

FIGURE S1: CP43 SADS obtained from target analysis on the a) D2-His197Gln mutant, b) WT and c) D2-His197Ala mutant.

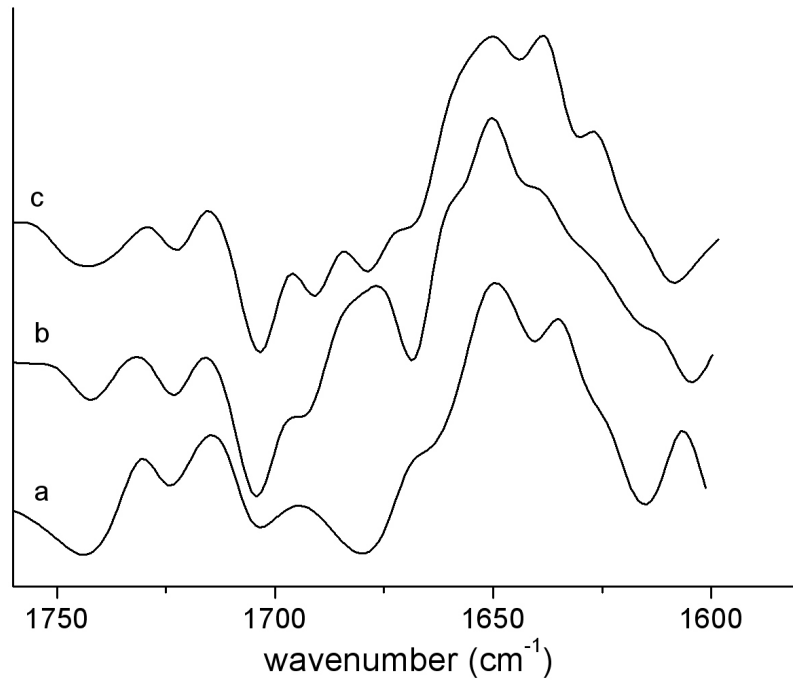


FIGURE S2: CP47 SADS obtained from target analysis on a) D2-His197Ala mutant, b) WT and c) D2-His197Gln mutant.

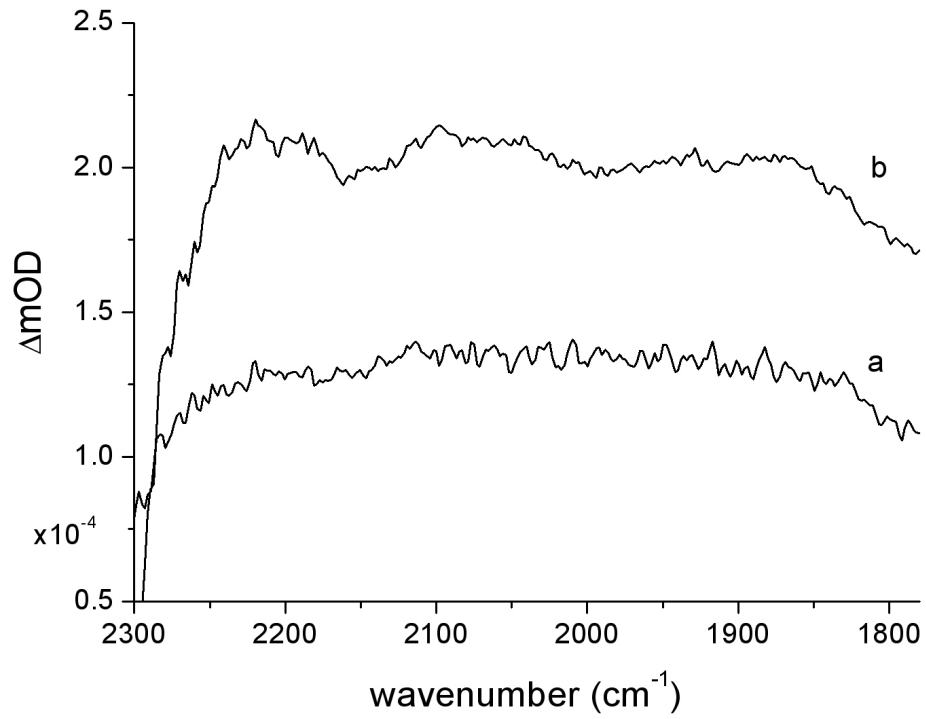


FIGURE S3: $\text{P}_{680}^+/\text{P}_{680}$ Intervalence band measured by light induced FTIR spectroscopy for a) wild type PS2 core from *Synechocystis* SP6803 and b) D2-His197Ala mutant.