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### Engineering retinal-based phototrophy via a complementary photosystem in *Synechocystis* sp. PCC6803

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陈鹤 Amsterdam

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## **List of publications**

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### Publications:

1. Chen, Q., van der Steen, J. B., Dekker, H. L., Ganapathy, S., de Grip W. J., & Hellingwerf, K. J. (2016). Expression of holo-proteorhodopsin in *Synechocystis* sp. PCC 6803. *Metabolic engineering*, 35, 83-94.
2. Chen, Q., Montesarchio, D., & Hellingwerf, K. J. (2016). Chapter Two-'Direct Conversion': Artificial Photosynthesis With Cyanobacteria. *Advances in Botanical Research*, 79, 43-62.
3. Chen, Q., Arents J., Ganapathy, S., de Grip W. J., & Hellingwerf, K. J. (2017). Functional expression of Gloeobacter rhodopsin in *Synechocystis* sp. PCC6803, *Photochemistry and Photobiology*. DOI: 10.1111/php.12745. (in press)
4. Ganapathy, S., Bécheau, O., Venselaar, H., Frölich, S., van der Steen, J.B., Chen, Q., Radwan, S., Lugtenburg, J., Hellingwerf, K.J., de Groot, H.J. and de Grip W. J.. (2015). Modulation of spectral properties and pump activity of proteorhodopsins by retinal analogues. *Biochemical Journal*, 467, 333-343.
5. Ganapathy, S., Venselaar, H., Chen, Q., de Groot, H. J., Hellingwerf, K. J., & de Grip, W. J. (2017). Retinal-Based Proton Pumping in the Near Infrared. *Journal of the American Chemical Society*, 139(6), 2338-2344.

### Manuscripts:

1. Que Chen, Jeroen B. van der Steen, Aloysius F. Hartog, Srividya Ganapathy, Willem J. de Grip, and Klaas J. Hellingwerf. Retinal metabolism in *Synechocystis* sp. PCC6803 and the formation of *holo*-proteorhodopsin. (in preparation)
2. Que Chen, Jos Arents, J. Merijn Schuurmans, Srividya Ganapathy, Willem J. de Grip, Otilia Cheregi, Christiane Funk, Filipe Branco dos Santos, Klaas J. Hellingwerf. Combining retinal-based and chlorophyll-based (oxygenic) photosynthesis: Proteorhodopsin expression increases growth rate and fitness of a  $\Delta$ PSI-strain of *Synechocystis* sp. PCC6803. (submitted)