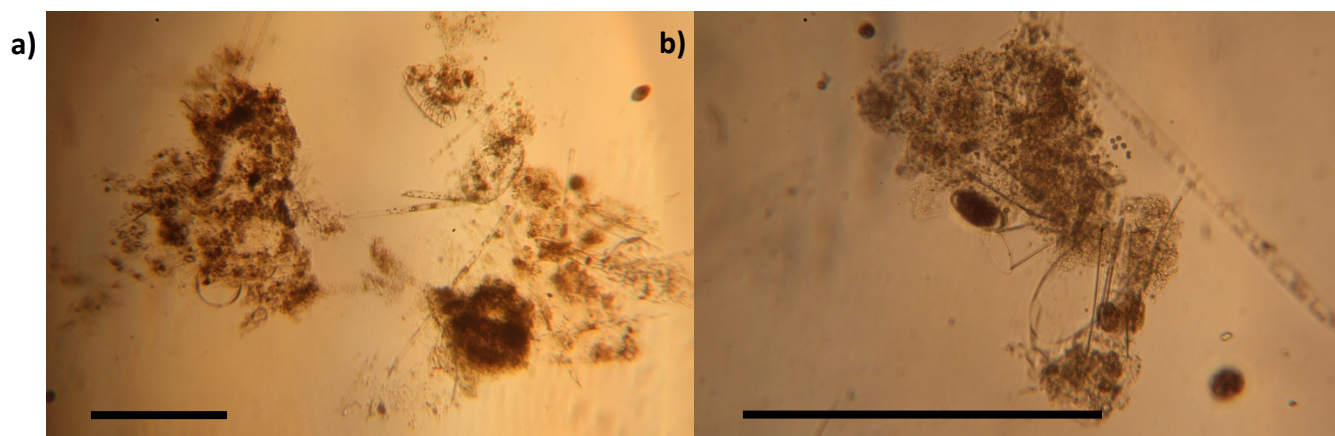
1    **Supplementary Material**

2    **Figure S1: Example light microscope image of a) roller tank formed aggregate and b) in situ collected aggregate. Scale bars=0.5**
3    **mm.**

4

5    **Table S1: Particulate organic carbon (POC) content of marine snow aggregates (PA). PA were grouped into size classes for bulk**
6    **carbon measurement (see methods).  ND=No Data**

7

| Size range (ESD, mm) | Aggregate POC ($\mu$g C mm$^{-3}$) | | | | 8 |
| --- | --- | --- | --- | --- |
| | <0.6 | >0.6 | <1 | 1-2 |
| **Sample Depth (m)** | | | | |
| 12 (Roller tank) | | | 2.4 | 2.4 |
| 36 | 17.0 | 6.7 | | |
| 46 | 30.6 | 11.0 | | |
| 73 | 15.0 | 8.9 | | |
| 113 | 16.5 | 9.4 | | |
| 128 | 11.7 | ND | | |
| 204 | 14.2 | ND | | |
| 500 | ND | ND | | |