

Web of Science

Search | Search Results | My Tools | Search History | Marked List

Full Text from Publisher | Look Up Full Text | Save to EndNote online | Add to Marked List

97 of 179

The influence of gamma-rays irradiation on the structure and crystallinity of heteropoly acid doped PVA

By: Mahmoud, WE (Mahmoud, Waleed E.)^[1]; Al-Ghamdi, AA (Al-Ghamdi, A. A.)^[1]; Kadi, MW (Kadi, Mohammad W.)^[2]

[View ResearcherID and ORCID](#)

RADIATION PHYSICS AND CHEMISTRY

Volume: 81 Issue: 6 Pages: 693-696

DOI: 10.1016/j.radphyschem.2012.02.009

Published: JUN 2012

[View Journal Impact](#)

Abstract

This contribution represents the manufacturing of a hybrid organic-inorganic proton conducting compound, which involves the introduction of heteropoly acid (HPA) of different concentrations into poly-vinyl alcohol (PVA). These compounds were irradiated by gamma-rays at different doses of 10, 20, 30, and 40 kGy. The unirradiated and irradiated compounds were characterized by XRD and DSC. The XRD results showed that the crystallinity and d-spacing were strongly influenced by the amount of HPA and irradiation doses. The DSC results showed that the melting point was decreased as a result of HPA concentration and irradiation doses. The degree of crystallinity calculated from XRD is in good agreement with that calculated from DSC. The activation energy of the Unirradiated and irradiated compounds was calculated using the Flynn-Wall-Ozawa model. (C) 2012 Elsevier Ltd. All rights reserved.

Keywords

Author Keywords: Irradiation; Structure; Crystallinity; Heteropoly acid; PVA

KeyWords Plus: NANOCOMPOSITES; CONDUCTIVITY; DEGRADATION; MORPHOLOGY; BEHAVIOR; POLYMER

Author Information

Reprint Address: Mahmoud, WE (reprint author)

+ Suez Canal Univ, Fac Sci, Dept Phys, Ismailia, Egypt.

Addresses:

+ [1] King Abdulaziz Univ, Fac Sci, Dept Phys, Jeddah, Saudi Arabia

+ [2] King Abdulaziz Univ, Fac Sci, Dept Chem, Jeddah, Saudi Arabia

E-mail Addresses: w_e_mahmoud@yahoo.com

Publisher

PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND

Categories / Classification

Research Areas: Chemistry; Nuclear Science & Technology; Physics

Web of Science Categories: Chemistry, Physical; Nuclear Science & Technology; Physics, Atomic, Molecular & Chemical

Document Information

Document Type: Article

Language: English

Accession Number: WOS:000303788300018

ISSN: 0969-806X

Citation Network

7 Times Cited
18 Cited References
[View Related Records](#)
 [Create Citation Alert](#)

(data from Web of Science Core Collection)

All Times Cited Counts

7 in All Databases
7 in Web of Science Core Collection
0 in BIOSIS Citation Index
0 in Chinese Science Citation Database
0 in Data Citation Index
0 in Russian Science Citation Index
0 in SciELO Citation Index

Usage Count

Last 180 Days: 2
Since 2013: 7
[Learn more](#)

Most Recent Citation

Al-Hazmi, Farag S. [Synthesis and characterization of novel Cu2O/PVDF nanocomposites for flexible ferroelectric organic electronic memory devices](#). CURRENT APPLIED PHYSICS, SEP 2017.

[View All](#)

This record is from:

Web of Science Core Collection
- Science Citation Index Expanded

Suggest a correction

If you would like to improve the quality of the data in this record, please [suggest a correction](#).

Journal Information

Table of Contents: [Current Contents Connect](#)

Impact Factor: [Journal Citation Reports](#)

Other Information

IDS Number: 939DT

Cited References in Web of Science Core Collection: 18

Times Cited in Web of Science Core Collection: 7

