

a. 2018-2019 (H1N1 HA Northern Hemisphere)

WHO: GVAPLHLGKCNIAWGLNLGNPECESLSTA **S**SSWSYI VETSNSDNGTCYPGDF 112
DOM: GVAPLHLGKCNIAWGLNLGNPECESLSTA **R**SSWSYI VETSNSDNGTCYPGDF 112
ENT: GVAPLHLGKCNIAWGLNLGNPECESLSTA **S**SSWSYI VETSNSDNGTCYPGDF 112

WHO: I N Y E E L R E Q L S S V S S F E R F E I F P K T S S W P N H D S N K G V T A A C P H A G A K S F Y
 DOM: I N Y E E L R E Q L S S V S S F E R F E I F P K T S S W P N H D S N K G V T A A C P H A G A K S F Y
 ENT: I N Y E E L R E Q L S S V S S F E R F E I F P K T S S W P N H D S N K G V T A A C P H A G A K S F Y

WHO: KNL IWL VKKGNSYPKLNQ **S** Y INDKGKEVL V LWG I HHP **S** TTADQQLSY QNA
 DOM: KNL IWL VKKGNSYPKLNQ **T** Y INDKGKEVL V LWG I HHP **P** TTADQQLSY QNA
 ENT: KNL IWL VKKGNSYPKLNQ **T** Y INDKGKEVL V LWG I HHP **S** TTADQQLSY QNA

WHO: D A Y V F V G T S R Y S K K F K P E I A T R P K V R D Q E G R M N Y W T L V E P G D K I T F E A T
 DOM: D A Y V F V G T S R Y S K K F K P E I A T R P K V R D Q E G R M N Y W T L V E P G D K I T F E A T
 ENT: D A Y V F V G T S R Y S K K F K P E I A T R P K V R D Q E G R M N Y W T L V E P G D K I T F E A T

WHO: G N L V V P R Y A F T M E R N A G S G I I I S D T P V H D C N T T C Q T P E G A I N T S L P F Q N | 3129
DOM: G N L V V P R Y A F T M E R N A G S G I I I S D T P V H D C N T T C Q T P E G A I N T S L P F Q N | 3130
ENT: G N L V V P R Y A F T M E R N A G S G I I I S D T P V H D C N T T C Q T P E G A I N T S L P F Q N | 3131

b. 2019-2020 (H1N1 HA Northern Hemisphere)

WHO: G T X A V 315
DOM: R A S P I 315
ENT: R T S P I 315

WHO: G T X A V 31
DOM: R A S P I 31
ENT: R T S P I 31

C. 2018-2019 (H1N1 HA Northern Hemisphere)

WHO: S S S I 312
DOM: R T P V 312
ENT: R T S V 312

WHO: S S S I 312
 DOM: R T P V 312
 ENT: R T S V 312

d. 2016-2017 (H1N1 HA Northern Hemisphere)

WHO:	A	.13
DOM:	P	.100
ENT:	S	.114
	S	.175
	N	.180
	K	.200
	P	.203
	S	.205
	T	.222
	T	.233
	A	.275
	E	.300
	I	.333
	E	.391
	S	.462
	N	.516

WHO	: A	100	101	114	D	S	K	P	T	S	T	T	T	T	A	T	T	M	V	V	E	N	S	E	51
DOM	: T	S	S	N	N	N	N	Q	S	S	T	T	T	T	T	T	T	T	T	T	K	K	K	K	51
ENT	: T	S	S	N	N	N	N	Q	S	S	T	T	T	T	T	T	T	T	T	T	K	K	K	K	51

E. 2014-2015 (H1N1 HA Southern Hemisphere)

WHO:	L	P	D	F	K	P	S	S	A	I	E	S	E
DOM:	L	S	N	F	Q	S	T	T	T	V	K	N	K
ENT:	P	S	N	V	K	S	T	T	A	V	E	S	K

WHO :	I	P	D	F	K	P	S	S	A	K	I	E	S	E	516
DOM :	L	S	N	F	O	S	T	T	T	E	V	K	N	K	516
ENT :	P	S	N	V	K	S	T	T	A	E	K	K	S	K	516

f. 2015-2016 (H3N2 HA Northern Hemisphere)

WHO:	L	A	S	G	N	S	K	Q	R	D	50%
DOM:	I	T	A	R	S	Y	T	H	K	N	50%
ENT:	I	T	A	R	S	Y	T	H	K	N	50%

WHO:	L	A	S	G	N	S	K	Q	R	D	505
DOM:	I	T	A	R	S	Y	T	H	K	N	505
ENT:	I	T	A	R	S	Y	T	H	K	N	505

█ 13.9 (C); Accessible sidechain area (\AA^2)
█ 23.0 (I); 23.5 (V); 25.2 (G)
█ 28.7 (F); 29.0 (L); 30.5 (M); 31.5 (A)
█ 41.7 (W); 44.2 (S); 46.0 (T); 46.7 (H)
█ 53.7 (P)
█ 59.1 (Y); 60.9 (D); 62.2 (N)
█ 72.3 (E); 74.0 (Q)
█ 93.8 (R)
█ 110.3 (K)

- X acidic (-)
- X basic (+)
- X polar uncharged
- X hydrophobic nonpolar