

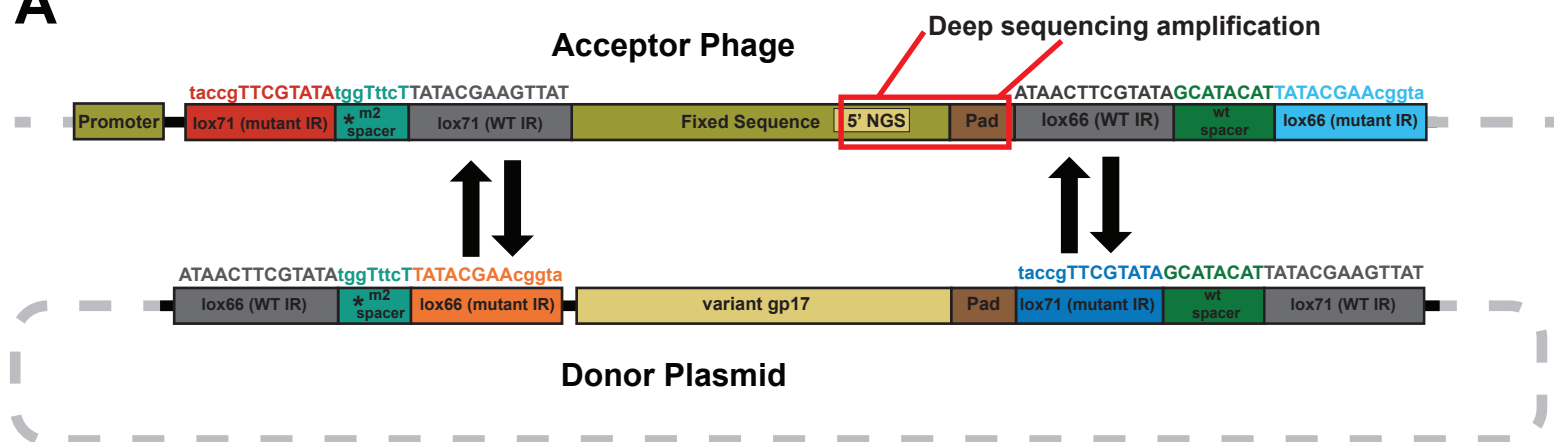
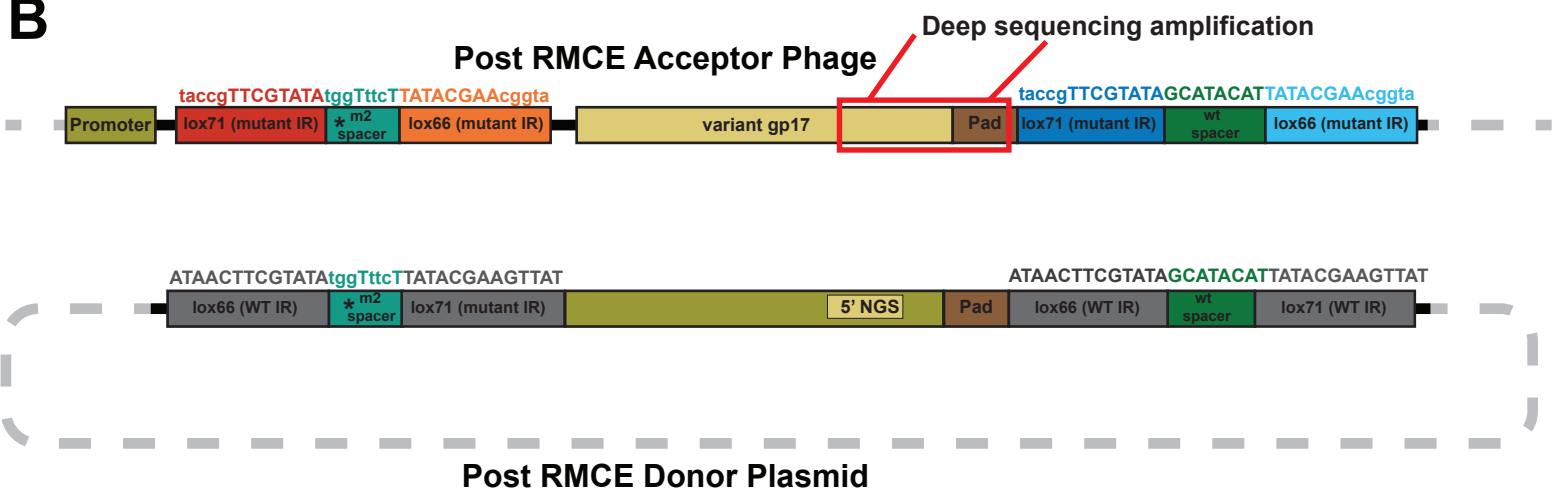
A**B**

Figure 1 – Figure Supplement 1. Sequence rearrangements before and after recombinase-mediated cassette exchange. Schematic illustration of sequence rearrangements in acceptor phage and donor plasmid (A) before and (B) after recombinase-mediated cassette exchange (RMCE). Specific lox recombinase sites required for exchanging sequence cassettes (variant and fixed sequence) are shown. Lox sites have wild type (WT) or mutated inverted repeats (IR) and one-way RMCE can only occur if one IR is wild type, while the m2 spacer forces recombination in the correct orientation and prevents adverse recombination events [53]. Deep sequencing targets the area boxed in red between the 5' NGS region and 3' pad on both acceptor phages and the variant library.