Measure fitness profiles of mutants across environments Mutant 3 Fitness Mutant 1 Mutant 2 $f_{M_4E_3}$ Mutant 4 E_1 E_2 E_3 E_4 E_5 **Environments**

noise-only matrices

15

Component

20

25

12345678910

Infer mutant phenotypes and environment weights from fitness profiles using SVD

PDE2

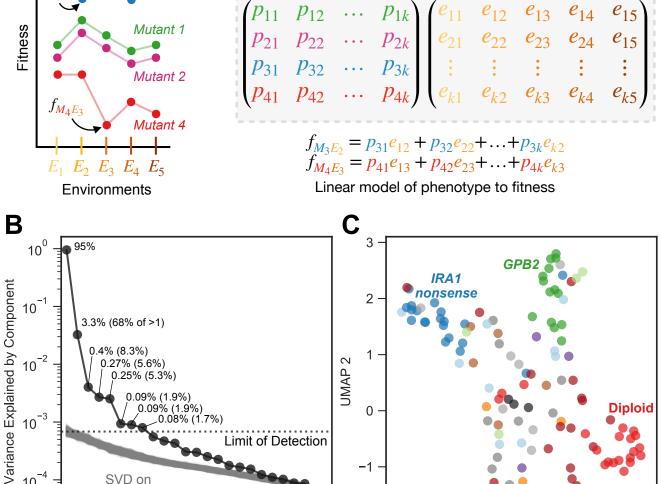
UMAP 1

-8

High-fitness Diploid

-2

Environment weights (E)



Mutant phenotypes (P)