Cover of the Month

Mimori SHIOHARA, Toshihiro ISobe, Sachiko MATSUSHITA and Akira NAKAJIMA, Department of Materials Science and Engineering, School of Materials and Chemical Technology, Tokyo Institute of Technology.

“Crystal face dependence of the decomposition of 2-naphthol in water under dark condition by rutile modified with MnOx,” Vol. 126, No. 10, p. 737–742

The cover presents a TEM photograph and a schematic illustration of MnOx-modified rutile particles. This material possesses decomposition activity on 2-naphthol in the dark and under visible light. The dark activity depends on the crystal faces of rutile.

CONTENTS

Feature: The 56th Symposium on Basic Science of Ceramics

◆ Preface ◆

P10-1

◆ Full papers ◆

Crystal face dependence of the decomposition of 2-naphthol in water under dark condition by rutile modified with MnOx

Mimori SHIOHARA, Toshihiro ISobe, Sachiko MATSUSHITA and Akira NAKAJIMA

737

This article is selected for the front cover.

Phase transitions of Sm3NbO7, (Sm1−xLnx)3NbO7 (Ln = Nd, Eu) and Sm3TaO7 with fluorite-related structure

Yukio HINATSU and Yoshihiro DOI

743

Sensitivity enhancement of catalytic combustion-type CO gas sensor using an artificial diamond with Pt-loaded CeO2–ZrO2–ZnO based catalyst

Pattaraphon RODLAMUL, Shinji TAMURA and Nobuhito IMANAKA

750
Auger-free luminescence characteristics of Rb$_{1-x}$Cs$_x$CaCl$_3$
Keisuke TAKAHASHI, Masanori KOSHIMIZU, Yutaka FUJIMOTO, Takayuki YANAGIDA and Keisuke ASAI
755

Novel Br$^-$ ion conducting solid electrolyte based on LaOBr
Muhammad Radzi Iqbal Bin MISRAN, Naoyoshi NUNOTANI, Shinji TAMURA and Nobuhito IMANAKA
761

Reforming of biogas through oxide ion conductive porous cell: effects of pulsed current method and mixing of air with biogas
Aprilia Lystea Oce KORISANO, Soichiro SAMESHIMA, Taro SHIMONOSONO, Yoshihiro HIRATA and Katsuhiko YAMAJI
766

Solid oxide fuel cell using a H$_2$ fuel/CO$_2$ oxidant gas system
Yuta MIYAZAKI, Taro SHIMONOSONO, Yoshihiro HIRATA, Soichiro SAMESHIMA and Katsuhiko YAMAJI
777

Hydrothermal doping of Ag into three types of potassium niobates
W. I. U. WITHANAGE, Sayaka YANAGIDA, Takahiro TAKEI and Nobuhiro KUMADA
784

Cell performance enhancement with titania-doped polybenzimidazole based composite membrane in intermediate temperature fuel cell under anhydrous condition
KYAW ZAY YA, Keisuke KUMAZAWA, Go KAWAMURA, Hiroyuki MUTO and Atsunori MATSUDA
789

Solid oxide fuel cell using CO–H$_2$O mixed gas fuel
Yoshinobu KITAZAKI, Taro SHIMONOSONO, Yoshihiro HIRATA, Soichiro SAMESHIMA and Katsuhiko YAMAJI
794

Sorption capacity of Cs$^+$ on titania nanotubes synthesized by solution processing
Tomoyo GOTO, Sung Hun CHO, Soo Wohn LEE and Tohru SEKINO
801
Ion exchange of layered titanate with transition metal and application to ammonia storage
Kazuki YOKOSAWA, Takahiro TAKEI, Sayaka YANAGIDA, Nobuhiro KUMADA and Ken-ichi KATSUMATA
808

Pr/Ba cation-disordered perovskite Pr$_{2/3}$Ba$_{1/3}$CoO$_{3-\delta}$ as a new bifunctional electrocatalyst for oxygen reduction and oxygen evolution reactions
Wenrui ZHANG, Masahiro SHIRAIWA, Nannan WANG, Tingli MA, Kotaro FUJI, Eiki NIWA and Masatomo YASHIMA
814

Formation of bismuth metal in bismuth borate glass by reductive heat treatment and its electrochemical property as anode in lithium ion battery
Yusuke OMORI, Tsuyoshi HONMA and Takayuki KOMATSU
820

Preparation of LiNi$_{1/3}$Mn$_{1/3}$Co$_{1/3}$O$_2$/Li$_3$PS$_4$ cathode composite particles using a new liquid-phase process and application to all-solid-state lithium batteries
Reiko MATSUDA, Eito HIRAHARA, Nguyen Huu Huy PHUC, Hirayuki MUTO, Hirofumi TSUKASAKI, Shigeo MORI and Atsunori MATSUDA
826

Technical report
Preparation of textured B$_4$C compact with oriented pore-forming agent by slip casting under strong magnetic field
Shota AZUMA, Tetsuo UCHIKOSHI, Katsumi YOSHIDA and Tohru S. SUZUKI
832

Notes
Direct observation of the morphology and peeling behavior of poly(vinyl alcohol) derivatives in water by scanning probe microscopy
Toshihiro ISOBE, Kei KOBAYASHI, Kazuko NAKAZONO, Sachiko MATSUSHITA and Akira NAKAJIMA
839

Pyrochlore-type Bi$_2$Sn$_2$O$_7$ oxide as an electrocatalyst for carbon dioxide reduction
Atsuki MORI, Misato KAWAMURA, Satoko TAKASE and Youichi SHIMIZU
843
◆ Express letter ◆

Formation of vertically grown 1D TiO$_2$ nanorods on the surface of Al$_2$O$_3$/Ti composites by simple heat treatment and their photocatalytic performance
Shengfang SHI, Tomoyo GOTO, Sung Hun CHO, Hideki HASHIMOTO, Shu YIN, Soo Woon LEE and Tohru SEKINO
847

◆ Special Article◆

The 72th CerSJ Awards for Advancements in Ceramic Science and Technology: Review

Discovery and development of BaNdInO$_4$ — A brief review—
Kotaro FUJII and Masatomo YASHIMA
852

◆ Full papers ◆

Effects of preparation conditions on the membrane properties of alumina-coated silicon carbide supports
Jang-Hoon HA, Sujin LEE, Syed Zaighum Abbas BUKHARI, Jongman LEE, In-Hyuck SONG, Seung Jun LEE and Jaeho CHOI
860

Effect of Ni-loading on Sm-doped CeO$_2$ anode for ammonia-fueled solid oxide fuel cell
Yoshiteru ITAGAKI, Jian CUI, Naoto ITO, Hiromichi AONO and Hidenori YAHIRO
870

◆ Announcement ◆

Call for a Guest Editor for a Special Issue
A10-1