

Center for Applied Nanotechnology

Material Science

Standard range of nanoparticles: CAN GmbH has developed a variety of nanoparticle systems consisting of different materials and exhibiting unique properties (CANdot®, see table below). Some of them are specially highlighted: **Series A** summarizes fluorescent semiconductor materials spanning the visible range from green to red emission. They are available in different compositions, structures and shapes. **Series K** are bimetallic, catalytically active nanoparticles on carbon support suitable for application in PEMFC and DMFC. **Series X** summarizes rare-earth doped dots with specific emission colors depending on the dopant.



CANdot® Series A – fluorescent quantum dots (under UV excitation)



CANdot® Series M – magnetic nanoparticles



CANdot® Series X prints – under UV light

	
Series A	<i>fluorescent Quantum Dots with an emission wavelength in the visible region (CdSe-based nanocrystals)</i>
Series A plus	<i>highly fluorescent, elongated QDs with increased stability and easier processability (CdSe/CdS DotRods)</i>
Series C	<i>fluorescent semiconductor nanoparticles with an emission in the NIR/IR (PbS-based nanocrystals)</i>
Series G	<i>plasmonic nanoparticles for optical read-out with applications in the visible range (gold-NPs, Au)</i>
Series K	<i>metallic, catalytically active nanoparticles on carbon support, if needed (Pt, NiPt; on CNT or carbon black)</i>
Series M	<i>magnetic nanoparticles for material and life science with diameters from 5 to 20 nm (iron oxide, FeO_x)</i>
Series X	<i>fluorescent rare-earth doped dots usable as security taggant and biolabel (e.g. LnPO₄:X, LnVO₄:X)</i>

Our expertise lies in the production of premium-quality nanoparticles in **increased quantity** and **reproducibility** regarding their properties. Among others, the particles feature a well defined size, narrow size distribution, enduring stability and dispersibility. Most of our CANdot® Series are available in polar or unpolar solvents.

Customized nanoparticles: Besides our standard products we offer the **development of particles** based on specific requirements. Our broad knowledge in nanoparticle synthesis allows for designing the product to **individual needs**, including tailored surface engineering for processability enhancement. Along with the development of the particle of choice, CAN GmbH also offers the **production** of these nanoparticles on a multi-gram scale, depending on material.

If you have any question about our products or are interested in setting up a research collaboration with us, please feel free to contact us directly.

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