.6	1203.8	1350.5	725.6	2372.1	338.6	2942.6	3564.8	1378.0	2411.7	4805.3	3638.7	5726.4	5301.5
SPH3022	1308	669	461.0	824.6		49.8	69.6	60.7	72.8	216.3	80.1	65.2	64.9	2362.4	2378.0	64.8	71.0	162.5	1496.1	70.9	91.5
SPH3023	2286	399	741.2	560.0		443.1	352.3	374.6	452.5	612.3	342.5	1347.0	194.9	641.3	655.5	439.1	1035.4	481.2	566.0	2223.3	1697.8
SPH3024	207	175	1528.3	1331.1		1170.5	988.5	654.0	606.6	1606.8	1694.8	944.4	879.3	2987.4	4930.0	801.8	264.6	4028.0	1658.5	650.8	586.2
SPH3025	543	1272	233.7	83.9		295.2	262.5	209.0	202.7	312.8	202.3	222.9	266.3	331.1	289.3	177.6	95.0	258.5	391.3	127.3	95.0
SPH3026	468	1079	278.8	88.6		410.5	345.5	311.1	274.9	497.9	226.6	230.2	297.3	261.3	225.2	241.8	227.0	230.1	352.6	153.8	174.5
SPH3027	636	1498	193.3	45.2		237.3	199.4	181.8	198.1	259.4	203.1	146.4	211.3	160.3	201.1	131.1	211.3	136.5	290.9	135.1	189.4
SPH3028	1002	2490	104.7	38.0		137.5	168.1	146.4	144.3	119.2	114.1	61.1	156.7	82.4	74.2	70.1	99.7	55.0	70.9	60.5	114.9
SPH3029	570	2280	116.4	42.8		139.1	165.8	159.0	159.3	135.6	130.9	62.5	196.5	77.6	61.2	123.6	123.2	58.0	78.6	77.4	113.3
SPH3030	2658	1585	183.2	92.8		303.1	259.6	264.6	227.8	299.1	164.0	134.6	321.9	113.1	79.6	184.9	259.0	63.2	82.6	72.1	102.1
SPH3031	387	458	652.7	254.6		709.9	737.4	675.6	656.8	1051.9	713.2	271.7	218.7	838.7	972.8	748.7	896.7	796.7	284.7	496.9	372.3
SPH3032	2199	1825	151.8	37.3		159.4	221.3	159.2	156.0	148.5	183.4	128.6	227.5	116.9	150.1	124.2	189.3	121.9	109.2	109.5	124.1
SPH3033	981	3515	67.5	18.5		57.2	42.5	54.5	66.1	54.0	60.6	83.0	55.7	60.3	75.9	93.6	66.8	119.4	58.8	61.4	70.4
SPH3034	1329	3013	82.3	16.5		65.2	62.5	69.6	85.2	57.0	87.0	70.2	70.7	72.3	91.8	95.1	96.0	108.9	110.4	77.9	97.3
SPH3035	789	991	299.1	322.6		593.7	245.4	176.0	171.0	1421.0	360.8	125.3	255.6	319.8	206.0	139.3	133.7	164.0	219.0	128.8	126.3
SPH3036	114	2949	84.4	39.5		68.5	69.1	79.7	95.1	63.5	51.3	73.4	64.5	85.7	64.7	99.7	68.6	90.4	224.6	77.5	74.7
SPH3037	1383	2801	90.4	52.6		160.9	107.0	60.6	72.3	255.0	96.3	73.5	49.5	120.1	66.3	63.6	60.5	79.8	55.8	61.1	63.6
SPH3038	2061	2800	90.4	28.6		120.6	95.3	52.6	74.7	133.3	111.2	64.4	57.6	110.1	152.3	79.4	88.8	85.7	57.3	76.4	86.6
SPH3039	1380	3485	68.3	16.3		97.7	86.3	45.4	54.0	78.7	76.2	58.5	46.7	86.1	84.1	49.7	73.4	62.9	54.6	59.6	79.0
SPH3040	2808	2241	118.2	58.6		206.1	202.0	69.1	90.3	234.5	194.7	72.6	69.2	147.6	102.2	73.5	86.7	89.4	59.7	80.9	113.0
SPH3041	1281	2326	113.6	62.0		206.6	149.9	65.2	73.4	260.1	191.5	62.8	61.9	154.3	121.9	58.8	75.8	73.6	62.5	90.1	109.4
SPH3042	954	3220	76.1	21.8		75.1	75.9	50.0	73.6	83.6	116.8	54.8	55.4	70.8	72.2	53.6	107.7	63.5	54.8	99.8	109.7
SPH3043	930	2110	128.3	38.5		150.4	134.2	101.0	89.8	154.9	131.4	113.4	88.4	129.1	175.1	160.9	98.0	226.5	78.1	115.0	106.9
SPH3044	1488	2128	126.5	24.8		123.2	124.3	88.9	113.5	119.2	160.7	114.1	97.2	124.5	172.2	109.4	157.1	137.8	98.8	122.1	160.4
SPH3045	456	2762	91.9	16.9		84.0	82.6	90.3	71.9	104.0	84.2	90.1	82.1	87.9	104.0	99.6	90.9	146.6	85.0	87.0	80.0
SPH3046	591	1349	218.9	92.7		131.7	114.6	176.7	142.9	140.1	182.4	268.9	154.3	145.8	299.8	356.9	277.0	445.1	265.0	188.7	212.5
SPH3047	639	2044	134.1	51.4		118.6	135.9	111.7	91.5	140.8	88.5	180.5	96.8	122.4	135.7	206.3	109.6	283.7	122.4	117.7	83.0
SPH3048	2883	683	452.8	470.6		1457.3	795.8	195.0	249.4	938.6	1499.9	304.9	304.7	407.8	435.6	104.2	111.8	126.2	129.3	75.8	109.0
SPH3049	1146	319	927.4	577.7		2183.0	1710.0	837.5	784.8	1482.9	1845.3	743.9	745.1	785.1	869.0	568.0	465.1	421.7	920.0	243.6	233.6
SPH3050	801	361	814.9	481.5		1239.4	1044.5	874.7	699.8	1400.7	1519.4	434.0	1165.7	1130.3	1543.9	317.0	390.4	552.5	232.0	308.1	185.8
SPH3051	810	641	479.6	185.1		427.1	401.7	422.5	408.7	918.6	554.9	439.6	392.3	381.0	469.4	440.3	505.7	473.6	894.5	368.3	175.1
SPH3052	1353	2684	95.0	14.9		80.8	73.7	96.2	76.7	100.8	87.6	107.0	98.4	77.9	110.3	78.4	98.9	101.5	116.7	92.7	122.8
SPH3053	843	2828	89.2	16.0		72.2	75.0	85.5	95.4	105.9	61.4	99.3	83.0	79.2	94.8	72.4	90.1	91.9	129.0	96.6	95.6
SPH3054	477	393	753.0	424.0		651.0	585.8	360.3	345.6	996.0	568.1	760.8	336.6	1238.3	1061.5	270.3	334.4	528.8	1731.7	1252.7	1025.4

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3055	2457	2888	86.5	16.6		116.5	102.4	81.7	89.0	81.5	65.7	101.0	86.9	83.0	75.9	68.4	93.2	70.4	66.1	119.9	82.1
SPH3056	1107	3728	61.7	10.9		62.3	56.3	45.2	64.9	57.0	73.1	53.0	49.8	65.2	54.9	53.5	70.3	62.2	56.4	74.9	88.3
SPH3057	1749	899	332.8	136.9		365.2	206.8	267.2	196.7	454.6	326.7	451.1	221.1	203.3	300.7	252.8	158.7	422.9	688.8	392.1	416.2
SPH3058	135	2638	97.2	34.6		99.1	86.8	73.9	71.3	134.6	94.8	130.5	75.1	82.0	66.3	59.7	70.0	67.4	120.4	146.3	177.5
SPH3059	261	2615	98.0	16.2		93.6	95.4	89.3	85.9	101.3	112.7	104.4	94.2	84.6	89.1	88.0	90.4	103.5	150.7	85.6	99.9
SPH3060	204	32	5666.7	4323.3		4482.4	7086.6	3010.9	3614.0	4463.7	10822.2	2785.7	4415.6	11528.0	16015.2	1389.5	2750.3	10984.5	2503.5	2318.5	2497.1
SPH3061	267	33	5566.4	1539.3		6946.1	7867.7	7326.5	6216.3	5711.8	5927.6	4243.6	5614.7	6096.1	5184.0	7265.9	6316.6	2018.4	4334.8	3979.0	4012.7
SPH3062	2118	513	587.5	328.9		784.8	924.1	674.0	638.8	829.6	989.3	293.2	1084.6	468.2	248.3	768.9	922.8	144.5	159.2	277.6	192.7
SPH3063	1956	1933	142.2	50.3		98.0	178.8	111.0	72.7	109.5	176.9	126.1	128.9	156.6	242.4	149.6	97.9	255.7	122.7	126.5	122.0
SPH3064	1701	335	876.3	465.8		1284.6	1078.4	1246.0	1310.8	1288.0	1081.6	564.8	1423.4	435.5	380.7	1473.5	1155.1	350.2	284.4	430.2	233.9
SPH3065	903	2734	93.5	19.4		91.3	107.4	92.8	101.3	128.9	84.1	80.1	136.2	101.4	67.7	96.1	79.2	71.0	69.1	92.6	96.3
SPH3066	1161	2680	95.1	17.6		108.4	138.8	95.4	95.6	118.1	110.5	82.7	83.1	69.3	93.3	102.8	84.2	81.3	74.6	94.4	88.9
SPH3067	1083	2211	120.2	20.5		131.3	155.5	128.3	88.5	144.4	113.8	114.2	106.4	103.4	144.5	126.8	100.7	133.0	108.3	136.7	87.0
SPH3068	2082	1041	287.9	102.6		278.7	253.9	399.8	303.8	186.9	157.8	347.0	260.0	191.8	229.0	413.5	534.9	198.5	373.4	274.7	201.8
SPH3070	1161	84	2919.3	1598.9		5007.3	5701.7	3068.9	3926.0	3958.9	5070.8	1200.0	3490.1	2899.0	2090.5	3045.9	3273.2	412.5	1459.0	1097.2	1007.7
SPH3071	894	821	366.7	194.6		536.3	752.7	380.2	349.4	708.7	520.8	171.3	563.0	307.2	252.4	302.4	326.5	141.2	188.7	185.5	180.0
SPH3072	726	1042	287.7	191.8		485.2	291.4	405.5	431.3	243.0	148.3	153.4	869.4	311.3	187.6	271.6	199.1	189.5	200.1	117.1	99.1
SPH3073	990	2305	114.9	50.7		140.3	159.2	151.4	146.1	127.2	78.2	62.1	260.3	111.6	99.8	78.6	120.4	56.3	80.9	82.9	83.4
SPH3074	765	371	793.6	118.8		804.2	777.5	773.6	757.4	953.3	595.8	805.6	906.3	836.4	982.4	612.6	626.3	941.2	790.7	840.8	693.9
SPH3075	1443	2918	85.3	24.0		62.5	91.3	119.1	84.8	55.7	64.9	91.6	78.3	56.1	87.0	131.1	89.1	132.0	79.1	71.1	71.7
SPH3076	918	1281	231.2	66.3		220.6	334.6	339.9	307.4	228.3	169.3	205.9	287.9	178.0	196.3	286.9	271.7	215.3	122.0	187.0	147.9
SPH3077	2343	1449	201.5	139.2		155.0	159.8	164.2	164.7	160.2	107.8	419.1	176.0	156.0	112.5	102.9	173.5	92.9	80.4	473.3	525.3
SPH3078	546	195	1427.8	330.4		1414.0	1898.7	1550.7	1848.7	1163.2	1486.0	937.1	1332.3	1870.4	1908.6	1154.4	1099.6	1663.7	1221.4	1282.5	1013.7
SPH3079	651	349	859.2	219.7		1048.1	1038.5	863.6	625.9	1095.2	869.3	755.0	894.1	1344.4	1022.7	602.6	617.6	984.4	586.8	756.2	642.8
SPH3080	288	1048	286.4	199.9		323.6	392.7	211.9	183.9	341.7	309.0	234.7	137.5	222.7	252.4	161.9	188.6	207.4	989.5	224.4	201.0
SPH3081	978	231	1234.9	344.5		1395.1	1110.4	1525.3	1783.3	1292.6	1534.0	1534.8	1578.5	809.0	988.5	1450.8	1312.2	480.0	982.0	1042.0	939.2
SPH3082	96	1495	194.2	57.2		224.4	166.5	174.9	187.3	274.2	133.9	193.2	217.6	154.7	172.0	183.4	185.8	218.2	336.0	78.9	206.8
SPH3083	1230	528	566.5	388.9		474.9	855.7	951.6	1023.9	319.2	346.4	244.8	871.8	167.9	144.3	878.1	1169.6	127.6	1071.2	280.0	136.2
SPH3084	204	2493	104.6	47.5		71.4	73.7	71.0	154.1	65.3	120.8	78.1	73.9	79.8	123.9	61.1	195.0	71.1	81.6	148.1	205.1
SPH3085	1050	142	1802.6	3607.2		94.2	103.2	150.3	91.0	85.0	90.1	9382.8	121.8	84.9	98.4	174.5	96.3	269.6	182.5	9200.3	8616.3
SPH3086	1005	472	633.3	1175.8		64.0	98.3	69.1	94.6	76.8	108.9	2792.4	74.3	69.9	138.8	92.2	125.4	100.1	61.8	2745.0	3421.8
SPH3087	882	754	404.5	105.5		396.3	417.4	425.0	295.7	521.7	386.7	580.6	274.9	289.9	321.8	476.1	254.4	431.7	389.6	614.1	396.9
SPH3088	1206	2568	100.6	25.7		127.3	125.8	101.8	79.8	156.2	140.1	94.9	90.2	113.4	101.2	77.8	75.5	81.7	72.1	99.9	71.5
SPH3089	111	268	1088.7	717.7		1086.6	1086.4	1088.0	700.8	1177.3	1229.2	1391.1	570.9	1131.0	1674.3	1629.5	271.3	3191.6	428.8	487.7	274.0

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3090	1335	1653	173.8	55.7		138.5	125.2	136.9	121.0	167.7	184.2	198.3	100.0	157.2	279.1	226.2	145.0	294.2	125.0	200.6	181.4
SPH3091	1488	2294	115.6	75.7		82.0	98.4	92.8	72.1	90.4	80.0	378.3	60.5	134.2	124.4	88.1	74.1	113.7	90.7	178.6	90.6
SPH3092	2391	2787	91.0	62.6		57.3	80.4	53.2	65.4	58.2	60.7	257.2	48.9	94.0	71.5	56.6	62.4	70.9	63.3	229.7	125.7
SPH3093	1011	1623	178.8	120.0		144.2	161.0	96.8	105.2	112.3	125.1	510.3	74.0	173.3	182.7	109.7	115.5	139.2	143.5	418.4	249.0
SPH3094	1536	2806	90.2	91.5		54.3	57.0	50.4	58.2	55.6	61.8	381.2	43.3	60.1	46.5	43.6	46.9	50.7	48.7	211.1	173.3
SPH3095	1542	2189	122.1	119.9		52.2	68.9	99.5	56.8	62.4	61.3	534.1	57.9	69.3	77.2	154.3	64.4	187.5	62.4	172.0	172.9
SPH3096	927	732	419.4	418.0		199.0	228.8	331.2	175.2	238.1	198.2	1820.7	175.4	220.6	328.0	546.7	126.2	784.3	218.5	572.3	546.5
SPH3097	2292	1128	267.9	195.0		175.1	443.0	136.7	136.0	165.1	256.2	459.7	218.4	780.2	568.5	110.0	92.5	232.8	171.2	237.3	104.4
SPH3098	1164	1844	149.5	47.3		141.1	130.8	130.0	80.9	133.8	154.9	221.7	96.2	114.8	224.6	154.8	125.9	251.5	168.8	151.5	111.4
SPH3099	1059	612	497.8	158.5		633.9	598.4	558.4	567.3	932.6	602.2	313.6	451.5	361.8	518.5	335.5	285.7	496.5	456.4	451.8	400.3
SPH3100	819	2463	105.7	36.5		181.0	129.6	113.8	112.3	138.8	151.7	90.5	126.0	70.4	66.6	61.6	96.7	60.4	72.0	80.5	139.5
SPH3101	501	1890	145.9	53.0		188.3	168.9	105.9	132.2	241.1	190.0	77.8	114.4	146.6	119.4	95.2	101.7	131.8	266.5	144.3	109.5
SPH3102	579	832	360.2	189.9		596.2	802.1	511.4	396.1	545.2	455.6	146.0	320.9	275.6	446.0	136.0	256.4	153.0	331.0	224.5	167.4
SPH3103	1272	1707	165.8	56.1		190.2	255.5	244.6	230.3	153.4	126.7	142.6	251.4	186.1	123.8	164.4	142.5	135.8	142.9	68.4	94.6
SPH3104	444	3031	81.6	13.7		93.4	98.7	92.4	70.4	99.8	82.8	72.2	99.8	73.1	93.0	62.0	80.8	76.0	55.9	72.0	83.3
SPH3105	1137	3050	81.0	11.4		89.6	68.3	74.4	89.9	74.8	65.0	72.2	72.8	91.1	106.8	79.0	96.8	73.3	74.4	85.3	82.9
SPH3106	1089	2686	94.9	14.3		105.6	111.2	90.1	91.0	75.4	108.2	76.2	100.4	81.4	85.3	91.8	98.3	96.8	110.0	74.0	122.4
SPH3107	945	2997	82.6	15.2		82.1	90.6	75.5	61.3	72.6	98.1	66.1	79.1	69.9	93.1	65.7	89.6	70.6	105.4	88.2	114.0
SPH3108	582	3449	69.1	18.9		60.7	52.4	60.1	79.8	53.0	65.2	50.0	71.8	83.3	67.8	46.5	104.8	41.5	80.7	88.3	99.6
SPH3109	768	3249	75.0	21.1		75.1	60.9	62.4	65.3	92.5	75.4	67.3	68.6	123.0	74.0	57.8	46.1	58.6	90.6	65.0	116.9
SPH3110	1014	139	1829.1	1331.5		1194.1	765.9	458.1	473.9	2295.6	2838.9	1382.7	426.9	2298.6	2299.7	427.7	403.3	4692.2	2817.7	3642.9	2847.5
SPH3111	2388	375	783.9	436.2		1193.5	569.1	489.3	561.6	1111.3	1042.9	401.0	352.8	1990.1	955.8	561.0	898.1	214.9	461.0	930.9	809.6
SPH3112	1452	1810	153.3	49.1		162.0	127.4	122.2	111.8	174.8	154.4	251.2	136.3	78.3	112.6	114.6	198.6	118.8	165.9	252.9	170.4
SPH3113	624	1270	234.2	69.2		178.0	266.5	301.7	272.7	238.3	157.5	315.4	199.8	117.0	150.5	298.1	330.9	229.9	324.4	199.2	168.0
SPH3114	1362	1380	214.3	139.3		364.2	465.5	238.0	232.0	289.6	339.7	146.5	492.6	159.4	89.6	121.2	125.2	61.0	75.0	75.6	153.7
SPH3115	3144	932	319.9	231.5		540.1	710.2	401.5	353.3	534.9	715.6	197.2	605.8	128.4	120.8	208.9	199.1	98.4	88.2	108.5	107.9
SPH3116	1425	2190	122.0	57.0		149.5	251.0	122.5	103.3	182.6	170.4	81.6	211.8	116.6	62.5	66.2	102.4	52.3	70.6	100.5	108.5
SPH3117	792	684	452.4	235.2		383.4	346.1	273.8	278.7	513.4	447.5	775.8	285.7	548.2	363.8	210.8	205.8	317.5	457.8	1042.4	788.0
SPH3118	330	761	401.4	172.3		371.2	294.5	298.6	226.0	451.8	409.4	721.3	274.2	254.0	250.5	320.1	229.1	391.1	554.9	719.7	655.5
SPH3119	522	2529	102.7	27.8		103.0	116.3	88.9	106.2	136.6	107.6	86.9	111.3	179.6	81.9	75.9	96.9	52.2	101.4	95.7	102.6
SPH3120	291	638	481.1	117.8		570.3	561.3	531.1	504.4	578.9	412.7	701.6	392.4	624.7	540.2	506.8	295.1	414.1	310.1	428.7	325.6
SPH3121	945	3007	82.4	20.2		84.7	84.2	70.4	95.4	89.7	66.1	78.1	90.8	136.9	65.8	65.9	87.2	54.1	57.0	91.8	100.2
SPH3122	570	2804	90.3	16.6		111.1	75.0	87.2	104.6	112.7	64.6	110.5	94.4	107.5	71.0	89.4	66.1	77.5	97.1	77.7	97.7
SPH3123	582	58	3739.4	1776.1		3732.2	2948.9	5748.3	6772.4	4872.3	4799.1	2231.1	5945.3	1784.9	1993.0	5553.5	4881.1	1761.9	1219.9	3238.0	2348.3

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3124	1389	2053	133.2	28.9		129.2	153.5	124.5	188.7	111.3	140.8	102.3	149.3	132.3	113.1	114.0	194.5	88.8	112.5	126.9	149.3
SPH3125	768	2066	132.4	31.0		108.7	171.1	153.9	142.2	112.0	103.5	98.5	109.7	115.4	160.0	127.9	118.9	196.1	182.3	106.0	113.0
SPH3126	417	2256	117.5	28.0		177.2	109.3	107.8	114.8	99.8	102.2	80.8	122.2	148.9	127.9	83.9	143.5	76.0	139.5	101.5	144.3
SPH3127	1077	3478	68.5	9.7		78.5	74.9	63.4	67.0	66.0	72.1	51.9	69.9	75.0	58.0	58.5	84.3	55.7	83.4	63.2	74.2
SPH3128	72	2554	101.1	25.7		129.4	141.1	127.1	103.4	105.8	95.8	79.5	101.7	69.1	96.8	72.5	132.7	60.6	131.4	99.4	71.4
SPH3129	789	2141	125.7	39.9		116.1	181.8	151.6	180.8	106.4	133.9	76.4	161.9	107.3	85.1	83.5	167.1	59.1	174.2	104.7	121.8
SPH3130	654	1428	205.6	98.7		184.1	330.4	265.9	140.3	233.2	369.1	111.3	424.1	154.2	264.1	136.8	164.7	150.1	129.7	96.3	135.8
SPH3131	429	2570	100.5	44.0		86.3	74.3	98.8	72.5	74.0	84.1	153.7	70.4	104.8	91.7	167.0	77.5	225.2	72.6	88.7	66.7
SPH3132	2652	2447	106.4	35.2		84.6	94.1	101.0	132.3	82.8	83.1	66.8	194.8	113.5	120.9	114.3	92.2	166.8	112.2	64.3	78.1
SPH3133	1599	484	619.3	1182.1		98.5	90.8	116.8	101.8	131.3	69.2	245.0	80.7	2884.7	871.9	108.7	141.1	4200.0	363.1	196.3	209.2
SPH3134	912	3415	70.3	14.4		66.3	53.6	59.5	81.4	57.5	76.0	70.7	62.4	101.3	60.2	59.7	71.8	66.0	63.7	71.3	103.2
SPH3135	381	2257	117.5	32.5		100.0	117.1	85.1	131.0	89.0	115.7	115.8	101.0	92.8	120.5	90.3	161.9	113.3	97.0	135.9	212.8
SPH3136	132	3648	63.7	10.9		64.7	65.5	49.2	65.1	64.7	85.2	59.2	54.0	64.2	73.9	54.4	62.4	72.7	43.1	80.5	60.9
SPH3137	447	1533	188.2	213.2		232.3	259.0	119.5	88.9	93.5	100.0	99.0	226.3	103.5	133.1	107.4	82.7	166.3	960.4	111.4	127.4
SPH3138	660	1721	164.3	155.6		169.5	179.0	117.4	97.5	88.2	127.7	132.4	168.6	65.3	127.0	138.8	88.6	224.3	726.2	81.6	97.2
SPH3139	531	2324	113.7	75.5		118.8	151.9	74.1	75.4	71.0	95.4	81.6	161.3	61.0	83.3	100.4	101.1	126.5	373.9	65.0	78.0
SPH3140	1194	2808	90.1	29.3		113.4	128.5	75.8	70.4	61.6	50.9	76.3	128.6	83.8	76.0	96.7	64.4	93.6	160.2	89.8	71.4
SPH3141	630	2793	90.7	31.9		107.7	150.8	70.1	82.5	76.2	73.6	67.3	180.6	69.6	68.4	73.9	84.2	88.0	102.4	77.1	79.2
SPH3142	3906	867	346.4	140.5		479.4	633.6	303.1	239.6	267.8	295.8	304.0	658.0	189.7	296.4	313.6	204.4	470.7	334.8	252.6	299.1
SPH3143	96	3722	61.8	15.0		58.0	52.8	48.6	54.8	62.2	51.8	57.6	56.7	70.1	51.9	53.4	61.1	74.7	109.1	52.2	74.4
SPH3144	639	1224	245.2	146.8		129.5	104.7	239.1	120.2	168.1	166.1	328.7	136.5	176.2	383.9	409.3	164.4	653.9	359.4	192.5	189.8
SPH3145	276	77	3161.8	604.5		2779.4	2400.3	2608.1	3304.0	3493.3	2766.0	3068.9	2398.7	3710.1	4338.6	2783.5	3520.3	2668.2	4247.6	3545.9	2955.4
SPH3146	2157	815	370.6	341.8		923.8	1024.1	72.8	93.5	905.7	517.3	95.0	80.0	553.9	528.5	112.4	116.5	204.8	507.0	85.7	108.0
SPH3147	1185	588	512.9	251.1		396.5	475.5	313.2	320.7	468.9	1086.9	552.1	470.4	1000.5	881.5	291.8	355.0	489.0	393.6	415.8	295.5
SPH3148	753	2150	125.3	63.4		99.0	86.9	89.0	80.7	98.4	117.1	111.4	76.6	159.9	228.5	78.1	94.0	165.6	308.7	117.6	92.8
SPH3149	1482	1809	153.4	53.9		139.8	146.6	112.8	111.9	117.8	143.1	98.8	167.6	288.9	264.4	110.3	153.9	185.4	156.0	111.4	145.0
SPH3151	213	705	437.6	153.6		661.8	476.6	431.2	468.5	725.2	242.6	410.4	223.7	427.7	451.5	575.8	369.0	565.5	513.5	247.8	210.4
SPH3152	324	473	632.7	333.3		923.2	1058.4	689.7	712.6	880.4	1243.5	340.5	1036.8	677.2	665.6	407.3	279.7	445.8	459.8	167.2	134.9
SPH3153	492	744	409.9	195.3		453.2	654.9	411.3	393.5	705.0	704.1	307.8	705.3	447.2	339.2	337.9	194.8	401.8	216.5	160.7	124.9
SPH3154	948	1789	155.8	48.3		138.7	259.0	198.0	165.4	89.8	134.9	135.2	261.1	136.6	173.9	137.3	117.0	155.3	157.9	109.0	123.1
SPH3155	513	492	606.3	195.2		493.9	900.8	833.8	778.4	388.2	579.4	464.0	845.3	391.7	545.8	771.4	548.5	621.9	837.2	357.0	343.2
SPH3156	1284	1712	165.2	100.2		169.7	381.4	257.7	236.5	109.9	168.6	89.9	382.2	102.2	75.5	145.3	158.2	79.2	97.0	89.3	100.5
SPH3157	921	340	874.1	523.6		1260.0	1549.6	1614.7	1603.7	849.2	1269.2	465.0	1399.6	395.9	327.7	799.9	1115.6	128.8	406.2	474.5	325.7
SPH3158	609	3301	73.6	14.1		82.1	58.5	70.3	98.1	68.2	83.8	63.4	81.2	77.4	58.7	64.1	83.8	52.2	55.5	89.3	90.5

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3159	1110	1590	182.8	60.6		180.7	212.5	263.9	225.6	164.2	131.5	141.3	325.9	113.9	145.8	188.9	214.1	126.6	238.4	143.6	107.4
SPH3160	1281	3043	81.2	19.6		73.8	50.8	68.2	63.1	62.8	82.2	94.3	70.3	85.3	93.1	100.4	89.0	131.8	94.7	76.2	64.2
SPH3161	561	3915	55.2	13.3		45.5	44.0	61.2	43.2	39.8	45.1	69.2	52.2	64.6	55.0	64.3	58.1	90.6	41.2	49.0	60.5
SPH3162	1023	2559	101.0	22.8		78.0	74.3	78.7	106.5	72.3	98.5	114.7	85.1	122.3	118.1	109.4	132.1	129.8	74.5	86.0	136.1
SPH3163	1020	2149	125.3	48.7		95.3	113.7	153.8	135.4	127.8	107.4	129.1	93.6	110.5	119.0	161.5	80.4	265.0	176.2	68.4	67.6
SPH3164	777	3932	53.8	9.8		59.5	44.3	46.7	48.0	49.1	61.2	55.4	42.0	54.2	56.0	50.1	50.4	64.1	38.9	62.8	77.5
SPH3165	1230	2763	91.9	30.8		75.1	53.0	73.0	78.9	68.4	66.1	110.3	81.7	132.7	127.1	116.5	71.9	169.2	81.0	77.1	87.7
SPH3166	1893	1392	212.6	431.4		63.8	49.3	54.1	77.0	55.7	57.5	64.2	54.1	1738.1	638.3	52.9	64.8	155.7	81.9	91.8	101.8
SPH3167	84	590	510.5	679.3		105.7	158.1	136.9	317.7	117.6	296.0	128.0	200.1	2459.0	1928.4	153.4	566.6	438.7	274.8	382.8	504.8
SPH3168	1539	321	922.5	1799.4		136.7	172.7	184.8	167.8	150.3	185.7	304.1	169.4	6634.6	4030.5	238.3	215.0	1055.4	363.3	406.2	345.5
SPH3169	1230	839	358.8	678.5		74.1	77.8	81.4	75.4	64.3	99.2	96.1	62.8	2605.9	1327.5	111.9	93.4	521.8	123.3	143.4	183.1
SPH3170	888	823	365.2	623.0		62.2	66.6	72.8	76.8	58.7	66.5	167.4	69.2	2379.2	1331.9	122.7	94.1	380.5	167.5	384.5	342.2
SPH3171	1920	3546	66.6	14.1		59.1	49.2	52.0	80.6	53.2	61.6	62.9	62.7	95.8	56.9	50.0	89.6	68.1	71.3	78.2	75.1
SPH3172	750	2311	114.8	35.8		125.4	164.6	140.8	157.9	107.4	80.4	83.2	151.9	89.7	75.9	121.8	106.9	74.9	184.6	83.8	87.2
SPH3173	996	1506	192.2	93.2		117.7	217.6	303.3	160.9	158.8	128.8	278.1	239.7	85.9	154.3	332.3	111.0	386.0	211.9	88.8	100.7
SPH3174	456	987	300.1	211.9		142.8	179.5	264.5	310.1	250.6	326.9	1031.1	145.1	457.7	314.0	249.5	292.3	204.2	291.1	193.0	149.0
SPH3175	708	359	819.7	1210.6		270.1	296.3	416.8	431.2	442.9	554.6	5223.8	199.5	1392.9	996.8	492.3	561.2	504.1	345.3	612.6	374.4
SPH3176	147	154	1701.6	2706.7		227.0	249.4	606.6	812.8	755.9	990.7	11438.1	255.9	3168.7	2278.1	1066.2	1321.2	1112.9	609.6	1472.9	860.1
SPH3177	615	182	1485.8	2621.7		283.0	257.5	627.5	823.9	350.2	528.3	11064.0	318.9	2316.4	1777.0	858.3	1170.9	460.8	552.0	1576.9	807.2
SPH3178	1434	3623	64.7	9.7		58.7	63.5	67.0	68.5	81.5	58.8	63.3	62.7	65.8	48.6	60.4	48.4	74.6	84.3	61.6	67.0
SPH3179	573	2342	112.6	59.5		63.9	64.2	75.3	65.7	78.0	80.2	272.1	73.4	221.8	158.8	81.7	105.5	122.2	96.0	116.0	127.3
SPH3180	624	1004	296.8	231.4		80.6	84.6	197.2	131.3	189.6	200.4	958.4	135.4	525.8	387.5	341.6	217.6	505.7	484.8	178.3	130.4
SPH3181	1065	2441	106.6	17.9		95.7	118.6	107.8	117.5	86.8	85.4	105.8	118.6	83.1	109.6	118.9	87.8	139.3	138.2	102.5	89.5
SPH3182	525	3557	66.4	9.0		62.8	72.1	59.4	54.1	60.6	68.3	54.8	58.9	73.9	67.8	55.9	83.9	64.1	79.5	75.3	70.6
SPH3183	480	3336	72.5	24.9		74.3	57.0	57.2	79.7	61.6	47.2	54.5	64.5	99.3	64.6	55.0	93.9	50.5	82.2	72.6	146.8
SPH3184	1002	2448	106.3	60.8		70.3	54.9	93.7	67.3	76.0	66.5	152.3	71.3	95.1	116.5	171.5	78.8	301.9	85.7	103.3	96.3
SPH3185	306	3039	81.4	21.3		65.7	52.4	65.7	64.4	67.0	81.0	81.5	56.9	80.2	97.9	88.8	85.1	128.0	109.7	67.3	110.8
SPH3186	819	3404	70.6	14.3		55.2	52.7	78.0	83.9	61.3	51.9	73.2	60.3	73.1	67.9	97.9	65.1	95.6	56.9	76.8	79.0
SPH3187	3648	1706	166.3	40.0		194.1	209.0	148.1	193.7	221.2	148.5	164.7	201.6	230.0	184.7	114.6	160.6	115.0	124.7	103.5	146.8
SPH3188	291	1020	292.9	111.4		284.8	410.1	486.1	400.0	286.4	379.3	180.0	379.2	358.2	392.6	226.5	227.4	179.7	251.7	134.6	110.6
SPH3189	2274	1656	173.3	62.7		142.0	307.8	228.8	206.5	143.3	160.5	118.9	315.4	132.0	199.5	142.7	159.7	132.7	121.9	126.1	135.8
SPH3190	1812	3835	58.4	10.0		69.0	62.7	51.1	59.2	55.4	50.4	42.6	59.1	75.4	48.4	48.0	61.2	53.4	52.5	70.8	75.1
SPH3191	1320	605	502.4	307.3		467.7	660.2	937.2	1053.1	246.0	149.7	296.5	1105.3	400.6	428.4	687.3	561.8	307.2	341.0	204.1	192.9
SPH3192	720	971	304.1	106.2		287.9	295.0	306.0	262.6	341.8	201.0	308.0	230.6	346.6	461.9	352.9	209.4	594.1	255.5	260.0	152.1

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3193	468	2225	119.0	36.0		128.1	224.1	149.4	124.6	110.7	113.2	79.2	164.2	126.8	89.3	94.9	106.9	102.5	92.5	109.8	88.2
SPH3194	60	1598	182.0	86.3		174.6	101.2	233.3	159.0	204.8	92.5	238.0	115.3	182.6	337.1	263.8	119.3	341.6	72.1	208.7	68.6
SPH3195	429	53	3941.9	1856.3		3357.4	5001.6	4395.0	6422.0	2314.6	3450.8	2453.6	5624.6	2208.3	2072.0	5337.9	7218.6	777.1	6242.6	3149.3	3044.8
SPH3196	396	925	324.0	140.6		319.3	494.1	364.9	298.1	285.9	257.9	186.3	541.8	181.6	150.1	312.3	517.4	98.7	555.2	295.0	325.8
SPH3197	741	1945	141.5	56.1		117.3	122.1	93.5	100.9	177.9	120.1	137.3	93.7	98.4	112.0	142.3	172.1	133.1	116.9	309.4	216.7
SPH3198	819	463	646.1	414.1		852.7	611.8	283.9	278.6	1473.8	825.3	633.1	205.7	512.2	467.3	162.3	261.8	454.4	706.5	1385.3	1222.6
SPH3199	1854	2765	91.8	22.7		106.9	128.3	108.2	81.9	100.9	108.5	72.3	128.1	70.2	59.1	87.3	115.4	55.5	80.0	80.2	86.5
SPH3200	984	2430	107.5	30.7		101.6	146.1	159.8	126.5	99.3	111.0	79.1	163.9	76.2	75.4	123.2	126.2	66.6	84.8	86.5	94.4
SPH3201	243	1160	258.9	101.5		268.7	321.0	409.7	432.7	253.5	226.0	219.6	294.6	167.0	154.1	392.2	332.1	176.7	250.2	179.8	63.9
SPH3202	1203	1509	191.6	53.6		273.3	215.7	204.0	243.9	273.8	200.5	160.6	189.5	131.9	128.0	187.0	130.4	175.5	275.6	118.1	158.6
SPH3203	720	1382	214.2	51.3		170.7	185.3	216.0	192.7	257.9	259.9	206.4	214.7	172.0	180.2	204.0	242.9	248.0	359.1	169.7	148.6
SPH3204	1008	222	1259.8	1132.5		1926.7	1189.4	1417.0	1298.7	4983.2	1850.8	212.4	1318.5	349.2	362.7	1202.6	1414.7	175.8	961.1	750.4	744.3
SPH3205	858	725	426.1	229.1		615.0	429.5	592.2	379.6	1016.2	479.1	324.4	487.6	150.4	230.6	669.2	242.2	546.4	260.2	234.6	160.2
SPH3206	924	3023	81.9	15.8		63.3	94.3	112.9	74.0	110.1	87.7	69.6	76.9	89.9	56.1	84.6	69.5	75.3	70.5	80.7	95.0
SPH3207	1068	2406	108.9	42.9		119.9	180.5	158.2	139.6	166.7	72.0	65.6	159.6	104.9	64.9	95.1	137.4	55.3	62.8	90.2	70.3
SPH3208	1230	2892	86.3	21.1		70.9	74.9	97.5	98.8	82.9	124.3	70.2	69.1	80.6	97.7	76.7	67.6	73.2	60.9	99.1	135.7
SPH3209	390	551	548.6	186.2		664.2	483.9	533.3	482.8	983.2	793.7	593.2	347.0	655.8	552.2	400.2	503.2	756.1	326.1	371.6	331.8
SPH3210	429	2271	116.8	16.7		95.0	100.8	129.7	126.2	127.9	78.9	99.6	103.2	138.7	124.6	126.0	122.2	135.8	118.5	114.6	127.8
SPH3211	489	2751	92.6	25.5		81.4	68.7	94.6	62.5	83.8	78.2	121.0	74.9	75.0	79.5	90.4	101.3	156.8	128.5	112.0	72.3
SPH3212	315	3288	74.0	13.6		59.3	54.2	62.0	71.3	69.1	57.8	77.2	56.6	68.9	87.2	78.1	81.9	93.5	96.0	83.2	88.1
SPH3213	360	2381	110.5	37.3		100.7	83.0	111.6	77.7	101.0	118.9	123.8	99.3	69.8	164.6	161.7	78.4	199.6	81.0	123.0	74.5
SPH3214	1017	2164	123.6	27.2		157.2	136.8	131.4	103.2	172.8	109.8	101.0	130.8	80.3	106.1	112.2	145.2	101.4	90.6	164.6	134.0
SPH3215	909	3641	64.0	15.7		48.9	52.5	52.2	77.9	48.8	68.7	55.9	55.5	60.6	49.1	56.9	99.5	59.9	73.3	70.3	94.6
SPH3216	456	709	434.7	278.2		706.8	1107.6	736.1	677.2	511.0	399.1	195.0	485.5	202.3	300.1	262.5	490.2	169.5	526.5	111.3	74.9
SPH3217	1581	1417	208.1	41.1		214.7	216.4	196.7	178.5	209.7	317.6	200.3	250.4	160.5	263.0	191.2	220.3	187.6	196.4	167.0	158.7
SPH3218	813	2622	97.8	20.3		69.5	89.4	115.3	79.4	84.1	96.3	99.6	95.2	98.7	99.4	136.1	112.2	134.1	110.8	73.8	70.9
SPH3219	1437	1921	143.3	43.6		175.3	156.4	166.7	190.5	212.1	112.8	149.7	155.8	137.2	92.1	143.8	209.6	63.1	90.4	143.2	94.6
SPH3220	1017	3373	71.2	10.6		76.1	73.6	61.0	76.7	60.4	67.6	76.6	58.4	65.8	68.2	74.8	94.8	72.6	52.1	75.7	85.0
SPH3221	1086	1778	157.2	169.9		104.8	108.6	85.0	80.5	132.1	123.0	774.9	126.6	86.8	122.5	77.8	97.2	111.7	84.4	250.5	149.0
SPH3222	1359	3512	67.5	17.7		60.1	54.0	58.3	59.1	51.5	74.5	74.5	51.6	59.4	69.3	61.7	88.0	82.1	59.8	56.3	120.2
SPH3223	2106	1955	140.7	130.2		65.4	75.0	114.0	77.6	71.3	84.9	157.4	90.9	73.9	116.3	183.3	89.7	270.6	586.7	96.2	97.6
SPH3224	783	3867	57.4	11.8		44.0	39.0	57.1	48.7	49.7	56.6	67.7	43.3	47.1	70.4	66.7	56.5	82.8	65.2	58.0	65.6
SPH3225	933	3903	55.7	12.0		48.2	46.0	44.3	67.8	45.0	53.8	45.4	46.3	78.3	59.2	44.2	62.1	59.5	45.0	69.4	75.9
SPH3226	357	1099	274.5	125.1		333.7	276.1	282.4	188.4	357.4	401.3	384.1	300.9	148.0	200.6	359.1	92.6	556.9	268.1	124.1	119.1

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3227	843	519	577.6	140.6		842.9	646.8	626.1	795.8	669.7	747.2	512.4	640.0	482.5	392.7	576.0	515.4	538.5	391.1	445.0	420.0
SPH3228	1371	2691	94.7	18.0		66.9	103.0	97.9	93.0	84.8	112.4	95.0	77.5	69.1	92.2	94.5	100.3	134.8	121.7	78.6	93.4
SPH3229	2355	227	1241.3	1676.4		3471.6	4734.3	90.1	104.3	2625.6	4688.6	112.0	106.3	1080.5	1240.4	124.7	89.8	439.5	680.0	130.6	142.7
SPH3230	117	2148	125.3	64.8		82.4	81.9	109.8	121.7	76.6	93.0	69.9	67.4	110.7	97.3	151.8	257.0	69.6	272.1	195.9	147.9
SPH3231	2082	1908	144.4	127.4		61.1	59.3	107.7	177.6	63.1	53.0	51.3	46.3	85.7	56.8	221.6	283.2	47.2	484.6	316.6	194.8
SPH3232	99	448	664.6	520.7		1019.2	823.6	689.9	354.3	1077.5	394.2	139.0	120.2	415.9	426.6	1188.0	615.2	576.0	2186.6	409.6	197.1
SPH3233	783	2392	109.9	62.9		85.1	140.4	138.0	99.3	84.0	83.2	81.5	127.0	65.5	69.1	125.9	74.0	116.5	324.9	64.6	78.7
SPH3234	1608	3764	60.4	7.6		62.6	60.4	59.2	69.0	52.4	64.2	52.2	55.8	69.3	48.9	60.8	56.6	58.5	66.6	52.9	77.4
SPH3235	276	1227	244.7	70.3		211.2	251.7	302.9	291.5	333.1	186.1	242.8	190.1	188.9	225.6	235.4	110.2	367.4	362.2	205.9	209.8
SPH3236	528	1303	227.1	149.1		94.7	108.6	461.0	653.9	125.5	92.9	316.8	134.1	165.1	151.3	252.0	165.4	205.6	195.9	216.1	294.5
SPH3237	1812	2259	117.4	62.2		56.3	75.7	258.7	260.9	80.9	79.6	166.5	90.5	74.8	86.1	142.4	87.1	124.3	114.6	80.9	99.4
SPH3238	1374	2930	84.9	27.3		56.2	61.5	99.8	168.1	62.4	78.4	73.9	68.8	81.0	75.7	92.6	78.4	85.3	68.8	87.0	120.1
SPH3239	1512	2731	93.6	31.9		63.8	53.8	91.7	69.5	77.8	71.2	121.4	69.3	65.6	100.7	119.6	77.4	170.4	89.1	131.7	123.8
SPH3240	192	1088	277.0	302.2		61.8	51.2	208.2	62.4	193.8	87.9	1007.8	86.0	382.8	343.5	505.0	111.1	941.3	141.7	182.1	64.8
SPH3241	537	3793	59.5	15.1		56.6	46.1	51.8	46.1	49.4	48.9	90.8	46.0	65.0	51.1	60.0	60.1	79.5	45.9	65.6	89.7
SPH3242	1221	2037	135.1	55.4		103.7	137.7	98.8	80.3	149.2	118.5	118.1	68.4	255.8	224.8	105.4	90.2	221.9	92.4	136.7	160.3
SPH3243	1284	1650	174.3	81.9		112.6	150.3	124.9	112.2	159.8	87.2	133.3	88.4	328.0	288.5	99.6	124.7	249.9	179.6	309.3	240.2
SPH3244	1260	2540	102.1	29.2		85.8	78.3	89.1	87.5	79.9	100.3	91.3	91.1	99.1	97.8	72.6	110.2	88.1	149.8	129.8	183.3
SPH3245	249	3927	54.1	12.8		42.9	48.4	42.1	73.2	41.8	69.1	41.6	56.0	68.2	60.4	41.4	62.0	38.6	43.3	64.1	72.9
SPH3246	498	1894	145.5	57.2		103.4	102.8	106.1	119.1	125.5	109.9	174.0	109.5	155.4	165.5	94.7	124.3	122.3	161.1	291.2	263.2
SPH3247	981	2629	97.5	28.2		131.8	109.6	88.2	92.0	143.6	78.2	97.2	85.6	96.7	76.9	75.1	80.8	65.4	100.1	70.7	167.6
SPH3248	1992	2665	95.8	27.2		68.1	57.3	89.1	91.0	70.3	80.8	112.6	95.8	70.7	88.3	119.8	157.0	133.2	121.8	74.3	103.1
SPH3249	2175	2413	108.6	30.1		99.7	66.9	100.4	102.5	70.6	84.3	102.1	119.2	135.2	101.0	119.3	163.3	112.2	85.6	97.1	178.9
SPH3250	690	1952	140.8	78.3		108.0	74.7	223.9	147.6	79.2	69.2	219.4	175.1	84.2	115.2	176.6	87.2	367.7	89.9	111.8	123.5
SPH3251	1302	3350	72.0	12.2		54.2	61.9	67.4	71.5	63.1	61.6	83.6	60.9	78.6	83.6	63.8	80.5	67.8	70.4	80.1	102.5
SPH3252	1629	2872	87.5	33.0		66.4	46.0	94.3	88.6	68.5	55.4	119.8	74.5	106.5	97.9	113.9	65.5	182.7	64.4	72.0	83.9
SPH3253	633	1717	164.8	129.9		111.1	95.8	156.4	110.1	112.6	92.0	237.3	95.2	100.8	175.5	225.5	130.4	622.7	123.3	138.1	110.9
SPH3254	927	2548	101.7	25.1		99.8	131.6	97.7	87.2	134.3	94.9	106.2	105.5	126.3	156.9	58.0	90.5	69.9	92.4	92.2	83.5
SPH3255	1500	1581	183.5	42.4		167.0	261.0	216.5	192.5	216.0	179.0	142.5	276.1	148.0	189.2	129.5	180.8	170.1	186.7	144.7	136.1
SPH3257	123	2768	91.7	40.0		82.7	74.7	62.4	72.9	80.2	91.2	82.2	69.4	96.1	93.8	67.0	69.9	81.1	233.3	109.1	101.3
SPH3258	2415	2906	85.8	28.1		69.5	66.0	67.3	74.4	66.5	71.2	114.2	57.9	83.2	96.7	83.9	74.9	105.3	84.4	174.6	82.6
SPH3259	498	2434	107.2	39.8		80.4	77.0	105.0	69.9	76.1	68.9	152.9	73.8	122.6	135.2	138.8	100.1	219.4	101.2	107.1	86.9
SPH3262	606	1742	161.2	39.9		196.6	182.4	200.1	146.1	225.2	155.5	210.5	185.2	129.0	145.7	155.9	99.7	201.6	116.1	127.5	102.4
SPH3263	1581	1600	181.8	50.0		233.1	221.1	238.5	159.7	263.6	147.1	234.0	234.7	150.2	103.2	200.8	134.8	156.3	175.0	119.1	138.2

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3264	69	3063	80.5	16.5		66.9	60.8	98.4	77.7	63.6	52.4	98.6	67.9	70.2	75.6	86.7	98.2	106.4	92.6	74.6	98.0
SPH3265	198	132	1951.9	1562.2		1251.7	1684.2	2296.3	2168.8	1015.3	1746.1	2658.7	1988.8	615.1	2188.9	2966.7	1124.0	7081.6	1463.7	685.9	295.0
SPH3266	660	1642	176.5	104.5		147.2	123.6	191.8	107.4	151.0	135.0	279.0	150.8	92.7	155.8	217.4	109.1	523.7	202.9	116.4	119.8
SPH3267	264	1163	258.6	229.9		127.5	149.4	236.0	136.2	205.1	137.2	395.6	181.9	121.0	390.7	381.1	113.2	1034.0	263.5	151.5	114.3
SPH3268	1065	688	450.9	299.0		328.7	224.5	332.8	280.3	368.3	195.9	465.4	205.0	382.1	439.7	337.2	333.9	421.9	585.7	1317.7	996.0
SPH3269	174	496	599.7	245.8		599.9	687.2	953.4	772.4	523.3	549.6	819.4	764.7	922.9	601.7	518.3	378.1	836.2	326.8	181.6	159.1
SPH3270	813	3258	74.8	14.3		62.7	64.7	65.6	75.2	61.0	116.4	69.6	65.1	81.7	77.5	63.4	84.7	74.6	73.6	66.8	93.7
SPH3271	228	1903	144.9	51.5		142.3	118.3	228.1	150.5	134.4	89.0	175.1	192.9	73.4	90.4	249.3	98.6	185.5	166.5	122.2	101.3
SPH3272	261	653	473.8	174.5		407.5	369.1	725.4	635.9	340.9	323.0	551.2	564.2	235.4	409.5	668.4	400.0	757.1	635.6	351.9	206.0
SPH3273	348	1182	253.4	156.9		151.7	207.4	393.1	273.0	195.9	133.5	402.0	332.6	88.5	146.1	463.2	141.1	589.5	388.8	78.7	69.2
SPH3274	348	2856	88.1	33.3		90.0	74.4	128.2	162.9	69.3	52.0	67.6	162.0	85.9	68.6	67.3	74.5	73.8	76.9	69.2	87.0
SPH3275	819	2929	84.9	21.5		69.5	46.7	81.8	92.9	77.9	85.5	85.5	71.7	89.5	91.2	117.7	71.5	140.5	63.4	81.0	92.0
SPH3276	465	1330	222.9	143.2		129.2	126.5	237.5	124.7	190.2	106.2	402.3	127.8	131.5	278.6	351.0	75.5	611.8	102.6	269.5	301.8
SPH3277	939	1792	155.1	48.1		140.0	95.2	107.8	154.8	130.7	94.6	199.9	133.6	135.2	136.5	167.7	154.8	210.6	237.9	126.4	256.2
SPH3278	579	1979	138.7	50.4		105.5	95.0	120.1	113.4	95.8	97.7	173.7	108.2	89.8	186.8	173.3	142.5	278.5	123.6	125.6	189.9
SPH3279	2136	3320	73.0	23.2		59.1	47.7	70.9	67.6	65.5	56.1	95.7	52.6	74.2	60.9	104.7	60.5	140.2	71.6	63.1	77.6
SPH3280	1035	3714	62.0	9.8		61.5	54.2	48.2	60.6	46.5	79.4	55.8	51.0	53.8	67.5	65.6	74.1	71.4	65.1	65.7	71.9
SPH3281	987	1444	202.0	103.9		116.4	180.8	157.5	122.1	90.7	161.2	111.6	189.8	361.3	423.8	140.0	117.2	366.1	299.0	169.8	225.4
SPH3282	891	3570	66.0	17.4		71.4	60.2	48.0	86.1	57.9	64.3	49.9	50.4	80.0	60.2	48.2	80.2	60.7	54.1	71.1	113.1
SPH3283	1587	3476	68.5	16.9		48.4	51.0	51.2	58.4	51.6	83.9	59.3	59.9	73.8	73.6	60.2	92.8	58.9	90.7	99.5	83.7
SPH3284	861	3629	64.5	12.1		63.5	54.5	54.8	59.4	50.6	66.6	77.5	49.4	47.3	68.6	71.3	75.5	70.9	54.6	82.2	85.7
SPH3285	999	2067	132.3	57.6		71.1	72.8	116.7	89.4	73.9	100.1	152.4	99.0	112.0	179.2	183.6	140.0	276.5	214.8	95.0	140.0
SPH3286	66	772	393.2	166.4		177.2	230.1	280.4	339.1	179.7	425.5	349.0	314.2	275.8	584.3	398.6	695.8	596.0	293.3	498.9	653.2
SPH3287	1305	3145	78.1	45.5		59.2	46.6	70.4	55.5	55.4	54.9	93.7	52.4	71.0	81.9	109.9	47.3	235.9	76.3	60.6	78.7
SPH3288	1326	3966	50.8	8.1		49.4	44.7	41.5	52.0	43.1	49.8	55.6	43.0	54.8	56.7	47.6	57.1	47.9	38.8	62.4	69.1
SPH3289	1026	3138	78.3	19.9		63.1	51.0	68.2	60.0	55.4	68.7	79.4	67.1	65.6	95.1	99.8	79.0	119.4	102.9	75.2	102.3
SPH3290	966	2491	104.7	45.4		77.0	55.6	106.2	67.6	75.7	65.7	116.3	80.3	92.4	107.2	120.8	109.6	246.9	135.7	80.4	137.5
SPH3291	1122	3133	78.3	20.7		57.4	53.9	68.8	86.0	70.7	66.0	69.2	61.3	96.8	86.5	70.3	90.8	80.5	66.1	89.0	139.7
SPH3292	2619	3186	77.1	14.7		72.1	66.4	57.1	71.6	68.7	81.7	89.6	56.2	75.4	72.9	75.4	119.1	88.8	75.8	78.4	84.6
SPH3293	633	2970	83.4	13.0		77.2	109.6	98.6	82.8	91.3	101.9	77.1	82.1	66.2	81.4	70.9	91.8	68.5	70.5	92.3	72.0
SPH3294	1245	2117	127.6	37.7		89.6	107.0	128.9	156.9	96.0	98.7	114.9	109.6	152.5	136.4	108.5	157.8	92.6	137.2	114.6	240.6
SPH3295	957	3335	72.6	29.7		57.1	52.6	54.0	68.7	53.1	60.5	58.9	57.0	72.0	76.8	51.1	80.4	47.0	138.3	86.8	147.1
SPH3296	1527	3347	72.0	15.2		67.1	62.3	54.9	59.1	70.1	64.4	57.7	68.5	68.1	69.0	73.1	86.8	59.5	96.7	85.7	109.4
SPH3297	1485	2523	102.8	24.6		91.0	66.3	89.3	88.3	69.6	147.4	88.9	86.2	88.8	117.0	141.1	106.3	137.9	96.4	104.3	125.6

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3298	2430	2412	108.7	31.1		78.4	72.6	86.9	133.7	68.6	104.7	96.6	109.5	149.5	125.7	90.6	134.5	95.5	78.5	138.0	175.6
SPH3299	330	1754	159.5	81.4		89.3	71.2	161.5	144.5	104.8	91.2	160.3	150.7	298.8	286.0	221.4	176.1	319.3	86.1	98.8	91.9
SPH3300	882	3149	78.0	33.7		50.3	47.1	65.8	60.1	54.4	70.7	111.1	66.6	56.5	91.7	98.9	67.4	185.8	70.0	66.8	84.9
SPH3301	336	3126	78.5	29.3		44.4	51.9	67.4	68.0	62.5	61.5	87.6	71.0	54.0	83.7	119.9	76.4	162.9	62.6	88.0	94.6
SPH3302	168	3945	52.7	10.7		52.4	43.7	48.9	50.6	45.6	47.7	60.5	44.6	67.0	45.6	52.5	48.6	74.4	38.8	47.6	74.1
SPH3303	1518	2673	95.4	30.9		66.3	57.9	71.4	79.6	56.1	110.2	100.2	67.6	84.9	137.6	93.7	167.7	120.3	86.5	103.2	123.9
SPH3304	207	2432	107.3	30.6		79.4	64.5	105.9	55.1	93.8	77.7	134.3	117.3	127.1	171.1	127.0	115.1	143.9	94.1	119.4	92.0
SPH3305	552	1039	288.1	206.0		170.7	175.1	252.4	159.7	175.3	154.7	369.9	178.0	140.8	278.9	417.5	167.8	763.0	789.3	191.6	225.4
SPH3306	318	2366	111.6	14.6		116.6	111.9	90.9	124.3	127.0	130.5	98.6	107.5	94.5	114.6	88.2	128.4	103.6	98.3	118.1	131.8
SPH3307	1350	3312	73.2	11.2		75.7	79.7	77.8	88.5	74.4	52.3	75.2	80.0	65.4	58.7	84.2	84.4	56.6	60.4	73.6	84.1
SPH3308	1893	3173	77.5	19.1		69.8	59.5	78.5	69.9	62.2	58.0	63.8	118.7	53.8	81.8	73.9	106.0	95.1	87.9	62.0	98.8
SPH3309	735	3929	54.0	9.3		50.3	52.0	43.2	53.4	50.3	54.1	50.1	45.4	47.9	59.2	43.1	65.4	63.7	46.0	62.2	77.1
SPH3310	849	2354	112.0	57.0		77.1	75.0	144.8	92.9	94.6	65.1	175.2	66.0	105.6	113.9	154.9	75.8	287.9	77.4	99.9	85.6
SPH3311	405	2542	102.0	28.7		59.8	92.2	88.8	127.6	76.2	129.2	80.4	77.9	95.8	126.8	92.4	126.0	117.9	54.9	147.6	138.8
SPH3312	1560	943	315.2	179.4		151.4	198.1	469.7	423.8	221.9	135.0	424.2	146.0	396.9	398.1	513.4	159.6	775.7	209.3	245.2	175.5
SPH3313	3810	2024	135.8	47.6		67.0	95.4	175.8	207.7	79.5	83.1	139.6	78.3	222.2	156.3	151.2	156.2	181.2	109.8	123.6	145.5
SPH3314	1404	1973	139.1	40.5		144.4	92.4	141.6	102.2	182.8	157.3	122.8	68.3	119.9	191.6	156.3	105.9	231.4	152.2	126.0	130.1
SPH3315	1254	411	722.0	380.5		1512.7	1151.5	670.3	771.1	1289.3	1013.2	405.5	675.1	620.9	535.7	512.4	644.6	213.3	1002.9	287.5	245.7
SPH3316	843	2092	129.8	52.9		97.8	123.8	137.5	121.6	116.4	79.5	156.3	96.9	105.0	108.6	135.7	162.6	121.6	309.9	102.5	100.9
SPH3317	813	3581	65.7	17.5		56.9	56.1	64.5	79.5	44.1	61.3	47.5	51.0	68.8	58.5	54.6	87.9	47.4	89.8	80.6	103.1
SPH3318	651	2106	128.7	91.0		61.9	108.0	109.9	76.9	79.7	86.9	112.7	77.2	90.6	122.0	198.9	90.6	250.5	416.9	101.4	75.7
SPH3319	564	3616	64.9	16.0		71.8	50.8	45.0	67.5	47.3	61.2	53.6	61.5	80.1	74.4	49.8	97.4	48.5	64.6	71.5	93.4
SPH3320	741	3079	80.2	27.2		67.0	61.4	69.0	65.1	58.0	52.5	68.6	60.6	110.8	100.7	60.7	157.4	69.1	87.2	95.6	99.1
SPH3321	948	1962	139.9	64.6		86.2	74.1	112.7	89.6	75.9	101.3	126.8	99.7	182.5	270.1	122.9	141.6	250.5	252.0	110.8	141.5
SPH3322	564	3245	75.0	14.8		69.6	62.6	63.1	64.1	56.5	66.9	71.4	70.9	113.7	78.8	61.3	89.9	76.9	83.6	76.2	95.2
SPH3323	1407	3277	74.3	19.2		81.2	64.0	53.0	72.9	59.0	127.7	62.0	55.2	61.0	80.3	58.8	93.1	73.5	69.9	81.6	94.8
SPH3324	828	2130	126.4	26.4		90.0	110.2	106.6	109.4	98.0	169.4	103.4	96.3	148.8	172.9	132.3	135.9	147.6	115.0	134.5	152.0
SPH3325	69	1010	295.6	152.5		270.5	238.4	340.5	83.8	232.5	202.1	425.8	271.3	289.2	585.2	397.1	141.1	644.8	223.9	168.3	215.9
SPH3326	390	2176	122.6	40.6		84.8	94.2	105.8	83.9	78.9	88.3	113.2	102.9	218.1	185.1	119.6	119.1	163.0	105.9	130.1	168.9
SPH3327	1182	3454	69.0	15.5		70.6	53.1	58.9	59.8	47.0	75.8	66.8	54.1	93.4	103.5	61.1	86.8	70.4	58.1	65.7	79.1
SPH3328	906	2344	112.5	79.4		52.8	45.6	89.0	77.7	65.1	51.8	135.0	66.0	212.9	170.3	142.6	62.1	350.6	114.0	104.1	61.3
SPH3329	1032	2303	115.1	57.6		56.7	61.8	107.0	70.1	73.2	70.5	126.6	95.2	107.7	206.1	164.7	84.9	269.0	149.0	93.0	105.9
SPH3330	759	3106	79.1	16.2		72.1	61.8	70.4	63.4	62.5	78.4	85.2	66.0	75.7	108.4	83.2	77.6	118.9	70.6	78.2	93.8
SPH3331	705	1745	160.9	40.2		142.0	105.5	143.8	125.1	108.1	101.0	178.5	134.9	226.2	196.2	164.4	150.3	208.5	187.7	197.5	204.2

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
					Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
Accession	Length		Average	SD	Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3332	336	228	1239.8	378.1		1301.4	967.3	1144.1	1136.2	1308.9	974.8	1006.5	637.8	1584.8	1437.9	1086.9	1278.5	1297.1	2400.5	1144.6	1129.0
SPH3333	1083	1297	228.6	90.1		202.5	247.0	188.5	214.6	248.0	228.7	154.1	213.3	216.4	134.2	144.7	216.8	133.8	242.2	411.4	461.0
SPH3334	1305	410	722.3	386.1		533.9	582.0	448.7	420.8	788.7	622.6	807.5	382.1	1188.2	778.2	344.9	364.6	514.4	745.6	1715.5	1319.4
SPH3335	912	2511	103.7	20.8		97.1	81.5	81.4	79.9	127.9	124.8	90.4	86.7	115.6	92.3	95.9	100.1	108.4	152.5	97.2	127.8
SPH3336	1203	3025	81.8	22.2		72.1	58.5	77.7	59.5	56.0	54.7	112.5	73.3	63.1	98.0	98.6	84.5	120.4	106.7	67.7	106.1
SPH3337	783	3008	82.4	16.9		68.7	63.9	72.3	79.4	58.0	84.0	76.9	76.6	112.4	84.5	73.4	86.6	97.7	83.3	76.3	124.1
SPH3338	1122	1989	138.3	55.0		90.6	75.9	135.3	118.5	95.8	115.2	178.2	124.0	103.7	187.6	191.3	139.7	291.8	82.2	168.7	114.0
SPH3339	558	865	347.5	371.2		141.2	112.9	415.4	120.4	217.5	125.9	668.6	194.1	158.8	467.7	669.9	84.5	1537.9	339.3	199.2	106.9
SPH3340	1281	3303	73.5	27.9		51.7	54.4	64.6	50.1	49.8	81.4	86.1	55.8	57.6	83.8	105.3	77.9	160.2	65.8	69.5	62.0
SPH3341	2997	3762	60.5	13.1		47.2	50.8	49.4	59.0	47.2	82.8	54.6	59.5	76.4	61.2	53.6	70.6	52.0	54.3	57.8	91.1
SPH3342	633	2142	125.7	30.0		93.1	160.5	144.9	90.6	113.2	100.5	134.7	201.4	103.9	104.0	124.0	129.9	167.2	114.6	113.7	114.9
SPH3343	111	913	328.8	68.7		377.5	299.8	295.3	272.0	400.4	283.5	417.5	332.8	290.0	300.4	393.9	270.6	439.2	228.2	418.8	240.8
SPH3344	870	2424	108.0	50.5		78.3	90.7	112.9	78.2	90.6	86.9	125.4	102.5	98.5	111.8	180.4	91.6	264.2	60.5	100.4	55.5
SPH3345	2937	2536	102.3	39.0		168.6	91.7	84.3	105.8	189.6	62.0	66.3	129.6	119.8	66.0	74.8	121.9	57.2	83.2	82.0	134.8
SPH3346	198	1267	235.0	101.9		388.0	248.8	203.9	197.9	489.7	273.2	139.9	385.1	163.0	223.9	175.6	201.6	161.6	154.7	216.5	136.5
SPH3347	378	1315	225.9	86.0		328.8	206.7	215.3	190.1	423.3	262.6	132.0	382.3	254.8	208.7	175.7	187.2	118.3	189.7	150.7	188.7
SPH3348	1152	1764	158.8	63.8		258.2	158.8	172.8	203.3	299.4	82.7	98.3	257.1	123.3	125.2	154.8	144.6	111.4	123.3	119.1	108.7
SPH3349	1458	2688	94.8	131.3		57.4	46.8	46.8	63.2	585.0	68.7	51.3	50.8	57.9	68.1	53.3	76.9	62.9	63.3	92.7	72.5
SPH3350	1437	3707	62.2	15.7		73.4	57.8	47.1	58.9	48.1	81.7	43.7	47.6	56.8	68.6	56.5	78.6	49.6	58.7	65.1	102.7
SPH3351	810	1553	186.4	52.4		139.2	136.6	146.8	134.6	151.8	191.2	207.6	133.9	115.9	268.1	251.0	242.3	245.5	160.8	206.0	251.7
SPH3352	849	2161	124.1	31.9		130.5	127.9	92.6	99.1	158.5	139.3	150.5	85.7	113.3	158.4	103.8	93.8	114.1	89.7	202.2	125.9
SPH3353	1476	2999	82.6	31.1		120.8	173.4	86.5	94.4	93.2	97.6	46.6	84.7	77.4	80.4	67.1	63.3	61.0	66.1	56.2	52.1
SPH3354	1302	2051	133.5	115.6		347.2	221.9	52.9	52.5	421.3	227.2	41.8	51.4	174.3	123.2	64.1	62.6	91.0	82.9	46.9	74.2
SPH3355	921	564	537.3	636.9		1602.9	743.3	45.6	53.4	1986.0	1118.4	49.7	51.3	941.4	1122.2	42.4	82.4	410.0	210.3	64.2	72.6
SPH3356	429	229	1237.1	1276.0		3049.1	1615.6	55.8	58.3	2787.9	2450.0	59.5	48.8	2560.2	3244.8	55.9	67.9	1753.8	1736.5	133.4	116.2
SPH3357	849	2822	89.5	12.4		95.8	107.8	91.0	84.4	111.2	102.1	69.8	81.7	84.9	88.9	84.2	79.9	103.2	68.6	83.7	94.8
SPH3358	918	3248	75.0	19.9		80.0	81.4	52.3	68.7	69.7	68.4	62.1	68.9	90.0	66.4	60.4	121.1	53.1	56.2	88.8	112.3
SPH3359	1191	2315	114.6	27.8		158.1	113.3	101.3	86.2	115.5	126.5	91.9	138.1	82.1	72.6	98.8	172.2	108.1	101.6	123.3	143.2
SPH3360	696	3788	59.7	11.2		64.7	79.2	46.3	46.8	55.8	79.6	65.8	68.4	48.1	60.2	51.5	74.2	49.0	50.7	56.5	57.6
SPH3361	774	247	1167.6	1251.2		1883.2	2154.0	124.4	134.2	1864.3	2096.3	137.9	96.8	2204.8	2423.9	174.4	135.7	810.4	4207.6	149.7	83.6
SPH3362	735	94	2660.6	3111.4		6082.5	8786.0	156.7	91.8	4848.6	8311.7	179.9	103.9	3661.6	4658.9	229.5	103.6	1208.3	3864.8	120.5	161.8
SPH3363	420	1045	287.4	257.0		636.2	760.5	74.4	84.8	718.5	516.4	85.0	68.0	472.2	447.1	107.5	91.1	161.5	181.5	68.9	124.9
SPH3364	597	2736	93.5	43.1		84.4	78.3	65.3	65.1	104.2	83.4	110.1	57.1	56.5	81.3	117.7	62.1	182.5	203.8	65.1	78.4
SPH3365	429	646	477.1	128.1		447.6	408.2	491.0	378.7	433.6	346.8	561.5	371.1	425.6	493.3	622.8	406.8	802.3	675.4	415.9	352.6

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3366	672	1543	187.1	79.3		184.0	221.0	269.6	358.5	153.5	121.6	90.4	334.0	163.0	139.7	180.3	240.4	148.6	173.8	88.8	127.0
SPH3367	1209	2186	122.1	44.3		104.7	97.9	116.9	101.9	96.9	93.2	105.0	118.0	87.0	141.6	152.2	93.5	209.1	240.8	107.3	88.4
SPH3368	255	599	504.6	153.8		622.1	390.9	389.5	410.8	734.1	454.2	509.0	416.4	806.4	754.9	469.4	401.5	621.2	423.4	331.1	339.3
SPH3369	1215	1787	156.0	35.7		196.0	205.4	187.9	154.2	181.2	133.9	226.5	155.0	163.2	115.2	109.7	139.6	101.9	127.6	145.9	152.8
SPH3370	2589	3504	67.7	9.7		84.9	72.1	57.0	56.9	69.9	75.8	70.5	64.4	77.0	68.0	55.1	50.5	66.6	60.3	79.4	74.4
SPH3371	1293	1412	208.6	106.9		185.8	308.4	241.5	248.3	160.5	175.2	96.4	400.6	170.7	169.9	214.8	146.9	112.3	476.7	124.2	106.2
SPH3373	3234	1635	177.3	63.6		155.8	239.1	177.6	188.2	195.0	152.8	113.1	360.9	170.8	115.2	165.8	160.6	82.2	236.4	154.1	169.6
SPH3374	477	819	367.7	101.2		325.1	419.8	408.1	301.6	392.0	316.2	261.7	688.9	292.3	343.3	344.5	370.0	304.9	439.3	400.4	275.7
SPH3375	456	2453	106.1	26.6		107.9	121.9	125.5	93.0	113.7	104.5	73.2	162.8	107.6	84.1	111.0	64.8	106.6	107.8	146.9	66.6
SPH3376	633	1404	209.9	98.5		164.2	204.8	249.9	130.1	208.3	117.2	279.9	178.2	143.6	238.7	332.2	118.5	483.1	238.5	189.3	81.2
SPH3377	1866	110	2273.9	1179.6		2472.0	1754.1	1805.8	1991.1	2948.0	1951.2	1915.5	1690.4	1959.9	1814.8	1471.2	2368.5	813.2	6256.3	2794.6	2375.9
SPH3378	861	2981	83.1	17.7		80.7	69.9	80.5	88.3	85.7	87.0	63.0	75.7	85.2	75.5	72.7	121.6	74.0	65.6	76.6	127.0
SPH3379	1458	2013	136.3	35.0		163.2	185.3	135.0	111.2	197.6	124.9	137.3	176.8	95.8	103.6	92.6	107.1	139.2	96.1	133.7	181.2
SPH3380	369	40	4929.9	2090.8		4455.0	4580.3	6138.8	6981.7	4578.3	5221.9	3021.1	4272.1	3249.1	4650.2	5946.3	5377.3	5420.4	10818.9	2120.1	2046.9
SPH3381	477	281	1040.1	524.9		1257.4	1809.7	1614.6	1406.2	1239.9	1165.0	653.6	1234.1	456.8	550.3	1671.6	1530.0	583.4	1025.1	325.4	119.3
SPH3382	792	718	431.7	274.0		445.1	847.1	762.4	801.9	430.7	298.6	281.6	845.4	198.8	216.2	556.2	640.3	120.1	205.6	173.0	84.7
SPH3383	1254	1530	188.6	114.9		202.2	331.1	381.3	325.0	212.2	180.2	91.6	364.0	102.8	74.4	210.7	257.0	68.1	60.7	70.1	86.7
SPH3384	537	386	764.9	520.0		778.7	1490.5	1423.0	1449.4	796.1	730.2	495.5	1426.3	376.1	237.9	1214.7	1098.5	222.7	137.3	223.0	139.0
SPH3385	1398	1271	233.8	148.9		241.9	477.9	435.3	421.4	267.9	204.3	119.0	458.3	123.0	94.0	322.7	245.1	94.2	77.7	79.8	77.9
SPH3386	2400	2016	136.1	63.8		188.7	261.2	181.5	189.4	163.9	157.9	89.6	241.1	74.0	105.3	138.9	105.7	70.0	72.8	77.3	60.2
SPH3387	1050	1355	218.2	123.8		218.3	433.1	349.5	318.4	260.4	270.3	108.9	435.6	101.2	104.1	299.0	197.1	133.8	101.4	80.6	79.1
SPH3388	489	758	402.4	198.6		431.2	636.4	676.6	663.5	392.3	424.7	293.5	724.7	282.3	223.7	491.8	499.8	182.1	147.3	139.7	229.2
SPH3389	609	645	477.6	306.1		478.4	947.8	978.9	731.3	480.2	565.4	278.9	989.2	262.5	256.0	599.3	465.2	286.9	143.8	94.5	83.7
SPH3390	306	1301	227.5	124.6		264.0	426.1	404.6	361.4	277.4	298.6	120.1	399.3	111.4	138.4	242.4	218.7	128.1	75.2	78.5	95.5
SPH3391	2049	988	299.8	171.4		399.4	534.6	526.5	463.9	472.3	318.3	184.8	566.9	126.4	144.8	318.4	239.5	169.8	117.2	113.9	100.4
SPH3392	1482	633	483.9	258.7		483.2	855.6	674.4	793.9	596.6	671.0	327.6	939.8	280.7	273.7	547.7	549.2	238.0	131.3	157.7	222.7
SPH3393	1467	1614	180.4	99.7		260.7	338.1	278.9	226.5	316.7	187.4	127.5	333.8	85.5	88.6	164.5	135.0	147.5	56.3	58.0	81.9
SPH3394	336	1580	183.5	41.4		164.9	236.7	187.5	229.7	185.4	191.7	150.9	254.1	137.5	165.5	173.0	264.2	160.4	139.0	139.5	155.8
SPH3395	1374	1829	151.6	65.4		149.4	281.5	221.6	182.9	176.0	231.2	99.6	248.4	96.3	117.6	133.2	132.2	100.7	111.8	57.0	86.0
SPH3396	816	3058	80.7	15.7		89.3	113.7	97.9	87.3	82.9	83.9	70.1	102.1	74.7	53.1	73.3	72.5	71.2	60.6	70.3	89.0
SPH3397	321	518	579.7	369.7		758.6	603.2	270.1	244.2	1378.6	963.1	525.6	162.4	981.6	1084.0	211.6	196.9	493.6	730.0	341.7	329.9
SPH3398	339	1964	139.8	83.7		160.3	159.3	71.9	74.2	334.5	219.9	106.2	57.3	214.3	225.8	69.5	77.0	82.4	236.1	71.0	76.6
SPH3399	558	1492	194.8	48.6		151.7	223.5	262.4	209.6	150.6	200.6	208.9	175.0	119.5	187.1	255.6	224.2	152.2	171.8	133.6	289.7
SPH3400	1149	775	392.3	161.3		463.2	608.3	465.5	483.6	601.5	667.0	226.1	606.2	257.6	287.2	310.1	288.5	301.4	289.0	189.1	232.8

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3401	336	2813	89.9	20.4		96.6	136.3	102.5	87.9	91.9	109.2	63.8	114.6	75.0	98.1	83.7	80.7	95.7	54.4	78.9	69.6
SPH3402	753	3771	60.2	10.9		64.6	55.4	55.1	59.1	56.0	56.9	54.6	58.0	77.5	52.5	49.1	65.0	51.6	51.4	66.0	91.1
SPH3403	177	2039	134.9	52.2		199.8	246.7	177.9	147.4	174.6	121.8	138.6	164.4	101.7	116.3	147.3	69.6	147.7	75.6	66.0	62.5
SPH3404	966	3349	72.0	21.5		73.0	62.4	52.0	68.5	55.5	66.4	59.0	56.2	61.7	64.3	50.6	106.3	63.4	81.7	112.9	117.7
SPH3405	1047	2534	102.4	28.5		128.4	157.0	104.3	110.8	140.3	77.7	111.6	106.6	91.9	64.9	73.5	83.1	61.8	143.0	95.7	88.0
SPH3406	1404	1211	248.0	103.4		306.7	254.9	279.0	244.3	366.2	192.0	214.9	368.5	123.7	170.5	270.1	128.8	297.9	487.6	124.8	138.2
SPH3407	2658	2936	84.7	17.9		77.7	104.3	75.0	97.5	101.4	72.3	60.3	91.2	90.5	61.4	84.6	124.0	72.0	62.5	80.7	100.4
SPH3408	831	949	313.4	314.3		153.0	85.8	81.7	83.2	258.9	168.3	773.1	75.2	252.0	618.4	120.6	98.9	232.1	152.7	1058.4	801.5
SPH3409	120	1473	197.4	164.3		113.5	69.8	85.0	87.7	142.2	106.0	286.1	97.2	187.4	365.8	51.2	273.7	81.2	135.2	643.5	433.0
SPH3410	624	2992	82.7	14.1		95.2	76.7	78.1	81.2	75.3	62.5	115.5	78.8	67.3	85.4	77.6	81.4	90.6	64.2	88.6	104.9
SPH3411	1296	3191	76.9	28.5		59.8	49.6	82.7	63.7	79.6	61.3	123.9	59.9	68.3	86.5	116.4	52.4	146.8	54.2	64.5	60.1
SPH3412	3138	3219	76.1	27.5		58.0	54.2	69.9	61.4	47.7	82.4	78.3	64.4	61.0	65.8	92.6	53.2	128.8	84.9	66.7	148.2
SPH3413	1416	3984	45.6	8.0		53.8	46.2	39.7	47.4	35.4	55.6	41.2	33.5	44.3	44.9	39.7	51.8	44.0	39.7	47.4	65.0
SPH3414	723	1920	143.4	39.2		117.3	137.8	98.5	117.9	166.5	151.4	108.0	69.6	194.2	157.1	146.3	198.4	200.5	113.4	127.1	189.7
SPH3415	792	396	745.9	423.8		1032.7	681.8	349.1	393.1	1458.5	1590.0	589.8	216.5	1233.7	1082.2	447.2	371.6	927.9	412.0	666.0	482.5
SPH3416	1212	2475	105.2	25.7		132.5	88.4	83.2	75.2	154.3	115.5	83.7	63.0	127.1	108.2	89.3	110.4	146.9	91.2	106.8	108.0
SPH3417	258	804	378.9	369.9		134.5	223.7	466.4	152.7	337.1	176.2	689.7	215.1	125.1	506.7	840.8	106.0	1502.8	279.0	159.2	147.7
SPH3418	816	958	307.5	221.1		362.0	302.3	588.7	474.8	331.3	77.4	186.7	479.2	83.6	126.9	853.0	378.6	387.1	94.2	99.9	94.7
SPH3419	741	2374	111.0	38.9		86.2	68.8	134.1	104.6	103.9	79.0	100.6	118.4	77.8	124.6	213.1	107.9	182.0	77.0	110.0	88.0
SPH3420	687	3141	78.2	29.8		52.2	66.9	82.8	50.9	55.7	94.6	75.7	66.6	46.3	87.1	155.2	73.9	135.8	62.5	80.2	64.8
SPH3421	522	2255	117.5	98.8		71.3	66.4	80.0	111.5	52.9	56.9	55.3	63.9	69.4	55.7	276.9	361.6	54.6	45.1	215.4	242.7
SPH3422	975	996	298.3	339.9		118.8	126.3	306.7	247.3	72.1	101.0	104.9	194.3	54.5	112.3	1262.6	925.5	141.1	98.2	454.9	452.0
SPH3423	957	2635	97.4	52.7		76.1	57.8	88.0	101.8	68.8	57.0	49.8	91.8	102.2	69.8	168.1	243.3	37.4	72.7	151.2	122.0
SPH3424	249	2586	99.4	101.0		60.7	62.4	104.0	80.5	47.2	68.3	49.8	71.4	52.0	51.1	407.4	291.9	58.8	43.6	70.1	70.5
SPH3425	927	1595	182.3	217.4		95.4	125.8	215.2	174.8	64.4	62.4	64.2	143.6	84.8	67.0	862.1	551.4	63.1	63.7	135.9	142.7
SPH3426	1839	2247	117.9	75.9		81.9	93.7	93.2	107.7	63.6	112.0	60.9	89.2	86.8	66.2	246.7	333.9	64.3	62.7	171.2	151.9
SPH3427	966	2358	111.7	35.8		86.8	73.0	114.1	92.5	102.5	83.5	121.1	101.9	103.3	167.1	134.8	81.9	215.4	109.4	92.1	108.6
SPH3428	303	1542	187.2	38.1		178.4	149.1	215.6	199.1	182.5	129.5	191.1	156.8	144.1	216.2	203.9	276.7	219.0	143.7	172.1	217.9
SPH3429	372	3259	74.7	12.8		77.0	54.9	74.7	84.9	75.9	55.2	74.1	60.5	77.7	63.6	81.1	99.0	80.1	79.2	62.8	94.8
SPH3430	495	1710	165.7	95.2		120.1	107.1	186.9	118.4	138.8	101.8	227.5	100.8	91.1	169.8	288.3	131.4	461.8	175.7	125.1	106.0
SPH3431	666	2405	109.0	19.6		90.0	83.7	109.3	118.8	90.4	72.2	123.1	106.8	113.6	114.4	126.3	97.8	148.4	135.2	103.9	110.8
SPH3432	1416	3615	64.9	15.3		62.2	49.9	52.9	63.7	51.5	102.2	54.2	54.5	70.7	71.1	55.5	90.3	52.4	55.2	72.0	80.9
SPH3433	1038	3332	72.8	14.8		54.4	58.2	58.6	72.0	71.4	59.2	75.6	65.6	104.0	61.9	70.7	66.9	83.4	72.3	92.3	98.4
SPH3434	1350	2647	96.6	34.4		74.0	58.0	79.7	71.7	74.8	65.3	101.8	81.7	106.1	110.1	127.5	141.8	178.3	136.3	62.4	75.3

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3435	858	3517	67.5	19.1		55.3	51.4	53.6	54.9	57.1	52.7	72.2	53.2	71.4	70.2	76.2	70.0	121.3	51.0	73.2	96.3
SPH3436	1140	3521	67.4	18.6		56.0	61.7	42.9	69.7	59.9	94.3	50.2	53.4	59.4	75.3	55.3	96.9	60.8	55.7	78.1	108.7
SPH3437	684	3889	56.5	13.3		54.1	45.8	48.3	69.1	52.0	61.5	47.2	47.4	66.1	46.4	47.7	72.7	55.6	46.3	50.3	93.9
SPH3438	1080	3099	79.4	20.5		68.8	58.9	63.7	80.1	57.1	72.7	82.5	60.3	69.1	105.8	84.1	92.5	134.0	62.4	97.4	80.5
SPH3439	93	2835	89.0	43.9		62.0	65.8	71.3	70.3	61.0	72.6	128.1	67.8	76.8	109.9	116.5	84.8	234.3	62.4	71.4	68.7
SPH3440	768	3606	65.2	11.2		67.9	55.4	50.4	69.0	55.0	85.0	52.8	58.9	79.1	55.4	60.0	76.2	63.6	62.8	65.6	85.7
SPH3441	885	2676	95.3	26.6		95.5	108.9	69.8	70.6	86.4	132.7	72.3	84.5	77.5	117.0	66.9	105.8	95.6	65.5	117.7	158.4
SPH3442	903	3035	81.5	18.2		71.4	76.2	56.4	91.0	66.2	87.4	72.8	69.6	70.0	90.3	69.1	94.3	64.5	89.4	125.8	109.3
SPH3443	1032	3108	79.1	19.0		66.6	55.4	60.6	67.1	54.3	70.9	82.8	58.8	72.2	85.6	98.9	107.4	112.7	85.1	82.2	105.1
SPH3444	459	3752	60.9	14.9		57.5	47.7	47.6	56.3	54.1	71.2	52.6	52.0	74.8	54.0	64.4	71.5	61.1	40.7	65.9	103.7
SPH3445	1431	2073	131.6	92.7		62.6	64.4	104.4	83.8	63.7	67.3	139.1	98.5	137.1	214.6	235.2	77.0	418.3	84.2	156.8	99.1
SPH3446	1698	2978	83.2	33.2		68.8	60.8	55.3	75.8	52.5	102.7	65.1	61.9	64.1	88.1	59.2	172.8	82.4	69.8	132.9	118.7
SPH3447	1311	3042	81.3	24.2		55.8	57.5	65.1	96.1	66.5	90.2	80.9	73.8	75.5	107.8	90.3	151.1	74.4	50.5	78.7	86.5
SPH3448	2220	3519	67.5	12.0		72.2	56.4	56.1	67.1	63.2	65.9	68.5	61.4	55.1	50.1	79.6	82.5	75.4	53.4	87.8	85.1
SPH3449	1335	1783	156.4	84.3		115.9	164.9	71.9	65.5	275.3	288.1	188.4	47.9	193.5	293.6	70.7	74.4	252.7	137.7	123.5	138.3
SPH3450	75	733	418.5	649.8		80.9	88.1	290.1	111.7	161.2	110.4	683.1	127.3	80.4	749.0	815.4	114.5	2664.2	330.8	212.3	75.8
SPH3451	1062	889	336.7	235.8		558.0	759.3	201.7	225.3	908.8	492.3	187.6	117.4	253.3	367.1	173.3	140.3	387.4	334.5	113.1	168.6
SPH3452	2085	687	451.0	464.4		816.2	870.2	197.3	211.4	1905.5	766.8	283.1	128.8	247.9	404.5	239.0	163.0	539.9	160.4	160.8	120.8
SPH3453	636	1544	186.9	175.9		341.2	447.1	79.9	88.8	692.5	305.8	93.3	68.8	87.5	150.2	76.0	78.9	187.3	90.9	100.7	102.1
SPH3454	537	1502	192.6	142.5		269.3	421.4	97.1	141.3	610.3	265.3	105.0	81.4	157.1	149.4	92.7	135.3	208.1	104.4	109.6	133.6
SPH3455	909	3812	58.8	13.1		48.5	56.5	45.2	60.3	71.4	61.7	47.9	46.2	76.2	57.5	52.5	49.6	72.9	40.1	68.2	86.2
SPH3456	1377	2596	98.9	51.3		70.0	85.9	74.1	73.5	94.3	110.2	99.3	78.6	70.9	104.8	129.5	70.9	279.6	89.3	86.4	64.8
SPH3457	537	1649	174.9	49.9		212.0	175.3	131.9	151.4	227.1	145.9	165.1	144.8	140.1	183.1	122.4	149.9	315.9	232.5	154.7	146.4
SPH3458	477	3596	65.3	17.9		63.8	50.9	52.8	66.0	74.3	61.1	56.7	47.5	70.1	63.8	51.9	50.4	123.2	79.2	66.8	66.8
SPH3459	1482	2799	90.6	88.8		370.6	232.2	41.3	49.7	59.6	53.5	50.7	41.0	121.6	101.3	47.6	48.1	73.6	43.3	57.6	57.4
SPH3460	669	1935	142.0	131.8		562.1	308.1	46.7	72.5	76.5	138.1	57.6	55.3	195.2	195.1	59.9	88.9	113.4	67.3	96.9	138.3
SPH3461	627	1822	152.2	112.9		517.7	229.8	60.4	96.7	108.4	95.7	93.2	91.4	263.1	177.1	63.5	122.9	83.0	151.0	164.4	117.6
SPH3462	828	3375	71.1	19.0		61.6	61.3	50.9	71.0	53.4	64.1	79.6	50.6	68.0	62.5	55.5	68.2	83.1	95.9	91.5	120.5
SPH3463	1200	2446	106.4	64.5		60.7	67.1	65.8	71.9	111.6	91.1	106.8	71.0	96.8	127.2	94.4	68.6	334.1	117.4	94.9	122.5
SPH3464	1020	3107	79.1	23.9		68.5	76.0	60.8	74.3	83.8	65.0	86.1	64.4	66.1	94.8	75.0	72.1	158.0	56.8	68.9	95.2
SPH3465	894	1842	149.8	38.3		134.5	146.3	143.0	149.9	121.1	128.9	131.9	144.6	182.9	222.8	130.5	104.5	249.9	151.9	117.1	137.5
SPH3466	702	409	723.2	605.2		331.3	244.4	251.1	329.3	740.7	416.8	587.7	215.2	624.3	680.2	207.5	195.4	1803.2	1690.6	1813.7	1440.4
SPH3467	69	2	64484.1	120.9		64435.4	64388.7	64460.7	64149.0	64435.4	64472.5	64460.7	64484.4	64572.9	64572.9	64491.2	64484.4	64622.6	64694.6	64584.8	64435.4
SPH3468	141	3	64328.4	325.1		64435.4	64388.7	64460.7	63988.6	64435.4	63612.0	64460.7	64484.4	64572.9	64572.9	63846.8	64484.4	63796.0	64694.6	64584.8	64435.4

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3470	75	5	61438.8	4400.6		64435.4	48566.1	64460.7	60323.5	64435.4	60321.5	61919.8	64484.4	63540.6	58055.4	59914.7	64484.4	55542.9	64694.6	63406.6	64435.4
SPH3471	1116	974	303.4	289.6		193.0	219.1	173.8	173.4	207.7	195.6	280.0	186.9	163.9	556.0	302.6	173.1	1311.4	402.1	185.9	130.0
SPH3472	660	1497	194.0	124.3		171.4	142.8	189.8	127.8	173.3	120.3	263.0	162.5	119.8	180.5	230.5	111.0	615.6	276.2	117.1	101.9
SPH3473	264	1251	239.3	231.7		109.3	133.8	230.7	129.7	176.2	122.2	323.4	198.9	94.0	258.1	413.6	91.2	1037.4	260.6	152.7	96.5
SPH3474	2694	2891	86.3	34.2		71.4	64.6	52.7	67.7	54.4	117.0	67.7	62.0	70.8	117.1	79.7	112.5	183.0	58.3	104.0	97.7
SPH3475	1083	2969	83.5	21.7		85.6	65.5	58.6	66.9	76.2	77.1	89.5	74.0	69.8	88.0	63.3	130.0	74.5	80.3	105.4	130.8
SPH3476	477	1796	154.9	37.2		190.9	199.8	141.4	152.9	202.2	201.2	106.5	175.4	100.4	155.0	129.2	141.7	206.9	109.8	148.4	116.2
SPH3477	393	355	832.4	558.1		1743.9	1725.6	939.0	950.0	1638.2	1453.3	584.9	1199.9	373.9	347.1	560.7	327.2	641.5	465.4	189.6	178.8
SPH3478	1248	449	662.4	358.3		1266.5	1035.9	813.0	749.1	1361.1	933.6	614.8	909.7	492.6	407.3	385.3	464.5	246.8	342.5	284.9	290.6
SPH3479	633	1341	220.9	55.2		229.9	234.9	180.7	165.6	241.9	211.3	270.9	208.3	159.6	234.5	201.6	226.6	393.5	166.9	200.9	207.6
SPH3480	645	2510	103.7	51.5		73.0	63.0	70.2	83.5	71.9	110.2	104.5	74.0	104.6	132.8	101.1	99.2	280.5	67.8	101.4	122.0
SPH3481	1788	2518	103.4	44.9		71.4	67.6	81.7	73.2	68.8	155.4	93.6	76.2	88.4	171.3	102.3	82.2	226.7	70.4	105.7	119.7
SPH3482	399	3582	65.7	19.5		67.2	49.2	53.9	47.3	58.8	65.6	82.5	44.1	63.9	79.2	66.4	61.1	126.5	51.0	66.5	67.4
SPH3483	351	1627	177.8	114.3		103.8	86.7	127.6	120.5	105.0	93.4	210.3	113.7	113.1	307.0	234.9	189.5	539.0	212.5	160.3	126.6
SPH3484	942	3729	61.7	12.5		53.6	56.8	49.5	56.3	54.3	84.3	45.7	50.0	63.0	74.0	51.3	72.8	69.9	50.1	74.6	80.4
SPH3485	2193	3196	76.7	18.7		67.7	56.9	54.8	85.5	77.4	103.0	55.4	63.5	114.6	87.4	54.5	77.9	63.7	76.6	88.5	100.0
SPH3486	747	1185	253.3	225.7		109.0	94.6	64.3	96.2	127.8	179.3	94.8	125.0	289.9	297.2	73.5	109.7	729.1	409.1	694.5	558.6
SPH3487	1587	2654	96.2	35.6		77.9	84.1	60.7	68.7	99.4	103.6	68.8	74.1	97.3	95.2	70.8	67.7	157.3	193.9	102.9	117.5
SPH3488	357	2729	93.6	35.9		64.2	53.2	69.4	89.8	69.0	87.0	66.7	64.9	90.5	124.2	70.1	89.2	126.6	183.0	97.9	151.8
SPH3489	333	936	317.7	329.5		182.2	157.3	252.4	102.4	285.9	89.0	349.7	184.9	170.3	423.9	405.6	72.0	1178.5	1039.0	107.7	82.2
SPH3490	1902	2672	95.5	28.1		116.9	164.9	73.0	88.5	67.7	68.2	62.0	124.6	78.2	90.9	66.4	100.8	94.6	131.3	96.1	103.5
SPH3491	1275	2639	97.2	48.6		81.8	110.4	80.7	61.0	67.4	92.0	105.1	76.9	56.1	75.6	124.0	74.0	253.4	151.2	79.7	65.7
SPH3492	330	1647	175.2	88.9		161.7	346.1	177.0	137.6	285.8	117.7	141.0	103.3	100.0	151.5	173.9	100.5	286.2	340.3	82.7	97.8
SPH3493	1170	3319	73.0	13.1		69.7	68.2	60.7	59.3	72.4	65.4	55.6	68.4	72.1	85.4	71.4	105.2	95.3	66.8	70.8	81.4
SPH3494	402	1547	186.8	58.3		172.6	312.6	226.2	271.9	146.0	161.2	143.3	243.3	122.0	149.6	208.0	234.2	150.7	124.0	116.8	206.7
SPH3495	1017	1280	231.4	109.3		302.1	399.9	414.2	360.1	222.9	150.6	205.5	286.7	94.4	116.4	377.4	184.6	157.7	115.9	171.1	143.8
SPH3496	1716	1756	159.3	49.6		167.9	206.4	149.7	195.9	166.4	262.3	129.5	253.9	158.9	137.5	163.8	128.0	111.3	115.2	108.5	92.9
SPH3497	780	538	556.7	106.0		565.3	525.0	460.5	564.2	666.0	462.7	571.5	543.5	621.1	816.0	513.4	392.8	596.4	386.1	604.0	618.4
SPH3498	1038	2792	90.8	21.1		70.2	68.9	88.4	72.2	76.6	91.9	92.8	76.5	86.7	103.4	98.6	94.6	156.7	106.1	90.2	78.3
SPH3499	876	1940	141.7	28.1		118.8	168.5	158.2	132.4	116.5	104.3	117.3	149.0	200.4	112.9	186.5	164.8	134.0	134.9	118.7	150.5
SPH3500	1140	115	2179.7	4091.9		253.1	415.2	229.9	167.8	229.0	890.0	272.8	579.3	11920.3	12178.1	294.6	183.2	5824.1	1038.8	202.3	196.9
SPH3501	1359	1863	148.0	58.8		238.7	257.0	190.3	138.8	203.4	161.1	92.6	213.4	117.8	90.8	112.6	145.1	70.2	152.4	119.3	64.6
SPH3502	549	1244	240.6	73.6		260.7	309.0	344.4	260.6	269.2	209.7	278.4	365.7	191.6	204.9	325.6	210.3	175.3	201.8	119.7	122.1
SPH3503	717	3293	73.8	15.9		95.6	74.1	70.9	65.4	89.1	67.4	60.3	73.7	108.8	61.5	67.7	89.3	47.8	53.4	78.6	77.9

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3504	609	2643	96.8	18.0		72.7	84.7	87.9	72.7	86.2	89.6	125.0	84.0	87.1	95.5	93.9	98.5	134.6	113.0	118.2	105.5
SPH3505	990	1837	150.2	80.0		117.9	89.6	117.3	89.2	110.3	106.3	239.4	97.0	91.4	187.2	242.9	100.7	374.1	187.1	83.2	170.2
SPH3506	219	3155	77.9	12.9		76.0	66.5	67.6	61.6	55.3	75.4	87.4	67.4	79.4	76.1	94.2	82.7	104.8	75.2	84.1	92.6
SPH3507	1404	841	357.2	285.6		535.0	257.6	466.9	501.6	317.2	215.4	218.3	1314.9	213.2	309.2	360.2	151.4	391.3	184.3	139.2	140.1
SPH3508	849	2738	93.3	21.4		72.2	98.9	92.5	63.0	67.1	96.4	72.2	77.3	100.9	134.9	106.3	96.4	118.7	85.2	82.3	129.2
SPH3509	573	3832	58.5	10.9		56.8	52.4	54.4	55.6	43.2	60.0	65.5	47.6	85.6	52.3	64.9	56.5	75.5	45.4	56.9	63.2
SPH3510	1278	3655	63.5	16.2		38.2	52.5	51.2	57.6	42.7	64.2	61.7	49.6	67.6	87.3	77.7	88.1	88.4	61.5	77.1	50.7
SPH3511	1011	1743	161.2	109.4		118.3	78.0	99.7	81.2	90.4	115.1	155.8	83.6	325.1	421.2	133.9	90.3	372.5	162.7	117.3	134.2
SPH3512	918	3913	55.3	10.4		60.9	43.3	45.8	54.4	47.7	53.2	49.7	40.3	53.0	63.7	58.9	57.2	72.6	79.9	54.3	49.9
SPH3513	1914	3103	79.3	43.1		48.6	57.4	51.2	56.9	48.9	83.4	71.0	48.3	53.1	86.5	69.5	123.2	109.8	217.9	81.7	61.6
SPH3514	1542	1521	190.2	114.3		148.5	175.4	272.0	157.8	174.9	118.5	244.8	181.7	122.4	174.8	323.1	77.9	538.7	145.0	76.6	111.6
SPH3515	1146	1730	163.0	92.4		116.8	134.5	171.7	266.3	136.6	104.9	87.5	250.1	92.8	62.5	178.9	391.3	67.5	69.9	224.9	251.8
SPH3516	1923	44	4530.6	4369.9		2473.3	2031.1	4846.9	7370.8	2223.8	1568.7	1294.1	3501.3	2220.8	4890.0	8857.4	17918.7	353.4	587.9	6585.9	5766.2
SPH3517	573	252	1140.7	692.7		1305.5	1000.2	1311.8	2072.8	1196.2	711.4	297.2	1634.6	578.7	582.7	1952.9	2528.7	246.5	157.7	1499.2	1174.5
SPH3518	1368	970	304.9	108.9		425.3	484.1	407.8	337.3	270.1	264.6	211.2	484.9	260.8	260.7	252.0	210.8	250.4	433.3	160.1	165.1
SPH3519	522	1795	154.9	39.2		176.1	194.4	163.5	121.5	171.2	150.3	143.3	154.7	123.8	134.2	195.7	94.7	222.1	216.6	105.5	110.6
SPH3520	1218	2923	85.1	23.2		70.8	64.5	76.7	73.6	66.9	76.2	79.6	82.6	84.3	76.6	84.3	98.5	136.5	57.4	92.4	140.7
SPH3521	771	2157	124.4	39.9		147.1	201.9	172.9	180.2	148.6	132.6	97.5	163.6	89.5	83.6	110.2	87.0	107.1	105.7	91.5	71.4
SPH3523	102	1870	147.3	50.3		161.0	229.9	236.3	241.2	128.3	104.5	119.9	168.4	120.2	125.5	148.9	145.5	152.7	82.6	93.1	98.6
SPH3524	1107	2993	82.7	14.5		64.7	92.0	86.8	99.7	63.0	61.5	65.5	92.9	74.2	87.3	90.1	107.5	73.8	75.5	89.8	98.8
SPH3525	2229	2805	90.2	23.0		61.0	69.8	76.0	88.5	66.7	77.4	114.3	78.5	74.3	92.3	129.4	85.2	129.9	71.1	121.1	108.3
SPH3526	3000	3593	65.4	11.2		60.7	56.9	59.8	68.1	48.8	55.8	59.2	72.8	69.3	64.1	62.3	75.2	69.5	50.3	89.2	84.0
SPH3527	906	3491	68.0	24.8		59.9	48.7	50.2	68.4	51.2	65.6	51.5	59.6	81.7	58.2	58.9	88.1	67.3	55.6	72.1	151.2
SPH3528	2211	1564	185.1	155.5		101.2	127.4	76.8	100.5	198.1	85.7	538.0	95.2	116.7	91.0	75.0	62.9	129.8	272.5	489.0	401.6
SPH3529	87	1335	221.5	143.5		122.0	118.5	119.4	104.5	212.3	120.7	350.5	111.1	138.9	222.7	201.4	99.0	395.1	197.9	506.1	523.3
SPH3530	822	2107	128.7	36.3		70.2	118.1	91.7	147.5	92.8	115.6	106.4	88.7	115.5	169.3	118.5	151.8	173.4	204.9	148.0	146.7
SPH3531	99	2001	137.5	48.0		168.2	136.0	76.9	102.3	193.7	169.5	108.7	55.7	179.1	188.9	79.4	112.0	189.6	105.3	128.4	206.3
SPH3532	675	416	716.3	593.7		688.7	497.0	308.4	290.8	1005.4	908.1	388.9	215.7	925.2	1196.2	384.2	323.4	2651.5	458.5	749.4	468.9
SPH3533	2001	3105	79.1	15.9		68.0	60.5	62.5	69.6	67.9	78.0	78.0	67.8	61.5	84.2	88.1	83.3	116.0	80.9	95.9	104.2
SPH3534	1590	2882	87.1	12.4		79.5	75.0	83.5	72.1	84.5	89.4	108.4	74.0	83.4	88.9	80.5	78.9	118.1	95.8	93.1	89.4
SPH3535	711	779	392.0	195.2		421.5	360.6	391.8	201.9	476.4	489.9	428.6	434.1	251.6	494.7	546.0	143.1	902.3	458.0	162.6	108.4
SPH3536	612	1643	176.4	78.0		149.7	159.7	151.1	107.7	191.8	137.7	214.1	127.5	122.4	239.8	231.1	100.7	388.6	277.2	105.5	117.8
SPH3537	66	1439	203.3	166.7		84.2	104.0	116.7	115.4	102.5	159.7	146.8	113.9	441.5	553.3	196.2	125.2	594.8	150.4	117.7	130.2
SPH3538	297	1310	226.5	217.6		126.7	94.5	145.5	92.3	144.7	83.6	199.8	139.0	547.2	534.8	243.5	50.9	812.7	265.7	85.2	58.0

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3539	1056	1824	152.0	91.5		96.0	85.7	68.8	86.4	197.8	134.0	94.3	67.1	137.8	201.1	60.4	84.3	330.9	304.8	300.7	181.2
SPH3540	1416	1158	259.0	228.6		141.1	135.7	128.9	117.1	239.2	192.3	190.7	130.0	225.8	201.9	160.7	118.0	489.7	1030.6	344.5	298.6
SPH3541	498	1704	166.4	103.4		202.9	164.3	79.9	63.5	304.9	196.8	106.9	70.0	103.9	148.9	65.6	66.5	160.1	379.9	187.5	360.4
SPH3542	774	106	2335.2	1641.2		2971.0	2014.5	604.8	498.6	3806.0	2236.6	1654.8	385.5	3398.0	3233.6	575.7	506.1	6492.4	2789.6	3269.0	2926.8
SPH3543	2256	2425	108.0	71.9		74.8	96.3	72.7	86.7	84.0	80.7	105.8	69.5	66.9	91.4	86.9	78.0	93.6	364.9	153.7	122.1
SPH3544	1059	2360	111.7	42.7		94.6	108.2	90.3	97.3	91.3	104.4	81.8	73.6	94.8	107.6	90.2	97.1	100.0	244.9	176.3	135.6
SPH3545	1797	2689	94.8	29.6		91.9	102.5	95.1	97.4	102.8	80.1	81.6	64.2	70.0	66.5	99.5	67.4	119.1	189.0	91.8	98.6
SPH3546	270	1210	248.1	98.1		274.7	286.3	270.8	257.0	216.4	189.0	203.1	201.8	110.0	246.3	284.3	273.7	392.2	500.8	136.9	125.9
SPH3547	810	3497	67.8	11.0		64.0	47.8	58.7	60.8	69.3	52.4	66.1	68.0	83.8	65.3	72.1	74.8	60.2	78.9	90.0	72.9
SPH3548	399	603	502.9	699.4		210.9	144.1	243.7	196.9	276.4	82.8	854.2	88.1	174.3	122.8	336.9	479.9	212.0	165.2	2268.1	2189.5
SPH3549	345	24	7140.5	8819.1		2228.9	1272.7	3322.3	3040.3	5842.7	717.1	14422.7	378.1	3300.4	2564.9	4986.9	7959.1	6424.8	2115.3	30250.7	25420.8
SPH3550	345	7	20895.0	15256.1		12907.5	6384.1	15525.6	11862.4	24202.5	3531.5	44535.0	1314.2	13057.4	10640.3	20610.6	30207.2	24020.4	17909.0	52093.2	45519.3
SPH3551	996	2238	118.4	17.4		120.6	140.4	137.7	110.2	110.3	142.2	103.5	123.4	87.3	131.2	132.5	115.6	104.8	133.3	86.8	114.7
SPH3552	2202	2265	117.1	37.2		108.2	111.4	89.2	82.1	185.4	153.9	97.3	62.4	105.3	128.1	82.6	93.8	159.4	108.9	190.3	114.5
SPH3553	2541	690	448.7	288.2		557.6	391.7	215.6	244.6	1076.3	797.5	485.6	203.1	328.3	312.1	209.8	336.7	283.4	173.9	1037.0	525.9
SPH3554	1404	765	398.5	361.1		467.3	189.5	145.3	105.0	754.9	213.3	781.5	81.7	329.6	145.1	183.2	207.2	215.8	258.3	1245.6	1051.8
SPH3555	1269	1087	277.1	303.0		155.1	88.7	94.3	96.5	265.8	166.2	690.7	75.4	262.4	120.7	100.4	222.5	133.9	69.6	1045.4	846.0
SPH3556	120	1545	186.9	228.3		225.1	111.2	63.4	74.5	524.6	164.5	786.2	38.2	66.8	51.8	56.0	52.0	50.0	31.7	557.6	136.5
SPH3557	1005	1192	251.7	322.9		391.6	111.4	61.2	99.0	1162.8	195.0	363.9	65.7	86.1	69.0	65.2	67.6	49.9	47.4	856.2	334.5
SPH3558	993	240	1195.7	1450.7		1868.3	464.5	227.7	289.1	5132.7	1175.9	2222.7	146.8	501.2	280.7	373.1	216.3	315.3	104.6	3351.0	2461.2
SPH3559	1383	515	582.7	876.3		981.8	160.2	85.1	115.3	3437.5	435.0	1021.6	69.5	291.4	90.1	98.2	97.1	88.6	64.3	1414.6	873.5
SPH3560	972	736	416.7	541.4		669.0	199.0	101.3	103.8	2062.9	424.2	705.0	61.2	139.3	114.9	135.3	89.6	145.1	55.6	1196.4	464.0
SPH3561	1104	1910	144.3	88.8		229.0	90.6	75.8	76.3	392.4	141.0	167.0	56.7	192.6	95.0	114.1	80.0	145.1	52.1	248.5	152.0
SPH3562	1704	1875	147.0	64.8		129.3	110.5	82.7	110.9	312.1	155.4	130.3	93.7	99.5	135.2	165.8	141.7	180.9	67.9	269.0	166.6
SPH3563	1173	1435	204.7	160.8		280.8	155.1	109.5	94.6	719.5	301.5	226.9	70.9	231.1	122.7	127.7	112.5	131.8	80.0	350.0	160.2
SPH3564	1161	2046	134.0	82.4		203.6	108.4	70.1	134.4	385.3	148.2	97.8	68.5	142.5	71.1	79.7	118.6	71.7	77.2	228.5	137.8
SPH3565	1020	3034	81.5	69.9		133.9	56.6	47.6	53.7	328.6	58.5	63.9	48.4	63.3	57.0	48.5	53.8	54.9	51.3	77.9	106.2
SPH3566	867	1950	141.2	151.4		304.1	111.2	65.1	58.1	640.6	202.3	141.2	59.0	74.5	62.2	69.8	56.7	80.2	41.0	206.5	87.0
SPH3567	1197	1066	282.6	352.1		643.0	177.5	92.7	133.4	1444.7	517.0	206.7	86.1	213.5	92.1	103.3	90.3	89.3	66.3	371.6	194.7
SPH3568	1215	1527	189.1	244.0		250.8	111.9	74.6	84.8	1060.4	297.3	137.7	68.7	151.7	80.4	87.4	97.3	95.4	52.5	263.9	110.5
SPH3569	1467	1032	290.5	408.2		530.8	101.7	123.5	92.9	1749.3	343.7	235.5	90.8	151.1	154.8	215.2	94.7	350.2	63.7	205.9	144.8
SPH3570	1611	1062	283.9	442.3		579.8	116.3	109.6	98.4	1876.9	280.1	185.2	74.9	197.4	130.6	160.5	80.3	170.3	70.9	250.2	160.2
SPH3571	1104	350	855.5	1003.5		1339.0	392.7	436.7	324.0	4197.4	1646.0	1543.1	241.8	561.4	322.1	485.6	470.3	343.4	183.9	770.9	429.5
SPH3572	2544	2865	87.8	27.3		66.1	59.0	65.9	82.3	77.1	113.5	73.9	68.0	76.9	109.1	77.0	102.9	93.4	72.6	97.1	170.0

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity															
					Sample information															
					Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
Accession	Length		Average	SD	Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3573	150	2429	107.6	52.8		82.9	53.2	54.5	61.9	98.8	68.5	188.6	70.7	100.5	80.3	89.5	160.7	87.7	116.9	226.9	179.3
SPH3574	1014	1941	141.7	71.1		95.5	68.6	139.3	100.5	104.5	74.9	179.8	124.1	134.1	259.1	188.8	75.0	332.1	165.6	112.0	114.0
SPH3575	1653	451	661.6	529.3		297.7	258.4	706.2	842.5	261.3	366.3	208.0	1456.3	1878.3	1589.2	683.6	675.9	450.2	410.6	271.1	230.0
SPH3576	153	1771	158.1	73.8		84.7	94.1	143.7	116.7	107.6	94.1	113.7	314.3	296.7	248.6	177.4	185.7	189.9	110.0	84.5	167.8
SPH3577	1029	136	1840.2	1108.3		2562.8	1288.6	926.3	1057.2	4300.7	2898.5	907.7	853.3	2735.6	2434.0	673.0	697.9	3522.3	1472.9	1860.3	1251.6
SPH3578	825	649	475.8	265.1		675.8	459.9	220.6	313.8	1019.9	869.2	264.0	225.2	666.1	594.3	187.4	149.9	768.7	494.5	414.7	289.4
SPH3579	108	1065	282.8	99.2		232.4	198.2	173.0	283.7	367.4	402.8	232.9	159.5	201.2	344.9	286.6	233.7	503.9	426.2	225.9	251.8
SPH3580	2373	3334	72.6	17.1		60.1	50.3	54.4	89.1	56.5	56.7	74.3	61.8	96.1	109.4	75.6	67.9	93.7	65.4	80.5	70.2
SPH3581	150	728	424.2	440.1		161.5	125.4	298.3	101.6	252.5	155.4	385.6	195.9	908.0	1113.5	583.9	47.5	1567.8	694.7	129.1	67.1
SPH3582	1059	1644	175.9	65.6		68.8	104.6	181.1	175.1	117.1	149.4	180.3	152.8	89.6	124.0	266.3	238.7	258.9	263.5	189.3	255.3
SPH3583	1026	2095	129.3	40.8		73.9	89.9	147.8	149.0	114.7	84.8	130.8	110.9	75.6	78.0	193.7	180.6	150.8	187.3	155.9	145.4
SPH3584	1122	2409	108.8	30.6		79.8	92.2	112.1	152.0	76.3	85.9	97.3	105.2	78.3	112.5	115.3	188.5	97.3	83.0	133.6	131.8
SPH3585	1011	3291	74.0	15.3		56.2	60.1	65.8	90.2	50.5	76.6	71.0	100.6	89.3	75.3	90.3	80.9	85.8	55.9	79.7	55.3
SPH3586	570	1927	142.6	37.4		91.0	90.6	137.5	126.6	101.7	160.6	172.0	133.8	150.5	218.1	173.4	141.2	202.3	99.8	129.5	153.0
SPH3587	1536	1993	138.0	39.3		81.6	75.7	141.5	122.2	102.1	130.3	132.2	101.2	159.9	149.3	167.4	138.1	229.8	171.4	123.7	181.3
SPH3588	369	3723	61.8	11.6		65.2	52.3	47.0	52.5	74.6	60.2	65.9	53.8	58.1	59.4	53.6	60.2	55.4	58.1	85.4	87.7
SPH3589	486	2198	121.5	31.3		105.2	85.5	78.0	98.7	184.2	157.7	133.5	77.4	105.4	122.4	108.0	128.4	151.2	148.2	154.3	105.4
SPH3590	399	1296	228.6	127.4		183.6	458.8	378.4	291.2	171.0	209.0	252.6	312.5	70.0	106.8	213.4	100.3	199.3	485.7	105.7	119.7
SPH3591	1449	2584	99.6	37.5		91.1	184.9	115.1	156.2	68.6	108.9	108.6	149.7	51.9	71.6	93.0	109.3	68.0	85.9	61.7	69.7
SPH3592	1254	3725	61.8	12.6		57.5	69.3	55.0	67.4	54.5	59.4	59.6	63.6	61.7	54.0	46.2	93.5	46.6	48.5	72.7	79.2
SPH3593	1560	3006	82.4	14.5		74.0	91.8	78.6	122.2	68.8	80.4	80.3	89.3	74.4	92.5	63.2	85.1	87.2	70.4	65.4	94.9
SPH3594	810	1711	165.6	61.5		104.7	163.3	231.9	212.1	137.9	98.0	134.2	130.2	141.4	161.0	210.1	194.4	194.7	327.3	82.4	126.5
SPH3595	852	3085	79.9	27.7		71.6	70.4	65.8	97.9	69.0	72.0	63.9	64.3	80.4	73.5	65.3	172.2	51.5	70.4	93.6	96.1
SPH3596	1032	3844	58.0	18.8		59.2	40.4	42.0	59.7	50.6	49.4	47.0	44.6	62.7	48.8	56.0	64.4	50.3	52.9	84.7	115.8
SPH3597	744	3487	68.2	40.5		54.9	43.9	48.2	66.1	44.2	52.5	58.3	45.4	88.2	52.4	46.1	69.3	45.1	53.1	125.1	198.0
SPH3598	2700	3185	77.1	49.7		58.5	48.8	50.7	64.3	51.1	55.9	64.7	59.4	66.7	67.4	48.0	98.9	52.1	51.7	171.2	224.7
SPH3599	324	1766	158.2	278.2		59.2	44.8	50.3	64.4	45.6	48.8	117.3	48.4	78.6	47.2	54.9	56.7	47.7	52.0	721.8	994.0
SPH3600	2535	667	462.9	978.2		89.2	60.2	80.5	73.3	82.3	75.3	391.7	77.8	106.3	98.8	92.9	78.1	111.8	87.1	2709.3	3192.0
SPH3601	1374	1329	223.0	423.8		49.8	45.7	65.1	53.6	52.4	68.8	144.3	53.6	63.2	77.8	90.9	62.8	91.7	51.9	1150.0	1445.9
SPH3602	522	1611	180.7	134.5		122.0	82.0	109.4	111.2	102.0	76.3	190.3	88.0	187.3	165.2	222.9	219.9	395.0	88.8	145.4	584.9
SPH3603	591	3429	70.0	11.9		62.1	56.8	64.0	55.2	64.6	85.7	89.4	54.5	59.8	64.4	69.0	82.9	83.4	67.4	74.8	85.3
SPH3604	633	3879	56.9	13.3		46.2	54.3	49.0	47.7	42.0	80.8	64.4	44.3	43.9	62.0	60.7	53.5	90.7	52.8	58.2	60.3
SPH3605	819	3168	77.6	15.3		98.4	81.3	71.2	69.0	61.7	76.2	66.9	64.5	68.8	75.6	67.2	120.9	64.8	84.0	88.7	82.3
SPH3606	837	2201	121.0	66.7		161.0	140.1	60.5	76.4	282.4	198.1	62.7	66.2	232.1	111.5	61.0	109.7	79.5	78.5	126.1	89.7

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3607	822	748	407.3	367.7		706.1	449.2	157.0	126.0	1391.0	924.5	130.3	85.1	739.3	496.3	126.5	159.1	251.3	214.8	397.2	162.9
SPH3608	762	2868	87.6	26.7		55.2	87.8	72.3	95.7	70.5	112.5	59.0	69.3	65.4	103.0	84.7	147.2	80.0	71.1	139.0	88.9
SPH3609	225	413	721.7	273.2		645.1	849.9	877.1	546.1	625.4	449.3	751.4	604.4	605.3	967.1	1133.5	364.1	1420.1	480.5	657.4	571.1
SPH3610	471	2821	89.5	13.3		101.1	103.6	83.7	94.8	106.7	82.9	74.0	81.9	107.1	100.7	76.6	83.5	67.5	71.2	98.3	98.8
SPH3611	423	3047	81.1	10.3		67.5	92.5	65.4	65.0	82.1	83.6	94.8	66.4	85.3	90.3	78.6	82.1	95.1	78.3	82.3	88.3
SPH3612	294	781	390.8	183.9		502.4	308.6	221.4	290.2	695.6	268.3	392.9	197.5	543.8	406.2	198.2	315.6	328.7	205.5	584.3	793.3
SPH3613	1035	749	406.8	102.3		447.1	413.2	326.3	336.2	655.5	359.1	485.4	238.6	436.5	419.8	369.2	372.0	349.2	287.5	552.7	460.2
SPH3614	999	2221	119.3	30.8		93.7	112.8	164.8	114.6	119.7	89.0	102.5	132.7	89.9	97.5	141.2	98.2	137.4	198.5	86.0	130.7
SPH3615	621	3059	80.7	11.3		70.1	97.6	84.6	76.2	93.4	89.5	65.3	86.7	78.4	69.1	71.5	97.7	69.9	70.5	95.1	76.3
SPH3616	1047	3456	69.0	14.3		93.8	79.5	56.8	69.0	83.4	66.8	51.2	69.1	85.5	70.0	51.4	91.5	50.0	55.8	64.8	65.2
SPH3617	372	1338	221.0	200.5		335.6	244.4	137.7	128.3	186.6	103.4	159.2	184.1	172.7	124.0	145.7	171.6	136.6	944.1	199.6	162.9
SPH3618	978	2487	104.8	31.3		130.5	103.2	84.9	98.8	140.2	79.4	74.2	86.0	153.5	89.4	74.2	101.0	89.4	154.7	63.5	154.2
SPH3619	804	632	484.7	146.5		544.8	529.3	688.4	858.0	451.1	423.5	457.6	473.3	317.4	251.3	500.5	544.8	302.4	398.7	477.7	536.9
SPH3620	765	1624	178.2	53.1		211.6	261.0	203.6	128.5	302.5	190.4	191.9	195.9	114.8	176.1	162.3	93.8	177.1	171.4	139.0	131.8
SPH3621	756	1191	251.8	111.1		242.4	235.0	158.1	153.3	359.1	237.4	148.7	177.7	287.4	226.9	144.8	185.0	228.6	577.5	353.3	313.9
SPH3622	483	205	1358.7	1822.6		990.7	783.5	222.9	290.5	1501.4	1270.9	349.4	185.5	1475.7	1283.6	175.4	299.0	1464.6	7802.7	1807.8	1836.1
SPH3623	1152	331	895.1	1509.5		500.1	543.9	124.4	137.7	1139.4	862.0	204.6	151.4	616.4	722.4	103.5	249.2	478.2	6396.7	1000.7	1091.4
SPH3624	1212	64	3513.7	3672.5		2958.5	2590.2	860.0	962.7	4859.0	4163.5	2444.7	632.0	3731.5	3355.6	744.8	1766.9	3194.9	16353.0	3719.8	3881.2
SPH3625	456	20	7718.8	5878.1		7106.3	5720.1	1892.4	1737.2	13114.7	10222.2	5540.2	1348.1	9110.0	8930.8	2942.2	4230.4	9646.5	25628.4	8484.9	7846.7
SPH3626	324	12	10971.3	7031.1		12450.0	9820.9	3115.3	2418.7	20799.5	16534.9	7077.6	1818.2	11855.8	11845.5	5409.3	5315.6	16952.1	27564.2	11959.5	10603.9
SPH3627	600	1114	270.8	321.7		255.4	313.9	126.6	152.9	461.1	245.9	137.2	140.1	173.4	150.3	87.3	126.2	76.9	1419.8	278.2	187.6
SPH3628	1860	1003	297.0	314.0		257.7	350.8	150.4	193.1	455.4	367.7	144.2	212.4	273.1	172.9	122.6	194.6	136.4	1417.3	179.5	124.5
SPH3629	348	1091	276.4	168.2		247.0	326.7	148.3	162.2	402.4	429.8	162.1	186.3	208.4	271.8	126.1	233.0	169.3	811.8	311.6	225.9
SPH3630	195	1130	267.1	178.7		285.3	372.2	136.8	113.3	565.9	302.8	180.1	152.1	251.4	215.6	132.3	101.8	358.2	758.1	155.4	192.0
SPH3631	1056	3027	81.8	13.7		73.7	74.3	76.5	79.3	63.2	93.1	89.3	76.4	65.2	111.1	72.3	73.9	86.4	83.3	81.0	109.5
SPH3632	1002	480	622.9	520.2		489.8	416.2	367.7	307.4	547.4	576.6	364.0	301.6	1386.8	1540.9	313.1	309.3	1969.0	428.8	381.4	266.2
SPH3634	1827	751	405.4	236.3		200.9	171.0	265.0	244.7	288.9	195.4	604.6	258.5	660.9	666.9	226.7	173.5	722.2	330.8	859.8	616.6
SPH3635	1311	459	650.6	862.0		191.5	147.8	171.9	211.4	225.7	267.8	260.6	182.9	2159.8	2077.2	202.9	250.2	2816.2	553.3	376.4	314.0
SPH3636	966	2399	109.4	97.1		59.1	44.3	55.4	58.2	48.5	63.7	92.2	54.5	383.9	216.6	74.7	55.0	275.2	100.4	73.0	95.0
SPH3637	861	942	315.5	308.3		125.0	112.4	210.3	119.8	161.5	142.0	313.8	138.8	779.6	777.9	404.3	113.0	1133.4	226.9	153.9	134.9
SPH3638	1110	1483	195.8	154.5		106.3	113.7	96.7	87.2	137.9	174.4	119.7	156.9	468.4	411.6	116.1	94.4	587.4	252.6	102.2	107.3
SPH3639	1860	3602	65.2	20.9		54.3	48.6	55.5	66.7	56.4	49.5	51.4	75.4	132.8	88.5	55.6	54.9	64.0	73.0	56.4	60.8
SPH3640	774	2489	104.8	17.9		119.1	87.4	96.6	99.6	139.6	88.9	113.4	94.8	134.2	116.6	78.1	98.1	92.9	114.5	117.6	84.9
SPH3641	612	672	459.2	318.3		740.0	569.2	244.4	234.4	975.5	663.1	122.4	238.9	871.1	932.0	169.4	200.9	743.3	408.1	121.5	112.2

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3642	2412	2666	95.7	25.4		76.9	66.0	113.5	85.5	77.4	84.3	134.4	108.2	71.7	89.3	146.8	111.4	128.3	71.8	68.1	97.4
SPH3643	2598	3216	76.2	23.5		62.0	54.3	54.2	58.1	53.6	125.1	65.1	54.4	64.5	104.9	68.9	70.5	100.7	98.2	74.8	109.8
SPH3644	2721	1395	212.3	247.1		87.2	99.0	103.1	100.1	66.6	143.0	106.1	99.8	935.1	724.3	103.6	192.7	178.4	165.0	103.3	189.8
SPH3645	507	743	410.2	158.1		530.3	615.2	424.5	387.7	456.5	730.5	615.0	365.3	407.5	361.0	344.9	181.8	469.3	254.6	241.4	177.5
SPH3646	1107	1954	140.7	71.5		166.1	143.4	112.5	106.0	200.1	118.2	379.4	108.7	128.5	132.8	124.1	104.7	139.4	77.8	147.2	62.3
SPH3647	960	766	397.0	247.7		504.4	387.0	395.0	308.2	498.5	239.3	1274.3	335.6	409.8	316.2	310.5	264.1	298.8	260.0	308.6	241.2
SPH3648	450	3076	80.2	16.9		68.2	65.9	70.2	68.0	80.2	59.8	82.4	65.3	117.8	87.7	66.8	77.4	95.6	79.0	85.8	113.9
SPH3649	948	3285	74.1	25.7		60.8	68.2	47.5	73.1	57.9	93.1	59.6	53.7	67.3	63.3	61.9	75.9	69.9	72.4	107.2	153.4
SPH3650	306	2815	89.8	15.8		72.0	93.5	75.2	88.6	91.7	60.8	92.6	75.9	106.2	97.6	89.7	77.8	87.0	96.8	126.5	105.7
SPH3651	333	3865	57.4	10.5		45.9	49.8	45.7	60.2	50.4	77.7	55.0	46.6	58.5	61.1	44.7	52.1	66.9	63.6	64.6	76.4
SPH3652	2136	1603	181.7	59.6		207.4	325.8	197.2	221.7	233.4	226.5	149.3	197.6	130.2	92.5	190.3	181.8	160.5	80.1	131.1	182.0
SPH3653	1302	556	544.3	316.5		579.7	851.5	640.6	682.4	598.3	1398.0	272.8	847.1	596.1	562.4	388.6	339.3	402.8	184.2	161.3	203.5
SPH3654	1206	347	862.2	441.3		906.1	1874.8	993.0	1090.3	1189.0	1419.9	414.1	933.2	593.4	654.9	810.9	1303.0	431.4	230.3	431.6	518.6
SPH3655	900	369	795.7	515.5		1042.0	1814.1	1296.7	1220.9	1231.4	1291.9	263.6	832.2	472.0	387.3	981.7	1022.5	406.2	165.3	159.5	144.4
SPH3656	885	656	472.4	362.4		657.1	1374.4	828.4	698.8	632.5	854.9	125.9	432.2	286.3	191.5	604.4	399.2	214.0	97.3	89.0	72.3
SPH3657	1299	37	5151.3	2997.8		5250.1	9428.2	8755.1	8443.3	4789.3	10341.0	1999.5	3321.6	5079.0	4487.7	6754.7	5869.0	4457.2	864.3	1544.1	1036.9
SPH3658	996	2486	104.8	22.8		97.2	91.0	82.6	109.4	81.9	81.9	99.5	82.8	112.5	104.3	97.2	120.0	111.9	100.6	135.7	168.7
SPH3659	978	2015	136.2	30.5		189.0	105.4	133.9	101.2	119.0	139.7	163.5	110.6	80.7	139.0	150.5	112.0	172.1	133.2	149.1	180.5
SPH3660	396	2781	91.1	29.3		139.0	79.7	82.0	64.3	76.9	80.7	87.5	58.0	103.7	66.4	98.3	66.8	100.4	72.2	115.7	166.9
SPH3661	906	3608	65.1	16.7		79.2	64.2	55.7	65.7	57.8	58.2	54.9	56.6	58.9	55.6	50.5	60.4	57.9	59.8	92.4	114.5
SPH3662	1917	2545	101.8	31.3		114.8	70.9	81.3	81.7	81.9	72.8	84.8	87.0	108.2	114.8	88.9	132.3	88.3	99.4	124.7	196.5
SPH3663	387	3492	68.0	15.8		63.8	44.7	56.0	57.9	61.4	64.1	64.3	57.9	70.9	82.5	82.5	55.9	114.0	72.1	73.7	65.5
SPH3664	123	1556	186.0	80.7		118.1	77.6	141.0	230.4	143.7	135.2	162.6	163.3	135.7	359.0	172.1	248.6	317.4	105.8	172.1	293.0
SPH3665	60	183	1485.5	2314.7		193.5	322.7	1513.6	559.0	524.3	363.1	2720.0	798.7	223.2	3355.8	2517.6	269.2	9287.6	312.3	606.3	200.6
SPH3666	585	1915	143.8	113.4		68.4	72.6	153.6	77.8	99.9	90.5	207.4	82.8	82.2	196.0	270.8	107.1	509.3	94.0	99.5	88.8
SPH3667	1245	3167	77.7	25.0		73.0	61.6	71.7	53.7	86.0	77.2	78.1	51.8	70.4	91.7	87.7	56.5	157.1	93.7	59.0	73.0
SPH3668	390	1628	177.7	46.9		134.5	176.4	175.0	175.1	201.7	288.8	162.0	181.1	125.4	245.0	176.2	127.8	244.3	138.9	135.8	154.8
SPH3669	423	442	676.1	155.7		771.5	589.8	627.9	725.5	843.9	653.6	607.9	628.5	885.4	1042.9	518.0	448.7	744.9	535.8	681.5	511.3
SPH3670	492	1996	137.9	30.9		129.8	117.0	116.7	167.2	126.4	122.5	147.4	120.6	140.2	103.0	128.7	190.4	102.4	215.2	154.0	125.0
SPH3671	1044	1025	291.7	579.0		163.7	110.9	283.1	202.3	121.1	130.4	111.8	2454.9	209.3	177.5	122.6	148.6	99.6	121.3	106.7	103.6
SPH3672	612	2094	129.6	103.0		64.7	53.5	156.1	76.7	68.5	71.8	193.7	225.8	49.8	145.3	212.4	59.0	445.1	78.7	66.9	105.4
SPH3673	1686	1592	182.5	47.2		150.5	162.8	109.2	180.6	198.1	195.5	271.8	181.5	215.0	196.2	120.6	262.4	139.5	143.7	235.9	157.4
SPH3674	879	1295	228.7	317.0		49.1	43.7	87.7	51.4	46.9	57.2	795.4	60.7	69.5	98.9	149.2	50.1	247.2	94.2	1007.8	750.3
SPH3675	1053	1466	198.0	287.6		46.6	46.0	62.8	64.8	63.9	65.0	918.1	54.9	87.3	61.3	93.9	81.4	129.0	66.6	855.6	470.3

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3676	1335	160	1636.6	3343.7		71.4	53.1	86.9	75.6	69.4	61.3	9040.9	71.3	64.5	135.0	116.2	82.5	221.8	64.4	8740.4	7231.5
SPH3677	747	755	403.4	770.1		57.3	51.2	54.0	80.0	57.2	78.4	1250.0	60.9	52.9	66.3	49.8	94.4	55.1	76.1	2589.8	1781.5
SPH3678	510	831	360.5	109.2		328.4	365.7	484.6	635.0	260.5	270.6	320.5	292.5	267.0	382.2	446.9	522.9	315.7	316.1	243.0	316.5
SPH3679	492	2114	128.0	69.5		121.3	111.7	163.5	294.4	94.3	92.7	56.7	78.0	116.7	99.7	237.3	240.6	98.6	85.9	81.4	75.0
SPH3680	783	1665	172.4	213.8		82.2	114.1	219.1	236.9	61.6	64.1	57.2	82.2	93.1	64.2	507.2	848.3	126.4	63.3	75.3	63.5
SPH3681	459	908	330.3	462.6		123.7	218.5	284.9	366.9	98.1	78.9	90.1	194.1	106.1	111.4	1107.5	1791.2	318.0	110.7	107.5	177.3
SPH3682	906	3726	61.8	11.0		60.9	44.9	53.1	74.2	53.0	68.8	61.3	46.8	57.3	54.3	64.5	75.2	66.6	50.8	79.6	77.0
SPH3683	381	2278	116.4	35.2		137.5	80.3	203.1	159.1	129.6	86.6	107.0	77.5	111.8	119.8	118.0	88.4	158.1	118.6	90.9	76.7
SPH3684	522	1447	201.7	236.3		68.2	91.3	871.2	701.4	75.0	111.4	158.9	72.7	57.2	99.9	233.4	155.4	226.4	136.1	79.2	89.2
SPH3685	1368	1186	253.2	125.6		206.3	200.2	165.1	181.8	222.2	248.2	457.1	174.5	233.9	236.3	133.5	172.6	211.7	192.9	590.4	424.9
SPH3686	552	613	497.3	237.4		413.6	423.2	353.5	407.1	421.8	419.7	380.1	352.8	468.4	375.6	317.0	234.9	714.4	614.9	1106.3	954.0
SPH3687	1521	2321	113.9	71.8		90.9	77.3	73.5	91.1	103.7	96.5	83.5	71.9	96.9	99.0	69.2	81.2	118.6	364.5	173.2	131.4
SPH3688	561	2072	131.7	42.5		196.8	184.5	111.5	134.7	139.5	101.0	88.6	120.9	206.2	123.4	113.0	115.9	76.0	199.7	111.5	83.9
SPH3689	1242	501	598.0	570.6		269.3	911.0	1167.4	1108.4	234.9	268.0	508.7	142.3	84.8	237.1	1410.4	2071.8	210.0	201.7	375.4	367.3
SPH3690	885	3872	57.2	6.6		64.8	54.3	58.3	65.7	53.2	49.8	56.4	52.5	67.1	44.6	56.4	66.6	50.4	54.4	59.7	61.7
SPH3691	633	3403	70.6	18.3		64.7	63.4	59.8	103.3	63.3	70.9	54.3	60.9	57.6	59.6	58.4	104.5	51.0	69.8	81.1	106.3
SPH3692	414	166	1593.2	1556.7		1085.5	971.2	336.2	373.6	3311.5	5916.1	892.3	322.7	834.5	756.1	367.6	286.2	3302.6	2019.0	2615.2	2101.4
SPH3693	804	3266	74.6	11.9		66.8	61.6	68.1	56.8	62.6	81.8	73.9	65.4	70.4	78.1	86.3	102.8	74.3	87.0	71.8	85.7
SPH3694	900	3037	81.5	16.9		74.5	76.0	69.8	80.9	63.7	76.6	81.9	61.8	68.8	94.0	71.3	110.0	89.3	72.5	125.7	86.7
SPH3695	1419	1083	277.9	86.4		180.5	231.7	279.2	230.7	198.0	276.0	281.2	329.7	214.5	419.5	376.6	229.8	493.6	224.9	259.6	220.6
SPH3696	4323	2862	88.0	29.0		74.1	120.5	119.1	127.1	71.6	82.1	62.6	148.3	70.9	70.5	101.6	109.1	60.7	48.0	63.7	78.2
SPH3697	1116	937	317.6	129.1		495.3	463.3	421.4	431.4	391.0	357.3	328.7	512.0	296.6	204.6	259.5	311.8	132.5	186.5	165.5	124.1
SPH3698	1413	752	405.3	84.7		458.5	482.6	407.7	548.3	489.1	386.1	346.7	420.2	352.6	385.2	253.8	490.4	287.7	417.7	475.6	283.2
SPH3699	897	2104	128.8	38.3		160.0	204.4	177.9	113.9	130.1	137.7	87.1	171.6	126.0	123.9	109.6	162.9	99.4	110.3	81.5	65.2
SPH3700	1779	2975	83.2	14.6		80.0	86.8	77.6	100.3	68.1	93.9	59.0	98.8	73.8	78.3	65.3	101.1	73.3	72.2	100.2	103.2
SPH3701	888	2750	92.6	18.8		71.3	109.0	81.6	88.7	106.1	80.8	68.6	120.2	105.9	85.0	69.1	102.3	68.8	86.9	116.4	120.2
SPH3702	477	640	480.2	264.1		333.7	268.5	434.1	456.3	357.7	252.3	294.2	312.7	307.4	539.4	507.9	1255.5	311.4	492.1	825.3	734.4
SPH3703	4146	1391	213.4	110.2		268.9	323.7	306.7	345.5	262.3	184.5	170.8	464.3	225.1	107.7	207.1	180.8	82.8	83.7	83.1	117.0
SPH3704	786	3638	64.3	13.0		77.4	75.1	63.4	68.9	55.4	72.5	43.3	67.7	77.1	52.6	49.3	68.4	49.1	50.0	68.5	89.7
SPH3705	1065	966	305.2	218.9		465.8	262.9	167.9	152.7	999.7	278.0	183.9	113.0	421.6	461.7	193.0	171.5	399.2	142.6	217.1	252.5
SPH3706	1026	1307	226.6	105.0		237.6	207.2	227.0	145.3	334.2	272.8	318.1	205.5	92.5	202.4	313.7	122.4	502.9	193.6	147.4	103.4
SPH3707	183	1075	280.4	123.9		434.9	330.8	236.7	242.9	603.2	430.9	372.2	279.2	243.8	229.9	189.6	184.4	197.1	173.0	180.3	157.0
SPH3708	543	570	534.6	270.2		961.8	624.5	371.4	489.5	1239.9	691.7	736.8	363.3	574.5	452.9	336.1	235.6	435.5	242.6	482.8	313.9
SPH3709	300	1883	146.3	36.0		180.7	124.5	111.7	111.9	149.2	182.5	219.6	130.9	92.5	171.2	133.7	195.2	150.6	113.9	112.5	160.0

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3710	1827	2850	88.3	18.1		78.9	67.8	88.6	112.0	71.8	56.4	82.9	84.0	110.3	83.6	108.1	90.7	123.4	98.8	72.8	83.3
SPH3711	339	3038	81.4	18.1		65.2	104.9	87.7	81.4	80.2	84.6	66.2	114.0	60.9	63.2	80.6	84.1	82.3	79.1	53.1	115.6
SPH3712	1488	3273	74.5	15.0		63.6	75.1	86.8	71.5	64.4	67.8	61.3	87.5	77.3	60.1	76.5	70.8	75.9	120.8	59.9	72.2
SPH3713	1551	3902	55.7	7.5		47.7	58.3	53.7	46.0	48.9	54.3	50.7	55.2	62.3	58.5	58.2	62.9	64.2	52.8	45.0	72.7
SPH3714	1047	1361	216.9	59.8		284.9	288.5	243.8	226.6	321.1	246.1	178.1	316.1	176.4	179.2	182.4	203.2	164.4	172.7	154.5	132.9
SPH3715	1065	3377	71.1	12.7		89.7	75.7	77.2	82.7	73.6	57.4	52.0	65.7	65.6	64.5	84.7	66.9	62.3	94.3	73.4	51.7
SPH3716	1644	3323	73.0	16.5		65.6	56.9	70.8	57.0	59.1	70.8	70.4	68.1	73.4	77.5	100.0	62.9	116.6	82.5	54.1	81.3
SPH3717	1839	2848	88.4	13.6		117.6	97.1	95.6	93.3	85.7	71.6	77.5	111.5	77.2	71.6	91.4	89.0	89.1	93.5	83.2	69.4
SPH3718	1455	2337	113.1	35.5		165.5	128.0	153.8	148.5	138.9	85.8	94.7	125.3	90.2	64.6	125.2	170.0	64.2	79.9	85.4	89.3
SPH3719	432	1470	197.6	85.5		330.5	242.4	189.7	181.0	347.9	353.0	154.0	251.0	122.8	218.4	125.7	138.5	127.7	84.7	127.3	166.5
SPH3720	888	3486	68.3	19.5		75.0	55.9	61.7	71.2	58.4	48.7	61.1	65.0	69.6	75.7	49.0	87.8	54.0	57.2	72.1	129.7
SPH3722	744	3113	79.0	17.6		57.0	59.8	71.2	82.2	67.4	82.2	95.9	79.5	75.4	94.4	97.8	62.0	113.9	53.9	70.6	100.7
SPH3723	1518	1255	238.6	50.5		250.0	333.6	208.0	236.9	288.8	252.0	270.1	247.2	302.5	223.0	231.4	209.0	158.9	126.3	230.7	248.7
SPH3724	606	1219	246.4	104.5		358.5	467.4	247.6	216.0	399.8	359.7	197.2	152.5	325.0	232.1	217.0	177.7	189.5	148.5	107.8	146.5
SPH3725	459	2502	104.1	44.6		79.4	78.7	78.3	84.3	75.8	69.2	80.1	93.1	132.4	146.9	78.1	100.1	134.7	244.4	76.8	113.5
SPH3726	1188	3973	49.2	8.3		47.4	42.9	40.7	54.4	39.6	52.1	40.5	42.7	71.2	49.0	47.1	42.5	56.7	50.3	53.8	56.4
SPH3727	1695	3813	58.8	14.2		51.2	44.3	45.5	70.3	42.6	60.2	49.0	54.7	90.4	76.8	42.9	57.4	48.9	66.0	65.1	75.8
SPH3728	900	3912	55.3	12.2		57.2	50.8	40.6	52.6	44.1	80.8	46.0	41.5	54.0	60.6	44.9	60.6	58.2	46.7	69.9	76.8
SPH3729	585	3431	69.9	20.0		53.3	56.8	48.2	78.4	51.8	91.5	59.9	65.3	84.9	75.9	56.9	128.2	66.4	57.9	63.8	79.1
SPH3730	576	3815	58.8	9.6		58.2	49.5	44.5	55.8	53.4	65.1	55.6	50.0	73.1	58.2	58.7	50.4	57.7	59.2	82.9	67.7
SPH3731	519	3068	80.3	15.9		63.3	59.0	59.5	78.3	52.8	82.9	82.2	88.1	93.6	105.1	71.8	90.4	90.2	77.2	107.2	83.8
SPH3732	1836	3420	70.2	16.1		59.2	48.9	52.3	56.4	58.6	64.1	70.5	64.6	64.5	69.7	78.3	61.3	87.8	86.5	102.9	98.1
SPH3733	411	3048	81.1	20.7		59.8	66.8	64.9	61.7	53.1	85.9	67.5	66.7	82.8	92.7	86.2	78.2	107.9	115.9	83.3	123.9
SPH3734	2469	2944	84.6	23.1		70.8	50.8	73.7	63.4	69.4	70.4	85.0	60.4	90.3	76.9	85.6	85.2	121.6	128.3	98.5	123.8
SPH3735	1437	3393	70.8	18.6		53.5	56.6	62.5	58.8	73.6	69.5	77.8	62.3	77.1	61.1	79.8	55.4	129.5	84.5	54.8	76.3
SPH3736	531	2371	111.3	77.2		53.8	47.9	118.3	71.8	72.4	62.5	205.3	70.2	94.3	183.8	159.6	64.1	340.3	94.7	71.1	70.6
SPH3737	987	2071	131.8	95.9		57.1	63.6	145.2	58.4	93.0	75.4	233.4	89.2	82.3	195.8	234.3	82.0	415.5	119.3	92.1	72.0
SPH3738	2583	1006	296.4	179.5		219.6	126.0	384.5	534.3	263.5	116.4	185.1	148.7	280.0	452.1	332.3	807.7	225.7	190.1	292.5	184.5
SPH3739	525	131	1964.3	1311.3		2843.8	1070.6	1610.2	2456.8	4388.8	2015.4	621.6	557.1	3856.1	4363.8	1352.7	1918.3	2043.2	908.0	1038.7	383.7
SPH3740	2418	2264	117.1	30.3		133.0	103.6	94.0	129.1	160.4	160.6	79.4	74.4	144.7	165.9	89.5	129.9	89.5	105.8	90.8	123.4
SPH3741	1773	3197	76.7	16.5		86.3	58.4	71.5	79.1	58.5	64.8	75.9	57.6	63.9	72.5	67.3	78.4	79.7	92.8	108.5	111.9
SPH3742	828	1761	159.0	52.1		133.1	169.7	132.1	103.0	131.1	158.4	317.8	159.5	89.2	178.0	151.6	137.3	175.7	119.5	189.0	199.0
SPH3743	570	727	425.3	431.8		194.2	231.1	169.8	139.4	333.0	147.1	1321.9	70.3	624.3	360.9	120.6	250.7	276.0	128.6	1280.9	1155.5
SPH3744	1251	85	2839.1	2306.0		1271.1	1518.7	1413.0	1369.2	1999.4	1270.0	7598.6	498.8	3935.0	3476.9	1634.4	1792.2	3217.5	910.0	7566.6	5954.6

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3745	1266	38	5112.9	3721.3		2456.3	2996.2	2602.1	2795.1	3586.8	2228.5	12747.9	794.6	8265.4	7560.8	4085.3	4003.9	4420.1	1585.0	11151.9	10526.8
SPH3746	2172	9	13460.2	10028.8		8101.7	7419.2	5724.8	6021.1	13177.5	6943.3	39249.3	1897.8	24638.7	18659.3	8486.2	7954.0	14089.8	5436.6	24794.4	22770.1
SPH3747	1434	441	677.2	431.0		854.3	1265.2	815.4	919.9	718.4	1167.9	356.6	1615.9	497.1	285.2	690.8	795.8	132.4	388.6	189.2	141.9
SPH3748	648	251	1151.4	429.0		1314.9	2001.1	1322.7	1393.9	1173.9	1546.8	1109.6	1640.1	1338.6	952.6	982.3	1345.3	552.9	562.5	761.4	424.4
SPH3749	1272	352	850.2	226.6		810.8	1240.0	941.1	821.7	778.7	1035.7	1207.3	1005.2	933.1	789.6	754.5	966.3	396.3	492.6	796.0	634.2
SPH3750	2436	248	1165.0	760.6		737.6	683.6	853.7	1160.3	1268.2	546.8	1912.6	717.2	855.3	754.4	869.4	2569.5	346.6	409.0	2452.3	2503.3
SPH3751	1968	1881	146.6	77.9		188.4	221.7	150.1	112.3	183.6	154.2	110.0	249.0	73.9	89.7	78.8	101.0	112.8	357.2	80.8	81.6
SPH3752	792	1012	295.2	86.5		385.2	460.8	338.4	304.9	423.4	394.5	262.1	313.5	280.3	256.9	203.5	221.5	199.2	297.1	208.1	174.0
SPH3753	792	138	1831.4	651.2		1383.3	3355.0	2458.3	2322.4	1755.6	2564.3	1582.4	2600.6	1508.6	1502.4	1280.7	1943.2	1236.7	1573.2	1262.1	974.0
SPH3754	624	897	333.0	244.4		245.9	486.0	432.2	363.5	279.7	207.7	166.6	427.6	259.6	218.1	260.0	216.1	326.1	1161.1	155.4	122.3
SPH3755	1317	1558	185.9	137.6		151.6	229.9	200.1	165.2	148.2	113.0	107.6	126.1	127.0	130.4	119.0	174.0	146.8	684.8	144.9	205.2
SPH3756	813	1094	275.3	157.2		395.0	506.0	358.7	304.3	369.4	228.4	121.0	191.7	206.1	165.8	148.2	262.0	110.8	690.9	182.2	165.0
SPH3757	276	2132	126.3	169.2		174.9	129.2	90.1	78.8	131.0	68.7	51.0	57.0	59.5	74.3	66.3	98.2	54.5	748.1	67.5	71.4
SPH3758	1446	681	453.6	482.4		405.5	614.5	479.6	376.4	406.2	245.3	263.6	243.5	200.8	249.6	349.2	455.0	289.3	2210.8	260.4	207.3
SPH3759	1164	849	354.0	207.5		357.3	511.7	411.0	300.8	379.1	279.6	243.7	148.3	180.0	284.0	216.7	224.6	335.9	1044.6	426.4	319.5
SPH3760	867	2538	102.3	103.0		64.7	125.6	94.9	68.6	78.4	63.3	80.4	56.1	66.7	68.3	76.0	68.4	103.5	482.9	71.6	68.1
SPH3761	465	1076	279.0	159.2		315.2	242.9	241.5	284.0	347.0	164.8	197.8	141.0	153.8	140.3	190.8	271.1	175.6	747.1	518.1	333.5
SPH3762	948	1654	173.7	83.2		132.4	137.7	150.9	164.2	186.5	119.0	176.0	108.7	163.9	144.6	146.0	152.1	211.4	471.3	159.8	154.2
SPH3763	963	398	743.7	219.4		1060.0	916.6	614.0	613.1	1180.6	707.4	625.0	491.3	1066.7	630.2	639.8	665.3	470.2	615.8	969.3	633.2
SPH3764	1137	1607	181.1	281.1		60.0	47.9	56.9	60.7	69.7	52.2	283.8	58.9	68.0	75.9	95.2	56.9	89.9	70.3	1010.7	740.4
SPH3765	1443	1142	264.1	114.9		211.7	218.3	244.5	211.5	197.9	207.5	277.4	536.2	182.5	241.0	287.9	118.6	454.5	247.5	437.0	150.9
SPH3766	774	985	300.3	167.5		184.6	324.4	395.0	243.5	178.6	230.5	334.9	229.6	204.9	367.3	467.1	169.9	818.6	335.8	183.2	136.0
SPH3767	483	1156	259.6	88.2		285.7	346.1	246.8	233.1	312.6	231.8	195.9	280.6	476.8	345.9	230.7	171.2	324.9	150.6	149.7	170.4
SPH3768	357	1078	278.9	117.1		344.3	372.8	273.4	284.4	310.6	307.8	142.3	365.3	533.8	461.1	209.0	224.7	159.8	152.9	164.0	155.7
SPH3769	858	1069	282.3	81.8		324.7	337.7	237.6	242.6	267.7	279.0	221.2	179.3	419.2	382.6	379.7	363.7	304.3	165.6	263.5	147.8
SPH3770	396	43	4577.5	980.9		5756.5	4807.0	5776.3	5558.2	5496.8	3519.9	3981.1	4978.9	4525.6	3553.3	5099.9	5581.8	2375.7	3865.3	4415.3	3948.2
SPH3771	273	51	3986.3	1131.5		4589.7	4183.2	4879.0	4781.6	5368.4	2939.3	4054.8	5174.3	3482.1	2564.3	4554.8	5938.6	2008.7	3441.6	2999.6	2821.5
SPH3772	450	664	464.0	156.2		497.4	579.7	514.6	458.9	668.6	345.2	474.9	760.0	324.6	222.5	411.4	646.8	186.8	524.8	445.1	361.8
SPH3773	1419	2096	129.3	31.3		141.9	149.2	114.0	158.7	150.8	162.8	86.8	120.4	162.8	154.8	85.0	107.4	84.8	88.3	130.3	170.6
SPH3774	375	127	2036.9	2497.4		790.6	492.5	510.8	412.2	1173.2	902.0	482.3	160.2	2192.7	2613.0	693.7	729.7	5554.3	1331.2	8863.9	5687.4
SPH3775	585	702	440.8	177.7		651.2	732.5	583.6	656.9	457.8	398.7	243.8	591.0	453.9	531.6	382.6	224.7	319.0	464.5	227.4	133.8
SPH3776	1743	1885	146.1	76.0		292.5	233.7	200.9	245.1	224.0	126.2	70.6	217.1	115.0	77.9	101.2	122.5	55.2	83.2	78.4	95.0
SPH3777	567	408	727.5	256.1		864.1	710.2	515.4	497.2	1083.3	737.7	689.8	595.7	1182.4	1052.4	316.9	352.9	740.0	708.1	1009.1	585.0
SPH3778	624	1805	153.9	47.1		193.1	149.4	116.7	148.0	284.6	128.9	137.4	135.3	196.9	203.4	85.7	126.7	107.2	152.1	154.4	142.9

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3779	327	711	434.3	164.5		574.7	628.5	568.4	580.5	605.1	606.7	245.0	430.0	362.0	277.2	391.8	545.5	232.3	523.8	205.3	171.7
SPH3780	426	481	622.8	250.8		883.1	707.7	727.6	848.8	868.5	750.3	443.8	449.2	440.0	389.2	531.5	1187.0	261.1	575.7	625.0	276.3
SPH3781	768	722	430.7	220.2		431.8	564.2	484.6	438.0	633.4	623.8	1009.1	232.6	337.6	339.1	371.3	588.2	156.7	299.6	212.5	167.9
SPH3782	1236	2459	106.0	26.2		103.7	82.4	83.4	91.0	91.2	126.1	94.1	86.9	67.0	105.4	100.7	93.9	159.6	153.4	127.6	129.9
SPH3783	360	3123	78.7	13.3		82.5	77.2	67.7	64.5	66.0	73.6	71.0	79.6	68.9	108.1	73.5	78.2	103.7	71.1	75.4	98.0
SPH3784	1542	968	305.1	163.1		506.1	425.5	496.8	570.7	382.8	265.0	157.6	494.9	124.1	146.9	314.8	395.0	107.6	231.5	109.8	153.3
SPH3785	1104	3406	70.5	10.5		67.2	60.9	54.7	77.7	60.0	70.9	78.7	61.6	83.1	73.3	64.2	78.1	88.9	58.5	85.6	64.8
SPH3786	2793	3731	61.6	19.2		61.3	76.0	67.0	57.9	48.8	50.8	49.4	80.1	59.7	48.2	51.3	79.5	42.9	43.6	51.2	117.4
SPH3787	747	2871	87.5	35.8		67.7	126.3	115.0	107.6	64.0	89.7	51.5	183.7	71.4	59.2	88.0	124.0	66.1	55.9	54.5	75.9
SPH3788	1290	3738	61.5	12.4		51.6	73.5	64.1	77.2	53.4	56.7	45.1	83.7	55.9	49.3	53.8	76.7	49.9	53.8	60.1	78.3
SPH3789	438	1608	181.1	102.7		204.0	354.4	346.0	235.3	126.6	191.6	85.3	381.5	90.2	89.4	202.6	196.8	94.2	107.9	81.5	110.3
SPH3790	900	1110	271.5	161.9		335.4	429.8	519.6	440.1	248.7	340.7	150.3	555.2	133.6	89.5	321.5	352.3	91.3	158.1	78.2	99.6
SPH3791	1185	2728	93.6	38.0		64.3	69.0	88.8	69.6	58.0	79.4	92.0	194.2	119.3	87.5	97.4	88.1	170.8	69.8	76.3	73.1
SPH3792	69	3972	49.5	10.7		52.8	46.5	44.6	51.0	49.5	69.3	45.4	35.9	50.4	40.3	44.2	57.2	48.2	32.3	50.9	74.0
SPH3793	2448	2300	115.1	70.0		83.7	62.6	64.9	78.8	64.5	105.7	97.3	57.1	94.8	100.8	65.9	144.8	76.4	265.0	258.3	220.9
SPH3794	399	2204	120.9	73.0		80.9	65.1	75.5	72.0	74.5	70.1	127.4	51.4	89.2	106.2	89.7	153.1	124.7	312.2	244.7	197.9
SPH3795	855	924	324.3	205.3		156.6	198.2	219.7	243.5	169.1	177.5	219.7	176.3	610.0	637.1	246.9	245.1	534.9	820.2	223.3	310.6
SPH3796	219	245	1184.8	898.7		677.8	501.8	661.7	605.9	661.1	307.4	383.4	315.2	3533.5	2295.1	795.7	1231.1	1862.7	2019.9	1620.6	1484.6
SPH3797	261	48	4119.0	3105.4		2741.8	1359.8	2877.2	2843.1	2612.3	1007.6	1813.7	1084.9	13941.6	5220.5	3830.4	5349.8	5264.1	5808.2	4743.3	5405.1
SPH3798	546	2687	94.8	26.2		107.2	95.3	88.4	81.2	103.5	61.7	64.1	58.7	147.8	103.7	77.6	121.8	78.8	142.1	100.0	85.6
SPH3799	1803	2783	91.1	27.5		75.1	78.9	52.7	116.6	79.3	86.7	63.8	80.1	90.3	81.3	67.1	138.8	69.3	146.0	123.7	108.6
SPH3800	1980	989	299.5	177.8		274.4	221.9	422.2	488.3	251.6	162.3	137.2	420.3	104.2	127.3	369.7	734.9	88.5	160.0	448.3	380.7
SPH3801	1653	1947	141.4	95.5		159.5	109.1	60.3	80.1	339.1	348.5	74.8	63.6	200.4	174.5	64.0	81.4	241.1	80.6	92.5	92.9
SPH3802	1695	1852	149.1	65.0		169.3	117.7	73.1	110.7	283.4	224.0	104.9	90.5	229.8	191.8	99.4	110.0	243.7	116.1	96.5	124.9
SPH3803	1749	3721	61.9	9.6		54.4	53.4	44.1	52.6	75.5	65.1	55.5	50.4	64.1	63.5	71.9	61.2	70.7	62.8	65.7	78.8
SPH3804	1203	3160	77.8	14.6		74.1	60.8	61.1	72.3	64.6	82.8	73.5	64.8	96.1	96.0	67.5	106.2	83.0	67.4	75.1	100.0
SPH3805	186	846	355.4	230.4		165.5	135.6	305.5	202.4	223.2	235.7	808.0	205.9	841.8	670.3	361.4	303.9	544.0	202.9	279.7	201.0
SPH3806	1215	2884	87.0	21.2		66.9	59.2	98.9	93.5	61.6	97.5	66.5	135.7	91.4	76.3	83.0	82.4	126.5	84.4	77.4	90.9
SPH3807	2289	354	841.4	1167.8		336.1	772.0	1833.1	1652.8	211.3	1413.0	398.4	4674.5	161.1	103.0	697.1	535.2	159.5	106.9	235.4	173.6
SPH3808	1551	214	1314.7	2327.5		502.3	1013.8	1946.8	2126.8	233.8	3159.7	345.9	9392.2	129.6	135.7	605.0	494.2	113.1	91.3	432.5	313.2
SPH3809	1581	159	1641.7	2161.2		836.0	1857.1	3348.4	3349.3	401.6	3126.7	590.5	8529.1	179.3	188.6	1319.0	1026.6	296.5	111.5	600.5	506.8
SPH3810	882	580	524.7	643.0		425.4	598.1	835.2	950.8	228.2	942.3	316.3	2664.2	99.6	80.7	320.4	306.8	122.9	73.0	238.0	192.7
SPH3811	975	479	623.8	804.7		478.6	717.2	949.8	1047.1	291.1	1072.4	382.8	3364.8	57.7	88.4	412.4	290.0	114.5	89.1	393.4	232.1
SPH3812	1092	267	1090.3	1080.6		1122.2	1951.6	1895.3	2262.9	552.5	1811.6	667.9	4077.3	60.5	57.7	839.5	753.8	84.0	56.0	732.5	519.6

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3813	1062	140	1825.9	1462.5		2087.5	3950.5	4192.4	3555.8	1014.7	2650.9	1213.4	3370.7	77.1	60.0	2856.0	2035.4	121.2	70.0	1206.3	753.1
SPH3814	1926	522	575.2	522.3		731.0	1287.6	922.9	815.6	430.1	1238.9	351.6	1835.0	90.6	97.8	465.9	309.8	71.8	83.4	160.1	311.8
SPH3815	1164	1232	243.3	189.5		247.9	541.6	376.7	384.5	162.2	563.4	90.9	618.5	97.3	103.5	152.9	123.4	118.8	73.9	107.2	130.7
SPH3816	2376	392	753.3	637.0		237.5	334.8	1012.6	1253.6	245.7	160.3	215.6	912.4	783.2	618.3	663.0	658.2	660.6	130.7	2550.2	1615.5
SPH3817	393	1638	177.2	77.3		159.7	171.7	235.3	134.3	195.0	187.2	249.6	202.6	85.2	166.2	255.1	105.5	372.1	66.3	156.8	92.3
SPH3818	897	3341	72.4	23.8		74.8	58.6	54.0	109.2	50.7	89.9	55.3	61.7	100.8	58.5	44.4	86.8	44.6	57.9	94.9	116.6
SPH3819	930	3667	63.2	8.3		53.7	60.1	59.4	73.2	73.0	50.6	60.0	60.4	64.3	77.7	59.8	52.3	75.6	67.9	59.2	64.8
SPH3820	1953	2025	135.8	56.0		150.6	200.5	188.9	197.5	161.4	94.6	75.7	98.8	102.0	98.9	187.0	254.6	96.2	106.9	96.8	61.5
SPH3821	708	405	732.9	329.6		944.2	1171.9	900.0	977.9	993.1	1272.8	324.4	429.3	671.2	522.1	957.8	988.5	590.1	396.3	321.0	265.2
SPH3822	1542	487	615.3	292.2		858.9	1143.1	848.5	806.6	977.3	901.1	383.5	339.3	457.7	422.2	859.4	600.5	420.8	254.2	320.0	252.2
SPH3823	1698	960	306.5	96.7		455.4	436.8	299.6	338.7	462.6	332.4	162.9	161.0	358.8	285.6	289.5	304.6	246.0	194.1	367.8	207.6
SPH3824	261	855	351.4	126.0		364.4	369.0	237.7	290.4	493.5	405.4	194.2	199.3	596.2	506.2	210.4	309.0	277.8	267.9	529.0	372.1
SPH3825	996	1426	205.6	107.6		226.9	370.2	167.9	209.5	151.5	347.4	95.5	451.8	236.1	280.3	95.5	110.3	171.9	134.0	135.2	105.9
SPH3826	1788	2942	84.7	23.4		61.7	60.4	60.5	87.3	56.9	106.8	88.7	72.0	75.1	85.7	93.8	126.3	95.8	77.4	69.1	137.1
SPH3827	735	2282	116.3	99.8		66.7	59.5	64.2	60.7	67.5	66.2	76.0	70.6	107.8	82.8	73.6	109.3	64.2	220.3	426.4	244.3
SPH3828	1578	2553	101.2	78.3		53.1	54.5	64.6	57.2	51.2	70.1	66.4	58.7	56.7	75.0	78.5	82.4	78.3	244.8	261.3	266.8
SPH3829	3696	2535	102.4	75.3		63.2	61.8	71.4	75.9	63.8	59.9	71.1	62.8	92.7	80.4	77.9	86.1	90.7	123.4	349.6	207.8
SPH3830	672	1605	181.5	125.4		104.3	103.2	190.2	92.9	119.6	92.4	233.7	103.5	78.9	174.7	298.2	100.2	572.4	280.5	209.6	149.5
SPH3831	3426	3706	62.2	11.8		47.1	52.3	53.2	63.1	65.1	67.9	50.6	53.7	60.1	55.9	47.7	68.1	65.8	81.0	86.0	77.1
SPH3832	645	1880	146.6	38.5		136.4	105.4	111.8	105.7	169.2	111.3	148.4	88.8	159.8	178.1	136.0	154.1	174.2	233.4	198.0	135.2
SPH3833	8181	3507	67.6	15.6		51.2	42.8	52.6	65.2	56.4	84.2	69.1	51.4	61.8	94.1	58.2	89.8	71.5	65.8	84.4	83.8
SPH3834	1140	3271	74.5	13.1		65.6	57.7	59.1	101.4	66.2	79.2	57.8	66.1	88.2	68.2	74.7	83.0	72.0	73.1	90.7	89.5
SPH3835	621	997	297.9	118.1		445.4	270.3	451.1	507.5	397.3	232.1	289.0	371.9	141.2	254.5	339.9	231.3	369.8	136.8	169.5	159.3
SPH3836	993	1093	275.6	175.0		298.8	290.4	577.7	638.8	218.4	144.3	151.8	510.7	165.2	114.4	402.2	318.8	242.5	176.6	92.8	65.6
SPH3837	1323	1059	284.3	211.9		250.2	177.7	656.6	830.1	165.7	130.8	161.9	460.5	191.2	179.2	414.0	372.0	235.7	129.9	83.0	110.8
SPH3838	1296	3830	58.5	8.5		61.6	50.2	52.9	63.5	56.0	54.3	54.4	52.7	56.3	60.5	59.2	82.4	54.4	52.9	52.1	73.0
SPH3839	465	3974	49.1	7.7		43.1	38.5	43.8	47.8	46.4	43.8	52.8	49.0	62.5	49.8	40.6	55.2	43.4	48.7	53.8	66.7
SPH3840	1545	3184	77.2	21.5		55.1	60.0	63.9	65.3	55.1	105.0	67.0	60.4	58.4	71.4	78.4	78.8	95.7	113.5	84.8	122.7
SPH3841	1128	3828	58.5	17.2		60.0	49.7	41.2	68.3	53.3	53.3	44.6	50.9	74.9	48.1	46.2	105.5	42.0	49.2	69.7	79.7
SPH3842	1446	3400	70.6	25.5		61.1	43.7	50.8	89.8	52.3	63.5	59.2	59.7	82.2	59.4	51.1	145.0	55.0	69.6	87.6	100.1
SPH3843	654	3399	70.6	10.0		57.8	59.4	67.6	68.2	76.5	78.0	78.7	72.1	60.4	58.9	67.9	74.8	85.0	92.4	71.2	61.4
SPH3844	1362	2230	118.8	45.4		111.1	104.7	82.9	106.0	190.1	235.5	80.7	70.8	164.0	108.9	76.5	84.2	139.7	142.2	103.9	99.1
SPH3845	978	1451	200.7	75.6		258.2	137.9	141.7	161.7	360.4	293.8	158.7	102.7	316.5	240.3	115.3	205.7	203.8	194.9	192.7	126.8
SPH3846	792	2445	106.4	27.8		128.7	82.9	119.6	117.2	163.9	93.6	81.8	86.4	154.1	83.4	63.7	112.5	89.7	119.9	85.3	119.4

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3847	429	2519	103.3	28.2		110.1	77.2	94.6	86.6	143.3	81.0	80.7	92.2	167.8	137.4	66.2	90.7	81.0	98.5	122.1	123.3
SPH3848	897	2254	117.6	37.9		179.2	95.3	74.8	99.0	178.0	119.8	84.6	65.5	121.7	196.7	102.6	103.0	131.5	99.9	102.0	127.4
SPH3849	789	318	932.1	830.0		2776.4	534.6	232.4	137.9	2217.0	1787.1	389.4	267.1	1744.9	1598.4	925.3	172.0	819.1	688.3	388.7	235.9
SPH3850	681	438	682.4	679.0		2280.5	378.6	137.1	145.6	1850.3	1008.3	318.0	228.1	1581.8	1045.3	565.5	155.0	490.6	375.2	222.7	135.4
SPH3851	1374	1820	152.5	111.6		368.3	99.3	57.4	90.0	397.4	170.4	65.8	91.3	333.9	169.8	88.9	74.8	96.6	91.9	101.5	142.7
SPH3852	792	1161	258.8	167.5		130.4	82.1	110.4	85.5	225.9	170.8	421.0	101.9	336.3	439.2	146.8	170.5	283.9	322.7	657.5	455.8
SPH3853	1734	2112	128.0	40.5		106.9	94.9	134.9	104.8	120.1	146.6	159.3	116.1	101.8	153.6	147.5	77.8	233.1	175.6	98.2	77.5
SPH3854	3060	1323	225.0	185.2		507.4	356.6	198.6	177.4	679.1	499.8	93.5	179.3	193.6	121.1	148.1	133.5	71.5	80.1	93.7	66.0
SPH3855	1590	2927	84.9	33.2		143.7	132.2	61.8	71.0	52.0	57.1	64.2	153.4	68.9	62.1	58.5	99.7	52.4	95.9	101.1	85.3
SPH3856	87	2089	129.9	87.3		69.4	59.3	124.6	72.1	99.9	77.6	191.6	89.2	89.1	184.0	242.6	64.8	385.7	120.6	152.7	54.8
SPH3857	1428	699	443.2	355.5		222.6	157.7	145.8	181.2	594.3	246.6	479.3	120.0	448.8	383.8	138.1	160.7	877.4	638.1	1294.5	1002.8
SPH3858	495	348	859.7	683.2		549.2	305.1	271.9	196.5	1251.9	570.5	910.2	192.6	882.3	1017.9	220.5	157.8	1952.2	1271.2	2338.3	1666.7
SPH3859	393	2726	93.6	35.7		65.0	69.6	57.4	112.7	101.4	81.5	66.3	66.2	116.0	95.9	52.9	118.2	87.0	86.3	196.0	125.9
SPH3860	1770	2479	105.1	20.3		141.7	127.8	84.7	115.4	94.6	77.4	104.9	131.4	104.0	77.7	93.8	112.3	76.4	126.5	102.8	109.4
SPH3861	738	1198	250.1	91.1		250.1	305.0	436.5	398.3	198.6	175.6	207.2	309.7	142.1	178.5	289.2	238.4	328.9	271.6	137.1	135.3
SPH3862	1962	2956	84.2	16.0		88.0	102.3	90.6	91.8	76.6	80.2	88.5	121.8	77.7	55.9	67.6	81.2	64.3	72.1	91.7	97.6
SPH3863	318	2368	111.4	29.0		102.4	149.6	126.2	95.8	112.4	93.0	107.9	97.1	88.9	118.7	94.7	80.7	145.6	189.7	84.2	95.9
SPH3864	531	2709	94.2	28.9		95.6	118.6	105.8	119.7	101.3	59.9	64.3	106.4	174.3	77.1	90.3	104.4	62.0	76.0	74.6	76.6
SPH3865	552	2977	83.2	30.1		119.8	128.9	57.5	50.0	59.0	73.7	55.2	111.1	134.5	108.9	55.6	42.4	101.5	81.1	73.9	78.9
SPH3866	783	126	2037.3	927.1		3356.0	2591.1	2432.8	1950.9	2357.5	2748.6	809.0	3413.4	2578.4	1690.6	2805.8	1396.8	2285.0	696.5	890.2	593.6
SPH3867	1101	92	2719.4	1411.9		4245.7	2527.9	3079.9	3084.7	2913.0	3960.0	1009.2	5918.7	2624.4	2687.3	3814.3	3214.6	1676.5	744.0	1332.1	677.7
SPH3868	705	622	492.1	165.1		399.2	430.7	510.4	595.0	362.9	333.8	228.7	284.5	752.2	780.1	573.1	546.6	539.9	722.3	433.0	381.7
SPH3869	1152	567	536.5	323.3		319.5	282.7	319.0	320.5	397.2	430.3	381.0	273.8	461.1	657.8	419.4	334.9	1112.6	1389.2	841.3	643.6
SPH3870	1083	387	762.2	244.0		1059.3	720.6	505.8	678.6	1181.3	1141.2	752.1	506.1	774.5	723.9	375.8	594.1	515.4	1049.0	905.8	712.3
SPH3871	507	1038	288.4	255.2		166.1	132.6	153.6	230.7	198.0	139.0	200.0	138.4	240.9	174.2	122.0	250.7	236.3	1086.2	643.3	502.8
SPH3872	408	3437	69.6	22.6		75.0	64.3	54.3	72.4	61.7	83.5	55.2	56.0	55.2	62.7	49.0	89.0	51.1	57.5	87.2	139.5
SPH3873	1026	3524	67.2	25.9		66.1	48.0	47.0	81.8	50.9	48.4	56.2	59.2	88.5	61.0	48.4	97.0	41.8	52.9	88.5	139.6
SPH3874	534	2544	101.8	15.9		85.3	78.5	96.7	106.8	77.2	99.2	101.8	100.7	117.2	102.4	113.3	125.3	130.3	90.7	86.9	116.4
SPH3875	2553	2097	129.3	24.9		108.6	107.9	134.8	149.6	109.0	76.1	152.9	122.1	140.9	123.0	171.3	137.2	141.3	161.0	99.0	133.8
SPH3876	414	3614	65.0	9.3		73.2	56.2	55.7	70.5	62.8	59.9	66.9	63.5	81.8	60.5	58.8	81.6	63.3	55.9	52.4	76.5
SPH3877	1032	2533	102.5	18.8		110.2	125.8	104.9	91.1	104.1	87.9	127.1	104.0	77.0	85.3	129.3	111.2	129.2	76.4	77.9	99.1
SPH3878	1836	3137	78.3	11.5		75.8	63.7	65.3	98.6	80.4	66.1	60.2	72.8	86.6	71.4	77.8	89.5	79.8	80.4	97.3	86.7
SPH3879	1032	2966	83.9	14.5		64.5	75.9	65.6	94.7	74.2	77.5	89.0	76.4	97.6	115.8	75.9	98.7	83.9	82.0	68.5	101.7
SPH3880	1929	3780	59.9	26.2		51.4	41.7	43.8	81.4	54.5	49.8	51.8	59.3	149.0	45.9	54.1	50.7	43.1	45.7	75.1	60.6

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity			Normalized fluorescence intensity				
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3881	642	3183	77.2	11.4		70.0	72.5	74.3	53.4	77.7	70.4	80.7	65.5	76.9	84.5	86.4	87.5	98.4	62.9	90.8	83.7
SPH3882	1029	1515	190.7	60.5		247.6	231.1	154.9	172.1	320.6	264.2	125.4	229.6	173.9	235.7	123.5	154.9	121.7	129.9	225.6	140.5
SPH3883	195	2976	83.2	32.5		64.7	58.9	72.9	53.8	54.3	74.9	87.4	47.3	64.8	86.6	101.2	50.0	154.2	128.8	97.7	134.4
SPH3884	1143	3631	64.5	11.9		60.6	59.1	56.6	56.4	52.2	76.6	68.4	51.2	49.8	68.0	69.8	70.9	81.1	57.3	93.0	60.8
SPH3885	2094	2151	125.2	48.3		124.9	66.9	88.6	127.5	89.9	89.0	142.2	96.1	149.4	97.5	154.5	113.8	165.1	82.3	148.1	267.8
SPH3886	1404	3651	63.7	21.9		48.0	55.8	50.1	61.5	45.3	58.9	67.8	50.5	53.6	69.8	51.1	82.2	47.6	63.1	78.6	134.6
SPH3887	747	3254	74.9	22.0		51.4	53.7	64.5	77.4	60.0	66.1	88.7	67.9	78.9	63.7	71.5	78.8	72.5	54.1	115.1	133.3
SPH3888	762	2754	92.4	24.6		66.2	62.4	69.8	72.0	72.3	97.6	100.0	70.0	72.9	86.8	107.1	96.4	121.3	123.6	141.3	118.8
SPH3889	765	2712	94.1	26.1		73.7	65.1	89.8	80.3	63.5	66.3	103.4	77.0	99.4	134.0	103.1	74.3	153.1	87.9	114.4	120.0
SPH3890	1533	2769	91.6	33.0		60.9	53.9	98.6	85.1	63.4	59.3	102.3	162.9	70.2	101.0	138.4	80.0	148.7	92.6	68.0	80.3
SPH3891	3519	1951	141.0	53.2		120.6	214.8	211.9	196.0	109.8	158.6	68.1	242.6	124.1	114.0	141.1	167.4	76.0	121.4	72.9	116.6
SPH3892	1140	1806	153.8	53.0		123.7	156.8	198.3	199.6	125.1	113.2	131.1	186.5	136.9	97.9	109.0	124.4	82.5	274.6	238.0	163.8
SPH3893	2490	2160	124.2	59.7		99.5	186.1	197.5	173.4	77.2	92.4	58.6	217.9	90.0	72.1	118.8	115.5	74.1	246.7	75.1	91.5
SPH3894	876	2008	136.7	74.4		113.7	174.9	237.5	152.2	84.6	164.5	78.2	353.2	88.2	89.0	122.8	120.0	82.4	174.2	74.8	76.6
SPH3895	969	2520	103.2	52.1		87.9	155.9	146.1	125.7	82.2	93.9	53.5	266.0	62.0	65.1	79.7	86.9	83.9	107.4	70.7	83.6
SPH3896	633	2108	128.6	50.0		107.4	196.3	181.6	135.9	114.5	126.0	75.2	270.4	96.5	93.6	118.0	101.6	92.9	142.1	85.4	121.0
SPH3897	2751	3829	58.5	10.1		66.7	48.8	48.8	61.7	51.7	55.8	51.9	47.6	66.4	57.0	53.1	65.3	58.2	58.7	56.5	88.4
SPH3898	1275	2134	126.2	40.0		108.9	95.7	120.1	103.9	148.2	83.2	152.2	107.0	104.4	155.6	154.8	87.5	247.5	124.5	119.9	106.1
SPH3899	498	2356	111.9	35.6		84.0	66.9	101.9	92.0	100.7	98.2	140.0	81.1	115.3	148.8	114.9	99.9	219.1	89.8	126.3	110.9
SPH3900	1014	2476	105.2	54.7		71.9	77.7	94.7	81.1	90.1	84.6	132.0	80.3	69.3	109.3	128.6	81.4	287.3	153.1	61.2	80.9
SPH3901	1512	1882	146.5	79.3		97.7	85.4	134.8	94.3	99.6	118.3	169.5	109.7	70.3	187.9	198.9	112.6	334.2	320.9	111.7	98.8
SPH3902	1962	2251	117.6	43.6		131.7	160.7	190.2	115.0	109.5	102.5	100.7	185.3	62.5	84.0	115.7	89.0	129.4	184.3	60.6	61.2
SPH3903	426	1414	208.3	134.9		87.3	79.0	162.5	108.4	157.0	247.7	631.8	87.5	182.3	232.7	279.5	147.9	350.3	199.1	204.2	175.8
SPH3904	1152	2231	118.8	65.8		80.9	72.2	65.8	62.9	89.7	261.0	87.3	59.2	112.8	177.1	105.0	102.0	246.2	204.1	100.1	74.0
SPH3905	1167	3307	73.4	23.5		58.3	55.2	51.4	65.4	56.0	79.8	62.5	64.0	97.4	75.9	53.6	70.8	61.7	116.9	133.5	71.6
SPH3906	834	3868	57.4	12.1		53.0	59.4	39.9	53.9	50.4	81.8	44.9	44.3	58.7	60.3	43.5	53.1	68.3	73.3	58.3	74.8
SPH3907	810	2049	133.8	72.1		63.3	56.9	114.6	85.0	75.2	90.4	152.0	90.4	195.1	257.3	155.3	85.6	294.2	219.1	94.3	111.3
SPH3908	1137	2026	135.7	76.5		65.2	79.6	94.1	104.9	77.5	158.9	102.2	73.6	234.8	210.0	126.8	91.7	321.4	242.7	68.9	118.2
SPH3909	840	2723	93.7	23.0		70.5	78.3	71.3	109.3	83.3	80.2	74.3	70.2	103.6	130.4	90.3	145.4	121.4	99.5	76.7	94.3
SPH3910	645	2087	130.3	31.6		159.4	136.9	141.8	139.4	194.5	195.8	105.5	99.1	108.1	88.1	120.9	142.9	111.4	120.4	101.5	119.9
SPH3912	300	790	387.1	217.8		155.3	127.8	304.0	254.3	176.6	225.3	434.8	240.6	258.1	481.8	506.7	311.1	913.8	565.2	549.3	688.0
SPH3913	1353	2402	109.1	42.4		82.8	62.1	109.6	77.2	71.0	103.7	153.5	107.9	83.8	130.7	147.7	86.9	235.3	92.7	107.4	93.0
SPH3914	450	2524	102.8	71.5		51.8	55.6	126.2	63.2	61.1	67.9	149.1	72.5	71.5	115.0	178.3	87.6	333.8	81.9	67.1	62.0
SPH3915	1038	1133	266.0	238.4		126.6	123.8	347.0	156.2	145.7	119.8	355.1	294.9	116.2	389.8	490.3	142.1	1037.4	122.8	125.5	163.2

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3916	681	3055	80.8	49.4		42.1	49.0	83.5	67.4	52.7	48.8	206.0	50.7	47.1	69.5	110.8	44.2	189.4	85.4	70.2	76.2
SPH3917	786	1630	177.6	168.3		82.0	65.9	177.1	107.6	95.8	55.7	659.8	77.2	109.1	123.1	265.3	61.2	496.7	129.3	144.1	191.1
SPH3918	747	2932	84.8	68.6		65.1	55.9	50.4	61.8	53.1	65.6	330.0	52.0	60.2	62.1	58.6	78.1	69.3	57.3	119.4	117.7
SPH3919	942	789	387.2	816.8		89.3	63.1	71.4	81.7	72.2	99.1	3251.5	75.9	67.4	93.7	104.7	71.5	158.0	79.9	1108.5	708.0
SPH3920	666	1984	138.5	217.7		62.8	54.7	51.2	58.6	59.6	63.1	897.4	52.9	45.2	61.3	60.8	67.7	70.5	58.7	361.1	190.2
SPH3921	1404	1857	148.7	222.0		47.9	49.1	60.2	55.5	45.8	65.3	874.6	45.6	67.1	70.1	55.1	66.2	61.7	61.3	378.5	374.4
SPH3922	975	2807	90.2	77.0		45.6	45.6	49.0	64.0	47.4	53.0	330.2	44.6	66.8	84.0	61.6	70.0	60.9	61.9	195.6	162.3
SPH3923	933	1126	268.1	461.9		58.0	50.7	76.6	66.3	56.6	55.9	1711.1	66.4	80.0	86.6	88.1	59.6	108.8	95.7	709.6	919.3
SPH3924	780	1671	172.2	182.3		81.8	62.4	68.4	78.0	69.6	108.0	515.9	79.0	79.0	139.4	85.8	93.9	107.7	90.3	568.5	527.2
SPH3925	1476	2078	131.2	135.8		56.5	59.0	67.2	62.6	64.3	70.3	550.5	57.8	66.6	67.1	73.2	114.7	107.6	91.4	298.7	291.5
SPH3926	264	1682	171.2	63.8		188.7	236.9	170.6	165.7	198.6	152.8	160.2	315.4	111.0	106.1	108.6	168.5	59.5	204.6	133.8	258.2
SPH3927	816	576	529.7	309.8		597.4	860.0	864.2	743.1	608.0	849.6	359.4	1233.8	291.9	357.5	337.8	329.1	233.1	500.2	187.9	121.6
SPH3928	786	1290	229.5	90.3		189.1	321.8	348.6	320.8	206.0	185.3	151.7	447.8	187.8	209.4	195.2	223.0	151.2	274.9	159.7	99.3
SPH3929	1461	2426	107.9	24.0		81.5	75.1	103.9	106.1	86.1	98.6	86.0	88.4	125.4	110.8	109.8	141.3	129.6	108.6	108.8	167.0
SPH3930	1674	3118	78.8	18.0		76.1	58.5	78.6	61.9	60.1	70.5	80.9	64.6	65.1	81.0	94.4	73.8	127.6	76.8	87.6	103.8
SPH3931	786	3422	70.1	20.2		47.8	59.6	64.9	65.4	48.8	68.2	70.2	57.0	66.9	65.4	71.2	72.1	134.4	96.0	66.4	68.0
SPH3932	270	3845	58.0	8.0		60.1	55.1	50.0	50.4	49.2	63.8	53.4	50.0	64.5	54.0	51.7	68.7	59.7	64.2	55.9	77.0
SPH3933	867	2797	90.6	27.4		72.4	65.0	87.4	61.1	68.0	73.2	99.6	62.7	111.8	92.5	113.0	68.6	119.7	163.2	104.0	88.1
SPH3934	444	3439	69.5	17.0		100.3	76.3	50.1	56.9	89.6	97.7	46.2	63.5	73.1	68.3	45.6	68.2	54.9	83.0	65.1	73.6
SPH3935	1545	2528	102.7	64.2		213.4	216.3	47.3	48.6	188.1	102.8	42.6	46.8	117.7	153.5	55.3	55.4	77.2	167.1	58.0	52.9
SPH3936	363	433	693.1	627.1		1297.1	1376.0	116.0	116.6	1238.4	1208.9	139.4	107.0	1285.6	1116.3	134.3	116.1	615.2	1894.3	210.9	117.0
SPH3937	69	2636	97.3	25.5		92.8	68.8	75.1	104.6	98.9	157.2	78.7	69.0	99.1	104.6	78.2	109.2	113.0	60.5	130.1	117.5
SPH3938	1719	3002	82.5	16.8		73.8	64.8	79.1	91.9	66.6	67.2	74.9	117.6	72.8	71.8	80.6	86.9	92.2	74.3	82.9	122.0
SPH3939	414	2696	94.7	32.6		59.6	61.7	70.8	67.9	62.0	80.6	120.3	68.1	72.3	107.1	85.6	122.1	107.2	156.6	117.3	155.5
SPH3940	1023	3516	67.5	18.2		59.0	59.7	52.9	59.6	51.4	76.6	82.9	52.0	54.4	65.1	62.5	75.8	62.6	59.7	123.7	82.3
SPH3941	573	3211	76.3	27.5		77.2	60.0	58.8	47.1	56.5	59.8	117.3	68.7	69.0	56.2	60.0	58.4	86.1	84.2	144.1	117.6
SPH3942	1155	1343	220.1	220.3		127.3	102.8	106.7	114.1	116.8	85.1	431.8	117.7	138.7	115.6	113.8	273.5	89.3	165.5	888.1	534.7
SPH3943	672	550	549.0	232.4		917.0	484.5	463.6	329.8	888.1	420.7	563.9	350.8	446.5	616.5	676.1	230.9	1071.8	480.6	449.6	394.0
SPH3944	447	1798	154.4	82.7		269.8	103.4	100.3	76.9	347.9	140.4	188.0	73.9	140.3	235.5	133.0	94.3	262.5	130.9	75.6	97.5
SPH3945	1419	3896	56.1	10.6		46.4	49.4	47.0	61.6	41.5	79.0	47.8	45.9	50.5	58.5	53.6	70.9	63.6	65.0	50.9	66.0
SPH3946	684	3818	58.7	12.1		57.1	51.8	43.5	56.5	51.6	53.9	61.0	49.2	58.7	56.7	55.2	93.8	56.3	54.9	59.1	80.5
SPH3947	1005	3654	63.5	11.9		69.0	61.9	47.2	70.2	57.3	55.9	53.1	58.6	75.6	66.0	56.5	64.4	60.7	63.4	56.8	99.7
SPH3948	1692	2555	101.1	30.8		81.7	77.7	76.3	123.9	71.2	98.7	93.6	81.8	91.3	139.7	72.3	158.1	93.3	67.5	139.4	151.1
SPH3949	1137	3756	60.8	13.0		54.3	52.3	46.5	61.3	46.6	63.8	53.7	49.7	70.9	70.5	54.2	78.4	56.3	57.8	60.2	96.4

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity					
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3950	1395	3694	62.5	20.5		50.8	52.5	45.7	68.0	51.1	50.7	50.1	59.4	89.8	70.6	51.9	62.8	46.4	53.8	70.4	125.8
SPH3951	318	1410	208.9	278.1		67.7	57.0	75.6	64.2	74.0	87.3	537.6	88.2	69.2	98.2	98.5	66.8	144.3	98.1	859.9	855.6
SPH3952	924	3693	62.5	15.7		57.5	54.7	47.1	66.1	52.9	73.8	50.4	46.9	79.1	48.5	63.0	106.8	50.5	62.6	64.5	76.2
SPH3953	1290	3958	51.7	9.6		45.1	50.7	40.5	58.8	46.0	48.1	41.2	47.2	70.0	47.3	50.3	53.8	48.3	44.1	68.8	67.6
SPH3954	192	3850	57.9	12.0		59.7	42.7	54.8	67.4	52.7	50.5	55.5	47.9	60.2	46.1	66.0	62.6	70.1	49.3	49.2	91.2
SPH3955	198	3869	57.3	16.8		43.5	48.5	45.2	58.1	43.0	75.7	50.3	45.6	57.6	48.7	52.5	103.9	49.9	50.6	59.6	84.5
SPH3956	1353	3897	56.1	12.2		56.8	44.9	44.5	65.5	44.0	56.3	55.2	46.3	62.9	53.6	55.0	84.2	50.0	43.2	54.0	80.6
SPH3957	669	3817	58.7	10.6		52.8	46.4	50.2	61.0	46.5	81.2	47.7	50.2	60.1	60.6	64.4	78.4	57.7	51.3	64.5	66.7
SPH3958	1104	3591	65.4	17.5		79.2	47.6	48.8	56.1	46.8	85.9	57.7	53.7	58.5	58.9	68.7	114.4	56.4	67.2	69.2	78.0
SPH3959	903	2166	123.5	63.6		66.1	72.6	112.1	156.3	73.3	79.7	99.6	84.4	121.9	87.7	332.4	165.1	127.6	126.3	133.4	137.4
SPH3960	918	884	338.8	349.7		112.0	97.2	321.6	324.3	121.6	113.4	339.5	160.5	151.2	236.4	1533.5	551.6	565.6	334.6	224.9	233.1
SPH3961	1098	2838	88.9	29.5		73.6	48.0	75.4	101.5	68.1	69.3	78.0	70.1	97.7	80.1	106.3	128.2	89.5	65.6	98.7	171.7
SPH3962	999	3340	72.4	16.4		64.0	44.7	57.7	86.7	53.7	57.8	57.5	63.7	80.8	78.9	83.8	106.4	71.2	74.7	86.3	90.7
SPH3963	1080	3890	56.5	11.2		49.1	42.1	55.3	65.2	47.2	43.1	42.3	55.1	80.6	55.1	74.2	52.1	64.9	53.0	64.7	60.3
SPH3964	777	3960	51.6	6.7		54.6	46.0	44.6	49.0	39.5	58.6	45.5	43.5	51.7	52.1	56.2	65.4	56.9	52.2	55.9	54.7
SPH3965	999	3140	78.2	38.7		69.9	51.5	71.8	81.8	49.3	49.1	69.4	52.5	71.0	63.9	200.5	131.8	84.0	63.3	50.8	91.1
SPH3966	1179	2909	85.7	35.9		73.1	61.7	91.0	120.3	51.9	78.7	62.6	68.9	87.4	62.8	194.3	128.5	66.8	70.1	61.0	92.3
SPH3967	282	2408	108.9	74.2		66.1	73.0	111.3	172.6	60.7	54.6	68.2	88.8	80.0	70.7	335.4	212.1	113.9	54.8	83.5	96.5
SPH3968	786	2875	87.3	12.9		69.9	95.1	76.5	75.1	72.2	100.5	84.5	85.8	85.9	104.3	93.0	101.1	86.0	80.1	73.3	113.8
SPH3969	1947	3127	78.5	25.1		60.7	89.8	94.7	56.1	61.8	59.6	72.1	83.1	67.5	95.4	111.2	56.6	150.0	62.2	66.6	69.1
SPH3970	933	1491	194.9	176.1		72.7	356.9	113.4	162.4	70.7	55.3	145.0	299.6	181.8	722.1	121.4	68.1	221.5	386.4	67.8	72.7
SPH3971	1035	2803	90.3	21.1		67.0	56.5	76.1	107.6	62.2	79.1	89.1	80.9	97.9	135.0	85.6	115.0	96.7	87.0	90.0	118.2
SPH3972	2427	2229	118.8	26.6		121.3	85.8	82.5	95.3	92.7	115.7	111.5	104.6	152.2	160.7	109.3	172.2	144.9	107.3	126.4	119.0
SPH3973	69	2414	108.5	51.7		81.9	71.1	103.1	79.1	88.7	63.9	117.0	74.6	114.2	130.4	128.8	72.3	283.2	113.0	125.5	89.7
SPH3974	1317	2849	88.3	32.4		62.1	57.3	75.9	70.0	66.1	55.3	77.6	64.2	107.8	122.7	87.2	77.0	180.9	114.7	106.4	88.2
SPH3975	1113	2065	132.5	49.3		96.1	83.4	108.9	82.2	141.6	78.3	161.4	97.1	111.7	142.8	114.9	103.2	186.8	237.7	224.8	149.1
SPH3977	1206	2556	101.1	100.1		61.7	45.0	120.7	74.5	66.4	45.5	134.6	61.1	61.4	104.4	192.6	43.5	443.9	45.9	55.7	60.2
SPH3978	1374	3703	62.2	13.6		49.9	54.0	52.3	61.4	53.8	87.2	61.6	52.4	68.0	58.7	57.3	65.6	63.3	43.7	70.0	96.8
SPH3979	426	3156	77.9	16.2		69.7	63.7	70.4	86.6	59.5	59.7	83.8	57.9	87.0	63.9	78.8	105.7	80.6	72.4	107.3	99.2
SPH3980	519	3823	58.6	14.0		54.8	50.5	48.1	67.3	52.2	62.7	60.5	46.6	64.8	48.7	52.5	56.1	64.1	44.1	60.8	103.6
SPH3981	435	3874	57.2	10.0		47.3	56.9	55.8	57.6	46.9	44.9	57.7	57.6	59.4	60.3	46.0	66.0	61.3	56.1	54.3	87.3
SPH3982	1827	3907	55.5	10.8		47.6	56.3	47.9	53.4	40.8	56.7	50.3	47.2	63.6	55.0	54.2	67.0	64.1	49.6	48.3	86.5
SPH3983	2127	2937	84.7	25.3		72.7	74.3	67.1	72.8	61.2	88.6	90.9	58.8	58.7	81.5	101.1	97.0	154.5	80.9	71.6	123.3
SPH3984	2478	3712	62.1	13.2		42.9	55.2	45.9	62.9	48.9	62.2	66.4	52.1	61.2	77.9	67.3	60.0	69.6	56.2	68.2	97.2

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity			Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity		Normalized fluorescence intensity							
					Sample information																
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH3985	1335	2351	112.2	35.7		74.9	81.3	105.3	77.4	70.6	122.4	107.0	84.5	88.9	121.0	149.7	137.6	192.6	92.0	121.6	169.0
SPH3987	873	3299	73.7	16.5		66.6	58.9	81.7	65.5	66.5	59.7	97.2	71.5	71.0	69.2	76.3	63.8	93.7	117.8	60.1	59.4
SPH3988	702	2658	96.1	40.6		74.5	74.9	84.5	104.3	82.7	83.4	99.4	70.1	91.1	89.2	94.0	87.2	98.4	243.6	88.0	71.5
SPH3989	1434	2235	118.6	107.6		90.0	90.8	86.7	98.2	81.4	87.7	142.9	87.0	63.6	104.6	90.4	78.8	109.8	516.4	99.7	69.2
SPH3990	1248	3233	75.4	11.7		54.3	62.7	77.2	67.2	60.5	79.5	87.6	73.4	71.0	82.2	82.3	88.1	101.1	68.5	75.0	76.2
SPH3991	1773	2735	93.5	23.0		60.0	83.0	71.6	83.2	67.2	101.6	78.3	82.0	67.2	130.0	100.3	108.3	117.1	93.2	126.5	126.0
SPH3993	75	1484	195.7	163.9		81.0	103.7	215.7	111.0	113.9	132.9	312.3	115.7	93.3	265.5	362.4	127.7	724.0	139.0	98.5	134.3
SPH3994	195	1173	255.1	252.1		138.5	135.0	304.2	109.7	201.8	146.0	482.8	137.7	78.8	277.7	533.6	77.5	1051.5	178.5	139.0	89.7
SPH3995	1185	3433	69.8	18.2		84.6	52.9	55.1	56.6	51.7	75.0	71.2	54.3	59.3	85.0	66.2	66.7	103.0	51.6	73.8	110.6
SPH3996	3438	2794	90.7	64.9		77.0	47.9	67.4	73.8	60.1	66.2	71.5	71.7	81.1	59.0	66.7	89.7	78.6	322.4	79.1	139.6
SPH3997	1155	2370	111.3	54.8		105.1	80.8	103.2	71.7	69.2	87.4	103.9	72.8	77.5	171.6	114.0	88.7	136.2	289.9	86.9	121.9
SPH3998	10584	2621	97.9	82.8		60.6	66.4	72.0	78.2	53.7	123.9	74.1	58.2	64.3	73.7	88.4	104.9	96.8	400.6	66.3	84.0
SPH3999	1203	1560	185.6	364.7		73.3	75.7	69.0	94.5	78.1	105.2	58.0	79.0	71.0	117.2	62.4	151.0	57.0	1546.1	150.1	182.0
SPH4000	384	280	1040.4	2154.4		539.4	379.5	466.0	291.1	501.9	344.3	510.5	348.5	337.9	552.9	311.6	342.1	470.0	9059.5	1337.9	852.6
SPH4001	315	1724	163.9	297.8		89.4	85.4	68.6	83.5	83.4	118.3	57.8	82.7	81.9	103.4	54.4	137.2	60.7	1276.6	96.3	143.1
SPH4002	1083	203	1361.5	1793.0		958.7	805.0	757.7	604.6	795.4	723.4	941.7	828.6	1230.7	954.3	645.2	918.0	387.4	7957.5	1885.3	1390.8
SPH4003	1068	233	1228.9	1729.6		639.6	625.2	650.5	707.2	565.6	549.6	818.0	578.3	759.6	896.1	676.0	1261.2	247.8	7549.9	1938.3	1199.9
SPH4004	1008	2915	85.5	40.2		74.6	61.7	49.6	77.5	57.9	103.7	54.3	81.4	73.1	79.2	49.5	118.2	53.8	206.7	126.0	100.9
SPH4005	327	200	1381.1	434.4		1493.7	1344.9	1063.6	1632.2	1082.6	1730.5	1089.7	1634.7	1614.7	1551.6	689.0	1378.1	532.1	2367.1	1565.3	1327.6
SPH4006	282	3019	81.9	27.4		73.0	68.8	55.2	78.3	88.6	60.2	86.9	71.7	100.6	52.7	47.2	115.8	50.6	103.4	139.7	118.0
SPH4007	441	2403	109.1	27.6		161.3	112.9	101.3	96.9	137.0	124.9	92.7	126.6	104.0	86.2	66.2	139.9	58.5	113.7	89.6	133.4
SPH4008	675	426	704.5	164.6		919.4	747.8	613.1	707.7	741.8	970.9	561.8	911.8	641.3	610.5	471.1	778.0	354.5	758.6	823.9	659.7
SPH4009	222	3333	72.7	23.6		62.5	73.8	48.3	72.4	53.0	70.7	51.3	73.0	74.0	86.7	45.2	87.2	54.1	76.7	91.4	142.9
SPH4010	2247	2394	109.7	40.3		128.1	163.4	79.1	77.2	92.0	177.6	60.3	189.2	71.4	86.2	63.7	111.1	111.3	87.1	136.3	121.7
SPH4011	1893	1616	180.2	91.6		321.7	273.2	167.7	108.9	215.8	177.9	122.9	418.5	167.4	131.2	82.7	165.7	79.8	116.9	209.9	122.2
SPH4012	537	1655	173.7	102.6		430.4	213.2	136.4	122.3	239.7	277.1	112.7	353.3	122.4	84.2	95.7	99.8	92.6	120.3	166.3	112.2
SPH4013	2061	941	315.5	134.1		466.0	334.9	200.9	321.3	304.4	559.8	275.7	576.4	250.6	220.8	122.7	348.1	152.6	175.8	392.1	346.5
SPH4014	4818	1562	185.4	51.7		270.7	185.4	146.2	159.2	208.6	209.0	152.7	255.3	249.4	173.5	99.4	192.1	94.1	168.1	238.5	164.1
SPH4015	672	3457	69.0	16.4		72.9	63.3	56.3	78.8	78.9	59.4	64.8	62.9	75.3	59.7	51.3	65.9	46.4	88.9	63.3	115.0
SPH4016	276	3194	76.7	26.3		81.2	67.8	56.6	59.2	99.7	66.0	73.4	72.0	68.2	65.7	52.7	74.8	56.8	157.4	66.4	109.9
SPH4017	675	3309	73.3	27.0		78.8	62.4	45.4	73.2	68.9	107.2	57.0	67.0	51.4	63.4	46.6	87.8	56.4	155.2	75.8	76.1
SPH4018	468	3092	79.5	36.9		120.2	99.8	60.9	63.2	66.7	126.1	56.7	77.8	51.6	55.4	44.9	85.0	51.5	184.0	56.1	73.1
SPH4019	636	1887	146.1	92.5		196.4	223.0	146.5	144.5	129.5	175.7	71.9	229.5	103.0	71.1	74.8	106.1	71.5	426.1	94.6	72.4
SPH4020	636	1298	228.0	123.7		466.0	414.7	245.1	232.9	282.0	358.2	114.0	413.5	145.6	118.1	120.6	198.9	78.8	161.1	149.6	148.8

Gene information (Murata et al. 2008)		Ranking (average)	Normalized fluorescence intensity		Normalized fluorescence intensity				Normalized fluorescence intensity				Normalized fluorescence intensity				Normalized fluorescence intensity			
					Sample information															
Accession	Length		Average	SD	Initial alginate conc. in the culture medium (% w/v)	0.5		3.0		0.5		3.0		0.5		3.0		0.5		3.0	
					Shaking speed (rpm)	50		50		100		100		50		50		100		100	
					Growth phase	Log phase		Log phase		Log phase		Log phase		Stationary phase		Stationary phase		Stationary phase		Stationary phase	
					Repeat	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
SPH4021	579	164	1604.8	939.8		3397.9	2681.7	2021.1	2162.0	2088.1	2732.3	933.7	2736.0	1331.7	1165.6	1048.0	1014.9	380.5	498.6	835.9	648.1
SPH4022	1731	714	433.1	334.3		1300.7	879.6	706.6	350.8	683.5	468.1	236.3	692.4	291.5	167.5	323.7	194.7	103.7	121.9	246.5	161.7
SPH4023	807	1667	172.3	70.7		297.1	308.9	172.2	130.3	211.4	178.7	111.4	280.5	175.0	130.6	129.0	176.9	74.2	85.1	148.3	147.7
SPH4024	1359	581	523.3	325.7		1273.3	892.7	557.7	486.0	749.6	857.6	633.7	857.4	328.5	210.0	295.4	329.4	112.1	210.2	312.9	266.8
SPH4025	894	1026	291.7	197.9		708.7	541.1	265.5	239.3	450.7	522.4	331.8	517.7	85.2	95.0	127.4	151.5	61.7	133.4	215.9	219.0
SPH4026	789	320	926.6	574.6		2230.2	1517.4	892.7	1145.2	1284.4	1567.7	1070.0	1462.1	588.0	363.5	517.3	736.7	100.4	375.9	464.5	510.3
SPH4027	2559	882	339.1	228.9		824.1	654.2	326.9	352.8	444.6	671.6	289.1	573.1	154.5	147.3	155.6	231.9	62.8	151.2	159.7	226.9
SPH4028	759	89	2735.7	1486.9		5853.7	4579.9	3289.1	3276.3	3295.1	3818.6	2599.9	4598.5	1513.7	1285.9	1603.8	1949.9	732.7	3019.9	1283.2	1071.4
SPH4029	1224	1286	230.4	367.9		180.4	157.5	150.1	94.7	182.9	86.7	141.2	119.4	135.2	87.8	103.4	178.8	57.9	1599.0	238.1	173.2
SPH4030	1203	1494	194.5	356.6		101.8	78.9	70.7	146.6	78.7	94.2	74.5	104.3	97.5	119.3	60.9	214.8	58.9	1522.9	129.6	158.6