

**Supplementary file 4(A):** Secondary structure of the different Hemagglutinin protein of genus *Morbillivirus* predicted using PSIPRED tool.

**Supplementary file 4(B):** % Secondary structure observed in Hemagglutinin protein of members in genus *Morbillivirus* predicted using SOPMA tool.

Virus	Secondary structure	%
Measles virus	-	
(AAK64474.1)	Alpha Helix	22.85%
	Beta sheets	27.71%
	Turns	4.70%
	Coils	44.73%
Canine Distemper virus		
(CAP17286.1)	Alpha Helix	18.29%
	Beta sheets	27.35%
	Turns	2.14%
	Coils	52.22%
Rinderpest virus		
(AAD25093.1)	Alpha Helix	19.05%
	Beta sheets	28.08%
	Turns	2.96%
	Coils	49.02%