

Abstract Submitted  
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**Shear-induced Crystallization of  
and Polypropylene/Poly(Ethylene-co-Octene) Blends<sup>1</sup>**

XIA DONG, KUN MENG, CHENGGUI ZHANG, TONGCHEN SUN, CHARLES C. HAN, Institute of Chemistry, Chinese Academy of Sciences, JIANHUA DONG, National Natural Science foundation of China — Isothermal crystallization under shear in a blend of isotactic polypropylene (iPP) and poly (ethylene-co-octene) (PEOc) was investigated by in-situ optical microscopy and shear hot stage under various thermal and shear histories. Shish-kebab crystal structures were observed under shear in phase separated iPP/PEOc blends. Very long cylindrites can form under shear, with length scale much longer than the dimension of the liquid-liquid phase separated domains under the applied shear conditions. The cylindrites appear to grow through crystallizable domains, as well as through non-crystallizable ones. All evidences points to the exacted that the nuclei ('shish') came from the orientation of the entangle network chains instead of pull out chain bundles. The shear rate and the shear time have different effects on the formation of the cylindrites after liquid-liquid phase separation.

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