

Название публикации:

Spectral-Fluorescent Properties of Supramolecular Systems Based on Chlorin e₆

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Аннотация:

The spectral-fluorescent properties of various supramolecular systems based on chlorin e₆ (Ce₆) are determined to facilitate the development of new medicines for photodynamic therapy and diagnostics. The effect of various excipients, such as poly-N-vinylpyrrolidone (PVP), polyethylene glycol (PEG), bovine serum albumin (BSA), chitosan, Triton X-100 (TX-100), sodium hexametaphosphate (SHMP), and poly(dimethyldiallylammonium chloride) chloride (PDDAC), on the optical absorption and fluorescence of Ce₆ is demonstrated. In the Ce₆-PVP, Ce₆-PEG, Ce₆-BSA, Ce₆-TX-100, Ce₆-SHMP, and Ce₆-PDDAC systems, Ce₆ molecules are disaggregated and complexes thereof with excipients are formed. The quantum yield of Ce₆ fluorescence in supramolecular systems is close to that of the free-form photosensitizer, in the absence of excipients. The results suggest that supramolecular complexes of Ce₆ are promising for the development of medicines with controllable photodynamic activity. © 2018, Pleiades Publishing, Ltd.

Ключевые слова:

chlorin e₆, molecular aggregation, spectral-fluorescent properties, supramolecular systems