



**Figure S1.** Non-metric MDS ordination plot of enzymatic activities and biometric variables of all organisms sampled in the four sites on the Northern Portuguese Atlantic coast shows the separation among seasons (Summer vs Winter).

Total variation is 1827.000, explanatory variables account for 14.88%

Summary Table:

Statistic	Axis 1	Axis 2	Axis 3	Axis 4
Eigenvalues	0.0986	0.0429	0.0053	0.0021
Explained variation (cumulative)	9.86	14.15	14.68	14.88
Pseudo-canonical correlation	0.6428	0.6258	0.2661	0.1225
Explained fitted variation (cumulative)	<b>66.23</b>	<b>95.06</b>	98.61	100.00
Pseudo-canonical correlation (suppl.)	0.8154	0.4914	0.3928	0.4140

Permutation Test Results:

On First Axis pseudo-F=5.4, P=0.001

On All Axes pseudo-F=8.7, P=0.001

**Variation Partitioning Results for Two Groups (time and space) Simple-effects-tested**

Group Members:

First Group      Second Group

a) Season      b) Sampling site

Fraction	Variation (adj)	% of Explained	% of All	DF	Mean Square
a	0.12719	58.5	12.7	1	0.12919
b	0.093509	43.0	9.4	3	0.03493
c	-0.0032184	-1.5	-0.3	--	--
Total Explained 0.21748	100.0	21.7	4	0.05828	Total Explained 0.21748
All Variation	1	--	100.0	200	--

Tested Fraction	F	P
a+b+c	14.9	0.001
a+c	29.3	0.001
b+c	7.6	0.001

### Variation Partitioning Results for Two Groups (physicochemical parameters and specific pollutants) Simple-effects-tested

Group Members: **a)** physicochemical parameters (PC)

**b)** specific pollutants. (SP)

First Group      Second Group

TSS                      Cd

NH<sub>3</sub>                      Pb

Na                        Cu

### Explained variation

Fraction	Variation (adj)	% of Explained	% of All	DF	Mean Square
a	0.0076451	5.8	0.8	3	0.00394
b	0.0014431	1.1	0.1	3	0.00191
c	0.12255	93.1	12.3	--	--
Total Explained	0.13164	100.0	13.2	4	0.03721
All Variation	1	--	100.0	202	--