



**Figure S3.** The empirical probability that a proposed transmission route correct for a range of posterior probabilities calculated under the geometric-Poisson assumption. A total of 100 outbreaks were simulated with a bottleneck size of 5; transmission events prior to the host were assumed to occur at intervals equal to the mean generation interval. The posterior probability of direct transmission was calculated for every pair of infected individuals. Counts were collated into 10% probability bins and for each, the proportion of true transmission routes calculated. Error bars depict the 95% exact binomial confidence interval.