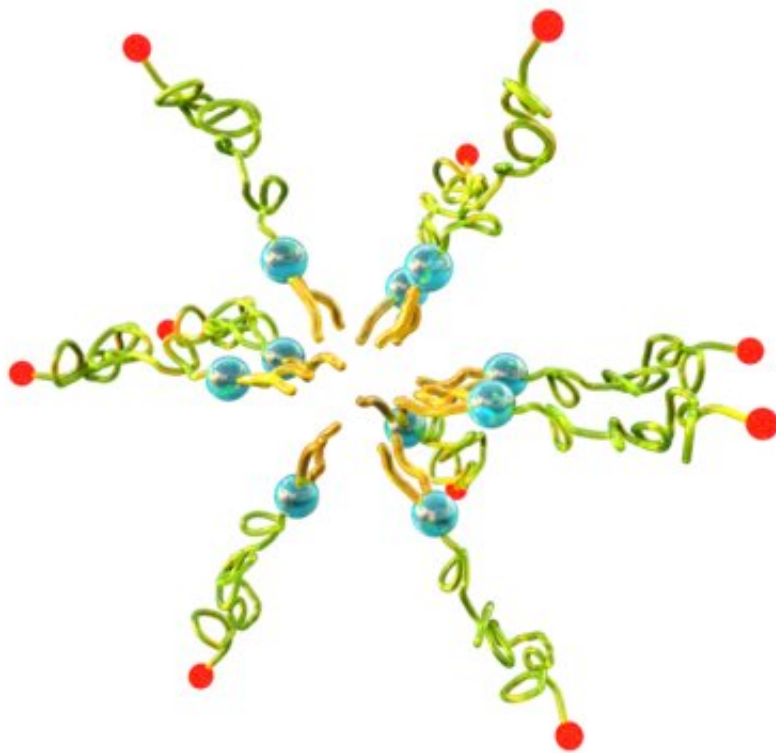


# Theranostic nanoparticles for tracking and monitoring disease state

November 9 2017

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From the *SLAS Technology* article "Theranostic Nanoparticles for Tracking and Monitoring Disease State." Credit: Peter Allen.

Although the most basic definition of a "theranostic" nanoparticle is a nanoparticle that simply has a therapeutic moiety and imaging or diagnostic moiety on the same particle, the authors of a new *SLAS*

*Technology* review article pay particular attention to and emphasize the platforms in which self-reporting and disease monitoring is possible in real-time through the synergistic nature of the components on the theranostic particles.

The review is organized into theranostic nanoparticles of specific imaging and diagnostic modalities, including optical imaging, [magnetic resonance imaging](#) (MRI), ultrasound, computed tomography (CT), and nuclear imaging.

The evolving nature of the field toward such responsive and "smart" theranostic nanoparticles can be used as tools for life sciences researchers, especially in the context of identifying markers and characterizing cells and diseases over the course of its lifetime.

Many clinical imaging technologies have limitations in resolution when detecting small quantities of [molecular markers](#), but theranostic nanoparticles can be used in combination to provide early detection and therapy of diseases, and has the potential to advance imaging platforms for improved performance.

**More information:** *SLAS Technology*, [DOI: 10.1177/2472630317738698](#) , [journals.sagepub.com/doi/full/ ... 177/2472630317738698](#)

Provided by SLAS (Society for Laboratory Automation and Screening)

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