

Supplemental Digital Content 1. Detailed information of 73 transmission pairs

No. of pairs	Our approach (True or False)	Phylogenetic analysis (True or False)	No. of sequences in source	No. of sequences in recipient	Sampling Interval between source and recipient	Time Lags Between infection and sampling	Transmission route
1	T	F	11	14	N/A	44days (39-49 days)	Mother to child
2	F	F	6	6	N/A	44days (39-49 days)	Mother to child
3	T	T	11	10	N/A	44days (39-49 days)	Mother to child
4	T	F	13	15	N/A	44days (39-49 days)	Mother to child
5	T	F	6	6	N/A	44days (39-49 days)	Mother to child
6	T	F	13	14	N/A	44days (39-49 days)	Mother to child
7	T	F	11	12	N/A	44days (39-49 days)	Mother to child
8	T	T	8	10	N/A	44days (39-49 days)	Mother to child
9	T	T	12	11	N/A	44days (39-49 days)	Mother to child
10	T	F	6	6	N/A	44days (39-49 days)	Mother to child
11	T	T	15	7	N/A	44days (39-49 days)	Mother to child
12	T	F	12	8	N/A	44days (39-49 days)	Mother to child
13	T	F	11	10	N/A	44days	Mother to

						(39-49 days)	child
14	T	T	15	9	N/A	44days (39-49 days)	Mother to child
15	T	F	12	14	N/A	44days (39-49 days)	Mother to child
16	T	F	6	8	N/A	44days (39-49 days)	Mother to child
17	T	F	8	6	1	N/A	Mother to child
18	T	T	11	10	0	0	Mother to child
19	T	F	11	10	0	0	Mother to child
20	T	F	10	9	0	0	Mother to child
21	T	T	8	9	1	0	Mother to child
22	T	T	11	9	0	0	Mother to child
23	T	F	10	19	0	0	Mother to child
24	T	T	8	8	0	0	Mother to child
25	T	T	11	18	0	0	Mother to child
26	F	F	10	17	0	0	Mother to child
27	T	T	11	9	N/A	6weeks	Mother to child
28	T	T	16	11	N/A	6weeks	Mother to child
29	T	T	12	5	N/A	6weeks	Mother to child
30	T	F	17	11	N/A	6weeks	Mother to child
31	T	F	26	10	N/A	6weeks	Mother to child
32	T	F	12	13	N/A	6weeks	Mother to child
33	T	T	10	5	N/A	N/A	Mother to

							child
34	T	T	14	11	N/A	6weeks	Mother to child
35	F	T	5	21	N/A	6weeks	Mother to child
36	T	T	8	16	N/A	6weeks	Mother to child
37	T	T	18	21	N/A	6weeks	Mother to child
38	T	T	17	16	N/A	6weeks	Mother to child
39	T	F	8	9	0	N/A	Mother to child
40	T	T	8	5	N/A	3month	Mother to child
41	T	F	8	8	0	3month	Mother to child
42	T	T	9	7	0	3month	Mother to child
43	T	T	19	7	0	2month	Mother to child
44	T	T	17	10	0	2month	Mother to child
45	T	F	20	10	0	2month	Mother to child
46	T	T	19	9	0	N/A	Mother to child
47	T	F	18	9	0	N/A	Mother to child
48	T	T	20	10	0	2month	Mother to child
49	T	T	20	9	0	2month	Mother to child
50	T	T	18	10	0	N/A	Mother to child
51	T	F	32	31	0	N/A	Mother to child
52	F	F	27	29	0	N/A	Mother to child
53	T	T	30	29	0	N/A	Mother to child
54	T	T	8	8	0	>2yrs	Heterosexual

55	T	T	8	8	0	>5yrs	Heterosexual
56	T	T	8	8	0	>3yrs	Heterosexual
57	T	T	8	8	0	>4yrs	Heterosexual
58	T	F	8	8	0	>4yrs	Heterosexual
59	T	F	8	8	0	>4yrs	Heterosexual
60	T	F	8	8	0	>3yrs	Heterosexual
61	T	F	8	8	0	>3yrs	Heterosexual
62	T	F	8	8	0	>3yrs	Heterosexual
63	T	F	8	8	0	>7yrs	Heterosexual
64	T	T	8	8	0	>3yrs	Heterosexual
65	T	T	8	8	0	>3yrs	Heterosexual
66	T	F	8	8	0	>3yrs	Heterosexual
67	T	F	20	20	0	>2yrs	Heterosexual
68	T	T	9	6	0	>3yrs	Male sex with male
69	T	T	13	13	0	>8yrs	Male sex with male
70	T	T	10	44	0	>4yrs	Male sex with male
71	T	F	22	11	N/A	N/A	Male sex with male
72	T	F	7	7	0	>12yrs	Male sex with male
73	T	F	23	24	0	>7yrs	Male sex with male

Supplemental Digital Content 2. CM patterns with weighted scores of above 0.20

CM patterns	Weighted scores
DTI*****Q*****	0.2603
DT***C***Q*****	0.2603
DT*****I*Q*****	0.2603
DT*****KQ*****	0.2603
DT*****K*****G	0.2603
DT*****QI*****	0.2603
DT*****Q**N*****	0.2603
DT*****Q***M*****	0.2603
DT*****Q****W****	0.2603
DT*****Q*****Q***	0.2603
DT*****Q*****G	0.2603
DT*****I*****	0.2603
DT*****N*****G	0.2603
DTI***C*****	0.2466
DTI*****K*****	0.2466
NDT*****K*****	0.2466
DTI*****I*****	0.2466
NDT*****I*****	0.2466
DTI*****N*****	0.2466
DTI*****M*****	0.2466
DTI*****W****	0.2466
DTI*****G	0.2466
DT**L****Q*****	0.2466
DT**L*****I*****	0.2466
DT***C**K*****	0.2466
DT***C***I*****	0.2466
DT***C*****N*****	0.2466
DT***C*****M*****	0.2466
DT***C*****W****	0.2466
DT***C*****Q***	0.2466
DT***C*****G	0.2466
DT*****IK*****	0.2466
DT*****I**I*****	0.2466
DT*****I***I*****	0.2466
DT*****I****N*****	0.2466
DT*****I*****M*****	0.2466
DT*****I*****W****	0.2466
DT*****I*****G	0.2466
DT*****K*I*****	0.2466
DT*****K***N*****	0.2466
DT*****K****M*****	0.2466

DT*****K*****W****	0.2466
DT*****Q* *****	0.2466
DT*****Q*****V*	0.2466
DT***** *N*****	0.2466
DT***** **M*****	0.2466
DT***** ***W****	0.2466
DT***** ****Q***	0.2466
DT***** *****G	0.2466
DT*****NM*****	0.2466
DT*****N*W****	0.2466
DT*****MW****	0.2466
DT*****M*Q***	0.2466
DT*****M****G	0.2466
DT*****\WQ***	0.2466
DT*****W***G	0.2466
DT*****Q**G	0.2466
DTI*L *****	0.2329
NDT**L *****	0.2329
DTI***** *****	0.2329
NDT*****Q*****	0.2329
DTI***** *****	0.2329
NDT*****M*****	0.2329
NDT*****W***	0.2329
DTI*****Q***	0.2329
DTI*****V*	0.2329
DT**L*C*****	0.2329
DT**L *** *****	0.2329
DT**L ***K*****	0.2329
DT**L *****N*****	0.2329
DT**L *****M*****	0.2329
DT**L *****W****	0.2329
DT**L *****G	0.2329
DT***C* *****	0.2329
DT***C***** *****	0.2329
DT***C*****V*	0.2329
DT***** *****Q***	0.2329
DT***** *****V*	0.2329
DT*****K** *****	0.2329
DT*****K*****Q***	0.2329
DT*****K*****V*	0.2329
DT***** *****V*	0.2329
DT***** N*****	0.2329
DT***** *M*****	0.2329

DT***** **W****	0.2329
DT***** ***Q***	0.2329
DT***** *****G	0.2329
DT*****N**Q***	0.2329
DT*****N****V*	0.2329
DT*****M***V*	0.2329
DT*****W**V*	0.2329
DT*****Q*V*	0.2329
DT*****VG	0.2329
N*T**L*****N*****	0.2329
N*T****R*K*****	0.2329
N*T****R**Q*****	0.2329
N*T*****Q**N*****	0.2329
T****N*T***** *****	0.2329
F****T****N*****N***	0.2329
NDT *****	0.2192
NDT***C*****	0.2192
NDT***** *****	0.2192
NDT*****Q**	0.2192
DT**L*****Q***	0.2192
DT**L*****V*	0.2192
DT**P****Q*****	0.2192
DT**P***** *****	0.2192
DT***** *****V*	0.2192
N*TI*****N*****	0.2192
N*T**L**R*****	0.2192
N*T***CR*****	0.2192
N*T***C***Q*****	0.2192
N*T****RI*****	0.2192
N*T****R*****N*****	0.2192
N*T****R*****W***	0.2192
N*T****R*****Q**	0.2192
N*T***** *****Q**	0.2192
N*T*****KQ*****	0.2192
N*T*****K***N*****	0.2192
N*T*****G*N*****	0.2192
N*T*****Q****W***	0.2192
N*T*****Q****Q**	0.2192
G*****T****N*****N*	0.2192
K***** *****GG	0.2192
DTI**P*****	0.2055
NDT*****N*****	0.2055
NDT*****V	0.2055

DT*T*****Q*****	0.2055
DT**L***** *****	0.2055
DT***PC*****	0.2055
DT***P** *****	0.2055
DT***P***K*****	0.2055
DT***P***** *****	0.2055
DT***P*****N*****	0.2055
DT***P*****M*****	0.2055
DT***P*****W****	0.2055
DT***P*****Q***	0.2055
DT***P*****G	0.2055
N*TIT*****	0.2055
N*TI*L*****	0.2055
N*TI****R*****	0.2055
N*TI***** *****	0.2055
N*TI*****K*****	0.2055
N*TI*****Q*****	0.2055
N*TI*****W***	0.2055
N*TI*****Q**	0.2055
G*N*T***** *****	0.2055
D*I**P***Q*****	0.2055
D*I***C***Q*****	0.2055
N*T***C*I*****	0.2055
N*T***C**K*****	0.2055
C*T***N*****N*****	0.2055
N*T***C*****N*****	0.2055
N*T***N*****K****	0.2055
N*T***C*****W***	0.2055
N*T***C*****Q**	0.2055
D*I***** *Q*****	0.2055
N*T****R*** *****	0.2055
D*I***** *****V*	0.2055
D*I*****KQ*****	0.2055
N*T***** ****N*****	0.2055
N*T***** *****W***	0.2055
D*I*****QI*****	0.2055
D*I*****Q*I*****	0.2055
D*I*****Q**N*****	0.2055
D*I*****Q***M*****	0.2055
D*I*****Q***W****	0.2055
N*T*****K*****W***	0.2055
D*I*****Q*****Q***	0.2055
N*T*****K*****Q**	0.2055

D* *****Q*****V*	0.2055
D* *****Q*****G	0.2055
G*N***** *Q*****	0.2055
N*T*****C**** **	0.2055
N*T*****R *****	0.2055
N*T*****N*W***	0.2055
N*T*****N**Q**	0.2055
N*T***** *** *	0.2055
N*T*****WQ**	0.2055
D* *****Q*V*	0.2055
N** **P****Q*****	0.2055
Y**T****N*****N*****	0.2055
G**F****T*****N	0.2055
F**T****N*****N****	0.2055
D****PC***Q*****	0.2055
T****N*T****K*****	0.2055
D****P** *Q*****	0.2055
D****P**KQ*****	0.2055
D****P****Q *****	0.2055
D****P****Q* *****	0.2055
D****P****Q**N*****	0.2055
D****P****Q***M*****	0.2055
D****P****Q*****Q***	0.2055
D****P****Q*****V*	0.2055
D****P****Q*****G	0.2055
D*****C* *****G	0.2055
D*****C**KQ*****	0.2055
D*****C***Q *****	0.2055
D*****C***Q* *****	0.2055
D*****C***Q**N*****	0.2055
D*****C***Q***M*****	0.2055
D*****C***Q****W****	0.2055
D*****C***Q*****Q***	0.2055
D*****C***Q*****V*	0.2055
D*****C***Q*****G	0.2055
E*****T****N*****N**	0.2055
T*****T*****R *	0.2055
T***** *****K* ***	0.2055
D***** KQ*****	0.2055
D***** *Q *****	0.2055
D***** *Q* *****	0.2055
D***** *Q**N*****	0.2055
D***** *Q***M*****	0.2055

D*****I*Q***W****	0.2055
D*****I*Q****Q***	0.2055
D*****I*Q*****V*	0.2055
D*****I*Q*****G	0.2055
D*****I*****Q*V*	0.2055
D*****KQI*****	0.2055
D*****KQ*I*****	0.2055
D*****KQ**N*****	0.2055
D*****KQ***M*****	0.2055
D*****KQ****W****	0.2055
D*****KQ*****Q***	0.2055
D*****KQ*****V*	0.2055
D*****KQ*****G	0.2055
K*****K*I*****G	0.2055
D*****QII*****	0.2055
D*****QI*N*****	0.2055
D*****QI**M*****	0.2055
D*****QI****Q***	0.2055
D*****QI*****V*	0.2055
D*****QI*****G	0.2055
D*****Q*IN*****	0.2055
D*****Q*I*M*****	0.2055
D*****Q*I***Q***	0.2055
D*****Q*I****V*	0.2055
D*****Q*I*****G	0.2055
D*****Q**NM*****	0.2055
D*****Q**N*W****	0.2055
D*****Q**N**Q***	0.2055
D*****Q**N****V*	0.2055
D*****Q**N*****G	0.2055
D*****Q***MW****	0.2055
D*****Q***M*Q***	0.2055
D*****Q***M***V*	0.2055
D*****Q***M*****G	0.2055
D*****Q****WQ***	0.2055
D*****Q****W**V*	0.2055
D*****Q****W***G	0.2055
D*****Q*****Q*V*	0.2055
D*****Q*****Q**G	0.2055
D*****Q*****VG	0.2055
T*****RI*Q*****	0.2055
N*****N**I**P	0.2055

(* represents any residues)