



Pyrolytic behaviour of BC-like reference materials

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A wide set of analytical approaches have been proposed for the isolation and quantification of black carbon (BC) and other forms or Refractory Organic Matter (ROM) from different matrices. However, there are well-known discrepancies concerning the results obtained on natural BC concentrations, varying more than a factor of 500 for the same sample measured via different methods (Masiello and Druffel, 1998). To overcome these difficulties is one of the objectives of the BC-Ring Trial (Schmidt et al). This inter-laboratory trial has recommended the use of a set of reference samples, including five matrices containing BC (soot, charcoal, aerosol, soil, and sediment), as well as materials that could be potentially produced during biomass burning or BC isolation procedures (shale, melanoidin, natural organic matter, and coal), and therefore can be informative to detect methodological artefacts.

In this communication BC-Ring Trial reference materials were studied by Py-GC/MS analysis. Pyrolytic results (data not shown here) showed clear differences between BC containing soil samples, lignin char, shoot and urban dust. The pyrolytic patterns found are discussed in terms of the structural features of the different materials and compared with the pyrolytic behaviour of natural BC samples isolated in our laboratory from marine sediments.

References:

Masiello, C.A. and Druffel E.R.M. (1998). Black Carbon in deep sea sediments. *Science* 280: 1911-1913.

Schmidt M. et al. <http://www.geo.unizh.ch/phys/bc/>