04-028 and 02-119 Polyanhydride Compounds and Linkers: Novel Structures to facilitate Drug Delivery and Medical Device Development (for Non-Stent/Non-Vascular Applications)

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Technology description

Scientists at Rutgers University have successfully developed polymers which degrade into useful biologically active compounds. These polymers have medical implant applications that include reconstructing them into medical devices such as bone plates, sutures, implantable sensors, implantable drug delivery devices, agents for tissue regeneration, and other articles that decompose into non-toxic components within a known time period. In addition, these biodegradable and biocompatible drug polymers containing polyanhydride linkers can be administered to the host via a variety of routes including, but not limited to, oral, subcutaneous, intramuscular, intradermal and topical, depending on the desired use of the drug. Further, polymer degradation rates can be controlled directly by altering their chemical structures.

In recent years, the healthcare sector has seen a marked investment in treatment technologies that perform outstandingly with maximal pharmacological specificity and efficacy. Polymer-Drug conjugates have now been acknowledged as a superior treatment modality. Scientists at Rutgers University have successfully developed polymers which degrade into useful biologically active compounds. These polymers have medical implant applications that include reconstructing them into medical devices such as bone plates, sutures, implantable sensors, implantable drug delivery devices, agents for tissue regeneration, and other articles that decompose into non-toxic components within a known time period. In addition, these biodegradable and biocompatible drug polymers containing polyanhydride linkers can be administered to the host via a variety of routes including, but not limited to, oral, subcutaneous, intramuscular, intradermal and topical, depending on the desired use of the drug. Further, polymer degradation rates can be controlled directly by altering their chemical structures. Due to their enhanced solubility, processability, ease of formulation and improvisation abilities, these polymers provide an efficient means to deliver care and tailor therapies.

Institution

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