

STRUCTURE OF THE CARRIER-DRUG SYSTEMS BASED ON FULLERENE

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Fullerenes due to pleiotropic activity are promising agent for different medical applications. They are used as a separate active component and as a carrier of modifications in targeted delivery and/or prolonged therapy. The fullerenes water solutions, which were prepared by extraction from C60/NMP, characterized by unique small cluster sizes of fullerenes that lead to improved biocompatibility of fullerenes. Based on the aqueous dispersions of fullerene, it was designed a number of drug delivery system as fullerenes-polyphenols, fullerenes-alkaloids, polysaccharides-fullerenes. These systems were investigated by small-angle neutron scattering, dynamic light scattering, and UV-Vis spectroscopy. In addition, a computer model of carrier-drug interaction was proposed based on quantum chemical calculations.

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