

Time-resolving the assembly of the CCMV protein capsids using the spectroscopy of Au nanoparticles

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The purpose of this research is to watch in real-time the coming together of a virus around a small gold particle. The virus in this study forms on black-eyed pea plants and can come together on its own without its genetic code. An optical property of the small gold particles makes watching the assembly possible. When light scatters off the small gold particle, the gold absorbs that light at some peak wavelength. When the virus is near the small gold particle, a change should be observed in the peak of the wavelength that the gold absorbs at. We hope to look for this change through a setup that provides complete reflection inside a prism.

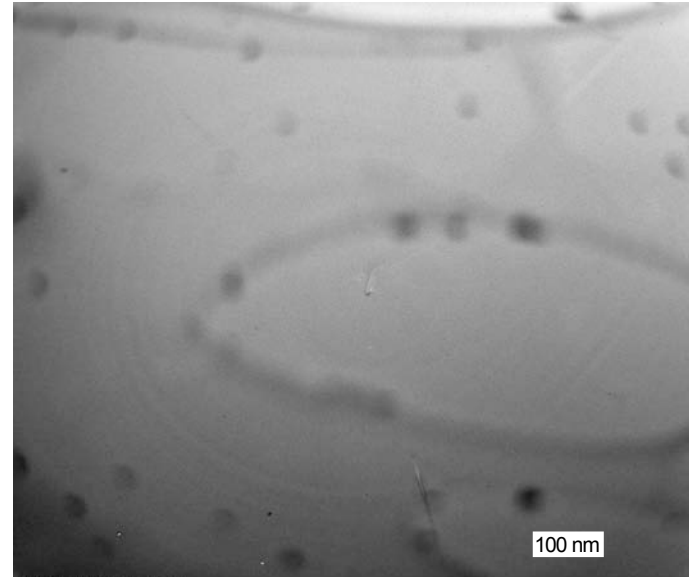


Figure 1. TEM image of 20 nm gold particles.

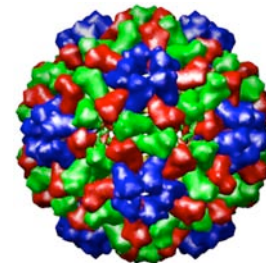


Figure 2. A 3-D image of the structure of the virus.
(Image source: www.cgl.ucsf.edu/.../virus/capsids/viruses.html)

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