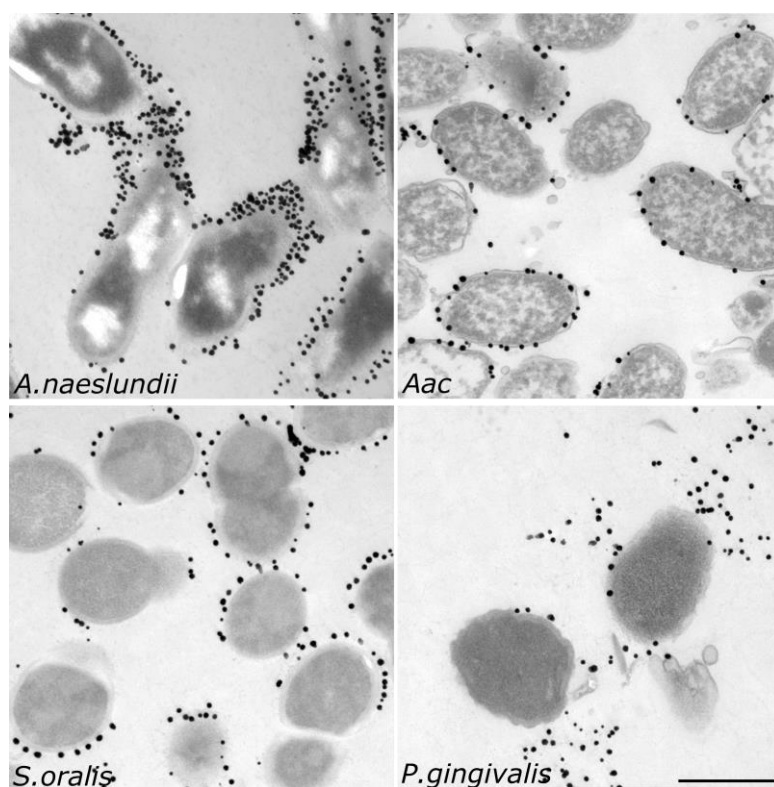


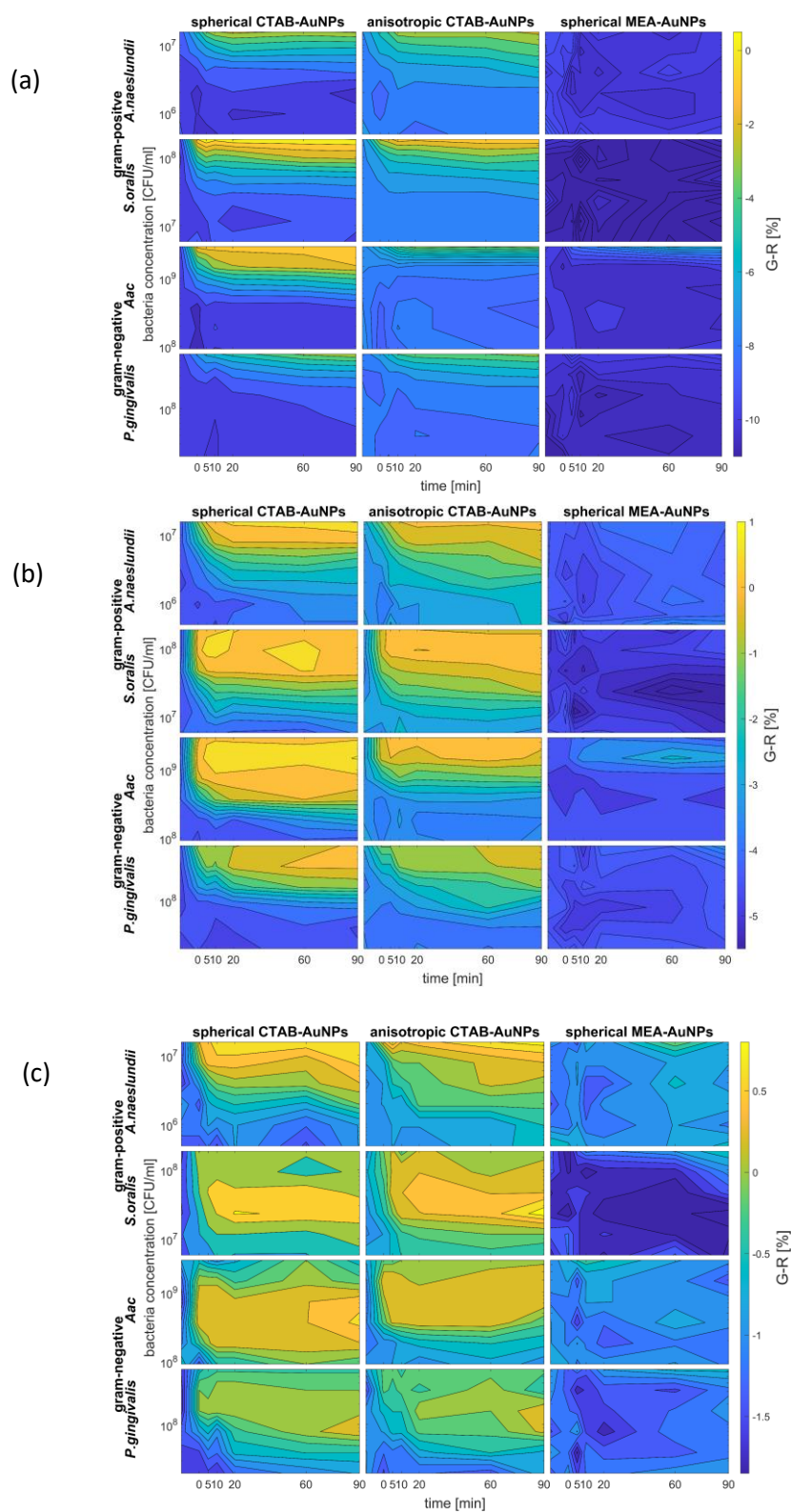
## Supplementary Information: Colorimetric sensing of oral bacteria using a functionalized plasmonic biosensor array

Christina Wenck<sup>a,e</sup>, Dorthe Leopoldt<sup>a,e</sup>, Mosaieb Habib<sup>b,e</sup>, Jan Hegermann<sup>d</sup>, Meike Stiesch<sup>c,e</sup>, Katharina Doll-Nikutta<sup>c,e</sup>,  
Alexander Heisterkamp<sup>a,e</sup>, Maria Leilani Torres-Mapa<sup>a,e</sup>

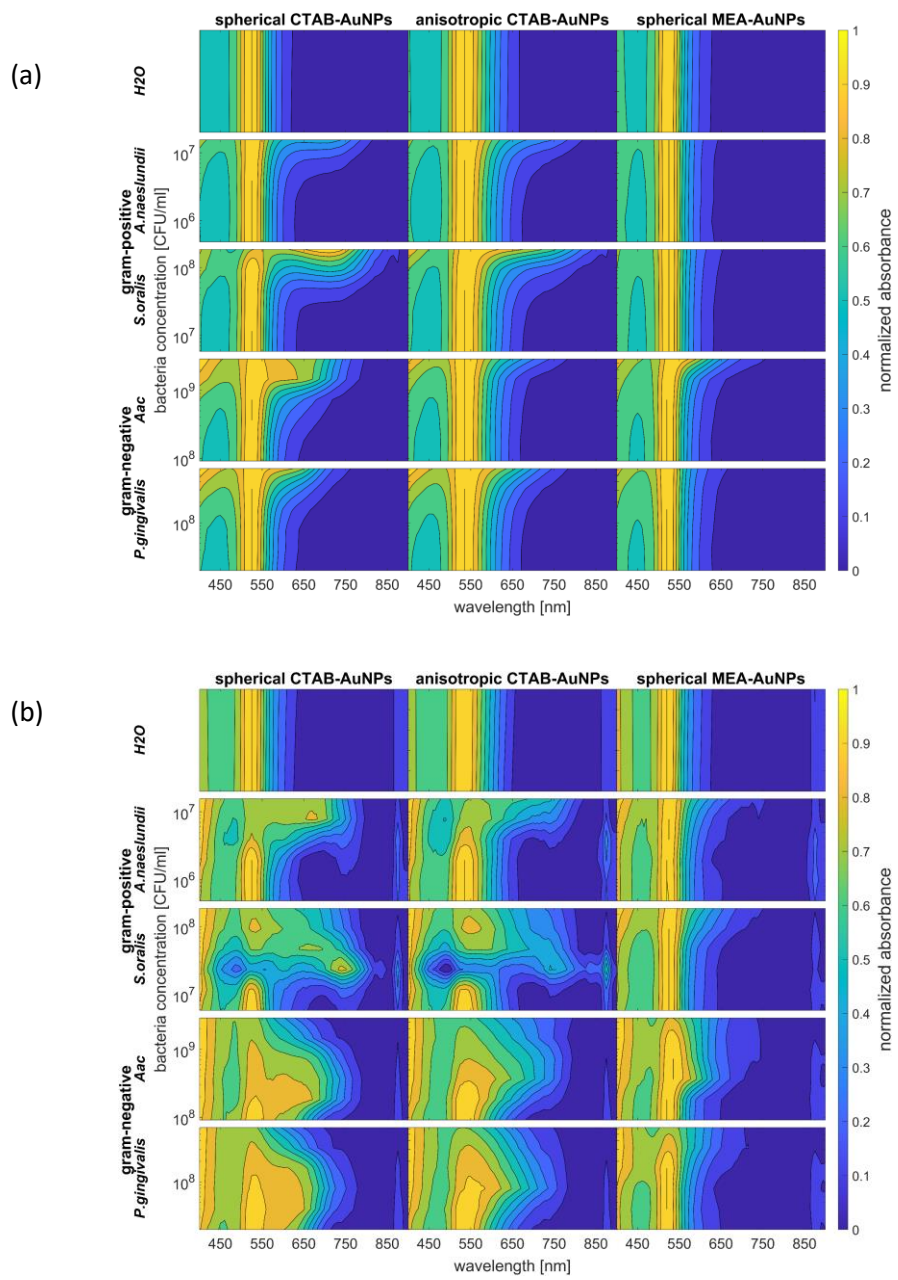
<sup>a</sup>Institute of Quantum Optics, Leibniz University Hannover, <sup>b</sup>Institute of Inorganic Chemistry, Leibniz University Hannover, <sup>c</sup>Department of Prosthetic Dentistry and Biomedical Materials Science, Hannover Medical School, <sup>d</sup>Research Core Unit Electron Microscopy, Institute of Functional and Applied Anatomy, Hannover Medical School, <sup>e</sup>Lower Saxony Centre for Biomedical Engineering, Implant Research and Development (NIFE)



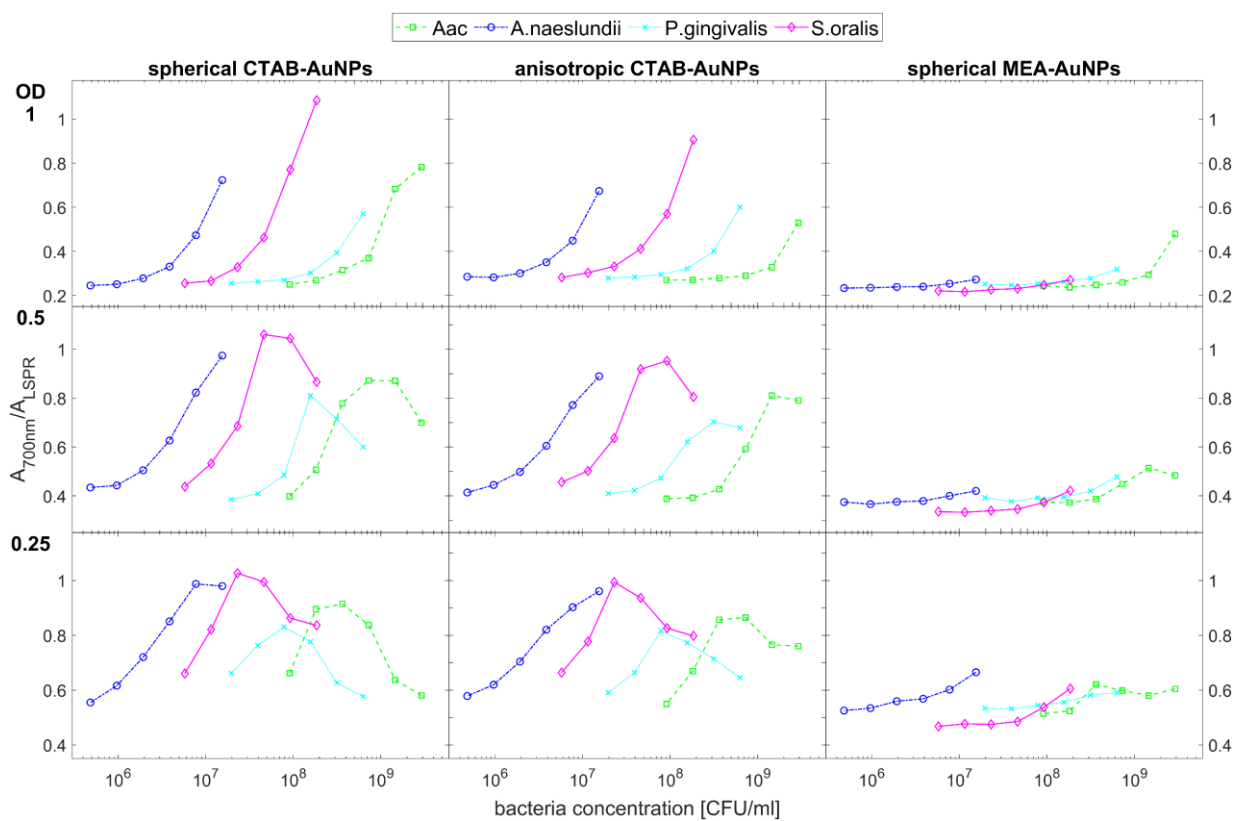
SI Figure 1: Transmission electron microscopy (TEM) of MEA-AuNP incubated with oral bacteria.



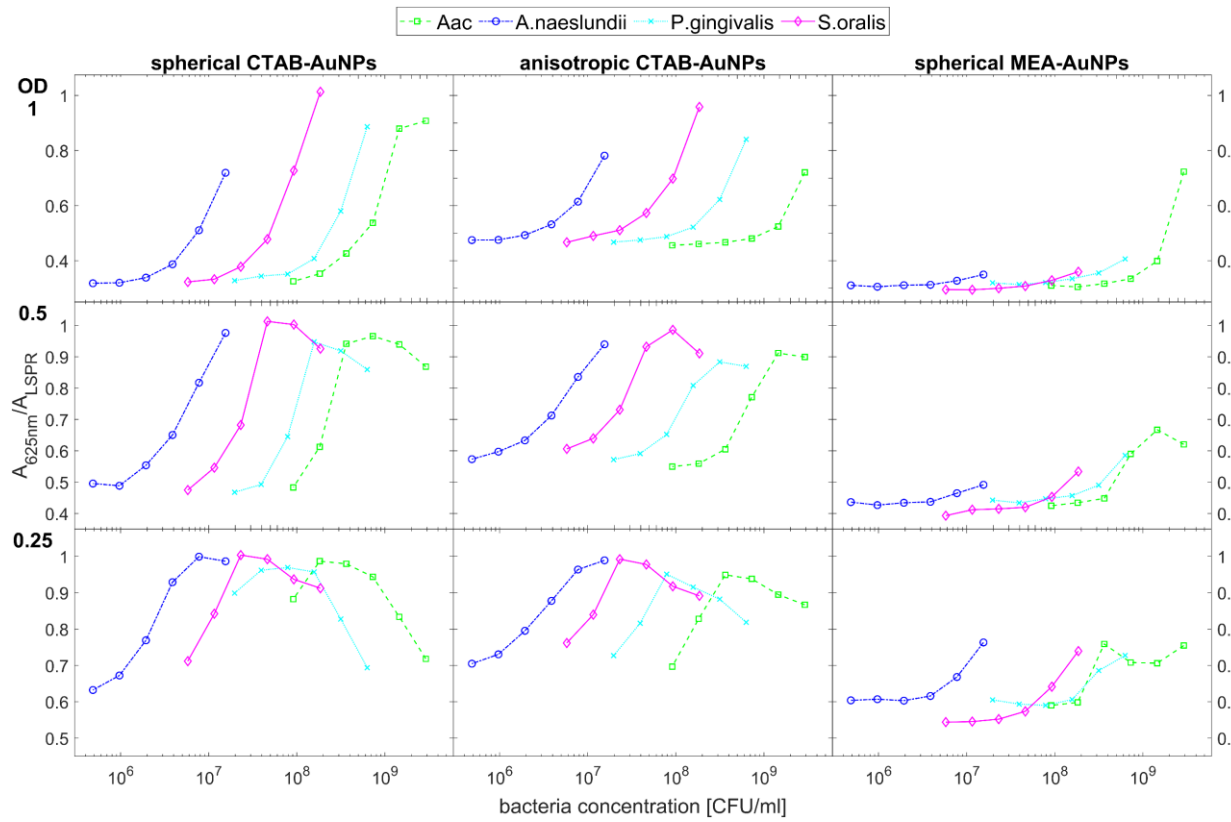
SI Figure 2: G-R values as a function of incubation time for varying AuNP dilutions (a) AuNP OD 1 (b) AuNP OD 0.5 (c) AuNP OD 0.25



SI Figure 3: Normalized absorbance of CTAB- and MEA-AuNPs measured 90 min after the addition of oral bacteria. a) AuNP OD 1 and b) AuNP OD 0.25.



SI Figure 4: Calculated  $A_{G2R} = A_{700}$  values of CTAB- and MEA-AuNPs 90 min after the addition of bacteria.



SI Figure 5: Calculated  $A_{625}$  values of CTAB- and MEA-AuNPs 90 min after the addition of oral bacteria.