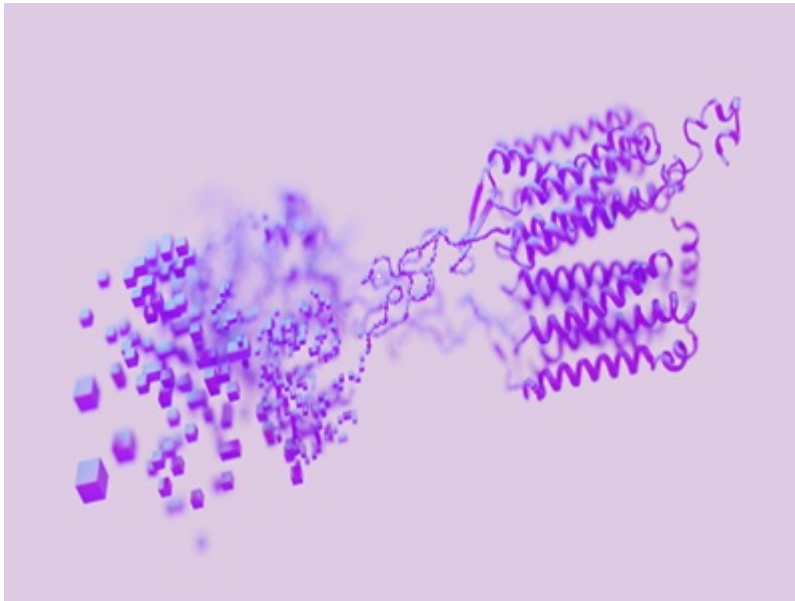


## Homo-Oligomeric Protein Assemblies

The solution is a novel approach to design polypeptides that form cyclic homo-oligomers, offering potential applications in various fields.



**Technology ID**

BDP 8649

**Category**

Research Tools  
Selection of Available  
Technologies  
Therapeutics/Other

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### What is the Problem?

The design and synthesis of proteins with specific structures and functions is a significant challenge in the field of synthetic biology. Traditional methods often rely on modifying existing proteins, which can be limiting and inefficient. This approach restricts the range of possible protein structures and functions that can be achieved, and it often requires a significant amount of trial and error. Furthermore, these methods may not be able to keep pace with the growing demand for novel proteins in various industries, including pharmaceuticals, biotechnology, and materials science.

### What is the Solution?

The solution is a method for the de novo design of polypeptides that are at least 50% identical to a specific amino acid sequence. These polypeptides have the unique ability to form cyclic homo-oligomers, which are protein assemblies composed of identical subunits. This approach allows for the creation of proteins with desired properties and functions, significantly expanding the possibilities for protein design.

### What is the Competitive Advantage?

The technology offers a new method for protein design that overcomes the limitations of traditional methods that rely on modifying existing proteins. The ability to design polypeptides that form cyclic homo-oligomers offers a versatile platform for creating proteins with a wide range of potential applications. This technology can significantly advance various fields that rely on protein design, including drug development, enzyme design, and the creation of novel materials.

**Patent Information:**

[US20240013853A1](#)