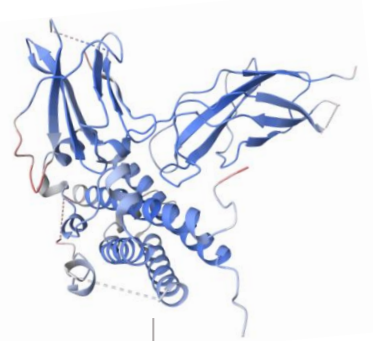


Wild-type Complex (WT)

Mutant-type Complex (MT)



Molecular Chain B

PFTLPL...SCGF

Molecular Chain A

CRSPE...POMS

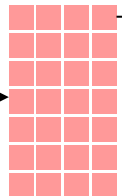
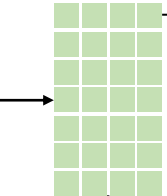
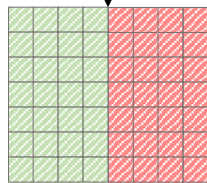
Protein

Language

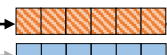
Model

Encoding

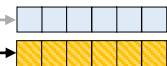
Representation



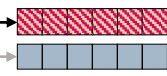
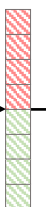
Contextual Feature
Extraction Module



Convolutional Feature
Extraction Module



Protein-scale Multi-head
Self-attention



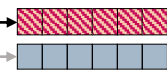
Pairwise Feature
Extraction Module



Module



Pair-scale Multi-head
Self-attention



Local Feature

Global Feature



Multilayer Perceptron Predictor

The change in binding affinity caused by mutation ($\Delta\Delta G$)