

# Supplementary Materials: Molecular Cloning of *cpcU* and Heterodimeric Bilin Lyase Activity Analysis of CpcU and CpcS for Attachment of Phycocyanobilin to Cys-82 on the $\beta$ Subunit of Phycocyanin in *Arthrospira platensis* FACHB314

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1      ATGGATATTGTCGAATTTTTGAGTTGAGTGC GGGAAGTGTTTCTCAGCGGACTGTA
1      M D I V E F F E L S A G K W F S Q R T V

61     CACAATTTGACTTCGGTAACCTCGAGGCTGGTAAATCTAATTTGGTCATGGAAGCCCTT
21     H N L T S G N L E A G K S N L V M E A L

121    GCCCCTGATCATGCTATAGTTACAGACATCTGCTCCAGCCACGGGGTTGATGCCGGATTG
41     A P D H A I V T D I C S S H G V D A G L

181    GTAGCTAAGGGTTTACAGTTAACTTGGGAAGGCACTATAGAATCAAATCCTGATCAGCAA
61     V A K G L Q L T W E G T I E S N P D Q Q

241    CGAGGTTCAAGCGTTTGTAGTTACAATATGCGATCGCTCAACTCCCCTACAAGGAAAACCT
81     R G S A V L V T I C D R S T P L Q G K L

301    TTGCAGCAGCAACAAGCCCATGGCCAGAATCAATCCTTAATCGGTCGTTATCTCATGGGT
101    L Q Q Q Q A H G Q N Q S L I G R Y L M G

361    AAGGATGATGTTTGGACCTTGTCGATCGAGTCTGATCAGTTTAAAGCCGAGGAGAGGATC
121    K D D V L T L S I E S D Q F K A E E R I

421    TGGTATTTGATTCCTAATCTACGCCTGCGAACCAGTATTGTTAATTATAATATGGATTG
141    W Y L I P N L R L R T S I V N Y N N G L

481    GCTTTGGCTTCTTTTGGCTCAGAAATTCGCATGGGTTTAACGTAA
161    A L A S F C S E I R M G L T *

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**Figure S1.** Nucleotide and amino acid sequence of CpcU. Underline indicates the ATG start codon and the TAA stop codon, and boxes show the conserved active sites.