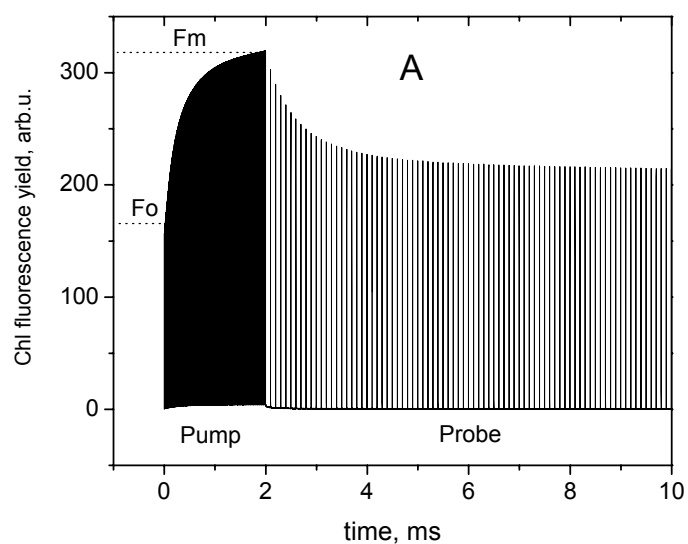


Figure S1. Effect of 10 mM HCO_3^- on F_v/F_m in *Synechocystis* PCC 6803 cells measured by laser-based fast repetition rate fluorometer (laser-FRRF) at 100Hz flash rate using single turnover flashes.

A – Measurements were done in BG-11 medium (pH 8.0);

B – Measurements were done in 50 mM MES-NaOH buffer (pH 6.0), 35 mM NaCl and 300 mM sucrose.



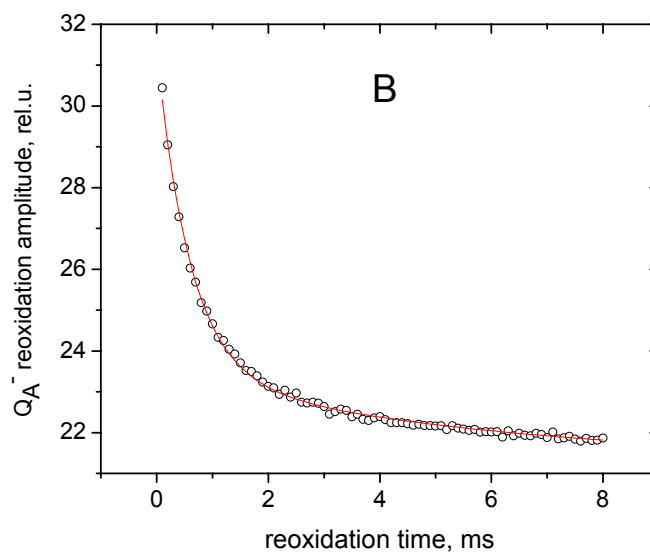


Figure S2. Basis for measurements of Q_A^- reoxidation lifetime in *Synechocystis* WT (A) cells by FRR laser fluorometer in “pump and probe” mode. Strong laser pump pulses reduced Q_A to Q_A^- during 2 ms. After that weak probe pulses monitored Q_A^- decay from 2 to 10 ms. Ratio of time duration pump/probe pulses is equal to 300/1. Decay kinetics (B) was integrated (circles) and fitted to exponential decay equation (red solid line) for obtaining Q_A^- reoxidation lifetime. Data in Table 1 (article) presents average results of 3200 consecutive measurements with a dark time between measurements of 10 s.