

Project No. 2.

In this project, you need to align the 3D structures of the protein with PDB code 3ZPO with all of the proteins in the PDB of a given organism, and you need to submit the results as follows:

You need to send me (grolmusz@pitgroup.org) an email, and also hand me in on paper, by **November 17, Sunday**, the following data:

A, (0 point) What is 3ZPO? (you can copy the answer from the internet). The organism I needed to search for proteins similar to 3ZPO: What is the English name of that organism, if any (below we gave the latin names, not all of them has English names)?

B, (10 points) The list of PDB codes belonging to my organism in Point A:

C, (70 points) What is the best 3D fit to 3ZPO in my organism, according to PDB eFOLD (<http://www.ebi.ac.uk/msd-srv/ssm/>); with the default options; give the PDB code of the best fit protein, give a cartoon picture of the best fit protein alone, and also the superimposed picture of 3ZPO and the best fit protein.

D, (20 points) How did I find the answers in point C?

My organism No. is

- 1, Gallus gallus
- 2, Mycobacterium tuberculosis
- 3, Pyrococcus furiosus
- 4, Pyrococcus horikoshii
- 5, Methanocaldococcus jannaschii
- 6, Sulfolobus solfataricus
- 7, Drosophila melanogaster
- 8, Saccharomyces cerevisiae S288c
- 9, Arabidopsis thaliana
- 10, Streptococcus pneumoniae