In the experiments performed, varying amounts of ethane and ethyl fluoride were also observed. The addition of HF activator to ethylene would explain the formation of ethyl fluoride. Ethane can be produced from the self-condensation of ethylene or from ethyl fluoride. When $^{13}CH_4$ and ethyl fluoride were passed over the TaF_5/AlF_3 catalyst (1:1 weight ratio), ethane constituted up to 7.0 mol % of the products and contained no ^{13}C label.

In conclusion we have demonstrated through ^{13}C isotope labeling studies that methane is ethylated by ethylene to give propane over solid superacid catalysts. A very low concentration of ethylene compared to methane is necessary in order to minimize the self-condensation–cracking of ethylene, which is increasingly becoming the predominant reaction at ethylene concentrations above 1.0 mol %. The reported ethylation of methane is fundamental as the prototype of alkylation of the parent alkane.

Registry No. 1, 32555-23-0; $CH_2{=}CH_2$, 74-85-1; CH_4, 74-82-8; $CH_3CH_2^+$, 14936-94-8; TaF_5, 7783-71-3; AlF_3, 7784-18-1; SbF_5 compound with graphite, 59839-60-0.

Additions and Corrections

Studies of the Tautomerism of Purine and the Protonation of Purine and Its 7- and 9-Methyl Derivatives by Nitrogen-15 Nuclear Magnetic Resonance Spectroscopy [*J. Am. Chem. Soc.* **1982**, *104*, 3162–3164]. NINA C. GONNELLA and JOHN D. ROBERTS*

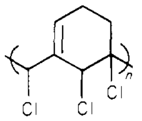
Page 3162: It has been pointed out to us by Prof. Günther (Siegen) that the ^{15}N chemical shift given in Table I for N9 of 9-methylpurine is inconsistent with Figure 3. The value in Table I should be 224.1 ppm rather than 244.1 ppm.

Two Syntheses of *d,l*-Aplysistatin [*J. Am. Chem. Soc.* **1982**, *104*, 6704]. T. R. HOYE,* A. J. CARUSO, J. F. DELLARIA, JR., and M. J. KURTH

Page 6708, left column, lines 23 and 24: The ^1H NMR data for *d,l*-12-epiaplysistatin should read δ 0.94, 1.19, and 1.42 (3 s, 3 CH_3)....

Poly(1,6-heptadiyne), a Free-Standing Polymer Film Dopable to High Electrical Conductivity [*J. Am. Chem. Soc.* **1983**, *105*, 4417–4431]. HARRY W. GIBSON,* F. C. BAILEY, ARTHUR J. EPSTEIN, HEIKO ROMMELMANN, SAMUEL KAPLAN, JOHN HARBOUR, XIAO-QUING YANG, DAVID B. TANNER, and JOHN M. POCHAN

Page 4421, column 1: Structure **17** should be as follows



Page 4421, column 2, paragraph 3, line 5: **19d** and **19f** should be **19d** and **19e**.

Page 4421, column 2, paragraph 3, line 6: **19e** should be **19f**.

Substituent Effects on Benzyl Radical ESR Hyperfine Coupling Constants. The $\sigma_{\alpha^\cdot}$ Scale Based upon Spin Delocalization [*J. Am. Chem. Soc.* **1983**, *105*, 1221]. J. M. DUST and D. R. ARNOLD*

Page 1221: The benzyl radical hyperfine coupling constants, listed in Table I, have been redetermined under improved conditions. In several cases the variation is significant enough that revision of Table I (and consequently Tables III and V) is necessary. The interpretative discussion is largely unaffected by these changes. Note, however, that the order of delocalization by 4-*tert*-butyl and 4-methyl are reversed, and the correlation of the logarithm of the rates for the methylenearylcyclopropane rearrangement is better (r = 0.96) vs. $\sigma_{\alpha^\cdot}$ alone.

We wish to acknowledge the contribution of D. D. M. Wayner.

Table I. Benzyl Radical Hyperfine Coupling Constants[a] (revised)

X	a_1	a_2	a_3	a_4	a_5	a_6	$\sigma_{\alpha^\cdot}$[b]
4-COMe	15.28	5.00	1.75	0.50[c]	1.75	5.00	0.060
4-COPh	15.35	4.98	1.76		1.76	4.98	0.055
4-COOMe	15.55	5.05	1.75	0.37[c]	1.75	5.05	0.043
4-CN	15.60	5.00	1.78	0.96[d]	1.78	5.00	0.040
4-OMe	15.95	5.02	1.60	0.75[c]	1.60	5.02	0.018
4-SOMe	15.95	5.03	1.75	0.35[c]	1.75	5.03	0.018
4-Me	16.00	5.05	1.60	6.50[c]	1.60	5.05	0.015
4-SO_3Me	16.04	5.03	1.71		1.71	5.03	0.013
4-Cl	16.07	5.24	1.75	0.50[e] 0.60[e]	1.75	5.24	0.011
4-t-Bu	16.12	5.10	1.75		1.75	5.10	0.008
3-Me	16.22	5.15	3.38[c]	6.15	1.75	5.00	0.002
H	16.25	5.10	1.70	6.13	1.70	5.10	0.000
3-OPh	16.29	5.15		6.15	1.75	5.00	−0.002
4-OCOMe	16.33	5.27	1.80		1.80	5.27	−0.005
3-Cl	16.37	5.15		6.33	1.83	5.05	−0.007
3-F	16.39	5.15	4.72[f]	6.19	1.80	4.95	−0.009
4-CF_3	16.39	5.19	1.76	6.88[g]	1.76	5.19	−0.009
4-F	16.42	5.30	1.75	14.43[f]	1.75	5.30	−0.011
3-COOMe	16.48	5.22		6.15	1.75	4.98	−0.014
3-CF_3	16.53	5.18	3.30[g]	6.13	1.80	4.38	−0.017
3-CN	16.68	5.25	0.30[d]	6.18	1.80	4.95	−0.026

[a] Positions given in Chart I. X is the substituent. Values are believed to be accurate +/− 0.03 G. [b] Defined by eq 1. [c] Hydrogen of CH_3. [d] Nitrogen of CN. [e] Cl. [f] F. [g] Fluorine of CF_3.