

Additional File 4: *Chlorobi*-Specific Proteins that are Missing in Some Species

Genome ID No. [Accession No.]	Possible/Predicted Function	Genome ID No. [Accession No.]	Possible/Predicted Function
Plut_0107 [YP_374040]	Hypothetical protein	Plut_1429 [YP_375331]	Hypothetical protein
Plut_0759 [YP_374677]	Hypothetical protein	Plut_1673 [YP_375570]	Hypothetical protein
Plut_0762 [YP_374678]	Hypothetical protein	Plut_1729 [YP_375626]	Hypothetical protein
Plut_0981 [YP_374886]	Hypothetical protein	Plut_1790 [YP_375687]	Hypothetical protein
Plut_0985 [YP_374890]	Hypothetical protein	Plut_1807 [YP_375704]	Hypothetical protein
Plut_1092 [YP_374997]	Hypothetical protein	Plut_1865 [YP_375756]	Hypothetical protein
Plut_1145 [YP_375050]	Hypothetical protein	Plut_1870 [YP_375761]	Hypothetical protein
Plut_1858 [YP_375751]	Hypothetical protein	Plut_1953 [YP_375838]	Hypothetical protein
Plut_0072 [YP_374005]	Hypothetical protein	Plut_2004 [YP_375889]	Hypothetical protein
Plut_0081 [YP_374014]	Hypothetical protein	Plut_2099 [YP_375984]	Hypothetical protein
Plut_0159 [YP_374092]	Hypothetical protein	Plut_2102 [YP_375987]	Hypothetical protein
Plut_0232 [YP_374163]	Hypothetical protein	CT0071 [NP_660977]	Hypothetical; COG1729
Plut_0248 [YP_374179]	Hypothetical protein	CT0222 [NP_661127]	Hypothetical protein
Plut_0341 [YP_374272]	Hypothetical protein	CT0419 [NP_661323]	TonB-dependent receptor
Plut_0415 [YP_374346]	Hypothetical; COG2250; DUF712, pfam05168	CT0686 [NP_661582]	Hypothetical protein
Plut_0426 [YP_374357]	Hypothetical protein	CT0793 [NP_661688]	Hypothetical protein
Plut_0470 [YP_374401]	Hypothetical protein	CT1002 [NP_661895]	Hypothetical protein
Plut_0524 [YP_374451]	Hypothetical protein	CT1004 [NP_661897]	Hypothetical protein
Plut_0563 [YP_374489]	Hypothetical protein	CT1065 [NP_661956]	Hypothetical protein
Plut_0758 [YP_374676]	Hypothetical protein	CT1122 [NP_662013]	Hypothetical protein
Plut_0852 [YP_374761]	Transposase, IS4	CT1217 [NP_662107]	Hypothetical protein
Plut_0865 [YP_374773]	Hypothetical protein	CT1238 [NP_662126]	Hypothetical protein
Plut_0974 [YP_374879]	Hypothetical protein	CT1273 [NP_662161]	Hypothetical protein
Plut_0978 [YP_374883]	Hypothetical; YfaZ precursor, pfam07437	CT1380 [NP_662267]	Hypothetical protein
Plut_0989 [YP_374894]	Hypothetical protein	CT1504 [NP_662389]	Hypothetical protein
Plut_1095 [YP_375000]	Hypothetical protein	CT1621 [NP_662504]	Hypothetical protein
Plut_1103 [YP_375008]	Hypothetical protein	CT1658 [NP_662541]	Hypothetical protein
Plut_1249 [YP_375154]	Hypothetical protein	CT1739 [NP_662619]	Hypothetical protein
Plut_1256 [YP_375161]	Hypothetical protein	CT1801 [NP_662680]	Hypothetical protein; pfam06727, DUF1207
Plut_1268 [YP_375173]	Sodium pump decarboxylase, gamma subunit	CT1843 [NP_662721]	Hypothetical protein
Plut_1345 [YP_375247]*	Hypothetical protein	CT1889 [NP_662766]	Hypothetical protein
Plut_1362 [YP_375264]	Glycosyl transferase WecB/TagA/CpsF	CT2182 [NP_663055]	ribosomal protein L29; pfam00831
Plut_1374 [YP_375276]	Hypothetical protein		

All significant hits for these proteins are also from *Chlorobi* species. However, unlike the proteins listed in Table 6, these proteins are not present in all *Chlorobi* species. For the protein Plut_1345, a homolog showing significant similarity is also found in *Cytophaga hutchinsonii*. The first 8 proteins (viz. Plut_0107, Plut_0759, Plut_0762, Plut_0981, Plut_0985, Plut_1092, Plut_1145, Plut_1858) are unique to only *C. luteolum* DSM 273 and *C. phaeovibrioides* DSM 265.