NASA Life Sciences Data Archive
Investigator name: Kenneth Baldwin
Mission (Payload): STS-58 (SLS-2)
Experiment title (ID): Effects of Zero-Gravity Exposure on Biochemical and Metabolic Properties of Skeletal Muscle (178127)
File name/Inventory ID: Preflight data folder

L+14 vs F L+14 vs F 17/10

Sol mg MHC

INDEPENDENT SAMPLES T-TEST ON RAWPROT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	4.295 C (C)	1.107
2.000	5	3.010 F (F)	0.530

I

PARATE VARIANCES T = 2.519 DF 7.4 PROB = .038
POOLED VARIANCES T = 2.365 DF = 9 PROB = .042

p< 0.05
p<0.05

DEPENDENT SAMPLES T-TEST ON RAWPROT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	1.087 C (C)	0.490
2.000	5	0.698 F (F)	0.229

II A

PARATE VARIANCES T = 1.729 DF = 7.3 PROB = .126
POOLED VARIANCES T 1.621 DF = 9 PROB = .140

DEPENDENT SAMPLES T-TEST ON RAWPROT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	0.213 C (C)	0.105
2.000	5	0.516 F (F)	0.228

II x

PARATE VARIANCES T = -2.733 DF = 5.4 PROB = .038
POOLED VARIANCES T -2.919 DF = 9 PROB = .017

p< 0.05
p<0.05

VI

DEPENDENT SAMPLES T-TEST ON RAWPROT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	1.562 C (C)	0.230
2.000	5	1.314 F (F)	0.631

I

PARATE VARIANCES T = .833 DF = 4.9 PROB = .444
POOLED VARIANCES T = .900 DF 9 PROB = .391

DEPENDENT SAMPLES T-TEST ON RAWPROT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	1.432 C (C)	0.239
2.000	5	0.958 F (F)	0.137

II A

PARATE VARIANCES T = 4.108 DF = 8.1 PROB = .003
POOLED VARIANCES T = 3.904 DF = 9 PROB .004

p< 0.05
p<0.05

DEPENDENT SAMPLES T-TEST ON RAWPROT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	0.830 C (C)	0.129

II x

```
    2.000        5        1.108 F (F)    0.149

PARATE VARIANCES T =      -3.272 DF =    8.0 PROB = .011
POOLED VARIANCES T =      -3.320 DF =      9 PROB = .009
```

p<0.05
p<0.05

```
DEPENDENT SAMPLES T-TEST ON  RAWPROT     GROUPED BY    GROUP

   GROUP          N      MEAN            SD
     1.000        6       0.583 C (C)    0.094
     2.000        5       0.566 F (F)    0.256

PARATE VARIANCES T =        .144 DF =    4.9 PROB = .892
POOLED VARIANCES T =        .155 DF =      9 PROB   .880
```

II B

PLAN

```
DEPENDENT SAMPLES T-TEST ON  RAWPROT     GROUPED BY    GROUP

   GROUP          N      MEAN            SD
     1.000        6       0.253 C (C)    0.064
     2.000        5       0.144 F (F)    0.052

PARATE VARIANCES T =       3.117 DF =    9.0 PROB = .012
POOLED VARIANCES T =       3.054 DF =      9 PROB = .014
```

I

p<0.05
p<0.05

```
DEPENDENT SAMPLES T-TEST ON  RAWPROT     GROUPED BY    GROUP

   GROUP          N      MEAN            SD
     1.000        6       2.408 C (C)    0.432
     2.000        5       1.946 F (F)    0.516

PARATE VARIANCES T =       1.591 DF =    7.9 PROB = .151
POOLED VARIANCES T =       1.620 DF =      9 PROB = .140
```

II A

```
DEPENDENT SAMPLES T-TEST ON  RAWPROT     GROUPED BY    GROUP

   GROUP          N      MEAN            SD
     1.000        6       6.698 C (C)    0.937
     2.000        5       5.324 F (F)    0.771

PARATE VARIANCES T         2.669 DF     9.0 PROB = .026
POOLED VARIANCES T =       2.617 DF =      9 PROB = .028
```

II x

p<0.05
p<0.05

```
DEPENDENT SAMPLES T-TEST ON  RAWPROT     GROUPED BY    GROUP

   GROUP          N      MEAN            SD
     1.000        6       8.605 C (C)    2.203
     2.000        5       7.226 F (F)    0.501

PARATE VARIANCES T =       1.488 DF =    5.6 PROB = .191
POOLED VARIANCES T =       1.359 DF =      9 PROB = .207
```

II B

TA

DEPENDENT SAMPLES T-TEST ON RAWPROT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	5	1.146 C (C)	0.733
2.000	5	1.024 F (F)	0.700

POOLED VARIANCES T = .269 DF = 8 PROB = .795

I

DEPENDENT SAMPLES T-TEST ON RAWPROT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	5	2.590 C (C)	0.134
2.000	5	2.890 F (F)	0.436

POOLED VARIANCES T = -1.471 DF = 8 PROB = .179

IIA

DEPENDENT SAMPLES T-TEST ON RAWPROT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	5	5.620 C (C)	0.758
2.000	5	5.362 F (F)	0.518

POOLED VARIANCES T = .628 DF 8 PROB = .547

IV

DEPENDENT SAMPLES T-TEST ON RAWPROT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	5	23.634 C (C)	1.176
2.000	5	24.496 F (F)	2.009

POOLED VARIANCES T = -.828 DF 8 PROB = .432

IIB

	TP	MF-P	T-M	%-I	%-IIA	%IIX	%IIB	MHC-I	MHC-IIA	MHC-IIX	MHC-IIB
Sol-C1	38.1	15	6.15	84.913	28.53	6.558		3.98	1.75	0.40	0.00
Sol-C2	31.4	10.5	4.305	88.68	9.416	1.904		3.82	0.41	0.08	
Sol-C3	30.9	10.6	4.348	74.015	21.224	4.761		3.22	0.92	0.21	
Sol-C4	29.1	10.7	4.387	77.638	18.743	3.619		3.41	0.82	0.16	
Sol-C5	35.1	16.4	6.724	80.773	16.048	3.179		5.43	1.08	0.21	
Sol-C6	32.6	18.7	7.667	77.006	20.084	2.91		5.90	1.54	0.22	
Mean	**32.87**	**13.65**	**5.60**	**77.17**	**19.01**	**3.82**		**4.29**	**1.09**	**0.21**	
SD	**3.25**	**3.54**	**1.45**	**7.82**	**6.29**	**1.63**		**1.11**	**0.49**	**0.11**	
SE	**1.45**	**1.59**	**0.65**	**3.50**	**2.81**	**0.73**		**0.50**	**0.22**	**0.05**	
Sol-F1	31.8	9.5	3.895	72.929	16.746	10.325		2.84	0.65	0.40	
Sol-F2	28.2	11.1	4.551	79.734	11.506	8.761		3.63	0.52	0.40	
Sol-F3	28.1	10.3	4.223	62.937	21.468	15.594		2.66	0.91	0.66	
Sol-F4	23.5	10.3	4.223	57.361	22.639	20		2.42	0.96	0.84	
Sol-F5	19.3	10.3	4.223	82.819	10.659	6.522		3.50	0.45	0.28	
Mean	**26.18**	**10.30**	**4.22**	**71.16**	**16.60**	**12.24**		**3.01**	**0.70**	**0.52**	
SD	**4.84**	**0.57**	**0.23**	**10.85**	**5.51**	**5.48**		**0.53**	**0.23**	**0.23**	
SE	**2.42**	**0.28**	**0.12**	**5.42**	**2.75**	**2.74**		**0.26**	**0.11**	**0.12**	
Sol-L1	35.2	16.3	6.683	94.265	5.735			6.30	0.38	0.00	
Sol-L2	26.4	14.9	6.109	83.508	16.492			5.10	1.01	0.00	
Sol-L3	28.8	13.2	5.412	84.047	15.953			4.55	0.86	0.00	
Sol-L4	29.4	12.4	5.084	82.619	17.381			4.20	0.88	0.00	
Sol-L5	30.6	16.1	6.601	90.121	9.879			5.95	0.65	0.00	
Mean	**30.08**	**14.58**	**5.98**	**86.91**	**13.09**			**5.22**	**0.76**	**0.00**	
SD	**3.25**	**1.73**	**0.71**	**5.06**	**5.06**			**0.89**	**0.25**	**0.00**	
SE	**1.62**	**0.87**	**0.36**	**2.53**	**2.53**			**0.45**	**0.12**	**0.00**	
	TP	MF-P	TM	%-I	%-IIA	%-IIX	%-IIB				
Vl-C1	22.3	9.1	3.731	35.993	31.687	17.898	14.822	1.34	1.18	0.66	0.55
Vl-C2	26.4	10.8	4.428	31.521	31.828	21.5	15.152	1.40	1.41	0.95	0.67
Vl-C3	22.2	9.7	3.977	34.686	32.722	19.572	13.04	1.38	1.30	0.78	0.52
Vl-C4	19.5	11.1	4.551	41.051	31.904	16.132	10.913	1.87	1.45	0.73	0.50
Vl-C5	25.2	10.6	4.343	36.212	31.429	20.062	12.297	1.57	1.37	0.87	0.53
Vl-C6	36.3	13.2	5.412	33.464	34.767	18.231	13.538	1.81	1.88	0.99	0.73
Mean	**25.32**	**10.75**	**4.41**	**35.48**	**32.39**	**18.87**	**13.26**	**1.56**	**1.43**	**0.83**	**0.58**
SD	**5.91**	**1.41**	**0.58**	**3.23**	**1.24**	**1.90**	**1.55**	**0.23**	**0.24**	**0.13**	**0.10**
SE	**2.64**	**0.63**	**0.26**	**1.45**	**0.56**	**0.85**	**0.69**	**0.10**	**0.11**	**0.06**	**0.04**
				%-I	%-IIA	%-IIX	%-IIB				
Vl-F1	18.5	8.8	3.605	35.689	24.695	27.268	12.348	1.29	0.89	0.98	0.45

TP = total protein
MF-P = myofibril protein
T-M = total myosin
% I = % type I myosin heavy chain
% IIA = % type IIA myosin heavy chain
% IIX = % type IIX myosin heavy chain
% IIB = % type IIB myosin heavy chain
MHC-I = myosin heavy chain isoform (mg/muscle)
MHC-IIA = myosin heavy chain isoform (mg/muscle)
MHC-IIX = myosin heavy chain isoform (mg/muscle)
MHC-IIB = myosin heavy chain isoform (mg/muscle)

VI-F2	20.8	12.5	5 125	46.513	21.042	24.633	7.812	2 38	1.08	1.28	0.40
VI-F3	26.6	9.4	3 854	20.669	24.092	33.27	21.949	0 80	0.93	1.28	0.85
VI-F4	20	0.9	3 049	33.21	30.302	28.193	8.295	1 21	1 11	1 03	0 30
VI-F5	19.8	8.5	3 485	25.41	22.495	28.415	23.679	0 89	0 78	0 99	0 83
Mean	**22.34**	**9.82**	**3.94**	**32.30**	**24.53**	**28.36**	**14.82**	**1.31**	**0.96**	**1.11**	**0.56**
SD	**3.71**	**1.64**	**0.67**	**9.96**	**3.53**	**3.13**	**7.53**	**0.63**	**0.13**	**0.16**	**0.25**
SE	**1.66**	**0.82**	**0.34**	**4.98**	**1.76**	**1.57**	**3.77**	**0.32**	**0.07**	**0.07**	**0.13**
VI-L1	32.3	13.4	5.494	44.077	33 846	14 224	7.854	2 42	1 86	0 78	0 43
VI-L2	28.2	12.8	5.248	41.155	38 079	15 538	5.229	2 16	2 00	0.82	0 27
VI-L3	27.4	12.5	5.125	47.796	21.575	8 815	21.813	2.45	1 11	0.45	1 12
VI-L4	24.7	11.6	4 756	53.245	32 099	9 337	5.319	2.53	1.53	0.44	0 25
VI-L5	30.4	14 5	5.945	48.644	31.391	12.377	7.588	2.89	1.87	0.74	0 45
Mean	**28.60**	**12.96**	**5.31**	**46.98**	**31.40**	**12.06**	**9.66**	**2.49**	**1.67**	**0.65**	**0.51**
SD	**2.90**	**1.08**	**0.44**	**4.61**	**6.07**	**2.96**	**6.96**	**0.26**	**0.38**	**0.18**	**0.35**
SE	**1.45**	**0.54**	**0.22**	**2.31**	**3.04**	**1.48**	**3.48**	**0.13**	**0.18**	**0.09**	**0.18**

	TP	MF-P	TM	%-I	%-IIA	%-IIX	%-IIB	I	IIA	IIX	IIB
Plant-C1	78.2	45.4	18.614	1.089	13.735	37.965	47.21	0.20	2.56	7.07	8.79
Plant-C2	89.5	36.2	14.042	1.226	14.10	40.54	44.05	0.10	2.10	6.02	6.54
Plant-C3	83.7	36.9	15.129	1.572	12.879	42.493	43.055	0.24	1.95	6.43	6.51
Plant-C4	71.8	37.4	15.334	2.195	13.611	35.565	48.628	0.34	2.09	5.45	7.46
Plant-C5	121.7	54.7	22.427	1.43	13.658	31.696	53.217	0.32	3.06	7.11	11.93
Plant-C6	154.4	52.3	21.443	1.139	12.549	37.813	48.499	0.24	2.69	8.11	10.40
Mean	**99.88**	**43.82**	**17.96**	**1.44**	**13.44**	**37.88**	**47.44**	**0.25**	**2.41**	**6.70**	**8.61**
SD	**31.86**	**8.25**	**3.38**	**0.41**	**0.60**	**3.79**	**3.65**	**0.06**	**0.43**	**0.94**	**2.20**
SE	**14.25**	**3.69**	**1.51**	**0.18**	**0.27**	**1.69**	**1.63**	**0.03**	**0.19**	**0.42**	**0.99**
Plant-F1	80.1	33.8	13.853	0.618	9.551	32.277	57.554	0.09	1.32	4.47	7.98
Plant-F2	82.5	37.7	15.457	0.885	14.813	38.053	46.249	0.14	2.29	5.88	7.15
Plant-F3	81	37.6	15.416	0.883	16.781	39.45	42.885	0.14	2.59	6.08	6.61
Plant-F4	74.3	32.6	13.366	1.74	11.757	33.829	52.674	0.23	1.57	4.52	7.04
Plant-F5	81.6	36.8	15.088	0.785	12.96	37.555	48.7	0.12	1.96	5.67	7.35
Mean	**79.90**	**35.70**	**14.64**	**0.96**	**13.17**	**36.23**	**49.61**	**0.14**	**1.95**	**5.32**	**7.22**
SD	**3.25**	**2.35**	**0.96**	**0.44**	**2.78**	**3.03**	**5.70**	**0.06**	**0.51**	**0.77**	**0.50**
SE	**1.53**	**1.17**	**0.48**	**0.22**	**1.39**	**1.52**	**2.85**	**0.03**	**0.26**	**0.38**	**0.25**
Plant-L1	79.3	32.5	13.325								
Plant-L2	82.9	40.9	16.769								
Plant-L3	74.4	30	12.3								
Plant-L4	77.6	33.8	13.853								
Plant-L5	88.9	35.7	14.637								
Mean	**80.62**	**34.68**	**14.13**								
SD	**5.55**	**4.10**	**1.68**								
SE	**2.78**	**2.05**	**0.84**								

	TP	MF-P	TM	%-I	%-IIA	%-IIX	%-IIB	I	IIA	IIX	IIB
TA-C1	144.9	80	32.8	0.302	8.2	17.503	73.993	0.10	2.69	5.74	24.27
				1.099	8.59	16.612	73.7				
TA-C3	149.2	79.6	32.636	2.728	7.874	16.237	73.163	0.89	2.57	5.30	23.88
TA-C4	158.1	85.2	34.932	5.988	7.42	16.083	70.509	2.09	2.59	5.62	24.63
TA-C5	134	73.5	30.135	4.841	7.887	15.526	71.747	1.46	2.38	4.68	21.62
TA-C6	154.9	84	34.44	3.447	7.908	19.632	69.013	1.19	2.72	6.76	23.77
Mean	**148.22**	**80.46**	**32.99**	**3.07**	**7.98**	**16.93**	**72.02**	**1.15**	**2.59**	**5.62**	**23.63**
SD	**9.44**	**4.59**	**1.88**	**2.17**	**0.39**	**1.48**	**1.97**	**0.73**	**0.14**	**0.76**	**1.18**
SE	**4.72**	**2.30**	**0.94**	**0.97**	**0.17**	**0.66**	**0.88**	**0.37**	**0.07**	**0.38**	**0.59**
TA-F1	140.1	77.7	31.857	2.721	8.0737	15.308	73.897	0.87	2.57	4.88	23.54
TA-F2	170.2	82.1	33.661	3.321	9.932	16.83	69.918	1.12	3.34	5.67	23.54

TA-F3	131.9	90.4	37.064	0.865	8.733	15.474	74.928	0.32	3.24	5.74	27.77
TA-F4	136.8	77.7	31.857	6.77	7.291	14.816	71.123	2.16	2.32	4.72	22.66
TA-F5	126.8	83.9	34.399	1.901	8.055	16.835	72.589	0.05	2.98	5.80	24.97
Mean	**141.16**	**82.36**	**33.77**	**3.12**	**8.64**	**15.86**	**72.49**	**1.02**	**2.89**	**5.36**	**24.50**
SD	**17.00**	**5.26**	**2.18**	**2.24**	**0.97**	**0.93**	**2.03**	**0.70**	**0.43**	**0.52**	**1.50**
SE	**8.50**	**2.63**	**1.08**	**1.12**	**0.49**	**0.47**	**1.01**	**0.35**	**0.22**	**0.26**	**0.75**
TA-L1	99.4	54.5	22.345								
TA-L2	123	45.9	18.819								
TA-L3	97.3	40.9	16.769								
TA-L4											
TA-L5											
Mean	**106.57**	**47.10**	**19.31**								
SD	**14.27**	**6.88**	**2.82**								
SE	**10.09**	**4.86**	**1.99**								

SLS2.XLS

MUSCLE	TYPE IIA	TYPE IIX	TYPE IIB	TYPE I	TOTAL	% IIA	% IIX	% IIB	% I
C1 SOL	1.849	0.425	0	4.207	6.481	28.52955	6.55763	0	64.91282
C2 SOL	0.455	0.092	0	4.285	4.832	9.416391	1.903974	0	88.67964
C3 SOL	0.905	0.203	0	3.156	4.264	21.2242	4.760788	0	74.01501
C4 SOL	0.865	0.167	0	3.583	4.615	18.74323	3.618635	0	77.63814
C5 SOL	0.631	0.125	0	3.176	3.932	16.04781	3.179044	0	80.77314
C6 SOL	0.766	0.111	0	2.937	3.814	20.0839	2.91033	0	77.00577
					☆	19.00751	3.821733	0	77.17075
						6.285869	1.632771	0	7.821673
						2.811126	0.730198	0	3.497959
F1 SOL	0.845	0.521	0	3.68	5.046	16.74594	10.32501	0	72.92905
F2 SOL	0.285	0.217	0	1.975	2.477	11.50585	8.760597	0	79.73355
F3 SOL	0.497	0.361	0	1.457	2.315	21.46868	15.59395	0	62.93737
F4 SOL	0.386	0.341	0	0.978	1.705	22.6393	20	0	57.3607
F5 SOL	0.152	0.093	0	1.181	1.426	10.65919	6.521739	0	82.81907
					☆	16.60379	12.24026	0	71.15595
						5.510036	5.475823	0	10.84668
						2.755018	2.737911	0	5.423338
L1 SOL	0.593	0	0	9.747	10.34	5.73501	0	0	94.26499
L2 SOL	1.367	0	0	6.922	8.289	16.49174	0	0	83.50826
L3 SOL	1.744	0	0	9.188	10.932	15.95317	0	0	84.04683
L4 SOL	1.293	0	0	6.146	7.439	17.38137	0	0	82.61863
L5 SOL	1.066	0	0	9.725	10.791	9.878603	0	0	90.1214
					☆	13.08798	0	0	86.91202
						5.064442	0	0	5.064442
						2.532221	0	0	2.532221
C1 VI	1.803	1.007	0.832	2.048	5.69	31.68717	17.69772	14.62214	35.99297
C2 VI	2.382	1.609	1.134	2.359	7.484	31.8279	21.4992	15.15232	31.52058
C3 VI	1.498	0.896	0.597	1.587	4.578	32.72171	19.57187	13.04063	34.66579
C4 VI	1.681	0.85	0.575	2.163	5.269	31.90359	16.13209	10.91289	41.05143
C5 VI	1.623	1.036	0.635	1.87	5.164	31.42912	20.06197	12.29667	36.21224
C6 VI	1.6	0.839	0.623	1.54	4.602	34.76749	18.2312	13.53759	33.46371
					☆	32.3895	18.80567	13.26037	35.48445
						1.243568	1.902862	1.549094	3.232505
						0.556141	0.850986	0.692776	1.44562
F1 VI	0.912	1.007	0.456	1.318	3.693	24.69537	27.2678	12.34768	35.68914
F2 VI	1.406	1.646	0.522	3.108	6.682	21.0416	24.63334	7.812032	46.51302
F3 VI	1.664	2.298	1.516	1.429	6.907	24.0915	33.2706	21.94875	20.68916
F4 VI	1.063	0.989	0.291	1.165	3.508	30.30217	28.1927	8.295325	33.20981
F5 VI	0.247	0.312	0.26	0.279	1.098	22.49545	28.4153	23.67942	25.40984
					☆	24.52522	28.35595	13.81664	32.30219
						3.530076	3.131524	7.534978	9.957535
						1.765038	1.565762	3.767489	4.978767

SLS2.XLS

MUSCLE	TYPE IIA	TYPE IIX	TYPE IIB	TYPE I	TOTAL	% IIA	% IIX	% IIB	% I
L1 VI	2.577	1.083	0.598	3.356	7.614	33.84555	14.2238	7.853953	44.0767
L2 VI	4.122	1.682	0.566	4.455	10.825	38.07852	15.53811	5.228637	41.15473
L3 VI	1.63	0.666	1.648	3.611	7.555	21.57512	8.815354	21.81337	47.79616
L4 VI	3.259	0.948	0.54	5.406	10.153	32.09889	9.337142	5.318625	53.24535
L5 VI	2.871	1.132	0.694	4.449	9.146	31.39077	12.377	7.588017	48.64422
						31.39777	**12.05828**	**9.56052**	**46.98343**
						6.074541	2.950483	6.958705	4.611212
						3.037271	1.475242	3.479353	2.305606
C1 PLAN	0.517	1.429	1.777	0.041	3.764	13.73539	37.96493	47.21041	1.089267
C2 PLAN	0.404	1.155	1.255	0.035	2.849	14.18041	40.54054	44.05054	1.228501
C3 PLAN	0.344	1.135	1.15	0.042	2.671	12.87907	42.49345	43.05504	1.572445
C4 PLAN	0.248	0.648	0.886	0.04	1.822	13.61142	35.56531	48.62788	2.19539
C5 PLAN	0.898	2.084	3.499	0.094	6.575	13.65779	31.69582	53.21673	1.429658
C6 PLAN	0.606	1.826	2.342	0.055	4.829	12.54918	37.81321	48.49865	1.138952
						13.43554	**37.67888**	**47.44321**	**1.442369**
						0.603384	3.787697	3.651613	0.411486
						0.269842	1.69391	1.633051	0.184022
F1 PLAN	0.232	0.784	1.398	0.015	2.429	9.551256	32.27666	57.55455	0.617538
F2 PLAN	0.385	0.989	1.202	0.023	2.599	14.81339	38.0531	46.24856	0.884956
F3 PLAN	0.342	0.804	0.874	0.018	2.038	16.78116	39.45044	42.88518	0.883219
F4 PLAN	0.277	0.797	1.241	0.041	2.356	11.75722	33.82852	52.67402	1.740238
F5 PLAN	0.528	1.53	1.984	0.032	4.074	12.96024	37.55523	48.69907	0.785469
						13.17265	**36.23279**	**49.61228**	**0.982284**
						2.778328	3.035092	5.697727	0.43748
						1.389164	1.517546	2.848863	0.21874
L1PLAN	2.54	2.61	3.945	0.362	9.457	26.85841	27.5986	41.71513	3.827852
L2PLAN	2.826	2.949	4.03	0.222	10.027	28.1839	29.41059	40.19148	2.214022
L3PLAN	2.518	3.059	3.449	0.266	9.292	27.09858	32.92079	37.11795	2.862678
L4PLAN	1.906	2.604	2.597	0.416	7.523	25.33564	34.61385	34.5208	5.529709
L5PLAN	1.393	2.323	4.851	0.48	9.047	15.39737	25.67702	53.61998	5.305626
						24.57478	**30.04417**	**41.43307**	**3.947977**
						5.230059	3.694968	7.357677	1.461505
						2.61503	1.847484	3.678839	0.730753
C1 TA	0.841	1.795	7.588	0.031	10.255	8.200878	17.50366	73.99317	0.302292
C2 TA	0.649	1.255	5.568	0.083	7.555	8.590338	16.61152	73.69954	1.09861
C3 TA	0.644	1.328	5.984	0.223	8.179	7.873823	16.2367	73.16298	2.726495
C4 TA	0.824	1.786	7.83	0.665	11.105	7.420081	16.08285	70.50878	5.988294
C5 TA	0.637	1.254	5.795	0.391	8.077	7.886592	15.52557	71.74694	4.840906
C6 TA	0.966	2.398	8.43	0.421	12.215	7.908309	19.6316	69.01351	3.446582
						7.980003	**16.93198**	**72.02082**	**3.067196**
						0.389858	1.476476	1.970685	2.166052
						0.17435	0.6603	0.881317	0.968688

SLS2.XLS

MUSCLE	TYPE IIA	TYPE IIX	TYPE IIB	TYPE I	TOTAL	% IIA	% IIX	% IIB	% I
F1 TA	0.635	1.204	5.812	0.214	7.865	8.073744	15.30833	73.89701	2.720915
F2 TA	1.28	2.169	9.011	0.428	12.888	9.931719	16.82961	69.91775	3.320919
F3 TA	0.697	1.235	5.98	0.069	7.981	8.733241	15.47425	74.92795	0.864553
F4 TA	0.811	1.648	7.911	0.753	11.123	7.291198	14.81615	71.1229	6.769756
F5 TA	0.551	1.073	4.621	0.121	6.366	8.655357	16.85517	72.58875	1.900723
					☆	**8.537052**	**15.8567**	**72.49087**	**3.115373**
L1TA	0.661	0.922	5.456	0	7.039	9.390538	13.09845	77.51101	0
L2TA	0.801	1.582	7.127	0	9.51	8.422713	16.63512	74.94217	0
L3TA	0.384	0.942	4.142	0	5.468	7.022677	17.22751	75.74982	0
L4TA	0.306	0.825	4.239	0	5.37	5.698324	15.36313	78.93855	0
L5TA	0.441	0.981	4.144	0	5.566	7.923105	17.62487	74.45203	0
					☆	**7.691471**	**15.98981**	**76.31871**	**0**
C1 MGR	1.342	3.318	1.673	0.722	7.055	19.02197	47.03047	23.71368	10.23388
C2 MGR	1.699	3.182	1.769	0.557	7.207	23.5743	44.15152	24.54558	7.728597
C3 MGR	1.916	4.542	1.456	1.357	9.271	20.66659	48.99148	15.70489	14.63704
C4 MGR	1.833	3.829	1.682	1.194	8.538	21.46873	44.84657	19.70016	13.98454
C5 MGR	1.62	3.95	1.438	0.906	7.914	20.47005	49.91155	18.17033	11.44807
C6 MGR	1.921	5.01	2.474	0.998	10.403	18.46583	48.15918	23.7816	9.593387
					☆	**20.61125**	**47.1818**	**20.93604**	**11.27092**
F1 MGR	1.794	3.484	3.033	0.71	9.021	19.88693	38.621	33.62155	7.870524
F2 MGR	1.011	2.085	3.366	0.256	6.718	15.04912	31.03602	50.1042	3.810658
F3 MGR	1.552	3.351	1.437	0.76	7.1	21.85915	47.19718	20.23944	10.70423
F4 MGR	1.737	3.386	1.866	0.883	7.872	22.06555	43.01321	23.70427	11.21697
F5 MGR	1.146	2.72	1.818	0.553	6.237	18.37422	43.61071	29.14863	8.866442
					☆	**19.44699**	**40.69562**	**31.36362**	**8.493764**
C1MGM	0.657	1.493	4.047	0.234	6.431	10.21614	23.21567	62.92956	3.638625
C2 MGM	0.583	1.434	3.201	0.095	5.313	10.97308	26.9904	60.24845	1.788067
C3 MGM	0.684	2.226	4.818	0.359	8.087	8.458019	27.52566	59.5771	4.439223
C4 MGM	0.68	1.609	3.646	0.174	6.109	11.13112	26.33819	59.68244	2.848257
C5 MGM	0.64	1.912	4.487	0.218	7.257	8.819071	26.34698	61.82996	3.003996
C6 MGM	0.661	1.93	5.207	0.152	7.95	8.314465	24.27673	65.49686	1.91195
					☆	**9.651983**	**25.78227**	**61.62739**	**2.938353**
F1 MGM	0.417	1.213	4.143	0.094	5.867	7.107551	20.67496	70.61531	1.602182
F2 MGM	1.157	2.404	2.372	0.53	6.463	17.9019	37.19635	36.70122	8.200526
F3 MGM	0.64	1.646	4.295	0.115	6.696	9.557945	24.58184	64.14277	1.717443
F4 MGM	0.633	2.045	5.008	0.339	8.025	7.88785	25.48287	62.40498	4.224299
F5 MGM	0.431	1.436	2.534	0.167	4.568	9.435201	31.43608	55.47285	3.655867
					☆	**10.37809**	**27.87442**	**57.86743**	**3.880063**
C1 MGW	0.585	2.419	12.42	0	15.424	3.79279	15.68335	80.52386	0

C2 MGW	0.84	3.008	12.07	0	15.918	5.277045	18.89685	75.82611	0
C3 MGW	1.026	3.375	12.77	0	17.171	5.975191	19.65523	74.36958	0
C4 MGW	0.717	2.307	9.974	0	12.998	5.516233	17.74888	76.73488	0
C5 MGW	0.455	1.813	8.955	0	11.223	4.054174	16.15433	79.7915	0
C6 MGW	1.115	2.56	8.642	0	12.317	9.052529	20.78428	70.16319	0
						5.611327	18.15382	76.23485	0
MUSCLE	TYPE IIA	TYPE IIX	TYPE IIB	TYPE I	TOTAL	% IIA	% IIX	% IIB	% I
F1 MGW	1.135	2.948	12.8	0	16.883	6.722739	17.46135	75.81591	0
F2 MGW	1.611	3.563	13.09	0	18.264	8.820631	19.50832	71.67105	0
F3 MGW	1.459	4.131	26.66	0	32.25	4.524031	12.8093	82.66667	0
F4 MGW	1.143	3.095	15.31	0	19.548	5.847145	15.83282	78.32003	0
F5 MGW	2.373	4.633	32.67	1.069	40.745	5.824027	11.37072	80.18162	2.623635
						6.347715	15.3965	77.73105	0.524727
C1 VLR	2.033	3.186	3.583	0.494	9.296	21.86962	34.27281	38.54346	5.314114
C2 VLR	1.153	2.465	3.194	0.219	7.031	16.39881	35.05902	45.42739	3.114777
C3 VLR	1.166	3.638	3.038	0.373	8.215	14.19355	44.28484	36.98113	4.540475
C4 VLR	1.404	3.436	3.56	0.586	8.986	15.6243	38.23726	39.61718	6.521255
C5 VLR	1.956	3.287	3.942	0.273	9.458	20.68091	34.75365	41.679	2.886445
C6 VLR	2.006	2.738	3.446	0.32	8.51	23.57227	32.17391	40.49354	3.760282
						18.72324	36.46358	40.45695	4.356225
F1 VLR	1.046	1.802	2.745	0.218	5.811	18.00034	31.01015	47.238	3.751506
F2 VLR	1.042	1.849	2.984	0.108	5.983	17.41601	30.90423	49.87464	1.805114
F3 VLR	0.762	1.885	3.659	0.047	6.353	11.99433	29.67102	57.59484	0.739808
F4 VLR	1.442	2.382	3.662	0.22	7.706	18.71269	30.91098	47.52141	2.854918
F5 VLR	1.014	1.782	2.195	0.193	5.184	19.56019	34.375	42.34182	3.722994
						17.13671	31.37428	48.91414	2.574868
C1 VLW	0	1.625	9.386	0	11.011	0	14.75797	85.24203	0
C2 VLW	0	1.643	11.46	0	13.103	0	12.53911	87.46089	0
C3 VLW	0	1.554	11.49	0	13.044	0	11.91352	88.08648	0
C4 VLW	0	1.086	10.23	0	11.316	0	9.597031	90.40297	0
C5 VLW	0	1.092	9.998	0	11.09	0	9.846709	90.15329	0
C6 VLW	0	1.148	9.661	0	10.809	0	10.62078	89.37922	0
						0	11.54585	88.45415	0
F1 VLW	0	1.386	10.87	0	12.256	0	11.30875	88.69125	0
F2 VLW	0	1.192	12.15	0	13.342	0	8.934193	91.06581	0
F3 VLW	0	1.293	7.226	0	8.519	0	15.17784	84.82216	0
F4 VLW	0	2.211	16.06	0	18.271	0	12.10114	87.89886	0
F5 VLW	0	1.336	6.959	0	8.295	0	16.10609	83.89391	0
						0	12.7256	87.2744	0
C1 VLM	2.283	3.604	10.51	0	16.397	13.92328	21.97963	64.09709	0

SLS2.XLS

C2 VLM	2.994	4.028	9.511	0	16.533	18.10924	24.36339	57.52737	0
C3 VLM	3.241	4.516	8.333	0	16.09	20.14295	28.06712	51.78993	0
C4 VLM	3.37	5.22	12.47	0	21.06	16.0019	24.78632	59.21178	0
C5 VLM	2.914	5.816	15	0	23.73	12.27981	24.50906	63.21113	0
C6 VLM	1.906	3.62	8.647	0	14.173	13.44811	25.54152	61.01037	0
						15.65088	**24.87451**	**59.47461**	**0**
MUSCLE	TYPE IIA	TYPE IIX	TYPE IIB	TYPE I	TOTAL	% IIA	% IIX	% IIB	% I
F1 VLM	2.243	4.503	11.43	0	18.176	12.34045	24.77443	62.88512	0
F2 VLM	2.228	4.116	10.36	0	16.704	13.33812	24.6408	62.02107	0
F3 VLM	2.957	4.893	15.06	0	22.91	12.90703	21.35749	65.73549	0
F4 VLM	1.812	3.777	9.437	0	15.026	12.0591	25.13643	62.80447	0
F5 VLM	1.868	3.553	6.95	0	12.371	15.09983	28.72039	56.17978	0
						13.14891	**24.92591**	**61.92519**	**0**

SOL M+C

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6 SL3 (SL3)	77.162	7.832
2.000	5 F (F)	71.150	10.845

I

SEPARATE VARIANCES T = 1.035 DF = 7.2 PROB = .334
POOLED VARIANCES T = 1.068 DF = 9 PROB = .313

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	19.002	6.285
2.000	5	16.596	5.509

IIA

SEPARATE VARIANCES T = .676 DF = 9.0 PROB = .516
POOLED VARIANCES T = .667 DF = 9 PROB = .521

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	3.818	1.635
2.000	5	12.240	5.475

IIX

SEPARATE VARIANCES T = -3.318 DF = 4.6 PROB = .024
POOLED VARIANCES T = -3.614 DF = 9 PROB = .006

VI

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	35.482	3.233
2.000	5	32.296	9.961

I

SEPARATE VARIANCES T = .686 DF = 4.7 PROB = .525
POOLED VARIANCES T = .745 DF = 9 PROB = .475

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	32.383	1.244
2.000	5	24.522	3.530

IIA

SEPARATE VARIANCES T = 4.740 DF = 4.8 PROB = .006
POOLED VARIANCES T = 5.132 DF = 9 PROB = .001

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	18.862	1.902

2.000	5	28.352 √	3.133

SEPARATE VARIANCES T = -5.925 DF = 6.4 PROB = .001
POOLED VARIANCES T = -6.209 DF = 9 PROB = .000

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	13.257 √	1.550
2.000	5	14.810 √	7.532

II B

SEPARATE VARIANCES T = -.453 DF = 4.3 PROB = .672
POOLED VARIANCES T = -.498 DF = 9 PROB = .631

PLAN

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	1.437 √	0.412
2.000	5	0.982 √	0.438

I

SEPARATE VARIANCES T = 1.764 DF = 8.4 PROB = .114
POOLED VARIANCES T = 1.775 DF = 9 PROB = .110

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	13.430 √	0.606
2.000	5	13.170 √	2.779

II A

SEPARATE VARIANCES T = .205 DF = 4.3 PROB = .847
POOLED VARIANCES T = .225 DF = 9 PROB = .827

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	18.862	1.902
2.000	5	28.352	3.133

SEPARATE VARIANCES T = -5.925 DF = 6.4 PROB = .001
POOLED VARIANCES T = -6.209 DF = 9 PROB = .000

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	37.675 √	3.789
2.000	5	36.228 √	3.038

II X

SEPARATE VARIANCES T = .703 DF = 9.0 PROB = .500
POOLED VARIANCES T = .688 DF = 9 PROB = .509

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	37.675	3.789
2.000	5	36.228	3.038

Repeat

Repeat

SEPARATE VARIANCES T = .703 DF = 9.0 PROB = .500
POOLED VARIANCES T = .688 DF = 9 PROB = .509

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	47.438 ✓	3.650
2.000	5	49.606 ✓	5.699

II B

SEPARATE VARIANCES T = -.734 DF = 6.6 PROB = .488
POOLED VARIANCES T = -.766 DF = 9 PROB = .463

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	13.430	0.606
2.000	5	13.170	2.779

Repeat

Repeat

SEPARATE VARIANCES T = .205 DF = 4.3 PROB = .847
POOLED VARIANCES T = .225 DF = 9 PROB = .827

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	47.438	3.650
2.000	5	49.606	5.699

Repeat

Repeat

SEPARATE VARIANCES T = -.734 DF = 6.6 PROB = .488
POOLED VARIANCES T = -.766 DF = 9 PROB = .463

TA

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	3.064	2.165
2.000	5	3.113	2.238

I

SEPARATE VARIANCES T = -.037 DF = 8.5 PROB = .971
POOLED VARIANCES T = -.037 DF = 9 PROB = .971

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	7.977 ✓	0.391

2.000	5	8.536 ✓	0.970

SEPARATE VARIANCES T = -1.210 DF = 5.1 PROB = .280
POOLED VARIANCES T = -1.302 DF = 9 PROB = .225

II A

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	16.928 ✓	1.478
2.000	5	15.850 ✓	0.931

SEPARATE VARIANCES T = 1.471 DF = 8.5 PROB = .177
POOLED VARIANCES T = 1.408 DF = 9 PROB = .193

II X

INDEPENDENT SAMPLES T-TEST ON FT GROUPED BY GROUP

GROUP	N	MEAN	SD
1.000	6	72.015 ✓	1.971
2.000	5	72.486 ✓	2.025

II B

SEPARATE VARIANCES T = -.389 DF = 8.5 PROB = .707
POOLED VARIANCES T = -.390 DF = 9 PROB = .706

Have all muscles, but only compared
Soleus
VI
Plantaris
TA

Have all muscles, but only compared
Soleus
VI
Plantaris
TA

MUSCLE	GROUP	MHC	% FT
1	1	1	64.9
1	1	1	88.7
1	1	1	74
1	1	1	77.6
1	1	1	80.77
1	1	1	77
1	1	2	28.52
1	1	2	9.41
1	1	2	21.22
1	1	2	18.74
1	1	2	16.04
1	1	2	20.08
1	1	3	6.56
1	1	3	1.9
1	1	3	4.76
1	1	3	3.61
1	1	3	3.17
1	1	3	2.91
1	1	4	0
1	1	4	0
1	1	4	0
1	1	4	0
1	1	4	0
1	1	4	0
1	2	1	72.92
1	2	1	79.73
1	2	1	62.93
1	2	1	57.36
1	2	1	82.81
1	2	2	16.74
1	2	2	11.5
1	2	2	21.46
1	2	2	22.63
1	2	2	10.65
1	2	3	10.33
1	2	3	8.76
1	2	3	15.59
1	2	3	20
1	2	3	6.52
1	2	4	0
1	2	4	0
1	2	4	0
1	2	4	0
1	2	4	0
2	1	1	35.99
2	1	1	31.52
2	1	1	34.66
2	1	1	41.05
2	1	1	36.21
2	1	1	33.46

Muscle 1 = Soleus
group 1 = Control / SL3
group 2 = flight
muscle 2 = Vastus intermedius
muscle 3 = plantaris
muscle 4 = tibialis anterior
MHC I = myosin heavy chain type I
MHC II = myosin heavy chain type IIA
MHC III = myosin heavy chain type IIX
MHC IV = myosin heavy chain type IIB

Muscle 1 = Soleus
Group 1 = Control / SL3
Group 2 = Flight
Muscle 2 = Vastus intermedius
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Muscle 4 = Tibialis anterior
MHC I = myosin heavy chain type I
MHC II = myosin heavy chain type IIA
MHC III = myosin heavy chain type IIX
MHC IV = myosin heavy chain type IIB

2	1	2	31.68
2	1	2	31.82
2	1	2	32.72
2	1	2	31.9
2	1	2	31.42
2	1	2	34.76
2	1	3	17.69
2	1	3	21.49
2	1	3	19.57
2	1	3	16.13
2	1	3	20.06
2	1	3	18.23
2	1	4	14.62
2	1	4	15.15
2	1	4	13.04
2	1	4	10.91
2	1	4	12.29
2	1	4	13.53
2	2	1	35.69
2	2	1	46.51
2	2	1	20.68
2	2	1	33.2
2	2	1	25.4
2	2	2	24.69
2	2	2	21.04
2	2	2	24.09
2	2	2	30.3
2	2	2	22.49
2	2	3	27.26
2	2	3	24.63
2	2	3	33.27
2	2	3	28.19
2	2	3	28.41
2	2	4	12.34
2	2	4	7.81
2	2	4	21.94
2	2	4	8.29
2	2	4	23.67
3	1	1	1.09
3	1	1	1.22
3	1	1	1.57
3	1	1	2.19
3	1	1	1.42
3	1	1	1.13
3	1	2	13.73
3	1	2	14.18
3	1	2	12.87
3	1	2	13.61
3	1	2	13.65
3	1	2	12.54
3	1	3	37.96

muscle group 3 = plantaris

Muscle group 3 = plantaris

3	1	3	40.54
3	1	3	42.49
3	1	3	35.56
3	1	3	31.69
3	1	3	37.81
3	1	4	47.21
3	1	4	44.05
3	1	4	43.05
3	1	4	48.62
3	1	4	53.21
3	1	4	48.49
3	2	1	0.617
3	2	1	0.884
3	2	1	0.883
3	2	1	1.74
3	2	1	0.785
3	2	2	9.55
3	2	2	14.81
3	2	2	16.78
3	2	2	11.75
3	2	2	12.96
3	2	3	32.27
3	2	3	38.05
3	2	3	39.45
3	2	3	33.82
3	2	3	37.55
3	2	4	57.55
3	2	4	46.24
3	2	4	42.88
3	2	4	52.67
3	2	4	48.69
4	1	1	0.302
4	1	1	1.09
4	1	1	2.73
4	1	1	5.98
4	1	1	4.84
4	1	1	3.44
4	1	2	8.2
4	1	2	8.59
4	1	2	7.87
4	1	2	7.42
4	1	2	7.88
4	1	2	7.9
4	1	3	17.5
4	1	3	16.61
4	1	3	16.23
4	1	3	16.08
4	1	3	15.52
4	1	3	19.63
4	1	4	73.99
4	1	4	73.69

muscle group 4= tibilas anterior

Muscle group 4 = tibialis anterior

4	1	4	73.16
4	1	4	70.5
4	1	4	71.74
4	1	4	69.01
4	2	1	2.72
4	2	1	3.32
4	2	1	0.864
4	2	1	6.76
4	2	1	1.9
4	2	2	8.07
4	2	2	9.93
4	2	2	8.73
4	2	2	7.29
4	2	2	8.66
4	2	3	15.3
4	2	3	16.82
4	2	3	15.47
4	2	3	14.81
4	2	3	16.85
4	2	4	73.89
4	2	4	69.91
4	2	4	74.92
4	2	4	71.12
4	2	4	72.59