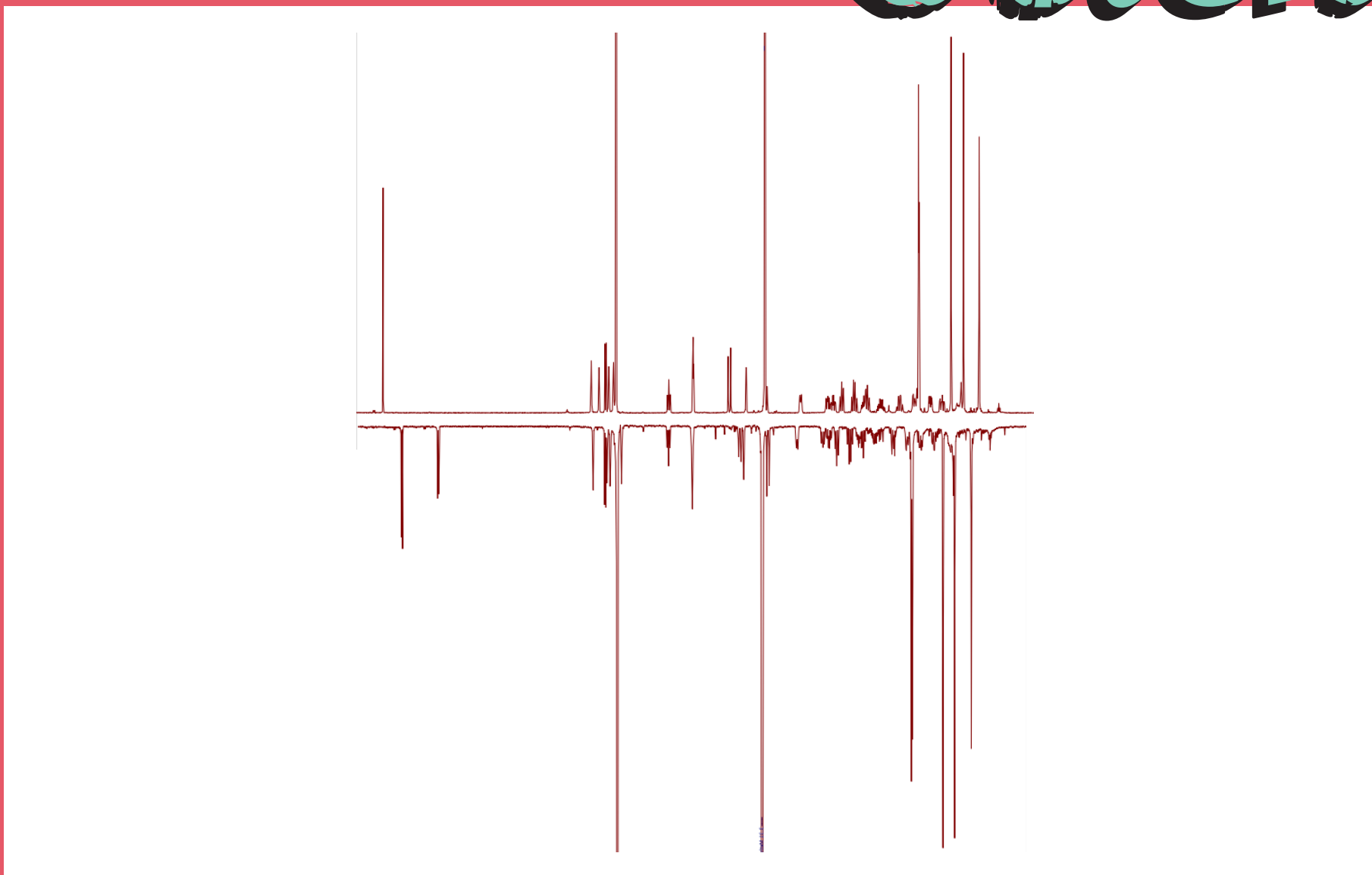


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NMR is *Science*



Penitrems A and E in methanol d_4

Svetlana Kalinina, 2015

Food Chemistry Department | Institute of Food Chemistry

Field strength: 600 MHz

Why is this your favorite spectrum?

Minor changes on NMR spectra demonstrate a fine line between death and life: deadly toxic penitrem A (upper part) with its “younger and less toxic brother” penitrem E (looking down), both obtained from hundreds of Petri dishes with fungal cultures.

Toxins were isolated accidentally in our laboratory from *Penicillium roqueforti* in a high yield, which are not described in literature. Unfortunately this experiment was not reproducible. After some analysis, it was clear that fungal culture was contaminated with another strain, *Penicillium crustosum*, which was responsible for production of this secondary metabolites. Today we are using this co-cultivation approach for isolation of indole-based alkaloids from *Penicillium* strains with a high yield.