Quercetin potentiates the concurrent hyper-accumulation of cellular biomass and lipids in *Chlorella vulgaris*

Yuhan Ma, Srinivasan Balamurugan, Wasiqi Yuan, Fan Yang, Caiguo Tang, Hao Hu, Huilan Zhang, Xian Shu, Minghao Li, Shengwei Huang, Hongye Li, Lifang Wu

PII: S0960-8524(18)31092-7
DOI: https://doi.org/10.1016/j.biortech.2018.07.151
Reference: BITE 20281

To appear in: *Bioresource Technology*

Received Date: 9 June 2018
Revised Date: 28 July 2018
Accepted Date: 30 July 2018

Please cite this article as: Ma, Y., Balamurugan, S., Yuan, W., Yang, F., Tang, C., Hu, H., Zhang, H., Shu, X., Li, M., Huang, S., Li, H., Wu, L., Quercetin potentiates the concurrent hyper-accumulation of cellular biomass and lipids in *Chlorella vulgaris*, *Bioresource Technology* (2018), doi: https://doi.org/10.1016/j.biortech.2018.07.151

Quercetin potentiates the concurrent hyper-accumulation of cellular biomass and lipids in *Chlorella vulgaris*

Yuhan Ma [a,1], Srinivasan Balamurugan [b,1], Wasiqi Yuan[b], Fan Yang[c], Caiguo Tang[a], Hao Hu[a], Huilan Zhang [a], Xian Shu[a], Minghao Li[a], Shengwei Huang [a], Hongye Li[b], Lifang Wu,[a]*

[a] Key laboratory of high magnetic field and Ion beam physical biology, Hefei Institutes of Physical Science, Chinese Academy of Sciences, 350 Shushanhu Road, Hefei, Anhui 230031, China

[b] Key Laboratory of Eutrophication and Red Tide Prevention of Guangdong Higher Education Institutes, College of Life Science, Jinan University, Guangzhou, Guangdong 510632, China.

[c] School of Forestry and Landscape Architecture, Anhui Agriculture University, Hefei, Anhui 230031, China.

*Corresponding at: LF Wu, Hefei Institutes of Physical Science, Chinese Academy of Sciences, P. O. Box 1138, Hefei 230031, Anhui, P.R. China.

E-mail: lfwu@ipp.ac.cn (LF Wu)

[1] Equal contribution.

Abstract: Provision of chemical modulators has been emerged as an effective strategy to govern cell growth and development. Here, the impact of flavonoid quercetin on algal growth, lipid accumulation and transcriptional patterns was investigated in the green microalga *Chlorella vulgaris*. These results demonstrated that quercetin (15 μg/l) significantly enhanced the cellular biomass and photosynthetic