EuroSciCon

3rd Edition of International Conference and Exhibition on

Polymer Chemistry

March 26-28, 2018
Vienna, Austria

Polym Sci, Volume 4
DOI: 10.4172/2471-9935-C1-009

POLYOLEFIN MICROSTRUCTURAL CHARACTERIZATIONS WITH NMR AND GPC-UV-RI

Zhe Zhou
The Dow Chemical Company, USA

Polyolefins, with their excellent cost/performance ratio, are by volume the most produced synthetic polymers with a predicted growth to 170 million tons by 2017. Understanding polyolefin molecular structure and property relationships are a key to improve catalyst systems and process technologies. NMR is one of the best techniques to achieve this goal, it can provide for example short chain branching/co-monomer content, sequence distribution/blockiness, regio-errors, chain end/unsaturation, long chain branching and tacticity. Recent sensitivity improvements simplified measurements which were previously very difficult. This presentation includes unsaturation measurements, regio-error assignments with 2D INADEQUATE, high temperature liquid chromatography and thermal gradient interaction chromatography separation mechanisms and long chain branching as well as new techniques such as temperature gradient NMR12 and GPC-UV-RI.13.

zzhou@dow.com