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The Valanginian/Hauterivian δ13C positive excursion (Vocontian Bassin, southeastern France). Comparison of bulk carbonate, photic zone (coccoliths and nannoconids) and diagenetic records.

V. Gressier, F. Minoletti, L. Emmanuel, M. Renard

Laboratoire Biominéralisations et Paléoenvironnements JE2477, University Pierre et Marie Curie, Paris, France (gressier@ccr.jussieu.fr)

Bulk carbonate carbon isotope records of the Early Cretaceous marine deposits are similar in northern Italy, France and Switzerland. A period of relatively stable D13C values in the Lower Valanginian is followed by a rapid positive excursion in the Upper Valanginian and a progressive return to pre-excursion values in the Lower Hauterivian. This isotopic evolution is also recorded in terrestial plants (Gröcke et al., 2005) and belemnite (Price et al., 2000; Schootbrugge et al. 2000).

Hemipelagic sediment are dominated by the calcareous nannoflora but also contains variable amounts of euhedrals crystals of diagenetic origin (diagenetic overprint). Such crystals may hamper the interpretation of bulk carbonate data in term of paleoceanographic evolution. The purpose of this work is to extract the calcareous nannoflora from Valanginian/Hauterivian samples and compare their geochemistry signature to bulk carbonates ones.

Samples were processed following a protocol enabling the separation of the various micrometric components of pelagic deposits : mono- and oligospecific assemblages of calcareous nannofossils, planktic and benthic foraminifera, euhedral calcite crystals, fine micrite (Minoletti et al., 2001). The separation of the components is achieved *via* a sequence of filtration steps (from 60μm down to 2μm).

Our study focus on the Valanginian/Hauterivian interval of the Angles section (Vo-

contian Basin, southeastern France).

After treatment, various pure fractions are obtained containing:

- W. Barnesae (coccoliths) or nannoconids (Incertae Sedis) wich record goechemistry evolution of the photic zone
- Euhedral calcite crystals (diagenetic overprint)

This study permits 1) the quantification of carbonate production/sedimentation, 2) the reconstruction of long-term geochemical evolution of the photic-zone (coccoliths and nannoconids) and 3) the quantification of the diagenetic overprint (carbonate quantity and geochemistry).

Geochemical results show that diagenesis does not significantly alters primary isotopic signal for this section. Isotopic curves based on the monospecific fractions (coccoliths and nannoconids) record the same evolution with the positive carbon-isotope excursion in the Valanginian and a progressive return to pre-excursion values. The isotopic record of bulk carbonate seems to be partly controlled by the coccolith/nannoliths ratio in the sample and show the necessity of a good knowledge of the composition of bulk carbonate before analysis.