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NEW TRENDS IN THE PRODUCTION OF LOWER OLEFINS

S. Nowak, H. Günschel, J. Lantzsch and K. Anders, Neftekhimiya **27**, No. 6, 736–749, 1987.

DESPITE a number of unresolved problems, concerning above all an increase in the efficiency of the catalyst and the availability of technology for implementation of the combined process of conversion of methanol and transformation of hydrocarbons, the proposed process is a promising means of simultaneous production of lower olefins, aromatic hydrocarbons, and components of motor fuel.

The main advantages of combined conversion of methanol and hydrocarbons into lower olefins, known as the GEMEKS process (from the German "Gekoppelte Methanol–Kohlenwasserstoff–Spaltung"), over other well-known processes are that it is thermally neutral and single-stage. It must be pointed out that the GEMEKS process is carried out with high degrees of both methanol and hydrocarbon transformation; it is noted for high product output and low feedstock consumption. The high temperature in the reaction zone (600°–700°C) makes it possible to achieve more efficient utilization of heat than is possible in the Mobil Oil process.

STEREOCHEMISTRY AND RELATIVE THERMODYNAMIC STABILITY OF PERHYDROCHRYSENE EPIMERS

N. S. Vorob'eva, T. I. Pekhk, Z. K. Zemskova and A. A. Petrov, Neftekhimiya **27**, No. 6, 750–754, 1987.

THE equilibrium of perhydrochrysene epimers at 573°K was determined.

It was found that the *trans, anti, trans, anti, trans*-isomer is the most stable. Its concentration in the equilibrium isomerizate reaches 61%. The remaining 39% belongs to four epimers having a single *cis*-connection of rings.

The mass spectra and ^{13}C and ^{1}H NMR spectra of some epimeric perhydrochrysenes were determined.

POSSIBLE WAYS OF CONVERTING n-BUTANE ON MORDENITES

N. N. Krupina, A. Z. Dorogochinskii and A. L. Proskurnin, Neftekhimiya **27**, No. 6, 755–760, 1987.

IN the case of reactions of conversion of n-butane, the high reactivity of decationized and dealuminized forms of mordenite even in the absence of metals of the platinum group at low temperatures (below 300°C), is demonstrated. Such reactivity is due to the presence of "strong" and "superstrong" acid centres on their surface. The indicated centres govern the main routes of carbonium ion conversion: isomerization, cracking, disproportionation, alkylation (and autoalkylation), redistribution of hydrogen, and coking.

ALKYLATION OF TOLUENE BY ETHYLENE IN THE PRESENCE OF CATALYSTS BASED ON PENTASIL-TYPE ZEOLITES

Ya. I. Isakov, Kh. M. Minachev, T. A. Isakova, G. L. Bitman and S. P. Chernykh, Neftekhimiya **27**, No. 6, 766–775, 1987.