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Title: Automatic Image Detection of Halloysite Clay Nanotubes as a Future Ultrasound Theranostic Agent for Tumoral Cell Targeting and Treatment

Abstract:

Halloysite clay Nanotubes (HNTs) are nanomaterials composed of double layered aluminosilicate minerals with a hollow tubular structure in the submicron range. They are characterized by a wide range of applications in anticancer therapy as agent delivery. HNTs are particularly interesting due to their natural biocompatibility, tunable release rates and fast adsorption rates. However systematic investigations of their employability in medical imaging are still poorly documented. In this work we aim to investigate the automatic detection features of HNTs through advanced quantitative ultrasound imaging employing different concentrations (3-5 mg/mL) and conventional frequencies (7 MHz).