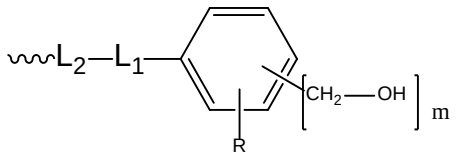
Abstract

NOVEL COMPOSITIONS AND PROCESSES FOR SELF-ASSEMBLY OF BLOCK COPOLYMERS

The present invention relates to a novel styrenic polymer and to the novel composition comprised of this polymer and a solvent; wherein the styrenic polymer has a polydispersity from 1 to 1.3 and further wherein each polymer chain of the styrenic polymer is capped with one end group of structure 1), wherein, and L_1 is a linking group selected from the group consisting of a direct valence bond, oxy (-O-), carbonyloxy, (-(C=O)-O-), carbonate (-O-(C=O)-O-); L_2 is a C-1 to C-20 substituted or unsubstituted alkylene spacer, an arylene spacer or a direct valence bond, R, is hydrogen, a halide, a C-1 to C-20 alkyl moiety, or a C-1 to C-20 alkyloxy moiety, m is an integer from 1 to 3; and ~~~ represent the direct valence bond attaching the end group 1) to the end of the polymer chain of the styrenic polymer. In another aspect of this invention it pertains to the use of this composition to create a grafted film on a substrate, and in a further aspect this grafted film may be used in a directed self-assembly process.



1)

(No Suitable Figure)