

## APPENDIX

### CDOM Analysis

Absorbance, fluorescence and NMR measurements were examined in detail for five rain events and a Cape Fear River water sample. Several samples had before and after irradiation data for comparison. NMR total integration values were analyzed for the rain and surface water samples (Table 9). The five rain events were highlighted in correlation figures (Figure 17). All of the rain data and Cape Fear River was organized based on their analytes (Table 10). EEM, before and after absorption, and NMR spectra of all the rain events and Cape Fear River were arranged together to organize all of the data discussed throughout the CDOM studies (Figures 18-26).

Table 9. Integrated regions (ppm) from before and after irradiation experiments of rain events and a surface water sample. CFR = Cape Fear River.

Integration	E411	E413 (before)	E413 (after)	E414 (before)	E414 (after)	E417	E451 (before)	E451 (after)	CFR (before)	CFR (after)
10 to 8.5	1.295	1.360	1.569	1.312	1.262	1.269	0.846	1.007	1.349	1.027
8.5 to 6.5	2.541	2.935	2.867	5.048	4.865	2.945	1.570	1.757	3.507	3.183
6.5 to 5	2.140	2.579	2.808	2.242	2.181	1.823	2.451	2.686	3.260	2.972
5 to 4	3.028	3.455	3.684	3.245	3.334	2.878	3.311	3.252	4.971	4.971
4 to 3	5.786	4.238	4.004	3.288	3.245	3.894	2.850	2.653	4.326	4.640
3 to 2.1	4.506	8.091	7.070	5.548	5.694	4.834	4.124	3.511	7.514	8.690
2.1 to 0.100	21.06	26.97	22.31	42.49	38.99	20.67	12.96	9.149	23.41	25.92
Total Integration	40.35	49.62	44.31	63.18	59.58	38.31	28.12	24.02	48.34	51.40