Enhanced Flow Cytometry Based Bead Immunoassays by Using Metal Nanostructures

Wei Deng, Krystyna Drozdowicz-Tomsia, Dayong Jin and Ewa M Goldys[*]

Department of Engineering and Physics, Macquarie University, North Ryde 2109

NSW, Australia

Contents

[*], To whom correspondence should be addressed. Telephone: +61-2-9850-8902. Fax: +61-2-9850-8115. E-mail: goldys@ics.mq.edu.au

The free Au colloids had a distinctive plasmon absorption peak at 519 nm (continuous line in Fig.S-1). The spectrum of 400 nm uncoated silica beads shows no such absorption band (dashed line in Fig. S-1) because the dielectric function of the silica has no imaginary part. The extinction spectrum is rising towards shorter wavelengths due to intense scattering increasing at shorter wavelengths. The spectrum of silica-Au assemblies had a similar shape (dash dotted line in Fig. S-1) to the spectrum of uncoated silica beads. This spectrum did not show the plasmon resonance feature, but the extinction was higher than in the case of uncoated beads, suggesting that gold colloids were present on the beads surface.

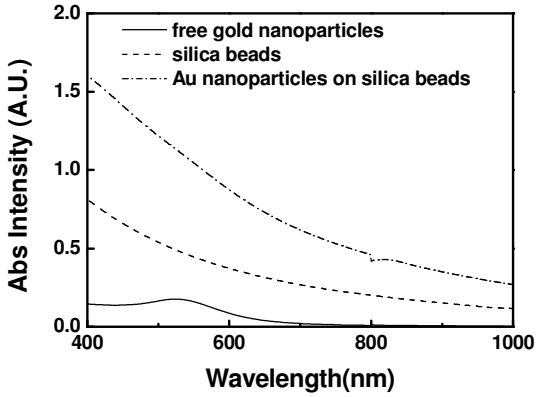

Figure S-1. Absorption spectra of Au-coated silica beads, pure silica beads and pure gold colloids (from top to bottom).

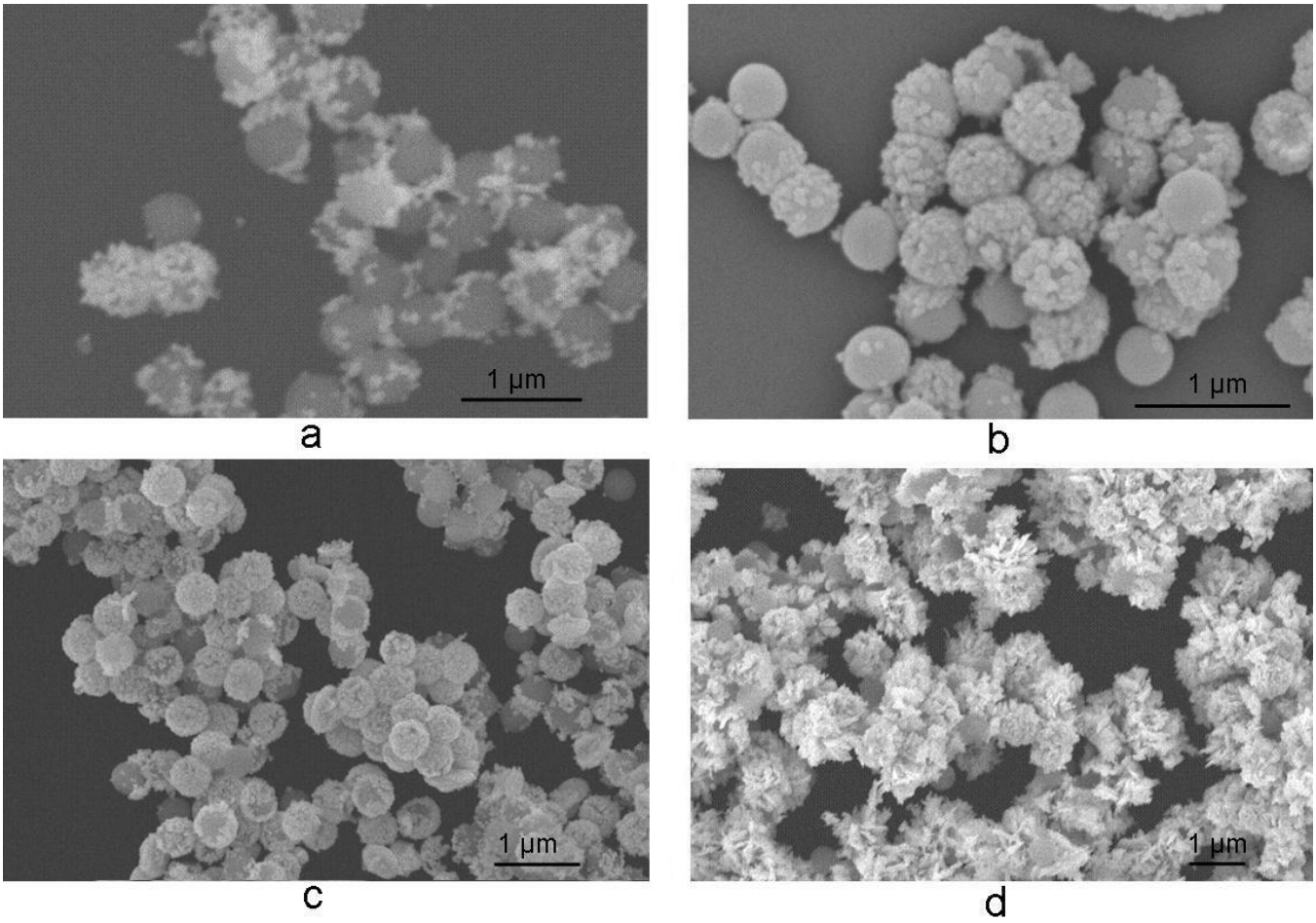

Figure S-2. SEM images of silica beads at different Ag enhancing times (a) 10sec, (b) 1 min, (c) 3 min and (d) 5 min.