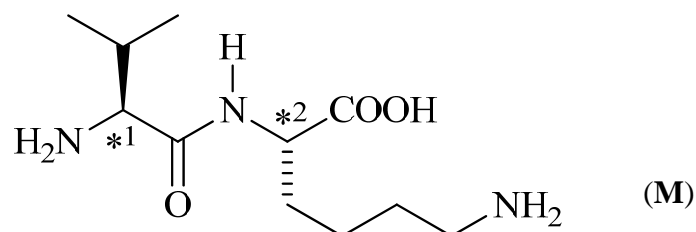


- Consider the following molecule (**M**) isolated from a natural source.



Indicate on the above structure all stereogenic centres in molecule (**M**).

Use numbered asterisks (*1, *2, *etc.*).

Select one of these stereogenic centres and determine its absolute configuration.

Show your working.

Priorities at *1: $-\text{NH}_2 > -\text{CONHR} > -\text{CH}(\text{CH}_3)_2 > -\text{H}$

With H at back these groups go anticlockwise. Therefore (S)- configuration about *1.

Priorities at *2: $-\text{NHCOR} > -\text{COOH} > -(\text{CH}_2)_4\text{NH}_2 > -\text{H}$

With H at front these groups go clockwise. Therefore, with H at back, they would go anticlockwise. Therefore (S)- configuration about *2.

Give the products when molecule (**M**) is hydrolysed by heating it with 6 M HCl.

Make sure you show the products in their correct ionisation states.

