

Title : Extraction of fulvic acid from Mae Moh humic acid using hydrogen peroxide oxidation.

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This study aimed to extract fulvic acid from humic acid obtained from Mae Moh mine samples using hydrogen peroxide as an oxidizing agent to enhance extraction efficiency. Fulvic acid is an important organic compound with potential applications in environmental and industrial fields. In this work, hydrogen peroxide was used to oxidize humic acid to improve the release and extraction of fulvic acid. The effects of key parameters, including pH, hydrogen peroxide volume, and reaction time, were investigated to determine the optimal conditions for extraction.

The results showed that the use of hydrogen peroxide significantly improved extraction efficiency compared to the method without hydrogen peroxide. The optimal conditions were 10 mL of hydrogen peroxide at pH 2, temperature of 40°C, and reaction time of 7 hours, which provided the highest yield of 32.33% with acceptable precision. Compared to the method without hydrogen peroxide, the yield increased by approximately 1.5 times. These results demonstrate that hydrogen peroxide is an effective oxidizing agent for fulvic acid extraction and that this method has strong potential for further applications in environmental and industrial processes.