

[54] **POLYMERIZABLE COMPOUNDS AND METHODS FOR PREPARING SYNTHETIC POLYMERS THAT INTEGRALLY CONTAIN POLYPEPTIDES**

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[57] **ABSTRACT**

A method is disclosed for the de novo synthesis of polypeptide-containing polymers. This disclosure also includes a description of, and a method for the preparation of, a class of polymerizable compounds used in the synthesis of polypeptide-containing polymers. These polymerizable compounds are chemical conjugates prepared by covalent linkage of polymerizable organic monomers with specific polypeptides. Soluble monomer/polypeptide conjugates can be polymerized in solution with additional nonderivatized organic monomers to form desired polypeptide-containing polymers. The amount and composition of monomer and monomer/polypeptide conjugates can be varied in order to provide control of (a) molecular spacing, steric accessibility, and number of polypeptide molecules that are integrally incorporated into the polymer backbone, and (b) the chemical and physical structure of the polymer itself. This enables the specific tailoring of polypeptide-containing polymers for particular end-use applications.

5 Claims, 3 Drawing Figures

