High-resolution Fourier-transform XUV photoabsorption spectroscopy of $^{14}\text{N}^{15}\text{N}$

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This document contains tabulations of experimentally deduced quantities arising from the first comprehensive high-resolution photoabsorption spectrum of $^{14}\text{N}^{15}\text{N}$. This was recorded using the Fourier-transform spectrometer of the Desirs beamline of the Soleil synchrotron. Observations are made in the extreme ultraviolet and span $100\,000$–$109\,000\,\text{cm}^{-1}$ (100–91.7 nm). The observed absorption lines have been assigned to 25 bands of $^1\Pi_u \leftarrow X^1\Sigma_g^+$ or $^1\Sigma_u^+ \leftarrow X^1\Sigma_g^+$ symmetry type, and reduced to a set of transition energies, f values, and natural linewidths. Details of the experimental and analysis methods, the estimation of statistical and systematic uncertainties, and a discussion of the observed line parameters are given in the principal published work.[4] These new measurements are also used to verify the predictions of a quantum mechanical model of f-parity $^1\Pi_u$ excited-states of N_2 which solves a coupled-channels Schrödinger equation. Here, four or five tables are given for each observed vibrational band and all experimental quantities are accompanied by a combined statistical and systematic uncertainty, σ.

Transition energies are given for P-, Q-, and R-branch rotational transitions and are indexed by the ground-state angular-momentum quantum number, J''. Excited state e- and f-parity term-values; T_e and T_f, respectively; have been deduced from these transition energies using ground-state term values calculated from the molecular constants of Bendtsen (2001),[5] and are indexed by the angular-momentum quantum number, J. For transitions to $^1\Sigma_u^+$ excited states there are no Q-branch lines or f-parity excited levels.

The integrated cross sections of observed absorption lines are not listed. Instead *line* f-values are given which are dimensionless and have been normalised with respect to the thermal population distribution of ground-state rotational levels. These are given for observed P-, Q-, and R-branch rotational-transitions; labelled f_P, f_Q, and f_R respectively; which were sufficiently strong and unblended to be reliably deduced, and are indexed with respect to the ground-state angular-momentum quantum number, J''. Additionally, *band* f-values are given from which Hönl-London rotational line-strength factors have been removed. These are useful for the deduction of excited-state perturbations and so are indexed by the excited-state angular-moment quantum number, J'.

For those bands exhibiting observable natural-linewidths this data is included in a further table. This is indexed with respect to the excited-state angular-momentum quantum number because the observed linewidths arise from predissociative decay of the excited-state levels; and are given for e- and f-parity excited-state levels, Γ_e and Γ_f, respectively.

Some vibrational bands were too blended or weak for the deduction of f-values or natural linewidths for individual rotational transitions. For some of these bands, analytic functions of f-values and linewidths in terms of $J'(J'+1)$ with fitted coefficients were adopted, i.e., for the P-, Q-, and R-branch f-values of $b\,^1\Pi_u(v'=3) \leftarrow X(v''=0)$, and the natural linewidths of $b\,^1\Pi_u(v'=0,1,2) \leftarrow X(v''=0)$ and $b'\,^1\Sigma_u^+(v'=6,7) \leftarrow X(v''=0)$. Fitted coefficients are given in the principal publication.[4]

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[4]A.N. Heays, G.D. Dickenson, E.J. Salumbides, N. de Oliveira, D. Joyeux, L. Nahon, B.R. Lewis, and W. Ubachs. J. Chem. Phys. **??**, ??????? (201?).
[5]J. Bendtsen. J. Raman. Spectrosc. **32**, 989 (2001).

Transition energies (cm^{-1})
$b\,^1\Pi_u(v'=0) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	100833.257	0.028
1	–	–	100829.310	0.035	100834.978	0.029
2	100821.716	0.028	100827.246	0.021	100835.740	0.025
3	100815.743	0.029	100824.124	0.017	100835.331	0.027
4	100808.812	0.025	100819.952	0.016	100833.926	0.019
5	100800.711	0.027	100814.677	0.014	100831.454	0.017
6	100791.614	0.019	100808.390	0.015	100827.928	0.018
7	100781.453	0.017	100801.034	0.018	100823.367	0.018
8	100770.238	0.018	100792.598	0.013	100817.751	0.019
9	100757.991	0.018	100783.114	0.018	100810.998	0.024
10	100744.692	0.019	100772.564	0.020	100803.215	0.031
11	100730.257	0.024	100760.938	0.021	100794.351	0.045
12	100714.795	0.031	100748.170	0.027	100784.334	0.058
13	–	–	100734.371	0.045	100773.328	0.061
14	–	–	100719.636	0.048	–	–

Term values (cm^{-1})
$b\,^1\Pi_u(v=0)$

J	T_e	σ	T_f	σ
1	100833.257	0.028	100833.157	0.035
2	100838.825	0.029	100838.787	0.021
3	100847.282	0.025	100847.206	0.017
4	100858.414	0.027	100858.422	0.016
5	100872.396	0.019	100872.380	0.014
6	100889.157	0.017	100889.171	0.015
7	100908.709	0.018	100908.738	0.018
8	100931.071	0.018	100931.069	0.013
9	100956.222	0.019	100956.194	0.018
10	100984.078	0.024	100984.094	0.020
11	101014.745	0.031	101014.759	0.021
12	101048.172	0.064	101048.120	0.027
13	101084.284	0.082	101084.287	0.045
14	101123.244	0.086	101123.353	0.048

Line f-values
$b\,^1\Pi_u(v'=0) \leftarrow X(v''=0)$

J''	f_P	σ	f_Q	σ	f_R	σ
1	–	–	0.00102	0.00019	–	–
2	–	–	0.00108	0.00023	–	–
3	0.00043	0.00008	0.00111	0.00020	–	–
4	–	–	0.00102	0.00020	0.00066	0.00012
5	–	–	0.00106	0.00020	0.00075	0.00014
6	0.00044	0.00009	0.00106	0.00022	0.00074	0.00014
7	0.00040	0.00008	0.00108	0.00025	0.00076	0.00015
8	0.00044	0.00008	0.00128	0.00024	0.00084	0.00015
9	0.00046	0.00009	0.00106	0.00019	0.00069	0.00014
10	0.00042	0.00008	0.00110	0.00019	0.00059	0.00010
11	–	–	–	–	0.00059	0.00010
13	–	–	0.00090	0.00015	–	–

Band f-values
$b\,^1\Pi_u(v'=0) \leftarrow X(v''=0)$

J'	f_P	σ	f_Q	σ	f_R	σ
1	–	–	0.00204	0.00037	–	–
2	0.00304	0.00053	0.00216	0.00045	–	–
3	–	–	0.00223	0.00040	–	–
4	–	–	0.00204	0.00039	–	–
5	0.00227	0.00046	0.00213	0.00041	0.00199	0.00037
6	0.00200	0.00038	0.00212	0.00043	0.00236	0.00044
7	0.00211	0.00040	0.00216	0.00051	0.00239	0.00044
8	0.00220	0.00043	0.00256	0.00049	0.00254	0.00050
9	0.00198	0.00036	0.00212	0.00038	0.00287	0.00051
10	–	–	0.00220	0.00038	0.00239	0.00049
11	–	–	–	–	0.00205	0.00037
12	–	–	–	–	0.00207	0.00037
13	–	–	0.00180	0.00030	–	–

Transition energies (cm^{-1})
$b\,^1\Pi_u(v'=1) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	101456.424	0.009
1	–	–	101452.546	0.008	101457.984	0.009
2	101444.882	0.009	101450.301	0.006	101458.469	0.006
3	101438.749	0.009	101446.922	0.005	101457.807	0.007
4	101431.541	0.006	101442.428	0.005	101456.039	0.005
5	101423.187	0.007	101436.810	0.005	101453.144	0.006
6	101413.727	0.005	101430.050	0.011	101449.106	0.005
7	101403.142	0.006	101422.186	0.004	101443.939	0.005
8	101391.417	0.005	101413.171	0.004	101437.644	0.005
9	101378.564	0.005	101403.032	0.010	101430.199	0.008
10	101364.584	0.005	101391.768	0.005	101421.639	0.005
11	101349.459	0.008	101379.358	0.005	101411.932	0.006
12	101333.220	0.005	101365.795	0.005	101401.072	0.007
13	101315.837	0.006	101351.109	0.006	101389.080	0.008
14	101297.304	0.007	101335.270	0.007	101375.925	0.009
15	101277.643	0.008	101318.299	0.007	101361.623	0.009
16	101256.823	0.009	101300.173	0.010	101346.175	0.011
17	101234.859	0.009	101280.875	0.011	101329.544	0.015
18	101211.754	0.011	101260.416	0.017	101311.737	0.025
19	101187.470	0.015	101238.839	0.021	101292.804	0.028
20	101162.016	0.025	101216.065	0.030	–	–
21	–	–	101192.098	0.044	–	–
22	–	–	101166.900	0.056	–	–

Line f-values
$b\,^1\Pi_u(v'=1) \leftarrow X(v''=0)$

J''	f_P	σ	f_Q	σ	f_R	σ
0	–	–	–	–	0.01106	0.00182
1	0.00092	0.00015	0.00401	0.00063	0.00440	0.00072
2	0.00117	0.00020	0.00408	0.00072	0.00351	0.00062
3	0.00131	0.00023	0.00422	0.00077	0.00311	0.00057
4	0.00162	0.00029	0.00430	0.00080	0.00304	0.00056
5	0.00168	0.00030	0.00390	0.00073	0.00256	0.00047
6	–	–	–	–	0.00245	0.00043
7	0.00156	0.00026	0.00408	0.00078	0.00243	0.00044
8	0.00168	0.00030	0.00398	0.00075	0.00234	0.00041
9	0.00174	0.00030	–	–	–	–
10	0.00177	0.00032	0.00395	0.00077	0.00227	0.00040
11	0.00182	0.00032	0.00387	0.00072	0.00208	0.00037
12	0.00184	0.00033	0.00362	0.00066	0.00212	0.00037
13	0.00167	0.00030	0.00382	0.00070	0.00203	0.00037
14	0.00163	0.00030	0.00359	0.00065	0.00208	0.00037
15	0.00180	0.00032	0.00380	0.00067	0.00211	0.00040
16	0.00212	0.00042	0.00314	0.00052	0.00230	0.00041
17	0.00218	0.00040	0.00374	0.00065	0.00230	0.00038
18	0.00222	0.00038	0.00312	0.00058	0.00161	0.00027
19	0.00257	0.00043	0.00342	0.00046	0.00254	0.00044
20	–	–	0.00345	0.00047	–	–
21	–	–	0.00340	0.00047	–	–

Term values (cm^{-1})
$b\,^1\Pi_u(v=1)$

J	T_e	σ	T_f	σ
1	101456.424	0.009	101456.393	0.008
2	101461.831	0.009	101461.842	0.006
3	101470.011	0.006	101470.004	0.005
4	101480.890	0.007	101480.898	0.005
5	101494.509	0.005	101494.513	0.005
6	101510.847	0.006	101510.831	0.011
7	101529.888	0.005	101529.890	0.004
8	101551.644	0.005	101551.642	0.004
9	101576.114	0.005	101576.112	0.010
10	101603.279	0.008	101603.298	0.005
11	101633.169	0.005	101633.179	0.005
12	101665.753	0.006	101665.745	0.005
13	101701.022	0.007	101701.025	0.006
14	101738.996	0.008	101738.988	0.007
15	101779.643	0.009	101779.652	0.007
16	101822.976	0.009	101822.993	0.010
17	101868.995	0.011	101868.991	0.011
18	101917.660	0.015	101917.657	0.017
19	101968.978	0.025	101969.029	0.021
20	102022.994	0.040	102023.027	0.030
21	–	–	102079.652	0.044
22	–	–	102138.864	0.056

Band f-values
$b\,^1\Pi_u(v'=1) \leftarrow X(v''=0)$

J'	f_P	σ	f_Q	σ	f_R	σ
1	0.00918	0.00155	0.00803	0.00127	0.01106	0.00182
2	0.00822	0.00141	0.00816	0.00144	0.00880	0.00144
3	0.00784	0.00137	0.00844	0.00154	0.00879	0.00156
4	0.00889	0.00157	0.00860	0.00160	0.00872	0.00161
5	0.00871	0.00157	0.00781	0.00147	0.00913	0.00169
6	–	–	–	–	0.00805	0.00147
7	0.00756	0.00124	0.00816	0.00156	0.00796	0.00138
8	0.00797	0.00142	0.00795	0.00151	0.00810	0.00146
9	0.00813	0.00139	–	–	0.00796	0.00138
10	0.00816	0.00147	0.00791	0.00154	–	–
11	0.00827	0.00146	0.00773	0.00145	0.00794	0.00142
12	0.00830	0.00147	0.00724	0.00133	0.00736	0.00131
13	0.00747	0.00132	0.00765	0.00141	0.00758	0.00134
14	0.00721	0.00133	0.00718	0.00131	0.00731	0.00133
15	0.00791	0.00142	0.00761	0.00134	0.00755	0.00133
16	0.00928	0.00184	0.00628	0.00103	0.00769	0.00146
17	0.00951	0.00173	0.00747	0.00131	0.00844	0.00152
18	0.00962	0.00164	0.00624	0.00116	0.00847	0.00141
19	0.01108	0.00186	0.00685	0.00092	0.00597	0.00099
20	–	–	0.00691	0.00093	0.00944	0.00162
21	–	–	0.00680	0.00093	–	–
22	–	–	0.00811	0.00111	–	–

Transition energies (cm^{-1})
$b\,^1\Pi_u(v'=2) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	102142.976	0.025
1	–	–	102139.147	0.074	102144.594	0.027
2	102131.434	0.025	102136.869	0.011	102144.919	0.018
3	102125.359	0.027	102133.371	0.010	102144.063	0.014
4	102117.991	0.018	102128.636	0.040	102142.117	0.010
5	102109.442	0.014	102122.877	0.036	102138.974	0.015
6	102099.805	0.010	102115.910	0.009	102134.684	0.010
7	102088.972	0.015	102107.741	0.008	102129.121	0.036
8	102076.995	0.010	102098.429	0.008	102122.504	0.047
9	102063.746	0.036	102087.928	0.009	102114.695	0.011
10	102049.444	0.047	102076.241	0.010	102105.679	0.010
11	102033.954	0.011	102063.364	0.026	102095.477	0.010
12	102017.259	0.010	102049.251	0.144	102084.111	0.010
13	101999.382	0.010	102034.223	0.037	102071.548	0.012
14	101980.343	0.010	102017.759	0.014	102057.783	0.013
15	101960.111	0.012	102000.156	0.013	102042.808	0.015
16	101938.681	0.013	101981.371	0.013	102026.649	0.017
17	101916.045	0.015	101961.398	0.015	102009.310	0.021
18	101892.228	0.017	101940.196	0.018	101990.747	0.027
19	101867.236	0.021	101917.819	0.023	101971.006	0.038
20	101841.026	0.027	101894.256	0.029	101949.950	0.037
21	–	–	101869.476	0.043	101927.737	0.047
22	–	–	101843.362	0.049	–	–

Band f-values
$b\,^1\Pi_u(v'=2) \leftarrow X(v''=0)$

J'	f_P	σ	f_Q	σ	f_R	σ
1	0.01977	0.00313	–	–	–	–
2	0.02357	0.00372	0.02040	0.00327	–	–
3	0.02000	0.00315	0.02118	0.00344	–	–
4	0.02262	0.00362	–	–	–	–
5	0.01877	0.00300	–	–	0.02030	0.00326
6	0.01862	0.00302	0.01961	0.00322	–	–
7	0.01954	0.00314	0.02062	0.00338	0.01976	0.00317
8	–	–	0.01980	0.00327	–	–
9	–	–	0.02025	0.00332	–	–
10	–	–	0.02010	0.00331	0.01969	0.00318
11	0.01951	0.00315	–	–	0.01934	0.00313
12	0.02127	0.00336	–	–	0.02060	0.00331
13	0.01913	0.00311	–	–	0.01926	0.00315
14	0.01898	0.00304	0.01832	0.00300	0.01790	0.00289
15	0.02019	0.00327	0.01804	0.00298	0.02051	0.00331
16	0.02201	0.00354	0.01785	0.00292	0.01942	0.00314
17	0.01997	0.00322	0.01767	0.00287	0.01818	0.00295
18	0.02277	0.00371	0.01817	0.00293	0.02024	0.00329
19	0.01703	0.00280	0.01451	0.00236	0.01845	0.00301
20	–	–	0.01937	0.00313	0.01683	0.00277
21	–	–	0.01700	0.00278	0.01679	0.00279
22	–	–	0.01469	0.00242	0.01313	0.00221

Term values (cm^{-1})
$b\,^1\Pi_u(v=2)$

J	T_e	σ	T_f	σ
1	102142.976	0.025	102142.994	0.074
2	102148.441	0.027	102148.410	0.011
3	102156.461	0.018	102156.453	0.010
4	102167.145	0.014	102167.106	0.040
5	102180.587	0.010	102180.580	0.036
6	102196.677	0.015	102196.691	0.009
7	102215.466	0.010	102215.445	0.008
8	102236.826	0.036	102236.900	0.008
9	102260.974	0.047	102261.008	0.009
10	102287.775	0.011	102287.771	0.010
11	102317.209	0.010	102317.185	0.026
12	102349.298	0.010	102349.201	0.144
13	102384.061	0.010	102384.139	0.037
14	102421.464	0.012	102421.477	0.014
15	102461.501	0.013	102461.509	0.013
16	102504.161	0.015	102504.191	0.013
17	102549.469	0.017	102549.514	0.015
18	102597.426	0.021	102597.437	0.018
19	102647.988	0.027	102648.009	0.023
20	102701.196	0.054	102701.218	0.029
21	102756.912	0.052	102757.030	0.043
22	102815.291	0.067	102815.326	0.049

Natural linewidths (cm^{-1} FWHM)
$b\,^1\Pi_u(v'=2) \leftarrow X(v''=0)$

J'	Γ_e	σ	Γ_f	σ
1	0.659	0.104	–	–
2	0.875	0.080	0.725	0.048
3	0.733	0.059	0.736	0.045
4	0.779	0.055	–	–
5	0.704	0.038	–	–
6	0.604	0.055	0.735	0.043
7	0.689	0.038	0.735	0.040
8	–	–	0.702	0.039
9	–	–	0.690	0.042
10	0.617	0.042	0.651	0.042
11	0.640	0.037	–	–
12	0.615	0.036	–	–
13	0.550	0.037	–	–
14	0.551	0.039	0.481	0.050
15	0.561	0.041	0.499	0.051
16	0.520	0.044	0.478	0.052
17	0.437	0.047	0.432	0.055
18	0.468	0.054	0.413	0.062
19	0.396	0.064	0.319	0.076
20	0.349	0.119	0.393	0.092
21	0.230	0.119	0.374	0.135
22	0.129	0.155	0.241	0.156

Line f-values
$b\,^1\Pi_u(v'=2) \leftarrow X(v''=0)$

J''	f_P	σ	f_Q	σ	f_R	σ
2	0.00198	0.00031	0.01020	0.00164	–	–
3	0.00337	0.00053	0.01059	0.00172	–	–
4	0.00333	0.00053	–	–	0.00677	0.00109
5	0.00411	0.00066	–	–	–	–
6	0.00361	0.00058	0.00980	0.00161	0.00608	0.00098
7	0.00372	0.00060	0.01031	0.00169	–	–
8	0.00402	0.00065	0.00990	0.00164	–	–
9	–	–	0.01013	0.00166	0.00570	0.00092
10	–	–	0.01005	0.00166	0.00553	0.00089
11	–	–	–	–	0.00582	0.00094
12	0.00429	0.00069	–	–	0.00539	0.00088
13	0.00473	0.00075	–	–	0.00497	0.00080
14	0.00429	0.00070	0.00916	0.00150	0.00566	0.00091
15	0.00429	0.00069	0.00902	0.00149	0.00532	0.00086
16	0.00459	0.00074	0.00893	0.00146	0.00496	0.00081
17	0.00503	0.00081	0.00884	0.00144	0.00549	0.00089
18	0.00459	0.00074	0.00908	0.00147	0.00499	0.00081
19	0.00525	0.00086	0.00726	0.00118	0.00453	0.00075
20	0.00395	0.00065	0.00968	0.00156	0.00450	0.00075
21	–	–	0.00850	0.00139	0.00351	0.00059
22	–	–	0.00734	0.00121	–	–

Transition energies (cm^{-1})

$b\,{}^1\Pi_u(v'=3) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	102844.173	0.057
1	–	–	102840.326	0.057	102845.631	0.029
2	102832.632	0.057	102837.936	0.029	102845.898	0.022
3	102826.395	0.029	102834.358	0.022	102845.126	0.020
4	102818.970	0.022	102829.739	0.020	102843.071	0.018
5	102810.505	0.020	102823.838	0.018	102839.849	0.017
6	102800.759	0.018	102816.770	0.017	102835.481	0.017
7	102789.847	0.017	102808.558	0.017	102829.892	0.019
8	102777.792	0.017	102799.125	0.019	102823.148	0.019
9	102764.517	0.019	102788.539	0.019	102815.206	0.020
10	102750.089	0.019	102776.755	0.020	102806.104	0.021
11	102734.465	0.020	102763.813	0.021	102795.789	0.022
12	102717.684	0.021	102749.660	0.022	102784.266	0.026
13	102699.694	0.022	102734.300	0.026	102771.404	0.031
14	102680.499	0.026	102717.603	0.031	102757.456	0.038
15	102659.967	0.031	102699.821	0.038	102742.287	0.048
16	102638.354	0.038	102680.820	0.048	102725.948	0.064
17	102615.523	0.048	102660.651	0.064	102708.376	0.087
18	102591.527	0.064	102639.252	0.087	102689.368	0.118
19	102566.303	0.087	102616.418	0.118	102668.955	0.167
20	102539.646	0.118	102592.184	0.167	–	–
21	–	–	102567.585	0.337	–	–
22	–	–	102540.817	0.502	–	–

Term values (cm^{-1})

$b\,{}^1\Pi_u(v=3)$

J	T_e	σ	T_f	σ
1	102844.173	0.057	102844.173	0.057
2	102849.478	0.029	102849.477	0.029
3	102857.440	0.022	102857.440	0.022
4	102868.208	0.020	102868.209	0.020
5	102881.541	0.018	102881.541	0.018
6	102897.552	0.017	102897.551	0.017
7	102916.263	0.017	102916.262	0.017
8	102937.597	0.019	102937.596	0.019
9	102961.619	0.019	102961.619	0.019
10	102988.286	0.020	102988.285	0.020
11	103017.634	0.021	103017.634	0.021
12	103049.610	0.022	103049.610	0.022
13	103084.216	0.026	103084.216	0.026
14	103121.320	0.031	103121.321	0.031
15	103161.174	0.038	103161.174	0.038
16	103203.640	0.048	103203.640	0.048
17	103248.768	0.064	103248.767	0.064
18	103296.493	0.087	103296.493	0.087
19	103346.608	0.118	103346.608	0.118
20	103399.145	0.236	103399.146	0.167
21	–	–	103455.139	0.337
22	–	–	103512.781	0.502

Transition energies (cm^{-1})
$b\,^1\Pi_u(v'=4) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	103519.936	0.144
1	–	–	103516.075	0.045	103521.635	0.043
2	103508.394	0.144	103513.910	0.039	103522.182	0.021
3	103502.400	0.043	103510.611	0.010	103521.516	0.027
4	103495.253	0.021	103506.231	0.009	103519.902	0.060
5	103486.895	0.027	103500.739	0.011	103517.051	0.021
6	103477.590	0.060	103494.075	0.016	103513.185	0.031
7	103467.049	0.021	103486.391	0.021	103508.119	0.016
8	103455.495	0.031	103477.475	0.034	103501.905	0.012
9	103442.744	0.016	103467.486	0.022	103494.566	0.011
10	103428.845	0.012	103456.342	0.016	103486.047	0.012
11	103413.826	0.011	103444.075	0.010	103476.411	0.011
12	103397.628	0.012	103430.608	0.009	103465.550	0.010
13	103380.315	0.011	103415.959	0.008	103453.556	0.009
14	103361.782	0.010	103400.151	0.009	103440.352	0.009
15	103342.119	0.009	103383.142	0.009	103426.050	0.010
16	103321.250	0.009	103364.951	0.009	103409.863	0.013
17	103299.286	0.010	103345.785	0.009	103393.233	0.015
18	103275.443	0.013	103324.569	0.013	103375.113	0.018
19	103251.160	0.015	103302.711	0.016	103355.730	0.022
20	103225.392	0.018	103279.595	0.016	103335.219	0.026
21	103198.366	0.022	103255.118	0.029	103313.109	0.030
22	103170.217	0.026	103229.409	0.059	103290.010	0.034
23	–	–	103202.427	0.049	103265.736	0.082
24	–	–	103174.109	0.080	103239.309	0.070
25	–	–	103144.563	0.080	–	–

Line f-values
$b\,^1\Pi_u(v'=4) \leftarrow X(v''=0)$

J''	f_P	σ	f_Q	σ	f_R	σ
1	–	–	0.02829	0.00441	–	–
2	–	–	0.03016	0.00482	–	–
5	–	–	–	–	0.02270	0.00365
6	–	–	–	–	0.02074	0.00330
7	0.01133	0.00180	–	–	–	–
8	0.01382	0.00216	–	–	–	–
9	0.01280	0.00199	0.03146	0.00526	–	–
10	0.01365	0.00222	0.02885	0.00476	–	–
11	0.01270	0.00197	0.03007	0.00490	–	–
12	0.01284	0.00198	0.02942	0.00472	0.01795	0.00281
13	0.01223	0.00188	0.03005	0.00477	0.01799	0.00281
14	0.01091	0.00167	0.03010	0.00474	0.01812	0.00281
15	0.01265	0.00194	0.03064	0.00478	0.01794	0.00277
16	0.01247	0.00191	0.03015	0.00467	0.01729	0.00266
17	0.01168	0.00178	0.02606	0.00402	0.01649	0.00253
18	0.01265	0.00193	0.02882	0.00442	0.01784	0.00274
19	0.01296	0.00198	0.02908	0.00445	0.01782	0.00273
20	0.01397	0.00214	0.02721	0.00417	0.01472	0.00226
21	0.01130	0.00173	0.03086	0.00471	0.01558	0.00240
22	0.01169	0.00180	0.02817	0.00430	0.01448	0.00224
23	–	–	0.03022	0.00463	–	–
24	–	–	0.02613	0.00406	–	–

Band f-values
$b\,^1\Pi_u(v'=4) \leftarrow X(v''=0)$

J'	f_P	σ	f_Q	σ	f_R	σ
1	–	–	0.05657	0.00882	–	–
2	–	–	0.06032	0.00965	–	–
6	0.05663	0.00902	–	–	0.07135	0.01146
7	0.06711	0.01048	–	–	0.06741	0.01073
8	0.06081	0.00947	–	–	–	–
9	0.06368	0.00991	0.06293	0.01053	–	–
10	0.05840	0.00906	0.05770	0.00951	–	–
11	0.05835	0.00902	0.06014	0.00979	–	–
12	0.05504	0.00847	0.05885	0.00944	–	–
13	0.04867	0.00746	0.06010	0.00953	0.06410	0.01002
14	0.05601	0.00858	0.06020	0.00947	0.06478	0.01012
15	0.05487	0.00839	0.06129	0.00955	0.06567	0.01019
16	0.05109	0.00780	0.06029	0.00934	0.06543	0.01012
17	0.05505	0.00840	0.05212	0.00803	0.06340	0.00976
18	0.05614	0.00856	0.05764	0.00885	0.06075	0.00933
19	0.06029	0.00925	0.05817	0.00891	0.06600	0.01012
20	0.04859	0.00744	0.05441	0.00834	0.06620	0.01013
21	0.05009	0.00773	0.06172	0.00942	0.05485	0.00842
22	–	–	0.05635	0.00859	0.05827	0.00896
23	–	–	0.06045	0.00926	0.05431	0.00840
24	–	–	0.05226	0.00812	–	–

Term values (cm^{-1})
$b\,^1\Pi_u(v=4)$

J	T_e	σ	T_f	σ
1	103519.936	0.144	103519.922	0.045
2	103525.482	0.043	103525.451	0.039
3	103533.723	0.021	103533.693	0.010
4	103544.598	0.027	103544.701	0.009
5	103558.372	0.060	103558.442	0.011
6	103574.754	0.021	103574.856	0.016
7	103593.966	0.031	103594.095	0.021
8	103615.823	0.016	103615.946	0.034
9	103640.375	0.012	103640.566	0.022
10	103667.646	0.011	103667.872	0.016
11	103697.577	0.012	103697.896	0.010
12	103730.231	0.011	103730.558	0.009
13	103765.500	0.010	103765.875	0.008
14	103803.472	0.009	103803.868	0.009
15	103844.070	0.009	103844.495	0.009
16	103887.403	0.010	103887.771	0.009
17	103932.683	0.013	103933.901	0.009
18	103981.350	0.015	103981.810	0.013
19	104032.354	0.018	104032.901	0.016
20	104085.920	0.022	104086.557	0.016
21	104142.181	0.026	104142.672	0.029
22	104200.663	0.043	104201.373	0.059
23	104261.974	0.048	104262.615	0.049
24	104325.924	0.116	104326.333	0.080
25	104391.533	0.099	104392.631	0.080

Natural linewidths (cm^{-1} FWHM)
$b\,^1\Pi_u(v'=4) \leftarrow X(v''=0)$

J'	Γ_e	σ	Γ_f	σ
8	1.328	0.041	–	–
9	1.319	0.040	–	–
10	1.186	0.040	–	–
11	1.236	0.039	–	–
12	1.162	0.037	1.104	0.044
13	1.102	0.037	1.071	0.043
14	1.021	0.036	1.110	0.041
15	0.986	0.036	1.051	0.040
16	0.932	0.037	0.935	0.039
17	1.007	0.040	0.783	0.040
18	0.871	0.044	0.906	0.048
19	0.934	0.048	0.900	0.056
20	0.840	0.054	0.676	0.056
21	0.657	0.061	0.921	0.091
22	0.566	0.095	1.121	0.176
23	0.428	0.107	0.772	0.147
24	–	–	0.745	0.239

Transition energies (cm^{-1})
$b\,^1\Pi_u(v'=5) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	104659.678	0.009
1	–	–	104655.814	0.008	104661.421	0.008
2	104648.137	0.009	104653.662	0.006	104662.106	0.006
3	104642.186	0.008	104650.451	0.005	104661.755	0.009
4	104635.177	0.006	104646.167	0.004	104660.372	0.005
5	104627.135	0.009	104640.822	0.004	104657.946	0.004
6	104618.060	0.005	104634.420	0.004	104654.506	0.004
7	104607.944	0.004	104626.960	0.008	104650.052	0.004
8	104596.816	0.004	104618.462	0.004	104644.603	0.004
9	104584.677	0.004	104608.918	0.004	104638.166	0.004
10	104571.543	0.004	104598.348	0.004	104630.774	0.004
11	104557.426	0.004	104586.755	0.004	104622.446	0.004
12	104542.355	0.004	104574.162	0.004	104613.197	0.004
13	104526.351	0.004	104560.569	0.004	104603.068	0.004
14	104509.429	0.004	104545.985	0.004	104592.097	0.005
15	104491.631	0.004	104530.428	0.005	104580.321	0.005
16	104472.995	0.005	104513.917	0.005	–	–
17	104453.557	0.005	104496.458	0.006	–	–
18	104433.371	0.005	104478.059	0.006	–	–
19	104412.518	0.006	104458.745	0.007	–	–
20	104391.066	0.007	104438.520	0.009	–	–
21	–	–	104417.403	0.010	–	–
22	104346.933	0.012	104395.372	0.013	–	–
23	104324.551	0.009	104372.479	0.017	–	–
24	104302.303	0.009	104348.718	0.018	–	–

Line f-values
$b\,^1\Pi_u(v'=5) \leftarrow X(v''=0)$

J''	f_P	σ	f_Q	σ	f_R	σ
0	–	–	–	–	0.00557	0.00056
1	0.00071	0.00007	0.00271	0.00027	0.00226	0.00023
2	0.00104	0.00011	0.00284	0.00029	0.00183	0.00018
3	0.00134	0.00013	0.00286	0.00029	0.00153	0.00015
4	0.00172	0.00017	0.00288	0.00029	0.00136	0.00014
5	0.00182	0.00018	0.00309	0.00031	0.00119	0.00012
6	0.00206	0.00021	0.00329	0.00033	0.00115	0.00012
7	0.00245	0.00025	0.00329	0.00033	0.00104	0.00011
8	0.00283	0.00029	0.00345	0.00035	0.00095	0.00010
9	0.00321	0.00032	0.00384	0.00039	0.00084	0.00008
10	0.00351	0.00035	0.00399	0.00040	0.00079	0.00008
11	0.00423	0.00043	0.00432	0.00044	0.00077	0.00008
12	0.00483	0.00049	0.00466	0.00047	0.00069	0.00007
13	0.00580	0.00058	0.00511	0.00052	0.00058	0.00006
14	0.00659	0.00066	0.00566	0.00057	0.00054	0.00006
15	0.00720	0.00073	0.00586	0.00059	0.00036	0.00004
16	0.00941	0.00095	0.00671	0.00068	–	–
17	0.01077	0.00109	0.00713	0.00072	–	–
18	0.01244	0.00125	0.00833	0.00084	–	–
19	0.01487	0.00150	0.00859	0.00087	–	–
20	–	–	0.00872	0.00088	–	–
21	–	–	0.00986	0.00100	–	–
22	0.02900	0.00293	0.01070	0.00108	–	–
23	0.03760	0.00380	0.01187	0.00120	–	–

Term values (cm^{-1})
$b\,^1\Pi_u(v=5)$

J	T_e	σ	T_f	σ
1	104659.678	0.009	104659.661	0.008
2	104665.268	0.008	104665.203	0.006
3	104673.647	0.006	104673.533	0.005
4	104684.838	0.009	104684.637	0.004
5	104698.842	0.005	104698.525	0.004
6	104715.649	0.004	104715.201	0.004
7	104735.287	0.004	104734.664	0.008
8	104757.756	0.004	104756.933	0.004
9	104783.073	0.004	104781.998	0.004
10	104811.246	0.004	104809.878	0.004
11	104842.304	0.004	104840.576	0.004
12	104876.267	0.004	104874.112	0.004
13	104913.147	0.004	104910.485	0.004
14	104952.984	0.004	104949.702	0.004
15	104995.815	0.005	104991.781	0.005
16	105041.674	0.005	105036.737	0.005
17	105090.612	0.006	105084.574	0.006
18	105142.708	0.008	105135.300	0.006
19	105198.028	0.009	105188.935	0.007
20	–	–	105245.482	0.009
21	105318.897	0.017	105304.957	0.010
22	105384.739	0.012	105367.336	0.013
23	105454.527	0.013	105432.667	0.017
24	–	–	105500.942	0.018

Band f-values
$b\,^1\Pi_u(v'=5) \leftarrow X(v''=0)$

J'	f_P	σ	f_Q	σ	f_R	σ
1	0.00711	0.00072	0.00542	0.00055	0.00557	0.00056
2	0.00730	0.00074	0.00567	0.00057	0.00452	0.00046
3	0.00803	0.00081	0.00573	0.00058	0.00458	0.00046
4	0.00944	0.00096	0.00575	0.00058	0.00428	0.00043
5	0.00947	0.00096	0.00617	0.00062	0.00409	0.00041
6	0.01029	0.00104	0.00657	0.00066	0.00375	0.00038
7	0.01190	0.00120	0.00658	0.00067	0.00373	0.00038
8	0.01344	0.00136	0.00689	0.00069	0.00347	0.00035
9	0.01500	0.00151	0.00768	0.00077	0.00322	0.00032
10	0.01613	0.00163	0.00798	0.00080	0.00291	0.00029
11	0.01923	0.00194	0.00865	0.00087	0.00275	0.00028
12	0.02175	0.00219	0.00931	0.00094	0.00274	0.00028
13	0.02587	0.00261	0.01023	0.00103	0.00247	0.00025
14	0.02917	0.00294	0.01131	0.00114	0.00210	0.00021
15	0.03169	0.00319	0.01172	0.00118	0.00196	0.00020
16	0.04119	0.00415	0.01343	0.00135	0.00130	0.00014
17	0.04687	0.00473	0.01427	0.00144	–	–
18	0.05391	0.00543	0.01665	0.00168	–	–
19	0.06418	0.00647	0.01717	0.00173	–	–
20	–	–	0.01744	0.00176	–	–
21	–	–	0.01972	0.00199	–	–
22	0.12390	0.01250	0.02141	0.00217	–	–
23	0.16020	0.01617	0.02373	0.00241	–	–

Transition energies (cm^{-1})
$b\,^1\Pi_u(v'=6) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	105293.857	0.012
1	–	–	105290.000	0.010	105295.266	0.012
2	105282.316	0.012	105287.567	0.007	105295.475	0.010
3	105276.031	0.012	105283.902	0.015	105294.453	0.007
4	105268.547	0.010	105279.047	0.006	105292.231	0.007
5	105259.832	0.007	105272.959	0.006	105288.789	0.006
6	105249.919	0.007	105265.652	0.005	105284.095	0.010
7	105238.788	0.006	105257.122	0.006	105278.233	0.007
8	105226.406	0.010	105247.372	0.006	105271.133	0.007
9	105212.857	0.007	105236.400	0.006	105262.809	0.008
10	105198.074	0.007	105224.192	0.007	105253.268	0.008
11	105182.068	0.008	105210.770	0.008	105242.505	0.009
12	105164.849	0.008	105196.118	0.009	105230.523	0.009
13	105146.410	0.009	105180.266	0.011	105217.338	0.012
14	105126.755	0.009	105163.184	0.015	105202.941	0.016
15	–	–	105144.900	0.017	105187.370	0.027
16	105083.839	0.016	105125.335	0.029	105170.604	0.026
17	–	–	105104.672	0.052	105152.618	0.049
18	–	–	–	–	105133.536	0.049

Term values (cm^{-1})
$b\,^1\Pi_u(v=6)$

J	T_e	σ	T_f	σ
1	105293.857	0.012	105293.847	0.010
2	105299.113	0.012	105299.108	0.007
3	105307.017	0.010	105306.984	0.015
4	105317.535	0.007	105317.517	0.006
5	105330.701	0.007	105330.662	0.006
6	105346.492	0.006	105346.433	0.005
7	105364.877	0.010	105364.826	0.006
8	105385.937	0.007	105385.843	0.006
9	105409.604	0.007	105409.480	0.006
10	105435.889	0.008	105435.722	0.007
11	105464.798	0.008	105464.591	0.008
12	105496.326	0.009	105496.068	0.009
13	105530.473	0.009	105530.182	0.011
14	105567.254	0.017	105566.901	0.015
15	105606.659	0.016	105606.253	0.017
16	105648.723	0.038	105648.155	0.029
17	105693.424	0.037	105692.788	0.052
18	105740.734	0.069	–	–
19	105790.777	0.069	–	–

Band f-values
$b\,^1\Pi_u(v'=6) \leftarrow X(v''=0)$

J'	f_P	σ	f_Q	σ	f_R	σ
1	0.00317	0.00044	0.00347	0.00055	0.00399	0.00056
2	0.00344	0.00054	0.00370	0.00056	0.00399	0.00072
3	0.00337	0.00049	0.00297	0.00046	0.00365	0.00051
4	0.00325	0.00050	0.00314	0.00049	0.00340	0.00053
5	0.00283	0.00041	0.00315	0.00049	0.00347	0.00050
6	0.00278	0.00041	0.00319	0.00049	0.00354	0.00055
7	0.00244	0.00034	0.00292	0.00043	0.00402	0.00058
8	0.00223	0.00033	0.00296	0.00045	0.00327	0.00049
9	0.00222	0.00033	0.00280	0.00043	0.00330	0.00049
10	0.00173	0.00027	0.00254	0.00038	0.00322	0.00051
11	0.00177	0.00025	0.00247	0.00037	0.00321	0.00046
12	0.00104	0.00015	0.00234	0.00034	0.00295	0.00043
13	0.00102	0.00015	0.00198	0.00029	0.00334	0.00051
14	–	–	0.00167	0.00024	0.00304	0.00049
15	0.00191	0.00038	0.00172	0.00027	0.00263	0.00039
16	–	–	0.00129	0.00020	0.00202	0.00028
17	–	–	0.00091	0.00023	0.00264	0.00037
18	–	–	–	–	0.00178	0.00024
19	–	–	–	–	0.00235	0.00033

Line f-values
$b\,^1\Pi_u(v'=6) \leftarrow X(v''=0)$

J''	f_P	σ	f_Q	σ	f_R	σ
0	–	–	–	–	0.00399	0.00056
1	0.00032	0.00004	0.00174	0.00028	0.00200	0.00036
2	0.00049	0.00008	0.00185	0.00028	0.00146	0.00020
3	0.00056	0.00008	0.00149	0.00023	0.00121	0.00019
4	0.00059	0.00009	0.00157	0.00025	0.00116	0.00017
5	0.00054	0.00008	0.00158	0.00024	0.00113	0.00018
6	0.00056	0.00008	0.00159	0.00024	0.00124	0.00018
7	0.00050	0.00007	0.00146	0.00022	0.00098	0.00015
8	0.00047	0.00007	0.00148	0.00023	0.00097	0.00014
9	0.00047	0.00007	0.00140	0.00021	0.00093	0.00015
10	0.00038	0.00006	0.00127	0.00019	0.00092	0.00013
11	0.00039	0.00006	0.00123	0.00019	0.00083	0.00012
12	0.00023	0.00003	0.00117	0.00017	0.00094	0.00014
13	0.00023	0.00003	0.00099	0.00014	0.00084	0.00014
14	–	–	0.00084	0.00012	0.00072	0.00011
15	0.00043	0.00009	0.00086	0.00014	0.00055	0.00008
16	–	–	0.00064	0.00010	0.00072	0.00010
17	–	–	0.00046	0.00012	0.00048	0.00007

Transition energies (cm^{-1})
$b\,^1\Pi_u(v'=7) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	106047.423	0.005
1	–	–	106043.580	0.004	106048.769	0.005
2	106035.882	0.005	106041.080	0.004	106048.862	0.004
3	106029.534	0.005	106037.327	0.004	106047.704	0.004
4	106021.933	0.004	106032.325	0.004	106045.292	0.004
5	106013.083	0.004	106026.072	0.004	106041.635	0.004
6	106002.980	0.004	106018.575	0.004	106036.728	0.004
7	105991.633	0.004	106009.829	0.004	106030.583	0.004
8	105979.039	0.004	105999.848	0.004	106023.197	0.004
9	105965.208	0.004	105988.631	0.004	106014.575	0.004
10	105950.138	0.004	105976.183	0.004	106004.735	0.004
11	105933.835	0.004	105962.520	0.004	105993.677	0.004
12	105916.316	0.004	105947.658	0.004	105981.437	0.004
13	105897.582	0.004	105931.598	0.004	105968.013	0.004
14	105877.669	0.004	105914.380	0.004	105953.449	0.005
15	105856.576	0.004	105896.023	0.004	105937.764	0.006
16	105834.347	0.005	105876.564	0.005	105921.010	0.007
17	105811.000	0.006	105856.052	0.006	105903.234	0.009
18	105786.589	0.007	105834.544	0.012	105884.517	0.010
19	105761.161	0.009	105812.095	0.009	105864.924	0.018
20	105734.796	0.010	105788.801	0.014	105844.557	0.031
21	105707.560	0.018	105764.771	0.026	105823.506	0.052
22	–	–	105740.145	0.031	105802.098	0.043

Line f-values
$b\,^1\Pi_u(v'=7) \leftarrow X(v''=0)$

J''	f_P	σ	f_Q	σ	f_R	σ
0	–	–	–	–	0.01714	0.00278
1	0.00163	0.00026	0.00787	0.00128	–	–
2	0.00238	0.00038	0.00785	0.00132	–	–
3	0.00250	0.00040	0.00816	0.00144	0.00579	0.00098
4	0.00295	0.00048	0.00766	0.00139	0.00517	0.00088
5	0.00291	0.00048	0.00796	0.00149	0.00510	0.00087
6	0.00310	0.00051	0.00736	0.00136	0.00464	0.00079
7	0.00306	0.00050	0.00720	0.00133	0.00438	0.00075
8	0.00313	0.00051	0.00729	0.00134	0.00404	0.00068
9	0.00304	0.00049	0.00703	0.00127	0.00410	0.00069
10	0.00302	0.00049	0.00717	0.00128	0.00397	0.00066
11	0.00297	0.00048	0.00662	0.00114	0.00371	0.00061
12	0.00278	0.00044	0.00645	0.00109	0.00358	0.00058
13	0.00284	0.00045	0.00633	0.00104	0.00330	0.00053
14	0.00279	0.00044	0.00579	0.00094	0.00329	0.00052
15	0.00243	0.00039	0.00556	0.00089	0.00304	0.00048
16	0.00259	0.00041	0.00539	0.00086	0.00287	0.00045
17	0.00265	0.00042	0.00539	0.00084	0.00271	0.00043
18	0.00234	0.00037	0.00451	0.00071	0.00275	0.00043
19	0.00246	0.00039	0.00489	0.00077	0.00210	0.00033
20	0.00176	0.00028	0.00411	0.00065	0.00179	0.00028
21	–	–	0.00300	0.00047	0.00152	0.00025

Term values (cm^{-1})
$b\,^1\Pi_u(v=7)$

J	T_e	σ	T_f	σ
1	106047.423	0.005	106047.427	0.004
2	106052.616	0.005	106052.621	0.004
3	106060.403	0.004	106060.409	0.004
4	106070.786	0.004	106070.795	0.004
5	106083.762	0.004	106083.775	0.004
6	106099.338	0.004	106099.356	0.004
7	106117.510	0.004	106117.533	0.004
8	106138.288	0.004	106138.319	0.004
9	106161.668	0.004	106161.711	0.004
10	106187.655	0.004	106187.713	0.004
11	106216.265	0.004	106216.341	0.004
12	106247.498	0.004	106247.608	0.004
13	106281.387	0.004	106281.514	0.004
14	106317.929	0.004	106318.098	0.004
15	106357.167	0.005	106357.376	0.004
16	106399.117	0.006	106399.384	0.005
17	106443.830	0.007	106444.168	0.006
18	106491.351	0.009	106491.785	0.012
19	106541.758	0.010	106542.285	0.009
20	106595.114	0.018	106595.763	0.014
21	106651.519	0.044	106652.325	0.026
22	106711.060	0.074	106712.109	0.031
23	106774.062	0.061	–	–

Band f-values
$b\,^1\Pi_u(v'=7) \leftarrow X(v''=0)$

J'	f_P	σ	f_Q	σ	f_R	σ
1	0.01632	0.00258	0.01574	0.00257	0.01714	0.00278
2	0.01663	0.00267	0.01571	0.00265	–	–
3	0.01497	0.00242	0.01631	0.00287	–	–
4	0.01624	0.00265	0.01533	0.00278	0.01620	0.00276
5	0.01512	0.00248	0.01592	0.00298	0.01551	0.00264
6	0.01548	0.00254	0.01472	0.00273	0.01602	0.00274
7	0.01486	0.00244	0.01440	0.00267	0.01507	0.00256
8	0.01487	0.00243	0.01458	0.00269	0.01461	0.00249
9	0.01419	0.00230	0.01407	0.00254	0.01372	0.00231
10	0.01390	0.00224	0.01435	0.00255	0.01415	0.00237
11	0.01352	0.00216	0.01324	0.00228	0.01389	0.00230
12	0.01250	0.00199	0.01289	0.00218	0.01312	0.00215
13	0.01269	0.00200	0.01266	0.00209	0.01277	0.00206
14	0.01237	0.00194	0.01158	0.00188	0.01187	0.00190
15	0.01071	0.00170	0.01113	0.00178	0.01192	0.00190
16	0.01134	0.00178	0.01079	0.00171	0.01108	0.00175
17	0.01154	0.00182	0.01077	0.00169	0.01054	0.00167
18	0.01015	0.00161	0.00903	0.00142	0.00998	0.00158
19	0.01061	0.00168	0.00977	0.00153	0.01016	0.00160
20	0.00758	0.00121	0.00821	0.00130	0.00781	0.00124
21	–	–	0.00600	0.00095	0.00669	0.00106
22	–	–	0.00731	0.00117	0.00569	0.00092
23	–	–	–	–	0.00995	0.00159

Transition energies (cm⁻¹)
$b\,^1\Pi_u(v'=8) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
13	106704.570	0.114	–	–	–	–
14	106685.562	0.093	106721.975	0.037	–	–
15	106665.905	0.057	106705.154	0.049	106751.474	0.039
16	106645.659	0.060	106687.576	0.031	106737.851	0.036
17	106624.711	0.039	106669.471	0.026	106723.559	0.046
18	106603.431	0.036	106650.859	0.026	106709.070	0.040
19	106581.485	0.046	106631.785	0.031	106694.714	0.048
20	106559.448	0.039	106612.571	0.030	–	–
21	–	–	106593.274	0.033	–	–

Term values (cm⁻¹)
$b\,^1\Pi_u(v=8)$

J	T_e	σ	T_f	σ
12	107054.486	0.161	–	–
13	107089.280	0.132	–	–
14	107127.258	0.081	107125.693	0.037
15	107168.479	0.085	107166.507	0.049
16	107212.827	0.039	107210.396	0.031
17	107260.671	0.036	107257.587	0.026
18	107311.675	0.046	107308.100	0.026
19	107366.362	0.040	107361.975	0.031
20	107424.904	0.068	107419.533	0.030
21	–	–	107480.828	0.033

Line f-values
$b\,^1\Pi_u(v'=8) \leftarrow X(v''=0)$

J''	f_P	σ	f_Q	σ	f_R	σ
14	–	–	0.00038	0.00006	–	–
16	–	–	0.00071	0.00012	0.00056	0.00009
17	0.00057	0.00010	0.00107	0.00018	–	–
18	–	–	0.00145	0.00024	0.00095	0.00016
19	–	–	0.00161	0.00027	0.00105	0.00018
20	0.00172	0.00029	0.00231	0.00038	–	–
21	–	–	0.00289	0.00048	–	–

Band f-values
$b\,^1\Pi_u(v'=8) \leftarrow X(v''=0)$

J'	f_P	σ	f_Q	σ	f_R	σ
14	–	–	0.00076	0.00013	–	–
16	0.00251	0.00042	0.00143	0.00024	–	–
17	–	–	0.00214	0.00036	0.00204	0.00035
18	–	–	0.00289	0.00048	–	–
19	0.00743	0.00124	0.00321	0.00054	0.00350	0.00059
20	–	–	0.00463	0.00077	0.00389	0.00066
21	–	–	0.00577	0.00096	–	–

Transition energies (cm^{-1})
$b\,^1\Pi_u(v'=9) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	107547.430	0.030
1	–	–	107543.611	0.013	107548.404	0.015
2	107535.889	0.030	107540.725	0.009	107547.927	0.014
3	107529.168	0.015	107536.377	0.059	107545.992	0.014
4	107520.999	0.014	107530.596	0.008	107542.602	0.007
5	107511.371	0.014	107523.346	0.009	107537.765	0.008
6	107500.291	0.007	107514.665	0.015	107531.448	0.007
7	107487.763	0.008	107504.509	0.006	107523.665	0.009
8	107473.758	0.007	107492.898	0.006	107514.465	0.012
9	107458.289	0.009	107479.838	0.006	107503.787	0.008
10	107441.406	0.012	107465.288	0.007	107491.671	0.009
11	107423.046	0.008	107449.317	0.007	107478.071	0.009
12	107403.252	0.009	107431.868	0.008	107463.039	0.010
13	107381.975	0.009	107412.979	0.009	107446.541	0.013
14	107359.271	0.010	107392.654	0.009	107428.638	0.017
15	107335.104	0.013	107370.897	0.011	107409.303	0.021
16	107309.535	0.017	107347.699	0.016	107388.541	0.020
17	107282.539	0.021	107323.038	0.017	107366.373	0.040
18	–	–	107297.023	0.023	107342.713	0.064

Band f-values
$b\,^1\Pi_u(v'=9) \leftarrow X(v''=0)$

J'	f_P	σ	f_Q	σ	f_R	σ
1	–	–	0.00414	0.00077	0.00305	0.00123
2	0.00398	0.00086	0.00394	0.00068	0.00300	0.00073
3	–	–	–	–	0.00379	0.00106
4	–	–	0.00385	0.00068	0.00402	0.00088
5	0.00467	0.00079	–	–	0.00441	0.00074
6	0.00447	0.00075	–	–	0.00398	0.00067
7	0.00407	0.00073	0.00434	0.00072	0.00407	0.00069
8	0.00437	0.00076	0.00437	0.00072	–	–
9	0.00525	0.00090	0.00498	0.00084	–	–
10	0.00502	0.00088	0.00407	0.00069	0.00501	0.00084
11	0.00557	0.00099	0.00441	0.00074	0.00544	0.00096
12	0.00382	0.00075	0.00467	0.00079	0.00429	0.00079
13	0.00396	0.00080	0.00470	0.00080	–	–
14	0.00420	0.00092	0.00414	0.00073	0.00497	0.00094
15	0.00438	0.00108	0.00429	0.00076	0.00498	0.00098
16	–	–	0.00390	0.00072	0.00581	0.00118
17	–	–	0.00458	0.00086	0.00372	0.00095
18	–	–	0.00448	0.00091	0.00246	0.00102
19	–	–	–	–	0.00551	0.00200

Term values (cm^{-1})
$b\,^1\Pi_u(v=9)$

J	T_e	σ	T_f	σ
1	107547.430	0.030	107547.458	0.013
2	107552.251	0.015	107552.266	0.009
3	107559.469	0.014	107559.459	0.059
4	107569.074	0.014	107569.066	0.008
5	107581.072	0.007	107581.049	0.009
6	107595.468	0.008	107595.446	0.015
7	107612.229	0.007	107612.213	0.006
8	107631.369	0.009	107631.369	0.006
9	107652.936	0.012	107652.918	0.006
10	107676.867	0.008	107676.818	0.007
11	107703.201	0.009	107703.138	0.007
12	107731.891	0.009	107731.818	0.008
13	107762.989	0.010	107762.895	0.009
14	107796.457	0.013	107796.371	0.009
15	107832.355	0.017	107832.250	0.011
16	107870.656	0.021	107870.519	0.016
17	107911.361	0.028	107911.154	0.017
18	107954.489	0.057	107954.264	0.023
19	107999.954	0.091	–	–

Natural linewidths (cm^{-1} FWHM)
$b\,^1\Pi_u(v'=9) \leftarrow X(v''=0)$

J'	Γ_e	σ	Γ_f	σ
1	0.029	0.126	0.093	0.052
2	0.058	0.048	0.099	0.041
3	0.083	0.099	–	–
4	0.082	0.056	0.093	0.041
5	0.116	0.034	–	–
6	0.109	0.034	–	–
7	0.091	0.033	0.083	0.034
8	0.101	0.039	0.094	0.033
9	0.158	0.040	0.129	0.034
10	0.154	0.035	0.091	0.035
11	0.156	0.037	0.093	0.035
12	0.087	0.036	0.115	0.037
13	0.099	0.044	0.122	0.039
14	0.140	0.043	0.069	0.042
15	0.185	0.049	–	–
16	0.210	0.074	–	–
17	0.004	0.078	–	–
18	0.004	0.287	–	–
19	0.284	0.204	–	–

Line f-values
$b\,^1\Pi_u(v'=9) \leftarrow X(v''=0)$

J''	f_P	σ	f_Q	σ	f_R	σ
0	–	–	–	–	0.00305	0.00123
1	–	–	0.00207	0.00039	0.00150	0.00037
2	0.00057	0.00012	0.00197	0.00034	0.00152	0.00042
3	–	–	–	–	0.00144	0.00031
4	–	–	0.00193	0.00034	0.00147	0.00025
5	0.00090	0.00015	–	–	0.00127	0.00021
6	0.00089	0.00015	–	–	0.00125	0.00021
7	0.00084	0.00015	0.00217	0.00036	–	–
8	0.00092	0.00016	0.00218	0.00036	–	–
9	0.00113	0.00019	0.00249	0.00042	0.00145	0.00024
10	0.00109	0.00019	0.00203	0.00034	0.00155	0.00027
11	0.00123	0.00022	0.00220	0.00037	0.00121	0.00022
12	0.00085	0.00017	0.00233	0.00039	–	–
13	0.00089	0.00018	0.00235	0.00040	0.00138	0.00026
14	0.00095	0.00021	0.00207	0.00037	0.00137	0.00027
15	0.00100	0.00025	0.00215	0.00038	0.00159	0.00032
16	–	–	0.00195	0.00036	0.00101	0.00026
17	–	–	0.00229	0.00043	0.00067	0.00028

Transition energies (cm^{-1})
$b\,^1\Pi_u(v'=10) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	108265.061	0.029
1	–	–	108261.147	0.006	108265.821	0.005
2	108253.520	0.029	108258.127	0.004	108265.150	0.007
3	108246.586	0.005	108253.642	0.019	108262.970	0.004
4	108238.222	0.007	108247.570	0.009	108259.278	0.004
5	108228.349	0.004	108240.040	0.004	108254.074	0.005
6	108216.966	0.004	108230.991	0.004	108247.355	0.005
7	108204.073	0.005	108220.428	0.004	108239.118	0.004
8	108189.666	0.005	108208.346	0.004	108229.366	0.004
9	108173.743	0.004	108194.751	0.004	108218.078	0.004
10	108156.307	0.004	108179.631	0.004	108205.286	0.004
11	108137.338	0.004	108162.988	0.004	108190.955	0.005
12	108116.867	0.004	108144.824	0.004	108175.102	0.005
13	108094.859	0.005	108125.129	0.005	108157.710	0.007
14	108071.335	0.005	108103.910	0.005	108138.795	0.008
15	108046.274	0.007	108081.168	0.006	108118.364	0.010
16	108019.693	0.008	108056.897	0.009	108096.340	0.016
17	107991.600	0.010	108031.107	0.016	108072.825	0.026
18	107961.919	0.016	108003.640	0.021	108047.685	0.026
19	107930.751	0.026	107974.709	0.021	108021.129	0.030
20	–	–	107944.299	0.023	107992.971	0.045
21	–	–	–	–	107963.210	0.040

Band f-values
$b\,^1\Pi_u(v'=10) \leftarrow X(v''=0)$

J'	f_P	σ	f_Q	σ	f_R	σ
1	–	–	0.00928	0.00149	–	–
2	0.01016	0.00164	0.01065	0.00169	0.00881	0.00142
4	0.01036	0.00165	0.00999	0.00169	0.00970	0.00154
5	0.01094	0.00173	0.00960	0.00156	0.01001	0.00159
6	0.01059	0.00168	–	–	0.00997	0.00161
7	0.00981	0.00155	0.00946	0.00154	0.00921	0.00164
8	0.01000	0.00159	0.00928	0.00151	0.00996	0.00158
9	0.00969	0.00154	0.00932	0.00151	0.01019	0.00162
10	0.01055	0.00168	0.00922	0.00148	0.00975	0.00154
11	0.01008	0.00162	0.00923	0.00148	0.00920	0.00146
12	0.00991	0.00159	0.00934	0.00150	0.00958	0.00153
13	0.00984	0.00160	0.00912	0.00146	0.00984	0.00157
14	0.00916	0.00152	0.00875	0.00140	0.00915	0.00147
15	0.01118	0.00196	0.00864	0.00139	0.01028	0.00167
16	0.01003	0.00180	0.01081	0.00174	0.00884	0.00149
17	0.01043	0.00208	0.00911	0.00155	0.01008	0.00175
18	–	–	0.00884	0.00160	0.00784	0.00159
19	–	–	0.00942	0.00223	0.00502	0.00133
20	–	–	0.00942	0.00196	0.00736	0.00283

Term values (cm^{-1})
$b\,^1\Pi_u(v=10)$

J	T_e	σ	T_f	σ
1	108265.061	0.029	108264.994	0.006
2	108269.668	0.005	108269.668	0.004
3	108276.692	0.007	108276.724	0.019
4	108286.052	0.004	108286.040	0.009
5	108297.748	0.004	108297.743	0.004
6	108311.777	0.005	108311.772	0.004
7	108328.137	0.005	108328.132	0.004
8	108346.823	0.004	108346.817	0.004
9	108367.837	0.004	108367.831	0.004
10	108391.158	0.004	108391.161	0.004
11	108416.816	0.004	108416.809	0.004
12	108444.775	0.005	108444.774	0.004
13	108475.052	0.005	108475.045	0.005
14	108507.626	0.007	108507.628	0.005
15	108542.513	0.008	108542.521	0.006
16	108579.717	0.010	108579.717	0.009
17	108619.160	0.016	108619.223	0.016
18	108660.941	0.026	108660.881	0.021
19	108704.926	0.037	108704.899	0.021
20	108751.319	0.043	108751.261	0.023
21	108799.933	0.064	–	–
22	108850.764	0.057	–	–

Line f-values
$b\,^1\Pi_u(v'=10) \leftarrow X(v''=0)$

J''	f_P	σ	f_Q	σ	f_R	σ
1	–	–	0.00464	0.00075	0.00441	0.00071
2	–	–	0.00532	0.00084	–	–
3	0.00145	0.00023	–	–	0.00347	0.00055
4	–	–	0.00499	0.00084	0.00334	0.00053
5	0.00188	0.00030	0.00480	0.00078	0.00317	0.00051
6	0.00210	0.00033	–	–	0.00283	0.00050
7	0.00212	0.00034	0.00473	0.00077	0.00299	0.00048
8	0.00202	0.00032	0.00464	0.00075	0.00300	0.00048
9	0.00210	0.00033	0.00466	0.00076	0.00282	0.00045
10	0.00208	0.00033	0.00461	0.00074	0.00263	0.00042
11	0.00229	0.00036	0.00462	0.00074	0.00271	0.00043
12	0.00222	0.00036	0.00467	0.00075	0.00275	0.00044
13	0.00220	0.00035	0.00456	0.00073	0.00254	0.00041
14	0.00221	0.00036	0.00438	0.00070	0.00284	0.00046
15	0.00207	0.00034	0.00432	0.00070	0.00242	0.00041
16	0.00254	0.00045	0.00541	0.00087	0.00275	0.00048
17	0.00229	0.00041	0.00456	0.00078	0.00213	0.00043
18	0.00240	0.00048	0.00442	0.00080	0.00136	0.00036
19	–	–	0.00471	0.00111	0.00198	0.00076
20	–	–	0.00471	0.00098	–	–

Natural linewidths (cm^{-1} FWHM)
$b\,^1\Pi_u(v'=10) \leftarrow X(v''=0)$

J'	Γ_e	σ	Γ_f	σ
1	–	–	0.093	0.034
2	0.075	0.032	0.123	0.032
4	0.117	0.031	0.124	0.033
5	0.122	0.031	0.096	0.031
6	0.120	0.031	–	–
7	0.127	0.031	0.111	0.031
8	0.116	0.031	0.105	0.031
9	0.123	0.031	0.109	0.031
10	0.138	0.031	0.112	0.031
11	0.119	0.031	0.117	0.031
12	0.145	0.031	0.142	0.032
13	0.157	0.032	0.139	0.032
14	0.174	0.033	0.128	0.033
15	0.211	0.034	0.135	0.034
16	0.208	0.038	0.280	0.040
17	0.329	0.046	0.361	0.058
18	0.292	0.086	0.353	0.071
19	0.065	0.093	0.260	0.091
20	0.115	0.136	0.189	0.078

Transition energies (cm^{-1})
$b\,^1\Pi_u(v' = 11) \leftarrow X(v'' = 0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	108999.853	0.100
1	–	–	108996.020	0.015	109000.598	0.015
2	108988.312	0.100	108992.917	0.010	108999.890	0.027
3	108981.363	0.015	108988.314	0.100	108997.620	0.009
4	108972.962	0.027	108982.148	0.009	108993.821	0.009
5	108962.999	0.009	108974.453	0.007	108988.517	0.012
6	108951.510	0.009	108965.253	0.007	108981.684	0.011
7	108938.516	0.012	108954.518	0.007	108973.369	0.011
8	108923.995	0.011	108942.265	0.010	108963.617	0.009
9	108907.994	0.011	108928.513	0.007	108952.390	0.010
10	108890.558	0.009	108913.294	0.009	108939.708	0.011
11	108871.649	0.010	108896.566	0.009	108925.647	0.014
12	108851.289	0.011	108878.432	0.100	108910.335	0.018
13	108829.552	0.014	108858.833	0.014	108893.781	0.025
14	108806.567	0.018	108837.873	0.025	108876.144	0.041
15	108782.344	0.025	108815.624	0.021	–	–
16	108757.042	0.041	108792.224	0.041	–	–
17	–	–	108767.661	0.074	–	–

Band f-values
$b\,^1\Pi_u(v' = 11) \leftarrow X(v'' = 0)$

J'	f_P	σ	f_Q	σ	f_R	σ
1	–	–	0.00402	0.00065	–	–
2	–	–	0.00404	0.00064	0.00398	0.00065
3	0.00377	0.00077	–	–	–	–
4	0.00420	0.00070	–	–	0.00386	0.00062
5	0.00455	0.00074	0.00374	0.00058	0.00421	0.00067
6	0.00432	0.00069	0.00391	0.00061	–	–
7	0.00407	0.00067	0.00394	0.00061	–	–
8	0.00401	0.00065	0.00342	0.00067	0.00375	0.00064
9	0.00367	0.00060	0.00371	0.00058	0.00367	0.00059
10	0.00302	0.00052	0.00342	0.00054	0.00289	0.00048
11	0.00309	0.00054	0.00330	0.00052	0.00320	0.00053
12	0.00282	0.00052	–	–	0.00299	0.00050
13	0.00263	0.00054	0.00340	0.00053	0.00282	0.00050
14	0.00304	0.00067	–	–	0.00280	0.00053
15	–	–	0.00215	0.00041	0.00287	0.00063
16	–	–	0.00226	0.00051	–	–

Term values (cm^{-1})
$b\,^1\Pi_u(v = 11)$

J	T_e	σ	T_f	σ
1	108999.853	0.100	108999.867	0.015
2	109004.445	0.015	109004.458	0.010
3	109011.432	0.027	109011.396	0.100
4	109020.702	0.009	109020.618	0.009
5	109032.291	0.009	109032.156	0.007
6	109046.220	0.012	109046.034	0.007
7	109062.466	0.011	109062.222	0.007
8	109081.073	0.011	109080.736	0.010
9	109102.088	0.009	109101.593	0.007
10	109125.470	0.010	109124.824	0.009
11	109151.238	0.011	109150.387	0.009
12	109179.468	0.014	109178.382	0.100
13	109210.285	0.018	109208.749	0.014
14	109243.697	0.025	109241.591	0.025
15	109279.862	0.041	109276.977	0.021
16	–	–	109315.044	0.041
17	–	–	109355.777	0.074

Natural linewidths (cm^{-1} FWHM)
$b\,^1\Pi_u(v' = 11) \leftarrow X(v'' = 0)$

J'	Γ_e	σ	Γ_f	σ
4	0.292	0.036	–	–
5	0.375	0.037	0.277	0.036
6	0.300	0.043	0.321	0.035
7	0.309	0.048	0.316	0.035
8	0.333	0.038	0.274	0.052
9	0.300	0.037	0.301	0.036
10	0.243	0.037	0.305	0.038
11	0.277	0.039	0.307	0.040
12	0.300	0.043	–	–
13	0.324	0.050	0.398	0.054
14	0.382	0.062	–	–
15	0.483	0.130	0.243	0.074
16	–	–	0.413	0.129

Line f-values
$b\,^1\Pi_u(v' = 11) \leftarrow X(v'' = 0)$

J''	f_P	σ	f_Q	σ	f_R	σ
1	–	–	0.00201	0.00032	0.00199	0.00032
2	–	–	0.00202	0.00032	–	–
3	–	–	–	–	0.00138	0.00022
4	0.00063	0.00013	–	–	0.00140	0.00022
5	0.00076	0.00013	0.00187	0.00029	–	–
6	0.00088	0.00014	0.00196	0.00030	–	–
7	0.00086	0.00014	0.00197	0.00031	0.00112	0.00019
8	0.00084	0.00014	0.00171	0.00033	0.00108	0.00017
9	0.00084	0.00014	0.00186	0.00029	0.00084	0.00014
10	0.00079	0.00013	0.00171	0.00027	0.00092	0.00015
11	0.00066	0.00011	0.00165	0.00026	0.00084	0.00014
12	0.00068	0.00012	–	–	0.00079	0.00014
13	0.00063	0.00012	0.00170	0.00027	0.00078	0.00015
14	0.00059	0.00012	–	–	0.00079	0.00017
15	0.00069	0.00015	0.00108	0.00021	–	–
16	–	–	0.00113	0.00025	–	–

Transition energies (cm^{-1})
$c_3\,{}^1\Pi_u(v'=0) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	104107.792	0.005
1	–	–	104103.989	0.014	104109.676	0.008
2	104096.250	0.005	104102.091	0.004	104110.553	0.004
3	104090.441	0.008	104099.251	0.016	104110.464	0.004
4	104083.625	0.004	104095.380	0.025	104109.388	0.004
5	104075.843	0.004	104090.744	0.007	104107.322	0.004
6	104067.076	0.004	104085.062	0.013	104104.284	0.004
7	104057.321	0.004	104078.392	0.007	104100.256	0.003
8	104046.595	0.004	104070.777	0.004	104095.251	0.004
9	104034.880	0.003	104062.191	0.012	104089.260	0.004
10	104022.192	0.004	104052.625	0.004	104082.276	0.004
11	104008.519	0.004	104042.079	0.004	104074.718	0.072
12	103993.856	0.004	104030.536	0.004	104065.315	0.004
13	103978.202	0.004	104017.979	0.004	104055.317	0.004
14	103961.548	0.004	104004.409	0.004	104044.297	0.004
15	103943.880	0.004	103989.807	0.011	104032.236	0.004
16	103925.194	0.004	103974.125	0.004	104019.121	0.004
17	103905.473	0.004	103957.391	0.004	104004.929	0.005
18	103884.701	0.004	103939.549	0.004	103989.649	0.009
19	103862.856	0.005	103920.598	0.004	103973.231	0.004
20	103839.927	0.009	103900.497	0.004	103955.684	0.005
21	103815.867	0.004	103879.216	0.005	103936.938	0.006
22	103790.683	0.005	103856.745	0.007	103917.005	0.007
23	103764.305	0.006	103833.033	0.009	103895.817	0.009
24	103736.745	0.007	103808.050	0.011	103873.359	0.014
25	103707.937	0.009	103781.773	0.014	103849.557	0.017
26	–	–	103754.158	0.024	103824.462	0.027
27	–	–	103725.167	0.042	103797.974	0.034
28	–	–	103694.893	0.048	–	–

Line f-values
$c_3\,{}^1\Pi_u(v'=0) \leftarrow X(v''=0)$

J''	f_P	σ	f_Q	σ	f_R	σ
0	–	–	–	–	0.04997	0.00850
1	0.00413	0.00067	0.02891	0.00457	0.02466	0.00413
2	0.00758	0.00120	0.02588	0.00515	–	–
3	0.00734	0.00118	0.02536	0.00564	–	–
4	0.00749	0.00123	–	–	0.02324	0.00542
5	0.00765	0.00127	0.02066	0.00479	0.02103	0.00474
6	0.00744	0.00123	0.01781	0.00475	0.01926	0.00456
7	0.00763	0.00126	0.02398	0.00614	0.02051	0.00490
8	0.00770	0.00126	0.02340	0.00583	–	–
9	0.00776	0.00127	0.02460	0.00613	0.02217	0.00522
10	0.00798	0.00129	0.02412	0.00553	0.02223	0.00506
11	0.00796	0.00127	0.02522	0.00569	–	–
12	0.00786	0.00124	0.02644	0.00575	0.02274	0.00463
13	0.00795	0.00125	0.02773	0.00575	0.02301	0.00441
14	0.00817	0.00127	0.02854	0.00552	0.02327	0.00415
15	0.00810	0.00125	0.02629	0.00445	0.02341	0.00399
16	0.00783	0.00121	0.02899	0.00493	0.02418	0.00395
17	0.00873	0.00134	0.03019	0.00495	0.02502	0.00403
18	0.00832	0.00128	0.03038	0.00487	0.02768	0.00446
19	0.00934	0.00142	0.03087	0.00487	0.02600	0.00404
20	0.00860	0.00132	0.03037	0.00475	0.02533	0.00392
21	0.00933	0.00145	0.03150	0.00490	0.02431	0.00377
22	0.00909	0.00142	0.03340	0.00519	0.02546	0.00395
23	0.00801	0.00128	0.03150	0.00486	0.02423	0.00380
24	–	–	0.03081	0.00478	0.02579	0.00405
25	–	–	0.03168	0.00503	0.02875	0.00456
26	–	–	0.02395	0.00383	0.03825	0.00583

Term values (cm^{-1})
$c_3\,{}^1\Pi_u(v=0)$

J	T_e	σ	T_f	σ
1	104107.792	0.005	104107.836	0.014
2	104113.523	0.008	104113.632	0.004
3	104122.095	0.004	104122.333	0.016
4	104133.546	0.004	104133.850	0.025
5	104147.858	0.004	104148.447	0.007
6	104165.025	0.004	104165.843	0.013
7	104185.066	0.004	104186.096	0.007
8	104207.960	0.003	104209.248	0.004
9	104233.722	0.004	104235.271	0.012
10	104262.340	0.004	104264.155	0.004
11	104293.806	0.004	104295.900	0.004
12	104328.118	0.004	104330.486	0.004
13	104365.265	0.004	104367.895	0.004
14	104405.233	0.004	104408.126	0.004
15	104448.014	0.004	104451.160	0.011
16	104493.589	0.004	104496.945	0.004
17	104541.941	0.004	104545.507	0.004
18	104593.046	0.005	104596.790	0.004
19	104646.889	0.009	104650.788	0.004
20	104703.421	0.004	104707.459	0.004
21	104762.646	0.005	104766.770	0.005
22	104824.492	0.006	104828.709	0.007
23	104888.969	0.007	104893.221	0.009
24	104956.005	0.009	104960.274	0.011
25	105025.583	0.020	105029.841	0.014
26	105097.625	0.024	105101.876	0.024
27	105172.180	0.038	105176.337	0.042
28	105249.144	0.048	105253.313	0.048

Band f-values
$c_3\,{}^1\Pi_u(v'=0) \leftarrow X(v''=0)$

J'	f_P	σ	f_Q	σ	f_R	σ
1	0.04131	0.00666	0.05782	0.00913	0.04997	0.00850
2	0.05307	0.00842	0.05177	0.01030	0.04932	0.00825
3	0.04407	0.00708	0.05072	0.01128	–	–
4	0.04122	0.00674	–	–	–	–
5	0.03978	0.00662	0.04133	0.00957	0.06971	0.01627
6	0.03720	0.00617	0.03561	0.00949	0.06609	0.01489
7	0.03708	0.00613	0.04797	0.01228	0.06261	0.01483
8	0.03656	0.00601	0.04681	0.01166	0.06837	0.01633
9	0.03623	0.00592	0.04920	0.01227	–	–
10	0.03671	0.00592	0.04823	0.01106	0.07659	0.01802
11	0.03617	0.00576	0.05043	0.01138	0.07779	0.01771
12	0.03537	0.00559	0.05288	0.01151	–	–
13	0.03549	0.00556	0.05546	0.01149	0.08122	0.01654
14	0.03617	0.00564	0.05707	0.01104	0.08284	0.01587
15	0.03563	0.00550	0.05259	0.00890	0.08436	0.01503
16	0.03427	0.00529	0.05799	0.00985	0.08539	0.01456
17	0.03800	0.00585	0.06038	0.00990	0.08867	0.01449
18	0.03605	0.00555	0.06077	0.00973	0.09218	0.01484
19	0.04033	0.00615	0.06175	0.00974	0.10240	0.01652
20	0.03696	0.00570	0.06075	0.00949	0.09656	0.01500
21	0.03997	0.00620	0.06299	0.00979	0.09442	0.01461
22	0.03885	0.00608	0.06681	0.01038	0.09090	0.01409
23	0.03412	0.00544	0.06301	0.00972	0.09548	0.01483
24	–	–	0.06162	0.00956	0.09109	0.01427
25	–	–	0.06337	0.01006	0.09722	0.01528
26	–	–	0.04789	0.00765	0.10860	0.01723
27	–	–	0.09258	0.01492	0.14480	0.02206
28	–	–	–	–	0.10190	0.01636

Natural linewidths (cm^{-1} FWHM)

$c_3\ ^1\Pi_u(v' = 0) \leftarrow X(v'' = 0)$

J'	Γ_e	σ	Γ_f	σ
1	0.076	0.032	0.192	0.039
2	0.121	0.031	0.123	0.035
3	0.130	0.031	0.130	0.040
4	0.126	0.031	–	–
5	0.118	0.031	0.149	0.042
6	0.120	0.031	0.160	0.044
7	0.126	0.031	0.134	0.045
8	0.126	0.031	0.154	0.046
9	0.108	0.031	0.150	0.047
10	0.126	0.031	0.152	0.043
11	0.133	0.031	0.147	0.041
12	0.132	0.031	0.145	0.039
13	0.127	0.030	0.133	0.037
14	0.122	0.031	0.133	0.035
15	0.128	0.030	0.134	0.034
16	0.117	0.030	0.122	0.032
17	0.131	0.030	0.120	0.031
18	0.119	0.031	0.110	0.031
19	0.113	0.032	0.108	0.031
20	0.124	0.031	0.107	0.032
21	0.111	0.031	0.104	0.033
22	0.088	0.032	0.107	0.035
23	0.067	0.033	0.095	0.039
24	0.045	0.040	0.070	0.046
25	0.095	0.054	0.034	0.055
26	0.069	0.064	–	–
27	0.152	0.091	0.205	0.137

Transition energies (cm^{-1})
$c_3\,{}^1\Pi_u(v'=1) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	106491.843	0.005
1	–	–	106487.978	0.004	106494.619	0.004
2	106480.302	0.005	106486.865	0.011	106496.852	0.004
3	106475.384	0.004	106485.208	0.004	106498.511	0.004
4	106469.923	0.004	106482.977	0.004	106499.606	0.007
5	106463.891	0.004	106480.148	0.013	106500.057	0.011
6	106457.294	0.007	106476.774	0.004	106499.879	0.008
7	106450.056	0.011	106472.771	0.004	106498.990	0.004
8	106442.190	0.008	106468.143	0.004	106497.336	0.004
9	106433.614	0.004	106462.851	0.004	106494.816	0.004
10	106424.276	0.004	106456.870	0.008	106491.307	0.004
11	106414.075	0.004	106450.196	0.014	106486.707	0.007
12	106402.887	0.004	106442.611	0.014	106480.856	0.009
13	106390.611	0.007	106434.274	0.022	106473.970	0.024
14	106377.088	0.009	106425.907	0.018	106465.936	0.009
15	106362.533	0.024	106415.760	0.006	106456.061	0.015
16	106347.036	0.169	106404.327	0.007	106445.152	0.006
17	106329.299	0.013	106392.095	0.007	106433.578	0.035
18	106310.717	0.022	106378.168	0.005	106421.224	0.006
19	106291.510	0.031	106362.749	0.012	106408.226	0.010
20	106271.538	0.028	106346.016	0.152	106394.871	0.079
21	–	–	106328.224	0.028	106380.401	0.027
22	–	–	106307.777	0.088	106364.594	0.060
23	–	–	106285.269	0.017	–	–
24	–	–	106260.787	0.024	–	–
25	–	–	106234.188	0.048	–	–

Line f-values
$c_3\,{}^1\Pi_u(v'=1) \leftarrow X(v''=0)$

J''	f_P	σ	f_Q	σ	f_R	σ
1	–	–	0.01951	0.00370	–	–
2	–	–	–	–	0.01506	0.00310
3	0.00621	0.00110	0.01900	0.00461	0.01328	0.00288
4	0.00654	0.00119	0.01862	0.00493	–	–
5	0.00755	0.00147	–	–	–	–
6	–	–	0.01843	0.00522	–	–
7	0.00919	0.00197	0.01980	0.00594	0.01261	0.00322
8	0.00702	0.00138	0.02068	0.00654	0.01226	0.00288
9	–	–	0.01906	0.00528	–	–
10	0.00875	0.00162	–	–	–	–
11	0.00865	0.00153	0.01666	0.00302	–	–
12	0.00850	0.00143	0.02335	0.00415	–	–
13	0.00823	0.00133	0.02418	0.00387	–	–
14	0.00789	0.00124	0.02354	0.00378	0.01426	0.00230
15	–	–	0.02252	0.00373	–	–
16	–	–	0.02237	0.00367	0.01544	0.00256
17	0.00450	0.00074	0.02231	0.00363	–	–
18	0.00369	0.00058	0.02151	0.00357	0.01467	0.00240
19	0.00501	0.00074	–	–	0.01530	0.00245
20	0.00226	0.00041	–	–	0.01852	0.00289
21	–	–	0.01605	0.00275	0.02049	0.00320
23	–	–	0.01630	0.00263	–	–
24	–	–	0.01738	0.00286	–	–
25	–	–	0.00899	0.00152	–	–

Term values (cm^{-1})
$c_3\,{}^1\Pi_u(v=1)$

J	T_e	σ	T_f	σ
1	106491.843	0.005	106491.825	0.004
2	106498.466	0.004	106498.406	0.011
3	106508.393	0.004	106508.290	0.004
4	106521.594	0.004	106521.447	0.004
5	106538.076	0.007	106537.851	0.013
6	106557.760	0.011	106557.555	0.004
7	106580.661	0.008	106580.475	0.004
8	106606.694	0.004	106606.614	0.004
9	106635.806	0.004	106635.931	0.004
10	106667.896	0.004	106668.400	0.008
11	106702.837	0.004	106704.017	0.014
12	106740.527	0.007	106742.561	0.014
13	106780.806	0.009	106784.190	0.022
14	106823.886	0.024	106829.625	0.018
15	106869.654	0.012	106877.113	0.006
16	106917.415	0.014	106927.147	0.007
17	106967.971	0.008	106980.211	0.007
18	107021.698	0.033	107035.409	0.005
19	107078.466	0.008	107092.939	0.012
20	107138.416	0.014	107152.978	0.152
21	107201.833	0.112	107215.778	0.028
22	107267.955	0.038	107279.741	0.088
23	107336.558	0.085	107345.457	0.017
24	–	–	107413.011	0.024
25	–	–	107482.256	0.048

Band f-values
$c_3\,{}^1\Pi_u(v'=1) \leftarrow X(v''=0)$

J'	f_P	σ	f_Q	σ	f_R	σ
1	–	–	0.03901	0.00740	–	–
2	0.04346	0.00773	–	–	–	–
3	0.03926	0.00714	0.03799	0.00922	0.03765	0.00774
4	0.04152	0.00808	0.03724	0.00985	0.03719	0.00808
6	0.04595	0.00983	0.03685	0.01044	–	–
7	0.03408	0.00671	0.03960	0.01189	–	–
8	–	–	0.04136	0.01307	0.04203	0.01073
9	0.04084	0.00754	0.03812	0.01057	0.04169	0.00979
10	0.03981	0.00702	–	–	–	–
11	0.03863	0.00652	0.03333	0.00603	–	–
12	0.03703	0.00600	0.04670	0.00830	–	–
13	0.03521	0.00554	0.04836	0.00774	–	–
14	–	–	0.04709	0.00756	–	–
15	–	–	0.04503	0.00747	0.05171	0.00834
16	0.01970	0.00323	0.04475	0.00733	–	–
17	0.01606	0.00254	0.04462	0.00727	0.05663	0.00938
18	0.02171	0.00320	0.04302	0.00713	–	–
19	0.00976	0.00175	–	–	0.05428	0.00888
20	–	–	–	–	0.05683	0.00909
21	–	–	0.03211	0.00550	0.06904	0.01076
22	–	–	–	–	0.07661	0.01197
23	–	–	0.03259	0.00527	–	–
24	–	–	0.03476	0.00572	–	–
25	–	–	0.01799	0.00304	–	–

Natural linewidths (cm^{-1} FWHM)

$$c_3\,^1\Pi_u(v'=1) \leftarrow X(v''=0)$$

J'	Γ_e	σ	Γ_f	σ
1	–	–	0.039	0.031
2	0.030	0.031	–	–
3	0.039	0.031	0.042	0.034
4	0.031	0.031	0.053	0.036
6	0.074	0.034	0.057	0.039
7	0.030	0.037	0.070	0.043
8	0.084	0.040	0.079	0.043
9	0.105	0.032	0.138	0.045
10	0.132	0.032	–	–
11	0.169	0.032	0.319	0.044
12	0.280	0.034	0.488	0.043
13	0.573	0.037	1.223	0.052
14	–	–	1.595	0.063
15	0.591	0.039	0.441	0.035
16	0.189	0.054	0.386	0.035
17	0.212	0.033	0.361	0.036
18	0.339	0.110	0.122	0.033
19	0.080	0.033	–	–
20	0.230	0.041	–	–
21	1.440	0.239	0.482	0.104
22	0.526	0.088	–	–
23	–	–	0.081	0.063
24	–	–	0.095	0.086
25	–	–	0.001	0.202

Transition energies (cm^{-1})
$c_3\,^1\Pi_u(v'=2) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	108628.199	0.009
1	–	–	108624.334	0.006	108631.431	0.006
2	108616.658	0.009	108623.661	0.005	108634.360	0.004
3	108612.195	0.006	108622.681	0.004	108636.946	0.008
4	108607.432	0.004	108621.358	0.004	108639.224	0.004
5	108602.326	0.008	108619.698	0.004	108641.130	0.004
6	108596.912	0.004	108617.701	0.004	108642.648	0.004
7	108591.128	0.004	108615.359	0.005	108643.766	0.004
8	108584.959	0.004	108612.675	0.004	108644.431	0.005
9	108578.391	0.004	108609.623	0.004	108644.626	0.005
10	108571.371	0.005	108606.184	0.008	108644.303	0.006
11	108563.885	0.005	108602.429	0.027	108643.421	0.006
12	108555.884	0.006	108598.137	0.004	108641.898	0.006
13	108547.326	0.006	108593.440	0.005	108639.687	0.009
14	108538.130	0.006	108588.250	0.007	108636.679	0.017
15	108528.250	0.009	108582.494	0.007	108632.855	0.012
16	108517.577	0.017	108576.100	0.011	108627.885	0.026
17	108506.091	0.012	108568.828	0.023	108622.191	0.092
18	108493.464	0.026	108561.172	0.048	108615.011	0.097
19	108480.117	0.092	108551.654	0.015	108606.023	0.074
20	108465.289	0.097	108540.276	0.011	–	–
21	108448.659	0.074	108526.601	0.014	–	–
22	–	–	108509.759	0.026	–	–
23	–	–	108488.931	0.026	–	–
24	–	–	108463.514	0.049	–	–
25	–	–	108433.603	0.056	–	–

Line f-values
$c_3\,^1\Pi_u(v'=2) \leftarrow X(v''=0)$

J''	f_P	σ	f_Q	σ	f_R	σ
1	–	–	0.00496	0.00081	0.00615	0.00098
2	0.00124	0.00021	0.00549	0.00087	0.00469	0.00074
3	0.00192	0.00031	0.00577	0.00094	–	–
4	0.00198	0.00031	0.00627	0.00101	0.00388	0.00062
5	–	–	0.00612	0.00098	0.00360	0.00057
6	0.00262	0.00041	0.00607	0.00098	0.00337	0.00053
7	0.00267	0.00042	–	–	–	–
8	0.00267	0.00042	0.00605	0.00098	–	–
9	0.00269	0.00043	0.00632	0.00102	–	–
10	0.00283	0.00045	0.00683	0.00117	–	–
11	0.00286	0.00045	–	–	–	–
12	0.00314	0.00050	0.00623	0.00099	0.00336	0.00053
13	0.00366	0.00058	0.00645	0.00102	0.00368	0.00059
14	0.00338	0.00054	0.00686	0.00108	–	–
15	0.00392	0.00062	0.00777	0.00123	0.00336	0.00055
16	0.00421	0.00068	0.00768	0.00122	–	–
17	0.00402	0.00067	0.00773	0.00128	–	–
18	0.00387	0.00070	0.00742	0.00135	–	–
19	0.00315	0.00086	0.00780	0.00133	–	–
20	–	–	0.00849	0.00146	–	–
21	0.00315	0.00114	0.00944	0.00171	–	–
22	–	–	0.00580	0.00146	–	–
23	–	–	0.00868	0.00218	–	–
24	–	–	0.00619	0.00262	–	–
25	–	–	0.00864	0.00412	–	–

Term values (cm^{-1})
$c_3\,^1\Pi_u(v=2)$

J	T_e	σ	T_f	σ
1	108628.199	0.009	108628.181	0.006
2	108635.278	0.006	108635.202	0.005
3	108645.902	0.004	108645.763	0.004
4	108660.029	0.008	108659.828	0.004
5	108677.694	0.004	108677.401	0.004
6	108698.833	0.004	108698.482	0.004
7	108723.430	0.004	108723.063	0.005
8	108751.470	0.004	108751.146	0.004
9	108782.901	0.005	108782.703	0.004
10	108817.706	0.005	108817.714	0.008
11	108855.833	0.006	108856.250	0.027
12	108897.242	0.006	108898.087	0.004
13	108941.848	0.006	108943.356	0.005
14	108989.603	0.009	108991.967	0.007
15	109040.397	0.017	109043.847	0.007
16	109094.208	0.012	109098.920	0.011
17	109150.705	0.026	109156.944	0.023
18	109210.307	0.092	109218.413	0.048
19	109272.251	0.097	109281.844	0.015
20	109336.213	0.074	109347.238	0.011
21	–	–	109414.155	0.014
22	–	–	109481.723	0.026
23	–	–	109549.119	0.026
24	–	–	109615.738	0.049
25	–	–	109681.671	0.056

Band f-values
$c_3\,^1\Pi_u(v'=2) \leftarrow X(v''=0)$

J'	f_P	σ	f_Q	σ	f_R	σ
1	0.01239	0.00211	0.00993	0.00161	–	–
2	0.01345	0.00217	0.01099	0.00174	0.01229	0.00196
3	0.01186	0.00188	0.01154	0.00189	0.01172	0.00185
4	–	–	0.01254	0.00202	–	–
5	0.01361	0.00215	0.01224	0.00197	0.01165	0.00186
6	0.01335	0.00211	0.01214	0.00196	0.01131	0.00179
7	0.01296	0.00205	–	–	0.01094	0.00173
8	0.01279	0.00203	0.01209	0.00196	–	–
9	0.01321	0.00210	0.01264	0.00203	–	–
10	0.01314	0.00207	0.01365	0.00234	–	–
11	0.01426	0.00226	–	–	–	–
12	0.01648	0.00260	0.01246	0.00197	–	–
13	0.01508	0.00239	0.01290	0.00203	0.01200	0.00188
14	0.01737	0.00277	0.01373	0.00216	0.01326	0.00213
15	0.01852	0.00300	0.01555	0.00245	–	–
16	0.01760	0.00293	0.01537	0.00245	0.01225	0.00201
17	0.01683	0.00305	0.01546	0.00256	–	–
18	0.01366	0.00374	0.01484	0.00270	–	–
19	–	–	0.01560	0.00266	–	–
20	0.01353	0.00490	0.01698	0.00293	–	–
21	–	–	0.01888	0.00341	–	–
22	–	–	0.01160	0.00292	–	–
23	–	–	0.01735	0.00436	–	–
24	–	–	0.01237	0.00525	–	–
25	–	–	0.01729	0.00824	–	–

Natural linewidths (cm^{-1} FWHM)

$c_3\,{}^1\Pi_u(v'=2) \leftarrow X(v''=0)$

J'	Γ_e	σ	Γ_f	σ
1	0.126	0.040	0.080	0.035
2	0.171	0.032	0.147	0.033
3	0.133	0.031	0.145	0.033
4	–	–	0.153	0.032
5	0.159	0.031	0.151	0.031
6	0.144	0.031	0.154	0.031
7	0.135	0.031	–	–
8	0.144	0.032	0.146	0.032
9	0.116	0.032	0.167	0.031
10	0.137	0.032	0.186	0.035
11	0.157	0.033	–	–
12	0.236	0.034	0.189	0.032
13	0.264	0.033	0.250	0.033
14	0.369	0.035	0.349	0.035
15	0.462	0.051	0.344	0.035
16	0.401	0.040	0.483	0.044
17	0.422	0.067	0.781	0.077
18	0.815	0.277	1.078	0.148
19	–	–	0.305	0.054
20	0.335	0.218	0.138	0.046
21	–	–	0.144	0.055
22	–	–	0.082	0.085
23	–	–	0.095	0.093
24	–	–	0.063	0.101
25	–	–	0.074	0.194

Transition energies (cm^{-1})

$o_3\,^1\Pi_u(v'=0) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	105667.708	0.082
1	–	–	105663.846	0.059	105670.411	0.033
2	105656.166	0.082	105662.678	0.024	105672.506	0.032
3	105651.176	0.033	105660.834	0.027	105674.127	0.021
4	105645.577	0.032	105658.020	0.022	105674.984	0.048
5	105639.506	0.021	105656.752	0.016	105675.352	0.019
6	105632.673	0.048	105653.113	0.014	105675.072	0.033
7	105625.351	0.019	105649.052	0.014	105674.365	0.027
8	105617.383	0.033	105644.477	0.031	105672.830	0.016
9	105608.990	0.027	105639.301	0.014	105670.781	0.016
10	105599.771	0.016	105633.561	0.012	105668.101	0.014
11	105590.040	0.016	105627.281	0.011	105664.775	0.020
12	105579.682	0.014	105620.421	0.013	105660.648	0.046
13	105568.680	0.020	105613.147	0.016	105656.098	0.209
14	105556.880	0.046	105605.537	0.031	105650.780	0.017
15	–	–	105593.633	0.030	105644.307	0.452
16	–	–	105584.315	0.023	105637.377	0.023
17	–	–	105574.005	0.030	–	–
18	–	–	105562.718	0.032	–	–
19	–	–	105550.686	0.050	–	–
20	–	–	105537.483	0.044	–	–

Term values (cm^{-1})

$o_3\,^1\Pi_u(v=0)$

J	T_e	σ	T_f	σ
1	105667.708	0.082	105667.693	0.059
2	105674.258	0.033	105674.219	0.024
3	105684.047	0.032	105683.916	0.027
4	105697.209	0.021	105696.490	0.022
5	105713.454	0.048	105714.455	0.016
6	105733.055	0.019	105733.894	0.014
7	105755.854	0.033	105756.756	0.014
8	105782.070	0.027	105782.948	0.031
9	105811.301	0.016	105812.381	0.014
10	105843.861	0.016	105845.091	0.012
11	105879.631	0.014	105881.102	0.011
12	105918.596	0.020	105920.371	0.013
13	105960.598	0.046	105963.063	0.016
14	106006.014	0.296	106009.254	0.031
15	106054.497	0.024	106054.986	0.030
16	106105.660	0.639	106107.135	0.023
17	106160.197	0.033	106162.121	0.030
18	–	–	106219.959	0.032
19	–	–	106280.876	0.050
20	–	–	106344.445	0.044

Band f-values

$o_3\,^1\Pi_u(v'=0) \leftarrow X(v''=0)$

J'	f_P	σ	f_Q	σ	f_R	σ
2	0.00089	0.00015	0.00075	0.00012	0.00089	0.00014
3	0.00040	0.00007	–	–	0.00091	0.00015
4	–	–	0.00052	0.00008	–	–
5	0.00049	0.00008	0.00065	0.00010	–	–
6	0.00080	0.00013	0.00072	0.00011	–	–
7	0.00071	0.00011	0.00072	0.00011	–	–
8	0.00079	0.00013	–	–	–	–
9	0.00089	0.00014	–	–	0.00140	0.00022
10	0.00081	0.00013	0.00101	0.00016	0.00122	0.00019
11	0.00101	0.00016	0.00120	0.00019	0.00161	0.00025
12	0.00103	0.00016	0.00122	0.00019	–	–
13	0.00085	0.00014	0.00115	0.00018	–	–
14	–	–	0.00070	0.00011	–	–
15	–	–	0.00092	0.00014	0.00257	0.00040
16	–	–	0.00151	0.00024	–	–
17	–	–	0.00151	0.00024	0.00286	0.00045
18	–	–	0.00194	0.00030	–	–
19	–	–	0.00166	0.00026	–	–
20	–	–	0.00266	0.00041	–	–

Line f-values

$o_3\,^1\Pi_u(v'=0) \leftarrow X(v''=0)$

J''	f_P	σ	f_Q	σ	f_R	σ
1	–	–	–	–	0.00044	0.00007
2	–	–	0.00038	0.00006	0.00036	0.00006
3	0.00013	0.00002	–	–	–	–
4	0.00007	0.00001	0.00026	0.00004	–	–
5	–	–	0.00033	0.00005	–	–
6	0.00009	0.00002	0.00036	0.00006	–	–
7	0.00016	0.00003	0.00036	0.00006	–	–
8	0.00015	0.00002	–	–	0.00041	0.00006
9	0.00017	0.00003	–	–	0.00035	0.00006
10	0.00019	0.00003	0.00051	0.00008	0.00046	0.00007
11	0.00018	0.00003	0.00060	0.00010	–	–
12	0.00022	0.00004	0.00061	0.00010	–	–
13	0.00023	0.00004	0.00057	0.00009	–	–
14	0.00019	0.00003	0.00035	0.00006	0.00071	0.00011
15	–	–	0.00046	0.00007	–	–
16	–	–	0.00076	0.00012	0.00078	0.00012
17	–	–	0.00075	0.00012	–	–
18	–	–	0.00097	0.00015	–	–
19	–	–	0.00083	0.00013	–	–
20	–	–	0.00133	0.00021	–	–

Transition energies (cm^{-1})
$o_3\ ^1\Pi_u(v'=1) \leftarrow X(v''=0)$

J''	P	σ	Q	σ	R	σ
0	–	–	–	–	107610.043	0.013
1	–	–	107606.206	0.008	107612.860	0.008
2	107598.502	0.013	107605.180	0.006	107615.208	0.018
3	107593.625	0.008	107603.639	0.040	107616.984	0.007
4	107588.280	0.018	107601.597	0.005	107618.263	0.007
5	107582.363	0.007	107599.078	0.009	107619.051	0.006
6	107575.952	0.007	107596.026	0.004	107619.339	0.007
7	107569.049	0.006	107592.492	0.004	107619.144	0.043
8	107561.650	0.007	107588.450	0.018	107618.407	0.008
9	107553.768	0.043	107583.945	0.005	107617.210	0.019
10	107545.347	0.008	107578.926	0.004	107615.486	0.008
11	107536.469	0.019	107573.424	0.005	107613.268	0.007
12	107527.067	0.008	107567.433	0.005	107610.552	0.008
13	107517.173	0.007	107560.938	0.006	107607.318	0.007
14	107506.784	0.008	107553.998	0.054	107603.559	0.016
15	107495.882	0.007	107546.465	0.011	107599.341	0.018
16	107484.457	0.016	107538.485	0.009	107594.552	0.011
17	107472.577	0.018	107530.024	0.012	107589.240	0.016
18	107460.131	0.011	107521.036	0.069	107583.395	0.022
19	107447.167	0.016	107511.620	0.038	107576.943	0.021
20	107433.674	0.022	107501.613	0.019	107569.832	0.021
21	107419.579	0.021	107491.146	0.036	–	–
22	107404.830	0.021	–	–	–	–
23	–	–	107468.668	0.032	–	–

Band f-values
$o_3\ ^1\Pi_u(v'=1) \leftarrow X(v''=0)$

J'	f_P	σ	f_Q	σ	f_R	σ
1	–	–	0.01392	0.00229	0.01657	0.00299
2	0.01617	0.00266	0.01382	0.00226	0.01823	0.00307
3	–	–	–	–	0.01850	0.00338
4	0.01582	0.00259	–	–	–	–
5	0.01545	0.00252	–	–	–	–
6	0.01348	0.00226	0.01441	0.00243	–	–
7	0.01405	0.00232	0.01450	0.00246	–	–
9	0.01397	0.00231	–	–	–	–
10	–	–	0.01372	0.00229	–	–
11	0.01257	0.00207	0.01499	0.00248	0.01109	0.00220
12	0.01253	0.00207	0.01218	0.00208	0.01271	0.00214
13	0.01273	0.00212	0.01430	0.00237	0.01336	0.00227
14	0.01498	0.00247	–	–	0.01636	0.00265
15	0.01222	0.00219	0.01225	0.00218	–	–
16	0.01091	0.00221	0.01240	0.00210	–	–
17	–	–	0.01373	0.00251	0.01355	0.00220
18	0.01113	0.00275	–	–	–	–
20	–	–	0.01374	0.00268	0.01416	0.00262
21	–	–	0.01124	0.00379	0.00904	0.00198
23	–	–	0.01185	0.00430	–	–

Term values (cm^{-1})
$o_3\ ^1\Pi_u(v=1)$

J	T_e	σ	T_f	σ
1	107610.043	0.013	107610.053	0.008
2	107616.707	0.008	107616.721	0.006
3	107626.750	0.018	107626.721	0.040
4	107640.066	0.007	107640.067	0.005
5	107656.733	0.007	107656.781	0.009
6	107676.754	0.006	107676.807	0.004
7	107700.121	0.007	107700.196	0.004
8	107726.848	0.043	107726.921	0.018
9	107756.877	0.008	107757.025	0.005
10	107790.290	0.019	107790.456	0.004
11	107827.016	0.008	107827.245	0.005
12	107867.089	0.007	107867.383	0.005
13	107910.502	0.008	107910.854	0.006
14	107957.234	0.007	107957.716	0.054
15	108007.277	0.016	108007.818	0.011
16	108060.694	0.018	108061.305	0.009
17	108117.372	0.011	108118.140	0.012
18	108177.357	0.016	108178.277	0.069
19	108240.636	0.022	108241.810	0.038
20	108307.133	0.021	108308.575	0.019
21	108376.794	0.021	108378.700	0.036
23	–	–	108528.856	0.032

Natural linewidths (cm^{-1} FWHM)
$o_3\ ^1\Pi_u(v'=1) \leftarrow X(v''=0)$

J'	Γ_e	σ	Γ_f	σ
1	0.297	0.052	0.220	0.037
2	0.283	0.034	0.220	0.034
3	0.348	0.042	–	–
4	0.252	0.034	–	–
5	0.271	0.033	–	–
6	0.194	0.035	0.247	0.032
7	0.214	0.034	0.237	0.032
9	0.237	0.036	–	–
10	–	–	0.237	0.032
11	0.212	0.033	0.280	0.033
12	0.214	0.033	0.207	0.036
13	0.214	0.034	0.267	0.035
14	0.264	0.033	–	–
15	0.201	0.057	0.206	0.046
16	0.162	0.060	0.234	0.042
17	0.200	0.030	0.233	0.055
18	0.121	0.072	–	–
20	0.200	0.030	0.185	0.068
21	–	–	0.164	0.139
23	–	–	0.001	0.134

Line f-values
$o_3\ ^1\Pi_u(v'=1) \leftarrow X(v''=0)$

J''	f_P	σ	f_Q	σ	f_R	σ
0	–	–	–	–	0.01657	0.00299
1	–	–	0.00696	0.00114	0.00911	0.00153
2	0.00231	0.00038	0.00691	0.00113	0.00740	0.00135
3	0.00288	0.00047	–	–	–	–
5	0.00297	0.00048	–	–	–	–
6	0.00270	0.00045	0.00720	0.00121	–	–
7	0.00289	0.00048	0.00725	0.00123	–	–
8	0.00299	0.00049	–	–	–	–
10	–	–	0.00686	0.00114	0.00317	0.00063
11	0.00277	0.00045	0.00749	0.00124	0.00359	0.00061
12	0.00278	0.00046	0.00609	0.00104	0.00374	0.00063
13	0.00285	0.00048	0.00715	0.00118	0.00454	0.00074
14	0.00338	0.00056	–	–	–	–
15	0.00278	0.00050	0.00613	0.00109	–	–
16	0.00249	0.00051	0.00620	0.00105	0.00370	0.00060
17	0.00257	0.00063	0.00686	0.00125	–	–
19	–	–	–	–	0.00381	0.00071
20	–	–	0.00687	0.00134	0.00243	0.00053
21	–	–	0.00562	0.00190	–	–

Transition energies (cm^{-1})
$b'\,^1\Sigma_u^+(v'=1) \leftarrow X(v''=0)$

J''	P	σ	R	σ
1	–	–	104421.860	0.035
2	–	–	104420.816	0.034
3	104402.625	0.035	104418.182	0.020
4	104393.888	0.034	104413.912	0.013
5	104383.561	0.020	104408.025	0.011
6	104371.600	0.013	104400.527	0.009
7	104358.024	0.011	104391.485	0.007
8	104342.838	0.009	104380.916	0.005
9	104326.109	0.007	104369.213	0.003
10	104307.857	0.005	104350.609	0.003
11	104288.473	0.003	104337.016	0.004
12	104262.190	0.003	104320.080	0.010
13	104240.921	0.004	104301.299	0.016
14	104216.312	0.010	–	–
15	104189.862	0.016	104258.459	0.091
16	–	–	104234.483	0.221

Term values (cm^{-1})
$b'\,^1\Sigma_u^+(v=1)$

J	T_e	σ
2	104425.707	0.035
3	104432.358	0.034
4	104441.264	0.020
5	104452.382	0.013
6	104465.728	0.011
7	104481.309	0.009
8	104499.189	0.007
9	104519.387	0.005
10	104542.293	0.003
11	104562.139	0.003
12	104590.837	0.004
13	104620.030	0.010
14	104651.215	0.016
16	104719.812	0.129
17	104757.303	0.313

Band f-values
$b'\,^1\Sigma_u^+(v'=1) \leftarrow X(v''=0)$

J'	f_P	σ	f_R	σ
2	0.00040	0.00004	–	–
3	0.00035	0.00004	–	–
4	0.00058	0.00006	0.00045	0.00005
5	0.00067	0.00007	0.00078	0.00008
6	0.00098	0.00010	0.00073	0.00007
7	0.00130	0.00013	0.00110	0.00011
8	0.00200	0.00020	0.00170	0.00017
9	0.00417	0.00042	0.00356	0.00036
10	0.01645	0.00166	–	–
11	0.04882	0.00492	0.04252	0.00429
12	0.00639	0.00064	–	–
13	0.00219	0.00022	0.00133	0.00013
14	0.00110	0.00011	–	–
16	–	–	0.00034	0.00004
17	–	–	0.00018	0.00003

Line f-values
$b'\,^1\Sigma_u^+(v'=1) \leftarrow X(v''=0)$

J''	f_P	σ	f_R	σ
3	0.00017	0.00002	0.00026	0.00003
4	0.00015	0.00002	0.00044	0.00004
5	0.00026	0.00003	0.00040	0.00004
6	0.00031	0.00003	0.00059	0.00006
7	0.00046	0.00005	0.00091	0.00009
8	0.00061	0.00006	0.00188	0.00019
9	0.00095	0.00010	–	–
10	0.00199	0.00020	0.02227	0.00225
11	0.00787	0.00079	–	–
12	0.02343	0.00236	0.00069	0.00007
13	0.00307	0.00031	–	–
14	0.00106	0.00011	–	–
15	0.00053	0.00005	0.00018	0.00002
16	–	–	0.00009	0.00002

Transition energies (cm^{-1})
$b'\,^1\Sigma_u^+(v'=4) \leftarrow X(v''=0)$

J''	P	σ	R	σ
0	–	–	106610.087	0.022
1	106603.797	0.028	106611.084	0.014
2	106598.546	0.022	106610.758	0.014
3	106591.849	0.014	106609.021	0.016
4	106583.830	0.014	106605.987	0.023
5	106574.400	0.016	106601.416	0.064
6	106563.675	0.023	106595.441	0.024
7	106551.441	0.061	106588.681	0.010
8	106537.752	0.024	106580.840	0.008
9	106523.306	0.010	106572.046	0.041
10	106507.781	0.008	106562.451	0.015
11	106491.305	0.041	106552.302	0.012
12	106474.032	0.015	–	–
13	106456.095	0.033	–	–
14	106437.831	0.007	–	–
15	106419.367	0.006	–	–
16	106400.906	0.006	–	–
17	106382.491	0.009	–	–
18	106364.201	0.019	–	–
19	106345.859	0.017	–	–
20	106327.067	0.013	–	–
21	106307.735	0.036	–	–
22	106288.031	0.020	–	–
23	106268.027	0.024	–	–

Term values (cm^{-1})
$b'\,^1\Sigma_u^+(v=4)$

J	T_e	σ
0	106607.644	0.040
1	106610.087	0.022
2	106614.931	0.014
3	106622.300	0.014
4	106632.103	0.016
5	106644.457	0.023
6	106659.133	0.063
7	106676.223	0.024
8	106696.386	0.010
9	106719.311	0.008
10	106745.126	0.041
11	106773.981	0.015
12	106806.109	0.016
13	106841.549	0.009
14	106880.720	0.008
15	106923.726	0.008
16	106970.607	0.013
17	107021.442	0.027
18	107076.049	0.024
19	107134.029	0.019
20	107195.289	0.051
21	107259.995	0.028
22	107328.215	0.034

Line f-values
$b'\,^1\Sigma_u^+(v'=4) \leftarrow X(v''=0)$

J''	f_P	σ	f_R	σ
1	0.00080	0.00013	–	–
2	0.00072	0.00012	–	–
3	0.00070	0.00012	0.00081	0.00013
4	0.00090	0.00015	0.00059	0.00009
5	0.00128	0.00021	0.00064	0.00010
6	0.00113	0.00018	–	–
7	0.00165	0.00030	0.00058	0.00009
8	0.00243	0.00039	0.00044	0.00007
9	0.00187	0.00030	0.00026	0.00004
10	0.00307	0.00050	–	–
14	0.00503	0.00082	–	–
15	0.00566	0.00093	–	–
16	0.00681	0.00111	–	–
17	0.00734	0.00118	–	–
20	0.00898	0.00125	–	–
22	0.00690	0.00113	–	–
23	0.00784	0.00126	–	–

Band f-values
$b'\,^1\Sigma_u^+(v'=4) \leftarrow X(v''=0)$

J'	f_P	σ	f_R	σ
0	0.00239	0.00040	–	–
1	0.00180	0.00030	–	–
2	0.00164	0.00027	–	–
3	0.00201	0.00033	–	–
4	0.00281	0.00045	0.00141	0.00023
5	0.00245	0.00039	0.00106	0.00017
6	0.00354	0.00065	0.00117	0.00019
7	0.00516	0.00082	–	–
8	0.00396	0.00064	0.00108	0.00018
9	0.00645	0.00105	0.00082	0.00013
10	–	–	0.00049	0.00008
13	0.01041	0.00170	–	–
14	0.01170	0.00192	–	–
15	0.01405	0.00229	–	–
16	0.01511	0.00243	–	–
19	0.01841	0.00256	–	–
21	0.01411	0.00230	–	–
22	0.01602	0.00258	–	–

Natural linewidths (cm^{-1} FWHM)
$b'\,^1\Sigma_u^+(v'=4) \leftarrow X(v''=0)$

J'	Γ_e	σ
3	0.102	0.054
4	0.301	0.046
5	0.405	0.058
6	1.144	0.135
7	0.748	0.076
8	0.242	0.037
9	0.226	0.034
10	0.102	0.135
13	0.093	0.034
14	0.031	0.033
15	0.029	0.033
16	0.163	0.040
19	0.132	0.053

Transition energies (cm^{-1})
$b'\,^1\Sigma_u^+(v'=5) \leftarrow X(v''=0)$

J''	P	σ	R	σ
0	–	–	107279.319	0.039
1	–	–	107280.009	0.016
2	107267.777	0.039	107279.069	0.013
3	107260.774	0.016	107276.517	0.010
4	107252.141	0.013	107272.355	0.010
5	107241.896	0.010	107266.587	0.010
6	107230.043	0.010	107259.222	0.009
7	107216.585	0.010	107250.233	0.009
8	107201.533	0.009	107239.658	0.010
9	107184.857	0.009	107227.467	0.010
10	107166.599	0.010	107213.666	0.011
11	107146.726	0.010	107198.266	0.013
12	107125.246	0.011	107181.266	0.017
13	107102.171	0.013	107162.697	0.023
14	107077.498	0.017	107142.481	0.029
15	107051.260	0.023	107120.736	0.025
16	107023.379	0.029	107097.329	0.039
17	106993.973	0.025	–	–
18	106962.908	0.039	–	–

Term values (cm^{-1})
$b'\,^1\Sigma_u^+(v=5)$

J	T_e	σ
1	107279.319	0.039
2	107283.856	0.016
3	107290.611	0.013
4	107299.599	0.010
5	107310.825	0.010
6	107324.290	0.010
7	107340.004	0.009
8	107357.937	0.009
9	107378.129	0.010
10	107400.547	0.010
11	107425.196	0.011
12	107452.087	0.013
13	107481.216	0.017
14	107512.613	0.023
15	107546.199	0.029
16	107582.089	0.025
17	107620.149	0.039

Band f-values
$b'\,^1\Sigma_u^+(v'=5) \leftarrow X(v''=0)$

J'	f_P	σ	f_R	σ
2	0.00104	0.00020	0.00082	0.00020
3	0.00111	0.00021	–	–
4	0.00109	0.00020	0.00091	0.00017
5	0.00106	0.00019	0.00081	0.00015
6	0.00085	0.00016	0.00083	0.00015
7	0.00118	0.00021	0.00082	0.00015
8	0.00111	0.00020	0.00075	0.00014
9	0.00108	0.00020	0.00067	0.00013
10	0.00121	0.00023	0.00070	0.00014
11	0.00115	0.00022	0.00079	0.00015
12	0.00105	0.00022	0.00085	0.00017
13	0.00111	0.00024	0.00065	0.00014
14	0.00117	0.00027	0.00038	0.00012
15	0.00112	0.00030	0.00048	0.00015
16	0.00146	0.00040	0.00085	0.00022
17	0.00144	0.00048	0.00062	0.00024

Line f-values
$b'\,^1\Sigma_u^+(v'=5) \leftarrow X(v''=0)$

J''	f_P	σ	f_R	σ
1	–	–	0.00055	0.00013
3	0.00045	0.00009	0.00052	0.00010
4	0.00049	0.00009	0.00045	0.00008
5	0.00050	0.00009	0.00045	0.00008
6	0.00049	0.00009	0.00044	0.00008
7	0.00040	0.00007	0.00040	0.00007
8	0.00055	0.00010	0.00036	0.00007
9	0.00053	0.00010	0.00037	0.00007
10	0.00051	0.00009	0.00041	0.00008
11	0.00058	0.00011	0.00044	0.00009
12	0.00055	0.00011	0.00034	0.00008
13	0.00051	0.00010	0.00020	0.00006
14	0.00054	0.00012	0.00025	0.00008
15	0.00057	0.00013	0.00044	0.00011
16	0.00054	0.00015	0.00032	0.00012
17	0.00071	0.00019	–	–
18	0.00070	0.00023	–	–

Transition energies (cm^{-1})
$b'\,^1\Sigma_u^+(v'=6) \leftarrow X(v''=0)$

J''	P	σ	R	σ
0	–	–	107939.425	0.024
1	107933.275	0.064	107940.258	0.011
2	107927.884	0.024	107939.494	0.009
3	107921.023	0.011	107937.320	0.008
4	107912.566	0.009	107933.581	0.009
5	107902.699	0.008	107928.308	0.009
6	107891.269	0.009	107921.482	0.008
7	107878.307	0.009	107913.100	0.008
8	107863.793	0.008	107903.155	0.008
9	107847.725	0.008	107891.649	0.009
10	107830.095	0.008	107878.549	0.010
11	107810.909	0.009	107863.884	0.019
12	107790.130	0.010	107847.550	0.017
13	107767.789	0.019	107829.644	0.011
14	107743.783	0.017	107810.073	0.010
15	107718.207	0.011	107788.913	0.019
16	107690.971	0.010	107766.094	0.018
17	–	–	107741.624	0.029
18	–	–	107715.616	0.044

Term values (cm^{-1})
$b'\,^1\Sigma_u^+(v=6)$

J	T_e	σ
0	107937.122	0.091
1	107939.425	0.024
2	107944.105	0.011
3	107951.036	0.009
4	107960.402	0.008
5	107972.051	0.009
6	107986.011	0.009
7	108002.264	0.008
8	108020.804	0.008
9	108041.625	0.008
10	108064.729	0.009
11	108090.079	0.010
12	108117.705	0.019
13	108147.500	0.017
14	108179.560	0.011
15	108213.791	0.010
16	108250.266	0.027
17	108288.914	0.026
18	108329.740	0.041
19	108372.857	0.062

Band f-values
$b'\,^1\Sigma_u^+(v'=6) \leftarrow X(v''=0)$

J'	f_P	σ	f_R	σ
1	0.00136	0.00026	–	–
2	0.00142	0.00025	0.00148	0.00027
3	0.00186	0.00031	–	–
4	0.00153	0.00025	0.00152	0.00026
5	0.00136	0.00023	0.00161	0.00027
6	–	–	0.00148	0.00024
7	–	–	0.00160	0.00026
8	–	–	0.00173	0.00028
9	0.00135	0.00023	0.00159	0.00026
10	0.00126	0.00022	0.00161	0.00026
11	0.00141	0.00025	–	–
12	0.00118	0.00022	–	–
13	0.00115	0.00023	–	–
14	0.00150	0.00029	0.00181	0.00031
15	–	–	0.00231	0.00039
16	–	–	0.00165	0.00031
17	–	–	0.00212	0.00040
18	–	–	0.00170	0.00038

Line f-values
$b'\,^1\Sigma_u^+(v'=6) \leftarrow X(v''=0)$

J''	f_P	σ	f_R	σ
1	–	–	0.00099	0.00018
2	0.00054	0.00010	–	–
3	0.00061	0.00011	0.00087	0.00015
4	0.00083	0.00014	0.00089	0.00015
5	0.00070	0.00012	0.00081	0.00013
6	0.00063	0.00011	0.00086	0.00014
7	–	–	0.00092	0.00015
8	–	–	0.00084	0.00014
9	–	–	0.00085	0.00014
10	0.00064	0.00011	–	–
11	0.00060	0.00010	–	–
12	0.00068	0.00012	–	–
13	0.00057	0.00011	0.00094	0.00016
14	0.00055	0.00011	0.00119	0.00020
15	0.00073	0.00014	0.00085	0.00016
16	–	–	0.00109	0.00021
17	–	–	0.00088	0.00019

Transition energies (cm^{-1})

$b'\,{}^1\Sigma_u^+(v'=7) \leftarrow X(v''=0)$

J''	P	σ	R	σ
2	108868.608	0.265	–	–
3	108862.621	0.066	–	–
4	108854.997	0.055	–	–
5	108846.268	0.032	108875.077	0.022
6	108836.211	0.039	108870.483	0.015
7	–	–	108864.746	0.015
8	–	–	108857.894	0.021
9	–	–	108850.156	0.018
10	–	–	108841.303	0.017
11	–	–	108831.541	0.025
12	–	–	108820.912	0.021
13	–	–	108809.384	0.024
14	–	–	108796.905	0.032
15	–	–	108783.501	0.029
16	–	–	108768.972	0.040

Term values (cm^{-1})

$b'\,{}^1\Sigma_u^+(v=7)$

J	T_e	σ
1	108880.149	0.375
2	108885.703	0.093
3	108893.467	0.078
4	108903.971	0.045
5	108916.992	0.055
6	108932.780	0.031
7	108951.264	0.021
8	108972.450	0.021
9	108996.365	0.030
10	109023.236	0.026
11	109052.833	0.024
12	109085.362	0.035
13	109120.862	0.030
14	109159.300	0.034
15	109200.622	0.045
16	109244.854	0.041
17	109291.792	0.057

Line f-values

$b'\,{}^1\Sigma_u^+(v'=7) \leftarrow X(v''=0)$

J''	f_P	σ	f_R	σ
3	0.00011	0.00004	–	–
4	0.00014	0.00004	–	–
5	0.00009	0.00003	0.00024	0.00005
6	–	–	0.00032	0.00006
7	–	–	0.00029	0.00005
9	–	–	0.00028	0.00005
10	–	–	0.00033	0.00006
11	–	–	0.00031	0.00006
12	–	–	0.00033	0.00006
13	–	–	0.00036	0.00007
14	–	–	0.00034	0.00008
15	–	–	0.00042	0.00010

Band f-values

$b'\,{}^1\Sigma_u^+(v'=7) \leftarrow X(v''=0)$

J'	f_P	σ	f_R	σ
2	0.00026	0.00009	–	–
3	0.00032	0.00008	–	–
4	0.00019	0.00006	–	–
6	–	–	0.00045	0.00009
7	–	–	0.00059	0.00010
8	–	–	0.00055	0.00010
10	–	–	0.00053	0.00009
11	–	–	0.00063	0.00011
12	–	–	0.00060	0.00012
13	–	–	0.00063	0.00012
14	–	–	0.00070	0.00014
15	–	–	0.00066	0.00015
16	–	–	0.00081	0.00019

Transition energies (cm^{-1})
$c_4'\ ^1\Sigma_u^+(v'=0) \leftarrow X(v''=0)$

J''	P	σ	R	σ
0	–	–	104328.131	0.004
1	104320.563	0.004	104331.712	0.003
2	104316.589	0.004	104335.162	0.004
3	104312.477	0.003	104338.466	0.004
4	104308.233	0.004	104341.619	0.003
5	104303.845	0.004	104344.611	0.003
6	104299.307	0.003	104347.410	0.004
7	104294.610	0.003	104349.991	0.003
8	104289.720	0.004	104352.266	0.004
9	104284.615	0.003	104353.831	0.003
10	104279.207	0.004	104360.450	0.004
11	104273.091	0.003	104360.207	0.004
12	104272.031	0.004	104361.389	0.003
13	104264.112	0.004	104362.555	0.003
14	104257.621	0.003	104363.477	0.004
15	104251.118	0.003	104364.094	0.004
16	104244.375	0.004	104364.327	0.004
17	104237.331	0.004	104364.118	0.004
18	104229.907	0.004	104363.370	0.004
19	104222.045	0.004	104361.984	0.004
20	104213.648	0.004	104359.814	0.004
21	104204.619	0.004	104356.650	0.004
22	104194.812	0.004	104352.256	0.007
23	104184.016	0.004	104346.284	0.005
24	104171.996	0.007	104338.458	0.014
25	104158.404	0.005	104328.219	0.038
26	104142.964	0.014	104315.445	0.011

Line f-values
$c_4'\ ^1\Sigma_u^+(v'=0) \leftarrow X(v''=0)$

J''	f_P	σ	f_R	σ
1	0.04760	0.00480	0.08080	0.00816
2	0.05164	0.00522	0.07806	0.00788
3	0.05550	0.00561	–	–
4	0.05969	0.00603	0.07122	0.00719
5	0.06427	0.00650	0.06824	0.00689
6	–	–	0.06855	0.00693
7	0.06697	0.00676	0.06048	0.00612
8	0.06631	0.00670	–	–
9	0.07006	0.00708	0.05405	0.00546
10	0.06790	0.00686	–	–
11	0.06275	0.00634	–	–
12	0.04646	0.00469	–	–
13	0.06683	0.00675	–	–
14	0.06643	0.00671	–	–
15	0.07137	0.00721	–	–
16	0.07147	0.00721	–	–
17	0.07159	0.00723	–	–
18	0.07258	0.00732	–	–
19	0.07249	0.00731	–	–
20	0.06912	0.00697	–	–
21	0.06886	0.00693	0.07444	0.00750
22	0.06492	0.00654	–	–
23	0.06151	0.00620	0.07399	0.00746
24	0.05525	0.00557	–	–
25	0.04623	0.00467	–	–
26	–	–	0.07254	0.00732

Term values (cm^{-1})
$c_4'\ ^1\Sigma_u^+(v=0)$

J	T_e	σ
0	104324.410	0.004
1	104328.131	0.004
2	104335.559	0.003
3	104346.703	0.004
4	104361.548	0.004
5	104380.089	0.003
6	104402.314	0.003
7	104428.191	0.004
8	104457.695	0.003
9	104490.737	0.004
10	104526.911	0.003
11	104571.980	0.004
12	104614.028	0.004
13	104661.339	0.003
14	104712.471	0.003
15	104767.195	0.004
16	104825.447	0.004
17	104887.147	0.004
18	104952.235	0.004
19	105020.610	0.004
20	105092.173	0.004
21	105166.776	0.004
22	105244.204	0.004
23	105324.220	0.007
24	105406.472	0.005
25	105490.682	0.014
26	105576.287	0.054
27	105663.163	0.016

Band f-values
$c_4'\ ^1\Sigma_u^+(v'=0) \leftarrow X(v''=0)$

J'	f_P	σ	f_R	σ
0	0.14280	0.01441	–	–
1	0.12910	0.01305	–	–
2	0.12950	0.01308	0.12120	0.01224
3	0.13430	0.01357	0.13010	0.01314
4	0.14140	0.01429	–	–
5	–	–	0.12820	0.01295
6	0.14350	0.01449	0.12510	0.01263
7	0.14090	0.01423	0.12730	0.01287
8	0.14790	0.01494	0.11340	0.01147
9	0.14260	0.01440	–	–
10	0.13120	0.01325	0.10270	0.01037
11	0.09680	0.00978	–	–
12	0.13880	0.01402	–	–
13	0.13760	0.01390	–	–
14	0.14750	0.01491	–	–
15	0.14740	0.01488	–	–
16	0.14740	0.01488	–	–
17	0.14920	0.01505	–	–
18	0.14880	0.01500	–	–
19	0.14170	0.01428	–	–
20	0.14100	0.01420	–	–
21	0.13280	0.01338	–	–
22	0.12570	0.01266	0.14550	0.01466
23	0.11280	0.01137	–	–
24	0.09430	0.00952	0.14490	0.01461
27	–	–	0.14240	0.01437

Transition energies (cm^{-1})
$c_4'\,^1\Sigma_u^+(v'=1) \leftarrow X(v''=0)$

J''	P	σ	R	σ
0	–	–	106341.787	0.007
1	106334.633	0.010	106344.571	0.004
2	106330.246	0.007	106346.821	0.004
3	106325.336	0.004	106348.522	0.004
4	106319.892	0.004	106349.641	0.005
5	106313.902	0.004	106350.164	0.005
6	106307.330	0.005	106350.028	0.014
7	106300.163	0.005	106349.232	0.004
8	106292.338	0.014	106347.669	0.004
9	106283.857	0.004	106345.276	0.004
10	106274.610	0.004	106341.941	0.005
11	106264.535	0.004	106337.538	0.004
12	106253.521	0.005	106331.894	0.004
13	106241.443	0.004	106324.811	0.005
14	106228.126	0.004	106316.054	0.006
15	106213.374	0.005	106305.348	0.008
16	106196.952	0.006	106292.366	0.019
17	106178.585	0.008	106276.989	0.015
18	106157.945	0.019	106258.980	0.038

Term values (cm^{-1})
$c_4'\,^1\Sigma_u^+(v=1)$

J	T_e	σ
0	106338.480	0.014
1	106341.787	0.007
2	106348.418	0.004
3	106358.362	0.004
4	106371.605	0.004
5	106388.111	0.005
6	106407.867	0.005
7	106430.809	0.014
8	106456.937	0.004
9	106486.140	0.004
10	106518.356	0.004
11	106553.471	0.005
12	106591.359	0.004
13	106631.844	0.004
14	106674.727	0.005
15	106719.772	0.006
16	106766.701	0.008
17	106815.186	0.019
18	106865.105	0.021
19	106916.221	0.054

Band f-values
$c_4'\,^1\Sigma_u^+(v'=1) \leftarrow X(v''=0)$

J'	f_P	σ	f_R	σ
0	0.00576	0.00093	–	–
1	0.00580	0.00093	–	–
2	0.00631	0.00102	0.00677	0.00109
3	0.00538	0.00088	–	–
4	0.00530	0.00087	0.00778	0.00129
5	0.00497	0.00082	0.00761	0.00129
6	0.00478	0.00078	–	–
8	0.00409	0.00067	0.00817	0.00143
9	0.00417	0.00068	0.00800	0.00140
10	0.00375	0.00061	0.00836	0.00143
11	0.00344	0.00055	–	–
12	0.00318	0.00051	0.00789	0.00132
13	0.00292	0.00047	0.00746	0.00123
14	0.00275	0.00044	0.00796	0.00130
15	0.00196	0.00032	0.00637	0.00104
16	0.00193	0.00031	0.00547	0.00088
17	0.00207	0.00034	–	–
18	–	–	0.00416	0.00067
19	–	–	0.00208	0.00034

Line f-values
$c_4'\,^1\Sigma_u^+(v'=1) \leftarrow X(v''=0)$

J''	f_P	σ	f_R	σ
1	0.00192	0.00031	0.00452	0.00072
2	0.00232	0.00037	–	–
3	0.00270	0.00044	0.00445	0.00074
4	0.00239	0.00039	0.00423	0.00071
5	0.00241	0.00039	–	–
6	0.00229	0.00038	–	–
7	0.00223	0.00037	0.00436	0.00076
8	–	–	0.00423	0.00074
9	0.00194	0.00032	0.00440	0.00075
10	0.00198	0.00032	–	–
11	0.00179	0.00029	0.00412	0.00069
12	0.00165	0.00026	0.00388	0.00064
13	0.00153	0.00025	0.00413	0.00068
14	0.00141	0.00023	0.00330	0.00054
15	0.00133	0.00021	0.00282	0.00045
16	0.00095	0.00015	–	–
17	0.00094	0.00015	0.00214	0.00035
18	0.00101	0.00016	0.00107	0.00018

Transition energies (cm^{-1})
$c_4'\,^1\Sigma_u^+(v'=2) \leftarrow X(v''=0)$

J''	P	σ	R	σ
0	–	–	108472.485	0.123
1	108465.801	0.069	108474.122	0.027
2	108460.944	0.123	108474.723	0.008
3	108454.887	0.027	108474.176	0.012
4	108447.794	0.008	108472.531	0.009
5	108439.556	0.012	108469.769	0.006
6	108430.219	0.009	108465.888	0.013
7	108419.767	0.006	108460.845	0.010
8	108408.199	0.013	108454.619	0.008
9	108395.470	0.010	108447.208	0.006
10	108381.560	0.008	108438.571	0.006
11	108366.467	0.006	108428.647	0.006
12	108350.152	0.006	108417.404	0.006
13	108332.551	0.006	108404.752	0.007
14	108313.636	0.006	108390.678	0.008
15	108293.315	0.007	108375.091	0.010
16	108271.576	0.008	108357.915	0.013
17	–	–	108339.067	0.011
18	–	–	108318.509	0.018
19	–	–	108296.179	0.024
20	–	–	108271.935	0.041

Term values (cm^{-1})
$c_4'\,^1\Sigma_u^+(v=2)$

J	T_e	σ
0	108469.648	0.098
1	108472.485	0.123
2	108477.969	0.027
3	108486.264	0.008
4	108497.259	0.012
5	108511.001	0.009
6	108527.472	0.006
7	108546.670	0.013
8	108568.549	0.010
9	108593.090	0.008
10	108620.288	0.006
11	108650.101	0.006
12	108682.467	0.006
13	108717.354	0.006
14	108754.668	0.007
15	108794.396	0.008
16	108836.444	0.014
17	108880.735	0.019
18	108927.183	0.016
19	108975.750	0.026
20	109026.369	0.034
21	109078.897	0.058

Band f-values
$c_4'\,^1\Sigma_u^+(v'=2) \leftarrow X(v''=0)$

J'	f_P	σ	f_R	σ
3	0.00108	0.00018	0.00164	0.00027
4	0.00084	0.00014	–	–
5	0.00124	0.00020	–	–
6	0.00083	0.00014	0.00163	0.00026
7	0.00074	0.00013	–	–
8	0.00083	0.00014	–	–
9	0.00091	0.00016	0.00194	0.00032
10	0.00083	0.00015	0.00199	0.00032
11	0.00084	0.00015	0.00205	0.00033
12	0.00090	0.00017	0.00222	0.00036
13	0.00100	0.00019	0.00238	0.00038
14	0.00081	0.00019	0.00236	0.00038
15	–	–	0.00245	0.00040
16	–	–	0.00227	0.00039
17	–	–	0.00232	0.00041
18	–	–	0.00347	0.00060
19	–	–	0.00275	0.00053
20	–	–	0.00291	0.00061

Line f-values
$c_4'\,^1\Sigma_u^+(v'=2) \leftarrow X(v''=0)$

J''	f_P	σ	f_R	σ
2	–	–	0.00099	0.00016
4	0.00048	0.00008	–	–
5	0.00038	0.00007	0.00089	0.00014
6	0.00057	0.00009	–	–
7	0.00039	0.00007	–	–
8	0.00035	0.00006	0.00103	0.00017
9	0.00040	0.00007	0.00105	0.00017
10	0.00043	0.00007	0.00108	0.00017
11	0.00040	0.00007	0.00116	0.00019
12	0.00040	0.00007	0.00124	0.00020
13	0.00043	0.00008	0.00122	0.00020
14	0.00048	0.00009	0.00127	0.00021
15	0.00039	0.00009	0.00117	0.00020
16	–	–	0.00119	0.00021
17	–	–	0.00179	0.00031
18	–	–	0.00141	0.00027
19	–	–	0.00149	0.00031