

Supplementary material

Feasibility study for Raman spectroscopic identification of gall bladder cancer using extracellular vesicles extracted from bile

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Table S1. Gender, age, and cancer stage of the patients who provided the bile samples

| Number | Gender | Age | BMI | Stage | Number | Gender | Age | BMI | Stage | |
|--------|--------|-----|-------|--------|--------|--------|-------|---------------|--------------------------|--|
| 1 | F | 33 | 22.25 | Normal | 1 | F | 35 | 19.48 | Hepatocellular Cancer | |
| 2 | F | 37 | 22.35 | | 2 | F | 54 | 26.17 | | |
| 3 | M | 22 | 22.72 | | 3 | F | 69 | 25.72 | | |
| 4 | M | 23 | 22.56 | | 4 | M | 72 | 17.41 | | |
| 1 | F | 35 | 17.02 | 5 | M | 49 | 29.50 | GB Cancer IIA | | |
| 2 | F | 41 | 22.03 | 6 | F | 51 | 28.44 | | | |
| 3 | F | 41 | 23.02 | 7 | F | 60 | 23.34 | | | |
| 4 | F | 50 | 22.01 | 8 | M | 69 | 23.1 | | | |
| 5 | F | 56 | 24.30 | 1 | F | 69 | 24.49 | | | |
| 6 | F | 60 | 22.01 | 2 | F | 73 | 28.16 | GB Cancer I | | |
| 7 | M | 63 | 23.61 | 3 | F | 79 | 24.96 | GB Cancer IIA | | |
| 8 | F | 71 | 21.97 | 4 | M | 34 | 24.15 | GB Cancer I | | |
| 9 | F | 77 | 27.00 | 5 | M | 80 | 21.01 | GB Cancer IIA | | |
| 10 | M | 17 | 35.04 | Polyp | | | | | | |
| 11 | M | 29 | 22.71 | | | | | | | |
| 12 | M | 33 | 24.73 | | | | | | | |
| 13 | M | 37 | 29.87 | | | | | | | |
| 14 | M | 39 | 24.99 | | | | | | | |
| 15 | M | 58 | 24.54 | | | | | | | |
| 16 | M | 62 | 24.38 | | | | | | | |
| 17 | M | 68 | 22.02 | | | | | | | |
| 18 | M | 70 | 24.39 | | | | | | | |
| 19 | M | 36 | 23.88 | | | | | | | |
| 20 | M | 44 | 23.94 | | | | | | | |
| 21 | M | 65 | 35.11 | | | | | | | |

Gallbladder stage (0, I, IA, IIA, IIB, IIIA, IIIB, IVA, IVB)

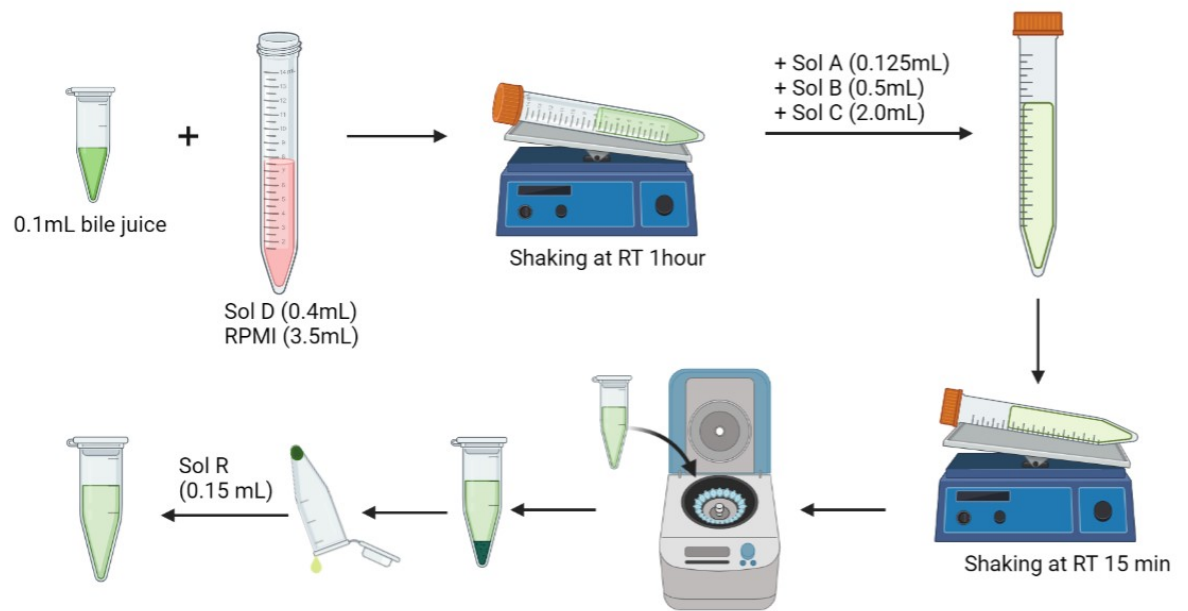


Figure S1: The procedure of EVs extraction from bile juice samples.

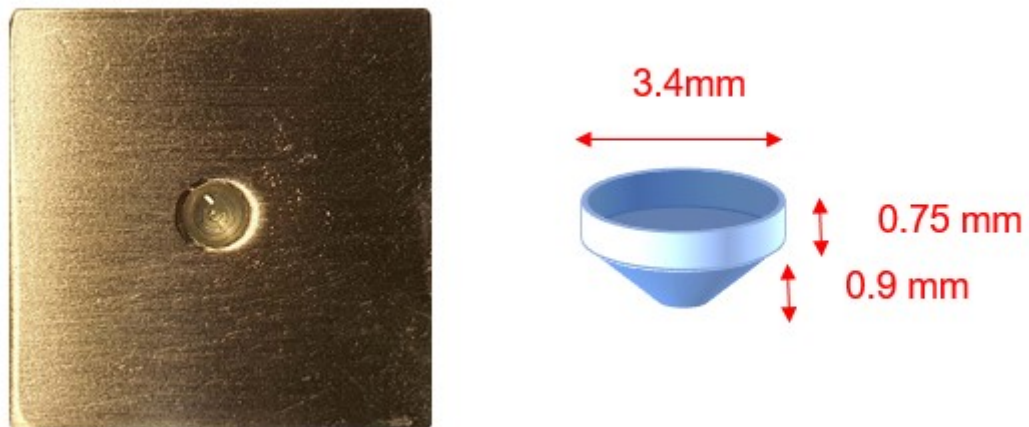


Figure S2: The picture of metal groove and dimensions of the groove.

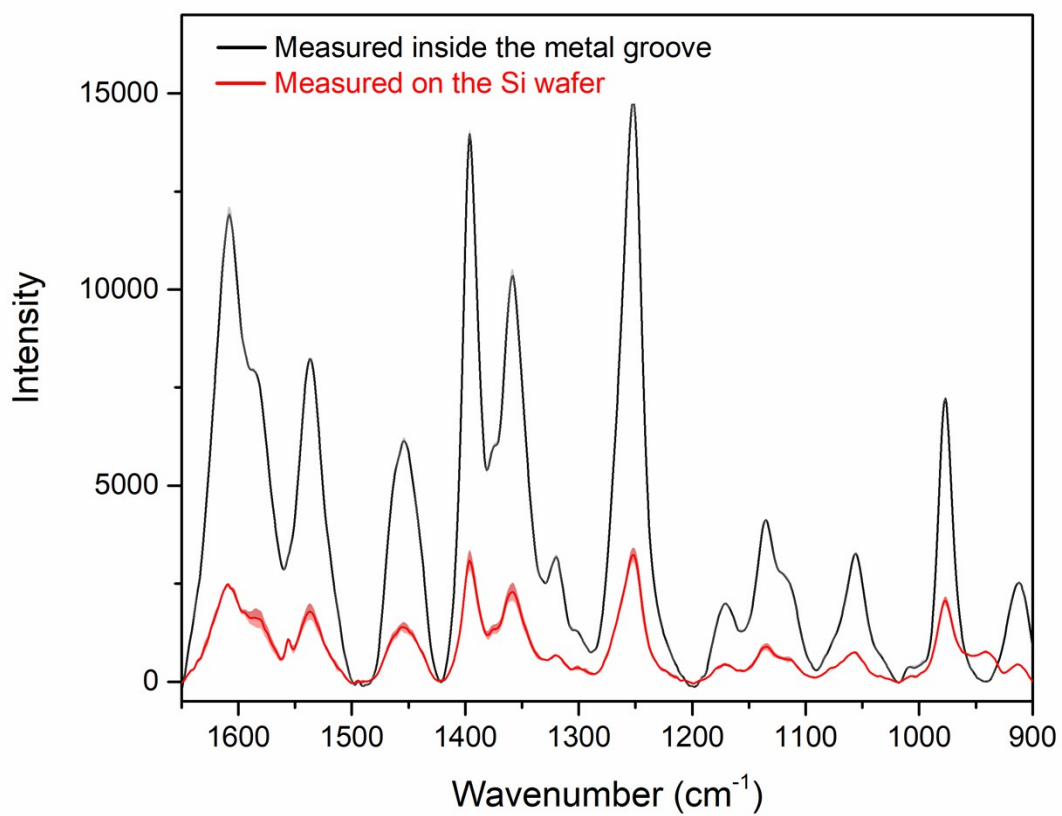


Figure S3. Raman spectra of one bile sample from GB polyp group measured by dropping the EV sample on a Si wafer (red) and into the metal groove (black).

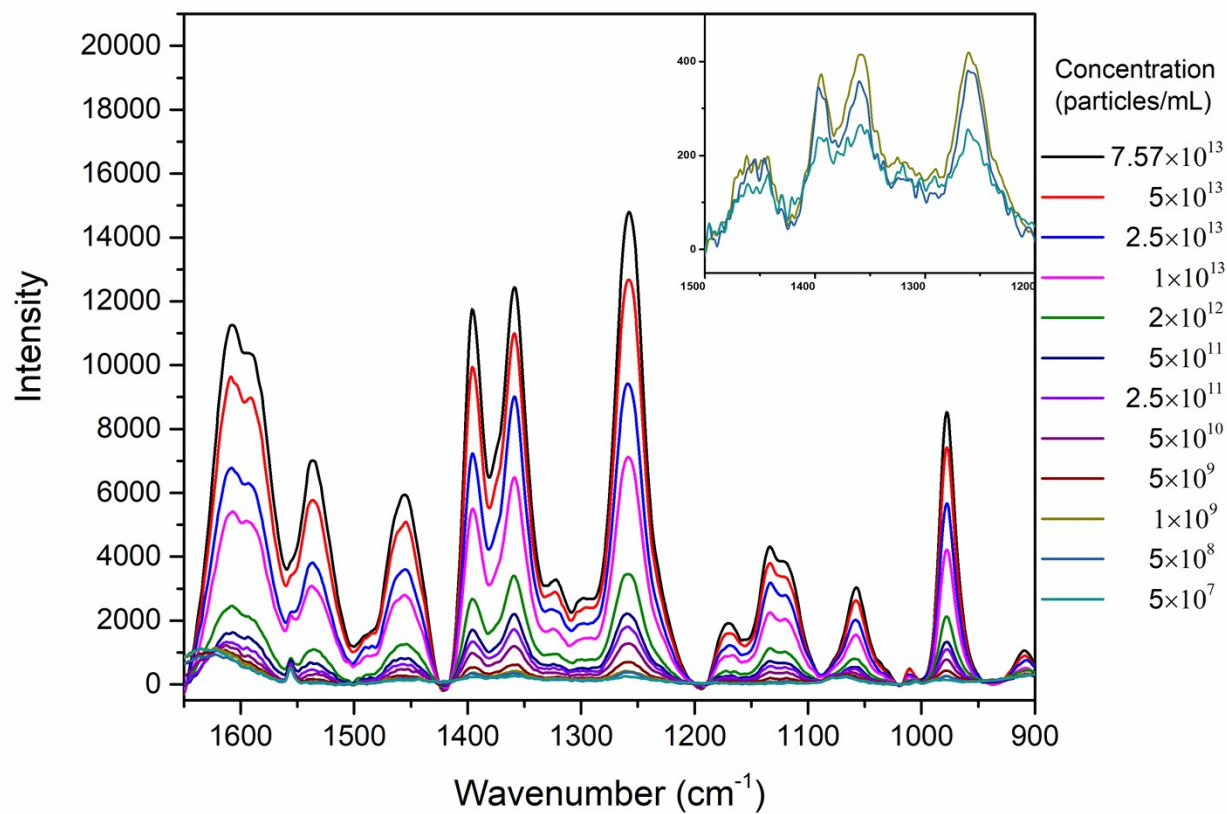


Figure S4: Raman spectra of continuously diluted EV samples extracted from one bile sample from HCC group. The inset highlights the spectra with three lowest EV concentrations.