

FR to Ab class 1

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|--------------|---------|--------|---------|---------|----------|------|-----------|---------|--------|
| Wuhan-Hu-1 - | 1.00 | 9.87 | 61.85 | 61.85 | 9.29 | 9.02 | 30.85 | 221.15 | 170.76 |
| Alpha - | 1.00 | 1.00 | 47.32 | 47.32 | 9.29 | 9.02 | 19.10 | 192.31 | 146.44 |
| Beta - | 1.00 | 1.00 | 1.00 | 1.00 | 9.29 | 9.02 | 5.54 | 98.42 | 67.28 |
| Gamma - | 1.00 | 1.00 | 1.00 | 1.00 | 9.29 | 9.02 | 5.54 | 98.42 | 67.28 |
| Delta - | 1.00 | 9.87 | 61.85 | 61.85 | 1.00 | 6.54 | 30.85 | 200.69 | 170.76 |
| Lambda - | 1.00 | 9.87 | 61.85 | 61.85 | 6.80 | 1.00 | 30.85 | 221.15 | 170.76 |
| Mu - | 1.00 | 1.00 | 30.54 | 30.54 | 9.29 | 9.02 | 1.00 | 159.02 | 106.93 |
| Omicron - | 1.00 | 1.00 | 1.00 | 1.00 | 2.33 | 9.02 | 5.54 | 1.00 | 62.87 |
| PMS20 - | 1.00 | 1.00 | 1.00 | 1.00 | 9.29 | 9.02 | 1.00 | 93.18 | 1.00 |
| Wuhan-Hu-1 - | Alpha - | Beta - | Gamma - | Delta - | Lambda - | Mu - | Omicron - | PMS20 - | |

FR to Ab class 2

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|------------|-------|------|-------|-------|--------|-------|---------|--------|--------|
| Wuhan-Hu-1 | 1.00 | 1.26 | 62.14 | 62.14 | 25.55 | 69.12 | 71.64 | 143.80 | 123.70 |
| Alpha | 1.00 | 1.00 | 60.12 | 60.12 | 25.55 | 69.12 | 69.50 | 140.76 | 120.90 |
| Beta | 1.00 | 1.00 | 1.00 | 1.00 | 25.55 | 69.12 | 8.41 | 50.36 | 37.97 |
| Gamma | 1.00 | 1.00 | 1.00 | 1.00 | 25.55 | 69.12 | 8.41 | 50.36 | 37.97 |
| Delta | 1.00 | 1.26 | 62.14 | 62.14 | 1.00 | 36.57 | 71.64 | 140.48 | 123.70 |
| Lambda | 1.00 | 1.26 | 62.14 | 62.14 | 1.38 | 1.00 | 71.64 | 143.80 | 123.70 |
| Mu | 1.00 | 1.00 | 2.41 | 2.41 | 25.55 | 69.12 | 1.00 | 53.98 | 30.33 |
| Omicron | 1.00 | 1.00 | 1.00 | 1.00 | 23.84 | 69.12 | 8.41 | 1.00 | 35.97 |
| PMS20 | 1.00 | 1.00 | 1.00 | 1.00 | 25.55 | 69.12 | 1.00 | 48.18 | 1.00 |
| Wuhan-Hu-1 | Alpha | Beta | Gamma | Delta | Lambda | Mu | Omicron | PMS20 | |

FR to Ab class 3

| | | | | | | | | | |
|--------------|---------|--------|---------|---------|----------|-------|-----------|---------|--------|
| Wuhan-Hu-1 - | 1.00 | 7.38 | 23.31 | 23.31 | 22.56 | 34.09 | 56.42 | 266.29 | 171.63 |
| Alpha - | 1.00 | 1.00 | 14.83 | 14.83 | 22.56 | 34.09 | 45.66 | 241.10 | 152.95 |
| Beta - | 1.00 | 1.00 | 1.00 | 1.00 | 22.56 | 34.09 | 29.20 | 197.04 | 120.27 |
| Gamma - | 1.00 | 1.00 | 1.00 | 1.00 | 22.56 | 34.09 | 29.20 | 197.04 | 120.27 |
| Delta - | 1.00 | 7.38 | 23.31 | 23.31 | 1.00 | 12.32 | 56.42 | 256.78 | 171.63 |
| Lambda - | 1.00 | 7.38 | 23.31 | 23.31 | 2.67 | 1.00 | 56.42 | 266.29 | 171.63 |
| Mu - | 1.00 | 1.00 | 1.86 | 1.86 | 22.56 | 34.09 | 1.00 | 202.56 | 73.65 |
| Omicron - | 1.00 | 1.00 | 1.00 | 1.00 | 19.38 | 34.09 | 29.20 | 1.00 | 88.44 |
| PMS20 - | 1.00 | 1.00 | 1.00 | 1.00 | 22.56 | 34.09 | 1.00 | 154.11 | 1.00 |
| Wuhan-Hu-1 - | Alpha - | Beta - | Gamma - | Delta - | Lambda - | Mu - | Omicron - | PMS20 - | |

FR to Ab class 4

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|------------|-------|-------|-------|-------|--------|------|---------|--------|-------|
| Wuhan-Hu-1 | 1.00 | 13.31 | 34.45 | 34.45 | 5.83 | 6.24 | 27.07 | 202.09 | 74.63 |
| Alpha | 1.00 | 1.00 | 18.66 | 18.66 | 5.83 | 6.24 | 12.14 | 166.61 | 54.12 |
| Beta | 1.00 | 1.00 | 1.00 | 1.00 | 5.83 | 6.24 | 4.14 | 124.69 | 29.88 |
| Gamma | 1.00 | 1.00 | 1.00 | 1.00 | 5.83 | 6.24 | 4.14 | 124.69 | 29.88 |
| Delta | 1.00 | 13.31 | 34.45 | 34.45 | 1.00 | 3.02 | 27.07 | 194.37 | 74.63 |
| Lambda | 1.00 | 13.31 | 34.45 | 34.45 | 2.62 | 1.00 | 27.07 | 202.09 | 74.63 |
| Mu | 1.00 | 1.00 | 10.18 | 10.18 | 5.83 | 6.24 | 1.00 | 147.57 | 37.43 |
| Omicron | 1.00 | 1.00 | 1.00 | 1.00 | 3.13 | 6.24 | 4.14 | 1.00 | 18.48 |
| PMS20 | 1.00 | 1.00 | 1.00 | 1.00 | 5.83 | 6.24 | 1.00 | 104.95 | 1.00 |
| Wuhan-Hu-1 | Alpha | Beta | Gamma | Delta | Lambda | Mu | Omicron | PMS20 | |