Solution to peptide sequencing challenge

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The winner of the peptide sequencing challenge (published in volume 404, issue 4) is Sami T. Tuomivaara, Complex Carbohydrate Research Center, University of Georgia, Athens, USA

The award entitles the winner to select a Springer book of his choice up to a value of €75.

Our congratulations!

The cyclic peptide described is kalata B1 [1, 2] and its structure is shown in Fig. 1. The partial reduction of the cyclic peptide [2, 3] allows one to establish the disulfide connectivity. The first peptide is amino-ethylated at only {2}Cys and {5}Cys, whereas the second peptide is amino-ethylated at only {1}Cys and {4}Cys. The original peptide therefore contains disulfide bridges at {2}Cys and {5}Cys and at {1}Cys and {4}Cys, and consequently also at {3}Cys and {7}Cys.

Fig. 1 *Kalata*, 2002, painted steel, length 3 ft (90 cm), by Julian Voss-Andreae [4]. The pictured sculpture is based on the structure of the protein kalata B1

Since this disulfide connectivity cannot be drawn on a plane without any disulfide bonds crossing, kalata B1 forms a non-planar graph commonly known as the cyclic cystine knot [3].

References

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This article is the solution to the Analytical Challenge to be found at <http://dx.doi.org/10.1007/s00216-012-6192-3>

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