



Tailoring layered double hydroxide particles for catalytic, environmental and bio-applications

Szabolcs Muráth, Gábor Varga and István Szilágyi

University of Szeged, Hungary

Abstract

Layered double hydroxides (LDHs) are inorganic lamellar materials with anion exchange capacity in the interlamellar space. Their crystals tend to have a diameter in the 50-1000 nm range, and owing to their facile structural and surface modifications they possess a range of potential applications. In our research, we focus on i) surface area tuning for improved catalytic properties, ii) contaminant removal from environmental samples and iii) immobilization of molecular or enzymatic antioxidants to reduce oxidative stress. Structural modifications were realized by i)-ii) surfactant-LDH and nanotube-LDH interactions to increase specific surface area and iii) developing LDH with high polyphenol content to obtain antioxidant hybrid materials or anchoring enzymes with peroxide and superoxide decomposition ability for the complete neutralization of arbitrarily generated reaction oxygen species in human cells.

Biography

Szabolcs Muráth obtained his PhD degree in chemistry in 2018 from university of szeged, Hungary. As a research associate, his work revolves around nanomaterials with focus on antioxidant behavior and colloidal properties. to date, he co-authored 15 publications with over 100 citations.



[3rd Global Summit on Nanomaterials](#) | August 24-25, 2020

Citation: Wenwen Song, Novel nanostructured high strength steels for automotive lightweight applications, Nanomaterials Congress 2020, 3rd Global Summit on Nanomaterials, August 24-25, 2020 | Webinar, 06