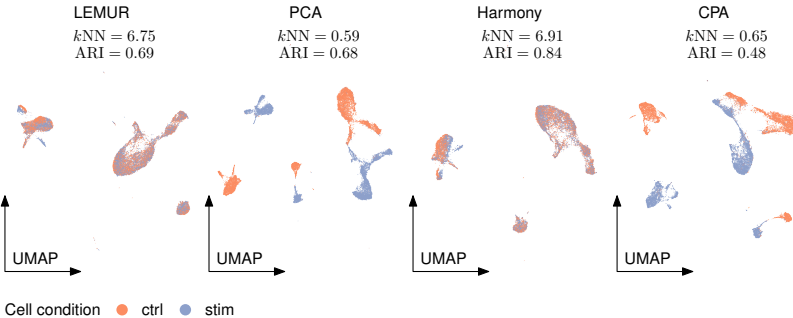
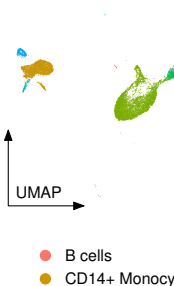


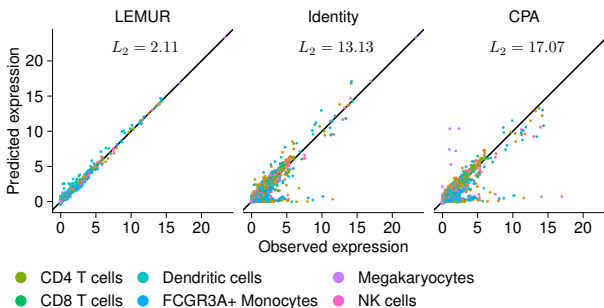
### (A) Latent space ( $Z$ ) of Lupus patient samples treated with IFN- $\beta$ (Kang)



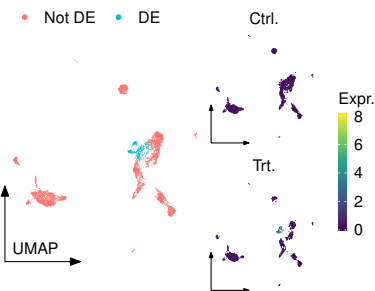
### (C) $Z$ colored by cell type



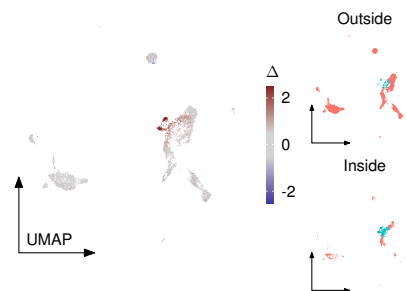
### (D) Predicted vs. observed gene expression per cell type



### (F) Simulated DE

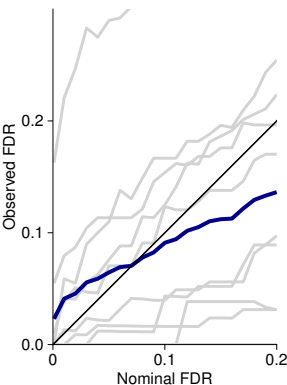


### (G) Predicted DE with neighborhood



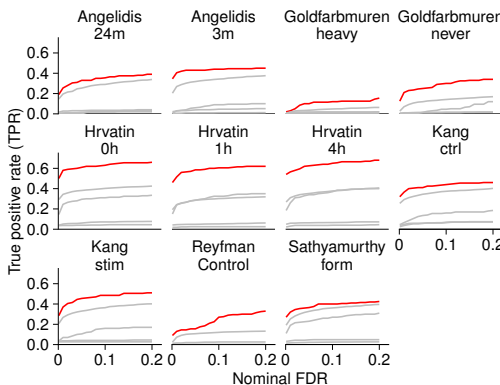
### (I) FDR control

Eleven datasets (mean)

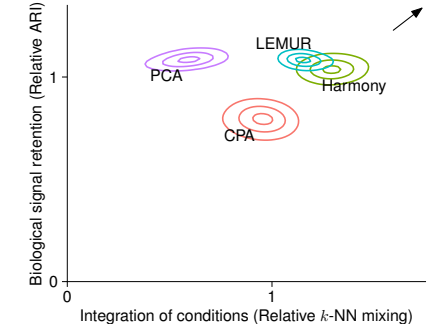


### (J) DE-test Power

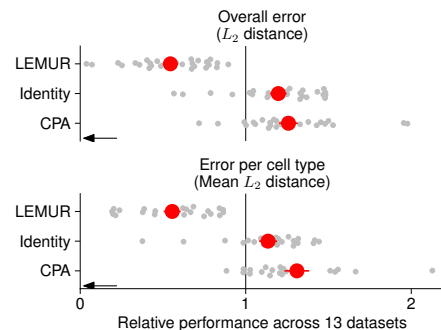
Comparison of LEMUR against four other DE. methods



### (B) Integration Performance

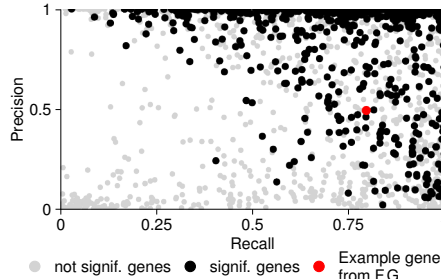


### (E) Prediction performance



### (H) Neighborhood Precision and Recall

Overlap of neighborhood and simulated ground truth



### (K) Power by no. cell with expr. change

Fraction of simulated genes (grey) with min FDR $_g < 0.1$  (blue)

