

Supplemental Figures:

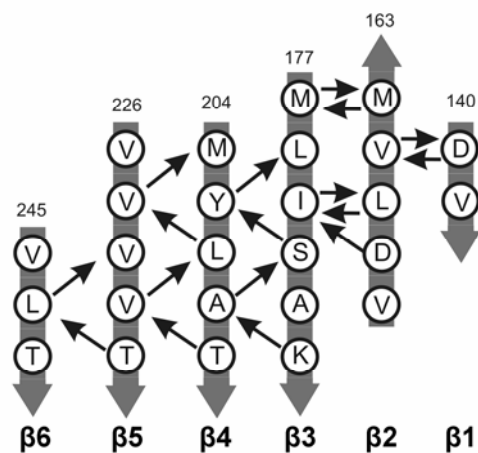


Figure S1. Detailed view of the core β -sheet in Ecl18kI. Hydrogen bonds are indicated by arrows that point from the donor to the acceptor.

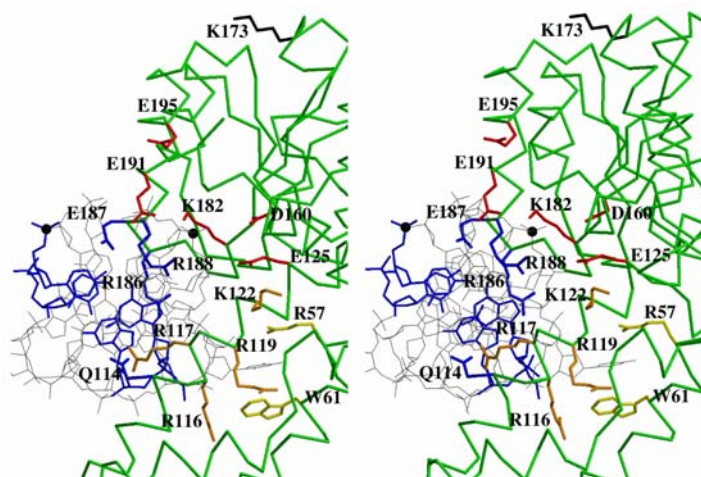


Figure S2. Stereoview of Ecl18kI-DNA interactions. The DNA and selected residues of Ecl18kI are shown in all-atom representation. For the rest of the protein, only the $C\alpha$ -trace is shown. Residues that have previously been implicated in DNA backbone interactions, catalysis and sequence recognition are drawn in orange, red and blue, respectively. Residues that sandwich the flipped base are drawn in yellow.