appendix

In this appendix, we explore the covariance given in Eq. (??) to calculate the value more efficiently by computational experiments. Notice that the covariance is written as Cov[g(A$_n$), $g(A_{n+k})] = \sum_{i=1}^{\infty}\sum_{j=1}^{\infty} g(i)g(j)\Pr\left[A_n = i,\, A_{n+k} = j\right] - \{L \times H(\hat{q})\}^2$, where g is given in Eq. (??), $\Pr\left[A_n = i,\, A_{n+k} = j\right]$ is given in Eq. (??), and H is a binary entropy function. Since the term $\{L \times$