

CELEBRATING
COMMERCIALISATION
YEAR 2014

iiindex 2014

AN INTERNATIONAL EXPOSITION ON RESEARCH AND INNOVATION

invention
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exposition 2014

INNOVATEUR
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2014

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UNIVERSITI TEKNOLOGI MARA
MALAYSIA

*Bridging
the valley of death :
advancing the
commercialisation
of research*

RESEARCH BOOK

iiindex2014

AN INTERNATIONAL EXPOSITION ON RESEARCH AND INNOVATION

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FOREWORD

The Honourable Minister of Science, Technology and Innovation (MOSTI) has launched 2014 as Malaysia Commercialisation Year 2014 (MCY2014) with the theme Science Technology and Innovation (STI) for Wealth Creation. In line with this theme, Invention, Innovation, Design & Exposition 2014 (iidex2014) is an annual exposition organized by UiTM and is the ultimate platform to highlight and commercialise new inventions and innovations. Researchers and inventors will exhibit their products which cater to the needs and wants of the community and the country.

The iidex2014 creates a new dimension by fusing two competitive concepts, a competition among innovative products and a competition to invite Innovateur Wannabes to perform live pitching of their products to the audience. The iidex2014 focuses on comprehensive commercialization and creating opportunities for entrepreneurs to carry out R&D as well as to provide avenue to commercialise their products. Through expositions such as iidex2014, MOSTI hopes to inculcate the culture of commercialisation of new technology designed and created by Malaysians.

I wish to congratulate all the participants of the iidex2014 and this is the opportunity for all researchers to show their ideas and exhibits their products and creativity. Apart from showcasing their products, innovators will have the opportunity to provide a window to the industry for business matching during the exposition.

Tan Sri Dato' Sri Sallehuddin Mohamed
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ORGANIC-INORGANIC LAYERED DOUBLE HYDROXIDE ADSORBENT

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The present invention relates to the use of double layered hydroxides as an adsorbent and more particularly to a method of intercalating organic acid of tartaric acid onto the layered double hydroxide (LDH) layers through co-precipitation method. LDHs are layered solid having positively charged layers and interlayer charge compensating anions. Various anions can be intercalated between the positively charged layers of layered double hydroxide. Thus, a complex obtained by intercalation of negatively charged tartrate anion and the hydroxide layers of LDHs which can be used as an adsorbent. The present invention also relates to the hybridization of organic and inorganic nano composite. LDH that was used as an adsorbent is an inorganic solid compound and is applied in various fields. In the present invention, the purpose of LDH is to become a host for tartrate anion and the metal composition and particle shape must be controlled. Such control belongs to a nanotechnology since it requires a microscale and nanoscale particle control. Also for the intercalation of tartrate anion into LDH, the interaction between the anion and the LDH is to be controlled. Therefore, the present product is a novel technology that can be accomplished by incorporating nanotechnology which has potential to be used in water industry.