1. Record Nr. UNINA9910710261403321

Autore	Chang S. S (Shu-Sing), <1935->
Titolo	Migration of low molecular weight additives in polyolefins and copolymers / / S. S. Chang; G. A. Senich; L. E. Smith
Pubbl/distr/stampa	Gaithersburg, MD : , : U.S. Dept. of Commerce, National Institute of Standards and Technology, , 1982
Descrizione fisica	1 online resource
Collana	NBSIR ; ; 82-2472
Altri autori (Persone)	ChangS. S SenichG. A SmithL. E <1941-> (Leslie Ewart)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
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Nota di bibliografia	Includes bibliographical references.

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Autore	Anastasescu Crina
Titolo	1D Oxide Nanostructures Obtained by Sol-Gel and Hydrothermal Methods / / by Crina Anastasescu, Susana Mihaiu, Silviu Preda, Maria Zaharescu
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Soggetti	Ceramics Glass Composite materials Nanochemistry Nanoscience Nanostructures Optical materials Electronics - Materials Lasers Photonics Catalysis Ceramics, Glass, Composites, Natural Materials Nanoscale Science and Technology Optical and Electronic Materials Optics, Lasers, Photonics, Optical Devices
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Formato	Materiale a stampa
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Note generali	Includes index.
Nota di contenuto	Introduction (general considerations on the 1 D oxide nanostructures) -- Synthesis of oxide nanotubes by sol-gel method -- Synthesis of oxide nanotubes/nanorods by hydrothermal method.
Sommario/riassunto	This book presents wet chemical sol-gel and hydrothermal methods for 1D oxide nanostructure preparation. These methods represent an attractive route to multifunctional nanomaterials synthesis, as they are

versatile, inexpensive and, thus, appropriate for obtaining a wide range of oxide materials with tailored morphology and properties. Three specific oxides (SiO_2, TiO_2, ZnO) are discussed in detail in order to illustrate the principle of the sol-gel and hydrothermal preparation of 1D oxide nanostructures. Other oxides synthesized via this method are also briefly presented. Throughout the book, the correlation between the tubular structure and the physico-chemical properties of these materials is highlighted. 1D oxide nanostructures exhibit interesting optical and electrical properties, due to their confined morphology. In addition, a well-defined geometry can be associated with chemically active species. For example, the pure SiO_2 nanotubes presented a slight photocatalytic activity, while the Pt-doped SiO_2 tubular materials act as microreactors in catalytic reactions. In the case of titania and titanate nanotubes, large specific surface area and pore volume, ion-exchange ability, enhanced light absorption, and fast electron-transport capability have attracted significant research interest. The chemical and physical modifications (microwave assisted hydrothermal methods) discussed here improve the formation kinetics of the nanotubes. The ZnO nanorods/tubes were prepared as random particles or as large areas of small, oriented 1D ZnO nanostructures on a variety of substrates. In the latter case a sol-gel layer is deposited on the substrate prior to the hydrothermal preparation. Using appropriate dopants, coatings of ZnO nanorods with controlled electrical behavior can be obtained.