

### Crystal Structures of the Fungal Metabolite Oosporein

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Oosporein is a symmetrical red coloured 2,5-dihydroxybenzoquinone derivative biosynthesized by a broad variety of soil borne fungi. The compound, being known for almost six decades, is the major secondary metabolite of the entomopathogenic fungi *Beauveria brongniartii* which is successfully applied as a biological control agent against the European cockchafer *Melolontha melolontha*. In the course of isolating and purifying pure oosporein from biological cultures we obtained a dioxane solvate and a non-solvated form which were characterized with different solid state analytical techniques including X-ray diffraction.

The molecular geometry of oosporein is x-shaped with a dihedral angle of 67.8 and 79.9° in the non-solvated form and the dioxane solvate respectively. Surprisingly the two forms crystallize in the same space group (monoclinic,  $C_2/c$ ) showing a similar O-H...O network. The non-solvated form shows two dimensional O-H...O tetrameric layers which are off stacked leading to a densely packed structure. In the dioxane solvate one solvent molecule is involved in the O-H...O hydrogen bond network resembling the overall network of the anhydrous form. This pseudo-tetrameric arrangement results in a large channel along the c-axis which is occupied by highly disordered dioxane molecules.

[1] Frank R.L., Clark G.R., Coker J.N., *J. Am. Chem. Soc.*, 1950, **72**, 1827.

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