Table S1. Description of the 12 (out of 1362) samples discordant in their Nextstrain clade or Pango lineage assignment between EPISEQ SARS-COV-2 and the reference pipeline.

Dataset	Clade EPISEQ SARS-CoV-2	Clade Reference	Lineage EPISEQ SARS-CoV-2	Lineage Reference
ARTIC v3	20E (EU1)	20E (EU1)	B.1.177	B.1
ARTIC v4	20I (Alpha, V1)	20I (Alpha, V1)	B.1.1.7	Q.6 (alias of B.1.1.7.6)
ARTIC v4	21J (Delta)	21J (Delta)	AY.127 (alias of B.1.617.2.127)	AY.33 (alias of B.1.617.2.33)
ARTIC v4.1	21J (Delta)	21J (Delta)	AY.39 (alias of B.1.617.2.39)	AY.122 (alias of B.1.617.2.122)
ARTIC v4.1	21K (Omicron)	21K (Omicron)	BA.1	BA.1.1
ARTIC v4.1	21K (Omicron)	21K (Omicron)	BA.1	BA.1.1
ARTIC v4.1	21K (Omicron)	21K (Omicron)	BA.1	BA.1.1
ARTIC v4.1	21K (Omicron)	21K (Omicron)	BA.1	BA.1.1
ARTIC v4.1	21K (Omicron)	21K (Omicron)	BA.1	BA.1.1
ARTIC v4.1	21K (Omicron)	21K (Omicron)	BA.1	BA.1.1
ARTIC v4.1	21K (Omicron)	None	BA.1	BA.1
ARTIC v4.1	21K (Omicron)	None	BA.1.1	BA.1.1

Legend: Concordant classifications are highlighted in green; discordant classifications are highlighted in red. Lineage aliases were identified using cov-lineages.org (https://cov-lineages.org/lineage_list.html)

Table S2. Evaluation of SARS-CoV-2 sequencing results with the EPISEQ SARS-COV-2 pipeline (pre-omicron variants; n=21 samples)

Sample	Ct	VoC	Cov Ill v4.1	Cov Ill V4	Cov Ill V3	Cov Ill vss	Cov ONT v4.1	Cov ONT V4	Cov ONT V3	Cov ONT vss	NC Ill v4.1	NC Ill V4	NC Ill V3	NC Ill vss	NC ONT v4.1	NC ONT V4	NC ONT V3	NC ONT vss	Pango Ill v4.1	Pango Ill V4	Pango Ill V3	Pango Ill vss	Pango ONT v4.1	Pango ONT V4	Pango ONT V3	Pango ONT vss	Spike Ill v4.1	Spike Ill V4	Spike Ill V3	Spike Ill vss	Spike ONT v4.1	Spike ONT V4	Spike ONT V3	Spike ONT vss	Other Ill v4.1	Other Ill V4	Other Ill V3	Other Ill vss	Other ONT v4.1	Other ONT V4	Other ONT V3	Other ONT vss
sample1	24,99		99,3	99,8	99,9	99,8	98,6	98,6	99,6	98,3	20A	20A	20A	20A	20A	20A	20A	20A	B.1.221	B.1.221	B.1.221	B.1.221	B.1.221	B.1.221	B.1.221	B.1.221	[S477N, D614G]								N:M234I, N:A376T, ORF1a:M3087I, ORF1b:A176S, ORF1b:P314L, ORF1b:V767L, ORF1b:K1141R, ORF1b:E1184D, ORF3a:A54S, ORF3a:Q57H				-ORF3a:A54S	-ORF3a:A54S	-ORF3a:A54S	ORF3a:A54S
sample2	30,75		99,4	99,8	99,9	99,8	99,0	99,0	97,1	87,4	20A	20A	20A	20A	20A	20A	20A	20A	B.1.387	B.1.387	B.1.387	B.1.387	B.1.387	B.1.387	B.1.387	B.1.387	[D614G]							-D614G	ORF1a:A3220V, ORF1b:P314L, ORF1b:K798R							-ORF1a:A3220V
sample3	23,06		99,9	99,8	99,9	99,5	99,6	99,6	99,6	98,3	20A	20A	20A	20A	20A	20A	20A	20A	B.1.387	B.1.387	B.1.387	B.1.387	B.1.387	B.1.387	B.1.387	B.1.387	[D614G]								ORF1a:M1193V, ORF1b:P314L, ORF1b:K798R	+ORF1a:V1169L						
sample4	24,97		99,9	99,9	99,6	99,8	99,6	99,6	98,9	97,4	20A	20A	20A	20A	20A	20A	20A	20A	B.1.147	B.1.147	B.1.147	B.1.147	B.1.147	B.1.147	B.1.147	B.1.147	[D614G]								M:C33F, ORF1a:F2521V, ORF1a:V3718F, ORF1a:A3956V, ORF1b:P314L, ORF1b:V579L, ORF3a:T14I							
sample5	24,89		99,9	99,9	100,0	99,8	99,6	99,6	99,6	99,3	20C	20C	20C	20C	20C	20C	20C	20C	B.1	B.1	B.1	B.1	B.1	B.1	B.1	B.1	[N188S, D614G]								ORF1a:T265I, ORF1a:T1822I, ORF1b:P314L, ORF3a:A54V, ORF3a:Q57H							
sample6	30,10		99,9	99,7	99,9	99,7	96,4	98,8	98,9	91,9	20E	20E	20E	20E	20E	20E	20E	20E	B.1.177	B.1.177	B.1.177	B.1.177	B.1.177	B.1.177	B.1.177	B.1.177	[A222V, D614G]								N:A220V, ORF1a:D4218N, ORF1b:P314L							
sample7	26,61		99,5	99,7	99,9	99,8	98,9	98,9	99,6	98,3	20G	20G	20G	20G	20G	20G	20G	20G	B.1.2	B.1.2	B.1.2	B.1.2	B.1.2	B.1.2	B.1.2	B.1.2	[D614G]								N:P67S, N:P199L, ORF1a:T265I, ORF1a:L3352F, ORF1b:P314L, ORF1b:N1653D, ORF1b:R2613C, ORF3a:Q57H, ORF3a:G172V, ORF8:S24L							
sample8	19,16	Alpha	99,8	99,6	99,9	99,8	99,5	99,5	99,5	98,2	20I	20I	20I	20I	20I	20I	20I	20I	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	[H69-, V70-, Y144-, E484K, N501Y, A570D, D614G, P681H, T716I, S982A, D1118H]								N:D3L, N:R203K, N:G204R, N:S235F, ORF1a:N460Y, ORF1a:T1001I, ORF1a:A1708D, ORF1a:I2230T, ORF1a:S3675-, ORF1a: G3676-, ORF1a:F3677-, ORF1b:D251N, ORF1b:P314L, ORF8:Q27*, ORF8:R52I, ORF8:K68*, ORF8:Y73C, ORF8:L118V, ORF8:F120L							
sample9	17,99	Alpha	99,8	99,7	99,9	99,8	99,5	99,5	99,5	98,2	20I	20I	20I	20I	20I	20I	20I	20I	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	[H69-, V70-, Y144-, N501Y, A570D, D614G, P681H, T716I, S982A, D1118H]								N:D3L, N:R203K, N:G204P, N:S235F, ORF1a:T1001I, ORF1a:A1708D, ORF1a:I2230T, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314L, ORF8:Q27*, ORF8:R52I, ORF8:K68*, ORF8:Y73C							
sample10	18,71	Alpha	99,8	99,7	99,9	99,8	99,5	99,5	99,5	97,5	20I	20I	20I	20I	20I	20I	20I	20I	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	[H69-, V70-, Y144-, N501Y, A570D, D614G, P681H, T716I, S982A, D1118H]								N:D3L, N:R203K, N:G204R, N:S235F, ORF1a:T1001I, ORF1a:A1708D, ORF1a: I2230T, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314L, ORF7a:P34L, ORF8:Q27*, ORF8:R52I, ORF8:Y73C							
sample11	23,12	Alpha	99,8	99,8	99,9	99,7	99,5	99,5	98,6	98,0	20I	20I	20I	20I	20I	20I	20I	20I	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	B.1.1.7	[H69-, V70-, Y144-, E484K, N501Y, A570D, D614G, P681H, T716I, S982A, D1118H]								N:D3L, N:R203K, N:G204R, N:S235F, ORF1a:K58R, ORF1a:T1001I, ORF1a:A1708D, ORF1a:I2230T, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314L, ORF8:Q27*, ORF8:R52I, ORF8:K68*, ORF8:Y73C							
sample12	27,43	Beta	99,8	99,8	99,3	99,7	99,5	98,6	98,2	98,2	20H	20H	20H	20H	20H	20H	20H	20H	B.1.351	B.1.351	B.1.351	B.1.351	B.1.351	B.1.351	B.1.351	B.1.351	[L18F, D80A, D215G, L241-, L242-, A243-, K417N, E484K, N501Y, D614G, A701V]						-A701V		E:P71L, N:T205I, ORF1a:T265I, ORF1a:V649F, ORF1a:K1655N, ORF1a:K3353R, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314L, ORF1b:Q813H, ORF3a:Q57H, ORF3a:S171L							
sample13	22,82	Beta	99,8	99,6	99,1	99,2	99,5	99,5	97,9	98,7	20H	20H	20H	20H	20H	20H	20H	20H	B.1.351	B.1.351	B.1.351	B.1.351	B.1.351	B.1.351	B.1.351	B.1.351	[D80A, D215G, L241-, L242-, A243-, K417N, E484K, N501Y, D614G, A701V]						-E484K, -N501Y		E:P71L, N:Q28R, N:T205I, ORF1a:T265I, ORF1a:K1655N, ORF1a:K3353R, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314L, ORF3a:Q57H, ORF3a:S171L, ORF9b:R25G							
sample14	25,09	Gamma	99,9	99,8	99,5	99,8	99,6	99,6	96,8	98,3	20J	20J	20J	20J	20J	20J	20J	20J	P.1.16	P.1.16	P.1.16	P.1.16	P.1.16	P.1.16	P.1.16	P.1.16	[L18F, T20N, P26S, D138Y, R190S, K417T, E484K, N501Y, D614G, H655Y, T1027I, V1176F]						-E484K, -N501Y		N:P80R, N:R191C, N:R203K, N:G204R, ORF1a:S1188L, ORF1a:K1795Q, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314L, ORF1b:E1264D, ORF3a:I118M, ORF3a:T223I, ORF3a:S253P, ORF8:E92K, ORF9b:Q77E							
sample15	20,02		99,6	99,6	99,5	99,5	99,5	99,5	97,8	97,1	21D	21D	21D	21D	21D	21D	21D	21D	B.1.525	B.1.525	B.1.525	B.1.525	B.1.525	B.1.525	B.1.525	B.1.525	[Q52R, A67V, H69-, V70-, Y144-, K150N, D215Y, E484K, D614G, Q677H, F888L]			-Q52R	-Q52R				E:L21F, M:I82T, N:M1-, N:S2M, N:D3Y, N:A12G, N:T205I, ORF1a:K247N, ORF1a:T2007I, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314F, ORF6:M1-, ORF6:F2M, ORF8:R115L, ORF9b:H9D			-E:L21F	-E:L21F	-E:L21F		-E:L21F
sample16	25,50	Delta	99,4	99,8	99,6	99,8	97,5	98,1	96,7	93,6	21I	21I	21I	21I	21I	21I	21I	21I	AY.66	AY.66	AY.66	AY.66	AY.66	AY.66	AY.66	AY.66	[T19R, G142D, E156-, F157-, R158G, A222V, L452R, T478K, D614G, P681R, D950N]	-G142D					-G142D,-E156-, -F157-,-R158G, -A222V,	-D614G	M:I82T, N:P6L, N:D63G, N:R203M, N:P207S, N:D377Y, ORF1a:L580F, ORF1a:D981G, ORF1a:G1548S, ORF1a:P1640L, ORF1a:T2846I, ORF1a:A3209V, ORF1a:V3718A, ORF1a:T3750I, ORF1b:P314L, ORF1b:K469N, ORF1b:G662S, ORF1b:P1000L, ORF1b:T2490M, ORF3a:S26L, ORF7a:V24F, ORF7a:T120I, ORF8:D119-, ORF8:F120-, ORF9b:P3S, ORF9b:T60A	+ORF7a:V82A	+ORF7a:V82A	+ORF1b:K2S57R, +ORF7a:V82A		-ORF7a:T120I		+ORF7a:V82A
sample17	24,12	Delta	99,8	99,8	99,1	99,8	99,5	99,5	98,6	99,5	21I	21I	21I	21I	21I	21I	21I	21I	AY.9.2	AY.9.2	AY.9.2	AY.9.2	AY.9.2	AY.9.2	AY.9.2	AY.9.2	[T19R, G142D, E156-, F157-, R158G, A222V, L452R, T478K, D614G, P681R, D950N]	-G142D					-G142D		M:I82T, N:D63G, N:R203M, N:D377Y, ORF1a:P1640L, ORF1a:A3209V, ORF1a:V3718A, ORF1a:T3750I, ORF1b:R188Q, ORF1b:P314L, ORF1b:G662S, ORF1b:P1000L, ORF1b:T1540I, ORF3a:S26L, ORF3a:W193R, ORF7a:V82A, ORF7a:T120I, ORF8:D119-, ORF8:F120-, ORF9b:T60A							
sample18	15,17	Delta	99,9	99,7	98,6	99,8	99,5	98,8	97,6	99,5	21J	21J	21J	21J	21J	21J	21J	21J	AY.43	AY.43	AY.43	AY.43	AY.43	AY.43	AY.43	AY.43	[T19R, G142D, E156-, F157-, R158G, L452R, T478K, D614G, P681R, D950N]	-G142D					-G142D		M:I82T, N:Q9L, N:D63G, N:R203M, N:G215C, N:D377Y, ORF1a:A1306S, ORF1a:K1655N, ORF1a:P2046L, ORF1a:P2287S, ORF1a:V2930L, ORF1a:T3255I, ORF1a:T3646A, ORF1b:P314L, ORF1b:G662S, ORF1b:L829I, ORF1b:P1000L, ORF1b:A1918V, ORF3a:S26L, ORF7a:V82A, ORF7a:T120I, ORF7b:T40I, ORF8:D119-, ORF8:F120-, ORF9b:S6C, ORF9b:T60A							
sample19	missing	Delta	99,2	99,8	98,8	99,1	98,7	97,9	96,8	97,3	21J	21J	21J	21J	21J	21J	21J	21J	AY.5.4	AY.5.4	AY.5.4	AY.5.4	AY.5.4	AY.5.4	AY.5.4	AY.5.4	[T19R, G142D, E156-, F157-, R158G, L452R, T478K, D614G, P681R, D950N]	-G142D					-G142D		M:I82T, N:D63G, N:R203I, N:G215C, N:S327L, N:D377Y, ORF1a:P309L, ORF1a:A1306S, ORF1a:P1977L, ORF1a:P2287S, ORF1a:V2930L, ORF1a:T3255I, ORF1a:T3646A, ORF1a:F4269L, ORF1b:P314L, ORF1b:G662S, ORF1b:P1000L, ORF1b:T1540I, ORF3a:S26L, ORF7a:V82A, ORF7a:T120I, ORF7b:T40I, ORF8:D119-, ORF8:F120-, ORF9b:T60A	+ORF1a:P2046L	+ORF1a:P2046L	+ORF1a:P2046L				+ORF1a:P2046L
sample20	29,06	Delta	99,8	99,7	99,3	99,7	99,5	98,8	97,6	98,2	21J	21J	21J	21J	21J	21J	21J	21J	AY.43	AY.43	AY.43	AY.43	AY.43	AY.43	AY.43	AY.43	[T19R, G142D, E156-, F157-, R158G, L452R, T478K, D614G, P681R, D950N]			+A67V, +H69-, +V70-, -G142D			-G142D		M:I82T, N:Q9L, N:D63G, N:R203M, N:G215C, N:D377Y, ORF1a:A1306S, ORF1a:P2046L, ORF1a:P2287S, ORF1a:V2930L, ORF1a:T3255I, ORF1a:T3646A, ORF1b:P314L, ORF1b:G662S, ORF1b:L829I, ORF1b:P1000L, ORF1b:A1918V, ORF3a:S26L, ORF7a:V82A, ORF7a:T120I, ORF7b:T40I, ORF8:D119-, ORF8:F120-, ORF9b:S6C, ORF9b:T60A							
sample21	27,44	Delta	99,8	99,7	99,1	99,8	98,0	98,1	95,7	94,0	21J	21J	21J	21J	21J	21J	21J	21J	AY.98.1	AY.98.1	AY.98.1	AY.98.1	AY.98.1	AY.98.1	AY.98.1	AY.98.1	[T19R, G142D, E156-, F157-, R158G, P251L, L452R, T478K, D614G, P681R, D950N, E1150D]	-G142D					-G142D		M:I82T, N:D63G, N:R203M, N:G215C, N:D377Y, ORF1a:E87D, ORF1a:P1158T, ORF1a:A1306S, ORF1a:I1683I, ORF1a:E1724D, ORF1a:P2046L, ORF1a:P2287S, ORF1a:V2930L, ORF1a:T3255I, ORF1a:T3646A, ORF1b:P314L, ORF1b:G662S, ORF1b:P1000L, ORF1b:A1918V, ORF3a:S26L, ORF3a:L41F, ORF7a:V82A, ORF7a:T120I, ORF7b:T40I, ORF8:A65S, ORF8:D119-, ORF8:F120-, ORF9b:T60A	-ORF7b:T40I	-ORF7b:T40I					-ORF1a:P2046L

Amino acid mutations in spike and other encoded genes are shown relative to the data generated using the Illumina platform with the ARTIC v4.1 kit (empty field: same mutations as in the Illumina/ARTIC v4.1 sequence; fields with "+" or "-" signify the presence or absence of the indicated mutations, respectively. NGS results with genome coverage < 95% are highlighted in grey.

Table S3. Evaluation of SARS-CoV-2 sequencing results with the EPISEQ SARS-COV-2 pipeline (omicron variants; n=19 samples)

sample	Ct	Coverage Illumina artic_v4.1	Coverage Illumina vss2	Coverage ONT artic_v4.1	Coverage ONT vss2	Nextclade Illumina artic_v4.1	Nextclade Illumina vss2	Nextclade ONT artic_v4.1	Nextclade ONT vss2	Pango Illumina artic_v4.1	Pango Illumina vss2	Pango ONT artic_v4.1	Pango ONT vss2	Spike mutation Illumina artic_v4.1	Spike mutation Illumina vss2	Spike mutation ONT artic_v4.1	Spike mutation ONT vss2	Other mutations Illumina artic_v4.1	Other mutations Illumina vss2	Other mutations ONT artic_v4.1	Other mutations ONT vss2
sample22	16,86	99,8	92,1	99,5	69,1	21K	21K	21K	21K	BA.1	BA.1	BA.1	no data	[A67V, H69-, V70-, T95I, G142-, V143-, Y144-, Y145D, N211-, L212I, G339D, S371L, S373P, S375F, K417N, N440K, G446S, S477N, T478K, E484A, Q493R, G496S, Q498R, N501Y, Y505H, T547K, D614G, H655Y, N679K, P681H, N764K, D796Y, N856K, Q954H, N969K, L981F]	-N211-, -L212I, -N440K	-N211-, -L212I, -N440K, -G446S, N764K, -D796Y		E:T9I, M:D3G, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, ORF1a:K856R, ORF1a:S2083-, ORF1a:L2084I, ORF1a:A2710T, ORF1a:T3255I, ORF1a:P3395H, ORF1a:L3674-, ORF1a:S3675-, ORF1a:G3676-, ORF1a:I3758V, ORF1b:P314L, ORF1b:I1566V, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-	-ORF1a:L3674-, -ORF1a:S3675-, -ORF1a:G3676-, -ORF1b:I1566V		-E:T9I, -ORF1a:K856R, -ORF1a:A2710T, -ORF1a:L3674-, -ORF1a:S3675-, -ORF1a:G3676-, -ORF1b:I1566V
sample23	15,25	99,9	99,8	99,5	99,4	21K	21K	21K	21K	BA.1	BA.1	BA.1	BA.1	[A67V, H69-, V70-, T95I, G142-, V143-, Y144-, Y145D, N211-, L212I, G339D, S371L, S373P, S375F, K417N, N440K, G446S, S477N, T478K, E484A, Q493R, G496S, Q498R, N501Y, Y505H, T547K, D614G, H655Y, N679K, P681H, N764K, D796Y, N856K, Q954H, N969K, L981F]				E:T9I, M:D3G, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, ORF1a:K856R, ORF1a:T1822I, ORF1a:S2083-, ORF1a:L2084I, ORF1a:A2710T, ORF1a:T3255I, ORF1a:P3395H, ORF1a:L3674-, ORF1a:S3675-, ORF1a:G3676-, ORF1a:I3758V, ORF1b: P314L, ORF1b:I1566V, ORF3a:D155Y, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-			
sample24	17,31	99,8	99,6	99,5	99,4	21K	21K	21K	21K	BA.1	BA.1	BA.1	BA.1	[A67V, H69-, V70-, T95I, G142-, V143-, Y144-, Y145D, N211-, L212I, G339D, S371L, S373P, S375F, K417N, N440K, G446S, S477N, T478K, E484A, Q493R, G496S, Q498R, N501Y, Y505H, T547K, D614G, H655Y, N679K, P681H, N764K, D796Y, N856K, Q954H, N969K, L981F])				(mutations [T9I, D3G, Q19E, A63T, P13L, E31-, R32-, S33-, R203K, G204R, K856R, P1803S, V1887I, S2083-, L2084I, A2710T, M2796T, T3255I, P3395H, L3674-, S3675-, G3676-, I3758V, P314L, I1566V, P10S, E27-, N28-, A29-], gene [E, M, M, M, N, N, N, N, N, ORF1a, ORF1a, ORF1a, ORF1a, ORF1a, ORF1a, ORF1a, ORF1a, ORF1a, ORF1a, ORF1a, ORF1b, ORF1b, ORF9b, ORF9b, ORF9b])			
sample25	17,48	99,8	99,7	99,5	95,5	21K	21K	21K	21K	BA.1	BA.1	BA.1	BA.1	[A67V, H69-, V70-, T95I, G142-, V143-, Y144-, Y145D, N211-, L212I, G339D, S371L, S373P, S375F, K417N, N440K, G446S, S477N, T478K, E484A, Q493R, G496S, Q498R, N501Y, Y505H, T547K, D614G, H655Y, N679K, P681H, N764K, D796Y, N856K, Q954H, N969K, L981F]				E:T9I, M:D3G, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, ORF1a:K856R, ORF1a:S2083-, ORF1a:L2084I, ORF1a:A2710T, ORF1a:T3255I, ORF1a:P3395H, ORF1a:L3674-, ORF1a:S3675-, ORF1a:G3676-, ORF1a:I3758V, ORF1b:P314L, ORF1b:T1453I, ORF1b:I1566V, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-			
sample26	22,77	99,8	99,7	99,5	99,4	21K	21K	21K	21K	BA.1	BA.1	BA.1	BA.1	[A67V, H69-, V70-, T95I, G142-, V143-, Y144-, Y145D, N211-, L212I, G339D, S371L, S373P, S375F, K417N, N440K, G446S, S477N, T478K, E484A, Q493R, G496S, Q498R, N501Y, Y505H, T547K, D614G, H655Y, N679K, P681H, N764K, D796Y, N856K, Q954H, N969K, L981F]				E:T9I, M:D3G, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, ORF1a:K856R, ORF1a:T1822I, ORF1a:S2083-, ORF1a:L2084I, ORF1a:P2221H, ORF1a:A2636V, ORF1a:A2710T, ORF1a:T3255I, ORF1a:P3395H, ORF1a:L3674-, ORF1a:S3675-, ORF1a:G3676-, ORF1a:I3758V, ORF1b:P314L, ORF1b:I1566V, ORF1b:G2220E, ORF3a:D155Y, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-			
sample27	16,12	99,8	99,7	99,5	95,4	21K	21K	21K	21K	BA.1	BA.1	BA.1	BA.1	[A67V, H69-, V70-, T95I, G142-, V143-, Y144-, Y145D, N211-, L212I, G339D, S371L, S373P, S375F, K417N, N440K, G446S, S477N, T478K, E484A, Q493R, G496S, Q498R, N501Y, Y505H, T547K, D614G, H655Y, N679K, P681H, N764K, D796Y, N856K, Q954H, N969K, L981F]				E:T9I, M:D3G, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, ORF1a:K856R, ORF1a:T1822I, ORF1a:S2083-, ORF1a:L2084I, ORF1a:A2710T, ORF1a:T3255I, ORF1a:P3395H, ORF1a:L3674-, ORF1a:S3675-, ORF1a:G3676-, ORF1a:I3758V, ORF1b: P314L, ORF1b:I1566V, ORF3a:D155Y, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-		-ORF1a:T1822I, -ORF1a:A2710T	
sample28	19,69	99,8	99,7	99,5	99,2	21K	21K	21K	21K	BA.1	BA.1	BA.1	BA.1	[A67V, H69-, V70-, T95I, G142-, V143-, Y144-, Y145D, N211-, L212I, G339D, S371L, S373P, S375F, K417N, N440K, G446S, S477N, T478K, E484A, Q493R, G496S, Q498R, N501Y, Y505H, T547K, D614G, H655Y, N679K, P681H, N764K, D796Y, N856K, Q954H, N969K, L981F]				E:T9I, M:D3G, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, ORF1a:K856R, ORF1a:T1822I, ORF1a:S2083-, ORF1a:L2084I, ORF1a:A2710T, ORF1a:T3255I, ORF1a:P3395H, ORF1a:L3674-, ORF1a:S3675-, ORF1a:G3676-, ORF1a:I3758V, ORF1b: P314L, ORF1b:I1566V, ORF3a:D155Y, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-			
sample29	16,11	99,8	98,7	99,5	91,9	21K	21K	21K	21K	BA.1.1	BA.1.1	BA.1.1	BA.1.1	[A67V, H69-, V70-, T95I, G142-, V143-, Y144-, Y145D, N211-, L212I, G339D, R346K, S371L, S373P, S375F, K417N, N440K, G446S, S477N, T478K, E484A, Q493R, G496S, Q498R, N501Y, Y505H, T547K, D614G, H655Y, N679K, P681H, N764K, D796Y, N856K, Q954H, N969K, L981F]				E:T9I, M:D3G, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, ORF1a:R398C, ORF1a:K856R, ORF1a:L890I, ORF1a:S2083-, ORF1a:L2084I, ORF1a:A2710T, ORF1a:T3255I, ORF1a:P3395H, ORF1a:L3674-, ORF1a:S3675-, ORF1a:G3676-, ORF1a:I3758V, ORF1b:P314L, ORF1b:Q866R, ORF1b:I1566V, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-	-ORF1b:Q866R	-ORF1a:A2710T, -ORF1b:Q866R	
sample30	23,00	99,3	99,6	97,9	99,4	21K	21K	21K	21K	BA.1	BA.1	BA.1	BA.1	[A67V, H69-, V70-, T95I, G142-, V143-, Y144-, Y145D, N211-, L212I, G339D, R346S, S373P, S375F, K417N, N440K, G446S, L452R, S477N, T478K, E484A, Q493R, G496S, Q498R, N501Y, Y505H, T547K, D614G, H655Y, N679K, P681H, N764K, D796Y, N856K, Q954H, N969K, L981F]				E:T9I, M:D3G, M:Q19E, M:P13L, M:A63T, N:E31-, N:R32-, N:S33-, N:R203K, N:K856R, ORF1a:P1803S, ORF1a:V1887I, ORF1a:S2083-, ORF1a:L2084I, ORF1a:A2710T, ORF1a:T3255I, ORF1a:P3395H, ORF1a:L3674-, ORF1a:S3675-, ORF1a:G3676-, ORF1a:I3758V, ORF1b:P314L, ORF1b:V464F, ORF1b:I1566V, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-			
sample31	21,86	98,5	99,6	97,5	98,3	21L	21L	21L	21L	BA.2	BA.2	BA.2	BA.2	[T19I, L24-, P25-, P26-, A27S, G142D, V213G, D405N, R408S, K417N, N440K, S477N, T478K, E484A, Q493R, Q498R, N501Y, Y505H, D614G, H655Y, N679K, P681H, N764K, D796Y, Q954H, N969K]	+G339D, +S371F, +S373P, +S375F, +T376A	+G339D, +S371F, +S373P, +S375F, +T376A, -N440K, -S477N, -T478K, -E484A, -Q493R, -Q498R, -N501Y, -Y505H,	-D405N	E:T9I, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, N:S413R, ORF1a:V84-, ORF1a:M85-, ORF1a:S135R, ORF1a:T842I, ORF1a:G1307S, ORF1a:L3027F, ORF1a:T3090I, ORF1a:L3201F, ORF1a:T3255I, ORF1a:P3395H, ORF1a:F3604L, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314L, ORF1b:R1315C, ORF1b:I1566V, ORF1b:T2163I, ORF3a:T223I, ORF6:D61L, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-			
sample32	18,27	98,7	99,6	98,4	96,5	21L	21L	21L	21L	BA.2	BA.2	BA.2	BA.2	[T19I, L24-, P25-, P26-, A27S, G142D, V213G, D405N, R408S, K417N, N440K, S477N, T478K, E484A, Q493R, Q498R, N501Y, Y505H, D614G, H655Y, N679K, P681H, N764K, D796Y, Q954H, N969K]	+G339D, +S371F, +S373P, +S375F, +T376A	+G339D, +S371F, +S373P, +S375F, +T376A, -N440K, -S477N, -T478K, -E484A, -Q493R, -Q498R, -N501Y, -Y505H,	-D405N	E:T9I, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, N:S413R, ORF1a:S135R, ORF1a:T842I, ORF1a:G1307S, ORF1a:L3027F, ORF1a:T3090I, ORF1a:L3201F, ORF1a:T3255I, ORF1a:P3395H, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:T76I, ORF1b:P314L, ORF1b:R1315C, ORF1b:I1566V, ORF1b:T2163I, ORF3a:T223I, ORF6: D61L, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-			
sample33	20,64	99,6	99,5	98,4	94,5	21L	21L	21L	21L	BA.2	BA.2	BA.2	BA.2	[T19I, L24-, P25-, P26-, A27S, G142D, V213G, G339D, S371F, S373P, S375F, T376A, D405N, R408S, K417N, N440K, S477N, T478K, E484A, Q493R, Q498R, N501Y, Y505H, D614G, H655Y, N679K, P681H, N764K, D796Y, Q954H, N969K]	-Q498R, -N501Y, -Y505H	-G339D, -S371F, -S373P, -S375F, -T376A, -D405N	-N440K, -S477N, -T478K, -E484A, -Q493R, -Q498R, -N501Y, -Y505H,	E:T9I, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, N:S413R, ORF1a:S135R, ORF1a:T842I, ORF1a:G1307S, ORF1a:L3027F, ORF1a:T3090I, ORF1a:L3201F, ORF1a:T3255I, ORF1a:P3395H, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314L, ORF1b:R1315C, ORF1b:I1566V, ORF1b:T2163I, ORF3a:T223I, ORF6:D61L, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-			
sample34	28,92	99,6	97,3	98,8	97,0	21L	21L	21L	21L	BA.2	BA.2	BA.2	BA.2	[T19I, L24-, P25-, P26-, A27S, G142D, V213G, G339D, S371F, S373P, S375F, T376A, D405N, R408S, K417N, N440K, S477N, T478K, E484A, Q493R, Q498R, N501Y, Y505H, D614G, H655Y, N679K, P681H, N764K, D796Y, Q954H, N969K]	-N440K, -S477N, -T478K, -E484A, -Q493R, -Q498R, -N501Y, -Y505H	'-N440K, -S477N, -T478K, -E484A, -Q493R, -Q498R, -N501Y, -Y505H		E:T9I, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, N:S413R, ORF1a:S135R, ORF1a:T842I, ORF1a:G1307S, ORF1a:L3027F, ORF1a:T3090I, ORF1a:L3201F, ORF1a:T3255I, ORF1a:P3395H, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314L, ORF1b:R1315C, ORF1b:I1566V, ORF1b:T2163I, ORF3a:T223I, ORF6:D61L, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-			
sample35	15,59	99,7	95,8	96,8	97,0	21L	21L	21L	21L	BA.2	BA.2	BA.2	BA.2	[T19I, L24-, P25-, P26-, A27S, G142D, V213G, G339D, S371F, S373P, S375F, T376A, D405N, R408S, K417N, N440K, S477N, T478K, E484A, Q493R, Q498R, N501Y, Y505H, D614G, H655Y, N679K, P681H, N764K, D796Y, Q954H, N969K]	-N440K, -S477N, -T478K, -E484A, -Q493R, -Q498R, -N501Y, -Y505H	-G339D, -S371F, -S373P, -S375F, -T376A, -D405N	-N440K, -S477N, -T478K, -E484A, -Q493R, -Q498R, -N501Y, -Y505H	E:T9I, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, N:S413R, ORF1a:S135R, ORF1a:T842I, ORF1a:G1307S, ORF1a:L3027F, ORF1a:T3090I, ORF1a:L3201F, ORF1a:T3255I, ORF1a:P3395H, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314L, ORF1b:R1315C, ORF1b:I1566V, ORF1b:T2163I, ORF3a:T223I, ORF6:D61L, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-			
sample36	21,78	99,4	98,5	97,5	96,1	21L	21L	21L	21L	BA.2	BA.2	BA.2	BA.2	[T19I, L24-, P25-, P26-, A27S, G142D, V213G, D405N, R408S, K417N, N440K, S477N, T478K, E484A, Q493R, Q498R, N501Y, Y505H, D614G, H655Y, N679K, P681H, N764K, D796Y, Q954H, N969K]	+S371F, +S373P, +S375F, +T376A, -N440K, -S477N, -T478K, -E484A, -Q493R, -Q498R, -N501Y, -Y505H,	+S371F, +S373P, +S375F, +T376A, -N440K, -S477N, -T478K, -E484A, -Q493R, -Q498R, -N501Y, -Y505H	-G339D, -D405N	E:T9I, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, N:S413R, ORF1a:S135R, ORF1a:T842I, ORF1a:A2529V, ORF1a:G1307S, ORF1a:L3027F, ORF1a:T3090I, ORF1a:L3201F, ORF1a:T3255I, ORF1a:P3395H, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314L, ORF1b:R1315C, ORF1b:I1566V, ORF1b:T2163I, ORF3a:H78Y, ORF3a:T223I, ORF6:D61L, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-			
sample37	21,32	98,6	97,6	94,3	97,4	21L	21L	21L	21L	BA.2	BA.2	BA.2	BA.2	[T19I, L24-, P25-, P26-, A27S, G142D, V213G, D405N, R408S, K417N, N440K, S477N, T478K, E484A, Q493R, Q498R, N501Y, Y505H, D614G, H655Y, N679K, P681H, N764K, D796Y, Q954H, N969K]	+G339D, +S371F, +S373P, +S375F, +T376A, -N440K, -S477N, -T478K, -E484A, -Q493R, -Q498R, -N501Y, -Y505H	+G339D, +S371F, +S373P, +S375F, +T376A, -N440K, -S477N, -T478K, -E484A, -Q493R, -Q498R, -N501Y, -Y505H,	-D405N	E:T9I, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, N:S413R, ORF1a:S135R, ORF1a:T842I, ORF1a:G1307S, ORF1a:L3027F, ORF1a:T3090I, ORF1a:L3201F, ORF1a:T3255I, ORF1a:P3395H, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314L, ORF1b:R1315C, ORF1b:I1566V, ORF1b:T2163I, ORF3a:T223I, ORF6:D61L, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-		-ORF3a:T223I	
sample38	15,02	99,7	99,7	99,4	98,3	21L	21L	21L	21L	BA.2	BA.2	BA.2	BA.2	[T19I, L24-, P25-, P26-, A27S, G142D, V213G, G339D, S371F, S373P, S375F, T376A, D405N, R408S, K417N, N440K, S477N, T478K, E484A, Q493R, Q498R, N501Y, Y505H, D614G, H655Y, N679K, P681H, N764K, D796Y, Q954H, N969K]	- N440K	-N440K, -S477N, -T478K, -E484A, -Q493R, -Q498R, -N501Y, -Y505H		E:T9I, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, N:S413R, ORF1a:T842I, ORF1a:G1307S, ORF1a:L3027F, ORF1a:T3090I, ORF1a:L3201F, ORF1a:T3255I, ORF1a:P3395H, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314L, ORF1b:R1315C, ORF1b:I1566V, ORF1b:T2163I, ORF3a:T223I, ORF6:D61L, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-			
sample39	20,91	99,5	98,1	98,4	96,0	21L	21L	21L	21L	BA.2	BA.2	BA.2	BA.2	[T19I, L24-, P25-, P26-, A27S, G142D, V213G, G339D, S373P, S375F, T376A, D405N, R408S, K417N, N440K, S477N, T478K, E484A, Q493R, Q498R, N501Y, Y505H, D614G, H655Y, N679K, P681H, A688V, N764K, D796Y, Q954H, N969K]	+S371F, -S477N, -T478K, -E484A, -Q493R, -Q498R, -N501Y, -Y505H	+S371F, -N440K, -S477N, -T478K, -E484A, -Q493R, -Q498R, -N501Y, -Y505H	-G339D, -S373P, -S375F, -T376A, -D405N	E:T9I, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, N:S413R, ORF1a:V84-, ORF1a:M85-, ORF1a:S135R, ORF1a:T842I, ORF1a:V87I, ORF1a:D1088G, ORF1a:G1307S, ORF1a:L3027F, ORF1a:T3090I, ORF1a:L3201F, ORF1a:T3255I, ORF1a:P3395H, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314L, ORF1b:R1315C, ORF1b:I1566V, ORF1b:T2163I, ORF3a:T223I, ORF6:D61L, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-	-ORF1a:D1088G	-ORF1a:V84-, -ORF1a:M85-	-ORF1a:D1088G
sample40	19,42	99,6	99,5	97,5	98,3	21L	21L	21L	21L	BA.2	BA.2	BA.2	BA.2	[T19I, L24-, P25-, P26-, A27S, G142D, V213G, G339D, S371F, S373P, S375F, T376A, D405N, R408S, K417N, N440K, S477N, T478K, E484A, Q493R, Q498R, N501Y, Y505H, D614G, H655Y, N679K, P681H, N764K, D796Y, Q954H, N969K]	-G339D, -S371F, -S373P, -S375F, -T376A, -D405N	-N440K, -S477N, -T478K, -E484A, -Q493R, -Q498R, -N501Y, -Y505H		E:T9I, M:Q19E, M:A63T, N:P13L, N:E31-, N:R32-, N:S33-, N:R203K, N:G204R, N:S413R, ORF1a:T842I, ORF1a:G1307S, ORF1a:L3027F, ORF1a:T3090I, ORF1a:L3201F, ORF1a:T3255I, ORF1a:P3395H, ORF1a:S3675-, ORF1a:G3676-, ORF1a:F3677-, ORF1b:P314L, ORF1b:R1315C, ORF1b:I1566V, ORF1b:T2163I, ORF3a:T223I, ORF6:D61L, ORF9b:P10S, ORF9b:E27-, ORF9b:N28-, ORF9b:A29-			

Amino acid mutations in spike and other encoded genes are shown relative to the data generated using the Illumina platform with the ARTIC v4.1 kit (empty field: same mutations as in the Illumina/ARTIC v4.1 sequence; fields with "+" or "-" signify the presence or absence of the indicated mutations, respectively). NGS results with genome coverage < 95% are highlighted in grey. One NGS data with low genome coverage (69.1%) could not be assigned a Pango lineage (yellow field).