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Changes in the free energy of a protein in the presence of osmolytes SHIRIN HADIZADEH, University of British Columbia — Changes in the free energy of a protein in the presence of osmolytes have their origin in the interaction between residues of the protein finding themselves in a sea of crowding agents, namely the depletion interaction. This interaction was first described by Asakura and Oosawa who showed that there is an osmotic imbalance pushing the particles together if they are within a distance from each other. Here we first derive the free energy of a protein as a function of its "proper size" and then analyze the changes to it as we add osmoltes.

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