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[54] **METHOD OF MAKING CALCIFICATION-RESISTANT BIOPROSTHETIC TISSUE**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 689,652, Apr. 23, 1991, Pat. No. 5,368,608, which is a continuation-in-part of Ser. No. 515,484, Apr. 30, 1990, abandoned, which is a continuation-in-part of Ser. No. 176,789, Apr. 1, 1988, Pat. No. 5,094,661.

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[52] **U.S. Cl.** **8/94.11**; 8/94.28; 8/94.29; 623/1; 623/2; 623/3; 623/12; 623/66

[58] **Field of Search** 8/94.11, 94.19, 8/94.28, 94.29; 623/1–3, 11, 12, 66

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[57] **ABSTRACT**

A method of treating a collagenous biomaterial, such as porcine aortic valve leaflets or bovine pericardium, by exposing the biomaterial to an alcohol to inhibit in vivo calcification. The biomaterial, preferably glutaraldehyde-pretreated, is subjected to an aqueous solution of 60% to 80% lower aliphatic alcohol, such as ethanol for a period of at least 20 minutes, and preferably, 24 to 72 hours. The biomaterial is rinsed, and then stored in either a glutaraldehyde-free environment or an ethanolic solution of glutaraldehyde. In some embodiments, the treatment solutions include an additional anticalcification agent which may be a soluble salt of a metallic cation, such as Al^{+3} or Fe^{+3}.

32 Claims, 6 Drawing Sheets