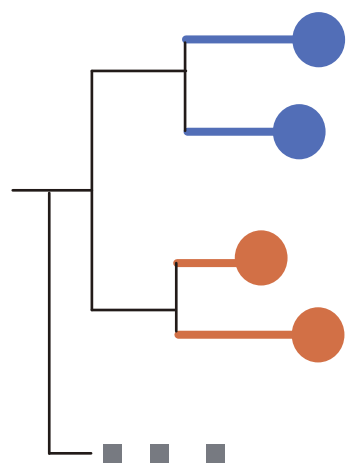
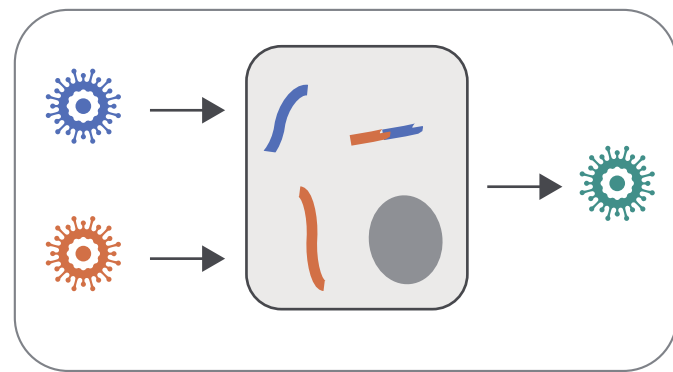


A

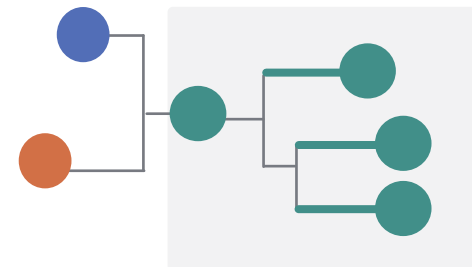
Virus evolution



Recombination event



Transmission

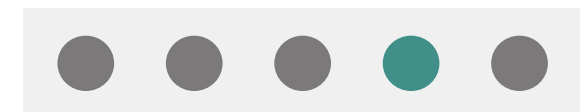


Detection method

**CovRecomb**

Recombination patterns

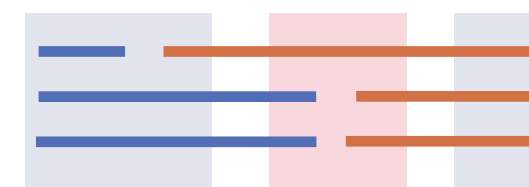
a. Identify recombinant



b. Trace transmission



c. Breakpoint preference

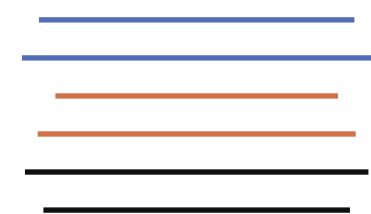


d. Lineage preference

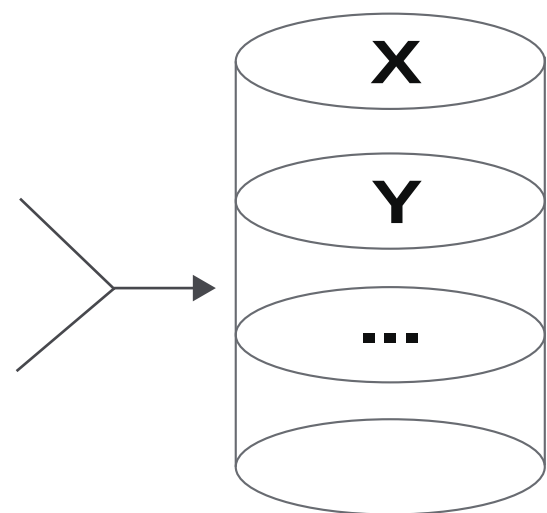


B

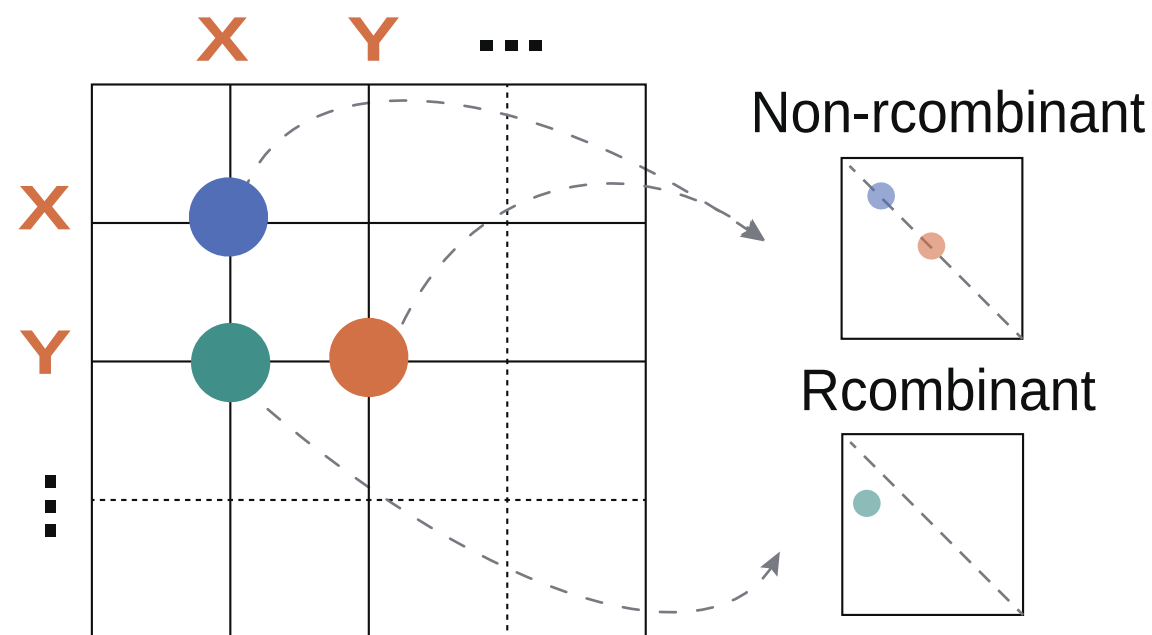
1. Transformation



2. Construction



3. Predefinition



4. Mapping

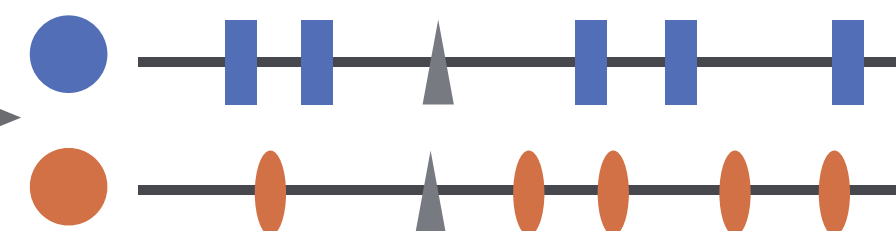
Statistical screening

$$P = \frac{\binom{k}{K} \binom{N-k}{n-K}}{\binom{N}{n}}$$

Biological restriction

5. Determination

Non-recombinant



Recombinant

