

Studies on the inhibitions bioactive compounds from *sargassaceae myriocystum* to water treatment and purification

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ABSTRACT

Heavy metals pollution of drinking water has become one of the most serious problems due to their sever toxicities to human body. In this study, the adsorption of heavy metals from contaminated water using *sargassaceae myriocystum* and its activated carbon was investigated. Further, *sargassaceae myriocystum* was pre-treated with sulfuric acid, calcium chloride and magnesium chloride and tested for its ability to remove various heavy metals from contaminated water. *sargassaceae myriocystum* gave better uptake of chromium compared with calcium and magnesium treatments. The impact of different parameters such as initial metal ions concentration, contact time, adsorbent dose and pH on the removal were evaluated. *sargassaceae myriocystum* with activated carbon was found to be the highest efficient column capable to remove 100% of heavy metals from drinking water samples. Thus, this column is considered as an efficient and cheap biotechnology for removing the heavy metals in drinking water treatment plants. Freundlich and Langmuir adsorption isotherm models were used to describe the biosorption of heavy metals by *sargassaceae myriocystum*

Keywords: *sargassaceae myriocystum*, heavy metals, bioactive compounds, water treatment, activated caobon

