[J. Microencapsulation, **10**, 171-180 (1993)] [Lab. of Pharm. Engineering]

Preparation and characteristics of microcapsules containing enoxacin by one continuous process of agglomeration and microencapsulation.

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A novel microencapsulation technique was carried out with the phase separation of Eudragit RS from the wet spherical agglomeration (WSA) system by non-solvent addition. To elucidate the characteristics of microcapsules the spherical agglomerates containing enoxacin (ENX), lactose or Avicel which are different in their affinity to water (i.e. insoluble, soluble or absorbable properties, respectively), were prepared as core particles in an acetone/*n*-hexane mixture (volume ratio 3/7) by a WSA technique. The size of all kinds of spherical agglomerates was controlled by the amount of bridging liquid (ammonia water or distilled water) used.

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Preparation of microcapsules masking the bitter taste of enoxacin by using one continuous process technique of agglomeration and microencapsulation.

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In order to mask the bitter taste of drugs, a novel microencapsulation process combined with the wet spherical agglomeration (WSA) technique was developed by using a modified phase separation method. The spherical agglomerates of enoxacin (ENX) with various additives including disintegrants were successfully produced in the system of acetone-*n*-hexane-ammonia water or acetone-*n*-hexane-distilled water by the WSA, using flocculation phenomena of particles in liquid. Resultant agglomerates could be microencapsulated continuously with Eudragit RS utilizing the phase separation method in the same system as agglomeration under stirring.

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Preparation of a Directly Tabletable Controlled-Release Matrix Filler with Microcrystalline Cellulose Modified with Hydroxypropylmethylcellulose.

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A controlled-release matrix filler was prepared by spray-drying a heated aqueous hydroxypropylmethylcellulose (HPMC) solution suspending microcrystalline cellulose (MCC, PH101). Acetaminophen tablets (used as model drug, content=50%) were prepared by directly compressing the mixture of drug and spray-dried matrix filler. When HPMC was formulated with more than 10% of the matrix filler, drug release from the tablets was satisfactorily sustained.