

Supplementary tables

Table S1. Voucher information for 93 genomes of SARS-CoV-2 and bat-RaTG13.

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
EPI_ISL_408479	BetaCoV/Chongqing/ZX01/2020	Asia/China/Chongqing/Zhongxian	Unknown	H1	2020-01-23	C	Zhongxian Center for Disease Control and Prevention	Chongqing Municipal Center for Disease Control and Prevention	Ye Sheng, Tang Yun, Ling Hua, Zhang Hong, Yu zhen, Chen Shuang, Tan ZhangPing, Su Kun, Li Qin, Tang Wenge, Rong Rong
EPI_ISL_406538	BetaCoV/Guangdong/20SF201/2020	Asia/China/Guangdong	Unknown	H1	2020-01-23	C	Guangdong Provincial Center for Diseases Control and Prevention; Guangdong Provincial Institute of Public Health	Guangdong Provincial Center for Diseases Control and Prevention	Min Kang, Jie Wu, Jing Lu, Tao Liu, Baisheng Li, Shuijiang Mei, Feng Ruan, Lifeng Lin, Changwen Ke, Haojie Zhong, Yingtao Zhang, Lirong Zou, Xuguang Chen, Qi Zhu, Jianpeng Xiao, Jianxiang Geng, Zhe Liu, Jianxiong Hu, Weilin Zeng, Xing Li, Yuhuang Liao, Xiujuan Tang, Songjian Xiao, Ying Wang, Yingchao Song, Xue Zhuang, Lijun Liang, Guanhao He, Huihong Deng, Tie Song, Jianfeng He, Wenjun Ma
EPI_ISL_402125	BetaCoV/Wuhan-Hu-1/2019	Asia/China/Hubei/Wuhan	Yes	H1	2019-12-26	C	unknown	National Institute for Communicable Disease Control and Prevention (ICDC) Chinese Center for Disease Control and Prevention (China CDC)	Zhang, Y.-Z., Wu, F., Chen, Y.-M., Pei, Y.-Y., Xu, L., Wang, W., Zhao, S., Yu, B., Hu, Y., Tao, Z.-W., Song, Z.-G., Tian, J.-H., Zhang, Y.-L., Liu, Y.,

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
									Zheng,J.-J., Dai,F.-H., Wang,Q.-M., She,J.-L. and Zhu,T.-Y.
EPI_ISL_402119	BetaCoV/Wuhan/IVDC-HB-01/2019	Asia/China/Hubei/Wuhan	Yes	H1	2019-12-30	C	National Institute for Viral Disease Control and Prevention, China CDC	National Institute for Viral Disease Control and Prevention, China CDC	Wenjie Tan, Xiang Zhao, Wenling Wang, Xuejun Ma, Yongzhong Jiang, Roujian Lu, Ji Wang, Weimin Zhou, Peihua Niu, Peipei Liu, Faxian Zhan, Weifeng Shi, Baoying Huang, Jun Liu, Li Zhao, Yao Meng, Xiaozhou He, Fei Ye, Na Zhu, Yang Li, Jing Chen, Wenbo Xu, George F. Gao, Guizhen Wu
EPI_ISL_402124	BetaCoV/Wuhan/WIV04/2019	Asia/China/Hubei/Wuhan	Yes	H1	2019-12-30	C	Wuhan Jinyintan Hospital	Wuhan Institute of Virology, Chinese Academy of Sciences	Peng Zhou, Xing-Lou Yang, Ding-Yu Zhang, Lei Zhang, Yan Zhu, Hao-Rui Si, Zhengli Shi
EPI_ISL_402129	BetaCoV/Wuhan/WIV06/2019	Asia/China/Hubei/Wuhan	Yes	H1	2019-12-30	C	Wuhan Jinyintan Hospital	Wuhan Institute of Virology, Chinese Academy of Sciences	Peng Zhou, Xing-Lou Yang, Ding-Yu Zhang, Lei Zhang, Yan Zhu, Hao-Rui Si, Zhengli Shi
EPI_ISL_403929	BetaCoV/Wuhan/IPBCAM S-WH-04/2019	Asia/China/Hubei/Wuhan	Yes?	H1	2019-12-30	C	Institute of Pathogen Biology, Chinese Academy of Medical Sciences & Peking Union Medical College	Institute of Pathogen Biology, Chinese Academy of Medical Sciences & Peking Union Medical College	Lili Ren, Jianwei Wang, Qi Jin, Zichun Xiang, Zhiqiang Wu, Chao Wu, Yiwei Liu

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
EPI_ISL_403931	BetaCoV/Wuhan/IPBCAM S-WH-02/2019	Asia/China/Hubei/Wuhan	Yes?	H1	2019-12-30	C	Institute of Pathogen Biology, Chinese Academy of Medical Sciences & Peking Union Medical College	Institute of Pathogen Biology, Chinese Academy of Medical Sciences & Peking Union Medical College	Lili Ren, Jianwei Wang, Qi Jin, Zichun Xiang, Zhiqiang Wu, Chao Wu, Yiwei Liu
EPI_ISL_406800	BetaCov/Wuhan/WH03/2020	Asia/China/Hubei/Wuhan	Yes	H1	2020-01-01	C	General Hospital of Central Theater Command of People's Liberation Army of China	BGI & Institute of Microbiology, Chinese Academy of Sciences & Shandong First Medical University & Shandong Academy of Medical Sciences & General Hospital of Central Theater Command of People's Liberation Army of China	Weijun Chen, Yuhai Bi, Weifeng Shi and Zhenhong Hu
EPI_ISL_408514	BetaCoV/Wuhan/IVDC-HB-envF13-20/2020	Asia/China/Hubei/Wuhan	Unknown	H1	2020-01-01	C	Institute of Viral Disease Control and Prevention, China CDC	Institute of Viral Disease Control and Prevention, China CDC	William J. Liu, Peipei Liu, Xiang Zhao, Peihua Niu, Yingze Zhao, Wenwen Lei, Ziqian Xu, Shumei Zou, Wei Zhen, Beiwei Ye, Mengjie Yang, Weifeng Shi, Roujian Lu, Wenjie Tan, Zhixiao Chen, Yuchao Wu, Juan Song, Weimin Zhou, Dayan Wang, Jun Han, Wenbo Xu, George F. Gao, Guizhen Wu
EPI_ISL_406716	BetaCoV/China/WHU01/2020	Asia/China/Hubei/Wuhan	Unknown	H1	2020-01-02	C	State Key Laboratory of Virology, Wuhan University	State Key Laboratory of Virology, Wuhan University	Chen,L., Liu,W., Zhang,Q., Xu,K., Ye,G., Wu,W., Sun,Z., Liu,F., Wu,K., Mei,Y., Zhang,W., Chen,Y., Li,Y., Shi,M., Lan,K. and Liu,Y.

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EPI_ISL_406717	BetaCoV/China/WHU02/2020	Asia/China/Hubei/Wuhan	Unknown	H1	2020-01-02	C	State Key Laboratory of Virology, Wuhan University	State Key Laboratory of Virology, Wuhan University	Chen,L., Liu,W., Zhang,Q., Xu,K., Ye,G., Wu,W., Sun,Z., Liu,F., Wu,K., Mei,Y., Zhang,W., Chen,Y., Li,Y., Shi,M., Lan,K. and Liu,Y.
EPI_ISL_408488	BetaCoV/Jiangsu/IVDC-JS-001/2020	Asia/China/Jiangsu/Huaian	Unknown	H1	2020-01-19	C	National Institute for Viral Disease Control and Prevention, China CDC	National Institute for Viral Disease Control & Prevention, CCDC	Wenjie Tan, Shenjiao Wang, Wenling Wang, Peihua Niu, Roujian Lu, Kangchen Zhao, Xiang Zhao, Baoying Huang, Li Zhao, Fei Ye, Wenbo Xu, George F. Gao, Guizhen Wu
EPI_ISL_404228	BetaCoV/Zhejiang/WZ-02/2020	Asia/China/Zhejiang	Unknown	H1	2020-01-17	C	Zhejiang Provincial Center for Disease Control and Prevention	Department of Microbiology, Zhejiang Provincial Center for Disease Control and Prevention	YanJun Zhang, Yin Chen, Haiyan Mao, Junhang Pan, Xiuyu Lou, Yiyu Lu, Juying Yan, Hanping Zhu, Jian Gao, Yan Feng, Yi Sun, Hao Yan, Zhen Li, Yisheng Sun, Liming Gong, Qiong Ge, Wen Shi, Xinying Wang, Wenwu Yao, Zhangnv Yang, Fang Xu, Chen Chen, Enfu Chen, Zhen Wang, Zhiping Chen, Jianmin Jiang, Chonggao Hu
EPI_ISL_407313	BetaCoV/Hangzhou/HZCD C0001/2020	Asia/China/Zhejiang/Hangzhou	Unknown	H1	2020-01-19	C	Hangzhou Center for Disease Control and Prevention	Hangzhou Center for Disease Control and Prevention	Jun Li, Haoqiu Wang, Hua Yu, Lingfeng Mao, Xinfen Yu, Zhou Sun, Qingxin Kong, Xin Qian, Shuchang Chen, Xuchu Wang

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EPI_ISL_406970	BetaCoV/Hangzhou/HZ-1/2020	Asia/China/Zhejiang/Hangzhou	Unknown	H1	2020-01-20	C	Hangzhou Center for Disease and Control Microbiology Lab	Hangzhou Center for Disease and Control Microbiology Lab	Yu Hua, Wang Haoqiu, Li Jun, Yu Xinfeng
EPI_ISL_403962	BetaCoV/Nonthaburi/61/2020	Asia/Thailand/Nonthaburi	Unknown	H1	2020-01-08	C	Bamrasnaradura Hospital	1. Department of Medical Sciences, Ministry of Public Health, Thailand 2. Thai Red Cross Emerging Infectious Diseases - Health Science Centre 3. Department of Disease Control, Ministry of Public Health, Thailand	Pilailuk,Okada; Siripaporn,Phuygun; Thanutsapa,Thanadachakul; Supaporn,Wacharapluesadee; Sittiporn,Parnmen; Warawan,Wongboot; Sunthareeya,Waicharoen; Rome,Buathong; Malinee,Chittaganpitch; Nanthawan,Mekha
EPI_ISL_403963	BetaCoV/Nonthaburi/74/2020	Asia/Thailand/Nonthaburi	Unknown	H1	2020-01-13	C	Bamrasnaradura Hospital	1. Department of Medical Sciences, Ministry of Public Health, Thailand 2. Thai Red Cross Emerging Infectious Diseases - Health Science Centre 3. Department of Disease Control, Ministry of Public Health, Thailand	Pilailuk,Okada; Siripaporn,Phuygun; Thanutsapa,Thanadachakul; Supaporn,Wacharapluesadee; Sittiporn,Parnmen; Warawan,Wongboot; Sunthareeya,Waicharoen; Rome,Buathong; Malinee,Chittaganpitch; Nanthawan,Mekha
EPI_ISL_410044	BetaCoV/USA/CA6/2020	North America/USA/California	Unknown	H1	2020-01-27	C	California Department of Public Health	Pathogen Discovery, Respiratory Viruses Branch, Division of Viral	Jing Zhang, Krista Queen, Yan Li, Ying Tao, Anna Uehara, Clinton R. Paden, Xiaoyan Lu, Brian Lynch,

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								Diseases, Centers for Dieases Control and Prevention	Senthil Kumar K. Sakthivel, Brett L. Whitaker, Shifaq Kamili, Lijuan Wang, Janna' R. Murray, Susan I. Gerber, Stephen Lindstrom, Suxiang Tong
EPI_ISL_406798	BetaCov/Wuhan/WH01/2019	Asia/China/Hubei/Wuhan	Yes	H2	2019-12-26	C	General Hospital of Central Theater Command of People's Liberation Army of China	BGI & Institute of Microbiology, Chinese Academy of Sciences & Shandong First Medical University & Shandong Academy of Medical Sciences & General Hospital of Central Theater Command of People's Liberation Army of China	Weijun Chen, Yuhai Bi, Weifeng Shi and Zhenhong Hu
EPI_ISL_406801	BetaCov/Wuhan/WH04/2020	Asia/China/Hubei/Wuhan	No	H3	2020-01-05	B	General Hospital of Central Theater Command of People's Liberation Army of China	BGI & Institute of Microbiology, Chinese Academy of Sciences & Shandong First Medical University & Shandong Academy of Medical Sciences & General Hospital of Central Theater Command of People's Liberation Army of China	Weijun Chen, Yuhai Bi, Weifeng Shi and Zhenhong Hu
EPI_ISL_408489	BetaCoV/Taiwan/NTU01/2020	Asia/China/Taiwan/Taipei	Unknown	H3	2020-01-31	B	Department of Laboratory Medicine, National Taiwan University Hospital	Microbial Genomics Core Lab, National Taiwan University Centers of Genomic and Precision Medicine	Shiou-Hwei Yeh, You-Yu Lin, Ya-Yun Lai, Chiao-Ling Li, Shan-Chwen Chang, Pei-Jer Chen, Sui-Yuan Chang

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EPI_ISL_407976	BetaCoV/Belgium/GHB-03021/2020	Europe/Belgium/Leuven	Unknown	H3	2020-02-03	B	KU Leuven, Clinical and Epidemiological Virology	KU Leuven, Clinical and Epidemiological Virology	Bert Vanmechelen, Elke Wollants, Annabel Rector, Els Keyaerts, Lies Laenen, Marc Van Ranst, and Piet Maes
EPI_ISL_407893	BetaCoV/Australia/NSW01/2020	Oceania/Australia/New South Wales/Sydney	Unknown	H3	2020-01-24	B	Centre for Infectious Diseases and Microbiology Laboratory Services	NSW Health Pathology - Institute of Clinical Pathology and Medical Research; Westmead Hospital; University of Sydney	Eden J-S, Carter I, Rahman H, Holmes EC, Rockett R, O'Sullivan MV, Sintchenko V, Chen SC, Maddocks S, Kok J and Dwyer DE for the 2019-nCoV Study Group
EPI_ISL_402132	BetaCoV/Wuhan/HBCDC-HB-01/2019	Asia/China/Hubei/Wuhan	Unknown	H4	2019-12-30	C	Wuhan Jinyintan Hospital	Hubei Provincial Center for Disease Control and Prevention	Bin Fang, Xiang Li, Xiao Yu, Linlin Liu, Bo Yang, Faxian Zhan, Guojun Ye, Xixiang Huo, Junqiang Xu, Bo Yu, Kun Cai, Jing Li, Yongzhong Jiang.
EPI_ISL_402123	BetaCoV/Wuhan/IPBCAM S-WH-01/2019	Asia/China/Hubei/Wuhan	Unknown	H5	2019-12-24	C	Institute of Pathogen Biology, Chinese Academy of Medical Sciences & Peking Union Medical College	Institute of Pathogen Biology, Chinese Academy of Medical Sciences & Peking Union Medical College	Lili Ren, Jianwei Wang, Qi Jin, Zichun Xiang, Zhiqiang Wu, Chao Wu, Yiwei Liu
EPI_ISL_403930	BetaCoV/Wuhan/IPBCAM S-WH-03/2019	Asia/China/Hubei/Wuhan	Unknown	H6	2019-12-30	C	Institute of Pathogen Biology, Chinese Academy of Medical Sciences & Peking Union Medical College	Institute of Pathogen Biology, Chinese Academy of Medical Sciences & Peking Union Medical College	Lili Ren, Jianwei Wang, Qi Jin, Zichun Xiang, Zhiqiang Wu, Chao Wu, Yiwei Liu

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EPI_ISL_403928	BetaCoV/Wuhan/IPBCAM S-WH-05/2020	Asia/China/Hubei/Wuhan	Unknown	H7	2020-01-01	C	Institute of Pathogen Biology, Chinese Academy of Medical Sciences & Peking Union Medical College	Institute of Pathogen Biology, Chinese Academy of Medical Sciences & Peking Union Medical College	Lili Ren, Jianwei Wang, Qi Jin, Zichun Xiang, Zhiqiang Wu, Chao Wu, Yiwei Liu
EPI_ISL_402120	BetaCoV/Wuhan/IVDC-HB-04/2020	Asia/China/Hubei/Wuhan	Yes	H8	2020-01-01	C	National Institute for Viral Disease Control and Prevention, China CDC	National Institute for Viral Disease Control and Prevention, China CDC	Wenjie Tan, Xiang Zhao, Wenling Wang, Xuejun Ma, Yongzhong Jiang, Roujian Lu, Ji Wang, Weimin Zhou, Peihua Niu, Peipei Liu, Faxian Zhan, Weifeng Shi, Baoying Huang, Jun Liu, Li Zhao, Yao Meng, Xiaozhou He, Fei Ye, Na Zhu, Yang Li, Jing Chen, Wenbo Xu, George F. Gao, Guizhen Wu
EPI_ISL_402121	BetaCoV/Wuhan/IVDC-HB-05/2019	Asia/China/Hubei/Wuhan	Yes	H9	2019-12-30	C	National Institute for Viral Disease Control and Prevention, China CDC	National Institute for Viral Disease Control and Prevention, China CDC	Wenjie Tan, Xuejun Ma, Xiang Zhao, Wenling Wang, Yongzhong Jiang, Roujian Lu, Ji Wang, Peihua Niu, Weimin Zhou, Faxian Zhan, Weifeng Shi, Baoying Huang, Jun Liu, Li Zhao, Yao Meng, Fei Ye, Na Zhu, Xiaozhou He, Peipei Liu, Yang Li, Jing Chen, Wenbo Xu, George F. Gao, Guizhen Wu

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EPI_ISL_402127	BetaCoV/Wuhan/WIV02/2019	Asia/China/Hubei/Wuhan	Yes	H10	2019-12-30	C	Wuhan Jinyintan Hospital	Wuhan Institute of Virology, Chinese Academy of Sciences	Peng Zhou, Xing-Lou Yang, Ding-Yu Zhang, Lei Zhang, Yan Zhu, Hao-Rui Si, Zhengli Shi
EPI_ISL_402128	BetaCoV/Wuhan/WIV05/2019	Asia/China/Hubei/Wuhan	Yes	H11	2019-12-30	C	Wuhan Jinyintan Hospital	Wuhan Institute of Virology, Chinese Academy of Sciences	Peng Zhou, Xing-Lou Yang, Ding-Yu Zhang, Lei Zhang, Yan Zhu, Hao-Rui Si, Zhengli Shi
EPI_ISL_402130	BetaCoV/Wuhan/WIV07/2019	Asia/China/Hubei/Wuhan	Yes	H12	2019-12-30	C	Wuhan Jinyintan Hospital	Wuhan Institute of Virology, Chinese Academy of Sciences	Peng Zhou, Xing-Lou Yang, Ding-Yu Zhang, Lei Zhang, Yan Zhu, Hao-Rui Si, Zhengli Shi
EPI_ISL_403932	BetaCoV/Guangdong/20SF012/2020	Asia/China/Guangdong/Shenzhen	Unknown	H13	2020-01-14	A	Guangdong Provincial Center for Diseases Control and Prevention; Guangdong Provincial Public Health	Department of Microbiology, Guangdong Provincial Center for Diseases Control and Prevention	Min Kang, Jie Wu, Jing Lu, Tao Liu, Baisheng Li, Shujiang Mei, Feng Ruan, Lifeng Lin, Changwen Ke, Haojie Zhong, Yingtao Zhang, Lirong Zou, Xuguang Chen, Qi Zhu, Jianpeng Xiao, Jianxiang Geng, Zhe Liu, Jianxiong Hu, Weilin Zeng, Xing Li, Yuhuang Liao, Xiujuan Tang, Songjian Xiao, Ying Wang, Yingchao Song, Xue Zhuang, Lijun Liang, Guanhao He, Huihong Deng, Tie Song, Jianfeng He, Wenjun Ma
EPI_ISL_403933	BetaCoV/Guangdong/20SF013/2020	Asia/China/Guangdong/Shenzhen	Unknown	H13	2020-01-15	A	Guangdong Provincial Center for Diseases Control and Prevention;	Department of Microbiology, Guangdong Provincial Center for Diseases Control and Prevention	Min Kang, Jie Wu, Jing Lu, Tao Liu, Baisheng Li, Shujiang Mei, Feng Ruan, Lifeng Lin, Changwen Ke, Haojie

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							Guangdong Provincial Public Health		Zhong, Yingtao Zhang, Lirong Zou, Xuguang Chen, Qi Zhu, Jianpeng Xiao, Jianxiang Geng, Zhe Liu, Jianxiong Hu, Weilin Zeng, Xing Li, Yuhuang Liao, Xiujuan Tang, Songjian Xiao, Ying Wang, Yingchao Song, Xue Zhuang, Lijun Liang, Guanhao He, Huihong Deng, Tie Song, Jianfeng He, Wenjun Ma
EPI_ISL_406030	BetaCoV/Shenzhen/HKU-SZ-002/2020	Asia/China/Guangdong/Shenzhen	Unknown	H13	2020-01-10	A	The University of Hong Kong - Shenzhen Hospital	Li Ka Shing Faculty of Medicine, The University of Hong Kong	Chan,J.F.-W., Yuan,S., Kok,K.H., To,K.K.-W., Chu,H., Yang,J., Xing,F., Liu,J., Yip,C.C.-Y., Poon,R.W.-S., Tsai,H.W., Lo,S.K.-F., Chan,K.H., Poon,V.K.-M., Chan,W.M., Ip,J.D., Cai,J.P., Cheng,V.C.-C., Chen,H., Hui,C.K.-M. and Yuen,K.Y.
EPI_ISL_406593	BetaCoV/Shenzhen/SZTH-002/2020	Asia/China/Guangdong/Shenzhen	Unknown	H13	2020-01-13	A	Shenzhen Key Laboratory of Pathogen and Immunity, National Clinical Research Center for Infectious Disease, Shenzhen Third People's Hospital	Shenzhen Key Laboratory of Pathogen and Immunity, National Clinical Research Center for Infectious Disease, Shenzhen Third People's Hospital	Yang Yang, Chenguang Shen, Li Xing, Zhixiang Xu, Haixia Zheng, Yingxia Liu

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EPI_ISL_403935	BetaCoV/Guangdong/20SF025/2020	Asia/China/Guangdong/Shenzhen	Unknown	H13	2020-01-15	A	Guangdong Provincial Center for Diseases Control and Prevention; Guangdong Provincial Public Health	Department of Microbiology, Guangdong Provincial Center for Diseases Control and Prevention	Min Kang, Jie Wu, Jing Lu, Tao Liu, Baisheng Li, Shuijiang Mei, Feng Ruan, Lifeng Lin, Changwen Ke, Haojie Zhong, Yingtao Zhang, Lirong Zou, Xuguang Chen, Qi Zhu, Jianpeng Xiao, Jianxiang Geng, Zhe Liu, Jianxiang Hu, Weilin Zeng, Xing Li, Yuhuang Liao, Xiujuan Tang, Songjian Xiao, Ying Wang, Yingchao Song, Xue Zhuang, Lijun Liang, Guanhao He, Huihong Deng, Tie Song, Jianfeng He, Wenjun Ma
EPI_ISL_405839	BetaCoV/Shenzhen/HKU-SZ-005/2020	Asia/China/Guangdong/Shenzhen	Unknown	H14	2020-01-11	A	The University of Hong Kong - Shenzhen Hospital	Li Ka Shing Faculty of Medicine, The University of Hong Kong	Chan,J.F.-W., Yuan,S., Kok,K.H., To,K.K.-W., Chu,H., Yang,J., Xing,F., Liu,J., Yip,C.C.-Y., Poon,R.W.-S., Tsai,H.W., Lo,S.K.-F., Chan,K.H., Poon,V.K.-M., Chan,W.M., Ip,J.D., Cai,J.P., Cheng,V.C.-C., Chen,H., Hui,C.K.-M. and Yuen,K.Y.
EPI_ISL_406592	BetaCoV/Shenzhen/SZTH-001/2020	Asia/China/Guangdong/Shenzhen	Unknown	H15	2020-01-13	A	Shenzhen Third People's Hospital	Shenzhen Key Laboratory of Pathogen and Immunity, National Clinical Research Center for Infectious Disease, Shenzhen Third People's Hospital	Yang Yang, Chenguang Shen, Li Xing, Zhixiang Xu, Haixia Zheng, Yingxia Liu

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EPI_ISL_406594	BetaCoV/Shenzhen/SZTH-003/2020	Asia/China/Guangdong/Shenzhen	Unknown	H16	2020-01-16	E	Shenzhen Key Laboratory of Pathogen and Immunity, National Clinical Research Center for Infectious Disease, Shenzhen Third People's Hospital	Shenzhen Key Laboratory of Pathogen and Immunity, National Clinical Research Center for Infectious Disease, Shenzhen Third People's Hospital	Yang Yang, Chenguang Shen, Li Xing, Zhixiang Xu, Haixia Zheng, Yingxia Liu
EPI_ISL_406595	BetaCoV/Shenzhen/SZTH-004/2020	Asia/China/Guangdong/Shenzhen	Unknown	H17	2020-01-16	C	Shenzhen Key Laboratory of Pathogen and Immunity, National Clinical Research Center for Infectious Disease, Shenzhen Third People's Hospital	Shenzhen Key Laboratory of Pathogen and Immunity, National Clinical Research Center for Infectious Disease, Shenzhen Third People's Hospital	Yang Yang, Chenguang Shen, Li Xing, Zhixiang Xu, Haixia Zheng, Yingxia Liu
EPI_ISL_406534	BetaCoV/Foshan/20SF207/2020	Asia/China/Guangdong/Foshan	Unknown	H18	2020-01-22	E	Guangdong Provincial Center for Diseases Control and Prevention; Guangdong Provincial Public Health	Guangdong Provincial Center for Diseases Control and Prevention	Min Kang, Jie Wu, Jing Lu, Tao Liu, Baisheng Li, Shujiang Mei, Feng Ruan, Lifeng Lin, Changwen Ke, Haojie Zhong, Yingtao Zhang, Lirong Zou, Xuguang Chen, Qi Zhu, Jianpeng Xiao, Jianxiang Geng, Zhe Liu, Jianxiong Hu, Weilin Zeng, Xing Li, Yuhuang Liao, Xiujuan Tang, Songjian Xiao, Ying Wang, Yingchao Song, Xue Zhuang, Lijun Liang, Guan hao He, Huihong

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									Deng, Tie Song, Jianfeng He, Wenjun Ma
EPI_ISL_406535	BetaCoV/Foshan/20SF210/2020	Asia/China/Guangdong/Foshan	Unknown	H19	2020-01-22	C	Guangdong Provincial Center for Diseases Control and Prevention; Guangdong Provincial Public Health	Guangdong Provincial Center for Diseases Control and Prevention	Min Kang, Jie Wu, Jing Lu, Tao Liu, Baisheng Li, Shujiang Mei, Feng Ruan, Lifeng Lin, Changwen Ke, Haojie Zhong, Yingtao Zhang, Lirong Zou, Xuguang Chen, Qi Zhu, Jianpeng Xiao, Jianxiang Geng, Zhe Liu, Jianxiong Hu, Weilin Zeng, Xing Li, Yuhuang Liao, Xiujuan Tang, Songjian Xiao, Ying Wang, Yingchao Song, Xue Zhuang, Lijun Liang, Guanhao He, Huihong Deng, Tie Song, Jianfeng He, Wenjun Ma
EPI_ISL_406536	BetaCoV/Foshan/20SF211/2020	Asia/China/Guangdong/Foshan	Unknown	H19	2020-01-22	C	Guangdong Provincial Center for Diseases Control and Prevention; Guangdong Provincial Public Health	Guangdong Provincial Center for Diseases Control and Prevention	Min Kang, Jie Wu, Jing Lu, Tao Liu, Baisheng Li, Shujiang Mei, Feng Ruan, Lifeng Lin, Changwen Ke, Haojie Zhong, Yingtao Zhang, Lirong Zou, Xuguang Chen, Qi Zhu, Jianpeng Xiao, Jianxiang Geng, Zhe Liu, Jianxiong Hu, Weilin Zeng, Xing Li, Yuhuang Liao, Xiujuan Tang, Songjian Xiao, Ying Wang, Yingchao Song, Xue Zhuang, Lijun Liang, Guanhao He, Huihong

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									Deng, Tie Song, Jianfeng He, Wenjun Ma
EPI_ISL_408670	BetaCoV/USA/WI1/2020	North America/USA/Wisconsin	Unknown	H19	2020-01-31	C	Wisconsin Department of Health Services	Pathogen Discovery, Respiratory Viruses Branch, Division of Viral Diseases, Centers for Diseases Control and Prevention	Jing Zhang, Anna Uehara, Krista Queen, Yan Li, Ying Tao, Clinton R. Paden, Xiaoyan Lu, Brian Lynch, Senthil Kumar K. Sakthivel, Brett L. Whitaker, Shifao Kamili, Lijuan Wang, Janna' R. Murray, Susan I. Gerber, Stephen Lindstrom, Suxiang Tong
EPI_ISL_403934	BetaCoV/Guangdong/20SF014/2020	Asia/China/Guangdong/Shenzhen	Unknown	H20	2020-01-15	C	Guangdong Provincial Center for Diseases Control and Prevention; Guangdong Provincial Public Health	Department of Microbiology, Guangdong Provincial Center for Diseases Control and Prevention	Min Kang, Jie Wu, Jing Lu, Tao Liu, Baisheng Li, Shujiang Mei, Feng Ruan, Lifeng Lin, Changwen Ke, Haojie Zhong, Yingtao Zhang, Lirong Zou, Xuguang Chen, Qi Zhu, Jianpeng Xiao, Jianxiang Geng, Zhe Liu, Jianxiong Hu, Weilin Zeng, Xing Li, Yuhuang Liao, Xiujuan Tang, Songjian Xiao, Ying Wang, Yingchao Song, Xue Zhuang, Lijun Liang, Guanhao He, Huihong Deng, Tie Song, Jianfeng He, Wenjun Ma
EPI_ISL_403936	BetaCoV/Guangdong/20SF028/2020	Asia/China/Guangdong/Zhuhai	Unknown	H21	2020-01-17	C	Guangdong Provincial Center for Diseases Control and Prevention;	Department of Microbiology, Guangdong Provincial Center for Diseases Control and Prevention	Min Kang, Jie Wu, Jing Lu, Tao Liu, Baisheng Li, Shujiang Mei, Feng Ruan, Lifeng Lin, Changwen Ke, Haojie

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
							Guangdong Provincial Public Health		Zhong, Yingtao Zhang, Lirong Zou, Xuguang Chen, Qi Zhu, Jianpeng Xiao, Jianxiang Geng, Zhe Liu, Jianxiong Hu, Weilin Zeng, Xing Li, Yuhuang Liao, Xiujuan Tang, Songjian Xiao, Ying Wang, Yingchao Song, Xue Zhuang, Lijun Liang, Guanhao He, Huihong Deng, Tie Song, Jianfeng He, Wenjun Ma
EPI_ISL_403937	BetaCoV/Guangdong/20SF040/2020	Asia/China/Guangdong/Zhuhai	Unknown	H21	2020-01-18	C	Guangdong Provincial Center for Diseases Control and Prevention; Guangdong Provincial Public Health	Department of Microbiology, Guangdong Provincial Center for Diseases Control and Prevention	Min Kang, Jie Wu, Jing Lu, Tao Liu, Baisheng Li, Shujiang Mei, Feng Ruan, Lifeng Lin, Changwen Ke, Haojie Zhong, Yingtao Zhang, Lirong Zou, Xuguang Chen, Qi Zhu, Jianpeng Xiao, Jianxiang Geng, Zhe Liu, Jianxiong Hu, Weilin Zeng, Xing Li, Yuhuang Liao, Xiujuan Tang, Songjian Xiao, Ying Wang, Yingchao Song, Xue Zhuang, Lijun Liang, Guanhao He, Huihong Deng, Tie Song, Jianfeng He, Wenjun Ma
EPI_ISL_406531	BetaCoV/Guangdong/20SF174/2020	Asia/China/Guangdong/Zhuhai	Unknown	H21	2020-01-22	C	Guangdong Provincial Center for Diseases Control and Prevention;	Guangdong Provincial Center for Disease Control and Prevention	Min Kang, Jie Wu, Jing Lu, Tao Liu, Baisheng Li, Shujiang Mei, Feng Ruan, Lifeng Lin, Changwen Ke, Haojie

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
							Guangdong Provincial Public Health		Zhong, Yingtao Zhang, Lirong Zou, Xuguang Chen, Qi Zhu, Jianpeng Xiao, Jianxiang Geng, Zhe Liu, Jianxiong Hu, Weilin Zeng, Xing Li, Yuhuang Liao, Xiujuan Tang, Songjian Xiao, Ying Wang, Yingchao Song, Xue Zhuang, Lijun Liang, Guanhao He, Huihong Deng, Tie Song, Jianfeng He, Wenjun Ma
EPI_ISL_406533	BetaCoV/Guangzhou/20SF206/2020	Asia/China/Guangdong/Guangzhou	Unknown	H22	2020-01-22	C	Guangdong Provincial Center for Diseases Control and Prevention; Guangdong Provincial Public Health	Guangdong Provincial Center for Diseases Control and Prevention	Min Kang, Jie Wu, Jing Lu, Tao Liu, Baisheng Li, Shuijiang Mei, Feng Ruan, Lifeng Lin, Changwen Ke, Haojie Zhong, Yingtao Zhang, Lirong Zou, Xuguang Chen, Qi Zhu, Jianpeng Xiao, Jianxiang Geng, Zhe Liu, Jianxiong Hu, Weilin Zeng, Xing Li, Yuhuang Liao, Xiujuan Tang, Songjian Xiao, Ying Wang, Yingchao Song, Xue Zhuang, Lijun Liang, Guanhao He, Huihong Deng, Tie Song, Jianfeng He, Wenjun Ma
EPI_ISL_404227	BetaCoV/Zhejiang/WZ-01/2020	Asia/China/Zhejiang	Unknown	H23	2020-01-16	C	Zhejiang Provincial Center for Disease Control and Prevention	Department of Microbiology, Zhejiang Provincial Center for Disease Control and Prevention	Yin Chen, Yanjun Zhang, Haiyan Mao, Junhang Pan, Xiuyu Lou, Yiyu Lu, Juying Yan, Hanping Zhu, Jian Gao,

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
									Yan Feng, Yi Sun, Hao Yan, Zhen Li, Yisheng Sun, Liming Gong, Qiong Ge, Wen Shi, Xinying Wang, Wenwu Yao, Zhangnv Yang, Fang Xu, Chen Chen, Enfu Chen, Zhen Wang, Zhiping Chen, Jianmin Jiang, Chonggao Hu
EPI_ISL_406031	BetaCoV/Taiwan/2/2020	Asia/China/Taiwan/Kaohsiung	Unknown	H24	2020-01-23	D	Centers for Disease Control, R.O.C. (Taiwan)	Centers for Disease Control, R.O.C. (Taiwan)	Ji-Rong Yang, Yu-Chi Lin, Jung-Jung Mu, Ming-Tsan Liu, Shu-Ying Li
EPI_ISL_407894	BetaCoV/Australia/QLD01/2020	Oceania/Australia/Queensland/Gold Coast	Unknown	H25	2020-01-28	B	Pathology Queensland	Public Health Virology Laboratory	Ben Huang, Alyssa Pyke, Amanda De Jong, Andrew Van Den Hurk, Carmel Taylor, David Warrilow, Doris Genge, Elisabeth Gamez, Glen Hewitson, Ian Maxwell Mackay, Inga Sultana, Jamie McMahon, Jean Barcelon, Judy Northill, Mitchell Finger, Natalie Simpson, Neelima Nair, Peter Burtonclay, Peter Moore, Sarah Wheatley, Sean Moody, Sonja Hall-Mendelin, Timothy Gardam, and Frederick Moore.
EPI_ISL_407896	BetaCoV/Australia/QLD02/2020	Oceania/Australia/Queensland/Gold Coast	Unknown	H26	2020-01-30	B	Pathology Queensland	Public Health Virology Laboratory	Ben Huang, Alyssa Pyke, Amanda De Jong, Andrew Van Den Hurk, Carmel Taylor, David Warrilow, Doris Genge, Elisabeth Gamez, Glen Hewitson, Ian

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
									Maxwell Mackay, Inga Sultana, Jamie McMahon, Jean Barcelon, Judy Northill, Mitchell Finger, Natalie Simpson, Neelima Nair, Peter Burtonclay, Peter Moore, Sarah Wheatley, Sean Moody, Sonja Hall-Mendelin, Timothy Gardam, and Frederick Moore.
EPI_ISL_406844	BetaCoV/Australia/VIC01/2020	Oceania/Australia/Victoria/Clayton	Unknown	H27	2020-01-25	D	Monash Medical Centre	Collaboration between the University of Melbourne at The Peter Doherty Institute for Infection and Immunity, and the Victorian Infectious Disease Reference Laboratory	Caly,L., Seemann,T., Schultz,M., Druce,J. and Taiaroa,G
EPI_ISL_407071	BetaCoV/England/01/2020	Europe/England	Unknown	H28	2020-01-29	B	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Monica Galiano, Shahjahan Miah, Richard Myers, Angie Lackenby, Omolola Akinbami, Tiina Talts, Leena Bhaw, Kirstin Edwards, Jonathan Hubb, Joanna Ellis, Maria Zambon
EPI_ISL_407073	BetaCoV/England/02/2020	Europe/England	Unknown	H29	2020-01-29	B	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Respiratory Virus Unit, Microbiology Services Colindale, Public Health England	Monica Galiano, Shahjahan Miah, Richard Myers, Angie Lackenby, Omolola Akinbami, Tiina Talts, Leena Bhaw, Kirstin Edwards, Jonathan Hubb, Joanna Ellis, Maria Zambon.

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
EPI_ISL_406596	BetaCoV/France/IDF0372/2020	Europe/France/Ile-de-France/Paris	Unknown	H30	2020-01-23	D	Department of Infectious and Tropical Diseases, Bichat Claude Bernard Hospital, Paris	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	Mélanie Albert, Marion Barbet, Sylvie Behillil, Méline Bizard, Angela Brisebarre, Flora Donati, Vincent Enouf, Maud Vanpeene, Sylvie van der Werf, Yazdan Yazdanpanah, Xavier Lescure.
EPI_ISL_406597	BetaCoV/France/IDF0373/2020	Europe/France/Ile-de-France/Paris	Unknown	H30	2020-01-23	D	Department of Infectious and Tropical Diseases, Bichat Claude Bernard Hospital, Paris	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	Mélanie Albert, Marion Barbet, Sylvie Behillil, Méline Bizard, Angela Brisebarre, Flora Donati, Vincent Enouf, Maud Vanpeene, Sylvie van der Werf, Yazdan Yazdanpanah, Xavier Lescure.
EPI_ISL_406862	BetaCoV/Germany/BavPat1/2020	Europe/Germany/Bavaria/Munich	Unknown	H31	2020-01-28	C	Charité Universitätsmedizin Berlin, Institute of Virology; Institut für Mikrobiologie der Bundeswehr, Munich	Charité Universitätsmedizin Berlin, Institute of Virology	Victor M Corman, Julia Schneider, Talitha Veith, Barbara Mühlemann, Markus Antwerpen, Christian Drosten, Roman Wölfel
EPI_ISL_407084	BetaCoV/Japan/AI/I-004/2020	Asia/Japan/Aichi	Unknown	H32	2020-01-25	C	Department of Virology III, National Institute of Infectious Diseases	Pathogen Genomics Center, National Institute of Infectious Diseases	Tsuyoshi Sekizuka, Shutoku Matsuyama, Naganori Nao, Kazuya Shirato, Shinji Watanabe, Makoto Takeda, Makoto Kuroda

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
EPI_ISL_407193	BetaCoV/Korea/KCDC03/2020	Asia/Korea/Gyeonggi-do	Unknown	H33	2020-01-25	B	Korea Centers for Disease Control & Prevention (KCDC) Center for Laboratory Control of Infectious Diseases Division of Viral Diseases	Korea Centers for Disease Control & Prevention (KCDC) Center for Laboratory Control of Infectious Diseases Division of Viral Diseases	Jeong-Min Kim, Yoon-Seok Chung, Namjoo Lee, Mi-Seon Kim, SangHee Woo, Hye-Joon Jo, Sehee Park, Heui Man Kim, Myung Guk Han
EPI_ISL_406973	BetaCoV/Singapore/1/2020	Asia/Singapore	Unknown	H34	2020-01-23	C	Singapore General Hospital	National Public Health Laboratory	Mak, TM; Octavia S; Chavatte JM; Zhou, ZY; Cui, L; Lin, RTP
EPI_ISL_406223	BetaCoV/USA/AZ1/2020	NorthAmerica/USA/Arizona/Phoenix	Unknown	H35	2020-01-22	A	Arizona Department of Health Services	Pathogen Discovery, Respiratory Viruses Branch, Division of Viral Diseases, Centers for Disease Control and Prevention	Ying Tao, Clinton R. Paden, Krista Queen, Anna Uehara, Yan Li, Jing Zhang, Xiaoyan Lu, Brian Lynch, Senthil Kumar K. Sakthivel, Brett L. Whitaker, Shifaa Kamili, Lijuan Wang, Janna' R. Murray, Susan I. Gerber, Stephen Lindstrom, Suxiang Tong
EPI_ISL_406034	BetaCoV/USA/CA1/2020	NorthAmerica/USA/California/Los Angeles	Unknown	H36	2020-01-23	B	California Department of Public Health	Pathogen Discovery, Respiratory Viruses Branch, Division of Viral Diseases, Centers for Diseases Control and Prevention	Anna Uehara, Krista Queen, Ying Tao, Yan Li, Clinton R. Paden, Jing Zhang, Xiaoyan Lu, Brian Lynch, Senthil Kumar K. Sakthivel, Brett L. Whitaker, Shifaa Kamili, Lijuan Wang, Janna' R. Murray, Susan I. Gerber, Stephen Lindstrom, Suxiang Tong

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
EPI_ISL_406036	BetaCoV/USA/CA2/2020	NorthAmerica/USA/California/Orange County	Unknown	H37	2020-01-22	D	California Department of Public Health	Pathogen Discovery, Respiratory Viruses Branch, Division of Viral Diseases, Centers for Diseases Control and Prevention	Anna Uehara, Krista Queen, Ying Tao, Yan Li, Clinton R. Paden, Jing Zhang, Xiaoyan Lu, Brian Lynch, Senthil Kumar K. Sakthivel, Brett L. Whitaker, Shifaa Kamili, Lijuan Wang, Janna' R. Murray, Susan I. Gerber, Stephen Lindstrom, Suxiang Tong
EPI_ISL_407214	BetaCoV/USA/WA1-A12/2020	NorthAmerica/USA/Washington	Unknown	H38	2020-01-25	B	WA State Department of Health	Pathogen Discovery, Respiratory Viruses Branch, Division of Viral Diseases, Centers for Diseases Control and Prevention	Krista Queen, Azaibi Tamin, Jennifer Harcourt, Ying Tao, Clinton R. Paden, Jing Zhang, Yan Li, Anna Uehara, Xiaoyan Lu, Shifaa Kamili, Rashi Gautam, Haibin Wang, Janna' R. Murray, Susan I. Gerber, Stephen Lindstrom, Natalie Thornburg, Suxiang Tong
EPI_ISL_407215	BetaCoV/USA/WA1-F6/2020	NorthAmerica/USA/Washington	Unknown	H38	2020-01-25	B	WA State Department of Health	Pathogen Discovery, Respiratory Viruses Branch, Division of Viral Diseases, Centers for Diseases Control and Prevention	Krista Queen, Azaibi Tamin, Jennifer Harcourt, Ying Tao, Clinton R. Paden, Jing Zhang, Yan Li, Anna Uehara, Xiaoyan Lu, Shifaa Kamili, Rashi Gautam, Haibin Wang, Janna' R. Murray, Susan I. Gerber, Stephen Lindstrom, Natalie Thornburg, Suxiang Tong

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
EPI_ISL_404895	BetaCoV/USA/WA1/2020	NorthAmerica/USA/Washington/SnohomishCounty	Unknown	H38	2020-01-19	B	Providence Regional Medical Center	Division of Viral Diseases, Centers for Disease Control and Prevention	Queen,K., Tao,Y., Li,Y., Paden,C.R., Lu,X., Zhang,J., Gerber,S.I., Lindstrom,S., Tong,S.
EPI_ISL_407987	BetaCoV/Singapore/2/2020	Asia/Singapore	Unknown	H39	2020-01-25	C	Singapore General Hospital	Programme in Emerging Infectious Diseases, Duke-NUS Medical School	Danielle E Anderson, Martin Linster, Yan Zhuang, Jayanthi Jayakumar, Kian Sing Chan, Lynette LE Oon, Jenny GH Low, Yvonne CF Su, Linfa Wang, Gavin JD Smith
EPI_ISL_408481	BetaCoV/Chongqing/IVDC-CQ-001/2020	Asia/China/Chongqing	Unknown	H40	2020-01-18	C	National Institute for Viral Disease Control and Prevention, China CDC	National Institute for Viral Disease Control & Prevention, CCDC	Wenjie Tan, Hengqin Wang, Xiang Zhao, Wenling Wang, Peihua Niu, Roujian Lu, Sheng Ye, Baoying Huang, Li Zhao, Fei Ye, Wenbo Xu, George F. Gao, Guizhen Wu
EPI_ISL_407988	BetaCoV/Singapore/3/2020	Asia/Singapore	Unknown	H40	2020-02-01	C	National Centre for Infectious Diseases	Programme in Emerging Infectious Diseases, Duke-NUS Medical School	Danielle E Anderson, Martin Linster, Yan Zhuang, Jayanthi Jayakumar, David CB Lye, Yee Sin Leo, Barnaby E Young, Yvonne CF Su, Linfa Wang, Gavin JD Smith
EPI_ISL_408008	BetaCoV/USA/CA3/2020	NorthAmerica/USA/California	Unknown	H41	2020-01-29	E	California Department of Health	Pathogen Discovery, Respiratory Viruses Branch, Division of Viral Diseases, Centers for Disease Control and Prevention	Krista Queen, Jing Zhang, Yan Li, Ying Tao, Anna Uehara, Clinton Paden, Xiaoyan Lu, Brian Lynch, Senthil Kumar K. Sakthivel, Brett L. Whitaker, Shifaq Kamili, Lijuan Wang, Janna' R.

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
									Murray, Susan I. Gerber, Stephen Lindstrom, Suxiang Tong
EPI_ISL_408009	BetaCoV/USA/CA4/2020	NorthAmerica/USA/California	Unknown	H41	2020-01-29	E	California Department of Health	Pathogen Discovery, Respiratory Viruses Branch, Division of Viral Diseases, Centers for Diseases Control and Prevention	Krista Queen, Jing Zhang, Yan Li, Ying Tao, Anna Uehara, Clinton Paden, Xiaoyan Lu, Brian Lynch, Senthil Kumar K. Sakthivel, Brett L. Whitaker, Shifaq Kamili, Lijuan Wang, Janna' R. Murray, Susan I. Gerber, Stephen Lindstrom, Suxiang Tong
EPI_ISL_408010	BetaCoV/USA/CA5/2020	NorthAmerica/USA/California	Unknown	H42	2020-01-29	C	California Department of Health	Pathogen Discovery, Respiratory Viruses Branch, Division of Viral Diseases, Centers for Diseases Control and Prevention	Ying Tao, Krista Queen, Jing Zhang, Yan Li, Anna Uehara, Clinton Paden, Xiaoyan Lu, Brian Lynch, Senthil Kumar K. Sakthivel, Brett L. Whitaker, Shifaq Kamili, Lijuan Wang, Janna' R. Murray, Susan I. Gerber, Stephen Lindstrom, Suxiang Tong
EPI_ISL_408430	BetaCoV/France/IDF0515/2020	Europe/France/Ile-de-France/Paris	Unknown	H43	2020-01-29	C	Department of Infectious and Tropical Diseases, Bichat Claude Bernard Hospital, Paris	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	Mélanie Albert, Marion Barbet, Sylvie Behillil, Méline Bizard, Angela Brisebarre, Flora Donati, Vincent Enouf, Maud Vanpeene, Sylvie van der Werf, Yazdan Yazdanpanah, Xavier Lescure

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
EPI_ISL_408431	BetaCov/France/IDF0626/2020	Europe/France/Ile-de-France/Paris	Unknown	H44	2020-01-29	C	Sorbonne Université, Inserm et Assistance Publique-Hôpitaux de Paris (Pitié Salpêtrière)	National Reference Center for Viruses of Respiratory Infections, Institut Pasteur, Paris	Mélanie Albert, Marion Barbet, Sylvie Behillil, Méline Bizard, Angela Brisebarre, Flora Donati, Vincent Enouf, Maud Vanpeene, Sylvie van der Werf, Sonia Burrel, Anne-Geneviève Marcelin, Vincent Calvez, David Boutolleau, Elise Klément, Valérie Pourcher, Eric Caumes.
EPI_ISL_408478	BetaCoV/Chongqing/YC01/2020	Asia/China/Chongqing/Yongchuan	Unknown	H45	2020-01-21	B	Yongchuan District Center for Disease Control and Prevention	Chongqing Municipal Center for Disease Control and Prevention	Ye Sheng, Tang Yun, Ling Hua, Yu zhen, Chen Shuang, Tan ZhangPing, Su Kun, Li Qing, Tang Wenge, Rong Rong
EPI_ISL_408486	BetaCoV/Jiangxi/IVDC-JX-002/2020	Asia/China/Jiangxi/Pingxiang	Unknown	H46	2020-01-11	C	National Institute for Viral Disease Control and Prevention, China CDC	National Institute for Viral Disease Control & Prevention, CCDC	Wenjie Tan, Yong Shi, Wenling Wang, Peihua Niu, Roujian Lu, Jianxiong Li, Xiang Zhao, Baoying Huang, Li Zhao, Fei Ye, Wenbo Xu, George F. Gao, Guizhen Wu
EPI_ISL_408482	BetaCoV/Shandong/IVDC-SD-001/2020	Asia/China/Shandong/Qingdao	Unknown	H47	2020-01-19	C	National Institute for Viral Disease Control and Prevention, China CDC	National Institute for Viral Disease Control & Prevention, CCDC	Wenjie Tan, Zhaoguo Wang, Xiang Zhao, Wenling Wang, Peihua Niu, Roujian Lu, Ti Liu, Baoying Huang, Li Zhao, Fei Ye, Wenbo Xu, George F. Gao, Guizhen Wu

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
EPI_ISL_408484	BetaCoV/Sichuan/IVDC-SC-001/2020	Asia/China/Sichuan/Chengdu	Unknown	H48	2020-01-15	B	National Institute for Viral Disease Control and Prevention, China CDC	National Institute for Viral Disease Control & Prevention, CCDC	Wenjie Tan, Jianan Xu, Wenling Wang, Peihua Niu, Roujian Lu, Huiping Yang, Xiang Zhao, Baoying Huang, Li Zhao, Fei Ye, Wenbo Xu, George F. Gao, Guizhen Wu
EPI_ISL_408515	BetaCoV/Wuhan/IVDC-HB-envF13-21/2020	Asia/China/Hubei/Wuhan	Unknown	H49	2020-01-01	C	Institute of Viral Disease Control and Prevention, China CDC	Institute of Viral Disease Control and Prevention, China CDC	William J. Liu, Peipei Liu, Xiang Zhao, Peihua Niu, Yingze Zhao, Wenwen Lei, Ziqian Xu, Shumei Zou, Wei Zhen, Beiwei Ye, Mengjie Yang, Weifeng Shi, Roujian Lu, Wenjie Tan, Zhixiao Chen, Yuchao Wu, Juan Song, Weimin Zhou, Dayan Wang, Jun Han, Wenbo Xu, George F. Gao, Guizhen Wu
EPI_ISL_408480	BetaCoV/Yunnan/IVDC-YN-003/2020	Asia/China/Yunnan/Kunming	Unknown	H50	2020-01-17	B	National Institute for Viral Disease Control and Prevention, China CDC	National Institute for Viral Disease Control & Prevention, CCDC	Wenjie Tan, Xiaoqing Fu, Xiang Zhao, Wenling Wang, Peihua Niu, Roujian Lu, Yanhong Sun, Baoying Huang, Li Zhao, Fei Ye, Wenbo Xu, George F. Gao, Guizhen Wu
EPI_ISL_408669	BetaCoV/Japan/KY-V-029/2020	Asia/Japan/Kyoto	Unknown	H51	2020-01-29	C	Dept. of Virology III, National Institute of Infectious Diseases	Pathogen Genomics Center, National Institute of Infectious Diseases	Tsuyoshi Sekizuka, Shutoku Matsuyama, Naganori Nao, Kazuya Shirato, Makoto Takeda, Makoto Kuroda

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
EPI_ISL_408665	BetaCoV/Japan/TY-WK-012/2020	Asia/Japan/Tokyo	Unknown	H52	2020-01-29	A	Dept. of Virology III, National Institute of Infectious Diseases	Pathogen Genomics Center, National Institute of Infectious Diseases	Tsuyoshi Sekizuka, Shutoku Matsuyama, Naganori Nao, Kazuya Shirato, Makoto Takeda, Makoto Kuroda
EPI_ISL_408666	BetaCoV/Japan/TY-WK-501/2020	Asia/Japan/Tokyo	Unknown	H53	2020-01-31	A	Dept. of Virology III, National Institute of Infectious Diseases	Pathogen Genomics Center, National Institute of Infectious Diseases	Tsuyoshi Sekizuka, Shutoku Matsuyama, Naganori Nao, Kazuya Shirato, Makoto Takeda, Makoto Kuroda
EPI_ISL_408667	BetaCoV/Japan/TY-WK-521/2020	Asia/Japan/Tokyo	Unknown	H53	2020-01-31	A	Dept. of Virology III, National Institute of Infectious Diseases	Pathogen Genomics Center, National Institute of Infectious Diseases	Tsuyoshi Sekizuka, Shutoku Matsuyama, Naganori Nao, Kazuya Shirato, Makoto Takeda, Makoto Kuroda
EPI_ISL_408668	BetaCoV/Vietnam/VR03-38142/2020	Asia/Vietnam/Thanh Hoa	Unknown	H54	2020-01-24	B	National Influenza Center - National Institute of Hygiene and Epidemiology (NIHE)	National Influenza Center - National Institute of Hygiene and Epidemiology (NIHE)	Ung Thi Hong Trang, Hoang Vu Mai Phuong, Nguyen Le Khanh Hang, Nguyen Vu Son, Le Thi Thanh, Vuong Duc Cuong, Nguyen Phuong Anh, Pham Thi Hien, Tran Thu Huong, Le Thi Quynh Mai,
EPI_ISL_408976	BetaCoV/Sydney/2/2020	Oceania/Australia/New South Wales/Sydney	Unknown	H55	2020-01-22	C	Centre for Infectious Diseases and Microbiology Laboratory Services	NSW Health Pathology - Institute of Clinical Pathology and Medical Research; Westmead Hospital; University of Sydney	Rockett R, Sadsad R, Eden J-S, Carter I, Rahman H, Holmes EC, O'Sullivan MV, Sintchenko V, Chen SC, Maddocks S, Kok J and Dwyer DE for the 2019-nCoV Study Group*

Accession ID	Virus name	Location	Hua Nan Market	Haplotype	Collection date	Haplotype group	Originating lab	Submitting lab	Authors
EPI_ISL_408977	BetaCoV/Sydney/3/2020	Oceania/Australia/New South Wales/Sydney	Unknown	H56	2020-01-25	D	Serology, Virology and OTDS Laboratories (SAViD), NSW Health Pathology Randwick	NSW Health Pathology - Institute of Clinical Pathology and Medical Research; Centre for Infectious Diseases and Microbiology Laboratory Services; Westmead Hospital; University of Sydney	Eden J-S, Carter I, Rahman H, Rawlinson W, Holmes EC, Rockett R, O'Sullivan MV, Sintchenko V, Chen SC, Maddocks S, Kok J and Dwyer DE for the 2019-nCoV Study Group*
EPI_ISL_409067	BetaCoV/USA/MA1/2020	North America/USA/Massachusetts	Unknown	H57	2020-01-29	B	Massachusetts Department of Public Health	Pathogen Discovery, Respiratory Viruses Branch, Division of Viral Diseases, Centers for Diseases Control and Prevention	Clinton R. Paden, Jing Zhang, Krista Queen, Yan Li, Ying Tao, Anna Uehara, Xiaoyan Lu, Brian Lynch, Senthil Kumar K. Sakthivel, Brett L. Whitaker, Shifaa Kamili, Lijuan Wang, Janna' R. Murray, Susan I. Gerber, Stephen Lindstrom, Suxiang Tong
EPI_ISL_410045	BetaCoV/USA/IL2/2020	North America/USA/Illinois	Unknown	H58	2020-01-28	E	IL Department of Public Health Chicago Laboratory	Pathogen Discovery, Respiratory Viruses Branch, Division of Viral Diseases, Centers for Diseases Control and Prevention	Yan Li, Jing Zhang, Krista Queen, Ying Tao, Anna Uehara, Clinton R. Paden, Xiaoyan Lu, Brian Lynch, Senthil Kumar K. Sakthivel, Brett L. Whitaker, Shifaa Kamili, Lijuan Wang, Janna' R. Murray, Susan I. Gerber, Stephen Lindstrom, Suxiang Tong
EPI_ISL_402131	BetaCoV/bat/Yunnan/RaTG13/2013	Asia/China/Yunnan/Pu'er	Unknown	N/A	2013-07-24	outgroup	Wuhan Institute of Virology, Chinese Academy of Sciences	Wuhan Institute of Virology, Chinese Academy of Sciences	Yan Zhu, Ping Yu, Bei Li, Ben Hu, Hao-Rui Si, Xing-Lou Yang, Peng Zhou, Zheng-Li Shi

Table S2. Haplotype sequences of substitution sites, with frequency of each haplotype and variable positions of the alignment length 29,910.

Haplotype	Frequency	497	591	621	716	1197	1350	1404	1555	1655	1919	2098	2176	2609	3044	3184	3525	3785	3799	3808	4409	4651	4663	4735	4736	4746	5069	5091	5471	6315	6793	6841	6845	6853
H1	19	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H2	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H3	4	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H4	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H5	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	G	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H6	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H7	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H8	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H9	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H10	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H11	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H12	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H13	5	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H14	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H15	1	T	C	G	G	C	C	G	G	T	C	C	C	C	C	C	G	A	C	C	T	G	C	T	A	C	G	A	C	G	G	G	G	T
H16	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H17	1	T	C	G	A	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	C
H18	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H19	3	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H20	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H21	3	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H22	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H23	1	T	T	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H24	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T

Haplotype	Frequency	497	591	621	716	1197	1350	1404	1555	1655	1919	2098	2176	2669	3044	3184	3525	3785	3799	3808	4409	4651	4663	4735	4736	4746	5069	5091	5471	6315	6793	6841	6845	6853
H25	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H26	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H27	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H28	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H29	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H30	2	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H31	1	T	C	G	G	C	C	G	G	C	C	C	T	C	T	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H32	1	T	C	G	G	C	C	G	G	C	T	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H33	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	C	A	G	G	T	T	T	A	T	A	C	T	A	T
H34	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H35	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H36	1	T	C	G	G	C	C	G	A	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H37	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H38	3	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H39	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H40	2	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H41	2	T	C	A	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	G	T	A	C	T	A	T
H42	1	T	C	G	G	C	C	G	G	C	C	T	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H43	1	T	C	G	G	T	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H44	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H45	1	T	C	G	G	C	T	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H46	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H47	1	T	C	G	G	C	C	A	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H48	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H49	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H50	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T

Haplotype	Frequency	497	591	621	716	1197	1350	1404	1555	1655	1919	2098	2176	2669	3044	3184	3525	3785	3799	3808	4409	4651	4663	4735	4736	4746	5069	5091	5471	6315	6793	6841	6845	6853
H51	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H52	1	T	C	G	G	C	C	G	G	C	C	C	T	T	C	C	G	A	T	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H53	2	T	C	G	G	C	C	G	G	C	C	C	T	T	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H54	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H55	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H56	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H57	1	A	C	G	G	C	C	G	G	C	C	C	T	C	C	T	G	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
H58	1	T	C	G	G	C	C	G	G	C	C	C	T	C	C	C	T	A	C	A	T	A	G	G	T	T	G	A	T	A	C	T	A	T
bat-RaTG13	1	T	C	G	G	C	C	G	G	C	C	C	C	C	T	C	G	A	C	A	T	A	G	G	T	T	T	A	T	A	C	T	A	T

Haplotype	Frequency	6975	7003	7023	7306	7873	8008	8098	8281	8334	8395	8464	8789	8994	9445	9541	9568	10796	11090	11564	11714	11771	12357	12604	15331	15614	15643	16195	17007	17380	17430	18067	18495	18519
H1	19	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H2	1	A	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	A	A	T	C	T	T	G	C	C	A	C	T	C
H3	4	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H4	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H5	1	C	T	G	C	G	A	T	G	C	G	T	C	A	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H6	1	C	C	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H7	1	C	T	G	C	T	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H8	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H9	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H10	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H11	1	C	T	A	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H12	1	C	T	G	C	G	C	T	G	C	A	T	C	T	C	T	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H13	5	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H14	1	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	T	C	G	G	A	T	A	T	C	C	T	G	C	C	A	C	T	C

Haplotype	Frequency	6975	7003	7023	7306	7873	8008	8098	8281	8334	8395	8464	8789	8994	9445	9541	9568	10796	11090	11564	11714	11771	12357	12604	15331	15614	15643	16195	17007	17380	17430	18067	18495	18519
H15	1	C	T	G	C	G	A	A	G	C	A	C	C	T	C	C	C	C	G	G	A	T	A	A	C	T	A	G	C	C	A	C	T	C
H16	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H17	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	G	T	A	T	C	T	T	G	C	C	A	C	T	C
H18	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H19	3	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	T	A	C	T	C
H20	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H21	3	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H22	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	T	T	T	G	C	C	A	C	T	C
H23	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H24	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	T	C	C	A	C	T	C
H25	1	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H26	1	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H27	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H28	1	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	C	C
H29	1	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	C	C
H30	2	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H31	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H32	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	T
H33	1	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H34	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H35	1	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	T	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H36	1	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H37	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	T	C	A	C	T	C
H38	3	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	T	T	C
H39	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C

Haplotype	Frequency	6975	7003	7023	7306	7873	8008	8098	8281	8334	8395	8464	8789	8994	9445	9541	9568	10796	11090	11564	11714	11771	12357	12604	15331	15614	15643	16195	17007	17380	17430	18067	18495	18519
H40	2	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	T	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H41	2	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H42	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H43	1	C	T	G	C	G	A	T	G	C	A	T	C	T	T	C	C	C	T	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H44	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H45	1	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	T	T	C
H46	1	C	T	G	C	G	A	T	A	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H47	1	C	T	G	T	G	A	T	G	C	A	T	C	T	C	C	C	T	T	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H48	1	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H49	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	C	T	C	T	T	G	C	C	A	C	T	C
H50	1	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	T	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H51	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	T	A	T	A	T	T	T	T	G	C	C	A	C	T	C
H52	1	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H53	2	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H54	1	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H55	1	C	T	G	C	G	A	T	G	T	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H56	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H57	1	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	A	C	T	C
H58	1	C	T	G	C	G	A	T	G	C	A	T	C	T	C	C	C	C	G	G	A	T	A	T	C	T	T	G	C	C	G	C	T	C
bat-RaTG13	1	C	T	G	C	G	A	T	G	C	A	T	T	T	C	C	C	C	G	G	G	T	A	T	C	T	T	G	C	T	A	T	T	C

Haplotype	Frequency	19072	19197	19276	19966	20332	20677	20686	21144	21323	21663	21714	22310	22629	22659	22668	23410	23576	23612	24041	24332	24954	24997	25067	25160	25354	25594	25652	25817	25971	26115	26148	26151	26736
H1	19	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H2	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T

Haplotype	Frequency	19072	19197	19276	19966	20332	20677	20686	21144	21323	21663	21714	22310	22629	22659	22668	23410	23576	23612	24041	24332	24954	24997	25067	25160	25354	25594	25652	25817	25971	26115	26148	26151	26736
H3	4	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H4	1	T	T	C	A	T	G	G	A	G	A	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H5	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H6	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H7	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H8	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H9	1	T	T	C	A	T	A	A	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H10	1	T	T	C	A	T	G	G	A	A	T	C	T	A	G	G	A	T	T	C	G	G	C	A	C	A	C	T	C	A	A	A	G	T
H11	1	T	T	C	A	T	G	G	G	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H12	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H13	5	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H14	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H15	1	T	T	T	A	A	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	C	C	A	C	G	C	T	C	A	T	T	G	T
H16	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H17	1	T	T	C	C	T	G	G	A	G	T	C	T	G	T	G	A	C	T	C	A	G	C	A	C	A	C	C	C	A	A	A	G	T
H18	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H19	3	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H20	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	C	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H21	3	T	T	C	A	T	G	G	A	G	T	T	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H22	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H23	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H24	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	G	A	A	T	T
H25	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H26	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	T	A	C	A	T	T	C	A	A	A	G	T
H27	1	C	T	C	A	T	G	G	A	G	T	C	G	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	T	T

Haplotype	Frequency	19072	19197	19276	19966	20332	20677	20686	21144	21323	21663	21714	22310	22629	22659	22668	23410	23576	23612	24041	24332	24954	24997	25067	25160	25354	25594	25652	25817	25971	26115	26148	26151	26736
H28	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	G	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H29	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	G	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H30	2	T	T	C	A	T	G	G	A	G	T	C	T	A	G	T	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	T	T
H31	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	G	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H32	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H33	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H34	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	G	C	A	C	T	C	A	A	A	G	T
H35	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H36	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	T	A	G	C	A	C	A	C	T	C	A	A	A	G	C
H37	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	T	T
H38	3	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H39	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H40	2	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H41	2	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H42	1	T	T	C	A	T	G	G	A	G	T	T	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H43	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H44	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	T	A	C	T	C	A	A	A	G	T
H45	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H46	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H47	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H48	1	T	A	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	T	A	G	C	A	C	A	C	T	C	A	A	A	G	C
H49	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H50	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H51	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	G	A	A	A	G	T
H52	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T

Haplotype	Frequency	19072	19197	19276	19966	20332	20677	20686	21144	21323	21663	21714	22310	22629	22659	22668	23410	23576	23612	24041	24332	24954	24997	25067	25160	25354	25594	25652	25817	25971	26115	26148	26151	26736
H53	2	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H54	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	T	A	G	C	A	C	A	C	T	C	A	A	A	G	C
H55	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	G	T
H56	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	C	A	G	C	A	C	A	C	T	C	A	A	A	T	T
H57	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	T	A	G	C	A	C	A	C	T	C	A	A	A	G	C
H58	1	T	T	C	A	T	G	G	A	G	T	C	T	A	G	G	A	T	T	T	A	G	C	A	C	A	C	T	C	A	A	A	G	T
bat-RaTG13	1	T	T	C	A	T	G	G	A	G	T	C	C	A	G	G	A	A	N	T	A	G	C	A	C	A	T	C	C	A	A	A	G	T

Haplotype	Frequency	26762	26766	27154	27500	27584	27619	28084	28151	28260	28298	28695	28723	28799	28861	28885	29026	29102	29207	29310	29456	29603
H1	19	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H2	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H3	4	G	A	G	C	C	C	G	C	C	C	T	C	A	C	G	A	C	C	C	G	A
H4	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H5	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H6	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H7	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H8	1	G	A	G	T	C	C	G	T	T	C	T	C	A	C	G	A	C	C	C	G	A
H9	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H10	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H11	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H12	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H13	5	G	A	G	C	C	C	G	C	C	C	T	C	A	C	G	A	T	C	C	G	A
H14	1	G	A	G	C	C	C	G	C	C	C	T	C	A	C	G	A	T	C	C	G	A
H15	1	C	T	G	C	C	C	G	C	C	C	T	C	A	C	G	A	T	C	C	G	A

Haplotype	Frequency	26762	26766	27154	27500	27584	27619	28084	28151	28260	28298	28695	28723	28799	28861	28885	29026	29102	29207	29310	29456	29603
H16	1	G	A	G	C	T	C	G	T	C	C	T	C	A	T	G	A	C	C	C	G	A
H17	1	G	A	G	C	C	C	G	T	C	C	T	T	A	C	G	A	C	C	C	G	A
H18	1	G	A	G	C	C	C	G	T	C	T	T	C	A	T	G	A	C	C	C	G	A
H19	3	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H20	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H21	3	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H22	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	T	G	A
H23	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H24	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H25	1	G	A	G	C	C	C	G	C	C	C	T	C	A	C	A	A	C	C	C	G	A
H26	1	G	A	G	C	C	C	G	C	C	C	T	C	A	C	A	A	C	C	C	G	A
H27	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H28	1	G	A	G	C	C	C	G	C	C	C	T	C	A	C	G	A	C	C	C	G	A
H29	1	G	A	G	C	C	C	G	C	C	C	T	C	A	C	G	A	C	C	C	G	G
H30	2	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H31	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H32	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H33	1	G	A	G	C	C	C	G	C	C	C	T	C	A	C	G	A	C	C	C	G	A
H34	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H35	1	G	A	G	C	C	C	G	C	C	C	T	C	A	C	G	A	T	C	C	G	A
H36	1	G	A	G	C	C	C	C	C	C	C	T	C	T	C	G	A	C	C	C	G	A
H37	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H38	3	G	A	G	C	C	C	G	C	C	C	T	C	A	C	G	A	C	C	C	G	A
H39	1	G	A	C	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H40	2	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A

Haplotype	Frequency	26762	26766	27154	27500	27584	27619	28084	28151	28260	28298	28695	28723	28799	28861	28885	29026	29102	29207	29310	29456	29603
H41	2	G	A	G	C	C	C	G	T	C	C	T	C	A	T	G	A	C	C	C	G	A
H42	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H43	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H44	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H45	1	G	A	G	C	C	C	G	C	C	C	T	C	A	C	G	A	C	T	C	G	A
H46	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H47	1	G	A	G	C	C	G	G	T	C	C	C	C	A	C	G	A	C	C	C	G	A
H48	1	G	A	G	C	C	C	C	C	C	C	T	C	A	C	G	A	C	C	C	G	A
H49	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	T	C	C	C	G	A
H50	1	G	A	G	C	C	C	G	C	C	C	T	C	A	C	G	A	C	C	C	G	A
H51	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	T	G	A
H52	1	G	A	G	C	C	C	G	C	C	C	T	C	A	C	G	A	T	C	C	G	A
H53	2	G	A	G	C	C	C	G	C	C	C	T	C	A	C	G	A	T	C	C	G	A
H54	1	G	A	G	C	C	C	C	C	C	C	T	C	A	C	G	A	C	C	C	G	A
H55	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	T	A
H56	1	G	A	G	C	C	C	G	T	C	C	T	C	A	C	G	A	C	C	C	G	A
H57	1	G	A	G	C	C	C	C	C	C	C	T	C	A	C	G	A	C	C	C	G	A
H58	1	G	A	G	C	C	C	G	T	C	C	T	C	A	T	G	A	C	C	C	G	A
bat-RaTG13	1	G	A	G	C	C	C	G	C	C	C	T	C	A	C	G	A	C	C	C	G	A

Table S3. Information for 120 substitution sites crossing eight coding sequence regions. AA, amino acid, Ns, non-synonymous; S, synonymous; Tr, transversions; Ts, transitions.

Coding region	Position	Substitution type	Haplotypes	bat-RaTG13	Common base	New base	Substitution	Codon base	bat-RaTG13	Common codon	New codon	bat-RaTG13	Common AA	New AA	Common biochemical properties	New biochemical properties
R CDS	497	Ns	H57	T	T	A	Tr	3	GAT	GAT	GAA	D	D	E	acidic	acidic
R CDS	591	S	H23	C	C	T	Ts	3	GTC	GTC	GTT	V	V	V	nonpolar	nonpolar
R CDS	621	Ns	H41	G	G	A	Ts	1	GTT	GCT	ACT	V	A	T	nonpolar	polar
R CDS	716	S	H17	G	G		Ts	3	GAG	GAG	GAA	V	E	E	acidic	acidic
R CDS	1197	Ns	H43	C	C	T	Ts	1	CCA	CCA	TCA	P	P	S	nonpolar	polar
R CDS	1349	S	H45	C	C	T	Ts	3	TAC	TAC	TAT	Y	Y	Y	polar	polar
R CDS	1404	Ns	H47	G	G	A	Ts	1	GTA	GTA	ATA	V	V	I	nonpolar	nonpolar
R CDS	1555	Ns	H36	G	G	A	Ts	2	AGC	AGC	AAC	S	S	N	polar	polar
R CDS	1655	S	H15	C	C	T	Ts	3	ATC	ATC	ATT	I	I	I	nonpolar	nonpolar
R CDS	1919	S	H32	C	C	T	Ts	3	TCC	TCC	TCT	S	S	S	polar	polar
R CDS	2098	Ns	H42	C	C	T	Ts	2	ACT	ACT	ATT	T	T	I	polar	nonpolar
R CDS	2176	Ns	H15	C	T	C	Ts	2	TTC	TTT	TCT	F	F	S	nonpolar	polar
R CDS	2669	S	H52/H53	C	C	T	Ts	3	TAC	TAC	TAC	Y	Y	Y	polar	polar
R CDS	3044	S	H31	T	C	T	Ts	3	TTT	TTC	TTT	F	F	F	nonpolar	nonpolar
R CDS	3184	Ns	H57	C	C	T	Ts	2	CCT	CCT	CTT	P	P	L	nonpolar	nonpolar
R CDS	3525	Ns	H58	G	G	T	Tr	1	GTT	GTT	TTT	V	V	F	nonpolar	nonpolar
R CDS	3785	S	H5	A	A	G	Ts	3	ACA	ACA	ACG	T	T	T	polar	polar
R CDS	3799	Ns	H52	C	C	T	Ts	2	GCT	GCT	GTT	A	A	V	nonpolar	nonpolar
R CDS	3808	Ns	H15	A	A	C	Tr	2	GAT	GAT	GCT	D	D	A	acidic	nonpolar
R CDS	4409	S	H33	T	T	C	Ts	3	CTT	CTT	CTC	L	L	L	nonpolar	nonpolar
R CDS	4651	Ns	H15	A	A	G	Ts	2	GAA	GAA	GGA	E	E	G	acidic	nonpolar
R CDS	4663	Ns	H15	G	G	C	Tr	2	CGG	CGG	CCG	E	R	P	basic	nonpolar

Coding region	Position	Substitution type	Haplotypes	bat-RaTG13	Common base	New base	Substitution	Codon base	bat-RaTG13	Common codon	New codon	bat-RaTG13	Common AA	New AA	Common biochemical properties	New biochemical properties
R CDS	4735	Ns	H15	GT	GT	TA	Tr	2, 3	GGT	GGT	GTA	G	G	V	nonpolar	nonpolar
R CDS	4746	Ns	H15	T	T	C	Ts	1	TCT	TCT	CCT	S	S	P	polar	nonpolar
R CDS	5069	Ns	H33	T	G	T	Tr	3	TTG	TTG	TTT	L	L	F	nonpolar	nonpolar
R CDS	5091	Ns	H41	A	A	G	Ts	1	ATA	ATA	ATA	I	I	V	nonpolar	nonpolar
R CDS	5471	S	H15	T	T	C	Ts	3	AAT	AGT	AGC	N	S	S	polar	polar
R CDS	6315	Ns	H15	A	A	G	Ts	1	AAC	AGC	GGC	N	S	G	polar	nonpolar
R CDS	6793	Ns	H15	C	C	G	Tr	2	ACT	ACT	AGT	T	T	S	polar	polar
R CDS	6841	Ns	H15	T	T	G	Tr	2	AAT	ATT	AGT	I	I	S	nonpolar	polar
R CDS	6845	S	H15	A	A	G	Ts	3	AAA	AAA	AAG	K	K	K	basic	basic
R CDS	6853	Ns	H17	T	T	C	Ts	2	ATG	ATG	ACG	M	M	T	nonpolar	polar
R CDS	6975	Ns	H2	C	C	A	Tr	1	CTA	CTA	ATA	L	L	I	nonpolar	nonpolar
R CDS	7003	Ns	H6	T	T	C	Ts	2	ATC	ATC	ACC	I	I	T	nonpolar	polar
R CDS	7023	Ns	H11	G	G	A	Ts	1	GGT	GGT	AGT	I	G	S	nonpolar	polar
R CDS	7306	Ns	H46	C	C	T	Ts	2	GCA	GCA	GTA	A	A	I	nonpolar	nonpolar
R CDS	7873	Ns	H7	G	G	T	Tr	2	GGT	GGT	GTT	G	G	V	nonpolar	nonpolar
R CDS	8008	Ns	H12	A	A	C	Ts	2	GAT	GAT	GCT	D	D	A	acidic	nonpolar
R CDS	8098	Ns	H15	T	T	A	Tr	2	CTC	CTC	CAC	L	L	H	nonpolar	basic
R CDS	8281	Ns	H46	G	G	A	Ts	2	TGT	TGT	TGA	C	C	Y	nonpolar	polar
R CDS	8334	Ns	H55	C	C	T	Ts	1	CTT	CTT	TTT	L	L	F	nonpolar	nonpolar
R CDS	8395	Ns	H5	A	A	G	Ts	2	AAT	AAC	AGC	N	N	S	polar	polar
R CDS	8464	S	H15	T	T	C	Ts	3	CGT	CGT	CGC	R	R	R	basic	basic
R CDS	8789	S	H3/H13/H14/ H25/H26/H28 /H29/H33/H3	T	C	T	Ts	3	AGT	AGC	AGT	S	S	S	polar	polar

Coding region	Position	Substitution type	Haplotypes	bat-RaTG13	Common base	New base	Substitution	Codon base	bat-RaTG13	Common codon	New codon	bat-RaTG13	Common AA	New AA	Common biochemical properties	New biochemical properties
			5/H37/H38/H45/H48/H50/H52/H53/H54/H57													
R CDS	8994	Ns	H5	T	T	A	Tr	1	TTT	TTT	ATT	F	F	I	nonpolar	nonpolar
R CDS	9445	Ns	H43	C	C	T	Ts	2	ACA	ACA	ATA	T	T	I	polar	nonpolar
R CDS	9541	Ns	H12	C	C	T	Ts	2	ACT	ACT	ATT	T	T	I	polar	nonpolar
R CDS	9568	Ns	H14	C	C	T	Ts	2	TCA	TCA	TTA	S	S	L	polar	nonpolar
R CDS	10796	S	H47	C	C	T	Ts	3	GAC	GAC	GAT	D	D	D	acidic	acidic
R CDS	11090	Ns	H35/H40/H43/H47/H50	G	G	T	Tr	3	GTG	TTG	TTT	V	L	F	nonpolar	nonpolar
R CDS	11564	Ns	H51	G	G	T	Tr	3	GAG	GAG	GAT	E	E	D	acidic	acidic
R CDS	11714	S	H17	G	A	G	Ts	3	TTG	TTA	TTG	L	L	L	nonpolar	nonpolar
R CDS	11771	Ns	H2	T	T	A	Tr	3	AAT	AAT	AAA	L	N	K	polar	basic
R CDS	12357	Ns	H49	A	A	C	Tr	1	ATG	ATG	CTG	M	M	L	nonpolar	nonpolar
R CDS	12604	Ns	H15	T	T	A	Tr	2	CTT	CTT	CAT	L	L	H	nonpolar	basic
R CDS	15331	S	H22/H51	C	C	T	Ts	3	AAC	AAC	AAT	N	N	N	polar	polar
R CDS	15614	S	H14	T	T	C	Ts	1	TTA	TTA	CTA	L	L	L	nonpolar	nonpolar
R CDS	15643	Ns	H15	T	T	A	Tr	3	TAT	TAT	TAA	Y	Y	*	polar	
R CDS	16195	Ns	H24	G	G	T	Tr	3	TGG	TGG	TGT	W	W	C	nonpolar	nonpolar
R CDS	17007	Ns	H37	C	C	T	Ts	2	ACA	ACA	ATA	T	T	I	polar	nonpolar
R CDS	17380	S	H19	T	C	T	Ts	3	GCT	GCC	GCT	A	A	A	nonpolar	nonpolar
R CDS	17430	Ns	H58	A	A	G	Ts	2	TAT	TAT	TGT	Y	Y	C	polar	nonpolar
R CDS	18067	S	H38/H45	T	C	T	Ts	3	CTT	CTC	CTT	L	L	L	nonpolar	nonpolar

Coding region	Position	Substitution type	Haplotypes	bat-RaTG13	Common base	New base	Substitution	Codon base	bat-RaTG13	Common codon	New codon	bat-RaTG13	Common AA	New AA	Common biochemical properties	New biochemical properties
R CDS	18495	S	H28/H29	T	T	C	Ts	2	ATA	ATA	ACA	I	I	T	nonpolar	nonpolar
R CDS	18519	Ns	H32	C	C	T	Ts	2	CCT	CCT	CTT	P	P	L	nonpolar	nonpolar
R CDS	19072	S	H27	T	T	C	Ts	3	CCT	CCT	CCC	P	P	P	nonpolar	nonpolar
R CDS	19197	Ns	H48	T	T	A	Tr	2	TTT	TTT	TAT	F	F	Y	nonpolar	nonpolar
R CDS	19276	S	H15	C	C	T	Ts	3	AAC	AAC	AAT	N	N	N	polar	polar
R CDS	19966	Ns	H17	A	A	C	Tr	3	GAA	GAA	GAC	E	E	D	acidic	acidic
R CDS	20332	Ns	H15	T	T	A	Tr	2	TTC	TTC	TAC	F	F	Y	nonpolar	polar
R CDS	20677	S	H9	G	G	A	Ts	3	GCG	GCG	GCA	A	A	A	nonpolar	nonpolar
R CDS	20686	S	H9	G	G	A	Ts	3	CCG	CCG	CCA	P	P	P	nonpolar	nonpolar
R CDS	21144	Ns	H11	A	A	G	Ts	2	AAG	AAG	AGG	K	K	R	basic	basic
R CDS	21323	Ns	H10	G	G	A	Ts	2	AGA	AGA	AAA	R	R	K	basic	basic
S CDS	21663	Ns	H4	T	T	A	Tr	1	TCC	TTC	ATC	S	F	I	nonpolar	nonpolar
S CDS	21714	Ns	H21/H42	C	C	T	Ts	1	CAT	CAT	TAT	H	H	Y	basic	polar
S CDS	22310	Ns	H27	C	T	G	Tr	3	AGC	AGT	AGG	S	S	R	polar	basic
S CDS	22629	Ns	H17	A	A	G	Ts	1	AAC	AAC	GAC	N	N	D	polar	acidic
S CDS	22659	Ns	H17	G	G	T	Tr	1	GAT	GAT	TAT	D	D	Y	acidic	polar
S CDS	22668	Ns	H30	G	G	T	Tr	1	GTC	GTC	TTC	V	V	F	nonpolar	nonpolar
S CDS	23410	Ns	H31	A	A	G	Ts	2	GAT	GAT	GGT	D	D	G	acidic	nonpolar
S CDS	23576	S	H17/H20	A	T	C	Ts	3	GGA	GGT	GGC	G	G	G	nonpolar	nonpolar
S CDS	23612	Ns	H28/H29	N	T	G	Tr	3	N	CCT	CCG	N/A	P	P	nonpolar	nonpolar
S CDS	24041	S	H36/H48/H57/H58	T	C	T	Ts	3	AAT	AAC	AAT	N	N	N	polar	polar
S CDS	24332	S	H10	A	A	G	Ts	3	AAA	AAA	AAG	K	K	K	basic	basic
S CDS	24954	Ns	H15	G	G	C	Tr	1	GTA	GTA	CTA	V	V	L	nonpolar	nonpolar

Coding region	Position	Substitution type	Haplotypes	bat-RaTG13	Common base	New base	Substitution	Codon base	bat-RaTG13	Common codon	New codon	bat-RaTG13	Common AA	New AA	Common biochemical properties	New biochemical properties
S CDS	24997	Ns	H26	C	C	T	Ts	2	CCA	CCT	CTT	P	P	L	nonpolar	nonpolar
S CDS	25067	S	H34	A	A	G	Ts	3	TTA	TTA	TTG	L	L	L	nonpolar	nonpolar
S CDS	25160	S	H44	C	C	T	Ts	3	CTC	CTC	CTT	L	L	L	nonpolar	nonpolar
S CDS	25354	Ns	H15	A	A	G	Ts	2	GAG	GAG	GGG	E	E	G	acidic	nonpolar
ORF3	25594	S	H26	T	C	T	Ts	3	CTT	CTC	CTT	L	L	L	nonpolar	nonpolar
ORF3	25652	S	H17	C	T	C	Ts	1	CTG	TTG	CTG	L	L	L	nonpolar	nonpolar
ORF3	25817	Ns	H51	C	C	G	Tr	1	CTT	CTT	GTT	L	L	V	nonpolar	nonpolar
ORF3	25971	Ns	H24	A	A	G	Ts	2	GAA	GAA	GGA	E	E	G	acidic	nonpolar
ORF3	26115	Ns	H15	A	A	T	Tr	2	GAG	GAG	GTG	E	E	V	acidic	nonpolar
ORF3	26148	Ns	H15	A	A	T	Tr	2	GAC	GAC	GTC	D	D	V	acidic	nonpolar
ORF3	26151	Ns	H24/H27/H30/H37/H56	G	G	T	Tr	2	GGT	GGT	GTT	G	G	V	nonpolar	nonpolar
M CDS	26736	S	H36/H48/H54/H57	T	T	C	Ts	3	GCT	GCT	GCC	A	A	A	nonpolar	nonpolar
M CDS	26762	Ns	H15	G	G	C	Tr	2	GGA	GGT	GCT	G	G	A	nonpolar	nonpolar
M CDS	26766	S	H15	A	A	T	Tr	3	GGA	GGA	GGT	G	G	G	nonpolar	nonpolar
M CDS	27154	Ns	H39	G	G	C	Tr	1	GAC	GAC	CAC	D	D	H	acidic	basic
ORF7	27500	Ns	H9	C	C	T	Ts	1	CCT	CCT	TCT	P	P	S	nonpolar	polar
ORF7	27584	Ns	H16	C	C	T	Ts	1	CAA	CAA	TAA	Q	Q	*	polar	
ORF7	27619	Ns	H47	C	C	G	Tr	3	CAC	CAC	CAG	H	H	Q	basic	polar
ORF8	28084	Ns	H36/H48/H54/H57/	G	G	C	Tr	1	GTC	GTC	CTG	V	V	L	nonpolar	nonpolar

Coding region	Position	Substitution type	Haplotypes	bat-RaTG13	Common base	New base	Substitution	Codon base	bat-RaTG13	Common codon	New codon	bat-RaTG13	Common AA	New AA	Common biochemical properties	New biochemical properties
ORF8	28151	Ns	H3/H13/H14/ H15/H25/H26 /H28/H29/H3 3/H35/H36/H 38/H45/H48/ H50/H52/H53 /H54/H57	C	T	C	Ts	2	TCA	TTA	TCA	S	L	S	nonpolar	polar
ORF8	28260	S	H8	C	C	T	Ts	3	TTC	TTC	TTT	F	F	F	nonpolar	nonpolar
N CDS	28298	S	H18	C	C	T	Ts	3	CCC	CCC	CCT	P	P	P	nonpolar	nonpolar
N CDS	28695	S	H47	T	T	C	Ts	1	TTG	TTG	CTG	L	L	L	basic	basic
N CDS	28723	Ns	H17	C	C	T	Ts	2	ACC	ACC	ATC	T	T	I	polar	nonpolar
N CDS	28799	S	H36	A	A	T	Tr	3	GCA	GCA	GCT	A	A	A	nonpolar	nonpolar
N CDS	28861	Ns	H16/H18/H41 /H58	C	C	T	Ts	2	TCA	TCA	TTA	S	S	L	polar	nonpolar
N CDS	28885	Ns	H25/H26	G	G	A	Ts	2	AGT	AGT	AAT	S	S	N	polar	polar
N CDS	29026	Ns	H49	A	A	T	Tr	2	AAA	AAA	ATA	K	K	I	basic	nonpolar
N CDS	29102	S	H13/H14/H15 /H35/H52/H5 3	C	C	T	Ts	3	TTT	TTC	TTT	F	F	F	nonpolar	nonpolar
N CDS	29207	S	H45	C	C	T	Ts	3	CCC	CCC	CCT	P	P	P	nonpolar	nonpolar
N CDS	29310	Ns	H22/H51	C	C	T	Ts	1	CCA	CCA	TCA	P	P	S	nonpolar	polar
N CDS	29456	S	H55	G	G	T	Tr	3	GTG	GTG	GTT	V	V	V	nonpolar	nonpolar

Coding region	Position	Substitution type	Haplotypes	bat-RaTG13	Common base	New base	Substitution	Codon base	bat-RaTG13	Common codon	New codon	bat-RaTG13	Common AA	New AA	Common biochemical properties	New biochemical properties
ORF10	29603	Ns	H34	A	A	G	Ts	3	ATA	ATA	ATG	I	I	M	nonpolar	nonpolar

R CDS	2669	S	H52/H53	C	C	T	Ts	3	TAC	TAC	TAC	Y	Y	Y	polar	polar
R CDS	3044	S	H31	T	C	T	Ts	3	TTT	TTC	TTT	F	F	F	nonpolar	nonpolar
R CDS	3184	Ns	H57	C	C	T	Ts	2	CCT	CCT	CTT	P	P	L	nonpolar	nonpolar
R CDS	3525	Ns	H58	G	G	T	Tr	1	GTT	GTT	TTT	V	V	F	nonpolar	nonpolar
R CDS	3785	S	H5	A	A	G	Ts	3	ACA	ACA	ACG	T	T	T	polar	polar
R CDS	3799	Ns	H52	C	C	T	Ts	2	GCT	GCT	GTT	A	A	V	nonpolar	nonpolar
R CDS	3808	Ns	H15	A	A	C	Tr	2	GAT	GAT	GCT	D	D	A	acidic	nonpolar
R CDS	4409	S	H33	T	T	C	Ts	3	CTT	CTT	CTC	L	L	L	nonpolar	nonpolar
R CDS	4651	Ns	H15	A	A	G	Ts	2	GAA	GAA	GGA	E	E	G	acidic	nonpolar
R CDS	4663	Ns	H15	G	G	C	Tr	2	CGG	CGG	CCG	E	R	P	basic	nonpolar
R CDS	4735	Ns	H15	GT	GT	TA	Tr	2, 3	GGT	GGT	GTA	G	G	V	nonpolar	nonpolar
R CDS	4746	Ns	H15	T	T	C	Ts	1	TCT	TCT	CCT	S	S	P	polar	nonpolar
R CDS	5069	Ns	H33	T	G	T	Tr	3	TTG	TTG	TTT	L	L	F	nonpolar	nonpolar
R CDS	5091	Ns	H41	A	A	G	Ts	1	ATA	ATA	ATA	I	I	V	nonpolar	nonpolar
R CDS	5471	S	H15	T	T	C	Ts	3	AAT	AGT	AGC	N	S	S	polar	polar
R CDS	6315	Ns	H15	A	A	G	Ts	1	AAC	AGC	GGC	N	S	G	polar	nonpolar
R CDS	6793	Ns	H15	C	C	G	Tr	2	ACT	ACT	AGT	T	T	S	polar	polar
R CDS	6841	Ns	H15	T	T	G	Tr	2	AAT	ATT	AGT	I	I	S	nonpolar	polar
R CDS	6845	S	H15	A	A	G	Ts	3	AAA	AAA	AAG	K	K	K	basic	basic
R CDS	6853	Ns	H17	T	T	C	Ts	2	ATG	ATG	ACG	M	M	T	nonpolar	polar
R CDS	6975	Ns	H2	C	C	A	Tr	1	CTA	CTA	ATA	L	L	I	nonpolar	nonpolar
R CDS	7003	Ns	H6	T	T	C	Ts	2	ATC	ATC	ACC	I	I	T	nonpolar	polar

R CDS	7023	Ns	H11	G	G	A	Ts	1	GGT	GGT	AGT	I	G	S	nonpolar	polar
R CDS	7306	Ns	H46	C	C	T	Ts	2	GCA	GCA	GTA	A	A	I	nonpolar	nonpolar
R CDS	7873	Ns	H7	G	G	T	Tr	2	GGT	GGT	GTT	G	G	V	nonpolar	nonpolar
R CDS	8008	Ns	H12	A	A	C	Ts	2	GAT	GAT	GCT	D	D	A	acidic	nonpolar
R CDS	8098	Ns	H15	T	T	A	Tr	2	CTC	CTC	CAC	L	L	H	nonpolar	basic
R CDS	8281	Ns	H46	G	G	A	Ts	2	TGT	TGT	TGA	C	C	Y	nonpolar	polar
R CDS	8334	Ns	H55	C	C	T	Ts	1	CTT	CTT	TTT	L	L	F	nonpolar	nonpolar
R CDS	8395	Ns	H5	A	A	G	Ts	2	AAT	AAC	AGC	N	N	S	polar	polar
R CDS	8464	S	H15	T	T	C	Ts	3	CGT	CGT	CGC	R	R	R	basic	basic
R CDS	8789	S	H3/H13/H14/ H25/H26/H28 /H29/H33/H3 5/H37/H38/H 45/H48/H50/ H52/H53/H54 /H57	T	C	T	Ts	3	AGT	AGC	AGT	S	S	S	polar	polar
R CDS	8994	Ns	H5	T	T	A	Tr	1	TTT	TTT	ATT	F	F	I	nonpolar	nonpolar
R CDS	9445	Ns	H43	C	C	T	Ts	2	ACA	ACA	ATA	T	T	I	polar	nonpolar
R CDS	9541	Ns	H12	C	C	T	Ts	2	ACT	ACT	ATT	T	T	I	polar	nonpolar
R CDS	9568	Ns	H14	C	C	T	Ts	2	TCA	TCA	TTA	S	S	L	polar	nonpolar
R CDS	10796	S	H47	C	C	T	Ts	3	GAC	GAC	GAT	D	D	D	acidic	acidic
R CDS	11090	Ns	H35/H40/H43 /H47/H50	G	G	T	Tr	3	GTG	TTG	TTT	V	L	F	nonpolar	nonpolar
R CDS	11564	Ns	H51	G	G	T	Tr	3	GAG	GAG	GAT	E	E	D	acidic	acidic
R CDS	11714	S	H17	G	A	G	Ts	3	TTG	TTA	TTG	L	L	L	nonpolar	nonpolar
R CDS	11771	Ns	H2	T	T	A	Tr	3	AAT	AAT	AAA	L	N	K	polar	basic
R CDS	12357	Ns	H49	A	A	C	Tr	1	ATG	ATG	CTG	M	M	L	nonpolar	nonpolar

R CDS	12604	Ns	H15	T	T	A	Tr	2	CTT	CTT	CAT	L	L	H	nonpolar	basic
R CDS	15331	S	H22/H51	C	C	T	Ts	3	AAC	AAC	AAT	N	N	N	polar	polar
R CDS	15614	S	H14	T	T	C	Ts	1	TTA	TTA	CTA	L	L	L	nonpolar	nonpolar
R CDS	15643	Ns	H15	T	T	A	Tr	3	TAT	TAT	TAA	Y	Y	*	polar	
R CDS	16195	Ns	H24	G	G	T	Tr	3	TGG	TGG	TGT	W	W	C	nonpolar	nonpolar
R CDS	17007	Ns	H37	C	C	T	Ts	2	ACA	ACA	ATA	T	T	I	polar	nonpolar
R CDS	17380	S	H19	T	C	T	Ts	3	GCT	GCC	GCT	A	A	A	nonpolar	nonpolar
R CDS	17430	Ns	H58	A	A	G	Ts	2	TAT	TAT	TGT	A	A	G	nonpolar	nonpolar
R CDS	18067	S	H38/H45	T	C	T	Ts	3	CTT	CTC	CTT	L	L	L	nonpolar	nonpolar
R CDS	18495	S	H28/H29	T	T	C	Ts	2	ATA	ATA	ACA	I	I	I	nonpolar	nonpolar
R CDS	18519	Ns	H32	C	C	T	Ts	2	CCT	CCT	CTT	P	P	L	nonpolar	nonpolar
R CDS	19072	S	H27	T	T	C	Ts	3	CCT	CCT	CCC	P	P	P	nonpolar	nonpolar
R CDS	19197	Ns	H48	T	T	A	Tr	2	TTT	TTT	TAT	F	F	P	nonpolar	nonpolar
R CDS	19276	S	H15	C	C	T	Ts	3	AAC	AAC	AAT	N	N	N	polar	polar
R CDS	19966	Ns	H17	A	A	C	Tr	3	GAA	GAA	GAC	E	E	D	acidic	acidic
R CDS	20332	Ns	H15	T	T	A	Tr	2	TTC	TTC	TAC	F	F	Y	nonpolar	polar
R CDS	20677	S	H9	G	G	A	Ts	3	GCG	GCG	GCA	A	A	A	nonpolar	nonpolar
R CDS	20686	S	H9	G	G	A	Ts	3	CCG	CCG	CCA	P	P	P	nonpolar	nonpolar
R CDS	21144	Ns	H11	A	A	G	Ts	2	AAG	AAG	AGG	K	K	R	basic	basic
R CDS	21323	Ns	H10	G	G	A	Ts	2	AGA	AGA	AAA	D	D	N	acidic	polar
S CDS	21663	Ns	H4	T	T	A	Tr	1	TCC	TTC	ATC	S	F	I	nonpolar	nonpolar
S CDS	21714	Ns	H21/H42	C	C	T	Ts	1	CAT	CAT	TAT	H	H	Y	basic	polar
S CDS	22310	Ns	H27	C	T	G	Tr	3	AGC	AGT	AGG	S	S	R	polar	basic
S CDS	22629	Ns	H17	A	A	G	Ts	1	AAC	AAC	GAC	N	N	D	polar	acidic
S CDS	22659	Ns	H17	G	G	T	Tr	1	GAT	GAT	TAT	D	D	Y	acidic	polar
S CDS	22668	Ns	H30	G	G	T	Tr	1	GTC	GTC	TTC	V	V	F	nonpolar	nonpolar
S CDS	23410	Ns	H31	A	A	G	Ts	2	GAT	GAT	GGT	D	D	G	acidic	nonpolar

S CDS	23576	S	H17/H20	A	T	C	Ts	3	GGA	GGT	GGC	G	G	G	nonpolar	nonpolar
S CDS	23612	Ns	H28/H29	N	T	G	Tr	3	N	CCT	CCG	N/A	P	P	nonpolar	nonpolar
S CDS	24041	S	H36/H48/H57 /H58	T	C	T	Ts	3	AAT	AAC	AAT	N	N	N	polar	polar
S CDS	24332	S	H10	A	A	G	Ts	3	AAA	AAA	AAG	K	K	K	basic	basic
S CDS	24954	Ns	H15	G	G	C	Tr	1	GTA	GTA	CTA	V	V	L	nonpolar	nonpolar
S CDS	24997	Ns	H26	C	C	T	Ts	2	CCA	TTC	CTT	P	P	L	nonpolar	nonpolar
S CDS	25067	S	H34	A	A	G	Ts	3	TTA	TTA	TTG	L	L	L	nonpolar	nonpolar
S CDS	25160	S	H44	C	C	T	Ts	3	CTC	CTC	CTT	L	L	L	nonpolar	nonpolar
S CDS	25354	Ns	H15	A	A	G	Ts	2	GAG	GAG	GGG	E	E	G	acidic	nonpolar
ORF3	25594	S	H26	T	C	T	Ts	3	CTT	CTC	CTT	L	L	L	nonpolar	nonpolar
ORF3	25652	S	H17	C	T	C	Ts	1	CTG	TTG	CTG	L	L	L	nonpolar	nonpolar
ORF3	25817	Ns	H51	C	C	G	Tr	1	CTT	CTT	GTT	L	L	V	nonpolar	nonpolar
ORF3	25971	Ns	H24	A	A	G	Ts	2	GAA	GAA	GGA	E	E	G	acidic	nonpolar
ORF3	26115	Ns	H15	A	A	T	Tr	2	GAG	GAG	GTG	E	E	V	acidic	nonpolar
ORF3	26148	Ns	H15	A	A	T	Tr	2	GAC	GAC	GTC	D	D	V	acidic	nonpolar
ORF3	26151	Ns	H24/H27/H30 /H37/H56	G	G	T	Tr	2	GGT	GGT	GTT	G	G	V	nonpolar	nonpolar
M CDS	26736	S	H36/H48/H54 /H57	T	T	C	Ts	3	GCT	GCT	GCC	A	A	A	nonpolar	nonpolar
M CDS	26762	Ns	H15	G	G	C	Tr	2	GGA	GGT	GCT	G	G	A	nonpolar	nonpolar
M CDS	26766	S	H15	A	A	T	Tr	3	GGA	GGA	GGT	G	G	G	nonpolar	nonpolar
M CDS	27154	Ns	H39	G	G	C	Tr	1	GAC	GAC	CAC	D	D	H	acidic	basic
ORF7	27500	Ns	H9	C	C	T	Ts	1	CCT	CCT	TCT	P	P	S	nonpolar	polar
ORF7	27584	Ns	H16	C	C	T	Ts	1	CAA	CAA	TAA	Q	Q	*	polar	
ORF7	27619	Ns	H47	C	C	G	Tr	3	CAC	CAC	CAG	H	H	Q	basic	polar

ORF8	28084	Ns	H36/H48/H54/H57/	G	G	C	Tr	1	GTC	GTC	CTG	V	V	L	nonpolar	nonpolar
ORF8	28151	Ns	H3/H13/H14/H15/H25/H26/H28/H29/H33/H35/H36/H38/H45/H48/H50/H52/H53/H54/H57	C	T	C	Ts	2	TCA	TTA	TCA	S	L	S	nonpolar	polar
ORF8	28260	S	H8	C	C	T	Ts	3	TTC	TTC	TTT	F	F	F	nonpolar	nonpolar
N CDS	28298	S	H18	C	C	T	Ts	3	CCC	CCC	CCT	P	P	P	nonpolar	nonpolar
N CDS	28695	S	H47	T	T	C	Ts	1	TTG	TTG	CTG	L	L	L	basic	basic
N CDS	28723	Ns	H17	C	C	T	Ts	2	ACC	ACC	ATC	T	T	I	polar	nonpolar
N CDS	28799	S	H36	A	A	T	Tr	3	GCA	GCA	GCT	A	A	A	nonpolar	nonpolar
N CDS	28861	Ns	H16/H18/H41/H58	C	C	T	Ts	2	TCA	TCA	TTA	S	S	L	polar	nonpolar
N CDS	28885	Ns	H25/H26	G	G	A	Ts	2	AGT	AGT	AAT	S	S	N	polar	polar
N CDS	29026	Ns	H49	A	A	T	Tr	2	AAA	AAA	ATA	A	A	T	nonpolar	polar
N CDS	29102	S	H13/H14/H15/H35/H52/H53	C	C	T	Ts	3	TTT	TTC	TTT	F	F	F	nonpolar	nonpolar
N CDS	29207	S	H45	C	C	T	Ts	3	CCC	CCC	CCT	P	P	P	nonpolar	nonpolar
N CDS	29310	Ns	H22/H51	C	C	T	Ts	1	CCA	CCA	TCA	P	P	S	nonpolar	polar
N CDS	29456	S	H55	G	G	T	Tr	3	GTG	GTG	GTT	V	V	V	nonpolar	nonpolar
ORF10	29603	Ns	H34	A	A	G	Ts	3	ATA	ATA	ATG	I	I	M	nonpolar	nonpolar