



**Figure A2.** Verify whether the gap between the  $k$ -th largest eigenvalue and the  $(k+1)$ -th largest eigenvalue of  $\mathbf{K}^*$  is greater than 0. For each dataset, we repeated the experiment 100 times. The "Minimum Value" above the plot indicates the minimum value of  $\lambda_k - \lambda_{k+1}$  in the 100 experiments for that dataset. As shown, in a total of 1000 experiments, the gap between  $\lambda_k$  and  $\lambda_{k+1}$  never become 0.