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Adsorptive property of Ag, Au and MoS_2 Nanoparticles

Sheu Sikirat Kehinde
University of York, UK

The rapid growth of the population and the demand for hygienic food causes foodborne contaminants worldwide. There are certain nations still failing to supply essential clean and nutrient-rich foods due to economic and political reasons; resulting in many food contaminations. It is well accepted that the presence of contaminants in the food is responsible for many foodborne illnesses, this occurs due to poor food processing practices and usage of many fertilizers during the cultivation. In recent days there is well advanced and highly precise instrumentation available to identify the species responsible for foodborne contaminants. However, it is not affordable for all people. In the majority of cases, the peoples from underdeveloped nations still suffer to identify foodborne contaminants which are mainly heavy metals. The adsorption of toxic heavy metals is important and one of the challenges facing the global world. The metal ion poses an acute health risk to human beings and aquatic animals because of its toxicity both at lower and higher doses. The adsorption of heavy metal on the surface of solids seems to be an effective and efficient method for heavy metal removal, adsorption process is a physiochemical process that requires the use of solids, liquid, and gas as an adsorbent for the removal of heavy metal. Activated carbon sounds to be an effective and efficient adsorbent, however, the regeneration and recovery rate is low. This research focus on the synthesis of nanoparticles based on Ag, Au, and MoS2 as the metal precursor as an adsorbent for the removal of cadmium and lead from the aqueous solution which is considered to be environmentally safe. Cadmium and lead are structural elements that exist as metals or dissolved metal salts. However, the rapid, inexpensive adsorbent reported in this work will be the best alternative method to heavy metal removal.

Recent Publications

1. Sikirat Kehinde Sheu, et. al,(2022) Molecular modelling and structure-activity relationship of a natural derivative of o-hydroxybenzoate as a potent inhibitor of dual NSP3 and NSP12 of SARS-CoV-2: in silico study, J Biomol Struct Dyn, Jan 17;1-19.

Biography

Sikirat Kehinde Sheu is a Ph.D. graduate of the University of York, United Kingdom. She has completed her Master's degree at the University of Ilorin, Kwara State Nigeria. She has participated in various conferences and conventions.

sikiratsheu7@gmail.com