Supplementary Information

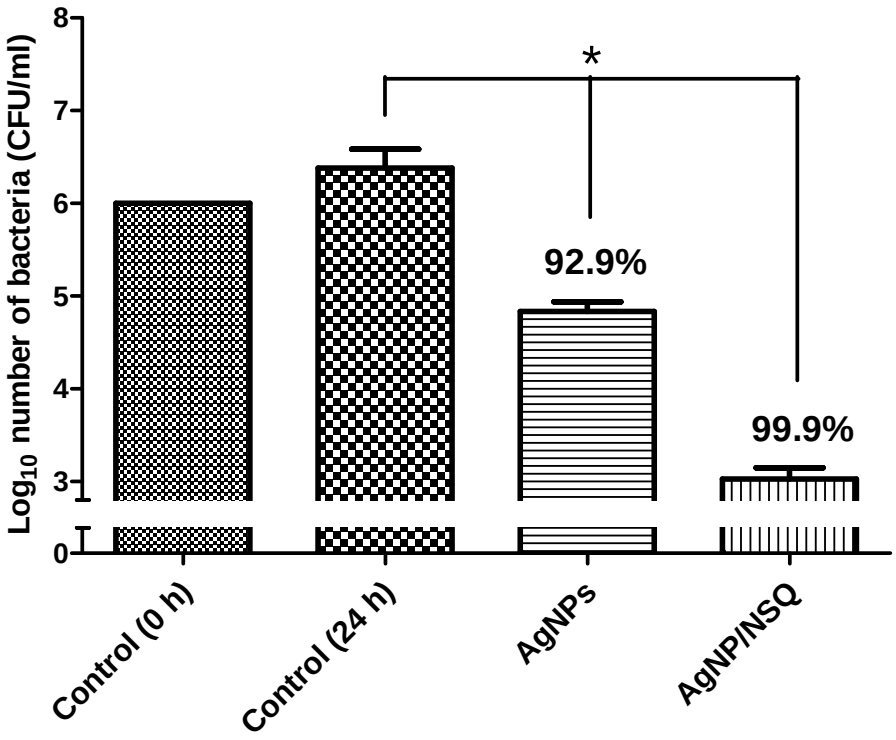

Figure S1. Comparison of the antibacterial activities between AgNPs/NSQ and physically manufactured AgNPs (~5 nm) on E. coli after 24 h of incubation. The concentration of AgNPs was both adjusted to the same level (~0.7 ppm). Significance ($p<0.05$): *between the indicated groups. The antibacterial efficiency of AgNP/NSQ was significantly higher than that of AgNPs.

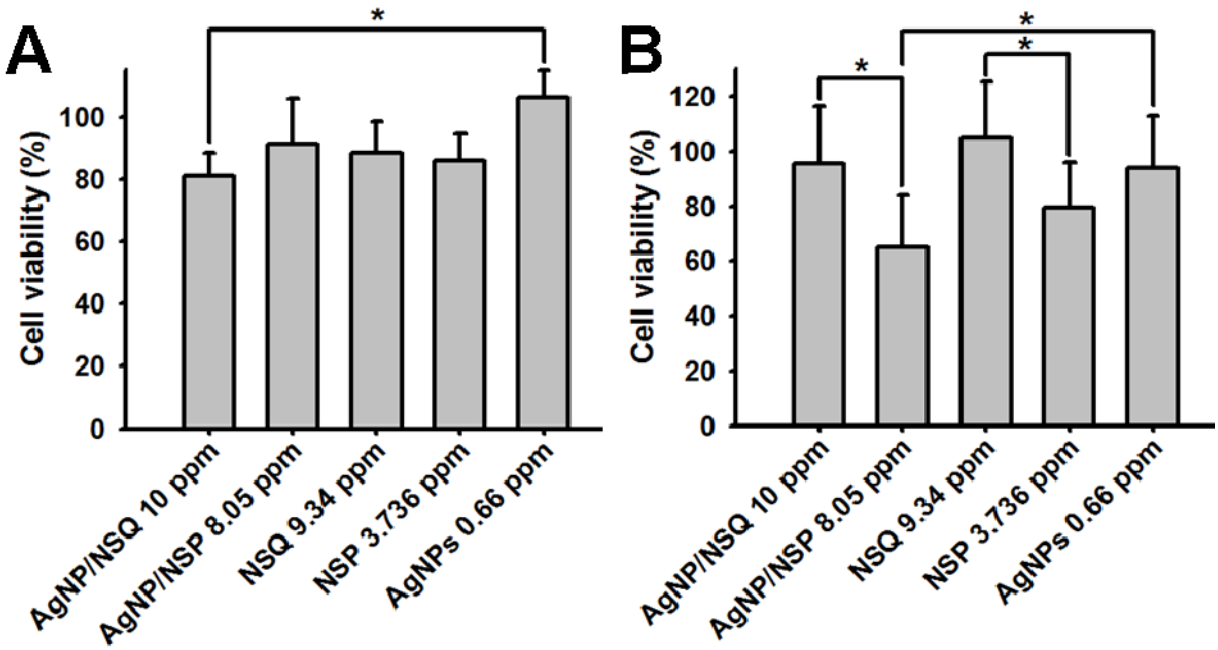

Figure S2. Cytotoxicity of AgNP/NSQ as compared to AgNP/NSP, NSQ, NSP, AgNPs to (A) L929 and (B) HepG2 cells. Significance ($p<0.05$): *between the indicated groups. All ppm values are based on the weight of the nanomaterials.

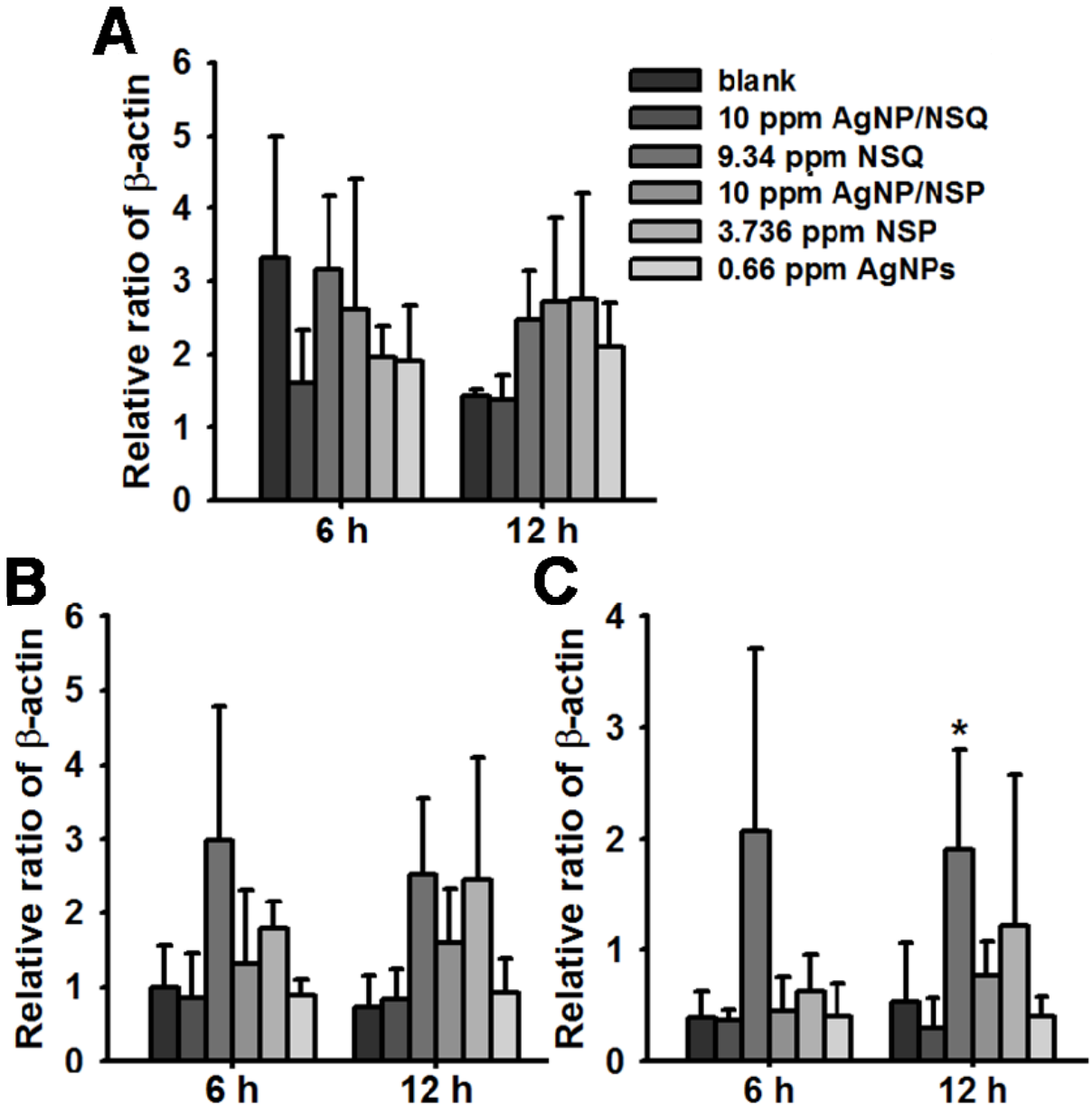

Figure S3. The proinflammatory gene expression of macrophages including (A) tumor necrosis factor-α, TNF-α, (B) interlukin-1, IL-1, and (C) interlukin-6, IL-6, after incubation with AgNP/NSQ and the component materials. Significance ($p<0.05$): *larger than 10 ppm AgNP/NSQ, 12 h.

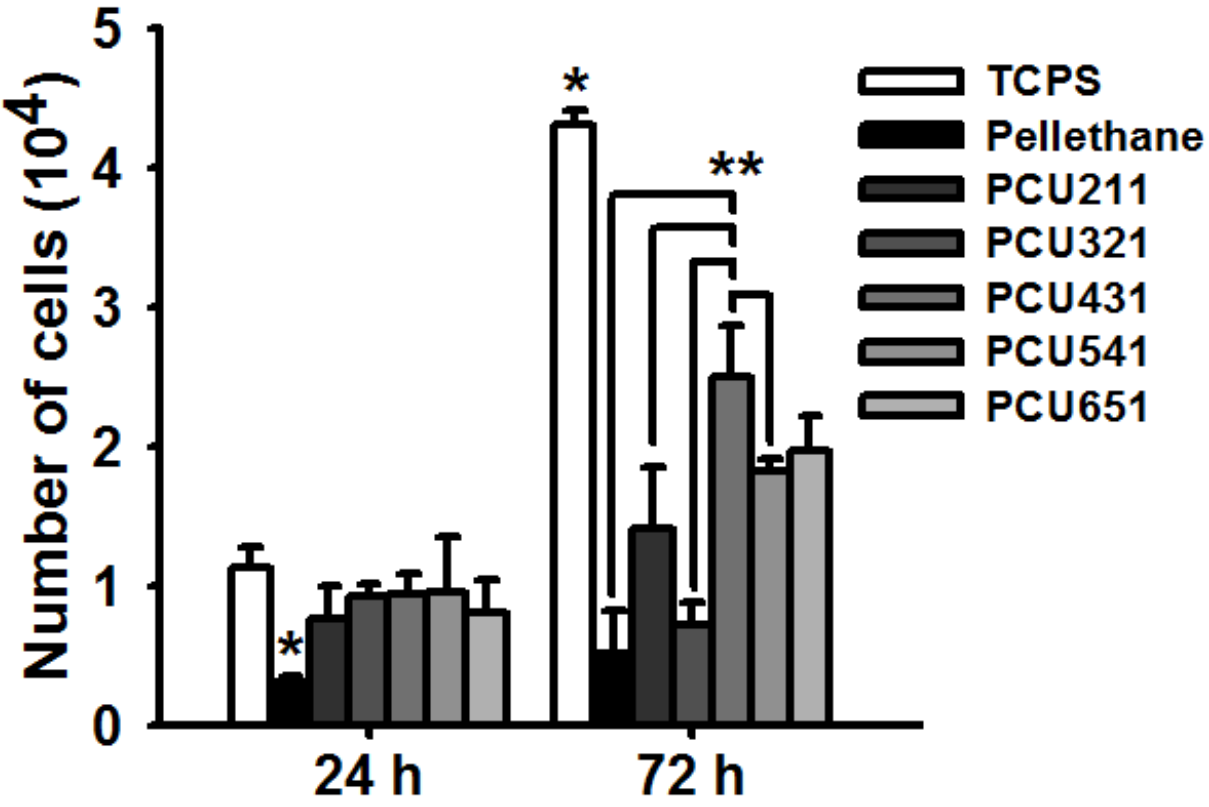

Figure S4. Attachment and proliferation of ECs on PCU with different stoichiometric ratios. Significance ($p<0.05$) at 24 h: *lower than TCPS. Significance ($p<0.05$) at 72 h: *higher than all the other groups; **lower than PCU431.

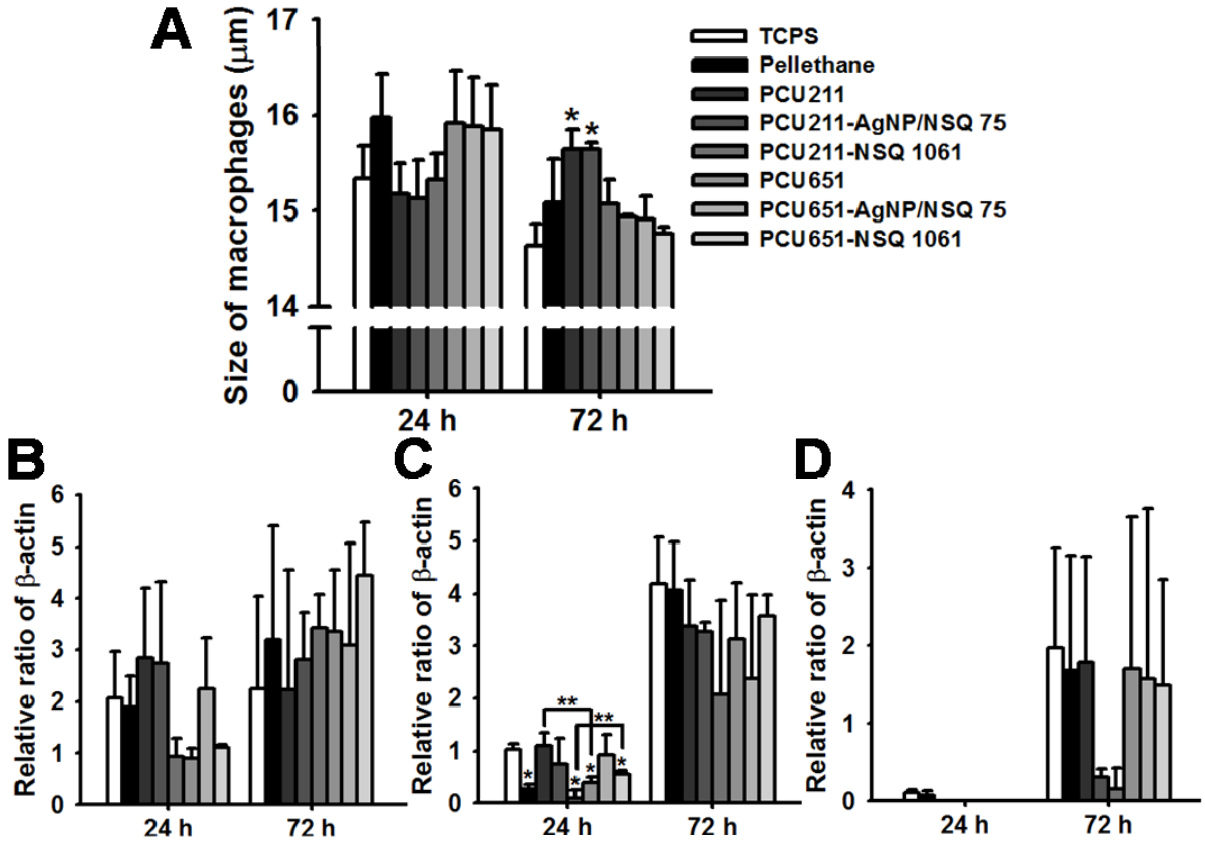

Figure S5. (A) The average size of macrophages on PCU and the nanocomposites at 24 and 72 h. Significance ($p<0.05$): *higher than TCPS. (B) The proinflammatory gene expression of (B) TNF-α, (C) IL-1, and (D) IL-6 for macrophages. Significance ($p<0.05$): * lower than TCPS; **between the indicated groups.