

OD600 reference point

	LUDOX CL-X H2O	
Replicate 1	0,054	0,031
Replicate 2	0,058	0,025
Replicate 3	0,060	0,026
Replicate 4	0,066	0,029
Arith. Mean	0,060	0,028
Corrected Abs600	0,032	
Reference OD600	0,063	
OD600/Abs600	1,984	

Enter Abs600 absorbance measurements into blue cells

Gold cells are calculated

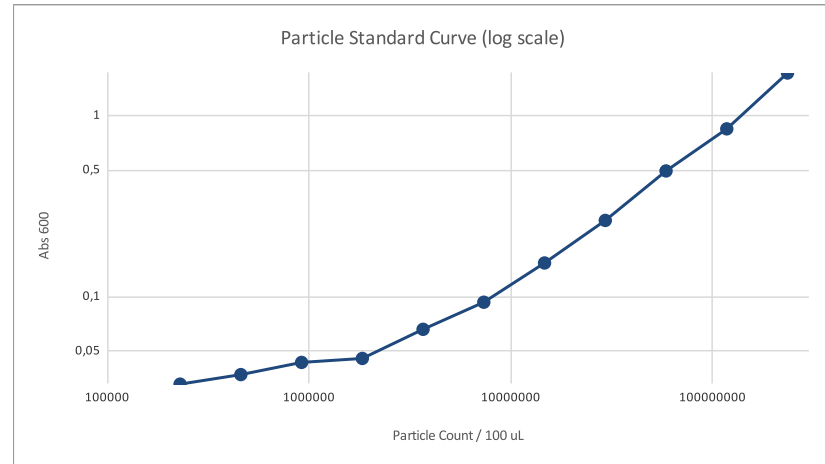
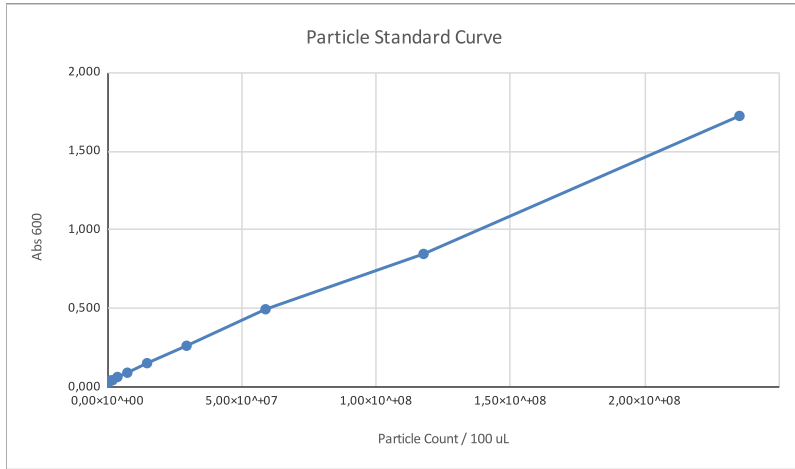
Corrected value is particle-only contribution

Reference value is for 100uL of LUDOX CL-X in a well of a standard 96-well flat-bottom black with clear bottom plate

*Corrected value = scaling factor * measured value*

Particle standard curve

Number of Particles	$2,35 \times 10^8$	$1,18 \times 10^8$	$5,88 \times 10^7$	$2,94 \times 10^7$	$1,47 \times 10^7$	$7,35 \times 10^6$	$3,68 \times 10^6$	$1,84 \times 10^6$	$9,19 \times 10^5$	$4,60 \times 10^5$	$2,30 \times 10^5$	0
Replicate 1	1,831	0,879	0,5	0,257	0,145	0,095	0,065	0,048	0,063	0,036	0,045	0,026
Replicate 2	1,628	0,911	0,5	0,276	0,167	0,098	0,072	0,047	0,038	0,043	0,03	0,032
Replicate 3	1,619	0,668	0,498	0,275	0,156	0,093	0,068	0,044	0,037	0,034	0,029	0,035
Replicate 4	1,817	0,932	0,487	0,25	0,148	0,088	0,06	0,044	0,036	0,036	0,028	0,028
Arith. Mean	1,724	0,848	0,496	0,265	0,154	0,094	0,066	0,046	0,044	0,037	0,033	0,030
Arith. Std.Dev.	0,116	0,122	0,006	0,013	0,010	0,004	0,005	0,002	0,013	0,004	0,008	0,004
Arith. Net Mean	1,694	0,817	0,466	0,234	0,124	0,063	0,036	0,016	0,013	0,007	0,003	



Particles / OD

Number of Particles	$2,35 \times 10^8$	$1,18 \times 10^8$	$5,88 \times 10^7$	$2,94 \times 10^7$	$1,47 \times 10^7$	$7,35 \times 10^6$	$3,68 \times 10^6$	$1,84 \times 10^6$	$9,19 \times 10^5$	$4,60 \times 10^5$	$2,30 \times 10^5$
Mean particles / Abs	$1,39 \times 10^+08$	$1,44 \times 10^+08$	$1,26 \times 10^+08$	$1,26 \times 10^+08$	$1,19 \times 10^+08$	$1,16 \times 10^+08$	$1,02 \times 10^+08$	$1,19 \times 10^+08$	$6,94 \times 10^+07$	$6,57 \times 10^+07$	$8,36 \times 10^+07$
Mean of med-high levels:			$1,26 \times 10^+08$								

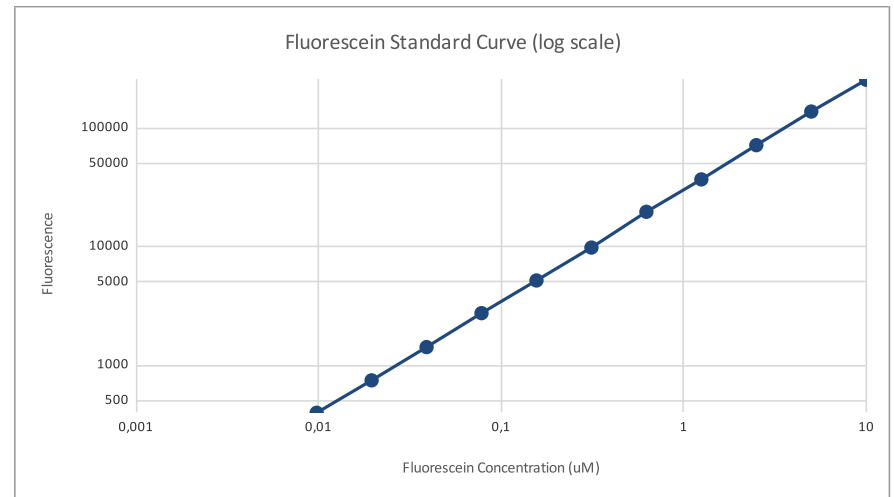
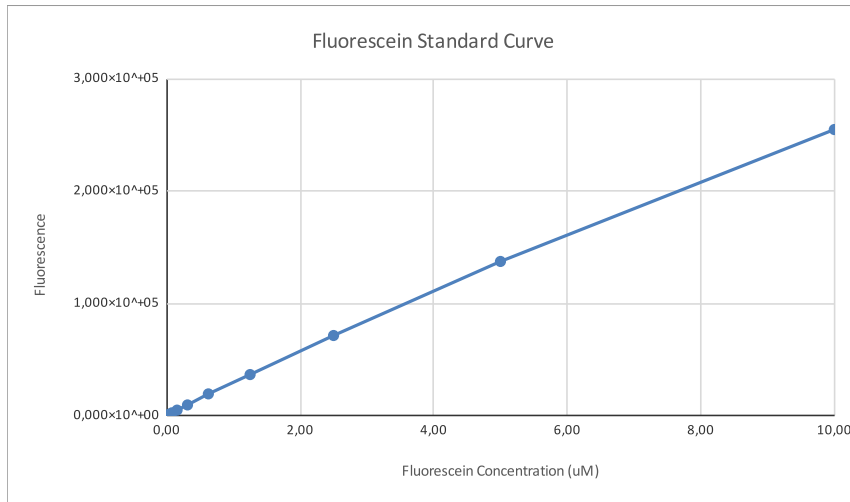
Final scaling level determined from medium-high points likely to be less impacted by saturation or pipetting error
If needed, you can shift which points are used, but it is likely better to correct instrument settings and protocol.

Cospheric Monodisperse Silica Microspheres 0.961um diameter

Spheres/gram	$1,20 \times 10^+12$
grams/mL	1,8
Spheres/0.55 mL	$1,19 \times 10^+12$
Resuspend volume mL:	2,55
Dilution X:	100
Total volume mL:	255
Particles / mL:	$4,71 \times 10^+09$
Well volume (mL)	0,1
Initial particles:	$4,71 \times 10^+08$

Fluorescein standard curve

Fluorescein uM	10,00	5	2,5	1,25	0,625	0,313	0,156	0,078	0,039	0,0195	0,0098	0
Replicate 1	254777	138472	72987	36810	20171	9784	5025	2744	1412	725	380	49
Replicate 2	253674	139327	71963	35981	20374	9780	5272	2756	1446	770	397	44
Replicate 3	255223	134090	69415	37608	19115	10251	5309	2879	1444	754	419	45
Replicate 4	255706	137956	71905	36849	18822	9384	5084	2588	1372	725	389	47
Arith. Mean	$2,548 \times 10^5$	$1,375 \times 10^5$	$7,157 \times 10^4$	$3,681 \times 10^4$	$1,962 \times 10^4$	$9,800 \times 10^3$	$5,173 \times 10^3$	$2,742 \times 10^3$	$1,419 \times 10^3$	$7,435 \times 10^2$	$3,963 \times 10^2$	$4,625 \times 10^1$
Arith. Std.Dev.	$8,680 \times 10^4$	$2,318 \times 10^4$	$1,519 \times 10^4$	$6,647 \times 10^3$	$7,668 \times 10^3$	$3,545 \times 10^3$	$1,392 \times 10^3$	$1,193 \times 10^3$	$3,469 \times 10^2$	$2,234 \times 10^2$	$1,668 \times 10^2$	$2,217 \times 10^1$
Arith. Net Mean	$2,548 \times 10^5$	$1,374 \times 10^5$	$7,152 \times 10^4$	$3,677 \times 10^4$	$1,957 \times 10^4$	$9,754 \times 10^3$	$5,126 \times 10^3$	$2,696 \times 10^3$	$1,372 \times 10^3$	$6,973 \times 10^2$	$3,500 \times 10^2$	



Fluorescein/a.u.

Fluorescein uM	10,00	5,00	2,50	1,25	0,63	0,31	0,16	0,08	0,04	0,02	0,01
uM Fluorescein/a.u.	$3,92 \times 10^{-05}$	$3,64 \times 10^{-05}$	$3,50 \times 10^{-05}$	$3,40 \times 10^{-05}$	$3,19 \times 10^{-05}$	$3,20 \times 10^{-05}$	$3,05 \times 10^{-05}$	$2,90 \times 10^{-05}$	$2,85 \times 10^{-05}$	$2,80 \times 10^{-05}$	$2,79 \times 10^{-05}$
Mean uM fluorescein / a.u.:		$3,39 \times 10^{-05}$									
MEFL / a.u.:		$2,04 \times 10^{-08}$									

Fluorescein uM --> MEFL calculation:

Initial Molarity	$1,00 \times 10^{-05}$
Molecules / Mole	$6,02 \times 10^{+23}$
Well volume (L):	$1,00 \times 10^{-04}$
Initial Molecules:	$6,02 \times 10^{+14}$
MEFL / uM	$6,02 \times 10^{+12}$

Raw Plate Reader Measurements

Raw Plate Readings

If you followed the recommended plate layout:

Copy fluorescence and Abs600 measurements from your plate reader into blue cells

They will automatically propagate into the correct locations in the Fluorescence Measurement Sheet

Fluorescence Raw Readings:

Hour 0:	Neg. Contr	Pos. Contr	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6	LB + Chlor (blank)
Colony 1, Replicate :	176	193	216	208	171	234	263	186	174
Colony 1, Replicate :	170	184	200	187	171	230	251	176	166
Colony 1, Replicate :	166	181	202	190	171	198	254	171	157
Colony 1, Replicate :	170	172	202	193	171	222	261	173	158
Colony 2, Replicate :	179	181	201	215	183	229	264	201	168
Colony 2, Replicate :	171	184	201	196	189	203	222	194	165
Colony 2, Replicate :	166	180	203	187	165	209	198	188	171
Colony 2, Replicate :	167	178	214	184	157	193	242	180	159

Hour 6:	Neg. Contr	Pos. Contr	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6	LB + Chlor (blank)
Colony 1, Replicate :	223	989	1032	1126	221	1912	635	601	206
Colony 1, Replicate :	224	971	1048	947	207	1842	558	554	189
Colony 1, Replicate :	228	928	1028	1029	210	1949	575	545	186
Colony 1, Replicate :	215	887	936	1132	207	2092	588	541	171
Colony 2, Replicate :	226	829	628	899	211	1985	531	586	174
Colony 2, Replicate :	225	911	641	869	209	1823	534	563	163
Colony 2, Replicate :	217	913	696	942	220	1981	551	561	171
Colony 2, Replicate :	219	929	709	960	213	2103	567	602	173

Assumed plate well pattern:

A1	A2	A3	A4	A5	A6	A7	A8	A9
B1	B2	B3	B4	B5	B6	B7	B8	B9
C1	C2	C3	C4	C5	C6	C7	C8	C9
D1	D2	D3	D4	D5	D6	D7	D8	D9
E1	E2	E3	E4	E5	E6	E7	E8	E9
F1	F2	F3	F4	F5	F6	F7	F8	F9
G1	G2	G3	G4	G5	G6	G7	G8	G9
H1	H2	H3	H4	H5	H6	H7	H8	H9

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Abs600 Raw Readings:

Hour 0:	Neg. Contr	Pos. Contr	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6	LB + Chlor (blank)
Colony 1, Replicate 1	0,055	0,066	0,044	0,06	0,036	0,04	0,038	0,037	0,041
Colony 1, Replicate 2	0,05	0,05	0,048	0,043	0,057	0,037	0,039	0,039	0,032
Colony 1, Replicate 3	0,051	0,059	0,041	0,056	0,05	0,034	0,045	0,035	0,031
Colony 1, Replicate 4	0,052	0,045	0,036	0,042	0,041	0,037	0,037	0,036	0,038
Colony 2, Replicate 1	0,04	0,047	0,048	0,06	0,07	0,047	0,053	0,065	0,038
Colony 2, Replicate 2	0,074	0,042	0,035	0,053	0,039	0,038	0,039	0,046	0,031
Colony 2, Replicate 3	0,036	0,042	0,042	0,044	0,038	0,057	0,035	0,043	0,052
Colony 2, Replicate 4	0,037	0,043	0,042	0,039	0,039	0,04	0,043	0,044	0,033

Hour 6:	Neg. Contr	Pos. Contr	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6	LB + Chlor (blank)
Colony 1, Replicate 1	0,885	0,519	0,111	0,58	0,493	0,237	0,068	0,449	0,039
Colony 1, Replicate 2	0,974	0,552	0,125	0,477	0,444	0,288	0,057	0,476	0,027
Colony 1, Replicate 3	0,829	0,671	0,163	0,824	0,517	0,289	0,214	0,484	0,028
Colony 1, Replicate 4	0,611	0,567	0,263	0,754	0,592	0,325	0,232	0,61	0,032
Colony 2, Replicate 1	0,794	0,573	0,198	0,606	0,662	0,5	0,263	0,733	0,03
Colony 2, Replicate 2	0,663	0,621	0,077	0,463	0,555	0,348	0,181	0,727	0,031
Colony 2, Replicate 3	0,744	0,598	0,075	0,459	0,585	0,31	0,066	0,536	0,034
Colony 2, Replicate 4	0,431	0,517	0,066	0,421	0,468	0,291	0,066	0,472	0,034

Fluorescence per OD

Unit Scaling Factors *These are imported from the prior sheets*

OD600 / Abs600	1,98
uM Fluorescein / a.u.	$3,39 \times 10^{-05}$

Experimental Values:

uM Fluorescein / OD

Hour 0:	Neg. Control	Pos. Contrc	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6
Colony 1, Replicate 1	0,002	0,013	0,239	0,031	0,010	-1,024	-0,506	-0,051
Colony 1, Replicate 2	0,004	0,017	0,036	0,033	0,003	0,218	0,207	0,024
Colony 1, Replicate 3	0,008	0,015	0,077	0,023	0,013	0,233	0,118	0,060
Colony 1, Replicate 4	0,015	0,034	-0,375	0,149	0,074	-1,092	-1,758	-0,128
Colony 2, Replicate 1	0,094	0,025	0,056	0,036	0,008	0,116	0,109	0,021
Colony 2, Replicate 2	0,002	0,029	0,154	0,024	0,051	0,093	0,122	0,033
Colony 2, Replicate 3	0,005	-0,015	-0,055	-0,034	0,007	0,130	-0,027	-0,032
Colony 2, Replicate 4	0,034	0,032	0,104	0,071	-0,006	0,083	0,142	0,033

Hour 6:	Neg. Control	Pos. Contrc	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6
Colony 1, Replicate 1	0,000	0,028	0,196	0,029	0,001	0,147	0,252	0,016
Colony 1, Replicate 2	0,001	0,025	0,150	0,029	0,001	0,108	0,210	0,014
Colony 1, Replicate 3	0,001	0,020	0,106	0,018	0,001	0,115	0,036	0,013
Colony 1, Replicate 4	0,001	0,023	0,057	0,023	0,001	0,112	0,036	0,011
Colony 2, Replicate 1	0,001	0,021	0,046	0,021	0,001	0,066	0,026	0,010
Colony 2, Replicate 2	0,002	0,022	0,177	0,028	0,001	0,089	0,042	0,010
Colony 2, Replicate 3	0,001	0,022	0,219	0,031	0,002	0,112	0,203	0,013
Colony 2, Replicate 4	0,002	0,027	0,286	0,035	0,002	0,128	0,210	0,017

Net Fluorescein a.u.

Neg.	Contrc	Pos.	Contrc	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6
2,00	19,00	42,00	34,00	-3,00	60,00	89,00	12,00		
4,00	18,00	34,00	21,00	5,00	64,00	85,00	10,00		
9,00	24,00	45,00	33,00	14,00	41,00	97,00	14,00		
12,00	14,00	44,00	35,00	13,00	64,00	103,00	15,00		
11,00	13,00	33,00	47,00	15,00	61,00	96,00	33,00		
6,00	19,00	36,00	31,00	24,00	38,00	57,00	29,00		
-5,00	9,00	32,00	16,00	-6,00	38,00	27,00	17,00		
8,00	19,00	55,00	25,00	-2,00	34,00	83,00	21,00		

Neg.	Contrc	Pos.	Contrc	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6
17,00	783,00	826,00	920,00	15,00	1706,00	429,00	395,00		
35,00	782,00	859,00	758,00	18,00	1653,00	369,00	365,00		
42,00	742,00	842,00	843,00	24,00	1763,00	389,00	359,00		
44,00	716,00	765,00	961,00	36,00	1921,00	417,00	370,00		
52,00	655,00	454,00	725,00	37,00	1811,00	357,00	412,00		
62,00	748,00	478,00	706,00	46,00	1660,00	371,00	400,00		
46,00	742,00	525,00	771,00	49,00	1810,00	380,00	390,00		
46,00	756,00	536,00	787,00	40,00	1930,00	394,00	429,00		

Net Abs 600

Neg.	Contrc	Pos.	Contrc	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6
0,014	0,025	0,003	0,019	-0,005	-0,001	-0,003	-0,004		
0,018	0,018	0,016	0,011	0,025	0,005	0,007	0,007		
0,020	0,028	0,010	0,025	0,019	0,003	0,014	0,004		
0,014	0,007	-0,002	0,004	0,003	-0,001	-0,001	-0,002		
0,002	0,009	0,010	0,022	0,032	0,009	0,015	0,027		
0,043	0,011	0,004	0,022	0,008	0,007	0,008	0,015		
-0,016	-0,010	-0,010	-0,008	-0,014	0,005	-0,017	-0,009		
0,004	0,010	0,009	0,006	0,006	0,007	0,010	0,011		

Neg.	Contrc	Pos.	Contrc	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6
0,846	0,480	0,072	0,541	0,454	0,198	0,029	0,410		
0,947	0,525	0,098	0,450	0,417	0,261	0,030	0,449		
0,801	0,643	0,135	0,796	0,489	0,261	0,186	0,456		
0,579	0,535	0,231	0,722	0,560	0,293	0,200	0,578		
0,764	0,543	0,168	0,576	0,632	0,470	0,233	0,703		
0,632	0,590	0,046	0,432	0,524	0,317	0,150	0,696		
0,710	0,564	0,041	0,425	0,551	0,276	0,032	0,502		
0,397	0,483	0,032	0,387	0,434	0,257	0,032	0,438		

Fluorescence per Particle

Unit Scaling Factor *These are imported from the prior sheets*

Particles / Abs600	1,26×10 ⁺⁰
MEFL / a.u.	2,04×10 ⁺⁰

Experimental Values:

MEFL / particle

Hour 0:	Neg. Contr	Pos. Contr	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6
Colony 1, Replicate 1	2,31×10 ⁺⁰	1,23×10 ⁺⁰	2,26×10 ⁺⁰	2,89×10 ⁺⁰	9,70×10 ⁺⁰	-9,70×10 ⁺⁰	-4,79×10 ⁺⁰	-4,85×10 ⁺⁰
Colony 1, Replicate 2	3,59×10 ⁺⁰	1,62×10 ⁺⁰	3,43×10 ⁺⁰	3,09×10 ⁺⁰	3,23×10 ⁺⁰	2,07×10 ⁺⁰	1,96×10 ⁺⁰	2,31×10 ⁺⁰
Colony 1, Replicate 3	7,27×10 ⁺⁰	1,39×10 ⁺⁰	7,27×10 ⁺⁰	2,13×10 ⁺⁰	1,19×10 ⁺⁰	2,21×10 ⁺⁰	1,12×10 ⁺⁰	5,66×10 ⁺⁰
Colony 1, Replicate 4	1,39×10 ⁺⁰	3,23×10 ⁺⁰	-3,56×10 ⁺⁰	1,41×10 ⁺⁰	7,00×10 ⁺⁰	-1,03×10 ⁺⁰	-1,66×10 ⁺⁰	-1,21×10 ⁺⁰
Colony 2, Replicate 1	8,89×10 ⁺⁰	2,33×10 ⁺⁰	5,33×10 ⁺⁰	3,45×10 ⁺⁰	7,58×10 ⁺⁰	1,10×10 ⁺⁰	1,03×10 ⁺⁰	1,98×10 ⁺⁰
Colony 2, Replicate 2	2,26×10 ⁺⁰	2,79×10 ⁺⁰	1,45×10 ⁺⁰	2,28×10 ⁺⁰	4,85×10 ⁺⁰	8,77×10 ⁺⁰	1,15×10 ⁺⁰	3,12×10 ⁺⁰
Colony 2, Replicate 3	5,05×10 ⁺⁰	-1,45×10 ⁺⁰	-5,17×10 ⁺⁰	-3,23×10 ⁺⁰	6,93×10 ⁺⁰	1,23×10 ⁺⁰	-2,57×10 ⁺⁰	-3,05×10 ⁺⁰
Colony 2, Replicate 4	3,23×10 ⁺⁰	3,07×10 ⁺⁰	9,88×10 ⁺⁰	6,73×10 ⁺⁰	-5,39×10 ⁺⁰	7,85×10 ⁺⁰	1,34×10 ⁺⁰	3,09×10 ⁺⁰

Hour 6:	Neg. Contr	Pos. Contr	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6
Colony 1, Replicate 1	3,25×10 ⁺⁰	2,64×10 ⁺⁰	1,85×10 ⁺⁰	2,75×10 ⁺⁰	5,34×10 ⁺⁰	1,39×10 ⁺⁰	2,39×10 ⁺⁰	1,56×10 ⁺⁰
Colony 1, Replicate 2	5,97×10 ⁺⁰	2,41×10 ⁺⁰	1,42×10 ⁺⁰	2,72×10 ⁺⁰	6,98×10 ⁺⁰	1,02×10 ⁺⁰	1,99×10 ⁺⁰	1,31×10 ⁺⁰
Colony 1, Replicate 3	8,47×10 ⁺⁰	1,87×10 ⁺⁰	1,01×10 ⁺⁰	1,71×10 ⁺⁰	7,93×10 ⁺⁰	1,09×10 ⁺⁰	3,38×10 ⁺⁰	1,27×10 ⁺⁰
Colony 1, Replicate 4	1,23×10 ⁺⁰	2,16×10 ⁺⁰	5,35×10 ⁺⁰	2,15×10 ⁺⁰	1,04×10 ⁺⁰	1,06×10 ⁺⁰	3,37×10 ⁺⁰	1,03×10 ⁺⁰
Colony 2, Replicate 1	1,10×10 ⁺⁰	1,95×10 ⁺⁰	4,37×10 ⁺⁰	2,03×10 ⁺⁰	9,46×10 ⁺⁰	6,23×10 ⁺⁰	2,48×10 ⁺⁰	9,47×10 ⁺⁰
Colony 2, Replicate 2	1,59×10 ⁺⁰	2,05×10 ⁺⁰	1,68×10 ⁺⁰	2,64×10 ⁺⁰	1,42×10 ⁺⁰	8,46×10 ⁺⁰	4,00×10 ⁺⁰	9,29×10 ⁺⁰
Colony 2, Replicate 3	1,05×10 ⁺⁰	2,13×10 ⁺⁰	2,07×10 ⁺⁰	2,93×10 ⁺⁰	1,44×10 ⁺⁰	1,06×10 ⁺⁰	1,92×10 ⁺⁰	1,26×10 ⁺⁰
Colony 2, Replicate 4	1,87×10 ⁺⁰	2,53×10 ⁺⁰	2,71×10 ⁺⁰	3,29×10 ⁺⁰	1,49×10 ⁺⁰	1,21×10 ⁺⁰	1,99×10 ⁺⁰	1,58×10 ⁺⁰

Net Florescein a.u.

Neg. Contr	Pos. Contr	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6
2,00	19,00	42,00	34,00	-3,00	60,00	89,00	12,00
4,00	18,00	34,00	21,00	5,00	64,00	85,00	10,00
9,00	24,00	45,00	33,00	14,00	41,00	97,00	14,00
12,00	14,00	44,00	35,00	13,00	64,00	103,00	15,00
11,00	13,00	33,00	47,00	15,00	61,00	96,00	33,00
6,00	19,00	36,00	31,00	24,00	38,00	57,00	29,00
-5,00	9,00	32,00	16,00	-6,00	38,00	27,00	17,00
8,00	19,00	55,00	25,00	-2,00	34,00	83,00	21,00

Neg. Contr	Pos. Contr	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6
17,00	783,00	826,00	920,00	15,00	1706,00	429,00	395,00
35,00	782,00	859,00	758,00	18,00	1653,00	369,00	365,00
42,00	742,00	842,00	843,00	24,00	1763,00	389,00	359,00
44,00	716,00	765,00	961,00	36,00	1921,00	417,00	370,00
52,00	655,00	454,00	725,00	37,00	1811,00	357,00	412,00
62,00	748,00	478,00	706,00	46,00	1660,00	371,00	400,00
46,00	742,00	525,00	771,00	49,00	1810,00	380,00	390,00
46,00	756,00	536,00	787,00	40,00	1930,00	394,00	429,00

Net Abs 600

Neg. Contr	Pos. Contr	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6
0,014	0,025	0,003	0,019	-0,005	-0,001	-0,003	-0,004
0,018	0,018	0,016	0,011	0,025	0,005	0,007	0,007
0,020	0,028	0,010	0,025	0,019	0,003	0,014	0,004
0,014	0,007	-0,002	0,004	0,003	-0,001	-0,001	-0,002
0,002	0,009	0,010	0,022	0,032	0,009	0,015	0,027
0,043	0,011	0,004	0,022	0,008	0,007	0,008	0,015
-0,016	-0,010	-0,010	-0,008	-0,014	0,005	-0,017	-0,009
0,004	0,010	0,009	0,006	0,006	0,007	0,010	0,011

Neg. Contr	Pos. Contr	Device 1	Device 2	Device 3	Device 4	Device 5	Device 6
0,846	0,480	0,072	0,541	0,454	0,198	0,029	0,410
0,947	0,525	0,098	0,450	0,417	0,261	0,030	0,449
0,801	0,643	0,135	0,796	0,489	0,261	0,186	0,456
0,579	0,535	0,231	0,722	0,560	0,293	0,200	0,578
0,764	0,543	0,168	0,576	0,632	0,470	0,233	0,703
0,632	0,590	0,046	0,432	0,524	0,317	0,150	0,696
0,710	0,564	0,041	0,425	0,551	0,276	0,032	0,502
0,397	0,483	0,032	0,387	0,434	0,257	0,032	0,438