

Here are some examples of questions of the biophysics oral exam of 01/2020  
(With cooperation of all lovely classmates of 2020 <3 )

Explain the evolution algorithms and what is simulated annealing.

What thermodynamic experiments can you do to analyse the thermodynamic stability or strength of protein interactions ? Answer: ITC and DSC And explain circular dichroism.

Parameters for prediction of transmembrane protein.

Protein thermostability

Neural networks to predict secondary structure

How chaperon proteins work in vivo and in vitro

Protein-DNA interaction. Specificity + Affinity

Explanation of a simple (4 terms) semi-empirical potential equation

Comparative modelling - mise en évidence des intermédiaires de repliements

Secondary structure classification (Cath and scop)

Ab initio method: geometry distance.

X Ray crystallography, explain the principle, R Factor, resolution

how to experimentally examine transition states

how to choose a template for comparative modeling and fold recognition. And how to assess the quality of the template + model

statistic method and cooperativity/reversibility/all-none

Thermodynamic and kinetic of the protein folding process