

parallel with isomerization reactions, there are also decomposition, dehydrogenating and hydrogen disproportionation reactions. Marginally there are dehydrocyclization reactions with the formation of aromatic hydrocarbons, which mostly presented by alkylaromatics (polysubstituted alkyl benzenes). Destruction of hexadecane goes on to the n-decane.

The increase in the concentration of n-paraffinic hydrocarbons by 5% is clearly due to a slight shift of equilibrium state paraffin  $\leftrightarrow$  isoparaffin to paraffins. However, a significant part of the isoparaffins under these conditions is undergone a decomposition with the formation of olefinic and diene hydrocarbons. At the same time, the released hydrogen is participated in the hydrogenation reactions of cycloolefine and cyclodiene hydrocarbons and partially of arenes with the formation of naphthenes.

Table 3 – Hydrocarbon-type content of gaseous phase, obtained during n-hexadecane hydroisomerization on Ni/Al-HMS(20)-bentonite composite, T = 450 °C, P<sub>H<sub>2</sub></sub> = 3 MPa

№	Content	Amount by mass %
1	H <sub>2</sub>	37,30
2	CH <sub>4</sub>	23,70
3	C <sub>2</sub> H <sub>4</sub>	2,00
4	C <sub>2</sub> H <sub>6</sub>	2,80
5	C <sub>3</sub> H <sub>6</sub>	2,70
6	C <sub>3</sub> H <sub>8</sub>	1,30
7	i-C <sub>4</sub> H <sub>10</sub>	9,80
8	C <sub>4</sub> H <sub>10</sub>	8,00
9	C <sub>4</sub> H <sub>8</sub> trans	0,20
10	C <sub>4</sub> H <sub>8</sub> cis	4,00
11	C <sub>5</sub> H <sub>10</sub>	1,50
12	i-C <sub>5</sub> H <sub>12</sub>	1,40
13	C <sub>5</sub> H <sub>12</sub>	5,30

The deepening of the cracking of hexadecane during the process at 450 °C is also indicated by the qualitative and quantitative composition of the gas-formation products (table 3), the hydrocarbon composition of which is represented mainly by C<sub>1</sub>-C<sub>5</sub> fragments and hydrogen, but the main components of the cracking products are methane and hydrogen, and content of C<sub>4</sub>-C<sub>5</sub> isocompounds of 12, 4 by mass %.

Thus, a nickel-promoted composite based on a mesoporous aluminosilicate of the Al-HMS type and activated bentonite from the Tagan deposit was synthesized for the process of hydroisomerization of n-hexadecane. On the basis of experimental data, it may be said that the process of transformation of normal