

Abstract Submitted
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Effects of Lithium Salts on the Domain Size of Polyethylene Oxide Containing Block Copolymers NISITA WANAKULE, SCOTT MULLIN, NITASH BALSARA, UC Berkeley — The morphology of block copolymers with and without lithium bis(trifluoromethanesulfonyl)imide (LiTFSI) salts are measured with small-angle x-ray scattering (SAXS). The block copolymers comprise of polyethylene oxide (PEO), a polymer with a higher dielectric constant that dissolves LiTFSI, and polystyrene (PS), a polymer with a lower dielectric constant that does not dissolve LiTFSI. Due to the hygroscopic nature of the salts, blend preparation is performed completely in a glovebox and the SAXS samples are sealed off in airtight sample holders. To ensure that moisture contamination does not affect morphology, Karl-Fischer titrations are performed after SAXS measurements. Our data will be compared with literature results that indicate a 300% increase in the domain spacing of PEO-containing block copolymers spacing due to the addition of LiTFSI.

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