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Obosomase clay review: Practical implications

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Obosomase is a town, found in the Eastern part of Ghana, known for its rich history and cultural background. This town is among the numerous archaeological sites in Ghana, where scientists study, to know more about ancient culture. Materials whether naturally occurring or synthetic, have various chemical, mechanical and electrical properties. Clay is naturally occurring and has adsorptive and healing properties which are beneficial to society, although it is mostly modified when conducting scientific experiments. Thus, clay from this town is mostly used in pottery, medicine, ovens, and toys. Analysis of clay for biomedical applications is under-exploited in this town. Moreover, apart from the shrine, which is the main focus of scientists, due to its well-maintained relics, other areas of the town are not taken into consideration when conducting experiments. In this study, we report the treatment of samples to explore the composites and biophysical properties. Five clay samples were obtained from Obosomase; treated with methanol and then ethanol to aid with the separation of bioactive compounds. The resulting extracts were then analysed under a ultra-violet spectrophotometry. Further analysis was also performed by using cyclic voltammetry to study the redox chemistry of the bioactive compounds, present in the extracts. The materials possessed ultra-violet responsive molecules and showed sufficient electrochemical behaviour, which may be due to the increasing signaling pathways of the reactive species present in the extracts. Thus, clay extracts from Obosomase could be further analysed and used in several biomedical applications.

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