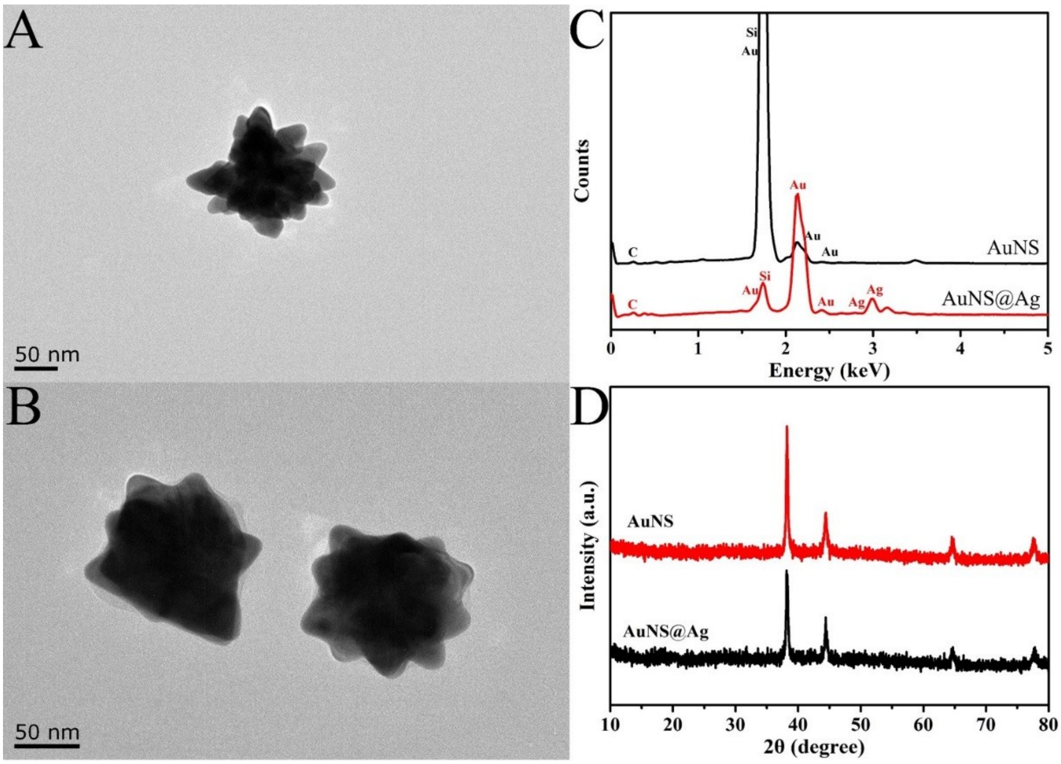

Figure S1. TEM images of (A) AuNS and (B) AuNS@Ag. (C) EDS spectra of AuNS@Ag and AuNS. (D) XRD patterns of AuNS@Ag and AuNS.

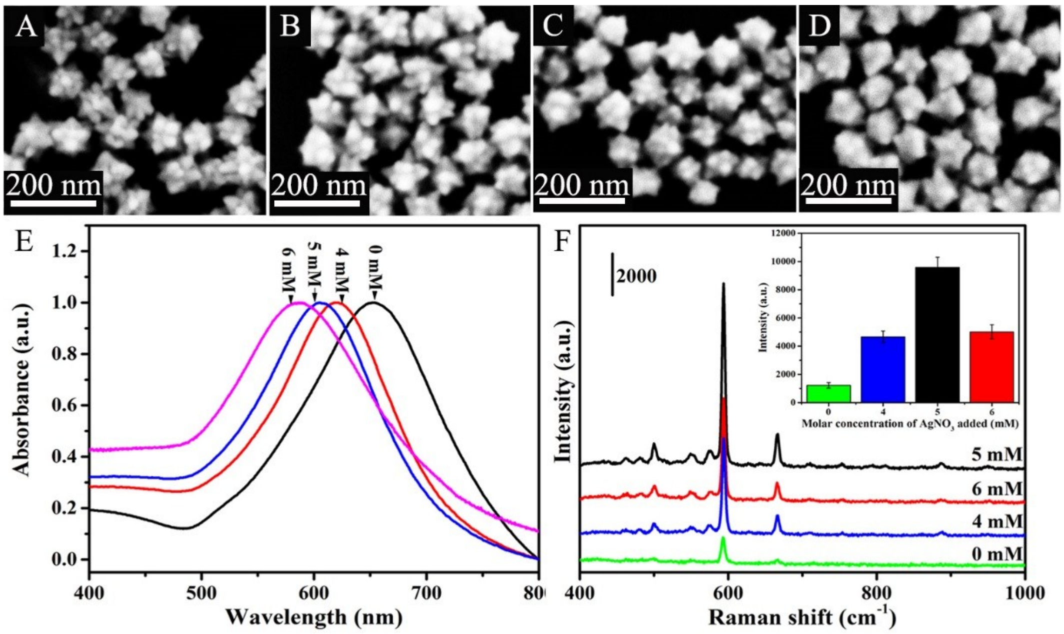

Figure S2. SEM images of the obtained AuNS@Ag under various amounts of $AgNO_3$: (A) 0 mM, (B) 4 mM, (C) 5 mM, and (D) 6 mM. (E) UV-vis spectra of AuNS@Ag suspension. (F) The comparision of SERS intensity using four AuNS@Ag solutions (NBA with concentration at 10^{-6} M). The inset depicts the dependence of SERS intensity on concentration of $AgNO_3$ added, error bars indicate the standard deviation from 5 spectra.

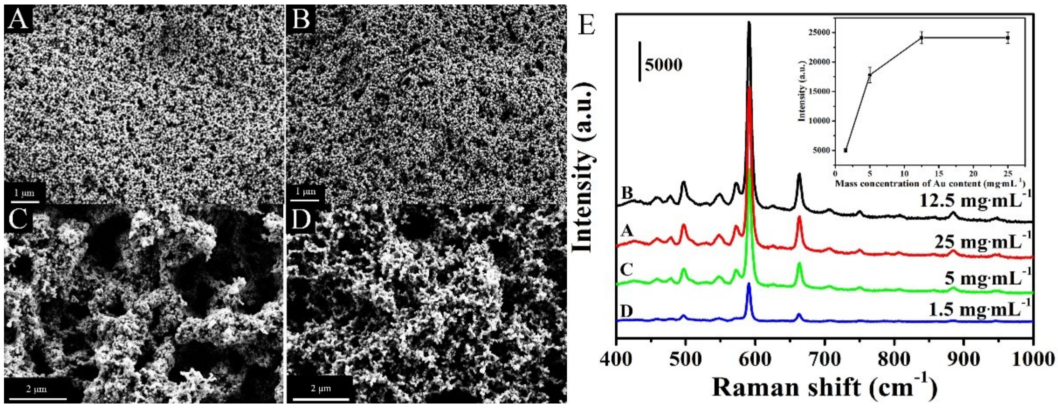

Figure S3. SEM images of AuNS@Ag/SMCSL substrate fabricated by evaporating 10 μL of AuNS@Ag with different mass concentration of Au content: (A) 25 mg·mL^{-1}; (B) 12.5 mg·mL^{-1}; (C) 5 mg·mL^{-1}; (D) 1.5 mg·mL^{-1}. (E) SERS spectra of NBA absorbed on aforementioned substrates. The inset shows the dependence of signal intensity (592 cm^{-1}) on mass concentration of Au content, error bars indicate the standard deviation from 5 spectra.

Table S1. Main SERS Band Assignments of OPD[1].

SERS/cm^{-1}	Assignment
1157	C-H in-plane bend
1270	C-H stretching in the benzenoid
1333	C-H in-plane bend
1422	Ring deformation, C-H in-plane bend
1502	Ring deformation, C-H in-plane bend
1602	NH_2 scissor

Table S2. Table S2. Main SERS Band Assignments of 6-TG[2].

SERS/cm^{-1}	Assignment
821	$\delta^{5,6}_{ring}$(20) + δ^{out}N9C1′(18) + δ^{out}_{ribose}(10) + δ^{out}C2′-O2′(9) + νN9-C1′(6) + νC8-N9(6)
900	$\delta^{5,6}_{ring}$(45) +νC5-N7(9) +νN3-C4(8) +νC6=S(6)
928	δ^{out}C8H8(88)
1016	νC1′-C2′(20) + δ^{5}_{ring}(11) +δ^{rock}C5′H_2(9) +δC2′H (45)
1265	δC8H8(40) + $\delta^{5,6}_{ring}$(16) + νN9-C1′(7) + νN7-C8(5)
1297	νC8-N9(19) + δC1′H(16) + νN9-C1′(11) + νC5-N7(6) + νN1-C2(5)
1387	δC2H2(28) + νC5-N7(25) + δ^{6}_{ring}(10) + νN7-C8(8) + νC2-N3(8) + νC4-C5(7)
1495	δ^{sciss}C5′H_2(98)
1589	νN3-C4(38) + νC4-C5(14) + νC4-N9(12) + νN7-C8(9) + δ^{6}_{ring}(9) + νC2-N3(7) +δN1H1(6)

Table S3. Main SERS Band Assignments of HGB[3].

SERS/cm^{-1}	Assignment
910	γ $(=C_bH2)_s$
1121	N5(C_β-methyl stretch)
1209	ν13
1316	δ$(C_aH=)_4$
1341	ν41
1443	δ$(=C_bH_2)_s$
1580	ν37
1621	ν$(C_a=C_b)$

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