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Fluorescein-Loaded Solid Lipid Nanoparticles Based on Monoamine Pillar[5]arene: Synthesis and Interaction with DNA

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Abstract

© 2018 Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim Present research is the first example to use pillar[5]arene for creation fluorescein-loaded solid lipid nanoparticles and release dye during interaction with DNA - potential delivery system of the imaging agent. Monoamine functionalized pillar[5]arene was synthesized for preparation of the solid lipid nanoparticles (SLN) with/without luminescent marker (fluorescein). Interestingly, presence of a single tail-group in the pillar[5]arene has opened wide opportunities for the formation of the various types of pillararene-based assemblies, i. e., pseudorotaxanes, supramolecular polymers and SLNs, varying the solvents.

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Keywords

DNA, dyes, monopillar[5]arene, self-assembly, solid lipid nanoparticles

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