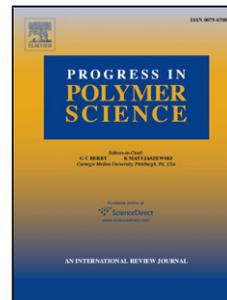


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Polyphosphazenes as anti-cancer drug carriers: From synthesis to application

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Abstract

Currently, most of administered anti-cancer drugs are low molecular weight compounds (as compare to polymers) and hydrophobic in nature. Such small molecular anti-cancer drugs possess fast clearance rate from the blood circulating system and have toxic side effects. Poly(organophosphazenes) have wide range of biomedical applications owing good biocompatibility, sustainability and degradability into non-toxic by-products. So, in this review, we have carefully selected such poly(organophosphazenes), which proved to be good anti-cancer drug carriers because of overcoming crucial issues related to the administration of anti-cancer drugs i.e poor hydrophilicity, lack of cancer cells specificity, and fast clearance rate from blood circulating system. Thence, the main focus of this review is to highlight the advancement that have been achieved in the synthesis of poly(organophosphazenes) and their application in anti-cancer drug delivery system (DDS).

Keywords: Anti-cancer drug, poly(organophosphazene), pH-responsiveness, drug delivery system

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