

Supplementary Information:

Peptide Directed growth of gold films

Maayan Matmor and Nurit Ashkenasy*

Department of Materials Engineering,

The Ilse Katz Institute for Nanoscale Science and Technology

The Ben Gurion University of the Negev

P.O.B. 653, Beer-Sheva 84105, (Israel)

E-mail: nurita@bgu.ac.il

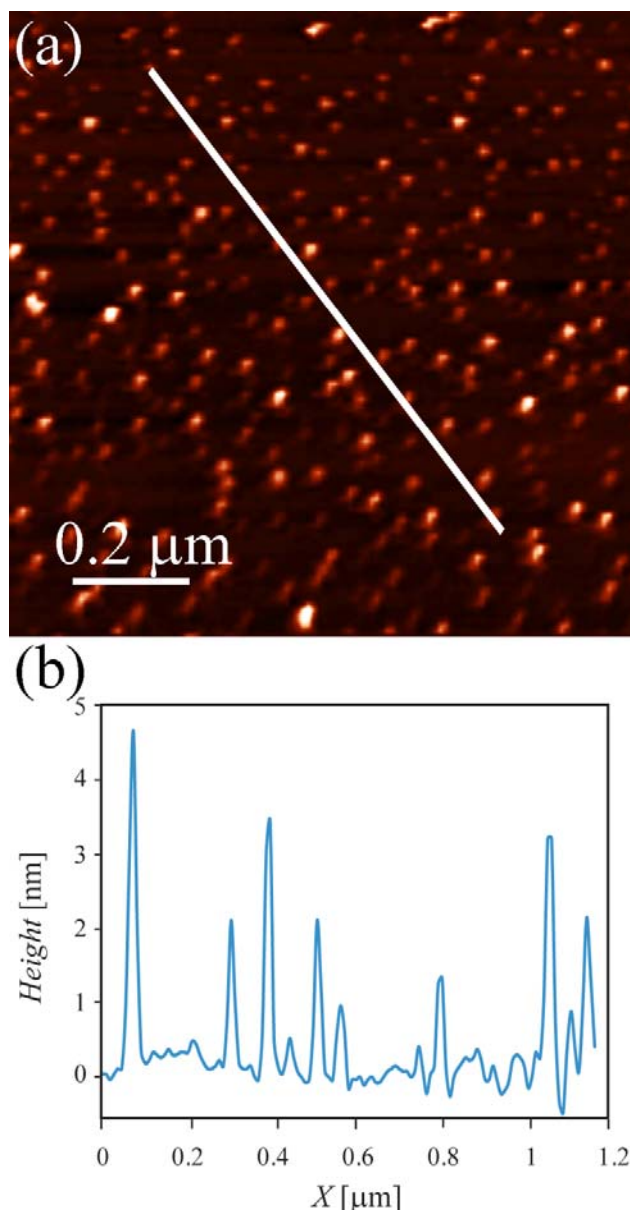


Figure S1. a) AFM topography image of gold film after 1 hour synthesis (Fig. 1a, z-scale 10 nm). b) An example of a cross section of the image along the line shown in a), from which the size of the crystals was obtained.

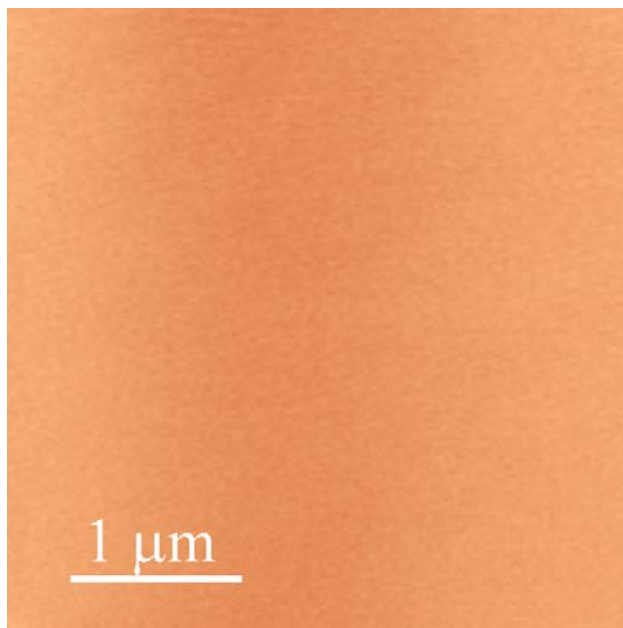


Figure S2. AFM topography image of silicon-oxide substrate covered with **Si_{th}-G** (z scale 10 nm).

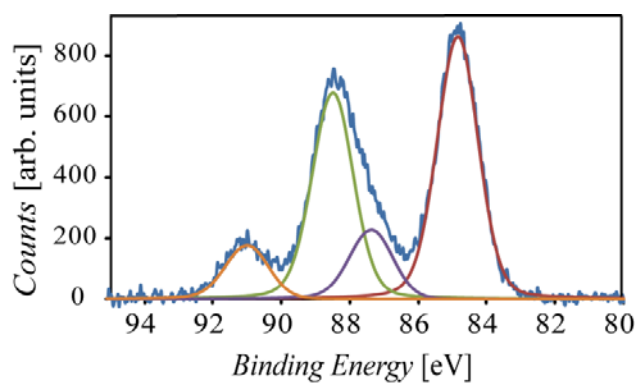


Figure S3. XPS Au-4f spectra of gold layer grown on **Si_{th}-G** template on silicon-oxide substrate, after 1 hour synthesis. The blue line shows the experimental spectra. Metallic gold doublet contribution is noted by red and green lines, and the contribution of ionic gold is shown by the purple and orange lines. These peaks were obtained by deconvolution and fitting of the experimental data.

Table S1. Parameters used for the calculation of N_{Au}/N_N (equation 1).

<i>Parameter</i>	<i>Au</i>	<i>N</i>
I [CPS-eV]	4430	1930
T	569	646
σ	17	1.8
L^Q [nm]	1.76	8 ^a
L [nm]	1.33	1.1

^a The peptide density was evaluated to be ~ 0.48 gr/cm³ using 10 nm² for the area of a molecule on the surface as was measured previously,¹ and 1.5 nm height obtained by ellipsometry.

References

- (1) Nochomovitz, R.; Amit, M.; Matmor, M.; Ashkenasy, N. Bioassisted multi-nanoparticle patterning using single-layer peptide templates. *Nanotechnology* **2010**, *21*, 145305.