

## Supplementary Information

# Protein oligomer modeling guided by predicted inter-chain contacts in CASP14

Minkyung Baek<sup>1,2</sup>, Ivan Anishchenko<sup>1,2</sup>, Hahnbeom Park<sup>1,2</sup>, Ian R Humphreys<sup>1,2</sup>,  
and David Baker<sup>1,2,3\*</sup>

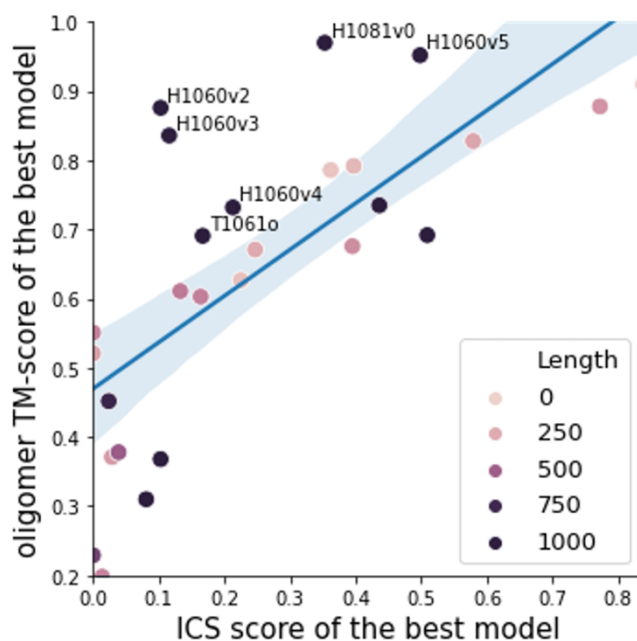
*1 - Department of Biochemistry, University of Washington, Seattle, WA 98195, USA*

*2 - Institute for Protein Design, University of Washington, Seattle, WA 98195, USA*

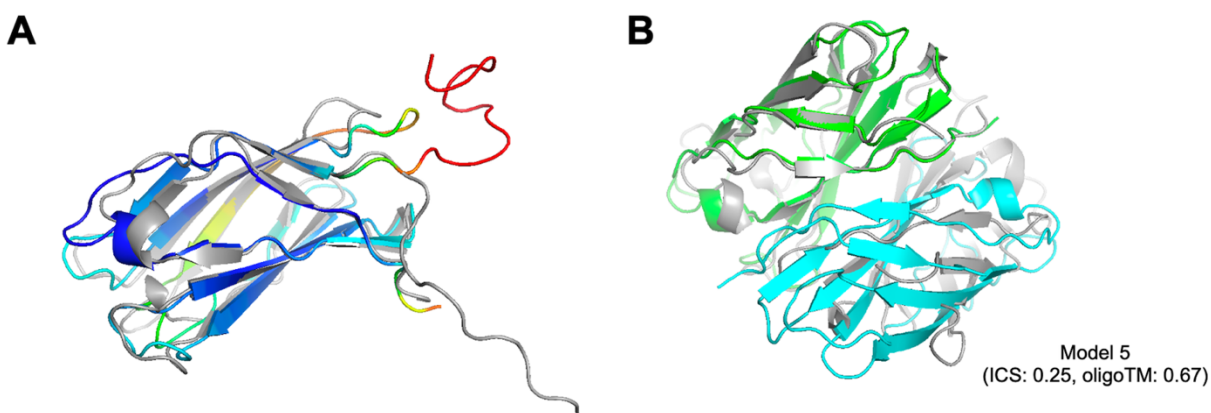
*3 - Howard Hughes Medical Institute, University of Washington, Seattle, WA 98195, USA*

\*Correspondence to: David Baker, dabaker@uw.edu

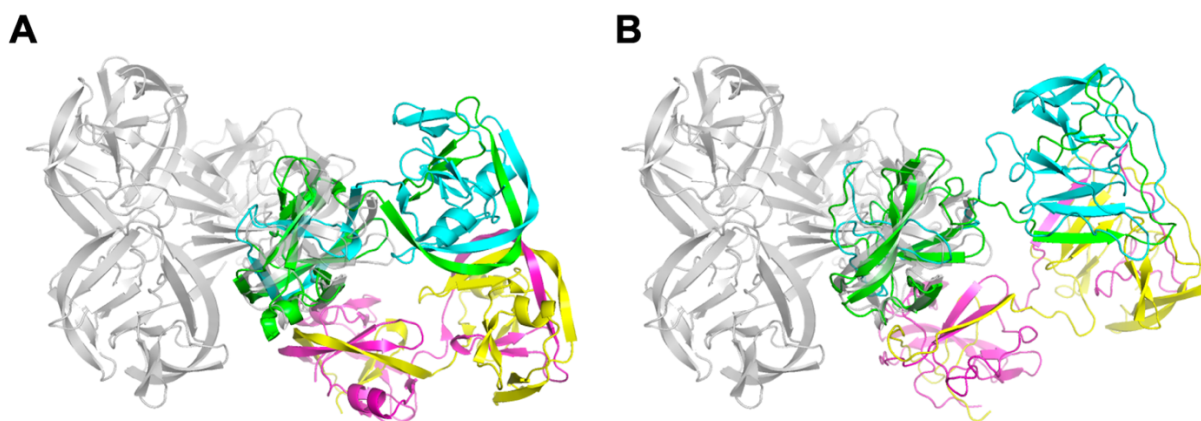
## Supplementary figures



**Figure S1.** Relationship between ICS score and oligomer TM-score for the best model. Larger complexes (over 750 residues) tend to have significantly higher oligomer TM-scores compared to ICS scores.



**Figure S2.** A successful example (T1078) of *ab initio* docking with a reasonable subunit structure. A) Quality of the predicted subunit structure (BAKER model 1). The subunit model is colored in rainbow with Ca RMS error predicted by DeepAccNet ranging from 1.0 Å (blue) to 5.0 Å (red). N-terminus (residue 1-13, colored in red) was removed before docking. B) The predicted homo-dimer model (colored in green and cyan) has a reasonable quality. Native structures are colored in gray for both panels.



**Figure S3.** The wrong oligomer template led to the poor subunit quality (T1034). A) Native structure (gray) and the oligomer template (PDB ID: 4KL6, colored by chain) used to model homo-tetramer structures are shown. The oligomer template has a wrong interface. B) The predicted oligomer model (colored by chain) forms domain-swapped homo-tetramer structures with wrong interfaces resulting in the worse subunit quality.