

Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: A structural morph between the un-bulged and bulged DNA bound states of mutant $LIG1^{EE/AA}$ DNA complexes is displayed. The bulged extrahelical nucleotide in the insC complex flips into a pocket created by alanine mutations (sticks) in the AdD (turquoise) and DBD (grey) domains.