

## **The Distribution of CdSe Quantum Dots within Swollen Polystyrene Microgel Particles**

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### **Abstract**

CdSe quantum dots (QDs) are semi-conducting nanoparticles that fluoresce when stimulated by visible-light. This property has been exploited in their use as tracer particles in biomedical applications. In this study, confocal microscopy has been used to determine the distribution of QDs within polystyrene microgel particles, dispersed in an organic solvent. It was found that the extent of microgel swelling affected the penetration of the QDs into the particles. Only when the microgel particles were swollen to their maximum extent were the QDs able to penetrate into the central, core region of the particles.