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#### **Ultrasmall Lanthanide Oxide Nanoparticles For**

However, Ultrasmall Lanthanide Oxide Nanoparticles for Biomedical Imaging and Therapy, will mainly focus on lanthanide oxide nanoparticles for molecular imaging and therapeutics. Multi-modal imaging capabilities will discussed, along with upconverting FI by using lanthanide oxide nanoparticles.

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### **Ultrasmall Lanthanide Oxide Nanoparticles for Biomedical**

Description. Most books discuss general and broad topics regarding molecular imagings. However, Ultrasmall Lanthanide Oxide Nanoparticles for Biomedical Imaging and Therapy, will mainly focus on lanthanide oxide nanoparticles for molecular imaging and therapeutics. Multi-modal imaging capabilities will discussed, along with up-converting FI by using lanthanide oxide nanoparticles.

### **Ultrasmall Lanthanide Oxide Nanoparticles for Biomedical**

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#### [XE1L]>>> Ultrasmall Lanthanide Oxide Nanoparticles for

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Abstract: Background: Imaging agents are crucial in diagnosing diseases. Ultrasmall lanthanide oxide (Ln2O3) nanoparticles (NPs) (Ln = Eu, Gd, and Dy) are promising materials as high-performance imaging agents because of their excellent magnetic, optical, and X-ray attenuation properties which can be applied as magnetic resonance imaging (MRI), fluorescence imaging (FI), and X-ray computed tomography (CT) agents, respectively.

#### Ultrasmall Europium, Gadolinium, and Dysprosium Oxide

• • •

Therefore, ultrasmall mixed lanthanide oxide nanoparticles will

be extremely useful for dual magnetic resonance imaging (MRI)-fluorescent imaging (FI), as demonstrated in this study. There is no doubt that dual imaging will play a vital role in diagnosing diseases in the near future.

## Mixed lanthanide oxide nanoparticles as dual imaging agent ...

Herein we report a simple and efficient one-step development of ultrasmall Cu 5.4 O nanoparticles (Cu 5.4 O USNPs) with multiple enzyme-mimicking and broad-spectrum ROS scavenging ability for the...

## Ultrasmall copper-based nanoparticles for reactive oxygen ...

A Magnetic Chameleon: Biocompatible Lanthanide Fluoride Nanoparticles with Magnetic Field Dependent Tunable Contrast Properties as a Versatile Contrast Agent for Low to Ultrahigh Field MRI and Optical Imaging in Biological Window.

# Lanthanide Nanoparticles: From Design toward Bioimaging ...

Abstract. Sonodynamic therapy (SDT) triggered by ultrasound (US) has attracted increasing attention owing to its abilities to overcome critical limitations including low tissue-penetration depth and phototoxicity in photodynamic therapy. Herein, the design of a new type of sonosensitizer is revealed, namely, ultrasmall oxygen-deficient bimetallic oxide MnWO X nanoparticles, for multimodal imaging-guided enhanced SDT against cancer.

#### Ultrasmall Oxygen-Deficient Bimetallic Oxide MnWOX ...

Chemical Communications Nucleus-targeting ultrasmall ruthenium (iv) oxide nanoparticles for photoacoustic imaging and low-temperature photothermal therapy in the NIR-II window † Zhou Liu,a Kangqiang Qiu,a Xinxing Liao,a Thomas W. Rees,a Yu Chen, \*a Zizhuo Zhao,\*b Liangnian Ji a and Hui Chao \*ac

#### Nucleus-targeting ultrasmall ruthenium(iv) oxide ...

Therefore, ultrasmall mixed lanthanide oxide nanoparticles will be extremely useful for dual magnetic resonance imaging

(MRI)-fluorescent imaging (FI), as demonstrated in this study. There is no...

# Mixed lanthanide oxide nanoparticles as dual imaging agent ...

The development of upconversion nanoparticles (UCNs) for theranostics application is a new strategy toward the accurate diagnosis and efficient treatment of cancer. Here, magnetic and fluorescent lanthanide-doped gadolinium oxide (Gd[2] O[3] ) UCNs with ...

### Magnetic and fluorescent Gd2O3:Yb3+/Ln3+ nanoparticles for ...

Gang Ho Lee, Yongmin Chang, Tae-Jeong Kim, Synthesis and surface modification, Ultrasmall Lanthanide Oxide Nanoparticles for Biomedical Imaging and Therapy,

10.1533/9780081000694.29, (29-41), (2014). Crossref

### Nanoscale Metal-Organic Frameworks: Magnetic Resonance ...

Novel imaging agents with better performance and desired functions are of great value to meeting diverse practical requirements. Lanthanide nanoparticles (Ln NPs) integrating unique electronic configurations of Ln ions and nanometric-size effect have been recognized as promising candidates for MRI contrast enhancement.

#### Lanthanide Nanoparticles: Promising Candidates for ...

However, Ultrasmall Lanthanide Oxide Nanoparticles for Biomedical Imaging and Therapy, will mainly focus on lanthanide oxide nanoparticles for molecular imaging and therapeutics. Multi-modal imaging capabilities will discussed, along with upconverting FI by using lanthanide oxide nanoparticles. The synthesis will cover

#### [PDF] Ultrasmall Lanthanide Oxide Nanoparticles For ...

Lanthanide-based nanomaterials serve multimodality approach such as diagnosis and therapy. This speciality makes them superior over their other counterparts like transition metals and organic-based materials.

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Surface-Modified Lanthanide Nanomaterials for Drug ... In order to address this, ultrasmall lanthanide doped oxide and fluoride nanoparticles with strong NIR to NIR upconversion fluorescence and a strong magnetic response for magnetic resonance imaging (MRI) have been developed.

### Ultrasmall lanthanide-doped nanoparticles as multimodal

...

A unique multifunctional theranostic nanoplatform based on generation 5 (G5) poly (amidoamine) dendrimer-stabilized gold nanoflowers (NFs) embedded with ultrasmall iron oxide (USIO) nanoparticles (NPs) for multimode T1 -weighted magnetic resonance (MR)/computed tomography (CT)/photoacoustic (PA) imaging-guided combination photothermal therapy (PTT) and radiotherapy (RT) of tumors is reported here.

#### **Dendrimer-Stabilized Gold Nanoflowers Embedded with**

...

oxide. Given the concern that nanoscale metal oxides may be more toxic per unit mass than microscale metal oxides (due to the larger surface area per unit mass), the toxicological potency of nanoscale ceric oxide may be greater per unit mass. Consequently a human equivalent RfC for nanoscale ceric oxide may be considerably lower than 0.3  $\mu g$  Ce/m

### Chemical Information Profile for Ceric Oxide [CAS No. 1306 ...

2.2. Conjugation and Functionalization of ZrO 2: Yb 3 +-Er 3 + Nanoparticles. The conjugation of ZrO 2: Yb 3 +-Er 3 + nanoparticles with the Ki-67 protein was carried out by following a previously reported method with some modifications. 15 This process was performed as follows: 0.1 g of Yb 3 +-Er 3 + doped ZrO 2 nanoparticles were stirred with 490  $\mu$  l of APTES for 24 hours.

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