

green leaves, neither pigment was detected by HPLC. This result showed that increases in the intensity of anthocyanin metabolites in Donghuaxiacao. However, the exact individual anthocyanins were not identified.

These results encouraged us to identify the exact individual anthocyanins and isolate the genes involved in anthocyanin metabolism from purple leaves of Donghuaxiacao in the future.

References

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3 - 54 Study on Cd^{2+} -resistant and Adsorption Capacity of a Bacterium Mutated by Heavy Ions

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Heavy metal pollution is a serious environmental problem in recent years. Besides the toxic and harmful effects to organisms living in water, heavy metals also accumulate throughout the food chain and may affect human beings. The traditional method for removing heavy metals, such as ion exchange, chemical precipitation, reverse osmosis, evaporation, membrane filtration, suffer from some drawbacks, high capital and operational cost or the disposal of the residual metal sludge. An emerging and attractive method, biosorption involves sorption of dissolved substances by a biomaterial, of which advantages is low operating cost, short operation time, and no production of secondary compounds which might be toxic^[1].

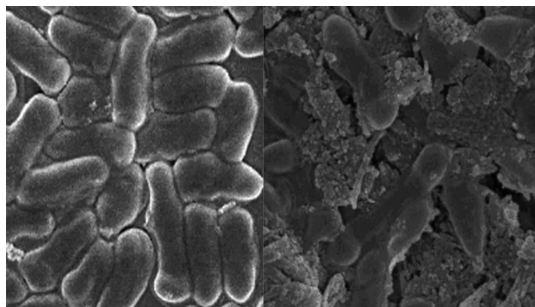


Fig. 1 Scanning Electron Microscopy (SEM) of C2 cultivated on the concentration of Cd^{2+} was 0 and 100 mg/L ($\times 10^4$).

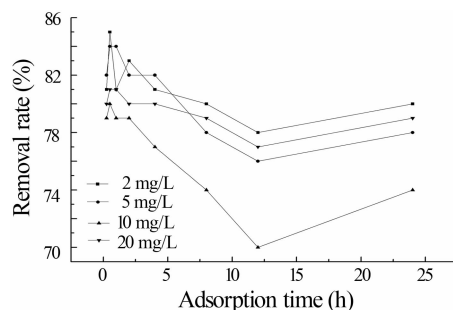


Fig. 2 Effect of Cd^{2+} concentration on the biosorption efficacy of the bacteria powder.

A bacterial strain C2 isolated from sludge was mutated by heavy ion beams, which was tolerated with Cd^{2+} . C2 was able to grow on Cd^{2+} concentration ≤ 100 mg/L, while the growth was inhibited with the Cd^{2+} concentration increased and a part of bacteria reshaped. Scanning Electron Microscopy (SEM) of C2 indicated that the extracellular products were produced by the microorganism, which could combine with Cd^{2+} formed complex, to maintain growth environment of C2 appropriate.

Research showed that bacteria powder of C2 could be used as biosorbent for the removal of Cd^{2+} from aqueous solution and the adsorption capacity of bacteria powder was good. when the concentration of Cd^{2+} increased from 2 to 20 mg/L and the oncentration of bacteria powder was 1.0 g/L, the removal rate of Cd^{2+} reached 90% by the bacteria powder and the optimum adsorption time was approximately 30 min.

Reference

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