

[Geochemistry, Geophysics, Geosystems]

Supporting Information for

[Focused hydrocarbon-migration in shallow sediments of a pockmark cluster in the Niger Delta (Off Nigeria)]

[Alexis de Prunelé^{a,c}, Livio Ruffine^a, Vincent Riboulot^a, Carl A. Peters^d, Claire Croguennec^a, Vivien Guyader^a, Thomas Pape^d, Claire Bollinger^c, Germain Bayon^a, Jean-Claude Caprais^b, Yoan Germain^a, Jean-Pierre Donval^a, Tania Marsset^a, Gerhard Bohrmann^d, Louis Géli^a, Abdulkarim Rabiou^e, Marc Lescanne^f, Eric Cauquil^f, Nabil Sultan^a]

^a IFREMER, Département Ressources physiques et Ecosystèmes de fond de Mer (REM), Unité des Géosciences Marines, 29280 Plouzané, France

^b IFREMER, Département Ressources physiques et Ecosystèmes de fond de Mer (REM), Unité des Ecosystèmes Profonds, 29280 Plouzané, France

^c Institut Universitaire Européen de la Mer (IUEM), 29280 Plouzané, France

^d MARUM, University of Bremen, Klagenfurter Str., 28359 Bremen, Germany

^e Nigeria Institute for Oceanography and Marine Research, Nigeria

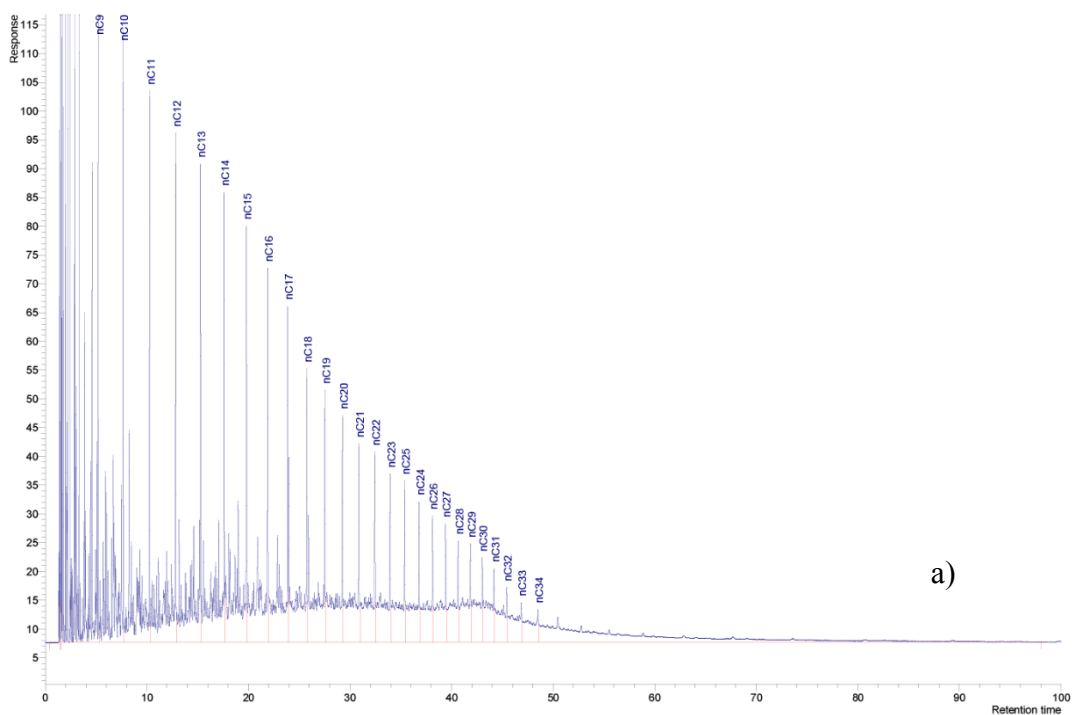
^f TOTAL Exploration Production, France]

Contents of this file

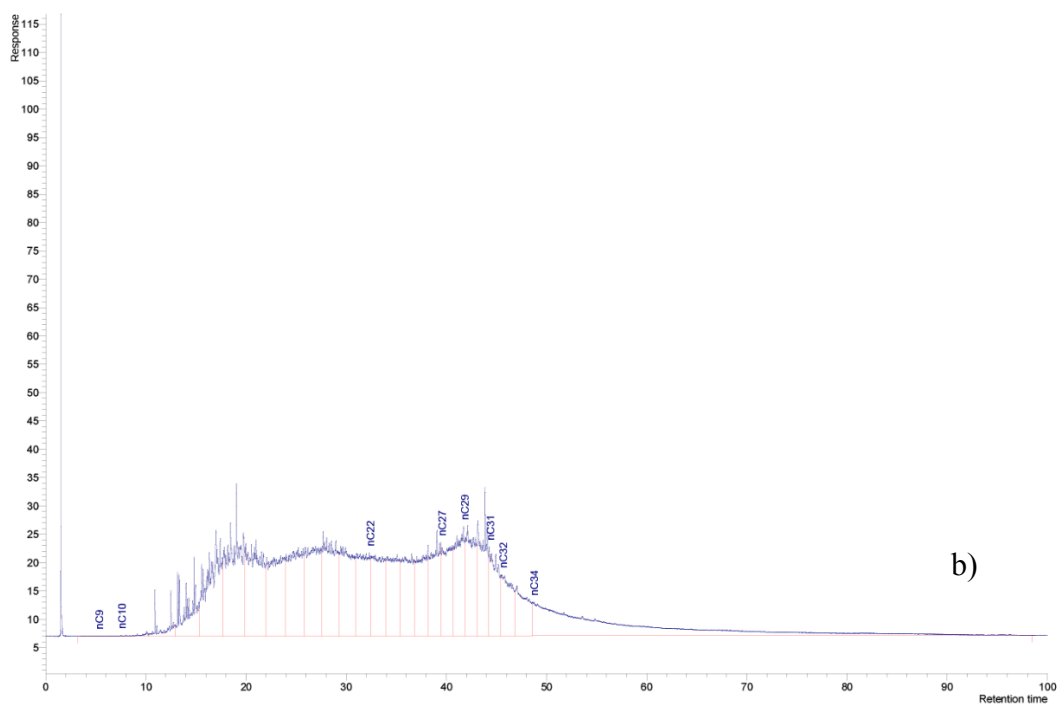
Figures S1 to S2

Introduction

[The supporting information provides two chromatograms resulting from the GC analysis: A chromatogram resulting from the whole oil GC-analysis for our sample and a standard oil for comparison (S1), and the 2D-GCxGC analysis of the topped oil (S2)].



a)



b)

Figure S1. Chromatograms resulting from the whole oil GC-analysis: a) Chromatogram of the standard oil NSG-NSO-1. b) Chromatogram of our sample from core GMCS-09. The large peak at the beginning of the chromatogram corresponds to the dichloromethane which is the solvent used for the analyses. When comparing the two chromatograms, one can clearly see significant differences in their molecular composition. Hydrocarbons with less than 12 carbon atoms (C₁₂) are not detected from our sample although those compounds are usually ubiquitous in oil.

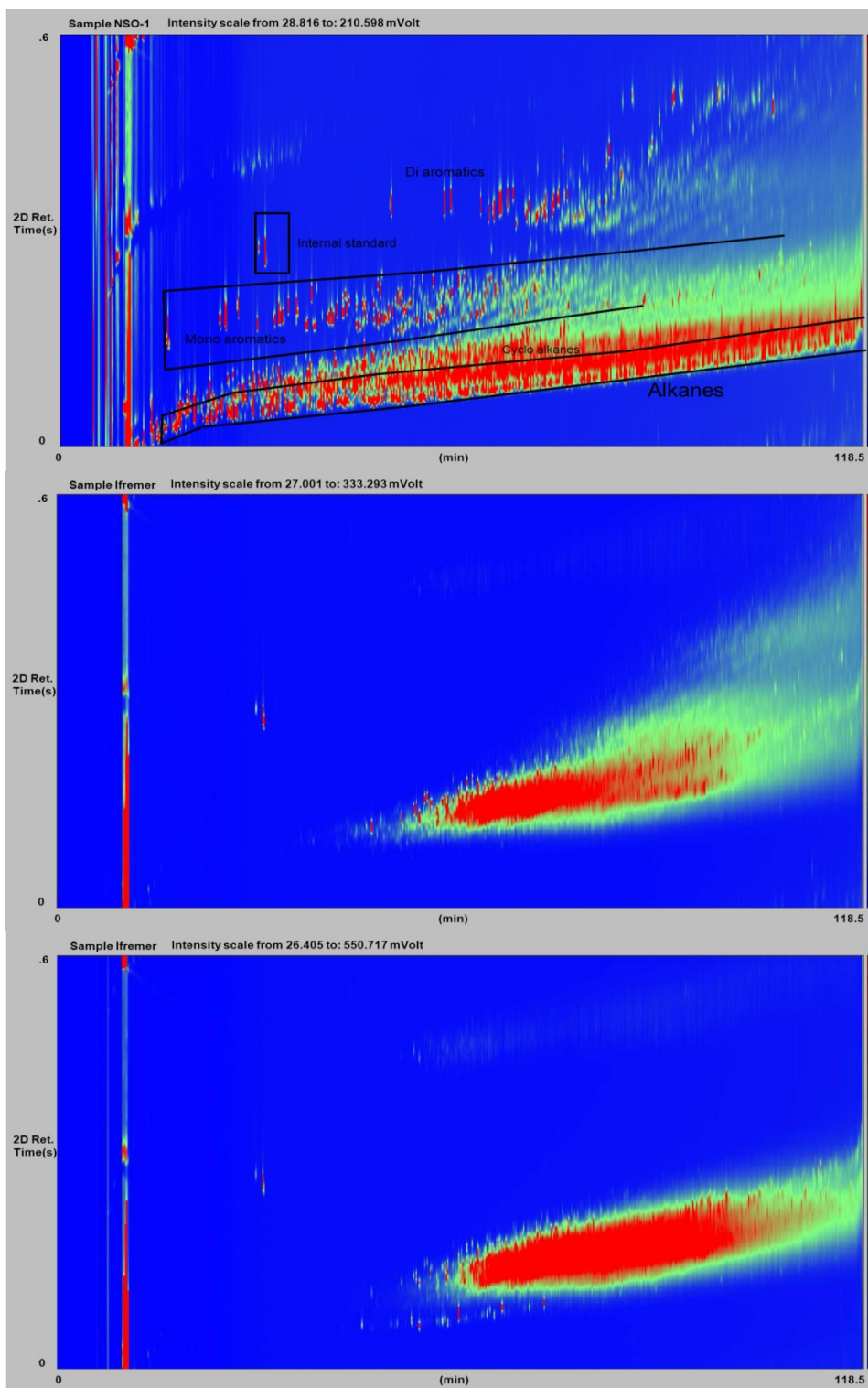


Figure S2. 2D-GCxGC analysis of the topped oil: a) Chromatogram of the standard oil NSG-NSO-1 showing a clustering into the various groups of components. b) Chromatogram of untopped sample and c) Chromatogram of TS.