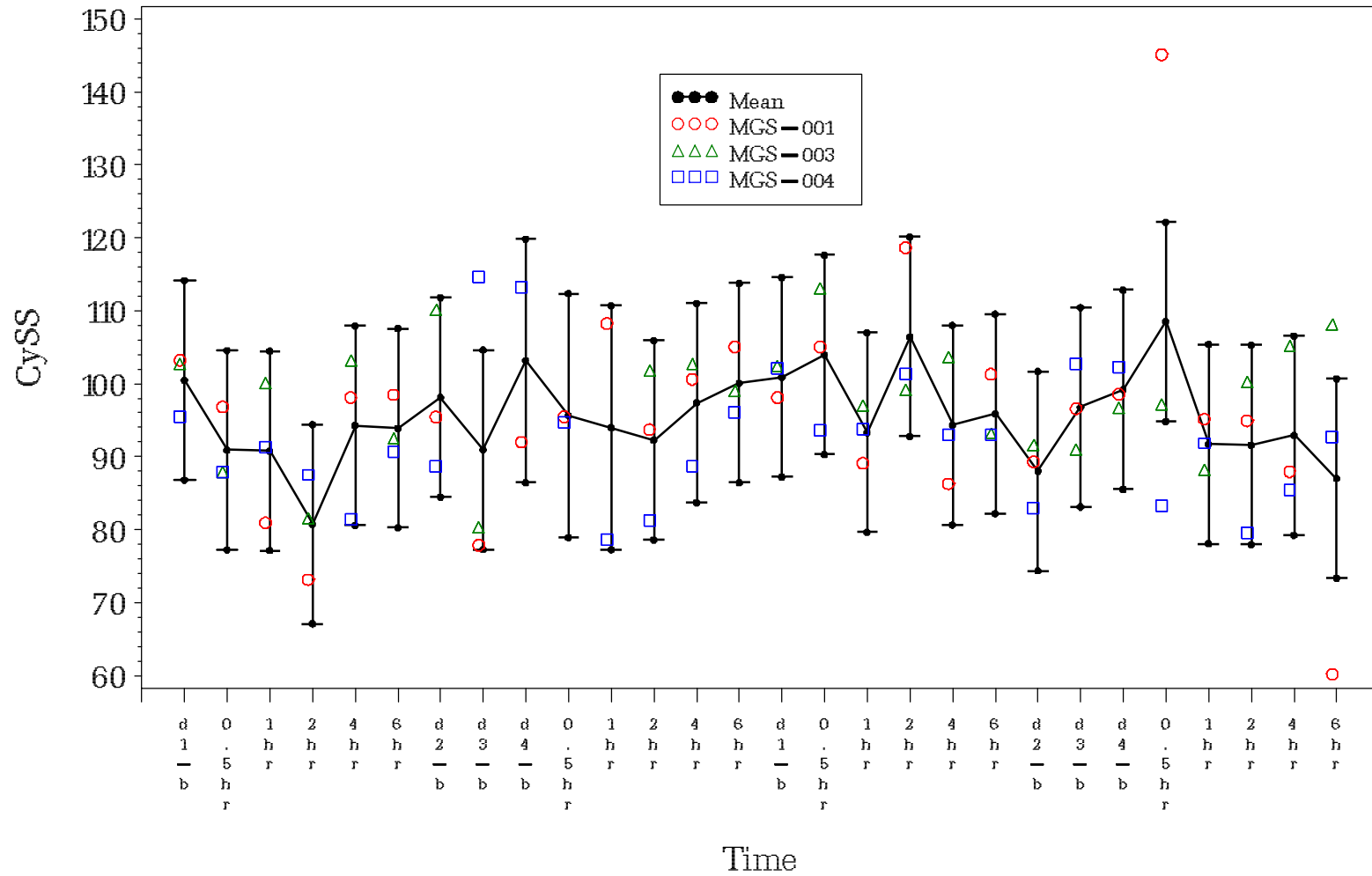
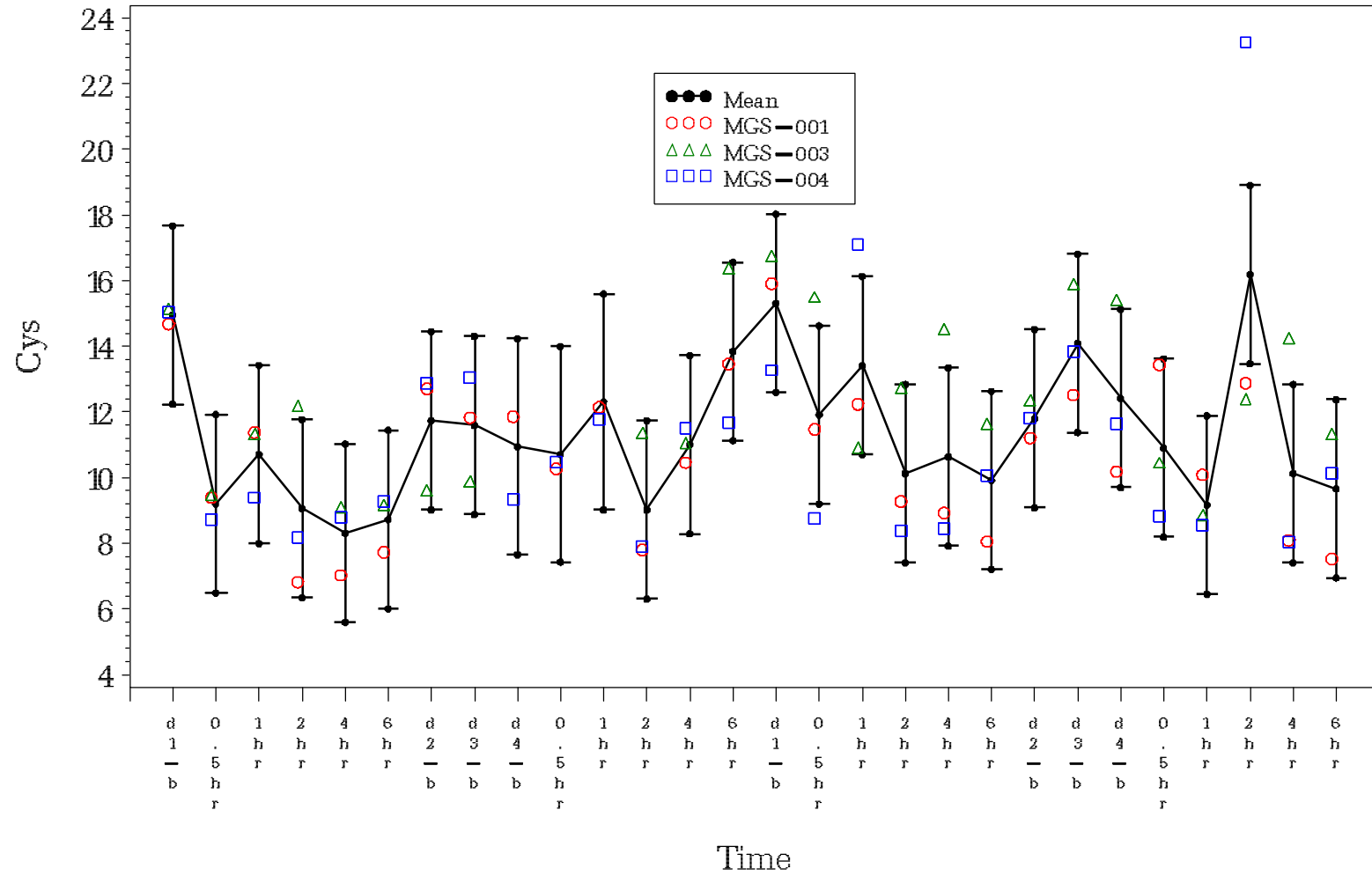


# CySS (mV) (p= 0.7397)



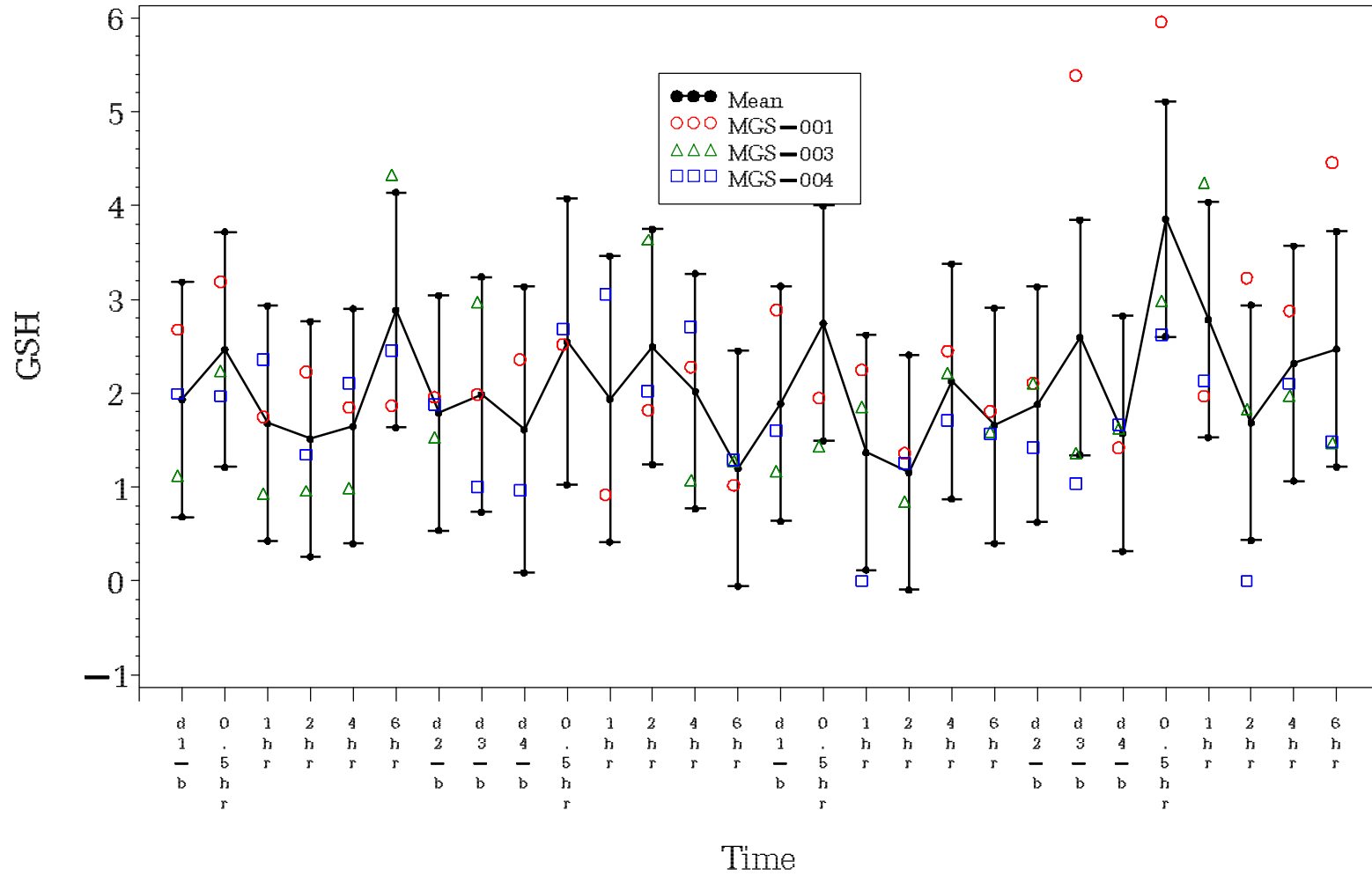
Time 1—14, Data from Placebo; Time 15—28, Data from Muscadine.

# Cys (mV) (p= 0.0014)



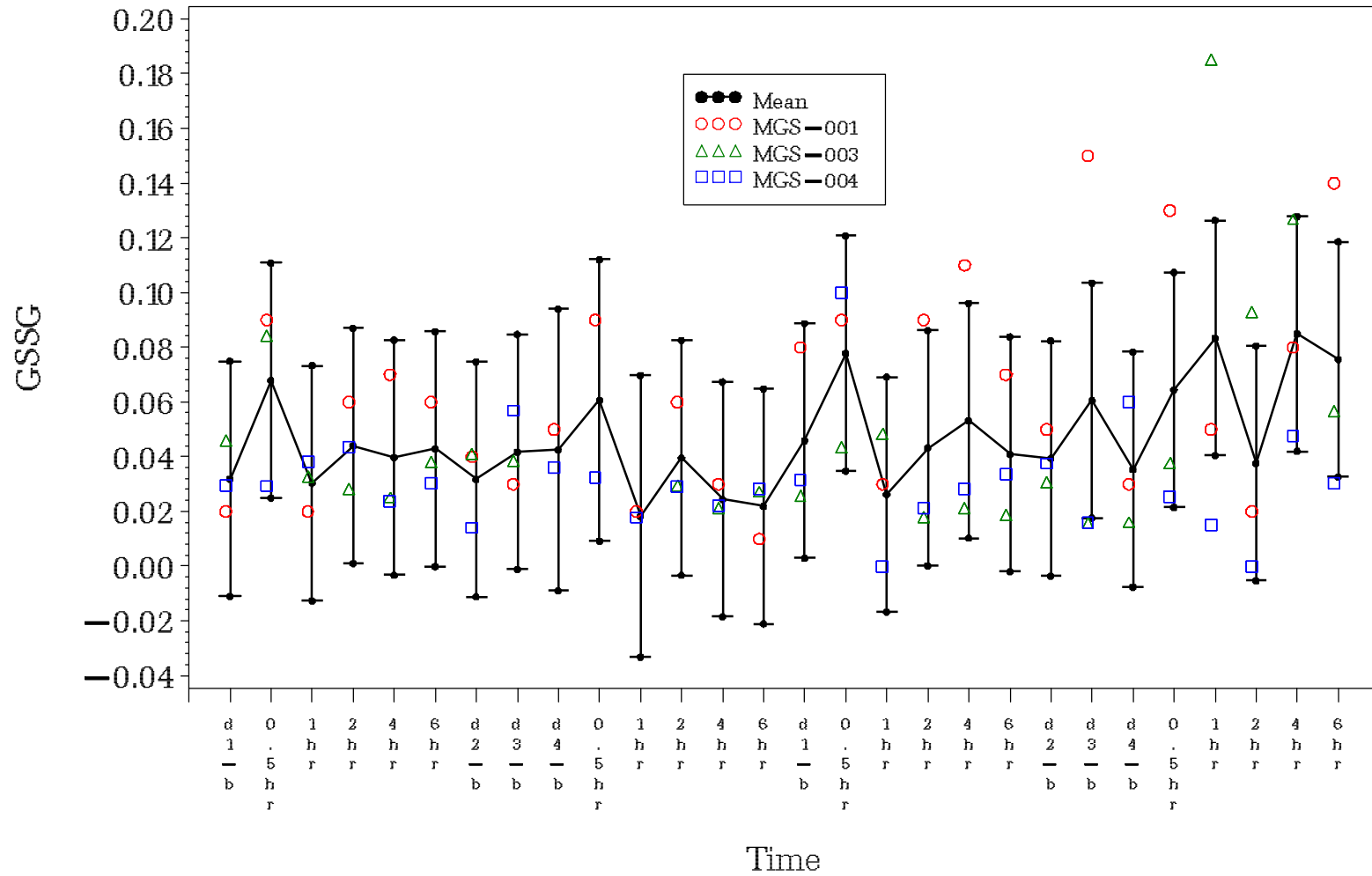
Time 1—14, Data from Placebo; Time 15—28, Data from Muscadine.

# GSH (mV) (p= 0.5358)



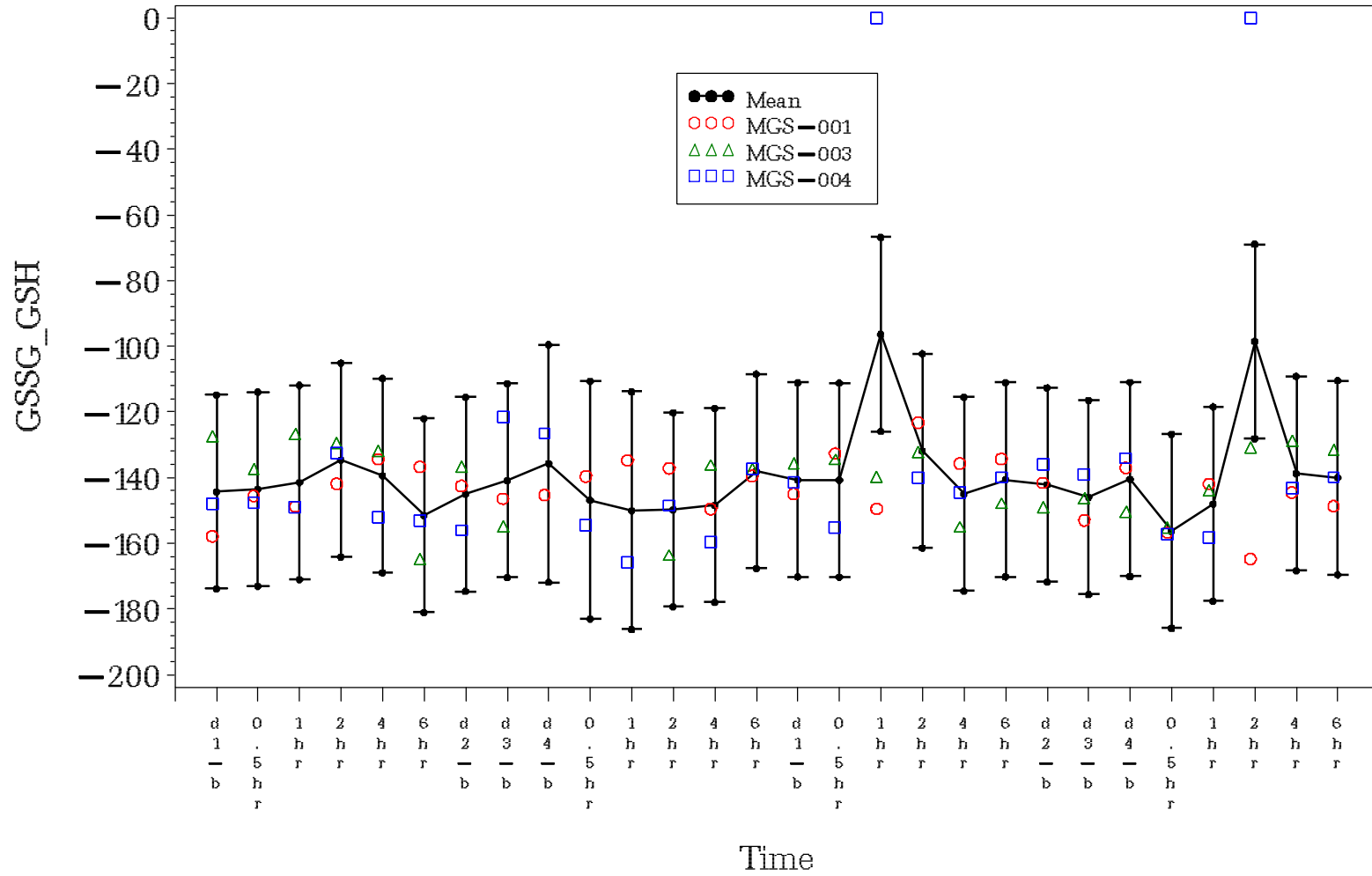
Time 1—14, Data from Placebo; Time 15—28, Data from Muscadine.

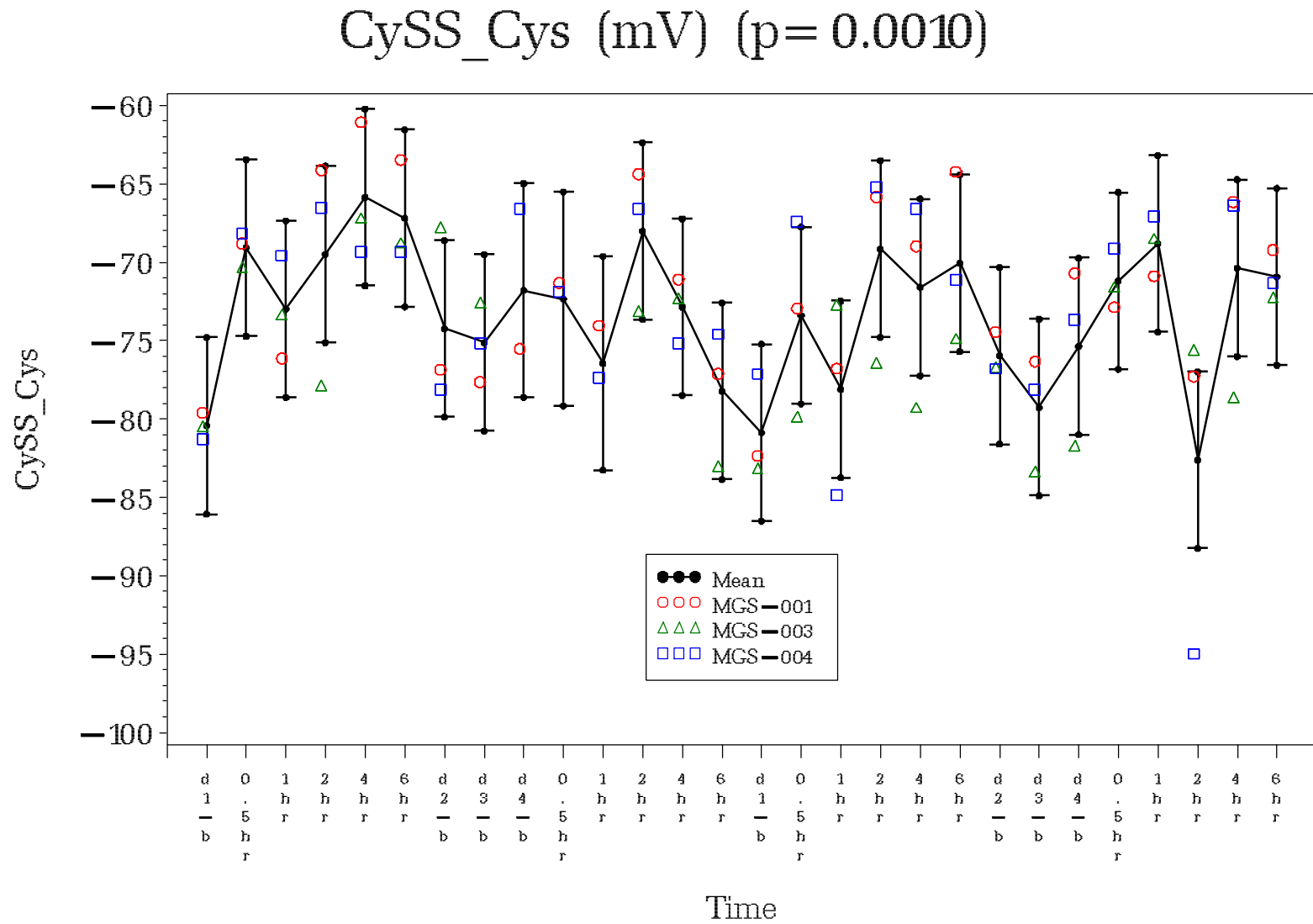
# GSSG (mV) (p= 0.6543)



Time 1—14, Data from Placebo; Time 15—28, Data from Muscadine.

# GSSG\_GSH (mV) (p= 0.7548)





Time 1—14, Data from Placebo; Time 15—28, Data from Muscadine.

**Mixed Longitudinal Model Means for All Data Points**

<i>time</i>	<i>group</i>	<i>day</i>	<i>t</i>	<i>var</i>	<i>MGS-001</i>	<i>MGS-003</i>	<i>MGS-004</i>	<i>Estimate</i>	<i>Standard Error</i>	<i>Lower</i>	<i>Upper</i>
1	Placebo	1	0.0	CySS	103.25	102.776	95.450	100.49	6.81	86.83	114.16
2	Placebo	1	0.5	CySS	96.84	87.957	87.969	90.92	6.81	77.26	104.59
3	Placebo	1	1.0	CySS	80.95	100.126	91.339	90.80	6.81	77.14	104.47
4	Placebo	1	2.0	CySS	73.16	81.562	87.535	80.75	6.81	67.09	94.42
5	Placebo	1	4.0	CySS	98.14	103.254	81.427	94.27	6.81	80.61	107.94
6	Placebo	1	6.0	CySS	98.51	92.547	90.671	93.91	6.81	80.24	107.58
7	Placebo	2	0.0	CySS	95.45	110.227	88.711	98.13	6.81	84.46	111.80
8	Placebo	3	0.0	CySS	77.88	80.384	114.600	90.95	6.81	77.29	104.62
9	Placebo	4	0.0	CySS	92.02	.	113.198	103.15	8.32	86.44	119.86
10	Placebo	4	0.5	CySS	95.49	.	94.716	95.64	8.32	78.93	112.35
11	Placebo	4	1.0	CySS	108.26	.	78.627	93.98	8.32	77.27	110.69
12	Placebo	4	2.0	CySS	93.73	101.859	81.271	92.29	6.81	78.62	105.95
13	Placebo	4	4.0	CySS	100.62	102.806	88.725	97.38	6.81	83.72	111.05
14	Placebo	4	6.0	CySS	105.07	99.079	96.150	100.10	6.81	86.43	113.77
15	Muscadine	1	0.0	CySS	98.13	102.499	102.074	100.90	6.81	87.23	114.57
16	Muscadine	1	0.5	CySS	105.07	113.109	93.689	103.96	6.81	90.29	117.62
17	Muscadine	1	1.0	CySS	89.12	96.996	93.781	93.30	6.81	79.63	106.97
18	Muscadine	1	2.0	CySS	118.66	99.257	101.380	106.43	6.81	92.77	120.10
19	Muscadine	1	4.0	CySS	86.29	103.638	93.079	94.34	6.81	80.67	108.00
20	Muscadine	1	6.0	CySS	101.32	93.242	93.070	95.88	6.81	82.21	109.54
21	Muscadine	2	0.0	CySS	89.32	91.691	83.026	88.01	6.81	74.35	101.68
22	Muscadine	3	0.0	CySS	96.61	90.989	102.788	96.80	6.81	83.13	110.46
23	Muscadine	4	0.0	CySS	98.58	96.729	102.272	99.19	6.81	85.53	112.86
24	Muscadine	4	0.5	CySS	145.12	97.140	83.257	108.51	6.81	94.84	122.17
25	Muscadine	4	1.0	CySS	95.16	88.191	91.870	91.74	6.81	78.07	105.41
26	Muscadine	4	2.0	CySS	94.93	100.259	79.627	91.61	6.81	77.94	105.27
27	Muscadine	4	4.0	CySS	87.97	105.262	85.502	92.91	6.81	79.25	106.58
28	Muscadine	4	6.0	CySS	60.21	108.170	92.706	87.03	6.81	73.36	100.69

**Mixed Longitudinal Model Means for All Data Points**

<i>time</i>	<i>group</i>	<i>day</i>	<i>t</i>	<i>var</i>	<i>MGS-001</i>	<i>MGS-003</i>	<i>MGS-004</i>	<i>Estimate</i>	<i>Standard Error</i>	<i>Lower</i>	<i>Upper</i>
1	Placebo	1	0.0	Cys	14.68	15.139	15.044	14.95	1.35	12.24	17.67
2	Placebo	1	0.5	Cys	9.40	9.492	8.732	9.21	1.35	6.49	11.92
3	Placebo	1	1.0	Cys	11.38	11.349	9.400	10.71	1.35	7.99	13.43
4	Placebo	1	2.0	Cys	6.82	12.193	8.182	9.07	1.35	6.35	11.78
5	Placebo	1	4.0	Cys	7.03	9.116	8.796	8.31	1.35	5.60	11.03
6	Placebo	1	6.0	Cys	7.73	9.170	9.289	8.73	1.35	6.01	11.45
7	Placebo	2	0.0	Cys	12.71	9.632	12.868	11.74	1.35	9.02	14.45
8	Placebo	3	0.0	Cys	11.83	9.899	13.048	11.59	1.35	8.88	14.31
9	Placebo	4	0.0	Cys	11.86	.	9.338	10.95	1.64	7.66	14.23
10	Placebo	4	0.5	Cys	10.27	.	10.468	10.72	1.64	7.43	14.00
11	Placebo	4	1.0	Cys	12.15	.	11.774	12.31	1.64	9.02	15.60
12	Placebo	4	2.0	Cys	7.80	11.360	7.905	9.02	1.35	6.31	11.74
13	Placebo	4	4.0	Cys	10.46	11.057	11.495	11.00	1.35	8.29	13.72
14	Placebo	4	6.0	Cys	13.47	16.377	11.692	13.85	1.35	11.13	16.56
15	Muscadine	1	0.0	Cys	15.91	16.759	13.278	15.32	1.35	12.60	18.03
16	Muscadine	1	0.5	Cys	11.48	15.509	8.754	11.91	1.35	9.20	14.63
17	Muscadine	1	1.0	Cys	12.24	10.921	17.108	13.42	1.35	10.71	16.14
18	Muscadine	1	2.0	Cys	9.28	12.737	8.374	10.13	1.35	7.41	12.85
19	Muscadine	1	4.0	Cys	8.93	14.520	8.456	10.64	1.35	7.92	13.35
20	Muscadine	1	6.0	Cys	8.06	11.634	10.068	9.92	1.35	7.20	12.64
21	Muscadine	2	0.0	Cys	11.21	12.369	11.820	11.80	1.35	9.08	14.52
22	Muscadine	3	0.0	Cys	12.52	15.907	13.846	14.09	1.35	11.38	16.81
23	Muscadine	4	0.0	Cys	10.19	15.410	11.644	12.41	1.35	9.70	15.13
24	Muscadine	4	0.5	Cys	13.44	10.463	8.818	10.91	1.35	8.19	13.62
25	Muscadine	4	1.0	Cys	10.09	8.857	8.567	9.17	1.35	6.46	11.89
26	Muscadine	4	2.0	Cys	12.88	12.414	23.266	16.19	1.35	13.47	18.90
27	Muscadine	4	4.0	Cys	8.09	14.256	8.045	10.13	1.35	7.41	12.85
28	Muscadine	4	6.0	Cys	7.53	11.326	10.132	9.66	1.35	6.95	12.38



**Mixed Longitudinal Model Means for All Data Points**

<i>time</i>	<i>group</i>	<i>day</i>	<i>t</i>	<i>var</i>	<i>MGS-001</i>	<i>MGS-003</i>	<i>MGS-004</i>	<i>Estimate</i>	<i>Standard Error</i>	<i>Lower</i>	<i>Upper</i>
1	Placebo	1	0.0	GSH	2.68	1.128	1.995	1.93	0.62	0.68	3.19
2	Placebo	1	0.5	GSH	3.19	2.238	1.970	2.47	0.62	1.21	3.72
3	Placebo	1	1.0	GSH	1.75	0.928	2.363	1.68	0.62	0.43	2.93
4	Placebo	1	2.0	GSH	2.23	0.961	1.345	1.51	0.62	0.26	2.77
5	Placebo	1	4.0	GSH	1.85	0.989	2.105	1.65	0.62	0.39	2.90
6	Placebo	1	6.0	GSH	1.87	4.329	2.462	2.89	0.62	1.63	4.14
7	Placebo	2	0.0	GSH	1.96	1.532	1.879	1.79	0.62	0.54	3.04
8	Placebo	3	0.0	GSH	1.99	2.971	1.001	1.99	0.62	0.73	3.24
9	Placebo	4	0.0	GSH	2.36	.	0.967	1.61	0.76	0.09	3.14
10	Placebo	4	0.5	GSH	2.52	.	2.682	2.55	0.76	1.03	4.08
11	Placebo	4	1.0	GSH	0.92	.	3.058	1.94	0.76	0.41	3.46
12	Placebo	4	2.0	GSH	1.82	3.641	2.023	2.49	0.62	1.24	3.75
13	Placebo	4	4.0	GSH	2.28	1.075	2.709	2.02	0.62	0.77	3.27
14	Placebo	4	6.0	GSH	1.02	1.279	1.295	1.20	0.62	-0.06	2.45
15	Muscadine	1	0.0	GSH	2.89	1.168	1.606	1.89	0.62	0.63	3.14
16	Muscadine	1	0.5	GSH	1.95	1.439	4.849	2.75	0.62	1.49	4.00
17	Muscadine	1	1.0	GSH	2.25	1.858	0.000	1.37	0.62	0.12	2.62
18	Muscadine	1	2.0	GSH	1.36	0.853	1.256	1.16	0.62	-0.10	2.41
19	Muscadine	1	4.0	GSH	2.45	2.222	1.710	2.13	0.62	0.87	3.38
20	Muscadine	1	6.0	GSH	1.81	1.589	1.568	1.66	0.62	0.40	2.91
21	Muscadine	2	0.0	GSH	2.11	2.110	1.424	1.88	0.62	0.63	3.13
22	Muscadine	3	0.0	GSH	5.39	1.363	1.035	2.60	0.62	1.34	3.85
23	Muscadine	4	0.0	GSH	1.42	1.625	1.666	1.57	0.62	0.32	2.82
24	Muscadine	4	0.5	GSH	5.96	2.982	2.630	3.86	0.62	2.60	5.11
25	Muscadine	4	1.0	GSH	1.97	4.247	2.137	2.78	0.62	1.53	4.04
26	Muscadine	4	2.0	GSH	3.23	1.828	0.000	1.69	0.62	0.43	2.94
27	Muscadine	4	4.0	GSH	2.88	1.973	2.103	2.32	0.62	1.06	3.57
28	Muscadine	4	6.0	GSH	4.46	1.471	1.481	2.47	0.62	1.22	3.72

**Mixed Longitudinal Model Means for All Data Points**

<i>time</i>	<i>group</i>	<i>day</i>	<i>t</i>	<i>var</i>	<i>MGS-001</i>	<i>MGS-003</i>	<i>MGS-004</i>	<i>Estimate</i>	<i>Standard Error</i>	<i>Lower</i>	<i>Upper</i>
1	Placebo	1	0.0	GSSG	0.02	0.046	0.030	0.03	0.02	-0.01	0.07
2	Placebo	1	0.5	GSSG	0.09	0.084	0.029	0.07	0.02	0.02	0.11
3	Placebo	1	1.0	GSSG	0.02	0.033	0.038	0.03	0.02	-0.01	0.07
4	Placebo	1	2.0	GSSG	0.06	0.028	0.044	0.04	0.02	0.00	0.09
5	Placebo	1	4.0	GSSG	0.07	0.025	0.024	0.04	0.02	-0.00	0.08
6	Placebo	1	6.0	GSSG	0.06	0.038	0.030	0.04	0.02	-0.00	0.09
7	Placebo	2	0.0	GSSG	0.04	0.041	0.014	0.03	0.02	-0.01	0.07
8	Placebo	3	0.0	GSSG	0.03	0.038	0.057	0.04	0.02	-0.00	0.08
9	Placebo	4	0.0	GSSG	0.05	.	0.036	0.04	0.03	-0.01	0.09
10	Placebo	4	0.5	GSSG	0.09	.	0.032	0.06	0.03	0.01	0.11
11	Placebo	4	1.0	GSSG	0.02	.	0.018	0.02	0.03	-0.03	0.07
12	Placebo	4	2.0	GSSG	0.06	0.030	0.029	0.04	0.02	-0.00	0.08
13	Placebo	4	4.0	GSSG	0.03	0.021	0.022	0.02	0.02	-0.02	0.07
14	Placebo	4	6.0	GSSG	0.01	0.027	0.028	0.02	0.02	-0.02	0.06
15	Muscadine	1	0.0	GSSG	0.08	0.026	0.032	0.05	0.02	0.00	0.09
16	Muscadine	1	0.5	GSSG	0.09	0.043	0.100	0.08	0.02	0.03	0.12
17	Muscadine	1	1.0	GSSG	0.03	0.049	0.000	0.03	0.02	-0.02	0.07
18	Muscadine	1	2.0	GSSG	0.09	0.018	0.021	0.04	0.02	0.00	0.09
19	Muscadine	1	4.0	GSSG	0.11	0.021	0.028	0.05	0.02	0.01	0.10
20	Muscadine	1	6.0	GSSG	0.07	0.019	0.034	0.04	0.02	-0.00	0.08
21	Muscadine	2	0.0	GSSG	0.05	0.031	0.038	0.04	0.02	-0.00	0.08
22	Muscadine	3	0.0	GSSG	0.15	0.016	0.016	0.06	0.02	0.02	0.10
23	Muscadine	4	0.0	GSSG	0.03	0.016	0.060	0.04	0.02	-0.01	0.08
24	Muscadine	4	0.5	GSSG	0.13	0.038	0.025	0.06	0.02	0.02	0.11
25	Muscadine	4	1.0	GSSG	0.05	0.185	0.015	0.08	0.02	0.04	0.13
26	Muscadine	4	2.0	GSSG	0.02	0.093	0.000	0.04	0.02	-0.01	0.08
27	Muscadine	4	4.0	GSSG	0.08	0.127	0.048	0.08	0.02	0.04	0.13
28	Muscadine	4	6.0	GSSG	0.14	0.057	0.030	0.08	0.02	0.03	0.12

**Mixed Longitudinal Model Means for All Data Points**

<i>time</i>	<i>group</i>	<i>day</i>	<i>t</i>	<i>var</i>	<i>MGS-001</i>	<i>MGS-003</i>	<i>MGS-004</i>	<i>Estimate</i>	<i>Standard Error</i>	<i>Lower</i>	<i>Upper</i>
1	Placebo	1	0.0	GSSG_GSH	-157.80	-127.203	-147.816	-144.3	14.73	-173.8	-114.7
2	Placebo	1	0.5	GSSG_GSH	-145.54	-137.199	-147.657	-143.5	14.73	-173.0	-113.9
3	Placebo	1	1.0	GSSG_GSH	-148.74	-126.576	-148.941	-141.4	14.73	-171.0	-111.9
4	Placebo	1	2.0	GSSG_GSH	-141.81	-129.411	-132.519	-134.6	14.73	-164.1	-105.0
5	Placebo	1	4.0	GSSG_GSH	-134.33	-131.659	-152.050	-139.3	14.73	-168.9	-109.8
6	Placebo	1	6.0	GSSG_GSH	-136.66	-164.722	-153.066	-151.5	14.73	-181.0	-121.9
7	Placebo	2	0.0	GSSG_GSH	-142.51	-136.688	-155.965	-145.1	14.73	-174.6	-115.5
8	Placebo	3	0.0	GSSG_GSH	-146.40	-154.841	-121.367	-140.9	14.73	-170.4	-111.3
9	Placebo	4	0.0	GSSG_GSH	-145.23	.	-126.452	-135.7	18.03	-171.9	-99.49
10	Placebo	4	0.5	GSSG_GSH	-139.56	.	-154.425	-146.8	18.03	-183.0	-110.6
11	Placebo	4	1.0	GSSG_GSH	-134.71	.	-165.633	-150.0	18.03	-186.2	-113.8
12	Placebo	4	2.0	GSSG_GSH	-137.13	-163.537	-148.420	-149.7	14.73	-179.3	-120.1
13	Placebo	4	4.0	GSSG_GSH	-149.51	-136.083	-159.638	-148.4	14.73	-178.0	-118.8
14	Placebo	4	6.0	GSSG_GSH	-139.42	-137.340	-137.218	-138.0	14.73	-167.6	-108.4
15	Muscadine	1	0.0	GSSG_GSH	-144.90	-135.641	-141.335	-140.6	14.73	-170.2	-111.1
16	Muscadine	1	0.5	GSSG_GSH	-132.59	-134.352	-155.153	-140.7	14.73	-170.3	-111.1
17	Muscadine	1	1.0	GSSG_GSH	-149.44	-139.536	0.000	-96.33	14.73	-125.9	-66.76
18	Muscadine	1	2.0	GSSG_GSH	-123.21	-132.170	-140.017	-131.8	14.73	-161.4	-102.2
19	Muscadine	1	4.0	GSSG_GSH	-135.65	-154.947	-144.447	-145.0	14.73	-174.6	-115.5
20	Muscadine	1	6.0	GSSG_GSH	-134.28	-147.720	-139.854	-140.6	14.73	-170.2	-111.1
21	Muscadine	2	0.0	GSSG_GSH	-141.55	-148.869	-135.982	-142.1	14.73	-171.7	-112.6
22	Muscadine	3	0.0	GSSG_GSH	-152.96	-146.119	-138.890	-146.0	14.73	-175.6	-116.4
23	Muscadine	4	0.0	GSSG_GSH	-136.98	-150.432	-133.985	-140.5	14.73	-170.0	-110.9
24	Muscadine	4	0.5	GSSG_GSH	-156.64	-155.106	-157.068	-156.3	14.73	-185.8	-126.7
25	Muscadine	4	1.0	GSSG_GSH	-141.89	-143.664	-158.335	-148.0	14.73	-177.5	-118.4
26	Muscadine	4	2.0	GSSG_GSH	-164.74	-130.695	0.000	-98.48	14.73	-128.0	-68.92
27	Muscadine	4	4.0	GSSG_GSH	-144.49	-128.593	-142.986	-138.7	14.73	-168.3	-109.1
28	Muscadine	4	6.0	GSSG_GSH	-148.64	-131.455	-139.836	-140.0	14.73	-169.5	-110.4

**Mixed Longitudinal Model Means for All Data Points**

<i>time</i>	<i>group</i>	<i>day</i>	<i>t</i>	<i>var</i>	<i>MGS-001</i>	<i>MGS-003</i>	<i>MGS-004</i>	<i>Estimate</i>	<i>Standard Error</i>	<i>Lower</i>	<i>Upper</i>
1	Placebo	1	0.0	CySS_Cys	-79.59	-80.448	-81.249	-80.43	2.81	-86.07	-74.79
2	Placebo	1	0.5	CySS_Cys	-68.80	-70.315	-68.136	-69.08	2.81	-74.72	-63.45
3	Placebo	1	1.0	CySS_Cys	-76.12	-73.282	-69.569	-72.99	2.81	-78.63	-67.35
4	Placebo	1	2.0	CySS_Cys	-64.11	-77.823	-66.506	-69.48	2.81	-75.12	-63.84
5	Placebo	1	4.0	CySS_Cys	-61.05	-67.171	-69.335	-65.85	2.81	-71.49	-60.21
6	Placebo	1	6.0	CySS_Cys	-63.47	-68.750	-69.353	-67.19	2.81	-72.83	-61.55
7	Placebo	2	0.0	CySS_Cys	-76.85	-67.754	-78.131	-74.24	2.81	-79.88	-68.61
8	Placebo	3	0.0	CySS_Cys	-77.63	-72.582	-75.157	-75.12	2.81	-80.76	-69.49
9	Placebo	4	0.0	CySS_Cys	-75.52	.	-66.600	-71.79	3.40	-78.61	-64.97
10	Placebo	4	0.5	CySS_Cys	-71.31	.	-71.899	-72.33	3.40	-79.15	-65.51
11	Placebo	4	1.0	CySS_Cys	-74.03	.	-77.388	-76.44	3.40	-83.26	-69.62
12	Placebo	4	2.0	CySS_Cys	-64.37	-73.084	-66.577	-68.01	2.81	-73.65	-62.37
13	Placebo	4	4.0	CySS_Cys	-71.09	-72.258	-75.189	-72.85	2.81	-78.48	-67.21
14	Placebo	4	6.0	CySS_Cys	-77.11	-82.975	-74.584	-78.22	2.81	-83.86	-72.59
15	Muscadine	1	0.0	CySS_Cys	-82.34	-83.134	-77.121	-80.87	2.81	-86.50	-75.23
16	Muscadine	1	0.5	CySS_Cys	-72.94	-79.830	-67.383	-73.38	2.81	-79.02	-67.75
17	Muscadine	1	1.0	CySS_Cys	-76.77	-72.693	-84.828	-78.10	2.81	-83.73	-72.46
18	Muscadine	1	2.0	CySS_Cys	-65.83	-76.401	-65.196	-69.14	2.81	-74.78	-63.50
19	Muscadine	1	4.0	CySS_Cys	-68.97	-79.252	-66.563	-71.60	2.81	-77.23	-65.96
20	Muscadine	1	6.0	CySS_Cys	-64.22	-74.855	-71.112	-70.06	2.81	-75.70	-64.42
21	Muscadine	2	0.0	CySS_Cys	-74.44	-76.671	-76.780	-75.96	2.81	-81.60	-70.33
22	Muscadine	3	0.0	CySS_Cys	-76.32	-83.326	-78.120	-79.26	2.81	-84.89	-73.62
23	Muscadine	4	0.0	CySS_Cys	-70.69	-81.702	-73.673	-75.36	2.81	-80.99	-69.72
24	Muscadine	4	0.5	CySS_Cys	-72.86	-71.556	-69.109	-71.18	2.81	-76.81	-65.54
25	Muscadine	4	1.0	CySS_Cys	-70.88	-68.476	-67.073	-68.81	2.81	-74.45	-63.17
26	Muscadine	4	2.0	CySS_Cys	-77.27	-75.601	-94.971	-82.61	2.81	-88.25	-76.98
27	Muscadine	4	4.0	CySS_Cys	-66.15	-78.571	-66.371	-70.36	2.81	-76.00	-64.73
28	Muscadine	4	6.0	CySS_Cys	-69.21	-72.221	-71.327	-70.92	2.81	-76.56	-65.28