



Technical Data Sheet

ACS Material Mesoporous Silica-Coated Upconverting Nanoparticles

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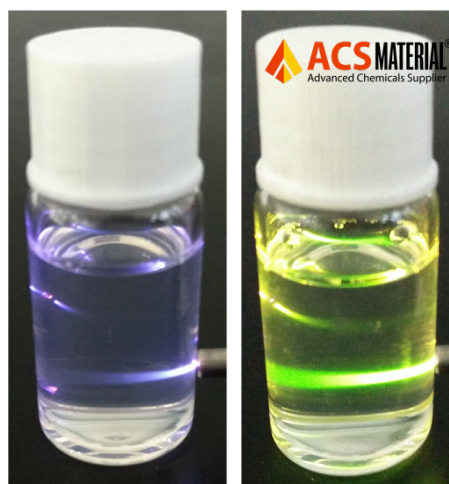
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Revision: 091718

1. Characterizations

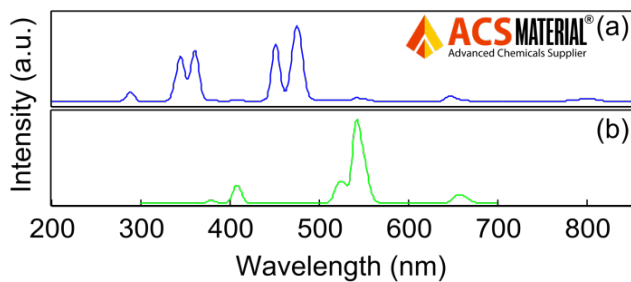
Composition	Mesoporous Silica-Coated Upconverting Nanoparticles	
Diameter	50 nm	
Appearance	Ivory white solution	
Crystal formula	NaYREF ₄ (RE: Yb, Er, Tm, Gd, Mn, Lu) @mSiO ₂	
Concentration	5 mg/mL	
Solvent	Ethanol	
Dispersity of powder	Water or aqueous medium	
Excitation wavelength	975 nm	
Sensitizer	Ytterbium (Yb ³⁺)	
Activator	Emission wavelength	Fluorescence
Thulium (Tm ³⁺)	365/475 nm	Purple-Blue
Erbium (Er ³⁺)	545/660 nm	Green-Yellow



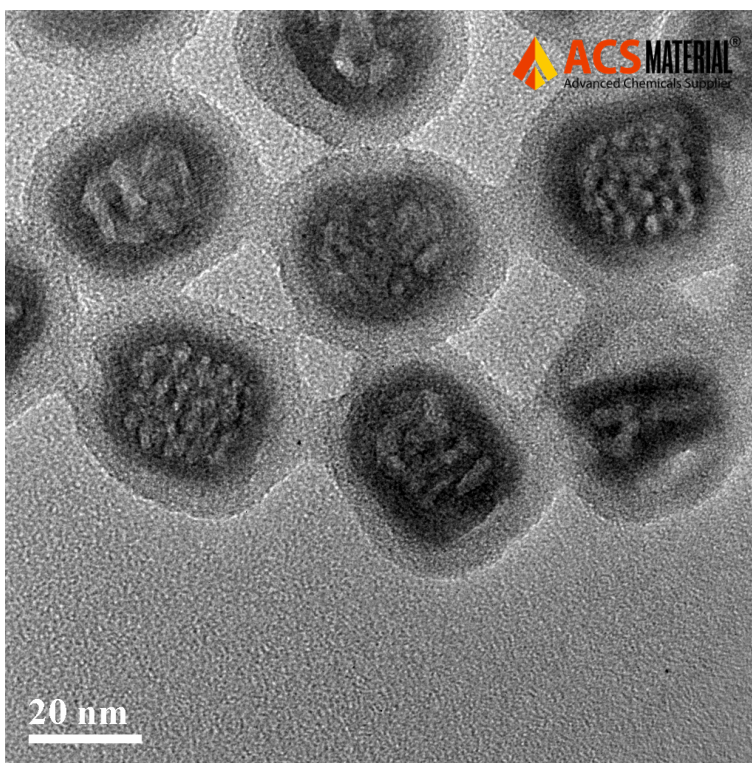
365/475 nm

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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