Table 3

The action of feed nature on qualitative and quantitative content of diesel fraction hydroisomerization gaseous products on the Ni/Al-HMS(20) – bentonite catalyst, W_{feed} = 1 h^{-1}, P_{H_2} =3 MPa

№	Gas composition	Zhetybai		Kumkol
		amount, mass. %		
		350 °C	450 °C	350 °C
1	H_2	17,1	19,8	22,5
2	CH_4	4,6	5	2,2
3	C_2H_4	0,6	3,1	2
4	C_2H_6	2	4,2	3,8
5	C_3H_6	5,2	18,6	16,7
6	C_3H_8	11,1	9	7,5
7	i-C_4H_{10}	18,7	15,1	9,4
8	n-C_4H_{10}	7,3	8,5	15,9
9	C_4H_8	11,2	7,4	10,5
10	Pentenes	12,2	9,3	9,5
11	∑olefins	36,5	46,9	54,6

Table 4

Group hydrocarbon content of Zhetybai oil diesel fraction hydroisomerization products on the Ni/Al-HMS(20) – bentonite catalyst, W_{feed} = 1 h^{-1}, P_{H_2} = 3 MPa

№	Hydrocarbon content	Content, mass. %	
		350 °C	450 °C
1	N-paraffins	19,01	24,69
2	Isoparaffins	32,32	24,54
3	Naphthenes	9,43	13,16
4	Olefins	9,9	15,48
5	Cycloolefins	–	–
6	Arenes	24,84	19,91
7	Dienes	–	1,72
8	Nonidentified	4,5	0,5

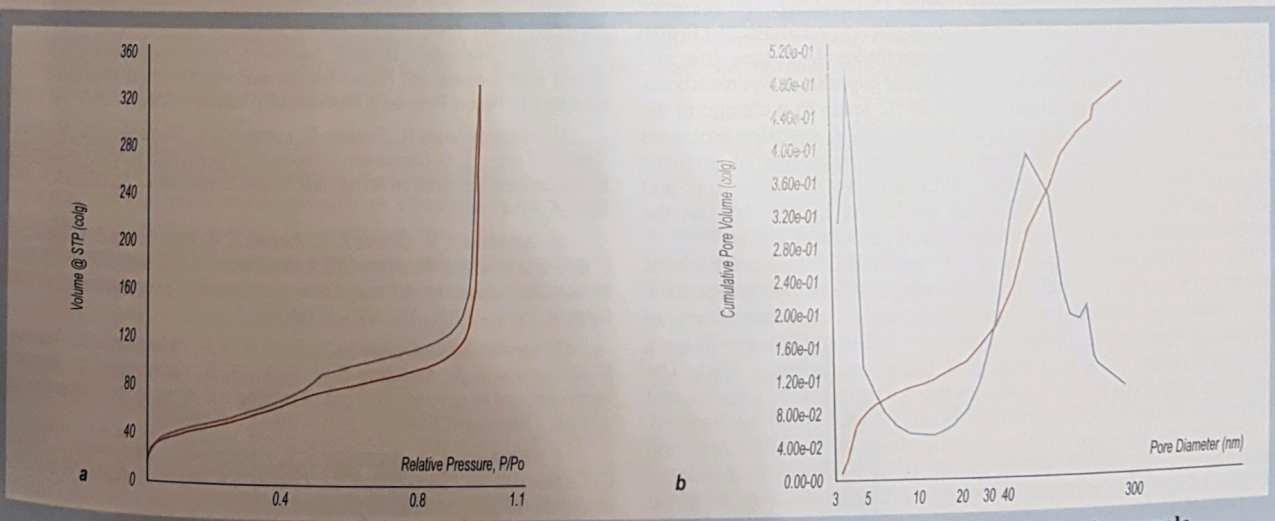

Figure 1 – **Adsorption/desorption isotherms (a) and pore size distribution (b) of Ni/Al-HMS-bentonite sample with a Si/Al ratio = 20**

used to calculate the total accesssible surface by the BET method, the total porosity $\sum V_{pores}$ with effective sizes up to 100-200 nm (according to the value of adsorption at a relative nitrogen pressure of ~ 0.99), the distribution of the volume of mesopores by characteristic sizes (according to the desorption curve of the isotherm using the BJHV, micropores volume Vmicropores and mesopores surface Smesopores remaining after micropores filling.

The activity of the synthesized sample was studied in the process of hydro-isomerization of diesel fractions of the Kumkol and Zhetybai oil on the installation with a fixed-bed catalyst in the temperature range