

Table S3. Mutations that occurred in each genome of 58 SARS-CoV-2 isolates

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-N1	5'UTR	1	Extragenic	1	C241T
KD-Cov-N1	NSP2	1	SNP	1	T85I_C1059T
KD-Cov-N1	NSP2	1	SNP_silent	0	
KD-Cov-N1	NSP2	1	Deletion	0	
KD-Cov-N1	NSP3	1	SNP	0	
KD-Cov-N1	NSP3	1	SNP_silent	1	F106F_C3037T
KD-Cov-N1	NSP3	1	Deletion	0	
KD-Cov-N1	NSP7	1	SNP	1	S25L_C11916T
KD-Cov-N1	NSP7	1	SNP_silent	0	
KD-Cov-N1	NSP7	1	Deletion	0	
KD-Cov-N1	NSP12b	1	SNP	1	P314L_C14408T
KD-Cov-N1	NSP12b	1	SNP_silent	0	
KD-Cov-N1	NSP12b	1	Deletion	0	
KD-Cov-N1	NSP13	1	SNP	0	
KD-Cov-N1	NSP13	1	SNP_silent	1	L138L_C16650T
KD-Cov-N1	NSP13	1	Deletion	0	
KD-Cov-N1	NSP16	1	SNP	1	Q6L_A20675T
KD-Cov-N1	NSP16	1	SNP_silent	0	
KD-Cov-N1	NSP16	1	Deletion	0	
KD-Cov-N1	S	1	SNP	1	D614G_A23403G
KD-Cov-N1	S	1	SNP_silent	0	
KD-Cov-N1	S	1	Deletion	0	
KD-Cov-N1	ORF3a	1	SNP	1	Q57H_G25563T
KD-Cov-N1	ORF3a	1	SNP_silent	0	
KD-Cov-N1	ORF3a	1	Deletion	0	
KD-Cov-N1	N	1	SNP	0	
KD-Cov-N1	N	1	SNP_silent	1	P302P_G29179T
KD-Cov-N1	N	1	Deletion	0	
KD-Cov-N1	3'UTR	1	Extragenic	1	G29779T
KD-Cov-N2	5'UTR	1	Extragenic	1	C241T
KD-Cov-N2	NSP2	2	SNP	1	T85I_C1059T
KD-Cov-N2	NSP2	2	SNP_silent	1	N8N_C829T
KD-Cov-N2	NSP2	2	Deletion	0	
KD-Cov-N2	NSP3	2	SNP	1	T970M_C5628T
KD-Cov-N2	NSP3	2	SNP_silent	1	F106F_C3037T
KD-Cov-N2	NSP3	2	Deletion	0	
KD-Cov-N2	NSP4	1	SNP	1	S236A_T9260G
KD-Cov-N2	NSP4	1	SNP_silent	0	
KD-Cov-N2	NSP4	1	Deletion	0	
KD-Cov-N2	NSP7	1	SNP	1	S25L_C11916T
KD-Cov-N2	NSP7	1	SNP_silent	0	
KD-Cov-N2	NSP7	1	Deletion	0	
KD-Cov-N2	NSP12b	1	SNP	1	P314L_C14408T
KD-Cov-N2	NSP12b	1	SNP_silent	0	
KD-Cov-N2	NSP12b	1	Deletion	0	
KD-Cov-N2	NSP13	1	SNP	0	
KD-Cov-N2	NSP13	1	SNP_silent	1	L138L_C16650T
KD-Cov-N2	NSP13	1	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-N2	NSP16	1	SNP	1	Q6L_A20675T
KD-Cov-N2	NSP16	1	SNP_silent	0	
KD-Cov-N2	NSP16	1	Deletion	0	
KD-Cov-N2	S	3	SNP	1	D614G_A23403G
KD-Cov-N2	S	3	SNP_silent	2	L296L_C22450T/ F1148F_C25006T
KD-Cov-N2	S	3	Deletion	0	
KD-Cov-N2	ORF3a	1	SNP	1	Q57H_G25563T
KD-Cov-N2	ORF3a	1	SNP_silent	0	
KD-Cov-N2	ORF3a	1	Deletion	0	
KD-Cov-N2	N	2	SNP	0	
KD-Cov-N2	N	2	SNP_silent	2	K61K_G28456A/P302P_ G29179T
KD-Cov-N2	N	2	Deletion	0	
KD-Cov-N2	3'UTR	1	Extragenic	1	G29779T
KD-Cov-N3	5'UTR	1	Extragenic	1	C241T
KD-Cov-N3	NSP2	1	SNP	1	T85I_C1059T
KD-Cov-N3	NSP2	1	SNP_silent	0	
KD-Cov-N3	NSP2	1	Deletion	0	
KD-Cov-N3	NSP3	1	SNP	0	
KD-Cov-N3	NSP3	1	SNP_silent	1	F106F_C3037T
KD-Cov-N3	NSP3	1	Deletion	0	
KD-Cov-N3	NSP7	1	SNP	1	S25L_C11916T
KD-Cov-N3	NSP7	1	SNP_silent	0	
KD-Cov-N3	NSP7	1	Deletion	0	
KD-Cov-N3	NSP12b	1	SNP	1	P314L_C14408T
KD-Cov-N3	NSP12b	1	SNP_silent	0	
KD-Cov-N3	NSP12b	1	Deletion	0	
KD-Cov-N3	NSP13	2	SNP	0	
KD-Cov-N3	NSP13	2	SNP_silent	2	L138L_C16650T/ V597V_G18027T
KD-Cov-N3	NSP13	2	Deletion	0	
KD-Cov-N3	NSP16	1	SNP	1	Q6L_A20675T
KD-Cov-N3	NSP16	1	SNP_silent	0	
KD-Cov-N3	NSP16	1	Deletion	0	
KD-Cov-N3	S	1	SNP	1	D614G_A23403G
KD-Cov-N3	S	1	SNP_silent	0	
KD-Cov-N3	S	1	Deletion	0	
KD-Cov-N3	ORF3a	1	SNP	1	Q57H_G25563T
KD-Cov-N3	ORF3a	1	SNP_silent	0	
KD-Cov-N3	ORF3a	1	Deletion	0	
KD-Cov-N3	N	1	SNP	0	
KD-Cov-N3	N	1	SNP_silent	1	P302P_G29179T
KD-Cov-N3	N	1	Deletion	0	
KD-Cov-N3	3'UTR	3	Extragenic	3	G29745T/G29755T/ G29779T
KD-Cov-N4	5'UTR	1	Extragenic	1	C241T
KD-Cov-N4	NSP2	1	SNP	1	T85I_C1059T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-N4	NSP2	1	SNP_silent	0	
KD-Cov-N4	NSP2	1	Deletion	0	
KD-Cov-N4	NSP3	3	SNP	1	E113G_A3057G
KD-Cov-N4	NSP3	3	SNP_silent	2	F106F_C3037T/ N1705N_C7834T
KD-Cov-N4	NSP3	3	Deletion	0	
KD-Cov-N4	NSP7	1	SNP	1	S25L_C11916T
KD-Cov-N4	NSP7	1	SNP_silent	0	
KD-Cov-N4	NSP7	1	Deletion	0	
KD-Cov-N4	NSP12b	2	SNP	2	P314L_C14408T/ L629F_C15352T
KD-Cov-N4	NSP12b	2	SNP_silent	0	
KD-Cov-N4	NSP12b	2	Deletion	0	
KD-Cov-N4	NSP13	1	SNP	0	
KD-Cov-N4	NSP13	1	SNP_silent	1	L138L_C16650T
KD-Cov-N4	NSP13	1	Deletion	0	
KD-Cov-N4	NSP16	1	SNP	1	Q6L_A20675T
KD-Cov-N4	NSP16	1	SNP_silent	0	
KD-Cov-N4	NSP16	1	Deletion	0	
KD-Cov-N4	S	1	SNP	1	D614G_A23403G
KD-Cov-N4	S	1	SNP_silent	0	
KD-Cov-N4	S	1	Deletion	0	
KD-Cov-N4	ORF3a	1	SNP	1	Q57H_G25563T
KD-Cov-N4	ORF3a	1	SNP_silent	0	
KD-Cov-N4	ORF3a	1	Deletion	0	
KD-Cov-N4	N	1	SNP	0	
KD-Cov-N4	N	1	SNP_silent	1	P302P_G29179T
KD-Cov-N4	N	1	Deletion	0	
KD-Cov-N4	3'UTR	1	Extragenic	1	G29779T
KD-Cov-N5	5'UTR	1	Extragenic	1	C241T
KD-Cov-N5	NSP2	1	SNP	1	T85L_C1059T
KD-Cov-N5	NSP2	1	SNP_silent	0	
KD-Cov-N5	NSP2	1	Deletion	0	
KD-Cov-N5	NSP3	2	SNP	1	E113G_A3057G
KD-Cov-N5	NSP3	2	SNP_silent	1	F106F_C3037T
KD-Cov-N5	NSP3	2	Deletion	0	
KD-Cov-N5	NSP7	1	SNP	1	S25L_C11916T
KD-Cov-N5	NSP7	1	SNP_silent	0	
KD-Cov-N5	NSP7	1	Deletion	0	
KD-Cov-N5	NSP12b	2	SNP	2	P314L_C14408T/ L629F_C15352T
KD-Cov-N5	NSP12b	2	SNP_silent	0	
KD-Cov-N5	NSP12b	2	Deletion	0	
KD-Cov-N5	NSP13	1	SNP	0	
KD-Cov-N5	NSP13	1	SNP_silent	1	L138L_C16650T
KD-Cov-N5	NSP13	1	Deletion	0	
KD-Cov-N5	NSP16	1	SNP	1	Q6L_A20675T
KD-Cov-N5	NSP16	1	SNP_silent	0	
KD-Cov-N5	NSP16	1	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-N5	S	1	SNP	1	D614G_A23403G
KD-Cov-N5	S	1	SNP_silent	0	
KD-Cov-N5	S	1	Deletion	0	
KD-Cov-N5	ORF3a	1	SNP	1	Q57H_G25563T
KD-Cov-N5	ORF3a	1	SNP_silent	0	
KD-Cov-N5	ORF3a	1	Deletion	0	
KD-Cov-N5	N	1	SNP	0	
KD-Cov-N5	N	1	SNP_silent	1	P302P_G29179T
KD-Cov-N5	N	1	Deletion	0	
KD-Cov-N5	3'UTR	1	Extragenic	1	G29779T
KD-Cov-N6	5'UTR	1	Extragenic	1	C241T
KD-Cov-N6	NSP2	1	SNP	1	T85I_C1059T
KD-Cov-N6	NSP2	1	SNP_silent	0	
KD-Cov-N6	NSP2	1	Deletion	0	
KD-Cov-N6	NSP3	2	SNP	1	E113G_A3057G
KD-Cov-N6	NSP3	2	SNP_silent	1	F106F_C3037T
KD-Cov-N6	NSP3	2	Deletion	0	
KD-Cov-N6	NSP7	1	SNP	1	S25L_C11916T
KD-Cov-N6	NSP7	1	SNP_silent	0	
KD-Cov-N6	NSP7	1	Deletion	0	
KD-Cov-N6	NSP12b	1	SNP	1	P314L_C14408T
KD-Cov-N6	NSP12b	1	SNP_silent	0	
KD-Cov-N6	NSP12b	1	Deletion	0	
KD-Cov-N6	NSP13	1	SNP	0	
KD-Cov-N6	NSP13	1	SNP_silent	1	L138L_C16650T
KD-Cov-N6	NSP13	1	Deletion	0	
KD-Cov-N6	NSP16	1	SNP	1	Q6L_A20675T
KD-Cov-N6	NSP16	1	SNP_silent	0	
KD-Cov-N6	NSP16	1	Deletion	0	
KD-Cov-N6	S	1	SNP	1	D614G_A23403G
KD-Cov-N6	S	1	SNP_silent	0	
KD-Cov-N6	S	1	Deletion	0	
KD-Cov-N6	ORF3a	1	SNP	1	Q57H_G25563T
KD-Cov-N6	ORF3a	1	SNP_silent	0	
KD-Cov-N6	ORF3a	1	Deletion	0	
KD-Cov-N6	N	3	SNP	2	P142S_C28697T/ V270L_G29081T
KD-Cov-N6	N	3	SNP_silent	1	P302P_G29179T
KD-Cov-N6	N	3	Deletion	0	
KD-Cov-N6	3'UTR	1	Extragenic	1	G29779T
KD-Cov-N7	5'UTR	1	Extragenic	1	C241T
KD-Cov-N7	NSP2	1	SNP	1	T85I_C1059T
KD-Cov-N7	NSP2	1	SNP_silent	0	
KD-Cov-N7	NSP2	1	Deletion	0	
KD-Cov-N7	NSP3	2	SNP	0	
KD-Cov-N7	NSP3	2	SNP_silent	2	F106F_C3037T/F824F_ C5192T
KD-Cov-N7	NSP3	2	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-N7	NSP7	1	SNP	1	S25L_C11916T
KD-Cov-N7	NSP7	1	SNP_silent	0	
KD-Cov-N7	NSP7	1	Deletion	0	
KD-Cov-N7	NSP12b	1	SNP	1	P314L_C14408T
KD-Cov-N7	NSP12b	1	SNP_silent	0	
KD-Cov-N7	NSP12b	1	Deletion	0	
KD-Cov-N7	NSP13	2	SNP	0	
KD-Cov-N7	NSP13	2	SNP_silent	2	L138L_C16650T/ V597V_G18027T
KD-Cov-N7	NSP13	2	Deletion	0	
KD-Cov-N7	NSP16	1	SNP	1	Q6L_A20675T
KD-Cov-N7	NSP16	1	SNP_silent	0	
KD-Cov-N7	NSP16	1	Deletion	0	
KD-Cov-N7	S	1	SNP	1	D614G_A23403G
KD-Cov-N7	S	1	SNP_silent	0	
KD-Cov-N7	S	1	Deletion	0	
KD-Cov-N7	ORF3a	1	SNP	1	Q57H_G25563T
KD-Cov-N7	ORF3a	1	SNP_silent	0	
KD-Cov-N7	ORF3a	1	Deletion	0	
KD-Cov-N7	N	2	SNP	0	
KD-Cov-N7	N	2	SNP_silent	2	Y111Y_C28606T/ P302P_G29179T
KD-Cov-N7	N	2	Deletion	0	
KD-Cov-N7	3'UTR	3	Extragenic	3	G29745T/G29755T/ G29779T
KD-Cov-N8	5'UTR	1	Extragenic	1	C241T
KD-Cov-N8	NSP2	1	SNP	1	T85L_C1059T
KD-Cov-N8	NSP2	1	SNP_silent	0	
KD-Cov-N8	NSP2	1	Deletion	0	
KD-Cov-N8	NSP3	2	SNP	0	
KD-Cov-N8	NSP3	2	SNP_silent	2	F106F_C3037T/F824F_ C5192T
KD-Cov-N8	NSP3	2	Deletion	0	
KD-Cov-N8	NSP7	1	SNP	1	S25L_C11916T
KD-Cov-N8	NSP7	1	SNP_silent	0	
KD-Cov-N8	NSP7	1	Deletion	0	
KD-Cov-N8	NSP12b	1	SNP	1	P314L_C14408T
KD-Cov-N8	NSP12b	1	SNP_silent	0	
KD-Cov-N8	NSP12b	1	Deletion	0	
KD-Cov-N8	NSP13	2	SNP	0	
KD-Cov-N8	NSP13	2	SNP_silent	2	L138L_C16650T/ V597V_G18027T
KD-Cov-N8	NSP13	2	Deletion	0	
KD-Cov-N8	NSP16	1	SNP	1	Q6L_A20675T
KD-Cov-N8	NSP16	1	SNP_silent	0	
KD-Cov-N8	NSP16	1	Deletion	0	
KD-Cov-N8	S	1	SNP	1	D614G_A23403G
KD-Cov-N8	S	1	SNP_silent	0	
KD-Cov-N8	S	1	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-N8	ORF3a	1	SNP	1	Q57H_G25563T
KD-Cov-N8	ORF3a	1	SNP_silent	0	
KD-Cov-N8	ORF3a	1	Deletion	0	
KD-Cov-N8	N	2	SNP	0	
KD-Cov-N8	N	2	SNP_silent	2	Y111Y_C28606T/ P302P_G29179T
KD-Cov-N8	N	2	Deletion	0	
KD-Cov-N8	3'UTR	3	Extragenic	3	G29745T/G29755T/ G29779T
KD-Cov-N9	5'UTR	1	Extragenic	1	C241T
KD-Cov-N9	NSP2	1	SNP	1	T85I_C1059T
KD-Cov-N9	NSP2	1	SNP_silent	0	
KD-Cov-N9	NSP2	1	Deletion	0	
KD-Cov-N9	NSP3	3	SNP	1	E113G_A3057G
KD-Cov-N9	NSP3	3	SNP_silent	2	F106F_C3037T/ N1854N_C8281T
KD-Cov-N9	NSP3	3	Deletion	0	
KD-Cov-N9	NSP7	1	SNP	1	S25L_C11916T
KD-Cov-N9	NSP7	1	SNP_silent	0	
KD-Cov-N9	NSP7	1	Deletion	0	
KD-Cov-N9	NSP12b	2	SNP	2	P314L_C14408T/ L629F_C15352T
KD-Cov-N9	NSP12b	2	SNP_silent	0	
KD-Cov-N9	NSP12b	2	Deletion	0	
KD-Cov-N9	NSP13	1	SNP	0	
KD-Cov-N9	NSP13	1	SNP_silent	1	L138L_C16650T
KD-Cov-N9	NSP13	1	Deletion	0	
KD-Cov-N9	NSP16	1	SNP	1	Q6L_A20675T
KD-Cov-N9	NSP16	1	SNP_silent	0	
KD-Cov-N9	NSP16	1	Deletion	0	
KD-Cov-N9	S	1	SNP	1	D614G_A23403G
KD-Cov-N9	S	1	SNP_silent	0	
KD-Cov-N9	S	1	Deletion	0	
KD-Cov-N9	ORF3a	1	SNP	1	Q57H_G25563T
KD-Cov-N9	ORF3a	1	SNP_silent	0	
KD-Cov-N9	ORF3a	1	Deletion	0	
KD-Cov-N9	N	1	SNP	0	
KD-Cov-N9	N	1	SNP_silent	1	P302P_G29179T
KD-Cov-N9	N	1	Deletion	0	
KD-Cov-N9	3'UTR	1	Extragenic	1	G29779T
KD-Cov-N10	5'UTR	1	Extragenic	1	C241T
KD-Cov-N10	NSP2	1	SNP	1	T85I_C1059T
KD-Cov-N10	NSP2	1	SNP_silent	0	
KD-Cov-N10	NSP2	1	Deletion	0	
KD-Cov-N10	NSP3	3	SNP	1	E113G_A3057G
KD-Cov-N10	NSP3	3	SNP_silent	2	F106F_C3037T/ N1854N_C8281T
KD-Cov-N10	NSP3	3	Deletion	0	
KD-Cov-N10	NSP7	1	SNP	1	S25L_C11916T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-N10	NSP7	1	SNP_silent	0	
KD-Cov-N10	NSP7	1	Deletion	0	
KD-Cov-N10	NSP12b	2	SNP	2	P314L_C14408T/ L629F_C15352T
KD-Cov-N10	NSP12b	2	SNP_silent	0	
KD-Cov-N10	NSP12b	2	Deletion	0	
KD-Cov-N10	NSP13	1	SNP	0	
KD-Cov-N10	NSP13	1	SNP_silent	1	L138L_C16650T
KD-Cov-N10	NSP13	1	Deletion	0	
KD-Cov-N10	NSP16	1	SNP	1	Q6L_A20675T
KD-Cov-N10	NSP16	1	SNP_silent	0	
KD-Cov-N10	NSP16	1	Deletion	0	
KD-Cov-N10	S	1	SNP	1	D614G_A23403G
KD-Cov-N10	S	1	SNP_silent	0	
KD-Cov-N10	S	1	Deletion	0	
KD-Cov-N10	ORF3a	1	SNP	1	Q57H_G25563T
KD-Cov-N10	ORF3a	1	SNP_silent	0	
KD-Cov-N10	ORF3a	1	Deletion	0	
KD-Cov-N10	N	1	SNP	0	
KD-Cov-N10	N	1	SNP_silent	1	P302P_G29179T
KD-Cov-N10	N	1	Deletion	0	
KD-Cov-N10	3'UTR	1	Extragenic	1	G29779T
KD-Cov-N11	5'UTR	1	Extragenic	1	C241T
KD-Cov-N11	NSP2	1	SNP	1	T85I_C1059T
KD-Cov-N11	NSP2	1	SNP_silent	0	
KD-Cov-N11	NSP2	1	Deletion	0	
KD-Cov-N11	NSP3	1	SNP	0	
KD-Cov-N11	NSP3	1	SNP_silent	1	F106F_C3037T
KD-Cov-N11	NSP3	1	Deletion	0	
KD-Cov-N11	NSP7	1	SNP	1	S25L_C11916T
KD-Cov-N11	NSP7	1	SNP_silent	0	
KD-Cov-N11	NSP7	1	Deletion	0	
KD-Cov-N11	NSP12b	1	SNP	1	P314L_C14408T
KD-Cov-N11	NSP12b	1	SNP_silent	0	
KD-Cov-N11	NSP12b	1	Deletion	0	
KD-Cov-N11	NSP13	2	SNP	0	
KD-Cov-N11	NSP13	2	SNP_silent	2	L138L_C16650T/ V597V_G18027T
KD-Cov-N11	NSP13	2	Deletion	0	
KD-Cov-N11	NSP16	1	SNP	1	Q6L_A20675T
KD-Cov-N11	NSP16	1	SNP_silent	0	
KD-Cov-N11	NSP16	1	Deletion	0	
KD-Cov-N11	S	1	SNP	1	D614G_A23403G
KD-Cov-N11	S	1	SNP_silent	0	
KD-Cov-N11	S	1	Deletion	0	
KD-Cov-N11	ORF3a	1	SNP	1	Q57H_G25563T
KD-Cov-N11	ORF3a	1	SNP_silent	0	
KD-Cov-N11	ORF3a	1	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-N11	N	2	SNP	0	
KD-Cov-N11	N	2	SNP_silent	2	Y111Y_C28606T/ P302P_G29179T
KD-Cov-N11	N	2	Deletion	0	
KD-Cov-N11	3'UTR	3	Extragenic	3	G29745T/G29755T/ G29779T
KD-Cov-N12	5'UTR	1	Extragenic	1	C241T
KD-Cov-N12	NSP2	1	SNP	1	T85I_C1059T
KD-Cov-N12	NSP2	1	SNP_silent	0	
KD-Cov-N12	NSP2	1	Deletion	0	
KD-Cov-N12	NSP3	4	SNP	2	E113G_A3057G/A149S_ G3164T
KD-Cov-N12	NSP3	4	SNP_silent	2	F106F_C3037T/ N1854N_C8281T
KD-Cov-N12	NSP3	4	Deletion	0	
KD-Cov-N12	NSP7	1	SNP	1	S25L_C11916T
KD-Cov-N12	NSP7	1	SNP_silent	0	
KD-Cov-N12	NSP7	1	Deletion	0	
KD-Cov-N12	NSP12b	2	SNP	2	P314L_C14408T/ L629F_C15352T
KD-Cov-N12	NSP12b	2	SNP_silent	0	
KD-Cov-N12	NSP12b	2	Deletion	0	
KD-Cov-N12	NSP13	1	SNP	0	
KD-Cov-N12	NSP13	1	SNP_silent	1	L138L_C16650T
KD-Cov-N12	NSP13	1	Deletion	0	
KD-Cov-N12	NSP16	1	SNP	1	Q6L_A20675T
KD-Cov-N12	NSP16	1	SNP_silent	0	
KD-Cov-N12	NSP16	1	Deletion	0	
KD-Cov-N12	S	1	SNP	1	D614G_A23403G
KD-Cov-N12	S	1	SNP_silent	0	
KD-Cov-N12	S	1	Deletion	0	
KD-Cov-N12	ORF3a	1	SNP	1	Q57H_G25563T
KD-Cov-N12	ORF3a	1	SNP_silent	0	
KD-Cov-N12	ORF3a	1	Deletion	0	
KD-Cov-N12	N	1	SNP	0	
KD-Cov-N12	N	1	SNP_silent	1	P302P_G29179T
KD-Cov-N12	N	1	Deletion	0	
KD-Cov-N12	3'UTR	1	Extragenic	1	G29779T
KD-Cov-N13	5'UTR	1	Extragenic	1	C241T
KD-Cov-N13	NSP2	1	SNP	1	T85I_C1059T
KD-Cov-N13	NSP2	1	SNP_silent	0	
KD-Cov-N13	NSP2	1	Deletion	0	
KD-Cov-N13	NSP3	1	SNP	0	
KD-Cov-N13	NSP3	1	SNP_silent	1	F106F_C3037T
KD-Cov-N13	NSP3	1	Deletion	0	
KD-Cov-N13	NSP4	1	SNP	0	
KD-Cov-N13	NSP4	1	SNP_silent	1	T492T_C10030T
KD-Cov-N13	NSP4	1	Deletion	0	
KD-Cov-N13	NSP5	1	SNP	1	P168S_C10556T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-N13	NSP5	1	SNP_silent	0	
KD-Cov-N13	NSP5	1	Deletion	0	
KD-Cov-N13	NSP7	1	SNP	1	S25L_C11916T
KD-Cov-N13	NSP7	1	SNP_silent	0	
KD-Cov-N13	NSP7	1	Deletion	0	
KD-Cov-N13	NSP12b	1	SNP	1	P314L_C14408T
KD-Cov-N13	NSP12b	1	SNP_silent	0	
KD-Cov-N13	NSP12b	1	Deletion	0	
KD-Cov-N13	NSP13	2	SNP	0	
KD-Cov-N13	NSP13	2	SNP_silent	2	L138L_C16650T/ V597V_G18027T
KD-Cov-N13	NSP13	2	Deletion	0	
KD-Cov-N13	NSP16	1	SNP	1	Q6L_A20675T
KD-Cov-N13	NSP16	1	SNP_silent	0	
KD-Cov-N13	NSP16	1	Deletion	0	
KD-Cov-N13	S	2	SNP	2	D614G_A23403G/ Q957R_A24432G
KD-Cov-N13	S	2	SNP_silent	0	
KD-Cov-N13	S	2	Deletion	0	
KD-Cov-N13	ORF3a	1	SNP	1	Q57H_G25563T
KD-Cov-N13	ORF3a	1	SNP_silent	0	
KD-Cov-N13	ORF3a	1	Deletion	0	
KD-Cov-N13	N	2	SNP	0	
KD-Cov-N13	N	2	SNP_silent	2	Y111Y_C28606T/ P302P_G29179T
KD-Cov-N13	N	2	Deletion	0	
KD-Cov-N13	3'UTR	3	Extragenic	3	G29745T/G29755T/ G29779T
KD-Cov-N15	NSP2	1	SNP	1	T85L_C1059T
KD-Cov-N15	NSP2	1	SNP_silent	0	
KD-Cov-N15	NSP2	1	Deletion	0	
KD-Cov-N15	NSP3	1	SNP	0	
KD-Cov-N15	NSP3	1	SNP_silent	1	F106F_C3037T
KD-Cov-N15	NSP3	1	Deletion	0	
KD-Cov-N15	NSP7	1	SNP	1	S25L_C11916T
KD-Cov-N15	NSP7	1	SNP_silent	0	
KD-Cov-N15	NSP7	1	Deletion	0	
KD-Cov-N15	NSP12b	1	SNP	1	P314L_C14408T
KD-Cov-N15	NSP12b	1	SNP_silent	0	
KD-Cov-N15	NSP12b	1	Deletion	0	
KD-Cov-N15	NSP13	1	SNP	0	
KD-Cov-N15	NSP13	1	SNP_silent	1	L138L_C16650T
KD-Cov-N15	NSP13	1	Deletion	0	
KD-Cov-N15	NSP16	1	SNP	1	Q6L_A20675T
KD-Cov-N15	NSP16	1	SNP_silent	0	
KD-Cov-N15	NSP16	1	Deletion	0	
KD-Cov-N15	S	1	SNP	1	D614G_A23403G
KD-Cov-N15	S	1	SNP_silent	0	
KD-Cov-N15	S	1	Deletion	0	
KD-Cov-N15	ORF3a	1	SNP	1	Q57H_G25563T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-N15	ORF3a	1	SNP_silent	0	
KD-Cov-N15	ORF3a	1	Deletion	0	
KD-Cov-N15	N	1	SNP	0	
KD-Cov-N15	N	1	SNP_silent	1	Y111Y_C28606T
KD-Cov-N15	N	1	Deletion	0	
KD-Cov-N15	3'UTR	3	Extragenic	3	G29745T/G29755T/ G29779T
KD-Cov-N16	5'UTR	1	Extragenic	1	C241T
KD-Cov-N16	NSP1	1	SNP	1	L27F_C344T
KD-Cov-N16	NSP1	1	SNP_silent	0	
KD-Cov-N16	NSP1	1	Deletion	0	
KD-Cov-N16	NSP2	1	SNP	1	T85I_C1059T
KD-Cov-N16	NSP2	1	SNP_silent	0	
KD-Cov-N16	NSP2	1	Deletion	0	
KD-Cov-N16	NSP3	2	SNP	1	V1538I_G7331A
KD-Cov-N16	NSP3	2	SNP_silent	1	F106F_C3037T
KD-Cov-N16	NSP3	2	Deletion	0	
KD-Cov-N16	NSP7	1	SNP	1	S25L_C11916T
KD-Cov-N16	NSP7	1	SNP_silent	0	
KD-Cov-N16	NSP7	1	Deletion	0	
KD-Cov-N16	NSP12b	1	SNP	1	P314L_C14408T
KD-Cov-N16	NSP12b	1	SNP_silent	0	
KD-Cov-N16	NSP12b	1	Deletion	0	
KD-Cov-N16	NSP13	2	SNP	0	
KD-Cov-N16	NSP13	2	SNP_silent	2	L138L_C16650T/ V597V_G18027T
KD-Cov-N16	NSP13	2	Deletion	0	
KD-Cov-N16	NSP16	1	SNP	1	Q6L_A20675T
KD-Cov-N16	NSP16	1	SNP_silent	0	
KD-Cov-N16	NSP16	1	Deletion	0	
KD-Cov-N16	S	1	SNP	1	D614G_A23403G
KD-Cov-N16	S	1	SNP_silent	0	
KD-Cov-N16	S	1	Deletion	0	
KD-Cov-N16	ORF3a	1	SNP	1	Q57H_G25563T
KD-Cov-N16	ORF3a	1	SNP_silent	0	
KD-Cov-N16	ORF3a	1	Deletion	0	
KD-Cov-N16	N	2	SNP	0	
KD-Cov-N16	N	2	SNP_silent	2	Y111Y_C28606T/ P302P_G29179T
KD-Cov-N16	N	2	Deletion	0	
KD-Cov-N16	3'UTR	3	Extragenic	3	G29745T/G29755T/ G29779T
KD-Cov-D1	5'UTR	2	Extragenic	2	G210T/C241T
KD-Cov-D1	NSP3	8	SNP	5	T422I_C3984T/A534V_ C4320T/I707V_A4838G/ P822L_C5184T/V1243I_ G6446A
KD-Cov-D1	NSP3	8	SNP_silent	3	F106F_C3037T/A562A_ A4405T/T955T_A5584G
KD-Cov-D1	NSP3	8	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D1	NSP4	2	SNP	2	V293I_G9431A/A446V_C9891T
KD-Cov-D1	NSP4	2	SNP_silent	0	
KD-Cov-D1	NSP4	2	Deletion	0	
KD-Cov-D1	NSP6	2	SNP	2	V149A_T11418C/T181L_C11514T
KD-Cov-D1	NSP6	2	SNP_silent	0	
KD-Cov-D1	NSP6	2	Deletion	0	
KD-Cov-D1	NSP9	2	SNP	1	K36N_G12793T
KD-Cov-D1	NSP9	2	SNP_silent	1	R111R_C13019T
KD-Cov-D1	NSP9	2	Deletion	0	
KD-Cov-D1	NSP12b	2	SNP	2	P314L_C14408T/G662S_G15451A
KD-Cov-D1	NSP12b	2	SNP_silent	0	
KD-Cov-D1	NSP12b	2	Deletion	0	
KD-Cov-D1	NSP13	3	SNP	2	P77L_C16466T/V210L_G16864A
KD-Cov-D1	NSP13	3	SNP_silent	1	Q537Q_G17847A
KD-Cov-D1	NSP13	3	Deletion	0	
KD-Cov-D1	S	8	SNP	7	T19R_C21618G/A222V_C2222T/L452R_T22917G/T478K_C22995A/D614G_A23403G/P681R_C23604G/D950N_G24410A
KD-Cov-D1	S	8	SNP_silent	0	
KD-Cov-D1	S	8	Deletion	1	E156_AGTTC22029.
KD-Cov-D1	ORF3a	3	SNP	3	S26L_C25469T/A110S_G25720T/Q213K_C26029A
KD-Cov-D1	ORF3a	3	SNP_silent	0	
KD-Cov-D1	ORF3a	3	Deletion	0	
KD-Cov-D1	M	1	SNP	1	I82T_T26767C
KD-Cov-D1	M	1	SNP_silent	0	
KD-Cov-D1	M	1	Deletion	0	
KD-Cov-D1	ORF7a	3	SNP	2	V82A_T27638C/T120L_C27752T
KD-Cov-D1	ORF7a	3	SNP_silent	1	A55A_C27559T
KD-Cov-D1	ORF7a	3	Deletion	0	
KD-Cov-D1	ORF8	2	SNP	1	G66V_G28090T
KD-Cov-D1	ORF8	2	SNP_silent	0	
KD-Cov-D1	ORF8	2	Deletion	1	D119_GATTC28248.
KD-Cov-D1	3'UTR	2	Extragenic	2	A28273./G29742T
KD-Cov-D1	N	3	SNP	3	D63G_A28461G/R203M_G28881T/D377Y_G29402T
KD-Cov-D1	N	3	SNP_silent	0	
KD-Cov-D1	N	3	Deletion	0	
KD-Cov-D2	5'UTR	2	Extragenic	2	G210T/C241T
KD-Cov-D2	NSP2	2	SNP	1	K81N_G1048T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D2	NSP2	2	SNP_silent	1	T85T_C1060T
KD-Cov-D2	NSP2	2	Deletion	0	
KD-Cov-D2	NSP3	6	SNP	4	A231V_C3411T/A488S_ G4181T/P1228L_ C6402T/P1469S_ C7124T
KD-Cov-D2	NSP3	6	SNP_silent	2	F106F_C3037T/V932V_ G5515T
KD-Cov-D2	NSP3	6	Deletion	0	
KD-Cov-D2	NSP4	3	SNP	2	V167L_G9053T/T492L_ C10029T
KD-Cov-D2	NSP4	3	SNP_silent	1	D144D_C8986T
KD-Cov-D2	NSP4	3	Deletion	0	
KD-Cov-D2	NSP6	3	SNP	1	T77A_A11201G
KD-Cov-D2	NSP6	3	SNP_silent	2	V120V_A11332G/ G258G_A11746G
KD-Cov-D2	NSP6	3	Deletion	0	
KD-Cov-D2	NSP12b	3	SNP	3	P314L_C14408T/ G662S_G15451A/ N696D_A15553G
KD-Cov-D2	NSP12b	3	SNP_silent	0	
KD-Cov-D2	NSP12b	3	Deletion	0	
KD-Cov-D2	NSP13	1	SNP	1	P77L_C16466T
KD-Cov-D2	NSP13	1	SNP_silent	0	
KD-Cov-D2	NSP13	1	Deletion	0	
KD-Cov-D2	NSP14	3	SNP	2	V167L_G18538T/ A394V_C19220T
KD-Cov-D2	NSP14	3	SNP_silent	1	Y447Y_C19380T
KD-Cov-D2	NSP14	3	Deletion	0	
KD-Cov-D2	NSP16	1	SNP	1	P134S_C21058T
KD-Cov-D2	NSP16	1	SNP_silent	0	
KD-Cov-D2	NSP16	1	Deletion	0	
KD-Cov-D2	S	7	SNP	6	T19R_C21618G/L452R_ T22917G/T478K_ C22995A/D614G_ A23403G/P681R_ C23604G/D950N_ G24410A
KD-Cov-D2	S	7	SNP_silent	0	
KD-Cov-D2	S	7	Deletion	1	E156_AGTTC A22029.
KD-Cov-D2	ORF3a	2	SNP	2	S26L_C25469T/H93Y_ C25669T
KD-Cov-D2	ORF3a	2	SNP_silent	0	
KD-Cov-D2	ORF3a	2	Deletion	0	
KD-Cov-D2	M	1	SNP	1	I82T_T26767C
KD-Cov-D2	M	1	SNP_silent	0	
KD-Cov-D2	M	1	Deletion	0	
KD-Cov-D2	ORF7a	3	SNP	3	P45L_CC27526TT/ V82A_T27638C/T120L_ C27752T
KD-Cov-D2	ORF7a	3	SNP_silent	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D2	ORF7a	3	Deletion	0	
KD-Cov-D2	ORF7b	1	SNP	1	T40I_C27874T
KD-Cov-D2	ORF7b	1	SNP_silent	0	
KD-Cov-D2	ORF7b	1	Deletion	0	
KD-Cov-D2	ORF8	1	SNP	0	
KD-Cov-D2	ORF8	1	SNP_silent	0	
KD-Cov-D2	ORF8	1	Deletion	1	D119_GATTTTC28248.
KD-Cov-D2	3'UTR	2	Extragenic	2	A28273./G29742T
KD-Cov-D2	N	4	SNP	4	D63G_A28461G/ R203M_G28881T/ G215C_G28916T/ D377Y_G29402T
KD-Cov-D2	N	4	SNP_silent	0	
KD-Cov-D2	N	4	Deletion	0	
KD-Cov-D3	5'UTR	2	Extragenic	2	G210T/C241T
KD-Cov-D3	NSP2	1	SNP	1	V157F_G1274T
KD-Cov-D3	NSP2	1	SNP_silent	0	
KD-Cov-D3	NSP2	1	Deletion	0	
KD-Cov-D3	NSP3	7	SNP	4	L364F_C3809T/T422L_ C3984T/I707V_A4838G/ P822L_C5184T
KD-Cov-D3	NSP3	7	SNP_silent	3	F106F_C3037T/A562A_ A4405T/T955T_A5584G
KD-Cov-D3	NSP3	7	Deletion	0	
KD-Cov-D3	NSP4	2	SNP	2	V293I_G9431A/A446V_ C9891T
KD-Cov-D3	NSP4	2	SNP_silent	0	
KD-Cov-D3	NSP4	2	Deletion	0	
KD-Cov-D3	NSP6	2	SNP	2	V149A_T11418C/T181L_ C11514T
KD-Cov-D3	NSP6	2	SNP_silent	0	
KD-Cov-D3	NSP6	2	Deletion	0	
KD-Cov-D3	NSP7	1	SNP	1	S61A_T12023G
KD-Cov-D3	NSP7	1	SNP_silent	0	
KD-Cov-D3	NSP7	1	Deletion	0	
KD-Cov-D3	NSP9	1	SNP	0	
KD-Cov-D3	NSP9	1	SNP_silent	1	R111R_C13019T
KD-Cov-D3	NSP9	1	Deletion	0	
KD-Cov-D3	NSP12b	2	SNP	2	P314L_C14408T/ G662S_G15451A
KD-Cov-D3	NSP12b	2	SNP_silent	0	
KD-Cov-D3	NSP12b	2	Deletion	0	
KD-Cov-D3	NSP13	3	SNP	2	P77L_C16466T/V210L_ G16864A
KD-Cov-D3	NSP13	3	SNP_silent	1	Q537Q_G17847A
KD-Cov-D3	NSP13	3	Deletion	0	
KD-Cov-D3	NSP14	2	SNP	2	V316F_G18985T/ D345N_G19072A
KD-Cov-D3	NSP14	2	SNP_silent	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D3	NSP14	2	Deletion	0	
KD-Cov-D3	NSP16	1	SNP	0	
KD-Cov-D3	NSP16	1	SNP_silent	1	R216R_C21306T
KD-Cov-D3	NSP16	1	Deletion	0	
KD-Cov-D3	S	9	SNP	7	T19R_C21618G/A222V_ C22227T/L452R_ T22917G/T478K_ C22995A/D614G_ A23403G/P681R_ C23604G/D950N_ G24410A
KD-Cov-D3	S	9	SNP_silent	1	Q218Q_G22216A
KD-Cov-D3	S	9	Deletion	1	E156_AGTTCAC22029.
KD-Cov-D3	ORF3a	2	SNP	2	S26L_C25469T/A110S_ G25720T
KD-Cov-D3	ORF3a	2	SNP_silent	0	
KD-Cov-D3	ORF3a	2	Deletion	0	
KD-Cov-D3	E	1	SNP	0	
KD-Cov-D3	E	1	SNP_silent	1	F23F_C26313T
KD-Cov-D3	E	1	Deletion	0	
KD-Cov-D3	M	1	SNP	1	I82T_T26767C
KD-Cov-D3	M	1	SNP_silent	0	
KD-Cov-D3	M	1	Deletion	0	
KD-Cov-D3	ORF7a	3	SNP	2	V82A_T27638C/T120L_ C27752T
KD-Cov-D3	ORF7a	3	SNP_silent	1	A55A_C27559T
KD-Cov-D3	ORF7a	3	Deletion	0	
KD-Cov-D3	ORF8	2	SNP	1	G66V_G28090T
KD-Cov-D3	ORF8	2	SNP_silent	0	
KD-Cov-D3	ORF8	2	Deletion	1	D119_GATTTTC28248.
KD-Cov-D3	3'UTR	2	Extragenic	2	A28273./G29742T
KD-Cov-D3	N	3	SNP	3	D63G_A28461G/ R203M_G28881T/ D377Y_G29402T
KD-Cov-D3	N	3	SNP_silent	0	
KD-Cov-D3	N	3	Deletion	0	
KD-Cov-D4	5'UTR	2	Extragenic	2	G210T/C241T
KD-Cov-D4	NSP2	2	SNP	1	E563D_G2494T
KD-Cov-D4	NSP2	2	SNP_silent	1	R222R_C1471T
KD-Cov-D4	NSP2	2	Deletion	0	
KD-Cov-D4	NSP3	7	SNP	4	L364F_C3809T/T422L_ C3984T/I707V_A4838G/ P822L_C5184T
KD-Cov-D4	NSP3	7	SNP_silent	3	F106F_C3037T/A562A_ A4405T/T955T_A5584G
KD-Cov-D4	NSP3	7	Deletion	0	
KD-Cov-D4	NSP4	2	SNP	2	V293I_G9431A/A446V_ C9891T
KD-Cov-D4	NSP4	2	SNP_silent	0	
KD-Cov-D4	NSP4	2	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D4	NSP6	2	SNP	2	V149A_T11418C/T181L_C11514T
KD-Cov-D4	NSP6	2	SNP_silent	0	
KD-Cov-D4	NSP6	2	Deletion	0	
KD-Cov-D4	NSP7	1	SNP	0	
KD-Cov-D4	NSP7	1	SNP_silent	1	S54S_C12005T
KD-Cov-D4	NSP7	1	Deletion	0	
KD-Cov-D4	NSP9	1	SNP	0	
KD-Cov-D4	NSP9	1	SNP_silent	1	R111R_C13019T
KD-Cov-D4	NSP9	1	Deletion	0	
KD-Cov-D4	NSP12b	4	SNP	4	P314L_C14408T/ G662S_G15451A/ T861L_C16049T/E913K_ G16204A
KD-Cov-D4	NSP12b	4	SNP_silent	0	
KD-Cov-D4	NSP12b	4	Deletion	0	
KD-Cov-D4	NSP13	3	SNP	2	P77L_C16466T/V210L_ G16864A
KD-Cov-D4	NSP13	3	SNP_silent	1	Q537Q_G17847A
KD-Cov-D4	NSP13	3	Deletion	0	
KD-Cov-D4	S	9	SNP	7	T19R_C21618G/A222V_ C22227T/L452R_ T22917G/T478K_ C22995A/D614G_ A23403G/P681R_ C23604G/D950N_ G24410A
KD-Cov-D4	S	9	SNP_silent	1	N856N_C24130T
KD-Cov-D4	S	9	Deletion	1	E156_AGTTCA22029.
KD-Cov-D4	ORF3a	2	SNP	2	S26L_C25469T/A110S_ G25720T
KD-Cov-D4	ORF3a	2	SNP_silent	0	
KD-Cov-D4	ORF3a	2	Deletion	0	
KD-Cov-D4	M	1	SNP	1	I82T_T26767C
KD-Cov-D4	M	1	SNP_silent	0	
KD-Cov-D4	M	1	Deletion	0	
KD-Cov-D4	ORF7a	3	SNP	2	V82A_T27638C/T120L_ C27752T
KD-Cov-D4	ORF7a	3	SNP_silent	1	A55A_C27559T
KD-Cov-D4	ORF7a	3	Deletion	0	
KD-Cov-D4	ORF8	2	SNP	1	G66V_G28090T
KD-Cov-D4	ORF8	2	SNP_silent	0	
KD-Cov-D4	ORF8	2	Deletion	1	D119_GATTTTC28248.
KD-Cov-D4	3'UTR	2	Extragenic	2	A28273./G29742T
KD-Cov-D4	N	3	SNP	3	D63G_A28461G/ R203M_G28881T/ D377Y_G29402T
KD-Cov-D4	N	3	SNP_silent	0	
KD-Cov-D4	N	3	Deletion	0	
KD-Cov-D5	5'UTR	2	Extragenic	2	G210T/C241T
KD-Cov-D5	NSP2	2	SNP	1	K81N_G1048T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D5	NSP2	2	SNP_silent	1	T85T_C1060T
KD-Cov-D5	NSP2	2	Deletion	0	
KD-Cov-D5	NSP3	6	SNP	4	A231V_C3411T/A488S_ G4181T/P1228L_ C6402T/P1469S_ C7124T
KD-Cov-D5	NSP3	6	SNP_silent	2	F106F_C3037T/V932V_ G5515T
KD-Cov-D5	NSP3	6	Deletion	0	
KD-Cov-D5	NSP4	3	SNP	2	V167L_G9053T/T492L_ C10029T
KD-Cov-D5	NSP4	3	SNP_silent	1	D144D_C8986T
KD-Cov-D5	NSP4	3	Deletion	0	
KD-Cov-D5	NSP6	3	SNP	1	T77A_A11201G
KD-Cov-D5	NSP6	3	SNP_silent	2	V120V_A11332G/ G258G_A11746G
KD-Cov-D5	NSP6	3	Deletion	0	
KD-Cov-D5	NSP12b	3	SNP	3	P314L_C14408T/ G662S_G15451A/ N696D_A15553G
KD-Cov-D5	NSP12b	3	SNP_silent	0	
KD-Cov-D5	NSP12b	3	Deletion	0	
KD-Cov-D5	NSP13	1	SNP	1	P77L_C16466T
KD-Cov-D5	NSP13	1	SNP_silent	0	
KD-Cov-D5	NSP13	1	Deletion	0	
KD-Cov-D5	NSP14	3	SNP	2	V167L_G18538T/ A394V_C19220T
KD-Cov-D5	NSP14	3	SNP_silent	1	Y447Y_C19380T
KD-Cov-D5	NSP14	3	Deletion	0	
KD-Cov-D5	NSP16	1	SNP	1	P134S_C21058T
KD-Cov-D5	NSP16	1	SNP_silent	0	
KD-Cov-D5	NSP16	1	Deletion	0	
KD-Cov-D5	S	7	SNP	6	T19R_C21618G/L452R_ T22917G/T478K_ C22995A/D614G_ A23403G/P681R_ C23604G/D950N_ G24410A
KD-Cov-D5	S	7	SNP_silent	0	
KD-Cov-D5	S	7	Deletion	1	E156_AGTTC A22029.
KD-Cov-D5	ORF3a	2	SNP	2	S26L_C25469T/H93Y_ C25669T
KD-Cov-D5	ORF3a	2	SNP_silent	0	
KD-Cov-D5	ORF3a	2	Deletion	0	
KD-Cov-D5	M	1	SNP	1	I82T_T26767C
KD-Cov-D5	M	1	SNP_silent	0	
KD-Cov-D5	M	1	Deletion	0	
KD-Cov-D5	ORF7a	3	SNP	3	P45L_CC27526TT/ V82A_T27638C/T120L_ C27752T
KD-Cov-D5	ORF7a	3	SNP_silent	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D5	ORF7a	3	Deletion	0	
KD-Cov-D5	ORF7b	1	SNP	1	T40I_C27874T
KD-Cov-D5	ORF7b	1	SNP_silent	0	
KD-Cov-D5	ORF7b	1	Deletion	0	
KD-Cov-D5	ORF8	1	SNP	0	
KD-Cov-D5	ORF8	1	SNP_silent	0	
KD-Cov-D5	ORF8	1	Deletion	1	D119_GATTTTC28248.
KD-Cov-D5	3'UTR	2	Extragenic	2	A28273./G29742T
KD-Cov-D5	N	4	SNP	4	D63G_A28461G/ R203M_G28881T/ G215C_G28916T/ D377Y_G29402T
KD-Cov-D5	N	4	SNP_silent	0	
KD-Cov-D5	N	4	Deletion	0	
KD-Cov-D6	5'UTR	2	Extragenic	2	G210T/C241T
KD-Cov-D6	NSP3	8	SNP	5	T422I_C3984T/A534V_ C4320T/I707V_A4838G/ P822L_C5184T/V1243I_ G6446A
KD-Cov-D6	NSP3	8	SNP_silent	3	F106F_C3037T/A562A_ A4405T/T955T_A5584G
KD-Cov-D6	NSP3	8	Deletion	0	
KD-Cov-D6	NSP4	2	SNP	2	V293I_G9431A/A446V_ C9891T
KD-Cov-D6	NSP4	2	SNP_silent	0	
KD-Cov-D6	NSP4	2	Deletion	0	
KD-Cov-D6	NSP6	2	SNP	2	V149A_T11418C/T181L_ C11514T
KD-Cov-D6	NSP6	2	SNP_silent	0	
KD-Cov-D6	NSP6	2	Deletion	0	
KD-Cov-D6	NSP9	2	SNP	1	K36N_G12793T
KD-Cov-D6	NSP9	2	SNP_silent	1	R111R_C13019T
KD-Cov-D6	NSP9	2	Deletion	0	
KD-Cov-D6	NSP12b	2	SNP	2	P314L_C14408T/ G662S_G15451A
KD-Cov-D6	NSP12b	2	SNP_silent	0	
KD-Cov-D6	NSP12b	2	Deletion	0	
KD-Cov-D6	NSP13	3	SNP	2	P77L_C16466T/V210I_ G16864A
KD-Cov-D6	NSP13	3	SNP_silent	1	Q537Q_G17847A
KD-Cov-D6	NSP13	3	Deletion	0	
KD-Cov-D6	S	8	SNP	7	T19R_C21618G/A222V_ C22227T/L452R_ T22917G/T478K_ C22995A/D614G_ A23403G/P681R_ C23604G/D950N_ G24410A
KD-Cov-D6	S	8	SNP_silent	0	
KD-Cov-D6	S	8	Deletion	1	E156_AGTTCA22029.
KD-Cov-D6	ORF3a	3	SNP	3	S26L_C25469T/A110S_ G25720T/Q213K_ C26029A

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D6	ORF3a	3	SNP_silent	0	
KD-Cov-D6	ORF3a	3	Deletion	0	
KD-Cov-D6	M	1	SNP	1	I82T_T26767C
KD-Cov-D6	M	1	SNP_silent	0	
KD-Cov-D6	M	1	Deletion	0	
KD-Cov-D6	ORF7a	3	SNP	2	V82A_T27638C/T120L_C27752T
KD-Cov-D6	ORF7a	3	SNP_silent	1	A55A_C27559T
KD-Cov-D6	ORF7a	3	Deletion	0	
KD-Cov-D6	ORF8	2	SNP	1	G66V_G28090T
KD-Cov-D6	ORF8	2	SNP_silent	0	
KD-Cov-D6	ORF8	2	Deletion	1	D119_GATTTTC28248.
KD-Cov-D6	3'UTR	2	Extragenic	2	A28273./G29742T
KD-Cov-D6	N	3	SNP	3	D63G_A28461G/ R203M_G28881T/ D377Y_G29402T
KD-Cov-D6	N	3	SNP_silent	0	
KD-Cov-D6	N	3	Deletion	0	
KD-Cov-D7	5'UTR	2	Extragenic	2	G210T/C241T
KD-Cov-D7	NSP3	10	SNP	6	L364F_C3809T/T422L_ C3984T/I707V_A4838G/ P822L_C5184T/T1198L_ C6312T/T1429N_ C7005A
KD-Cov-D7	NSP3	10	SNP_silent	4	F106F_C3037T/A562A_ A4405T/T955T_ A5584G/C1029C_ C5806T
KD-Cov-D7	NSP3	10	Deletion	0	
KD-Cov-D7	NSP4	2	SNP	2	V293I_G9431A/A446V_ C9891T
KD-Cov-D7	NSP4	2	SNP_silent	0	
KD-Cov-D7	NSP4	2	Deletion	0	
KD-Cov-D7	NSP5	1	SNP	1	M264I_G10846T
KD-Cov-D7	NSP5	1	SNP_silent	0	
KD-Cov-D7	NSP5	1	Deletion	0	
KD-Cov-D7	NSP6	2	SNP	2	V149A_T11418C/T181L_ C11514T
KD-Cov-D7	NSP6	2	SNP_silent	0	
KD-Cov-D7	NSP6	2	Deletion	0	
KD-Cov-D7	NSP9	1	SNP	0	
KD-Cov-D7	NSP9	1	SNP_silent	1	R111R_C13019T
KD-Cov-D7	NSP9	1	Deletion	0	
KD-Cov-D7	NSP10	1	SNP	1	E66D_A13222C
KD-Cov-D7	NSP10	1	SNP_silent	0	
KD-Cov-D7	NSP10	1	Deletion	0	
KD-Cov-D7	NSP12b	2	SNP	2	P314L_C14408T/ G662S_G15451A
KD-Cov-D7	NSP12b	2	SNP_silent	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D7	NSP12b	2	Deletion	0	
KD-Cov-D7	NSP13	3	SNP	2	P77L_C16466T/V210L_G16864A
KD-Cov-D7	NSP13	3	SNP_silent	1	Q537Q_G17847A
KD-Cov-D7	NSP13	3	Deletion	0	
KD-Cov-D7	NSP14	1	SNP	0	
KD-Cov-D7	NSP14	1	SNP_silent	1	N408N_C19263T
KD-Cov-D7	NSP14	1	Deletion	0	
KD-Cov-D7	S	9	SNP	7	T19R_C21618G/A222V_C22227T/L452R_T22917G/T478K_C22995A/D614G_A23403G/P681R_C23604G/D950N_G24410A
KD-Cov-D7	S	9	SNP_silent	1	A958A_T24436C
KD-Cov-D7	S	9	Deletion	1	E156_AGTTCA22029.
KD-Cov-D7	ORF3a	3	SNP	3	S26L_C25469T/K66N_A25590T/A110S_G25720T
KD-Cov-D7	ORF3a	3	SNP_silent	0	
KD-Cov-D7	ORF3a	3	Deletion	0	
KD-Cov-D7	M	1	SNP	1	I82T_T26767C
KD-Cov-D7	M	1	SNP_silent	0	
KD-Cov-D7	M	1	Deletion	0	
KD-Cov-D7	ORF7a	3	SNP	2	V82A_T27638C/T120L_C27752T
KD-Cov-D7	ORF7a	3	SNP_silent	1	A55A_C27559T
KD-Cov-D7	ORF7a	3	Deletion	0	
KD-Cov-D7	ORF8	2	SNP	1	G66V_G28090T
KD-Cov-D7	ORF8	2	SNP_silent	0	
KD-Cov-D7	ORF8	2	Deletion	1	D119_GATTTC28248.
KD-Cov-D7	3'UTR	2	Extragenic	2	A28273_/G29742T
KD-Cov-D7	N	5	SNP	5	D63G_A28461G/A119S_G28628T/R203M_G28881T/Q244P_A29004C/D377Y_G29402T
KD-Cov-D7	N	5	SNP_silent	0	
KD-Cov-D7	N	5	Deletion	0	
KD-Cov-D8	5'UTR	2	Extragenic	2	G210T/C241T
KD-Cov-D8	NSP3	6	SNP	3	T422I_C3984T/I707V_A4838G/P822L_C5184T
KD-Cov-D8	NSP3	6	SNP_silent	3	F106F_C3037T/A562A_A4405T/T955T_A5584G
KD-Cov-D8	NSP3	6	Deletion	0	
KD-Cov-D8	NSP4	3	SNP	2	V293I_G9431A/A446V_C9891T
KD-Cov-D8	NSP4	3	SNP_silent	1	A472A_A9970G
KD-Cov-D8	NSP4	3	Deletion	0	
KD-Cov-D8	NSP6	2	SNP	2	V149A_T11418C/T181L_C11514T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D8	NSP6	2	SNP_silent	0	
KD-Cov-D8	NSP6	2	Deletion	0	
KD-Cov-D8	NSP9	1	SNP	0	
KD-Cov-D8	NSP9	1	SNP_silent	1	R111R_C13019T
KD-Cov-D8	NSP9	1	Deletion	0	
KD-Cov-D8	NSP12b	2	SNP	2	P314L_C14408T/ G662S_G15451A
KD-Cov-D8	NSP12b	2	SNP_silent	0	
KD-Cov-D8	NSP12b	2	Deletion	0	
KD-Cov-D8	NSP13	3	SNP	2	P77L_C16466T/V210L G16864A
KD-Cov-D8	NSP13	3	SNP_silent	1	Q537Q_G17847A
KD-Cov-D8	NSP13	3	Deletion	0	
KD-Cov-D8	NSP14	2	SNP	1	T131L_C18431T
KD-Cov-D8	NSP14	2	SNP_silent	1	T25T_A18114G
KD-Cov-D8	NSP14	2	Deletion	0	
KD-Cov-D8	S	8	SNP	7	T19R_C21618G/A222V_ C22227T/L452R_ T22917G/T478K_ C22995A/D614G_ A23403G/P681R_ C23604G/D950N_ G24410A
KD-Cov-D8	S	8	SNP_silent	0	
KD-Cov-D8	S	8	Deletion	1	F157_GTTTCAG22030.
KD-Cov-D8	ORF3a	5	SNP	3	P25S_C25465T/S26L_ C25469T/A110S_ G25720T
KD-Cov-D8	ORF3a	5	SNP_silent	1	Q70Q_C25603T
KD-Cov-D8	ORF3a	5	Deletion	0	
KD-Cov-D8	ORF3a	5	SNP_stop	1	E242*_G26116T
KD-Cov-D8	M	1	SNP	1	I82T_T26767C
KD-Cov-D8	M	1	SNP_silent	0	
KD-Cov-D8	M	1	Deletion	0	
KD-Cov-D8	ORF7a	4	SNP	2	V82A_T27638C/T120L_ C27752T
KD-Cov-D8	ORF7a	4	SNP_silent	2	A55A_C27559T/*122*_ G27758A
KD-Cov-D8	ORF7a	4	Deletion	0	
KD-Cov-D8	ORF8	2	SNP	1	G66V_G28090T
KD-Cov-D8	ORF8	2	SNP_silent	0	
KD-Cov-D8	ORF8	2	Deletion	1	D119_GATTTTC28248.
KD-Cov-D8	3'UTR	2	Extragenic	2	A28273./G29742T
KD-Cov-D8	N	3	SNP	3	D63G_A28461G/ R203M_G28881T/ D377Y_G29402T
KD-Cov-D8	N	3	SNP_silent	0	
KD-Cov-D8	N	3	Deletion	0	
KD-Cov-D9	5'UTR	2	Extragenic	2	G210T/C241T
KD-Cov-D9	NSP2	2	SNP	1	K81N_G1048T
KD-Cov-D9	NSP2	2	SNP_silent	1	T85T_C1060T
KD-Cov-D9	NSP2	2	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D9	NSP3	6	SNP	5	A488S_G4181T/ I750V_A4967G/M914L_ G5461T/P1228L_ C6402T/P1469S_ C7124T
KD-Cov-D9	NSP3	6	SNP_silent	1	F106F_C3037T
KD-Cov-D9	NSP3	6	Deletion	0	
KD-Cov-D9	NSP4	3	SNP	2	V167L_G9053T/T492L_ C10029T
KD-Cov-D9	NSP4	3	SNP_silent	1	D144D_C8986T
KD-Cov-D9	NSP4	3	Deletion	0	
KD-Cov-D9	NSP6	2	SNP	1	T77A_A11201G
KD-Cov-D9	NSP6	2	SNP_silent	1	V120V_A11332G
KD-Cov-D9	NSP6	2	Deletion	0	
KD-Cov-D9	NSP12b	3	SNP	3	P314L_C14408T/ G662S_G15451A/ D870G_A16076G
KD-Cov-D9	NSP12b	3	SNP_silent	0	
KD-Cov-D9	NSP12b	3	Deletion	0	
KD-Cov-D9	NSP13	2	SNP	1	P77L_C16466T
KD-Cov-D9	NSP13	2	SNP_silent	1	V57V_C16407T
KD-Cov-D9	NSP13	2	Deletion	0	
KD-Cov-D9	NSP14	2	SNP	1	A394V_C19220T
KD-Cov-D9	NSP14	2	SNP_silent	1	Y447Y_C19380T
KD-Cov-D9	NSP14	2	Deletion	0	
KD-Cov-D9	NSP16	2	SNP	2	Q28K_C20740A/P134S_ C21058T
KD-Cov-D9	NSP16	2	SNP_silent	0	
KD-Cov-D9	NSP16	2	Deletion	0	
KD-Cov-D9	S	7	SNP	6	T19R_C21618G/L452R_ T22917G/T478K_ C22995A/D614G_ A23403G/P681R_ C23604G/D950N_ G24410A
KD-Cov-D9	S	7	SNP_silent	0	
KD-Cov-D9	S	7	Deletion	1	E156_AGTTC22029.
KD-Cov-D9	ORF3a	2	SNP	2	S26L_C25469T/L85F_ G25647T
KD-Cov-D9	ORF3a	2	SNP_silent	0	
KD-Cov-D9	ORF3a	2	Deletion	0	
KD-Cov-D9	M	1	SNP	1	I82T_T26767C
KD-Cov-D9	M	1	SNP_silent	0	
KD-Cov-D9	M	1	Deletion	0	
KD-Cov-D9	ORF7a	3	SNP	3	P45L_CC27526TT/ V82A_T27638C/T120L_ C27752T
KD-Cov-D9	ORF7a	3	SNP_silent	0	
KD-Cov-D9	ORF7a	3	Deletion	0	
KD-Cov-D9	ORF7b	1	SNP	1	T40I_C27874T
KD-Cov-D9	ORF7b	1	SNP_silent	0	
KD-Cov-D9	ORF7b	1	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D9	ORF8	1	SNP	0	
KD-Cov-D9	ORF8	1	SNP_silent	0	
KD-Cov-D9	ORF8	1	Deletion	1	D119_GATTTTC28248.
KD-Cov-D9	3'UTR	2	Extragenic	2	A28273./G29742T
KD-Cov-D9	N	4	SNP	4	D63G_A28461G/ R203M_G28881T/ G215C_G28916T/ D377Y_G29402T
KD-Cov-D9	N	4	SNP_silent	0	
KD-Cov-D9	N	4	Deletion	0	
KD-Cov-D10	5'UTR	2	Extragenic	2	G210T/C241T
KD-Cov-D10	NSP2	2	SNP	1	K81N_G1048T
KD-Cov-D10	NSP2	2	SNP_silent	1	T85T_C1060T
KD-Cov-D10	NSP2	2	Deletion	0	
KD-Cov-D10	NSP3	4	SNP	3	A488S_G4181T/ P1228L_C6402T/ P1469S_C7124T
KD-Cov-D10	NSP3	4	SNP_silent	1	F106F_C3037T
KD-Cov-D10	NSP3	4	Deletion	0	
KD-Cov-D10	NSP4	3	SNP	2	V167L_G9053T/T492L_C10029T
KD-Cov-D10	NSP4	3	SNP_silent	1	D144D_C8986T
KD-Cov-D10	NSP4	3	Deletion	0	
KD-Cov-D10	NSP6	2	SNP	1	T77A_A11201G
KD-Cov-D10	NSP6	2	SNP_silent	1	V120V_A11332G
KD-Cov-D10	NSP6	2	Deletion	0	
KD-Cov-D10	NSP12b	2	SNP	2	P314L_C14408T/ G662S_G15451A
KD-Cov-D10	NSP12b	2	SNP_silent	0	
KD-Cov-D10	NSP12b	2	Deletion	0	
KD-Cov-D10	NSP13	1	SNP	1	P77L_C16466T
KD-Cov-D10	NSP13	1	SNP_silent	0	
KD-Cov-D10	NSP13	1	Deletion	0	
KD-Cov-D10	NSP14	2	SNP	1	A394V_C19220T
KD-Cov-D10	NSP14	2	SNP_silent	1	Y447Y_C19380T
KD-Cov-D10	NSP14	2	Deletion	0	
KD-Cov-D10	NSP16	1	SNP	1	P134S_C21058T
KD-Cov-D10	NSP16	1	SNP_silent	0	
KD-Cov-D10	NSP16	1	Deletion	0	
KD-Cov-D10	S	7	SNP	6	T19R_C21618G/L452R_ T22917G/T478K_ C22995A/D614G_ A23403G/P681R_ C23604G/D950N_ G24410A
KD-Cov-D10	S	7	SNP_silent	0	
KD-Cov-D10	S	7	Deletion	1	E156_AGTTCA22029.
KD-Cov-D10	ORF3a	1	SNP	1	S26L_C25469T
KD-Cov-D10	ORF3a	1	SNP_silent	0	
KD-Cov-D10	ORF3a	1	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D10	M	1	SNP	1	I82T_T26767C
KD-Cov-D10	M	1	SNP_silent	0	
KD-Cov-D10	M	1	Deletion	0	
KD-Cov-D10	ORF7a	3	SNP	3	P45L_CC27526TT/ V82A_T27638C/T120L_ C27752T
KD-Cov-D10	ORF7a	3	SNP_silent	0	
KD-Cov-D10	ORF7a	3	Deletion	0	
KD-Cov-D10	ORF7b	1	SNP	1	T40I_C27874T
KD-Cov-D10	ORF7b	1	SNP_silent	0	
KD-Cov-D10	ORF7b	1	Deletion	0	
KD-Cov-D10	ORF8	1	SNP	0	
KD-Cov-D10	ORF8	1	SNP_silent	0	
KD-Cov-D10	ORF8	1	Deletion	1	D119_GATTTTC28248.
KD-Cov-D10	3'UTR	2	Extragenic	2	A28273./G29742T
KD-Cov-D10	N	4	SNP	4	D63G_A28461G/ R203M_G28881T/ G215C_G28916T/ D377Y_G29402T
KD-Cov-D10	N	4	SNP_silent	0	
KD-Cov-D10	N	4	Deletion	0	
KD-Cov-D11	5'UTR	2	Extragenic	2	G210T/C241T
KD-Cov-D11	NSP1	1	SNP	0	
KD-Cov-D11	NSP1	1	SNP_silent	1	V69V_G472A
KD-Cov-D11	NSP1	1	Deletion	0	
KD-Cov-D11	NSP3	7	SNP	4	T422L_C3984T/I707V_ A4838G/P822L_ C5184T/T1456L_C7086T
KD-Cov-D11	NSP3	7	SNP_silent	3	F106F_C3037T/A562A_ A4405T/T955T_A5584G
KD-Cov-D11	NSP3	7	Deletion	0	
KD-Cov-D11	NSP4	4	SNP	2	V293L_G9431A/A446V_ C9891T
KD-Cov-D11	NSP4	4	SNP_silent	2	F337F_C9565T/A472A_ A9970G
KD-Cov-D11	NSP4	4	Deletion	0	
KD-Cov-D11	NSP5	1	SNP	0	
KD-Cov-D11	NSP5	1	SNP_silent	1	F8F_C10078T
KD-Cov-D11	NSP5	1	Deletion	0	
KD-Cov-D11	NSP6	2	SNP	2	V149A_T11418C/T181L_ C11514T
KD-Cov-D11	NSP6	2	SNP_silent	0	
KD-Cov-D11	NSP6	2	Deletion	0	
KD-Cov-D11	NSP9	1	SNP	0	
KD-Cov-D11	NSP9	1	SNP_silent	1	R111R_C13019T
KD-Cov-D11	NSP9	1	Deletion	0	
KD-Cov-D11	NSP12b	2	SNP	2	P314L_C14408T/ G662S_G15451A
KD-Cov-D11	NSP12b	2	SNP_silent	0	
KD-Cov-D11	NSP12b	2	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D11	NSP13	3	SNP	2	P77L_C16466T/V210L_G16864A
KD-Cov-D11	NSP13	3	SNP_silent	1	Q537Q_G17847A
KD-Cov-D11	NSP13	3	Deletion	0	
KD-Cov-D11	NSP14	1	SNP	0	
KD-Cov-D11	NSP14	1	SNP_silent	1	T25T_A18114G
KD-Cov-D11	NSP14	1	Deletion	0	
KD-Cov-D11	S	9	SNP	7	T19R_C21618G/A222V_C22227T/L452R_T22917G/T478K_C22995A/D614G_A23403G/P681R_C23604G/D950N_G24410A
KD-Cov-D11	S	9	SNP_silent	1	T734T_A23764T
KD-Cov-D11	S	9	Deletion	1	E156_AGTTCA22029.
KD-Cov-D11	ORF3a	3	SNP	3	P25S_C25465T/S26L_C25469T/A110S_G25720T
KD-Cov-D11	ORF3a	3	SNP_silent	0	
KD-Cov-D11	ORF3a	3	Deletion	0	
KD-Cov-D11	M	1	SNP	1	I82T_T26767C
KD-Cov-D11	M	1	SNP_silent	0	
KD-Cov-D11	M	1	Deletion	0	
KD-Cov-D11	ORF7a	3	SNP	2	V82A_T27638C/T120L_C27752T
KD-Cov-D11	ORF7a	3	SNP_silent	1	A55A_C27559T
KD-Cov-D11	ORF7a	3	Deletion	0	
KD-Cov-D11	ORF8	2	SNP	1	G66V_G28090T
KD-Cov-D11	ORF8	2	SNP_silent	0	
KD-Cov-D11	ORF8	2	Deletion	1	D119_GATTTTC28248.
KD-Cov-D11	3'UTR	2	Extragenic	2	A28273./G29742T
KD-Cov-D11	N	3	SNP	3	D63G_A28461G/R203M_G28881T/D377Y_G29402T
KD-Cov-D11	N	3	SNP_silent	0	
KD-Cov-D11	N	3	Deletion	0	
KD-Cov-D12	5'UTR	2	Extragenic	2	G210T/C241T
KD-Cov-D12	NSP3	7	SNP	4	L364F_C3809T/T422L_C3984T/I707V_A4838G/P822L_C5184T
KD-Cov-D12	NSP3	7	SNP_silent	3	F106F_C3037T/A562A_A4405T/T955T_A5584G
KD-Cov-D12	NSP3	7	Deletion	0	
KD-Cov-D12	NSP4	2	SNP	2	V293I_G9431A/A446V_C9891T
KD-Cov-D12	NSP4	2	SNP_silent	0	
KD-Cov-D12	NSP4	2	Deletion	0	
KD-Cov-D12	NSP6	2	SNP	2	V149A_T11418C/T181L_C11514T
KD-Cov-D12	NSP6	2	SNP_silent	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D12	NSP6	2	Deletion	0	
KD-Cov-D12	NSP9	1	SNP	0	
KD-Cov-D12	NSP9	1	SNP_silent	1	R111R_C13019T
KD-Cov-D12	NSP9	1	Deletion	0	
KD-Cov-D12	NSP10	1	SNP	0	
KD-Cov-D12	NSP10	1	SNP_silent	1	E6E_A13042G
KD-Cov-D12	NSP10	1	Deletion	0	
KD-Cov-D12	NSP12b	2	SNP	2	P314L_C14408T/ G662S_G15451A
KD-Cov-D12	NSP12b	2	SNP_silent	0	
KD-Cov-D12	NSP12b	2	Deletion	0	
KD-Cov-D12	NSP13	3	SNP	2	P77L_C16466T/V210L_ G16864A
KD-Cov-D12	NSP13	3	SNP_silent	1	Q537Q_G17847A
KD-Cov-D12	NSP13	3	Deletion	0	
KD-Cov-D12	NSP15	1	SNP	1	I85V_A19873G
KD-Cov-D12	NSP15	1	SNP_silent	0	
KD-Cov-D12	NSP15	1	Deletion	0	
KD-Cov-D12	S	8	SNP	7	T19R_C21618G/A222V_ C22227T/L452R_ T22917G/T478K_ C22995A/D614G_ A23403G/P681R_ C23604G/D950N_ G24410A
KD-Cov-D12	S	8	SNP_silent	0	
KD-Cov-D12	S	8	Deletion	1	E156_AGTTCA22029.
KD-Cov-D12	ORF3a	2	SNP	2	S26L_C25469T/A110S_ G25720T
KD-Cov-D12	ORF3a	2	SNP_silent	0	
KD-Cov-D12	ORF3a	2	Deletion	0	
KD-Cov-D12	M	1	SNP	1	I82T_T26767C
KD-Cov-D12	M	1	SNP_silent	0	
KD-Cov-D12	M	1	Deletion	0	
KD-Cov-D12	ORF7a	3	SNP	2	V82A_T27638C/T120L_ C27752T
KD-Cov-D12	ORF7a	3	SNP_silent	1	A55A_C27559T
KD-Cov-D12	ORF7a	3	Deletion	0	
KD-Cov-D12	ORF8	2	SNP	1	G66V_G28090T
KD-Cov-D12	ORF8	2	SNP_silent	0	
KD-Cov-D12	ORF8	2	Deletion	1	D119_GATTTTC28248.
KD-Cov-D12	3'UTR	2	Extragenic	2	A28273./G29742T
KD-Cov-D12	N	3	SNP	3	D63G_A28461G/ R203M_G28881T/ D377Y_G29402T
KD-Cov-D12	N	3	SNP_silent	0	
KD-Cov-D12	N	3	Deletion	0	
KD-Cov-D13	5'UTR	2	Extragenic	2	G210T/C241T
KD-Cov-D13	NSP2	2	SNP	1	K81N_G1048T
KD-Cov-D13	NSP2	2	SNP_silent	1	T85T_C1060T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D13	NSP2	2	Deletion	0	
KD-Cov-D13	NSP3	6	SNP	5	A488S_G4181T/ I750V_A4967G/M914L_ G5461T/P1228L_ C6402T/P1469S_ C7124T
KD-Cov-D13	NSP3	6	SNP_silent	1	F106F_C3037T
KD-Cov-D13	NSP3	6	Deletion	0	
KD-Cov-D13	NSP4	3	SNP	2	V167L_G9053T/T492L_ C10029T
KD-Cov-D13	NSP4	3	SNP_silent	1	D144D_C8986T
KD-Cov-D13	NSP4	3	Deletion	0	
KD-Cov-D13	NSP6	3	SNP	1	T77A_A11201G
KD-Cov-D13	NSP6	3	SNP_silent	2	V120V_A11332G/ Y219Y_T11629C
KD-Cov-D13	NSP6	3	Deletion	0	
KD-Cov-D13	NSP12b	4	SNP	4	P314L_C14408T/ G662S_G15451A/ V691L_G15538C/ D870G_A16076G
KD-Cov-D13	NSP12b	4	SNP_silent	0	
KD-Cov-D13	NSP12b	4	Deletion	0	
KD-Cov-D13	NSP13	2	SNP	1	P77L_C16466T
KD-Cov-D13	NSP13	2	SNP_silent	1	V57V_C16407T
KD-Cov-D13	NSP13	2	Deletion	0	
KD-Cov-D13	NSP14	2	SNP	1	A394V_C19220T
KD-Cov-D13	NSP14	2	SNP_silent	1	Y447Y_C19380T
KD-Cov-D13	NSP14	2	Deletion	0	
KD-Cov-D13	NSP16	2	SNP	2	Q28K_C20740A/P134S_ C21058T
KD-Cov-D13	NSP16	2	SNP_silent	0	
KD-Cov-D13	NSP16	2	Deletion	0	
KD-Cov-D13	S	8	SNP	6	T19R_C21618G/L452R_ T22917G/T478K_ C22995A/D614G_ A23403G/P681R_ C23604G/D950N_ G24410A
KD-Cov-D13	S	8	SNP_silent	1	Y873Y_C24181T
KD-Cov-D13	S	8	Deletion	1	E156_AGTTCa22029.
KD-Cov-D13	ORF3a	2	SNP	2	S26L_C25469T/L85F_ G25647T
KD-Cov-D13	ORF3a	2	SNP_silent	0	
KD-Cov-D13	ORF3a	2	Deletion	0	
KD-Cov-D13	M	1	SNP	1	I82T_T26767C
KD-Cov-D13	M	1	SNP_silent	0	
KD-Cov-D13	M	1	Deletion	0	
KD-Cov-D13	ORF7a	3	SNP	3	P45L_CC27526TT/ V82A_T27638C/T120L_ C27752T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D13	ORF7a	3	SNP_silent	0	
KD-Cov-D13	ORF7a	3	Deletion	0	
KD-Cov-D13	ORF7b	1	SNP	1	T40I_C27874T
KD-Cov-D13	ORF7b	1	SNP_silent	0	
KD-Cov-D13	ORF7b	1	Deletion	0	
KD-Cov-D13	ORF8	1	SNP	0	
KD-Cov-D13	ORF8	1	SNP_silent	0	
KD-Cov-D13	ORF8	1	Deletion	1	D119_GATTTTC28248.
KD-Cov-D13	3'UTR	2	Extragenic	2	A28273./G29742T
KD-Cov-D13	N	4	SNP	4	D63G_A28461G/ R203M_G28881T/ G215C_G28916T/ D377Y_G29402T
KD-Cov-D13	N	4	SNP_silent	0	
KD-Cov-D13	N	4	Deletion	0	
KD-Cov-D14	5'UTR	2	Extragenic	2	G210T/C241T
KD-Cov-D14	NSP3	8	SNP	5	T422I_C3984T/A534V_ C4320T/I707V_A4838G/ P822L_C5184T/V1243I_ G6446A
KD-Cov-D14	NSP3	8	SNP_silent	3	F106F_C3037T/A562A_ A4405T/T955T_A5584G
KD-Cov-D14	NSP3	8	Deletion	0	
KD-Cov-D14	NSP4	2	SNP	2	V293I_G9431A/A446V_ C9891T
KD-Cov-D14	NSP4	2	SNP_silent	0	
KD-Cov-D14	NSP4	2	Deletion	0	
KD-Cov-D14	NSP6	2	SNP	2	V149A_T11418C/T181L_ C11514T
KD-Cov-D14	NSP6	2	SNP_silent	0	
KD-Cov-D14	NSP6	2	Deletion	0	
KD-Cov-D14	NSP9	2	SNP	1	K36N_G12793T
KD-Cov-D14	NSP9	2	SNP_silent	1	R111R_C13019T
KD-Cov-D14	NSP9	2	Deletion	0	
KD-Cov-D14	NSP12b	2	SNP	2	P314L_C14408T/ G662S_G15451A
KD-Cov-D14	NSP12b	2	SNP_silent	0	
KD-Cov-D14	NSP12b	2	Deletion	0	
KD-Cov-D14	NSP13	3	SNP	2	P77L_C16466T/V210I_ G16864A
KD-Cov-D14	NSP13	3	SNP_silent	1	Q537Q_G17847A
KD-Cov-D14	NSP13	3	Deletion	0	
KD-Cov-D14	S	8	SNP	7	T19R_C21618G/A222V_ C22227T/L452R_ T22917G/T478K_ C22995A/D614G_ A23403G/P681R_ C23604G/D950N_ G24410A
KD-Cov-D14	S	8	SNP_silent	0	
KD-Cov-D14	S	8	Deletion	1	E156_AGTTCA22029.

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D14	ORF3a	3	SNP	3	S26L_C25469T/A110S_G25720T/Q213K_C26029A
KD-Cov-D14	ORF3a	3	SNP_silent	0	
KD-Cov-D14	ORF3a	3	Deletion	0	
KD-Cov-D14	M	1	SNP	1	I82T_T26767C
KD-Cov-D14	M	1	SNP_silent	0	
KD-Cov-D14	M	1	Deletion	0	
KD-Cov-D14	ORF7a	3	SNP	2	V82A_T27638C/T120L_C27752T
KD-Cov-D14	ORF7a	3	SNP_silent	1	A55A_C27559T
KD-Cov-D14	ORF7a	3	Deletion	0	
KD-Cov-D14	ORF8	2	SNP	1	G66V_G28090T
KD-Cov-D14	ORF8	2	SNP_silent	0	
KD-Cov-D14	ORF8	2	Deletion	1	D119_GATTTTC28248.
KD-Cov-D14	3'UTR	2	Extragenic	2	A28273./G29742T
KD-Cov-D14	N	3	SNP	3	D63G_A28461G/R203M_G28881T/D377Y_G29402T
KD-Cov-D14	N	3	SNP_silent	0	
KD-Cov-D14	N	3	Deletion	0	
KD-Cov-D15	5'UTR	2	Extragenic	2	G210T/C241T
KD-Cov-D15	NSP2	1	SNP	1	A621V_C2667T
KD-Cov-D15	NSP2	1	SNP_silent	0	
KD-Cov-D15	NSP2	1	Deletion	0	
KD-Cov-D15	NSP3	8	SNP	5	T422L_C3984T/A534V_C4320T/I707V_A4838G/P822L_C5184T/V1243L_G6446A
KD-Cov-D15	NSP3	8	SNP_silent	3	F106F_C3037T/A562A_A4405T/T955T_A5584G
KD-Cov-D15	NSP3	8	Deletion	0	
KD-Cov-D15	NSP4	2	SNP	2	V293I_G9431A/A446V_C9891T
KD-Cov-D15	NSP4	2	SNP_silent	0	
KD-Cov-D15	NSP4	2	Deletion	0	
KD-Cov-D15	NSP6	2	SNP	2	V149A_T11418C/T181L_C11514T
KD-Cov-D15	NSP6	2	SNP_silent	0	
KD-Cov-D15	NSP6	2	Deletion	0	
KD-Cov-D15	NSP9	2	SNP	1	K36N_G12793T
KD-Cov-D15	NSP9	2	SNP_silent	1	R111R_C13019T
KD-Cov-D15	NSP9	2	Deletion	0	
KD-Cov-D15	NSP12b	2	SNP	2	P314L_C14408T/G662S_G15451A
KD-Cov-D15	NSP12b	2	SNP_silent	0	
KD-Cov-D15	NSP12b	2	Deletion	0	
KD-Cov-D15	NSP13	3	SNP	2	P77L_C16466T/V210L_G16864A
KD-Cov-D15	NSP13	3	SNP_silent	1	Q537Q_G17847A
KD-Cov-D15	NSP13	3	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-D15	S	8	SNP	7	T19R_C21618G/A222V_C22227T/L452R_T22917G/T478K_C22995A/D614G_A23403G/P681R_C23604G/D950N_G24410A
KD-Cov-D15	S	8	SNP_silent	0	
KD-Cov-D15	S	8	Deletion	1	E156_AGTTCA22029.
KD-Cov-D15	ORF3a	3	SNP	3	S26L_C25469T/A110S_G25720T/Q213K_C26029A
KD-Cov-D15	ORF3a	3	SNP_silent	0	
KD-Cov-D15	ORF3a	3	Deletion	0	
KD-Cov-D15	M	1	SNP	1	I82T_T26767C
KD-Cov-D15	M	1	SNP_silent	0	
KD-Cov-D15	M	1	Deletion	0	
KD-Cov-D15	ORF7a	3	SNP	2	V82A_T27638C/T120L_C27752T
KD-Cov-D15	ORF7a	3	SNP_silent	1	A55A_C27559T
KD-Cov-D15	ORF7a	3	Deletion	0	
KD-Cov-D15	ORF8	2	SNP	1	G66V_G28090T
KD-Cov-D15	ORF8	2	SNP_silent	0	
KD-Cov-D15	ORF8	2	Deletion	1	D119_GATTTTC28248.
KD-Cov-D15	3'UTR	2	Extragenic	2	A28273./G29742T
KD-Cov-D15	N	3	SNP	3	D63G_A28461G/R203M_G28881T/D377Y_G29402T
KD-Cov-D15	N	3	SNP_silent	0	
KD-Cov-D15	N	3	Deletion	0	
KD-Cov-O1	5'UTR	1	Extragenic	1	C241T
KD-Cov-O1	NSP1	2	SNP	1	S135R_T670G
KD-Cov-O1	NSP1	2	SNP_silent	1	E36E_G373A
KD-Cov-O1	NSP1	2	Deletion	0	
KD-Cov-O1	NSP3	4	SNP	2	T24I_C2790T/G489S_G4184A
KD-Cov-O1	NSP3	4	SNP_silent	2	F106F_C3037T/A534A_C4321T
KD-Cov-O1	NSP3	4	Deletion	0	
KD-Cov-O1	NSP4	6	SNP	5	A146V_C8991T/L264F_C9344T/T327I_C9534T/L438F_C9866T/T492I_C10029T
KD-Cov-O1	NSP4	6	SNP_silent	1	V290V_A9424G
KD-Cov-O1	NSP4	6	Deletion	0	
KD-Cov-O1	NSP5	3	SNP	1	P132H_C10449A
KD-Cov-O1	NSP5	3	SNP_silent	2	D48D_C10198T/R131R_G10447A
KD-Cov-O1	NSP5	3	Deletion	0	
KD-Cov-O1	NSP6	1	SNP	0	
KD-Cov-O1	NSP6	1	SNP_silent	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-01	NSP6	1	Deletion	1	S106_ TCTGGTTTT11288.
KD-Cov-01	NSP9	1	SNP	0	
KD-Cov-01	NSP9	1	SNP_silent	1	I65I_C12880T
KD-Cov-01	NSP9	1	Deletion	0	
KD-Cov-01	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-01	NSP12b	2	SNP_silent	1	L749L_C15714T
KD-Cov-01	NSP12b	2	Deletion	0	
KD-Cov-01	NSP13	2	SNP	2	S259L_C17012T/ R392C_C17410T
KD-Cov-01	NSP13	2	SNP_silent	0	
KD-Cov-01	NSP13	2	Deletion	0	
KD-Cov-01	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-01	NSP14	1	SNP_silent	0	
KD-Cov-01	NSP14	1	Deletion	0	
KD-Cov-01	NSP15	2	SNP	1	T112I_C19955T
KD-Cov-01	NSP15	2	SNP_silent	1	E145E_A20055G
KD-Cov-01	NSP15	2	Deletion	0	
KD-Cov-01	S	28	SNP	26	T19I_C21618T/G142D_ G21987A/V213G_ T22200G/G339D_ G22578A/S371F_ C22674T/S373P_ T22679C/S375F_ C22686T/T376A_ A22688G/D405N_ G22775A/R408S_ A22786C/K417N_ G22813T/S477N_ G22992A/T478K_ C22995A/E484A_ A23013C/Q493R_ A23040G/Q498R_ A23055G/N501Y_ A23063T/Y505H_ T23075C/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/Q954H_ A24424T/N969K_ T24469A
KD-Cov-01	S	28	SNP_silent	1	D1146D_C25000T
KD-Cov-01	S	28	Deletion	1	L24_TACCCCTG21633.
KD-Cov-01	ORF3a	3	SNP	2	L140F_C25810T/T223I_ C26060T
KD-Cov-01	ORF3a	3	SNP_silent	1	T64T_C25584T
KD-Cov-01	ORF3a	3	Deletion	0	
KD-Cov-01	E	1	SNP	1	T9I_C26270T
KD-Cov-01	E	1	SNP_silent	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-01	E	1	Deletion	0	
KD-Cov-01	M	3	SNP	2	Q19E_C26577G/A63T_G26709A
KD-Cov-01	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-01	M	3	Deletion	0	
KD-Cov-01	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-01	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-01	ORF6	2	Deletion	0	
KD-Cov-01	ORF7b	1	SNP	0	
KD-Cov-01	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-01	ORF7b	1	Deletion	0	
KD-Cov-01	3'UTR	2	Extragenic	2	A28271T/GAGGCCAC GCGGAGTACGATCGAG TG29734.
KD-Cov-01	N	4	SNP	3	P13L_C28311T/ RG203KR_ GGG28881AAC/S413R_ A29510C
KD-Cov-01	N	4	SNP_silent	0	
KD-Cov-01	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-02	5'UTR	1	Extragenic	1	C241T
KD-Cov-02	NSP1	1	SNP	1	S135R_T670G
KD-Cov-02	NSP1	1	SNP_silent	0	
KD-Cov-02	NSP1	1	Deletion	0	
KD-Cov-02	NSP3	4	SNP	2	T24I_C2790T/G489S_ G4184A
KD-Cov-02	NSP3	4	SNP_silent	2	F106F_C3037T/A534A_ C4321T
KD-Cov-02	NSP3	4	Deletion	0	
KD-Cov-02	NSP4	5	SNP	4	L264F_C9344T/T327L_ C9534T/L438F_ C9866T/T492L_C10029T
KD-Cov-02	NSP4	5	SNP_silent	1	V290V_A9424G
KD-Cov-02	NSP4	5	Deletion	0	
KD-Cov-02	NSP5	3	SNP	1	P132H_C10449A
KD-Cov-02	NSP5	3	SNP_silent	2	D48D_C10198T/R131R_ G10447A
KD-Cov-02	NSP5	3	Deletion	0	
KD-Cov-02	NSP6	1	SNP	0	
KD-Cov-02	NSP6	1	SNP_silent	0	
KD-Cov-02	NSP6	1	Deletion	1	S106_ TCTGGTTTT11288.
KD-Cov-02	NSP9	1	SNP	0	
KD-Cov-02	NSP9	1	SNP_silent	1	I65I_C12880T
KD-Cov-02	NSP9	1	Deletion	0	
KD-Cov-02	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-02	NSP12b	2	SNP_silent	1	L749L_C15714T
KD-Cov-02	NSP12b	2	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-02	NSP13	1	SNP	1	R392C_C17410T
KD-Cov-02	NSP13	1	SNP_silent	0	
KD-Cov-02	NSP13	1	Deletion	0	
KD-Cov-02	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-02	NSP14	1	SNP_silent	0	
KD-Cov-02	NSP14	1	Deletion	0	
KD-Cov-02	NSP15	3	SNP	1	T112I_C19955T
KD-Cov-02	NSP15	3	SNP_silent	2	H95H_T19905C/E145E_A20055G
KD-Cov-02	NSP15	3	Deletion	0	
KD-Cov-02	S	28	SNP	26	T19I_C21618T/G142D_G21987A/V213G_T22200G/G339D_G22578A/S371F_C22674T/S373P_T22679C/S375F_C22686T/T376A_A22688G/D405N_G22775A/R408S_A22786C/K417N_G22813T/S477N_G22992A/T478K_C22995A/E484A_A23013C/Q493R_A23040G/Q498R_A23055G/N501Y_A23063T/Y505H_T23075C/D614G_A23403G/H655Y_C23525T/N679K_T23599G/P681H_C23604A/N764K_C23854A/D796Y_G23948T/Q954H_A24424T/N969K_T24469A
KD-Cov-02	S	28	SNP_silent	1	D1146D_C25000T
KD-Cov-02	S	28	Deletion	1	L24_TACCCCTG21633.
KD-Cov-02	ORF3a	2	SNP	1	T223I_C26060T
KD-Cov-02	ORF3a	2	SNP_silent	1	T64T_C25584T
KD-Cov-02	ORF3a	2	Deletion	0	
KD-Cov-02	E	1	SNP	1	T9I_C26270T
KD-Cov-02	E	1	SNP_silent	0	
KD-Cov-02	E	1	Deletion	0	
KD-Cov-02	M	3	SNP	2	Q19E_C26577G/A63T_G26709A
KD-Cov-02	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-02	M	3	Deletion	0	
KD-Cov-02	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-02	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-02	ORF6	2	Deletion	0	
KD-Cov-02	ORF7b	1	SNP	0	
KD-Cov-02	ORF7b	1	SNP_silent	1	L17L_C27807T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-02	ORF7b	1	Deletion	0	
KD-Cov-02	3'UTR	2	Extragenic	2	A28271T/GAGGCCAC GCGGAGTACGATCGAG TG29734.
KD-Cov-02	N	4	SNP	3	P13L_C28311T/ RG203KR_ GGG28881AAC/S413R_ A29510C
KD-Cov-02	N	4	SNP_silent	0	
KD-Cov-02	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-03	5'UTR	1	Extragenic	1	C241T
KD-Cov-03	NSP3	5	SNP	2	K38R_A2832G/A1892T_ G8393A
KD-Cov-03	NSP3	5	SNP_silent	2	F106F_C3037T/A889A_ T5386G
KD-Cov-03	NSP3	5	Deletion	1	S1265_GTT6513.
KD-Cov-03	NSP4	1	SNP	1	T492L_C10029T
KD-Cov-03	NSP4	1	SNP_silent	0	
KD-Cov-03	NSP4	1	Deletion	0	
KD-Cov-03	NSP5	1	SNP	1	P132H_C10449A
KD-Cov-03	NSP5	1	SNP_silent	0	
KD-Cov-03	NSP5	1	Deletion	0	
KD-Cov-03	NSP6	2	SNP	1	I189V_A11537G
KD-Cov-03	NSP6	2	SNP_silent	0	
KD-Cov-03	NSP6	2	Deletion	1	L105_ TGCTGGTT11286.
KD-Cov-03	NSP10	1	SNP	0	
KD-Cov-03	NSP10	1	SNP_silent	1	V57V_T13195C
KD-Cov-03	NSP10	1	Deletion	0	
KD-Cov-03	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-03	NSP12b	2	SNP_silent	1	N591N_C15240T
KD-Cov-03	NSP12b	2	Deletion	0	
KD-Cov-03	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-03	NSP14	1	SNP_silent	0	
KD-Cov-03	NSP14	1	Deletion	0	
KD-Cov-03	NSP15	1	SNP	0	
KD-Cov-03	NSP15	1	SNP_silent	1	I85I_C19875T
KD-Cov-03	NSP15	1	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-03	S	34	SNP	28	T95I_C21846T/G339D_ G22578A/R346K_ G22599A/S371L_ TC22673CT/S373P_ T22679C/S375F_ C22686T/K417N_ G22813T/N440K_ T22882G/G446S_ G22898A/S477N_ G22992A/T478K_ C22995A/E484A_ A23013C/Q493R_ A23040G/G496S_ G23048A/Q498R_ A23055G/N501Y_ A23063T/Y505H_ T23075C/T547K_ C23202A/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/N856K_ C24130A/Q954H_ A24424T/N969K_ T24469A/L981F_ C24503T
KD-Cov-03	S	34	SNP_silent	1	D1146D_C25000T
KD-Cov-03	S	34	Deletion	5	A67_C21762./ A67_A21764./I68_ CATG21767./G142_ GTGTTTATT21987./ N211_ATT22194.
KD-Cov-03	ORF3a	1	SNP	0	
KD-Cov-03	ORF3a	1	SNP_silent	1	T64T_C25584T
KD-Cov-03	ORF3a	1	Deletion	0	
KD-Cov-03	E	1	SNP	1	T9I_C26270T
KD-Cov-03	E	1	SNP_silent	0	
KD-Cov-03	E	1	Deletion	0	
KD-Cov-03	M	3	SNP	3	D3G_A26530G/Q19E_ C26577G/A63T_ G26709A
KD-Cov-03	M	3	SNP_silent	0	
KD-Cov-03	M	3	Deletion	0	
KD-Cov-03	ORF6	1	SNP	0	
KD-Cov-03	ORF6	1	SNP_silent	1	M19M_A27259C
KD-Cov-03	ORF6	1	Deletion	0	
KD-Cov-03	ORF7b	1	SNP	0	
KD-Cov-03	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-03	ORF7b	1	Deletion	0	
KD-Cov-03	3'UTR	1	Extragenic	1	A28271T
KD-Cov-03	N	4	SNP	2	P13L_C28311T/ RG203KR_ GGG28881AAC

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-03	N	4	SNP_silent	1	S201S_AG28877TC
KD-Cov-03	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-04	5'UTR	1	Extragenic	1	C241T
KD-Cov-04	NSP1	1	SNP	1	S135R_T670G
KD-Cov-04	NSP1	1	SNP_silent	0	
KD-Cov-04	NSP1	1	Deletion	0	
KD-Cov-04	NSP3	4	SNP	2	T24I_C2790T/G489S_ G4184A
KD-Cov-04	NSP3	4	SNP_silent	2	F106F_C3037T/A534A_ C4321T
KD-Cov-04	NSP3	4	Deletion	0	
KD-Cov-04	NSP4	6	SNP	4	L264F_C9344T/T327I_ C9534T/L438F_ C9866T/T492I_C10029T
KD-Cov-04	NSP4	6	SNP_silent	2	G196G_C9142T/V290V_ A9424G
KD-Cov-04	NSP4	6	Deletion	0	
KD-Cov-04	NSP5	3	SNP	1	P132H_C10449A
KD-Cov-04	NSP5	3	SNP_silent	2	D48D_C10198T/R131R_ G10447A
KD-Cov-04	NSP5	3	Deletion	0	
KD-Cov-04	NSP6	1	SNP	0	
KD-Cov-04	NSP6	1	SNP_silent	0	
KD-Cov-04	NSP6	1	Deletion	1	S106_ TCTGGTTTT11288.
KD-Cov-04	NSP9	1	SNP	0	
KD-Cov-04	NSP9	1	SNP_silent	1	I65I_C12880T
KD-Cov-04	NSP9	1	Deletion	0	
KD-Cov-04	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-04	NSP12b	2	SNP_silent	1	L749L_C15714T
KD-Cov-04	NSP12b	2	Deletion	0	
KD-Cov-04	NSP13	1	SNP	1	R392C_C17410T
KD-Cov-04	NSP13	1	SNP_silent	0	
KD-Cov-04	NSP13	1	Deletion	0	
KD-Cov-04	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-04	NSP14	1	SNP_silent	0	
KD-Cov-04	NSP14	1	Deletion	0	
KD-Cov-04	NSP15	2	SNP	1	T112I_C19955T
KD-Cov-04	NSP15	2	SNP_silent	1	E145E_A20055G

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-04	NSP15	2	Deletion	0	
KD-Cov-04	S	28	SNP	26	T19I_C21618T/G142D_G21987A/V213G_T22200G/G339D_G22578A/S371F_C22674T/S373P_T22679C/S375F_C22686T/T376A_A22688G/D405N_G22775A/R408S_A22786C/K417N_G22813T/S477N_G22992A/T478K_C22995A/E484A_A23013C/Q493R_A23040G/Q498R_A23055G/N501Y_A23063T/Y505H_T23075C/D614G_A23403G/H655Y_C23525T/N679K_T23599G/P681H_C23604A/N764K_C23854A/D796Y_G23948T/Q954H_A24424T/N969K_T24469A
KD-Cov-04	S	28	SNP_silent	1	D1146D_C25000T
KD-Cov-04	S	28	Deletion	1	L24_TACCCCTG21633.
KD-Cov-04	ORF3a	2	SNP	1	T223I_C26060T
KD-Cov-04	ORF3a	2	SNP_silent	1	T64T_C25584T
KD-Cov-04	ORF3a	2	Deletion	0	
KD-Cov-04	E	1	SNP	1	T9I_C26270T
KD-Cov-04	E	1	SNP_silent	0	
KD-Cov-04	E	1	Deletion	0	
KD-Cov-04	M	3	SNP	2	Q19E_C26577G/A63T_G26709A
KD-Cov-04	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-04	M	3	Deletion	0	
KD-Cov-04	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-04	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-04	ORF6	2	Deletion	0	
KD-Cov-04	ORF7b	1	SNP	0	
KD-Cov-04	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-04	ORF7b	1	Deletion	0	
KD-Cov-04	3'UTR	2	Extragenic	2	A28271T/GAGGCCAC_GCGGAGTACGATCGAG_TG29734.
KD-Cov-04	N	4	SNP	3	P13L_C28311T/RG203KR_GGG28881AAC/S413R_A29510C
KD-Cov-04	N	4	SNP_silent	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-04	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-06	5'UTR	1	Extragenic	1	C241T
KD-Cov-06	NSP3	6	SNP	3	K38R_A2832G/G337C_ G3728T/A1892T_ G8393A
KD-Cov-06	NSP3	6	SNP_silent	2	F106F_C3037T/A889A_ T5386G
KD-Cov-06	NSP3	6	Deletion	1	S1265_GTT6513.
KD-Cov-06	NSP4	1	SNP	1	T492L_C10029T
KD-Cov-06	NSP4	1	SNP_silent	0	
KD-Cov-06	NSP4	1	Deletion	0	
KD-Cov-06	NSP5	1	SNP	1	P132H_C10449A
KD-Cov-06	NSP5	1	SNP_silent	0	
KD-Cov-06	NSP5	1	Deletion	0	
KD-Cov-06	NSP6	2	SNP	1	I189V_A11537G
KD-Cov-06	NSP6	2	SNP_silent	0	
KD-Cov-06	NSP6	2	Deletion	1	L105_ TGCTGGTT11286.
KD-Cov-06	NSP10	1	SNP	0	
KD-Cov-06	NSP10	1	SNP_silent	1	V57V_T13195C
KD-Cov-06	NSP10	1	Deletion	0	
KD-Cov-06	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-06	NSP12b	2	SNP_silent	1	N591N_C15240T
KD-Cov-06	NSP12b	2	Deletion	0	
KD-Cov-06	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-06	NSP14	1	SNP_silent	0	
KD-Cov-06	NSP14	1	Deletion	0	
KD-Cov-06	S	34	SNP	28	T95I_C21846T/G339D_ G22578A/R346K_ G22599A/S371L_ TC22673CT/S373P_ T22679C/S375F_ C22686T/K417N_ G22813T/N440K_ T22882G/G446S_ G22898A/S477N_ G22992A/T478K_ C22995A/E484A_ A23013C/Q493R_ A23040G/G496S_ G23048A/Q498R_ A23055G/N501Y_ A23063T/Y505H_ T23075C/T547K_ C23202A/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/N856K_ C24130A/Q954H_ A24424T/N969K_ T24469A/L981F_ C24503T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-06	S	34	SNP_silent	1	D1146D_C25000T
KD-Cov-06	S	34	Deletion	5	A67_C21762./ A67_A21764./I68_ CATG21767./G142_ GTGTTTATT21987./ N211_ATT22194.
KD-Cov-06	ORF3a	1	SNP	0	
KD-Cov-06	ORF3a	1	SNP_silent	1	T64T_C25584T
KD-Cov-06	ORF3a	1	Deletion	0	
KD-Cov-06	E	1	SNP	1	T9I_C26270T
KD-Cov-06	E	1	SNP_silent	0	
KD-Cov-06	E	1	Deletion	0	
KD-Cov-06	M	3	SNP	3	D3G_A26530G/Q19E_ C26577G/A63T_ G26709A
KD-Cov-06	M	3	SNP_silent	0	
KD-Cov-06	M	3	Deletion	0	
KD-Cov-06	ORF6	1	SNP	0	
KD-Cov-06	ORF6	1	SNP_silent	1	M19M_A27259C
KD-Cov-06	ORF6	1	Deletion	0	
KD-Cov-06	ORF7b	1	SNP	0	
KD-Cov-06	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-06	ORF7b	1	Deletion	0	
KD-Cov-06	3'UTR	1	Extragenic	1	A28271T
KD-Cov-06	N	4	SNP	2	P13L_C28311T/ RG203KR_ GGG28881AAC
KD-Cov-06	N	4	SNP_silent	1	S201S_AG28877TC
KD-Cov-06	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-07	5'UTR	1	Extragenic	1	C241T
KD-Cov-07	NSP3	5	SNP	2	K38R_A2832G/A1892T_ G8393A
KD-Cov-07	NSP3	5	SNP_silent	2	F106F_C3037T/A889A_ T5386G
KD-Cov-07	NSP3	5	Deletion	1	S1265_GTT6513.
KD-Cov-07	NSP4	1	SNP	1	T492I_C10029T
KD-Cov-07	NSP4	1	SNP_silent	0	
KD-Cov-07	NSP4	1	Deletion	0	
KD-Cov-07	NSP5	1	SNP	1	P132H_C10449A
KD-Cov-07	NSP5	1	SNP_silent	0	
KD-Cov-07	NSP5	1	Deletion	0	
KD-Cov-07	NSP6	2	SNP	1	I189V_A11537G
KD-Cov-07	NSP6	2	SNP_silent	0	
KD-Cov-07	NSP6	2	Deletion	1	L105_ TGTCTGGTT11286.
KD-Cov-07	NSP10	1	SNP	0	
KD-Cov-07	NSP10	1	SNP_silent	1	V57V_T13195C
KD-Cov-07	NSP10	1	Deletion	0	
KD-Cov-07	NSP12b	2	SNP	1	P314L_C14408T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-07	NSP12b	2	SNP_silent	1	N591N_C15240T
KD-Cov-07	NSP12b	2	Deletion	0	
KD-Cov-07	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-07	NSP14	1	SNP_silent	0	
KD-Cov-07	NSP14	1	Deletion	0	
KD-Cov-07	S	34	SNP	28	T95I_C21846T/G339D_ G22578A/R346K_ G22599A/S371L_ TC22673CT/S373P_ T22679C/S375F_ C22686T/K417N_ G22813T/N440K_ T22882G/G446S_ G22898A/S477N_ G22992A/T478K_ C22995A/E484A_ A23013C/Q493R_ A23040G/G496S_ G23048A/Q498R_ A23055G/N501Y_ A23063T/Y505H_ T23075C/T547K_ C23202A/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/N856K_ C24130A/Q954H_ A24424T/N969K_ T24469A/L981F_ C24503T
KD-Cov-07	S	34	SNP_silent	1	D1146D_C25000T
KD-Cov-07	S	34	Deletion	5	A67_C21762./ A67_A21764./I68_ CATG21767./G142_ GTGTTTATT21987./ N211_ATT22194.
KD-Cov-07	ORF3a	1	SNP	0	
KD-Cov-07	ORF3a	1	SNP_silent	1	T64T_C25584T
KD-Cov-07	ORF3a	1	Deletion	0	
KD-Cov-07	E	1	SNP	1	T9I_C26270T
KD-Cov-07	E	1	SNP_silent	0	
KD-Cov-07	E	1	Deletion	0	
KD-Cov-07	M	3	SNP	3	D3G_A26530G/Q19E_ C26577G/A63T_ G26709A
KD-Cov-07	M	3	SNP_silent	0	
KD-Cov-07	M	3	Deletion	0	
KD-Cov-07	ORF6	1	SNP	0	
KD-Cov-07	ORF6	1	SNP_silent	1	M19M_A27259C
KD-Cov-07	ORF6	1	Deletion	0	
KD-Cov-07	ORF7b	1	SNP	0	
KD-Cov-07	ORF7b	1	SNP_silent	1	L17L_C27807T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-07	ORF7b	1	Deletion	0	
KD-Cov-07	3'UTR	1	Extragenic	1	A28271T
KD-Cov-07	N	4	SNP	2	P13L_C28311T/ RG203KR_ GGG28881AAC
KD-Cov-07	N	4	SNP_silent	1	S201S_AG28877TC
KD-Cov-07	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-08	5'UTR	1	Extragenic	1	C241T
KD-Cov-08	NSP3	5	SNP	2	K38R_A2832G/A1892T_ G8393A
KD-Cov-08	NSP3	5	SNP_silent	2	F106F_C3037T/A889A_ T5386G
KD-Cov-08	NSP3	5	Deletion	1	S1265_GTT6513.
KD-Cov-08	NSP4	1	SNP	1	T492L_C10029T
KD-Cov-08	NSP4	1	SNP_silent	0	
KD-Cov-08	NSP4	1	Deletion	0	
KD-Cov-08	NSP5	1	SNP	1	P132H_C10449A
KD-Cov-08	NSP5	1	SNP_silent	0	
KD-Cov-08	NSP5	1	Deletion	0	
KD-Cov-08	NSP6	2	SNP	1	I189V_A11537G
KD-Cov-08	NSP6	2	SNP_silent	0	
KD-Cov-08	NSP6	2	Deletion	1	L105_ TGTCTGGTT11286.
KD-Cov-08	NSP10	2	SNP	1	A104V_C13335T
KD-Cov-08	NSP10	2	SNP_silent	1	V57V_T13195C
KD-Cov-08	NSP10	2	Deletion	0	
KD-Cov-08	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-08	NSP12b	2	SNP_silent	1	N591N_C15240T
KD-Cov-08	NSP12b	2	Deletion	0	
KD-Cov-08	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-08	NSP14	1	SNP_silent	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-08	NSP14	1	Deletion	0	
KD-Cov-08	S	34	SNP	28	T95I_C21846T/G339D_ G22578A/R346K_ G22599A/S371L_ TC22673CT/S373P_ T22679C/S375F_ C22686T/K417N_ G22813T/N440K_ T22882G/G446S_ G22898A/S477N_ G22992A/T478K_ C22995A/E484A_ A23013C/Q493R_ A23040G/G496S_ G23048A/Q498R_ A23055G/N501Y_ A23063T/Y505H_ T23075C/T547K_ C23202A/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/N856K_ C24130A/Q954H_ A24424T/N969K_ T24469A/L981F_ C24503T
KD-Cov-08	S	34	SNP_silent	1	D1146D_C25000T
KD-Cov-08	S	34	Deletion	5	A67_C21762./ A67_A21764./I68_ CATG21767./G142_ GTGTTTATT21987./ N211_ATT22194.
KD-Cov-08	ORF3a	1	SNP	0	
KD-Cov-08	ORF3a	1	SNP_silent	1	T64T_C25584T
KD-Cov-08	ORF3a	1	Deletion	0	
KD-Cov-08	E	1	SNP	1	T9I_C26270T
KD-Cov-08	E	1	SNP_silent	0	
KD-Cov-08	E	1	Deletion	0	
KD-Cov-08	M	3	SNP	3	D3G_A26530G/Q19E_ C26577G/A63T_ G26709A
KD-Cov-08	M	3	SNP_silent	0	
KD-Cov-08	M	3	Deletion	0	
KD-Cov-08	ORF6	1	SNP	0	
KD-Cov-08	ORF6	1	SNP_silent	1	M19M_A27259C
KD-Cov-08	ORF6	1	Deletion	0	
KD-Cov-08	ORF7a	1	SNP	1	P45L_C27527T
KD-Cov-08	ORF7a	1	SNP_silent	0	
KD-Cov-08	ORF7a	1	Deletion	0	
KD-Cov-08	ORF7b	1	SNP	0	
KD-Cov-08	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-08	ORF7b	1	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-08	3'UTR	1	Extragenic	1	A28271T
KD-Cov-08	N	4	SNP	2	P13L_C28311T/ RG203KR_ GGG28881AAC
KD-Cov-08	N	4	SNP_silent	1	S201S_AG28877TC
KD-Cov-08	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-09	5'UTR	1	Extragenic	1	C241T
KD-Cov-09	NSP1	2	SNP	1	S135R_T670G
KD-Cov-09	NSP1	2	SNP_silent	1	T170T_C775T
KD-Cov-09	NSP1	2	Deletion	0	
KD-Cov-09	NSP3	4	SNP	2	T24L_C2790T/G489S_ G4184A
KD-Cov-09	NSP3	4	SNP_silent	2	F106F_C3037T/A534A_ C4321T
KD-Cov-09	NSP3	4	Deletion	0	
KD-Cov-09	NSP4	6	SNP	5	A146V_C8991T/L264F_ C9344T/T327L_C9534T/ L438F_C9866T/T492L_ C10029T
KD-Cov-09	NSP4	6	SNP_silent	1	V290V_A9424G
KD-Cov-09	NSP4	6	Deletion	0	
KD-Cov-09	NSP5	3	SNP	1	P132H_C10449A
KD-Cov-09	NSP5	3	SNP_silent	2	D48D_C10198T/R131R_ G10447A
KD-Cov-09	NSP5	3	Deletion	0	
KD-Cov-09	NSP6	1	SNP	0	
KD-Cov-09	NSP6	1	SNP_silent	0	
KD-Cov-09	NSP6	1	Deletion	1	S106_ TCTGGTTTT11288.
KD-Cov-09	NSP8	1	SNP	1	T145L_C12525T
KD-Cov-09	NSP8	1	SNP_silent	0	
KD-Cov-09	NSP8	1	Deletion	0	
KD-Cov-09	NSP9	2	SNP	0	
KD-Cov-09	NSP9	2	SNP_silent	2	C23C_C12754T/I65L_ C12880T
KD-Cov-09	NSP9	2	Deletion	0	
KD-Cov-09	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-09	NSP12b	2	SNP_silent	1	L749L_C15714T
KD-Cov-09	NSP12b	2	Deletion	0	
KD-Cov-09	NSP13	1	SNP	1	R392C_C17410T
KD-Cov-09	NSP13	1	SNP_silent	0	
KD-Cov-09	NSP13	1	Deletion	0	
KD-Cov-09	NSP14	2	SNP	2	I42V_A18163G/L157F_ C18508T
KD-Cov-09	NSP14	2	SNP_silent	0	
KD-Cov-09	NSP14	2	Deletion	0	
KD-Cov-09	NSP15	2	SNP	1	T112L_C19955T
KD-Cov-09	NSP15	2	SNP_silent	1	E145E_A20055G
KD-Cov-09	NSP15	2	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-09	S	28	SNP	26	T19I_C21618T/G142D_ G21987A/V213G_ T22200G/G339D_ G22578A/S371F_ C22674T/S373P_ T22679C/S375F_ C22686T/T376A_ A22688G/D405N_ G22775A/R408S_ A22786C/K417N_ G22813T/S477N_ G22992A/T478K_ C22995A/E484A_ A23013C/Q493R_ A23040G/Q498R_ A23055G/N501Y_ A23063T/Y505H_ T23075C/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/Q954H_ A24424T/N969K_ T24469A
KD-Cov-09	S	28	SNP_silent	1	D1146D_C25000T
KD-Cov-09	S	28	Deletion	1	L24_TACCCCTG21633.
KD-Cov-09	ORF3a	3	SNP	2	L140F_C25810T/T223I_ C26060T
KD-Cov-09	ORF3a	3	SNP_silent	1	T64T_C25584T
KD-Cov-09	ORF3a	3	Deletion	0	
KD-Cov-09	E	1	SNP	1	T9I_C26270T
KD-Cov-09	E	1	SNP_silent	0	
KD-Cov-09	E	1	Deletion	0	
KD-Cov-09	M	3	SNP	2	Q19E_C26577G/A63T_ G26709A
KD-Cov-09	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-09	M	3	Deletion	0	
KD-Cov-09	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-09	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-09	ORF6	2	Deletion	0	
KD-Cov-09	ORF7b	1	SNP	0	
KD-Cov-09	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-09	ORF7b	1	Deletion	0	
KD-Cov-09	3'UTR	2	Extragenic	2	A28271T/GAGGCCAC GCGGAGTACGATCGAG TG29734.
KD-Cov-09	N	4	SNP	3	P13L_C28311T/ RG203KR_ GGG28881AAC/S413R_ A29510C

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-09	N	4	SNP_silent	0	
KD-Cov-09	N	4	Deletion	1	E31_GAGAACGCA28362.
KD-Cov-010	5'UTR	1	Extragenic	1	C241T
KD-Cov-010	NSP3	5	SNP	2	K38R_A2832G/A1892T_G8393A
KD-Cov-010	NSP3	5	SNP_silent	2	F106F_C3037T/A889A_T5386G
KD-Cov-010	NSP3	5	Deletion	1	S1265_GTT6513.
KD-Cov-010	NSP4	1	SNP	1	T492I_C10029T
KD-Cov-010	NSP4	1	SNP_silent	0	
KD-Cov-010	NSP4	1	Deletion	0	
KD-Cov-010	NSP5	1	SNP	1	P132H_C10449A
KD-Cov-010	NSP5	1	SNP_silent	0	
KD-Cov-010	NSP5	1	Deletion	0	
KD-Cov-010	NSP6	2	SNP	1	I189V_A11537G
KD-Cov-010	NSP6	2	SNP_silent	0	
KD-Cov-010	NSP6	2	Deletion	1	L105_TGTCTGGTT11286.
KD-Cov-010	NSP10	1	SNP	0	
KD-Cov-010	NSP10	1	SNP_silent	1	V57V_T13195C
KD-Cov-010	NSP10	1	Deletion	0	
KD-Cov-010	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-010	NSP12b	2	SNP_silent	1	N591N_C15240T
KD-Cov-010	NSP12b	2	Deletion	0	
KD-Cov-010	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-010	NSP14	1	SNP_silent	0	
KD-Cov-010	NSP14	1	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-010	S	34	SNP	28	T95I_C21846T/G339D_ G22578A/R346K_ G22599A/S371L_ TC22673CT/S373P_ T22679C/S375F_ C22686T/K417N_ G22813T/N440K_ T22882G/G446S_ G22898A/S477N_ G22992A/T478K_ C22995A/E484A_ A23013C/Q493R_ A23040G/G496S_ G23048A/Q498R_ A23055G/N501Y_ A23063T/Y505H_ T23075C/T547K_ C23202A/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/N856K_ C24130A/Q954H_ A24424T/N969K_ T24469A/L981F_ C24503T
KD-Cov-010	S	34	SNP_silent	1	D1146D_C25000T
KD-Cov-010	S	34	Deletion	5	A67_C21762./ A67_A21764./I68_ CATG21767./G142_ GTGTTTATT21987./ N211_ATT22194.
KD-Cov-010	ORF3a	1	SNP	0	
KD-Cov-010	ORF3a	1	SNP_silent	1	T64T_C25584T
KD-Cov-010	ORF3a	1	Deletion	0	
KD-Cov-010	E	1	SNP	1	T9I_C26270T
KD-Cov-010	E	1	SNP_silent	0	
KD-Cov-010	E	1	Deletion	0	
KD-Cov-010	M	3	SNP	3	D3G_A26530G/Q19E_ C26577G/A63T_ G26709A
KD-Cov-010	M	3	SNP_silent	0	
KD-Cov-010	M	3	Deletion	0	
KD-Cov-010	ORF6	1	SNP	0	
KD-Cov-010	ORF6	1	SNP_silent	1	M19M_A27259C
KD-Cov-010	ORF6	1	Deletion	0	
KD-Cov-010	ORF7b	1	SNP	0	
KD-Cov-010	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-010	ORF7b	1	Deletion	0	
KD-Cov-010	ORF8	1	SNP	0	
KD-Cov-010	ORF8	1	SNP_silent	1	V62V_G28079T
KD-Cov-010	ORF8	1	Deletion	0	
KD-Cov-010	3'UTR	1	Extragenic	1	A28271T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-010	N	4	SNP	2	P13L_C28311T/ RG203KR_ GGG28881AAC
KD-Cov-010	N	4	SNP_silent	1	S201S_AG28877TC
KD-Cov-010	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-011	5'UTR	1	Extragenic	1	C241T
KD-Cov-011	NSP1	2	SNP	1	S135R_T670G
KD-Cov-011	NSP1	2	SNP_silent	1	E36E_G373A
KD-Cov-011	NSP1	2	Deletion	0	
KD-Cov-011	NSP2	1	SNP	0	
KD-Cov-011	NSP2	1	SNP_silent	1	G115G_C1150T
KD-Cov-011	NSP2	1	Deletion	0	
KD-Cov-011	NSP3	4	SNP	2	T24I_C2790T/G489S_ G4184A
KD-Cov-011	NSP3	4	SNP_silent	2	F106F_C3037T/A534A_ C4321T
KD-Cov-011	NSP3	4	Deletion	0	
KD-Cov-011	NSP4	6	SNP	5	A146V_C8991T/L264F_ C9344T/T327I_C9534T/ L438F_C9866T/T492I_ C10029T
KD-Cov-011	NSP4	6	SNP_silent	1	V290V_A9424G
KD-Cov-011	NSP4	6	Deletion	0	
KD-Cov-011	NSP5	4	SNP	1	P132H_C10449A
KD-Cov-011	NSP5	4	SNP_silent	3	D48D_C10198T/Y126Y_ C10432T/R131R_ G10447A
KD-Cov-011	NSP5	4	Deletion	0	
KD-Cov-011	NSP6	1	SNP	0	
KD-Cov-011	NSP6	1	SNP_silent	0	
KD-Cov-011	NSP6	1	Deletion	1	S106_ TCTGGTTTT11288.
KD-Cov-011	NSP9	1	SNP	0	
KD-Cov-011	NSP9	1	SNP_silent	1	I65I_C12880T
KD-Cov-011	NSP9	1	Deletion	0	
KD-Cov-011	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-011	NSP12b	2	SNP_silent	1	L749L_C15714T
KD-Cov-011	NSP12b	2	Deletion	0	
KD-Cov-011	NSP13	1	SNP	1	R392C_C17410T
KD-Cov-011	NSP13	1	SNP_silent	0	
KD-Cov-011	NSP13	1	Deletion	0	
KD-Cov-011	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-011	NSP14	1	SNP_silent	0	
KD-Cov-011	NSP14	1	Deletion	0	
KD-Cov-011	NSP15	2	SNP	1	T112I_C19955T
KD-Cov-011	NSP15	2	SNP_silent	1	E145E_A20055G

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-011	NSP15	2	Deletion	0	
KD-Cov-011	S	28	SNP	26	T19I_C21618T/G142D_ G21987A/V213G_ T22200G/G339D_ G22578A/S371F_ C22674T/S373P_ T22679C/S375F_ C22686T/T376A_ A22688G/D405N_ G22775A/R408S_ A22786C/K417N_ G22813T/S477N_ G22992A/T478K_ C22995A/E484A_ A23013C/Q493R_ A23040G/Q498R_ A23055G/N501Y_ A23063T/Y505H_ T23075C/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/Q954H_ A24424T/N969K_ T24469A
KD-Cov-011	S	28	SNP_silent	1	D1146D_C25000T
KD-Cov-011	S	28	Deletion	1	L24_TACCCCTG21633.
KD-Cov-011	ORF3a	3	SNP	2	L140F_C25810T/T223I_ C26060T
KD-Cov-011	ORF3a	3	SNP_silent	1	T64T_C25584T
KD-Cov-011	ORF3a	3	Deletion	0	
KD-Cov-011	E	1	SNP	1	T9I_C26270T
KD-Cov-011	E	1	SNP_silent	0	
KD-Cov-011	E	1	Deletion	0	
KD-Cov-011	M	3	SNP	2	Q19E_C26577G/A63T_ G26709A
KD-Cov-011	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-011	M	3	Deletion	0	
KD-Cov-011	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-011	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-011	ORF6	2	Deletion	0	
KD-Cov-011	ORF7a	1	SNP	1	A50V_C27542T
KD-Cov-011	ORF7a	1	SNP_silent	0	
KD-Cov-011	ORF7a	1	Deletion	0	
KD-Cov-011	ORF7b	1	SNP	0	
KD-Cov-011	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-011	ORF7b	1	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-011	3'UTR	2	Extragenic	2	A28271T/GAGGCCAC GCGGAGTACGATCGAG TG29734.
KD-Cov-011	N	4	SNP	3	P13L_C28311T/ RG203KR_ GGG28881AAC/S413R_ A29510C
KD-Cov-011	N	4	SNP_silent	0	
KD-Cov-011	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-012	5'UTR	1	Extragenic	1	C241T
KD-Cov-012	NSP1	2	SNP	1	S135R_T670G
KD-Cov-012	NSP1	2	SNP_silent	1	E36E_G373A
KD-Cov-012	NSP1	2	Deletion	0	
KD-Cov-012	NSP2	1	SNP	0	
KD-Cov-012	NSP2	1	SNP_silent	1	A26A_A883G
KD-Cov-012	NSP2	1	Deletion	0	
KD-Cov-012	NSP3	4	SNP	2	T24I_C2790T/G489S_ G4184A
KD-Cov-012	NSP3	4	SNP_silent	2	F106F_C3037T/A534A_ C4321T
KD-Cov-012	NSP3	4	Deletion	0	
KD-Cov-012	NSP4	6	SNP	5	A146V_C8991T/L264F_ C9344T/T327I_C9534T/ L438F_C9866T/T492I_ C10029T
KD-Cov-012	NSP4	6	SNP_silent	1	V290V_A9424G
KD-Cov-012	NSP4	6	Deletion	0	
KD-Cov-012	NSP5	3	SNP	1	P132H_C10449A
KD-Cov-012	NSP5	3	SNP_silent	2	D48D_C10198T/R131R_ G10447A
KD-Cov-012	NSP5	3	Deletion	0	
KD-Cov-012	NSP6	1	SNP	0	
KD-Cov-012	NSP6	1	SNP_silent	0	
KD-Cov-012	NSP6	1	Deletion	1	S106_ TCTGGTTTT11288.
KD-Cov-012	NSP9	1	SNP	0	
KD-Cov-012	NSP9	1	SNP_silent	1	I65I_C12880T
KD-Cov-012	NSP9	1	Deletion	0	
KD-Cov-012	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-012	NSP12b	2	SNP_silent	1	L749L_C15714T
KD-Cov-012	NSP12b	2	Deletion	0	
KD-Cov-012	NSP13	2	SNP	2	R392C_C17410T/ P504S_C17746T
KD-Cov-012	NSP13	2	SNP_silent	0	
KD-Cov-012	NSP13	2	Deletion	0	
KD-Cov-012	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-012	NSP14	1	SNP_silent	0	
KD-Cov-012	NSP14	1	Deletion	0	
KD-Cov-012	NSP15	2	SNP	1	T112I_C19955T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-012	NSP15	2	SNP_silent	1	E145E_A20055G
KD-Cov-012	NSP15	2	Deletion	0	
KD-Cov-012	S	28	SNP	26	T19I_C21618T/G142D_ G21987A/V213G_ T22200G/G339D_ G22578A/S371F_ C22674T/S373P_ T22679C/S375F_ C22686T/T376A_ A22688G/D405N_ G22775A/R408S_ A22786C/K417N_ G22813T/S477N_ G22992A/T478K_ C22995A/E484A_ A23013C/Q493R_ A23040G/Q498R_ A23055G/N501Y_ A23063T/Y505H_ T23075C/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/Q954H_ A24424T/N969K_ T24469A
KD-Cov-012	S	28	SNP_silent	1	D1146D_C25000T
KD-Cov-012	S	28	Deletion	1	L24_TACCCCTG21633.
KD-Cov-012	ORF3a	3	SNP	2	L140F_C25810T/T223I_ C26060T
KD-Cov-012	ORF3a	3	SNP_silent	1	T64T_C25584T
KD-Cov-012	ORF3a	3	Deletion	0	
KD-Cov-012	E	1	SNP	1	T9I_C26270T
KD-Cov-012	E	1	SNP_silent	0	
KD-Cov-012	E	1	Deletion	0	
KD-Cov-012	M	3	SNP	2	Q19E_C26577G/A63T_ G26709A
KD-Cov-012	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-012	M	3	Deletion	0	
KD-Cov-012	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-012	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-012	ORF6	2	Deletion	0	
KD-Cov-012	ORF7b	1	SNP	0	
KD-Cov-012	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-012	ORF7b	1	Deletion	0	
KD-Cov-012	3'UTR	2	Extragenic	2	A28271T/GAGGCCAC GCGGAGTACGATCGAG TG29734.
KD-Cov-012	N	4	SNP	3	P13L_C28311T/ RG203KR_ GGG28881AAC/S413R_ A29510C

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-012	N	4	SNP_silent	0	
KD-Cov-012	N	4	Deletion	1	E31_GAGAACGCA28362.
KD-Cov-013	5'UTR	1	Extragenic	1	C241T
KD-Cov-013	NSP1	1	SNP	1	R43H_G393A
KD-Cov-013	NSP1	1	SNP_silent	0	
KD-Cov-013	NSP1	1	Deletion	0	
KD-Cov-013	NSP2	1	SNP	0	
KD-Cov-013	NSP2	1	SNP_silent	1	A555A_C2470T
KD-Cov-013	NSP2	1	Deletion	0	
KD-Cov-013	NSP3	6	SNP	3	K38R_A2832G/P1228L_C6402T/A1892T_G8393A
KD-Cov-013	NSP3	6	SNP_silent	2	F106F_C3037T/A889A_T5386G
KD-Cov-013	NSP3	6	Deletion	1	S1265_GTT6513.
KD-Cov-013	NSP4	1	SNP	1	T492I_C10029T
KD-Cov-013	NSP4	1	SNP_silent	0	
KD-Cov-013	NSP4	1	Deletion	0	
KD-Cov-013	NSP5	1	SNP	1	P132H_C10449A
KD-Cov-013	NSP5	1	SNP_silent	0	
KD-Cov-013	NSP5	1	Deletion	0	
KD-Cov-013	NSP6	2	SNP	1	I189V_A11537G
KD-Cov-013	NSP6	2	SNP_silent	0	
KD-Cov-013	NSP6	2	Deletion	1	L105_TGCTGGTT11286.
KD-Cov-013	NSP10	1	SNP	0	
KD-Cov-013	NSP10	1	SNP_silent	1	V57V_T13195C
KD-Cov-013	NSP10	1	Deletion	0	
KD-Cov-013	NSP12b	3	SNP	1	P314L_C14408T
KD-Cov-013	NSP12b	3	SNP_silent	2	N591N_C15240T/N619N_C15324T
KD-Cov-013	NSP12b	3	Deletion	0	
KD-Cov-013	NSP13	1	SNP	0	
KD-Cov-013	NSP13	1	SNP_silent	1	V42V_C16362T
KD-Cov-013	NSP13	1	Deletion	0	
KD-Cov-013	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-013	NSP14	1	SNP_silent	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-013	NSP14	1	Deletion	0	
KD-Cov-013	S	35	SNP	28	T95I_C21846T/G339D_G22578A/R346K_G22599A/S371L_TC22673CT/S373P_T22679C/S375F_C22686T/K417N_G22813T/N440K_T22882G/G446S_G22898A/S477N_G22992A/T478K_C22995A/E484A_A23013C/Q493R_A23040G/G496S_G23048A/Q498R_A23055G/N501Y_A23063T/Y505H_T23075C/T547K_C23202A/D614G_A23403G/H655Y_C23525T/N679K_T23599G/P681H_C23604A/N764K_C23854A/D796Y_G23948T/N856K_C24130A/Q954H_A24424T/N969K_T24469A/L981F_C24503T
KD-Cov-013	S	35	SNP_silent	2	V11V_C21595T/D1146D_C25000T
KD-Cov-013	S	35	Deletion	5	A67_C21762./A67_A21764./I68_CATG21767./G142_GTGTTTATT21987./N211_ATT22194.
KD-Cov-013	ORF3a	1	SNP	0	
KD-Cov-013	ORF3a	1	SNP_silent	1	T64T_C25584T
KD-Cov-013	ORF3a	1	Deletion	0	
KD-Cov-013	E	1	SNP	1	T9I_C26270T
KD-Cov-013	E	1	SNP_silent	0	
KD-Cov-013	E	1	Deletion	0	
KD-Cov-013	M	3	SNP	3	D3G_A26530G/Q19E_C26577G/A63T_G26709A
KD-Cov-013	M	3	SNP_silent	0	
KD-Cov-013	M	3	Deletion	0	
KD-Cov-013	ORF6	1	SNP	0	
KD-Cov-013	ORF6	1	SNP_silent	1	M19M_A27259C
KD-Cov-013	ORF6	1	Deletion	0	
KD-Cov-013	ORF7b	1	SNP	0	
KD-Cov-013	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-013	ORF7b	1	Deletion	0	
KD-Cov-013	3'UTR	1	Extragenic	1	A28271T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-013	N	5	SNP	3	P13L_C28311T/D63H_G28460C/RG203KR_GGG28881AAC
KD-Cov-013	N	5	SNP_silent	1	L222L_C28940T
KD-Cov-013	N	5	Deletion	1	E31_GAGAACGCA28362.
KD-Cov-014	5'UTR	1	Extragenic	1	C241T
KD-Cov-014	NSP3	5	SNP	2	K38R_A2832G/A1892T_G8393A
KD-Cov-014	NSP3	5	SNP_silent	2	F106F_C3037T/A889A_T5386G
KD-Cov-014	NSP3	5	Deletion	1	S1265_GTT6513.
KD-Cov-014	NSP4	1	SNP	1	T492L_C10029T
KD-Cov-014	NSP4	1	SNP_silent	0	
KD-Cov-014	NSP4	1	Deletion	0	
KD-Cov-014	NSP5	1	SNP	1	P132H_C10449A
KD-Cov-014	NSP5	1	SNP_silent	0	
KD-Cov-014	NSP5	1	Deletion	0	
KD-Cov-014	NSP6	2	SNP	1	I189V_A11537G
KD-Cov-014	NSP6	2	SNP_silent	0	
KD-Cov-014	NSP6	2	Deletion	1	L105_TGTCTGGTT11286.
KD-Cov-014	NSP10	1	SNP	0	
KD-Cov-014	NSP10	1	SNP_silent	1	V57V_T13195C
KD-Cov-014	NSP10	1	Deletion	0	
KD-Cov-014	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-014	NSP12b	2	SNP_silent	1	N591N_C15240T
KD-Cov-014	NSP12b	2	Deletion	0	
KD-Cov-014	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-014	NSP14	1	SNP_silent	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-014	NSP14	1	Deletion	0	
KD-Cov-014	S	34	SNP	28	T95I_C21846T/G339D_ G22578A/R346K_ G22599A/S371L_ TC22673CT/S373P_ T22679C/S375F_ C22686T/K417N_ G22813T/N440K_ T22882G/G446S_ G22898A/S477N_ G22992A/T478K_ C22995A/E484A_ A23013C/Q493R_ A23040G/G496S_ G23048A/Q498R_ A23055G/N501Y_ A23063T/Y505H_ T23075C/T547K_ C23202A/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/N856K_ C24130A/Q954H_ A24424T/N969K_ T24469A/L981F_ C24503T
KD-Cov-014	S	34	SNP_silent	1	D1146D_C25000T
KD-Cov-014	S	34	Deletion	5	A67_C21762./ A67_A21764./I68_ CATG21767./G142_ GTGTTTATT21987./ N211_ATT22194.
KD-Cov-014	ORF3a	1	SNP	0	
KD-Cov-014	ORF3a	1	SNP_silent	1	T64T_C25584T
KD-Cov-014	ORF3a	1	Deletion	0	
KD-Cov-014	E	1	SNP	1	T9I_C26270T
KD-Cov-014	E	1	SNP_silent	0	
KD-Cov-014	E	1	Deletion	0	
KD-Cov-014	M	3	SNP	3	D3G_A26530G/Q19E_ C26577G/A63T_ G26709A
KD-Cov-014	M	3	SNP_silent	0	
KD-Cov-014	M	3	Deletion	0	
KD-Cov-014	ORF6	1	SNP	0	
KD-Cov-014	ORF6	1	SNP_silent	1	M19M_A27259C
KD-Cov-014	ORF6	1	Deletion	0	
KD-Cov-014	ORF7b	1	SNP	0	
KD-Cov-014	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-014	ORF7b	1	Deletion	0	
KD-Cov-014	3'UTR	1	Extragenic	1	A28271T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-014	N	4	SNP	2	P13L_C28311T/ RG203KR_ GGG28881AAC
KD-Cov-014	N	4	SNP_silent	1	S201S_AG28877TC
KD-Cov-014	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-015	5'UTR	1	Extragenic	1	C241T
KD-Cov-015	NSP1	1	SNP	1	S135R_T670G
KD-Cov-015	NSP1	1	SNP_silent	0	
KD-Cov-015	NSP1	1	Deletion	0	
KD-Cov-015	NSP3	4	SNP	2	T24I_C2790T/G489S_ G4184A
KD-Cov-015	NSP3	4	SNP_silent	2	F106F_C3037T/A534A_ C4321T
KD-Cov-015	NSP3	4	Deletion	0	
KD-Cov-015	NSP4	6	SNP	5	L264F_C9344T/T327L_ C9534T/L438F_ C9866T/T461I_C9936T/ T492I_C10029T
KD-Cov-015	NSP4	6	SNP_silent	1	V290V_A9424G
KD-Cov-015	NSP4	6	Deletion	0	
KD-Cov-015	NSP5	3	SNP	1	P132H_C10449A
KD-Cov-015	NSP5	3	SNP_silent	2	D48D_C10198T/R131R_ G10447A
KD-Cov-015	NSP5	3	Deletion	0	
KD-Cov-015	NSP6	1	SNP	0	
KD-Cov-015	NSP6	1	SNP_silent	0	
KD-Cov-015	NSP6	1	Deletion	1	S106_ TCTGGTTTT11288.
KD-Cov-015	NSP9	1	SNP	0	
KD-Cov-015	NSP9	1	SNP_silent	1	I65I_C12880T
KD-Cov-015	NSP9	1	Deletion	0	
KD-Cov-015	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-015	NSP12b	2	SNP_silent	1	L749L_C15714T
KD-Cov-015	NSP12b	2	Deletion	0	
KD-Cov-015	NSP13	2	SNP	2	R392C_C17410T/ P529S_C17821T
KD-Cov-015	NSP13	2	SNP_silent	0	
KD-Cov-015	NSP13	2	Deletion	0	
KD-Cov-015	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-015	NSP14	1	SNP_silent	0	
KD-Cov-015	NSP14	1	Deletion	0	
KD-Cov-015	NSP15	2	SNP	1	T112I_C19955T
KD-Cov-015	NSP15	2	SNP_silent	1	E145E_A20055G
KD-Cov-015	NSP15	2	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-015	S	28	SNP	26	T19I_C21618T/G142D_ G21987A/V213G_ T22200G/G339D_ G22578A/S371F_ C22674T/S373P_ T22679C/S375F_ C22686T/T376A_ A22688G/D405N_ G22775A/R408S_ A22786C/K417N_ G22813T/S477N_ G22992A/T478K_ C22995A/E484A_ A23013C/Q493R_ A23040G/Q498R_ A23055G/N501Y_ A23063T/Y505H_ T23075C/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/Q954H_ A24424T/N969K_ T24469A
KD-Cov-015	S	28	SNP_silent	1	D1146D_C25000T
KD-Cov-015	S	28	Deletion	1	L24_TACCCCTG21633.
KD-Cov-015	ORF3a	2	SNP	1	T223I_C26060T
KD-Cov-015	ORF3a	2	SNP_silent	1	T64T_C25584T
KD-Cov-015	ORF3a	2	Deletion	0	
KD-Cov-015	E	2	SNP	2	T9I_C26270T/S55F_ C26408T
KD-Cov-015	E	2	SNP_silent	0	
KD-Cov-015	E	2	Deletion	0	
KD-Cov-015	M	3	SNP	2	Q19E_C26577G/A63T_ G26709A
KD-Cov-015	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-015	M	3	Deletion	0	
KD-Cov-015	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-015	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-015	ORF6	2	Deletion	0	
KD-Cov-015	ORF7b	1	SNP	0	
KD-Cov-015	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-015	ORF7b	1	Deletion	0	
KD-Cov-015	3'UTR	2	Extragenic	2	A28271T/GAGGCCAC GCGGAGTACGATCGAG TG29734.
KD-Cov-015	N	4	SNP	3	P13L_C28311T/ RG203KR_ GGG28881AAC/S413R_ A29510C
KD-Cov-015	N	4	SNP_silent	0	
KD-Cov-015	N	4	Deletion	1	E31_ GAGAACGCA28362.

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-016	5'UTR	1	Extragenic	1	C241T
KD-Cov-016	NSP1	1	SNP	1	H83Y_C512T
KD-Cov-016	NSP1	1	SNP_silent	0	
KD-Cov-016	NSP1	1	Deletion	0	
KD-Cov-016	NSP3	6	SNP	3	K38R_A2832G/S1039L_C5835T/A1892T_G8393A
KD-Cov-016	NSP3	6	SNP_silent	2	F106F_C3037T/A889A_T5386G
KD-Cov-016	NSP3	6	Deletion	1	S1265_GTT6513.
KD-Cov-016	NSP4	1	SNP	1	T492I_C10029T
KD-Cov-016	NSP4	1	SNP_silent	0	
KD-Cov-016	NSP4	1	Deletion	0	
KD-Cov-016	NSP5	1	SNP	1	P132H_C10449A
KD-Cov-016	NSP5	1	SNP_silent	0	
KD-Cov-016	NSP5	1	Deletion	0	
KD-Cov-016	NSP6	2	SNP	1	I189V_A11537G
KD-Cov-016	NSP6	2	SNP_silent	0	
KD-Cov-016	NSP6	2	Deletion	1	L105_TGTCTGGTT11286.
KD-Cov-016	NSP10	1	SNP	0	
KD-Cov-016	NSP10	1	SNP_silent	1	V57V_T13195C
KD-Cov-016	NSP10	1	Deletion	0	
KD-Cov-016	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-016	NSP12b	2	SNP_silent	1	N591N_C15240T
KD-Cov-016	NSP12b	2	Deletion	0	
KD-Cov-016	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-016	NSP14	1	SNP_silent	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-016	NSP14	1	Deletion	0	
KD-Cov-016	S	34	SNP	28	T95I_C21846T/G339D_ G22578A/R346K_ G22599A/S371L_ TC22673CT/S373P_ T22679C/S375F_ C22686T/K417N_ G22813T/N440K_ T22882G/G446S_ G22898A/S477N_ G22992A/T478K_ C22995A/E484A_ A23013C/Q493R_ A23040G/G496S_ G23048A/Q498R_ A23055G/N501Y_ A23063T/Y505H_ T23075C/T547K_ C23202A/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/N856K_ C24130A/Q954H_ A24424T/N969K_ T24469A/L981F_ C24503T
KD-Cov-016	S	34	SNP_silent	1	D1146D_C25000T
KD-Cov-016	S	34	Deletion	5	A67_C21762./ A67_A21764./I68_ CATG21767./G142_ GTGTTTATT21987./ N211_ATT22194.
KD-Cov-016	ORF3a	1	SNP	0	
KD-Cov-016	ORF3a	1	SNP_silent	1	T64T_C25584T
KD-Cov-016	ORF3a	1	Deletion	0	
KD-Cov-016	E	1	SNP	1	T9I_C26270T
KD-Cov-016	E	1	SNP_silent	0	
KD-Cov-016	E	1	Deletion	0	
KD-Cov-016	M	3	SNP	3	D3G_A26530G/Q19E_ C26577G/A63T_ G26709A
KD-Cov-016	M	3	SNP_silent	0	
KD-Cov-016	M	3	Deletion	0	
KD-Cov-016	ORF6	1	SNP	0	
KD-Cov-016	ORF6	1	SNP_silent	1	M19M_A27259C
KD-Cov-016	ORF6	1	Deletion	0	
KD-Cov-016	ORF7b	2	SNP	1	L4F_C27765T
KD-Cov-016	ORF7b	2	SNP_silent	1	L17L_C27807T
KD-Cov-016	ORF7b	2	Deletion	0	
KD-Cov-016	3'UTR	1	Extragenic	1	A28271T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-016	N	4	SNP	2	P13L_C28311T/ RG203KR_ GGG28881AAC
KD-Cov-016	N	4	SNP_silent	1	S201S_AG28877TC
KD-Cov-016	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-017	5'UTR	1	Extragenic	1	C241T
KD-Cov-017	NSP1	1	SNP	1	S135R_T670G
KD-Cov-017	NSP1	1	SNP_silent	0	
KD-Cov-017	NSP1	1	Deletion	0	
KD-Cov-017	NSP3	4	SNP	2	T24I_C2790T/G489S_ G4184A
KD-Cov-017	NSP3	4	SNP_silent	2	F106F_C3037T/A534A_ C4321T
KD-Cov-017	NSP3	4	Deletion	0	
KD-Cov-017	NSP4	6	SNP	5	A146V_C8991T/L264F_ C9344T/T327I_C9534T/ L438F_C9866T/T492I_ C10029T
KD-Cov-017	NSP4	6	SNP_silent	1	V290V_A9424G
KD-Cov-017	NSP4	6	Deletion	0	
KD-Cov-017	NSP5	3	SNP	1	P132H_C10449A
KD-Cov-017	NSP5	3	SNP_silent	2	D48D_C10198T/R131R_ G10447A
KD-Cov-017	NSP5	3	Deletion	0	
KD-Cov-017	NSP6	1	SNP	0	
KD-Cov-017	NSP6	1	SNP_silent	0	
KD-Cov-017	NSP6	1	Deletion	1	S106_ TCTGGTTTT11288.
KD-Cov-017	NSP8	1	SNP	1	T145I_C12525T
KD-Cov-017	NSP8	1	SNP_silent	0	
KD-Cov-017	NSP8	1	Deletion	0	
KD-Cov-017	NSP9	1	SNP	0	
KD-Cov-017	NSP9	1	SNP_silent	1	I65I_C12880T
KD-Cov-017	NSP9	1	Deletion	0	
KD-Cov-017	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-017	NSP12b	2	SNP_silent	1	L749L_C15714T
KD-Cov-017	NSP12b	2	Deletion	0	
KD-Cov-017	NSP13	1	SNP	1	R392C_C17410T
KD-Cov-017	NSP13	1	SNP_silent	0	
KD-Cov-017	NSP13	1	Deletion	0	
KD-Cov-017	NSP14	2	SNP	2	I42V_A18163G/L157F_ C18508T
KD-Cov-017	NSP14	2	SNP_silent	0	
KD-Cov-017	NSP14	2	Deletion	0	
KD-Cov-017	NSP15	2	SNP	1	T112I_C19955T
KD-Cov-017	NSP15	2	SNP_silent	1	E145E_A20055G

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-017	NSP15	2	Deletion	0	
KD-Cov-017	S	28	SNP	26	T19I_C21618T/G142D_ G21987A/V213G_ T22200G/G339D_ G22578A/S371F_ C22674T/S373P_ T22679C/S375F_ C22686T/T376A_ A22688G/D405N_ G22775A/R408S_ A22786C/K417N_ G22813T/S477N_ G22992A/T478K_ C22995A/E484A_ A23013C/Q493R_ A23040G/Q498R_ A23055G/N501Y_ A23063T/Y505H_ T23075C/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/Q954H_ A24424T/N969K_ T24469A
KD-Cov-017	S	28	SNP_silent	1	D1146D_C25000T
KD-Cov-017	S	28	Deletion	1	L24_TACCCCTG21633.
KD-Cov-017	ORF3a	3	SNP	2	L140F_C25810T/T223I_ C26060T
KD-Cov-017	ORF3a	3	SNP_silent	1	T64T_C25584T
KD-Cov-017	ORF3a	3	Deletion	0	
KD-Cov-017	E	1	SNP	1	T9I_C26270T
KD-Cov-017	E	1	SNP_silent	0	
KD-Cov-017	E	1	Deletion	0	
KD-Cov-017	M	3	SNP	2	Q19E_C26577G/A63T_ G26709A
KD-Cov-017	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-017	M	3	Deletion	0	
KD-Cov-017	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-017	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-017	ORF6	2	Deletion	0	
KD-Cov-017	ORF7b	1	SNP	0	
KD-Cov-017	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-017	ORF7b	1	Deletion	0	
KD-Cov-017	3'UTR	2	Extragenic	2	A28271T/GAGGCCAC GCGGAGTACGATCGAG TG29734.
KD-Cov-017	N	4	SNP	3	P13L_C28311T/ RG203KR_ GGG28881AAC/S413R_ A29510C
KD-Cov-017	N	4	SNP_silent	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-017	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-018	5'UTR	1	Extragenic	1	C241T
KD-Cov-018	NSP2	2	SNP	2	T160L_C1284T/T388L_ C1968T
KD-Cov-018	NSP2	2	SNP_silent	0	
KD-Cov-018	NSP2	2	Deletion	0	
KD-Cov-018	NSP3	6	SNP	2	K38R_A2832G/A1892T_ G8393A
KD-Cov-018	NSP3	6	SNP_silent	3	F106F_C3037T/A889A_ T5386G/K1943K_ G8548A
KD-Cov-018	NSP3	6	Deletion	1	S1265_GTT6513.
KD-Cov-018	NSP4	2	SNP	1	T492L_C10029T
KD-Cov-018	NSP4	2	SNP_silent	1	V334V_T9556G
KD-Cov-018	NSP4	2	Deletion	0	
KD-Cov-018	NSP5	1	SNP	1	P132H_C10449A
KD-Cov-018	NSP5	1	SNP_silent	0	
KD-Cov-018	NSP5	1	Deletion	0	
KD-Cov-018	NSP6	2	SNP	1	I189V_A11537G
KD-Cov-018	NSP6	2	SNP_silent	0	
KD-Cov-018	NSP6	2	Deletion	1	L105_ TGTCTGGTT11286.
KD-Cov-018	NSP10	1	SNP	0	
KD-Cov-018	NSP10	1	SNP_silent	1	V57V_T13195C
KD-Cov-018	NSP10	1	Deletion	0	
KD-Cov-018	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-018	NSP12b	2	SNP_silent	1	N591N_C15240T
KD-Cov-018	NSP12b	2	Deletion	0	
KD-Cov-018	NSP14	2	SNP	2	I42V_A18163G/R163C_ C18526T
KD-Cov-018	NSP14	2	SNP_silent	0	
KD-Cov-018	NSP14	2	Deletion	0	
KD-Cov-018	S	18	SNP	14	T95L_C21846T/G339D_ G22578A/R346K_ G22599A/T547K_ C23202A/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/N856K_ C24130A/Q954H_ A24424T/N969K_ T24469A/L981F_ C24503T
KD-Cov-018	S	18	SNP_silent	1	D1146D_C25000T
KD-Cov-018	S	18	Deletion	3	A67_C21762./ A67_A21764./I68_ CATG21767.
KD-Cov-018	ORF3a	1	SNP	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-018	ORF3a	1	SNP_silent	1	T64T_C25584T
KD-Cov-018	ORF3a	1	Deletion	0	
KD-Cov-018	E	1	SNP	1	T9I_C26270T
KD-Cov-018	E	1	SNP_silent	0	
KD-Cov-018	E	1	Deletion	0	
KD-Cov-018	M	2	SNP	2	Q19E_C26577G/A63T_G26709A
KD-Cov-018	M	2	SNP_silent	0	
KD-Cov-018	M	2	Deletion	0	
KD-Cov-018	ORF6	1	SNP	0	
KD-Cov-018	ORF6	1	SNP_silent	1	M19M_A27259C
KD-Cov-018	ORF6	1	Deletion	0	
KD-Cov-018	ORF7b	1	SNP	0	
KD-Cov-018	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-018	ORF7b	1	Deletion	0	
KD-Cov-018	3'UTR	1	Extragenic	1	A28271T
KD-Cov-018	N	4	SNP	2	P13L_C28311T/ RG203KR_ GGG28881AAC
KD-Cov-018	N	4	SNP_silent	1	S201S_AG28877TC
KD-Cov-018	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-019	NSP1	1	SNP	1	S135R_T670G
KD-Cov-019	NSP1	1	SNP_silent	0	
KD-Cov-019	NSP1	1	Deletion	0	
KD-Cov-019	NSP3	4	SNP	2	T24I_C2790T/G489S_ G4184A
KD-Cov-019	NSP3	4	SNP_silent	2	F106F_C3037T/A534A_ C4321T
KD-Cov-019	NSP3	4	Deletion	0	
KD-Cov-019	NSP4	5	SNP	4	L264F_C9344T/T327I_ C9534T/L438F_ C9866T/T492I_C10029T
KD-Cov-019	NSP4	5	SNP_silent	1	V290V_A9424G
KD-Cov-019	NSP4	5	Deletion	0	
KD-Cov-019	NSP5	2	SNP	1	P132H_C10449A
KD-Cov-019	NSP5	2	SNP_silent	1	R131R_G10447A
KD-Cov-019	NSP5	2	Deletion	0	
KD-Cov-019	NSP6	1	SNP	0	
KD-Cov-019	NSP6	1	SNP_silent	0	
KD-Cov-019	NSP6	1	Deletion	1	S106_ TCTGGTTTT11288.
KD-Cov-019	NSP9	1	SNP	0	
KD-Cov-019	NSP9	1	SNP_silent	1	I65I_C12880T
KD-Cov-019	NSP9	1	Deletion	0	
KD-Cov-019	NSP12b	3	SNP	1	P314L_C14408T
KD-Cov-019	NSP12b	3	SNP_silent	2	D251D_C14220T/ L749L_C15714T
KD-Cov-019	NSP12b	3	Deletion	0	
KD-Cov-019	NSP13	1	SNP	1	R392C_C17410T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-019	NSP13	1	SNP_silent	0	
KD-Cov-019	NSP13	1	Deletion	0	
KD-Cov-019	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-019	NSP14	1	SNP_silent	0	
KD-Cov-019	NSP14	1	Deletion	0	
KD-Cov-019	NSP15	2	SNP	1	T112I_C19955T
KD-Cov-019	NSP15	2	SNP_silent	1	E145E_A20055G
KD-Cov-019	NSP15	2	Deletion	0	
KD-Cov-019	S	23	SNP	21	L5F_C21575T/T19I_C21618T/H49Y_C21707T/G142D_G21987A/V213G_T22200G/G339D_G22578A/S371F_C22674T/S373P_T22679C/S375F_C22686T/T376A_A22688G/D405N_G22775A/R408S_A22786C/K417N_G22813T/D614G_A23403G/H655Y_C23525T/N679K_T23599G/P681H_C23604A/N764K_C23854A/D796Y_G23948T/Q954H_A24424T/N969K_T24469A
KD-Cov-019	S	23	SNP_silent	1	D1146D_C25000T
KD-Cov-019	S	23	Deletion	1	L24_TACCCCTG21633.
KD-Cov-019	ORF3a	3	SNP	1	T223I_C26060T
KD-Cov-019	ORF3a	3	SNP_silent	2	F8F_C25416T/T64T_C25584T
KD-Cov-019	ORF3a	3	Deletion	0	
KD-Cov-019	E	1	SNP	1	T9I_C26270T
KD-Cov-019	E	1	SNP_silent	0	
KD-Cov-019	E	1	Deletion	0	
KD-Cov-019	M	3	SNP	2	Q19E_C26577G/A63T_G26709A
KD-Cov-019	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-019	M	3	Deletion	0	
KD-Cov-019	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-019	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-019	ORF6	2	Deletion	0	
KD-Cov-019	ORF7b	1	SNP	0	
KD-Cov-019	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-019	ORF7b	1	Deletion	0	
KD-Cov-019	3'UTR	1	Extragenic	1	A28271T
KD-Cov-019	N	4	SNP	3	P13L_C28311T/RG203KR_GGG28881AAC/S413R_A29510C

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-019	N	4	SNP_silent	0	
KD-Cov-019	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-020	5'UTR	1	Extragenic	1	C241T
KD-Cov-020	NSP1	3	SNP	1	S135R_T670G
KD-Cov-020	NSP1	3	SNP_silent	2	R24R_C337T/E36E_ G373A
KD-Cov-020	NSP1	3	Deletion	0	
KD-Cov-020	NSP3	5	SNP	2	T24L_C2790T/G489S_ G4184A
KD-Cov-020	NSP3	5	SNP_silent	3	F106F_C3037T/A534A_ C4321T/I1567L_C7420T
KD-Cov-020	NSP3	5	Deletion	0	
KD-Cov-020	NSP4	6	SNP	5	A146V_C8991T/L264F_ C9344T/T327L_C9534T/ L438F_C9866T/T492L_ C10029T
KD-Cov-020	NSP4	6	SNP_silent	1	V290V_A9424G
KD-Cov-020	NSP4	6	Deletion	0	
KD-Cov-020	NSP5	2	SNP	1	P132H_C10449A
KD-Cov-020	NSP5	2	SNP_silent	1	R131R_G10447A
KD-Cov-020	NSP5	2	Deletion	0	
KD-Cov-020	NSP6	1	SNP	0	
KD-Cov-020	NSP6	1	SNP_silent	0	
KD-Cov-020	NSP6	1	Deletion	1	S106_ TCTGGTTTT11288.
KD-Cov-020	NSP9	1	SNP	0	
KD-Cov-020	NSP9	1	SNP_silent	1	I65L_C12880T
KD-Cov-020	NSP9	1	Deletion	0	
KD-Cov-020	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-020	NSP12b	2	SNP_silent	1	L749L_C15714T
KD-Cov-020	NSP12b	2	Deletion	0	
KD-Cov-020	NSP13	1	SNP	1	R392C_C17410T
KD-Cov-020	NSP13	1	SNP_silent	0	
KD-Cov-020	NSP13	1	Deletion	0	
KD-Cov-020	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-020	NSP14	1	SNP_silent	0	
KD-Cov-020	NSP14	1	Deletion	0	
KD-Cov-020	NSP15	2	SNP	1	T112L_C19955T
KD-Cov-020	NSP15	2	SNP_silent	1	E145E_A20055G

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-020	NSP15	2	Deletion	0	
KD-Cov-020	S	21	SNP	19	T19I_C21618T/G142D_G21987A/V213G_T22200G/G339D_G22578A/S371F_C22674T/S373P_T22679C/S375F_C22686T/T376A_A22688G/D405N_G22775A/R408S_A22786C/K417N_G22813T/D614G_A23403G/H655Y_C23525T/N679K_T23599G/P681H_C23604A/N764K_C23854A/D796Y_G23948T/Q954H_A24424T/N969K_T24469A
KD-Cov-020	S	21	SNP_silent	1	D1146D_C25000T
KD-Cov-020	S	21	Deletion	1	L24_TACCCCCTG21633.
KD-Cov-020	ORF3a	3	SNP	2	L140F_C25810T/T223I_C26060T
KD-Cov-020	ORF3a	3	SNP_silent	1	T64T_C25584T
KD-Cov-020	ORF3a	3	Deletion	0	
KD-Cov-020	E	1	SNP	1	T9I_C26270T
KD-Cov-020	E	1	SNP_silent	0	
KD-Cov-020	E	1	Deletion	0	
KD-Cov-020	M	3	SNP	2	Q19E_C26577G/A63T_G26709A
KD-Cov-020	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-020	M	3	Deletion	0	
KD-Cov-020	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-020	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-020	ORF6	2	Deletion	0	
KD-Cov-020	ORF7b	1	SNP	0	
KD-Cov-020	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-020	ORF7b	1	Deletion	0	
KD-Cov-020	3'UTR	2	Extragenic	2	A28271T/GAGGCCACGCGGAGTACGATCGAGTG29734.
KD-Cov-020	N	4	SNP	3	P13L_C28311T/RG203KR_GGG28881AAC/S413R_A29510C
KD-Cov-020	N	4	SNP_silent	0	
KD-Cov-020	N	4	Deletion	1	E31_GAGAACGCA28362.
KD-Cov-021	NSP1	1	SNP	1	S135R_T670G
KD-Cov-021	NSP1	1	SNP_silent	0	
KD-Cov-021	NSP1	1	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-021	NSP3	6	SNP	3	T24I_C2790T/G489S_G4184A/Y996C_A5706G
KD-Cov-021	NSP3	6	SNP_silent	3	F106F_C3037T/A534A_C4321T/L1244L_T6451G
KD-Cov-021	NSP3	6	Deletion	0	
KD-Cov-021	NSP4	5	SNP	4	L264F_C9344T/T327I_C9534T/L438F_C9866T/T492I_C10029T
KD-Cov-021	NSP4	5	SNP_silent	1	V290V_A9424G
KD-Cov-021	NSP4	5	Deletion	0	
KD-Cov-021	NSP5	2	SNP	1	P132H_C10449A
KD-Cov-021	NSP5	2	SNP_silent	1	R131R_G10447A
KD-Cov-021	NSP5	2	Deletion	0	
KD-Cov-021	NSP6	1	SNP	0	
KD-Cov-021	NSP6	1	SNP_silent	0	
KD-Cov-021	NSP6	1	Deletion	1	S106_TCTGGTTTT11288.
KD-Cov-021	NSP9	1	SNP	0	
KD-Cov-021	NSP9	1	SNP_silent	1	I65I_C12880T
KD-Cov-021	NSP9	1	Deletion	0	
KD-Cov-021	NSP10	1	SNP	1	G34R_G13124A
KD-Cov-021	NSP10	1	SNP_silent	0	
KD-Cov-021	NSP10	1	Deletion	0	
KD-Cov-021	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-021	NSP12b	2	SNP_silent	1	L749L_C15714T
KD-Cov-021	NSP12b	2	Deletion	0	
KD-Cov-021	NSP13	1	SNP	1	R392C_C17410T
KD-Cov-021	NSP13	1	SNP_silent	0	
KD-Cov-021	NSP13	1	Deletion	0	
KD-Cov-021	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-021	NSP14	1	SNP_silent	0	
KD-Cov-021	NSP14	1	Deletion	0	
KD-Cov-021	NSP15	2	SNP	1	T112I_C19955T
KD-Cov-021	NSP15	2	SNP_silent	1	E145E_A20055G
KD-Cov-021	NSP15	2	Deletion	0	
KD-Cov-021	NSP16	1	SNP	0	
KD-Cov-021	NSP16	1	SNP_silent	1	G213G_C21297T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-021	NSP16	1	Deletion	0	
KD-Cov-021	S	22	SNP	19	T19I_C21618T/G142D_G21987A/V213G_T22200G/G339D_G22578A/S371F_C22674T/S373P_T22679C/S375F_C22686T/T376A_A22688G/D405N_G22775A/R408S_A22786C/K417N_G22813T/D614G_A23403G/H655Y_C23525T/N679K_T23599G/P681H_C23604A/N764K_C23854A/D796Y_G23948T/Q954H_A24424T/N969K_T24469A
KD-Cov-021	S	22	SNP_silent	2	E554E_G23224A/D1146D_C25000T
KD-Cov-021	S	22	Deletion	1	L24_TACCCCTG21633.
KD-Cov-021	ORF3a	3	SNP	1	T223I_C26060T
KD-Cov-021	ORF3a	3	SNP_silent	2	F8F_C25416T/T64T_C25584T
KD-Cov-021	ORF3a	3	Deletion	0	
KD-Cov-021	E	1	SNP	1	T9I_C26270T
KD-Cov-021	E	1	SNP_silent	0	
KD-Cov-021	E	1	Deletion	0	
KD-Cov-021	M	3	SNP	2	Q19E_C26577G/A63T_G26709A
KD-Cov-021	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-021	M	3	Deletion	0	
KD-Cov-021	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-021	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-021	ORF6	2	Deletion	0	
KD-Cov-021	ORF7b	1	SNP	0	
KD-Cov-021	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-021	ORF7b	1	Deletion	0	
KD-Cov-021	3'UTR	1	Extragenic	1	A28271T
KD-Cov-021	N	4	SNP	3	P13L_C28311T/RG203KR_GGG28881AAC/S413R_A29510C
KD-Cov-021	N	4	SNP_silent	0	
KD-Cov-021	N	4	Deletion	1	E31_GAGAACGCA28362.
KD-Cov-022	NSP1	1	SNP	1	S135R_T670G
KD-Cov-022	NSP1	1	SNP_silent	0	
KD-Cov-022	NSP1	1	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-022	NSP3	4	SNP	2	T24I_C2790T/G489S_G4184A
KD-Cov-022	NSP3	4	SNP_silent	2	F106F_C3037T/A534A_C4321T
KD-Cov-022	NSP3	4	Deletion	0	
KD-Cov-022	NSP4	5	SNP	4	L264F_C9344T/T327L_C9534T/L438F_C9866T/T492I_C10029T
KD-Cov-022	NSP4	5	SNP_silent	1	V290V_A9424G
KD-Cov-022	NSP4	5	Deletion	0	
KD-Cov-022	NSP5	2	SNP	1	P132H_C10449A
KD-Cov-022	NSP5	2	SNP_silent	1	R131R_G10447A
KD-Cov-022	NSP5	2	Deletion	0	
KD-Cov-022	NSP6	1	SNP	0	
KD-Cov-022	NSP6	1	SNP_silent	0	
KD-Cov-022	NSP6	1	Deletion	1	S106_TCTGGTTTT11288.
KD-Cov-022	NSP9	1	SNP	0	
KD-Cov-022	NSP9	1	SNP_silent	1	I65L_C12880T
KD-Cov-022	NSP9	1	Deletion	0	
KD-Cov-022	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-022	NSP12b	2	SNP_silent	1	L749L_C15714T
KD-Cov-022	NSP12b	2	Deletion	0	
KD-Cov-022	NSP13	1	SNP	1	R392C_C17410T
KD-Cov-022	NSP13	1	SNP_silent	0	
KD-Cov-022	NSP13	1	Deletion	0	
KD-Cov-022	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-022	NSP14	1	SNP_silent	0	
KD-Cov-022	NSP14	1	Deletion	0	
KD-Cov-022	NSP15	2	SNP	1	T112I_C19955T
KD-Cov-022	NSP15	2	SNP_silent	1	E145E_A20055G
KD-Cov-022	NSP15	2	Deletion	0	
KD-Cov-022	S	20	SNP	18	T19I_C21618T/G142D_G21987A/G339D_G22578A/S371F_C22674T/S373P_T22679C/S375F_C22686T/T376A_A22688G/D405N_G22775A/R408S_A22786C/K417N_G22813T/D614G_A23403G/H655Y_C23525T/N679K_T23599G/P681H_C23604A/N764K_C23854A/D796Y_G23948T/Q954H_A24424T/N969K_T24469A
KD-Cov-022	S	20	SNP_silent	1	D1146D_C25000T
KD-Cov-022	S	20	Deletion	1	L24_TACCCCTG21633.

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-022	ORF3a	2	SNP	1	T223I_C26060T
KD-Cov-022	ORF3a	2	SNP_silent	1	T64T_C25584T
KD-Cov-022	ORF3a	2	Deletion	0	
KD-Cov-022	E	1	SNP	1	T9I_C26270T
KD-Cov-022	E	1	SNP_silent	0	
KD-Cov-022	E	1	Deletion	0	
KD-Cov-022	M	3	SNP	2	Q19E_C26577G/A63T_G26709A
KD-Cov-022	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-022	M	3	Deletion	0	
KD-Cov-022	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-022	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-022	ORF6	2	Deletion	0	
KD-Cov-022	ORF7b	1	SNP	0	
KD-Cov-022	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-022	ORF7b	1	Deletion	0	
KD-Cov-022	3'UTR	1	Extragenic	1	A28271T
KD-Cov-022	N	4	SNP	3	P13L_C28311T/ RG203KR_ GGG28881AAC/S413R_ A29510C
KD-Cov-022	N	4	SNP_silent	0	
KD-Cov-022	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-023	NSP1	1	SNP	1	S135R_T670G
KD-Cov-023	NSP1	1	SNP_silent	0	
KD-Cov-023	NSP1	1	Deletion	0	
KD-Cov-023	NSP3	6	SNP	3	T24I_C2790T/G489S_ G4184A/I750V_A4967G
KD-Cov-023	NSP3	6	SNP_silent	3	F106F_C3037T/A534A_ C4321T/L744L_G4951A
KD-Cov-023	NSP3	6	Deletion	0	
KD-Cov-023	NSP4	5	SNP	4	L264F_C9344T/T327L_ C9534T/L438F_ C9866T/T492I_C10029T
KD-Cov-023	NSP4	5	SNP_silent	1	V290V_A9424G
KD-Cov-023	NSP4	5	Deletion	0	
KD-Cov-023	NSP5	2	SNP	1	P132H_C10449A
KD-Cov-023	NSP5	2	SNP_silent	1	R131R_G10447A
KD-Cov-023	NSP5	2	Deletion	0	
KD-Cov-023	NSP6	1	SNP	0	
KD-Cov-023	NSP6	1	SNP_silent	0	
KD-Cov-023	NSP6	1	Deletion	1	S106_ TCTGGTTTT11288.
KD-Cov-023	NSP9	1	SNP	0	
KD-Cov-023	NSP9	1	SNP_silent	1	I65L_C12880T
KD-Cov-023	NSP9	1	Deletion	0	
KD-Cov-023	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-023	NSP12b	2	SNP_silent	1	L749L_C15714T
KD-Cov-023	NSP12b	2	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-023	NSP13	2	SNP	1	R392C_C17410T
KD-Cov-023	NSP13	2	SNP_silent	1	Q281Q_G17079A
KD-Cov-023	NSP13	2	Deletion	0	
KD-Cov-023	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-023	NSP14	1	SNP_silent	0	
KD-Cov-023	NSP14	1	Deletion	0	
KD-Cov-023	NSP15	2	SNP	1	T112I_C19955T
KD-Cov-023	NSP15	2	SNP_silent	1	E145E_A20055G
KD-Cov-023	NSP15	2	Deletion	0	
KD-Cov-023	S	20	SNP	18	T19I_C21618T/G142D_G21987A/G339D_G22578A/S371F_C22674T/S373P_T22679C/S375F_C22686T/T376A_A22688G/D405N_G22775A/R408S_A22786C/K417N_G22813T/D614G_A23403G/H655Y_C23525T/N679K_T23599G/P681H_C23604A/N764K_C23854A/D796Y_G23948T/Q954H_A24424T/N969K_T24469A
KD-Cov-023	S	20	SNP_silent	1	D1146D_C25000T
KD-Cov-023	S	20	Deletion	1	L24_TACCCCCTG21633.
KD-Cov-023	ORF3a	2	SNP	1	T223I_C26060T
KD-Cov-023	ORF3a	2	SNP_silent	1	T64T_C25584T
KD-Cov-023	ORF3a	2	Deletion	0	
KD-Cov-023	E	1	SNP	1	T9I_C26270T
KD-Cov-023	E	1	SNP_silent	0	
KD-Cov-023	E	1	Deletion	0	
KD-Cov-023	M	3	SNP	2	Q19E_C26577G/A63T_G26709A
KD-Cov-023	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-023	M	3	Deletion	0	
KD-Cov-023	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-023	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-023	ORF6	2	Deletion	0	
KD-Cov-023	ORF7b	1	SNP	0	
KD-Cov-023	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-023	ORF7b	1	Deletion	0	
KD-Cov-023	3'UTR	1	Extragenic	1	A28271T
KD-Cov-023	N	4	SNP	3	P13L_C28311T/RG203KR_GGG28881AAC/S413R_A29510C
KD-Cov-023	N	4	SNP_silent	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-023	N	4	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-024	NSP1	1	SNP	1	S135R_T670G
KD-Cov-024	NSP1	1	SNP_silent	0	
KD-Cov-024	NSP1	1	Deletion	0	
KD-Cov-024	NSP2	1	SNP	0	
KD-Cov-024	NSP2	1	SNP_silent	1	P13P_T844A
KD-Cov-024	NSP2	1	Deletion	0	
KD-Cov-024	NSP3	5	SNP	3	T24I_C2790T/I385T_ T3873C/G489S_G4184A
KD-Cov-024	NSP3	5	SNP_silent	2	F106F_C3037T/A534A_ C4321T
KD-Cov-024	NSP3	5	Deletion	0	
KD-Cov-024	NSP4	5	SNP	4	L264F_C9344T/T327I_ C9534T/L438F_ C9866T/T492I_C10029T
KD-Cov-024	NSP4	5	SNP_silent	1	V290V_A9424G
KD-Cov-024	NSP4	5	Deletion	0	
KD-Cov-024	NSP5	2	SNP	1	P132H_C10449A
KD-Cov-024	NSP5	2	SNP_silent	1	R131R_G10447A
KD-Cov-024	NSP5	2	Deletion	0	
KD-Cov-024	NSP6	1	SNP	0	
KD-Cov-024	NSP6	1	SNP_silent	0	
KD-Cov-024	NSP6	1	Deletion	1	S106_ TCTGGTTTT11288.
KD-Cov-024	NSP9	1	SNP	0	
KD-Cov-024	NSP9	1	SNP_silent	1	I65I_C12880T
KD-Cov-024	NSP9	1	Deletion	0	
KD-Cov-024	NSP10	1	SNP	1	G34R_G13124A
KD-Cov-024	NSP10	1	SNP_silent	0	
KD-Cov-024	NSP10	1	Deletion	0	
KD-Cov-024	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-024	NSP12b	2	SNP_silent	1	L749L_C15714T
KD-Cov-024	NSP12b	2	Deletion	0	
KD-Cov-024	NSP13	1	SNP	1	R392C_C17410T
KD-Cov-024	NSP13	1	SNP_silent	0	
KD-Cov-024	NSP13	1	Deletion	0	
KD-Cov-024	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-024	NSP14	1	SNP_silent	0	
KD-Cov-024	NSP14	1	Deletion	0	
KD-Cov-024	NSP15	2	SNP	1	T112I_C19955T
KD-Cov-024	NSP15	2	SNP_silent	1	E145E_A20055G

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-024	NSP15	2	Deletion	0	
KD-Cov-024	S	20	SNP	18	T19I_C21618T/G142D_G21987A/G339D_G22578A/S371F_C22674T/S373P_T22679C/S375F_C22686T/T376A_A22688G/D405N_G22775A/R408S_A22786C/K417N_G22813T/D614G_A23403G/H655Y_C23525T/N679K_T23599G/P681H_C23604A/N764K_C23854A/D796Y_G23948T/Q954H_A24424T/N969K_T24469A
KD-Cov-024	S	20	SNP_silent	1	D1146D_C25000T
KD-Cov-024	S	20	Deletion	1	L24_TACCCCCCTG21633.
KD-Cov-024	ORF3a	3	SNP	1	T223I_C26060T
KD-Cov-024	ORF3a	3	SNP_silent	2	F8F_C25416T/T64T_C25584T
KD-Cov-024	ORF3a	3	Deletion	0	
KD-Cov-024	E	1	SNP	1	T9I_C26270T
KD-Cov-024	E	1	SNP_silent	0	
KD-Cov-024	E	1	Deletion	0	
KD-Cov-024	M	3	SNP	2	Q19E_C26577G/A63T_G26709A
KD-Cov-024	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-024	M	3	Deletion	0	
KD-Cov-024	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-024	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-024	ORF6	2	Deletion	0	
KD-Cov-024	ORF7b	1	SNP	0	
KD-Cov-024	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-024	ORF7b	1	Deletion	0	
KD-Cov-024	3'UTR	1	Extragenic	1	A28271T
KD-Cov-024	N	4	SNP	3	P13L_C28311T/RG203KR_GGG28881AAC/S413R_A29510C
KD-Cov-024	N	4	SNP_silent	0	
KD-Cov-024	N	4	Deletion	1	E31_GAGAACGCA28362.
KD-Cov-025	5'UTR	1	Extragenic	1	C241T
KD-Cov-025	NSP2	1	SNP	0	
KD-Cov-025	NSP2	1	SNP_silent	1	C161C_C1288T
KD-Cov-025	NSP2	1	Deletion	0	
KD-Cov-025	NSP3	8	SNP	4	K38R_A2832G/T186I_C3276T/L1035F_C5822T/A1892T_G8393A

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-025	NSP3	8	SNP_silent	3	F106F_C3037T/I385I_C3874A/A889A_T5386G
KD-Cov-025	NSP3	8	Deletion	1	S1265_GTT6513.
KD-Cov-025	NSP4	1	SNP	1	T492I_C10029T
KD-Cov-025	NSP4	1	SNP_silent	0	
KD-Cov-025	NSP4	1	Deletion	0	
KD-Cov-025	NSP5	1	SNP	1	P132H_C10449A
KD-Cov-025	NSP5	1	SNP_silent	0	
KD-Cov-025	NSP5	1	Deletion	0	
KD-Cov-025	NSP6	2	SNP	1	I189V_A11537G
KD-Cov-025	NSP6	2	SNP_silent	0	
KD-Cov-025	NSP6	2	Deletion	1	L105_TGCTCTGGTT11286.
KD-Cov-025	NSP9	1	SNP	0	
KD-Cov-025	NSP9	1	SNP_silent	1	K36K_G12793A
KD-Cov-025	NSP9	1	Deletion	0	
KD-Cov-025	NSP10	1	SNP	0	
KD-Cov-025	NSP10	1	SNP_silent	1	V57V_T13195C
KD-Cov-025	NSP10	1	Deletion	0	
KD-Cov-025	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-025	NSP12b	2	SNP_silent	1	N591N_C15240T
KD-Cov-025	NSP12b	2	Deletion	0	
KD-Cov-025	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-025	NSP14	1	SNP_silent	0	
KD-Cov-025	NSP14	1	Deletion	0	
KD-Cov-025	S	20	SNP	14	T95I_C21846T/G339D_G22578A/R346K_G22599A/T547K_C23202A/D614G_A23403G/H655Y_C23525T/N679K_T23599G/P681H_C23604A/N764K_C23854A/D796Y_G23948T/N856K_C24130A/Q954H_A24424T/N969K_T24469A/L981F_C24503T
KD-Cov-025	S	20	SNP_silent	1	D1146D_C25000T
KD-Cov-025	S	20	Deletion	5	A67_C21762./A67_A21764./I68_CATG21767./G142_GTGTTTATT21987./N211_ATT22194.
KD-Cov-025	ORF3a	1	SNP	0	
KD-Cov-025	ORF3a	1	SNP_silent	1	T64T_C25584T
KD-Cov-025	ORF3a	1	Deletion	0	
KD-Cov-025	E	1	SNP	1	T9I_C26270T
KD-Cov-025	E	1	SNP_silent	0	
KD-Cov-025	E	1	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-025	M	3	SNP	3	D3G_A26530G/Q19E_C26577G/A63T_G26709A
KD-Cov-025	M	3	SNP_silent	0	
KD-Cov-025	M	3	Deletion	0	
KD-Cov-025	3'UTR	1	Extragenic	1	A28271T
KD-Cov-025	N	4	SNP	1	P13L_C28311T
KD-Cov-025	N	4	SNP_silent	0	
KD-Cov-025	N	4	Deletion	3	E31_GAGAACGCA28362./S201_CAGTAGGGAAC TTCTC28876./P207_G28895.
KD-Cov-026	NSP2	1	SNP	0	
KD-Cov-026	NSP2	1	SNP_silent	1	C161C_C1288T
KD-Cov-026	NSP2	1	Deletion	0	
KD-Cov-026	NSP3	9	SNP	4	T186I_C3276T/L1035F_C5822T/P1228L_C6402T/A1892T_G8393A
KD-Cov-026	NSP3	9	SNP_silent	4	F106F_C3037T/I385I_C3874A/A562A_A4405T/A889A_T5386G
KD-Cov-026	NSP3	9	Deletion	1	S1265_GTT6513.
KD-Cov-026	NSP4	1	SNP	1	T492I_C10029T
KD-Cov-026	NSP4	1	SNP_silent	0	
KD-Cov-026	NSP4	1	Deletion	0	
KD-Cov-026	NSP5	1	SNP	1	P132H_C10449A
KD-Cov-026	NSP5	1	SNP_silent	0	
KD-Cov-026	NSP5	1	Deletion	0	
KD-Cov-026	NSP6	2	SNP	1	I189V_A11537G
KD-Cov-026	NSP6	2	SNP_silent	0	
KD-Cov-026	NSP6	2	Deletion	1	L105_TGTCTGGTT11286.
KD-Cov-026	NSP9	1	SNP	0	
KD-Cov-026	NSP9	1	SNP_silent	1	K36K_G12793A
KD-Cov-026	NSP9	1	Deletion	0	
KD-Cov-026	NSP10	1	SNP	0	
KD-Cov-026	NSP10	1	SNP_silent	1	V57V_T13195C
KD-Cov-026	NSP10	1	Deletion	0	
KD-Cov-026	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-026	NSP12b	2	SNP_silent	1	N591N_C15240T
KD-Cov-026	NSP12b	2	Deletion	0	
KD-Cov-026	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-026	NSP14	1	SNP_silent	0	
KD-Cov-026	NSP14	1	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-026	S	18	SNP	13	T95I_C21846T/A222V_C22227T/T547K_C23202A/D614G_A23403G/H655Y_C23525T/N679K_T23599G/P681H_C23604A/N764K_C23854A/D796Y_G23948T/N856K_C24130A/Q954H_A24424T/N969K_T24469A/L981F_C24503T
KD-Cov-026	S	18	SNP_silent	1	D1146D_C25000T
KD-Cov-026	S	18	Deletion	4	A67_C21762./A67_A21764./I68_CATG21767./G142_GTGTTTATT21987.
KD-Cov-026	ORF3a	1	SNP	0	
KD-Cov-026	ORF3a	1	SNP_silent	1	T64T_C25584T
KD-Cov-026	ORF3a	1	Deletion	0	
KD-Cov-026	E	1	SNP	1	T9I_C26270T
KD-Cov-026	E	1	SNP_silent	0	
KD-Cov-026	E	1	Deletion	0	
KD-Cov-026	M	2	SNP	2	Q19E_C26577G/A63T_G26709A
KD-Cov-026	M	2	SNP_silent	0	
KD-Cov-026	M	2	Deletion	0	
KD-Cov-026	3'UTR	1	Extragenic	1	A28271T
KD-Cov-026	N	4	SNP	1	P13L_C28311T
KD-Cov-026	N	4	SNP_silent	0	
KD-Cov-026	N	4	Deletion	3	E31_GAGAACGCA28362./S201_CAGTAGGGGAAC TTCTC28876./P207_G28895.
KD-Cov-027	NSP1	1	SNP	1	S135R_T670G
KD-Cov-027	NSP1	1	SNP_silent	0	
KD-Cov-027	NSP1	1	Deletion	0	
KD-Cov-027	NSP3	4	SNP	2	T24I_C2790T/G489S_G4184A
KD-Cov-027	NSP3	4	SNP_silent	2	F106F_C3037T/A534A_C4321T
KD-Cov-027	NSP3	4	Deletion	0	
KD-Cov-027	NSP4	6	SNP	5	A146V_C8991T/L264F_C9344T/T327I_C9534T/L438F_C9866T/T492I_C10029T
KD-Cov-027	NSP4	6	SNP_silent	1	V290V_A9424G
KD-Cov-027	NSP4	6	Deletion	0	
KD-Cov-027	NSP5	2	SNP	1	P132H_C10449A
KD-Cov-027	NSP5	2	SNP_silent	1	R131R_G10447A
KD-Cov-027	NSP5	2	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-027	NSP6	1	SNP	0	
KD-Cov-027	NSP6	1	SNP_silent	0	
KD-Cov-027	NSP6	1	Deletion	1	S106_ TCTGGTTTT11288.
KD-Cov-027	NSP8	1	SNP	1	T145I_C12525T
KD-Cov-027	NSP8	1	SNP_silent	0	
KD-Cov-027	NSP8	1	Deletion	0	
KD-Cov-027	NSP9	1	SNP	0	
KD-Cov-027	NSP9	1	SNP_silent	1	I65I_C12880T
KD-Cov-027	NSP9	1	Deletion	0	
KD-Cov-027	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-027	NSP12b	2	SNP_silent	1	L749L_C15714T
KD-Cov-027	NSP12b	2	Deletion	0	
KD-Cov-027	NSP13	1	SNP	1	R392C_C17410T
KD-Cov-027	NSP13	1	SNP_silent	0	
KD-Cov-027	NSP13	1	Deletion	0	
KD-Cov-027	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-027	NSP14	1	SNP_silent	0	
KD-Cov-027	NSP14	1	Deletion	0	
KD-Cov-027	NSP15	2	SNP	1	T112I_C19955T
KD-Cov-027	NSP15	2	SNP_silent	1	E145E_A20055G
KD-Cov-027	NSP15	2	Deletion	0	
KD-Cov-027	S	20	SNP	18	T19I_C21618T/G142D_ G21987A/G339D_ G22578A/S371F_ C22674T/S373P_ T22679C/S375F_ C22686T/T376A_ A22688G/D405N_ G22775A/R408S_ A22786C/K417N_ G22813T/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/Q954H_ A24424T/N969K_ T24469A
KD-Cov-027	S	20	SNP_silent	1	D1146D_C25000T
KD-Cov-027	S	20	Deletion	1	L24_TACCCCTG21633.
KD-Cov-027	ORF3a	3	SNP	2	L140F_C25810T/T223I_ C26060T
KD-Cov-027	ORF3a	3	SNP_silent	1	T64T_C25584T
KD-Cov-027	ORF3a	3	Deletion	0	
KD-Cov-027	E	1	SNP	1	T9I_C26270T
KD-Cov-027	E	1	SNP_silent	0	
KD-Cov-027	E	1	Deletion	0	
KD-Cov-027	M	3	SNP	2	Q19E_C26577G/A63T_ G26709A
KD-Cov-027	M	3	SNP_silent	1	F112F_C26858T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-027	M	3	Deletion	0	
KD-Cov-027	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-027	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-027	ORF6	2	Deletion	0	
KD-Cov-027	ORF7b	1	SNP	0	
KD-Cov-027	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-027	ORF7b	1	Deletion	0	
KD-Cov-027	3'UTR	1	Extragenic	1	A28271T
KD-Cov-027	N	5	SNP	4	P13L_C28311T/ RG203KR_ GGG28881AAC/A208V_ C28896T/S413R_ A29510C
KD-Cov-027	N	5	SNP_silent	0	
KD-Cov-027	N	5	Deletion	1	E31_ GAGAACGCA28362.
KD-Cov-028	NSP1	1	SNP	1	S135R_T670G
KD-Cov-028	NSP1	1	SNP_silent	0	
KD-Cov-028	NSP1	1	Deletion	0	
KD-Cov-028	NSP3	4	SNP	2	T24L_C2790T/G489S_ G4184A
KD-Cov-028	NSP3	4	SNP_silent	2	F106F_C3037T/A534A_ C4321T
KD-Cov-028	NSP3	4	Deletion	0	
KD-Cov-028	NSP4	6	SNP	5	A146V_C8991T/L264F_ C9344T/T327L_C9534T/ L438F_C9866T/T492L_ C10029T
KD-Cov-028	NSP4	6	SNP_silent	1	V290V_A9424G
KD-Cov-028	NSP4	6	Deletion	0	
KD-Cov-028	NSP5	2	SNP	1	P132H_C10449A
KD-Cov-028	NSP5	2	SNP_silent	1	R131R_G10447A
KD-Cov-028	NSP5	2	Deletion	0	
KD-Cov-028	NSP6	1	SNP	0	
KD-Cov-028	NSP6	1	SNP_silent	0	
KD-Cov-028	NSP6	1	Deletion	1	S106_ TCTGGTTTT11288.
KD-Cov-028	NSP8	1	SNP	1	T145L_C12525T
KD-Cov-028	NSP8	1	SNP_silent	0	
KD-Cov-028	NSP8	1	Deletion	0	
KD-Cov-028	NSP9	1	SNP	0	
KD-Cov-028	NSP9	1	SNP_silent	1	I65L_C12880T
KD-Cov-028	NSP9	1	Deletion	0	
KD-Cov-028	NSP12b	2	SNP	1	P314L_C14408T
KD-Cov-028	NSP12b	2	SNP_silent	1	L749L_C15714T
KD-Cov-028	NSP12b	2	Deletion	0	
KD-Cov-028	NSP13	1	SNP	1	R392C_C17410T
KD-Cov-028	NSP13	1	SNP_silent	0	
KD-Cov-028	NSP13	1	Deletion	0	
KD-Cov-028	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-028	NSP14	1	SNP_silent	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-028	NSP14	1	Deletion	0	
KD-Cov-028	S	20	SNP	18	T19I_C21618T/G142D_G21987A/G339D_G22578A/S371F_C22674T/S373P_T22679C/S375F_C22686T/T376A_A22688G/D405N_G22775A/R408S_A22786C/K417N_G22813T/D614G_A23403G/H655Y_C23525T/N679K_T23599G/P681H_C23604A/N764K_C23854A/D796Y_G23948T/Q954H_A24424T/N969K_T24469A
KD-Cov-028	S	20	SNP_silent	1	D1146D_C25000T
KD-Cov-028	S	20	Deletion	1	L24_TACCCCCCTG21633.
KD-Cov-028	ORF3a	3	SNP	2	L140F_C25810T/T223I_C26060T
KD-Cov-028	ORF3a	3	SNP_silent	1	T64T_C25584T
KD-Cov-028	ORF3a	3	Deletion	0	
KD-Cov-028	E	1	SNP	1	T9I_C26270T
KD-Cov-028	E	1	SNP_silent	0	
KD-Cov-028	E	1	Deletion	0	
KD-Cov-028	M	3	SNP	2	Q19E_C26577G/A63T_G26709A
KD-Cov-028	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-028	M	3	Deletion	0	
KD-Cov-028	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-028	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-028	ORF6	2	Deletion	0	
KD-Cov-028	ORF7b	1	SNP	0	
KD-Cov-028	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-028	ORF7b	1	Deletion	0	
KD-Cov-028	3'UTR	1	Extragenic	1	A28271T
KD-Cov-028	N	5	SNP	4	P13L_C28311T/RG203KR_GGG28881AAC/A208V_C28896T/S413R_A29510C
KD-Cov-028	N	5	SNP_silent	0	
KD-Cov-028	N	5	Deletion	1	E31_GAGAACGCA28362.
KD-Cov-029	NSP1	1	SNP	1	S135R_T670G
KD-Cov-029	NSP1	1	SNP_silent	0	
KD-Cov-029	NSP1	1	Deletion	0	

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-029	NSP3	6	SNP	4	T24I_C2790T/G489S_ G4184A/T754I_C4980T/ R883S_A5368C
KD-Cov-029	NSP3	6	SNP_silent	2	F106F_C3037T/A534A_ C4321T
KD-Cov-029	NSP3	6	Deletion	0	
KD-Cov-029	NSP4	6	SNP	5	A146V_C8991T/L264F_ C9344T/T327I_C9534T/ L438F_C9866T/T492L_ C10029T
KD-Cov-029	NSP4	6	SNP_silent	1	V290V_A9424G
KD-Cov-029	NSP4	6	Deletion	0	
KD-Cov-029	NSP5	2	SNP	1	P132H_C10449A
KD-Cov-029	NSP5	2	SNP_silent	1	R131R_G10447A
KD-Cov-029	NSP5	2	Deletion	0	
KD-Cov-029	NSP6	1	SNP	0	
KD-Cov-029	NSP6	1	SNP_silent	0	
KD-Cov-029	NSP6	1	Deletion	1	S106_ TCTGGTTTT11288.
KD-Cov-029	NSP9	1	SNP	0	
KD-Cov-029	NSP9	1	SNP_silent	1	I65I_C12880T
KD-Cov-029	NSP9	1	Deletion	0	
KD-Cov-029	NSP12b	3	SNP	2	P314L_C14408T/ M657T_T15437C
KD-Cov-029	NSP12b	3	SNP_silent	1	L749L_C15714T
KD-Cov-029	NSP12b	3	Deletion	0	
KD-Cov-029	NSP13	2	SNP	1	R392C_C17410T
KD-Cov-029	NSP13	2	SNP_silent	1	C471C_C17649T
KD-Cov-029	NSP13	2	Deletion	0	
KD-Cov-029	NSP14	1	SNP	1	I42V_A18163G
KD-Cov-029	NSP14	1	SNP_silent	0	
KD-Cov-029	NSP14	1	Deletion	0	
KD-Cov-029	S	20	SNP	18	T19I_C21618T/G142D_ G21987A/G339D_ G22578A/S371F_ C22674T/S373P_ T22679C/S375F_ C22686T/T376A_ A22688G/D405N_ G22775A/R408S_ A22786C/K417N_ G22813T/D614G_ A23403G/H655Y_ C23525T/N679K_ T23599G/P681H_ C23604A/N764K_ C23854A/D796Y_ G23948T/Q954H_ A24424T/N969K_ T24469A
KD-Cov-029	S	20	SNP_silent	1	D1146D_C25000T

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Table S3. Continued

Sample	Protein	Number of variants in protein	Variant class	No. of variants	Variants
KD-Cov-029	S	20	Deletion	1	L24_TACCCCCTG21633.
KD-Cov-029	ORF3a	3	SNP	2	L140F_C25810T/T223I_C26060T
KD-Cov-029	ORF3a	3	SNP_silent	1	T64T_C25584T
KD-Cov-029	ORF3a	3	Deletion	0	
KD-Cov-029	E	1	SNP	1	T9I_C26270T
KD-Cov-029	E	1	SNP_silent	0	
KD-Cov-029	E	1	Deletion	0	
KD-Cov-029	M	3	SNP	2	Q19E_C26577G/A63T_G26709A
KD-Cov-029	M	3	SNP_silent	1	F112F_C26858T
KD-Cov-029	M	3	Deletion	0	
KD-Cov-029	ORF6	2	SNP	1	D61L_GAT27382CTC
KD-Cov-029	ORF6	2	SNP_silent	1	M19M_A27259C
KD-Cov-029	ORF6	2	Deletion	0	
KD-Cov-029	ORF7b	1	SNP	0	
KD-Cov-029	ORF7b	1	SNP_silent	1	L17L_C27807T
KD-Cov-029	ORF7b	1	Deletion	0	
KD-Cov-029	3'UTR	1	Extragenic	1	A28271T
KD-Cov-029	N	4	SNP	3	P13L_C28311T/RG203KR_GGG28881AAC/S413R_A29510C
KD-Cov-029	N	4	SNP_silent	0	
KD-Cov-029	N	4	Deletion	1	E31_GAGAACGCA28362.