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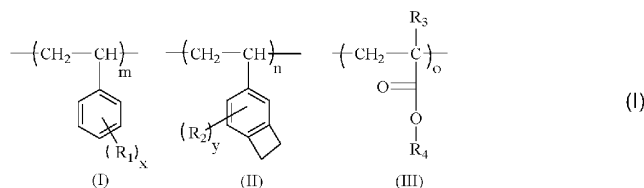
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(54) Title: HYDROPHOBIC CROSSLINKABLE PINNING UNDERLAYERS WITH IMPROVED DRY ETCH CAPABILITIES FOR PATTERNING DIRECTED SELF-ASSEMBLY OF PS-B-PMMA TYPE BLOCK COPOLYMERS



(57) Abstract: The present invention relates to a novel random copolymer whose repeat units comprise repeat units of structure (I), (II) and (III), wherein R₁ and R₂ are independently a C-1 to C-4 alkyl, x and y are independently the number of R₁ and R₂ which independently range from an integer from 0 to 3, R₃ is a C-1 to C-4 alkyl, and R₄ is selected from a C-2 to C-10 primary alkyl, or a moiety comprising an arene selected from the group consisting of a substituted or unsubstituted biphenyl moiety, a substituted or unsubstituted phenyl moiety, and a substituted or unsubstituted benzylic moiety. Another aspect of this invention is a composition comprising this random copolymer, and an organic spin casting solvent. A further aspect of this invention is using a coating of this composition to form a patterned pinning MAT for use directed self-assembly..