

Table S1: Salten CDSs list after BV-BRC annotation.

| CDS | Start | End | Length | Strand | AA Length | Product | Function |
|-------|-------|------|--------|--------|-----------|----------------------|--------------------------------|
| CDS1 | 1 | 735 | 735 | - | 244 | dmp | Second step DNA insertion [46] |
| CDS2 | 815 | 1207 | 393 | - | 130 | Phage protein | |
| CDS3 | 1274 | 2944 | 1671 | - | 556 | A1 protein | Second step DNA insertion [46] |
| CDS4 | 3042 | 3239 | 198 | - | 65 | Phage protein | |
| CDS5 | 3298 | 3714 | 417 | - | 138 | A2 protein | Second step DNA insertion |
| CDS6 | 3813 | 4064 | 252 | - | 83 | Phage protein | |
| CDS7 | 4212 | 4325 | 114 | + | 37 | hypothetical protein | |
| CDS8 | 4353 | 4508 | 156 | + | 51 | hypothetical protein | |
| CDS9 | 4501 | 4659 | 159 | - | 52 | hypothetical protein | |
| CDS10 | 4715 | 4936 | 222 | - | 73 | hypothetical protein | |
| CDS11 | 5010 | 5102 | 93 | + | 30 | hypothetical protein | |
| CDS12 | 5455 | 5607 | 153 | + | 50 | hypothetical protein | |
| CDS13 | 5627 | 5740 | 114 | + | 37 | Phage protein | |
| CDS14 | 5860 | 6087 | 228 | + | 75 | Phage protein | |
| CDS15 | 6134 | 6289 | 156 | + | 51 | Phage protein | |
| CDS16 | 6283 | 6495 | 213 | + | 70 | Phage protein | |
| CDS17 | 6495 | 6608 | 114 | + | 37 | hypothetical protein | |
| CDS18 | 6602 | 6949 | 348 | + | 115 | Phage protein | |
| CDS19 | 6942 | 7079 | 138 | + | 45 | hypothetical protein | |
| CDS20 | 7076 | 7174 | 99 | + | 32 | hypothetical protein | |
| CDS21 | 7191 | 7310 | 120 | - | 39 | hypothetical protein | |
| CDS22 | 7634 | 7864 | 231 | - | 76 | hypothetical protein | |
| CDS23 | 7924 | 8202 | 279 | - | 92 | hypothetical protein | |
| CDS24 | 8195 | 8314 | 120 | - | 39 | hypothetical protein | |
| CDS25 | 8648 | 8746 | 99 | + | 32 | hypothetical protein | |
| CDS26 | 8855 | 8947 | 93 | + | 30 | hypothetical protein | |

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|-------|-------|-------|-----|---|-----|---|--|
| CDS27 | 8904 | 9791 | 888 | - | 295 | Phage protein | |
| CDS28 | 9861 | 10109 | 249 | - | 82 | hypothetical protein | |
| CDS29 | 10109 | 10720 | 612 | - | 203 | Phage protein | |
| CDS30 | 10720 | 10905 | 186 | - | 61 | Phage protein | |
| CDS31 | 10905 | 11138 | 234 | - | 77 | Phage protein | |
| CDS32 | 11349 | 11867 | 519 | - | 172 | Phage protein | |
| CDS33 | 11913 | 12110 | 198 | - | 65 | Phage protein | |
| CDS34 | 12207 | 12335 | 129 | - | 42 | Phage protein | |
| CDS35 | 12346 | 12729 | 384 | - | 127 | Phage capsid and scaffold | |
| CDS36 | 12671 | 13138 | 468 | - | 155 | Phage protein | |
| CDS37 | 13135 | 13335 | 201 | - | 66 | Phage protein | |
| CDS38 | 13435 | 13761 | 327 | - | 108 | Phage protein | |
| CDS39 | 13751 | 13993 | 243 | - | 80 | Phage protein | |
| CDS40 | 13990 | 14271 | 282 | - | 93 | Phage protein | |
| CDS41 | 14271 | 14435 | 165 | - | 54 | Phage protein | |
| CDS42 | 14435 | 14686 | 252 | - | 83 | Phage protein | |
| CDS43 | 14765 | 15196 | 432 | - | 143 | Phage protein | |
| CDS44 | 15249 | 15371 | 123 | - | 40 | hypothetical protein | |
| CDS45 | 15364 | 15954 | 591 | - | 196 | Phosphoesterase | |
| CDS46 | 15954 | 16241 | 288 | - | 95 | hypothetical protein | |
| CDS47 | 16241 | 17092 | 852 | - | 283 | putative serine/threonine protein phosphatase | Host or viral protein degradation [47] [48] |
| CDS48 | 17095 | 17340 | 246 | - | 81 | Phage protein | |
| CDS49 | 17345 | 17722 | 378 | - | 125 | Phage protein | |
| CDS50 | 17850 | 18140 | 291 | - | 96 | Thioredoxin, phage-associated | Enzyme maturation |
| CDS51 | 18137 | 18664 | 528 | - | 175 | Phage HNH homing endonuclease (ACLAME 27) | |
| CDS52 | 18661 | 19065 | 405 | - | 134 | Phage protein | |
| CDS53 | 19141 | 19563 | 423 | - | 140 | Phage protein | |

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|-------|-------|-------|-----|---|-----|--|---|
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| CDS54 | 19637 | 20050 | 414 | - | 137 | endolysin | Perforation of the host membrane [49] |
| CDS55 | 20047 | 20730 | 684 | - | 227 | Phage holin | Perforation of the host membrane [49] |
| CDS56 | 20879 | 21460 | 582 | - | 193 | ATP-dependent Clp protease proteolytic subunit ClpP (EC 3.4.21.92) | Host or viral protein degradation [47] [48] |
| CDS57 | 21473 | 22225 | 753 | - | 250 | dNMP kinase | |
| CDS58 | 22225 | 22578 | 354 | - | 117 | Phage protein | |
| CDS59 | 22509 | 22952 | 444 | - | 147 | Phage protein | |
| CDS60 | 22949 | 23629 | 681 | - | 226 | Phage protein | |
| CDS61 | 23784 | 24131 | 348 | - | 115 | Phage protein | |
| CDS62 | 24128 | 24625 | 498 | - | 165 | Phage HNH homing endonuclease (ACLAME 27) | |
| CDS63 | 24739 | 25023 | 285 | - | 94 | Phage protein | |
| CDS64 | 25020 | 25316 | 297 | - | 98 | Phage protein | |
| CDS65 | 25294 | 25713 | 420 | - | 139 | Phage protein | |
| CDS66 | 25682 | 25987 | 306 | - | 101 | Phage protein | |
| CDS67 | 25989 | 26192 | 204 | - | 67 | hypothetical protein | |
| CDS68 | 26192 | 26470 | 279 | - | 92 | Phage protein | |
| CDS69 | 26547 | 26894 | 348 | - | 115 | Phage protein | |
| CDS70 | 27016 | 27192 | 177 | - | 58 | Phage protein | |
| CDS71 | 27251 | 27412 | 162 | - | 53 | hypothetical protein | |
| CDS72 | 27412 | 27780 | 369 | - | 122 | 2-ketobutyrate formate-lyase (EC 2.3.1.-) Pyruvate formate-lyase (EC 2.3.1.54) | |
| CDS73 | 28068 | 28358 | 291 | - | 96 | Phage protein | |
| CDS74 | 28518 | 28682 | 165 | - | 54 | Phage protein | |
| CDS75 | 28675 | 28926 | 252 | - | 83 | Phage protein | |
| CDS76 | 29190 | 29426 | 237 | - | 78 | hypothetical protein | |

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|--------|-------|-------|-----|---|-----|--------------------------------------|--|
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| CDS77 | 29419 | 29616 | 198 | - | 65 | Phage protein | |
| CDS78 | 29793 | 29933 | 141 | + | 46 | hypothetical protein | |
| CDS79 | 29930 | 30097 | 168 | + | 55 | hypothetical protein | |
| CDS80 | 30084 | 30173 | 90 | + | 29 | hypothetical protein | |
| CDS81 | 30288 | 30518 | 231 | - | 76 | hypothetical protein | |
| CDS82 | 30815 | 31078 | 264 | - | 87 | Phage protein | |
| CDS83 | 31284 | 31373 | 90 | - | 29 | hypothetical protein | |
| CDS84 | 31632 | 31769 | 138 | + | 45 | hypothetical protein | |
| CDS85 | 31762 | 31875 | 114 | + | 37 | hypothetical protein | |
| CDS86 | 32070 | 32288 | 219 | + | 72 | hypothetical protein | |
| CDS87 | 32280 | 32627 | 348 | - | 115 | Phage protein | |
| CDS88 | 32735 | 32893 | 159 | - | 52 | hypothetical protein | |
| CDS89 | 32997 | 33182 | 186 | - | 61 | Phage protein | |
| CDS90 | 33668 | 33940 | 273 | - | 90 | Phage protein | |
| CDS91 | 34219 | 34386 | 168 | + | 55 | hypothetical protein | |
| CDS92 | 34494 | 34769 | 276 | - | 91 | Phage protein | |
| CDS93 | 34860 | 35066 | 207 | - | 68 | Phage protein | |
| CDS94 | 35059 | 35226 | 168 | - | 55 | Phage protein | |
| CDS95 | 35325 | 35414 | 90 | - | 29 | hypothetical protein | |
| CDS96 | 35420 | 35605 | 186 | - | 61 | Phage antitermination protein Q | |
| CDS97 | 35615 | 35803 | 189 | - | 62 | hypothetical protein | |
| CDS98 | 36017 | 36586 | 570 | - | 189 | Phage protein | |
| CDS99 | 36612 | 36740 | 129 | - | 42 | hypothetical protein | |
| CDS100 | 36821 | 37768 | 948 | - | 315 | Phage protein | |
| CDS101 | 37947 | 38060 | 114 | - | 37 | hypothetical protein | |
| CDS102 | 38152 | 38352 | 201 | + | 66 | hypothetical protein | |
| CDS103 | 38576 | 39058 | 483 | - | 160 | Phage-associated homing endonuclease | |
| CDS104 | 39102 | 39545 | 444 | - | 147 | Phage protein | |
| CDS105 | 39545 | 39715 | 171 | - | 56 | Phage protein | |

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|--------|-------|-------|------|---|-----|---|-----------------------------|
| CDS106 | 39784 | 40233 | 450 | - | 149 | Phage protein | |
| CDS107 | 40239 | 40556 | 318 | - | 105 | Phage protein | |
| CDS108 | 40572 | 40676 | 105 | - | 34 | hypothetical protein | |
| CDS109 | 40999 | 41637 | 639 | - | 212 | Phage tail fibre protein | |
| CDS110 | 41691 | 41873 | 183 | - | 60 | Phage protein | |
| CDS111 | 41945 | 42646 | 702 | - | 233 | Metallopeptidase, phage-associated | |
| CDS112 | 42675 | 42911 | 237 | - | 78 | Phage protein | |
| CDS113 | 42953 | 43468 | 516 | - | 171 | Phage protein | |
| CDS114 | 43552 | 43830 | 279 | - | 92 | Phage protein | |
| CDS115 | 43907 | 44383 | 477 | - | 158 | Phage ribonuclease H (EC 3.1.26.4) | |
| CDS116 | 44383 | 44652 | 270 | - | 89 | hypothetical protein | |
| CDS117 | 44652 | 44933 | 282 | - | 93 | hypothetical protein | |
| CDS118 | 45031 | 45870 | 840 | - | 279 | Thymidylate synthase (EC 2.1.1.45) | Nucleotides metabolism [50] |
| CDS119 | 45870 | 46400 | 531 | - | 176 | Dihydrofolate reductase, phage-associated | nucleotides metabolism [50] |
| CDS120 | 46397 | 47542 | 1146 | - | 381 | Ribonucleotide reductase of class Ia (aerobic), beta subunit (EC 1.17.4.1) | nucleotides metabolism [51] |
| CDS121 | 47561 | 47674 | 114 | - | 37 | hypothetical protein | |
| CDS122 | 47649 | 50087 | 2439 | - | 812 | Ribonucleotide reductase of class Ia (aerobic), alpha subunit (EC 1.17.4.1) | Nucleotides metabolism [51] |
| CDS123 | 50127 | 50324 | 198 | - | 65 | Phage protein | |
| CDS124 | 50326 | 51078 | 753 | - | 250 | Phage phosphate starvation-inducible protein PhoH (ACLAME 589) | |

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|--------|-------|-------|------|---|-----|--|-----------------------------------|
| CDS125 | 51095 | 51199 | 105 | + | 34 | hypothetical protein | |
| CDS126 | 51452 | 53326 | 1875 | + | 624 | Ribonucleotide reductase of class III (anaerobic), large subunit (EC 1.17.4.2) | Nucleotides metabolism [51] |
| CDS127 | 53426 | 53665 | 240 | + | 79 | Phage protein | |
| CDS128 | 53662 | 54060 | 399 | + | 132 | Phage protein | |
| CDS129 | 54035 | 54241 | 207 | + | 68 | Phage protein | |
| CDS130 | 54210 | 54404 | 195 | + | 64 | Phage protein | |
| CDS131 | 54404 | 55228 | 825 | + | 274 | NAD-dependent protein deacetylase of SIR2 family | |
| CDS132 | 55219 | 55401 | 183 | + | 60 | Phage protein | |
| CDS133 | 55388 | 55894 | 507 | + | 168 | Phage protein | |
| CDS134 | 55897 | 56325 | 429 | + | 142 | Phage protein | |
| CDS135 | 56335 | 56727 | 393 | + | 130 | Phage protein | |
| CDS136 | 56762 | 56863 | 102 | + | 33 | hypothetical protein | |
| CDS137 | 56996 | 57148 | 153 | + | 50 | hypothetical protein | |
| CDS138 | 57293 | 60229 | 2937 | + | 978 | hypothetical protein | |
| CDS139 | 60216 | 60449 | 234 | + | 77 | Phage protein | |
| CDS140 | 60521 | 61225 | 705 | + | 234 | Phage DNA helicase | DNA transcription and replication |
| CDS141 | 61218 | 61469 | 252 | + | 83 | Transcriptional regulator | |
| CDS142 | 61573 | 61983 | 411 | + | 136 | DNA-binding protein | |
| CDS143 | 61998 | 62285 | 288 | + | 95 | Phage protein | |
| CDS144 | 62336 | 62644 | 309 | + | 102 | Transcriptional regulator | |
| CDS145 | 62731 | 63003 | 273 | + | 90 | hypothetical protein | |
| CDS146 | 63004 | 63975 | 972 | + | 323 | DNA ligase, phage-associated | DNA transcription and replication |
| CDS147 | 63948 | 64070 | 123 | + | 40 | hypothetical protein | |

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|--------|-------|-------|------|---|-----|---|---|
| CDS148 | 64178 | 64957 | 780 | + | 259 | DNA ligase, phage-associated | DNA transcription and replication |
| CDS149 | 64950 | 65717 | 768 | + | 255 | Transcriptional regulator | |
| CDS150 | 65777 | 66358 | 582 | + | 193 | hypothetical protein | |
| CDS151 | 66351 | 67817 | 1467 | + | 488 | Phage DNA helicase | DNA transcription and replication |
| CDS152 | 67814 | 68344 | 531 | + | 176 | Phage protein, contains HNH endonuclease motif | |
| CDS153 | 68341 | 69231 | 891 | + | 296 | Phage DNA primase/helicase | DNA transcription and replication |
| CDS154 | 69384 | 71861 | 2478 | + | 825 | DNA polymerase, phage-associated | DNA transcription and replication |
| CDS155 | 71854 | 72351 | 498 | + | 165 | Phage protein | |
| CDS156 | 72348 | 73700 | 1353 | + | 450 | Phage DNA helicase | DNA transcription and replication |
| CDS157 | 73921 | 74205 | 285 | + | 94 | Phage protein | |
| CDS158 | 74198 | 74971 | 774 | + | 257 | DNA-binding protein | |
| CDS159 | 75008 | 75985 | 978 | + | 325 | Phage-associated recombinase | Detection and repair of double-stranded DNA breaks. Ortologous to Mre11 - Rad50 (eukaryotes), SbcCD (prokaryotes), gp46/gp47 (T4), gpD13/gpD12 (T5) [52] |
| CDS160 | 75966 | 77804 | 1839 | + | 612 | Phage recombination related exonuclease (EC 3.1.11.-) | |
| CDS161 | 77808 | 78290 | 483 | + | 160 | Phage protein | |

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|--------|--------|--------|------|---|------|--|---|
| CDS162 | 78290 | 79165 | 876 | + | 291 | Phage endonuclease | DNA transcription and replication |
| CDS163 | 79162 | 79608 | 447 | + | 148 | Deoxyuridine 5'-triphosphate nucleotidohydrolase (EC 3.6.1.23) | Removing excess of dUTP mistakenly incorporated into DNA [53] |
| CDS164 | 79625 | 79834 | 210 | + | 69 | Phage protein | |
| CDS165 | 79875 | 84026 | 4152 | - | 1383 | Phage long tail fibre pb1 | |
| CDS166 | 84026 | 84448 | 423 | - | 140 | p132 | |
| CDS167 | 84453 | 86555 | 2103 | - | 700 | pb4 | |
| CDS168 | 86556 | 89405 | 2850 | - | 949 | pb3 | |
| CDS169 | 89402 | 90016 | 615 | - | 204 | pb9 | |
| CDS170 | 90019 | 90108 | 90 | - | 29 | hypothetical protein | |
| CDS171 | 90126 | 93833 | 3708 | - | 1235 | pb2 | |
| CDS172 | 93918 | 94286 | 369 | - | 122 | Phage protein | |
| CDS173 | 94348 | 94752 | 405 | - | 134 | Phage protein | |
| CDS174 | 94752 | 95648 | 897 | - | 298 | p140 | |
| CDS175 | 95653 | 97044 | 1392 | - | 463 | Phage major tail protein pb6 | |
| CDS176 | 97071 | 97559 | 489 | - | 162 | p142 | |
| CDS177 | 97563 | 98330 | 768 | - | 255 | Phage protein | |
| CDS178 | 98330 | 98842 | 513 | - | 170 | Phage protein | |
| CDS179 | 98895 | 99494 | 600 | - | 199 | hypothetical protein | |
| CDS180 | 99551 | 100927 | 1377 | - | 458 | Phage capsid and scaffold | |
| CDS181 | 100945 | 101577 | 633 | - | 210 | Phage capsid and scaffold | |
| CDS182 | 101581 | 101904 | 324 | - | 107 | Phage tail fibre | |
| CDS183 | 101907 | 103118 | 1212 | - | 403 | Phage portal (connector) protein | |
| CDS184 | 103118 | 103555 | 438 | - | 145 | Phage protein | |
| CDS185 | 103545 | 104219 | 675 | - | 224 | Phage protein | |

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|--------|--------|--------|------|---|-----|---|-----------------------|
| CDS186 | 104179 | 104379 | 201 | - | 66 | Phage protein | |
| CDS187 | 104391 | 105707 | 1317 | - | 438 | Phage terminase, large subunit | DNA packaging [46] |
| CDS188 | 105707 | 106189 | 483 | - | 160 | Phage terminase, small subunit | DNA packaging [54] |
| CDS189 | 106200 | 107981 | 1782 | - | 593 | RBP pb5 | |
| CDS190 | 108065 | 108331 | 267 | + | 88 | Phage protein | |
| CDS191 | 108406 | 108708 | 303 | + | 100 | Phage protein | |
| CDS192 | 108659 | 109198 | 540 | + | 179 | Phage-associated homing endonuclease | |
| CDS193 | 109195 | 109299 | 105 | + | 34 | Phage protein | |
| CDS194 | 109299 | 109406 | 108 | + | 35 | Phage protein | |
| CDS195 | 109403 | 109597 | 195 | + | 64 | Phage protein | |
| CDS196 | 109590 | 109835 | 246 | + | 81 | Phage protein | |
| CDS197 | 109868 | 109996 | 129 | + | 42 | hypothetical protein | |