

Manuscript title: Dispersion-Enhancing surface treatment of AuNP for Reduced Probe loading and detection limit using t-SPR detection.

Supplementary information:

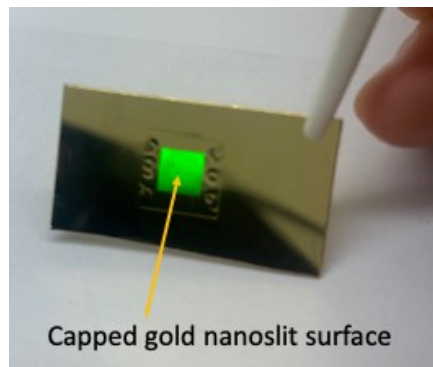


Figure S1 A representative photo of the capped gold nanoslit chip. The nanoslit region is in green color owing to the diffracted light by the periodic nanostructure.

Table S1: Sequences of the probes and targets used in this study. Segment pairs marked with the same colors are the complimentary moieties.

	Sequence
Mimicking COVID-19 target sequence	5'-GACCCCAAATCAGCGAAATGCACCCCGCATTACGTT-TGGTGGACCCTCAGATTCAACTGGCAGTAACCAGA-3'
COVID-19 Monitoring probe	5'-C6SH- TTTTT TTTTT TTCTG GTTAC TGCCA GTTGA A-3'
COVID-19 Capturing probe	5'-ATTTC GCTGA TTTTG GGGTC TTTTT TTTTT T- C3SH-3'
Mimicking Influenza A target sequence	5'-GACCAATCCTGTACCTCTGACTAAGGGAATTTAGGA-TTTGTGTTACGCTCACCGTGCCAGTGAGCGAGGACTGCA-3'
Influenza A Monitoring probe	5'-C6SH- TTTTT TTTTT TTGCA GTCCT CGCTC ACTGG G-3'
Influenza A Capturing probe	5'-CAGAG GTGAC AGGAT TGGTC TTTTT TTTTT T- C3SH-3'

Table S2: The diameters (nm) of AuNPs coated with various concentration of thiol-PEG and unmodified PEG measured using DLS

Total concentration	Thiol-modified PEG ₂₀₀₀	Unmodified PEG ₂₀₀₀
0	57.9	
25	71.6	69.2
51	58.5	68.9

75	69.17	65.6
105	390.4	75.7
150	66.6	66.1