StremDots[™] in Photovoltaics

METALS • INORGANICS • ORGANOMETALLICS • CATALYSTS • LIGANDS • NANOMATERIALS • CUSTOM SYNTHESIS • cGMP FACILITIES

Strem Chemicals, Inc. offers optimized particles for optoelectronic devices, like StremDots[™] Series C for solar cells.

StremDots[™] Series C particles feature a tunable absorption edge by changing their size so that the particles' absorption spectrum fits the solar profile (see diagram top right).



A patent pending continuous flow process allows production of even larger amounts of these nanoparticles at a much lower cost then ever before. In addition, this procedure ensures a high reproducibility of all particle properties at every production volume, resulting in a higher quality product when compared to material resulting from batch syntheses.

Featuring narrow size distribution, our particles are highly suitable for preparation of thin films consisting of defined monolayers by various coating techniques.

The application of semiconductor nanoparticles as absorber material in solar cells make various customization steps necessary to optimize processability and performance. Thus, Strem can offer further customization steps beyond the standard product to add extra value to your application. Please contact us for details.

Alternatively, our **StremDots[™] Series A** particles can be used for photovoltaics. With absorption and fluorescence in the visible they can be an ideal candidate for niche applications or easy quality control, such as e.g. in film preparation.

	StremDots [™] Series A	StremDots [™] Series C	
Material	Semiconductor nanoparticles (CdSe-based)	Semiconductor nanoparticles (PbS-based)	
Dispersibility	Organic solvents (usually hexanes)	Organic solvents (usually toluene)	
Absorption Edge	480 to 610 nm (2.0 to 2.6 eV)	880 to 1500 nm (0.8 to 1.4 eV)	
Emission Wavelength	500 to 625nm (2.0 to 2.5 eV)	1000 to 1600 nm (0.8 to 1.2 eV)	



Comparison of solar radiation and absorption spectrum of StremDots[™] Series C



TEM image of StremDots[™] Series C particles



Emission spectra of StremDots[™] Series C nanoparticles with diameters from 3 to 7 nm

For Series A - see Strem 96-0800 • For Series X – Please inquire.

Visit www.strem.com for new product information and a searchable catalog.				
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