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Supporting information

Nanostructured Plasmonic Chips Employing Nanopillar and Nanoring Hole Arrays for Enhanced Sensitivity of SPR-based Biosensing

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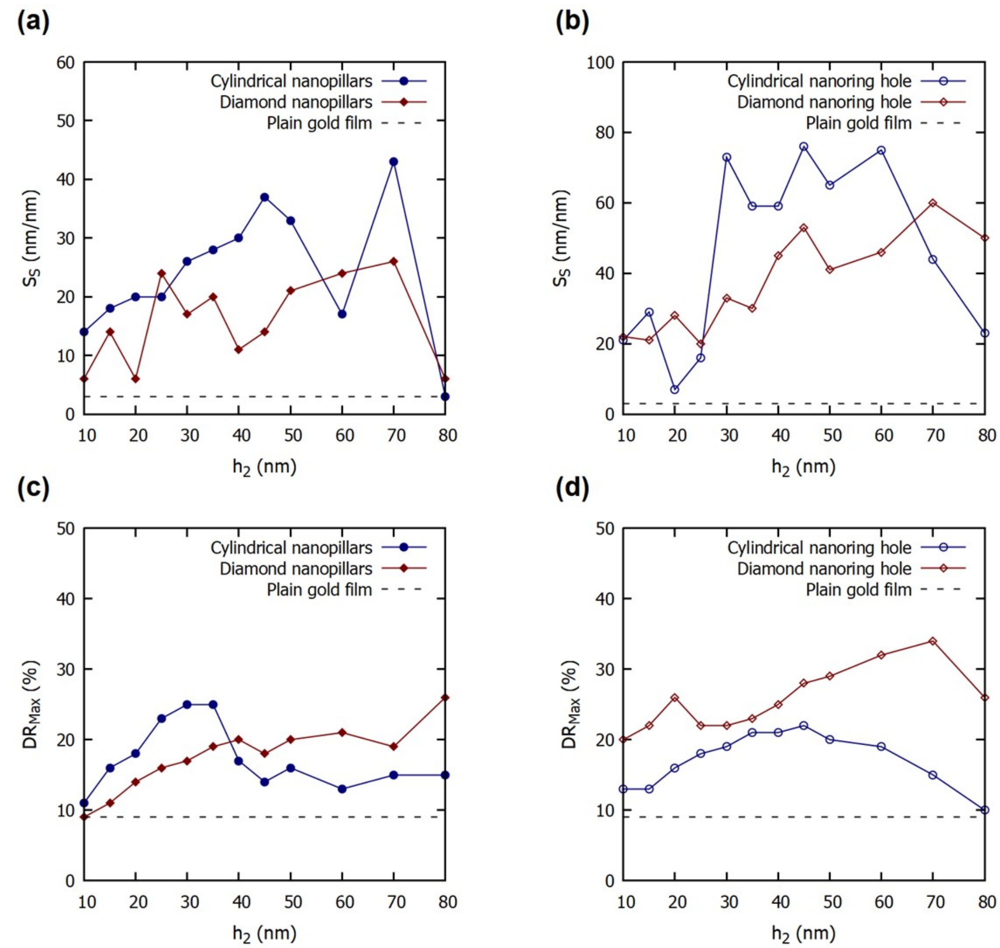

Fig. S1. Effect of variation in parameter, 'h_2' on the values of the surface sensitivity (S_S) and maximum differential reflectance (DR_{Max}) for different configurations of the nanostructures present on top of a thin gold film: (a) & (c) a cylindrical nanopillar array and a diamond nanopillar array and (b) & (d) a cylindrical nanoring hole array and a diamond nanoring hole array. For comparison, the maximum differential reflectance for an optimized plain gold film is also shown in the figures with a dashed line. The values of d and g are taken as 50 nm and 5 nm, respectively.

Table S1 FOM_S (in nm^{-1}) values for four nanostructured thin films with the variation in parameter 'g'. The values of both h_2 and d are taken as 40 nm.

g (nm)	Cylindrical Nanopillars	Diamond nanopillar	Cylindrical Nanoring hole	Diamond Nanoring hole
5	0.20	0.06	0.15	0.41
6	0.24	0.21	0.26	0.19
8	0.15	0.12	0.16	0.18
10	0.14	0.13	0.10	0.15
15	0.14	0.11	0.15	0.09
20	0.05	0.05	0.07	0.10

Table S2 FOM_S (in nm^{-1}) values for four nanostructured thin films with the variation in parameter 'h_2'. The values of d and g are taken as 50 nm and 5 nm, respectively.

h_2 (nm)	Cylindrical Nanopillars	Diamond nanopillar	Cylindrical Nanoring hole	Diamond Nanoring hole
10	0.31	0.11	0.36	0.31
15	0.24	0.19	0.34	0.21
20	0.23	0.06	0.05	0.28
25	0.21	0.21	0.07	0.21
30	0.28	0.16	0.12	0.25
35	0.22	0.18	0.24	0.23
40	0.20	0.09	0.25	0.32
45	0.21	0.13	0.31	0.36
50	0.16	0.15	0.26	0.27
60	0.07	0.17	0.26	0.25
70	0.18	0.16	0.13	0.33
80	0.01	0.04	0.07	0.29