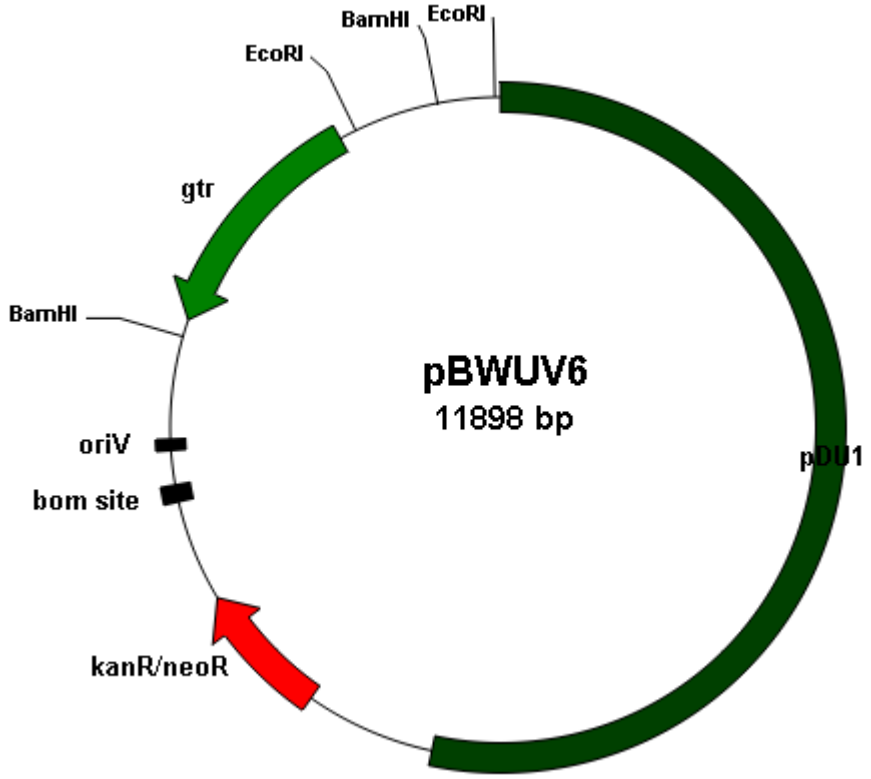


**FIG S1** Plasmid pBWUV6

oriV: origin of replication from plasmid pBR322 (not functional in cyanobacteria); bom site: origin of transfer for co-conjugative mobilisation with conjugative plasmid RP4; kanR/neoR: kanamycin/neomycin resistance casssette from transposon Tn5; pDU1: complete sequence of plasmid pDU1 from *Nostoc* sp. PCC 7524 (replicates in *A*. PCC 7120); gtr: *gtr* gene from *Synechocystis* sp. PCC 6803.

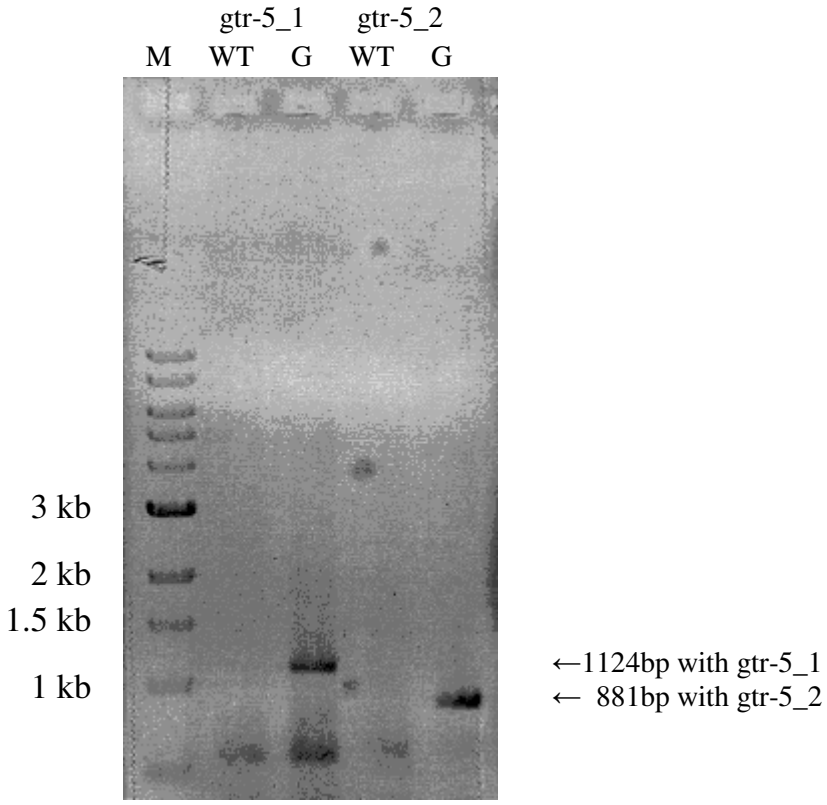


**FIG S2** The *gtr* gene is present in PCC 7120G.

PCR with primer pairs gtr-5_1 and gtr-3 (left) and gtr-5_2 and gtr-3 (right) using total DNA from *A*. PCC 7120 (WT) and *A*. PCC 7120G (G) as templates

M: 1kb ladder from New England Biolabs.

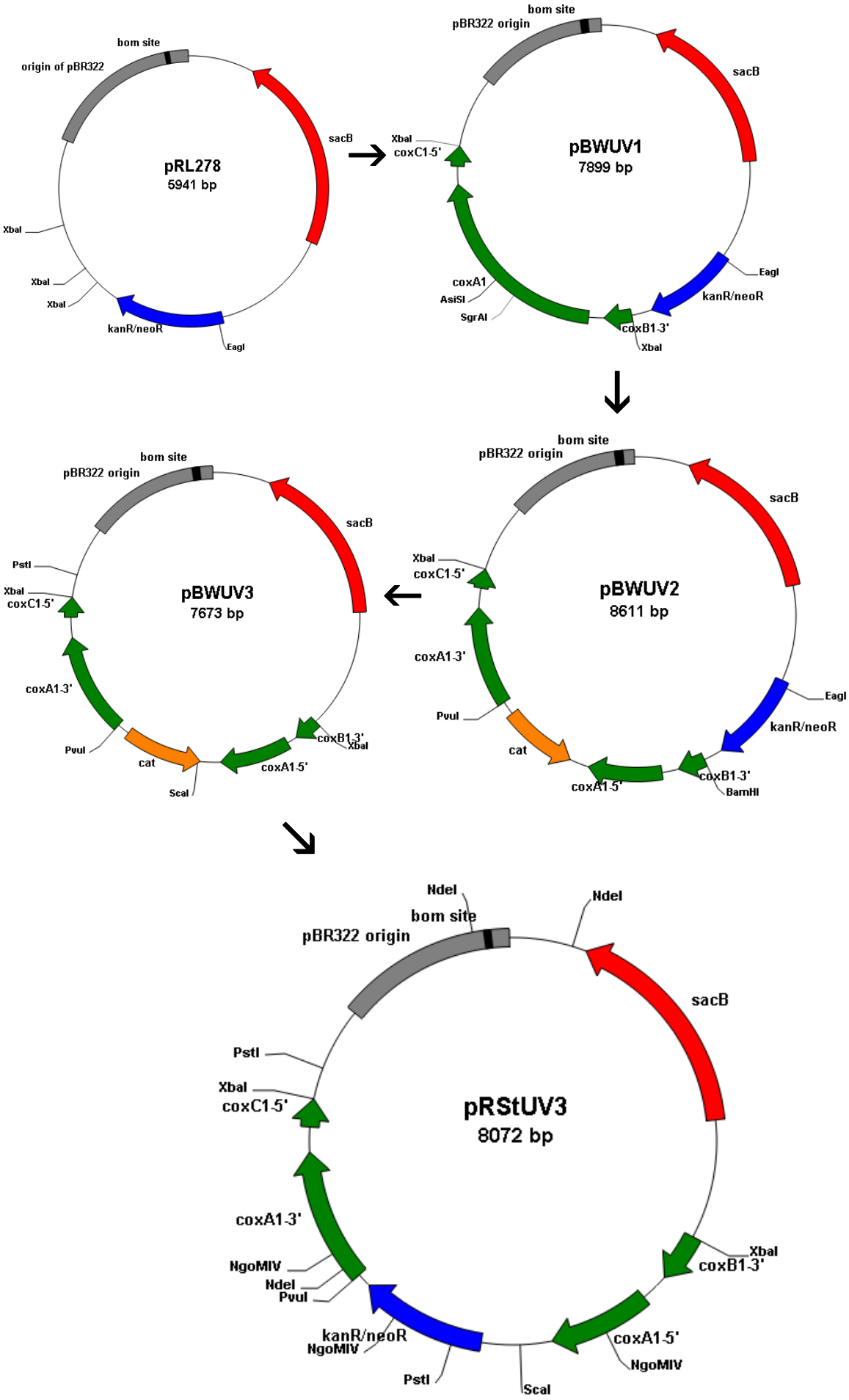


**FIG S3** Construction of plasmid pRStUV3

pBR322 origin (not functional in cyanobacteria); bom site: origin of transfer for co-conjugative mobilisation with conjugative plasmid RP4; sacB: *sacB* gene from *Bacillus subtilis*; kanR/neoR: kanamycin/neomycin resistance casssette from transposon Tn5; coxB1 (partial sequence), coxA1 (complete sequence), coxC1 (partial sequence): part of *coxBAC1* locus from *A*. PCC 7120; cat: chloramphenicol resistance cassette from pBR328.

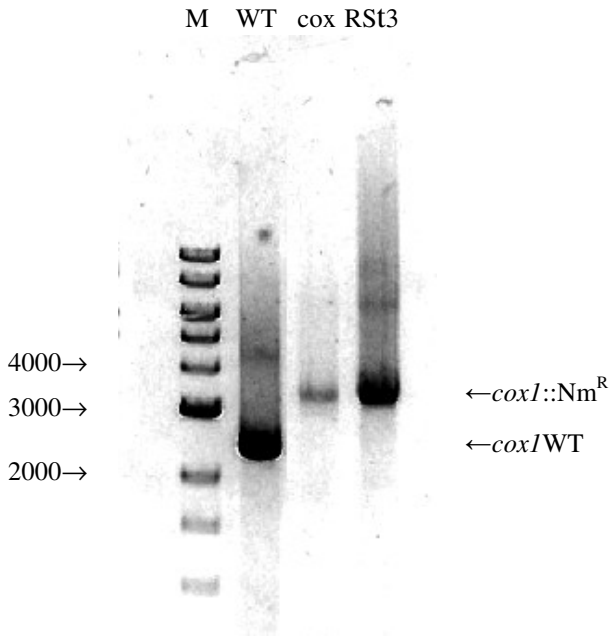


**FIG S4** The *cox1* locus in *A*. PCC 7120C is homozygously mutated
Primers 7120coxB and 7120coxC (see Materials and Methods) were used to amplify by PCR the *cox1* locus from three different templates: WT: total DNA from *A*. PCC 7120 wild type; cox: total DNA from *A*. PCC 7120C; RSt3: plasmid pRStUV3. M: 1kb ladder from New England Biolabs; 3 relevant bands are marked in base pairs. No trace of wild type *cox1* locus was detected in the *A*. PCC 7120C DNA.