Supporting information:

## Effect of Nanoparticle Synthetic Conditions on Ligand Coating Integrity and Subsequent Nano-Bio Interactions

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Figure S1 Energy dispersive X-ray spectroscopy spectrum of 3 nm Ag<sub>2</sub>S-NP from Synthesis B.



**Figure S2** UV-visible spectroscopy measurements of 3 nm Ag<sub>2</sub>S-NP from Synthesis B after incubation in DI water, PBS and PBS supplemented with 10% fetal bovine serum at 37°C for 7 days. Some lines may be difficult to visualize as they overlap with other lines.



**Figure S3** 2D NMR spectroscopy of 3 nm Ag<sub>2</sub>S-NP synthesized from Synthesis B. (a) <sup>1</sup>H-<sup>1</sup>H COSY NMR spectrum and (b) <sup>1</sup>H-<sup>13</sup>C HSQC NMR spectrum.



**Figure S4** Representative *in vivo* 3D volume rendered CT images of a mouse injected with Ag<sub>2</sub>S-NP synthesized using high temperature, bulk approach (Synthesis A). The images are shown with a window level of 700 HU and window width of 1000 HU. Kidneys are labeled K. Green circles indicate the bladder.



**Figure S5** Electron micrographs of liver sections indicating cellular distribution of different Ag<sub>2</sub>S-NP formulations. The scale is indicated in the upper left corner on the rightmost image for each row of images.



Figure S6 Flow cytometry for primary Kupffer cells.

(a) Representative flow plot with gating to show (b) percentages of F4/80 positive and negative cells in the total nonparenchymal cell population after purification. SSC: side scatter; FSC: forward scatter.