***Supplementary material***

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Fig. S4. Growth curves of five batches cultivation of mutant ZJU700 to prove the stability of the mutant’s stable growth phenotype.

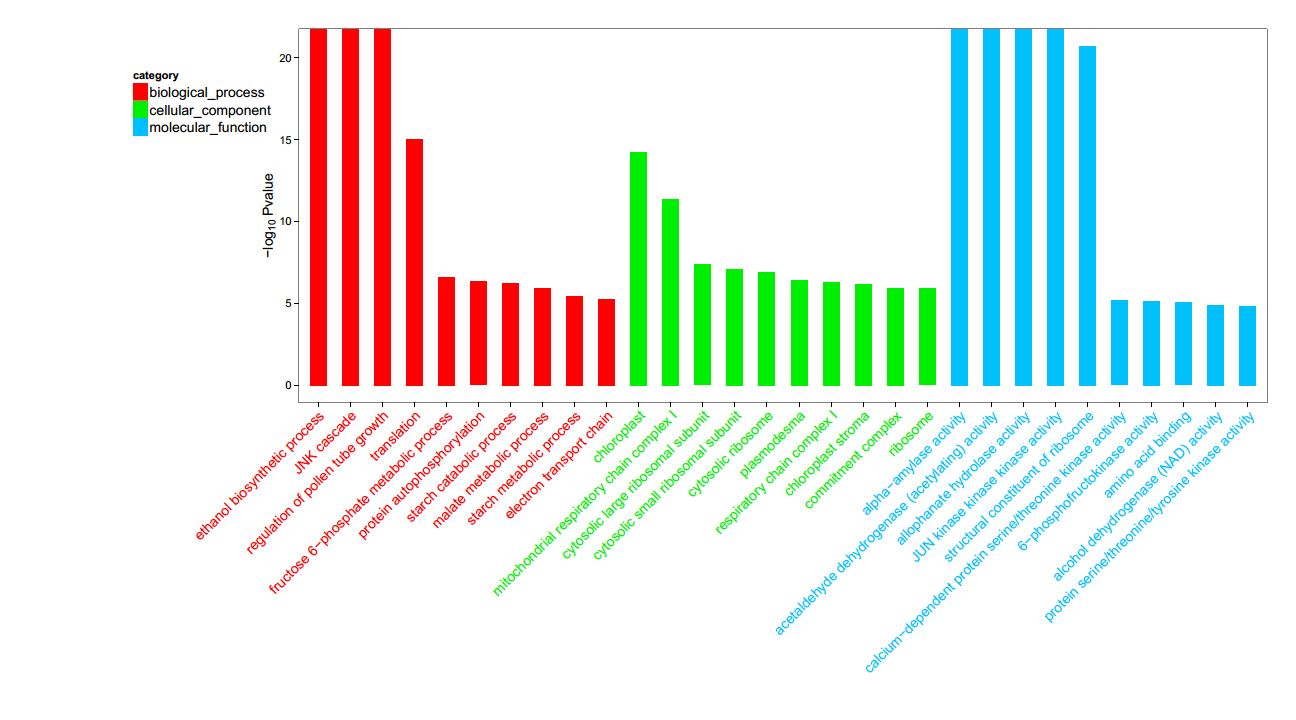


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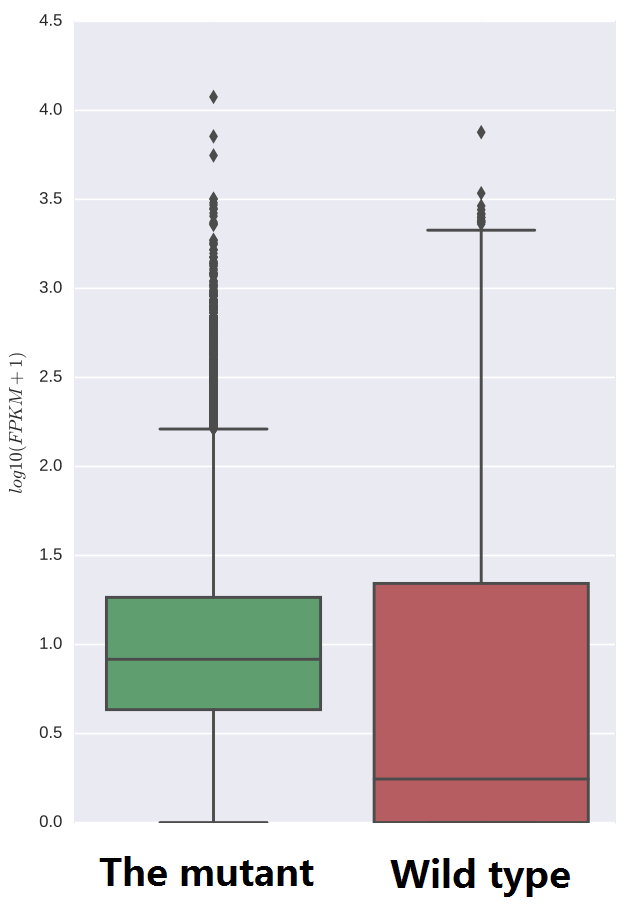


Fig. S2. Boxplots of wild type *N. oceanica* and the mutant.

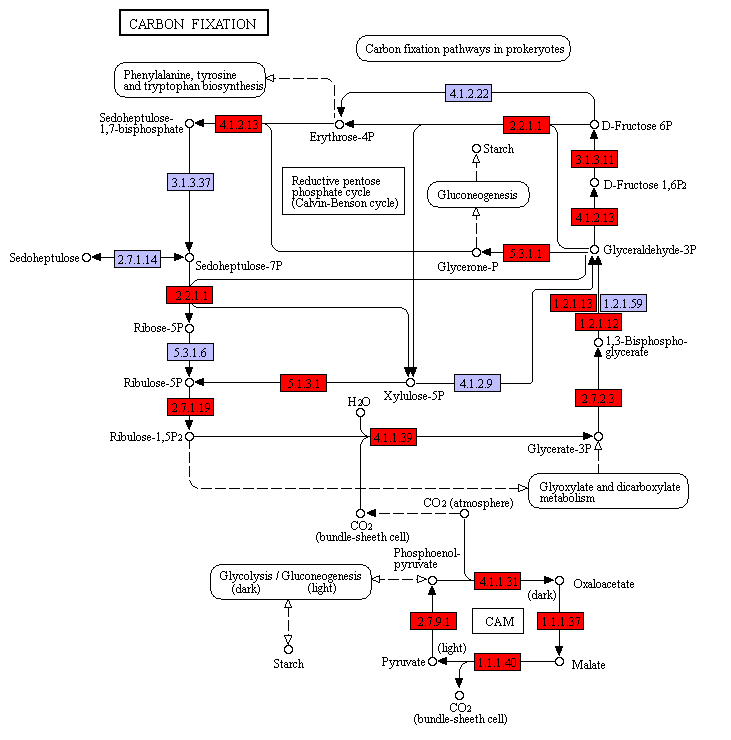


Fig. S3. Transcript expression changes involved in carbon fixation process of wild type *N.* and mutant ZJU700. (red coloured boxes represent up-regulated genes)



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