**Characterization of pyrenyl dextran and DGNPs**

![FT-IR spectrum](image1)

**Figure S1.** FT-IR spectrum (red arrow: ester groups) of pyrenyl dextran.

![AFM image](image2)

**Figure S2.** Atomic force microscopy (AFM) image of DGNPs at 30min.
**Figure S3.** Thermogravity analysis (TGA) of DGNPs at.

**Figure S4.** a) Ex vivo micro CT images and b) silver stained image of a tissue (aorta) slide treated with DGNPs.