

				No. of Synechoco- ccus strains per cluster	No. of sequ. per cluster (14 genomes)	Synechococcus										Prochlorococcus		
Cluster		Product	Subcluster 5.1A					Subcluster 5.1B					5.2	5.3	HL	LL		
Line No.	No. in cyanorak		Gene Name			BL107	CC9902	CC9605	WH8102	CC9311	WH7803	WH7805	RS9916	RS9917	WH5701	RCC307	MED4	SS120
1	8006	<i>apcA</i>	Allophycocyanin, alpha chain	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
2	8007	<i>apcB</i>	Allophycocyanin, beta chain	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
3	1646	<i>apcC</i>	Phycobilisome 7.8 kDa linker polypeptide, allophycocyanin-associated	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
4	8008	<i>apcD</i>	Allophycocyanin alpha-B chain	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
5	1645	<i>apcE</i>	Phycobilisome core-membrane linker polypeptide (LCM)	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
6	4	<i>apcF</i>	Allophycocyanin, beta-18 chain	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
7	9072	<i>cpcGl</i>	Phycobilisome rod-core linker polypeptide CpcGl	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
8	44	<i>cpcGII</i>	Phycobilisome rod-core linker polypeptide CpcGII	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
9	1528	<i>cpcS</i>	Allophycocyanin and phycocyanin Cys-84 phycocyanobilin lyase	11	12	1	1	1	1	1	1	1	1	2	1	0	0	0
10	1547		Phycobiliprotein lyase or activator, similar to CotB	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
11	1699		Carbonic anhydrase/acetyltransferase	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
12	1423	<i>chpX</i>	CO2 hydration protein	11	12	1	1	1	1	1	1	1	1	2	1	0	0	0
13	8090	<i>ndhD</i>	NADH dehydrogenase I subunit, NdhD4 homolog	11	12	1	1	1	1	1	1	1	1	2	1	0	0	0
14	1422	<i>ndhF</i>	NADH dehydrogenase I subunit, NdhF4 homolog	11	12	1	1	1	1	1	1	1	1	2	1	0	0	0
15	1574		Glycerol-3-phosphate dehydrogenase	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
16	1648	<i>frtC</i>	Ferredoxin-thioredoxin reductase, catalytic subunit	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
17	1644	<i>frtV</i>	Ferredoxin-thioredoxin reductase, variable chain	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
18	1583		Ferredoxin	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
19	47	<i>trxA</i>	Thioredoxin	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
20	67	<i>hli</i>	High light inducible protein	11	12	1	1	1	1	1	1	1	1	2	1	0	0	0
21	969	<i>hli</i>	High light inducible protein	11	16	1	1	1	1	3	2	1	1	1	2	0	0	0
22	1609	<i>hli</i>	High light inducible protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
23	9	<i>psbA</i>	Photosystem II protein D1.1	11	36	4	3	3	2	3	3	5	4	3	3	0	0	0
24	1641	<i>kaiA</i>	Circadian clock protein KaiA	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
25	1565	<i>thyX</i>	Alternative thymidylate synthase	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
26	1628	<i>acyP</i>	Acylphosphatase	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
27	1584		Deoxyribodipyrimidine photolyase	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
28	1540		FAD binding domain of DNA photolyase	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
29	1529		Phosphatidylcholine-hydrolyzing phospholipase D family protein	11	12	1	1	1	1	1	2	1	1	1	1	0	0	0
30	1328		Phosphorylase kinase alpha/beta	11	12	1	1	1	1	1	1	1	1	2	1	0	0	0
31	1610	<i>ggpS</i>	Glucosylglycerol-phosphate synthase	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
32	1575		Glycerol kinase	11	12	1	1	1	1	1	1	2	1	1	1	0	0	0
33	1404		trehalose synthase	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
34	1573		Possible universal stress protein with 2 USP-like domains	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
35	1797		Possible cation efflux transporter (CDF family)	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
36	18		Possible RND family multidrug efflux transporter	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
37	1561		Molecular chaperone (small heat shock protein)	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
38	1593		Two-component sytem response regulator	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
39	1537		Conserved hypothetical membrane protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
40	1568		Conserved hypothetical membrane protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
41	1578		Conserved hypothetical membrane protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
42	1581		Conserved hypothetical membrane protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
43	1639		Conserved hypothetical membrane protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
44	1647		Conserved hypothetical membrane protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
45	1909		Conserved hypothetical membrane protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
46	1545		Conserved hypothetical membrane protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
47	1541		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
48	1550		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
49	1567		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
50	1569		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
51	1586		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
52	1592		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
53	1594		Conserved hypothetical protein	11	13	1	1	1	2	1	2	1	1	1	1	0	0	0
54	1597		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
55	1607		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
56	1611		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
57	1613		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
58	1631		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
59	1638		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
60	1643		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
61	1721		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
62	1795		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
63	2054		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
64	2058		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
65	2066		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
66	2133		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
67	2205		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
68	2915		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
69	1977		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0
70	1591		Conserved hypothetical protein	11	11	1	1	1	1	1	1	1	1	1	1	0	0	0

Green background: genes linked to photosynthesis