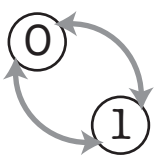
The data

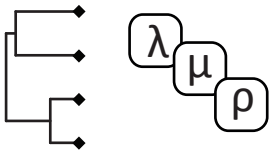
0101...
1101...
0100...

Phylogenetic characters

Fossil ages

Tripartite model components





Substitution model

Clock model

Tree and tree model

Bayes' theorem

$$P(\text{parameters} \mid \text{data, model}) = \frac{P(\text{data} \mid \text{parameters, model})\,P(\text{parameters} \mid \text{model})}{P(\text{data} \mid \text{model})}$$

likelihood

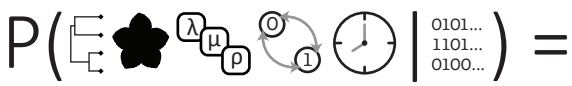
priors

posterior

marginal probability of the data

Putting everything together

posterior

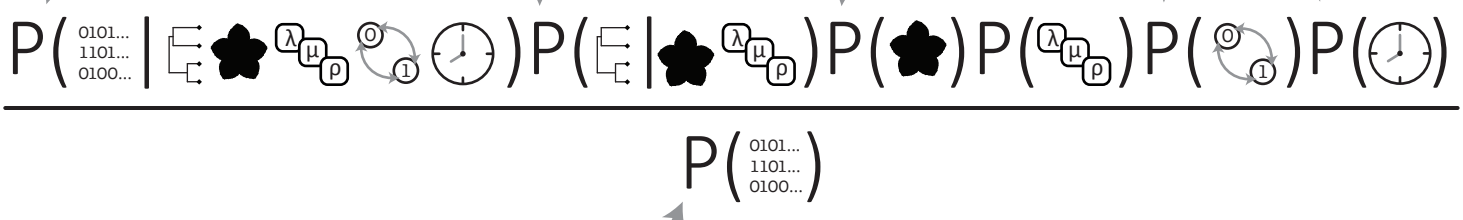


probability of the character data given everything else*

probability of the timetree given the tree model

priors on fossil ages

priors on model parameters



marginal probability of the data

*the tree, the parameters and the tripartite model