

Table S3. Marginal likelihoods of different combinations of clock model and tree prior.

Fragment	Molecular clock model	Coalescent tree prior	Log marginal likelihood
HA	Strict clock	Bayesian skyline	-7007.357
	Strict clock	Constant size	-7012.430
	Strict clock	Exponential growth	-7007.122
	Uncorrelated lognormal relaxed clock	Bayesian skyline	-6976.358
	Uncorrelated lognormal relaxed clock	Constant size	-6986.254
	Uncorrelated lognormal relaxed clock	Exponential growth	-6971.506

The best-fitting tree prior and molecular clock model are indicated in bold font.