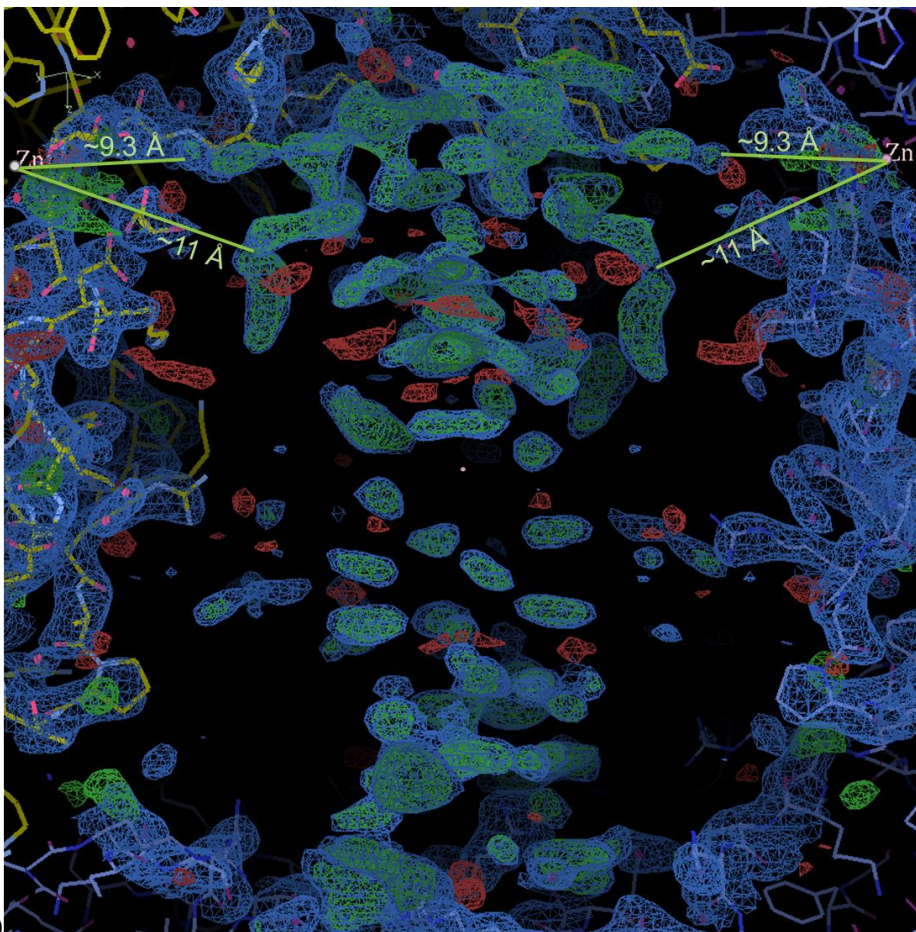


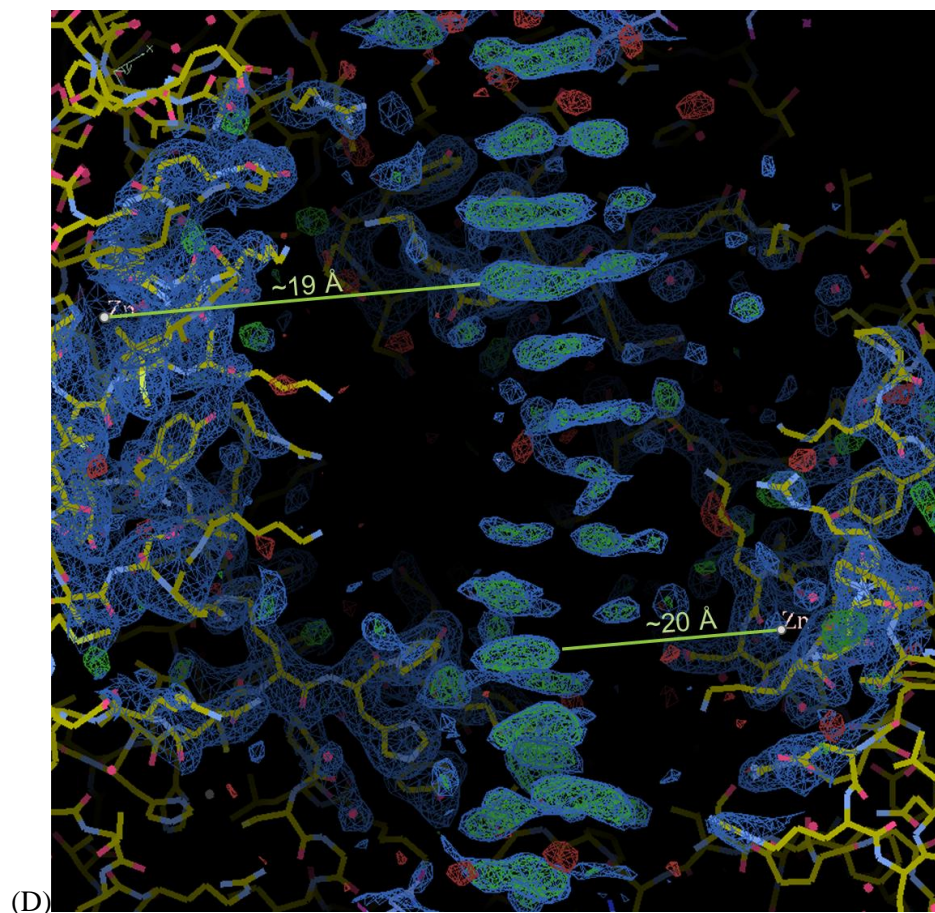
## Supplemental Information

(A)

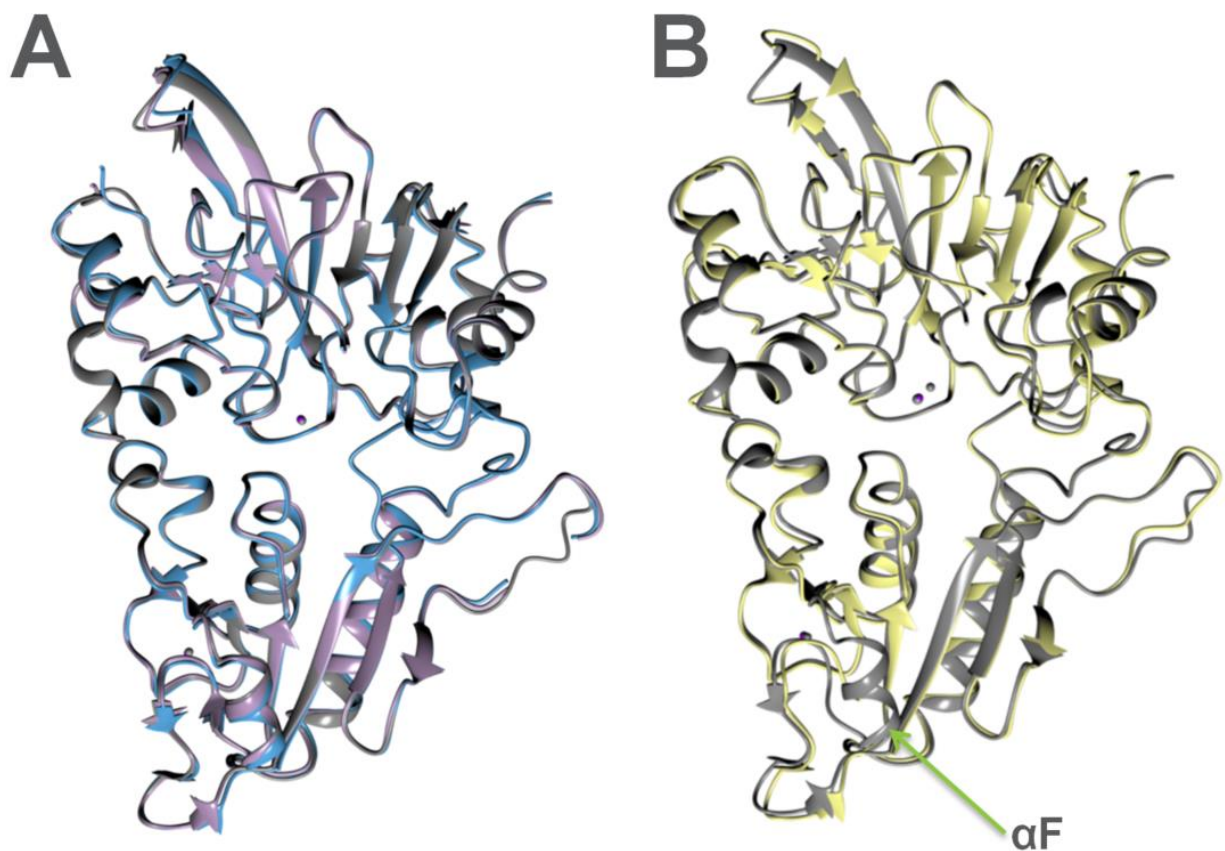


(B)

(C)

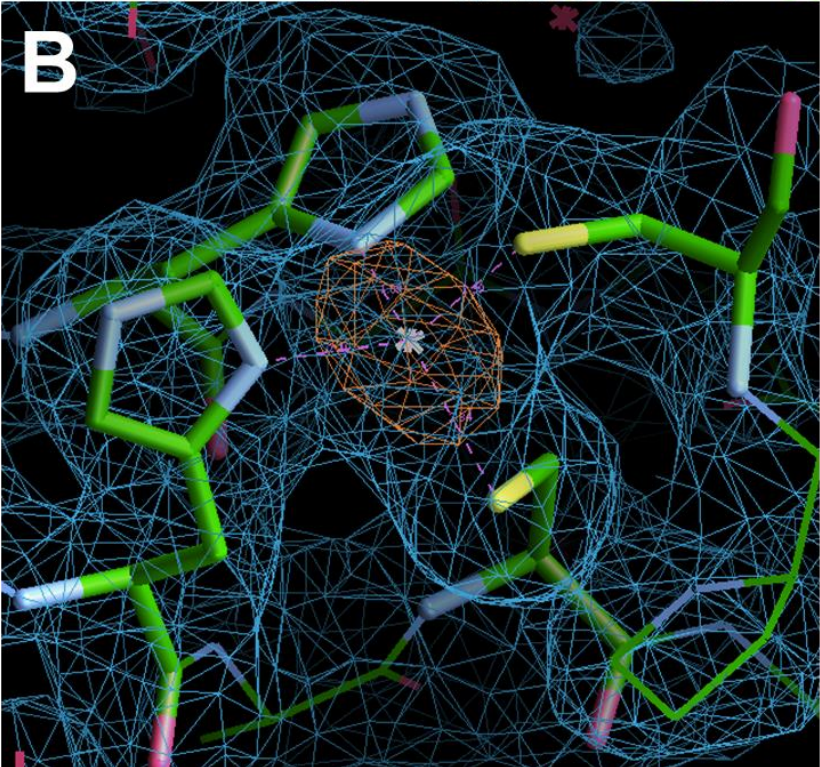
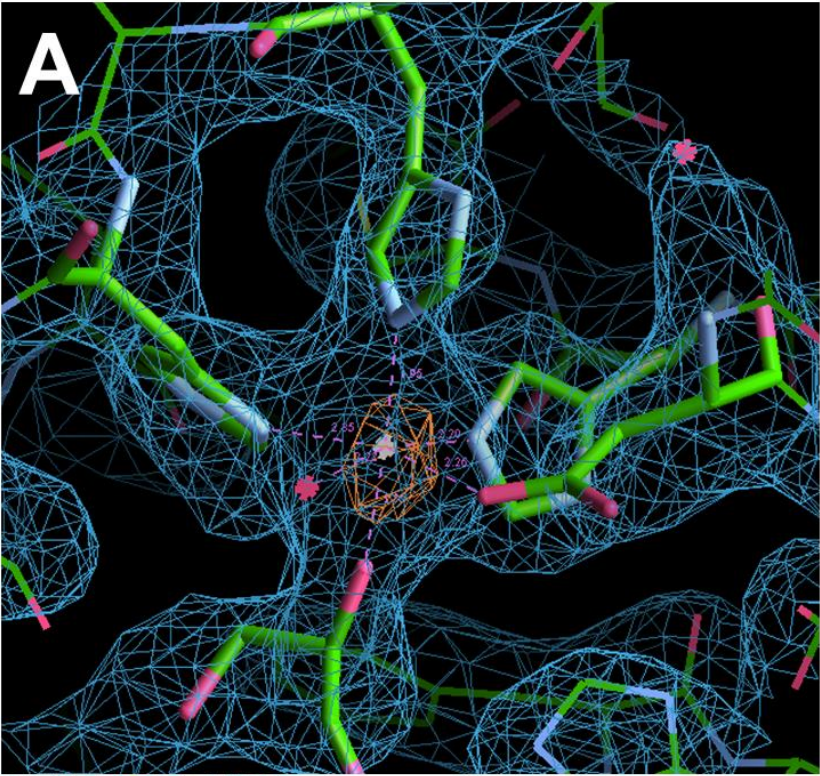


**Figure S1** Unmodeled electron density of overhang DNA in the solvent channel for crystal form 1 (**A, B**) and hairpin DNA in crystal form 2 (**C, D**). The  $2Fo-Fc$  map is shown in blue and contoured at  $1.0\sigma$ , and the  $Fo-Fc$  maps are shown in green and red and contoured at  $\pm 3.0\sigma$ . Active site zinc ions are labeled and proximity to unmodeled DNA density are shown (B and D).



**Figure S2** (A) Superposition of Artemis structures from crystal form 1 (grey), molecule A of crystal form 2 (lilac), and molecule B of crystal form 2 (light blue). The root mean square deviations of  $C\alpha$  are 0.37Å (form 1 – A of form 2), 0.60Å (form 1 – B of form 2), and 0.50 (A – B of form 2). (B) Superposition of Artemis structure from crystal form 1 (grey) and PDB 6TT5 (yellow).





**Figure S3** (A) Experimental map (blue) contoured at 1.0  $\sigma$  and anomolous map (orange) contoured at 15.0  $\sigma$  of the zinc ion in the active site of the Metallo- $\beta$ -Lactamase domain. (B) Experimental map (blue) contoured at 1.0  $\sigma$  and anomolous map (orange) contoured at 15.0  $\sigma$  of the zinc ion in the novel, structural binding site in the  $\beta$ -CASP domain.