

Fig. S1.

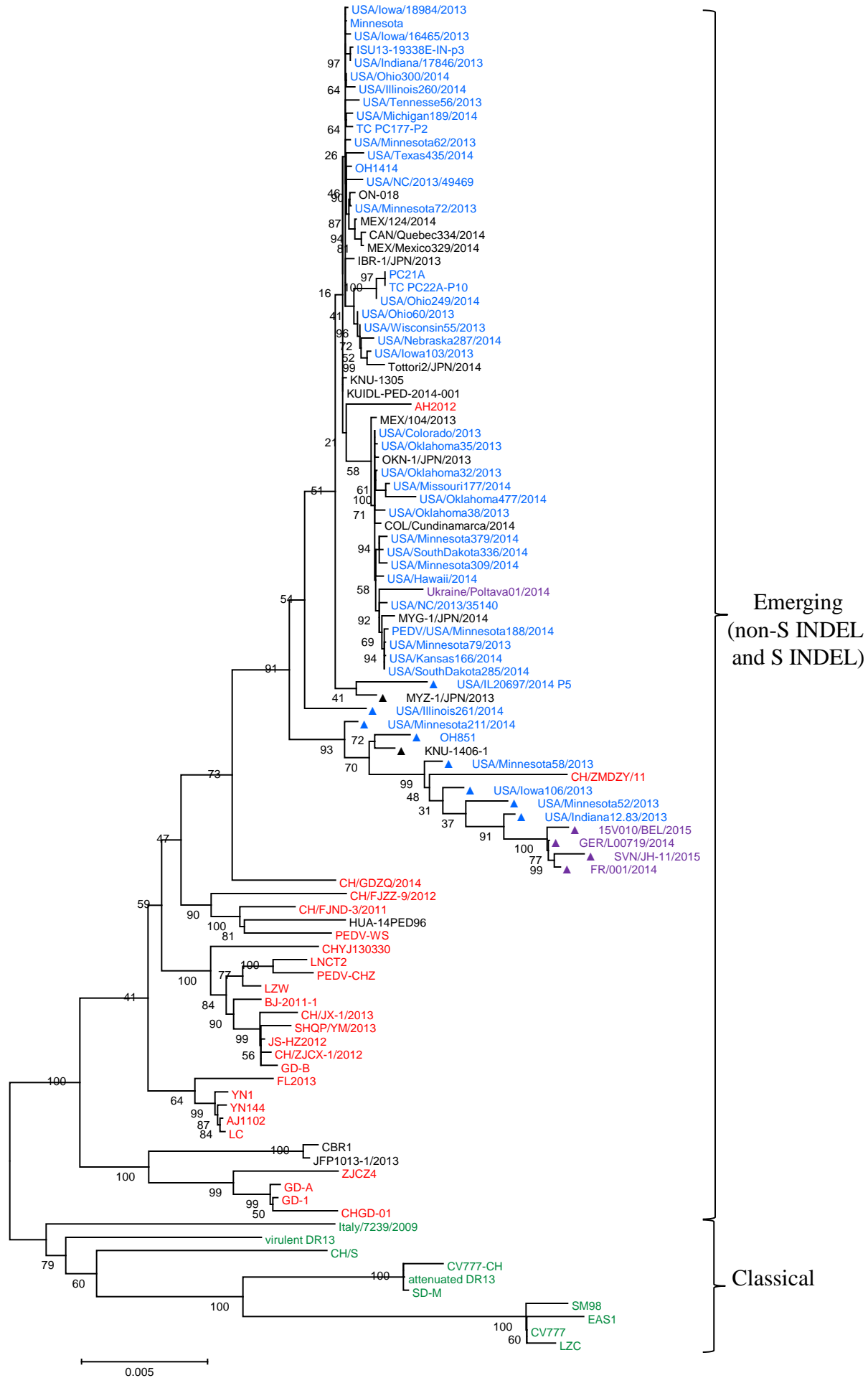


Fig. S2.

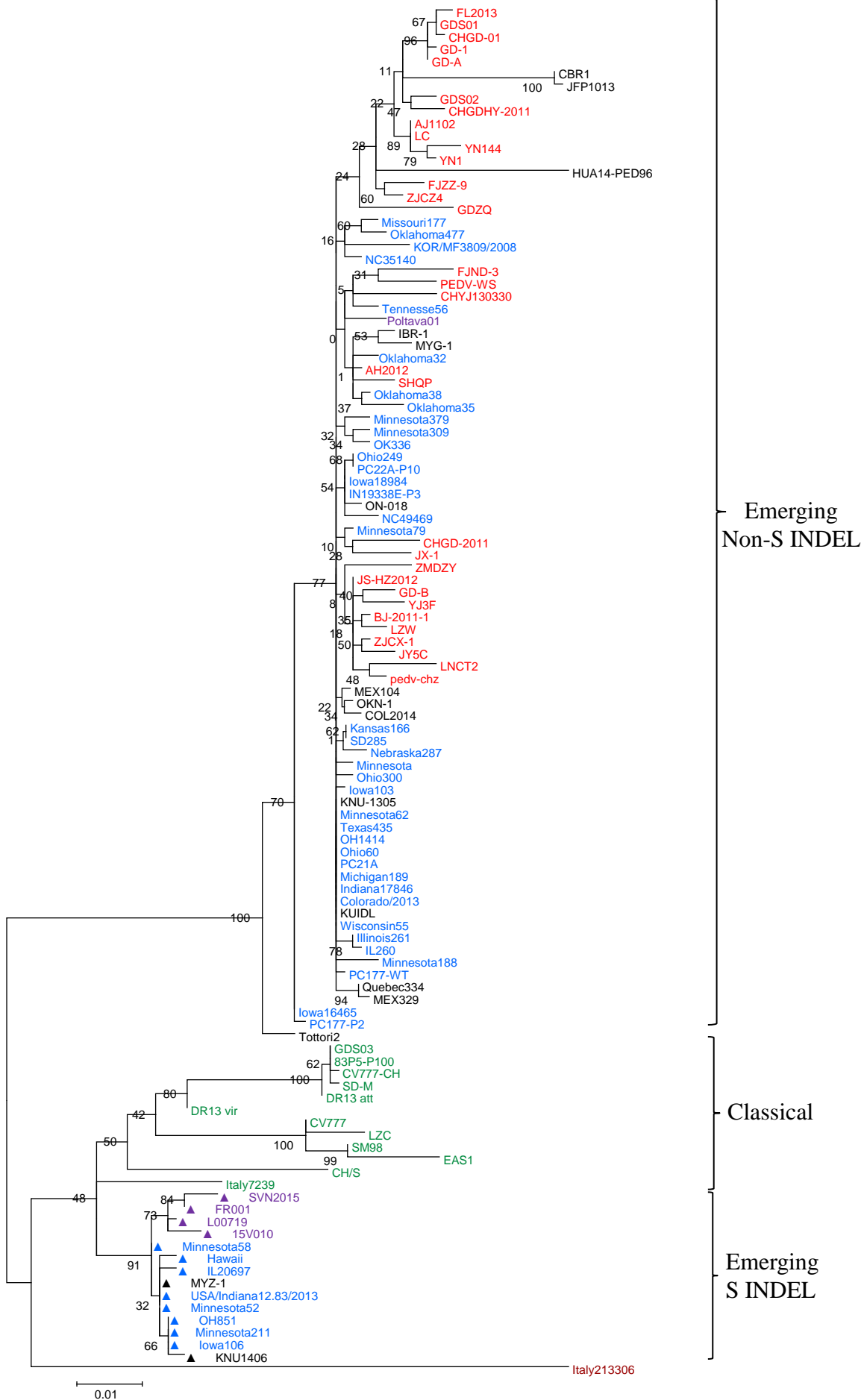


Fig. S3.

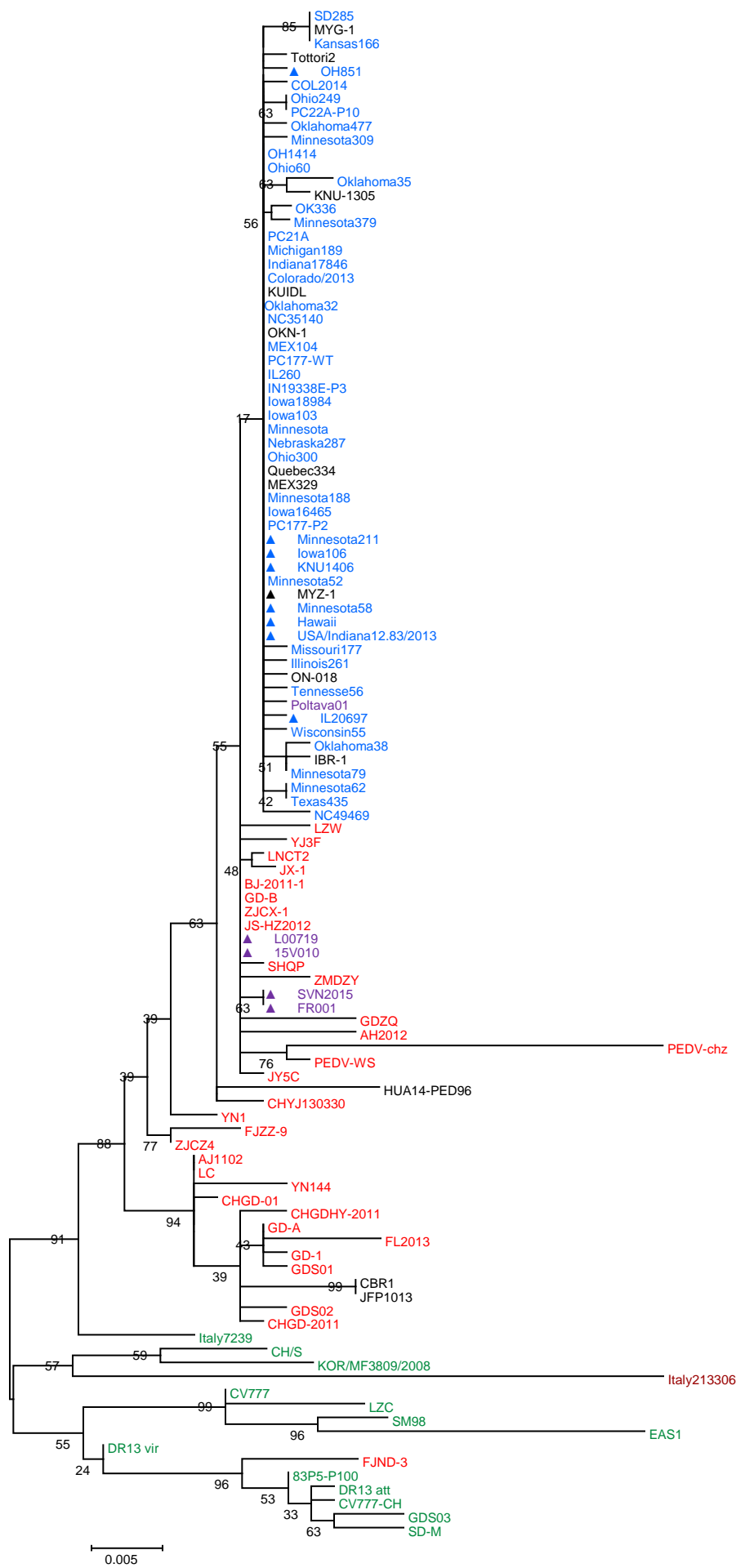


Fig. S4.

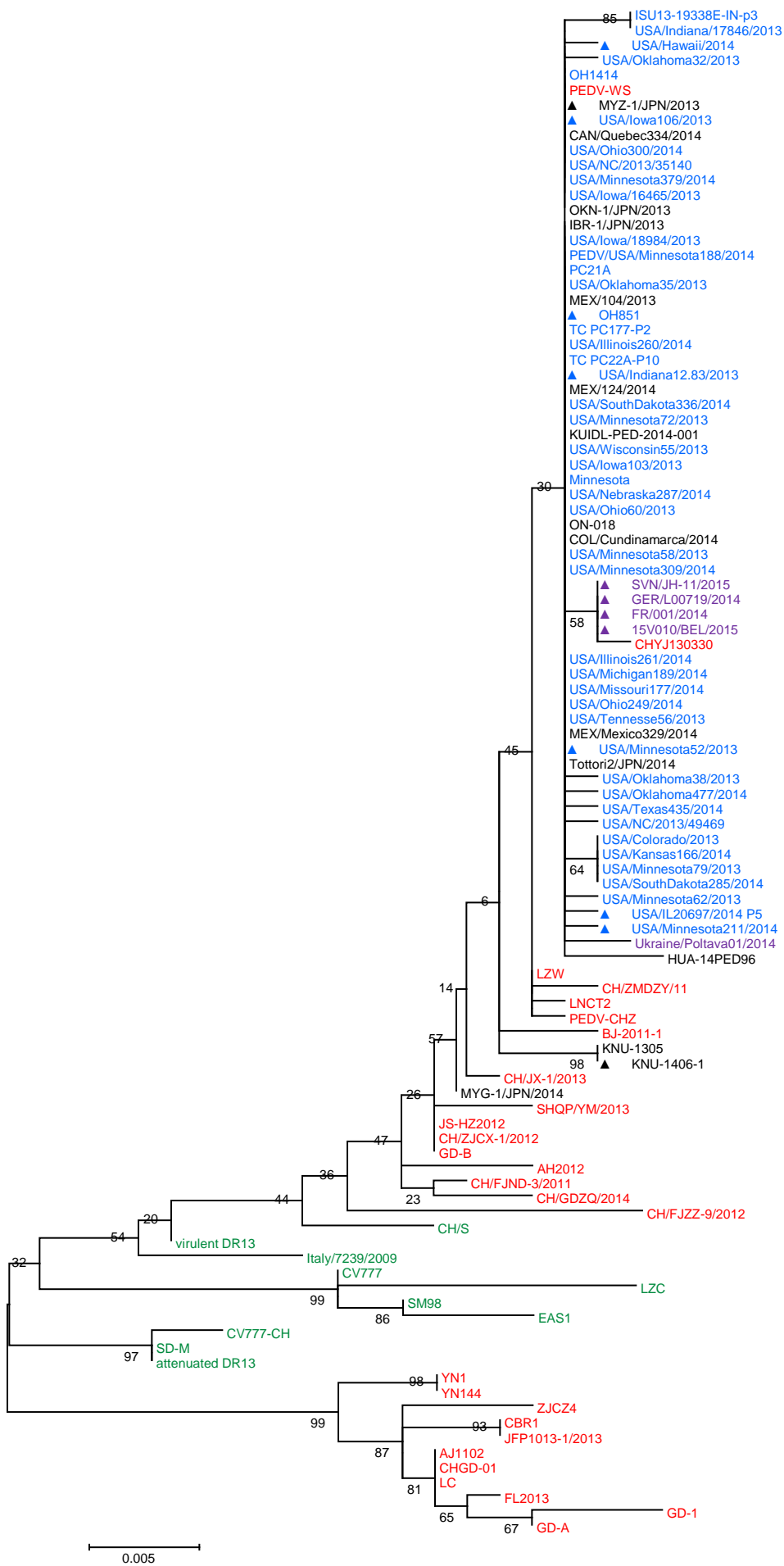


Fig. S5.

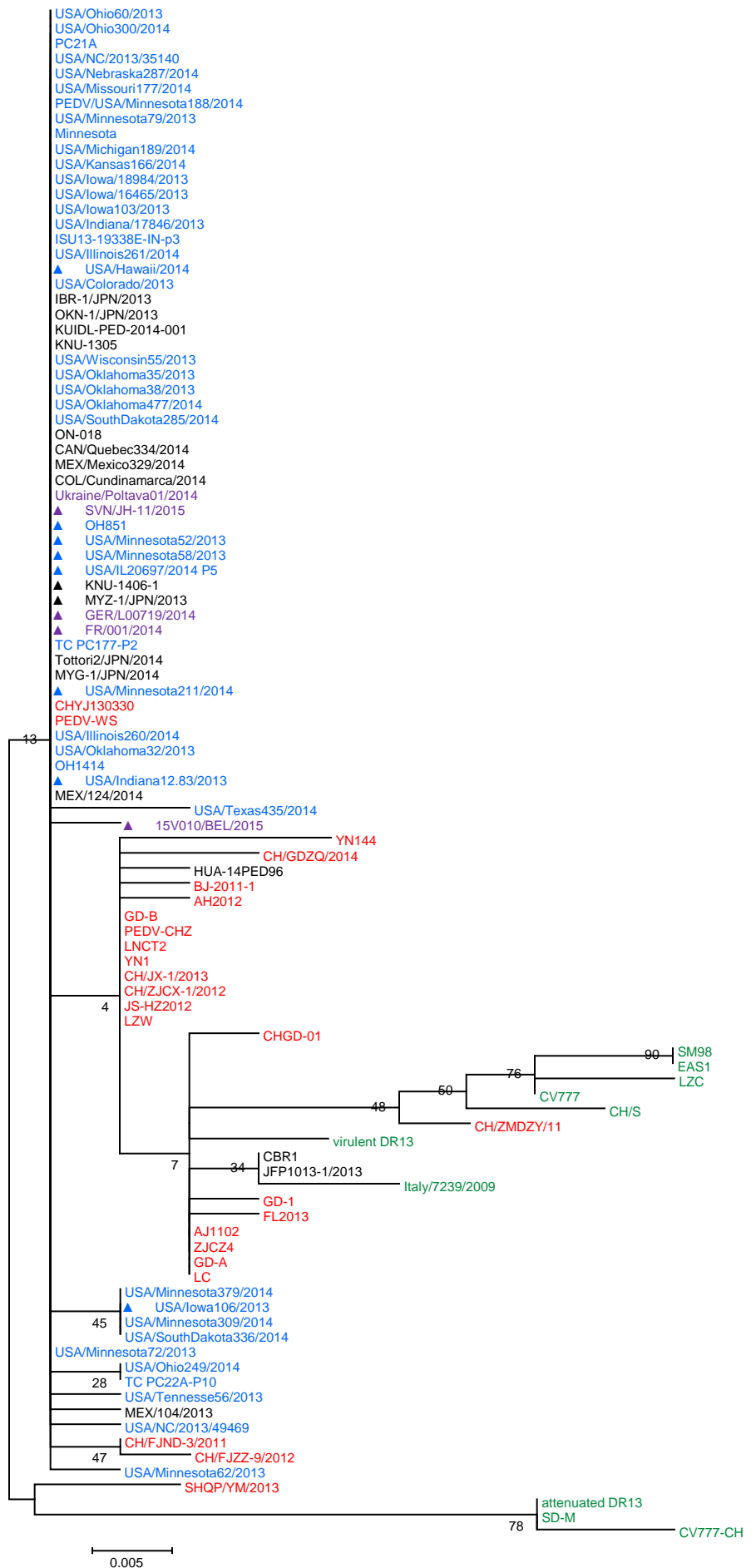


Fig. S6.

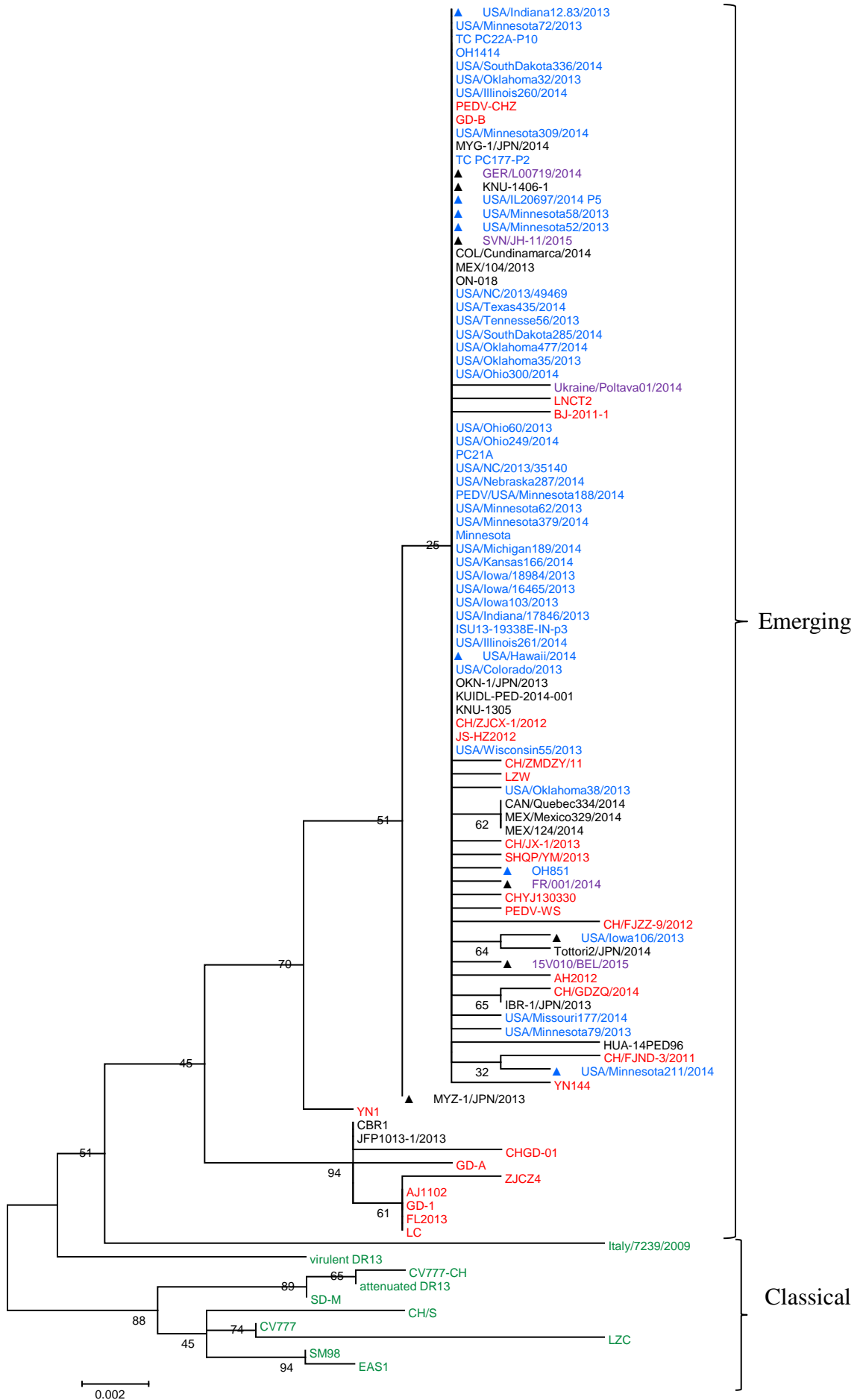


Fig. S7.

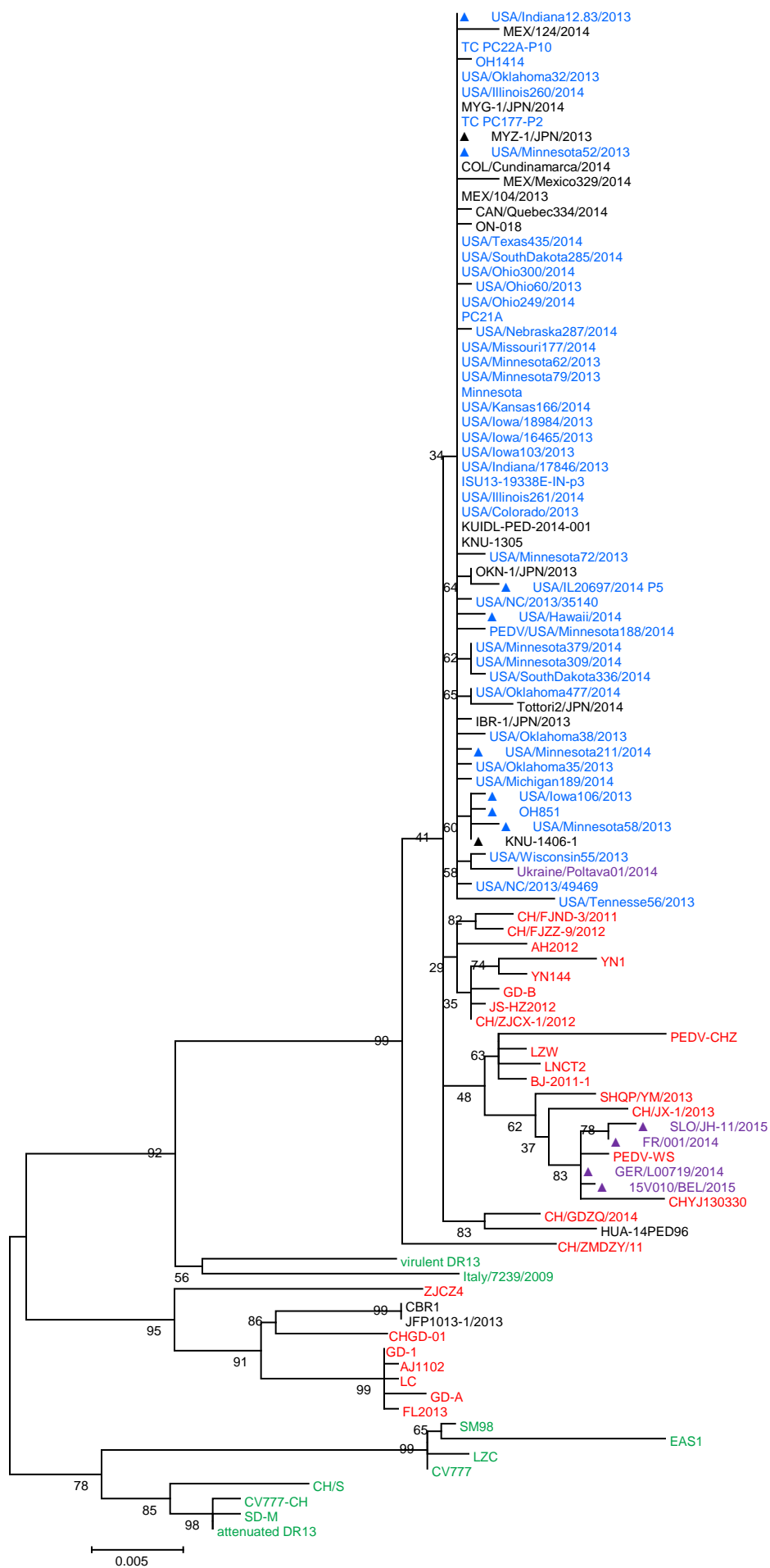


Fig. S9.

Species/Abbrv				*	***			*	*****	*	*	*	*****	*****	*****	*****	*	*****	*****	*	*****	*	*****	*****	*																																																																		
1. AH2012	G	E	N	G	V	N	S	T	W	Y	C	A	G	H	P	A	S	G	V	H	G	I	F	V	S	I	I	G	G	H	G	F	E	I	G	I	S	E	F	D	D	S	G	Y	L	Y	L	H	A	N	G	T	N	A	A	L	R	I	C	F	F	S	I	K	L	G	P	A	N	D	V	T	G	R	N	C	L	F	N	K	A	I	F	A	H	M	E	--	H	V	V
2. ZMDZY	G	E	N	G	V	N	S	T	W	Y	C	A	G	H	P	A	S	G	V	H	G	I	F	V	S	I	I	G	G	H	G	F	E	I	G	I	S	E	F	D	D	S	G	Y	L	Y	L	H	A	N	G	T	N	A	A	L	R	I	C	F	F	S	I	K	L	G	P	A	N	D	V	T	G	R	N	C	L	F	N	K	A	I	F	A	H	M	E	--	H	V	V
3. GD-1	G	E	N	G	V	N	S	T	W	Y	C	A	G	H	P	A	S	G	V	H	G	I	F	V	S	I	I	G	G	H	G	F	E	I	G	I	S	E	F	D	D	S	G	Y	L	Y	L	H	A	N	G	T	N	A	A	L	R	I	C	F	F	S	I	K	L	G	P	A	N	D	V	T	G	R	N	C	L	F	N	K	A	I	F	A	H	M	E	--	H	V	V
4. YN1	G	E	N	G	V	N	S	T	W	Y	C	A	G	H	P	A	S	G	V	H	G	I	F	V	S	I	I	G	G	H	G	F	E	I	G	I	S	E	F	D	D	S	G	Y	L	Y	L	H	A	N	G	T	N	A	A	L	R	I	C	F	F	S	I	K	L	G	P	A	N	D	V	T	G	R	N	C	L	F	N	K	A	I	F	A	H	M	E	--	H	V	V
5. Colorado/2013	G	E	N	G	V	N	S	T	W	Y	C	A	G	H	P	A	S	G	V	H	G	I	F	V	S	I	I	G	G	H	G	F	E	I	G	I	S	E	F	D	D	S	G	Y	L	Y	L	H	A	N	G	T	N	A	A	L	R	I	C	F	F	S	I	K	L	G	P	A	N	D	V	T	G	R	N	C	L	F	N	K	A	I	F	A	H	M	E	--	H	V	V
6. PC21A	G	E	N	G	V	N	S	T	W	Y	C	A	G	H	P	A	S	G	V	H	G	I	F	V	S	I	I	G	G	H	G	F	E	I	G	I	S	E	F	D	D	S	G	Y	L	Y	L	H	A	N	G	T	N	A	A	L	R	I	C	F	F	S	I	K	L	G	P	A	N	D	V	T	G	R	N	C	L	F	N	K	A	I	F	A	H	M	E	--	H	V	V
7. PC22A-P10	G	E	N	G	V	N	S	T	W	Y	C	A	G	H	P	A	S	G	V	H	G	I	F	V	S	I	I	G	G	H	G	F	E	I	G	I	S	E	F	D	D	S	G	Y	L	Y	L	H	A	N	G	T	N	A	A	L	R	I	C	F	F	S	I	K	L	G	P	A	N	D	V	T	G	R	N	C	L	F	N	K	A	I	F	A	H	M	E	--	H	V	V
8. OH851	M	S	---	S	S	W	Y	C	G	G	L	E	A	S	G	V	H	G	I	F	L	S	Y	I	D	A	G	G	F	E	I	G	I	S	E	F	D	D	S	G	Y	L	Y	L	H	A	N	G	H	N	A	I	A	L	R	I	C	F	F	D	K	L	G	P	V	---	D	V	T	G	R	N	C	L	F	N	K	A	I	F	A	Y	M	D	G	K	I	V	V		
9. USA/Indiana12.83/2013	M	S	---	S	S	W	Y	C	G	G	L	E	A	S	G	V	H	G	I	F	L	S	Y	I	D	A	G	G	F	E	I	G	I	S	E	F	D	D	S	G	Y	L	Y	L	H	A	N	G	H	N	A	I	A	L	R	I	C	F	F	D	K	L	G	P	V	---	D	V	T	G	R	N	C	L	F	N	K	A	I	F	A	Y	M	D	G	K	I	V	V		
10. Iowa106	M	S	---	S	S	W	Y	C	G	G	L	E	A	S	G	V	H	G	I	F	L	S	Y	I	D	A	G	G	F	E	I	G	I	S	E	F	D	D	S	G	Y	L	Y	L	H	A	N	G	H	N	A	I	A	L	R	I	C	F	F	D	K	L	G	P	V	---	D	V	T	G	R	N	C	L	F	N	K	A	I	F	A	Y	M	D	G	K	I	V	V		
11. L00719	M	S	---	S	S	W	Y	C	G	G	L	E	A	S	G	V	H	G	I	F	L	S	Y	I	D	A	G	G	F	E	I	G	I	S	E	F	D	D	S	G	Y	L	Y	L	H	A	N	G	H	N	A	I	A	L	R	I	C	F	F	D	K	L	G	P	V	---	D	V	T	G	R	N	C	L	F	N	K	A	I	F	A	Y	M	D	G	K	I	V	V		
12. CV777	M	S	---	S	S	W	Y	C	G	G	L	E	A	S	G	V	H	G	I	F	L	S	Y	I	D	A	G	G	F	E	I	G	I	S	E	F	D	D	S	G	Y	L	Y	L	H	A	N	G	H	N	A	I	A	L	R	I	C	F	F	D	K	L	G	P	V	---	D	V	T	G	R	N	C	L	F	N	K	A	I	F	A	Y	M	D	G	K	I	V	V		
13. DR13 vir	M	S	---	S	S	W	Y	C	G	G	L	E	A	S	G	V	H	G	I	F	L	S	Y	I	D	A	G	G	F	E	I	G	I	S	E	F	D	D	S	G	Y	L	Y	L	H	A	N	G	H	N	A	I	A	L	R	I	C	F	F	D	K	L	G	P	V	---	D	V	T	G	R	N	C	L	F	N	K	A	I	F	A	Y	L	D	G	K	I	V	V		
14. 83P5-P100	M	S	---	S	S	W	Y	C	G	G	L	E	A	S	G	V	H	G	I	F	L	S	Y	I	D	A	G	G	F	E	I	G	I	S	E	F	D	D	S	G	Y	L	Y	L	H	A	N	G	H	N	S	A	I	A	L	R	I	C	F	F	D	K	L	G	P	V	---	D	V	T	G	R	N	C	L	F	N	K	A	I	F	A	-	L	D	G	K	I	V	V	

Fig S10.

