

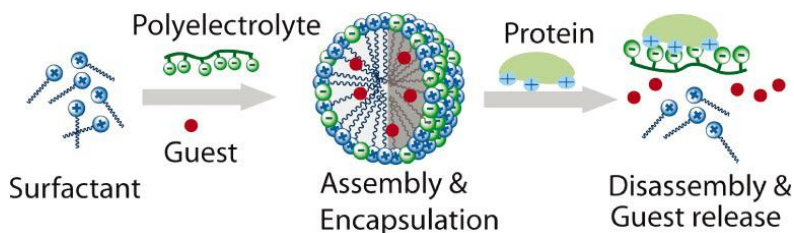
Polymer-Protein Interactions for Delivery and Sensing

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(a) Sensing:



(b) Delivery:

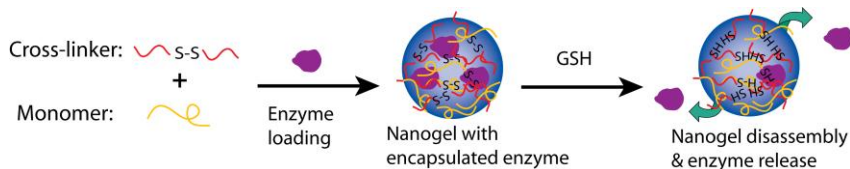


Figure 1: (a) Assembly and disassembly upon protein binding. (b) Enzyme encapsulation and release.

Our research concerns the development of molecular design principles to achieve well-controlled polymer-protein interactions. We are specifically focused on understanding the assembly and disassembly process of self-assembled polymeric nanostructures in response to biological molecules, for example proteins for sensing. The ultimate goal is for use in biomedical diagnostics and proteomics. Similarly, protein delivery is an useful therapeutic approach, especially if proteins can be targeted to specific cell types. Our research is focused on developing the fundamental framework for such possibilities.