

# Epidemic Dynamics of *Vibrio parahaemolyticus* Illness in a Hotspot of Disease Emergence, Galicia, Spain

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Galicia in northwestern Spain has been considered a hotspot for *Vibrio parahaemolyticus* infections. Infections abruptly emerged in 1998 and, over the next 15 years, were associated with large outbreaks caused by strains belonging to a single clone. We report a recent transition in the epidemiologic pattern in which cases throughout the region have been linked to different and unrelated strains. Global genome-wide phylogenetic analysis revealed that most of the pathogenic strains isolated from infections were associated with globally diverse isolates, indicating frequent episodic introductions from disparate and remote sources. Moreover, we identified that the 2 major switches in the epidemic dynamics of *V. parahaemolyticus* in the regions, the emergence of cases and an epidemiologic shift in 2015–2016, were associated with the rise of sea surface temperature in coastal areas of Galicia. This association may represent a fundamental contributing factor in the emergence of illness linked to these introduced pathogenic strains.

Globally, *Vibrio parahaemolyticus* is the leading bacteriological cause of illness associated with seafood consumption. Infections have undergone a global expansion

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over the last 2 decades; cases have suddenly emerged in areas considered environmentally adverse for these pathogens (1–3). The causes of this dynamic expansion and emergence in non-disease-endemic areas have remained elusive.

*V. parahaemolyticus* infections are generally rare and sporadic across all of Europe with a single exception: Galicia in northwestern Spain. This region has been considered a hotspot for *Vibrio* infections and an anomaly within the epidemiologic context of *V. parahaemolyticus* in Europe; recurring cases of foodborne vibriosis (4–7) and outbreaks (7,8) have been reported regularly since the late 1990s. Infections associated with *V. parahaemolyticus* in Galicia were characterized by sudden outbreaks of illness typically associated with a single genetic variant of the pathogen (6,8). The first sign of change in this epidemiologic pattern was observed in 2012 when 3 different and genetically unrelated strains of *V. parahaemolyticus* were identified during a large outbreak in Galicia (5,9). Since then, a clear transition in the epidemiology of this pathogen has been observed; sporadic cases scattered throughout the region have been caused by different and unrelated strains and typically associated with the consumption of locally produced shellfish.

We applied whole-genome sequencing for a comprehensive and high-resolution insight into pathogenic populations identified in clinical sources associated with the major episodes of illness in Galicia over the past 20 years. We performed phylogenetic analysis to identify the population structure and potential sources of the clinical strains identified in Galicia. We also conducted a parallel exploration of the variability of environmental conditions in the region to investigate the existence of other factors contributing to the emergence of illness linked to these in this particular area.

## Materials and Methods

### Bacterial Strains and DNA Extraction

We analyzed 18 isolates derived from clinical sources collected over the course of the different outbreaks in Galicia

(Table). All the strains isolated from infections in Galicia were characteristically *tdh* positive and *trh* negative, the only exceptions being the strains belonging to sequence type (ST) 36 isolated during the 2012 outbreak, which were positive for both haemolysin genes. Additionally, we included 14 isolates obtained from environmental sources (shellfish and zooplankton) during 2003–2007 to analyze the potential connection between the clinical pathogenic populations and local marine environmental sources. Finally, we added 4 clinical strains reported in the United Kingdom associated with human infections since the 1970s to the study to explore possible connections between pathogenic populations within Europe, along with another 6 environmental strains from the United Kingdom isolated in 2014.

**Genome Sequencing and Sequence Processing**

We performed genomic DNA extraction of the 42 strains from overnight cultures using the DNeasy Blood & Tissue Kit (QIAGEN, Hilden, Germany). We sequenced the genomes of all 42 strains using MiSeq (Illumina, San Diego, CA, USA) with a minimum coverage of 40–120-fold. We prepared libraries with the Nextera XT DNA sample preparation kit (Illumina) and de novo assembled whole-genome sequence contigs for each strain by using CLC Genomics Workbench version 7.5.1 (QIAGEN, Valencia, CA, USA).

**Global Collection of *V. parahaemolyticus* Genomes**

We initially investigated the position of the strains from Spain and the United Kingdom on the global phylogeny

**Table.** Characteristics of *Vibrio parahaemolyticus* strains sequenced and analyzed for study of epidemic dynamics, 1998–2016\*

Strain	CFSAN no.	Year	Source	ST	<i>tdh</i>	<i>trh</i>	Accession no.†	Reference
Strains identified in Spain								
30824	CFSAN018753	1999	Clinical	ST17	+	–	LHAV000000000	(6)
428–00	CFSAN018752	1998	Clinical	ST17	+	–	LHAU000000000	(6)
9808–1	CFSAN018754	2004	Clinical	ST3	+	–	LHAW000000000	(8)
118	CFSAN045068	2015	Clinical	ST1031	+	–	SRR5163839	This study
119	CFSAN045069	2015	Clinical	ST1031	+	–	SRR5163836	This study
113477	CFSAN045070	2015	Clinical	ST327	+	–	SRR5163834	This study
AMC 317	CFSAN056086	2016	Clinical	ST3	+	–	SRR5163849	This study
AMC 325	CFSAN056088	2016	Clinical	ST1031	+	–	SRR5163835	This study
G25	CFSAN022330	2012	Clinical	ST36	+	+	LHRR000000000	This study
G30	CFSAN022331	2012	Clinical	ST36	+	+	LHRS000000000	This study
G31	CFSAN022332	2012	Clinical	ST36	+	+	LHRT000000000	This study
G32	CFSAN022337	2012	Clinical	ST1032	–	+	SRR5163840	This study
G33	CFSAN022333	2012	Clinical	ST1031	–	+	SRR5163848	This study
G35	CFSAN022336	2012	Clinical	ST36	+	+	LHRW000000000	This study
G36	CFSAN022335	2012	Clinical	ST36	+	+	LHRV000000000	This study
G37	CFSAN022334	2012	Clinical	ST36	+	+	LHRU000000000	This study
N310	CFSAN053627	2016	Clinical	ST327	+	–	SRR5163837	This study
N314	CFSAN053626	2016	Clinical	ST3	+	–	SRR5163842	This study
OAG100	CFSAN025076	2007	Shellfish	ST1121	+	+	SRR5163838	This study
OAG95	CFSAN025079	2007	Shellfish	NA	–	+	SRS1912582	This study
OAG99	CFSAN025078	2007	Shellfish	ST1121	+	+	SRS1912583	This study
OJL90	CFSAN029659	2007	Shellfish	ST331	+	–	SRR5163850	This study
PH157	CFSAN025074	2006	Zooplankton	ST331	NA	NA	SRR5163833	This study
PQ110	CFSAN029660	2006	Zooplankton	ST79	–	+	SRR5163846	This study
PY194	CFSAN025072	2007	Zooplankton	ST199	+	+	SRR5163847	This study
PY233	CFSAN025077	2006	Zooplankton	ST169	–	–	SRS1912575	This study
PY350	CFSAN025073	2006	Zooplankton	ST1032	–	+	SRR5163841	This study
PY452	CFSAN025075	2007	Zooplankton	ST1032	+	–	SRS1912576	This study
PY456	CFSAN025071	2006	Zooplankton	ST1032	–	+	SRR5163847	This study
UCM-V441	CFSAN018755	2002	Shellfish	ST52	–	–	LHAX000000000	This study
UCM-V493	NA	2002	Sediment	ST471	–	–	CP007005, CP007004	This study
UCM-V586	CFSAN018756	2003	Shellfish	NA	–	–	LHAY000000000	This study
Strains identified in the United Kingdom								
14-1072-D-VP	CFSAN029647	2014	Shellfish	ST1159	–	+	SRR5639920	This study
14-1073-H-VP	CFSAN029643	2014	Shellfish	ST1159	–	+	SRR5639916	This study
14-1498-F-VP	CFSAN029646	2014	Shellfish	ST1158	–	+	SRR5639919	This study
14-1499-VP	CFSAN029645	2014	Shellfish	ST1157	+	+	SRR5639914	This study
14-559-B-VP	CFSAN029644	2014	Shellfish	ST1159	–	+	SRR5639913	This study
14-692-A-1-VP	CFSAN029642	2014	Shellfish	ST1159	–	+	SRR5639915	This study
V12-024	CFSAN029651	2014	Clinical	ST3	+	–	SRR5639912	This study
V05-002	CFSAN029650	1972	Clinical	ST331	+	–	SRR5639911	This study
V06-002	CFSAN029649	1980	Clinical	ST17	+	–	SRR5639918	This study
F3305-VP	CFSAN029648	2005	Clinical	ST262	+	–	SRR5639917	This study

\*CFSAN, Center for Food Safety and Applied Nutrition; NA, not applicable; SRA, Sequence Read Archive; ST, sequence type; +, positive; –, negative.  
†National Center for Biotechnology Information Assembly or Sequence Read Archive database.

of *V. parahaemolyticus* using all the available *V. parahaemolyticus* genomes worldwide, including 696 genomes obtained from the National Center for Biotechnology Information Assembly and Sequence Read Archive (SRA) databases (online Technical Appendix Table, <https://wwwnc.cdc.gov/EID/article/24/5/17-1700-Techapp1.pdf>) plus the 42 genomes sequenced in our study. We transformed the SRA data to fastq using SRA Toolkit (fastq-dump –split-files –gzip –skip-technical) ([https://trace.ncbi.nlm.nih.gov/Traces/sra/sra.cgi?view=toolkit\\_doc](https://trace.ncbi.nlm.nih.gov/Traces/sra/sra.cgi?view=toolkit_doc)). We performed genome assembly with A5-pipeline (10). We performed in silico inference of MLST profiles and STs using MLST software (<https://github.com/tseemann/mlst>), which infers STs using the public MLST scheme for *V. parahaemolyticus* based on 7 house-keeping genes (<https://pubmlst.org/vparahaemolyticus/>).

### Single-Nucleotide Polymorphism Calling and Phylogenetic Inference

Single-nucleotide polymorphisms (SNPs) were called using Harvest version 1.0.1 (<https://github.com/marbl/harvest>) (11). We used Parsnp, a component of the Harvest suite, to align the assembled genomes and define the core genome. We identified SNPs for both chromosomes by Parsnp in the multi-alignments; we used filtered and reliable core-genome SNPs to construct a core genome maximum-likelihood phylogenetic tree.

### Analysis of Sea Surface Temperature Trend off the Coast of Galicia, Northwest of Spain

We estimated trend in the mean values of sea surface temperature (SST) using daily SST data from a coastal area limited by the coordinates 42°N–43°N and 8.5°W–9.5°W. The mean SST data come from the Optimum Interpolation SST 1/4° daily dataset (OISST), which extends from September 1981 to the present and is distributed by NOAA/NCEI. This dataset combines satellite retrievals and in situ SST data from ships and buoys. We use these analyzed fields to estimate the trends in the region of interest, detect possible regime shifts, and study the habitat suitability of *Vibrio* spp. in the region. We investigated regime shift, defined as rapid reorganizations of ecosystems from one relatively stable state to another, using Sequential Regime Shift Detection Software version 3.2 (<http://www.beringclimate.noaa.gov/regimes/>). This program detects statistically significant shifts in the mean level and magnitude of fluctuations in time series taking the autocorrelation into account (12). The program detects shifts in the mean level of SSTs. The method is based on a sequential *t*-test that can signal a possibility of a regime shift. We used the default significance level of 0.1 that represents the level at which the null hypothesis that the mean values of the 2 regimes are equal is rejected by the *t*-test.

### Nucleotide Sequence Accession Numbers

The draft genome sequences of all 44 *V. parahaemolyticus* strains from our study are available in GenBank. Accession numbers are provided in the Table.

### Results and Discussion

Analysis of the 738 *V. parahaemolyticus* genomes resulted in a core genome alignment of 292,750 bp containing 12,399 SNPs. Positions of the Spanish strains in the global phylogeny (Figure 1) revealed a complex epidemiologic scenario with the existence of multiple, highly diverse genomic variants of strains associated with infections in the region. Moreover, we identified 12 different STs among clinical strains isolated over the past 2 decades (Figures 1, 2). We selected the genomes that clustered together with the genomes from Spain (115 genomes) and included them in a high-resolution phylogenetic reconstruction (Figure 2). The basis for the reconstruction was a core genome alignment of 3,049,195 bp containing 202,859 SNPs.

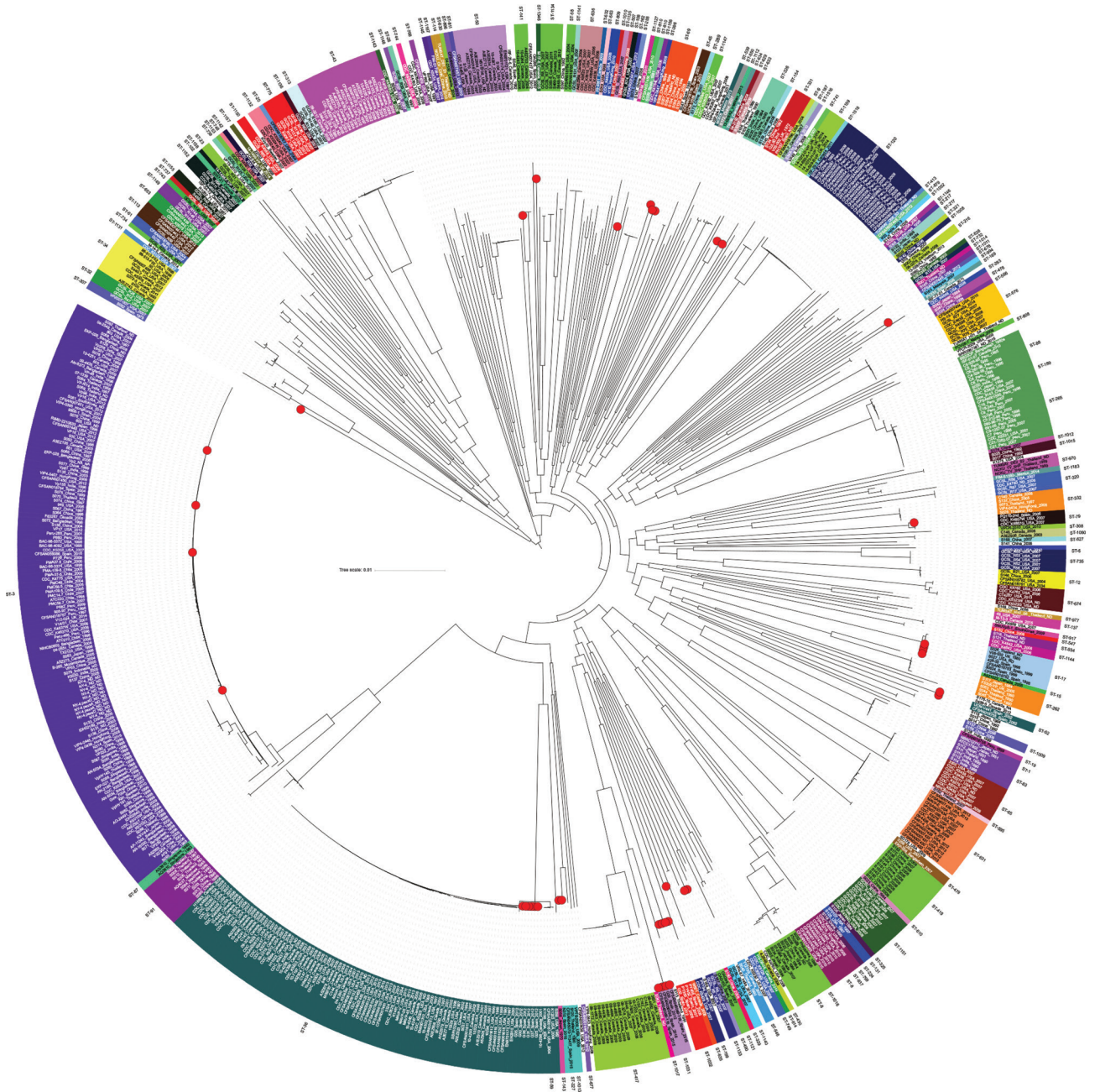
The original strain that was isolated over the course of the earliest documented large outbreak in Galicia in 1998–1999 (ST17), which pulsed-field gel electrophoresis (PFGE) subsequently reported as a new local clone (6), turned out to be closely related to strains previously isolated in Thailand (2006) and the United States (2006) when assessed by whole-genome phylogeny. The clinical strain from the United Kingdom isolated in Maidstone in the late 1970s (National Collection of Type Cultures no. 11344) and reported as genetically related to the Galician strains by PFGE (6), was also found to cluster with this group, with a difference of 450 SNPs.

Strains belonging to the so-called Asian pandemic clone (clonal complex [CC] 3) were first reported in Galicia in association with a large outbreak in 2004 (8). Epidemiologic analysis of the outbreak traced back the origin of the outbreak to a facility located in the international seaport of A Coruña in Galicia, suggesting that the most probable source of the pandemic strain was the discharge of ballast water carried in ships. No strain from this group was identified in Spain until summer 2016, when we identified 2 strains isolated in July from 2 independent outbreaks in the cities of Silleda and Pontevedra, investigated in 2 different hospitals, as belonging to CC3. Genomic analysis of the strains from Galicia, along with 21 additional genomes belonging to the ST3 strains isolated in other countries, resulted in a core alignment of 3,560,214 bp for the ST3 clade containing 384 SNPs. Whole-genome phylogeny revealed that the 2 strains from Galicia isolated in 2016 belonged to 2 different groups; both are different from the strain identified in Galicia in 2004. We identified strain N314 as part of the Asian group of CC3 and strain CFSAN056086 in the American group. We were able to clearly distinguish these

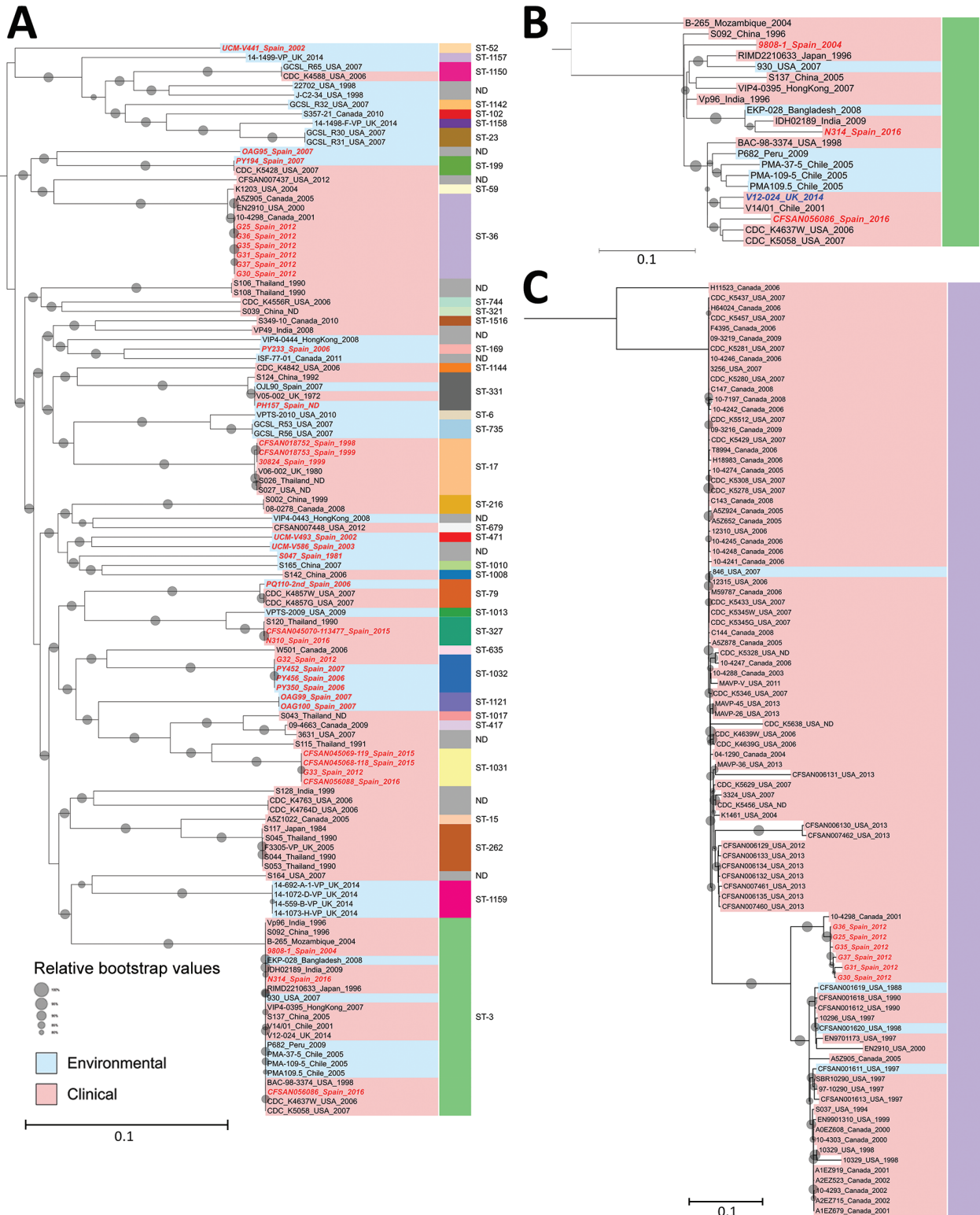


2 strains from the strains isolated from the 2004 outbreak, which was identified in a separate branch closer to different Asian strains. Of note, while the 2004 outbreak was associated with imported seafood and unsafe food manipulation (8), the recent infections caused by CC3 strains were unequivocally associated with local shellfish (razor clams and cockles); compelling evidence of several successful introduction events of these strains into the marine environment of Galicia.

In many ways, the 2012 outbreak in Spain (5,13) represented a clear change in the epidemic dynamics of *V. parahaemolyticus* in the region. First, this outbreak was the largest reported across Europe linked to local seafood; second, it was the earliest known evidence of a cross-continental spreading of the ST36 clone, which is endemic to the Pacific Northwest (PNW) of the United States and one of the most virulent ST groups (13). Genomic analysis of the 92 available genomes of the ST36 isolated from



**Figure 1.** Phylogenetic reconstruction of *Vibrio parahaemolyticus* based on 738 available genomes. Red dots indicate isolates from Spain collected over the past 20 years from clinical settings and environmental sources. Colors represent sequence types, and areas without color correspond to undetermined sequence types. Scale bars represent nucleotide substitutions per site.



**Figure 2.** Phylogeny of *Vibrio parahaemolyticus* isolates from Galicia, Spain. A) Phylogenetic inference of the 42 genomes from Spain identified in this study (red text) along with all other genomes identified in the same clusters by the global phylogeny with their corresponding sequence types (STs). B) Phylogenetic tree of genomes belonging to ST3 (pandemic clone). C) Phylogenetic tree of genomes included in ST36 in the global phylogeny. Gray dots indicate bootstrap values supporting the nodes; dot sizes indicate 80% (smallest) to 100% (largest). Values <80% are not shown. Scale bars represent nucleotide substitutions per site. ND, not determined.



areas of endemicity for this group in the PNW identified a core alignment of 3,310,986 bp comprising 1,596 SNPs. Phylogenetic analysis of the ST36 lineage revealed the existence of 2 different clusters within this group (Figure 2, panel C): a first cluster composed of old strains from Canada isolated before 2005 and the United States before 2000, and a second cluster with modern representatives from the United States and Canada. This particular population structure suggests the existence of a lineage replacement in the PNW coast and western Canada, where only strains belonging to the second cluster were identified from 2005 onward. Surprisingly, we unequivocally identified the strains in the 2012 Galicia outbreak as belonging to the first cluster composed of strains extinct in their original location along the PNW coast, which suggests an early introduction of these strains into waters of Galicia and Europe (14). Furthermore, we identified a single strain from Canada as closely related to the genomes from the Galician strains with a minimum difference of 20–22 SNPs in an alignment of 3,310,986 bp, whereas variations among genomes of the ST36 strains from Galicia were 0–19 SNPs. The low level of variation among all the genomes in this clade supports a hypothesis that Galician strains originated in British Columbia, Canada, and were introduced in Galicia sometime after 2001.

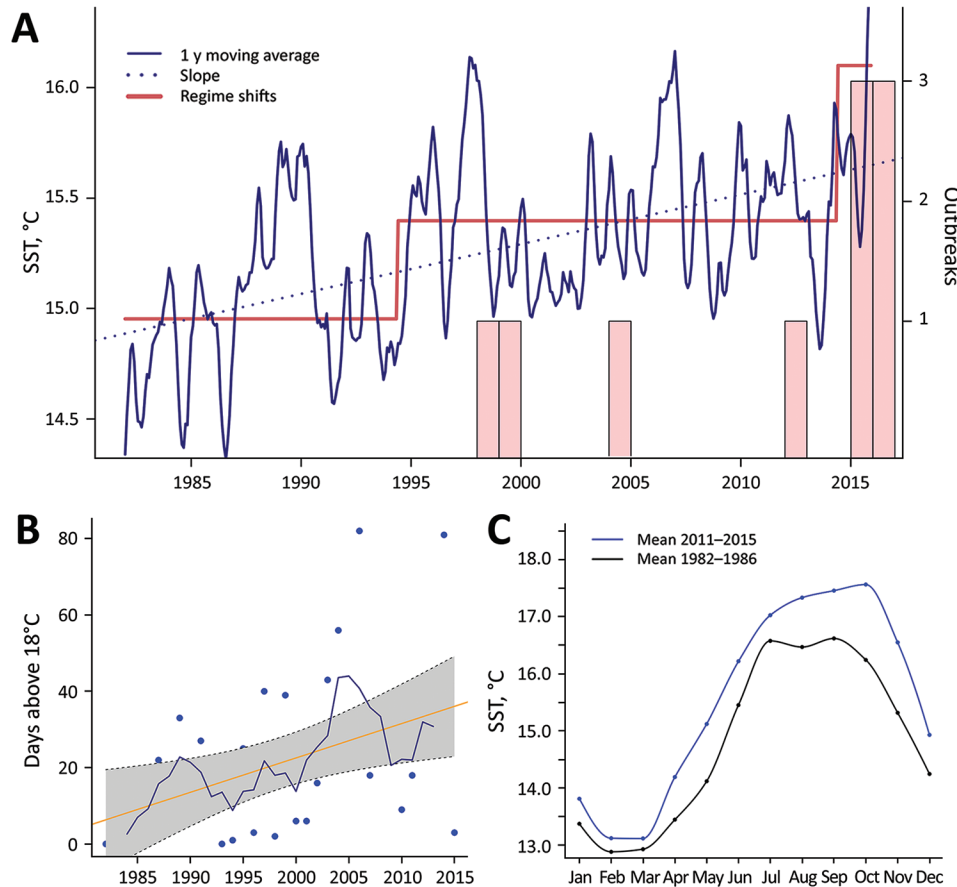
A second singularity of the 2012 outbreak, and probably more noteworthy, was the fact that infections from a single outbreak were associated with several unrelated strains of *V. parahaemolyticus*. We identified 2 additional strains different from ST36 from clinical cases over the course of this outbreak, ST1031 and ST1032; both represent novel STs not reported before the 2012 outbreak. Whole-genome phylogeny of these new STs grouped these strains into 2 distinctive clusters. Strain G32, belonging to ST1032, showed a close association with several strains isolated from zooplankton in offshore waters of Galicia in 2006–2007, which could be preliminary evidence of a local origin of these strains introduced by the incursion of offshore oceanic waters. Strain G33, belonging to ST1031, was included in a single group along with strains also associated with local shellfish and isolated over the course of the outbreaks in the summers of 2015 and 2016.

Finally, we identified an additional group of strains belonging to ST327 associated with illnesses over the summer of 2015 and 2016. We included these strains in the same cluster as 1 strain from Thailand isolated in 1990 (Figure 2).

Our genome-wide phylogenetic analysis of pathogenic *V. parahaemolyticus* in northern Spain has provided novel insights into the epidemiology of *V. parahaemolyticus* in nonendemic areas. The primary result is that the study revealed the existence of a complex epidemiologic context characterized by the existence of multiple highly diverse strains, most originating far away, that caused infections

associated with locally produced shellfish; this finding could be considered evidence of multiple events of introduction of foreign variants into Galicia. The source of these strains into Galicia is elusive and remains an area of ongoing interest, but we did identify through this study and previous work the 2 proposed mechanisms for dissemination of pathogenic strains: ballast water (15–17) and zooplankton migration (18,19). Ballast water has been proposed as a main source of pathogenic *Vibrio* bacteria (16) and was suggested as the mechanism of introduction of pandemic strains in the 2004 outbreak (8). In addition, we showed new evidence that unequivocally identified environmental transport through offshore zooplankton as one of the routes of introduction of new pathogenic variants via ocean currents (18–20). However, we cannot rule out the introduction of foreign mollusks into the marine water of Galicia as a possible source of new variants of pathogenic *Vibrio* bacteria from disparate and remote sources because of the magnitude of the shellfish trade in the region; the importation of shellfish from other geographic areas is a common practice to supply the high demand for products. A recent study analyzing the population structure and evolution of the ST36 clone suggests that the importation of clams from the PNW to Spain circa 2000 is the probable source of ST36 strains (14). Moreover, 2 other recent studies tracking the routes of introduction of the Manila clam from its original place of distribution in the Indo-Pacific region to Europe has also linked the origin of clam populations introduced in Spain to the PNW of the United States (area of endemicity of ST36 populations) during the importations of clams in the mid- and late 1990s (21,22). These findings closely correspond with the results shown in our study.

An underlying finding of our study is that the introduction of these highly pathogenic strains into a region is not sufficient by itself to initiate an epidemic; the introduced strains appear established in the area for a substantial period without evidence of associated illness, which suggests additional cofactors in infections and risk. Because seawater temperature has been identified as a critical factor governing the emergence of *Vibrio* diseases (1–3), we conducted an analysis of historical records of SST in the region. Results from these analyses revealed a significant trend of increased SST in the area, which followed a stepwise and incremental trend, rather than the expected linear change. We identified shifts in both the mean level of fluctuations and the variance of SST time series. We recognized 2 clear shifts of SST with a significant statistical support over the study period: June 1994, an SST increase of 0.4°C; and June 2014, an SST increase of 0.7°C (Figure 3). These 2 shifts in seawater temperature showed a close correspondence with the epidemic dynamics of *V. parahaemolyticus* in the area, showing a period with no infections before the first regime shift, a second period when the first epidemic events were identified, and finally a third period after the last regime shift in 2014, which



**Figure 3.** Recent environmental warming trends in Galicia, Spain, 1982–2016. Trends in the mean values of SST were estimated using daily SST data from a coastal area defined by the coordinates 42°–43°N and 8.5°–9.5°W. A) Mean SST records show stepwise changes rather than a linear pattern. Two regime shifts occurred in June 1994 (0.4°C warming) and June 2014 (0.7°C), which correspond with the first emergence of *Vibrio parahaemolyticus* cases and the epidemiologic shifts observed for 2015 and 2016. B) Number of days with SST >18°C (blue dot), 5-year moving average (blue line), and regression line (yellow line); slope is of  $\approx 1$  d/y (e.g., gaining 1 d/y). C) Mean SST data for Galicia for 2 periods, demonstrating the generalized warming and expansion of season with favorable conditions for sustaining *Vibrio* organisms in the environment and hence increasing risk of infection. SST, sea surface temperature.

was concurrent with the change in the epidemiology of *V. parahaemolyticus* we report in this study. Previous data have shown that regime shift warming has led to an increase in prevalence of *Vibrio* bacteria in the environment (1,23), and epidemiologic studies on the emergence of *Vibrio* infections have identified SSTs >18°C as a critical threshold for triggering infections and substantially increasing the number of reported clinical cases (2). Analysis of the number of days with SSTs >18°C in Galicia over the past 36 years identified an increase of 1 day/year (Figure 2, panel B), which resulted in an increase of 35 days for the risk period of *V. parahaemolyticus* infections for the whole period. These results contrast with the situation in some areas of natural endemicity for pathogenic *V. parahaemolyticus*, such as the PNW for the ST36, where seawater temperatures have remained remarkably stable over the past 2 decades and regime shifts have not been detectable. The average annual SST in areas of Puget Sound in the PNW is  $\approx 5^\circ\text{C}$  lower than in Galicia, showing a warming trend almost 2 orders of magnitude smaller and SST values always <18°C, according to the records of the satellite mesoscale SST time series (data not shown).

This study highlights the utility of whole-genome sequencing as a tool to elucidate key features of the

transmission and potential sources of pathogenic environmental bacteria such as *Vibrio* spp. The concomitant introduction of foreign *Vibrio* variants with a significant warming trend in the region, coupled with the consumption of locally produced shellfish in the region, may be major contributing factors for the emergence of infections in Galicia. Parallel circumstances may also drive disease emergence in other areas of the world with similar environmental conditions, such as the Pacific Northwest (24,25) and the Atlantic Northeast (14,26) in the United States or the south of Chile (27). In these areas. The presence of imported *Vibrio* strains has been frequently reported associated with outbreaks, particularly during and after warming events (28). These areas represent major contributors to the escalation and global expansion of *V. parahaemolyticus* illnesses associated with the dissemination of the preeminent pathogenic clones of these organisms.

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# Epidemic Dynamics of *Vibrio parahaemolyticus* Illness in a Hotspot of Disease Emergence, Galicia, Spain

## Technical Appendix

**Technical Appendix Table.** Genomes used to reconstruct the global phylogeny of *V. parahaemolyticus* with some basic genome assembly statistics\*

ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
AWNE01	S002	China	1999	Clinical	ST-216	cluster_1	648	5060436	84656	20468	11712	74	154	0
JZAO01	08-0278	Canada, AB	2008	Clinical	ST-216	cluster_1	188	5206474	855186	402713	195247	5	10	0
MIQU01	GCSL_R30	USA, FL	27/05/07	Oyster	ST-23	cluster_10	131	5132857	517924	294632	120423	7	14	0
MIQV01	GCSL_R31	USA, LA	27/05/07	Oyster	ST-23	cluster_10	132	5126812	517924	294642	119285	7	15	0
AWNF01	S001	Thailand	ND	Clinical	ST-1014	cluster_100	496	5030720	94989	24000	12192	63	137	0
LFZG01	ISF-77-01	Canada	2011	Imported shrimp	ST--	cluster_101	95	5042958	1089609	518506	232242	4	7	0
BAVI01	TUMSAT_H01_S4	Thailand	ND	Shrimp	ST--	cluster_102	70	5213752	506032	271160	174388	7	13	20.74
AWHH01	S173	China	2007	Environmental	ST-289	cluster_103	407	4951244	129114	37764	19317	44	88	0
AWJH01	S118	Japan	1984	Clinical	ST--	cluster_104	722	5134676	54319	12725	7323	116	245	0
SRR3987381	SRR3987381	ND	30/07/2015	Shrimp	ST--	cluster_105	89	5350122	889934	405683	239254	5	9	1.7
JTGS01	4.2548	Canada, ON	2004	Clinical	ST-430	cluster_106	79	5479562	506844	244392	117081	8	16	0
14-1498-F-VP	14-1498-F-VP	UK	18/08/14	Oyster	ST-1158	cluster_107	103	5115518	368763	136595	65153	13	26	0
AWJT01	S105	Japan	1984	Clinical	ST-325	cluster_108	791	5125425	83099	14631	7337	106	224	0
MIQW01	GCSL_R32	USA, LA	30/05/07	Oyster	ST-1142	cluster_109	105	5059594	509644	186217	93747	9	18	0
MIRU01	GCSL_R95	Canada, PEI	31/07/07	Oyster	ST-1151	cluster_11	103	5123173	650220	431216	179648	5	10	0
MIRW01	GCSL_R98	Canada, PEI	31/07/07	Oyster	ST-1151	cluster_11	102	5125449	773349	413198	179377	5	9	0
MIRX01	GCSL_R99	Canada, PEI	31/07/07	Oyster	ST-1151	cluster_11	96	5120561	652163	349147	179613	5	10	0
MIRY01	GCSL_R108	Canada, PEI	31/07/07	Oyster	ST-1151	cluster_11	93	5156159	773296	348887	179346	5	9	0
MIRZ01	GCSL_R109	Canada, PEI	31/07/07	Oyster	ST-1151	cluster_11	93	5124297	773349	349026	178579	5	10	0
MISA01	GCSL_R110	Canada, PEI	31/07/07	Oyster	ST-1151	cluster_11	96	5123801	773349	413181	179377	5	9	0.02
SRR1118657	CDC_K4857G	USA, HI	28/01/07	Stool	ST-1151	cluster_11	89	6033926	699467	378987	178434	6	12	3.52
SRR1118658	CDC_K4842	USA, MD	16/10/06	Stool	ST-1151	cluster_11	95	5127304	607796	409649	179686	5	11	1.78
SRR1118660	CDC_K4764D	USA, VA	13/10/06	Stool	ST-1151	cluster_11	79	5123974	607785	413170	180230	5	10	2.5
SRR1118661	CDC_K4762	USA, VA	15/08/06	Other	ST-1151	cluster_11	107	6024061	564945	270657	142339	8	16	3.23

ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
MISF01	GCSL_R131	USA, FL	01/10/07	Oyster	ST-1141	cluster_110	132	5140538	559015	313100	159145	6	12	0
JTGT01	9.5357	Canada, NB	2009	Clinical	ST-633	cluster_111	688	5367487	877995	387375	193012	4	8	0
AWJY01	S097	China	1992	Clinical	ST--	cluster_112	531	5024814	97359	23502	11394	66	146	0
JOKT01	13-028/A2	Vietnam	2013	Shrimp	ST-1112	cluster_113	213	4943329	461307	143936	86736	10	21	0
BAVK01	TUMSAT_H10_S6	Thailand	ND	Shrimp	ST-977	cluster_114	64	5213844	910293	329189	247856	5	10	23.73
LIRT01	ISF-94-1	Canada	2011	Imported shrimp	ST--	cluster_115	60	5056993	1293058	407861	240825	4	7	0
MISG01	GCSL_R135	USA, SC	21/11/07	Oyster	ST-741	cluster_116	141	5066023	755387	324832	174909	5	10	0
MISE01	GCSL_R129	USA, FL	01/10/07	Oyster	ST-1153	cluster_117	114	4897383	402460	227454	119393	8	15	0
MIRJ01	GCSL_R60	USA, ME	23/07/07	Oyster	ST-1135	cluster_118	126	5264840	647399	256849	142996	6	13	0
JTGR01	T9109	Canada, BC	2007	Clinical	ST-634	cluster_119	202	5112443	813522	484812	196461	5	9	0
JNUO02	CFSAN007454	USA, MD	2010	Oyster	ST-676	cluster_12	36	5017786	799796	445027	266184	5	8	0
LFZD01	HS-13-1	Canada	2014	Clam	ST-676	cluster_12	106	5098325	799855	401486	195874	5	9	0
MIRB01	GCSL_R51	USA, AL	06/07/07	Oyster	ST-676	cluster_12	105	5049334	799420	401329	144689	5	10	0
MIRO01	GCSL_R75	USA, VA	23/08/07	Oyster	ST-676	cluster_12	87	5014250	799091	313333	142591	5	11	0
MIRP01	GCSL_R76	USA, VA	23/08/07	Oyster	ST-676	cluster_12	82	5017829	799375	313262	114659	5	11	0
MIRQ01	GCSL_R77	USA, VA	23/08/07	Oyster	ST-676	cluster_12	76	5014463	799420	443710	142549	5	10	0
SRR1118664	CDC_K4638	USA, NY	25/09/06	Stool	ST-676	cluster_12	93	5027622	799272	443765	189535	5	9	2.51
SRR1118665	CDC_K4588	USA, ME	26/07/06	Stool	ST-676	cluster_12	58	5017497	801676	443696	189175	5	9	4.63
LCVL01	VH3	Greece	2007	Environmental	ST--	cluster_120	67	4955051	592284	370587	124464	6	12	0
LFWI01	M-17-6	Canada	2015	Mollusk	ST-1346	cluster_121	70	5245836	673671	458622	299211	5	9	0
JNUN02	CFSAN007459	USA, MD	2010	Oyster	ST-768	cluster_122	45	5205568	1317831	425650	265901	4	8	0
MIQQ01	GCSL_R17	USA, FL	30/04/07	Oyster	ST-536	cluster_123	100	5010966	653013	400267	179823	5	9	0.04
AWLE01	S060	China	1992	Clinical	ST--	cluster_124	734	4936722	99726	13928	7304	107	231	0
AWJX01	S098	USA	1997	Seafood	ST--	cluster_125	659	5297296	107368	17405	9101	96	201	0
MITL01	CDC_K4981	USA, OK	12/03/07	Other	ST-748	cluster_126	135	4928549	399573	177698	85166	9	19	0
AWHO01	S165	China	2007	Environmental	ST-1010	cluster_127	608	5025645	83969	22119	12053	70	147	0
AWIN01	S139	China	2006	Seafood	ST-154	cluster_129	579	5014838	67972	22603	11504	74	152	0
MIQN01	GCSL_R12	USA, LA	27/03/07	Oyster	ST-32	cluster_13	116	5051895	806832	321940	133866	5	11	0
MIQS01	GCSL_R26	USA, NJ	16/06/07	Oyster	ST-32	cluster_13	134	5067308	819245	313874	133254	5	12	0
MIRA01	GCSL_R47	USA, AL	20/04/07	Oyster	ST-32	cluster_13	150	5064253	617921	313873	133283	6	12	0
MIUK01	CDC_K5330	USA, TX	23/04/07	ND	ST--	cluster_130	142	5168043	662056	192823	109362	8	17	0
JMMQ01	SG176	USA, GA	2006	Water	ST--	cluster_131	48	4952407	1227949	394204	235335	4	8	0.06
AWIK01	S142	China	2006	Seafood	ST-1008	cluster_132	594	5174666	85562	21560	11699	78	157	0
JNSU01	CFSAN007437	USA, MD	31/05/12	Stool	ST--	cluster_133	243	5051373	191286	59799	34514	28	54	0
JALI01	VP2007-007	USA	2007	Water	ST-307	cluster_134	695	5041389	71198	13214	7273	121	246	0
MIRN01	GCSL_R74	USA, VA	23/08/07	Oyster	ST-108	cluster_135	100	5041370	917285	521828	179493	4	9	0

ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
JALL01	M0605	Mexico, Sinaloa	22/07/13	Shrimp	ST-539	cluster_136	116	5429407	387292	121988	56979	12	29	14.91
JNSV01	CFSAN007438	USA, MD	08/06/12	Wound	ST--	cluster_137	212	5009364	135631	57425	29671	29	59	0
LFWJ01	S195-7	Canada	2007	Seafood	ST-1187	cluster_138	83	5224385	729533	324181	160769	6	12	0
AWJG01	S119	China	1999	Clinical	ST-224	cluster_139	718	5197930	65902	13018	6963	116	251	0
AOPD01	3644	USA, WA	2007	Stool	ST--	cluster_14	411	5028535	100260	31249	16843	53	108	45.7
AOPI01	EN9701072	USA, WA	1997	Stool	ST-43	cluster_14	425	4966234	95620	27006	14502	58	118	48.63
AWJV01	S101	USA	1990	Seafood	ST-43	cluster_14	595	5011175	88616	19913	10681	80	165	0
JNTC01	CFSAN007445	USA, MD	12/06/12	Stool	ST--	cluster_14	203	4985143	240943	56456	33395	26	54	0
JYJT01	10-4255	Canada, BC	2006	Clinical	ST-43	cluster_14	197	5091364	525731	239950	131582	7	13	0
JZAQ01	09-3217	Canada, BC	2009	Clinical	ST-43	cluster_14	155	5059362	553445	319036	105955	6	13	0
LHBF01	CFSAN018763	USA	2004	Missing	ST-43	cluster_14	81	5045122	438113	216660	112505	8	15	1.51
LOBT01	A4EZ700	Canada, BC	2004	Clinical	ST-43	cluster_14	76	5127080	536301	319036	105733	6	13	0
LOHO01	A4EZ724	Canada, BC	2004	Clinical	ST-43	cluster_14	72	5058285	525916	292301	112723	7	13	0.02
LPVN01	C148	Canada, BC	2008	Clinical	ST-43	cluster_14	80	5065366	437726	146049	88627	10	21	0
LQCS01	A5Z860	Canada, BC	2005	Clinical	ST-43	cluster_14	68	5094605	577342	319006	112723	6	12	0
LRAI01	05-3133	Canada, AB	2005	Clinical	ST-43	cluster_14	64	5022875	525916	292212	112723	7	13	0
LRFP01	A2EZ614	Canada, BC	2002	Clinical	ST-43	cluster_14	67	5065489	525750	254300	112723	7	14	0
LRSU01	F1419	Canada, BC	2006	Clinical	ST-43	cluster_14	64	5031127	525770	244430	112723	7	14	0
LRTC01	A3EZ710	Canada, BC	2003	Clinical	ST-43	cluster_14	77	5122387	533835	319006	106263	6	13	0
LRTD01	A3EZ711	Canada, BC	2003	Clinical	ST-43	cluster_14	72	5127994	533835	319035	112723	6	13	0
LRTF01	A3EZ799	Canada, BC	2003	Clinical	ST-43	cluster_14	73	5044575	525750	292206	112723	7	13	0
LRTI01	A1EZ952	Canada, BC	2001	Clinical	ST-43	cluster_14	65	5066903	525916	254552	112723	7	14	0
MIVB01	CDC_K5579	USA, IN	ND	Stool	ST-43	cluster_14	169	5072634	576884	191195	79222	8	18	0
MISS01	CDC_K4558G	USA, LA	28/08/06	Wound	ST-1143	cluster_140	120	5032007	554062	314740	158365	6	12	0
MBTR01	KVp10	Sweden	2007	Environmental	ST--	cluster_141	57	5008534	521527	237565	105586	8	16	0
MISQ01	CDC_K4556R	USA, LA	23/10/06	Wound	ST-744	cluster_142	135	5149094	820212	190507	108066	8	16	0
AWLP01	S046	Spain	1982	Environmental	ST--	cluster_143	981	5233467	57337	11177	6317	139	295	0
AXNP01	VIP4-0443	Hong Kong	2008	Big. eye. fish	ST--	cluster_144	1156	4872707	37085	7337	3888	205	427	0.47
JPLV01	FIM-S1708+	Mexico, Hermosillo	20/01/14	Sediment	ST-1167	cluster_147	79	5246988	629794	174266	103056	10	19	0
JNTD01	CFSAN007446	USA, MD	05/08/12	Wound	ST-678	cluster_148	137	4975370	409634	107992	51431	15	31	0
LFXK01	M-14-5	Canada	2014	Mussel	ST--	cluster_149	93	5060270	435762	279336	178222	8	13	0
AWJI01	S117	Japan	1984	Clinical	ST-262	cluster_15	773	5064437	70982	12496	6955	114	247	0
AWLK01	S053	Thailand	1990	Clinical	ST-262	cluster_15	790	5005317	57343	13539	7463	110	233	0
AWLQ01	S045	Thailand	1990	Clinical	ST--	cluster_15	518	5042752	105459	21335	11619	76	157	0
AWLR01	S044	Thailand	1990	Clinical	ST-262	cluster_15	756	5046675	51241	13374	7455	117	244	0



ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
F3305-VP	F3305-VP	UK-Norfolk	2005	Clinical	ST-262	cluster_15	60	5100438	408891	194519	87342	10	18	0
LRFX01	W501	Canada, BC	2006	Clinical	ST-635	cluster_151	40	4963903	988687	509565	168432	4	8	0
AOCL01	PCV08-7	Malaysia, Selangor	2008	Seafood	ST-808	cluster_152	83	5184985	704302	262059	131525	7	13	0
AWIH01	S145	China	2006	Seafood	ST--	cluster_153	455	5169969	96336	23804	12680	64	138	0
JNTF01	CFSAN007448	USA, PA	03/08/12	Wound	ST-679	cluster_154	232	5294940	291397	61073	36356	27	54	0
AWLS01	S043	Thailand	ND	Clinical	ST-1017	cluster_155	725	5097605	72186	14730	7492	103	224	0
AWHT01	S160	China	2006	Seafood	ST-329	cluster_156	541	4784022	62467	17257	10726	81	169	0
JEMS01	VP49	India, Mangalore	2008	Seafood	ST--	cluster_157	137	5047822	198771	68277	35228	24	49	0
14-1499-VP	14-1499-VP	UK	18/08/14	Oyster	ST-1157	cluster_158	113	5121520	347717	122983	66518	13	26	0
PY233	PY233	Spain	2006	Environmental	ST-169	cluster_159	38	5254029	952729	450349	197320	4	8	0
AWMR01	S018	China	1993	Clinical	ST-120	cluster_16	729	5158932	77651	15209	8788	105	217	0
AWMT01	S016	China	1992	Clinical	ST-120	cluster_16	595	5105432	72336	15462	8875	101	206	0
LKQA01	CFSAN025053	Peru	2009	ND	ST-120	cluster_16	49	5126292	621462	313618	194033	6	12	0.92
LKQB01	281-09- CFSAN025052	Peru	2009	ND	ST-120	cluster_16	42	5129398	535557	280966	178389	7	13	0
LKQC01	CFSAN025054	Peru	2009	ND	ST-120	cluster_16	34	5179121	714305	453287	231801	5	9	0
LKQD01	CFSAN025055	Peru	2009	ND	ST-120	cluster_16	47	5123197	569747	404432	178400	5	11	1.13
LKQE01	CFSAN025056	Peru	2009	ND	ST-120	cluster_16	35	5130775	572247	391859	234755	6	10	0
LKQF01	CFSAN025057	Peru	2009	ND	ST-120	cluster_16	35	5136853	1331797	453287	179585	4	8	0
LKQG01	CFSAN025058	Peru	2009	ND	ST-120	cluster_16	35	5126956	690962	467870	234996	5	9	0
LKQH01	CFSAN025059	Peru	2009	ND	ST-120	cluster_16	40	5126321	926197	376159	178389	5	11	0
LKQI01	CFSAN025060	Peru	2009	ND	ST-120	cluster_16	52	5126855	695584	265563	178389	7	13	1.81
LKQJ01	CFSAN025061	Peru	2009	ND	ST-120	cluster_16	34	5129762	1238720	467872	235116	4	8	0.84
LKQK01	CFSAN025062	Peru	2009	ND	ST-120	cluster_16	35	5128953	777040	467870	260477	5	8	0
LKQL01	CFSAN025063	Peru	2009	ND	ST-120	cluster_16	35	5220707	850506	455995	257547	5	8	0
LKQM01	CFSAN025064	Peru	2009	ND	ST-120	cluster_16	40	5130119	850548	337873	179358	5	11	0
LKQN01	CFSAN025065	Peru	2009	ND	ST-120	cluster_16	44	5126976	690964	284637	193967	6	11	0
LKQO01	CFSAN025066	Peru	2009	ND	ST-120	cluster_16	39	5132315	572884	330290	200648	6	10	0
LKQP01	CFSAN025067	Peru	2009	ND	ST-120	cluster_16	45	5130983	621466	366735	193981	5	10	0
LKQQ01	CFSAN025068	Peru	2009	ND	ST-120	cluster_16	69	5125547	535965	221959	118781	7	14	0
LKQR01	P306- CFSAN029653	Peru	2009	Oysters	ST-120	cluster_16	112	5122821	244230	101266	54475	17	35	0
LKQS01	Guillen151- CFSAN029654	Peru	2009	ND	ST-120	cluster_16	104	5126587	330299	152415	67163	12	25	0

ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
LKQT01	P310-CFSAN029656	Peru	2009	Oysters	ST-120	cluster_16	80	5127031	344208	145779	88843	12	23	0
AWJZ01	S096	South Korea	1999	Clinical	ST-217	cluster_160	655	5172050	84598	17831	10792	87	180	0
MITJ01	CDC_K4858	USA, HI	15/09/06	Stool	ST-283	cluster_161	89	4961237	674964	322414	188337	5	10	0
AOPG01	901128	USA, WA	1997	Stool	ST--	cluster_162	403	5255365	114356	31795	18288	51	106	42.18
AWLW01	S039	China	ND	Clinical	ST-321	cluster_163	795	5025522	64946	13001	7139	122	248	0
AWLF01	S058	Japan	1970	Clinical	ST-143	cluster_164	499	5030729	97127	24420	12231	63	137	0
LHBJ01	CFSAN018767	USA	2004	Missing	ST-20	cluster_165	85	5085389	494861	185639	84180	9	21	0
JPLU01	FIM-S1392-	Mexico, Hermosillo	20/01/14	Sediment	ST-1183	cluster_166	14	5174919	2406161	1931617	1931617	2	2	157.05
SRR1118638	CDC_K4760	USA, VA	2006	Blood	ST--	cluster_167	72	5070185	692789	394007	197447	5	9	2.92
MISD01	GCSL_R126	USA, FL	14/10/07	Oyster	ST-1146	cluster_168	115	5138446	638551	244992	121910	7	14	0
AWHQ01	S163	Malaysia	2007	Seafood	ST-994	cluster_169	510	5170229	92400	23895	11960	71	146	0
AXNQ01	VIP4-0219	HongKong	2006	Seafood	ST-937	cluster_17	79	5178152	685414	211270	140424	7	14	0.1
JNTJ02	CFSAN007452	USA, MD	17/06/10	Stool	ST-8	cluster_17	37	5127281	1521871	527441	226104	3	7	0
JNTK02	CFSAN007453	USA, MD	07/07/10	Stool	ST-8	cluster_17	46	5124758	1265931	367090	179144	4	9	0
JNUG02	CFSAN012491	USA, MD	2010	Oyster	ST-8	cluster_17	35	5126325	995851	526001	233570	4	7	0.41
JNUH02	CFSAN012492	USA, MD	2010	Oyster	ST-8	cluster_17	34	5128956	1192043	485136	321434	4	7	0.62
JNUI02	CFSAN012493	USA, MD	2010	Oyster	ST-8	cluster_17	47	5123258	635564	329201	188242	6	11	0
JNUJ02	CFSAN012494	USA, MD	2010	Oyster	ST-8	cluster_17	34	5127159	1521578	527658	225576	3	7	0
MISR01	CDC_K4557	USA, LA	19/09/06	Stool	ST-799	cluster_17	94	5074019	652712	361205	185517	5	11	0
AWIE01	S148	China	2006	Seafood	ST--	cluster_170	641	5020168	68274	16810	8505	97	205	0
AWML01	S024	China	1998	Clinical	ST-566	cluster_171	422	5083890	77966	22981	13158	67	138	0
JMMT01	22702	USA, GA	1998	Sediment	ST--	cluster_172	43	4955222	786063	454662	179586	5	10	0
LHBI01	CFSAN018766	USA	2004	Missing	ST-9	cluster_173	60	5043748	686903	348215	139502	6	12	0
AWIM01	S140	China	2006	Seafood	ST--	cluster_174	549	5127974	96260	27809	12997	61	128	0
LRSY01	A0EZ383	Canada, BC	2000	Clinical	ST-638	cluster_175	37	5158965	804714	475179	183638	5	9	0
LRFT01	A5Z1022	Canada, BC	2005	Clinical	ST-15	cluster_176	35	5128457	847668	443357	224432	5	8	0
LFWP01	S349-10	Canada	2010	Seafood	ST-1516	cluster_177	74	5225795	953466	273670	171662	5	11	0
AWLL01	S052	Spain	1975	Seafood	ST--	cluster_178	591	4995322	94316	18199	9456	81	175	0
LIRS01	HS-06-05	Canada	2014	Clam	ST-614	cluster_179	162	5845987	915959	174007	48022	7	24	0
ACFN01	AQ4037	Maldives	1985	Clinical	ST--	cluster_18	164	4939804	241746	67710	37290	18	44	0
AWKA01	S095	China	1996	Clinical	ST-91	cluster_18	452	5074062	107387	25401	13733	64	133	0
AWMW01	S013	China	1996	Clinical	ST-91	cluster_18	462	5018967	144217	31330	17335	52	105	0
AWMX01	S012	Thailand	1990	Clinical	ST--	cluster_18	533	5075464	64363	18090	9970	86	178	0
AWMY01	S011	Thailand	1990	Clinical	ST--	cluster_18	371	5070047	135966	30146	16863	51	108	0

ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
AWMZ01	S009	Thailand	1987	Clinical	ST-91	cluster_18	509	5073685	75353	19460	10960	80	163	0
AWNA01	S008	Thailand	1987	Clinical	ST-91	cluster_18	440	5072709	91236	24941	13923	65	130	0
AWNB01	S005	Thailand	ND	Clinical	ST-91	cluster_18	416	5011836	113051	28304	14973	58	118	0
AWNC01	S004	Maldives	1985	Clinical	ST-96	cluster_18	704	5010468	41702	14023	7610	117	237	0
AWND01	S003	China	ND	Clinical	ST-91	cluster_18	465	5002256	89393	21622	13073	68	142	0
MIQX01	GCSL_R33	USA, LA	30/05/07	Oyster	ST-28	cluster_180	94	5043795	652624	350943	179583	5	10	0
LFWN01	S456-5	Canada	2012	Seafood	ST--	cluster_181	272	6099228	1726234	735358	104794	3	9	0
JNTL01	CFSAN007455	USA, MD	19/07/13	Stool	ST-896	cluster_182	217	5061021	251879	55165	34978	28	57	0
AWHP01	S164	USA	2007	Seafood	ST--	cluster_183	541	4985943	58506	20188	11474	80	160	0
JOKE01	13-028/A3	Vietnam	2013	Water	ST--	cluster_184	290	5388844	221100	103448	60491	17	34	0
AWHJ01	S171	China	2007	Environmental	ST-288	cluster_185	342	5146548	126842	35949	20454	46	92	0
AWIB01	S152	China	2006	Seafood	ST-547	cluster_186	588	5009076	54308	15084	8679	97	207	0
AWIL01	S141	China	2006	Seafood	ST--	cluster_187	505	5104762	78987	25799	13602	64	128	0
MCFR01	R10B2_71	USA, WA	1997	Oyster	ST--	cluster_188	550	5270223	372720	131833	95569	11	22	0
MISK01	GCSL_R143	USA, FL	01/11/07	Oyster	ST-743	cluster_189	148	4947784	864380	314716	100967	5	12	0
MIUH01	CDC_K5324G	USA, VA	17/06/07	Stool	ST-1132	cluster_19	294	5272305	404382	130569	61198	11	25	0
MIUI01	CDC_K5324W	USA, VA	17/06/07	Stool	ST-1132	cluster_19	174	5060135	345161	139910	74368	12	23	0
SRR1118612	CDC_K5324G	USA, VA	17/06/07	Stool	ST-1132	cluster_19	165	5084929	327721	119756	72394	14	27	3.47
JNUK02	CFSAN007456	USA, MD	2010	Oyster	ST-810	cluster_190	56	5206921	878464	480822	315414	4	8	0
MIRR01	GCSL_R86	USA, FL	13/08/07	Oyster	ST-737	cluster_191	116	4894547	380580	192233	119425	8	15	0
MIVG01	CDC_K5635	USA, MD	03/09/07	Wound	ST-1145	cluster_192	110	5070117	959187	517784	179298	4	9	0
AWIY01	S128	India	1999	Clinical	ST--	cluster_193	384	4949196	89271	30162	16073	56	110	0
JMMP01	K1275	USA, TX	2004	Blood	ST--	cluster_194	63	5114306	804279	301883	154976	5	12	0.02
LFYM01	ISF-29-3	Canada	2011	Shrimp	ST-1518	cluster_195	94	5368163	643369	255897	157670	6	12	0
LIRU01	S176-10	Canada		Seafood	ST--	cluster_196	82	5976345	653807	366469	152118	6	14	0
JPIP01	VPA-67	India, Andhra Pradesh	13/11/13	Water	ST--	cluster_197	1940	5007772	69723	3582	2050	422	882	0
BAVH01	TUMSAT_D06_S3	Thailand	ND	Shrimp	ST-413	cluster_198	69	5233673	1758462	560774	229120	3	6	26.9
AWLO01	S047	Spain	1981	Environmental	ST--	cluster_199	612	5084123	88327	24746	11804	67	142	0
AFBW01	10329	USA, WA	1998	Clinical	ST-36	cluster_2	33	5093003	1325518	730973	449852	3	5	0
AOOU01	97-10290	USA, WA	1997	Stool	ST-36	cluster_2	61	5103858	480672	236714	111874	7	14	0.12
AOOX01	846	USA, WA	2007	Oyster	ST-36	cluster_2	115	5084575	474131	264478	111285	7	14	0.08
AOPA01	3324	USA, WA	2007	Stool	ST-36	cluster_2	88	5098399	522532	348180	168497	6	12	0.16
AOPF01	12315	USA, WA	2006	Stool	ST-36	cluster_2	110	5090858	496297	270580	171304	7	12	0.04
AOPH01	EN2910	USA, WA	2000	Stool	ST-36	cluster_2	49	5092882	690250	398882	234567	5	10	0
AOPK01	EN9701173	USA, WA	1997	Stool	ST-36	cluster_2	54	5093059	871209	440310	171340	4	9	0



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AOPL01	EN9901310	USA, WA	1999	Stool	ST-36	cluster_2	61	5092164	871204	439695	163908	5	10	0
AWLX01	S038	USA	1982	Environmental	ST-59	cluster_2	840	5115149	53646	11986	7079	137	273	0
AWLY01	S037	USA	1994	Clinical	ST--	cluster_2	797	5062128	86662	12391	7157	125	261	0
AYSP01	10296	USA	1997	Stool	ST-36	cluster_2	198	5101141	198251	58269	32454	29	59	0
AYXP01	12310	USA, WA	2006	Stool	ST-36	cluster_2	103	5133901	432155	200999	80665	8	18	0
AZGS01	3256	USA	2007	Stool	ST-36	cluster_2	98	5085680	446881	269910	95429	8	17	0
G25	G25	Spain, Galicia	2012	Clinic	ST-36	cluster_2	44	5186540	1187033	419551	231895	4	8	0.46
G30	G30	Spain, Galicia	2012	Clinic	ST-36	cluster_2	42	5187399	1101532	581301	315147	3	6	0
G31	G31	Spain, Galicia	2012	Clinic	ST-36	cluster_2	55	5191332	1186717	458794	169976	4	9	0
G35	G35	Spain, Galicia	2012	Clinic	ST-36	cluster_2	53	5185751	1185104	335714	190331	5	10	0
G36	G36	Spain, Galicia	2012	Clinic	ST-36	cluster_2	44	5188301	1186627	561284	465525	4	6	0
G37	G37	Spain, Galicia	2012	Clinic	ST-36	cluster_2	54	5183508	676075	458751	180707	5	9	0
JAIJ01	SBR10290	USA	1997	Stool	ST-36	cluster_2	166	5113040	372887	66962	36056	22	48	0
JMMO01	K1461	USA, MA	2004	Stool	ST-36	cluster_2	65	5177972	589658	303097	127756	6	14	0.35
JNTM01	CFSAN006129	USA, MD	03/08/12	Stool	ST-36	cluster_2	284	4991166	229727	43911	25499	34	71	0
JNTN01	CFSAN006131	USA, MD	30/06/13	Stool	ST-36	cluster_2	281	4993343	132532	40074	19423	41	86	0
JNTO01	CFSAN006132	USA, MD	17/06/13	Stool	ST--	cluster_2	283	4975382	135180	35662	20527	43	89	0
JNTP01	CFSAN006133	USA, MD	05/07/13	Stool	ST-36	cluster_2	276	4981396	153424	42084	25099	36	74	0
JNTQ01	CFSAN006134	USA, MD	16/07/13	Stool	ST--	cluster_2	215	5065048	245587	50327	28815	30	62	0
JNTR01	CFSAN006135	USA, MD	21/07/13	Stool	ST--	cluster_2	250	4994309	161283	49481	24531	31	68	0
JNTS01	CFSAN007460	USA, MD	07/08/13	Stool	ST--	cluster_2	279	4997118	144966	39032	20328	44	88	0
JNTT01	CFSAN007461	USA, MD	27/08/13	Stool	ST-36	cluster_2	185	5037057	281548	79912	45229	20	41	0
JNTU01	CFSAN007462	USA, MD	02/06/13	Stool	ST--	cluster_2	558	4868147	70579	16268	8401	85	186	0
JNTV01	CFSAN006130	USA, MD	02/06/13	Stool	ST--	cluster_2	269	4987136	124245	39128	23351	40	80	0
JNTW01	CFSAN001611	USA, OR	1997	Environmental	ST-36	cluster_2	120	5140604	482159	134517	70658	10	24	0
JNTX01	CFSAN001612	USA, WA	1990	Clinical	ST-36	cluster_2	111	5068718	401003	117873	63590	13	27	0
JNTY01	CFSAN001614	USA, AK	2004	ND	ST-59	cluster_2	130	5207722	417409	135651	55101	12	26	0
JNUA01	CFSAN001618	USA, WA	1990	Clinical	ST-36	cluster_2	105	5076977	360900	153208	67367	12	24	0
JNUB01	CFSAN001619	USA, WA	1988	Environmental	ST-36	cluster_2	104	5079055	442770	136757	77171	12	24	0
JNUC01	CFSAN001620	USA, NY	1998	Environmental	ST-36	cluster_2	125	5061001	388055	112344	69665	12	27	0
JNUD01	K1203	USA, AK	2004	ND	ST-59	cluster_2	206	5178453	346740	97212	45126	17	36	0
JNUF01	CFSAN001613	USA, WA	1997	Clinical	ST-36	cluster_2	151	5026149	290532	100912	51249	15	32	0
JWSS01	10329	USA, WA	1998	Stool	ST-36	cluster_2	2	5149046	3316038	3316038	1833008	1	2	0
JWSV01	K1198	USA, AK	2004	Environmental	ST-59	cluster_2	8	5318060	2468441	972370	911315	2	3	0
JXUX01	10-7197	Canada, BC	2008	Clinical	ST-36	cluster_2	58	5091379	1072038	475405	376267	4	7	0
JXUY01	10-4303	Canada, BC	2000	Clinical	ST-36	cluster_2	53	5106706	761861	437054	404521	5	8	0

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JXUZ01	10-4298	Canada, BC	2001	Clinical	ST-36	cluster_2	77	5233482	998036	426178	161560	5	9	0
JXVA01	10-4293	Canada, BC	2002	Clinical	ST-36	cluster_2	59	5202137	681077	444499	315701	5	8	0
JXVB01	10-4288	Canada, BC	2003	Clinical	ST-36	cluster_2	62	5109495	1072264	548500	376400	4	7	0
JXVC01	10-4274	Canada, BC	2005	Clinical	ST-36	cluster_2	96	5115101	1072077	548500	248114	4	7	0
JXVD01	10-4248	Canada, BC	2006	Clinical	ST-36	cluster_2	117	5112922	1072174	548500	315446	4	7	0
JXVE01	10-4247	Canada, BC	2006	Clinical	ST-36	cluster_2	85	5124152	1083362	462063	232219	4	8	0
JXVF01	10-4246	Canada, BC	2006	Clinical	ST-36	cluster_2	76	5098304	648842	423840	376936	5	8	0
JXVG01	10-4245	Canada, BC	2006	Clinical	ST-36	cluster_2	72	5096818	648456	423844	232219	5	9	0
JXVH01	10-4242	Canada, BC	2006	Clinical	ST-36	cluster_2	75	5126721	752496	403279	117811	6	11	0
JXVI01	10-4241	Canada, BC	2006	Clinical	ST-36	cluster_2	58	5104300	1080786	548500	403489	4	7	0
JXVJ01	09-3216	Canada, BC	2009	Clinical	ST-36	cluster_2	79	5099993	941609	548674	376802	4	7	0
JXVK01	04-1290	Canada, AB	2004	Clinical	ST-36	cluster_2	98	5143276	1072183	548500	376238	4	7	0
LBHD01	MAVP-26	USA, MA	2013	Clinical	ST-36	cluster_2	30	5112994	1268488	809118	548782	3	5	2.15
LBHE01	MAVP-36	USA, MA	2013	Clinical	ST-36	cluster_2	32	5193870	1191635	809400	550114	3	5	1.35
LBHN01	MAVP-45	USA, MA	2013	Clinical	ST-36	cluster_2	24	5113194	1329274	812214	561936	3	4	13.89
LBHO01	MAVP-V	USA, MA	2011	Clinical	ST-36	cluster_2	39	5204156	1191363	764045	385855	3	6	12.27
LNTX01	A1EZ919	Canada, BC	2001	Clinical	ST-36	cluster_2	31	5094419	1072438	462093	376127	4	7	0
LPVB01	C143	Canada, BC	2008	Clinical	ST-36	cluster_2	30	5078280	1072089	548226	376534	4	7	0
LPVC01	C144	Canada, BC	2008	Clinical	ST-36	cluster_2	34	5078762	1072353	548500	315567	4	7	0
LPVM01	C147	Canada, BC	2008	Clinical	ST-36	cluster_2	36	5078771	1072353	521092	376132	4	7	0
LQCE01	A5Z652	Canada, BC	2005	Clinical	ST-36	cluster_2	32	5082632	1095187	556943	315570	3	6	0
LQCT01	A5Z878	Canada, BC	2005	Clinical	ST-36	cluster_2	36	5079776	998154	548591	376132	4	7	0
LQCU01	A5Z905	Canada, BC	2005	Clinical	ST-36	cluster_2	31	5226793	736492	570484	261316	4	8	0
LQCV01	A5Z924	Canada, BC	2005	Clinical	ST-36	cluster_2	38	5076261	969419	376542	170704	5	10	0
LRFM01	A0EZ608	Canada, BC	2000	Clinical	ST-36	cluster_2	28	5096832	1071920	548505	376796	4	7	0
LRFQ01	A2EZ715	Canada, BC	2002	Clinical	ST-36	cluster_2	31	5103078	1072221	548679	376126	4	7	0
LRFU01	F4395	Canada, BC	2006	Clinical	ST-36	cluster_2	34	5134947	1072089	548500	315573	4	7	0
LRFY01	H11523	Canada, BC	2006	Clinical	ST-36	cluster_2	34	5077113	1072160	548500	376139	4	7	0
LRFZ01	H64024	Canada, BC	2006	Clinical	ST-36	cluster_2	33	5080527	1072353	548500	232219	4	7	0
LRGA01	T8994	Canada, BC	2006	Clinical	ST-36	cluster_2	34	5076710	1094973	548500	315433	3	6	0
LRJZ01	M59787	Canada, BC	2006	Clinical	ST-36	cluster_2	34	5076618	1072264	462077	229078	4	8	0
LRST01	H18983	Canada, BC	2006	Clinical	ST-36	cluster_2	48	5085869	1072347	548500	187447	4	8	0
LRSW01	09-3219	Canada, BC	2009	Clinical	ST-36	cluster_2	38	5074950	1072436	462063	232219	4	8	0
LRSZ01	A1EZ679	Canada, BC	2001	Clinical	ST-36	cluster_2	31	5110204	1072438	548505	376126	4	7	0
LRTA01	A2EZ523	Canada, BC	2002	Clinical	ST-36	cluster_2	33	5093534	1072438	462105	315561	4	7	0
MISZ01	CDC_K4639G	USA, NY	16/10/06	Stool	ST-36	cluster_2	122	5092291	858270	548356	179304	4	9	0

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MITA01	CDC_K4639W	USA, NY	16/10/06	Stool	ST-36	cluster_2	114	5078734	858270	548241	179468	4	9	0
MITY01	CDC_K5278	USA, WA	25/06/07	Stool	ST-36	cluster_2	112	5067491	858277	548384	179304	4	9	0
MIUA01	CDC_K5280	USA, WA	11/07/07	Stool	ST-36	cluster_2	110	5083288	866708	536709	179333	4	9	0
MIUB01	CDC_K5281	USA, WA	13/07/07	Stool	ST-36	cluster_2	115	5077351	866703	548238	179448	4	9	0
MIUE01	CDC_K5308	USA, AK	14/05/07	Stool	ST-36	cluster_2	142	5095192	781430	315048	152425	5	12	0
MIUJ01	CDC_K5328	USA, IN	ND	Stool	ST-36	cluster_2	118	5090169	869543	322231	153978	5	10	0
MIUM01	CDC_K5345G	USA, IA	07/08/07	Stool	ST-36	cluster_2	112	5148490	858270	548356	179304	4	9	0
MIUN01	CDC_K5345W	USA, IA	07/08/07	Stool	ST-36	cluster_2	105	5125535	858180	548245	191923	4	8	0
MIUO01	CDC_K5346	USA, PA	21/08/07	ND	ST-36	cluster_2	126	5087977	858269	548384	179304	4	9	0
MIUQ01	CDC_K5429	USA, NV	09/08/07	Stool	ST-36	cluster_2	118	5079150	871317	536614	179337	4	9	0
MIUR01	CDC_K5433	USA, WA	24/07/07	Stool	ST-36	cluster_2	118	5073057	858270	525700	179448	4	9	0
MIUT01	CDC_K5437	USA, WA	02/09/07	Stool	ST-36	cluster_2	126	5068632	858270	548245	179333	4	9	0
MIUW01	CDC_K5456	USA, WA	ND	Stool	ST-36	cluster_2	114	5080809	858270	548195	179451	4	9	0
MIUX01	CDC_K5457	USA, WA	07/08/07	Stool	ST-36	cluster_2	97	5075024	781423	536921	179439	4	9	0
MIUZ01	CDC_K5512	USA, OK	14/06/07	Stool	ST-36	cluster_2	122	5082991	781423	322224	161150	5	10	0
MIVF01	CDC_K5629	USA, GA	18/11/07	Stool	ST-36	cluster_2	119	5077945	858270	548240	179429	4	9	0
MIVH01	CDC_K5638	USA, MD	ND	Stool	ST-36	cluster_2	125	5144324	858270	548356	179452	4	9	0
MIUP01	CDC_K5428	USA, NV	06/07/07	Stool	ST-199	cluster_20	139	5092714	546503	312872	156220	7	12	0
PY194	PY194	Spain	2007	Environmental	ST-199	cluster_20	57	5046957	551104	313864	155494	6	11	0
AWIF01	S147	China	2006	Seafood	ST--	cluster_200	655	5120789	71186	17214	9201	93	195	0
JDFN01	VPTS-2010	USA	2010	Water	ST-6	cluster_201	659	5218338	74713	14217	7740	107	231	0
JDFO01	VPTS-2010_2	USA	2010	Water	ST--	cluster_202	713	4992918	66819	12510	7169	118	249	0
AWJK01	S115	Thailand	1991	Clinical	ST--	cluster_203	854	5144095	69430	11577	6262	131	279	0
MIQO01	GCSL_R13	USA, LA	27/03/07	Oyster	ST-732	cluster_204	161	5122134	619470	179238	97355	7	16	0
LASL01	09-4681	Canada, NB	2009	Clinical	ST-632	cluster_205	49	5177998	1740325	536325	248786	3	6	0
MIRH01	GCSL_R57	USA, WA	14/07/07	Oyster	ST-1148	cluster_206	101	5100768	588341	314409	205336	6	11	0
LFWG01	ISF-25-6	Canada	2010	Mollusk	ST--	cluster_207	71	5077802	1408096	408976	231989	4	7	0
LIRR01	ISF-54-12	Canada	2011	Imported shrimp	ST--	cluster_208	74	5041359	871376	335149	174202	5	10	0
AOPJ01	EN9701121	USA, WA	1997	Stool	ST--	cluster_21	378	5107306	126153	32971	18685	46	97	43.09
AWIX01	S129	Japan	1984	Clinical	ST-50	cluster_21	659	5040562	116955	23715	12370	59	131	0
AWJU01	S104	USA	1997	Clinical	ST-50	cluster_21	719	5174530	54282	14072	7516	111	235	0
JNTZ01	CFSAN001617	USA, WA	1997	Clinical	ST-50	cluster_21	126	5175345	494581	131980	82411	13	26	0
JYJU01	10-4287	Canada, BC	2003	Clinical	ST-50	cluster_21	333	5269035	877315	509297	255128	5	8	0
LHBB01	CFSAN001174	USA	2004	Environmental	ST-4	cluster_21	88	5148437	301275	122650	77194	14	27	0
LOSG01	NSV5736	USA	ND	ND	ST-50	cluster_21	3	5332288	2511061	1907361	1907361	2	2	0
LRFN01	A0EZ664	Canada, BC	2000	Clinical	ST-50	cluster_21	37	5151804	878804	561155	401414	4	7	0



ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
LRFO01	A0EZ713	Canada, BC	2000	Clinical	ST-50	cluster_21	42	5151966	878151	461183	255579	5	8	0
LRTB01	A3EZ634	Canada, BC	2003	Clinical	ST-50	cluster_21	41	5147837	725547	461307	255094	5	8	0
LRTE01	A3EZ770	Canada, BC	2003	Clinical	ST-50	cluster_21	47	5177526	876648	542663	396771	5	7	0
MIUY01	CDC_K5485	USA, NC	08/07/07	Other	ST-50	cluster_21	128	5151277	664216	321792	153569	5	11	0
AXNR01	VIP4-0444	Hong Kong	2008	Big. eye. fish	ST--	cluster_210	106	5271920	895266	180240	78603	8	20	0.02
MITV01	CDC_K5126	USA, MS	21/05/07	Stool	ST-1131	cluster_211	152	5143760	659285	261043	82204	6	15	0
JDFL01	VPCR-2009	USA	2009	Water	ST--	cluster_212	191	5090393	404859	92465	61049	16	33	0
JNUL02	CFSAN007457	USA, MD	2010	Oyster	ST-811	cluster_213	47	5183716	750802	417837	166826	5	10	0
MISCO1	GCSL_R125	USA, FL	14/10/07	Oyster	ST-739	cluster_214	150	5078459	566894	163207	71668	10	21	0
LQCB01	04-2192	Canada, Saskatchewan	2004	Clinical	ST-629	cluster_215	35	5245730	1024898	464267	316019	4	7	0
JNTE01	CFSAN007447	USA, MD	10/08/12	Ear	ST-162	cluster_216	214	4925201	308217	52439	28872	26	55	0
LBHG01	MAVP-M	USA, MA	2011	Clinical	ST-1127	cluster_217	287	5256857	911708	402360	169341	5	10	3.07
JMMR01	J-C2-34	USA, NC	1998	Sediment	ST--	cluster_218	91	5150449	749992	268853	121787	6	14	0.17
AWHM01	S167	China	2007	Environmental	ST-490	cluster_219	484	5160988	86253	21981	11415	70	152	0
MISH01	GCSL_R136	USA, SC	21/11/07	Oyster	ST-775	cluster_22	139	5098402	537286	168542	72887	10	22	0
MISI01	GCSL_R137	USA, SC	21/11/07	Oyster	ST-775	cluster_22	127	5107378	537509	141391	72369	11	23	0
MISJ01	GCSL_R138	USA, SC	21/11/07	Oyster	ST-775	cluster_22	148	5108840	537343	160436	74322	10	21	0
MITSO1	CDC_K5067	USA, SD	28/04/07	Stool	ST-775	cluster_22	143	5028582	507354	150907	72887	10	22	0
SRR1118651	GCSL_R136	USA, SC	21/11/07	Oyster	ST-775	cluster_22	125	5108648	436773	160505	74398	10	21	4.02
AWJA01	S125	USA	1997	Seafood	ST-131	cluster_23	397	5086946	94210	27219	15592	58	119	0
AZIQ01	970107	USA	1997	Water	ST-131	cluster_23	215	5099912	169479	64091	37108	26	50	0
AONA01	49	USA, WA	2007	Oyster	ST--	cluster_24	363	5131690	129582	29474	16509	53	111	56.57
LFWO01	M-13-3	Canada	2015	Mollusk	ST-137	cluster_24	58	5233576	918818	427514	237368	4	8	0
090-96_1996_Peru	090-96-70	Peru	1996	Clinical	ST-265	cluster_25	35	5096451	1193063	539238	244618	4	7	0
AWME01	S031	Japan	1984	Clinical	ST-189	cluster_25	360	4993525	124465	35058	19750	47	92	0
BB2OPP.fna	BB22OP	Bangladesh	1980s	Environmental	ST-88	cluster_25	2	5103524	3297305	3297305	1806219	1	2	0
C18_2007_Peru	C18	Peru	2007	Clinical	ST-265	cluster_25	48	5021096	1193219	401280	159867	4	8	0
C18-245-07	C18-245	Peru	2007	Clinical	ST-265	cluster_25	48	5021096	1193219	401280	159867	4	8	0
C21-1262-07	C21-1262-07	Peru	2007	Clinical	ST-265	cluster_25	48	5023956	1193005	539211	244589	4	7	0
C21_2007_Peru	C21	Peru	2007	Clinical	ST-265	cluster_25	48	5023956	1193005	539211	244589	4	7	0
C4_1995_Peru	C4	Peru	1995	Clinical	ST-88	cluster_25	48	5114804	719534	412430	204240	5	9	0
C4-324-95	C4-324-95	Peru	1995	Clinical	ST-88	cluster_25	48	5114804	719534	412430	204240	5	9	0
C5_1995_Peru	C5	Peru	1995	Clinical	ST-88	cluster_25	43	5118365	719448	487186	176597	5	9	0
C5-326-95	C5-326-95	Peru	1995	Clinical	ST-88	cluster_25	43	5118365	719448	487186	176597	5	9	0
C6_1996_Peru	C6	Peru	1996	Clinical	ST-88	cluster_25	42	5118851	718872	412438	221256	5	9	0

ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
C6-267-96	C6-267-96	Peru	1996	Clinical	ST-88	cluster_25	42	5118851	718872	412438	221256	5	9	0
C7_1996_Peru	C7	Peru	1996	Clinical	ST-265	cluster_25	45	5098094	598579	499354	192689	5	9	0
C7-212-96	C7-212-96	Peru	1996	Clinical	ST-265	cluster_25	45	5098094	598579	499354	192689	5	9	0
C9-1257-07	C9-1257-07	Peru	2007	Clinical	ST-265	cluster_25	43	5026215	715933	539185	237068	5	8	0
C9_2007_Peru	C9	Peru	2007	Clinical	ST-265	cluster_25	43	5026215	715933	539185	237068	5	8	0
JFFP01	CFSAN001595	Peru	1996	Clinical	ST-265	cluster_25	116	5069445	358101	106956	79140	14	27	0
LFWF01	ISF-01-07	Canada	2010	Mollusk	ST-88	cluster_25	94	5052128	1081271	450650	164188	4	9	0
LPZT01	Gxw_9143	China, Guangxi	21/05/09	Stool	ST-265	cluster_25	57	5139256	949820	603826	226850	4	7	1.95
MIUL01	CDC_K5331	USA, GA	08/08/07	Stool	ST-265	cluster_25	95	5067258	871187	539086	168338	4	10	0
MIUV01	CDC_K5439	USA, WA	19/09/07	Stool	ST-189	cluster_25	106	5031538	871258	539098	182690	4	9	0
S030_India_1999.fsa	S030	India	1999	ND	ST-189	cluster_25	483	5092265	88285	24210	11812	69	140	0
Vp196	Vp196	Peru	2002	Environmental	ST-265	cluster_25	54	5994257	699266	499399	178871	6	11	0
Vp691-05	691-05	Peru	2005	Clinical	ST-265	cluster_25	59	5998819	1193419	414482	159801	5	11	0
AWLV01	S040	Thailand	1990	Clinical	ST-546	cluster_26	517	4986600	95118	19879	11080	71	153	0
JTGQ01	T12739	Canada, BC	2007	Clinical	ST-546	cluster_26	166	5037441	541626	179503	82982	9	19	0
AWHU01	S159	China	2006	Seafood	ST-1009	cluster_27	499	5041665	115328	24030	12730	69	143	0
AWHW01	S157	China	2006	Seafood	ST-1009	cluster_27	606	5037987	75611	17263	8889	93	195	0
G32	G32	Spain, Galicia	2012	Clinic	ST-1032	cluster_28	56	5007845	583932	192124	100940	8	16	1.38
PY350	PY350	Spain	2006	Environmental	ST-1032	cluster_28	48	5014270	890238	273630	157682	5	11	0
PY452	PY452	Spain	2007	Environmental	ST-1032	cluster_28	62	5010843	496496	178640	82342	9	19	0.34
PY456	PY456	Spain	2006	Environmental	ST-1032	cluster_28	49	5012260	666268	275369	157127	7	12	0.58
AWMU01	S015	China	1992	Clinical	ST--	cluster_29	545	5147850	74851	17831	10309	91	185	0
AWMV01	S014	China	1992	Clinical	ST--	cluster_29	545	5159245	65439	18650	10941	86	177	0
AOPB01	3355	USA, WA	2007	Stool	ST--	cluster_3	381	5119134	103336	29107	15610	56	114	49.28
AVPX01	NIHCB0757	Bangladesh	2006	Stool	ST-65	cluster_3	4	5262465	3378377	3378377	1870205	1	2	0
MITX01	CDC_K5277	USA, WA	ND	Stool	ST-65	cluster_3	109	5165700	615115	215075	104194	6	14	0
MITZ01	CDC_K5279	USA, WA	ND	Stool	ST-65	cluster_3	93	5172883	625873	245528	148062	6	13	0
MIUS01	CDC_K5435	USA, WA	11/08/07	Stool	ST-65	cluster_3	105	5168466	624781	215075	113415	6	14	0
MIUU01	CDC_K5438	USA, WA	09/09/07	Stool	ST-65	cluster_3	123	5154409	615149	313186	104262	6	13	0
MIVI01	CDC_K5701	USA, OR	09/09/07	Stool	ST-65	cluster_3	93	5157591	570619	315632	125815	6	12	0
SRR1118603	CDC_K5438	USA, WA	09/09/07	Stool	ST-65	cluster_3	88	5162750	570693	307872	118263	6	14	2.11
AWJF01	S120	Thailand	1990	Clinical	ST-327	cluster_30	782	5146827	61105	13137	7150	119	251	0
CFSAN045070_113477	CFSAN045070-113477	Spain, Galicia	10-2015	Clinic	ST-327	cluster_30	43	5179279	668543	269810	142412	6	13	0
JDFM01	VPTS-2009	USA	2009	Water	ST-1013	cluster_30	130	5074863	407313	167106	94385	10	20	0
N310	N310	Spain, Galicia	06/2016	Clinic	ST-327	cluster_30	50	5179327	1039396	247267	103767	6	15	0

ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
MIRS01	GCSL_R87	USA, FL	13/08/07	Oyster	ST-320	cluster_31	111	5180717	662109	408986	173721	5	11	0
MIRT01	GCSL_R88	USA, FL	13/08/07	Oyster	ST-320	cluster_31	90	5184181	841264	409230	161667	5	10	0
SRR1118662	CDC_K4760	ND	2006	Blood	ST-320	cluster_31	93	5191370	810359	409318	135637	5	10	3.38
AWJQ01	S109	China	1993	Clinical	ST-326	cluster_32	395	5051546	131681	38985	23802	40	79	0
AWMO01	S021	India	1999	Clinical	ST-326	cluster_32	551	5212928	86989	21666	12664	71	153	0
AWMP01	S020	China	1994	Clinical	ST--	cluster_32	421	5182867	111628	32890	16009	50	107	0
JZAN01	07-2965	Canada, AB	2007	Clinical	ST-326	cluster_32	85	5216789	943920	557313	365679	4	7	0
JNSY01	CFSAN007441	USA, MD	15/06/12	Wound	ST-113	cluster_33	286	4851619	135371	37940	23151	40	81	0
JNSZ01	CFSAN007442	USA, MD	10/07/12	Stool	ST-113	cluster_33	285	4852478	169072	42767	22702	37	76	0
JNTA01	CFSAN007443	USA, MD	23/07/12	Ear	ST-113	cluster_33	283	4856640	135371	40377	21731	38	79	0
MIRI01	GCSL_R59	USA, ME	23/07/07	Oyster	ST-113	cluster_33	128	4953641	516389	207497	90263	8	17	0
AWJR01	S108	Thailand	1990	Clinical	ST--	cluster_34	674	5075003	70551	15384	8062	105	218	0
AWJS01	S106	Thailand	1990	Clinical	ST--	cluster_34	609	5072077	56432	15464	8410	101	210	0
MIRM01	GCSL_R65	USA, ME	23/07/07	Oyster	ST-1150	cluster_35	111	5065957	864658	207247	117954	6	13	0
MISU01	CDC_K4588	USA, ME	26/07/06	Stool	ST-1150	cluster_35	118	5014336	864658	207438	117995	6	13	0
LHBC01	CFSAN018760	USA	2004	Missing	ST-61	cluster_36	61	4986443	561504	252511	124269	7	13	0
MIQZ01	GCSL_R45	USA, WA	2007	Oyster	ST-61	cluster_36	101	4973945	526512	253663	116524	7	14	0
AWJL01	S114	India	1998	Clinical	ST-83	cluster_37	698	5207427	63998	15194	8153	107	225	0
AWJM01	S113	India	1990	Clinical	ST-83	cluster_37	829	5136991	55379	15260	7676	102	216	0
AWJN01	S112	Japan	1951	Clinical	ST-1	cluster_37	683	5033228	59222	16061	8531	98	210	0
AWJO01	S111	Thailand	1990	Clinical	ST-83	cluster_37	667	5140602	82313	15938	8153	100	215	0
AWJP01	S110	India	1999	Clinical	ST-83	cluster_37	667	5117452	47015	14255	8066	111	230	0
BBQD01	NBRC12711	Japan	ND	Stool	ST-1	cluster_37	39	4991873	698502	381903	215279	5	10	0
LATW01	ATCC17802	Japan	1951	ND	ST-1	cluster_37	51	5067729	697590	366570	141395	5	11	0.45
AWIG01	S146	China	2006	Seafood	ST-12	cluster_38	527	5023056	80893	24916	12733	63	134	0
LHBD01	CFSAN018761	USA	2004	Missing	ST-12	cluster_38	37	5284763	836021	564826	231737	4	8	0
LHBE01	CFSAN018762	USA	2004	Missing	ST-12	cluster_38	505	5309702	91986	21464	11232	77	164	0.06
MIQR01	GCSL_R21	USA, TX	04/05/07	Oyster	ST-12	cluster_38	79	5123977	899189	477172	190435	4	8	0
MIRV01	GCSL_R96	Canada, PEI	31/07/07	Oyster	ST-1152	cluster_39	111	4931576	491394	246453	145899	8	14	0
MISB01	GCSL_R111	Canada, PEI	31/07/07	Oyster	ST-1152	cluster_39	95	4925222	867721	234627	115822	7	14	0
SRR1118656	CDC_K4857W	USA, HI	28/01/07	Stool	ST-1152	cluster_39	105	4940614	430829	234706	116839	8	15	1.97
AOPC01	3631	USA, WA	2007	Stool	ST--	cluster_4	447	5119359	110051	29816	16265	51	108	45.46
AOPE01	3646	USA, WA	2007	Stool	ST--	cluster_4	410	5110244	135298	34625	16888	46	99	48.59
JYJQ01	09-4663	Canada, BC	2009	Clinical	ST-417	cluster_4	148	5217021	660156	403392	186650	5	10	0
JYJV01	10-7205	Canada, BC	2008	Clinical	ST-417	cluster_4	146	5217627	625697	315571	179247	6	11	0
JZAP01	08-7626	Canada, AB	2008	Clinical	ST-417	cluster_4	121	5207542	699964	315699	179669	6	11	0

ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
LASH01	09-3218	Canada, BC	2009	Clinical	ST-417	cluster_4	89	5204568	625275	418558	186640	6	10	0
LASI01	09-4434	Canada, AB	2009	Clinical	ST-417	cluster_4	80	5194240	731692	425238	206186	5	9	0
LASJ01	09-4660	Canada, BC	2009	Clinical	ST-417	cluster_4	73	5191811	699958	315795	208946	6	11	0
LASK01	09-4664	Canada, BC	2009	Clinical	ST-417	cluster_4	89	5196673	661978	425466	206147	5	10	0
LNTR01	09-4661	Canada, BC	2009	Clinical	ST-417	cluster_4	93	5195946	731944	403281	206255	5	10	0
LPVA01	C142	Canada, BC	2008	Clinical	ST-417	cluster_4	52	5210898	467672	334240	196740	7	12	0
LPVK01	C145	Canada, BC	2008	Clinical	ST-417	cluster_4	47	5176962	910199	403418	206186	5	9	0
LPVU01	C150	Canada, BC	2008	Clinical	ST-417	cluster_4	53	5209864	1124884	334486	151629	5	12	0.02
LQCC01	09-4666	Canada, BC	2009	Clinical	ST-417	cluster_4	44	5172328	699958	425238	186642	5	10	0
LRFL01	09-4665	Canada, BC	2009	Clinical	ST-417	cluster_4	55	5169946	625399	307466	177762	6	12	0
LRSX01	09-1772	Canada, AB	2009	Clinical	ST-417	cluster_4	53	5173304	1146110	315980	179833	5	11	0
LRTH01	09-4662	Canada, BC	2009	Clinical	ST-417	cluster_4	47	5176120	840362	315437	187468	5	10	0
JNSW01	CFSAN007439	USA, DE	17/06/12	Stool	ST--	cluster_40	184	5031601	199490	66979	33741	26	52	0
JNSX01	CFSAN007440	USA, MD	11/07/13	Stool	ST-653	cluster_40	249	5013504	170480	39172	20394	38	82	0
MITT01	CDC_K5073	USA, MD	10/03/07	Stool	ST-750	cluster_40	117	5082152	600628	192573	100799	7	15	0
MIRC01	GCSL_R52	USA, WA	13/07/07	Oyster	ST-735	cluster_41	86	5189100	651530	323835	152612	6	12	0
MIRD01	GCSL_R53	USA, WA	13/07/07	Oyster	ST-735	cluster_41	101	5191609	651454	324616	152605	6	12	0
MIRE01	GCSL_R54	USA, WA	13/07/07	Oyster	ST-735	cluster_41	96	5189492	651454	333784	158434	6	11	0
MIRF01	GCSL_R55	USA, WA	14/07/07	Oyster	ST-735	cluster_41	100	5191687	651310	323969	152459	6	12	0
MIRG01	GCSL_R56	USA, WA	14/07/07	Oyster	ST-735	cluster_41	101	5191187	651310	324103	152459	6	12	0
14-1072-D-VP	14-1072-D-VP	UK	17/06/14	Oyster	ST-1159	cluster_42	82	5119315	301258	162207	94504	11	22	0
14-1073-H-VP	14-1073-H-VP	UK	17/06/14	Oyster	ST-1159	cluster_42	75	5113814	448042	188616	74204	9	19	0
14-559-B-VP	14-559-B-VP	UK	21/03/14	Oyster	ST-1159	cluster_42	115	5107723	515965	212027	109368	8	17	0
14-692-A-1-VP	14-692-A-1-VP	UK	10/04/14	Oyster	ST-1159	cluster_42	87	5117005	286106	124534	72671	13	26	0
MISL01	GCSL_R144	USA, FL	01/11/07	Oyster	ST-1149	cluster_43	181	5085869	408320	177799	68062	10	21	0
MISM01	GCSL_R145	USA, FL	01/11/07	Oyster	ST-1149	cluster_43	156	5074938	408261	160364	68062	10	22	0
MISN01	GCSL_R146	USA, FL	01/11/07	Oyster	ST-1149	cluster_43	172	5084933	408320	183086	68333	9	20	0
AOOW01	VP766	USA, WA	2007	Plankton	ST--	cluster_44	351	5203969	142435	32385	17899	49	104	46.25
AWLN01	S048	USA	1997	Seafood	ST--	cluster_44	557	5221283	65216	20813	11430	81	166	0
AWLT01	S042	Japan	1984	Clinical	ST-478	cluster_45	735	5115646	57665	14103	7681	112	232	0
AWLU01	S041	China	1993	Clinical	ST-478	cluster_45	710	5090797	65732	14941	8000	106	225	0
AVPW01	VPCR-2010	USA	2010	Water	ST-308	cluster_46	29	6084135	888828	332726	188426	6	12	0
LBHF01	CT4287	ND	2013	Oysters	ST-674	cluster_47	39	5231816	843900	558312	393136	4	7	3.23
MITB01	CDC_K4762	USA, VA	15/08/06	Other	ST-674	cluster_47	108	5103196	871669	392296	264236	5	9	0
MIUF01	CDC_K5323G	USA, VA	ND	Other	ST-674	cluster_47	98	5220531	1367860	322095	179556	4	9	0
MIUG01	CDC_K5323W	USA, VA	ND	Other	ST-674	cluster_47	84	5207450	879874	322199	178767	5	10	0



ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
SRR1118637	CDC_K4762	USA, VA	15/08/06	Other	ST-674	cluster_47	82	5107588	724476	418103	242691	5	9	1.71
LQGX01	A4EZ964	Canada, BC	2004	Clinical	ST-636	cluster_48	49	5101569	739284	407937	189486	5	9	0
MIST01	CDC_K4558W	USA, LA	28/08/06	Wound	ST-636	cluster_48	155	5335587	558903	202283	134208	7	14	0
MISV01	CDC_K4636	USA, NY	25/09/06	Stool	ST-636	cluster_48	138	5340949	558904	208879	137971	7	14	0
MIVD01	CDC_K5618	USA, NY	16/08/07	ND	ST-636	cluster_48	147	5107768	554205	208616	134208	6	13	0
MIVE01	CDC_K5620	USA, NY	23/08/07	ND	ST-636	cluster_48	131	5099609	559459	208616	154293	6	13	0
MIQM01	GCSL_R10	USA, FL	19/03/07	Oyster	ST-313	cluster_49	158	5072012	402843	191541	90174	10	19	0
MISO01	GCSL_R149	USA, FL	19/03/07	Oyster	ST-313	cluster_49	152	5067880	404555	198940	90174	9	18	0
MISP01	GCSL_R150	USA, FL	19/03/07	Oyster	ST-313	cluster_49	149	5066299	405772	191682	90524	10	19	0
AWHK01	S170	China	2007	Environmental	ST-419	cluster_5	377	5062724	124926	35762	19161	45	91	0
AWHS01	S161	China	2006	Seafood	ST-419	cluster_5	480	5061665	80337	24446	13257	70	141	0
AWHV01	S158	China	2006	Seafood	ST-419	cluster_5	497	5062561	93061	23944	12325	71	144	0
AWHX01	S156	China	2006	Seafood	ST-419	cluster_5	584	5060576	80233	17919	9485	93	190	0
AWHY01	S155	China	2006	Seafood	ST-419	cluster_5	577	5059684	80235	19961	10252	82	171	0
AWHZ01	S154	China	2006	Seafood	ST-419	cluster_5	687	5022972	59592	15518	8966	102	206	0
AWIA01	S153	China	2006	Seafood	ST-419	cluster_5	592	5060819	78845	18172	9361	88	185	0
AWIC01	S151	China	2006	Seafood	ST-419	cluster_5	588	5060611	70580	18813	9941	88	180	0
AWID01	S150	China	2006	Seafood	ST-419	cluster_5	592	5060320	63525	18544	9397	87	181	0
AWII01	S144	China	2006	Seafood	ST-419	cluster_5	474	5063512	80231	27181	14264	65	130	0
AWIJ01	S143	China	2006	Seafood	ST-419	cluster_5	461	5060020	134896	25903	12887	63	132	0
AWMK01	S025	China	1992	Clinical	ST-1015	cluster_50	356	5175629	156630	34958	20596	48	95	0
AWMS01	S017	China	1992	Clinical	ST-1015	cluster_50	345	5175677	164509	36112	21565	45	92	0
CFSAN045068_118	CFSAN045068-118	Spain, Galicia	10-2015	Clinic	ST-1031	cluster_51	66	5162986	536041	267801	118175	7	14	0
CFSAN045069_119	CFSAN045069-119	Spain, Galicia	10-2015	Clinic	ST-1031	cluster_51	72	5164650	450308	251676	109652	8	15	0
CFSAN056088	CFSAN056088	Spain, Galicia	09-2016	Clinic	ST-1031	cluster_51	106	5159909	374492	144684	65669	12	25	0
G33	G33	Spain, Galicia	2012	Clinic	ST-1031	cluster_51	42	5444465	697179	289349	163405	7	13	1.01
MIRL01	GCSL_R63	USA, ME	23/07/07	Oyster	ST--	cluster_52	102	5125149	645392	347208	161080	5	11	0
SRR1118652	GCSL_R130	USA, FL	01/10/07	Oyster	ST-1140	cluster_52	107	5062395	627749	334430	163058	6	12	1.98
30824	30824	Spain, Galicia	1999	Clinic	ST-17	cluster_53	56	5083109	488261	203558	112404	9	18	0
428-00	428-00	Spain, Galicia	1998	Clinic	ST-17	cluster_53	66	5138507	320319	145778	93840	12	23	0
AWMI01	S027	USA	2006	Clinical	ST-17	cluster_53	467	5113780	90580	20530	11504	73	153	0
AWMJ01	S026	Thailand	2006	Clinical	ST-17	cluster_53	439	5061731	111831	22512	12195	67	143	0
LHAU01	CFSAN018752	Spain	1998	Stools	ST-17	cluster_53	66	5138507	320319	145778	93840	12	23	0
LHAV01	CFSAN018753	Spain	1999	Stools	ST-17	cluster_53	61	5075961	488256	185164	97262	10	20	0
V06-002	NCTC11344	UK-Maidstone	1980	Clinical	ST-17	cluster_53	123	5043101	293215	97225	57415	16	33	0
AWIU01	S132	China	2005	Clinical	ST-332	cluster_54	421	5104875	119148	28517	15084	57	118	0

ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
AWKS01	S073	Thailand	1997	Clinical	ST-332	cluster_54	530	5059925	70808	23605	11888	67	140	0
AWMH01	S028	Thailand	ND	Clinical	ST-332	cluster_54	443	5074226	126840	32572	17432	44	94	0
AXNN01	VIP4-0434	Hong Kong	2008	Stool	ST-332	cluster_54	75	5061230	581899	375030	128962	6	12	0
LQCW01	C140	Canada, BC	2008	Clinical	ST-332	cluster_54	29	5046146	1126474	636695	313577	3	6	0
AQPJ01	v110	Hong Kong	01/03/10	Shrimp	ST--	cluster_55	366	5426513	546125	143484	77264	11	25	0
MISY01	CDC_K4638	USA, NY	25/09/06	Stool	ST-809	cluster_55	96	5077332	636854	248530	169819	6	12	0
AWLM01	S049	Japan	1984	Clinical	ST--	cluster_56	714	5229483	52661	16173	8336	99	206	0
AWLZ01	S036	Thailand	ND	Clinical	ST-8	cluster_56	498	5033625	89010	20685	12329	79	156	0
AWMA01	S035	Japan	1984	Clinical	ST-8	cluster_56	543	5120372	92669	21594	11911	71	150	0
AWMB01	S034	India	1999	Clinical	ST-8	cluster_56	460	5148063	103853	25656	15083	62	128	0
AWMC01	S033	China	1994	Clinical	ST-8	cluster_56	477	5171831	104100	29792	15383	54	113	0
AWMD01	S032	Philippines	1998	Clinical	ST-1016	cluster_56	767	5117989	57933	13893	7453	117	241	0
AWMN01	S022	Japan	1984	Clinical	ST-8	cluster_56	444	5222979	120859	32171	17612	51	105	0
LRFV01	F30368	Canada, BC	2006	Clinical	ST-8	cluster_56	30	5090449	815154	524972	353243	4	7	0
LRSV01	07-2964	Canada, SK	2007	Clinical	ST-8	cluster_56	32	5120702	743040	415597	232340	5	8	0
AWJC01	S123	Japan	1984	Clinical	ST-217	cluster_57	748	5070876	57600	12246	6939	121	256	0
AWJD01	S122	India	1999	Clinical	ST-217	cluster_57	738	5087743	50642	12750	7043	120	252	0
LFZA01	S439-9	Canada	01/07/12	Oyster	ST-1155	cluster_58	208	6052164	752543	149287	58890	10	26	0
MIQY01	GCSL_R42	USA, WA	26/07/07	Oyster	ST-1155	cluster_58	105	4981892	602722	314803	118402	6	12	0
AVOL01	3259	USA	2007	Stool	ST-479	cluster_59	6	5360869	3370862	3370862	759672	1	2	0
AZMN01	EKP-008	Bangladesh	2007	Water	ST-479	cluster_59	323	5282636	514908	100792	27228	11	38	0
605.fsa_nt	605	USA	2007	Environmental	ST-3	cluster_6	120	5153347	557945	241706	138524	8	15	0
906-97	906-97	Peru	1996	Clinical	ST-3	cluster_6	50	5100874	615203	427204	170794	5	9	0
9808-1	9808-1	Spain, Galicia	2004	Clinical	ST-3	cluster_6	60	5073596	536487	267687	125198	7	14	0
ACFM01	Peru-466	Peru	1996	Clinical	ST-3	cluster_6	149	5037488	273858	81497	38043	19	43	0
ACFO01	AN-5034	Bangladesh	1998	Clinical	ST-3	cluster_6	54	5199902	1183081	346246	116797	5	11	0
ACKB01	K5030	India	2005	Clinical	ST-3	cluster_6	164	5028244	657114	62978	34161	18	46	0
AN-16000_ST3	AN-16000	Bangladesh	1998	Clinical	ST-3	cluster_6	54	5124055	691206	395011	153223	5	11	0
AN-2189_ST3	AN-2189	Bangladesh	1998	Clinical	ST-3	cluster_6	49	5112259	559573	312334	157889	6	11	0
AN-5034_ST3	AN-5034	Bangladesh	1998	Clinical	ST-3	cluster_6	56	5159741	685664	312403	159474	6	11	0
AN-8373_ST3	AN-8373	Bangladesh	1998	Clinical	ST-3	cluster_6	60	5085312	580137	288679	153383	6	12	0
AO-24491_ST3	AO-24491	Bangladesh	1999	Clinical	ST-3	cluster_6	54	5156258	845551	394558	168156	5	9	2.08
AOOV01	VP551	USA, WA	2007	Water	ST-3	cluster_6	30	5226872	885804	712378	431768	4	6	0.61
AOOY01	863	USA, WA	2007	Plankton	ST-3	cluster_6	37	5226554	1265784	431743	301124	4	7	0.59
AOOZ01	930	USA, WA	2007	Oyster	ST-3	cluster_6	12	5165306	1420642	699136	301119	3	5	0

ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
AP-11243_ST51	AP-11243	Bangladesh	2000	Clinical	ST51/ST-3	cluster_6	53	5116032	563931	312374	137615	6	13	0
AVOJ01	VP232	India	1998	Stool	ST-3	cluster_6	52	5123959	576321	171658	80530	7	19	0
AVOK01	VP250	India	1998	Stool	ST-3	cluster_6	5	5202656	3317379	3317379	907448	1	2	0
AVOM01	NIHCB0603	Bangladesh	2006	Stool	ST-3	cluster_6	13	5225215	1438315	1292484	346446	2	5	0
AVON01	VP-NY4	India	1997	Stool	ST-3	cluster_6	14	5247801	1718398	1120023	331543	2	5	0
AVPV01	949	USA	2006	Oyster	ST-3	cluster_6	7	5179240	1398079	972111	957879	3	4	0
AWIO01	S138	China	2007	Clinical	ST-3	cluster_6	500	5133647	99135	22106	11747	76	157	0
AWIP01	S137	China	2005	Clinical	ST-3	cluster_6	708	5015616	60156	15592	8294	96	204	0
AWIQ01	S136	China	2004	Clinical	ST-3	cluster_6	490	5065064	119154	21577	12492	71	148	0
AWIR01	S135	China	2003	Clinical	ST-3	cluster_6	434	5058833	103139	25931	15031	66	129	0
AWIT01	S133	China	2005	Clinical	ST-3	cluster_6	513	5046254	108377	22687	13673	68	139	0
AWIV01	S131	ND	2003	Clinical	ST-3	cluster_6	434	5132298	108359	26782	14538	59	122	0
AWIZ01	S126	China	ND	Clinical	ST-3	cluster_6	427	5064103	119159	27924	14320	57	119	0
AWKB01	S094	Thailand	1996	Clinical	ST-3	cluster_6	504	5057048	96686	22106	11891	67	143	0
AWKC01	S093	Japan	1998	Clinical	ST-3	cluster_6	481	4953111	113681	29016	14340	53	114	0
AWKD01	S092	China	1996	Clinical	ST-3	cluster_6	463	5164347	87681	28070	14968	60	124	0
AWKE01	S091	India	1999	Clinical	ST-3	cluster_6	753	5138592	69050	14759	7692	101	220	0
AWKF01	S090	China	1999	Clinical	ST--	cluster_6	734	5040869	57208	16448	9356	92	191	0
AWKG01	S088	Singapore	1998	Clinical	ST-3	cluster_6	405	5079007	99760	30513	17612	49	104	0
AWKH01	S087	Singapore	1998	Clinical	ST--	cluster_6	449	5080366	99328	27007	14737	56	119	0
AWKI01	S086	Thailand	1999	Clinical	ST-3	cluster_6	469	5066586	86005	25865	13114	60	128	0
AWKJ01	S083	Japan	1998	Clinical	ST-3	cluster_6	442	5111344	92923	28639	15384	59	118	0
AWKK01	S082	Thailand	ND	Clinical	ST--	cluster_6	555	4998104	65795	18688	10575	79	167	0
AWKL01	S081	South Korea	ND	Clinical	ST-3	cluster_6	493	5058310	98462	22930	12662	66	140	0
AWKM01	S079	Indonesia	ND	Clinical	ST-3	cluster_6	664	5113397	58687	16129	8741	103	210	0
AWKN01	S078	China	1999	Clinical	ST-3	cluster_6	467	5113590	107407	23501	14114	66	136	0
AWKO01	S077	China	1999	Clinical	ST-3	cluster_6	554	5113464	75863	18729	11142	87	174	0
AWKP01	S076	China	1999	Clinical	ST-3	cluster_6	449	5112235	127452	25100	14463	64	129	0
AWKQ01	S075	China	1999	Clinical	ST-3	cluster_6	721	5114211	53034	14151	7568	114	238	0
AWKR01	S074	China	1997	Clinical	ST-3	cluster_6	689	5138812	53305	14150	7781	113	233	0
AWKT01	S072	Bangladesh	1998	Clinical	ST-3	cluster_6	433	5075541	107390	27675	15319	55	116	0
AWKU01	S071	Bangladesh	1998	Clinical	ST-3	cluster_6	424	5084519	95178	28640	16074	53	114	0
AWKV01	S070	Thailand	ND	Clinical	ST--	cluster_6	630	5052130	65110	15138	8992	107	212	0
AWKW01	S069	Thailand	ND	Clinical	ST--	cluster_6	414	5053124	102347	28922	14887	55	115	0
AWKX01	S068	China	1997	Clinical	ST-3	cluster_6	529	5133117	69201	21152	12197	77	157	0

ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
AWKY01	S067	China	1997	Clinical	ST-3	cluster_6	513	5064703	82712	21213	11962	72	151	0
AWKZ01	S066	China	1997	Clinical	ST-3	cluster_6	626	5057879	69663	16046	8889	95	200	0
AWLA01	S065	China	1998	Clinical	ST-3	cluster_6	509	5058701	87215	21258	12199	76	154	0
AWLB01	S064	China	1998	Clinical	ST-3	cluster_6	677	5066603	70355	14862	8305	99	209	0
AWLC01	S063	China	1998	Clinical	ST-3	cluster_6	525	5129893	74447	22691	12340	73	147	0
AWLD01	S062	Singapore	1998	Clinical	ST-3	cluster_6	454	5063284	110779	22532	13319	67	138	0
AXNJ01	VIP4-0395	Hong Kong	2007	Stool	ST-3	cluster_6	86	5120046	492089	232863	137643	8	14	0.02
AXNK01	VIP4-0439	Hong Kong	2008	Stool	ST-3	cluster_6	90	5137870	492075	188126	100365	9	18	0.02
AXNL01	VIP4-0445	Hong Kong	2008	Stool	ST--	cluster_6	908	4966579	41619	9963	5201	153	322	0.28
AXNM01	VIP4-0407	Hong Kong	2008	Stool	ST-3	cluster_6	91	5096056	468296	235555	127262	8	15	0.02
AZGU01	605	USA	2006	Water	ST-3	cluster_6	119	5147903	557945	241706	138524	8	15	0
AZGV01	861	USA	2006	Water	ST-3	cluster_6	239	5162308	174170	53624	30285	30	62	0
AZKN01	B-265	Mozambique	2004	Stool	ST-3	cluster_6	109	5184899	377503	260673	116102	8	16	0
AZNA01	EKP-021	Bangladesh	2008	Water	ST-3	cluster_6	759	5133013	69465	13199	6860	112	251	0
BAC-98-3372	BAC-98-3372	USA	1998	Clinical	ST-3	cluster_6	62	5091727	655276	288853	137371	6	12	0
BAC-98-3374	BAC-98-3374	USA	1998	Clinical	ST-3	cluster_6	73	5180743	558511	312752	100423	7	14	0
BAC-98-4092_ST3	BAC-98-4092	USA	1998	Clinical	ST-3	cluster_6	59	5179914	691433	387108	138945	6	12	0
CFSAN056086	CFSAN056086	Spain, Galicia	08-2016	Clinical	ST-3	cluster_6	63	5110254	527820	199151	122979	7	15	0
JABV01	EKP-026	Bangladesh	2008	Water	ST-3	cluster_6	196	5100902	282349	71441	39879	21	45	0
JACH01	EKP-028	Bangladesh	2008	Water	ST-3	cluster_6	875	5096768	36078	10548	5888	157	314	0
JAHD01	IDH02189	India	2009	Stool	ST-3	cluster_6	162	5092302	284252	107900	54676	16	32	0
JAIH01	IDH02640	India	2009	Stool	ST-3	cluster_6	230	5203790	181213	60652	33765	26	54	0
JAI01	Peru-288	Peru	2001	Stool	ST-3	cluster_6	142	5180217	500261	168272	72778	10	22	0
JALG01	V14/01	Chile	2001	Stool	ST-3	cluster_6	142	5254370	345301	159713	83363	12	22	0
JALH01	V-223/04	Chile	2004	Stool	ST--	cluster_6	5120	6322739	36117	2396	1274	631	1471	0
JDFK01	VP-48	India	1996	Stool	ST--	cluster_6	231	5108901	189871	55635	33903	29	58	0
JMMS01	AF91	USA, FL	2006	Sediment	ST-1517	cluster_6	111	5176263	728768	269871	134312	6	13	0.37
JNTG02	CFSAN007449	USA, MD	21/08/12	Stool	ST-3	cluster_6	55	5119321	653511	346912	159791	5	11	0
JNTH02	CFSAN007450	USA, MD	22/08/12	Stool	ST-3	cluster_6	65	5114004	680205	288413	105851	6	14	0
JNTI02	CFSAN007451	USA, MD	24/08/12	Stool	ST-3	cluster_6	49	5121158	844540	401590	218410	5	9	0
JYJS01	10-4251	Canada, BC	2006	Clinical	ST-3	cluster_6	155	5219165	654860	157866	54280	9	24	0
JYNG01	04-2549	Canada, ON	2004	Clinical	ST-3	cluster_6	138	5129237	557727	411035	158101	5	11	0
JZAR01	09-4435	Canada, BC	2009	Clinical	ST-3	cluster_6	115	5120353	652955	288608	148967	6	12	0
KXV-641_ST3	KXV-641	Japan	1998	Clinical	ST-3	cluster_6	51	5094220	653581	394740	168115	5	10	0
LASF01	04-2551	Canada, ON	2004	Clinical	ST-3	cluster_6	85	5187612	654382	339951	169754	6	11	0
LASG01	07-1339	Canada, BC	2007	Clinical	ST-3	cluster_6	88	5251833	844096	373794	158770	5	10	0



ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
LFUJ01	PMC58.5	Chile, PM	2005	Feces	ST-3	cluster_6	14	5154023	1359266	1090964	550307	3	4	26.89
LFUK01	PMA109.5	Chile, PM	2005	Environmental	ST--	cluster_6	20	5338346	1262094	582970	451237	3	6	50.71
LFUL01	PMA37.5	Chile, PM	2005	Environmental	ST-3	cluster_6	94	5096624	338698	175000	65564	11	24	0
LFUM01	PMC58.7	Chile, PM	2007	Feces	ST-3	cluster_6	23	5163166	998714	547261	264751	4	7	45.36
LFUN01	ATC210	Chile, Antofagasta	1998	Feces	ST-3	cluster_6	23	5136970	1003139	838297	263071	3	6	28.35
LFUO01	PMC14.7	Chile, PM	2007	Feces	ST-3	cluster_6	23	5133772	1101814	853734	346830	3	6	48.54
LFUP01	PMC48	Chile, PM	2004	Feces	ST-3	cluster_6	13	5138290	1406770	992458	550693	3	4	60.58
LFUQ01	ATC220	Chile, Antofagasta	1998	Feces	ST-3	cluster_6	19	5145131	1045440	547874	479769	4	6	15
LFUR01	RIMD-2210633	Japan	1996	Feces	ST-3	cluster_6	17	5149386	1099114	619178	442579	3	6	25.81
LHAW01	CFSAN018754	Spain	2004	Stools	ST-3	cluster_6	60	5073596	536487	267687	125198	7	14	0
LHAZ01	CFSAN018757	Peru	1997	Stools	ST-3	cluster_6	72	5099401	505725	288855	123233	7	14	0
LOHN01	A4EZ927	Canada, BC	2004	Clinical	ST-3	cluster_6	48	5104589	653730	373935	168962	5	11	0
LPZS01	Gxw_7004	China, Guangxi	09/06/07	Stool	ST-3	cluster_6	65	5158042	885831	323009	243703	5	10	7.04
LQCD01	A5Z273	Canada, BC	2005	Clinical	ST--	cluster_6	44	5098054	653249	373921	242770	5	10	0
LQCF01	A5Z853	Canada, BC	2005	Clinical	ST-3	cluster_6	41	5142950	653052	427483	189215	5	10	0
LRFS01	A3EZ136	Canada, BC	2003	Clinical	ST-3	cluster_6	45	5089443	843218	373928	168017	5	10	0
LRFW01	F63267	Canada, BC	2006	Clinical	ST-3	cluster_6	47	5121492	653996	427352	189105	5	10	0
MDTV01	Klin	Sweden	2010	Stool	ST-3	cluster_6	56	5104502	580121	260007	159750	7	12	0
MISW01	CDC_K4637G	USA, NY	01/10/06	Stool	ST-3	cluster_6	150	5163379	652904	259160	105339	6	14	0
MISX01	CDC_K4637W	USA, NY	01/10/06	Stool	ST-3	cluster_6	133	5156414	652523	268238	122321	6	13	0
MITF01	CDC_K4775	USA, GA	24/02/07	Stool	ST-3	cluster_6	121	5158365	642942	312581	105282	6	12	0
MITN01	CDC_K5010G	USA, MA	16/09/06	Stool	ST-3	cluster_6	146	5122961	652927	242331	108117	7	14	0
MITO01	CDC_K5010W	USA, MA	16/09/06	Stool	ST-3	cluster_6	133	5118603	652589	259047	158268	7	13	0
MITP01	CDC_K5058	USA, TX	15/05/07	Stool	ST-3	cluster_6	84	5114568	840257	301866	118359	5	11	0
MIVA01	CDC_K5528	USA, GA	06/10/07	Stool	ST-3	cluster_6	108	5101848	652922	275983	158209	6	12	0
N314	N314	Spain, Galicia	07/2016	Clinic	ST-3	cluster_6	61	5073531	691322	347447	118524	5	12	0
P682-Peru	P682	Peru	2009	Shellfish	ST-3	cluster_6	109	5090692	461903	157162	72043	11	24	0
P729-Peru	P729	Peru	2009	Shellfish	ST-3	cluster_6	94	5094250	424608	157889	83086	12	24	0
P860	P860	Peru	2009	Shellfish	ST-3	cluster_6	147	5084286	255037	95820	54325	19	36	0
PMA-109-5_ST3	PMA-109-5	Chile	2005	Environmental	ST-3	cluster_6	95	5216802	542580	166936	80001	9	22	0
PMA-37-5_ST3	PMA-37-5	Chile	2005	Environmental	ST-3	cluster_6	63	5101408	615044	288855	108221	6	13	0
SRR1013448	NY-4	ND	ND	ND	ST-3	cluster_6	1531	4733387	34450	6569	3209	191	449	19.44
SRR1013449	NY-4	ND	ND	ND	ST-3	cluster_6	1576	4758247	46537	6445	3025	203	468	19.66
SRR1013450	NY-4	ND	ND	ND	ST-3	cluster_6	1887	4563130	31958	4554	2226	277	623	21.4

ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
SRR1013451	NY-4	ND	ND	ND	ST--	cluster_6	1523	4796425	59155	6266	2942	216	494	16.91
SRR1013452	NY-4.pexsA	ND	ND	ND	ST-3	cluster_6	1369	4939359	59754	7194	3733	195	429	16.99
SRR1013453	NY-4.pexsA	ND	ND	ND	ST-3	cluster_6	1356	4892548	51817	7312	3508	185	419	18.25
SRR1013454	NY-4.pexsD	ND	ND	ND	ST-3	cluster_6	1429	4851572	51841	7300	3421	187	425	17.28
SRR1013455	NY-4.pexsD	ND	ND	ND	ST-3	cluster_6	1631	4728723	62417	5944	2784	214	501	18.22
SRR1013456	NY-4	ND	ND	ND	ST--	cluster_6	2008	4481678	26828	4047	1993	291	673	33.62
SRR1013457	NY-4	ND	ND	ND	ST--	cluster_6	1872	4648201	59449	4608	2312	261	603	23.32
TX2103_ST3	TX2103	USA	1998	Clinical	ST-3	cluster_6	58	5151098	691360	347728	157888	5	11	0
V12-024	V12-024	UK	23/08/14	Pandemic	ST-3	cluster_6	84	5103231	461944	125273	69379	12	25	0
Vp155_ST3	Vp155	India	1996	Clinical	ST-3	cluster_6	46	5099037	614021	427397	170747	5	10	0
VP16	VP16	USA, MD	21/08/12	Stool	ST-3	cluster_6	55	5119321	653511	346912	159791	5	11	0
VP17	VP17	USA, MD	22/08/12	Stool	ST-3	cluster_6	58	5117310	542574	269751	153408	7	13	0
VP18_ST3	VP18	USA, MD	24/08/12	Stool	ST-3	cluster_6	49	5121158	844540	401590	218410	5	9	0
Vp208_ST3	Vp208	India	1997	Clinical	ST-3	cluster_6	52	5146731	579916	318441	159527	6	11	0
Vp2_ST27	Vp2	Korea	1998	ND	ST-3	cluster_6	38	5100433	691202	505713	288853	5	8	0
VP53	VP53	China	2005	Clinical	ST-3	cluster_6	40	5138114	580072	401743	228956	6	9	0
Vp81_ST3	Vp81	India	1996	Clinical	ST-3	cluster_6	53	5089891	691202	305818	243394	6	10	0
Vp96_ST3	Vp96	India	1996	Clinical	ST-3	cluster_6	47	5092377	627962	427240	168797	5	9	0
VpHY145_ST3	VpHY145	Thailand	1999	Clinical	ST-3	cluster_6	50	5149473	691202	312515	159519	6	11	0
VpHY191_ST3	VpHY191	Thailand	1999	Clinical	ST-3	cluster_6	51	5154847	627791	318072	153020	5	12	0
JYJR01	10-4244	Canada, BC	2006	Clinical	ST-141	cluster_60	128	5268926	903551	383602	244419	5	9	0
LASM01	10-4243	Canada, BC	2006	Clinical	ST-141	cluster_60	76	5254404	1799250	525588	461169	3	5	0
LODO01	A4EZ703	Canada, BC	2004	Clinical	ST-141	cluster_60	34	5146304	1799251	525437	409722	3	5	0
AWJW01	S100	USA	1990	Seafood	ST-324	cluster_61	508	5025482	101922	21352	10499	74	158	0
AZGT01	50	USA	2006	Stool	ST-34	cluster_61	107	5057723	567190	285062	110719	6	13	0
JNUE01	98-513-F52	USA, LA	1998	Gulf Coast isolate	ST-34	cluster_61	120	5048410	357713	126064	75429	11	24	0
JNUM02	CFSAN007458	USA, MD	2010	Oyster	ST-34	cluster_61	52	5061948	729103	321455	152086	6	11	0
JWSR01	98-513-F52	USA, LA	1998	Environmental	ST-34	cluster_61	4	5173738	3055020	3055020	1817167	1	2	0
LFZF01	S440-7	Canada	01/07/12	Oyster	ST-34	cluster_61	111	5138777	1062149	470844	215371	4	8	0
LIRQ01	S372-5	Canada	01/06/11	Oyster	ST-324	cluster_61	81	5147783	658515	480510	214140	5	9	0
LRFR01	A2EZ743	Canada, BC	2002	Clinical	ST-324	cluster_61	34	5063270	1071346	526416	269300	4	7	0
MIQP01	GCSL_R16	USA, FL	30/04/07	Oyster	ST-34	cluster_61	114	5051817	567077	284110	142504	6	12	0
MIUD01	CDC_K5306	USA, GA	23/07/07	Stool	ST-34	cluster_61	117	5045861	611876	314904	133022	5	12	0
OAG95	OAG95	Spain	2007	Environmental	ST--	cluster_62	71	5137448	942522	398612	202837	5	9	0
MIUC01	CDC_K5282	USA, HI	24/05/07	Other	ST--	cluster_63	79	4963427	872931	385892	147718	5	9	0

ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
SRR1118617	CDC_K5282	USA, HI	24/05/07	Other	ST--	cluster_63	69	4968160	881312	408321	167264	5	9	1.13
MITH01	CDC_K4857G	USA, HI	28/01/07	Stool	ST-79	cluster_64	103	5038683	579946	293993	139655	6	12	0
MITI01	CDC_K4857W	USA, HI	28/01/07	Stool	ST-79	cluster_64	108	5039775	579946	302174	138297	6	12	0
PQ110_2nd	PQ110	Spain	2006	Environmental	ST-79	cluster_64	62	5185187	715662	358099	179712	6	11	0
OAG100	OAG100	Spain	2007	Environmental	ST-1121	cluster_65	64	5167508	530824	224692	123336	8	15	0
OAG99	OAG99	Spain	2007	Environmental	ST-1121	cluster_65	63	5174152	683300	270506	149822	7	14	0.56
AWJE01	S121	Thailand	ND	Clinical	ST-934	cluster_66	722	5054264	56701	12282	7069	118	252	0
AWJJ01	S116	Thailand	ND	Clinical	ST-934	cluster_66	777	5081860	56716	11871	6751	124	263	0
BAVG01	TUMSAT_DE2_S2	Thailand	ND	Shrimp	ST-970	cluster_67	96	5623531	919101	266480	103581	8	15	13.62
JPKS01	NCKU_TV_3HP	Thailand	1999	Shrimp	ST-970	cluster_67	100	5543408	699315	266574	155432	7	13	38.65
JPKT01	NCKU_TV_5HP	Thailand	1999	Shrimp	ST-970	cluster_67	82	5534040	699109	266695	148821	7	14	17.1
AAWQ01	AQ3810	Singapore	1983	Clinical	ST-87	cluster_68	1073	5771228	295134	30448	7415	45	133	0
AZJP01	AQ3810	Singapore	1983	Stool	ST--	cluster_68	1152	5013700	33175	7461	4147	197	417	0
MITC01	CDC_K4763	USA, VA	25/08/06	Stool	ST--	cluster_69	129	5287070	660007	355269	137184	6	11	0
MITD01	CDC_K4764D	USA, VA	13/10/06	Stool	ST--	cluster_69	114	5276530	660531	355176	142435	6	11	0
AWJB01	S124	China	1992	Clinical	ST-331	cluster_7	697	5139803	45286	12697	6979	125	258	0
OJL90_2nd	OJL90	Spain	2007	Environmental	ST-331	cluster_7	44	5228725	687741	338449	151455	6	11	0
PH157	PH157	Spain	ND	Environmental	ST-331	cluster_7	39	5234591	853195	470592	201166	5	8	0
V05-002	V05-002	UK-Norfolk	1972	Clinical	ST-331	cluster_7	80	5228043	384624	153338	86627	13	25	0
MITM01	CDC_K5009W	USA, MA	07/08/06	Stool	ST-749	cluster_70	130	5125537	640491	438284	197083	5	10	0
MITU01	CDC_K5125	USA, MS	11/06/07	Other	ST-749	cluster_70	134	5134866	640564	316428	142673	5	12	0
MIQI01	GCSL_R5	USA, TX	14/03/07	Oyster	ST-1133	cluster_71	95	5185921	1075622	460669	171326	4	8	0
MIQJ01	GCSL_R6	USA, TX	14/03/07	Oyster	ST-1133	cluster_71	107	5087598	710832	402719	155559	5	10	0
LFWK01	S383-6	Canada	2011	Seafood	ST-1134	cluster_72	79	5106275	705971	461802	272561	5	8	0
LFWM01	S448-16	Canada	2012	Canada	ST-1134	cluster_72	76	5116547	1270814	523860	273241	4	7	0
LFZB01	S499-7	Canada	01/09/13	Oyster	ST-1134	cluster_72	90	5113926	693890	523860	271438	5	8	0
MIQK01	GCSL_R7	USA, TX	14/03/07	Oyster	ST-1134	cluster_72	138	5052796	641707	342982	166021	5	11	0
MIQL01	GCSL_R8	USA, TX	14/03/07	Oyster	ST-1134	cluster_72	119	5200929	641707	368783	165968	5	11	0
LHAX01	CFSAN018755	Spain	2002	Missing	ST-52	cluster_73	76	5112517	955685	379292	132019	5	11	0
UCM-V441	UCM-V441	Spain	2002	Environmental	ST-52	cluster_73	62	5114969	874048	429329	187020	4	9	0
MITQ01	CDC_K5059G	USA, TX	10/05/07	Other	ST-1147	cluster_74	80	4959751	887328	467008	179356	4	8	0
MITR01	CDC_K5059W	USA, TX	10/05/07	Other	ST-1147	cluster_74	123	4953954	887363	466965	179068	4	8	0
LHAY01	CFSAN018756	Spain	2003	Missing	ST--	cluster_75	64	4969236	645827	246923	122314	6	12	0
UCM-V586	UCM-V586	Spain	2003	Environmental	ST--	cluster_75	48	4973439	645837	404185	208545	5	9	5.17
BAVF01	TUMSAT_DE1_S1	Thailand	ND	Shrimp	ST-114	cluster_76	127	5280365	650884	314261	152913	6	11	61.53
JPKU01	NCKU_CV_CHN	China	2010	Shrimp	ST-114	cluster_76	144	5318783	915654	551331	255347	4	8	21.5

ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
LPVL01	C146	Canada, BC	2008	Clinical	ST-1060	cluster_77	51	5212184	1200282	404244	169590	4	9	0
LRTG01	A3EZ936	Canada, BC	2003	Clinical	ST-1060	cluster_77	51	5245252	812388	387604	196311	5	9	0
LHBG01	CFSAN018764	USA	2004	Missing	ST-58	cluster_78	46	5139686	1090046	642262	177713	3	9	0.56
LHBH01	CFSAN018765	USA	2004	Missing	ST-58	cluster_78	60	5245157	935300	256190	155157	6	12	0
MITG01	CDC_K4842	USA, MD	16/10/06	Stool	ST-1144	cluster_79	115	5194684	922863	322967	142530	5	12	0
SRR1118634	CDC_K4842	USA, MD	16/10/06	Stool	ST-1144	cluster_79	89	5204948	931137	384547	179442	4	9	2.37
AVOI01	VP2007-095	USA	2007	Stool	ST-631	cluster_8	21	5175863	710002	485232	286686	5	8	0
JNSM01	CFSAN007429	USA, MD	15/06/12	Stool	ST--	cluster_8	285	5033496	141406	41218	21619	38	80	0
JNSN01	CFSAN007430	USA, MD	12/07/12	Stool	ST--	cluster_8	298	5068114	141322	36375	23363	42	86	0
JNSO01	CFSAN007431	USA, MD	17/07/12	Stool	ST-631	cluster_8	278	5090038	187280	44754	24357	34	72	0
JNSP01	CFSAN007432	USA, MD	16/06/13	Stool	ST-631	cluster_8	273	5097898	160669	44908	24380	36	75	0
JNSQ01	CFSAN007433	USA, MD	11/07/13	Stool	ST--	cluster_8	319	5214691	156370	34995	22005	45	91	0
JNSR01	CFSAN007434	USA, MD	17/07/13	Stool	ST--	cluster_8	233	5109515	175851	59970	37501	28	54	0
JNSS01	CFSAN007435	USA, MD	03/08/13	Stool	ST--	cluster_8	223	5069192	189785	61231	31726	28	57	0
JNST01	CFSAN007436	USA, MD	09/08/13	Stool	ST-631	cluster_8	214	5085334	233102	65831	37652	27	53	0
LBHP01	MAVP-E	USA, MA	2010	Clinical	ST-631	cluster_8	246	5285309	684930	339816	183046	6	11	8.57
LFZE01	S487-4	Canada	01/08/13	Oyster	ST-631	cluster_8	102	5181575	867905	431578	375930	5	8	0
LRAJ01	09-4436	Canada, PEI	2009	Clinical	ST-631	cluster_8	41	5151693	700330	431727	187598	5	9	0
MITW01	CDC_K5276	USA, NY	20/04/07	Stool	ST-631	cluster_8	136	5168475	635177	339585	146274	6	11	0
MIVC01	CDC_K5582	USA, GA	10/10/07	Stool	ST-631	cluster_8	104	5174332	684657	339585	186500	6	10	0
MIRK01	GCSL_R62	USA, ME	23/07/07	Oyster	ST-1136	cluster_80	126	5176254	565199	192245	82200	7	18	0
MITE01	CDC_K4764L	USA, VA	13/10/06	Stool	ST-1156	cluster_81	111	5033430	895696	519873	195271	4	9	0
AWHN01	S166	China	2007	Environmental	ST-1011	cluster_82	522	5005906	109549	23056	11489	70	147	0
AWMM01	S023	China	1994	Clinical	ST-610	cluster_83	685	5123331	79832	15161	8907	106	215	0
AXNS01	VIP4-0447	Hong Kong	2008	Oyster	ST-396	cluster_84	113	5367084	668073	305898	110106	6	14	0
AWHI01	S172	China	2007	Environmental	ST-550	cluster_85	363	5051952	138365	37669	21486	41	83	0
AMRZ01	SNUVpS-1	South Korea	31/05/09	Seafood	ST-917	cluster_86	60	5241845	663644	237357	135456	7	13	0
AWMQ01	S019	USA	1998	Clinical	ST-563	cluster_87	466	5079255	79435	23909	12593	72	144	0
AWHR01	S162	Thailand	2007	Seafood	ST-595	cluster_88	513	5040912	69197	20676	11301	78	161	0
MIQT01	GCSL_R29	USA, FL	27/05/07	Oyster	ST-734	cluster_89	104	4946371	842854	295296	188976	6	11	0
AWIS01	S134	China	2005	Clinical	ST-527	cluster_9	459	5189192	84812	27182	14744	60	124	0
AWIW01	S130	ND	2003	Clinical	ST-527	cluster_9	445	5190597	83271	26145	15083	63	129	0
AWLG01	S057	China	1994	Clinical	ST-69	cluster_9	606	5132316	92894	20175	11136	75	158	0
AWLH01	S056	China	1994	Clinical	ST--	cluster_9	865	5264929	55094	12396	7194	123	260	0
AWLI01	S055	China	1994	Clinical	ST-69	cluster_9	448	5052163	142510	35392	19677	42	87	0
AWLJ01	S054	Thailand	ND	Clinical	ST-69	cluster_9	684	5180948	73277	14490	8635	104	218	0



ID	Alias	Geographical origin	Date	Source	ST	Cluster	No. Contigs	Total length	Largest contig	N50	N75	L50	L75	No. Ns/100 kbp
MITK01	CDC_K4859	USA, HI	15/02/07	Other	ST--	cluster_90	102	5179426	917103	238239	142635	6	13	0
LHBA01	CFSAN018758	Peru	1999	Stools	ST-19	cluster_91	64	5360551	605324	261361	142941	7	13	0
JNTB01	CFSAN007444	USA, MD	25/06/12	Wound	ST-677	cluster_92	135	4952823	386344	123984	69186	13	27	0
LRAH01	04-2550	Canada, ON	2004	Clinical	ST-630	cluster_93	40	5099458	1046942	537513	180855	4	8	0
AWHL01	S168	China	2007	Environmental	ST-627	cluster_94	349	5028507	127693	39979	22677	39	79	0
AXNO01	VIP4-0430	Hong Kong	2008	Oyster	ST-507	cluster_95	1009	5564125	706124	281842	104591	6	13	0.08
LFYN01	S357-21	Canada	2010	Oyster	ST-102	cluster_96	153	5074321	380087	173413	106388	10	19	0
AWHG01	S174	China	2007	Environmental	ST-1012	cluster_97	421	5013146	98821	37577	22315	43	86	0
AWMG01	S029	Spain	1981	Environmental	ST-810	cluster_98	594	4974353	105136	24807	12889	64	131	0
LQGU01	K23	India	09/05/13	Seafood	ST-1052	cluster_99								

\*Strains are grouped by sequence type; sequence types are separated by color. Location includes state, province, or region, if known. ID, identifier; ND, not determined; ST, sequence type; ST--, new sequence type with  $\geq 1$  new variant allele.