

S4 Table. Interaction energy between the vRNA promoter and vRNA contact residues in EG/D1 (wt) PB1 and PB1 mutants.

Mutation	IntE (kcal/mol) between vRNA promoter and vRNA contact residues in PB1 β -ribbon (ΔE) ^a		IntE (kcal/mol) between vRNA promoter and trimeric polymerase complex(ΔE) ^b
	188	203	
EG/D1 (Wt)	-85.71	-48.73	-1098.29
PB1-T182I	-51.92 (33.79)	-35.21 (13.52)	-1230.78 (-132.49)
PB1-K214R	-56.53 (29.18)	-27.37 (21.36)	-1175.62 (-77.33)

^aThe interaction energy, IntE, was calculated between the vRNA promoter and the PB1 contact residues for the EG/D1 (wt) and mutant polymerases. ΔE was the IntE difference between the mutant and EG/D1 residues.

^bIntE was calculated between the vRNA promoter and the trimeric polymerase complexes for EG/D1 (wt) and the PB1 mutants. ΔE was the IntE difference between the mutant and EG/D1 trimeric polymerase complexes.