Technical Data Sheet

ACS Material Mesoporous Silica-Coated Upconverting Nanoparticles

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Contact Information:

Manufacturer: ACS Material, LLC.

Address: 959 E Walnut St., Suite 100,

Pasadena, CA 91106, USA

Phone: (866)-227-0656

Fax: (781)-518-0284

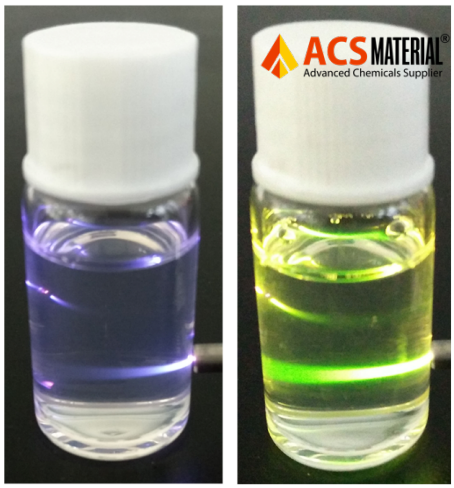
E-Mail: contact@acsmaterial.com

Revision: 101722

1. Characterizations

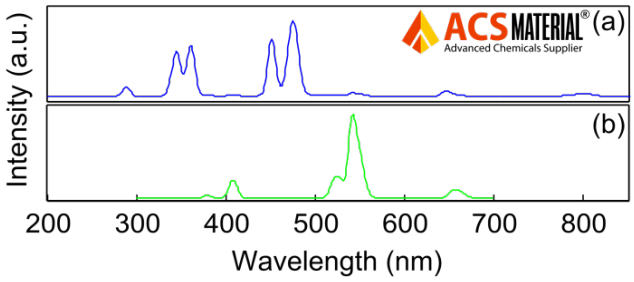
Composition	Mesoporous Silica-Coated Upconverting Nanoparticles	
Diameter	50 nm	
Appearance	Ivory white solution or Clear*	
Crystal formula	$NaYREF_4$(RE: Yb, Er, Tm, Gd, Mn, Lu) @$mSiO_2$	
Concentration	5 mg/mL~10 mg/mL*	
Solvent	Ethanol	
Dispersity of powder	Water or aqueous medium	
Excitation wavelength	975 nm	
Sensitizer	Ytterbium (Yb^{3+})	
Activator	**Emission wavelength**	**Fluorescence**
Thulium (Tm^{3+})	365/475 nm	Purple-Blue
Erbium (Er^{3+})	545/660 nm	Green-Yellow

*The concentration and product color will vary per batch.
Storage: Sealed, stored at 4-8°C.
Shelf life: ~6 months.

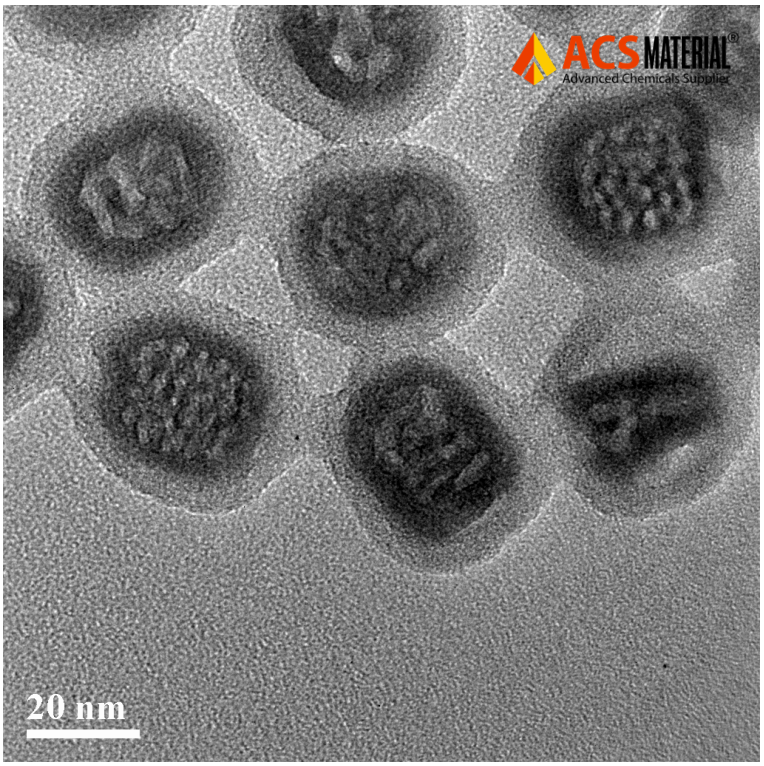


365/475 nm 545/660nm

Fluorescence Image upon Excitation at 975 nm of ACS Material
Mesoporous Silica-Coated Upconverting Nanoparticles (reference only)



Upconversion Emission Spectra upon Excitation at 975 nm: a) 365/475 nm, b) 545/660 nm
of ACS Material Mesoporous Silica-Coated Upconverting Nanoparticles for reference only



TEM Image of ACS Material Mesoporous Silica-Coated Upconverting Nanoparticles

3. Application Fields

For scientific research only. Not to be used for any animal or human diagnostic/therapeutic purposes.

- Nanocarriers of photosensitizers in photodynamic therapy.
- Biomolecules in photoactivation triggered by near infrared light *etc*.

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