# Kinetics and Mechanism of the Oxidation of Coomassie Brilliant Blue-R dye by Hypochlorite and Role of Acid there in.

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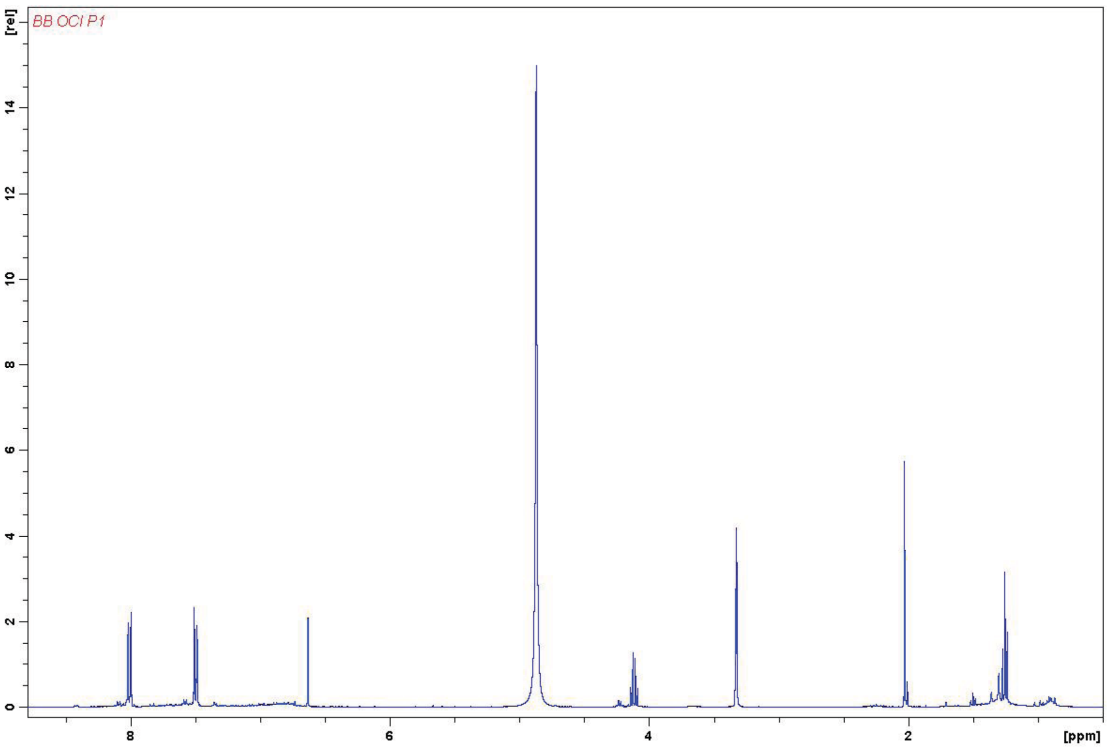


Figure S1. 1H NMR spectrum for brilliant blue-R major oxidation product $P_1$ (4-(4-ethoxyphenylamino)-benzoic acid ) with hypochlorite.

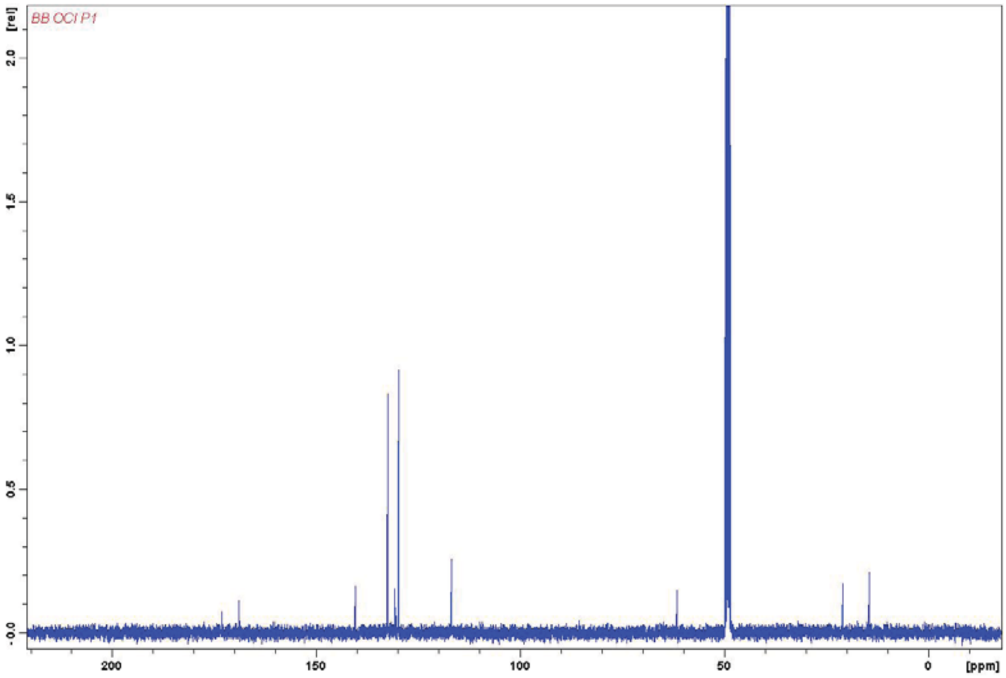


Figure S2. $^{13}C$ NMR spectrum for brilliant blue-R major oxidation product $P_1$ (4-(4-ethoxyphenylamino)-benzoic acid) with hypochlorite.

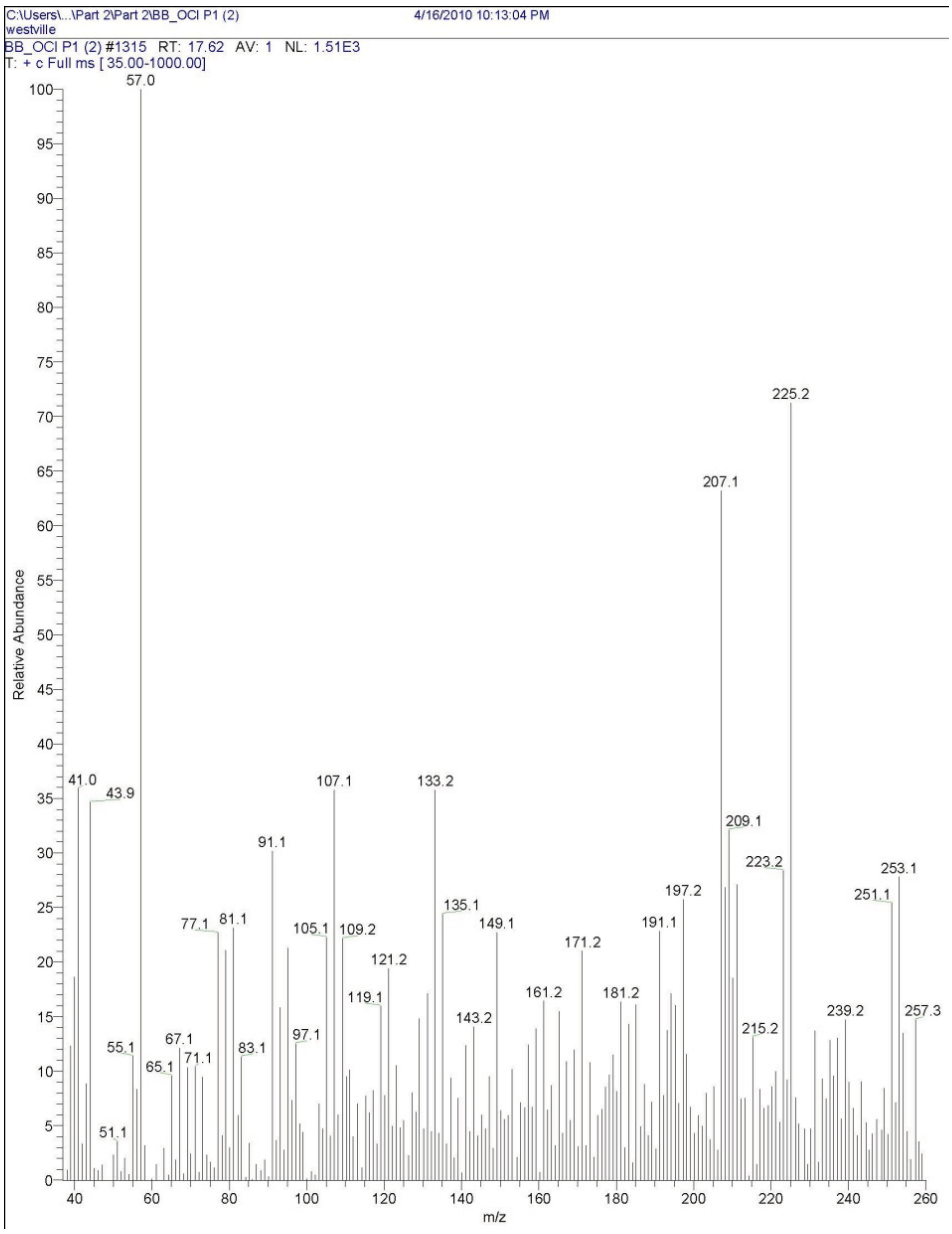


Figure S3. GC-MS spectrum for brilliant blue-R major oxidation product ($P_1$ (4-(4-ethoxyphenylamino)-benzoic acid) with hypochlorite.

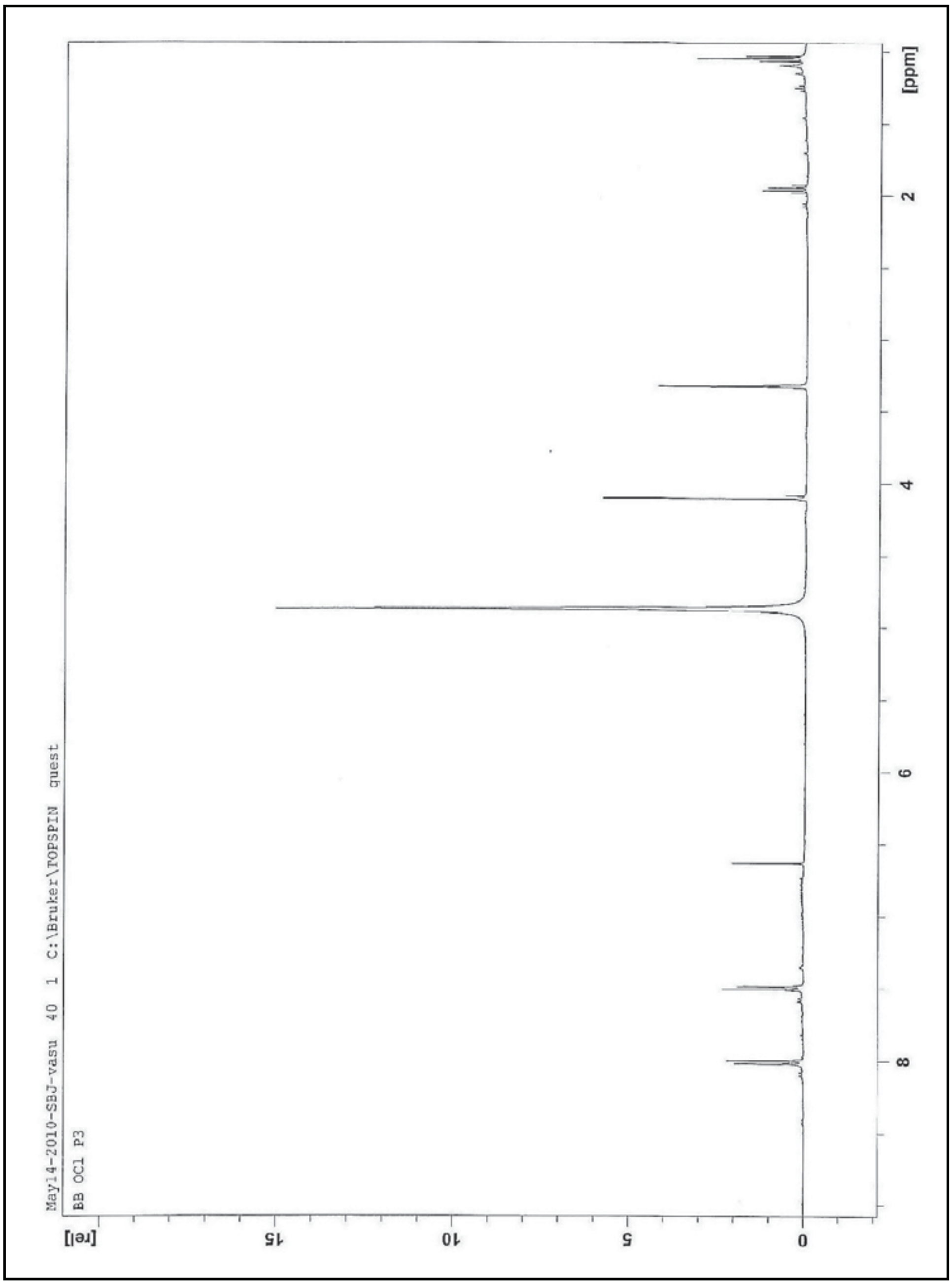


Figure S4. $^{1}H$ NMRspectrum for brilliant blue-R major oxidation product $P_2$ (3- ethylaminomethylbenzenesulphonic acid) with hypochlorite.

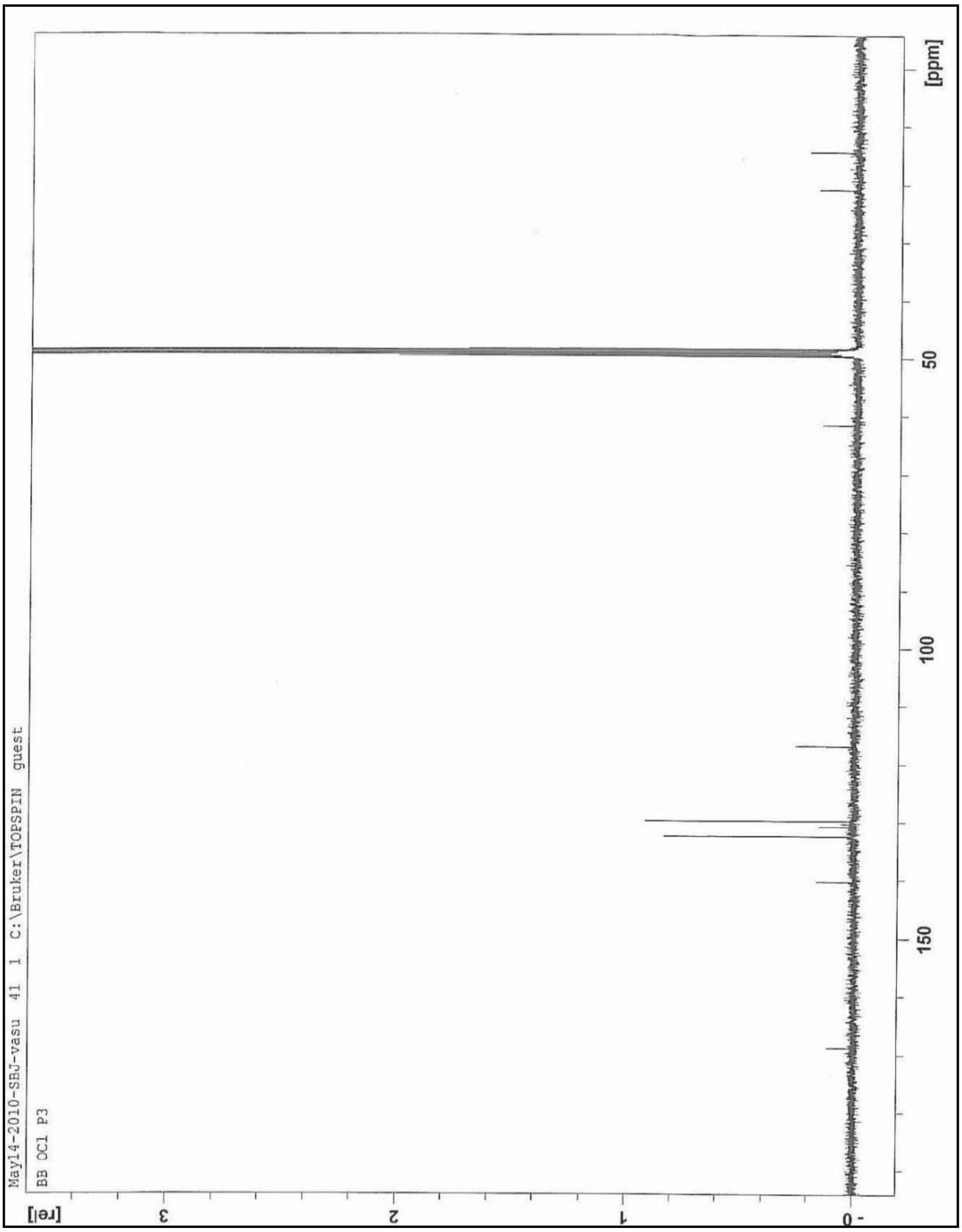


Figure S5. $^{13}$C NMR spectrum for brilliant blue-R major oxidation product $P_2$(3- ethylamino methyl benzenesulphonic acid) with hypochlorite.

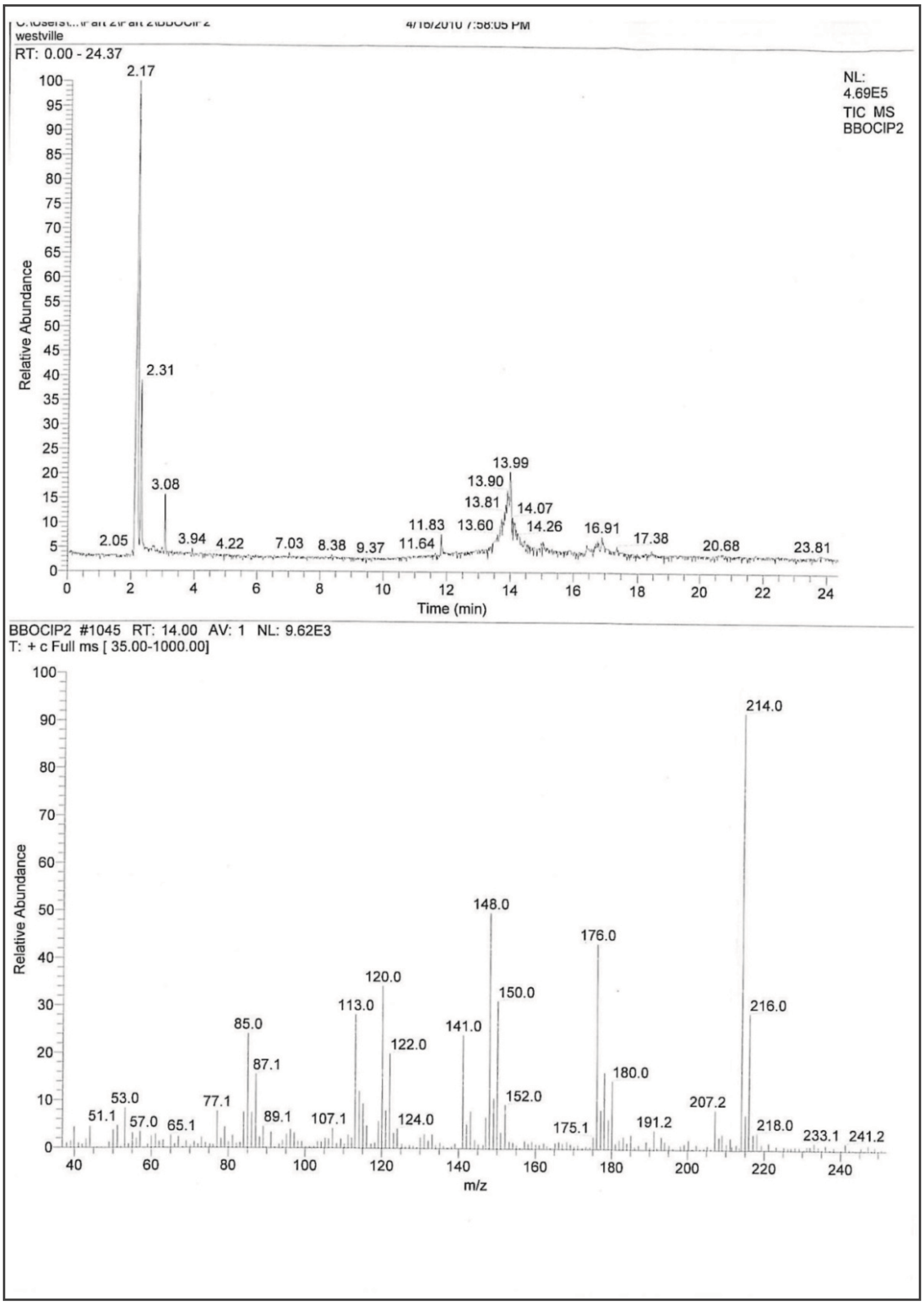


Figure S6. GC-MS spectrum for brilliant blue-R major oxidation product$P_2$(3-ethylaminomethylbenzenesulphonic acid) with hypochlorite.

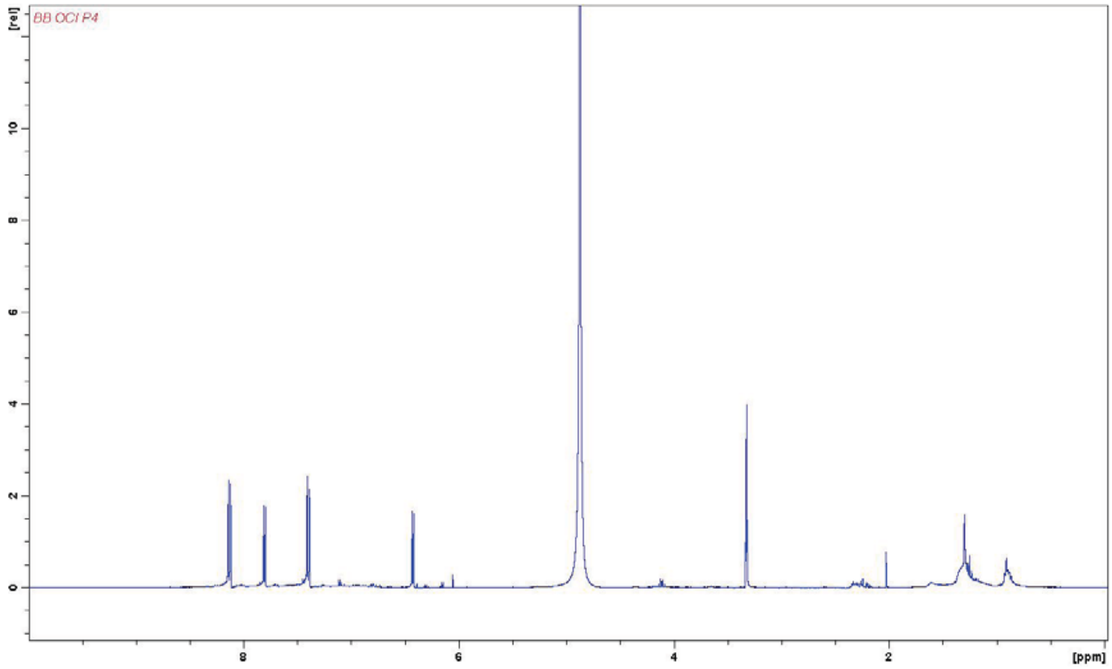


Figure S7. $^{1}H$ NMR spectrum of brilliant blue-R major oxidation product $P_4$ (6'-chloro-5'-hydroxy-bicyclohexylidene-2,5,2'-triene-4,4'-dione) with hypochlorite.

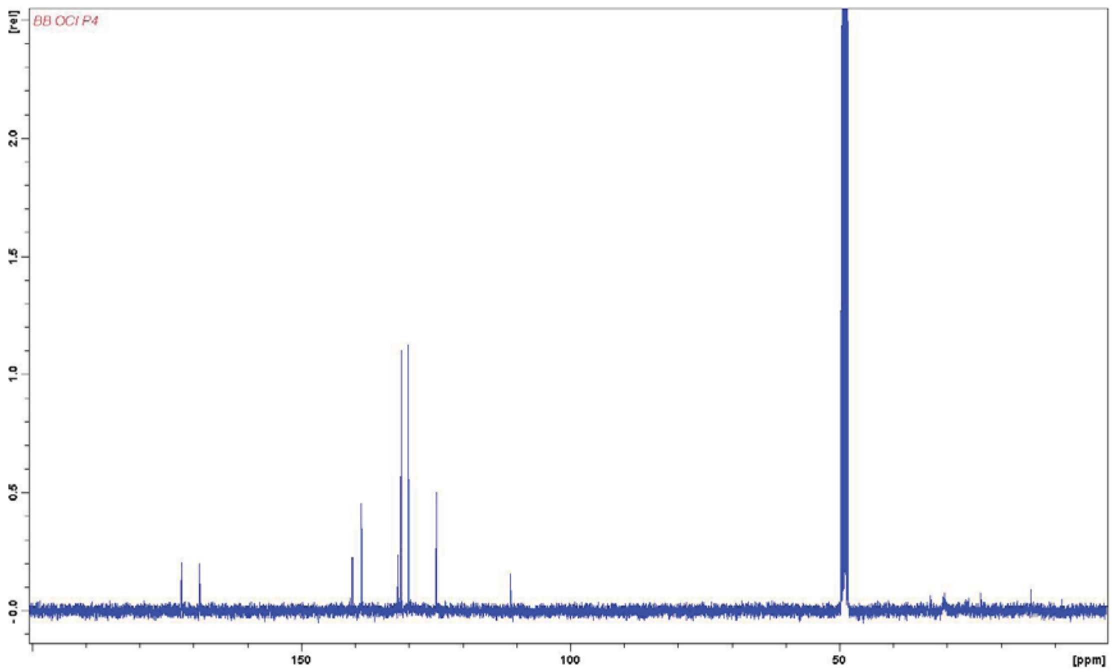


Figure S8$^{13}C$ NMR spectrum of brilliant blue-R major oxidation product $P_4$ (6'-chloro-5'-hydroxy-bicyclohexylidene-2,5,2'-triene-4,4'-dione) with hypochlorite.

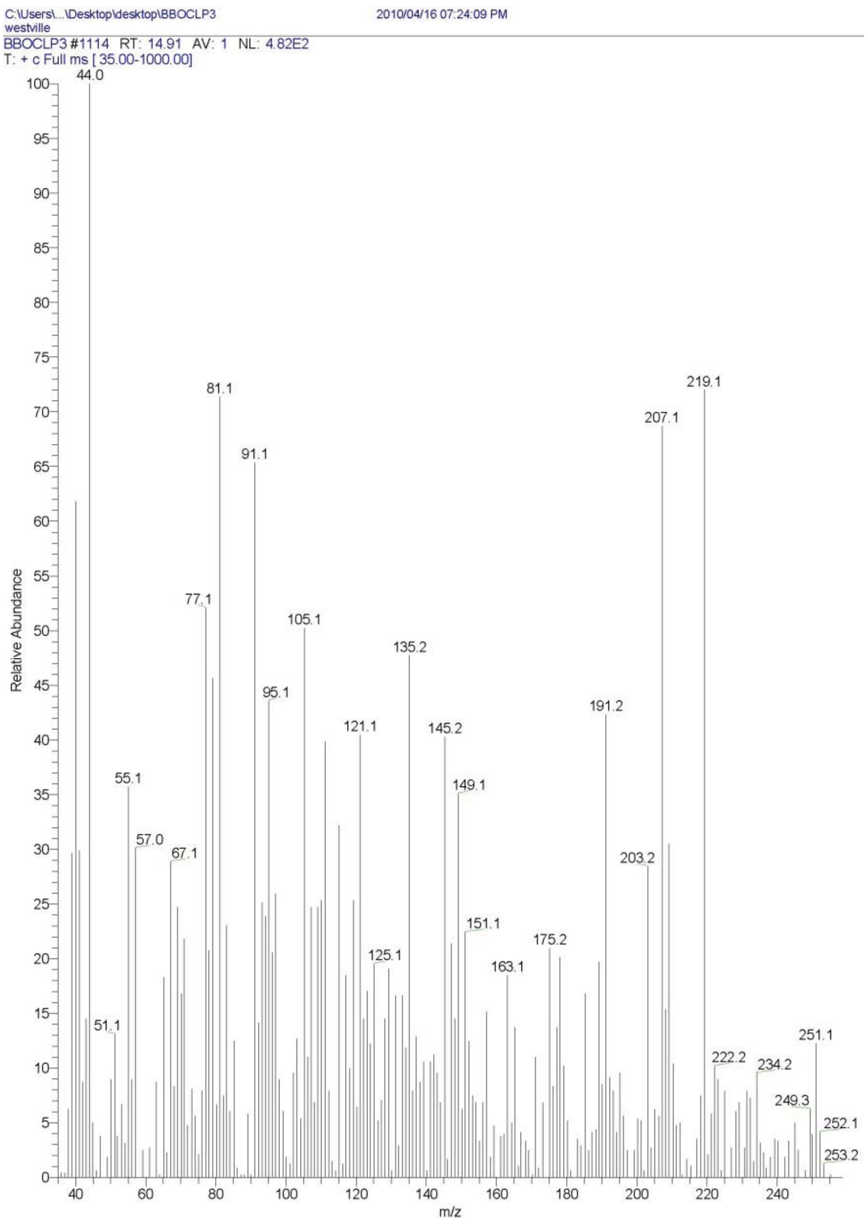


Figure S9. GC-MS spectrum of brilliant blue-R major oxidation product $P_4$ (6'-chloro-5'-hydroxy-bicyclohexylidene-2,5,2'-triene-4,4'-dione) with hypochlorite.