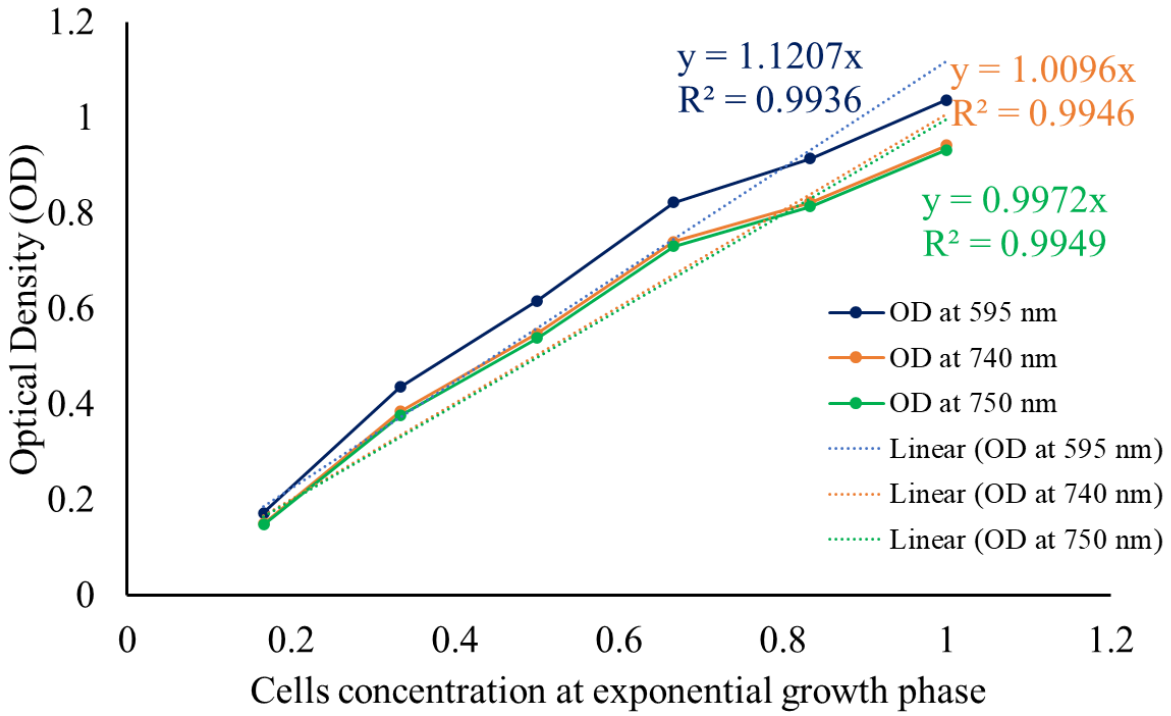
Supplementary materials.

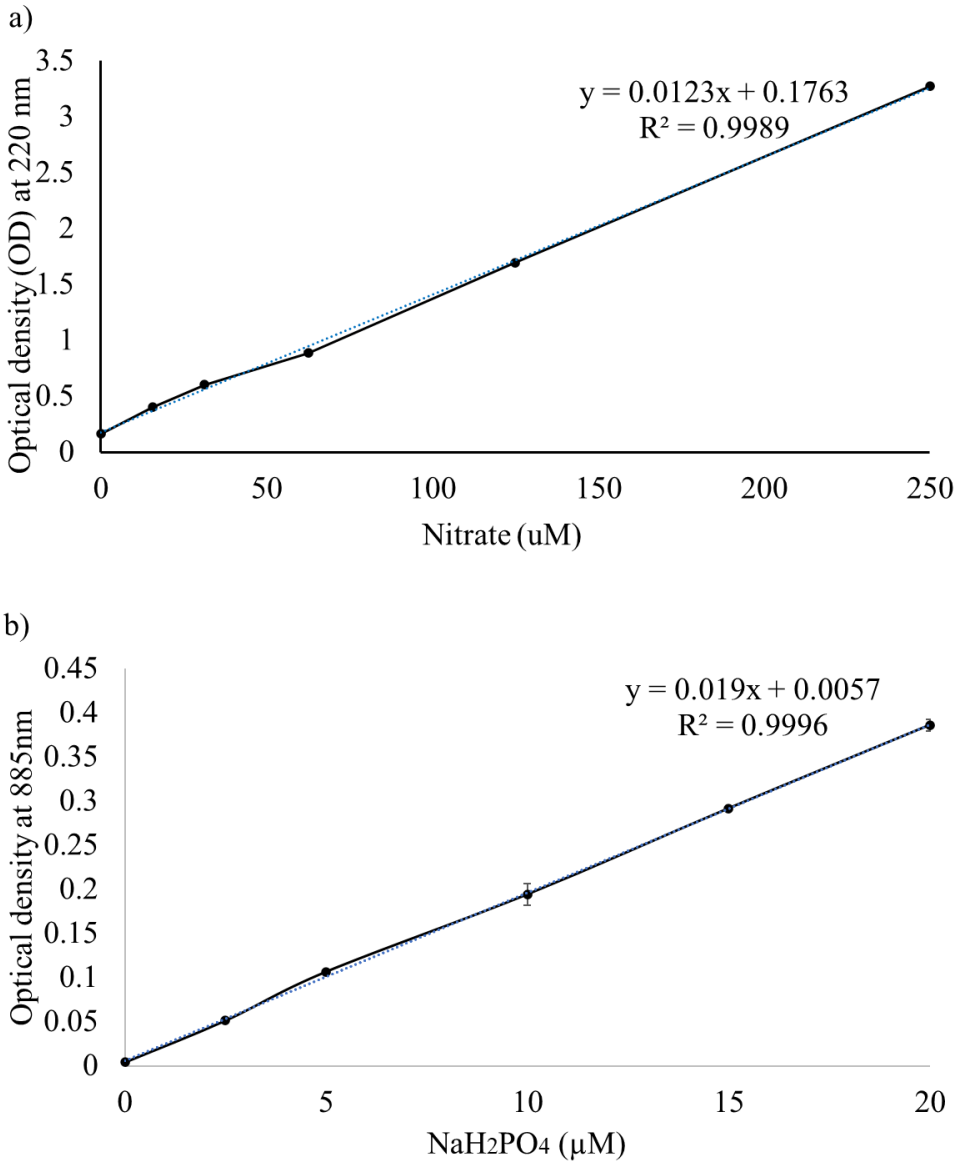
Chapter 2

Supplementary Table S2.1: Six flasks with different cells concentrations (high to low) were prepared and all the samples were measured by using a spectrophotometer for measuring OD at 595 nm, 740 nm, and 750 nm.

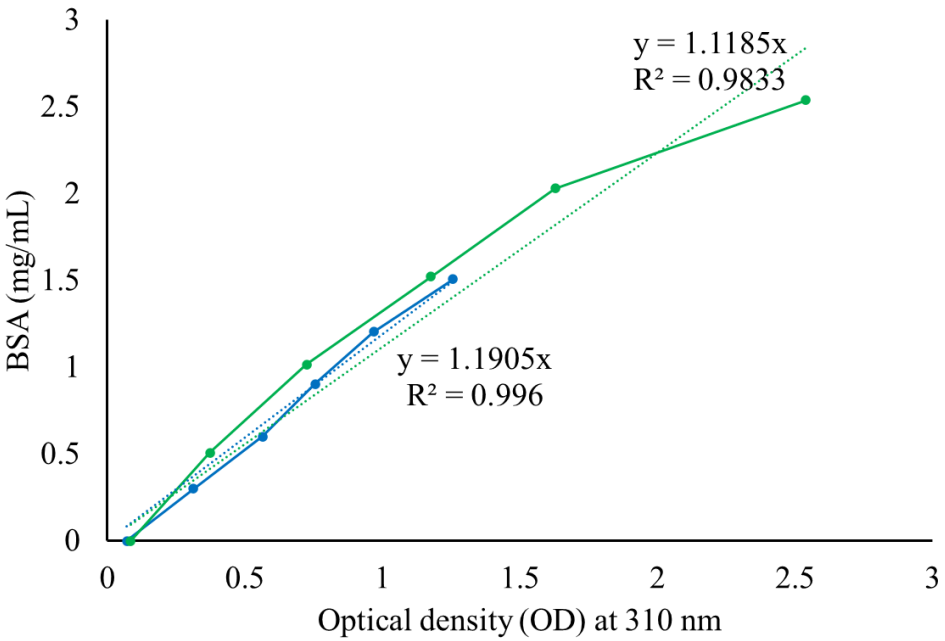
Flask number	Culture (mL)	f/2 medium (mL)	Total volume
1	60	0	60
2	50	10	60
3	40	20	60
4	30	30	60
5	20	40	60
6	10	50	60



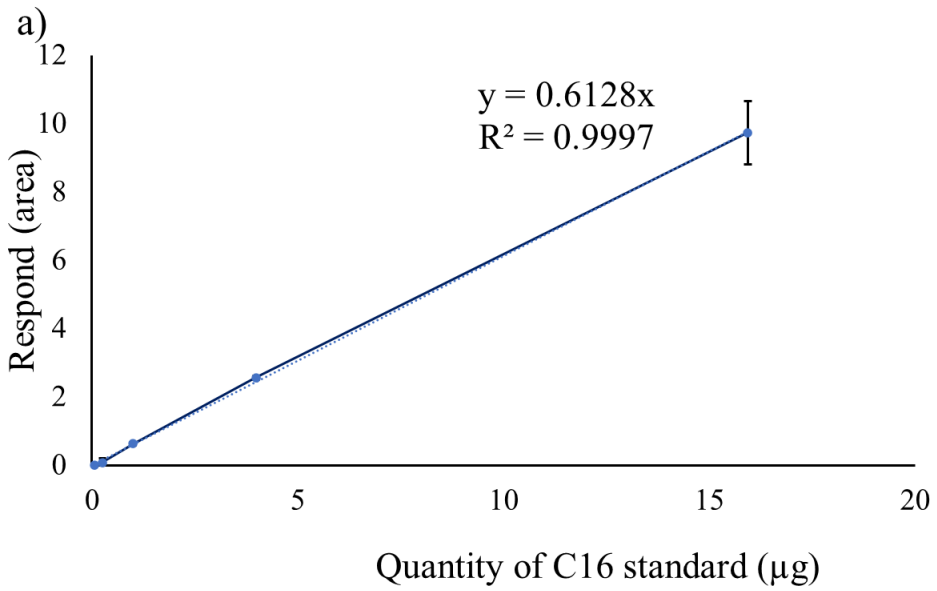
Supplementary Figure S2.1: Standard curve OD vs. different cell culture concentrations of wild-type *Nannochloropsis oculata*. All the samples were in triplicates and measured by using spectrophotometer for measuring optical densities at 595 nm, 740 nm, and 750 nm. Average and standard deviation were calculated for each point.

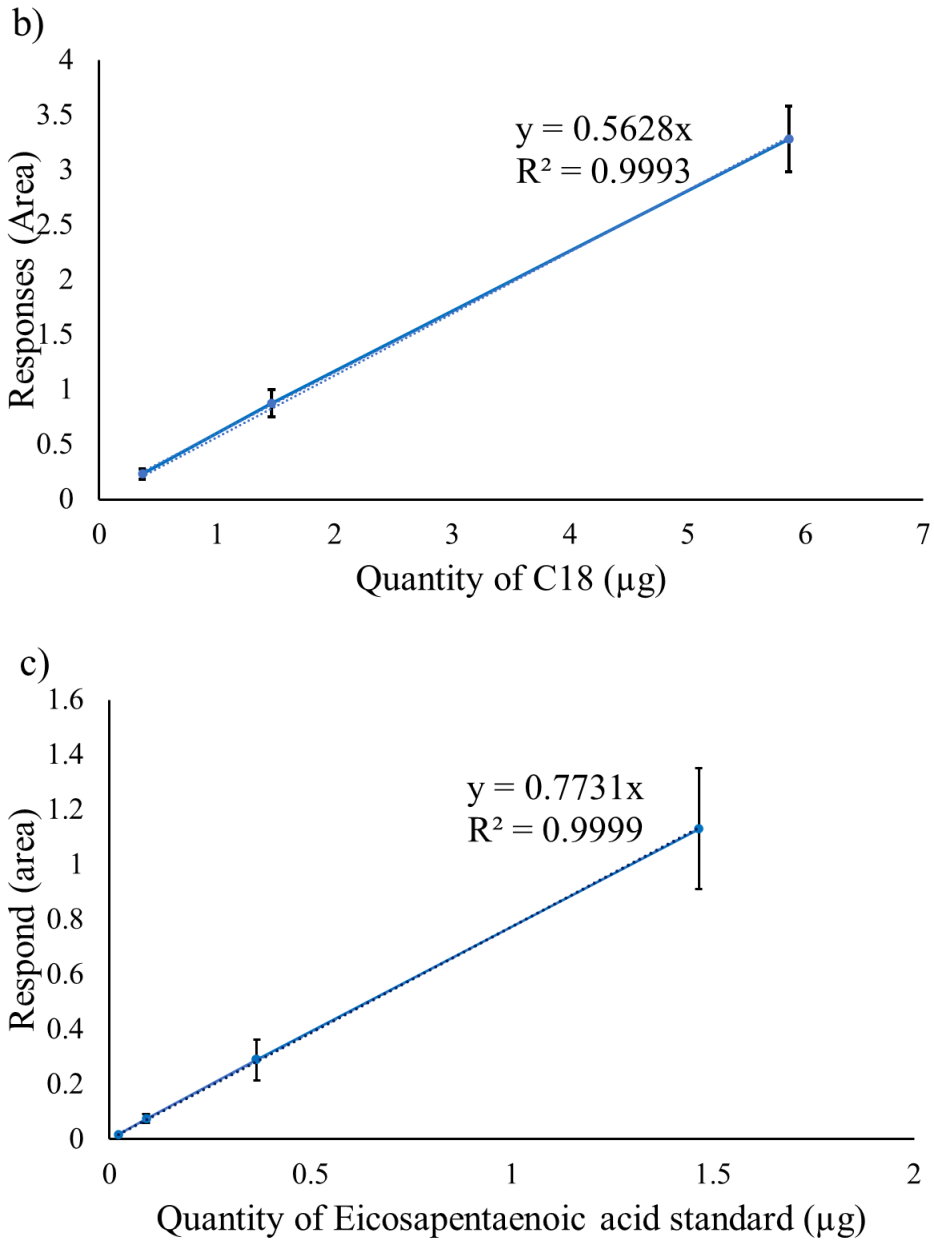


Supplementary Figure S2.2: (a) Nitrate (ranged 0-250 µM) and (b) phosphate (ranged 0-20 µM) standard curve. The samples were measured in triplicates.

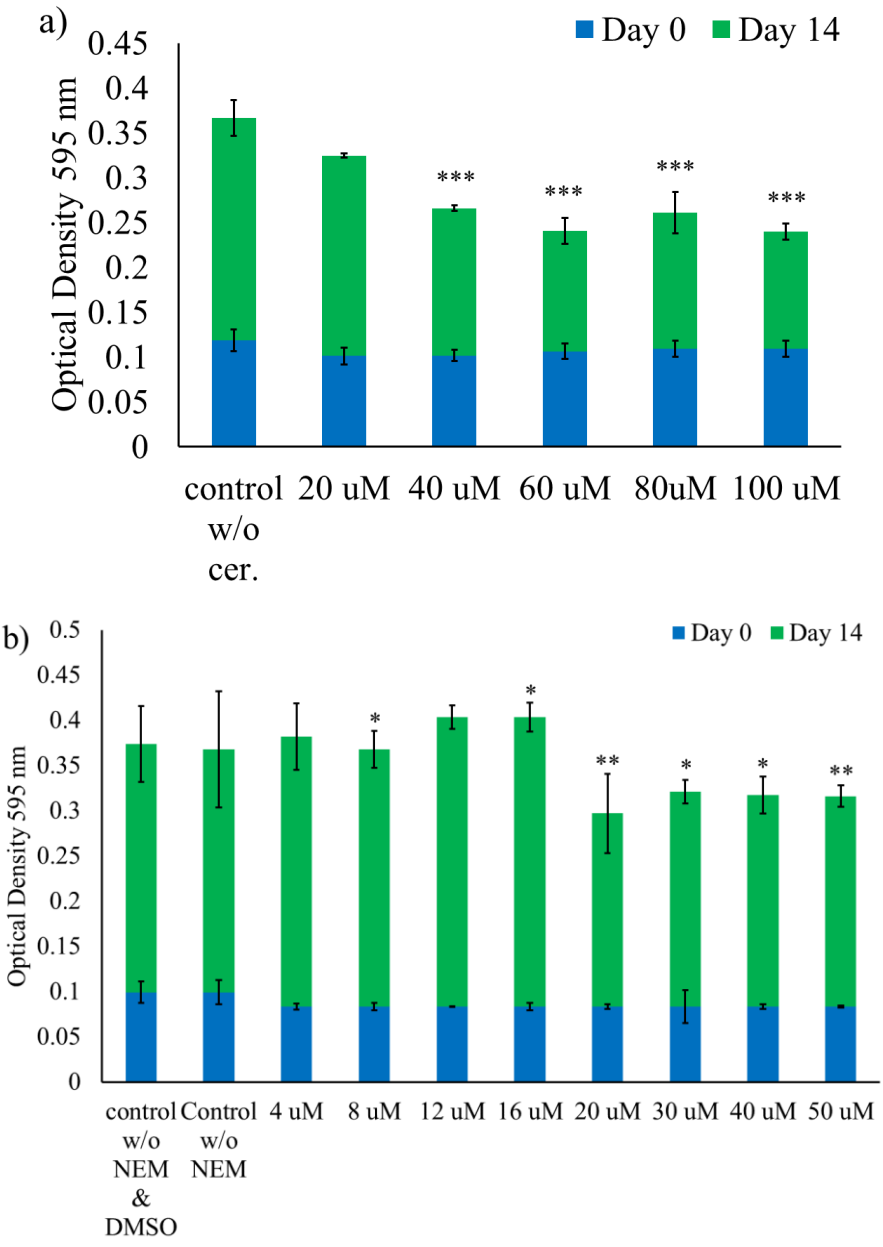


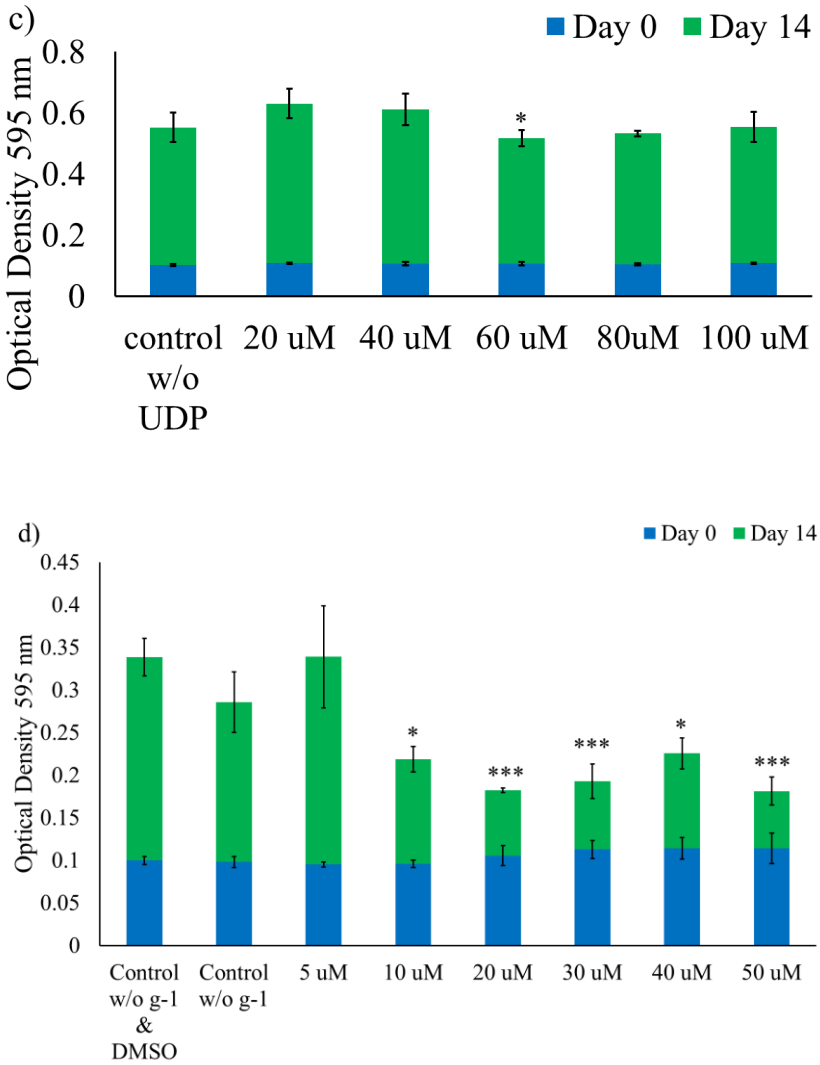
Supplementary Figure S2.3: Bovine serum albumin (BSA) standard curve ranged from 0 to 2.6 mg/mL using the microbiuret method (Collos et al., 1999) and optical density was measured at 310 nm using a quartz cuvette.





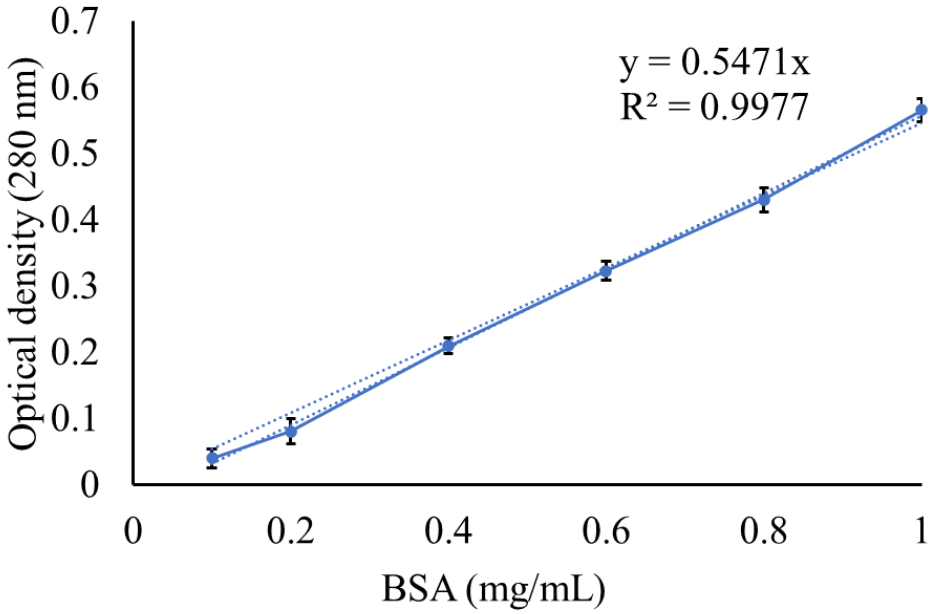
Supplementary Figure S2.4: (a) C16:0, (b) C18:0, and (c) C20:5 standard curve that were quantified in triplicates and used for quantifications of C16:0, C16:1, C18:0, C18:1, C18:2, C18:3, and C20:5.


a)
Day 0
Day 14
Optical Density 595 nm
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
***
***
***
***
control w/o cer.
20 uM
40 uM
60 uM
80uM
100 uM
b)
Day 0
Day 14
Optical Density 595 nm
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
*
*
**
*
*
**
control w/o NEM & DMSO
Control w/o NEM
4 uM
8 uM
12 uM
16 uM
20 uM
30 uM
40 uM
50 uM

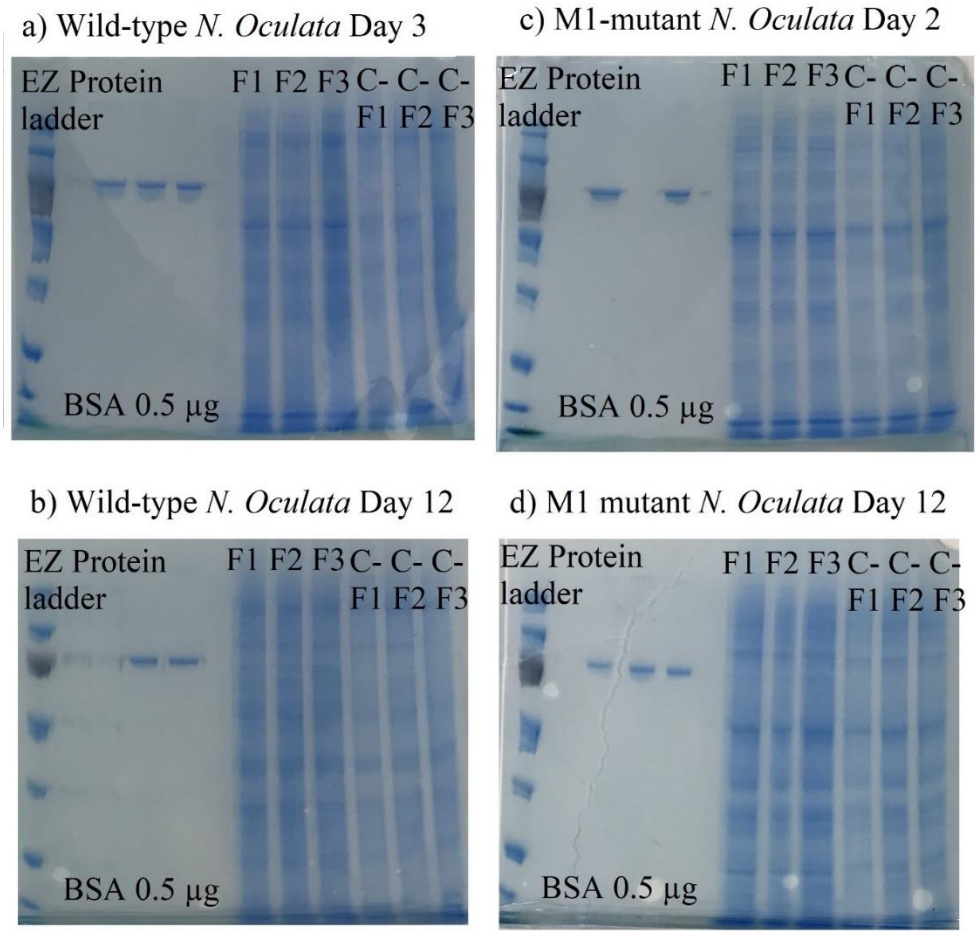


Supplementary Figure S3.1 Growth of wild-type Nannochloropsis oculata measured by a plate reader (TECAN, Germany): a) in the presence of different concentrations a) cerulenin. b) N-ethylmaleimide (NEM) c) Uridine 5' diphosphate (UDP), and d) galvestine-1. Vertical bars are the standard deviation of the means. Mean ± standard deviation is shown (n = 6) and t-tests determine statistical significance ($p < 0.05$ [*]; $p < 0.01$ [**]; $p < 0.001$ [***]).

Chapter 4

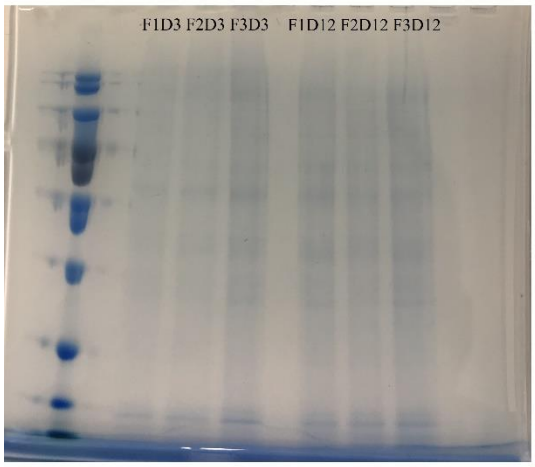


Supplementary Figure S4.1: Bovine serum albumin (BSA) standard curve ranged from 0 to 1.0 mg/mL using the Nanodrop 2000 method (Thermo Fisher Scientific, United Kingdom) and optical density was measured at 280 nm.

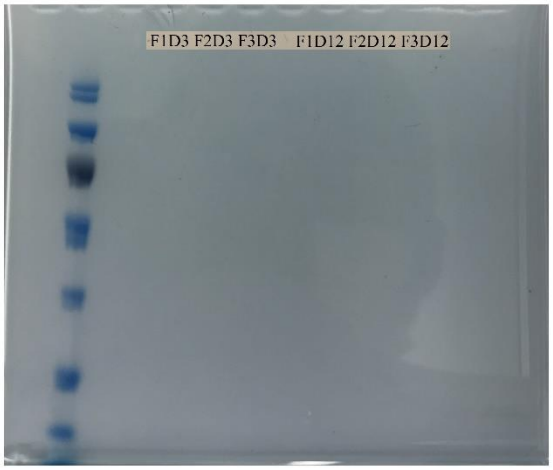


Supplementary Figure S4.2: 1D-SDS PAGE comparison between wild-type and M1 mutant *Nannochloropsis oculata*. The standard used were EZ-RUN Prestained Protein ladder PB3603-500 and 0.5 µg bovine serum albumin (BSA). 10 µg proteins of wild-type Nannochloropsis oculata (a) and (b) and M1 mutant *Nannochloropsis oculata* (c) and (d) were run on 1D-SDS PAGE. F1, F2 and F3, and C-F1, C-F2 and C-F3 were referred to three biological replicates for the protein before and after 2D cleaned up, respectively.

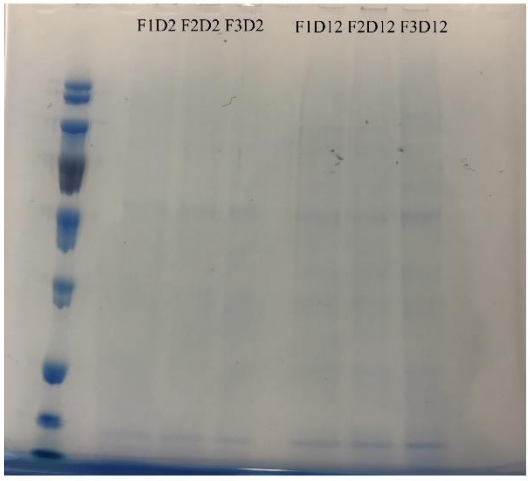
a) 0.5 µg Wild-type *N.Oculata* 2D cleaned-up protein



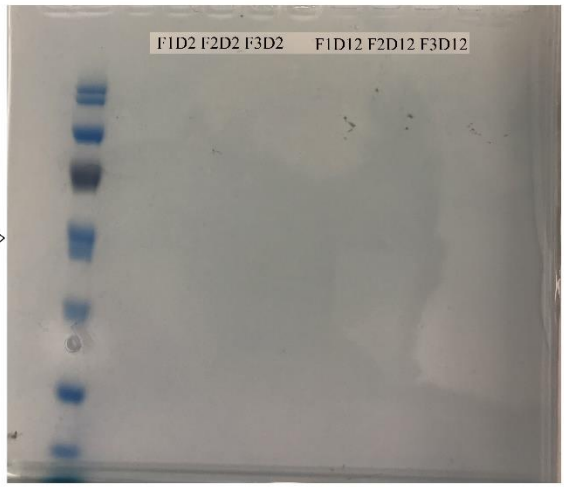
0.5 µg Wild-type *N. Oculata* post-digested protein



b) 0.5 µg M1 mutant *N. Oculata* 2D cleaned-up protein



0.5 µg M1 mutant *N. Oculata* post-digested protein



Supplementary Figure S4.3: 1D-SDS PAGE comparison between wild-type and M1 mutant *Nannochloropsis oculata*. The standard used was EZ-RUN Prestained Protein ladder PB3603-500 on the left lane. 0.5 µg of 2D cleaned-up proteins and post-digested protein of wild-type (a) and M1 mutant *Nannochloropsis oculata* (b).

Supplementary Table S4.1: LFQ analyst results for Wild-type *Nannochloropsis oculata* Day 3 vs Day 12 samples

Gene Name	Protein IDs	WTDay12_vs_WTDay3_log2 fold change	WTDay12_vs_WTDay3_p.val	WTDay12_vs_WTDay3_p.adj	significant	WTDay12_vs_WTDay3_significant	imputed	num_NAs	Protein names
AIU44072.1	AIU44072.1	2.35	0.00384	0.0437	TRUE	TRUE	TRUE	4	methylmalonyl CoA mutase
Arf1	tr|W7TL63|Arf1	3.02	0.00324	0.0416	TRUE	TRUE	FALSE	0	Adp-ribosylation factor
CAT	tr|W7T2K9|CAT	3.41	0.00474	0.0496	TRUE	TRUE	TRUE	2	Catalase
DKC1	tr|K8Z676|DKC1	3.3	0.000361	0.0178	TRUE	TRUE	TRUE	3	H/ACA ribonucleoprotein complex subunit 4
GCSL.1	tr|W7U9J4|GCSL	4.89	0.000171	0.0165	TRUE	TRUE	TRUE	3	Dihydrolipoyl dehydrogenase
gi|553180870|ref|XP_005853474.1|	gi|553180870|ref|XP_005853474.1|	2.79	0.00138	0.0324	TRUE	TRUE	TRUE	1	6-phosphofructo-2-kinase / fructose-2,6-bisphosphatase
GSR	tr|W7U997|GSR	3.2	0.000414	0.0178	TRUE	TRUE	TRUE	3	Glutathione reductase
Naga_100002g147	tr|W7TNH0|Naga_100002g147	3.15	0.00191	0.0351	TRUE	TRUE	TRUE	1	Pyruvate carboxylase

Naga_100002g172	tr|W7TNX9|Naga_100002g172	5.13	0.00355	0.0416	TRUE	TRUE	TRUE	2	Acyl-dehydrogenase
Naga_100007g50	tr|W7U8D0|Naga_100007g50	3.71	0.0011	0.0324	TRUE	TRUE	TRUE	2	Protein kinase, ATP binding site
Naga_100010g85	tr|W7TMD6|Naga_100010g85	4.63	0.00181	0.035	TRUE	TRUE	TRUE	2	Mitochondrial phosphate transporter
Naga_100013g96	tr|W7UCP4|Naga_100013g96	3.28	0.00344	0.0416	TRUE	TRUE	TRUE	1	Malate synthase a
Naga_100014g18	tr|W7TRI5|Naga_100014g18	2.28	0.00396	0.0438	TRUE	TRUE	FALSE	0	Phosphoglycerate kinase
Naga_100016g72	tr|W7TXQ6|Naga_100016g72	2.53	0.00217	0.0355	TRUE	TRUE	FALSE	0	Peptidyl-prolyl cis-trans isomerase
Naga_100023g44	tr|W7TQJ5|Naga_100023g44	2.98	0.00122	0.0324	TRUE	TRUE	TRUE	4	Chaperonin containing tcp1 theta subunit
Naga_100024g37	tr|W7U814|Naga_100024g37	4.56	0.00087	0.0324	TRUE	TRUE	TRUE	2	Succinate dehydrogenase flavoprotein subunit
Naga_100024g60	tr|W7TSA3|Naga_100024g60	2.62	0.00352	0.0416	TRUE	TRUE	TRUE	2	Rab11 family gtpase

Naga_100025g12	tr|W7TRS4|Naga_100025g12	3.77	0.000334	0.0178	TRUE	TRUE	TRUE	3	Isocitrate lyase
Naga_100025g3	tr|W7U0R9|Naga_100025g3	2.89	0.00248	0.0374	TRUE	TRUE	TRUE	3	Importin subunit alpha
Naga_100042g43	tr|W7U8W3|Naga_100042g43	2.71	0.00177	0.035	TRUE	TRUE	FALSE	0	Nadp-dependent glyceraldehyde-3-phosphate dehydrogenase
Naga_100048g7	tr|W7TZM5|Naga_100048g7	4.44	0.000155	0.0165	TRUE	TRUE	TRUE	3	Aldehyde dehydrogenase
Naga_100049g35	tr|W7TDK1|Naga_100049g35	4.44	0.00151	0.0324	TRUE	TRUE	TRUE	1	Alcohol dehydrogenase
Naga_100051g28	tr|W7TM97|Naga_100051g28	2.58	0.00138	0.0324	TRUE	TRUE	TRUE	3	Cytochrome c1 heme protein
Naga_100084g10	tr|W7U0X5|Naga_100084g10	2.81	0.00216	0.0355	TRUE	TRUE	TRUE	2	Luminal binding protein
Naga_100106g2	tr|W7TUQ1|Naga_100106g2	4.01	0.000381	0.0178	TRUE	TRUE	TRUE	3	40S ribosomal protein S4
Naga_100122g12	tr|W7TWJ4|Naga_100122g12	3.41	0.000247	0.0178	TRUE	TRUE	TRUE	2	Cupin, RmlC-type

Naga_100177g17	tr|W7U719|Naga_100177g17	3.67	0.00426	0.0458	TRUE	TRUE	FALSE	0	Uncharacterized protein
Naga_100197g3	tr|W7TLB7|Naga_100197g3	3.09	0.0029	0.0387	TRUE	TRUE	TRUE	1	Pyruvate kinase
Naga_100199g4	tr|W7TNY2|Naga_100199g4	3.62	0.00145	0.0324	TRUE	TRUE	TRUE	3	Epimerase 4-reductase
Naga_100597g2	tr|W7T6X8|Naga_100597g2	2.89	0.00142	0.0324	TRUE	TRUE	TRUE	3	Lactoylglutathione lyase
Naga_100744g1	gi|553190853|ref|XP_005855276.1|	4.01	0.00104	0.0324	TRUE	TRUE	TRUE	1	wos2 protein
NGATSA_3001800	tr|I2CPF4|NGATSA_3001800	4.36	6.95E-05	0.0135	TRUE	TRUE	TRUE	3	Rnp domain-containing protein
NGATSA_3003400	tr|I2CNZ7|NGATSA_3003400	2.68	0.0022	0.0355	TRUE	TRUE	TRUE	3	Glutamate synthase (NADPH/NADH) small chain
NGATSA_3005800	tr|I2CQR9|NGATSA_3005800	3.01	0.00278	0.0387	TRUE	TRUE	TRUE	3	GMP synthase (Glutamine-hydrolysing)
PRX2	tr|W7TZN7|PRX2	4.79	4.35E-05	0.0135	TRUE	TRUE	TRUE	2	Thioredoxin-dependent peroxide reductase

SHMT2	tr|W7TN09|SHMT2	3.42	0.00282	0.0387	TRUE	TRUE	TRUE	2	Serine hydroxymethyltransferase
tr|I2CPE6|NGATSA_2003000	tr|I2CPE6|NGATSA_2003000	2.89	0.00251	0.0374	TRUE	TRUE	TRUE	1	Uncharacterized protein
AAB94637.1	AAB94637.1	2.13	0.0967	0.208	FALSE	FALSE	FALSE	0	violaxanthin/chlorophyll a binding protein precursor
AAT	tr|W7U3D6|AAT	2.15	0.0232	0.102	FALSE	FALSE	TRUE	4	Aspartate aminotransferase
AFB75402.1	AFB75402.1	3.08	0.0168	0.087	FALSE	FALSE	FALSE	0	lipid droplet surface protein
AFJ68664.1	AFJ68664.1	2.25	0.0394	0.136	FALSE	FALSE	TRUE	3	endo-b- -glucanase, partial
AFJ69274.1	AFJ69274.1	-1.03	0.364	0.49	FALSE	FALSE	TRUE	3	Ran-binding protein 1, partial
AFJ69311.1	AFJ69311.1	1.13	0.197	0.325	FALSE	FALSE	FALSE	0	rRNA 2-O-methyltransferase fibrillarin, partial
ANT70525.1	ANT70525.1	1.22	0.164	0.292	FALSE	FALSE	TRUE	1	violaxanthin de-epoxidase
AP1B1	tr|K8YNR1|AP1B1	2.09	0.00783	0.0663	FALSE	FALSE	TRUE	2	AP complex subunit beta
ASS	tr|W7U626|ASS	2.34	0.253	0.389	FALSE	FALSE	TRUE	2	Argininosuccinate synthase
atp1	tr|T1R8F9|atp1	0.961	0.13	0.25	FALSE	FALSE	FALSE	0	ATP synthase subunit alpha
atp8	tr|T1R7J2|atp8	0.841	0.364	0.49	FALSE	FALSE	FALSE	0	ATP synthase F0 subunit 8

atpA	tr|T1RIM9|atpA	-0.485	0.448	0.577	FALSE	FALSE	FALSE	0	ATP synthase subunit alpha, chloroplastic
atpB	tr|T1RJ81|rpl13	-0.511	0.532	0.634	FALSE	FALSE	TRUE	4	50S ribosomal protein L13, chloroplastic
atpB.1	tr|T1RHE4|atpB	-0.132	0.806	0.859	FALSE	FALSE	FALSE	0	ATP synthase subunit beta, chloroplastic
atpB.2	tr|T1RJP7|psaA	0.519	0.369	0.493	FALSE	FALSE	FALSE	0	Photosystem I P700 chlorophyll a apoprotein A1
atpD	tr|T1RJB4|atpD	-0.407	0.497	0.609	FALSE	FALSE	FALSE	0	ATP synthase CF1 delta chain
atpE	tr|T1RJM9|atpE	-0.911	0.345	0.47	FALSE	FALSE	FALSE	0	ATP synthase epsilon chain, chloroplastic
ATPEF1O	tr|K8YVX1|ATPEF1O	1.35	0.0703	0.184	FALSE	FALSE	FALSE	0	H+-transporting ATPase oligomycin sensitivity conferral protein
atpF	tr|T1RIU1|atpF	-0.902	0.174	0.302	FALSE	FALSE	FALSE	0	CF0 subunit I of ATP synthase
atpG	tr|T1RIS0|atpG	-0.808	0.178	0.303	FALSE	FALSE	FALSE	0	F0F1 ATP synthase subunit B
cbbX	tr|W7TPW8|cbbX	2.03	0.196	0.325	FALSE	FALSE	TRUE	1	Rubisco expression protein
cbbX.1	tr|T1RJ59|cbbX	0.42	0.474	0.594	FALSE	FALSE	FALSE	0	Putative rubisco expression protein

CCT3	tr|W7TWK9|CCT3	0.987	0.219	0.353	FALSE	FALSE	TRUE	4	T-complex protein 1 subunit gamma
clpC	tr|T1RJA6|clpC-I	0.621	0.456	0.585	FALSE	FALSE	FALSE	0	ATP-dependent Clp protease ATPase subunit
clpC-II	tr|T1RJR9|clpC-II	1.94	0.0951	0.206	FALSE	FALSE	TRUE	1	ATP-dependent Clp protease
clpC-II .1	tr|T1RJA1|clpC-II	-1.67	0.0259	0.105	FALSE	FALSE	TRUE	2	ATP-dependent Clp protease
clpP	tr|W7TMY3|clpP	1.12	0.0716	0.186	FALSE	FALSE	FALSE	0	ATP-dependent Clp protease proteolytic subunit
CPS	tr|W7U5E4|CPS	2.32	0.0379	0.132	FALSE	FALSE	FALSE	0	Carbamoyl-phosphate synthase
CYN	tr|W7TQJ8|CYN	3.2	0.0276	0.108	FALSE	FALSE	TRUE	1	Peptidyl-prolyl cis-trans isomerase
DAPAT	tr|W7TK41|DAPAT	0.0615	0.94	0.96	FALSE	FALSE	TRUE	1	Ll-diaminopimelate aminotransferase
dbj	gi|224809175|dbj|BAH28795.1|	0.279	0.663	0.748	FALSE	FALSE	FALSE	0	glyceraldehyde-3-phosphate dehydrogenase
dnaK	tr|T1RHM8|dnaK	0.578	0.282	0.411	FALSE	FALSE	FALSE	0	Chaperone protein DnaK
EF2	tr|W7UBY1|EF2	1.15	0.0868	0.206	FALSE	FALSE	FALSE	0	Elongation factor 2
FBA1	tr|W7TFC8|FBA1	-0.462	0.481	0.596	FALSE	FALSE	FALSE	0	Fructose-bisphosphate aldolase

FBP	tr|W7SYZ9|FBP	0.369	0.713	0.78	FALSE	FALSE	FALSE	0	Fructose--bisphosphatase
ftsH	tr|T1RHJ1|ftsH	0.55	0.346	0.47	FALSE	FALSE	FALSE	0	ATP-dependent zinc metalloprotease FtsH
FTSZ	tr|W7TYP0|FTSZ	1.13	0.216	0.35	FALSE	FALSE	TRUE	3	Cell division protein
G6PDH	tr|W7TZ08|G6PDH	1.11	0.0703	0.184	FALSE	FALSE	TRUE	4	Glucose-6-phosphate 1-dehydrogenase
GapC1	tr|W7T2R0|GapC1	1.38	0.259	0.396	FALSE	FALSE	FALSE	0	Glyceraldehyde-3-phosphate dehydrogenase
GCSL	tr|W7TT47|GCSL	-0.454	0.565	0.661	FALSE	FALSE	FALSE	0	Dihydrolipoamide dehydrogenase
GDH1	tr|W7TAN4|GDH1	1.12	0.232	0.369	FALSE	FALSE	TRUE	1	Glutamate dehydrogenase
gi|553175936|ref|XP_005852345.1|	gi|553175936|ref|XP_005852345.1|	1.57	0.034	0.123	FALSE	FALSE	FALSE	0	actin beta/gamma 1
gi|553180480|ref|XP_005853411.1|	gi|553180480|ref|XP_005853411.1|	0.828	0.505	0.614	FALSE	FALSE	TRUE	1	large subunit ribosomal protein L27Ae
gi|553182506|ref|XP_005853740.1|	gi|553182506|ref|XP_005853740.1|	2.59	0.014	0.0852	FALSE	FALSE	TRUE	4	rab18 -family small gtpase

gi|553183167|ref|XP_005853851.1|	gi|553183167|ref|XP_005853851.1|	1.38	0.12	0.239	FALSE	FALSE	TRUE	1	small nuclear ribonucleoprotein D1
gi|553184237|ref|XP_005854056.1|	gi|553184237|ref|XP_005854056.1|	0.638	0.271	0.406	FALSE	FALSE	FALSE	0	triosephosphate isomerase
gi|553185252|ref|XP_005854222.1|	gi|553185252|ref|XP_005854222.1|	1.59	0.0439	0.148	FALSE	FALSE	FALSE	0	glutamate decarboxylase
gi|578896496|gb|AHI17198.1|	gi|578896496|gb|AHI17198.1|	-0.405	0.514	0.621	FALSE	FALSE	FALSE	0	acetyl-CoA carboxylase
gi|578896498|gb|AHI17199.1|	gi|578896498|gb|AHI17199.1|	1.64	0.104	0.216	FALSE	FALSE	FALSE	0	acetyl-CoA carboxylase
gi|585099093|gb|EWM19969.1|	gi|585099093|gb|EWM19969.1|	1.08	0.108	0.221	FALSE	FALSE	FALSE	0	helicase at 25e
gi|585102433|gb|EWM22023.1|	gi|585102433|gb|EWM22023.1|	1.1	0.0692	0.183	FALSE	FALSE	FALSE	0	heat shock protein 101
gi|585111458|gb|EWM28970.1|	gi|585111458|gb|EWM28970.1|	2.05	0.0139	0.0852	FALSE	FALSE	TRUE	1	pyruvate dehydrogenase
gi|76780670|emb|CAH58676.1|	gi|76780670|emb|CAH58676.1|	-1.46	0.22	0.353	FALSE	FALSE	TRUE	1	proton-translocating

									inorganic pyrophosphatase
GOX	tr|W7UBQ6|GOX	1.3	0.0577	0.169	FALSE	FALSE	FALSE	0	Peroxisomal glycolate oxidase
GST	tr|W7TMQ1|GST	2.17	0.00623	0.0602	FALSE	FALSE	FALSE	0	Glutathione s-transferase
hemB	tr|W7TUE6|hemB	-0.237	0.738	0.8	FALSE	FALSE	FALSE	0	Delta-aminolevulinic acid dehydratase
Hsp	tr|W7TS47|Hsp	1.49	0.314	0.44	FALSE	FALSE	TRUE	2	Heat shock protein hsp90
HSP	tr|W7T7N9|HSP	-0.281	0.619	0.717	FALSE	FALSE	FALSE	0	Luminal binding protein
Hsp.1	tr|W7TNF9|Hsp	0.249	0.699	0.771	FALSE	FALSE	FALSE	0	Heat shock protein 90
HSP1	tr|W7TLX6|HSP1	-0.829	0.407	0.533	FALSE	FALSE	FALSE	0	Heat shock protein 90
ilvB	tr|T1RI34|ilvB	1.7	0.0924	0.206	FALSE	FALSE	TRUE	2	Acetolactate synthase large subunit
inorganic	tr|W7TN19|inorganic	-0.634	0.602	0.7	FALSE	FALSE	FALSE	0	H+-translocating pyrophosphatase family
LACS	tr|G9BBC7|LACS	1.63	0.0609	0.171	FALSE	FALSE	FALSE	0	Long-chain acyl-coenzyme A synthetase
LHC26	tr|W7UAI7|LHC26	0.683	0.279	0.409	FALSE	FALSE	FALSE	0	Light-harvesting protein
LHCP28	tr|W7TZB5|LHCP28	0.341	0.558	0.655	FALSE	FALSE	FALSE	0	Light-harvesting protein

LHCP5	tr|W7TCK1|LHCP5	0.45	0.493	0.606	FALSE	FALSE	FALSE	0	Chloroplast light harvesting protein isoform 4
Lhcv3	tr|W7TRI0|Lhcv3	-1.51	0.27	0.406	FALSE	FALSE	TRUE	1	Light-harvesting protein
Light-harvesting protein	tr|W7TZI5|Naga_100021g54	1.12	0.154	0.28	FALSE	FALSE	TRUE	3	Armadillo-like helical
MCAT	tr|S5VRZ9|MCAT	-0.229	0.698	0.771	FALSE	FALSE	FALSE	0	Malonyl-:acp transacylase
mcfO	tr|W7TZV3|mcfO	1.9	0.0176	0.0871	FALSE	FALSE	TRUE	4	Ef-hand domain-containing protein
nad11	tr|A0A023PJZ1|nad11	1.47	0.19	0.319	FALSE	FALSE	FALSE	0	NADH dehydrogenase subunit 11
nad7	tr|T1R883|nad7	0.0629	0.956	0.966	FALSE	FALSE	TRUE	2	NADH dehydrogenase subunit 7
Naga_100001g128	tr|W7TKJ5|Naga_100001g128	0.21	0.852	0.896	FALSE	FALSE	FALSE	0	Transketolase
Naga_100001g147	tr|W7TKL4|Naga_100001g147	-0.259	0.68	0.763	FALSE	FALSE	FALSE	0	Cytochrome c oxidase subunit vb
Naga_100001g189	tr|W7U259|Naga_100001g189	1.57	0.0153	0.087	FALSE	FALSE	FALSE	0	Nucleoside diphosphate kinase
Naga_100001g41	tr|W7U263|Naga_100001g41	1.31	0.0578	0.169	FALSE	FALSE	FALSE	0	Heat shock protein 70

Naga_100001g58	tr|W7U208|Naga_100001g58	3.22	0.0595	0.171	FALSE	FALSE	TRUE	1	Glyceraldehyde-3-phosphate dehydrogenase
Naga_100002g102	tr|W7TYW0|Naga_100002g102	1.53	0.0899	0.206	FALSE	FALSE	TRUE	2	Cystathionine gamma-lyase
Naga_100002g173	tr|W7TRD5|Naga_100002g173	2.31	0.178	0.303	FALSE	FALSE	TRUE	1	3-oxoacyl-[acyl-carrier-protein] synthase
Naga_100002g3	tr|W7TZ10|Naga_100002g3	0.288	0.864	0.897	FALSE	FALSE	TRUE	2	Mpv17/PMP22
Naga_100002g55	tr|W7TYV8|Naga_100002g55	0.192	0.845	0.893	FALSE	FALSE	TRUE	1	Vacuolar (H+)-ATPase G subunit
Naga_100003g103	tr|W7UBF9|Naga_100003g103	0.827	0.236	0.374	FALSE	FALSE	FALSE	0	Vacuolar h+-atpase a subunit
Naga_100003g133	tr|W7UBV8|Naga_100003g133	0.905	0.227	0.362	FALSE	FALSE	TRUE	1	Inosine-5-monophosphate dehydrogenase
Naga_100003g157	tr|W7TVY6|Naga_100003g157	1.49	0.0664	0.178	FALSE	FALSE	FALSE	0	Glucose-6-phosphate isomerase
Naga_100003g173	tr|W7U360|Naga_100003g173	0.901	0.251	0.388	FALSE	FALSE	FALSE	0	Atp-dependent metalloprotease
Naga_100003g177	tr|W7TVZ5|Naga_100003g177	2.47	0.00553	0.0549	FALSE	FALSE	FALSE	0	Heat shock protein 70

Naga_100003g67	tr|W7TSY3|Naga_100003g67	2.17	0.00798	0.0663	FALSE	FALSE	FALSE	0	Aconitate mitochondrial
Naga_100003g69	tr|W7UC18|Naga_100003g69	0.955	0.29	0.418	FALSE	FALSE	TRUE	3	Phosphoribosylformylglycinamidine synthase
Naga_100003g73	tr|W7UC45|Naga_100003g73	0.829	0.202	0.332	FALSE	FALSE	TRUE	4	Subunit of proteaseome activator complex
Naga_100003g83	tr|W7UC09|Naga_100003g83	-1.51	0.0614	0.171	FALSE	FALSE	TRUE	1	Porphobilinogen deaminase
Naga_100004g111	tr|W7U649|Naga_100004g111	-1.14	0.0816	0.204	FALSE	FALSE	FALSE	0	Thioredoxin f
Naga_100004g135	tr|W7TM71|Naga_100004g135	1.11	0.0585	0.169	FALSE	FALSE	FALSE	0	Ferredoxin
Naga_100004g79	tr|W7TQ45|Naga_100004g79	1.94	0.0932	0.206	FALSE	FALSE	TRUE	3	Glutaredoxin 2
Naga_100004g84	tr|W7TXD8|Naga_100004g84	1.31	0.136	0.257	FALSE	FALSE	TRUE	4	Gtp-binding protein sar1
Naga_100005g129	tr|W7TXW1|Naga_100005g129	2.51	0.0369	0.13	FALSE	FALSE	TRUE	4	Aminopeptidase-like 1
Naga_100005g139	tr|W7THB6|Naga_100005g139	1.87	0.0103	0.0764	FALSE	FALSE	FALSE	0	Vacuolar transporter chaperone 4

Naga_100005g16	tr|W7TPH9|Naga_100005g16	3.28	0.0844	0.206	FALSE	FALSE	TRUE	4	Peptidyl-prolyl cis-trans isomerase
Naga_100005g25	tr|W7TYA6|Naga_100005g25	0.555	0.744	0.804	FALSE	FALSE	TRUE	2	Photosystem ii 11 kd protein
Naga_100005g46	tr|W7TEP7|Naga_100005g46	0.761	0.507	0.615	FALSE	FALSE	FALSE	0	Histone h2b
Naga_100005g52	tr|W7TPN7|Naga_100005g52	1.51	0.0492	0.161	FALSE	FALSE	FALSE	0	Adp atp
Naga_100005g68	tr|W7TYC1|Naga_100005g68	-0.928	0.363	0.49	FALSE	FALSE	TRUE	1	Short-chain dehydrogenase reductase acting with nad or nadp as acceptor
Naga_100005g83	tr|W7TXT5|Naga_100005g83	1.79	0.0519	0.163	FALSE	FALSE	TRUE	1	ATP-dependent Clp protease proteolytic subunit
Naga_100006g108	tr|W7U9C3|Naga_100006g108	2.28	0.012	0.0812	FALSE	FALSE	TRUE	4	Dihydrolipoamide s-acetyltransferase
Naga_100006g25	tr|W7U9F9|Naga_100006g25	2.49	0.00752	0.0663	FALSE	FALSE	TRUE	4	Beta-lactamase/transpeptidase-like protein
Naga_100006g64	tr|W7U194|Naga_100006g64	1.51	0.0187	0.0905	FALSE	FALSE	FALSE	0	Delta-1-pyrroline-5-carboxylate synthetase

Naga_100006g89	tr|W7U9H6|Naga_100006g89	1.11	0.114	0.232	FALSE	FALSE	FALSE	0	Heat shock protein 90
Naga_100007g70	tr|W7U8K2|Naga_100007g70	2.21	0.00675	0.0637	FALSE	FALSE	FALSE	0	Clathrin heavy chain
Naga_100008g4	tr|W7TPQ0|Naga_100008g4	3.01	0.0952	0.206	FALSE	FALSE	TRUE	2	Atp synthase gamma
Naga_100009g12	tr|W7TN92|Naga_100009g12	3.09	0.0255	0.105	FALSE	FALSE	TRUE	1	6-phosphogluconate dehydrogenase, decarboxylating
Naga_100009g44	tr|W7U6Y7|Naga_100009g44	3.45	0.0091	0.0714	FALSE	FALSE	TRUE	4	Pyruvate decarboxylase
Naga_100009g63	tr|W7U6Y6|Naga_100009g63	0.015	0.98	0.987	FALSE	FALSE	FALSE	0	Eukaryotic translation initiation factor 5A
Naga_100009g67	tr|W7TR29|Naga_100009g67	1.06	0.0898	0.206	FALSE	FALSE	FALSE	0	Enolase
Naga_100009g84	tr|W7U6S0|Naga_100009g84	-0.243	0.774	0.83	FALSE	FALSE	FALSE	0	60s acidic ribosomal protein p0
Naga_100010g11	gi|553190821|ref|XP_005855269.1|	1.88	0.0256	0.105	FALSE	FALSE	TRUE	2	phosphoribosylaminoimidazolecarboxamide formyltransferase / IMP cyclohydrolase

Naga_100010g22	tr|W7TJF5|Naga_100010g22	-0.346	0.752	0.81	FALSE	FALSE	TRUE	2	Nucleoredoxin
Naga_100010g88	tr|W7U2S1|Naga_100010g88	1.71	0.191	0.319	FALSE	FALSE	TRUE	1	Ribosomal protein s16
Naga_100011g26	tr|W7TPX6|Naga_100011g26	1.36	0.144	0.268	FALSE	FALSE	TRUE	4	Phosphoglycerate mutase
Naga_100011g29	tr|W7TG29|Naga_100011g29	0.32	0.642	0.738	FALSE	FALSE	TRUE	2	Tic22-like protein
Naga_100011g39	tr|W7TG62|Naga_100011g39	1.93	0.104	0.216	FALSE	FALSE	TRUE	1	H-or na-translocating f-v-type and a-type atpase (F-atpase) superfamily
Naga_100011g54	tr|W7TPT5|Naga_100011g54	2.01	0.0172	0.087	FALSE	FALSE	TRUE	3	5-methyltetrahydropteroyltriglutamate--homocysteine s-methyltransferase
Naga_100012g48	tr|W7TMK0|Naga_100012g48	1.88	0.123	0.24	FALSE	FALSE	TRUE	3	Splicing factor u2af large subunit
Naga_100012g76	tr|W7TDH0|Naga_100012g76	2.68	0.026	0.105	FALSE	FALSE	TRUE	2	40s ribosomal protein

Naga_100013g72	tr|W7U3Y9|Naga_100013g72	0.581	0.282	0.411	FALSE	FALSE	FALSE	0	Nicotinamide nucleotide transhydrogenase
Naga_100013g92	tr|W7TWV3|Naga_100013g92	1.53	0.0631	0.173	FALSE	FALSE	TRUE	1	Cytochrome p450 hydroxylase
Naga_100014g51	tr|W7U0I2|Naga_100014g51	-1.13	0.253	0.389	FALSE	FALSE	FALSE	0	Ribosomal protein l12
Naga_100014g55	tr|W7TRK7|Naga_100014g55	1.28	0.0849	0.206	FALSE	FALSE	TRUE	2	Coatomer subunit alpha
Naga_100014g57	tr|W7TGL0|Naga_100014g57	1.93	0.0117	0.0812	FALSE	FALSE	TRUE	3	Uncharacterized protein
Naga_100014g7	tr|W7TGE1|Naga_100014g7	0.449	0.557	0.655	FALSE	FALSE	FALSE	0	Cupin 4 family protein
Naga_100015g11	tr|W7U4C6|Naga_100015g11	1.79	0.0235	0.102	FALSE	FALSE	FALSE	0	Citrate synthase
Naga_100016g24	tr|W7TG91|Naga_100016g24	0.876	0.126	0.244	FALSE	FALSE	FALSE	0	ATP synthase subunit beta
Naga_100016g59	tr|W7TNT0|Naga_100016g59	0.863	0.202	0.332	FALSE	FALSE	FALSE	0	ATPase, F0 complex, subunit B, mitochondrial
Naga_100017g18	tr|W7U1W1|Naga_100017g18	-0.289	0.709	0.777	FALSE	FALSE	FALSE	0	60s ribosomal protein l11

Naga_100017g20	tr|W7U1X5|Naga_100017g20	1.98	0.0295	0.112	FALSE	FALSE	FALSE	0	Transaldolase
Naga_100017g24	tr|W7U1V7|Naga_100017g24	2.44	0.0162	0.087	FALSE	FALSE	TRUE	1	Stress-inducible protein sti1
Naga_100019g53	tr|W7T4L1|Naga_100019g53	-0.922	0.383	0.508	FALSE	FALSE	FALSE	0	Histone H2A
Naga_100019g64	tr|W7T3J7|Naga_100019g64	1.13	0.0845	0.206	FALSE	FALSE	FALSE	0	Elongation factor 1-alpha
Naga_100020g11	tr|W7TLA3|Naga_100020g11	1.28	0.0862	0.206	FALSE	FALSE	FALSE	0	9STRA Prohibitin
Naga_100020g47	tr|W7TD69|Naga_100020g47	1.72	0.0197	0.0922	FALSE	FALSE	FALSE	0	Myo-inositol 2-dehydrogenase
Naga_100020g64	tr|W7TUE3|Naga_100020g64	2.51	0.0411	0.139	FALSE	FALSE	TRUE	1	Urease accessory protein ureg
Naga_100021g47	tr|W7TQL4|Naga_100021g47	1.54	0.167	0.296	FALSE	FALSE	TRUE	4	Cytochrome b-c1 complex subunit Rieske, mitochondrial
Naga_100021g53	tr|W7TQM4|Naga_100021g53	0.394	0.663	0.748	FALSE	FALSE	TRUE	3	Atp-dependent hsl protease atp-binding subunit hslu

Naga_100021g68	tr|W7TI88|Naga_100021g68	0.97	0.317	0.443	FALSE	FALSE	TRUE	3	Phosphoadenosine phosphosulfate reductase
Naga_100021g70	tr|W7TFK4|Naga_100021g70	2.42	0.0534	0.163	FALSE	FALSE	TRUE	1	Alpha tubulin 1
Naga_100021g72	tr|W7TYX5|Naga_100021g72	2.69	0.178	0.303	FALSE	FALSE	TRUE	2	Glycine cleavage system regulatory protein
Naga_100022g39	tr|W7TUA2|Naga_100022g39	2.07	0.0161	0.087	FALSE	FALSE	FALSE	0	Enolase
Naga_100022g53	tr|W7U1U2|Naga_100022g53	1.42	0.0262	0.105	FALSE	FALSE	FALSE	0	Isocitrate dehydrogenase [NADP]
Naga_100023g26	tr|W7TGK8|Naga_100023g26	1.97	0.0887	0.206	FALSE	FALSE	TRUE	1	Proteasome subunit beta type
Naga_100024g24	tr|W7U8G3|Naga_100024g24	1.79	0.0191	0.0911	FALSE	FALSE	FALSE	0	Atp-citrate synthase
Naga_100024g61	tr|W7TSC4|Naga_100024g61	2.37	0.0167	0.087	FALSE	FALSE	TRUE	3	Inositol-3-phosphate synthase
Naga_100025g47	tr|W7U0R4|Naga_100025g47	-0.974	0.486	0.601	FALSE	FALSE	FALSE	0	Ubiquitin ribosomal protein s27ae fusion protein
Naga_100026g22	tr|W7TW72|Naga_100026g22	2.33	0.0181	0.0886	FALSE	FALSE	TRUE	4	60s ribosomal protein l24

Naga_100026g40	tr|W7TWA9|Naga_100026g40	1.17	0.088	0.206	FALSE	FALSE	FALSE	0	14-3-3-like protein
Naga_100027g2	tr|W7TKH6|Naga_100027g2	1.99	0.00822	0.0663	FALSE	FALSE	TRUE	3	T-complex protein 1 subunit epsilon
Naga_100028g42	tr|K8YRK7|NGA_036140 2	4.34	0.0112	0.0812	FALSE	FALSE	TRUE	2	Uncharacterized protein
Naga_100029g32	tr|W7TSX0|Naga_100029g32	1.16	0.056	0.168	FALSE	FALSE	FALSE	0	Plastidic atp adp transporter
Naga_100030g11	tr|W7TTN5|Naga_100030g11	1.74	0.0524	0.163	FALSE	FALSE	FALSE	0	Hybrid cluster protein
Naga_100030g5	tr|W7TTN9|Naga_100030g5	2.11	0.132	0.253	FALSE	FALSE	FALSE	0	Chlorophyll A-B binding protein
Naga_100031g28	tr|W7U0D4|Naga_100031g28	2.83	0.104	0.216	FALSE	FALSE	TRUE	1	Succinyl-ligase subunit mitochondrial
Naga_100031g39	tr|W7TS51|Naga_100031g39	-1.35	0.246	0.385	FALSE	FALSE	TRUE	1	40s ribosomal protein s3-3
Naga_100032g3	tr|W7TXZ6|Naga_100032g3	0.129	0.933	0.955	FALSE	FALSE	TRUE	3	40S ribosomal protein S3a
Naga_100032g30	tr|W7TY00|Naga_100032g30	0.538	0.679	0.763	FALSE	FALSE	TRUE	2	Coatomer subunit beta

Naga_100032g40	tr|W7THF5|Naga_100032g40	1.2	0.191	0.319	FALSE	FALSE	FALSE	0	Ribosomal protein L4 domain protein
Naga_100033g36	tr|W7TWV9|Naga_100033g36	0.188	0.9	0.924	FALSE	FALSE	TRUE	2	Peptidyl-prolyl cis-trans isomerase
Naga_100034g18	tr|W7TKT1|Naga_100034g18	0.702	0.446	0.577	FALSE	FALSE	FALSE	0	60s ribosomal protein l18a
Naga_100034g25	tr|W7U446|Naga_100034g25	2.62	0.0371	0.13	FALSE	FALSE	TRUE	1	Voltage-dependent anion-selective channel protein 2
Naga_100035g25	tr|W7UAU3|Naga_100035g25	2.36	0.023	0.102	FALSE	FALSE	TRUE	3	Homoserine kinase
Naga_100037g12	tr|W7TF53|Naga_100037g12	0.776	0.311	0.439	FALSE	FALSE	FALSE	0	3-oxoacyl-(Acyl-carrier-protein) reductase
Naga_100037g14	tr|W7THS5|Naga_100037g14	1.04	0.384	0.508	FALSE	FALSE	FALSE	0	Cyclophilin-like peptidyl-prolyl cis-trans isomerase
Naga_100038g29	tr|W7TUP5|Naga_100038g29	-0.879	0.53	0.634	FALSE	FALSE	TRUE	1	Atp synthase subunit delta
Naga_100038g3	tr|W7U315|Naga_100038g3	0.655	0.406	0.533	FALSE	FALSE	TRUE	3	Dead-box atp-dependent rna helicase
Naga_100038g9	tr|W7TMH8|Naga_100038g9	1.17	0.0635	0.173	FALSE	FALSE	FALSE	0	Udp-sulfoquinovose synthase

Naga_100040g37	tr|W7TUN8|Naga_100040g37	0.362	0.544	0.646	FALSE	FALSE	FALSE	0	Rieske (2fe-2s) region protein
Naga_100040g42	tr|W7TTU9|Naga_100040g42	1.65	0.0618	0.171	FALSE	FALSE	FALSE	0	Atp-dependent chaperone
Naga_100041g2	tr|W7TL25|Naga_100041g2	0.906	0.137	0.257	FALSE	FALSE	FALSE	0	Elongation factor 1
Naga_100041g31	tr|W7T232|Naga_100041g31	1.07	0.0918	0.206	FALSE	FALSE	FALSE	0	Adenosylhomocysteinase
Naga_100042g26	tr|W7U0U1|Naga_100042g26	1.23	0.0443	0.148	FALSE	FALSE	TRUE	2	Cad protein
Naga_100042g8	tr|W7TTB1|Naga_100042g8	2.71	0.013	0.0852	FALSE	FALSE	TRUE	2	3-ketoacyl-mitochondrial
Naga_100044g11	tr|W7U5I6|Naga_100044g11	1.75	0.0688	0.183	FALSE	FALSE	TRUE	1	40s ribosomal protein s15a
Naga_100044g19	tr|W7U5J3|Naga_100044g19	0.604	0.474	0.594	FALSE	FALSE	TRUE	4	Zz-type zinc finger-containing protein
Naga_100044g9	tr|W7TPS2|Naga_100044g9	2.42	0.0169	0.087	FALSE	FALSE	TRUE	3	Enhancer of rudimentary
Naga_100045g24	tr|W7TK84|Naga_100045g24	1.45	0.0527	0.163	FALSE	FALSE	FALSE	0	ATPase, AAA-type

Naga_100047g7	tr|W7TB36|Naga_100047g7	-0.762	0.5	0.611	FALSE	FALSE	TRUE	1	Succinyl-CoA ligase subunit beta
Naga_100050g29	tr|W7TR01|Naga_100050g29	0.173	0.84	0.891	FALSE	FALSE	FALSE	0	Histone H4
Naga_100050g33	tr|W7UA52|Naga_100050g33	0.121	0.882	0.91	FALSE	FALSE	FALSE	0	Histone H3
Naga_100050g34	tr|W7U9K9|Naga_100050g34	2.63	0.0262	0.105	FALSE	FALSE	FALSE	0	Histone H2A
Naga_100050g39	tr|W7U1E9|Naga_100050g39	1.77	0.0118	0.0812	FALSE	FALSE	FALSE	0	Uncharacterized protein
Naga_100051g22	tr|W7T495|Naga_100051g22	1.36	0.134	0.256	FALSE	FALSE	TRUE	4	Rab7 family gtpase
Naga_100051g29	tr|W7TM73|Naga_100051g29	1.2	0.0731	0.187	FALSE	FALSE	FALSE	0	Superoxide dismutase
Naga_100056g12	tr|W7TU57|Naga_100056g12	1.43	0.0609	0.171	FALSE	FALSE	FALSE	0	Phosphoenolpyruvate carboxykinase
Naga_100056g15	tr|W7TJ16|Naga_100056g15	0.424	0.433	0.564	FALSE	FALSE	FALSE	0	Light-harvesting protein
Naga_100059g26	tr|W7TVV4|Naga_100059g26	1.7	0.0886	0.206	FALSE	FALSE	FALSE	0	Guanine nucleotide binding protein

Naga_100061g16	tr|W7T2I2|Naga_100061g16	2.33	0.0173	0.087	FALSE	FALSE	TRUE	4	Carboxyl transferase
Naga_100061g24	tr|W7T2C3|Naga_100061g24	1.28	0.0871	0.206	FALSE	FALSE	TRUE	1	26s proteasome regulatory atpase rpt4
Naga_100061g9	tr|W7TKK2|Naga_100061g9	0.828	0.461	0.589	FALSE	FALSE	TRUE	1	40s ribosomal protein s23
Naga_100064g4	tr|W7TP37|Naga_100064g4	1.21	0.293	0.42	FALSE	FALSE	TRUE	1	Phosphoglycerate kinase
Naga_100065g10	tr|W7T5H8|Naga_100065g10	2.01	0.0141	0.0852	FALSE	FALSE	FALSE	0	Phosphoglucomutase
Naga_100065g23	tr|W7TE43|Naga_100065g23	0.823	0.313	0.44	FALSE	FALSE	FALSE	0	Leucyl aminopeptidase
Naga_100067g11	tr|W7TNV2|Naga_100067g11	2.93	0.0914	0.206	FALSE	FALSE	TRUE	1	Peptidyl-prolyl cis-trans isomerase
Naga_100067g28	tr|W7TFX4|Naga_100067g28	2.28	0.0198	0.0922	FALSE	FALSE	TRUE	3	Proteasome subunit alpha
Naga_100068g13	tr|W7TXC9|Naga_100068g13	0.887	0.299	0.426	FALSE	FALSE	TRUE	4	Heparanase-like protein 3
Naga_100069g1	tr|W7TKJ0|Naga_100069g1	1.16	0.261	0.398	FALSE	FALSE	TRUE	2	Phosphoglycerate mutase

Naga_100076g3	tr|W7TEW9|Naga_100076g3	-0.466	0.632	0.73	FALSE	FALSE	FALSE	0	Photosystem ii 12 kDa extrinsic protein
Naga_100078g15	tr|W7TS20|Naga_100078g15	0.818	0.435	0.565	FALSE	FALSE	FALSE	0	Elongation factor 3
Naga_100078g16	tr|W7TJN4|Naga_100078g16	0.621	0.694	0.771	FALSE	FALSE	TRUE	2	Elongation factor ef-3
Naga_100079g12	tr|W7TLT5|Naga_100079g12	1.61	0.0504	0.162	FALSE	FALSE	FALSE	0	Cysteine synthase
Naga_100081g17	tr|W7T2Q2|Naga_100081g17	1.3	0.0542	0.164	FALSE	FALSE	FALSE	0	Glyceraldehyde-3-phosphate dehydrogenase
Naga_100084g4	tr|W7TSQ4|Naga_100084g4	1.5	0.0218	0.0993	FALSE	FALSE	FALSE	0	S-adenosylmethionine synthase
Naga_100093g15	tr|W7TJM3|Naga_100093g15	0.668	0.239	0.376	FALSE	FALSE	FALSE	0	ClpB chaperone, Hsp100 family
Naga_100098g5	tr|W7TNK1|Naga_100098g5	2.8	0.00792	0.0663	FALSE	FALSE	TRUE	3	Cell division protein
Naga_100099g18	tr|W7U484|Naga_100099g18	0.289	0.651	0.745	FALSE	FALSE	FALSE	0	Ribosomal protein L15
Naga_100099g23	tr|W7TVG2|Naga_100099g23	-0.829	0.25	0.388	FALSE	FALSE	FALSE	0	Uncharacterized protein

Naga_100100g13	tr|W7TTE5|Naga_100100g13	1.73	0.0123	0.0818	FALSE	FALSE	FALSE	0	Gtp-binding nuclear protein ran
Naga_100102g18	tr|W7TRP0|Naga_100102g18	1.28	0.0912	0.206	FALSE	FALSE	FALSE	0	Eukaryotic initiation factor 4a
Naga_100102g2	tr|W7TRP6|Naga_100102g2	1.55	0.0238	0.102	FALSE	FALSE	FALSE	0	Heat shock protein 70
Naga_100103g9	tr|W7TLH5|Naga_100103g9	-0.582	0.682	0.763	FALSE	FALSE	TRUE	3	Ribosomal protein s20
Naga_100108g3	tr|W7TKA6|Naga_100108g3	0.0897	0.882	0.91	FALSE	FALSE	FALSE	0	40S ribosomal protein SA
Naga_100113g12	tr|W7TCB7|Naga_100113g12	1.18	0.466	0.592	FALSE	FALSE	TRUE	1	40s ribosomal protein s18
Naga_100113g20	tr|W7TUD0|Naga_100113g20	1.89	0.00809	0.0663	FALSE	FALSE	FALSE	0	Vacuolar h+ atpase b subunit
Naga_100114g2	tr|W7TR43|Naga_100114g2	0.355	0.559	0.655	FALSE	FALSE	FALSE	0	Photosystem II stability/assembly factor
Naga_100117g8	tr|W7TVJ9|Naga_100117g8	0.471	0.492	0.606	FALSE	FALSE	TRUE	2	2-oxoglutarate dehydrogenase e1 component
Naga_100118g22	tr|W7T749|Naga_100118g22	1.85	0.00936	0.0714	FALSE	FALSE	FALSE	0	Bacterioferritin comigratory protein

Naga_100119g3	tr|W7TQ47|Naga_100119g3	-0.428	0.699	0.771	FALSE	FALSE	TRUE	3	Fructose-bisphosphate aldolase
Naga_100120g1	tr|W7TPV3|Naga_100120g1	2.1	0.0138	0.0852	FALSE	FALSE	TRUE	1	Cell division protein
Naga_100122g10	tr|W7TFU2|Naga_100122g10	0.667	0.324	0.449	FALSE	FALSE	FALSE	0	Chaperonin
Naga_100124g18	tr|W7TU78|Naga_100124g18	2.14	0.0791	0.199	FALSE	FALSE	TRUE	1	Phosphoribosylpyrophosphate synthetase
Naga_100129g1	tr|W7UCU5|Naga_100129g1	2.05	0.0094	0.0714	FALSE	FALSE	FALSE	0	Poly binding protein 8
Naga_100145g17	tr|W7TJJ6|Naga_100145g17	1.98	0.0148	0.0869	FALSE	FALSE	TRUE	4	Proliferating cell nuclear antigen
Naga_100149g4	tr|W7U4E6|Naga_100149g4	2.56	0.0614	0.171	FALSE	FALSE	TRUE	3	Abc transporter g family member 7
Naga_100162g1	tr|W7TI24|Naga_100162g1	1.13	0.247	0.385	FALSE	FALSE	TRUE	1	Acidocalcisomal pyrophosphatase
Naga_100164g14	tr|W7TIS3|Naga_100164g14	1.88	0.152	0.277	FALSE	FALSE	TRUE	1	Peroxiredoxin 1
Naga_100171g15	tr|W7TC86|Naga_100171g15	-0.0216	0.983	0.987	FALSE	FALSE	TRUE	1	Protein transport protein sec61 subunit alpha

Naga_100171g8	tr|W7TWB2|Naga_100171g8	1.59	0.0568	0.169	FALSE	FALSE	FALSE	0	Chaperonin Cpn60/TCP-1
Naga_100175g2	tr|W7TED5|Naga_100175g2	1.25	0.206	0.336	FALSE	FALSE	TRUE	1	RNA binding protein
Naga_100186g2	tr|W7TXA7|Naga_100186g2	-1.45	0.321	0.447	FALSE	FALSE	TRUE	3	Nucleolar protein expressed
Naga_100186g6	tr|W7TXA2|Naga_100186g6	0.935	0.29	0.418	FALSE	FALSE	FALSE	0	Proteasome subunit beta type
Naga_100187g5	tr|W7TW63|Naga_100187g5	1.15	0.117	0.235	FALSE	FALSE	FALSE	0	Trimeric LpxA
Naga_100187g6	tr|W7TKZ3|Naga_100187g6	2.05	0.0146	0.0869	FALSE	FALSE	TRUE	3	The actin binding protein cofilin-like protein
Naga_100187g8	tr|W7TW67|Naga_100187g8	1.92	0.0318	0.118	FALSE	FALSE	FALSE	0	Transitional endoplasmic reticulum atpase
Naga_100189g5	tr|W7TSS0|Naga_100189g5	0.733	0.341	0.47	FALSE	FALSE	TRUE	2	Aspartate-semialdehyde dehydrogenase
Naga_100194g2	ANT70526.1	0.321	0.642	0.738	FALSE	FALSE	FALSE	0	zeaxanthin epoxidase 1
Naga_100207g6	tr|W7THD6|Naga_100207g6	-0.198	0.864	0.897	FALSE	FALSE	TRUE	2	Geranylgeranyl reductase

Naga_100208g4	tr|W7TPK9|Naga_100208g4	0.452	0.707	0.777	FALSE	FALSE	TRUE	2	Acetohydroxy acid isomeroreductase, catalytic
Naga_100210g4	tr|W7UBW7|Naga_100210g4	0.578	0.447	0.577	FALSE	FALSE	TRUE	3	Nadh dehydrogenase subunit 11
Naga_100228g7	tr|W7T0L9|Naga_100228g7	1.37	0.09	0.206	FALSE	FALSE	FALSE	0	RNA helicase,ATP-dependent, DEAD-box type
Naga_100244g5	tr|W7TNV1|Naga_100244g5	1.5	0.0331	0.121	FALSE	FALSE	FALSE	0	Uncharacterized protein
Naga_100257g1	tr|W7U445|Naga_100257g1	0.83	0.145	0.269	FALSE	FALSE	FALSE	0	Glyceraldehyde-3-phosphate dehydrogenase
Naga_100273g6	tr|W7TJZ9|Naga_100273g6	0.882	0.168	0.296	FALSE	FALSE	FALSE	0	Extrinsic protein in photosystem ii
Naga_100273g9	tr|W7TTD1|Naga_100273g9	-0.13	0.859	0.896	FALSE	FALSE	FALSE	0	Nucleoside diphosphate kinase
Naga_100298g8	tr|W7T5F4|Naga_100298g8	1.13	0.124	0.242	FALSE	FALSE	TRUE	2	T-complex protein 1 subunit alpha
Naga_100300g2	tr|W7T2V5|Naga_100300g2	1.68	0.0536	0.163	FALSE	FALSE	TRUE	1	Proteasome subunit alpha
Naga_100308g2	tr|W7TS11|Naga_100308g2	-0.637	0.274	0.406	FALSE	FALSE	FALSE	0	Ribosomal protein l5

Naga_100331g6	tr|W7T3A1|Naga_100331g6	-0.355	0.721	0.786	FALSE	FALSE	TRUE	2	Caltractin
Naga_100348g1	tr|W7TXQ4|Naga_100348g1	0.874	0.237	0.374	FALSE	FALSE	FALSE	0	Ribosomal protein S7, conserved site
Naga_100351g2	tr|W7UAH6|Naga_100351g2	0.361	0.696	0.771	FALSE	FALSE	TRUE	2	Glyoxalase domain-containing protein 4
Naga_100385g2	tr|W7TK08|Naga_100385g2	-0.417	0.468	0.592	FALSE	FALSE	FALSE	0	Acyl carrier protein
Naga_100385g5	tr|W7T0Z4|Naga_101026g1	1.37	0.136	0.257	FALSE	FALSE	TRUE	3	Hydrolase
Naga_100410g3	tr|W7TJY6|Naga_100410g3	0.618	0.276	0.406	FALSE	FALSE	FALSE	0	Phosphoglycerate kinase
Naga_100418g3	tr|W7TP04|Naga_100418g3	0.657	0.31	0.439	FALSE	FALSE	TRUE	4	Sumo-activating enzyme subunit 2
Naga_100419g4	tr|W7U2N9|Naga_100419g4	1.36	0.113	0.23	FALSE	FALSE	TRUE	2	Ornithine aminotransferase
Naga_100466g3	tr|W7TLR9|Naga_100466g3	2.34	0.0296	0.112	FALSE	FALSE	TRUE	2	Trifunctional enzyme subunit mitochondrial
Naga_100475g1	tr|W7TJS6|Naga_100475g1	2.05	0.123	0.24	FALSE	FALSE	TRUE	1	Uncharacterized protein

Naga_100529g1	tr|W7TQA6|Naga_100529g1	0.93	0.17	0.297	FALSE	FALSE	FALSE	0	Fructokinase
Naga_100594g3	tr|W7TSZ8|Naga_100594g3	0.218	0.893	0.919	FALSE	FALSE	TRUE	1	Branched-chain alpha-keto acid dehydrogenase subunit e2
Naga_100638g4	tr|W7T973|Naga_100638g4	0.665	0.525	0.633	FALSE	FALSE	TRUE	1	40s ribosomal protein s13
Naga_100638g4.1	tr|W7T8M4|Naga_100430g3	1.02	0.1	0.213	FALSE	FALSE	FALSE	0	Translationally controlled tumor protein
Naga_100641g3	tr|K8YQ29|NGA_0635410	0.685	0.27	0.406	FALSE	FALSE	FALSE	0	H+-transporting ATPase
Naga_100641g3 .1	tr|W7T8I0|Naga_100641g3	0.241	0.66	0.748	FALSE	FALSE	FALSE	0	Light-harvesting protein
Naga_100665g2	gi|553194809|ref|XP_005856032.1|	0.362	0.655	0.746	FALSE	FALSE	TRUE	2	coproporphyrinogen III oxidase
Naga_100710g1	tr|W7TQV0|Naga_100710g1	2.3	0.274	0.406	FALSE	FALSE	TRUE	1	Elongation factor tu
Naga_100855g2	tr|W7TN59|Naga_100855g2	1.94	0.0165	0.087	FALSE	FALSE	FALSE	0	Malate dehydrogenase

Naga_100881g1	tr|W7TMV0|Naga_100881g1	1.4	0.049	0.161	FALSE	FALSE	FALSE	0	Heat shock protein 101
Naga_100928g1	tr|W7TQR4|Naga_100928g1	2.87	0.00753	0.0663	FALSE	FALSE	FALSE	0	Atp-dependent rna helicase uap56
Naga_100967g1	tr|W7TSC3|Naga_100967g1	0.534	0.344	0.47	FALSE	FALSE	FALSE	0	Beta-ig-h3 fasciclin
Naga_101137g1	tr|W7UCV3|Naga_101137g1	-0.0808	0.943	0.96	FALSE	FALSE	TRUE	1	Polyadenylate-binding protein
Naga_101273g1	tr|W7THF6|Naga_101273g1	1.29	0.271	0.406	FALSE	FALSE	TRUE	1	3-isopropylmalate dehydrogenase
Naga_102104g1	tr|W7T7S0|Naga_100245g2	1.06	0.0847	0.206	FALSE	FALSE	FALSE	0	Nucleotide-binding, alpha-beta plait
Naga_102104g1 .1	tr|W7T7X5|Naga_102104g1	1.24	0.163	0.292	FALSE	FALSE	TRUE	4	Soluble pyridine nucleotide transhydrogenase
NAG-PR	tr|W7TID0|NAG-PR	0.337	0.727	0.79	FALSE	FALSE	TRUE	1	N-acetyl-gamma-glutamyl-phosphate reductase
nd9	tr|K9ZXV6|nd9	0.957	0.116	0.235	FALSE	FALSE	FALSE	0	NADH dehydrogenase subunit 9

NGA_0045802	tr|K8Z8Q4|NGA_004580 02	1.92	0.0118	0.0812	FALSE	FALSE	FALSE	0	Chaperonin 10
NGA_0094200	tr|K8YQS9|NGA_009420 0	-1.3	0.0496	0.161	FALSE	FALSE	FALSE	0	4-nitrophenyl phosphatase
NGA_0096400	tr|K8YQP9|NGA_009640 0	-2.25	0.00494	0.0503	FALSE	FALSE	TRUE	2	Nad-dependent epimerase dehydratase
NGA_0130510	tr|K8YT62|NGA_013051 0	1.83	0.073	0.187	FALSE	FALSE	TRUE	2	Carrier protein
NGA_0189801	tr|K8YTS8|NGA_018980 1	0.16	0.772	0.83	FALSE	FALSE	FALSE	0	Light-harvesting protein
NGA_0190001	tr|K8YWQ7|NGA_019000 1	-0.735	0.531	0.634	FALSE	FALSE	TRUE	1	Uncharacterized protein
NGA_0271420	tr|K8YVV3|NGA_027142 0	2.13	0.0207	0.0951	FALSE	FALSE	TRUE	2	Uncharacterized protein
NGA_0366400	tr|K8YRV9|NGA_036640 0	-0.739	0.207	0.336	FALSE	FALSE	FALSE	0	Light-harvesting protein
NGA_0391400	gi|585100011|gb|EWM20418.1|	0.536	0.389	0.512	FALSE	FALSE	FALSE	0	oxidoreductase
NGA_0448400	tr|K8Z7F5|NGA_044840 0	2.49	0.178	0.303	FALSE	FALSE	TRUE	3	Soul heme-binding protein

NGA_0504200	tr|K8YVY4|NGA_050420 00	1.5	0.0275	0.108	FALSE	FALSE	FALSE	0	Glycine-rich rna-binding protein 4
NGA_0599100	tr|K8YQB4|NGA_059910 00	1.15	0.175	0.303	FALSE	FALSE	TRUE	3	H+-transporting ATPase
NGA_0612301	tr|K8YZ78|NGA_061230 1	1.98	0.0165	0.087	FALSE	FALSE	FALSE	0	Mitochondrial protein translocase family
NGA_0699400	tr|K8YWB4 |NGA_0699 400	1.17	0.137	0.257	FALSE	FALSE	FALSE	0	Light harvesting complex protein
NGATSA_3001 900	tr|I2CQN8|NGATSA_30 01900	1.97	0.0787	0.199	FALSE	FALSE	TRUE	3	Eukaryotic translation initiation factor isoform 1
NGATSA_3003 100	tr|I2CQP8|NGATSA_30 03100	2.21	0.0518	0.163	FALSE	FALSE	TRUE	1	Glycine dehydrogenase
NGATSA_3003 200 .1	tr|I2CQQ0|NGATSA_30 03200	2.46	0.0944	0.206	FALSE	FALSE	FALSE	0	Uncharacterized protein
NGATSA_3004 500	tr|I2CQR0|NGATSA_30 04500	0.00948	0.987	0.987	FALSE	FALSE	FALSE	0	Glutamate-1-semialdehyde aminotransferase/glutamate-1-semialdehyde 21-aminomutase

NGATSA_3016900	tr|I2CR44|NGATSA_3016900	-0.813	0.291	0.418	FALSE	FALSE	FALSE	0	Uncharacterized protein
NGATSA_3021000	tr|I2CP43|NGATSA_3021000	1.37	0.155	0.28	FALSE	FALSE	TRUE	4	T-complex protein 1 subunit beta
NGATSA_3026900	gi|585105860|gb|EWM24426.1|	1.84	0.0172	0.087	FALSE	FALSE	FALSE	0	asf sf2-like pre-mrna splicing factor srp31
NGATSA_3041300	tr|I2CPH3|NGATSA_3041300	1.42	0.0408	0.139	FALSE	FALSE	FALSE	0	Large subunit ribosomal protein L8e
OsNAAT1	tr|W7TAZ1|OsNAAT1	1.68	0.0283	0.109	FALSE	FALSE	TRUE	3	Alanine-2-oxoglutarate aminotransferase 2
PAO2	tr|W7TRP5|PAO2	2.7	0.0229	0.102	FALSE	FALSE	TRUE	3	Pheophorbide a oxygenase
PDGH	tr|W7U408|PDGH	1.57	0.101	0.213	FALSE	FALSE	TRUE	1	Phosphoserine aminotransferase
PDH	tr|W7TYT3|PDH	-1.37	0.108	0.222	FALSE	FALSE	FALSE	0	Transketolase
Pdi3	tr|W7TES6|Pdi3	2.71	0.0368	0.13	FALSE	FALSE	TRUE	2	Protein disulfide isomerase
PDK1	tr|W7TC29|PDK1	1.07	0.272	0.406	FALSE	FALSE	TRUE	4	Signal transduction histidine kinase, core
PEFG	tr|W7THY0|PEFG	-1.81	0.146	0.269	FALSE	FALSE	TRUE	1	Elongation factor G, mitochondrial
petA	tr|T1RJB3|petA	0.419	0.478	0.596	FALSE	FALSE	FALSE	0	Apocytochrome f

petB	tr|K9ZX12|petB	0.971	0.147	0.27	FALSE	FALSE	FALSE	0	Cytochrome b6
PETC	tr|W7TXJ0|PETC	1.25	0.473	0.594	FALSE	FALSE	TRUE	2	Cytochrome b6-f complex iron-sulfur subunit
petF	tr|K9ZV85|petF	-0.246	0.798	0.853	FALSE	FALSE	FALSE	0	Ferredoxin
PETH	tr|K8YXT7|PETH	0.0372	0.955	0.966	FALSE	FALSE	FALSE	0	Ferredoxin--NADP+ reductase
petJ	tr|T1RJX4|petJ	0.104	0.847	0.893	FALSE	FALSE	FALSE	0	Cytochrome c6
PPX	tr|W7TSK2|PPX	0.603	0.275	0.406	FALSE	FALSE	FALSE	0	Protoporphyrinogen oxidase
PRK	tr|W7TMN7|PRK	0.465	0.533	0.634	FALSE	FALSE	FALSE	0	Phosphoribulokinase
psaB	tr|T1RJ53|psaB	0.877	0.159	0.286	FALSE	FALSE	FALSE	0	Photosystem I P700 chlorophyll a apoprotein A2
psaC	tr|T1RJY1|psaC	-1.03	0.165	0.294	FALSE	FALSE	FALSE	0	Photosystem I iron-sulfur center
psaD	tr|T1RJN5|psaD	0.683	0.37	0.493	FALSE	FALSE	FALSE	0	Photosystem I reaction center subunit II
psaE	tr|T1RJ36|psaE	1.58	0.033	0.121	FALSE	FALSE	FALSE	0	Photosystem I reaction center subunit IV
psaF	tr|T1RIP4|psaF	0.522	0.376	0.5	FALSE	FALSE	FALSE	0	Photosystem I subunit III

psaL	tr|T1RJZ1|psaL	0.76	0.185	0.313	FALSE	FALSE	FALSE	0	Photosystem I reaction center subunit XI
psbA	tr|T1RJV8|psbA	0.432	0.479	0.596	FALSE	FALSE	FALSE	0	Photosystem II protein D1
psbB	tr|T1RJL7|psbB	1.09	0.101	0.213	FALSE	FALSE	FALSE	0	Photosystem II CP47 reaction center protein
psbC	tr|T1RJG1|psbC	0.131	0.829	0.881	FALSE	FALSE	FALSE	0	Photosystem II CP43 reaction center protein
psbD	tr|T1RIM2|psbD	-0.273	0.656	0.746	FALSE	FALSE	FALSE	0	Photosystem II D2 protein
psbE	tr|T1RHR2|psbE	-1.37	0.12	0.239	FALSE	FALSE	FALSE	0	Cytochrome b559 subunit alpha
psbO	tr|W7TVN8|psbO	-0.293	0.583	0.68	FALSE	FALSE	FALSE	0	Oxygen-evolving enhancer protein
psbV	tr|T1RJ27|psbV	0.0983	0.859	0.896	FALSE	FALSE	FALSE	0	Cytochrome c-550
PYK	tr|W7TRP2|PYK	1.42	0.0586	0.169	FALSE	FALSE	FALSE	0	Pyruvate kinase
Rab1B	tr|W7TST3|Rab1B	1.87	0.0947	0.206	FALSE	FALSE	TRUE	1	Rab family gtpase
rbcL	tr|T1RJ90|rbcL	-0.626	0.294	0.42	FALSE	FALSE	FALSE	0	Ribulose bisphosphate carboxylase large chain
rbcS	tr|A0A023PMA5|rbcS	-0.114	0.854	0.896	FALSE	FALSE	FALSE	0	Ribulose bisphosphate

									carboxlyase small chain
RPE	tr|W7TD18|RPE	1.64	0.0251	0.105	FALSE	FALSE	FALSE	0	Ribulose-phosphate 3-epimerase
RPIA	tr|K8Z9G7|RPIA	0.619	0.334	0.462	FALSE	FALSE	FALSE	0	Ribose 5-phosphate isomerase A
rpl12	tr|T1RJ33|rpl12	-1.86	0.031	0.116	FALSE	FALSE	TRUE	1	50S ribosomal protein L12, chloroplastic
RP-L6E	tr|K8YU30|HADH	1.88	0.0977	0.209	FALSE	FALSE	TRUE	4	3-hydroxyacyl-CoA dehydrogenase
RP-L6E.1	tr|K8YU91|ACSS	-0.548	0.551	0.652	FALSE	FALSE	TRUE	1	Acetyl-coenzyme A synthetase
rps13	tr|T1RJU6|rps13	-1.52	0.0922	0.206	FALSE	FALSE	TRUE	3	30S ribosomal protein S13, chloroplastic
RP-S2E	tr|K8Z375|RP-S2E	1.04	0.0788	0.199	FALSE	FALSE	FALSE	0	Small subunit ribosomal protein S2e
RP-S9E	tr|K8Z8Z7|RP-S9E	1.4	0.173	0.301	FALSE	FALSE	TRUE	1	Small subunit ribosomal protein S9e
SBP	tr|W7TFY2|SBP	0.106	0.945	0.96	FALSE	FALSE	TRUE	1	Chloroplast sedoheptulose--bisphosphatase
SEC11	tr|K8ZB45|SEC11	1.81	0.0535	0.163	FALSE	FALSE	TRUE	3	Signal peptidase I
SHMT2.1	tr|W7U077|SHMT2	1.21	0.0885	0.206	FALSE	FALSE	FALSE	0	Serine hydroxymethyltransferase

Snu114	tr|W7TM02|Snu114	0.796	0.346	0.47	FALSE	FALSE	TRUE	2	Small nuclear ribonucleoprotein component
SNU13	tr|K8YVC8|SNU13	1.3	0.122	0.24	FALSE	FALSE	TRUE	3	U4/U6 small nuclear ribonucleoprotein SNU13
tufA	tr|T1RJ79|tufA	0.479	0.466	0.592	FALSE	FALSE	FALSE	0	Elongation factor Tu, chloroplastic
UGD	AQR53217.1	1.78	0.0136	0.0852	FALSE	FALSE	FALSE	0	UDP-glucose 6-dehydrogenase
VDAC	tr|W7U0F0|VDAC	1.2	0.0654	0.177	FALSE	FALSE	FALSE	0	Voltage-dependent anion-selective channel
XBP3	tr|W7TP29|XBP3	0.0151	0.987	0.987	FALSE	FALSE	TRUE	2	Fructose--bisphosphatase

Supplementary Table S4.2: LFQ analyst results for M1 mutant *Nannochloropsis oculata* Day 2 vs Day 12 samples

Gene Name	Protein IDs	M1Day12_vs_M1Day2_log2 fold change	M1Day12_vs_M1Day2_p.val	M1Day12_vs_M1Day2_p.adj	significant	M1Day12_vs_M1Day2_significant	imputed	num_NAs	Protein names
AFB75402.1	AFB75402.1	5.15	0.000467	0.0438	TRUE	TRUE	TRUE	1	lipid droplet surface protein
DKC1, Naga_100028g51	tr|K8Z676|DKC1	4.31	0.00086	0.0438	TRUE	TRUE	TRUE	3	H/ACA ribonucleoprotein complex subunit 4
gi|585102433|gb|EWM22023.1|	gi|585102433|gb|EWM22023.1|	5.2	0.000159	0.0311	TRUE	TRUE	TRUE	2	heat shock protein 101
HADH, Naga_100113g7	tr|K8YU30|HADH	4.62	0.000406	0.0438	TRUE	TRUE	TRUE	3	3-hydroxyacyl-CoA dehydrogenase
Naga_100013g52	tr|W7UCJ8|Naga_100013g52	4.87	0.000992	0.0438	TRUE	TRUE	TRUE	2	Fatty acid desaturase type 2
Naga_100033g36	tr|W7TWV9|Naga_100033g36	4.95	0.000677	0.0438	TRUE	TRUE	TRUE	2	Peptidyl-prolyl cis-trans isomerase
Naga_100034g25	tr|W7U446|Naga_100034g25	4.23	0.000664	0.0438	TRUE	TRUE	TRUE	3	Voltage-dependent anion-selective channel protein 2

Naga_100040g37	tr|W7TUN8|Naga_100040g37	5.7	3.78E-05	0.0148	TRUE	TRUE	FALSE	0	Rieske (2fe-2s) region protein
PRX2	tr|W7TZN7|PRX2	4.14	0.00101	0.0438	TRUE	TRUE	TRUE	3	Thioredoxin-dependent peroxide reductase
AAB94637.1	AAB94637.1	1.48	0.18	0.324	FALSE	FALSE	FALSE	0	violaxanthin/chlorophyll a binding protein precursor
AAT	tr|W7U3D6|AAT	1.53	0.201	0.344	FALSE	FALSE	TRUE	1	Aspartate aminotransferase
ACSS, Naga_100028g54, Naga_100405g2, Naga_100405g2, NGATSA_3002000	tr|K8YU91|ACSS	1.05	0.343	0.473	FALSE	FALSE	TRUE	1	Acetyl-coenzyme A synthetase
AFJ69311.1	AFJ69311.1	2.51	0.0863	0.242	FALSE	FALSE	TRUE	1	2-O-methyltransferase fibrillarin
AIU44072.1	AIU44072.1	3.3	0.00796	0.103	FALSE	FALSE	TRUE	3	methylmalonyl CoA mutase
Arf1	tr|W7TL63|Arf1	0.392	0.702	0.758	FALSE	FALSE	FALSE	0	Adp-ribosylation factor

ASS	tr|W7U626|ASS	2.92	0.0556	0.213	FALSE	FALSE	TRUE	1	Argininosuccinate synthase
atp1	tr|T1R8F9|atp1	1.36	0.203	0.347	FALSE	FALSE	FALSE	0	ATP synthase subunit alpha
ATP1	tr|W7TTR4|ATP1	1.05	0.326	0.458	FALSE	FALSE	TRUE	4	p-type atpase
atp8	tr|T1R7J2|atp8	2.6	0.0664	0.222	FALSE	FALSE	TRUE	1	ATP synthase F0 subunit 8
atpA	tr|T1RIM9|atpA	0.792	0.433	0.549	FALSE	FALSE	FALSE	0	ATP synthase subunit alpha, chloroplastic
atpB	tr|T1RHE4|atpB	0.972	0.344	0.474	FALSE	FALSE	FALSE	0	ATP synthase subunit beta, chloroplastic
atpD	tr|T1RJB4|atpD	1.23	0.227	0.369	FALSE	FALSE	FALSE	0	ATP synthase CF1 delta chain
atpE	tr|T1RJM9|atpE	1.29	0.215	0.36	FALSE	FALSE	FALSE	0	ATP synthase epsilon chain, chloroplastic
ATPEF1O, Naga_100066g9	tr|K8YVX1|ATPEF1O	2.11	0.0718	0.224	FALSE	FALSE	FALSE	0	F-type H+-transporting ATPase oligomycin sensitivity conferral protein
atpF	tr|T1RIU1|atpF	0.648	0.522	0.63	FALSE	FALSE	FALSE	0	CF0 subunit I of ATP synthase
atpG	tr|T1RIS0|atpG	1.32	0.264	0.406	FALSE	FALSE	FALSE	0	F0F1 ATP synthase subunit B

ATS	tr|W7TEH2|ATS	0.774	0.5	0.613	FALSE	FALSE	FALSE	0	Sulfate adenylyltransferase
CAT	tr|W7T2K9|CAT	3.14	0.0148	0.122	FALSE	FALSE	TRUE	2	Catalase
cbbX	tr|W7TPW8|cbbX	2.53	0.0703	0.224	FALSE	FALSE	FALSE	0	Rubisco expression protein
cbbX.1	tr|T1RJ59|cbbX	1.25	0.243	0.384	FALSE	FALSE	FALSE	0	Putative rubisco expression protein
chlI	tr|T1RJ86|chlI	0.851	0.573	0.68	FALSE	FALSE	TRUE	1	Magnesium chelatase subunit
clpC-I	tr|T1RJA6|clpC-I	1.26	0.237	0.377	FALSE	FALSE	FALSE	0	ATP-dependent Clp protease ATPase subunit
clpC-II	tr|T1RJR9|clpC-II	2.01	0.0787	0.234	FALSE	FALSE	TRUE	2	ATP-dependent Clp protease
clpC-II, clpC	tr|T1RJA1|clpC-II	2.16	0.106	0.274	FALSE	FALSE	TRUE	1	ATP-dependent Clp protease
clpP	tr|W7TMY3|clpP	1.18	0.253	0.395	FALSE	FALSE	FALSE	0	ATP-dependent Clp protease proteolytic subunit
cox2	tr|T1R854|cox2	2.36	0.0744	0.228	FALSE	FALSE	TRUE	1	Cytochrome c oxidase subunit 2

CPS	tr|W7U5E4|CPS	3.06	0.0161	0.127	FALSE	FALSE	FALSE	0	Carbamoyl-phosphate synthase
CYN	tr|W7TQJ8|CYN	2.88	0.00931	0.107	FALSE	FALSE	FALSE	0	Peptidyl-prolyl cis-trans isomerase
dbj	gi|224809175|dbj|BAH28795.1|	1.01	0.319	0.453	FALSE	FALSE	FALSE	0	glyceraldehyde-3-phosphate dehydrogenase
dnaK	tr|T1RHM8|dnaK	0.811	0.424	0.543	FALSE	FALSE	FALSE	0	Chaperone protein DnaK
EF2	tr|W7UBY1|EF2	0.654	0.563	0.67	FALSE	FALSE	FALSE	0	Elongation factor 2
FBA1	tr|W7TFC8|FBA1	1.13	0.3	0.446	FALSE	FALSE	FALSE	0	Fructose-bisphosphate aldolase
FBP	tr|W7SYZ9|FBP	0.992	0.339	0.471	FALSE	FALSE	FALSE	0	Fructose--bisphosphatase
FBP.1	tr|W7TEP4|FBP	2.41	0.0577	0.213	FALSE	FALSE	TRUE	1	Fructose--bisphosphatase
ftsH	tr|T1RHJ1|ftsH	1.27	0.253	0.395	FALSE	FALSE	FALSE	0	ATP-dependent zinc metalloprotease FtsH
GapC1	tr|W7T2R0|GapC1	1.54	0.228	0.369	FALSE	FALSE	FALSE	0	Glyceraldehyde-3-phosphate dehydrogenase
GCSL	tr|W7U9J4|GCSL	4.01	0.00363	0.0933	FALSE	FALSE	TRUE	2	Dihydrolipoyl dehydrogenase

GDH1	tr|W7TAN4|GDH1	3.65	0.00455	0.0939	FALSE	FALSE	TRUE	3	Glutamate dehydrogenase
gi|553175936|ref|XP_005852345.1|	gi|553175936|ref|XP_005852345.1|	1.07	0.311	0.453	FALSE	FALSE	FALSE	0	actin beta/gamma 1
gi|578896498|gb|AHI17199.1|	gi|578896498|gb|AHI17199.1|	2.29	0.0413	0.199	FALSE	FALSE	FALSE	0	acetyl-CoA carboxylase
gi|585099093|gb|EWM19969.1|	gi|585099093|gb|EWM19969.1|	2.04	0.153	0.305	FALSE	FALSE	TRUE	1	helicase at 25e
gi|585111458|gb|EWM28970.1|	gi|585111458|gb|EWM28970.1|	2.9	0.0104	0.112	FALSE	FALSE	TRUE	1	pyruvate dehydrogenase
GLMS, Naga_100246g4	tr|K8YQF5|GLMS	2.93	0.0149	0.122	FALSE	FALSE	TRUE	2	Glucosamine--fructose-6-phosphate aminotransferase (Isomerizing)
GOX	tr|W7UBQ6|GOX	2.59	0.0286	0.163	FALSE	FALSE	FALSE	0	Peroxisomal glycolate oxidase
groEL	tr|A0A023PLN1|groEL	0.104	0.926	0.953	FALSE	FALSE	TRUE	3	chaperonin, chloroplastic
GSR	tr|W7U997|GSR	2.53	0.046	0.202	FALSE	FALSE	TRUE	4	Glutathione reductase
GST	tr|W7TMQ1|GST	2.03	0.0931	0.249	FALSE	FALSE	TRUE	1	Glutathione s-transferase
HDAC1_2, Naga_100270g5	tr|K8YR89|HDAC1_2	0.397	0.693	0.756	FALSE	FALSE	TRUE	4	Histone deacetylase

hemB	tr|W7TUE6|hemB	1.31	0.225	0.369	FALSE	FALSE	FALSE	0	Delta-aminolevulinic acid dehydratase
HSDH	tr|W7TUB9|HSDH	2.13	0.0525	0.209	FALSE	FALSE	FALSE	0	Homoserine dehydrogenase
Hsp	tr|W7TS47|Hsp	2.06	0.128	0.282	FALSE	FALSE	TRUE	1	Heat shock protein hsp90
HSP	tr|W7T7N9|HSP	0.428	0.699	0.757	FALSE	FALSE	FALSE	0	Luminal binding protein
Hsp.1	tr|W7TNF9|Hsp	0.496	0.673	0.749	FALSE	FALSE	FALSE	0	Heat shock protein 90
HSP1	tr|W7TLX6|HSP1	1.2	0.322	0.455	FALSE	FALSE	TRUE	1	Heat shock protein 90
ilvB	tr|T1RI34|ilvB	0.816	0.476	0.591	FALSE	FALSE	TRUE	4	Acetolactate synthase large subunit
inorganic, emb, Naga_100030g25	tr|W7TN19|inorganic	2.85	0.113	0.278	FALSE	FALSE	TRUE	1	H+-translocating pyrophosphatase family
LACS	tr|G9BBC7|LACS	1.42	0.177	0.324	FALSE	FALSE	FALSE	0	Long-chain acyl-coenzyme A synthetase
LHC26	tr|W7UAI7|LHC26	0.961	0.372	0.501	FALSE	FALSE	FALSE	0	Light-harvesting protein
LHCA1	tr|W7T8I0|Naga_100641g3	1.03	0.299	0.446	FALSE	FALSE	FALSE	0	Light-harvesting protein
LHCP28	tr|W7TZB5|LHCP28	0.494	0.662	0.741	FALSE	FALSE	FALSE	0	Light-harvesting protein

LHCP5	tr|W7TCK1|LHCP5	2.47	0.0231	0.148	FALSE	FALSE	FALSE	0	Chloroplast light harvesting protein isoform 4
Lhcv3	tr|W7TRI0|Lhcv3	1.32	0.2	0.344	FALSE	FALSE	FALSE	0	Light-harvesting protein
MCAT	tr|S5VRZ9|MCAT	0.934	0.373	0.501	FALSE	FALSE	FALSE	0	Malonyl-:acp transacylase
nad11	tr|A0A023PJZ1|nad11	3.25	0.0114	0.112	FALSE	FALSE	TRUE	1	NADH dehydrogenase subunit 11
nad7	tr|A0A023PL86|nad7	2.3	0.0615	0.22	FALSE	FALSE	TRUE	1	NADH dehydrogenase subunit 7
nad9	tr|T1R893|nad9	2.42	0.0319	0.171	FALSE	FALSE	TRUE	1	NADH dehydrogenase subunit 9
Naga_100001g128	tr|W7TKJ5|Naga_100001g128	0.528	0.636	0.721	FALSE	FALSE	FALSE	0	Transketolase
Naga_100001g147	tr|W7TKL4|Naga_100001g147	1.81	0.127	0.282	FALSE	FALSE	FALSE	0	Cytochrome c oxidase subunit vb
Naga_100001g183	tr|W7U1D3|Naga_100001g183	2.43	0.0618	0.22	FALSE	FALSE	TRUE	2	Protein arginine serine-rich 45
Naga_100001g189	tr|W7U259|Naga_100001g189	2.36	0.0309	0.168	FALSE	FALSE	FALSE	0	Nucleoside diphosphate kinase

Naga_100001g208	tr|W7U229|Naga_100001g208	1.95	0.0808	0.235	FALSE	FALSE	TRUE	4	Peptidyl-prolyl cis-trans isomerase
Naga_100001g41	tr|W7U263|Naga_100001g41	1.62	0.169	0.312	FALSE	FALSE	FALSE	0	Heat shock protein 70
Naga_100001g58	tr|W7U208|Naga_100001g58	3.14	0.0295	0.163	FALSE	FALSE	TRUE	1	Glyceraldehyde-3-phosphate dehydrogenase
Naga_100002g111	tr|W7U788|Naga_100002g111	1.59	0.12	0.281	FALSE	FALSE	FALSE	0	Mitochondrial trna import complex
Naga_100002g147	tr|W7TNH0|Naga_100002g147	-0.442	0.779	0.837	FALSE	FALSE	TRUE	3	Pyruvate carboxylase
Naga_100002g172	tr|W7TNX9|Naga_100002g172	3.52	0.0263	0.159	FALSE	FALSE	TRUE	1	Acyl-dehydrogenase
Naga_100002g173	tr|W7TRD5|Naga_100002g173	1.89	0.0707	0.224	FALSE	FALSE	FALSE	0	3-oxoacyl-[acyl-carrier-protein] synthase
Naga_100002g55	tr|W7TYV8|Naga_100002g55	1.86	0.126	0.282	FALSE	FALSE	TRUE	1	Vacuolar (H+)-ATPase G subunit
Naga_100003g103	tr|W7UBF9|Naga_100003g103	2.15	0.0702	0.224	FALSE	FALSE	FALSE	0	Vacuolar h+-atpase a subunit
Naga_100003g126	tr|W7TSL6|Naga_100003g126	-0.639	0.678	0.751	FALSE	FALSE	TRUE	3	60s ribosomal protein l13a

Naga_100003g133	tr|W7UBV8|Naga_100003g133	1.89	0.133	0.286	FALSE	FALSE	TRUE	1	Inosine-5-monophosphate dehydrogenase
Naga_100003g157	tr|W7TVY6|Naga_100003g157	3.22	0.00781	0.103	FALSE	FALSE	FALSE	0	Glucose-6-phosphate isomerase
Naga_100003g173	tr|W7U360|Naga_100003g173	1.63	0.161	0.312	FALSE	FALSE	FALSE	0	Atp-dependent metalloprotease
Naga_100003g177	tr|W7TVZ5|Naga_100003g177	2.55	0.0686	0.224	FALSE	FALSE	TRUE	1	Heat shock protein 70
Naga_100003g62	tr|W7TSQ3|Naga_100003g62	1.25	0.227	0.369	FALSE	FALSE	TRUE	4	Fumarate hydratase
Naga_100003g67	tr|W7TSY3|Naga_100003g67	3.15	0.012	0.112	FALSE	FALSE	FALSE	0	Aconitate mitochondrial
Naga_100003g69	tr|W7UC18|Naga_100003g69	2.78	0.0209	0.147	FALSE	FALSE	TRUE	2	Phosphoribosylformylglycinamidine synthase
Naga_100003g83	tr|W7UC09|Naga_100003g83	1.2	0.266	0.407	FALSE	FALSE	FALSE	0	Porphobilinogen deaminase
Naga_100004g111	tr|W7U649|Naga_100004g111	1.33	0.214	0.36	FALSE	FALSE	FALSE	0	Thioredoxin f
Naga_100004g135	tr|W7TM71|Naga_100004g135	1.85	0.124	0.282	FALSE	FALSE	TRUE	3	Ferredoxin

Naga_100004g79	tr|W7TQ45|Naga_100004g79	1.51	0.195	0.336	FALSE	FALSE	TRUE	4	Glutaredoxin 2
Naga_100005g139	tr|W7THB6|Naga_100005g139	1.96	0.0804	0.235	FALSE	FALSE	TRUE	4	Vacuolar transporter chaperone 4
Naga_100005g25	tr|W7TYA6|Naga_100005g25	3.2	0.0291	0.163	FALSE	FALSE	TRUE	1	Photosystem ii 11 kd protein
Naga_100005g46	tr|W7TEP7|Naga_100005g46	1.17	0.278	0.42	FALSE	FALSE	FALSE	0	Histone h2b
Naga_100005g52	tr|W7TPN7|Naga_100005g52	1.06	0.317	0.453	FALSE	FALSE	FALSE	0	Adp atp
Naga_100005g68	tr|W7TYC1|Naga_100005g68	1.27	0.219	0.366	FALSE	FALSE	FALSE	0	Short-chain dehydrogenase reductase acting with nad or nadp as acceptor
Naga_100005g83	tr|W7TXT5|Naga_100005g83	2.15	0.0635	0.221	FALSE	FALSE	TRUE	1	ATP-dependent Clp protease proteolytic subunit
Naga_100006g57	tr|W7TTR6|Naga_100006g57	-0.482	0.643	0.727	FALSE	FALSE	TRUE	2	Dnaj-like sec63
Naga_100006g64	tr|W7U194|Naga_100006g64	1.53	0.164	0.312	FALSE	FALSE	FALSE	0	Delta-1-pyrroline-5-

									carboxylate synthetase
Naga_100006g89, HTPG	tr|W7U9H6|Naga_100006g89	1.13	0.314	0.453	FALSE	FALSE	FALSE	0	Heat shock protein 90
Naga_100006g94	gi|553191250|ref|XP_005855348.1|	1.48	0.157	0.31	FALSE	FALSE	TRUE	3	spermidine synthase
Naga_100007g107	tr|W7U882|Naga_100007g107	0.442	0.698	0.757	FALSE	FALSE	FALSE	0	Rna binding s1 domain protein
Naga_100007g70	tr|W7U8K2|Naga_100007g70	2.56	0.0484	0.205	FALSE	FALSE	FALSE	0	Clathrin heavy chain
Naga_100008g4	tr|W7TPQ0|Naga_100008g4	2.78	0.0509	0.208	FALSE	FALSE	TRUE	1	Atp synthase gamma
Naga_100009g12	tr|W7TN92|Naga_100009g12	3.42	0.00405	0.0933	FALSE	FALSE	TRUE	2	6-phosphogluconate dehydrogenase, decarboxylating
Naga_100009g3	tr|W7TYG7|Naga_100009g3	-1.02	0.455	0.572	FALSE	FALSE	TRUE	3	Beta-tubulin
Naga_100009g63	tr|W7U6Y6|Naga_100009g63	0.248	0.802	0.852	FALSE	FALSE	FALSE	0	Eukaryotic translation initiation factor 5A

Naga_100009g67	tr|W7TR29|Naga_100009g67	2	0.0846	0.239	FALSE	FALSE	FALSE	0	Enolase
Naga_100009g84	tr|W7U6S0|Naga_100009g84	1.72	0.231	0.371	FALSE	FALSE	TRUE	1	60s acidic ribosomal protein p0
Naga_100010g11	gi|553190821|ref|XP_005855269.1|	1.88	0.12	0.281	FALSE	FALSE	TRUE	2	phosphoribosylaminoimidazolecarboxamide formyltransferase / IMP cyclohydrolase
Naga_100010g22	tr|W7TJF5|Naga_100010g22	0.855	0.399	0.525	FALSE	FALSE	FALSE	0	Nucleoredoxin
Naga_100010g75	tr|W7U3G1|Naga_100010g75	1.74	0.168	0.312	FALSE	FALSE	TRUE	3	Peptide methionine sulfoxide reductase b5
Naga_100010g85	tr|W7TMD6|Naga_100010g85	3.23	0.0162	0.127	FALSE	FALSE	TRUE	3	Mitochondrial phosphate transporter
Naga_100010g88	tr|W7U2S1|Naga_100010g88	0.251	0.819	0.865	FALSE	FALSE	FALSE	0	Ribosomal protein s16
Naga_100011g18	tr|W7T7M9|Naga_100011g18	1.83	0.139	0.293	FALSE	FALSE	TRUE	3	T-complex protein 1 subunit delta

Naga_100011g26	tr|W7TPX6|Naga_100011g26	2.36	0.0428	0.199	FALSE	FALSE	TRUE	1	Phosphoglycerate mutase
Naga_100011g29	tr|W7TG29|Naga_100011g29	2.66	0.028	0.163	FALSE	FALSE	TRUE	1	Tic22-like protein
Naga_100011g39	tr|W7TG62|Naga_100011g39	3.85	0.00609	0.103	FALSE	FALSE	TRUE	1	H-or na-translocating f-v-type and a-type atpase (F-atpase) superfamily
Naga_100012g22	gi|553183167|ref|XP_005853851.1|	1.68	0.138	0.293	FALSE	FALSE	TRUE	2	small nuclear ribonucleoprotein D1
Naga_100012g76	tr|W7TDH0|Naga_100012g76	1.92	0.183	0.327	FALSE	FALSE	TRUE	3	40s ribosomal protein
Naga_100013g72	tr|W7U3Y9|Naga_100013g72	3.3	0.00762	0.103	FALSE	FALSE	TRUE	2	Nicotinamide nucleotide transhydrogenase
Naga_100013g96, NGA_0373902	tr|W7UCP4|Naga_100013g96	2.54	0.0348	0.179	FALSE	FALSE	TRUE	2	Malate synthase a
Naga_100014g18, Naga_100014g18	tr|W7TRI5|Naga_100014g18	2.92	0.0447	0.199	FALSE	FALSE	TRUE	1	Phosphoglycerate kinase

Naga_100014g51	tr|W7U0I2|Naga_100014g51	0.528	0.631	0.719	FALSE	FALSE	FALSE	0	Ribosomal protein l12
Naga_100014g55	tr|W7TRK7|Naga_100014g55	2.4	0.0383	0.19	FALSE	FALSE	TRUE	3	Coatomer subunit alpha
Naga_100014g7	tr|W7TGE1|Naga_100014g7	-0.161	0.872	0.909	FALSE	FALSE	TRUE	1	Cupin 4 family protein
Naga_100015g11	tr|W7U4C6|Naga_100015g11	1.91	0.0897	0.246	FALSE	FALSE	FALSE	0	Citrate synthase
Naga_100015g48	tr|W7U4G7|Naga_100015g48	0.0648	0.951	0.964	FALSE	FALSE	FALSE	0	60S ribosomal protein L18
Naga_100016g24	tr|W7TG91|Naga_100016g24	1.25	0.227	0.369	FALSE	FALSE	FALSE	0	ATP synthase subunit beta
Naga_100016g30	tr|I2CPE6|NGATSA_2003000	2.15	0.0656	0.222	FALSE	FALSE	TRUE	2	Uncharacterized protein
Naga_100016g46	tr|W7TXP8|Naga_100016g46	1.13	0.319	0.453	FALSE	FALSE	FALSE	0	40S ribosomal protein S8
Naga_100016g48	tr|W7TDQ4|Naga_100016g48	-1.46	0.286	0.429	FALSE	FALSE	TRUE	4	Calreticulin
Naga_100016g59	tr|W7TNT0|Naga_100016g59	1.5	0.146	0.299	FALSE	FALSE	FALSE	0	ATPase, F0 complex, subunit B, mitochondrial

Naga_100016g72	tr|W7TXQ6|Naga_100016g72	2.73	0.0199	0.146	FALSE	FALSE	FALSE	0	Peptidyl-prolyl cis-trans isomerase
Naga_100017g18	tr|W7U1W1|Naga_100017g18	1.84	0.19	0.333	FALSE	FALSE	TRUE	1	60s ribosomal protein l11
Naga_100017g20	tr|W7U1X5|Naga_100017g20	2.01	0.121	0.281	FALSE	FALSE	TRUE	1	Transaldolase
Naga_100017g24	tr|W7U1V7|Naga_100017g24	0.0457	0.974	0.978	FALSE	FALSE	TRUE	3	Stress-inducible protein sti1
Naga_100017g36	tr|W7UAJ2|Naga_100017g36	-0.578	0.676	0.75	FALSE	FALSE	TRUE	2	Small GTP-binding protein domain protein
Naga_100019g53	tr|W7T4L1|Naga_100019g53	1.04	0.303	0.446	FALSE	FALSE	FALSE	0	Histone H2A
Naga_100019g59	tr|W7TM34|Naga_100019g59	0.635	0.583	0.688	FALSE	FALSE	TRUE	2	Hypersensitive-induced response protein
Naga_100019g64	tr|W7T3J7|Naga_100019g64	0.638	0.554	0.662	FALSE	FALSE	FALSE	0	Elongation factor 1-alpha
Naga_100020g11	tr|W7TLA3|Naga_100020g11	1.28	0.228	0.369	FALSE	FALSE	FALSE	0	Prohibitin
Naga_100020g47	tr|W7TD69|Naga_100020g47	1.55	0.142	0.295	FALSE	FALSE	FALSE	0	Myo-inositol 2-dehydrogenase

Naga_100020g62	tr|W7TD66|Naga_100020g62	3.74	0.00279	0.0913	FALSE	FALSE	TRUE	4	Peptidyl-prolyl cis-trans isomerase
Naga_100020g64	tr|W7TUE3|Naga_100020g64	3.13	0.0111	0.112	FALSE	FALSE	TRUE	3	Urease accessory protein ureg
Naga_100021g54	tr|W7TZI5|Naga_100021g54	0.291	0.79	0.842	FALSE	FALSE	TRUE	3	Armadillo-like helical
Naga_100021g68	tr|W7TI88|Naga_100021g68	3.16	0.00869	0.103	FALSE	FALSE	TRUE	3	Phosphoadenosine phosphosulfate reductase
Naga_100021g70	tr|W7TFK4|Naga_100021g70	0.885	0.54	0.647	FALSE	FALSE	TRUE	1	Alpha tubulin 1
Naga_100021g72	tr|W7TYX5|Naga_100021g72	4.47	0.00154	0.0571	FALSE	FALSE	TRUE	1	Glycine cleavage system regulatory protein
Naga_100022g39	tr|W7TUA2|Naga_100022g39	1.88	0.0903	0.246	FALSE	FALSE	FALSE	0	Enolase
Naga_100022g53	tr|W7U1U2|Naga_100022g53	2.35	0.0348	0.179	FALSE	FALSE	FALSE	0	Isocitrate dehydrogenase [NADP]
Naga_100023g44	tr|W7TQJ5|Naga_100023g44	1.6	0.114	0.279	FALSE	FALSE	TRUE	4	Chaperonin containing tcp1 theta subunit

Naga_100024g24, NGA_0404400	tr|W7U8G3|Naga_100024g24	1.67	0.132	0.286	FALSE	FALSE	FALSE	0	Atp-citrate synthase
Naga_100024g37, Naga_100024g37, Naga_100024g37	tr|W7U814|Naga_100024g37	1.69	0.145	0.299	FALSE	FALSE	TRUE	3	Succinate dehydrogenase flavoprotein subunit
Naga_100024g60	tr|W7TSA3|Naga_100024g60	0.6	0.61	0.71	FALSE	FALSE	TRUE	3	Rab11 family gtpase
Naga_100024g61	tr|W7TSC4|Naga_100024g61	0.855	0.451	0.568	FALSE	FALSE	TRUE	4	Inositol-3-phosphate synthase
Naga_100025g47	tr|W7U0R4|Naga_100025g47	0.63	0.536	0.644	FALSE	FALSE	FALSE	0	Ubiquitin ribosomal protein s27ae fusion protein
Naga_100026g22	tr|W7TW72|Naga_100026g22	0.651	0.595	0.698	FALSE	FALSE	TRUE	3	60s ribosomal protein l24
Naga_100026g40	tr|W7TWA9|Naga_100026g40	1.9	0.122	0.281	FALSE	FALSE	FALSE	0	14-3-3-like protein
Naga_100027g34	tr|W7TUK8|Naga_100027g34	0.867	0.468	0.584	FALSE	FALSE	FALSE	0	Ribosomal protein l14

Naga_100029g32	tr|W7TSX0|Naga_100029g32	1.83	0.122	0.281	FALSE	FALSE	FALSE	0	Plastidic atp adp transporter
Naga_100030g5	tr|W7TTN9|Naga_100030g5	3.47	0.0291	0.163	FALSE	FALSE	TRUE	1	Chlorophyll A-B binding protein
Naga_100031g28	tr|W7U0D4|Naga_100031g28	2.58	0.0477	0.205	FALSE	FALSE	TRUE	1	Succinyl-ligase subunit mitochondrial
Naga_100031g39	tr|W7TS51|Naga_100031g39	-0.67	0.689	0.755	FALSE	FALSE	TRUE	1	40s ribosomal protein s3-3
Naga_100032g3	tr|W7TXZ6|Naga_100032g3	-0.0492	0.975	0.978	FALSE	FALSE	TRUE	2	40S ribosomal protein S3a
Naga_100032g30	tr|W7TY00|Naga_100032g30	0.821	0.447	0.565	FALSE	FALSE	TRUE	2	Coatomer subunit beta
Naga_100032g40	tr|W7THF5|Naga_100032g40	1.11	0.313	0.453	FALSE	FALSE	FALSE	0	Ribosomal protein L4 domain protein
Naga_100034g18	tr|W7TKT1|Naga_100034g18	0.703	0.511	0.62	FALSE	FALSE	FALSE	0	60s ribosomal protein l18a
Naga_100035g25	tr|W7UAU3|Naga_100035g25	2.18	0.0708	0.224	FALSE	FALSE	TRUE	3	Homoserine kinase
Naga_100037g12	tr|W7TF53|Naga_100037g12	3.09	0.0447	0.199	FALSE	FALSE	TRUE	1	3-oxoacyl-(Acyl-carrier-protein) reductase

Naga_100037g14	tr|W7THS5|Naga_100037g14	2.84	0.0559	0.213	FALSE	FALSE	TRUE	1	Cyclophilin-like peptidyl-prolyl cis-trans isomerase
Naga_100038g29	tr|W7TUP5|Naga_100038g29	1.5	0.149	0.303	FALSE	FALSE	FALSE	0	Atp synthase subunit delta
Naga_100038g3	tr|W7U315|Naga_100038g3	0.928	0.417	0.542	FALSE	FALSE	TRUE	1	Dead-box atp-dependent rna helicase
Naga_100038g9	tr|W7TMH8|Naga_100038g9	2.97	0.021	0.147	FALSE	FALSE	FALSE	0	Udp-sulfoquinovose synthase
Naga_100040g16	tr|W7TUN3|Naga_100040g16	1.31	0.272	0.415	FALSE	FALSE	TRUE	3	Sulfite ferredoxin dependent
Naga_100040g42	tr|W7TTU9|Naga_100040g42	0.272	0.824	0.869	FALSE	FALSE	TRUE	2	Atp-dependent chaperone
Naga_100041g2	tr|W7TL25|Naga_100041g2	0.82	0.423	0.543	FALSE	FALSE	FALSE	0	Elongation factor 1
Naga_100041g31	tr|W7T232|Naga_100041g31	1.02	0.319	0.453	FALSE	FALSE	FALSE	0	Adenosylhomocysteinase
Naga_100041g46	ANT70525.1	2.97	0.0141	0.121	FALSE	FALSE	TRUE	2	violaxanthin de-epoxidase
Naga_100042g43	tr|W7U8W3|Naga_100042g43	1.89	0.0846	0.239	FALSE	FALSE	FALSE	0	Nadp-dependent glyceraldehyde-

									3-phosphate dehydrogenase
Naga_100044g11	tr|W7U5I6|Naga_100044g11	1.95	0.127	0.282	FALSE	FALSE	TRUE	1	40s ribosomal protein s15a
Naga_100045g24	tr|W7TK84|Naga_100045g24	1.5	0.192	0.333	FALSE	FALSE	FALSE	0	ATPase, AAA-type, core
Naga_100047g7	tr|W7TB36|Naga_100047g7	2.56	0.0657	0.222	FALSE	FALSE	TRUE	3	Succinyl-CoA ligase subunit beta
Naga_100048g7	tr|W7TZM5|Naga_100048g7	3.19	0.00613	0.103	FALSE	FALSE	TRUE	3	Aldehyde dehydrogenase
Naga_100048g8	tr|W7TZ20|Naga_100048g8	1.11	0.301	0.446	FALSE	FALSE	TRUE	1	Homoaconitate hydratase family protein
Naga_100050g29, Naga_100123g11	tr|W7TR01|Naga_100050g29	1.49	0.302	0.446	FALSE	FALSE	FALSE	0	Histone H4
Naga_100050g33, Naga_100722g1, NGA_0455000, Naga_100605g3	tr|W7UA52|Naga_100050g33	-2.58	0.178	0.324	FALSE	FALSE	TRUE	1	Histone H3

Naga_100050g34, Naga_100012g58	tr|W7U9K9|Naga_100050g34	2.3	0.0681	0.224	FALSE	FALSE	FALSE	0	Histone H2A
Naga_100050g39	tr|W7U1E9|Naga_100050g39	2.84	0.0463	0.202	FALSE	FALSE	TRUE	1	Uncharacterized protein
Naga_100051g29	tr|W7TM73|Naga_100051g29	4.51	0.00572	0.103	FALSE	FALSE	TRUE	1	Superoxide dismutase
Naga_100054g19	tr|K8YNR1|AP1B1	1.39	0.26	0.405	FALSE	FALSE	TRUE	4	AP complex subunit beta
Naga_100054g8	tr|W7TYZ7|Naga_100054g8	-1.1	0.366	0.495	FALSE	FALSE	TRUE	3	Atp dependent rna helicase
Naga_100056g12, Naga_100056g12	tr|W7TU57|Naga_100056g12	1.24	0.35	0.478	FALSE	FALSE	FALSE	0	Phosphoenolpyruvate carboxykinase
Naga_100056g15	tr|W7TJ16|Naga_100056g15	1.47	0.16	0.312	FALSE	FALSE	FALSE	0	Light-harvesting protein
Naga_100056g25	tr|W7U2J3|Naga_100056g25	3.49	0.0233	0.148	FALSE	FALSE	TRUE	1	Glutamine synthetase
Naga_100059g16	tr|W7TNL3|Naga_100059g16	-0.831	0.625	0.716	FALSE	FALSE	TRUE	3	40s ribosomal protein s26

Naga_100059g26	tr|W7TVV4|Naga_100059g26	1.78	0.158	0.31	FALSE	FALSE	FALSE	0	Guanine nucleotide binding protein
Naga_100061g16	tr|W7T2I2|Naga_100061g16	1.75	0.112	0.278	FALSE	FALSE	TRUE	3	Carboxyl transferase
Naga_100061g24, Naga_100003g61	tr|W7T2C3|Naga_100061g24	3.29	0.0109	0.112	FALSE	FALSE	TRUE	3	26s proteasome regulatory atpase rpt4
Naga_100061g9	tr|W7TKK2|Naga_100061g9	0.209	0.884	0.92	FALSE	FALSE	TRUE	2	40s ribosomal protein s23
Naga_100064g3	tr|W7T6I6|Naga_100064g3	1.66	0.125	0.282	FALSE	FALSE	TRUE	4	Methylenetetrahydrofolate dehydrogenase
Naga_100065g10	tr|W7T5H8|Naga_100065g10	3.45	0.0142	0.121	FALSE	FALSE	TRUE	1	Phosphoglucomutase
Naga_100065g23	tr|W7TE43|Naga_100065g23	1.65	0.139	0.294	FALSE	FALSE	FALSE	0	Leucyl aminopeptidase
Naga_100067g28	tr|W7TFX4|Naga_100067g28	2.95	0.01	0.112	FALSE	FALSE	TRUE	3	Proteasome subunit alpha
Naga_100070g2	tr|W7TMG4|Naga_100070g2	1.19	0.419	0.543	FALSE	FALSE	TRUE	3	30s ribosomal protein s15

Naga_100070g24	tr|W7T4K9|Naga_100070g24	0.63	0.58	0.687	FALSE	FALSE	TRUE	3	Aminopeptidase puromycin sensitive
Naga_100076g10, Naga_100078g16, NGA_0671820	tr|W7TVR6|Naga_100076g10	-0.393	0.79	0.842	FALSE	FALSE	TRUE	2	Elongation factor ef-3
Naga_100076g3	tr|W7TEW9|Naga_100076g3	3.2	0.0569	0.213	FALSE	FALSE	TRUE	1	Photosystem ii 12 kDa extrinsic protein
Naga_100078g15, Naga_100076g9	tr|W7TS20|Naga_100078g15	1.07	0.412	0.536	FALSE	FALSE	TRUE	2	Elongation factor 3
Naga_100079g12	tr|W7TLT5|Naga_100079g12	2.82	0.0576	0.213	FALSE	FALSE	TRUE	1	Cysteine synthase
Naga_100079g2	tr|W7TIZ8|Naga_100079g2	1.62	0.163	0.312	FALSE	FALSE	TRUE	4	Propionyl-alpha subunit
Naga_100081g17	tr|W7T2Q2|Naga_100081g17	1.19	0.264	0.406	FALSE	FALSE	FALSE	0	Glyceraldehyde-3-phosphate dehydrogenase
Naga_100084g4	tr|W7TSQ4|Naga_100084g4	0.737	0.502	0.613	FALSE	FALSE	FALSE	0	S-adenosylmethionine synthase
Naga_100086g16	tr|W7TDA6|Naga_100086g16	1.57	0.129	0.282	FALSE	FALSE	FALSE	0	Pentapeptide repeat protein

Naga_100097g1	tr|I2CNZ7|NGATSA_3003400	2.51	0.0234	0.148	FALSE	FALSE	TRUE	3	Glutamate synthase
Naga_100097g2	tr|W7U2E4|Naga_100097g2	0.612	0.587	0.691	FALSE	FALSE	TRUE	3	Uncharacterized protein
Naga_100098g5	tr|W7TNK1|Naga_100098g5	2.84	0.0119	0.112	FALSE	FALSE	TRUE	3	Cell division protein
Naga_100099g18	tr|W7U484|Naga_100099g18	-1.08	0.31	0.453	FALSE	FALSE	FALSE	0	Ribosomal protein L15
Naga_100099g23	tr|W7TVG2|Naga_100099g23	1.32	0.208	0.353	FALSE	FALSE	FALSE	0	Uncharacterized protein
Naga_100100g13	tr|W7TTE5|Naga_100100g13	0.948	0.392	0.523	FALSE	FALSE	FALSE	0	Gtp-binding nuclear protein ran
Naga_100102g18, Naga_100214g8	tr|W7TRP0|Naga_100102g18	1.11	0.326	0.458	FALSE	FALSE	FALSE	0	Eukaryotic initiation factor 4a
Naga_100102g2, NGA_0449600	tr|W7TRP6|Naga_100102g2	1.16	0.275	0.418	FALSE	FALSE	FALSE	0	Heat shock protein 70
Naga_100103g9	tr|W7TLH5|Naga_100103g9	1.99	0.185	0.327	FALSE	FALSE	TRUE	1	Ribosomal protein s20

Naga_100106g2	tr|W7TUQ1|Naga_100106g2	0.0488	0.973	0.978	FALSE	FALSE	TRUE	1	40S ribosomal protein S4
Naga_100108g3	tr|W7TKA6|Naga_100108g3	1.79	0.263	0.406	FALSE	FALSE	TRUE	1	40S ribosomal protein SA
Naga_100108g6	tr|W7TL56|Naga_100108g6	2.03	0.0614	0.22	FALSE	FALSE	TRUE	1	Ribonucleoprotein LSM
Naga_100113g12	tr|W7TCB7|Naga_100113g12	0.622	0.596	0.698	FALSE	FALSE	FALSE	0	40s ribosomal protein s18
Naga_100113g20	tr|W7TUD0|Naga_100113g20	1.83	0.0935	0.249	FALSE	FALSE	FALSE	0	Vacuolar h+ atpase b subunit
Naga_100114g2	tr|W7TR43|Naga_100114g2	1.51	0.132	0.286	FALSE	FALSE	FALSE	0	Photosystem II stability/assembly factor
Naga_100117g8	tr|W7TVJ9|Naga_100117g8	2.94	0.0132	0.117	FALSE	FALSE	TRUE	2	2-oxoglutarate dehydrogenase e1 component
Naga_100118g22	tr|W7T749|Naga_100118g22	2	0.0548	0.213	FALSE	FALSE	FALSE	0	Bacterioferritin comigratory protein
Naga_100119g3, NGA_0477710	tr|W7TQ47|Naga_100119g3	3.47	0.00863	0.103	FALSE	FALSE	TRUE	4	Fructose-bisphosphate aldolase
Naga_100120g1	tr|W7TPV3|Naga_100120g1	1.89	0.0975	0.256	FALSE	FALSE	FALSE	0	Cell division protein

Naga_100122g10	tr|W7TFU2|Naga_100122g10	0.425	0.681	0.752	FALSE	FALSE	FALSE	0	Chaperonin
Naga_100124g18	tr|W7TU78|Naga_100124g18	3.82	0.00601	0.103	FALSE	FALSE	TRUE	1	Phosphoribosylpyrophosphate synthetase
Naga_100125g16	gi|553180480|ref|XP_005853411.1|	0.19	0.852	0.893	FALSE	FALSE	FALSE	0	large subunit ribosomal protein L27Ae
Naga_100129g1	tr|W7UCU5|Naga_100129g1	1.03	0.34	0.471	FALSE	FALSE	FALSE	0	Poly binding protein 8
Naga_100131g7	tr|W7U6U0|Naga_100131g7	1.64	0.184	0.327	FALSE	FALSE	TRUE	4	Apoptosis inducing factor
Naga_100149g4	tr|W7U4E6|Naga_100149g4	-1	0.399	0.525	FALSE	FALSE	TRUE	2	Abc transporter g family member 7
Naga_100156g9	tr|W7TKH1|Naga_100156g9	0.433	0.694	0.756	FALSE	FALSE	FALSE	0	Ribosomal protein L7A/L8
Naga_100164g14	tr|W7TIS3|Naga_100164g14	2.78	0.0602	0.22	FALSE	FALSE	TRUE	1	Peroxiredoxin 1
Naga_100171g15	tr|W7TC86|Naga_100171g15	0.996	0.375	0.501	FALSE	FALSE	FALSE	0	Protein transport protein sec61 subunit alpha
Naga_100171g8	tr|W7TWB2|Naga_100171g8	1.94	0.0934	0.249	FALSE	FALSE	FALSE	0	Chaperonin Cpn60/TCP-1

Naga_100175g2	tr|W7TED5|Naga_100175g2	2.51	0.0832	0.239	FALSE	FALSE	TRUE	1	RNA binding protein
Naga_100186g6	tr|W7TXA2|Naga_100186g6	2.55	0.0201	0.146	FALSE	FALSE	TRUE	2	Proteasome subunit beta type
Naga_100187g5	tr|W7TW63|Naga_100187g5	2.11	0.0728	0.225	FALSE	FALSE	TRUE	1	Trimeric LpxA
Naga_100187g8	tr|W7TW67|Naga_100187g8	1.41	0.192	0.333	FALSE	FALSE	FALSE	0	Transitional endoplasmic reticulum atpase
Naga_100189g5	tr|W7TSS0|Naga_100189g5	1.03	0.347	0.475	FALSE	FALSE	TRUE	2	Aspartate-semialdehyde dehydrogenase
Naga_100194g2	ANT70526.1	3.75	0.00319	0.0933	FALSE	FALSE	TRUE	3	zeaxanthin epoxidase 1
Naga_100197g3	tr|W7TLB7|Naga_100197g3	3.68	0.00701	0.103	FALSE	FALSE	TRUE	2	Pyruvate kinase
Naga_100207g6	tr|W7THD6|Naga_100207g6	1.15	0.398	0.525	FALSE	FALSE	TRUE	1	Geranylgeranyl reductase
Naga_100208g4	tr|W7TPK9|Naga_100208g4	1.01	0.366	0.495	FALSE	FALSE	FALSE	0	Acetohydroxy acid isomeroreductase, catalytic
Naga_100228g7	tr|W7T0L9|Naga_100228g7	0.842	0.404	0.53	FALSE	FALSE	FALSE	0	RNA helicase,ATP-

									dependent, DEAD-box type
Naga_100244g5	tr|W7TNV1|Naga_100244g5	3.93	0.00399	0.0933	FALSE	FALSE	TRUE	1	Uncharacterized protein
Naga_100245g2	tr|W7T7S0|Naga_100245g2	2.24	0.0556	0.213	FALSE	FALSE	TRUE	1	Nucleotide-binding, alpha-beta plait
Naga_100257g1	tr|W7U445|Naga_100257g1	1.86	0.0751	0.228	FALSE	FALSE	FALSE	0	Glyceraldehyde-3-phosphate dehydrogenase
Naga_100268g2	gi|553180870|ref|XP_005853474.1|	3.05	0.0197	0.146	FALSE	FALSE	TRUE	3	6-phosphofructo-2-kinase / fructose-2,6-bisphosphatase
Naga_100273g6, NGA_0210100	tr|W7TJZ9|Naga_100273g6	1.86	0.0765	0.231	FALSE	FALSE	FALSE	0	Extrinsic protein in photosystem ii
Naga_100273g9	tr|W7TTD1|Naga_100273g9	1.79	0.0973	0.256	FALSE	FALSE	FALSE	0	Nucleoside diphosphate kinase
Naga_100307g4, NGA_0434010	tr|W7TLX9|Naga_100307g4	2.35	0.0497	0.205	FALSE	FALSE	TRUE	3	Mitochondrial inner membrane protein Mitofilin
Naga_100308g2, NGA_0607500	tr|W7TS11|Naga_100308g2	-0.093	0.932	0.957	FALSE	FALSE	TRUE	1	Ribosomal protein l5

Naga_100348g1	tr|W7TXQ4|Naga_100348g1	0.552	0.634	0.721	FALSE	FALSE	FALSE	0	Ribosomal protein S7
Naga_100356g1	tr|I2CNY3|NGATSA_3057400	0.259	0.838	0.88	FALSE	FALSE	TRUE	1	Hypoxia up-regulated 1
Naga_100385g2	tr|W7TK08|Naga_100385g2	1.51	0.153	0.305	FALSE	FALSE	FALSE	0	Acyl carrier protein
Naga_100410g3	tr|W7TJY6|Naga_100410g3	1.64	0.135	0.29	FALSE	FALSE	FALSE	0	Phosphoglycerate kinase
Naga_100419g4	tr|W7U2N9|Naga_100419g4	1.25	0.237	0.377	FALSE	FALSE	TRUE	2	Ornithine aminotransferase
Naga_100424g3	tr|W7TCV4|Naga_100424g3	0.122	0.921	0.95	FALSE	FALSE	TRUE	3	3-dehydroquinate synthase
Naga_100430g3	tr|W7T8M4|Naga_100430g3	0.0796	0.935	0.957	FALSE	FALSE	FALSE	0	Translationally controlled tumor protein
Naga_100466g3	tr|W7TLR9|Naga_100466g3	0.186	0.862	0.901	FALSE	FALSE	TRUE	2	Trifunctional enzyme subunit mitochondrial
Naga_100475g1	tr|W7TJS6|Naga_100475g1	0.842	0.399	0.525	FALSE	FALSE	FALSE	0	Uncharacterized protein
Naga_100529g1	tr|W7TQA6|Naga_100529g1	2.21	0.111	0.278	FALSE	FALSE	TRUE	1	Fructokinase

Naga_100540g2, RP-L13E	tr|W7TP63|Naga_100540g2	-0.259	0.814	0.863	FALSE	FALSE	FALSE	0	60s ribosomal protein l13
Naga_100594g3	tr|W7TSZ8|Naga_100594g3	1.34	0.228	0.369	FALSE	FALSE	FALSE	0	Branched-chain alpha-keto acid dehydrogenase subunit
Naga_100638g3	tr|W7TSR6|Naga_100638g3	0.885	0.48	0.593	FALSE	FALSE	TRUE	1	60s ribosomal protein l21-a
Naga_100638g4	tr|W7T973|Naga_100638g4	0.85	0.425	0.543	FALSE	FALSE	FALSE	0	40s ribosomal protein s13
Naga_100665g2	gi|553194809|ref|XP_005856032.1|	1.96	0.119	0.281	FALSE	FALSE	TRUE	1	coproporphyrinogen III oxidase
Naga_100667g1	tr|W7T3X6|Naga_100667g1	0.0706	0.946	0.964	FALSE	FALSE	FALSE	0	60s ribosomal protein l3
Naga_100710g1	tr|W7TQV0|Naga_100710g1	2.01	0.0717	0.224	FALSE	FALSE	TRUE	1	Elongation factor tu
Naga_100729g1	gi|553185252|ref|XP_005854222.1|	1.46	0.168	0.312	FALSE	FALSE	FALSE	0	glutamate decarboxylase
Naga_100744g1	gi|553190853|ref|XP_005855276.1|	0.794	0.622	0.715	FALSE	FALSE	TRUE	2	wos2 protein

Naga_100855g2	tr|W7TN59|Naga_100855g2	2.07	0.0653	0.222	FALSE	FALSE	FALSE	0	Malate dehydrogenase
Naga_100881g1	tr|W7TMV0|Naga_100881g1	2.33	0.0446	0.199	FALSE	FALSE	FALSE	0	Heat shock protein 101
Naga_100928g1	tr|W7TQR4|Naga_100928g1	1.13	0.339	0.471	FALSE	FALSE	FALSE	0	Atp-dependent rna helicase uap56
Naga_100967g1	tr|W7TSC3|Naga_100967g1	-0.063	0.949	0.964	FALSE	FALSE	FALSE	0	Beta-ig-h3 fasciclin
Naga_101003g2	tr|W7TBB8|Naga_101003g2	0.481	0.621	0.715	FALSE	FALSE	TRUE	4	Uncharacterized protein
Naga_101053g1	tr|I2CQQ0|NGATSA_3003200	1.43	0.169	0.312	FALSE	FALSE	FALSE	0	Uncharacterized protein
Naga_101070g1	tr|I2CQQ4|NGATSA_3003700	1.62	0.119	0.281	FALSE	FALSE	TRUE	3	Ras-related C3 botulinum toxin substrate 1
Naga_101137g1	tr|W7UCV3|Naga_101137g1	0.818	0.476	0.591	FALSE	FALSE	FALSE	0	Polyadenylate-binding protein
Naga_101273g1	tr|W7THF6|Naga_101273g1	1.82	0.166	0.312	FALSE	FALSE	TRUE	1	3-isopropylmalate dehydrogenase
Naga_101276g1	tr|W7T0G1|Naga_101276g1	-2.07	0.116	0.281	FALSE	FALSE	TRUE	4	Ribosomal protein l30

NAG-PR, ARGC	tr|W7TID0|NAG-PR	1.94	0.0839	0.239	FALSE	FALSE	TRUE	2	N-acetyl-gamma-glutamyl-phosphate reductase
NDA	tr|W7TLJ8|NDA	1.42	0.168	0.312	FALSE	FALSE	TRUE	4	Alternative nadh-dehydrogenase
NGA_0045802, Naga_100004g110	tr|K8Z8Q4|NGA_0045802	1.75	0.104	0.27	FALSE	FALSE	FALSE	0	Chaperonin 10
NGA_0094200, Naga_100006g87	tr|K8YQS9|NGA_0094200	1.8	0.108	0.276	FALSE	FALSE	FALSE	0	4-nitrophenyl phosphatase
NGA_0096400	tr|K8YQP9|NGA_0096400	2.49	0.117	0.281	FALSE	FALSE	TRUE	1	Nad-dependent epimerase dehydratase
NGA_0170500, oec	tr|K8Z905|NGA_0170500	3.57	0.0035	0.0933	FALSE	FALSE	TRUE	3	Uncharacterized protein
NGA_0189801, LHCP31	tr|K8YTS8|NGA_0189801	1.5	0.143	0.297	FALSE	FALSE	FALSE	0	Light-harvesting protein
NGA_0190001, Naga_100018g43	tr|K8YWQ7|NGA_0190001	2.77	0.0437	0.199	FALSE	FALSE	TRUE	3	Uncharacterized protein
NGA_0271420, Naga_100041g44, Naga_100051g23	tr|K8YVV3|NGA_0271420	1.7	0.11	0.278	FALSE	FALSE	TRUE	3	Uncharacterized protein
NGA_0361402, CHI	tr|K8YRK7|NGA_0361402	3.34	0.0118	0.112	FALSE	FALSE	TRUE	1	Uncharacterized protein

NGA_0366400, LHCP33	tr|K8YRV9|NGA_0366400	1.3	0.215	0.36	FALSE	FALSE	FALSE	0	Light-harvesting protein
NGA_0391400	gi|585100011|gb|EWM20418.1|	2.04	0.0719	0.224	FALSE	FALSE	FALSE	0	oxidoreductase
NGA_0448400, Naga_100004g11	tr|K8Z7F5|NGA_0448400	1.5	0.188	0.331	FALSE	FALSE	FALSE	0	Soul heme-binding protein
NGA_0501500, CLP	tr|K8Z7E0|NGA_0501500	2.28	0.0528	0.209	FALSE	FALSE	TRUE	1	ATP-dependent Clp protease proteolytic subunit
NGA_0504200, Naga_100612g2	tr|K8YVY4|NGA_0504200	0.425	0.671	0.749	FALSE	FALSE	FALSE	0	Glycine-rich rna-binding protein 4
NGA_0612301, Tim13	tr|K8YZ78|NGA_0612301	2.77	0.0227	0.148	FALSE	FALSE	TRUE	2	Mitochondrial protein translocase family
NGA_0635410, Naga_100151g7, NGA_0635700, Naga_100151g3	tr|K8YQ29|NGA_0635410	1.94	0.116	0.281	FALSE	FALSE	FALSE	0	H+-transporting ATPase
NGA_0699400, LHCP21	tr|K8YWB4|NGA_0699400	1.89	0.0771	0.231	FALSE	FALSE	FALSE	0	Light harvesting complex protein

NGA_2097200, Naga_100099g15	tr|K8Z221|NGA_2097200	2.66	0.0401	0.196	FALSE	FALSE	TRUE	1	Ammonium transporter
NGATSA_3001900	tr|I2CQN8|NGATSA_3001900	1.66	0.141	0.295	FALSE	FALSE	TRUE	4	Eukaryotic translation initiation factor isoform 1
NGATSA_3002800	gi|578896496|gb|AHI17198.1|	1.93	0.111	0.278	FALSE	FALSE	FALSE	0	acetyl-CoA carboxylase
NGATSA_3003100	tr|I2CQP8|NGATSA_3003100	3.12	0.0259	0.159	FALSE	FALSE	TRUE	1	Glycine dehydrogenase
NGATSA_3004500	tr|I2CQR0|NGATSA_3004500	1.15	0.316	0.453	FALSE	FALSE	FALSE	0	Glutamate-1-semialdehyde aminotransferase/glutamate-1-semialdehyde 21-aminomutase
NGATSA_3005800	tr|I2CQR9|NGATSA_3005800	2.52	0.0374	0.188	FALSE	FALSE	TRUE	2	GMP synthase (Glutamine-hydrolysing)
NGATSA_3016900	tr|I2CR44|NGATSA_3016900	3.28	0.0498	0.205	FALSE	FALSE	TRUE	1	Uncharacterized protein
NGATSA_3021000	tr|I2CP43|NGATSA_3021000	0.991	0.339	0.471	FALSE	FALSE	TRUE	4	T-complex protein 1 subunit beta

NGATSA_3021500	gi|585103939|gb|EWM23085.1|	0.692	0.51	0.62	FALSE	FALSE	TRUE	4	malic enzyme
NGATSA_3023700	tr|I2CP67|NGATSA_3023700	2.31	0.0521	0.209	FALSE	FALSE	TRUE	3	RuvB-like protein 1 (Pontin 52)
NGATSA_3026900	gi|585105860|gb|EWM24426.1|	1.92	0.168	0.312	FALSE	FALSE	TRUE	1	asf sf2-like pre-mrna splicing factor srp31
NGATSA_3041300	tr|I2CPH3|NGATSA_3041300	-0.308	0.782	0.838	FALSE	FALSE	FALSE	0	Large subunit ribosomal protein L8e
NUO10	tr|W7UBY9|NUO10	1.47	0.167	0.312	FALSE	FALSE	TRUE	3	Nadh ubiquinone
PAO2	tr|W7TRP5|PAO2	1.69	0.109	0.278	FALSE	FALSE	TRUE	4	Pheophorbide a oxygenase
PDH	tr|W7TYT3|PDH	0.478	0.645	0.727	FALSE	FALSE	FALSE	0	Transketolase
PDS	tr|W7TCB4|PDS	1.31	0.285	0.429	FALSE	FALSE	TRUE	2	Phytoene desaturase
PEFG	tr|W7THY0|PEFG	0.00956	0.993	0.993	FALSE	FALSE	FALSE	0	Elongation factor G, mitochondrial
petA	tr|T1RJB3|petA	2.74	0.022	0.148	FALSE	FALSE	FALSE	0	Apocytochrome f
petB	tr|K9ZX12|petB	2.52	0.0227	0.148	FALSE	FALSE	FALSE	0	Cytochrome b6
PETC	tr|W7TXJ0|PETC	3.18	0.0415	0.199	FALSE	FALSE	TRUE	1	Cytochrome b6-f complex iron-sulfur subunit

petD	tr|T1RJJ4|petD	3.89	0.00691	0.103	FALSE	FALSE	TRUE	2	Cytochrome b6-f complex subunit 4
petF	tr|K9ZV85|petF	4.8	0.00866	0.103	FALSE	FALSE	TRUE	1	Ferredoxin
PETH, Naga_100732g2	tr|K8YXT7|PETH	1.95	0.0904	0.246	FALSE	FALSE	FALSE	0	Ferredoxin--NADP+ reductase
petJ	tr|T1RJX4|petJ	1.94	0.0637	0.221	FALSE	FALSE	FALSE	0	Cytochrome c6
PPC	tr|W7TGA1|PPC	3.81	0.00429	0.0934	FALSE	FALSE	TRUE	2	Phosphoenolpyruvate carboxylase
PPX	tr|W7TSK2|PPX	0.84	0.481	0.593	FALSE	FALSE	TRUE	1	Protoporphyrinogen oxidase
PRK	tr|W7TMN7|PRK	0.856	0.41	0.535	FALSE	FALSE	FALSE	0	Phosphoribulokinase
psaA	tr|T1RJP7|psaA	1.39	0.18	0.324	FALSE	FALSE	FALSE	0	Photosystem I P700 chlorophyll a apoprotein A1
psaB	tr|T1RJ53|psaB	1.6	0.128	0.282	FALSE	FALSE	FALSE	0	P700 chlorophyll a apoprotein A2
psaC	tr|T1RJY1|psaC	4.38	0.00848	0.103	FALSE	FALSE	TRUE	1	Photosystem I iron-sulfur center
psaD	tr|T1RJN5|psaD	2.75	0.0288	0.163	FALSE	FALSE	FALSE	0	Photosystem I reaction center subunit II

psaE	tr|T1RJ36|psaE	2.39	0.0324	0.171	FALSE	FALSE	FALSE	0	Photosystem I reaction center subunit IV
psaF	tr|T1RIP4|psaF	4.24	0.0127	0.116	FALSE	FALSE	TRUE	1	Photosystem I subunit III
psaL	tr|T1RJZ1|psaL	2.21	0.0488	0.205	FALSE	FALSE	FALSE	0	Photosystem I reaction center subunit XI
psbA	tr|T1RJV8|psbA	1.52	0.151	0.305	FALSE	FALSE	FALSE	0	Photosystem II protein D1
psbB	tr|T1RJL7|psbB	1.92	0.0808	0.235	FALSE	FALSE	FALSE	0	Photosystem II CP47 reaction center protein
psbC	tr|T1RJG1|psbC	2.48	0.0361	0.184	FALSE	FALSE	FALSE	0	Photosystem II CP43 reaction center protein
psbD	tr|T1RIM2|psbD	1.54	0.156	0.309	FALSE	FALSE	FALSE	0	Photosystem II D2 protein
psbE	tr|T1RHR2|psbE	3.17	0.0638	0.221	FALSE	FALSE	TRUE	1	Cytochrome b559 subunit alpha
psbO	tr|W7TVN8|psbO	1.49	0.167	0.312	FALSE	FALSE	FALSE	0	Oxygen-evolving enhancer protein
psbV	tr|T1RJ27|psbV	1.77	0.087	0.242	FALSE	FALSE	FALSE	0	Cytochrome c-550
PTSI	tr|W7U015|Naga_100469g1	0.431	0.725	0.781	FALSE	FALSE	TRUE	3	Phosphate dikinase

PYK	tr|W7TRP2|PYK	1.59	0.146	0.299	FALSE	FALSE	FALSE	0	Pyruvate kinase
Rab1B, Naga_100010g23	tr|W7TST3|Rab1B	0.428	0.689	0.755	FALSE	FALSE	TRUE	3	Rab family gtpase
rbcL, dbj	tr|T1RJ90|rbcL	0.762	0.467	0.584	FALSE	FALSE	FALSE	0	Ribulose bisphosphate carboxylase large chain
rbcS	tr|A0A023PMA5|rbcS	0.675	0.521	0.63	FALSE	FALSE	FALSE	0	Ribulose bisphosphate carboxlyase small chain
RPE	tr|W7TD18|RPE	3.22	0.00723	0.103	FALSE	FALSE	FALSE	0	Ribulose-phosphate 3-epimerase
RPI	tr|K8Z9G7|RPIA	1.41	0.184	0.327	FALSE	FALSE	FALSE	0	Ribose 5-phosphate isomerase A
rpl1	tr|T1RJV1|rpl1	1.53	0.229	0.37	FALSE	FALSE	TRUE	1	50S ribosomal protein L1, chloroplastic
rpl12	tr|T1RJ33|rpl12	-0.0597	0.952	0.964	FALSE	FALSE	FALSE	0	50S ribosomal protein L12, chloroplastic
rpl13	tr|T1RJ81|rpl13	1.18	0.314	0.453	FALSE	FALSE	FALSE	0	50S ribosomal protein L13, chloroplastic

rpl22	tr|T1RJ80|rpl22	0.504	0.63	0.719	FALSE	FALSE	FALSE	0	50S ribosomal protein L22, chloroplastic
rpl23	tr|T1RJK6|rpl23	-0.438	0.688	0.755	FALSE	FALSE	TRUE	2	50S ribosomal protein L23, chloroplastic
rpl4	tr|T1RJ94|rpl4	0.166	0.905	0.939	FALSE	FALSE	TRUE	2	50S ribosomal protein L4
rpl5	tr|T1RJ87|rpl5	1.45	0.24	0.381	FALSE	FALSE	TRUE	1	50S ribosomal protein L5, chloroplastic
rpl6	tr|T1RJ48|rpl6	1.26	0.364	0.495	FALSE	FALSE	TRUE	1	50S ribosomal protein L6, chloroplastic
rps1	tr|W7TJ69|rps1	2.38	0.154	0.305	FALSE	FALSE	TRUE	1	30s ribosomal protein s1
rps10	tr|T1RHU1|rps10	-0.114	0.918	0.949	FALSE	FALSE	FALSE	0	30S ribosomal protein S10, chloroplastic
rps13	tr|T1RJU6|rps13	0.573	0.61	0.71	FALSE	FALSE	FALSE	0	30S ribosomal protein S13, chloroplastic
rps2	tr|T1RJU9|rps2	-1.67	0.179	0.324	FALSE	FALSE	TRUE	4	30S ribosomal protein S2, chloroplastic
RP-S2E, Naga_100062g29	tr|K8Z375|RP-S2E	0.516	0.619	0.715	FALSE	FALSE	FALSE	0	Small subunit ribosomal protein S2e

rps3	tr|A0A023PMI0|rps3	-0.491	0.658	0.739	FALSE	FALSE	TRUE	4	30S ribosomal protein S3, chloroplastic
rps5	tr|A0A023PLR6|rps5	0.706	0.618	0.715	FALSE	FALSE	TRUE	2	30S ribosomal protein S5, chloroplastic
rps6	tr|T1RIC4|rps6	-0.0502	0.967	0.977	FALSE	FALSE	TRUE	3	30S ribosomal protein S6, chloroplastic
rps9	tr|T1RJK0|rps9	1.03	0.428	0.544	FALSE	FALSE	TRUE	3	30S ribosomal protein S9, chloroplastic
RP-S9E, Naga_100229g9	tr|K8Z8Z7|RP-S9E	1.98	0.248	0.39	FALSE	FALSE	TRUE	1	Small subunit ribosomal protein S9e
SBP	tr|W7TFY2|SBP	3.46	0.0447	0.199	FALSE	FALSE	TRUE	1	Chloroplast sedoheptulose--bisphosphatase
SEC11, Naga_100086g7, Naga_100086g8	tr|K8ZB45|SEC11	1.81	0.0983	0.257	FALSE	FALSE	TRUE	4	Signal peptidase I
SHMT2	tr|W7TN09|SHMT2	4.22	0.0016	0.0571	FALSE	FALSE	TRUE	2	Serine hydroxymethyltransferase
SHMT2.1	tr|W7U077|SHMT2	0.76	0.485	0.596	FALSE	FALSE	FALSE	0	Serine hydroxymethyltransferase

TPI	gi|553184237|ref|XP_005854056.1|	1.68	0.124	0.282	FALSE	FALSE	FALSE	0	triosephosphate isomerase
tufA	tr|T1RJ79|tufA	0.862	0.425	0.543	FALSE	FALSE	FALSE	0	Elongation factor Tu, chloroplastic
UGD	AQR53217.1	2.5	0.0244	0.152	FALSE	FALSE	FALSE	0	UDP-glucose 6-dehydrogenase
XBP3	tr|W7TP29|XBP3	3.08	0.0194	0.146	FALSE	FALSE	TRUE	2	Fructose--bisphosphatase

Chapter 5

Supplementary Table S5.1: TEA calculation for baseline data Schade and Meier (2021).

microalga oil (average market price)																			
Year	Benefits	Initial investment	Infrastructure	Interests	Administration and insurance	Operating costs	Sum of payments	Sum of payments with contingency factor (1.25)	Net cash flow	Net present value	ROI (annual)	price per kg microalga oil	original benefits	PV cash out	PV sum cash out	PV cash in	PV sum cash in	PV cash in- PV cash out	ROI (standard)
1	0 €	351,831 €	1,835,520 €	120,950 €	42,220 €	0 €	2,350,520 €	2,938,150 €	-2,938,150 €	**-2,938,150 €**				2,938,150	2938150		0		
2	0 €	351,831 €	1,835,520 €	120,950 €	42,220 €	0 €	2,350,520 €	2,938,150 €	-2,938,150 €	**-2,938,150 €**				2,938,150	5876300		0		
3	1,022,487 €	0 €	0 €	120,950 €	42,220 €	417,293 €	580,463 €	725,579 €	296,908 €	**211,333 €**	**-94.95%**	77.3147	1022487	**516,453 €**	6,392,753	**727,786 €**	727,786	211,333.25 €	-88.62%
4	2,045,017 €	0 €	0 €	114,863 €	42,220 €	420,788 €	577,871 €	722,339 €	1,322,678 €	**840,586 €**	**-80.64%**	154.633	2045017	**459,059 €**	6,851,812	**1,299,645 €**	2,027,431	840,585.78 €	-70.41%
5	2,175,530 €	0 €	0 €	87,748 €	42,220 €	424,452 €	554,421 €	693,026 €	1,482,504 €	**841,213 €**	**-66.33%**	164.501	2175530	**393,242 €**	7,245,054	**1,234,454 €**	3,261,885	841,212.58 €	-54.98%
6	2,314,376 €	0 €	0 €	57,357 €	42,220 €	428,271 €	527,848 €	659,809 €	1,654,567 €	**838,255 €**	**-52.06%**	175	2314376	**334,280 €**	7,579,334	**1,172,535 €**	4,434,420	838,255.13 €	-41.49%
7	2,462,120 €	0 €	0 €	23,439 €	42,220 €	432,432 €	498,091 €	622,613 €	1,839,507 €	**832,100 €**	**-37.90%**	186.172	2462120	**281,639 €**	7,860,972	**1,113,738 €**	5,548,158	832,099.55 €	-29.42%
8	2,619,282 €	0 €	0 €	0 €	42,220 €	436,620 €	478,840 €	598,550 €	2,020,732 €	**816,140 €**	**-24.01%**	198.055	2619282	**241,744 €**	8,102,716	**1,057,884 €**	6,606,042	816,139.76 €	-18.47%
9	2,786,470 €	0 €	0 €	0 €	42,220 €	440,902 €	483,122 €	603,902 €	2,182,568 €	**787,056 €**	**-10.62%**	210.697	2786470	**217,773 €**	8,320,490	**1,004,829 €**	7,610,872	787,055.90 €	-8.53%
10	2,786,470 €	0 €	0 €	0 €	42,220 €	445,031 €	487,250 €	609,063 €	2,177,407 €	**701,067 €**	**1.31%**	210.697	2786470	**196,102 €**	8,516,592	**897,169 €**	8,508,040	701,066.78 €	-0.10%
11	2,786,470 €	0 €	0 €	0 €	42,220 €	448,880 €	491,099 €	613,874 €	2,172,596 €	**624,569 €**	**11.94%**	210.697	2786470	**176,474 €**	8,693,066	**801,044 €**	9,309,084	624,569.43 €	7.09%
12	2,786,470 €	0 €	0 €	0 €	42,220 €	452,724 €	494,944 €	618,680 €	2,167,790 €	**556,418 €**	**21.41%**	210.697	2786470	**158,800 €**	8,851,865	**715,217 €**	10,024,301	556,417.70 €	13.25%
13	2,786,470 €	0 €	0 €	0 €	42,220 €	457,236 €	499,455 €	624,319 €	2,162,151 €	**495,509 €**	**29.84%**	210.697	2786470	**143,078 €**	8,994,943	**638,587 €**	10,662,888	495,509.20 €	18.54%
14	2,786,470 €	0 €	0 €	0 €	42,220 €	461,782 €	504,002 €	630,002 €	2,156,468 €	**441,256 €**	**37.35%**	210.697	2786470	**128,911 €**	9,123,854	**570,167 €**	11,233,055	441,256.08 €	23.12%
15	2,786,470 €	0 €	0 €	0 €	42,220 €	466,686 €	508,906 €	636,132 €	2,150,338 €	**392,859 €**	**44.04%**	210.697	2786470	**116,219 €**	9,240,073	**509,078 €**	11,742,133	392,858.71 €	27.08%
16	2,786,470 €	0 €	0 €	0 €	42,220 €	471,163 €	513,383 €	641,729 €	2,144,741 €	**349,854 €**	**49.99%**	210.697	2786470	**104,680 €**	9,344,753	**454,534 €**	12,196,667	349,853.72 €	30.52%
17	2,786,470 €	0 €	0 €	0 €	42,220 €	475,883 €	518,103 €	647,628 €	2,138,842 €	**311,510 €**	**55.29%**	210.697	2786470	**94,323 €**	9,439,076	**405,834 €**	12,602,500	311,510.23 €	33.51%
18	2,786,470 €	0 €	0 €	0 €	42,220 €	480,468 €	522,688 €	653,360 €	2,133,110 €	**277,389 €**	**60.01%**	210.697	2786470	**84,963 €**	9,524,039	**362,351 €**	12,964,852	277,388.75 €	36.13%
19	2,786,470 €	0 €	0 €	0 €	42,220 €	485,546 €	527,766 €	659,707 €	2,126,763 €	**246,932 €**	**64.21%**	210.697	2786470	**76,596 €**	9,600,635	**323,528 €**	13,288,380	246,931.60 €	38.41%
20	2,786,470 €	0 €	0 €	0 €	42,220 €	490,394 €	532,614 €	665,767 €	2,120,703 €	**219,846 €**	**67.95%**	210.697	2786470	**69,018 €**	9,669,653	**288,864 €**	13,577,244	219,846.42 €	40.41%
21	2,786,470 €	0 €	0 €	0 €	42,220 €	495,114 €	537,334 €	671,667 €	2,114,803 €	**195,745 €**	**71.28%**	210.697	2786470	**62,169 €**	9,731,823	**257,915 €**	13,835,158	195,745.34 €	42.16%
22	2,786,470 €	0 €	0 €	0 €	42,220 €	500,185 €	542,404 €	678,005 €	2,108,465 €	**174,249 €**	**74.25%**	210.697	2786470	**56,032 €**	9,787,855	**230,281 €**	14,065,439	174,248.84 €	43.70%
23	2,786,470 €	0 €	0 €	0 €	42,220 €	505,121 €	547,341 €	684,176 €	2,102,294 €	**155,124 €**	**76.89%**	210.697	2786470	**50,484 €**	9,838,339	**205,608 €**	14,271,047	155,123.98 €	45.06%
24	2,786,470 €	0 €	0 €	0 €	42,220 €	509,789 €	552,009 €	690,011 €	2,096,459 €	**138,119 €**	**79.24%**	210.697	2786470	**45,459 €**	9,883,798	**183,579 €**	14,454,626	138,119.13 €	46.25%
25	2,786,470 €	0 €	0 €	0 €	42,220 €	515,078 €	557,297 €	696,622 €	2,089,848 €	**122,932 €**	**81.33%**	210.697	2786470	**40,978 €**	9,924,776	**163,909 €**	14,618,535	122,931.77 €	47.29%
26	2,786,470 €	0 €	0 €	0 €	42,220 €	520,297 €	562,517 €	703,146 €	2,083,324 €	**109,418 €**	**83.19%**	210.697	2786470	**36,930 €**	9,961,705	**146,348 €**	14,764,883	109,417.86 €	48.22%
27	2,786,470 €	0 €	0 €	0 €	42,220 €	526,159 €	568,379 €	710,474 €	2,075,996 €	**97,351 €**	**84.85%**	210.697	2786470	**33,317 €**	9,995,022	**130,668 €**	14,895,550	97,350.88 €	49.03%
28	2,786,470 €	0 €	0 €	0 €	42,220 €	531,950 €	574,170 €	717,712 €	2,068,758 €	**86,617 €**	**86.33%**	210.697	2786470	**30,050 €**	10,025,072	**116,667 €**	15,012,218	86,617.38 €	49.75%
29	2,786,470 €	0 €	0 €	0 €	42,220 €	538,277 €	580,497 €	725,621 €	2,060,849 €	**77,041 €**	**87.64%**	210.697	2786470	**27,126 €**	10,052,198	**104,167 €**	15,116,385	77,041.28 €	50.38%
30	2,786,470 €	0 €	0 €	0 €	42,220 €	543,954 €	586,174 €	732,718 €	2,053,752 €	**68,550 €**	**88.80%**	210.697	2786470	**24,457 €**	10,076,655	**93,007 €**	15,209,392	68,549.98 €	50.94%
31	2,786,470 €	0 €	0 €	0 €	42,220 €	550,125 €	592,344 €	740,431 €	2,046,039 €	**60,975 €**	**89.84%**	210.697	2786470	**22,066 €**	10,098,721	**83,042 €**	15,292,433	60,975.48 €	51.43%
32	2,786,470 €	0 €	0 €	0 €	42,220 €	555,486 €	597,706 €	747,132 €	2,039,338 €	**54,264 €**	**90.76%**	210.697	2786470	**19,880 €**	10,118,601	**74,144 €**	15,366,578	54,264.09 €	51.86%
Sum 1-32									53,513,998 €	**5,247,977 €**									

Supplementary Table S5.2: TEA calculation for wild-type *Nannochloropsis oculata*.

Year	Wild-type N.oculata benefits	Initial investment	Infrastructure	Interests	Administration and insurance	Operating costs	Sum of payments	Sum of payments with contingency factor (1.25)	Net cash flow	Net present value	price per kg microalga oil	original benefits baseline	Wild-type N.oculata benefits	PV cash out	PV sum cash out	PV cash in	PV sum cash in	PV cash in- PV cash out	ROI (standard)
1	0 €	351,831 €	1,835,520 €	120,950 €	42,220 €	0 €	2,350,520 €	2,938,150 €	-2,938,150 €	**-2,938,150 €**				2,938,150	2938150		0		
2	0 €	351,831 €	1,835,520 €	120,950 €	42,220 €	0 €	2,350,520 €	2,938,150 €	-2,938,150 €	**-2,938,150 €**				2,938,150	5876300		0		
3	1,429,668 €	0 €	0 €	120,950 €	42,220 €	417,293 €	580,463 €	725,579 €	704,089 €	**501,157 €**	77.3147	1022487	**1,429,668 €**	**516,453 €**	6,392,753	**1,017,609 €**	1,017,609	501,156.54 €	-84.08%
4	2,859,396 €	0 €	0 €	114,863 €	42,220 €	420,788 €	577,871 €	722,339 €	2,137,057 €	**1,358,138 €**	154.633	2045017	**2,859,396 €**	**459,059 €**	6,851,812	**1,817,198 €**	2,834,807	1,358,138.25 €	-58.63%
5	3,041,882 €	0 €	0 €	87,748 €	42,220 €	424,452 €	554,421 €	693,026 €	2,348,856 €	**1,332,804 €**	164.501	2175530	**3,041,882 €**	**393,242 €**	7,245,054	**1,726,046 €**	4,560,853	1,332,804.25 €	-37.05%
6	3,236,021 €	0 €	0 €	57,357 €	42,220 €	428,271 €	527,848 €	659,809 €	2,576,212 €	**1,305,189 €**	175	2314376	**3,236,021 €**	**334,280 €**	7,579,334	**1,639,469 €**	6,200,322	1,305,188.96 €	-18.19%
7	3,442,600 €	0 €	0 €	23,439 €	42,220 €	432,432 €	498,091 €	622,613 €	2,819,987 €	**1,275,619 €**	186.172	2462120	**3,442,600 €**	**281,639 €**	7,860,972	**1,557,257 €**	7,757,579	1,275,618.94 €	-1.32%
8	3,662,348 €	0 €	0 €	0 €	42,220 €	436,620 €	478,840 €	598,550 €	3,063,798 €	**1,237,417 €**	198.055	2619282	**3,662,348 €**	**241,744 €**	8,102,716	**1,479,161 €**	9,236,740	1,237,416.65 €	14.00%
9	3,896,115 €	0 €	0 €	0 €	42,220 €	440,902 €	483,122 €	603,902 €	3,292,213 €	**1,187,205 €**	210.697	2786470	**3,896,115 €**	**217,773 €**	8,320,490	**1,404,978 €**	10,641,718	1,187,204.89 €	27.90%
10	3,896,115 €	0 €	0 €	0 €	42,220 €	445,031 €	487,250 €	609,063 €	3,287,052 €	**1,058,343 €**	210.697	2786470	**3,896,115 €**	**196,102 €**	8,516,592	**1,254,445 €**	11,896,163	1,058,342.66 €	39.68%
11	3,896,115 €	0 €	0 €	0 €	42,220 €	448,880 €	491,099 €	613,874 €	3,282,241 €	**943,566 €**	210.697	2786470	**3,896,115 €**	**176,474 €**	8,693,066	**1,120,040 €**	13,016,203	943,565.75 €	49.73%
12	3,896,115 €	0 €	0 €	0 €	42,220 €	452,724 €	494,944 €	618,680 €	3,277,435 €	**841,236 €**	210.697	2786470	**3,896,115 €**	**158,800 €**	8,851,865	**1,000,036 €**	14,016,238	841,235.84 €	58.34%
13	3,896,115 €	0 €	0 €	0 €	42,220 €	457,236 €	499,455 €	624,319 €	3,271,796 €	**749,811 €**	210.697	2786470	**3,896,115 €**	**143,078 €**	8,994,943	**892,889 €**	14,909,127	749,811.12 €	65.75%
14	3,896,115 €	0 €	0 €	0 €	42,220 €	461,782 €	504,002 €	630,002 €	3,266,113 €	**668,311 €**	210.697	2786470	**3,896,115 €**	**128,911 €**	9,123,854	**797,222 €**	15,706,349	668,311.36 €	72.15%
15	3,896,115 €	0 €	0 €	0 €	42,220 €	466,686 €	508,906 €	636,132 €	3,259,983 €	**595,587 €**	210.697	2786470	**3,896,115 €**	**116,219 €**	9,240,073	**711,806 €**	16,418,155	595,586.64 €	77.68%
16	3,896,115 €	0 €	0 €	0 €	42,220 €	471,163 €	513,383 €	641,729 €	3,254,386 €	**530,861 €**	210.697	2786470	**3,896,115 €**	**104,680 €**	9,344,753	**635,541 €**	17,053,696	530,860.80 €	82.49%
17	3,896,115 €	0 €	0 €	0 €	42,220 €	475,883 €	518,103 €	647,628 €	3,248,487 €	**473,124 €**	210.697	2786470	**3,896,115 €**	**94,323 €**	9,439,076	**567,447 €**	17,621,143	473,123.70 €	86.68%
18	3,896,115 €	0 €	0 €	0 €	42,220 €	480,468 €	522,688 €	653,360 €	3,242,755 €	**421,686 €**	210.697	2786470	**3,896,115 €**	**84,963 €**	9,524,039	**506,649 €**	18,127,792	421,686.49 €	90.34%
19	3,896,115 €	0 €	0 €	0 €	42,220 €	485,546 €	527,766 €	659,707 €	3,236,408 €	**375,769 €**	210.697	2786470	**3,896,115 €**	**76,596 €**	9,600,635	**452,365 €**	18,580,157	375,768.86 €	93.53%
20	3,896,115 €	0 €	0 €	0 €	42,220 €	490,394 €	532,614 €	665,767 €	3,230,348 €	**334,880 €**	210.697	2786470	**3,896,115 €**	**69,018 €**	9,669,653	**403,898 €**	18,984,055	334,879.69 €	96.33%
21	3,896,115 €	0 €	0 €	0 €	42,220 €	495,114 €	537,334 €	671,667 €	3,224,448 €	**298,454 €**	210.697	2786470	**3,896,115 €**	**62,169 €**	9,731,823	**360,623 €**	19,344,678	298,453.62 €	98.78%
22	3,896,115 €	0 €	0 €	0 €	42,220 €	500,185 €	542,404 €	678,005 €	3,218,110 €	**265,953 €**	210.697	2786470	**3,896,115 €**	**56,032 €**	9,787,855	**321,985 €**	19,666,662	265,952.66 €	100.93%
23	3,896,115 €	0 €	0 €	0 €	42,220 €	505,121 €	547,341 €	684,176 €	3,211,939 €	**237,002 €**	210.697	2786470	**3,896,115 €**	**50,484 €**	9,838,339	**287,486 €**	19,954,149	237,002.39 €	102.82%
24	3,896,115 €	0 €	0 €	0 €	42,220 €	509,789 €	552,009 €	690,011 €	3,206,104 €	**211,225 €**	210.697	2786470	**3,896,115 €**	**45,459 €**	9,883,798	**256,684 €**	20,210,833	211,224.85 €	104.48%
25	3,896,115 €	0 €	0 €	0 €	42,220 €	515,078 €	557,297 €	696,622 €	3,199,493 €	**188,205 €**	210.697	2786470	**3,896,115 €**	**40,978 €**	9,924,776	**229,182 €**	20,440,015	188,204.74 €	105.95%
26	3,896,115 €	0 €	0 €	0 €	42,220 €	520,297 €	562,517 €	703,146 €	3,192,969 €	**167,697 €**	210.697	2786470	**3,896,115 €**	**36,930 €**	9,961,705	**204,627 €**	20,644,642	167,697.30 €	107.24%
27	3,896,115 €	0 €	0 €	0 €	42,220 €	526,159 €	568,379 €	710,474 €	3,185,641 €	**149,386 €**	210.697	2786470	**3,896,115 €**	**33,317 €**	9,995,022	**182,703 €**	20,827,345	149,386.09 €	108.38%
28	3,896,115 €	0 €	0 €	0 €	42,220 €	531,950 €	574,170 €	717,712 €	3,178,403 €	**133,077 €**	210.697	2786470	**3,896,115 €**	**30,050 €**	10,025,072	**163,127 €**	20,990,472	133,077.39 €	109.38%
29	3,896,115 €	0 €	0 €	0 €	42,220 €	538,277 €	580,497 €	725,621 €	3,170,494 €	**118,523 €**	210.697	2786470	**3,896,115 €**	**27,126 €**	10,052,198	**145,650 €**	21,136,122	118,523.44 €	110.26%
30	3,896,115 €	0 €	0 €	0 €	42,220 €	543,954 €	586,174 €	732,718 €	3,163,397 €	**105,588 €**	210.697	2786470	**3,896,115 €**	**24,457 €**	10,076,655	**130,044 €**	21,266,166	105,587.61 €	111.04%
31	3,896,115 €	0 €	0 €	0 €	42,220 €	550,125 €	592,344 €	740,431 €	3,155,684 €	**94,045 €**	210.697	2786470	**3,896,115 €**	**22,066 €**	10,098,721	**116,111 €**	21,382,277	94,044.79 €	111.73%
32	3,896,115 €	0 €	0 €	0 €	42,220 €	555,486 €	597,706 €	747,132 €	3,148,983 €	**83,790 €**	210.697	2786470	**3,896,115 €**	**19,880 €**	10,118,601	**103,670 €**	21,485,948	83,790.26 €	112.34%
Sum 1-32									91,054,872 €	**11,367,347 €**									

Supplementary Table S5.3: TEA calculation for M1 mutant *Nannochloropsis oculata*.

Year	M1 mutant N.oculata benefits	Initial investment	Infrastructure	Interests	Administration and insurance	Operating costs	Sum of payments	Sum of payments with contingency factor (1.25)	Net cash flow	Net present value	price per kg microalga oil	original benefits baseline	M1 mutant N.oculata benefits	PV cash out	PV sum cash out	PV cash in	PV sum cash in	PV cash in- PV cash out	ROI (standard)
1	0 €	351,831 €	1,835,520 €	120,950 €	42,220 €	0 €	2,350,520 €	2,938,150 €	-2,938,150 €	**-2,938,150 €**				2,938,150	2938150		0		
2	0 €	351,831 €	1,835,520 €	120,950 €	42,220 €	0 €	2,350,520 €	2,938,150 €	-2,938,150 €	**-2,938,150 €**				2,938,150	5876300		0		
3	2,159,517 €	0 €	0 €	120,950 €	42,220 €	417,293 €	580,463 €	725,579 €	1,433,938 €	**1,020,648 €**	77.31471	1022487	**2,159,517 €**	**516,453 €**	6,392,753	**1,537,101 €**	1,537,101	1,020,648.42 €	-75.96%
4	4,319,124 €	0 €	0 €	114,863 €	42,220 €	420,788 €	577,871 €	722,339 €	3,596,785 €	**2,285,822 €**	154.6327	2045017	**4,319,124 €**	**459,059 €**	6,851,812	**2,744,881 €**	4,281,983	2,285,821.82 €	-37.51%
5	4,594,770 €	0 €	0 €	87,748 €	42,220 €	424,452 €	554,421 €	693,026 €	3,901,744 €	**2,213,955 €**	164.5013	2175530	**4,594,770 €**	**393,242 €**	7,245,054	**2,607,196 €**	6,889,179	2,213,954.56 €	-4.91%
6	4,888,016 €	0 €	0 €	57,357 €	42,220 €	428,271 €	527,848 €	659,809 €	4,228,207 €	**2,142,141 €**	175.0001	2314376	**4,888,016 €**	**334,280 €**	7,579,334	**2,476,421 €**	9,365,600	2,142,141.47 €	23.57%
7	5,200,055 €	0 €	0 €	23,439 €	42,220 €	432,432 €	498,091 €	622,613 €	4,577,442 €	**2,070,602 €**	186.1716	2462120	**5,200,055 €**	**281,639 €**	7,860,972	**2,352,241 €**	11,717,841	2,070,602.40 €	49.06%
8	5,531,985 €	0 €	0 €	0 €	42,220 €	436,620 €	478,840 €	598,550 €	4,933,435 €	**1,992,532 €**	198.0553	2619282	**5,531,985 €**	**241,744 €**	8,102,716	**2,234,276 €**	13,952,117	1,992,531.67 €	72.19%
9	5,885,090 €	0 €	0 €	0 €	42,220 €	440,902 €	483,122 €	603,902 €	5,281,188 €	**1,904,449 €**	210.6972	2786470	**5,885,090 €**	**217,773 €**	8,320,490	**2,122,222 €**	16,074,339	1,904,449.35 €	93.19%
10	5,885,090 €	0 €	0 €	0 €	42,220 €	445,031 €	487,250 €	609,063 €	5,276,027 €	**1,698,739 €**	210.6972	2786470	**5,885,090 €**	**196,102 €**	8,516,592	**1,894,841 €**	17,969,181	1,698,739.50 €	110.99%
11	5,885,090 €	0 €	0 €	0 €	42,220 €	448,880 €	491,099 €	613,874 €	5,271,216 €	**1,515,349 €**	210.6972	2786470	**5,885,090 €**	**176,474 €**	8,693,066	**1,691,823 €**	19,661,003	1,515,348.65 €	126.17%
12	5,885,090 €	0 €	0 €	0 €	42,220 €	452,724 €	494,944 €	618,680 €	5,266,410 €	**1,351,756 €**	210.6972	2786470	**5,885,090 €**	**158,800 €**	8,851,865	**1,510,556 €**	21,171,560	1,351,756.28 €	139.18%
13	5,885,090 €	0 €	0 €	0 €	42,220 €	457,236 €	499,455 €	624,319 €	5,260,771 €	**1,205,633 €**	210.6972	2786470	**5,885,090 €**	**143,078 €**	8,994,943	**1,348,711 €**	22,520,270	1,205,632.94 €	150.37%
14	5,885,090 €	0 €	0 €	0 €	42,220 €	461,782 €	504,002 €	630,002 €	5,255,088 €	**1,075,295 €**	210.6972	2786470	**5,885,090 €**	**128,911 €**	9,123,854	**1,204,206 €**	23,724,476	1,075,295.13 €	160.03%
15	5,885,090 €	0 €	0 €	0 €	42,220 €	466,686 €	508,906 €	636,132 €	5,248,958 €	**958,965 €**	210.6972	2786470	**5,885,090 €**	**116,219 €**	9,240,073	**1,075,184 €**	24,799,660	958,965.01 €	168.39%
16	5,885,090 €	0 €	0 €	0 €	42,220 €	471,163 €	513,383 €	641,729 €	5,243,361 €	**855,306 €**	210.6972	2786470	**5,885,090 €**	**104,680 €**	9,344,753	**959,986 €**	25,759,646	855,305.76 €	175.66%
17	5,885,090 €	0 €	0 €	0 €	42,220 €	475,883 €	518,103 €	647,628 €	5,237,462 €	**762,807 €**	210.6972	2786470	**5,885,090 €**	**94,323 €**	9,439,076	**857,130 €**	26,616,776	762,806.71 €	181.98%
18	5,885,090 €	0 €	0 €	0 €	42,220 €	480,468 €	522,688 €	653,360 €	5,231,730 €	**680,332 €**	210.6972	2786470	**5,885,090 €**	**84,963 €**	9,524,039	**765,295 €**	27,382,071	680,332.03 €	187.50%
19	5,885,090 €	0 €	0 €	0 €	42,220 €	485,546 €	527,766 €	659,707 €	5,225,383 €	**606,702 €**	210.6972	2786470	**5,885,090 €**	**76,596 €**	9,600,635	**683,299 €**	28,065,369	606,702.38 €	192.33%
20	5,885,090 €	0 €	0 €	0 €	42,220 €	490,394 €	532,614 €	665,767 €	5,219,323 €	**541,070 €**	210.6972	2786470	**5,885,090 €**	**69,018 €**	9,669,653	**610,088 €**	28,675,458	541,070.33 €	196.55%
21	5,885,090 €	0 €	0 €	0 €	42,220 €	495,114 €	537,334 €	671,667 €	5,213,423 €	**482,552 €**	210.6972	2786470	**5,885,090 €**	**62,169 €**	9,731,823	**544,722 €**	29,220,179	482,552.41 €	200.25%
22	5,885,090 €	0 €	0 €	0 €	42,220 €	500,185 €	542,404 €	678,005 €	5,207,085 €	**430,327 €**	210.6972	2786470	**5,885,090 €**	**56,032 €**	9,787,855	**486,359 €**	29,706,538	430,326.58 €	203.50%
23	5,885,090 €	0 €	0 €	0 €	42,220 €	505,121 €	547,341 €	684,176 €	5,200,914 €	**383,765 €**	210.6972	2786470	**5,885,090 €**	**50,484 €**	9,838,339	**434,249 €**	30,140,787	383,764.81 €	206.36%
24	5,885,090 €	0 €	0 €	0 €	42,220 €	509,789 €	552,009 €	690,011 €	5,195,079 €	**342,263 €**	210.6972	2786470	**5,885,090 €**	**45,459 €**	9,883,798	**387,722 €**	30,528,509	342,262.73 €	208.87%
25	5,885,090 €	0 €	0 €	0 €	42,220 €	515,078 €	557,297 €	696,622 €	5,188,468 €	**305,203 €**	210.6972	2786470	**5,885,090 €**	**40,978 €**	9,924,776	**346,180 €**	30,874,689	305,202.85 €	211.09%
26	5,885,090 €	0 €	0 €	0 €	42,220 €	520,297 €	562,517 €	703,146 €	5,181,944 €	**272,160 €**	210.6972	2786470	**5,885,090 €**	**36,930 €**	9,961,705	**309,090 €**	31,183,779	272,159.89 €	213.04%
27	5,885,090 €	0 €	0 €	0 €	42,220 €	526,159 €	568,379 €	710,474 €	5,174,616 €	**242,656 €**	210.6972	2786470	**5,885,090 €**	**33,317 €**	9,995,022	**275,973 €**	31,459,752	242,656.27 €	214.75%
28	5,885,090 €	0 €	0 €	0 €	42,220 €	531,950 €	574,170 €	717,712 €	5,167,378 €	**216,354 €**	210.6972	2786470	**5,885,090 €**	**30,050 €**	10,025,072	**246,404 €**	31,706,156	216,354.33 €	216.27%
29	5,885,090 €	0 €	0 €	0 €	42,220 €	538,277 €	580,497 €	725,621 €	5,159,469 €	**192,878 €**	210.6972	2786470	**5,885,090 €**	**27,126 €**	10,052,198	**220,004 €**	31,926,160	192,877.85 €	217.60%
30	5,885,090 €	0 €	0 €	0 €	42,220 €	543,954 €	586,174 €	732,718 €	5,152,372 €	**171,975 €**	210.6972	2786470	**5,885,090 €**	**24,457 €**	10,076,655	**196,432 €**	32,122,592	171,975.48 €	218.78%
31	5,885,090 €	0 €	0 €	0 €	42,220 €	550,125 €	592,344 €	740,431 €	5,144,659 €	**153,320 €**	210.6972	2786470	**5,885,090 €**	**22,066 €**	10,098,721	**175,386 €**	32,297,978	153,319.68 €	219.82%
32	5,885,090 €	0 €	0 €	0 €	42,220 €	555,486 €	597,706 €	747,132 €	5,137,958 €	**136,714 €**	210.6972	2786470	**5,885,090 €**	**19,880 €**	10,118,601	**156,594 €**	32,454,573	136,714.26 €	220.74%
Sum 1-32									147,811,834 €	**22,335,972 €**									

Supplementary Table S5.4: TEA calculation for M1 mutant *Nannochloropsis oculata* (Scenario 1-M1 mutant grew 28.3 % faster than wild-type).

Year	M1 mutant N.oculata benefits (28.3 % faster)	Initial investment	Infrastructure	Interests	Administration and insurance	Operating costs	Sum of payments	Sum of payments with contingency factor (1.25)	Net cash flow	Net present value	price per kg microalgae oil	original benefits baseline	M1 mutant N.oculata benefits (28.3 % faster)	PV cash out	PV sum cash out	PV cash in	PV sum cash in	PV cash in- PV cash out	ROI (standard)
1	0 €	351,831 €	1,835,520 €	120,950 €	42,220 €	0 €	2,350,520 €	2,938,150 €	-2,938,150 €	**-2,938,150 €**				2,938,150	2938150		0		
2	0 €	351,831 €	1,835,520 €	120,950 €	42,220 €	0 €	2,350,520 €	2,938,150 €	-2,938,150 €	**-2,938,150 €**				2,938,150	5876300		0		
3	3,472,828 €	0 €	0 €	120,950 €	42,220 €	417,293 €	580,463 €	725,579 €	2,747,249 €	**1,955,437 €**	77.31471	1022487	**3,472,828 €**	**516,453 €**	6,392,753	**2,471,890 €**	2,471,890	1,955,437.25 €	-61.33%
4	6,945,801 €	0 €	0 €	114,863 €	42,220 €	420,788 €	577,871 €	722,339 €	6,223,462 €	**3,955,123 €**	154.6327	2045017	**6,945,801 €**	**459,059 €**	6,851,812	**4,414,182 €**	6,886,072	3,955,122.69 €	0.50%
5	7,389,082 €	0 €	0 €	87,748 €	42,220 €	424,452 €	554,421 €	693,026 €	6,696,056 €	**3,799,522 €**	164.5013	2175530	**7,389,082 €**	**393,242 €**	7,245,054	**4,192,764 €**	11,078,836	3,799,522.12 €	52.92%
6	7,860,666 €	0 €	0 €	57,357 €	42,220 €	428,271 €	527,848 €	659,809 €	7,200,857 €	**3,648,178 €**	175.0001	2314376	**7,860,666 €**	**334,280 €**	7,579,334	**3,982,458 €**	15,061,294	3,648,178.22 €	98.72%
7	8,362,471 €	0 €	0 €	23,439 €	42,220 €	432,432 €	498,091 €	622,613 €	7,739,858 €	**3,501,119 €**	186.1716	2462120	**8,362,471 €**	**281,639 €**	7,860,972	**3,782,757 €**	18,844,051	3,501,118.81 €	139.72%
8	8,896,264 €	0 €	0 €	0 €	42,220 €	436,620 €	478,840 €	598,550 €	8,297,714 €	**3,351,308 €**	198.0553	2619282	**8,896,264 €**	**241,744 €**	8,102,716	**3,593,052 €**	22,437,103	3,351,307.67 €	176.91%
9	9,464,110 €	0 €	0 €	0 €	42,220 €	440,902 €	483,122 €	603,902 €	8,860,208 €	**3,195,080 €**	210.6972	2786470	**9,464,110 €**	**217,773 €**	8,320,490	**3,412,853 €**	25,849,956	3,195,079.94 €	210.68%
10	9,464,110 €	0 €	0 €	0 €	42,220 €	445,031 €	487,250 €	609,063 €	8,855,047 €	**2,851,088 €**	210.6972	2786470	**9,464,110 €**	**196,102 €**	8,516,592	**3,047,190 €**	28,897,146	2,851,088.24 €	239.30%
11	9,464,110 €	0 €	0 €	0 €	42,220 €	448,880 €	491,099 €	613,874 €	8,850,236 €	**2,544,231 €**	210.6972	2786470	**9,464,110 €**	**176,474 €**	8,693,066	**2,720,706 €**	31,617,852	2,544,231.46 €	263.71%
12	9,464,110 €	0 €	0 €	0 €	42,220 €	452,724 €	494,944 €	618,680 €	8,845,430 €	**2,270,402 €**	210.6972	2786470	**9,464,110 €**	**158,800 €**	8,851,865	**2,429,201 €**	34,047,053	2,270,401.65 €	284.63%
13	9,464,110 €	0 €	0 €	0 €	42,220 €	457,236 €	499,455 €	624,319 €	8,839,791 €	**2,025,852 €**	210.6972	2786470	**9,464,110 €**	**143,078 €**	8,994,943	**2,168,930 €**	36,215,983	2,025,852.01 €	302.63%
14	9,464,110 €	0 €	0 €	0 €	42,220 €	461,782 €	504,002 €	630,002 €	8,834,108 €	**1,807,634 €**	210.6972	2786470	**9,464,110 €**	**128,911 €**	9,123,854	**1,936,544 €**	38,152,528	1,807,633.59 €	318.16%
15	9,464,110 €	0 €	0 €	0 €	42,220 €	466,686 €	508,906 €	636,132 €	8,827,978 €	**1,612,839 €**	210.6972	2786470	**9,464,110 €**	**116,219 €**	9,240,073	**1,729,058 €**	39,881,585	1,612,838.63 €	331.62%
16	9,464,110 €	0 €	0 €	0 €	42,220 €	471,163 €	513,383 €	641,729 €	8,822,381 €	**1,439,122 €**	210.6972	2786470	**9,464,110 €**	**104,680 €**	9,344,753	**1,543,801 €**	41,425,387	1,439,121.50 €	343.30%
17	9,464,110 €	0 €	0 €	0 €	42,220 €	475,883 €	518,103 €	647,628 €	8,816,482 €	**1,284,071 €**	210.6972	2786470	**9,464,110 €**	**94,323 €**	9,439,076	**1,378,394 €**	42,803,781	1,284,070.76 €	353.47%
18	9,464,110 €	0 €	0 €	0 €	42,220 €	480,468 €	522,688 €	653,360 €	8,810,750 €	**1,145,746 €**	210.6972	2786470	**9,464,110 €**	**84,963 €**	9,524,039	**1,230,709 €**	44,034,490	1,145,746.36 €	362.35%
19	9,464,110 €	0 €	0 €	0 €	42,220 €	485,546 €	527,766 €	659,707 €	8,804,403 €	**1,022,251 €**	210.6972	2786470	**9,464,110 €**	**76,596 €**	9,600,635	**1,098,847 €**	45,133,337	1,022,250.89 €	370.11%
20	9,464,110 €	0 €	0 €	0 €	42,220 €	490,394 €	532,614 €	665,767 €	8,798,343 €	**912,096 €**	210.6972	2786470	**9,464,110 €**	**69,018 €**	9,669,653	**981,114 €**	46,114,451	912,095.79 €	376.90%
21	9,464,110 €	0 €	0 €	0 €	42,220 €	495,114 €	537,334 €	671,667 €	8,792,443 €	**813,825 €**	210.6972	2786470	**9,464,110 €**	**62,169 €**	9,731,823	**875,994 €**	46,990,445	813,825.14 €	382.85%
22	9,464,110 €	0 €	0 €	0 €	42,220 €	500,185 €	542,404 €	678,005 €	8,786,105 €	**726,106 €**	210.6972	2786470	**9,464,110 €**	**56,032 €**	9,787,855	**782,138 €**	47,772,583	726,105.80 €	388.08%
23	9,464,110 €	0 €	0 €	0 €	42,220 €	505,121 €	547,341 €	684,176 €	8,779,934 €	**647,853 €**	210.6972	2786470	**9,464,110 €**	**50,484 €**	9,838,339	**698,337 €**	48,470,920	647,853.40 €	392.67%
24	9,464,110 €	0 €	0 €	0 €	42,220 €	509,789 €	552,009 €	690,011 €	8,774,099 €	**578,056 €**	210.6972	2786470	**9,464,110 €**	**45,459 €**	9,883,798	**623,515 €**	49,094,436	578,056.12 €	396.72%
25	9,464,110 €	0 €	0 €	0 €	42,220 €	515,078 €	557,297 €	696,622 €	8,767,488 €	**515,733 €**	210.6972	2786470	**9,464,110 €**	**40,978 €**	9,924,776	**556,710 €**	49,651,146	515,732.65 €	400.27%
26	9,464,110 €	0 €	0 €	0 €	42,220 €	520,297 €	562,517 €	703,146 €	8,760,964 €	**460,133 €**	210.6972	2786470	**9,464,110 €**	**36,930 €**	9,961,705	**497,063 €**	50,148,209	460,132.94 €	403.41%
27	9,464,110 €	0 €	0 €	0 €	42,220 €	526,159 €	568,379 €	710,474 €	8,753,636 €	**410,489 €**	210.6972	2786470	**9,464,110 €**	**33,317 €**	9,995,022	**443,806 €**	50,592,015	410,489.34 €	406.17%
28	9,464,110 €	0 €	0 €	0 €	42,220 €	531,950 €	574,170 €	717,712 €	8,746,398 €	**366,205 €**	210.6972	2786470	**9,464,110 €**	**30,050 €**	10,025,072	**396,255 €**	50,988,270	366,205.29 €	408.61%
29	9,464,110 €	0 €	0 €	0 €	42,220 €	538,277 €	580,497 €	725,621 €	8,738,489 €	**326,673 €**	210.6972	2786470	**9,464,110 €**	**27,126 €**	10,052,198	**353,799 €**	51,342,070	326,673.35 €	410.75%
30	9,464,110 €	0 €	0 €	0 €	42,220 €	543,954 €	586,174 €	732,718 €	8,731,392 €	**291,436 €**	210.6972	2786470	**9,464,110 €**	**24,457 €**	10,076,655	**315,892 €**	51,657,962	291,435.75 €	412.65%
31	9,464,110 €	0 €	0 €	0 €	42,220 €	550,125 €	592,344 €	740,431 €	8,723,679 €	**259,981 €**	210.6972	2786470	**9,464,110 €**	**22,066 €**	10,098,721	**282,047 €**	51,940,009	259,980.63 €	414.32%
32	9,464,110 €	0 €	0 €	0 €	42,220 €	555,486 €	597,706 €	747,132 €	8,716,978 €	**231,947 €**	210.6972	2786470	**9,464,110 €**	**19,880 €**	10,118,601	**251,827 €**	52,191,836	231,947.26 €	415.80%
Sum 1-32									249,941,966 €	**42,073,235 €**									

Supplementary Table S5.5: TEA calculation for M1 mutant *Nannochloropsis oculata* (Scenario 2-increase the operation to 80 % (292 days/year).

Year	M1 mutant N.oculata benefits (292 days/year)	Initial investment	Infrastructure	Interests	Administration and insurance	Operating costs	Sum of payments	Sum of payments with contingency factor (1.25)	Net cash flow	Net present value	price per kg microalga oil	original benefits baseline	M1 mutant N.oculata benefits (292 days/year)	PV cash out	PV sum cash out	PV cash in	PV sum cash in	PV cash in- PV cash out	ROI (standard)
1	0 €	351,831 €	1,835,520 €	120,950 €	42,220 €	0 €	2,350,520 €	2,938,150 €	-2,938,150 €	**-2,938,150 €**				2,938,150	2938150		0		
2	0 €	351,831 €	1,835,520 €	120,950 €	42,220 €	0 €	2,350,520 €	2,938,150 €	-2,938,150 €	**-2,938,150 €**				2,938,150	5876300		0		
3	3,445,787 €	0 €	0 €	120,950 €	42,220 €	417,293 €	580,463 €	725,579 €	2,720,208 €	**1,936,190 €**	77.31471	1022487	**3,445,787 €**	**516,453 €**	6,392,753	**2,452,643 €**	2,452,643	1,936,190.07 €	-61.63%
4	6,891,718 €	0 €	0 €	114,863 €	42,220 €	420,788 €	577,871 €	722,339 €	6,169,379 €	**3,920,752 €**	154.6327	2045017	**6,891,718 €**	**459,059 €**	6,851,812	**4,379,812 €**	6,832,454	3,920,752.01 €	-0.28%
5	7,331,548 €	0 €	0 €	87,748 €	42,220 €	424,452 €	554,421 €	693,026 €	6,638,522 €	**3,766,875 €**	164.5013	2175530	**7,331,548 €**	**393,242 €**	7,245,054	**4,160,117 €**	10,992,571	3,766,875.49 €	51.73%
6	7,799,459 €	0 €	0 €	57,357 €	42,220 €	428,271 €	527,848 €	659,809 €	7,139,650 €	**3,617,169 €**	175.0001	2314376	**7,799,459 €**	**334,280 €**	7,579,334	**3,951,449 €**	14,944,020	3,617,169.11 €	97.17%
7	8,297,358 €	0 €	0 €	23,439 €	42,220 €	432,432 €	498,091 €	622,613 €	7,674,745 €	**3,471,665 €**	186.1716	2462120	**8,297,358 €**	**281,639 €**	7,860,972	**3,753,303 €**	18,697,323	3,471,664.66 €	137.85%
8	8,826,994 €	0 €	0 €	0 €	42,220 €	436,620 €	478,840 €	598,550 €	8,228,444 €	**3,323,331 €**	198.0553	2619282	**8,826,994 €**	**241,744 €**	8,102,716	**3,565,075 €**	22,262,398	3,323,330.64 €	174.75%
9	9,390,419 €	0 €	0 €	0 €	42,220 €	440,902 €	483,122 €	603,902 €	8,786,517 €	**3,168,506 €**	210.6972	2786470	**9,390,419 €**	**217,773 €**	8,320,490	**3,386,279 €**	25,648,678	3,168,506.02 €	208.26%
10	9,390,419 €	0 €	0 €	0 €	42,220 €	445,031 €	487,250 €	609,063 €	8,781,356 €	**2,827,362 €**	210.6972	2786470	**9,390,419 €**	**196,102 €**	8,516,592	**3,023,464 €**	28,672,141	2,827,361.53 €	236.66%
11	9,390,419 €	0 €	0 €	0 €	42,220 €	448,880 €	491,099 €	613,874 €	8,776,545 €	**2,523,047 €**	210.6972	2786470	**9,390,419 €**	**176,474 €**	8,693,066	**2,699,521 €**	31,371,662	2,523,046.89 €	260.88%
12	9,390,419 €	0 €	0 €	0 €	42,220 €	452,724 €	494,944 €	618,680 €	8,771,739 €	**2,251,487 €**	210.6972	2786470	**9,390,419 €**	**158,800 €**	8,851,865	**2,410,287 €**	33,781,949	2,251,486.86 €	281.64%
13	9,390,419 €	0 €	0 €	0 €	42,220 €	457,236 €	499,455 €	624,319 €	8,766,100 €	**2,008,964 €**	210.6972	2786470	**9,390,419 €**	**143,078 €**	8,994,943	**2,152,042 €**	35,933,990	2,008,963.81 €	299.49%
14	9,390,419 €	0 €	0 €	0 €	42,220 €	461,782 €	504,002 €	630,002 €	8,760,417 €	**1,792,555 €**	210.6972	2786470	**9,390,419 €**	**128,911 €**	9,123,854	**1,921,466 €**	37,855,456	1,792,554.83 €	314.91%
15	9,390,419 €	0 €	0 €	0 €	42,220 €	466,686 €	508,906 €	636,132 €	8,754,287 €	**1,599,375 €**	210.6972	2786470	**9,390,419 €**	**116,219 €**	9,240,073	**1,715,594 €**	39,571,050	1,599,375.46 €	328.25%
16	9,390,419 €	0 €	0 €	0 €	42,220 €	471,163 €	513,383 €	641,729 €	8,748,690 €	**1,427,101 €**	210.6972	2786470	**9,390,419 €**	**104,680 €**	9,344,753	**1,531,781 €**	41,102,831	1,427,100.81 €	339.85%
17	9,390,419 €	0 €	0 €	0 €	42,220 €	475,883 €	518,103 €	647,628 €	8,742,791 €	**1,273,338 €**	210.6972	2786470	**9,390,419 €**	**94,323 €**	9,439,076	**1,367,661 €**	42,470,492	1,273,338.00 €	349.94%
18	9,390,419 €	0 €	0 €	0 €	42,220 €	480,468 €	522,688 €	653,360 €	8,737,059 €	**1,136,164 €**	210.6972	2786470	**9,390,419 €**	**84,963 €**	9,524,039	**1,221,126 €**	43,691,619	1,136,163.54 €	358.75%
19	9,390,419 €	0 €	0 €	0 €	42,220 €	485,546 €	527,766 €	659,707 €	8,730,712 €	**1,013,695 €**	210.6972	2786470	**9,390,419 €**	**76,596 €**	9,600,635	**1,090,291 €**	44,781,910	1,013,694.80 €	366.45%
20	9,390,419 €	0 €	0 €	0 €	42,220 €	490,394 €	532,614 €	665,767 €	8,724,652 €	**904,456 €**	210.6972	2786470	**9,390,419 €**	**69,018 €**	9,669,653	**973,474 €**	45,755,384	904,456.42 €	373.19%
21	9,390,419 €	0 €	0 €	0 €	42,220 €	495,114 €	537,334 €	671,667 €	8,718,752 €	**807,004 €**	210.6972	2786470	**9,390,419 €**	**62,169 €**	9,731,823	**869,174 €**	46,624,558	807,004.28 €	379.09%
22	9,390,419 €	0 €	0 €	0 €	42,220 €	500,185 €	542,404 €	678,005 €	8,712,414 €	**720,016 €**	210.6972	2786470	**9,390,419 €**	**56,032 €**	9,787,855	**776,048 €**	47,400,606	720,015.74 €	384.28%
23	9,390,419 €	0 €	0 €	0 €	42,220 €	505,121 €	547,341 €	684,176 €	8,706,243 €	**642,416 €**	210.6972	2786470	**9,390,419 €**	**50,484 €**	9,838,339	**692,900 €**	48,093,505	642,415.85 €	388.84%
24	9,390,419 €	0 €	0 €	0 €	42,220 €	509,789 €	552,009 €	690,011 €	8,700,408 €	**573,201 €**	210.6972	2786470	**9,390,419 €**	**45,459 €**	9,883,798	**618,661 €**	48,712,166	573,201.16 €	392.85%
25	9,390,419 €	0 €	0 €	0 €	42,220 €	515,078 €	557,297 €	696,622 €	8,693,797 €	**511,398 €**	210.6972	2786470	**9,390,419 €**	**40,978 €**	9,924,776	**552,375 €**	49,264,541	511,397.87 €	396.38%
26	9,390,419 €	0 €	0 €	0 €	42,220 €	520,297 €	562,517 €	703,146 €	8,687,273 €	**456,263 €**	210.6972	2786470	**9,390,419 €**	**36,930 €**	9,961,705	**493,192 €**	49,757,734	456,262.60 €	399.49%
27	9,390,419 €	0 €	0 €	0 €	42,220 €	526,159 €	568,379 €	710,474 €	8,679,945 €	**407,034 €**	210.6972	2786470	**9,390,419 €**	**33,317 €**	9,995,022	**440,350 €**	50,198,084	407,033.68 €	402.23%
28	9,390,419 €	0 €	0 €	0 €	42,220 €	531,950 €	574,170 €	717,712 €	8,672,707 €	**363,120 €**	210.6972	2786470	**9,390,419 €**	**30,050 €**	10,025,072	**393,170 €**	50,591,254	363,119.88 €	404.65%
29	9,390,419 €	0 €	0 €	0 €	42,220 €	538,277 €	580,497 €	725,621 €	8,664,798 €	**323,919 €**	210.6972	2786470	**9,390,419 €**	**27,126 €**	10,052,198	**351,045 €**	50,942,299	323,918.51 €	406.78%
30	9,390,419 €	0 €	0 €	0 €	42,220 €	543,954 €	586,174 €	732,718 €	8,657,701 €	**288,976 €**	210.6972	2786470	**9,390,419 €**	**24,457 €**	10,076,655	**313,433 €**	51,255,731	288,976.08 €	408.66%
31	9,390,419 €	0 €	0 €	0 €	42,220 €	550,125 €	592,344 €	740,431 €	8,649,988 €	**257,784 €**	210.6972	2786470	**9,390,419 €**	**22,066 €**	10,098,721	**279,851 €**	51,535,582	257,784.49 €	410.32%
32	9,390,419 €	0 €	0 €	0 €	42,220 €	555,486 €	597,706 €	747,132 €	8,643,287 €	**229,986 €**	210.6972	2786470	**9,390,419 €**	**19,880 €**	10,118,601	**249,867 €**	51,785,449	229,986.42 €	411.78%
Sum 1-32									247,839,120 €	**41,666,848 €**									

Supplementary Table S5.6: TEA calculation for M1 mutant *Nannochloropsis oculata* (Scenario 3-50 % higher biomass could be produced in tropical country due to more sunlight).

Year	M1 mutant N.oculata benefits (tropical-50 % add. biomass)	Initial investment	Infrastructure	Interests	Administration and insurance	Operating costs	Sum of payments	Sum of payments with contingency factor (1.25)	Net cash flow	Net present value	price per kg microalga oil	original benefits baseline	M1 mutant N.oculata benefits (tropical-50 % add. biomass)	PV cash out	PV sum cash out	PV cash in	PV sum cash in	PV cash in- PV cash out	ROI (standard)
1	0 €	351,831 €	1,835,520 €	120,950 €	42,220 €	0 €	2,350,520 €	2,938,150 €	-2,938,150 €	**-2,938,150 €**				2,938,150	2938150		0		
2	0 €	351,831 €	1,835,520 €	120,950 €	42,220 €	0 €	2,350,520 €	2,938,150 €	-2,938,150 €	**-2,938,150 €**				2,938,150	5876300		0		
3	3,239,275 €	0 €	0 €	120,950 €	42,220 €	417,293 €	580,463 €	725,579 €	2,513,696 €	**1,789,199 €**	77.314707	1022487	**3,239,275 €**	**516,453 €**	6,392,753	**2,305,652 €**	2,305,652	1,789,199.02 €	-63.93%
4	6,478,686 €	0 €	0 €	114,863 €	42,220 €	420,788 €	577,871 €	722,339 €	5,756,347 €	**3,658,262 €**	154.63267	2045017	**6,478,686 €**	**459,059 €**	6,851,812	**4,117,322 €**	6,422,974	3,658,262.48 €	-6.26%
5	6,892,156 €	0 €	0 €	87,748 €	42,220 €	424,452 €	554,421 €	693,026 €	6,199,130 €	**3,517,553 €**	164.50132	2175530	**6,892,156 €**	**393,242 €**	7,245,054	**3,910,794 €**	10,333,768	3,517,552.63 €	42.63%
6	7,332,025 €	0 €	0 €	57,357 €	42,220 €	428,271 €	527,848 €	659,809 €	6,672,216 €	**3,380,352 €**	175.00008	2314376	**7,332,025 €**	**334,280 €**	7,579,334	**3,714,632 €**	14,048,400	3,380,352.09 €	85.35%
7	7,800,083 €	0 €	0 €	23,439 €	42,220 €	432,432 €	498,091 €	622,613 €	7,177,470 €	**3,246,723 €**	186.17164	2462120	**7,800,083 €**	**281,639 €**	7,860,972	**3,528,361 €**	17,576,761	3,246,722.84 €	123.60%
8	8,297,978 €	0 €	0 €	0 €	42,220 €	436,620 €	478,840 €	598,550 €	7,699,428 €	**3,109,670 €**	198.05535	2619282	**8,297,978 €**	**241,744 €**	8,102,716	**3,351,414 €**	20,928,175	3,109,669.66 €	158.29%
9	8,827,635 €	0 €	0 €	0 €	42,220 €	440,902 €	483,122 €	603,902 €	8,223,733 €	**2,965,561 €**	210.69716	2786470	**8,827,635 €**	**217,773 €**	8,320,490	**3,183,334 €**	24,111,509	2,965,560.58 €	189.78%
10	8,827,635 €	0 €	0 €	0 €	42,220 €	445,031 €	487,250 €	609,063 €	8,218,572 €	**2,646,160 €**	210.69716	2786470	**8,827,635 €**	**196,102 €**	8,516,592	**2,842,262 €**	26,953,771	2,646,160.24 €	216.49%
11	8,827,635 €	0 €	0 €	0 €	42,220 €	448,880 €	491,099 €	613,874 €	8,213,761 €	**2,361,260 €**	210.69716	2786470	**8,827,635 €**	**176,474 €**	8,693,066	**2,537,734 €**	29,491,505	2,361,260.02 €	239.25%
12	8,827,635 €	0 €	0 €	0 €	42,220 €	452,724 €	494,944 €	618,680 €	8,208,955 €	**2,107,034 €**	210.69716	2786470	**8,827,635 €**	**158,800 €**	8,851,865	**2,265,834 €**	31,757,339	2,107,034.30 €	258.76%
13	8,827,635 €	0 €	0 €	0 €	42,220 €	457,236 €	499,455 €	624,319 €	8,203,316 €	**1,879,988 €**	210.69716	2786470	**8,827,635 €**	**143,078 €**	8,994,943	**2,023,066 €**	33,780,405	1,879,988.31 €	275.55%
14	8,827,635 €	0 €	0 €	0 €	42,220 €	461,782 €	504,002 €	630,002 €	8,197,633 €	**1,677,398 €**	210.69716	2786470	**8,827,635 €**	**128,911 €**	9,123,854	**1,806,309 €**	35,586,714	1,677,398.14 €	290.04%
15	8,827,635 €	0 €	0 €	0 €	42,220 €	466,686 €	508,906 €	636,132 €	8,191,503 €	**1,496,557 €**	210.69716	2786470	**8,827,635 €**	**116,219 €**	9,240,073	**1,612,776 €**	37,199,490	1,496,556.98 €	302.59%
16	8,827,635 €	0 €	0 €	0 €	42,220 €	471,163 €	513,383 €	641,729 €	8,185,906 €	**1,335,299 €**	210.69716	2786470	**8,827,635 €**	**104,680 €**	9,344,753	**1,439,978 €**	38,639,469	1,335,298.60 €	313.49%
17	8,827,635 €	0 €	0 €	0 €	42,220 €	475,883 €	518,103 €	647,628 €	8,180,007 €	**1,191,372 €**	210.69716	2786470	**8,827,635 €**	**94,323 €**	9,439,076	**1,285,695 €**	39,925,164	1,191,371.73 €	322.98%
18	8,827,635 €	0 €	0 €	0 €	42,220 €	480,468 €	522,688 €	653,360 €	8,174,275 €	**1,062,979 €**	210.69716	2786470	**8,827,635 €**	**84,963 €**	9,524,039	**1,147,942 €**	41,073,106	1,062,979.38 €	331.26%
19	8,827,635 €	0 €	0 €	0 €	42,220 €	485,546 €	527,766 €	659,707 €	8,167,928 €	**948,352 €**	210.69716	2786470	**8,827,635 €**	**76,596 €**	9,600,635	**1,024,948 €**	42,098,054	948,351.80 €	338.49%
20	8,827,635 €	0 €	0 €	0 €	42,220 €	490,394 €	532,614 €	665,767 €	8,161,868 €	**846,114 €**	210.69716	2786470	**8,827,635 €**	**69,018 €**	9,669,653	**915,132 €**	43,013,187	846,114.46 €	344.83%
21	8,827,635 €	0 €	0 €	0 €	42,220 €	495,114 €	537,334 €	671,667 €	8,155,968 €	**754,913 €**	210.69716	2786470	**8,827,635 €**	**62,169 €**	9,731,823	**817,082 €**	43,830,269	754,913.24 €	350.38%
22	8,827,635 €	0 €	0 €	0 €	42,220 €	500,185 €	542,404 €	678,005 €	8,149,630 €	**673,506 €**	210.69716	2786470	**8,827,635 €**	**56,032 €**	9,787,855	**729,538 €**	44,559,807	673,505.89 €	355.26%
23	8,827,635 €	0 €	0 €	0 €	42,220 €	505,121 €	547,341 €	684,176 €	8,143,459 €	**600,889 €**	210.69716	2786470	**8,827,635 €**	**50,484 €**	9,838,339	**651,373 €**	45,211,180	600,889.20 €	359.54%
24	8,827,635 €	0 €	0 €	0 €	42,220 €	509,789 €	552,009 €	690,011 €	8,137,624 €	**536,124 €**	210.69716	2786470	**8,827,635 €**	**45,459 €**	9,883,798	**581,583 €**	45,792,763	536,123.79 €	363.31%
25	8,827,635 €	0 €	0 €	0 €	42,220 €	515,078 €	557,297 €	696,622 €	8,131,013 €	**478,293 €**	210.69716	2786470	**8,827,635 €**	**40,978 €**	9,924,776	**519,271 €**	46,312,034	478,293.07 €	366.63%
26	8,827,635 €	0 €	0 €	0 €	42,220 €	520,297 €	562,517 €	703,146 €	8,124,489 €	**426,705 €**	210.69716	2786470	**8,827,635 €**	**36,930 €**	9,961,705	**463,635 €**	46,775,668	426,704.74 €	369.55%
27	8,827,635 €	0 €	0 €	0 €	42,220 €	526,159 €	568,379 €	710,474 €	8,117,161 €	**380,643 €**	210.69716	2786470	**8,827,635 €**	**33,317 €**	9,995,022	**413,959 €**	47,189,628	380,642.74 €	372.13%
28	8,827,635 €	0 €	0 €	0 €	42,220 €	531,950 €	574,170 €	717,712 €	8,109,923 €	**339,557 €**	210.69716	2786470	**8,827,635 €**	**30,050 €**	10,025,072	**369,607 €**	47,559,235	339,556.54 €	374.40%
29	8,827,635 €	0 €	0 €	0 €	42,220 €	538,277 €	580,497 €	725,621 €	8,102,014 €	**302,880 €**	210.69716	2786470	**8,827,635 €**	**27,126 €**	10,052,198	**330,006 €**	47,889,240	302,879.82 €	376.41%
30	8,827,635 €	0 €	0 €	0 €	42,220 €	543,954 €	586,174 €	732,718 €	8,094,917 €	**270,192 €**	210.69716	2786470	**8,827,635 €**	**24,457 €**	10,076,655	**294,648 €**	48,183,889	270,191.52 €	378.17%
31	8,827,635 €	0 €	0 €	0 €	42,220 €	550,125 €	592,344 €	740,431 €	8,087,204 €	**241,013 €**	210.69716	2786470	**8,827,635 €**	**22,066 €**	10,098,721	**263,079 €**	48,446,967	241,012.57 €	379.73%
32	8,827,635 €	0 €	0 €	0 €	42,220 €	555,486 €	597,706 €	747,132 €	8,080,503 €	**215,011 €**	210.69716	2786470	**8,827,635 €**	**19,880 €**	10,118,601	**234,892 €**	48,681,859	215,011.49 €	381.11%
Sum 1-32									231,779,648 €	**38,563,258 €**									

Supplementary Table S5.7: TEA calculation for M1 mutant *Nannochloropsis oculata* (Scenario 4-'best-case' combine scenarios 1 to 3).

Year	M1 mutant N.oculata benefits (combine scenario 1-3)	Initial investment	Infrastructure	Interests	Administration and insurance	Operating costs	Sum of payments	Sum of payments with contingency factor (1.25)	Net cash flow	Net present value	price per kg microalgae oil	original benefits baseline	M1 mutant N.oculata benefits (combine scenario 1-3)	PV cash out	PV sum cash out	PV cash in	PV sum cash in	PV cash in- PV cash out	ROI (standard)
1	0 €	351,831 €	1,835,520 €	120,950 €	42,220 €	0 €	2,350,520 €	2,938,150 €	-2,938,150 €	**-2,938,150 €**				2,938,150	2938150		0		
2	0 €	351,831 €	1,835,520 €	120,950 €	42,220 €	0 €	2,350,520 €	2,938,150 €	-2,938,150 €	**-2,938,150 €**				2,938,150	5876300		0		
3	3,239,275 €	0 €	0 €	120,950 €	42,220 €	417,293 €	580,463 €	725,579 €	2,513,696 €	**1,789,199 €**	77.31471	1022487	**8,312,014 €**	**516,453 €**	6,392,753	**5,916,327 €**	5,916,327	5,399,874.58 €	-7.45%
4	16,624,378 €	0 €	0 €	114,863 €	42,220 €	420,788 €	577,871 €	722,339 €	15,902,039 €	**10,106,033 €**	154.6327	2045017	**16,624,378 €**	**459,059 €**	6,851,812	**10,565,092 €**	16,481,420	10,106,032.98 €	140.54%
5	17,685,345 €	0 €	0 €	87,748 €	42,220 €	424,452 €	554,421 €	693,026 €	16,992,319 €	**9,641,898 €**	164.5013	2175530	**17,685,345 €**	**393,242 €**	7,245,054	**10,035,140 €**	26,516,560	9,641,898.39 €	266.00%
6	18,814,054 €	0 €	0 €	57,357 €	42,220 €	428,271 €	527,848 €	659,809 €	18,154,245 €	**9,197,506 €**	175.0001	2314376	**18,814,054 €**	**334,280 €**	7,579,334	**9,531,785 €**	36,048,345	9,197,505.53 €	375.61%
7	20,015,096 €	0 €	0 €	23,439 €	42,220 €	432,432 €	498,091 €	622,613 €	19,392,483 €	**8,772,175 €**	186.1716	2462120	**20,015,096 €**	**281,639 €**	7,860,972	**9,053,813 €**	45,102,158	8,772,174.66 €	473.75%
8	21,292,700 €	0 €	0 €	0 €	42,220 €	436,620 €	478,840 €	598,550 €	20,694,150 €	**8,358,020 €**	198.0553	2619282	**21,292,700 €**	**241,744 €**	8,102,716	**8,599,764 €**	53,701,923	8,358,019.98 €	562.76%
9	22,651,806 €	0 €	0 €	0 €	42,220 €	440,902 €	483,122 €	603,902 €	22,047,904 €	**7,950,695 €**	210.6972	2786470	**22,651,806 €**	**217,773 €**	8,320,490	**8,168,468 €**	61,870,391	7,950,695.38 €	643.59%
10	22,651,806 €	0 €	0 €	0 €	42,220 €	445,031 €	487,250 €	609,063 €	22,042,743 €	**7,097,173 €**	210.6972	2786470	**22,651,806 €**	**196,102 €**	8,516,592	**7,293,275 €**	69,163,666	7,097,173.46 €	712.11%
11	22,651,806 €	0 €	0 €	0 €	42,220 €	448,880 €	491,099 €	613,874 €	22,037,932 €	**6,335,379 €**	210.6972	2786470	**22,651,806 €**	**176,474 €**	8,693,066	**6,511,853 €**	75,675,520	6,335,378.97 €	770.53%
12	22,651,806 €	0 €	0 €	0 €	42,220 €	452,724 €	494,944 €	618,680 €	22,033,126 €	**5,655,355 €**	210.6972	2786470	**22,651,806 €**	**158,800 €**	8,851,865	**5,814,155 €**	81,489,674	5,655,354.78 €	820.59%
13	22,651,806 €	0 €	0 €	0 €	42,220 €	457,236 €	499,455 €	624,319 €	22,027,487 €	**5,048,132 €**	210.6972	2786470	**22,651,806 €**	**143,078 €**	8,994,943	**5,191,209 €**	86,680,884	5,048,131.60 €	863.66%
14	22,651,806 €	0 €	0 €	0 €	42,220 €	461,782 €	504,002 €	630,002 €	22,021,804 €	**4,506,098 €**	210.6972	2786470	**22,651,806 €**	**128,911 €**	9,123,854	**4,635,008 €**	91,315,892	4,506,097.50 €	900.85%
15	22,651,806 €	0 €	0 €	0 €	42,220 €	466,686 €	508,906 €	636,132 €	22,015,674 €	**4,022,181 €**	210.6972	2786470	**22,651,806 €**	**116,219 €**	9,240,073	**4,138,400 €**	95,454,292	4,022,181.41 €	933.05%
16	22,651,806 €	0 €	0 €	0 €	42,220 €	471,163 €	513,383 €	641,729 €	22,010,077 €	**3,590,320 €**	210.6972	2786470	**22,651,806 €**	**104,680 €**	9,344,753	**3,695,000 €**	99,149,293	3,590,320.41 €	961.02%
17	22,651,806 €	0 €	0 €	0 €	42,220 €	475,883 €	518,103 €	647,628 €	22,004,178 €	**3,204,784 €**	210.6972	2786470	**22,651,806 €**	**94,323 €**	9,439,076	**3,299,107 €**	102,448,400	3,204,784.07 €	985.36%
18	22,651,806 €	0 €	0 €	0 €	42,220 €	480,468 €	522,688 €	653,360 €	21,998,446 €	**2,860,669 €**	210.6972	2786470	**22,651,806 €**	**84,963 €**	9,524,039	**2,945,632 €**	105,394,032	2,860,668.96 €	1006.61%
19	22,651,806 €	0 €	0 €	0 €	42,220 €	485,546 €	527,766 €	659,707 €	21,992,099 €	**2,553,432 €**	210.6972	2786470	**22,651,806 €**	**76,596 €**	9,600,635	**2,630,028 €**	108,024,060	2,553,431.79 €	1025.18%
20	22,651,806 €	0 €	0 €	0 €	42,220 €	490,394 €	532,614 €	665,767 €	21,986,039 €	**2,279,222 €**	210.6972	2786470	**22,651,806 €**	**69,018 €**	9,669,653	**2,348,239 €**	110,372,299	2,279,221.59 €	1041.43%
21	22,651,806 €	0 €	0 €	0 €	42,220 €	495,114 €	537,334 €	671,667 €	21,980,139 €	**2,034,473 €**	210.6972	2786470	**22,651,806 €**	**62,169 €**	9,731,823	**2,096,642 €**	112,468,942	2,034,473.17 €	1055.68%
22	22,651,806 €	0 €	0 €	0 €	42,220 €	500,185 €	542,404 €	678,005 €	21,973,801 €	**1,815,970 €**	210.6972	2786470	**22,651,806 €**	**56,032 €**	9,787,855	**1,872,002 €**	114,340,944	1,815,970.12 €	1068.19%
23	22,651,806 €	0 €	0 €	0 €	42,220 €	505,121 €	547,341 €	684,176 €	21,967,630 €	**1,620,947 €**	210.6972	2786470	**22,651,806 €**	**50,484 €**	9,838,339	**1,671,430 €**	116,012,374	1,620,946.54 €	1079.19%
24	22,651,806 €	0 €	0 €	0 €	42,220 €	509,789 €	552,009 €	690,011 €	21,961,795 €	**1,446,889 €**	210.6972	2786470	**22,651,806 €**	**45,459 €**	9,883,798	**1,492,349 €**	117,504,723	1,446,889.28 €	1088.86%
25	22,651,806 €	0 €	0 €	0 €	42,220 €	515,078 €	557,297 €	696,622 €	21,955,184 €	**1,291,477 €**	210.6972	2786470	**22,651,806 €**	**40,978 €**	9,924,776	**1,332,454 €**	118,837,177	1,291,476.55 €	1097.38%
26	22,651,806 €	0 €	0 €	0 €	42,220 €	520,297 €	562,517 €	703,146 €	21,948,660 €	**1,152,761 €**	210.6972	2786470	**22,651,806 €**	**36,930 €**	9,961,705	**1,189,691 €**	120,026,868	1,152,761.41 €	1104.88%
27	22,651,806 €	0 €	0 €	0 €	42,220 €	526,159 €	568,379 €	710,474 €	21,941,332 €	**1,028,908 €**	210.6972	2786470	**22,651,806 €**	**33,317 €**	9,995,022	**1,062,224 €**	121,089,093	1,028,907.63 €	1111.49%
28	22,651,806 €	0 €	0 €	0 €	42,220 €	531,950 €	574,170 €	717,712 €	21,934,094 €	**918,364 €**	210.6972	2786470	**22,651,806 €**	**30,050 €**	10,025,072	**948,415 €**	122,037,507	918,364.47 €	1117.32%
29	22,651,806 €	0 €	0 €	0 €	42,220 €	538,277 €	580,497 €	725,621 €	21,926,185 €	**819,673 €**	210.6972	2786470	**22,651,806 €**	**27,126 €**	10,052,198	**846,799 €**	122,884,306	819,672.62 €	1122.46%
30	22,651,806 €	0 €	0 €	0 €	42,220 €	543,954 €	586,174 €	732,718 €	21,919,088 €	**731,614 €**	210.6972	2786470	**22,651,806 €**	**24,457 €**	10,076,655	**756,070 €**	123,640,376	731,613.67 €	1127.00%
31	22,651,806 €	0 €	0 €	0 €	42,220 €	550,125 €	592,344 €	740,431 €	21,911,375 €	**652,997 €**	210.6972	2786470	**22,651,806 €**	**22,066 €**	10,098,721	**675,063 €**	124,315,439	652,996.63 €	1131.00%
32	22,651,806 €	0 €	0 €	0 €	42,220 €	555,486 €	597,706 €	747,132 €	21,904,674 €	**582,854 €**	210.6972	2786470	**22,651,806 €**	**19,880 €**	10,118,601	**602,735 €**	124,918,174	582,854.40 €	1134.54%
Sum 1-32									621,190,409 €	**111,188,897 €**									