



United States Patent [19]

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Thompson

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[54] **MEDICAL DEVICES WITH IMPROVED ELASTIC RESPONSE**

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[51] Int. Cl.⁶ **A61K 47/36; A61K 9/14; A61K 9/22; A61K 2/02**

[57] ABSTRACT

[52] U.S. Cl. **514/777; 514/778; 514/779; 514/781; 514/782; 523/113; 523/115; 604/891.1**

Elastically deformable medical devices, such as stents, having improved speed and degree of shape recovery are made by treating shaped hydrogels containing a polymer with a solution containing at least one elasticity agent, which may be nonionic or ionic. For example, polysaccharide-based hydrogels, such as barium alginate, are formed into tubing, shaped into pigtail stents, and exposed to an aqueous solution containing an elasticity agent such as potassium ions, sodium ions, sorbitol, glucose, citric acid, mannitol, dulcitol, or glycerol. The solution may also contain a crosslinking agent, such as calcium ions, to achieve the desired degree of elasticity.

[58] Field of Search **514/777, 778, 514/779, 781, 782; 523/113, 115; 604/891.1**

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66 Claims, No Drawings