

Supporting Information

Controllable Ag Nanostructure Patterning in a Microfluidic Channel for Real-Time SERS Systems

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Image processing for average diameter and gap of nanoparticles

The SEM images in Fig. S1 are the original image data for average particle diameter and gap between nanoparticles. We counted number and area of each particle in the SEM image with the commercial software. From the data, particle diameter distribution graphs of each region were obtained as shown in Fig. S2.

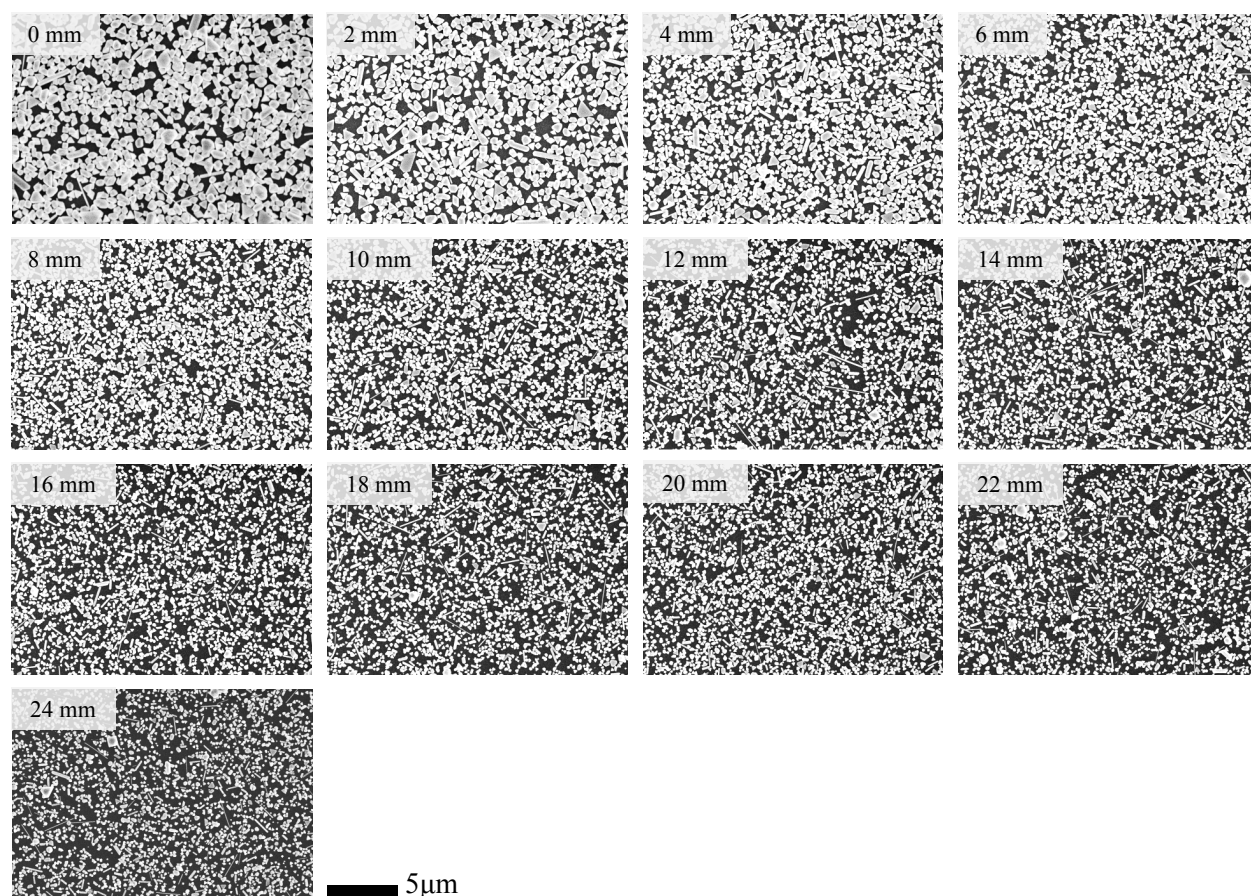


Figure S1 SEM images of the Ag thin film from 0 mm (the inlet port) point to 24 mm (the outlet port) point. The contrast of the images was enhanced for effective image processing. All images have the same scale bar.

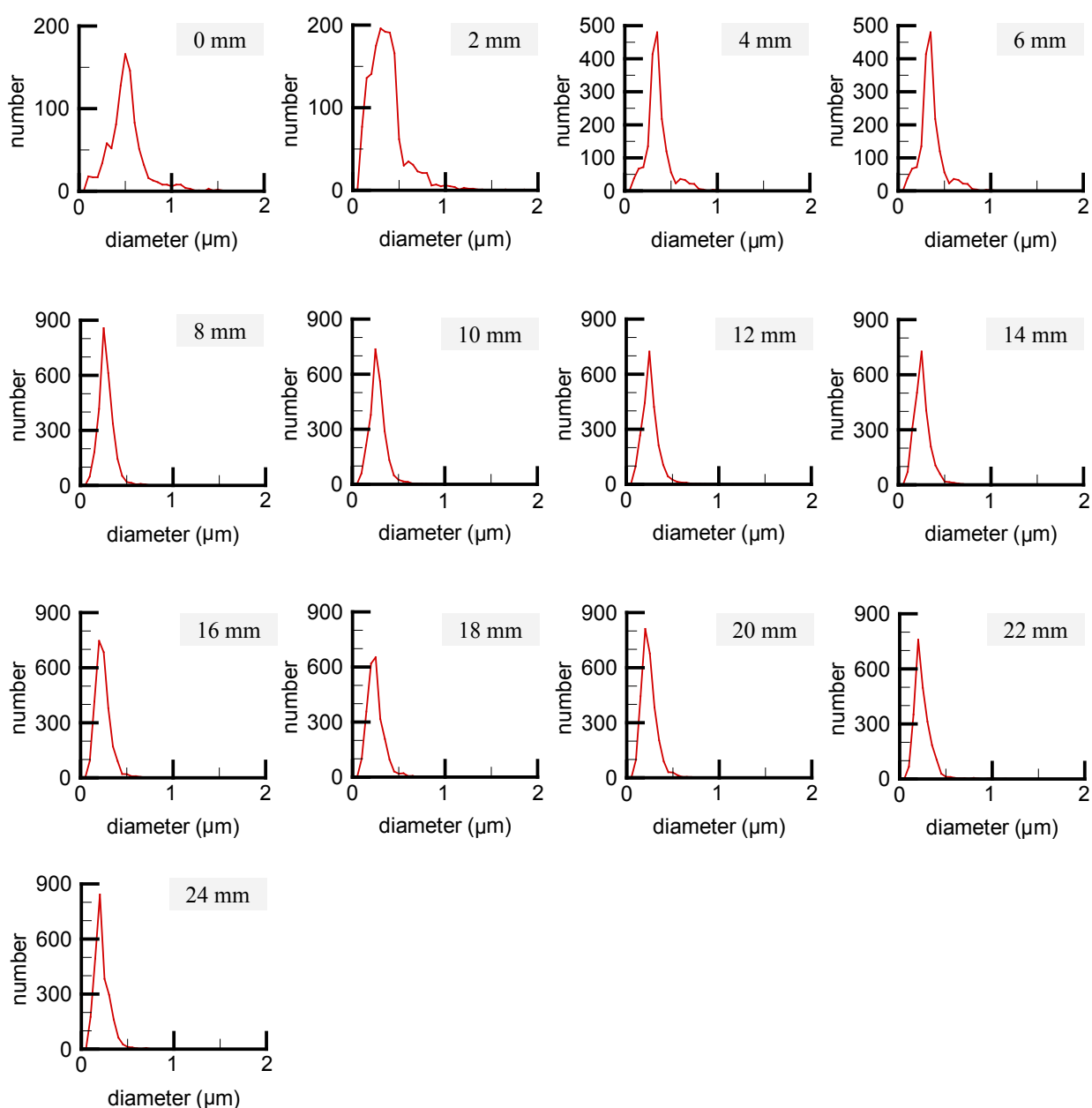


Figure S2 Ag nanoparticle size distribution with respect to the SEM images of Ag thin film from 0 mm (the inlet port) point to 24 mm (the outlet port) point.

Then, the average diameter was calculated, which is shown in Fig. S3. The average diameter decreases along the microfluidic channel. The average gap between adjacent nanoparticles was calculated from the number and average diameter of nanoparticles.

Figure S4 shows the gap data. Similar image processing was done for 12mm channel case. The results are shown in Figs. S5 and S6.

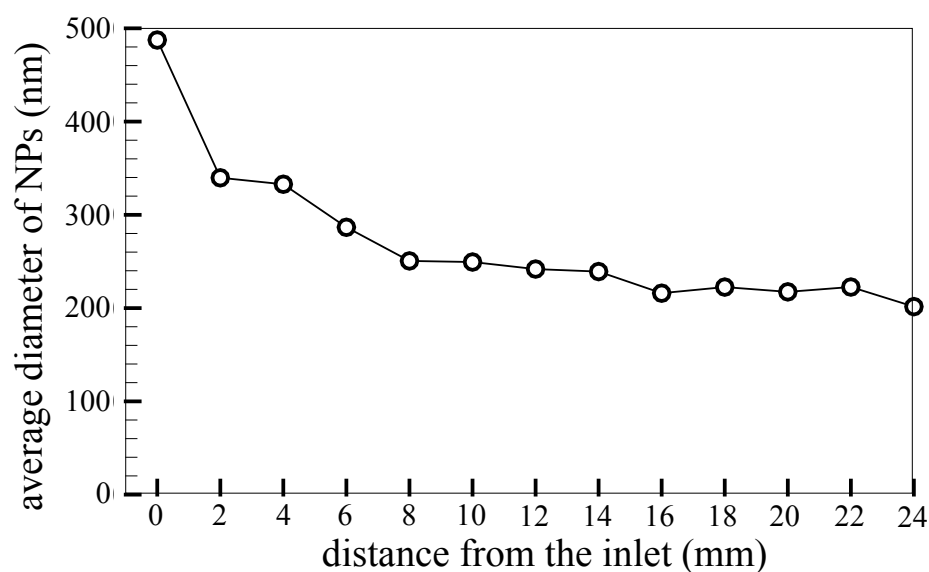


Figure S3 Average diameter of nanoparticles (NPs) composing the thin film. The thin film was fabricated in a 24 mm long microfluidic channel.

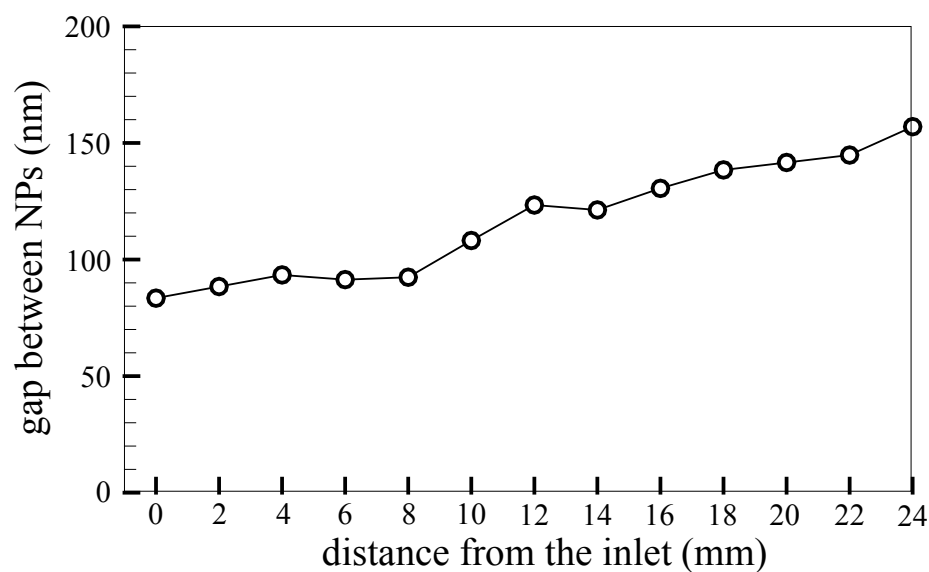


Figure S4 Average gap between nanoparticles (NPs) composing the thin film. The thin film was fabricated in a 24 mm long microfluidic channel.

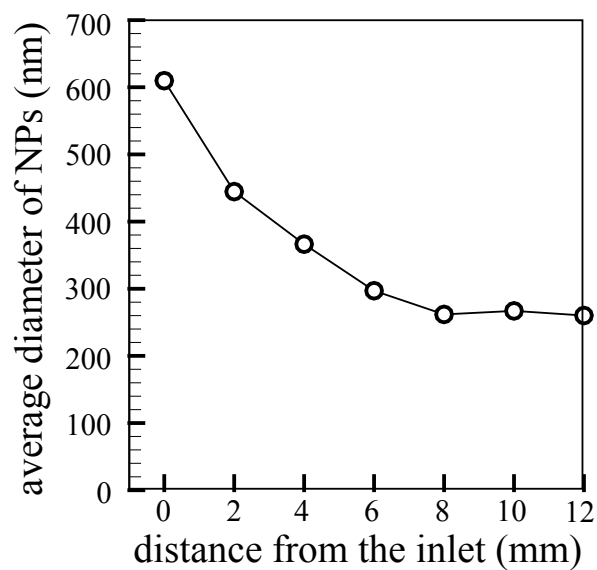


Figure S5 Average diameter of nanoparticles (NPs) composing the thin film. The thin film was fabricated in a 12 mm long microfluidic channel.

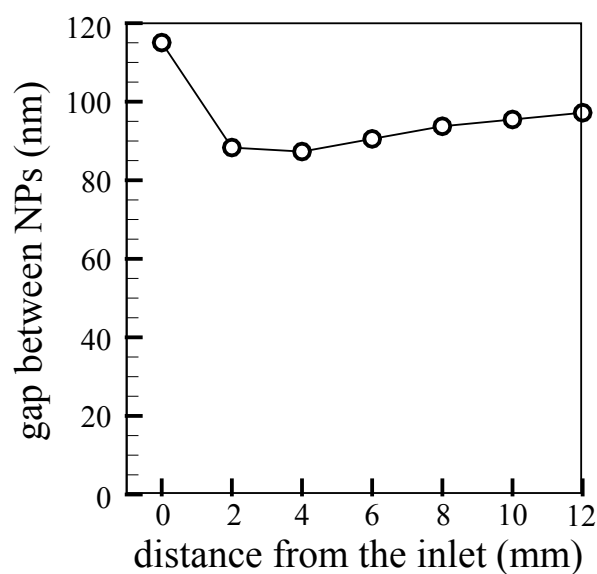


Figure S6 Average gap between nanoparticles (NPs) composing the thin film. The thin film was fabricated in a 12 mm long microfluidic channel.