

Supplementary Information

Identification of methicillin-resistant *Staphylococcus aureus* bacteria using surface-enhanced Raman spectroscopy and machine learning techniques

Fatma Uysal Ciloglu,^a Ayse Mine Saridag,^b Ibrahim Halil Kilic,^c Mahmut Tokmakci,^{*a} Mehmet Kahraman,^{*b} and Omer Aydin,^{*a,d,e}

^aDepartment of Biomedical Engineering, Erciyes University, Kayseri 38039, Turkey

E-mail: tokmakci@erciyes.edu.tr, omeraydin@eriyes.edu.tr; Tel: +90-352-207-6666/32980

^bDepartment of Chemistry, Gaziantep University, Gaziantep 27310, Turkey

E-mail: mskahraman46@gmail.com; Tel: +90-342-317-1940

^cDepartment of Biology, Gaziantep University, Gaziantep 27310, Turkey

^dERNAM-Nanotechnology Research and Application Center, Erciyes University, Kayseri 38039, Turkey

E-mail: omeraydin@eriyes.edu.tr; Tel: +90-352-207-6666/32984

^eERKAM-Clinical Engineering Research and Application Center, Erciyes University, Kayseri 38040, Turkey

E-mail: omeraydin@eriyes.edu.tr, biomer@umich.edu; Tel: +90-352-207-6666/32984

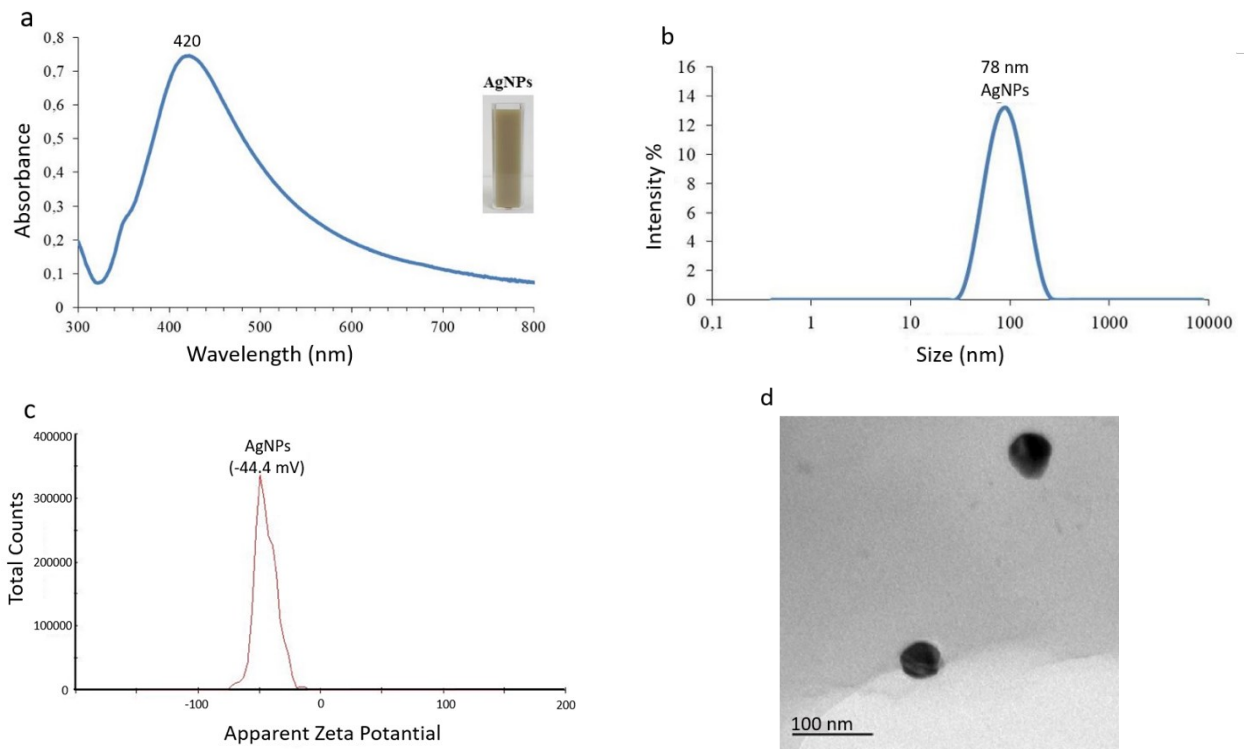


Figure S1. Characterization of AgNPs. UV/Vis spektroskopi (a), DLS spectra (b), zeta potential (c) and TEM image (d)

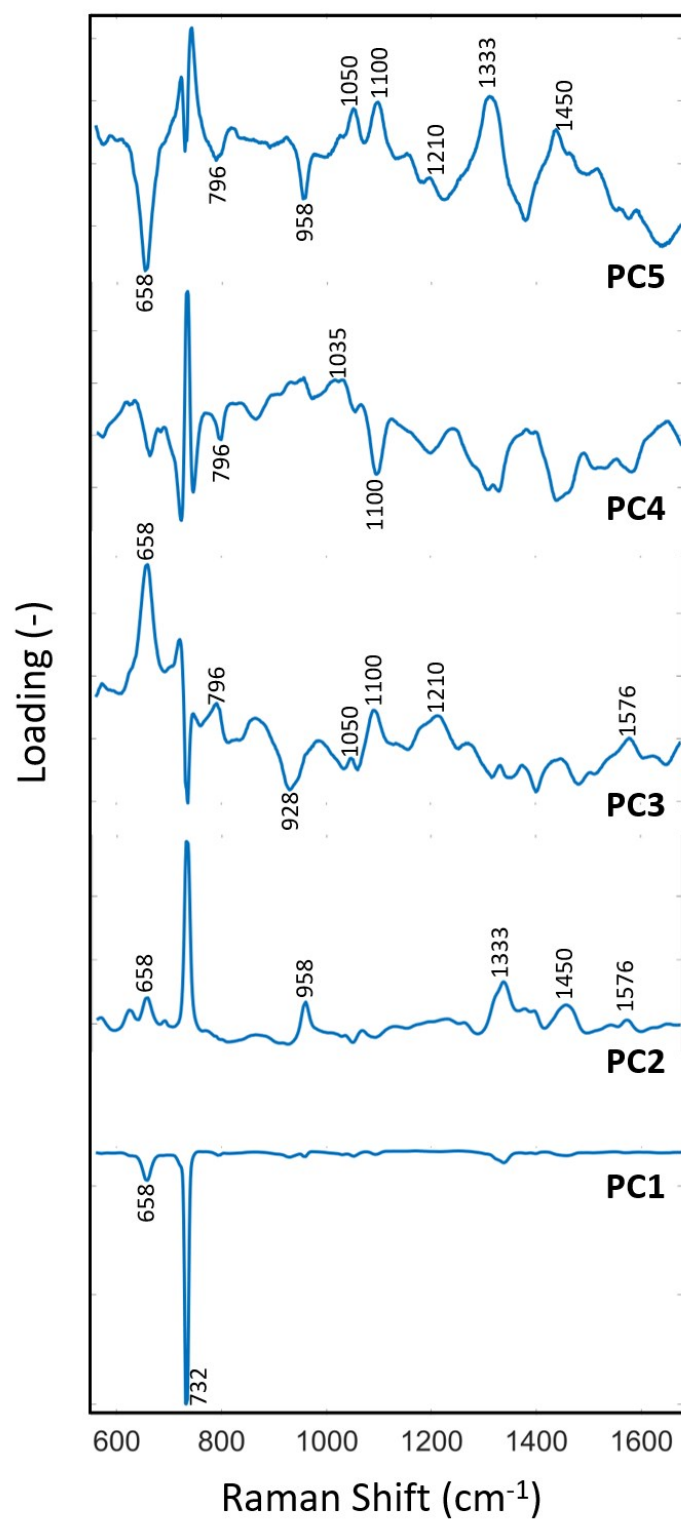


Figure S2. The PC loadings plot of the first 5 PCs showing the most important spectral differences between groups

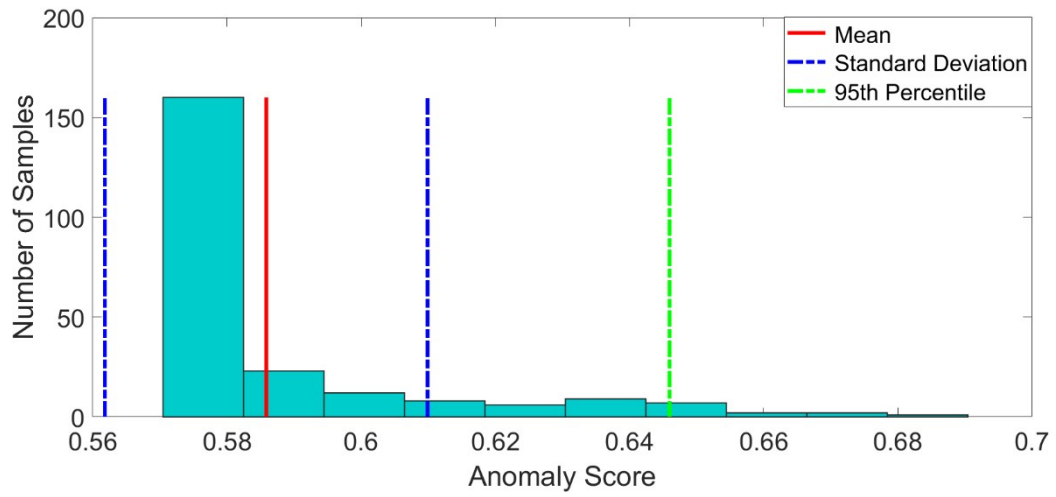


Figure S3. Histogram plot of the anomaly score values obtained by the isolation forest algorithm