NANO MABNA IRANIAN

Gold Nanoparticles

Properties and Applications

Introduction

Colloidal gold nanoparticles have been utilized for centuries by artists due to the vibrant colors produced by their interaction with visible light. More recently, these unique optical-electronics properties have been researched and utilized in high technology applications such as organic photovoltaics, sensory probes, therapeutic agents, drug delivery in biological and medical applications, electronic conductors and catalysis. The optical and electronic properties of gold nanoparticles are tunable by changing the size, shape, surface chemistry, or aggregation state.

Diameter	Nanoparticles/ml	Peak SPR Wavelength	Molar Ext $M^{-1}cm^{-1}$)
5 nm	5.47×10^{13}	515-520 nm	1.10×10^{7}
10 nm	5.98×10^{12}	515-520 nm	1.01×10^{8}
20 nm	6.54×10^{11}	524 nm	9.21×10^{8}
30 nm	1.79×10^{11}	526 nm	3.36×10^{9}
40 nm	7.15×10^{10}	530 nm	8.42×10^{9}
50 nm	3.51×10^{10}	535 nm	1.72×10^{10}
60 nm	1.96×10^{10}	540 nm	3.07×10^{10}
80 nm	7.82×10^{9}	553 nm	7.70×10^{10}
100 nm	3.84×10^{9}	572 nm	1.57×10^{11}

تماس با ما

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