TABLE I

REPRESENTATIVE YIELDS OF B_6H_{10} FROM THE REACTION $LiB_5H_8 + B_2H_6$

Solvent	Scale, mmol	B_6H_{10} yield, mmol (%)	$B_{10}H_{14}$ yield, mmol
$(C_2H_5)_2O$	7.2	1.56 (21.7)	0.16
$(C_2H_5)_2O$	30	6.45 (21.5)	Not measd
$(CH_3)_2O$	30	9.20 (30.7)	2.0
$(CH_3)_2O$	30	7.50 (25.0)	1.6
$(CH_3)_2O$	150	37.8 (25.1)	8.96

The identity and purity of the product were established by its molecular weight by vapor density (calcd for B_6H_{10}, 75.95; found, 76.3), vapor pressure,[14] mass spectrum,[15] infrared spectrum,[14] and boron-11 nmr spectrum,[16] all of which were in excellent agreement with published reports.

Decaborane(14) was isolated from the fraction remaining at −45° by warming to room temperature and fractionating through a U trap maintained at −15° (benzyl alcohol slush). Decaborane(14) was identified by its melting point[8] and its boron-11 nmr spectrum.[16]

The preparation of B_6H_{10} can be conveniently scaled up. Typical yields for several scale reactions are given in Table I.

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Correspondence

Reply to the Paper by F. A. Cotton and T. J. Marks, "Interpretation of a Spin-Tickling Experiment on(*Monohapto*cyclopentadienyl)-(methyl)(dichloro)silane"[1]

Sir:

The assignment made by Cotton and Marks while analyzing our spin-tickling data for the compound $C_5H_5SiCH_3Cl_2$[2] is absolutely correct. However, 3 months before Cotton and Marks published their paper we published the correction in ref 3, in which this correct assignment was already made. Perhaps Cotton and Marks were not aware of our correction.

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The Acidities of Germane and the Phenylgermanes

Sir:

Generally, a phenyl derivative of a nonmetal hydride, $C_6H_5MH_{x-1}$, is more acidic than the parent hydride, MH_x.[1,2] For example, phenylarsine is a stronger acid than arsine, and diphenylarsine is a stronger acid than phenylarsine.[2] However, germane and the phenylgermanes constitute a puzzling exception to this rule. The phenylgermanes are *weaker* acids than germane—the weakness increasing with increasing phenyl substitution.[3,4] Although the exceptional acidities of the phenylgermanes have been cited as evidence for $p\pi$–$d\pi$ bonding,[3] no explanation was offered for the implied greater importance of such bonding in the phenylgermanes than in, say, the phenylarsines. The purpose of this communication is to show that the data may be explained in terms of two opposing effects of phenyl substitution: an acid-weakening effect (which we ascribe to $p\pi$–$d\pi$ bonding) and an acid-strengthening effect (mainly due to $p\pi$–$p\pi$ bonding).

The phenyl group in the molecule $C_6H_5MH_x$ can exert an acid-weakening effect if the atom M has empty valence $d\pi$ orbitals which interact with the filled $p\pi$ molecular orbitals of the phenyl ring. Such $d\pi$ orbitals are available when M is from the second or third row of the periodic table.[5] The acid-weakening effect may

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