

[54] METHOD FOR THE STABILIZATION OF METHIONINE-CONTAINING POLYPEPTIDES

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[52] U.S. Cl. 514/12; 514/21; 530/399

[58] Field of Search 530/397, 399, 300, 350, 530/345; 514/12, 21, 2, 8, 973

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U.S. PATENT DOCUMENTS

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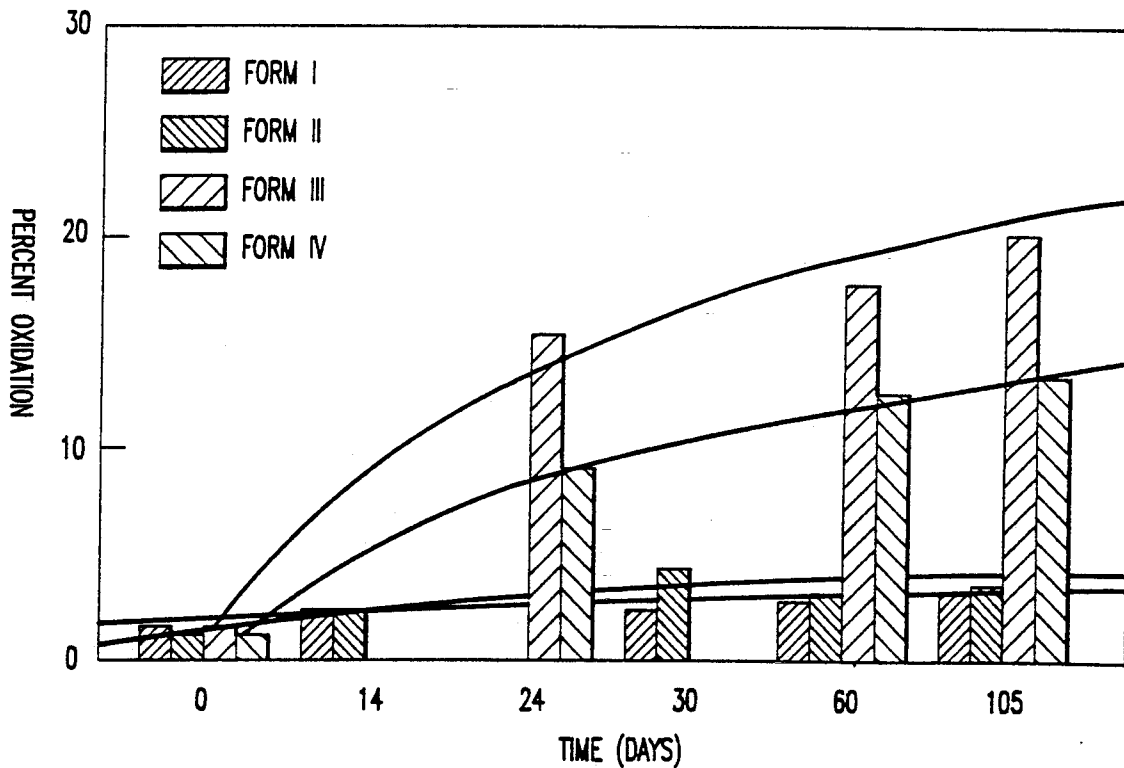
CA 100:144972z, Green Cross. J. Parenteral Science and Technology, 42:1988, "Parenteral Formulations of Peptides, Proteins and Stabilizers", Chay et al., S3-S26.

Primary Examiner—Jeffrey E. Russel Assistant Examiner—P. Lynn Touzeau Attorney, Agent, or Firm—Rothwell, Figg, Ernst & Kurz

[57] ABSTRACT

A method for inhibiting the oxidation of a polypeptide in a liquid or semi-solid pharmaceutical or therapeutic preparation, the polypeptides having an amino acid sequence comprising at least one methionine residue, wherein the amino acid methionine is added in a sufficient amount to inhibit the oxidation of the methionine residue(s) to methionine sulfoxide.

25 Claims, 4 Drawing Sheets



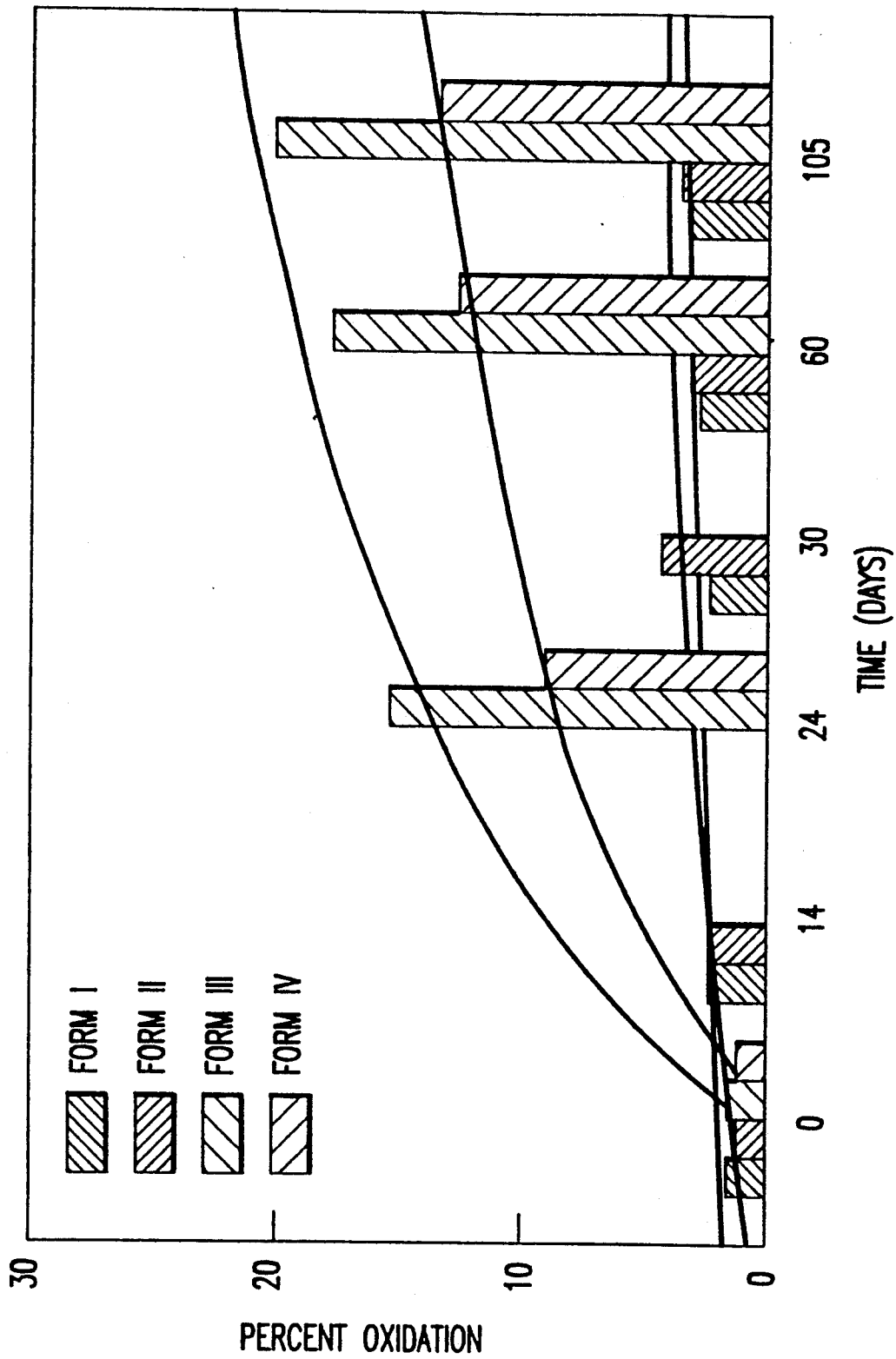


FIG. 1

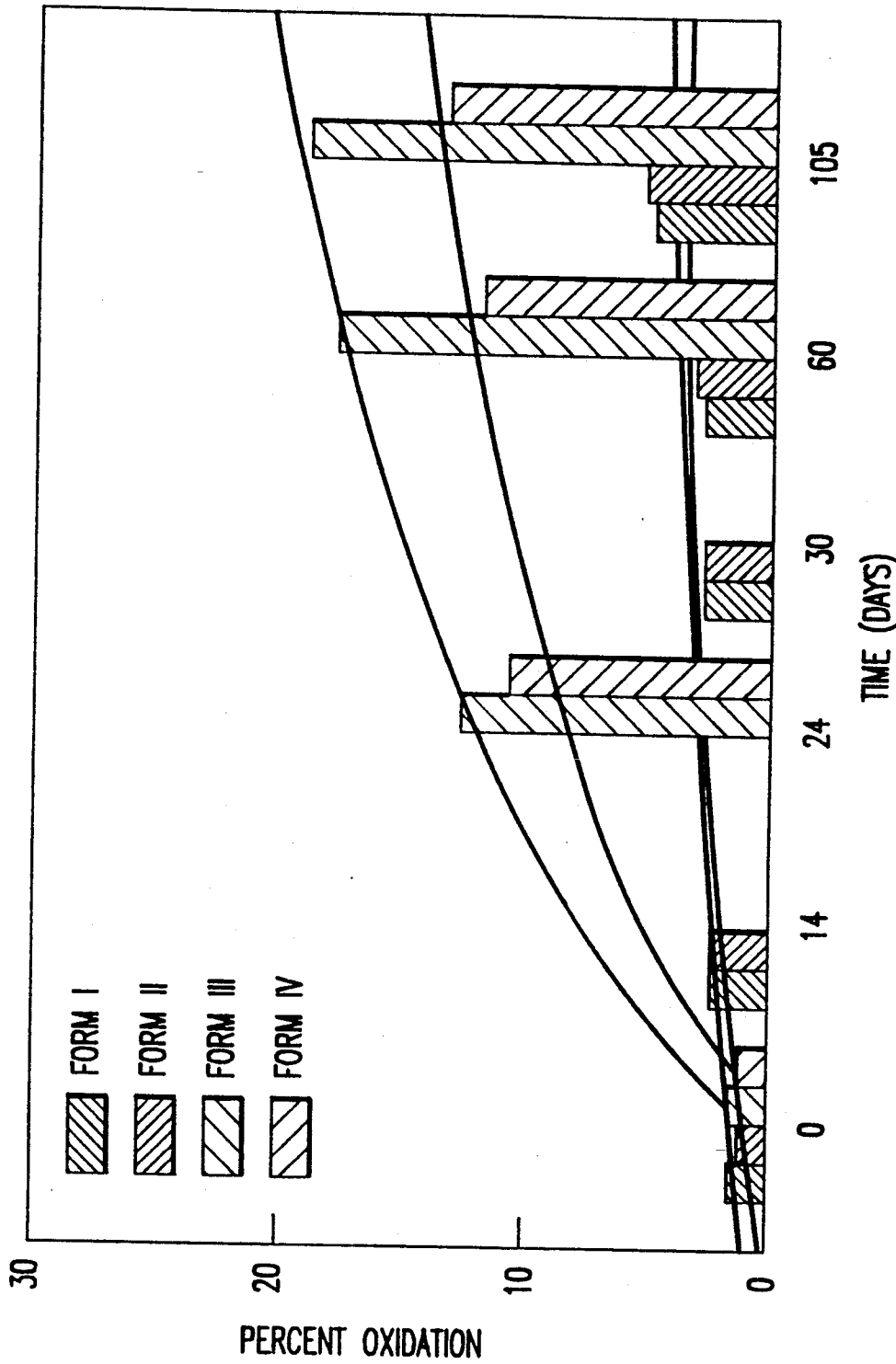


FIG.2

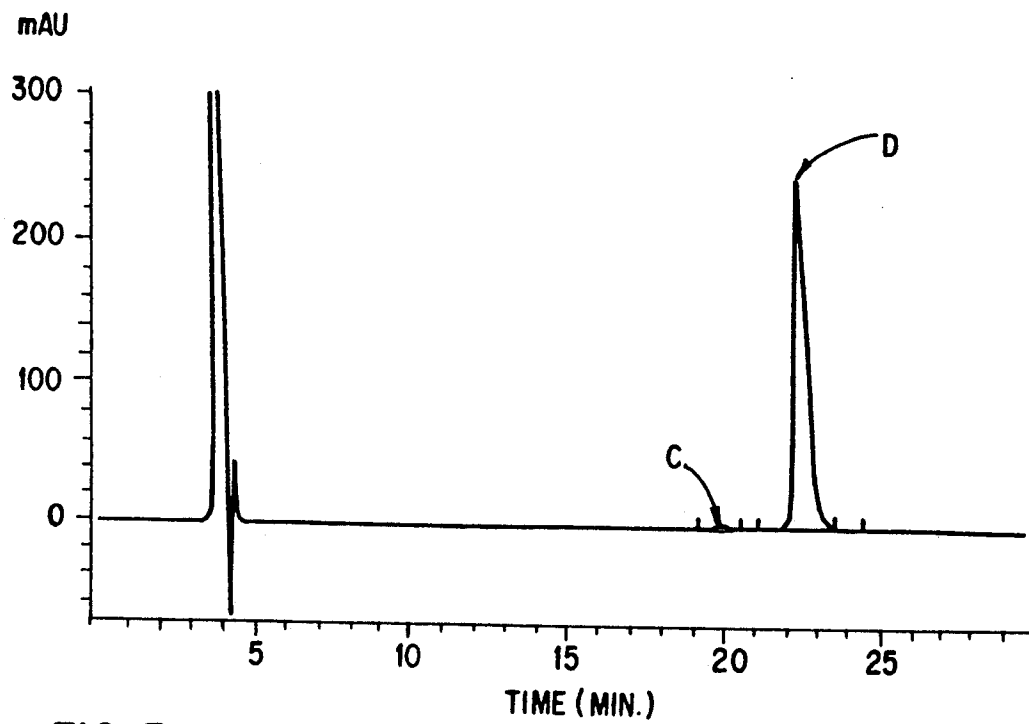


FIG. 3A

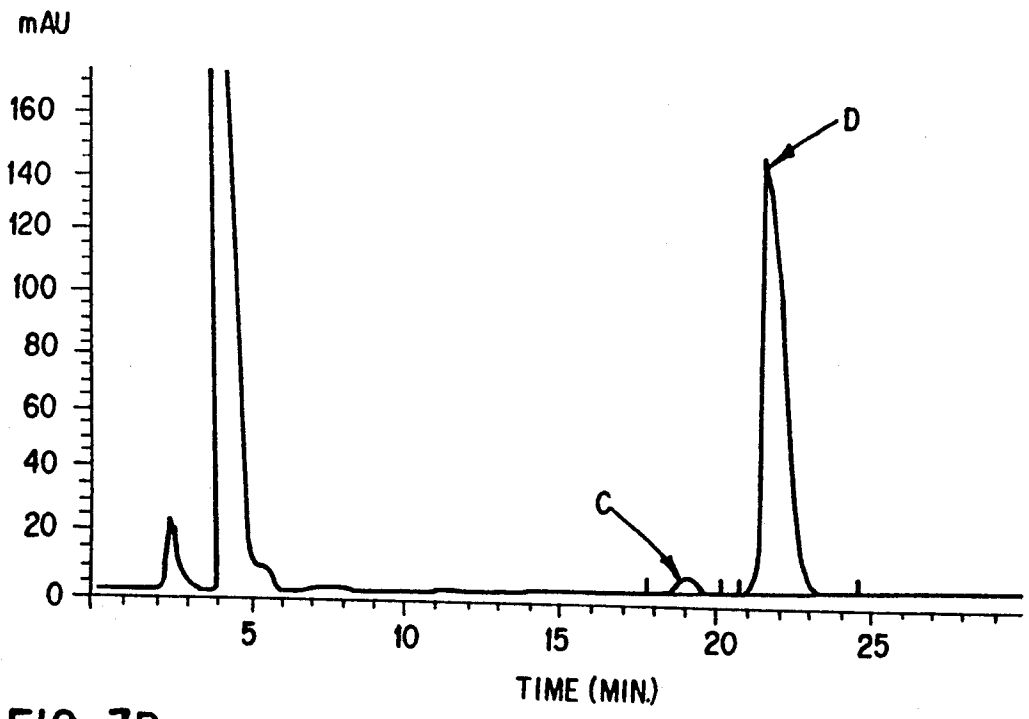


FIG. 3B

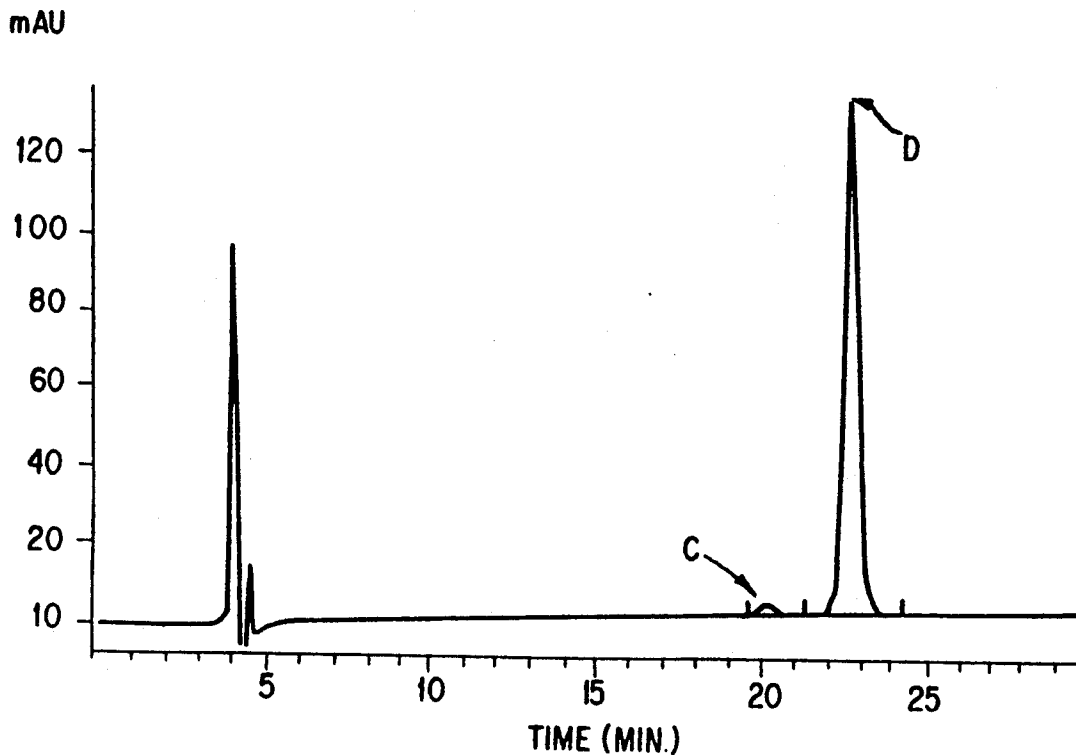


FIG. 4A

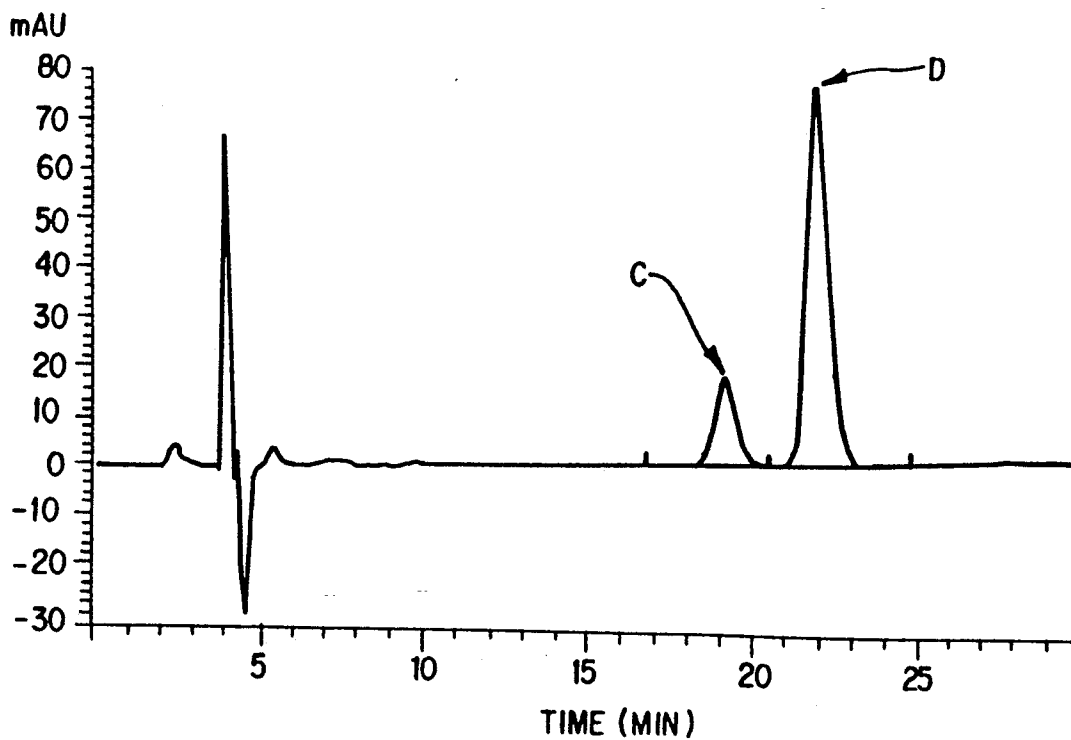


FIG. 4B

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