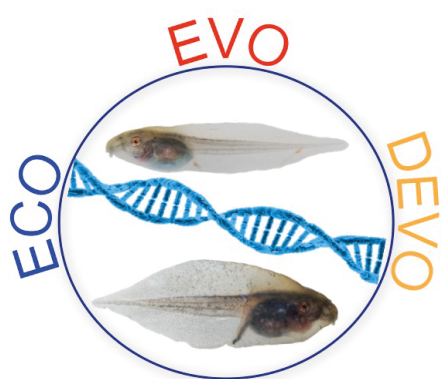


# Dark Waters Make Dark Tadpoles

Pigmentation plasticity in  
Spadefoot toad tadpoles



Christoph Liedtke  
Karem López  
Iván Gómez Mestre



Eco-Evo-Devo Group  
Estación Biológica de Doñana - CSIC

# Crypsis through Background matching

Selection on phenotypes



# Crypsis through Background matching

Pigmentation plasticity



# Crypsis through Background matching

Pigmentation plasticity



# Pigmentation plasticity in amphibians



Non-breeding male



Breeding male



Night



Day



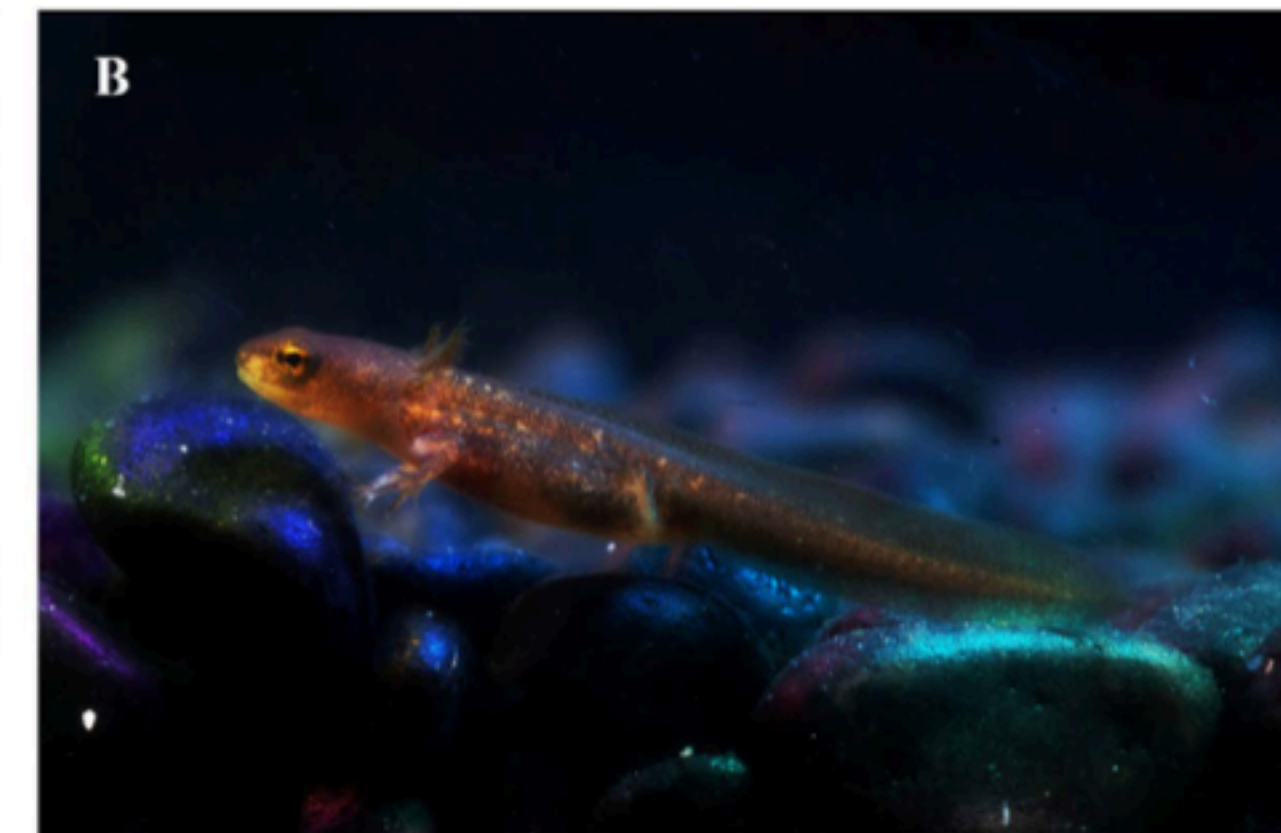
No predators



Predators



Light background



Dark background

# Pigmentation plasticity in amphibians



Non-breeding male



Breeding male



Night



Day



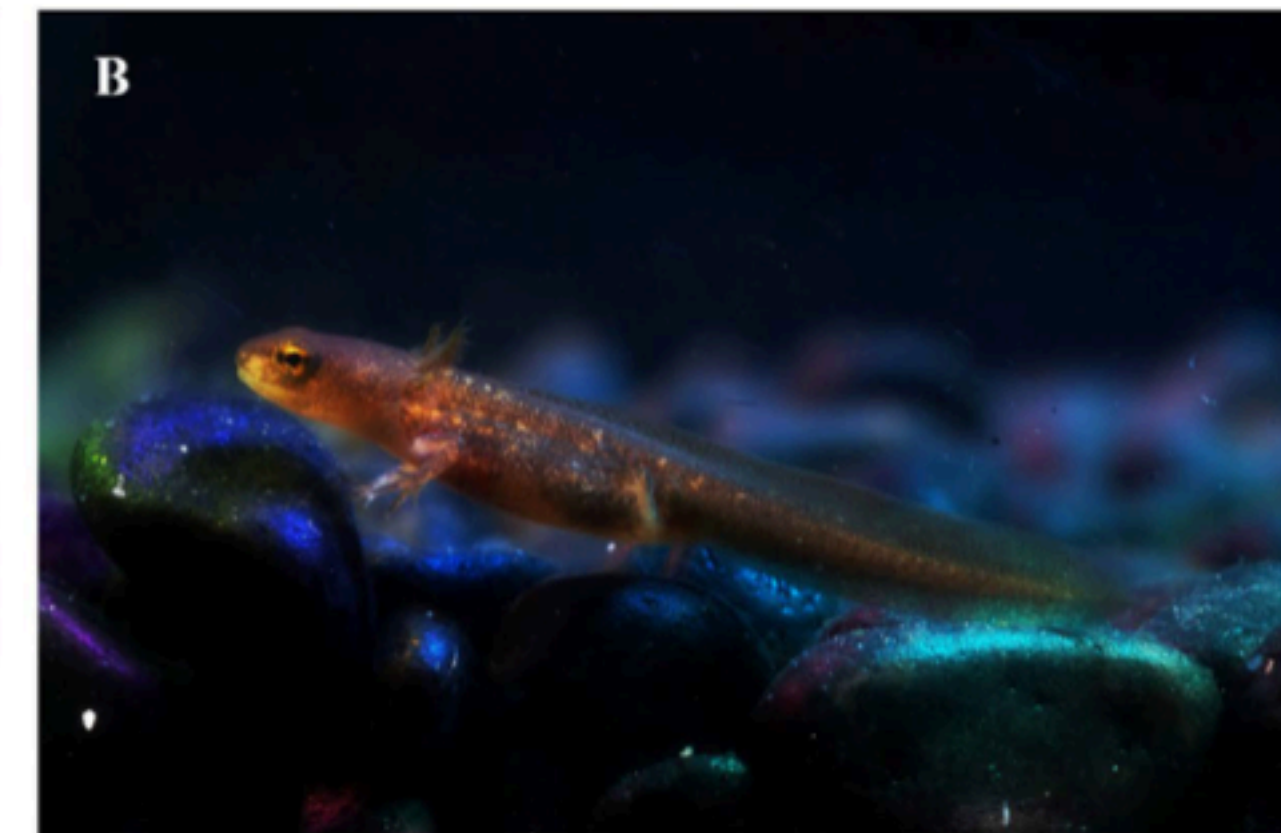
No predators



Predators



Light background



Dark background

# Background matching in Spadefoot toad tadpoles



Western Spadefoot toad  
*Pelobates cultripes*



# Background matching in Spadefoot toad tadpoles

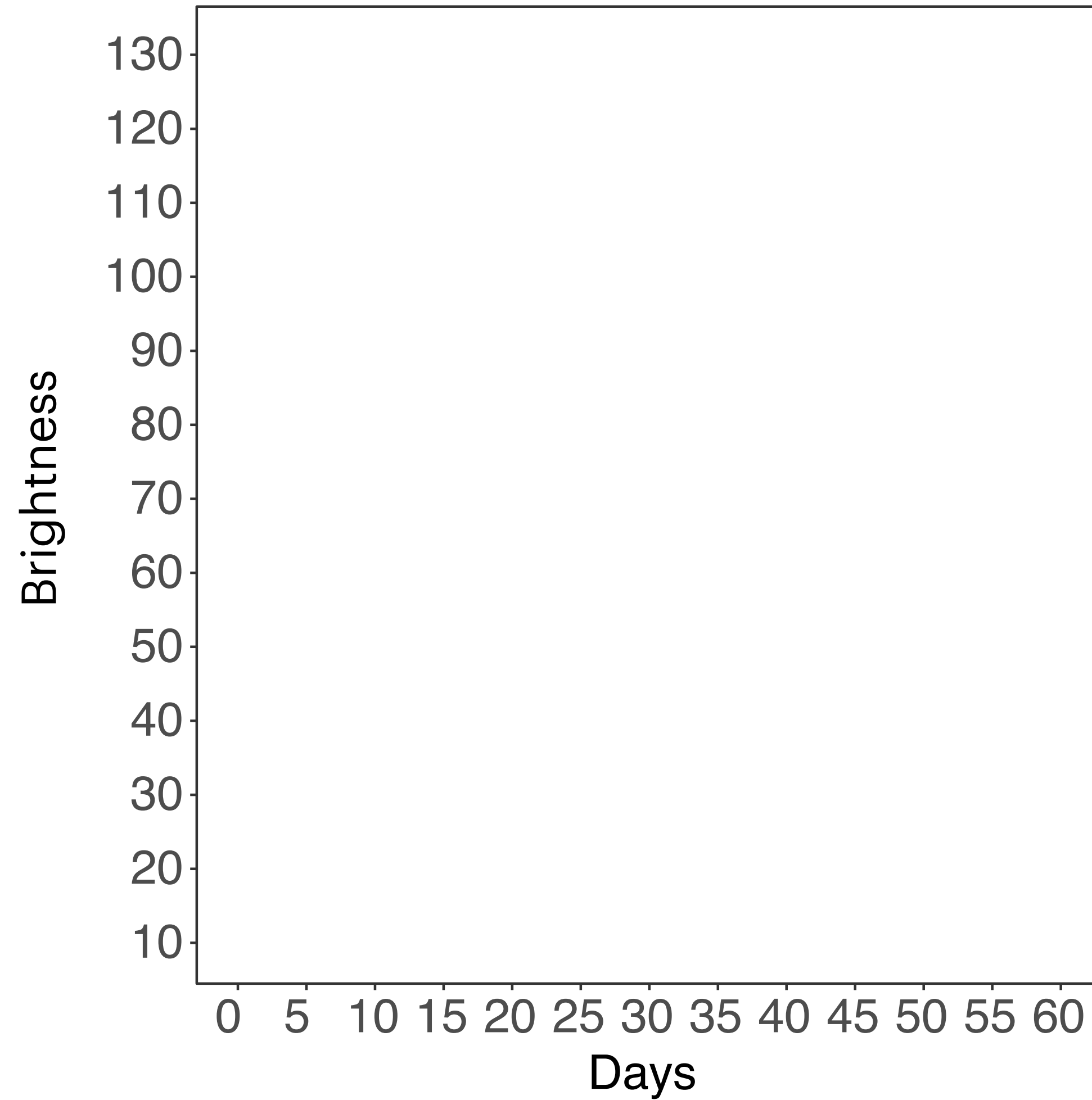
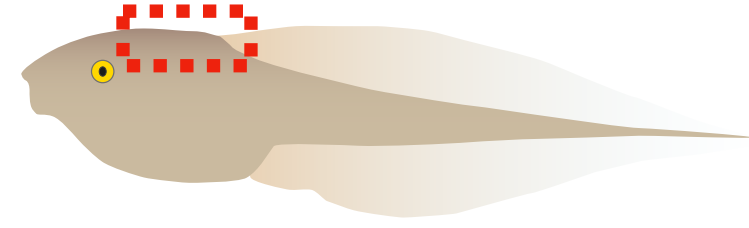


Western Spadefoot toad  
*Pelobates cultripes*

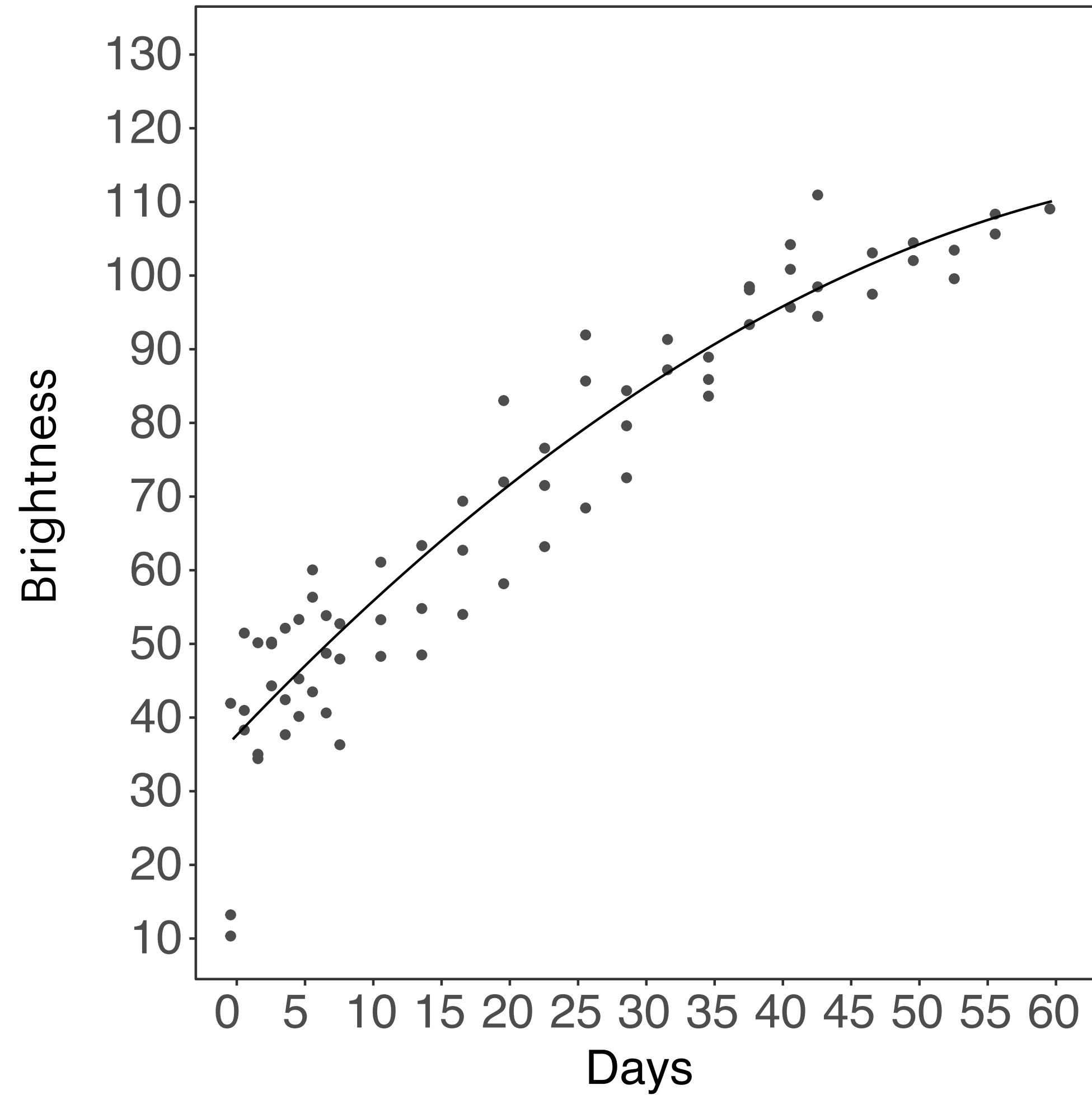
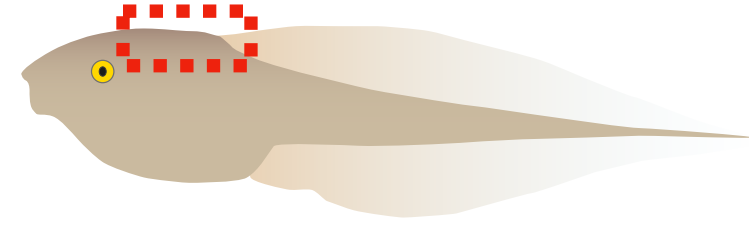




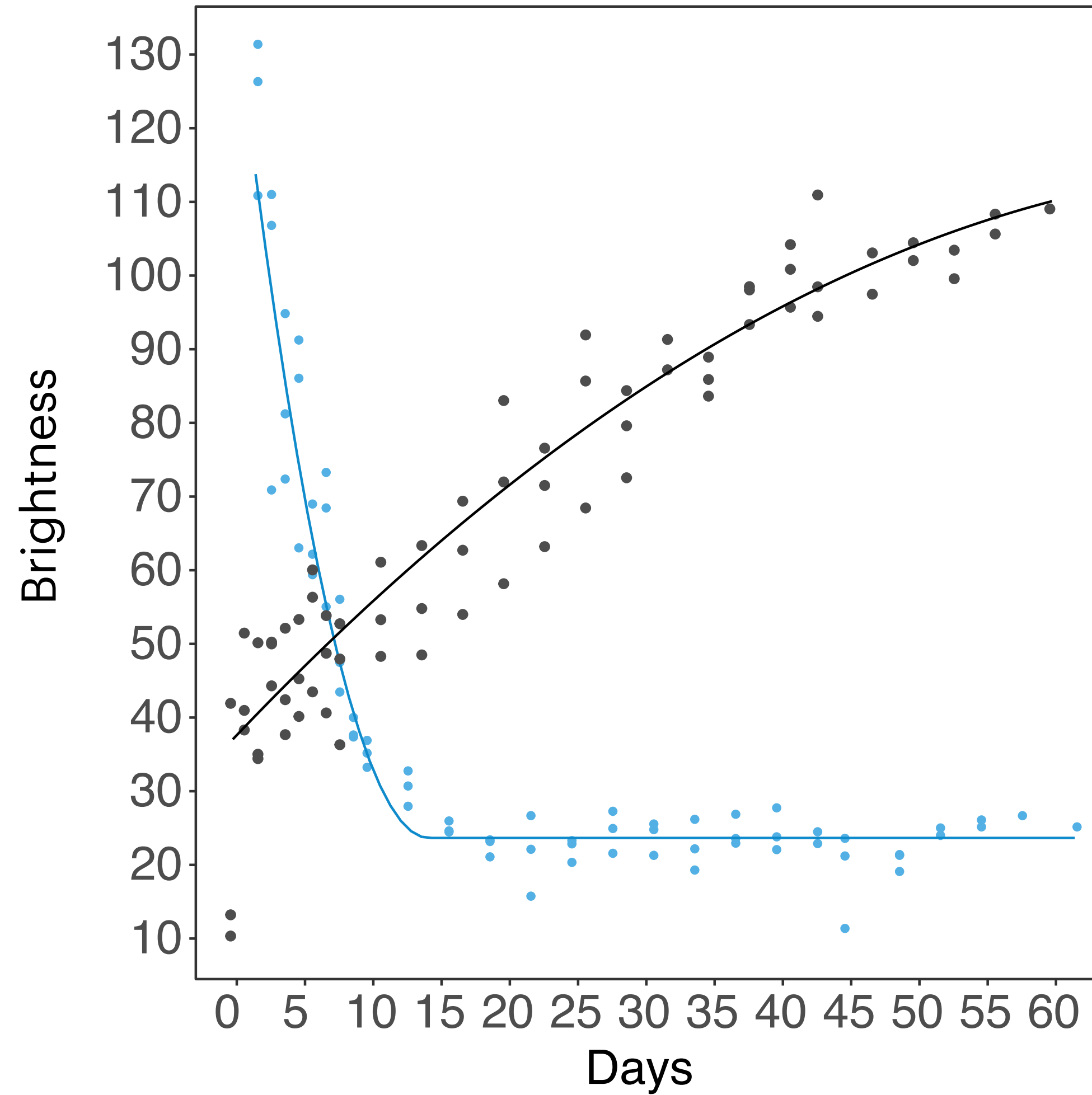
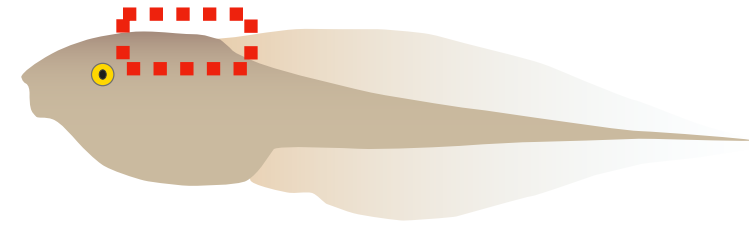
# Speed and Reversibility



# Speed and Reversibility



# Speed and Reversibility



# Countershading



# Countershading



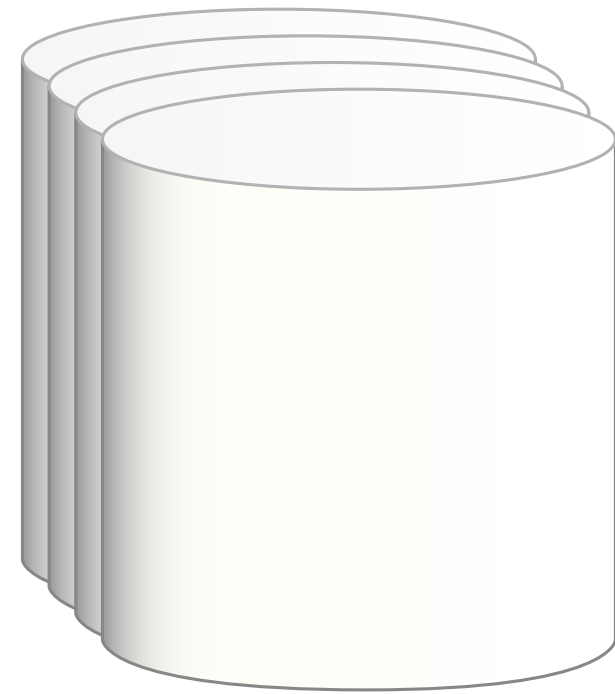
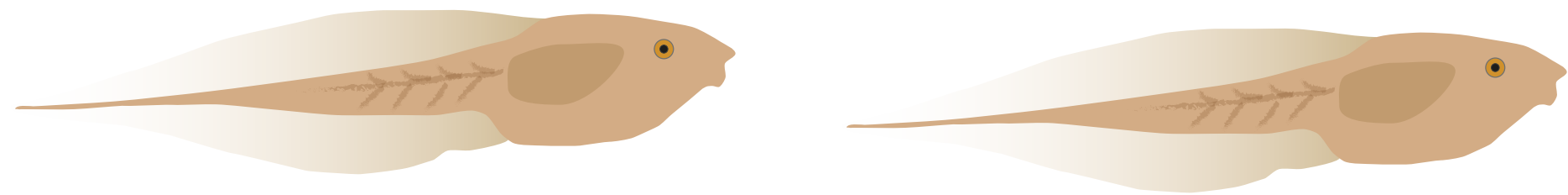
# Molecular Mechanisms



- a. What genes are switched on/off in response to background colour?
- b. What genes regulate countershading patterning?



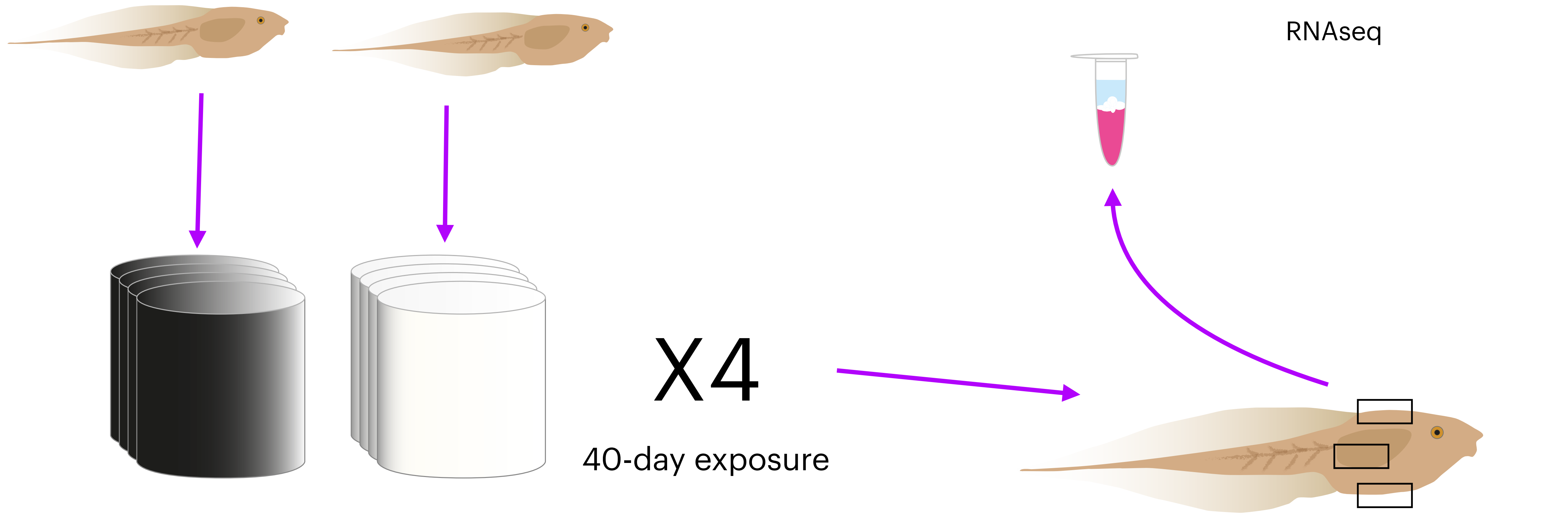
# RNAseq experiment



X4

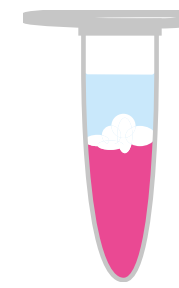
40-day exposure

# RNAseq experiment





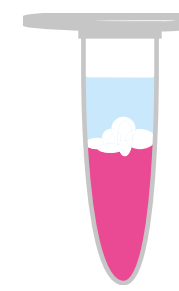
# Differential Gene Expression



↓ Poly(A) enrichment



# Differential Gene Expression



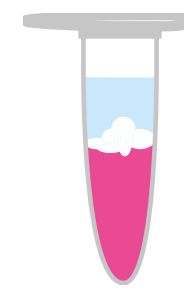
↓ Poly(A) enrichment



↓ Fragmentation and cDNA Synthesis



# Differential Gene Expression



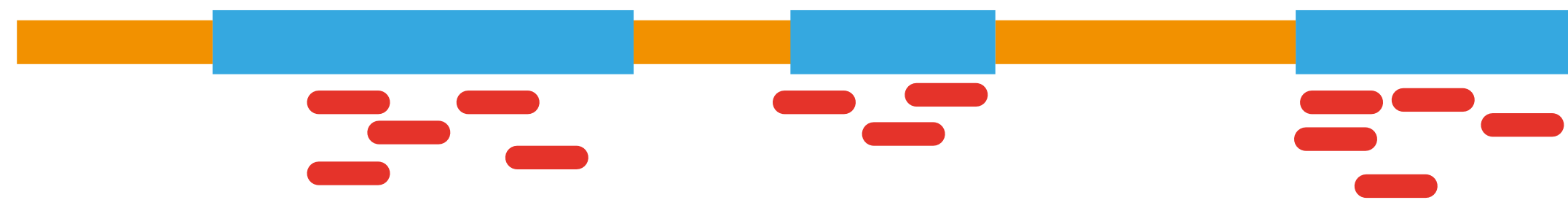
↓ Poly(A) enrichment



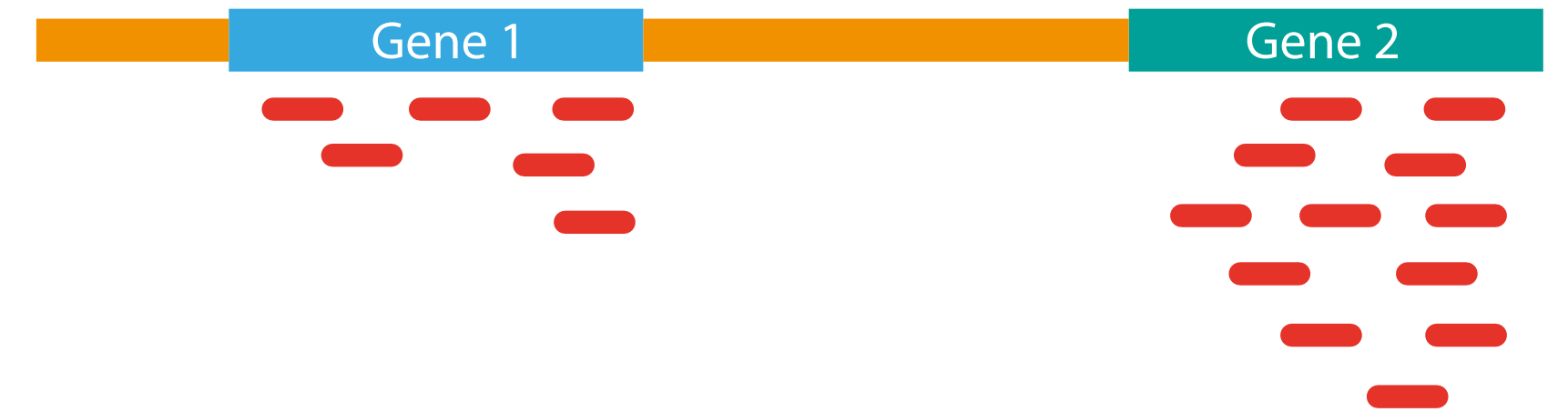
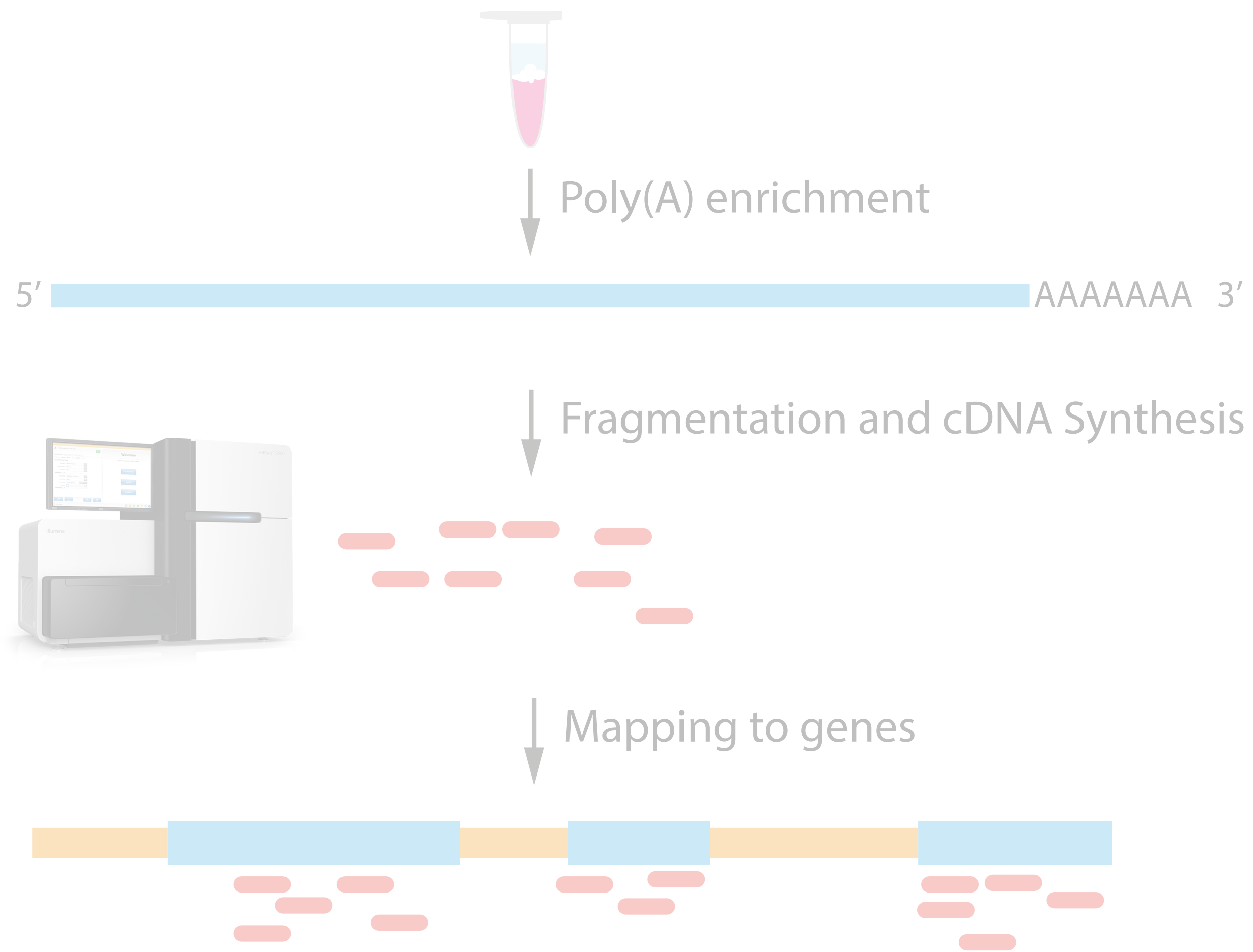
↓ Fragmentation and cDNA Synthesis



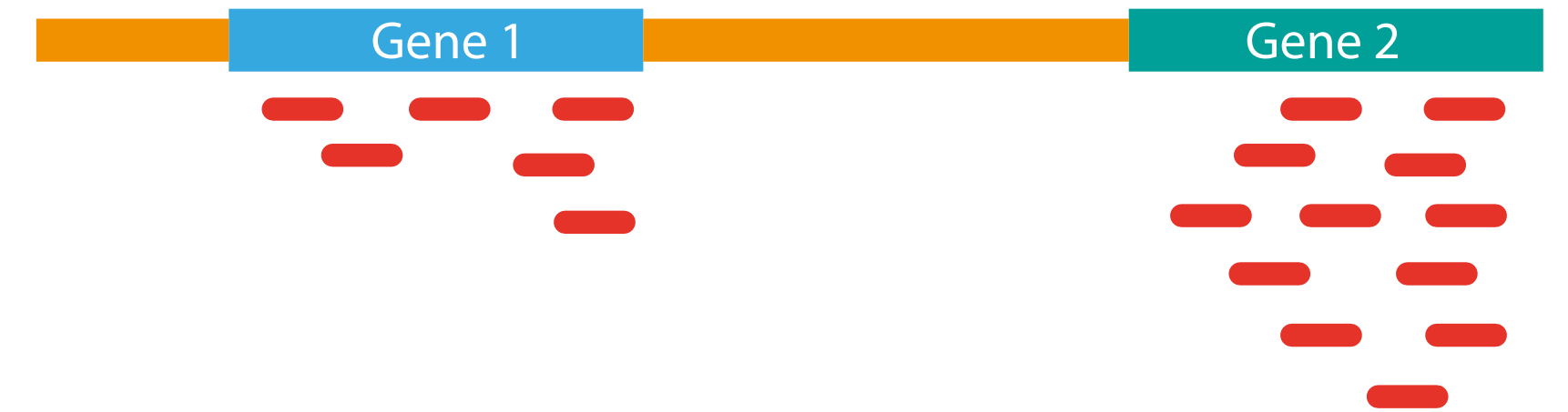
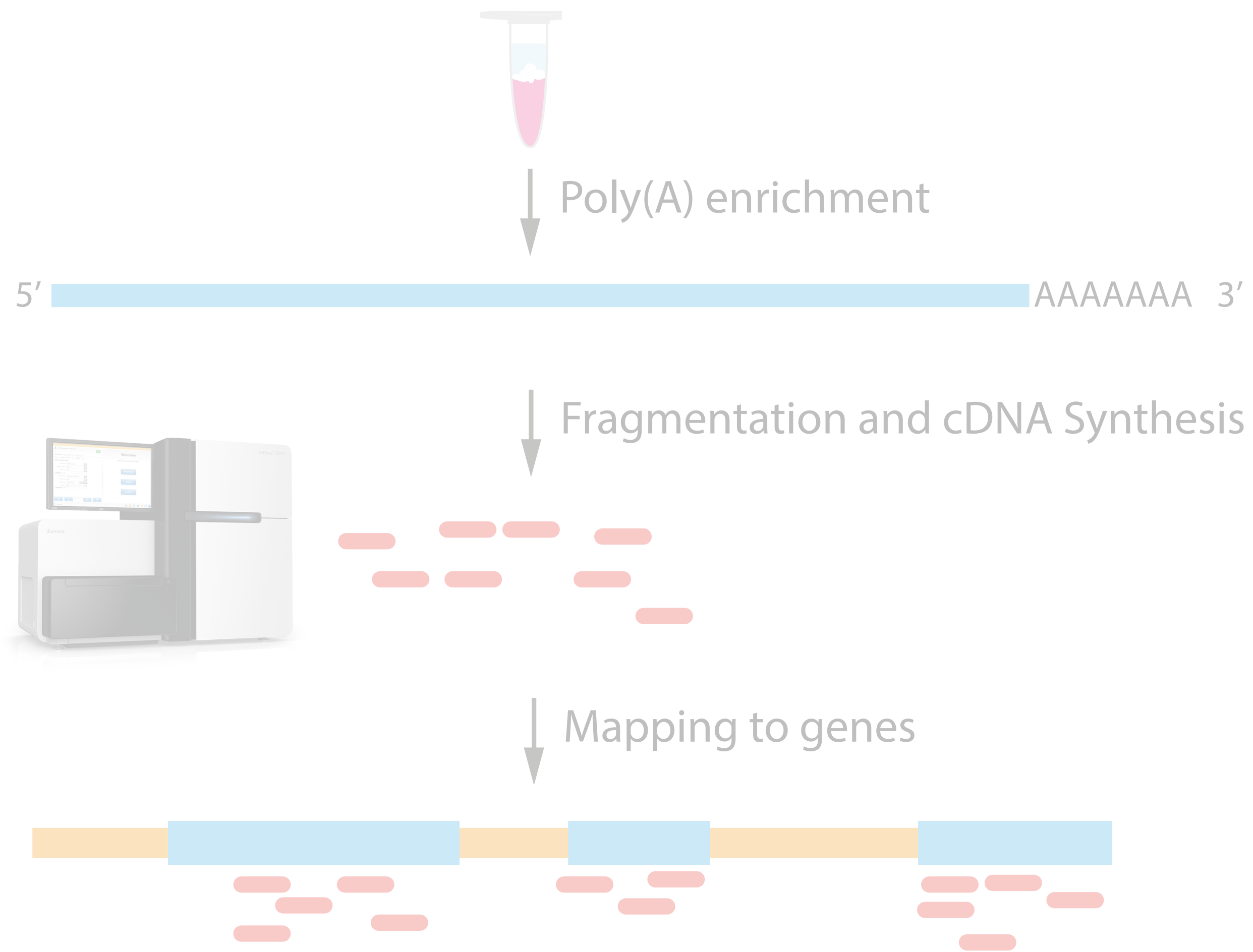
↓ Mapping to genes



# Differential Gene Expression



# Differential Gene Expression



# Differential Gene Expression

