Table: Seedling response of AVT I and II against the pathotypes of Puccinia graminis tritici (wheat black rust) during 2020-21 at ICAR-IIWBR, RS, Shimla

| S. <br> No. | Variety/Line | PATHOTYPES |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Resistance/ $S r$ genes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Z | 【 | , | च | N | $\sqrt[~]{\text { N }}$ | $\underset{\sim}{\ddagger}$ | $\stackrel{3}{8}$ | $\stackrel{7}{9}$ | $\underset{\text { 〒 }}{\substack{*}}$ | $\underset{\sim}{\mathscr{F}}$ | $\stackrel{\text { जै }}{ }$ | $\stackrel{ }{ }$ | $\stackrel{4}{\sqrt{3}}$ | $\frac{\mathrm{T}}{\stackrel{1}{3}}$ | $\stackrel{7}{\Xi}$ | $\stackrel{\text { N }}{ }$ | $\stackrel{9}{3}$ |  | N | $\underset{\sim}{ \pm}$ | $\underset{\sim}{\underset{\sim}{\infty}}$ | $\stackrel{\leftrightarrow}{*}$ |  |
| 1 | VL2041 | S | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr30+5+11+ |
| 2 | HS562 (C) | R | R | R | R | R | R | R | S | MS | S | S | R | R | R | R | R | R | R | R | R | R | R | S | Sr8a+9b+11+ |
| 3 | HPW349 (C) | R | R | R | R | R | R | R | MR | R | MR | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr7b+2+ |
| 4 | HS507 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+5+ |
| 5 | VL907 (C) | R | R | NG | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 6 | WH1105 (C) | MR | R | R | R | R | R | R | R | R | R | MS | R | R | R | R | R | R | R | R | R | R | R | R | Sr11+2+ |
| 7 | DBW187 (C) | MR | R | R | R | R | R | R | R | R | R | S | MR | R | R | R | R | R | R | R | R | R | R | R | Sr5+11+ |
| 8 | HD3349 | S | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | MS | R | R | R | R | R | R | Sr7b+ |
| 9 | PBW876 ${ }^{\text {B }}$ | R | R | R | R | R | R | R | MR | R | R | R | S | R | R | R | R | S | MS | R | R | R | R | R | Sr13+ |
| 10 | HD3406 ${ }^{\text {M }}$ | S | S | R | R | R | R | R | R | R | MR | S | R | R | S | R | R | S | S | R | R | R | R | S | Sr13+ |
| 11 | DBW222 (C) | S | R | R | R | R | R | R | R | R | R | S | R | R | S | R | R | S | R | R | R | R | R | R | ** |
| 12 | DBW313 ${ }^{\text {\# }}$ | S | MS | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | S | R | R | R | R | R | R | Sr7b + |
| 13 | HD2967 (C) | R | R | R | R | R | R | R | R | S | R | MS | R | R | R | R | R | R | R | R | R | R | R | R | Sr8a+11+2+ |
| 14 | PBW826 | R | R | S | R | R | R | R | R | R | MS | S | R | R | R | R | R | R | R | R | R | R | R | MS | Sr30+8a+ |
| 15 | RAJ4548\# | S | S | R | R | R | R | R | R | R | MS | S | S | NG | R | MS | MR | S | R | R | R | MR | MR | MR | Sr13+ |
| 16 | HD3354 | MR | R | R | R | R | R | R | R | MR | R | MS | R | R | MR | R | R | R | R | R | R | R | R | R | Sr13+11+2+ |
| 17 | WH1283 | S | MR | R | R | MR | R | R | MR | R | MR | S | MR | R | R | R | R | S | R | MR | R | R | R | MR | Sr13+ |
| 18 | HD3086 (C) | S | S | S | R | R | R | R | MR | MS | S | S | S | R | S | R | R | S | S | R | MS | MS | R | S | Sr7b+2+ |
| 19 | JKW261 | S | S | R | R | R | R | R | R | R | MR | S | R | R | S | MR | R | MS | S | R | R | R | MR | MR | Sr11+ |
| 20 | WH1124 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | - |
| 21 | PBW771 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 22 | HD3059 (C) | MR | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | MR | R | R | R | R | R | MR | R | Sr11+2+ |
| 23 | PBW834 | MR | R | R | R | R | R | R | R | R | R | S | R | NG | R | R | R | R | R | R | R | R | R | R | Sr30+11+ |
| 24 | DBW173 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 25 | HUW838** | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 26 | NW7096 | R | R | S | R | R | R | R | R | R | S | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr8a+5+ |
| 27 | DBW321 | MR | S | S | R | R | R | R | MR | MS | S | S | R | R | R | R | R | MS | R | R | R | R | R | S | Sr13+ |
| 28 | K1910 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 29 | HI1654 | MS | R | R | R | R | R | R | R | R | S | MS | R | R | MR | MR | R | R | R | MR | R | R | R | MR | Sr13+ |
| 30 | NIAW3170 (C) | R | R | R | R | R | R | R | R | R | MR | MS | R | R | R | R | R | R | R | R | R | R | R | R | Sr8a+2+ |
| 31 | PBW838 | S | R | R | R | R | R | R | R | R | R | S | S | R | R | R | R | MR | MR | R | S | MR | R | S | Sr11+ |
| 32 | DBW296* | R | R | R | R | R | R | R | R | S | R | R | S | R | R | R | MS | MR | MS | MR | R | R | R | S | Sr13+ |
| 33 | HI1628 (C) | MR | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | R | Sr2+R |
| 34 | HD3369 | R | R | R | R | R | R | R | R | S | R | MR | MR | R | R | MS | S | S | MR | MS | R | R | MR | S | Sr13+ |
| 35 | WH1142 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 36 | UP3062 | NG | R | NG | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+ |
| 37 | HD3368 | S | S | S | R | R | R | R | R | MR | S | S | MR | R | MS | R | R | R | R | R | R | R | R | S | Sr7b+ |
| 38 | HD3043 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 39 | PBW644 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | - |
| 40 | HI1653 | MR | R | R | R | R | R | R | R | R | MR | MR | R | R | R | R | R | MR | R | MR | R | R | R | R | Sr7b+ |
| 41 | PBW848 | S | R | R | R | R | R | R | R | R | MS | S | R | R | S | R | R | R | R | R | R | R | R | R | Sr9b+11+ |
| 42 | HD2733 (C) | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |


| 43 | HD3249 (C) | R | R | R | R | R | R | R | R | R | R | MS | R | R | R | R | R | R | R | R | R | R | R | R | Sr11+2+ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 44 | DBW187 (C) | MR | R | R | R | R | R | R | R | R | R | MR | MR | R | R | R | R | R | R | R | R | R | R | R | Sr5+11+ |
| 45 | HD3406 ${ }^{\text {M }}$ | MS | S | R | R | R | R | R | R | R | MR | MS | R | R | MS | R | R | S | MS | R | R | R | R | R | Sr13+ |
| 46 | HD3411 ${ }^{\text {M }}$ | S | S | R | S | MS | R | R | MR | R | MR | S | S | S | R | S | S | S | S | R | R | MR | R | S | Sr7b+ |
| 47 | DBW39 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 48 | HD2967 (C) | R | R | R | R | R | R | R | R | R | MR | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr8a+11+2+ |
| 49 | PBW826 ${ }^{\text {\# }}$ | R | R | MR | R | R | R | R | R | R | R | S | R | R | R | R | R | R | MR | R | R | R | R | MS | Sr30+8a+ |
| 50 | HD3086 (C) | S | S | MS | R | R | R | R | S | S | S | S | MS | R | MS | R | R | S | R | R | S | MS | R | S | Sr7b+2+ |
| 51 | DBW317 | R | R | R | R | R | R | R | R | R | S | MS | R | R | R | R | R | R | R | R | R | R | R | R | Sr8a+5+ |
| 52 | DBW318 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | MR | R | R | R | R | R | R |
| 53 | PBW835 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 54 | HI1563 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+2+R |
| 55 | DBW107 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 56 | PBW834 | MS | R | R | R | R | R | R | R | R | R | MS | R | R | R | R | R | R | R | R | R | R | R | R | Sr30+11+ |
| 57 | UP3060 | R | R | R | R | R | R | R | MR | R | R | MR | MS | R | NG | R | MR | MS | MR | R | MR | R | NG | S | Sr13+7b+ |
| 58 | HD3118 (C) | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr9b+11+ |
| 59 | HI1621 (C) | R | R | R | R | R | R | R | R | R | S | MR | R | R | R | R | R | R | R | R | R | R | R | R | Sr28+ |
| 60 | DBW316 | R | R | R | R | R | NG | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 61 | PBW833 | S | R | R | R | R | R | R | R | MS | R | MS | R | R | R | R | R | S | R | R | R | MR | R | S | Sr7b+ |
| 62 | HD3360 | S | S | R | R | R | R | R | MR | S | R | S | MS | R | S | R | R | MS | S | R | MR | S | R | S | Sr7b+ |
| 63 | HI1653 | MR | R | R | R | R | R | R | R | R | MR | S | R | R | R | R | R | MR | R | MR | R | R | R | R | Sr7b+ |
| 64 | DBW322 | S | S | R | MR | R | R | R | R | S | S | S | S | R | R | R | R | S | MR | R | S | MR | R | S | Sr13+7b+ |
| 65 | HI1612 (C) | S | S | R | R | MR | R | R | R | R | S | S | S | R | R | R | R | MS | MR | MR | MR | MR | R | R | Sr7b+2+ |
| 66 | DBW252 (C) | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr8a+5+11+2+ |
| 67 | DBW321 | S | S | MS | R | R | R | R | MR | S | S | S | R | R | R | R | R | MS | R | R | R | R | R | S | Sr13+ |
| 68 | HD3368 ${ }^{\text {\# }}$ | S | S | MS | R | R | R | R | R | MR | MS | S | MR | R | S | R | R | R | MR | MR | R | MR | R | S | Sr7b+ |
| 69 | HI1654 | MS | R | R | R | R | R | R | R | R | MR | MR | R | R | MR | MR | R | R | R | MR | R | R | R | MR | Sr13+ |
| 70 | HD3293(I) (C) | S | S | R | R | R | R | R | R | R | R | S | R | R | MR | R | R | R | R | R | R | R | R | R | Sr13+2+ |
| 71 | WH1281 | R | R | R | R | R | R | R | R | MR | MR | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr8a+5+ |
| 72 | PBW848 ${ }^{\text {\# }}$ | S | R | R | R | R | NG | R | R | R | S | S | R | R | R | R | R | R | R | R | R | R | NG | R | Sr9b+11+ |
| 73 | HD3171 (C) | S | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | Srl1+7b+2+ |
| 74 | HD3369 ${ }^{\text {\# }}$ | R | S | R | R | R | R | R | R | MR | R | MR | S | R | R | MR | MS | S | S | MR | R | R | MR | S | Sr13+ |
| 75 | K1317 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R* |
| 76 | UP3062 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+ |
| 77 | HI8833(d) ${ }^{\text {M }}$ | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R |
| 78 | GW322 (C) | S | R | R | R | R | R | R | MR | MR | R | MR | R | R | S | S | R | R | MR | R | R | R | R | MR | Sr11+2+ |
| 79 | MP3535 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+ |
| 80 | GW523 | S | R | R | R | R | R | R | R | R | R | MR | R | R | S | R | R | MR | R | R | R | R | MR | MR | Sr13+ |
| 81 | GW513* | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+ |
| 82 | HI1636* | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+2+ |
| 83 | HI8832(d) ${ }^{\text {M }}$ | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | R | Sr30+8a+ |
| 84 | MACS6768 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+ |
| 85 | HI1544 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+2+ |
| 86 | HI1667 ${ }^{\text {B }}$ | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+2+ |
| 87 | HI8498(d) (C) | MR | MR | R | R | R | S | R | R | R | R | R | S | S | R | S | S | S | S | S | MR | R | R | MR | Sr11+2+ |
| 88 | HI8713(d) (C) | R | R | R | R | R | NG | R | R | R | R | R | R | R | R | S | S | MR | S | MR | R | MR | R | R | Sr9e+2+ |
| 89 | HI1650 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 90 | MP4010 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+2+ |
| 91 | HD2864 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+ |
| 92 | MP3336 (C) | MS | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | S | Sr11+2+ |


| 93 | HD2932 (C) | R | R | R | R | R | R | R | MR | R | R | S | R | R | R | R | R | R | R | R | R | R | MR | R | Sr11+ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 94 | HI1634(I) (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+ |
| 95 | HD3407 ${ }^{\text {M }}$ | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 96 | CG1029(I) (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | Sr24+2+ |
| 97 | HI8823(d)* | R | R | R | R | R | S | R | R | R | R | MR | R | R | R | MR | R | S | R | S | R | S | R | R | Sr11+2+ |
| 98 | GW528 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 99 | DDW47(d) (C) | R | R | R | R | R | MS | R | R | R | MS | R | R | R | R | MR | S | R | NG | S | R | MS | R | R | Sr11+7b+2+ |
| 100 | DBW326 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 101 | UAS475(d) | R | R | R | R | R | MS | R | R | R | R | S | R | R | R | R | S | S | R | MS | R | R | R | R | Sr7b+ |
| 102 | HI8627(d) (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | S | S | S | MR | R | R | MS | S | R | Sr9e $+2+$ |
| 103 | NIAW3851 | R | S | R | R | R | MR | R | R | R | R | S | R | R | R | R | R | MS | R | R | R | R | R | R | Sr13+2+ |
| 104 | HI8830(d) | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | S | MS | R | MS | R | R | MS | R | Sr7b+2+ |
| 105 | CG1036 | R | R | R | R | R | S | R | R | MR | R | R | R | R | R | MS | S | MS | MR | MR | R | MR | S | R | Sr7b+ |
| 106 | HI1655 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 107 | DBW110 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 108 | MP3288 (C) | R | R | R | R | R | R | R | R | R | R | MS | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+2+ |
| 109 | DDW55(d) | R | R | R | R | R | S | R | S | R | S | MS | R | R | R | S | S | S | MS | S | R | S | R | R | Sr7b $+2+$ |
| 110 | WHD965(d) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MS | S | MR | R | S | R | MS | MR | R | Sr7b $+2+$ |
| 111 | UAS428(d) (C) | R | R | R | R | R | R | R | S | R | R | R | R | R | R | S | S | S | MR | S | R | S | S | R | Sr7b $+2+$ |
| 112 | HI8826(d) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | S | S | MR | R | S | R | MS | S | R | Sr7b $+2+$ |
| 113 | MACS4100(d) | R | R | S | R | R | S | R | S | S | S | S | R | R | MS | S | S | S | S | S | R | S | S | R | - |
| 114 | $\begin{aligned} & \text { MACS3949(d) } \\ & \text { (C) } \end{aligned}$ | R | R | R | R | R | S | R | MR | MR | R | R | R | R | R | S | S | S | S | S | R | S | MS | R | Sr7b+2+ |
| 115 | DDW53(d) | R | R | S | R | R | MS | R | R | R | R | R | S | S | R | S | S | S | S | S | R | MR | S | MS | Sr7b+2+ |
| 116 | NIDW1345(d) | R | R | R | R | R | MR | R | MR | R | R | R | R | R | R | S | S | S | MS | S | R | S | S | R | Sr7b $+2+$ |
| 117 | MACS6222 (C) | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+2+ |
| 118 | MACS4106(d) | R | R | R | R | R | R | R | R | R | R | R | S | R | R | S | S | S | S | S | R | R | R | MR | Sr7b $+2+$ |
| 119 | NIDW1348(d) | R | R | R | R | R | S | R | S | R | S | S | R | R | R | S | S | S | S | S | R | S | S | R | Sr7b+2+ |
| 120 | HI8828(d) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | S | R | MS | R | S | R | MS | R | R | - |
| 121 | GW322 (C) | MR | R | R | R | R | R | R | MR | R | R | MR | R | R | S | S | R | R | MR | R | R | R | R | MR | Sr11+2+ |
| 122 | HI8827(d) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | S | MR | S | R | MS | R | R | R | MR | - |
| 123 | DDW48(d)(I) (C) | R | R | R | R | R | S | R | R | R | R | R | MR | S | R | S | R | MS | S | MS | MR | R | R | S | Sr7b $+2+$ |
| 124 | HD3090 (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+2+ |
| 125 | HI1633(I) (C) | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr31+ |
| 126 | HD2932 (C) | R | R | R | R | R | R | R | MR | R | R | S | R | R | R | R | R | R | R | R | R | R | MR | R | Sr11+ |
| 127 | RAJ4083 (C) | R | R | R | R | R | R | R | R | MR | R | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr11+ |
| 128 | DBW320 | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr30+8a+ |
| 129 | MACS6774 | MR | R | R | R | R | R | R | R | R | R | S | R | R | R | R | MR | MS | MR | R | R | R | R | S | Sr13+ |
| 130 | NWS2180 ${ }^{\text {\# }}$ | MR | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | Sr13+2+ |
| 131 | HI1651 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+ |
| 132 | MP1358* | MS | R | R | R | R | R | R | R | R | R | S | MR | R | R | R | R | R | R | R | R | R | R | S | Sr11+ |
| 133 | MACS6755 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 134 | HI1605 (C) | MR | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | MR | R | R | R | S | R | Sr11+ |
| 135 | MACS6753 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+2+ |
| 136 | $\begin{aligned} & \text { AKDW2997- } \\ & \text { 16(d) (C) } \end{aligned}$ | MS | S | R | R | S | S | R | MR | MS | S | S | MS | MR | S | S | MS | MR | S | MS | R | S | R | MS | Sr7b+2+ |
| 137 | $\begin{aligned} & \text { NIDW1149(d)(I) } \\ & \text { (C) } \end{aligned}$ | R | MR | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | MR | MR | Sr11+2+ |
| 138 | NIAW3170 (C) | R | R | R | R | R | R | R | R | R | MR | MR | R | R | R | R | R | R | R | R | R | R | R | R | Sr8a+2+ |
| 139 | UAS446(d) (C) | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | S | S | S | S | R | S | R | R | $-$ |


| 140 | DBW325 | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | MR | Sr13+11+ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 141 | UAS3014 | R | NG | R | R | R | NG | R | R | R | R | MS | R | R | R | R | R | R | R | MR | R | R | R | R | Sr11+ |
| 142 | MACS5058 | MR | MS | R | R | R | S | R | R | R | R | MR | S | S | MS | S | MR | MS | R | MR | MR | S | R | MR | Sr7b+ |
| 143 | $\begin{aligned} & \text { MACS6222(a) } \\ & \text { (C) } \end{aligned}$ | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+ |
| 144 | DDK1029 (C) | R | R | R | R | R | R | R | R | R | R | R | S | S | R | MR | R | MR | R | S | R | MR | R | MS | Sr11+2+ |
| 145 | DDK1061 | R | R | R | R | R | MS | R | R | R | R | MR | S | S | R | S | R | R | R | S | R | S | MR | R | Sr11+ |
| 146 | HW1098 (C) | R | R | R | R | R | S | R | R | R | R | R | S | MS | R | MR | R | MR | R | R | R | R | R | S | Sr11+2+ |
| 147 | MACS5057 | R | R | R | R | R | S | R | R | R | R | R | S | MR | R | MR | R | R | R | MR | R | MS | R | R | Sr11+ |
| 148 | DDK1060 | R | R | R | R | R | S | R | R | R | R | R | MS | R | R | S | R | R | R | MR | R | S | R | R | Sr11+ |
| 149 | DBW328* | MR | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | R | Sr5+11+ |
| 150 | DBW372 | MR | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr28+ |
| 151 | DBW370 | S | S | R | R | R | R | R | R | R | R | MR | R | R | S | R | R | R | R | R | R | R | R | MR | Sr7b+ |
| 152 | DBW327* | MR | R | R | R | R | R | R | R | R | MR | MS | R | R | MR | R | R | R | R | R | MR | R | R | R | Sr5+13+ |
| 153 | WH1252* | R | R | R | R | R | R | R | R | R | R | S | MS | R | S | R | R | MR | R | R | MR | R | R | MR | Sr9e $+7 b+$ |
| 154 | PBW874 | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr30+8a+2+ |
| 155 | HD3410 | R | R | S | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | R | Sr30+8a+2+ |
| 156 | DBW332* | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | R | Sr30+8a+ |
| 157 | PBW873 | R | R | NG | R | R | NG | R | R | R | NG | MS | R | R | R | R | R | R | R | R | R | R | R | R | Sr30+ |
| 158 | DBW371 | R | R | R | R | R | R | R | R | R | S | MR | R | R | R | R | R | R | R | R | R | R | R | R | Sr8a+5+ |
| 159 | HD3086 (C) | S | S | S | R | R | R | R | MR | MR | S | S | MR | R | MS | R | R | MS | S | R | S | MR | R | MS | Sr7b+2+ |
| 160 | DBW333* | MR | R | R | R | R | R | R | R | R | R | S | MS | R | R | R | R | R | R | R | R | R | R | R | Sr28+11+2+ |
| 161 | PBW872 | R | R | R | R | R | R | R | R | R | R | NG | R | R | R | R | R | R | R | R | NG | R | MR | NG | R |
| 162 | DBW187(I) (C) | MR | R | R | R | R | R | R | R | R | R | S | MR | R | MR | R | R | R | R | R | R | R | R | R | Sr5+11+ |
| 163 | WH1270(I) (C) | R | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | MR | R | R | R | R | R | R | Sr13+ |
| 164 | DBW303(I) (C) | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | R | Sr30+8a+ |
| 165 | HD3412 | R | R | R | R | R | R | R | MR | MR | R | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr8a+5+ |
| 166 | DBW375 | S | S | R | R | R | R | R | R | R | S | S | MS | R | R | MR | MR | R | R | R | R | R | R | R | Sr7b+ |
| 167 | DBW374 | R | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 168 | HD3403 | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | MS | R | Sr8a+11+ |
| 169 | WH1406 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 170 | HD3413 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 171 | PBW867 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | MR | R | R |
| 172 | UP3096 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 173 | WH1404 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 174 | PBW868 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 175 | DBW318 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 176 | DBW378 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 177 | WH1405 | S | S | R | R | R | R | R | MS | R | MR | S | MR | R | R | R | MS | R | R | R | R | R | MR | R | Sr11+ |
| 178 | HD3405 | S | R | S | R | R | R | R | R | R | R | MS | R | R | R | R | R | R | R | R | R | R | R | R | Sr8a+5+ |
| 179 | DBW377 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 180 | PBW869 | R | R | R | R | R | R | R | S | MS | S | MS | R | R | R | R | R | R | R | R | R | R | R | R | Sr8a+5+ |
| 181 | PBW871 | MR | R | R | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | MR | R | R | R | R | R | Sr9b+11+ |
| 182 | HD3086 (C) | S | S | S | R | R | R | R | MR | MR | S | S | MR | R | MS | R | R | R | MS | R | MS | S | R | S | Sr7b+2+ |
| 183 | DBW376 | S | S | S | MR | R | R | R | S | S | S | S | S | R | R | MR | R | MS | S | R | R | S | MS | S | Sr7b+ |
| 184 | DBW373 | MS | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | MR | R | Sr11+ |
| 185 | HD3404 | MR | S | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr30+ |
| 186 | DBW187(I) (C) | MR | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr5+11+ |
| 187 | WH1407 | R | R | S | R | R | R | R | S | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr8a+5+ |
| 188 | PBW870 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |


| 189 | UP3095 | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr24+2+ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 190 | DBW368 | S | R | R | R | R | R | R | R | S | S | R | MR | R | R | R | R | R | S | R | R | R | S | R | Sr11+ |
| 191 | DBW363 | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr30+8a+ |
| 192 | DBW369 | R | R | R | R | R | R | R | MR | R | R | S | R | R | R | R | R | R | R | R | R | MR | R | R | Sr8a+11+ |
| 193 | DBW367 | R | R | R | R | R | R | R | R | R | R | MS | R | R | MR | R | R | R | R | R | R | R | R | R | Sr11+2+ |
| 194 | DBW364 | MR | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| 195 | Kharchia 65 (C) | MS | S | R | S | S | R | S | S | S | R | S | R | R | MS | S | S | MS | S | R | S | MR | S | S | - |
| 196 | DBW366 | R | R | R | R | R | R | R | R | R | R | S | R | R | R | R | R | R | R | R | R | R | R | R | Sr30+8a+ |
| 197 | KRL210 (C) | S | S | R | R | R | R | R | MR | S | MS | S | MS | R | MS | R | R | S | MR | R | MR | R | R | S | Sr7b+2+ |
| 198 | DBW365 | R | R | S | R | R | R | R | MR | R | S | S | R | R | R | R | R | R | R | R | R | R | MR | R | Sr8a+ |
| 199 | K1805 | R | R | R | R | R | R | R | R | MR | R | MR | R | R | R | R | R | R | R | R | R | R | R | R | Sr8a+11+ |
| 200 | KRL19 (C) | R | R | R | R | R | R | R | MR | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | Sr8b+9b+11+2+ |

