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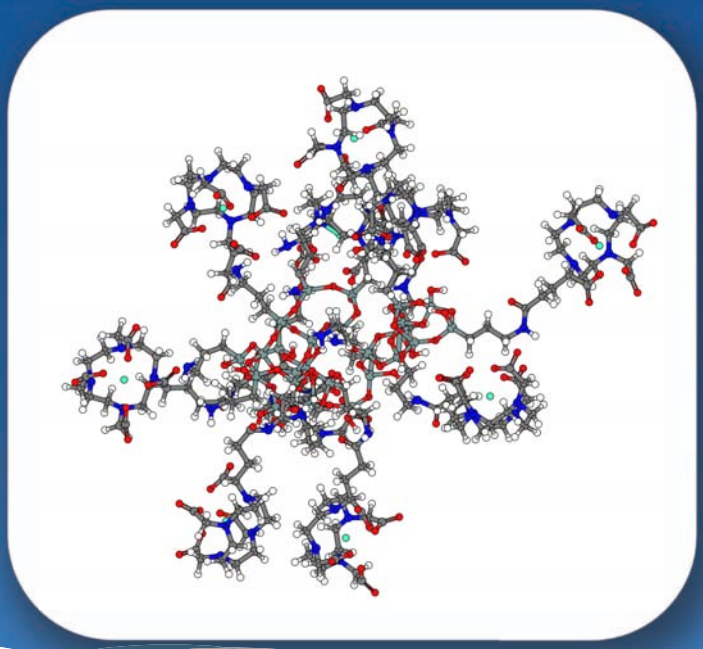
Value-Added Nanotechnology

AGuIX®

Preclinical Multimodal Probe

Theragnostic Nanoparticles
(MRI-SPECT/PET-fluorescence-Therapy)



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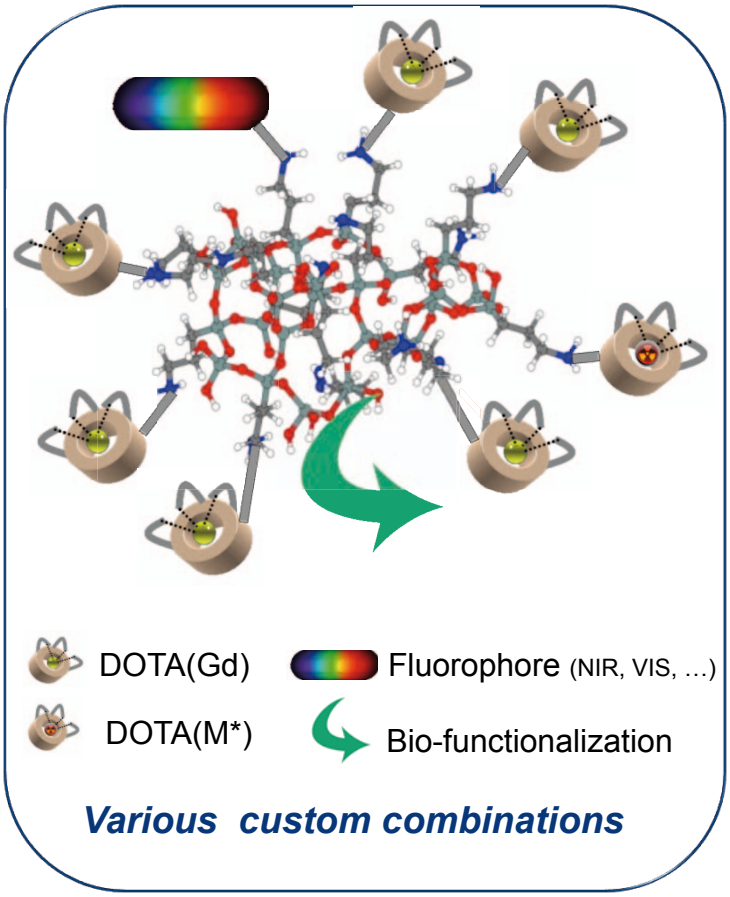
An innovative nanoparticle



Various custom combinations

Ultrasmall size
4±1 nm - renal excretion
MW 8.5±2 kDa

Polysiloxane composition
Easy further functionalization

DOTA (Gd) (MRI - Radiotherapy)
FDA approved
About 10 DOTAs/nanoparticle

Radiometals (M*) chelation
PET, SPECT, Therapy

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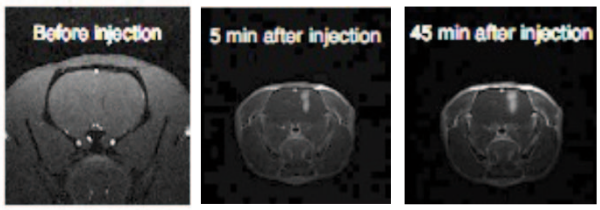
An efficient multimodal probe

Passive targeting/Active targeting

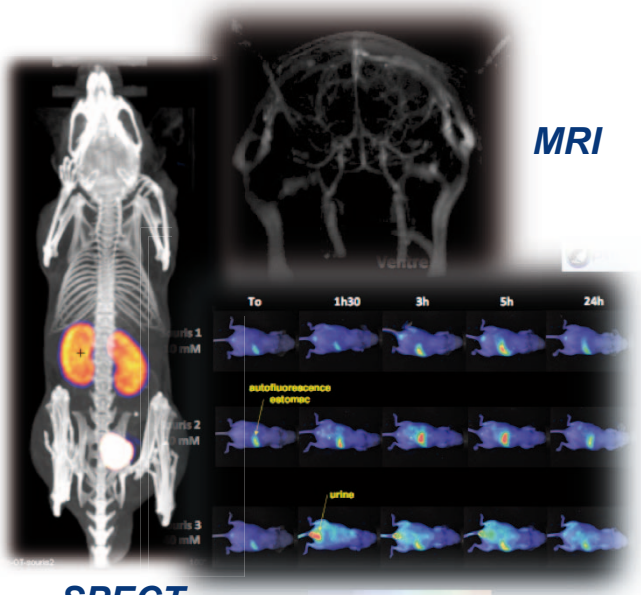


Functionalization for active targeting

- Easy grafting
- Adapted for each application
- Proofs of concepts with peptides, antibodies, oligomers…

Easy injection and elimination

- Intravenous
- Intratumoral
- *Via* the airways



MRI

SPECT

Fluorescence

High Radiosensitization

- High interaction with X and γ rays (due to high Z of Gd) even at very small concentrations of multimodal probe
- « Nanosized » effect

Patented Technology

- Basic gadolinium based particles
- Gadolinium based particles ready for radiolabelling
- Possibility of custom manufacturing of biolabelled targeting particles

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ARTICLE

Toward an Image-Guided Microbeam Radiation Therapy Using Gadolinium-Based Nanoparticles

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LE DUC *ET AL.* VOL. 5 ▪ NO. 12 ▪ 9566–9574 ▪ 2011 ACSNANO www.acsnano.org

Angewandte International Edition 50 Chemie

Imaging Agents

DOI: 10.1002/anie.201104104

Ultrasmall Rigid Particles as Multimodal Probes for Medical Applications

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Angew. Chem. Int. Ed. **2011**, *50*, 12299 ² 12303