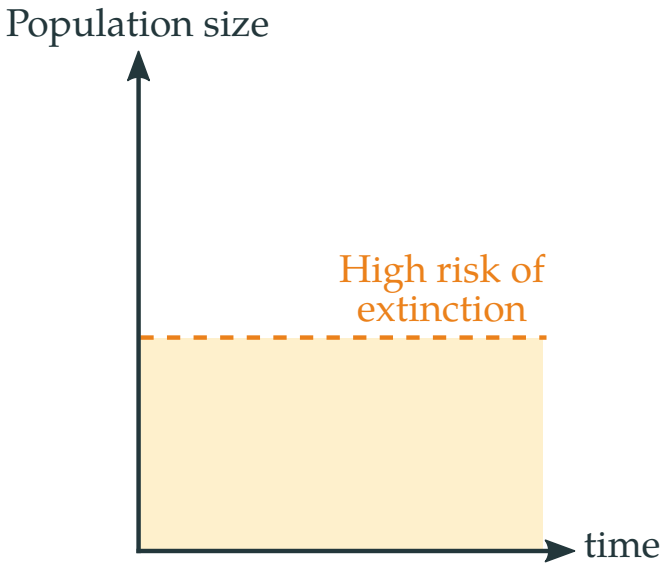
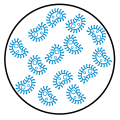
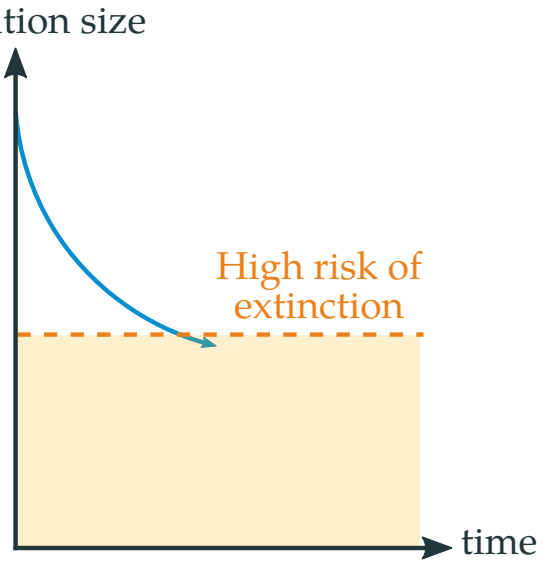
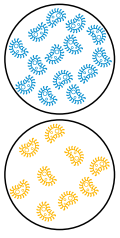

Population size
High risk of
extinction
time

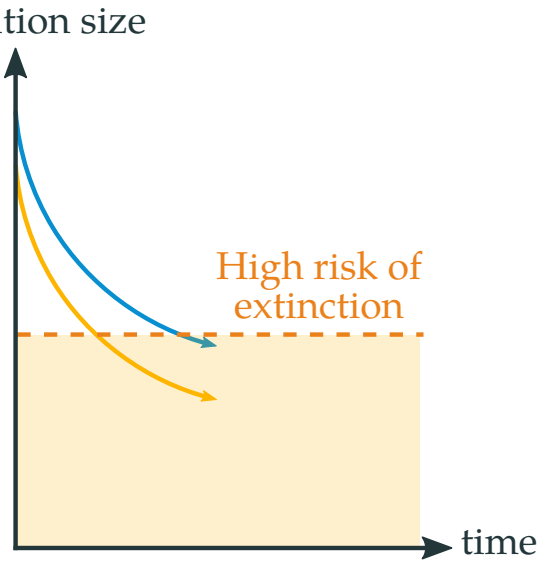
High population size

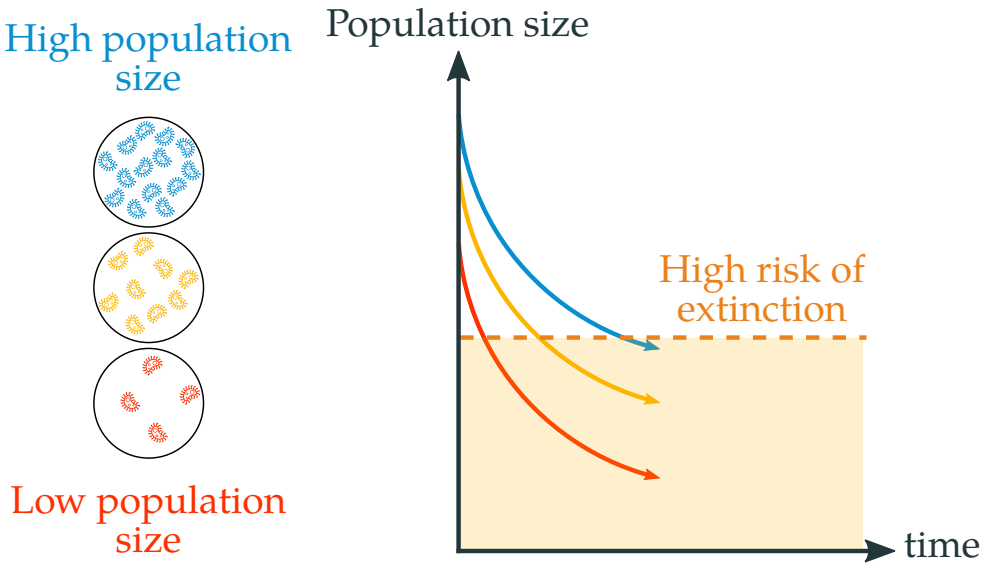


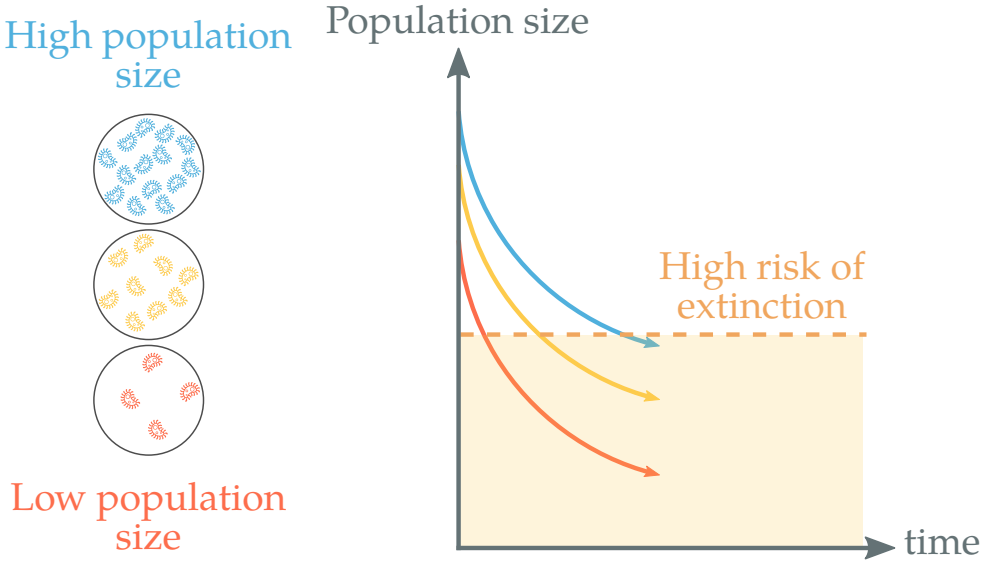


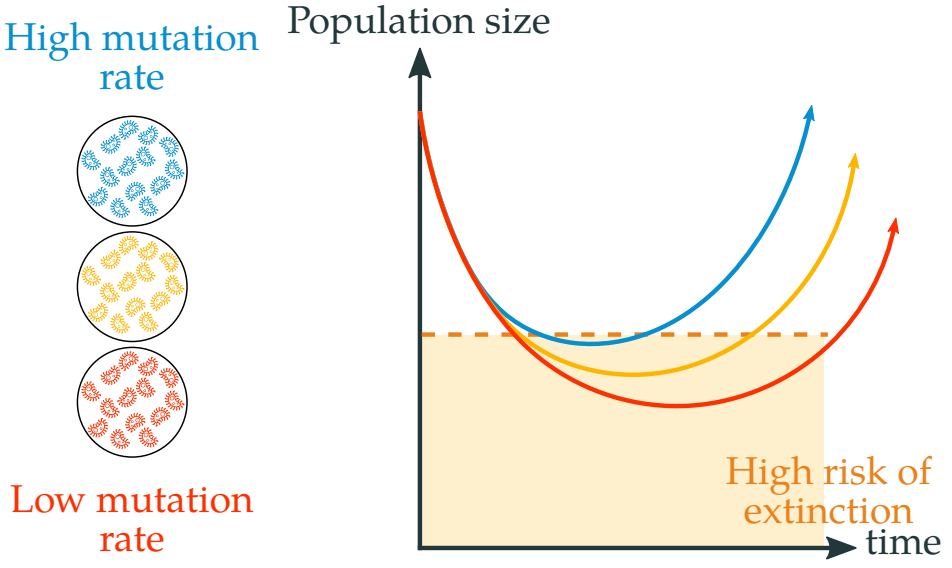
High population size

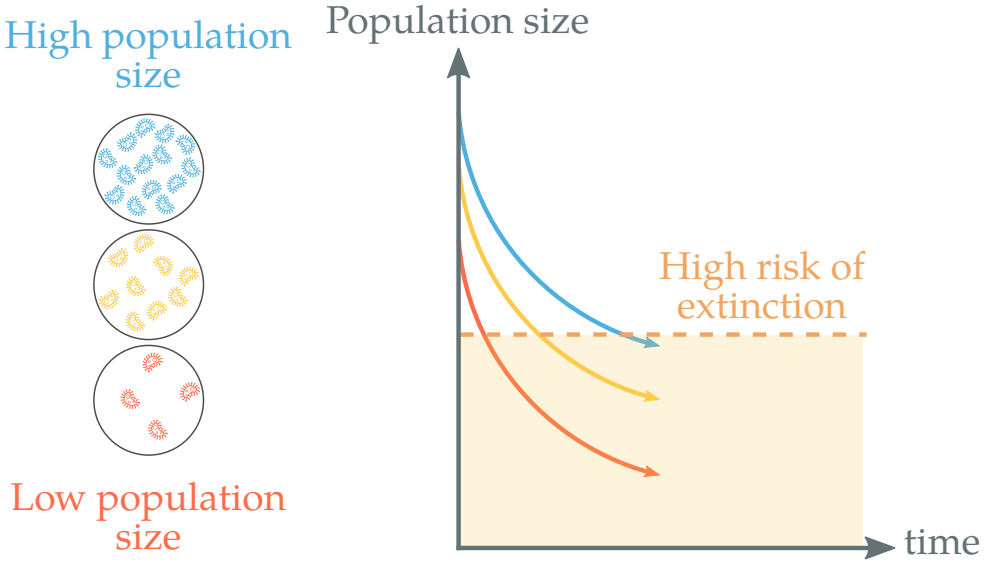


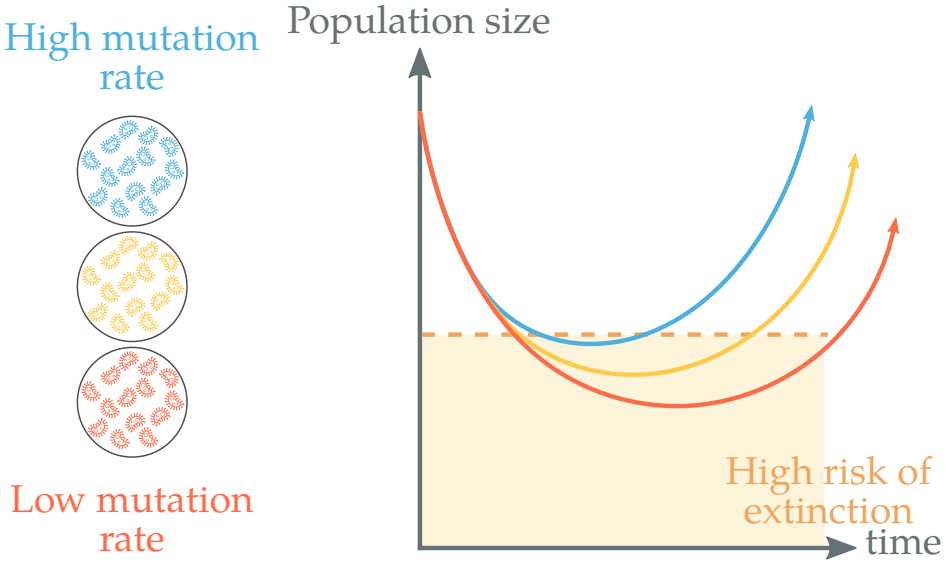


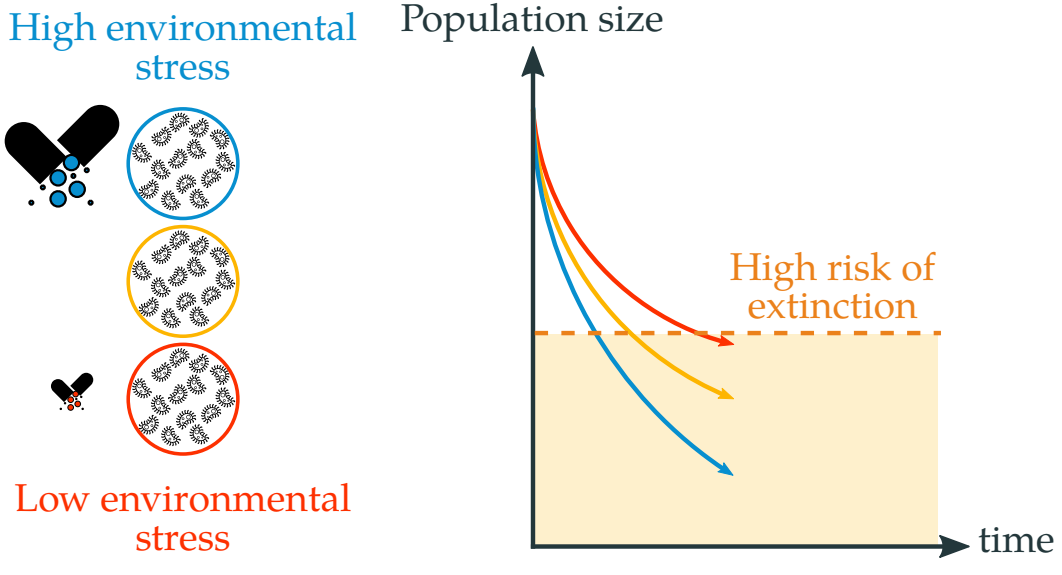

High population size
Low population size
Population size
High risk of extinction
time


High population size
Low population size
Population size
High risk of extinction
time

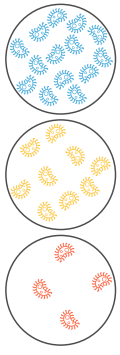

High mutation rate
Low mutation rate
Population size
High risk of extinction
time


High population size
Low population size
Population size
High risk of extinction
time

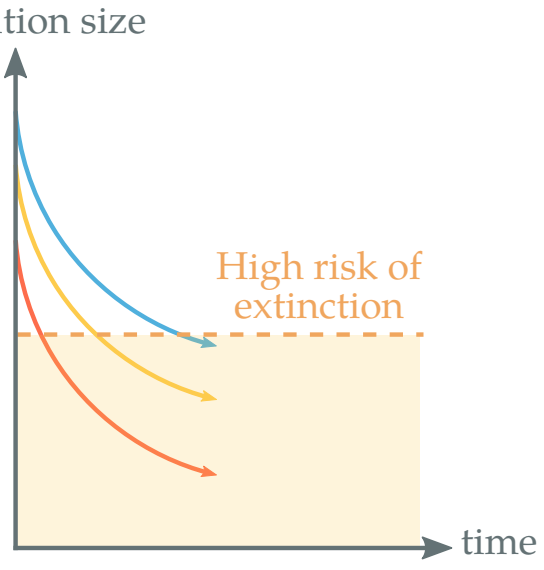

High mutation rate
Low mutation rate
Population size
High risk of extinction
time


High environmental stress
Low environmental stress
Population size
High risk of extinction
time

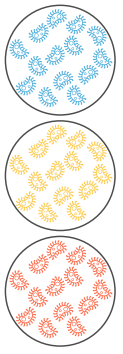
High population size



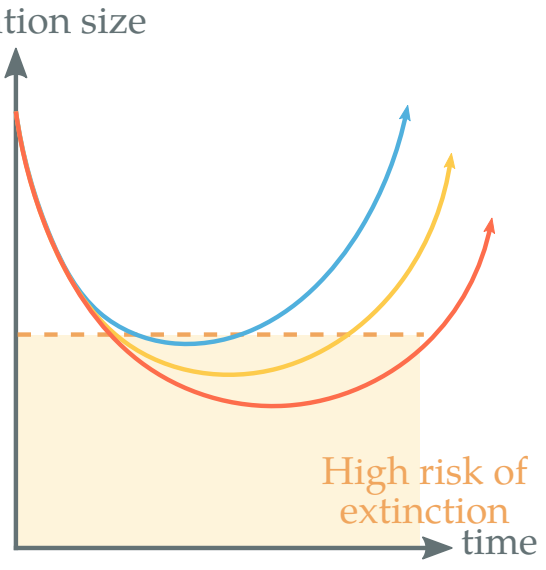
Low population size



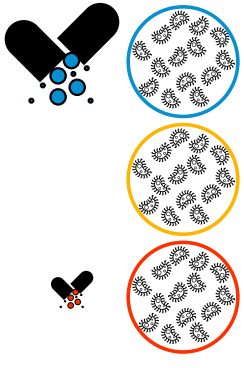
High mutation rate



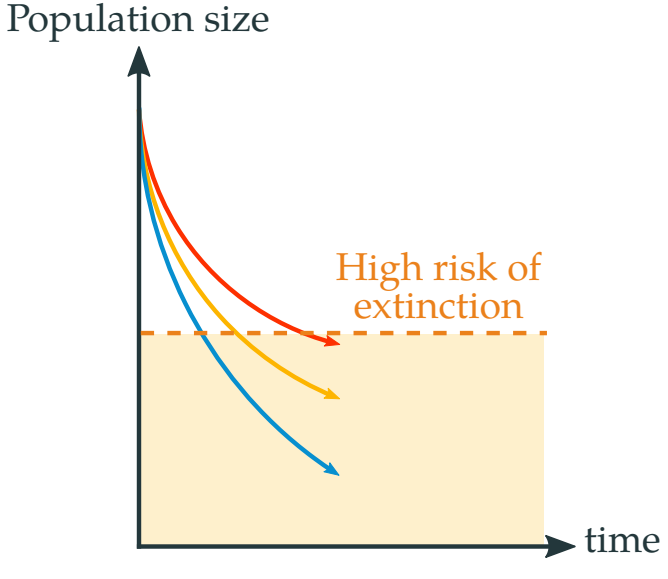
Low mutation rate



High environmental stress



Low environmental stress

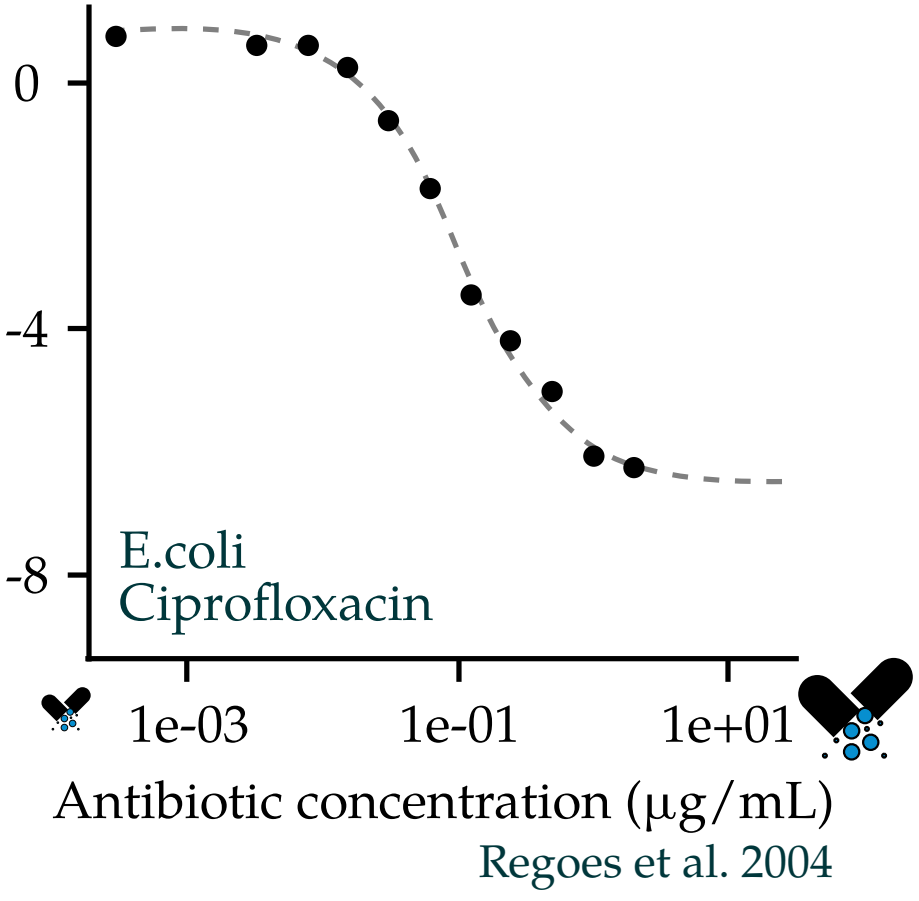


Effect of environmental change on **demography**

BUT

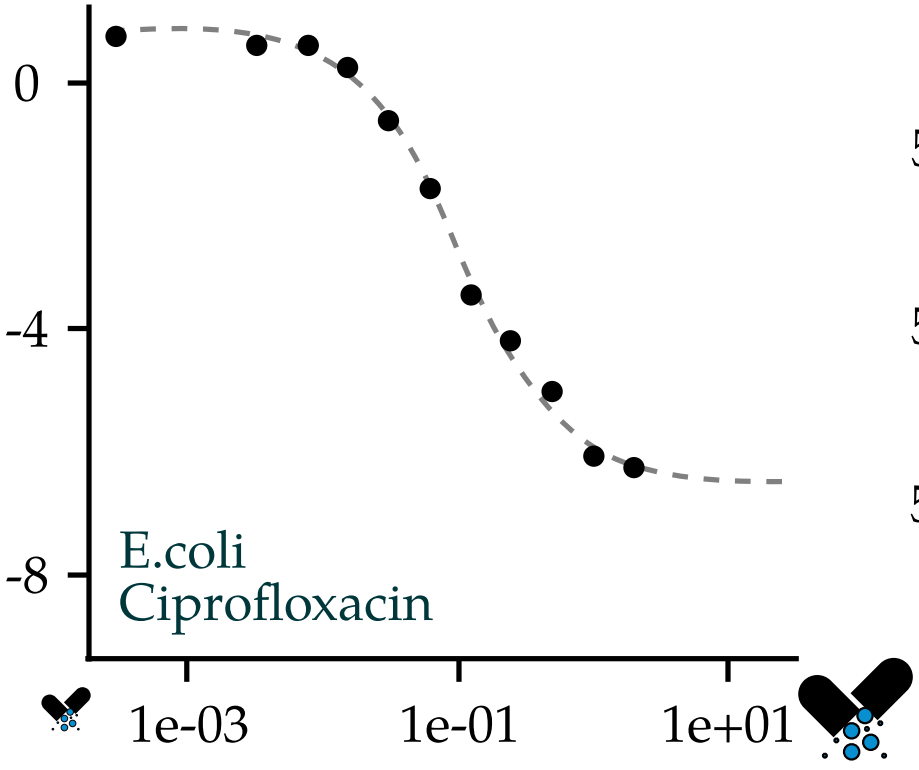
Fixed probability of apparition of resitant mutations **across environments**

Maladaptation of the ancestor
= level of **environmental stress**



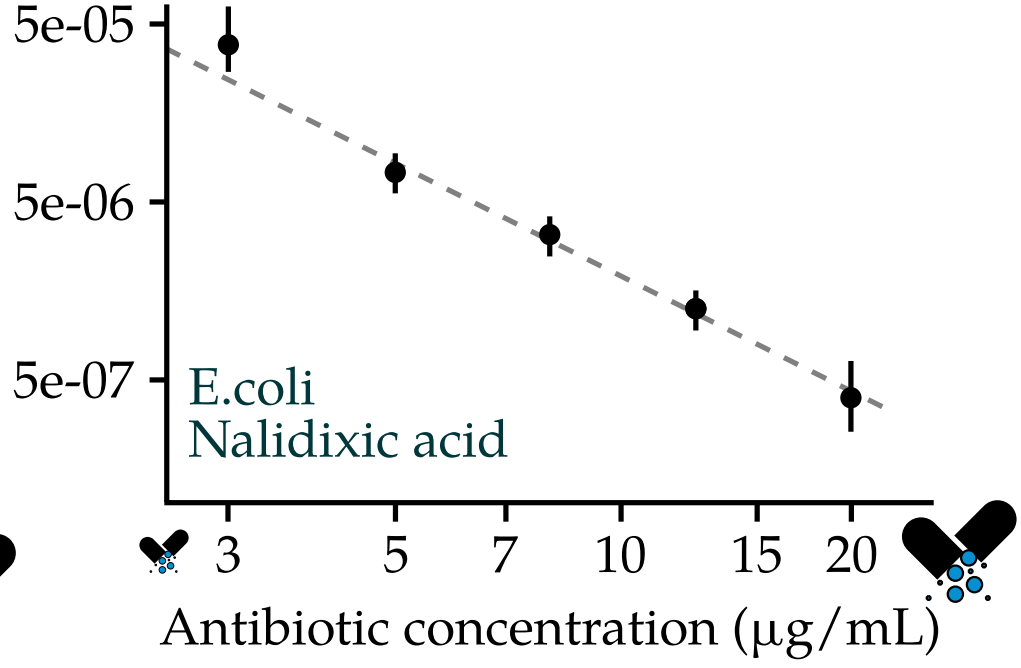
Regoes et al. 2004

Maladaptation of the ancestor
= level of **environmental stress**

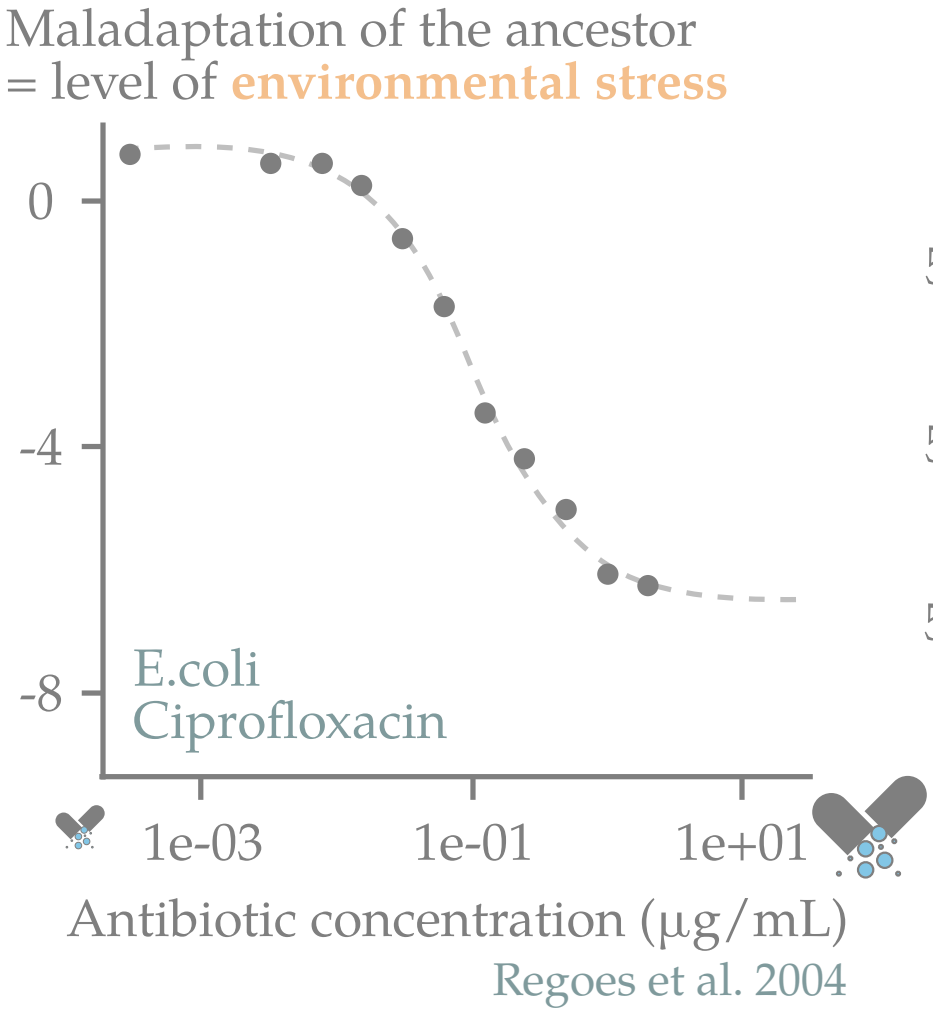


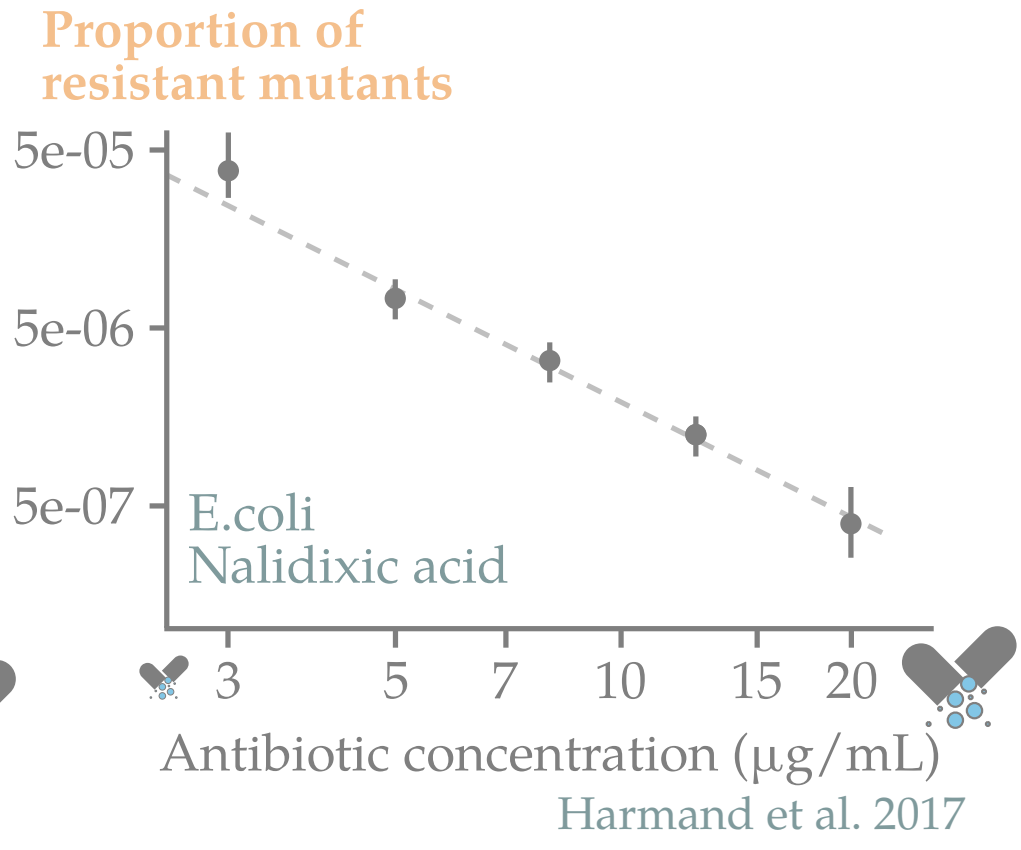
Regoes et al. 2004

Proportion of resistant mutants



Harmand et al. 2017





Derive ER models for asexual organisms integrating a **dependence between the environmental and the genetic contexts**