Editorial
Volume 5:2, 2021

Journal of
Formulation Science & Bioavailability

ISSN: 2577-0543 Open Access

Editorial Note on Liposome

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In the last decade, papers have reported the preparation of cross-linked starch microspheres relying on solvent evaporation, precipitation and spray drying or emulsion-crosslinking techniques. Among these methods, water-in-oil (W/O) micro-emulsion has been thought as the economic and convenient template for preparing starch microsphere. There into Mao et al. reported the preparation of starch microspheres with the mean diameter ranging from 30 to 60 μm. Mao et al. estimated the average diameter of the micro-particles synthesized by W/O emulsification-cross linking method to be 50 μm. However, excessively large size and broad size distribution of starch microspheres have always been the problems in the traditional W/O emulsion cross-linking technique, which not only increase the risk of merging or rupturing of microspheres in tableting, but also limit the uniform and sustained release in drug delivery. In this context, there is a strong incentive to develop a new strategy for the synthesis of starch nano-sized particles with a narrow size-distributed region and research their drug delivery properties

In recent years, room-temperature ionic liquids (ILs) have been considered as possible green and effective replacements for polar phase, non-polar phase or surfactant to prepare ionic liquid micro-emulsions, and synthesis of various inorganic particles in IL micro-emulsions system have been studied. Nevertheless, due to the structural complexity and diversity, the meticulous study on formation conductivity measurement and dynamic light scattering (DLS). Starch nanoparticles were prepared in this novel IL/O micro-emulsion with OSA maize starch as the raw material, epichlorohydrin as the crosslinker and characterized by Fourier transform infrared spectroscopy (FTIR), X-ray diffraction (XRD), scanning electron microscopy (SEM) and DLS. Finally, drug loading and releasing properties of starch nanoparticles were investigated with indomathacin as a drug model

In this work, a new room-temperature ionic liquid 1-hydroxypropyl3-methylimidazolium acetate ([C3 OHmim]Ac) based on the hydroxyfunctionalized imidazolium cation was tailor-made, which was the first reported by us to dissolve starch, and its molecular structure was systematically confirmed by means of 1 H nuclear magnetic resonance (1 HNMR) and electrospray ionization mass spectrometry (ESI-MS). Then the new IL acted as the polar phase, combining surfactant polyethylene glycol octylphenol ether (TX-100), cosurfactant 1-butanol and oil phase cyclohexane, to prepare [C3 OHmim]Ac/TX-100+1- butanol/cyclohexane nonaqueous ionic liquid micro-emulsions. Different techniques were used to characterize the microstructure of micro-emulsions, including pseudo-ternary phase diagram, small beaker, then the mixture of surfactant TX-100 and cosurfactant 1-butanol with the mass ratio at 1 to 1 was added into the solution until the turbid solution became homogeneous and transparent.

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Received 17 February 2021; **Accepted** 19 March 2021; **Published** 26 March 2021

How to cite this article: Haskell. Editorial Note on Liposome. J Formul Sci Bioavailab 5 (2020): e107.