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(54) Title: MIXED-CHARGE COPOLYMER ANTIBIOFILM COATINGS

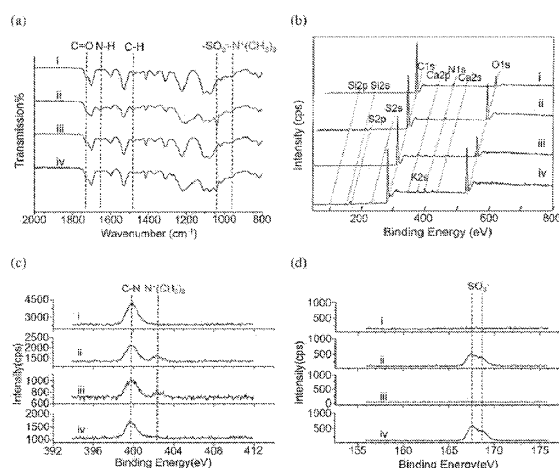


FIG. 1

(57) Abstract: Disclosed herein is a composite material suitable for inhibiting biofilm growth, the composite material comprising a substrate material and a random copolymeric material covalently bonded to a surface of the substrate material. The random copolymer contains repeating units having at least one functional group bearing a cationic charge and repeating units having at least one functional group bearing an anionic charge, where the repeating units are derived from compatible monomers that belong to different monomer classes having differing polymerisation kinetics. Specifically, the random copolymeric material is poly(AMPTMA-ran-SPM), wherein AMPTMA is (3-acrylamidopropyl) trimethylammonium chloride and SPM is 3-sulfopropyl methacrylate potassium. Also disclosed are methods of manufacturing said material and applications thereof.