

*Paramagnetic Resonance Absorption in
Solutions of the Sodium
Adducts of Isoprene*

By Keiji KUWATA, Kazuo MORIGAKI
and Kozo HIROTA

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It has been found already by Weissman^{1a)} and others²⁾ that paramagnetic resonance absorption spectra are observed in the solutions of the sodium adducts of polynuclear aromatic hydrocarbons, e. g., naphthalene, phenanthrene, naphthacene, etc., and also of benzene derivatives^{1b)}. Recently, the list of such substances has been enlarged to another kinds of adducts by the present authors, i. e., the adducts of polymerizable vinyl monomers, such as styrene³⁾, α -methylstyrene⁴⁾, 1,4-diphenylbutadiene⁵⁾.

However, since all the above hydrocarbons have one benzene ring at least, it will be interesting to investigate if the adducts of polymerizable vinyl monomers without aromatic rings have the same

character. Using the method of preparation as described elsewhere³⁾, Na-adduct of isoprene was obtained as the solution of tetrahydrofuran. The sample colored brownish yellow, maximum absorption being near 375 m μ . Detailed discussion on the structure of the adduct will be published in a separate paper⁶⁾.

Measurement of paramagnetic resonance absorption on the sample gave an affirmative result for the object of the present research. A spectrum of the adduct of isoprene is shown in Fig. 1. Hyperfine structure of the spectra can be explained if a radical anion is assumed to exist, but detailed discussions will appear in future.

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*Faculty of Science, Osaka University
Nakanoshima, Osaka*

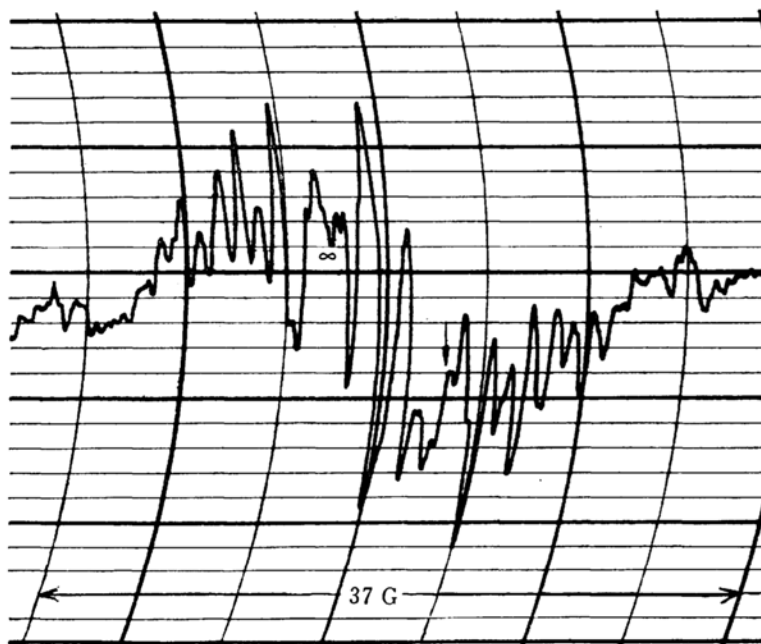


Fig. 1. Derivative of paramagnetic resonance absorption of Na-adduct of isoprene.
($g=2.0026$)

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5) Unpublished results.

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