Supplementary Information (SI) for Analyst.

Supporting Information
for
Toward Real-Time Protein Profiling in Biofluids Using Discriminative Raman Spectral Markers

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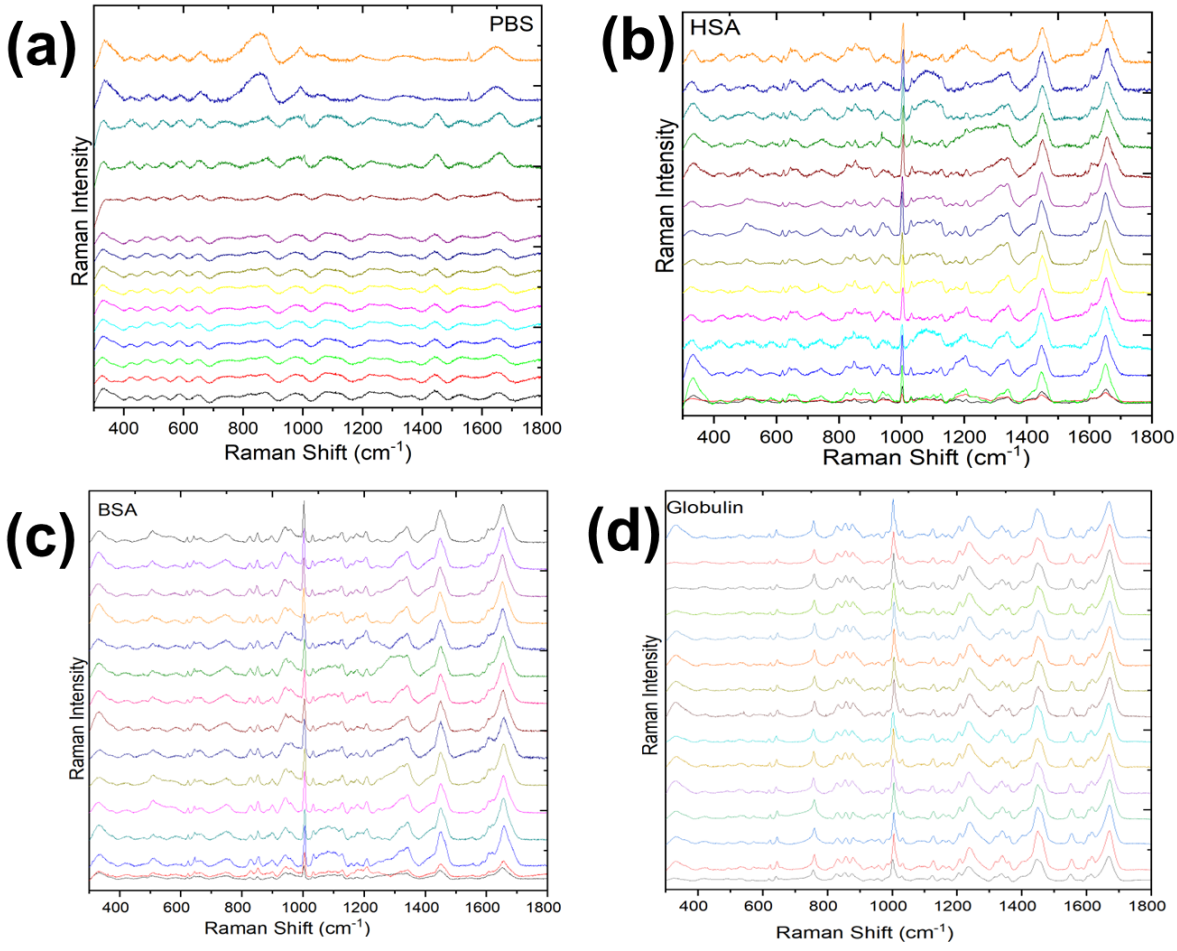

Figure S1. Graph representing 15 Raman spectrum each of proteins in PBS and PBS. (a) 15 spectrums of biofluid – PBS. (b) graph of HSA in PBS containing 15 spectrums in stacked form. (c) 15 spectrums of BSA in PBS stacked together. (d) 15 stacked spectrums of globulin in PBS.

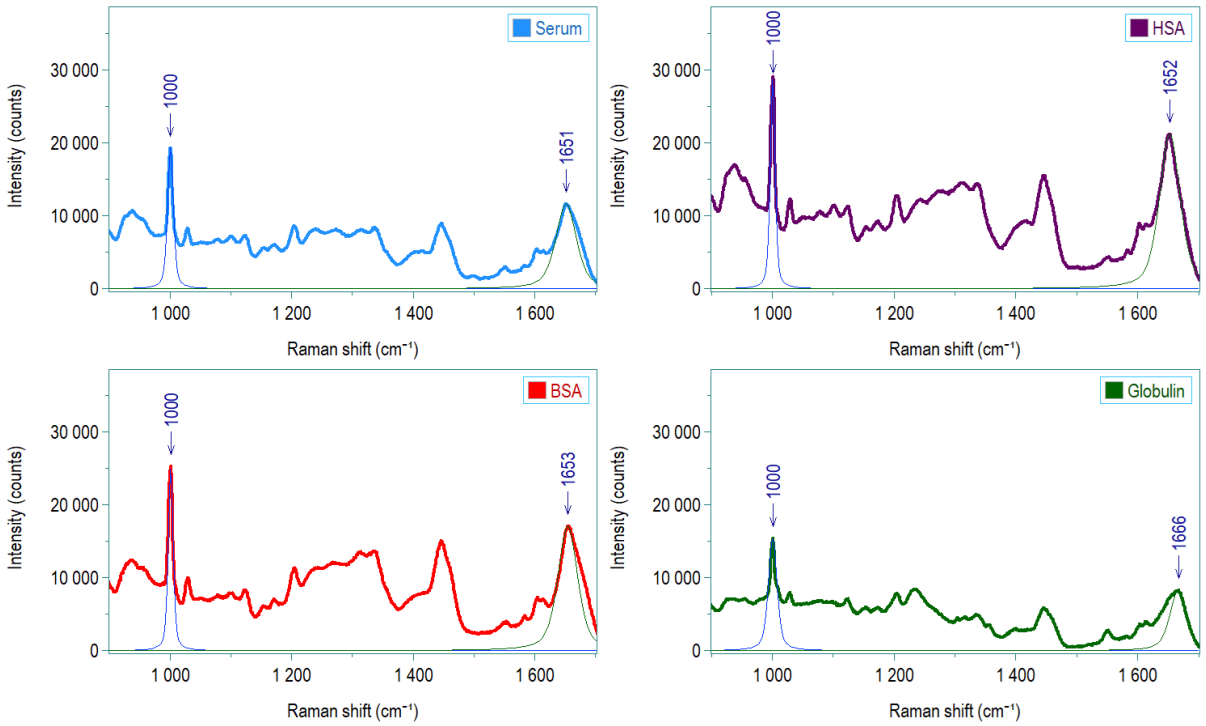

Figure S2. Raman spectra of deconvoluted amide-I peak of proteins in Serum compared against serum to confirm the secondary structure of proteins and its changes based on the biofluid selected.

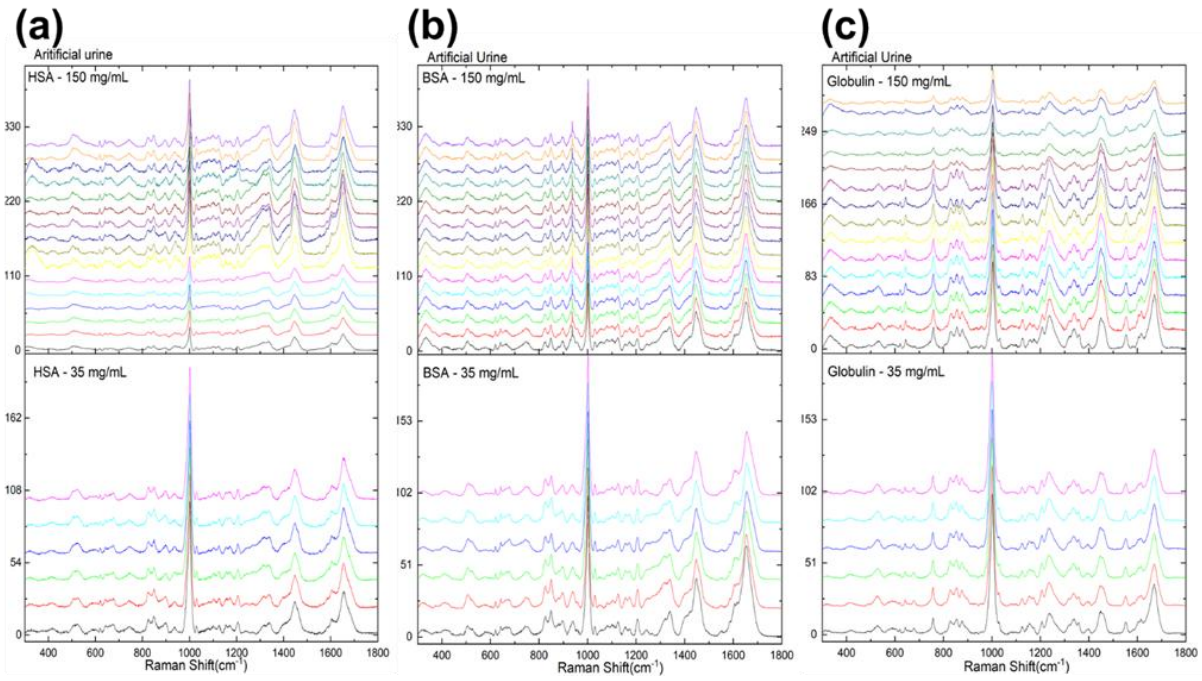

Figure S3. Graph representing 15 spectra at higher concentration of each protein in artificial urine against 6 spectra at lower concentrations. (a) Stack of 15 spectra at

higher concentration vs 6 spectra at lower concentrations of dried drop of HSA in artificial urine. (b) stacked graph of BSA in artificial urine containing 15 stacked spectra at higher concentrations and 6 spectra at lower concentrations together. (c) Stack of 15 spectra at higher concentration vs 6 spectra at lower concentrations of dried drop of globulin in artificial urine.

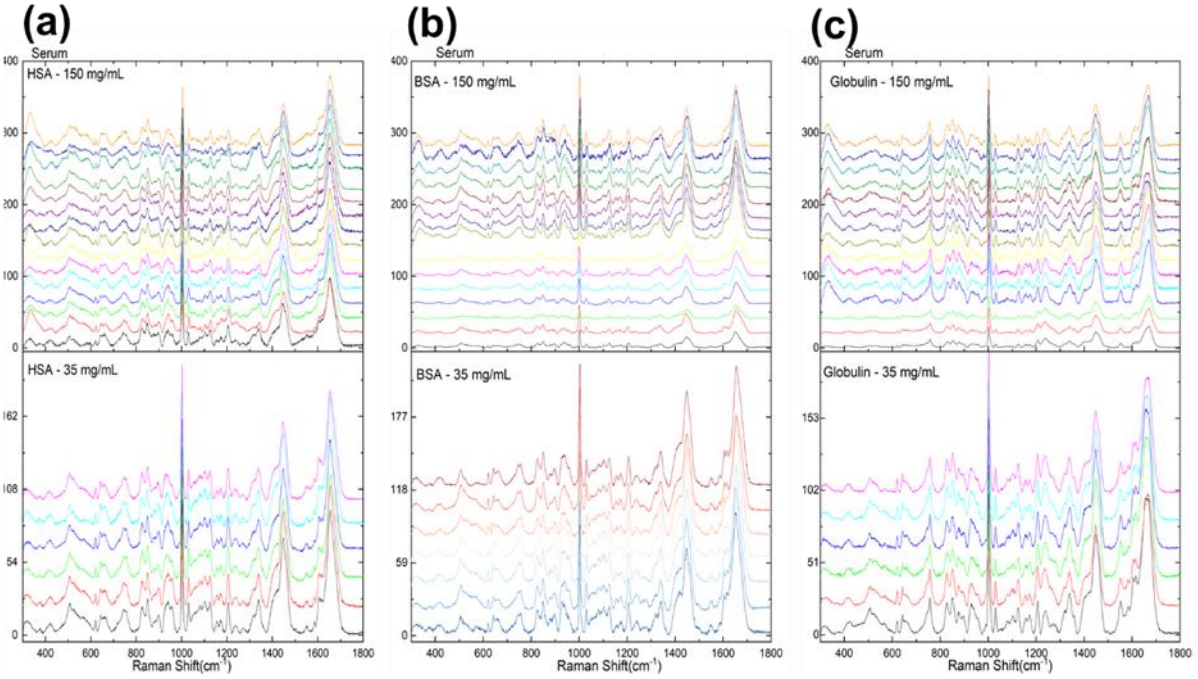

Figure S4. Graph representing 15 spectra at higher concentration of each protein in artificial urine against 6 spectra at lower concentrations. (a) Stack of 15 spectra at higher concentration vs 6 spectra at lower concentrations of dried drop of HSA in serum. (b) stacked graph of BSA in serum containing 15 stacked spectra at higher concentrations and 6 spectra at lower concentrations together. (c) Stack of 15 spectra at higher concentration vs 6 spectra at lower concentrations of dried drop of globulin in serum.

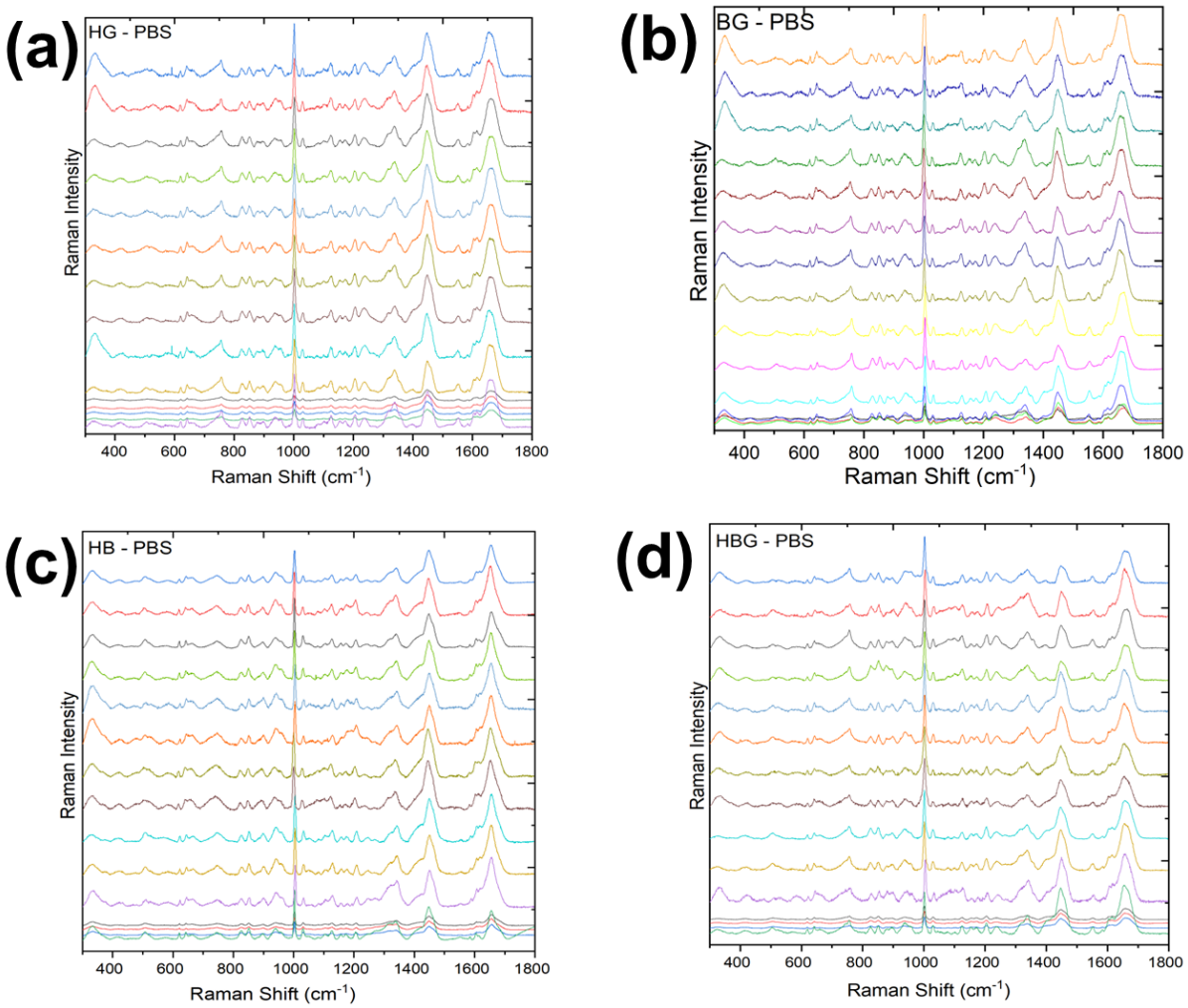

Figure S5. Graph representing 15 multiplex Raman spectrums in PBS. (a) 15 spectrums of HSA and globulin in PBS. (b) graph of BSA and globulin in PBS containing 15 spectrums in stacked form. (c) 15 spectrums of both the albumins in PBS stacked together. (d) 15 stacked spectrums of all selected protein multiplex in PBS.

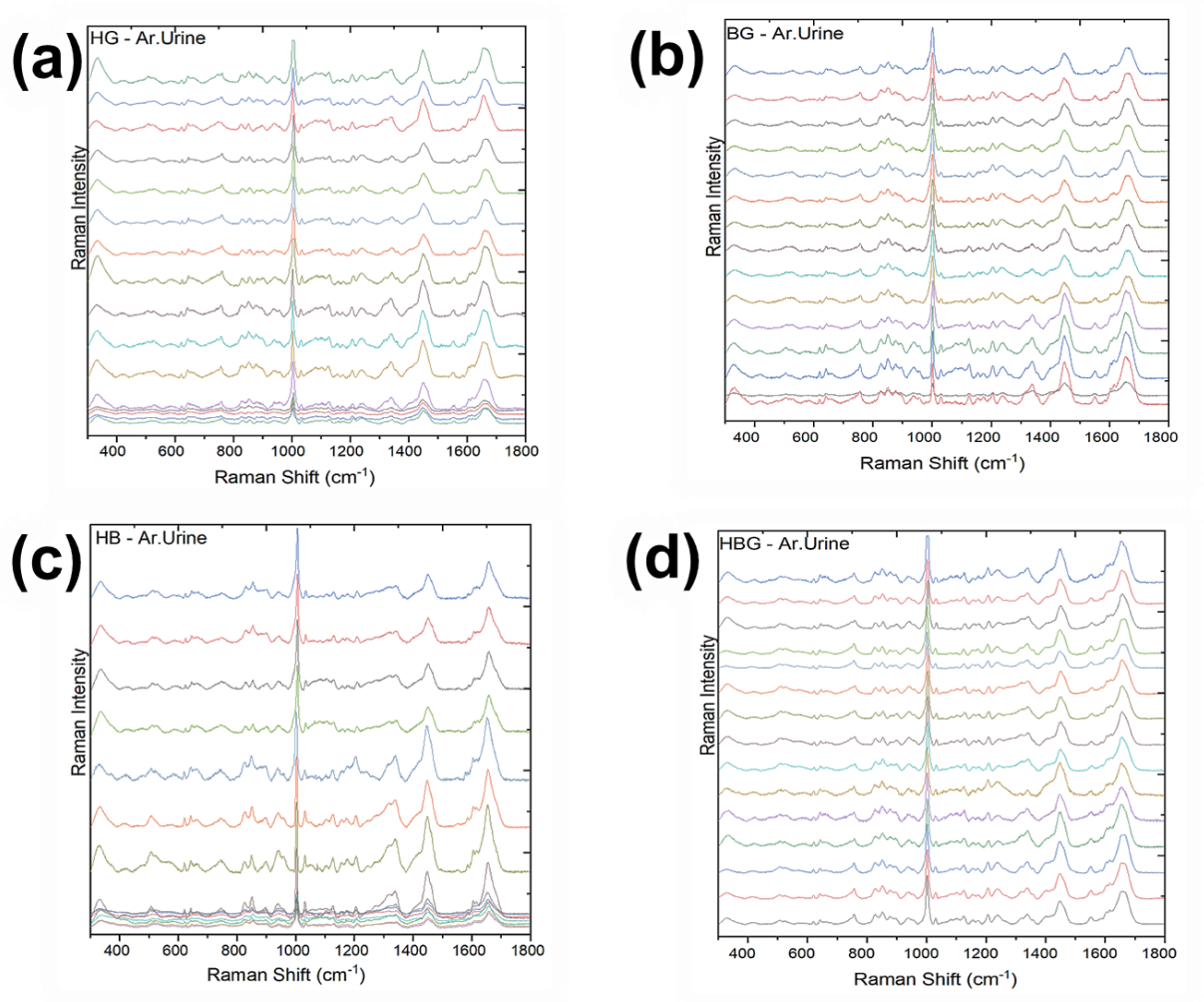

Figure S6. Graph representing 15 multiplex Raman spectrums in artificial urine. (a) 15 spectrums of HSA and globulin in artificial urine. (b) graph of BSA and globulin in artificial urine containing 15 spectrums in stacked form. (c) 15 spectrums of both the albumins in artificial urine stacked together. (d) 15 stacked spectrums of all selected protein multiplex in artificial urine.

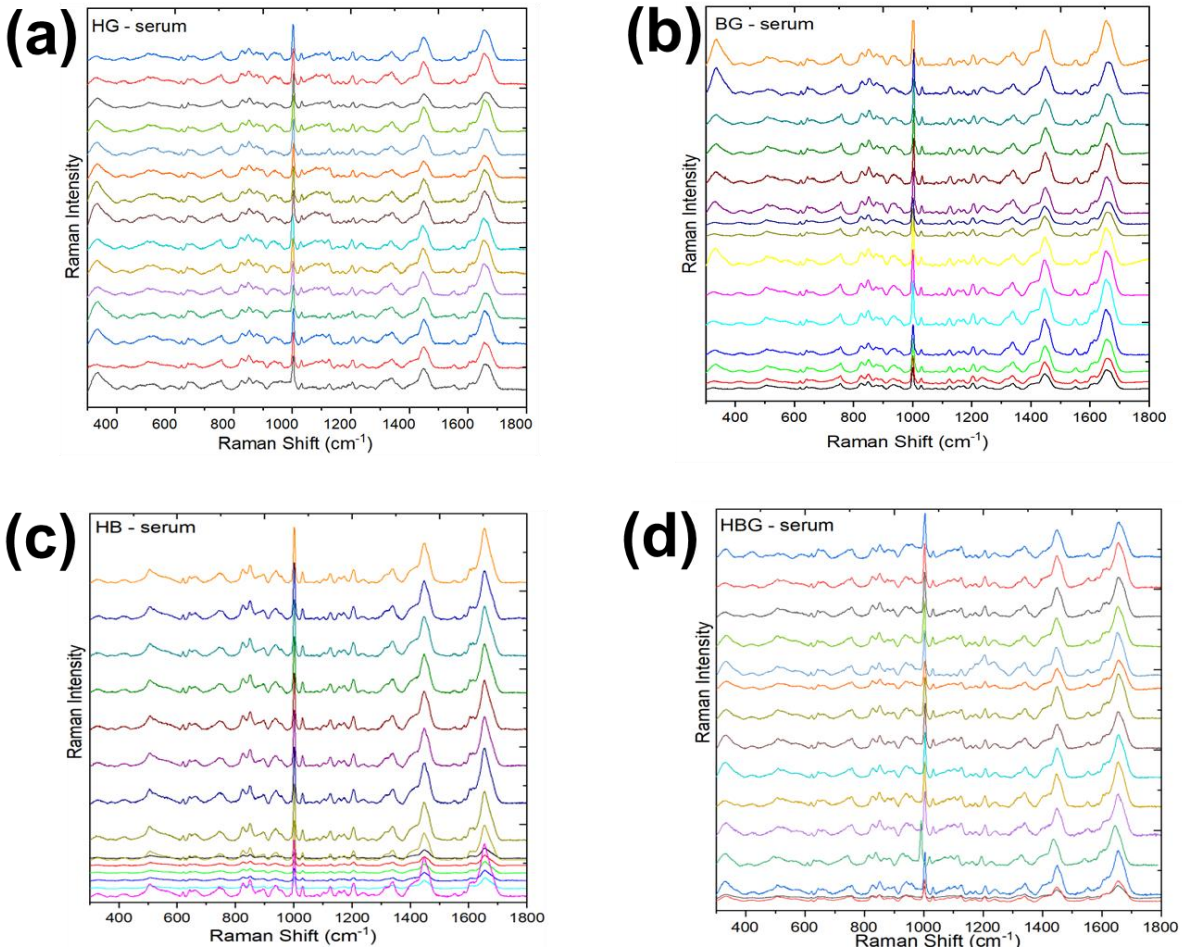

Figure S7. Graph representing 15 multiplex Raman spectrums in serum. (a) 15 spectrums of HSA and globulin in serum. (b) graph of BSA and globulin in serum containing 15 spectrums in stacked form. (c) 15 spectrums of both the albumins in serum stacked together. (d) 15 stacked spectrums of all selected protein multiplex in serum.

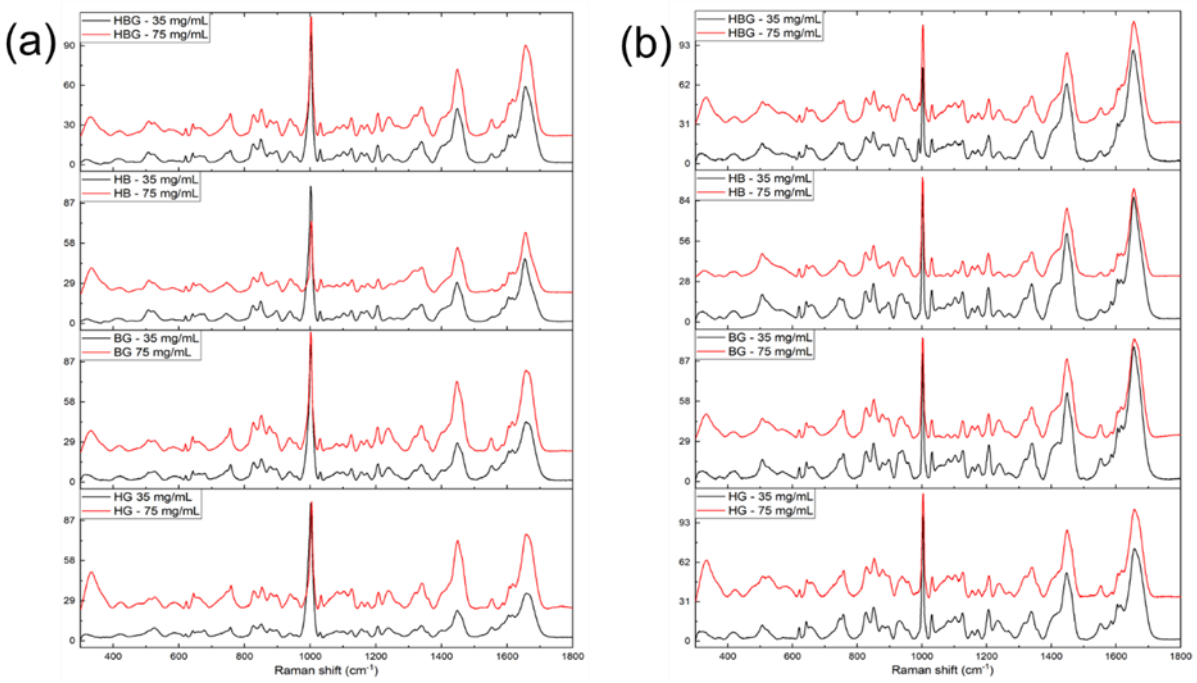

Figure S8. Graph representing mean spectra of higher and lower concentrations of multiplex Raman spectra in artificial urine and serum. (a) Mean spectra of higher concentration and lower concentration of multiplexed proteins in artificial urine. (b) graph of multiplexed protein in serum displaying the mean spectra of higher and lower concentrations.