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Nanogold-based materials in medicine: from their origins to their future

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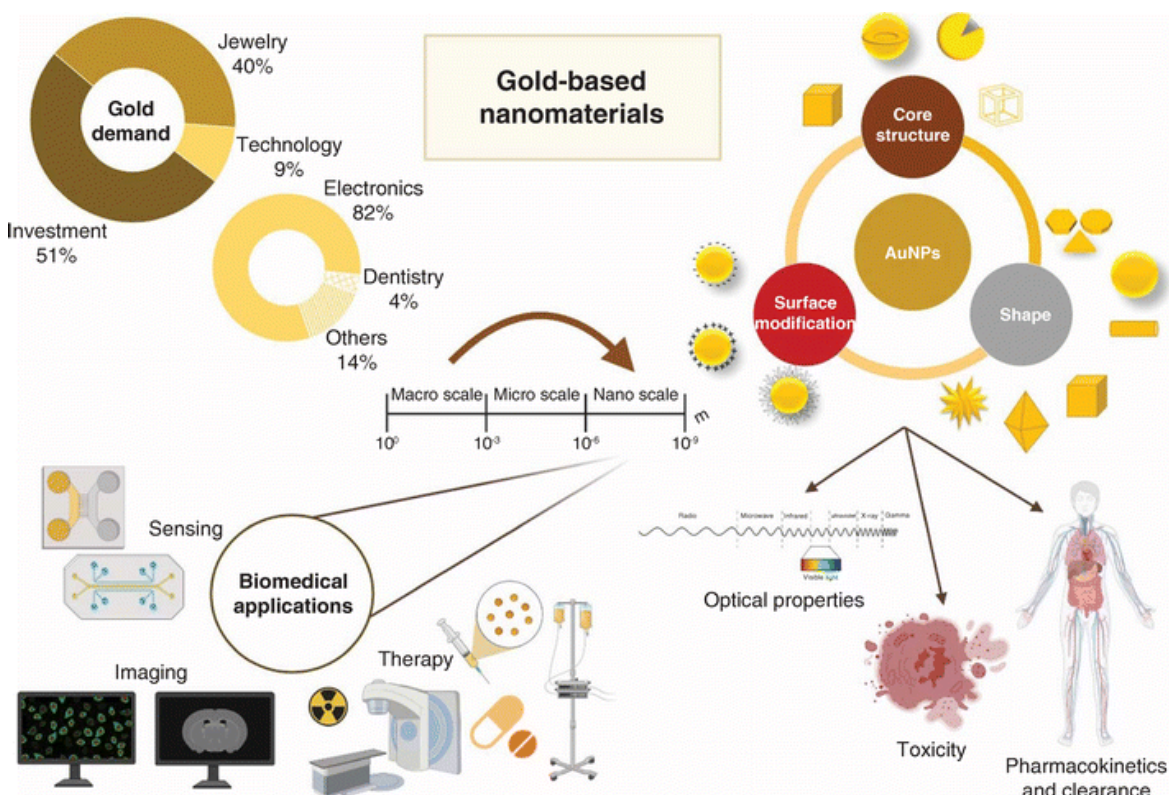
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Abstract

The properties of gold-based materials have been explored for centuries in several research fields, including medicine. Multiple published production methods for gold nanoparticles (AuNPs) have shown that the physicochemical and optical properties of AuNPs depend on the production method used. These different AuNP properties have allowed exploration of their usefulness in countless distinct biomedical applications over the last few years. Here we present an extensive overview of the most commonly used AuNP production methods, the resulting distinct properties of the AuNPs and the potential application of these AuNPs in diagnostic and therapeutic approaches in biomedicine.

Graphical abstract



Keywords: biomedical research • gold • gold nanomaterials • photothermal therapy