Electronic Supplementary Material (ESI) for RSC Advances.

Supporting information

Effect of Carbon Nanotube on Morphology Evolution of Polypropylene/Polystyrene Blends: Understanding Molecular Interactions and Carbon Nanotube Migration Mechanisms

Ivonne Otero Navas, Soheil Sadeghi, Mohammad Arjmand and Uttandaraman Sundararaj*
Department of Chemical and Petroleum Engineering, University of Calgary
Calgary, Alberta, Canada T2N 1N4

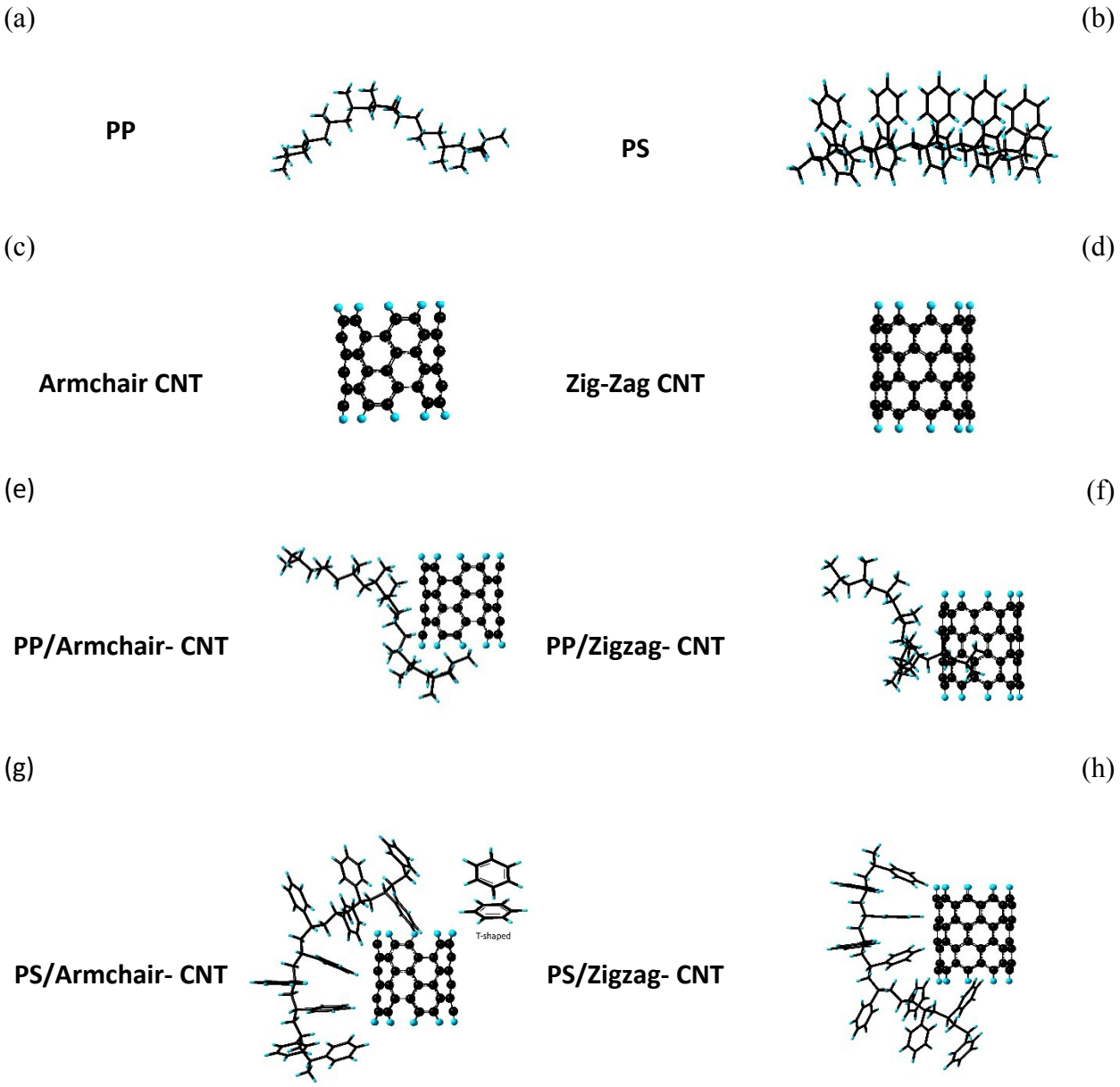

Figure S1. Ground state geometries of PP, PS, Armchair-CNT, Zigzag-CNT, PP/CNT and PS/CNT systems.

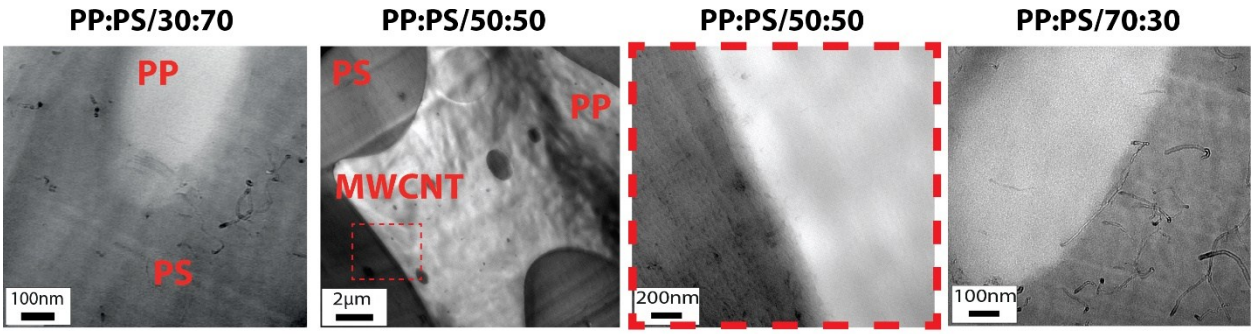

Figure S2. TEM images of 1.0 vol.% MWCNT filled blends PP:PS/30:70, PP:PS/50:50 and PP:PS/70:30.

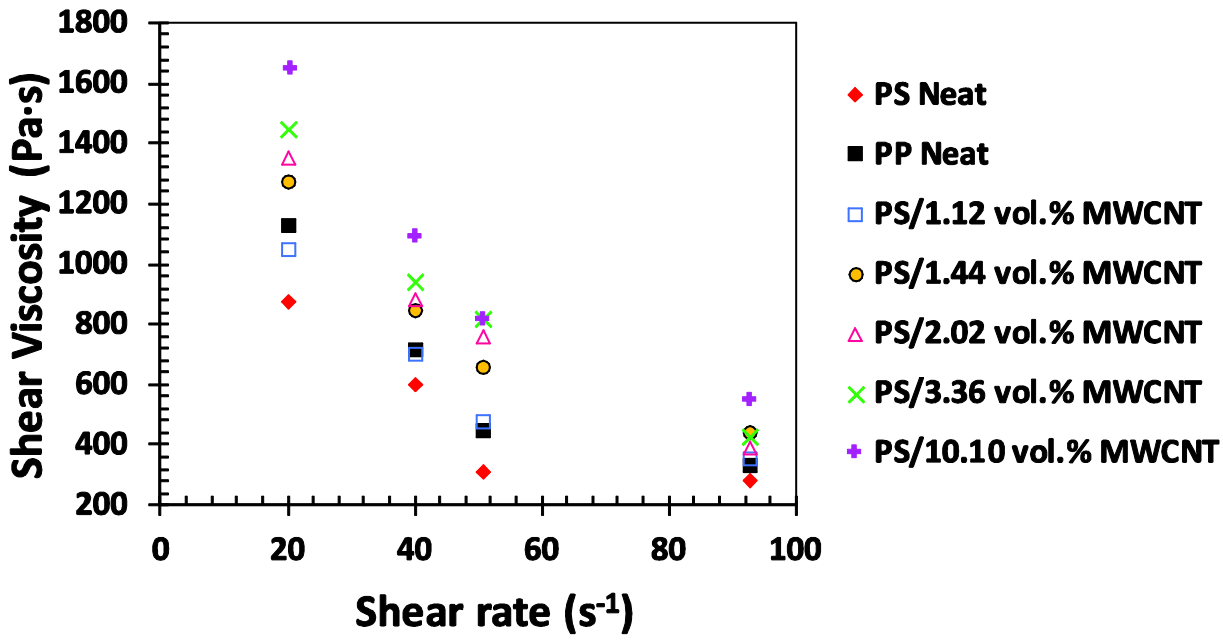

Figure S3. Shear viscosity as function of shear rate measured by capillary rheometry as a function of shear rate.

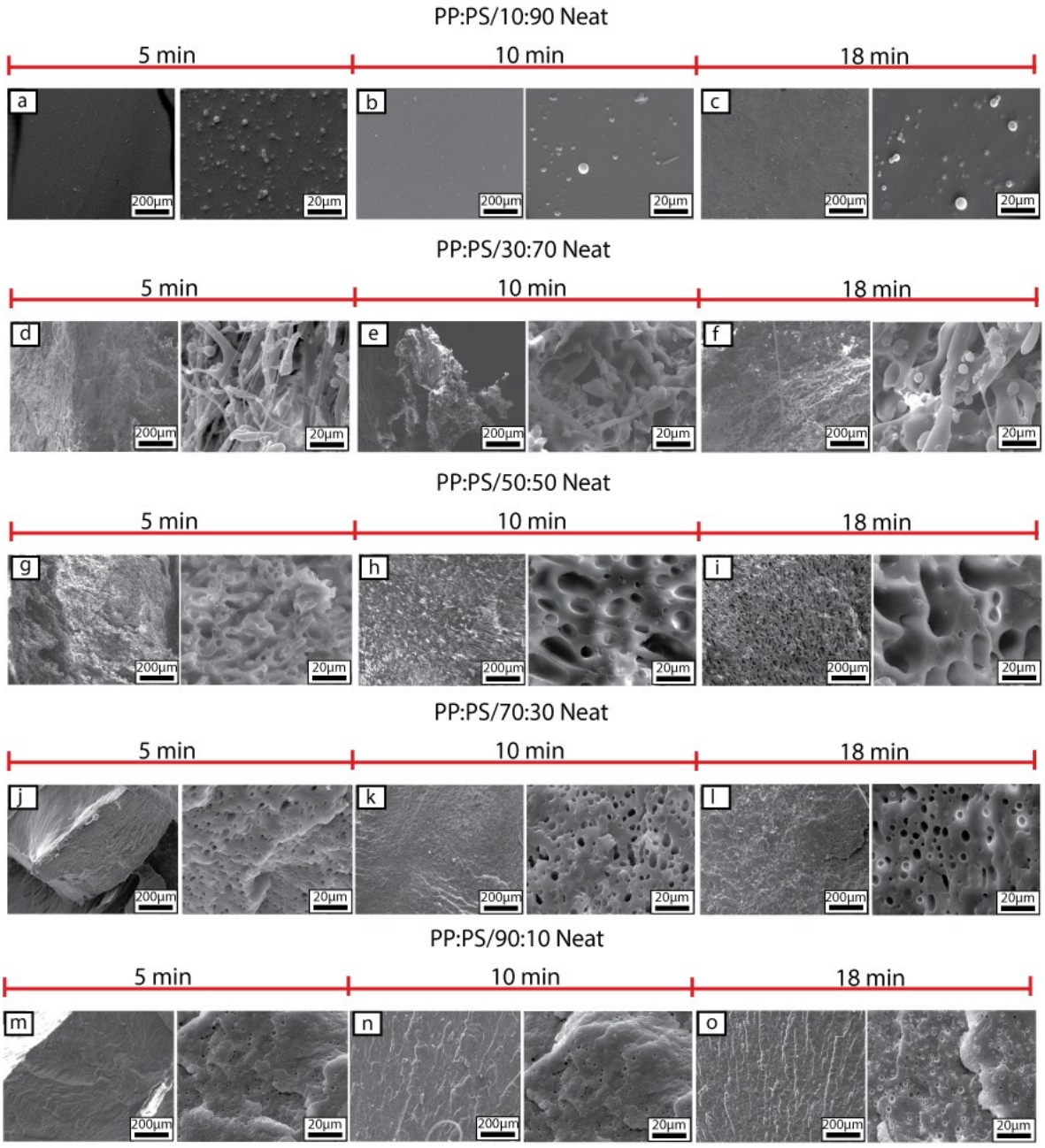

Figure S4. Morphology development of neat blends from 5min to 18min of mixing.

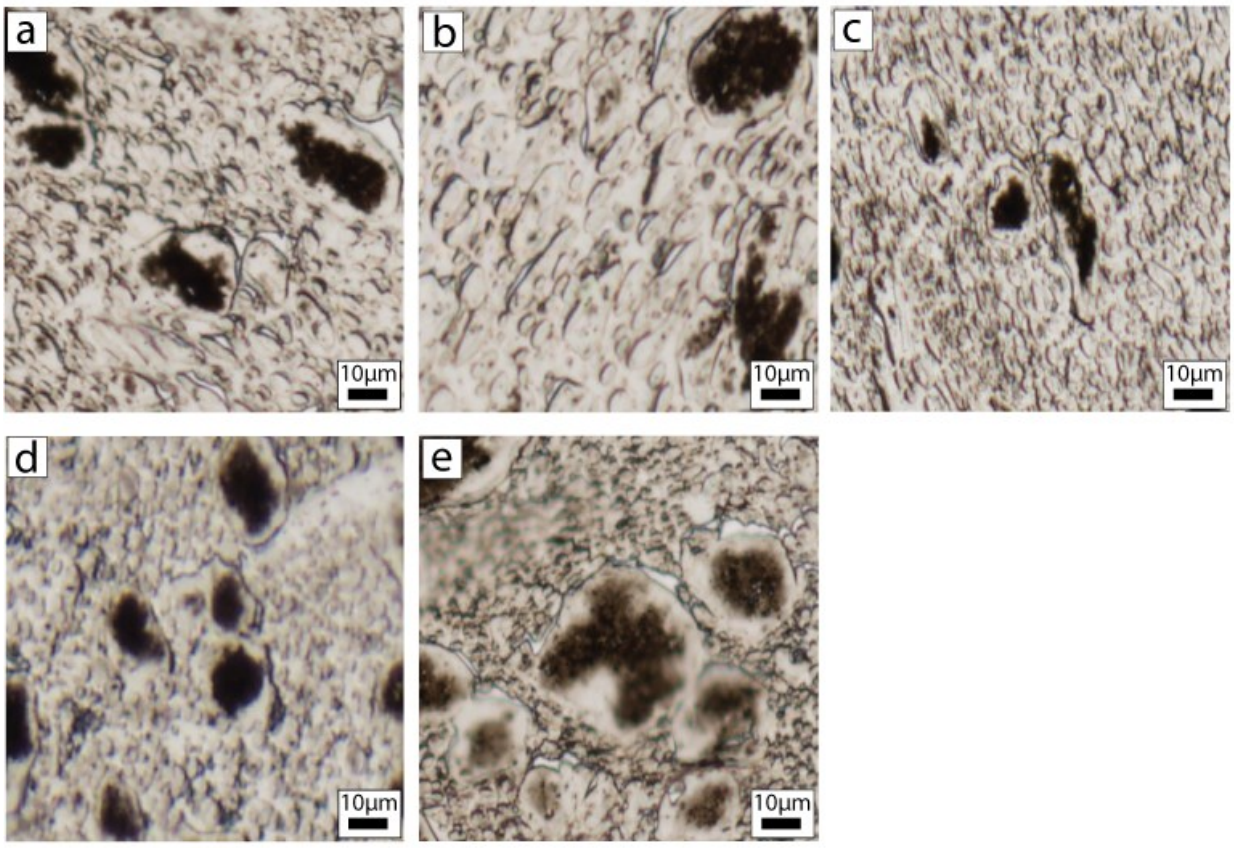

Figure S5. Light optical micrographs of PP:PS/50:50/MWCNT 1.0 vol.% morphology development inside the batch mixer at a) 3.5min, b) 4min, c) 6min, d) 8min, and e) 18 min of mixing. The black inclusions correspond to MWCNT.