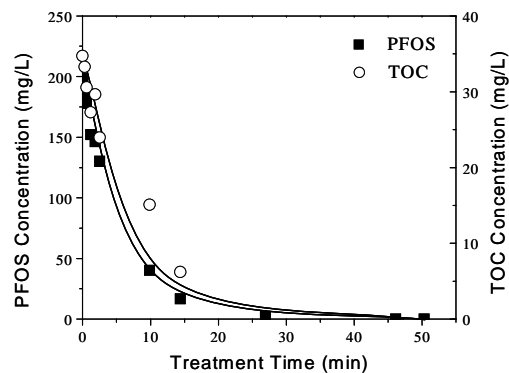
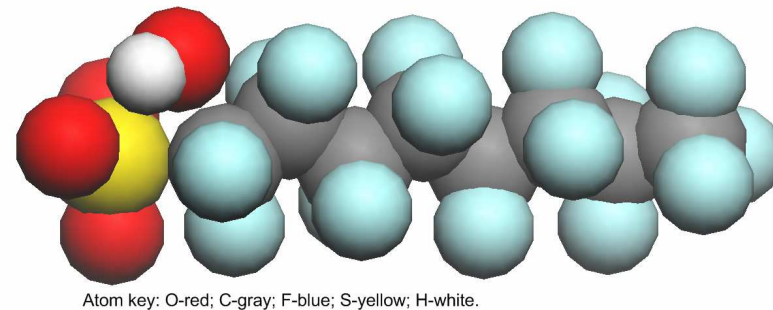


Perfluorooctyl sulfonate (PFOS) can be rapidly oxidized at boron doped diamond electrodes.

PFOS & TOC concentrations as a function of treatment time for the flow-cell operated at a current density of 15 mA/cm².



Transition state structure for oxidation of perfluorooctyl sulfonate by a hydroxyl radical.



PFOS and total organic carbon (TOC) concentrations as a function of treatment time in a flow-through reactor operated at a current density of 15 mA/cm². The similar removal rates for PFOS & TOC and the absence of organic reaction products in the solution indicate that PFOS was completely mineralized in one interaction with the electrode surface. This demonstrates that boron doped diamond film electrodes are capable of oxidizing organic compounds that are unreactive towards oxidation by hydrogen peroxide based advanced oxidation processes.