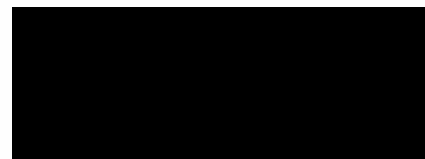


HYDROPHOBICALLY MODIFIED POLYPEPTOIDS AS LIPID BASED DRUG DELIVERY AGENTS AND AS MICROBIALS



The Inventors

Donghui Zhang, PhD
College of Science
Department of Chemistry
Louisiana State University

Vijay John, PhD
Chemical and
Biomolecular Engineering
Tulane University

Sunting Xuan
College of Science
Department of Chemistry
Louisiana State University

Yueheng Zhang
Chemical and
Biomolecular Engineering
Tulane University

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For more information
Contact:

Robert J. Brown

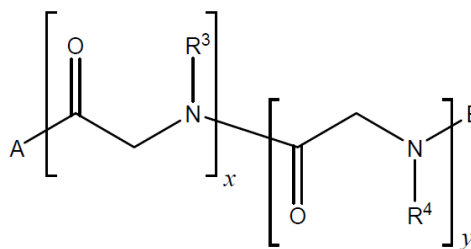
LSU Office Innovation &
Technology
Commercialization

Tel: 225-615-8916

email: rjbrown@lsu.edu

Summary

Researchers at LSU and Tulane have synthesized a new class of compounds called Hydrophobically Modified Polypeptoids (HMPs), which act as protein mimics and are entirely biocompatible. Due to their unique properties, HMPs have a variety of promising applications.



Hydrophobically Modified Polypeptoid

Benefits

- Can be used to break down lipid bilayers into small segments and attach them to other lipid bilayers or to liposomes at lower concentrations.
- Can be used to break down liposomes into small entities, or “lipid rafts” which can be drug delivery vesicles. Lipid rafts can include one or more drugs incorporated into the HMPs of the lipid raft.
- Can be used to transform liposome structure so that they can be used to encapsulate single or multiple drugs.
- Can be used to develop antimicrobial coatings since they disrupt cell membranes in analogy with the disruption of liposomes.

Applications

- Pharmaceutical industry; single and multi drug encapsulation and targeted delivery of drugs, genes, and vaccines.
- Extraction of cell membrane proteins with retention of structure and function.
- Antimicrobial surface coating; food packaging, cosmetics, and other consumer products.
- Antifreeze, hydrate inhibition, rapid hydrate nucleation, oil dispersion, energy transfer, separation of materials and membranes, biomineralization and etc.