

**Title:** Effect of operating conditions on Chemical composition distribution (CCD) in Polyolefins in HT-Crystallization Elution Fractionation Technique

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**References:**

Reference 1: Monrabal B and Romero L. Macromol., Chem. Phys., 2014, 215, 1818-1828  
Reference 2: Cong R. et.al., J. Chromatogr. A, 2022, 1662, 462724

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Reference 3: \_\_\_\_\_  
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**Images:**

Images Guidelines: *Please provide maximum one, on a separate file (doc, pdf, tiff, gif, or bmap), and at a reasonable resolution.*

**Abstract:**

Chemical composition distribution (CCD) of polyolefins (POs: Polyethylene and Polypropylene) is one of the key microstructures, directly influencing products' final properties, processing performance and product applications. Crystallization Elution fractionation (CEF) has been extensively utilized to characterize chemical composition distribution of POs, such as comonomer distribution in Linear low density Polyethylene (LLDPE), Ethylene comonomer distribution in Ethylene-Propylene Copolymer, etc. Principally a CCD result from this technique is reported as a plot between weight fraction or concentration vs temperature with indicated peak temperature, amount of soluble fraction, etc. These results are affected predominantly by the setting parameters such as crystallization rate, solvent types, heating rate, elution flow rate, etc. Comprehensive study of CEF parameters on CCD results of various types of polyolefins have been discussed in this work.