

Supplementary Information

Supplementary Figure 1 Phylogeny of HPAI H5 hemagglutinin gene. a, Maximum likelihood tree (n=843). The bootstrap values over 60 are shown. Sequences in this study are highlighted in red. b, Time-scaled phylogeny (n=336). The timescale bar is provided at the bottom. Clade posterior probabilities of nodes is shown as numbers. The 95% highest posterior density (HPD) of time estimates is shown as horizontal bars.

Supplementary Figure 2 Phylogeny of N6 neuraminidase gene. a, Maximum likelihood tree (n= 218). b, Time-scaled tree (n= 171).

Supplementary Figure 3 Phylogeny of PB2 gene. a, Maximum likelihood tree (n= 438). b, Time-scaled tree (n= 168).

Supplementary Figure 4 Phylogeny of PB1 gene. a, Maximum likelihood tree (n= 379). b, Time-scaled tree (n= 186).

Supplementary Figure 5 Phylogeny of PA gene. a, Maximum likelihood tree (n= 378). b, Time-scaled tree (n= 180).

Supplementary Figure 6 Phylogeny of NP gene. a, Maximum likelihood tree (n= 392). b, Time-scaled tree (n= 176).

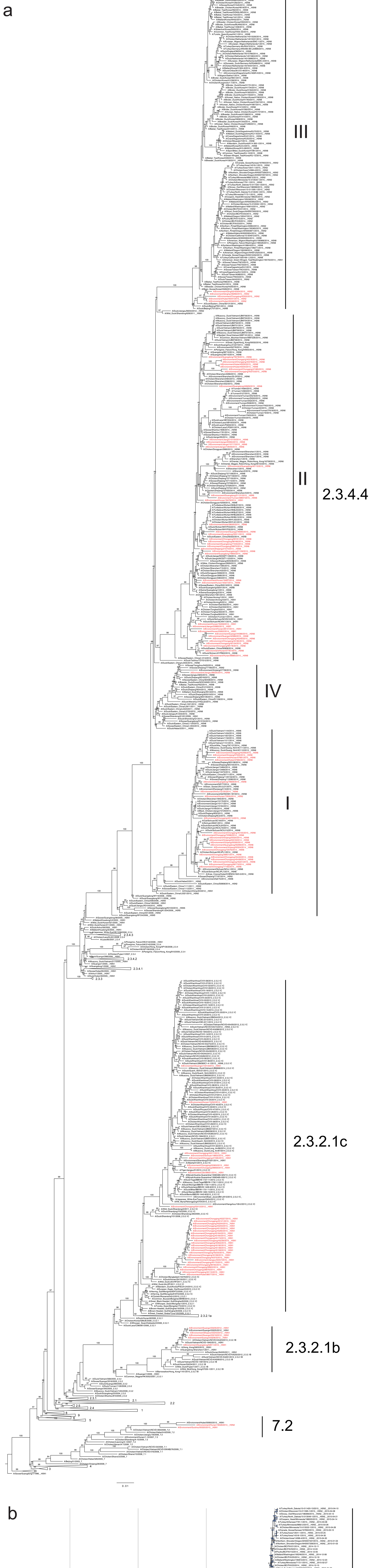
Supplementary Figure 7 Phylogeny of M gene. a, Maximum likelihood tree (n= 341). b, Time-scaled tree (n= 161).

Supplementary Figure 8 Phylogeny of NS gene. a, Maximum likelihood tree (n= 364). b, Time-scaled tree (n= 172).

Supplementary Table 1 Isolates list in this study.

Phylogeny of HPAI H5 haemagglutinin gene

a

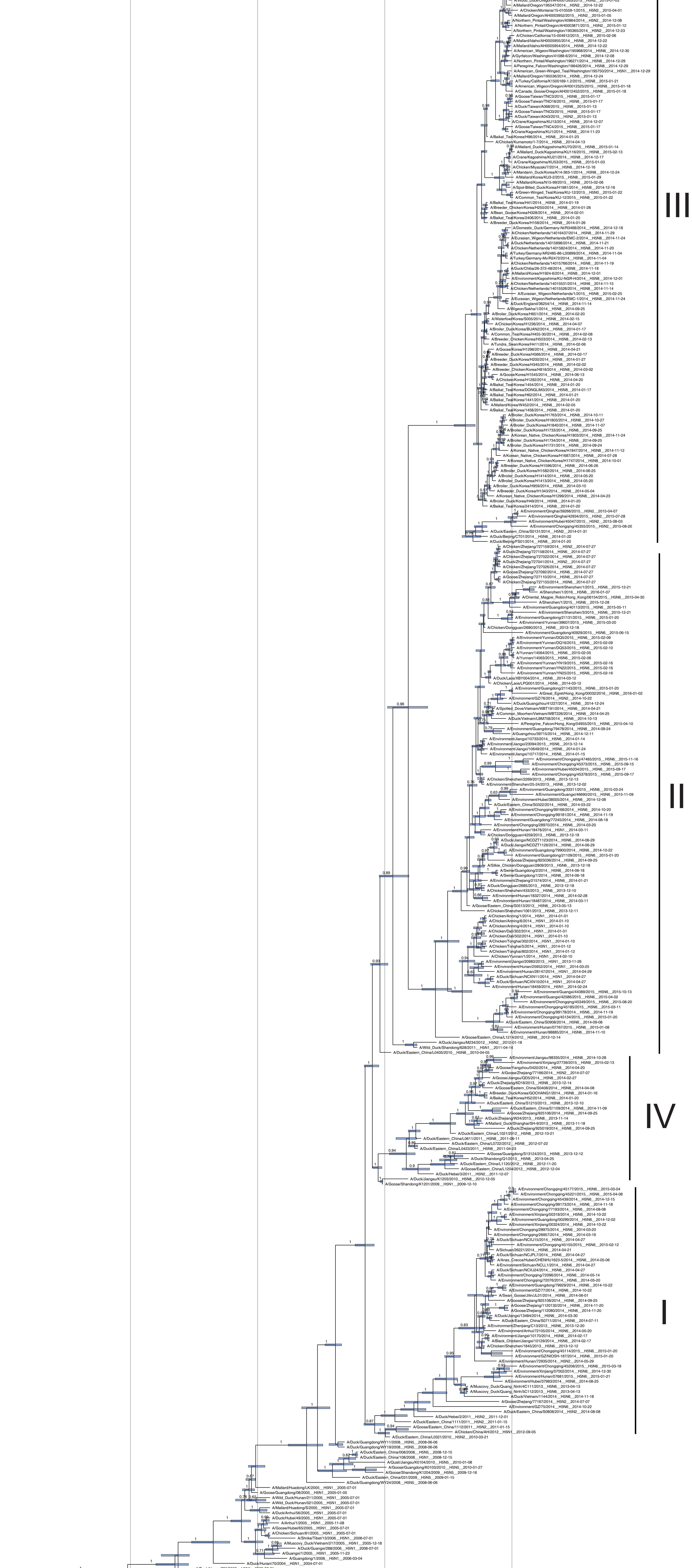


2.3.4.4

2.3.2.1c

2.3.2.1b

7.2



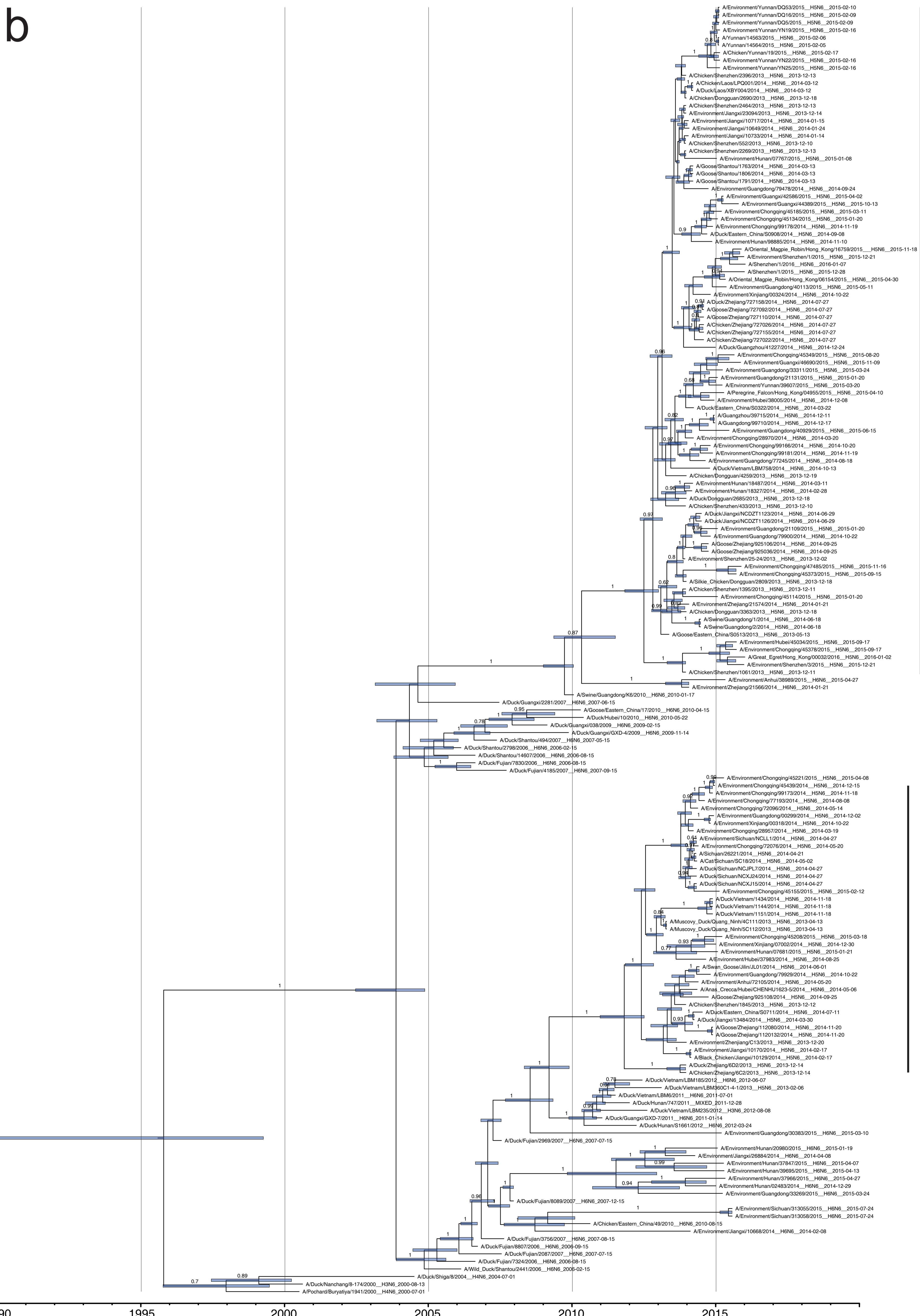
1995 2000 2005 2010 2015

Phylogeny of N6 neuraminidase gene

a

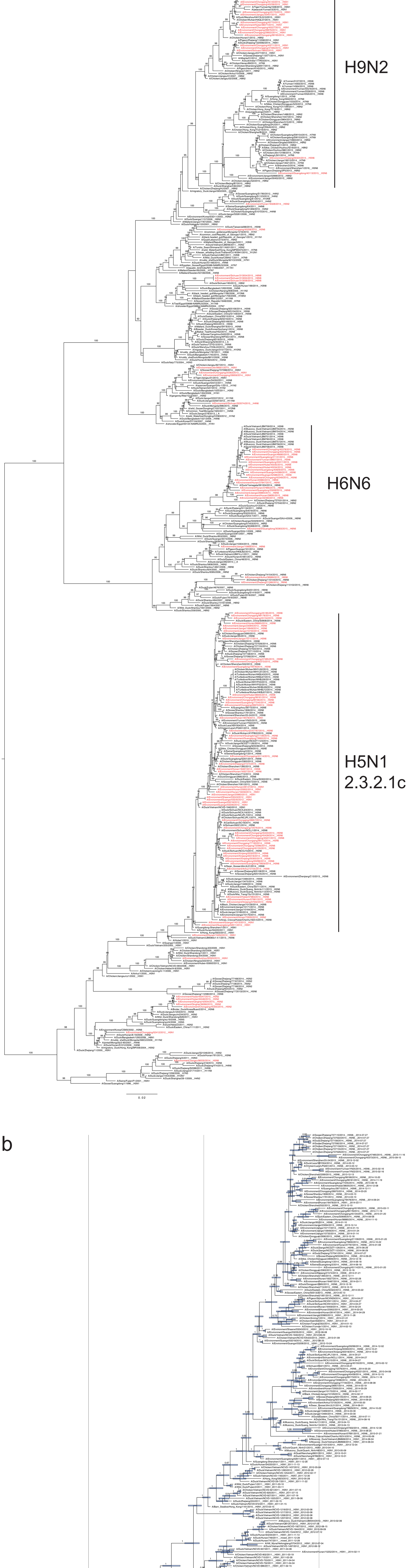


b

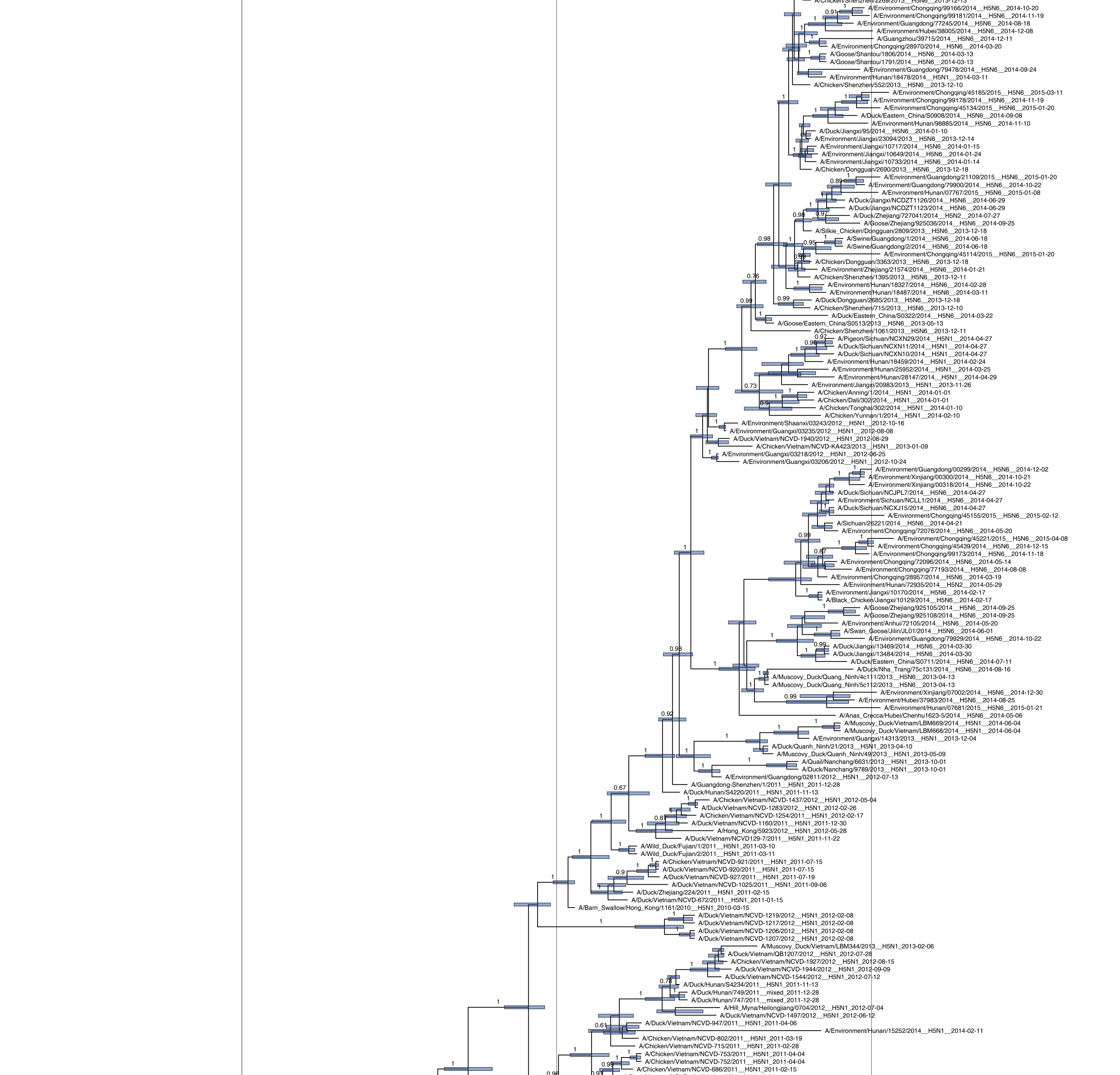


Phylogeny of PB2 gene

a



b



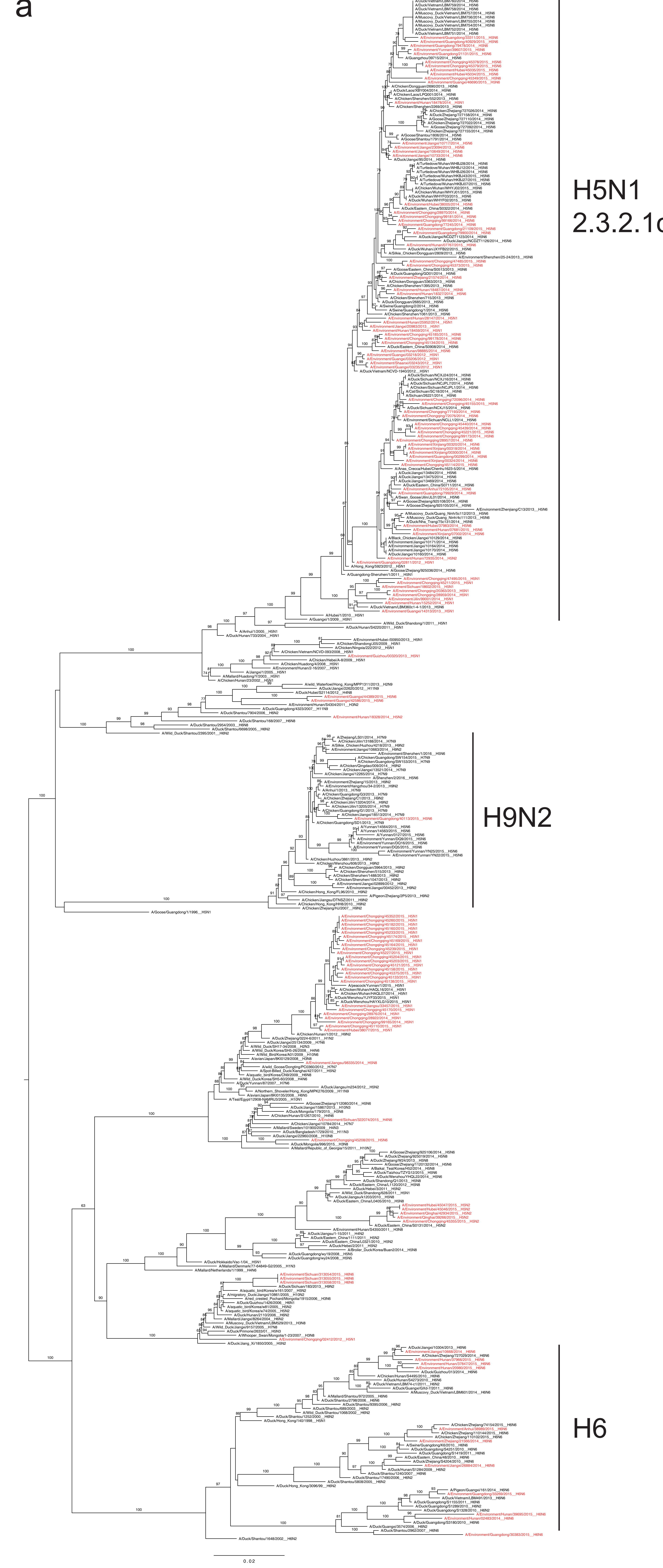
2005

2010

2015

Phylogeny of PB1 gene

a

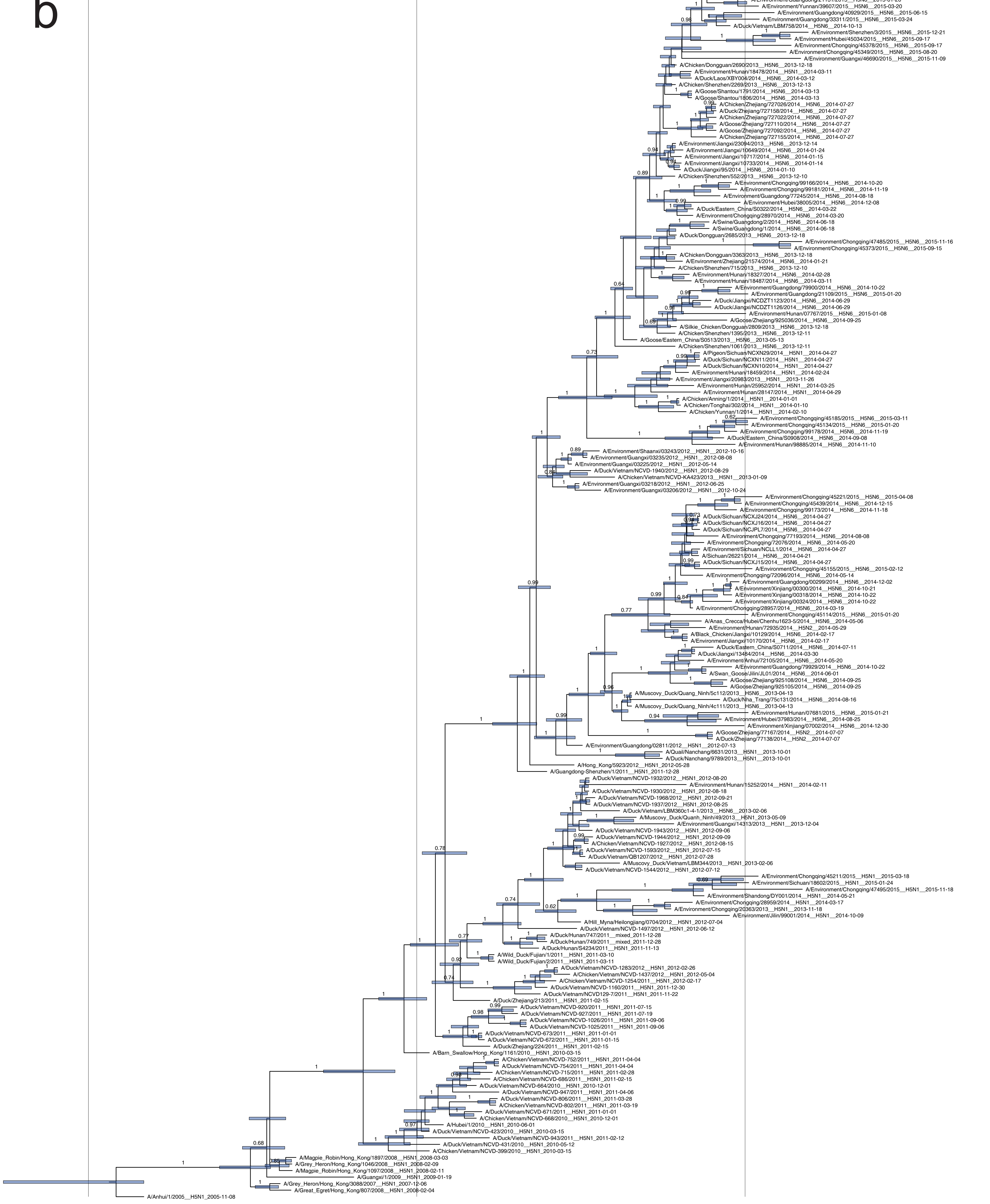


H5N1
2.3.2.1c

H9N2

H6

b



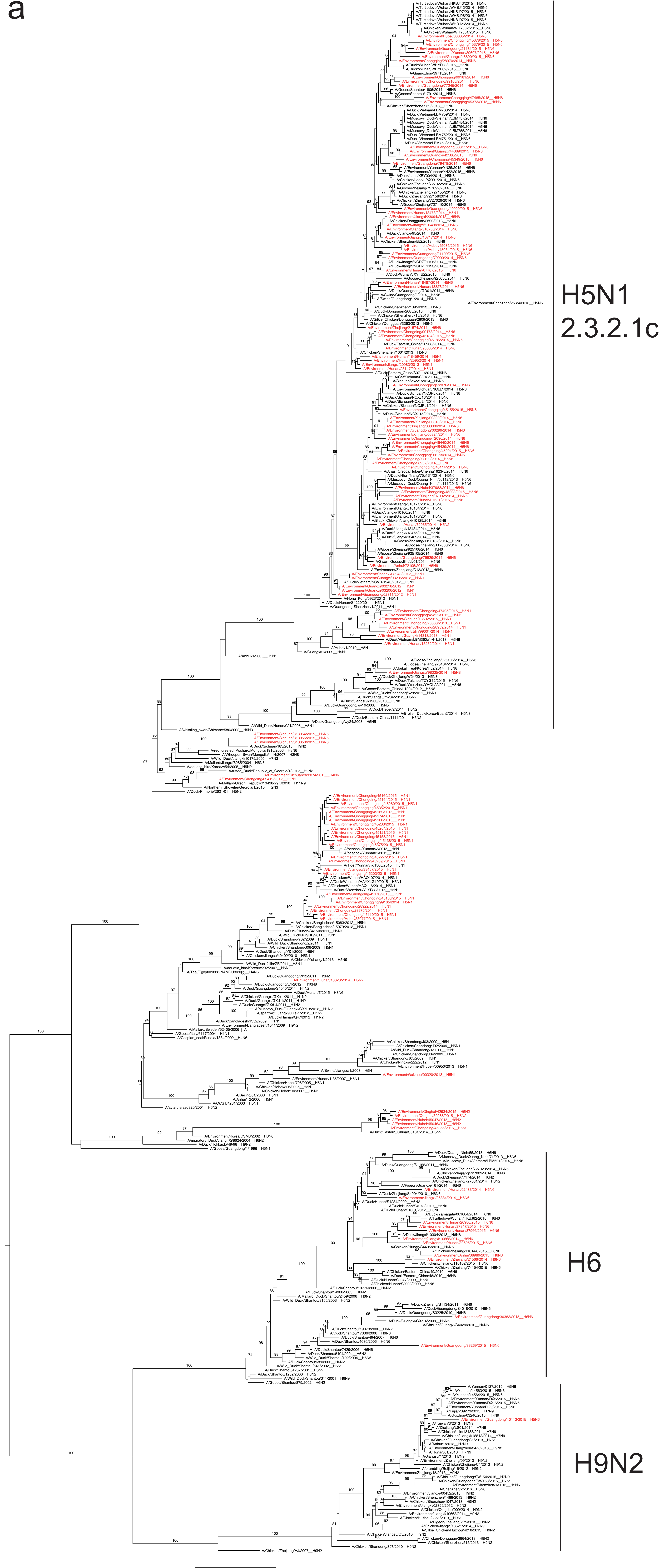
2005

2010

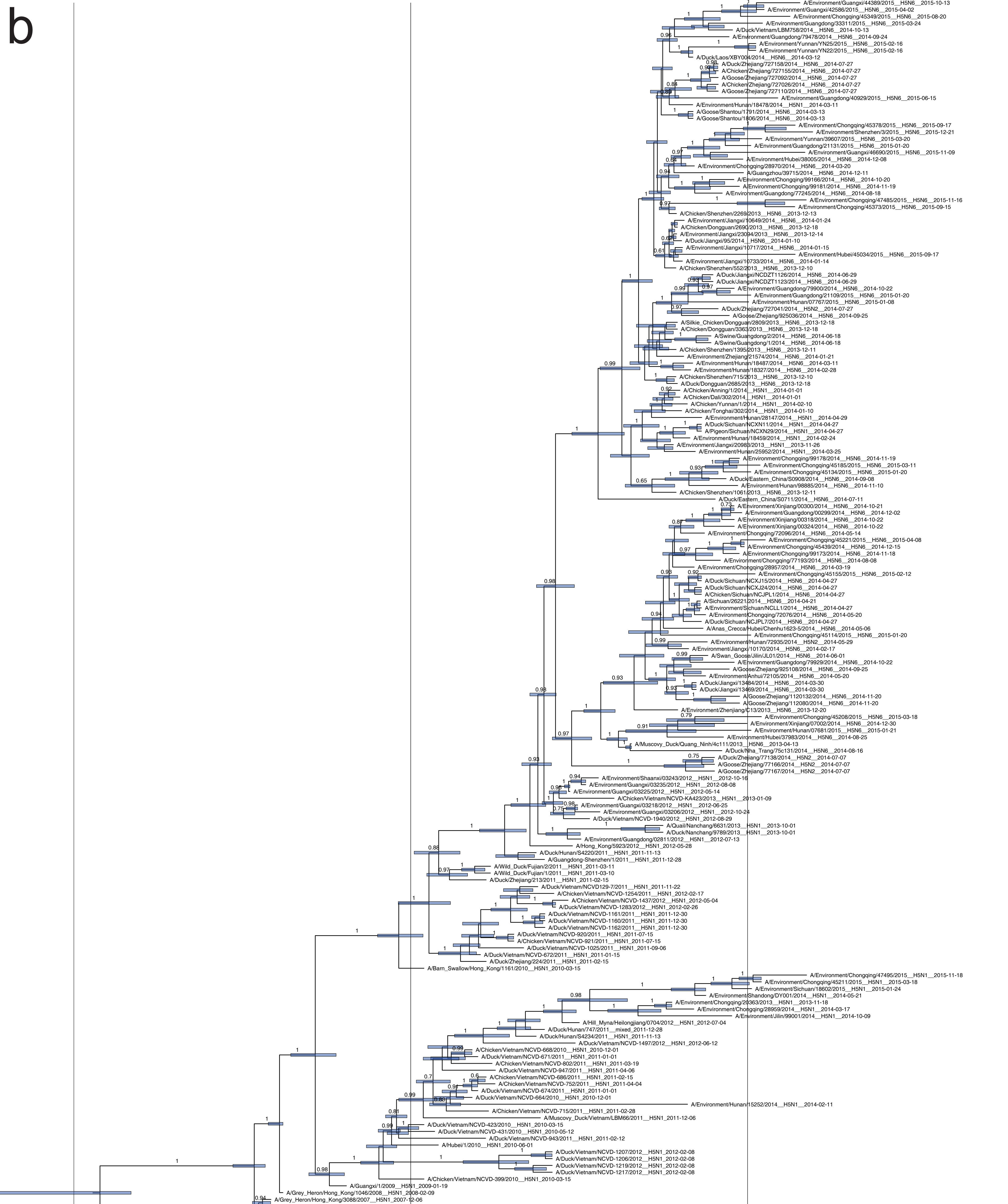
2015

Phylogeny of PA gene

a



b



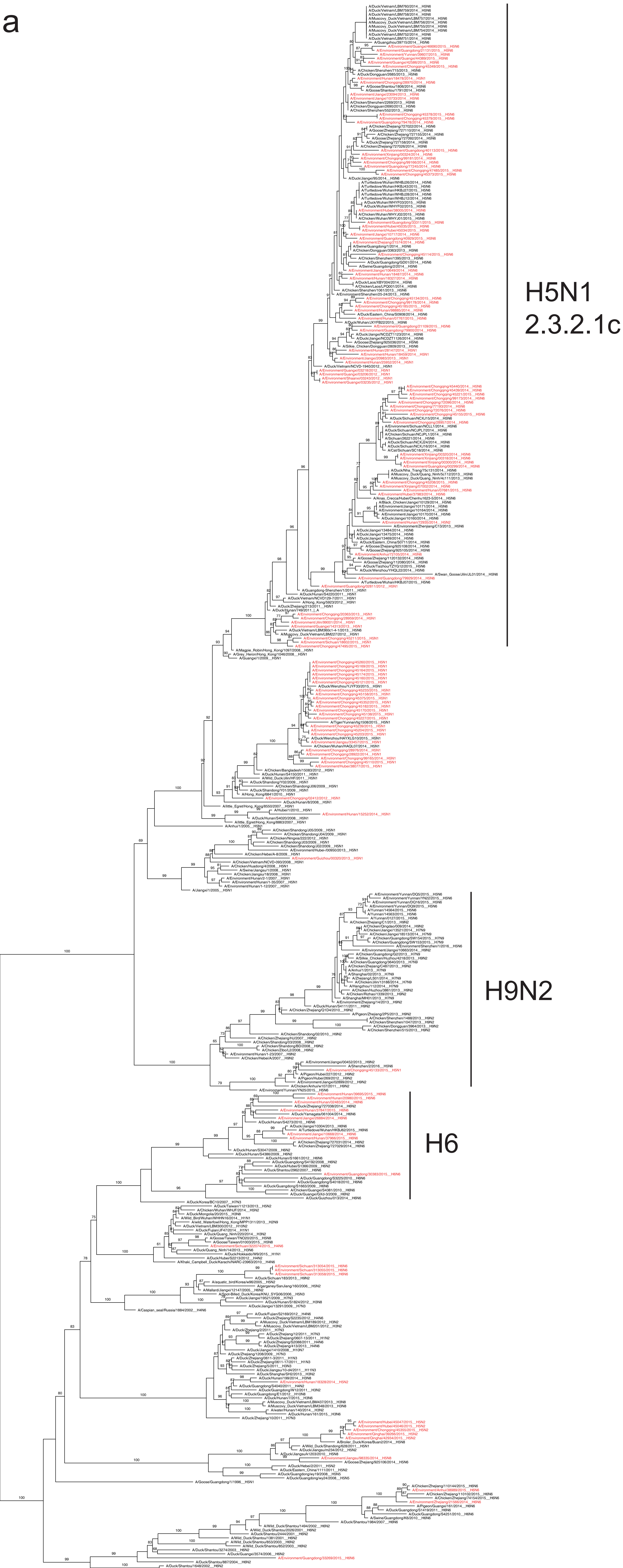
2005

2010

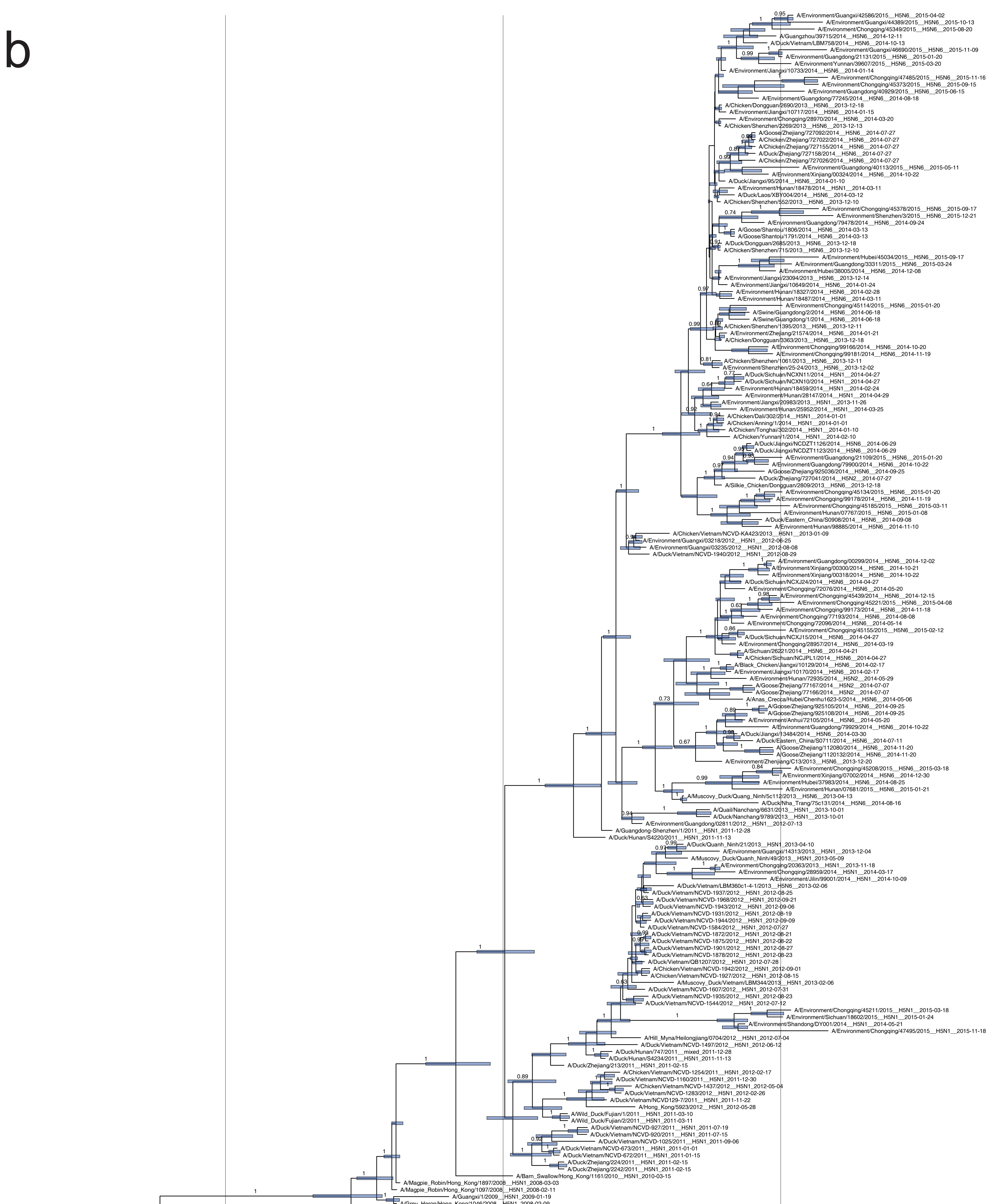
2015

Phylogeny of NP gene

a



b



2005

2010

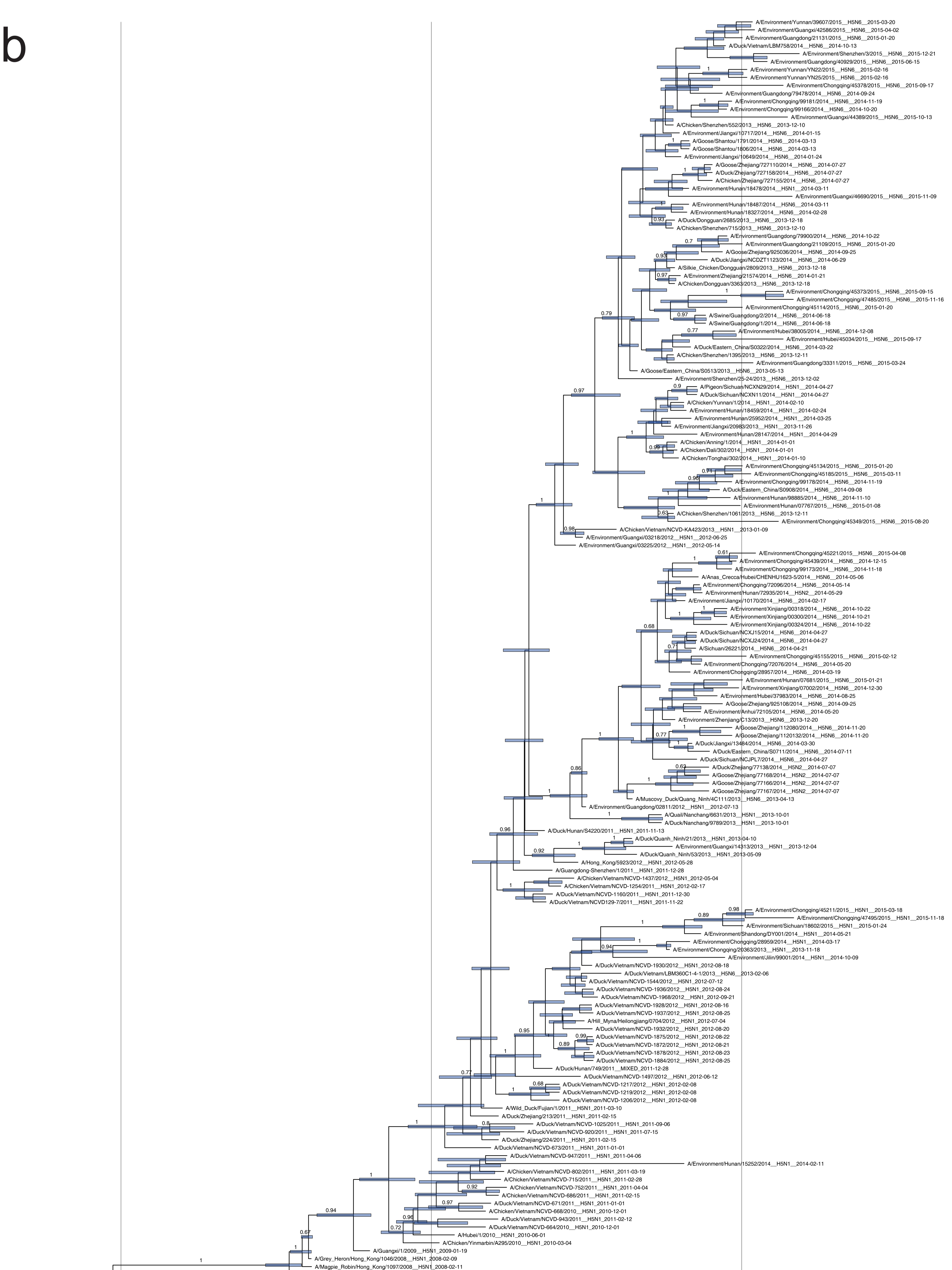
2015

Phylogeny of M gene

a

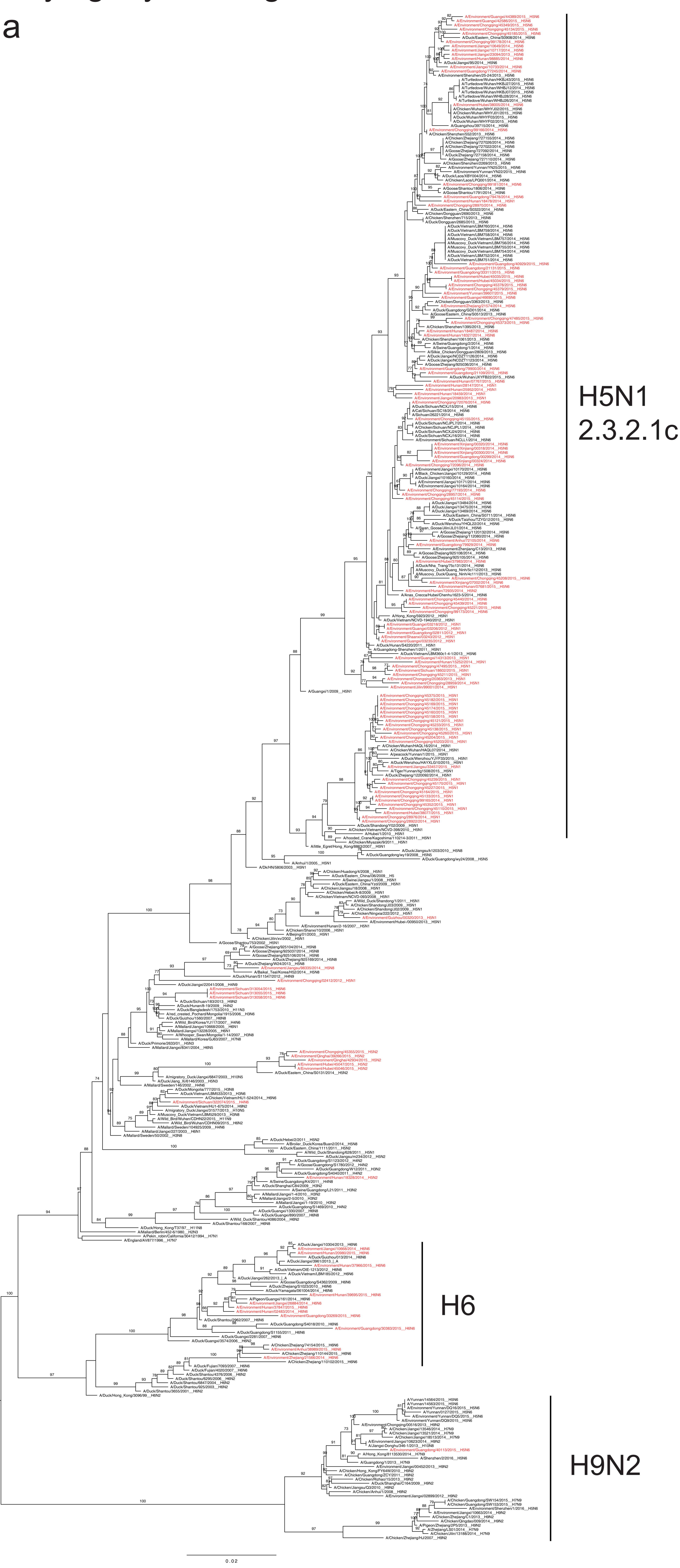


b

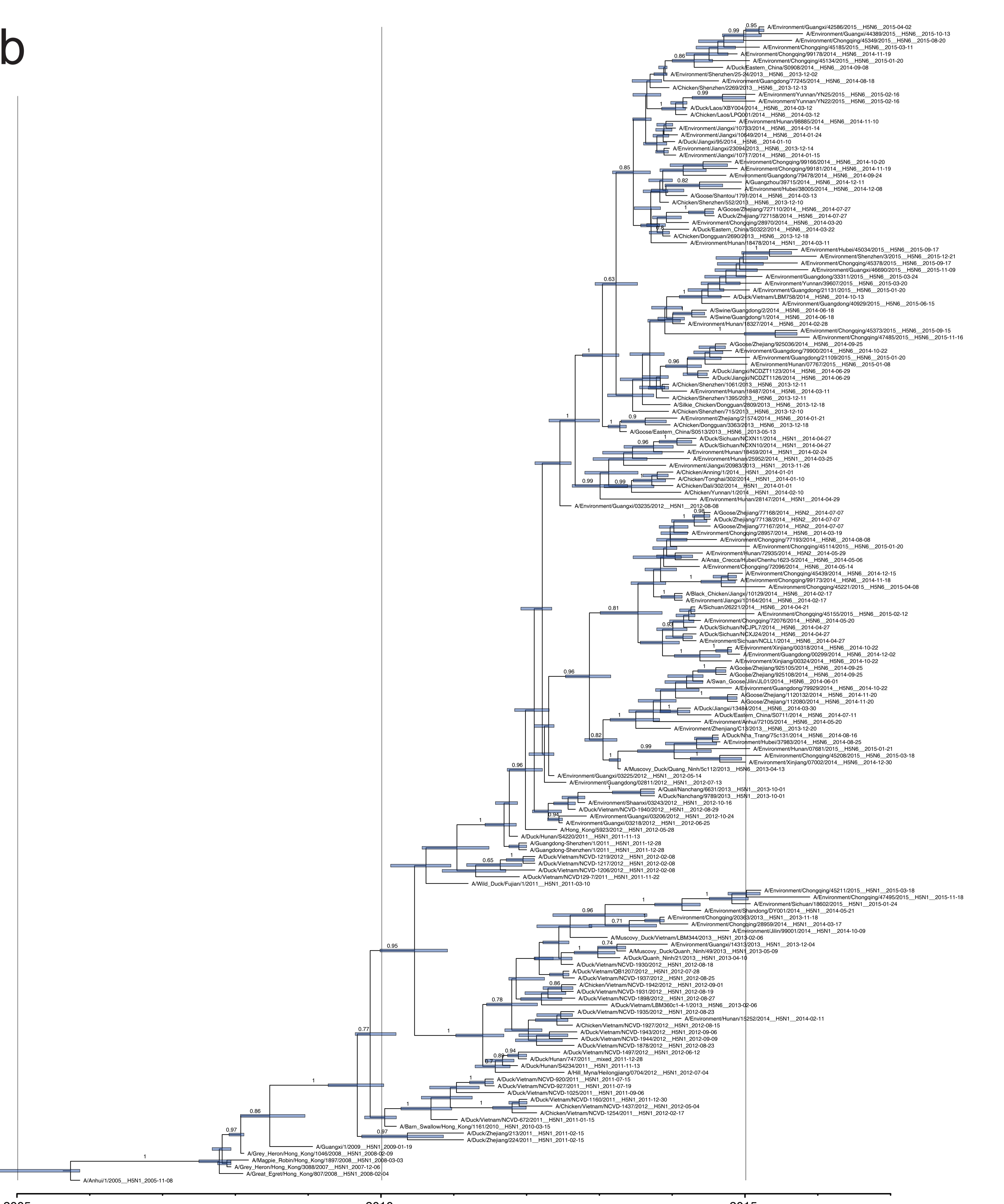


Phylogeny of NS gene

a



b



Isolate_Id	PB2	PB1	PA	HA	NP	NA	MP	NS	Isolate_Name	Subtype	Passage History	Province	Sample Date	Sample Sites
EPI_ISL_203646	EPI680539	EPI680540	EPI680538	EPI680542	EPI680535	EPI680541	EPI680537	EPI680536	A/Environment/Guangdong/79900/2014	H5N6	E1	Guangdong	2014-10-22	Live Poultry Market
EPI_ISL_180499	EPI749135	EPI749136	EPI749134	EPI593040	EPI749131	EPI749137	EPI749133	EPI749132	A/Environment/Jiangxi/23094/2013	H5N6	E1	jiangxi	2013-12-14	Live Poultry Market
EPI_ISL_180495	EPI749114	EPI749115	EPI749113	EPI593036	EPI749110	EPI749116	EPI749112	EPI749111	A/Environment/Jiangxi/20983/2013	H5N1	E1	jiangxi	2013-11-26	Live Poultry Market
EPI_ISL_180472	EPI749121	EPI749122	EPI749120	EPI593013	EPI749117	EPI749123	EPI749119	EPI749118	A/environment/Guizhou/00320/2013	H5N1	E2	guizhou	2013-02-10	Farm
EPI_ISL_180373	EPI749128	EPI749129	EPI749127	EPI592914	EPI749124	EPI749130	EPI749126	EPI749125	A/environment/Chongqing/02412/2012	H5N1	E2	chongqing	2012-02-09	Live Poultry Market