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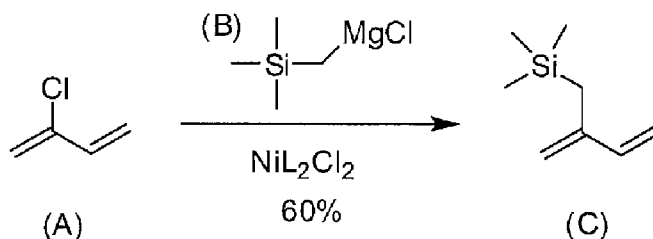
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(54) Title: SILICON-CONTAINING BLOCK CO-POLYMERS, METHODS FOR SYNTHESIS AND USE

FIGURE 1



(57) Abstract: The present invention describes the synthesis of silicon-containing monomers and copolymers. The synthesis of a monomer, trimethyl-(2-methylenebut-3-enyl)silane (TMSI) and subsequent synthesis of diblock copolymer with styrene, forming polystyrene-block-polytrimethylsilyl isoprene, and synthesis of diblock copolymer Polystyrene-block-polymethacryloxymethyltrimethylsilane or PS-b-P(MTMSMA). These silicon containing diblock copolymers have a variety of uses. One preferred application is as novel imprint template material with sub- 100 nm features for lithography.