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Nota di contenuto	1. Recovery technology of depleted oil fields / E. Aleksandrov, S. Varfolomeev, G. Zaikov, V. Lidgi-Goryaev, and A. Petrov -- 2. Effect of polystyrene/fullerene composites on the lipid peroxidation in blood serum / Olga V. Alekseeva, Olga G. Sitnikova, Nadezhda A. Bagrovskaya, and Andrew V. Noskov -- 3. Characterization of a pearlescent biaxially oriented multilayer polypropylene film / Esen Arkis, Hayrullah Cetinkaya, Isil Kurtulus, Utku Ulucan, Arda Aytac, Beste Balci, Funda Colak, Ece Topagac Germen, Gulistan Kutluay, Begum Can Dilhan, and Devrim Balkose -- 4. Porous structure of cellulose treated by supercritical carbon dioxide as studied by spin probes technique / Alexander L. Kovarski, Olga N. Sorokina, Anatolii B. Shapiro, and Lev N. Nikitin -- 5. Melting behavior of polypropylenes of different chemical structure / Yu.K. Lukanina, A.V. Khvatov, N.N. Kolesnikova, and A.A. Popov -- 6. Research of possible synthesis of alkyd-styrene resins / K. I. Vinhinskaya, N.R. Prokopchuk, and A.L. Shutova -- 7. Peculiarities of mineral nutrition of cereals in aluminum-acid soil conditions / Lyudmila N. Shikhova, Eugene M. Lisitsyn, and Galina A. Batalova -- 8. Phase equilibrium and diffusion in the systems of ethylene-aminopropyltriethoxysilane copolymers / N.E. Temnikova, O.V. Stoyanov, A.E. Chalykh, V.K. Gerasimov, S.N. Rusanova, and S.Yu. Sofina -- 9. Technology of restoration of oil production on abandoned oil

fields / E. Aleksandrov, S. Varfolomeev, M. Chertenkov, G.E. Zaikov, V. Zavolzhsky, V. Lidgi-Goryaev, and A. Petrov -- 10. Alkali metal metaphosphates as inorganic polymers / B.S. Alikhadzhieva -- 11. Inorganic polymers semiconductor materials / B.S. Alikhadzhieva -- 12. Incombustible polyetherformaltereptaloyl-di(*n*-oxibenzoat) / Z.S. Khasbulatova -- 13. Polyesters and their application / Z.S. Khasbulatova -- 14. Entropic criteria in economics and physic chemistry / N.G. Petrova, G.A. Koralev, and G.E. Zaikov -- 15. The simulations of carbon nanotubes (nanofilaments) as macromolecular coils : nanocomposites reinforcement degree / Abdulakh K. Mikitaev, Georgiy V. Kozlov, and Gennady E. Zaikov -- 16. Structure, interactions and kinetics of ring-like formations of carbon nanotubes (nanofibers) in polymer nanocomposites / A.K. Mikitaev, G.V. Kozlov, and G.E. Zaikov -- 17. Structural, morphological and optical properties of nanoproducts of zirconium target laser ablation in water and aqueous SDS Solutions / V.T. Karpukhin, M.M. Malikov, T.I. Borodina, G.E. Valyano, O.A. Gololobova, and D.A. Strikanov -- 18. Calcium soap lubricants / Alaz Izer, Tugce Nefise Kahyaoglu, and Devrim Balkose -- 19. A new approach to the creation carbon-polymer nanocomposites with polyethylene as a binder / Sergei V. Kolesov, Marina V. Bazunova, Elena I. Kulish, Denis R. Valiev, and Gennady E. Zaikov -- 20. Thermooxidation of the blends low density polyethylene and butyl rubber / T.V. Monakhova, L.S. Shibryaeva, N.N. Kolesnikova, A.I. Sergeev, S.G. Karpova, and A.A. Popov -- 21. Nanofibrous web for removal of bacterial / Motahareh Kanafchian, Mohammad Kanafchian, and A.K. Haggi -- 22. Model representations of the effect of temperature on resistance polypropylene filled with carbon black / N.N. Komova and G.E. Zaikov -- 23. Environmental durability of powder polyester paint coatings / T.N. Kukhta, N.R. Prokopchuk, and B.A. Howell -- 24. A note on viscometry of chitosan in acetic acid solution / Valentina Chernova, Irina Tuktarova, Elena Kulish, Gennady Zaikov, and Alfiya Galina -- 25. Magnetic properties of organic paramagnets / M.D. Goldfein, E.G. Rozantsev, and N.V. Kozhevnikov -- 26. Hyperbranched 1, 4-cis+1, 2-polybutadiene synthesis using novel catalytic dithiosystems / Shahab Hasan oglu Akhyari, Fuzuli Akber oglu Nasirov, Erol Erbay, and Nazil Fazil oglu Janibayov -- 27. Cobalt alkylxanthogenate+trialkylaluminum catalytic dithiosystems for synthesis of syndiotactic 1, 2-polybutadiene / Nemat Akif oglu Guliyev, Fuzuli Akber oglu Nasirov, and Nazil Fazil oglu Janibayov -- 28. Siloxane matrix with methylpropionate side groups and polymer electrolyte membranes on their basis / Natia Jalagonia, Izabela Esartia, Tamar Tatrishvili, Eliza Markarashvili, Donari Otiashvili, Jimsher Aneli, and Omar Mukbaniani -- 29. Composites on the basis of glycidoxygroup containing phenylsilsesquioxanes / Marina Iskakova, Eliza Markarashvili, Jimsher Aneli, and Omar Mukbaniani -- 30. The comparative study of thermostable protein macromolecular complexes (cell proteomics) from different organisms / D. Dzidzigiri, M. Rukhadze, I. Modebadze, N. Giorgobiani, L. Rusishvili, G. Mosidze, E. Tavdishvili, and E. Bakuradze.

Sommario/riassunto

"This timely volume provides an overview of polymer characterization test methods and presents experimental research in polymers using modern methods. Each chapter describes the principle of the respective method, as well as the detailed procedures of experiments with examples of actual applications and demonstrates the advantage and disadvantages of each physical technique. Thus, readers will be able to apply the concepts as described in the book to their own experiments. The successful characterization of polymer systems is one of the most important objectives of today's experimental research of polymers.

Considering the tremendous scientific, technological, and economic importance of polymeric materials, especially in industry, it is impossible to overestimate the usefulness of experimental techniques in this field. Since the chemical, pharmaceutical, medical, and agricultural industries, as well as many others, depend on this progress to an enormous degree, it is critical to be as efficient, precise, and cost-effective in our empirical understanding of the performance of polymer systems as possible. This presupposes our proficiency with, and understanding of, the most widely used experimental methods and techniques. The methods and instrumentation described in this volume represent modern analytical techniques useful to researchers, product development specialists, and quality control experts in polymer synthesis and manufacturing. Engineers, polymer scientists, and technicians will find this volume useful in selecting approaches and techniques applicable to characterizing molecular, compositional, rheological, and thermodynamic properties of elastomers and plastics."
