

Template Synthesis of α -Helical Peptides on Cyclotriphosphazene

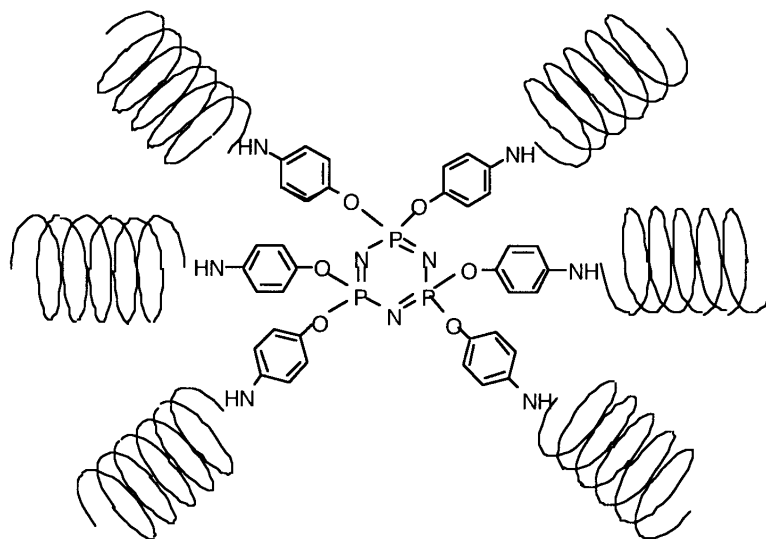
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Cyclic trimeric phosphazene have been used for design of hexaarmed star-shaped polymers. Previously, inorganic cyclic template was connected with six molecules of spacers: p-aminophenoxy or p-carboxyphenoxy. It was existed for common stability of polypeptides with cyclophosphazene cores and different functional groups introduction.

The preparations of novel star-shaped polymers were carried out by both ring-opening polymerization of *N*-carboxyanhydrides of L - glutamic acid esters and using peptide-coupling techniques.



FT-IR spectroscopy, circular dichroism measurements, ¹H NMR and ¹³C NMR spectra date confirmed the α -helix conformation of the star-shaped peptide chains. It was found that the cyclophosphazene template induces six-helical bangle formation (cis/trans) and hexaarmed star-shape inorganic/ organic structures were fabricated. The role of H-bonds in bangle formation is discussed.