Nanocrystals

Perovskite Quantum Dots, DSSC, Tectomers & Zeolites

Perovskite Quantum Dots

Perovskite Quantum Dots have emerged as a highly promising class of functional materials and as a new member of the nanocrystals family. Perovskite quantum dots exhibit high photoluminescence quantum yields, wide wavelength tunability and ultra-narrow band emissions, the combination of these superior optical properties and chemical robustness makes them appealing for display technology, optoelectronic applications such as Quantum Dots LEDs, Lasers, Backlight for LCD, Lighting, and most suitable for solar sell research.

Main features of Perovskite Quantum Dots offered by **SRL**:

1 Cadmium Free
2 Fluorescence range of 450nm, 480nm, 510nm & 550nm
3 Particle size of 10 nm
4 Emission peak width (FWHM): 15-35nm
5 Coating with hydrophobic ligands
6 Readily soluble in toluene, chloroform and similar solvents and not soluble in alcohols, ethers and polar solvents.

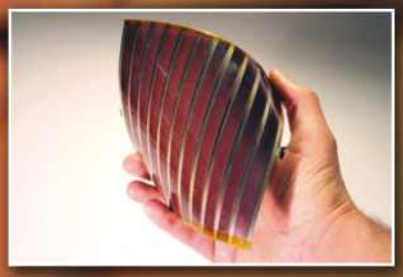
Prdt. Code	Product Name	Pkg. Unit
74380	Perovskite Quantum Dots (pQD 450), Fluorescence 450nm (Hydrophobic)	50mg
15360	Perovskite Quantum Dots (pQD 480), Fluorescence 480nm (Hydrophobic)	50mg
77345	Perovskite Quantum Dots (pQD 510), Fluorescence 510nm (Hydrophobic)	50mg
23300	Perovskite Quantum Dots (pQD 550), Fluorescence 550nm (Hydrophobic)	50mg

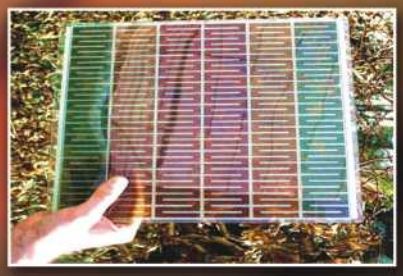
Dye-Sensitized Solar Cell Products

Dye Sensitized Solar Cells (DSSC), sometimes also referred to as dye sensitised cells (DSC), are a third generation photovoltaic (solar) cell that converts any visible light into electrical energy. This new class of advanced solar cell can be likened to artificial photosynthesis due to the way in which it mimics natural absorption of light energy.

DSSC Technology was invented in 1991 and employs the use of specialized complex dye compounds to initiate, conduct and regulate the conversion process. It is a disruptive technology that can be used to produce electricity in a wide range of light conditions, indoors and outdoors, enabling the user to convert both artificial and natural light into energy to power a broad range of electronic devices.

Prdt. Code	Product Name	CAS No.	Pkg. Unit
64835	C106 Dye, 85% (Cis-Bis(isothiocyanato)(2,2'-bipyridyl-4,4'-dicarboxylato)(4,4'-bis(5-(hexylthio)thiophen-2-yl) -2,2'-bipyridyl)ruthenium(II))	1152310-69-4	25mg
35347	K19 Dye, 85% (Cis-Bis(thiocyanato)(2,2'-bipyridyl-4,4'-dicarboxylic acid)(4,4'-bis(phexyloxystyryl) -2,2'-bipyridine)ruthenium(II))	847665-45-6	25mg
85476	Diisobutyl 2,2-Bipyridine-4,4-Dicarboxylate, 95%	1141011-53-1	100mg
31562	Methyl 4,4"-Dimethyl-[2,2':6',2"-Terpyridine]-4'-Carboxylate, 95%	247058-06-6	50mg, 100mg
16806	N3 Red Dye, 95% Bis(Isothiocyanato)Bis(2,2'-Bipyridyl-4,4'-Dicarboxylato)Ruthenium(II)	141460-19-7	100mg
30786	N719 Dye, 95% (Di-Tetrabutylammonium cis-Bis(Isothiocyanato)Bis(2,2-Bipyridyl-4,4-Dicarboxylato) Ruthenium(II))	207347-46-4	50mg, 250mg, 1gm
52716	N749 Dye (Black Dye), 95% (Triisothiocyanato-(2,2:6,6-Terpyridyl-4,4,4-Tricarboxylato) Ruthenium(II) Di(Tetra-Butylammonium))	359415-47-7	50mg
75513	FK 102 Co(II) PF6 Salt Complex, 98% (Tris(2-(1H-pyrazol-1-yl)pyridine)cobalt(II) Di[hexafluorophosphate])	1392221-69-0	1gm, 5gm
51632	FK 102 Co(III) PF6 Salt Complex, 98% (Tris(2-(1H-pyrazol-1-yl)pyridine)cobalt(III) Tri[hexafluorophosphate])	1346416-71-4	1gm, 5gm
66142	FK 102 Co(II) TFSI Salt Complex, 98% (Tris(2-(1H-pyrazol-1-yl)pyridine)cobalt(II) Di[bis(trifluoromethane)sulfonimide])		1gm, 5gm
84076	FK 102 Co(III) TFSI Salt Complex, 98% (Tris(2-(1H-pyrazol-1-yl)pyridine)cobalt(III) Tri[bis(trifluoromethane)sulfonimide)	2057441-94-6	1gm, 5gm
33139	Triethyl [2,2':6',2"-Terpyridine]-4,4',4"-Tricarboxylate, 95%	1197995-33-7	50mg
82874	Z907 Dye, 95% cis-Bis(Isothiocyanato)(2,2-Bipyridyl-4,4-Dicarboxylato)(4,4-Di-Nonyl-2-Bipyridyl) Ruthenium(II)	502693-09-6	50mg, 250mg





Tectomers

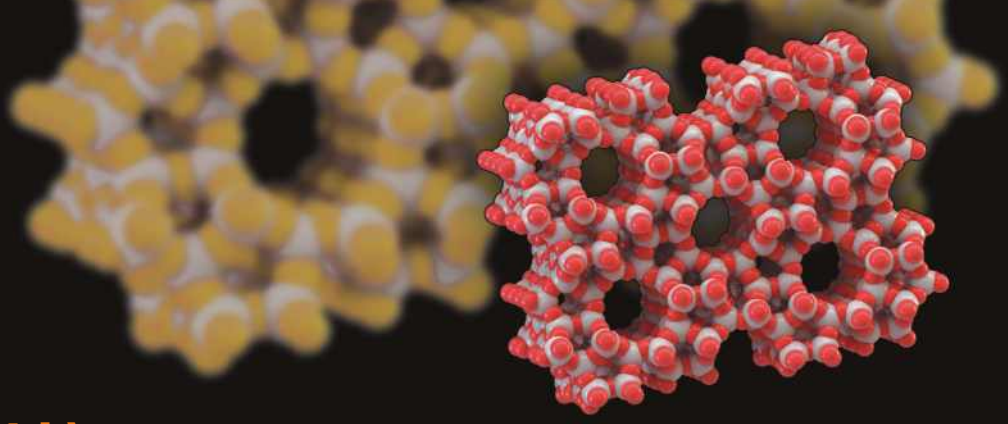
Any of a class of self-assembling compounds composed of two, three or four oligoglycine residues surrounding a central hydrocarbon chain are called Tectomers. These are novel types of self-assembling molecules. The structure of a tectomer represents several oligoglycine units linked to one common center. The pH dependent formation of strong hydrogen bonds between molecules leads to their self-assembly into extra-regular 2-D or 3-D layers of monomolecular thickness.10 mg of any tectomer is enough for coating of more than 2 square metres of surface.

Prdt. Code	Product Name	CAS No.	Pkg. Unit
74708	Tectomer 2-Tailed (C8H16(CH2NHGLY4)2.2HCl), 90%		5mg
73330	Tectomer 3-Tailed (CH3C(CH2-NH-Gly7)3.3CF3CO2H), 90%		5mg
27570	Tectomer 4-Tailed (C(CH2-NH-Gly7)4.4HCl), 90%	318286-59-8	5mg

Zeolites

Zeolites are microporous, aluminosilicate silicon or carbon-based minerals commonly used as adsorbents and catalysts. Under Zeolite Nanotechnology, zeolites can bring about higher efficiency in separation, ion exchange process & catalytic processes such as in petrochemical and fine chemical catalysis. Recent developments in the synthesis procedures for zeolite nanosized crystals has expanded their applications to nanotechnology including sensors, optical layers, medicine, pharmaceutical industry & cosmetics.

Prdt. Code	Product Name	Product Description	Pkg. Unit
65048	Zeolite – Mesoporous Alumina Nanopowder (3D-Wormhole)	SSA (BET): 230-370m^2/g Avg BJH pore size: 6-20nm Total pore volume: 0.36-1.51cc/g	500mg, 1gm
19366	Zeolite – Mesoporous Carbon Nanopowder (CMK-3 Type) CAS No.: 7440-44-0	Size: 0.5~5um Micropore volume - 0.01cc/g, SSA (BET): ~1000 m^2/g Pore diameter: 5.57nm Total pore volume: 1.35cc/g	100mg, 250mg



Zeolites (contd.)

Prdt. Code	Product Name	Product Description	Pkg. Unit
83881	Zeolite – Mesoporous Silica Nanopowder (1D-Hexagonal SBA-15 Type) CAS No.: 7631-86-9	Average BJH Pore size: 8.5nm SSA (BET): 718 m^2/g Framework pore volume: 0.90 cc/g Total pore volume: 0.93 cc/g	250mg, 500mg
97621	Zeolite – Mesoporous Silica Nanopowder (1D-Hexagonal SBA-41 Type) CAS No.: 7631-86-9	Average BJH Pore size: 2.4nm SSA (BET): 1050 m^2/g Framework pore volume: 0.79 cc/g Total pore volume: 0.92 cc/g	250mg, 500mg
63876	Zeolite – Mesoporous Silica Nanopowder (3D-Cubic MCM-48 Type) CAS No.: 7631-86-9	Average BJH Pore size: 2.1nm SSA (BET): 1600 m^2/g Framework pore volume: 0.85 cc/g Total pore volume: 1.1 cc/g	250mg, 500mg
79132	Zeolite – Molecular Sieve SAPO-11	Appearance: White powder SSA (m^2/g): min.180 Pore Volume (cm^3/g): min.0.16 SiO_2: ~6% Al_2O_3: ~48% Na_2O: 0.2%	5gm
52201	Zeolite – Ultrastable Y CAS No.: 1318-02-1	Appearance: Powder SiO_2/Al_2O_3 Molar Ratio: >5Unit Cell Size: 2.44nm Lattice Collapse Temperature: 1030°C BET Surface Area: ~630 m^2/g Na_2O: max.1.2% Particle Size Distribution D50: ~6μm Loss on Ignition: 6wt%	5gm
31755	Zeolite – Mesoporous Silica Molecular Sieve KIT-5	Preparation Method: Hydrothermal Method Appearance: Powder Particle Size (μm): 2~5 Average Pore Diameter (nm): 4.8 BET surface area (m^2/g): ~ 600 Na_2O (%): max.0.1 Comparative Crystallinity (%): min.90	1gm
65276	Zeolite – Mesoporous Silica Molecular Sieve KIT-6	Preparation Method: Hydrothermal Method BET Surface Area (m^2/g): 600-800 Comparative Crystallinity (%): min.90 Total Adsorption Average Pore Width (nm): 4.3 BJH Adsorption Average Pore Width (nm): 6.2 Phase: Cubic Ia3d Silica Particle Size: 10-100μm	1gm

★ For special custom-specification Zeolites, mail us on marketing@srlchem.com

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