

# $^{46}\text{Ti}^{35}\text{Cl}$ Assigned Transitions

Transitions are labeled using four columns, the excited state J value ( $J'$ ), the ground state J value ( $J''$ ), the observed transition wavenumber (Observed) and the fit residual multiplied by  $10^3$  (O-C).

| ${}^4\Gamma_{5/2} - X^4\Phi_{3/2} (0,0)$ |      |            |       |      |      |            |      |
|--|------|------------|-------|------|------|------------|------|
| J'                                       | J''  | Observed   | O-C   | J'   | J''  | Observed   | O-C  |
| 3.5                                      | 2.5  | 23845.3705 | 7.8   | 29.5 | 28.5 | 23854.2739 | -2.0 |
| 5.5                                      | 4.5  | 23846.0264 | -2.4  | 30.5 | 29.5 | 23854.6277 | -2.3 |
| 6.5                                      | 5.5  | 23846.3625 | -0.5  | 31.5 | 30.5 | 23854.9855 | 0.5  |
| 7.5                                      | 6.5  | 23846.6977 | -0.3  | 8.5  | 9.5  | 23841.1142 | -0.3 |
| 8.5                                      | 7.5  | 23847.0340 | 0.1   | 9.5  | 10.5 | 23840.7962 | 2.6  |
| 9.5                                      | 8.5  | 23847.3717 | 1.2   | 10.5 | 11.5 | 23840.4746 | 1.0  |
| 10.5                                     | 9.5  | 23847.7065 | -1.5  | 11.5 | 12.5 | 23840.1553 | 0.8  |
| 12.5                                     | 11.5 | 23848.3881 | 2.7   | 12.5 | 13.5 | 23839.8363 | 0.0  |
| 13.5                                     | 12.5 | 23848.7268 | 1.5   | 13.5 | 14.5 | 23839.5176 | -1.3 |
| 15.5                                     | 14.5 | 23849.4037 | -3.9  | 14.5 | 15.5 | 23839.2006 | -1.9 |
| 16.5                                     | 15.5 | 23849.7370 | -12.9 | 15.5 | 16.5 | 23838.8864 | -0.6 |
| 17.5                                     | 16.5 | 23850.0903 | -2.8  | 16.5 | 17.5 | 23838.5707 | -1.6 |
| 18.5                                     | 17.5 | 23850.4374 | 0.3   | 17.5 | 18.5 | 23838.2575 | -1.1 |
| 19.5                                     | 18.5 | 23850.7829 | 1.0   | 18.5 | 19.5 | 23837.9473 | 1.5  |
| 20.5                                     | 19.5 | 23851.1252 | -2.3  | 19.5 | 20.5 | 23837.6271 | -6.9 |
| 21.5                                     | 20.5 | 23851.4730 | -1.0  | 20.5 | 21.5 | 23837.3328 | 9.7  |
| 22.5                                     | 21.5 | 23851.8189 | -2.4  | 21.5 | 22.5 | 23837.0090 | -4.2 |
| 23.5                                     | 22.5 | 23852.1872 | 17.8  | 22.5 | 23.5 | 23836.6968 | -7.4 |
| 24.5                                     | 23.5 | 23852.5225 | 4.1   | 23.5 | 24.5 | 23836.4045 | 8.3  |
| 25.5                                     | 24.5 | 23852.8712 | 3.0   | 24.5 | 25.5 | 23836.0908 | 1.7  |
| 26.5                                     | 25.5 | 23853.2167 | -2.1  | 25.5 | 26.5 | 23835.7832 | 0.1  |
| 27.5                                     | 26.5 | 23853.5703 | 0.0   | 26.5 | 27.5 | 23835.4784 | 0.3  |
| 28.5                                     | 27.5 | 23853.9197 | -3.0  | 27.5 | 28.5 | 23835.1726 | -1.5 |

| ${}^4\Gamma_{7/2} - X^4\Phi_{5/2} (0,0)$ |      |            |      |      |      |            |      |
|--|------|------------|------|------|------|------------|------|
| J'                                       | J''  | Observed   | O-C  | J'   | J''  | Observed   | O-C  |
| 3.5                                      | 2.5  | 23899.9391 | -2.3 | 20.5 | 19.5 | 23905.6666 | 1.0  |
| 5.5                                      | 4.5  | 23900.6059 | -0.1 | 21.5 | 20.5 | 23906.0113 | 2.6  |
| 6.5                                      | 5.5  | 23900.9377 | -1.4 | 22.5 | 21.5 | 23906.3558 | 3.0  |
| 7.5                                      | 6.5  | 23901.2744 | 1.7  | 23.5 | 22.5 | 23906.6976 | -0.2 |
| 8.5                                      | 7.5  | 23901.6084 | 1.5  | 25.5 | 24.5 | 23907.3879 | -2.9 |
| 9.5                                      | 8.5  | 23901.9439 | 2.3  | 9.5  | 10.5 | 23895.3492 | 1.3  |
| 10.5                                     | 9.5  | 23902.2801 | 3.2  | 11.5 | 12.5 | 23894.7049 | 3.6  |
| 11.5                                     | 10.5 | 23902.6135 | 0.7  | 12.5 | 13.5 | 23894.3814 | 2.3  |
| 12.5                                     | 11.5 | 23902.9404 | -8.8 | 13.5 | 14.5 | 23894.0581 | 0.5  |
| 13.5                                     | 12.5 | 23903.2840 | -2.3 | 14.5 | 15.5 | 23893.7347 | -2.3 |
| 14.5                                     | 13.5 | 23903.6224 | -1.6 | 15.5 | 16.5 | 23893.4171 | -0.2 |
| 15.5                                     | 14.5 | 23903.9635 | 1.1  | 16.5 | 17.5 | 23893.0956 | -2.8 |
| 16.5                                     | 15.5 | 23904.3025 | 0.9  | 17.5 | 18.5 | 23892.7808 | 0.4  |
| 17.5                                     | 16.5 | 23904.6431 | 1.7  | 18.5 | 19.5 | 23892.4564 | -7.0 |
| 18.5                                     | 17.5 | 23904.9866 | 4.6  | 19.5 | 20.5 | 23892.1448 | -2.7 |
| 19.5                                     | 18.5 | 23905.3174 | -6.0 | 20.5 | 21.5 | 23891.8407 | 8.2  |