

**Supplemental File 1. ANOVA Tables.**

	Sum of squares	Degrees of freedom	Mean Squares	F-Value	P-Value >F
<b>Figure 2C</b>					
Model	0.02	2	0.01	27.95	2.64E-7
Error	0.01	27	3.73E-4		
Total	0.03	29			
<b>Figure 3A</b>					
<b>(A)</b>					
Model	51.27	2	25.63	19.75	1.59E-4
Error	15.57	12	1.29		
Total	66.84	14			
<b>(C<sub>i</sub>)</b>					
Model	1573.77	2	786.88	0.95	0.41
Error	9842.03	12	820.16		
Total	11415.81	14			
<b>(g<sub>s</sub>)</b>					
Model	0.007	2	0.003	0.48	0.62
Error	0.086	12	0.007		
Total	0.093	14			
<b>Figure 3B and Table 1</b>					
<b>(V<sub>c max</sub>)</b>					
Model	704.78	2	352.39	49.21	1.42E-5
Error	64.44	9	7.16		
Total	769.23	11			
<b>(J<sub>max</sub>)</b>					
Model	1036.12	2	518.06	25.10	2.08E-4
Error	185.74	9	20.63		
Total	1221.87	11			
<b>(R<sub>d</sub>)</b>					
Model	1.79	2	0.89	5.54	0.02
Error	1.45	9	0.16		
Total	3.25	11			
<b>(g<sub>s</sub>)</b>					
Model	0.003	2	0.001	0.73	0.50
Error	0.019	9	0.002		
Total	0.022	11			
<b>Figure 5B</b>					
Model	0.171	3	0.06	108.26	5.90E-9
Error	0.006	12	5.29E-4		
Total	0.178	15			

**Figure 5C**

Model	0.021	3	0.007	50.17	1.17E-8
Error	0.002	17	1.451E-4		
Total	0.024	20			

**Figure 5D**

Genotype	238.48	3	79.49	29.16	1.08E-11
Treatment	2221.90	1	2221.90	815.04	0
Model	2557.39	4	639.34	234.52	0
Error	160.84	59	2.72		
Total	2718.24	63			

**Figure 6**

(Glycolate)

Genotype	5.95E6	3	1.98E6	13.05	7.33E-5
Treatment	2.65E6	1	2.65E6	17.46	5.08E-4
Model	8.60E6	4	2.15E6	14.16	1.61E-5
Error	2.88E6	19	151925.39		
Total	1.14E7	23			

(Glyoxylate)

Genotype	240.51	3	80.17	2.32	0.10
Treatment	992.92	1	992.92	28.84	3.49E-5
Model	1233.43	4	308.35	8.95	3.05E-4
Error	654.07	19	34.42		
Total	1887.514	23			

(Glycine)

Genotype	88995.27	3	29665.09	6.36	0.003
Treatment	195463.45	1	195463.45	41.96	3.30E-6
Model	284458.72	4	71114.68	15.26	9.58E-6
Error	88507.41	19	4658.28		
Total	372966.13	23			

(Serine)

Genotype	17651.14	3	5883.71	10.14	3.30E-4
Treatment	21021.92	1	21021.92	36.24	8.59E-6
Model	38673.06	4	9668.26	16.67	5.12E-6
Error	11019.15	19	579.95		
Total	49692.21	23			

(Hydroxypyruvate)

Genotype	88.79	3	29.59	3.40	0.03
Treatment	17.00	1	17.00	1.95	0.17
Model	105.79	4	26.44	3.04	0.04
Error	165.27	19	8.69		
Total	271.07	23			

(Glycerate)

Genotype	6.87E7	3	2.29E7	15.62	2.30E-5
Treatment	2.74E7	1	2.74E7	18.73	3.62E-4

Model	9.61E7	4	2.40E7	16.39	5.76E-6
Error	2.78E7	19	1.46E6		
Total	1.24E8	23			

**Figure 7**

(Glycerate T0)

Model	1.68E9	3	5.61E8	12.43	0.002
Error	3.61E8	8	4.51E7		
Total	2.04E9	11			

(Glycerate T10)

Model	3.38E9	3	1.12E9	39.87	3.70E-5
Error	2.26E8	8	2.82E7		
Total	3.61E9	11			

(Glycerate T30)

Model	1.80E9	3	6.01E8	12.32	0.002
Error	3.90E8	8	4.88E7		
Total	2.19E9	11			

(Glycerate T60)

Model	9.41E8	3	3.13E8	18.99	5.36E-4
Error	1.32E8	8	1.65E7		
Total	1.07E9	11			

(Glycolate T0)

Model	29916.10	3	29916.10	19.47	0.01
Error	6144.87	8	1536.21		
Total	36060.97	11			

(Glycolate T10)

Model	887238.20	3	295746.06	20.77	3.92E-4
Error	113892.60	8	14236.57		
Total	1.00E6	11			

(Glycolate T30)

Model	84257.66	3	28085.88	4.61	0.03
Error	48675.11	8	6084.38		
Total	132932.78	11			

(Glycolate T60)

Model	71461.82	3	23820.60	5.30	0.02
Error	35929.13	8	4491.14		
Total	107390.95	11			

(Glycine T0)

Model	3.06E6	3	3.06E6	58.57	0.001
Error	209595.07	8	52398.76		
Total	3.27E6	11			

(Glycine T10)

Model	2.72E7	3	9.07E6	10.17	0.004
Error	7.13E6	8	892420.67		
Total	3.43E7	11			
(Glycine T30)					
Model	4.61E6	3	1.53E6	4.84	0.03
Error	2.53E6	8	317319.03		
Total	7.15E6	11			
(Glycine T60)					
Model	3.73E6	3	1.24E6	22.47	2.97E-4
Error	443580.34	8	55447.54		
Total	4.18E6	11			
<b>Figure 8B</b>					
Model	9.64E6	5	1.92E6	5.79	0.001
Error	6.65E6	20	332902.00		
Total	1.63E7	25			
<b>Figure 9A</b>					
( <i>BASS6</i> )	2.72	2	1.36	79.04	4.88E-5
Model	0.10	6	0.01		
Error	2.82	8			
Total	38.57	2	19.28	16.91	0.003
( <i>PLGG1</i> )	6.84	6	1.14		
Model	45.41	8			
Error					
Total					
<b>Figure 9B</b>					
Model	0.012	7	0.001	13.50	1.21E-5
Error	0.002	16	1.34E-4		
Total	0.014	23			

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