

XRD Analysis Results



Clay lamp

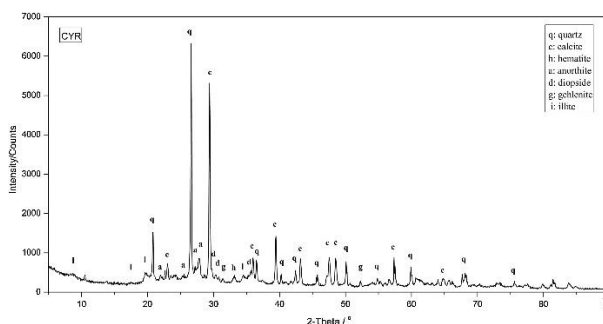
The SciArt Project
2024

Results Report

Point of Interest 1: Main body of the lamp

This is the XRD pattern of the main body of the lamp.

The analysis of the XRD pattern confirms the presence of quartz (SiO_2), calcite (CaCO_3), and hematite (Fe_2O_3), and additionally indicates a minor presence of anorthite ($\text{CaAl}_2\text{Si}_2\text{O}_8$), diopside ($\text{CaMgSi}_2\text{O}_6$), gehlenite ($\text{Ca}_2\text{Al}(\text{AlSi})\text{O}_7$) and illite ($(\text{K H}_3\text{O}) \cdot (\text{Al, Mg, Fe})_2 \cdot (\text{Si Al})_4 \cdot \text{O}_{10} \cdot [(\text{OH})_2 (\text{H}_2\text{O})]$). All these are common components of ceramics and explain the heterogeneity and multicolored grains of the lamp observed under the optical and electron microscopes.



Point of Interest 2: Residues on the spout of the lamp

This is the XRD pattern of the residues we collected from the lamp's spout.

The analysis of the pattern does not lead to any conclusion other than it is likely an organic material.

