Electronic Supplementary Material (ESI) for Analyst.

Supporting Information

Figure S1. Schematic diagrams of W-SORS equipment for adjusting the magnification, incident angle and offset according to samples

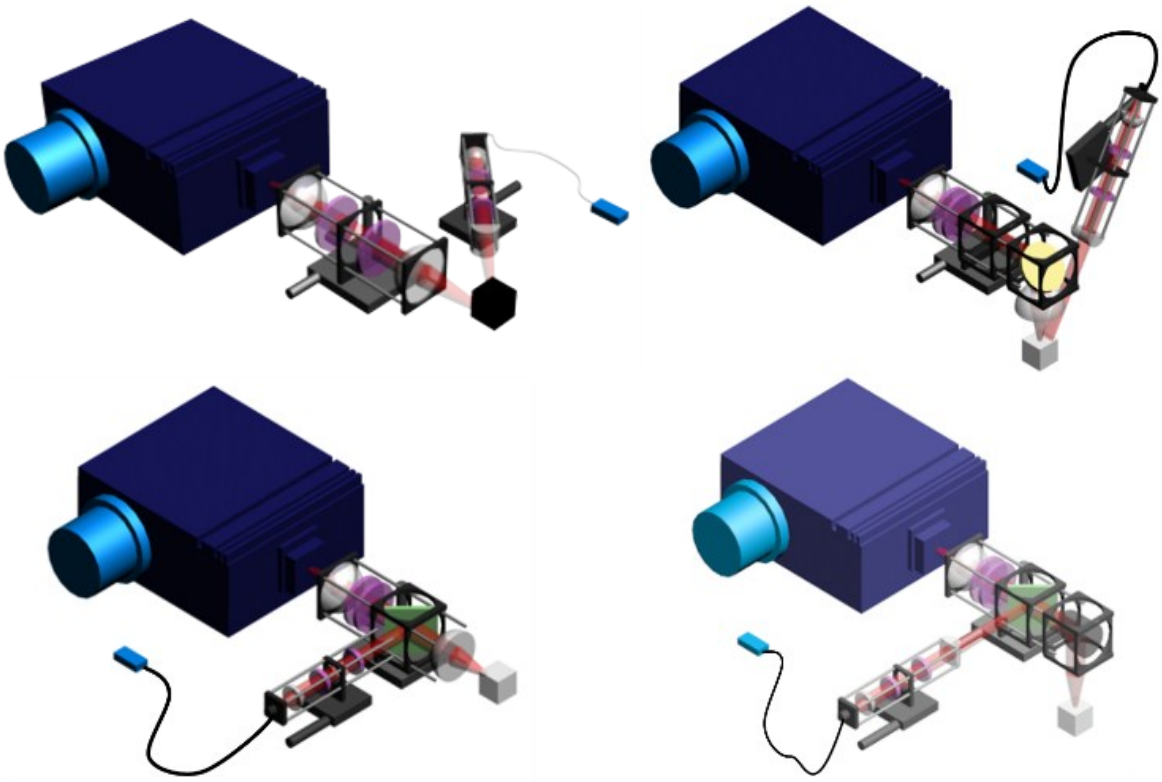


Figure S2. Magnification of the W-SORS system is measured by imaging a fiber optic bundle system. The scale bar is calculated using UASF 1951.

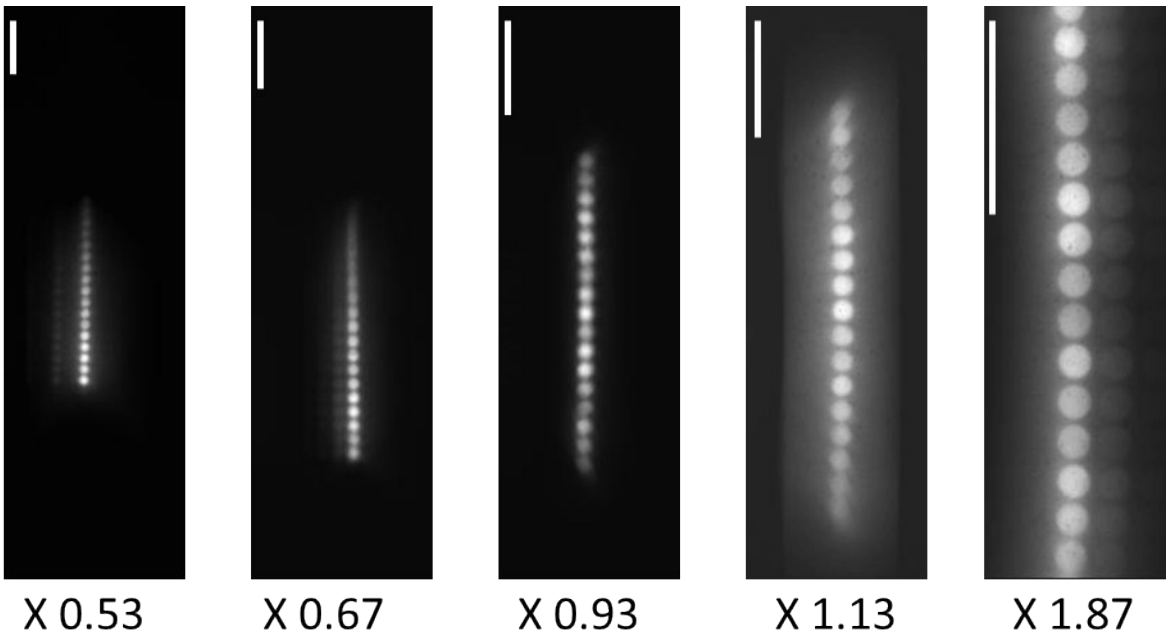


Figure S3. (a) W-SORS Raman spectra (b) typical spatially offset Raman spectra observed for poly(methyl methacrylate) and trisodium citrate. While obtaining the spectra, we adjusted the distance between the sample and the detection lens (focal length = 75 mm) to detect the Raman signals from deeper regions.

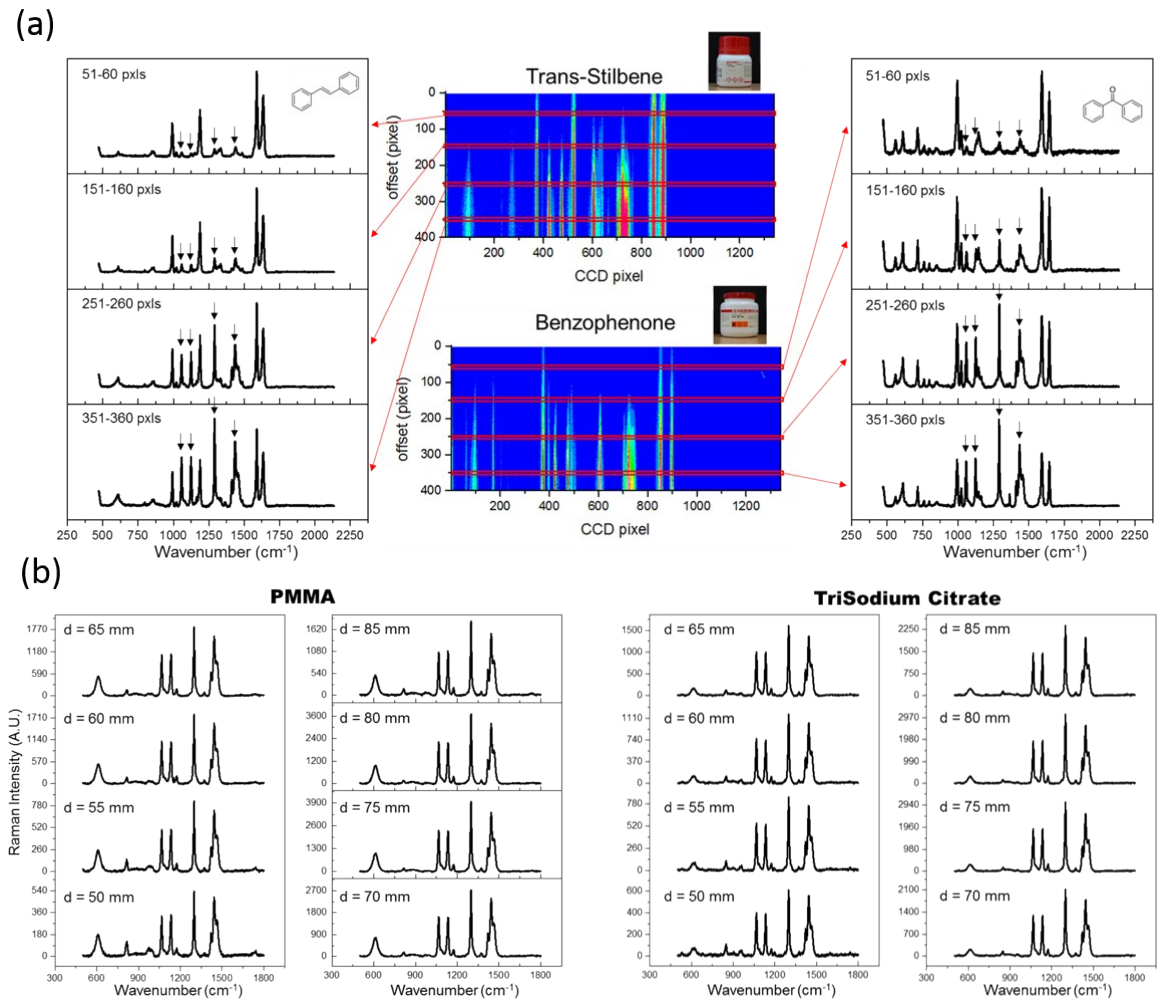


Figure S4. Spectral recovery of pure Raman spectra. We used the slice spectra projected on the underside of the CCD as an internal standard (reference) and subtracted it from the spectra (signal) at the top of the CCD.

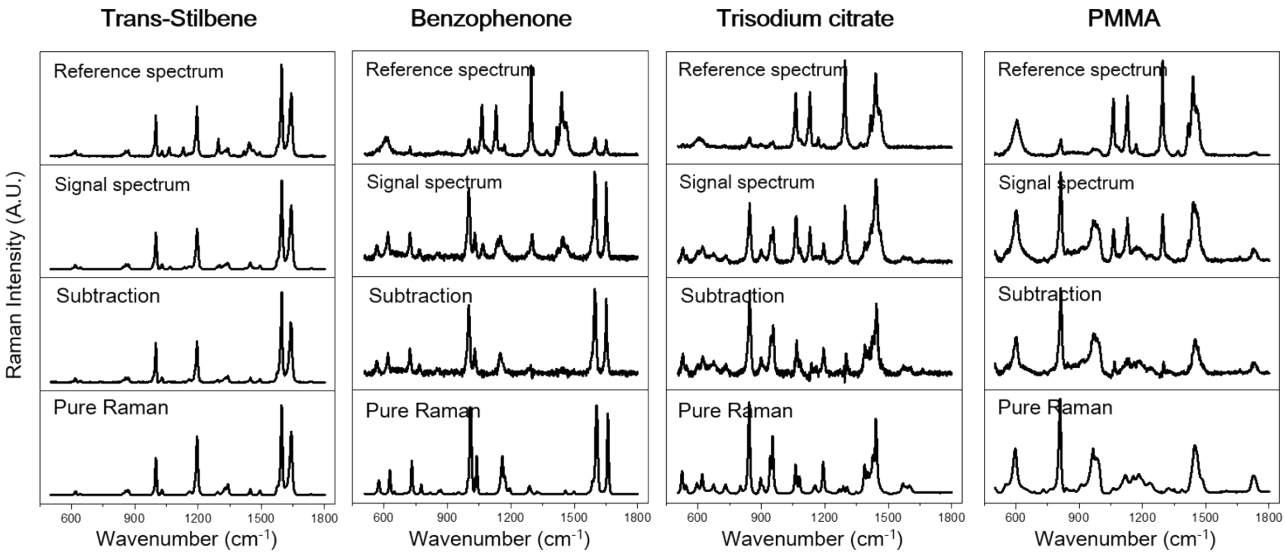
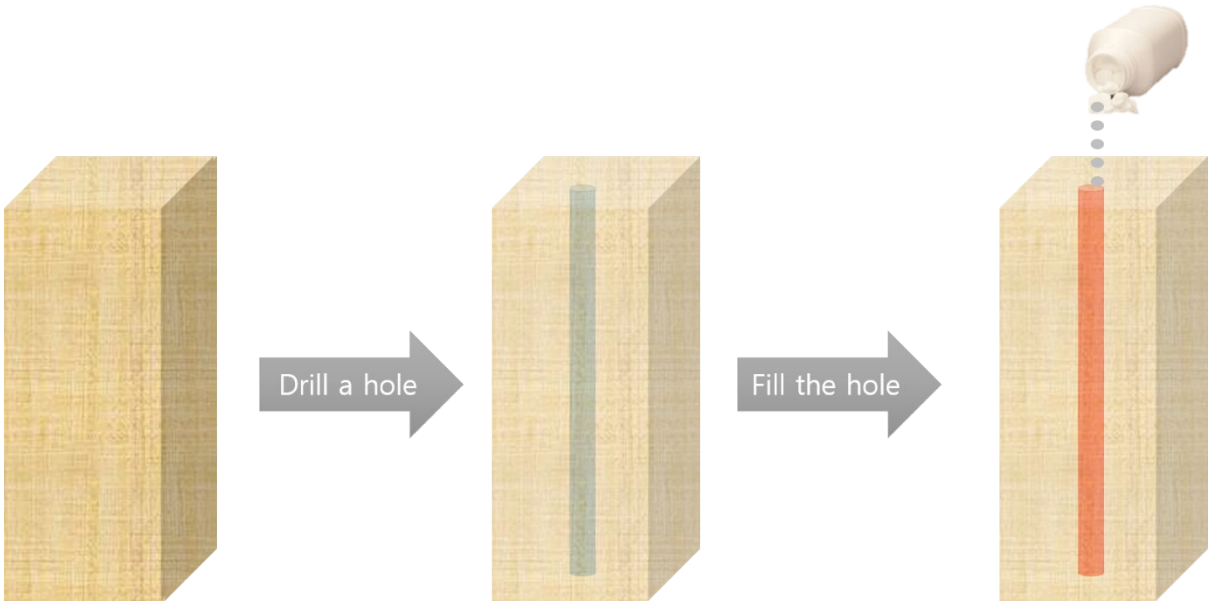


Figure S5. A simple method using a drilling hole to prepare sample for W-SORS measurements in building blocks.



The volume of t-STB is about ~0.2 cm^3.

Figure S6. Image distortion by optics and the spectrometer. (a) hyperspectral image for t-STB, (b) representative slice spectra with major peaks denoted, and (c) peak variations of the major peaks along CCD row

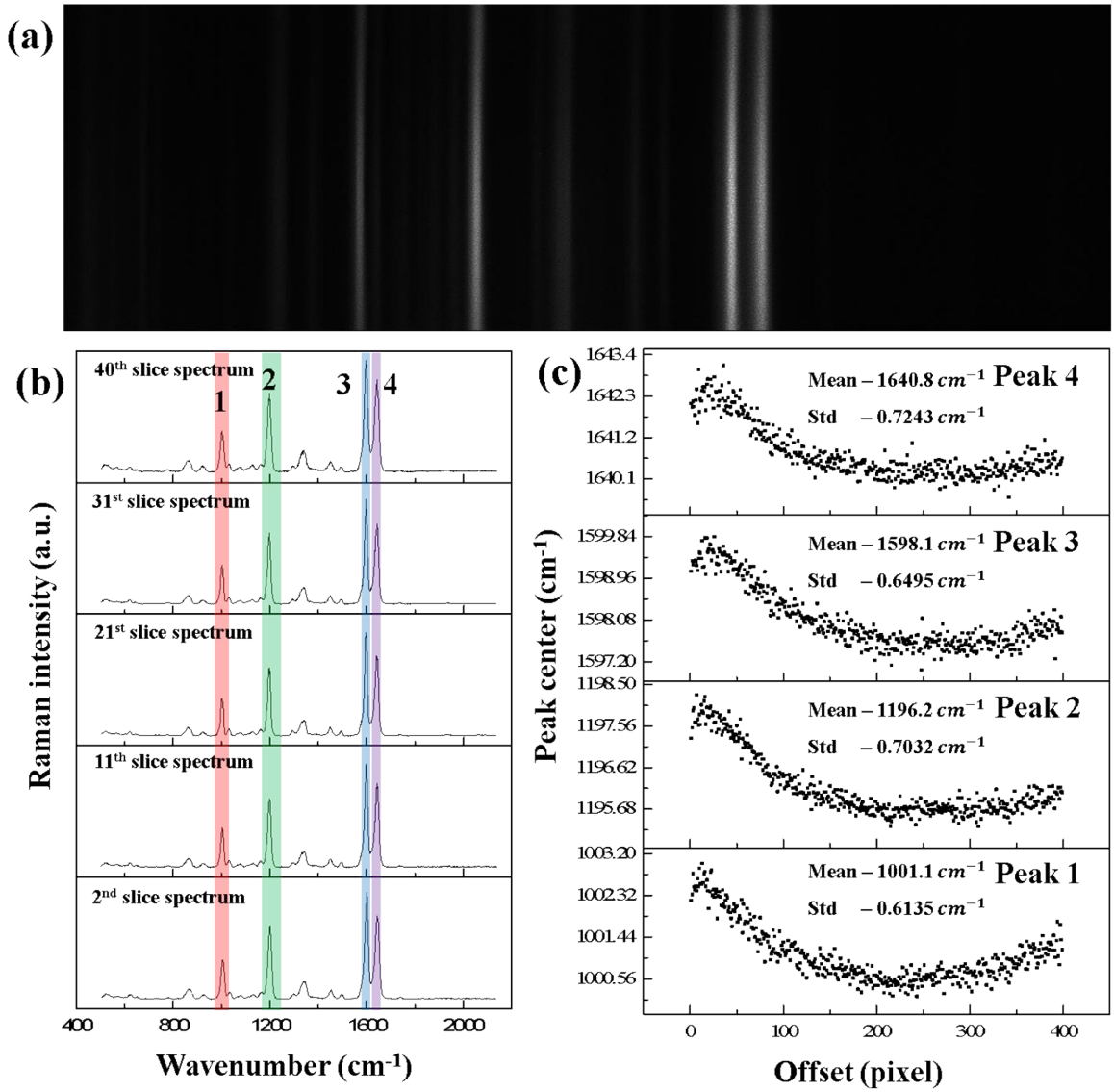


Figure S7. Spectral recovery of the pure Raman spectra of t-STB in wood (a) background fluorescence from wood block, (b) t-STB Raman spectrum in wood block before baseline correction and (c) t-STB Raman spectrum in wood block after baseline correction ($\Delta\tau = 3$)).

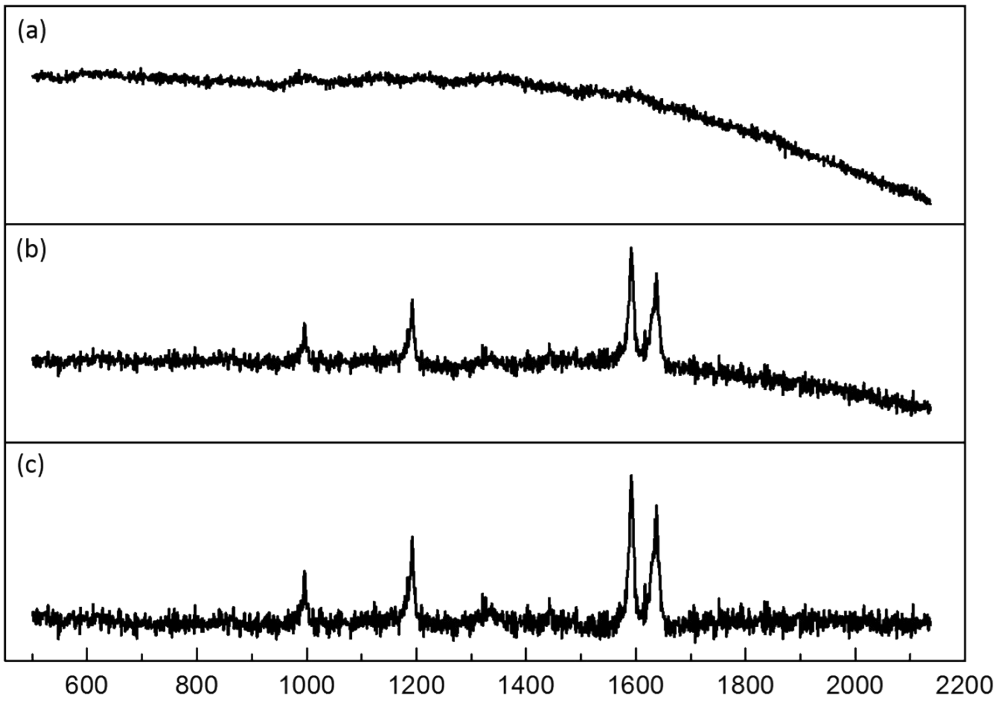


Figure S8. The laser power effect on the W-SORS spectra of trisodium citrate in HDPE bottle. The spectra recorded using various powers (200, 400, 600, 800, and 1000 mW) and exposed for 3 seconds.