

Supplementary Materials: Optimization of surface-enhanced Raman spectroscopy detection conditions for interaction between gonyautoxin and its aptamer

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Table S1. Intensity of characteristic peak in water. a-c: 4 μL of silver colloids solution; 1, 2, and 3 μL of MgSO_4 , respectively. d-f: 5 μL of silver colloids solution; 1, 2 and 3 μL of MgSO_4 , respectively. g-i: 6 μL of silver colloids solution; 1, 2, and 3 μL of MgSO_4 , respectively.

| Label | Intensity/a.u. | |
|-------|-----------------------|-----------------------|
| | 1099 cm^{-1} | 1656 cm^{-1} |
| a | 6700.9 | 5346.7 |
| b | 6432.9 | 4983.2 |
| c | 7879.0 | 6218.8 |
| d | 8341.7 | 6770.5 |
| e* | 9375.0 | 8014.5 |
| f | 8216.7 | 6487.1 |
| g | 5636.6 | 4766.4 |
| h | 7413.5 | 5570.8 |
| i | 7325.9 | 5619.0 |

Table S2. Intensity of characteristic peak in sodium acetate solution. a-c: 4 μL of silver colloids solution; 1, 2, and 3 μL of MgSO_4 , respectively. d-f: 5 μL of silver colloids solution; 1, 2, and 3 μL of MgSO_4 , respectively. g-i: 6 μL of silver colloids solution; 1, 2, and 3 μL of MgSO_4 , respectively.

| Label | Intensity/a.u. | |
|-------|-----------------------|-----------------------|
| | 1099 cm^{-1} | 1656 cm^{-1} |
| a | 4807.7 | 3892.9 |
| b | 5376.3 | 4938.4 |
| c | 3958.9 | 4566.7 |
| d | 4286.9 | 4807.0 |
| e* | 7286.6 | 8046.3 |
| f | 6485.1 | 4333.3 |
| g | 4151.2 | 5498.6 |
| h | 4341.5 | 6049.6 |
| i | 4856.3 | 4567.2 |

Table S3. Intensity of characteristic peak in sodium phosphate solution. a-c: 4 μL of silver colloids solution; 1, 2, and 3 μL of MgSO_4 , respectively. d-f: 5 μL of silver colloids solution; 1, 2, and 3 μL of MgSO_4 , respectively. g-i: 6 μL of silver colloids solution; 1, 2, and 3 μL of MgSO_4 , respectively.

| Label | Intensity/a.u. | |
|-------|-----------------------|-----------------------|
| | 1099 cm^{-1} | 1656 cm^{-1} |
| a | 4598.2 | 3056.3 |
| b | 4881.8 | 3293.0 |
| c | 5202.4 | 4193.8 |
| d | 5220.4 | 4091.6 |
| e | 5548.1 | 3320.6 |
| f | 4747.4 | 3506.4 |
| g | 5274.0 | 3522.6 |
| h* | 8512.9 | 5521.2 |
| i | 7010.3 | 4658.0 |

Table S4. Intensity of characteristic peak in Tris-HCl. a-c: 5 μL of silver colloids solution; 1, 2, and 3 μL of MgSO_4 , respectively. d-f: 6 μL of silver colloids solution; 1, 2, and 3 μL of MgSO_4 , respectively. g-i: 7 μL of silver colloids solution; 1, 2, and 3 μL of MgSO_4 , respectively.

| Label | Intensity/a.u. | |
|-------|-----------------------|-----------------------|
| | 1099 cm^{-1} | 1656 cm^{-1} |
| a | 4040.1 | 3064.5 |
| b | 5290.8 | 4104.4 |
| c | 6138.9 | 4983.4 |
| d | 7660.2 | 5159.8 |
| e | 7249.2 | 5284.8 |
| f | 5902.5 | 4373.4 |
| g | 4579.8 | 3639.5 |
| h* | 9708.3 | 6090.3 |
| i | 4716.1 | 3195.2 |

Table S5. Intensity of characteristic peak in Tris-HCl. a-c: 20 μ L of silver colloids solution; 1, 2, and 3 μ L of MgSO_4 , respectively. d-f: 30 μ L of silver colloids solution; 1, 2, and 3 μ L of MgSO_4 , respectively. g-i: 40 μ L of silver colloids solution; 1, 2, and 3 μ L of MgSO_4 , respectively.

| Label | Intensity/a.u. | |
|-------|-----------------------|-----------------------|
| | 1099 cm^{-1} | 1656 cm^{-1} |
| a | 2324.6 | 3668.0 |
| b | 2442.3 | 3991.0 |
| c | 2469.7 | 4306.8 |
| d | 2977.1 | 4234.9 |
| e* | 3429.1 | 4696.1 |
| f | 3414.8 | 4155.8 |
| g | 3539.1 | 3874.6 |
| h | 4084.7 | 4396.6 |
| i | 5232.8 | 4791.5 |

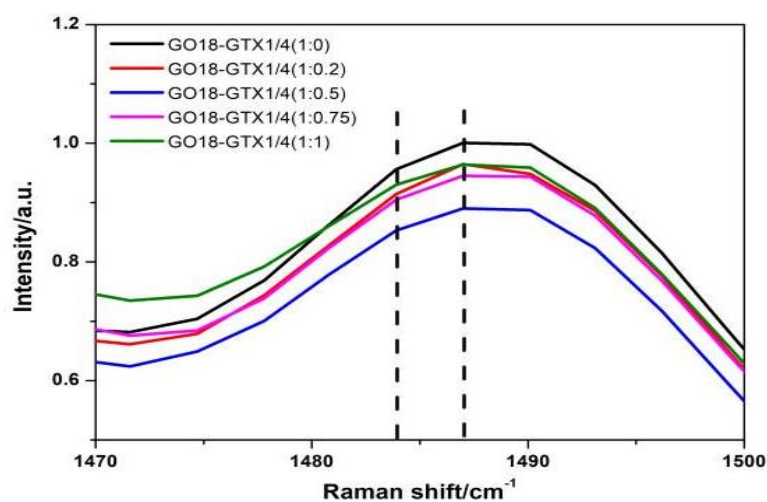


Figure S1. The relative intensity of the peak at 1487 cm^{-1} under different GTX1/4 ratios.