Supplementary Figures

Fig. S1 Representation of variation in the SERS spectra and method of outlier removal. Example

is shown using strain 16-22 grown on solid media with 35 replicated spectra. The outlier

spectrum in red was eliminated from the data set because it deviated significantly from
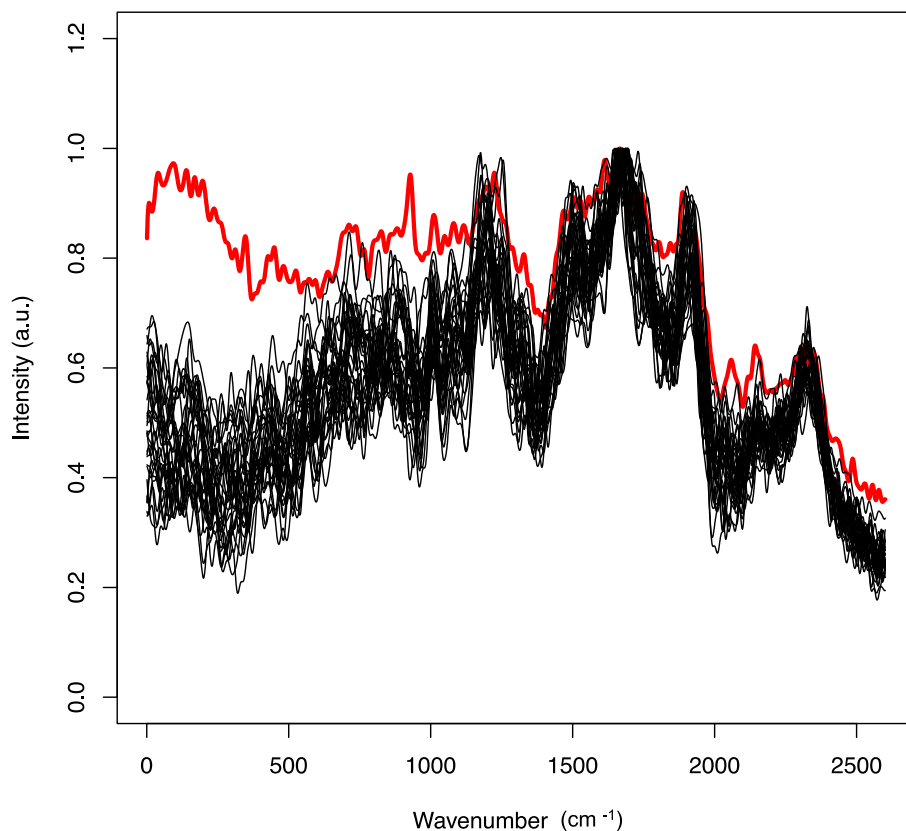
other replicates.

Fig. S2 Normalized replicate spectra of *Arthrobacter* strain 16-22 grown in both liquid and solid media. A distinct separation of spectra between solid and liquid data sets can be noted.
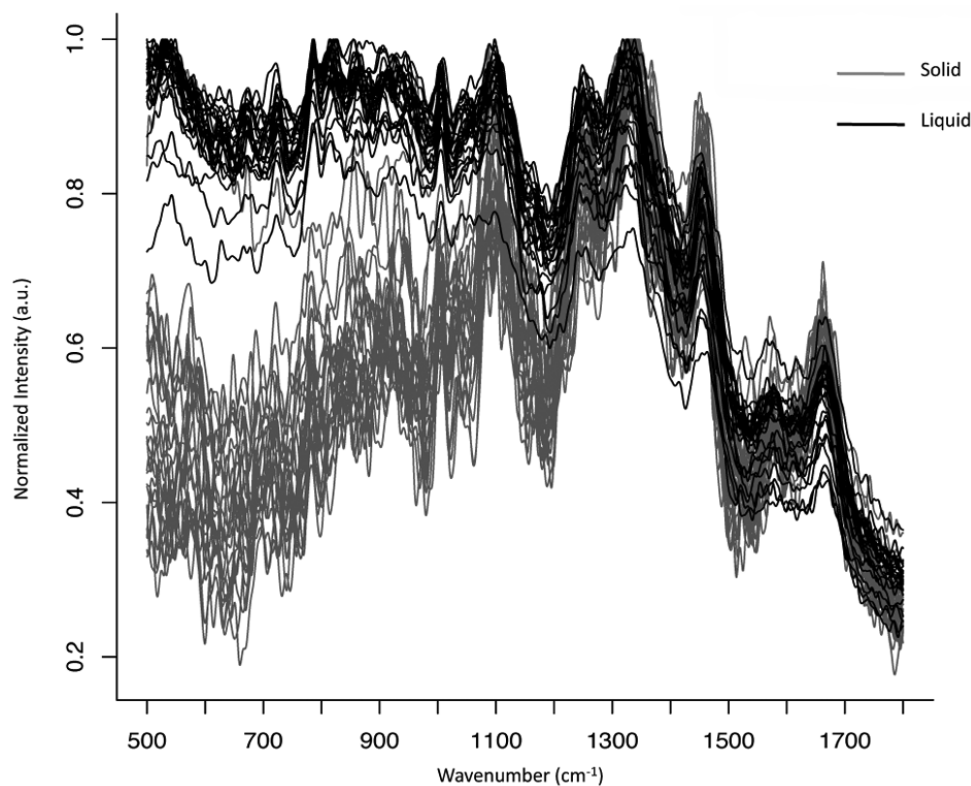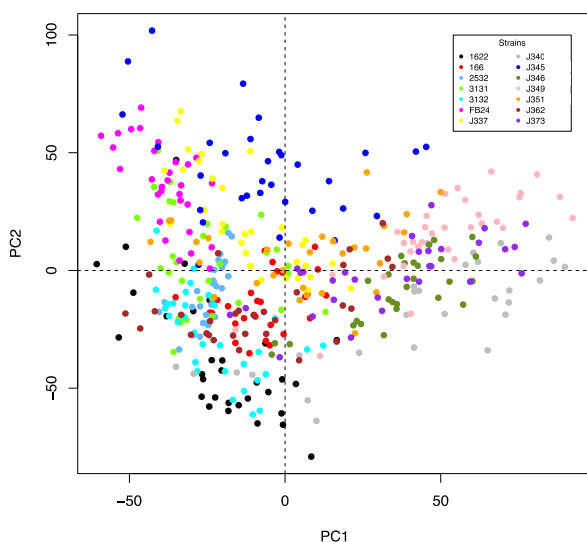
Fig. S3 Principal component analysis (PCA) plots of replicate spectra analyzed for all fourteen

Arthrobacter strains grown in a) liquid culture media, where PC1 accounts for 45.5%

and PC2 accounts for 32.3% of variation and b) solid media, where PC1 accounts for

46.4% and PC2 accounts for 30.8% of variation. While the plots depict loose clustering

of replicates for each strain, the first two PCs represent a majority of variation between

strains. Clustering of replicates for each strain are not as distinct as in some other

publications, likely because of the number of closely related strains used in this analysis.

Nevertheless, classification accuracy was very high (Table 1).

a)

b)