Adsorption of proteins on nanoparticles: the effect of curvature and size

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Abstract

Cellular responses to materials in a biological medium reflect greatly the adsorbed biomolecular layer, rather than the material itself. Here, we study by molecular dynamic simulations the competitive protein adsorption on surfaces, i.e. the non-monotonic behavior of the amount of protein adsorbed on a surface in contact with plasma as a function of contact time and plasma concentration. We study the effects of different curvatures and nanoparticles size when the surface chemistry is the same. [1]

References

[1] P. Vilaseca, K. A. Dawson, and G. Franzese, “Understanding surface-adsorption of proteins: the Vroman effect”, arXiv:1202.3796v2 (2012).