

A

Majority

```

-----MN-TAPASESGXYSTNHTRPFYFAOQTAQPPFNWYLSHXNYPYCVAPGFRXGNPYFPFYSVALHEYPGYFVPOHPMHTRXNRRPYFNAPPP
10 20 30 40 50 60 70 80 90 100

```

Xenopus laevis
Chrysemys picta bellii (painted turtle)
Alligator sinensis
Gallus gallus (chicken)
Anas platyrhynchos (wild duck)

```

-----MNTTAPPENCGYSTNRPYFYAQTALQPPFNWYLSHXNYPYCVAPGFRXGNPYFPFYSVALHEYPGYFVPOHPMHTRXNRRPYFNAPPP 94
-----MN-TAPASESGXYSTNHTRPFYFAOQTAQPPFNWYLSHXNYPYCVAPGFRXGNPYFPFYSVALHEYPGYFVPOHPMHTRXNRRPYFNAPPP 93
-----MN-TAPASESGXYSTNHTRPFYFAOQTAQPPFNWYLSHXNYPYCVAPGFRXGNPYFPFYSVALHEYPGYFVPOHPMHTRXNRRPYFNAPPP 93
-----MN-TAPASESGXYSTNHTRPFYFAOQTAQPPFNWYLSHXNYPYCVAPGFRXGNPYFPFYSVALHEYPGYFVPOHPMHTRXNRRPYFNAPPP 93
MCLKKMN-TAPASESGXYSTNHTRPFYFAOQTAQPPFNWYLSHXNYPYCVAPGFRXGNPYFPFYSVALHEYPGYFVPOHPMHTRXNRRPYFNAPPP 99

```

Majority

```

SPMFYHATFRFRHYSSPGRRTETKETQTDPROENPKQKHKQDTRTETKGCAGNMACVSSGIG---TETESTSEKQDSSGSSIVXEREFHN-SPSSSXQYR
110 120 130 140 150 160 170 180 190 200

```

Xenopus laevis
Chrysemys picta bellii (painted turtle)
Alligator sinensis
Gallus gallus (chicken)
Anas platyrhynchos (wild duck)

```

SPMFYHATFRFRHYSSPGRRTETKETQTDPROENPKQKHKQDTRTETKGCAGNMACVSSGIG---TETESTSEKQDSSGSSIVXEREFHN-SPSSSXQYR 191
SPMFYHATFRFRHYSSPGRRTETKETQTDPROENPKQKHKQDTRTETKGCAGNMACVSSGIG---TETESTSEKQDSSGSSIVXEREFHN-SPSSSXQYR 190
SPMFYHATFRFRHYSSPGRRTETKETQTDPROENPKQKHKQDTRTETKGCAGNMACVSSGIG---TETESTSEKQDSSGSSIVXEREFHN-SPSSSXQYR 189
SPMFYHATFRFRHYSSPGRRTETKETQTDPROENPKQKHKQDTRTETKGCAGNMACVSSGIG---TETESTSEKQDSSGSSIVXEREFHN-SPSSSXQYR 189
SPMFYHATFRFRHYSSPGRRTETKETQTDPROENPKQKHKQDTRTETKGCAGNMACVSSGIG---TETESTSEKQDSSGSSIVXEREFHN-SPSSSXQYR 195

```

Majority

```

NLPXGSYAFEKEEVRIEYGNPSP-ATQLWKSFKETIPLYDVASGKPVPEIVQRDLFVSSCEGIYGPHE-GEGLVP----GTYSDERKAVLSKQKXSE
210 220 230 240 250 260 270 280 290 300

```

Xenopus laevis
Chrysemys picta bellii (painted turtle)
Alligator sinensis
Gallus gallus (chicken)
Anas platyrhynchos (wild duck)

```

NLPXGSYAFEKEEVRIEYGNPSP-ATQLWKSFKETIPLYDVASGKPVPEIVQRDLFVSSCEGIYGPHE-GEGLVP----GTYSDERKAVLSKQKXSE 287
NLPXGSYAFEKEEVRIEYGNPSP-ATQLWKSFKETIPLYDVASGKPVPEIVQRDLFVSSCEGIYGPHE-GEGLVP----GTYSDERKAVLSKQKXSE 285
NLPXGSYAFEKEEVRIEYGNPSP-ATQLWKSFKETIPLYDVASGKPVPEIVQRDLFVSSCEGIYGPHE-GEGLVP----GTYSDERKAVLSKQKXSE 282
NLPXGSYAFEKEEVRIEYGNPSP-ATQLWKSFKETIPLYDVASGKPVPEIVQRDLFVSSCEGIYGPHE-GEGLVP----GTYSDERKAVLSKQKXSE 283
NLPXGSYAFEKEEVRIEYGNPSP-ATQLWKSFKETIPLYDVASGKPVPEIVQRDLFVSSCEGIYGPHE-GEGLVP----GTYSDERKAVLSKQKXSE 289

```

Majority

```

TXQKEVQNNVCLKDXEKQTXSQRASPPGEAMAVQIAELARSVNDQPVVRQDVLVAKK---SSSKRSTGSKXQSESSLIQOAGLXPSMEXXSLSX
310 320 330 340 350 360 370 380 390 400

```

Xenopus laevis
Chrysemys picta bellii (painted turtle)
Alligator sinensis
Gallus gallus (chicken)
Anas platyrhynchos (wild duck)

```

TXQKEVQNNVCLKDXEKQTXSQRASPPGEAMAVQIAELARSVNDQPVVRQDVLVAKK---SSSKRSTGSKXQSESSLIQOAGLXPSMEXXSLSX 371
TXQKEVQNNVCLKDXEKQTXSQRASPPGEAMAVQIAELARSVNDQPVVRQDVLVAKK---SSSKRSTGSKXQSESSLIQOAGLXPSMEXXSLSX 382
TXQKEVQNNVCLKDXEKQTXSQRASPPGEAMAVQIAELARSVNDQPVVRQDVLVAKK---SSSKRSTGSKXQSESSLIQOAGLXPSMEXXSLSX 381
TXQKEVQNNVCLKDXEKQTXSQRASPPGEAMAVQIAELARSVNDQPVVRQDVLVAKK---SSSKRSTGSKXQSESSLIQOAGLXPSMEXXSLSX 387

```

Majority

```

QQKLNLSHSATNESQ---TDXSLWCEEVSEKYPVPSNSWLACLNDMDANYNDMCLPQRKXQ---SVLSLSDDEMSS-REEGSSIDNAPVSYFVDPVYLQKS
410 420 430 440 450 460 470 480 490 500

```

Xenopus laevis
Chrysemys picta bellii (painted turtle)
Alligator sinensis
Gallus gallus (chicken)
Anas platyrhynchos (wild duck)

```

QQKLNLSHSATNESQ---TDXSLWCEEVSEKYPVPSNSWLACLNDMDANYNDMCLPQRKXQ---SVLSLSDDEMSS-REEGSSIDNAPVSYFVDPVYLQKS 470
QQKLNLSHSATNESQ---TDXSLWCEEVSEKYPVPSNSWLACLNDMDANYNDMCLPQRKXQ---SVLSLSDDEMSS-REEGSSIDNAPVSYFVDPVYLQKS 479
QQKLNLSHSATNESQ---TDXSLWCEEVSEKYPVPSNSWLACLNDMDANYNDMCLPQRKXQ---SVLSLSDDEMSS-REEGSSIDNAPVSYFVDPVYLQKS 478
QQKLNLSHSATNESQ---TDXSLWCEEVSEKYPVPSNSWLACLNDMDANYNDMCLPQRKXQ---SVLSLSDDEMSS-REEGSSIDNAPVSYFVDPVYLQKS 476
QQKLNLSHSATNESQ---TDXSLWCEEVSEKYPVPSNSWLACLNDMDANYNDMCLPQRKXQ---SVLSLSDDEMSS-REEGSSIDNAPVSYFVDPVYLQKS 482

```

Majority

```

XYTFQKSTEGLEKEKIKSGGSLNEDE-VVGREQNTSLXGQXXSXSTXKIKXSSRGRKXGVLPRSSSRKIKYSLKKAKAAXSLSEVEDSEEYSVQEEE
510 520 530 540 550 560 570 580 590 600

```

Xenopus laevis
Chrysemys picta bellii (painted turtle)
Alligator sinensis
Gallus gallus (chicken)
Anas platyrhynchos (wild duck)

```

XYTFQKSTEGLEKEKIKSGGSLNEDE-VVGREQNTSLXGQXXSXSTXKIKXSSRGRKXGVLPRSSSRKIKYSLKKAKAAXSLSEVEDSEEYSVQEEE 567
XYTFQKSTEGLEKEKIKSGGSLNEDE-VVGREQNTSLXGQXXSXSTXKIKXSSRGRKXGVLPRSSSRKIKYSLKKAKAAXSLSEVEDSEEYSVQEEE 578
XYTFQKSTEGLEKEKIKSGGSLNEDE-VVGREQNTSLXGQXXSXSTXKIKXSSRGRKXGVLPRSSSRKIKYSLKKAKAAXSLSEVEDSEEYSVQEEE 578
XYTFQKSTEGLEKEKIKSGGSLNEDE-VVGREQNTSLXGQXXSXSTXKIKXSSRGRKXGVLPRSSSRKIKYSLKKAKAAXSLSEVEDSEEYSVQEEE 573
XYTFQKSTEGLEKEKIKSGGSLNEDE-VVGREQNTSLXGQXXSXSTXKIKXSSRGRKXGVLPRSSSRKIKYSLKKAKAAXSLSEVEDSEEYSVQEEE 578

```

Majority

```

EDEEDED---DDVDEIEYFFQEAAPYGIILTPSKGXYRQIGQR-XLWPKPKNAIPAHLSWPAXEKIKTKSXXGENIGXYVKPKKXQDEVVSYDYG
610 620 630 640 650 660 670 680 690 700

```

Xenopus laevis
Chrysemys picta bellii (painted turtle)
Alligator sinensis
Gallus gallus (chicken)
Anas platyrhynchos (wild duck)

```

EDEEDED---DDVDEIEYFFQEAAPYGIILTPSKGXYRQIGQR-XLWPKPKNAIPAHLSWPAXEKIKTKSXXGENIGXYVKPKKXQDEVVSYDYG 658
EDEEDED---DDVDEIEYFFQEAAPYGIILTPSKGXYRQIGQR-XLWPKPKNAIPAHLSWPAXEKIKTKSXXGENIGXYVKPKKXQDEVVSYDYG 669
EDEEDED---DDVDEIEYFFQEAAPYGIILTPSKGXYRQIGQR-XLWPKPKNAIPAHLSWPAXEKIKTKSXXGENIGXYVKPKKXQDEVVSYDYG 669
EDEEDED---DDVDEIEYFFQEAAPYGIILTPSKGXYRQIGQR-XLWPKPKNAIPAHLSWPAXEKIKTKSXXGENIGXYVKPKKXQDEVVSYDYG 672
EDEEDED---DDVDEIEYFFQEAAPYGIILTPSKGXYRQIGQR-XLWPKPKNAIPAHLSWPAXEKIKTKSXXGENIGXYVKPKKXQDEVVSYDYG 675

```

Majority

```

YGRKRPMAXRE---GSEHKRTLQKSGGRLLEKXMGXXXEYWIWSGAKPKFAXLIHGLSPPAKSKEQXXLPLVKPKKRIKGPXKRRDRTRCEVEE
710 720 730 740 750 760 770 780 790 800

```

Xenopus laevis
Chrysemys picta bellii (painted turtle)
Alligator sinensis
Gallus gallus (chicken)
Anas platyrhynchos (wild duck)

```

YGRKRPMAXRE---GSEHKRTLQKSGGRLLEKXMGXXXEYWIWSGAKPKFAXLIHGLSPPAKSKEQXXLPLVKPKKRIKGPXKRRDRTRCEVEE 748
YGRKRPMAXRE---GSEHKRTLQKSGGRLLEKXMGXXXEYWIWSGAKPKFAXLIHGLSPPAKSKEQXXLPLVKPKKRIKGPXKRRDRTRCEVEE 764
YGRKRPMAXRE---GSEHKRTLQKSGGRLLEKXMGXXXEYWIWSGAKPKFAXLIHGLSPPAKSKEQXXLPLVKPKKRIKGPXKRRDRTRCEVEE 769
YGRKRPMAXRE---GSEHKRTLQKSGGRLLEKXMGXXXEYWIWSGAKPKFAXLIHGLSPPAKSKEQXXLPLVKPKKRIKGPXKRRDRTRCEVEE 766
YGRKRPMAXRE---GSEHKRTLQKSGGRLLEKXMGXXXEYWIWSGAKPKFAXLIHGLSPPAKSKEQXXLPLVKPKKRIKGPXKRRDRTRCEVEE 770

```

Majority

```

VEVWEXPKXSXRGK---RGTKRSLYKRR-
810 820 830

```

Xenopus laevis
Chrysemys picta bellii (painted turtle)
Alligator sinensis
Gallus gallus (chicken)
Anas platyrhynchos (wild duck)

```

VEVWEXPKXSXRGK---RGTKRSLYKRR- 779
VEVWEXPKXSXRGK---RGTKRSLYKRR- 789
VEVWEXPKXSXRGK---RGTKRSLYKRR- 794
VEVWEXPKXSXRGK---RGTKRSLYKRR- 792
VEVWEXPKXSXRGK---RGTKRSLYKRR- 795

```

B Majority XXXXNXXXPXXXGQXXXXNXXRPFYXQPPXXQXXFXXXWXXXXYXXYXXPGPXXXGXPHYXXYXXXXXXYPGYXP
10 20 30 40 50 60 70 80

Bucky ball MEGINNNNSQPMGVGQPHHPVNHTRPFFVYQPPSQPYFMYQWPMN-PYGHYGFPGPALHFGRPYMAPY--QFMQYPGYVIP 77
Xvelo ---MNTTAPPPENGQ--YSTNQPRPYFYAOPTAQLPFIQNPWYLGQLYNFYCIPGPGFRGGNPFYYSVALHEYPGYFVP 75

Majority XXXMXXXXRRXXNPHXPSXXXYYXXXXXHXHXXGXHXXETXXXXXXXXXXXXXXXXKXXXXXXXXKXCXXGXXXXXXXXXS
90 100 110 120 130 140 150 160

Bucky ball HAPMQPIDYRR--INPHYPSVASYDLRVRHFHQNAQMHRETACSEVQTDPSDSVNLIDKIESLKACELGSDKGNPNNVVS 155
Xvelo QPQMNTRMSRRPHFNPHPPSPMFYHATRFHFYSSPCRRRETETKETQTDPRQECASKKQHSSD-GKGCDDGGNVVYLSSGIS 154

Majority STXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXCXXXXXXXXXPXYXXXXXXXXXXYXXXSXXXXXXXXXXXXXXXXXPXXXXXV
170 180 190 200 210 220 230 240

Bucky ball STPDVVQGE----KLTRLNEDSNLEVAATKECKEDPVT--RPTTYSDS-----AYDAES SQGRLEDCVFSVLPDLDSSV 223
Xvelo STGNESNLENVEMSMSPATSTQERDFHKNAAGNSAQYRNMPFGSYAYEKEEVRIEYGSCLPAAIQMWKSYKETIPIYDVAV 234

Majority XXEXXEXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXNXXXXXXXXXXXXCXXXXXXXXTXXXXXXXXXXXXXXXXXXXXXX
250 260 270 280 290 300 310 320

Bucky ball HEEEEEEEKD-----VNEEDEPQTVADEIGSQNEMASITTSNVFCSGVQSIADPTECHD 277
Xvelo VKELPENNVVQRDLFCEGVLYGPHAEGEELAVQSVAFSNKDECKNSLPPKLGIDAVQETETIQTITIVQTPREPRYETSKQKGK 314

Majority XXXXXXXXXXXXPXXXXXXXXXXXXXXXXXPXSXXEDXDXIXXXXXXXXXXXGXXXXXXXXIXXXXXXXXXXXXXXXXXXXXX
330 340 350 360 370 380 390 400

Bucky ball LEKLGDEQKQDIP-----SADAAAVIEPLISLSEDFDLPYQTLRLPCNKTTTGLSLEREIDPLVYFD----- 339
Xvelo VMKVKATMEAESPTMTVEHVEVSPVYDDPQVSVPELSEHNLITNGDLIEGSDGCPQQDIANQSTCNGEVKLANKSNM 394

Majority XXXXSXXXXXPXXXLXXXXXXXXXXYXXYXXQXXQXXXSVLSXXXELSSRDEXXSXDXXXXXXXXXXXXXXXXXGXXXX
410 420 430 440 450 460 470 480

Bucky ball ----SPSTLLPPQNYLSSIG---SAYSYSYYP-CVTOERQSVLSPSIDELSSRDEMFSTDVEDLEVVPGHVYVGGCRLAE 411
Xvelo WTDDSEIEKFMSPSTWLACFENIDANYDYDVISSQRKQKQTSVLSITSEELSSRDEGSSLDASVSYFVPDYILRKGLYTF 474

Majority XXXXXXXXXXXXXXXXXXXXXXXXXXXCXXXXKXXXXXXXXXXDXXXXCXXXXXXXXXXXXXXXXXXXXXPXXXXXE
490 500 510 520 530 540 550 560

Bucky ball ASDMPVRSRKELPS-----VDKTCVVCOKTACCGSTLQDEVGMCK-----MAEHSHPERD-----E 463
Xvelo RKTTEDELEKETIKSSGSLKEDDIPLKQSCNKYVVKYRSSAVKAKDVSSRGRKIGVPLKGLSRRKLYSVKKNPKKSQSLSE 554

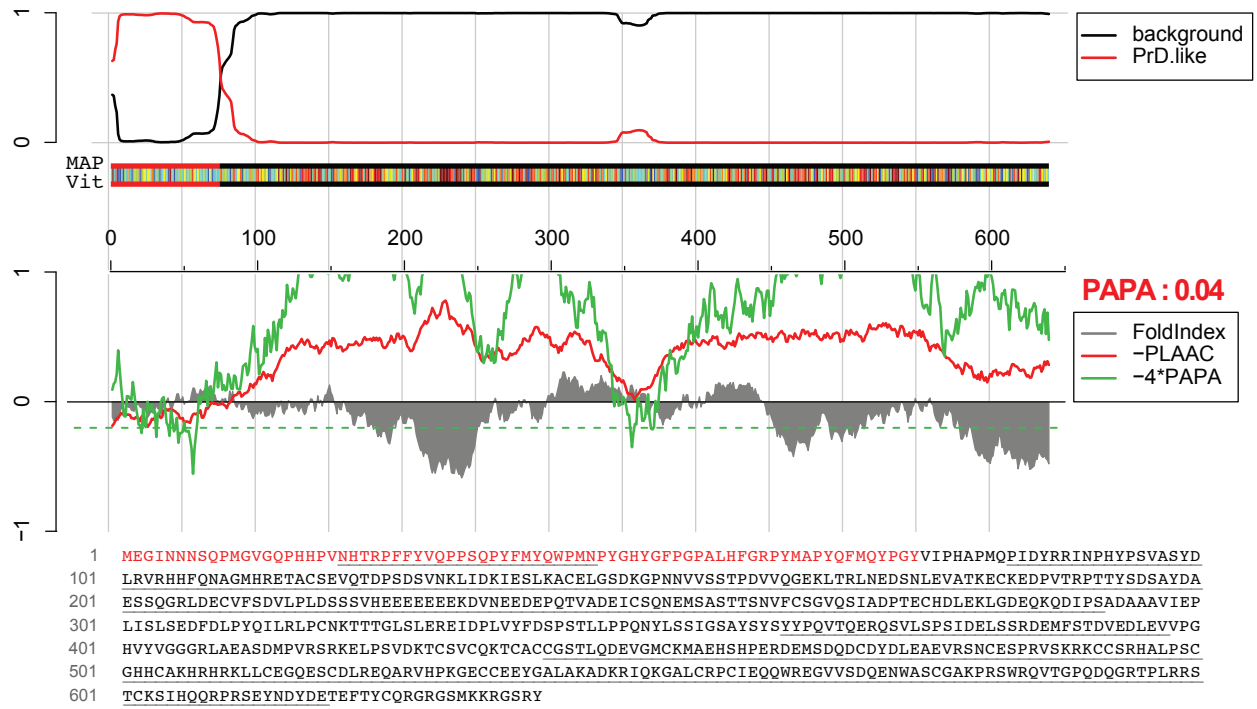
Majority XXDXDXXXXEXXXXXXXXXXXXXXXXXXXXXXXLPXXXXXXXXGXXXXXXXXXXXLXXXXGXXXXXXXXXXXXXXXXXXX
570 580 590 600 610 620 630 640

Bucky ball MSDQDCDYDLEAEVRSNCESPRVSKRK-CCSRHALPS-----CGHHC AKHRHRKLLCE--GQESCDLR----- 523
Xvelo PEDSDEYWMEEENDEEGDDEDDSEEEYYFQESLPHGQVDIGKGSIFKQIAQKRIIWKPPKGMVPAQIVGWPVKEKLV 634

Majority XXXXXXXXXXXXXXXXXXXXXXXXXKXXXXXXXXGXXXXPXXXQXXXGXXXXXXXXXXXXXXWXXGAKPXXXXXXXXXX
650 660 670 680 690 700 710 720

Bucky ball EQARVHPKGECC-----EY GALAKADKRIQK GALCRPCIEQWREG-----VVSDCENWASCGAKPRS----- 582
Xvelo KKGAYDALNQVCRCLKDYDGSYTIYDKKISKLNRFISEPKKSMQKSVGKAQKKTPTGTAVEEYVWGRGAKPKFPEPAY 714

C Bucky ball



D Oskar

