

Singlet oxygen imaging using fluorescent probe Singlet Oxygen Sensor Green in photosynthetic organisms

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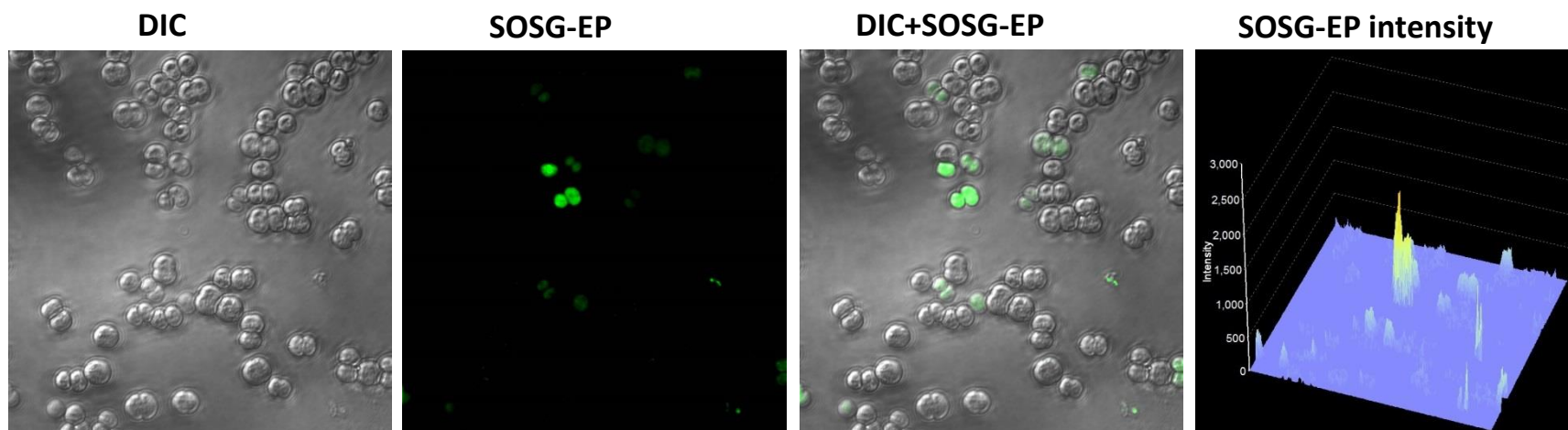
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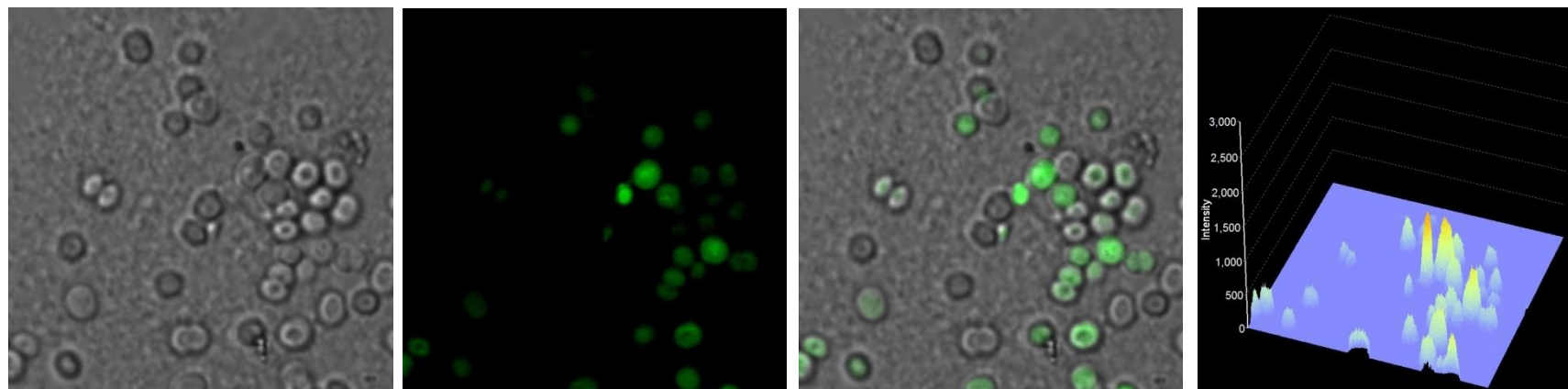
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Supplementary Fig. S1

Synechocystis PC6803



Biological replicate 2

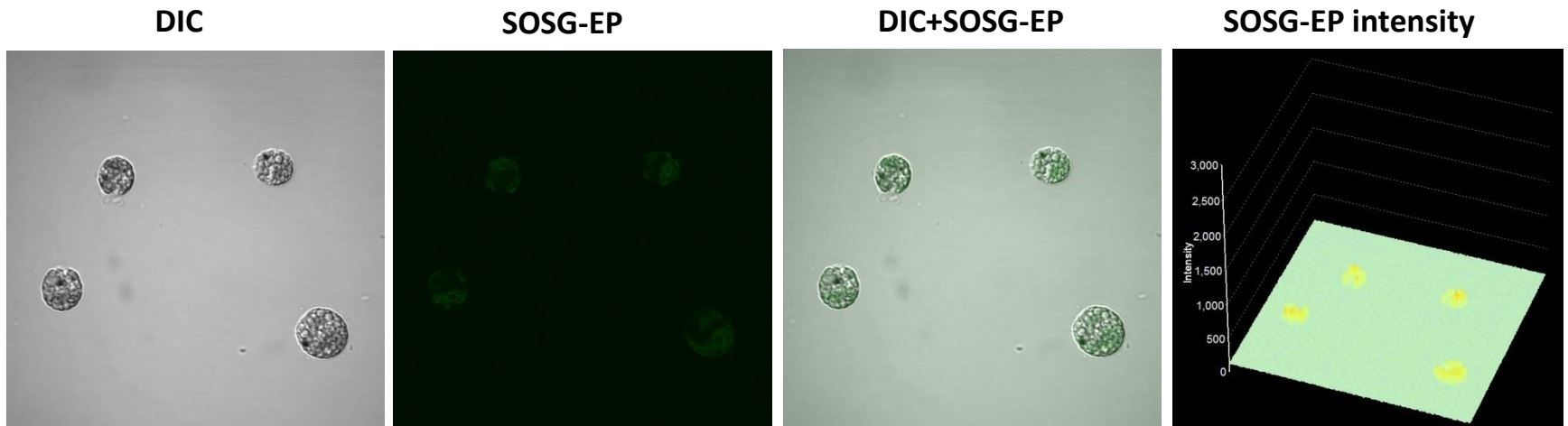


Biological replicate 3

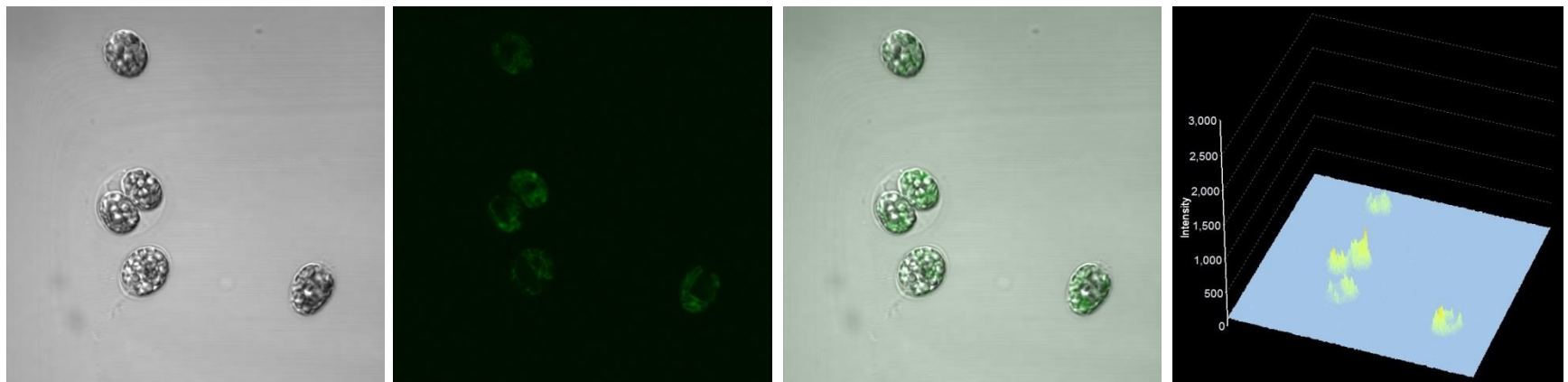
Figure S1: Biological replicates on effect of red light on singlet oxygen imaging in *Synechocystis* cells. *Synechocystis* cells were treated in 50 mM SOSG for 30 min at 37°C. For each treatment following images are presented (from left to right): Nomarski DIC, SOSG-EP fluorescence ($\lambda_{em} = 505\text{--}525$ nm), combined channel and integral distribution of the signal intensity within the sample (Z-axis represents the levels of brightness for each pixel, ranging between 0 and 3000).

Supplementary Fig. S2

Chlamydomonas reinhardtii



Biological replicate 2



Biological replicate 3

Figure S2: Biological replicates on effect of red light on singlet oxygen imaging in *Chlamydomonas* cells. *Chlamydomonas* cells were treated in 50 mM SOSG for 30 min. For each treatment following images are presented (from left to right): Nomarski DIC, SOSG-EP fluorescence ($\lambda_{em} = 505\text{--}525\text{ nm}$), combined channel and integral distribution of the signal intensity within the sample (Z-axis represents the levels of brightness for each pixel, ranging between 0 and 3000).

Supplementary Fig. S3

Arabidopsis thaliana

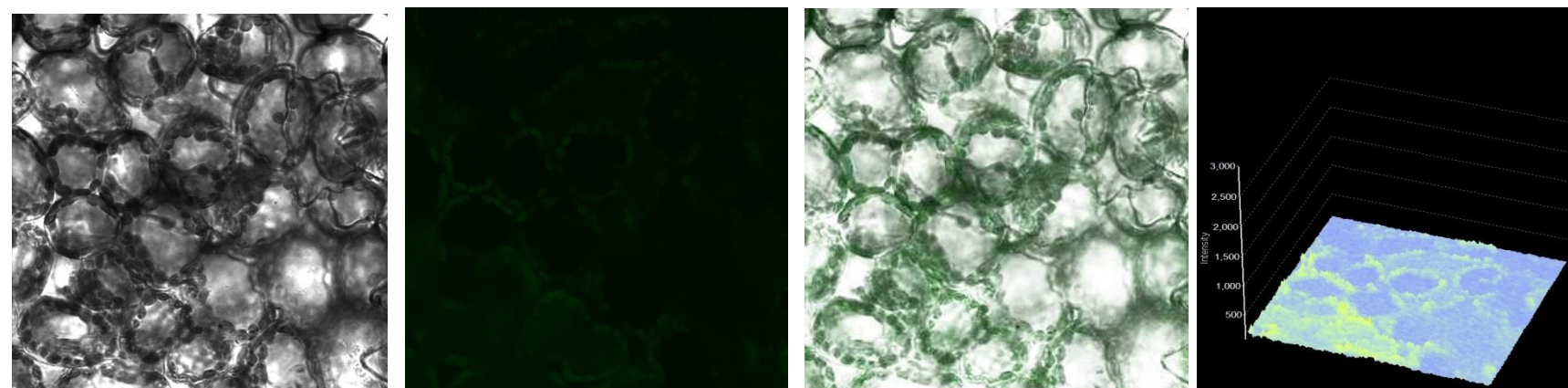
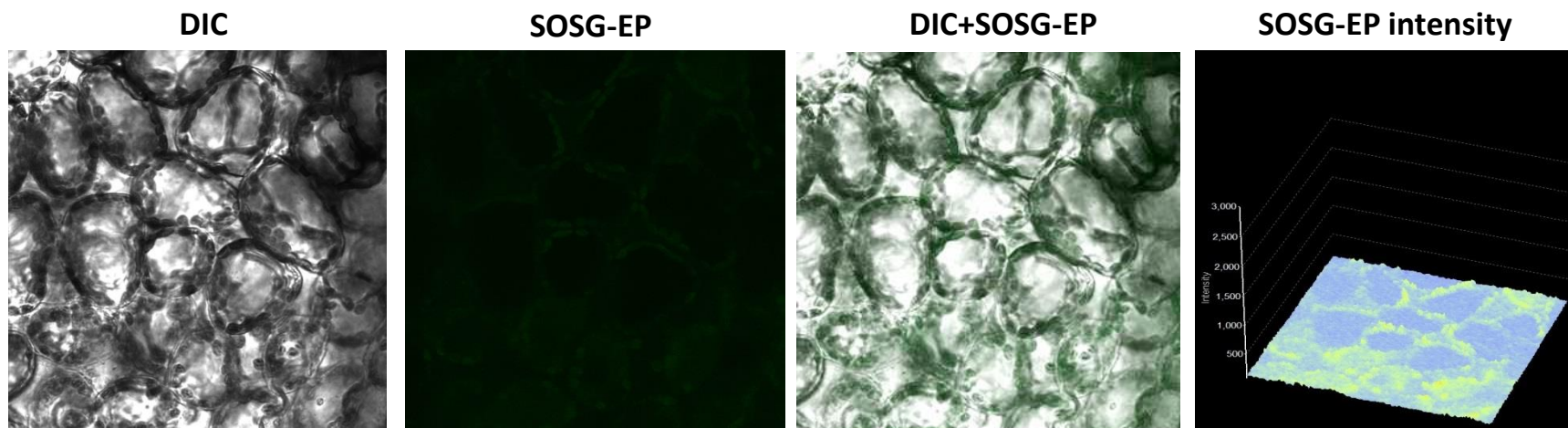


Figure S3: Biological replicates on effect of red light on singlet oxygen imaging in *Arabidopsis* leaves. *Arabidopsis* leaves were treated in 50 mM SOSG for 30 min. For each treatment following images are presented (from left to right): Nomarski DIC, SOSG-EP fluorescence ($\lambda_{em} = 505\text{--}525\text{ nm}$), combined channel and integral distribution of the signal intensity within the sample (Z-axis represents the levels of brightness for each pixel, ranging between 0 and 3000).

Supplementary Fig. S4

Chlamydomonas reinhardtii

DIC

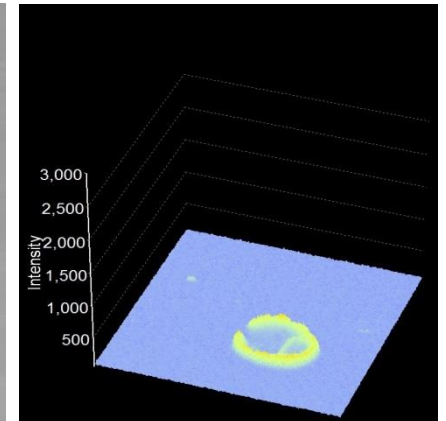
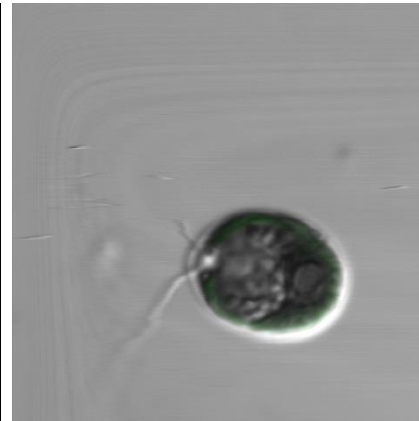
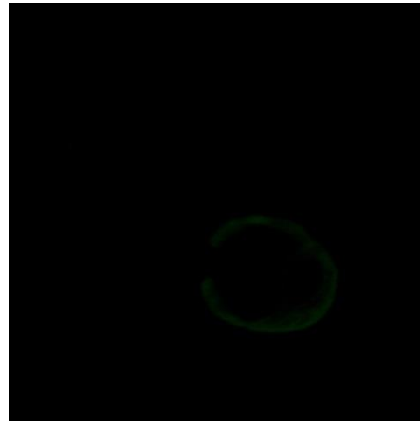
SOSG-EP

DIC+SOSG-EP

SOSG-EP intensity

Red light (30 min)

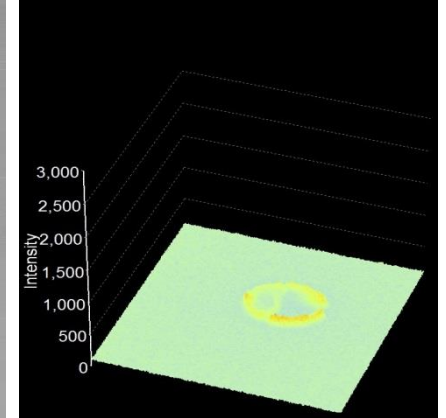
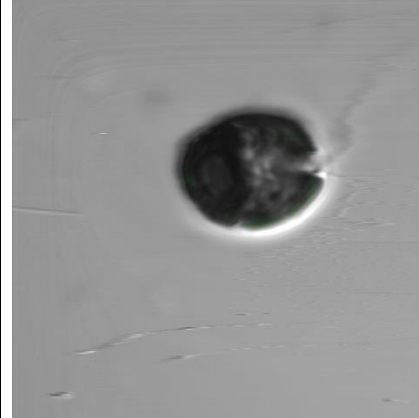
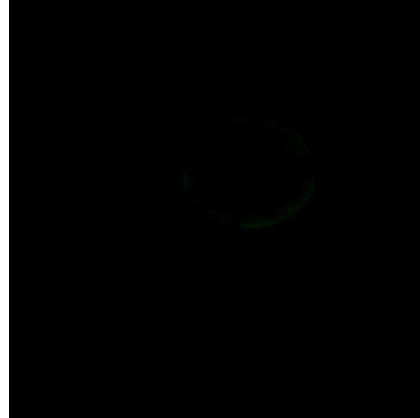
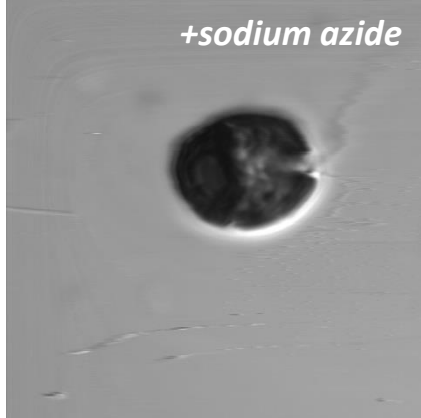
+sodium azide



Biological replicate 1

Red light (30 min)

+sodium azide

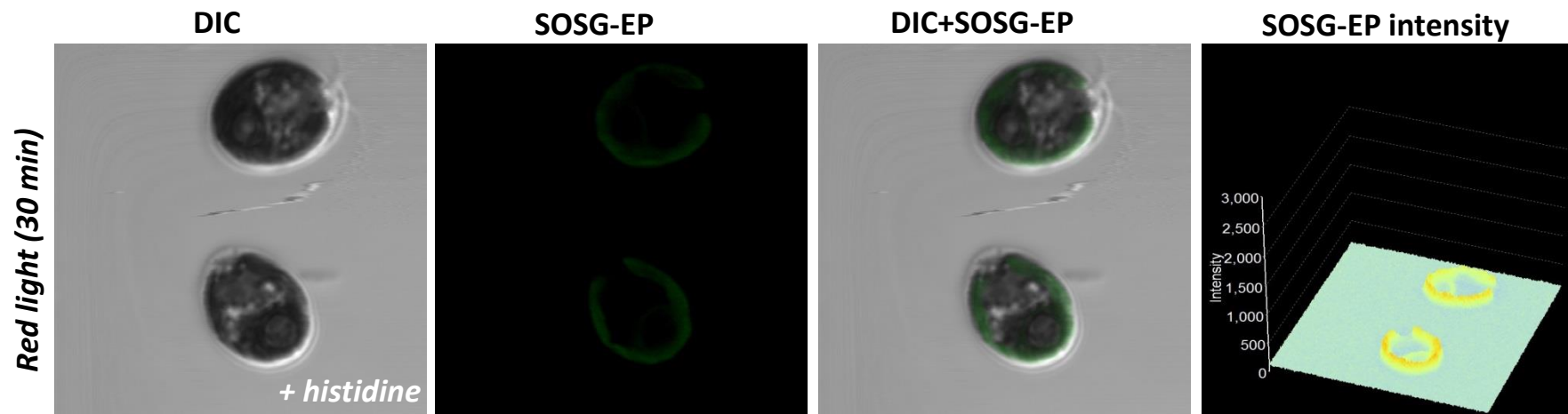


Biological replicate 2

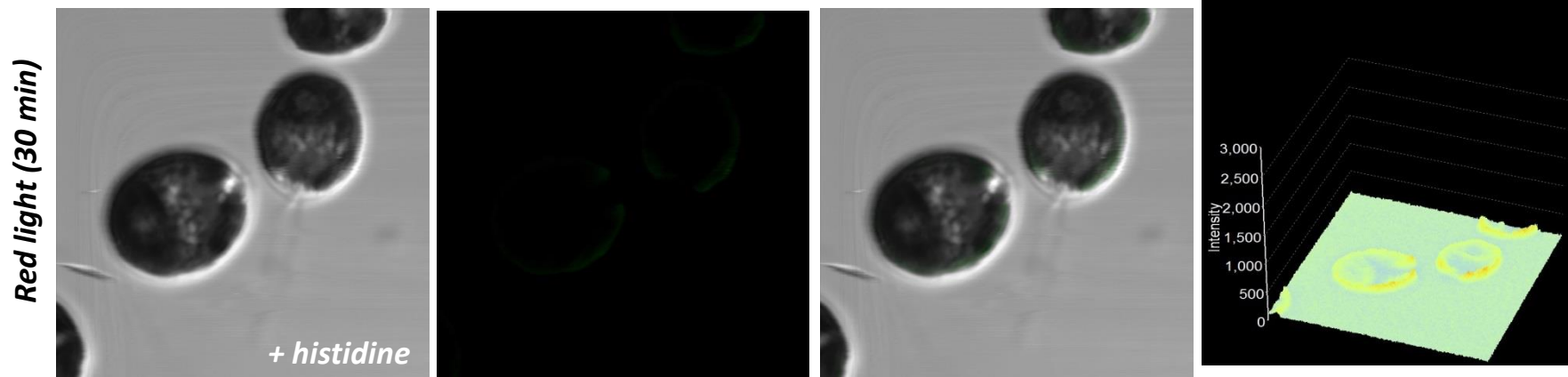
Figure S4: Singlet oxygen imaging in *Chlamydomonas* cells and effect of scavengers. *Chlamydomonas* cells were treated in 50 mM SOSG for 30 min in the presence of 0.1% sodium azide (NaH). For each treatment following images are presented (from left to right): Nomarski DIC, SOSG-EP fluorescence ($\lambda_{em} = 505\text{--}525$ nm), combined channel and integral distribution of the signal intensity within the sample (Z-axis represents the levels of brightness for each pixel, ranging between 0 and 3000).

Supplementary Fig. S5

Chlamydomonas reinhardtii



Biological replicate 1



Biological replicate 2

Figure S5: Singlet oxygen imaging in *Chlamydomonas* cells and effect of scavengers. *Chlamydomonas* cells were treated in 50 mM SOSG for 30 min in the presence of 500 μ M Histidine. For each treatment following images are presented (from left to right): Nomarski DIC, SOSG-EP fluorescence ($\lambda_{em} = 505\text{--}525$ nm), combined channel and integral distribution of the signal intensity within the sample (Z-axis represents the levels of brightness for each pixel, ranging between 0 and 3000).