

[54] **BINDING REAGENTS AND METHODS**[75] **Inventor:** Patrick E. Guire, Eden Prairie, Minn.[73] **Assignee:** Bio-Metric Systems, Inc., Eden Prairie, Minn.[21] **Appl. No.:** 428,074[22] **Filed:** Sep. 29, 1982[51] **Int. Cl.⁴** G01N 33/543; G01N 33/566[52] **U.S. Cl.** 436/501; 436/518;
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435/177; 530/389; 530/810; 530/813[58] **Field of Search** 435/4, 7, 188, 174,
435/177, 178, 179, 180, 181, 810; 436/503, 518,
528, 529, 536, 537, 543, 547, 808, 501; 260/112
R; 530/389, 810, 813[56] **References Cited****U.S. PATENT DOCUMENTS**

3,959,078	5/1976	Guire	435/181
4,007,089	2/1977	Smith	435/181
4,434,150	2/1984	Azad et al.	435/7

OTHER PUBLICATIONS

Guire, "Stepwise Thermophotochemical Crosslinking for Enzyme Stabilization and Immobilization", *Enzyme Engineering* 3, 63-70, (Plenum Publishing Corporation, 1978).

Friedberg, "Affinity Chromatography and Insoluble Enzymes", *Chromatogr. Rev.* 14, 121-131 (1971).

Green et al., "The Use of Bifunctional Biotinyl Compounds to Determine the Arrangement of Subunits in Avidin", *Biochem J.* 125, 781-791 (1971).

Gorman et al., "Transglutaminase Amine Substrates for

Photochemical Labelling and Cleavable Cross-Linking of Proteins", *J. Biol. Chem.* 255, 1175-1180 (1980).

Darfler et al., "Applications of Light-Sensitive Chemicals for Probing Biological Processes", Chap. 2 of *Chemistry and Biochemistry of Amino Acids, Peptides and Proteins*.

Converse et al., *Biochem.*, 8(11): 4431-4436 (1969).

Guire, *Methods in Enzymology*, VLIV, "Photochemical Immobilization of Enzymes and Other Biochemicals", Academic Press, N.Y., 280-288 (1976).

Chowdhry, *Ann. Rev. Biochem.*, 48: 293-325 (1979).

Erecinska et al., *Arch. Biochem. Biophys.*, 171: 108-116 (1975).

Katzenellenbogen et al., *Biochem.*, 13(14): 2986-2994 (1974).

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[57] **ABSTRACT**

A method for selectively covalently linking a target moiety to a chemical moiety or carrier comprising attaching to the chemical moiety or carrier a reagent having a selector group capable of forming a specific bond with a receptor carried on the target moiety and attaching a latent reactive group which is capable upon activation of covalently bonding to the target moiety, reacting the selector group with the receptor on the target moiety, and activating the latent group to form a covalent linkage to the target moiety.

13 Claims, No Drawings