

Three hexenes have been prepared by this method, with the physical constants indicated.

Olefin	B. p. (760 mm.)	D_D^{20}	n_D^{20}	MR (Fd.)	MR (Calcd.)
2-Methyl-1-pentene	61.5-62.0	0.6831	1.3921	29.34	29.44
2-Ethyl-1-butene	66.2-66.7	.6938	1.3990	29.31	29.44
2,3-Dimethyl-1-butene	56.0-56.5	.6827	1.3905	29.55	29.44

The method is being extended to the preparation of other olefins and diolefins.

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THE DECOMPOSITION OF SODIUM AZIDE BY CONTROLLED ELECTRON BOMBARDMENT

Sir:

The decomposition of solid sodium azide has been achieved by subjecting a thin film to bombardment by electrons of known velocity. The reaction was carried out in a high vacuum using an oxide filament as the source of electrons and suitable electrodes for controlling the velocity. Impacts in the gas phase were shown to be absent. The nitrogen resulting from the decomposition was detected and measured by an ionization manometer. The gas evolved was shown to be nitrogen by critical impact measurements. Rate curves taken at various electron velocities gave a sharp intercept on the voltage axis, setting the minimum potential at 12 ± 1 volts. The rate curves showed discontinuities in the region of the critical potentials of nitrogen, thus affording additional proof of the nature of the gas. At no time was any thermal decomposition observed, nor any effect at or below 11.5 volts.

These measurements are being continued with slightly improved technique. The photochemical decomposition is being studied as well and will be the subject of a later communication.

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