Supplementary material 1

AstA and AstA-like peptide sequences used to produce the consensus sequences in Fig. 1a)in FASTA format.

>Platynereis\_dumerilii\_AstA1\_1

KMIDYGLKFHGNG

>Platynereis\_dumerilii\_AstA1\_2

QTDNTLKFYGPG

>Platynereis\_dumerilii\_AstA1\_3

TDRARSGIKMRLSG

>Platynereis\_dumerilii\_AstA1\_4

VDDISKFSGLG

>Platynereis\_dumerilii\_AstA1\_5

DDNIFRFSELG

>Platynereis\_dumerilii\_AstA1\_6

VNNALKFSGLG

>Platynereis\_dumerilii\_AstA1\_7

TNDALEFSGLG

>Platynereis\_dumerilii\_AstA1\_8

GNDALQFSGLG

>Platynereis\_dumerilii\_AstA2\_1

ANNALKGSGLG

>Platynereis\_dumerilii\_AstA2\_2

NDALKFSGLG

>Platynereis\_dumerilii\_AstA2\_3

ANDALKFSGLG

>Platynereis\_dumerilii\_AstA2\_4

EIDTLKFSELG

>Platynereis\_dumerilii\_AstA2\_5

NDALKFSGLG

>Platynereis\_dumerilii\_AstA2\_6

TEVGLRFSGLG

>Platynereis\_dumerilii\_AstA2\_7

NDDIMNFSGLG

>Platynereis\_dumerilii\_AstA2\_8

ANDVMTFSGLG

>Platynereis\_dumerilii\_AstA2\_9

MDETLKFSGVG

>Platynereis\_dumerilii\_AstA2\_10

SDNGLKFSGLG

>Platynereis\_dumerilii\_AstA2\_11

ANEIFRLSGLG

>Platynereis\_dumerilii\_AstA2\_12

VNSMHKSGPG

>Platynereis\_dumerilii\_AstA2\_13

LSVDPGISLIGLG

>Lottia\_gigantea\_Buccalin1

GMDKFGFAGGVG

>Lottia\_gigantea\_Buccalin2

GLDKFGFTGQLG

>Lottia\_gigantea\_Buccalin3

DMDSFGFAGQLG

>Lottia\_gigantea\_Buccalin4

GLDQYGFTGQLG

>Lottia\_gigantea\_Buccalin5

GLDQYGFAGQLG

>Lottia\_gigantea\_Buccalin6

GLDHYGFAGQLG

>Lottia\_gigantea\_Buccalin7

GFDQFGFAGQLG

>Lottia\_gigantea\_Buccalin8

GLDQLGFTGQLG

>Lottia\_gigantea\_Buccalin9

QMDIFGYRGQLG

>Lottia\_gigantea\_Buccalin10

QSIDKYSFLGAGIG

>Mytilus\_galloprovincialis\_Buccalin1a

KMDMYRFHGSLG

>Mytilus\_galloprovincialis\_Buccalin1b

KIDYARFLGSLG

>Mytilus\_galloprovincialis\_Buccalin1c

SKYDRYMFAPSLG

>Mytilus\_galloprovincialis\_Buccalin1d

RLDRFSYFGNLG

>Mytilus\_galloprovincialis\_Buccalin1e

GMDKLSYFGSLG

>Mytilus\_galloprovincialis\_Buccalin1f

GLDRLSFFGGLG

>Mytilus\_galloprovincialis\_Buccalin1g

RMDRLSYFGGLG

>Mytilus\_galloprovincialis\_Buccalin1h

GIDKYSLFGSLG

>Mytilus\_galloprovincialis\_Buccalin1i

SIDQDRLQEILG

>Mytilus\_galloprovincialis\_Buccalin2a

LFERLASGLVG

>Mytilus\_galloprovincialis\_Buccalin2b

PFDRLASGLVG

>Mytilus\_galloprovincialis\_Buccalin2c

EFDRLASGLVG

>Mytilus\_galloprovincialis\_Buccalin2d

MDPLASSLVG

>Caenorhabditis\_elegans\_AstA1

MAAPKQMVFGFG

>Caenorhabditis\_elegans\_AstA2

YKPRSFAMGFG

>Caenorhabditis\_elegans\_AstA3

AAMRSFNMGFG

>Caenorhabditis\_elegans\_nlp6\_b

LIMGLG

>Caenorhabditis\_elegans\_nlp5\_1

SVSQLNQYAGFDTLGGMGLG

>Caenorhabditis\_elegans\_nlp5\_2

ALSTFDSLGGMGLG

>Caenorhabditis\_elegans\_nlp5\_3

ALQHFSSLDFTLGGMGFG

>Pristionchus\_pacificus\_AstA1

SDPRMFSAAFG

>Pristionchus\_pacificus\_AstA2

GDPRMFSSAFG

>Ixodes\_scapularis\_AstA1

RPPAAMYGFGLG

>Ixodes\_scapularis\_AstA2

GERPQHPLRYGFGLG

>Ixodes\_scapularis\_AstA3

ERHRFGFGLG

>Ixodes\_scapularis\_AstA4

RYNFGLG

>Stegodyphus\_mimosarum\_AstA\_1

VPQPYGFGLG

>Stegodyphus\_mimosarum\_AstA\_2

DGNFERFGFGLG

>Stegodyphus\_mimosarum\_AstA\_3

AEPSRFTFGLG

>Stegodyphus\_mimosarum\_AstA\_4

GEHNRFQFGLG

>Stegodyphus\_mimosarum\_AstA\_5

EDDHSRFAFGLG

>Stegodyphus\_mimosarum\_AstA\_6

GPEDNRFAFGLG

>Stegodyphus\_mimosarum\_AstA\_7

GPEDQRFAFGLG

>Stegodyphus\_mimosarum\_AstA\_8

AAEDNRFAFGLG

>Stegodyphus\_mimosarum\_AstA\_9

ASEENRFAFGLG

>Stegodyphus\_mimosarum\_AstA\_10

GPEESRFAFGLG

>Stegodyphus\_mimosarum\_AstA\_11

GPEENRFAFGLG

>Stegodyphus\_mimosarum\_AstA\_12

DDHNRFAFGLG

>Stegodyphus\_mimosarum\_AstA\_13

DDDRSRFAFGLG

>Stegodyphus\_mimosarum\_AstA\_14

SDEHNRFAFGLG

>Stegodyphus\_mimosarum\_AstA\_15

FSFGLG

>Acanthoscurria\_geniculata\_AstA\_1

SPQLYSFGLG

>Acanthoscurria\_geniculata\_AstA\_2

DGNFERYSFGLG

>Acanthoscurria\_geniculata\_AstA\_3

AVEPSRFAFGLG

>Acanthoscurria\_geniculata\_AstA\_4

GDSPSSRFSFGLG

>Acanthoscurria\_geniculata\_AstA\_5

MEQRYAFGLG

>Acanthoscurria\_geniculata\_AstA\_6

EPSRYAFGLG

>Acanthoscurria\_geniculata\_AstA\_7

FSFGLG

>Acanthoscurria\_geniculata\_AstA\_8

AVDQRFAFGLG

>Daphnia\_pulex\_AstA\_1

SFGGNPTGDPNLNIYSFGLG

>Daphnia\_pulex\_AstA\_2

TSRSYSINPYSFGLG

>Daphnia\_pulex\_AstA\_3

GGNAKSYPQQIPYSFGLG

>Daphnia\_pulex\_AstA\_4

NPTKYNFGLG

>Daphnia\_pulex\_AstA\_5

PDRFGFGLG

>Daphnia\_pulex\_AstA\_6

LPVYNFGLG

>Homarus\_americanus\_AstA\_1

EPYAFGLG

>Homarus\_americanus\_AstA\_2

SPYAFGLG

>Homarus\_americanus\_AstA\_3

SGPYAFGLG

>Homarus\_americanus\_AstA\_4

SGPYSFGLG

>Homarus\_americanus\_AstA\_5

ASPYAFGLG

>Homarus\_americanus\_AstA\_6

AGPYAFGLG

>Homarus\_americanus\_AstA\_7

VGPYAFGLG

>Homarus\_americanus\_AstA\_8

TPSYAFGLG

>Homarus\_americanus\_AstA\_9

SQYTFGLG

>Homarus\_americanus\_AstA\_10

AGGAYSFGLG

>Periplaneta\_americana\_AstA1

LYDFGLG

>Periplaneta\_americana\_AstA2

LPVYNFGLG

>Periplaneta\_americana\_AstA3

SKMYGFGLG

>Periplaneta\_americana\_AstA4

SGNDGRLYSFGLG

>Periplaneta\_americana\_AstA5

DRMYSFGLG

>Periplaneta\_americana\_AstA6

ARPYSFGLG

>Periplaneta\_americana\_AstA7

SPSGMQRLYGFGLG

>Periplaneta\_americana\_AstA8

GGSMYSFGLG

>Periplaneta\_americana\_AstA9

ADGRLYAFGLG

>Periplaneta\_americana\_AstA10

PVSSARQTGSRFNFGLG

>Periplaneta\_americana\_AstA11

SPQGHRFSFGLG

>Carausius\_morosus\_AstA1

LYDFGLG

>Carausius\_morosus\_AstA2

LPVYNFGLG

>Carausius\_morosus\_AstA3

SDSRQYSFGLG

>Carausius\_morosus\_AstA4

GRQYSFGLG

>Carausius\_morosus\_AstA5

TKPYSFGLG

>Carausius\_morosus\_AstA6

TSSLYSFGLG

>Carausius\_morosus\_AstA7

AEKPHSLYSFGLG

>Carausius\_morosus\_AstA8

ADGRMYAFGLG

>Carausius\_morosus\_AstA9

PADETSRHSGHRFGFGLG

>Carausius\_morosus\_AstA10

SQHRFSFGLG

>Carausius\_morosus\_AstA11

SLQYPFAIG

>Carausius\_morosus\_AstA12

RPYNFGLG

>Carausius\_morosus\_AstA13

IPMYDFGLG

>Carausius\_morosus\_AstA14

TSSGQRSLYSFGLG

>Carausius\_morosus\_AstA15

AERPHSMYSFGLG

>Acyrthosiphon\_pisum\_AstA1

AHKQYGFGLG

>Acyrthosiphon\_pisum\_AstA2

LYRQYEFGLG

>Acyrthosiphon\_pisum\_AstA3

SASKQYGFGLG

>Acyrthosiphon\_pisum\_AstA4

AALKQYEFGLG

>Acyrthosiphon\_pisum\_AstA5

ASPTFYSFGLG

>Acyrthosiphon\_pisum\_AstA6

ASPQYSFGLG

>Acyrthosiphon\_pisum\_AstA7

TADDMGHGQRFAFGLG

>Acyrthosiphon\_pisum\_AstA8

ARLQYGFGLG

>Cimex\_lectularius\_AstA1

LYDFGLG

>Cimex\_lectularius\_AstA2

LPVYNFGLG

>Cimex\_lectularius\_AstA3

AAGEKTYSFGLG

>Cimex\_lectularius\_AstA4

GRQYAFGLG

>Cimex\_lectularius\_AstA5

LPKQYSFGLG

>Cimex\_lectularius\_AstA6

PEGKMYSFGLG

>Cimex\_lectularius\_AstA7

TKSGKDLRYMFGIG

>Cimex\_lectularius\_AstA8

DVDEDERARQERSMHYNFGLG

>Camponotus\_floridanus\_AstA1

LPLYNFGIG

>Camponotus\_floridanus\_AstA2

TRPFSFGIG

>Camponotus\_floridanus\_AstA3

LRDYRFGIG

>Camponotus\_floridanus\_AstA4

GGQPFSFGIG

>Apis\_mellifera\_AstA1

LPVYNFGIG

>Apis\_mellifera\_AstA2

GRDYSFGLG

>Apis\_mellifera\_AstA3

GRQPYSFGLG

>Apis\_mellifera\_AstA4

PNDMLSQRYHFGLG

>Agrotis\_ipsilon\_AstA1

SPHYDFGLG

>Agrotis\_ipsilon\_AstA2

LPVYNFGLG

>Agrotis\_ipsilon\_AstA3

SRPYSFGLG

>Agrotis\_ipsilon\_AstA4

ARPYSFGLG

>Agrotis\_ipsilon\_AstA5

ARAYDFGLG

>Agrotis\_ipsilon\_AstA6

LPLYNFGLG

>Agrotis\_ipsilon\_AstA7

ARSYNFGLG

>Agrotis\_ipsilon\_AstA8

LASKFNFGLG

>Agrotis\_ipsilon\_AstA9

ERDMHRFSFGLG

>Aedes\_aegypti\_AstA1

SPKYNFGLG

>Aedes\_aegypti\_AstA2

LPHYNFGLG

>Aedes\_aegypti\_AstA3

ASAYRYHFGLG

>Aedes\_aegypti\_AstA4

RVYDFGLG

>Aedes\_aegypti\_AstA5

LPNRYNFGLG

>Drosophila\_melanogaster\_AstA1

VERYAFGLG

>Drosophila\_melanogaster\_AstA2

LPVYNFGLG

>Drosophila\_melanogaster\_AstA3

SRPYSFGLG

>Drosophila\_melanogaster\_AstA4

TTRPQPFNFGLG