STRUCTURE DETERMINATION OF SYRINGOTOXIN BY 1D AND 2D NMR

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Syringotoxin is a lipodepsipeptide produced by strains of Pseudomonas syringae pv. syringae pathogenic to citrus plants.

A 1H NMR study by 1D and 2D techniques in different solvents (deuterated water, dimethyl sulfoxide and acetonitrile/water) allowed us to obtain the complete primary structure.

From the COSY type experiments, a full assignment of the spin system led to the aminoacid identification. The fatty acid chain was completely identified by 13CNMR.

The sequential assignment has been obtained from ROESY type experiments with different mixing times.

The following structure is in complete agreement with chemical and mass spectrometry results.

\[
\begin{align*}
\text{NH}_2 & \quad \text{OH} \\
\mid & \quad \mid \\
\text{CH}_2 & \quad \text{CH}_2 \\
\mid & \quad \mid \\
\text{OH} & \\
\mid & \\
\text{CH}_3 & \quad \text{OH} \\
\mid & \\
\mid & \\
\mid & \\
\mid & \\
\mid & \\
\mid & \\

\text{CH}_3-\text{CO}-\text{NH}-\text{CH}_2-\text{CO}-\text{NH}_2-\text{CH}_2-\text{CO}-\text{NH}-\text{CH}_2-\text{CO}
\end{align*}
\]

PHOTOTOXIC EFFECTS OF MICROBIALPECTIC ENZYMES

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Microbial pectic enzymes not only macerate plant tissue but also kill plant cells and elicit synthesis and accumulation of phytoalexins. We have evidence suggesting