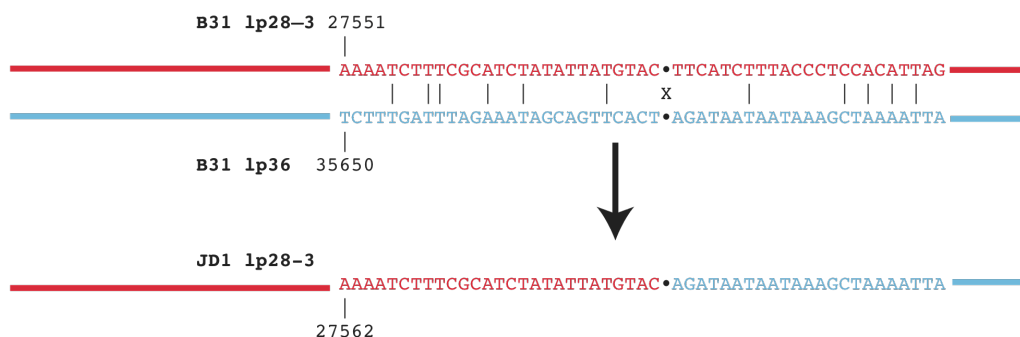
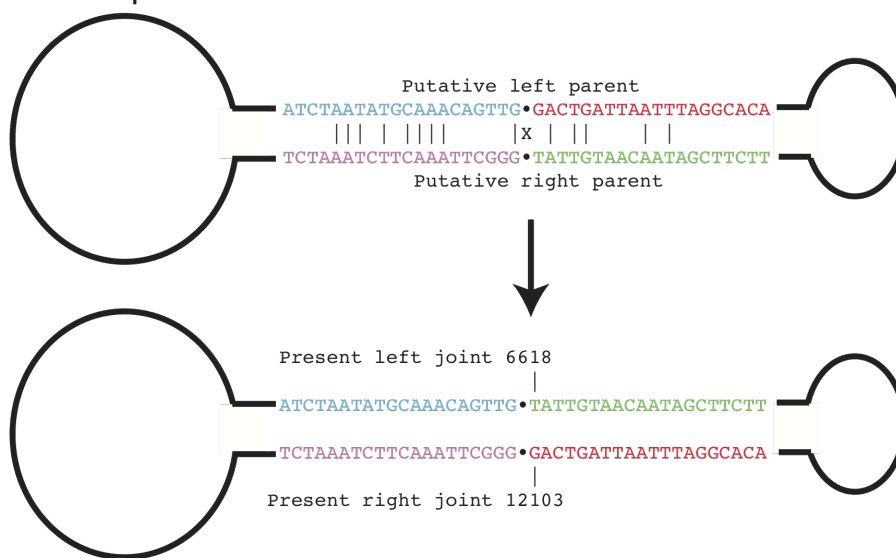


Figure S5. Recombination points

A. JD1 lp28-3 near right end



B. N40 cp32-5 inversion



C. N40 lp17 near left end

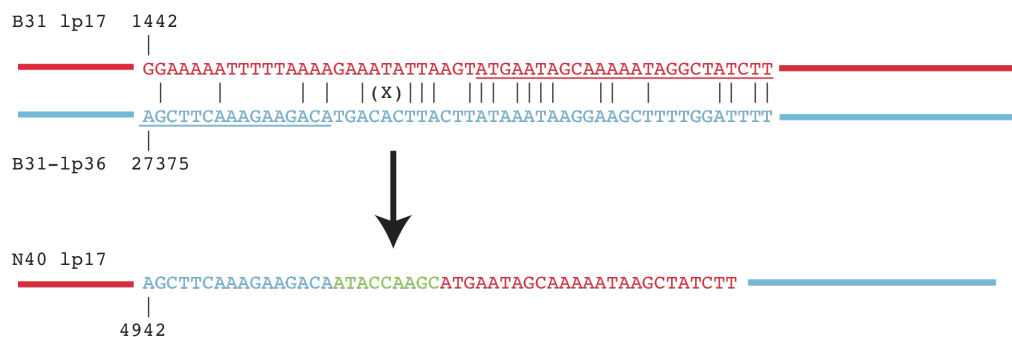
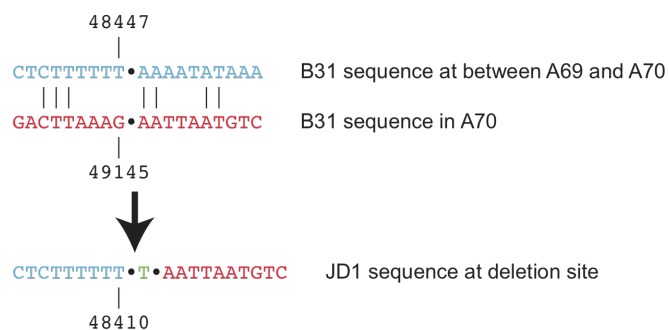


Figure S5. Recombination points

D. Deletion of A70 from JD1 Ip54 Pfam54 array



E. Deletion of A70 from N40 Ip54 Pfam54 array



Figure S5. Recombination points. Recombination points (denoted by bullets, •) are shown for several non-homologous events in JD1 and in N40 as well as a homologous event in N40.

- A. JD1 lp28-3 near right end.** The two putative parents appear to be unrelated in sequence, so this recombination event did *not* occur in a region of short sequence similarity between the exchange points. In this case it is not possible to know if the exchange occurred in the direction indicated or if one of the putative “parents” was generated by recombination between the other putative parent and product shown here; however, the directionality does not affect the conclusion that the event did not utilize homologous recombination.
- B. N40 cp32-5 inversion.** Since this region is very highly conserved in many other cp32 plasmids, the presence of rearranged genes strongly indicates that this inversion occurred in this cp32-5, and the near identity of these regions in the other cp32s allows precise deduction of the breakpoints that generated the inversion. Note that although the parts of the plasmids whose sequences are not shown are represented by single black lines they in fact represent both strands of the dsDNA, and that because of the topology, the two sequences shown are actually on different strands (both shown 5'-to-3' left to right). This recombination event did not occur between regions of even short sequence similarity.
- C. N40 lp17 near left end.** The two putative parents appear to be unrelated in sequence, so this recombination event did *not* occur in a region of short sequence similarity between the exchange points. In this case the putative non-homologous event was more complex in that nine bp (indicated in green) of unknown origin are present between the two putative parental sequences.
- D. Deletion of A70 from JD1 lp54 Pfam54 array.** A non-homologous event that apparently generated an additional “T” (green) at the point of recombination.
- E. Deletion of A70 from N40 lp54 Pfam54 array.** An homologous event that apparently generated an additional “A” (green) at the point of recombination.