# COVID-19 subject H2102100346

*2021-04-17*

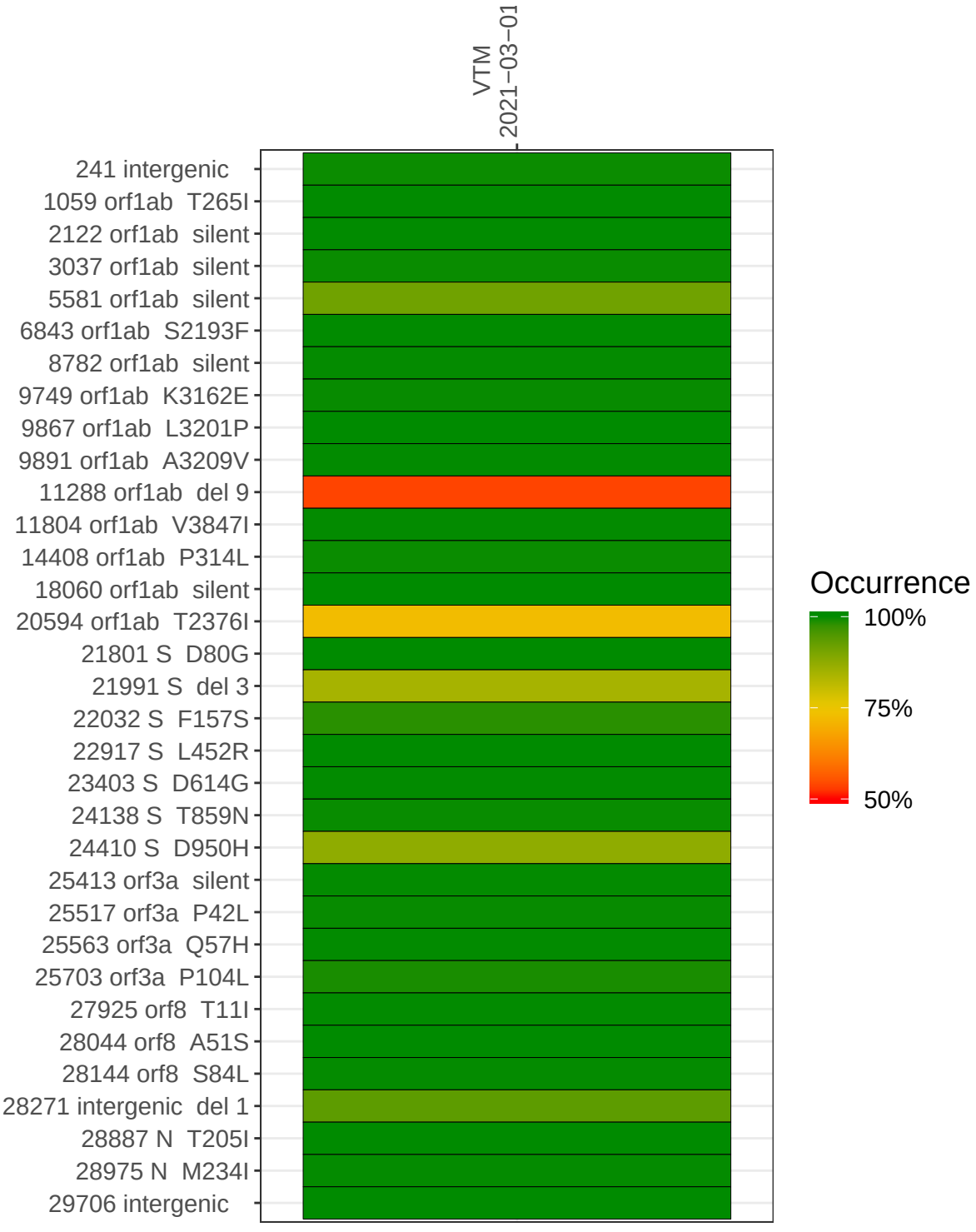
The table below provides a summary of subject samples for which sequencing data is available.
The experiments column shows the number of sequencing experiments performed for each specimen.
Experiment specific analyses are shown at the end of this report. Lineages are called with the Pangolin software tool (Rambaut et al 2020) for genomes with > 90% sequence coverage.

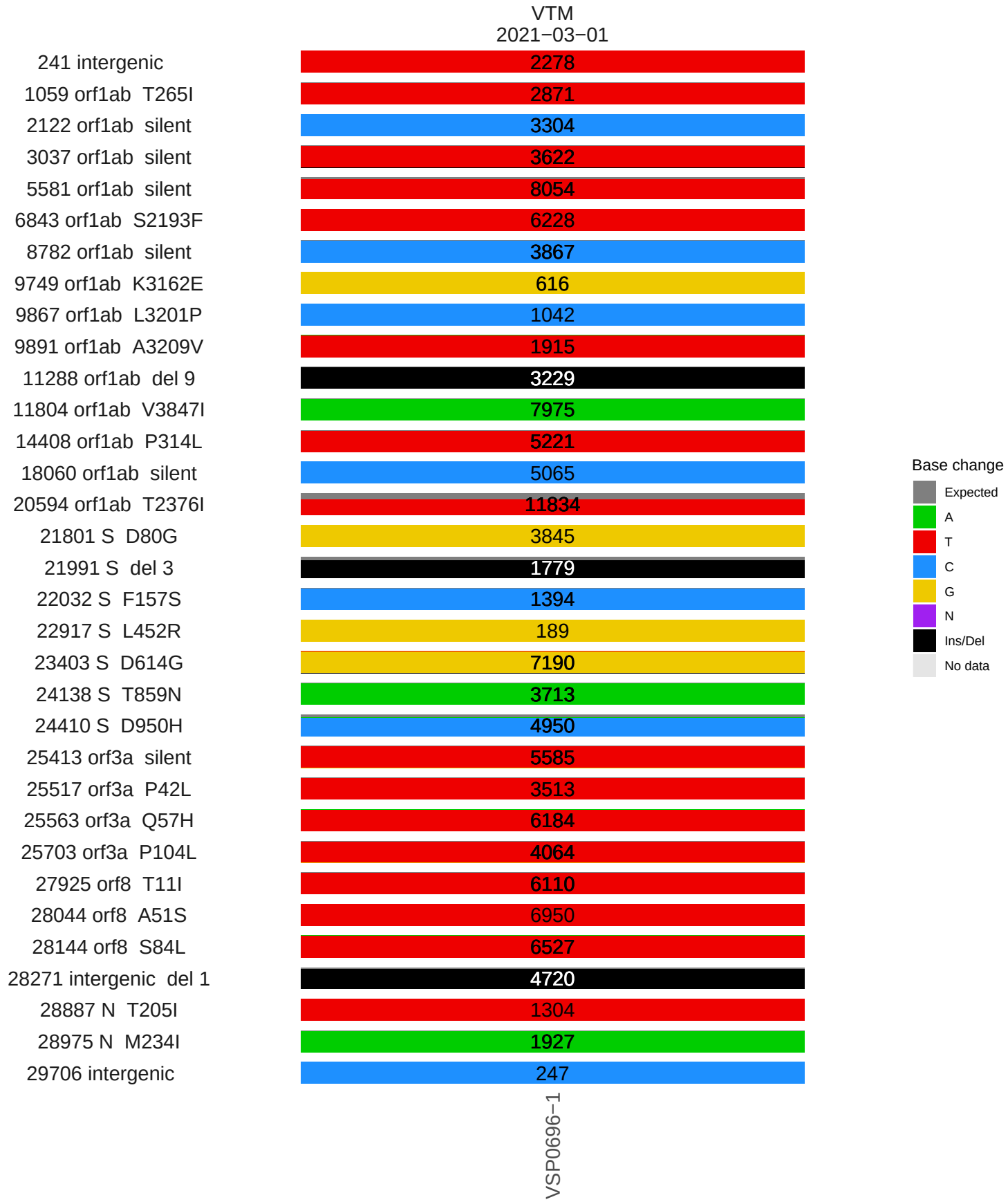
Table 1. Sample summary.

| Experiment | Type | Genomes | Sample type | Sample date | Largest contig (KD) | Lineage | Reference read coverage | Reference read coverage (>= 5 reads) |
|---|---|---|---|---|---|---|---|---|
| VSP0696-1 | single experiment | NA | VTM | 2021-03-01 | 29.88 | B.1.526.1 | 99.9% | 99.9% |

**Variants shared across samples**

The heat map below shows how variants (reference genome /home/everett/projects/SARS-CoV-2-Philadelphia/USA-WA1-2020) are shared across subject samples where the percent variance is colored. Variants are called if a variant position is covered by 5 or more reads, the alternative base is found in > 50% of read pairs and the variant yields a PHRED score > 20. Gray tiles denote positions where the variant was not the major variant or no variants were found. The relative base compositions of each experiment used to calculate tiles are shown in the following plot where the total number of position reads are shown atop of each plot.

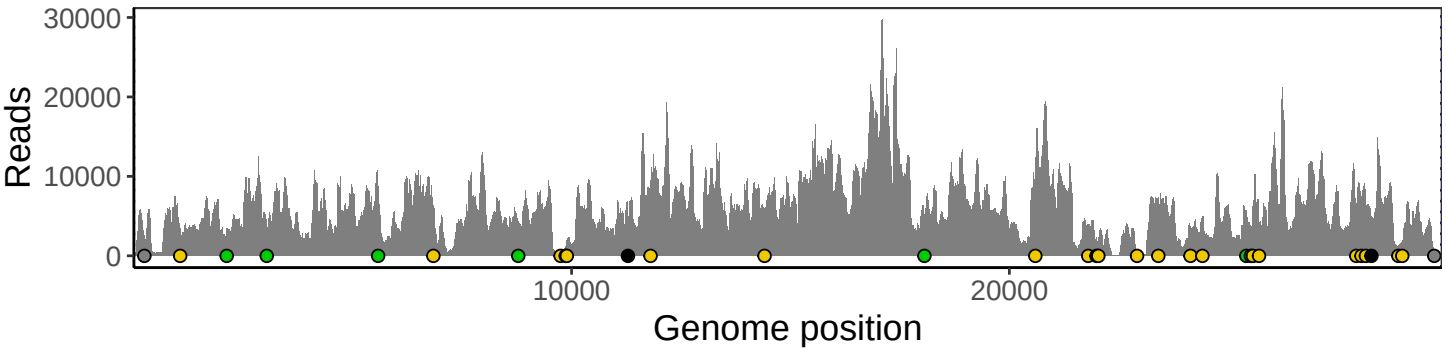



VTM
2021−03−01
241 intergenic
1059 orf1ab T265I
2122 orf1ab silent
3037 orf1ab silent
5581 orf1ab silent
6843 orf1ab S2193F
8782 orf1ab silent
9749 orf1ab K3162E
9867 orf1ab L3201P
9891 orf1ab A3209V
11288 orf1ab del 9
11804 orf1ab V3847I
14408 orf1ab P314L
18060 orf1ab silent
20594 orf1ab T2376I
21801 S D80G
21991 S del 3
22032 S F157S
22917 S L452R
23403 S D614G
24138 S T859N
24410 S D950H
25413 orf3a silent
25517 orf3a P42L
25563 orf3a Q57H
25703 orf3a P104L
27925 orf8 T11I
28044 orf8 A51S
28144 orf8 S84L
28271 intergenic del 1
28887 N T205I
28975 N M234I
29706 intergenic
2278
2871
3304
3622
8054
6228
3867
616
1042
1915
3229
7975
5221
5065
11834
3845
1779
1394
189
7190
3713
4950
5585
3513
6184
4064
6110
6950
6527
4720
1304
1927
247
VSP0696−1
Base change
Expected
A
T
C
G
N
Ins/Del
No data

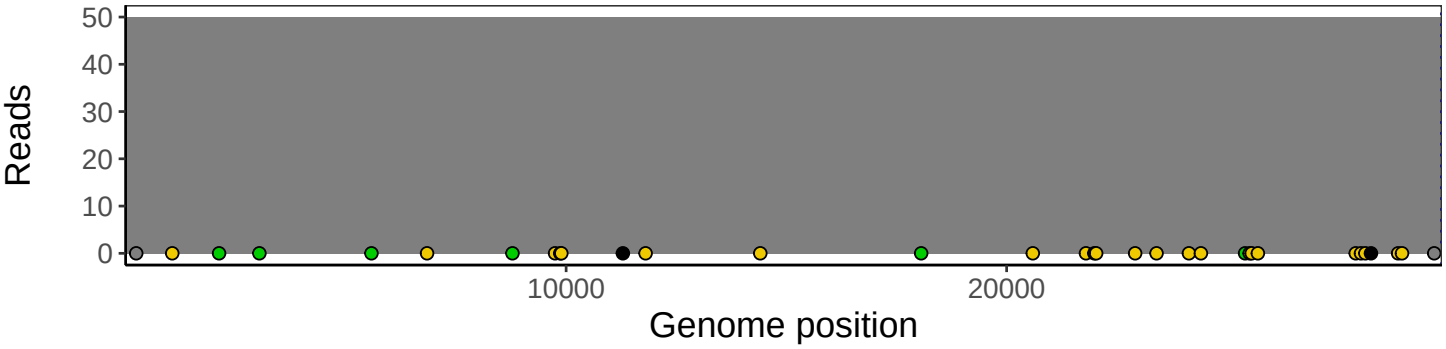
## Analyses of individual experiments and composite results

### VSP0696-1 | 2021-03-01 | VTM | H2102100346 | genomes | single experiment

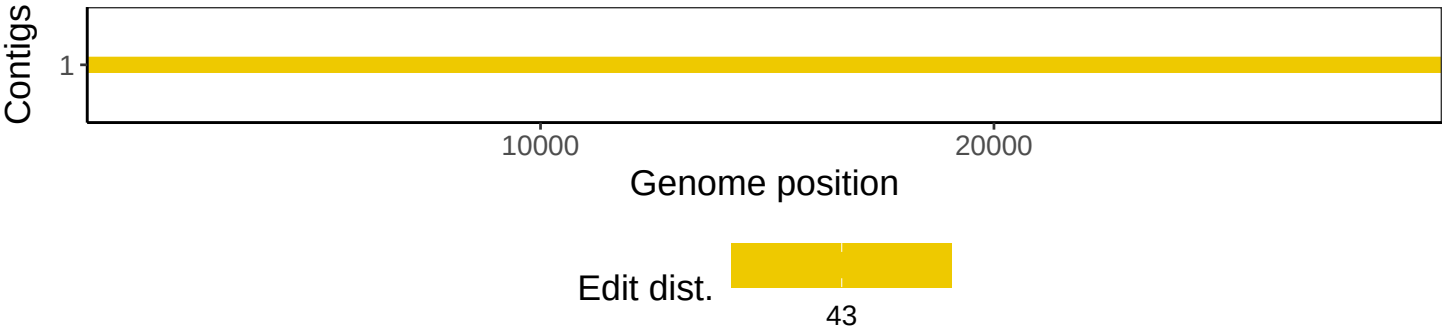
The plot below shows the number of reads covering each nucleotide position in the reference genome. Variants are shown as colored dots along the bottom of the plot and are color coded according by variant types: gray - transgenic, green - silent, gold - missense, red - nonsense, black - indel.




Excerpt from plot above focusing on reads coverage from 0 to 50 NT.




The longest five assembled contigs are shown below colored by their edit distance to the reference genome.



## Software environment

| Software/R package | Version |
|---|---|
| R | 3.4.0 |
| bwa | 0.7.17-r1198-dirty |
| samtools | 1.10 Using htslib 1.10 |
| bcftools | 1.10.2-34-g1a12af0-dirty Using htslib 1.10.2-57-gf58a6f3 |
| pangolin | 2.3.8 |
| genbankr | 1.4.0 |
| optparse | 1.6.0 |
| forcats | 0.3.0 |
| stringr | 1.4.0 |
| dplyr | 0.8.1 |
| purrr | 0.2.5 |
| readr | 1.1.1 |
| tidyr | 0.8.1 |
| tibble | 2.1.2 |
| ggplot2 | 3.0.0 |
| tidyverse | 1.2.1 |
| ShortRead | 1.34.2 |
| GenomicAlignments | 1.12.2 |
| SummarizedExperiment | 1.6.5 |
| DelayedArray | 0.2.7 |
| matrixStats | 0.54.0 |
| Biobase | 2.36.2 |
| Rsamtools | 1.28.0 |
| GenomicRanges | 1.28.6 |
| GenomeInfoDb | 1.12.3 |
| Biostrings | 2.44.2 |
| XVector | 0.16.0 |
| IRanges | 2.10.5 |
| S4Vectors | 0.14.7 |
| BiocParallel | 1.10.1 |
| BiocGenerics | 0.22.1 |