Reviewer’s comments are in bold font and the author’s responses are in normal font. Line numbers have been provided for the changes made.

**Comment #1**

**There are parts of text that are not really needed, which belong more to a text-book than a professional journal. The authors should scrutinously go through the whole text and eliminate parts that are not directly relevant to the points of the manuscript.**

Answer: We went carefully through the text and we believe that we managed to eliminate parts that are not related to the main points of the manuscript. These examples are shown below with specified line numbers and the sentences that were preceded:

Line 82 (in editor version): … also in industrial and environmental settings.[6](#_ENREF_6)

Deleted text:

Nevertheless, one of the most famous cases of bioterrorism is related to sporulating species of *Bacillus anthraces*, when anthrax-laden letters had caused 22 cases of anthrax and 5 deaths, mostly among postal workers and mail handlers in USA.

Line 91 (in editor version): …large dose to cause infection of harm.[7](#_ENREF_7)

Deleted text:

The difficulty faced in decontaminating the environment from biological weapons agents can be illustrated by the story of Gruinard Island. Anthrax spores were used in 1942 for the deliberate contamination of the Gruinard Island, in UK, and they survived in the soil for almost half century of quarantine. Initial efforts to decontaminate the island after the biological warfare trials failed due to the high durability of anthrax spores. Gruinard Island was finally decontaminated in 1986 with 280tons of formaldehyde diluted in seawater being sprayed over all 196 hectares of the island and the worst-contaminated top soil around the dispersal site being physically removed. It is clear that development of noncorrosive, cost-effective, environmentally acceptable, and broad-spectrum antimicrobial formulations is necessary.

Line 320 (in editor version): …in The United States Armed Forces.[23](#_ENREF_23)

Deleted text:

The application of some decontamination solutions is not related to production of any toxic by-products. One example is formulation that consists of a peroxide source, a peroxide activator, a sorbent material or gel and a compound containing a mixture of different potassium salts. The formulation is self-decontaminating and once dried can easily be wiped from the surface being decontaminated. Lawson et al. developed a single phase emulsion for chemical and biological warfare decontaminations that is stable and effective over a broad range of temperatures, ranging from -15 to 60 °C, containing peroxycarboxylic acids generated from solids as the primary decontamination agent.

**Comment #2**

**More importantly, JSCS is a chemistry journal. The manuscript should include at least some chemical decontamination effects of the decontaminant – with experimental data preferably - or at least mentioned and explained. This is not a large request, but is a needed link to the chemistry audience.**

Answer: In order to make our manuscript more attractive to chemistry audience we included two parts. In the first part we mentioned the activity of ED-1 emulsion in chemical decontamination and in the second part we explained the principle of biological decontamination using disinfectants with hypochlorous acid as active moiety. These parts are shown below with specified line numbers and preceding sentences:

Line 212 (in editor version): …its efficiency in chemical and radiological decontamination.

Inserted text:

More specifically, ED-1 showed efficient decontamination activity on metal surfaces contaminated with nerve agents (S-Yperite or Mustard gas (C4H8Cl2S: 1-Chloro-2-[(2-chloroethyl)sulfanyl]ethane), Soman (C7H16FO2P: 3,3-Dimethylbutan-2-yl methylphosphonofluoridate) and VX (C11H26NO2PS: Ethyl ({2-[bis(propan-2-yl)amino]ethyl}sulfanyl)(methyl)phosphinate) and uranium isotopes, respectively. The main decontamination component was Ca(ClO)2, known to release active chlorine, reactive species with chlorinating, oxidizing and catalytic activity.

Line 320 (in editor version): …in The United States Armed Forces.

Inserted text:

These disinfectants are highly active oxidizing agents, with hypochlorous acid (HOCl) being the active moiety. At present, it can be summarized that the primary effect of HOCl is either or both (i) the oxidation of sulfhydryl groups of essential enzymes and antioxidants and (ii) deleterious effects on DNA synthesis. Also, increased level of reactive oxygen species (ROS) is detected under exposure to HOCl, contributing indirectly to its bactericidal effect[24](#_ENREF_24). If antioxidants are exhausted or the activities of these enzymes are once inactivated by HOCl, O2- and H2O2 would accumulate. On the other hand, free iron is found to be released from microbial iron centers, i.e., heme and non-heme iron proteins, during exposure to HOCl which leads to production of highly reactive •OH via the Fenton reaction. Thus, it is likely that the endogenously formed •OH is also responsible for the potent bactericidal activity of HOCl.