

**Table S1** Fv/Fm values demonstrating the long term stability of the *C. reinhardtii* strains under oxidative stress-related conditions. Average values from two independent experiments are presented,  $\pm$ SE, n=4; n.s. – not survived; n.d. – not detected.

Strains	Fv/Fm	Fv/Fm (% of the first day)			
	on the 1 <sup>st</sup> day of the treatment	30 days treatment	65 days treatment	80 days treatment	110 days treatment
IL	0.76 $\pm$ 0.01	78 $\pm$ 3	54 $\pm$ 5	43 $\pm$ 2	46 $\pm$ 4
L159I/I184V	0.70 $\pm$ 0.08	80 $\pm$ 9	47 $\pm$ 4	n.d.	n.d.
L159M	0.74 $\pm$ 0.01	82 $\pm$ 2	55 $\pm$ 3	53 $\pm$ 1	57 $\pm$ 1
P162S/F211S	0.76 $\pm$ 0.02	88 $\pm$ 3	70 $\pm$ 4	n.d.	n.d.
M172L	0.75 $\pm$ 0.00	89 $\pm$ 1	66 $\pm$ 2	35 $\pm$ 12	n.s.
M172T	0.67 $\pm$ 0.00	3 $\pm$ 1	n.s.	n.s.	n.s.
S177P	0.72 $\pm$ 0.00	29 $\pm$ 5	4 $\pm$ 4	n.s.	n.s.
F197L/F285L	0.71 $\pm$ 0.07	80 $\pm$ 0	57 $\pm$ 3	n.d.	n.d.
L200I	0.77 $\pm$ 0.01	90 $\pm$ 2	73 $\pm$ 6	31 $\pm$ 10	n.s.
G207S	0.73 $\pm$ 0.02	86 $\pm$ 0	70 $\pm$ 2	n.d.	n.d.
I281T	0.76 $\pm$ 0.00	91 $\pm$ 0	79 $\pm$ 2	77 $\pm$ 1	75 $\pm$ 2
F274Y	0.76 $\pm$ 0.00	74 $\pm$ 1	25 $\pm$ 1	9 $\pm$ 2	n.s.