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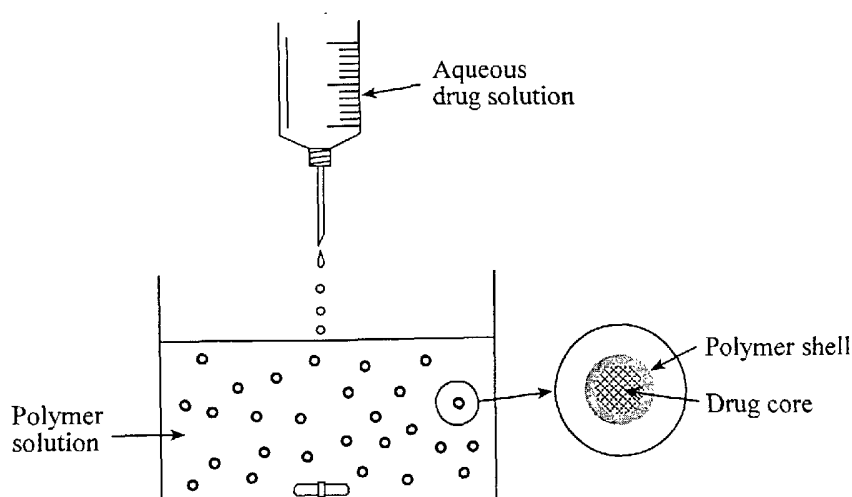
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(54) Title: MICROENCAPSULATION OF DRUGS BY SOLVENT EXCHANGE



(57) Abstract: A solvent exchange method is employed to provide microencapsulated compositions, such as microcapsules of pharmaceutical preparations. The method is based on an exchange of water and a hydrophilic organic solvent, whereby a decline in solvent quality for the organic solvent causes a polymer dissolved therein to be deposited onto an aqueous core. Optimal results are rationalized in terms of a balance of water solubility and surface tension for the organic solvent. In a preferred embodiment, microcapsules of selected drugs are formed by contacting microdroplets of an aqueous solution containing the drug with the organic solvent containing a polymer dissolved therein. A preferred method employs biodegradable poly(lactic acid-co-glycolic acid) (PLGA) dissolved in acetic acid, ethyl acetate, methyl acetate, or ethyl formate, to form a PLGA membrane around an aqueous drug core. The method is particularly attractive for encapsulating protein-based drugs without substantial denaturation.



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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.
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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B32B 15/00

US CL : 428/404, 407, 423.1, 454, 689, 692, 697, 704

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 428/404, 407, 423.1, 454, 689, 692, 697, 704

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| A | US 5,747,390 A (COOPER et al) 05 May 1998, cols. 1-14 | 1-32 |
| A,P | US 6,296,667 A (JOHNSON et al) 02 October 2001, cols. 1-16 | 1-32 |
| A,P | US 6,306,424 A (VYAKARNAM et al) 23 October 2001, cols. 1-38 | 1-32 |

Further documents are listed in the continuation of Box C. See patent family annex.

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