Table 1. Sequences and species used in the study.

Species and strain	Designation of sequence in the respective figure	Length, nt	GenBank accession number
16S rRNA			
Archaea			
Aeropyrum pernix	Aeropyrum	1500	NC_000854
Archaeoglobus fulgidus	Archaeoglobus	1492	NC_000917
Halobacterium sp. NRC-1	Halobacterium	1473	NC_002607
Methanobacterium thermoautotrophicum deltaH	Methanobacterium	1479	NC_000916
Methanococcus jannaschii	Methanococcus	1475	NC_000909
Pyrobaculum aerophilum	Pyrobaculum	2211	NC_003364
Pyrococcus horikoshii	Pyrococcus	1495	NC_000961
Sulfolobus solfataricus P2	Sulfolobus	1496	NC_002754
Chloroflexi (green non-sulfur bacteria)			
Chloroflexus aurantiacus	Chloroflexus	1401	D38365
Proteobacteria (purple bacteria and relatives)			
Agrobacterium tumefaciens strain C58	Agrobacterium	1492	AE009201
Burkholderia sp. LMG 16307	Burkholderia	1472	AF215706
Mesorhizobium loti strain LMG 17826t2	Mesorhizobium	1426	AJ315352
Pseudomonas fluorescens	Pseudomonas	1527	D84013
Rhodobacter sphaeroides strain CGA009	Rhodobacter	1388	D16424
Rhodopseudomonas palustris	Rhodopseudomonas	1429	AY084079
Rhodospirillum rubrum	Rhodospirillum	1406	D30778
Sinorhizobium meliloti	Sinorhizobium	1484	15963753
Xanthomonas campestris pv. *campestris* str. ATCC 33913	Xanthomonas	1547	NC_003902
Thermotogae			
Thermotoga maritima	Thermotoga	1559	NC_000853
Cyanobacteria (blue-green algae)			
Anabaena sp. PCC7120	Anabaena	1489	17131110
Calothrix parietina	Calothrix	1110	AF334696
Chlorogloeopsis sp.	Chlorogloeopsis	1461	X68780
Chroococcidiopsis thermalis	Chroococcidiopsis	1443	AB039005
Cyanothece sp. PCC8801	Cyanothece	1446	AF296873
Cylindrospermum sp. PCC7417	Cylindrospermum	1444	AJ133163
Geitlerinema sp. PCC7105	Geitlerinema	1435	AB039010
Gloeobacter violaceus	Gloeobacter	1407	AF132790
Nodularia spumigena PCC73104	Nodularia	1517	AF268023

Nostoc punctiforme PCC73102	Nostoc	1410	AF027655
Prochlorococcus marinus MED4	Prochlorococcus	1147	AF001466
Scytonema hyalinum	Scytonema	1111	AF334700
Synechococcus sp. PCC7942	Synechococcus	1411	AF132930
Synechocystis sp. PCC6803	Synechocystis	1489	1653715
Thermosynechococcus elongatus	Elongatus	1491	AP005376
Xenococcus sp. PCC7305	Xenococcus	1408	AF132783
kaiC			
Archaea			
Aeropyrum pernix	Aeropyrum	756	NC_000854
Archaeoglobus fulgidus	Archaeoglobus 1 Archaeoglobus 2	1332 681	NC_000917
Halobacterium sp. NRC-1	Halobacterium	657	NC_002607
Methanobacterium thermoautotrophicum deltaH	*Methanobacterium*	1413	NC_000916
Methanococcus jannaschii	Methanococcus	729	NC_000909
Pyrobaculum aerophilum	Pyrobaculum 1 Pyrobaculum 2	846 846	NC_003364
Pyrococcus horikoshii	Pyrococcus	1452	NC_000961
Sulfolobus solfataricus P2	Sulfolobus 1 Sulfolobus 2	843 789	NC_002754
Chloroflexi (green non-sulfur bacteria)			
Chloroflexus aurantiacus	*Chloroflexus 1* Chloroflexus 2	1536 1449	JGI*
Proteobacteria (purple bacteria and relatives)			
Agrobacterium tumefaciens C58 plasmid AT	Agrobacterium 1 Agrobacterium 2	1515 1509	NC_003064
Burkholderia fungorum	Burkholderia	1518	NC_003371
Mesorhizobium loti plasmid pMLb	Mesorhizobium 1	1530	NC_002682
Mesorhizobium loti	Mesorhizobium 2	1488	NC_002678
Pseudomonas fluorescens	Pseudomonas	1518	JGI
Rhodobacter sphaeroides CGA009	*Rhodobacter*	1713	JGI
Rhodopseudomonas palustris CGA009	*Rhodopseudomonas*	1650†	JGI
Rhodospirillum rubrum ATCC 11170	*Rhodospirillum 1*	1683	JGI
Sinorhizobium meliloti plasmid pSymA	Sinorhizobium	1446	NC_003037
Xanthomonas campestris pv. *campestris* ATCC 33913	Xanthomonas	1542	AE012267
Thermotogae			
Thermotoga maritima	Thermotoga	762	NC_000853
Cyanobacteria (blue-green algae)			

Anabaena sp. PCC7120	*Anabaena*	1560	AP003591
Calothrix parietina	Calothrix	594†	AF239754
Chlorogloeopsis fritschii	Chlorogloeopsis	594†	AF222603
Chroococcidiopsis thermalis	Chroococcidiopsis	594†	AF239752
Cyanothece sp. PCC 8801	*Cyanothece*	1566	AF442204
Cylindrospermum sp. PCC7417	Cylindrospermum	807†	AF222605
Geitlerinema sp. PCC7105	Geitlerinema	594†	AF222604
Gloeobacter violaceus	Gloeobacter	594†	AF239755
Nodularia spumigena PCC73104	Nodularia	807†	AF222602
Nostoc punctiforme ATCC 29133	*Nostoc*	1563	JGI
Prochlorococcus marinus MED4	*Prochlorococcus*	1530	JGI
Scytonema sp. PCC 7110	Scytonema	594†	AF222600
Synechococcus sp. PCC7942	*Synechococcus*	1560	AB010691
Synechocystis sp. PCC6803	*Synechocystis 1* Synechocystis 2 *Synechocystis 3*	1560 1518 1707	AB001339 16329170 D90910
Thermosynechococcus elongatus	*Elongatus*	1557	AP005370
Xenococcus sp. PCC7305	Xenococcus	594†	AF222601
kaiB			
Archaea			
Methanobacterium thermoautotrophicum deltaH	*Methanobacterium*	255	NC_000916
Chloroflexi (green non-sulfur bacteria)			
Chloroflexus aurantiacus	*Chloroflexus 1* Chloroflexus 2	306 282	JGI
Proteobacteria (purple bacteria and relatives)			
Rhodobacter sphaeroides	*Rhodobacter*	270	JGI
Rhodopseudomonas palustris CGA009	*Rhodopseudomonas*	273†	JGI
Rhodospirillum rubrum	*Rhodospirillum 1* Rhodospirillum 2	291 308	JGI
Cyanobacteria (blue-green algae)			
Anabaena sp. PCC7120	*Anabaena 1* Anabaena 2	327 765	AP003591
Cyanothece sp. PCC8801	*Cyanothece*	315	AF442204
Nostoc punctiforme	*Nostoc 1* Nostoc 2	315 858	JGI
Prochlorococcus marinus MED4	*Prochlorococcus*	324	JGI
Synechococcus sp. PCC7942	*Synechococcus*	309	AB010691
Synechocystis sp. PCC6803	*Synechocystis 1* Synechocystis 2 *Synechocystis 3*	318 309 327	D90917 NC_000911 NC_000911

Thermosynechococcus elongatus	*Elongatus 1* Elongatus 2	327 804	AP005370 NC_004113
kaiA			
Cyanobacteria			
Anabaena sp. PCC7120		309	AP003591
Nostoc punctiforme		567	JGI
Synechococcus sp. PCC7942		855	AB010691
Synechocystis sp. PCC6803		900	16329170
Thermosynechococcus elongatus		852	AP005370

* JGI, sequence obtained from Joint Genome Institute database at www.jgi.doe.gov/JGI_microbial/.

† Partial sequence. The italics indicate *kai* sequences residing in the cluster (not shown in the figures).