United States Patent [19]

Benedict et al.

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[54] **ADHESIVES DERIVED FROM BIOADHESIVE POLYPHENOLIC PROTEINS**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 34,078, Apr. 2, 1987, abandoned, which is a continuation-in-part of Ser. No. 856,597, Apr. 25, 1986, abandoned.

[51] **Int. Cl.**[5] **C08H 1/00**; C07K 13/00; C12P 21/06

[52] **U.S. Cl.** **524/17**; 524/21; 524/22; 524/25; 530/328; 530/350; 106/125; 106/133; 106/149; 106/150; 106/157; 106/158; 156/336

[58] **Field of Search** ..... 524/17, 21, 22, 25; 530/328, 350; 106/124, 125, 126, 127, 128, 129, 130, 133, 138, 139, 140, , 141, 149, 150, 157, 158; 156/326, 336

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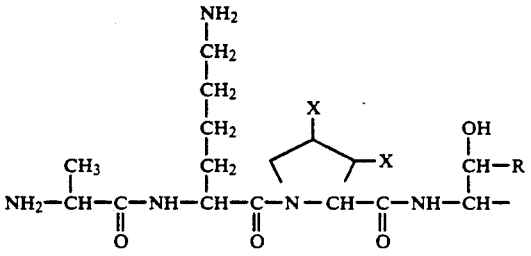
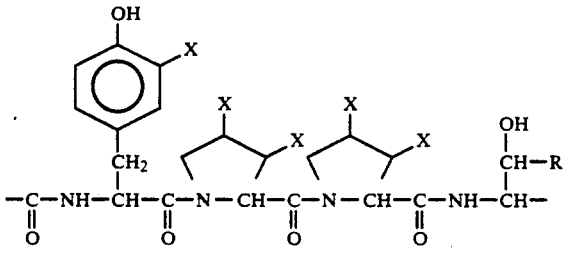
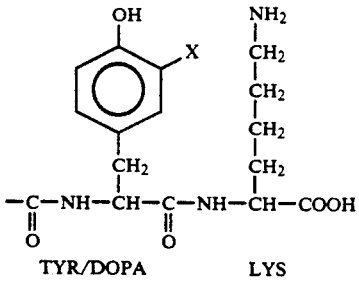
[57] **ABSTRACT**

An adhesive or coating formulation useful in biomedical application and particularly well suited for use in aqueous environments is provided comprising:

(1) a bioadhesive polyphenolic protein component having from about 5 to about 99 weight percent of a proteinaceous substance comprising from about 10 to about 400 of the following repeating decapeptide unit:







in which each X is hydrogen or hydroxyl and each R is hydrogen or methyl;

(2) from about 1.0 to about 40 weight percent of a cross-linking agent which promotes cross-linking of the decapeptide;

(3) one or more additives which promote the desired properties of the formulation, said additives comprising at least one surfactant and being present in an amount of from 0% to about 90% by weight, and

(4) a filler compatible with the intended use of the formulation, said filler being present in an amount of from 0% to about 50% by weight.

34 Claims, No Drawings