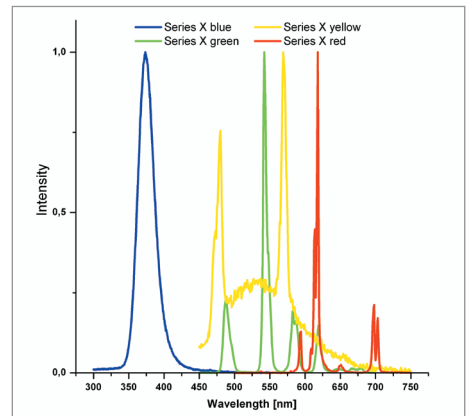


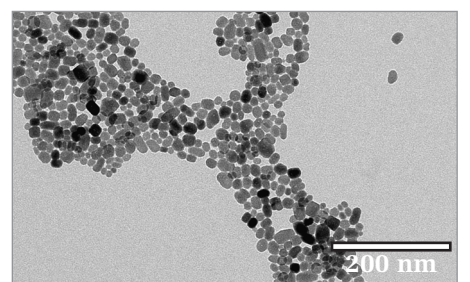
Center for Applied Nanotechnology

CANdot® Series X

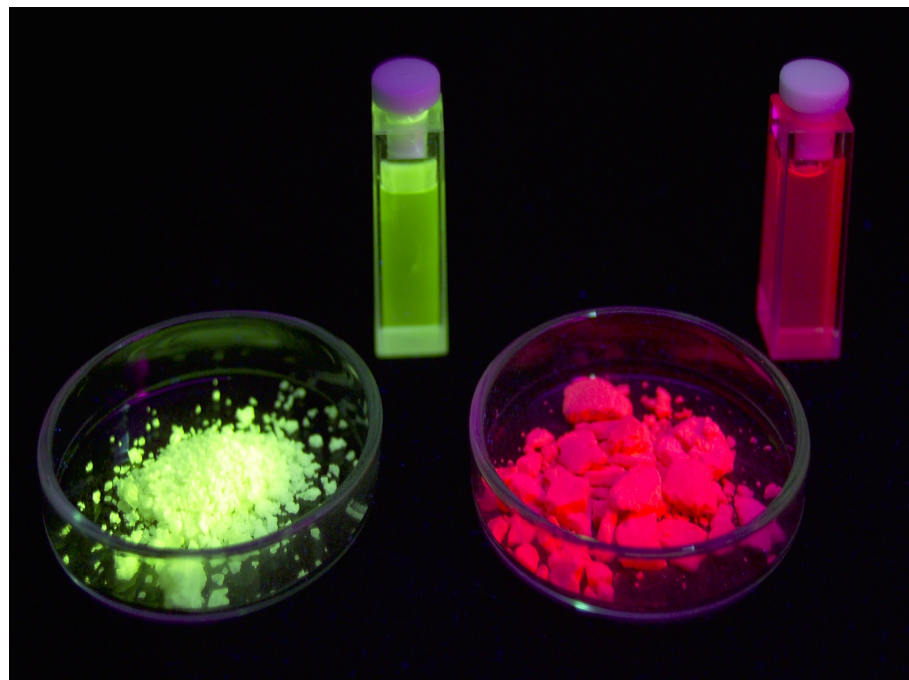
CANdot® Series X: fluorescent nanoparticles are based on rare earth doped inorganic host lattices like sulfates, phosphates and vanadates. Solubility of this series' CANdot® is given in water and different less polar solvents. Depending on the dopant, e. g. Bismuth, Cer, Europium, and Terbium, the emission spectrum contains different narrow and characteristic finger print-like peaks for fast and distinct detection. Further dopants are available upon request. Excitation of CANdot® Series' material depending on dopant is possible with a special UV or NIR light source, making these particles usable in ink-formulations for, e. g. security applications.



Emission spectra of CANdot® Series X with blue, green, yellow and red emission (top) and printed image of CANdot® Series X showing CAN's logo (bottom).



TEM image of CANdot® Series X blue



A patented production process allows production of larger amounts of these nanoparticles at lower cost level. High reproducibility and dispersibility in different solvents without agglomeration are further advantages of this series' nanoparticles. Applying a special patented post-production treatment, the particles become available for usage in polymeric matrices and as biolabel.

Features		Advantages	
Different host lattice material	phosphates, sulfates, vanadates	Small particle size	< 30 nm in average (depending on particle system)
Solubility	water, alcohols, other	Small particle size distribution	<30%, superior mixing properties
Excitation wavelength	< 270 nm	Nanoscale particles	clear, colorless ink formulation possible
Emission	blue, green, yellow and red	Up-scalable production	kilograms per year

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