United States Patent [19]

Sidman

[11] **4,450,150**

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[54] **BIODEGRADABLE, IMPLANTABLE DRUG DELIVERY DEPOTS, AND METHOD FOR PREPARING AND USING THE SAME**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 896,552, Apr. 14, 1978, abandoned, which is a continuation-in-part of Ser. No. 596,444, Jul. 16, 1975, which is a continuation-in-part of Ser. No. 361,182, May 17, 1983, abandoned.

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[58] **Field of Search** 128/260, 1.1; 424/15, 424/14, 1.1, 19; 252/62.53, 316

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[57] **ABSTRACT**

An implantable drug deliver depot comprising a hydrophilic poly(glutamic acid-co-ethyl glutamate) structure having one or more substances, e.g., drugs and/or diagnostic agents physically contained therein. The drug or diagnostic agent is released by its permeation of and diffusion through the copolymer structure. The depot may be designed to release the substance or substances at predetermined rates and in predetermined sequence. The copolymer structure ultimately biodegrades to glutamic acid. Among the preferred configurations for the depots are rods and closed-end capsules.

28 Claims, 19 Drawing Figures