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Self Similar Growth of Polyolefin Blends On a Micro-Nano Granule Reactor CHARLES HAN, JIANG DU, KUN MENG, XIA DONG, JIN-YONG DONG, DUJIN WANG, State Key Laboratory of Polymer Physics and Chemistry, Joint Laboratory of Polymer Science and Materials, ICCAS, Beijing, China — A Ziegler-Natta/metallocene hybrid catalyst was used in this MRGT (Multi-catalyst Reactor Granule Technology) synthesis. Isotactic polypropylene/polyethylene-co-octene (iPP/PEOc) polymer blends were prepared on the micro-nano granule reactors. A self-similar growth mechanism has been observed and deciphered. The self-similar structure is extended and observed at least for 5 decades in a combined real and reciprocal spatial range. With thermal treatment, structure growth and crystallization kinetics has been studied on these single reactor granules.

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