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## Optically Active trans-Diethylstilbestrol Oxide Monomethyl Ether

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Diethylstilbestrol (1) is one of the few substances for which a clear association with carcinogenicity has been established in man. However, 1, in contrast to most other carcinogens, fails to induce mutations in the *Salmonella*/microsome test or malignant transformation of eukaryotic cells in culture. Recently, we reported the inhibition of microtubule polymerization and the effects on cell culture of 1 and its metabolic analogues.

Diethylstilbestrol oxide is a metabolic intermediate of diethylstilbestrol. In order to elucidate the effects of optically active diethylstilbestrol oxides on microtubule assembly and cell culture, we synthesized ( $\pm$ )-diethylstilbestrol oxide (2). Since 2 was not stable under moderately acidic and basic conditions, the monomethyl ether (3) of diethylstilbestrol oxide, which was more stable than 2, was separated by high-pressure liquid chromatography using a chiral column. The mono (4-bromobenzoate) of (–)-3 was analyzed by X-ray crystallography and its absolute structure was determined as C(1R,1'R).

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\*\* 三共・分析代謝研