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[54] **BIODEGRADABLE IN-SITU FORMING IMPLANTS AND METHODS OF PRODUCING THE SAME**

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Related U.S. Application Data

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[51] **Int. Cl.**[5] **C08L 67/00**; C08L 69/00; C08L 77/00; A61F 2/00

[52] **U.S. Cl.** **523/113**; 424/422; 424/426; 424/78.26; 525/411; 525/415; 525/937; 526/320; 526/321; 604/187

[58] **Field of Search** 523/113; 424/426, 422, 424/78.26; 525/937, 411, 415; 526/320, 321; 604/187

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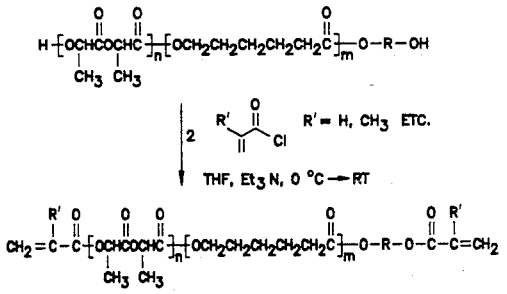
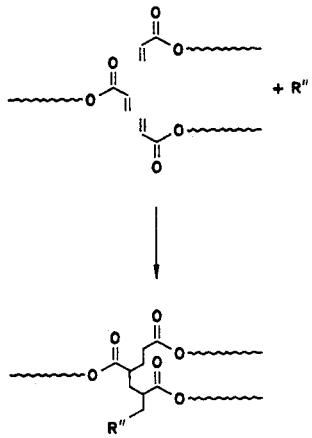
[57] **ABSTRACT**

A biodegradable polymer is provided for use in providing syringeable, in-situ forming, solid biodegradable implants for animals. The polymer is placed into the animal in liquid form and cures to form the implant in-situ. A thermoplastic system to form said implant comprises the steps of dissolving a non-reactive polymer in biocompatible solvent to form a liquid, placing the liquid within the animal, and allowing the solvent to dissipate to produce the implant. An alternative, thermosetting system comprises mixing together effective amounts of a liquid acrylic ester terminated, biodegradable prepolymer and a curing agent, placing the liquid mixture within an animal and allowing the prepolymer to cure to form the implant. Both systems provide a syringeable, solid biodegradable delivery system by the addition of an effective level of biologically active agent to the liquid before injection into the body.

11 Claims, 9 Drawing Sheets