

	<i>atpB</i>	<i>rbcL</i>	SSU rDNA	EF-1 α	EFL
Chlorophyta					
Ulvophyceae					
Ulotrichales					
			AY198122		
			Z47999		
Ulvales					
		FJ715715	FJ715684		FJ715704
		FJ715716	AY205330		FJ715705
	NC 008114	NC 008114	DQ011230		
		AF499668			EF551331/ FJ715706
		AY422552	AJ000040		EF551324/ FJ715707
Ignatius-clade					
			AB110439	FJ715687	
Oltmannsiellopsidales					
	NC 008099	NC 008099	D86495		
Bryopsidales					
				FJ715688	
	FJ480417 (<i>B. plumosa</i>)	FJ715718	FJ715685 (<i>B. plumosa</i>)	FJ715689	
	FJ480415 (<i>C. prolifera</i>)		AF479703 (<i>C. sertularioides</i>)		
			FJ715686 (<i>C. platylobium</i>)	FJ715690	
				FJ715691	
	FJ480416 (<i>H. discoidea</i>)	FJ715719 (<i>H. incrassate</i>)	AY786526 (<i>H. gracilis</i>)		
		FJ715720		FJ715692	
Dasycladales					
	FJ480413 (<i>A. dentata</i>)	FJ715714 (<i>A. acetabulum</i>)	Z33461 (<i>A. acetabulum</i>)	EF551321/ FJ715693 (<i>A. acetabulum</i>)	
	FJ480414 (<i>B. nitida</i>)	FJ715717 (<i>B. sphearica</i>)	Z33464 (<i>B. nitida</i>)	FJ715694 (<i>B. sphearica</i>)	
Siphonocladales					
			AM498746		
			AF510157	FJ715695	
			Z35317		
			Z35315	FJ715696	
			AM498756	FJ715697	
			AM498757	FJ715698	
			AF510163 (<i>P. pulcherrimum</i>)	FJ715699	
			AM498761		
			AF510161		
			Z35323	FJ715700	
Trentepohliales					
		FJ715722	AB110783		
Chlorophyceae					
					DQ122889
	NC 005353	NC 005353	M32703		DS496185/ FJ715708

	<i>atpB</i>	<i>rbcL</i>	SSU rDNA	EF-1 α	EFL
<i>Chlorococcum echinozygotum</i>	EF113500	EF113430	U57698		EF551323
<i>Cylindrocapsa geminella</i>	EF119849	EF113434	AF387159		
<i>Oedogonium cardiacum</i>	EF113523	EF113458	U83133		
<i>Paulschulzia pseudovolvox</i>	AB014040	D86837	U83120		
<i>Pleodorina</i> spp	AB214424 (<i>P. starrii</i>)	D86834(<i>P.indica</i>)			AB095178 (<i>P. sp.</i>)
<i>Scenedesmus obliquus</i>	NC008101	NC008101	X56103		SOL00000077/ FJ715709
<i>Sphaeroplea robusta</i>	EF113536	EF113472	U73472		
<i>Stigeoclonium helveticum</i>	NC 008372	NC 008372	U83131		
<i>Tetraspora</i> sp.	EF113540	EF113477	U83121		
<i>Uronema belkae</i>	EF113544	EF113481	AF182821		
Trebouxiophyceae					
<i>Chlorella</i> spp	NC 001865 (<i>C. vulgaris</i>)	NC 001865 (<i>C. vulgaris</i>)	X13688 (<i>C. vulgaris</i>)		FJ715710 (<i>C. kessleri</i>)
<i>Closteriopsis acicularis</i>	EF113502	EF113433	Y17470		
<i>Helicosporidium</i> sp.					AY729488
<i>Oocystis</i> spp	EF113524 (<i>O. apiculata</i>)	EF113549 (<i>O. apiculata</i>)	AF228686 (<i>O. solitaria</i>)		
<i>Prototheca wickerhamii</i>	AJ245645				PWL00000297
<i>Trebouxia magna</i>	EF113541	AJ969630	Z21552		
Prasinophyceae					
Chlorodendrales					
<i>Tetraselmis</i> spp	DQ173248 (<i>T. suecica</i>)	DQ173247 (<i>T. suecica</i>)	X70802 (<i>T. striata</i>)		EF551330 (<i>T. tetraathele</i>) FJ715711 (<i>T. striata</i>)
Mamiellales					
<i>Micromonas pusilla</i>		AY955031	AJ010408		EF551325
<i>Ostreococcus lucimarinus</i>					XM 001420948
<i>Ostreococcus tauri</i>	NC 008289	NC 008289	AY329635		CR954213/ FJ715713
Pseudosourfieldiales					
<i>Nephroselmis olivacea</i>	NC 00927	NC 00927	X74754		FJ715712
Streptophyta					
Mesostigmatales					
<i>Mesostigma viride</i>	NC 002186	NC 002186	AJ250109		DQ394295
Chlorokybales					
<i>Chlorokybus atmophyticus</i>	DQ422812	DQ422812	M95612	FJ715701	
Klebsormidiales					
<i>Entransia fimbriata</i>	AY823688	E88 slordig	LB2793	FJ715702	
<i>Klebsormidium flaccidum</i>	AF408801	E87 rbcL2	X75520		
Zygnematales					
<i>Gonatozygon</i> spp	AF408796 (<i>G. monotaenium</i>)	U71438 (<i>G. monotaenium</i>)	X91346 (<i>G. aculeatum</i>)		
<i>Spirogyra</i> spp	AF408797 <i>S. maxima</i>	FJ715721 (<i>S. sp.</i>)		EF551328/ FJ715703	
<i>Staurastrum punctulatum</i>	NC 008116	NC 008116	AF115442		
<i>Zygnema</i> spp	NC 008117 (<i>Z. circumcarin</i>)	NC 008117 (<i>Z. circumcarin</i>)	AJ853450 (<i>Z. pseudogedeantum</i>)		
Coleochaetales					
<i>Chaetosphaeridium globosum</i>	NC 004115	NC 004115	AF113506		

	<i>atpB</i>	<i>rbcL</i>	SSU rDNA	EF-1 α	EFL
<i>Coleochaete scutata</i>	AY082303	AY082313	X68825		
Charales					
<i>Chara</i> spp	AF408782 (<i>C. connivens</i>)	L13476 (<i>C. connivens</i>)	U18493 (<i>C. connivens</i>)	EF551322 (<i>C. australis</i>)	
<i>Nitella flexilis</i>	AB110837	AB076056	U05261		
Embryophyta (land plants)					
Anthocerotophyta (Hornworts)					
<i>Anthoceros</i> spp	NC 004543 (<i>A. formosa</i>)	NC 004543 (<i>A. formosa</i>)	X80984 (<i>A. agrestis</i>)		
Marchantiophyta (Liverworts)					
<i>Marchantia polymorpha</i>	NC 001319	NC 001319	AB021684		
Bryophyta (Mosses)					
<i>Physcomitrella patens</i>	AP005672	AB066207		XM 001753007	
Spermatophyta (Seed plants)					
<i>Actinidia</i> spp	AJ235382 (<i>A. chinensis</i>)	L01882 (<i>A. chinensis</i>)	U42495 (<i>A. sp.</i>)	AY946009 (<i>A. deliciosa</i>)	
<i>Arabidopsis thaliana</i>	NC 000932	NC 000932	AC006837	AK230352	
<i>Cichorium intybus</i>		L13652		AY378166	
<i>Oryza sativa</i>	AC092750	AJ746297	X00755	AF030517	
<i>Triticum aestivum</i>	NC 002762	NC 002762	AY049040	M90077	
<i>Vicia faba</i>				AJ222579	
other eukaryotes					
Archaeplastida					
Glaucocystophyta					
<i>Cyanophora paradoxa</i>	NC 001675	NC 001675	AY823716	AF092951	
Rhodophyta					
Bangiophyceae					
<i>Porphyra yezoensis</i>	AP006715		D79976	U08844	
<i>Porphyridium aeruginum</i>			AJ421145		
Cyanidiophyceae					
<i>Cyanidioschyzon merolae</i>	AB002583		AB158485	AB095182	
<i>Cyanidium caldarium</i>	X66698		AB091232		
Florideophyceae					
<i>Chondrus crispus</i>		CCU02984	Z14140		CO652990 - CO652099- CO652788
<i>Gracilaria</i> spp	AY673996 (<i>G. tenuistipitata</i>)	AY673996 (<i>G. tenuistipitata</i>)	L26210 (<i>G. verrucosa</i>)		DV963090 - DV963156 - DV964877 (<i>G. changii</i>)
Chromalveolates					
Apicomplexans					
<i>Plasmodium falciparum</i>				X60488	
Ciliates					
<i>Tetrahymena pyriformis</i>				D11083	
<i>Tetrahymena thermophila</i>				XM 001032213	
Cryptophytes					
<i>Goniomonas amphinema</i>					AB332031
<i>Guillardia theta</i>					AM183813

	<i>atpB</i>	<i>rbcl</i>	SSU rDNA	EF-1 α	EFL
diatoms	<i>Rhodomonas salina</i>				DQ659244
	<i>Ditylum brightwellii</i>				AB368772
	<i>Phaeodactylum tricorutum</i>			18475 (JGI, v2.0)	
	<i>Skeletonema costatum</i>				AB368773
	<i>Thalassionema nitzschioides</i>				AB368774
	<i>Thalassiosira pseudonana</i>			3858 (JGI, v3.0)	41829 (JGI, v3.0)
Dinoflagellates					
	<i>Heterocapsa triquetra</i>				AY729485
	<i>Karlodinium micrum</i>				EF134135
	<i>Oxyrrhis marina</i>				DQ659243
Haptophytes					
	<i>Emiliana huxleyi</i>				CV068986
	<i>Isochrysis galbana</i>				AY729486
	<i>Pavlova lutheri</i>				AY729487
Heterokonts					
Oomycetes					
	<i>Phytophthora infestans</i>			AJ249839	
Opisthokonts					
Fungi					
	<i>Allomyces macrogynus</i>				EC637105
	<i>Blastocladiella emersonii</i>				EF064246
	<i>Mucor racemosus</i>			MRATEF1A	
	<i>Saccharomyces martiniae</i>			AF402021	
Metazoa (Animals)					
	<i>Homo sapiens</i>			NM 001958	
choanoflagellates					
	<i>Monosiga brevicollis</i>				XM_001745603
	<i>Sphaeroforma arctica</i>				DQ403164
Excavates					
Diplomonads					
	<i>Giardia intestinalis</i>			D14342	
	<i>Giardia lamblia</i>			XM 76292	
Euglenids					
	<i>Euglena gracilis</i>			X16890	
Parabasalids					
	<i>Trichomonas tenax</i>			D78479	
	<i>Trichomonas vaginalis</i>			XM 001325448	
Kinoplastids					
	<i>Leishmania braziliensis</i>			XM 001563727	
Amoebozoa					
	<i>Entamoeba histolytica</i>			ENHEF1ALPH	

	<i>atpB</i>	<i>rbcl</i>	SSU rDNA	EF-1 α	EFL
Rhizaria					
Cercozoa					
<i>Bigelowiella natans</i>					AY729489
Foraminifera					
<i>Planoglabratrella opecularis</i>					AB334123
Centrohelids					
<i>Raphidiophrys contractilis</i>					AB332032

Table S2. GenBank accession numbers or DOE Joint Genome Institute (JGI) transcript identifiers for nucleotide sequences of *atpB*, *rbcl*, SSU rDNA, EF-1 α and EFL. Newly generated sequences are in boldface. GenBank accession numbers for protein sequences of eRF3 (*Candida maltosa* BAB12681, *Homo sapiens* NP_002085, *Nicotiana tabacum* AAA79032, *Saccharomyces cerevisiae* EDN60510), HBS1 (*Arabidopsis thaliana* NP_196625, *Homo sapiens* NP_006611, *Saccharomyces cerevisiae* NP_01301) and archaeobacterial EF-1 α (*Sulfolobus sulfataricus* CAA50033, *Termoplasma acidophilum* P19486) are given here between brackets.