

Electronic Supplementary Information: Chemical Conjugation to Differentiate Monosaccharides by Raman and Surface Enhanced Raman Spectroscopy

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Table S1: Instrument sensitivity comparisons

Instrument	LOD of ethanol	Equation of normalized Line	R ² for fit
Snowy Range	39 mM	$y = 0.9221x + 0.0012$	0.9991
Home Built	20 mM	$y = 0.9146x + 0.0168$	0.9998
Renishaw	40 mM	$y = 0.9153x - 0.0617$	0.9993

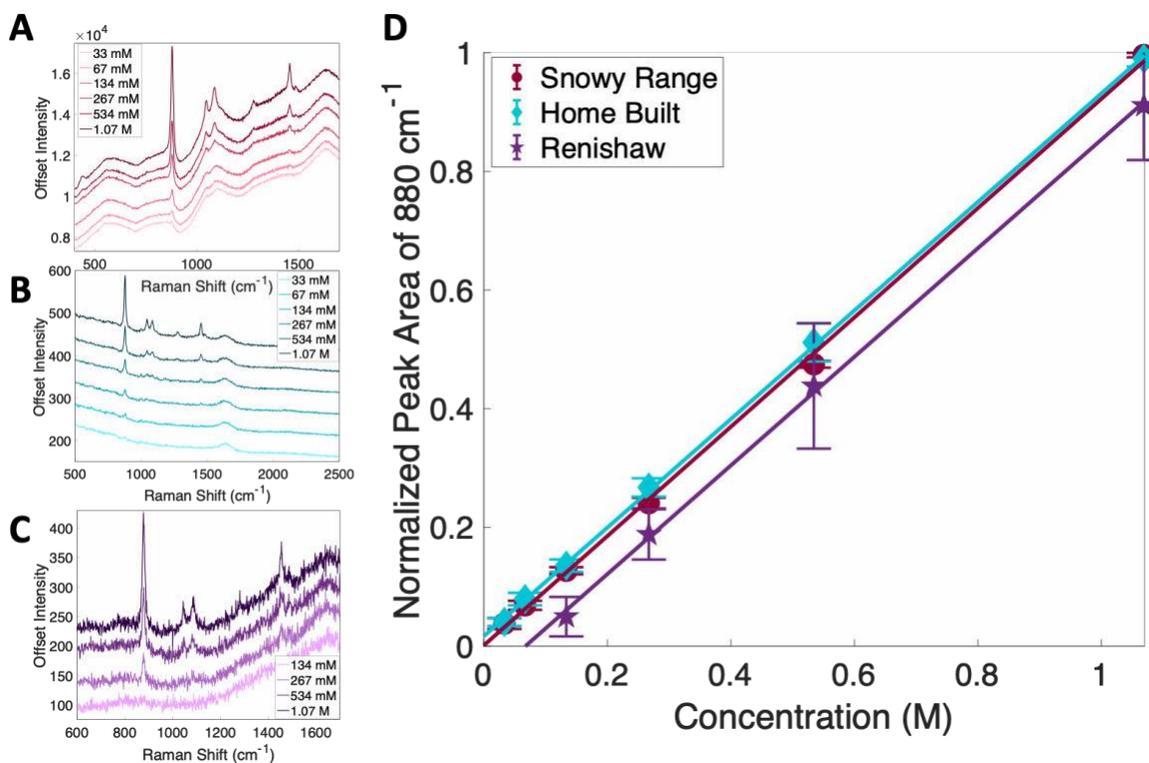


Figure S1: Comparison of instrument-to-instrument sensitivity. (A) Raman spectra of ethanol collected from the Snowy Range spectrometer. (B) Raman spectra of ethanol collected from the homebuilt instrument. (C) Raman spectra of ethanol collected from the Renishaw spectrometer. (D) Normalized peak area of the peak at 880 cm^{-1} for each instrument. Error bars indicate standard deviation of replicate measurements.

To demonstrate the sensitivity limits of the three instruments used, the spontaneous Raman limit of detection for ethanol was collected on each. The limits of detection found are shown in **Table S1**. The spectra collected to determine these limits of detection are shown in **Figure S1A** for the Snowy Range, **Figure S1B** for the home built instrument, and **Figure S1C** for the Renishaw. **Figure S1D** shows the normalized peak area of the 880 cm^{-1} peak at varying ethanol concentrations for all three instruments. All three instruments exhibited similar spontaneous limits of detection for ethanol. Additionally, the slope of all three lines are approximately equal, indicating that the instruments have similar nominal sensitivity.

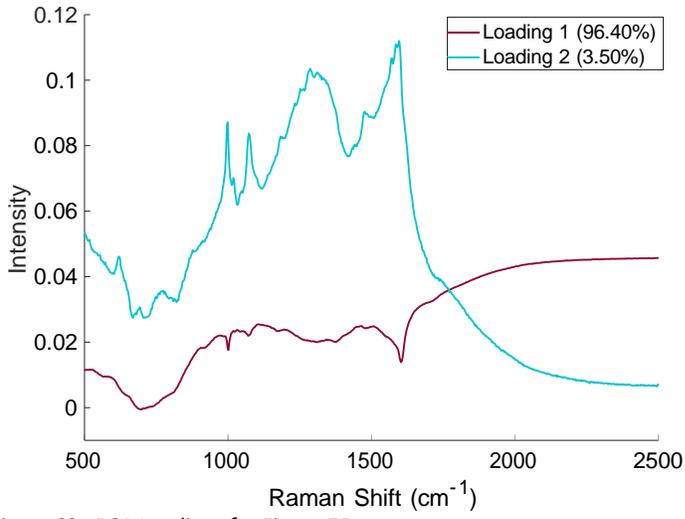


Figure S2: PCA Loadings for Figure 5B.

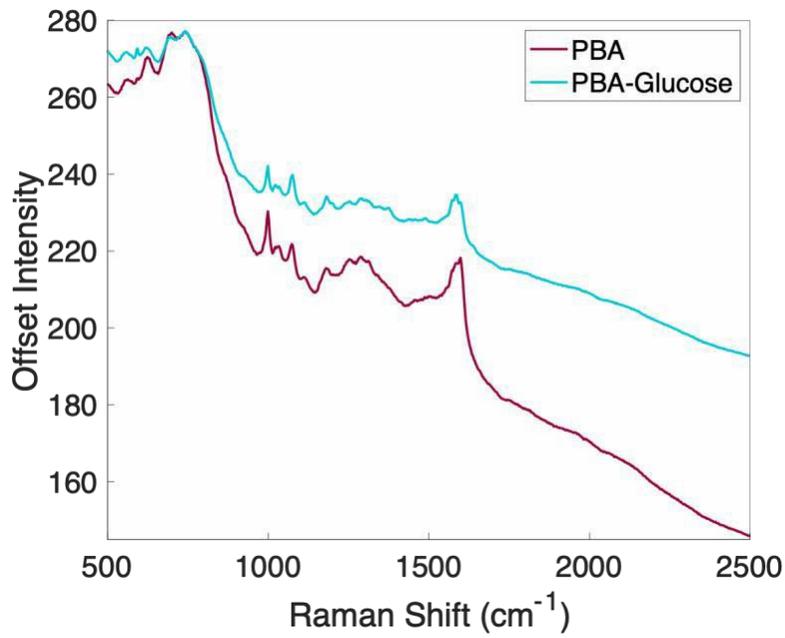


Figure S3: PBA and PBA-Glucose conjugate flowing over a silver substrate.

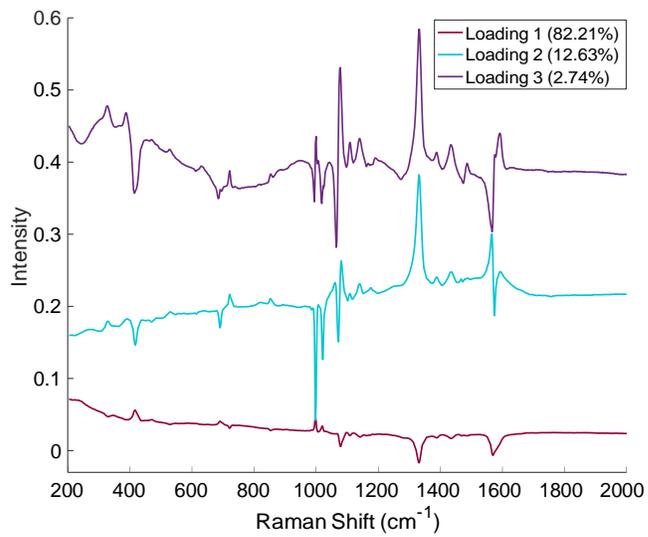


Figure S4: PCA Loadings for Figure 8