

Pelay, who obtained her doctoral degree in February with a thesis related to this project. This molecule belongs to the family of "head-to-side chain" cyclodepsipeptides. It is a peptide, a small protein comprising 11 amino acids and one acid, arranged in the shape of a six with a central core containing a series of highly sensitive boundaries and including seven unnatural amino acids.

"Every day we have more complex molecules," explains Pelay, "but the effort has been compensated by a patent and the possibility, via the new synthesis method, to reproduce several interesting molecules that share similar structures. It is an uncharted field of research."

The "head-to-side chain" cyclodepsipeptides form a total of 38 known molecules. The advantage of these molecules, all of which are isolated from marine sponges, is that many show activity against, besides cancer cells, the HIV virus, resistant bacteria, and fungi of various types. Until now the pitfall was the synthetic reproduction.

"We have opened a whole new field of synthesis of molecules with therapeutic potential, none of which are on the market yet. We will have to wait until later this year to see if our endeavours lead to the development of a therapeutic molecule with the potential to become a commercial drug," concludes Tulla. In any case, and if all goes well, it will take a multimillion euro investment and at least 15 years for pipecolidepsin A to reach the market.

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