

## Chemosynthesis influences food web and community structure in high-Arctic benthos

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Table S1: Result of various endmember calculations (using chemosynthesis based carbon (CBC) from methane, sulfide oxidizing bacteria (SOB) and microbes that anaerobic oxidation of methane (AOM)) to determine the relative contribution (F) of carbon derived from methane seeps (presented as % chemosynthesis-based carbon). Carbon sources used in the end-member calculations =  $C_{POM}$  -25.1‰,  $C_{SOM}$  -20.7‰,  $C_{SOB}$  -35‰,  $C_{CH_4}$  -47‰ and  $C_{frac.AOM}$  -85‰. See also main text for clarification. Proportions >100% are mathematical solutions without biological basis in reality, thus should be neglected as assumed by the application of the mixing model. N/A = not applicable. **Bold columns** indicate the primary scenario already presented in Table 4.

Group	Sample	F <sub>CBC/POM</sub>	F <sub>CBC/SOM</sub>	F <sub>SOB/POM</sub>	F <sub>SOB/SOM</sub>	F <sub>frac.AOM/PO</sub>	F <sub>frac.AOM/SOM</sub>	
M								
POM	POM <sub>control</sub>	N/A	N/A	N/A	N/A	N/A	N/A	
	POM <sub>GHM</sub>	N/A	N/A	N/A	N/A	N/A	N/A	
SOM	H <sub>2</sub> S sediment	N/A	N/A	N/A	N/A	N/A	N/A	
	BR Sediment	N/A	N/A	N/A	N/A	N/A	N/A	
Annelida	Polychaeta	GHM sediment	N/A	N/A	N/A	N/A	N/A	
		BR sediment bacterial mat	N/A	N/A	N/A	N/A	N/A	
		<i>Nephtys</i> sp. BR	<b>28.7 %</b>	<b>40.7 %</b>	63.6 %	74.8 %	10.5 %	16.6 %
		<i>Nephtys</i> SR	<b>1.8 %</b>	<b>18.3 %</b>	3.9 %	33.6 %	0.7 %	7.5 %
		<i>Nephtys</i> sp. GHM	-	<b>9.5 %</b>	-	17.5 %	-	3.9 %
		<i>Nephtys</i> sp.	-	-	-	-	-	-
		<i>Ophelina acuminata</i>	<b>4.5 %</b>	<b>20.5 %</b>	10.0 %	37.8 %	1.7 %	8.4 %
		<i>Pherusa plumosa</i>	-	-	-	-	-	-
		Polynoid	-	<b>4.2 %</b>	-	7.7 %	-	1.7 %
		<i>Scoletoma fragilis</i>	-	-	-	-	-	-
		<i>Scoletoma fragilis</i> GHM	<b>18.2 %</b>	<b>31.9 %</b>	40.3 %	58.7 %	6.7 %	13.1 %
		Siboglinid+tube SR	<b>100.5 %</b>	<b>100.4 %</b>	222.3 %	184.6 %	36.7 %	41.1 %
Mollusca	Bivalvia	Siboglinid tube BR *	<b>59.3 %</b>	<b>66.2 %</b>	131.3 %	121.7 %	21.7 %	
		Siboglinid tissue BR *	<b>60.3 %</b>	<b>66.9 %</b>	133.4 %	123.1 %	22.0 %	
		<i>Astarte crenata</i>	-	<b>1.9 %</b>	-	3.5 %	-	0.8 %
	<i>Astarte elliptica</i>	-	<b>1.1 %</b>	-	2.1 %	-	0.5 %	
	<i>Bathyarca glacialis</i>	-	-	-	-	-	-	
	<i>Chlamys islandica</i>	-	<b>2.3 %</b>	-	4.2 %	-	0.9 %	
	Gastropoda	<i>Buccinum hydrophanum</i>	-	<b>1.9 %</b>	-	3.5 %	-	0.8 %
		<i>Hyalogyrina</i> sp.	-	<b>11.8 %</b>	-	21.7 %	-	4.8 %
	Sipunculida	Sipunculid	-	-	-	-	-	-
	Arthropoda	Crustacea	Amhipoda	-	<b>2.7 %</b>	-	4.9 %	-
<i>Onisimus</i> sp.			-	<b>3.0 %</b>	-	5.6 %	-	1.2 %
<i>Epimeria loricata</i>			-	-	-	-	-	-
Euphasidae			-	<b>9.5 %</b>	-	17.5 %	-	3.9 %
<i>Lebbeus polaris</i>			-	-	-	-	-	-
<i>Pandalus borealis</i>			-	-	-	-	-	-
<i>Sabinea septemcarinata</i>			-	-	-	-	-	-
Nemertea			Nemertea	-	-	-	-	-
Echino-dermata	Asteroidea	<i>Ctenodiscus crispatus</i>	-	-	-	-	-	
		<i>Solaster endeca</i>	-	-	-	-	-	
		Holothuridea <i>Molpadia borealis</i>	-	<b>4.2 %</b>	-	7.7 %	-	1.7 %
Chordata	Pices	<i>Myoxcephalus scorpius</i>	-	-	-	-	-	

\* Separated samples, tissue from three individuals and their tubes

- ▼ Amphipoda indet.
- ◊ Astarte spp.
- ⊕ B.glacialis.
- ✕ Buccinum sp.
- C.crispatus
- ⊕ C.islandica
- △ E.loricata
- ▲ Euphasidae indet.
- Frenulate (Siboglinidae<sub>BR</sub>)
- Frenulate (Siboglinidae<sub>SR</sub>)
- ✕ Hyalogyrina sp.
- ▲ L.polaris
- M.borealis
- ◆ M.scorpius.
- ⊕ Nemertea indet.
- ◇ Nephtys sp.
- ☆ Nephtys sp.<sub>BR</sub>
- ◇ Nephtys sp.<sub>GHM</sub>
- ★ Nephtys sp.<sub>BR</sub>
- ★ O.acuelata
- ▲ Onisimus sp.
- ▼ P.borealis
- P.plumosa
- ⊕ Polynoid indet.
- S.endeca
- ◇ S.fragilis
- ★ S.fragilis<sub>GHM</sub>
- ▼ S.septemcarinata
- Sipunculida indet.
- POM<sub>GHM</sub>
- POM<sub>GHM C</sub>
- Sed.<sub>BR</sub>
- Sed.<sub>GHM</sub>
- Sed.<sub>H2S</sub>
- Sed.<sub>micro mat</sub>
- ⊕ POM<sub>1</sub>
- ⊕ POM<sub>2</sub>

