Architecture of colloidally stable silica nanodendrites dictate their biological behavior

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Our capacity to control the colloidal mesoporous silica nanoparticle morphology allows for fine tuning of the surface features, namely the nanotopography. In this presentation, we will show how colloidally stable mesoporous silica nanoparticle with dendritic structure of different architectures (dense, light, stellar), and their surface chemistry affect their colloidal stability, interaction with lipids, cell uptake kinetics, hemolytic activity, and in vivo properties including blood circulation time and biodistribution.