ium has six electron pairs in its valency shell; a square-planar arrangement of the four bonding pairs is in accordance with the two lone pairs occupying *trans* octahedral positions. The square-planar ICl_4^- ion represents an analogous case.

The compounds have a yellow colour, and are quite stable in the solid state. They blacken on contact with water, probably because of hydrolysis and subsequent rearrangement to zero- and tetravalent tellurium, in analogy with the alkaline hydrolysis of other derivatives of divalent tellurium as for example the telluropentathionate ion.

The $Te(tu)_4^{++}$ ion is probably the yellow species which forms the basis for the photometric determination [3-6] of tellurium with thiourea. The compounds $Te(tu)_2Cl_2$ and $Te(tu)_2Br_2$ may be the same as those isolated recently from thiourea and the tellurium tetrahalides by Aynsley and Campbell [7], and by these authors formulated with two hydrogen atoms less, as amidinothio derivatives of tetravalent tellurium.

Further preparative andstructural work is being made.

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Gas Chromatographic Separation of 3- and 4-Methyl-1-pentene

BENGT SMITH and RAGNAR OHLSON

Institutionen för organisk kemi, Chalmers Tekniska Högskola, Göteborg, Sweden

The separation of 3- and 4-methyl-1-pentene by gas chromatography has, according to our knowledge, not been reported yet. Even on very long columns containing various polar or nonpolar liquids as stationary phases, no resolution of the pair was obtained [1]. This is due to the similarity in type and the close boiling points of the two compounds, the difference being only 0.2°C. It is obvious that this separation problem calls for a stationary phase with a highly selective action on the molecules of the two hexenes.

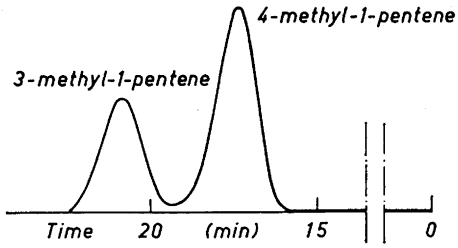

Fig. 1. Mixture of 3- and 4-methyl-1-pentene. Silver nitrate-glycol column, 4 m. Temperature 25°C. Flow of He 50 ml/min.

Such a phase is available in the form of silver nitrate in a suitable solvent, *e.g.* glycol [2,3]. In this case, there exist forces of attraction between the silver ions and the unsaturated hydrocarbons. Thus it was found that the pair in question could be resolved on a 4 m silver nitrate — glycol column containing 17 % of silver nitrate. It should be pointed out, however, that if the content of silver nitrate is appreciably diminished or increased the separation is impaired. The separation of these and other alkenes on a silver nitrate — glycol column will be more fully discussed in a forthcoming paper.

The column was prepared in the following way. Ethylene glycol was saturated with powdered silver nitrate under slight warming and agitation. The solution was decanted from undissolved silver nitrate and mixed with Chromosorb (30—60 mesh). Two parts of Chromosorb were taken to one part of the solution. The mixture was rotated in a round-bottomed flask to ensure thorough mixing of the carrier and the stationary phase. The mixture obtained was packed in two aluminium tubes each 2 m long and with a 4 mm internal diameter.

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