

**Table S1**

Parameters	$P^{\text{exact}}(H_2 H_1)$	$P^{\text{MCMC}}(H_2 H_1)$	Sub Network Size	$P^*(H_2 H_1)$
$\lambda t = 0.1, \mu t = 0.2$ (Case: $\mu = 2\lambda$ )	$3.83215 \times 10^{-3}$	$3.83215 \times 10^{-3}$	2	$1.35067 \times 10^{-4}$
			4	$9.81626 \times 10^{-4}$
			6	$2.53667 \times 10^{-3}$
			8	$3.78735 \times 10^{-3}$
$\lambda t = 0.1, \mu t = 0.1$ (Case: $\mu = \lambda$ )	$2.40262 \times 10^{-3}$	$2.40183 \times 10^{-3}$	2	$7.23895 \times 10^{-5}$
			4	$5.62823 \times 10^{-4}$
			6	$1.44553 \times 10^{-3}$
			8	$2.66125 \times 10^{-3}$
$\lambda t = 0.1, \mu t = 0.05$ (Case: $\mu = \lambda/2$ )	$1.34591 \times 10^{-3}$	$1.34526 \times 10^{-3}$	2	$3.74695 \times 10^{-5}$
			4	$3.01569 \times 10^{-4}$
			6	$7.71806 \times 10^{-4}$
			8	$1.57826 \times 10^{-3}$