



Molecular Precursor Method for Lithium Ion Batteries using Thin-Film Materials

Guest Editor:

Dr. Hiroki Nagai

Department of Applied Physics,
School of Advanced Engineering,
Kogakuin University of
Technology and Engineering,
Tokyo, Japan

Deadline for manuscript
submissions:

closed (30 April 2019)

Message from the Guest Editor

In 1996, Prof. Mitsunobu Sato's work was focused on the thin film fabrication of various metal oxides and phosphate compounds using coating solutions, including stable metal complexes, which is called the molecular precursor method (MPM). The method is based on the preparation of precursor solutions involving anionic metal complexes and appropriate alkylammonium cation. The stability, homogeneity, miscibility, coatability and other characteristics of the precursor solutions, which can be used for various coating methods, are practically advantageous, in contrast to the conventional sol-gel method. The MPM represents a facile procedure for thin-film fabrication of various metal oxides or phosphates, which are useful as electron and/or ion conductors, and semiconductors such as In_2O_3 , ZnO , LiCoO_2 , $\text{Li}_4\text{Ti}_5\text{O}_{12}$, TiO_2 , and Cu_2O . The MPM is used to develop many functional materials by surface modification of various substrates such as glasses, metals and ceramics, through chemical fabrication of thin films. One of the advantages of this method is its low-cost, due to the chemical process used which saves both resource and production energy...





an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Karim Zaghib

Department of Chemical and
Materials Engineering, Concordia
University, Montréal, QC H3G
1M8, Canada

Message from the Editor-in-Chief

Take the opportunity to publish your original scientific work or a review paper concerning battery materials, battery technology or battery application within this new open access journal. Along with material science, the journal also addresses engineering and multidisciplinary research topics, such as cell and system design or storage system integration. Publishing proffers visibility for the benefit of other experts and facilitates discussion of the research results within the field. You are invited to publish your work, read published papers and to participate in topical discussions.

Author Benefits

Open Access:— free for readers, with [article processing charges \(APC\)](#) paid by authors or their institutions.

High Visibility: indexed within [Scopus](#), [SCIE \(Web of Science\)](#), [Inspec](#), [Ei Compendex](#), [CAPlus / SciFinder](#), and [other databases](#).

Journal Rank: JCR - Q2 (Electrochemistry) / CiteScore - Q2 (Electrical and Electronic Engineering)

Contact Us

Batteries Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/batteries
batteries@mdpi.com
[X@batteriesmdpi](https://twitter.com/batteriesmdpi)