

**Table S1.** Properties of the analyzed Polintons.

Polinton name	Host	Size, bp	MCP (PY)	Penton (PX)	ATPase	Protease
Polinton_AP	<i>Acyrtosiphon pisum</i>	33814	+	+	+	+
Polinton-1_AMi	<i>Alligator mississippiensis</i>	14974	+	split	+	+
Polinton-2_AMi	<i>Alligator mississippiensis</i>	15555	fragmented	split	+	+
P_Cb	<i>Caenorhabditis briggsae</i>	15423	+	fragmented	+	truncated
Polinton-1_CB	<i>Caenorhabditis briggsae</i>	16633	fragmented	fragmented	+	+
Polinton-2_CB	<i>Caenorhabditis briggsae</i>	15471	fragmented	fragmented	+	+
P_Ce	<i>Caenorhabditis elegans</i>	17274	+	fragmented	+	+
P_Cr1.1	<i>Caenorhabditis remanei</i>	15239	+	fragmented	+	+
Polinton-1_CPB	<i>Chrysemys picta bellii</i>	13369	+	+	+	+
Polinton-1_CI	<i>Ciona intestinalis</i>	15061	+	+	+	+
Polinton-2_CI	<i>Ciona intestinalis</i>	13695	fragmented	+	+	+
P_CotSesBraco	<i>Cotesia sesamiae</i> <i>Mombasa bracovirus</i>	48885	fragmented	-	-	truncated
Polinton-1_CGi	<i>Crassostrea gigas</i>	20773	fragmented	truncated	+	+
P_Dr	<i>Danio rerio</i>	15460	-	-	-	-
Polinton-1_DR	<i>Danio rerio</i>	18485	+	+	+	+
Polinton-1N1_DR	<i>Danio rerio</i>	15469	-	-	-	-
Polinton-2_DR	<i>Danio rerio</i>	16276	+	+	+	+
Polinton-2N1_DR	<i>Danio rerio</i>	11092	-	-	-	-
Polinton-1_DAn	<i>Drosophila ananassae</i>	17900	+	+	+	+
Polinton-1_DBi	<i>Drosophila biarmipes</i>	13688	+	+	+	+
Polinton-1_DEI	<i>Drosophila elegans</i>	10296	fragmented	+	inactivated	+
Polinton-1_DEu	<i>Drosophila eugracilis</i>	10967	fragmented	+	+	+
Polinton-2_DEu	<i>Drosophila eugracilis</i>	11524	+	+	+	+
Polinton-1_DGr	<i>Drosophila grimshawi</i>	15303	+	+	+	-
Polinton-1_DPe	<i>Drosophila persimilis</i>	15797	+	+	+	+
Polinton-1_DY	<i>Drosophila yakuba</i>	14782	+	+	+	+
Polinton-1_EI	<i>Entamoeba invadens</i>	16504	-	-	-	-
P_Gi1.1	<i>Glomus intraradices</i>	11954	-	-	-	-
P_Gi1.2	<i>Glomus intraradices</i>	11019	-	-	+	-
P_GlyFla	<i>Glyptapanteles flavicoxis</i>	26448	+	split	+	truncated
Polinton-1_HM	<i>Hydra magnipapillata</i>	20689	+	+	+	+
Polinton-2_HM	<i>Hydra magnipapillata</i>	42550	-	-	-	-
Polinton-3_HM	<i>Hydra magnipapillata</i>	38791	-	-	-	-
Polinton-1_LCh	<i>Latimeria chalumnae</i>	17525	+	+	+	+
Polinton-1_NVi	<i>Nasonia vitripennis</i>	14499	+	truncated	+	truncated
Polinton-3_NVi	<i>Nasonia vitripennis</i>	12588	fragmented	+	+	truncated
Polinton-4_NVi	<i>Nasonia vitripennis</i>	12608	+	+	+	+
Polinton-5_NVi	<i>Nasonia vitripennis</i>	18379	+	+	+	+
Polinton-6_NVi	<i>Nasonia vitripennis</i>	10272	+	+	+	+
Polinton-8_NVi	<i>Nasonia vitripennis</i>	16996	fragmented	+	+	+
Polinton-9_NVi	<i>Nasonia vitripennis</i>	17121	+	+	+	+
Polinton-1_NV	<i>Nematostella vectensis</i>	17653	+	+	+	+
Polinton-2_NV	<i>Nematostella vectensis</i>	21301	+	+	+	+
Polinton-2A_NV	<i>Nematostella vectensis</i>	20836	+	+	+	+
Polinton-3_NV	<i>Nematostella vectensis</i>	16575	+	-	+	-

Polinton-4_NV	<i>Nematostella vectensis</i>	13070	+	+	+	truncated
Polinton-5_NV	<i>Nematostella vectensis</i>	19102	+	+	+	+
Polinton-N1_NV	<i>Nematostella vectensis</i>	14761	+	+	+	-
Polinton-N1A_NV	<i>Nematostella vectensis</i>	14355	+	+	+	-
Polinton-N1B_NV	<i>Nematostella vectensis</i>	15049	fragmented	+	+	-
P_Od1.1	<i>Oikopleura dioica</i>	22700	fragmented	-	-	+
P_Od1.2	<i>Oikopleura dioica</i>	24732	+	-	+	-
Polinton-1_PI	<i>Phytophthora infestans</i>	18398	-	+	+	inactivated
P_Pd1.1	<i>Platynereis dumerilii</i>	10777	-	-	+	-
P_Pd1.2	<i>Platynereis dumerilii</i>	27467	+	-	+	+
Polinton-1_GI	<i>Rhizophagus intraradices</i>	11954	-	-	-	-
Polinton1_SM	<i>Schmidtea mediterranea</i>	12786	+	+	+	-
Polinton-1_SM	<i>Schmidtea mediterranea</i>	14867	+	+	+	+
Polinton2_SM	<i>Schmidtea mediterranea</i>	11578		+	+	-
Polinton-2_SM	<i>Schmidtea mediterranea</i>	15944	+	+	+	+
Polinton-1_SPU	<i>Sphenodon punctatus</i>	11940	+	-	+	inactivated
Polinton-1_SP	<i>Strongylocentrotus purpuratus</i>	16918	+	+	+	+
Polinton-2_SP	<i>Strongylocentrotus purpuratus</i>	14353	+	+	+	+
Polinton-3_SP	<i>Strongylocentrotus purpuratus</i>	16510	+	+	+	truncated
Polinton-4_SP	<i>Strongylocentrotus purpuratus</i>	15575	+	-	+	+
Polinton-5_SP	<i>Strongylocentrotus purpuratus</i>	16525	fragmented	+	+	+
Polinton-1_TC	<i>Tribolium castaneum</i>	13486	+	+	+	+
Polinton-2_TC	<i>Tribolium castaneum</i>	16981	+	+	+	+
Polinton-3_TC	<i>Tribolium castaneum</i>	17681	+	+	+	truncated
Polinton-1_TV	<i>Trichomonas vaginalis</i>	20724	-	-	-	-
Polinton-1_XT	<i>Xenopus tropicalis</i>	13692	+	+	+	+
Polinton-2_XT	<i>Xenopus tropicalis</i>	14828	+	+	+	+