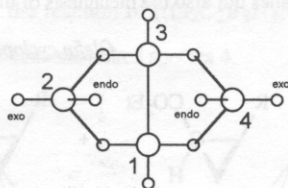


NMR STUDIES OF TETRABORANE(10) AND 2,4-ETHANOTETRABORANE(10)

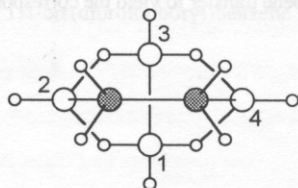
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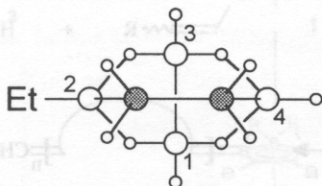
The unusual splittings observed in the ^{11}B NMR resonances of the hinge boron atoms B(1) and B(3) in tetraborane(10), B_4H_{10} **1**, and in the "basket" derivative 2,4-ethanotetraborane(10), $2,4-(\text{CH}_2\text{CH}_2)\text{B}_4\text{H}_8$ **2**, are shown conclusively to arise from long-range couplings to the non-adjacent bridge protons. The ^1H resonances from the *exo* and *endo* protons attached to the wing boron atoms B(2) and B(4) in **1** are assigned unambiguously by a comparison of the 2D ^1H - $^1\text{H}\{^{11}\text{B}\}$ COSY spectra of **1** and **2**. The volatile side products obtained in the synthesis of **2** by the hot-cold reaction of B_4H_{10} and $\text{H}_2\text{C}=\text{CH}_2$ are shown to be 2-Et-2,4- μ -(CH_2CH_2) B_4H_7 **3**, 2,4-Et₂-2,4- μ -(CH_2CH_2) B_4H_6 **4** and BEt_3 .



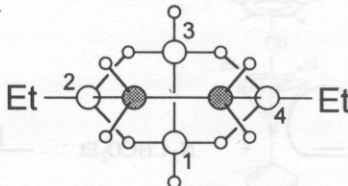
1



2



3



4