

Supplementary Data

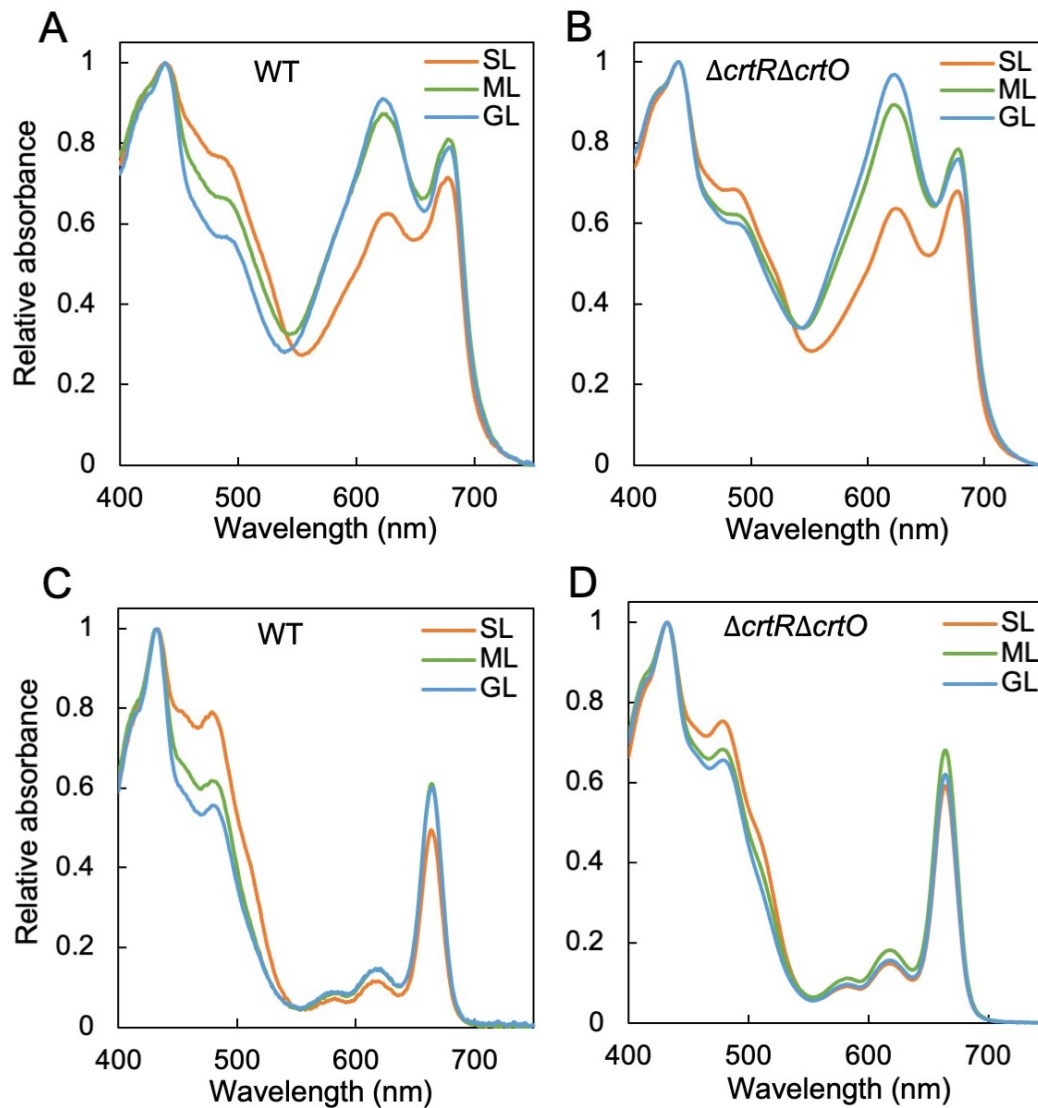
Elevated levels of specific carotenoids during acclimation to strong light protect the repair of photosystem II in *Synechocystis* sp. PCC 6803

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Supplementary Table S1

Concentration of chlorophyll *a* (Chl *a*) in cells. Wild-type (WT) and $\Delta crtR\Delta crtO$ cells were grown for 24 h under growth light at 70 $\mu\text{mol photons m}^{-2} \text{s}^{-1}$ (GL), moderately strong light at 200 $\mu\text{mol photons m}^{-2} \text{s}^{-1}$ (ML), or strong light at 1,000 $\mu\text{mol photons m}^{-2} \text{s}^{-1}$ (SL), and Chl *a* was extracted from cells with 100% methanol. Concentrations of Chl *a* were normalized by optical density at 730 nm (O.D.₇₃₀) of cell suspensions. Values are means \pm SD (bars) of results from three independent experiments. An asterisk indicates statistically significant difference to cells grown under GL ($P < 0.05$; Student's *t*-test).

	Concentration of Chl <i>a</i> ($\mu\text{g Chl mL}^{-1} \text{O.D.}_{730}^{-1}$)		
	GL	ML	SL
WT	3.3 \pm 0.2	3.1 \pm 0.7	2.7 \pm 0.3*
$\Delta crtR\Delta crtO$	3.1 \pm 0.2	2.8 \pm 0.5	2.5 \pm 0.4



Supplementary Figure S1

Absorption spectra of cell suspensions and extracted pigments. Wild-type (WT) and $\Delta crtR\Delta crtO$ cells were grown under GL, ML or SL (see legend to Supplementary Table S1). (A, B) Representative absorption spectra of cell suspensions. (C, D) Representative absorption spectra of pigments that had been extracted from cells with 100% methanol. Spectra were normalized at the peaks at 438 nm and 433 nm for cell suspensions and extracted pigments, respectively. Blue lines, Cells grown under GL; green lines, cells grown under ML; orange lines, cells grown under SL.