

Surface-structure-regulated penetration of nanoparticles across cell membrane

Electronic Supplementary Information

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The On-Line Electronic Supplementary Information (ESI) includes six videos:

Video S1: Self-aggregation of two nanoparticles coated with homogeneous hydrophobic ligands under elastic deformation mediated attractive interaction inside a lipid bilayer.

Video S2: Self-aggregation of two randomly patterned nanoparticles coated with mixed hydrophobic/hydrophilic ligands under elastic deformation mediated attractive interaction inside a lipid bilayer.

Video S3: Translocation of a striate-patterned nanoparticle coated with alternating hydrophilic and hydrophobic ligands across a lipid bilayer under critical penetration force $\mathbf{F}_p = 39.5k_B T / r_c$.

Video S4: Translocation of a randomly patterned nanoparticle coated with mixed hydrophobic/hydrophilic ligands across a lipid bilayer under critical penetration force $\mathbf{F}_p = 61.4k_B T / r_c$.

Video S5: Translocation of a nanoparticle coated with homogeneous hydrophilic ligands across a lipid bilayer under critical penetration force $\mathbf{F}_p = 50k_B T / r_c$.

Video S6: Translocation of a nanoparticle coated with homogeneous hydrophobic ligands across a lipid bilayer under critical penetration force $\mathbf{F}_p = 77.1k_B T / r_c$.