PRODUCING POLYOLEFIN PRODUCTS

ABSTRACT

Catalyst systems and methods for making and using the same are described. A method includes selecting a catalyst blend using a blend polydispersity index (bPDI) map. The polydispersity map is generated by generating a number of polymers for at least two catalysts. Each polymer is generated at a different hydrogen to ethylene ratio. At least one catalyst generates a higher molecular weight polymer and another catalyst generates a lower molecular weight polymer. A molecular weight for each polymer is measured. The relationship between the molecular weight of the polymers generated by each of the catalysts and the ratio of hydrogen to ethylene is determined. A family of bPDI curves for polymers that would be made using a number of ratios of a blend of the at least two catalysts for each of a number of ratios of hydrogen to ethylene. A ratio for the catalyst blend of the catalysts that generates a polymer having a bPDI that matches a polymer fabrication process is selected, and the product specific polyolefin is made using the catalyst blend.

[Fig. 1]