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**Is a short fluorinated segment sufficient to induce interfacial rearrangements in diblock co-polymers?** UMESH SHRESTHA, DVORA PERAHIA, Clemson University, STEPHAN CLARSON, University of Cincinnati — The interfacial structure of thin diblock co-polymer films is a result of internal segregation between the blocks and their affinity to the interfaces. Introducing a fluorinated group affects significantly the segregation of the fluorinated block to the interface. The interfacial structure and dynamics of thin layers of a diblock co-polymer Polytrifluoro propyl methyl siloxane-polystyrene (PTEPMS-PS) with the fraction of the fluorinated block ranging from 0.03 to 0.5was studied by neutron reflectivity. The uniqueness of this diblock lies in the presence siloxane group and a fluorinated group intercalated into one of the blocks where the siloxane offers flexibility and the fluorine exhibits low interfacial energies. While the air interface is dominated by fluorinated segments for all volume fractions, layering is observed even for the shortest fluorinated segments. The rate of rearrangement upon annealing varies with the size of the fluorinated block.

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