

# Supplementary Materials

## Investigation of the Influence of Wound-Treatment-Relevant Buffer Systems on the Colloidal and Optical Properties of Gold Nanoparticles

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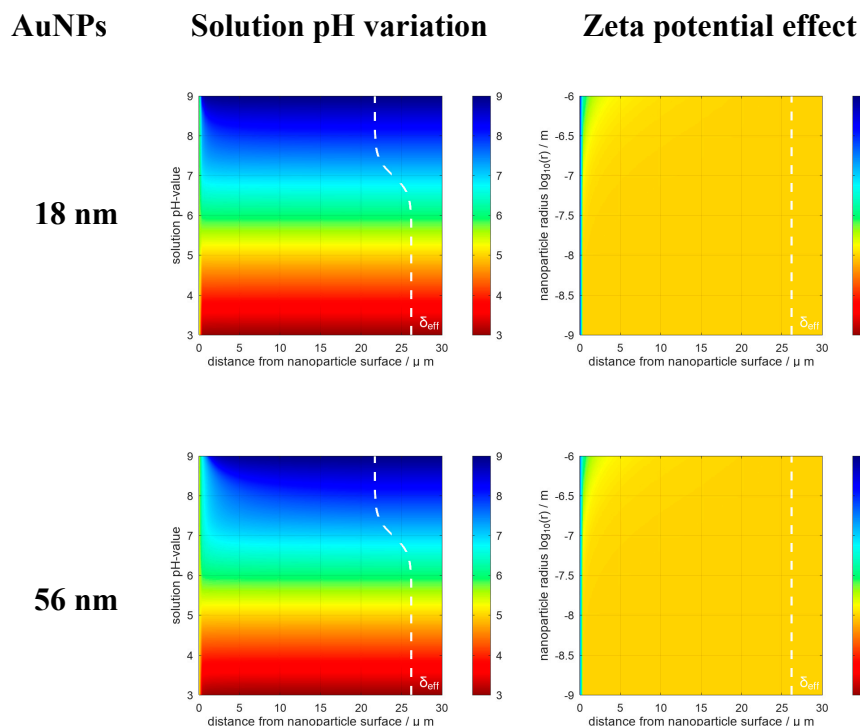
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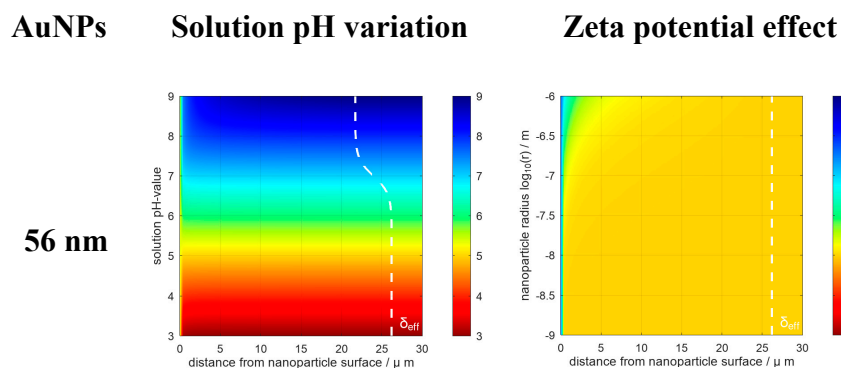
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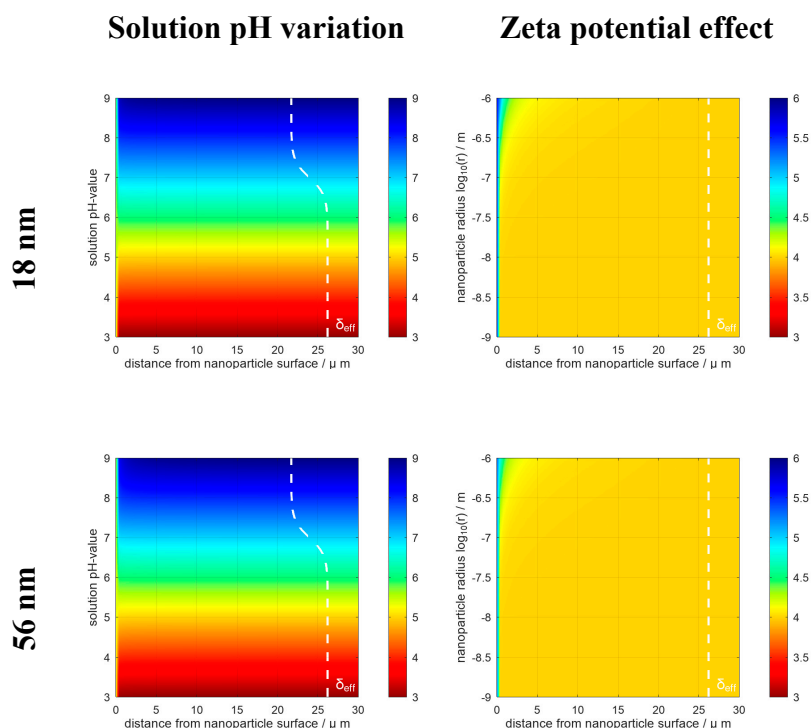
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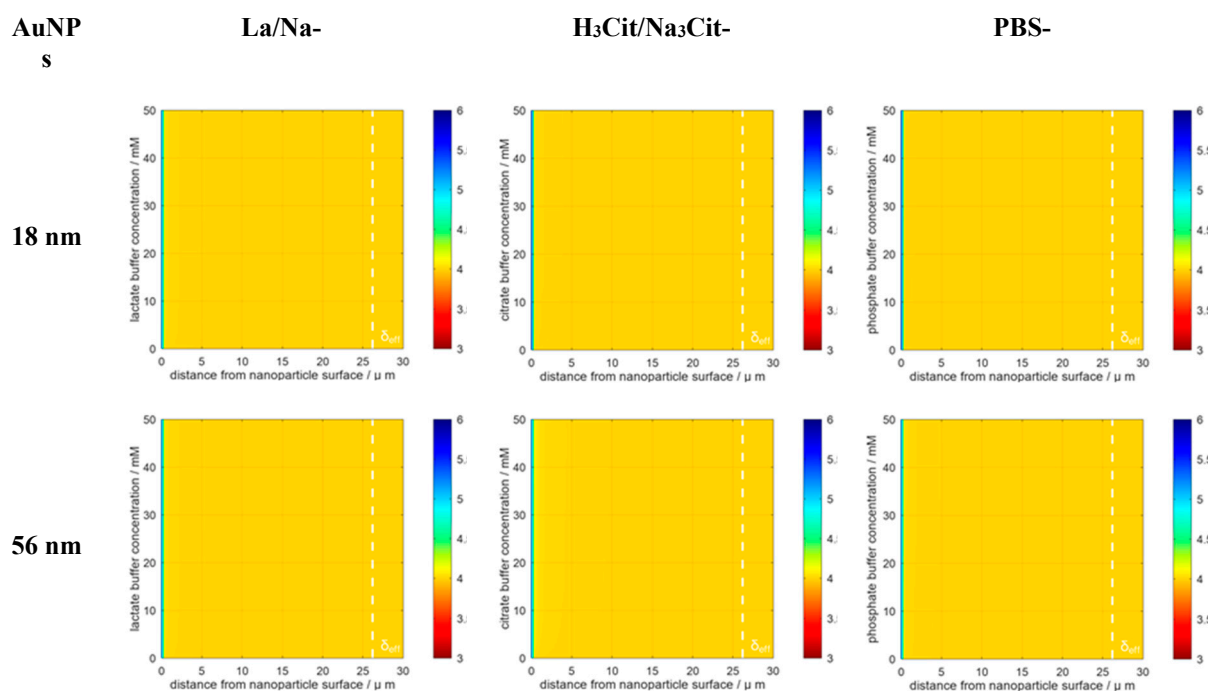
**Figure S1.** Calculated local pH-value distributions in the diffusion zone near the surface of 18 nm (top row) and 56 nm AuNPs (bottom row). The default values for the simulations were 34 mM La/NaL buffer solution (solution pH = 4) and a zeta potential value of  $-22.8$  mV for 18 nm and  $-37.6$  mV for 56 nm sized AuNPs, respectively.



**Figure S2.** Calculated local pH-value distributions in the diffusion zone near the surface of 56 nm AuNPs. The default values for the simulations were 34 mM  $\text{H}_3\text{Cit}/\text{Na}_3\text{Cit}$  solution (solution pH = 4) and a zeta potential value of  $-37.6$  mV, respectively.



**Figure S3.** Calculated local pH-value distributions in the diffusion zone near the surface of 18 nm (top row) and 56 nm AuNPs (bottom row). The default values for the simulations were 34 mM PBS buffer solution (solution pH = 4) and a zeta potential value of  $-22.8$  mV for 18 nm and  $-37.6$  mV for 56 nm sized AuNPs, respectively.



**Figure S4.** Calculated local pH-value distributions in the diffusion zone near the surface of 18 nm (top row) and 56 nm AuNPs (bottom row) with buffer concentration variation. The default values for the simulations were 34

mM buffer solutions (solution pH = 4) and a zeta potential value of  $-22.8$  mV for 18 nm and  $-37.6$  mV for 56 nm sized AuNPs, respectively.