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Surface composition and morphology of dendronized perfluoro poly(2-vinylpyridine) in a poly(2-vinylpyridine) homopolymer MICHAEL DIMITRIOU, University of California at Santa Barbara, ROBERT VESTBERG, KRISTIN SCHMIDT, CRAIG HAWKER, EDWARD KRAMER — Surface segregation of end-functional, dendronized poly(2-vinylpyridine) in a blend with P2VP was measured by X-ray photoelectron spectroscopy (XPS) and Near Edge X-ray Absorption Fine Structure spectroscopy (NEXAFS). A series of chain end functionalized P2VP dendritic-linear copolymers were synthesized *via* either anionic polymerization or Reversible Addition Fragmentation Chain Transfer polymerization with one, two, or four perfluorinated hexyl chains, P2VP-$(C_6F_{13})_n$ where n = 1, 2 and 4 attached at a single chain end. For a given wt% of added surfactant, XPS shows higher -C_6F_{13} concentrations on the surface with increasing n. For n = 2 and 4 a saturation of -C_6F_{13} on the surface was achieved above 10wt% of added surfactant. For n = 2 this result is independent of spin coating solvent while for n = 4 this value depends on solvent volatility and selectivity. NEXAFS spectroscopy confirmed no orientation of the perfluorinated chains for all wt% of the added surfactant.

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