DELETION MAPPING IN PHAGE

General Principle 1:

Where DNA is missing, it cannot recombine. Therefore, mutants with overlapping deletions cannot recombine to form wild type recombinants.

Hatched boxes represent missing DNA.

Example:

Phage rII – 11
Phage rII – 12
Phage rII – 11
Phage rII – 13

You try it:

General Principle 2:

You can tell that a mutation is a deletion because it seems to map to more than one place.

Phage rII – 30
Phage rII – 29
Phage rII – 18

Phage rII – 29 and rII – 18 are known to recombine and give wild type recombinant progeny.

General Principle 3:

Use deletion mutations to rapidly locate and map a new mutation.