

- **1. Which amino acids are the most frequent at the contact surfaces of protein interacting partners?**
 - a. polar
 - b. charged
 - c. hydrophobic
 - d. aromatic
 -
- **2. Which secondary structures are involved in *coiled-coil* binding mode?**
 - a. beta-sheets
 - b. beta-sheets and helices
 - c. loops
 - d. intertwining helices
 -
- **3. interactom is**
 - a. Network of protein-protein interactions (in a given organism)
 - b. Network of interactions of a given protein
 - c. Interaction database of all biomolecules
 - d. Interactions involved in protein complexes
- **4. What parameters must contact surfaces of binding partners fulfill?**
 - a. they must (only) have opposite charges
 - b. they must (only) have complementary surfaces
 - c. they must have complementary characteristics (both shape and polarity)
 - d. they must be hydrophobic
- **5. Provide at least 2 examples of coiled-coil containing proteins:**

- **6. What is the complexom?**
 - a. network of interacting proteins in one cell
 - b. all interactions of one protein
 - c. all protein complexes of a given organism
 - d. network of strong interactions
- **7. How can a post-translational modification of the protein directly influence protein-protein interaction?**
 - a. no way to do it directly
 - b. only via protein conformational change
 - c. can block or enhance the interaction
 - d. by degradation of the protein
- **8. What are the advantages of the protein complex composed of several small subunits (compared to macromolecule composed one big protein)?**
 - a. higher dynamics, modularity, regulation
 - b. higher protein stability
 - c. better access to the protein
 - d. better degradation
- **9. How does the mitochondrial ATP pump work during ADP/ATP conversion?**
 - a. transports Na⁺ across the membrane
 - b. utilizes cGMP
 - c. transports K⁺ across the membrane
 - d. generates rotation when transporting H⁺ across the membrane
- **10. Provide at least 2 examples of molecular machines:**

Send your answers to: jpalecek@sci.muni.cz