DISSOLVED ORGANIC PHOSPHATE

Persulfate mineralization followed by manual spectrophotometric DIP measurements

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Total phosphate (TP) was estimated on 20 ml samples of seawater, using the same hightemperature persulfate wet-oxidation as for particulate phosphate (Pujo-Pay & Raimbault, 1994). DIP was then analysed using the S&P procedure. The measurement of Dissolved Organic Phosphate in seawater requires simultaneous measurements of DIP, Part-P and TP. DOP was assumed to be equal to ([TP]-[DIP]-[Part-P]). Precision and accuracy of DOP estimates decreased with increasing depth, when DIP concentrations became the dominant components of the total dissolved nutrient pools.

References:

Pujo-Pay M, Raimbault P (1994) Improvement of the wet-oxidation procedure for simultaneous determination of particulate organic nitrogen and phosphorus collected on filters. Mar Ecol Prog Ser 105: 203-207.