Technical Data Sheet

ACS Material Oil Dispersible Upconverting Nanoparticles

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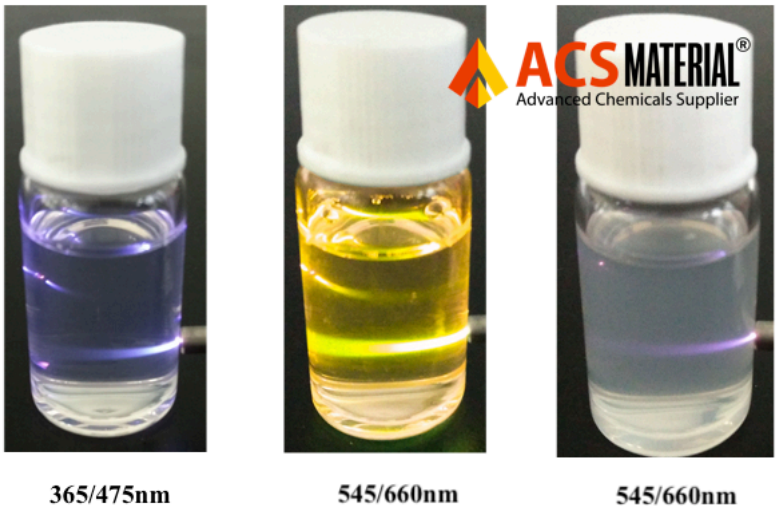
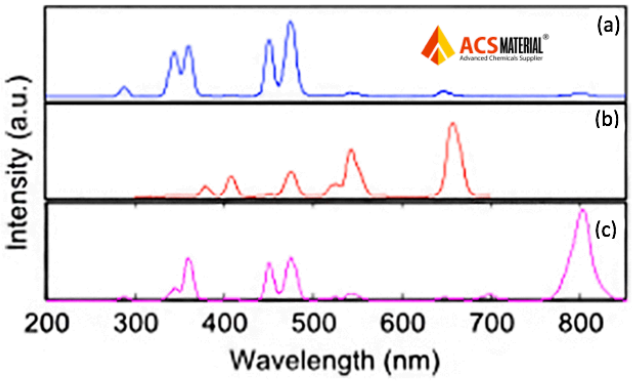
Revision: 091718

1. Characterizations

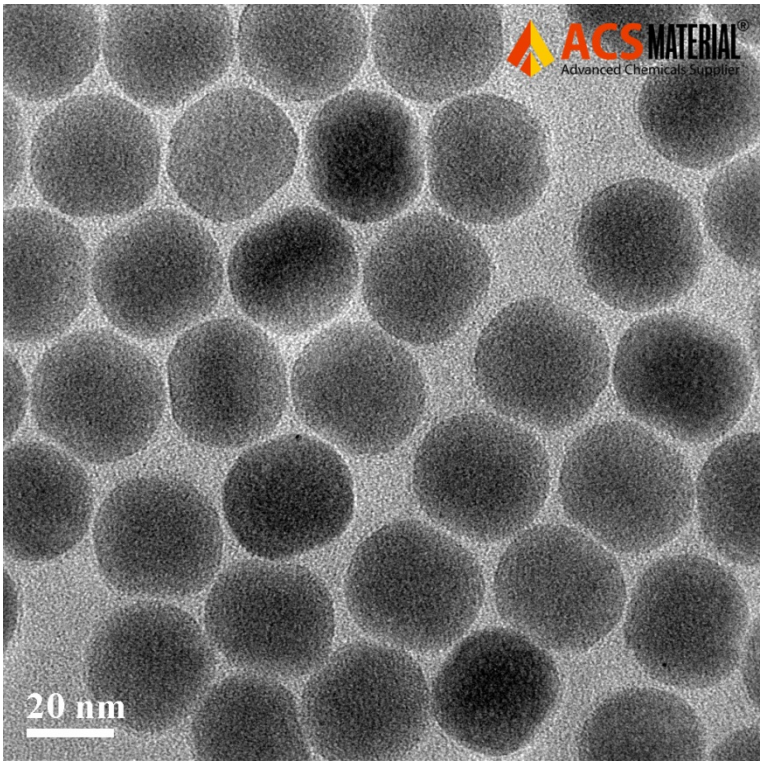
Composition	Oil Dispersible Upconverting Nanoparticles	
Diameter	25 nm	
Appearance	Solution in yellowish or approaching colorless	
Crystal formula	$NaYREF_4$(RE: Yb, Er, Tm, Gd, Mn, Lu)	
Concentration	5 mg/mL	
Solvent	Cyclohexane	
Dispersity of powder	Cyclohexane, n-hexane, methylbenzene, chloroform and other non-polar organic solvents, poorly soluble in water	
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
Thulium (Tm^{3+})	804 nm	Near-infrared



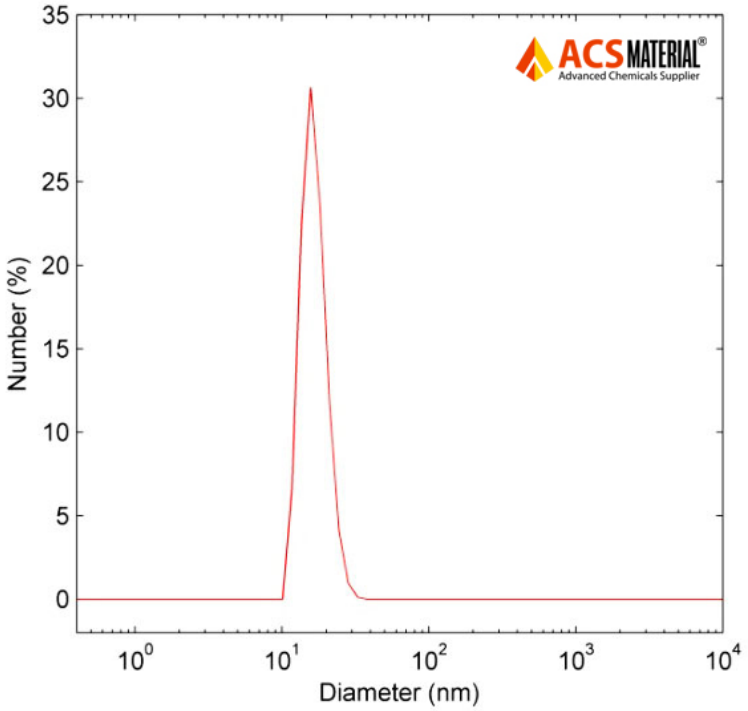
Fluorescence image of ACS Material Oil Dispersible Upconverting Nanoparticles
(upon excitation at 975 nm for reference only)



Upconversion emission spectra of ACS Material Oil Dispersible Upconverting Nanoparticles
(a) 365/475nm, b) 545/660 nm, c) 804 nm upon excitation at 975 nm (Reference Only)



TEM image of ACS Material Oil Dispersible Upconverting Nanoparticles



Typical particle size distribution image of ACS Material Oil Dispersible Upconverting Nanoparticles (Dynamiclight Scattering Measurement)

3. Application Fields

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

- Fluorescence imaging.
- Biodetection.
- Photodynamic therapy.
- Photoactivation of anti-cancer drugs and biomolecules *etc*.

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