

mixture of isomers- tetramethylethylene, methylisopropylethylene and tertiary butylethylene.* Polymerization of methylisopropylethylene (2,3-dimethyl-1-butene) in the presence of 80% sulfuric acid afforded a mixture of dimers indistinguishable from those obtained from tetramethylethylene /4/.

This paper describes the results of experiments on the thermal polymerization of tetramethylethylene under conditions of elevated and ultra-high pressures.

The tetramethylethylene** which we used, was distilled through a rectification column containing 30 theoretical plates, and had the following properties:b.p. (literature values /6/): b.p.

A. Experiments at elevated pressures were conducted in a steel ampoule of 7.5 ml vol., into which was inserted a lead rod.*** The ampoule was filled to the top with tetramethylethylene after which it was heated at 300° for 50 hours. The calculated pressure in the ampoule amounted to about 200 atm (based on a graph of the dependence of the compressibility

* At 300° in the presence of P₂O₅ on silica gel, the products are present at the respective concentrations of 64%, 33% and 3% /5/.

**Tetramethylethylene and methylisopropylethylene were generously provided for our use by L.V. Petrov and A. P. Meshcheryakov for which we are sincerely grateful.

***To establish conditions analogous to those applicable to experiments at ultra-high pressures.