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Cyclodextrin glycosides as materials for removal of biological pathogenic materials from the human environment

Cyclodextrins provide an intriguing agent system for the removal of a host of materials from aqueous media in order to prevent pathogens from affecting humans. In the current effort, cyclodextrins have been chemically modified such that they may be used efficaciously for the removal of a wide range of harmful materials for aqueous environments impinging on human activities. Among these modifications are those that involve selective targeting of the upper and lower rims of the cyclodextrin species for selective encapsulation of organic chemical toxins of appropriate size, shape, and hydrophobicity, as well as the generation of hyper branched polymers from the cyclodextrins for enhanced encapsulation, and the functionalization of cyclodextrins for the facilitated destruction of pathogenic bacterial agents. Utility of the constructed cyclodextrin materials for a variety of situations is considered.

Biography

Robert Engel is Professor of Chemistry and Biochemistry at Queens College and has been in that position since 1968. He has also served there as Dean of Graduate Studies and Research and Dean of Mathematics and the Natural Sciences.

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