

## Supplementary figures

**Draft genome sequences of ‘*Candidatus Chloroploca asiatica*’ and ‘*Candidatus Viridilinea mediisalina*’, as representatives of the *Chloroflexales* order: Phylogenetic and taxonomic implications.**

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		170	180	190	200	210
<b>a</b>	Chloroflexinae (9/10)	<i>Chloroflexus aurantiacus</i>	YF_001635711	-GLKVG	EQIFLAFSPERIDPGQTS	SKGYSVENTPKVVGVT
		<i>Chloroflexus aggregans</i>	WP_015940314	.....R.....	.....F.....	.....P.....
		<i>Chloroflexus islandicus</i>	WP_066791173	.....R.....	.....D.....	.....S.....
		<i>Chloroflexus</i> sp. Y-396-1	WP_044231908	.....R.....	.....D.....	.....S.....
		<i>Chloroflexus</i> sp. MS-G	WP_031458479	.....R.....	.....D.....	.....S.....
		<i>Chloroflexus</i> sp. Y-400-fl	ACM53671	.....R.....	.....D.....	.....S.....
		'Ca. Chloranaerofilum corporosum'	peg.1520	.....Q.....	.....QDY.....	.....G.....
		<i>Oscillochloris trichoides</i>	WP_006562849	.....T.....	.....QE.....	.....WG.....
		'Ca. Viridilinea mediisalina'	WP_097643348	.....V.....	.....HDY.....	.....Q.....
		'Ca. Chloroploca asiatica'	WP_097651378	D.....R.....	.....DF.....	.....C.....
	Roseiflexinae (0/2)	<i>Roseiflexus castenholzii</i>	WP_012121561	.....T.....	.....TDY.....	.....V.....
		<i>Roseiflexus</i> sp. RS-1	WP_011957117	.....T.....	.....VDY.....	.....V.....
		<i>Kallotenuales</i> (1/1)	<i>Kallotenua papyrolyticum</i>	WP_026370457	.....Q.....	.....RDFW.....
		<i>Herpetosiphon geysericola</i>	WP_054536503	.....N.....	.....T.....	.....DY.....
		<i>Herpetosiphon aurantiacus</i>	ABX06463	.....N.....	.....S.....	.....ADY.....
	Other Bacteria (0/250)	<i>Desulfotobacterium hafniense</i>	WP_011461043	.....N.....	.....KDF.....	.....V.....
		<i>Caldicellulosiruptor saccharolyticus</i>	WP_011917322	.....V.....	.....CQDF.....	.....V.....
		<i>Sulfobacillus thermosulfidooxidans</i>	WP_026040704	.....I.....	.....EF.....	.....VN.....
		<i>Anaerospirillum subterranea</i>	WP_066241847	.....KDF.....	.....V.....	.....NQR.....
		<i>Pelosinus propionicus</i>	WP_090940131	.....QDF.....	.....V.....	.....NLR.....
		<i>Ethanoligenens harbinense</i>	WP_013484606	.....R.....	.....VD.....	.....V.....
		<i>Thermoanaerobacter kivui</i>	WP_049684727	.....I.....	.....C.....	.....DY.....
		<i>Calderihabitans maritimus</i>	WP_088555115	.....KDF.....	.....Y.....	.....V.....
		<i>Thermoactinomyces daqus</i>	WP_033100375	.....E.....	.....F.....	.....Y.....
		<i>Bacillus sinesaloumensis</i>	WP_077619738	.....V.....	.....V.....	.....V.....
<b>b</b>	Chloroflexaceae (6/6)	<i>Chloroflexus aurantiacus</i>	ABY35796	LSPRFYTTDFK	AIDRLRIDR	NGLRDEFDWIRDEFAYDYNRTHFRRTDEF-L
		<i>Chloroflexus aggregans</i>	WP_012616557	.....K.....	.....Q.....	.....N.....
		<i>Chloroflexus islandicus</i>	WP_066789121	.....N.....	.....Q.....	.....N.....
		<i>Chloroflexus</i> sp. MS-G	WP_035419164	.....K.....	.....Q.....	.....N.....
		<i>Chloroflexus</i> sp. Y-400-fl	ACM54187	.....K.....	.....Q.....	.....N.....
		<i>Chloroflexus</i> sp. Y-396-1	WP_028459760	.....K.....	.....Q.....	.....N.....
	Viridilinea + Chloranaerofilum (2/2)	'Ca. Viridilinea mediisalina'	WP_097644194	.....T.....	.....VA.....	.....AFD.....
		'Ca. Chloranaerofilum corporosum'	peg.1770	.....T.....	.....A.....	.....D.....
	Roseiflexaceae (0/2)	'Ca. Chloranaerofilum corporosum'	peg.1135	.....T.....	.....A.....	.....D.....
		<i>Roseiflexus castenholzii</i>	WP_012120062	.....N.....	.....R.....	.....NVAH.....
		<i>Roseiflexus</i> sp. RS-1	WP_011956640	.....N.....	.....R.....	.....NVAH.....
		<i>Rhodospirillum centenum</i>	WP_041785293	.....Y.....	.....R.....	.....L.....
		<i>Acidisphaera rubrifaciens</i>	WP_048860643	.....T.....	.....D.....	.....M.....
	Other Bacteria (0/250)	<i>Caenispirillum salinarum</i>	WP_009538677	.....T.....	.....D.....	.....M.....
		<i>Sphingomonas echinoides</i>	WP_010405227	.....T.....	.....A.....	.....M.....
		<i>Bradyrhizobium oligotrophicum</i>	WP_015668952	.....T.....	.....A.....	.....M.....
		<i>Brevundimonas bacteroides</i>	WP_035293742	.....A.....	.....L.....	.....IDVTP.....
		<i>Methylocella silvestris</i>	WP_012591042	.....A.....	.....L.....	.....IDVTP.....
		<i>Skermanella aerolata</i>	WP_044427866	.....Y.....	.....D.....	.....L.....
		<i>Polynucleobacter duraquae</i>	WP_046331234	.....D.....	.....EM.....	.....FD.....
		<i>Novosphingobium acidiphilum</i>	WP_028640497	.....V.....	.....K.....	.....W.....
		<i>Skermanella stibiiresistens</i>	WP_037453867	.....V.....	.....R.....	.....W.....
		<i>Sphingomonas spermidinifaciens</i>	WP_096342039	.....V.....	.....R.....	.....W.....
	<i>Rhodopseudomonas palustris</i>	WP_085978276	.....T.....	.....Y.....	.....M.....	
	<i>Porphyrobacter tepidarius</i>	WP_086616646	.....D.....	.....L.....	.....KIDVGP.....	

Figure 1S. Previously reported CSIs: nucleotide sugar dehydrogenase (a) and magnesium-protoporphyrin IX monomethyl ester cyclase (AcsF) proteins (b).

		50	60	70	80	90	
<b>a</b>	Viridilinea + Chloroploca + Chloranaerofilum (3/3) Oscillochloridaceae (0/1)	'Ca. Chloroploca asiatica'	WP_097651169	TDDTRIRAALPTIRYLLLEQGAN			
		'Ca. Viridilinea mediisalina'	WP_097644065	.....H.....			
		'Ca. Chloranaerofilum corporosum'	peg.3082	.....H.....			
	Chloroflexaceae (0/6)	Oscillochloris trichoides	WP_044200294	.....E.S.....			
		Chloroflexus aurantiacus	YP_001636411	.....H.S.....			
		Chloroflexus aggregans	WP_012615945	.....H.K.I.....			
		Chloroflexus islandicus	WP_066789588	.....H.S.....			
		Chloroflexus sp. Y-396-1	WP_028459142	.....H.S.....			
		Chloroflexus sp. Y-400-fl	ACM54434	.....H.S.....			
	Roseiflexaceae (0/2)	Chloroflexus sp. MS-G	WP_031458457	.....H.S.....			
		Roseiflexus castenholzii	WP_012120580	.....H.A.I.....			
		Roseiflexus sp. RS-1	WP_011956220	.....H.S.I.....			
		Herpetosiphon geysericola	WP_054536436	.....N.....S.....			
		Alicyclobacillus kakegawensis	WP_067932529	A.....E.....G.....			
	Other Bacteria (0/250)	Caldilinea aerophila	WP_014431650	.....A.....Q.....R.....K.....			
		Carboxydotherrnus ferrereducens	WP_028051679	.....A.....Q.....D.....A.....I.....			
		Thermanaerotherix daxensis	WP_054522368	.....A.....LQ.....R.....K.....LIVA.....			
		Carboxydotherrnus islandicus	WP_075864936	.....A.....E.....VN.....Q.....K.....I.....A.....			
		Desulfurispora thermophila	WP_018085494	.....A.....E.....VN.....Q.....K.....I.....A.....			
		Desulfotomaculum austrailicum	WP_073162480	.....A.....E.....VN.....Q.....K.....I.....A.....			
		Symbiobacterium thermophilum	WP_011194377	.....A.....E.....VN.....Q.....K.....I.....A.....			
		Anaerolinea thermolimosa	WP_062192971	.....Q.....V.....E.....E.....V.....A.....I.....F.....			
		Brevibacillus parabrevis	WP_063230978	.....Q.....V.....E.....E.....V.....A.....I.....F.....			
		Thermanaeromonas toyohensis	WP_084663666	.....V.....V.....F.....M.....K.....K.....I.....A.....F.....			
		Acetobacterium bakii	WP_050739099	.....V.....V.....MT.....I.....D.....A.....LI.....			
<pre> 50          60          70          80          90 TDDTRIRAALPTIRYLLLEQGANVVLMSHLGRPKGKVNKYSMRPFVVERLFE .....H.....P.....DPR..... .....H.....P.....P.....L..... .....E.S.....I.....P..... .....H.S.....P.....P.....L..... .....H.K.I.....P.....P.....L..... .....H.S.....PDP.....L..... .....H.S.....PDP.....L..... .....H.S.....P.....P.....L..... .....H.S.....H.A.I.....N.....VESMRLA.....A.A.A. .....H.S.I.....N.....VESMRLA.....A.A.A. .....N.....S.....K.....AEEFRLK.....ADH.QS A.....E.....G.....P.....PA.TLA.....A.H.RR .....A.....Q.....R.....K.....LIVA.....QF.E.....LK.AK.A. .....A.....Q.....D.....A.....I.....GDPD.....LK.A.Y.GQ .....LQ.....R.....K.....LIVA.....QF.E.....LK.AK.S. .....E.....VN.....Q.....K.....I.....A.....DER.RLDA.AR.E.S. A.....Q.....R.....K.....LIVA.....QF.E.....LK.AK.S. .....V.....V.....E.....V.....A.....I.....F.....QR.E.....LA.CAR.S.S. Q.....V.....E.....E.....V.....A.....I.....F.....GDPD.....K.A.Y.GK .....V.....V.....F.....M.....K.....K.....I.....A.....F.....Q.VEEMRLT.....ASH.SA V.....V.....M.....K.....K.....I.....V.....E.....TLRLN.....AR.SA .....V.....MT.....I.....D.....A.....LI.....NEPDP.....LE.IAKK.S. </pre>							
<b>b</b>	Viridilinea + Chloroploca + Chloranaerofilum (3/3) Oscillochloridaceae (0/1)	'Ca. Viridilinea mediisalina'	WP_097644959	LDQWVQLAGAVLARTAQNASLVTTPP			
		'Ca. Chloroploca asiatica'	WP_097650845	.....I.....S.....V.....L.....A.....R.....QV.....DT.....			
		'Ca. Chloranaerofilum corporosum'	peg.1670	.....I.X.X.....T.....T.....AEE.....SM.I.....DT.....			
	Chloroflexaceae (0/6)	Oscillochloris trichoides	WP_006560707	.....I.....A.....EQ.....KN.....IS.....T.....V.....			
		Chloroflexus aurantiacus	YP_001636577	.....C.....H.....VA.A.A.....EQ.....KS.....I.....T.....I.....			
		Chloroflexus aggregans	WP_015941421	.....C.....H.....VA.A.A.....EQ.....KS.....I.....T.....I.....			
		Chloroflexus islandicus	WP_066782350	.....C.....H.....VA.A.A.....EQ.....KS.....I.....T.....M.....			
		Chloroflexus sp. Y-400-fl	ACM53635	.....C.....H.....VA.A.A.....EQ.....KS.....I.....T.....I.....			
		Chloroflexus sp. MS-G	WP_031458033	.....C.....H.....VA.A.A.....EQ.....KS.....I.....T.....I.....			
	Roseiflexaceae (0/2)	Chloroflexus sp. Y-396-1	WP_028458415	.....C.....H.....VA.A.A.....EQ.....KS.....I.....T.....I.....			
		Roseiflexus castenholzii	WP_012122829	.....I.....V.....V.....V.....V.....V.....V.....V.....			
		Roseiflexus sp. RS-1	WP_011958162	.....I.....V.....V.....V.....V.....V.....V.....V.....			
		Kouleothrix aurantiaca	KPV53397	.....I.....V.....V.....V.....V.....V.....V.....V.....			
		Herpetosiphon geysericola	WP_054532379	.....N.....IH.....A.....T.....AV.....AYES.....K.....I.....NDALV.L.....			
	Other Bacteria (0/250)	Herpetosiphon aurantiacus	A9AUHO	.....N.....IH.....A.....T.....AV.....AYES.....K.....I.....NDALV.L.....			
		Anaerolinea thermophila	KUK46703	ISN.MH.ASI.NQSKV.....H.....PEQV.....K.....IST.NTQI.S.....			
		Ardenticatena maritima	WP_054492006	.....MR.....A.....H.....HT.....V.....V.....Q.....APQA.LK.I.....IN.S.ALV.VI.....			
		Litorilinea aerophila	QUC07164	.....LR.ST.....AVA.A.A.....ASNS.YK.....GTKV.LI.....			
		Sphaerobacter thermophilus	WP_012871200	MG.MT.AS.....QS.G.....A.H.....PERV.....K.V.....ISTGQRQV.M.....			
		Desulfacinum infernum	WP_073040329	IES.AK.AV.....DMSEQ.LV.....LSAT.....K.I.F.F.LRLRQI.VI.I.....			
		Desulfovirgula thermocuniculi	WP_027717866	I.DLLRRTSQ.S.FCEQ.GV.LW.....LSAT.....K.I.F.F.LRLRQI.VI.I.....			
		Tindallia magadiensis	WP_093369521	VGEVI.RT.QL.SQLT.Y.AV.L.L.K.AAASC.K.IQ.QMGVAEQ.ML.AI.....			
		Lutispora thermophila	WP_073025240	E.LLETSR.S.EPT.YT.I.LA.Q.VKKS.LKIQ.ARLNDE.M.....IFT.....			
		Desulfuromonas acetexigens	WP_092055003	I.RLKH.SKL.SAMTKY.IAMA.Q.FKRTCLR.Q.QKVDSHNI.....T.....			
		<pre> 110        120        130        140        150 LDQWVQLAGAVLARTAQNASLVTTPPSSDPLRFHLELVAIHESMALAVLV .....I.....S.....V.....L.....A.....R.....QV.....DT..... .....I.X.X.....T.....T.....AEE.....SM.I.....DT..... .....I.....A.....EQ.....KN.....IS.....T.....V..... .....C.....H.....VA.A.A.....EQ.....KS.....I.....T.....I..... .....C.....H.....VA.A.A.....EQ.....KS.....I.....T.....I..... .....C.....H.....VA.A.A.....EQ.....KS.....I.....T.....M..... .....C.....H.....VA.A.A.....EQ.....KS.....I.....T.....I..... .....C.....H.....VA.A.A.....EQ.....KS.....I.....T.....I..... .....I.....V.....V.....V.....V.....V.....V.....V..... .....I.....V.....V.....V.....V.....V.....V.....V..... .....N.....IH.....A.....T.....AV.....AYES.....K.....I.....NDALV.L..... .....N.....IH.....A.....T.....AV.....AYES.....K.....I.....NDALV.L..... ISN.MH.ASI.NQSKV.....H.....PEQV.....K.....IST.NTQI.S..... .....MR.....A.....H.....HT.....V.....V.....Q.....APQA.LK.I.....IN.S.ALV.VI..... .....LR.ST.....AVA.A.A.....ASNS.YK.....GTKV.LI..... MG.MT.AS.....QS.G.....A.H.....PERV.....K.V.....ISTGQRQV.M..... IES.AK.AV.....DMSEQ.LV.....LSAT.....K.I.F.F.LRLRQI.VI.I..... I.DLLRRTSQ.S.FCEQ.GV.LW.....LSAT.....K.I.F.F.LRLRQI.VI.I..... VGEVI.RT.QL.SQLT.Y.AV.L.L.K.AAASC.K.IQ.QMGVAEQ.ML.AI..... E.LLETSR.S.EPT.YT.I.LA.Q.VKKS.LKIQ.ARLNDE.M.....IFT..... I.RLKH.SKL.SAMTKY.IAMA.Q.FKRTCLR.Q.QKVDSHNI.....T..... VEERLRE..K..SAISSYTG.V.MT..FNCTV...I.FLKLQGR.L.VIF. </pre>					
<b>c</b>		Viridilinea + Chloroploca + Chloranaerofilum (3/3) Oscillochloridaceae (0/1)	'Ca. Viridilinea mediisalina'	WP_097642428	LIKLSGEQIKGTD		
	'Ca. Chloroploca asiatica'		WP_097650829	.....L.....L.....Q.....R.....D.....V.....			
	'Ca. Chloranaerofilum corporosum'		peg.1754	.....L.....L.....Q.....R.....D.....V.....			
	Chloroflexaceae (0/6)	Oscillochloris trichoides	WP_006562130	.....D.....S.....T.....F.....Q.....I.....K.....V.....Q.....I.....			
		Chloroflexus aurantiacus	AY36751	.....N.....C.....I.....F.....Q.....IGR.....I.....V.....V.....			
		Chloroflexus aggregans	WP_012615832	.....N.....C.....I.....F.....Q.....IGR.....I.....V.....V.....			
		Chloroflexus islandicus	WP_066790371	.....N.....C.....I.....F.....Q.....IGR.....I.....V.....V.....			
		Chloroflexus sp. Y-396-1	WP_028459803	.....N.....C.....I.....F.....Q.....IGR.....I.....V.....V.....			
		Chloroflexus sp. Y-400-fl	ACM55214	.....N.....C.....I.....F.....Q.....IGR.....I.....V.....V.....			
	Roseiflexaceae (0/2)	Chloroflexus sp. MS-G	WP_031459886	.....N.....C.....I.....F.....Q.....IGR.....I.....V.....V.....			
		Roseiflexus castenholzii	WP_012122383	.....L.....ALA.GGAHSIDPN.....E.Y.Q.I.R.L.L.Q.V.L.....			
		Roseiflexus sp. RS-1	WP_041333457	.....L.....ALA.KGTHSIDPN.....Y.E.I.R.....Q.V.L.....			
		Herpetosiphon aurantiacus	ABX07589	.....L.....ALA.DGKTNI.P.V.N.MSA.IKPLLA.....Q.I.L.....			
		Herpetosiphon geysericola	WP_054536501	.....L.....ALA.DGKTNI.P.V.N.MSA.IKPLLA.....Q.I.L.....			
	Other Bacteria (0/250)	Kouleothrix aurantiaca	KPV49760	.....L.....ALV.EQCDSI.PTV.EFY.Q.IQSILER.AQ.V.L.....			
		Haliangium ochraceum	WP_012831186	.....V.....RAVA.....EFGFNV.AI.H.....IL.L.DL.QISIM.....F.....			
		Hydrogenobacter thermophilus	WP_012963334	.....L.....AFA.DHDYGI.P.F.E.IS.IKSLYO.QI.I.....F.....			
		'Ca. Magnetobacterium bavaricum'	KU82453	.....L.....ALM.NESYGI.P.VV.A.N.IK.YEL.INI.I.....F.....			
		Desulfoluna spongiphila	WP_092207499	.....L.....ALM.DQSEGI.P.MK.V.E.E.KSI.EL.....I.V.....F.....			
		Syntrophobacter fumaroxidans	WP_011698637	.....L.....ALL.KEAAGIDSSV.QI.E.T.....OM.Q.I.....F.....			
		Desulfatitalea tepidiphila	WP_054031570	.....L.....ALM.DQSEGI.P.A.V.E.IKKP.DN.QL.I.V.....F.....			
		Desulfococcus oleovorans	WP_012173905	.....L.....ALM.DQTMGI.P.V.Q.V.E.I.SIC.M.QL.V.V.....F.....			
		Streptococcus ferus	WP_018030266	.....L.....ALA.ERCVGINLPTVQAI.K.IKE.E.S.I.I.....L.....			
		Paenibacillus wulumuqiensis	WP_046215390	VL.V.....SLS.MTCYGIEA.ISSI.DQIKE.VEL.....V.C.....			
		Thermacetogenium phaeum	WP_015050219	VL.....ALA.ERCGIDH.I.KAISL..KEIRDR..Q..I.V.....			
<pre> 20          30          40          50          60 LIKLSGEQIKGTD EVVSYDMLDYLAEREVEAVHRGVEALVVGGGNIWRG .....L.....L.....Q.....R.....D.....V..... .....L.....L.....Q.....R.....D.....V..... .....D.....S.....T.....F.....Q.....I.....K.....V.....Q.....I..... .....N.....C.....I.....F.....Q.....IGR.....I.....V.....V..... .....N.....C.....I.....F.....Q.....IGR.....I.....V.....V..... .....N.....C.....I.....F.....Q.....IGR.....I.....V.....V..... .....N.....C.....I.....F.....Q.....IGR.....I.....V.....V..... .....N.....C.....I.....F.....Q.....IGR.....I.....V.....V..... .....L.....ALA.GGAHSIDPN.....E.Y.Q.I.R.L.L.Q.V.L..... .....L.....ALA.KGTHSIDPN.....Y.E.I.R.....Q.V.L..... .....L.....ALA.DGKTNI.P.V.N.MSA.IKPLLA.....Q.I.L..... .....L.....ALA.DGKTNI.P.V.N.MSA.IKPLLA.....Q.I.L..... .....L.....ALV.EQCDSI.PTV.EFY.Q.IQSILER.AQ.V.L..... .....V.....RAVA.....EFGFNV.AI.H.....IL.L.DL.QISIM.....F..... .....L.....AFA.DHDYGI.P.F.E.IS.IKSLYO.QI.I.....F..... .....L.....ALM.NESYGI.P.VV.A.N.IK.YEL.INI.I.....F..... .....L.....ALM.DQSEGI.P.MK.V.E.E.KSI.EL.....I.V.....F..... .....L.....ALL.KEAAGIDSSV.QI.E.T.....OM.Q.I.....F..... .....L.....ALM.DQSEGI.P.A.V.E.IKKP.DN.QL.I.V.....F..... .....L.....ALM.DQTMGI.P.V.Q.V.E.I.SIC.M.QL.V.V.....F..... .....L.....ALA.ERCVGINLPTVQAI.K.IKE.E.S.I.I.....L..... VL.V.....SLS.MTCYGIEA.ISSI.DQIKE.VEL.....V.C..... VL.....ALA.ERCGIDH.I.KAISL..KEIRDR..Q..I.V..... </pre>							

Figure 2S. CSIs which specific for 'Ca. Chloroploca asiatica' B7-9, 'Ca. Viridilinea mediosalina' Kir15-3F and 'Candidatus Chloranaerofilum corporosum': phosphoglycerate kinase (a), heat-inducible transcription repressor (b), UMP kinase (c).

		300	310	320	330	340	
<b>a</b>	Viridilinea + Oscillochloris + Chloroploca + Chloranaerofilum (4/4)	'Ca. Viridilinea mediisalina'	WP_097643592	RLPRIVCAQAQANPLRYAFCDNWR	YEPIQARTTAASAIQIGDVSVRRA		
		'Ca. Chloroploca asiatica'	WP_097651852	.....EH.....ND.....T.P.....I.IN.....			
		Oscillochloris trichoides	WP_006561465	.....ER.....Y.N.N.....A.QS.....I.....			
		'Ca. Chloranaerofilum corporosum'	peg.2079	.....A.....EH.....YRND.....T.G.....A.IN.....			
	Chloroflexaceae (0/6)	Chloroflexus aurantiacus	YP_001635551	.....T.A.....SYLTGF	E	.....K.QP.....IN.....	
		Chloroflexus aggregans	WP_015940590	.....T.A.....SYLTGF	E	.....Q.K.QP.....IN.....	
		Chloroflexus islandicus	WP_066787052	.....T.A.....SYLTGF	E	.....K.QP.....IN.....	
		Chloroflexus sp. Y-396-1	WP_084568693	.....T.A.....SYLTGF	E	.....A.K.QP.....IN.....	
		Chloroflexus sp. Y-400-fl	ACM53501	.....T.A.....SYLTGF	E	.....K.QP.....IN.....	
		Chloroflexus sp. MS-G	WP_031460137	.....T.A.....SYLTGF	E	.....A.K.QP.....IN.....	
	Other Bacteria (0/250)	'Ca. Scalindua rubra'	ODS31053	K.....V.....SK.....QSYLKGFK	E	.....K.QK.L.....N.FNK.	
		Caldilinea aerophila	WP_014433627	.....L.A.....DK.....F.S.LNGF	E	.....KVT.R.DR.L.....YEK.	
		Litorilinea aerophila	OUC06049	.....M.L.A.....EK.....F.SYQQGFA	E	.....QKAR.....DK.L.T.....YEK.	
		Lyngbya confervoides	WP_039729766	.....M.L.A.....AQ.....F.E.RQGF	E	.....AKVSKT.GD.L.N.R.....YDK.	
		Rhodopirellula baltica	WP_011122990	.....M.L.A.....TER.....F.T.YKNGFA	E	.....AKVSVT.QD.L.N.R.....YAK.	
		Stigmatella erecta	WP_093515675	.....LAV.....R.....V.S.RGGF	E	.....EL.MK.ER.L.....N.FK.	
		Turneriella parva	WP_014801279	S.....AV.....EA.....L.SKNGF	E	.....DFQ.....T.KE.....R.N.I.KK.	
		Melittangium boletus	WP_095981231	KR.....AV.....ER.....L.S.RGGF	E	.....ELV.M.ER.L.....N.F.	
		Myxococcus fulvus	WP_046714163	R.....AV.....R.....A.RGGF	E	.....ELQ.M.ES.L.....N.F.	
		Labiliithrix luteola	AKV02771	.....R.....LCV.....A.D.M.....MKG	E	.....EVT.VV.KA.Q.....R.N.AP.	
		Minicystis rosea	AFR84597	.....Y.LCV.....ES.....L.WNAGR	E	.....EVT.QK.E.L.....N.AP.	
		Sorangium cellulosum	KYF78523	.....F.LCV.....AQ.....L.WSEGR	E	.....EVL.MK.GE.L.....N.AP.	
		Leptospira wolffii	WP_016546692	K.....L.....L.....LSYLN	E	.....FEFS.VD.KP.L.....N.QK.	
		Nitrospina gracilis	WP_005010096	K.....L.....ER.....V.S.KRGR	E	.....SFKS.....K.L.....A.....KK.	
		'Ca. Brocadia fulgida'	KRO21136	KQ.....AK.....L.SYLGKF	E	.....EFA.VK.QK.L.N.....YKK.	
<b>b</b>	Viridilinea + Oscillochloris + Chloroploca + Chloranaerofilum (4/4)	Oscillochloris trichoides	WP_044201831	LVSSGAIAGRERLGSQPQQRV	RANVPLKQMFAAVGSRLMHLHYEQLEF		
		'Ca. Viridilinea mediisalina'	WP_097642574	.....V.....MSEA.T.N.....R.....D.....			
		'Ca. Chloranaerofilum corporosum'	peg.2467	.....V.....ALS.S.....V.....			
		'Ca. Chloroploca asiatica'	WP_097653064	.....V.....NDA.DH.S.....VY.....			
	Chloroflexaceae (0/6)	Chloroflexus sp. Y-396-1	WP_028457576	.....V.....K.....VS.....S	TI.M.V.....I.....I.		
		Chloroflexus sp. MS-G	WP_031459375	.....V.....K.....VS.....S	TI.M.V.....I.....I.		
		Chloroflexus aurantiacus	YP_001635142	.....V.....K.....VN.HH.S	.....I.....V.....I.....I.		
		Chloroflexus sp. Y-400-fl	ACM53078	.....V.....K.....VN.HH.S	.....I.....V.....I.....I.		
		Chloroflexus islandicus	WP_066783802	.....V.....K.....VA.R.S	.....I.....V.....I.....I.		
		Chloroflexus aggregans	WP_015941010	.....V.....K.....AD.RR.S	.....I.....V.....I.....I.D		
	Roseiflexaceae (0/2)	Roseiflexus sp. RS-1	WP_011955532	.....V.....H.FFARR	.....D.....I.....L.....I.....I.		
		Roseiflexus castenholzii	WP_012122883	.....V.....H.FFARR	.....D.....I.....L.....I.....I.		
		Deinococcus maricopensis	WP_013557509	.....VL.W.A.FE.PT.T	LAE.LL.....G.....T.AT.AD		
		Herpetosiphon aurantiacus	ABX05843	.....VL.W.A.FPKRR	E.LTH.AL.....G.....I.G.....		
	Other Bacteria (0/250)	Herpetosiphon geysericola	WP_054537191	.....VL.W.A.FPKRR	E.LTH.AL.....G.....I.G.....		
		Kouleothrix aurantiaca	KPV49139	.....V.....QFP.RRDK	L.F.LL.....I.....I.D		
		Shewanella mangrovi	WP_037443658	.....CT.....H.LYQPLPT	M.N.LL.....Q.ILAWA.S		
		Oceanimonas smirnovii	WP_019934382	V.T.A.....H.FFELAGT	MAN.LL.....TQ.IQTWQ.S.N		
		Neiella marina	WP_087505398	VCT.....H.FFDLPAT	MAN.LL.....TQ.IQSWQ.S.N		
		Ferrimonas kyonanensis	WP_028112113	.....T.....H.QPSPNNT	MAN.LL.....TQ.IQSWQ.S.N		
		Zobellella denitrificans	WP_094038317	V.T.A.....H.FFELAGT	MAN.LL.....TQ.IQSWQ.S.N		
		Ferrimonas sediminum	WP_090361772	.....T.....H.QPSPNNT	MAN.LL.....TQ.IQSWQ.S.N		
		Vibrio ishigakensis	GAM61916	.....VCT.....T.HPELPTS	MAT.LL.....H.IQVW.S.S		
		Caldilinea aerophila	WP_044276207	.....VCT.....V.AY.NFPALPT	ITS.LL.....LQ.GVW.R.A		
		Aeromonas enteropelogenes	WP_061477127	V.T.....H.HP.LAPT	L.N.L.L.I.TQ.IRVWQ.D.N		

Figure 3S. CSIs which specific for 'Ca. Chloroploca asiatica' B7-9, 'Ca. Viridilinea mediosalina' Kir15-3F, 'Candidatus Chloranaerofilum corporosum' and *O. trichoides* DG-6: threonine synthase (a) and glutamate 5-kinase (b).