

RADIATION TEST REPORT

PRODUCT: PM139R000C

MASK:

FILE:

DATE CODE:

GAMMA: 0, 100K

GAMMA SOURCE: Co60

DOSE RATE: 36.48 rad/sec

FACILITIES: National Semiconductor
Sunnyvale, Ca.

TESTED: July 25,2005

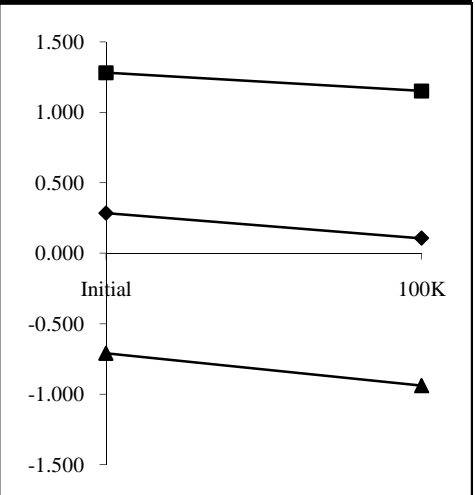
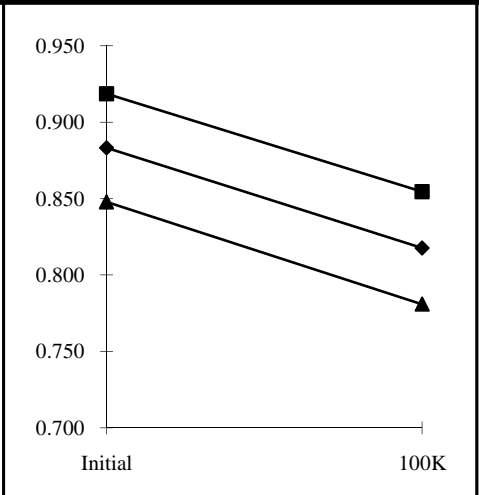
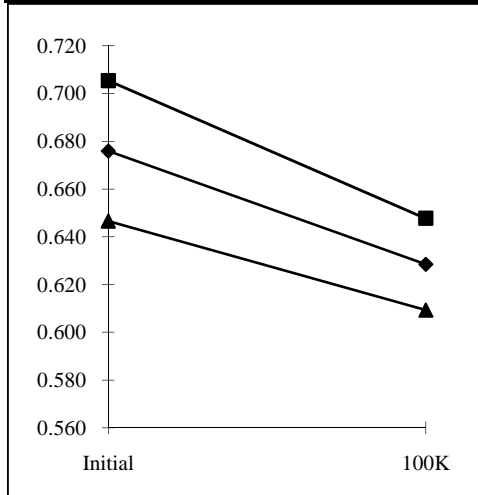
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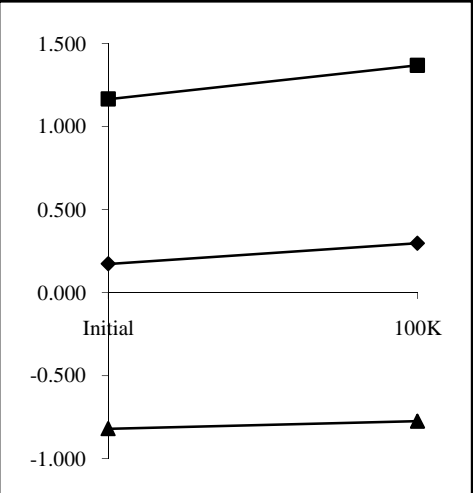
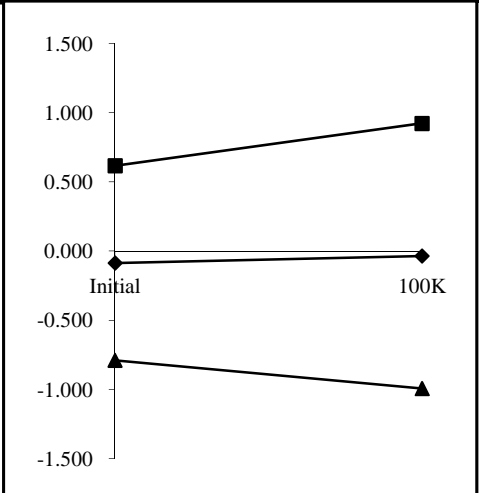
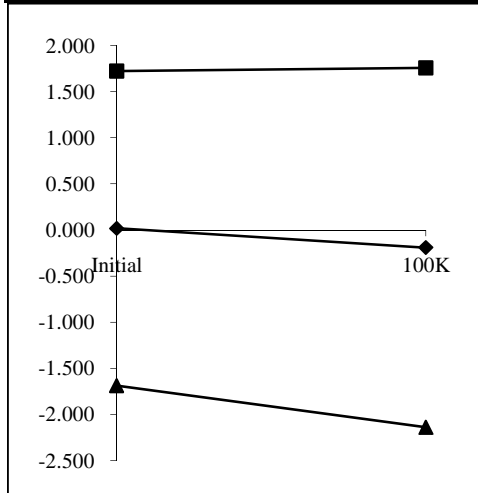
WARNING:

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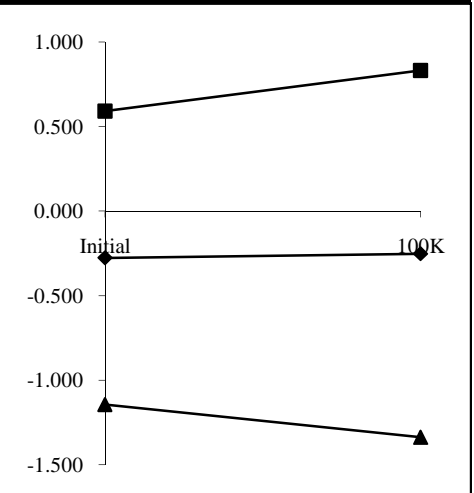
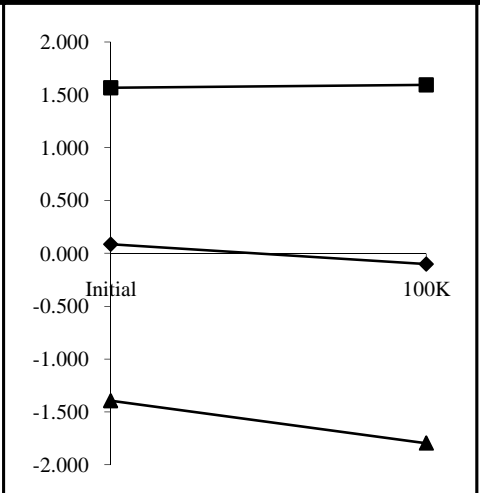
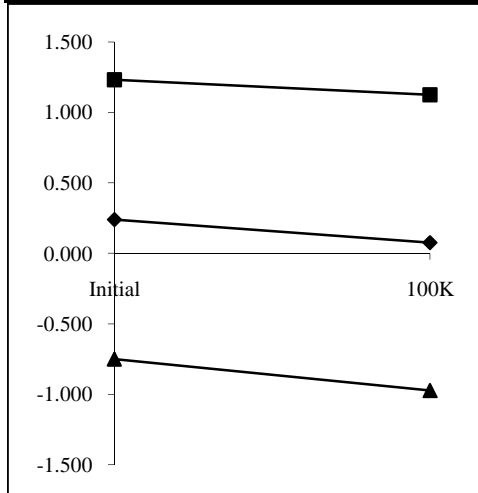
1.0	ICC @+ 5V	mA	2.0	ICC@ +30V	mA	3.0	VIO(1)	mV
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	0.671	0.669	1	0.878	0.874	1	0.604	0.610
2	0.684	0.631	2	0.889	0.823	2	0.720	0.579
3	0.684	0.633	3	0.897	0.828	3	0.138	-0.064
4	0.664	0.619	4	0.872	0.800	4	-0.056	-0.227
5	0.672	0.631	5	0.875	0.820	5	0.342	0.139
min	0.664	0.619	min	0.872	0.800	min	-0.056	-0.227
max	0.684	0.633	max	0.897	0.828	max	0.720	0.579
stdev	0.010	0.006	stdev	0.012	0.012	stdev	0.332	0.349
average	0.676	0.629	average	0.883	0.818	average	0.286	0.107
+3S	0.705	0.648	+3S	0.919	0.855	+3S	1.282	1.153
-3S	0.647	0.609	-3S	0.848	0.781	-3S	-0.710	-0.939



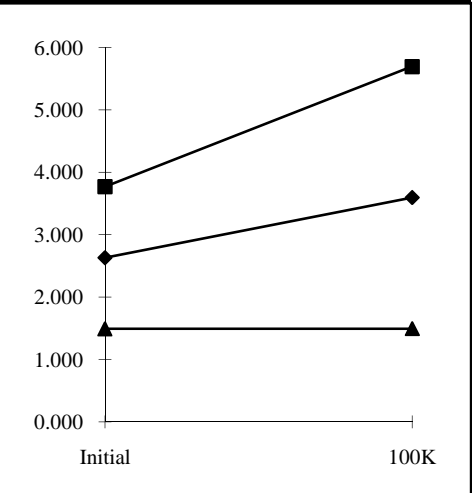
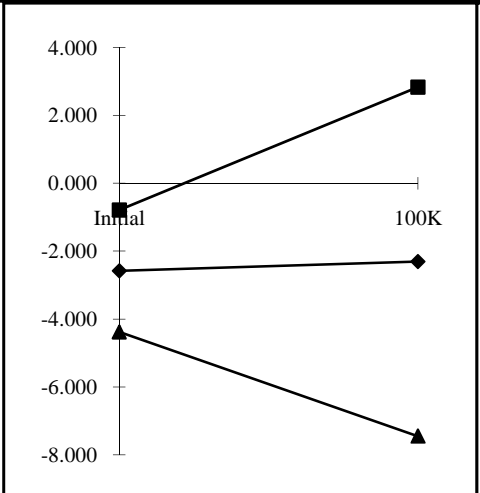
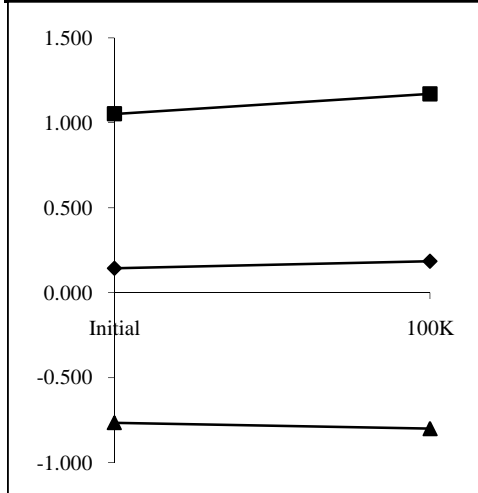
3.1	VIO(1)	mV	3.2	VIO(1)	mV	3.3	VIO(1)	mV
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	0.276	0.269	1	-0.443	-0.443	1	-0.011	-0.009
2	0.349	0.203	2	0.091	0.130	2	0.663	0.817
3	-0.425	-0.652	3	-0.391	-0.431	3	-0.049	0.064
4	-0.499	-0.827	4	0.104	0.299	4	0.078	0.246
5	0.647	0.512	5	-0.150	-0.139	5	-0.001	0.061
min	-0.499	-0.827	min	-0.391	-0.431	min	-0.049	0.061
max	0.647	0.512	max	0.104	0.299	max	0.663	0.817
stdev	0.568	0.650	stdev	0.234	0.320	stdev	0.331	0.357
average	0.018	-0.191	average	-0.087	-0.035	average	0.173	0.297
+3S	1.723	1.758	+3S	0.616	0.924	+3S	1.166	1.369
-3S	-1.687	-2.140	-3S	-0.789	-0.994	-3S	-0.820	-0.775



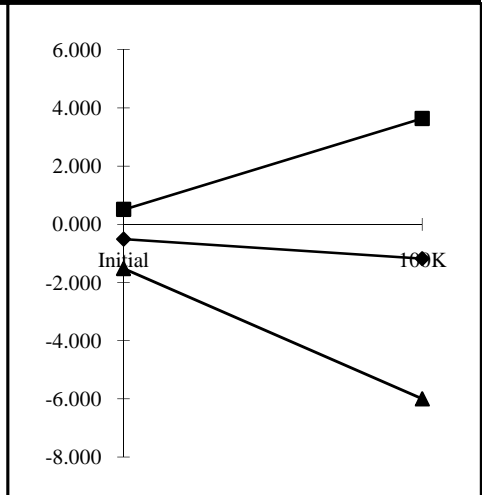
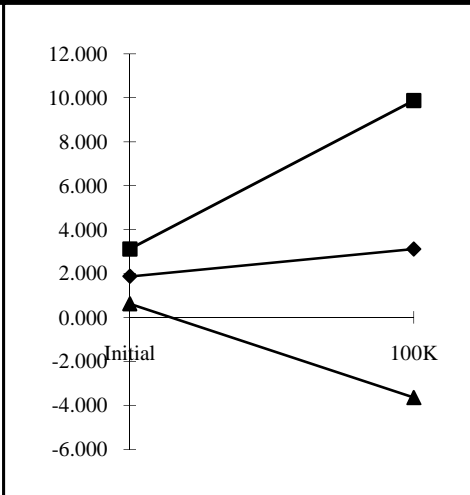
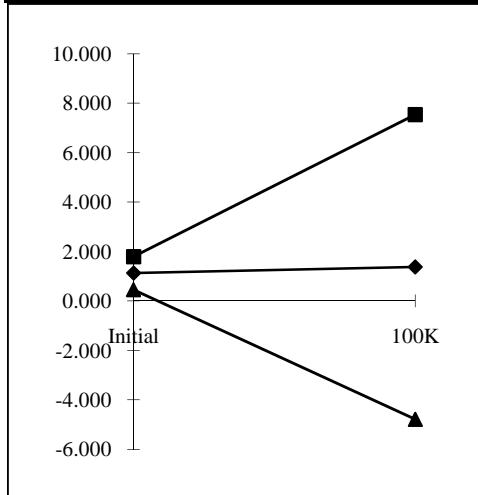
4.0	VIO(2)	mV	4.1	VIO(2)	mV	4.2	VIO(2)	mV
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	0.495	0.500	1	0.309	0.306	1	-0.537	-0.535
2	0.708	0.576	2	0.389	0.258	2	-0.012	0.011
3	0.046	-0.137	3	-0.299	-0.498	3	-0.629	-0.690
4	-0.026	-0.190	4	-0.367	-0.660	4	-0.070	0.076
5	0.235	0.056	5	0.620	0.498	5	-0.395	-0.406
min	-0.026	-0.190	min	-0.367	-0.660	min	-0.629	-0.690
max	0.708	0.576	max	0.620	0.498	max	-0.012	0.076
stdev	0.330	0.350	stdev	0.493	0.565	stdev	0.289	0.362
average	0.241	0.076	average	0.086	-0.101	average	-0.277	-0.252
+3S	1.232	1.125	+3S	1.566	1.595	+3S	0.591	0.833
-3S	-0.750	-0.972	-3S	-1.395	-1.796	-3S	-1.144	-1.337



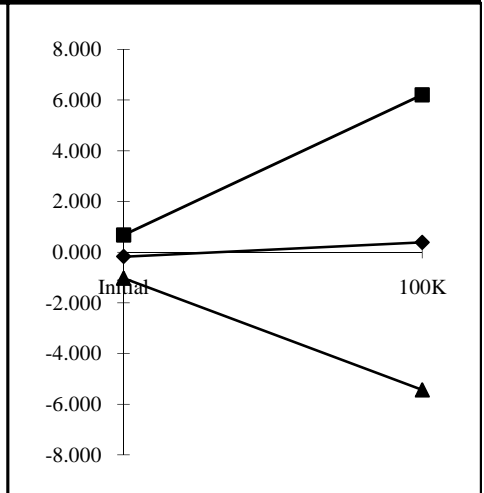
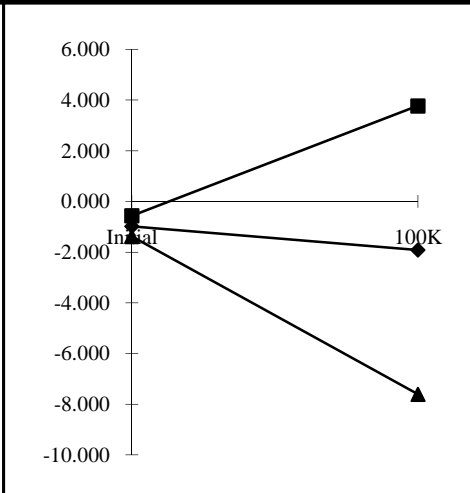
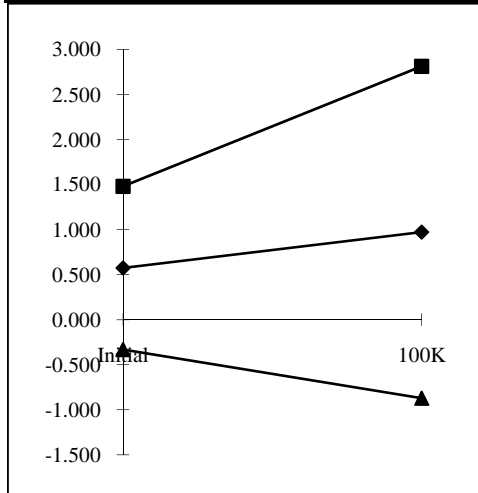
4.3	VIO(2)	mV	5.0	IIO(1)	nA	5.1	IIO(1)	nA
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	-0.060	-0.059	1	-3.293	-3.283	1	3.132	3.025
2	0.587	0.654	2	-2.796	-2.136	2	2.562	3.683
3	-0.041	-0.016	3	-2.486	-0.901	3	2.473	2.935
4	0.089	0.166	4	-1.814	-4.765	4	3.176	4.539
5	-0.061	-0.066	5	-3.236	-1.426	5	2.305	3.222
min	-0.061	-0.066	min	-3.236	-4.765	min	2.305	2.935
max	0.587	0.654	max	-1.814	-0.901	max	3.176	4.539
stdev	0.303	0.328	stdev	0.598	1.715	stdev	0.380	0.701
average	0.144	0.185	average	-2.583	-2.307	average	2.629	3.595
+3S	1.053	1.170	+3S	-0.789	2.838	+3S	3.769	5.697
-3S	-0.766	-0.801	-3S	-4.377	-7.452	-3S	1.489	1.492



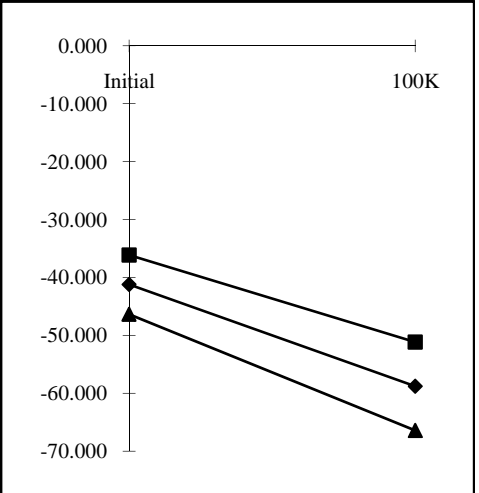
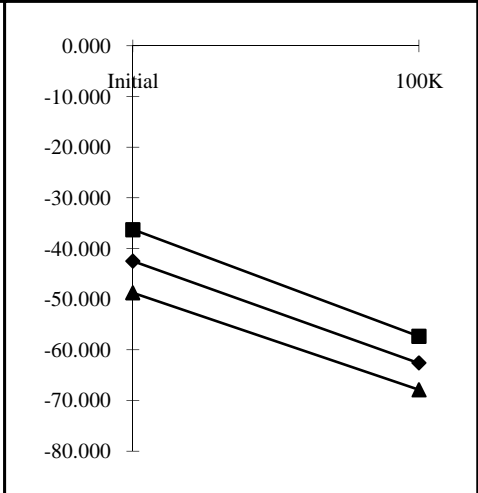
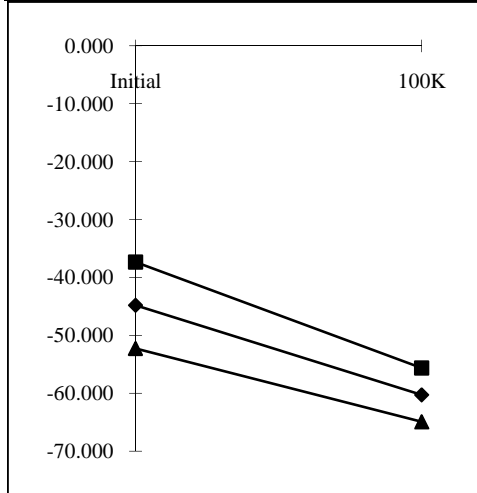
5.2	IIO(1)	nA	5.3	IIO(1)	nA	6.0	IIO(2)	nA
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	0.958	1.000	1	2.067	2.070	1	-0.895	-0.785
2	1.326	2.354	2	1.271	1.260	2	-0.975	-0.805
3	0.854	-1.692	3	2.003	6.389	3	-0.328	0.052
4	1.037	2.666	4	2.241	2.464	4	-0.206	-3.530
5	1.287	2.175	5	1.946	2.326	5	-0.507	-0.429
min	0.854	-1.692	min	1.271	1.260	min	-0.975	-3.530
max	1.326	2.666	max	2.241	6.389	max	-0.206	0.052
stdev	0.222	2.055	stdev	0.416	2.251	stdev	0.337	1.607
average	1.126	1.376	average	1.865	3.110	average	-0.504	-1.178
+3S	1.792	7.541	+3S	3.114	9.864	+3S	0.508	3.642
-3S	0.460	-4.790	-3S	0.616	-3.644	-3S	-1.516	-5.998



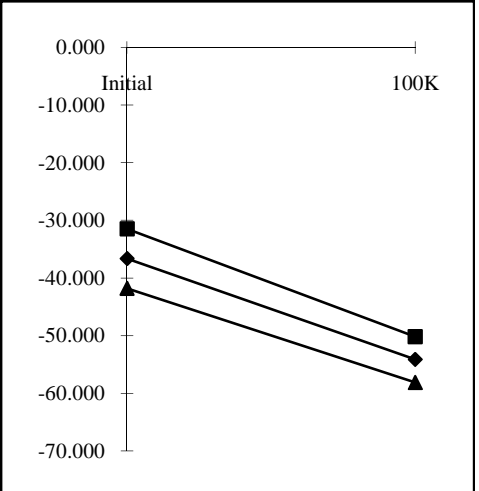
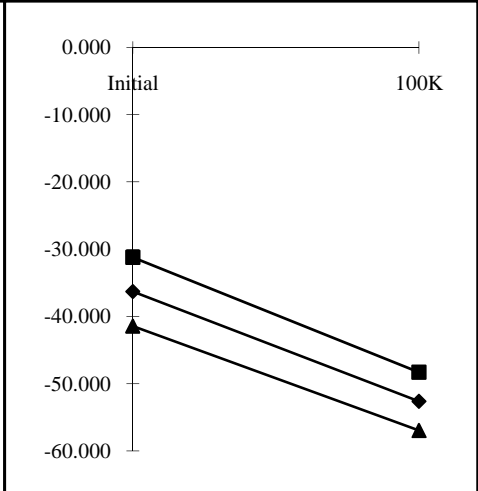
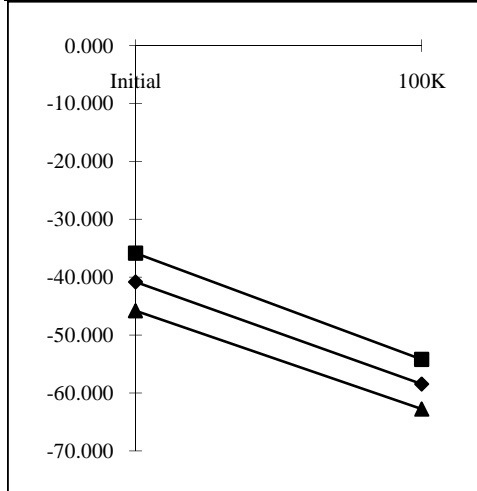
6.1	IIO(2)	nA	6.2	IIO(2)	nA	6.3	IIO(2)	nA
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	1.082	1.067	1	-1.545	-1.431	1	-0.002	0.037
2	0.497	1.125	2	-0.946	-1.151	2	-0.565	-1.152
3	0.425	0.360	3	-1.166	-4.758	3	-0.047	3.230
4	1.020	1.762	4	-0.840	-0.734	4	0.093	-0.177
5	0.358	0.640	5	-0.962	-1.043	5	-0.192	-0.358
min	0.358	0.360	min	-1.166	-4.758	min	-0.565	-1.152
max	1.020	1.762	max	-0.840	-0.734	max	0.093	3.230
stdev	0.302	0.614	stdev	0.136	1.899	stdev	0.283	1.943
average	0.575	0.972	average	-0.979	-1.922	average	-0.178	0.386
+3S	1.481	2.815	+3S	-0.570	3.776	+3S	0.672	6.214
-3S	-0.331	-0.871	-3S	-1.387	-7.619	-3S	-1.027	-5.443



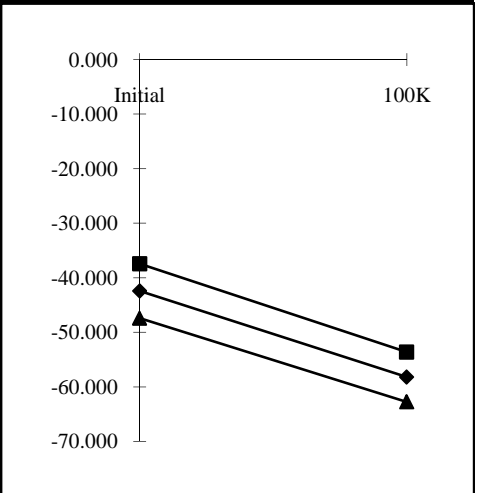
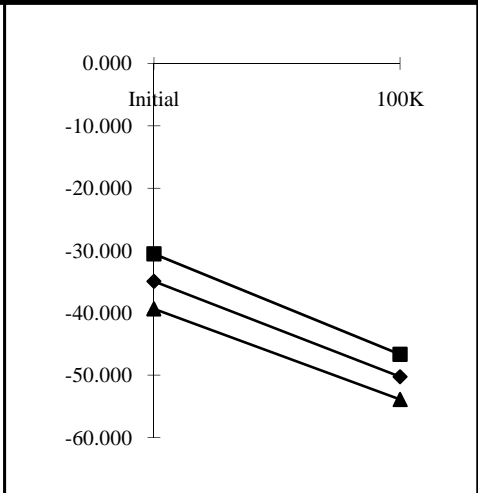
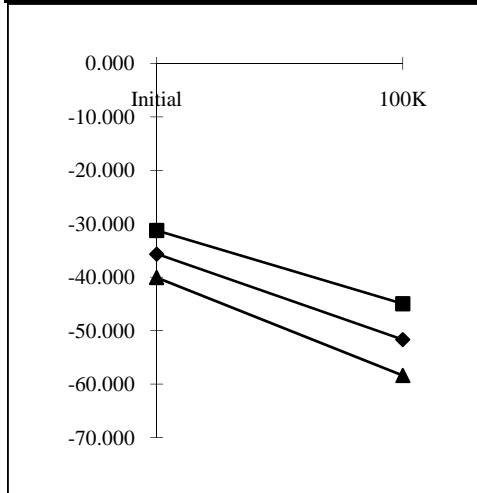
7.0	IIB+(1)	nA	7.1	IIB+(1)	nA	7.2	IIB+(1)	nA
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	-46.365	-46.297	1	-43.430	-43.457	1	-41.696	-41.517
2	-45.502	-61.353	2	-41.919	-60.088	2	-39.880	-56.496
3	-43.939	-58.008	3	-41.870	-64.127	3	-41.208	-61.907
4	-41.951	-61.053	4	-40.693	-63.043	4	-40.193	-56.965
5	-47.832	-60.792	5	-45.487	-63.243	5	-43.646	-59.811
min	-47.832	-61.353	min	-45.487	-64.127	min	-43.646	-61.907
max	-41.951	-58.008	max	-40.693	-60.088	max	-39.880	-56.496
stdev	2.486	1.546	stdev	2.075	1.756	stdev	1.706	2.540
average	-44.806	-60.302	average	-42.492	-62.625	average	-41.232	-58.795
+3S	-37.347	-55.663	+3S	-36.266	-57.358	+3S	-36.113	-51.175
-3S	-52.265	-64.940	-3S	-48.718	-67.893	-3S	-46.351	-66.414



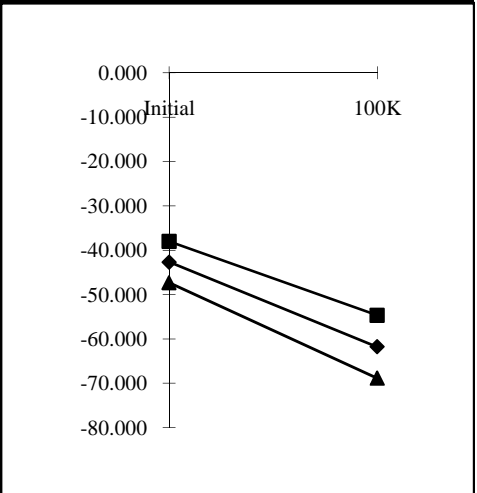
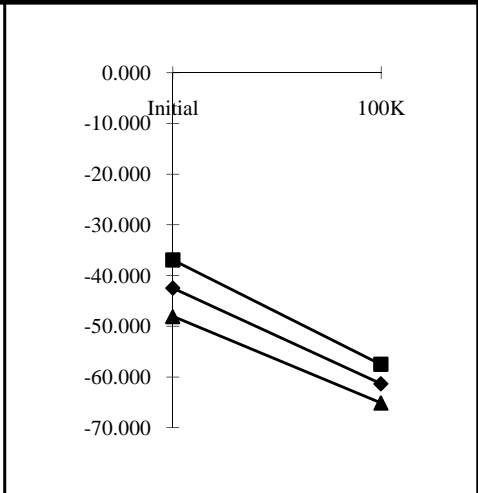
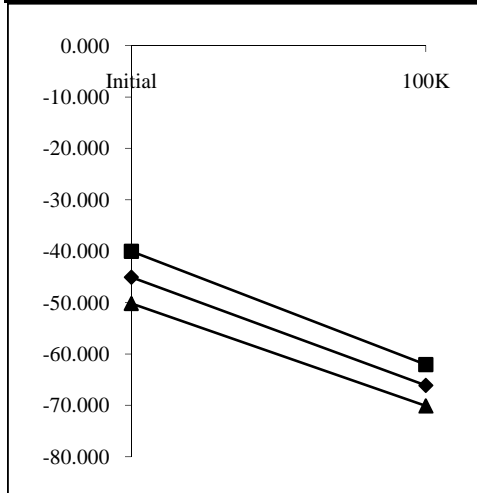
7.3	IIB+(1)	nA	8.0	IIB+(2)	nA	8.1	IIB+(2)	nA
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	-40.503	-40.399	1	-37.606	-37.346	1	-37.411	-37.280
2	-41.084	-59.028	2	-37.021	-52.697	2	-36.200	-52.342
3	-40.208	-58.036	3	-35.498	-50.574	3	-36.099	-55.532
4	-39.073	-56.765	4	-34.424	-53.582	4	-35.140	-54.303
5	-43.005	-60.113	5	-38.308	-53.713	5	-39.129	-54.426
min	-43.005	-60.113	min	-38.308	-53.713	min	-39.129	-55.532
max	-39.073	-56.765	max	-34.424	-50.574	max	-35.140	-52.342
stdev	1.660	1.427	stdev	1.704	1.450	stdev	1.725	1.326
average	-40.843	-58.486	average	-36.313	-52.642	average	-36.642	-54.151
+3S	-35.862	-54.206	+3S	-31.200	-48.291	+3S	-31.466	-50.171
-3S	-45.823	-62.765	-3S	-41.426	-56.992	-3S	-41.818	-58.130



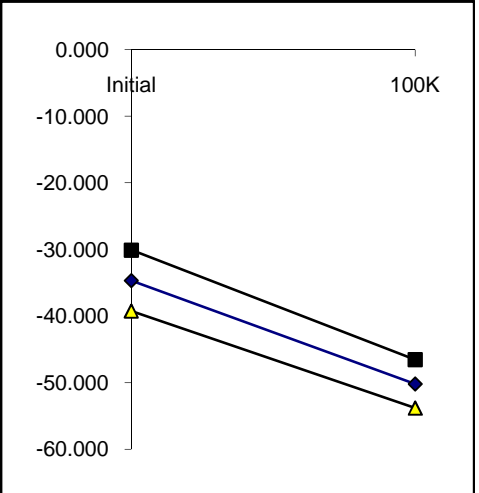
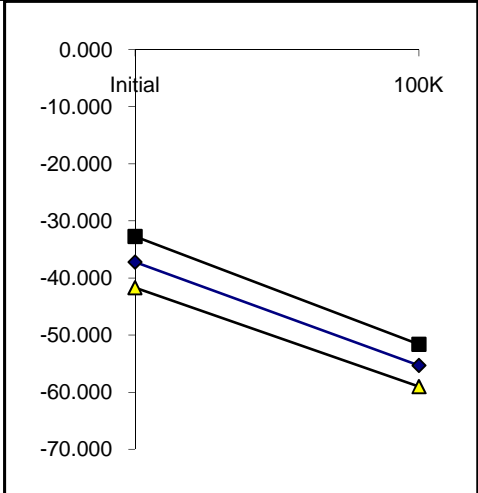
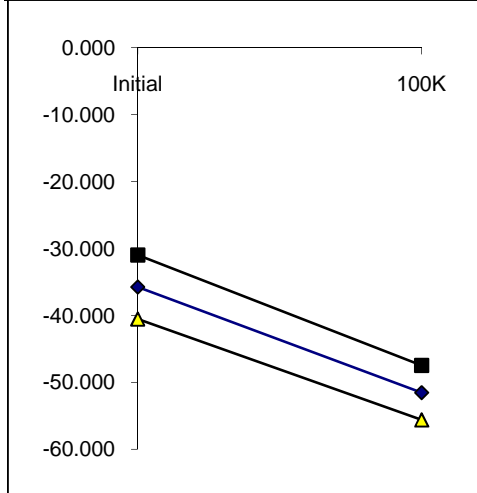
8.2	IIB+(2)	nA	8.3	IIB+(2)	nA	9.0	IIB-(1)	nA
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	-36.358	-36.232	1	-34.851	-34.769	1	-43.019	-42.882
2	-34.600	-49.780	2	-35.119	-50.630	2	-43.038	-59.566
3	-35.508	-54.460	3	-34.275	-49.867	3	-41.551	-57.293
4	-34.735	-49.970	4	-33.492	-48.837	4	-40.651	-56.534
5	-37.777	-52.489	5	-36.926	-51.688	5	-44.433	-59.396
min	-37.777	-54.460	min	-36.926	-51.688	min	-44.433	-59.566
max	-34.600	-49.780	max	-33.492	-48.837	max	-40.651	-56.534
stdev	1.470	2.230	stdev	1.474	1.205	stdev	1.665	1.516
average	-35.655	-51.675	average	-34.953	-50.256	average	-42.418	-58.197
+3S	-31.245	-44.985	+3S	-30.532	-46.641	+3S	-37.423	-53.649
-3S	-40.065	-58.364	-3S	-39.374	-53.870	-3S	-47.414	-62.745



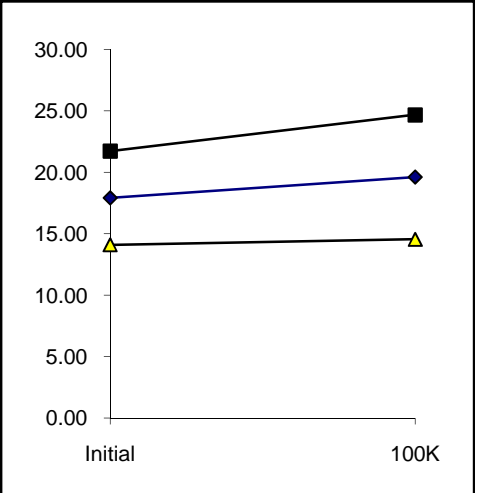
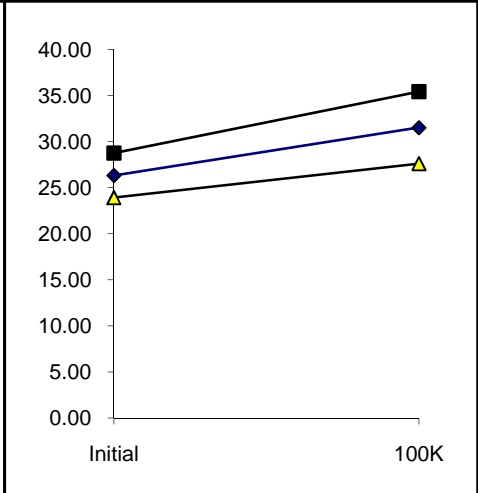
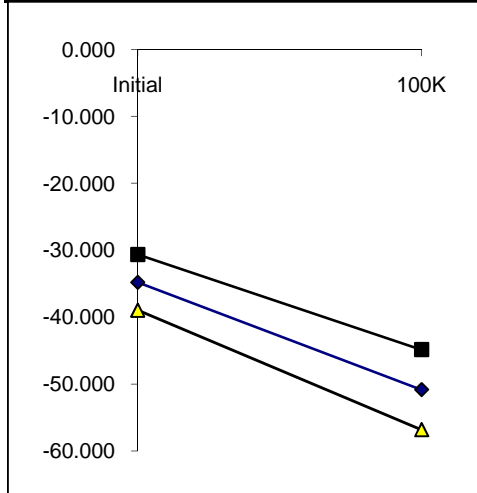
9.1	IIB-(1)	nA	9.2	IIB-(1)	nA	9.3	IIB-(1)	nA
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	-46.526	-46.341	1	-42.861	-42.735	1	-42.427	-42.396
2	-44.456	-64.173	2	-41.271	-60.067	2	-42.340	-60.525
3	-44.416	-66.897	3	-42.204	-61.674	3	-42.227	-64.751
4	-43.902	-67.119	4	-41.277	-60.664	4	-41.230	-59.381
5	-47.597	-66.230	5	-45.194	-62.954	5	-44.859	-62.515
min	-47.597	-67.119	min	-45.194	-62.954	min	-44.859	-64.751
max	-43.902	-64.173	max	-41.271	-60.067	max	-41.230	-59.381
stdev	1.688	1.342	stdev	1.857	1.264	stdev	1.546	2.359
average	-45.093	-66.105	average	-42.487	-61.340	average	-42.664	-61.793
+3S	-40.027	-62.078	+3S	-36.914	-57.547	+3S	-38.026	-54.716
-3S	-50.158	-70.131	-3S	-48.059	-65.132	-3S	-47.302	-68.870



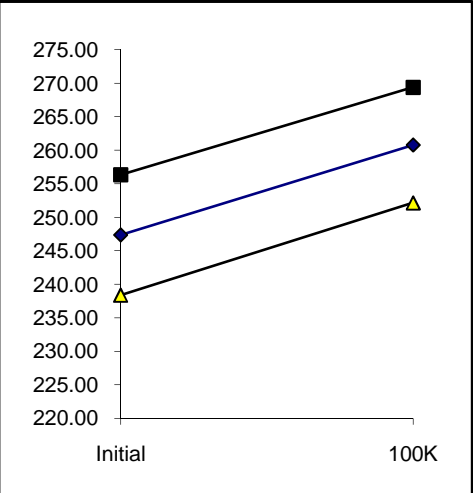
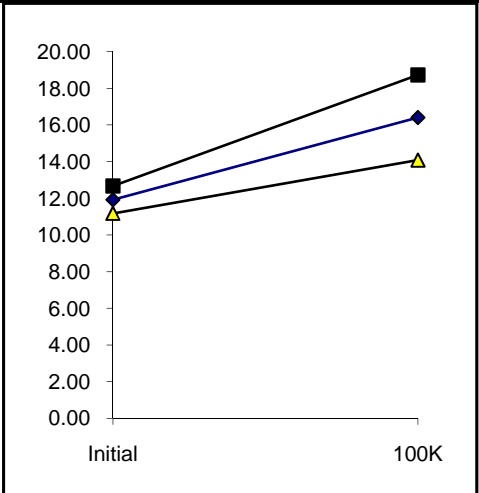
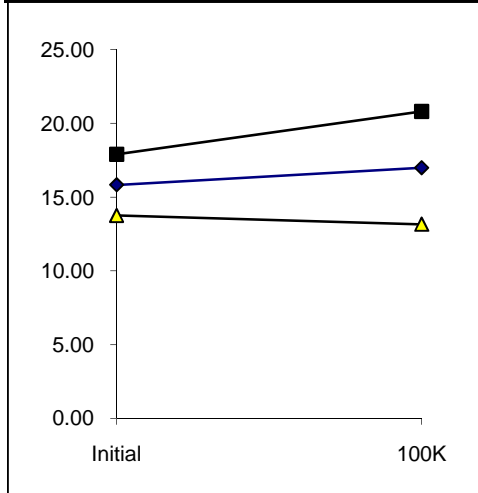
10.0	IIB-(2)	nA	10.1	IIB-(2)	nA	10.2	IIB-(2)	nA
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	-36.446	-36.490	1	-38.553	-38.449	1	-34.863	-34.766
2	-35.924	-51.959	2	-36.716	-53.574	2	-33.654	-49.063
3	-35.095	-50.709	3	-36.520	-55.994	3	-34.340	-50.255
4	-34.111	-50.261	4	-36.206	-56.334	4	-33.792	-49.632
5	-37.868	-53.283	5	-39.444	-55.404	5	-36.927	-51.865
min	-37.868	-53.283	min	-39.444	-56.334	min	-36.927	-51.865
max	-34.111	-50.261	max	-36.206	-53.574	max	-33.654	-49.063
stdev	1.595	1.359	stdev	1.496	1.230	stdev	1.528	1.210
average	-35.750	-51.553	average	-37.222	-55.327	average	-34.678	-50.204
+3S	-30.965	-47.476	+3S	-32.732	-51.637	+3S	-30.094	-46.574
-3S	-40.534	-55.630	-3S	-41.711	-59.016	-3S	-39.263	-53.833



10.3	IIB-(2)	nA	11.0	IOL	nA	11.1	IOL	nA
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	-34.899	-34.849	1	27.82	32.57	1	20.25	20.00
2	-34.576	-49.781	2	25.63	32.57	2	19.17	19.21
3	-34.280	-53.279	3	25.97	32.35	3	18.83	18.90
4	-33.589	-48.774	4	27.48	31.46	4	16.83	18.27
5	-36.800	-51.612	5	26.26	29.71	5	16.80	22.08
min	-36.800	-53.279	min	25.63	29.71	min	16.80	18.27
max	-33.589	-48.774	max	27.48	32.57	max	19.17	22.08
stdev	1.389	1.994	stdev	0.81	1.30	stdev	1.27	1.69
average	-34.811	-50.862	average	26.34	31.52	average	17.91	19.62
+3S	-30.645	-44.878	+3S	28.75	35.42	+3S	21.72	24.68
-3S	-38.978	-56.845	-3S	23.92	27.62	-3S	14.10	14.55



11.2	IOL	nA	11.3	IOL	nA	12.0	V(SAT)	mV
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	12.59	15.76	1	14.72	17.16	1	252.51	251.67
2	14.89	17.48	2	11.83	17.27	2	245.80	260.61
3	16.36	17.50	3	11.72	16.78	3	245.65	258.43
4	15.74	17.90	4	12.29	16.09	4	246.14	259.22
5	16.34	15.10	5	11.87	15.51	5	251.84	264.88
min	14.89	15.10	min	11.72	15.51	min	245.65	258.43
max	16.36	17.90	max	12.29	17.27	max	251.84	264.88
stdev	0.69	1.28	stdev	0.25	0.77	stdev	3.00	2.87
average	15.83	17.00	average	11.93	16.41	average	247.36	260.79
+3S	17.91	20.83	+3S	12.68	18.73	+3S	256.34	269.41
-3S	13.76	13.16	-3S	11.18	14.10	-3S	238.37	252.16



12.1	V(SAT)	mV	12.2	V(SAT)	mV	12.3	V(SAT)	mV
SN	Initial	100K	SN	Initial	100K	SN	Initial	100K
1	245.32	245.79	1	246.37	246.26	1	245.19	245.24
2	240.75	254.00	2	239.78	254.26	2	239.51	253.12
3	238.47	251.52	3	240.96	254.35	3	238.63	252.29
4	241.45	253.66	4	242.66	255.67	4	242.65	255.28
5	247.66	259.63	5	246.87	259.39	5	246.74	259.05
min	238.47	251.52	min	239.78	254.26	min	238.63	252.29
max	247.66	259.63	max	246.87	259.39	max	246.74	259.05
stdev	3.93	3.46	stdev	3.10	2.40	stdev	3.67	3.02
average	242.08	254.70	average	242.57	255.92	average	241.88	254.94
+3S	253.87	265.09	+3S	251.87	263.13	+3S	252.89	263.99
-3S	230.29	244.31	-3S	233.26	248.71	-3S	230.87	245.88

