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[Continued on next page]

(54) Title: COMPOSITIONS OF NEUTRAL LAYER FOR DIRECTED SELF ASSEMBLY BLOCK COPOLYMERS AND PROCESSES THEREOF

Figures 1a-1c



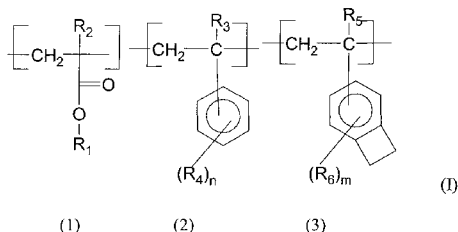
Figure 1 a



Figure 1 b



Figure 1 c

(57) Abstract: The present invention relates to novel neutral layer compositions and methods for using the neutral layer compositions for aligning microdomains of directed self-assembling block copolymers (BCP). The compositions and processes are useful for fabrication of electronic devices. The neutral layer composition comprises at least one random copolymer having at least one unit of structure (1), at least one unit of structure (2) and at least one unit of structure (3) where R_1 is selected from the group consisting of a C_1 - C_8 alkyl, C_1 - C_8 fluoroalkyl moiety, C_1 - C_8 partially fluorinated alkyl, C_4 - C_8 cycloalkyl, C_4 - C_8 cyclofluoroalkyl, C_4 - C_8 partially fluorinated cycloalkyl, and a C_2 - C_8 hydroxyalkyl; R_2 , R_3 and R_5 are independently selected from a group consisting of H, C_1 - C_4 alkyl, CF_3 and F; R_4 is selected from the group consisting of H, C_1 - C_8 alkyl, C_1 - C_8 partially fluorinated alkyl and C_1 - C_8 fluoroalkyl, n ranges from 1 to 5, R_6 is selected from the group consisting of H, F, C_1 - C_8 alkyl and a C_1 - C_8 fluoroalkyl and m ranges from 1 to 3.



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