|  |  |  |  |
| --- | --- | --- | --- |
| **Diversity Index** | **Relationship** | **P-value** | **Full Model P-value** |
| **Observed ASVs** | Chlorophyta: Ochrophyta | 0.0001 | <0.0001 |
| Chlorophyta: Rhodophyta | 0.2300 |
| Chlorophyta: Seawater | <0.0001 |
| Rhodophyta: Ochrophyta | <0.0001 |
| Rhodophyta: Seawater | <0.0001 |
| Ochrophyta: Seawater | 0.0003 |
| **Shannon Index** | Chlorophyta: Ochrophyta | <0.0001 | <0.0001 |
| Chlorophyta: Rhodophyta | 0.4400 |
| Chlorophyta: Seawater | <0.0001 |
| Rhodophyta: Ochrophyta | <0.0001 |
| Rhodophyta: Seawater | 0.0013 |
| Ochrophyta: Seawater | 0.0015 |
| **Simpson Index** | Chlorophyta: Ochrophyta | <0.0001 | <0.0001 |
| Chlorophyta: Rhodophyta | 0.9900 |
| Chlorophyta: Seawater | <0.0001 |
| Rhodophyta: Ochrophyta | <0.0001 |
| Rhodophyta: Seawater | 0.0042 |
| Ochrophyta: Seawater | 0.0012 |
| **Faith’s Phylogenetic Diversity** | Chlorophyta: Ochrophyta | <0.0001 | <0.0001 |
| Chlorophyta: Rhodophyta | 0.1500 |
| Chlorophyta: Seawater | <0.0001 |
| Rhodophyta: Ochrophyta | <0.0001 |
| Rhodophyta: Seawater | <0.0001 |
| Ochrophyta: Seawater | 0.3700 |