Supporting Information:

Highly ordered 3D-silver nanoring arrays (3D-AgNRAs) for refractometric sensing

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**Figure S1.** (a) Large area SEM image of 3D-AgNRAs; (b) Centimeter-size optical image of 3D-AgNRAs.
Figure S2. FDTD simulated reflectance spectra of 3D-AgNRAs with P=1 μm, D₁=530 nm, D₂=870 nm, and various H₁ (H₂-H₁=100 nm).
Figure S3. The reflectance main dip position’s cross-section electromagnetic field distribution for 3D-AgNRAs with 50 (a), 100 (b), 200 (c), and 300 nm (d) H₁.
Figure S4. FDTD simulated reflectance spectra of 3D-AgNRAs with P=1 μm, 
H₁=200 nm, H₂=300 nm, and D₂=830 nm, but varied D₁ from 200 nm to 500 nm
Figure S5. The reflectance main dip position’s cross-section electromagnetic field distribution for 3D-AgNRAs with 200 (a), 300 (b), 400 (c), and 500 nm (d) $D_1$. 
**Figure S6.** FDTD simulated reflectance spectra of 3D-AgNRAs with P=1 μm, H₁=200 nm, H₂=300 nm, T=250 nm, but varied D₂ from 660 nm to 840 nm.
**Figure S7.** The reflectance main dip position’s cross-section electromagnetic field distribution for 3D-AgNRAs with 660 (a), 730 (b), 750 (c), and 840 nm (d) D₂.
Figure S8. The temporal dependence of particle diameter during etching. The initial etched PS nanosphere mask taken as example was 780 nm in diameter.