WHAT IS CLAIMED IS:

1. A computer-implemented method for controlling a water treatment process, comprising:

measuring a first fluorescence emission spectrum of a pre-process water sample over a predetermined wavelength range produced in response to an excitation wavelength;

integrating the first fluorescence emission spectrum over the predetermined wavelength range to generate a first integral;

normalizing the first integral of the first fluorescence emission spectrum to a predetermined peak value;

measuring a second fluorescence emission spectrum of a post-process water sample over the predetermined wavelength range produced in response to the excitation wavelength;

integrating the second fluorescence emission spectrum over the predetermined wavelength range to generate a second integral;

normalizing the second integral of the second fluorescence emission spectrum to the predetermined peak value;

comparing the first and second peak normalized integrals of the fluorescence emission spectra to determine a change in dissolved organic carbon (DOC); and

controlling the water treatment process based on the change in DOC.

2. The method of claim 1 wherein the excitation wavelength is about 254 nm.

3. The method of claim 2 wherein the predetermined wavelength range is from about 290 nm to about 600 nm.

4. The method of claim 1 wherein the pre-process water sample is obtained prior to a coagulation process, and the post-process water sample is obtained subsequent to the coagulation process.

5. The method of claim 1 wherein comparing comprises calculating a difference between the first and second peak normalized emission spectra.

6. The method of claim 1 wherein comparing includes determining a difference between the normalized integrals of the first and second fluorescence emission spectra.

7. The method of claim 1 wherein comparing includes determining a shift in wavelength of a peak value for the normalized integrals of the first and second fluorescence emission spectra.