United States Patent [19]

Guire

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[54] **BIOCOMPATIBLE COATING FOR SOLID SURFACES**

[75] Inventor: **Patrick E. Guire**, Eden Prairie, Minn.

[73] Assignee: **Bio-Metric Systems, Inc.**, Eden Prairie, Minn.

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Related U.S. Application Data

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[52] **U.S. Cl.** ..... **623/66**; 623/1; 623/6; 623/11; 435/176; 435/180; 351/160 H

[58] **Field of Search** ..... 623/1, 11, 5, 6, 66; 128/DIG. 8; 435/176, 180; 351/160 R, 160 H; 427/2

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Primary Examiner—Randall L. Green

Assistant Examiner—Paul Prebilic

Attorney, Agent, or Firm—James R. Haller; Mary P. Bauman; Gregory P. Kaihoi

[57] **ABSTRACT**

The biocompatibility of biomaterials having solid surfaces is improved through coating the same with biocompatible agents where the biocompatible agents are covalently bonded to the solid surface via a chemical linking moiety. The method for modifying the solid surface to improve biocompatibility employs molecules of a biocompatible agent and a chemical linking moiety possessing a photochemically reactive group capable upon activation of covalently bonding to the solid surface and possessing a different reactive group as capable upon activation of covalently bonding to separate molecules of the biocompatible agent. One of the groups is unresponsive to activation by a stimulus to which the other group is responsive. The method comprises applying stimulus to sequentially activate the groups and covalently bind the different reactive group of the linking moiety to the molecules of the biocompatible agent and to photochemically covalently bind the linking moiety to the solid surface with a sufficient population density to enable the molecules of the biocompatible agent to effectively shield the solid surface and to provide a biocompatible surface.

18 Claims, No Drawings