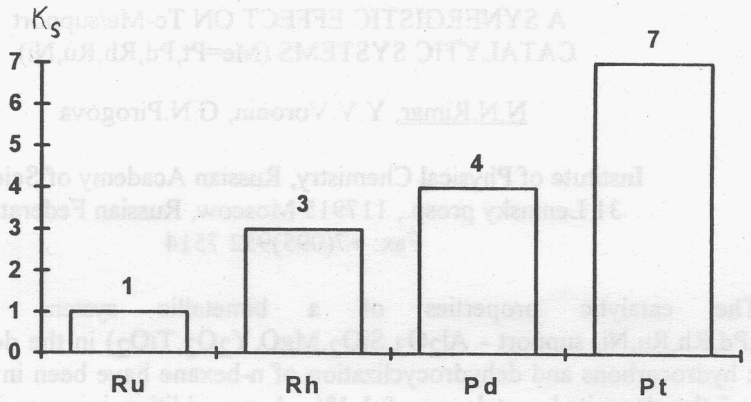

Figure. Coefficient of synergism Tc-Me systems.

$K_S = c_3 / (c_1 + c_2)$, where c_1, c_2 - yield of the products on the monometallic catalysts;

c_3 - on the bimetallic catalysts.

It can be seen from the Figure, the coefficient of synergism increase with the increasing of the number of platinum element in the Periodic Table. The maximum synergistic effect showed the system Pt-Tc and minimum - Ru-Tc.

To study the mechanism of the synergetic effect the state of the surface of catalysts has been investigated by means of some physico-chemical methods (chemisorption of H_2 and CO, thermo-desorption measurements, diffuse reflection spectra in UV- and visible range, IR-spectra of adsorbed CO, electron microscopy). The differences in chemisorption ability, dispersion of the deposited metals, optical properties, temperature of a phase conversion of monometallic and bimetallic catalysts have been established. The presence on the surface of all the catalysts the metallic phase, ionic forms of the metals and the products of interaction of deposited metals have been found. On the basis of the data of the complex study of physico-chemical properties of mono- and bimetallic catalysts a conclusion has been drawn, that the synergistic effect is explained by the formation of Me_xTc_y clusters (Me=Pt,Pd,Rh,Ru,Ni).