

STUDIES OF BETA-CYCLODEXTRIN-FENCHENE INTERACTIONS

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Cyclodextrins (CDs) are macrocyclic carbohydrate compounds, torus-like shaped consisting of glycopyranose units combined by 1,4-o-glycosidic bonds. They exhibit extraordinary complexing properties towards many differing significantly in structure guest compounds (both polar and apolar ones). This particular property has been widely used by pharmaceutical¹ and food industry.²

Fenchene is a bicyclic terpene. It is present in some essential oils (e.g. eucalyptus, French turpentine).

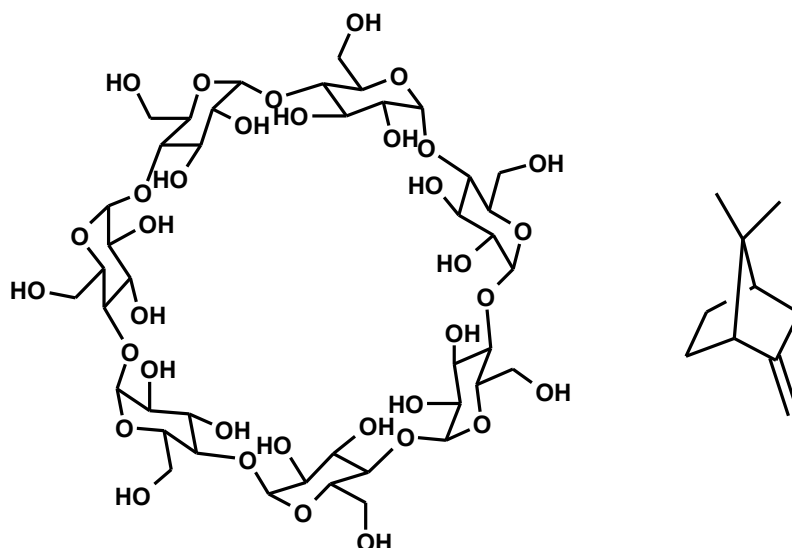


Figure 1. Molecular structures of β -cyclodextrin and fenchene

In the present study, the formation of the molecular complex of β -cyclodextrin with fenchene is reported. The desired compound was received by addition of 1,4-dioxane solution of fenchene to the water aqueous solution of monoterpena. Crystals appropriate for X-Ray measurement were received by slow cooling of saturated water solution.

Structural studies were performed using BRUKER CCD diffractometer. The complex crystallizes in an orthorhombic group $C222_1$ [$a = 19.2030(7)$, $b = 23.8840(8)$, $c = 32.5540(11)$, $V = 14930.7(9)$, $T=100K$]

1. Arun, R.; Ashok, K. C. K.; Sravanthi, V. V. N. S. S. *Sci. Pharm.* **76**, 567 (2008).
2. Astray, G., Gonzalez-Barreiro, C., Mejuto, J. C., Rial-Otero, R., Simal-Gandara, J. *Food Hydrocolloid* **23**, 1631 (2009)