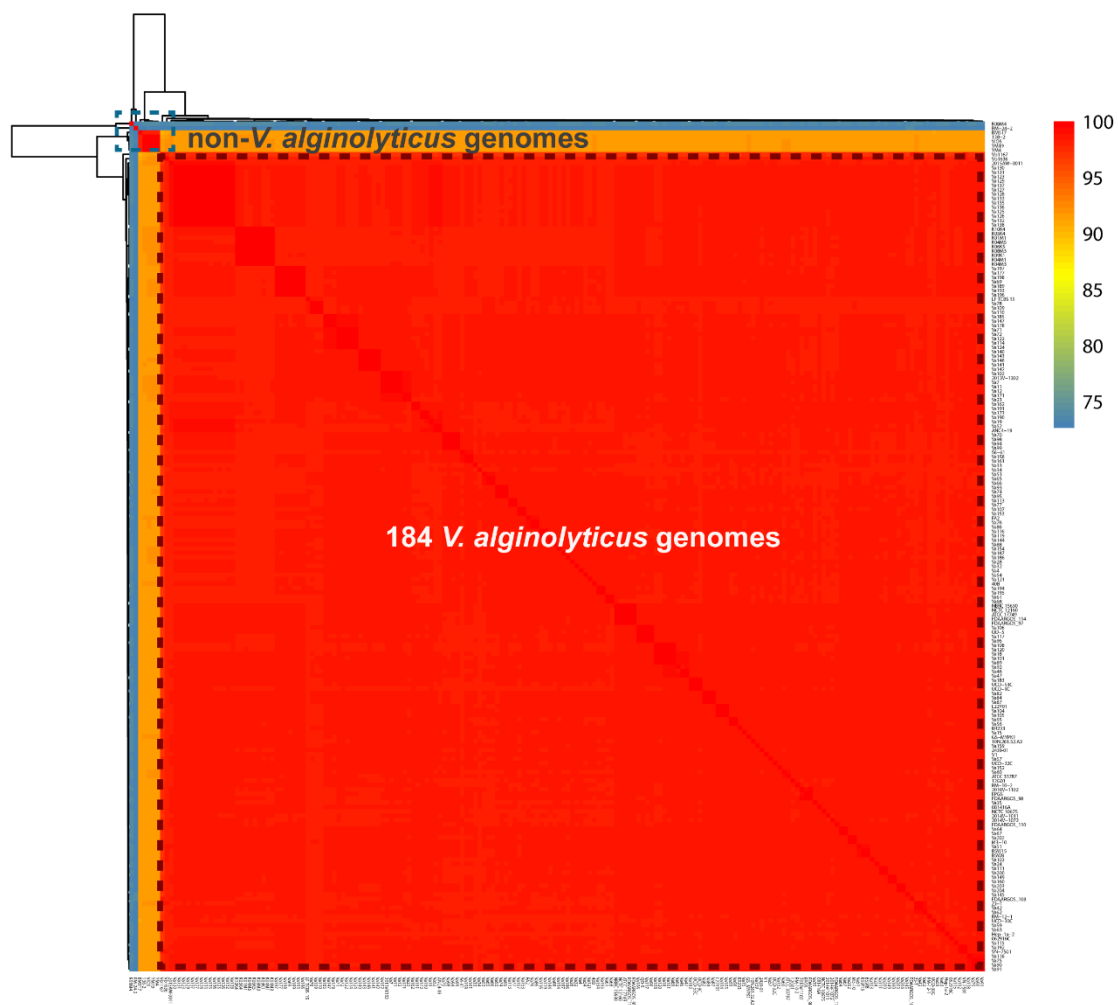


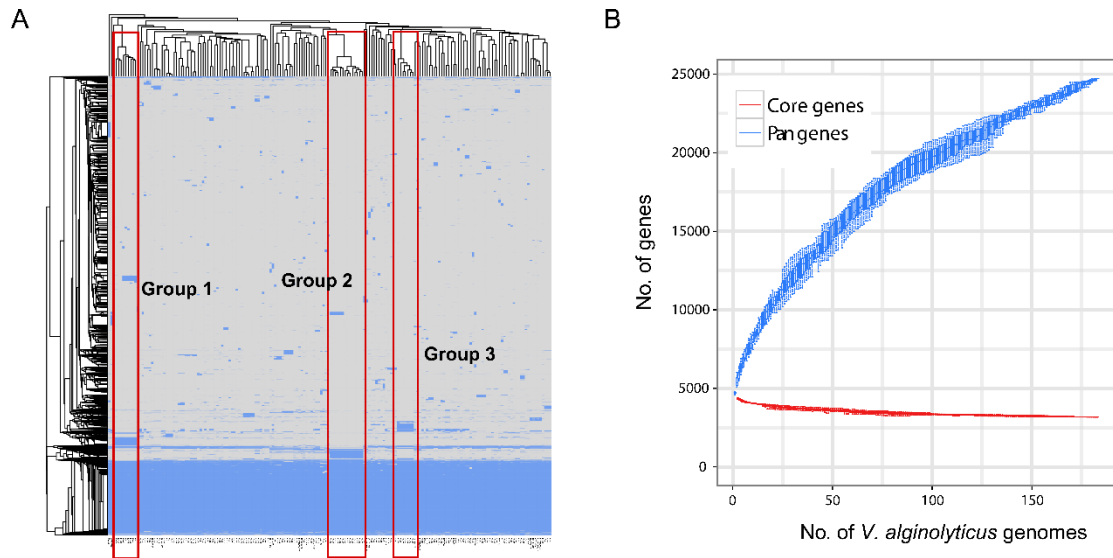
1 Supplementary File



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3 **Fig. S1** Average nucleotide identity (ANI) values for the whole genomic sequences of
4 the 194 suspected *V. alginolyticus* genomes (included 133 laboratory isolates and 61
5 NCBI-derived genomes). Compared with the species boundaries of 95%, 184 *V.*
6 *alginolyticus* genomes were prepared for the subsequent analysis.

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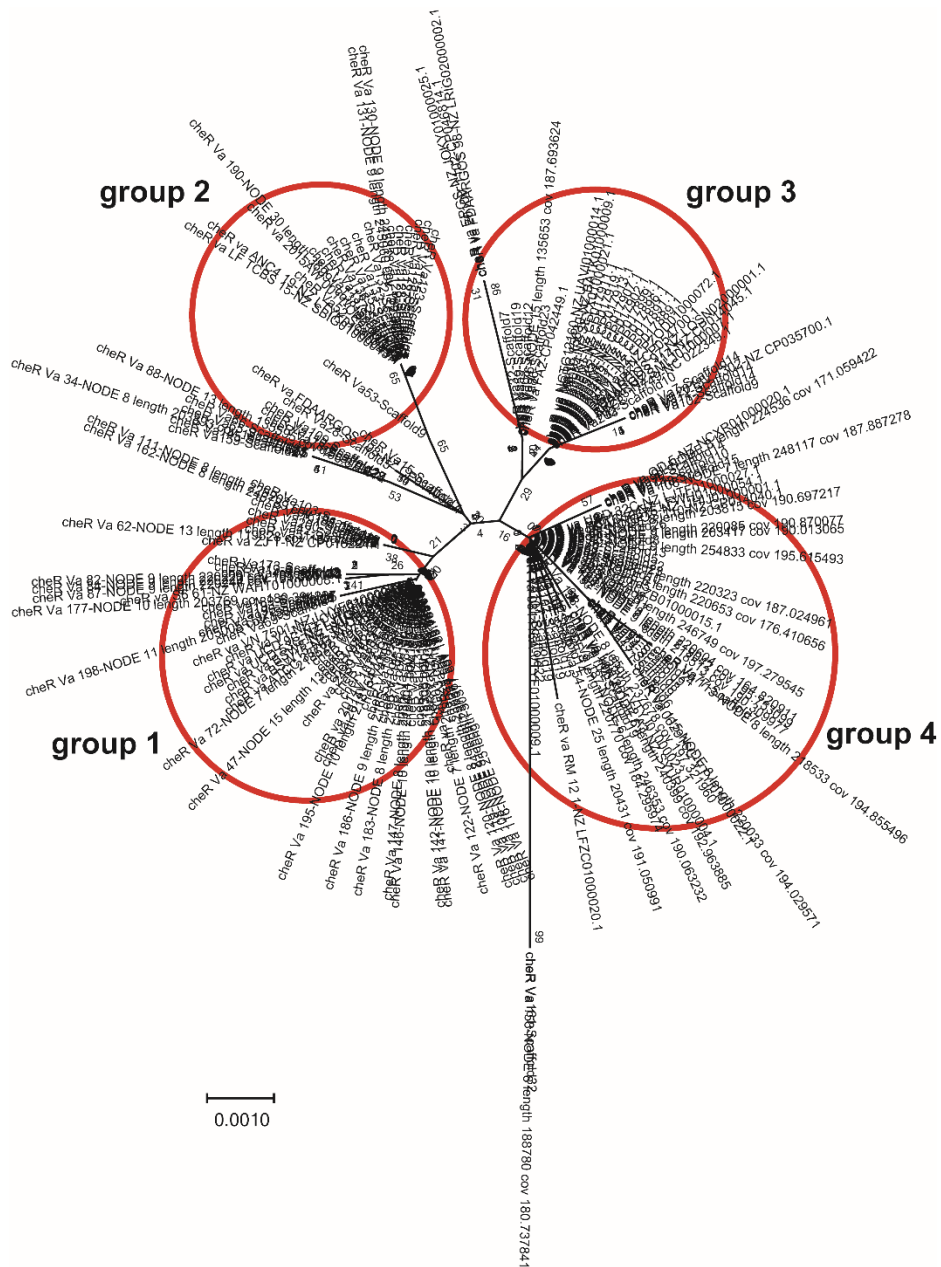
19 **Fig. S2** Pan-genome analysis of *V. alginolyticus* population. (A) Pan-genome clustering
 20 heatmap of 184 *V. alginolyticus* strains. The clustering of pan genes is on the left, and
 21 the clustering of strains is on the top. The color blue and gray represent the presence
 22 and absence of genes, respectively. (B) Dilution curve of core- and pan- genes among
 23 these *V. alginolyticus* strains.

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36 **Fig. S4** The NJ-tree of the *cheR* gene sequences among 184 *V. alginolyticus* genomes,
 37 which are approximately classified into 4 groups. Groups 1 to 4 are highlighted with
 38 red circles. The horizontal bar, 0.001 estimated nucleotide substitutions per site.

TABLE S1 Detailed information of *Vibrio alginolyticus* analyzed in this study

No.	Strain	Original strain No.	Year	Source	Geography
1	Va4	rong7	2008	Frozen squid	Liaoning, China
2	Va7	C1111165	2011	Frozen shrimp	Liaoning, China
3	Va11	DDV062	2013	Frozen shrimp	Liaoning, China
4	Va12	DDV064	2012	Ribbonfish, seafood	Liaoning, China
5	Va15	BR1	2014	Freshwater	Henan, China
6	Va18	ER4	2014	Freshwater	Henan, China
7	Va19	FR5	2014	Fresh sea fish	Henan, China
8	Va23	IR9	2014	Stale sea fish	Henan, China
9	Va24	JR10	2014	Fresh fish	Henan, China
10	Va28	KR15	2014	Freshwater	Henan, China
11	Va32	PR19	2014	Stale sea fish	Henan, China
12	Va33	DR20	2014	Fresh fish	Henan, China
13	Va34	HR21	2014	Stale fish	Henan, China
14	Va35	KR22	2014	Freshwater	Henan, China
15	Va42	KR29	2014	Freshwater	Henan, China
16	Va46	VaTJHX3-01	2015	Clam, seafood	Tianjin, China
17	Va47	VaTJHX3-02	2015	Clam, seafood	Tianjin, China
18	Va51	VaTJHX6-01	2015	Clam, seafood	Tianjin, China
19	Va52	VaTJHX8-01	2015	Clam, seafood	Tianjin, China
20	Va53	VaTJHX9-01	2015	Clam, seafood	Tianjin, China
21	Va54	VaTJHX9-02	2015	Clam, seafood	Tianjin, China
22	Va55	VaTJHX11-01	2015	Clam, seafood	Tianjin, China
23	Va56	VaTJHX11-02	2015	Clam, seafood	Tianjin, China
24	Va57	VaTJHX12-01	2015	Clam, seafood	Tianjin, China
25	Va59	VaTJHX14-01	2015	Clam, seafood	Tianjin, China
26	Va60	VaTJHX20-01	2015	Clam, seafood	Tianjin, China
27	Va61	VaTJHX20-02	2015	Clam, seafood	Tianjin, China

28	Va62	VaTJHX20-03	2015	Clam, seafood	Tianjin, China
29	Va63	VaTJHX21-01	2015	Clam, seafood	Tianjin, China
30	Va64	003-001	2005	Seawater	East China Sea, China
31	Va65	004-002	2005	Seawater	East China Sea, China
32	Va66	008-001	2005	Seawater	East China Sea, China
33	Va67	009-008	2005	Seawater	East China Sea, China
34	Va68	010-004	2005	Seawater	East China Sea, China
35	Va69	012-004	2005	Seawater	East China Sea, China
36	Va70	014-606	2005	Seawater	East China Sea, China
37	Va71	025-003	2005	Seawater	East China Sea, China
38	Va72	028-001-2	2006	Seawater	Bohai Sea, China
39	Va74	028-003	2006	Seawater	Bohai Sea, China
40	Va75	029-001	2006	Seawater	Bohai Sea, China
41	Va76	030-001	2006	Seawater	Bohai Sea, China
42	Va77	030-002	2006	Seawater	Bohai Sea, China
43	Va78	031-001	2006	Seawater	Bohai Sea, China
44	Va82	032-002	2006	Seawater	Bohai Sea, China
45	Va84	032-003	2006	Seawater	Bohai Sea, China
46	Va86	033-003	2006	Seawater	Bohai Sea, China
47	Va87	034-003	2006	Seawater	Bohai Sea, China
48	Va88	035-001	2006	Seawater	Bohai Sea, China
49	Va89	035-002	2006	Seawater	Bohai Sea, China
50	Va90	035-004	2006	Seawater	Bohai Sea, China
51	Va91	036-001	2006	Seawater	Bohai Sea, China
52	Va92	036-001-3	2006	Seawater	Bohai Sea, China
53	Va93	036-002	2006	Seawater	Bohai Sea, China
54	Va94	037-003	2006	Seawater	Bohai Sea, China
55	Va95	038-001	2006	Seawater	Bohai Sea, China
56	Va96	038-002	2006	Seawater	Bohai Sea, China

57	Va98	039-001	2006	Seawater	Bohai Sea, China
58	Va99	041-002	2006	Seawater	Bohai Sea, China
59	Va101	041-004	2006	Seawater	Bohai Sea, China
60	Va102	043-004	2006	Seawater	Bohai Sea, China
61	Va103	044-004	2006	Seawater	Bohai Sea, China
62	Va104	044-004	2006	Seawater	Bohai Sea, China
63	Va105	045-001	2006	Seawater	Bohai Sea, China
64	Va106	046-001-2	2006	Seawater	Bohai Sea, China
65	Va107	046-004	2006	Seawater	Bohai Sea, China
66	Va108	049-001	2006	Seawater	Bohai Sea, China
67	Va109	049-004	2006	Seawater	Bohai Sea, China
68	Va110	050-003	2006	Seawater	Bohai Sea, China
69	Va111	052-001	2006	Seawater	Bohai Sea, China
70	Va113	052-003	2006	Seawater	Bohai Sea, China
71	Va114	053-002	2006	Seawater	Bohai Sea, China
72	Va115	053-003	2006	Seawater	Bohai Sea, China
73	Va116	053-004	2006	Seawater	Bohai Sea, China
74	Va117	053-005	2006	Seawater	Bohai Sea, China
75	Va118	053-006	2006	Seawater	Bohai Sea, China
76	Va119	054-001	2006	Seawater	Bohai Sea, China
77	Va120	054-002	2006	Seawater	Bohai Sea, China
78	Va121	054-003	2006	Seawater	Bohai Sea, China
79	Va122	054-004	2006	Seawater	Bohai Sea, China
80	Va123	054-005	2006	Seawater	Bohai Sea, China
81	Va124	082-101	2006	Seawater	South China Sea, China
82	Va125	086-101	2006	Seawater	South China Sea, China
83	Va126	088-001	2006	Seawater	South China Sea, China
84	Va127	091-301	2006	Seawater	South China Sea, China
85	Va128	092-206	2006	Seawater	South China Sea, China

86	Va129	094-201	2006	Seawater	South China Sea, China
87	Va130	094-201-2	2006	Seawater	South China Sea, China
88	Va131	094-203	2006	Seawater	South China Sea, China
89	Va132	094-204	2006	Seawater	South China Sea, China
90	Va133	098-301	2006	Seawater	South China Sea, China
91	Va135	100-101	2006	Seawater	South China Sea, China
92	Va136	101-901	2006	Seawater	South China Sea, China
93	Va137	102-101	2006	Seawater	South China Sea, China
94	Va138	102-201	2006	Seawater	South China Sea, China
95	Va140	106-002	2007	Seawater	Yellow Sea, China
96	Va141	106-003	2007	Seawater	Yellow Sea, China
97	Va142	106-005	2007	Seawater	Yellow Sea, China
98	Va143	107-005	2007	Seawater	Yellow Sea, China
99	Va144	108-004	2007	Seawater	Yellow Sea, China
100	Va145	108-005	2007	Seawater	Yellow Sea, China
101	Va146	109-001	2007	Seawater	Yellow Sea, China
102	Va147	110-002	2007	Seawater	Yellow Sea, China
103	Va149	111-004-1	2007	Seawater	Yellow Sea, China
104	Va152	112-002	2007	Seawater	Yellow Sea, China
105	Va153	114-003	2007	Seawater	Yellow Sea, China
106	Va154	116-001	2007	Seawater	Yellow Sea, China
107	Va158	121-001	2007	Seawater	Yellow Sea, China
108	Va159	121-002	2007	Seawater	Yellow Sea, China
109	Va160	121-002	2007	Seawater	Yellow Sea, China
110	Va161	122-002	2007	Seawater	Yellow Sea, China
111	Va162	123-006	2007	Seawater	Yellow Sea, China
112	Va171	127-009	2007	Seawater	Yellow Sea, China
113	Va173	128-002	2007	Seawater	Yellow Sea, China
114	Va177	128-006	2007	Seawater	Yellow Sea, China

115	Va178	129-001	2007	Seawater	Yellow Sea, China
116	Va183	131-007	2007	Seawater	Yellow Sea, China
117	Va185	133-005	2007	Seawater	Yellow Sea, China
118	Va186	132-012	2007	Seawater	Yellow Sea, China
119	Va187	133-005	2007	Seawater	Yellow Sea, China
120	Va189	134-001	2007	Seawater	Yellow Sea, China
121	Va190	133-009	2007	Seawater	Yellow Sea, China
122	Va191	135-007	2007	Seawater	Yellow Sea, China
123	Va192	136-006	2007	Seawater	Yellow Sea, China
124	Va193	137-008	2007	Seawater	Yellow Sea, China
125	Va194	138-001	2007	Seawater	Yellow Sea, China
126	Va195	136-006	2007	Seawater	Yellow Sea, China
127	Va196	139-009	2007	Seawater	Yellow Sea, China
128	Va197	140-002	2007	Seawater	Yellow Sea, China
129	Va198	138-001	2007	Seawater	Yellow Sea, China
130	Va200	147-004	2007	Seawater	Yellow Sea, China
131	Va202	503-003	2013	Seawater	Maldives
132	Va203	503-006	2013	Seawater	Maldives
133	Va204	503-007	2013	Seawater	Maldives

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TABLE S2 Genomic overview of *Vibrio alginolyticus* genomes collected from NCBI by March 2021.

No.	Strain	Source	Region	Year	Size(Mb)	GC%	Contigs	CDS	Genes	rRNA	tRNA	BioSample ID	Accession no.
1	062916C	Shellfish hatchery tank	USA	2016	5.07	44.6	86	4692	4899	11	82	SAMN12668395	GCA_013114005.1
2	081416A	Shellfish hatchery tank	USA	2016	5.52	44.4	95	5131	5380	11	75	SAMN12668392	GCA_013114015.1
3	10N.261.52.A3	Seawater	USA	2010	5.3	44.5	123	4740	4916	7	86	SAMN11522386	GCA_005145885.1
4	12G01	-	-	-	5.26	44.6	20	4519	4748	24	61	SAMN02436162	GCA_000153505.1
5	2010V-1102	-	USA	2010	5.34	44.6	3	4712	4977	37	129	SAMN12648253	GCA_009763845.1

6	2013V-1302	-	USA	2013	5.14	44.7	2	4525	4757	34	125	SAMN10702675	GCA_009665435.1
7	2014V-1011	Patient, wound	USA	2014	5.42	44.8	4	4955	5212	37	130	SAMN12648291	GCA_009763085.1
8	2014V-1072	Patient, abscess	USA	2014	5.37	44.5	2	4984	5219	37	130	SAMN12648292	GCA_009762875.1
9	2015AW-0011	-	USA	2015	5.26	44.7	2	4812	5055	37	130	SAMN12648293	GCA_012274965.1
10	2439-01	-	-	-	5.23	44.6	3	4625	4874	37	129	SAMN12648254	GCA_009763745.1
11	40B	-	-	-	5.14	44.6	188	4344	5006	44	114	SAMN02470249	GCA_000176055.1
12	ANC4-19	Coral	India	2010	5.16	44.5	135	4523	4721	7	63	SAMN04523674	GCA_001584265.1
13	ATCC 17749	Food	-	-	5.15	44.7	2	4481	4680	34	105	SAMN02603463	GCA_000354175.2
14	ATCC 33787	Seawater	USA	1971	5.72	44.5	5	5034	5302	34	125	SAMN04320555	GCA_001469735.1
15	BR233	Marine sediment	Philippines	2016	5.05	44.6	69	4487	4614	3	88	SAMN11039181	GCA_004349375.1
16	BSW15	Seawater	France	2014	5.18	44.6	114	4693	4825	3	59	SAMN03280974	GCA_000834085.1
17	BSW8	Seawater	France	2014	5.19	44.6	105	4705	4844	4	61	SAMN03280973	GCA_000834155.1
18	EPGS	Seawater	China	2011	5.1	44.5	55	4487	4630	2	76	SAMN02746033	GCA_001273715.1
19	FA2	Seawater	China	2019	5.25	44.6	2	4599	4802	34	127	SAMN12434441	GCA_011801435.1
20	FDAARGOS_108	Seawater	Puerto Rico	-	5.45	44.5	3	4844	5194	40	130	SAMN03996324	GCA_002953515.1
21	FDAARGOS_110	Sponge	USA	-	5.27	44.6	2	4766	5090	37	129	SAMN03996326	GCA_002953535.1
22	FDAARGOS_114	Cockless Spoiled horse mackerel	United Kingdom	-	5.18	44.7	2	4641	4905	37	129	SAMN03996330	GCA_002953975.1
23	FDAARGOS_97	mackerel	Japan	-	5.18	44.7	2	4638	4899	37	129	SAMN03996338	GCA_001471275.2
24	FDAARGOS_98	Seawater	USA	1991	5.21	44.7	3	4630	4939	37	138	SAMN03996257	GCA_001525595.2
25	GS_MYPK1	Penaeus monodon	Malaysia	2020	5.62	44.4	5	4957	5193	37	129	SAMN15206675	GCA_013368735.1
26	Hep-1a-2	Penaeus vannamei	USA	2014	5.17	44.5	83	4555	4858	62	155	SAMN08805477	GCA_006124875.1
27	K01M1	Seawater	Germany	2011	5.36	44.6	3	4637	4860	37	130	SAMN05860636	GCA_002119505.2
28	K04M1	Seawater	Germany	2011	5.65	44.3	4	5076	5367	37	129	SAMN05860637	GCA_003613035.1
29	K04M3	Seawater	Germany	2011	5.67	44.3	3	4976	5215	37	130	SAMN05860638	GCA_002149105.1
30	K04M5	Seawater	Germany	2011	5.67	44.3	3	5001	5275	37	130	SAMN05860639	GCA_002119545.1
31	K05K4	Seawater	Germany	2011	5.64	44.3	3	5106	5414	37	129	SAMN05860640	GCA_003613065.1

32	K06K5	Seawater	Germany	2011	5.67	44.3	4	5001	5278	37	130	SAMN05860641	GCA_002119565.1
33	K08M3	Seawater	Germany	2011	5.66	44.3	3	4959	5182	37	130	SAMN05860642	GCA_002149085.1
34	K09K1	Seawater	Germany	2011	5.36	44.6	2	4667	4906	37	130	SAMN05860644	GCA_002149065.1
35	K10K4	Seawater	Germany	2011	5.39	44.6	2	4737	5002	37	130	SAMN05860645	GCA_002119585.1
36	L22Y01	Crassostrea gigas	USA	2015	5.27	44.5	53	4884	5075	10	73	SAMN12668396	GCA_013113955.1
37	LF TCBS 15	Seawater	China	2016	5.16	44.5	44	4580	4725	16	88	SAMN10688326	GCA_004283075.1
38	M3-10	Holothuria tubulosa	Spain	2015	5.15	44.6	67	4613	4739	7	73	SAMN10880809	GCA_008271565.1
39	NBRC 15630	Food	-	-	5.05	44.6	76	4474	4534	6	123	SAMD00041824	GCA_000467145.1
40	NCTC 10675	Food	Japan	1	5.33	44.5	2	4798	5131	37	129	SAMEA80450668	GCA_900460325.1
41	NCTC 12160	Food	-	1	5.15	44.7	19	4610	4893	45	132	SAMEA4384071	GCA_900460285.1
42	QD-5	Rotten kelp	China	2015	5.15	44.5	39	4595	4700	5	63	SAMN06706663	GCA_002114195.1
43	RM-10-2	Mollusc	Canada	2015	5.28	44.6	84	4716	4943	29	118	SAMN03795179	GCA_001267615.1
44	RM-12-1	Mussel	Canada	2015	5.32	44.6	131	4795	5101	58	138	SAMN03799837	GCA_001270205.1
45	S6-61	Coral	India	2012	5.31	44.5	9	4879	5151	21	92	SAMN12838353	GCA_008921745.1
46	UCD-32C	Seagrass sediment	USA	2014	5.32	44.6	140	4752	5047	60	134	SAMN04088203	GCA_001306825.1
47	UCD-53C	Seagrass sediment	USA	2014	5.2	44.6	76	4592	4856	50	122	SAMN04088219	GCA_001306845.1
48	UCD-9C	Seagrass sediment	USA	2014	5.86	44.2	95	5303	5597	49	152	SAMN04088220	GCA_001306875.1
49	V1	Sparus aurata	Greece	2007	5.26	44.5	68	4655	4784	4	67	SAMN03580732	GCA_001013315.1
50	VN-7501	Patient, wound	Germany	2011	5.16	44.4	62	4691	4900	6	67	SAMN03457195	GCA_001617475.1
51	ZJ-T	Epinephelus coioides	China	2005	5.41	44.7	2	4655	4878	28	124	SAMN05271497	GCA_001679745.1

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TABLE S3 Detailed genome information of *Vibrio alginolyticus* strains analyzed in this study

No.	Strain	Contigs	Max length of scaffold (bp)	N50 length (bp)	L50 value	Genome size (Mb)	G+C (%)	CDS
1	Va4	57	962620	398159	4	5.08	44.6	4565
2	Va7	66	473103	273719	8	5.08	44.6	4552
3	Va11	64	473103	273719	8	5.08	44.6	4553
4	Va12	65	473103	273719	8	5.08	44.6	4552
5	Va15	55	1238064	405246	4	5.26	44.4	4760
6	Va18	48	805975	399775	5	5.09	44.7	4582
7	Va19	96	435390	123667	14	5.01	44.6	4561
8	Va23	69	715209	402175	5	5.43	44.4	4900
9	Va24	38	1343008	535878	3	5.10	44.6	4539
10	Va28	53	947515	292762	6	5.12	44.6	4541
11	Va32	71	443146	218539	9	5.06	44.6	4535
12	Va33	46	752274	456771	4	5.07	44.6	4534
13	Va34	45	568614	346555	6	5.23	44.4	4766
14	Va35	60	500355	231000	8	5.09	44.5	4613
15	Va42	74	488117	193952	9	5.19	44.6	4696
16	Va46	60	586114	230776	8	5.14	44.5	4603
17	Va47	63	446984	186795	9	5.14	44.5	4596
18	Va51	50	870125	260198	5	5.23	44.6	4724
19	Va52	83	289764	135523	14	5.07	44.6	4574
20	Va53	63	657268	404094	6	5.12	44.5	4603
21	Va54	42	1353232	365557	4	5.05	44.6	4506
22	Va55	61	1417729	427038	4	5.19	44.6	4708
23	Va56	53	794485	298028	6	5.16	44.6	4676
24	Va57	76	678686	432571	5	5.27	44.6	4788
25	Va59	61	734328	476229	5	5.34	44.6	4874
26	Va60	84	398522	229785	9	5.31	44.5	4758

27	Va61	58	917344	383656	5	5.16	44.6	4681
28	Va62	65	519680	193216	8	5.00	44.6	4490
29	Va63	56	1122377	411329	4	5.25	44.6	4749
30	Va64	74	629868	314265	6	5.13	44.6	4631
31	Va65	62	1067734	333998	4	5.21	44.6	4753
32	Va66	59	1072058	345149	4	5.22	44.6	4754
33	Va67	75	629868	328626	6	5.13	44.6	4633
34	Va68	40	1839291	846957	2	5.10	44.5	4597
35	Va69	60	580216	301028	7	5.35	44.5	4862
36	Va70	75	551931	301157	7	5.14	44.5	4693
37	Va71	55	1383866	414085	4	5.03	44.6	4485
38	Va72	44	1208008	347324	4	5.02	44.6	4469
39	Va74	73	675697	191450	7	5.27	44.5	4801
40	Va75	82	574578	196526	8	5.08	44.5	4608
41	Va76	62	456161	232474	9	5.20	44.4	4653
42	Va77	86	960212	393833	5	5.09	44.6	4572
43	Va78	76	430711	237688	8	5.10	44.6	4611
44	Va82	52	671091	249163	6	5.09	44.5	4599
45	Va84	55	671091	247458	7	5.09	44.5	4600
46	Va86	78	451934	261029	8	5.22	44.5	4677
47	Va87	54	671091	247458	7	5.08	44.5	4599
48	Va88	51	673831	258372	6	5.09	44.6	4584
49	Va89	52	707732	370870	5	5.02	44.6	4505
50	Va90	126	456717	219186	9	5.17	44.6	4658
51	Va91	86	456525	210305	9	5.06	44.6	4580
52	Va92	70	444132	244608	8	5.15	44.6	4634
53	Va93	97	711160	191257	8	5.19	44.5	4673
54	Va94	57	528684	346637	6	5.13	44.5	4672
55	Va95	94	674973	250399	7	5.32	44.4	4827

56	Va96	44	705226	348640	5	5.08	44.5	4539
57	Va98	99	473294	252022	8	5.15	44.5	4722
58	Va99	62	528245	301085	6	5.13	44.5	4671
59	Va101	98	533713	402574	6	5.13	44.6	4632
60	Va102	93	415913	219151	10	5.19	44.5	4657
61	Va103	86	1111313	510538	4	5.08	44.6	4579
62	Va104	84	916096	426206	5	5.13	44.6	4653
63	Va105	41	1353092	756323	3	5.10	44.6	4590
64	Va106	45	817333	442887	5	5.22	44.5	4716
65	Va107	73	672240	451663	5	5.14	44.7	4666
66	Va108	49	717659	339605	6	5.23	44.6	4751
67	Va109	60	430711	266660	8	5.09	44.6	4601
68	Va110	63	430703	266652	8	5.09	44.6	4602
69	Va111	60	767457	308802	5	5.16	44.6	4635
70	Va113	87	708694	329018	6	5.06	44.6	4546
71	Va114	57	1814907	447224	3	5.11	44.6	4624
72	Va115	52	783484	367172	5	5.01	44.6	4525
73	Va116	48	466987	237097	7	5.00	44.6	4498
74	Va117	52	872283	460343	4	5.09	44.6	4548
75	Va118	101	399137	187512	10	5.23	44.6	4764
76	Va119	46	526800	388601	6	5.00	44.6	4499
77	Va120	48	742541	367433	5	5.22	44.6	4743
78	Va121	68	859523	452893	4	5.16	44.6	4606
79	Va122	39	1384789	556273	3	5.10	44.6	4585
80	Va123	75	802377	290757	6	5.14	44.6	4653
81	Va124	45	1814909	447224	3	5.10	44.6	4605
82	Va125	62	802348	270861	7	5.29	44.4	4810
83	Va126	71	1080241	276234	6	5.30	44.4	4825
84	Va127	77	802377	290757	6	5.14	44.6	4655

85	Va128	75	802377	290757	6	5.31	44.4	4832
86	Va129	78	802377	290757	6	5.14	44.6	4657
87	Va130	45	802053	270789	7	5.11	44.5	4612
88	Va131	45	802053	270789	7	5.11	44.6	4607
89	Va132	55	802348	270861	7	5.11	44.5	4623
90	Va133	52	1080521	308021	5	5.29	44.4	4819
91	Va135	48	1087730	308021	5	5.12	44.6	4644
92	Va136	66	802348	270861	7	5.29	44.4	4811
93	Va137	84	802377	291071	6	5.15	44.6	4667
94	Va138	67	802340	214850	8	5.29	44.4	4816
95	Va140	70	1542338	319997	4	5.11	44.6	4599
96	Va141	55	557963	345007	6	5.09	44.6	4570
97	Va142	56	557963	292272	6	5.09	44.6	4573
98	Va143	76	1542353	319989	4	5.11	44.6	4602
99	Va144	68	568790	229869	7	5.21	44.5	4714
100	Va145	86	680350	209047	8	5.24	44.5	4797
101	Va146	55	557963	292272	6	5.09	44.6	4575
102	Va147	45	937191	447836	4	5.20	44.5	4689
103	Va149	32	807651	565408	4	5.13	44.5	4601
104	Va152	42	742256	438554	5	5.11	44.7	4603
105	Va153	50	725879	451772	5	5.11	44.6	4592
106	Va154	67	765132	275041	6	5.09	44.6	4573
107	Va158	77	729993	314537	5	5.15	44.5	4676
108	Va159	74	600141	271804	7	5.06	44.6	4535
109	Va160	35	807651	543206	4	5.12	44.5	4601
110	Va161	93	923515	249124	5	5.15	44.5	4678
111	Va162	50	736752	440129	5	5.11	44.6	4620
112	Va171	62	1820445	531113	3	5.24	44.6	4736
113	Va173	62	882566	264175	5	5.06	44.5	4549

114	Va177	62	493821	245779	8	5.27	44.6	4773
115	Va178	80	668773	312601	6	5.22	44.6	4743
116	Va183	40	932020	320016	5	5.16	44.5	4607
117	Va185	60	930702	438428	4	5.09	44.6	4572
118	Va186	46	719787	355954	5	5.16	44.5	4631
119	Va187	69	566382	234197	7	5.12	44.6	4597
120	Va189	91	580216	301028	7	5.31	44.7	4826
121	Va190	51	902114	315809	5	5.23	44.4	4689
122	Va191	92	707037	466524	5	5.16	44.7	4683
123	Va192	130	410729	179671	9	5.13	44.7	4646
124	Va193	99	580216	301028	7	5.31	44.7	4834
125	Va194	68	868319	523908	4	5.29	44.7	4774
126	Va195	38	1380856	356085	5	5.25	44.6	4737
127	Va196	90	675820	308449	6	5.30	44.7	4822
128	Va197	161	454228	193559	10	5.34	44.8	4870
129	Va198	63	494561	277159	8	5.27	44.6	4778
130	Va200	93	797450	311685	6	5.19	44.6	4695
131	Va202	95	488967	362447	6	5.32	44.7	4854
132	Va203	94	1125949	328183	5	5.30	44.7	4793
133	Va204	100	585949	321395	6	5.28	44.6	4770

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TABLE S4 Unique gene clusters present in Group 1 strains K01M1, K04M1, K04M3, K04M5, K05K4, K06K5, K08M3, K09K1, K10K4.

Gene	Order within Fragment	Accessory Fragment	Accessory Order with Fragment	Min group size nuc	Max group size nuc	Avg group size nuc	Annotation
group_20823	10598	1	9541	863	863	863	hypothetical protein

group_20826	11440	1	7036	737	737	737	hypothetical protein
group_20827	10992	1	7256	1319	1319	1319	hypothetical protein
group_20828	10989	1	7260	1220	1220	1220	hypothetical protein
epsJ	10987	1	7261	896	896	896	putative glycosyltransferase EpsJ
group_20830	10986	1	7262	761	761	761	Putative teichuronic acid biosynthesis glycosyltransferase TuaG
group_20831	10985	1	7263	2105	2105	2105	hypothetical protein
group_20832	15202	1	780	656	656	656	hypothetical protein
group_20833	15203	1	779	1160	1160	1160	hypothetical protein
group_20834	15204	1	778	791	791	791	hypothetical protein
group_20835	15205	1	788	431	431	431	hypothetical protein
group_20836	15206	1	790	179	179	179	hypothetical protein
oadG_1	180	1	8155	251	251	251	oxaloacetate decarboxylase gamma chain
group_20848	15201	1	8168	224	224	224	hypothetical protein
group_20849	15183	446	1	494	494	494	hypothetical protein
group_20850	15185	417	1	728	728	728	Bacitracin export ATP-binding protein BceA
group_20851	15184	417	2	665	665	665	hypothetical protein
group_20852	15666	417	3	299	299	299	hypothetical protein
group_20853	15182	1	8346	638	638	638	Peptide methionine sulfoxide reductase MsrA
group_20854	15178	1	8347	1712	1712	1712	Translocation and assembly module subunit TamA
group_20855	15179	1	8348	3764	3764	3764	Translocation and assembly module subunit TamB
group_20856	15180	1	8349	347	347	347	Gamma-glutamylcyclotransferase

group_20861	14915	1	3827	182	182	182	family protein YtfP
group_20863	14926	1	3838	209	209	209	hypothetical protein
group_20871	18373	1	2309	527	527	527	hypothetical protein
group_20872	18372	1	2308	497	497	497	hypothetical protein
group_20873	18371	1	2307	755	755	755	hypothetical protein
group_20874	18370	1	2306	656	656	656	hypothetical protein
group_20875	18369	1	2305	971	971	971	hypothetical protein
group_20876	18368	1	2340	704	704	704	hypothetical protein
group_20880	21450	1	155	683	683	683	hypothetical protein
group_20881	21449	1	154	644	644	644	hypothetical protein
group_20882	21448	1	153	362	362	362	hypothetical protein
group_20883	21440	1	152	1265	1265	1265	hypothetical protein
group_20884	21441	1	151	1016	1016	1016	hypothetical protein
group_20885	21442	1	150	182	182	182	hypothetical protein
group_20886	21444	1	149	254	254	254	hypothetical protein
group_20887	21443	1	148	899	899	899	hypothetical protein
group_20888	20047	1	147	479	479	479	hypothetical protein
group_20889	20048	1	146	203	203	203	hypothetical protein
group_20890	20049	1	145	614	614	614	hypothetical protein
group_20891	20050	1	13444	356	356	356	hypothetical protein
group_20892	20046	1	143	563	563	563	hypothetical protein
smc_1	18909	1	144	1511	1511	1511	Chromosome partition protein Smc
group_20894	7592	1	14745	449	449	449	hypothetical protein
group_20896	1960	1	2864	914	914	914	hypothetical protein
group_20897	1961	1	2865	500	500	500	hypothetical protein
group_20898	1962	1	2866	188	188	188	hypothetical protein
group_20899	3543	1	15640	842	842	842	hypothetical protein

group_20900	3542	1	11084	776	776	776	hypothetical protein
group_20901	4980	1	11086	635	635	635	hypothetical protein
group_20902	4979	1	11085	143	143	143	hypothetical protein
group_20903	4977	1	4394	1250	1250	1250	hypothetical protein
aspT_3	4975	1	4395	1769	1769	1769	Aspartate/alanine antiporter
gadA	4974	1	4396	1394	1394	1394	Glutamate decarboxylase
corA	4973	1	4397	956	956	956	Magnesium transport protein CorA
group_20907	4972	1	4398	1193	1193	1193	hypothetical protein
group_20908	4969	1	4401	452	452	452	hypothetical protein
arpC_1	4968	1	4402	1535	1535	1535	Antibiotic efflux pump outer membrane protein ArpC
mdtO	4967	1	4403	1910	1910	1910	Multidrug resistance protein MdtO
group_20911	4966	1	4404	1064	1064	1064	Multidrug resistance protein MdtN
group_20912	11909	1	4405	203	203	203	hypothetical protein
yxeI_1	11910	1	4406	1163	1163	1163	putative protein YxeI
cbh_1	11911	1	4407	974	974	974	Choloylglycine hydrolase
aspT_4	11912	1	4408	1691	1691	1691	Aspartate/alanine antiporter
nhaK	11913	1	4409	1343	1343	1343	Sodium, potassium, lithium and rubidium/H() antiporter
cbh_2	11914	1	4410	1040	1040	1040	Choloylglycine hydrolase
group_20918	11915	1	4411	680	680	680	hypothetical protein
group_20919	11916	1	4412	341	341	341	hypothetical protein
dmsD	9441	1	4414	575	575	575	Tat proofreading chaperone

group_20921	7662	1	8600	806	806	806	DmsD
							HTH-type transcriptional regulator NimR
zraR_3	7661	1	8599	431	431	431	Transcriptional regulatory protein ZraR
nifA	2312	1	8598	338	338	338	Nif-specific regulatory protein
tehA_1	2313	1	8597	980	980	980	Tellurite resistance protein TehA
group_20925	2314	1	8596	341	341	341	hypothetical protein
group_20926	2315	1	8595	371	371	371	hypothetical protein
yagU	2316	1	8594	611	611	611	Inner membrane protein YagU
group_20928	2317	1	8593	1109	1109	1109	putative cyclic di-GMP phosphodiesterase PdeG
group_20929	2318	1	8592	614	614	614	Virulence factors putative positive transcription regulator BvgA
ecpE	2320	1	8590	644	644	644	putative fimbrial chaperone EcpE
ecpD	2321	1	8589	1421	1421	1421	Fimbria adhesin EcpD
group_20932	2322	1	8588	2531	2531	2531	hypothetical protein
group_20933	2323	1	8587	1880	1880	1880	hypothetical protein
group_20934	2324	1	8586	1025	1025	1025	Outer membrane protein A
group_20935	2325	1	8585	1088	1088	1088	hypothetical protein
group_20936	2326	1	8584	707	707	707	hypothetical protein
group_20937	2327	1	8583	2741	2741	2741	hypothetical protein
group_20938	2328	1	8582	572	572	572	hypothetical protein
group_20939	2329	1	8581	566	566	566	hypothetical protein
group_20940	2330	1	8580	245	245	245	hypothetical protein

group_20941	2331	1	8579	323	323	323	hypothetical protein
group_20942	2332	1	8578	3344	3344	3344	Beta-glucosidase BoGH3B
bvgS	2334	1	8576	3560	3560	3560	Virulence sensor protein BvgS
group_20944	2335	1	8575	599	599	599	Virulence factors putative positive transcription regulator BvgA
group_20945	2336	1	8574	194	194	194	hypothetical protein
group_20946	2337	1	8573	557	557	557	hypothetical protein
hns_2	2338	1	8572	380	380	380	DNA-binding protein H-NS
group_20948	2310	1	11643	281	281	281	hypothetical protein
group_20949	421	1	11660	380	380	380	hypothetical protein
group_20950	3517	1	1868	1895	1895	1895	hypothetical protein
group_20951	14380	1	6841	875	875	875	hypothetical protein
group_20952	13423	1	8286	1403	1403	1403	Tyrosine recombinase XerC
group_20953	13422	1	8287	2345	2345	2345	hypothetical protein
group_20954	13421	1	8288	2195	2195	2195	hypothetical protein
group_20955	13420	1	8289	503	503	503	hypothetical protein
bcp_2	13419	1	8290	464	464	464	Peroxiredoxin Bcp
group_20957	13418	1	8291	632	632	632	hypothetical protein
frdA_1	13417	1	8292	785	785	785	Fumarate reductase flavoprotein subunit
ltxB_1	13416	1	8293	2135	2135	2135	Leukotoxin export ATP- binding protein LtxB
cvaA	13415	1	8294	1256	1256	1256	Colicin V secretion protein CvaA
group_20961	13414	1	8295	983	983	983	hypothetical protein
group_20962	13413	1	8296	272	272	272	hypothetical protein
group_20963	13412	1	8297	287	287	287	hypothetical protein
icaA_2	13411	1	8298	1175	1175	1175	Poly-beta-1,6-N-acetyl-D-

group_20965	13410	1	8299	1403	1403	1403	glucosamine synthase
group_20966	12779	1	8300	518	518	518	hypothetical protein
fis_1	1330	1	8277	269	269	269	DNA-binding protein Fis
group_20968	10218	1	6612	284	284	284	hypothetical protein
group_20969	13321	1	3357	2339	2339	2339	hypothetical protein
group_20970	21788	1	3358	2423	2423	2423	hypothetical protein
group_20971	21789	1	3359	524	524	524	hypothetical protein
group_20972	21790	1	3360	1364	1364	1364	Tyrosine recombinase XerC
dinB_1	21791	1	3361	1052	1052	1052	DNA polymerase IV
vspR_1	21792	1	3362	203	203	203	Transcriptional regulator VspR
cotR	5598	1	15351	1094	1094	1094	Putative sporulation hydrolase CotR
group_20976	9798	1	15765	467	467	467	hypothetical protein
group_20978	4003	1	15573	581	581	581	hypothetical protein
group_20979	4002	1	4217	698	698	698	hypothetical protein
group_20980	8564	1	4218	863	863	863	hypothetical protein
group_20981	8565	1	4219	209	209	209	hypothetical protein
group_20982	20656	1	12673	2705	2705	2705	hypothetical protein
group_20984	20655	1	12674	266	266	266	hypothetical protein
group_20986	20911	1	12676	1457	1457	1457	hypothetical protein
group_20991	4280	1	7583	2822	2822	2822	hypothetical protein
group_20992	4289	1	7591	398	398	398	hypothetical protein
group_20993	4290	1	7592	380	380	380	hypothetical protein
group_20994	4291	1	7593	389	389	389	hypothetical protein
group_20995	4292	1	7594	392	392	392	hypothetical protein
group_20996	4293	1	7595	515	515	515	hypothetical protein
group_20997	19266	1	4773	1463	1463	1463	hypothetical protein
group_20998	19270	1	5290	698	698	698	hypothetical protein

group_20999	19271	1	5291	1052	1052	1052	hypothetical protein
group_21000	19272	1	5292	1301	1301	1301	hypothetical protein
group_21001	19273	1	5293	539	539	539	hypothetical protein
group_21002	19274	1	5294	2327	2327	2327	Chromosome partition protein Smc
group_21003	19275	1	5295	728	728	728	hypothetical protein
group_21004	19276	1	5296	824	824	824	hypothetical protein

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Table S5 Unique gene clusters present in Group 2 strains, Va123, Va130, Va131, Va125, Va126, Va127, Va128, Va129, Va132, Va133, Va135, Va136, Va137, Va138.

Gene	Order within Fragment	Accessory Fragment	Accessory Order with Fragment	Min group size nuc	Max group size nuc	Avg group size nuc	Annotation
group_9825	6009	197	1	521	521	521	hypothetical protein
group_9828	21254	1	12272	221	221	221	hypothetical protein
group_9829	21253	1	12273	797	797	797	hypothetical protein
group_9830	21252	1	12274	1046	1046	1046	Tyrosine recombinase XerD
group_9831	21251	1	12275	788	788	788	hypothetical protein
group_9832	21250	1	12276	608	608	608	hypothetical protein
group_9833	21249	1	12277	200	200	200	hypothetical protein
group_9834	21248	1	12278	146	146	146	hypothetical protein
group_9835	21247	1	12279	539	539	539	hypothetical protein
group_9836	13780	1	12033	506	506	506	hypothetical protein
group_9837	17705	1	12034	284	284	284	hypothetical protein

group_9838	17716	1	12086	428	428	428	hypothetical protein
group_9839	17715	1	12125	2558	2558	2558	hypothetical protein
group_9840	17714	1	12126	1514	1514	1514	hypothetical protein
group_9841	17713	1	12127	170	170	170	hypothetical protein
group_9842	17712	1	12128	335	335	335	hypothetical protein
group_9843	17711	1	12129	227	227	227	hypothetical protein
group_9844	17710	1	12130	482	482	482	hypothetical protein
group_9845	17709	1	12131	1028	1028	1028	hypothetical protein
group_9846	17707	1	12133	857	857	857	hypothetical protein
group_9847	17706	1	12134	1004	1004	1004	hypothetical protein
group_9848	13875	1	12160	230	230	230	hypothetical protein
group_9850	20503	1	13910	302	302	302	hypothetical protein
group_9862	10726	1	8974	968	968	968	ECA polysaccharide chain length modulation protein
group_9863	10725	1	8973	1025	1025	1025	tRNA 5-methylaminomethyl-2-thiouridine biosynthesis bifunctional protein MnmC
group_9864	15472	1	8972	659	659	659	hypothetical protein
group_9865	15473	1	8971	1079	1079	1079	hypothetical protein
bshA_1	15474	1	8970	1142	1142	1142	N-acetyl-alpha-D-glucosaminyl L-malate synthase
group_9867	15475	1	8969	1094	1094	1094	hypothetical protein
tuaB	15476	1	8968	1430	1430	1430	Teichuronic acid biosynthesis protein TuaB
group_9869	15477	1	8967	776	776	776	hypothetical protein
group_9870	15478	1	7407	905	905	905	hypothetical protein
tuaG	15479	1	7408	758	758	758	Putative teichuronic acid biosynthesis glycosyltransferase TuaG
gnu	15480	1	7409	923	923	923	N-acetyl-alpha-D-glucosaminyl-

							diphospho-ditrans,octakis-undecaprenol 4-epimerase
group_9873	15481	1	7410	548	548	548	putative sugar transferase EpsL
group_9874	3441	1	14271	752	752	752	hypothetical protein
group_9883	14859	90	15	1535	1535	1535	putative type I restriction enzyme P M protein
group_9884	14860	90	14	1283	1283	1283	hypothetical protein
group_9885	14861	90	13	2855	2855	2855	Type-1 restriction enzyme R protein
group_9886	14862	90	12	722	722	722	hypothetical protein
group_9887	14863	90	11	521	521	521	hypothetical protein
tnpR_2	14864	90	10	569	569	569	Transposon gamma-delta resolvase
group_9889	14865	90	9	251	251	251	hypothetical protein
group_9890	14866	90	8	473	473	473	hypothetical protein
group_9891	14867	90	7	203	203	203	hypothetical protein
group_9892	14868	90	6	419	419	419	hypothetical protein
group_9893	14869	90	5	167	167	167	hypothetical protein
group_9894	14870	90	4	251	251	251	hypothetical protein
group_9895	14871	90	3	1160	1160	1160	hypothetical protein
group_9911	4558	1	15186	1508	1508	1508	Tyrosine recombinase XerC
group_9912	4557	1	15187	3842	3842	3842	hypothetical protein
group_9913	4556	1	15188	617	617	617	hypothetical protein
group_9914	4555	1	15189	545	545	545	hypothetical protein
group_9915	4554	1	15190	2423	2423	2423	ATP-dependent RecD-like DNA helicase
group_9916	763	1	15185	824	824	824	hypothetical protein
group_9917	764	1	15184	2216	2216	2216	hypothetical protein
group_9918	762	1	5506	1145	1145	1145	hypothetical protein
group_9919	761	1	5505	167	167	167	hypothetical protein
group_9920	760	1	5504	488	488	488	hypothetical protein
nrdG_2	759	1	5503	467	467	467	Anaerobic ribonucleoside-triphosphate

nrdD_2	758	1	5502	2141	2141	2141	reductase-activating protein Anaerobic ribonucleoside-triphosphate reductase
nrdD_3	4553	1	5501	1079	1079	1079	Anaerobic ribonucleoside-triphosphate reductase
group_9955	9239	1	8477	761	761	761	hypothetical protein
group_9956	9211	1	8476	434	434	434	hypothetical protein
group_9959	10331	1	13593	1067	1067	1067	hypothetical protein
group_9960	10356	1	13619	1661	1661	1661	Glycine betaine/proline/choline transporter
group_9961	10487	1	13625	500	500	500	hypothetical protein
group_9964	12635	1	1339	1187	1187	1187	hypothetical protein
group_9965	4442	1	11768	122	122	122	hypothetical protein
group_9967	4453	1	1347	599	599	599	hypothetical protein
group_9978	8372	1	4474	1511	1511	1511	hypothetical protein

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Table S6 Unique gene clusters present in Group 3 strains, Va193, Va189, Va196, Va69, Va197, Va177, Va198.

Gene	Order within Fragment	Accessory Fragment	Accessory Order with Fragment	Min group size nuc	Max group size nuc	Avg group size nuc	Annotation
group_11671	770	1	6231	680	680	680	hypothetical protein
group_11672	769	1	6230	1370	1370	1370	hypothetical protein
group_11674	18712	1	396	857	857	857	hypothetical protein

group_11675	18713	1	395	695	695	695	hypothetical protein
group_11676	18714	1	394	995	995	995	hypothetical protein
group_11677	18715	1	393	923	923	923	hypothetical protein
group_11678	18716	1	445	632	632	632	hypothetical protein
group_11679	18717	1	446	608	608	608	hypothetical protein
group_11681	4216	1	10619	278	278	278	hypothetical protein
group_11682	4217	1	10620	254	254	254	hypothetical protein
group_11686	22284	1	10669	155	155	155	hypothetical protein
group_11687	22285	1	10668	1766	1766	1766	DNA replication and repair protein RecF
group_11688	22286	1	3815	185	185	185	hypothetical protein
group_11690	13806	1	12338	239	239	239	hypothetical protein
engB_1	13940	1	11987	3341	3341	3341	GTP-binding protein EngB
group_11696	13939	1	11986	176	176	176	hypothetical protein
group_11697	13938	1	11985	1067	1067	1067	Tyrosine recombinase XerC
epsL_1	15291	1	9381	635	635	635	putative sugar transferase EpsL
group_11700	15290	1	9380	1133	1133	1133	N-acetyl-alpha-D-glucosaminyl L-malate synthase
group_11701	15289	1	9379	578	578	578	Galactoside O-acetyltransferase
pimB	15288	1	9378	1142	1142	1142	GDP-mannose-dependent alpha-(1-6)-phosphatidylinositol monomannoside mannosyltransferase
group_11703	15287	1	9377	1142	1142	1142	hypothetical protein
group_11704	15286	1	9376	1238	1238	1238	hypothetical protein
group_11705	15285	1	9375	1310	1310	1310	hypothetical protein
group_11706	15284	1	9374	1256	1256	1256	hypothetical protein
group_11707	15253	1	9300	1028	1028	1028	UDP-N-acetylglucosamine 4-epimerase
group_11720	11731	454	1	1202	1202	1202	Tyrosine recombinase XerC
group_11721	11730	454	2	1703	1703	1703	hypothetical protein
group_11722	11729	454	3	2087	2087	2087	hypothetical protein

group_11723	11738	454	4	437	437	437	hypothetical protein
group_11724	11739	454	5	464	464	464	hypothetical protein
group_11725	11740	454	6	1691	1691	1691	hypothetical protein
group_11726	11741	454	7	1298	1298	1298	Cyclic GMP-AMP synthase
group_11727	11742	454	8	1067	1067	1067	hypothetical protein
group_11728	11743	454	17	419	419	419	hypothetical protein
group_11729	11744	454	16	248	248	248	hypothetical protein
group_11730	11745	454	15	545	545	545	hypothetical protein
group_11731	11746	454	14	1085	1085	1085	hypothetical protein
group_11732	11747	454	13	1379	1379	1379	hypothetical protein
group_11733	11748	454	12	524	524	524	Transcriptional regulator VspR
group_11734	11749	454	11	332	332	332	hypothetical protein
group_11735	11750	454	10	203	203	203	hypothetical protein
tadA_3	11751	454	9	1652	1652	1652	tRNA-specific adenosine deaminase
group_11737	1513	1	3572	491	491	491	hypothetical protein
group_11738	1852	1	2155	386	386	386	hypothetical protein
group_11743	692	1	3209	419	419	419	hypothetical protein
group_11752	1629	1	14846	596	596	596	hypothetical protein
group_11753	1628	1	14845	950	950	950	hypothetical protein
group_11754	1627	1	14706	620	620	620	hypothetical protein
group_11755	1626	1	14707	971	971	971	hypothetical protein
group_11759	922	1	6553	1154	1154	1154	hypothetical protein
group_11760	921	1	6552	1538	1538	1538	putative type I restriction enzyme P M protein
group_11761	475	1	6551	2390	2390	2390	Putative DNA repair helicase RadD
group_11762	476	1	6550	197	197	197	hypothetical protein
group_11774	9253	1	8435	452	452	452	Type II secretion system protein G
group_11775	8941	1	8146	431	431	431	hypothetical protein
group_11778	6469	1	8130	1235	1235	1235	hypothetical protein

group_11779	99	1	8129	521	521	521	hypothetical protein
group_11780	100	1	8128	1997	1997	1997	hypothetical protein
group_11781	101	1	8127	707	707	707	hypothetical protein
lspA_2	48	1	3752	506	506	506	Lipoprotein signal peptidase
group_11799	12946	1	7780	2150	2150	2150	hypothetical protein
group_11804	12945	1	7769	3164	3164	3164	Type I restriction enzyme EcoR124II R protein
group_11805	12944	1	7768	1154	1154	1154	hypothetical protein
group_11806	12943	1	7767	704	704	704	hypothetical protein
hsdM	12942	1	7766	1715	1715	1715	Type I restriction enzyme EcoKI M protein
group_11808	12941	1	7765	950	950	950	hypothetical protein
group_11822	3475	1	3045	560	560	560	hypothetical protein
group_11823	283	1	10269	536	536	536	hypothetical protein
group_11824	284	1	10268	311	311	311	hypothetical protein
group_11825	285	1	3805	416	416	416	hypothetical protein
group_11826	3799	1	5321	1109	1109	1109	hypothetical protein
group_11829	3802	1	3615	620	620	620	hypothetical protein
group_11834	22268	1	3856	455	455	455	hypothetical protein
bcr_3	22269	1	3857	1214	1214	1214	Bicyclomycin resistance protein
cynR_5	22270	1	3858	305	305	305	HTH-type transcriptional regulator CynR
tetR_2	1	489	2	602	602	602	Tetracycline repressor protein class D
tetA	2	489	1	1202	1202	1202	Tetracycline resistance protein, class B
group_11840	1972	1	14334	446	446	446	hypothetical protein
dfrA	1	490	1	506	506	506	Dihydrofolate reductase

68 **Table S7 and S8 in Excel file “Supplementary Table S7.xlsx” and “Supplementary Table**
69 **S8.xlsx”.**