

Figure S1a presents the average IR absorption spectra of *E. coli* isolates sensitive and resistant to Amoxicillin. The highlighted areas represent the standard deviation of the averages. The differences between resistant and sensitive *E. coli* isolates, the delta between the averages of resistant minus sensitive spectra for each antibiotic was calculated and is presented in Figure S1b. Similar figures were generated for the other studied antibiotics cefuroxime axetil, piperacillin and sulfamethoxazole (Figure S2-S4).

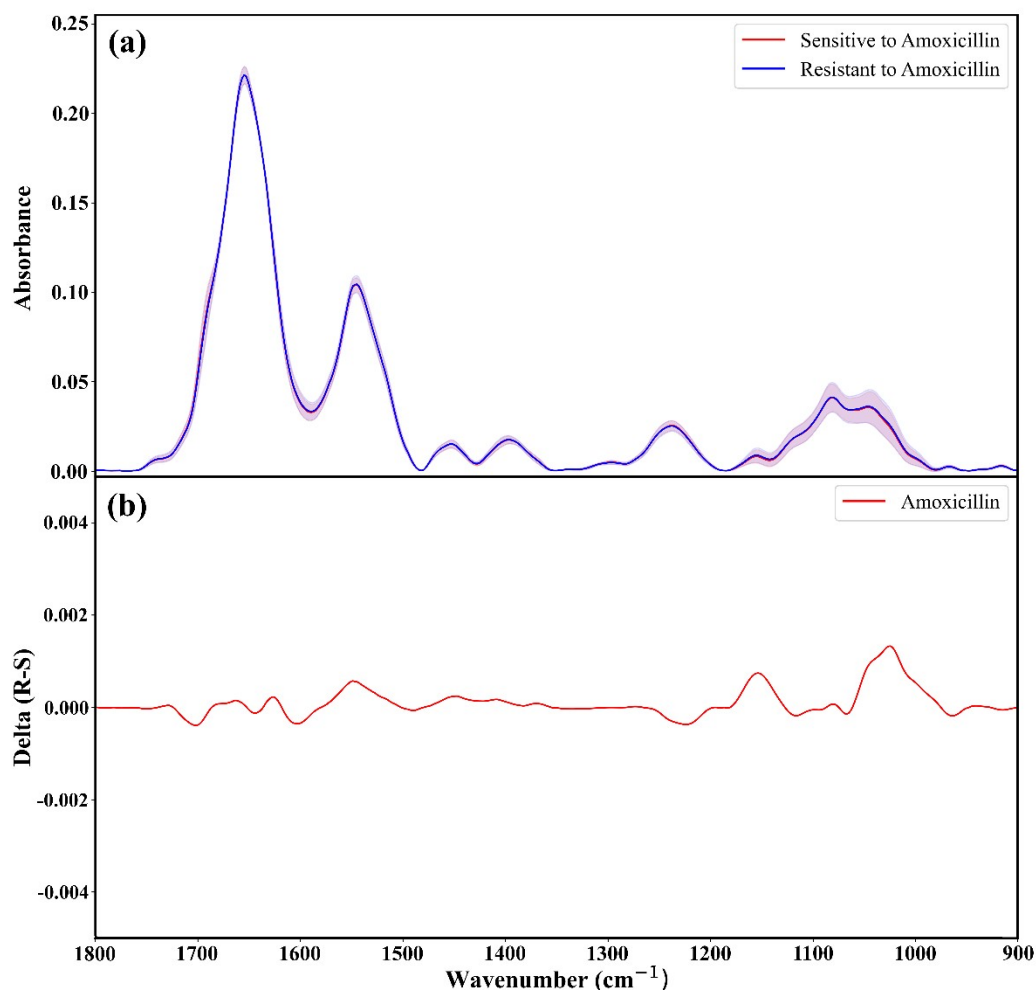


Figure S1: (a) The averages of *E. coli* isolates sensitive and resistant to amoxicillin. The standard deviation is presented as a highlighted area. (b) The difference spectrum is calculated as average resistant minus average sensitive spectra.

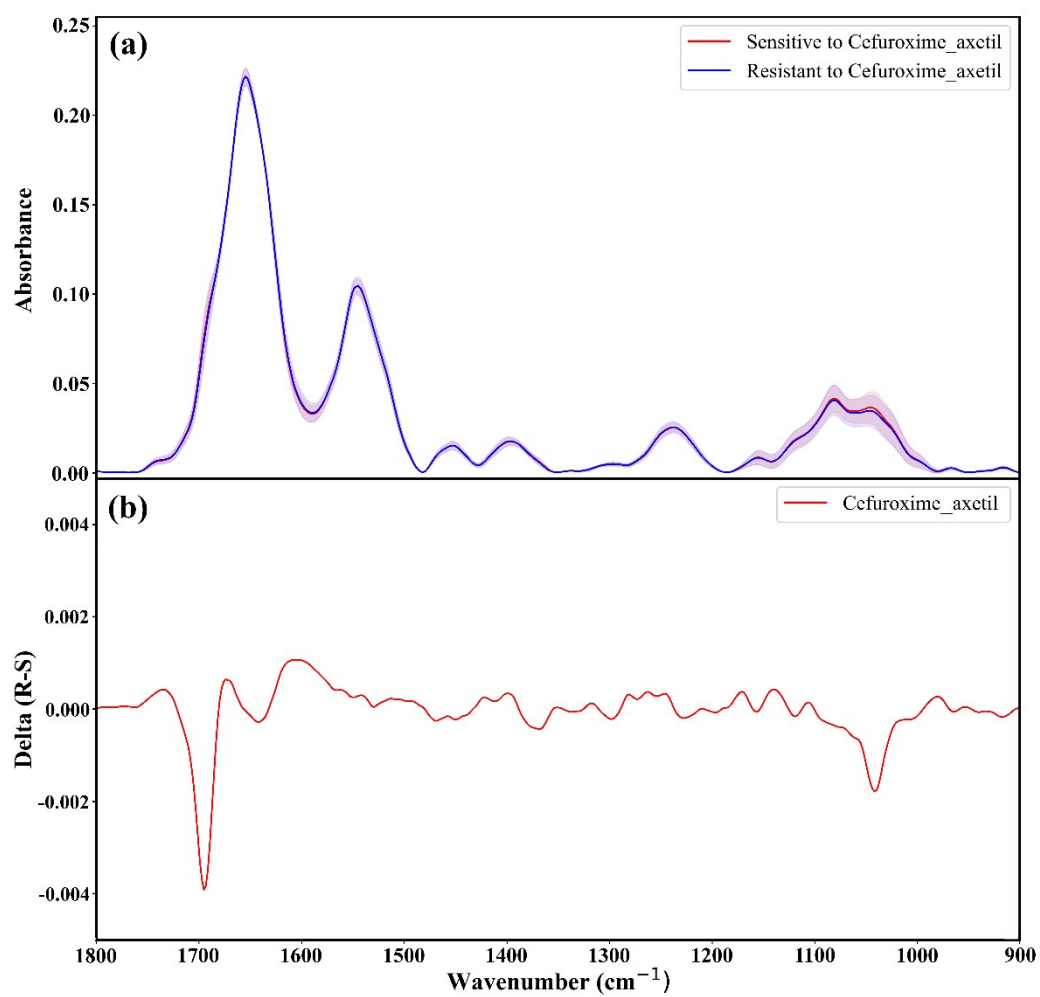


Figure S2: (a) The averages of *E. coli* isolates sensitive and resistant to cefuroxime axetil. The standard deviation is presented as a highlighted area. (b) The difference spectrum is calculated as average resistant minus average sensitive spectra.

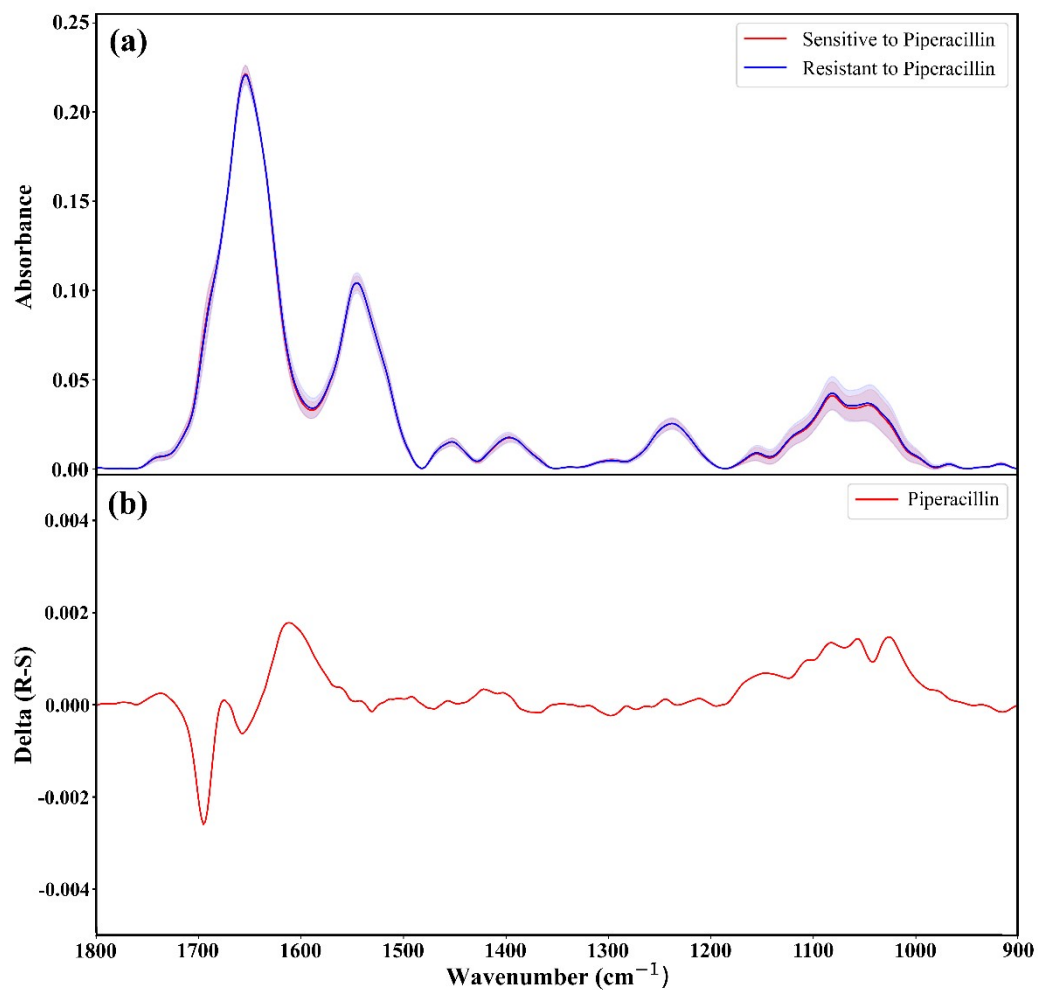


Figure S3: (a) The averages of *E. coli* isolates sensitive and resistant to piperacillin. The standard deviation is presented as a highlighted area. (b) The difference spectrum is calculated as average resistant minus average sensitive spectra.

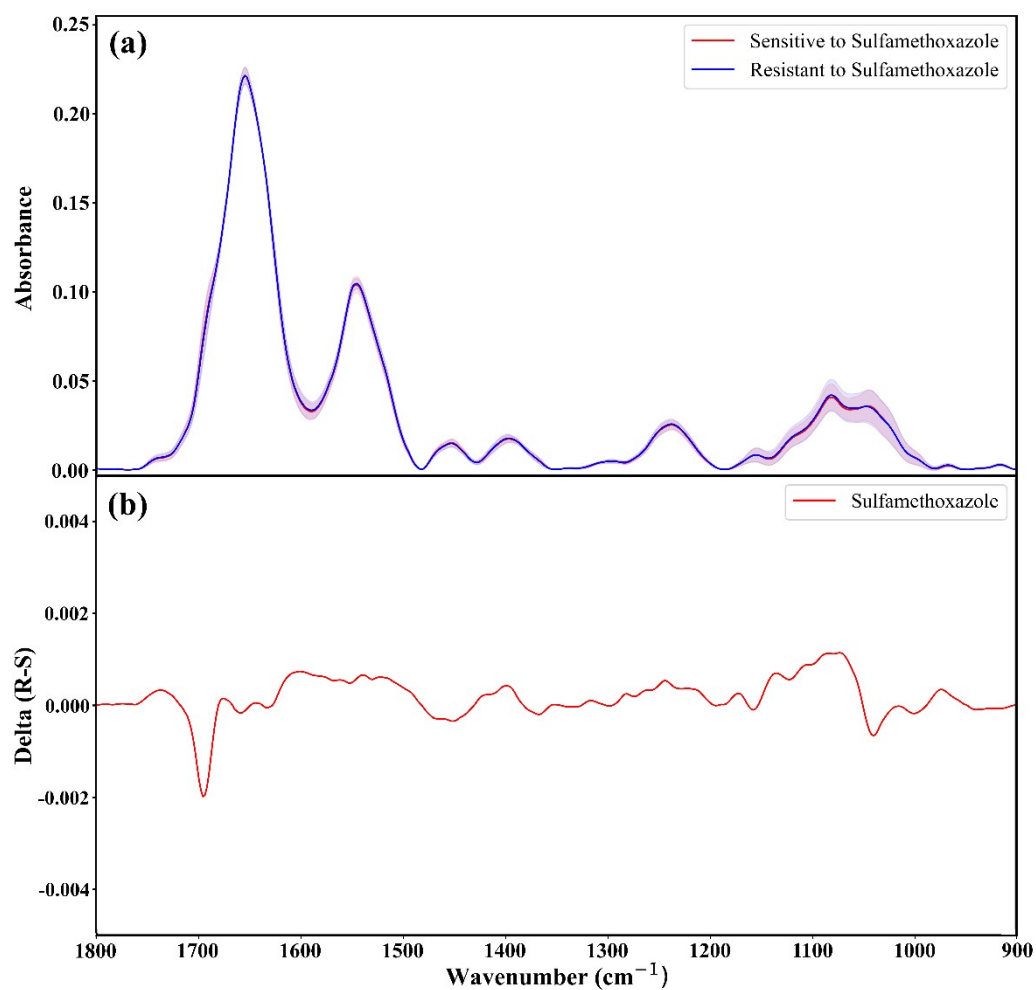


Figure S4: (a) The averages of *E. coli* isolates sensitive and resistant to sulfamethoxazole. The standard deviation is presented as a highlighted area. (b) The difference spectrum is calculated as average resistant minus average sensitive spectra.