

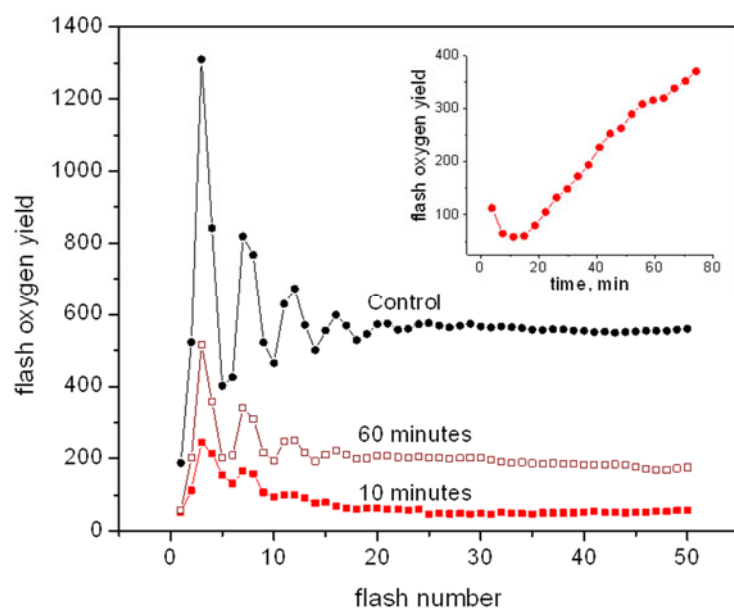


Fig. 2S. Restoration of flash oxygen yield by light after bicarbonate depletion by Mixture 1. Flash oxygen yields from STF trains after 10 and 60 minutes' exposure to flashing light without supplementary bicarbonate shown. Inset shows Y_{ss} for each kinetic.

A very low level of light ($<1 \mu\text{mol photons m}^{-2} \text{s}^{-1}$) is sufficient to cause some activation of oxygen yield over time (inset). The mechanism of activation may be PSII-driven proton generation in the lumen and subsequent transfer to the stroma, facilitating electron removal by quinones. The cause may also be generation of ATP which allows conversion of carbon dioxide in the medium to bicarbonate by an energy-intensive mechanism. For further explanation, see the forthcoming chapter in *Metalloprotein Active Site Assembly* on PSII photoassembly.