#### SUPPLEMENTARY MATERIALS

## Title: CryoEM and AI reveal a structure of SARS-CoV-2 Nsp2, a multifunctional protein involved in key host processes.

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# **Supplementary figure 1. Multiple sequence alignment of Nsp2.** Conserved cysteines are marked with red arrows (see positions 230-260 in the alignment).

marked with red arrows (se	•			
	cov	pid	L 1 [	•
l HumanCov_SARS2 2 PangolinCov_Manis_javanica	100.0%	100.0% 94.0%		
3 HumanCov SARS	100.0%			
4 BatCov_279_2005	100.0%		APARYVDNECCP	
5 BatCov Shaanxi2011	100.0%	69.4%	DCTPL-ECIRDLLERAG	
6 BatCov_SarsLike_YNLF_31Ctr	100.0%	69.1%		
7 BatCov_YN2013	100.0%		<mark>DCXPL</mark> D <mark>CTXDFLA</mark> RAG	
8 BatCov_JL2012	100.0%			
9 BatCov_HKU3	100.0%		DCYPLCTKDPLARAG	
10 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3	100.0%		DETRY DNFCCPDETRILARAG GYVLRY DNFCCP	
12 BtRl-BetaCoV SC2018 Rhinolophus sp	99.4%		DCYPLECI 201	
13 SARSLikeCovWIV16 Rhinolophus sinicu				
14 BatCov Rhinolophus ferrumequinum	99.7%		DCIRDLLRRGPDCIRDLLRRAG	
15 BatCov_Rhinolophus_blasii	99.5%	62.5%		
16 BatCov_BM48-31	100.0%		During Vonne <mark>cop</mark> During Voltarian	
17 Bat_Hp_betaCov_Hipposideros_pratti	97.2%		<mark>D</mark> GKPLP <mark>CI</mark> VTLLEKAG	
18 ZariaBatCov_Hipposideros_commersoni	96.7%			
19 BatCov_Hypsugo_bat	92.5% 95.8%			
20 BatCovMersLike_BtVs 21 BatCov_Vespertilio_sinensis	81.9%			
22 HKU4BatCov_Tylonycteris_bat	90.8%		NGKPIADYAKIVAKEGL	
23 HedgehogCov	92.2%	20.1%		
24 MERS_Bat-CoV_H.savii	91.7%	20.9%	DGKPIAADKEKL	
25 MERS_Camel	90.0%		D <mark>GKP</mark> ISAYAF <b>L</b> MAKDG	
26 BatCov_HKU4-4	95.2%		NGKPIADYAKIVAKEGL	
27 BatCov_HKU4	95.2%			
28 BatCovHKU5	95.5% 95.2%		TPIDQYMCGK	
29 BatCov_Cov133_2005 30 HumanCov_MERS	95.2%			
31 BatCov_HKU9	86.7%			
32 BatCovHKU9-4	86.7%		NGVLVKPVO	
33 BatCov_Rousettus_bat	86.7%			
34 MurineCov_StrainJHM	80.8%		T <mark>G</mark> T <mark>C</mark> LAKG <b>L</b> EDY <b>G</b> D	
35 BovineCov_strain_98TXSF-110-ENT	82.0%			
36 HumanCov_OC43	82.0%		TGTKPLLZWDOYGCDYTGTGTG	
37 Human_Cov_HKU1	81.1%		SGKLADCMQAYGH -AIYMDQYMCGADGKPDGKP	
38 FelineCov_strain_FIPV_WSU-79 39 HumanCov_229E	81.4% 83.0%			
40 HumanCov_NL63/1-788	82.8%			
41 IBV_strainM41	77.8%			
consensus/100%			sp. hhs	
consensus/90%			1 np.hCs	
consensus/80%			hh.l <mark>p</mark> p.h <mark>C</mark> ss <b>GhP</b> hshhthtt.s	
consensus/70%				
concentration, i con			sdh21shtphluptd	
	COV	nid	sdh21shtphluptd	,
	cov	pid	sdh21shtphluptd	)
1 HumanCov_SARS2	100.0%	100.0%	sdh21shtphluptd	)
			sdh21shtphluptd	)
1 HumanCov_SARS2 2 FangolinCov_Manis_javanica	100.0% 99.7%	100.0% 94.0%	sdh21shtphluptd	)
1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011	100.0% 99.7% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4%	sdh21shtphluptd	0
1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_S79_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr	100.0% 99.7% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1%	sdh21shtphluptd	0
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_YN2013</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0%	sdh21shtphluptd	D
1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_YN2013 8 BatCov_JL2012	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1%	sdh21shtphluptd	D
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_JN2013 8 BatCov_JL2012 9 BatCov_JKU3</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1%	sdh21shtphluptd	D
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Sanaxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_HKU3 10 BatCov_Rp3_2004</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1% 69.1% 67.8%	sdh21shtphluptd	D
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_S79_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_TX2013 8 BatCov_JL2012 9 BatCov_HKU3 10 BatCov_HKU3 11 SARSLikeBatCov_HKU3</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1%	sdh21shtphluptd	D
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_JL2012 9 BatCov_IL2012 9 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1% 69.1% 67.8% 68.9%	sdh21shtphluptd	D
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_IN2013 10 BatCov_IKU3 10 BatCov_IKU3 11 SARSLikeBatCov_IKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCov_RHinolophus_sinicus 14 BatCov_Rhinolophus_ferummequinum</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 67.9% 69.1%	sdh21shtphluptd	D
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SraLike_YNLF_31Ctr 7 BatCov_SareLike_YNLF_31Ctr 7 BatCov_IRU3 10 BatCov_IRU3 10 BatCov_Rp3_2004 11 SARSLikeDatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowWIV16_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5%	100.0% 94.0% 68.4% 69.2% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 69.5%	sdh21shtphluptd	D
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_ST9_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IL2012 9 BatCov_IL2012 9 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCovWIV6_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_MM46-31 </pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.7% 99.5% 100.0%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 67.8% 67.8% 67.8% 67.9% 67.9% 69.5% 62.5%	sdh21shtphluptd	D
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike,YNLF_31Ctr 7 BatCov_TN2013 8 BatCov_JL2012 9 BatCov_JL2014 10 BatCov_JKU3 10 BatCov_KNU3 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeBatCov_HKU3 14 BatCov_Rhinolophus_falsii 15 BatCov_Rhinolophus_blasii 16 BatCov_BM40B-31 17 Bat_Bp_betaCov_Hipposideros_pratti </pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.5% 100.0% 97.2%	100.08 94.08 68.48 69.28 69.48 69.18 69.18 69.18 69.18 69.18 69.18 69.58 69.58 69.58 69.58 69.58 69.58 69.58 69.58	sdh21shtphluptd	D
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IR2013 8 BatCov_IR2013 9 BatCov_IRU3 10 BatCov_Rp3_2004 11 SARSLikeDatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_laii 16 BatCov_Rhiposideros_pratti 17 Bat_Hp_betaCov_Hipposideros_commersoni </pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.7% 99.5% 100.0%	100.08 94.08 68.48 69.28 69.48 69.18 68.18 69.18 69.18 69.18 69.18 69.18 63.98 63.98 63.98 63.98 63.58 67.98 67.98 67.98 27.98 27.98	sdh21shtphluptd	D
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarSLike_YNLF_31Ctr 7 BatCov_IX2013 8 BatCov_IL2012 9 BatCov_HKU3 10 BatCov_RAJ_2004 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018 Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_IM4031 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Imposideros_commersoni 10 BatCov_Imposideros_commerson 10 BatCov_Imposideros_commerson 10 BatCov_Imposideros_commerson 10 BatCov_Imposideros_commerson 11 BatCov_Imposideros_commerson 12 BatCov_Imposideros_commerson 13 BatCov_Imposideros_commerson 14 BatCov_Imposideros_commerson 15 BatCov_Imposideros_comm</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.5% 100.0% 97.2% 96.7%	100.08 94.08 68.48 69.28 69.48 69.18 69.18 69.18 69.18 69.18 69.18 69.58 69.58 69.58 69.58 69.58 69.58 69.58 69.58	sdh21shtphluptd	0
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IR2013 8 BatCov_IR2013 9 BatCov_IRU3 10 BatCov_Rp3_2004 11 SARSLikeDatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_laii 16 BatCov_Rhiposideros_pratti 17 Bat_Hp_betaCov_Hipposideros_commersoni </pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7%	100.08 94.08 68.48 69.28 69.28 69.18 69.18 69.18 67.88 69.58 67.98 67.98 67.98 67.98 67.98 67.98 2.58 22.58 22.38	sdh21shtphluptd	0
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_YN2013 8 BatCov_IKU3 10 BatCov_IKU3 10 BatCov_RHU3 11 SARSLikeBatCov_HKU3 12 BrAl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowWTV16_Rhinolophus_sinicus 14 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 16 BatCov_Hiposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCovMersLikeBtVs </pre>	$\begin{array}{c} 100.0\$\\ 99.7\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 99.7\$\\ 99.7\$\\ 99.7\$\\ 99.5\$\\ 100.0\$\\ 97.2\$\\ 96.7\$\\ 92.5\$\\ 95.5\$ \end{array}$	100.08 94.08 68.48 69.28 69.28 69.18 69.18 69.18 67.88 67.88 67.88 67.98 62.58 62.58 62.58 62.58 27.98 27.98 22.68 22.68	hh. Mo. hCG.         a Gh 21shtphluptg.           81         1         1	0
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IKU3 10 BatCov_IKU3 10 BatCov_IKU3 10 BatCov_Rh3_2004 11 SARSLikeCowHV16 Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasi1 16 BatCov_Rhinolophus_blasi1 16 BatCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_MersLike_BtVs 21 BatCov_Tynonycteris_bat 23 HedgehogCov</pre>	$\begin{array}{c} 100.0\$\\ 99.7\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 99.7\$\\ 99.7\$\\ 99.7\$\\ 99.7\$\\ 99.7\$\\ 99.5\$\\ 81.9\$\\ 92.5\$\\ 81.9\$\\ 92.2\$\\ \end{array}$	100.0% 94.0% 68.4% 69.2% 69.4% 69.4% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 69.5% 62.5% 62.5% 62.5% 62.5% 62.5% 62.5% 62.5% 62.5% 62.5% 62.5% 62.4% 62.5% 62.4% 63.4%	hh. Mo. hCG.         a Gh 21shtphluptg.           81         1         1         160	0
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarSLike_YNLF_31Ctr 7 BatCov_IX2013 8 BatCov_IX2012 9 BatCov_HKU3 10 BatCov_RH03 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018 Rhinolophus_sinicus 14 BatCov_Rhinolophus_blasii 16 BatCov_MAUGABALSI 17 Bat_HD_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Vepsetilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HodgehogCov 24 MERS_Bat-Cov_H.savii</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 100.0% 97.2% 95.5% 95.5% 95.5% 95.5% 95.5% 95.8% 95.8% 92.5% 90.8% 92.2%	100.08 94.08 68.48 69.28 69.28 69.18 68.08 69.18 69.18 69.18 67.88 69.58 67.98 62.58 62.58 62.58 27.78 22.68 22.38 22.48 20.78 20.98	hh. Mo. hCG.         a Gh 21shtphluptg.           81         1         1         160	0
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike,YNLF_31Ctr 7 BatCov_TN2013 8 BatCov_JL2012 9 BatCov_JL2012 9 BatCov_JL2014 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeBatCov_HKU3 14 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 16 BatCov_BM48-31 17 BatIBp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Upspung_bat 20 BatCov_Vespertilio_sinensis 21 HGV4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_camel</pre>	$\begin{array}{c} 100.0\$\\ 99.7\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 99.7\$\\ 99.7\$\\ 99.7\$\\ 99.7\$\\ 99.7\$\\ 99.5\$\\ 810.0\$\\ 95.8\$\\ 81.9\$\\ 95.8\$\\ 81.9\$\\ 92.2\$\\ 91.7\$\\ 90.7\$\\ 90.1\%\\ 90.0\$\\ 90.08\\$	100.0% 94.0% 68.4% 69.2% 69.4% 69.4% 69.1% 69.1% 69.1% 69.1% 67.5% 67.9% 62.5%	hh. Mo. hCG.         a Gh 21shtphluptg.           81         1         1         160	D
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_ST9_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_RD3_2004 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCov_SC2018_Rhinolophus_sp 13 SARSLikeCowHV16_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 17 Bat_Bp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Wespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Dat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4-4</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7%	100.08 94.08 66.48 69.28 69.18 69.18 69.18 69.18 69.18 69.18 67.88 67.88 67.98 62.58 62.58 62.58 62.58 27.78 22.38 22.38 22.38 22.38 20.78 20.98 20.98	hh. Mo. hCG.         a Gh 21shtphluptg.           81         1         1         160	D
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike YNLF_31Ctr 7 BatCov_IX2013 8 BatCov_IKU3 10 BatCov_IKU3 10 BatCov_IKU3 11 SARSLikeBatCov_IKU3 12 BtRl-BetaCov_SC2018 Rhinolophus_sinicus 14 BatCov_Rhinolophus_blasi1 16 BatCov_INinolophus_blasi1 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Vespertilo_sinensis 21 HkdBatCov_IVoy_Datt 23 HedgehogCov 44 MERS_Dat-Cot_H.savii 25 MERS_Came1 26 BatCov_HKU4-4 27 BatCov_HKU4 44 Cov_HKU4-4 27 BatCov_HKU4 44 Cov_HKU4-4 27 BatCov_HKU4 </pre>	$\begin{array}{c} 100.0\$\\ 99.7\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 99.7\$\\ 99.7\$\\ 99.7\$\\ 99.5\$\\ 100.0\$\\ 95.58\\ 81.9$\\ 95.88\\ 81.9$\\ 92.58\\ 90.68\\ 92.2\$\\ 90.08\\ 95.2\$\\ 90.08\\ 95.2\$\\ 95.28\\ $	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 67.9% 67.9% 67.9% 67.9% 62.5% 62.5% 62.5% 22.6% 22.3% 22.6% 22.3% 22.3% 20.7% 20.9% 20.9%	hh. Mo. hCG.         a Gh 21shtphluptg.           81         1         1         160	D
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_ST9_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_RD3_2004 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCov_SC2018_Rhinolophus_sp 13 SARSLikeCowHV16_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 17 Bat_Bp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Wespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Dat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4-4</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7%	100.08 94.08 66.48 69.28 69.18 69.18 69.18 69.18 69.18 69.18 67.88 67.98 67.98 67.98 62.58 27.98 62.58 27.78 22.68 22.348 20.78 20.18 20.98 20.78 20.58	hh. Mo. hCG.         a Gh 21shtphluptg.           81         1         1         160	2
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_IN2013 9 BatCov_IKU3 10 BatCov_IKU3 11 SARSLikeBatCov_IKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeBatCov_IKU3 14 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_INinolophus_blasii 16 BatCov_INinolophus_blasii 17 Bat_IB_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Uypaugo_bat 20 BatCov_Vespertilio_sinensis 21 HdVHastCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4 28 BatCov_HKU5 29 BatCov_IS2 005 30 HumanCov_MERS</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 97.2% 95.8% 81.9% 90.0% 92.5% 95.2% 95.5%	100.08 94.08 66.48 69.48 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.58 69.58 62.58 62.58 62.58 27.98 62.58 22.38 22.38 22.38 22.38 20.78 20.78 20.48 20.58 20.58 20.58 20.58 20.58	hh. Mo. hCG.         a Gh 21shtphluptg.           81         1         1         160	2
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_ST9_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_RD3_2004 11 SARSLikeBatCov_HKU3 10 BatCov_RD3_2004 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCov_SC2018_Rhinolophus_spinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_lalsii 16 BatCov_MA45-31 17 Bat_Bp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Vesprtilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Dat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCovHKU5 29 BatCov_Cov133_2005 30 HumanCov_MERS 31 BatEov_HENS </pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 95.5	100.0% 94.0% 66.4% 65.4% 69.4% 69.1% 69.1% 69.1% 69.1% 69.1% 67.8% 67.9% 67.9% 62.5% 62.5% 62.5% 62.5% 22.3% 22.3% 20.7% 20.4% 20.9% 20.8% 20.2%	hh. Mo. hCG.         a Gh 21shtphluptg.           81         1         1         160	2
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_Z79_2005 5 BatCov_Shaanxi2011 6 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_IKU3 10 BatCov_IKU3 11 SARSLikeBatCov_IHU3 12 BtRl-BetaCov_SC2018 Rhinolophus_spinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasi1 16 BatCov_INpougo_bat 20 BatCovMerLiko_BtVs 11 BatCov_VesperLilo_sinensis 22 HKU4BatCov_IIJonyteris_bat 33 HedgehogCov 44 MERS_OatCov_IHU44 25 MERS_Came1 26 BatCov_HKU44 27 BatCov_IKU4 28 BatCov_IKU5 29 BatCov_IKU3 20 BatCov_IKU5 20 BatCov_IKU5 21 BatCov_IKU4 29 BatCov_IKU5 20 BatCov_IKU5 20 BatCov_IKU5 21 BatCov_IKU5 23 BatCov_IKU5 24 BatSat_Sat_Sat_Sat_Sat_Sat_Sat_Sat_Sat_Sa</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.7% 99.5% 100.0% 97.2% 95.5% 95.8% 80.8% 90.8% 90.0% 95.2% 95.2% 95.5\% 95.5%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 67.8% 69.1% 67.9% 67.9% 67.9% 67.9% 62.5% 62.5% 62.5% 27.9% 22.4% 20.7% 20.4% 20.7% 20.9% 20.4% 20.8% 20.5%	hh. Mo. hCG.         a Gh 21shtphluptg.           81         1         1         160	2
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_RV2013 8 BatCov_IRU3 10 BatCov_IRU3 11 SARSLikeBatCov_HRU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeBatCov_HRU3 14 BatCov_Rhinolophus_text 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 16 BatCov_Hypeugo_bat 20 BatCov_Hypeugo_bat 21 BatCov_Hru3NitkeBtVs 21 BatCov_Hru3NitkeBtVs 21 BatCov_Hru3NitkeBtVs 21 BatCov_Hru3NitkeBtVs 21 BatCov_Hru3NitkeBtVs 21 BatCov_Hypeugo_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4 28 BatCovISI_2005 31 BatCov_HKU3 31 BatCov_RU3 32 BatCovIKU5 32 BatCovIKU5 33 BatCovIKU9 33 BatCovIKU9 33 BatCovRUS 34 BatCovRUS_Dat 35 MERS 31 BatCov_RU4 33 BatCovRUS 34 BatCovRUS 35 BatCovRUS 35 BatCovRUS 35 BatCovRUS 36 BatCovRUS 37 BatCovRUS 38 BatCovRUS 39 BatCovRUS 30 ButCovRUS 31 BatCovRUS 31 BatCovRUS 32 BatCovRUS 33 BatCovRUS 34 BatCovRUS 34 BatCovRUS 35 BatCovRUS 3</pre>	$\begin{array}{c} 100.0 \\ 99.7 \\ 100.0 \\ 100.0 \\ 100.0 \\ 100.0 \\ 100.0 \\ 100.0 \\ 100.0 \\ 100.0 \\ 100.0 \\ 100.0 \\ 99.7 \\ 99.7 \\ 99.7 \\ 99.7 \\ 99.7 \\ 99.7 \\ 99.7 \\ 89.7 \\ 89.7 \\ 89.7 \\ 89.7 \\ 89.7 \\ 89.7 \\ 89.7 \\ 89.5 \\ 81.9 \\ 80.7 \\ 95.2 \\ 89.5 \\ 81.9 \\ 95.2 \\ 89.5 \\ 85.2 \\ 89.5 \\ 85.2 \\ 89.5 \\ 85.2 \\ 89.5 \\ 85.2 \\ 89.5 \\ 85.7 \\ 86.7 \\ 80.7 $	100.08 94.08 66.48 69.28 69.18 68.08 69.18 68.08 67.88 68.98 67.88 67.88 67.88 62.58 27.98 62.58 27.78 22.38 23.48 20.78 20.18 20.98 20.98 20.98 20.98 20.98 20.88 20.78 20.88 20.98 20.88	hh. Mo. hCG.         a Gh 21shtphluptg.           81         1         1         160	2
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IX2013 8 BatCov_IX2013 10 BatCov_IX2014 11 SARSLikeBatCov_IHU3 12 BtRl-BetaCoV_SC2018 Rhinolophus_sp 13 SARSLikeCovWIV16 Rhinolophus_sinicus 14 BatCov_Rhinolophus_blasi1 16 BatCov_MV106 Rhinolophus_sinicus 15 BatCov_Hypaugo_bat 10 BatCov_Hypaugo_bat 11 BatCov_Vespertilio_sinensis 12 HKU4BatCov_TJonyteris_bat 13 HadgeCov 14 MERS_Bat-CoV_H.savi1 15 BatCov_IN404 16 BatCov_IN404 17 BatCov_IN404 18 BatCov_Hypaugo_bat 19 BatCov_Wespertilio_Sinensis 12 HKU4BatCov_Tylonyteris_bat 13 BatCov_Hypaugo_Bat 14 BatCov_IN404 15 BatCov_IN404 15 BatCov_IN404 16 BatCov_IN404 17 BatCov_IN404 18 BatCov_IN404 19 BatCov_IN404 20 BatCovIN405 21 BatCov_IN404 22 BatCovIN405 23 BatCov_IN404 24 BatCov_IN404 25 BatCovIN405 26 BatCovIN405 27 BatCovIN405 28 BatCovIN405 29 BatCovIN404 29 BatCovIN405 20 BatCovIN405 2</pre>	$\begin{array}{c} 100.0\$\\ 99.7\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 100.0\$\\ 99.7\$\\ 99.7\$\\ 99.78\\ 99.78\\ 99.78\\ 99.78\\ 99.78\\ 99.78\\ 99.58\\ 100.08\\ 97.28\\ 95.58\\ 81.98\\ 90.88\\ 92.28\\ 95.88\\ 81.98\\ 92.58\\ 95.58\\ 95.58\\ 95.58\\ 95.58\\ 95.58\\ 95.58\\ 85.78\\ 86.78\\ 86.78\\ 86.78\\ 80.88\\ 90.88\\ 90.86\\ 95.58\\ 95.58\\ 95.58\\ 95.58\\ 86.78\\ 86.78\\ 80.88\\ 90.88\\ 90.88\\ 95.88\\ 86.78\\ 80.88\\ 90.88\\ 90.88\\ 95.88\\ 80.88\\ 95.88\\ 95.88\\ 95.88\\ 86.78\\ 80.67\\ $	100.0% 94.0% 66.4% 65.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 67.8% 69.5% 69.5% 62.5%	B1         1         160	0
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_IN2013 7 BatCov_IN2013 8 BatCov_IKU3 10 BatCov_IKU3 11 SARSLikeBatCov_IKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeBatCov_IKU3 14 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_blasi1 16 BatCov_INJEDATUS 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Iypsugo_bat 20 BatCov_Vespertilio_sinensis 21 HkdPatCov_IIophus_isinensis 21 HkdPatCov_IIophus_isinensis 21 HkdPatCov_IIophus_isinensis 21 HkdPatCov_IIophus_isinensis 21 HkdPatCov_IIophus_isinensis 21 HkdPatCov_IIophus_isinensis 22 HKdVBatCov_IIophus_isinensis 23 HkdPatCov_IIOphus_isinensis 24 MENS_Bat-Cov_II.savii 25 MERS_Camel 26 BatCov_IIIO_S 29 BatCovIIIIO_S 2005 30 HumanCov_MERS 31 BatCov_IRU9 32 BatCovIRU9 33 BatCov_IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.0% 95.5% 95.5% 80.6% 86.7% 80.6%% 82.0%%	100.08 94.08 66.48 69.48 69.48 69.18 69.18 69.18 69.18 67.88 69.58 67.98 62.58 62.58 62.58 27.98 62.58 27.98 62.58 27.98 62.58 27.98 62.58 27.98 62.58 27.98 62.58 20.48 20.58 20.48 20.78 20.48 20.58 20.68 20.58	Bit I         I         160           81         I         Image: State of the state of t	0
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_Shaanxi2011 6 BatCov_Shaanxi2011 7 BatCov_Shaanxi2011 9 BatCov_Ry3_2004 11 SARSLikeDatCov_HKU3 10 BatCov_Rp3_2004 11 SARSLikeDatCov_HKU3 12 BtRl-BetaCov_SC2018_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_RAB_11 7 Bat_Bp_betaCov_Hipposideros_pratti 17 Bat_BhetaCov_Tylonycteris_bat 20 BatCov/Wesptilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HadgehogCov 24 MERS_Dat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCov_HKU4 29 BatCov_KRU5 29 BatCov_Covl33_2005 30 HumanCov_MERS 31 BatCov_Strain_98TXSF-110-ENT 36 HumaCov_Strain_98TXSF-110-ENT 36 HumaCov_C43</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 91.7% 95.2% 86.7% 86.7% 86.7% 86.2% 86.2% 86.2\% 88.2% 86.2\% 88.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\% 82.2\%82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\%82.2\% 82.2\%82.2\% 82.2\%82.2	100.0% 94.0% 66.4% 65.4% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 67.8% 68.9% 67.9% 62.5% 27.7% 62.5% 27.7% 22.6% 22.3% 20.7% 20.7% 20.4% 20.4% 20.4% 20.4% 20.8% 20.2% 20.8% 20.2% 20.8% 20.2% 20.8% 20.2% 20.4%	Bit I         I         160           81         I         Image: State of the state of t	2
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_Z79_2005 5 BatCov_Shaanxi2011 6 BatCov_RV2013 8 BatCov_IL2012 9 BatCov_HKU3 10 BatCov_JKU3 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018 Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_HKU304 17 BatCov_HKU6 Rhinolophus_sinicus 18 BatCov_HK0300_bat 19 BatCov_HK0300_bat 20 BatCovHKU30_bat 21 BatCov_HSU300_bat 22 HKU4BatCov_HI00_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Came1 26 BatCov_HKU4 28 BatCovHKU5 29 BatCovHKU5 29 BatCovHKU5 30 BatCovHKU5 31 BatCov_HKU 32 BatCovHKU9 33 BatCovHKU9 34 MERS 31 BatCovHKU9 34 MERS 31 BatCov_HKU 35 BovineCov_strain_98TXSF-110-ENT 36 HumanCov_QC43 37 Huma.Cov_HKU1 </pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 90.7% 92.5% 95.5% 95.5% 95.2% 88.2% 95.2% 88.2% 95.2% 88.2% 95.2% 88.2% 95.2% 88.2% 95.2% 88.2% 95.2% 88.2% 82.2% 88.2% 88.2% 88.2% 88.2% 88.2% 88.2% 88.2% 88.2% 88.2% 88.2% 88.2% 88.2% 88.2% 88.2% 81.2\%82.2% 81.2% 81.2% 81.2\%82.2% 81.2% 81.2%82.2% 81.2% 81.2%82.2% 81.2% 81.2%82.2% 81.2%82.2% 81.2%82.2% 82.2% 82.2%82.2% 82.2% 82.2%82.2% 82.2% 82.2%82.2% 82.2%82.2% 82.2% 82.2% 82.2% 82.2% 82.2% 82.2% 82.2%	100.0% 94.0% 66.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 69.5% 62.5% 62.5% 62.5% 62.5% 27.9% 22.6% 22.4% 20.7% 20.4% 20.9% 20.4% 20.9% 20.2% 20.9% 20.2% 20.9% 20.2% 20.9% 20.2% 20.9% 20.2% 20.9% 20.2%	Bit I         I         160           81         I         Image: State of the state of t	2
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_Shaanxi2011 6 BatCov_Shaanxi2011 7 BatCov_Shaanxi2011 9 BatCov_Ry3_2004 11 SARSLikeDatCov_HKU3 10 BatCov_Rp3_2004 11 SARSLikeDatCov_HKU3 12 BtRl-BetaCov_SC2018_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_RAB_11 7 Bat_Bp_betaCov_Hipposideros_pratti 17 Bat_BhetaCov_Tylonycteris_bat 20 BatCov/Wesptilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HadgehogCov 24 MERS_Dat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCov_HKU4 29 BatCov_KRU5 29 BatCov_Covl33_2005 30 HumanCov_MERS 31 BatCov_Strain_98TXSF-110-ENT 36 HumaCov_Strain_98TXSF-110-ENT 36 HumaCov_C43</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 91.7% 95.2% 86.7% 86.7% 86.7% 86.2% 86.2% 86.2\% 88.2% 86.2\% 88.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\% 82.2\%82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\% 82.2\%82.2\% 82.2\%82.2\% 82.2\%82.2\% 82.2\%82.2	100.08 94.08 65.48 65.48 69.18 69.18 69.18 69.18 69.18 69.18 69.18 67.88 67.98 67.98 67.98 62.58 27.78 22.68 22.348 20.78 22.348 20.78 22.68 20.78 20.98 20.58	Nh. Morth AG         South State	
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_IN2013 9 BatCov_INU3 10 BatCov_INU3 11 SARSLikeBatCov_INU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeBatCov_INU3 14 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_INJ2010 19 BatCov_INJ2010phus_ferumequinum 15 BatCov_INJ2010phus_ferumequinum 15 BatCov_INJ2010phus_ferumequinum 15 BatCov_INJ2010phus_ferumequinum 15 BatCov_INJ2010phus_ferumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_INJ2010phus_ferumequinum 15 BatCov_INJ2010phus_ferumequinum 16 BatCov_INJ2010phus_ferumequinum 17 Bat_IB_betaCov_INJ200steros_commersoni 18 BatCov_INJ2010phus_ferumequinum 19 BatCov_INJ2010phus_ferumequinum 20 BatCov_INJ2010phus_ferumequinum 21 BatCov_INJ2010phus_ferumequinum 22 HadVaBatCov_TJ10nycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_INJ3_2005 20 BatCov_ROUSE1 21 BatCov_ROUSE1 22 BatCov_ROUSE1 23 BatCov_ROUSE1 24 BatCov_INJ3_2005 25 BatCov_ROUSE1 25 BatCov_StrainJHM 25 DovineCov_StrainJHM 25 DovineCov_StrainJPHTSF-110-ENT 26 HumanCov_OC43 27 Huma_Cov_HKU1 28 FalineCov_HKU1 28 FalineCov_HKU1 29 FalineCov_HKU1 20 FalineCov_HKU 20 F</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 100.0% 89.7% 99.5% 81.9% 90.7% 90.6% 81.9% 95.8% 82.2% 95.8% 82.2% 95.8% 82.2% 82.	100.08 94.08 65.48 65.48 65.48 65.48 65.18 65.18 65.18 65.18 65.18 65.18 65.18 65.58 62.58 62.58 62.58 62.58 62.58 27.98 62.58 27.98 62.58 22.38 22.38 20.48 20.78 20.48 20.59	Nh. Morth AG         South State	
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_Shaanxi2011 6 BatCov_Shaanxi2011 6 BatCov_Shaanxi2011 9 BatCov_RN2013 9 BatCov_RN2013 9 BatCov_RN3 10 BatCov_RN3 10 BatCov_RN3 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCov_SC2018_Rhinolophus_spinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 16 BatCov_Rhinolophus_ferrumequinum 17 Bat_Bp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Wespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Dat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCov_HKU4 29 BatCov_KEV5 29 BatCov_Cov133_2005 30 HumanCov_MERS 31 BatCov_StrainJHM 35 DovineCov_strain_98TXSF-110-ENT 36 HumanCov_OC43 37 Human_Cov_NE63/1-788 41 EVS_trainM41 </pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.8% 99.7% 90.8% 91.7% 90.8% 91.7% 91.7% 92.5% 91.7% 92.5% 95.2% 86.7% 87.2%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 69.5% 62.5% 62.5% 62.5% 62.5% 27.9% 22.6% 22.3% 20.7% 20.9% 20.4% 20.9% 20.2% 20.9% 20.2%	Nh. Morth AG         South State	2
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_Z79_2005 5 BatCov_Shaanxi2011 6 BatCov_SarSLike_YNLF_31Ctr 7 BatCov_HXU013 8 BatCov_HKU3 10 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018 Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasi1 16 BatCov_HVipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Vappaugo_bat 20 BatCov_HVU0_Dat 21 BatCov_HVU1A 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 44 MERS_Dat-Cov_H.savi1 25 MERS_Camel 26 BatCov_HKU3 29 BatCov_HKU4 29 BatCov_HKU4 21 BatCov_HKU4 21 BatCov_HKU4 23 BatCovHKU5 31 BatCov_HKU4 33 BatCovHKU9 34 MERS 31 BatCov_HKU9 35 BatCovHKU9 36 BatCovC43 37 HumaCov_Ot43 37 HumaCov_243 37 HumaCov_243 37 HumaCov_243 37 HumaCov_243 37 HumaCov_229 40 HumanCov_NE63/1-788 41 INV_strainM41 consensus/100% </pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 97.2% 95.5% 95.2% 90.8% 90.8% 90.8% 92.5% 95.2% 95.2% 95.2% 95.2% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.2% 80.2%	100.08 94.08 65.48 65.48 65.48 65.48 65.18 65.18 65.18 65.18 65.18 65.18 65.18 65.58 62.58 62.58 62.58 62.58 62.58 27.98 62.58 27.98 62.58 22.38 22.38 20.48 20.78 20.48 20.59	Nh. Morth AG         South State	
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_IN2013 7 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_IKU3 10 BatCov_IKU3 11 SARSLikeBatCov_IKU3 12 BtRl-BetaCoV_SC2019_Rhinolophus_sp 13 SARSLikeBatCov_IKU3 14 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_blasi1 16 BatCov_INpougo_bat 20 BatCovINFUS 11 BatCov_IVSU300_Dat 21 BatCov_IVSU300_Dat 23 HedgehogCov 24 MERS_Bat-Cov_I.savi1 25 MERS_Camel 26 BatCov_INU4 28 BatCov_INSU3 2005 31 BatCov_INU4 28 BatCov_INSU3 32 BatCovIN3_2005 31 BatCov_INU4 33 BatCov_StrainJHM 35 DovincCov_StrainJHM 35 BotineCov_StrainJHM 36 FelineCov_IKU1 38 FelineCov_IKU1 38 FelineCov_IKU1 39 FelineCov_ISA 31 HumanCov_INE31 31 HumanCov_INE31 31 HumanCov_INE31 32 HumanCov_INE31 33 HumanCov_INE31 34 HumanCov_INE31 35 HumaCov_ISA 35 HumaCov_ISA 36 HumanCov_ISA 36 HumanCov_ISA 37 HumanCov_ISA 31 HumanCov_ISA 31 HumanCov_ISA 31 HumanCov_ISA 33 HumanCov_ISA 34 HumaCov_ISA 35 HUMA 35 HumACOv_ISA 35 HUMA 35 HUMA 35 HUMACOV_ISA</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 97.2% 95.5% 95.2% 90.8% 90.8% 90.8% 92.5% 95.2% 95.2% 95.2% 95.2% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.2% 80.2%	100.08 94.08 65.48 65.48 65.48 65.48 65.18 65.18 65.18 65.18 65.18 65.18 65.18 65.58 62.58 62.58 62.58 62.58 62.58 27.98 62.58 27.98 62.58 22.38 22.38 20.48 20.78 20.48 20.59	81	2
<pre>1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_Z79_2005 5 BatCov_Shaanxi2011 6 BatCov_SarSLike_YNLF_31Ctr 7 BatCov_HXU013 8 BatCov_HKU3 10 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018 Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasi1 16 BatCov_HVipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Vappaugo_bat 20 BatCov_HVU0_Dat 21 BatCov_HVU1A 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 44 MERS_Dat-Cov_H.savi1 25 MERS_Camel 26 BatCov_HKU3 29 BatCov_HKU4 29 BatCov_HKU4 21 BatCov_HKU4 21 BatCov_HKU4 23 BatCovHKU5 31 BatCov_HKU4 33 BatCovHKU9 34 MERS 31 BatCov_HKU9 35 BatCovHKU9 36 BatCovC43 37 HumaCov_Ot43 37 HumaCov_243 37 HumaCov_243 37 HumaCov_243 37 HumaCov_243 37 HumaCov_229 40 HumanCov_NE63/1-788 41 INV_strainM41 consensus/100% </pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 97.2% 95.5% 95.2% 90.8% 90.8% 90.8% 92.5% 95.2% 95.2% 95.2% 95.2% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.2% 80.2%	100.08 94.08 65.48 65.48 65.48 65.48 65.18 65.18 65.18 65.18 65.18 65.18 65.18 65.58 62.58 62.58 62.58 62.58 62.58 27.98 62.58 27.98 62.58 22.38 22.38 20.48 20.78 20.48 20.59	hh. Mo. Hol.         1         160           81         1         1         160	2

HumanCov_SARS2	cov 100.0%	pid 100.0%	PNEVEPLNSIIKT OPRVEKKKLDOPMORIRSVYPVASPN
PangolinCov_Manis_javanica		94.0%	161 2 PART PLANT OF A SALE TO AND THE VEYAGE TO COMPANY AND COMPAN
HumanCov_SARS	100.0%		PKFVFPLNSKVKVLQPRVEKKKZECFMCRTRSVYPVASPQ
BatCov_279_2005	100.0%	69.2%	PRFVEPLNSKV <mark>KVTQPRVEKKK</mark> TE <b>CPMGRTRSVXPVATP</b> Q
BatCov_Shaanxi2011	100.0%		PKEVEPLNSKV <mark>KVI OPRVEKKK</mark> TE <b>CEMGRI REVYPVA T</b> PQ <mark>PC</mark> NDME <b>L STLAKC</b> NEC
BatCov_SarsLike_YNLF_31Ctr	100.0%		PREVEPLNSTURVIQPRVENKKTEGFMGRIREVPVASPQECNNMHLSTLMTCSEC
BatCov_YN2013	100.0%		PROVED NERVICITOPROFILM C-NICL
BatCov_JL2012	100.0%		PREVEPTNSRVRVTOPRVERNTEGEMGRUTSVQVATPN
BatCov_HKU3	100.0%		PR:V-PDNSRVKVIOPRVSHKKTEG-MGROISVPVATPQ
BatCov_Rp3_2004	100.0%		PROV PENERVIXVI OPIX EXAKTEGOMGIO IS VYPVATPQ
SARSLikeBatCov_HKU3 BtRl-BetaCoV_SC2018_Rhinolophus_sp		68.9% 69.5%	
SARSLikeCovWIV16_Rhinolophus_sinicus			
BatCov_Rhinolophus_ferrumequinum		69.1%	
BatCov_Rhinolophus_leriumequinum		62.5%	
BatCov_RHINGIODHUS_DIASII BatCov_BM48-31	100.0%		
Bat Hp betaCov Hipposideros pratti	97.2%		PHCV-DAPDCAUKOWKPEKVKRGADG-WTKLERV/NINGFD
ZariaBatCov_Hipposideros_commersoni		27.78	NHNILASDCTVHVLKB.KV.NTGEPVLNKFKKLYNVSSLG
BatCov_Hypsugo_bat		22.6%	PPESTLGGKVEVLAPRNKWSGKNTAALKDELLYTFYGKDALEKESYSAFADCTGC
BatCovMersLike_BtVs	95.8%	22.3%	PPHTTLGGKVDLTVPRNKWTGKTALNIKOKILYTFYGKDALDNESYIYESAYADCTSC
BatCov_Vespertilio_sinensis	81.9%	23.4%	PPHT TIGGKVDLIVPRNKKTALNLKQKILTTYGKDALDNHSYIYESAYADCTSC
HKU4BatCov_Tylonycteris_bat	90.8%	20.7%	PEHTTIGOTLMVSPLKATN-NKNSNLKOTLLYTFYGKDAVQQIYHSAYVDCNAC
HedgehogCov	92.2%	20.1%	PAHP3TLGSKVEQLKPHVAKGNLVGLTLKAKILYTMYGED
MERS_Bat-CoV_H.savii	91.7%	20.9%	<b>RAHSTIGGKVDLLVPINKKSSLSLKDKILUTFYGKKSFEQHSYIYHSAFADCTSC</b>
MERS_Camel	90.0%	20.4%	PHYTIGCXILLITELKOKLLITFYGKESLENPTYIYHSAFIECGSC
BatCov_HKU4-4	95.2%		PEHTYTIGS <mark>QILMVSP</mark> LKATN-NKN-NLKQ <mark>R</mark> LL <mark>V</mark> TFYGKDAVQQPGYIYH <mark>S</mark> AYVD <mark>C</mark> NA <mark>C</mark>
BatCov_HKU4 BatCovHKU5	95.2%		<b>P</b> EHTTTIGS <mark>OT</mark> LAVS <b>E</b> LKATN-NKNGNLKO <mark>R</mark> LLGTFYGKDAV <u>OQ</u> PGYIYH <mark>S</mark> AYVD <mark>C</mark> NA <mark>C</mark>
BatCovHKU5	95.5%	20.5%	PRESTIC <mark>SEIQVIAP</mark> STAVQANGELNLKQ <mark>R</mark> LLVAFYGKQAVSEPNYIYESAYVDCTS <mark>C</mark>
BatCov_Cov133_2005	95.2%	20.2%	ehtetig_001.MVS2lkatn-nkngnlkQ <u>r</u> llnyfygkeavQQPGyiyh <mark>S</mark> ayyd <mark>C</mark> Na <mark>C</mark>
HumanCov_MERS	95.8%	20.0%	PHYSTEGCKILALTERNKWSGVSDLSLKQKLLTFYGKESLENPTYIYESAFIECGSC
BatCov_HKU9		14.0%	-YYPSTSSVVEHTKETRGGPVGKTVEAVMLSLYGTSNYNPATPVARL
BatCovHKU9-4		14.5%	-XPSHPMSAUGHTKRSSDIPLGKTVDSILLSLYGTS
BatCov_Rousettus_bat		14.1%	-IIFISTSSVVSITKERAGATVGNTVQSVMLSMIGTEANPVTPVVRLRCSSC
MurineCov_StrainJHM BowineCov_strain_9974SE_110_ENT		12.2%	TABLLAFINE VINEL-MILVETM-LITD-SSVTEFCIKTK-LCOCGFITQFGYVDCCGDTC
BovineCov_strain_98TXSF-110-ENT HumanCov OC43		12.8% 12.5%	FYEWIADD ILLRU-ENLYDIMSCFIEGADAWNAFIGYD-LKDCGFYMQFGYIDCEQDLC
HumanCov_OC43 Human_Cov_HKU1		12.5%	VHLLSADATVLKL-PSLMAVM-THED_DESTESTANUD_L
FelineCov_strain_FIPV_WSU-79		12.3%	-PHKLENCATREVAPEVKKNSKV-VLSEEVEKLADIFGSDFMGNGDSLNTCFDSLUTTAATT
HumanCov 229E		10.5%	-LETLENGSVLEMAKEVKTSSIV-VLSDALDKLYKVFGSDVMTNGSNTLEAFTKDVFTSALVOCTO
HumanCov NL63/1-788	82.8%	9.9%	-GHTLKSGCKLINAKEPKYSSIV-VLSGEWNAW, RAFGSPFITNGMSLLDIIVKPVFPNAFU
IBV strainM41	77.8%		AAKIQVSAMAMRRLVGE <mark>TTAKVMD</mark> ALGSNMSALFQIFKQQIVRIFQKALAIFENVSELPQRIAALKMAFAK <mark>C</mark>
consensus/100%			
consensus/90%			······································
consensus/80%			P.asas.suhl.hh. <mark>p</mark> htttpshp.p.lashhs.pp.s.hhhsshhc <mark>C</mark> st <mark>C</mark> . Phas_shsuplchlpPchtpphspsh.h+.+.lushhu.ppss.hhh <mark>s</mark> shhc <mark>C</mark> spC
	0.017	nid	241 • • •
HumanCov_SARS2	cov 100.0%		241 3 ETSWOLG DEVLA-CEPCOTENE TRIGATRICOLEONAVVIITCPACINGEVE-NES LA EVE-NES CI
PangolinCov_Manis_javanica	100.0%	100.0% 94.0%	
PangolinCov_Manis_javanica HumanCov_SARS	100.0% 99.7% 100.0%	100.0% 94.0% 68.4%	
PangolinCov_Manis_javanica HumanCov_SARS BatCov_279_2005	100.0% 99.7% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2%	
PangolinCov_Manis_javanica HumanCov_SARS BatCov_279_2005 BatCov_Shaanxi2011	100.0% 99.7% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4%	
PangolinCov_Manis_javanica HumanCov_SARS BatCov_279_2005 BatCov_Shaanxi2011 BatCov_SarsLike_YNLF_31Ctr	100.0% 99.7% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1%	
PangolinCov_Manis_javanica HumanCov_SARS BatCov_S79_2005 BatCov_Shaanxi2011 BatCov_SarsLike_YNLF_31Ctr BatCov_YN2013	100.0% 99.7% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0%	
PangolinCov_Manis_javanica HumanCov_SARS BatCov_S79_2005 BatCov_Shaanxi2011 BatCov_SarsLike_YNLF_31Ctr BatCov_YN2013 BatCov_JL2012	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1%	ETSMOR O DFWGA - CEPCG 221 LTXE GA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_779_2005 BatCov_Shaanx12011 BatCov_SarsLike_YNLF_31Ctr BatCov_YN2013 BatCov_JL2012 BatCov_IKU3	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1%	ETSMOR O DFWGA - CEPCG 221 LTXE GA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_SP_2005 BatCov_Shaanxi2011 BatCov_SarsLike_YNLF_31Ctr BatCov_JN2013 BatCov_JL2012 BatCov_HKU3 BatCov_HKJ3 BatCov_B3_2004	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1% 69.1%	ETSMOR O DFWGA - CEPCG 221 LTXE GA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_S79_2005 BatCov_Shaanxi2011 BatCov_SarsLike_YNLF_31Ctr BatCov_YN2013 BatCov_JL2012 BatCov_LL2012 BatCov_RU3 BatCov_RD3_2004 SARSLikeBatCov_HKU3	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1% 69.1% 69.1% 69.8%	ETSMOR O DFWGA - CEPCG 221 LTXE GA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_S79_2005 BatCov_Shaanxi2011 BatCov_SareLike_YNLF_31Ctr BatCov_SareLike_YNLF_31Ctr BatCov_L2012 BatCov_IRU3 BatCov_R93_2004 SARSLikeBatCov_RU3 Brk1-BetaCoV_SC2018_Rhinolophus_sp	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5%	ETSMOR O DFWGA - CEPCG 221 LTXE GA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_SP_2005 BatCov_Shaanxi2011 BatCov_SarsLike_YNLF_31Ctr BatCov_JN2013 BatCov_JL2012 BatCov_HKU3 BatCov_RB3_2004 SARSLikeBatCov_HKU3 Btrl-BetaCoV_SC2018_Rhinolophus_sp SARSLikeCowHV16_Rhinolophus_sinicus	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 67.8% 68.9% 69.5% 67.9%	ETSMOR O DFWGA - CEPCG 221 LTXE GA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_779_2005 BatCov_Shaanxi2011 BatCov_SaraLike_YNLF_31Ctr BatCov_WR2013 BatCov_JL2012 BatCov_IHU3 BatCov_IHU3 BatCov_RB3_2004 SARSLikeBatCov_HKU3 BtR1-BetaCoV_SC2018_Rhinolophus_sp SARSLikeCovWIV16_Rhinolophus_sinicus BatCov_Rhinolophus_ferrumequinum	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 69.5% 67.9% 69.5% 69.5% 69.1%	ETSMOR O DFWGA - CEPCG 221 LTXE GA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_S79_2005 BatCov_Staanxi2011 BatCov_ISU BatCov_IN2013 BatCov_IN2013 BatCov_IL2012 BatCov_RB3_2004 SARSLikeBatCov_HKU3 BtRl=BetCoV_SC2018_Rhinolophus_sp SARSLikeCov#KV16_Rhinolophus_sinicus BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_blasii	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7%	100.0% 94.0% 68.4% 69.2% 69.2% 69.4% 69.1% 68.0% 69.1% 68.9% 69.5% 67.5% 67.5% 67.5%	ETSMOR O DFWGA - CEPCG 221 LTXE GA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_79_2005 BatCov_Shaanxi2011 BatCov_SaraLike_YNLF_31Ctr BatCov_HX2013 BatCov_HX013 BatCov_HKU3 BatCov_RB3_2004 SARSLikeBatCov_HKU3 Btrl-BetaCoV_SC2018_Rhinolophus_sp SARSLikeCovHV16_Rhinolophus_sinicus BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_blasii BatCov_BM48-31	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 67.8% 67.9% 67.9% 67.9% 62.5%	ETSMOR O DFWGA - CEPCG 221 LTXE GA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_779_2005 BatCov_Shaanxi2011 BatCov_SnaInke_YNLF_31Ctr BatCov_TN2013 BatCov_TL2012 BatCov_HKU3 BatCov_R93_2004 SARSLikeBatCov_HKU3 BR1-BetaCoV_SC2018_Rhinolophus_sp SARSLikeCovWIV16_Rhinolophus_sinicus BatCov_Rhinolophus_ferrumequinum BatCov_BM40-31 Bat_DP_betaCov_Ipposideros_pratti	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.5% 100.0%	100.0% 94.0% 68.4% 69.2% 69.2% 69.4% 69.1% 68.0% 69.1% 68.9% 69.5% 67.5% 67.5% 67.5%	ETSMOR O DFWGA - CEPCG 221 LTXE GA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_S79_2005 BatCov_S79_2005 BatCov_SARS BatCov_ID2013 BatCov_IN2013 BatCov_IN2012 BatCov_HKU3 BatCov_HKU3 BatCov_HKU3 BatCov_HKU3 BatCov_K0V_ISA BatCov_S2018_Rhinolophus_sinicus BatCov_Rhinolophus_lsinicus BatCov_Minolophus_lsasii BatCov_BM48-31 Bat_Hp_betaCov_Hipposideros_pratti BatCov_Hipposideros_commersoni	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.5% 100.0% 99.5% 99.5%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 69.5% 69.5% 62.5% 62.5%	ETSMOR O DFWGA - CEPCG 221 LTXE GA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_279_2005 BatCov_Shaanxi2011 BatCov_SarsLike_YNLF_31Ctr BatCov_IN2013 BatCov_IN2012 BatCov_IKU3 BatCov_IKU3 BatCov_IKU3 BatCov_RbatCov_IKU3 BerR1-BetaCov_S2018_Rhinolophus_sp SARSLikeBatCov_IKU3 BetCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Itiposideros_pratti ZariaBatCov_Hipposideros_commersoni BatCov_Nipsugo_bat	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 67.9% 67.9% 67.9% 67.9% 67.9% 67.5% 67.5% 67.5% 67.5% 67.5%	ETSMOR O DFWGA - CEPCG 221 LTXE GA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_779_2005 BatCov_Shaanxi2011 BatCov_SaraLike_YNLF_31Ctr BatCov_JN2013 BatCov_HN2013 BatCov_HKU3 BatCov_HKU3 BatCov_KU3 BatCov_KU3 BatCov_KU3 BatCov_KU3 BatCov_SC2018_Rhinolophus_sp SARSLikeCovWIV16_Rhinolophus_sinicus BatCov_Rhinolophus_forrumequinum BatCov_Rhinolophus_forrumequinum BatCov_Rhinolophus_forrumequinum BatCov_BN48-31 BatCov_Hipposideros_commersoni BatCov_Hypugo_bat BatCov_Hypugo_bat	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.7% 99.5% 100.0% 99.7% 99.5%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 67.8% 69.1% 67.9% 69.5% 67.9% 62.5% 62.5% 62.5% 62.5% 27.9% 22.6%	PISSION OF UNIT OF CALCULATING AND THE CONTROL AND
PangolinCov_Manis_javanica HumanCov_SARS BatCov_79_2005 BatCov_Shaanxi2011 BatCov_Staanxi2011 BatCov_IN2013 BatCov_HX013 BatCov_HX03 BatCov_HKU3 BatCov_HKU3 BtRl-BetCoV_SC2018_Rhinolophus_sp SARSLikeCovWIV16_Rhinolophus_sinicus BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_blasii BatCov_BM48-31 BatCov_Hipposideros_pratti ZariaBatCov_Hipposideros_commersoni BatCov_MrsLike_BtVs BatCovMersLike_BtVs	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 100.0% 99.5% 99.7% 99.5% 100.0% 95.5% 95.5% 95.5%	100.0% 94.0% 69.2% 69.2% 69.4% 69.1% 69.1% 69.1% 67.8% 67.9% 67.9% 67.9% 67.9% 22.5% 22.3%	ESSAGE DEV.S.       GET.GET.M.ET.G.G.       C.C. M.P.O.N.W.G.       C.P.A.C. M.S. VGB
PangolinCov_Manis_javanica HumanCov_SARS BatCov_779_2005 BatCov_Shaanxi2011 BatCov_SnaInXi2011 BatCov_SarLike_YNLF_31Ctr BatCov_TN2013 BatCov_TL2012 BatCov_HN3 BatCov_R93_2004 SARSIikeBatCov_HN3 BtRl-BetaCoV_SC2018_Rhinolophus_sp SARSIikeBatCov_HK03 BtRl-BetaCov_SC2018_Rhinolophus_sp SARSIikeCovWIV16_Rhinolophus_sincus BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Shinolophus_blasii BatCov_Hiposideros_commersoni BatCov_Hiposideros_commersoni BatCovVespertilo_sinensis HKU4BatCov_Tylonycteris_bat	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 99.7% 92.5% 81.9% 81.9% 90.2%	100.0% 94.0% 68.4% 69.2% 69.2% 69.1% 69.1% 69.1% 67.8% 67.8% 67.8% 62.5% 62.5% 62.5% 62.5% 62.5% 22.6% 22.3% 23.4% 20.7%	PISMOR OF USA -       CECCERT LATE GAME       CECC
PangolinCov_Manis_javanica HumanCov_SARS BatCov_779_2005 BatCov_Shaanxi2011 BatCov_SaraLike_YNLF_31Ctr BatCov_Nz013 BatCov_JL2012 BatCov_HKU3 BatCov_Rb3_2004 SARSLikeBatCov_HKU3 BtR1-BetaCoV_SC2018_Rhinolophus_sp SARSLikeCovWIV16_Rhinolophus_sinicus BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hipposideros_pratti ZariaBatCov_Hipposideros_commersoni BatCovMersLike_BtVs BatCovMersLike_BtVs BatCov_Tylonycteris_bat HedgehogCov	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 99.7% 92.5% 81.9% 81.9% 92.2%	100.0% 94.0% 68.4% 69.2% 69.4% 69.4% 69.1% 69.1% 67.8% 69.1% 67.9% 69.1% 62.5% 27.9% 22.5% 22.5% 22.3% 22.3%	ESSAGE DEV.S GECGETERTEGA - TC C AP QLAVV CPACINEVGA - HE A +11 NEGET ESSAGE OP VA GECGETERTEGA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_779_2005 BatCov_Shaanxi2011 BatCov_SaraLike_YNLF_31Ctr BatCov_JN2013 BatCov_HN2013 BatCov_HN3 BatCov_HK03 BatCov_HK03 BatCov_KN3 BatCov_KN3 BatCov_KN3 BatCov_Sc2018_Rhinolophus_sp SARSLikeCovWIV16_Rhinolophus_sinicus BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_blasii BatCov_Hipposideros_commersoni BatCov_Hypsugo_bat BatCov_Hypsugo_bat BatCov_Vespertilio_sinensis HK04BatCov_Tylonycteris_bat HedgehogCov MERS_Bat-CoVH.savii MERS_camel	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 92.5% 92.5% 95.8% 81.9% 90.8% 92.2%	100.0% 94.0% 68.4% 69.2% 69.2% 69.1% 69.1% 69.1% 67.8% 67.8% 67.8% 62.5% 62.5% 62.5% 62.5% 62.5% 22.6% 22.3% 23.4% 20.7%	ESSAGE DEV.S GECGETERTEGA - TC C AP QLAVV CPACINEVGA - HE A +11 NEGET ESSAGE OP VA GECGETERTEGA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_779_2005 BatCov_Shaanxi2011 BatCov_SareLike_YNLF_31Ctr BatCov_SareLike_YNLF_31Ctr BatCov_L2012 BatCov_H2013 BatCov_HU3 BatCov_HU3 BatCov_R04 SARSLikeBatCov_HKU3 Bcl-DetaCov_SC2018_Rhinolophus_sinicus BatCov_Rhinolophus_ferrumequim BatCov_Rhinolophus_ferrumequim BatCov_Rhinolophus_ferrumequim BatCov_Rhinolophus_ferrumequim BatCov_Hiposideros_commersoni BatCov_Hypsugo_bat BatCov_Hypsugo_bat BatCov_Tike_BtVs BatCov_Tylestike_BtVs BatCov_Tylonycteris_bat HedgehogCov MERS_Camel	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 97.2% 95.8% 81.9% 92.5% 81.9% 92.2%	100.0% 94.0% 68.4% 69.2% 69.2% 69.1% 68.0% 69.1% 67.8% 67.8% 67.9% 69.1% 62.5% 62.5% 62.5% 62.5% 22.3% 22.6% 22.3% 22.3% 20.7%	ESSAGE DEV.S GECGETERTEGA - TC C AP QLAVV CPACINEVGA - HE A +11 NEGET ESSAGE OP VA GECGETERTEGA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_779_2005 BatCov_Shaanxi2011 BatCov_SaraLike_YNLF_31Ctr BatCov_JN2013 BatCov_HN2012 BatCov_HN3 BatCov_HN3 BatCov_Rs3_2004 SARSLikeBatCov_HN3 BtR1-BetaCoV_SC2018_Rhinolophus_sp SARSLikeBatCov_HK03 BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_BM48-31 BatCov_Hiposideros_commersoni BatCov_Hiposideros_commersoni BatCov_Vespertilio_sinensis HKU4BatCov_Tylonyctoris_bat HedgehogCov MERS_Bat-CoV_H.savii MERS_Camel BatCov_HKU4	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 95.8% 81.9% 90.8% 92.2% 90.8% 90.0% 95.2%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5% 69.1% 22.7% 22.3% 23.3%	PISMOG OP VG =       C EC COLUMENTA GA       C C ALPONA WUG       C PAR LINE VGB       PIE LA VL = NIE GA VL         PISMOG OP VG =       C C C CLUMENTA GA       C C C LP CANVIG       PIC CANVIG       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C CLUMENTA GA       C C C LP CANVIG       PIC PAR CIDE VG PIE GP       ENE VANUEL         VANOG COP LG =       C C C C C C C C LP CANVIG       C C C LP CANVIG       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C C C C C C LP CANVIG       PIE LA VL = NIE GA VL       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C C C C C LP CANVIG       PIE LA VL = NIE GA VL       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C C C C C LP CANVIG       PIE LA VL = NIE GA VL       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C C C C LP CANVIG       PIE LA VL = NIE GA VL       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C C C C LP CANVIG       PIE LA VL = NIE GA VL       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C C C C C LP CANVIG       PIE LA VL = NIE GA VL       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C C C C LP CANVIG       PIE LA VL = NIE MIE MIE LA VL = NIE MIE MIE MIE MIE MIE MIE MIE MIE MIE M
PangolinCov_Manis_javanica HumanCov_SARS BatCov_279_2005 BatCov_Shaanxi2011 BatCov_SarsLike_YNLF_31Ctr BatCov_N2013 BatCov_H2012 BatCov_H2012 BatCov_HKU3 BatCov_Rp3_2004 SARSLikeBatCov_HKU3 BatCov_Rinolophus_Bation BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Hipposideros_commersoni BatCov_Hipposideros_commersoni BatCov_Hipposideros_commersoni BatCov_Tilo_Shos BatCov_Tilo_Shos BatCov_Typsugo_bat BatCov_Tylonycteris_bat HedgehogCov MERS_Bat-CoV_H.savii MERS_Camel BatCov_HKU4 BatCov_HKU4	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 91.7% 90.0% 81.9% 91.7% 92.2% 91.7% 95.2%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 67.8% 68.9% 62.5%	PISMOG OP VG =       C EC COLUMENTA GA       C C ALPONA WUG       C PAR LINE VGB       PIE LA VL = NIE GA VL         PISMOG OP VG =       C C C CLUMENTA GA       C C C LP CANVIG       PIC CANVIG       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C CLUMENTA GA       C C C LP CANVIG       PIC PAR CIDE VG PIE GP       ENE VANUEL         VANOG COP LG =       C C C C C C C C LP CANVIG       C C C LP CANVIG       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C C C C C C LP CANVIG       PIE LA VL = NIE GA VL       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C C C C C LP CANVIG       PIE LA VL = NIE GA VL       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C C C C C LP CANVIG       PIE LA VL = NIE GA VL       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C C C C LP CANVIG       PIE LA VL = NIE GA VL       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C C C C LP CANVIG       PIE LA VL = NIE GA VL       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C C C C C LP CANVIG       PIE LA VL = NIE GA VL       PIE LA VL = NIE GA VL         VANOG COP LG =       C C C C C C LP CANVIG       PIE LA VL = NIE MIE MIE LA VL = NIE MIE MIE MIE MIE MIE MIE MIE MIE MIE M
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PangolinCov_Manis_javanica HumanCov_SARS BatCov_779_2005 BatCov_Shaanx12011 BatCov_SaraLike_YNLF_31Ctr BatCov_WR2013 BatCov_HRU3 BatCov_HRU3 BatCov_RB3_2004 SARSLikeBatCov_HRU3 BtALOv_BatCov_HRU3 BtALOv_Bhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Hinolophus_ferrumequinum BatCov_Hinolophus_ferrumequinum BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_HSU8=31 BatCov_Hinolophus_blasii BatCov_HSU5 BatCov_Tylonycteris_bat HedgehogCov MERS_Bat-CoV_H.savii MERS_Camel BatCov_HKU4 BatCov_HKU5 BatCov_HKU5 BatCov_Cov133_2005 HumanCov_MERS BatCov_IKU9+4 BatCov_StrainJHM	$100.0 \\ 99.7 \\ 100.0 \\ 100.0 \\ 100.0 \\ 100.0 \\ 100.0 \\ 100.0 \\ 100.0 \\ 100.0 \\ 100.0 \\ 100.0 \\ 100.0 \\ 99.7 \\ 99.7 \\ 99.7 \\ 99.7 \\ 99.7 \\ 99.7 \\ 99.7 \\ 99.7 \\ 99.7 \\ 89.5 \\ 80.8 \\ 91.7 \\ 90.0 \\ 89.5 \\ 81.9 \\ 92.5 \\ 81.9 \\ 92.5 \\ 81.9 \\ 95.2 \\ 89.5 \\ 81.9 \\ 95.2 \\ 89.5 \\ 85.2 \\ 89.5 \\ 85.2 \\ 85.2 \\ 85.2 \\ 85.2 \\ 85.2 \\ 86.7 \\ 86.7 \\ 86.7 \\ 86.7 \\ 86.7 \\ 86.7 \\ 86.7 \\ 80.8 \\ 90.8 \\ 80$	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5% 62.5% 62.5% 62.5% 62.5% 22.4% 20.7% 20.4% 20.9% 20.9% 20.2%	ESSIGE DEV.S.       ESSIGE CELLENTE GA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_779_2005 BatCov_779_2005 BatCov_Snaanxi2011 BatCov_SaraLike_YNLF_31Ctr BatCov_HN2013 BatCov_L12012 BatCov_HRU3 BatCov_RB3_2004 SARSLikeBatCov_HKU3 Btl-BetaCoV_SC2018_Rhinolophus_sp SARSLikeCowW106_Rhinolophus_sinicus BatCov_Rhinolophus_blasii BatCov_BM48-31 BatCov_Hinolophus_ferrumequinum BatCov_Rhinolophus_blasii BatCov_Shinolophus_blasii BatCov_BM48-31 BatCov_Hipposideros_pratti ZariaBatCov_Hipposideros_commersoni BatCov_Vespertilio_sinensis HKU4BatCov_Tylonycteris_bat HedgehogCov MERS_Bat-CoV_H.savii MERS_Camel BatCov_HKU4 BatCov_HKU4 BatCov_HKU4 BatCov_HKU5 BatCov_HKU9-4 BatCov_HKU9-4 BatCov_HKU9-4 BatCov_HKU9-4 BatCov_HKU9-4 BatCov_HKU9-4 BatCov_HKU9-4 BatCov_HKU9-4 BatCov_KU9-4 BatCov_HKU9-4 BatCov_MENS BatCov_HKU9-4 BatCov_HSU9-4 BatCov_RHU9-4 BatCov_R	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.0% 95.2% 95.5% 86.7% 86.7% 86.7% 80.0%% 82.0%% 82.0%% $82.0$ %% $82.0$ %% $82.0$ %%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 62.5% 62.5% 62.5% 62.5% 22.3% 22.3% 22.3% 22.3% 20.1% 20.9% 20.1% 20.9% 20.5%	ESSIGE DEV.S.       ESSIGE CELLENTE GA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_SARS BatCov_SP2_005 BatCov_SARSL2011 BatCov_SARSL2011 BatCov_SARSL2011 BatCov_HX2013 BatCov_HX2013 BatCov_HKU3 BatCov_RD3_2004 SARSLikeCovWTV16_Rhinolophus_sp SARSLikeCovWTV16_Rhinolophus_sinicus BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_HA48-31 BatCov_Hipposideros_commersoni BatCov_Hypsugo_bat BatCov_Hypsugo_bat BatCov_Tylonycteris_bat HedgehogCov MERS_Bat-CoV_I.savii MERS_Camel BatCov_HKU4 BatCov_HKU4 BatCov_HKU4 BatCov_HKU4 BatCov_HKU4 BatCov_HKU4 BatCov_HKU5 BatCov_Cov133_2005 HumanCov_MERS BatCovHKU9-4 BatCovHKU9-4 BatCovHKU9-4 BatCovHKU9-4 BatCovHKU9-4 BatCovHKU9-4 BatCovHKU9-4 BatCovHKU9-4 BatCov_StrainJHM BovineCov_Strain_98TXSF-110-ENT	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.0% 99.7% 90.0% 99.7% 99.7% 90.0% 99.7% 99.7% 90.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 90.0% 99.7% 99.7% 90.0% 99.7% 90.0% 99.7% 90.0% 90.7% 90.8% 80.8%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 69.5% 62.5% 22.6% 22.6% 22.3% 20.7% 20.4% 20.9% 20.4% 20.4% 20.2% 14.0% 14.5% 14.5% 12.2%	ESSIGE DEV.S.       ESSIGE CELLENTE GA
PangolinCov_Manis_javanica HumanCov_SARS BatCov_779_2005 BatCov_Shaanxi2011 BatCov_SaraLike_YNLF_31Ctr BatCov_N2013 BatCov_H2012 BatCov_H2012 BatCov_HKU3 BatCov_R5_2004 SARSIikeBatCov_HKU3 Btl-BetaCoV_SC2018 Rhinolophus_sp SARSIikeBatCov_HKU3 BatCov_Rhinolophus_blasii BatCov_Rhinolophus_forumequinum BatCov_Rhinolophus_forumequinum BatCov_Rhinolophus_forumequinum BatCov_Hinolophus_forumequinum BatCov_Hinolophus_forumequinum BatCov_Hinolophus_forumequinum BatCov_Hipposideros_commersoni BatCov_Hypsugo_bat BatCov_Vespertilio_sinensis HKU4BatCov_Tylonyctoris_bat HedgehogCov MERS_Bat-CoV_H.savii MERS_Camel BatCov_HKU4 BatCov_HKU4 BatCov_IKU9-4 BatCov_StrainJHM BovineCov_StrainJHM BovineCov_IKU1	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 90.7% 90.7% 90.7% 90.7% 90.7% 90.7% 90.7% 90.7% 90.7% 90.7% 90.7% 81.9% 86.7% 86.7% 80.8% 82.0% 82.0%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 69.5% 62.5%	ETSNOC DPM.S.       ETC.CG.TULETT.GG
PangolinCov Manis_javanica HumanCov_SARS BatCov_779_2005 BatCov_Shaanxi2011 BatCov_SaraLike_YNLF_31Ctr BatCov_HN2013 BatCov_LL2012 BatCov_HKU3 BatCov_KHU3 BatCov_KHU3 BatCov_KHU3 BatCov_KN16_Rhinolophus_sinicus BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_blasii BatCov_Hipposideros_commersoni BatCov_Hypugo_bat BatCov_Hypugo_bat BatCov_Hypugo_hat HedgehogCov MERS_Bat-Cov_H.savii MERS_Gamel BatCov_HKU4 BatCov_HKU4 BatCov_HKU4 BatCov_HKU5 BatCov_Guisa_2005 HumanCov_MERS BatCov_StrainJHM BovineCov_strain_98TXSF-110-ENT HumanCov_OC43 Human_Cov_HKU1 FelineCov_strain_FIPV_WSU-79	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 81.9% 86.7% 86.7% 80.8% 82.0% 81.4%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 67.9% 22.5% 22.3% 22.3% 22.3% 20.7% 20.7% 20.9% 20.7% 20.9% 20.7% 20.8% 20.7% 20.8% 20.2%	PISMOG OP VG -       CECCULETT O G       CECULETT O
PangolinCov_Manis_javanica HumanCov_SARS BatCov_279_2005 BatCov_Shaanxi2011 BatCov_SaraLike_YNLF_31Ctr BatCov_WR2013 BatCov_HR201 BatCov_HR204 BatCov_HR204 BatCov_HR204 BatCov_HR204 BatCov_HR204 BatCov_HR204 BatCov_HR204 BatCov_HR204 BatCov_Mr204 BatCov_HR204 BatCov_HR204 BatCov_Hr204 BatCov_Hr204 BatCov_Hr204 BatCov_Hr204 BatCov_Hr204 BatCov_Hr204 BatCov_Hr204 BatCov_Hr204 BatCov_Hr204 BatCov_HR204 BatCo	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.0% 81.9% 91.7% 90.0% 81.9% 91.7% 91.7% 91.7% 92.5% 95.2% 95.2% 86.7% 83.7%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 69.5% 62.5% 22.6% 22.6% 22.6% 22.4% 20.7% 20.9% 20.4% 20.9% 20.2%	ESSN02.0 DFX.5       CEC.0011.0 FFX.60
PangolinCov_Manis_javanica HumanCov_SARS BatCov_279_2005 BatCov_Shaanxi2011 BatCov_SnaIxi2011 BatCov_Row_I2012 BatCov_HV2013 BatCov_HV30 BatCov_HV30 BatCov_HV30 BatCov_HV30 BatCov_HV30 BatCov_HV30 BatCov_HV30 BatCov_Source for unequinum BatCov_Nninolophus_ferrumequinum BatCov_Nninolophus_ferrumequinum BatCov_Hninolophus_ferrumequinum BatCov_Hninolophus_ferrumequinum BatCov_HNinolophus_ferrumequinum BatCov_HNinolophus_ferrumequinum BatCov_HNinolophus_ferrumequinum BatCov_HNinolophus_ferrumequinum BatCov_HNinolophus_ferrumequinum BatCov_HNinolophus_ferrumequinum BatCov_HNinolophus_ferrumequinum BatCov_HNinolophus_ferrumequinum BatCov_HNinolophus_ferrumequinum BatCov_HNinolophus_ferrumequinum BatCov_HNinolophus_ferrumequinum BatCov_Waspertilio_sinensis Ht04BatCov_Tylonycteris_bat HedgehogCov MERS_BatCov_HKU4 BatCov_HKU4 BatCov_HKU5 BatCov_HKU9 BatCov_HKU9 BatCov_HKU9 BatCov_HKU1 FelineCov_strain_JHM BovineCov_Strain_FIPV_MSU-79 HumanCov_1229E HumanCov_1236	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.0% 91.7% 90.0% 95.2% 90.0% 95.2% 95.5% 86.7% 86.7% 80.6% 82.0% 81.1% 83.2%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 62.5%	PISMOG OP VG =       CECCERT LYTE 00       CCCERT LYTE 00       CCCE
Pangolin ov Manis_javanica HumanCov_SARS BatCov_279_2005 BatCov_Shaanxi2011 BatCov_SnaInXi2011 BatCov_HV2013 BatCov_HV2013 BatCov_FRU3 BatCov_FRU3 BatCov_FRU3 BatCov_FRU3 BatCov_KV3 BatCov_Rhu3 BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_ferrumequinum BatCov_Rhinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hinolophus_blasii BatCov_Hitke_BtVs BatCov_Hitke_BtVs BatCov_Hitke_BtVs BatCov_Hitke_BtVs BatCov_Hitke_BtVs BatCov_Hitke_BtVs BatCov_Hitke_BtVs BatCov_Hitke_BtVs BatCov_Hitke_BtVs BatCov_Hitke_StainJHM BovineCov_Strain_JHM BovineCov_Strain_FIPV_WSU-79 HumanCov_L228 HumanCov_L238 HumanCov_L63/1-788 Hov_strainM41	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.0% 91.7% 90.0% 95.2% 90.0% 95.2% 95.5% 86.7% 86.7% 80.6% 82.0% 81.1% 83.2%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 69.5% 62.5% 22.6% 22.6% 22.6% 22.4% 20.7% 20.9% 20.4% 20.9% 20.2%	PISSINGS OP VG =       CECCULE PTG 0       CCCULE PTG 0       PCR00DP IG PTG PTG 0       PCR0DP IG PTG 0       PCR0DP IG PTG 0
<pre>PangolinCov_Manis_javanica lumanCov_SARS satCov_279_2005 satCov_Shaanxi2011 satCov_SarSLike_YNLF_31Ctr BatCov_SrsLike_YNLF_31Ctr BatCov_M2012 satCov_HKU3 satCov_HKU3 satCov_HKU3 batCov_RhiDolophus_sp sARSLikeCovWIV16_Rhinolophus_sp sARSLikeCovWIV16_Rhinolophus_sp sARSLikeCovWIV16_Rhinolophus_sp satCov_Rhinolophus_blasii satCov_Rhinolophus_blasii satCov_Rhinolophus_blasii satCov_Rhinolophus_blasii satCov_Rhinolophus_blasii satCov_Rhinolophus_blasii satCov_Rhippsidecos_commersoni satCov_Rhippsidecos_commersoni satCov_Rhippsidecos_commersoni satCov_Rpsugo_bat satCovWersLike_BtVs satCovWersLike_BtVs satCov_Hepsertilio_sinensis HKU4BatCov_Tylonycteris_bat ledgehogCov dERS_Bat-CoV_H.savii MERS_Gamel BatCov_KU4-4 satCov_KU4 satCov_HKU4 satCov_KU9 satCovHKU5-4 SatCov_Cov133_2005 humanCov_StrainJHM SovineCov_strainJHM SovineCov_strainJHM SovineCov_StrainStra</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.0% 91.7% 90.0% 95.2% 90.0% 95.2% 95.5% 86.7% 86.7% 80.6% 82.0% 81.1% 83.2%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 62.5%	25500000000000000000000000000000000000
PangolinCov_Manis_javanica HumanCov_SARS BatCov_279_2005 BatCov_Shaanxi2011 BatCov_SarsLike_YNLF_31Ctr BatCov_RD212 BatCov_RD212 BatCov_RD212 BatCov_RD3_2004 SARSLikeBatCov_HKU3 BerLov_BM204 BatCov_Rhinolophus_fernumequinum BatCov_Rhinolophus_blasii BatCov_Rhinolophus_lasii BatCov_Rhinolophus_lasii BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Rhinolophus_blasii BatCov_Rypugo_bat BatCov_MessLike_BtVS BatCovMersLike_BtVS BatCov_MersLike_BtVS BatCov_MrU4A BatCov_Tylonycteris_bat HedgehogCov MERS_Bat-CoV_H.savii MERS_Camel BatCov_IKU4 BatCov_GV133_2005 HumanCov_StrainJHM BovineCov_StrainJHM BovineCov_StrainJHM BovineCov_Strain_FIPV_WSU-79 HumanCov_Z29E	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.0% 91.7% 90.0% 95.2% 90.0% 95.2% 95.5% 86.7% 86.7% 80.6% 82.0% 81.1% 83.2%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 62.5%	PISSINGS OP VG =       CECCULE PTG 0       CCCULE PTG 0       PCR00DP IG PTG PTG 0       PCR0DP IG PTG 0       PCR0DP IG PTG 0

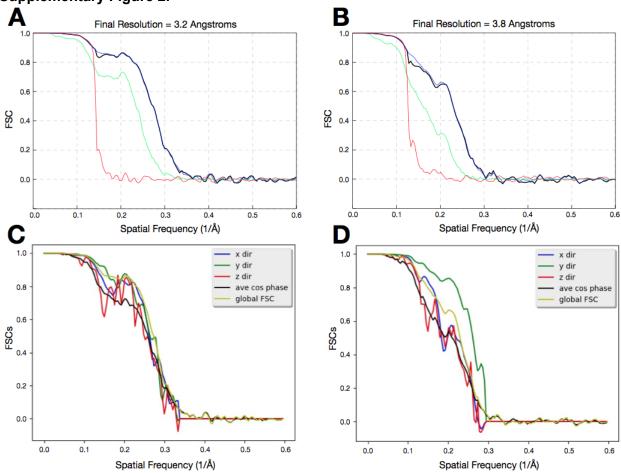
	cov	nid	321 .		4 400
1 HumanCov_SARS2	100.0%	pid 100.0%	ILRKGGRTIAF	GGCVFSYVGCHNKCAYWVPRASANI	
2 PangolinCov_Manis_javanica 3 HumanCov SARS	99.7%		TL <mark>RKGGR</mark> <b>TI</b> SF	GCCV/FX/VGC144C, X/V/P106, 11           GCCV/FX/VGC144C, X/V/P106, 12           GCCV/FX/VGC144C, X/V/P106, 14           GCCV/FX/VGC144C, X/V/P1074, 14 <td>GCNET GVVGEGA</td>	GCNET GVVGEGA
3 HumanCov_SARS 4 BatCov 279 2005	100.0%	68.4% 69.2%	R <mark>LRKGGR</mark> <mark>T</mark> RCF RLRKGGRTKCF	GGCVFAYVGCYNKRAYWVPRASADI	ASHOGITGDNV
5 BatCov_Shaanxi2011	100.0%	69.4%	R <mark>LRKGGR</mark> <mark>T</mark> KC <mark>F</mark>	GG <mark>CVFSYVGC</mark> YNK <mark>RAYWVPRASAN</mark> I	GANHTGITGDNV
6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_YN2013	100.0%	69.1% 68.0%	R <mark>LRK</mark> GGRTKCF RLRRGGRTRCF	GGCVFSYVGCYNKRAYWVPRASADI	SSNHTGIVGDNV
7 BatCov_YN2013 8 BatCov_JL2012	100.0%	69.1%	RL RRGGRTRCF	GGCVHAFVGCYNKRAYWVPRASADI GGCVFSYVGCYNKRAYWVPRASANI	SGWGITGDNV
9 BatCov_HKU3	100.0%	69.1%	R <mark>LRKGGR</mark> <mark>T</mark> KC <mark>F</mark>	GG <mark>CVFSYVGC</mark> YNKRAYWVPRASANI	GA <mark>NHT</mark> GITG <mark>E</mark> NV
10 BatCov_Rp3_2004	100.0%		RLRKGGRTRCF	GGCVFAYVGCYNRRAYWVPRASADI	GSGHAGITGDNV
<pre>11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp</pre>	99.7% 99.4%	68.9% 69.5%	R <mark>LRK</mark> GGR	GGCVFSYVGCYNKRAYWVPRASANI GGCVFSYVGCYNKRAYWVPRASANI	ANHOGITGENV
13 SARSLikeCovWIV16_Rhinolophus_sinicus		67.9%	RLRKGGRTRCF	GG <mark>CVFAYVGC</mark> YNK <mark>RAYWVPRASA</mark> DI	GSGHTGITGDNV
14 BatCov_Rhinolophus_ferrumequinum	99.7%	69.1%	R <mark>LRKGG</mark> R <mark>T</mark> KCF	GG <mark>CVFSYVGC</mark> YNK <mark>RAYWVPRAS</mark> ANI	GSNHTGITGDNV
15 BatCov_Rhinolophus_blasii 16 BatCov_BM48-31	99.5% 100.0%	62.5% 62.5%	R <mark>LRKGGR</mark> IKSF R <mark>LRKGGR</mark> IKSF	GGCVFSYVGCYNKRAFWVPRAAANI	GSNHUGVVGEGV
17 Bat_Hp_betaCov_Hipposideros_pratti	97.2%	27.9%	KAEP <mark>CNR</mark> EVY <mark>F</mark>	GGCCFAYVGCRNGNAIWVPRAHSDI	GNNHSGIVGADV
18 ZariaBatCov_Hipposideros_commersoni	96.7%	27.7%	ENGEVCF	GG <mark>CVE</mark> AYVQ <mark>C</mark> MSGKS <mark>YWVPR</mark> VWS <mark>NI</mark>	ENESCVTGLDT
19 BatCov_Hypsugo_bat 20 BatCovMersLike_BtVs	92.5% 95.8%	22.6% 22.3%	ELTPDGK <mark>TI</mark> TF DVAPD <mark>G</mark> KS-FTL <mark>A</mark> F	GGVVYALLGCAEGTMAFIP:AKSIV	SVGDAIF76CV6TWS
21 BatCov_Vespertilio_sinensis		23.4%	DVAPD <mark>G</mark> K <mark>T</mark> LAF	GGVVYALLGCLEGTMYFIPRAKSIV	SAIF <mark>TG</mark> CVGTWS
22 HKU4BatCov_Tylonycteris_bat		20.7%	CVEV <mark>GG</mark> K <mark>T</mark> LTF	<b>GGVV</b> YARM <mark>GC</mark> CDGTMYF <b>VPRA</b> KSCV <b>GG</b> ALYTM <mark>GC</mark> AEGTMYF <b>VPRA</b> KSVV	SRIGDAIFTGCTGTWD
23 HedgehogCov 24 MERS_Bat-CoV_H.savii	92.2% 91.7%	20.1% 20.9%	VVFPSGKSLAF VVKPDGKSLIF		
25 MERS_Camel	90.0%	20.4%	NVIADSKS-FTLIF	GGVAYANFGCEEGTMYFVPRAKSVV	SRIGDSIFTGCTGSWN
26 BatCov_HKU4-4	95.2%		CVEV <mark>GG</mark> KS-F <mark>TLT</mark> F	GGVVYAYMGCCDGTMYFIPRAKSCV GGVVYAYMGCCDGTMYFVPRAKSCV	SRIGDAIF <mark>TG</mark> CT <mark>G</mark> TWD
27 BatCov_HKU4 28 BatCovHKU5	95.2% 95.5%	20.8% 20.5%	CVEV <mark>GG</mark> KS-F <mark>ILT</mark> DVEVV <mark>G</mark> KT-FILTY	GGV <b>Y</b> XAFMGCCDGTMYFYPRAKSCV GGVIYAFMGCSGGTMHFI <mark>PRA</mark> KSCV	SRIGDAIFTCCTCTWD
29 BatCov_Cov133_2005	95.2%	20.2%	CVEVGGKS-FTLTF	COUNTRACTOR CONCERNMENT AND A RECOV	
30 HumanCov_MERS	95.8%	20.0%	NVIADSKS-FTLIF	<mark>gg</mark> vaya <mark>yfgc</mark> eegtm <mark>yfvpra</mark> ksvv	SRIGDSIF <mark>TG</mark> CT <mark>G</mark> SWN
31 BatCov_HKU9 32 BatCovHKU9-4	86.7% 86.7%	14.0% 14.5%	IPGNRTYVSF IPGNRTYVAF	GUALAND GCEEGING FVRANSUV GGAINGPIGKVNGVTVWVPRAYSIV GGAINGPIGKVNGVTVWVPRAYSIV	
33 BatCov_Rousettus_bat	86.7%	14.1%	VPGNRLYVAF		AGDESGAVGSCD
34 MurineCov_StrainJHM		12.2%	GHAVVPF	WSPYPGMWLPVIWSSV	KSYSYLTY <mark>TGVVG</mark> CKA
35 BovineCov_strain_98TXSF-110-ENT 36 HumanCov OC43		12.8% 12.5%	GQTVVF	GGCVYWSPARNIMIPILKSSV	KSYDGLVY <mark>TGVVG</mark> CKA
37 Human_Cov_HKU1		12.3%	GYSVTPE	WSPARNIMIPILKSSV	KSYDDLVYSGVVGCKS
38 FelineCov_strain_FIPV_WSU-79	81.4%	10.5%	VKFF	ANSVLQNAGDVENVSVNKVIKTFTV	NETVCTTDFEGELN
39 HumanCov_229E		10.1% 9.9%	IKY <mark>R</mark>	CGMTLKFVANIEGVSVMRVIALQSV AGLVVKHITNITGVSLMRVTAVHSD	DCFVASSTFVEEEHVNR
40 HumanCov_NL63/1-788 41 IBV_strainM41	82.8% 77.8%	9.98	GAKIFTTLASFRE	AAVKIVDNIPNAPR <b>G</b> TKG <u>5</u> EV <b>VG</b> NAKGTQVV <b>V</b> RGMRNDL	FLLDOKAEIPVESEGWSAILG
consensus/100%			h.a		tta.tt
consensus/90% consensus/80%			sthh.s		st.aochhot.s
consensus/70%			.hs <mark>G</mark> +shs <sub>F</sub>		uusa <mark>uG</mark> hs <b>G</b> s.s
1 HumanCov SARS2	cov	pid 100.0%	401 .	BILOKERUNINIVGDERLNEETAI	480
1 HumanCov_SARS2 2 PangolinCov_Manis_javanica	00v 100.0% 99.7%	100.0% 94.0%	EGLND-NLL ESLND-NLL	EILOKEKVNINIVCDFKLNEEIAI BILOK <mark>EKVNINIVCDFKLNEEI</mark> AI	ILASFSAST ILASFSAST
2 PangolinCov_Manis_javanica 3 HumanCov_SARS	100.0% 99.7% 100.0%	100.0% 94.0% 68.4%	EGLND-NLL ESLND-NLL ETLNE-DLL	<mark>bilgrox</mark> vninivgdfrinzeiai <mark>bil</mark> srervninivgdfhinzevai	ILA SFSAST ILA SFSAST ILA SFSAST
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005	100.0% 99.7% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2%	EGLND-NLL ESLND-NLL ETLNE-DLL ETLNE-DLM		(LASFSA
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr	100.08 99.78 100.08 100.08 100.08 100.08	100.0% 94.0% 68.4% 69.2% 69.4% 69.1%	EGLND-NLL ESLND-NLL ETLNE-DLL ETLNE-DLM ETLNE-DLL ETLNE-DLL		(LASFSA
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_YN2013	100.08 99.78 100.08 100.08 100.08 100.08 100.08	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0%	65 ND - 131 55 ND - 131 57 D - 25 L 57 D		(LASFSA
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_JL2012	100.08 99.78 100.08 100.08 100.08 100.08 100.08 100.08	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1%		ILING VIG VIG VIG VIG VIG VIG VIG ILING VIG VIG VIG VIG VIG VIG VIG TING VIG VIG VIG VIG VIG VIG VIG TING VIG VIG VIG VIG VIG VIG VIG VIG TING VIG VIG VIG VIG VIG VIG VIG VIG TING VIG VIG VIG VIG VIG VIG VIG VIG VIG VI	LLA 575 A
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_YN2013	100.08 99.78 100.08 100.08 100.08 100.08 100.08	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1%		ILQUE VIE INCOMPANY ILQUE VIE INCOMPANY ILQUE VIE VIE VIE VIE ILQUE VIE VIE VIE ILQUE VIE VIE VIE ILQUE VIE VIE VIE ILQUE VIE VIE ILQUE VIE	LLA 575 A
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_YN2013 8 BatCov_JL2012 9 BatCov_HKU3 10 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1% 69.1% 67.8% 68.9%	COLUP - CL SC TR - CL TL - CL - CL - CL - CL - CL - CL - CL - C		LLA 575 8
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_YN2013 8 BatCov_IL2012 9 BatCov_HKU3 10 BatCov_FRJ_2004 11 SARSLikeBatCov_HKU3 12 BkRL-BetaCoV_SC2018_Rhinolophus_sp	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5%	COLUP - CL SC TR - CL TL - CL - CL - CL - CL - CL - CL - CL - C		LLA 575 8
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_VX2013 8 BatCov_JL2012 9 BatCov_RJ204 11 SARSLikeBatCov_IKU3 12 DtR1-BetaCov_SC2018_Rhinolophus_sp 13 SARSLikeCovWTV16_Rhinolophus_sinicut 4 BatCov_Rhinolophus_feriumequinum	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1% 69.1% 67.8% 68.9%	COLUP - CL SC TR - CL TL - CL - CL - CL - CL - CL - CL - CL - C		LLA 575 8
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Sheanxi2011 6 BatCov_StreLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_HKU3 10 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowWIV16_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5%	100.0% 94.0% 68.4% 69.2% 69.4% 69.4% 69.1% 69.1% 69.1% 69.5% 67.9% 67.9% 67.9%	COLUP - CL SC TR - CL TL - CL - CL - CL - CL - CL - CL - CL - C		LLA 575 8
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_HKU3 10 BatCov_RA3_2004 11 SARSLikeBatCov_IKU3 12 BtRl-BetaCoV_SC2019_Rhinolophus_sp 13 SARSLikeCovWTV16_Rhinolophus_sinicus 14 BatCov_Rhinolophus_blasii 16 BatCov_BM48-31	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.7% 99.7%	100.0% 94.0% 68.4% 69.2% 69.1% 68.0% 69.1% 69.1% 67.8% 67.9% 69.5% 67.9% 62.5%	COLUP - CL SC TR - CL TL - CL - CL - CL - CL - CL - CL - CL - C		LLA 575 8
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Sheanxi2011 6 BatCov_StreLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_HKU3 10 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowWIV16_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 69.5% 69.5% 62.5% 62.5%	COLUP - CL SC TR - CL TL - CL - CL - CL - CL - CL - CL - CL - C		LLA 575 8
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_TX2013 8 BatCov_JL2012 9 BatCov_RKU3 10 BatCov_RKU3 11 SARSLikeBatCov_IKU3 12 BtR1-BetaCov_SC2018 Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_RHinolophus_blasii 16 BatCov_BM48-31 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Hypaus_bat	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5%	100.0% 94.0% 68.0% 69.2% 69.2% 69.1% 69.1% 67.1% 67.1% 67.1% 67.5% 67.9% 67.9% 62.5% 62.5% 62.5% 27.7% 22.6%	COLUP - CL SC TR - CL TL - CL - CL - CL - CL - CL - CL - CL - C		LLA 575 8
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IR2013 8 BatCov_IR2013 9 BatCov_IRU3 10 BatCov_RB03_2004 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Bhinolophus_blasii 17 Bat_Ip_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Hypsugo_bat 20 BatCovMersLike_BtVs	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 97.2% 96.7% 92.5%	100.0% 94.0% 68.4% 69.2% 69.4% 69.4% 69.1% 68.0% 69.1% 67.8% 67.9% 67.9% 67.9% 62.5% 63.4%	COLUP - CL SC TR - CL TL - CL - CL - CL - CL - CL - CL - CL - C		LLA 575 8
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_TX2013 8 BatCov_JL2012 9 BatCov_RKU3 10 BatCov_RKU3 11 SARSLikeBatCov_IKU3 12 BtR1-BetaCov_SC2018 Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_RHinolophus_blasii 16 BatCov_BM48-31 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Hypaus_bat	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 99.5% 92.5% 95.8% 81.9%	100.0% 94.0% 68.0% 69.2% 69.2% 69.1% 69.1% 67.1% 67.1% 67.1% 67.5% 67.9% 67.9% 62.5% 62.5% 62.5% 27.7% 22.6%	COLUP - CL SC TR - CL TL - CL - CL - CL - CL - CL - CL - CL - C		LLA 575 8
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_StraLike_YNLF_31Ctr 7 BatCov_IX2013 8 BatCov_IX2013 9 BatCov_HKU3 10 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sinicus 13 SARSLikeCowWIV16_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Hipposideros_pratti 17 BatH_p_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_MersLike_BtVs 21 BatCov_Tylonycteris_bat 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 92.5% 95.8% 81.9% 90.8% 92.2%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 67.9% 69.5% 62.5% 62.5% 22.6% 22.3% 23.4% 20.7%	CD TP - TIL	I. (DD) V. K. K. KUCD F. K. HEE I.         I.           I. LINDRUK N. KUCD F. K. HEE V.         I.           I. LINDRUK N. KUCD F. K. HEE V.         I.           I. LINDRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           QI LISR R. K. W. KUCB F. K. H.         I.           QI LISR R. K. W. F. W. F. W. S. KUT F. M.         I.           GI LINRUK T. H. W. F. W. F. W. S. KUT F. M.         I.           FIE OF Q. K. H. W. F. W. S. W. T. W. T.         I.	LLA 395 A
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_275_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike YNLF_31Ctr 7 BatCov_TX2013 8 BatCov_JL2012 9 BatCov_RKU3 10 BatCov_RKU3 11 SARSLikeBatCov_IKU3 12 BtR1-BetaCov_SC2018_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_BM4B-31 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 44 MERS_Bat-CoV_E.savii	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 91.7% 90.8% 92.2%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 69.1% 67.9% 69.5% 62.5% 62.5% 62.5% 22.9% 22.6% 22.3% 22.3% 20.7%	CD TP - TIL	I. (DD) V. K. K. KUCD F. K. HEE I.         I.           I. LINDRUK N. KUCD F. K. HEE V.         I.           I. LINDRUK N. KUCD F. K. HEE V.         I.           I. LINDRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           QI LISR R. K. W. KUCB F. K. H.         I.           QI LISR R. K. W. F. W. F. W. S. KUT F. M.         I.           GI LINRUK T. H. W. F. W. F. W. S. KUT F. M.         I.           FIE OF Q. K. H. W. F. W. S. W. T. W. T.         I.	LLA 395 A
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_StraLike_YNLF_31Ctr 7 BatCov_IX2013 8 BatCov_IX2013 9 BatCov_HKU3 10 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sinicus 13 SARSLikeCowWIV16_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Hipposideros_pratti 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_MersLike_BtVs 21 BatCov_Tylonycteris_bat 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 97.2% 95.5% 81.9% 95.8% 81.9% 90.2% 91.7%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 67.9% 69.5% 62.5% 62.5% 22.6% 22.3% 23.4% 20.7%	CD TP - TIL	I. (DD) V. K. K. KUCD F. K. HEE I.         I.           I. LINDRUK N. KUCD F. K. HEE V.         I.           I. LINDRUK N. KUCD F. K. HEE V.         I.           I. LINDRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           I. LINRUK N. KUCD F. K. HEE V.         I.           QI LISR R. K. W. KUCB F. K. H.         I.           QI LISR R. K. W. F. W. F. W. S. KUT F. M.         I.           GI LINRUK T. H. W. F. W. F. W. S. KUT F. M.         I.           FIE OF Q. K. H. W. F. W. S. W. T. W. T.         I.	LLA 395 A
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IRU3 8 BatCov_JL2012 9 BatCov_IRU3 10 BatCov_Rb3_2004 11 SARSLikeBatCov_IRU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 17 Bat_IR_betaCov_Hipposideros_pratti 18 BatCov_Hipposideros_commersoni 19 BatCov_Hipposideros_commersoni 19 BatCov_Hopsugo_bat 20 BatCovMersLike_BtVs 21 BatCov_Vespertilo_sinensis 22 HKU4BatCov_T.Jonycteris_bat 23 HedgehogCov 24 MERS_Camel 26 BatCov_HKU4-4 27 BatCov_IKU4	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.7% 99.5% 100.0% 95.5% 81.9% 90.0% 92.5%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 67.9% 69.1% 67.9% 62.5%	CD TP - TIL	I. (DD) V. N. IVOD F. (NEE I.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE N.)         I.           I. I. SREWN N. IVOD F. (NEE N.)         I.           I. I. SREWN N. IVOD F. (NEE N.)         I.           I. I. SREWN N. IVOD F. (NEE N.)         I.           I. I. SREWN N. IVOB F. (NEE N.)         I.           C. I. SREWN N. IVOB F. (NEE N.)         I.           C. I. SREWN N. IVOB F. (NEE N.)         I.           C. I. SREWN N. IVOS F. (NEE N.)         I.           C. I. SREWN N. IVOS F. (NEE N.)         I.           SI. D. SREWN N. IVOS F. (NEE N.)         I.           FIE OF (SE N.)         VI. D. OVI.           FIE OF	LLA 395 A
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IRU3 9 BatCov_IRU3 10 BatCov_RH03 11 SARSLikeBatCov_HKU3 12 BcR1-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowHIV16_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Hoysugo_bat 20 BatCovVersLike_BtVs 21 BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4 27 BatCovHKU4 28 BatCovHKU5	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 92.5% 90.0% 81.9% 91.7% 90.8% 92.2% 91.7% 95.5%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 62.5%	CD TP - TIL	I. (DD) V. N. IVOD F. (NEE I.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE N.)         I.           I. I. SREWN N. IVOD F. (NEE N.)         I.           I. I. SREWN N. IVOD F. (NEE N.)         I.           I. I. SREWN N. IVOD F. (NEE N.)         I.           I. I. SREWN N. IVOB F. (NEE N.)         I.           C. I. SREWN N. IVOB F. (NEE N.)         I.           C. I. SREWN N. IVOB F. (NEE N.)         I.           C. I. SREWN N. IVOS F. (NEE N.)         I.           C. I. SREWN N. IVOS F. (NEE N.)         I.           SI. D. SREWN N. IVOS F. (NEE N.)         I.           FIE OF (SE N.)         VI. D. OVI.           FIE OF	LLA 395 A
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IRU3 8 BatCov_JL2012 9 BatCov_IRU3 10 BatCov_Rb3_2004 11 SARSLikeBatCov_IRU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 17 Bat_IR_betaCov_Hipposideros_pratti 18 BatCov_Hipposideros_commersoni 19 BatCov_Hipposideros_commersoni 19 BatCov_Hopsugo_bat 20 BatCovMersLike_BtVs 21 BatCov_Vespertilo_sinensis 22 HKU4BatCov_T.Jonycteris_bat 23 HedgehogCov 24 MERS_Camel 26 BatCov_HKU4-4 27 BatCov_IKU4	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 92.5% 90.0% 81.9% 91.7% 90.8% 92.2% 91.7% 95.5%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 67.9% 62.5% 62.5% 62.5% 62.5% 62.5% 22.4% 22.4% 20.7% 20.9% 20.9% 20.9% 20.2%	CD TP - TIL	I. (DD) V. N. IVOD F. (NEE I.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE V.)         I.           I. I. SREWN N. IVOD F. (NEE N.)         I.           I. I. SREWN N. IVOD F. (NEE N.)         I.           I. I. SREWN N. IVOD F. (NEE N.)         I.           I. I. SREWN N. IVOD F. (NEE N.)         I.           I. I. SREWN N. IVOB F. (NEE N.)         I.           C. I. SREWN N. IVOB F. (NEE N.)         I.           C. I. SREWN N. IVOB F. (NEE N.)         I.           C. I. SREWN N. IVOS F. (NEE N.)         I.           C. I. SREWN N. IVOS F. (NEE N.)         I.           SI. D. SREWN N. IVOS F. (NEE N.)         I.           FIE OF (SE N.)         VI. D. OVI.           FIE OF	LLA 395 A
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike YNLF_31Ctr 7 BatCov_FX013 9 BatCov_HKU3 10 BatCov_RKJ_2004 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018 Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_EM40-31 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_pratti 18 BatCov_Vepspugo_bat 20 BatCov_Vepspugo_bat 21 BatCov_Vepsputilio_sinensis 22 HRU4BatCov_Tylonycteris_bat 23 HBd4BatCov_HLSavii 24 MERS_Camel 25 BatCov_HKU4 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCovHKU5 29 BatCov_CVSPS	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 81.9% 90.8% 92.2% 91.7% 90.0% 95.2% 95.2% 95.2% 95.2% 95.2% 95.5%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 67.9% 62.5% 62.5% 22.3% 22.3% 22.3% 20.7% 22.3% 20.4% 20.4% 20.4% 20.4% 20.4% 20.8% 20.2% 20.8% 20.2% 20.8% 20.2%	GD ID       TID         SD YD       III         SD YD       III         SD YD       III         STD       E DII         STM       E DII         KVATIAS       E DII         KVVE       E DII         KVVE       E DII         KVV	I. 1000 T. 8. 1000 T. 6. 118 T. 1.         I. 1000 T. 8. 1000 T. 6. 118 T. 1.           I. 1000 T. 8. 1000 T. 10000 T. 1000 T. 1000 T. 1000 T. 1000 T. 1000 T. 10000	LIA 356
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IRU3 10 BatCov_RN3_2004 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 17 Bat. Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Hopsugo_bat 20 BatCovMersLike_BtVs 21 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Hipposideros_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4-4 27 BatCov_USU4-4 28 BatCov_CVI33_2005 30 HumanCov_MERS 31 BatCov_HKU9 32 BatCov_HKU9 32 BatCov_HKU9	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 90.0% 95.2% 90.0% 95.2\% 95.2\%95.2\% 95.2\% 95.2\% 95.2\% 95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\% 95.2\% 95.2\% 95.2\%95.2\% 95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%95.2\%95.2\% 95.2\%95.2\%95.2\%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 67.9% 69.1% 67.9% 69.1% 62.5%	GD IP         TI           SD IP         II           SD IP         II           SD IP         II           ST IP         DII           ST IP         DIX           NTME         DIX           KVATIAS         MIN           KVVE         MIN           KVVE         MIN           KVVETAN         MIN           KVVETAN         MIN           KVVETAN<	I. (DD) (M) (M) (VD) (M) (M) (M) (M) (M) (M) (M) (M) (M) (M	LLA SPS
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike YNLF_31Ctr 7 BatCov_FX013 9 BatCov_HKU3 10 BatCov_RKJ_2004 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018 Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_EM40-31 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_pratti 18 BatCov_Vepspugo_bat 20 BatCov_Vepspugo_bat 21 BatCov_Vepsputilio_sinensis 22 HRU4BatCov_Tylonycteris_bat 23 HBd4BatCov_HLSavii 24 MERS_Camel 25 BatCov_HKU4 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCovHKU5 29 BatCov_CVSPS	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 81.9% 90.0% 91.7% 90.0% 95.5% 95.2% 95.2% 95.2% 95.2% 95.2% 95.2% 86.7%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 67.9% 62.5% 62.5% 22.3% 22.3% 22.3% 20.7% 22.3% 20.4% 20.4% 20.4% 20.4% 20.4% 20.8% 20.2% 20.8% 20.2% 20.8% 20.2%	GD IP         TI           SD IP         II           SD IP         II           SD IP         II           ST IP         DII           ST IP         DIX           NTME         DIX           KVATIAS         MIN           KVVE         MIN           KVVE         MIN           KVVETAN         MIN           KVVETAN         MIN           KVVETAN<	I. (DD) (M) (M) (VD) (M) (M) (M) (M) (M) (M) (M) (M) (M) (M	LLA SPS
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 10 BatCov_RN3_2004 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeBatCov_HKU3 14 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 17 Bat Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Hypsugo_bat 20 BatCov_Hypsugo_bat 21 BatCov_Vespertilo_sinensis 21 HodgehogCov 24 MERS_Bat-Cov_H.savii 25 MERS_Camel 26 BatCov_HKU4 28 BatCov_HKU4 29 BatCov_HKU4 29 BatCov_HKU4 29 BatCov_HKU4 29 BatCov_HKU4 20 BatCov_HKU4 20 BatCov_HKU4 20 BatCov_HKU4 20 BatCov_HKU4 21 BatCov_HKU4 23 BatCov_HKU4 24 MERS_Bat-Cov_HLSavii 25 MERS_CAMEN 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCov_HKU4 29 BatCov_HKU4 20 BatCov_HKU4 30 BatCov_HKU4 31 BatCov_StrainJHM 35 BovineCov_StrainJHM	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 95.5% 90.0% 92.5% 90.0% 95.2% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 86.7% 86.7% 86.7% 80.0%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 67.8% 69.9% 69.1% 62.5% 62.5% 62.5% 62.5% 62.5% 62.5% 22.3% 820.1% 20.9% 20.9% 20.9% 20.9% 20.5	GD IP         TI           SD IP         II           SD IP         II           SD IP         II           ST IP         DII           ST IP         DIX           NTME         DIX           KVATIAS         MIN           KVVE         MIN           KVVE         MIN           KVVETAN         MIN           KVVETAN         MIN           KVVETAN<	I. (DD) (M) (M) (VD) (M) (M) (M) (M) (M) (M) (M) (M) (M) (M	LLA SPS
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_FX013 9 BatCov_HKU3 10 BatCov_RAJ_2004 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018 Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_EM40-31 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_pratti 20 BatCov_Vespertilio_sinensis 21 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 BatGov_HKU4 24 MERS_Camel 26 BatCov_HKU4-4 27 BatCov_KERS 30 HumanCov_KERS 31 BatCov_RERS 31 BatCov_HKU4 32 BatCov_HKU4 33 BatCov_HKU5 34 BatCov_HKU5 35 BatCov_SECA 36 HumanCov_StrainJHM 36 HumanCov_StrainJHM 36 HumanCov_C34	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 81.9% 91.7% 92.5% 95.2% 95.2% 95.2% 95.2% 95.2% 95.2% 95.2% 95.8% 86.7% 86.7% 86.7% 80.8% 82.0%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5%	GD IP         TI           SD IP         III           FD         EDII           FO	I. (D) (N) (N) (N) (N) (N) (N) (N) (N) (N) (N	LIA 355
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 10 BatCov_RN3_2004 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeBatCov_HKU3 14 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 17 Bat Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Hypsugo_bat 20 BatCov_Hypsugo_bat 21 BatCov_Vespertilo_sinensis 21 HodgehogCov 24 MERS_Bat-Cov_H.savii 25 MERS_Camel 26 BatCov_HKU4 28 BatCov_HKU4 29 BatCov_HKU4 29 BatCov_HKU4 29 BatCov_HKU4 29 BatCov_HKU4 20 BatCov_HKU4 20 BatCov_HKU4 20 BatCov_HKU4 20 BatCov_HKU4 21 BatCov_HKU4 23 BatCov_HKU4 24 MERS_Bat-Cov_HLSavii 25 MERS_CAMEN 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCov_HKU4 29 BatCov_HKU4 20 BatCov_HKU4 30 BatCov_HKU4 31 BatCov_StrainJHM 35 BovineCov_StrainJHM	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 90.7% 92.5% 92.5% 90.8% 92.2% 95.2% 95.2% 95.2% 95.2% 95.5% 86.7% 86.7% 86.7% 86.7% 80.8% 82.0% 82.0% 82.0%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 67.8% 69.9% 69.1% 62.5% 62.5% 62.5% 62.5% 62.5% 62.5% 22.3% 820.1% 20.9% 20.9% 20.9% 20.9% 20.5	GD IP         TI           SD IP         III           SD IP         III           ST IP         DII           ST IP         DIX           NTME         DIX           KVQ IP         NIX           KVQ IP         NIX           KVQ STAN         NIX           KVQE	I GEORY & I VODYC NETA           I I SREVIC I VODYC I SETA           I I SREVIC I VODYC I SETA           I I SREVIC I VODYC I SETA           I I SREVIC I VON I VON I VON           I I SREVIC I VON I VON I VON           I I SREVIC I POUT I SETA	LIA 556
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_275_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_RN2013 8 BatCov_HKU3 10 BatCov_RN2013 11 SARSLikeBatCov_KU3 12 BrR1-BetaCov_SC2018 Rhinolophus_sp 13 SARSLikeBatCov_HKU3 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_BM4B-31 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 21 BatCov_WeyBetIlio_Sinensis 22 HKU4BatCov_Tylonycteris_bat 23 BatCov_HKU4 24 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCov_HKU4 29 BatCov_HKU4 29 BatCov_HKU4 20 BatCov_HKU4 20 BatCov_HKU4 20 BatCov_HKU5 30 HumanCov_MERS 31 BatCov_HKU9 32 BatCov_HKU9 33 BatCov_RS 34 MarineCov_StrainJHM 35 BovineCov_strainJHM 36 HumanCov_UKU1 37 Human_Cov_HKU1 38 FelineCov_strain_PIPV_WSU-79 39 HumanCov_Z228	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.7% 99.7% 90.8% 91.7% 91.7% 91.7% 91.7% 92.5% 91.7% 91.7% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 92.5% 92.5% 92.5% 92.5% 92.5% 92.5% 92.5% 93.7% 92.5% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.5% 93.7% 93.5% 93.	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5% 62.5% 62.5% 62.5% 62.5% 22.4% 20.7% 22.6% 20.4% 20.9% 20.4% 20.2% 20.9% 20.4% 20.2% 20.2% 20.0% 14.5% 12.2% 14.5% 12.2%	GD IP         III           SD IP         III           FD IP </td <td>I. (D) (V) (V) (V) (V) (V) (V) (V) (V) (V) (V</td> <td>LIA 356</td>	I. (D) (V) (V) (V) (V) (V) (V) (V) (V) (V) (V	LIA 356
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 10 BatCov_RN3_2004 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 17 Bat. Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Hopsugo_bat 20 BatCovMersLike_BtVs 21 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Hiponycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_EKU4-4 27 BatCov_EKU4-4 29 BatCov_EKU4 29 BatCov_EKU4 30 BatCov_Strain_98TXSF-110-ENT 34 MurineCov_strain_98TXSF-110-ENT 35 HumanCov_229E 40 HumanCov_229E 40 HumanCov_229E 40 HumanCov_Z1263(1-788	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 86.7% 80.8% 80.2% 80.5% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 80.8% 82.0% 81.4% 81.4% 83.0%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 62.5%	GD IP         III           SD IP         III           ST IP         PII           ST IP </td <td><pre>LINE LY LINE LY LY</pre></td> <td>LIA 556</td>	<pre>LINE LY LINE LY LY</pre>	LIA 556
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_275_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_RN2013 8 BatCov_HKU3 10 BatCov_RN2013 11 SARSLikeBatCov_KU3 12 BrR1-BetaCov_SC2018 Rhinolophus_sp 13 SARSLikeBatCov_HKU3 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_BM4B-31 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 21 BatCov_WeyBetIlio_Sinensis 22 HKU4BatCov_Tylonycteris_bat 23 BatCov_HKU4 24 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCov_HKU4 29 BatCov_HKU4 29 BatCov_HKU4 20 BatCov_HKU4 20 BatCov_HKU4 20 BatCov_HKU5 30 HumanCov_MERS 31 BatCov_HKU9 32 BatCov_HKU9 33 BatCov_RS 34 MarineCov_StrainJHM 35 BovineCov_strainJHM 36 HumanCov_UKU1 37 Human_Cov_HKU1 38 FelineCov_strain_PIPV_WSU-79 39 HumanCov_Z228	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.7% 99.7% 90.8% 91.7% 91.7% 91.7% 91.7% 92.5% 91.7% 91.7% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 91.7% 92.5% 92.5% 92.5% 92.5% 92.5% 92.5% 92.5% 92.5% 93.7% 92.5% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.7% 93.5% 93.7% 93.5% 93.	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5%	GD IP         TI           SD IP         III           SD IP         III           ST IP         DII           ST IP         DIX           NTME         DIX           NTME         DIX           KVATAN         Second           KVVE         NTME           KVQTAN         Second           KVVETAN         Second           KVVETAN         Second           KVVETAN         Second           VTANKEIM         Second           VTANKEIM         Second           VKETAN         Second	I. (D) (V) (V) (V) (V) (V) (V) (V) (V) (V) (V	LIA 556
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_JavaLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_IN2013 10 BatCov_RN3_2004 11 SARSLikeBatCov_IHU3 12 BtR1-BetaCov SC2018_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_BhusCohpus_ferumequinum 17 Bat Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Hypsugo_bat 20 BatCov_Wespertilio_sinensis 21 BatCov_Uespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Bat-Cov_H.savii 25 MERS_Camel 26 BatCov_IKU4-4 27 BatCov_KU5 29 BatCov_ENJ3_2005 30 HumanCov_MERS 31 BatCov_StrainJHM 35 BovineCov_strain_JSHXSF-110-ENT 36 HumanCov_C43 37 Human_Cov_IKU1 38 FelineCov_strain_FIPV_WSU-79 39 HumanCov_ME3 41 IBV_strainW41 50 SovineCov_strain_FIPV_WSU-79 39 HumanCov_MS3/1-788 41 IBV_strainW41 50 SovineCov_Strain_FIPV_WSU-79 30 HumanCov_MS3/1-788 41 IBV_strainW41 50 SovineCov_Strain_FIPV_WSU-79 30 HumanCov_MS3/1-788 41 IBV_strainW41 50 SovineCov_Strain_FIPV_WSU-79 30 HumanCov_MS3/1-788 41 IBV_strainW41 50 SovineCov_Strain_FIPV_WSU-79 30 HumanCov_MS3/10% 50 SovineCov_Strain_FIPV_WSU-79 31 HumanCov_MS3/10%	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 86.7% 80.8% 80.2% 80.5% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 80.8% 82.0% 81.4% 81.4% 83.0%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 62.5%	GUID-UL. GUID-U	<pre>CI_COD_CV_SI_CV_DVC_NETIA</pre>	LIA 556
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IRU3 10 BatCov_IRU3 10 BatCov_IRU3 11 SARSLikeBatCov_IRU3 12 DtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeBatCov_IRU3 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 16 BatCov_Rhinolophus_ferrumequinum 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Hopsugo_bat 20 BatCovMersLike_BtVs 21 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4-4 27 BatCov_RERS 31 BatCov_HKU5 39 BatCov_RERS 31 BatCov_HKU9 32 BatCovRHU9-4 33 BatCov_Strain_P8TXSF-110-ENT 36 HumanCov_Strain_P1PV_WSU-79 39 HumanCov_Strain_F1PV_WSU-79 30 HumanCov_NL63/1-788 41 ISV_strainM41 consensus/100%	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 86.7% 80.8% 80.2% 80.8% 86.7% 80.8% 86.7% 81.4%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 62.5%	GUID-UL. SUND-U	<pre>LINE NOT NOT NOT NOT NOT NOT NOT NOT NOT NOT</pre>	LIA 556

	cov	nid	481	. 5	60
1 HumanCov SARS2	100.0%		401	5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 -	
2 PangolinCov_Manis_javanica	99.7%	94.0%		safvet vkoldykæfko i ves <mark>confkvtkorakkgann i geoks i ls</mark> plyafa <mark>seaarvira i fsrt leta o</mark> es	
3 HumanCov_SARS	100.0%	68.4%		SAFIDAIRSEDYKSFATVSSCAYRVAKGYPVKGAFVKGAFVKGAFVKGAFVGCRSVLTPLCGPPSCAAGVIRSIPARALDAANHS	
4 BatCov_279_2005 5 BatCov_Shaanxi2011	100.0%	69.2% 69.4%		CAPUDA GLUM CONTRACTOR VESCONDANCE AND A CONTRACTOR CONTRACTOR OF A CONTRACTOR	
6 BatCov_SarsLike_YNLF_31Ctr	100.0%	69.1%		A FIDATISE DY SEAST VESCOVER VIE OF INGA IN IGO REVLTPLCOP-SOA AVIE THAT LOADHES	
7 BatCov_YN2013	100.0%	68.0%		SAPIDAIRSLDYKSPRSIVESCONYKVZKORPIKGANNIGOORSVLTPLCGPPSOAGVIRSIPARALDAANHS	
8 BatCov_JL2012	100.0%	69.1%		SAFUDIVASI DINSFRATVES <mark>CONVENTES</mark> PUTSANNIGOD <mark>SILTPL</mark> CGPP <mark>SOAGVIRSIFSRIDAANN</mark> S	
9 BatCov_HKU3	100.0%	69.1%		SAFIETVKELDYKSFAVIVES <mark>C</mark> ONYKVANGAPVTGANNIGQQRSILTPLCGFPSQAAGVIRSIFSRALDAANHS	
10 BatCov_Rp3_2004 11 SARSLikeBatCov HKU3	100.0% 99.7%	67.8% 68.9%		S PEIDTINSE DYNSENTIVES CONYKVTNG MPIKGANNIGOHREVLTPLCGEP-SOAGVIRS IFSRELDAANNS	
12 BtRl-BetaCoV SC2018 Rhinolophus sp	99.4%	69.5%		A PIDEV SIDEVISIONIVES CONVEXTOR PURCH IGO SILIFICOPSOAGUIESISSUDARIS	
13 SARSLikeCovWIV16_Rhinolophus_sinicu		67.9%		SAPIDTIRS DYRSPRAIVES CONYRVTROR PVRGANNIGO RSVLTPLCGPPSOAAGVIRS I PARTLDAANHS	
14 BatCov_Rhinolophus_ferrumequinum	99.7%	69.1%		SAFVDZYKSIDYKSFRATVESCONYKYTKORPUKCANNICOCKSILTPICCEPSOAAGYERSIFSERIDAANNS	
15 BatCov_Rhinolophus_blasii	99.5%	62.5%		SPV3VVNIDPRTFRIISCOVNVVCFPPVVVTSSLITPLECES-SOAGVVFTPSTLAAANHS	
<pre>16 BatCov_BM48-31 17 Bat Hp betaCov Hipposideros pratti</pre>	100.0%	62.5% 27.9%		SECURIN NE PROTANIESCANIVANA PROVINCE PROVINCES SLITPHCSSCAGWYCH USICAAANNS	
18 ZariaBatCov Hipposideros commersoni		27.7%		ESLION OLTERKY, ILLESTERSOV MG VOGALIFSKE DTFCD ILAPGEALSLCAD NK VDLSGTT	
19 BatCov_Hypsugo_bat		22.6%		dklrslyshidadklrnylsdfg-iavivgpyldgainvgkgatitapflSfkkaaavpyksSlkdt	
20 BatCovMersLike_BtVs		22.3%		dklrnly aldvdklreyladyd-iaviv gpyldgai vgkoglofaai tapfvyltglg <sup>-</sup> sfkkvaai pykacksiket	
21 BatCov_Vespertilio_sinensis 22 HKU4BatCov Tylonycteris bat	81.9%			DKLENLWGHLVDKLREYLAGYD-IAVAVGPYLDGALWVGKGARITAPFVVLTGESPKKVAAPYKACKSIKET	
23 HedgehogCov	90.8% 92.2%	20.1%		EELKDLCHRASIERVKDBLVA	
24 MERS_Bat-CoV_H.savii	91.7%	20.9%		EKLRSLIQDISFERLEDYLAAYD-IEVTKGSFVEGALVGKNAAITAPFLVLL-AESFKKVAAVPYKVCCLLEDT	
25 MERS_Camel	90.0%	20.4%		DKIRQLL.GVTLDKLRDYLADYD-VVVTAGPFMDNAIXVGQYAAITAPYVVLTGPSFKKVATTPYKVCYSVKDT	
26 BatCov_HKU4-4	95.2%	20.7%		EELHDLCHNAS <mark>VEKVRDHLVNH<mark>G</mark>-SV<b>VTIG</b>DVIRDAI<mark>IIG</mark>ANGVCNATINAPFIAFTGLGP<mark>SFKKVSAI</mark>PWKICSNLKSA</mark>	
27 BatCov_HKU4 28 BatCovHKU5	95.2% 95.5%	20.8% 20.5%		EELRDLCHNASMEKVRDHLVNHG-EVVIGOVIRDAITIGANGVCNATINAPFIAETGLGESPKKVSAIPWKICSNLKSA	
29 BatCov Cov133 2005	95.5%	20.5%		EELKDLCKNATFERVEDILTFKG-WIVTMESILEGILTVGAGVCNATNAENAFIVLSGGGSFKKVAATFWKLCSSLKET	
30 HumanCov MERS	95.8%	20.0%		DKIROLL GVILDKLRDYLADYD-VAV AG FFMDNALLVGGTGLOYAAITAFYVVLTGLOS SFKKVATTFYKVCNSVKDT	
31 BatCov_HKU9		14.0%		ESLQGLCQANKIMLGDKPLPTDEFHPFIVGLAYHVQRACWYGALASRopgaRDF	
32 BatCovHKU9-4	86.7%	14.5%		DSITKMCCUNKVVLGEHPLPDDEFHPAIVGMNYYTQRTCWYAALSKAAMRDY	
33 BatCov_Rousettus_bat		14.1%		DSLRQLCVDNNVMLGDTPLPKDEFHPGIVGLSYHFYRGCWYGVLTAKSFGAFKEL	
34 MurineCov_StrainJHM 35 BovineCov_strain_98TXSF-110-ENT		12.2%		DULWERRAEFACI-GA-TCGDGLVPILLDGLVPRSYLIKSGOAFGDIAFAAVALABA DYLWERRAKFSLETTVCADGFMPFLLDDLVPRAYYLAVS	
36 HumanCov OC43		12.5%		DYENMRRAKFSLETT-VCADGFMPFLLDDLVPRAYYLAVSGCAFCDYAD	
37 Human_Cov_HKU1	81.1%			DIJAKRRADFACI-DA-WCGDGFVPFLLDGLIPRSYYLIOSGIFFTSLM	
38 FelineCov_strain_FIPV_WSU-79	81.4%	10.5%		PW WOKCGATFADAM WVELTICSTETAYKOTYDVVASICTSAFT MDYKPVEV_VS_SNSVKDIVDKCVKTIVKA	
39 HumanCov_229E 40 HumanCov_NL63/1-788	83.0% 82.8%	10.1% 9.9%		PWPVWRAEDIFGPCVSALASALKQLVYTGELVRFVKSCNSXVAVVGGTIQIL-ASVPEKFLNASDVFVTAI.TV	
40 HumanCov_NL03/1-788 41 IBV_strainM41	77.8%	9.0%		PMEVERAEDIFGCCWSALASALKQLALATGELVEFVKSICNSAVAVVGGTIQILASVPEKFLNA_DVFVTAICTV PMEVERAS <mark>GI</mark> FDAIWDAF <mark>W</mark> AAIKLVPTATGVLVEFVKSIASTVLTVSNGVIIMCADVPDAFQSVYETFTQAICAA AELVAAI <mark>K</mark> RGEPFK-1LG	
consensus/100%				hh	
consensus/90%				p.hhphhtthhth.hh.sh.tsh.lutpthsp.ht.htshh	
consensus/80%				sthhphhpthshcphp.hl.s.s.h.lahshpsshslutptsl.sshhshs.upuhthhtsl+hhtshtps sthhphhcshshcph+thltshs.hht.hcp.lcsuhilopptslhsphhshs.upuhthltul+shpshpps	
consensus/70%				stnnpnncsnsncpn+thitsns.nnwhngp.icsungigpptsinsmnnsnsupunthitui+snpsnpps	
	cov		561	6	40
1 HumanCov_SARS2	100.0%	100.0%	561	• • • • • • • • • • • • • • • • • • •	40
2 PangolinCov_Manis_javanica	100.0% 99.7%	100.0% 94.0%	561	6	40
2 PangolinCov_Manis_javanica 3 HumanCov_SARS	100.0% 99.7% 100.0%	100.0% 94.0% 68.4%	561	6	40
2 PangolinCov_Manis_javanica	100.0% 99.7%	100.0% 94.0% 68.4% 69.2% 69.4%	561	6 667777777777777777777777777777777777	40
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr	100.0% 99.7% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1%	561	6	40
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_YN2013	100.0% 99.7% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0%	561	6         11 DOI 6016 011 01404           VRVLOCAL         11 DOI 6016 0116 0110 01404           VRVLOCAL         11 DOI 6016 0110 0110 01404           IPDLORAV         11 DOI 8016 0110 01404           IPDLORAV         11 DOI 8010 0110 01404           IPDLORAV         11 DOI 8010 01404           IPDLORAV         11 DOI 8000 01404	40
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_YN2013 8 BatCov_JL2012	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1%	561	6	40
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_JL2012 8 BatCov_JL2012 9 BatCov_HKU3	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1%	561	6         11001 SQ15 RLI DANG-         64           VRVLQCAN	40
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_YN2013 8 BatCov_JL2012	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1%	561	6         11003 602 02.000           VRVLCGAAL         11003 602 02.000           UPDLCRAAV         11003 802 02.000           UPDLCRAAV         1100	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SaraLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_HKU3 10 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3 12 BrAI-BetaCOV_SC2018_Rhinolophus_sp</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5%	561	.         .	40
2 PangolinČov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IX2013 8 BatCov_IX2013 9 BatCov_HKU3 10 BatCov_HKU3 10 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowWIV16_Rhinolophus_sinicu	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 67.8% 68.9% 69.5% 67.9%	561	6         11003 604 91 02 00 00 00 00 00 00 00 00 00 00 00 00	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_N2013 8 BatCov_JL2012 9 BatCov_HKU3 10 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCoVWIV16_Rhinolophus_sinicu 4 BatCov_Rhinolophus_ferrumequinum</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 69.5% 67.9% 69.5% 67.9% 69.1%	561	VRUDCBAR         IID 001 004 0 RLD 0 MM           VRUDCBAR         IID 001 004 0 RLD 0 MM           VRUDCBAR         IID 001 004 0 RLD 0 MM           IPDICBAR         IID 001 005 0 RLD 0 MM	40
2 PangolinČov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IX2013 8 BatCov_IX2013 9 BatCov_HKU3 10 BatCov_HKU3 10 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowWIV16_Rhinolophus_sinicu	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 67.8% 68.9% 69.5% 67.9%	561	IVDEHRAMIEFSDESDQANRVLDAMV- IVDEHRAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_NarsLike_YNLF_31Ctr 7 BatCov_INU3 8 BatCov_IL2012 9 BatCov_IRU3 10 BatCov_BRU3 11 SARSLikeDatCov_HKU3 12 BtR1-BetaCOV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferumequinum 15 BatCov_BMide-31 16 BatCov_BH48-31 17 Bat_Rp_betaCov_Hipposideros_pratti</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 97.2%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 69.5% 69.5% 69.5% 69.5% 27.9%	561	IVDLIRAAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_IN2013 10 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCov_SC2018_Rhinolophus_spi 13 SARSLikeCovWTV16_Rhinolophus_sinicu 14 BatCov_Rhinolophus_Lasii 15 BatCov_Rhinolophus_Lasii 16 BatCov_Rhiposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 100.0% 97.2% 96.7%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 67.8% 69.5% 67.5% 67.5% 67.5% 67.5% 2.5% 27.5%	561	IVDLHRAM/	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SRasLike_YNLF_31Ctr 7 BatCov_N20113 8 BatCov_JL2012 9 BatCov_HKU3 10 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_spi 13 SARSLikeCovWHV16_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_BK16_A1 17 Bat_Hp_betaCov_Hipposideros_pratti 18 PatCov_Hypsugo_bat</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 67.8% 69.1% 67.9% 69.5% 67.9% 62.5% 62.5% 62.5% 62.5% 27.9% 22.6%	561	IVDLIRAAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_WN2013 8 BatCov_INU3 10 BatCov_INU3 10 BatCov_BKU3 11 SARSLikeBatCov_HKU3 12 BrH-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Hiposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Hypugo_bat 20 BatCovMersLike_BtVs</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 100.0% 97.2% 96.7%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 67.8% 69.5% 67.5% 67.5% 67.5% 67.5% 2.5% 27.5%	561	IVDERRAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_WN2013 8 BatCov_IN2013 9 BatCov_INU3 10 BatCov_BKU3 11 SARSLikeBatCov_HKU3 12 Brl-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_HAPS31 17 Bat_Bp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Hypugo_bat 20 BatCovMersLike_BtVs</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 100.0% 99.7% 99.5% 96.7% 92.5%	100.0% 94.0% 68.4% 69.2% 69.4% 69.4% 69.1% 69.1% 67.8% 67.9% 67.9% 67.9% 67.9% 22.5% 62.5%	561	IVDLINAAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_HKU3 10 BatCov_JL2012 9 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_spincu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_lasii 16 BatCov_BN48-31 17 Bat_Hp_betaCov_Hiposideros_pratti 18 ZarisBatCov_Hiposideros_commersoni 19 BatCov_Hypsug_bat 20 BatCov_Vespertilio_sinensis</pre>	100.08 99.78 100.08 100.08 100.08 100.08 100.08 100.08 100.08 100.08 99.78 99.78 99.78 99.78 99.78 99.78 99.78 99.78 99.78 99.58 81.98	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1% 69.1% 69.1% 62.5% 27.9% 22.5% 22.3% 22.3% 22.3% 22.3%	561	IVDERRAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SRasLike_YNLF_31Ctr 7 BatCov_IkuE_YNLF_31Ctr 7 BatCov_IkU3 8 BatCov_IL2012 9 BatCov_IKU3 10 BatCov_IKU3 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCov_SC2018_Rhinolophus_spi 13 SARSLikeBatCov_HKU3 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Ikpuso_bat 20 BatCovMerSLike_BtVs 21 BatCov_Veppsudo_bat 20 BatCov_Veppsudo_bat 21 BatCov_Veppsudo_bat 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERE_Bat-CoV_I.savii</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 97.2% 95.5% 96.7% 92.5% 92.5% 92.5% 92.8% 92.8% 90.8% 92.2%	100.0% 94.0% 68.4% 69.2% 69.2% 68.0% 69.1% 67.8% 67.8% 67.8% 67.9% 62.5% 62.5% 62.5% 62.5% 62.5% 22.6% 22.3% 22.4% 20.7%	561	IVDERRAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_779_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_WN2013 8 BatCov_IN2013 9 BatCov_IN2013 10 BatCov_IN201 11 SARSLikeDatCov_HKU3 12 BrH-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequInum 15 BatCov_Rhinolophus_blasii 16 BatCov_Hiposideros_pratti 18 ZariaBatCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Hypugo_bat 20 BatCovVersLike_BtVs 21 BatCovVersLike_BtVs 21 BatCovVersLike_BtVs 21 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_camel</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 97.2% 95.5% 100.0% 97.2% 95.5% 81.9% 92.5% 81.9% 92.2% 91.7% 90.0%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 67.9% 69.5% 67.9% 69.5% 67.9% 62.5% 62.5% 62.5% 62.3% 22.3% 22.3% 23.4% 20.1% 20.4%	561	IVDLINAAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SRasLike_YNLF_31Ctr 7 BatCov_IkuE_YNLF_31Ctr 7 BatCov_IkU3 8 BatCov_IL2012 9 BatCov_IKU3 10 BatCov_IKU3 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCov_SC2018_Rhinolophus_spi 13 SARSLikeBatCov_HKU3 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Ikpuso_bat 20 BatCovMerSLike_BtVs 21 BatCov_Veppsudo_bat 20 BatCov_Veppsudo_bat 21 BatCov_Veppsudo_bat 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERE_Bat-CoV_I.savii</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 8 99.7% 99.5% 100.0% 97.2% 99.5% 81.9% 90.8% 92.5% 91.7% 90.0% 95.2%	100.0% 94.0% 68.4% 69.2% 69.2% 68.0% 69.1% 67.8% 67.8% 67.8% 67.9% 62.5% 62.5% 62.5% 62.5% 62.5% 22.6% 22.3% 22.4% 20.7%	561	IVDERRAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARS. 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_WR2013 8 BatCov_HKU3 10 BatCov_JL2012 9 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018 Rhinolophus_spi 13 SARSLikeCovtV106 Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_MV106 Rhinolophus_spi 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZarisBatCov_Hipposideros_pratti 18 ZarisBatCov_Hipposideros_pratti 19 BatCov_Vespertilio_sinensis 21 BatCov_VeryLingobat 20 BatCovVeryLise_Btv 21 BatCovVeryLise_Btv 23 HeddpehogCov 24 MERS_Dat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4-4</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 97.2% 97.2% 95.8% 81.9% 92.5% 90.0% 95.2%	100.0% 94.0% 68.4% 69.2% 69.2% 69.1% 69.1% 69.1% 67.8% 69.5% 67.8% 69.5% 62.5% 27.9% 22.6% 22.6% 22.3% 22.4% 20.7% 20.9% 20.4%	561	IVDLIRAAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARS. 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_WR2013 8 BatCov_HRU3 10 BatCov_HRU3 10 BatCov_HRU3 11 SARSLikeBatCov_HRU3 12 BtRl-BetaCov_SC2018_Rhinolophus_sp 13 SARSLikeBatCov_HRU3 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Hypsugo_bat 20 BatCovMerSLike_BtVs 21 BatCov_Veypertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 44 MERS_Camel 25 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCov_HKU4 29 BatCov_HKU4 29 BatCov_HKU4</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 92.5% 95.8% 81.9% 90.8% 92.2% 90.8% 92.2% 90.8% 92.5% 95.2% 95.2%	100.0% 94.0% 68.4% 69.2% 69.2% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 67.8% 62.5% 62.5% 62.5% 62.5% 22.4% 22.4% 22.4% 20.7% 20.9% 20.4% 20.9% 20.4% 20.8% 20.2%	561	IVDERRAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_779_2005 5 BatCov_SARS. 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_WR2013 8 BatCov_IRU3 10 BatCov_HRU3 11 SARSLikeDatCov_HRU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Hhinolophus_blasii 17 Bat_Rp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Vespertilio_sinensis 21 BatCov_Vespertilio_sinensis 21 BatCov_Vespertilio_sinensis 21 BatCov_Wespertilio_sinensis 21 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4-4 27 BatCov_HKU4-4 28 BatCov_HKU5 29 BatCov_RES</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 97.2% 97.2% 95.8% 81.9% 90.8% 92.2% 90.0% 95.2% 95.5% 95.5%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5% 22.3% 22.3% 22.3% 22.3% 20.1% 20.9% 20.5% 20.5% 20.5% 20.2%	561	IVDERRAM       ITSDEDQAREVLOANV-         IVDERRAM-       ITSDEDQAREVLOANV-         LDALAQRVR-       ITSDEDQAREVLOANV-         LDALAQRVR-       DACKHVHPQANGLLNTIN-         LANKETMS-       OXKHVHPQANGLLNTIN-         LANKETMS-       OXKHVHPQANGLLNTIN-         LANKETMS-       OXKHVHPQANGLLNTIN-         LANKETMS-       OXKHVHPQANGLLNTIN-         LIYYASSILVRVFP-       VEISSDVSFFSELLDCC         LIYYASSILVRVFP-       VEISSDVSFFSELLDCC         LDYYSSITMFRVFP-       VEISSDVSFFSELLDCC         LYYASSILVRVP-       VEISCOVYFVEILDCC         LYYASSILVRVP-       VEISCOVYFVEILDCC         LYYASSITMFRVFP-       VEISFSELLFCC         LOYSSNITHFRVFP-       VEISFSELLFCC         LDYSSNITHFRVFP-       VEISFSELLFCC         LDYSSNITHFRVFP-       VEISFSELLFCC         LDYYSSNITHFRVFP-       VEISFSELFCC         LDYSSN	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARS. 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_W2013 8 BatCov_HXU31 9 BatCov_HXU31 10 BatCov_JL2012 9 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_spicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_BN48-31 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZarisBatCov_Hipposideros_pratti 18 ZarisBatCov_Hipposideros_pratti 19 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 BatGov_HKU4 24 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 29 BatCov_KESS 30 HumanCov_MERS 31 BatCov_HKU9</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.7% 99.5% 100.0% 97.2% 99.5% 81.9% 90.8% 92.5% 95.5% 95.2% 95.2% 95.2% 95.2% 95.2% 95.2%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 67.5% 62.5% 22.3% 22.3% 22.3% 22.3% 20.7% 20.9% 20.4% 20.9% 20.4% 20.2% 20.2%	561	IVDERRAM       ITSDE DOAMEVLOAMV-         IVDLERRAM       ITSDE DOAMEVLOAMV-         LDALAQEVA       DACKHVHPQANKULDNILAV         LDALAQEVA       DACKHVHPQANKULDNILAV         LDALAQEVA       DACKHVHPQANKULDNILAV         LDALAQEVA       DACKHVHPQANKULDNILAV         LDALAQEVA       DACKHVHPQANKULDNILAV         LDALAQEVA       DACKHVHPQANKULDNILAV         LANKETMS       AVYKDLHPRAMELINTLA         LDYINSILINEVP       VEISSDUSFSELLIDC         LLYYASSILINEVP       VEISSDUSFSELLIDC         LYYASSILINEVP       VEISDUSFSELLIDC         LYYASSILINEVP       VEISDUSFSELLIDC         LYYASSILINEVP       VEIEDUVSNVELLIDC         LYYASSILINEVP       VEIEDUVSNVELLIDC         LYYASSILINEVP       VEIEDUVSNVELLIDC         LYYASSILINEVPP       VEIEDUVSNVELLIDC         LUYYSSNIHFEVPP       VEIEDUVSNVERVELLIDC         LUYSSNIHFEVPP       VEIEDUVSNVERVELLIDC         LDYSSNIHFEVPP       VEIEDUVSNVERVELLIDC         LDYSSNIHFEVPP       VEIEDUVSNVERVELLIDC         LDYSSNIHFEVPP       VEIEDUVSNVELLIDC         LDYSSNIHFEVPP       VEIEDUVSNVELLIDC         LDYSSNIHFEVPP       VEIEDUVSNVELLIDC         LDYSSNIHFEVPP       VEIEDUVSNVELLIDC         LDYCONDFVE	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_779_2005 5 BatCov_SARS. 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_WR2013 8 BatCov_IRU3 10 BatCov_HRU3 11 SARSLikeDatCov_HRU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Hhinolophus_blasii 17 Bat_Rp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Vespertilio_sinensis 21 BatCov_Vespertilio_sinensis 21 BatCov_Vespertilio_sinensis 21 BatCov_Wespertilio_sinensis 21 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4-4 27 BatCov_HKU4-4 28 BatCov_HKU5 29 BatCov_RES</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 90.7% 99.5% 90.8% 99.5% 90.8% 99.5% 90.8% 99.5% 90.8% 99.5% 90.8% 99.5% 90.8% 99.5% 90.8% 99.5% 90.8% 99.5% 90.8% 99.5% 90.8% 90.5% 90.8% 90.5% 90.8%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5% 22.3% 22.3% 22.3% 22.3% 20.1% 20.9% 20.5% 20.5% 20.5% 20.2%	561	IVDLIRAAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARS. 6 BatCov_SARSLike_YNLF_31Ctr 7 BatCov_N2011 8 BatCov_JL2012 9 BatCov_HKU3 10 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCov_SC2018_Rhinolophus_sp 13 SARSLikeBatCov_HKU3 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasi1 16 BatCov_Hypsugo_bat 20 BatCovMerSLike_BtVs 21 BatCov_Veypsudo_bat 20 BatCovWerSLike_BtVs 21 BatCov_Veypsudo_bat 23 HedgehogCov 24 MERS_Camel 25 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCov_HKU4 29 BatCov_HKU4 31 BatCov_KES 31 BatCov_SAMS 32 HumanCov_MERS 31 BatCov_HKU9 32 BatCovHKU9-4 33 BatCov_KrainJHM</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 92.5% 95.8% 91.7% 90.8% 92.5% 95.2% 95.2% 95.2% 95.2% 95.2% 95.2% 95.5% 85.2% 95.5% 85.2% 95.2\% 95.2\%95.2\% 95.2\% 95.2\%95.2\% 95.2\% 95.2\%95.2\% 95.2\% 95.2\%95.2\% 95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%	100.0% 94.0% 68.4% 69.2% 69.2% 69.1% 69.1% 69.1% 69.1% 69.5% 67.8% 69.5% 62.5% 22.6% 22.6% 22.4% 20.7% 20.4% 20.9% 20.4% 20.2% 20.8% 20.2%	561	IVDERRAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARS. 6 BatCov_SARS. 7 BatCov_SARS. 8 BatCov_INU2013 8 BatCov_INU2013 9 BatCov_INU30 10 BatCov_BAU30 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_HyBu90_bat 20 BatCov_HyBu90_bat 20 BatCov_Wespertilio_sinensis 21 BatCov_Vespertilio_sinensis 21 BatCov_Vespertilio_sinensis 21 BatCov_HyBu90_bat 20 BatCov_HyBu90_bat 21 BatCov_Vespertilio_sinensis 21 HdV4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_EKU4 29 BatCov_HKU4 29 BatCov_StrainJBM 31 BatCov_RU9 31 BatCov_StrainJBM 35 BovineCov_StrainJBM 35 BovineCov_StrainJBM</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 99.7% 99.5% 90.6% 99.5% 90.6% 99.5% 90.6% 90.5% 90.5% 90.5% 90.5% 90.5% 90.5% 90.5% 90.5% 90.5% 95.2% 95.5% 95.2% 95.5% 95.2% 95.5% 95.2% 95.5% 95.2% 95.5% 95.2% 95.5\% 86.7% 86.7% 86.7% 86.7% 86.7% 86.5\% 86.5\% 86.5\% 86.5\% 86.5\% 86.5\% 86.5\% 86.5\% 86.5\% 86.5\% 86.5\% 87.5\%86.5\% 87.5\%87.5\% 87.5\% 87.5\% 87.5\% 87.5\% 87.5\% 87.5\%87.5\% 87.5\%87.5\% 87.5\% 87.5\% 87.5\%87.5\% 87.5\% 87.5\%87.5\% 87.5\% 87.5\%87.5\% 87.5\% 87.5\%87.5\% 87.5\%87.5\% 87.5	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5% 22.3% 22.3% 22.3% 22.3% 20.1% 20.9% 20.9% 20.9% 20.5% 20.2% 20.5% 20.2% 20.5% 20.5% 20.5% 20.5% 20.2%	561	IVDERRAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARS. 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_HXU31 9 BatCov_HXU31 10 BatCov_JL2012 9 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018 Rhinolophus_sincu 13 SARSLikeBatCov_HKU3 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasi1 16 BatCov_MV10f. Rhinolophus_sincu 13 BatCov_Hku31 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_pratti 19 BatCov_Vespertilio_sinensis 21 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 BatGehogCov 24 MERS_Camel 26 BatCov_EKU4 27 BatCov_HKU4 28 BatCovHKU5 29 BatCov_Cov133_2005 30 HumanCov_MERS 31 BatCov_Resperting 32 BatCovHKU5 31 BatCov_KENS 31 BatCov_KENS 31 BatCov_KENS 32 BatCovHKU5 33 BatCov_StrainJHM 35 DovineCov_strainJHM 35 HumaCov_Od3</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.5% 90.8% 99.7% 99.5% 91.7% 99.7% 99.5% 91.7% 92.5% 91.7% 92.5% 95.2%	100.0% 94.0% 68.4% 69.2% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5% 27.9% 22.3% 22.3% 22.3% 20.7% 20.9% 20.4% 20.9% 20.4% 20.9% 20.4% 20.9% 20.4% 20.9% 20.4% 20.9% 20.2%	561	IVDERAAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARS. 6 DatCov_SarsLike_YNLF_31Ctr 7 BatCov_N2013 8 BatCov_HX03 10 BatCov_JL2012 9 BatCov_HK03 11 SARSLikeBatCov_HK03 12 BtRl-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Hypsugo_bat 20 BatCovHersLike_BtVs 21 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Dat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4 29 BatCovHKU5 30 HumanCov_MERS 31 BatCov_HKU5 31 BatCovHKU9-4 33 BatCov_RU9 32 BatCovHKU9-4 34 MCRS_Canal 34 MCRS_ANA 35 BovineCov_strain_98TXSF-110-ENT 36 HumanCov_BtK01</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.8% 99.7% 90.8% 99.7% 90.8% 99.7% 90.8% 99.7% 90.8% 99.7% 90.8% 99.7% 90.8% 90.8% 90.8% 90.8% 90.8% 90.8% 90.8% 90.8% 90.7% 90.6% 90.7% 90.6% 90.7% 90.8%	100.0% 94.0% 68.4% 69.2% 68.4% 69.2% 69.1% 68.9% 69.1% 68.9% 69.5% 67.8% 69.5% 62.5% 62.5% 62.5% 62.5% 22.3% 22.4% 20.7% 20.4% 20.9% 20.4% 20.9% 20.4% 20.9% 20.4% 20.9% 20.4% 20.9% 20.4% 20.9% 20.4% 20.4% 20.9% 20.4% 20.4% 20.5% 20.4% 20.5% 20.4% 20.4% 20.5% 20.4%	561	IVDERRAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARS. 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_HXU31 9 BatCov_HXU31 10 BatCov_JL2012 9 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018 Rhinolophus_sincu 13 SARSLikeBatCov_HKU3 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasi1 16 BatCov_MV10f. Rhinolophus_sincu 13 BatCov_Hku31 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_pratti 19 BatCov_Vespertilio_sinensis 21 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 BatGehogCov 24 MERS_Camel 26 BatCov_EKU4 27 BatCov_HKU4 28 BatCovHKU5 29 BatCov_Cov133_2005 30 HumanCov_MERS 31 BatCov_Resperting 32 BatCovHKU5 31 BatCov_KENS 31 BatCov_KENS 31 BatCov_KENS 32 BatCovHKU5 33 BatCov_StrainJHM 35 DovineCov_strainJHM 35 HumaCov_Od3</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 99.7% 99.5% 99.7% 99.5% 99.7% 99.5% 99.8% 91.7% 90.8% 91.7% 92.2% 95.2% 86.7% 86.7% 86.7% 86.2%86.2% 86.2	100.0% 94.0% 68.4% 69.2% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5% 27.9% 22.3% 22.3% 22.3% 20.7% 20.9% 20.4% 20.9% 20.4% 20.9% 20.4% 20.9% 20.4% 20.9% 20.4% 20.9% 20.2%	561	IVDERRAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARS. 9 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_NZ013 8 BatCov_JL2012 9 BatCov_HKU3 10 BatCov_JD2014 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sinicu 4 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_BM100phus_blasii 16 BatCov_HPypugo_bat 20 BatCovWersLike_BtVs 21 BatCov_Vespertilio_sinensis 21 HdgehogCov 24 MERS_Dat-Cov_H.savii 25 MERS_Camel 26 BatCov_HV16 20 BatCov_HV16 20 BatCovHV16 20 BatCovHV16</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 99.7% 99.5% 90.6% 99.5% 90.6% 91.7% 92.5% 95.2	100.0% 94.0% 94.0% 69.1% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5% 22.3% 22.3% 22.3% 20.1% 20.9% 20.9% 20.9% 20.5% 20.2% 20.5% 20.2% 20.5%	561	IVDERRAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARSLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_HKU31 10 BatCov_JRU2012 9 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 BtRl=BetaCoV_SC2018 Rhinolophus_sip 13 SARSLikeBatCov_HKU3 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasi1 16 BatCov_BM48=31 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_pratti 19 BatCov_Weypetilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 BatCov_UtyBatCov_H.savi1 25 MERS_Camel 26 BatCov_EKU4 27 BatCov_EKU4 29 BatCov_Cov133_2005 30 HumanCov_MERS 31 BatCov_StrainJHM 35 DovineCov_strainJHM 35 DovineCov_strainJHM 36 HumanCov_DK31 37 Human_Cov_MENS 39 HumanCov_229E 40 HumanCov_NtainJin Savaning 41 ESP_StrainM41</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 99.7% 99.5% 90.6% 99.5% 90.6% 91.7% 92.5% 95.2	100.0% 94.0% 94.0% 68.4% 69.2% 69.2% 69.1% 69.1% 69.1% 67.8% 69.5% 67.8% 69.5% 62.5% 22.6% 22.6% 22.6% 20.7% 20.7% 20.9% 20.4% 20.9% 20.2%	561	IVDERARM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARS. 6 DatCov_SarsLike_YNLF_31Ctr 7 BatCov_WX2013 8 BatCov_HX03 10 BatCov_BAT204 11 SARSLikeBatCov_HK03 12 DtRl-BetaCoV_SC2018_Rhinolophus_sinicu 4 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Hypsugo_bat 20 BatCovHersLike_BtVs 21 BatCov_Hypsugo_bat 20 BatCovWersLike_BtVs 21 BatCov_WyserLilo_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Dat-CoV_H.savii 25 MERS_Camel 26 BatCovHKU5 29 BatCovHKU5 31 BatCov_HKU4 32 BatCovHKU5 31 BatCov_HKU4 33 BatCovHKU9-4 33 BatCovHKU9-4 34 MCNS_Datain_SMTSF-110-ENT 36 HumanCov_Strain_SMTSF-110-ENT 36 HumanCov_Strain_SMTSF-110-ENT 36 HumanCov_Strain_SMTSF-110-ENT 36 HumanCov_Strain_SMTSF-110-ENT 36 HumanCov_Strain_FIPV_WSU-79 39 HumanCov_SMES 31 BatCov_HKU1 38 FelineCov_Strain_FIPV_WSU-79 39 HumanCov_SMES 31 HumanCov_SMES 31 BatCov_NE63/1-788 41 INV_strainM41 consensus/100%</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 99.7% 99.5% 90.6% 99.5% 90.6% 91.7% 92.5% 95.2	100.0% 94.0% 94.0% 69.1% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5% 22.3% 22.3% 22.3% 20.1% 20.9% 20.9% 20.9% 20.5% 20.2% 20.5% 20.2% 20.5%	561	IVDERRAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARS. 9 BatCov_279_2005 5 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 10 BatCov_IN2014 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 17 Bat_Bp_betaCov_Hipposideros_ormmersoni 18 BatCov_Hypsugo_bat 20 BatCov_Wespertilio_sinensis 21 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Dat-CoV_H.savii 25 MERS_Camel 26 BatCov_ENU4 29 BatCov_ENU4 29 BatCov_StrainJUA 29 BatCov_StrainJUA 31 BatCov_StrainJUA 32 BatCov_StrainJUA 33 BatCov_StrainJUA 34 MurineCov_StrainJUA 35 PoinceCov_StrainJUA 36 FelineCov_StrainJUA 37 HumanCov_OC43 37 HumanCov_JEA 31 BineCov_Strain_PSTXSF-110-ENT 36 HumanCov_LSO 37 HumanCov_JEA 31 BineCov_Strain_SUA 37 HumanCov_JEA 31 HumanCov_JEA 31 HumanCov_Z22E 34 HumanCov_Strain_SUA 35 HumanCov_JEA 36 HumanCov_JEA 36 HumanCov_JEA 37 HumanCov_JEA 39 HumanCov_JEA 39 HumanCov_JEA 30 HumanCov_JEA 30 HumanCov_JEA 31 HumanCov_JEA 32 HumanCov_JEA 33 HumanCov_JEA 34 HumanCov_JEA 35 HumanCov_JEA 36 HumanCov_JEA 37 HumanCov_JEA 38 HumanCov_JEA 39 HumanCov_JEA 39 HumanCov_JEA 30 HumanCov_JEA 30 HumanCov_JEA 30 HumanCov_JEA 30 HumanCov_JEA 30 HumanCov_JEA 30 HumanCov_JEA 30 HumanCov_JEA 31 HumanCov_JEA 32 HumanCov_JEA 33 HumanCov_JEA 34 HumanCov_JEA 34 HumanCov_JEA 35 HumanCov_JEA 35 HumanCov_JEA 36 HumanCov_JEA 37 HumanCov_JEA 38 HumanCov_JEA 38 HumanCov_JEA 39 HumanCov_JEA 39 HumanCov_JEA 30 HumanCov_JEA 30 HumanCov_JEA 30 HumanCov_JEA 30 HumanCov_JEA 30 HumanCov_JEA 31 HumanCov_JEA 32 HumanCov_JEA 33 HumanCov_JEA 34 HumanCov_JEA 34 HumanCov_JEA 34 HumanCov_JEA 35 HumanCov_JEA 35 HumanCov_JEA 36 HumanCov_JEA 37 HumanCov_JEA 37 HumanCov_JEA 38 HumanCov_JEA 38</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 99.7% 99.5% 90.6% 99.5% 90.6% 91.7% 92.5% 95.2	100.0% 94.0% 94.0% 69.1% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5% 22.3% 22.3% 22.3% 20.1% 20.9% 20.9% 20.9% 20.5% 20.2% 20.5% 20.2% 20.5%	561	IVDERRAM	40
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARS. 6 BatCov_SARS. 7 BatCov_N2013 9 BatCov_HXU3 10 BatCov_JL2012 9 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 DtRl-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Hypsugo_bat 20 BatCovHersLike_BtVs 21 BatCov_Hypsugo_bat 20 BatCovWersLike_BtVs 21 BatCov_Hypsugo_bat 20 BatCovWersLike_BtVs 21 BatCov_WersLike_BtVs 21 BatCov_HyPsugo_bat 20 BatCovWersLike_BtVs 21 BatCov_VeryPertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Dat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4-4 27 BatCov_HKU4 28 BatCovHKU5 31 BatCov_HKU4 32 BatCovHKU9-4 33 BatCovHKU9-4 33 BatCov_Strain_SMSF-110-ENT 36 HumanCov_Strain_SMSF-110-ENT 36 HumanCov_Strain_SMSF-110-ENT 36 HumanCov_Strain_FIPV_WSU-79 39 HumanCov_Strain_FIPV_WSU-79 39 HumanCov_NL63/1-788 41 INV_strainM41 consensus/100%</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 99.7% 99.5% 90.6% 99.5% 90.6% 91.7% 92.5% 95.2	100.0% 94.0% 94.0% 69.1% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5% 22.3% 22.3% 22.3% 20.1% 20.9% 20.9% 20.9% 20.5% 20.2% 20.5% 20.2% 20.5%	561	IVDERRAM	40

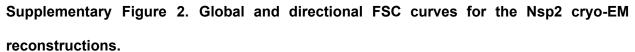
	cov	pid	641 :
1 HumanCov_SARS2	100.0%		FTSDLATNN LVVMAY ITGGVVQLTSQNLTNI
2 PangolinCov_Manis_javanica 3 HumanCov SARS	99.7% 100.0%	94.0% 68.4%	
4 BatCov_279_2005	100.0%	69.2%	
5 BatCov_Shaanxi2011	100.0%	69.4%	GGLVQ222QNLSNM
<pre>6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov YN2013</pre>	100.0%	69.1% 68.0%	
8 BatCov_JL2012	100.0%	69.1%	
9 BatCov_HKU3	100.0%	69.1%	
10 BatCov_Rp3_2004 11 SARSLikeBatCov HKU3	100.0% 99.7%	67.8% 68.9%	
12 BtRl-BetaCoV_SC2018 Rhinolophus_sp	99.4%	69.5%	
13 SARSLikeCovWIV16_Rhinolophus_sinicus		67.9%	GGLVQQISQNLSNL
14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii	99.7% 99.5%	69.1% 62.5%	
16 BatCov_BM48-31	100.0%	62.5%	
17 Bat_Hp_betaCov_Hipposideros_pratti	97.2%	27.9%	
18 ZariaBatCov_Hipposideros_commersoni	96.7%	27.7%	QNLPVVIGDMLDCL IGFTAASAYFVVRLLHDK.DTLLST
19 BatCov_Hypsugo_bat 20 BatCovMersLike_BtVs	92.5% 95.8%	22.6% 22.3%	
21 BatCov_Vespertilio_sinensis	81.9%	23.4%	LDEKAEAL
22 HKU4BatCov_Tylonycteris_bat	90.8%	20.7%	LDEKFDTV VEISARSMYFASVVIREKVNTMFNAL
23 HedgehogCov 24 MERS_Bat-CoV_H.savii	92.2% 91.7%	20.1% 20.9%	IREKVNTMFNAL UDEKVESLISTI
25 MERS_Camel	90.0%	20.4%	LQ-KTGDFMST
26 BatCov_HKU4-4	95.2%	20.7%	ldekfdtvlgtv
27 BatCov_HKU4 28 BatCovHKU5	95.2% 95.5%	20.8% 20.5%	LDEKFDTVLGTV 
29 BatCov Cov133 2005	95.2%	20.2%	LDEKFDTVLGTV
30 HumanCov_MERS	95.8%	20.0%	LQDK_GDFMSTI
31 BatCov_HKU9	86.7%	14.0%	AIAKSKDAFGGV QSGRVTLVTAYQVLDTAIAKSKDAFGGA
32 BatCovHKU9-4 33 BatCov_Rousettus_bat	86.7% 86.7%	14.5% 14.1%	laenlldsvk.t
34 MurineCov_StrainJHM	80.8%	12.2%	GKVAVRFKAL
35 BovineCov_strain_98TXSF-110-ENT	82.0%	12.8%	VDLA HFSDF
36 HumanCov_OC43 37 Human_Cov_HKU1	82.0% 81.1%	12.5%	VDLAOHFSDF DRVSVATFYIEH <u>-</u> VNRLVTQFKLL
38 FelineCov_strain_FIPV_WSU-79	81.4%	10.5%	-DVVTPGGGHIVIIGDMAFYKSEEYYFMMASPDSVLVNNVFKAARVPSYNIVYDVNDDTKSKMVVKIGTSFD-F
39 HumanCov_229E	83.0%		YSKLFD-EGYTVVIGDVAYFVSDGYFRLMASPNSVLTAVYKPLFAFNVNVMGTRPEKF-PTTVT
40 HumanCov_NL63/1-788 41 IBV_strainM41	82.8% 77.8%	9.9% 9.0%	APVVCP-KGKIVVIAGQAFFYSGGFYRFMVDPTTVLNDPVFTGDLFYTIKFSGFKTDGFNHQFVT GKVSGFVT
consensus/100%	//.06	3.08	
consensus/90%			h.phhtth
consensus/80% consensus/70%			h.tphtphhssh sslhssoshhhshhl.pphsphlssl
consensus/ /0%			
	cov	pid	721 : 8 800
1	100 00		
1 HumanCov_SARS2 2 PangolinCov Manis javanica	100.0%	100.0%	
1 HumanCov_SARS2 2 PangolinCov_Manis_javanica 3 HumanCov_SARS	100.0% 99.7% 100.0%		
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005	99.7% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2%	
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011	99.7% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4%	
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005	99.7% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4%	Control of the second
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_YN2013 8 BatCov_JL2012	99.7% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1%	Control of the second
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_JL2012 9 BatCov_IKU3	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1%	Control of the second
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_YN2013 8 BatCov_JL2012	99.7% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1%	Control of the second
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_YN2013 8 BatCov_IH201 9 BatCov_IHU3 10 BatCov_B3_2004 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sp</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5%	Control of the second
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_HKU3 10 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3 12 Btrl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowWIV16_Rhinolophus_sinicuu	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 67.8% 68.9% 69.5% 67.9%	C. M. 16.0. SPUL 06.1. Setup         C. M. 16.0. SPUL 06.1. Setup         L. G. TWILG, R. 17.1. Setup </td
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_JL2012 9 BatCov_JL2012 9 BatCov_FKU3 10 BatCov_FKU3 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCovWIV16_Rhinolophus_sinicuu 14 BatCov_Rhinolophus_ferrumequinuu</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5%	C:       N: IS: 2 PUT DOL DOL         C:       N: IS: 2 PUT DOL DOL         C:       N: IS: 2 PUT DOL         L:
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_JL2012 9 BatCov_JL2012 9 BatCov_JKU3 10 BatCov_RAJ_2004 11 SARSLikeBatCov_IHKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCovWIV16_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_BM48-31</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7%	100.0% 94.0% 68.4% 69.4% 69.1% 68.0% 69.1% 69.1% 67.8% 67.9% 67.9% 67.9% 67.9% 62.5%	C:       N: ISC PUT DOL DENT         C:       N: ISC PUT DOL DENT         C:       N: ISC PUT DOL
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_JarsLike_YNLF_31Ctr 7 BatCov_YN2013 8 BatCov_IKU3 10 BatCov_IKU3 11 SARSLikeBatCov_IKU3 12 Bkl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowWIV16_Rhinolophus_sinicuu 4 BatCov_Rhinolophus_ferumequinum 15 BatCov_BM4B-31 16 BatCov_BM4B-31 17 Bat_Bp_betaCov_Hipposideros_pratti</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7%	100.0% 94.0% 68.4% 69.2% 69.2% 69.1% 69.1% 67.8% 69.1% 69.5% 69.5% 69.5% 69.5% 62.5% 62.5%	C. M. 18.0. PULPER BADY         G. M. 18.0. PULPER BADY         J. G. TYLER, D. 19.0. C.         L. G. TYLER, PULPER BADY         L. G. TYLER
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_IRU3 10 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018 Rhinolophus_sp 13 SARSLikeCovWIV16_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_lalsii 16 BatCov_Rhiposideros_pratti 17 Bat_Hp_betaCov_Hipposideros_commersoni	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.5% 100.0% 99.5% 100.0% 99.5%	100.0% 94.0% 68.4% 69.2% 69.2% 69.1% 69.1% 67.8% 69.1% 69.5% 69.5% 69.5% 69.5% 62.5% 62.5%	C. WIEG FWL901550         S. WIEG FWL901550         C. WIEG FW15010         L. TVDC FW17100         L. TVD FFANDOL
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARS 6 BatCov_SARS 8 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IKU3 9 BatCov_IKU3 10 BatCov_IKU3 10 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhiposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_MersLike_BtVs</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5%	100.0% 94.0% 68.4% 69.2% 69.4% 69.4% 69.1% 68.0% 69.1% 67.8% 67.9% 67.9% 67.9% 67.9% 67.9% 62.5% 62.5% 62.5% 62.5% 27.7% 22.3%	C: N: EC: PULPER ED: C: N: EC: PULPER ED: C: N: EC: PULPER ED: C: N: EC: PUTPER ED: C: N: ED: PUTPER ED:
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_Z79_2005 5 BatCov_Shaanxi2011 6 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_IN2013 10 BatCov_IN2014 11 SARSLikeBatCov_IHKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCovUNTV16_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_INinolophus_lasii 16 BatCov_INinolophus_lasii 17 Bat_IBp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Veyspugo_bat 20 BatCov_Veyspuidata 21 BatCov_Veyspuidata 22 BatCov_Veyspuidata 23 BatCov_Veyspuidata 24 BatCov_Veyspuidata 25 BatCov_Veyspuidata 26 BatCov_Veyspuidata 27 BatCov_Veyspuidata 28 BatCov_Veyspuidata 29 BatCov_Veyspuidata 20 BatCov_Ve</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.5% 100.0% 97.2% 96.7% 92.5% 95.8% 81.9%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 67.8% 67.9% 67.9% 62.5% 62.5% 62.5% 27.7% 22.6% 22.6% 23.4%	C. M. 18.0. PULP(N. 18.1)         S. M. 18.0. PULP(N. 18.1)         J. G. M. 18.0. PULP(N. 18.1)         L. G. TWILL, N. PULP N. 10.0.         L. G. TWILL, N. 10.0.         L. G. TWIL, N. 10.0.         G
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_JaraLike_YNLF_31Ctr 7 BatCov_YN2013 8 BatCov_IRU3 10 BatCov_IRU3 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeBatCov_HKU3 14 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 16 BatCov_Hypeposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Wpspertilio_sinensis 21 BatCov_Vespertilio_sinensis 21 BatCov_Vespertilio_sinensis</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 97.2% 96.7% 92.5% 81.9% 90.8%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5% 27.7% 22.6% 22.3% 22.3% 22.3% 20.7%	CC WIEC PUTDOR DEST CC WIEC STUDOR DEST CC WIEC STUDOR CC WIEC STUDOR CC STUDOR DUPON CC STUDOR DUPON CC STUDOR DUPON CC STUDOR DUPON CC STUDOR DUPON CC STUDOR DUPON CC STUDOR CC STUDOR
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_Z79_2005 5 BatCov_Shaanxi2011 6 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_IN2013 10 BatCov_IN2014 11 SARSLikeBatCov_IHKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCovUNTV16_Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_INinolophus_lasii 16 BatCov_INinolophus_lasii 17 Bat_IBp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Veyspugo_bat 20 BatCov_Veyspuidata 21 BatCov_Veyspuidata 22 BatCov_Veyspuidata 23 BatCov_Veyspuidata 24 BatCov_Veyspuidata 25 BatCov_Veyspuidata 26 BatCov_Veyspuidata 27 BatCov_Veyspuidata 28 BatCov_Veyspuidata 29 BatCov_Veyspuidata 20 BatCov_Ve</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 97.2%97.2% 97	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 67.8% 69.1% 67.8% 67.9% 62.5%	C: M: EG: PULP(N: SET)         G: M: EG: PULP(N: SET)         G: M: EG: PULP(N: SET)         L: C: TWE, LIP F: LIP N: L         L: C: TWE, PULP(N: SET)         L: SCOANSKET NACE PT         SCOANSKET NACE PT         SSCOANSKET NACE PT
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_YN2013 8 BatCov_IKU3 10 BatCov_IKU3 10 BatCov_BAU3 11 SARSLikeBatCov_HKU3 12 BtAl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowWTV16_Rhinolophus_sinicu: 4 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 16 BatCov_Hyposideros_pratti 18 ZariaBatCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCovUersLike_BtVs 20 BatCovVerspertilio_sinensis 21 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_camel</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 100.0% 99.7% 99.5% 100.0% 92.5% 81.9% 95.8% 91.9% 92.2% 91.7% 90.0%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 67.1%	C: NIEC PULPAUEN C: NIEC PULP
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_Z79_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_IN2013 10 BatCov_INU3 11 SARSLikeBatCov_IHKU3 12 BtR1-BetaCoV_SC2018 Rhinolophus_sp 13 SARSLikeCovUHV16 Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_IN16_Rhinolophus_blasii 17 Bat_IBp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4-4</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 86.7% 92.5% 96.7% 92.5% 96.8% 92.2% 91.7% 90.0%	100.08 94.08 68.48 69.28 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 67.88 69.58 67.98 62.58 62.58 22.68 22.38 22.68 22.38 22.38 20.78 20.78 20.98 20.98	C. M. 140.7 PULP (1.154)         G. M. 140.7 PULP (1.154)         L. G. TWILL, R. P. P. (1.154)         L. D. C. W. T. W. O. (1.154)         L. G. TWILL, R. P. P. (1.154)         L. D. C. W. T. M. O. (1.154)         L. G. TWILL, R. P. P. (1.154)         L. M. SVD, P. SMIR, R. C. O.         S. C. O. A. W. SP. INACP PT         S. SCO, A. W. SP. INACP PAT
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_YN2013 8 BatCov_IKU3 10 BatCov_IKU3 10 BatCov_BAU3 11 SARSLikeBatCov_HKU3 12 BtAl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowWTV16_Rhinolophus_sinicu: 4 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 16 BatCov_Hyposideros_pratti 18 ZariaBatCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCovUersLike_BtVs 20 BatCovVerspertilio_sinensis 21 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_camel</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 90.7% 81.9% 90.8% 92.5% 90.0% 95.2%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 67.1%	C. M. 150.7 PULP (1.1550)         G. M. 150.8 PULP (1.1500)         L. G. TWILL, R. F. FFE, I. D. M.         L. G. TWILL, R. F. FFE, I. D. M.         L. G. TWILL, R. F. FFE, I. D. M.         L. G. TWILL, R. F. FFE, I. D. M.         L. G. TWILL, R. F. FFE, I. D. M.         L. G. TWILL, R. F. FFE, I. D. M.         L. G. TWILL, R. F. FFE, I. D. M.         L. G. TWILL, R. F. FFE, I. D. M.         L. G. TWILL, R. F. FFE, I. D. M.         L. G. TWILL, R. F. FFE, I. D. M.         L. G. TWILL, R. F. FFE, I. D. M.         L. G. TWILL, R. F. FFE, I. D. M.         L. G. TWILL, R. F. FFE, I. D. M.         L. G. TWILL, R. FFE, J. D. M.         L. M. SWILL, R. D. G.         L. M. SWILL, R. D. G.         L. M. SWILL, R. D. G.         SKODAW, SFEWER, R. D. G.
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_Maralike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IRU3 10 BatCov_JL2012 9 BatCov_IKU3 11 SARSLikeBatCov_IKU3 12 BtRl-BetaCov_SC2018 Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_INdophus_blasii 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Veypeugo_bat 20 BatCovWerSLike_BtVs 21 BatCov_Veypeutilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 44 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCov_HKU4 29 BatCovHKU5 29 BatCovHKU5 29 BatCovId_SC205</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 90.5% 90.7%	100.08 94.08 68.48 69.28 69.18 69.18 69.18 69.18 69.18 69.18 67.88 69.18 67.88 69.18 62.58 62.58 62.58 62.58 62.58 62.58 22.48 22.48 20.78 20.98 20.98 20.98 20.88 20.58	C: M: EXC PUT D(1) ESE         SG M: EXC PUT D(1) ESE         G: M: EXC PUT T(1) ESE         L: G: TVEC, PUT T(1) ESE         SCOAAVUSTINACE PT         G: GCALVUSTINACE PT         SSCOAAVUSTINACE PA         SSCOAAVUST
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN201 9 BatCov_IN201 10 BatCov_BNU3 10 BatCov_Rhi01 9 BatCov_SC018_Rhinolophus_sp 13 SARSLikeBatCov_HKU3 12 BkH-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowWIV16_Rhinolophus_sinicuu 4 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 17 BatIBp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Upypugo_bat 20 BatCovWersLike_BtVs 21 BatCov_Upysugo_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4 28 BatCovIKU5 29 BatCov_IS3_2005 30 HumaCov_MERS</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.5% 90.0% 99.7% 95.8% 91.0% 95.8% 91.0% 92.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5%	100.08 94.08 68.48 69.28 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.25 62.58 27.78 22.68 22.58 22.78 22.68 20.18 20.98 20.98 20.98 20.58 20.58 20.58	C: N: FIG: PUT_D(); D: FIG:         C: N: FIG: PUT_D(); D: FIG:         C: TV: FIG: PUT_D(); D: FIG:         L: C: TV: FIG: FIG: FIG: FIG:         L: C: TV: FIG: FIG: FIG: FIG: FIG:         L: C: TV: FIG: FIG: FIG: FIG: FIG: FIG: FIG: FIG
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_Maralike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IRU3 10 BatCov_JL2012 9 BatCov_IKU3 11 SARSLikeBatCov_IKU3 12 BtRl-BetaCov_SC2018 Rhinolophus_sinicus 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_INdophus_blasii 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Veypeugo_bat 20 BatCovWerSLike_BtVs 21 BatCov_Veypeutilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 44 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCov_HKU4 29 BatCovHKU5 29 BatCovHKU5 29 BatCovId_SC205</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.4% 99.7% 99.5% 99.7% 99.5% 81.9% 92.5% 90.8% 92.5% 91.7% 90.0% 95.2% 95.2% 95.2% 95.5%	100.08 94.08 68.48 69.28 69.18 69.18 69.18 69.18 69.18 69.18 67.88 69.18 67.88 69.18 62.58 62.58 62.58 62.58 62.58 62.58 22.48 22.48 20.78 20.98 20.98 20.98 20.88 20.58	CC WIES PUT
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_HRU3 10 BatCov_IRU3 10 BatCov_IRU3 11 SARSLikeBatCov_HKU3 12 BtAl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowWTV16_Rhinolophus_sinicuu 4 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 17 Bat_Bp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_pratti 19 BatCov_Hypsugo_bat 20 BatCovWersLike_BtVs 21 BatCov_Usepertilio_sinensis 21 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4-4 27 BatCov_HKU4 29 BatCovCU33_2005 30 HumanCov_MERS 31 BatCov_RKU9-4 33 BatCovHKU9-4 33 BatCovRus_bat</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 97.2% 99.7% 97.2% 99.7% 97.2% 99.7% 97.2% 99.7% 97.2% 99.7% 97.2%	100.08 94.08 68.48 69.28 69.18 69.28 82.28 82.28 82.20	C. M. HEC. PULP (N. BEL)         G. M. K.C. PULP (N. BEL)         I.G. TWILL, PILPE (N. P. M. B. M.
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_IN2013 9 BatCov_IN2013 9 BatCov_IN2013 10 BatCov_JRU3 10 BatCov_JRU3 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCov_SC2018 Rhinolophus_sinicum 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_lalasii 16 BatCov_INJ00phus_blasii 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Veypeugo_bat 20 BatCovWerSLike_BtVs 21 BatCov_Veypeutilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 44 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCov_HKU5 29 BatCov_IKU9 32 BatCov_HKU9 32 BatCov_HKU9 32 BatCov_HKU9 32 BatCov_HKU9 34 MerS Bat-Cov_StrinJIM	99.78 100.08 100.08 100.08 100.08 100.08 100.08 100.08 100.08 100.08 99.78 99.58 81.98 92.58 91.78 95.28 95.28 95.28 95.58 86.78 86.78 80.88 80.88	100.08 94.08 68.48 69.28 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 67.88 69.18 62.58 62.58 62.58 62.58 22.38 22.68 20.78 20.78 20.98 20.98 20.98 20.98 20.20	C: M: ISC PULP(NEST)         SG M: ISC PULP(NEST)         ISC M: ISC PULP(NEST)         ISC M: ISC PUTP(NEST)         ISS SCQANSKETNOCE PT         ISS SCQANSKETNOCE PT         ISS SCQANSKETNOCE PAT         ISS
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_HRU3 10 BatCov_IRU3 10 BatCov_IRU3 11 SARSLikeBatCov_HKU3 12 BtAl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowWTV16_Rhinolophus_sinicuu 4 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Rhinolophus_blasii 17 Bat_Bp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_pratti 19 BatCov_Hypsugo_bat 20 BatCovWersLike_BtVs 21 BatCovVersPilio_sinensis 21 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4-4 27 BatCovURU4 28 BatCovURU5 29 BatCovURU5 31 BatCovURU5 31 BatCovURU5 32 BatCovIRU9 33 BatCovIRU9-4 33 BatCovRus_bat</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 90.7% 99.7% 99.7% 99.7% 99.7% 90.5% 90.7% 99.5% 90.7% 99.5% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.5% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.5% 90.5% 90.5% 90.7% 90.5% 90.5% 90.5% 90.5% 90.5% 90.5% 90.5% 90.5% 90.5% 90.5% 90.5% 90.5% 90.5% 90.5% 90.5% 90.5% 90.6% 90.5% 90.6% 90.5% 90.6%	100.08 94.08 68.48 69.28 69.18 69.28 82.28 82.20	C. M. HEC. PULP (N. BEL         G. M. K.C. PULP (N. BEL         J. G. TWILL, PLIPE, ILP. (L. L. L
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_HX013 10 BatCov_HX03 11 SARSLikeBatCov_HK03 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeBatCov_HK03 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasi1 16 BatCov_Hypposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Hyppus_bat 20 BatCovWersLike_BtVs 21 BatCov_Vespertilio_sinensis 22 HKU4BatCov_TyLonycteris_bat 23 HedgehogCov 24 MERS_Came1 26 BatCovHKU5 29 BatCovHKU5 29 BatCovUS5 30 HumanCov_MERS 31 BatCov_HKU9 32 BatCovHKU9-4 33 BatCovRU9 54 MINECov_StrainJHM 35 BovineCov_estrain_JBM 35 HumanCov_Gt33 37 HumanCov_HKU1</pre>	99.7% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 90.0% 97.2% 95.2% 95.2% 95.2% 95.2% 95.5% 95.5% 95.5% 95.5% 95.5% 95.5% 95.2%	100.08 94.08 68.48 69.28 69.18 69.18 69.18 69.18 67.98 69.18 67.98 69.18 67.98 69.18 67.98 62.58	C: M: ISC PULP(NEST)         SG M: ISC PULP(NEST)         ISC M: ISC PULP(NES)         ISC COANSER INCORD         ISC COANSER INCORD         ISS COANSER INCORD
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_JaraLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN201 10 BatCov_IN201 11 SARSLikeBatCov_HKU3 12 Bkl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowHV16_Rhinolophus_sinicuu 4 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Hhophus_ferumequinum 15 BatCov_Hhophus_ferumequinum 18 BatCov_BM48-31 19 BatCov_Hypugo_bat 20 BatCovHersLike_BtVs 21 BatCov_Uypugo_bat 20 BatCovWersLike_BtVs 21 BatCov_Uypugo_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4 28 BatCov_HKU4 29 BatCov_HKU5 29 BatCov_RU3_2005 30 HumanCov_MERS 31 BatCov_StrainJHM 35 DovineCov_strain_9BTXSF-110-ENT 36 HumanCov_HKU1 37 HumanCov_HKU1 38 FelineCov_HKU1 39 Forlecov_HKU1 30 HumanCov_HKU1 30 HumanCov_HKU1 31 BelineCov_HKU1 32 Forlecov_HKU5</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.7% 99.7% 90.7% 99.7% 90.7% 99.7% 90.7% 99.7% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.7% 90.5% 90.6% 90.7% 90.5% 90.6% 90.7% 90.5% 90.6% 90.6% 90.7% 90.5% 90.6%	100.08 94.08 68.48 69.28 69.18	C. M. 140. PULP (MARK)         G. M. 140. PULP (MARK)         L. G. TVILL, PULP (MARK)         L MARK STALL (MARK)         S COAAWSKIN (MARK)         S S COAAWSKIN (MARK)         S S COAAWSKIN (MARK)     <
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_SARS 5 BatCov_SARS 5 BatCov_SARSLEYNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_IN2013 10 BatCov_JN2013 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCov_SC2018 Rhinolophus_sp 13 SARSLikeBatCov_HKU3 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_INpupugo_bat 20 BatCovMerVile_BatS1 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Veppeutog_bat 20 BatCovWerVile_BatS1 21 BatCov_Veppeutilo_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCov_HKU4 29 BatCov_HKU4 29 BatCov_HKU4 29 BatCov_HKU4 31 BatCov_Strain_SPTSF-110-ENT 34 MunaCov_Strain_SPTSF-110-ENT 36 HumanCov_Strain_FIPV_WSU-79 39 HumanCov_Strain_FIPV_WSU-79 39 HumanCov_Strain_SPTSF-100-ST 30 HumanCov_Strain_SPTSF-100-ST 30 HumanCov_Strain_SPTSF-100-ST 30 HumanCov_Strain_SPTSF-100-ST 30 HumanCov_Strain_SPTSF-100-ST 30 HumanCov_Strain_SPTSF-100-ST 30 HumanCov_STSF 30 HUMA</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.7% 99.7% 99.7% 90.7% 99.7% 90.7% 99.7% 90.7	100.08 94.08 68.48 69.28 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 62.58 62.58 62.58 62.58 22.38 22.68 20.78 20.98 20.98 20.98 20.20	CC N 150 PULP (N 50 C CC N 50 PULP (N 50 PULP
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_JaraLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN201 10 BatCov_IN201 11 SARSLikeBatCov_HKU3 12 Bkl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowHV16_Rhinolophus_sinicuu 4 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Hhophus_ferumequinum 15 BatCov_Hhophus_ferumequinum 18 BatCov_BM48-31 19 BatCov_Hypugo_bat 20 BatCovHersLike_BtVs 21 BatCov_Uypugo_bat 20 BatCovWersLike_BtVs 21 BatCov_Uypugo_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4 28 BatCov_HKU4 29 BatCov_HKU5 29 BatCov_RU3_2005 30 HumanCov_MERS 31 BatCov_StrainJHM 35 DovineCov_strain_9BTXSF-110-ENT 36 HumanCov_HKU1 37 HumanCov_HKU1 38 FelineCov_HKU1 39 Forlecov_HKU1 30 HumanCov_HKU1 30 HumanCov_HKU1 31 BelineCov_HKU1 32 Forlecov_HKU5</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 95.5% 95.2% 95.2% 95.2% 95.5% 95.5% 95.5% 95.5% 95.5% 86.7% 86.7% 86.7% 86.7% 86.7% 82.0% 81.4% 83.0%	100.08 94.08 68.48 69.28 69.18	C. M. 140. PULP (NEW)         G. M. 140. PULP (NEW)         L. G. TWILL, PULP (NEW)         S SCOAAWSKIT (NOC)         S SCOAAWSKIT (NOC)         S SACQTAL, SST (NACWAAS) <t< td=""></t<>
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_W2013 7 BatCov_W2013 8 BatCov_HXU3 10 BatCov_HXU3 11 SARSLikeBatCov_HKU3 12 BtRl=BetaCov_SC2018_Rhinolophus_sp 13 SARSLikeCovWTV16_Rhinolophus_sinicuu 4 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasi1 16 BatCov_HXPa02_bat 20 BatCovWTV16_Rhinolophus_sp 13 SARSLikeCov_HV03 14 BatCov_Rhinolophus_blasi1 15 BatCov_HXPa02_bat 20 BatCovWTV16_Rhinolophus_sp 21 BatCov_Hypogo_bat 20 BatCovWrstLike_BtVs 21 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Camel 26 BatCov/HKU4 29 BatCovUFU5 20 BatCovHKU5 20 BatCovHKU5 20 BatCovHKU5 21 BatCovHKU5 22 BatCovHKU5 31 BatCovHKU5 32 BatCovHKU5 33 BatCovHKU5 34 BatCovHKU5 35 BatCovHKU5 36 BatCovHKU5 37 HumanCov_gtrain_98TXSF-110-ENT 36 HumanCov_C43 37 HumanCov_Strain_PHV_WSU-79 39 HumanCov_Strain_FIN_WSU-79 39 HumanCov_NL63/1-788 41 IBV_strainW41 consensus/100%</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 95.5% 95.2% 95.2% 95.2% 95.5% 95.5% 95.5% 95.5% 95.5% 86.7% 86.7% 86.7% 86.7% 86.7% 82.0% 81.4% 83.0%	100.08 94.08 68.48 69.28 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 62.58 22.78 22.68 22.78 22.68 20.18 20.18 20.18 20.18 20.18 20.59	CC NAISC PUT DOT DETERMINED
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARSLke_YNLF_31Ctr 7 BatCov_YN2013 8 BatCov_IKU3 10 BatCov_IKU3 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeBatCov_HKU3 14 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_ferumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_Hypeugo_bat 20 BatCov_Hypeugo_bat 20 BatCov_WersLike_BtVs 21 BatCov_Vespertilio_sinensis 22 HKU4BatCov_TJoloycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HV13_2005 30 HumanCov_MERS 31 BatCov_Strain_JBM 32 BatCov_HV1 33 BatCov_Strain_JBM 34 MurineCov_Strain_JBM 35 DovineCov_strain_STM 36 HumanCov_C43 37 Human_Cov_HKU1 38 FelineCov_strain_FIPV_WSU-79 39 HumanCov_Z22E 40 HumanCov_L85 41 IBV_strainM41 consensus/J0%</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 95.5% 95.2% 95.2% 95.2% 95.5% 95.5% 95.5% 95.5% 95.5% 86.7% 86.7% 86.7% 86.7% 86.7% 82.0% 81.4% 83.0%	100.08 94.08 68.48 69.28 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 62.58 22.78 22.68 22.78 22.68 20.18 20.18 20.18 20.18 20.18 20.59	G. M. 10. SWID (M. 11.1.)         G. M. 10. SWID (M. 11.1.)         G. M. 10. SWID (M. 11.1.)         G. T. 11. SWID (M. 11.1.)         G. 11. SWID (M. 11.1.)         SSC (DAU SFI (M. 11.1.)         SSC (DAU SFI (M. 11.1.)         SSC (DAU SFI (M. 11.1.)         SSC (M. 11.1.)         SSC (M. 11.1.)         SSC (M. 11.1.)
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_W2013 7 BatCov_W2013 8 BatCov_HXU3 10 BatCov_HXU3 11 SARSLikeBatCov_HKU3 12 BtRl=BetaCov_SC2018_Rhinolophus_sp 13 SARSLikeCovWTV16_Rhinolophus_sinicuu 4 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasi1 16 BatCov_HXPa02_bat 20 BatCovWTV16_Rhinolophus_sp 13 SARSLikeCov_HV03 14 BatCov_Rhinolophus_blasi1 15 BatCov_HXPa02_bat 20 BatCovWTV16_Rhinolophus_sp 21 BatCov_Hypogo_bat 20 BatCovWrstLike_BtVs 21 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Camel 26 BatCov/HKU4 29 BatCovUFU5 20 BatCovHKU5 20 BatCovHKU5 20 BatCovHKU5 21 BatCovHKU5 22 BatCovHKU5 31 BatCovHKU5 32 BatCovHKU5 33 BatCovHKU5 34 BatCovHKU5 35 BatCovHKU5 36 BatCovHKU5 37 HumanCov_gtrain_98TXSF-110-ENT 36 HumanCov_C43 37 HumanCov_Strain_PHV_WSU-79 39 HumanCov_Strain_FIN_WSU-79 39 HumanCov_NL63/1-788 41 IBV_strainW41 consensus/100%</pre>	99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 95.5% 95.2% 95.2% 95.2% 95.5% 95.5% 95.5% 95.5% 95.5% 86.7% 86.7% 86.7% 86.7% 86.7% 82.0% 81.4% 83.0%	100.08 94.08 68.48 69.28 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 69.18 62.58 22.78 22.68 22.78 22.68 20.18 20.18 20.18 20.18 20.18 20.59	CC NAISC PUT DOT DETERMINED

1         1         10001         1         1         10001         1         100010         100010	
18         Reinhadcov_Hippediderce_commercial         6.71	
28       BatcoviRUS       95.5       20.5	
11       BatCov_HK094       66.7, 14.0%	
11       BatCov_HK094       66.7, 14.0%	
33       Batcov_Boulectus_bat       95.1       14.14	
33       Batcov_Boulectus_bat       95.1       14.14	
34       MurineCov_Strain_JEW       80.8%       12.2%	
35       BovincCov_strain_987X8F-110-ENT       82.08       12.88	
37       Human_Cov_BKU1       81.14       12.38	
38 FelineCov_strain_FIPU_WSU-79       81.44       10.58       DVRDIKTQTIENTI	
39       BlumanCov_2292       83.0%       10.1%       DITDAAVKARESKATULERULKROUTKNOUTKNESULATLE, CLL CQCLLCCC	
consensus/100%	
consensus/100%	
consensus/00%	
consensus/704           cov pid 881         9         9           cov pid 881         9         9           2 PangolinCov Manis_javanica         99.74         94.06         corspan="2">corspan="2">corspan="2">corspan="2">corspan="2"         corspan="2"          corspan="2"          corspan="2"          corspan="2"         corspan="2"         corspan="2"         corspan="2"         corspan="2"         corspan="2"         corspan="2"         corspan="2"         corspan="2"            corspan="2"          corspan="2" <td corsp<="" td=""></td>	
cov         pid         881         9         i         i         j         i         j         j           1 HumanCov_SARS2         100.0%         100.0%         02772.0.WILLALCO.DET         100.0%         100.0%         02772.0.WILLALCO.DET         100.0%	
1       HumanCov_SARS2       100.0%       100.0%       OPPCAVINGANCAD CONTACT       GGR CAL	
2 PangolinCov_Manis_javanica       99.7       94.0%       Cov_CAN_HILAUCADELL	
3 HumanCov_SARS       100.0%       68.4%       KCC TDVUTALENCIT 0VT	
b Battov_ship_intr_intr_intr_intr_intr_intr_intr_intr	
b Battov_ship_intr_intr_intr_intr_intr_intr_intr_intr	
b BatCov_HRU3       100.00       69.1%       KILGVUIALENCUVY	
b BatCov_HRU3       100.00       69.1%       KILGVUIALENCUVY	
24 MERS_dateCoV_R.SaV11     91.7% 20.5%     AQUIDIDIA COVALIANTACIONALIANTA	
24 MERS_dateCoV_R.SaV11     91.7% 20.5%     AQUIDIDIA COVALIANTACIONALIANTA	
24 MERS_dateCoV_R.SaV11     91.7% 20.5%     AQUIDIDIA COVALIANTACIONALIANTA	
24 MERS_dateCoV_R.SaV11     91.7% 20.5%     AQUIDIDIA COVALIANTACIONALIANTA	
24 MERS_dateCoV_R.SaV11     91.7% 20.5%     AQUIDIDIA COVALIANTACIONALIANTA	
24 MERS_dateCoV_R.SaV11     91.7% 20.5%     AQUIDIDIA COVALIANTACIONALIANTA	
24 MERS_dateCoV_R.SaV11     91.7% 20.5%     AQUIDIDIA COVALIANTACIONALIANTA	
24 MERS_dateCoV_R.SaV11     91.7% 20.5%     AQUIDIDIA COVALIANTACIONALIANTA	
24 MERS_dateCoV_R.SaV11     91.7% 20.5%     AQUIDIDIA COVALIANTACIONALIANTA	
24 MERS_dateCoV_R.SaV11     91.7% 20.5%     AQUIDIDIA COVALIANTACIONALIANTA	
24 MERS_dateCoV_R.SaV11     91.7% 20.5%     AQUIDIDIA COVALIANTACIONALIANTA	
24 MERS_dateCoV_R.SaV11     91.7% 20.5%     AQUIDIDIA COVALIANTACIONALIANTA	
26         BatCov_HKU4-4         95.28         20.73         Avy main long line and the stress an	
27         BatCov_HKU4         95.2%         20.8%         OVLDIMS OMKILETNVS	
28 BatCovHKU5         95.5%         20.5%         KQ_WHILS_AMQLHETVSWAGSIGPSVVY_GRDSLVPFGTYCUSTQGRSLQDQFD-L           29 BatCov_Cov133_2005         95.2%         20.2%         QVLDIMS_AMKLHETVSWAGSIIVEGR_SLIPFGTYCUSTQGRSLQDQFD-L           30 HumanCov_MERS         95.8%         20.0%         KQVLDLL_GRQGLHETVS	
29 BatCov_Coviss_2005     95.2%     20.2%     Eventualization of the second s	
31         BatCov_HKU9         86.7%         14.0%         HSLCDELTTIMSKLLTOVK	
32         BatCovHKU9-4         86.7%         14.5%         GALRDELSVVSKLLTEARNAGCKVEAL-TTGTYHYFAKCGVLSETQVCAKVLGVL           33         BatCov_Rousettus_bat         86.7%         14.1%         VALRELITVIVNK#TTVKWAGCKVEAL-TTGGYBYBGSKGVLTEVQVCAKTLGAMAGCKVEAL-TTGGYBYBGSKGVLTEVQVCAKTLGAMAGCKVEAL-TTGGYBYBGSKGVLTEVQVCAKTLGAMAGCKVEAL-TTGGYBYBGSKGVLTEVQVCAKTLGAMAGCKVEAL-TTGGYBYBGSKGVLTEVQVCAKTLGAMAGCKVEAL-TTGGYBYBGSKGVLTEVQVCAKTLGAMAGCKVEAL-TTGGYBYBGSKGVLTEVQVCAKTLGA	
33 Battow_mousettus_bat 85./5 14.15 VALKELITVIVNK#ATTVK	
35 BovineCov strain 98TXSF-110-ENT 82.0% 12.8% SAVADAPESVARVVLDSLEVTFIDGLSCFKIGEREICLSGSUVEV	
36 HumanCov_OC43 82.0% 12.5% SAVADAPOSVARVVLDELRVTFIDDLSCFKIGRRICLSGRITTEV	
37 Human_Cov_HKUl     81.1%     12.3%     KILVNKFYT_FKLLECVTVDVLKDMPVLKTINGLVCTVGN_FYNVSTGLIPGF       38 FelineCov_strain_FIPV_WSU-79     81.4%     10.5%    LTINYNKLCDTARKDTE	
39 HumanCov_229E 83.0% 10.1% GILLEAY AF	
40 HumanCov         NL63/1-788         82.8%         9.9%         VKLLDVYLGZETVCSVAYTAGVCTZYY-AV-NVPYTVISGFVSTVIRRETCDMT           41 IBV strainM41         77.8%         9.0%         HergottLDAIOFMYKSFKKKKKK	
consensus/100%	
consensus/90% t.hhthhpthhpplhusspl.shhh.tt.h	
consensus/80% pthhphhsplphagelpult.hl.ptshh.hhtspt.ht.h	
consensus/70% pphlolasishphhhsplphkdsslpul.phtcshlh.otsha.slps+php.h	

	cov	pid	1	. 0	1040
1 HumanCov_SARS2		100.0%	LMPLKAPKEIIFI	EGETLPTEVLTEE	-VVL <mark>KTGD</mark> LQPLEQP <mark>TSE</mark> AVEAPLVG <mark>T</mark> PV <mark>C</mark> IN
2 PangolinCov_Manis_javanica	99.7% 100.0%		LMPLKAPKEIVEI	E <mark>GETLPTEVLTEE</mark> E <mark>G</mark> DSHD <mark>TVLTS</mark> EE	-VIERGEEOPLEOPICEAIDAPLVGIPVCIN -VVENGELEALEIPVDSFINGAIVGIPVCVN
3 HumanCov_SARS 4 BatCov_279_2005	100.0%		LMPLRAPKEVTFI LMPLR	EGDSHDTVLTSEE	VVI. NGELEALETPUDSETNGAVIGTPUCUN
5 BatCov_Shaanxi2011	100.0%	69.4%	LMPL <mark>X</mark> AP <mark>KE</mark> VTFI	DGDSHDTVLTSEE	-VVL <mark>K</mark> NGELEALETPVDSFTNGAVVGTPVCVN
6 BatCov_SarsLike_YNLF_31Ctr	100.0%		LMPL K APKEVTFI	EGDSHDTVLTSEE	VVD NGELEAL ET PVDSFTNGAVVG-PVCVN VVD NGELEAL ET PVDSFTNGAVVG-PVCVN VVD NGELEAL ET PVDSFTNGAVVG-PVCVN
7 BatCov_YN2013 8 BatCov_JL2012	100.0%		LMPLXAPKEVTF LMPLXAPKEVTF	E <mark>G</mark> DSHD <mark>TVLTS</mark> EE E <mark>G</mark> DSHD <mark>TVLIS</mark> EE	-VVLNNGELEADETPVDSFTNGAVVGTPVCVN
9 BatCov_HKU3	100.0%			EGDAHDTVLTSEE	VVI NABLEAR 2 VOBFINGAVC VCVI
10 BatCov_Rp3_2004	100.0%			EGDSHDTVLTSEE	-VVLNNGELEALETPVDSFTNGAVVGTPVCIN
<pre>11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp</pre>	99.7% 99.4%			EGDAHDTVLTSEE DGDSHDTVLTSEE	- <b>VVLNSGELEALETP</b> IDSFTSGAV <b>VG</b> A <b>PVCI</b> N - <b>VVLKTGQLEALETP</b> VDGFINGAV <mark>VGTPVC</mark> VM
13 SARSLikeCovWIV16_Rhinolophus_sinic				EGDSHDTVLTSEE	-VVLNNGELEALEAPVDSFTNGAVVGTPVCVN
14 BatCov_Rhinolophus_ferrumequinum	99.7%			E <mark>G</mark> DSHD <mark>TVLIS</mark> EE	- <mark>VVLK</mark> NGELEALETPVDSFTNGAV <mark>VGT</mark> PVC <mark>VN</mark>
15 BatCov_Rhinolophus_blasii	99.5% 100.0%		LMPL KSPKDVVFI	DGDAYDTLLTSEE	-VTVNGTLEALDLELSDVVTGVAEGVPVCVN -VTVNGTLEALDLELSDVVTGVAEGVPVCVN
<pre>16 BatCov_BM48-31 17 Bat_Hp_betaCov_Hipposideros_pratti</pre>	97.2%		VLPSTSKKELTEN	DGDAYDALLTSBS DGDAYDALLTSBS DGHAIDTELTSBS BGPAVEASUTALD	-VIVEGIVEQLDTD NKIAGDSIKGDLVIVN
18 ZariaBatCov_Hipposideros_commerson					-VVELOGTLEHLDIPIOAVHOGPVEGDIVVN
19 BatCov_Hypsugo_bat	92.5%		VLPGEVKKQLGL	ESTTVDAKVQNKS	VEVVVGQLEENNMESPELVVGDYVVIS
20 BatCovMersLike_BtVs 21 BatCov_Vespertilio_sinensis	95.8% 81.9%		VLPGELAKKQLGL VLPGEAKKQLGL	E	-VDVVVGQLEEANMHSPDLIVGDYVVIS
22 HKU4BatCov_Tylonycteris_bat	90.8%	20.7%	VI.PGDVNKKTLGI	NADTTDVNANSTV	UDVVHGOLEPUNEHGPSMIVGNYULVS
23 HedgehogCov	92.2%		TIPGEVVM	TATNYSTTVKTRN	VELVYGQLETANMHSPDVVVGDYVIVS
24 MERS_Bat-CoV_H.savii 25 MERS_Camel		20.9% 20.4%	TT POP POP CE	NCT_UCUTUTCNM	-VEVVNGQLEQLNMHSPDLIVGDYVII VETVVGQLEQLNMHSPDVIVGDYVIIS
26 BatCov_HKU4-4		20.7%	VLPGDYNKKTLGI	DPVPNADTIDVNANSTV	VDVVBCCE VDVVBCE VDVVBCE VDVVBCE VDVVBCE VDVVBCE VDVVBCE VDVVBCE VDVVBCE VDVVBCE
27 BatCov_HKU4		20.8%	VLPGDYNKKTLGI	DPVPNADTIDVNANSTV	-VDVVHGQLEPINEHGPSMIVGNYVLVS
28 BatCovHKU5 29 BatCov_Cov133_2005	95.5% 95.2%		VIPGDLSK QIGI	PTPNSTAVDKKINANV	VEVVVGQLEPAKEHSPELVVGDYVIIS
30 HumanCov_MERS	95.8%		ILPGEFSK OLGL	OPTDNST VSVTVSSNM	-VETVVGOLEONNMHSPDVIVGDYVIIS
31 BatCov_HKU9	86.7%	14.0%	LTPKQQKMEVEVI	DGDFDAPVTLTDLE	LEEC <mark>EGVL</mark> EEVFGASDVKLVKGLVSLA LEEAHGTLEEVFGYSDLELVKGSLVTMA LEELNGTLEEVFGFDDLTLVRGSLVALA
32 BatCovHKU9-4	86.7%		LTPRQQKMEVEV	EGTPDAPVDLTNNE	-LEEAHGTLEEVFGYSDLELVKGSLVTMA
33 BatCov_Rousettus_bat 34 MurineCov_StrainJHM	86.7% 80.8%		IMPVGCSEATCLV-	GRIDAPVAITVPE	-LEELNGTHEEVFGFDDLTLVRGSLWALA -VDVVKAPLTYQGCCKPPSSFEKICIVD
35 BovineCov_strain_98TXSF-110-ENT	82.0%		OLPLDVYDLTMPSQVQKAKOKPTYL-	KGSGSDFSLADSV	-VEVVTTSLTPCGYSEPPKVADKICIVD
36 HumanCov_OC43	82.0%		QLPLDVYDLTMPSQVQKAKQ	KGSGSDFSLADSV	-VEVVITSLTPCGYSEPPKVADKICIVD
37 Human_Cov_HKU1 38 FelineCov_strain_FIPV_WSU-79		12.3%	VLPCNAQEQQ	T-ASVPVANSGIITADDWSDE	-IENVKSSESSYEYCOPPKSVEKICIID PILEEPANYVEPKDNGDVIVIA
39 HumanCov_229E		10.1%	LFPHNDRIKSFST	S-AYMPIADPTHFDIEE	LEVENSE ILEVENSE JELEVENSE JELEVENSE JELEVENSE LEVENSE LEVENSE LEVENSE JELEVENSE LEVENSE JELEVENSE
40 HumanCov_NL63/1-788	82.8%		-F <b>P</b> CVSCVTFFYE	D-TCF <mark>G</mark> VSK <mark>P</mark> NAIDV <mark>E</mark> H	-LE <mark>LR</mark> ETVFVEPKDG <mark>G</mark> QFFVSG
41 IBV_strainM41 consensus/100%	77.8%	9.0%		SIDVED	-LGVVQEKLIDFDVCDNVTLPENQPGHMVQLEDD
consensus/90%			.hPhpl.h.	ps.s.sh.h.sp	.lh.s.ltsp.shls
consensus/80%			lhPhpt.pplhh	cu.s.ss.ltsp	V.lh.upuphssshhhes.Vhls V.lhpeptrshs.hssshlses.Vhls
consensus/70%					.W.lhpGpD <sup>3</sup> shs.hssshlsGs.Whls
			In no		
	cov	pid 1		] 1082	
1 HumanCov_SARS2	100.0%	100.0%	GLMLLEIKOTEN-VCALAPNM	. ] 1082	
2 PangolinCov_Manis_javanica	100.0% 99.7%	100.0% 94.0%	GLMLLEI KDTER-YCALAPIM	] 1082 -MVINNIFIL GGAP -MVINNIFIL GG	
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005	100.0% 99.7% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2%	GLMLLEI KDTER-YCALAPIM	. ] 1082 -MYTNNIFTLIGGAP -MYTNNIFTLIGGA- -LAINNYFRLIGGAP	
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011	100.0% 99.7% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4%	GLMLLEI KDTER-YCALAPIM	] 1082 -WINNEFIL GGAP -WINNEFIL GG -LAINNUFRL GGAP -LAINNUFRL GGAP	
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr	100.0% 99.7% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1%		] 1082 -WTINNEFTLGGAP -WTINNEFTLGG -LATINNEFTLGGAP -LATINNEFTLGGAP -LATINNEFTLGGAP -LATINNEFTLGGAP	
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr	100.0% 99.7% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4%		. ] 1082 	
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IX2013 8 BatCov_JL2012 9 BatCov_HKU3	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1%	CIMIL 21 COTS CALAP IN CIMIL 21 COTS CALAP IN CIMIL 21 CALAP IN CIMIL 21 CALS CALS PGL CIMIL 21 CALS CALS CALS CIMIL 21 CALS CALS CIMIL 21 CALS CIMIL 21 CALS CIMIL 21	- 1082 	
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_JL2012 9 BatCov_HKU3 10 BatCov_Rp3_2004	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1% 69.1% 67.8%	CIMIL 21 COTS CALAP IN CIMIL 21 COTS CALAP IN CIMIL 21 CALAP IN CIMIL 21 CALS CALS PGL CIMIL 21 CALS CALS CALS CIMIL 21 CALS CALS CIMIL 21 CALS CIMIL 21 CALS CIMIL 21	- 1082 	
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IX2013 8 BatCov_JL2012 9 BatCov_HKU3	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 69.1%		- 1082 	
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IX2013 9 BatCov_HKU3 10 BatCov_RP3_2004 11 SARSLikeBatCov_HKU3 12 Btrl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowWIV16_Rhinolophus_sinecu	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 5 99.7%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 67.8% 68.9% 69.5% 67.9%	- CIMUL 5 - TOTAL - CALST - CALST - - CIMUL 3 - STORE - - CIMUL 3 - STORE - - CIMUL 3 - STORE - - CALST - - CALST - - CALST - STORE - - CALST - CALST - CALST - CALST - CALST - CALST - CALST - CALST - 		
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_N2013 8 BatCov_JL2012 9 BatCov_JL2012 9 BatCov_HKU3 10 BatCov_FRJ_2004 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCov_SC2018_Rhinolophus_sp 13 SARSLikeCovWIV16_Rhinolophus_sinicu 4 BatCov_Rhinolophus_ferrumequinum</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 69.1% 69.1% 69.1% 69.5% 67.9% 67.9% 69.1%			
2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IX2013 9 BatCov_HKU3 10 BatCov_RP3_2004 11 SARSLikeBatCov_HKU3 12 Btrl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCowWIV16_Rhinolophus_sinecu	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 5 99.7%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 67.8% 68.9% 69.5% 67.9%			
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_NarsLike_YNLF_31Ctr 7 BatCov_INU3 8 BatCov_INU3 10 BatCov_IRU3 11 SARSLikeBatCov_HKU3 12 BtR1-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_BMinOlophus_blasii 16 BatCov_BM4B-31 17 Bat_Bp_betaCov_Hipposideros_pratti</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 100.0% 97.2%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 69.5% 69.1% 62.5% 27.9%		- 1082 	
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanxi2011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_IN2013 10 BatCov_Rp3_2004 11 SARSLikeBatCov_HKU3 12 Btlh-BetaCov_SC2018_Rhinolophus_spincu 13 SARSLikeCovWIV16_Rhinolophus_sinicu 14 BatCov_Rhinolophus_Lasii 15 BatCov_Rhinolophus_Lasii 16 BatCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.5% 100.0% 97.2% 96.7%	100.0% 94.0% 68.4% 69.2% 69.4% 69.1% 68.0% 69.1% 67.8% 68.9% 69.5% 67.9% 69.5% 69.1% 62.5% 62.5% 62.7%	- CIMUL I - CONTRACTOR - CALAR T		
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_NarsLike_YNLF_31Ctr 7 BatCov_INU3 8 BatCov_INU3 10 BatCov_ENU3 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_BMinOlophus_blasii 16 BatCov_BM4B-31 17 Bat_Bp_betaCov_Hipposideros_pratti</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.5% 100.0% 97.2%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 69.5% 69.5% 69.1% 62.5% 27.9%			
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanx12011 6 BatCov_ISAUEALSE_SICtr 7 BatCov_IN2013 8 BatCov_JL2012 9 BatCov_HKU3 10 BatCov_BAJ_2004 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_spi 13 SARSLikeCovKV16_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_BM48-31 17 Bat_Hp_betaCov_Hiposideros_pratti 18 ZariaBatCov_Hiposideros_commersoni 19 BatCov_Hypsug_bat 20 BatCov_Vespertilio_sinensis</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.5% 100.0%	100.08 94.08 68.48 69.28 69.28 69.18 68.08 69.18 69.18 67.88 69.18 67.88 69.18 67.98 69.58 62.58 62.58 62.58 62.58 62.58 27.78 22.68 22.48			
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_N2011 8 BatCov_JL2012 9 BatCov_HKU3 10 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_HHN00phus_blasii 17 Bat_Hp_betaCov_Hipposideros_pratti 18 ZariaBatCov_Hipposideros_commersoni 19 BatCov_Wpspuo_bat 20 BatCovWespika_Btvs 21 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonyctoris_bat</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.4% 99.7% 99.5% 100.0% 97.2% 97.2% 95.5% 95.8% 81.9% 90.8%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 68.9% 69.5% 67.5% 67.5% 67.9% 22.5% 22.6% 22.3% 23.4% 20.7%			
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanx12011 6 BatCov_ISAUEALSE_SICtr 7 BatCov_IN2013 8 BatCov_JL2012 9 BatCov_HKU3 10 BatCov_BAJ_2004 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_spi 13 SARSLikeCovKV16_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_BM48-31 17 Bat_Hp_betaCov_Hiposideros_pratti 18 ZariaBatCov_Hiposideros_commersoni 19 BatCov_Hypsug_bat 20 BatCov_Vespertilio_sinensis</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.5% 100.0%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 68.9% 69.5% 67.5% 67.5% 67.9% 22.5% 22.6% 22.3% 23.4% 20.7%			
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_WN2013 8 BatCov_IN2013 9 BatCov_IN201 10 BatCov_BRU3 10 BatCov_BRU3 11 SARSLikeBatCov_HKU3 12 BrAl-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_HkPasideros_pratti 18 ZariaBatCov_Hipposideros_pratti 19 BatCov_Hypsugo_bat 20 BatCovVersLike_BtVs 21 BatCovVersLike_BtVs 21 BatCovVersLike_BtVs 21 HedyBatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.7%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 68.0% 69.1% 69.1% 69.1% 69.1% 69.5% 62.5% 62.5% 62.5% 62.5% 22.3% 22.3% 23.4% 20.1% 20.1%			
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanx12011 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_HXU013 8 BatCov_HXU03 10 BatCov_HKU3 10 BatCov_BAJ_2004 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sp 13 SARSLikeCovfU16_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_BM48-31 17 Bat_Hp_betaCov_Hiposideros_pratti 18 ZarisBatCov_Hiposideros_pratti 19 BatCov_Vespertilio_sinensis 20 BatCovVespertilio_sinensis 21 HkU4BatCov_Tylonycteris_bat 23 BateApogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4-4</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 89.7% 99.4% 99.7% 99.5% 81.9% 90.8% 99.2% 91.7% 90.0%	100.0% 94.0% 68.4% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 67.8% 68.9% 67.8% 62.5% 62.5% 62.5% 27.9% 62.5% 22.6% 22.3% 22.4% 20.7%			
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_WN2013 8 BatCov_IN2013 9 BatCov_IN201 10 BatCov_BRU3 10 BatCov_BRU3 11 SARSLikeBatCov_HKU3 12 BrAl-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_HkPasideros_pratti 18 ZariaBatCov_Hipposideros_pratti 19 BatCov_Hypsugo_bat 20 BatCovVersLike_BtVs 21 BatCovVersLike_BtVs 21 BatCovVersLike_BtVs 21 HedyBatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 81.9% 95.2% 90.0% 95.2%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 68.0% 69.1% 69.1% 69.1% 69.1% 69.5% 62.5% 62.5% 62.5% 62.5% 22.3% 22.3% 23.4% 20.1% 20.1%			
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_NavSLike_YNLF_31Ctr 7 BatCov_IRU3 8 BatCov_IRU3 10 BatCov_JL2012 9 BatCov_HKU3 11 SARSLikeBatCov_HK03 12 BtRl-BetaCoV_SC2018_Rhinolophus_sipcu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_IHipposideros_pratti 18 ZariaBatCov_Hipposideros_pratti 18 DatCov_Hypsugo_bat 20 BatCovWerSLike_BtVs 21 BatCov_Verpertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 44 MERS_Dat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCov_HKU4 29 BatCov_HKU4</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 90.8% 92.5% 95.8% 91.7% 90.8% 92.2% 90.8% 92.5% 95.2% 95.5%	100.0% 94.0% 94.0% 65.4% 65.1% 66.0% 69.1% 69.1% 69.1% 69.1% 69.5% 67.9% 69.5% 62.5% 62.5% 62.5% 22.7.9% 23.4% 20.7% 20.9% 20.2%			
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<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 9 BatCov_IRU3 10 BatCov_JRJ2014 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCov_SC2018_Rhinolophus_sincu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_blasii 16 BatCov_IMV16_Rhinolophus_sincu 17 Bat_Hp_betaCov_Hipposideros_commersoni 19 BatCov_Hypsugo_bat 20 BatCovHypsugo_bat 21 BatCov_VyLike_BtVs 21 BatCov_Vylonycteris_bat 23 HedgehogCov 44 MERS_Camel 25 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCov_IKU5 29 BatCov_IKU9 32 BatCov_HKU9 32 BatCov_HKU9 32 BatCov_HKU9 33 BatCov_StrainJHM</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 81.9% 95.2\% 95.2\%95.2\% 95.2\% 95.2\%95.2\% 95.2\% 95.2\%95.2\% 95.2\% 95.2\%95.2\% 95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%95.2\% 95.2\%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.5% 67.9% 69.5% 62.5% 62.5% 62.5% 27.7% 22.3% 23.4% 20.7% 20.1% 20.9% 20.4% 20.9% 20.8% 20.9% 20.8%	- CIMULE - TOTAL - CALST - CALST - - CIMULE - NTTL - - CALST - - CIMULE - NTTL - - CALST - - - CALST - - - CALST - - - CALST - - - CALST - - - - - - - - - -		
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_Shaanx12011 6 BatCov_IN2013 9 BatCov_HKU3 10 BatCov_HKU3 10 BatCov_HKU3 11 SARSLikeDatCov_HKU3 12 BtRl=BetaCoV_SC2018_Rhinolophus_spincu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_lasii 16 BatCov_Rhinolophus_lasii 17 Bat_Bp_betaCov_Hipposideros_pratti 18 ZarisBatCov_Hipposideros_pratti 19 BatCov_Vesportilio_sinensis 20 BatCovVersLike_BtVs 21 BatCov_Vesportilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4 27 BatCov_HKU4 28 BatCovHKU5 29 BatCovUS5 29 BatCovHKU5 31 BatCovHKU5 31 BatCovHKU5 31 BatCovHKU5 32 BatCovHKU9 33 BatCovHKU9 33 BatCov_Rousetus_bat</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 90.7% 90.6% 90.7	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 63.5% 62.5% 62.5% 62.5% 62.5% 62.5% 27.7% 22.3% 23.4% 20.7% 20.4% 20.7% 20.4% 20.7% 20.4% 20.5% 20.2% 20.5% 20.2%			
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARS. 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_N20113 8 BatCov_HX03 10 BatCov_BKU3 10 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_forrumequinum 15 BatCov_Rhinolophus_forrumequinum 15 BatCov_HNposideros_pratti 16 BatCov_Hypsugo_bat 20 BatCovHV16_Rhinolophus_s1 21 BatCov_Hypsugo_bat 20 BatCovWerSLike_BtVs 21 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 21 BatCov_HKU4 24 MERS_Dat-CoV_H.savii 25 MERS_Came1 26 BatCov_HKU4 29 BatCovHKU5 31 BatCov_HKU4 32 BatCovHKU9 31 BatCov_HKU9 32 BatCovHKU9-4 33 BatCov_Strain_J8M 35 DovineCov_strain_98TXSF-110-ENT 36 HumanCov_G43 37 HumanCov_HKU1</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.5% 90.7% 90.5% 90.6% 91.7% 92.2%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 68.0% 69.1% 68.0% 69.1% 69.1% 69.5% 67.9% 69.5% 62.5% 62.5% 62.5% 62.5% 62.5% 22.3% 22.3% 20.1% 20.1% 20.4% 20.5%	- CIMULE - TOTE - CALST CALST CIMULE		
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SArsLike_YNLF_31Ctr 7 BatCov_IN2013 8 BatCov_IN2013 10 BatCov_HKU3 10 BatCov_JL2012 9 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 BtRl=BetaCoV_SC2018 Rhinolophus_spincu 14 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_ferrumequinum 15 BatCov_Rhinolophus_lasii 16 BatCov_Rhinolophus_lasii 17 Bat_Bp_betaCov_Hipposideros_pratti 18 ZarisBatCov_Hipposideros_ormersoni 19 BatCov_Vesportilio_sinensis 20 BatCov_Vesportilio_sinensis 21 BatCov_Vesportilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 23 HedgehogCov 24 MERS_Bat-CoV_H.savii 25 MERS_Camel 26 BatCov_HKU4 29 BatCov_HKU4 29 BatCovHKU5 29 BatCovHKU5 29 BatCovHKU5 31 BatCovHKU5 31 BatCovHKU5 31 BatCov_Strain_J88TXSF-110-ENT 36 HumanCov_OC43 37 Human_Cov_HKU1 38 FelineCov_Strain_FIPV_WSU-79</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.4% 99.7% 99.5% 99.5% 99.5% 95.2% 82.2%82.2% 82.2% 82.2% 82.2% 82.2% 82.2	100.0% 94.0% 94.0% 68.4% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 69.1% 62.5% 62.5% 62.5% 62.5% 62.5% 22.3% 22.3% 22.3% 20.1% 20.1% 20.4% 20.4% 20.4% 20.4% 20.5%	- CIARLE I - TOTEL - CALST - - TOTEL - TOTEL - - CALST - - CIARLE I - TOTEL - CALST - - - DELFURT - DO CALST - - DELFURT - DO - DELFURT - - DO - DELFURT - DO - DELFURT - - DO		
<pre>2 PangolinCov_Manis_javanica 3 HumanCov_SARS 4 BatCov_279_2005 5 BatCov_SARS. 6 BatCov_SarsLike_YNLF_31Ctr 7 BatCov_N20113 8 BatCov_HX03 10 BatCov_BKU3 10 BatCov_HKU3 11 SARSLikeBatCov_HKU3 12 BtRl-BetaCoV_SC2018_Rhinolophus_sinicu 14 BatCov_Rhinolophus_forrumequinum 15 BatCov_Rhinolophus_forrumequinum 15 BatCov_HNposideros_pratti 16 BatCov_Hypsugo_bat 20 BatCovHV16_Rhinolophus_s1 21 BatCov_Hypsugo_bat 20 BatCovWerSLike_BtVs 21 BatCov_Vespertilio_sinensis 22 HKU4BatCov_Tylonycteris_bat 21 BatCov_HKU4 24 MERS_Dat-CoV_H.savii 25 MERS_Came1 26 BatCov_HKU4 29 BatCovHKU5 31 BatCov_HKU4 32 BatCovHKU9 31 BatCov_HKU9 32 BatCovHKU9-4 33 BatCov_Strain_J8M 35 DovineCov_strain_98TXSF-110-ENT 36 HumanCov_G43 37 HumanCov_HKU1</pre>	100.0% 99.7% 100.0% 100.0% 100.0% 100.0% 100.0% 100.0% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.7% 99.5% 99.5% 95.8% 81.9% 95.2% 95.2% 95.2% 95.2% 95.2% 95.5% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.7% 86.8% 86.7% 86.8% 86.7% 86.8% 86.7% 86.8% 86.7% 86.8% 86.7% 86.8% 86.7% 86.8% 86.3% 86.8% 86.3% 86.8% 86.3% 86.3% 86.8% 86.3% 86.3% 86.3% 86.3% 86.3%86.3% 86.3% 86.3% 86.3% 86.3% 86.3% 86.3%86.3% 86.3%86.3% 86.3% 86.3% 86.3%86.3% 86.3% 86.3%86.3%	100.0% 94.0% 68.4% 69.2% 69.1% 69.1% 69.1% 68.0% 69.1% 68.0% 69.1% 69.1% 69.5% 67.9% 69.5% 62.5% 62.5% 62.5% 62.5% 62.5% 22.3% 22.3% 20.1% 20.1% 20.4% 20.5%	- CIARLE I - TOTEL - CALST - - TOTEL - TOTEL - - CALST - - CIARLE I - TOTEL - CALST - - - DELFURT - DO CALST - - DELFURT - DO - DELFURT - - DO - DELFURT - DO - DELFURT - - DO		
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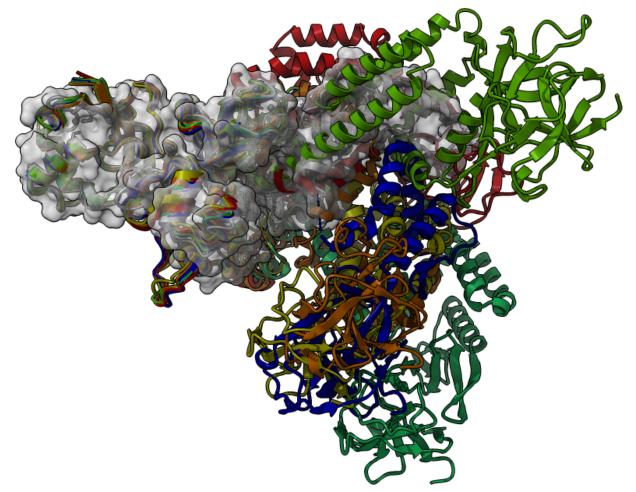


Supplementary Figure 2.



(A) Global FSC curve for the 3.2 Å Nsp2 reconstruction as output from Relion. In black is the final corrected masked FSC. In blue is an uncorrected masked FSC. In green is FSC of unmasked volumes and in red is FSC of the volumes which were phase randomized beyond 7.3 Å. (B) Global FSC curve for the 3.8 Å Nsp2 reconstruction as output from Relion. In black is the final corrected masked FSC. In blue is an uncorrected masked FSC. In green is unmasked FSC and in red is FSC of the reconstructions which were phase randomized beyond 8 Å. (C) Directional FSC for the 3.2 Å reconstruction of Nsp2 as output by the 3DFSC server, estimated sphericity is 0.86. (D) Directional FSC for the 3.8 Å reconstruction of Nsp2 as output by the 3DFSC server, estimated sphericity is 0.81.

Supplementary Figure 3.

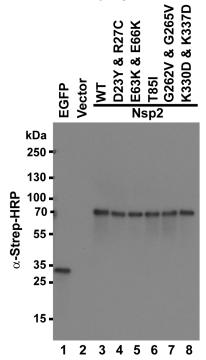


Supplementary Figure 3. AlphaFold2 predictions for Nsp2 have low accuracy in

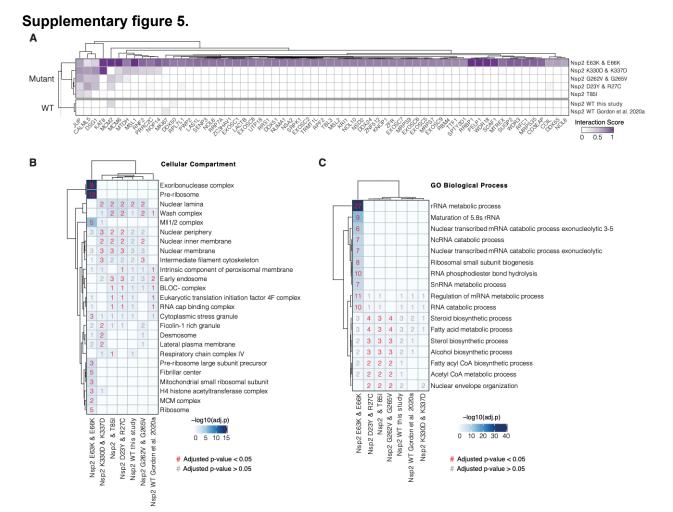
### predicting the overall shape of the protein.

All publicly available predictions from AlphaFold2 team for Nsp2 (multicolored) were aligned to the experimental model of Nsp2 (gray surface). Although individual domains align well locally, globally there is a considerable deviation from the experimental model.

Supplementary figure 4.



Supplementary figure 4. Expression of wild type and mutant SARS-CoV-2 Nsp2 proteins in HEK293T cells. Reserved lysates (50 ul) were incubated at 95°C for 5 minutes with an equal volume of 2x sample buffer (Morganville Scientific). After further diluting 1:10 in 2x sample buffer, 5 ul was resolved on a 4-20% Criterion TGX Precast Midi Protein Gel (BioRad) and transferred to a 0.2 mm PVDF membrane using the Trans-Blot Turbo Transfer System (2.5 A, 25 V, 7 minutes). Membranes were blocked with 3% BSA in 1x Phosphate Buffered Saline (PBS) supplemented with 0.2% Tween 20 (0.2% T-PBS) at 4°C and incubated with Strep-Tag II Antibody HRP Conjugate (Millipore) at room temperature for 1 hour (1:10,000 in 1% BSA, 0.2% T-PBS). Membrane was washed in 0.2% T-PBS after blocking and antibody incubation steps and developed with Pierce ECL Western Blotting Substrate (ThermoFisher Scientific).



Supplementary figure 5. Nsp2 E63K/E66K Mutation Gains Interactions with Exoribonuclease and Pre-ribosome Components.

(A) Interaction scores (average between MiST and Saint Scores) for human proteins ("preys") deemed high-confidence interactions in at least one affinity purification ("bait") mass spectrometry assay and detected to not interact with neither the wild-type Nsp2 in this study or in Gordon et al (2020a). Interaction scores range from zero to one, one being the most high-confidence. (B) Gene Ontology Cellular Compartment enrichment analysis (MSigDB) for preys passing the master scoring criteria (see Methods) for each bait (i.e. affinity purification experiment). The top 10 most significant enrichments for each bait are displayed as well as corresponding enrichments for other baits, if applicable. Color denotes the -log<sub>10</sub>(adjusted p-value). The number of preys enriched in each bait for each term are shown. Red numbers

indicated adjusted p-values < 0.05 whereas grey numbers indicate adjusted p-values > 0.05. **(C)** Same as in B using Gene Ontology Biological Process terms (MSigDB).

	Nsp2 without Zn (EMDB-xxxx) (PDB xxxx)	Nsp2 with Zn (EMDB-xxxx) (PDB xxxx)
Data collection and processing		
Magnification	105,000x	105,000x
Voltage (kV)	300	300
Electron exposure (e–/Å <sup>2</sup> )	66	67
Dose rate (e-/physical pixel/sec)	8	8
Exposure per frame (sec)	0.05	0.05
Defocus range (µm)	-0.8 to -2.4	-0.8 to -2.4
Pixel size (Å)	0.834 (physical)	0.834 (physical)
Symmetry imposed	C1	C1
Initial particle images (no.)	363145+577518	1515264
Final particle images (no.)	42579	81817
Map resolution (Å) FSC threshold	3.76	3.15
Map resolution range (Å)	3.5-6.6	3.0-4.3
Refinement		
Initial model used (PDB code)	ab-initio	ab-initio
Model resolution (Å) FSC threshold 0.143 (Unmasked) FSC threshold 0.5 (Unmasked)	3.6 3.9	3.12 3.46
Model resolution range (Å)	3.6-4.1	3.1-3.5
Map sharpening <i>B</i> factor (Å <sup>2</sup> )	-122	-135
Model composition Non-hydrogen atoms Protein residues Ligands	4922 635 Zn: 3	3706 473 Zn: 3
<i>B</i> factors (Ų) Protein Ligand	194.4 79.8	52.83 50.97

## Supplementary Table 1. CryoEM collection, refinement and resulting model statistics.

R.M.S. deviations Bond lengths (Å) Bond angles (°)	0.009 0.982	0.008 0.946
Validation MolProbity score Clashscore Poor rotamers (%)	0.86 0.71 0.00	0.75 0.81 0.00
Ramachandran plot Favored (%) Allowed (%) Disallowed (%)	97.31 2.53 0.16	98.07 1.93 0.00