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Author	小田, 泰子(Oda, Taiko) 佐藤, 良博(Sato, Yoshihiro) 児玉, 昌彦(Kodama, Masahiko) 斎藤, 肇(Saito, Hajime)
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Evidence of Intercalation of trans-Diethylstilbestrol and Its Methyl Ether Derivatives in Multibilayers of Egg Phosphatidylcholine by High-Power Deuterium Nuclear Magnetic Resonance (^{2}H-NMR) Spectroscopy*

Taiko ODA, Yoshihiro SATO, Masahiko KODAMA**, and Hazime SAITÔ**

小田泰子，佐藤良博，児玉昌彦**，斎藤　肇**

The mode of incorporation of ^{2}H-labeled trans diethylstilbestrol (DES) and its methyl ether derivatives into multibilayers of egg phosphatidylcholine was analyzed by means of deuterium nuclear magnetic resonance. A clear distinction was found between DES or its methyl ether derivatives incorporated into lipid bilayers and those precipitated in the aqueous phase, by taking into account the extent of the motionally averaged quadrupole interaction. Thus, it was found that the relative proportion of these compounds incorporated into multibilayers decreased in the following order: DES>DES monomethyl ether>DES dimethyl ether. In addition, we demonstrated that the mode of intercalation in the multibilayers differs greatly among these compounds.

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** 国立がんセンター研究所生物物理部