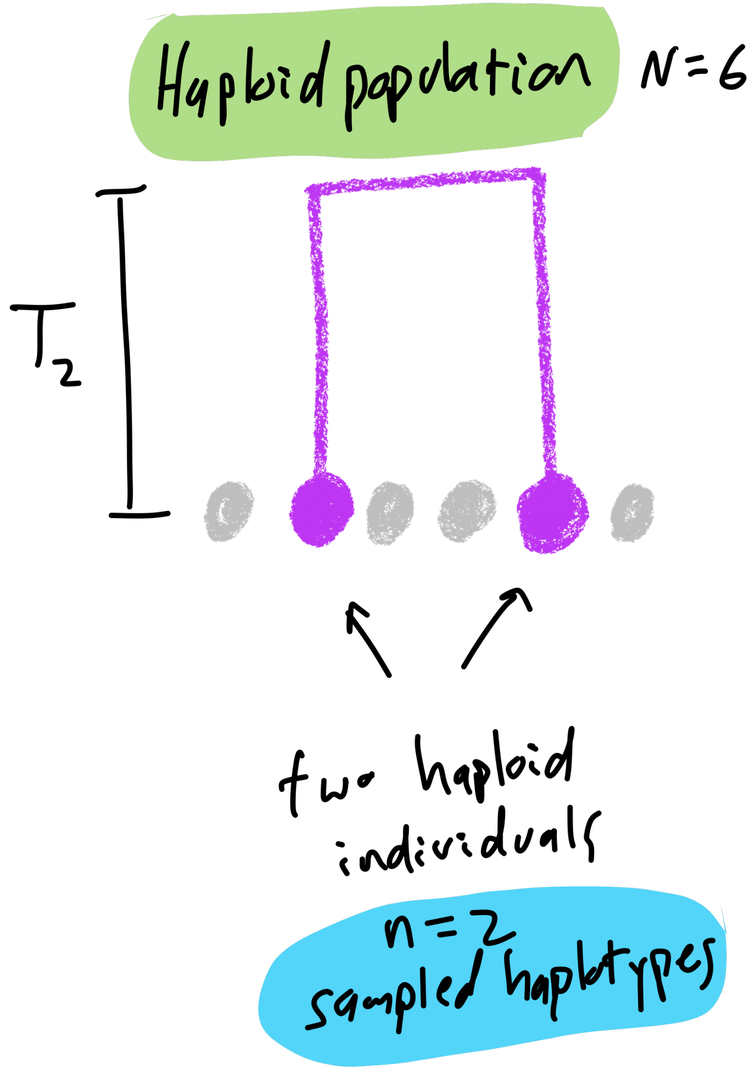
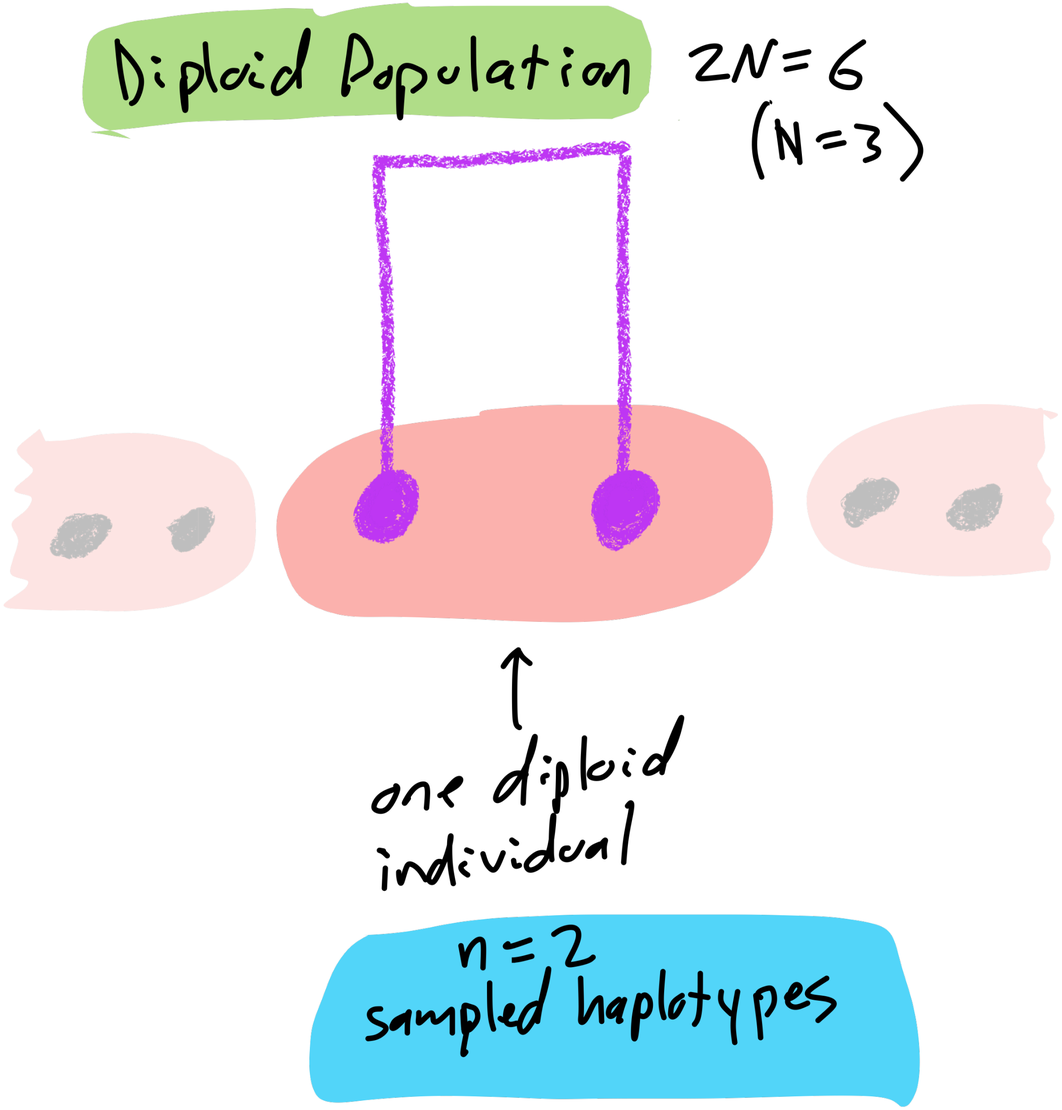
Coalescent theory

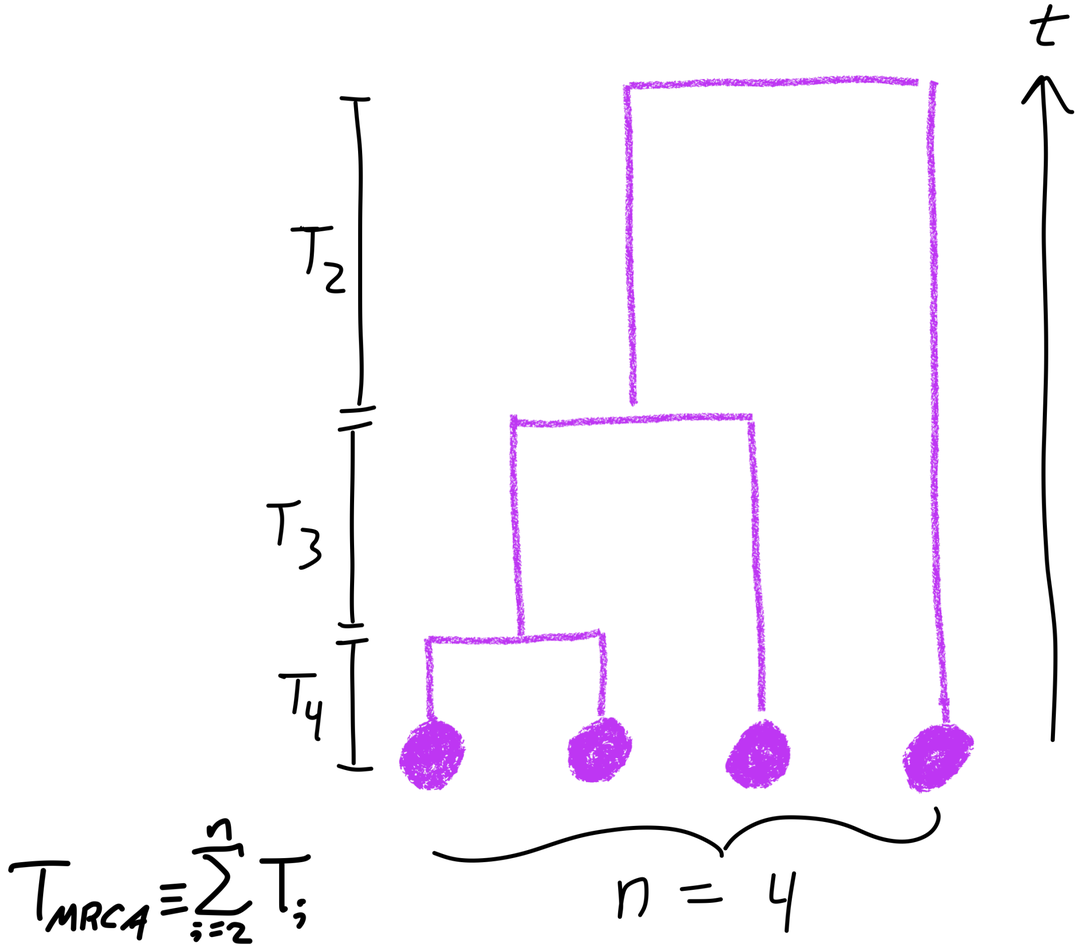
Watch those factors of 2!





Coalescent theory

Updating the previous results



$$T_{MRCA} \equiv \sum_{i=2}^{n} T_i$$

"intercoalescence times"

$$\mathbb{E}[T_i] = \frac{2N}{\binom{i}{2}}$$

Exp. dist.

$$p(t_i) = \frac{\binom{i}{2}}{2N} e^{-\frac{\binom{i}{2}}{2N} t_i}$$

- Each pair is a process w/ rate $\frac{1}{2N}$
- The pairs race to coalesce