**Table S2.** Best-fit molecular clock and demographic models for the GI-11 and GI-16 lineages.

**Lineage clock model demographic model PS Log ML SS Log ML**

GI-11 Strict Constant -5340.4754 -5341.5167

GI-11 Strict Exponential -5344.3868 -5345.3082

GI-11 Strict Bayesian Skyline -5326.4976 -5328.0924

GI-11 UCLD Constant -5263.5328 -5264.6167

GI-11 UCLD Exponential -5263.9912 -5265.8623

GI-11 UCLD Bayesian Skyline -5264.1420 -5265.5452

GI-11 UCED Constant -5258.9305 -5260.7803

GI-11 UCED Exponential -5265.0530 -5266.6307

**GI-11 UCED Bayesian Skyline -5256.5594 -5258.2573**

GI-16 Strict Constant -5652.1910 -5652.1533

GI-16 Strict Exponential -5649.8097 -5649.9848

GI-16 Strict Bayesian Skyline -5655.7131 -5656.4348

GI-16 UCLD Constant -5615.4866 -5616.2141

GI-16 UCLD Exponential -5612.6325 -5612.8522

GI-16 UCLD Bayesian Skyline -5610.6892 -5610.8036

GI-16 UCED Constant -5607.3057 -5607.2464

GI-16 UCED Exponential -5607.8851 -5608.0253

**GI-16 UCED Bayesian Skyline -5603.9688 -5604.0663**

PS: Path Sampling; SS: Stepping Stone; ML: Marginal Likelihood; UCLD: Uncorrelated Lognormal Distribution; UCED: Uncorrelated Exponential Distribution.