

Supporting Information

**Non-Invasive and Rapid Diagnosis of Low-Grade Bladder
Cancer via SERSomes of Urine**

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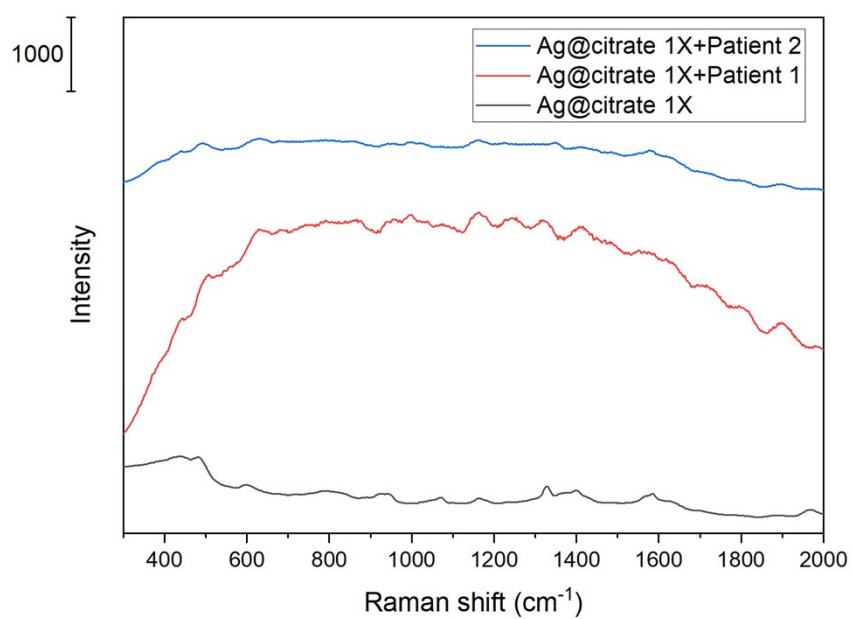


Figure S1. SERS average spectra for 2 different patients using the original Ag NPs as substrates.

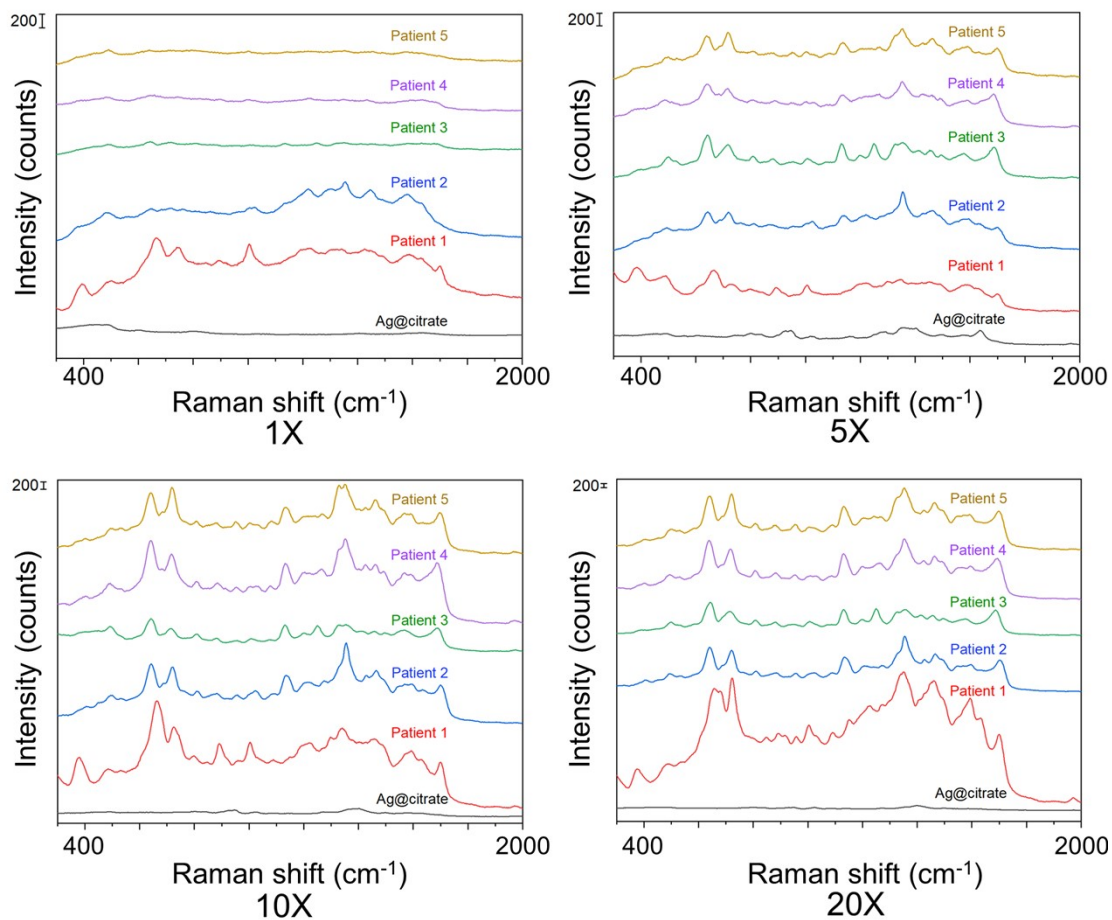


Figure S2. SERS average spectra for 5 different patients using original, 5X, 10X and 20X concentrated Ag NPs as substrates.

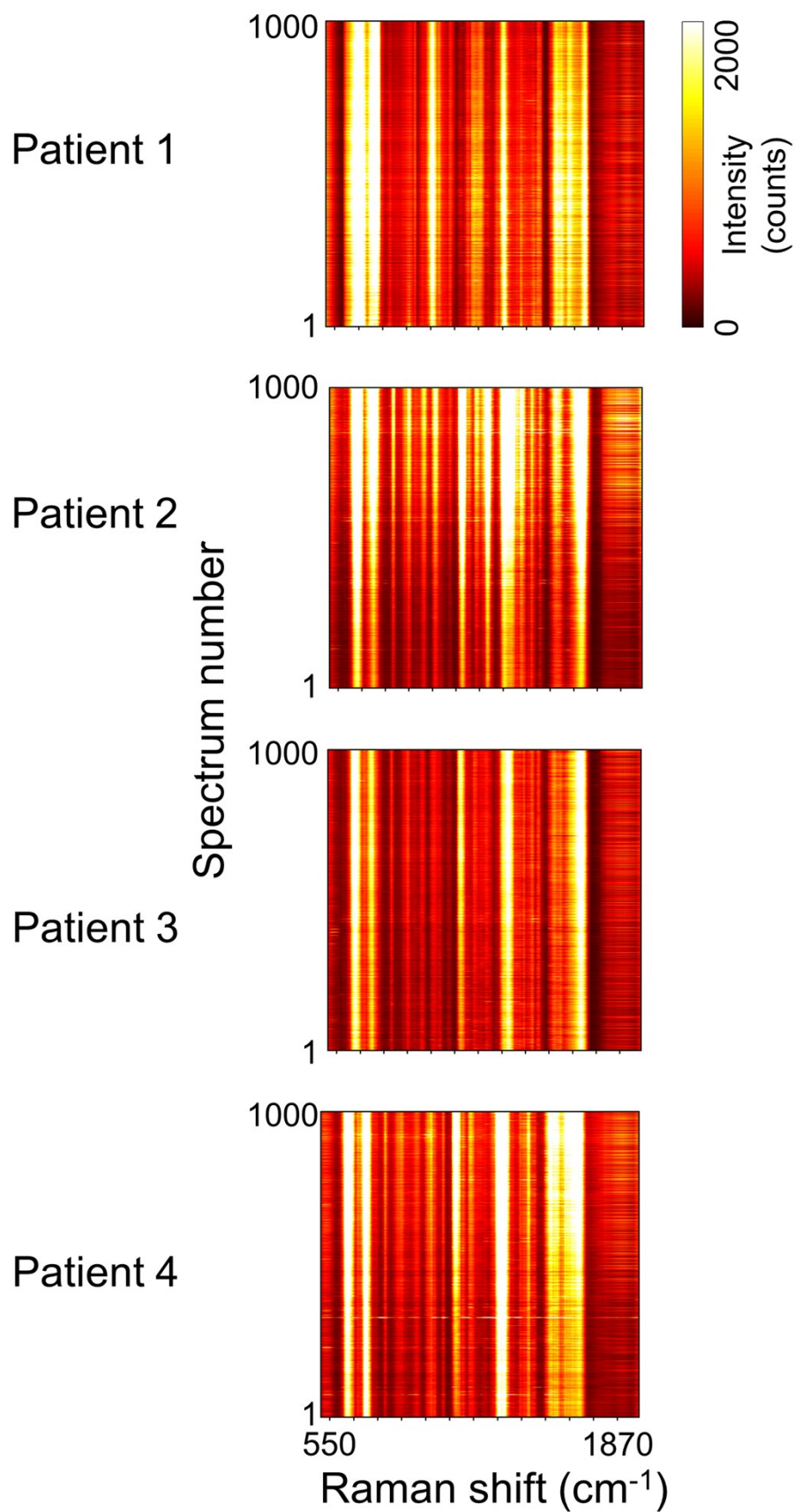


Figure S3. SERS spectra heatmaps of 4 different patients' urine samples with concentrated Ag NPs (~ 0.076 mg/mL).

Table S1. The possible corresponding relationships between the important differential bands and biological substances in urine sample. (For the substances without references marked, they can be referred to the database shown in Figure 4B&C.)

Peak (cm ⁻¹)	Substance
LGBC diagnosis	
749-767	Tryptophan ¹ /ethanolamine ¹
1389-1405	NH in-plane deformation ²
593-608	Phosphate ³ /cholesterol ⁴
662-682	Ring breathing modes in the DNA bases ⁵
1311-1361	Ring breathing modes in the DNA/RNA bases ⁵
1706-1726	Xanthine/urea
707-727	DNA ⁶
1147-1187	Palmitic acid ⁴
1425-1465	Saturated fatty acid chains ⁴
1273-1309	Palmitic acid ⁴
LGBC stratification	
1440-1461	Hypoxanthine
1387-1411	NH in-plane deformation ²
736-760	Hypoxanthine/riboflavin
702-723	Cholesterol ⁴
1701-1724	Xanthine/urea
1482-1520	Hypoxanthine/riboflavin
1140-1147	Phenylalanine
1319-1355	Guanine ⁷ /tryptophan ³
1541-1567	Porphyrin ⁸ /NADH ⁹
1609-1627	Phenylalanine ¹⁰ /NADH ⁹ /tryptophan ³

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