



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

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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 Şahinalı, Beypazarı and Karapınar areas located in Aydin, Ankara and Konya (Turkey) regions within this study. In the Şahinalı (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 Şahinalı – 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 hophane ratio and decrease in C31-C35 peak height indicated detrial facies in all the areas.

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