

Additional File 1 **Median values of performance metrics.**

For ease of interpretation, the following figures present the median values of performance metrics presented as boxplots in the main paper.

Figure 1: **Median AUC** across 130 simulations are shown for approaches that do not perform variable selection. **a.** $\beta = \pm 1$ and **b.** $\beta \in \mathcal{U}$

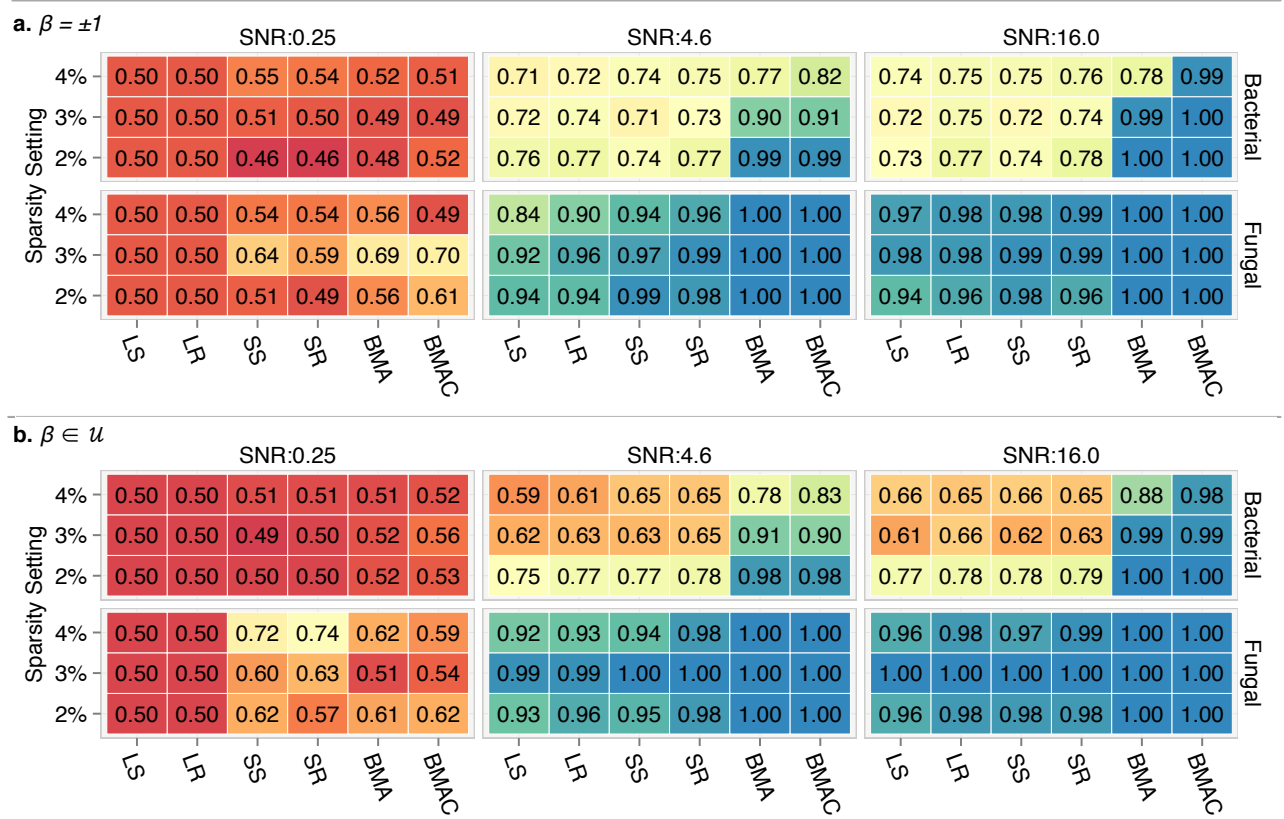


Figure 2: **Median F-score** across 130 simulations. An F-score of 1.0 is ideal. The LD algorithm was used to select variables for approaches that do not perform variable selection. SNR=0.25 is not shown. **a.** $\beta = \pm 1$ and **b.** $\beta \in \mathcal{U}$

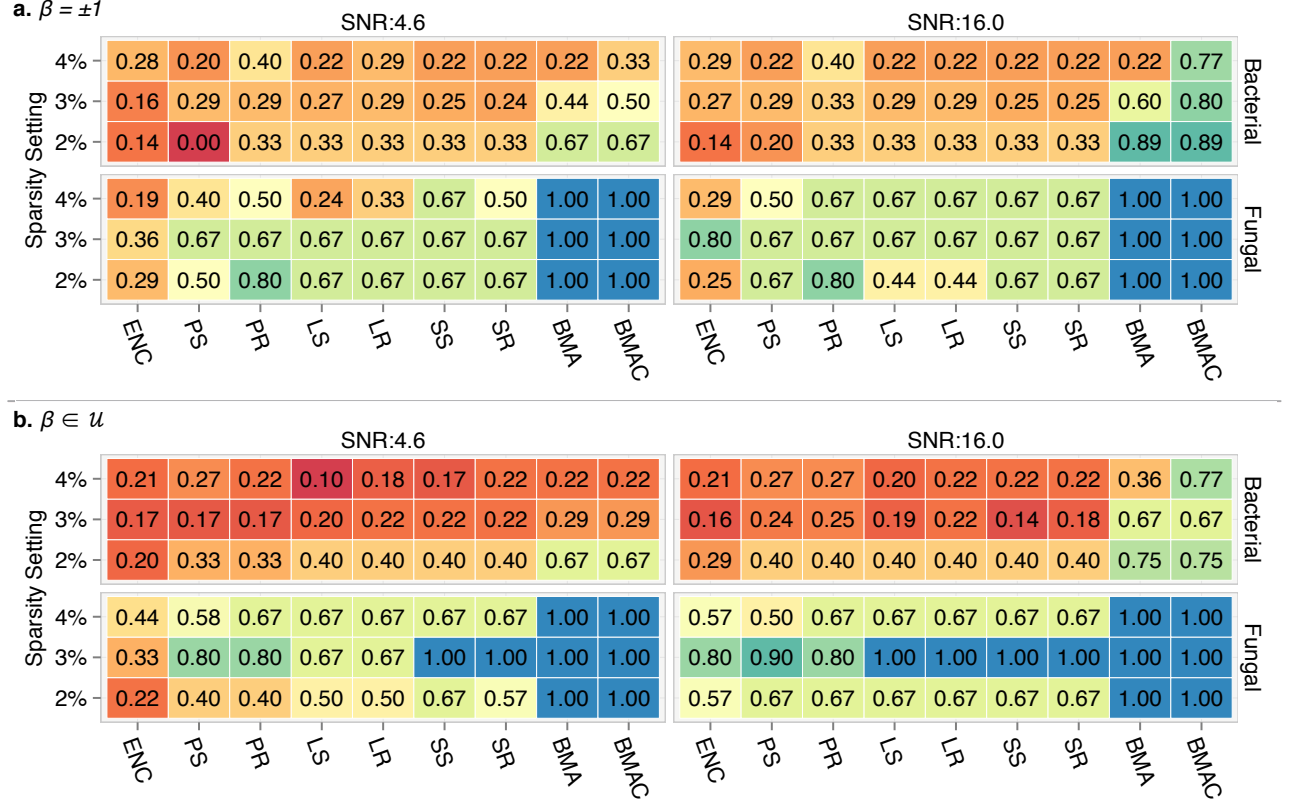


Figure 3: **Median Spearman's rank correlation ($\beta \in \mathcal{U}$)** across 130 simulations are shown for approaches that do not perform variable selection. A correlation of 1.0 is ideal. Higher correlation indicates that the approach is able to capture the original variable rank more accurately. SNR=0.25 is not shown.

