



ISTITUTO ITALIANO  
DI TECNOLOGIA

#### TITLE

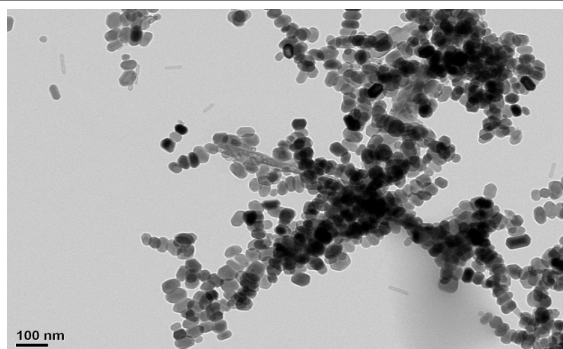
Shape control synthesis of Lithium Iron Phosphate nanocrystals via colloidal synthesis

#### INVENTORS

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#### DESCRIPTION

Lithium Iron Phosphate nanocrystals are synthesized by a colloidal method; this synthesis permits to control very efficiently the shape and the size of the crystals. The size of the nanoparticles is below 100 nm. These nanocrystals can be used as a cathode in Li-ion battery. The process of lithiation and delithiation could be easier respect to the past due to the small size of the crystals that lead to high surface/volume ratio.  $\text{LiFePO}_4$  is not a conductive material and it needs a carbon coating. Working with  $\text{LiFePO}_4$  NCs this step is no more necessary because the electrical conductivity is increased in the nanosized material.



#### APPLICATIONS

cathode material in Li-ion battery , all electronic portable devices makers

#### KEYWORDS

Lithium Iron Phosphate nanocrystals, colloidal synthesis, Li-ion battery

#### BIBLIOGRAPHIC DATA

Metodo Per L'Ottenimento Di Nanoemulsioni Ultrastabili

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