

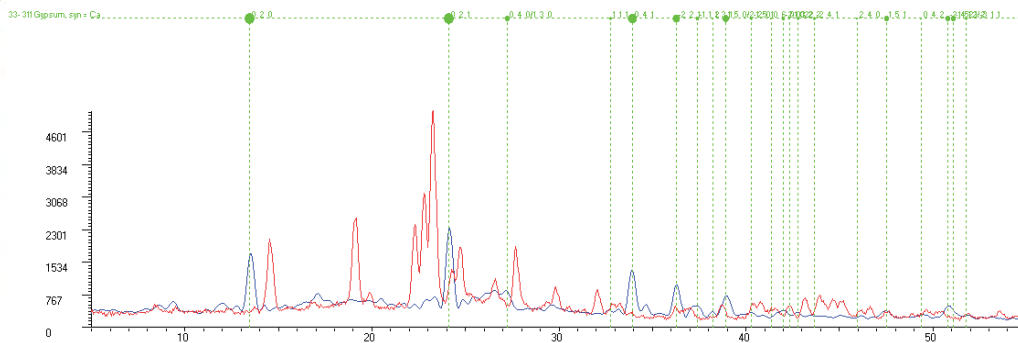
Terra Application Summary

Phase Identification and quantification of counterfeit pharmaceuticals

Recent advancements in the field of X-ray Diffraction now make it possible to easily perform a rapid identification and quantification of counterfeit pharmaceutical materials. As with most pharmaceutical materials, a unique x-ray diffraction pattern is presented for the active ingredient. Thus, a counterfeit material is easily and readily identified by not on the lack of the active ingredient x-ray diffraction pattern, but also the identification of the substitute material.



Counterfeit pharmaceuticals are packaged and presented in a convincing manner. The above shows both the container as well as the individual pill analyzed below



The red pattern represents the genuine sample, while the blue pattern shows the counterfeit material. The major peaks in the blue sample are the peaks associated with gypsum.

A slightly more complex counterfeit sample is presented below. In this case, the genuine material (Viagra) is represented in red, while the counterfeit sample, in blue, shows the presence of three "filler" minerals, gypsum, bassinite, and Dolomite ($MgCO_3$)

