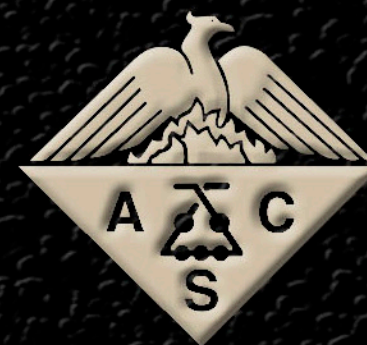




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Citation for Chemical Breakthrough

Radiocarbon dating to estimate the age of organic materials.

Science, 1947, 105, 576-577.

Radiocarbon From Cosmic Radiation¹

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Measurements on the enriched biomethane samples established the activity of "living" carbon to be 10.5 disintegrations/minute/gram, in good agreement with the predicted value. On the other hand, enrichment of the petromethane by a factor of 25 failed to show activity beyond the limits of experimental error, in line with the theory that cosmic rays produce our activity.

TABLE 1

Source	Sample No.	Calculated C ¹⁴ enrichment	C ¹³ concentration from mass spectrometer (%)	% CH ₄ in gas before final purification	Date taken	Total count rate, including background (disintegrations/minute)
Petro-methane	I	1	1.04	99.6	10/16/46	340.6 ±1.0
	II	1	1.04	99.6	"	342.6 ±1.0
	III	25	6.55	97.2	1/ 6/47	345.8 ±1.3
Bio-methane	III	1	1.04	99.4	12/ 5/46	342.9 ±2.0
	I	10	7.36	93.6	10/17/46	348.7 ±1.3
	VII	32	11.02	99.9	12/ 2/46	364.0 ±1.5
	VIII	260	63.5	97.2	2/10/47	562.0 ±2.9

Presented to the University of Chicago, 2016.