

Table 1S. Statistical ANOVA results for all evaluated parameters. SS – square sum, DF – degree freedom, MS – medium square, F – statistic index, *p* – probability. Time [day] and irradiance [$\mu\text{mol}(\text{photon}) \text{ m}^{-2} \text{ s}^{-1}$]. Bold *p* values represent statistically differences by repeated-measure ANOVA ($p < 0.05$).

ETR _{MAX} (maximum electron transport rate)						α (photosynthetic efficiency)				Y(II) (effective quantum yield of PSII)					
	SS	DF	MS	F	p	SS	DF	MS	F	p	SS	DF	MS	F	p
Irradiance	2.63	1	2.63	12.28	0.012	0.00	1	0.00	1.49	0.267	0.08	1	0.08	67.01	0.000
Time	14.98	5	2.99	8.02	0.000	0.00	5	0.00	1.43	0.240	0.02	5	0.00	2.65	0.036
Time*Irradiance	13.76	5	2.75	7.37	0.000	0.00	5	0.00	3.87	0.007	0.03	5	0.00	2.96	0.022
I _K (saturation irradiance)															
Irradiance	1293	1	1293	12.07	0.040	553070	1	553070	8.26	0.028	0.10	1	0.10	56.46	0.000
Time	13455	5	2691	72.10	0.000	3270348	5	654070	7.36	0.000	0.04	5	0.00	6.09	0.000
Time*Irradiance	2013	5	402	10.78	0.000	3659479	5	731896	8.23	0.000	0.06	5	0.01	8.17	0.000
A (absorbance)															
Irradiance	0.06	1	0.06	13.35	0.006	0.08	1	0.08	66.58	0.000	0.08	1	0.08	66.58	0.000
Time	0.21	5	0.04	23.09	0.000	0.02	5	0.00	2.64	0.037	0.02	5	0.00	2.64	0.037
Time*Irradiance	0.08	5	0.01	9.73	0.000	0.03	5	0.00	2.94	0.023	0.03	5	0.00	2.94	0.023
C (carbon content)															
Irradiance	5	1	5	0.02	0.888	41.93	1	41.93	4.38	0.104	73.24	1	73.24	62.71	0.001
Time	4091	5	818	1.47	0.244	201.00	5	40.20	2.59	0.057	33.49	5	6.70	0.79	0.567
Time*Irradiance	5409	5	1082	1.94	0.132	83.00	5	16.60	1.07	0.405	155.64	5	31.13	3.68	0.015
PE (phycocerythrin)															
Irradiance	859475	1	859475	73.37	0.001	20636	1	20636	52.40	0.005	33141	1	33141	21.44	0.018
Time	3301843	5	660369	21.34	0.000	129179	5	25836	17.85	0.000	68811	5	13762	11.73	0.000
Time*Irradiance	1624561	5	324912	10.50	0.000	12331	5	2466	1.70	0.194	36212	5	7242	6.17	0.002
Chl <i>a</i> (chlorophyll <i>a</i>)															
Irradiance	536999	1	536999	1358.43	0.000	19062.26	1	19062.26	2262.15	0.000	155410	1	155410	5.25	0.083
Time	31244	5	6249	12.09	0.000	230.71	5	46.14	2.34	0.117	21264277	5	4252855	123.73	0.000
Time*Irradiance	4458	5	892	1.72	0.189	17.41	5	3.48	0.17	0.964	147207	5	29441	0.86	0.526