



The Biomarker Properties and Comparisons of Şahinali, Beypazarı and Karapınar (Turkey) Coaly Plio-Miocene Depositions

Neslihan Unal (1), Selin Hokerek (1), Mehmet Altunsoy (1), Orhan Ozcelik (1), and Nazan Yalcin Erik (2)

(1) Department of Geological Engineering, Akdeniz University, 07058 Antalya, Turkey nunal@akdeniz.edu.tr, (2) Department of Geological Engineering, Cumhuriyet University, 58140 Sivas, Turkey nyalcin@cumhuriyet.edu.tr

The distribution values of m/z 191 triterpane and m/z 217 sterane of coaly Plio–Miocene units determined by GC-MS were used to compare biomarker properties of Şahinali, Beypazarı and Karapınar areas located in Aydın, Ankara and Konya (Turkey) regions within this study. In the Şahinali (Aydın) region the Miocene units consist of conglomerate, coal, clayey coal, sandstone, siltstone, claystone, clayey limestone and silicified limestone. Middle–Upper Miocene units of the Beypazarı (Ankara) Basin are represented by conglomerate, agglomerate, sandstone, siltstone, claystone, coal, bituminous shale, limestone, and tuff. The Pliocene Karapınar (Konya) area of interest, which is characterized by sandstone, siltstone, claystone, mudstone, lake and river bed coal deposits. When all the biomarker values are considered, it can be concluded that the organic matter is not mature. In two areas – except Şahinali – gammacerane is present indicating salinity. According to the C27, C28 ve C29 sterane distribution, it can be observed that the dominant organic matter is terrestrial based and accompanied by simple herbaceous and alg. The deposition conditions are seen to be anoxic even though some oxic depositions are found in areas. All the areas had oleananes indicating angiosperm presence. C29/C30 hopane ratio and decrease in C31-C35 peak height indicated detrital facies in all the areas.

Key Words: Plio-Miocene, Coal, Biomarker, Turkey