# IDENTIFICATION OF JET FUELS AND THEIR COMPONENTS BY SIMILATED DISTILLATION

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For the first time in our work the possibility of identifying jet fuels by type of production technology using chromatographic data obtained by chromatographic simulated distillation (SimDist) under the conditions of ASTM D2887 method was proposed. The following are the identification features:

- The presence on the chromatogram of characteristic peaks of n-alkanes (Fig. 1);
- Distribution of n-alkanes by concentration (Fig. 2):

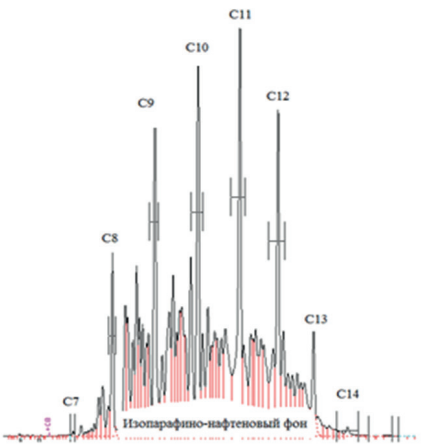


Figure 1. Typical chromatogram of fuel TC-1, obtained by the method of simulated distillation

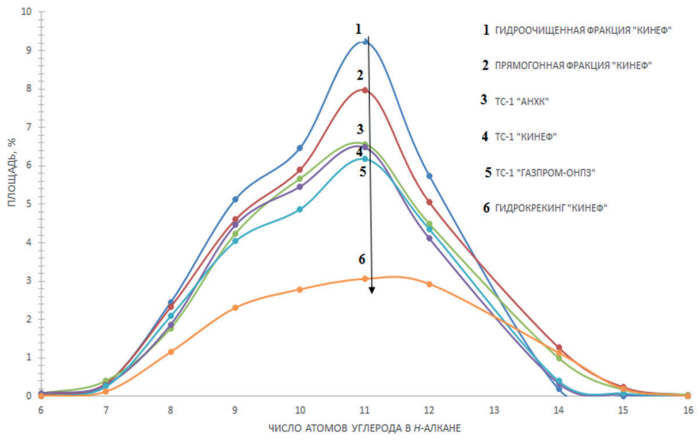


Figure 2. Graphs of the distribution of n-alkanes, identified in the studied samples, by peak area,%. The top-down arrangement is in the following order: 1) hydrotreated fraction; 2) straight run fraction; 3) fuel TC-1 (sample 1); 4) fuel TC-1 (sample 2); 5) fuel TC-1 (sample 3); 6) hydrocracking fraction

As can be seen from Fig. 2, the following individual n-alkanes are identified in all tested jet fuel samples and components (hydrotreated, straight-run and hydrocracking fractions): C7, C8, C9, C10, C11, C12, C13, C14, C15.

The highest total content of n-alkanes is determined in hydrotreated and straight-run fractions, the smallest in the composition of the hydrocracking fraction.