SUPPLEMENTARY MATERIALS

Supplementary Text
Figure S1
Figure S2
Figure S3
Figure S4

SUPPLEMENTARY TEXT

Fossil Calibrations. Nine fossil calibration points were selected to calibrate our molecular clock analysis, following best practices[1]. Where possible, calibration points were confirmed using the Paleobiology Database (PBDB). Calibration priors were modeled as lognormal distributions with a sigma of 2.5, and an offset using the minimum age of the fossil. Such priors place the highest confidence for the true date of nodes to be slightly older than the fossil, with decreasing probabilities extending deep into the past.

Clade Annelida (stem)
Minimum: 558.3 Ma
Median: 559.3
95% Confidence Interval: 619.4 Ma
97.5% Confidence Interval: 692.6 Ma
Taxa included: *Alitta virens; Amynthas gracilis; Capitella teleta; Eisenia fetida; Enchytraeus albidus; Enchytraeus crypticus; Glossoscolex paulistus; Lamellibrachia luymesi; Lamellibrachia satsuma; Lumbriculus variegatus; Lumbricus castaneus; Lumbricus rubellus; Olavius algarvensis; Ophryotrocha diadema; Paraescarpia echinospica; Perinereis aibuhitensis; Platynereis dumerilii; Pygospio elegans; Romanchella perrieri; Spirobranchus lamarcki*

The fossil *Sabellidites cambriensis*, an Ediacaran annelid from the Nekrasovo Formation, Russia, was used in this dataset to calibrate all Annelida [2]. The age of this taxa is constrained by dated ash beds both below and comprising the formation (the later dated to 555.3 and 558.3 Ma, respectively). The specimen (ME-Pl-1-30) is kept in the Museum of Evolution, at Uppsala University, Russia. Morphologically, chemically, and microstructurally the tubes of this fossil support a siboglonid affinity, but a recent paper[3] argued that many of these characteristics do not correlate to modern clades. Therefore, we used this taxon to calibrate the stem group Annelida.

Clade Coccolithophore
Minimum: 201.3 Ma
Median: 202.3 Ma
95% Confidence Interval: 262.4 Ma
97.5% Confidence Interval: 335.6 Ma
Taxa included: *Emiliania huxleyi; Guillardia theta*

The fossil *Crucirhabdus minutus* was chosen to calibrate the clade Coccolithophoreas. It was first described from different localities in Austria, northern Italy, and southern Germany [4]. We used the oldest stratigraphic occurrence of *C. minutus* from the Pötschen Fm. of the Northern Calcareous Alps of Austria to calibrate Coccolithophore[5]. This fossil is therefore used as a crown calibration to separate the cryptophyte *Guillardia theta* from the coccolithophore *Emiliania huxleyi*.

Clade Embryophyta (stem)
Minimum: 419.2 Ma
Median: 420.2 Ma
95% Confidence Interval: 480.3 Ma
97.5% Confidence Interval: 553.5 Ma
Taxa included: *Arabidopsis thaliana; Physcomitrium patens*

The plant fossil *Cooksonia pertoni* (PBDB collection #: 10593 & 10706), collected from the Rushall Formation (Fm.) (alternatively the "Downton Castle Sandstone Fm.) of the Welsh Borderland, England was used to calibrate the Embryophyta. *Cooksonia pertoni*, was originally named and described as a plant but later assigned to the Psilophytales [6,7]. *Cooksonia pertoni* was classified as a vascular plant based on well-preserved smooth and autonomously branching axes, solitary terminal sporangia, stomata, sterome, and also thick-walled spores [8]. We used *C.pertoni* to calibrate stem group Embyophyta, with an age minimum of 419.2 Ma estimated from ostracods and spores [9].

Clade Fungi (crown)
Minimum: 407.6 Ma
Median: 407.6 Ma
95% Confidence Interval: 468.7 Ma
97.5% Confidence Interval: 541.9 Ma
Taxa included: *Puccinia graminis; Saccharomyces cerevisiae*

Fossil ascomycete from the 400 million-year-old Rhynie chert was used to calibrate the Fungi clade (Taylor et al., 2005). The Rhynie chert fossil fungi assemblage represents the oldest robust fossil fungi owing to well preserved vegetative mycelium and chlamydospores[12] (Kidston and Lang, 1921). Fossil fungi from the Dryden Fm. were initially reported based on the presence of well preserved reproductive organs of saprophytic fungi but were not formally described in detail or named until 1921 by the same authors [11,12]. These specimens are housed in the Hunterian Museum and in the Geological Collections of the Bristol Museum and Art Gallery, collection BRSGM. The fossil fungi of the Rhynie chert have been corroborated by numerous subsequent studies [13] (see references from Krings et al., 2018). First reports of the oldest ascomycete are based on well-preserved perithecia and asci, the sac-like structure where the sexual ascospores are produced. Ascomycota contain the taxon *Saccharomyces cerevisiae*, therefore their oldest fossil representative is used to calibrate crown group fungi. The age minimum of 407.6 was established based on $^{40}Ar/^{39}Ar$ in K-feldspar [10].

Clade Hesionoidea (stem)
Minimum: 300 Ma
Median: 301 Ma
95% Confidence Interval: 361.1 Ma
97.5% Confidence Interval: 434.3 Ma
Taxa included: *Alitta virens*; *Perinereis aibuhitensis*; *Platynereis dumerilii*

The superfamily Hesionoidea comprises the clades Chrysopetalidae and Hesionidae as recovered in a recent genetic analysis [14]. *Rutellifrons wolfforum*, a Carboniferous annelid from the Mazon Creek area of Illinois [15], was chosen to calibrate this clade. *R. wolfforum* is considered hesonoid based on internal asiculae and compound chaetae [16]. Cladistic analysis supports the placement of *R. wolfforum* in the Phyllodocida, consistent with a stem-Hesionid assignment [17]. The exact age range for the Mazon Creek area has been contested over the years [18], so the upper limit of the Pennsylvanian (300 Ma) was chosen.

Clade Petrosiidae (stem)
Minimum: 38 My
Median: 39 My
95% Confidence Interval: 99.08 My
97.5% Confidence Interval: 172.3 My
Taxa included: *Amphimedon queenslandica; Haliclona tubifera; Neopetrosia compacta*

The demosponge family Petrosiidae van Soest (1980) (Demospongiae, Haplosclerida) was calibrated using the fossil *Propetrosia pristina* (PBDB collection number: 61247) from the La Guixa Member (Mb.) of the Vic Marls Formation (Fm.) in Catalonia, Spain. The materials are housed at the Institute of Paleobiology, Polish Academy of Sciences, Warszawa, under the collection number ZPAL Pf.X, and in the Museum Geologic del Seminari, Barcelona, collection acronym MGSB. *Propetrosia pristina* was initially described and assigned to the family Petrosiidae, order Haplosclerida, based on typical haplosclerid spiculation and structure [19]. Specifically, an outer surface consisting of a relatively thick layer of multispicular, closely arranged crust of bundled and unbundled oxeas spicules forming circular structures[19]. *Propetrosia* was later confirmed as belonging to the order Haplosclerida [20]. *Propetrosia pristina* is an extinct species of demosponge and therefore used as a stem-group calibration. We used the minimum age of 38.0 Ma for the fossil-based on data retrieved from the PBDB.

Clade Sabellida (stem)
Minimum: 265.1 Ma
Median: 266.1 Ma
95% Confidence Interval: 326.2 Ma
97.5% Confidence Interval: 399.4 Ma
Taxa included: *Lamellibrachia luymesi; Lamellibrachia satsuma; Paraescarpia echinospica; Romanchella perrieri; Spirobranchus lamarcki*

The clade Sabellida is calibrated with the fossil taxa *Glomerula testatrix* and *G. gemmellaroi*, both from the Sosio Valley, Italy [21]. The oldest age of the limestone deposits is Wordian (268.8-265.1 Ma), which is largely based on ammonite and foram stratigraphy[22]. The fossil *Glomerula* species are associated with this clade based on glomerate coiling, slow tube expansion, and the absence of basal cementing flanges. Given that this genus has extant members, the fossil taxa are considered crown group Sabellida for this analysis. *G. testatrix* specimens (MSNC4515 through MSNC4518) and G. *gemmellaroi* (MSNC4519 through MSNC4523) are housed at the Museo Civico di Storia Naturale di Comiso, Ragusa, Italy.

Clade Scleractinia (stem)
Minimum: 452 Ma
Median: 453 Ma
95% Confidence Interval: 513.1 Ma
97.5% Confidence Interval: 586.3 Ma
Taxa included: *Agaricia lamarcki; Astroides calycularis; Cyphastrea serailia; Favites colemani; Galaxea fascicularis; Orbicella faveolata; Porites astreoides; Porites australiensis; Porites lutea; Siderastrea siderea*

The cnidarian order Scleractinia was calibrated using the fossil *Kilbuchophyllum discoidea* (Anthozoa, Kilbuchophyllida) (PBDB collection #: 123174) from the Kirkcolm Fm. in the Southern Uplands of Scotland. Fossil materials are housed in the Royal Museum of Scotland, Edinburgh (RMS). The fossil was originally described and assigned to the new family Kilbuchophyllidae, and the new order Kilbuchophyllida [23]. We used *Kilbuchophylllum discoidea* to calibrate stem group Scleractinia based on the clear expression of cyclic, hexameral septa, a defining characteristic of Scleractinia [23]. The age minimum of 452 Ma is based on data retrieved from the PBDB, given the fossil's proximity to the Soudleyan-Actonian boundary (457-458 Ma) [23].

References:

1. Parham, J. F. *et al.* Best Practices for Justifying Fossil Calibrations. *Syst. Biol.* **61**, 346–359 (2012).
2. Moczydłowska, M., Westall, F. & Foucher, F. Microstructure and Biogeochemistry of the Organically Preserved Ediacaran Metazoan *Sabellidites*. *J. Paleontol.* **88**, 224–239 (2014).
3. Georgieva, M. N. *et al.* Identification of fossil worm tubes from Phanerozoic hydrothermal vents and cold seeps. *J. Syst. Palaeontol.* **17**, 287–329 (2019).
4. Jafar, S. A. Significance of Late Triassic calcareous nannoplankton from Austria and southern Germany. in *Neues Jahrbuch fur Geologie und Palaontologie Abhandlungen* vol. 166

218–259 (1983).

5. Gardin, S., Krystyn, L., Richoz, S., Bartolini, A. & Galbrun, B. Where and when the earliest coccolithophores? *Lethaia* **45**, 507–523 (2012).
6. Lang, W. H. IV - On the plant-remains from the Downtonian of England and Wales. *Philos. Trans. R. Soc. Lond.* **227**, 245–291 (1937).
7. Andrews, H. N. *Index of Generic Names of Fossil Plants, 1820-1965*. vol. 1300 (US government Printing Office, 1970).
8. Edwards, D., Davies, K. L. & Axe, L. A vascular conducting strand in the early land plant Cooksonia. *Nature* **357**, 683–685 (1992).
9. Fanning, U., Richardson, J. B. & Dianne, E. Cryptic evolution in an early land plant. *Evol. Trends Plants ETP* **2**, 13–24 (1988).
10. Mark, D. F. *et al.* 40Ar/39Ar dating of hydrothermal activity, biota and gold mineralization in the Rhynie hot-spring system, Aberdeenshire, Scotland. *Geochim. Cosmochim. Acta* **75**, 555–569 (2011).
11. Kidston, R. & Lang, W. H. XXIV.—On Old Red Sandstone Plants showing Structure, from the Rhynie Chert Bed, Aberdeenshire. Part I. Rhynia Gwynne-Vaughani, Kidston and Lang. *Trans. R. Soc. Edinb. Earth Sci.* **51**, 761–784 (1917).
12. Kidston, R. & Lang, W. H. XXXIII.—On Old Red Sandstone Plants showing Structure, from the Rhynie Chert Bed, Aberdeenshire. Part V. The Thallophyta occurring in the Peat-Bed; the Succession of the Plants throughout a Vertical Section of the Bed, and the Conditions of Accumulation and Preservation of the Deposit. *Trans. R. Soc. Edinb.* **52**, 855–902 (1921).
13. Krings, M., Harper, C. J. & Taylor, E. L. Fungi and fungal interactions in the Rhynie chert: a review of the evidence, with the description of *Perexiflasca tayloriana* gen. et sp. nov. †. *Philos. Trans. R. Soc. B Biol. Sci.* **373**, 20160500 (2018).
14. Tilic, E., Stiller, J., Campos, E., Pleijel, F. & Rouse, G. W. Phylogenomics resolves ambiguous relationships within Aciculata (Errantia, Annelida). *Mol. Phylogenet. Evol.* **166**,

107339 (2022).

15. Thompson, I. Errant polychaetes (Annelida) from the Pennsylvanian Essex fauna of northern Illinois. in *Palaeontographica Abteilung A Palaeozoologie-Stratigraphie* 169–199 (1979).
16. Merz, R. A. & Woodin, S. A. Polychaete chaetae: Function, fossils, and phylogeny. *Integr. Comp. Biol.* **46**, 481–496 (2006).
17. Parry, L., Tanner, A. & Vinther, J. The origin of annelids. *Palaeontology* **57**, 1091–1103 (2014).
18. Clements, T., Purnell, M. & Gabbott, S. The Mazon Creek Lagerstätte: a diverse late Paleozoic ecosystem entombed within siderite concretions. *J. Geol. Soc.* **176**, 1–11 (2019).
19. Pisera, A. & Busquets, P. Eocene siliceous sponges from the Ebro Basin (Catalonia, Spain) Les éponges siliceuses de l'Éocène du Bassin de l'Èbre (Catalogne, Espagne). 26 (2002).
20. Finks, R. M., Reid, R. E. H. & Rigby, J. K. Porifera (Demospongea, Hexactinellida, Heteractinida, Calcarea). in *Treatise on Invertebrate Paleontology Part E, Revised* vol. 3 56 (Geological Society of America, 2004).
21. Sanfilippo, R., Rosso, A., Reitano, A. & Insacco, G. First record of sabellid and serpulid polychaetes from the Permian of Sicily. *Acta Palaeontol. Pol.* **62**, (2017).
22. Flügel, E., Di Stefano, P. & Senowbari-Daryan, B. Microfacies and depositional structure of allochthonous carbonate base-of-slope deposits: The late permian Pietra di Salomone megablock, Sosio Valley (Western Sicity). *Facies* **25**, 147–186 (1991).
23. Scrutton, C. & Clarkson, E. A New Sceractinian-Like Coral form the Ordovician of the Southern Uplands, Scotland. *Palaeontology* **34**, 179–194 (1991).

Figure S2

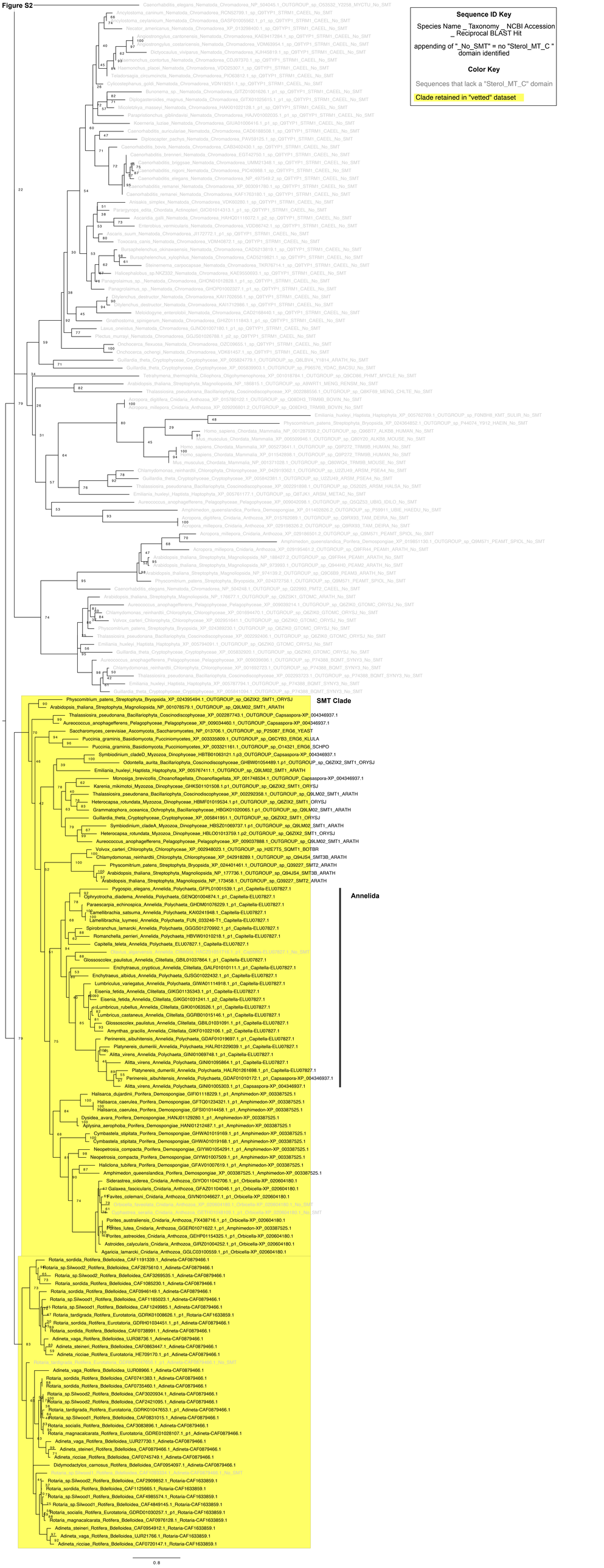

Sequence ID Key
Species Name _ Taxonomy _ NCBI Accession _ Reciprocal BLAST Hit
appending of "_No_SMT" = no "Sterol_MT_C " domain identified
Color Key
Sequences that lack a "Sterol_MT_C" domain
Clade retained in "vetted" dataset
SMT Clade
Annelida
0.8

Figure S3

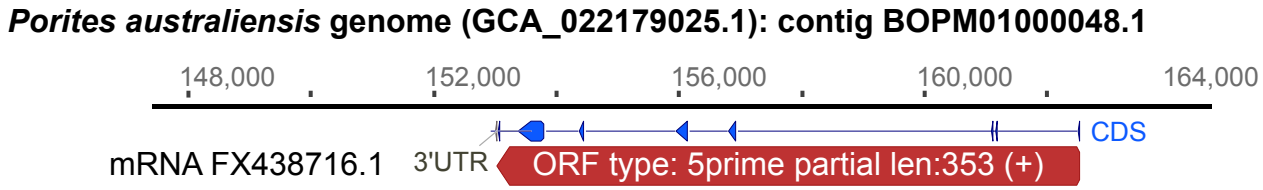
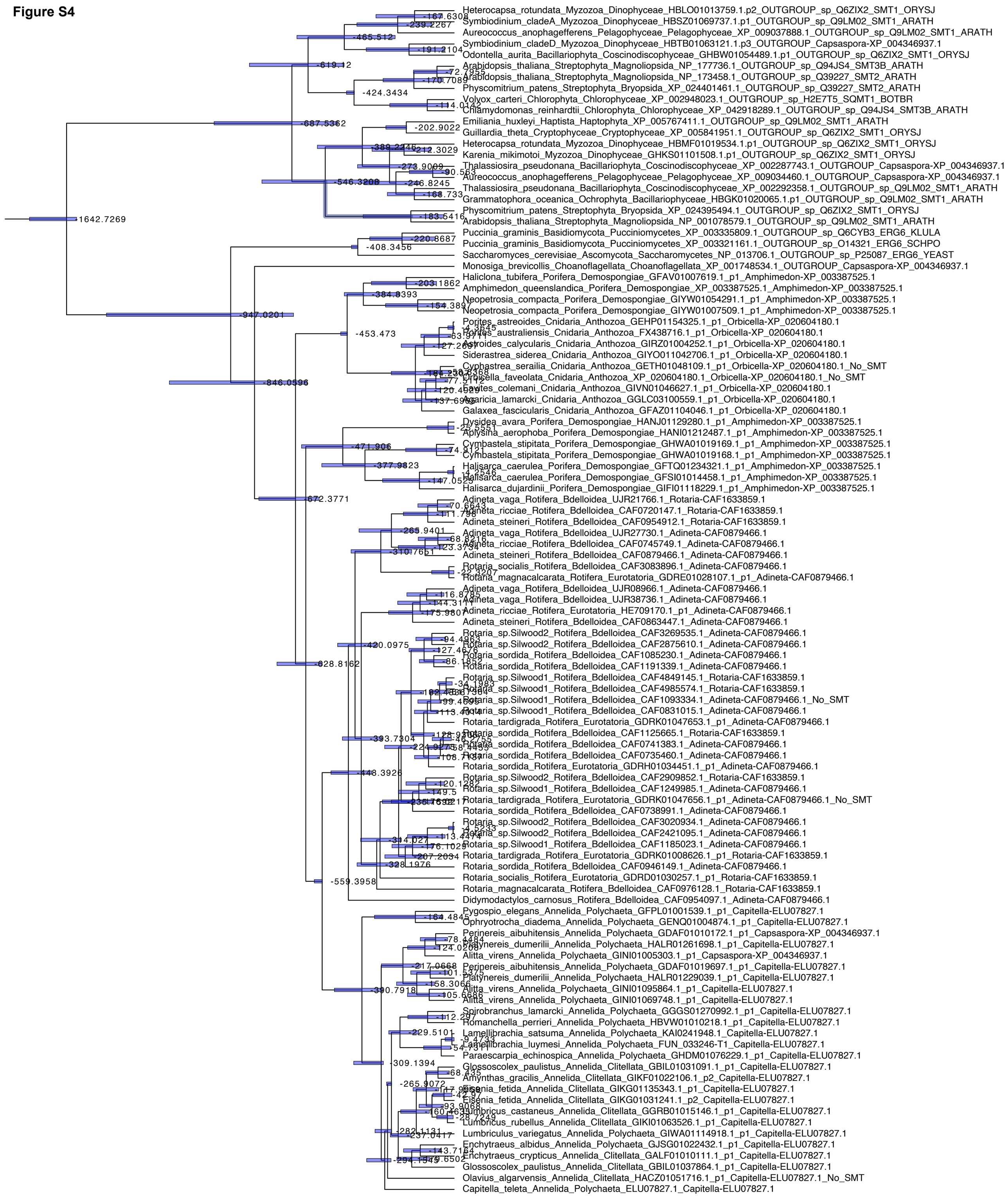

Porites australiensis genome (GCA_022179025.1): contig BOPM01000048.1
148,000
152,000
156,000
160,000
164,000
CDS
mRNA FX438716.1
3'UTR
ORF type: 5prime partial len:353 (+)

Figure S4


Heterocapsa_rotundata_Myzozoa_Dinophyceae_HBLO01013759.1.p2_OUTGROUP_sp_Q6ZIX2_SMT1_ORYSJ
Symbiodinium_cladeA_Myzozoa_Dinophyceae_HBSZ01069737.1.p1_OUTGROUP_sp_Q9LM02_SMT1_ARATH
Aureococcus_anophagefferens_Pelagophyceae_Pelagophyceae_XP_009037888.1_OUTGROUP_sp_Q9LM02_SMT1_ARATH
Symbiodinium_cladeD_Myzozoa_Dinophyceae_HBTB01063121.1.p3_OUTGROUP_Capsaspora-XP_004346937.1
Odontella_aurita_Bacillariophyta_Coscinodiscophyceae_GHBW01054489.1.p1_OUTGROUP_sp_Q6ZIX2_SMT1_ORYSJ
Arabidopsis_thaliana_Streptophyta_Magnoliopsida_NP_177736.1_OUTGROUP_sp_Q94JS4_SMT3B_ARATH
Arabidopsis_thaliana_Streptophyta_Magnoliopsida_NP_173458.1_OUTGROUP_sp_Q39227_SMT2_ARATH
Physcomitrium_patens_Streptophyta_Bryopsida_XP_024401461.1_OUTGROUP_sp_Q39227_SMT2_ARATH
Volvox_carteri_Chlorophyta_Chlorophyceae_XP_002948023.1_OUTGROUP_sp_H2E7T5_SQMT1_BOTBR
Chlamydomonas_reinhardtii_Chlorophyta_Chlorophyceae_XP_042918289.1_OUTGROUP_sp_Q94JS4_SMT3B_ARATH
Emiliania_huxleyi_Haptista_Haptophyta_XP_005767411.1_OUTGROUP_sp_Q9LM02_SMT1_ARATH
Guillardia_theta_Cryptophyceae_Cryptophyceae_XP_005841951.1_OUTGROUP_sp_Q6ZIX2_SMT1_ORYSJ
Heterocapsa_rotundata_Myzozoa_Dinophyceae_HBMF01019534.1.p1_OUTGROUP_sp_Q6ZIX2_SMT1_ORYSJ
Karenia_mikimotoi_Myzozoa_Dinophyceae_GHKS01101508.1.p1_OUTGROUP_sp_Q6ZIX2_SMT1_ORYSJ
Thalassiosira_pseudonana_Bacillariophyta_Coscinodiscophyceae_XP_002287743.1_OUTGROUP_Capsaspora-XP_004346937.1
Aureococcus_anophagefferens_Pelagophyceae_Pelagophyceae_XP_009034460.1_OUTGROUP_Capsaspora-XP_004346937.1
Thalassiosira_pseudonana_Bacillariophyta_Coscinodiscophyceae_XP_002292358.1_OUTGROUP_sp_Q9LM02_SMT1_ARATH
Grammatophora_oceanica_Ochrophyta_Bacillariophyceae_HBGK01020065.1.p1_OUTGROUP_sp_Q9LM02_SMT1_ARATH
Physcomitrium_patens_Streptophyta_Bryopsida_XP_024395494.1_OUTGROUP_sp_Q6ZIX2_SMT1_ORYSJ
Arabidopsis_thaliana_Streptophyta_Magnoliopsida_NP_001078579.1_OUTGROUP_sp_Q9LM02_SMT1_ARATH
Puccinia_graminis_Basidiomycota_Pucciniomycetes_XP_003335809.1_OUTGROUP_sp_Q6CYB3_ERG6_KLULA
Puccinia_graminis_Basidiomycota_Pucciniomycetes_XP_003321161.1_OUTGROUP_sp_O14321_ERG6_SCHPO
Saccharomyces_cerevisiae_Ascomycota_Saccharomycetes_NP_013706.1_OUTGROUP_sp_P25087_ERG6_YEAST
Monosiga_brevicollis_Choanoflagellata_Choanoflagellata_XP_001748534.1_OUTGROUP_Capsaspora-XP_004346937.1
Haliclona_tubifera_Porifera_Demospongiae_GFAV01007619.1_p1_Amphimedon-XP_003387525.1
Amphimedon_queenslandica_Porifera_Demospongiae_XP_003387525.1_Amphimedon-XP_003387525.1
Neopetrosia_compacta_Porifera_Demospongiae_GIYW01054291.1_p1_Amphimedon-XP_003387525.1
Neopetrosia_compacta_Porifera_Demospongiae_GIYW01007509.1_p1_Amphimedon-XP_003387525.1
Porites_astreoides_Cnidaria_Anthozoa_GEHP01154325.1_p1_Orbicella-XP_020604180.1
Porites_australiensis_Cnidaria_Anthozoa_FX438716.1_p1_Orbicella-XP_020604180.1
Astroides_calycularis_Cnidaria_Anthozoa_GIRZ01004252.1_p1_Orbicella-XP_020604180.1
Siderastrea_siderea_Cnidaria_Anthozoa_GIYO011042706.1_p1_Orbicella-XP_020604180.1
Cyphastrea_serailia_Cnidaria_Anthozoa_GETH01048109.1_p1_Orbicella-XP_020604180.1_No_SMT
Orbicella_faveolata_Cnidaria_Anthozoa_XP_020604180.1_Orbicella-XP_020604180.1_No_SMT
Favites_colemani_Cnidaria_Anthozoa_GIVN01046627.1_p1_Orbicella-XP_020604180.1
Agaricia_lamarcki_Cnidaria_Anthozoa_GGLC03100559.1_p1_Orbicella-XP_020604180.1
Galaxea_fascicularis_Cnidaria_Anthozoa_GFAZ01104046.1_p1_Orbicella-XP_020604180.1
Dysidea_avara_Porifera_Demospongiae_HANJ01129280.1_p1_Amphimedon-XP_003387525.1
Aplysina_aerophoba_Porifera_Demospongiae_HANI01212487.1_p1_Amphimedon-XP_003387525.1
Cymbastela_stipitata_Porifera_Demospongiae_GHWA01019169.1_p1_Amphimedon-XP_003387525.1
Cymbastela_stipitata_Porifera_Demospongiae_GHWA01019168.1_p1_Amphimedon-XP_003387525.1
Halisarca_caerulea_Porifera_Demospongiae_GFTQ01234321.1_p1_Amphimedon-XP_003387525.1
Halisarca_caerulea_Porifera_Demospongiae_GFSI01014458.1_p1_Amphimedon-XP_003387525.1
Halisarca_dujardinii_Porifera_Demospongiae_GIFI01118229.1_p1_Amphimedon-XP_003387525.1
Adineta_vaga_Rotifera_Bdelloidea_UJR21766.1_Rotaria-CAF1633859.1
Adineta_ricciae_Rotifera_Bdelloidea_CAF0720147.1_Rotaria-CAF1633859.1
Adineta_steineri_Rotifera_Bdelloidea_CAF0954912.1_Rotaria-CAF1633859.1
Adineta_vaga_Rotifera_Bdelloidea_UJR27730.1_Adineta-CAF0879466.1
Adineta_ricciae_Rotifera_Bdelloidea_CAF0745749.1_Adineta-CAF0879466.1
Adineta_steineri_Rotifera_Bdelloidea_CAF0879466.1_Adineta-CAF0879466.1
Rotaria_socialis_Rotifera_Bdelloidea_CAF3083896.1_Adineta-CAF0879466.1
Rotaria_magnacalcarata_Rotifera_Eurotatoria_GDRE01028107.1_p1_Adineta-CAF0879466.1
Adineta_vaga_Rotifera_Bdelloidea_UJR08966.1_Adineta-CAF0879466.1
Adineta_vaga_Rotifera_Bdelloidea_UJR38736.1_Adineta-CAF0879466.1
Adineta_ricciae_Rotifera_Eurotatoria_HE709170.1_p1_Adineta-CAF0879466.1
Adineta_steineri_Rotifera_Bdelloidea_CAF0863447.1_Adineta-CAF0879466.1
Rotaria_sp.Silwood2_Rotifera_Bdelloidea_CAF3269535.1_Adineta-CAF0879466.1
Rotaria_sp.Silwood2_Rotifera_Bdelloidea_CAF2875610.1_Adineta-CAF0879466.1
Rotaria_sordida_Rotifera_Bdelloidea_CAF1085230.1_Adineta-CAF0879466.1
Rotaria_sordida_Rotifera_Bdelloidea_CAF1191339.1_Adineta-CAF0879466.1
Rotaria_sp.Silwood1_Rotifera_Bdelloidea_CAF4849145.1_Rotaria-CAF1633859.1
Rotaria_sp.Silwood1_Rotifera_Bdelloidea_CAF4985574.1_Rotaria-CAF1633859.1
Rotaria_sp.Silwood1_Rotifera_Bdelloidea_CAF1093334.1_Adineta-CAF0879466.1_No_SMT
Rotaria_sp.Silwood1_Rotifera_Bdelloidea_CAF0831015.1_Adineta-CAF0879466.1
Rotaria_tardigrada_Rotifera_Eurotatoria_GDRK01047653.1_p1_Adineta-CAF0879466.1
Rotaria_sordida_Rotifera_Bdelloidea_CAF1125665.1_Rotaria-CAF1633859.1
Rotaria_sordida_Rotifera_Bdelloidea_CAF0741383.1_Adineta-CAF0879466.1
Rotaria_sordida_Rotifera_Bdelloidea_CAF0735460.1_Adineta-CAF0879466.1
Rotaria_sordida_Rotifera_Eurotatoria_GDRH01034451.1_p1_Adineta-CAF0879466.1
Rotaria_sp.Silwood2_Rotifera_Bdelloidea_CAF2909852.1_Rotaria-CAF1633859.1
Rotaria_sp.Silwood1_Rotifera_Bdelloidea_CAF1249985.1_Adineta-CAF0879466.1
Rotaria_tardigrada_Rotifera_Eurotatoria_GDRK01047656.1_p1_Adineta-CAF0879466.1_No_SMT
Rotaria_sordida_Rotifera_Bdelloidea_CAF0738991.1_Adineta-CAF0879466.1
Rotaria_sp.Silwood2_Rotifera_Bdelloidea_CAF3020934.1_Adineta-CAF0879466.1
Rotaria_sp.Silwood2_Rotifera_Bdelloidea_CAF2421095.1_Adineta-CAF0879466.1
Rotaria_sp.Silwood1_Rotifera_Bdelloidea_CAF1185023.1_Adineta-CAF0879466.1
Rotaria_tardigrada_Rotifera_Eurotatoria_GDRK01008626.1_p1_Rotaria-CAF1633859.1
Rotaria_sordida_Rotifera_Bdelloidea_CAF0946149.1_Adineta-CAF0879466.1
Rotaria_socialis_Rotifera_Eurotatoria_GDRD01030257.1_p1_Rotaria-CAF1633859.1
Rotaria_magnacalcarata_Rotifera_Bdelloidea_CAF0976128.1_Rotaria-CAF1633859.1
Didymodactylos_carnosus_Rotifera_Bdelloidea_CAF0954097.1_Adineta-CAF0879466.1
Pygospio_elegans_Annelida_Polychaeta_GFPL01001539.1_p1_Capitella-ELU07827.1
Ophryotrocha_diadema_Annelida_Polychaeta_GENQ01004874.1_p1_Capitella-ELU07827.1
Perinereis_aibuhitensis_Annelida_Polychaeta_GDAF01010172.1_p1_Capsaspora-XP_004346937.1
Platynereis_dumerilii_Annelida_Polychaeta_HALR01261698.1_p1_Capitella-ELU07827.1
Alitta_virens_Annelida_Polychaeta_GINI01005303.1_p1_Capsaspora-XP_004346937.1
Perinereis_aibuhitensis_Annelida_Polychaeta_GDAF01019697.1_p1_Capitella-ELU07827.1
Platynereis_dumerilii_Annelida_Polychaeta_HALR01229039.1_p1_Capitella-ELU07827.1
Alitta_virens_Annelida_Polychaeta_GINI01095864.1_p1_Capitella-ELU07827.1
Alitta_virens_Annelida_Polychaeta_GINI01069748.1_p1_Capitella-ELU07827.1
Spirobranchus_lamarcki_Annelida_Polychaeta_GGGS01270992.1_p1_Capitella-ELU07827.1
Romanchella_perrieri_Annelida_Polychaeta_HBVW01010218.1_p1_Capitella-ELU07827.1
Lamellibrachia_satsuma_Annelida_Polychaeta_KAI0241948.1_Capitella-ELU07827.1
Lamellibrachia_luymesi_Annelida_Polychaeta_FUN_033246-T1_Capitella-ELU07827.1
Paraescarpia_echinospica_Annelida_Polychaeta_GHDM01076229.1_p1_Capitella-ELU07827.1
Glossoscolex_paulistus_Annelida_Clitellata_GBIL01031091.1_p1_Capitella-ELU07827.1
Amynthas_gracilis_Annelida_Clitellata_GIKF01022106.1_p2_Capitella-ELU07827.1
Eisenia_fetida_Annelida_Clitellata_GIKG01135343.1_p1_Capitella-ELU07827.1
Eisenia_fetida_Annelida_Clitellata_GIKG01031241.1_p2_Capitella-ELU07827.1
Lumbricus_castaneus_Annelida_Clitellata_GGRB01015146.1_p1_Capitella-ELU07827.1
Lumbricus_rubellus_Annelida_Clitellata_GIKI01063526.1_p1_Capitella-ELU07827.1
Lumbriculus_variegatus_Annelida_Polychaeta_GIWA01114918.1_p1_Capitella-ELU07827.1
Enchytraeus_albidus_Annelida_Polychaeta_GJSG01022432.1_p1_Capitella-ELU07827.1
Enchytraeus_crypticus_Annelida_Clitellata_GALF01010111.1_p1_Capitella-ELU07827.1
Glossoscolex_paulistus_Annelida_Clitellata_GBIL01037864.1_p1_Capitella-ELU07827.1
Olavius_algarvensis_Annelida_Clitellata_HACZ01051716.1_p1_Capitella-ELU07827.1_No_SMT
Capitella_teleta_Annelida_Polychaeta_ELU07827.1_Capitella-ELU07827.1
-1642.7269
-687.5362
-619.12
-465.512
-424.3434
-202.9022
-212.3029
-90.563
-246.8245
-168.733
-183.5416
-220.8687
-408.3456
-947.0201
-846.0596
-672.3771
-628.8162
-559.3958
-453.473
-384.8393
-154.3897
-63.9711
-127.2697
-77.5112
-120.4929
-137.6965
-25.5551
-471.906
-74.9121
-377.9823
-147.0525
-70.6643
-111.798
-265.9401
-68.8216
-123.3734
-310.7651
-22.3207
-116.8785
-144.3111
-175.9807
-94.4963
-420.0975
-127.4676
-86.1852
-34.1983
-99.4695
-113.4014
-393.7304
-224.9275
-108.7184
-448.3926
-120.1282
-149.5
-235.7632
-4.5233
-113.4474
-314.027
-176.1029
-207.2034
-328.1976
-164.4845
-78.4484
-124.0268
-217.0668
-101.5375
-158.3066
-390.7918
-105.6686
-112.297
-229.5101
-9.4733
-54.7311
-309.1394
-68.435
-265.9072
-117.9958
-42.97
-93.9068
-160.4635
-28.7249
-282.1131
-237.0417
-143.7164
-294.1545
-1750
-1500
-1250
-1000
-750
-500
-250
0