

Table S4 Minimum and maximum acceptance rates of ARGweaver subtree sampling steps for each simulation.

Simulation	Acceptance rates	
	Min	Max
$n=8; \mu = \rho = 2 \times 10^{-8}$	0.283	0.532
$n=8; \mu = 2 \times 10^{-8}; \rho = 2 \times 10^{-9}$	0.838	0.965
$n=8; \mu = 2 \times 10^{-7}; \rho = 2 \times 10^{-8}$	0.345	0.582
$n=4; \mu = \rho = 2 \times 10^{-8}$	0.262	0.511
$n=16; \mu = \rho = 2 \times 10^{-8}$	0.299	0.567
$n=32; \mu = \rho = 2 \times 10^{-8}$	0.307	0.568