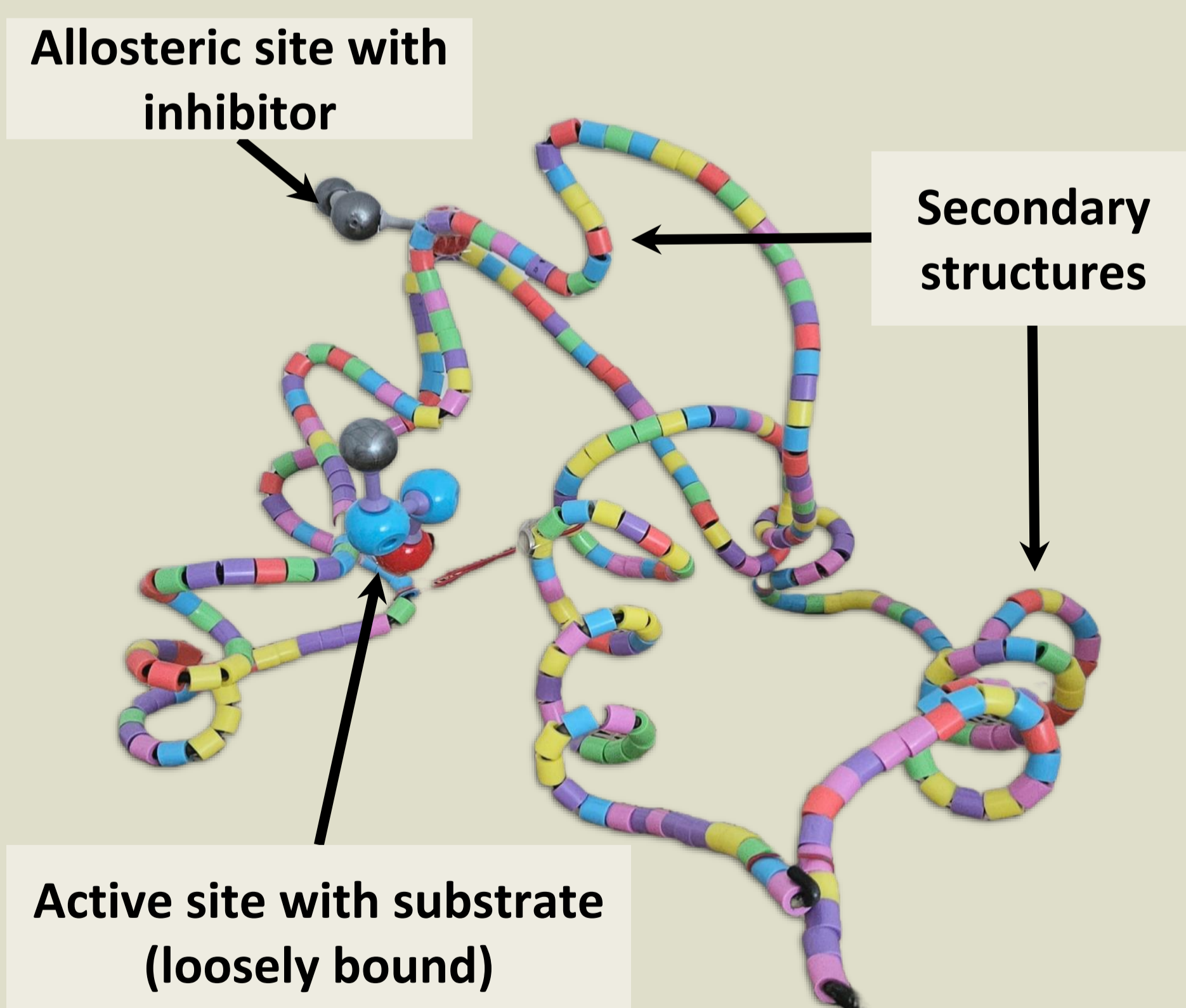


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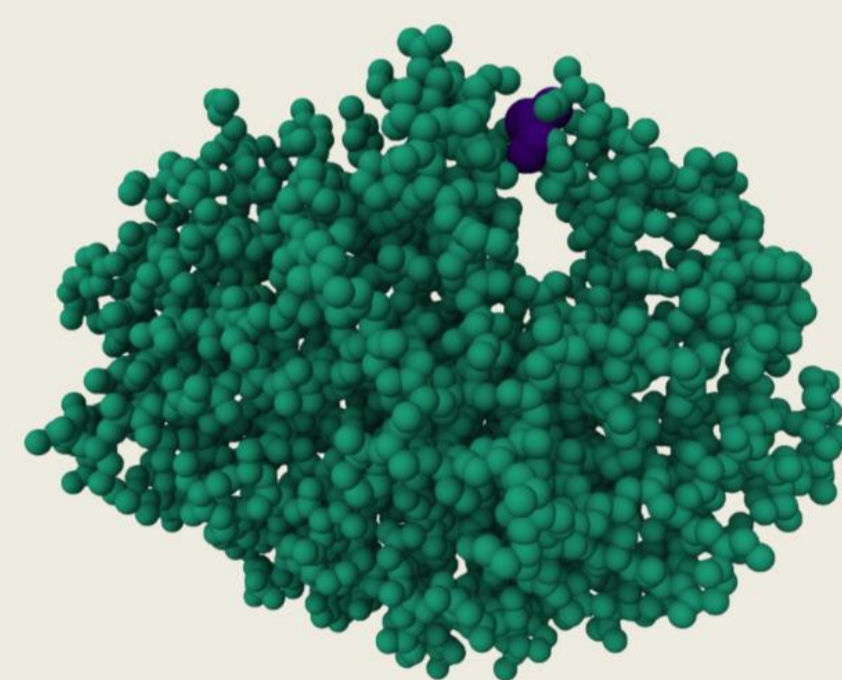
Teaching details of proteins' structure in 3D by using protein models and *in silico* activity

Models in Teaching

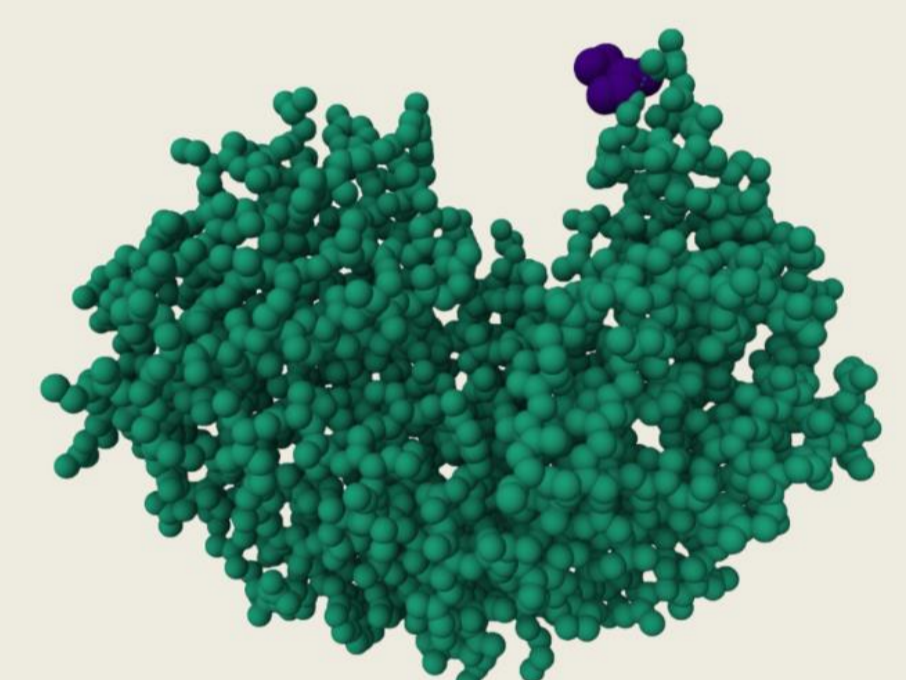
Building models is a great way to understand **tricky biochemistry concepts**. In this project, we focus on proteins, crucial molecules that maintain cell processes. A 3D handmade model of **pepsin** (a stomach enzyme that breaks down proteins) is used to help the teacher **introduce abstract concepts** such as **levels of protein structure, folding, conformational change, proenzyme activation** and **inhibitors**.



Pepsinogen (Inactive protein)

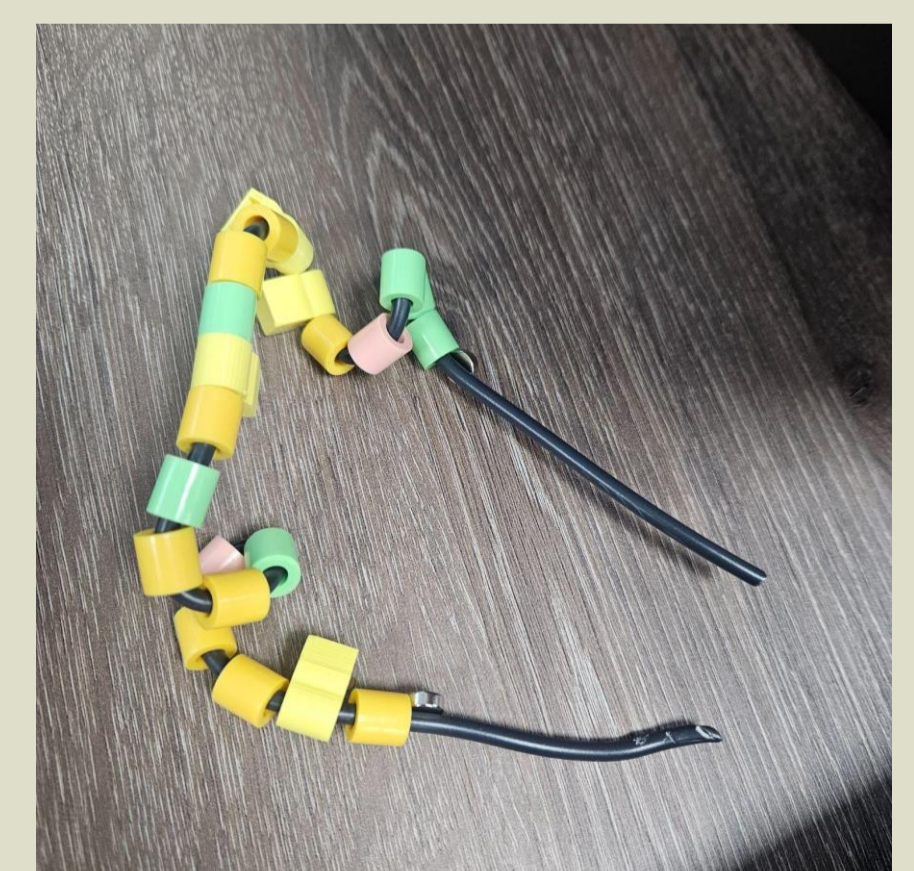
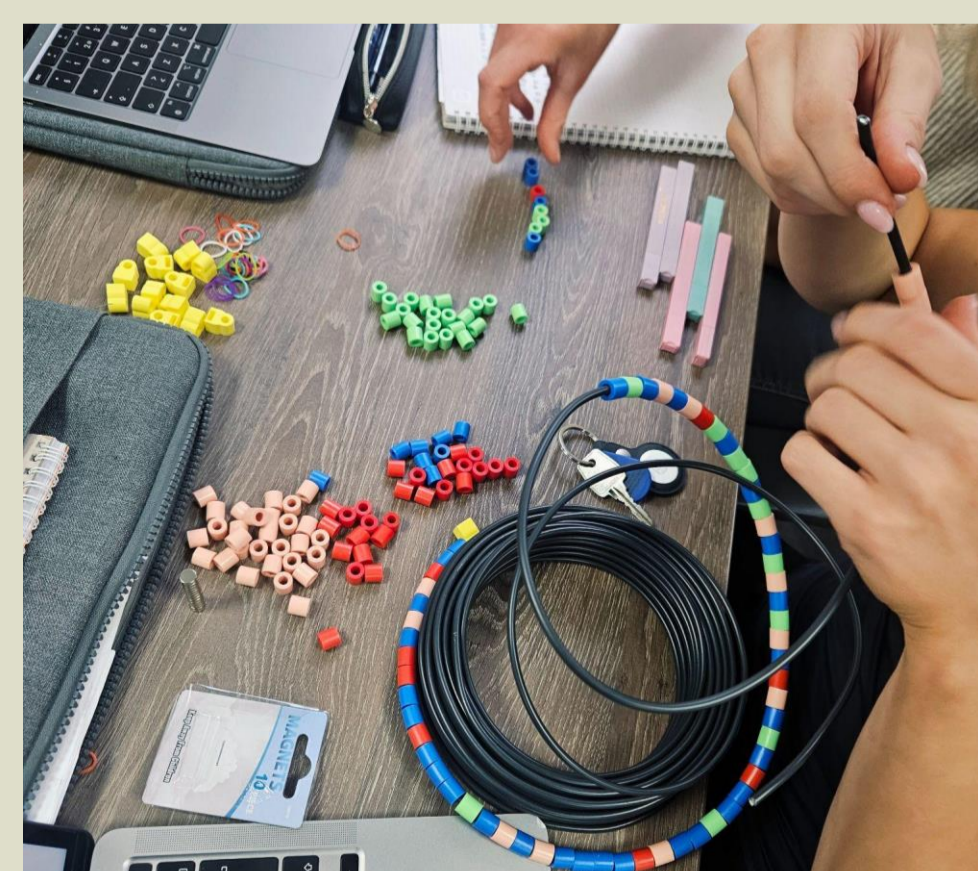


Pepsin (Active protein)



Visualizing models *in Silico*

An alternative way of teaching about proteins is to let the students use an online tool (3D Viewer by Protein Data Base) to **explore** crystalized **pepsin structures, before and after enzyme activation, with and without substrate**. This activity helps students to **visualize** the concept of **conformational change** and its important role for **protein function**.



Designing models in such a matter can help you give life to abstract scientific concepts and enhance your students' understanding of them. All you need is your fantasy and some affordable material!