

Evans, J.C., Obaid, A.Y., Rowlands, C.C.

**Second-order effects in proton solution endor**

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Chemistry, Department, University, Cardiff, CF1 1XL, United Kingdom

**Abstract**

The radical cation of 6-hydrodipyrido-[1,2-c:2'.1'-e]-imidazolium iodide (monomethylene diquat) has been investigated using ESR, ENDOR and triple resonance. The bridge methylene protons have a large hyperfine coupling constant (2.46 mT) and show second-order interaction both in the ESR and ENDOR spectra. The relative signs of the coupling constants were obtained using triple resonance. The observed ENDOR second-order splitting (0.009 mT) together with the line positions are in complete agreement with theoretical prediction. © 1984.