

COMPOSITION, STRUCTURE AND ORIGIN OF OIL INDANS

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The results of investigation of indans of different oil deposits and oil types, their connection with conditions of forming and deposit bedding, synthesis of indans of oil structure, methods of their isolation and the results of laboratory modeling are presented in the report.

Indans of composition C_{10} and higher presented both as separate groups of isomeric compounds and as homological rows of composition C_{10} - C_{30} are detected and studied in oils and OB.

Depending on indan origin they are suggested to be classified in two main groups: indans formed in the process of destruction of one of rings of cyclic hydrocarbons (In); indans formed in the process of cycling of alkyl chain of initial organic matter (Ain).

As regards the alkyl chain structure indans are also subdivided into two groups: with alkyl chain of normal structure (L-Ain); with alkyl chain of isoprenoid structure (I-Ain).

In the first case, as an example, we have a series of indans (In) of composition C_{14} - C_{20} being products of destruction of monoaromatic hopanes C_{30} - C_{35} with links 8-14 and 11-12 of ring C.

In the second case, forming of homological rows of oil indans (L-Ain), I-Ain) of composition C_{10} - C_{30} is observed as a result of cycling of fatty acids and alcohols. Laboratory modeling confirmed this and showed the forming of indans with preservation of initial composition of hydrocarbon atoms of natural bioorganic matter at that.

Certain connection of composition and structure of alkyl chain with oil AB is observed and this points to the common initial matter and the process of forming. Presence of indans in oils has a number of representative peculiarities connected with (bedding) conditions in entrails of the earth at that.

Dehydration of saturated portion of oil showed the presence of saturated analogues of indans (bicyclanes) in it. Certain regularity of their transition into indans is observed at that.