

Geochemical characteristics of biodegraded low molecular weight hydrocarbons

D.Y. GONG^{1*}, J. SUN², L.L. ZHAO³,

¹ Research Institute of Petroleum Exploration and Development, PetroChina, Beijing, 100083

(*correspondence: deyugong@petrochina.com.cn)

² Xinjiang Oilfield Company, PetroChina, Hami, 834000, (sunjing303@petrochina.com.cn)

³Turpan–Hami Oilfield Company, PetroChina, Hami, 839000, (zhaoliliyjy@petrochina.com.cn)

After analyzing the compositions of low molecular weight hydrocarbons (LMWHs) in 8 oil samples from the Baka oil field, Northwest China, we observed that the biodegradation resistance for C₆–C₇ LMWHs in this area follows the series DMB > CH > MCP > 2MP > 3MP; DMP, 11DMCP and 12DMCP > MCH > 13DMCP > 2MH > 3MH, respectively, which is different from previous works in several aspects. Since the Baka oils are seriously biodegraded, biodegradation extent could not well explain this inconsistency. We subscribed it to the different strains of bacteria which may have different specificities for individual isomers of the LMWHs.

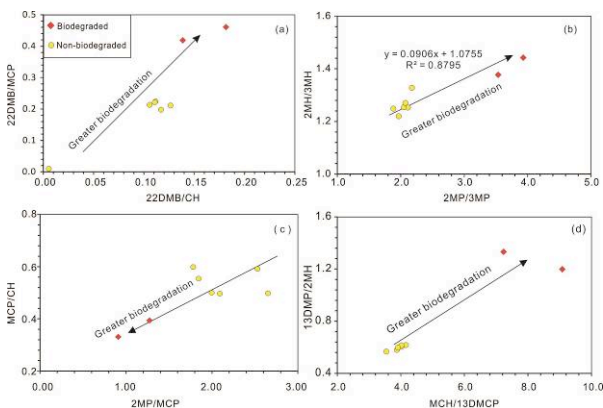


Fig 1: Evolution trend of LMWHs with greater biodegradation.