

## **The variation of pristane-phytane ratios of pure phytol in conditions of clay catalyzing**

LANTIAN XING<sup>1,2</sup>, LI XU<sup>3</sup>, ZHONGPING LI<sup>1</sup>, YANQING XIA<sup>1</sup>

<sup>1</sup> Key Laboratory of Petroleum Resources Research, Institute of Geology and Geophysics, Chinese Academy of Sciences, Lanzhou 730000, PR China.

<sup>2</sup> School of Earth Sciences, Lanzhou University, Lanzhou 730000.

<sup>3</sup> Research institute of petroleum exploration and development northwest, petrol China, Lanzhou 730020

To obtain information on variation of pristane to phytane ratio under clay catalyzing, we carried out thermal evolution experiment of pure phytol under three reaction environments which were reduction, montmorillonite catalysis and illite catalysis.

Experimental result show that the pristane to phytane ratio is higher than 1 when the experimental conditions are reduction and montmorillonite catalysis. But the ratio is lower than 1 under condition of illite catalysis, which had not been shown before. GC-MS analysis for thermal simulation products also explains the special catalyst of clay mineral which including activation energy decreasing and further fracturing of long chain compound.

This characterization demonstrate a particularly close connection between the type of clay minerals and variation of pristane to phytane ratio during phytol evolution.