Electronic supplementary information (ESI)

Gold Nanorods for Sensing of Oligopeptides Using Localized Surface Plasmon Resonances and Surface-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry

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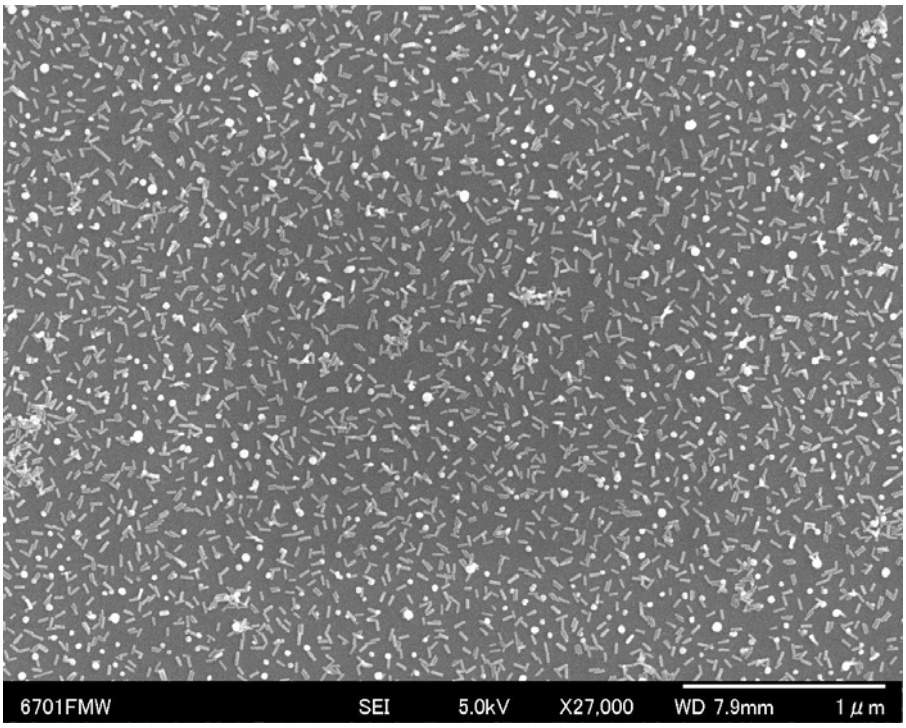
Table S1. Peak positions and shifts of the longitudinal SP bands of the nanorod-ITO plates. Three plates (Plates A, B and C) were used for the measurements. Different concentrations of angiotensin solutions (100 μL) were placed on the plates, and then these plates were dried in air. The peak positions of the longitudinal SP bands were evaluated using the extinction spectra. The densities of the angiotensin on the plates were estimated assuming the angiotensin solutions (100 μL) expanded over an area of 2 cm^2.

Concentration of Angiotensin / M	*Density of Angiotensin on the ITO Plate / mol cm^{-2}*	Peak Position / nm	*Peak Shift / nm*	
0	0	850		
0.5×10^{-6}	2.5×10^{-11}	887	*37*	
0.25×10^{-6}	1.25×10^{-11}	888	*38*	
0.01×10^{-6}	5×10^{-13}	888	*38*	
0.05×10^{-6}	2.5×10^{-13}	884	*34*	*Plate A*
0	0	854		
1×10^{-9}	5×10^{-14}	885	*31*	
0.5×10^{-9}	2.5×10^{-14}	884	*30*	
0.1×10^{-9}	5×10^{-15}	878	*24*	
0.05×10^{-9}	2.5×10^{-15}	886	*32*	
0.01×10^{-9}	5×10^{-16}	883	*29*	
0.005×10^{-9}	2.5×10^{-16}	884	*30*	*Plate B*
0	0	844		
1×10^{-12}	5×10^{-17}	865	*21*	
0.5×10^{-12}	2.5×10^{-17}	863	*19*	
0.1×10^{-12}	5×10^{-18}	866	*22*	
0.01×10^{-12}	5×10^{-19}	863	*19*	*Plate C*



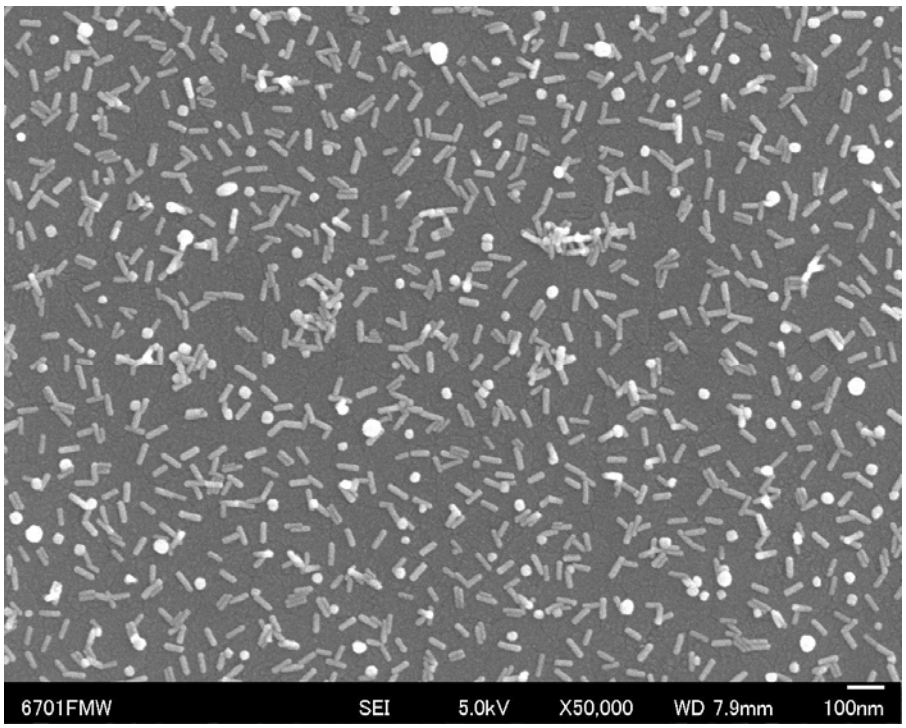


Fig. S1 SEM images of the nanorod-ITO plate.

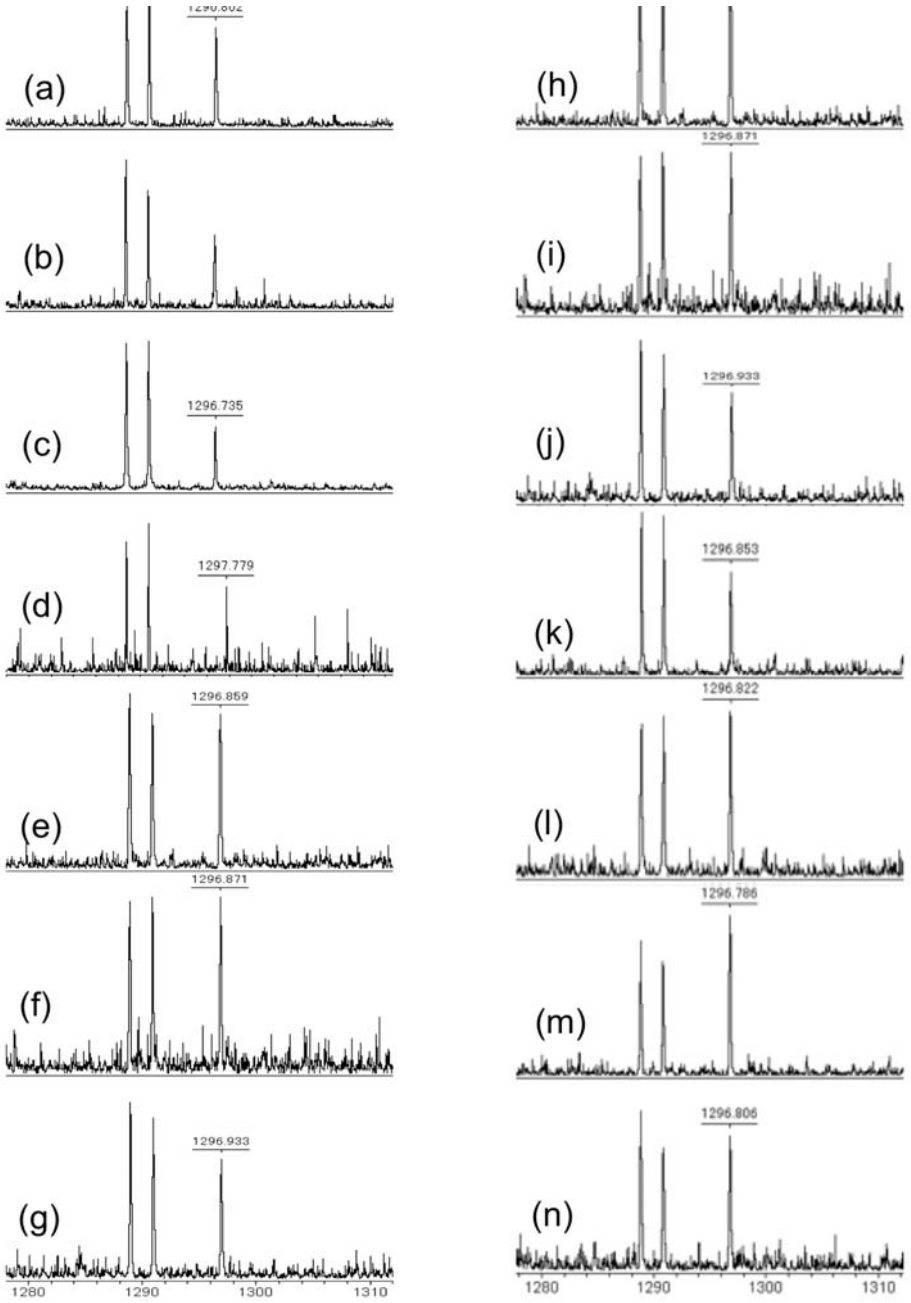


Fig. S2 Mass spectra of the nanorod-ITO plates onto which angiotensin solutions (100 μL) were placed. (a) 0.5 μM, (b) 0.25 μM, (c) 10 nM, (d) 5 nM, (e) 1 nM, (f) 0.5 nM, (g) 0.1 nM, (h) 50 pM, (i) 10 pM, (j) 5 pM, (k) 1 pM, (l) 0.5 pM, (m) 0.1 pM, and (n) 0.01 pM.

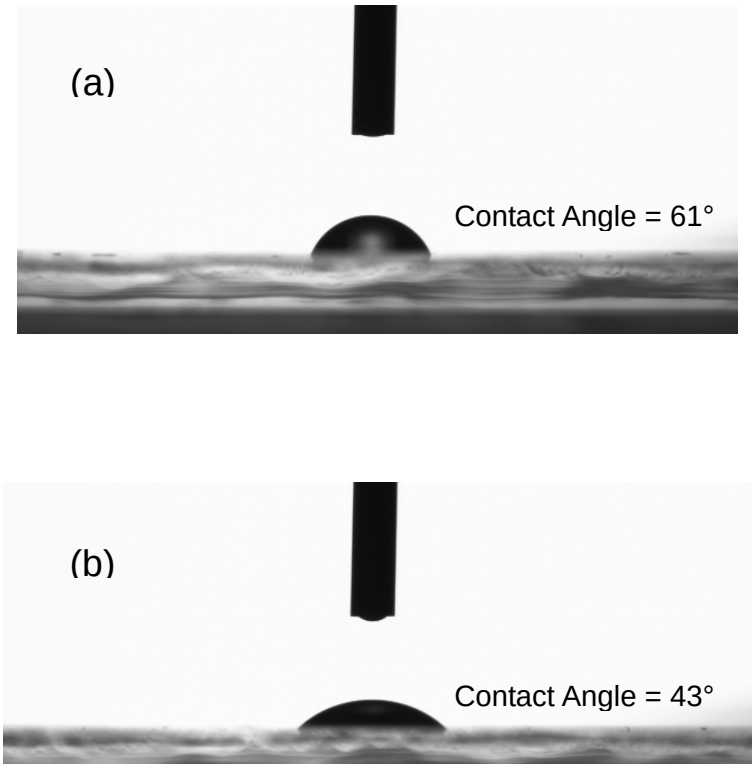


Fig. S3 Microscope images of droplets on an APTES-treated ITO plate and a nanorod-ITO plate.