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Porphysomes and Porphyrin-Based Nanomaterials for Drug Delivery System

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Abstract

Porphyrin is an organic molecule with the properties of protracted electronic structure with π-conjugation, extreme molar absorption to near-infrared spectrum from the visible region, supreme oxygen quantum yields with singlet state, and chemical flexibility. The nanoparticles of porphyrin and its derivatives have been developed for drug delivery systems which are one of the popular fields in pharmaceutical chemistry. Porphyrin nanomaterials condensing to different drug delivery variables have been utilized to enhance delivery features due to the properties that allow immune tolerance, specific targeting, better hydrophilicity, and lengthy tissue lifetime. This chapter has reviewed the drug delivery properties of nanomaterials of porphyrin with biological applications for photodynamic treatment.

Keywords

Nanomaterials Porphyrin Inorganic Porphysomes Drug delivery Self-assembly