

[54] **POLY(GLYCOLIC ACID)/POLY(ALKYLENE GLYCOL) BLOCK COPOLYMERS AND METHOD OF MANUFACTURING THE SAME**

[75] Inventors: **Donald J. Casey**, Ridgefield; **Kenneth R. Huffman**, Stamford, both of Conn.

[73] Assignee: **American Cyanamid Company**, Stamford, Conn.

[21] Appl. No.: **441,306**

[22] Filed: **Nov. 12, 1982**

[51] Int. Cl.³ **C08G 63/06**

[52] U.S. Cl. **528/86; 128/92 C; 128/335; 128/335.5; 128/348.1; 525/408; 525/450**

[58] Field of Search **528/86; 525/408, 450; 128/92 C, 335, 335.5, 348**

[56] **References Cited**

U.S. PATENT DOCUMENTS

2,917,410	12/1959	Vitalis	117/138.8
3,636,956	1/1972	Schnieder	128/335.5
3,714,125	1/1973	Shima et al.	260/75 M
3,784,585	1/1974	Schmitt et al.	528/303 X
4,048,256	9/1977	Casey et al.	260/860
4,070,347	1/1978	Schmitt	260/77.5 D
4,243,775	1/1981	Rosensaft et al.	525/415

OTHER PUBLICATIONS

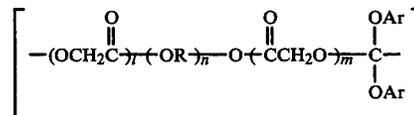
Reed, et al., "Trans. Am. Soc. Artif. Intern. Organs", 1977, p. 109, *Biodegradable Elastomeric Biomaterial-*

s-Polyethylene Oxide/Polyethylene Terephthalate Copolymers.

Primary Examiner—Earl A. Nielsen
Attorney, Agent, or Firm—Charles F. Costello, Jr.

[57] **ABSTRACT**

Multiblock copolymers having the following general formula:



where R represents alkylene and Ar is an aromatic group, are obtained by transesterification of poly(glycolic acid) and an hydroxyl-ended poly(alkylene glycol) such as poly(oxyethylene) in the presence of a catalyst with the degree of polymerization of the copolymer being increased by the subsequent addition of an aromatic orthocarbonate such as tetra-p-tolyl orthocarbonate. The copolymers find use in the manufacture of surgical articles, particularly absorbable monofilament sutures possessing the desired characteristics of flexibility, resulting in good handling properties, and biodegradability.

12 Claims, No Drawings