SUPPLEMENTARY FIGURES AND TABLES
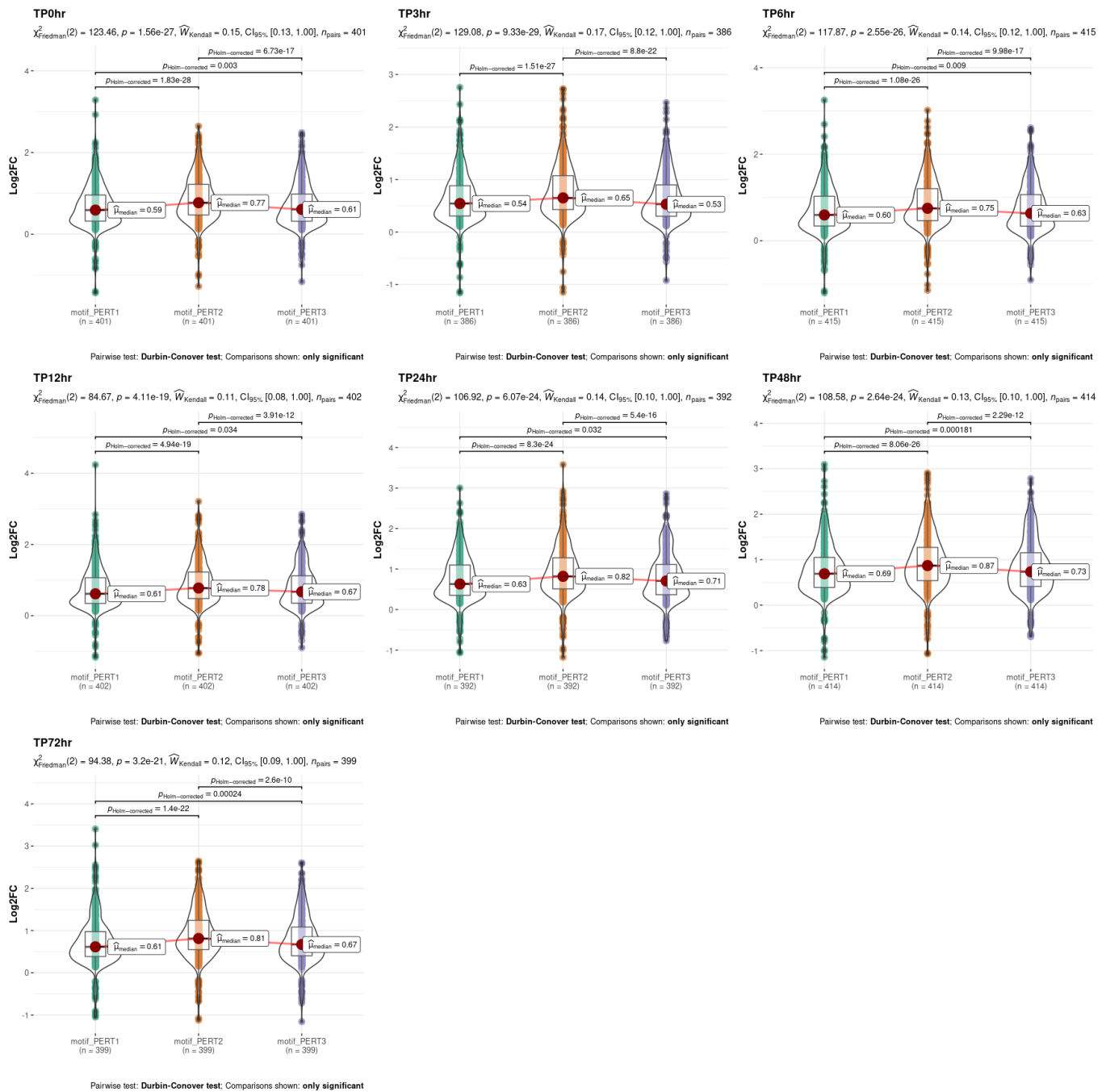
Figure Supplementary Figure 1. Comparison of Log2FC among three perturbation methods.

B

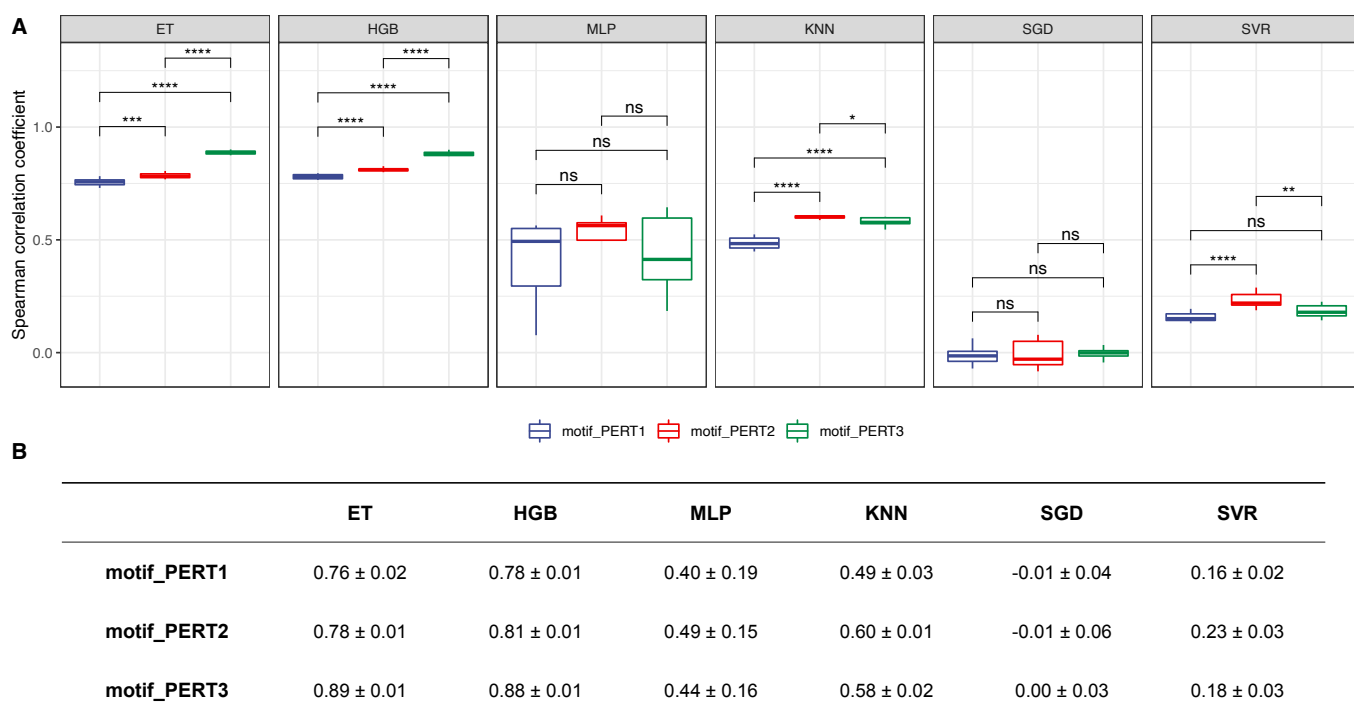|	ET	HGB	MLP	KNN	SGD	SVR
motif_PERT1	0.76 ± 0.02	0.78 ± 0.01	0.40 ± 0.19	0.49 ± 0.03	-0.01 ± 0.04	0.16 ± 0.02
motif_PERT2	0.78 ± 0.01	0.81 ± 0.01	0.49 ± 0.15	0.60 ± 0.01	-0.01 ± 0.06	0.23 ± 0.03
motif_PERT3	0.89 ± 0.01	0.88 ± 0.01	0.44 ± 0.16	0.58 ± 0.02	0.00 ± 0.03	0.18 ± 0.03

Figure Supplementary Figure 2. Performance of regression models. **(A)** The Spearman correlation coefficients of different regression models. Asterisks/ns indicate levels of statistical significance, calculated by pairwise Wilcoxon rank sum tests (P-value < 0.05 *, < 0.01 **, < 0.001 ***, < 0.0001 ****; ns, non significant). **(B)** A summary of the mean ± standard deviation values for Spearman correlation coefficients of regression models.
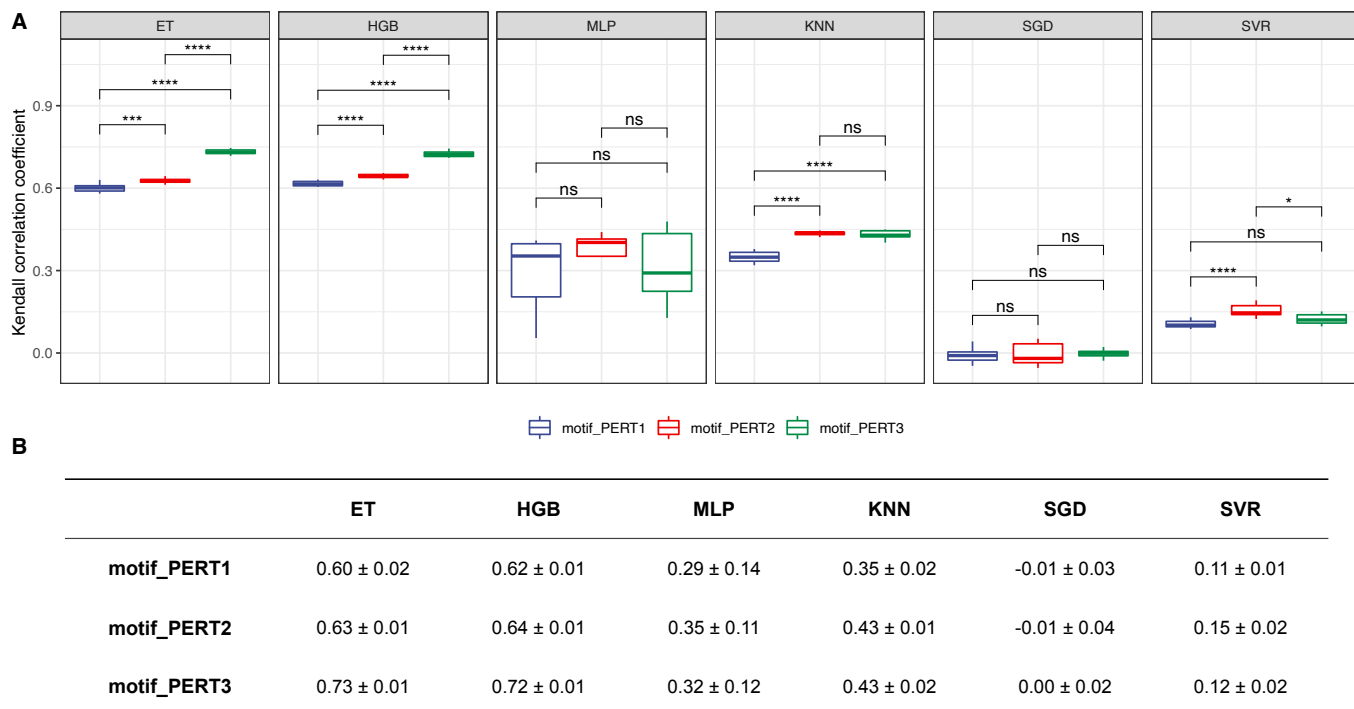

B

	ET	HGB	MLP	KNN	SGD	SVR
motif_PERT1	0.60 ± 0.02	0.62 ± 0.01	0.29 ± 0.14	0.35 ± 0.02	-0.01 ± 0.03	0.11 ± 0.01
motif_PERT2	0.63 ± 0.01	0.64 ± 0.01	0.35 ± 0.11	0.43 ± 0.01	-0.01 ± 0.04	0.15 ± 0.02
motif_PERT3	0.73 ± 0.01	0.72 ± 0.01	0.32 ± 0.12	0.43 ± 0.02	0.00 ± 0.02	0.12 ± 0.02

Figure Supplementary Figure 3. Performance of regression models. **(A)** The Kendall correlation coefficients of different regression models. Asterisks/ns indicate levels of statistical significance, calculated by pairwise Wilcoxon rank sum tests (P-value < 0.05 *, < 0.01 **, < 0.001 ***, < 0.0001 ****; ns, non significant). **(B)** A summary of the mean ± standard deviation values for Kendall correlation coefficients of regression models.