

Figure S1



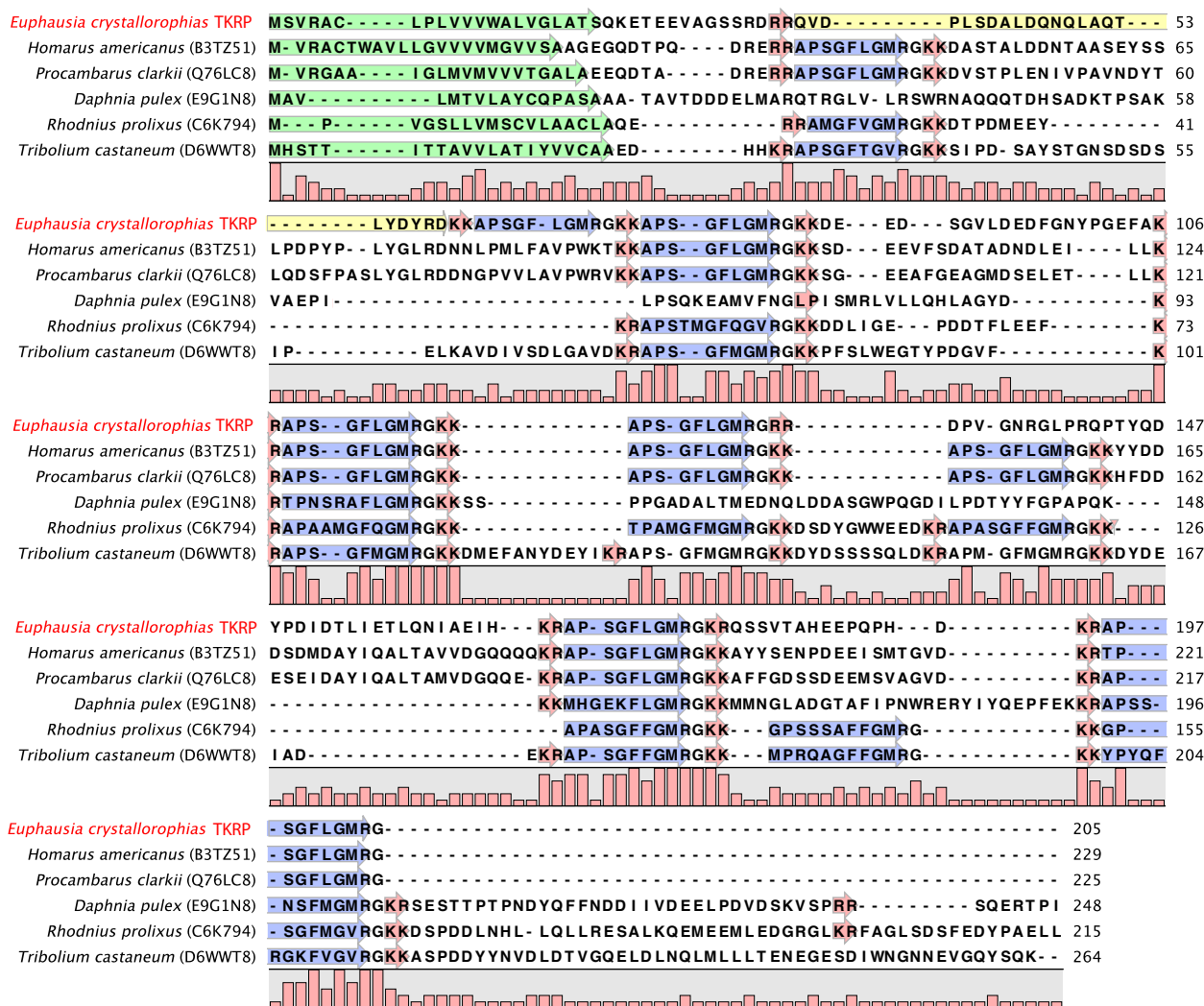


Figure S3a

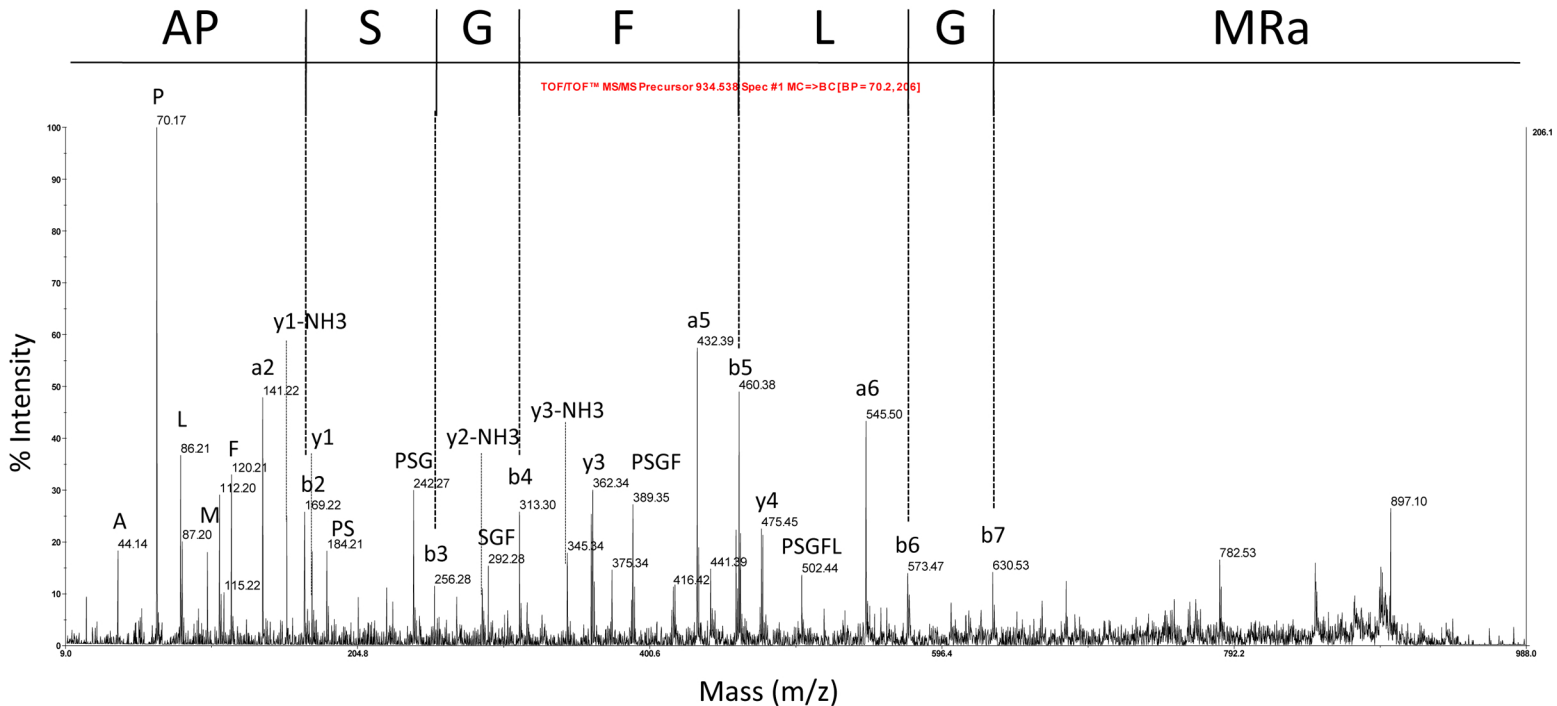


Figure S3b

APSGFLGMRa

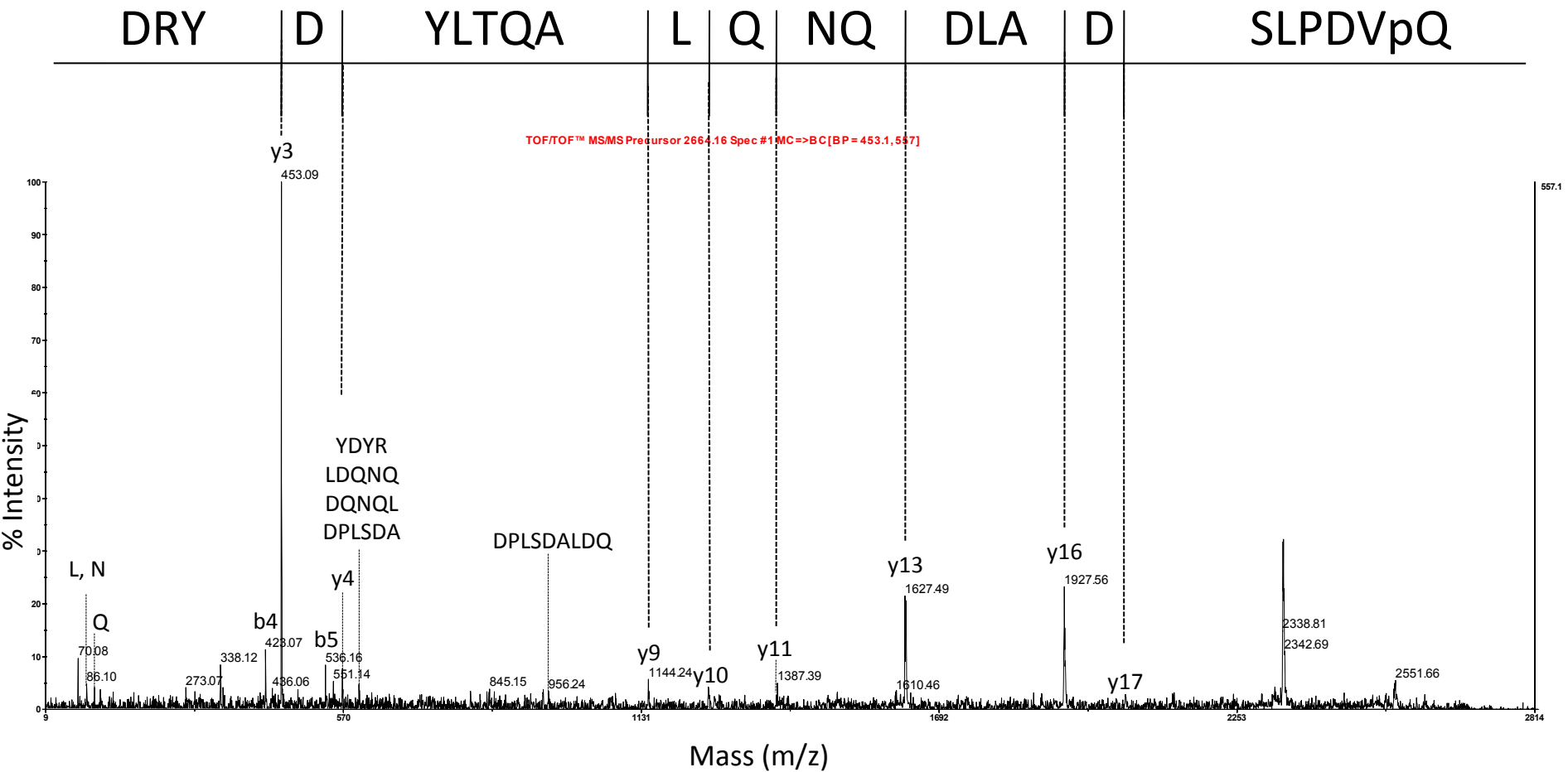


Figure S3c

pQVDPLSDALDQ NQLAQTLYDYRD

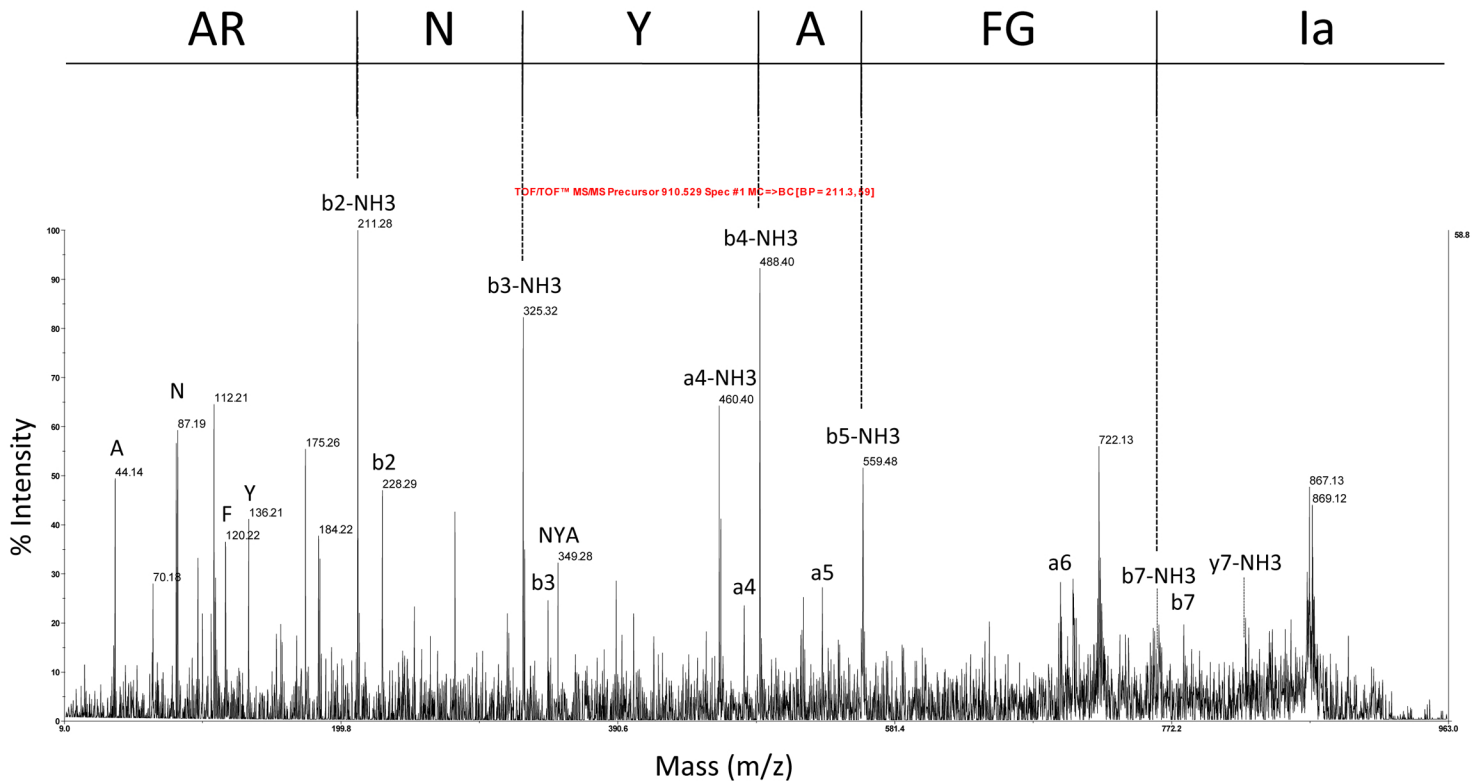


Figure S4

ARNYAFGIa





Figure S6a





<i>Euphausia crystallorophias</i> MIH/VIH1	NVAHLSSCGSLAGQRH IHRQVEQI CLD CDNLYRQSRAGYNCRQSCYANPHFELCVHDL LLLSHRVMFRLL I SMLQASL - -	78
<i>Euphausia crystallorophias</i> MIH/VIH2	- - - - - CGS I FGQRH I ALKVEQV CRD CENLSRNYQTAFNCRKDCYTSETYTKCL - - - - -	48
<i>Metapenaeus ensis</i> (AAL33882)	FSID- YTC TGAMGNRD IYKQVSRV CDDCAN IYRLPGLDGMCRNRCFNNFWFM I CLRAAKREDEIDKFRVW I S I LNP GGAW	79
<i>Metapenaeus ensis</i> (O76534)	SYIE- NTCRGVMGNRD IYKKVVRV CEDCTN I FRLPGLDGMCRDRCFNNEWFLV CLKAANRDELDKFKVW I S I LNPGL - -	77
<i>Fenneropenaeus chinensis</i> (AAL55258)	SFID- GTCRGVMGNRD IYKKVVRV CEDCTN I FRLPGLDGMCRDRCFYNEWFL I CLKAANREDEIENFRVW I S I LNA - - -	75
<i>Penaeus monodon</i> (AAR89516)	SFID- GTCRGVMGNRD IYKKVVRV CEDCTN I FRLPGLDGMCRDRCFYNEWFL I CLKAANREDEI EKFKVW I S I LNAGQ - -	77
<i>Marsupenaeus japonicus</i> (P55847)	SFID- NTCRGVMGNRD IYKKVVRV CEDCTN I FRLPGLDGMCRNRCFYNEWFL I CLKAANREDEI EKFRVW I S I LNAGQ - -	77
<i>Penaeus monodon</i> (AAR89517)	SLMD- GTCRGRMGNRE IYKQVDRV CEDCVN I FRLPGLEGLCRDRCFYNEWFL CLKAANREDEIENFRVW I S I LNA - - -	75
<i>Penaeus monodon</i> (BAB69829)	SLTD- GTCRGRMGNRE IYKQVDRV CEDCAN I FRLPGLEGLCRDRCFYNEWFL CLKAANREDEIENFRVW I S I LNA - - -	75
<i>Penaeus monodon</i> (BAB69830)	SLTE- GTCRGRMGNRE IYKQVDRV CEDCAN I FRLPGLEGLCRDRCFYNEWFL CLKAANREDEIENFRVW I S I LNA - - -	75
<i>Marsupenaeus japonicus</i> (BAE78494)	SILD- SNCRGAMGNRD IYTKVERV CEDCTNLYRLPQLDGLCRNRCFNNQWFLL CLKATERQDELENFRLW I S I LNAGRAW	79
<i>Orconectes limosus</i> (P83636)	RYVF- EEC PGVMGNRALHGKVTRV CEDCYNVFRD TDV LAGCRKGCFSSEMFKL LLAMERVEEFPDFKRW I G I LNA - - -	75
<i>Procambarus clarkii</i> (P55848)	RYVF- EEC PGVMGNRAVHGKVTRV CEDCYNVFRD TDV LAGCRKGCFSSEMFKL LLAMERVEEFPDFKRW I G I LNA - - -	75
<i>Scylla serrata</i> (AAL99355)	RVIN- DD CPNL I GNRDLYKKVEW I CDDCAN IYRITGMASL CRKDCFFNEDFLWCVSA I ERSEEMTQLKQWV M I LGA - - -	75
<i>Callinectes sapidus</i> (P55321)	RVIN- DD CPNL I GNRDLYKKVEW I CDDCAN IYRSTGMASL CRKDCFFNEDFLWCVRATERSEDLAQLKQWV T I LGAGRI -	78
<i>Portunus pelagicus</i> (ABM74397)	RVIN- DD CPNLMGNRDLYKKVEW I CDDCAN IYRITGMASL CRKDCFFNEDFLWCVRATERSEDMTQLKQWV R I LGAGRI -	78
<i>Charybdis feriatus</i> (O96605)	RVFN- DD CPNLMGNRDLYKKVEW I CDDCAN IFRIPGMAS I CRKDCFFNEDFLWCVRATERTEEMMLKQWV R I LGAGRM -	78
<i>Cancer magister</i> (O61389)	RVIN- DD CPNL I GNRDLYKRVEW I CEDCSN IFRNTGMAT LCRKNCFFNEDFLWCVYATERTEEMSQLRQWV G I LGAGRE -	78
<i>Cancer pagurus</i> (CAC05346)	RVIN- DD CPNL I GNRDLYKKVEW I CEDCSN IFRNTGMAT LCRKNCFFNEDFLWCVYATERTEEMSQLRQWV G I LGAGRE -	78
<i>Carcinus maenas</i> (Q27225)	RVIN- DEC PNLI GNRDLYKKVEW I CEDCSN IFRKTGMASL CRRNCFNEDFVWCVHATERSEELRDLEEWV G I LGAGRD -	78
<i>Gecarcinus lateralis</i> (ABF06632)	AVIN- DEC PNVI GNRD I FKKVDWI CEDCAN IFRIDGLAT LCRKNCFRNIDFLWCVYASERQA EKDELTRYV S I LRAGSV -	78
<i>Eriocheir sinensis</i> (AAQ81640)	G I IN- AEC PNM I GNRD IYKKVDWI CEDCAN IFRIDGLGML CRKNCFRNIDFLWCVYASERHAQKDDLTRYV S I LGQ - - -	75
<i>Homarus americanus</i> (P55320)	WFTN- DEC PGVMGNRDLYEKVAWV CND CAN IFRNNDVGVMCKKDCFHTMDFLWCVYATERHGEIDQFRKWV S I LRA - - -	75
<i>Homarus gammarus</i> (ABA42181)	WFTN- DEC PGVMGNRDLYEKVAWV CND CAN IFRNNDVGVMCKKDCFHTMDFLWCVYATERHGEIDQFRKWV S I LRA - - -	75
<i>Nephrops norvegicus</i> (AAK58133)	WFTN- DEC PGVMGNRDLYEKVAWV CND CAN IFRINDVGVKCKKDCFHNMDFLWCVYATERHGEIDQFRKW I S I LRA - - -	75
<i>Macrobrachium rosenbergii</i> (AAL37948)	RYLD- DEC PGVMGNRDLYEKVVRV CDDCSN IFRMNDMGT RCRKDCFYNVDFLWCVYATERHGDVDQLNRWMS I LRA - - -	75
<i>Macrobrachium rosenbergii</i> (AAL37949)	RFLD- DEC RGV MGNRDLYEYVVR I CDDCENLFRKSNVGSRCCKKCFYNEDFMWCVRATERDELEHLNRAMS I I RV - - -	75
<i>Armadillidium vulgare</i> (P83627)	RRDM- PGC LGVLGNRDLYDDVSRI CSDCQNVFRDKNVESKCRSDCFSTSYFETC I MALDLAEKI SDYKLHAS I LKE - - -	75



Figure S7

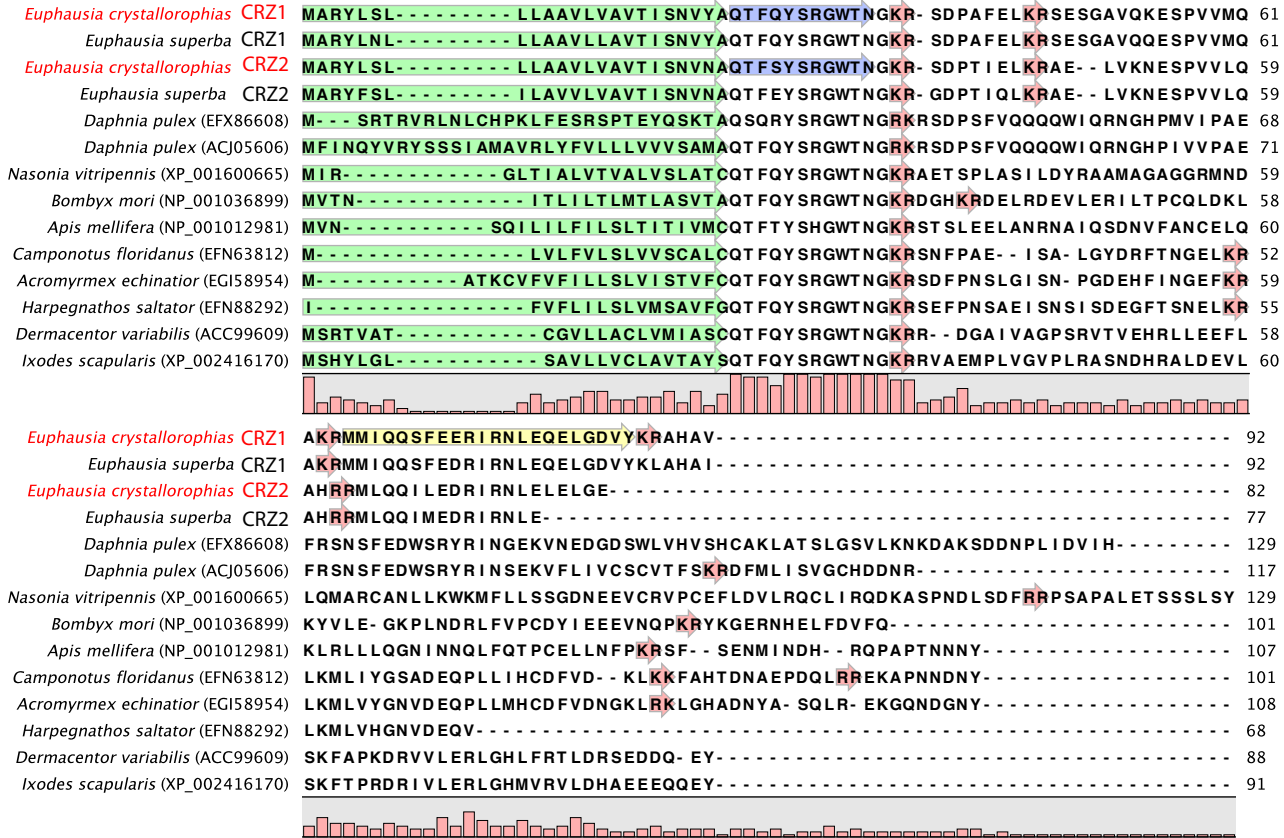


Figure S8a



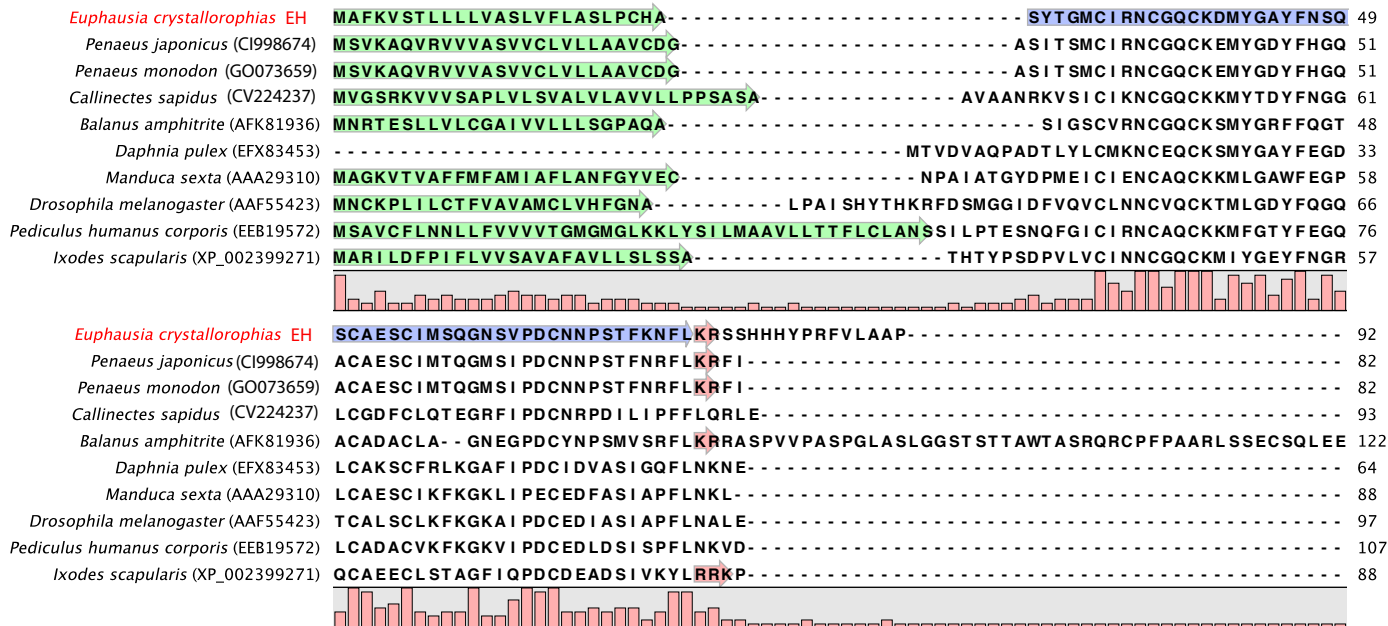


Figure S9



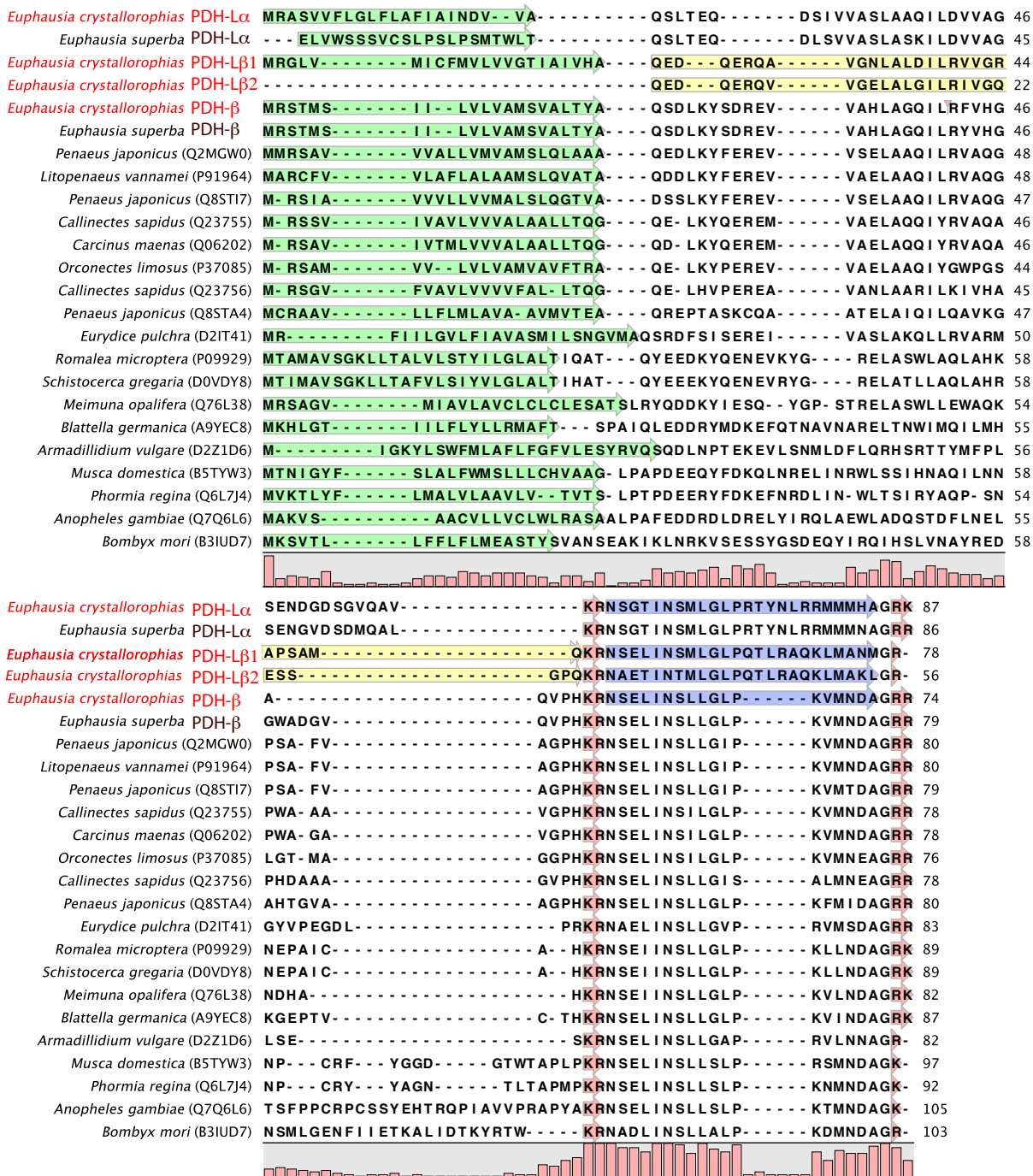


Figure S11a





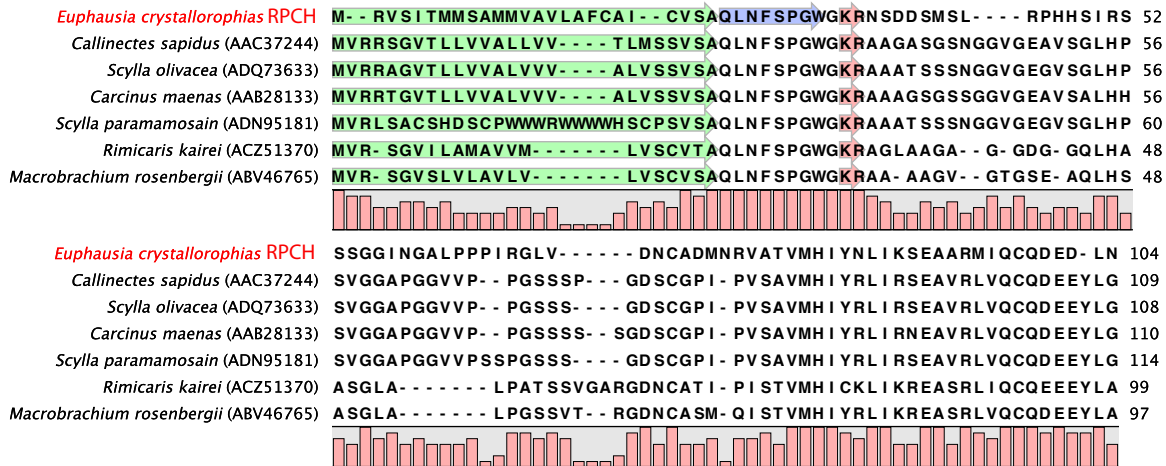


Figure S12a

<i>Helicoverpa zea</i> (P67787; P08901)	QLTFTSSWG-	9
<i>Manduca sexta</i> (P67788; P08901)	QLTFTSSWG-	9
<i>Drosophila melanogaster</i> (P61855; P17975; Q9VZH6)	QLTFSPDWG-	9
<i>Protophormia terraenovae</i> (P61856; P17975; Q9VZH6)	QLTFSPDW-	8
<i>Tabanus atratus</i> (P14595)	QLTFTPGW-	8
<i>Libellula auripennis</i> (P25418)	QVNFTPSW-	8
<i>Locusta migratoria</i> (P19872)	QLNFTPWWG-	9
<i>Locusta migratoria</i> (P55319; P01271; P10616)	QLNFTPNWGT	10
<i>Schistocerca gregaria</i> (P18829)	QLNFTPNWGT	10
<i>Anoplotrupes stercorosus</i> (P84241; P25423)	QLNYSPDW-	8
<i>Pachnoda marginata</i> (P84242; P25423)	QLNYSPDW-	8
<i>Melolontha melolontha</i> (P84240; P25423)	QLNYSPDW-	8
<i>Metacarcinus magister</i> (1812292A)	ELNFSPGW-	8
<i>Euphausia crystallorophias</i> RPCH	QLNFSPGW-	8
<i>Carcinus maenas</i> (Q26324)	QLNFSPGW-	8
<i>Callinectes sapidus</i> (AAC37244)	QLNFSPGW-	8
<i>Scylla paramamosain</i> (ADN95181)	QLNFSPGW-	8
<i>Scylla olivacea</i> (ADQ73633)	QLNFSPGW-	8
<i>Macrobrachium rosenbergii</i> (ABV46765)	QLNFSPGW-	8
<i>Rimicaris kairei</i> (ACZ51370)	QLNFSPGW-	8
<i>Pandalus borealis</i> (P08939)	QLNFSPGW-	8
<i>Blatta orientalis</i> (P84261; P04548)	QVNFSPNW-	8
<i>Periplaneta americana</i> (P84259; P04548)	QVNFSPNW-	8
<i>Deropeltis integerrima</i> (P85591)	QVNFSPNW-	8
<i>Eurycotis floridana</i> (P85634)	QVNFSPNW-	8
<i>Blatta lateralis</i> (P85855)	QVNFSPNW-	8
<i>Deropeltis atra</i> (P85597)	QVNFSPNW-	8
<i>Deropeltis erythrocephala</i> (P85585)	QVNFSPNW-	8
<i>Cryptocercus darwini</i> (P85570)	QLNFSPNW-	8
<i>Cryptocercus kyebangensis</i> (P85575)	QLNFSPNW-	8
<i>Ergaula capucina</i> (P85612)	QLNFSPNW-	8
<i>Locusta migratoria</i> (P08379; P10617)	QLNF SAGWG-	9
<i>Schistocerca gregaria</i> (P35808; P08378)	QLNFSTGWG-	9
<i>Schistocerca nitens</i> (P35807; P08378)	QLNFSTGWG-	9
<i>Daphnia pulex</i> (EFX68649)	QVNFSTSWG-	9
<i>Romalea microptera</i> (P67786; P14086)	QVNFSTGW-	8
<i>Gryllus bimaculatus</i> (P67785; P14086)	QVNFSTGW-	8
<i>Archimandrita tessellata</i> (P85538)	QVNFSPGWGT	10
<i>Aptera fusca</i> (P85533)	QVNFSPGWGT	10
<i>Bantua robusta</i> (P85543)	QVNFSPGWGT	10
<i>Blaptica dubia</i> (P85549)	QVNFSPGWGT	10
<i>Loboptera decipiens</i> (P85846)	QVNFSPGWGT	10
<i>Lucihormetica grossei</i> (P85664)	QVNFSPGWGT	10
<i>Blaberus craniifer</i> (P85546)	QVNFSPGWGT	10
<i>Blattella germanica</i> (P84220; P10939)	QVNFSPGWGT	10
<i>Blaberus giganteus</i> (P85557)	QVNFSPGWGT	10
<i>Blepharodera discoidalis</i> (P85565)	QVNFSPGWGT	10
<i>Diploptera punctata</i> (P85602)	QVNFSPGWGT	10
<i>Elliptorhina</i> sp. (P85851)	QVNFSPGWGT	10
<i>Eublaberus distanti</i> (P85618)	QVNFSPGWGT	10
<i>Eublaberus posticus</i> (P85624)	QVNFSPGWGT	10
<i>Gromphadorina portentosa</i> (P84221; P10939)	QVNFSPGWGT	10
<i>Gyna lurida</i> (P85651)	QVNFSPGWGT	10
<i>Gromphadorhina grandidieri</i> (P85639)	QVNFSPGWGT	10

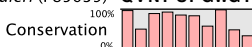


Figure S12b

<i>Euphausia crystallorophias</i> ASTC	- - - -	<b>SYWKQCAFNAVSCF</b>	14
<i>Euphausia superba</i> ASTC	- - - -	<b>SYWKQCAFNA- - - -</b>	10
<i>Homarus americanus</i> (EY291152)	- - - -	<b>SYWKQCAFNAVSCF</b>	14
<i>Daphnia pulex</i> (EFX85706)	- - - -	<b>SYWKQCAFNAVSCF</b>	14
<i>Laupala kohalensis</i>	- - - -	<b>SYWKQCAFNAVSCF</b>	14
<i>Locusta migratoria</i> (CO820847)	- - - -	<b>SYWKQCAFNAVSCF</b>	14
<i>Daphnia pulex</i>	<b>GQSSQ</b>	<b>RVFWRCYFNAVSCF</b>	19
<i>Litopenaeus vannamei</i> (FE182974)	- - - -	<b>QIRYHQCYFNPI SCF</b>	15
<i>Cancer borealis</i>	- - - -	<b>QIRYHQCYFNPI SCF</b>	15
<i>Drosophila melanogaster</i> (AAK40081)	- - - -	<b>QVRFRQCYFNPI SCF</b>	15
<i>Tribolium castaneum</i> (EFA09152)	- - - -	<b>QSRFRQCYFNPI SCF</b>	15
<i>Bombyx mori</i> (BAG68396)	- - - -	<b>QVRFRQCYFNPI SCF</b>	15
<i>Spodoptera frugiperda</i> (CAD32496)	- - - -	<b>QVRFRQCYFNPI SCF</b>	15
<i>Samia cynthia ricini</i> (AAY68369)	- - - -	<b>QVRFRQCYFNPI SCF</b>	15
<i>Manduca sexta</i> (P42559)	- - - -	<b>QVRFRQCYFNPI SCF</b>	15



Figure S13



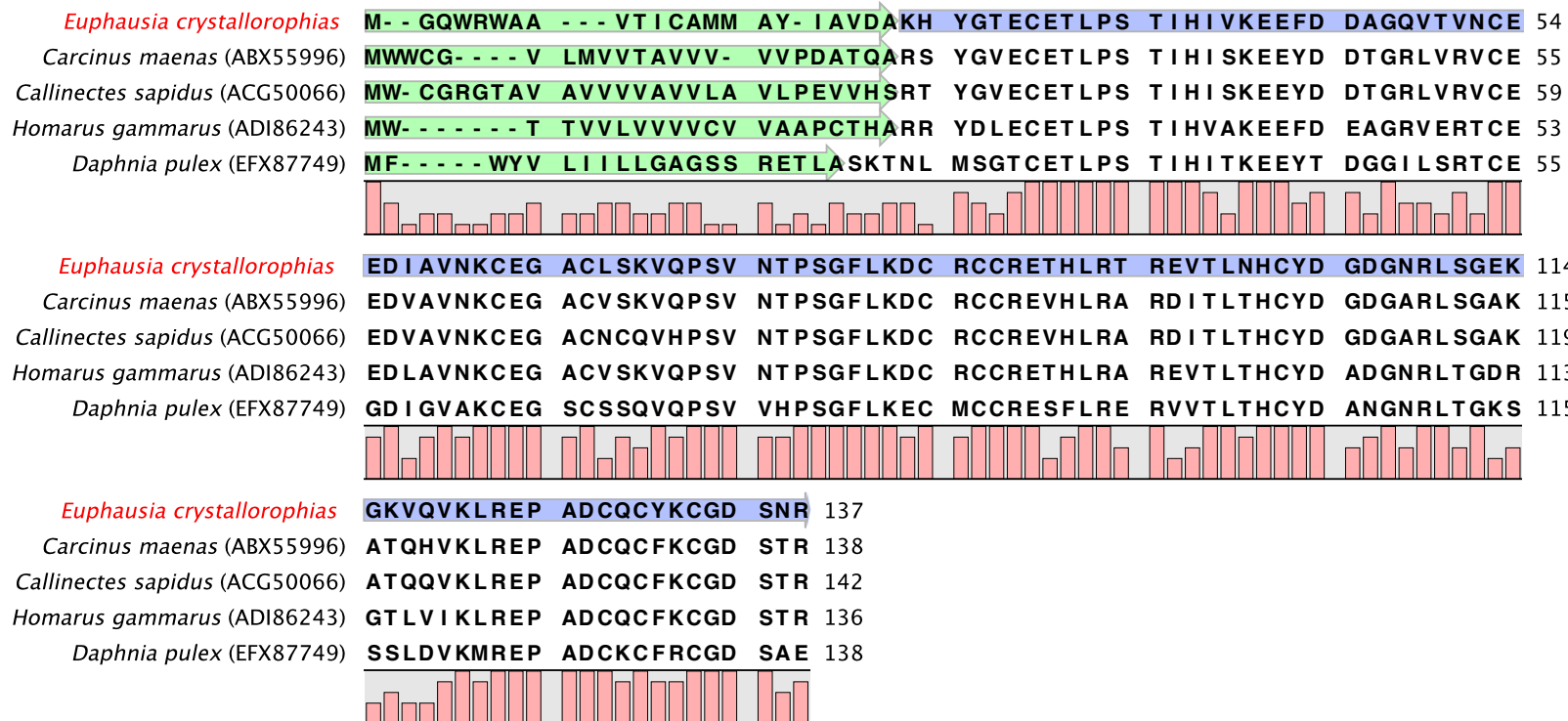


Figure S14b





Figure S16