Chivosazole A
Elucidation Of The Full Absolute Configuration

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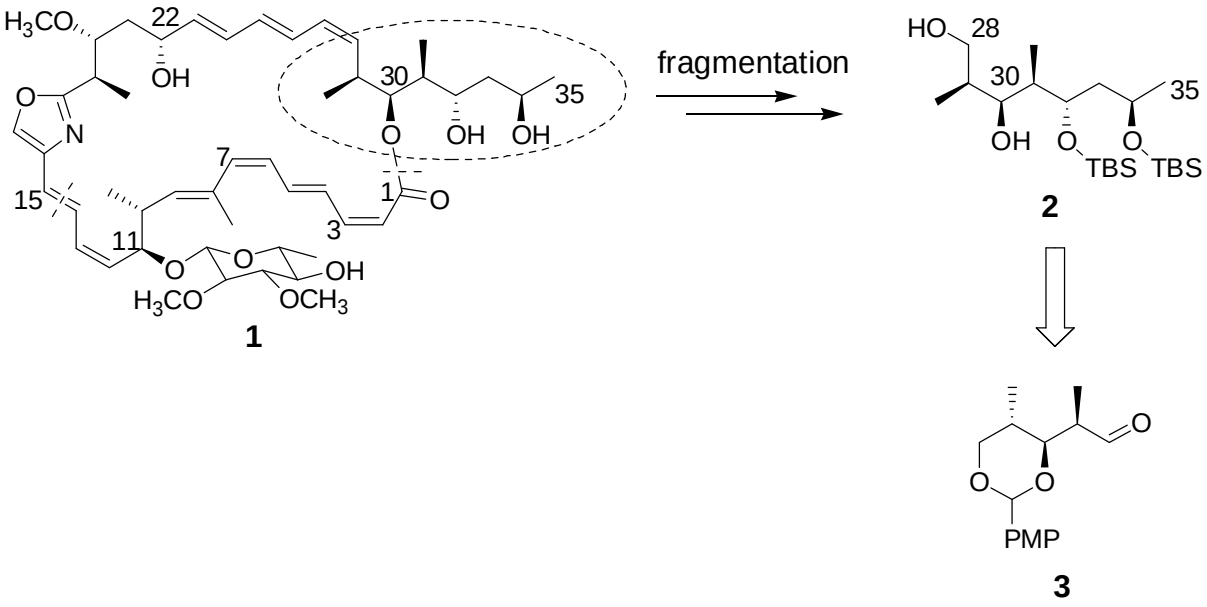
Chivosazole A (**1**) belongs to a family of 31-membered macrolides which were isolated from the myxobakterium *Sorangium cellulosum* by Höfle and co-workers at the GBF (German Research Centre for Biotechnology) in Braunschweig.[1] Its structure was established by mass spectrometry and NMR studies. However it was not possible to determine the configuration of the ten stereocentres in the molecule.
Chivosazole A (**1**) shows great potential against various cancer cell lines, like A 540, Colon 320 or Hep G2.[2] Because of its biological activity and its complex structure Chivosazole A is of great interest to organic chemistry.



1

*Chivosazole A (**1**) and isolated fragment **2** and retrosynthetic analysis*

Complete TBS protection and ozonolysis of **1** gave us fragment **2**, which we were also able to synthesize. By comparison of the isolated and the synthesised fragment we could determine the absolute configuration of the five stereocenters. Furthermore we have proposed the relative configuration of all stereocenters by modelling experiments.
Additionally using the biogenetic gene cluster as a tool for structure elucidation we were able to predict the absolute configuration of the secondary alcohols at C11, C20, C22, C30, C32, and C34.[3]

[1] Jansen, R.; Irschik, H.; Reichenbach, H.; Höfle, G. *Liebigs Ann./Recueil* **1997**, 1725-1732.

[2] unpublished data

[3] Perlova, O. ; Gerth, K.; Kaiser, O.; Hans, A.; Müller, R.; *J. Biotechnol.* **2005**, *121(2)*, 174-191.