

Annex 1: Sequences information of multiple sequence alignment of HA genes used in the construction of Figure 4							
Segment ID	Segment	Country	Collection date	Isolate name	Originating Lab	Submitting Lab	Authors
EPI859059	HA	South Africa	2016-Aug-08	A/South-Africa/VW0105/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI859055	HA	South Africa	2016-Jul-20	A/South-Africa/R5063/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI859053	HA	South Africa	2016-Jul-19	A/South-Africa/R5036/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI859051	HA	South Africa	2016-Jul-19	A/South-Africa/R5034/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI829365	HA	South Africa	2016-Jul-21	A/South-Africa/VW0073/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI829363	HA	South Africa	2016-Jul-21	A/South-Africa/VW0071/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI829361	HA	South Africa	2016-Jul-20	A/South-Africa/VW0067/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI829359	HA	South Africa	2016-Jul-16	A/South-Africa/VW0060/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI829357	HA	South Africa	2016-Jul-04	A/South-Africa/VW0050/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI829355	HA	South Africa	2016-Jun-30	A/South-Africa/VW0048/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI829353	HA	South Africa	2016-Jul-06	A/South-Africa/R4626/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI829351	HA	South Africa	2016-Jul-05	A/South-Africa/R4598/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI829349	HA	South Africa	2016-Jun-27	A/South-Africa/R4140/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI824100	HA	South Africa	2016-Jun-04	A/South	Sandringham,	Crick Worldwide	

				Africa/VW0036/2016	NICD	Influenza Centre	
EPI824098	HA	South Africa	2016-Jun-14	A/South Africa/R3978/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI824096	HA	South Africa	2016-Jun-17	A/South Africa/R3915/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI824094	HA	South Africa	2016-Jun-13	A/South Africa/R3703/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI824092	HA	South Africa	2016-Jun-08	A/South Africa/R3620/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI824090	HA	South Africa	2016-Jun-06	A/South Africa/R3412/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI824088	HA	South Africa	2016-Jun-02	A/South Africa/R3328/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI824086	HA	South Africa	2016-May-30	A/South Africa/R3142/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI824084	HA	South Africa	2016-May-26	A/South Africa/R3026/2016	Sandringham, NICD	Crick Worldwide Influenza Centre	
EPI836885	HA	South Africa	2016-Jun-27	A/South Africa/R4203/2016	Sandringham, NICD	WHO Collaborating Centre for Reference and Research on Influenza	Deng,Y-M.; Iannello,P.; Spirason,N.; Lau,H.; Komadina,N.
EPI836882	HA	South Africa	2016-Jul-06	A/South Africa/Vw0052/2016	Sandringham, NICD	WHO Collaborating Centre for Reference and Research on Influenza	Deng,Y-M.; Iannello,P.; Spirason,N.; Lau,H.; Komadina,N.
EPI836879	HA	South Africa	2016-Jun-21	A/South Africa/Vw0044/2016	Sandringham, NICD	WHO Collaborating Centre for Reference and Research on Influenza	Deng,Y-M.; Iannello,P.; Spirason,N.; Lau,H.; Komadina,N.
EPI836876	HA	South Africa	2016-Jul-06	A/South Africa/R4620/2016	Sandringham, NICD	WHO Collaborating Centre for Reference and Research on Influenza	Deng,Y-M.; Iannello,P.; Spirason,N.; Lau,H.; Komadina,N.
EPI836873	HA	South Africa	2016-Jun-30	A/South Africa/R4336/2016	Sandringham, NICD	WHO Collaborating Centre for Reference and Research on	Deng,Y-M.; Iannello,P.; Spirason,N.; Lau,H.;

						Influenza	Komadina,N.
EPI836870	HA	South Africa	2016-Jun-06	A/South Africa/Vw0037/2016	Sandringham, NICD	WHO Collaborating Centre for Reference and Research on Influenza	Deng,Y-M.; Iannello,P.; Spirason,N.; Lau,H.; Komadina,N.
EPI831849	HA	South Africa	2016-Jul-06	A/South Africa/R4564/2016	Sandringham, NICD	WHO Collaborating Centre for Reference and Research on Influenza	
EPI831846	HA	South Africa	2016-Jun-27	A/South Africa/R4138/2016	Sandringham, NICD	WHO Collaborating Centre for Reference and Research on Influenza	
EPI831843	HA	South Africa	2016-Jun-02	A/South Africa/R3334/2016	Sandringham, NICD	WHO Collaborating Centre for Reference and Research on Influenza	
EPI831840	HA	South Africa	2016-May-30	A/South Africa/R3157/2016	Sandringham, NICD	WHO Collaborating Centre for Reference and Research on Influenza	
EPI861614	HA	South Africa	2016-Jul-06	A/South Africa/4639/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI861606	HA	South Africa	2016-Jun-29	A/South Africa/4363/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI861598	HA	South Africa	2016-Jun-23	A/South Africa/4069/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI858452	HA	South Africa	2016-Jul-25	A/South Africa/5233/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI858444	HA	South Africa	2016-Jul-25	A/South Africa/5232/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI858436	HA	South Africa	2016-Jul-25	A/South Africa/5231/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI858428	HA	South Africa	2016-Jul-19	A/South Africa/5035/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI858420	HA	South Africa	2016-Jul-19	A/South	Sandringham,	Centers for Disease	

				Africa/5034/2016	NICD	Control and Prevention	
EPI858412	HA	South Africa	2016-Jul-16	A/South Africa/5008/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI858404	HA	South Africa	2016-Jul-18	A/South Africa/5002/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI858396	HA	South Africa	2016-Jul-18	A/South Africa/5000/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI834466	HA	South Africa	2016-Jun-30	A/South Africa/3892/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI829850	HA	South Africa	2016-Jul-13	A/South Africa/4940/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI827416	HA	South Africa	2016-Jun-14	A/South Africa/3731/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI827362	HA	South Africa	2016-Jun-29	A/South Africa/4363/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI827300	HA	South Africa	2016-Jul-18	A/South Africa/4993/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI827292	HA	South Africa	2016-Jul-18	A/South Africa/4990/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI827284	HA	South Africa	2016-Jul-18	A/South Africa/4989/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI827276	HA	South Africa	2016-Jul-13	A/South Africa/4938/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI827269	HA	South Africa	2016-Jul-06	A/South Africa/4639/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI827253	HA	South Africa	2016-Jun-27	A/South Africa/4146/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI827245	HA	South Africa	2016-Jun-23	A/South Africa/4069/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI813929	HA	South Africa	2016-Jun-13	A/South Africa/3743/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI813921	HA	South Africa	2016-Jun-20	A/South Africa/3913/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI813913	HA	South Africa	2016-Jun-16	A/South Africa/3776/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI813905	HA	South Africa	2016-Jun-13	A/South	Sandringham,	Centers for Disease	

				Africa/3680/2016	NICD	Control and Prevention	
EPI813897	HA	South Africa	2016-Jun-06	A/South Africa/3437/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI813889	HA	South Africa	2016-Jun-02	A/South Africa/3285/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI813881	HA	South Africa	2016-May-19	A/South Africa/2843/2016	Sandringham, NICD	Centers for Disease Control and Prevention	
EPI741474	HA	Hong Kong (SAR)	2016-Apr-22	A/Hong Kong/4801/2014 (15/192)		National Institute for Biological Standards and Control (NIBSC)	Nicolson, Carolyn