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Photoheterotroph improved the growth and nutrient levels of *Chlorella vulgaris* and the related molecular mechanism

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Table caption

Supplementary Table S1. BG11 medium formula

Supplementary Table S2. Preparation table of trace element solution A5

Supplementary Table S3. Key differential gene primers of *C. vulgaris*

Table S1. BG11 medium formula

Component	Content (mL/500mL)	Mother liquor concentration
NaNO ₃	5	75 g/500 mL dH ₂ O
K ₂ HPO ₄	5	2 g/500 mL dH ₂ O
MgSO ₄ ·7H ₂ O	5	3.75 g/500 mL dH ₂ O
CaCl ₂ ·2H ₂ O	5	1.8 g/500 mL dH ₂ O
Citric acid	5	0.3 g/500 mL dH ₂ O
Ferric ammonium citrate	5	0.3 g/500 mL dH ₂ O
EDTANa ₂	5	0.05 g/500 mL dH ₂ O
Na ₂ CO ₃	5	1.0 g/500 mL dH ₂ O
A5 (trace mental solution)	0.5	

Table S2. Preparation table of trace element solution A5

Component	Concentration
H ₃ BO ₃	2.86 g/L dH ₂ O
MnCl ₂ ·4H ₂ O	1.86 g/L dH ₂ O
ZnSO ₄ ·7H ₂ O	0.22 g/L dH ₂ O
Na ₂ MoO ₄ ·2H ₂ O	0.39 g/L dH ₂ O
CuSO ₄ ·5H ₂ O	0.08 g/L dH ₂ O
Co (NO ₃) ₂ ·6H ₂ O	0.05 g/L dH ₂ O

Table S3. Key differential gene primers of *C. vulgaris*

Gene name	Forward primer (5'-3')	Reverse primer (5'-3')	Gene ID
<i>18S rRNA</i>	CTGAGAAACGGCTAC-CACATC	CCCCACCCGAAATC-CAAC	X13688
<i>PDI</i> s	CGACATTGTTCCGGTGGGTG	TCCACCAGCGCATACTTCG	PSC75600.1
<i>Hsp70</i>	CCAGCCAAGAAGAGCCAAAC	CACCTGCTGTCTCAATACCC	XP_003064239.1
<i>Hsp90</i>	CAGAAGAAGAAGCCCAACAACATCA	TCGGACTTGTCTGCCTCTGC	KAF6260424.1
<i>p97</i>	ATGCCAGAAGGTCGGTTAG	GGCAGCGACTGTAACCAAA	GAQ90153.1
<i>sHSF</i>	TACTTGAGCAACTCTTACA	TCCACAGATTCAGGCAGTTT	GBG42469.1
<i>G1cII</i>	ACTACCACCGCTCTTCTCCTT	CTCGCCAGACTCAGACATCCA	GBG76832.1
<i>eIF2α</i>	TGCGTCTATTGCGGAGAT	CGCTCCTCCTTCTCGCTGA	PRW56900.1
<i>TRAP</i>	TCAACACCGTGTCCGACTG	AAGGTGAAGGTGCGGAAGG	PSC69075.1
<i>Sec13/31</i>	TCTCCGATGCCAGCAACCAG	TGCCGCGTCTGCTCATTGTA	PSC72035.1
<i>Sec61</i>	AGATGCTGAACAACGGGTGG	CTTGAGCGCCTTGGTCTTGT	PRW61345.1
<i>S13e</i>	CTCGTTACTACCGTGCTTCT	TAGCATCCAACCTGCGAGAA	GAQ85311.1
<i>S14e</i>	TGGGTCGTAAAGTTGCTGAG	AATCGGTTGGGATAGGAGTG	KAF6262008.1
<i>S18e</i>	GAGGTATCCGTCACCTTCTGG	CGATTTCAACTTCTGCCTTC	GBF94680.1
<i>S6</i>	TTTTACCTCTTGCCTATCC	TGTTGGTCCTTTCTCATTT	XP_022838335.1
<i>7.1.2.2</i>	GGAGGTGGACAAGGTGGAGC	GGGAGGAGGAGATGAGGGAC	PRW57448.1

1.18.1.2	GGCATCTGCTCCAACCTTCC	TCCACAGACACCACCTTGC	XP_005848997.1
<i>PsaD</i>	CAGGCGCAGGTGGAGGAGTT	GTTACAGTTCTGGCCGATGC	PSC75399.1
<i>PsbP</i>	TCGGTTGCCTCCACCTTCG	CGTCGCCGTTGTCCTCATA	PRW60981.1
<i>PetC</i>	ATTGATGATGTCTGGTGCTG	GAGCTAAAGCGAGGGATAAA	QFB70700.1
<i>PetH</i>	GGGCATCTGCTCCAACCTTCC	TGGAGGCGATGGAGTACAGG	XP_005848997.1
<i>gamma</i>	GGAGGTGGACAAGGTGGAGC	GGGAGGAGGAGATGAGGGAC	PRW57448.1
<i>lhca1</i>	GTGGCGGTGATTGTGCTTTC	TGCAAAGGTCACCACCTCGA	PRW45697.1
<i>lhca2</i>	TGCTTGCGGCACCTACTGA	GGGACACGCCGTTGTTGATG	PSC72652.1
<i>lhca3</i>	TGCTGGCAATGTTTCGGTTAC	GAGTGGGTCAAAGCCGAAGT	KAF6259926.1
<i>lhcb1</i>	AGCATGTTTCGGCTTCTTCGT	GCTGTTGCCGAGGTAGTTCA	ABD37901.1
<i>lhcb5</i>	CTGGTGATTGCCATTGAGGT	ACGTGCTTGCTCCAGTTTGC	KAF6257400.1
1.3.3.6	GCCCGCTTCTTCTCGGTCTT	GGGTGTCGTGGTGCTTCTCC	PSC76022.1
2.3.1.39	CGCATCGCCAACTACCTGTG	CAGCGTCTTCAGCGTGGTCTC	XP_005850841.1
1.1.1.1	GGGCAAGCAACGATACGC	TCTCATCCAGGGCAGCAAAG	PSC69509.1
1.14.19.2	GGGCTTCATCTACACCTCCTTC	GCTTGCCGTCGTCCATCA	PSC67766.1
<i>FabF</i>	CAAGTTTGCGGCCAGATC	TGTTGGTGATGGCGTAGGG	PSC74460.1
6.2.1.3	CGACAAGATCAAGCAGCACG	GCTGATGCGGACGGTGAT	PSC75938.1
