half a century. New aspects of manufacturing, structure development and properties of practical relevance in nanoparticle-filled thermoplastic polymers are given in the third part of the book. The ideal carbon nanotube (CNT) is a small particle that can be regarded as a graphite plane rolled up to a tube with hemispherical cap at each end. The hexagonal structure, which is known from graphite sheets and carbon fibers, provides them with a high strength and stiffness at low density. Therefore, the art of carbon nanotube and nanofiber reinforced polymer systems is also described in the third part devoted generally to mechanical properties improvement and fracture behaviour.

This book offers the most current perspective recent research and results of scientists' works. It also explores the improvement of mechanical properties, such as strength and toughness, and physical properties such as heat resistance and conductivity. This book is directed particularly at polymer scientists in research institutes and in industry, but it might be also helpful for students of polymer physics, chemistry and engineering.

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Thomas J. Bruno, Paris D.N. Svoronos, CRC Handbook of Fundamental Spectroscopic Correlation Charts, CRC Press, Boca Raton, FL, USA, 2006 (vi+225 pp., £99-95, ISBN 0-8493-3250-8)

From forensics and security to pharmaceuticals and environmental applications, spectroscopic detection is one of the most cost-effective methods for identifying chemical compounds in a wide range of disciplines. For spectroscopic information, correlation charts are far more easily used than tables.

The Handbook of Fundamental Spectroscopic Correlation Charts provides useful analysis and assignment of spectra and structural elucidation of organic and organometallic molecules. The correlation charts are compiled from an extensive search of spectroscopic literature and contain current, detailed information that includes new results for many compounds.

This book also presents graphical data charts for nuclear magnetic resonance spectroscopy of the most useful nuclei, as well as infrared and ultraviolet spectrophotometry. Because mass spectrometry data is not best represented graphically, it is commonly used to present it in tabular form. Furthermore, mass spectrometry can be used for analyses and structural determinations in combination with other techniques.

To present absorption bands and intensities for variety of important functional groups and chemical families, this book also concentrates on instrument calibration, diagnostics, common solvents, fragmentation patterns and several conversion tables.

Laboratory safety is one of the last, but not least subject discussed in the handbook. As incapability between some chemicals may cause fire, explosion, or release of toxic gases, this book gives list of chemicals that react in certain chemical environments. What is more, it also provides useful information about abbreviations that are commonly encountered in presentations of laboratory and industrial hazards.

In conclusion, Handbook of Fundamental Spectroscopic Correlation Charts is an ideal laboratory companion for students and professionals in academic, industrial and government laboratories.

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Anilkumar G. Gaonkar, Andrew McPherson (Eds.), Ingredient Interactions: Effects on Food Quality, second edition, CRC Press, Boca Raton, FL, USA, 2006 (xvii+554, £79-99, ISBN 0-8247-5748-3)

Understanding the interactions among ingredients in food is critical for optimising ingredient performance and obtaining quality food products. Some ingredient' interactions are desirable and can positively affect food quality, but some of them need to be controlled in order not to spoil the food texture and taste.

The main components of food can be classified as macrocomponents (water, proteins, lipids, carbohydrates) and microcomponents (minerals, vitamins, enzymes). Interaction can take place between macrocomponents or between macro- and microcomponents. What is more, physical conditions such as pH, temperature, moisture and time affect intensity of reactions. To study those complex ingredient' interactions in food systems, both microscopic analysis and rheology can be employed. The use of the microscope has become recognised as an essential technique to reveal the relationship between structure and