

Supporting information:

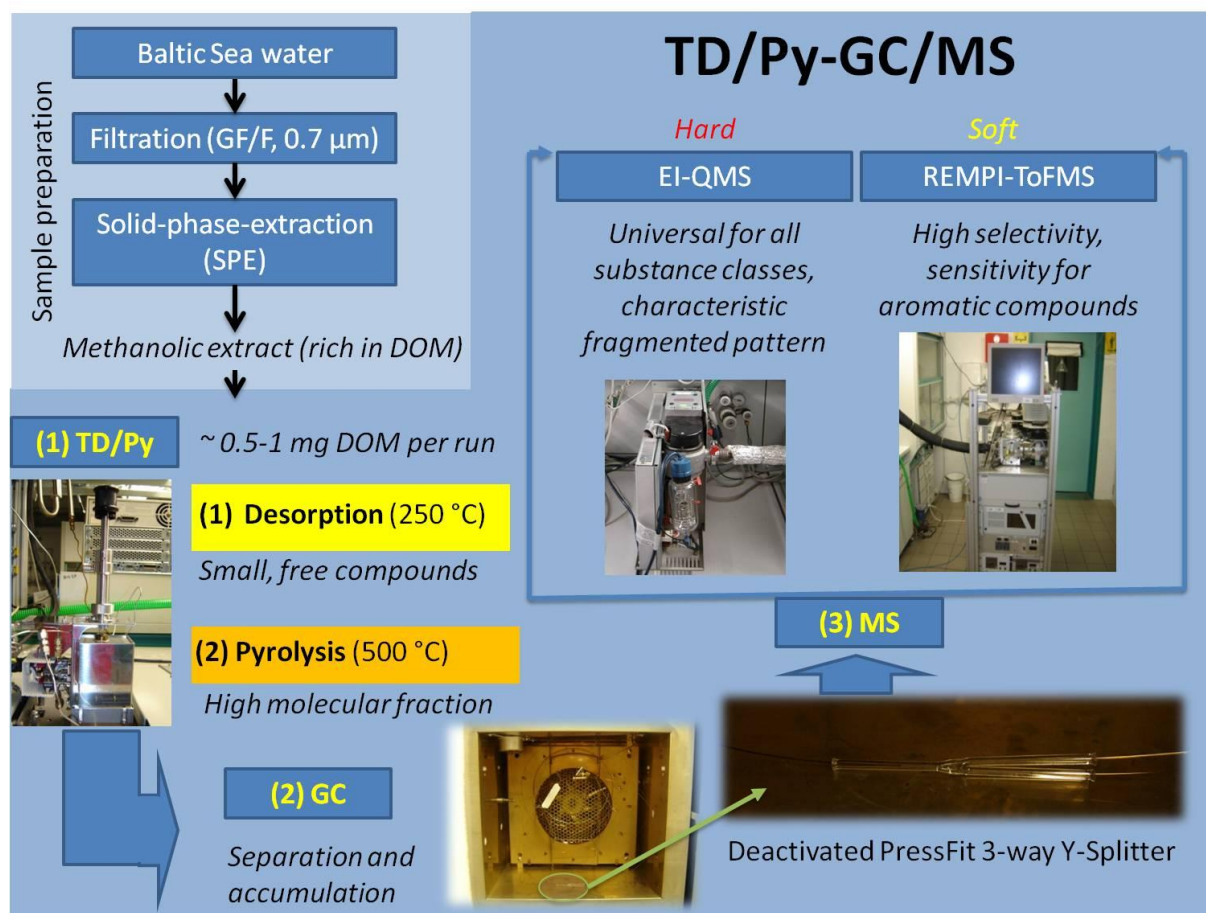


Figure S1: The filtered seawater was extracted by solid phase extraction to get a high accumulation of DOM compounds (Dittmar, 2008) The methanolic extract, which is rich in DOM, was introduced by a Double-Shot-Pyrolisator system coupled to a gas chromatograph. Samples first undergo a desorption process at 250 °C, followed by a separation process (non-polar column). The GC-System is coupled to two mass spectrometers simultaneously. One MS-System uses electron impact, a hard ionisation technique (70 eV). It is universal and the fragmented pattern is characteristic for certain substance classes. The other one uses [1+1]-Resonance-Enhanced-Multi-Photon-Ionisation (REMPI, 266 nm) to characterise aromatic compounds with a high selectivity as well as sensitivity. It is a soft ionisation technique and nearly fragmentation less and produces molecular ions predominately. After the thermal desorption process, the same sample is introduced for a second time after the oven is heated up to 500 °C and a second GC run starts.