

# Effect of some excipients on proteins during thermal melting

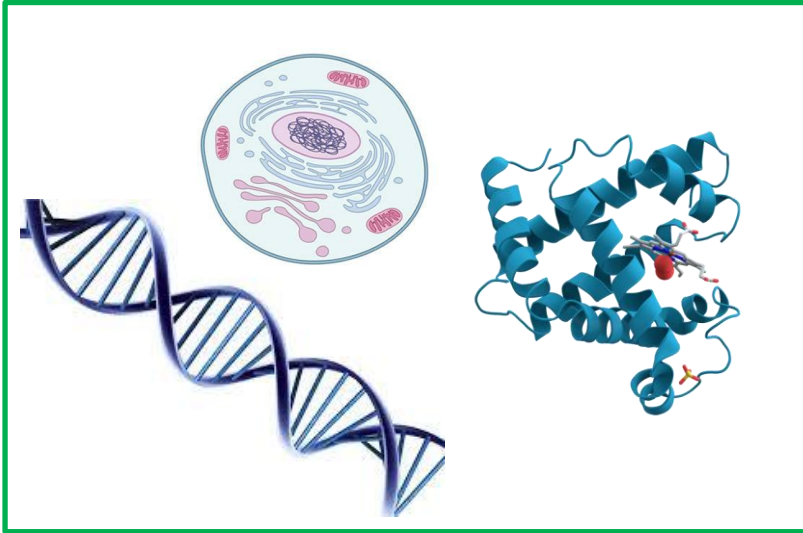
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## PhD project presentation

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# Bio $\longleftrightarrow$ Physics



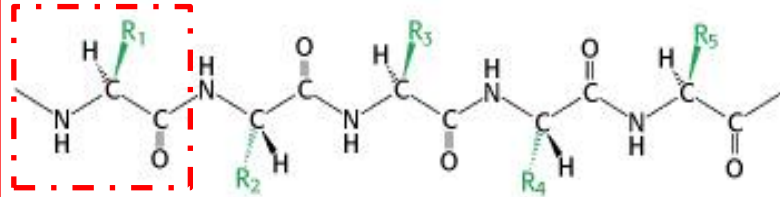
- Cells
- DNA
- Proteins



- X-Ray Scattering -
- Neutron Scattering -
- Circular Dicroism -
- NMR -

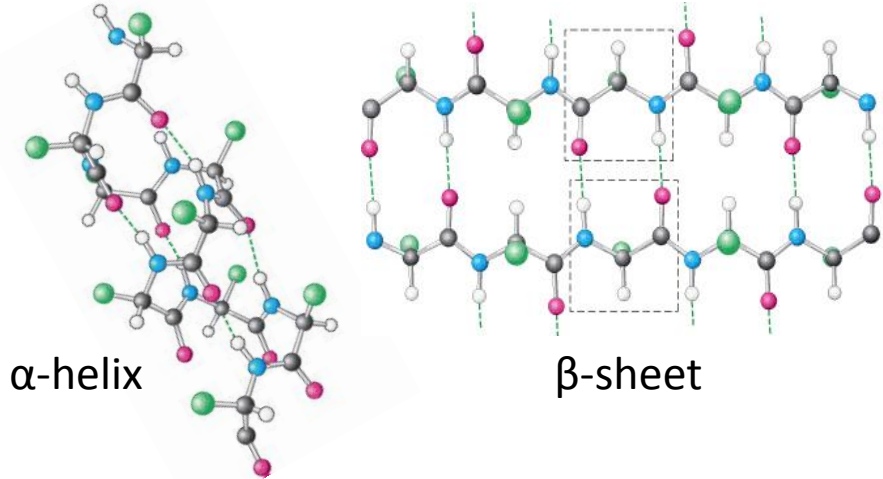
# What is a protein?

## Primary structure



amino-acid

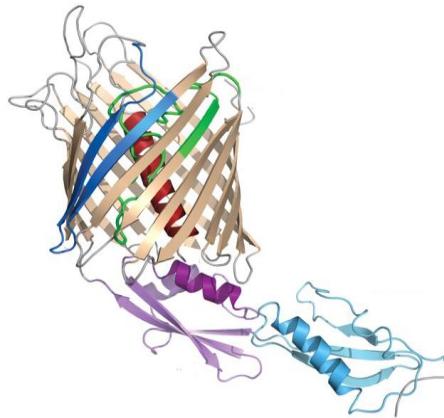
## Secondary structure



$\alpha$ -helix

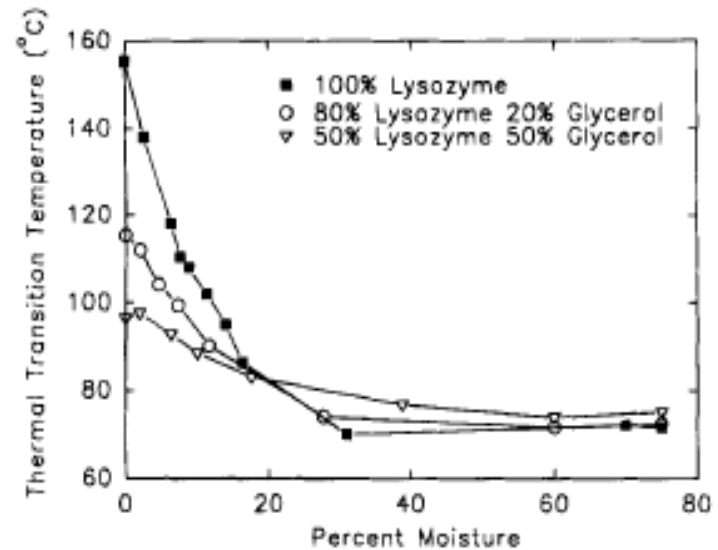
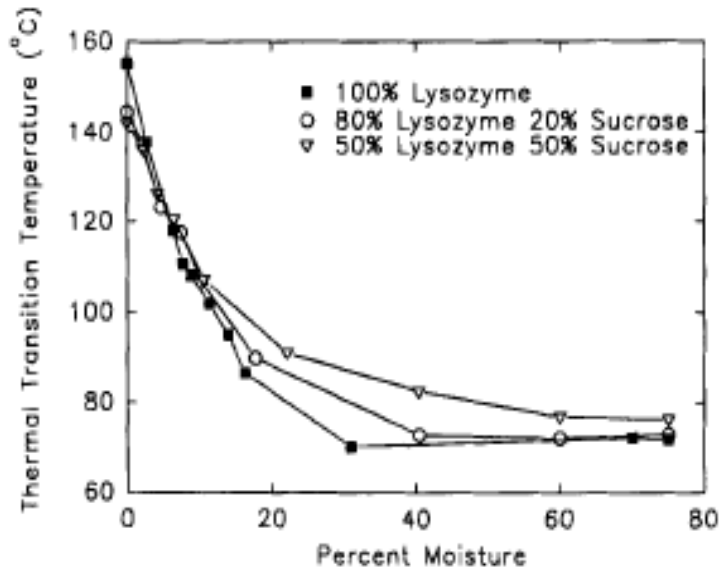
$\beta$ -sheet

## Tertiary structure



# Why study proteins?

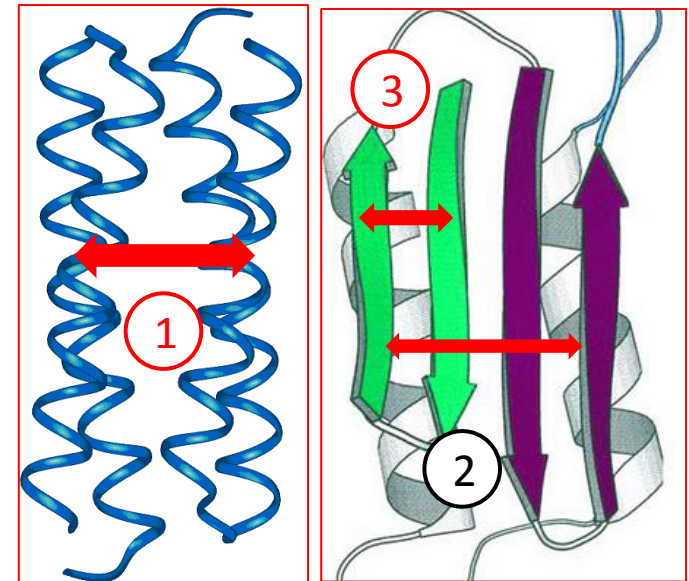
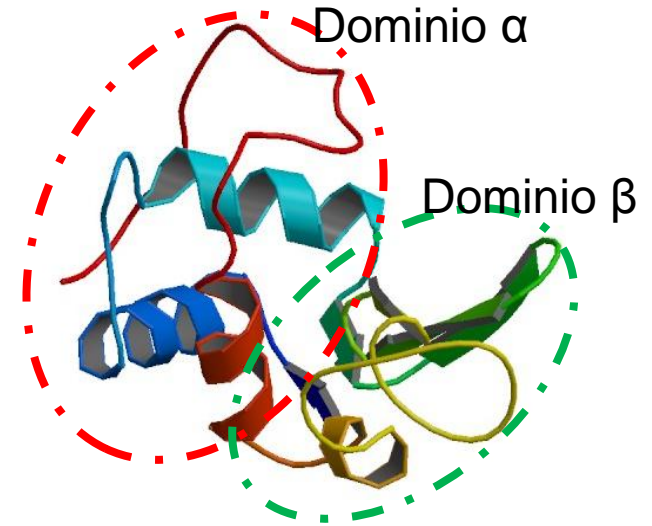
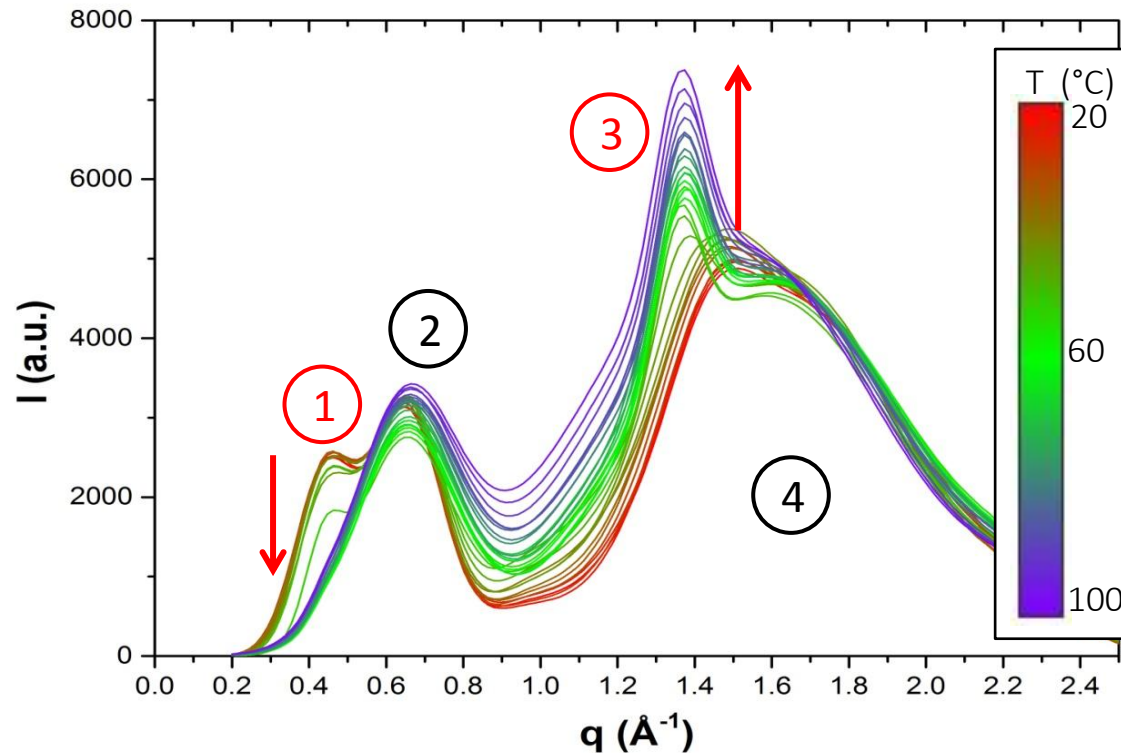
Shelf life and storage of pharmaceuticals



Effect of sucrose (left) and glycerol (right) on the melting temperature of a water-lysozyme solution

# Graduate work

**Structural correlations in Lysozyme in thermal melting: an X-ray wide angle study**



# PhD Project

- Adding excipients to water-protein solution
- Upgrade of the experimental instrumentation
- Use complementary measures to x-ray diffraction

