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Spectroscopic characteristics of dissolved organic matter from aquaculture wastewater and its interaction mechanism to chlorinated phenol compound

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Abstract

In present study, the characteristics of dissolved organic matter (DOM) from aquaculture wastewater and its interaction to 4-chlorophenol (4-CP) was evaluated via a spectroscopic approach. According to EEM-PARAFAC analysis, two components were derived from the interaction samples between DOM and 4-CP, including humic-like and fulvic-like substances for component 1 and protein-like substances for component 2, respectively. The fluorescence intensity scores of two PARAFAC-derived components decreased with increasing 4-CP concentration. Synchronous fluorescence coupled to two-dimensional correlation spectroscopy (2D-COS) implied that DOM fractions quenched different degrees and occurred in the order of fulvic-like and humic-like fractions > protein-like fraction. Moreover, the

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