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Supporting Information

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Detection of Single Nucleotide Polymorphisms by a Gold Nanowire-on-Film SERS Sensor Coupled with S1 Nuclease Treatment**

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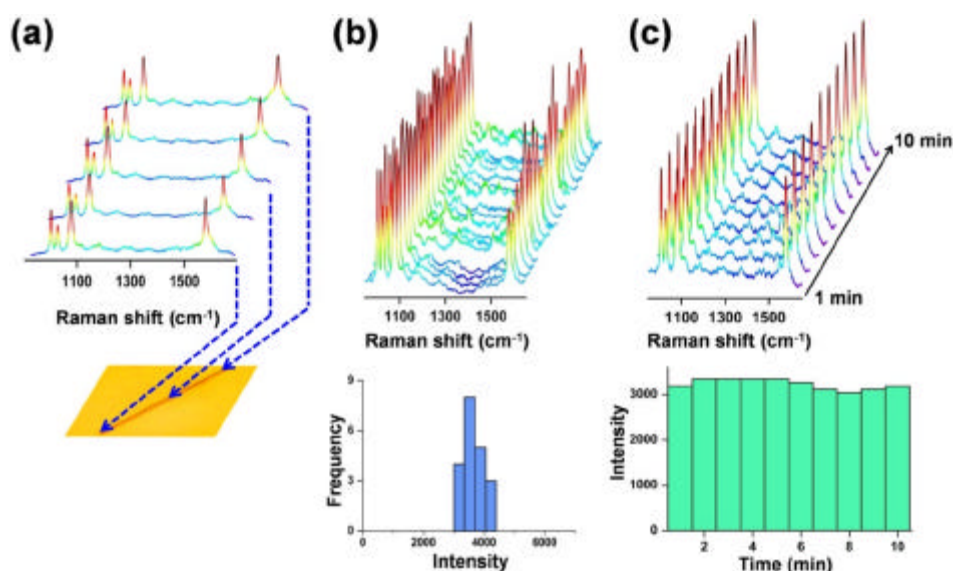


Figure S1. (a) (top) SERS spectra of benzenethiol at five different positions on the Au NW-on-film structure; (bottom) corresponding positions on the NW. (b) (top) SERS spectra of benzenethiol from 20 different NW-on-film structure; (bottom) histogram of the intensities of the 1000 cm^{-1} band. (c) (top) SERS spectra of benzenethiol as a function of time, recorded at 1 min intervals for 10 min at the same point on NW-on-film structure; (bottom) time variation of the intensity of the 1000 cm^{-1} band (Reprinted from *J. Am. Chem. Soc.* **2009**, *131*, 758.).



Figure S2. Two plasmids as templates for preparing the WD-relevant target DNAs. (a) The WT plasmid containing wild type sequence (G) in the *ATP7B* gene. (b) The WD plasmid containing Arg778Leu point mutation of the *ATP7B* gene, G[?] T. The changed nucleotide is shown in bold and italic.

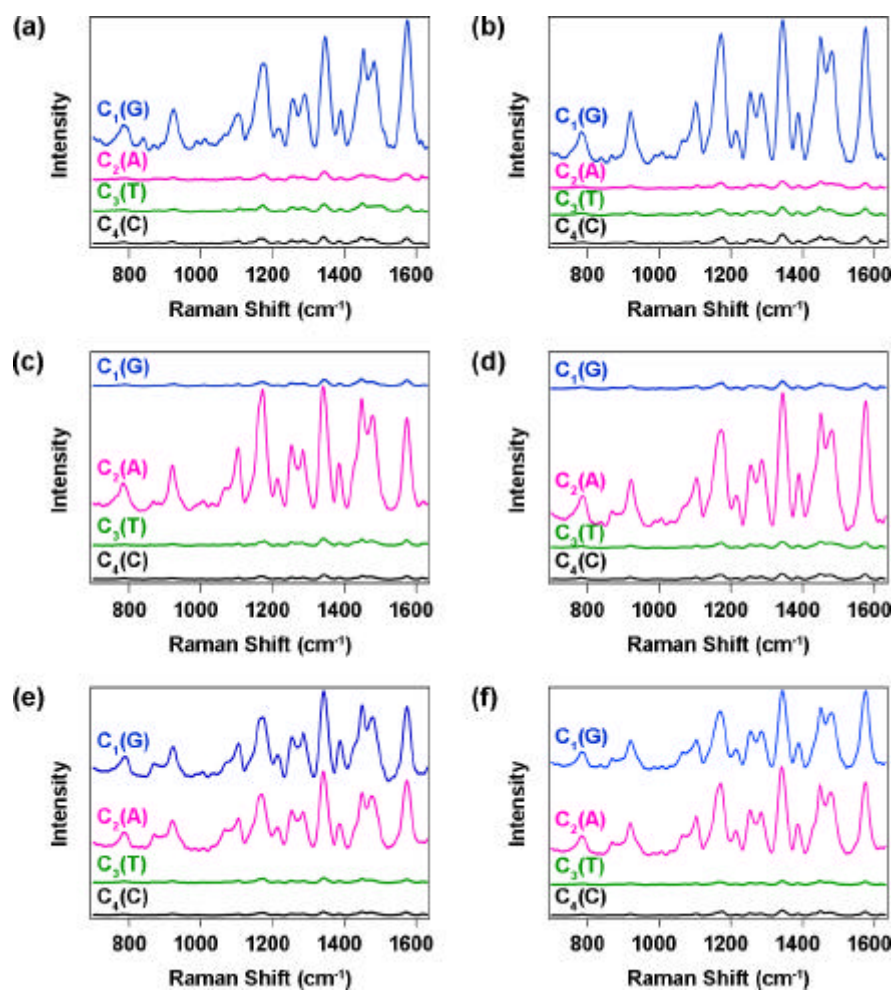


Figure S3. SERS spectra for validation of ACD-related mutation. Target DNAs extracted from clinical samples have (a, b) non-mutated sequence of CGC, (c, d) mutated sequence of CAC, and (e, f) both sequences of CGC and CAC.

Table S1. Oligonucleotides used in this study.

Name	Length (-mer)	Sequence (5'-3') ^a	Note
A ₁	15	Cy5-CTGGGCC <i>T</i> GTGGCTG-(CH ₂) ₃ -SH	
A ₂	15	Cy5-CTGGGCC <i>C</i> GTGGCTG-(CH ₂) ₃ -SH	
A ₃	15	Cy5-CTGGGCC <i>G</i> GTGGCTG-(CH ₂) ₃ -SH	
A ₄	15	Cy5-CTGGGCC <i>A</i> GTGGCTG-(CH ₂) ₃ -SH	
B ₁	15	CAGCCACAGGCC <i>C</i> CAG	Complementary to A ₁
B ₂	15	CAGCCACGGGCC <i>C</i> CAG	Complementary to A ₂
B ₃	15	CAGCCACCGGCC <i>C</i> CAG	Complementary to A ₃
B ₄	15	CAGCCACTGGGCC <i>C</i> CAG	Complementary to A ₄
C ₁	15	Cy5-ACGGACC <i>G</i> CACGGAG-(CH ₂) ₃ -SH	
C ₂	15	Cy5-ACGGACC <i>A</i> CACGGAG-(CH ₂) ₃ -SH	
C ₃	15	Cy5-ACGGACC <i>T</i> CACGGAG-(CH ₂) ₃ -SH	
C ₄	15	Cy5-ACGGACC <i>C</i> CACGGAG-(CH ₂) ₃ -SH	

^aMismatched sequences in probe DNAs are shown in bold and italic.