Article

Binding of Calcium and Magnesium Ions to Terrestrial Chromophoric Dissolved Organic Matter (CDOM): A Combination of Steady-State and Time-Resolved Fluorescence Study

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SUPPORTTING INFORMATION

Figure S1. Absorption spectra of ESHA and PPHA (10 mg C/L) in the presence of Mg^{2+} and Ca^{2+}.

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Figure S2. Effects of Ca^{2+} and Mg^{2+} on the hydrodynamic size of ESHA (60 mg C/L) and PPHA (100 mg C/L) aqueous solution (pH 7.5).

Figure S3. The ratio of fluorescence intensity in the presence of Cl^- (F_{Cl}) or SO_4^{2-} (F_{SO4}) to the fluorescence intensity in the absence of anionic ions (F).

Figure S4. Effects of Mg^{2+} and Ca^{2+} on the EEM spectra of PPHA (10 mg C/L) aqueous solution.

Figure S5. Effects of Mg^{2+} and Ca^{2+} on the steady-state fluorescence spectra of PPHA (10 mg C/L) aqueous solution at excitation of 375, 440, and 550 nm.

Figure S6. Effects of Mg^{2+} (10 mg/L) and Ca^{2+} (10 mg/L) on the time-resolved fluorescence spectra of PPHA (10 mg C/L) aqueous solution at excitation of 375 and 440 nm.

Figure S7. Lifetime distributions for emission decays of PPHA (10 mg C/L) aqueous solution at excitation of 375 and 440 nm, Mg^{2+} (10 mg/L) and Ca^{2+} (10 mg/L).

Figure S8. Effects of Mg^{2+} and Ca^{2+} concentrations on the lifetime distributions for emission decays of PPHA (10 mg C/L) aqueous solution at excitation of 375 nm.

Figure S9. Effects of excitation and emission wavelength on the fluorescence quenching of ESHA (10 mg C/L) aqueous solution by Mg^{2+}, Ca^{2+}, and Cu^{2+}.