Table 4. Calculated $\Delta F = +1$ hyperfine components (MHz) and relative intensities of submillimeter-wave transitions of N_2D^+

J'	F_1'	F'	J	F_1	F	Calc. Freq.	Rel. Int.	J'	F_1'	F'	J	F_1	F	Calc. Freq.	Rel. Int.
$J = 7 \leftarrow 6$						539 682.081(32)		$J = 8 \leftarrow 7$						616 749.977(56)	
7	6	5	6	5	4	539 682.029	0.077	8	7	6	7	6	5	616 749.934	0.081
7	6	6	6	5	5	539 682.038	0.091	8	7	7	7	6	6	616 749.942	0.094
7	6	7	6	5	6	539 682.056	0.109	8	7	8	7	6	7	616 749.957	0.109
7	7	6	6	6	5	539 682.074	0.092	8	8	7	7	7	6	616 749.969	0.095
7	7	7	6	6	6	539 682.078	0.107	8	8	8	7	7	7	616 749.974	0.108
7	7	8	6	6	7	539 682.096	0.123	8	8	9	7	7	8	616 749.989	0.122
7	8	7	6	7	6	539 682.098	0.109	8	9	8	7	8	7	616 749.991	0.110
7	8	8	6	7	7	539 682.106	0.124	8	9	9	7	8	8	616 749.999	0.123
7	8	9	6	7	8	539 682.119	0.141	8	9	10	7	8	9	616 750.010	0.137
$J = 9 \leftarrow 8$						693 806.055(88)		$J = 10 \leftarrow 9$						770 848.837(131)	
9	8	7	8	7	6	693 806.018	0.085	10	9	8	9	8	7	770 848.804	0.088
9	8	8	8	7	7	693 806.026	0.096	10	9	9	9	8	8	770 848.812	0.098
9	8	9	8	7	8	693 806.038	0.110	10	9	10	9	8	9	770 848.823	0.110
9	9	8	8	8	7	693 806.047	0.097	10	10	9	9	9	8	770 848.828	0.098
9	9	9	8	8	8	693 806.052	0.108	10	10	10	9	9	9	770 848.835	0.109
9	9	10	8	8	9	693 806.065	0.121	10	10	11	9	9	10	770 848.846	0.120
9	10	9	8	9	8	693 806.066	0.110	10	11	10	9	10	9	770 848.846	0.110
9	10	10	8	9	9	693 806.074	0.122	10	11	11	9	10	10	770 848.854	0.121
9	10	11	8	9	10	693 806.084	0.134	10	11	12	9	10	11	770 848.864	0.132
$J = 11 \leftarrow 10$						847 876.846(183)		$J = 12 \leftarrow 11$						924 888.605(247)	
11	10	9	10	9	8	847 876.816	0.090	12	11	10	11	10	9	924 888.578	0.092
11	10	10	10	9	9	847 876.824	0.099	12	11	11	11	10	10	924 888.586	0.101
11	10	11	10	9	10	847 876.834	0.110	12	11	12	11	10	11	924 888.595	0.110
11	11	10	10	10	9	847 876.838	0.100	12	12	11	11	11	10	924 888.597	0.101
11	11	11	10	10	10	847 876.844	0.109	12	12	12	11	11	11	924 888.604	0.110
11	12	11	10	11	10	847 876.854	0.110	12	13	12	11	12	11	924 888.613	0.110
11	11	12	10	10	11	847 876.855	0.120	12	12	13	11	11	12	924 888.614	0.119
11	12	12	10	11	11	847 876.862	0.120	12	13	13	11	12	12	924 888.620	0.119
11	12	13	10	11	12	847 876.871	0.130	12	13	14	11	12	13	924 888.629	0.129

Table 5. Calculated hyperfine components (MHz)[a] and relative intensities of the $J = 2 \leftarrow 1$ and $J = 3 \leftarrow 2$ transitions of N_2D^+

J'	F_1'	F'	J	F_1	F	Calc. Freq.	Rel. Int.	J'	F_1'	F'	J	F_1	F	Calc. Freq.	Rel. Int.
2	2	2	1	2	1	154 214.845	0.002	3	3	2	2	3	2	231 319.945	0.010
2	2	2	1	2	3	154 215.040	0.004	3	3	4	2	3	4	231 319.995	0.017
2	2	1	1	2	1	154 215.168	0.020	3	3	3	2	3	3	231 320.017	0.007
2	2	3	1	2	3	154 215.288	0.039	3	2	2	2	1	2	231 321.253	0.015
2	2	2	1	2	2	154 215.331	0.011	3	2	2	2	1	1	231 321.456	0.048
2	1	1	1	0	1	154 215.425	0.036	3	2	1	2	1	0	231 321.499	0.022
2	2	3	1	2	2	154 215.579	0.005	3	4	4	2	3	4	231 321.530	0.007
2	1	2	1	0	1	154 215.628	0.062	3	3	3	2	2	3	231 321.547	0.014
2	2	1	1	2	2	154 215.653	0.003	3	2	3	2	1	2	231 321.617	0.094
2	1	0	1	0	1	154 215.888	0.013	3	3	3	2	2	2	231 321.795	0.089
2	2	2	1	1	1	154 216.754	0.066	3	3	2	2	2	1	231 321.908	0.061
2	3	3	1	2	3	154 216.818	0.013	3	3	4	2	2	3	231 321.914	0.125
2	2	2	1	1	2	154 216.889	0.027	3	4	4	2	3	3	231 321.918	0.136
2	2	1	1	1	1	154 217.076	0.012	3	4	3	2	3	2	231 321.919	0.101
2	3	3	1	2	2	154 217.109	0.143	3	2	1	2	1	1	231 321.961	0.019
2	3	2	1	2	1	154 217.131	0.088	3	4	5	2	3	4	231 321.966	0.175
2	2	3	1	1	2	154 217.137	0.112	3	3	2	2	2	2	231 322.231	0.007
2	3	4	1	2	3	154 217.206	0.200	3	4	3	2	3	3	231 322.426	0.010
2	2	1	1	1	0	154 217.502	0.031	3	2	2	2	2	1	231 324.012	0.002
2	3	2	1	2	2	154 217.617	0.021	3	2	2	2	2	3	231 324.086	0.002
2	1	2	1	2	3	154 218.120	0.003	3	2	2	2	2	2	231 324.334	0.011
2	1	1	1	1	1	154 219.631	0.010	3	2	3	2	2	3	231 324.450	0.014
2	1	1	1	1	2	154 219.766	0.013	3	2	1	2	2	1	231 324.517	0.004
2	1	2	1	1	1	154 219.834	0.014	3	2	3	2	2	2	231 324.698	0.002
2	1	2	1	1	2	154 219.969	0.031	3	2	1	2	2	2	231 324.839	0.002
2	1	1	1	1	0	154 220.058	0.006								
2	1	0	1	1	1	154 220.094	0.008								

[a] estimated uncertainties based on propagation of the spectroscopic constants' errors are 8 and 10 kHz for the $J = 2 \leftarrow 1$ and $J = 3 \leftarrow 2$ transitions, respectively

Table 6. Calculated hyperfine components (MHz)[a] and relative intensities of the $J = 4 \leftarrow 3$ transition of N_2D^+

J'	F_1'	F'	J	F_1	F	Calc. Freq.	Rel. Int.
			$\Delta F = +1$				
4	3	3	3	2	2	308 422.092	0.069
4	3	2	3	2	1	308 422.094	0.048
4	3	4	3	2	3	308 422.157	0.103
4	4	4	3	3	3	308 422.233	0.098
4	4	3	3	3	2	308 422.263	0.075
4	4	5	3	3	4	308 422.290	0.126
4	5	4	3	4	3	308 422.296	0.105
4	5	5	3	4	4	308 422.301	0.131
4	5	6	3	4	5	308 422.331	0.160
			$\Delta F = 0$				
4	4	3	3	4	3	308 420.289	0.006
4	4	5	3	4	5	308 420.320	0.009
4	4	4	3	4	4	308 420.332	0.005
4	3	3	3	2	3	308 421.728	0.008
4	5	5	3	4	5	308 421.865	0.005
4	4	4	3	3	4	308 421.866	0.008
4	3	2	3	2	2	308 422.599	0.010
4	4	3	3	3	3	308 422.699	0.005
4	5	4	3	4	4	308 422.804	0.006
4	3	3	3	3	3	308 424.631	0.007
4	3	4	3	3	4	308 424.693	0.008
4	3	2	3	3	2	308 424.703	0.003

[a] the estimated uncertainty based on propagation of the spectroscopic constants' errors is 10 kHz

Table 7. Calculated hyperfine components (MHz)[a] and relative intensities of the $J = 5 \leftarrow 4$ transition of N_2D^+

J'	F_1'	F'	J	F_1	F	Calc. Freq.	Rel. Int.
				$\Delta F = +1$			
5	4	3	4	3	2	385 516.647	0.062
5	4	4	4	3	3	385 516.653	0.080
5	4	5	4	3	4	385 516.689	0.106
5	5	5	4	4	4	385 516.733	0.102
5	5	4	4	4	3	385 516.741	0.083
5	5	6	4	4	5	385 516.768	0.126
5	6	5	4	5	4	385 516.772	0.107
5	6	6	4	5	5	385 516.779	0.128
5	6	7	4	5	6	385 516.800	0.152
				$\Delta F = 0$			
5	5	4	4	5	4	385 514.735	0.004
5	5	6	4	5	6	385 514.757	0.006
5	5	5	4	5	5	385 514.764	0.003
5	4	4	4	3	4	385 516.224	0.005
5	5	5	4	4	5	385 516.309	0.005
5	6	6	4	5	6	385 516.314	0.003
5	4	3	4	3	3	385 517.154	0.006
5	5	4	4	4	4	385 517.207	0.003
5	6	5	4	5	5	385 517.275	0.004
5	4	4	4	4	4	385 519.050	0.005
5	4	3	4	4	3	385 519.086	0.003
5	4	5	4	4	5	385 519.091	0.005

[a] the estimated uncertainty based on propagation of the spectroscopic constants' errors is 10 kHz

Table 8. Calculated hyperfine components (MHz)[a] and relative intensities of the $J = 6 \leftarrow 5$ transition of N_2D^+

J'	F_1'	F'	J	F_1	F	Calc. Freq.	Rel. Int.
				$\Delta F = +1$			
6	5	4	5	4	3	462 603.777	0.071
6	5	5	5	4	4	462 603.785	0.087
6	5	6	5	4	5	462 603.809	0.108
6	6	6	5	5	5	462 603.839	0.105
6	6	5	5	5	4	462 603.839	0.089
6	6	7	5	5	6	462 603.863	0.124
6	7	6	5	6	5	462 603.866	0.108
6	7	7	5	6	6	462 603.874	0.126
6	7	8	5	6	7	462 603.890	0.145
				$\Delta F = 0$			
6	6	5	5	6	5	462 601.801	0.003
6	6	7	5	6	7	462 601.819	0.004
6	6	6	5	6	6	462 601.823	0.002
6	5	5	5	4	5	462 603.320	0.003
6	6	6	5	5	6	462 603.380	0.003
6	7	7	5	6	7	462 603.387	0.002
6	5	4	5	4	4	462 604.278	0.004
6	6	5	5	5	5	462 604.312	0.003
6	7	6	5	6	6	462 604.361	0.003
6	5	5	5	5	5	462 606.102	0.003
6	5	4	5	5	4	462 606.122	0.002
6	5	6	5	5	6	462 606.132	0.003

[a] the estimated uncertainty based on propagation of the spectroscopic constants' errors is 16 kHz