**SUPPLEMENTARY MATERIAL**

**Future trajectories of change for an Arctic deep ecosystem connected to coastal kelp forests**

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**Table S1**. Confidence intervals used to describe the uncertainty for functional group (FG) and each input parameter of the balanced Ecopath model.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| FG number | FG name | Biomass | P/B | Q/B | Diet | Catch |
| 1 | Marine mammals | ±80 | ±50 | ±40 | ±80 |  |
| 2 | Seabirds | ±80 | ±50 | ±40 | ±80 |  |
| 3 | Rays and skates | ±80 | ±50 | ±50 | ±80 | ±50 |
| 4 | Velvet belly | ±10 | ±50 | ±50 | ±10 | ±50 |
| 5 | Rabbit fish | ±10 | ±50 | ±50 | ±10 | ±50 |
| 6 | Greater argentine | ±10 | ±50 | ±50 | ±30 | ±50 |
| 7 | Blue whiting | ±10 | ±20 | ±50 | ±30 | ±50 |
| 8 | Large fish feeders | ±10 | ±50 | ±50 | ±30 | ±50 |
| 9 | Pouts | ±10 | ±50 | ±50 | ±30 | ±50 |
| 10 | Witch flounder | ±10 | ±20 | ±50 | ±30 |  |
| 11 | Other commercial demersal fishes | ±10 | ±70 | ±50 | ±30 | ±50 |
| 12 | Redfishes | ±10 | ±50 | ±50 | ±30 | ±50 |
| 13 | Mesopelagic fishes | ±80 | ±20 | ±50 | ±30 |  |
| 14 | Hagfish | ±10 | ±50 | ±50 | ±50 |  |
| 15 | Benthopelagic cephalopods | ±80 | ±50 | ±50 | ±50 |  |
| 16 | Pelagic shrimps | ±80 | ±50 | ±40 | ±50 |  |
| 17 | Benthopelagic shrimps | ±80 | ±50 | ±40 | ±50 | ±50 |
| 18 | Benthic detritivore echinoderms | ±30 | ±50 | ±40 | ±50 |  |
| 19 | Detritivore polychaetes | ±80 | ±50 | ±40 | ±50 |  |
| 20 | Other benthic detritivore invertebrates | ±30 | ±50 | ±40 | ±50 |  |
| 21 | Predatory invertebrates | ±10 | ±50 | ±40 | ±50 |  |
| 22 | Sea cucumbers | ±10 | ±50 | ±40 | ±50 |  |
| 23 | Jellyfish and ctenophores | ±80 | ±50 | ±40 | ±50 |  |
| 24 | Large krill | ±80 | ±50 | ±40 | ±50 |  |
| 25 | Small krill | ±80 | ±50 | ±40 | ±50 |  |
| 26 | Macro and mesozooplankton | ±80 | ±50 | ±40 | ±50 |  |
| 27 | Microzooplankton | ±80 | ±50 | ±40 | ±50 |  |
| 28 | Suprabenthos | ±30 | ±50 | ±40 | ±50 |  |
| 29 | Meiofauna | ±10 | ±70 | ±80 | ±50 |  |
| 30 | Bacteria | ±80 | ±50 | ±40 | ±80 |  |
| 31 | Large phytoplankton | ±80 | ±50 |  |  |  |
| 32 | Heterotrophic nanoflagellates | ±80 | ±50 | ±40 | ±80 |  |
| 33 | Marine snow | ±80 |  |  |  |  |
| 34 | Coarse kelp POM | ±10 |  |  |  |  |
| 35 | Fine kelp POM | ±30 |  |  |  |  |
| 36 | Benthic detritus | ±80 |  |  |  |  |

**Table S2**. Rho and p-values of Spearman correlation of functional groups (FGs) biomass over time. Bold numbers indicate significant correlations (p-values<0.01).

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **p-value** | | | | | | | | |
|  | FG3 | FG4 | FG5 | FG7 | FG8 | FG11 | FG12 | FG17 | FG28 |
| Scn1 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** |
| Scn2 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** |
| Scn3 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** |
| Scn4 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn5 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn6 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn7 | **0.00** | **0.00** | **0.00** | **0.00** | 0.05 | 0.31 | **0.00** | **0.00** | **0.00** |
| Scn8 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn9 | **0.00** | **0.01** | **0.00** | **0.00** | 0.02 | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn10 | **0.00** | **0.00** | **0.00** | **0.00** | 0.02 | 0.22 | **0.00** | **0.00** | **0.00** |
| Scn11 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn12 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
|  |  |  |  |  |  |  |  |  |  |
|  | **rho-value** | | | | | | | | |
| Scn1 | 1.00 | -1.00 | -1.00 | -0.99 | 0.67 | 0.29 | 1.00 | 0.99 | 1.00 |
| Scn2 | 1.00 | -1.00 | -1.00 | -0.99 | 0.65 | 0.28 | 1.00 | 0.99 | 1.00 |
| Scn3 | 1.00 | -1.00 | -1.00 | -0.99 | 0.71 | 0.30 | 1.00 | 0.99 | 1.00 |
| Scn4 | 1.00 | -1.00 | -1.00 | -1.00 | 0.70 | 0.33 | 1.00 | 0.99 | 0.98 |
| Scn5 | 1.00 | -1.00 | -1.00 | -1.00 | 0.67 | 0.31 | 1.00 | 0.99 | 0.99 |
| Scn6 | 1.00 | -1.00 | -1.00 | -1.00 | 0.73 | 0.35 | 1.00 | 1.00 | 0.48 |
| Scn7 | 1.00 | -1.00 | -1.00 | -0.95 | 0.22 | 0.11 | 1.00 | 0.94 | 0.99 |
| Scn8 | -0.80 | 0.51 | 0.93 | 0.97 | -0.57 | -0.90 | -0.84 | -0.98 | -0.90 |
| Scn9 | -0.86 | -0.30 | 0.93 | 0.60 | -0.26 | -0.93 | -0.89 | -0.98 | -0.40 |
| Scn10 | 1.00 | -1.00 | -1.00 | -0.95 | 0.26 | 0.14 | 1.00 | 0.95 | 0.99 |
| Scn11 | -0.86 | 0.52 | 0.88 | 0.98 | -0.72 | -0.90 | -0.84 | -0.97 | -0.93 |
| Scn12 | -0.94 | -0.36 | 0.81 | 0.98 | -0.58 | -0.43 | -0.91 | -0.99 | -0.53 |

**Table S3.** Rho and p-values of Spearman correlation of Ecological Network Analisis (ENA) indicators over time. Bold numbers indicate significant correlations (p-values<0.01).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **p-value** | | | | | | |
|  | TST | Ex/TST | FD/TST | A/C | AMI | FCI | APL |
| Scn1 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn2 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn3 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn4 | 0.01 | **0.00** | 0.62 | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn5 | **0.00** | 0.02 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn6 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | 0.15 | 0.30 |
| Scn7 | **0.00** | **0.00** | 0.09 | 0.28 | 0.34 | **0.00** | 0.06 |
| Scn8 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn9 | 0.07 | 0.87 | 0.02 | **0.00** | **0.00** | **0.00** | 0.01 |
| Scn10 | **0.00** | **0.00** | **0.00** | **0.00** | 0.44 | 0.15 | **0.00** |
| Scn11 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | 0.02 | 0.02 |
| Scn12 | **0.00** | **0.00** | **0.00** | **0.00** | **0.01** | **0.00** | **0.00** |
|  |  |  |  |  |  |  |  |
|  | **rho-values** | | | | | | |
| Scn1 | 0.61 | -0.98 | -0.68 | -1.00 | -0.92 | 0.99 | 1.00 |
| Scn2 | 0.62 | -0.95 | 0.00 | -1.00 | -0.94 | 0.98 | 1.00 |
| Scn3 | 0.62 | -0.97 | 0.00 | -1.00 | -0.95 | 0.98 | 1.00 |
| Scn4 | 0.28 | -1.00 | -0.06 | -1.00 | -0.99 | 1.00 | 1.00 |
| Scn5 | 0.97 | -0.26 | -0.56 | -0.98 | -0.98 | 0.42 | 0.42 |
| Scn6 | -0.37 | -0.31 | -0.56 | -0.31 | -0.36 | -0.16 | 0.12 |
| Scn7 | 0.98 | -0.76 | -0.19 | -0.12 | -0.10 | 0.36 | 0.21 |
| Scn8 | -0.96 | 0.46 | 0.96 | 0.88 | 0.71 | 0.81 | 0.63 |
| Scn9 | -0.20 | -0.02 | 0.24 | 0.93 | 0.72 | 0.35 | 0.28 |
| Scn10 | -0.56 | 0.82 | 0.47 | 0.86 | 0.08 | 0.16 | 0.33 |
| Scn11 | -0.43 | 0.96 | 0.39 | 0.82 | 0.63 | -0.26 | -0.26 |
| Scn12 | 0.93 | 0.98 | -0.56 | 0.99 | -0.30 | 0.36 | 0.36 |

**Table S4.** Rho and p-values of Spearman correlation of FGs ECOIND indicators over time. Bold numbers indicate significant correlations (p-values<0.01).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  | **p-value** |  |  |  |  |  |  |  |
|  | Commercial B | Demersal B | Fish B | Invertebrates B | Total B | Kempton's Q | TL community | TL community 2 | TL community 3.25 | TL community 4 | TL catch | Fish C | Invertebrate C | Total C |
| Scn1 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn2 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn3 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn4 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn5 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn6 | **0.00** | **0.00** | **0.00** | **0.00** | 0.06 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn7 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn8 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn9 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn10 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn11 | **0.00** | 0.13 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Scn12 | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | **rho-value** |  |  |  |  |  |  |  |
| Scn1 | 0.98 | -1.00 | -1.00 | 1.00 | 0.67 | 1.00 | -1.00 | -1.00 | 0.98 | 1.00 | -1.00 | -1.00 | 0.99 | 0.98 |
| Scn2 | 0.99 | -1.00 | -1.00 | 1.00 | 0.64 | 1.00 | -1.00 | -1.00 | 0.98 | 1.00 | -1.00 | -1.00 | 0.92 | 0.91 |
| Scn3 | 0.99 | -1.00 | -1.00 | 1.00 | 0.68 | 1.00 | -1.00 | -1.00 | 0.99 | 1.00 | -1.00 | -0.93 | 0.99 | 0.98 |
| Scn4 | 1.00 | -1.00 | -1.00 | 0.37 | 0.19 | 1.00 | -0.41 | -1.00 | 0.99 | 1.00 | -1.00 | -1.00 | 0.99 | 0.98 |
| Scn5 | 0.99 | -1.00 | -1.00 | 0.43 | 0.22 | 1.00 | -0.41 | -0.99 | 0.99 | 1.00 | -1.00 | -1.00 | 0.99 | 0.98 |
| Scn6 | 1.00 | -1.00 | -1.00 | 0.32 | 0.06 | 1.00 | -0.37 | -1.00 | 0.99 | 0.99 | -1.00 | -1.00 | 1.00 | 0.99 |
| Scn7 | 0.33 | -0.60 | -0.95 | 0.97 | 0.66 | 0.97 | -0.41 | -0.33 | 0.59 | 0.99 | -0.82 | -0.99 | 0.94 | 0.79 |
| Scn8 | -0.91 | 0.10 | 0.93 | -0.97 | -0.93 | -0.61 | 0.81 | -0.71 | -0.92 | -0.67 | 0.98 | 0.97 | -0.97 | -0.98 |
| Scn9 | -0.93 | 0.25 | 0.61 | -0.77 | -0.21 | -0.77 | -0.24 | -0.86 | -0.90 | -0.26 | 0.99 | 0.69 | -0.99 | -0.99 |
| Scn10 | -0.84 | -0.86 | 0.67 | -0.93 | -0.99 | -0.68 | 0.08 | -0.44 | -0.79 | 0.89 | 0.99 | 0.98 | -0.99 | -0.99 |
| Scn11 | -0.91 | 0.05 | 0.93 | -0.99 | -0.99 | -0.43 | 0.96 | -0.14 | -0.91 | -0.77 | 0.98 | 0.92 | -0.98 | -0.98 |
| Scn12 | -0.84 | -0.92 | 0.65 | -0.96 | -0.99 | -0.74 | 0.09 | -0.44 | -0.72 | 0.89 | 0.99 | 0.98 | -0.98 | -0.97 |

**Table S5**. Unlagged cross-correlation values of functional groups (FGs) biomass over time. Bold numbers indicate significant correlations (>2/ or <-2/ where n is number of observations: n=84).

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | FG3 | FG4 | FG5 | FG7 | FG8 | FG11 | FG12 | FG17 | FG28 |
| Scn1 | **0.87** | **-0.76** | **-0.82** | **-0.59** | **0.72** | **0.52** | **0.82** | **0.75** | **0.74** |
| Scn2 | **0.87** | **-0.77** | **-0.82** | **-0.59** | **0.71** | **0.52** | **0.82** | **0.75** | **0.74** |
| Scn3 | **0.88** | **-0.75** | **-0.83** | **-0.59** | **0.74** | **0.53** | **0.83** | **0.76** | **0.75** |
| Scn4 | **0.89** | **-0.76** | **-0.83** | **-0.60** | **0.73** | **0.54** | **0.84** | **0.78** | **0.89** |
| Scn5 | **0.89** | **-0.76** | **-0.83** | **-0.60** | **0.72** | **0.53** | **0.83** | **0.77** | **0.88** |
| Scn6 | **0.91** | **-0.75** | **-0.84** | **-0.62** | **0.73** | **0.55** | **0.85** | **0.80** | 0.18 |
| Scn7 | **0.90** | **-0.77** | **-0.83** | **-0.58** | **0.50** | **0.45** | **0.83** | **0.72** | **0.75** |
| Scn8 | **-0.78** | **0.67** | **0.90** | **0.92** | **-0.60** | **-0.79** | **-0.80** | **-0.97** | **-0.89** |
| Scn9 | **-0.86** | **-0.32** | **0.86** | **0.62** | **-0.38** | **-0.84** | **-0.87** | **-0.98** | **-0.45** |
| Scn10 | **0.91** | **-0.76** | **-0.83** | **-0.59** | **0.49** | **0.46** | **0.85** | **0.74** | **0.86** |
| Scn11 | **-0.85** | **0.69** | **0.88** | **0.92** | **-0.69** | **-0.79** | **-0.81** | **-0.97** | **-0.42** |
| Scn12 | **-0.95** | **-0.38** | **0.76** | **0.92** | **-0.54** | **-0.31** | **-0.90** | **-0.98** | **-0.58** |
|  |  |  |  |  |  |  |  |  |  |

**Table S6**. Unlagged cross-correlation values of Ecological Network Analisis (ENA) indicators over time. Bold numbers indicate significant correlations (>2/ or <-2/ where n is number of observations: n=1008).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | TST | Ex/TST | FD/TST | A/C | AMI | FCI | APL |
| Scn1 | **0.40** | **-0.83** | **-0.68** | **-0.54** | **-0.49** | **0.61** | **0.66** |
| Scn2 | **0.41** | **-0.75** | 0.00 | **-0.53** | **-0.49** | **0.60** | **0.66** |
| Scn3 | **0.43** | **-0.83** | 0.00 | **-0.54** | **-0.50** | **0.60** | **0.66** |
| Scn4 | **-0.50** | **-0.53** | 0.12 | **-0.52** | **-0.53** | **0.57** | **0.57** |
| Scn5 | **0.54** | **0.48** | **-0.52** | **-0.41** | **-0.47** | **-0.36** | **-0.30** |
| Scn6 | **0.56** | **0.56** | **-0.56** | **0.56** | **0.56** | **-0.56** | **-0.56** |
| Scn7 | **0.63** | **-0.72** | -0.19 | **0.35** | **0.39** | **0.22** | **-0.22** |
| Scn8 | **-0.96** | 0.19 | **0.96** | **0.88** | **0.30** | **0.64** | **0.51** |
| Scn9 | -0.02 | **-0.50** | 0.04 | **0.90** | **0.51** | **0.64** | **0.58** |
| Scn10 | **-0.37** | **0.49** | **0.31** | **0.76** | **0.40** | **-0.39** | **-0.25** |
| Scn11 | 0.08 | **0.49** | **0.25** | **0.65** | -0.05 | **-0.46** | **-0.50** |
| Scn12 | **0.56** | **0.56** | **-0.56** | **0.56** | **0.56** | **-0.56** | **-0.56** |

**Table S7**. Unlagged cross-correlation values of ECOIND indicators over time. Bold numbers indicate significant correlations (>2/ or <-2/ where n is number of observations: n=84).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Commercial B | Demersal B | Fish B | Invertebrates B | Total B | Kempton's Q | TL community | TL community 2 | TL community 3.25 | TL community 4 | TL catch | Fish C | Invertebrate C | Total C |
| Scn1 | **0.75** | **-0.81** | **-0.82** | **0.86** | **0.57** | **0.93** | **-0.79** | **-0.88** | **0.75** | **0.85** | **-0.74** | **-0.78** | **0.75** | **0.72** |
| Scn2 | **0.75** | **-0.82** | **-0.82** | **0.86** | **0.50** | **0.93** | **-0.80** | **-0.88** | **0.74** | **0.86** | **-0.74** | **-0.43** | **0.24** | 0.02 |
| Scn3 | **0.75** | **-0.81** | **-0.83** | **0.86** | **0.57** | **0.93** | **-0.80** | **-0.88** | **0.76** | **0.85** | **-0.75** | **-0.79** | **0.59** | **0.49** |
| Scn4 | **0.77** | **-0.53** | **-0.83** | **-0.23** | **-0.51** | **0.93** | **0.36** | **-0.90** | **0.77** | **0.85** | **-0.76** | **-0.79** | **0.78** | **0.77** |
| Scn5 | **0.76** | **-0.53** | **-0.83** | **0.24** | **-0.51** | **0.93** | **0.36** | **-0.91** | **0.76** | **0.85** | **-0.77** | **-0.79** | **0.77** | **0.75** |
| Scn6 | **0.78** | **-0.52** | **-0.83** | **-0.42** | **-0.51** | **0.93** | **0.43** | **-0.93** | **0.78** | **0.85** | **-0.77** | **-0.80** | **0.79** | **0.78** |
| Scn7 | **0.59** | -0.06 | **-0.85** | **0.64** | **0.44** | **0.86** | **0.13** | **0.24** | **0.68** | **0.90** | **-0.68** | **-0.82** | **0.71** | **0.65** |
| Scn8 | **-0.91** | **0.12** | **0.91** | **-0.96** | **-0.93** | **-0.69** | **0.67** | **-0.71** | **-0.89** | **-0.77** | **0.98** | **0.93** | **-0.97** | **-0.97** |
| Scn9 | **-0.95** | **0.56** | **0.74** | **-0.78** | -0.03 | **-0.88** | **-0.53** | **-0.90** | **-0.91** | **-0.24** | **0.91** | **0.73** | **-0.98** | **-0.98** |
| Scn10 | **-0.85** | **-0.53** | **0.75** | **-0.87** | **-0.67** | **-0.79** | **0.50** | **-0.07** | **-0.71** | **0.91** | **0.93** | **0.91** | **-0.98** | **-0.98** |
| Scn11 | **-0.91** | **-0.51** | **0.92** | **-0.89** | **-0.57** | **-0.55** | **0.61** | **0.14** | **-0.89** | **-0.82** | **0.98** | **0.27** | **-0.91** | **-0.83** |
| Scn12 | **-0.85** | **-0.52** | **0.74** | **-0.81** | **-0.58** | **-0.81** | **0.51** | **-0.06** | **-0.66** | **0.91** | **0.93** | **0.91** | **-0.97** | **-0.96** |