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Synthesis of high generation thermo-sensitive dendrimers for extraction of rivaroxaban from human fluid and pharmaceutic samples

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Highlights:

- A novel thermo-sensitive dendrimers grafted magnetic nano-particles was introduced
- The sorption rate of the investigated rivaroxaban on the nano-particles was good.
- The sorbent was used to extraction rivaroxaban in biological and pharmaceutical samples

Abstract

In this present study, poly (N-isopropylacrylamide) as a thermo-sensitive agent was grafted onto magnetic nanoparticles, then ethylenediamine and methylmethacrylate were used to synthesize the first generation of poly amidoamine (PAMAM) dendrimers successively and the process continued alternatively until the ten generations of dendrimers. The synthesized nanocomposite was investigated using Fourier transform infrared spectrometry, thermalgravimetry analysis, X-ray diffractometry, elemental analysis and vibrating-sample magnetometer. The particle size and morphology were characterized using dynamic light