Chapter 1
Advances in Reactive and Functional Polymers: Editor's Perspective

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Abstract Reactive and functional polymers are generally obtained *via* coupling, crosslinking and grafting reactions using different processing methodologies such as extrusion reactive in order to improve the compatibility of polymer blends, as well as to obtain active and functional polymer surfaces. These polymers have proven important for the development of advanced materials for different applications. With this chapter, we open the main topics that will be analyzed in this volume.

Keywords Block copolymers · Coupling · Crosslinking · Grafting · Natural and synthetic polymers · Surface

1.1 Fundamentals for Reactive and Functional Polymers

Reactive and functional polymers are mainly obtained *via* chemical or physical modifications of the polymer structures using different coupling, crosslinking and grafting reactions in order to improve the compatibility of polymer blends based on natural and synthetic polymers, as well as to obtain active and functional polymer surfaces (Gutiérrez 2017a, b, 2018a, b; Gutiérrez, Herniou-Julien et al. 2018a; Gutiérrez and Álvarez 2016; Gutiérrez and Alvarez 2017a,b,c,d; Gutiérrez and Alvarez 2018; Gutiérrez and González 2016, 2017; Gutiérrez, Guarás et al. 2017; Gutiérrez, Guzmán et al. 2016a; Gutiérrez, Morales et al. 2015a; Gutiérrez, Ollier et al. 2018b; Gutiérrez, Suniaga, et al. 2016b; Gutiérrez, Tapia et al. 2015b; Gutiérrez et al. 2019; Herniou--Julien et al. 2019; Merino

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et al. 2019a,b; Merino, Gutiérrez et al. 2018a; Merino, Mansilla et al. 2018b; Toro-Márquez et al. 2018; Zarrintaj et al. 2019). These aspects are the focus of this volume.

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