

**Supporting Information for**

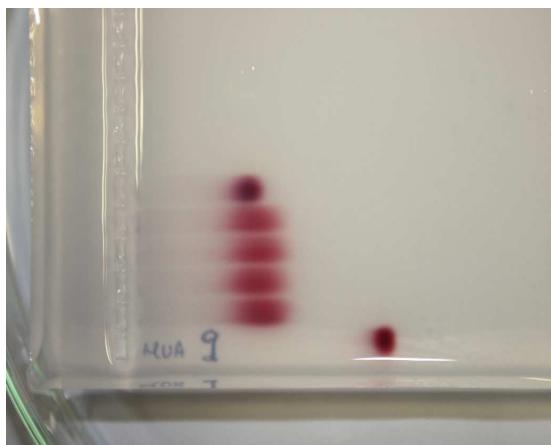
**Physico-chemical characteristics of protein-NP bioconjugates: The role of particle curvature and solution conditions on the protein conformation on the inhibition of human serum albumin fibrillogenesis**

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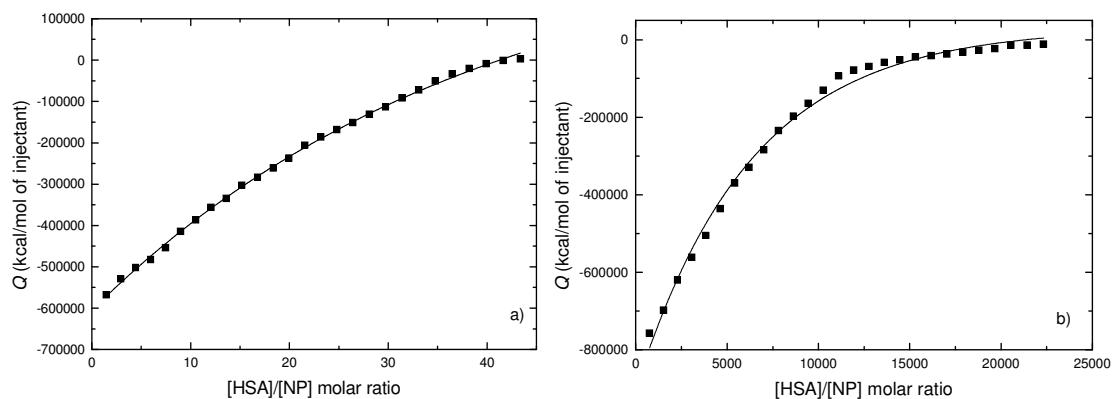
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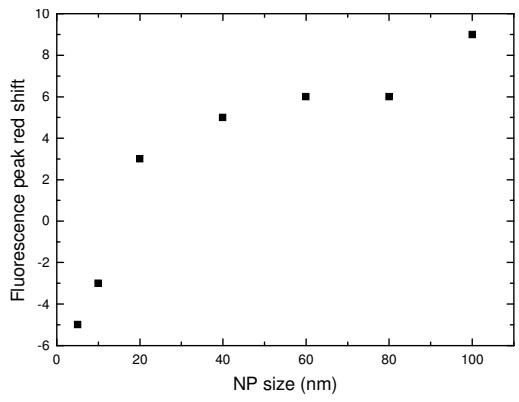
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**Figure S1:** Slab gel electrophoresis runs of Au NPs (20 nm size) coated with (from the bottom) MUA and HSA after incubation at 0 h, 12 h, 48 h, 72 h, and at 24 h at 90 °C.



**Figure S2:** ITC data for titration of HSA into solutions of a) 5 and b) 40 nm Au NPs at 65 °C. Solid lines represent the fit using a one-site binding model.



**Figure S3:** Shift of the fluorescence maxima with NP size upon a temperature increase from 25 to 90 °C.

**Table S1:** Stern-Volmer quenching constants of HSA-Au NP bioconjugates at 25 °C.

HSA-AuNP bioconjugate	$10^{-8} k_{sv} (\text{M}^{-1})$
5 nm	$1.95 \pm 0.33$
10 nm	$12.5 \pm 0.3$
20 nm	$86.3 \pm 1.9$
40 nm	$306.6 \pm 10.3$
60 nm	$865.3 \pm 27.9$
80 nm	$1175.0 \pm 56.7$
100 nm	$2929.1 \pm 123.0$