Physicochemical properties of air discharge-generated manganese oxide nanoparticles: Comparison to welding fumes

Larissa V. Stebounova, 1 Natalia I. Gonzalez-Pech, 2 Thomas M. Peters, 1,* Vicki H. Grassian 2,3,*

*Corresponding authors

1 Department of Occupational and Environmental Health, The University of Iowa, Iowa City, IA

2 Department of Chemistry and Biochemistry, University of California San Diego, La Jolla, CA

3 Scripps Institution of Oceanography and Department of Nanoengineering, University of California, La Jolla, CA

Supplementary Information: Supplemental Figure 1 – 3.
Supplementary Information

**Suppl. Figure 1.** Survey XPS spectra of fresh fume Mn (A), agglomerated Mn nanoparticles (B) and welding fume sample (C).
Suppl. Figure 2. High resolution XPS spectrum of N(1s) region of the welding fume sample.
Suppl. Figure 3. Characterization and dissolution studies of Mn₃O₄ nanocrystals. SEM images (A), XRD diffractograms (B) and dissolution studies (C) of single phase Mn₃O₄ (left) and mixed phase Mn oxide (right) nanomaterials used as standards. Simulated biological fluids used in dissolution studies: Gamble’s (blue) and ALF (brown), and in PBS (pH 7.4) (green) and pH 4.5 (red) buffers.