

1/12

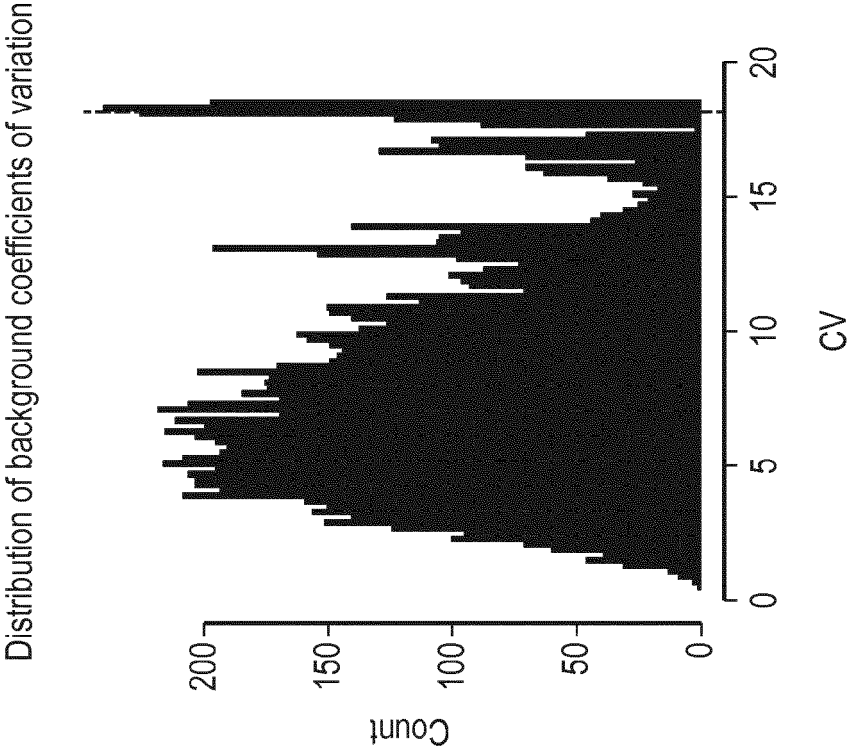


FIG. 1B

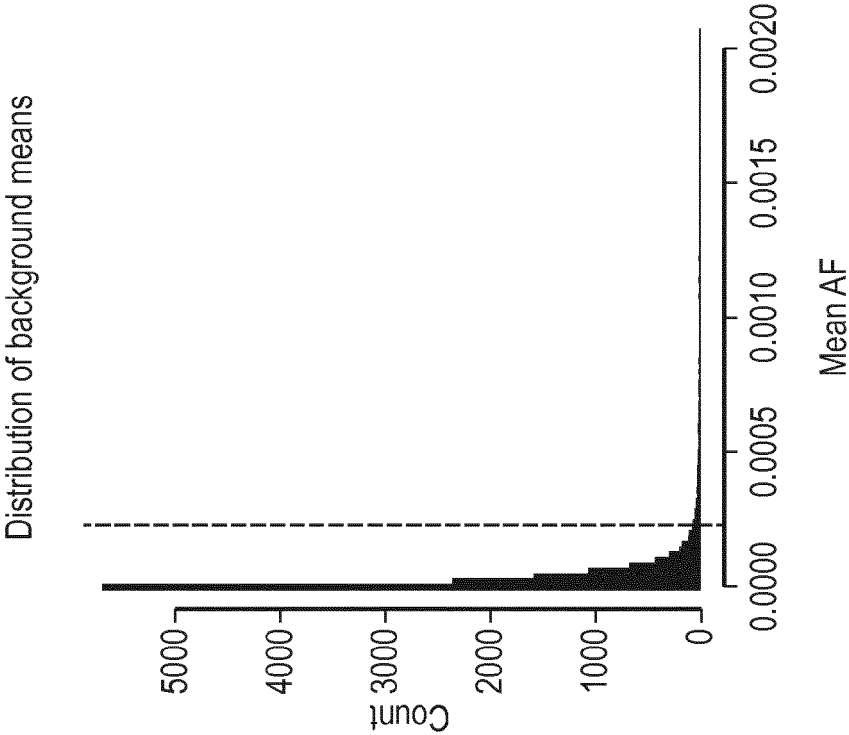


FIG. 1A

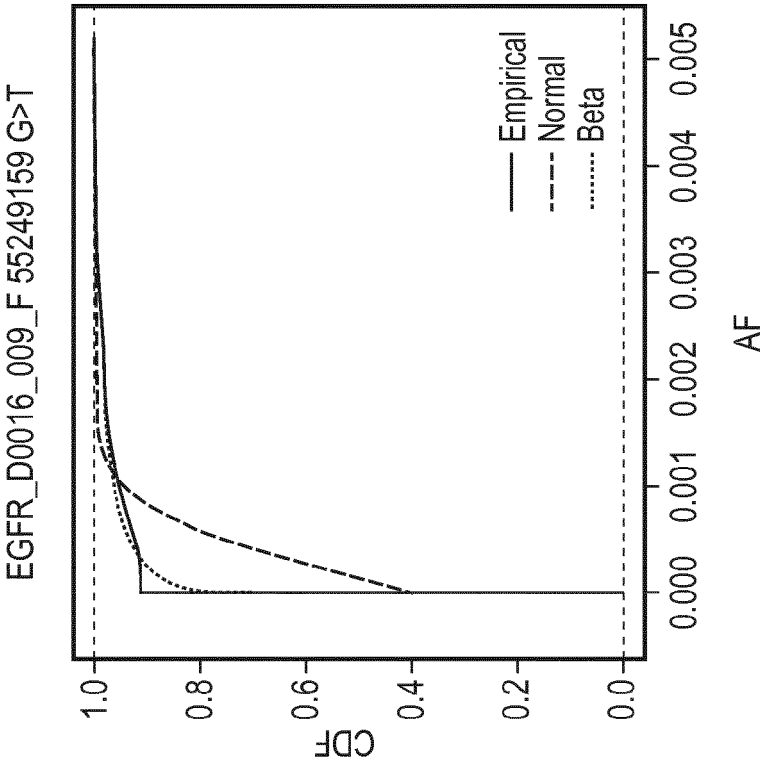


FIG. 2B

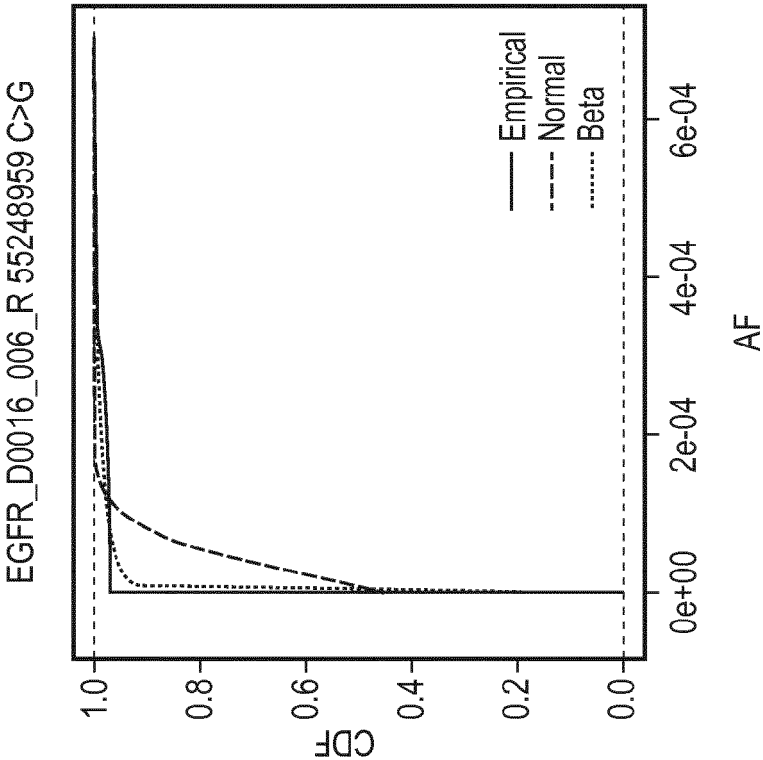


FIG. 2A

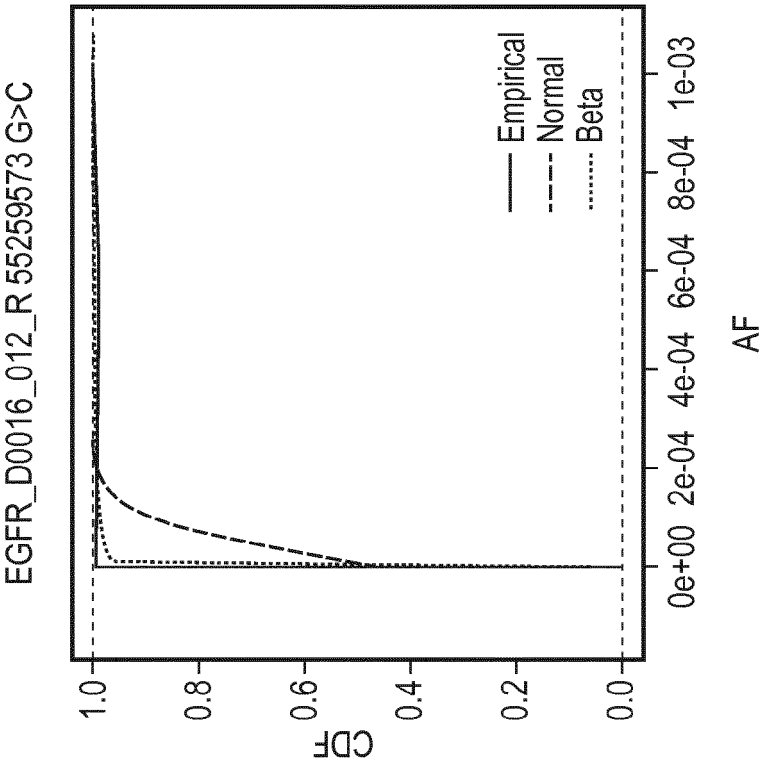


FIG. 2D

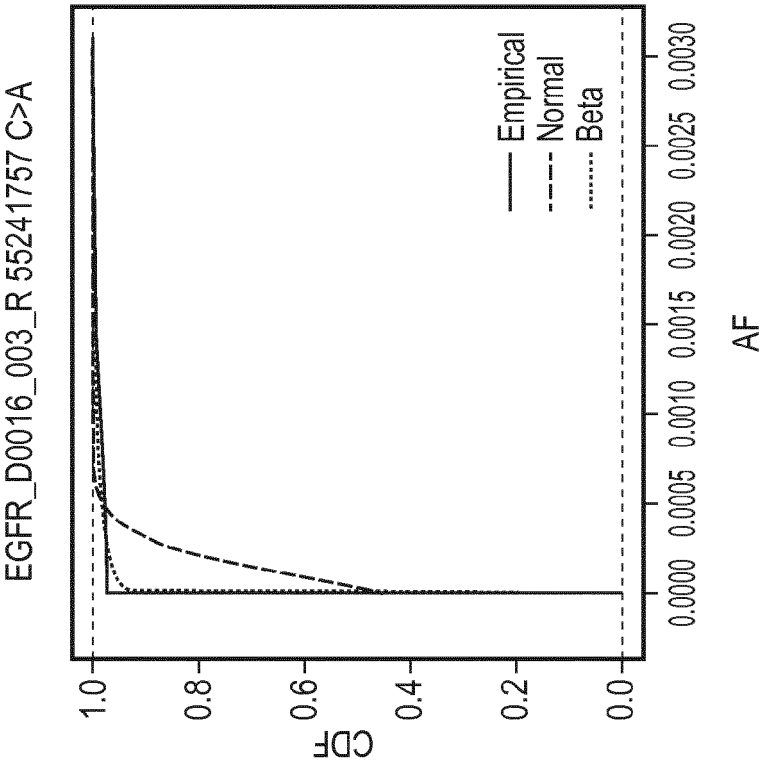
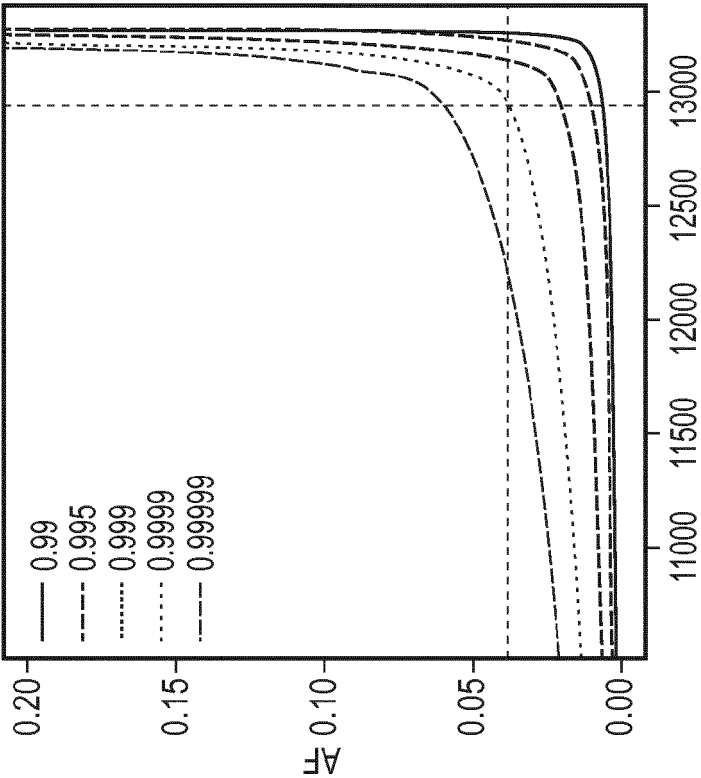
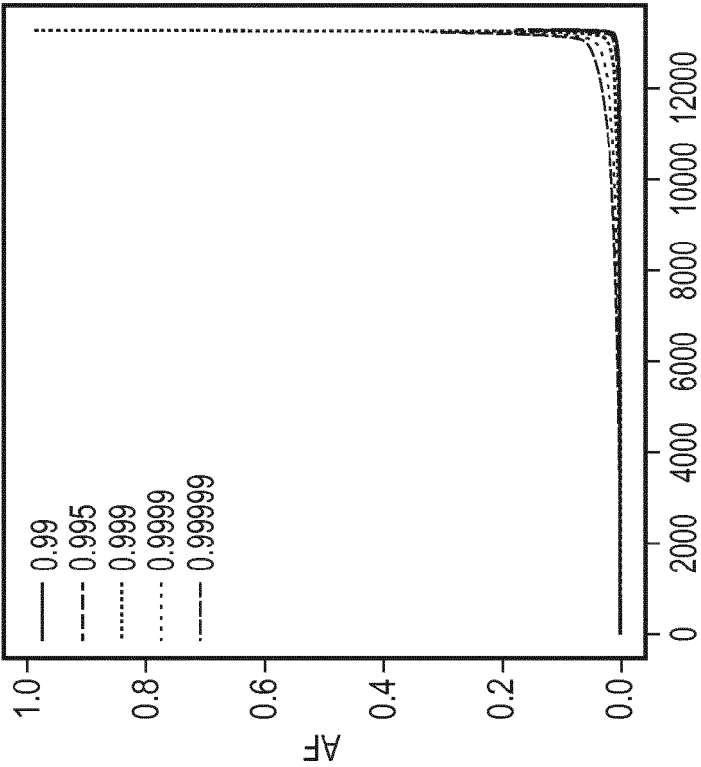


FIG. 2C



Sorted percentiles for each possible base change

FIG. 3B



Sorted percentiles for each possible base change

FIG. 3A

5/12

CDF_thresh=0.9999, compound calls using N≥2. Table 2:

Sample number	Fraction of mutant DNA	Fraction of wild-type DNA	Expected number of mutant molecules	Reactions per sample (T)	T-choose -2	Expected rate of FP	Approx. probability of a false negative	Expected TP	Expected FN	Observed FP	Observed TP	Observed FN
1	0.03	0.97	28.8	48	1128	0.14977584	1.26E-11	10	1.26E-10	2	10	0
2	0.01	0.99	19.2	96	4560	0.6054768	1.13E-07	9.999999	1.13E-06	0	10	0
3	0.0033	0.9967	6.4	96	4560	0.6054768	0.01302792	9.869721	0.130279	3	10	0
4	0.0011	0.9989	6.4	288	41328	5.48753184	0.01302792	9.869721	0.130279	4	10	0
5	0.0004	0.9996	4.27	576	165600	21.988368	0.07621843	9.237816	0.762184	28	8	2
					Total	28.8366293		48.97726	1.022744	36	48	2
					Average		0.020454877					

* Approximate probability of a false negative - based on Poisson probability of <N copies, plus the probability that these would fall in fewer than N different reactions

FIG. 4A

6/12

CDF_thresh=0.9999, compound calls using $N \geq 3$. Table 3:

Sample number	Fraction of mutant DNA	Fraction of wild-type DNA	Expected number of mutant molecules	Reactions per sample (T)	T-choose -3	Expected rate of FP	Approx. probability of a false negative	Expected TP	Expected FN	Observed FP	Observed TP	Observed FN
1	0.03	0.97	28.8	48	17296	0.00022966	1.68E-10	10	1.68E-09	0	10	0
2	0.01	0.99	19.2	96	142880	0.00189716	1.06E-06	9.99989	1.06E-05	0	10	0
3	0.0033	0.9967	6.4	96	142880	0.00189716	0.04781593	9.521841	0.478159	0	10	0
4	0.0011	0.9989	6.4	288	3939936	0.05231447	0.04781593	9.521841	0.478159	0	8	2
5	0.0004	0.9996	4.27	576	31684800	0.42071077	0.204236	7.95764	2.04236	1	7	3
					Total	0.47704922		47.00131	2.998689	1	45	5
					Average		0.059973785					

* Approximate probability of a false negative - based on Poisson probability of $< N$ copies, plus the probability that these would fall in fewer than N different reactions

FIG. 4B

7/12

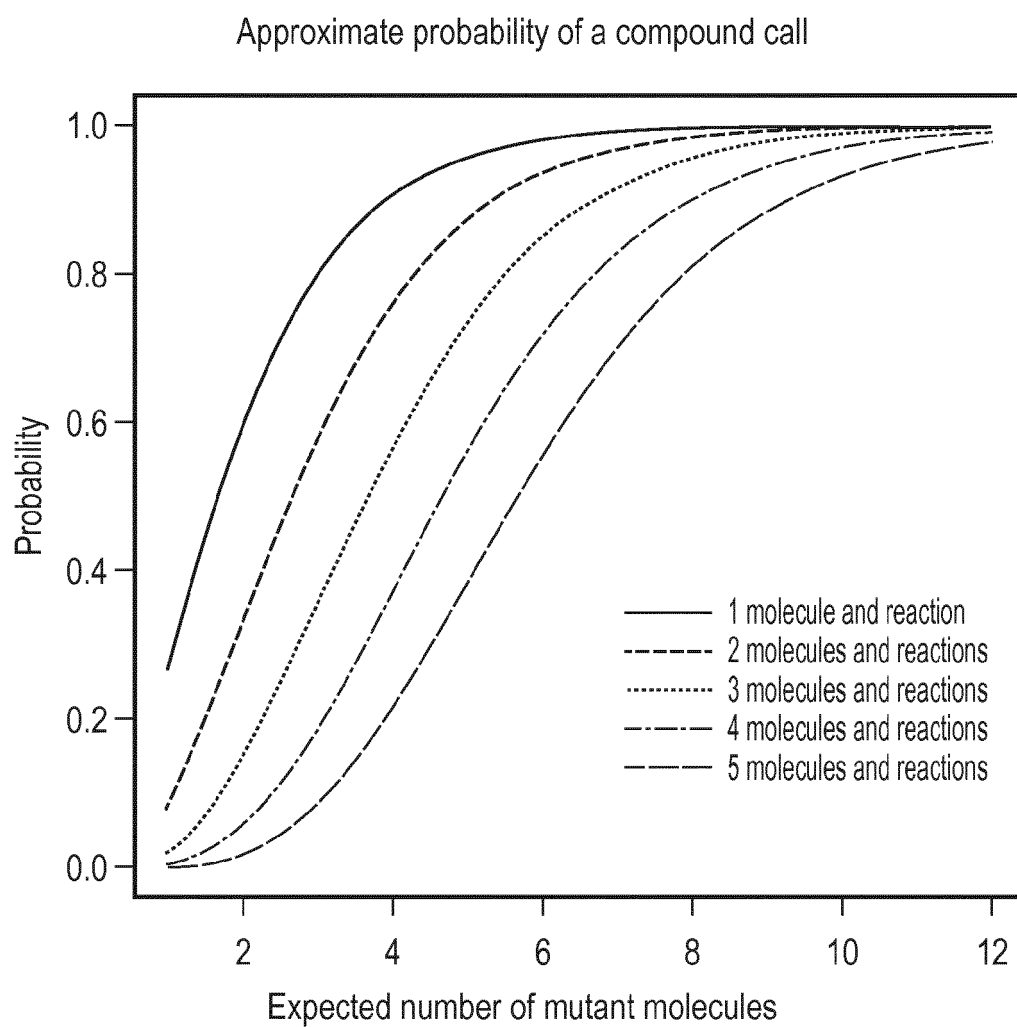


FIG. 5

8/12

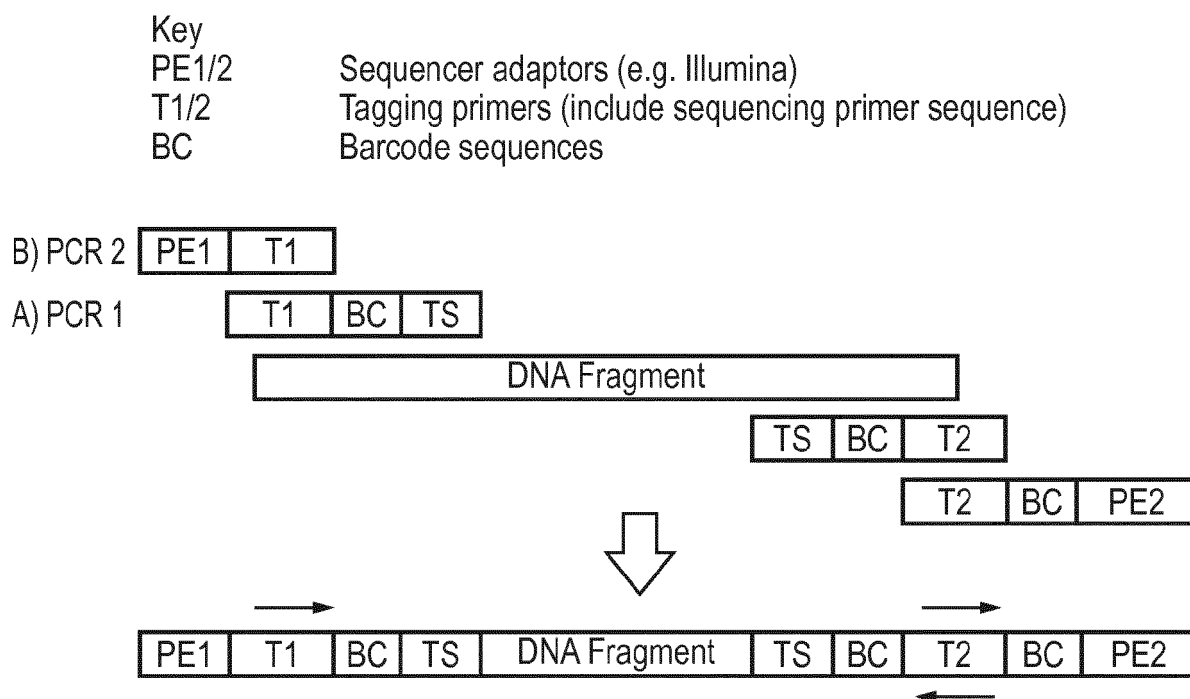


FIG. 6

9/12

	BC1	BC2	BC3	BC4	BC5	BC6	BC7
BC1	BC1/BC1	BC1/BC2	BC1/BC3	BC1/BC4	BC1/BC5	BC1/BC6	BC1/BC7
BC2	BC2/BC1	BC2/BC2	BC2/BC3	BC2/BC4	BC2/BC5	BC2/BC6	BC2/BC7
BC3	BC3/BC1	BC3/BC2	BC3/BC3	BC3/BC4	BC3/BC5	BC3/BC6	BC3/BC7
BC4	BC4/BC1	BC4/BC2	BC4/BC3	BC4/BC4	BC4/BC5	BC4/BC6	BC4/BC7
BC5	BC5/BC1	BC5/BC2	BC5/BC3	BC5/BC4	BC5/BC5	BC5/BC6	BC5/BC7
BC6	BC6/BC1	BC6/BC2	BC6/BC3	BC6/BC4	BC6/BC5	BC6/BC6	BC6/BC7
BC7	BC7/BC1	BC7/BC2	BC7/BC3	BC7/BC4	BC7/BC5	BC7/BC6	BC7/BC7

FIG. 7

10/12

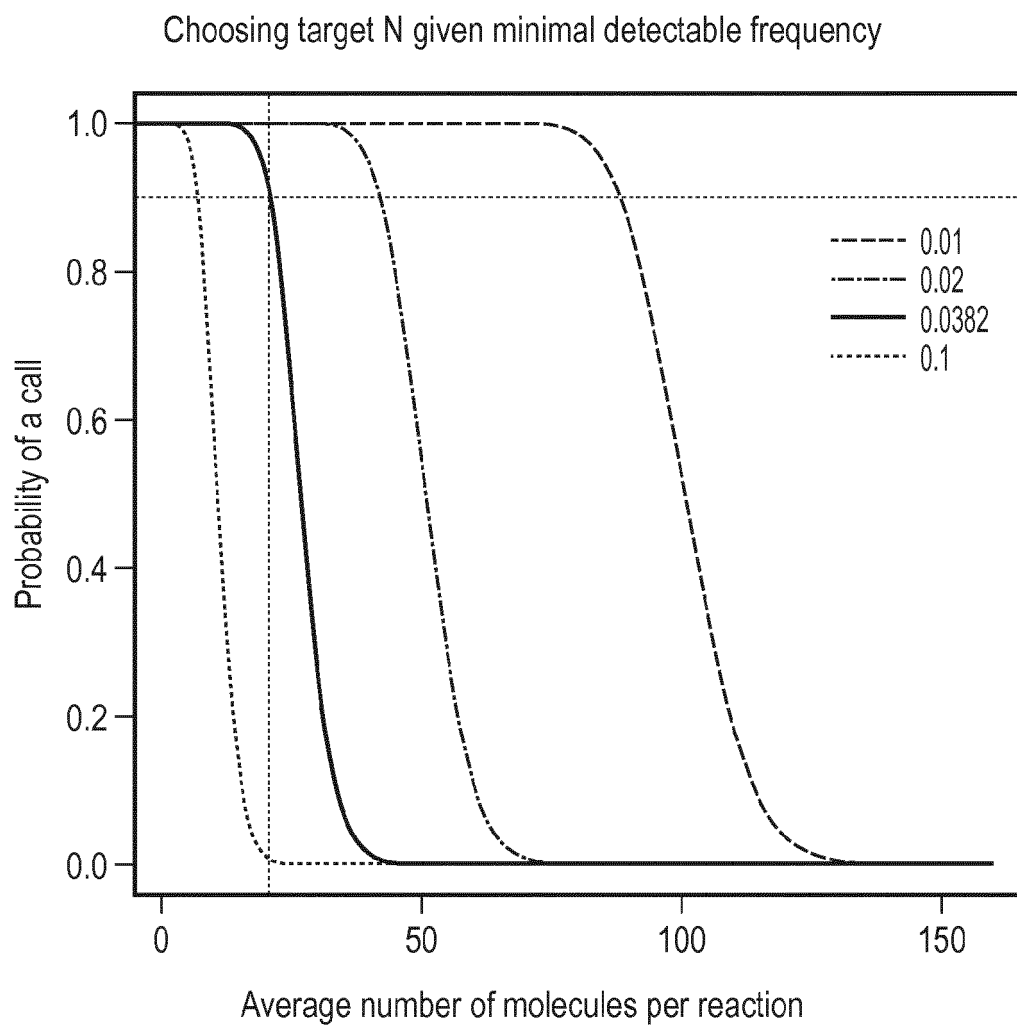


FIG. 8

11/12

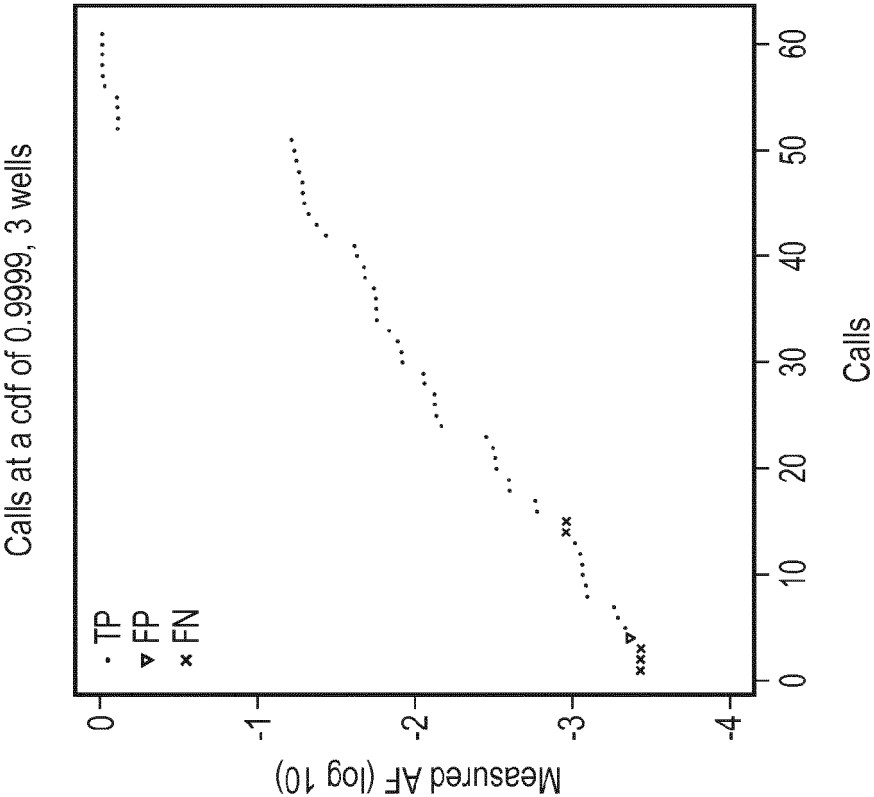


FIG. 9B

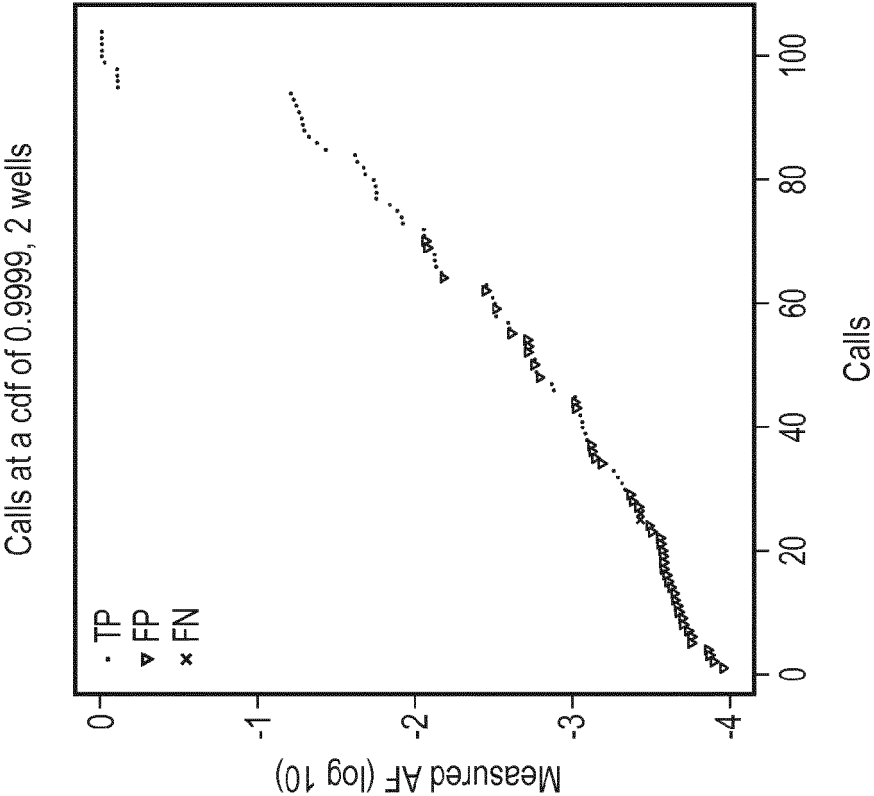


FIG. 9A

12/12

