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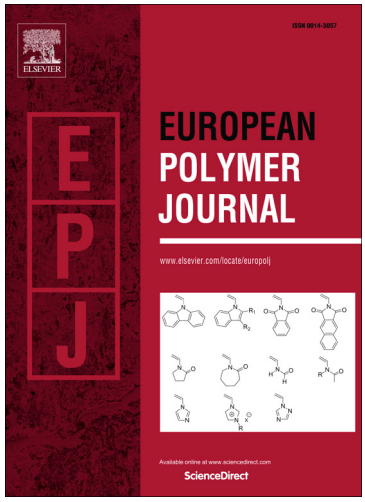

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POxylation as an alternative stealth coating for biomedical applications

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Abstract

Polyethylene glycol (PEG) polymers are currently used in a variety of medical formulations to reduce toxicity, minimize immune interactions and improve pharmacokinetics. Despite its widespread use however, the presence of anti-PEG antibodies indicates that this polymer has the potential to be immunogenic and antigenic. Here we present an alternative polymer, poly(2-oxazoline) (POx) for stealth applications, specifically shielding of a proteinaceous nanoparticle from recognition by the immune system. Tobacco mosaic virus (TMV) was used as our testbed due to its potential for use as a nanocarrier for drug delivery and molecular imaging applications.