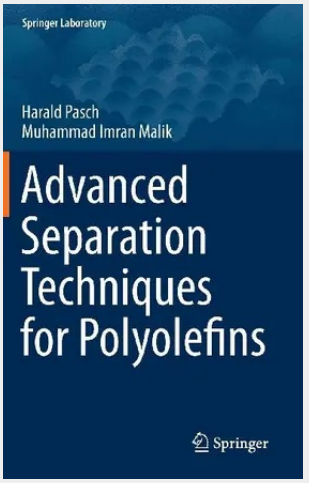
Pasch / Malik

Advanced Separation Techniques for Polyolefins



This Springer Laboratory volume introduces the reader to advanced techniques for the *separation* and *fractionation* of *polyolefins* . It includes detailed information on experimental protocols and procedures, addressing the experimental background of different *polyolefin fractionation* techniques in great detail. The book summarizes important applications in all major *fractionation* methods with emphasis on multidimensional analytical approaches. It comprises the most powerful modern techniques, such as high temperature size exclusion chromatography (HT-SEC) for molar mass analysis, temperature rising elution fractionation (TREF) and crystallization analysis fractionation (CRYSTAF) for the analysis of chemical composition and branching, high temperature two-dimensional liquid chromatography (HT-2D-LC), solvent and temperature gradient interaction chromatography (SGIC and TGIC) and crystallization elution fractionation (CEF). Beginners as well as experiencedchromatographers will benefit from this concise introduction to a great variety in instrumentation, *separation* procedures and applications. With detailed descriptions of experimental approaches for the analysis of complex *polyolefins* , the readers are offered a toolbox to solve simple as well as sophisticated *separation* tasks. The book starts with an introduction into the molecular complexity of *polyolefins* - the most widely used synthetic polymers with rapidly growing production capacities. It systematically discusses crystallization based *fractionation* techniques including TREF, CRYSTAF and CEF and column chromatographic techniques for molar mass, chemical composition and microstructure, as well as the combination of different *fractionations* in multidimensional experimental setups. This book also includes basic information on the application of high-temperature field-flow *fractionation* .

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