

**CONTROL ID:** 2416627

**CURRENT TRACK:** S10 - BATTERIES AND ENERGY STORAGE

**CURRENT SYMPOSIUM:** Lithium batteries

**PRESENTATION TYPE:** Invited (by Invitation Only)

**TITLE:** An active Rock Salt compound for high energy density Li-ion batteries

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**ABSTRACT BODY:**

**Abstract Body:** The design of new materials that provide high energy densities and long cycle life together with being economic and environmental benign is crucial for the energy storage. Therefore, the soft chemistry used to prepare the original frameworks, new structures is in perfect appropriateness with such a target. We will discuss on our strategies to generate original framework showing ionic conductivity. Our approach is based on topotactic reactions starting from existing ionic conductors with a compact anionic framework. We will show that the lithium/sodium insertion leads to new rock salt type structure. The examples will be based on vanadium, titanium, molybdenum and manganese type oxides. Regarding the latter one, we will report for the first time the synthesis, structural and electrochemical characterizations of a new non-lamellar oxide based on manganese oxide with the highest capacity observed ever before in the Li-Mn-O system. This new patented material with a disordered rock salt structure shows a discharge capacity of 300 mAh/g. The structure-properties relationships are studied and the possibility to use these materials as electrode materials for power generation systems is discussed.

**KEYWORDS:** manganese oxides, cathodes, Li ion batteries .