

Supplementary Information for

Exogenous Arachidonic Acid Affects Fucoxanthin Biosynthesis and Photoprotection in *Phaeodactylum tricornutum*

Shuaiqi Zhu^{1,2}, Song Bin², Shan Lu^{1*}, Wenqiang Yang^{2,3,4*}

Affiliations:

¹State Key Laboratory of Pharmaceutical Biotechnology, School of Life Sciences, Nanjing University, Nanjing, 210023, China

²Photosynthesis Research Center, Key Laboratory of Photobiology, Institute of Botany, Chinese Academy of Sciences, Beijing, 100093, China

³University of Chinese Academy of Sciences, Beijing, 100049, China

⁴Innovative Academy of Seed Design, Chinese Academy of Sciences, Beijing 100093, China

*Correspondence: shanlu@nju.edu.cn (S.L.); wqyang@ibcas.ac.cn (W.Y.);

Tel.: +86-18651613471(S.L.); +86-18211169660 (W.Y.)

Supplemental Table S1. Primers used for RT-qPCR in this study.

Gene name	Accession number	Primer sequence (5'-3')
<i>β-ACTIN</i>	AY_713398.1	ACT-F: AGACCATTATGAAGTGCGAT ACT-R: ACCCTCCAATCCAAACAG
<i>LCYB</i>	XM_002176576.1	LCYB-F: CCCCAATAACGACAAACACG LCYB-R: CAAAGAACGGCGTCACAGAT
<i>PSY</i>	XM_002178740.1	PSY-F: ATCCCACCTTGGACATTACG PSY-R: GTTCACTAGCATCTTCGCCTA
<i>PDS</i>	XM_002184476.1	PDS-F: TTGCTCCGAATACGAATGTG PDS-R: CACCACCCACGACGATAACT
<i>CRTISO</i>	XM_002179795.1	CISO-F: AGATGATGTGACAGCCGAGC CISO-R: TTTTCGTCCTTTAGTTCGTTGTAG
<i>ZDS</i>	XM_002176649.1	ZDS-F: GATTGCCTACGCTTTGGG ZDS-R: GCATGGGCTGCTAAGATTGA
<i>ZEP</i>	XP_002180238	ZEP-F: GCAATGGTTCGCACTGATAC ZEP-R: GTAGGCAAAGTCATCCCACA
<i>LHCX1</i>	XP_002179760.1	LHCX1-F: CCTTGCTCTTATCGGCTCTG

		LHCX1-R: ACGGTATCGCTTCAAAGTGG
<i>LHCX2</i>	XP_002176987.1	LHCX2-F: CAGCACTAATGCCGCTTTTCG
		LHCX2-R: CGTGAGTAACTTCCGCTTCC
<i>LHCX3</i>	XP_002178699.1	LHCX3-F: TCCCGTTGGTATCTTTGATCC
		LHCX3-R: GAAGATCCTTCCACGGCTTC
<i>LHCX4</i>	XP_002182760.1	LHCX4-F: TCTTTGATCCACTCCGCTTC
		LHCX4-R: GGCGTTCCATAGAAAGTTCG
