Table S1. Grain size data of marine sediments.

Location		S1 Harbour	S2 Shipyard	S3 Lim Bay out	S4 Lim Bay middle	S5 Open Sea
Total gravel	**> 2 mm (%)**	13.04	0.74	0.27	0.41	11.07
Total sand	**63 μm – 2 mm (%)**	67.32	54.17	5.44	4.55	72.60
Total mud	**< 63 μm (%)**	19.64	45.09	94.29	95.04	16.33
Sediment type		slightly gravelly muddy **sand**	gravelly muddy **sand**	slightly gravelly muddy **sand**	sandy gravelly **mud**	slightly gravelly **mud**
Mean size (μm)		167	72	45	45	175
Sorting		very poorly	poorly	well	very well	very poorly

Table S2. Correlation coefficients (r) of metals (As, Cd, Cu, Ni, Pb, Zn, Hg, Cr), total ΣPAHs and ΣPCBs, $\sum Q_{N1}$ and Q_{PECm} evaluation, probabilities of a toxic effect (P_{avg} and P_{max}), and Phytotoxicity (SG, RL, BP, PI) results of marine sediments contamination analyses.

	As	Cd	Cu	Ni	Pb	Zn	Hg	Cr	∑PAHs	∑PCBs	P_{avg}	P_{max}	$\sum Q_{N1}$	Q_{PECm}	SG	RL	BP	PI
As	-	-0.11	0.18	0.15	-0.04	-0.01	0.06	0.01	0.47	0.31	0.40	0.51	0.46	0.46	0.43	0.24	0.23	0.36
Cd	-0.11	-	0.96*	0.42	0.97**	0.79	0.98**	-0.38	0.64	0.86	0.61	0.51	0.76	0.76	0.10	0.43	0.66	0.29
Cu	0.18	0.96*	-	-0.39	0.95*	0.77	0.99**	-0.39	0.80	0.95*	0.74	0.67	0.90*	0.90*	0.26	0.52	0.75	0.42
Ni	0.15	0.42	-0.39	-	-0.60	0.21	-0.44	0.99**	-0.51	-0.54	-0.35	0.07	-0.35	-0.34	-0.05	0.14	-0.10	0.00
Pb	-0.04	0.97**	0.95*	-0.60	-	0.064	0.98**	-0.58	0.73	0.92*	0.65	0.47	0.80	0.80	0.14	0.36	0.63	0.28
Zn	-0.01	0.79	0.77	0.21	0.064	-	0.77	0.25	0.39	0.58	0.46	0.64	0.62	0.62	0.14	0.61	0.70	0.37
Hg	0.06	0.98**	0.99**	-0.44	0.98**	0.77	-	-0.42	0.77	0.94*	0.72	0.62	0.86	0.86	0.23	0.50	0.73	0.40
Cr	0.01	-0.38	-0.39	0.99**	-0.58	0.25	-0.42	-	-0.53	-0.55	-0.35	0.06	-0.37	-0.36	-0.05	0.18	-0.06	0.02
∑PAHs	0.47	0.64	0.80	-0.51	0.73	0.39	0.77	-0.53	-	0.94*	0.96**	0.81	0.96**	0.96**	0.70	0.66	0.82	0.74
∑PCBs	0.31	0.86	0.95*	-0.54	0.92*	0.58	0.94*	-0.55	0.94*	-	0.87	0.72	0.96**	0.96**	0.46	0.56	0.78	0.56
P_{avg}	0.40	0.61	0.74	-0.35	0.65	0.46	0.72	-0.35	0.96**	0.87	-	0.90*	0.94*	0.94*	0.83	0.83	0.93*	0.88*
P_{max}	0.51	0.51	0.67	0.07	0.47	0.64	0.62	0.06	0.81	0.72	0.90	-	0.87	0.87	0.82	0.93*	0.94*	0.91*
$\sum Q_{N1}$	0.46	0.76	0.90*	-0.35	0.80	0.62	0.86	-0.37	0.96**	0.96**	0.94	0.87	-	1**	0.62	0.72	0.88	0.72
Q_{PECm}	0.46	0.76	0.90*	-0.34	0.80	0.62	0.86	-0.36	0.96**	0.96**	0.94	0.87	1**	-	0.62	0.72	0.88*	0.72
SG	0.43	0.10	0.26	-0.05	0.14	0.14	0.23	-0.05	0.70	0.46	0.83	0.82*	0.62	0.62	-	0.86	0.78	0.97**

RL	0.24	0.43	0.52	0.14	0.36	0.61	0.50	0.18	0.66	0.56	0.83	0.93*	0.72	0.72	0.86	-	0.95*	0.95*
BP	0.23	0.66	0.75	-0.10	0.63	0.70	0.73	-0.06	0.82	0.78	0.93*	0.94*	0.88	0.88*	0.78	0.95*	-	0.90*
PI	0.36	0.29	0.42	0.00	0.28	0.37	0.40	0.02	0.74	0.56	0.88*	0.91*	0.72	0.72	0.97**	0.95*	0.90*	-

Table S3. Phytotoxicity of investigates marine sediment eluates using dicotyledon flax *Linum usitatissimum* seed germination test: A) seed germination (GP), B) root length (RL), C) root biomass production (BP) inhibition and phytotoxicity index (PI) calculated using test control (deH2O) as 0.00 % inhibition.

A) Seed Germination Inhibition - SG

30 x 30 seeds of *L. usitatissimum*

Plate: A Subsample	Seed Germination (SG)	Sample Unit	Control	S1	S2	S3	S4	S5
1		(No)	27	15	9	11	24	26
2		(No)	26	12	10	13	25	26
3		(No)	27	16	9	9	25	27
	Germinated seeds	(Mean)	26.67	14.33	9.33	11.00	24.67	26.33
	Germination	(%)	88.89	47.78	31.11	36.67	82.22	87.78
	Seed Germination	(%)	0.00	46.25	65.00	58.75	7.50	1.25

30 x 30 seeds of *L. usitatissimum*

Plate: B Subsample	Seed Germination (SG)	Sample Unit	Control	S1	S2	S3	S4	S5
1		(No)	25	16	12	8	23	27
2		(No)	28	18	13	6	23	25
3		(No)	27	18	14	9	25	25
	Germinated seeds	(Mean)	26.67	17.33	13.00	7.67	23.67	25.67
	Germination	(%)	88.89	57.78	43.33	25.56	78.89	85.56
	Seed Germination	(%)	0.00	35.00	51.25	71.25	11.25	3.75

30 x 30 seeds of *L. usitatissimum*

Plate: C Subsample	Seed Germination (SG)	Sample Unit	Control	S1	S2	S3	S4	S5
1		(No)	29	17	10	9	25	25
2		(No)	30	18	11	10	23	25
3		(No)	27	20	14	12	23	26
	Germinated seeds	(Mean)	28.67	18.33	11.67	10.33	23.67	25.33
	Germination	(%)	95.56	61.11	38.89	34.44	78.89	84.44
	Seed Germination	(%)	0.00	36.05	59.30	63.95	17.44	11.63

A, B, C	SG	Average	0.00	39.10	58.52	64.65*	12.06	5.54*
		StDev	0.00	6.22	6.91	6.28	5.02	5.42

Kruskall-Wallis ANOVA P = 0.014; S3-S5 P = 0.047

B) Root Lenght Inhibition - RL

30 x 30 seeds of *L. usitatissimum*

Plate: A Subsample	Root lenght (RL)	Sample Unit	Control	S1	S2	S3	S4	S5
1	Root Lenght	(mm)	85.9	50.3	59.3	48.2	67.7	81
	RL	(%)	0.00	41.44	30.97	43.89	21.19	5.70
2	Root Lenght	(g)	78.7	53.2	58.9	50.2	64.8	74.4
	RL	(%)	0.00	32.40	25.16	36.21	17.66	5.46
3	Root Lenght	(g)	83.5	49.4	51.4	45.2	58.6	80.3
	RL	(%)	0.00	40.84	38.44	45.87	29.82	3.83
	RL	Average	0.00	38.23	31.52	41.99	22.89	5.00
		StDev	0.00	5.05	6.66	5.10	6.26	1.02

Plate: B Subsample	Root lenght (RL)	Sample Unit	Control	S1	S2	S3	S4	S5
1	Root Lenght	(mm)	81.6	52.1	61.4	45.3	63.4	78.3
	RL	(%)	0.00	36.15	24.75	44.49	22.30	4.04
2	Root Lenght	(g)	78.2	58.6	64.7	51.3	66.5	72.2
	RL	(%)	0.00	25.06	17.26	34.40	14.96	7.67
3	Root Lenght	(g)	85.2	46.7	49.3	47.9	61.7	79.8
	RL	(%)	0.00	45.19	42.14	43.78	27.58	6.34
	RL	Average	0.00	35.47	28.05	40.89	21.62	6.02
		StDev	0.00	10.08	12.76	5.63	6.34	1.84

Plate: C Subsample	Root lenght (RL)	Sample Unit	Control	S1	S2	S3	S4	S5
1	Root Lenght	(mm)	91.4	53.7	56.9	44.1	70.1	73.5
	RL	(%)	0.00	41.25	37.75	51.75	23.30	19.58
2	Root Lenght	(g)	78.7	55.4	58.5	47.5	61.5	74.1
	RL	(%)	0.00	29.61	25.67	39.64	21.86	5.84
3	Root Lenght	(g)	88.2	40.8	53.9	42.3	61.8	75.9
	RL	(%)	0.00	51.14	35.45	49.34	25.99	9.10
	RL	Average	0.00	40.66	32.95	46.91	23.72	11.51
		StDev	0.00	10.78	6.41	6.41	2.10	7.18

A, B, C	RL	Average	0.00	38.12	30.84	43.26*	22.74	7.51*
		StDev	0.00	2.60	2.52	3.21	1.06	3.50

Kruskall-Wallis ANOVA P = 0.009; S3-S5 P = 0.01

C) Root Biomass Inhibition - BP

30 x 30 seeds of *L. usitatissimum*

Plate: A Subsample	Biomass production (BP)	Sample Unit	Control	S1	S2	S3	S4	S5
1	Root biomass	(g)	0.253	0.195	0.205	0.197	0.227	0.243
	BP	(%)	0.00	22.92	18.97	22.13	10.28	3.95
2	Root biomass	(g)	0.238	0.189	0.206	0.193	0.218	0.221
	BP	(%)	0.00	20.59	13.45	1.91	8.40	7.14
3	Root biomass	(g)	0.285	0.211	0.242	0.235	0.265	0.271
	BP	(%)	0.00	25.96	15.09	17.54	7.02	4.91
	BP	Average	0.00	23.16	15.84	19.53	8.57	5.34
		StDev	0.00	2.70	2.84	2.36	1.64	1.64

Plate: B Subsample	Biomass production (BP)	Sample Unit	Control	S1	S2	S3	S4	S5
1	Root biomass	(g)	0.274	0.201	0.218	0.193	0.235	0.254
	BP	(%)	0.00	26.64	20.44	29.56	14.23	7.30
2	Root biomass	(g)	0.246	0.193	0.196	0.201	0.211	0.231
	BP	(%)	0.00	21.54	20.33	18.29	14.23	6.10
3	Root biomass	(g)	0.254	0.223	0.222	0.221	0.224	0.245
	BP	(%)	0.00	12.20	12.60	12.99	11.81	3.54
	BP	Average	0.00	20.13	17.79	20.28	13.42	5.65
		StDev	0.00	7.32	4.49	8.46	1.40	1.92

Plate: C Subsample	Biomass production (BP)	Sample Unit	Control	S1	S2	S3	S4	S5
1	Root biomass	(g)	0.266	0.233	0.241	0.248	0.24	0.258
	BP	(%)	0.00	13.04	9.88	7.11	10.28	3.16
2	Root biomass	(g)	0.245	0.195	0.217	0.201	0.228	0.233
	BP	(%)	0.00	20.41	11.43	17.96	6.94	4.90
3	Root biomass	(g)	0.274	0.202	0.233	0.224	0.251	0.26
	BP	(%)	0.00	26.28	14.96	18.25	8.39	5.11
	BP	Average	0.00	19.91	12.09	14.44	8.54	4.39
		StDev	0.00	6.63	2.61	6.35	1.67	1.07

A, B, C	BP	Average	0.00	21.01*	15.24	18.08	10.18	5.12*
		StDev	0.00	1.82	2.89	3.18	2.81	0.65

Kruskall-Wallis ANOVA P = 0.017; S1-S5 P = 0.019

Germination test results	Sample Unit	Control	S1	S2	S3	S4	S5
SG	(%)	0	39.10	58.52	64.65	12.06	5.54
RL	(%)	0	38.12	30.84	43.26	22.74	7.51
BP	(%)	0	21.07	15.24	18.08	10.18	5.12
PHYTOTOXICITY INDEX (PI)	AVERAGE	0	32.76	34.87	42.00	14.99	6.06
	StDev	0	10.14	21.92	23.31	6.78	1.27

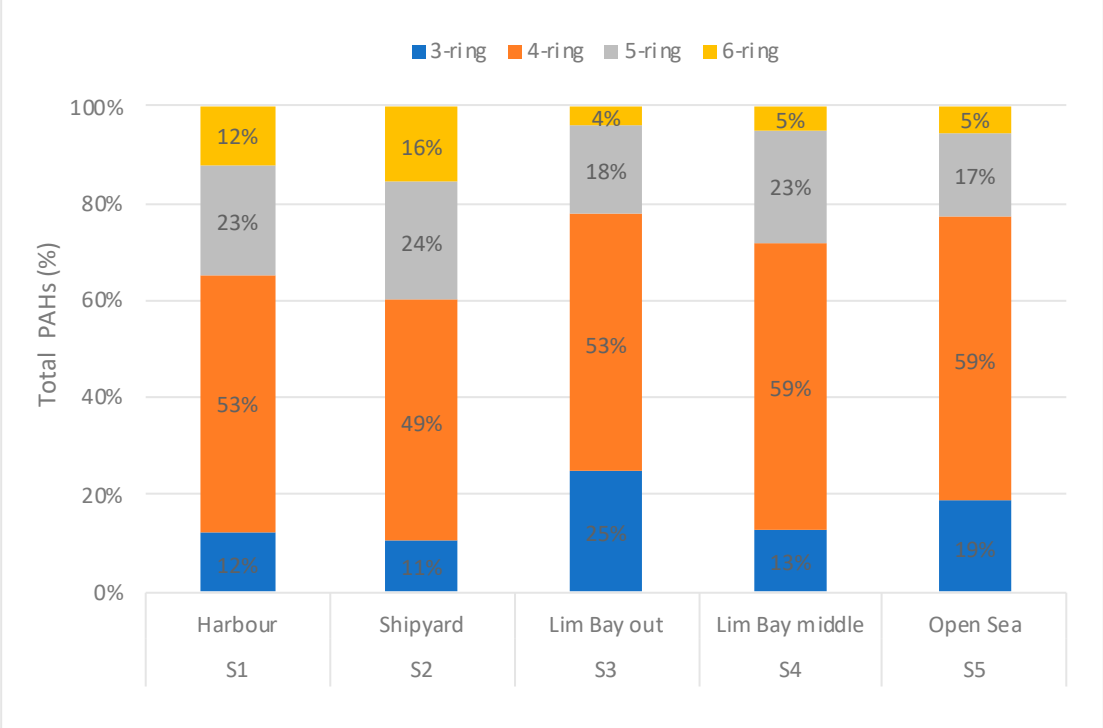

Figure S1. Polycyclic Aromatic Hydrocarbons structure distribution patterns in Rovinj marine sediments.