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Supplementary appendix 1

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Supplementary Information

Genomic epidemiology of the SARS-CoV-2 epidemic in Zimbabwe: Role of international travel and regional migration in spread

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10. SARS-CoV-2 Research Group

Supplementary Methods

Epidemiological analysis. Nasopharyngeal samples (n=92,299) were collected across Zimbabwe between the 20th March and the 16th October 2020 (first 210 days of epidemic) were diagnosed routinely at nine local public (7) and private laboratories (2) to various regions affected using previously described PCR methods to confirm positive cases.¹ All SARS Cov-2 positive samples from private and public laboratories were shipped to the National Microbiology Reference Laboratory (NMRL) for biobanking. We recruited all referred samples from the community into our study. Recruitment was at the time of diagnosis. Patient outcome data was obtained from surveillance data submitted to the Ministry of Health and Child Care's (MoHCC) Epidemiology and Disease Control (EDC). During the early days, all deaths, both in-patient and community, were tested for SARS Cov-2 before burial irrespective of cause of death. Sampling was characterised by a period from March 2020 up to the end of October 2020 when the majority of samples were collected from symptomatic and asymptomatic contacts of positive people returning to Zimbabwe. During the period 20th March and the 16th October 2020 8099 samples gave a positive PCR test. At sampling gender, age and history of recent travel were recorded. Demographic, clinical and laboratory data associated with 8,099 positive cases was collated and analysed using an analytical cross-sectional study design. Specifically, we determined the number of SARS-CoV-2 infections detected on each day since the first case in Zimbabwe, the distribution of detected cases in ten geographical regions of Zimbabwe. Access to these data (and associated clinical samples used for genomic analysis) was through coordination with teams from the Epidemiology and Diseases Control Unit of the Ministry of Health and Child Care of Zimbabwe. Due to the convenience sampling method used and a relatively small subset of positive samples that were successfully genotyped, there is the potential for bias in the demography and analysed genome sequence data. These biases are difficult to quantify.

Selection of samples for genomic evaluation. Out of 8099 samples that gave a positive PCR test within the first 210 days, 328 were available for sequencing. Samples that had a cycle threshold (Ct) <30 in the diagnostic PCR test were processed for sequencing. Of these, 156 samples passed quality control as described below and were analysed further.

RNA extraction. Samples for whole genome sequencing were processed using the QuantStudio 3 (Applied Biosystems) diagnostic platform. RNA was extracted from nasopharyngeal swab samples using the NucliESNS easyMag (Biomérieux) instrument according to the manufacturer's instructions. Leftover aliquots of the RNA used for real-time PCR detection were transported to Quadram Institute Bioscience, UK, for sequencing. The Ct or take-off value produced by the SARS-CoV-2 assays in the QuantStudio 3 assays were used to determine whether samples needed to be diluted. Dilution of samples based on Ct or take-off value as previously described in the ARTIC protocol.²

ARTIC SARS-CoV-2 multiplex tiling PCR. cDNA and multiplex PCR reactions were prepared following the ARTIC nCoV-2019 sequencing protocol v2.² Dilutions of RNA were prepared when required based on Ct values following the guidelines from the ARTIC protocol.² V3 CoV-2 primers (https://github.com/artic-network/artic-ncov2019/tree/master/primer_schemes/nCoV-2019/V3 last accessed 2021-07-23) were used to perform the multiplex PCR for SARS-CoV-2 according to the ARTIC protocol (Quick, 2020) with minor changes. All samples in the two ARTIC multiplex

PCRs were run for 35 cycles. Odd and even PCR reactions were pooled and cleaned using a 1x SPRI bead clean using KAPA Pure Beads (Roche Catalogue No. 07983298001) according to manufacturer instructions. PCR products were eluted in 30 µl of 10 mM Tris-HCL buffer, pH 7.5. cDNA was quantified using QuantiFluor® ONE dsDNA System (Promega, WI, USA). Libraries were prepared for sequencing on the Illumina platform and sequenced as described previously.³ All sequence data are available in the GISAID database <https://www.gisaid.org/> (last accessed 2021-07-28) (Supplementary Table 1), and sequence data of SARS-CoV-2 from South Africa was reported previously.⁴

Sequence analysis and QC. The raw reads were demultiplexed using bcl2fastq (v2.20) (Illumina Inc.) allowing for zero mismatches in the dual barcodes to produce FASTQ files. The reads were used to generate a consensus sequence for each sample using an open source ARTIC pipeline adapted from <https://github.com/connor-lab/ncov2019-artic-nf> (<https://github.com/quadram-institute-bioscience/ncov2019-artic-nf/tree/qib> last accessed 2021-07-23). Briefly, the reads had adapter sequence was trimmed with TrimGalore (<https://github.com/FelixKrueger/TrimGalore> last accessed 2021-07-23), were aligned to the Wuhan Hu-1 reference genome (accession MN908947.3) using BWA-MEM (v0.7.17),⁵ the ARTIC amplicons were trimmed, and a consensus built using iVar (v.1.2).⁶ Samples were prepared and sequenced in 96-well plates with one cDNA negative control per 96-well plate and one RNA extraction negative control were included, where applicable. Contaminated samples were removed from analysis. Consensus sequence was defined as passing quality control if greater than 50% of the genome was covered by confident calls and no evidence of contamination in the negative control. This is regarded as the minimum amount of data to be phylogenetically useful. A confident call was defined as having >910x depth of coverage and all other. If the coverage fell below these thresholds, the bases were masked with Ns. Low quality variants are also masked with Ns. The QC threshold for inclusion in the Global Initiative on Sharing All Influenza Data (GISAID) database currently requires that greater than 50% of the genome is covered by confident calls and that there is no evidence of contamination. All sequences passing the QC threshold at the time were submitted to GISAID (Supplementary Table 2), and were also registered in the ENA database under study accessions PRJEB41826 and PRJEB43562, where both raw reads and assembled genomes are available (Supplementary Table 1). The scripts from RONASUB (<https://github.com/happykhan/ronasub> last accessed 2021-07-28) were used to upload raw reads and consensus genomes to ENA based on the tables generated by the ARTIC pipeline described above. All data is therefore openly accessible through ENA and GenBank. The pipeline also generates the metadata file for GISAID submission.

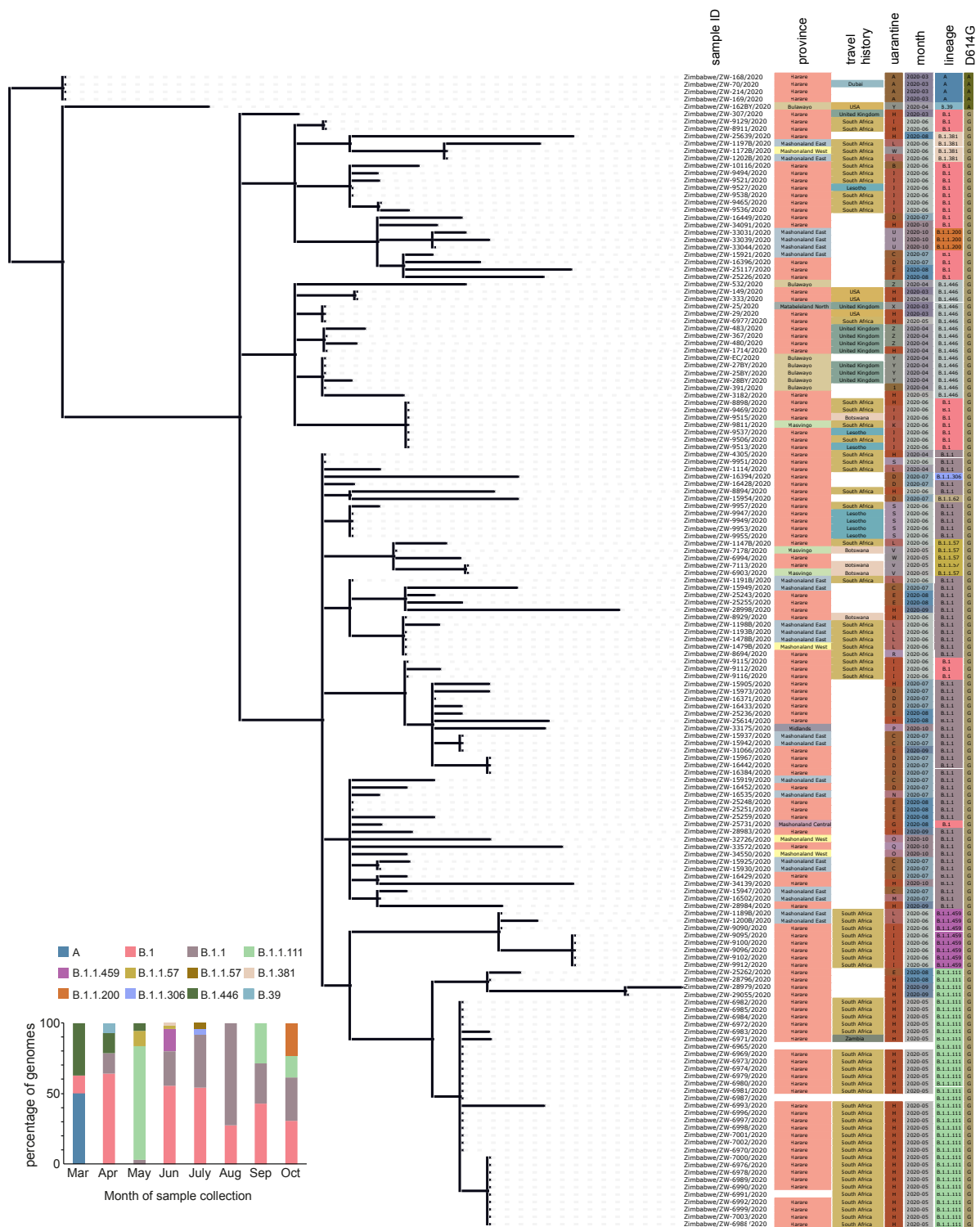
Clustering and phylogenetic analysis. PANGO lineages⁷ were assigned to each genome using Pangolin v3.0.5 (<https://github.com/cov-lineages/pangolin> last accessed 2021-07-23) with pangolearn timestamped 2021-06-05, with manual refinement for cases with clear phylogenetic clustering (see below). All sequences were aligned against the reference Wuhan Hu-1 using the software uvaia (<https://github.com/quadram-institute-bioscience/uvaia> last accessed 2021-07-23), which was then used to find the closest global sequences from the GISAID database (2021-06-04) to those from Zimbabwe. After excluding identical global sequences with IQTREE2, and manual curation to remove isolated global clusters, 316 global genomes were kept in the phylogenetic analysis. In particular, the manual curation

involved using the software figtree [<http://tree.bio.ed.ac.uk/software/figtree/> last accessed 2021-07-23] to find clusters in the tree composed exclusively of international sequences, which convey the same visual information if replaced by a single leaf. With the list of such visually redundant leaves, the pruning was done with goalign and gotree.⁸ The maximum likelihood tree was estimated using fasttree and refined with iqtree2 under the HKY+G model.^{9,10} Ancestral genomes were inferred over nodes of interest by empirical Bayesian reconstruction using IQTREE2, in order to find defining substitutions along the tree. The manual refinement of the lineage classification was done for the cases where sequences clustered together were nonetheless assigned distinct lineages according to Pangolin. This is a known issue where ambiguity in sequences leads to classifying them to their parental lineage.¹¹ Since this ambiguity does not affect the maximum likelihood phylogenetic estimation, visual inspection of all consensus genomes from such conflicting clusters was done with snipit (<https://github.com/aineniameh/snipit> last accessed 2021-07-23). If the disagreement between sequences amounts to ambiguity or singletons (SNPs unique to a single sequence), then we correct the ancestral lineage classification to the refined one (as in B.1.446 being a sublineage of B.1). All manual curation, inspection, and analysis (both Bayesian and under likelihood) were done by the same expert phylogeneticist. The GISAID accession IDs of all sequences used in this study are available under Supplementary Table 2 (sequences on GISAID are available to registered users).

Bayesian inference of divergence times. From the alignment above, we excluded all sequences with missing month data and most global sequences with redundant phylogenetic information, keeping 154 Zimbabwe and 83 global sequences. The objective was to keep at least one global sequence in the path between Zimbabwe subtrees. We thus conducted a Bayesian divergence times estimation using BEAST2 (v2.6.2)¹² under an uncorrelated lognormal relaxed clock with a coalescent prior on trees under exponential growth (with default settings). The uncorrelated relaxed molecular disentangles epoch times and genome substitutions by assuming that each branch in the tree has its own evolutionary rate, which comes from an lognormal distribution.¹³ The chosen coalescent tree prior reproduces the tree shape and branch lengths of an exponentially growing population, and is a good approximation for viral outbreaks.¹⁴ Both models have been used successfully in SARS-CoV-2 divergence analysis¹⁵. The posterior distribution was sampled every 10^4 steps over $5 \cdot 10^7$ iterations, and convergence was evaluated with tracer (ESS>400) based on two independent runs. Based on the likelihood traces and convergence of these two runs, an appropriate burnin of 20% of samples was set (using, therefore, 4000 samples from the last $4 \cdot 10^7$ iterations). The maximum clade credibility tree was thus estimated with treeannotator after discarding the first 20% of each independent run, with branch lengths estimated from the mean MRCA time over all trees. The 95% credible sets for node times were calculated for bipartitions with >50% frequency. The ancestral locations (Zimbabwe or global, based on tip information) were estimated by parsimony with the castor library for R¹⁶, using the maximum clade credibility tree. We then estimated the set of occurrences of transitions global-Zimbabwe by the parental nodes with their respective divergence times.

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Supplementary Figure 1. Phylogenetic relationship amongst 156 SARS-Cov-2 samples from Zimbabwe. A maximum likelihood tree based on SNPs in the genome of 156 SARS-Cov-2 genomes from Zimbabwe from between March and October 2020. Sample Identifier, district and province location from which the sample was collected, country of travel if applicable or domestic case, quarantine facility identity (A-1) or no quarantine (white), month of isolation, SARS-Cov-2 global lineage and residue 614 of the spike 'S' protein are indicated in columns. The proportion of each lineage represented in each month are indicated in the histogram (inset).

Supplementary Table 1. Genome sequences of SARS-CoV-2 genome sequences determined in this study.

Strain	Import Country	District	Province	collection date	lineage	local	quarantine	Accession ID	Project accession	Sample accession
Zimbabwe/ZW-168/2020		Harare	Harare	01/03/2020	A	Local	A	EPI_ISL_644743	ERP125662	ERS5457043
Zimbabwe/ZW-169/2020		Harare	Harare	01/03/2020	A	Local	A	EPI_ISL_647976	ERP125662	ERS5457070
Zimbabwe/ZW-214/2020		Harare	Harare	01/03/2020	A	Local	A	EPI_ISL_644764	ERP125662	ERS5457073
Zimbabwe/ZW-70/2020	Dubai	Harare	Harare	01/03/2020	A	Imported	A	EPI_ISL_644766	ERP125662	ERS5457095
Zimbabwe/ZW-10116/2020	South Africa	Harare	Harare	01/06/2020	B.1	Imported	B	EPI_ISL_644776	ERP125662	ERS5457066
Zimbabwe/ZW-15921/2020		Chitungwiza	Mashonaland E	27/07/2020	B.1	Local	C	EPI_ISL_1191784	ERP127527	ERS5910351
Zimbabwe/ZW-16396/2020		Harare	Harare	28/07/2020	B.1	Local	D	EPI_ISL_1191796	ERP127527	ERS5910116
Zimbabwe/ZW-16449/2020		Harare	Harare	28/07/2020	B.1	Local	D	EPI_ISL_1191801	ERP127527	ERS5910347
Zimbabwe/ZW-25117/2020		Harare	Harare	14/08/2020	B.1	Local	E	EPI_ISL_1191805	ERP127527	ERS5910241
Zimbabwe/ZW-25226/2020		Harare	Harare	13/08/2020	B.1	Local	F	EPI_ISL_1191806	ERP127527	ERS5910110
Zimbabwe/ZW-25731/2020		Rushinga	Mashonaland C	17/08/2020	B.1	Local	G	EPI_ISL_1191816	ERP127527	ERS5910132
Zimbabwe/ZW-28983/2020		Harare	Harare	01/09/2020	B.1.1	Local	H	EPI_ISL_1191819	ERP127527	ERS5910319
Zimbabwe/ZW-28984/2020		Harare	Harare	01/09/2020	B.1.1	Local	H	EPI_ISL_1191820	ERP127527	ERS5910117
Zimbabwe/ZW-34091/2020		Harare	Harare	19/10/2020	B.1	Local	H	EPI_ISL_1191830	ERP127527	ERS5910389
Zimbabwe/ZW-8911/2020	South Africa	Harare	Harare	01/06/2020	B.1	Imported	H	EPI_ISL_644747	ERP125662	ERS5457021
Zimbabwe/ZW-9112/2020	South Africa	Harare	Harare	01/06/2020	B.1	Imported	I	EPI_ISL_644777	ERP125662	ERS5457044
Zimbabwe/ZW-9115/2020	South Africa	Harare	Harare	01/06/2020	B.1	Imported	I	EPI_ISL_644769	ERP125662	ERS5457032
Zimbabwe/ZW-9116/2020	South Africa	Harare	Harare	01/06/2020	B.1	Imported	I	EPI_ISL_644778	ERP125662	ERS5457065
Zimbabwe/ZW-9129/2020	South Africa	Harare	Harare	01/06/2020	B.1	Imported	I	EPI_ISL_644746	ERP125662	ERS5457067
Zimbabwe/ZW-9465/2020	South Africa	Harare	Harare	01/06/2020	B.1	Imported	J	EPI_ISL_644741	ERP125662	ERS5457047
Zimbabwe/ZW-9469/2020	South Africa	Harare	Harare	01/06/2020	B.1	Imported	J	EPI_ISL_644745	ERP125662	ERS5457074
Zimbabwe/ZW-9494/2020	South Africa	Harare	Harare	01/06/2020	B.1	Imported	J	EPI_ISL_644812	ERP125662	ERS5457078
Zimbabwe/ZW-9506/2020	South Africa	Harare	Harare	01/06/2020	B.1	Imported	J	EPI_ISL_644813	ERP125662	ERS5456996
Zimbabwe/ZW-9513/2020	Lesotho	Harare	Harare	01/06/2020	B.1	Imported	J	EPI_ISL_644814	ERP125662	ERS5457012

Zimbabwe/ZW-9515/2020	Botswana	Harare	Harare	01/06/2020	B.1	Imported	J	EPI_ISL_644761	ERP125662	ERS5457010
Zimbabwe/ZW-9521/2020	South Africa	Harare	Harare	01/06/2020	B.1	Imported	J	EPI_ISL_644815	ERP125662	ERS5457009
Zimbabwe/ZW-9527/2020	Lesotho	Harare	Harare	01/06/2020	B.1	Imported	J	EPI_ISL_644816	ERP125662	ERS5456997
Zimbabwe/ZW-9536/2020	South Africa	Harare	Harare	01/06/2020	B.1	Imported	J	EPI_ISL_644742	ERP125662	ERS5457028
Zimbabwe/ZW-9537/2020	Lesotho	Harare	Harare	01/06/2020	B.1	Imported	J	EPI_ISL_644771	ERP125662	ERS5457033
Zimbabwe/ZW-9538/2020	South Africa	Harare	Harare	01/06/2020	B.1	Imported	J	EPI_ISL_644817	ERP125662	ERS5457039
Zimbabwe/ZW-9811/2020	South Africa	Bikita	Masvingo	01/06/2020	B.1	Imported	K	EPI_ISL_644768	ERP125662	ERS5457030
Zimbabwe/ZW-1114/2020	South Africa	Harare	Harare	01/04/2020	B.1.1	Imported	L	EPI_ISL_644786	ERP125662	ERS5457060
Zimbabwe/ZW-1191B/2020	South Africa	Chikomba	Mashonaland E	01/06/2020	B.1.1	Imported	L			
Zimbabwe/ZW-1193B/2020	South Africa	Chikomba	Mashonaland E	01/06/2020	B.1.1	Imported	L	EPI_ISL_647971	ERP125662	ERS5457023
Zimbabwe/ZW-1198B/2020	South Africa	Chikomba	Mashonaland E	01/06/2020	B.1.1	Imported	L	EPI_ISL_644775	ERP125662	ERS5457022
Zimbabwe/ZW-1478B/2020	South Africa	Chikomba	Mashonaland E	01/06/2020	B.1.1	Imported	L	EPI_ISL_647974	ERP125662	ERS5457048
Zimbabwe/ZW-1479B/2020	South Africa	Makonde	Mashonaland W	01/06/2020	B.1.1	Imported	L	EPI_ISL_647975	ERP125662	ERS5457055
Zimbabwe/ZW-15905/2020		Harare	Harare	27/07/2020	B.1.1	Local	H	EPI_ISL_1191782	ERP127527	ERS5910181
Zimbabwe/ZW-15919/2020		Chitungwiza	Mashonaland E	27/07/2020	B.1.1	Local	C	EPI_ISL_1191783	ERP127527	ERS5910382
Zimbabwe/ZW-15925/2020		Chitungwiza	Mashonaland E	27/07/2020	B.1.1	Local	C	EPI_ISL_1191785	ERP127527	ERS5910268
Zimbabwe/ZW-15930/2020		Chitungwiza	Mashonaland E	27/07/2020	B.1.1	Local	C	EPI_ISL_1191786	ERP127527	ERS5910190
Zimbabwe/ZW-15937/2020		Chitungwiza	Mashonaland E	27/07/2020	B.1.1	Local	C	EPI_ISL_1191787	ERP127527	ERS5910137
Zimbabwe/ZW-15942/2020		Chitungwiza	Mashonaland E	27/07/2020	B.1.1	Local	C	EPI_ISL_1191788	ERP127527	ERS5910300
Zimbabwe/ZW-15947/2020		Chitungwiza	Mashonaland E	27/07/2020	B.1.1	Local	C	EPI_ISL_1191789	ERP127527	ERS5910196
Zimbabwe/ZW-15949/2020		Chitungwiza	Mashonaland E	27/07/2020	B.1.1	Local	C	EPI_ISL_1191790	ERP127527	ERS5910155
Zimbabwe/ZW-15967/2020		Harare	Harare	27/07/2020	B.1.1	Local	D	EPI_ISL_1191792	ERP127527	ERS5910123
Zimbabwe/ZW-15973/2020		Harare	Harare	27/07/2020	B.1.1	Local	D	EPI_ISL_1191793	ERP127527	ERS5910236
Zimbabwe/ZW-16371/2020		Harare	Harare	27/07/2020	B.1.1	Local	D	EPI_ISL_1191794	ERP127527	ERS5910128
Zimbabwe/ZW-16384/2020		Harare	Harare	28/07/2020	B.1.1	Local	D	EPI_ISL_1195298	ERP127527	ERS5910233
Zimbabwe/ZW-16428/2020		Harare	Harare	28/07/2020	B.1.1	Local	D	EPI_ISL_1191797	ERP127527	ERS5910138
Zimbabwe/ZW-16429/2020		Harare	Harare	28/07/2020	B.1.1	Local	D	EPI_ISL_1191798	ERP127527	ERS5910277
Zimbabwe/ZW-16433/2020		Harare	Harare	28/07/2020	B.1.1	Local	D	EPI_ISL_1191799	ERP127527	ERS5910177

Zimbabwe/ZW-16442/2020		Harare	Harare	28/07/2020	B.1.1	Local	D	EPI_ISL_1191800	ERP127527	ERS5910161
Zimbabwe/ZW-16452/2020		Harare	Harare	28/07/2020	B.1.1	Local	D	EPI_ISL_1191802	ERP127527	ERS5910144
Zimbabwe/ZW-16502/2020		Uzumbu R P	Mashonaland E	28/07/2020	B.1.1	Local	M	EPI_ISL_1191803	ERP127527	ERS5910371
Zimbabwe/ZW-16535/2020		Mudzi	Mashonaland E	28/07/2020	B.1.1	Local	N	EPI_ISL_1191804	ERP127527	ERS5910350
Zimbabwe/ZW-25236/2020		Harare	Harare	13/08/2020	B.1.1	Local	E	EPI_ISL_1191807	ERP127527	ERS5910385
Zimbabwe/ZW-25243/2020		Harare	Harare	13/08/2020	B.1.1	Local	E	EPI_ISL_1191808	ERP127527	ERS5910262
Zimbabwe/ZW-25248/2020		Harare	Harare	13/08/2020	B.1.1	Local	E	EPI_ISL_1191809	ERP127527	ERS5910340
Zimbabwe/ZW-25251/2020		Harare	Harare	17/08/2020	B.1.1	Local	E	EPI_ISL_1191810	ERP127527	ERS5910398
Zimbabwe/ZW-25255/2020		Harare	Harare	17/08/2020	B.1.1	Local	E	EPI_ISL_1191811	ERP127527	ERS5910309
Zimbabwe/ZW-25259/2020		Harare	Harare	17/08/2020	B.1.1	Local	E	EPI_ISL_1191812	ERP127527	ERS5910386
Zimbabwe/ZW-25614/2020		Harare	Harare	17/08/2020	B.1.1	Local	H	EPI_ISL_1191814	ERP127527	ERS5910145
Zimbabwe/ZW-28998/2020		Harare	Harare	01/09/2020	B.1.1	Local	H	EPI_ISL_1195300	ERP127527	ERS5910355
Zimbabwe/ZW-307/2020	UK	Harare	Harare	01/03/2020	B.1	Imported	H	EPI_ISL_644744	ERP125662	ERS5457008
Zimbabwe/ZW-31066/2020		Harare	Harare	13/09/2020	B.1.1	Local	E	EPI_ISL_1191823	ERP127527	ERS5910207
Zimbabwe/ZW-32726/2020		Banket	Mashonaland W	01/10/2020	B.1.1	Local	O	EPI_ISL_1191824	ERP127527	ERS5910301
Zimbabwe/ZW-33175/2020		Kwekwe	Midlands	06/10/2020	B.1.1	Local	P	EPI_ISL_1191828	ERP127527	ERS5910250
Zimbabwe/ZW-33572/2020		Harare	Harare	13/10/2020	B.1.1	Local	Q	EPI_ISL_1191829	ERP127527	ERS5910113
Zimbabwe/ZW-34139/2020		Harare	Harare	19/10/2020	B.1.1	Local	H	EPI_ISL_1191831	ERP127527	ERS5910118
Zimbabwe/ZW-34550/2020		Banket	Mashonaland W	19/10/2020	B.1.1	Local	O	EPI_ISL_1191832	ERP127527	ERS5910195
Zimbabwe/ZW-4305/2020	South Africa	Harare	Harare	01/04/2020	B.1.1	Imported	H	EPI_ISL_644757	ERP125662	ERS5457062
Zimbabwe/ZW-8694/2020	South Africa	Harare	Harare	01/06/2020	B.1.1	Imported	R	EPI_ISL_647983	ERP125662	ERS5457011
Zimbabwe/ZW-8894/2020	South Africa	Harare	Harare	01/06/2020	B.1.1	Imported	H	EPI_ISL_644749	ERP125662	ERS5457068
Zimbabwe/ZW-8929/2020	Botswana	Harare	Harare	01/06/2020	B.1.1	Imported	H	EPI_ISL_644739	ERP125662	ERS5457063
Zimbabwe/ZW-9947/2020	Lesotho	Harare	Harare	01/06/2020	B.1.1	Imported	S	EPI_ISL_644818	ERP125662	ERS5457059
Zimbabwe/ZW-9949/2020	Lesotho	Harare	Harare	01/06/2020	B.1.1	Imported	S	EPI_ISL_644819	ERP125662	ERS5456998
Zimbabwe/ZW-9951/2020	South Africa	Harare	Harare	01/06/2020	B.1.1	Imported	S	EPI_ISL_644767	ERP125662	ERS5457001
Zimbabwe/ZW-9953/2020	Lesotho	Harare	Harare	01/06/2020	B.1.1	Imported	S	EPI_ISL_644820	ERP125662	ERS5457007
Zimbabwe/ZW-9955/2020	Lesotho	Harare	Harare	01/06/2020	B.1.1	Imported	S	EPI_ISL_644821	ERP125662	ERS5457000

Zimbabwe/ZW-9957/2020	South Africa	Harare	Harare	01/06/2020	B.1.1	Imported	S	EPI_ISL_644755	ERP125662	ERS5457075
Zimbabwe/ZW-25262/2020		Harare	Harare	17/08/2020	B.1.1.111	Local	E	EPI_ISL_1191813	ERP127527	ERS5910254
Zimbabwe/ZW-28796/2020		Harare	Harare	31/08/2020	B.1.1.111	Local	H	EPI_ISL_1191817	ERP127527	ERS5910160
Zimbabwe/ZW-28979/2020		Harare	Harare	01/09/2020	B.1.1.111	Local	H	EPI_ISL_1191818	ERP127527	ERS5910163
Zimbabwe/ZW-29055/2020		Harare	Harare	01/09/2020	B.1.1.111	Local	H	EPI_ISL_1191822	ERP127527	ERS5910271
Zimbabwe/ZW-6965/2020					B.1.1.111			EPI_ISL_644790	ERP125662	ERS5457025
Zimbabwe/ZW-6969/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644791	ERP125662	ERS5457034
Zimbabwe/ZW-6970/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_647980	ERP125662	ERS5457051
Zimbabwe/ZW-6971/2020	Zambia	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644770	ERP125662	ERS5457057
Zimbabwe/ZW-6972/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644758	ERP125662	ERS5457015
Zimbabwe/ZW-6973/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644792	ERP125662	ERS5457038
Zimbabwe/ZW-6974/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644793	ERP125662	ERS5457003
Zimbabwe/ZW-6976/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644794	ERP125662	ERS5457040
Zimbabwe/ZW-6978/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644795	ERP125662	ERS5457082
Zimbabwe/ZW-6979/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644796	ERP125662	ERS5457081
Zimbabwe/ZW-6980/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644797	ERP125662	ERS5457085
Zimbabwe/ZW-6981/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644798	ERP125662	ERS5457086
Zimbabwe/ZW-6982/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644751	ERP125662	ERS5457087
Zimbabwe/ZW-6983/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644763	ERP125662	ERS5457090
Zimbabwe/ZW-6984/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644756	ERP125662	ERS5457084
Zimbabwe/ZW-6985/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644752	ERP125662	ERS5457089
Zimbabwe/ZW-6987/2020					B.1.1.111			EPI_ISL_644799	ERP125662	ERS5457088
Zimbabwe/ZW-6988/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_647982	ERP125662	ERS5457083
Zimbabwe/ZW-6989/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644800	ERP125662	ERS5457016
Zimbabwe/ZW-6990/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644801	ERP125662	ERS5457069
Zimbabwe/ZW-6991/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644802	ERP125662	ERS5457080
Zimbabwe/ZW-6992/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644803	ERP125662	ERS5457026
Zimbabwe/ZW-6993/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644804	ERP125662	ERS5457014

Zimbabwe/ZW-6996/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644805	ERP125662	ERS5457005
Zimbabwe/ZW-6997/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644806	ERP125662	ERS5457013
Zimbabwe/ZW-6998/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644807	ERP125662	ERS5457024
Zimbabwe/ZW-6999/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644808	ERP125662	ERS5457046
Zimbabwe/ZW-7000/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644762	ERP125662	ERS5457036
Zimbabwe/ZW-7001/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644809	ERP125662	ERS5457076
Zimbabwe/ZW-7002/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644810	ERP125662	ERS5457017
Zimbabwe/ZW-7003/2020	South Africa	Harare	Harare	01/05/2020	B.1.1.111	Imported	H	EPI_ISL_644811	ERP125662	ERS5457045
Zimbabwe/ZW-33031/2020		Ruwa	Mashonaland E	05/10/2020	B.1.1.200	Local	U	EPI_ISL_1191825	ERP127527	ERS5910151
Zimbabwe/ZW-33039/2020		Ruwa	Mashonaland E	06/10/2020	B.1.1.200	Local	U	EPI_ISL_1191826	ERP127527	ERS5910226
Zimbabwe/ZW-33044/2020		Ruwa	Mashonaland E	06/10/2020	B.1.1.200	Local	U	EPI_ISL_1191827	ERP127527	ERS5910152
Zimbabwe/ZW-16394/2020		Harare	Harare	28/07/2020	B.1.1.306	Local	D	EPI_ISL_1191795	ERP127527	ERS5910153
Zimbabwe/ZW-1189B/2020	South Africa	Chikomba	Mashonaland E	01/06/2020	B.1.1.459	Imported	L	EPI_ISL_647970	ERP125662	ERS5457020
Zimbabwe/ZW-1200B/2020	South Africa	Chikomba	Mashonaland E	01/06/2020	B.1.1.459	Imported	L	EPI_ISL_647972	ERP125662	ERS5457002
Zimbabwe/ZW-9090/2020	South Africa	Harare	Harare	01/06/2020	B.1.1.459	Imported	I	EPI_ISL_647984	ERP125662	ERS5457077
Zimbabwe/ZW-9095/2020	South Africa	Harare	Harare	01/06/2020	B.1.1.459	Imported	I	EPI_ISL_644748	ERP125662	ERS5457056
Zimbabwe/ZW-9096/2020	South Africa	Harare	Harare	01/06/2020	B.1.1.459	Imported	I	EPI_ISL_644759	ERP125662	ERS5457006
Zimbabwe/ZW-9100/2020	South Africa	Harare	Harare	01/06/2020	B.1.1.459	Imported	I	EPI_ISL_644754	ERP125662	ERS5457064
Zimbabwe/ZW-9102/2020	South Africa	Harare	Harare	01/06/2020	B.1.1.459	Imported	I	EPI_ISL_644760	ERP125662	ERS5457054
Zimbabwe/ZW-9912/2020	South Africa	Harare	Harare	01/06/2020	B.1.1.459	Imported	I	EPI_ISL_644779	ERP125662	ERS5457052
Zimbabwe/ZW-1147B/2020	South Africa	Harare	Harare	01/06/2020	B.1.1.57	Imported	L			
Zimbabwe/ZW-6903/2020	Botswana	Masvingo	Masvingo	01/05/2020	B.1.1.57	Imported	V	EPI_ISL_644740	ERP125662	ERS5456995
Zimbabwe/ZW-6994/2020		Harare	Harare	01/05/2020	B.1.1.57	Local	W	EPI_ISL_644780	ERP125662	ERS5457072
Zimbabwe/ZW-7113/2020	Botswana	Harare	Harare	01/05/2020	B.1.1.57	Imported	V	EPI_ISL_644738	ERP125662	ERS5457027
Zimbabwe/ZW-7178/2020	Botswana	Masvingo	Masvingo	01/05/2020	B.1.1.57	Imported	V	EPI_ISL_644765	ERP125662	ERS5457061
Zimbabwe/ZW-15954/2020		Harare	Harare	27/07/2020	B.1.1.62	Local	D	EPI_ISL_1191791	ERP127527	ERS5910387
Zimbabwe/ZW-1172B/2020	South Africa	Chegutu	West	01/06/2020	B.1.381	Imported	W	EPI_ISL_644782	ERP125662	ERS5457041
Zimbabwe/ZW-1197B/2020	South Africa	Chikomba	Mashonaland E	01/06/2020	B.1.381	Imported	L			

Zimbabwe/ZW-1202B/2020	South Africa	Chikomba	Mashonaland E	01/06/2020	B.1.381	Imported	L	EPI_ISL_647973	ERP125662	ERS5457049
Zimbabwe/ZW-25639/2020		Harare	Harare	17/08/2020	B.1.381	Local	H	EPI_ISL_1191815	ERP127527	ERS5910215
Zimbabwe/ZW-149/2020	USA	Harare	Harare	01/03/2020	B.1.446	Imported	H	EPI_ISL_644750	ERP125662	ERS5457094
Zimbabwe/ZW-1714/2020	UK	Harare	Harare	01/04/2020	B.1.446	Imported	H	EPI_ISL_644785	ERP125662	ERS5457019
Zimbabwe/ZW-25/2020	UK	Hwange	Matabeleland N	01/03/2020	B.1.446	Imported	X	EPI_ISL_647977	ERP125662	ERS5457037
Zimbabwe/ZW-25BY/2020	UK	Bulawayo	Bulawayo	01/04/2020	B.1.446	Imported	Y	EPI_ISL_644787	ERP125662	ERS5456999
Zimbabwe/ZW-27BY/2020	UK	Bulawayo	Bulawayo	01/04/2020	B.1.446	Imported	Y	EPI_ISL_644753	ERP125662	ERS5457071
Zimbabwe/ZW-28BY/2020	UK	Bulawayo	Bulawayo	01/04/2020	B.1.446	Imported	Y	EPI_ISL_644788	ERP125662	ERS5457035
Zimbabwe/ZW-29/2020	USA	Harare	Harare	01/03/2020	B.1.446	Imported	H	EPI_ISL_647978	ERP125662	ERS5457091
Zimbabwe/ZW-3182/2020		Harare	Harare	01/05/2020	B.1.446	Local	H	EPI_ISL_647979	ERP125662	ERS5457058
Zimbabwe/ZW-333/2020	USA	Harare	Harare	01/04/2020	B.1.446	Imported	H	EPI_ISL_644783	ERP125662	ERS5457053
Zimbabwe/ZW-367/2020	UK	Harare	Harare	01/04/2020	B.1.446	Imported	Z	EPI_ISL_644781	ERP125662	ERS5457079
Zimbabwe/ZW-391/2020		Bulawayo	Bulawayo	01/04/2020	B.1.446	Local	1	EPI_ISL_644789	ERP125662	ERS5457031
Zimbabwe/ZW-480/2020	UK	Harare	Harare	01/04/2020	B.1.446	Imported	Z	EPI_ISL_644784	ERP125662	ERS5457018
Zimbabwe/ZW-483/2020	UK	Harare	Harare	01/04/2020	B.1.446	Imported	Z	EPI_ISL_644773	ERP125662	ERS5457029
Zimbabwe/ZW-532/2020		Bulawayo	Bulawayo	01/04/2020	B.1.446	Local	Z	EPI_ISL_644772	ERP125662	ERS5457050
Zimbabwe/ZW-6977/2020	South Africa	Harare	Harare	01/05/2020	B.1.446	Imported	H	EPI_ISL_647981	ERP125662	ERS5457042
Zimbabwe/ZW-EC/2020		Bulawayo	Bulawayo	01/04/2020	B.1.446	Local	Y	EPI_ISL_644822	ERP125662	ERS5457004
Zimbabwe/ZW-8898/2020	South Africa	Harare	Harare	01/06/2020	B.1	Imported	H			
Zimbabwe/ZW-162BY/2020	USA	Bulawayo	Bulawayo	01/04/2020	B.39	no data	Y	EPI_ISL_644774	ERP125662	ERS5457092

Supplementary Table 2. Genome sequences used for context and time-scaled phylogenetic analysis.

sequence_name	Continent	country	gisaid_id	lineage	taxa	zimb
Australia/NSW141/2020	Oceania	Australia	EPI_ISL_427802	B.1	Australia/NSW141/2020	other
Australia/NSW166/2020	Oceania	Australia	EPI_ISL_427771	B.1.1	Australia/NSW166/2020	other
Australia/NSW2171/2020	Oceania	Australia	EPI_ISL_500642	B.1	Australia/NSW2171/2020	other
Australia/VIC07/2020	Oceania	Australia	EPI_ISL_416415	A	Australia/VIC07/2020	other
Australia/VIC199/2020	Oceania	Australia	EPI_ISL_419895	B.1.1.75	Australia/VIC199/2020	other
Australia/VIC353/2020	Oceania	Australia	EPI_ISL_426661	B.1.1	Australia/VIC353/2020	other
Australia/VIC450/2020	Oceania	Australia	EPI_ISL_426746	B.1	Australia/VIC450/2020	other
Australia/VIC473/2020	Oceania	Australia	EPI_ISL_426906	B.1.1	Australia/VIC473/2020	other
Australia/VIC558/2020	Oceania	Australia	EPI_ISL_426819	B.1	Australia/VIC558/2020	other
Australia/VIC559/2020	Oceania	Australia	EPI_ISL_426820	B.1	Australia/VIC559/2020	other
Australia/VIC561/2020	Oceania	Australia	EPI_ISL_426822	B.1.1	Australia/VIC561/2020	other
Australia/VIC603/2020	Oceania	Australia	EPI_ISL_426858	B.1.1	Australia/VIC603/2020	other
Australia/VIC611/2020	Oceania	Australia	EPI_ISL_426865	B.1	Australia/VIC611/2020	other
Australia/VIC658/2020	Oceania	Australia	EPI_ISL_426954	B.1.1	Australia/VIC658/2020	other
Australia/VIC666/2020	Oceania	Australia	EPI_ISL_426962	B.1	Australia/VIC666/2020	other
Australia/VIC674/2020	Oceania	Australia	EPI_ISL_426970	B.1.1	Australia/VIC674/2020	other
Australia/VIC90/2020	Oceania	Australia	EPI_ISL_419801	B.1.1	Australia/VIC90/2020	other
Austria/CeMM0296/2020	Europe	Austria	EPI_ISL_438119	B.1	Austria/CeMM0296/2020	other
Austria/CeMM0368/2020	Europe	Austria	EPI_ISL_475815	B.1	Austria/CeMM0368/2020	other
Austria/CeMM0977/2020	Europe	Austria	EPI_ISL_583822	B.1.1	Austria/CeMM0977/2020	other
Beijing/IVDC-02-06/2020	Asia	China	EPI_ISL_469255	B.1.1	Beijing/IVDC-02-06/2020	other
Belgium/DBWC-0325340/2020	Europe	Belgium	EPI_ISL_462194	B	Belgium/DBWC-0325340/2020	other
Belgium/MAC-0324142/2020	Europe	Belgium	EPI_ISL_420399	B.1.1	Belgium/MAC-0324142/2020	other
Belgium/RT-030460/2020	Europe	Belgium	EPI_ISL_418989	B.1	Belgium/RT-030460/2020	other

Belgium/Rega-0328196/2020	Europe	Belgium	EPI_ISL_458166	B.1	Belgium/Rega-0328196/2020	other
Belgium/UGent-12/2020	Europe	Belgium	EPI_ISL_419264	B.1.1.75	Belgium/UGent-12/2020	other
Belgium/UGent-140/2020	Europe	Belgium	EPI_ISL_481231	B.1	Belgium/UGent-140/2020	other
Belgium/UGent-79/2020	Europe	Belgium	EPI_ISL_468729	B.1	Belgium/UGent-79/2020	other
Belgium/ULG-10042/2020	Europe	Belgium	EPI_ISL_421209	B.1.1	Belgium/ULG-10042/2020	other
Belgium/ULG-10066/2020	Europe	Belgium	EPI_ISL_424629	B.1.1	Belgium/ULG-10066/2020	other
Belgium/ULG-10080/2020	Europe	Belgium	EPI_ISL_424641	B.39	Belgium/ULG-10080/2020	other
Belgium/reg-a-0409497/2020	Europe	Belgium	EPI_ISL_476949	B.1.1.75	Belgium/reg-a-0409497/2020	other
Belgium/reg-a-0912938/2020	Europe North	Belgium	EPI_ISL_734929	B.1	Belgium/reg-a-0912938/2020	other
Canada/ON-PHL-20-00233/2020	America North	Canada	EPI_ISL_548768	B.1	Canada/ON-PHL-20-00233/2020	other
Canada/ON_MU-S328/2020	America	Canada	EPI_ISL_463981	B.1	Canada/ON_MU-S328/2020	other
CzechRepublic/IAB_14/2020	Europe	Czech Republic	EPI_ISL_426889	B.1.1	CzechRepublic/IAB_14/2020	other
Denmark/ALAB-HH20/2020	Europe	Denmark	EPI_ISL_429278	B.1	Denmark/ALAB-HH20/2020	other
Denmark/ALAB-SSI-1126/2020	Europe	Denmark	EPI_ISL_436962	B.1	Denmark/ALAB-SSI-1126/2020	other
Denmark/ALAB-SSI129/2020	Europe	Denmark	EPI_ISL_429356	B.1	Denmark/ALAB-SSI129/2020	other
Denmark/ALAB-SSI414/2020	Europe	Denmark	EPI_ISL_429511	B.1	Denmark/ALAB-SSI414/2020	other
Denmark/ALAB-SSI464/2020	Europe	Denmark	EPI_ISL_429545	B.1	Denmark/ALAB-SSI464/2020	other
England/200991076/2020	Europe	United Kingdom	EPI_ISL_414524	B.1	England/200991076/2020	other
England/201160647/2020	Europe	United Kingdom	EPI_ISL_464800	B.1	England/201160647/2020	other
England/201160756/2020	Europe	United Kingdom	EPI_ISL_464803	B.1	England/201160756/2020	other
England/20134006704/2020	Europe	United Kingdom	EPI_ISL_423072	B.1.1	England/20134006704/2020	other
England/201360017/2020	Europe	United Kingdom	EPI_ISL_421768	B.1.1	England/201360017/2020	other
England/20139060404/2020	Europe	United Kingdom	EPI_ISL_420732	B.1.1	England/20139060404/2020	other
England/20140007004/2020	Europe	United Kingdom	EPI_ISL_423382	B.1	England/20140007004/2020	other
England/20140039004/2020	Europe	United Kingdom	EPI_ISL_420752	B.1	England/20140039004/2020	other
England/20144011404/2020	Europe	United Kingdom	EPI_ISL_465977	B.1.1	England/20144011404/2020	other
England/ALDP-52B88A/2020	Europe	United Kingdom	EPI_ISL_558967	B.1	England/ALDP-52B88A/2020	other

England/ALDP-5CB38B/2020	Europe	United Kingdom	EPI_ISL_558488	B.1.1	England/ALDP-5CB38B/2020	other
England/ALDP-6B81E0/2020	Europe	United Kingdom	EPI_ISL_557804	B.1.1	England/ALDP-6B81E0/2020	other
England/ALDP-8D74A4/2020	Europe	United Kingdom	EPI_ISL_557045	B.1.1	England/ALDP-8D74A4/2020	other
England/ALDP-8FD38D/2020	Europe	United Kingdom	EPI_ISL_551526	B.1.1	England/ALDP-8FD38D/2020	other
England/BIRM-5E7EO/2020	Europe	United Kingdom	EPI_ISL_444303	B.3	England/BIRM-5E7EO/2020	other
England/BIRM-61DBB/2020	Europe	United Kingdom	EPI_ISL_529393	B	England/BIRM-61DBB/2020	other
England/BIRM-61F1F/2020	Europe	United Kingdom	EPI_ISL_529617	B.1.1	England/BIRM-61F1F/2020	other
England/BRIS-1278FB/2020	Europe	United Kingdom	EPI_ISL_469645	B.1.1	England/BRIS-1278FB/2020	other
England/BRIS-12D048/2020	Europe	United Kingdom	EPI_ISL_481853	B.1.1	England/BRIS-12D048/2020	other
England/BRIS-12E223/2020	Europe	United Kingdom	EPI_ISL_481976	B.1	England/BRIS-12E223/2020	other
England/BRIS-12F240/2020	Europe	United Kingdom	EPI_ISL_488230	B.1.1	England/BRIS-12F240/2020	other
England/BRIS-12F671/2020	Europe	United Kingdom	EPI_ISL_488337	B.39	England/BRIS-12F671/2020	other
England/BRIS-1309CF/2020	Europe	United Kingdom	EPI_ISL_492630	B.39	England/BRIS-1309CF/2020	other
England/BRIS-1309DE/2020	Europe	United Kingdom	EPI_ISL_492719	B.39	England/BRIS-1309DE/2020	other
England/CAMB-73062/2020	Europe	United Kingdom	EPI_ISL_440183	B.1.610	England/CAMB-73062/2020	other
England/CAMB-7378B/2020	Europe	United Kingdom	EPI_ISL_425235	B.1.1	England/CAMB-7378B/2020	other
England/CAMB-73ACE/2020	Europe	United Kingdom	EPI_ISL_425276	B.1.1	England/CAMB-73ACE/2020	other
England/CAMB-7477B/2020	Europe	United Kingdom	EPI_ISL_425333	B.1	England/CAMB-7477B/2020	other
England/CAMB-74B42/2020	Europe	United Kingdom	EPI_ISL_425348	B.1.1	England/CAMB-74B42/2020	other
England/CAMB-74E76/2020	Europe	United Kingdom	EPI_ISL_425381	B	England/CAMB-74E76/2020	other
England/CAMB-76FAE/2020	Europe	United Kingdom	EPI_ISL_425444	B.1	England/CAMB-76FAE/2020	other
England/CAMB-7708C/2020	Europe	United Kingdom	EPI_ISL_425458	B.1.1	England/CAMB-7708C/2020	other
England/CAMB-7AAF4/2020	Europe	United Kingdom	EPI_ISL_433839	B.1.1	England/CAMB-7AAF4/2020	other
England/CAMB-7B088/2020	Europe	United Kingdom	EPI_ISL_433911	B.1.1	England/CAMB-7B088/2020	other
England/CAMB-7B1D0/2020	Europe	United Kingdom	EPI_ISL_433930	B.1.1	England/CAMB-7B1D0/2020	other
England/CAMB-7B510/2020	Europe	United Kingdom	EPI_ISL_433970	B.1.1	England/CAMB-7B510/2020	other
England/CAMB-7C6D0/2020	Europe	United Kingdom	EPI_ISL_442281	B.1	England/CAMB-7C6D0/2020	other
England/CAMB-7FB83/2020	Europe	United Kingdom	EPI_ISL_433484	B.1.1	England/CAMB-7FB83/2020	other

England/CAMB-8430B/2020	Europe	United Kingdom	EPI_ISL_443489	B.1.1	England/CAMB-8430B/2020	other
England/EXET-135265/2020	Europe	United Kingdom	EPI_ISL_457040	B.1	England/EXET-135265/2020	other
England/EXET-136325/2020	Europe	United Kingdom	EPI_ISL_457220	B.1.1	England/EXET-136325/2020	other
England/EXET-136817/2020	Europe	United Kingdom	EPI_ISL_457237	B.1.1.419	England/EXET-136817/2020	other
England/LIVE-1D26B9/2020	Europe	United Kingdom	EPI_ISL_534734	B.1.1	England/LIVE-1D26B9/2020	other
England/LIVE-A47EB/2020	Europe	United Kingdom	EPI_ISL_500044	B.1.1	England/LIVE-A47EB/2020	other
England/LIVE-A61EB/2020	Europe	United Kingdom	EPI_ISL_499693	A	England/LIVE-A61EB/2020	other
England/LIVE-A9115/2020	Europe	United Kingdom	EPI_ISL_517263	B.1	England/LIVE-A9115/2020	other
England/LOND-124C70E/2020	Europe	United Kingdom	EPI_ISL_490426	B.1.612	England/LOND-124C70E/2020	other
England/LOND-124FAC6/2020	Europe	United Kingdom	EPI_ISL_664171	B.1.1	England/LOND-124FAC6/2020	other
England/LOND-125FC63/2020	Europe	United Kingdom	EPI_ISL_516836	B.1	England/LOND-125FC63/2020	other
England/LOND-1261590/2020	Europe	United Kingdom	EPI_ISL_524696	B.1.1	England/LOND-1261590/2020	other
England/LOND-D38FF/2020	Europe	United Kingdom	EPI_ISL_441006	B.39	England/LOND-D38FF/2020	other
England/LOND-D5022/2020	Europe	United Kingdom	EPI_ISL_444194	B.1	England/LOND-D5022/2020	other
England/LOND-D5189/2020	Europe	United Kingdom	EPI_ISL_449683	B.1	England/LOND-D5189/2020	other
England/LOND-D52B3/2020	Europe	United Kingdom	EPI_ISL_444205	B.1	England/LOND-D52B3/2020	other
England/LOND-D5EEC/2020	Europe	United Kingdom	EPI_ISL_444259	B.1	England/LOND-D5EEC/2020	other
England/LOND-D5F43/2020	Europe	United Kingdom	EPI_ISL_444265	B.1	England/LOND-D5F43/2020	other
England/LOND-D648F/2020	Europe	United Kingdom	EPI_ISL_487585	B.1	England/LOND-D648F/2020	other
England/LOND-D7248/2020	Europe	United Kingdom	EPI_ISL_478465	B.1	England/LOND-D7248/2020	other
England/NORT-281DFF/2020	Europe	United Kingdom	EPI_ISL_488768	B.1.1	England/NORT-281DFF/2020	other
England/NORT-283917/2020	Europe	United Kingdom	EPI_ISL_488705	B.39	England/NORT-283917/2020	other
England/NORT-2839BD/2020	Europe	United Kingdom	EPI_ISL_488643	B.1.1	England/NORT-2839BD/2020	other
England/NORT-294D80/2020	Europe	United Kingdom	EPI_ISL_488591	B.1.1	England/NORT-294D80/2020	other
England/NORT-2959F4/2020	Europe	United Kingdom	EPI_ISL_478645	B.1.1	England/NORT-2959F4/2020	other
England/NORT-297DBA/2020	Europe	United Kingdom	EPI_ISL_488107	B.1.1	England/NORT-297DBA/2020	other
England/NORW-E8B0D/2020	Europe	United Kingdom	EPI_ISL_448279	B.1.1	England/NORW-E8B0D/2020	other
England/NORW-E9E6D/2020	Europe	United Kingdom	EPI_ISL_448374	B.1.1	England/NORW-E9E6D/2020	other

England/NORW-ED82F/2020	Europe	United Kingdom	EPI_ISL_490499	B.39	England/NORW-ED82F/2020	other
England/NORW-EFACD/2020	Europe	United Kingdom	EPI_ISL_549483	B.1.1	England/NORW-EFACD/2020	other
England/NOTT-10E283/2020	Europe	United Kingdom	EPI_ISL_425519	B.1	England/NOTT-10E283/2020	other
England/NOTT-10E2ED/2020	Europe	United Kingdom	EPI_ISL_425525	B.1	England/NOTT-10E2ED/2020	other
England/NOTT-10E5A8/2020	Europe	United Kingdom	EPI_ISL_425565	B.1.1	England/NOTT-10E5A8/2020	other
England/NOTT-10E5B7/2020	Europe	United Kingdom	EPI_ISL_425566	B.1.1	England/NOTT-10E5B7/2020	other
England/NOTT-10E5F3/2020	Europe	United Kingdom	EPI_ISL_425570	B.1	England/NOTT-10E5F3/2020	other
England/OXON-AD6B8/2020	Europe	United Kingdom	EPI_ISL_448588	B.1.1	England/OXON-AD6B8/2020	other
England/OXON-AE23B/2020	Europe	United Kingdom	EPI_ISL_448675	B.1.1	England/OXON-AE23B/2020	other
England/PORT-2D1622/2020	Europe	United Kingdom	EPI_ISL_512405	B.1.1.296	England/PORT-2D1622/2020	other
England/SHEF-BFFA9/2020	Europe	United Kingdom	EPI_ISL_418317	B.1.1	England/SHEF-BFFA9/2020	other
England/SHEF-C02AC/2020	Europe	United Kingdom	EPI_ISL_420208	B.1.1	England/SHEF-C02AC/2020	other
England/SHEF-C6DA5/2020	Europe	United Kingdom	EPI_ISL_442002	B.39	England/SHEF-C6DA5/2020	other
Finland/17A47S12/2020	Europe	Finland	EPI_ISL_481578	B.1	Finland/17A47S12/2020	other
Finland/17A66S12/2020	Europe	Finland	EPI_ISL_481582	B.1	Finland/17A66S12/2020	other
Finland/21A16S11/2020	Europe	Finland	EPI_ISL_481606	B.1.490	Finland/21A16S11/2020	other
Finland/6A962SIIC/2020	Europe	Finland	EPI_ISL_481712	B.1	Finland/6A962SIIC/2020	other
France/HDF-4220/2020	Europe	France	EPI_ISL_428366	B.1	France/HDF-4220/2020	other
France/OCC-MP01829/2020	Europe	France	EPI_ISL_508909	B.1.1	France/OCC-MP01829/2020	other
Germany/BAV-PL-virotum_w09g/2020	Europe	Germany	EPI_ISL_887414	B.1.1	Germany/BAV-PL-virotum_w09g/2020	other
Germany/BE-ChVir-D710-10/2020	Europe	Germany	EPI_ISL_516638	B.1	Germany/BE-ChVir-D710-10/2020	other
Germany/BY-ChVir-1017/2020	Europe	Germany	EPI_ISL_450209	B.1	Germany/BY-ChVir-1017/2020	other
Germany/BY-MVP-0064/2020	Europe	Germany	EPI_ISL_437263	B.1.1.515	Germany/BY-MVP-0064/2020	other
Germany/BY-MVP-0095/2020	Europe	Germany	EPI_ISL_437287	B.1	Germany/BY-MVP-0095/2020	other
Ghana/TTH10/2020	Africa	Ghana	EPI_ISL_515182	A	Ghana/TTH10/2020	other
Hungary/SRC-00777/2020	Europe	Hungary	EPI_ISL_435417	B.1.1	Hungary/SRC-00777/2020	other
Iceland/132/2020	Europe	Iceland	EPI_ISL_417787	B.1	Iceland/132/2020	other
Iceland/504/2020	Europe	Iceland	EPI_ISL_424526	B.1.1	Iceland/504/2020	other

India/HR-TF38/2020	Asia	India	EPI_ISL_508504	B.1.1.216	India/HR-TF38/2020	other
India/MH-NIV-10380/2020	Asia	India	EPI_ISL_452192	B.1.1.306	India/MH-NIV-10380/2020	other
India/MH-NIV-7439/2020	Asia	India	EPI_ISL_452207	B.1.1.306	India/MH-NIV-7439/2020	other
Ireland/D-NVRL-AIIDV0073v1/2020	Europe	Ireland	EPI_ISL_768758	B.1.1	Ireland/D-NVRL-AIIDV0073v1/2020	other
Israel/130710097/2020	Asia	Israel	EPI_ISL_447467	B.1	Israel/130710097/2020	other
Israel/130710390/2020	Asia	Israel	EPI_ISL_447461	B.1	Israel/130710390/2020	other
Israel/701002403/2020	Asia	Israel	EPI_ISL_447305	B.1	Israel/701002403/2020	other
Italy/ABR-IZSGC-TE5674/2020	Europe	Italy	EPI_ISL_429228	B.1.1	Italy/ABR-IZSGC-TE5674/2020	other
Italy/APU-IZSPB_325PT/2020	Europe	Italy	EPI_ISL_653818	B.1.1	Italy/APU-IZSPB_325PT/2020	other
Italy/LAZ-INMI17/2020	Europe	Italy	EPI_ISL_493329	B.1	Italy/LAZ-INMI17/2020	other
Italy/VEN-IZSve-18-48/2020	Europe	Italy	EPI_ISL_452184	B.1	Italy/VEN-IZSve-18-48/2020	other
Japan/PG-0312/2020	Asia	Japan	EPI_ISL_479987	B.1.1	Japan/PG-0312/2020	other
Japan/PG-1266/2020	Asia	Japan	EPI_ISL_684876	B.1.1	Japan/PG-1266/2020	other
Japan/PG-1269/2020	Asia	Japan	EPI_ISL_684879	B.1.1	Japan/PG-1269/2020	other
Jordan/SR-0336/2020	Asia	Jordan	EPI_ISL_450188	A	Jordan/SR-0336/2020	other
Latvia/07/2020	Europe	Latvia	EPI_ISL_426287	B.59	Latvia/07/2020	other
Luxembourg/LNS7866283/2020	Europe	Luxembourg	EPI_ISL_419596	B.1.1	Luxembourg/LNS7866283/2020	other
Mali/M002616/2020	Africa	Mali	EPI_ISL_487448	A	Mali/M002616/2020	other
Mali/M002675/2020	Africa	Mali	EPI_ISL_487456	A.21	Mali/M002675/2020	other
Mali/M002826/2020	Africa	Mali	EPI_ISL_487465	A.21	Mali/M002826/2020	other
Netherlands/Flevoland_1/2020	Europe	Netherlands	EPI_ISL_415460	B.1	Netherlands/Flevoland_1/2020	other
Netherlands/Haarlem_1363688/2020	Europe	Netherlands	EPI_ISL_413572	B.1	Netherlands/Haarlem_1363688/2020	other
Netherlands/Leiden-0002/2020	Europe	Netherlands	EPI_ISL_454416	B.1	Netherlands/Leiden-0002/2020	other
Netherlands/NA_90/2020	Europe	Netherlands	EPI_ISL_422850	B.1	Netherlands/NA_90/2020	other
Netherlands/Rotterdam_1364740/2020	Europe	Netherlands	EPI_ISL_413584	B.1.1	Netherlands/Rotterdam_1364740/2020	other
Netherlands/Tilburg_1364286/2020	Europe	Netherlands	EPI_ISL_413587	B.1.1	Netherlands/Tilburg_1364286/2020	other
Netherlands/Zeevolde_1365080/2020	Europe	Netherlands	EPI_ISL_413591	B.1	Netherlands/Zeevolde_1365080/2020	other
Oman/RESP-20-2631/2020	Asia	Oman	EPI_ISL_457976	A	Oman/RESP-20-2631/2020	other

Oman/RESP-20-4736/2020	Asia	Oman	EPI_ISL_457991	A	Oman/RESP-20-4736/2020	other
Portugal/IGC4228/2020	Europe	Portugal	EPI_ISL_491237	B.1	Portugal/IGC4228/2020	other
Portugal/PT0038/2020	Europe	Portugal	EPI_ISL_418023	B.1.1	Portugal/PT0038/2020	other
Portugal/PT0107/2020	Europe	Portugal	EPI_ISL_453823	B.1.1	Portugal/PT0107/2020	other
Portugal/PT1507/2020	Europe	Portugal	EPI_ISL_511466	B.1.1	Portugal/PT1507/2020	other
Russia/CRIE164399/2020	Europe	Russia	EPI_ISL_486823	B.1	Russia/CRIE164399/2020	other
Russia/Novy_Urengoy-RII24781S/2020	Europe	Russia	EPI_ISL_507220	B.1.1	Russia/Novy_Urengoy-RII24781S/2020	other
SaudiArabia/KAUST-Madinah270/2020	Asia	Saudi Arabia	EPI_ISL_437752	B.1	SaudiArabia/KAUST-Madinah270/2020	other
Scotland/CVR1221/2020	Europe	United Kingdom	EPI_ISL_438776	B.1.1	Scotland/CVR1221/2020	other
Scotland/CVR1922/2020	Europe	United Kingdom	EPI_ISL_477835	B.26	Scotland/CVR1922/2020	other
Scotland/CVR2784/2020	Europe	United Kingdom	EPI_ISL_473564	B.1	Scotland/CVR2784/2020	other
Scotland/CVR91/2020	Europe	United Kingdom	EPI_ISL_425815	B.1	Scotland/CVR91/2020	other
Scotland/EDB022/2020	Europe	United Kingdom	EPI_ISL_425828	B.1	Scotland/EDB022/2020	other
Scotland/EDB085/2020	Europe	United Kingdom	EPI_ISL_425877	B.1	Scotland/EDB085/2020	other
Scotland/EDB1040/2020	Europe	United Kingdom	EPI_ISL_433377	B.1	Scotland/EDB1040/2020	other
Scotland/EDB1679/2020	Europe	United Kingdom	EPI_ISL_433115	B.1	Scotland/EDB1679/2020	other
Scotland/EDB1829/2020	Europe	United Kingdom	EPI_ISL_433149	B.1	Scotland/EDB1829/2020	other
Scotland/EDB1849/2020	Europe	United Kingdom	EPI_ISL_491623	B.1	Scotland/EDB1849/2020	other
Scotland/EDB1992/2020	Europe	United Kingdom	EPI_ISL_439150	B.1	Scotland/EDB1992/2020	other
Scotland/EDB383/2020	Europe	United Kingdom	EPI_ISL_425990	B.1.1	Scotland/EDB383/2020	other
Scotland/EDB4912/2020	Europe	United Kingdom	EPI_ISL_493922	B.1	Scotland/EDB4912/2020	other
Scotland/EDB5242/2020	Europe	United Kingdom	EPI_ISL_456990	B.1.1.14	Scotland/EDB5242/2020	other
Senegal/073/2020	Africa	Senegal	EPI_ISL_418210	B.1	Senegal/073/2020	other
Shanghai/SH0056/2020	Asia	China	EPI_ISL_416364	B	Shanghai/SH0056/2020	other
Shanghai/SH0117/2020	Asia	China	EPI_ISL_416403	A	Shanghai/SH0117/2020	other
SierraLeone/KGH-G-8603/2020	Africa	Sierra Leone	EPI_ISL_512813	B.1	SierraLeone/KGH-G-8603/2020	other
Singapore/173/2020	Asia	Singapore	EPI_ISL_462291	B.1	Singapore/173/2020	other
Singapore/271/2020	Asia	Singapore	EPI_ISL_462389	B.1.1	Singapore/271/2020	other

Singapore/831/2020	Asia	Singapore	EPI_ISL_516803	B.1	Singapore/831/2020	other
Singapore/974/2020	Asia	Singapore	EPI_ISL_548982	B.39	Singapore/974/2020	other
SouthAfrica/KRISP-0088/2020	Africa	South Africa	EPI_ISL_467457	B.1	SouthAfrica/KRISP-0088/2020	other
SouthAfrica/KRISP-0118/2020	Africa	South Africa	EPI_ISL_467470	B.1	SouthAfrica/KRISP-0118/2020	other
SouthAfrica/KRISP-0124/2020	Africa	South Africa	EPI_ISL_467476	B.1.1.57	SouthAfrica/KRISP-0124/2020	other
SouthAfrica/KRISP-0127/2020	Africa	South Africa	EPI_ISL_467479	B.1.381	SouthAfrica/KRISP-0127/2020	other
SouthAfrica/KRISP-0128/2020	Africa	South Africa	EPI_ISL_467480	B.1.1.57	SouthAfrica/KRISP-0128/2020	other
SouthAfrica/KRISP-0130/2020	Africa	South Africa	EPI_ISL_467482	B.1.1.57	SouthAfrica/KRISP-0130/2020	other
SouthAfrica/KRISP-0131/2020	Africa	South Africa	EPI_ISL_467483	B.1	SouthAfrica/KRISP-0131/2020	other
SouthAfrica/KRISP-0135/2020	Africa	South Africa	EPI_ISL_467487	B.1.1.57	SouthAfrica/KRISP-0135/2020	other
SouthAfrica/KRISP-0139/2020	Africa	South Africa	EPI_ISL_467491	B.1.1	SouthAfrica/KRISP-0139/2020	other
SouthAfrica/KRISP-0143/2020	Africa	South Africa	EPI_ISL_467493	B.1.1.56	SouthAfrica/KRISP-0143/2020	other
SouthAfrica/KRISP-0144/2020	Africa	South Africa	EPI_ISL_467494	B.1.237	SouthAfrica/KRISP-0144/2020	other
SouthAfrica/KRISP-0150/2020	Africa	South Africa	EPI_ISL_467500	B.1.1.459	SouthAfrica/KRISP-0150/2020	other
SouthAfrica/KRISP-0386/2020	Africa	South Africa	EPI_ISL_487329	B.1.1.62	SouthAfrica/KRISP-0386/2020	other
SouthAfrica/KRISP-101/2020	Africa	South Africa	EPI_ISL_455631	B.1	SouthAfrica/KRISP-101/2020	other
SouthAfrica/KRISP-K000598/2020	Africa	South Africa	EPI_ISL_509251	B.1.1.448	SouthAfrica/KRISP-K000598/2020	other
SouthAfrica/KRISP-K000601/2020	Africa	South Africa	EPI_ISL_509254	B.1.1.57	SouthAfrica/KRISP-K000601/2020	other
SouthAfrica/KRISP-K001035/2020	Africa	South Africa	EPI_ISL_509301	B.1.1.412	SouthAfrica/KRISP-K001035/2020	other
SouthAfrica/KRISP-K001061/2020	Africa	South Africa	EPI_ISL_509317	B.1.1.448	SouthAfrica/KRISP-K001061/2020	other
SouthAfrica/KRISP-K001064/2020	Africa	South Africa	EPI_ISL_509320	B.1.1	SouthAfrica/KRISP-K001064/2020	other
SouthAfrica/KRISP-K001065/2020	Africa	South Africa	EPI_ISL_509321	B.1.1	SouthAfrica/KRISP-K001065/2020	other
SouthAfrica/KRISP-K001080/2020	Africa	South Africa	EPI_ISL_509334	B.1.1	SouthAfrica/KRISP-K001080/2020	other
SouthAfrica/KRISP-K001098/2020	Africa	South Africa	EPI_ISL_509347	B.1.1	SouthAfrica/KRISP-K001098/2020	other
SouthAfrica/KRISP-K001336/2020	Africa	South Africa	EPI_ISL_515821	B.1.1.62	SouthAfrica/KRISP-K001336/2020	other
SouthAfrica/KRISP-K002185/2020	Africa	South Africa	EPI_ISL_515584	B.1.1	SouthAfrica/KRISP-K002185/2020	other
SouthAfrica/KRISP-K002271/2020	Africa	South Africa	EPI_ISL_515653	B.1.1.448	SouthAfrica/KRISP-K002271/2020	other
SouthAfrica/KRISP-K002289/2020	Africa	South Africa	EPI_ISL_515667	B.1.1.34	SouthAfrica/KRISP-K002289/2020	other

SouthAfrica/KRISP-K002329/2020	Africa	South Africa	EPI_ISL_515705	B.1.1	SouthAfrica/KRISP-K002329/2020	other
SouthAfrica/KRISP-K002444/2020	Africa	South Africa	EPI_ISL_518034	B.1.1	SouthAfrica/KRISP-K002444/2020	other
SouthAfrica/KRISP-K002451/2020	Africa	South Africa	EPI_ISL_518039	B.1.1	SouthAfrica/KRISP-K002451/2020	other
SouthAfrica/NHLS-UCT-GP-5156/2020	Africa	South Africa	EPI_ISL_700454	B.1.381	SouthAfrica/NHLS-UCT-GP-5156/2020	other
SouthAfrica/NHLS-UCT-GP-5157/2020	Africa	South Africa	EPI_ISL_700459	B.1.381	SouthAfrica/NHLS-UCT-GP-5157/2020	other
SouthAfrica/NHLS-UCT-GP-5164/2020	Africa	South Africa	EPI_ISL_700591	B.1.381	SouthAfrica/NHLS-UCT-GP-5164/2020	other
SouthAfrica/NHLS-UCT-GP-5256/2020	Africa	South Africa	EPI_ISL_700471	B.1.1.459	SouthAfrica/NHLS-UCT-GP-5256/2020	other
SouthAfrica/NHLS-UCT-GP-5422/2020	Africa	South Africa	EPI_ISL_700472	B.1.1	SouthAfrica/NHLS-UCT-GP-5422/2020	other
SouthAfrica/NHLS-UCT-GP-5482/2020	Africa	South Africa	EPI_ISL_700503	B.1.1	SouthAfrica/NHLS-UCT-GP-5482/2020	other
SouthAfrica/NHLS-UCT-GP-5635/2020	Africa	South Africa	EPI_ISL_700580	B.1.381	SouthAfrica/NHLS-UCT-GP-5635/2020	other
SouthAfrica/NHLS-UCT-GP-5742/2020	Africa	South Africa	EPI_ISL_700499	B.1.1.57	SouthAfrica/NHLS-UCT-GP-5742/2020	other
SouthAfrica/NHLS-UCT-GP-5792/2020	Africa	South Africa	EPI_ISL_700547	B.1.1.34	SouthAfrica/NHLS-UCT-GP-5792/2020	other
SouthAfrica/NHLS-UCT-GP-5818/2020	Africa	South Africa	EPI_ISL_700473	B.1.1.459	SouthAfrica/NHLS-UCT-GP-5818/2020	other
SouthAfrica/NHLS-UCT-GP-5912/2020	Africa	South Africa	EPI_ISL_700477	B.1.1.459	SouthAfrica/NHLS-UCT-GP-5912/2020	other
SouthAfrica/NHLS-UCT-GS-1874/2020	Africa	South Africa	EPI_ISL_640118	B.1.381	SouthAfrica/NHLS-UCT-GS-1874/2020	other
SouthAfrica/NHLS-UCT-GS-2391/2020	Africa	South Africa	EPI_ISL_960167	B.1.1.459	SouthAfrica/NHLS-UCT-GS-2391/2020	other
SouthAfrica/NHLS-UCT-GS-2420/2020	Africa	South Africa	EPI_ISL_960165	B.1.1.34	SouthAfrica/NHLS-UCT-GS-2420/2020	other
SouthAfrica/NHLS-UCT-GS-2980/2020	Africa	South Africa	EPI_ISL_700574	B.1.1.34	SouthAfrica/NHLS-UCT-GS-2980/2020	other
SouthAfrica/NHLS-UCT-GS-3097/2020	Africa	South Africa	EPI_ISL_700491	B.1.1.57	SouthAfrica/NHLS-UCT-GS-3097/2020	other
SouthAfrica/UFS-VIRO-NGS-11/2020	Africa	South Africa	EPI_ISL_682324	B.1.1	SouthAfrica/UFS-VIRO-NGS-11/2020	other
Sweden/20-06761/2020	Europe	Sweden	EPI_ISL_455100	B.1.1	Sweden/20-06761/2020	other
Sweden/20-06805/2020	Europe	Sweden	EPI_ISL_445227	B.1	Sweden/20-06805/2020	other
Sweden/20-06883/2020	Europe	Sweden	EPI_ISL_434658	B.1	Sweden/20-06883/2020	other
Sweden/20-07010/2020	Europe	Sweden	EPI_ISL_434661	B.1	Sweden/20-07010/2020	other
Sweden/20-07041/2020	Europe	Sweden	EPI_ISL_450812	B.1	Sweden/20-07041/2020	other
Sweden/20-07298/2020	Europe	Sweden	EPI_ISL_434667	B.1.1	Sweden/20-07298/2020	other
Sweden/20-07480/2020	Europe	Sweden	EPI_ISL_434673	B.1.1	Sweden/20-07480/2020	other
Sweden/20-08362/2020	Europe	Sweden	EPI_ISL_476142	B.1	Sweden/20-08362/2020	other

Sweden/20-50144/2020	Europe	Sweden	EPI_ISL_454884	B.1	Sweden/20-50144/2020	other
Sweden/20-50370/2020	Europe	Sweden	EPI_ISL_475137	B.1	Sweden/20-50370/2020	other
Sweden/20-50659/2020	Europe	Sweden	EPI_ISL_475152	B.1	Sweden/20-50659/2020	other
Sweden/20-51755/2020	Europe	Sweden	EPI_ISL_475528	B.1.1.458	Sweden/20-51755/2020	other
Switzerland/TI-ETHZ-100182/2020	Europe	Switzerland	EPI_ISL_574960	B.1.1	Switzerland/TI-ETHZ-100182/2020	other
Taiwan/CGMH-CGU-20/2020	Asia	Taiwan	EPI_ISL_424978	B.1.1	Taiwan/CGMH-CGU-20/2020	other
Thailand/Bangkok-0020/2020	Asia	Thailand	EPI_ISL_423041	B.1	Thailand/Bangkok-0020/2020	other
USA/CA-ALSR-0571-IPL/2020	America North	USA	EPI_ISL_483231	B.1.243	USA/CA-ALSR-0571-IPL/2020	other
USA/CA-ALSR-1558/2020	America North	USA	EPI_ISL_494660	B.1.243	USA/CA-ALSR-1558/2020	other
USA/CA-CZB-1488/2020	America North	USA	EPI_ISL_468438	B.1.1	USA/CA-CZB-1488/2020	other
USA/CA-QDX-158/2020	America North	USA	EPI_ISL_467820	B.1	USA/CA-QDX-158/2020	other
USA/CA-QDX-159/2020	America North	USA	EPI_ISL_467821	B.1	USA/CA-QDX-159/2020	other
USA/CA-SR017/2020	America North	USA	EPI_ISL_429991	B.1.1	USA/CA-SR017/2020	other
USA/CA-SR0176/2020	America North	USA	EPI_ISL_435474	B.1	USA/CA-SR0176/2020	other
USA/CA-SR0410/2020	America North	USA	EPI_ISL_458280	B.1.1	USA/CA-SR0410/2020	other
USA/CT-UW-4343/2020	America North	USA	EPI_ISL_430944	B.1	USA/CT-UW-4343/2020	other
USA/CT-UW256/2020	America North	USA	EPI_ISL_418041	B.1	USA/CT-UW256/2020	other
USA/DC-HP00122/2020	America North	USA	EPI_ISL_457814	B.1	USA/DC-HP00122/2020	other
USA/FL-BPHL-0424/2020	America North	USA	EPI_ISL_495330	B.1	USA/FL-BPHL-0424/2020	other
USA/FL_7169/2020	America North	USA	EPI_ISL_424855	B.1.110	USA/FL_7169/2020	other
USA/MI-MDHHS-SC20109/2020	America North	USA	EPI_ISL_436885	B.1	USA/MI-MDHHS-SC20109/2020	other
USA/MI-MDHHS-SC20230/2020	America	USA	EPI_ISL_447200	B.1	USA/MI-MDHHS-SC20230/2020	other

USA/MI-MDHHS-SC21355/2020	North America	USA	EPI_ISL_507609	B.1	USA/MI-MDHHS-SC21355/2020	other
USA/MI-QDX-385/2020	North America	USA	EPI_ISL_571127	B.1	USA/MI-QDX-385/2020	other
USA/MI-QDX-616/2020	North America	USA	EPI_ISL_571345	B.1	USA/MI-QDX-616/2020	other
USA/MN48-MDH48/2020	North America	USA	EPI_ISL_417495	B.1	USA/MN48-MDH48/2020	other
USA/NY-NYCPLH-000226/2020	North America	USA	EPI_ISL_631755	B.1	USA/NY-NYCPLH-000226/2020	other
USA/NY-NYCPLH-000540/2020	North America	USA	EPI_ISL_632000	B.1	USA/NY-NYCPLH-000540/2020	other
USA/NY-NYUMC349/2020	North America	USA	EPI_ISL_430376	B.1.1	USA/NY-NYUMC349/2020	other
USA/NY-NYUMC41/2020	North America	USA	EPI_ISL_419702	B.1	USA/NY-NYUMC41/2020	other
USA/NY-NYUMC524/2020	North America	USA	EPI_ISL_444641	B.1	USA/NY-NYUMC524/2020	other
USA/NY-NYUMC797/2020	North America	USA	EPI_ISL_456033	B.1	USA/NY-NYUMC797/2020	other
USA/NY-WCMP11E04P/2020	North America	USA	EPI_ISL_427592	B.1	USA/NY-WCMP11E04P/2020	other
USA/NY-Wadsworth-42340-01/2020	North America	USA	EPI_ISL_525662	B.1	USA/NY-Wadsworth-42340-01/2020	other
USA/OR-PROV-059/2020	North America	USA	EPI_ISL_482339	B.1	USA/OR-PROV-059/2020	other
USA/PA-MGSC48-05/2020	North America	USA	EPI_ISL_436496	B.1.1	USA/PA-MGSC48-05/2020	other
USA/TX-HMH0124/2020	North America	USA	EPI_ISL_434824	B.1.320	USA/TX-HMH0124/2020	other
USA/VA-DCLS-0550/2020	North America	USA	EPI_ISL_485851	B.1.1	USA/VA-DCLS-0550/2020	other
USA/WA-S350/2020	North America	USA	EPI_ISL_434110	B.1	USA/WA-S350/2020	other
USA/WA-UW-1575/2020	North America	USA	EPI_ISL_424172	B.1	USA/WA-UW-1575/2020	other
USA/WA-UW-1722/2020	North America	USA	EPI_ISL_424234	B.1	USA/WA-UW-1722/2020	other
USA/WA-UW-1724/2020	North America	USA	EPI_ISL_424229	B.1.371	USA/WA-UW-1724/2020	other

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USA/WA-UW-1797/2020	North America North	USA	EPI_ISL_424259	B.1.371	USA/WA-UW-1797/2020	other
USA/WA-UW-1801/2020	North America North	USA	EPI_ISL_424251	B.1.371	USA/WA-UW-1801/2020	other
USA/WA-UW-2245/2020	North America North	USA	EPI_ISL_426128	B.1	USA/WA-UW-2245/2020	other
USA/WA-UW-2700/2020	North America North	USA	EPI_ISL_486016	B.1.333	USA/WA-UW-2700/2020	other
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USA/WA-UW108/2020	North America North	USA	EPI_ISL_416646	B.39	USA/WA-UW108/2020	other
USA/WA-UW332/2020	North America North	USA	EPI_ISL_418899	A.1	USA/WA-UW332/2020	other
USA/WI-WSLH-200059/2020	North America North	USA	EPI_ISL_471224	B.1	USA/WI-WSLH-200059/2020	other
Wales/ALDP-952D4B/2020	Europe	United Kingdom	EPI_ISL_892235	B.1.1.59	Wales/ALDP-952D4B/2020	other
Wales/PHWC-160ED6/2020	Europe	United Kingdom	EPI_ISL_493977	B.1.35	Wales/PHWC-160ED6/2020	other
Wales/PHWC-163BBE/2020	Europe	United Kingdom	EPI_ISL_474052	B.1.44	Wales/PHWC-163BBE/2020	other
Wales/PHWC-1686A9/2020	Europe	United Kingdom	EPI_ISL_494270	B.1.1	Wales/PHWC-1686A9/2020	other
Wales/PHWC-1687B5/2020	Europe	United Kingdom	EPI_ISL_494286	B.1.1	Wales/PHWC-1687B5/2020	other
Wales/PHWC-26444/2020	Europe	United Kingdom	EPI_ISL_422102	B.1.1	Wales/PHWC-26444/2020	other
Wales/PHWC-26480/2020	Europe	United Kingdom	EPI_ISL_422191	B.1	Wales/PHWC-26480/2020	other
Wales/PHWC-26954/2020	Europe	United Kingdom	EPI_ISL_422074	B.1	Wales/PHWC-26954/2020	other
Wales/PHWC-26C00/2020	Europe	United Kingdom	EPI_ISL_422103	B.1.1	Wales/PHWC-26C00/2020	other
Wales/PHWC-26D58/2020	Europe	United Kingdom	EPI_ISL_422035	B.1	Wales/PHWC-26D58/2020	other
Wales/PHWC-26F43/2020	Europe	United Kingdom	EPI_ISL_422144	B.1	Wales/PHWC-26F43/2020	other
Wales/PHWC-274AD/2020	Europe	United Kingdom	EPI_ISL_432282	B.1	Wales/PHWC-274AD/2020	other
Wales/PHWC-2B782/2020	Europe	United Kingdom	EPI_ISL_445759	B.1.489	Wales/PHWC-2B782/2020	other
Wuhan/0126-C77/2020	Asia	China	EPI_ISL_493178	B	Wuhan/0126-C77/2020	other

Wuhan/0126-C93/2020	Asia	China	EPI_ISL_493179	B	Wuhan/0126-C93/2020	other
Wuhan/HB-WH3-191/2020	Asia	China	EPI_ISL_454947	B	Wuhan/HB-WH3-191/2020	other
Wuhan/WH04/2020	Asia	China	EPI_ISL_406801	A	Wuhan/WH04/2020	other
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Zimbabwe/ZW-6980/2020	Africa	Zimbabwe	EPI_ISL_644797	B.1.1.111	Zimbabwe/ZW-6980/2020	ZW
Zimbabwe/ZW-6981/2020	Africa	Zimbabwe	EPI_ISL_644798	B.1.1.111	Zimbabwe/ZW-6981/2020	ZW
Zimbabwe/ZW-6982/2020	Africa	Zimbabwe	EPI_ISL_644751	B.1.1.111	Zimbabwe/ZW-6982/2020	ZW
Zimbabwe/ZW-6983/2020	Africa	Zimbabwe	EPI_ISL_644763	B.1.1.111	Zimbabwe/ZW-6983/2020	ZW
Zimbabwe/ZW-6984/2020	Africa	Zimbabwe	EPI_ISL_644756	B.1.1.111	Zimbabwe/ZW-6984/2020	ZW
Zimbabwe/ZW-6985/2020	Africa	Zimbabwe	EPI_ISL_644752	B.1.1.111	Zimbabwe/ZW-6985/2020	ZW
Zimbabwe/ZW-6987/2020	Africa	Zimbabwe	EPI_ISL_644799	B.1.1.111	Zimbabwe/ZW-6987/2020	ZW
Zimbabwe/ZW-6988/2020	Africa	Zimbabwe	EPI_ISL_647982	B.1.1.111	Zimbabwe/ZW-6988/2020	ZW
Zimbabwe/ZW-6989/2020	Africa	Zimbabwe	EPI_ISL_644800	B.1.1.111	Zimbabwe/ZW-6989/2020	ZW
Zimbabwe/ZW-6990/2020	Africa	Zimbabwe	EPI_ISL_644801	B.1.1.111	Zimbabwe/ZW-6990/2020	ZW
Zimbabwe/ZW-6991/2020	Africa	Zimbabwe	EPI_ISL_644802	B.1.1.111	Zimbabwe/ZW-6991/2020	ZW
Zimbabwe/ZW-6992/2020	Africa	Zimbabwe	EPI_ISL_644803	B.1.1.111	Zimbabwe/ZW-6992/2020	ZW

Zimbabwe/ZW-6993/2020	Africa	Zimbabwe	EPI_ISL_644804	B.1.1.111	Zimbabwe/ZW-6993/2020	ZW
Zimbabwe/ZW-6994/2020	Africa	Zimbabwe	EPI_ISL_644780	B.1.1.57	Zimbabwe/ZW-6994/2020	ZW
Zimbabwe/ZW-6996/2020	Africa	Zimbabwe	EPI_ISL_644805	B.1.1.111	Zimbabwe/ZW-6996/2020	ZW
Zimbabwe/ZW-6997/2020	Africa	Zimbabwe	EPI_ISL_644806	B.1.1.111	Zimbabwe/ZW-6997/2020	ZW
Zimbabwe/ZW-6998/2020	Africa	Zimbabwe	EPI_ISL_644807	B.1.1.111	Zimbabwe/ZW-6998/2020	ZW
Zimbabwe/ZW-6999/2020	Africa	Zimbabwe	EPI_ISL_644808	B.1.1.111	Zimbabwe/ZW-6999/2020	ZW
Zimbabwe/ZW-70/2020	Africa	Zimbabwe	EPI_ISL_644766	A	Zimbabwe/ZW-70/2020	ZW
Zimbabwe/ZW-7000/2020	Africa	Zimbabwe	EPI_ISL_644762	B.1.1.111	Zimbabwe/ZW-7000/2020	ZW
Zimbabwe/ZW-7001/2020	Africa	Zimbabwe	EPI_ISL_644809	B.1.1.111	Zimbabwe/ZW-7001/2020	ZW
Zimbabwe/ZW-7002/2020	Africa	Zimbabwe	EPI_ISL_644810	B.1.1.111	Zimbabwe/ZW-7002/2020	ZW
Zimbabwe/ZW-7003/2020	Africa	Zimbabwe	EPI_ISL_644811	B.1.1.111	Zimbabwe/ZW-7003/2020	ZW
Zimbabwe/ZW-7113/2020	Africa	Zimbabwe	EPI_ISL_644738	B.1.1.57	Zimbabwe/ZW-7113/2020	ZW
Zimbabwe/ZW-7178/2020	Africa	Zimbabwe	EPI_ISL_644765	B.1.1.57	Zimbabwe/ZW-7178/2020	ZW
Zimbabwe/ZW-8694/2020	Africa	Zimbabwe	EPI_ISL_647983	B.1.1	Zimbabwe/ZW-8694/2020	ZW
Zimbabwe/ZW-8894/2020	Africa	Zimbabwe	EPI_ISL_644749	B.1.1	Zimbabwe/ZW-8894/2020	ZW
Zimbabwe/ZW-8898/2020	Africa	Zimbabwe		B.1	Zimbabwe/ZW-8898/2020	ZW
Zimbabwe/ZW-8911/2020	Africa	Zimbabwe	EPI_ISL_644747	B.1	Zimbabwe/ZW-8911/2020	ZW
Zimbabwe/ZW-8929/2020	Africa	Zimbabwe	EPI_ISL_644739	B.1.1	Zimbabwe/ZW-8929/2020	ZW
Zimbabwe/ZW-9090/2020	Africa	Zimbabwe	EPI_ISL_647984	B.1.1.459	Zimbabwe/ZW-9090/2020	ZW
Zimbabwe/ZW-9095/2020	Africa	Zimbabwe	EPI_ISL_644748	B.1.1.459	Zimbabwe/ZW-9095/2020	ZW
Zimbabwe/ZW-9096/2020	Africa	Zimbabwe	EPI_ISL_644759	B.1.1.459	Zimbabwe/ZW-9096/2020	ZW
Zimbabwe/ZW-9100/2020	Africa	Zimbabwe	EPI_ISL_644754	B.1.1.459	Zimbabwe/ZW-9100/2020	ZW
Zimbabwe/ZW-9102/2020	Africa	Zimbabwe	EPI_ISL_644760	B.1.1.459	Zimbabwe/ZW-9102/2020	ZW
Zimbabwe/ZW-9112/2020	Africa	Zimbabwe	EPI_ISL_644777	B.1	Zimbabwe/ZW-9112/2020	ZW
Zimbabwe/ZW-9115/2020	Africa	Zimbabwe	EPI_ISL_644769	B.1	Zimbabwe/ZW-9115/2020	ZW
Zimbabwe/ZW-9116/2020	Africa	Zimbabwe	EPI_ISL_644778	B.1	Zimbabwe/ZW-9116/2020	ZW
Zimbabwe/ZW-9129/2020	Africa	Zimbabwe	EPI_ISL_644746	B.1	Zimbabwe/ZW-9129/2020	ZW
Zimbabwe/ZW-9465/2020	Africa	Zimbabwe	EPI_ISL_644741	B.1	Zimbabwe/ZW-9465/2020	ZW

Zimbabwe/ZW-9469/2020	Africa	Zimbabwe	EPI_ISL_644745	B.1	Zimbabwe/ZW-9469/2020	ZW
Zimbabwe/ZW-9494/2020	Africa	Zimbabwe	EPI_ISL_644812	B.1	Zimbabwe/ZW-9494/2020	ZW
Zimbabwe/ZW-9506/2020	Africa	Zimbabwe	EPI_ISL_644813	B.1	Zimbabwe/ZW-9506/2020	ZW
Zimbabwe/ZW-9513/2020	Africa	Zimbabwe	EPI_ISL_644814	B.1	Zimbabwe/ZW-9513/2020	ZW
Zimbabwe/ZW-9515/2020	Africa	Zimbabwe	EPI_ISL_644761	B.1	Zimbabwe/ZW-9515/2020	ZW
Zimbabwe/ZW-9521/2020	Africa	Zimbabwe	EPI_ISL_644815	B.1	Zimbabwe/ZW-9521/2020	ZW
Zimbabwe/ZW-9527/2020	Africa	Zimbabwe	EPI_ISL_644816	B.1	Zimbabwe/ZW-9527/2020	ZW
Zimbabwe/ZW-9536/2020	Africa	Zimbabwe	EPI_ISL_644742	B.1	Zimbabwe/ZW-9536/2020	ZW
Zimbabwe/ZW-9537/2020	Africa	Zimbabwe	EPI_ISL_644771	B.1	Zimbabwe/ZW-9537/2020	ZW
Zimbabwe/ZW-9538/2020	Africa	Zimbabwe	EPI_ISL_644817	B.1	Zimbabwe/ZW-9538/2020	ZW
Zimbabwe/ZW-9811/2020	Africa	Zimbabwe	EPI_ISL_644768	B.1	Zimbabwe/ZW-9811/2020	ZW
Zimbabwe/ZW-9912/2020	Africa	Zimbabwe	EPI_ISL_644779	B.1.1.459	Zimbabwe/ZW-9912/2020	ZW
Zimbabwe/ZW-9947/2020	Africa	Zimbabwe	EPI_ISL_644818	B.1.1	Zimbabwe/ZW-9947/2020	ZW
Zimbabwe/ZW-9949/2020	Africa	Zimbabwe	EPI_ISL_644819	B.1.1	Zimbabwe/ZW-9949/2020	ZW
Zimbabwe/ZW-9951/2020	Africa	Zimbabwe	EPI_ISL_644767	B.1.1	Zimbabwe/ZW-9951/2020	ZW
Zimbabwe/ZW-9953/2020	Africa	Zimbabwe	EPI_ISL_644820	B.1.1	Zimbabwe/ZW-9953/2020	ZW
Zimbabwe/ZW-9955/2020	Africa	Zimbabwe	EPI_ISL_644821	B.1.1	Zimbabwe/ZW-9955/2020	ZW
Zimbabwe/ZW-9957/2020	Africa	Zimbabwe	EPI_ISL_644755	B.1.1	Zimbabwe/ZW-9957/2020	ZW
Zimbabwe/ZW-EC/2020	Africa	Zimbabwe		B.1.446	Zimbabwe/ZW-EC/2020	ZW

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