Table 1: Performance of the Markovian Model based on a sequence alignment with various thresholds.

	E-value	**Accuracy**	**MCC**
Optimization Set	10^{-3}	1	0.768
	10^{-4}	1	0.925
	10^{-5}	1	0.981
	10^{-6}	1	0.992
	10^{-7}	1	0.996
	10^{-8}	1	0.996
	10^{-9}	1	1.0
	10^{-10}	1	1.0
	10^{-11}	1	1.0
	10^{-12}	1	1.0
Validation Set	10^{-9}	1	0.996

Table 2: Performance of the Markovian Model based on a sequence alignment with various thresholds.

	E-value	**Accuracy**	**MCC**
Optimization Set	10^{-3}	1	0.750
	10^{-4}	1	0.916
	10^{-5}	1	0.959
	10^{-6}	1	0.973
	10^{-7}	1	0.988
	10^{-8}	1	0.996
	10^{-9}	1	0.995
	10^{-10}	1	0.995
	10^{-11}	1	0.995
	10^{-12}	1	0.995
Validation Set	10^{-8}	1	0.996

Table 3: Performance of the Markovian Model based on structural alignment with various threshold.

	E-value	**Accuracy**	**MCC**
Optimization Set	10^{-3}	1	0.749
	10^{-4}	1	0.932
	10^{-5}	1	0.988
	10^{-6}	1	0.996
	10^{-7}	1	0.996
	10^{-8}	1	1.0
	10^{-9}	1	1.0
	10^{-10}	1	1.0
	10^{-11}	1	1.0
	10^{-12}	1	1.0
Validation Set	10^{-8}	1	1.0

Table 4: Performance of the Markovian Model based on structural alignment with various threshold.

	E-value	**Accuracy**	**MCC**
Optimization Set	10^{-3}	1	0.743
	10^{-4}	1	0.922
	10^{-5}	1	0.973
	10^{-6}	1	0.981
	10^{-7}	1	0.996
	10^{-8}	1	1.0
	10^{-9}	1	1.0
	10^{-10}	1	1.0
	10^{-11}	1	0.996
	10^{-12}	1	0.996
Validation Set	10^{-8}	1	1.0