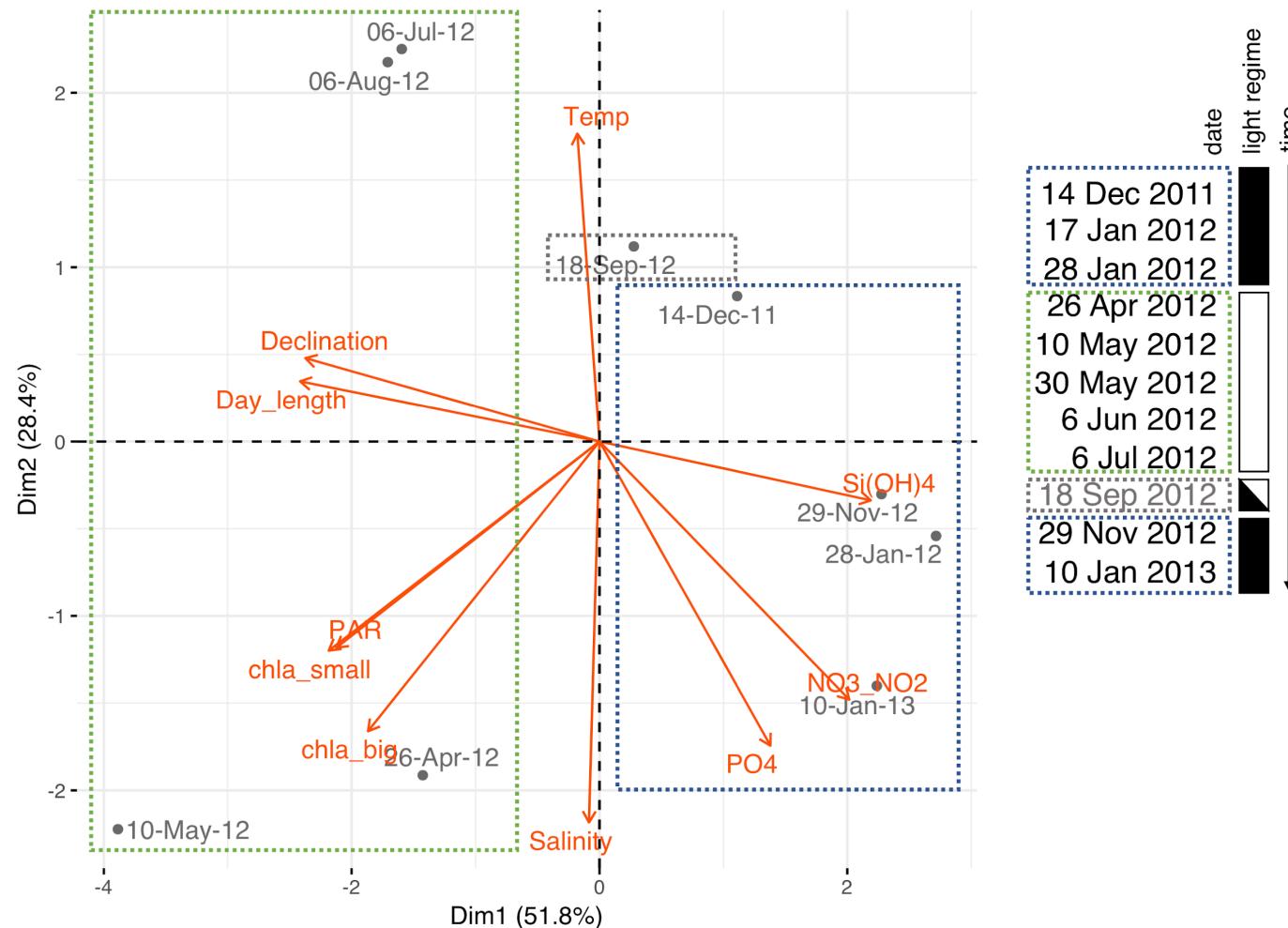


## **Supplement 1**

Pre-processing statistics of the sequenced samples.

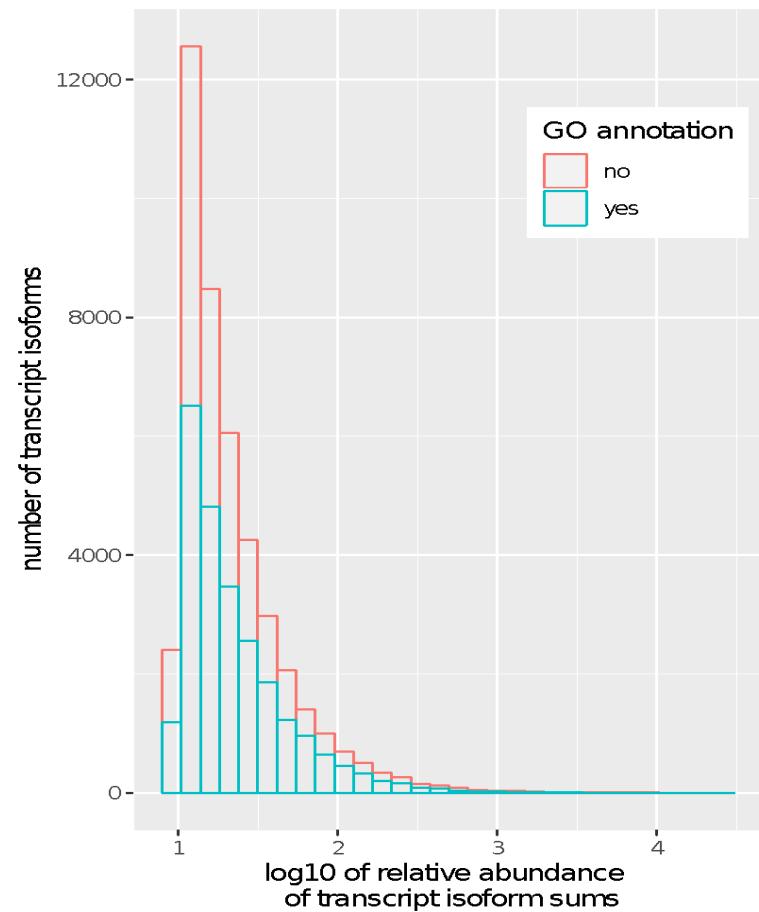
## Supplement 2

Principal component analysis of environmental data. 17 January 2012 and 30 May 2012 are not included in the figure, due to some missing values.



### Supplement 3

Most transcript isoforms were characterized by low sum of relative abundance across samples: 8 transcripts with >10 000 TPM, 154 with >1000 TPM, 3483 with >100 TPM, 68 166 with > 10 TPM and 2 390 862 with >1TPM. Most of the least abundant transcripts were unannotated with the Gene Ontology (based on blast results from mapping transcript isoforms to UniProt).



### Supplement 3

Summary of results from SIMPER analysis of Bray-Curtis dissimilarity matrix of reduced dataset. These are the 10 top individual transcript isoforms contributing to differences between grouping factors (transcript in bold was the only one among the top 10 in section a, b, c that was functionally annotated by at least one database; yellow highlight – transcript isoforms present in a, b and c).

#### a. grouping factor: polar night vs. polar day (without September)

	average	sd	ratio	ava	avb	cumulative sum
<b>TRINITY_DN3567435_c13_g1_i1</b>	<b>0.0091068</b>	<b>7.643e-03</b>	<b>1.1916</b>	<b>519.77</b>	<b>5236.75</b>	<b>0.01020</b>
TRINITY_DN3531545_c4_g1_i13	0.0057171	4.039e-03	1.4154	645.86	3522.82	0.01661
TRINITY_DN3383058_c4_g1_i10	0.0049891	4.020e-03	1.2409	210.17	2793.45	0.02219
TRINITY_DN3531545_c4_g1_i11	0.0044515	2.692e-03	1.6536	572.16	2830.47	0.02718
TRINITY_DN3528005_c14_g2_i1	0.0033457	1.859e-03	1.7995	51.95	1762.08	0.03093
TRINITY_DN3567090_c10_g1_i2	0.0032716	2.241e-03	1.4599	411.10	2057.50	0.03459
TRINITY_DN3565854_c4_g3_i5	0.0032060	4.265e-03	0.7518	2.79	1660.42	0.03818
TRINITY_DN3417822_c3_g2_i11	0.0031592	2.095e-03	1.5081	271.12	1859.83	0.04172
TRINITY_DN3313835_c6_g2_i3	0.0027240	2.927e-03	0.9306	45.65	1396.98	0.04477
TRINITY_DN3417822_c3_g2_i2	0.0024838	2.791e-03	0.8898	397.70	1458.13	0.04756

#### b. absence vs. presence of night

	average	sd	ratio	ava	avb	cumulative sum
<b>TRINITY_DN3567435_c13_g1_i1</b>	<b>0.0089522</b>	<b>0.0075762</b>	<b>1.1816</b>	<b>635.64</b>	<b>5236.74</b>	<b>0.01014</b>
TRINITY_DN3531545_c4_g1_i13	0.0055438	0.0039526	1.4026	780.39	3522.82	0.01642
TRINITY_DN3383058_c4_g1_i10	0.0048617	0.0040257	1.2077	279.26	2793.45	0.02193
TRINITY_DN3531545_c4_g1_i11	0.0042184	0.0026293	1.6044	739.23	2830.47	0.02670
TRINITY_DN3528005_c14_g2_i1	0.0033084	0.0018580	1.7807	74.10	1762.08	0.03045

TRINITY_DN3565854_c4_g3_i5	0.0032128	0.0042582	0.7545	2.32	166.42	0.03409
TRINITY_DN3567090_c10_g1_i2	0.0031939	0.0022026	1.4501	469.78	2057.50	0.03771
TRINITY_DN3417822_c3_g2_i11	0.0030590	0.0020509	1.4915	343.66	1859.83	0.04117
TRINITY_DN3313835_c6_g2_i3	0.0027182	0.0029221	0.9302	51.29	1396.98	0.04425
TRINITY_DN3417822_c3_g2_i2	0.0024484	0.0027053	0.9050	478.65	1458.13	0.04702

c. bloom vs. post-bloom

	average	sd	ratio	ava	avb	cumulative sum
TRINITY_DN3567435_c13_g1_i1	<b>0.0085442</b>	<b>4.672e-03</b>	<b>1.829</b>	<b>7807.2</b>	<b>1381.03</b>	<b>0.01159</b>
TRINITY_DN3565854_c4_g3_i5	0.0056244	1.861e-03	3.022	11.80	4133.35	0.01922
TRINITY_DN3531545_c4_g1_i13	0.0048821	1.976e-03	2.471	4963.8	1361.30	0.02585
TRINITY_DN3383058_c4_g1_i10	0.0039800	2.688e-03	1.481	3964.9	1036.28	0.03125
TRINITY_DN3561515_c5_g1_i4	0.0035883	2.845e-04	12.613	64.05	2689.11	0.03612
TRINITY_DN3455354_c3_g3_i2	0.0031505	3.037e-04	10.376	24.96	2331.49	0.04039
TRINITY_DN3531545_c4_g1_i11	0.0031379	1.345e-03	2.334	3757.6	1439.78	0.04465
TRINITY_DN3565854_c4_g3_i2	0.0028920	7.801e-04	3.707	7.66	2126.66	0.04857
TRINITY_DN3567090_c10_g1_i2	0.0028720	1.036e-03	2.772	2911.7	776.19	0.05247
TRINITY_DN3417822_c3_g2_i2	0.0028412	1.986e-03	1.4303	2269.4	241.16	0.05633