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Semicrystalline/carbon nanotube nanohybrid shish-kebabs CHRISTOPHER LI, LINGYU LI, BING LI, KISHORE TENNETI, Drexel University — We recently reported periodically decorated carbon nanotubes (CNT) using solution crystallization, in which polymer lamellar crystals were solution grown on CNTs, resulting in nano hybrid shish-kebab (NHSK) structures. Herein we report using thin film method to obtain similar structure. Semicrystalline polymer (including polyethylene, PE, and isotactic polypropylene, iPP) and CNTs were spin coated on a carbon coated surface and crystallized at different crystallization temperatures. Dendrites of PE were first observed after spincoating. Upon melting/recrystallization, edge-on PE crystals were observed to periodically grow on CNTs. Giant defects were clearly observed. iPP single crystals were also observed to grow from CNT surface. Detailed structure analysis will be presented.

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