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Enantioselective Total Synthesis of Both Antipodes in the Proposed Structure of Macrolide Cytotoxic Agent Callyspongiolide

A synthesized compound derived from marine sponges provides a novel macrocycle for optimizing pharmaceutical properties in various cancer treatments.

Marine sponges of the genus Callyspongia have proven to be rich sources of natural products that display cytotoxic activity. These cytotoxic activities were isolated to callyazepin, a nitrogenous macrocycle that showed cell cytotoxicity and inhibition of lymphoma cells. Synthesis of the callyspongiolide could aid in structural determination and biological studies.

Researchers at Purdue University have synthesized a compound derived from the Callyspongia's cytotoxic activity macrocycle that treats various forms of cancer. The synthesis has allowed the preparation of various structural derivatives for optimization of pharmaceutical properties.

Advantages:

-Callyspongia is a natural source of cytotoxic activity

-Cancer treatment and symptom treatment

-Potential to provide relief to cancer patients

Potential Applications:

-Pharmaceuticals

-Cancer treatment

-Treatment of cancer symptoms

TRL: 3

Intellectual Property:

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Category
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