



The evolution of paleoenvironmental conditions through the Jurassic in the Paris basin (France). An organic geochemical approach.

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The core A 901 drilled in the North of the Paris basin (France) presents a stratigraphic succession which is continuous from the end of Triassic to the Upper Oxfordian. This core presents a succession of limestones belonging to carbonate platforms (Hettangian, Bajocian, Bathonian, Oxfordian) and of claystones deposited during drowning episodes (Upper Pliensbachian-Toarcian, Upper Bajocian, Callovo-Oxfordian). Presently, the factors controlling these alternations are not well-known and still debated.

About 60 samples were investigated for molecular organic geochemistry in order to study the evolution of the paleoenvironments through the Jurassic in relation to the alternations of limestone/claystone.

Our data allow the reconstruction of paleoceanographic and paleoclimatic conditions by the study of anoxia biomarkers (isorenieratane-class compounds as trimethylalkyl-benzenes, C₂₈- and C₃₅-hopanoids, gammacerane, *etc.*) and the distribution of vascular plant biomarkers (as retene, which is specific of conifers and cadalene which is more generic).

The claystones seem to be associated to anoxic events while biomarkers typically assigned to anoxia are absent from limestone samples. Furthermore, we calculated the retene/cadalene ratio for each sample. Major evolutions of this ratio through the Jurassic are interpreted as paleoflora and paleoclimatic changes. The retene/cadalene ratio curve acquired during this study is very similar to that published for the Jurassic sed-

imentary series of the Carnarvon basin (Australia, [1]). This strongly suggests global paleoclimatic changes during this time period.

[1] : van Aarssen et al. (2000). *Geochim. Cosmochim. Acta*, **64**, 1417-1424.