Supplementary Materials

Validating phosphoethanolamine modification as a potential spectral marker of colistin resistance

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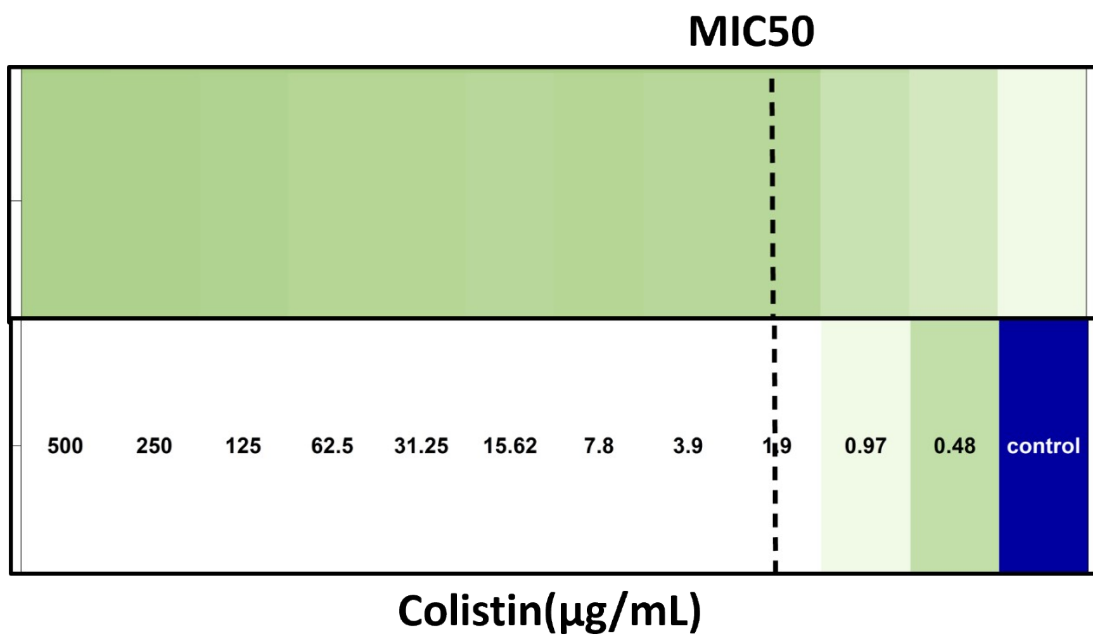
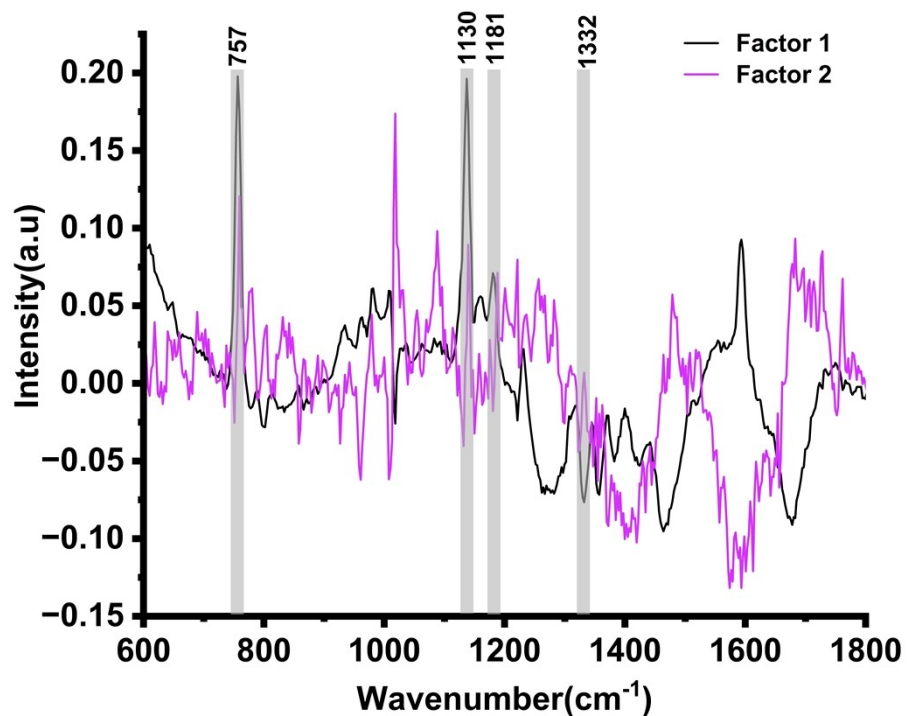**Figure S1**: The minimum inhibitory concentrations of wild type *E.coli* strain.

Figure S2: Phosphoethanolamine modification associated spectral markers in the PLS coefficients.
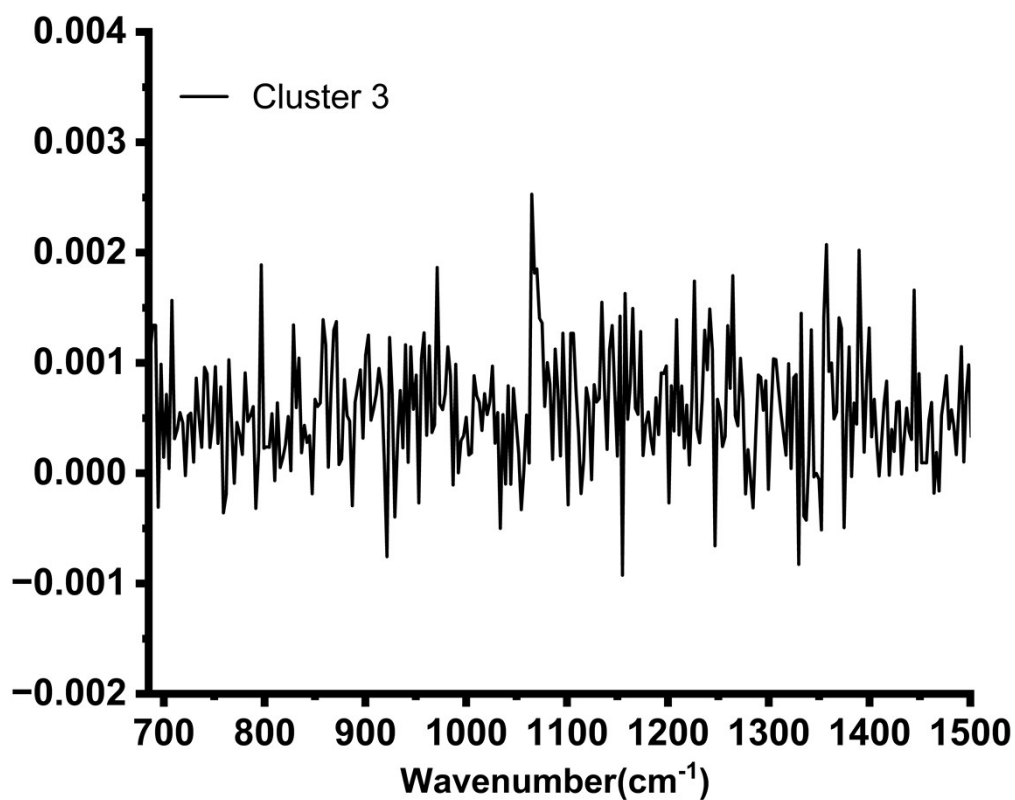
Figure S3: The cluster 3 (black) spectra from k-means clustering data from the background/substrate used in the main manuscript in figure 4.
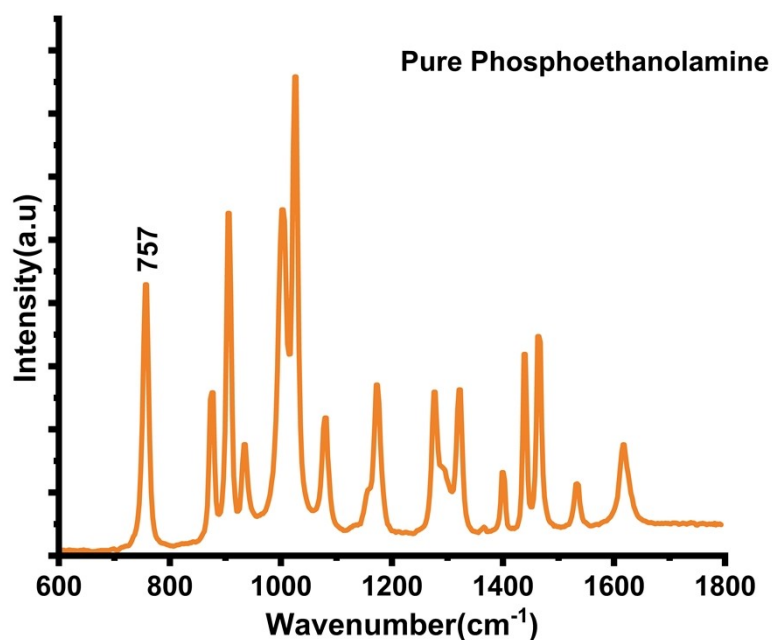

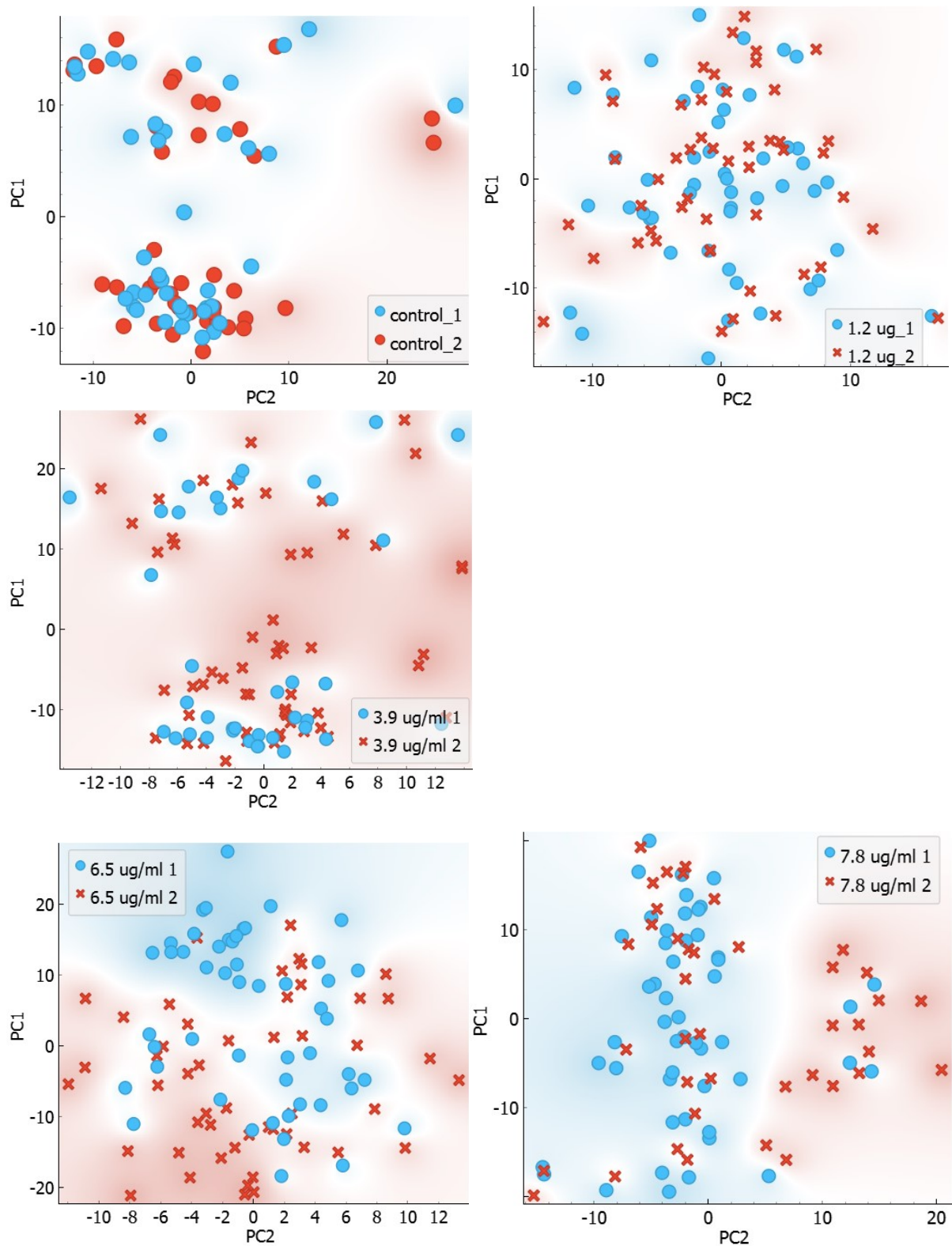**Figure S4:** Raman spectra from pure phosphoethanolamine.

Figure S5: The data from four independent experiments were combined in two data sets and batch effect was evaluated prior to PLSDA analysis using PCA, the scattered plots data clearly demonstrated the minimal variations across the independent experiments.
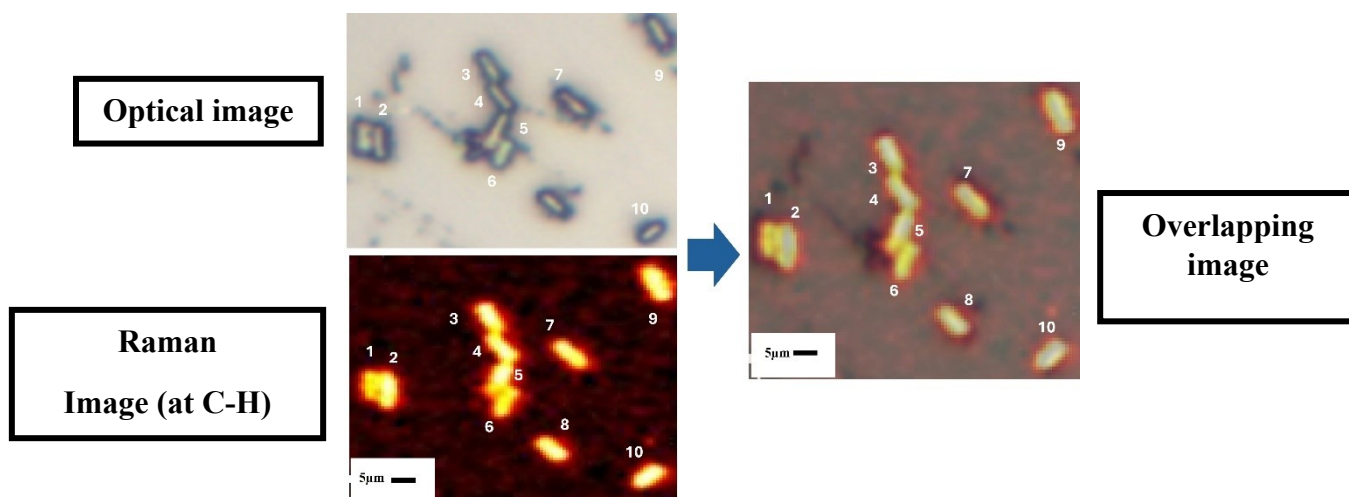
Figure S6: The Raman and optical images have been marked to show the individual cells used for performing hyperspectral imaging and were further superimposed to demonstrate the co-localization.