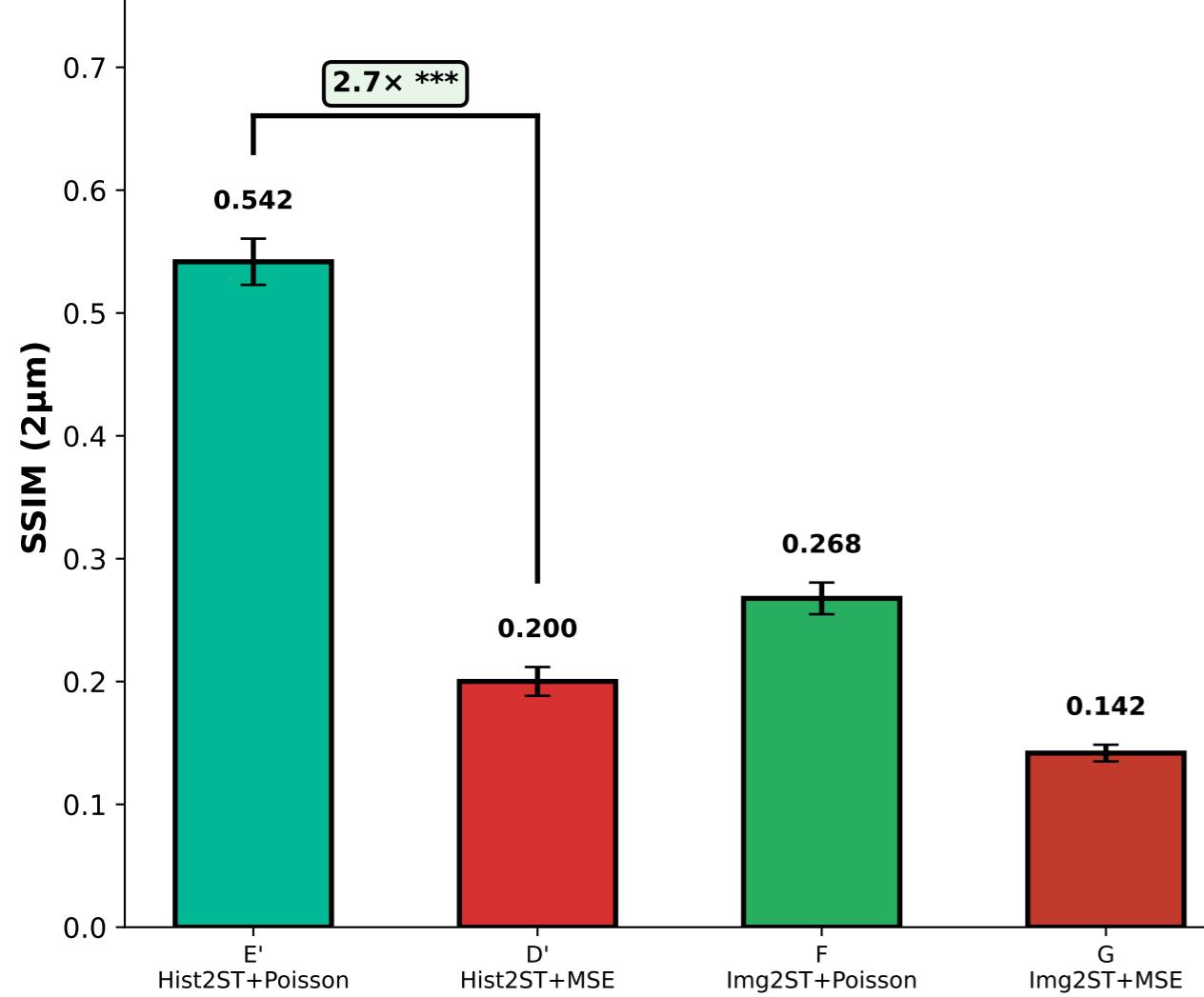
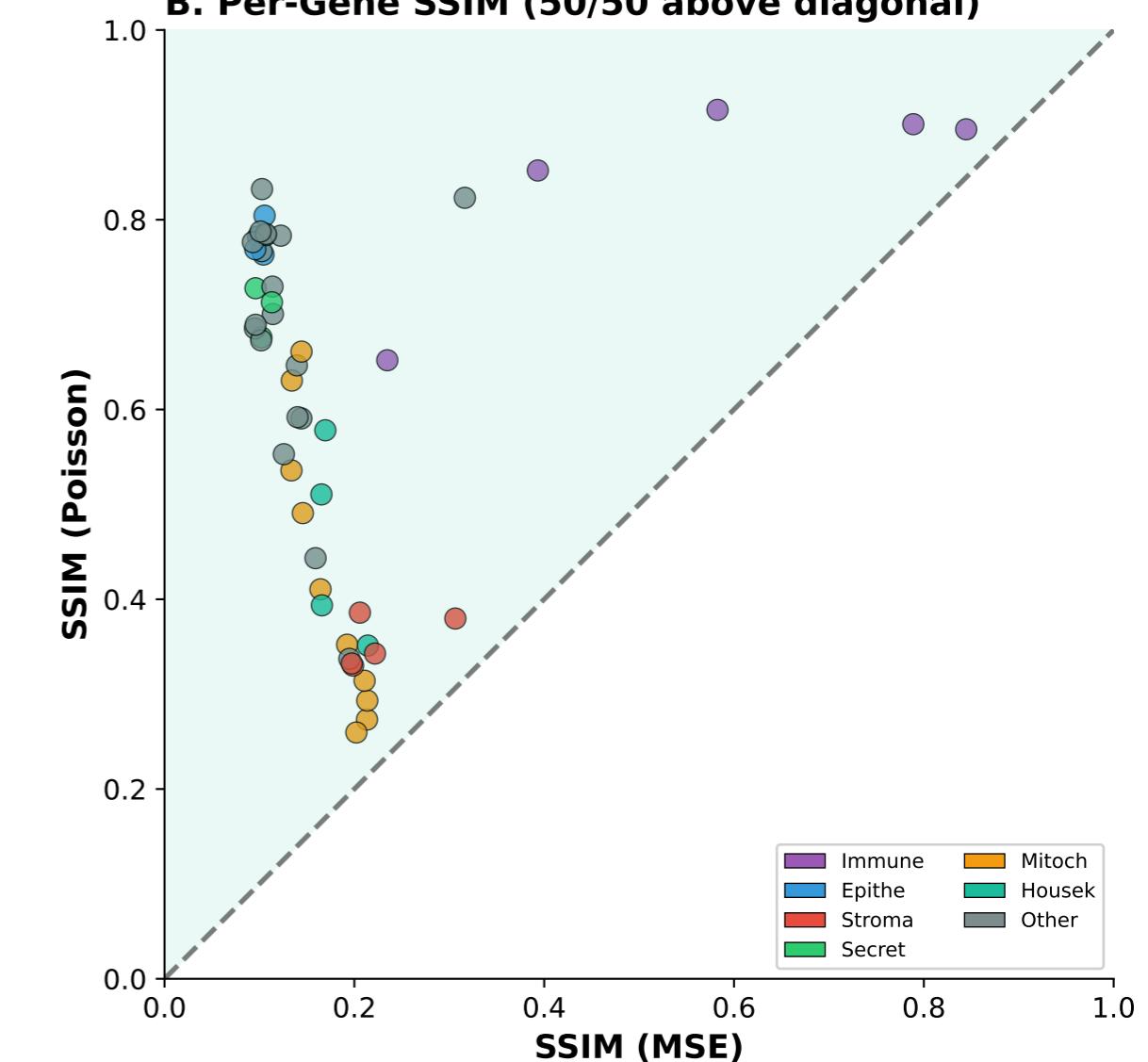


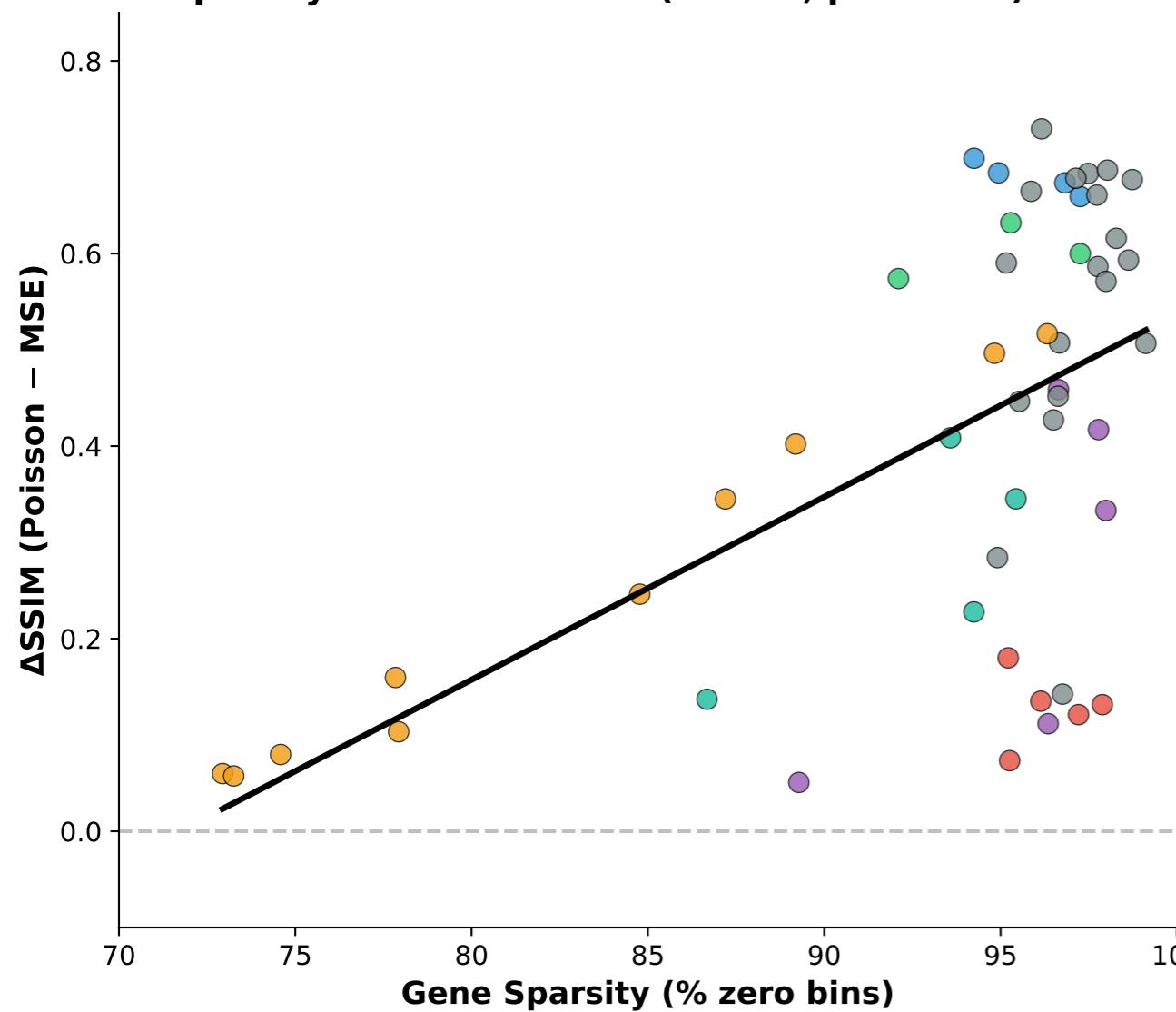
### A. 2×2 Factorial: Loss × Decoder



### B. Per-Gene SSIM (50/50 above diagonal)



### C. Sparsity Predicts Benefit ( $r=0.58$ , $p<0.0001$ )



### D. Per-Gene Improvement Ranking

