

## NOTE.

*A Silver Plated Copper Gauze Electrode in the Zinc Determination.*<sup>1</sup>—A silver plated copper gauze electrode can be made cheaply and is a good substitute for platinum in the electrolytic deposition of zinc, especially when alkaline cyanide solutions are employed. Copper gauze of a desirable mesh is cut to a convenient size, the ends are brought together to form a cylinder and all the edges folded down. The ends are joined by interlocking folds. The spiral is supported by means of a heavy copper wire which encircles the cylinder within the upper fold and is bent at right angles for connection to the support. The folds are then sewed together by means of a copper wire. The cylinder and rod are now immersed in a dilute cyanide silver bath and coated with silver by electrolysis, after which the unplated portion of the rod is cut off. A platinum wire is used for the anode connection. After each analysis, the zinc can be removed conveniently by the use of dilute hydrochloric acid.

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THE EXISTENCE OF FREE RADICALS.<sup>2</sup>

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## I. Introduction.

From the time when Kekulé and Franchimont first prepared triphenylmethane, numerous attempts were made to prepare the analogous hydrocarbon, tetraphenylmethane, but seemingly without success. Victor Meyer then suggested that the general hypothesis of steric hindrance might be applied in this case in order to explain the apparent non-existence of tetraphenylmethane: *i. e.*, three phenyl groups take up so much space around the central carbon atom that there is no room left for a fourth so complex group as a phenyl. Soon after this explanation was given, it fell to my lot to work out a method<sup>3</sup> by means of which a hydrocarbon, supposedly tetraphenylmethane, was produced. It turned out to be quite stable, melting in the neighborhood of 300° and distilling undecomposed at 430°. In order to obtain more evidence as to the constitution of this hydrocarbon, an attempt was made to prepare for comparative study the next higher completely phenylated hydrocarbon, hexaphenylethane, which would be similarly constituted and for that reason possess properties presumably similar to those of tetraphenylmethane. Accordingly, triphenylchloromethane was subjected to the

<sup>1</sup> See also Frary, *J. Ind. Eng. Chem.*, 5, 739, quoting L. A. Stenger.

<sup>2</sup> A paper read before the New York Section of the American Chemical Society, on the occasion of the presentation of the William H. Nichols Medal, March 6, 1914.

<sup>3</sup> *Ber.*, 30, 2043 (1897); *THIS JOURNAL*, 20, 773 (1898).