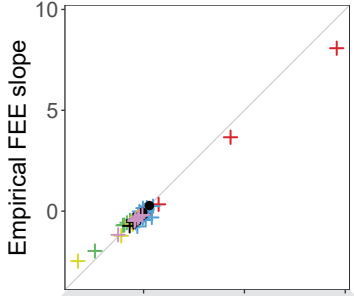
Effective interaction
averaged across backgrounds

$$\tilde{\varepsilon}_{ij} = \frac{\langle \varepsilon_{ij} \rangle \langle \Delta F_j \rangle_{B(i)}}{\sum_{k \neq i} \langle \Delta F_k \rangle^2_{B(i)}}$$



Ecological data sets:
- Above−ground plant biomass
- Phytoplankton biomass
- Bacterial xylose oxidation
- Bacterial starch hydrolysis
- Bacterial butyrate secretion
- Bacterial pyoverdine secretion

Genetic data set:
- *E. coli* fitness