

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /home/ceglab2/Desktop/ajinkya/pavo/MSD/SSH2.ps Feb 16 12:28:36 2022

Page 1 of 9

Species	Sequence	Score
Pavo_muticus	-----	
Pavo_cristatus	-----	
Gallus_gallus	MYKEELQAVFGPEGALRPEAAPPHTRSLTHTGASRVNRPQRRRRADSSMRPAPHCARPA	60
Anas_platyrhynchos	-----MRRAAALCPAGPAP--ERLS	18
Chelonia_mydas	-----	
Homo_sapiens	-----	
Pan_troglodytes	-----	
Macaca_mulatta	-----	
Callithrix_jacchus	-----	
Equus_caballus	-----	
Pteropus_alecto	-----	
Mus_musculus	-----	
Bos_taurus	-----	
Ornithorhynchus_anatinus	-----	
Xenopus_tropicalis	-----	
Rhinatrema_bivittatum	-----	
	1.....10.....20.....30.....40.....50.....60	

Species	Sequence	Position
Pavo_muticus	-----	
Pavo_cristatus	-----	
Gallus_gallus	RPQRASVGERPSARVELLPFAAGAAPPPLPPPHPPPPPPRPPWSKGPRRPAGWLRFRSSMA	120
Anas_platyrhynchos	RPRAVGGCGAAAPCGHLRSPSSLPSPSPSP--HPFPPSPWSKATPRRPDGEPRRASMA	76
Chelonia_mydas	-----MTRSRIG	7
Homo_sapiens	-----MA	2
Pan_troglodytes	-----MA	2
Macaca_mulatta	-----MA	2
Callithrix_jacchus	-----MA	2
Equus_caballus	-----MA	2
Pteropus_alecto	-----MT	2
Mus_musculus	-----MA	2
Bos_taurus	-----MA	2
Ornithorhynchus_anatinus	-----MA	2
Xenopus_tropicalis	-----MA	2
Rhinatrema_bivittatum	-----MA	2

Species	Sequence	Position
Pavo_muticus	-----	
Pavo_cristatus	-----	
Gallus_gallus	LVTVQRSPTPSATSSPCASEADSGEEE-----CRSQPR	153
Anas_platyrhynchos	LVTVQRSPTPSATSSPCASEADSGEEE-----CRSQPR	109
Chelonia_mydas	AGPGRARPCRCPRMIPYFSDNAVISQN-----AIN--Q	38
Homo_sapiens	LVTVQRSPTPSTTTSSPCASSSHLEDSESAALLCCECEESEIFTDSNEADSGEEECRSQPR	62
Pan_troglodytes	LVTVQRSPTPSTTTSSPCASSSHLEDSESAALLCCECEESEIFTDSNEADSGEEECRSQPR	62
Macaca_mulatta	LVTVQRSPTPSTTTSSPCASSSHLEDSESAALLCCECEESEIFSDSNEADSGEEECRSQPR	62
Callithrix_jacchus	LVTVQRSPTPSTTTSSPCASSSHLEDSESAALLCCECEESEIFSDSNEADSGEEECRSQPR	62
Equus_caballus	LVTVQRSPTPSTTTSSPCASSSHLEDSESAALLCCECEESEIFSDSNEADSGEEECRSQPR	62
Pteropus_alecto	LSTLTRE----RKAPPACTCSLSDSDMIPYFSANAVISQNAIN-----Q	42
Mus_musculus	LVTVQRSPTPSTTTSSPCASEADSGEEE-----CRSQPR	35
Bos_taurus	LVTVQRSPTPSTTTSSPCASSSHLEDSESAALLCCECEDSEIFSDSNEADSGEEECRSQPR	62
Ornithorhynchus_anatinus	LVTVQRSPTPSATSSPCASEADSGEEE-----CRSQPR	35
Xenopus_tropicalis	LVTVQRSPTPSTTTSSPCVSNPQVEESDI-EVFCQYEDTELFNGTNEADSGEEECRSQPR	61
Rhinatrema_bivittatum	LVTVQRSPTPSTTTSSPCVSNPQVEESDI-EVFCQYEDTELFNGTNEADSGEEECRSQPR	35

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /home/ceglab2/Desktop/ajinkya/pavo/MSD/MSM.pd Feb 16 12:28:36 2022

Page 2 of 9

```

** *****:
Pavo_muticus      -----MFILLRPEDNIRLAVR      16
Pavo_cristatus    -----MFILLRPEDNIRLAVR      16
Gallus_gallus      SISESFLTVKGAALFLPRGNGSSTPRVSHRRNKHAGDLOOHLQAMFILLRPEDNIRLAVR      213
Anas_platyrhynchos SISESFLTVKGAALFLPRGNGSSTPRI SHRRNKHAGDLOOHLQAMFILLRPEDNIRLAVR      169
Chelonia_mydas     LISESFLTVKGAALFLPRGNGSSTPRINNRRNKHAGDLOOHLQAMFILLRPEDNIRLAVR      98
Homo_sapiens       SISESFLTVKGAALFLPRGNGSSTPRI SHRRNKHAGDLOOHLQAMFILLRPEDNIRLAVR      122
Pan_troglodytes    SISESFLTVKGAALFLPRGNGSSTPRI SHRRNKHAGDLOOHLQAMFILLRPEDNIRLAVR      122
Macaca_mulatta     SISESFLTVKGAALFLPRGNGSSTPRI SHRRNKHAGDLOOHLQAMFILLRPEDNIRLAVR      122
Callithrix_jacchus SISESFLTVKGAALFLPRGNGSSTPRI SHRRNKHAGDLOOHLQAMFILLRPEDNIRLAVR      122
Equus_caballus     SISESFLTVKGAALFLPRGNGSSTPRI SHRRNKHAGDLOOHLQAMFILLRPEDNIRLAVR      122
Pteropus_alecto    LISESFLTVKGAALFLPRGNGSSTPRI SHRRNKHAGDLOOHLQAMFILLRPEDNIRLAVR      102
Mus_musculus       SISESFLTVKGAALFLPRGNGSSTPRVSHRRNKHAGDLOOHLQAMFILLRPEDNIRLAVR      95
Bos_taurus         SISESFLTVKGAALFLPRGNGSSTPRVSHRRNKHAGDLOOHLQAMFILLRPEDNIRLAVR      122
Ornithorhynchus_anatinus SISESFLTVKGAALFLPRGNGSSTPRI SHRRNKHAGDLOOHLQAMFILLRPEDNIRLAVR      95
Xenopus_tropicalis SISESFLTVKGAALFLPRGNGSSTPRI SHRRNKHAGDLOOHLQAMFTLLRPEDNIRLAVK      121
Rhinatrema_bivittatum SISESFLTVKGAALFLPRGNGSSTPRI SHRRNKHAGDLOOHLQAMFTLLRPEDNIRLAVK      95
.....190.....200.....210.....220.....230.....240

```

```

***** *****:*****.***. *****
Pavo_muticus      LESTYQNRTRYMVVVSTNGRODTEESIVLGMDFFSSNDSSTCTMGLVLPWSDTLIHLDGD      76
Pavo_cristatus    LESTYQNRTRYMVVVSTNGRODTEESIVLGMDFFSSNDSSTCTMGLVLPWSDTLIHLDGD      76
Gallus_gallus      LESTYQNRTRYMVVVSTNGRODTEESIVLGMDFFSSNDSSTCTMGLVLPWSDTLIHLDGD      273
Anas_platyrhynchos LESTYQNRTRYMVVVSTNGRODTEESIVLGMDFFSSNDSSTCTMGLVLPWSDTLIHLDGD      229
Chelonia_mydas     LESTYQNRTRYMVVVSTNGRODTEESIVLGMDFFSSNDSSTCTMGLVLPWSDTLIHLDGD      158
Homo_sapiens       LESTYQNRTRYMVVVSTNGRODTEESIVLGMDFFSSNDSSTCTMGLVLPWSDTLIHLDGD      182
Pan_troglodytes    LESTYQNRTRYMVVVSTNGRODTEESIVLGMDFFSSNDSSTCTMGLVLPWSDTLIHLDGD      182
Macaca_mulatta     LESTYQNRTRYMVVVSTNGRODTEESIVLGMDFFSSNDSSTCTMGLVLPWSDTLIHLDGD      182
Callithrix_jacchus LESTYQNRTRYMVVVSTNGRODTEESIVLGMDFFSSNDSSTCTMGLVLPWSDTLIHLDGD      182
Equus_caballus     LESTYQNRTRYMVVVSTNGRODTEESIVLGMDFFSSNDSSTCTMGLVLPWSDTLIHLDGD      182
Pteropus_alecto    LESTYQNRTRYMVVVSTNGRODTEESIVLGMDFFSSNDSSTCTMGLVLPWSDTLIHLDGD      162
Mus_musculus       LESTYQNRTRYMVVVSTNGRODTEESIVLGMDFFSSNDSSTCTMGLVLPWSDTLIHLDGD      155
Bos_taurus         LESTYQNRTRYMVVVSTNGRODTEESIVLGMDFFSSNDSSTCTMGLVLPWSDTLIHLDGD      182
Ornithorhynchus_anatinus LESTYQNRTRYMVVVSTNGRODTEESIVLGMDFFSSNDSSTCTMGLVLPWSDTLIHLDGD      155
Xenopus_tropicalis LESTYQNRTRYMVVVSTNGRODTEESIVLGMDFFASNDSSMCTMGLVLPWSDTLIHLDGD      181
Rhinatrema_bivittatum LESTYLNTRYMVVVSTNGRODTEESVVLGMDFFPCNDSCTMGLVLPWSDTLIHLDGD      155
.....250.....260.....270.....280.....290.....300

```

```

*****:*****:*****
Pavo_muticus      GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEVARSNYYPGSLFLTWSYYESHINS      136
Pavo_cristatus    GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEVARSNYYPGSLFLTWSYYESHINS      136
Gallus_gallus      GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEVARSNYYPGSLFLTWSYYESHINS      333
Anas_platyrhynchos GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEVARSNYYPGSLFLTWSYYESHINS      289
Chelonia_mydas     GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEVARSHNYYPGSLFLTWSYYESHINS      218
Homo_sapiens       GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEVARAHNYYPGSLFLTWSYYESHINS      242
Pan_troglodytes    GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEVARAHNYYPGSLFLTWSYYESHINS      242
Macaca_mulatta     GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEVARAHNYYPGSLFLTWSYYESHINS      242
Callithrix_jacchus GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEVARVHNYYPGSLFLTWSYYESHINS      242
Equus_caballus     GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEVARMHNYYPGSLFLTWSYYESHINS      242
Pteropus_alecto    GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEVARMHNYYPGSLFLTWSYYESHINS      222
Mus_musculus       GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEVARMHNYYPGSLFLTWSYYESHINS      215
Bos_taurus         GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEVARMHNYYPGSLFLTWSYYESHINS      242
Ornithorhynchus_anatinus GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEVARSHNYYPGSLFLTWSYYESHINS      215
Xenopus_tropicalis GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEIARINNYYPGSLFLTWSYYESHINS      241
Rhinatrema_bivittatum GGFSVSTDNRVHIFKPVSVQAMWSALQSLHKACEVARVHNYYPGSLFLTWSYYESHINS      215
.....310.....320.....330.....340.....350.....360

```

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /home/ceglab2/Desktop/ajinkya/pavo/MSD/MSM/MSM.pd Feb 16 12:28:36 2022

Page 3 of 9

```

**.*:****:*****.***.*** :*****:*****
Pavo_muticus      DQSSVNEWNAMQDVQSHRPDSPALFTDVPTERERTERLIKTKLREIMMQKDLENITSKEI 196
Pavo_cristatus    DQSSVNEWNAMQDVQSHRPDSPALFTDVPTERERTERLIKTKLREIMMQKDLENITSKEI 196
Gallus_gallus     DQSSVNEWNAMQDVQSHRPDSPALFTDVPTERERTERLIKTKLREIMMQKDLENITSKEI 393
Anas_platyrhynchos DQSSVNEWNAMQDVQSHRPDSPALFTDVPTERERTERLIKTKLREIMMQKDLENITSKEI 349
Chelonia_mydas    DQSSVNEWNTMQDVQSHRPDSPILFTDVPTERERTERLIKTKLREIMMQKDLENITSKEI 278
Homo_sapiens      DQSSVNEWNAMQDVQSHRPDSPALFTDIPTERERTERLIKTKLREIMMQKDLENITSKEI 302
Pan_troglodytes   DQSSVNEWNAMQDVQSHRPDSPALFTDIPTERERTERLIKTKLREIMMQKDLENITSKEI 302
Macaca_mulatta    DQSSVNEWNAMQDVQSHRPDSPALFTDIPTERERTERLIKTKLREIMMQKDLENITSKEI 302
Callithrix_jacchus DQSSVNEWNAMQDVQSHRPDSPILFTDIPTERERTERLIKTKLREIMMQKDLENITSKEI 302
Equus_caballus    DQSSVNEWNAMQDVQSHRPDSPALFTAIPTERERTERLIKTKLREIMMQKDLENITSKEI 302
Pteropus_alecto   DQSSVNEWNAMQDVQSHRPDSPALFTDIPTERERTERLIKTKLREIMMQKDLENITSKEI 282
Mus_musculus      DQSSVNEWNAMQDVQSHRPDSPALFTDIPTERERTERLIKTKLREIMMQKDLENITSKEI 275
Bos_taurus        DQSSVNEWNAMQDVQSHRPDSPALFTDIPTERERTERLIKTKLREIMMQKDLENITSKEI 302
Ornithorhynchus_anatinus DQSSVNEWNAMQDVQSHRPDSPALFTDVPTERERTERLIKTKLREIMMQKDLENITSKEI 275
Xenopus_tropicalis DQCSINEWNAMQDVQSHRSDSPVLFTDVPTERERTERLIKSKLREIMMQKDLENITSKEI 301
Rhinatrema_bivittatum DQASINEWNAMQDVQSHRSDSPVLFTDVPTERERTERLIKVKLREIMMQKDLENITSKEI 275
.....370.....380.....390.....400.....410.....420

```

```

****:*****:*****:***:*****:*****
Pavo_muticus      RTELEMQMVNCLREFKEFIDNEMIVILGQMSPTQIFDHVFLGSEWNASNLEDLQNRGVR 256
Pavo_cristatus    RTELEMQMVNCLREFKEFIDNEMIVILGQMSPTQIFDHVFLGSEWNASNLEDLQNRGVR 256
Gallus_gallus     RTELEMQMVNCLREFKEFIDNEMIVILGQMSPTQIFDHVFLGSEWNASNLEDLQNRGVR 453
Anas_platyrhynchos RTELEMQMVNCLREFKEFIDNEMIVILGQMSPTQIFDHVFLGSEWNASNLEDLQNRGVR 409
Chelonia_mydas    RTELEMQMVNCLREFKEFIDNEMIVILGQMSPTQIFDHVFLGSEWNASNLEDLQNRGVR 338
Homo_sapiens      RTELEMQMVNCLREFKEFIDNEMIVILGQMSPTQIFEHVFLGSEWNASNLEDLQNRGVR 362
Pan_troglodytes   RTELEMQMVNCLREFKEFIDNEMIVILGQMSPTQIFEHVFLGSEWNASNLEDLQNRGVR 362
Macaca_mulatta    RTELEMQMVNCLREFKEFIDNEMIVILGQMSPTQIFEHVFLGSEWNASNLEDLQNRGVR 362
Callithrix_jacchus RTELEMQMVNCLREFKEFIDNEMIVILGQMSPTQIFEHVFLGSEWNASNLEDLQNRGVR 362
Equus_caballus    RTELEMQMVNCLREFKEFIDNEMIVILGQMSPTQIFEHVFLGSEWNASNLEDLQNRGVR 362
Pteropus_alecto   RTELEMQMVNCLREFKEFIDNEMIVILGQMSPTQIFEHVFLGSEWNASNLEDLQNRGVR 342
Mus_musculus      RTELEMQMVNCLREFKEFIDNEMIVILGQMSPTQIFEHVFLGSEWNASNLEDLQNRGVR 335
Bos_taurus        RTELEMQMVNCLREFKEFIDNEMIVILGQMSPTQIFEHVFLGSEWNASNLEDLQNRGVR 362
Ornithorhynchus_anatinus RTELEMQMVNCLREFKEFIDNEMIVILGQMSPTQIFEHVFLGSEWNASNLEDLQNRGVR 335
Xenopus_tropicalis RTELEMQMVNCLREFKEFIDNEMIVILGQMSPTQIFEHVFLGSEWNASNLEDLQNRGVR 361
Rhinatrema_bivittatum RTELEIQMVNCLREFKEFIDNEMIVILGQMSPTQIFDHVFLGSEWNASNLEDLQNRGVR 335
.....430.....440.....450.....460.....470.....480

```

```

*****:*****:*****:*****:*****
Pavo_muticus      YILNVTREIDNFFPGVFEYHNIRVYDEEATDLLAYWNDTYKFISKAKKNGSKCLVHCKMG 316
Pavo_cristatus    YILNVTREIDNFFPGVFEYHNIRVYDEEATDLLAYWNDTYKFISKAKKNGSKCLVHCKMG 316
Gallus_gallus     YILNVTREIDNFFPGVFEYHNIRVYDEEATDLLAYWNDTYKFISKAKKNGSKCLVHCKMG 513
Anas_platyrhynchos YILNVTREIDNFFPGVFEYHNIRVYDEEATDLLAYWNDTYKFISKAKKNGSKCLVHCKMG 469
Chelonia_mydas    YILNVTREIDNFFPGVFEYHNIRVYDEEATDLLAYWNDTYKFISKAKKNGSKCLVHCKMG 398
Homo_sapiens      YILNVTREIDNFFPGVFEYHNIRVYDEEATDLLAYWNDTYKFISKAKKHGSKCLVHCKMG 422
Pan_troglodytes   YILNVTREIDNFFPGVFEYHNIRVYDEEATDLLAYWNDTYKFISKAKKHGSKCLVHCKMG 422
Macaca_mulatta    YILNVTREIDNFFPGVFEYHNIRVYDEEATDLLAYWNDTYKFISKAKKHGSKCLVHCKMG 422
Callithrix_jacchus YILNVTREIDNFFPGVFEYHNIRVYDEEATDLLAYWNDTYKFISKAKKHGSKCLVHCKMG 422
Equus_caballus    YILNVTREIDNFFPGVFEYHNIRVYDEEATDLLAYWNDTYKFISKAKKHGSKCLVHCKMG 402
Pteropus_alecto   YILNVTREIDNFFPGVFEYHNIRVYDEEATDLLAYWNDTYKFISKAKKHGSKCLVHCKMG 422
Mus_musculus      YILNVTREIDNFFPGVFEYHNIRVYDEEATDLLAYWNDTYKFISKAKKHGSKCLVHCKMG 395
Bos_taurus        YILNVTREIDNFFPGVFEYHNIRVYDEEATDLLAYWNDTYKFISKAKKHGSKCLVHCKMG 422
Ornithorhynchus_anatinus YILNVTREIDNFFPGVFEYHNIRVYDEEATDLLAYWNDTYKFISKAKKHGSKCLVHCKMG 395
Xenopus_tropicalis YILNVTREIDNFFPGVFEYHNIRVYDEEGTDLLAYWNDTFKFISKAKKHGSKCLVHCKMG 421
Rhinatrema_bivittatum YILNVTREIDNFFPGVFEYHNIRVYDEEATDLLAYWNDTYKFISKAKKHGAKCLVHCKMG 395
.....490.....500.....510.....520.....530.....540

```

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /home/ceglab2/Desktop/ajinkya/pavo/MSD/MSM.pd Feb 16 12:28:36 2022

Page 4 of 9

```

*****:*:*:*:*:*****:*****
Pavo_muticus      VSRSASTVIAYAMKEYGNLDRAYDYVKERRTVTKPNPSFMRQLEEYQGILLASKQRHNK 376
Pavo_cristatus    VSRSASTVIAYAMKEYGNLDRAYDYVKERRTVTKPNPSFMRQLEEYQGILLASKQRHNK 376
Gallus_gallus     VSRSASTVIAYAMKEYGNLDRAYDYVKERRTVTKPNPSFMRQLEEYQGILLASKQRHNK 573
Anas_platyrhynchos VSRSASTVIAYAMKEYGNLDRAYDYVKERRTVTKPNPSFMRQLEEYQGILLASKQRHNK 529
Chelonia_mydas    VSRSASTVIAYAMKEYGNLDRAYDHVKERRTVTKPNPSFMRQLEEYQGILLASKQRHNK 458
Homo_sapiens      VSRSASTVIAYAMKEYGNLDRAYDYVKERRTVTKPNPSFMRQLEEYQGILLASKQRHNK 482
Pan_troglodytes   VSRSASTVIAYAMKEYGNLDRAYDYVKERRTVTKPNPSFMRQLEEYQGILLASKQRHNK 482
Macaca_mulatta    VSRSASTVIAYAMKEYGNLDRAYDYVKERRTVTKPNPSFMRQLEEYQGILLASKQRHNK 482
Callithrix_jacchus VSRSASTVIAYAMKEYGNLDRAYDYVKERRTVTKPNPSFMRQLEEYQGILLASKQRHNK 482
Equus_caballus    VSRSASTVIAYAMKEYGNLDRAYDYVKERRTVTKPNPSFMRQLEEYQGILLASKQRHNK 482
Pteropus_alecto   VSRSASTVIAYAMKEYGNLDRAYDYVKERRTVTKPNPSFMRQLEEYQGILLASKQRHNK 462
Mus_musculus      VSRSASTVIAYAMKEYGNLDRAYDYVKERRTVTKPNPSFMRQLEEYQGILLASKQRHNK 455
Bos_taurus        VSRSASTVIAYAMKEYGNLDRAYDYVKERRTVTKPNPSFMRQLEEYQGILLASKQRHNK 482
Ornithorhynchus_anatinus VSRSASTVIAYAMKEYGNLDRAYDYVKERRTVTKPNPSFMRQLEEYQGILLASKQRHNK 455
Xenopus_tropicalis VSRSASTVIAYAMKEYGNLDRADYDYVKERRTVTKPNPSFMRQLEEYQGILLASKQRHNK 481
Rhinatrema_bivittatum VSRSASTVIAYAMKEYGNLDRADYDYVKERRSVTKPNPSFMRQLEEYQGILLASKQRHNK 455
.....550.....560.....570.....580.....590.....600

```

```

*****:*:* *:*:*:*:*****:
Pavo_muticus      LWRSHSDSDLSDHHEPICKSGLELNKKEITTSADQISEAKSNDNQPPMSPIYPAELDREQ 436
Pavo_cristatus    LWRSHSDSDLSDHHEPICKSGLELNKKEITTSADQISEAKSNDNQPPMSPIYPAELDREQ 436
Gallus_gallus     LWRSHSDSDLSDHHEPICKSGLELNKKEITTSADQISEAKSNDNQPPMSPIYPAELDREQ 633
Anas_platyrhynchos LWRSHSDSDLSDHHEPICKAGLELNKKEITTSADQISEAKTNDNQPPMSPIYSAELDREQ 589
Chelonia_mydas    LWRSHSDSDLSSEHQPICKSGMELNKKKEITTSAEQLSEPRANDNHQPPSPVFSVGPLVDR 518
Homo_sapiens      LWRSHSDSDLSDHHEPICKPGLLELNKKDITTSADQIAEVKTMESHPPIPPVF-----VEH 537
Pan_troglodytes   LWRSHSDSDLSDHHEPICKPGLLELNKKDITTSADQIAEVKTMESHPPIPPVF-----VEH 537
Macaca_mulatta    LWRSHSDSDLSDHHEPICKPGLLELNKKKEITTSADQIAEVKTMESHPPIPPVF-----VEH 537
Callithrix_jacchus LWRSHSDSDLSDHHEPICKPGLLELNKKKEITTSADQIAEVKTMESHPPIPPVF-----VEH 537
Equus_caballus    LWRSHSDSDLSDHHEPICKPGLLELNKKKEITTSADQIAEVKTMESHPPISPVF-----VEH 537
Pteropus_alecto   LWRSHSDSDLSDHHEPICKPGLLELNKKKEITTSADQIAEVKAMENHPPTPPVF-----VEH 517
Mus_musculus      LWRSHSDSDLSDHHEPICKPGLLELNKKEMTTSADQIAEVKTVENLAAMPTVF-----MEH 510
Bos_taurus        LWRSHSDSDLSDHHEPICKPGLLELNKKKEITTSADQIAEVKTMESHPPIPPVF-----VEH 537
Ornithorhynchus_anatinus LWRSHSDSDLSDHHEPIGKSGMELNRKEITTSADQITESKTLDSHSSIPPLF-----MEH 510
Xenopus_tropicalis LWRSHSDSDLSDHHEPVGKTGLEMSKKDITSSAEQLSDT---HHSFSLGPHV-----E 531
Rhinatrema_bivittatum LWRSHSDSDLSDHHEPACKTGIELSKKDITSSAEQLDIT---HHTFPLGPHV-----Q 506
.....610.....620.....630.....640.....650.....660

```

```

.      :*:*:  :: *:* ***** :*** : *      **
Pavo_muticus      -LAEDANMVKESCAKERRIHLEFTCRDFHVEQMEDKLNLNNINGCTAGCCVDS--VPPDN 493
Pavo_cristatus    -LAEDANMVKESCAKERRIHLEFTCRDFHVEQMEDKLNLNNINGCTAGCCVDS--VPPDN 493
Gallus_gallus     -LAEDANVIKESCVKERRIHLEFTCRDFHVEQMEDKLNLNNINGCTAGCCVDS--VPPDN 690
Anas_platyrhynchos QLPEDANMIEETCVKERRIHLEFTCRDFHAEQMEDKLNLNNINGCTAGCCVDS--VPTDN 647
Chelonia_mydas    LLQODTDITIEELCAKERRIHLEFTARGFRAEQIEDELNLNNINGCPAGCCCLDESEFPLDN 578
Homo_sapiens      MVPQDANQ-KGLCTKERMICLEFTSREFHAGQIEDELNLNDINGCSSGCCLNESKFPLDN 596
Pan_troglodytes   MVPQDANQ-KGLCTKERMICLEFTSREFHAGQIEDELNLNDINGCSSGCCLNESKFPLDN 596
Macaca_mulatta    VVPQDANQ-KGLCTKERMICLEFTSREFHAGQIEDELNLNDINGCSSGCCLNESKFPLDN 596
Callithrix_jacchus VIPQDANQ-KGLCTKERMICLEFTSREFHAGQIEDELNLNDINGCSSGCCLNESKFPLDN 596
Equus_caballus    VVPQDENQ-KGLCTKERVICLEFTSRELHAGQIEDELNLNDINGCSSGCCLNESKFPLDN 596
Pteropus_alecto   VVPQDENQ-KRLCTKERMICLEFTSREFRAGQIEDELNLNDINGCSTSGCCLNESKFPLDN 576
Mus_musculus      VVPQDANQ-KGLHTKERVICLEFTSSQEFRAEQIEDELNLNDINGCSSGCCLSESKLPLDN 569
Bos_taurus        VVPQDENQ-KALCTKERMICLEFTSQEFHAGQIEDELNLNDINGCSSGCCLNEPKFPLDN 596
Ornithorhynchus_anatinus VVPQDANP-KELCPQDRMICFEFTSREFHTGQIEDKLNLNLNNGCPTSC-----FSLDN 563
Xenopus_tropicalis NCNPDCEMDSTLYN-ETQARFEFTSCDFHTEQIEDILNLNTMNGCPSRCCSDDT--ILDN 588
Rhinatrema_bivittatum HLD---QGDSFTT-ADKAHIEFTARGFHTGQLEDILNLNTMNGCLTGCCCLNESQSFLDN 561
.....670.....680.....690.....700.....710.....720

```


CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /home/ceglab2/Desktop/ajinkya/pavo/MSD/SSH2.ps Feb 16 12:28:36 2022

Page 5 of 9

[illegible]

	:	:	.	*	*	*	*	*	*	:.	*:	:	:	:	:	:
Pavo_muticus	QNAPSPQQAPEGTDLSADRIDFFSALEKFVFLSQESRSRSCSHSRPEEQGAGRNGAAR	611														
Pavo_cristatus	QNAPSPQQAPEGTDLSADRIDFFSALEKFVFLSQESRSRSCSHSRPEEQGAGRNGAAR	611														
Gallus_gallus	QNAPSPQQAPEGTDLSADRIDFFSALEKFVFLSQESRSRSCSHSRPEEQSAGRNAGAAR	808														
Anas_platyrhynchos	QNSLSLQQAPEVTDLSTDRIDFFSALEKFVFLSQESRSRTCCHSRTEEQSGRGNVPR	765														
Chelonia_mydas	QSSPSPLSSQPE----TTDRIDFSLALEKFEELSQUESRSHTCCHSRMDEQQGGGRNGLSK	693														
Homo_sapiens	PESPSPQPSCQTEISDFSTDRIIDFFSALEKFVFLSQETRCSRFSHSMREELGGGRNESCR	715														
Pan_troglodytes	PESPSPQPSCQTEISDFSTDRIIDFFSALEKFVFLSQETRCSRFSHSMREELGGGRNESCR	715														
Macaca_mulatta	PESPSPQPSCQTEISDFSTDRIIDFFSALEKFVFLSQETRCSRFSHSMREELGGGRNESCR	715														
Callithrix_jacchus	PESPSPQPSCQTEISDFSTDRIIDFFSALEKFVFLSQETRCSRFSHSMREELGGGRNESCR	715														
Equus caballus	PESPSPQPSCQAEVSDFSTDRIIDFFSALEKFVFLSQETRCSRFSHSMREELGGGRNESCR	715														
Pteropus_alecto	PESPSPQPSCQTEVSDFTDRIIDFFSALEKFVFLSQETRCSRFSHSMREELGGGRNESYR	695														
Mus_musculus	LESPPSQASCAAISDFSITDRIIDFFSALEKFVFLSQETRCSRFSHSRIEELGGGRSEGCRR	688														
Bos_taurus	PESPSPQPSCQATVSDFGDRIDFFSALEKFVFLSQETRCSRFSHSMREEVGGRGNESCRR	715														
Ornithorhynchus_anatinus	PSSPSQPQPCQAEVSDFTDRIIDFFSAREKFVFLSQETRCSR--SHSRSDAEGAGRNLGSR	680														
Xenopus_tropicalis	QLSMTS---QSE--ELNGTDRIDFSLALEKFVFLSQENRPRTCSSTRADEVVSVKNALK	702														
Rhinatrema_bivittatum	QNTSIP-----EPAPANLSTDRIDFFSALEKFVFLSQESRPTCSHSPREEQCGRNSIAK	677														
 790 800 810 820 830 840															

	. * . : * . . . : : : . * * : . : * * . : *	
Pavo_muticus	LPVLEVLPAADLGADAQRNSGNSPQASDDSSSTDEEQQKEVPELPGTGHLTRSHSENAIS	671
Pavo_cristatus	LPVLEVLPAADLGADAQRNSGNSPQASDDSSSTDEEQQKEVPELPGTGHLTRSHSENAIS	671
Gallus_gallus	LPVLEVLPAADLGADTRNSGTSPPQASDDSSSTDEEQQKEVPELPGTGHLTRSHSENAIS	686
Anas_platyrhynchos	VPALVPPAADVGADARRNSGNSPQASDDSSSTDEEQQKEVPELPGAGHLTQSHSENAIS	825
Chelonia_mydas	MSVPEALPAETAVDTRHSSAGNSPAAPEESSTDEEQPEDISELTIMGPLTRSHSENAIS	753
Homo_sapiens	LSVVEVAPSKVTADDQRSSSLNTPHASEEESMDEEQSKAISELVSPDIFMQSHSENAIS	775
Pan_troglodytes	LSVVEVAPSKVTADDQRSSSLNTPHASEEESMDEEQSKAISELVSPDIFMQSHSENAIS	775
Macaca_mulatta	LSVVEVAPSKVTDDQRSSSLNTPHASEEESMDEEQSKAISELVSPDIFMQSHLENAIS	775
Callithrix_jacchus	PSVIEVAPSKVTADDQRSSSLNTPHASEEESMDEEQSKAISELVSPDIFMQSHLENAIS	775
Equus_caballus	LSMVEVAPSEVTADDQRSSSLNTPHASEEESSIDEEQSKAISELVSPDVFLQSHSENVMS	775
Pteropus_alecto	LSVIEVAPSEVTADDQRSSSLNTPHASEEESMDEEQSKAISELVSPDIFMQSHSENAIS	755
Mus_musculus	LSVIEVAASEMAADDQRSSSLNTPHASEEESVDEEQSKAITELVSPDIIMQSHSENAIS	748
Bos_taurus	LSVVEAAPSEATTDDQRSSSLNTPHASEEESVDEEQSKAISEQVSPDIFMQPHSENAIS	775
Ornithorhynchus_anatinus	LSASEAAPPEVGGDGQRSTSSNTPTSE--SSTDEEQPKEVPEPMN-TGLPRSHSENAIS	738
Xenopus_tropicalis	ASWPETFPVYDSHVDNRISSDGSTSQTSDESSSTDEEQPKEISEQIVQEPLPKSHSENAIS	762
Rhinatrema_bivittatum	GSAHEVLPSSETAREVORDISEGNTGHASQETTPGEEQ---SQEITQGHFPMHSENAIS	733
850.....860.....870.....880.....890.....900	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /home/ceglab2/Desktop/ajinkya/pavo/MSD/MSD.pd Feb 16 12:28:36 2022

Page 6 of 9

```

****:*:*:*:* ** . * . : . :*: : :
Pavo_muticus      VKIITEIESIKQGAGPAQOK-EGSTNLTPTPKRNTVHDLPAEAIWASER----VDQSE- 725
Pavo_cristatus    VKIITEIESIKQGAGPAQOK-EGSTNLTPTPKRNTVHDLPAEAIWASER----VDQSE- 725
Gallus_gallus     VKIITEIESIKQGAGPAQOK-EGSTNLTPTPKRNTVHDLPAEAIWASER----ADQSE- 922
Anas_platyrhynchos VKIITEIESINQGAAPQOK-EASATATQTPKRTTVHDLPEALWASER----VEQSEG 880
Chelonia_mydas    VKIITEIESINQGVGLCQOKMEGSANHAQAPKRNTAHLPVEVWASENNPGKAEQSEG 813
Homo_sapiens      VKIIVTEIESISQGVGQIQLKGDILPNPCHTPKKNSIHELLLERAQTPENKPGHMEQDEG 835
Pan_troglodytes   VKIIVTEIESISQGVGQIQLKGDILPNPCHTPKKNSIHELLLERAQTPENKPGHMEQDEG 835
Macaca_mulatta    VKIIVTEIESISQGVGQIQLKGDILSNPCHTPKKNSIHELLLERAQTPENKPGHLEQDEG 835
Callithrix_jacchus VKIIVTEIESISQGVGQIQLKGDILSNPCHTPKKNSIHELLLERAQTPENKPGHVEQDEG 835
Equus_caballus    VKIIVTEIESISQGVGQIQLKGDILSNPCHTPKKHTVHELFFERAQALENKPGNLEQNEG 835
Pteropus_alecto   VKIIVTEIESISQGVGQIQLK-DILSNPCHTPKKNTIHEMTLERAQAPGNRPGDTEQNEG 814
Mus_musculus      VKIIVTEIESISQGVGQIQLKGDILSNPCHTPKKSTIHELPLERVPAPEKPGHWEQDES 808
Bos_taurus        VKIIVTEIESISQGVGQIQVKGVDLSNPCHTPKKHIVHELPLERAQAAENRPGNLEQSEG 835
Ornithorhynchus_anatinus VKIITEIESIQGIGQCQOKADAPPNPCHTPKRSQVQESPAEVACVADSKPANP----- 793
Xenopus_tropicalis VKIITEIESFNQAGQCQOKPDTQSSQSQTPKRNTIHDLPDHFALDQENNH-RQEPSEDR 821
Rhinatrema_bivittatum VKIITEIESINQGVGQCQQT-DNLISIQTPKRTTIHELFFEEPWALKNNNGKQEISEG 792
.....910.....920.....930.....940.....950.....960

```

```

: : : * ** .**
Pavo_muticus      ---GHQEKEDPLQAEQE-AAPSPQLSSCKSELEE---GEOHSA-----HPEPKWCPCGS 772
Pavo_cristatus    ---GHQEKEDPLQAEQE-AAPSPQLSSCKSELEE---GEOHSA-----HPEPKWCPCGS 772
Gallus_gallus     ---GHQEKEDPLQAEQE-TAPSPQLSSCKSELEE---GEOHGV-----HPEPKWCPCGS 969
Anas_platyrhynchos ACAGHQEKERDPLQAEERD-AAPSPQLSSRKSDLEESSPAGEQOSS-----NPEPKWCPCGS 934
Chelonia_mydas    ACMAQQETAKDLPKPDQE-GAPTFQPPCTCVLDVEESDPAEDQOEPRVQGLNPGSKWCPCGS 872
Homo_sapiens      SCTAQPELAKDSGMCNPE-GCLTTHSSI--ADLEEGERPAEGERQELQSGMHGPAKWYPGS 892
Pan_troglodytes   SCTAQPELAKDSGMCNPE-GCLTTHSSI--ADLEEGERPAEGERQELQSGMHGPAKWYPGS 892
Macaca_mulatta    SCTAQPELAKDSGMCNPE-GCLTTHSSI--ADLEEGERPAEGERQELQSGMHGPAKWYPGS 892
Callithrix_jacchus SCTAQPEAAKDSGIYNQE-GCLTTHSSI--ADMEEEEPAEGERQELQALGMHGPAGKWYPGS 892
Equus_caballus    SCTAQPELAKDSGKWDPE-GCLTTHSFT--SELEEEEPAEGERQELWGPPIHGPAGKWPCGS 892
Pteropus_alecto   SCTAQPELAKDLGKWDPE-GCLTTHLFT--MDLEEEEPTEGERQELWGPMPHGPAGKWPCGS 871
Mus_musculus      FCSVQPELARDSGKCAPEEGCLTTHSST--ADLEEEEPVEGEHD-WGPGMHGSAKWPCGS 865
Bos_taurus        SCPAQPEPAKDSGKGDPE-GCPGAHSST--AEVEEEEPVEGERQELWGPMPGPAKWYPGS 892
Ornithorhynchus_anatinus ----GPDPRNPRRWGPE-GSPGPPQPP--PALEEGDSGEEEPPEPRGPAGNPGPKWCPCGS 846
Xenopus_tropicalis SALLQNDKLDRSKVATWD-GNPVSQENC-----ENSNEANDYQELSSQAH----KWCAGS 871
Rhinatrema_bivittatum SEVMPHEKFSDS--MEQE-GIQILMCPG----ETSDQTEQOQELLVQSPNLEPKWCPCGS 844
.....970.....980.....990.....1000.....1010.....1020

```

```

*:***:*:*****:*:: ****:* : . : :
Pavo_muticus      VRRATLEFEERLRQEQEHQHVSPVCS-LLTRKNSRNDSSAAAELLPRGRTEELPLDLAP-- 829
Pavo_cristatus    VRRATLEFEERLRQEQEHQHVSPVCS-LLTRKNSRNDSSAAAELLPRGRTEELPLDLAP-- 829
Gallus_gallus     VRRATLEFEERLRQEQEHQHVSPACV-LLTRKNSRNDSSAAAEPLPRGRTEELPLELAA-- 1026
Anas_platyrhynchos VRRATLEFEERLRQEQEHQHAPPACV-LPTRKNSRNDSSAAAELLPRGKTEEPLELAP-- 991
Chelonia_mydas    VKRATLEFEERLRQEQEHQHVPTCL-LPTRKNSKHDSAAAELAPKGKTEELSWDLDPAR 931
Homo_sapiens      VRRATLEFEERLRQEQEHGGAAPTCTSLSTRKNSKNDSSVADLAPKGKSDEATPEHSFVL 952
Pan_troglodytes   VRRATLEFEERLRQEQEHGGAAPTCTSLSTRKNSKNDSSVADLAPKGKSDEATPEHSFVL 952
Macaca_mulatta    VRRATLEFEERLRQEQEHGGAAPTCTSLSTRKNSKNDSSVADLAPKGKSDEATPEHSFVP 952
Callithrix_jacchus VRRATLEFEERLRQEQEHGGAAPTCTSLSTRKNSKNDSSVADLAPKGKSDEATPEHSFVP 952
Equus_caballus    VRRATLEFEERLRQEQEHGHTAPACTSSSTRKNSKNDSSVADLAPKGKSDEATLEHSFVP 952
Pteropus_alecto   VRRATLEFEERLRQEQEHGATPTCTSLSTRKNSKNDSSVTEPAPKGKSDEATLEHSFVA 931
Mus_musculus      VRRATLEFEERLRQEQENHGHTASAGPTLSNRKNSKNDSSVADLMPKWKSDETTPHESFFL 925
Bos_taurus        VRRATLEFEERLRQEQEHGGAAPTCTSLSTRKNSKNDSSVADLAAKGKSDEAAPELSYVP 952
Ornithorhynchus_anatinus VRRATLEFEERLRQEQEHGASPICT-LPPRKNSKNDSPAPAETTPRGKNEGLALEPPP GP 905
Xenopus_tropicalis VRRATLEFEERLRQEQEQQYS----ATLPTRKNSKNDSSAVGDTAPKGKLEDTLDSAH-- 925
Rhinatrema_bivittatum VRRATMEFEERLRQEHQHTS-HMGPLSARKNSKNDGLVVEQAPKRAHEEPSLEPEP-- 901
.....1030.....1040.....1050.....1060.....1070.....1080

```

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /home/ceglab2/Desktop/ajinkya/pavo/MSD/MSD.pd Feb 16 12:28:36 2022

Page 7 of 9

```

      *
Pavo_muticus      ---EGDAVQGSSEELLSSGAEQAGRQLPTPLAH-----PTEPS-----PGQ----- 867
Pavo_cristatus    ---EGDAVQGSSEELLSSGAEQAGRQLPTPLAH-----PTEPS-----PGQ----- 867
Gallus_gallus     ---EGDAAQGSSEELLSSGAEQAGRQLPTPLTH-----PTEPS-----AGQ----- 1064
Anas_platyrhynchos ---EDRAR--SEELLPPGAEQAGRHPPAPRANPVQELPAEPS-----PGQE----- 1034
Chelonia_mydas    RENESDKSPAAEGSLPHGPPLADTHLSPLTPR-----PVQPAQESLLAEPGAK----- 981
Homo_sapiens      KEPEMSKGKGKYSGEAGSLSHSEONATVPAPRV-LEFDHLPDPQEGPGSDTGTQ-QEGV 1010
Pan_troglodytes   KEPEMSKGKGKYSGEAGSLSHSEONATVPAPKV-LEFDHLPDPQEGPGSDTGTQ-QEGV 1010
Macaca_mulatta    KEPEMSKGKGKYSGEAGSLSHSEONATVPAPKV-LGFDHLPAPQEGPGSDAGTQ-QEGV 1010
Callithrix_jacchus KEPEMSKGKGKYSGEAGSLSHSEONATVPAPKV-PEFDHLPVPQEGPGSDTGTQ-QEEV 1010
Equus_caballus    KEPEMNKGKGKCTGSEAGSLPYSEONAMIPAPEP-LEFHPLPAPQECPGSGTRTK-QEGV 1010
Pteropus_alecto   KEAEMNKGKGKCSGSEAGSLPHCEQDAIVPAPEL-LEFHPLPASQCCPGSDTRTK-QEGV 989
Mus_musculus      KEAEPKSGKGKCSGSEAGSLSHCERNPTMPDCEL-LEHHSPLAPQDCLGSDRSKKGEGD 984
Bos_taurus        KEPETGRGQRCGSGESGSLLRPEQLAIVPAPEL-RESHPAPATQDGP-----HEGI 1004
Ornithorhynchus_anatinus REPEISGVDGKGGGSEAGSPPKPE-----AEPHPAPVTQDSSLDPCKP-QEGA 953
Xenopus_tropicalis GDHEKDRKNQLKIA--ESTEPNSSEPCADSSSQISEPQCLLSKPESPVSEIKLKETT-- 981
Rhinatrema_bivittatum KENEKDKKVQSPPIIGHENTLTYTCELTAHSMVLG-PHPVQAMQEYPLPEVSIKQEGH 960
.....1090.....1100.....1110.....1120.....1130.....1140

```

```

      :
Pavo_muticus      -EERRVVVSFDGMEEPALPSLLPKRIEIEFTPM-----VRAADS 906
Pavo_cristatus    -EERRVVVSFDGMEEPALPSLLPKRIEIEFTPM-----VRAADS 906
Gallus_gallus     -EERRVVVSFEGTEELALPSLLPKRIEIEFTPM-----VRAAES 1103
Anas_platyrhynchos VQERRTVVSFDGTEEPALPSLLPKRIEIEFTPT-----VRAA-- 1072
Chelonia_mydas    QDVRRTVVSFDGSGEPALPGHLPRLLEIIEYSHVGTTPDL-----RERDSSC 1028
Homo_sapiens      LKDLRTVIPYQESSETQAVPLPLPKRVEIIEYTHIVTSPNHTGPGSEIATSEKSGEGLRK 1070
Pan_troglodytes   LKDLRTVIPYQESSETQAVPLPLPKRVEIIEYTHIVTSPNHTGPGSEIATSEKSGEGLRK 1070
Macaca_mulatta    LKDLRTVIPYQESSETQAVLLPLPKRVEIIEYT--VTSPTDHTGPGSEIATSEKNREGLRK 1068
Callithrix_jacchus LKDLRTVIPYQESSETQAVPLPLPKKIEIIEYTHIVTSPNHSGPGGDIIVTSEKSGEGLRK 1070
Equus_caballus    LKDLRTVIPYQESSETQAVPLPLPKKIEIIEYTHIVTSPNHSGPGGDIIVTSEKSGEGLRK 1070
Pteropus_alecto   LKDLRTVIPYQESSETQAVPLPLPKKIEIIEYTHIVTSPDHGPGGGIATSEKSGEGLRK 1049
Mus_musculus      LKQRAVVPNQECDTQAILLPLPKKIEIIEYTPVTSLGHTPEPGGEATPSKEGEKGLRK 1044
Bos_taurus        LREPRTVVSGQGPETPAAPAFPKKIEIIEYTYTATSPDP-GPGWERASSEKSGAOLRT 1063
Ornithorhynchus_anatinus PKEHRTVILGTGSEAPALSGPCKKIEIIEYTPQEVKPPDPQRAEPGGCMGEKNGERGLSK 1013
Xenopus_tropicalis -NEHGLHLSLESVERKIEPIQLPKRIEIEIIEYSIGIKSPNDNE-----LSQCEDGATL 1032
Rhinatrema_bivittatum LKELRTLVSLEASGRVPLGQLPKRIEIEIIEYTHVDHKENDHRS----PVITKNIEDELL 1015
.....1150.....1160.....1170.....1180.....1190.....1200

```

```

      *
Pavo_muticus      PDAGDERPAALPLLDENLNPSLCSEKAAAS--LRALVRLPLP--EHAVQQQQAACITLLSP 962
Pavo_cristatus    PDAGDERPAALPLLDENLNPSLCSEKAAAS--LRALVRLPLP--EHAVQQQQAACITLLSP 962
Gallus_gallus     PDAGDERPAALPLLDENLNPSLCSEKAAAS--LRAPVHQPLP--EHAVQQQ--PACTLLSP 1158
Anas_platyrhynchos -----ELATAAPPLDENLNPSLGSEKAPTCPGAPTLVNLSP--EHAVQKQ--ATSTQGS 1124
Chelonia_mydas    EQGVLENAAVLLPVDENLNPSVCTEMAPVHPDALPLLNPSVL--EHKELGR--ATFTLGS 1085
Homo_sapiens      VNMEK-SVTVLCTLDENLNRTLDPNQVSLHPQVLPLPHSSSP--EHNRPDHPPTSILSSP 1127
Pan_troglodytes   VNVEK-SVTVLCTLDENLNRTLDPNQVSLHPQVLPLPHSSSP--EHNRPDHPPTSILSSP 1127
Macaca_mulatta    VNVEK-SVTVLCTLDENLNRTLDPNQVSLHPQVLPLPHSSSP--EHNRPDHPPTSILSSP 1127
Callithrix_jacchus VKVEK-SVTVLCALDENLNRTLDNQNQVSLHPQVLPLPHSSSP--EHSRPTDHPISMLSSP 1125
Equus_caballus    VKVEK-SITVLCALDENLNRTLDNQNQVSLHPQVLPLPHSSSP--EHNRPDHPPTSILSSP 1126
Pteropus_alecto   VKVEK-SITVLCALDENLNRTLDNQNQVSLHPQVLPLPHSSSP--EHNRPDHPPTSILSSP 1126
Mus_musculus      VKMEQ-SITMFCALDENLNRTLDNQNQVSLHPQVLPLPHSSSP--ECDPAD--PNPMLSSP 1099
Bos_taurus        VKVEE-TLTVLCALDENLNRTLDNQNQVSLHPQVLPLPHSSSP--EHNRPDHPPTSILSSP 1121
Ornithorhynchus_anatinus AKGEKPSPGPICALDENRNSTLCPEMAPPRPGALPLAPAGLP-----RASFTLGS 1064
Xenopus_tropicalis GEVLIEKTKSMILSPMPFKEIPETETDNLHADSLHLSETC----ELGSPSVSFLTSQ 1088
Rhinatrema_bivittatum EKVERVVKAASVPADES--TDIFECTEESFLYSGNVILSNPL----ELG-PHVTFTIGNP 1068
.....1210.....1220.....1230.....1240.....1250.....1260

```


CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /home/ceglab2/Desktop/ajinkya/pavo/MSD/MSD.pd Feb 16 12:28:36 2022

Page 8 of 9

```

      . . . . . : * . : : *
Pavo_muticus      SEEGAALSFPLG-AASPSAQPSCTPSASPDRSAFFPCVIRLEGVTEQSTSTDDEPTTLCGT 1021
Pavo_cristatus    SEEGAALSFPLG-AASPSAQPSCTPSASPDRSAFFPCVIRLEGVTEQSTSTDDEPTTLCGT 1021
Gallus_gallus     SEEGSASSFPLG-AASPSAQPSRTPSASPDRSAFFPSVIHLEGVTEQSTSTDREP-----T 1212
Anas_platyrhynchos SEEGAGLSLHPG-AASPSAQVASTPSASPDGSSYPVHVHLEGVTEQSTSTDTEPVAPCGA 1183
Chelonia_mydas    EEEYGAALINLD-TSSFVGQVTRSPVAGLDYLCHQRVHVHLEGVMEHSTSTDDEPAAPSSL 1144
Homo_sapiens      EDRGSSSLSTALETAAFPVSHHTHLLSASLDYLHPQTMVHLEGFTQSSSTD-EPsAEQVS 1186
Pan_troglodytes   EDRGSSSLSTALETAAFPVSHHTHLLSASLDYLHPQTMVHLEGFTQSSSTD-EPsAEQVS 1186
Macaca_mulatta    EDRGSSSLSTALETAAFPVSHHTHLLSASLDYLHPQTMVHLEGFTQSSSTD-EPsAEQVS 1186
Callithrix_jacchus EDRGNSLSLTAPEIAAPFVSHINQLLSVTDYLPQTMVHLEGFTQSSSTD-EPSTEQVS 1184
Equus_caballus    EDWGNSPATAALKTAAPFVSHHTHVPSASLDYLHPQTMVHLEGFTQSSSTDSEPSAEQVS 1186
Pteropus_alecto   AGWGNSPSTAQDTAAPFVSHHTHVPSASLDYLHPQTMVHLEGFTQSSSTDSEPSAEQVS 1164
Mus_musculus      QDKGDCPSTPFKTAAPFVSCSTQGASFLDYLLPHSVHVHLEGCTEQSSATDNELSPQAS 1159
Bos_taurus        -----AAPIVSPPTQPCGASPDHLHPQTMVHLEGFTQSSSTDSEPSAEQVS 1168
Ornithorhynchus_anatinus EEEVPSPPAPTRSAAPFLSHVAHLPANLDFLQERALVHIEGVTEQDSTTDLDAAP-GT 1123
Xenopus_tropicalis CEEHNSVNIPVPSACTGPM--QPDLSTLYPYTQGSISLTGVTEECSTTDEDFSK-PFS 1145
Rhinatrema_bivittatum DDE---LCRPLVNLETSPSK--PAPNPLTNLDCONFYLEGVTEQCTSIDDPVEIGSFA 1123
      .....1270.....1280.....1290.....1300.....1310.....1320

```

```

      .
Pavo_muticus      AGAV-----SLPFRDGSQAPCQGGAGSS-----ASRHATNVGLLDISFLCCSLP 1065
Pavo_cristatus    AGAV-----SLPFRDGSQAPCQGGAGSS-----ASRHATNVGLLDISFLCCSLP 1065
Gallus_gallus     AGAV-----SLPFRDGSQAPCQGGAGSS-----TGRHPANVDLLDISFLCCSLP 1256
Anas_platyrhynchos EGDA-----DLPFRDSSQPPCRGSAAGSSRQLSGE-DLSSHRAENMDLLDISFLCYSLP 1235
Chelonia_mydas    SRNG-----HVLCG-ASDGAFMELSNED-----LDFLSNHTDAVGISFPFCGLP 1187
Homo_sapiens      WEESQ-----ESPLSSGSEVPYKDSQLSSADLSLISKLGDNTGELQEKMDPLPVACRLP 1240
Pan_troglodytes   WEESQ-----ESPLSSGSEVPYKDSQLSSADLSLISKLGDNTGELQEKMDPLPVACRLP 1240
Macaca_mulatta    WEESQ-----DSPLSSGSEVPYKDSQLSSADLSLISKLGDNTGELQEKLDPLPVACRLP 1240
Callithrix_jacchus WEESQ-----ESPLFSGNEVPYKDSRLSSDLSLISKLGDNSGELQEKLDPLPVACRLP 1238
Equus_caballus    WEESQ-----EGPLSSGNVVPYKGSQSSDLSLISKLGDKIGASQEKLDPSPVASRLP 1240
Pteropus_alecto   WEENQ-----EGPLSSGNEVPYKGSPLSSDLSLISKLGDNIGKLQKALDPSPVACRLP 1218
Mus_musculus      WEDSR-----GHFLSSGSGMAHTSSPLTNEDLSLISKLGDNSVGVLQKKLDPSPEACRIP 1213
Bos_taurus        WEESQ-----EGPLSRASEVPYQGSQFSSDHLHLISQLGNNICEQPEKLDPTSAHQPL 1222
Ornithorhynchus_anatinus WQGGP-----APGWDGREGPPRNGENLIG--QHTESGHDRPEGRPTCSLT-SPLPLGPP 1174
Xenopus_tropicalis CTESYHTDAFEDFNEMMHREIDSALSQCSSEDLNLISTVSANILEIREVLDPPLSFGFA 1205
Rhinatrema_bivittatum CNA-----DIGETFHRGDSALNLLSSDLSLISKLTTETVRELHEVLVDSPPCGLP 1175
      .....1330.....1340.....1350.....1360.....1370.....1380

```

```

      . . . . . : : : : * : : : * : : : : * : : : : * : : : : *
Pavo_muticus      HSSSSHSVGE-RSSSPGLVKQRAKEIEAR-IRHAGLTTPSQMKRSASLAKLDCLDLKDD 1123
Pavo_cristatus    HSSSSHSVGE-RSSSPGLVKQRAKEIEAR-IRHAGLTTPSQMKRSASLAKLDCLDLKDD 1123
Gallus_gallus     HSSSSRSVGEQRSSSPGLVKQRAKEIEAR-IRHAGLTTPSQMKRSASLAKLDCLDLKDD 1315
Anas_platyrhynchos HSSSSHSVEE-RSNSPGLVKQRAKEIEAR-IRHAGLTTPSHMKRSASLAKLDCLDLKDD 1293
Chelonia_mydas    HSSSSPSIKD-MSETPGSVKQRAKEIEAR-VROAGLTTPSQMKRSASLAKLGCLELQDD 1245
Homo_sapiens      HSSSSENIKS-LSHSPGVVKEAKEIESRVVFOAGLTTPSQMKRSASLAKLGYLDLCKDC 1299
Pan_troglodytes   HSSSSENIKS-LSHSPGVVKEAKEIESRVVFOAGLTTPSQMKRSASLAKLGYLDLCKDC 1299
Macaca_mulatta    HSSSSENIKG-LSHSPGVVKEAKEIESRVVFOAGLTTPSQMKRSASLAKLGYLDLCKDC 1299
Callithrix_jacchus HSSSSENIKG-LSHSPGVVKEAKEIESRAVFOTGLTKPSQMKRSASLAKLGYLDLCKDC 1297
Equus_caballus    QSSSSDSVQC-LSHSPSVVKENAKEIESQAICQVGLTKPSQMKRSASLAKLGYLDLCKDC 1299
Pteropus_alecto   HSSSSDNIKG-LSHSPSVVKERSKEIESRAICQGLTKPSQMKRSASLTKLGYLDLCKDC 1277
Mus_musculus      HSSSSENIRD-LSHSGRVVKEAKEIESRVVFOAGFSKTQMKRSASLAKLGYLDLCKDY 1272
Bos_taurus        HSSSSDSIES-PSQSPRVVKGRAKEIESRATSOVGLPKPPQLRRSASLAKLGYLDLCKDC 1281
Ornithorhynchus_anatinus HCGGGSTSQS-LS--PRRAEGRARDTEAR-LRHAGLTTPSQMKRSASLAKLGCLELQDD 1230
Xenopus_tropicalis HSSSSDSIKD-LGSNPGVVKQRAKEIEAR-IRQAGLTTPSQMKRSASLAKLGCLELQDD 1263
Rhinatrema_bivittatum HSCSSDSIKD-LIRNQGVMVKQRAKEIEAR-IRQAGLTTPSRMKRSASIAKLGLSLDLKDD 1233
      .....1390.....1400.....1410.....1420.....1430.....1440

```


CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /home/ceglab2/Desktop/ajinkya/pavo/MSD/MSD.pd Feb 16 12:28:36 2022

Page 9 of 9

```

Pavo_muticus      LSEREVASRCASP----VLLTCMALGPGFRRGRSEQLSLESPCGKHHFSPPT-LQDPKPA 1178
Pavo_cristatus    LSEREVASRCASP----VLLTCMALGPGFRRGRSEQLSLESPCGKHHFSPPT-LQDPKPA 1178
Gallus_gallus     LSEREASRCASP----VLLGCVALGPGFHGGRSEQLSLESPCGKRHPLSPATPLQDPKPA 1371
Anas_platyrhynchos LSERQSASSNAHPP---VLLTCVALGRGFRGRLEEGLESWPWGKHLSSPPA-LGDPKPA 1349
Chelonia_mydas    LSERESASSHAGLTRSDLLPASPRTGQKRGALPEHGLEGLPEKPCASSPLI-RODPKPT 1304
Homo_sapiens      LPEREPASCESPHLK--LLQPFLRTDSGMHAMEDQESLENP-----GAPHNPEPT 1347
Pan_troglodytes   LPEREPASCESPHLK--LLQPFLRTDSGMHAMEDQESLENP-----GAPHNPEPT 1347
Macaca_mulatta    LPEREPASCESPHLK--LLQPFLRTDSGMHAMEDQESLENP-----GAPHNPEPT 1347
Callithrix_jacchus LPERKPASCESPHLK--LLQPFLRTDSGMHAMEDQESLENP-----GAPHNPEPT 1345
Equus_caballus    LPEREPVSESSEPHLK--LLQPFIRTDSGMHAMEVOEPPENS-----DASONLEPT 1347
Pteropus_alecto   LLQTEPVCSSEPHLK--LLQPFIRTDSGMHAMEVOEPPENS-----DAPONPEPT 1325
Mus_musculus      LPDRELVSSESEPHLK--LLQPFLRTDSGMHALMAHEPSESA-----GAQONPQPT 1320
Bos_taurus        SPEREPVSESSEPHLK--LLQPFLRTDSG---MEAQEPPENP-----DTPONREPT 1326
Ornithorhynchus_anatinus FSTKGTASPETACPC--PALPRSPGGADPTGPRVEPGPEEPQ-----AHPQDPEPT 1279
Xenopus_tropicalis LSERESVSSDS-QTYPDLLLSLRVVPGSFEISPDIKSQDPP---EKLCILSTQVESEPT 1319
Rhinatrema_bivittatum LSERESDSFETNQMFDDLHS---MPGVQDITLQLQ-----EKLSTIVSIACESEPT 1281
.....1450.....1460.....1470.....1480.....1490.....1500

```

```

Pavo_muticus      QHFVEQLRTAECIAQSRPVQRPLAQYAKECGSSQHSSAPCAGPTWTAPQEGP----- 1230
Pavo_cristatus    QHFVEQLRTAECIAQSRPVQRPLAQYAKECGSSQHSSAPGAGPTWTAPQEGP----- 1230
Gallus_gallus     QHFVEQLRTAECIAQSKPVERPLAQYAKECGSSQHSSAPGAGPAWTALQEGP----- 1423
Anas_platyrhynchos QHFVEQLRTAECIAQSKPVERPLAQYAKDCGSSQSSAPGTAPTWTTSSEGGPPLLLDPLS 1409
Chelonia_mydas    EHFVEQLKTTECIAQSQPVERPPVQYAKEFGSAPQSLCPSTDPRLTSSEGLSLLQTOVL 1364
Homo_sapiens      KSFVEQLTTTECIVQSKPVERPLVQYAKEFGSSQQLPRAGLELTSEGGPLVLQTOGL 1407
Pan_troglodytes   KSFVEQLTTTECIVQSKPVERPLVQYAKEFGSSQQLPRAGLELTSEGGPLVLQTOGL 1407
Macaca_mulatta    KYFVEQLTTTECIVQSKPVERPLVQYAKEFGSSQQLPRAGPELTSEGGPLPMLQTOGL 1407
Callithrix_jacchus KYLVEQLTTTECVVQSKPVERPLVQYAKEFGSSQQLPRAGPELTSEGGPLVLQTOGL 1405
Equus_caballus    KYFVEQLRTTECIAQSKPVERPLVQYAKEFGHSQQCLLPRAGPELTSEGGPLLLQTOGQ 1407
Pteropus_alecto   KYFIEQLKTTECIVQSKPVERPLVQYAKEFGYSQQCLLPKAGPELTSEEG-LPLLQTOGP 1384
Mus_musculus      KYSVEQLKTTECIVQSKPVERPSVQYAKEFGYSQQCLLPKARPELTSEGGPLLLQTOGL 1380
Bos_taurus        KYLIEQLRTTECIAQSRPVERPLAQYAKEFGSSQQLPRAGPGLTSSEGGPLPSVPTOGL 1386
Ornithorhynchus_anatinus KYFVEQLKTTECIVQSKPIETPLVQYAKDFGSAQONWFPNPNGLRLTRSEGGCPSQAQGP 1339
Xenopus_tropicalis KHfVEQIKTEECVVQSKPVEKPLVQFAKDFDSTQOGLSPSSSEELTVSEGGSPMQSLVLG 1379
Rhinatrema_bivittatum KYFVEQLKTAECVVQSKPVERLPVQYAKECGSTQQLSFPNTTESTLTSSEE-CLSLLDPL 1340
.....1510.....1520.....1530.....1540.....1550.....1560

```

```

Pavo_muticus      -----SVSAVPRQQHGRTHPLRRLKKSNDKRTTNPLYNTM 1266
Pavo_cristatus    -----SVSAVPRQQHGRTHPLRRLKKSNDKRTTNPLYNTM 1266
Gallus_gallus     -----SVSAVPRQQHGRTHPLRRLKKSNDKRTTNPLYNTM 1459
Anas_platyrhynchos A----ARGPAVAPRQQHGRTHPLRRLKKTNDKRTTNPLYNTM 1448
Chelonia_mydas    DSWLPAQRLAVAPRHQHGRTHPLRRLKKANDKKRTSNPFYNTM 1407
Homo_sapiens      QCACAPAGLAVAPRQQHGRTHPLRRLKKANDKKRTTNPFYNTM 1450
Pan_troglodytes   QCACAPAGLAVAPRQQHGRTHPLRRLKKANDKKRTTNPFYNTM 1450
Macaca_mulatta    QCACAPAGLAVAPRQQHGRTHPLRRLKKANDKKRTTNPFYNTM 1450
Callithrix_jacchus QCACAPAGLAVAPRQQQGRTHPLRRLLEKANDKKRTTNPFYNTM 1448
Equus_caballus    QCAGPAPGLAVAPRQQHGRTHPLRRLKKANDKKRTTNPFYNTM 1450
Pteropus_alecto   QCAGPAPGLALAPRQQHGRTHPLRRLKKANDKKRTTNPFYNTM 1427
Mus_musculus      QYTGPSPLAVAPRQQHGRTHPLRRLKANDKKRTTNPFYNTM 1423
Bos_taurus        QDISPAPGLAVAPREQHGRTHPLRRLKANDKKRTTNPFYNTM 1429
Ornithorhynchus_anatinus DSRPAPPLALSVHQYGRTHPLRRLKKSNDQ-RTTRPFYNTM 1381
Xenopus_tropicalis TS---VPLVVISPKHEHGRTHPLRRLKKTNEKKRTTNPLYNTM 1419
Rhinatrema_bivittatum CS---SPLVAVIPQQLHGRTHPLRRLKKS-EKKRTTNPLYNTM 1379
.....1570.....1580.....1590.....1600...

```