

Biochemistry Cumulative Examination
2015 October
Biophysical Chemistry
Binding Affinity
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1. What is the difference between “protein-protein interaction” and “protein-protein binding affinity”? (30 pts)
2. What is “contacts-based prediction of binding affinity” in protein-protein complexes? (30 pts)
3.
 - a. Define “non-interacting surface”. (10 pts)
 - b. Give one method to measure “buried surface area”. (10 pts)
 - c. A quote from Kastiris *et al.* (2014): “The observed relation between binding affinity and the percentage of polar residues on the NIS is remarkable.” How can “we” rationalize their effect on binding affinity? (10 pts)
 - d. What is an ITC experiment? What does it measure? What molecular information do the results provide? (Please answer each one of the three separately.) (10 pts)