

Theoretical Studies of Allowed (E1) and Forbidden (E2 and M1) Transitions in La IV — Supplement

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DOI: [10.12693/APhysPolA.137.1178.S1](https://doi.org/10.12693/APhysPolA.137.1178.S1)

TABLE I

New data (energies E , Landé g -factors, and lifetimes τ) for valence excitation states in La IV.

Conf.	Term		J	E [cm ⁻¹]	g -factor	τ [ns]
	jK	LS		HFR	HFR	HFR
$5p^56f$	3/2 [3/2]	³ D	1	333647.94	0.504	0.304
	3/2 [9/2]	³ G	5	333926.39	1.200	0.306
	3/2 [3/2]	³ D	2	333953.73	1.110	0.329
	3/2 [9/2]	¹ G	4	333997.47	1.026	0.311
	3/2 [5/2]	³ D	3	334439.33	1.189	0.311
	3/2 [5/2]	¹ D	2	334707.81	0.850	0.376
	3/2 [7/2]	¹ F	3	334807.01	0.955	0.309
	3/2 [7/2]	³ F	4	334912.85	1.186	0.322
	1/2 [7/2]	³ G	3	355019.15	0.883	0.360
	1/2 [7/2]	³ G	4	355824.58	1.140	0.386
	1/2 [5/2]	³ F	2	355876.54	0.879	0.356
	1/2 [5/2]	³ F	3	355894.90	1.189	0.372
	$5p^57f$	3/2 [3/2]	³ D	1	354652.00	0.501
3/2 [3/2]		³ D	2	354696.26	1.060	0.457
3/2 [5/2]		³ D	3	354778.24	1.189	0.399
3/2 [9/2]		³ G	5	354950.64	1.200	0.509
3/2 [9/2]		³ G	4	354953.62	1.048	0.470
3/2 [7/2]		³ F	4	355225.44	1.115	0.433
3/2 [5/2]		¹ D	2	355303.10	0.891	0.674
3/2 [7/2]		¹ F	3	355754.41	0.904	0.389
1/2 [7/2]		³ G	3	376386.33	0.856	0.542
1/2 [7/2]		¹ G	4	376457.97	1.102	0.547
1/2 [5/2]		³ F	3	376496.66	1.197	0.545
1/2 [5/2]		³ F	2	376544.92	0.888	0.558
$5p^58f$		3/2 [3/2]	³ D	1	367479.26	0.500
	3/2 [3/2]	³ D	2	367586.52	1.102	0.828
	3/2 [9/2]	³ G	5	367619.03	1.200	0.812
	3/2 [9/2]	¹ G	4	367648.89	1.027	0.799
	3/2 [5/2]	³ F	3	367788.35	1.182	0.784
	3/2 [5/2]	¹ D	2	367913.80	0.848	0.869

TABLE I (cont.)

Conf.	Term		J	E [cm ⁻¹]	g -factor	τ [ns]
	jK	LS		HFR	HFR	HFR
$5p^58f$	3/2 [7/2]	¹ F	3	367914.23	0.959	0.753
	3/2 [7/2]	³ F	4	367956.03	1.188	0.772
	1/2 [7/2]	³ G	3	388925.13	0.824	0.770
	1/2 [5/2]	³ D	3	388973.88	1.203	0.786
	1/2 [7/2]	³ G	4	388989.60	1.085	0.794
	1/2 [5/2]	³ F	2	389052.10	0.885	0.812
$5p^59f$	3/2 [3/2]	³ D	1	375746.84	0.500	1.371
	3/2 [3/2]	³ D	2	375780.68	1.079	1.216
	3/2 [5/2]	³ F	3	375851.23	1.184	1.015
	3/2 [9/2]	³ G	5	375857.26	1.200	1.316
	3/2 [9/2]	³ G	4	375867.11	1.037	1.173
	3/2 [7/2]	¹ F	3	375956.45	0.930	0.893
	3/2 [7/2]	³ F	4	376024.45	1.162	0.982
	3/2 [5/2]	¹ D	2	376042.81	0.862	0.971
	1/2 [7/2]	³ G	3	397142.04	0.823	1.196
	1/2 [5/2]	³ D	3	397171.26	1.204	1.205
	1/2 [7/2]	¹ G	4	397185.88	1.084	1.170
	1/2 [5/2]	³ F	2	397228.72	0.886	1.023
$5p^510f$	3/2 [3/2]	³ D	1	381470.85	0.503	1.086
	3/2 [9/2]	³ G	5	381511.42	1.200	1.283
	3/2 [9/2]	¹ G	4	381525.67	1.027	1.596
	3/2 [3/2]	³ D	2	381526.45	1.093	1.225
	3/2 [5/2]	³ F	3	381596.36	1.179	1.298
	3/2 [7/2]	¹ F	3	381650.61	0.960	1.436
	3/2 [5/2]	¹ D	2	381659.81	0.856	2.396
	3/2 [7/2]	³ F	4	381670.45	1.189	1.520
	1/2 [7/2]	³ G	3	402785.08	0.823	1.299
	1/2 [5/2]	³ D	3	402804.63	1.204	1.243
$5p^58p$	1/2 [7/2]	³ G	4	402816.52	1.084	1.533
	1/2 [5/2]	³ F	2	402847.18	0.887	1.612
	3/2 [1/2]	³ S	1	340268.59	1.779	1.970
	3/2 [5/2]	¹ D	2	340572.87	1.134	2.206
	3/2 [5/2]	³ D	3	341191.84	1.333	1.991
	3/2 [3/2]	¹ P	1	341472.31	1.071	2.434
$5p^58p$	3/2 [3/2]	³ P	2	341776.29	1.364	2.132
	3/2 [1/2]	¹ S	0	342829.00	0.000	3.584

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TABLE I (cont.)

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Conf.	Term		J	E [cm ⁻¹]	g -factor	τ [ns]	
	jK	LS		HFR	HFR	HFR	
$5p^5 8p$	1/2 [3/2]	³ D	1	361736.76	0.655	2.238	
	1/2 [1/2]	³ P	1	362627.96	1.504	2.081	
	1/2 [3/2]	³ D	2	362656.76	1.169	2.123	
	1/2 [1/2]	³ P	0	362821.14	0.000	3.111	
$5p^5 9p$	3/2 [1/2]	³ S	1	358676.75	1.777	2.899	
	3/2 [5/2]	¹ D	2	358934.14	1.137	3.380	
	3/2 [5/2]	³ D	3	359325.20	1.333	3.148	
	3/2 [3/2]	¹ P	1	359431.95	1.057	3.759	
	3/2 [3/2]	³ P	2	359634.84	1.361	3.521	
	3/2 [1/2]	¹ S	0	360128.63	0.000	4.781	
	1/2 [3/2]	³ D	1	380111.00	0.654	3.461	
	1/2 [1/2]	³ P	1	380632.84	1.500	3.282	
	1/2 [3/2]	³ D	2	380654.02	1.166	3.370	
	1/2 [1/2]	³ P	0	380721.84	0.000	4.715	
	$5p^5 10p$	3/2 [1/2]	³ S	1	370087.94	1.763	3.657
		3/2 [5/2]	¹ D	2	370191.87	1.135	4.849
3/2 [5/2]		³ D	3	370436.93	1.333	4.213	
3/2 [3/2]		¹ P	1	370532.41	1.076	5.404	
3/2 [3/2]		³ P	2	370645.33	1.364	5.638	
3/2 [1/2]		¹ S	0	371081.12	0.000	9.602	
1/2 [3/2]		³ D	1	391404.92	0.664	4.448	
1/2 [1/2]		³ P	1	391729.70	1.497	4.282	
1/2 [3/2]		³ D	2	391764.01	1.168	4.699	
1/2 [1/2]		³ P	0	391789.67	0.000	6.398	
$5p^5 6h$		3/2 [7/2]	³ G	3	353844.42	0.750	2.093
		3/2 [7/2]	³ G	4	353846.90	1.028	2.106
	3/2 [13/2]	¹ I	6	353908.88	1.011	2.200	
	3/2 [13/2]	³ I	7	353909.80	1.143	2.196	
	3/2 [9/2]	³ H	4	354072.15	0.890	2.254	
	3/2 [9/2]	³ G	5	354073.10	1.093	2.253	
	3/2 [11/2]	¹ H	5	354133.97	0.963	2.274	
	3/2 [11/2]	³ H	6	354135.70	1.123	2.276	
	1/2 [9/2]	¹ G	4	375227.66	0.926	2.375	
	1/2 [9/2]	³ H	5	375227.75	1.122	2.372	
	1/2 [11/2]	³ I	5	375235.63	0.890	2.297	
	1/2 [11/2]	³ I	6	375237.75	1.061	2.302	
$5p^5 7h$	3/2 [7/2]	³ G	3	366868.82	0.749	3.357	
	3/2 [7/2]	³ G	4	366871.21	1.028	3.373	
	3/2 [13/2]	¹ I	6	366906.01	1.011	3.402	
	3/2 [13/2]	³ I	7	366906.17	1.143	3.395	
	3/2 [9/2]	³ H	4	367008.56	0.890	3.481	
	3/2 [9/2]	³ H	5	367008.82	1.092	3.474	
	3/2 [11/2]	¹ H	5	367047.78	0.964	3.508	
	3/2 [11/2]	³ H	6	367049.05	1.124	3.510	
	1/2 [11/2]	³ I	5	388216.03	0.884	3.430	
	1/2 [11/2]	³ I	6	388217.67	1.056	3.434	
	1/2 [9/2]	³ G	5	388219.99	1.127	3.433	
	1/2 [9/2]	¹ G	4	388220.01	0.932	3.447	
$5p^5 8h$	3/2 [7/2]	³ G	3	375330.80	0.749	4.904	
	3/2 [7/2]	³ G	4	375332.41	1.028	4.921	
	3/2 [13/2]	³ I	7	375355.27	1.143	4.985	
	3/2 [13/2]	¹ I	6	375355.59	1.011	4.999	

Conf.	Term		J	E [cm ⁻¹]	g -factor	τ [ns]
	jK	LS		HFR	HFR	HFR
$5p^5 8h$	3/2 [9/2]	³ H	4	375452.37	0.894	4.455
	3/2 [9/2]	³ H	5	375452.87	1.096	4.441
	3/2 [11/2]	¹ H	5	375466.37	0.959	4.749
	3/2 [11/2]	³ H	6	375467.05	1.119	4.749
	1/2 [11/2]	³ I	5	396646.34	0.884	5.023
	1/2 [11/2]	³ I	6	396647.43	1.056	5.033
	1/2 [9/2]	³ G	5	396648.59	1.127	5.021
	1/2 [9/2]	¹ G	4	396649.05	0.932	5.047
	$5p^5 9h$	3/2 [7/2]	³ G	3	381136.62	0.749
3/2 [7/2]		³ G	4	381138.21	1.028	7.005
3/2 [13/2]		³ I	7	381153.66	1.143	7.047
3/2 [13/2]		¹ I	6	381153.80	1.011	7.062
3/2 [9/2]		³ H	5	381202.78	1.092	7.045
3/2 [9/2]		³ H	4	381202.89	0.889	7.062
3/2 [11/2]		¹ H	5	381221.07	0.964	7.092
3/2 [11/2]		³ H	6	381221.76	1.124	7.096
1/2 [11/2]		³ I	5	402433.32	0.884	7.048
1/2 [11/2]		³ I	6	402434.27	1.056	7.058
$5p^5 10h$	1/2 [9/2]	³ G	5	402435.02	1.127	7.002
	1/2 [9/2]	¹ G	4	402435.39	0.933	7.054
	3/2 [7/2]	³ G	3	385288.24	0.749	9.034
	3/2 [7/2]	³ G	4	385289.67	1.028	9.298
	3/2 [13/2]	³ I	7	385300.56	1.143	9.822
	3/2 [13/2]	¹ I	6	385300.59	1.011	9.792
	3/2 [9/2]	³ H	5	385335.56	1.092	9.062
	3/2 [9/2]	³ H	4	385335.62	0.889	9.213
$5p^5 7d$	3/2 [11/2]	¹ H	5	385349.23	0.964	9.252
	3/2 [11/2]	³ H	6	385349.91	1.124	9.246
	1/2 [11/2]	³ I	5	406573.01	0.884	9.576
	1/2 [11/2]	³ I	6	406573.91	1.056	9.560
	1/2 [9/2]	³ G	5	406574.39	1.127	8.986
	1/2 [9/2]	¹ G	4	406574.62	0.933	9.198
	3/2 [1/2] ^o	³ P ^o	0	329885.49	0.000	1.385
	3/2 [1/2] ^o	³ P ^o	1	330299.02	1.318	1.295
	3/2 [7/2] ^o	³ F ^o	4	330731.78	1.249	1.525
	3/2 [7/2] ^o	³ F ^o	3	330757.34	1.051	1.318
3/2 [3/2] ^o	³ D ^o	2	330916.55	1.049	1.001	
3/2 [5/2] ^o	¹ D ^o	2	331403.85	0.960	1.435	
3/2 [5/2] ^o	³ D ^o	3	331659.55	1.108	1.075	
3/2 [3/2] ^o	¹ P ^o	1	333682.84	0.862	0.207	
1/2 [5/2] ^o	³ F ^o	2	351755.14	0.772	1.375	
1/2 [3/2] ^o	³ P ^o	2	351992.45	1.278	1.646	
1/2 [5/2] ^o	¹ F ^o	3	352167.66	1.109	1.499	
$5p^5 8d$	1/2 [3/2] ^o	³ P ^o	1	352584.56	1.104	1.006
	3/2 [1/2] ^o	³ P ^o	0	352865.79	0.000	2.641
	3/2 [7/2] ^o	³ F ^o	4	353344.07	1.247	2.627
	3/2 [3/2] ^o	³ D ^o	1	353423.58	1.005	1.424
	3/2 [7/2] ^o	¹ F ^o	3	353482.01	1.032	1.588
	3/2 [3/2] ^o	³ D ^o	2	353621.28	1.292	2.483
	3/2 [5/2] ^o	¹ D ^o	2	353758.98	0.984	2.616
	3/2 [5/2] ^o	³ D ^o	3	353901.52	1.235	2.717
3/2 [1/2] ^o	¹ P ^o	1	355437.45	0.896	0.194	

TABLE I (cont.)

Conf.	Term		J	E [cm^{-1}]	g -factor	τ [ns]
	jK	LS				
$5p^5 8d$	1/2 [5/2] $^\circ$	$^3F^\circ$	2	374487.53	0.767	2.560
	1/2 [3/2] $^\circ$	$^3P^\circ$	2	374627.64	1.285	2.852
	1/2 [5/2] $^\circ$	$^3F^\circ$	3	374706.65	1.101	2.661
$5p^5 9d$	3/2 [1/2] $^\circ$	$^3P^\circ$	0	366421.43	0.000	4.209
	3/2 [1/2] $^\circ$	$^3P^\circ$	1	366546.40	1.309	4.000
	3/2 [7/2] $^\circ$	$^3F^\circ$	4	366721.82	1.217	3.234
	3/2 [3/2] $^\circ$	$^3D^\circ$	2	366748.82	1.311	4.338
	3/2 [7/2] $^\circ$	$^1F^\circ$	3	366767.02	1.000	2.762
	3/2 [5/2] $^\circ$	$^1D^\circ$	2	366904.38	0.968	4.280
	3/2 [5/2] $^\circ$	$^3D^\circ$	3	367016.42	1.230	4.361
	3/2 [3/2] $^\circ$	$^1P^\circ$	1	367614.60	0.865	6.415
	1/2 [5/2] $^\circ$	$^3F^\circ$	2	387917.56	0.765	4.279
	1/2 [3/2] $^\circ$	$^3P^\circ$	2	388019.37	1.288	4.540
	1/2 [5/2] $^\circ$	$^3F^\circ$	3	388084.69	1.109	4.480
	1/2 [3/2] $^\circ$	$^3D^\circ$	1	388419.56	0.834	5.182
	$5p^5 10d$	3/2 [1/2] $^\circ$	$^3P^\circ$	1	374974.88	1.150
3/2 [1/2] $^\circ$		$^3P^\circ$	0	375083.43	0.000	4.313
3/2 [7/2] $^\circ$		$^3F^\circ$	4	375283.35	1.226	4.203
3/2 [3/2] $^\circ$		$^3D^\circ$	1	375326.34	0.955	2.290
3/2 [7/2] $^\circ$		$^1F^\circ$	3	375344.52	1.026	4.387
3/2 [3/2] $^\circ$		$^3D^\circ$	2	375389.75	1.269	5.240
3/2 [5/2] $^\circ$		$^1D^\circ$	2	375440.65	1.005	6.309
3/2 [5/2] $^\circ$		$^3D^\circ$	3	375498.65	1.242	6.947
3/2 [1/2] $^\circ$		$^1P^\circ$	1	376262.11	0.897	0.453
1/2 [5/2] $^\circ$		$^3F^\circ$	2	396495.10	0.765	5.182
1/2 [3/2] $^\circ$		$^3P^\circ$	2	396567.08	1.289	5.102
1/2 [5/2] $^\circ$		$^3F^\circ$	3	396611.22	1.110	6.074
1/2 [3/2] $^\circ$		$^3D^\circ$	1	396839.43	0.832	1.982
$5p^5 9s$	3/2 [3/2] $^\circ$	$^3P^\circ$	2	354488.66	1.501	1.450
	3/2 [3/2] $^\circ$	$^1P^\circ$	1	354725.83	1.193	0.404
	1/2 [1/2] $^\circ$	$^3P^\circ$	0	375708.00	0.000	1.420
	1/2 [1/2] $^\circ$	$^3P^\circ$	1	375798.39	1.331	0.895
$5p^5 10s$	3/2 [3/2] $^\circ$	$^3P^\circ$	2	367357.50	1.501	2.129
	3/2 [3/2] $^\circ$	$^1P^\circ$	1	367457.19	1.159	0.763
	1/2 [1/2] $^\circ$	$^3P^\circ$	0	388591.19	0.000	2.121
	1/2 [1/2] $^\circ$	$^3P^\circ$	1	388644.81	1.332	1.397
$5p^5 5g$	3/2 [5/2] $^\circ$	$^3F^\circ$	2	330948.67	0.944	0.895
	3/2 [5/2] $^\circ$	$^3F^\circ$	3	331020.88	1.062	0.744
	3/2 [11/2] $^\circ$	$^3H^\circ$	6	331185.08	1.167	0.714
	3/2 [11/2] $^\circ$	$^1H^\circ$	5	331220.66	1.016	0.711
	3/2 [7/2] $^\circ$	$^3F^\circ$	4	331691.33	1.129	0.745
	3/2 [7/2] $^\circ$	$^1F^\circ$	3	331829.17	1.007	0.967
	3/2 [9/2] $^\circ$	$^1G^\circ$	4	331942.96	0.958	0.740
	3/2 [9/2] $^\circ$	$^3G^\circ$	5	331957.18	1.148	0.755
	1/2 [7/2] $^\circ$	$^3G^\circ$	4	352578.46	1.149	0.741
	1/2 [9/2] $^\circ$	$^3H^\circ$	4	352635.86	0.869	0.706
	1/2 [7/2] $^\circ$	$^3G^\circ$	3	352639.22	0.913	0.769
	1/2 [9/2] $^\circ$	$^3H^\circ$	5	352667.91	1.075	0.726
	$5p^5 6g$	3/2 [5/2] $^\circ$	$^3F^\circ$	2	353124.43	0.670
3/2 [5/2] $^\circ$		$^3F^\circ$	3	353198.33	1.050	1.423
3/2 [11/2] $^\circ$		$^3H^\circ$	6	353200.57	1.167	1.126
3/2 [11/2] $^\circ$		$^1H^\circ$	5	353230.71	1.015	1.131

TABLE I (cont.)

Conf.	Term		J	E [cm^{-1}]	g -factor	τ [ns]
	jK	LS				
$5p^5 6g$	3/2 [7/2] $^\circ$	$^3F^\circ$	4	353634.98	1.130	1.111
	3/2 [7/2] $^\circ$	$^3G^\circ$	3	353674.25	0.910	1.250
	3/2 [9/2] $^\circ$	$^1G^\circ$	4	353710.38	0.955	1.123
	3/2 [9/2] $^\circ$	$^3G^\circ$	5	353712.19	1.145	1.145
	1/2 [7/2] $^\circ$	$^3G^\circ$	4	374557.82	1.152	1.164
	1/2 [9/2] $^\circ$	$^3H^\circ$	4	374574.79	0.866	1.112
	1/2 [9/2] $^\circ$	$^3H^\circ$	5	374594.06	1.072	1.147
$5p^5 7g$	1/2 [7/2] $^\circ$	$^1F^\circ$	3	374614.19	0.919	1.236
	3/2 [5/2] $^\circ$	$^3F^\circ$	2	366371.44	0.668	1.638
	3/2 [5/2] $^\circ$	$^3F^\circ$	3	366417.01	1.053	1.760
	3/2 [11/2] $^\circ$	$^3H^\circ$	6	366461.35	1.167	1.682
	3/2 [11/2] $^\circ$	$^1H^\circ$	5	366486.19	1.016	1.690
	3/2 [7/2] $^\circ$	$^3F^\circ$	4	366609.87	1.157	2.010
	3/2 [7/2] $^\circ$	$^3G^\circ$	3	366610.83	0.942	2.300
	3/2 [9/2] $^\circ$	$^1G^\circ$	4	366734.73	0.961	1.691
	3/2 [9/2] $^\circ$	$^3G^\circ$	5	366742.58	1.149	1.729
	1/2 [9/2] $^\circ$	$^3H^\circ$	4	387819.24	0.861	1.615
$5p^5 8g$	1/2 [7/2] $^\circ$	$^3G^\circ$	4	387832.86	1.155	1.644
	1/2 [9/2] $^\circ$	$^3H^\circ$	5	387835.34	1.068	1.664
	1/2 [7/2] $^\circ$	$^1F^\circ$	3	387868.47	0.917	1.705
	3/2 [5/2] $^\circ$	$^3F^\circ$	2	375033.15	0.671	2.399
	3/2 [11/2] $^\circ$	$^3H^\circ$	6	375062.57	1.167	2.419
	3/2 [11/2] $^\circ$	$^1H^\circ$	5	375079.58	1.016	2.427
	3/2 [5/2] $^\circ$	$^3F^\circ$	3	375106.50	1.056	2.707
$5p^5 9g$	3/2 [7/2] $^\circ$	$^3G^\circ$	4	375233.30	1.148	2.453
	3/2 [7/2] $^\circ$	$^3G^\circ$	3	375235.36	0.905	2.409
	3/2 [9/2] $^\circ$	$^1G^\circ$	4	375277.09	0.958	2.277
	3/2 [9/2] $^\circ$	$^3G^\circ$	5	375279.11	1.148	2.323
	1/2 [9/2] $^\circ$	$^3H^\circ$	4	396377.58	0.860	2.298
	1/2 [7/2] $^\circ$	$^3F^\circ$	4	396384.94	1.156	2.329
	1/2 [9/2] $^\circ$	$^3H^\circ$	5	396389.02	1.068	2.366
	1/2 [7/2] $^\circ$	$^1F^\circ$	3	396417.10	0.917	2.398
	$5p^5 9g$	3/2 [5/2] $^\circ$	$^3F^\circ$	2	380905.30	0.666
3/2 [5/2] $^\circ$		$^3F^\circ$	3	380932.24	1.051	3.468
3/2 [11/2] $^\circ$		$^3H^\circ$	6	380943.72	1.167	3.398
3/2 [11/2] $^\circ$		$^1H^\circ$	5	380957.06	1.017	3.374
3/2 [7/2] $^\circ$		$^3G^\circ$	4	381030.27	1.122	3.284
3/2 [7/2] $^\circ$		$^3G^\circ$	3	381054.13	0.867	3.331
3/2 [9/2] $^\circ$		$^1G^\circ$	4	381074.20	0.962	3.212
3/2 [9/2] $^\circ$		$^3G^\circ$	5	381078.38	1.150	3.267
1/2 [9/2] $^\circ$		$^3H^\circ$	4	402241.93	0.860	3.185
1/2 [7/2] $^\circ$		$^3F^\circ$	4	402246.40	1.157	3.204
$5p^5 10g$	1/2 [9/2] $^\circ$	$^3H^\circ$	5	402251.07	1.067	3.255
	1/2 [7/2] $^\circ$	$^1F^\circ$	3	402270.51	0.915	3.222
	3/2 [5/2] $^\circ$	$^3F^\circ$	2	385119.72	0.666	3.206
	3/2 [5/2] $^\circ$	$^3F^\circ$	3	385137.74	1.051	4.004
	3/2 [11/2] $^\circ$	$^3H^\circ$	6	385148.28	1.167	3.847
	3/2 [11/2] $^\circ$	$^1H^\circ$	5	385158.15	1.017	4.499
	3/2 [7/2] $^\circ$	$^3G^\circ$	4	385206.11	1.122	3.655
$5p^5 10g$	3/2 [7/2] $^\circ$	$^3G^\circ$	3	385226.20	0.867	5.373
	3/2 [9/2] $^\circ$	$^1G^\circ$	4	385240.78	0.962	3.944
	3/2 [9/2] $^\circ$	$^3G^\circ$	5	385244.63	1.150	4.197

TABLE I (cont.)

Conf.	Term		J	E [cm ⁻¹]	g -factor	τ [ns]
	jK	LS		HFR	HFR	HFR
$5p^5 10g$	1/2 [9/2] ^o	$^3H^o$	4	406433.78	0.859	3.697
	1/2 [7/2] ^o	$^3F^o$	4	406436.94	1.157	3.310
	1/2 [9/2] ^o	$^3H^o$	5	406440.91	1.067	4.182
	1/2 [7/2] ^o	$^1F^o$	3	406455.27	0.916	4.336
$5p^5 7i$	3/2 [9/2] ^o	$^3H^o$	4	367024.64	0.800	5.142
	3/2 [9/2] ^o	$^3H^o$	5	367025.37	1.018	5.143
	3/2 [15/2] ^o	$^1K^o$	7	367043.04	1.008	5.164
	3/2 [15/2] ^o	$^3K^o$	8	367043.68	1.125	5.165
	3/2 [11/2] ^o	$^3I^o$	5	367107.63	0.904	5.226
	3/2 [11/2] ^o	$^3I^o$	6	367108.20	1.073	5.227
	3/2 [13/2] ^o	$^1I^o$	6	367127.16	0.967	5.245
	3/2 [13/2] ^o	$^3I^o$	7	367127.79	1.105	5.246
	1/2 [13/2] ^o	$^3K^o$	6	388331.41	0.901	5.197
	1/2 [11/2] ^o	$^1H^o$	5	388332.02	0.944	5.197
	1/2 [13/2] ^o	$^3K^o$	7	388332.06	1.048	5.198
	1/2 [11/2] ^o	$^3H^o$	6	388332.60	1.107	5.198
$5p^5 8i$	3/2 [9/2] ^o	$^3H^o$	4	375441.55	0.800	7.566
	3/2 [9/2] ^o	$^3H^o$	5	375442.27	1.018	7.569
	3/2 [15/2] ^o	$^1K^o$	7	375453.73	1.008	7.612
	3/2 [15/2] ^o	$^3K^o$	8	375454.37	1.125	7.612
	3/2 [11/2] ^o	$^3I^o$	5	375497.11	0.904	7.706
	3/2 [11/2] ^o	$^3I^o$	6	375497.71	1.073	7.706
	3/2 [13/2] ^o	$^1I^o$	6	375510.26	0.967	7.734
	3/2 [13/2] ^o	$^3I^o$	7	375510.91	1.105	7.735
	1/2 [13/2] ^o	$^3K^o$	6	396730.81	0.901	7.659
	1/2 [11/2] ^o	$^1H^o$	5	396731.24	0.944	7.661
	1/2 [13/2] ^o	$^3K^o$	7	396731.49	1.048	7.661
	1/2 [11/2] ^o	$^3H^o$	6	396731.86	1.107	7.661
$5p^5 9i$	3/2 [9/2] ^o	$^3H^o$	4	381216.19	0.800	10.70
	3/2 [9/2] ^o	$^3H^o$	5	381216.85	1.018	10.70
	3/2 [15/2] ^o	$^1K^o$	7	381224.75	1.008	10.74
	3/2 [15/2] ^o	$^3K^o$	8	381225.37	1.125	10.74
	3/2 [11/2] ^o	$^3I^o$	5	381255.28	0.904	10.84
	3/2 [11/2] ^o	$^3I^o$	6	381255.89	1.073	10.84
	3/2 [13/2] ^o	$^1I^o$	6	381264.60	0.967	10.87
	3/2 [13/2] ^o	$^3I^o$	7	381265.23	1.105	10.87
	1/2 [13/2] ^o	$^3K^o$	6	402495.03	0.901	10.79
	1/2 [11/2] ^o	$^1H^o$	5	402495.32	0.944	10.79
	1/2 [13/2] ^o	$^3K^o$	7	402495.69	1.048	10.79
	1/2 [11/2] ^o	$^3H^o$	6	402495.95	1.107	10.79
$5p^5 10i$	3/2 [9/2] ^o	$^3H^o$	4	385345.16	0.800	14.70
	3/2 [9/2] ^o	$^3H^o$	5	385345.18	1.018	14.71
	3/2 [15/2] ^o	$^3K^o$	8	385351.32	1.125	14.73
	3/2 [15/2] ^o	$^1K^o$	7	385351.34	1.008	14.73
	3/2 [11/2] ^o	$^3I^o$	6	385373.55	1.073	14.64
	3/2 [11/2] ^o	$^3I^o$	5	385373.56	0.904	14.64
	3/2 [13/2] ^o	$^1I^o$	6	385380.42	0.967	14.63
	3/2 [13/2] ^o	$^3I^o$	7	385380.43	1.105	14.63
	1/2 [13/2] ^o	$^3K^o$	6	406617.24	0.901	14.69
	1/2 [13/2] ^o	$^3K^o$	7	406617.25	1.048	14.69
	1/2 [11/2] ^o	$^3H^o$	6	406617.45	1.107	14.65
	1/2 [11/2] ^o	$^1H^o$	5	406617.47	0.944	14.65

Energies E , Landé g -factors, and lifetimes τ for valence excitation states in La IV.

TABLE II

Conf.	Term		J	E [cm^{-1}]			g -factor	τ [ns]		
	jK	LS		HFR	MCDF	Other w.	HFR	HFR	MCDF	Other w.
$5p^6$		1S	0	-0.005	0.00 ^{A,B}	0.00	0.00			
$5p^54f$	3/2 [3/2]	3D	1	143241.67	150291.67 ^B	143354.72 ^a 142689 ^b	0.499			
	3/2 [3/2]	3D	2	145941.03	153135.10 ^B	145948.96 ^a 145332 ^b	1.132			
	3/2 [9/2]	3G	5	148811.76	156441.47 ^B	148854 ^a 148425 ^b	1.200			
	3/2 [9/2]	3G	4	149208.36	157651.76 ^B	149137 ^a 149142 ^b	1.043			
	3/2 [5/2]	3D	3	150094.38	157715.02 ^B	149927.18 ^a 148947 ^b	1.268			
	3/2 [7/2]	3G	3	153289.74	162745.81 ^B	153339.10 ^a 153140 ^b	0.882			
	3/2 [7/2]	1G	4	157070.75	188665.24 ^A	157093 ^a 157087 ^b	1.135			
	3/2 [5/2]	3F	2	160499.96	171278.87 ^B	160486.34 ^a 160494 ^b	0.816			
	1/2 [7/2]	1F	3	168230.86	201444.55 ^A	168161 ^a 169414 ^b	0.905			
	1/2 [5/2]	3F	3	171218.14	183025.23 ^B	171265 ^a 172362 ^b	1.112			
	1/2 [7/2]	3F	4	171623.28	166795.86 ^B	171654 ^a 173260 ^b	1.123			
	1/2 [5/2]	1D	2	175004.02	188309.96 ^B	175013.82 ^a	0.886			
$5p^55d$	3/2 [1/2]	$^3P^o$	0	156086.26	156130.11 ^A	156100.30 ^a 156816 ^b	0.000	378.4	-	380.0 ^c
	3/2 [1/2]	$^3P^o$	1	158372.01	158646.38 ^A	158412.61 ^a 159193 ^b	1.435	36.70	31.03 ^A	47.25 ^c 48.1 ^d 30.4 ^e < 24 ^f
	3/2 [3/2] ^o	$^3P^o$	2	162844.27	163572.77 ^A	162867.66 ^a 163770 ^b	1.415	280.3	-	285.2 ^c
	3/2 [7/2] ^o	$^3F^o$	4	163718.04	165172.52 ^A	163693.30 ^a 164503 ^b	1.251	254.3	-	244.7 ^c
	3/2 [7/2] ^o	$^3F^o$	3	164958.28	167514.33 ^A	165070.77 ^a 166008 ^b	1.093	220.3	-	218.2 ^c
	3/2 [5/2] ^o	$^1D^o$	2	168200.63	-	167921.72 ^a 168943 ^b	0.893	247.0	-	248.9 ^c
	3/2 [5/2] ^o	$^3D^o$	3	173405.85	176185.11 ^B	173335.41 ^a 174805 ^b	1.210	136.0	-	138.8 ^c
	3/2 [3/2] ^o	$^3D^o$	1	180843.80	185194.79 ^B	181154.97 ^a	0.588	0.340	0.500 ^A	0.379 ^c 0.43 ^d 0.60 ^e < 0.27 ^f
	1/2 [5/2] ^o	$^3F^o$	2	185016.24	187908.81 ^B	184885.80 ^a 185712 ^b	0.837	149.7	-	148.8 ^c
	1/2 [3/2] ^o	$^3D^o$	2	188386.12	191587.05 ^B	188393.20 ^a	1.191	129.3	-	134.5 ^c
	1/2 [5/2] ^o	$^1F^o$	3	190814.89	193973.21 ^B	190831.70 ^a	1.114	88.42	100.0 ^A	88.39 ^c
	1/2 [3/2] ^o	$^1P^o$	1	215938.33	229343.07 ^A	215919.23 ^a	0.980	0.014	0.014 ^A	0.015 ^c 0.02 ^d 0.01 ^e < 0.012 ^f

TABLE II (cont.)

Conf.	Term		J	E [cm ⁻¹]			g-factor	τ [ns]		
	jK	LS		HFR	MCDF	Other w.		HFR	MCDF	Other w.
5p ⁵ 6s	3/2 [3/2] ^o	³ P ^o	2	198319.69	201077.89 ^B	198303.15 ^a	1.499	312.0	–	244.2 ^c
	3/2 [3/2] ^o	¹ P ^o	1	200167.35	203665.23 ^B	200183.26 ^a	1.203	0.209	0.244 ^B	0.218 ^c
										0.27 ^d
										0.21 ^e
	1/2 [1/2] ^o	³ P ^o	0	219313.38	218117.22 ^A	219336.85 ^a	0.000	194.3	–	0.26 ^f
	1/2 [1/2] ^o	³ P ^o	1	220530.57	219371.55 ^A	220506.85 ^a	1.296	0.130	0.156 ^A	185.2 ^c
5p ⁵ 6p	3/2 [1/2]	³ S	1	231051.11	226405.88 ^A	231008.71 ^a	1.821	0.580	0.622 ^A	0.124 ^c
										0.10 ^d
	3/2 [5/2]	³ D	2	233281.75	229779.54 ^A	233401.52 ^a	1.148	0.659	0.742 ^A	0.18 ^e
										0.29 ^f
	3/2 [5/2]	³ D	3	236716.86	232553.75 ^A	236790.42 ^a	1.334	0.517	0.591 ^A	0.572 ^c
	3/2 [3/2]	¹ P	1	237750.24	234071.24 ^A	237727.30 ^a	1.071	0.616	0.743 ^A	0.626 ^f
	3/2 [3/2]	³ P	2	239722.15	235848.52 ^A	239654.29 ^a	1.345	0.564	0.663 ^A	0.657 ^c
	3/2 [1/2]	³ P	0	244361.33	241648.16 ^A	244301.79 ^a	0.000	0.636	0.779 ^A	0.692 ^f
	1/2 [3/2]	³ D	1	254370.50	251333.06 ^A	254251.34 ^a	0.662	0.620	0.725 ^A	0.524 ^c
	1/2 [1/2]	³ P	1	259461.42	255643.04 ^A	259085.89 ^a	1.448	0.525	0.338 ^A	0.539 ^f
5p ⁵ 6d	3/2 [1/2] ^o	³ P ^o	0	284212.11	278354.92 ^A	284206.15 ^a	0.000	0.603	0.643 ^A	0.613 ^c
	3/2 [1/2] ^o	³ P ^o	1	284947.04	279556.04 ^A	284981.97 ^a	1.362	0.563	0.581 ^A	0.649 ^f
	3/2 [7/2] ^o	³ F ^o	4	285815.05	281028.27 ^A	285856.18 ^a	1.251	0.756	0.693 ^A	0.575 ^c
	3/2 [7/2] ^o	³ F ^o	3	286125.23	281741.70 ^A	285951.00 ^a	1.059	0.627	0.616 ^A	0.552 ^f
	3/2 [3/2] ^o	³ P ^o	2	286142.87	281465.27 ^A	286298.26 ^a	1.341	0.715	0.665 ^A	0.613 ^c
	3/2 [5/2] ^o	¹ D ^o	2	287355.95	283523.87 ^A	287402.66 ^a	0.955	0.663	0.619 ^A	0.649 ^f
	3/2 [5/2] ^o	³ D ^o	3	287833.87	284639.21 ^A	287874.01 ^a	1.239	0.786	0.650 ^A	0.575 ^c
	3/2 [3/2] ^o	¹ P ^o	1	290739.57	315638.54 ^A	290596.17 ^a	0.810	0.070	0.186 ^A	0.552 ^f
	1/2 [5/2] ^o	³ F ^o	2	307238.64	303282.36 ^A	307182.98 ^a	0.773	0.635	0.621 ^A	0.613 ^c
	1/2 [3/2] ^o	³ D ^o	2	307691.03	304226.90 ^A	307398.42 ^a	1.266	0.790	0.673 ^A	0.633 ^f
5p ⁵ 7s	3/2 [3/2] ^o	³ P ^o	2	292072.45	286514.39 ^A	292080.31 ^a	1.500	0.701	0.629 ^A	0.672 ^f
	3/2 [3/2] ^o	¹ P ^o	1	292785.70	285545.25 ^A	292777.84 ^a	1.176	0.296	0.186 ^A	0.544 ^c
										0.534 ^f
	1/2 [1/2] ^o	³ P ^o	0	313527.58	307977.61 ^A	313512.37 ^a	0.000	0.707	0.628 ^A	0.547 ^c
	1/2 [1/2] ^o	³ P ^o	1	313901.71	307490.60 ^A	313917.03 ^a	1.322	0.357	0.240 ^A	0.560 ^f
5p ⁵ 5f	3/2 [3/2]	³ D	1	293516.30	–	293509.80 ^a	0.499	0.164	–	0.724 ^c
	3/2 [3/2]	³ D	2	294042.40	–	294027.80 ^a	1.118	0.181	–	0.789 ^f
	3/2 [9/2]	³ G	5	294483.12	–	294517.20 ^a	1.200	0.177	–	0.724 ^c

TABLE II (cont.)

Conf.	Term		J	E [cm^{-1}]			g -factor	τ [ns]		
	jK	LS		HFR	MCDF	Other w.		HFR	MCDF	Other w.
$5p^55f$	3/2 [9/2]	1G	4	294562.71	—	294565.70 ^a	1.026	0.178	—	0.181 ^c
	3/2 [5/2]	3D	3	295448.71	—	295437.00 ^a	1.202	0.181	—	0.187 ^c
	3/2 [5/2]	1D	2	295889.18	—	295890.40 ^a	0.856	0.213	—	0.182 ^c
	3/2 [7/2]	1F	3	296338.54	—	296338.50 ^a	0.947	0.182	—	0.179 ^c
	3/2 [7/2]	3F	4	296555.82	—	296550.60 ^a	1.181	0.193	—	0.187 ^c
	1/2 [7/2]	3G	3	316122.71	—	316124.60 ^a	0.836	0.172	—	0.177 ^c
	1/2 [7/2]	3G	4	316434.58	—	316432.80 ^a	1.094	0.186	—	0.186 ^c
	1/2 [5/2]	3F	3	316472.01	—	316464.70 ^a	1.185	0.183	—	0.187 ^c
	1/2 [5/2]	3F	2	316666.96	—	316674.10 ^a	0.861	0.194	—	0.176 ^c
$5p^57p$	3/2 [1/2]	3S	1	306533.49	303643.74 ^A	306533.10 ^a	1.807	1.096	1.129 ^A	0.736 ^c
	3/2 [5/2]	1D	2	307314.35	—	307314.30 ^a	1.132	1.205	—	1.097 ^c
	3/2 [5/2]	3D	3	308426.50	307012.82 ^A	308427.20 ^a	1.331	1.006	1.152 ^A	0.820 ^c
	3/2 [3/2]	1P	1	309041.77	308902.34 ^A	309041.90 ^a	1.059	1.275	1.356 ^A	1.059 ^c
	3/2 [3/2]	3P	2	309667.08	309874.57 ^A	309666.90 ^a	1.363	1.132	1.241 ^A	1.129 ^c
	3/2 [1/2]	1S	0	311556.41	336963.28 ^A	311556.20 ^a	0.000	1.527	0.671 ^A	0.977 ^c
	1/2 [3/2]	3D	1	328163.91	327925.73 ^A	328164.10 ^a	0.645	1.064	1.207 ^A	0.933 ^c
	1/2 [3/2]	3D	2	329916.91	329985.51 ^A	329917.10 ^a	1.169	1.003	1.238 ^A	0.873 ^c
	1/2 [1/2]	3P	1	329942.11	330155.80 ^A	329941.70 ^a	1.487	1.080	1.116 ^A	1.005 ^c
	1/2 [1/2]	3P	0	330318.67	317173.16 ^A	330318.70 ^a	0.000	1.393	0.967 ^A	0.938 ^c
$5p^58s$	3/2 [3/2] ^o	$^3P^o$	2	333010.37	324225.63 ^A	333008.70 ^a	1.500	0.968	4.718 ^A	0.908 ^c
	3/2 [3/2] ^o	$^1P^o$	1	333298.71	324649.74 ^A	333299.40 ^a	1.157	0.270	0.944 ^A	0.486 ^c
	1/2 [1/2] ^o	$^3P^o$	0	354202.15	346299.02 ^A	354205.30 ^a	0.000	0.966	4.488 ^A	0.905 ^c
	1/2 [1/2] ^o	$^3P^o$	1	354289.79	346498.91 ^A	354285.80 ^a	1.304	0.893	2.218 ^A	0.591 ^c

^aRef. [1], ^bRef. [2] — XIH(B), ^cRef. [3], ^dRef. [4] — Model B, ^eRef. [4] — MCDF, ^fRef. [5].

TABLE III

The wavelengths λ , logarithmic weighted oscillator strengths $\log(gf)$, and transition probabilities A_{ji} , for electric dipole (E1) transitions in La IV. Numbers in brackets represent powers of 10.

Transitions				λ [nm]			$\log(gf)$			A_{ji} [s^{-1}]		
Upper levels		Lower levels		HFR	MCDF	Other w.	HFR	MCDF	Other w.	HFR	MCDF	Other w.
Conf.	Term	Conf.	Term									
$5p^5 6s$	$^1P_1^o$	$5p^6$	1S_0	49.958	50.348	49.949 ^a 49.954 ^b 49.967 ^e	-0.271	-0.197	-0.288 ^e	4.77(9)	5.57(9)	3.79(9) ^a 3.99(9) ^c 4.65(9) ^d 4.58(9) ^e
$5p^5 6s$	$^3P_1^o$	$5p^6$	1S_0	45.345	45.679	45.356 ^a 45.350 ^b 45.335 ^e	-0.148	-0.223	-0.126 ^e	7.70(9)	6.37(9)	3.40(9) ^a 1.05(10) ^c 5.44(9) ^d 8.09(9) ^e
$5p^5 5d$	$^1P_1^o$	$5p^6$	1S_0	46.310	43.668	46.314 ^a 46.314 ^b 46.310 ^e	0.853	0.800	0.812 ^e	7.40(10)	7.36(10)	8.67(10) ^a 5.04(10) ^c 6.76(10) ^d 6.72(10) ^e
$5p^5 5d$	$^3D_1^o$	$5p^6$	1S_0	55.296	53.784	55.204 ^a 55.202 ^b 55.293 ^e	-0.394	-0.584	-0.442 ^e	2.93(9)	1.99(9)	3.65(9) ^a 2.05(9) ^c 1.64(9) ^d 2.63(9) ^e
$5p^5 5d$	$^3P_1^o$	$5p^6$	1S_0	63.142	63.059	63.122 ^a 63.126 ^b 63.163 ^e	-2.362	-2.239	-2.486 ^e	2.43(7)	3.22(7)	4.10(7) ^a 1.69(7) ^c 2.92(7) ^d 1.82(7) ^e
$5p^5 6p$	3S_1	$5p^5 5d$	$^1D_2^o$	159.108	-	158.456 ^a 158.511 ^b 159.118 ^e	-1.390	-	-1.511 ^e	3.58(7)	-	4.06(7) ^a 2.71(7) ^e
$5p^5 6p$	3S_1	$5p^5 5d$	$^3P_0^o$	133.396	142.59	133.525 ^a 133.496 ^b 133.322 ^e	-0.614	-0.599	-0.637 ^e	3.04(8)	2.74(8)	2.93(8) ^a 2.89(8) ^e
$5p^5 6p$	3S_1	$5p^5 5d$	$^3P_1^o$	137.591	147.81	137.760 ^a 137.749 ^b 137.495 ^e	-0.300	-0.248	-0.306 ^e	5.88(8)	5.74(8)	5.87(8) ^a 5.82(8) ^e
$5p^5 6p$	3S_1	$5p^5 5d$	$^3P_2^o$	146.613	159.25	146.656 ^a 146.754 ^b 146.463 ^e	-0.314	-0.224	-0.265 ^e	5.02(8)	5.23(8)	3.54(8) ^a 5.63(8) ^e
$5p^5 6p$	3S_1	$5p^5 6s$	$^3P_2^o$	305.518	338.43	305.536 ^a 305.668 ^b 305.896 ^e	0.066	0.0005	0.051 ^e	2.77(8)	1.94(8)	3.13(8) ^a 2.67(8) ^e
$5p^5 7s$	$^3P_2^o$	$5p^5 6p$	3S_1	163.877	169.30	163.776 ^a 163.742 ^b 162.914 ^e	-0.257	-0.288	-0.258 ^e	2.75(8)	2.39(8)	3.35(8) ^a 2.78(8) ^e
$5p^5 6p$	3D_2	$5p^5 5d$	$^1F_3^o$	235.478	282.02	234.814 ^a 234.836 ^b 235.092 ^e	-1.516	-1.297	-1.479 ^e	7.33(6)	8.44(6)	3.95(6) ^a 8.02(6) ^e
$5p^5 6p$	3D_2	$5p^5 5d$	$^3D_3^o$	167.012	191.25	166.575 ^a 166.484 ^b 166.530 ^e	-1.126	-0.898	-1.077 ^e	3.58(7)	4.60(7)	3.09(7) ^a 4.03(7) ^e
$5p^5 6p$	3D_2	$5p^5 5d$	$^3D_2^o$	222.739	264.22	222.225 ^a 222.112 ^b 221.653 ^e	-1.305	-0.934	-1.109 ^e	1.33(7)	2.22(7)	2.02(6) ^a 2.11(7) ^e
$5p^5 6p$	3D_2	$5p^5 5d$	$^3F_3^o$	146.363	160.85	146.302 ^a 146.347 ^b 146.204 ^e	0.119	0.151	0.113 ^e	8.19(8)	7.30(8)	7.61(8) ^a 8.09(8) ^e

TABLE III (cont.)

Transitions				λ [nm]			$\log(gf)$			A_{ji} [s^{-1}]		
Upper levels		Lower levels		HFR	MCDF	Other w.	HFR	MCDF	Other w.	HFR	MCDF	Other w.
Conf.	Term	Conf.	Term									
$5p^5 6p$	3D_2	$5p^5 5d$	$^1D_2^o$	153.654	–	152.682 ^a 152.719 ^b 153.405	–0.461	–	–0.444 ^e	1.95(8)	–	1.87(8) ^a 2.04(8) ^e
$5p^5 6p$	3D_2	$5p^5 5d$	$^3P_1^o$	133.494	140.77	133.374 ^a 133.353 ^b 133.209 ^e	–0.907	–0.956	–0.908 ^e	9.27(7)	7.44(7)	4.55(7) ^a 9.29(7) ^e
$5p^5 6p$	3D_2	$5p^5 6s$	$^3P_2^o$	286.025	303.67	284.768 ^a 284.830 ^b 285.460 ^e	–0.033	–0.129	–0.055 ^e	1.51(8)	1.07(8)	1.68(8) ^a 1.44(8) ^e
$5p^5 7s$	$^3P_2^o$	$5p^5 6p$	3D_2	170.095	179.59	168.392 ^a 168.417 ^b 169.388 ^e	–0.243	–0.283	–0.226 ^e	2.64(8)	2.15(8)	5.04(8) ^a 4.60(8) ^e
$5p^5 6p$	3D_3	$5p^5 5d$	$^3D_3^o$	157.950	181.76	157.789 ^a 157.592 ^b 157.916 ^e	–0.697	–0.629	–0.665 ^e	7.67(7)	6.77(7)	7.92(7) ^a 8.27(7) ^e
$5p^5 6p$	3D_3	$5p^5 5d$	$^3F_4^o$	136.988	148.62	136.926 ^a 136.804 ^b 137.416 ^e	0.341	0.364	0.325 ^e	1.11(9)	9.98(8)	1.07(9) ^a 1.07(9) ^e
$5p^5 6p$	3D_3	$5p^5 5d$	$^3F_3^o$	139.356	154.08	139.481 ^a 139.432 ^b 139.523 ^e	–0.512	–0.497	–0.515 ^e	1.51(8)	1.27(8)	1.43(8) ^a 1.49(8) ^e
$5p^5 6p$	3D_3	$5p^5 5d$	$^3P_2^o$	135.368	145.12	135.288 ^a 135.276 ^b 135.332 ^e	–0.638	–0.656	–0.579 ^e	1.20(8)	9.98(7)	2.96(7) ^a 1.37(8) ^e
$5p^5 7s$	$^3P_2^o$	$5p^5 6p$	3D_3	180.650	194.44	180.736 ^a 180.866 ^b 179.320 ^e	0.157	–0.798	0.166 ^e	5.87(8)	2.40(7)	5.96(8) ^a 6.08(8) ^e
$5p^5 6p$	1P_1	$5p^5 5d$	$^3D_1^o$	175.727	208.57	176.683 ^a 176.765 ^b 175.749 ^e	–0.646	–0.587	–0.591 ^e	1.63(8)	1.32(8)	1.12(8) ^a 1.85(8) ^e
$5p^5 6p$	1P_1	$5p^5 5d$	$^1D_2^o$	143.782	–	143.186 ^a 143.255 ^b 143.785 ^e	–0.123	–	–0.121 ^e	8.11(8)	–	7.41(8) ^a 8.14(8) ^e
$5p^5 6p$	1P_1	$5p^5 5d$	$^3F_2^o$	189.631	160.20	189.147 ^a 189.147 ^b 189.855 ^e	–1.733	–0.112	–1.700 ^e	1.14(7)	6.70(8)	5.76(6) ^a 1.23(7) ^e
$5p^5 6p$	1P_1	$5p^5 5d$	$^3P_1^o$	125.979	132.82	126.071 ^a 126.079 ^b 125.894 ^e	–1.625	–2.213	–1.634 ^e	3.32(7)	7.71(6)	4.35(6) ^a 3.26(7) ^e
$5p^5 6p$	1P_1	$5p^5 5d$	$^3P_2^o$	133.501	141.98	133.481 ^a 133.496 ^b 133.372 ^e	–0.917	–0.944	–0.986 ^e	1.51(8)	1.25(8)	1.88(8) ^a 1.29(8) ^e
$5p^5 6p$	1P_1	$5p^5 6s$	$^3P_2^o$	253.611	268.93	253.422 ^a 253.275 ^b 253.853 ^e	–2.308	–1.468	–2.033 ^e	1.70(6)	1.04(7)	3.38(6) ^a 3.20(6) ^e
$5p^5 6p$	3P_2	$5p^5 5d$	$^3D_3^o$	150.792	171.51	150.949 ^a 150.787 ^b 150.822 ^e	0.144	0.161	0.148 ^e	8.18(8)	6.60(8)	7.04(8) ^a 8.25(8) ^e
$5p^5 6p$	3P_2	$5p^5 5d$	$^3D_2^o$	194.795	227.98	195.259 ^a 195.080 ^b 194.667 ^e	–0.832	–0.414	–0.655 ^e	5.18(7)	9.89(7)	1.18(7) ^a 7.79(7) ^e

TABLE III (cont.)

Transitions				λ [nm]			$\log(gf)$			A_{ji} [s^{-1}]		
Upper levels		Lower levels		HFR	MCDF	Other w.	HFR	MCDF	Other w.	HFR	MCDF	Other w.
Conf.	Term	Conf.	Term									
$5p^5 6p$	3P_2	$5p^5 5d$	$^1D_2^o$	139.820	–	139.450 ^a	–3.188	–	–3.792 ^e	4.43(5)	–	2.64(5) ^a
						139.432 ^b						1.10(5) ^e
						139.976 ^e						
$5p^5 6p$	3P_2	$5p^5 5d$	$^3P_1^o$	122.925	129.78	123.166 ^a	–1.079	–1.062	–1.161 ^e	7.37(7)	6.86(7)	1.01(8) ^a
						123.090 ^b						6.09(7) ^e
						122.965 ^e						
$5p^5 6p$	3P_2	$5p^5 5d$	$^3P_2^o$	130.076	138.51	130.228 ^a	–0.458	–0.478	–0.536 ^e	2.75(8)	2.30(8)	3.60(8) ^a
						130.231 ^b						2.29(8) ^e
						130.088 ^e						
$5p^5 6p$	3P_2	$5p^5 6s$	$^1P_1^o$	252.814	270.12	253.732 ^a	0.040	–0.024	0.030 ^e	2.29(8)	1.72(8)	2.36(8) ^a
						253.576 ^b						2.23(8) ^e
						253.088 ^e						
$5p^5 6p$	3P_2	$5p^5 6s$	$^3P_2^o$	241.532	256.76	241.950 ^a	0.147	0.115	0.143 ^e	3.21(8)	2.63(8)	1.68(8) ^a
						241.758 ^b						3.16(8) ^e
						242.217 ^c						
$5p^5 7s$	$^1P_1^o$	$5p^5 6p$	3P_2	188.453	197.48	188.073 ^a	–0.299	–0.201	–0.309 ^e	3.14(8)	3.59(8)	2.68(8) ^a
						188.157 ^b						3.04(8) ^e
						189.459 ^e						
$5p^5 7s$	$^3P_2^o$	$5p^5 6p$	3P_2	191.021	201.34	190.631 ^a	–0.099	0.008	–0.069 ^e	2.91(8)	3.97(8)	2.08(8) ^a
						190.744 ^b						3.17(8) ^e
						189.439 ^e						
$5p^5 6p$	3P_0	$5p^5 6s$	$^1P_1^o$	226.276	233.48	226.382 ^a	–0.256	–0.265	–0.243 ^e	7.23(8)	6.64(8)	7.67(8) ^a
						226.591 ^b						7.47(8) ^e
						226.024 ^c						
$5p^5 7s$	$^1P_1^o$	$5p^5 6p$	3P_0	206.507	223.07	206.572 ^a	–0.718	–0.479	–0.713 ^e	9.98(7)	1.48(8)	9.08(7) ^a
						206.650 ^b						9.94(7) ^e
						208.114 ^c						
$5p^5 6p$	3D_1	$5p^5 5d$	$^1P_1^o$	260.199	457.22	260.583 ^a	–0.742	–0.854	–0.647 ^e	5.94(7)	1.49(7)	2.24(7) ^a
						260.801 ^b						7.36(7) ^e
						260.889 ^e						
$5p^5 6p$	3D_1	$5p^5 5d$	$^3D_1^o$	136.005	153.98	136.705 ^a	–1.324	–1.173	–1.296 ^e	5.70(7)	6.28(7)	6.11(7) ^a
						136.804 ^b						6.05(7) ^e
						136.213 ^c						
$5p^5 6p$	3D_1	$5p^5 5d$	$^1D_2^o$	116.050	–	115.753 ^a	–1.506	–	–1.629 ^e	5.15(7)	–	4.03(7) ^a
						115.835 ^b						3.87(7) ^e
						116.193 ^c						
$5p^5 6p$	3D_1	$5p^5 5d$	$^3F_2^o$	144.187	125.91	144.112 ^a	–0.015	–1.204	–0.021 ^e	1.03(9)	8.75(7)	9.83(8) ^a
						144.163 ^b						1.02(9) ^e
						144.536 ^c						
$5p^5 6p$	3D_1	$5p^5 6s$	$^3P_0^o$	285.249	301.17	286.286 ^a	–0.306	–0.309	–0.307 ^e	1.35(8)	1.20(8)	1.44(8) ^a
						286.330 ^b						1.34(8) ^e
						285.691 ^c						
$5p^5 7s$	$^1P_1^o$	$5p^5 6p$	3D_1	260.314	282.47	259.808 ^a	–2.414	–2.105	–2.420 ^e	1.27(6)	2.18(6)	8.19(5) ^a
						259.750 ^b						1.23(6) ^e
						262.059 ^c						
$5p^5 6p$	3P_1	$5p^5 5d$	$^3D_1^o$	127.198	144.49	128.654 ^a	–1.286	–1.211	–1.289 ^e	7.12(7)	6.55(7)	5.79(7) ^a
						128.319 ^b						7.00(7) ^e
						127.799 ^c						
$5p^5 6p$	3P_1	$5p^5 5d$	$^3D_2^o$	140.696	157.82	141.535 ^a	–0.021	–0.073	–0.041 ^e	1.07(9)	7.53(8)	1.08(9) ^a
						141.458 ^b						1.02(9) ^e
						141.192 ^c						

TABLE III (cont.)

Transitions				λ [nm]			$\log(gf)$			A_{ji} [s^{-1}]		
Upper levels	Lower levels			HFR	MCDF	Other w.	HFR	MCDF	Other w.	HFR	MCDF	Other w.
Conf.	Term	Conf.	Term									
$5p^5 6p$	3P_1	$5p^5 5d$	$^3P_2^o$	103.501	109.06	103.920 ^a 103.930 ^b 103.813 ^e	-1.372	-1.264	-1.511 ^e	8.81(7)	1.01(8)	1.07(8) ^a 6.35(7) ^e
$5p^5 6p$	3P_1	$5p^5 6s$	$^3P_2^o$	163.555	171.09	164.553 ^a 164.521 ^b 164.633 ^e	-1.043	-0.638	-0.905 ^e	7.54(7)	1.74(8)	3.52(7) ^a 1.02(8) ^e
$5p^5 6p$	3P_1	$5p^5 6s$	$^3P_0^o$	249.078	266.89	251.959 ^a 251.502 ^b 251.027 ^e	-0.038	-0.062	-0.042 ^e	3.28(8)	2.70(8)	3.55(8) ^a 3.21(8) ^e
$5p^5 6p$	3P_1	$5p^5 6s$	$^3P_1^o$	256.866	276.11	259.217 ^a 259.130 ^b 259.599 ^e	-0.296	-0.321	-0.317 ^e	1.70(8)	1.39(8)	1.90(8) ^a 1.59(8) ^e
$5p^5 7s$	$^1P_1^o$	$5p^5 6p$	3P_1	300.080	321.15	296.464 ^a 296.258 ^b 300.067 ^e	-3.464	-2.807	-3.425 ^e	8.48(4)	3.36(5)	1.63(5) ^a 9.27(4) ^e
$5p^5 6p$	1D_2	$5p^5 5d$	$^1F_3^o$	145.358	163.53	146.099 ^a 146.215 ^b 146.225 ^e	0.224	0.242	0.223 ^e	1.06(9)	8.71(8)	9.39(8) ^a 1.04(9) ^e
$5p^5 6p$	1D_2	$5p^5 5d$	$^3D_3^o$	116.000	128.24	116.424 ^a 116.429 ^b 116.414 ^e	-3.343	-3.395	-3.158 ^e	4.50(5)	3.26(5)	5.37(5) ^a 6.84(5) ^e
$5p^5 6p$	1D_2	$5p^5 5d$	$^3F_3^o$	105.650	113.81	106.144 ^a 106.209 ^b 106.103 ^e	-1.363	-1.207	-1.483 ^e	5.18(7)	6.39(7)	5.88(7) ^a 3.89(7) ^e
$5p^5 6p$	1S_0	$5p^5 5d$	$^1P_1^o$	224.902	341.06	224.859 ^a 224.495 ^b 224.949 ^e	-0.589	-0.602	-0.478 ^e	3.40(8)	1.43(8)	2.52(8) ^a 4.38(8) ^e
$5p^5 6p$	1S_0	$5p^5 5d$	$^3D_1^o$	125.694	138.13	126.188 ^a 126.112 ^b 125.725 ^e	-1.133	-1.060	-1.214 ^e	3.11(8)	3.04(8)	3.09(8) ^a 2.58(8) ^e
$5p^5 6p$	1S_0	$5p^5 5d$	$^3P_1^o$	98.010	100.26	98.069 ^a 98.003 ^b 97.971 ^e	-2.259	-2.097	-2.507 ^e	3.83(7)	5.30(7)	8.46(7) ^a 2.16(7) ^e
$5p^5 6p$	1S_0	$5p^5 6s$	$^3P_1^o$	250.805	253.79	250.530 ^a 250.281 ^b 251.183 ^e	-0.259	-0.265	-0.232 ^e	5.84(8)	5.61(8)	5.65(8) ^a 6.20(8) ^e

^aRef. [5], ^b Ref. [6], ^cRef. [4] — HFR+CP(B), ^aRef. [4] — MCDF, ^eRef. [7].

TABLE IV

New data (wavelengths λ , logarithmic weighted oscillator strengths $\log(gf)$, and transition probabilities A_{ji}) for electric dipole (E1) transitions in La IV. Numbers in brackets represent powers of 10.

Upper level			Lower level			λ [Å]		$\log(gf)$		A_{ji} [s ⁻¹]	
Conf.	Term	J	Conf.	Term	J	HFR	MCDF	HFR	MCDF	HFR	MCDF
5p ⁵ 7s	¹ P ^o	1	5p ⁶	¹ S	0	341.56	349.32	-0.983	-0.684	1.984(9)	3.77(9)
5p ⁵ 7s	³ P ^o	1	5p ⁶	¹ S	0	318.57	325.28	-1.194	-0.911	1.402(9)	2.58(9)
5p ⁵ 8s	¹ P ^o	1	5p ⁶	¹ S	0	300.03	308.30	-0.960	-1.423	2.706(9)	0.88(9)
5p ⁵ 8s	³ P ^o	1	5p ⁶	¹ S	0	282.25	289.10	-2.290	-2.033	1.431(8)	2.47(8)
5p ⁵ 6d	³ D ^o	1	5p ⁶	¹ S	0	322.71	341.41	-0.420	-0.072	0.811(10)	1.62(10)
5p ⁵ 6d	³ P ^o	1	5p ⁶	¹ S	0	350.94	358.01	-1.975	-2.016	1.912(8)	1.67(8)
5p ⁵ 6p	³ S	1	5p ⁵ 5d	³ P ^o	0	1333.96	1425.90	-0.614	-0.600	3.04(8)	2.75(8)
5p ⁵ 6p	¹ P	1	5p ⁵ 5d	³ P ^o	0	1224.53	1285.90	-2.599	-1.966	3.73(6)	1.45(7)
5p ⁵ 6p	³ D	1	5p ⁵ 5d	³ P ^o	0	1017.46	1055.20	-1.867	-2.277	2.92(7)	1.06(7)
5p ⁵ 6p	³ S	1	5p ⁵ 5d	³ P ^o	1	1375.91	1478.10	-0.300	-0.248	5.88(8)	5.75(8)
5p ⁵ 6p	³ D	2	5p ⁵ 5d	³ P ^o	1	1334.94	1407.70	-0.907	-0.956	9.27(7)	7.44(7)
5p ⁵ 6p	¹ P	1	5p ⁵ 5d	³ P ^o	1	1259.79	1328.20	-1.625	-2.213	3.32(7)	7.71(6)
5p ⁵ 6p	³ P	2	5p ⁵ 5d	³ P ^o	1	1229.25	1297.80	-1.079	-1.062	7.37(7)	6.86(7)
5p ⁵ 6p	³ P	0	5p ⁵ 5d	³ P ^o	1	1162.94	1206.80	-2.041	-1.843	4.49(7)	6.58(7)
5p ⁵ 6p	³ D	1	5p ⁵ 5d	³ P ^o	1	1041.68	1083.50	-1.610	-1.791	5.03(7)	3.07(7)
5p ⁵ 6p	³ P	1	5p ⁵ 5d	³ P ^o	1	989.22	1035.70	-3.288	-3.508	1.17(6)	6.43(5)
5p ⁵ 6p	³ D	2	5p ⁵ 5d	³ P ^o	1	987.76	1470.70	-1.981	-0.956	1.43(7)	7.44(7)
5p ⁵ 6p	¹ S	0	5p ⁵ 5d	³ P ^o	1	980.10	1002.60	-2.259	-2.098	3.83(7)	5.30(7)
5p ⁵ 6p	³ S	1	5p ⁵ 5d	³ P ^o	2	1466.13	1592.50	-0.314	-0.224	5.02(8)	5.24(8)
5p ⁵ 6p	³ D	2	5p ⁵ 5d	³ P ^o	2	1419.70	1511.10	-1.442	-1.848	2.39(7)	8.30(6)
5p ⁵ 6p	³ D	3	5p ⁵ 5d	³ P ^o	2	1353.68	1451.20	-0.638	-0.656	1.20(8)	9.99(7)
5p ⁵ 6p	¹ P	1	5p ⁵ 5d	³ P ^o	2	1335.01	1419.80	-0.917	-0.944	1.51(8)	1.26(8)
5p ⁵ 6p	³ P	2	5p ⁵ 5d	³ P ^o	2	1300.76	1385.10	-0.458	-0.479	2.75(8)	2.31(8)
5p ⁵ 6p	³ D	1	5p ⁵ 5d	³ P ^o	2	1092.58	1143.80	-2.628	-3.204	4.38(6)	1.06(6)
5p ⁵ 6p	³ P	1	5p ⁵ 5d	³ P ^o	2	1035.01	1090.60	-1.372	-1.264	8.81(7)	1.02(8)
5p ⁵ 6p	³ D	2	5p ⁵ 5d	³ P ^o	2	1033.42	1511.70	-1.341	-1.848	5.69(7)	8.30(6)
5p ⁵ 6p	³ D	3	5p ⁵ 5d	³ F ^o	4	1369.88	1486.20	0.341	0.364	1.11(9)	0.99(9)
5p ⁵ 6p	³ D	2	5p ⁵ 5d	³ F ^o	3	1463.63	1608.50	0.119	0.151	8.19(8)	7.30(8)
5p ⁵ 6p	³ D	3	5p ⁵ 5d	³ F ^o	3	1393.56	1540.80	-0.512	-0.497	1.51(8)	1.28(8)
5p ⁵ 6p	³ P	2	5p ⁵ 5d	³ F ^o	3	1337.55	1466.50	-2.663	-1.857	1.62(6)	8.63(6)
5p ⁵ 6p	³ S	1	5p ⁵ 5d	³ F ^o	2	1591.08	1825.30	-1.390	-1.543	3.58(7)	1.91(7)
5p ⁵ 6p	³ D	2	5p ⁵ 5d	³ F ^o	2	1536.54	1719.10	-0.461	-0.398	1.95(8)	1.81(8)
5p ⁵ 6p	³ D	3	5p ⁵ 5d	³ F ^o	2	1459.51	1642.10	-2.244	-1.916	2.55(6)	4.29(6)
5p ⁵ 6p	¹ P	1	5p ⁵ 5d	³ F ^o	2	1437.82	1602.00	-0.123	-0.112	8.11(8)	6.70(8)
5p ⁵ 6p	³ D	1	5p ⁵ 5d	³ F ^o	2	1160.50	1259.10	-1.506	-1.205	5.15(7)	8.75(7)
5p ⁵ 6p	³ P	1	5p ⁵ 5d	³ F ^o	2	1095.76	1195.00	-3.021	-2.466	1.76(6)	5.33(6)
5p ⁵ 6p	³ D	2	5p ⁵ 5d	³ D ^o	3	1670.12	1912.50	-1.126	-0.899	3.58(7)	4.60(7)
5p ⁵ 6p	³ D	3	5p ⁵ 5d	³ D ^o	3	1579.50	1817.60	-0.697	-0.629	7.67(7)	6.78(7)
5p ⁵ 6p	³ P	2	5p ⁵ 5d	³ D ^o	3	1507.92	1715.10	0.144	0.163	8.18(8)	6.60(8)
5p ⁵ 6p	³ S	1	5p ⁵ 5d	³ D ^o	1	1991.74	2480.80	-1.797	-1.986	8.94(6)	3.73(6)
5p ⁵ 6p	³ D	2	5p ⁵ 5d	³ D ^o	1	1907.02	2288.70	-1.919	-1.981	4.42(6)	2.66(6)
5p ⁵ 6p	¹ P	1	5p ⁵ 5d	³ D ^o	1	1757.27	2085.70	-0.646	-0.587	1.63(8)	1.32(8)
5p ⁵ 6p	³ P	0	5p ⁵ 5d	³ D ^o	1	1574.37	1801.20	-0.554	-0.578	7.52(8)	5.44(8)
5p ⁵ 6p	³ D	1	5p ⁵ 5d	³ D ^o	1	1360.05	1539.80	-1.324	-1.174	5.70(7)	6.29(7)
5p ⁵ 6p	³ P	1	5p ⁵ 5d	³ D ^o	1	1271.98	1444.90	-1.286	-1.211	7.12(7)	6.55(7)
5p ⁵ 6p	¹ S	0	5p ⁵ 5d	³ D ^o	1	1256.94	1381.30	-1.133	-1.060	3.11(8)	3.04(8)
5p ⁵ 6p	³ D	2	5p ⁵ 5d	³ F ^o	2	1340.58	1719.10	-0.811	-0.398	1.15(8)	1.81(8)
5p ⁵ 6p	³ S	1	5p ⁵ 5d	³ D ^o	2	2343.84	2901.50	-1.998	-1.355	4.07(6)	1.17(7)
5p ⁵ 6p	³ D	2	5p ⁵ 5d	³ D ^o	2	2227.39	2642.20	-1.305	-0.934	1.33(7)	2.23(7)
5p ⁵ 6p	³ D	3	5p ⁵ 5d	³ D ^o	2	2069.08	2464.50	-1.333	-0.732	1.03(7)	2.91(7)

TABLE IV (cont.)

Upper level			Lower level			λ [Å]		$\log(gf)$		A_{ji} [s^{-1}]	
Conf.	Term	J	Conf.	Term	J	HFR	MCDF	HFR	MCDF	HFR	MCDF
$5p^5 6p$	1P	1	$5p^5 5d$	$^3D^o$	2	2025.76	2375.30	-2.010	-1.568	5.29(6)	1.06(7)
$5p^5 6p$	3D	1	$5p^5 5d$	$^3D^o$	2	1515.51	1692.10	-2.516	-2.189	2.95(6)	5.03(6)
$5p^5 6p$	3P	2	$5p^5 5d$	$^3D^o$	2	1947.95	2279.80	-0.832	-0.414	5.18(7)	9.90(7)
$5p^5 6p$	3P	1	$5p^5 5d$	$^3D^o$	2	1406.96	1578.20	-0.021	-0.074	1.07(9)	7.54(8)
$5p^5 6p$	3D	2	$5p^5 5d$	$^3D^o$	2	1404.01	2642.20	-0.975	-0.934	7.17(7)	2.23(7)
$5p^5 6p$	3D	2	$5p^5 5d$	$^1F^o$	3	2354.78	2820.20	-1.516	-1.298	7.33(6)	8.45(6)
$5p^5 6p$	3D	3	$5p^5 5d$	$^1F^o$	3	2178.56	2618.60	-2.161	-1.824	1.39(6)	2.08(6)
$5p^5 6p$	1P	1	$5p^5 5d$	$^1P^o$	1	4584.66	20522.00	-1.128	-1.480	7.88(6)	1.75(5)
$5p^5 6p$	3P	0	$5p^5 5d$	$^1P^o$	1	3518.29	8035.20	-1.013	-1.171	5.22(7)	6.97(6)
$5p^5 6p$	3D	1	$5p^5 5d$	$^1P^o$	1	2601.99	4572.20	-0.742	-0.852	5.94(7)	1.49(7)
$5p^5 6p$	3P	1	$5p^5 5d$	$^1P^o$	1	2297.63	3826.10	-0.917	-1.024	5.10(7)	1.44(7)
$5p^5 6p$	1S	0	$5p^5 5d$	$^1P^o$	1	2249.02	3410.60	-0.589	-0.602	3.40(8)	1.43(8)
$5p^5 6p$	3S	1	$5p^5 6s$	$^3P^o$	2	3055.18	3384.30	0.066	0.001	2.77(8)	1.94(8)
$5p^5 6p$	3D	2	$5p^5 6s$	$^3P^o$	2	2860.25	3036.70	-0.033	-0.130	1.51(8)	1.07(8)
$5p^5 6p$	3D	3	$5p^5 6s$	$^3P^o$	2	2604.36	2804.30	0.515	0.476	4.60(8)	3.63(8)
$5p^5 6p$	1P	1	$5p^5 6s$	$^3P^o$	2	2536.11	2689.30	-2.308	-1.468	1.70(6)	1.05(7)
$5p^5 6p$	3P	2	$5p^5 6s$	$^3P^o$	2	2415.32	2567.60	0.147	0.115	3.21(8)	2.64(8)
$5p^5 6p$	3D	1	$5p^5 6s$	$^3P^o$	2	1784.10	1845.60	-2.737	-2.438	1.28(6)	2.38(6)
$5p^5 6p$	3P	1	$5p^5 6s$	$^3P^o$	2	1635.55	1710.90	-1.043	-0.638	7.54(7)	1.75(8)
$5p^5 6p$	3D	2	$5p^5 6s$	$^1P^o$	1	3019.84	3225.40	0.071	0.099	1.72(8)	1.61(8)
$5p^5 6p$	1P	1	$5p^5 6s$	$^1P^o$	1	2660.79	2836.30	0.144	0.111	4.37(8)	3.57(8)
$5p^5 6p$	3P	2	$5p^5 6s$	$^1P^o$	1	2528.14	2701.20	0.040	-0.025	2.29(8)	1.73(8)
$5p^5 6p$	3P	0	$5p^5 6s$	$^1P^o$	1	2262.76	2334.80	-0.256	-0.265	7.23(8)	6.64(8)
$5p^5 6p$	3D	1	$5p^5 6s$	$^1P^o$	1	1844.91	1913.70	-2.343	-2.252	2.96(6)	3.40(6)
$5p^5 6p$	1S	0	$5p^5 6s$	$^1P^o$	1	1660.17	1674.90	-1.806	-1.692	3.79(7)	4.83(7)
$5p^5 6p$	3D	1	$5p^5 6s$	$^3P^o$	0	2852.49	3011.70	-0.306	-0.310	1.35(8)	1.20(8)
$5p^5 6p$	3P	1	$5p^5 6s$	$^3P^o$	0	2490.78	2668.90	-0.038	-0.063	3.28(8)	2.70(8)
$5p^5 6p$	3P	0	$5p^5 6s$	$^3P^o$	1	4196.28	4439.10	-2.509	-2.131	1.17(6)	2.50(6)
$5p^5 6p$	3D	1	$5p^5 6s$	$^3P^o$	1	2955.09	3129.60	-0.135	-0.149	1.86(8)	1.61(8)
$5p^5 6p$	3P	1	$5p^5 6s$	$^3P^o$	1	2568.66	2761.10	-0.296	-0.322	1.70(8)	1.39(8)
$5p^5 6p$	1S	0	$5p^5 6s$	$^3P^o$	1	2508.05	2537.90	-0.259	-0.266	5.84(8)	5.61(8)
$5p^5 6d$	$^3P^o$	0	$5p^5 6p$	3S	1	1881.07	1927.30	-0.065	-0.080	1.62(9)	1.49(9)
$5p^5 6d$	$^3P^o$	0	$5p^5 6p$	1P	1	2152.30	2259.80	-2.111	-1.671	1.12(7)	2.79(7)
$5p^5 6d$	$^3P^o$	0	$5p^5 6p$	3P	1	4040.28	4350.10	-2.033	-1.676	3.79(6)	7.43(6)
$5p^5 6d$	$^3P^o$	1	$5p^5 6p$	3S	1	1855.42	1883.90	0.272	0.290	1.21(9)	1.22(9)
$5p^5 6d$	$^3P^o$	1	$5p^5 6p$	3D	2	1935.53	2012.10	-0.508	-0.630	1.84(8)	1.29(8)
$5p^5 6d$	$^3P^o$	1	$5p^5 6p$	1P	1	2118.78	2200.40	-2.023	-2.175	4.69(6)	3.07(6)
$5p^5 6d$	$^3P^o$	1	$5p^5 6p$	3P	2	2211.17	2289.30	-0.465	-0.420	1.56(8)	1.61(8)
$5p^5 6d$	$^3P^o$	1	$5p^5 6p$	3P	0	2463.91	2640.40	-1.508	-1.615	1.14(7)	7.73(6)
$5p^5 6d$	$^3P^o$	1	$5p^5 6p$	3P	1	3923.77	4135.20	-1.634	-1.646	3.36(6)	2.94(6)
$5p^5 6d$	$^3F^o$	4	$5p^5 6p$	3D	3	2036.73	2064.90	0.864	0.906	1.30(9)	1.40(9)
$5p^5 6d$	$^3F^o$	3	$5p^5 6p$	3D	2	1892.38	1926.80	0.719	0.726	1.39(9)	1.36(9)
$5p^5 6d$	$^3F^o$	3	$5p^5 6p$	3D	3	2023.94	2033.70	-0.191	-0.028	1.50(8)	2.16(8)
$5p^5 6d$	$^3F^o$	3	$5p^5 6p$	3P	2	2155.02	2179.40	-0.810	-2.023	3.18(7)	1.90(6)
$5p^5 6d$	$^3P^o$	2	$5p^5 6p$	3S	1	1815.15	1818.80	0.133	0.231	5.50(8)	6.87(8)
$5p^5 6d$	$^3P^o$	2	$5p^5 6p$	3D	2	1891.75	1938.10	-0.583	-0.676	9.73(7)	7.49(7)
$5p^5 6d$	$^3P^o$	2	$5p^5 6p$	3D	3	2023.23	2046.30	-0.473	-0.489	1.10(8)	1.03(8)
$5p^5 6d$	$^3P^o$	2	$5p^5 6p$	1P	1	2066.43	2112.20	-0.287	-0.394	1.61(8)	1.21(8)
$5p^5 6d$	$^3P^o$	2	$5p^5 6p$	3P	2	2154.21	2193.90	0.205	0.243	4.61(8)	4.85(8)
$5p^5 6d$	$^3P^o$	2	$5p^5 6p$	3D	1	3147.39	3295.30	-2.002	-2.086	1.34(6)	1.01(6)
$5p^5 6d$	$^1D^o$	2	$5p^5 6p$	3S	1	1776.04	1752.50	-0.591	-1.103	1.09(8)	3.43(7)
$5p^5 6d$	$^1D^o$	2	$5p^5 6p$	3D	2	1849.31	1862.90	0.137	0.180	5.35(8)	5.82(8)

TABLE IV (cont.)

Upper level			Lower level			λ [Å]		$\log(gf)$		A_{ji} [s ⁻¹]	
Conf.	Term	J	Conf.	Term	J	HFR	MCDF	HFR	MCDF	HFR	MCDF
5p ⁵ 6d	¹ D ^o	2	5p ⁵ 6p	³ D	3	1974.76	1962.70	-1.330	-1.323	1.60(7)	1.65(7)
5p ⁵ 6d	¹ D ^o	2	5p ⁵ 6p	¹ P	1	2015.89	2023.20	0.404	0.463	8.33(8)	9.46(8)
5p ⁵ 6d	³ D ^o	3	5p ⁵ 6p	³ D	3	1956.30	1921.10	0.060	0.080	2.86(8)	3.10(8)
5p ⁵ 6d	³ D ^o	3	5p ⁵ 6p	³ P	2	2078.49	2050.70	0.644	0.707	9.72(8)	1.15(9)
5p ⁵ 6d	¹ P ^o	1	5p ⁵ 6p	¹ P	1	1887.17	1228.60	-0.081	-0.962	5.18(8)	1.61(8)
5p ⁵ 6d	¹ P ^o	1	5p ⁵ 6p	³ P	2	1960.11	1255.90	-1.795	-2.037	9.27(6)	1.29(7)
5p ⁵ 6d	¹ P ^o	1	5p ⁵ 6p	³ P	0	2156.18	1354.70	0.108	-1.072	6.13(8)	1.03(8)
5p ⁵ 6d	³ F ^o	2	5p ⁵ 6p	¹ P	1	1439.09	1451.80	-2.092	-3.154	5.21(6)	4.44(5)
5p ⁵ 6d	³ F ^o	2	5p ⁵ 6p	³ D	1	1891.50	1927.50	0.563	0.577	1.36(9)	1.35(9)
5p ⁵ 6d	³ F ^o	2	5p ⁵ 6p	³ P	1	2093.05	2100.20	-1.111	-0.961	2.36(7)	3.31(7)
5p ⁵ 6d	³ F ^o	2	5p ⁵ 6p	³ D	2	2099.61	1367.40	-0.268	-2.272	1.63(8)	3.82(6)
5p ⁵ 6d	³ D ^o	1	5p ⁵ 6p	³ S	1	1268.65	1500.00	-2.851	-3.565	1.95(6)	2.69(5)
5p ⁵ 6d	³ D ^o	1	5p ⁵ 6p	¹ P	1	1386.49	1694.00	-2.952	-0.051	1.29(6)	6.90(8)
5p ⁵ 6d	³ D ^o	1	5p ⁵ 6p	³ P	2	1425.46	1746.10	-2.836	-2.456	1.60(6)	2.55(6)
5p ⁵ 6d	³ D ^o	1	5p ⁵ 6p	³ P	0	1526.40	1943.20	-1.447	0.181	3.41(7)	8.92(8)
5p ⁵ 6d	³ D ^o	1	5p ⁵ 6p	³ D	1	1801.65	2379.00	-0.211	-1.026	4.21(8)	3.70(7)
5p ⁵ 6d	³ D ^o	1	5p ⁵ 6p	³ P	1	1983.59	2647.60	-0.452	-1.096	2.00(8)	2.54(7)
5p ⁵ 6d	³ D ^o	1	5p ⁵ 6p	³ D	2	1989.48	1580.10	-1.211	-1.048	3.46(7)	7.97(7)
5p ⁵ 6d	³ D ^o	1	5p ⁵ 6p	¹ S	0	2021.31	2891.40	0.131	-1.442	7.36(8)	9.61(6)
5p ⁵ 7s	³ P ^o	2	5p ⁵ 6p	³ S	1	1638.77	1693.00	-0.257	-0.288	2.75(8)	2.40(8)
5p ⁵ 7s	³ P ^o	2	5p ⁵ 6p	³ D	2	1700.95	1795.90	-0.243	-0.284	2.64(8)	2.15(8)
5p ⁵ 7s	³ P ^o	2	5p ⁵ 6p	³ D	3	1806.50	1888.40	0.157	0.277	5.87(8)	7.08(8)
5p ⁵ 7s	³ P ^o	2	5p ⁵ 6p	¹ P	1	1840.87	1944.40	-1.733	-1.166	7.28(6)	2.41(7)
5p ⁵ 7s	³ P ^o	2	5p ⁵ 6p	³ P	2	1910.21	2013.40	-0.099	0.082	2.91(8)	3.97(8)
5p ⁵ 7s	³ P ^o	2	5p ⁵ 6p	³ P	1	3066.45	3314.90	-1.959	-1.640	1.56(6)	2.78(6)
5p ⁵ 7s	¹ P ^o	1	5p ⁵ 6p	³ S	1	1619.84	1665.70	-2.719	-2.128	1.62(6)	5.97(6)
5p ⁵ 7s	¹ P ^o	1	5p ⁵ 6p	³ D	2	1680.56	1765.10	-0.230	-0.138	4.64(8)	5.19(8)
5p ⁵ 7s	¹ P ^o	1	5p ⁵ 6p	¹ P	1	1817.01	1908.40	-0.119	-0.039	5.12(8)	5.58(8)
5p ⁵ 7s	¹ P ^o	1	5p ⁵ 6p	³ P	2	1884.53	1974.80	-0.299	-0.201	3.14(8)	3.59(8)
5p ⁵ 7s	¹ P ^o	1	5p ⁵ 6p	³ P	0	2065.07	2230.70	-0.718	-0.479	9.98(7)	1.48(8)
5p ⁵ 7s	¹ P ^o	1	5p ⁵ 6p	³ D	1	2603.14	2824.70	-2.414	-2.105	1.27(6)	2.19(6)
5p ⁵ 7s	¹ P ^o	1	5p ⁵ 6p	¹ S	0	3087.99	3577.40	-1.685	-1.320	4.82(6)	8.31(6)
5p ⁵ 7s	³ P ^o	0	5p ⁵ 6p	³ S	1	1212.47	1239.10	-3.035	-2.505	4.19(6)	1.36(7)
5p ⁵ 7s	³ P ^o	0	5p ⁵ 6p	³ D	1	1690.42	1783.50	-0.577	-0.531	6.18(8)	6.17(8)
5p ⁵ 7s	³ P ^o	0	5p ⁵ 6p	³ P	1	1849.59	1930.40	-0.393	-0.272	7.88(8)	9.58(8)
5p ⁵ 7s	³ P ^o	1	5p ⁵ 6p	³ S	1	1206.99	1231.70	-2.777	-2.324	2.55(6)	6.95(6)
5p ⁵ 7s	³ P ^o	1	5p ⁵ 6p	³ D	2	1240.39	1285.20	-3.156	-3.316	1.01(6)	6.50(5)
5p ⁵ 7s	³ P ^o	1	5p ⁵ 6p	¹ P	1	1313.17	1359.50	-2.620	-2.626	3.09(6)	2.84(6)
5p ⁵ 7s	³ P ^o	1	5p ⁵ 6p	³ P	0	1438.01	1515.60	-2.040	-2.142	9.82(6)	6.98(6)
5p ⁵ 7s	³ P ^o	1	5p ⁵ 6p	³ D	1	1679.79	1768.20	-0.358	-0.375	3.46(8)	3.00(8)
5p ⁵ 7s	³ P ^o	1	5p ⁵ 6p	³ P	1	1836.88	1912.40	-0.604	-0.534	1.64(8)	1.78(8)
5p ⁵ 7s	³ P ^o	1	5p ⁵ 6p	¹ S	0	1869.18	2036.40	-0.586	-0.414	1.65(8)	2.07(8)
5p ⁵ 8s	³ P ^o	2	5p ⁵ 6p	³ S	1	980.78	1023.60	-1.057	-1.435	1.22(8)	4.68(7)
5p ⁵ 8s	³ P ^o	2	5p ⁵ 6p	³ D	2	1002.72	1060.30	-1.103	-1.707	1.05(8)	2.33(7)
5p ⁵ 8s	³ P ^o	2	5p ⁵ 6p	³ D	3	1038.49	1091.90	-0.655	-1.095	2.74(8)	8.98(7)
5p ⁵ 8s	³ P ^o	2	5p ⁵ 6p	¹ P	1	1049.76	1110.30	-2.845	-3.310	1.73(6)	5.30(5)
5p ⁵ 8s	³ P ^o	2	5p ⁵ 6p	³ P	2	1071.95	1132.50	-0.977	-1.560	1.22(8)	2.87(7)
5p ⁵ 8s	³ P ^o	2	5p ⁵ 6p	³ P	1	1359.64	1453.50	-2.743	-3.617	1.30(6)	1.52(5)
5p ⁵ 8s	¹ P ^o	1	5p ⁵ 6p	³ D	2	999.83	1055.50	-1.003	-1.488	2.21(8)	6.49(7)
5p ⁵ 8s	¹ P ^o	1	5p ⁵ 6p	¹ P	1	1046.59	1105.10	-1.237	-1.543	1.18(8)	5.22(7)
5p ⁵ 8s	¹ P ^o	1	5p ⁵ 6p	³ P	2	1068.64	1127.10	-1.120	-1.718	1.48(8)	3.35(7)
5p ⁵ 8s	¹ P ^o	1	5p ⁵ 6p	³ P	0	1124.39	1206.00	-1.240	-2.386	1.01(8)	6.29(6)

TABLE IV (cont.)

Upper level			Lower level			λ [Å]		$\log(gf)$		A_{ji} [s^{-1}]	
Conf.	Term	J	Conf.	Term	J	HFR	MCDF	HFR	MCDF	HFR	MCDF
$5p^5 8s$	$^3P^o$	0	$5p^5 6p$	3S	1	812.01	837.09	-3.198	-2.849	6.41(6)	1.35(7)
$5p^5 8s$	$^3P^o$	0	$5p^5 6p$	3D	1	1001.69	1054.60	-1.412	-1.900	2.57(8)	7.56(7)
$5p^5 8s$	$^3P^o$	0	$5p^5 6p$	3P	1	1055.51	1104.20	-1.220	-1.700	3.61(8)	1.09(8)
$5p^5 8s$	$^3P^o$	1	$5p^5 6p$	3S	1	811.43	835.69	-3.067	-2.735	2.89(6)	5.86(6)
$5p^5 8s$	$^3P^o$	1	$5p^5 6p$	3D	2	826.39	859.99	-2.077	-3.296	2.73(7)	1.52(6)
$5p^5 8s$	$^3P^o$	1	$5p^5 6p$	1P	1	858.08	892.64	-2.054	-3.445	2.67(7)	1.00(6)
$5p^5 8s$	$^3P^o$	1	$5p^5 6p$	3P	2	872.85	906.92	-2.496	-3.761	9.32(6)	4.69(5)
$5p^5 8s$	$^3P^o$	1	$5p^5 6p$	3P	0	909.68	957.36	-2.161	-2.665	1.85(7)	5.25(6)
$5p^5 8s$	$^3P^o$	1	$5p^5 6p$	3D	1	1000.81	1052.30	-1.291	-1.674	1.14(8)	4.25(7)
$5p^5 8s$	$^3P^o$	1	$5p^5 6p$	3P	1	1054.54	1101.80	-1.521	-1.887	6.02(7)	2.38(7)
$5p^5 8s$	$^3P^o$	1	$5p^5 6p$	1S	0	1065.10	1141.80	-1.599	-2.423	4.93(7)	6.44(6)
$5p^5 7p$	3S	1	$5p^5 5d$	$^3P^o$	0	664.69	678.64	-1.611	-1.729	1.23(8)	9.01(7)
$5p^5 7p$	3D	1	$5p^5 5d$	$^3P^o$	0	581.13	583.52	-2.100	-2.974	5.23(7)	6.94(6)
$5p^5 7p$	3P	1	$5p^5 5d$	$^3P^o$	0	575.19	576.75	-2.832	-4.058	9.89(6)	5.85(5)
$5p^5 7p$	3S	1	$5p^5 5d$	$^3P^o$	1	674.94	690.25	-1.252	-1.416	2.73(8)	1.79(8)
$5p^5 7p$	3D	2	$5p^5 5d$	$^3P^o$	1	671.40	676.96	-2.239	-1.967	1.71(7)	3.14(7)
$5p^5 7p$	3P	2	$5p^5 5d$	$^3P^o$	1	660.96	661.81	-1.976	-1.992	3.23(7)	3.10(7)
$5p^5 7p$	1S	0	$5p^5 5d$	$^3P^o$	1	652.81	561.27	-2.957	-2.618	1.73(7)	5.10(7)
$5p^5 7p$	3D	1	$5p^5 5d$	$^3P^o$	1	588.96	592.08	-1.907	-2.430	7.94(7)	2.35(7)
$5p^5 7p$	3P	1	$5p^5 5d$	$^3P^o$	1	582.85	585.11	-3.589	-4.444	1.69(6)	2.34(5)
$5p^5 7p$	3P	0	$5p^5 5d$	$^3P^o$	1	581.58	631.14	-2.804	-2.704	3.10(7)	3.31(7)
$5p^5 7p$	3S	1	$5p^5 5d$	$^3P^o$	2	695.95	714.21	-1.413	-1.528	1.78(8)	1.29(8)
$5p^5 7p$	3D	2	$5p^5 5d$	$^3P^o$	2	692.19	699.99	-2.023	-3.162	2.64(7)	1.87(6)
$5p^5 7p$	3D	3	$5p^5 5d$	$^3P^o$	2	686.90	697.50	-1.957	-1.676	2.23(7)	4.13(7)
$5p^5 7p$	1P	1	$5p^5 5d$	$^3P^o$	2	684.01	688.28	-1.924	-2.242	5.66(7)	2.69(7)
$5p^5 7p$	3P	2	$5p^5 5d$	$^3P^o$	2	681.09	683.80	-1.294	-1.496	1.46(8)	9.11(7)
$5p^5 7p$	3D	1	$5p^5 5d$	$^3P^o$	2	604.89	609.62	-3.271	-3.880	3.25(6)	7.88(5)
$5p^5 7p$	3P	1	$5p^5 5d$	$^3P^o$	2	598.45	602.24	-1.945	-1.972	7.04(7)	6.54(7)
$5p^5 7p$	3D	3	$5p^5 5d$	$^3F^o$	4	691.04	705.48	-0.655	-0.773	4.41(8)	3.23(8)
$5p^5 7p$	3D	2	$5p^5 5d$	$^3F^o$	3	702.46	720.19	-0.890	-1.126	3.49(8)	1.92(8)
$5p^5 7p$	3D	3	$5p^5 5d$	$^3F^o$	3	697.02	717.56	-1.399	-1.732	7.83(7)	3.43(7)
$5p^5 7p$	3P	2	$5p^5 5d$	$^3F^o$	3	691.04	703.06	-2.885	-2.603	3.64(6)	6.74(6)
$5p^5 7p$	3S	1	$5p^5 5d$	$^3F^o$	2	722.89	757.54	-2.385	-3.722	1.75(7)	7.34(5)
$5p^5 7p$	3D	3	$5p^5 5d$	$^3F^o$	2	713.14	738.77	-2.824	-3.387	2.81(6)	7.16(5)
$5p^5 7p$	1P	1	$5p^5 5d$	$^3F^o$	2	710.02	728.43	-1.117	-1.354	3.37(8)	1.85(8)
$5p^5 7p$	3D	1	$5p^5 5d$	$^3F^o$	2	625.14	640.92	-2.127	-2.029	4.24(7)	5.06(7)
$5p^5 7p$	3D	2	$5p^5 5d$	$^3D^o$	3	746.78	775.37	-1.958	-2.688	2.63(7)	4.55(6)
$5p^5 7p$	3D	3	$5p^5 5d$	$^3D^o$	3	740.63	772.32	-1.510	-2.211	5.37(7)	9.84(6)
$5p^5 7p$	3P	2	$5p^5 5d$	$^3D^o$	3	733.88	755.56	-0.871	-1.247	3.34(8)	1.32(8)
$5p^5 7p$	3S	1	$5p^5 5d$	$^3D^o$	1	795.61	850.85	-2.599	-3.683	8.83(6)	6.38(5)
$5p^5 7p$	1P	1	$5p^5 5d$	$^3D^o$	1	780.04	814.30	-1.801	-2.684	5.77(7)	6.95(6)
$5p^5 7p$	3P	2	$5p^5 5d$	$^3D^o$	1	776.26	808.04	-2.980	-3.468	2.32(6)	6.95(5)
$5p^5 7p$	1S	0	$5p^5 5d$	$^3D^o$	1	765.04	663.04	-1.712	-1.736	2.21(8)	2.79(8)
$5p^5 7p$	3D	1	$5p^5 5d$	$^3D^o$	1	678.79	706.46	-2.343	-2.295	2.19(7)	2.26(7)
$5p^5 7p$	3P	1	$5p^5 5d$	$^3D^o$	1	670.70	696.57	-2.145	-2.188	3.54(7)	2.97(7)
$5p^5 7p$	3P	0	$5p^5 5d$	$^3D^o$	1	669.01	762.78	-1.747	-2.356	2.67(8)	5.05(7)
$5p^5 7p$	3D	2	$5p^5 5d$	$^3F^o$	2	690.13	741.56	-1.909	-1.763	3.45(7)	4.18(7)
$5p^5 7p$	3P	1	$5p^5 5d$	$^3F^o$	2	690.01	632.76	-2.511	-3.545	1.44(7)	1.58(6)
$5p^5 7p$	3S	1	$5p^5 5d$	$^3D^o$	2	846.40	895.38	-2.616	-2.461	7.52(6)	9.60(6)
$5p^5 7p$	3D	2	$5p^5 5d$	$^3D^o$	2	840.84	873.14	-2.479	-4.167	6.26(6)	1.19(5)
$5p^5 7p$	3D	3	$5p^5 5d$	$^3D^o$	2	833.05	869.28	-1.450	-3.242	4.87(7)	7.23(5)
$5p^5 7p$	1P	1	$5p^5 5d$	$^3D^o$	2	828.80	855.00	-2.741	-3.745	5.87(6)	5.48(5)

TABLE IV (cont.)

Upper level			Lower level			λ [Å]		$\log(gf)$		A_{ji} [s ⁻¹]	
Conf.	Term	J	Conf.	Term	J	HFR	MCDF	HFR	MCDF	HFR	MCDF
5p ⁵ 7p	³ P	2	5p ⁵ 5d	³ D ^o	2	824.53	848.10	-2.314	-2.467	9.51(6)	6.33(6)
5p ⁵ 7p	³ D	1	5p ⁵ 5d	³ D ^o	2	715.42	736.89	-3.371	-4.091	1.85(6)	3.32(5)
5p ⁵ 7p	³ P	1	5p ⁵ 5d	³ D ^o	2	706.43	726.13	-1.028	-1.335	4.18(8)	1.95(8)
5p ⁵ 7p	³ D	2	5p ⁵ 5d	¹ P ^o	1	1094.38	1293.60	-2.632	-2.089	2.60(6)	6.49(6)
5p ⁵ 7p	¹ S	0	5p ⁵ 5d	¹ P ^o	1	1045.83	928.09	-2.767	-1.298	1.04(7)	3.90(8)
5p ⁵ 7p	³ D	1	5p ⁵ 5d	¹ P ^o	1	891.06	1015.50	-2.417	-1.883	1.07(7)	2.82(7)
5p ⁵ 7p	³ P	1	5p ⁵ 5d	¹ P ^o	1	877.16	995.14	-2.526	-2.221	8.60(6)	1.35(7)
5p ⁵ 7p	³ P	0	5p ⁵ 5d	¹ P ^o	1	874.28	1136.00	-1.934	-1.294	1.02(8)	2.63(8)
5p ⁵ 7p	³ S	1	5p ⁵ 6s	³ P ^o	2	924.10	936.61	-2.534	-1.509	7.62(6)	7.84(7)
5p ⁵ 7p	³ D	3	5p ⁵ 6s	³ P ^o	2	908.21	908.09	-2.267	-2.217	6.25(6)	7.00(6)
5p ⁵ 7p	¹ P	1	5p ⁵ 6s	³ P ^o	2	903.16	892.51	-3.164	-4.051	1.87(6)	2.48(5)
5p ⁵ 7p	³ D	2	5p ⁵ 6s	³ P ^o	2	759.89	912.31	-2.810	-2.255	3.58(6)	8.90(6)
5p ⁵ 7p	³ P	1	5p ⁵ 6s	³ P ^o	2	759.75	753.01	-2.145	-1.652	2.76(7)	8.74(7)
5p ⁵ 7p	³ S	1	5p ⁵ 6s	¹ P ^o	1	940.15	953.82	-2.782	-2.462	4.15(6)	8.44(6)
5p ⁵ 7p	³ D	2	5p ⁵ 6s	¹ P ^o	1	933.30	928.63	-2.695	-1.637	3.09(6)	3.57(7)
5p ⁵ 7p	¹ P	1	5p ⁵ 6s	¹ P ^o	1	918.49	908.13	-3.220	-2.876	1.59(6)	3.58(6)
5p ⁵ 7p	¹ S	0	5p ⁵ 6s	¹ P ^o	1	897.76	723.94	-2.582	-2.848	2.17(7)	1.81(7)
5p ⁵ 7p	³ P	0	5p ⁵ 6s	¹ P ^o	1	768.34	844.52	-3.600	-2.230	2.84(6)	5.50(7)
5p ⁵ 7p	³ S	1	5p ⁵ 6s	³ P ^o	0	1146.53	1165.60	-2.510	-1.955	5.22(6)	1.81(7)
5p ⁵ 7p	³ S	1	5p ⁵ 6s	³ P ^o	1	1162.75	1182.90	-2.501	-1.793	5.19(6)	2.56(7)
5p ⁵ 7p	³ P	2	5p ⁵ 6s	³ P ^o	1	1121.88	1101.70	-2.856	-2.224	1.48(6)	6.56(6)
5p ⁵ 7p	¹ S	0	5p ⁵ 6s	³ P ^o	1	1098.59	848.68	-2.930	-3.130	6.50(6)	6.86(6)
5p ⁵ 7p	³ D	1	5p ⁵ 6s	³ P ^o	1	929.08	921.16	-2.949	-1.989	2.90(6)	2.69(7)
5p ⁵ 7p	³ P	1	5p ⁵ 6s	³ P ^o	1	913.98	904.40	-3.348	-3.488	1.19(6)	8.84(5)
5p ⁵ 7p	³ P	0	5p ⁵ 6s	³ P ^o	1	910.85	1019.30	-2.742	-2.946	1.46(7)	7.27(6)
5p ⁵ 7p	³ S	1	5p ⁵ 6d	³ P ^o	0	4480.04	3947.40	-0.391	-0.500	4.50(7)	4.52(7)
5p ⁵ 7p	³ D	1	5p ⁵ 6d	³ P ^o	0	2275.23	2026.20	-1.420	-3.241	1.63(7)	3.11(5)
5p ⁵ 7p	³ P	1	5p ⁵ 6d	³ P ^o	0	2186.75	1946.90	-2.394	-2.426	1.88(6)	2.20(6)
5p ⁵ 7p	³ S	1	5p ⁵ 6d	³ P ^o	1	4632.56	4142.70	-0.069	-0.128	8.85(7)	9.64(7)
5p ⁵ 7p	³ D	2	5p ⁵ 6d	³ P ^o	1	4470.84	3706.10	-0.716	-0.895	1.28(7)	1.24(7)
5p ⁵ 7p	¹ P	1	5p ⁵ 6d	³ P ^o	1	4150.30	3399.80	-1.781	-1.980	2.14(6)	2.01(6)
5p ⁵ 7p	³ P	2	5p ⁵ 6d	³ P ^o	1	4045.31	3293.30	-0.750	-0.892	1.45(7)	1.58(7)
5p ⁵ 7p	¹ S	0	5p ⁵ 6d	³ P ^o	1	3758.10	1741.30	-1.977	-2.307	4.98(6)	1.09(7)
5p ⁵ 7p	³ D	1	5p ⁵ 6d	³ P ^o	1	2313.92	2076.50	-1.351	-2.335	1.85(7)	2.38(6)
5p ⁵ 7p	³ P	1	5p ⁵ 6d	³ P ^o	1	2222.47	1993.20	-2.228	-2.509	2.66(6)	1.73(6)
5p ⁵ 7p	³ P	0	5p ⁵ 6d	³ P ^o	1	2204.03	2652.00	-3.013	-2.123	1.33(6)	7.15(6)
5p ⁵ 7p	³ D	3	5p ⁵ 6d	³ F ^o	4	4422.54	3841.40	0.572	0.471	1.82(8)	1.91(8)
5p ⁵ 7p	³ D	2	5p ⁵ 6d	³ F ^o	3	4719.44	4035.40	0.384	0.289	1.45(8)	1.59(8)
5p ⁵ 7p	³ D	3	5p ⁵ 6d	³ F ^o	3	4484.07	3954.10	-0.501	-0.500	1.50(7)	1.93(7)
5p ⁵ 7p	³ S	1	5p ⁵ 6d	³ P ^o	2	4904.23	4496.40	-0.116	-0.087	7.08(7)	9.00(7)
5p ⁵ 7p	³ D	2	5p ⁵ 6d	³ P ^o	2	4723.35	3986.60	-1.379	-1.515	2.50(6)	2.56(6)
5p ⁵ 7p	³ D	3	5p ⁵ 6d	³ P ^o	2	4487.60	3907.30	-0.441	-0.584	1.72(7)	1.63(7)
5p ⁵ 7p	¹ P	1	5p ⁵ 6d	³ P ^o	2	4367.03	3634.40	-0.619	-1.150	2.80(7)	1.19(7)
5p ⁵ 7p	³ P	2	5p ⁵ 6d	³ P ^o	2	4250.94	3512.90	-0.136	-0.311	5.39(7)	5.28(7)
5p ⁵ 7p	³ D	1	5p ⁵ 6d	³ P ^o	2	2379.76	2161.70	-2.261	-2.803	2.15(6)	7.48(5)
5p ⁵ 7p	³ P	1	5p ⁵ 6d	³ P ^o	2	2283.15	2071.60	-2.226	-2.402	2.54(6)	2.05(6)
5p ⁵ 7p	³ S	1	5p ⁵ 6d	¹ D ^o	2	5214.46	4960.70	-1.145	-2.846	5.86(6)	1.29(5)
5p ⁵ 7p	³ D	2	5p ⁵ 6d	¹ D ^o	2	5010.45	4347.50	-0.247	-0.271	3.01(7)	3.78(7)
5p ⁵ 7p	¹ P	1	5p ⁵ 6d	¹ D ^o	2	4611.33	3931.90	0.107	0.000	1.34(8)	1.44(8)
5p ⁵ 7p	³ D	1	5p ⁵ 6d	¹ D ^o	2	2450.51	2263.50	-2.393	-2.436	1.50(6)	1.59(6)
5p ⁵ 7p	³ D	3	5p ⁵ 6d	³ D ^o	3	4856.10	4462.50	-0.311	-0.436	1.97(7)	1.76(7)
5p ⁵ 7p	³ P	2	5p ⁵ 6d	³ D ^o	3	4580.18	3955.30	0.359	0.216	1.45(8)	1.40(8)

TABLE IV (cont.)

Upper level			Lower level			λ [Å]		$\log(gf)$		A_{ji} [s^{-1}]	
Conf.	Term	J	Conf.	Term	J	HFR	MCDF	HFR	MCDF	HFR	MCDF
$5p^5 7p$	3D	2	$5p^5 6d$	$^3D^o$	3	2376.25	4566.20	-2.056	-1.293	2.08(6)	3.26(6)
$5p^5 7p$	1S	0	$5p^5 6d$	$^1P^o$	1	4803.85	4654.30	-0.097	-1.073	2.31(8)	7.79(7)
$5p^5 7p$	3D	1	$5p^5 6d$	$^3F^o$	2	4778.94	4044.30	0.202	0.149	1.55(8)	1.92(8)
$5p^5 7p$	3P	1	$5p^5 6d$	$^3F^o$	2	4404.62	3740.00	-1.480	-1.657	3.80(6)	3.50(6)
$5p^5 7p$	3D	2	$5p^5 6d$	$^3P^o$	2	4499.25	4762.40	-0.697	0.086	1.32(7)	7.17(7)
$5p^5 7p$	3D	1	$5p^5 6d$	$^3D^o$	1	5467.82	2892.50	-0.556	-1.190	2.07(7)	1.72(7)
$5p^5 7p$	3D	2	$5p^5 6d$	$^3D^o$	1	4989.55	7465.20	-1.256	-1.578	2.97(6)	6.33(5)
$5p^5 7p$	3P	1	$5p^5 6d$	$^3D^o$	1	4983.28	2733.50	-0.660	-1.276	1.96(7)	1.57(7)
$5p^5 7p$	3P	0	$5p^5 6d$	$^3D^o$	1	4891.54	4145.80	-0.164	-0.392	1.91(8)	1.57(8)
$5p^5 7p$	3S	1	$5p^5 7s$	$^3P^o$	2	6915.15	5508.40	0.184	0.157	7.10(7)	1.05(8)
$5p^5 7p$	3D	3	$5p^5 7s$	$^3P^o$	2	6114.69	4649.70	0.616	0.671	1.05(8)	2.06(8)
$5p^5 7p$	1P	1	$5p^5 7s$	$^3P^o$	2	5892.99	4268.30	-1.688	-0.692	1.31(6)	2.48(7)
$5p^5 7p$	3P	2	$5p^5 7s$	$^3P^o$	2	5683.55	4101.70	0.321	0.419	8.65(7)	2.08(8)
$5p^5 7p$	3P	1	$5p^5 7s$	$^3P^o$	2	2640.64	2263.20	-2.122	-1.254	2.41(6)	2.42(7)
$5p^5 7p$	3D	2	$5p^5 7s$	$^1P^o$	1	6882.98	4993.20	0.203	0.295	4.50(7)	1.05(8)
$5p^5 7p$	1P	1	$5p^5 7s$	$^1P^o$	1	6151.55	4452.70	0.282	0.311	1.13(8)	2.30(8)
$5p^5 7p$	3P	2	$5p^5 7s$	$^1P^o$	1	5923.69	4271.80	0.098	0.140	4.77(7)	1.01(8)
$5p^5 7p$	1S	0	$5p^5 7s$	$^1P^o$	1	5327.49	1981.20	-0.221	-1.025	1.41(8)	1.60(8)
$5p^5 7p$	3D	1	$5p^5 7s$	$^3P^o$	0	6832.31	4869.00	-0.216	-0.083	2.90(7)	7.74(7)
$5p^5 7p$	3P	1	$5p^5 7s$	$^3P^o$	0	6092.13	4434.70	0.038	0.091	6.54(7)	1.39(8)
$5p^5 7p$	3D	1	$5p^5 7s$	$^3P^o$	1	7011.54	4987.50	-0.013	0.031	4.39(7)	9.60(7)
$5p^5 7p$	3P	1	$5p^5 7s$	$^3P^o$	1	6234.23	4532.80	-0.151	-0.076	4.04(7)	9.09(7)
$5p^5 8s$	$^3P^o$	2	$5p^5 7p$	3S	1	3776.87	4883.50	-0.072	-1.031	7.93(7)	5.21(6)
$5p^5 8s$	$^3P^o$	2	$5p^5 7p$	3D	2	3891.64	5671.10	-0.140	-1.378	6.37(7)	1.74(6)
$5p^5 8s$	$^3P^o$	2	$5p^5 7p$	3D	3	4067.70	5839.70	0.326	-0.565	1.71(8)	1.07(7)
$5p^5 8s$	$^3P^o$	2	$5p^5 7p$	3P	2	4283.88	7017.00	0.084	-1.018	8.82(7)	2.60(6)
$5p^5 8s$	$^1P^o$	1	$5p^5 7p$	3D	2	3848.45	5537.00	0.028	-1.127	1.60(8)	5.41(6)
$5p^5 8s$	$^1P^o$	1	$5p^5 7p$	1P	1	4122.52	6398.20	-0.281	-1.102	6.85(7)	4.30(6)
$5p^5 8s$	$^1P^o$	1	$5p^5 7p$	3P	2	4231.61	6813.00	-0.162	-1.248	8.55(7)	2.71(6)
$5p^5 8s$	$^1P^o$	1	$5p^5 7p$	1S	0	4599.29	8072.80	-0.092	-2.788	8.50(7)	1.67(5)
$5p^5 8s$	$^3P^o$	0	$5p^5 7p$	3D	1	3840.50	5488.20	-0.430	-1.453	1.68(8)	7.81(6)
$5p^5 8s$	$^3P^o$	0	$5p^5 7p$	3P	1	4122.01	6169.20	-0.239	-1.180	2.26(8)	1.16(7)
$5p^5 8s$	$^3P^o$	1	$5p^5 7p$	3D	2	2128.77	2525.40	-1.593	-2.843	1.25(7)	5.00(5)
$5p^5 8s$	$^3P^o$	1	$5p^5 7p$	1P	1	2210.04	2690.50	-1.684	-2.990	9.42(6)	3.14(5)
$5p^5 8s$	$^3P^o$	1	$5p^5 7p$	1S	0	2340.08	10928.00	-1.936	-1.924	4.70(6)	2.22(5)
$5p^5 8s$	$^3P^o$	1	$5p^5 7p$	3D	1	3827.61	5428.30	-0.280	-1.393	7.97(7)	3.05(6)
$5p^5 8s$	$^3P^o$	1	$5p^5 7p$	3P	1	4107.17	6093.60	-0.478	-1.384	4.38(7)	2.48(6)

TABLE V

The wavelengths λ (Å), logarithmic weighted oscillator strengths $\log(gf)$, and weighted transition probabilities gA_{ji} (s^{-1}), for some electric quadrupole (E2) and magnetic dipole (M1) transitions in La IV. Numbers in brackets represent powers of 10.

Transitions						Type	λ [Å]		$\log(gf)$		gA_{ji} [s^{-1}]	
Lower levels			Upper levels				HFR	MCDF	HFR	MCDF	HFR	MCDF
Conf.	Term	J	Conf.	Term	J							
$5p^5 5d$	$^3P^o$	2	$5p^5 6d$	$^3P^o$	0	E2	823.94	871.97	-5.887	-5.748	1.28(4)	7.83(4)
$5p^5 6s$	$^3P^o$	2	$5p^5 6d$	$^3P^o$	0	E2	1164.25	1228.00	-5.417	-5.411	1.88(4)	8.59(4)
$5p^5 5d$	$^3P^o$	1	$5p^5 6d$	$^3P^o$	1	E2	790.04	828.25	-5.927	-5.760	1.26(4)	1.69(4)
$5p^5 5d$	$^3P^o$	2	$5p^5 6d$	$^3P^o$	1	E2	818.98	862.98	-5.852	-5.663	1.40(4)	3.24(4)
$5p^5 6s$	$^3P^o$	2	$5p^5 6d$	$^3P^o$	1	E2	1154.37	1210.20	-4.957	-4.964	5.53(4)	8.24(4)
$5p^5 5d$	$^3P^o$	2	$5p^5 6d$	$^3F^o$	4	E2	813.20	852.25	-5.724	-5.554	1.91(4)	1.43(4)
$5p^5 5d$	$^3F^o$	4	$5p^5 6d$	$^3F^o$	4	E2	819.02	864.18	-5.187	-4.996	6.46(4)	9.02(4)
$5p^5 5d$	$^3F^o$	3	$5p^5 6d$	$^3F^o$	4	E2	827.43	882.38	-5.627	-5.449	2.30(4)	2.37(4)
$5p^5 5d$	$^3D^o$	3	$5p^5 6d$	$^3F^o$	4	E2	889.61	966.67	-5.795	-5.543	1.35(4)	1.59(4)
$5p^5 6s$	$^3P^o$	2	$5p^5 6d$	$^3F^o$	4	E2	1142.92	1189.20	-4.467	-4.480	1.74(5)	8.68(4)
$5p^5 5d$	$^3F^o$	4	$5p^5 6d$	$^3F^o$	3	E2	816.94	858.68	-5.867	-5.550	1.36(4)	3.28(4)
$5p^5 5d$	$^3F^o$	3	$5p^5 6d$	$^3F^o$	3	E2	825.31	876.64	-5.586	-5.441	2.54(4)	3.15(4)
$5p^5 5d$	$^3D^o$	3	$5p^5 6d$	$^3F^o$	3	E2	887.16	959.79	-5.805	-5.653	1.33(4)	1.61(4)
$5p^5 6s$	$^3P^o$	2	$5p^5 6d$	$^3F^o$	3	E2	1138.88	1178.80	-5.038	-4.963	4.71(4)	3.73(4)
$5p^5 6s$	$^1P^o$	1	$5p^5 6d$	$^3F^o$	3	E2	1163.36	1206.20	-4.770	-4.818	8.37(4)	2.99(4)
$5p^5 5d$	$^3P^o$	0	$5p^5 6d$	$^3P^o$	2	E2	768.90	799.28	-5.996	-5.793	1.14(4)	3.37(3)
$5p^5 5d$	$^3P^o$	1	$5p^5 6d$	$^3P^o$	2	E2	782.65	815.42	-5.957	-5.713	1.20(4)	1.17(4)
$5p^5 5d$	$^3D^o$	3	$5p^5 6d$	$^3P^o$	2	E2	887.02	962.59	-5.628	-5.461	2.00(4)	3.49(4)
$5p^5 6s$	$^3P^o$	2	$5p^5 6d$	$^3P^o$	2	E2	1138.65	1183.00	-4.833	-4.862	7.55(4)	6.55(4)
$5p^5 6s$	$^1P^o$	1	$5p^5 6d$	$^3P^o$	2	E2	1163.12	1210.60	-5.392	-5.391	2.00(4)	1.11(4)
$5p^5 5d$	$^3F^o$	3	$5p^5 6d$	$^1D^o$	2	E2	817.01	863.18	-5.654	-5.436	2.22(4)	4.60(4)
$5p^5 5d$	$^3D^o$	1	$5p^5 6d$	$^1D^o$	2	E2	938.86	1027.00	-5.799	-5.582	1.20(4)	9.94(3)
$5p^5 6s$	$^3P^o$	2	$5p^5 6d$	$^1D^o$	2	E2	1123.14	1154.60	-5.401	-5.434	2.10(4)	1.84(4)
$5p^5 6s$	$^1P^o$	1	$5p^5 6d$	$^1D^o$	2	E2	1146.94	1180.90	-4.829	-4.820	7.52(4)	4.34(4)
$5p^5 5d$	$^3P^o$	2	$5p^5 6d$	$^3D^o$	3	E2	800.07	826.72	-5.873	-5.668	1.40(4)	1.50(4)
$5p^5 5d$	$^3F^o$	4	$5p^5 6d$	$^3D^o$	3	E2	805.70	837.95	-5.648	-5.475	2.31(4)	4.09(4)
$5p^5 5d$	$^3D^o$	3	$5p^5 6d$	$^3D^o$	3	E2	873.91	933.97	-5.701	-5.392	1.74(4)	3.10(4)
$5p^5 6s$	$^3P^o$	2	$5p^5 6d$	$^3D^o$	3	E2	1117.14	1140.10	-4.764	-4.863	9.21(4)	5.02(4)
$5p^5 6s$	$^1P^o$	1	$5p^5 6d$	$^3D^o$	3	E2	1140.69	1165.70	-5.032	-4.901	4.76(4)	2.64(4)
$5p^5 5d$	$^3F^o$	2	$5p^5 6d$	$^1P^o$	1	E2	816.07	695.35	-5.912	-7.165	1.23(4)	1.57(3)
$5p^5 6s$	$^1P^o$	1	$5p^5 6d$	$^1P^o$	1	E2	1104.09	857.29	-4.979	-5.668	5.74(4)	1.95(4)
$5p^5 5d$	$^3F^o$	2	$5p^5 6d$	$^3F^o$	2	E2	818.18	761.61	-5.467	-6.458	3.40(4)	4.01(3)
$5p^5 5d$	$^1F^o$	3	$5p^5 6d$	$^3F^o$	2	E2	858.93	920.89	-5.863	-5.638	1.24(4)	2.54(4)
$5p^5 6s$	$^3P^o$	0	$5p^5 6d$	$^3F^o$	2	E2	1137.33	1175.30	-5.058	-5.034	4.51(4)	8.93(3)
$5p^5 6s$	$^3P^o$	1	$5p^5 6d$	$^3F^o$	2	E2	1153.29	1192.80	-5.012	-5.017	4.87(4)	2.70(4)
$5p^5 5d$	$^3D^o$	2	$5p^5 6d$	$^3P^o$	2	E2	838.19	1118.00	-5.501	-5.751	2.99(4)	9.48(3)
$5p^5 6s$	$^3P^o$	1	$5p^5 6d$	$^3D^o$	1	E2	1119.26	1351.60	-4.950	-5.859	5.97(4)	5.05(3)
$5p^6$	1S	0	$5p^5 6p$	3D	2	E2	385.19	435.50	-4.827	-5.041	6.70(5)	6.40(4)
$5p^6$	1S	0	$5p^5 7p$	3D	2	E2	303.11	326.48	-5.115	-4.904	5.57(5)	1.56(5)
$5p^6$	1S	0	$5p^5 6p$	3P	2	E2	417.15	424.38	-5.014	-5.264	3.71(5)	4.03(4)
$5p^6$	1S	0	$5p^5 7p$	3P	2	E2	322.93	322.91	-5.564	-5.079	1.75(5)	1.07(5)
$5p^5 6p$	3S	1	$5p^5 7p$	3D	3	E2	1292.40	1241.10	-5.182	-5.055	2.63(4)	1.63(4)
$5p^5 6p$	3D	3	$5p^5 7p$	3S	1	E2	1432.32	1406.30	-5.282	-5.050	1.70(4)	7.00(4)
$5p^5 6p$	3D	2	$5p^5 7p$	3P	2	E2	1309.15	1249.00	-5.382	-5.200	1.62(4)	2.69(4)
$5p^5 6p$	3D	3	$5p^5 7p$	3D	3	E2	1394.51	1343.00	-5.384	-5.176	1.42(4)	2.46(4)
$5p^5 6p$	3D	2	$5p^5 7p$	1P	1	E2	1319.96	1264.00	-5.518	-5.394	1.16(4)	2.80(4)
$5p^5 6p$	3D	3	$5p^5 7p$	3P	2	E2	1370.80	1293.10	-5.491	-5.150	1.15(4)	3.95(4)
$5p^5 6p$	3D	2	$5p^5 7p$	3D	3	E2	1330.76	1295.50	-5.534	-5.379	1.10(4)	1.18(4)
$5p^5 6p$	3D	2	$5p^5 7p$	3D	2	E2	1422.35	1304.10	-5.49	-6.368	1.07(4)	1.68(3)
$5p^5 5d$	$^3P^o$	1	$5p^5 5d$	$^3D^o$	1	M1	4450.02	3656.90	-6.512	-6.567	1.04(2)	1.35(2)

TABLE V (cont.)

Transitions						Type	λ [Å]		$\log(gf)$		gA_{ji} [s^{-1}]	
Lower levels			Upper levels				HFR	MCDF	HFR	MCDF	HFR	MCDF
Conf.	Term	J	Conf.	Term	J							
$5p^5 5d$	$^3P^o$	2	$5p^5 5d$	$^3D^o$	2	M1	3915.14	3529.70	-6.176	-6.197	2.90(2)	3.40(2)
$5p^5 5d$	$^3D^o$	3	$5p^5 5d$	$^3D^o$	2	M1	6675.44	6924.40	-6.038	-6.073	1.37(2)	1.65(2)
$5p^5 5d$	$^3F^o$	4	$5p^5 5d$	$^1F^o$	3	M1	3690.46	3436.60	-5.719	-5.757	9.36(2)	1.27(3)
$5p^5 5d$	$^3D^o$	3	$5p^5 5d$	$^1F^o$	3	M1	5744.13	5941.80	-5.939	-5.928	2.33(2)	2.23(2)
$5p^5 5d$	$^3P^o$	1	$5p^5 5d$	$^1P^o$	1	M1	1737.13	1420.10	-7.123	-7.297	1.66(2)	1.67(2)
$5p^5 5d$	$^3F^o$	2	$5p^5 5d$	$^1P^o$	1	M1	2094.78	1737.60	-7.000	-7.188	1.52(2)	2.39(2)
$5p^5 5d$	$^3D^o$	2	$5p^5 5d$	$^1P^o$	1	M1	3629.47	2686.20	-6.698	-6.772	1.02(2)	2.60(2)
$5p^5 6s$	$^1P^o$	1	$5p^5 6s$	$^3P^o$	0	M1	5223.02	5249.00	-6.202	-6.201	1.54(2)	4.57(2)
$5p^5 6s$	$^3P^o$	2	$5p^5 6s$	$^3P^o$	1	M1	4502.30	4498.60	-5.878	-5.905	4.36(2)	6.84(2)
$5p^5 6d$	$^3F^o$	3	$5p^5 6d$	$^3F^o$	2	M1	4736.33	4710.10	-5.699	-5.701	5.94(2)	8.39(2)
$5p^5 6d$	$^1D^o$	2	$5p^5 6d$	$^3F^o$	2	M1	5029.50	5140.80	-6.203	-6.176	1.65(2)	1.68(2)
$5p^5 7s$	$^1P^o$	1	$5p^5 7s$	$^3P^o$	0	M1	4821.18	4838.90	-6.223	-6.219	1.72(2)	5.16(2)
$5p^5 7s$	$^3P^o$	2	$5p^5 7s$	$^3P^o$	1	M1	4581.02	4519.90	-5.847	-5.855	4.52(2)	7.60(2)
$5p^5 7p$	3D	2	$5p^5 7p$	3D	1	M1	4796.26	4722.20	-5.863	-5.842	3.98(2)	7.16(2)
$5p^5 4f$	3D	3	$5p^5 4f$	3F	3	M1	4734.01	3954.60	-6.056	-6.053	2.62(2)	3.77(2)
$5p^5 6p$	3P	2	$5p^5 6p$	3P	1	M1	5066.04	5128.30	-6.122	-6.126	1.96(2)	3.16(2)
$5p^5 6p$	1P	1	$5p^5 6p$	3P	1	M1	4605.92	4702.90	-6.218	-6.283	1.90(2)	1.58(2)
$5p^5 6p$	3S	1	$5p^5 6p$	1S	0	M1	3407.02	3116.90	-6.521	-6.640	1.73(2)	4.70(2)
$5p^5 4f$	3D	2	$5p^5 4f$	1D	2	M1	3440.81	2857.10	-6.539	-6.590	1.63(2)	2.10(2)

New electric quadrupole (E2) transitions for La IV.

TABLE VI

Lower Level			Upper Level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^6$	1S	0	$5p^59f$	1D	2	265.93	-4.401	3.75×10^6
$5p^6$	1S	0	$5p^55f$	1D	2	337.96	-4.369	2.50×10^6
$5p^6$	1S	0	$5p^59f$	3F	2	251.74	-4.655	2.33×10^6
$5p^6$	1S	0	$5p^57f$	1D	2	281.45	-4.572	2.26×10^6
$5p^6$	1S	0	$5p^55f$	3F	2	315.79	-4.521	2.02×10^6
$5p^6$	1S	0	$5p^56f$	1D	2	298.77	-4.681	1.56×10^6
$5p^6$	1S	0	$5p^55f$	3D	2	340.09	-4.845	8.24×10^5
$5p^6$	1S	0	$5p^58f$	1D	2	271.8	-5.173	6.06×10^5
$5p^6$	1S	0	$5p^57f$	3F	2	265.57	-5.23	5.58×10^5
$5p^6$	1S	0	$5p^56f$	3F	2	281	-5.202	5.31×10^5
$5p^6$	1S	0	$5p^510p$	3D	2	270.13	-5.287	4.73×10^5
$5p^6$	1S	0	$5p^58f$	3F	2	257.04	-5.338	4.64×10^5
$5p^6$	1S	0	$5p^510p$	3D	2	255.26	-5.375	4.32×10^5
$5p^54f$	1D	2	$5p^510h$	3G	4	475.54	-4.895	3.76×10^5
$5p^54f$	3F	2	$5p^510h$	3H	4	406.38	-5.044	3.65×10^5
$5p^54f$	1D	2	$5p^510h$	3H	4	431.83	-4.994	3.63×10^5
$5p^6$	1S	0	$5p^56p$	3D	2	428.67	-5.017	3.49×10^5
$5p^54f$	3F	2	$5p^510h$	3G	4	444.86	-5.01	3.29×10^5
$5p^6$	1S	0	$5p^510p$	3P	2	269.8	-5.461	3.17×10^5
$5p^6$	1S	0	$5p^57p$	3D	2	325.4	-5.302	3.14×10^5
$5p^6$	1S	0	$5p^56f$	3D	2	299.44	-5.395	2.99×10^5
$5p^6$	1S	0	$5p^510f$	1D	2	262.01	-5.523	2.92×10^5
$5p^6$	1S	0	$5p^59f$	3D	2	266.11	-5.524	2.82×10^5
$5p^6$	1S	0	$5p^510f$	3F	2	248.23	-5.647	2.44×10^5
$5p^54f$	1D	2	$5p^510h$	3H	4	475.44	-5.127	2.21×10^5
$5p^55f$	3G	5	$5p^56h$	3I	7	1682.75	-4.08	1.96×10^5
$5p^6$	1S	0	$5p^58p$	3D	2	275.74	-5.7	1.75×10^5
$5p^6$	1S	0	$5p^54f$	1D	2	571.42	-5.08	1.70×10^5
$5p^6$	1S	0	$5p^58p$	3D	2	293.62	-5.664	1.68×10^5
$5p^55f$	1G	4	$5p^56h$	1I	6	1685.03	-4.152	1.65×10^5
$5p^54f$	3F	2	$5p^510h$	3H	4	444.77	-5.331	1.57×10^5
$5p^55f$	3G	4	$5p^56h$	3I	6	1700.59	-4.169	1.56×10^5
$5p^6$	1S	0	$5p^59p$	3D	2	262.71	-5.82	1.46×10^5
$5p^55f$	3G	5	$5p^57h$	3I	7	1380.78	-4.397	1.40×10^5
$5p^55f$	3F	4	$5p^56h$	3H	6	1736.72	-4.199	1.40×10^5
$5p^55f$	3G	3	$5p^56h$	3I	5	1691.68	-4.263	1.27×10^5
$5p^6$	1S	0	$5p^58f$	3D	2	272.04	-5.863	1.24×10^5
$5p^55f$	3G	4	$5p^57h$	3I	6	1393.09	-4.458	1.20×10^5
$5p^55f$	1G	4	$5p^57h$	1I	6	1382.3	-4.473	1.18×10^5
$5p^55f$	3D	3	$5p^56h$	3G	5	1701.96	-4.303	1.15×10^5
$5p^55f$	1F	3	$5p^56h$	1H	5	1730.24	-4.292	1.14×10^5
$5p^55f$	3D	3	$5p^56h$	3G	5	1705.78	-4.331	1.07×10^5
$5p^55f$	3F	4	$5p^57h$	3H	6	1418.58	-4.526	9.87×10^4
$5p^55f$	3G	3	$5p^57h$	3I	5	1387.09	-4.55	9.78×10^4
$5p^6$	1S	0	$5p^58p$	3P	2	292.59	-5.907	9.64×10^4
$5p^55f$	3G	5	$5p^58h$	3I	7	1236.52	-4.66	9.55×10^4
$5p^55f$	3D	3	$5p^57h$	3G	5	1393.77	-4.558	9.49×10^4
$5p^56p$	3D	3	$5p^510h$	3G	5	588.73	-5.312	9.37×10^4
$5p^6$	1S	0	$5p^59p$	3D	2	278.6	-5.977	9.06×10^4
$5p^6$	1S	0	$5p^59p$	3P	2	278.06	-5.979	9.05×10^4
$5p^55f$	3F	2	$5p^56h$	3H	4	1707.63	-4.41	8.89×10^4
$5p^56p$	1S	0	$5p^59f$	3F	2	730.85	-5.169	8.45×10^4

TABLE VI (cont.)

Lower Level			Upper Level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	<i>J</i>	Conf.	Term	<i>J</i>	HFR	HFR	HFR
5p ⁵ 6p	³ P	0	5p ⁵ 9f	¹ D	2	759.41	-5.155	8.09 × 10 ⁴
5p ⁶	¹ S	0	5p ⁵ 4f	³ F	2	623.05	-5.33	8.03 × 10 ⁴
5p ⁵ 4f	¹ D	2	5p ⁵ 10f	¹ D	2	483.9	-5.55	8.03 × 10 ⁴
5p ⁵ 5f	¹ F	3	5p ⁵ 7h	¹ H	5	1414.24	-4.619	8.02 × 10 ⁴
5p ⁵ 5f	³ G	4	5p ⁵ 8h	³ I	6	1246.68	-4.729	8.01 × 10 ⁴
5p ⁵ 5f	¹ G	4	5p ⁵ 8h	¹ I	6	1237.73	-4.74	7.92 × 10 ⁴
5p ⁵ 5f	³ D	2	5p ⁵ 6h	³ G	4	1672.12	-4.487	7.78 × 10 ⁴
5p ⁵ 5f	³ D	3	5p ⁵ 7h	³ G	5	1397.43	-4.649	7.67 × 10 ⁴
5p ⁵ 5f	¹ D	2	5p ⁵ 6h	³ H	4	1718.72	-4.471	7.64 × 10 ⁴
5p ⁵ 4f	³ F	2	5p ⁵ 10f	³ F	2	412.63	-5.713	7.58 × 10 ⁴
5p ⁵ 6p	³ D	3	5p ⁵ 5f	³ G	5	1731.11	-4.487	7.25 × 10 ⁴
5p ⁵ 5f	³ F	2	5p ⁵ 7h	³ H	4	1397.56	-4.677	7.19 × 10 ⁴
5p ⁵ 5f	³ G	5	5p ⁵ 9h	³ I	7	1153.8	-4.846	7.14 × 10 ⁴
5p ⁵ 5f	³ F	4	5p ⁵ 10h	³ H	6	1126.2	-4.89	6.77 × 10 ⁴
5p ⁵ 5f	³ G	3	5p ⁵ 8h	³ I	5	1241.87	-4.818	6.57 × 10 ⁴
5p ⁵ 6p	³ D	2	5p ⁵ 5f	¹ G	4	1631.83	-4.586	6.49 × 10 ⁴
5p ⁵ 5f	³ D	3	5p ⁵ 8h	³ G	5	1247.25	-4.83	6.34 × 10 ⁴
5p ⁵ 5f	³ D	1	5p ⁵ 6h	³ G	3	1657.6	-4.591	6.23 × 10 ⁴
5p ⁵ 5f	³ F	4	5p ⁵ 8h	³ H	6	1267.25	-4.854	5.81 × 10 ⁴
5p ⁵ 5f	¹ G	4	5p ⁵ 9h	¹ I	6	1154.85	-4.945	5.68 × 10 ⁴
5p ⁵ 5f	³ D	2	5p ⁵ 7h	³ G	4	1373.08	-4.797	5.64 × 10 ⁴
5p ⁵ 6p	³ D	2	5p ⁵ 5f	³ G	4	1759.82	-4.591	5.52 × 10 ⁴
5p ⁵ 5f	³ G	4	5p ⁵ 9h	³ I	6	1162.8	-4.953	5.50 × 10 ⁴
5p ⁵ 5f	¹ D	2	5p ⁵ 7h	³ H	4	1406.09	-4.795	5.42 × 10 ⁴
5p ⁵ 5f	¹ F	3	5p ⁵ 10h	¹ H	5	1123.46	-5.014	5.12 × 10 ⁴
5p ⁵ 6p	³ D	1	5p ⁵ 5f	³ G	3	1619.37	-4.698	5.10 × 10 ⁴
5p ⁵ 4f	³ D	3	5p ⁵ 9f	³ G	5	442.94	-5.829	5.04 × 10 ⁴
5p ⁵ 5f	³ F	2	5p ⁵ 8h	³ H	4	1250.28	-4.953	4.75 × 10 ⁴
5p ⁵ 4f	³ D	1	5p ⁵ 9f	³ G	3	393.86	-5.959	4.73 × 10 ⁴
5p ⁵ 5f	¹ F	3	5p ⁵ 8h	¹ H	5	1263.78	-4.948	4.71 × 10 ⁴
5p ⁵ 6p	³ D	2	5p ⁵ 10h	³ H	4	577.06	-5.635	4.64 × 10 ⁴
5p ⁵ 5f	³ G	3	5p ⁵ 9h	³ I	5	1158.61	-5.031	4.63 × 10 ⁴
5p ⁵ 6p	³ D	3	5p ⁵ 7f	³ G	5	845.78	-5.306	4.61 × 10 ⁴
5p ⁵ 5f	³ D	1	5p ⁵ 7h	³ G	3	1363.28	-4.898	4.54 × 10 ⁴
5p ⁵ 5f	³ D	3	5p ⁵ 9h	³ G	5	1163.29	-5.049	4.40 × 10 ⁴
5p ⁵ 6p	³ D	3	5p ⁵ 8f	³ G	5	763.93	-5.429	4.25 × 10 ⁴
5p ⁵ 6p	¹ S	0	5p ⁵ 9f	¹ D	2	864.75	-5.325	4.22 × 10 ⁴
5p ⁵ 4f	³ D	2	5p ⁵ 9f	³ G	4	398.02	-6.003	4.18 × 10 ⁴
5p ⁵ 5f	³ F	4	5p ⁵ 9h	³ H	6	1181.11	-5.063	4.14 × 10 ⁴
5p ⁵ 5f	³ G	4	5p ⁵ 10h	³ I	6	1109.39	-5.119	4.12 × 10 ⁴
5p ⁵ 5f	³ D	3	5p ⁵ 8h	³ G	5	1249.93	-5.025	4.03 × 10 ⁴
5p ⁵ 6p	³ D	3	5p ⁵ 10h	³ G	5	672.86	-5.571	3.95 × 10 ⁴
5p ⁵ 4f	³ F	2	5p ⁵ 10f	¹ D	2	452.16	-5.922	3.91 × 10 ⁴
5p ⁵ 5f	³ F	2	5p ⁵ 10h	³ H	4	1112.25	-5.15	3.82 × 10 ⁴
5p ⁵ 5f	³ D	2	5p ⁵ 8h	³ G	4	1230.16	-5.065	3.80 × 10 ⁴
5p ⁵ 6p	³ P	2	5p ⁵ 5f	³ F	4	1759.52	-4.757	3.77 × 10 ⁴
5p ⁵ 5f	³ D	3	5p ⁵ 9h	³ G	5	1166.13	-5.129	3.64 × 10 ⁴
5p ⁵ 6p	³ S	1	5p ⁵ 9f	³ D	3	601.97	-5.708	3.60 × 10 ⁴
5p ⁵ 6p	³ P	1	5p ⁵ 5f	³ D	3	1754.06	-4.788	3.53 × 10 ⁴
5p ⁵ 6p	³ P	2	5p ⁵ 9f	³ F	4	733.66	-5.546	3.52 × 10 ⁴
5p ⁵ 5f	¹ D	2	5p ⁵ 10h	³ H	4	1117.99	-5.186	3.48 × 10 ⁴
5p ⁵ 5f	¹ F	3	5p ⁵ 9h	¹ H	5	1178.1	-5.149	3.41 × 10 ⁴

TABLE VI (cont.)

Lower Level			Upper Level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^5 6p$	3D	2	$5p^5 7f$	3G	4	855.82	-5.434	3.35×10^4
$5p^5 6p$	3D	2	$5p^5 7f$	3G	4	821.88	-5.479	3.28×10^4
$5p^5 6p$	3D	2	$5p^5 8f$	3G	4	772.92	-5.538	3.24×10^4
$5p^5 6p$	3D	2	$5p^5 8f$	3G	4	744.23	-5.582	3.15×10^4
$5p^5 4f$	3F	4	$5p^5 10h$	3I	6	400.8	-6.121	3.14×10^4
$5p^5 4f$	1D	2	$5p^5 10f$	1F	3	483.92	-5.96	3.13×10^4
$5p^5 5f$	3D	1	$5p^5 8h$	3G	3	1222.28	-5.157	3.11×10^4
$5p^5 4f$	3F	4	$5p^5 10h$	1I	6	438.15	-6.049	3.10×10^4
$5p^5 4f$	3G	5	$5p^5 5f$	3G	5	686.48	-5.664	3.07×10^4
$5p^5 5f$	3F	2	$5p^5 9h$	3H	4	1165.93	-5.206	3.05×10^4
$5p^5 5f$	3D	3	$5p^5 10h$	3G	5	1109.85	-5.254	3.02×10^4
$5p^5 4f$	1D	2	$5p^5 10f$	3F	2	438.9	-6.063	3.00×10^4
$5p^5 6p$	3D	2	$5p^5 5f$	1F	3	1585.87	-4.96	2.91×10^4
$5p^5 5f$	1D	2	$5p^5 8h$	3H	4	1256.86	-5.165	2.89×10^4
$5p^5 6p$	3D	3	$5p^5 6f$	3G	5	1028.71	-5.343	2.86×10^4
$5p^5 5f$	3D	2	$5p^5 9h$	3G	4	1148.16	-5.25	2.85×10^4
$5p^5 5f$	1G	4	$5p^5 10h$	1I	6	1102.07	-5.29	2.81×10^4
$5p^5 4f$	3F	4	$5p^5 5f$	3G	4	690.55	-5.705	2.76×10^4
$5p^5 4f$	3G	5	$5p^5 9h$	3I	7	430.4	-6.118	2.75×10^4
$5p^5 5f$	3G	3	$5p^5 10h$	3I	5	1105.58	-5.306	2.70×10^4
$5p^5 6p$	3P	1	$5p^5 7f$	3D	3	854.44	-5.532	2.68×10^4
$5p^5 5f$	3F	4	$5p^5 6h$	3G	5	1738.61	-4.922	2.64×10^4
$5p^5 6p$	3D	1	$5p^5 7f$	3G	3	819.57	-5.578	2.63×10^4
$5p^5 6p$	3D	2	$5p^5 10h$	3G	4	795.68	-5.621	2.52×10^4
$5p^5 6p$	1P	1	$5p^5 5f$	1F	3	1706.83	-4.961	2.50×10^4
$5p^5 5f$	3D	1	$5p^5 9h$	3G	3	1141.29	-5.314	2.48×10^4
$5p^5 6p$	3D	1	$5p^5 8f$	3G	3	743.19	-5.692	2.45×10^4
$5p^5 5f$	3D	3	$5p^5 10h$	3G	5	1112.51	-5.348	2.42×10^4
$5p^5 6p$	3D	1	$5p^5 10h$	3G	3	763.84	-5.679	2.39×10^4
$5p^5 6p$	3D	2	$5p^5 6f$	1G	4	992.89	-5.456	2.37×10^4
$5p^5$	1S	0	$5p^5 10f$	3D	2	262.11	-6.619	2.33×10^4
$5p^5 4f$	3G	5	$5p^5 8h$	3I	7	441.42	-6.169	2.32×10^4
$5p^5 4f$	3G	5	$5p^5 7h$	3I	7	458.52	-6.139	2.31×10^4
$5p^5 6p$	3D	3	$5p^5 10f$	3F	4	689.88	-5.785	2.30×10^4
$5p^5 4f$	3G	5	$5p^5 6f$	3G	5	540.21	-6	2.29×10^4
$5p^5 6p$	3D	3	$5p^5 5f$	3F	4	1671.15	-5.023	2.27×10^4
$5p^5 5f$	1D	2	$5p^5 9h$	3H	4	1172.14	-5.331	2.26×10^4
$5p^5 6p$	3S	1	$5p^5 5f$	3D	1	1600.89	-5.061	2.26×10^4
$5p^5 6p$	3D	2	$5p^5 9f$	3G	4	726.88	-5.747	2.26×10^4
$5p^5 6p$	3D	3	$5p^5 10f$	3G	5	690.63	-5.8	2.22×10^4
$5p^5 4f$	3D	3	$5p^5 9f$	3F	4	442.61	-6.187	2.21×10^4
$5p^5 6p$	3P	1	$5p^5 8f$	3D	3	772.13	-5.711	2.18×10^4
$5p^5 4f$	3G	3	$5p^5 5f$	3G	3	676.17	-5.831	2.15×10^4
$5p^5 5f$	3G	5	$5p^5 6h$	3H	6	1676.38	-5.044	2.14×10^4
$5p^5 5f$	3G	5	$5p^5 10h$	3I	7	1101.11	-5.413	2.13×10^4
$5p^5 6p$	3P	2	$5p^5 5f$	3D	3	1794.47	-4.993	2.10×10^4
$5p^5 6p$	3D	2	$5p^5 10f$	3G	4	698.3	-5.815	2.09×10^4
$5p^5 6p$	3P	0	$5p^5 9f$	3F	2	654.16	-5.873	2.09×10^4
$5p^5 4f$	3G	5	$5p^5 10f$	3G	5	429.74	-6.239	2.08×10^4
$5p^5 4f$	3F	2	$5p^5 9h$	3H	4	413.33	-6.276	2.07×10^4
$5p^5 4f$	3G	4	$5p^5 10h$	3I	6	388.55	-6.332	2.06×10^4
$5p^5 4f$	3F	4	$5p^5 10h$	1I	6	468	-6.172	2.05×10^4

TABLE VI (cont.)

Lower Level			Upper Level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^5 5f$	3D	3	$5p^5 6h$	3G	4	1712.38	-5.048	2.04×10^4
$5p^5 4f$	3F	4	$5p^5 7h$	3I	6	461.69	-6.19	2.02×10^4
$5p^5 5f$	3D	3	$5p^5 10h$	3G	5	899.88	-5.612	2.01×10^4
$5p^5 4f$	3G	3	$5p^5 9h$	3I	5	426.98	-6.26	2.01×10^4
$5p^5 4f$	3G	4	$5p^5 5f$	1G	4	687.97	-5.847	2.01×10^4
$5p^5 5f$	1F	3	$5p^5 6h$	3H	4	1732.09	-5.053	1.97×10^4
$5p^5 6p$	3P	2	$5p^5 8f$	3F	4	779.82	-5.748	1.96×10^4
$5p^5 6p$	3D	2	$5p^5 10h$	3H	4	657.66	-5.896	1.96×10^4
$5p^5 5f$	1G	4	$5p^5 6h$	1H	5	1678.66	-5.085	1.95×10^4
$5p^5 4f$	3F	4	$5p^5 8h$	3I	6	444.4	-6.241	1.94×10^4
$5p^5 4f$	3F	3	$5p^5 5f$	3D	3	688.45	-5.862	1.93×10^4
$5p^5 6p$	3D	2	$5p^5 9f$	3G	4	701.33	-5.85	1.92×10^4
$5p^5 4f$	3D	2	$5p^5 9f$	3G	4	434.92	-6.265	1.92×10^4
$5p^5 6p$	3P	2	$5p^5 9f$	3D	3	734.6	-5.815	1.89×10^4
$5p^5 4f$	3F	3	$5p^5 9h$	3G	5	432.49	-6.285	1.85×10^4
$5p^5 5f$	3F	4	$5p^5 7h$	3G	5	1419.39	-5.255	1.84×10^4
$5p^5 6p$	1S	0	$5p^5 10p$	3D	2	761.26	-5.797	1.84×10^4
$5p^5 6p$	3S	1	$5p^5 5f$	3D	2	1587.52	-5.171	1.79×10^4
$5p^5 4f$	3G	4	$5p^5 10h$	1I	6	423.56	-6.319	1.78×10^4
$5p^5 5f$	3D	3	$5p^5 8h$	3G	5	1695.47	-5.116	1.78×10^4
$5p^5 4f$	3G	5	$5p^5 6h$	3I	7	487.57	-6.2	1.77×10^4
$5p^5 5f$	3D	2	$5p^5 6h$	3G	3	1672.19	-5.133	1.76×10^4
$5p^5 4f$	3G	4	$5p^5 7h$	1I	6	459.35	-6.256	1.76×10^4
$5p^5 4f$	3F	4	$5p^5 9h$	3I	6	433.25	-6.309	1.75×10^4
$5p^5 4f$	3F	2	$5p^5 10f$	3G	3	412.74	-6.358	1.72×10^4
$5p^5 6p$	3P	0	$5p^5 9f$	3D	2	760.92	-5.831	1.70×10^4
$5p^5 4f$	3G	3	$5p^5 9h$	1H	5	438.73	-6.309	1.70×10^4
$5p^5 4f$	3G	3	$5p^5 7h$	3I	5	454.58	-6.28	1.69×10^4
$5p^5 4f$	3G	3	$5p^5 8h$	3I	5	437.8	-6.314	1.69×10^4
$5p^5 6p$	3D	3	$5p^5 10f$	3D	3	602.09	-6.038	1.69×10^4
$5p^5 6p$	3P	2	$5p^5 7f$	3F	4	865.78	-5.724	1.68×10^4
$5p^5 4f$	3G	4	$5p^5 8h$	1I	6	442.19	-6.318	1.64×10^4
$5p^5 6p$	3D	2	$5p^5 10f$	1F	3	674	-5.959	1.61×10^4
$5p^5 4f$	3F	4	$5p^5 7h$	3H	6	476.24	-6.263	1.61×10^4
$5p^5 4f$	3G	5	$5p^5 7f$	3G	5	485.11	-6.25	1.59×10^4
$5p^5 5f$	1D	2	$5p^5 6h$	3G	4	1725.4	-5.151	1.58×10^4
$5p^5 4f$	3F	3	$5p^5 7h$	3G	5	460.83	-6.298	1.58×10^4
$5p^5 4f$	3F	4	$5p^5 9h$	3H	6	446.13	-6.327	1.58×10^4
$5p^5 4f$	3F	3	$5p^5 8h$	3G	5	443.6	-6.333	1.58×10^4
$5p^5 4f$	3F	2	$5p^5 10f$	3D	3	412.7	-6.397	1.57×10^4
$5p^5 5f$	3G	5	$5p^5 7h$	3H	6	1378.06	-5.354	1.55×10^4
$5p^5 6p$	3D	1	$5p^5 10f$	3G	3	673.79	-5.976	1.55×10^4
$5p^5 6f$	3F	4	$5p^5 10h$	3H	6	1982.67	-5.045	1.53×10^4
$5p^5 6p$	3D	2	$5p^5 10f$	3G	4	674.56	-5.987	1.51×10^4
$5p^5 4f$	3G	3	$5p^5 10f$	3G	3	426.34	-6.388	1.50×10^4
$5p^5 5f$	3D	3	$5p^5 7h$	3G	4	1400.12	-5.371	1.45×10^4
$5p^5 6p$	1S	0	$5p^5 5f$	3F	2	1777.31	-5.167	1.44×10^4
$5p^5 4f$	3G	4	$5p^5 6f$	1G	4	541.16	-6.2	1.44×10^4
$5p^5 5f$	1G	4	$5p^5 7h$	1H	5	1379.59	-5.397	1.40×10^4
$5p^5 4f$	3G	5	$5p^5 10h$	3G	5	387.95	-6.5	1.40×10^4
$5p^5 6p$	3S	1	$5p^5 8p$	3D	3	907.93	-5.762	1.40×10^4
$5p^5 4f$	3G	4	$5p^5 6h$	1I	6	488.52	-6.305	1.38×10^4

TABLE VI (cont.)

Lower Level			Upper Level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^5 6p$	3P	1	$5p^5 10f$	3D	3	697.63	-5.998	1.38×10^4
$5p^5 6f$	3G	5	$5p^5 9h$	3I	7	2117.42	-5.034	1.38×10^4
$5p^5 5f$	1F	3	$5p^5 7h$	3H	4	1415.03	-5.387	1.37×10^4
$5p^5 5f$	3G	5	$5p^5 10h$	3G	5	892.13	-5.788	1.36×10^4
$5p^5 4f$	3G	4	$5p^5 9h$	1I	6	431.14	-6.422	1.36×10^4
$5p^5 4f$	3F	3	$5p^5 10f$	3D	3	431.8	-6.421	1.36×10^4
$5p^5 4f$	3F	4	$5p^5 8h$	3H	6	457.88	-6.373	1.35×10^4
$5p^5 6p$	1P	1	$5p^5 9f$	1F	3	723.56	-5.976	1.35×10^4
$5p^5 4f$	3G	3	$5p^5 7h$	1H	5	467.82	-6.357	1.34×10^4
$5p^5 4f$	3F	4	$5p^5 6h$	3I	6	491.12	-6.317	1.33×10^4
$5p^5 4f$	3F	3	$5p^5 9f$	3G	5	488.66	-6.322	1.33×10^4
$5p^5 5f$	3F	2	$5p^5 8h$	3H	4	1701.1	-5.241	1.32×10^4
$5p^5 6f$	3G	5	$5p^5 8h$	3I	7	2413.77	-4.939	1.32×10^4
$5p^5 6p$	1P	1	$5p^5 5f$	1D	2	1720.02	-5.234	1.32×10^4
$5p^5 6p$	3D	1	$5p^5 5f$	3F	2	1605.23	-5.294	1.32×10^4
$5p^5 4f$	3D	3	$5p^5 9h$	3G	5	432.7	-6.436	1.31×10^4
$5p^5 4f$	3F	4	$5p^5 7f$	3G	4	488.2	-6.333	1.30×10^4
$5p^5 6p$	3P	2	$5p^5 6f$	3F	4	1050.52	-5.669	1.30×10^4
$5p^5 6p$	3P	0	$5p^5 10p$	3D	2	794.72	-5.918	1.27×10^4
$5p^5 5f$	3D	2	$5p^5 7h$	3G	3	1373.13	-5.445	1.27×10^4
$5p^5 5f$	3D	3	$5p^5 6h$	3G	5	1253.46	-5.528	1.26×10^4
$5p^5 6p$	3S	1	$5p^5 7f$	3D	1	809.06	-5.911	1.25×10^4
$5p^5 4f$	3F	4	$5p^5 6h$	3H	6	507.45	-6.317	1.25×10^4
$5p^5 4f$	3F	4	$5p^5 5f$	3F	4	716.92	-6.019	1.24×10^4
$5p^5 4f$	3F	4	$5p^5 6f$	3G	4	542.88	-6.263	1.24×10^4
$5p^5 6p$	3D	2	$5p^5 8f$	1F	3	742.76	-5.994	1.23×10^4
$5p^5 4f$	3D	3	$5p^5 5f$	3F	4	682.77	-6.074	1.21×10^4
$5p^5 6p$	1P	1	$5p^5 8f$	1F	3	768.26	-5.971	1.21×10^4
$5p^5 4f$	1D	2	$5p^5 10f$	3D	2	484.21	-6.372	1.21×10^4
$5p^5 5f$	3G	4	$5p^5 8h$	3H	6	1693.98	-5.286	1.20×10^4
$5p^5 6p$	3P	2	$5p^5 10f$	3F	4	704.48	-6.057	1.18×10^4
$5p^5 6f$	1F	3	$5p^5 10h$	1H	5	1978.54	-5.16	1.18×10^4
$5p^5 4f$	3G	5	$5p^5 8f$	3G	5	457.02	-6.435	1.17×10^4
$5p^5 4f$	3F	3	$5p^5 7f$	3D	3	487.14	-6.38	1.17×10^4
$5p^5 6p$	3P	2	$5p^5 8f$	3D	3	780.85	-5.974	1.16×10^4
$5p^5 7p$	3D	3	$5p^5 10h$	3G	5	1018.87	-5.749	1.15×10^4
$5p^5 4f$	3D	2	$5p^5 9f$	1F	3	434.75	-6.489	1.14×10^4
$5p^5 6p$	3D	3	$5p^5 8f$	3F	4	761.97	-6.007	1.13×10^4
$5p^5 6f$	1G	4	$5p^5 9h$	1I	6	2120.6	-5.12	1.13×10^4
$5p^5 6p$	3S	1	$5p^5 8f$	3D	1	732.99	-6.044	1.12×10^4
$5p^5 6f$	1G	4	$5p^5 8h$	1I	6	2417.9	-5.009	1.12×10^4
$5p^5 4f$	3D	3	$5p^5 7h$	3G	5	461.01	-6.449	1.12×10^4
$5p^5 6p$	3S	1	$5p^5 5f$	3D	3	1552.85	-5.395	1.11×10^4
$5p^5 5f$	3F	4	$5p^5 8h$	3G	5	1267.47	-5.572	1.11×10^4
$5p^5 4f$	1D	2	$5p^5 5f$	3F	2	705.9	-6.085	1.10×10^4
$5p^5 6p$	1P	1	$5p^5 9f$	1D	2	723.1	-6.067	1.09×10^4
$5p^5 4f$	3F	2	$5p^5 10f$	1F	3	452.18	-6.478	1.09×10^4
$5p^5 4f$	3G	3	$5p^5 8h$	1H	5	450.09	-6.485	1.08×10^4
$5p^5 5f$	1D	2	$5p^5 7h$	3G	4	1408.81	-5.496	1.07×10^4
$5p^5 6f$	3G	5	$5p^5 6h$	3I	7	5004.16	-4.4	1.06×10^4
$5p^5 4f$	3F	4	$5p^5 10h$	3H	6	467.89	-6.458	1.06×10^4
$5p^5 6p$	3D	3	$5p^5 8p$	3S	1	965.7	-5.833	1.05×10^4

TABLE VI (cont.)

Lower Level			Upper Level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^5 6p$	3S	1	$5p^5 10f$	3D	2	664.56	-6.159	1.05×10^4
$5p^5 4f$	3G	5	$5p^5 9f$	3G	5	440.44	-6.519	1.04×10^4
$5p^5 5f$	1D	2	$5p^5 10h$	3G	4	1118.56	-5.71	1.04×10^4
$5p^5 4f$	3F	2	$5p^5 10f$	3D	3	452.29	-6.497	1.04×10^4
$5p^5 6p$	3P	2	$5p^5 10f$	3D	3	704.85	-6.112	1.04×10^4
$5p^5 4f$	3D	1	$5p^5 10p$	3P	1	402.43	-6.598	1.04×10^4
$5p^5 7p$	3D	3	$5p^5 6f$	3G	5	3921.59	-4.623	1.03×10^4
$5p^5 5f$	1G	4	$5p^5 10h$	3H	4	892.76	-5.908	1.03×10^4
$5p^5 6p$	3S	1	$5p^5 7f$	3D	2	808.77	-5.996	1.03×10^4
$5p^5 6p$	3P	1	$5p^5 9f$	3D	3	726.16	-6.09	1.03×10^4
$5p^5 4f$	3G	3	$5p^5 6h$	3I	5	483.08	-6.445	1.03×10^4
$5p^5 4f$	3G	3	$5p^5 6h$	1H	5	497.9	-6.419	1.03×10^4
$5p^5 6p$	3S	1	$5p^5 8f$	3D	2	732.41	-6.086	1.02×10^4
$5p^5 4f$	3G	4	$5p^5 7f$	3G	4	486.04	-6.447	1.01×10^4
$5p^5 4f$	3G	3	$5p^5 7f$	3G	3	480.41	-6.459	1.01×10^4
$5p^5 4f$	3G	3	$5p^5 5f$	1F	3	699.06	-6.133	1.00×10^4
$5p^5 4f$	3F	3	$5p^5 6f$	3D	3	541.49	-6.356	1.00×10^4
$5p^5 6p$	3D	2	$5p^5 6f$	3G	4	1039.35	-5.79	1.00×10^4
$5p^5 6s$	$^3P^o$	1	$5p^5 6d$	$^3D^o$	1	1119.26	-4.95	5.97×10^4
$5p^5 6s$	$^3P^o$	2	$5p^5 7d$	$^3P^o$	1	757.69	-5.897	1.47×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 7d$	$^3F^o$	4	595.64	-5.81	2.91×10^4
$5p^5 5d$	$^3F^o$	4	$5p^5 7d$	$^3F^o$	4	598.75	-5.602	4.65×10^4
$5p^5 6s$	$^3P^o$	2	$5p^5 7d$	$^3F^o$	4	755.22	-5.432	4.32×10^4
$5p^5 7s$	$^3P^o$	2	$5p^5 7d$	$^3F^o$	4	2586.7	-4.672	2.12×10^4
$5p^5 5d$	$^3F^o$	3	$5p^5 7d$	$^3F^o$	3	603.14	-5.997	1.85×10^4
$5p^5 5d$	$^3D^o$	3	$5p^5 7d$	$^3F^o$	3	635.52	-6.161	1.14×10^4
$5p^5 5d$	$^3D^o$	1	$5p^5 7d$	$^3F^o$	3	667.05	-5.879	1.98×10^4
$5p^5 6s$	$^3P^o$	2	$5p^5 7d$	$^3F^o$	3	755.07	-6.018	1.12×10^4
$5p^5 6s$	$^1P^o$	1	$5p^5 7d$	$^3F^o$	3	765.76	-5.73	2.12×10^4
$5p^5 5d$	$^1P^o$	1	$5p^5 7d$	$^3F^o$	3	870.94	-5.851	1.24×10^4
$5p^5 5d$	$^3P^o$	0	$5p^5 7d$	$^3P^o$	2	571.98	-5.264	1.11×10^5
$5p^5 5d$	$^3P^o$	1	$5p^5 7d$	$^3P^o$	2	579.56	-5.571	5.34×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 7d$	$^3P^o$	2	594.98	-6.018	1.81×10^4
$5p^5 5d$	$^3D^o$	3	$5p^5 7d$	$^3P^o$	2	634.88	-6.172	1.11×10^4
$5p^5 6s$	$^3P^o$	2	$5p^5 7d$	$^3P^o$	2	754.17	-5.895	1.50×10^4
$5p^5 6d$	$^3P^o$	1	$5p^5 7d$	$^3P^o$	2	2175.36	-5.066	1.21×10^4
$5p^5 5d$	$^3P^o$	0	$5p^5 5g$	$^3F^o$	2	571.88	-5.457	7.12×10^4
$5p^5 5d$	$^3P^o$	1	$5p^5 5g$	$^3F^o$	2	579.45	-5.094	1.60×10^5
$5p^5 5d$	$^3P^o$	2	$5p^5 5g$	$^3F^o$	2	594.87	-5.829	2.80×10^4
$5p^5 5d$	$^3F^o$	2	$5p^5 5g$	$^3F^o$	2	614.45	-6.087	1.44×10^4
$5p^5 6d$	$^3P^o$	0	$5p^5 5g$	$^3F^o$	2	2139.66	-5.069	1.24×10^4
$5p^5 5d$	$^3P^o$	1	$5p^5 5g$	$^3F^o$	3	579.21	-4.991	2.03×10^5
$5p^5 5d$	$^3P^o$	2	$5p^5 5g$	$^3F^o$	3	594.61	-5.094	1.52×10^5
$5p^5 5d$	$^3F^o$	3	$5p^5 5g$	$^3F^o$	3	602.18	-6.196	1.17×10^4
$5p^5 5d$	$^3D^o$	3	$5p^5 5g$	$^3F^o$	3	634.46	-5.844	2.37×10^4
$5p^5 5d$	$^3D^o$	1	$5p^5 5g$	$^3F^o$	3	665.88	-5.395	6.05×10^4
$5p^5 5d$	$^3D^o$	2	$5p^5 5g$	$^3F^o$	3	701.09	-6.067	1.16×10^4
$5p^5 5d$	$^1P^o$	1	$5p^5 5g$	$^3F^o$	3	868.94	-5.084	7.29×10^4
$5p^5 6d$	$^3P^o$	1	$5p^5 5g$	$^3F^o$	3	2170.43	-5.092	1.15×10^4
$5p^5 6d$	$^3P^o$	2	$5p^5 5g$	$^3F^o$	3	2228.26	-4.922	1.61×10^4
$5p^5 5d$	$^3F^o$	4	$5p^5 5g$	$^3H^o$	6	597.13	-4.222	1.12×10^6
$5p^5 6d$	$^3F^o$	4	$5p^5 5g$	$^3H^o$	6	2204.1	-4.19	8.87×10^4

TABLE VI (cont.)

Lower Level			Upper Level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^55d$	$^3F^o$	4	$5p^55g$	$^1H^o$	5	597.01	-5.589	4.82×10^4
$5p^55d$	$^3F^o$	3	$5p^55g$	$^1H^o$	5	601.46	-4.405	7.26×10^5
$5p^55d$	$^3D^o$	3	$5p^55g$	$^1H^o$	5	633.65	-5.022	1.58×10^5
$5p^55d$	$^1F^o$	3	$5p^55g$	$^1H^o$	5	712.22	-5.732	2.44×10^4
$5p^56d$	$^3F^o$	3	$5p^55g$	$^1H^o$	5	2217.52	-4.305	6.72×10^4
$5p^56s$	$^1P^o$	1	$5p^57d$	$^1D^o$	2	761.98	-5.702	2.28×10^4
$5p^57s$	$^1P^o$	1	$5p^57d$	$^1D^o$	2	2589.46	-4.977	1.05×10^4
$5p^55d$	$^3P^o$	1	$5p^57d$	$^3D^o$	3	577.08	-5.783	3.30×10^4
$5p^55d$	$^3P^o$	2	$5p^57d$	$^3D^o$	3	592.36	-5.354	8.41×10^4
$5p^55d$	$^3F^o$	3	$5p^57d$	$^3D^o$	3	599.88	-5.977	1.95×10^4
$5p^55d$	$^3F^o$	2	$5p^57d$	$^3D^o$	3	611.77	-5.566	4.84×10^4
$5p^55d$	$^3D^o$	1	$5p^57d$	$^3D^o$	3	663.06	-5.576	4.03×10^4
$5p^56s$	$^3P^o$	2	$5p^57d$	$^3D^o$	3	749.96	-5.796	1.90×10^4
$5p^55d$	$^1P^o$	1	$5p^57d$	$^3D^o$	3	864.15	-5.73	1.66×10^4
$5p^56d$	$^3P^o$	1	$5p^57d$	$^3D^o$	3	2140.76	-5.15	1.03×10^4
$5p^55d$	$^3P^o$	2	$5p^55g$	$^3F^o$	4	592.25	-4.674	4.03×10^5
$5p^55d$	$^3F^o$	4	$5p^55g$	$^3F^o$	4	595.33	-6.069	1.61×10^4
$5p^55d$	$^3F^o$	3	$5p^55g$	$^3F^o$	4	599.76	-5.723	3.51×10^4
$5p^55d$	$^3F^o$	2	$5p^55g$	$^3F^o$	4	611.66	-5.602	4.46×10^4
$5p^55d$	$^3D^o$	3	$5p^55g$	$^3F^o$	4	631.77	-4.946	1.89×10^5
$5p^55d$	$^3D^o$	2	$5p^55g$	$^3F^o$	4	697.81	-5.706	2.69×10^4
$5p^56d$	$^3P^o$	2	$5p^55g$	$^3F^o$	4	2195.46	-4.544	3.95×10^4
$5p^56d$	$^3D^o$	3	$5p^55g$	$^3F^o$	4	2280.11	-4.943	1.46×10^4
$5p^55d$	$^3P^o$	1	$5p^55g$	$^3G^o$	3	576.51	-5.607	4.96×10^4
$5p^55d$	$^3F^o$	2	$5p^55g$	$^3G^o$	3	611.14	-5.265	9.69×10^4
$5p^55d$	$^3D^o$	3	$5p^55g$	$^3G^o$	3	631.22	-6.078	1.40×10^4
$5p^55d$	$^3D^o$	1	$5p^55g$	$^3G^o$	3	662.32	-5.151	1.08×10^5
$5p^55d$	$^1P^o$	1	$5p^55g$	$^3G^o$	3	862.88	-5.293	4.56×10^4
$5p^56d$	$^1P^o$	1	$5p^55g$	$^3G^o$	3	2433.71	-4.946	1.28×10^4
$5p^55d$	$^3P^o$	2	$5p^55g$	$^1G^o$	4	591.37	-6.192	1.23×10^4
$5p^55d$	$^3F^o$	4	$5p^55g$	$^1G^o$	4	594.44	-6.166	1.29×10^4
$5p^55d$	$^3F^o$	3	$5p^55g$	$^1G^o$	4	598.86	-4.995	1.88×10^5
$5p^55d$	$^3F^o$	2	$5p^55g$	$^1G^o$	4	610.72	-4.543	5.12×10^5
$5p^55d$	$^3F^o$	2	$5p^55g$	$^1G^o$	4	680.61	-5.874	1.92×10^4
$5p^56d$	$^3F^o$	3	$5p^55g$	$^1G^o$	4	2182.56	-4.96	1.53×10^4
$5p^56d$	$^1D^o$	2	$5p^55g$	$^1G^o$	4	2242.8	-4.491	4.28×10^4
$5p^55d$	$^3F^o$	4	$5p^55g$	$^3G^o$	5	594.39	-5.028	1.77×10^5
$5p^55d$	$^3F^o$	3	$5p^55g$	$^3G^o$	5	598.81	-5.352	8.27×10^4
$5p^55d$	$^3D^o$	3	$5p^55g$	$^3G^o$	5	630.71	-4.451	5.93×10^5
$5p^56d$	$^3F^o$	4	$5p^55g$	$^3G^o$	5	2167.22	-4.952	1.59×10^4
$5p^56d$	$^3D^o$	3	$5p^55g$	$^3G^o$	5	2266.37	-4.374	5.49×10^4
$5p^56s$	$^1P^o$	1	$5p^57d$	$^1P^o$	1	748.98	-5.756	2.09×10^4
$5p^55d$	$^3P^o$	1	$5p^57d$	$^3F^o$	2	517.11	-6.256	1.38×10^4
$5p^55d$	$^3F^o$	2	$5p^57d$	$^3F^o$	2	599.74	-6.041	1.69×10^4
$5p^56s$	$^3P^o$	1	$5p^57d$	$^3F^o$	2	762.05	-5.956	1.27×10^4
$5p^55d$	$^3D^o$	2	$5p^57d$	$^3P^o$	2	611.22	-6.011	1.74×10^4
$5p^56s$	$^3P^o$	0	$5p^57d$	$^3P^o$	2	753.7	-5.913	1.43×10^4
$5p^55d$	$^3P^o$	1	$5p^57d$	$^3F^o$	3	516.01	-6.197	1.59×10^4
$5p^55d$	$^3P^o$	2	$5p^57d$	$^3F^o$	3	528.2	-6.16	1.65×10^4
$5p^55d$	$^1F^o$	3	$5p^57d$	$^3F^o$	3	619.76	-5.797	2.77×10^4
$5p^55d$	$^1P^o$	1	$5p^57d$	$^3F^o$	3	734.06	-6.074	1.04×10^4
$5p^56s$	$^3P^o$	1	$5p^57d$	$^3F^o$	3	759.66	-5.555	3.22×10^4

TABLE VI (cont.)

Lower Level			Upper Level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^5 7s$	$^3P^o$	1	$5p^5 7d$	$^3F^o$	3	2613.29	-4.857	1.36×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 5g$	$^3F^o$	4	527.05	-5.044	2.17×10^5
$5p^5 5d$	$^3D^o$	3	$5p^5 5g$	$^3F^o$	4	558.12	-6.088	1.75×10^4
$5p^5 5d$	$^3D^o$	2	$5p^5 5g$	$^3F^o$	4	609.04	-4.609	4.42×10^5
$5p^5 5d$	$^1F^o$	3	$5p^5 5g$	$^3F^o$	4	618.19	-5.452	6.17×10^4
$5p^5 6d$	$^3P^o$	2	$5p^5 5g$	$^3F^o$	4	2227.79	-4.457	4.69×10^4
$5p^5 5d$	$^3F^o$	3	$5p^5 5g$	$^3H^o$	4	532.83	-6.047	2.11×10^4
$5p^5 5d$	$^3F^o$	2	$5p^5 5g$	$^3H^o$	4	542.2	-5.225	1.35×10^5
$5p^5 5d$	$^3F^o$	2	$5p^5 5g$	$^3H^o$	4	596.59	-4.486	6.11×10^5
$5p^5 5d$	$^1F^o$	3	$5p^5 5g$	$^3H^o$	4	617.97	-5.617	4.22×10^4
$5p^5 6d$	$^3F^o$	2	$5p^5 5g$	$^3H^o$	4	2202.78	-4.408	5.38×10^4
$5p^5 5d$	$^3P^o$	1	$5p^5 5g$	$^3G^o$	3	514.75	-5.487	8.20×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 5g$	$^3G^o$	3	526.88	-5.759	4.18×10^4
$5p^5 5d$	$^3D^o$	1	$5p^5 5g$	$^3G^o$	3	582.09	-5.285	1.02×10^5
$5p^5 5d$	$^3F^o$	2	$5p^5 5g$	$^3G^o$	3	596.58	-5.484	6.15×10^4
$5p^5 5d$	$^3D^o$	2	$5p^5 5g$	$^3G^o$	3	608.82	-5.741	3.27×10^4
$5p^5 5d$	$^1P^o$	1	$5p^5 5g$	$^3G^o$	3	731.52	-4.767	2.13×10^5
$5p^5 6d$	$^3D^o$	1	$5p^5 5g$	$^3G^o$	3	2338.4	-4.709	2.38×10^4
$5p^5 5d$	$^3F^o$	4	$5p^5 5g$	$^3H^o$	5	529.24	-6.345	1.08×10^4
$5p^5 5d$	$^3F^o$	3	$5p^5 5g$	$^3H^o$	5	532.74	-5.39	9.58×10^4
$5p^5 5d$	$^3D^o$	3	$5p^5 5g$	$^3H^o$	5	557.84	-6.172	1.44×10^4
$5p^5 5d$	$^1F^o$	3	$5p^5 5g$	$^3H^o$	5	617.84	-4.347	7.85×10^5
$5p^5 6d$	$^3F^o$	3	$5p^5 5g$	$^3H^o$	5	2237.35	-4.293	6.78×10^4
$5p^5 5d$	$^3P^o$	0	$5p^5 6g$	$^3F^o$	2	507.52	-5.296	1.31×10^5
$5p^5 5d$	$^3P^o$	1	$5p^5 6g$	$^3F^o$	2	513.47	-5.205	1.58×10^5
$5p^5 5d$	$^3P^o$	2	$5p^5 6g$	$^3F^o$	2	525.54	-5.823	3.63×10^4
$5p^5 5d$	$^3D^o$	1	$5p^5 6g$	$^3F^o$	2	580.45	-6.225	1.18×10^4
$5p^5 5d$	$^3P^o$	1	$5p^5 6g$	$^3F^o$	3	513.28	-5.507	7.88×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 6g$	$^3F^o$	3	525.34	-5.466	8.26×10^4
$5p^5 5d$	$^3D^o$	3	$5p^5 6g$	$^3F^o$	3	556.2	-5.971	2.30×10^4
$5p^5 5d$	$^3D^o$	1	$5p^5 6g$	$^3F^o$	3	580.2	-5.565	5.40×10^4
$5p^5 5d$	$^3D^o$	2	$5p^5 6g$	$^3F^o$	3	606.75	-6.202	1.14×10^4
$5p^5 5d$	$^1P^o$	1	$5p^5 6g$	$^3F^o$	3	728.54	-5.502	3.96×10^4
$5p^5 5d$	$^3F^o$	4	$5p^5 6g$	$^3H^o$	6	527.75	-4.421	9.08×10^5
$5p^5 7d$	$^3F^o$	4	$5p^5 6g$	$^3H^o$	6	4450.61	-4.334	1.56×10^4
$5p^5 5d$	$^3F^o$	4	$5p^5 6g$	$^1H^o$	5	527.67	-5.836	3.49×10^4
$5p^5 5d$	$^3F^o$	3	$5p^5 6g$	$^1H^o$	5	531.15	-4.638	5.44×10^5
$5p^5 5d$	$^3D^o$	3	$5p^5 6g$	$^1H^o$	5	556.1	-5.211	1.33×10^5
$5p^5 5d$	$^1F^o$	3	$5p^5 6g$	$^1H^o$	5	615.7	-5.736	3.23×10^4
$5p^5 7d$	$^3F^o$	3	$5p^5 6g$	$^1H^o$	5	4449.72	-4.463	1.16×10^4
$5p^5 5d$	$^3F^o$	4	$5p^5 8d$	$^3F^o$	4	527.35	-5.991	2.45×10^4
$5p^5 5d$	$^3D^o$	2	$5p^5 8d$	$^3F^o$	4	606.22	-5.991	1.85×10^4
$5p^5 6s$	$^3P^o$	2	$5p^5 8d$	$^3F^o$	4	645.06	-5.86	2.21×10^4
$5p^5 5d$	$^3P^o$	1	$5p^5 8d$	$^3F^o$	3	512.53	-5.739	4.63×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 8d$	$^3F^o$	3	524.56	-5.951	2.72×10^4
$5p^5 5d$	$^3F^o$	3	$5p^5 8d$	$^3F^o$	3	530.44	-6.009	2.32×10^4
$5p^5 5d$	$^3D^o$	1	$5p^5 8d$	$^3F^o$	3	579.25	-5.83	2.94×10^4
$5p^5 5d$	$^3F^o$	2	$5p^5 8d$	$^3F^o$	3	593.59	-6.247	1.07×10^4
$5p^5 5d$	$^3D^o$	2	$5p^5 8d$	$^3F^o$	3	605.71	-5.935	2.11×10^4
$5p^5 5d$	$^1P^o$	1	$5p^5 8d$	$^3F^o$	3	727.04	-5.635	2.92×10^4
$5p^5 6s$	$^3P^o$	2	$5p^5 8d$	$^3D^o$	2	643.91	-6.156	1.12×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 6g$	$^3F^o$	4	524.13	-5.093	1.96×10^5

TABLE VI (cont.)

Lower Level			Upper Level			λ [Å]	$\log(gf)$	gA_{ji} [s ⁻¹]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
5p ⁵ 5d	³ F ^o	4	5p ⁵ 6g	³ F ^o	4	526.55	-6.316	1.16 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 6g	³ F ^o	4	530.01	-5.886	3.09 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 6g	³ F ^o	4	539.27	-5.903	2.87 × 10 ⁴
5p ⁵ 5d	³ D ^o	3	5p ⁵ 6g	³ F ^o	4	554.85	-5.218	1.31 × 10 ⁵
5p ⁵ 5d	³ D ^o	2	5p ⁵ 6g	³ F ^o	4	605.15	-5.025	1.72 × 10 ⁵
5p ⁵ 5d	³ P ^o	1	5p ⁵ 6g	³ G ^o	3	512.03	-6.035	2.35 × 10 ⁴
5p ⁵ 5d	³ P ^o	2	5p ⁵ 6g	³ G ^o	3	524.03	-5.936	2.82 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 6g	³ G ^o	3	529.9	-6.258	1.31 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 6g	³ G ^o	3	539.16	-5.294	1.17 × 10 ⁵
5p ⁵ 5d	³ D ^o	1	5p ⁵ 6g	³ G ^o	3	578.6	-5.054	1.76 × 10 ⁵
5p ⁵ 5d	³ F ^o	4	5p ⁵ 6g	¹ G ^o	4	526.34	-6.379	1.01 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 6g	¹ G ^o	4	529.8	-5.249	1.34 × 10 ⁵
5p ⁵ 5d	³ F ^o	2	5p ⁵ 6g	¹ G ^o	4	539.06	-4.853	3.22 × 10 ⁵
5p ⁵ 5d	³ F ^o	2	5p ⁵ 6g	¹ G ^o	4	592.79	-5.232	1.11 × 10 ⁵
5p ⁵ 5d	¹ F ^o	3	5p ⁵ 6g	¹ G ^o	4	613.89	-6.088	1.44 × 10 ⁴
5p ⁵ 5d	³ F ^o	4	5p ⁵ 6g	³ G ^o	5	526.33	-5.238	1.39 × 10 ⁵
5p ⁵ 5d	³ F ^o	3	5p ⁵ 6g	³ G ^o	5	529.79	-5.724	4.48 × 10 ⁴
5p ⁵ 5d	³ D ^o	3	5p ⁵ 6g	³ G ^o	5	554.61	-4.682	4.51 × 10 ⁵
5p ⁵ 5d	¹ F ^o	3	5p ⁵ 6g	³ G ^o	5	613.88	-5.463	6.10 × 10 ⁴
5p ⁵ 6s	¹ P ^o	1	5p ⁵ 8d	¹ D ^o	2	651.08	-6.166	1.07 × 10 ⁴
5p ⁵ 5d	³ P ^o	0	5p ⁵ 7g	³ F ^o	2	475.54	-5.442	1.07 × 10 ⁵
5p ⁵ 5d	³ P ^o	1	5p ⁵ 7g	³ F ^o	2	480.77	-5.366	1.24 × 10 ⁵
5p ⁵ 5d	³ P ^o	2	5p ⁵ 7g	³ F ^o	2	491.33	-5.991	2.82 × 10 ⁴
5p ⁵ 5d	³ P ^o	1	5p ⁵ 7g	³ F ^o	3	480.67	-5.369	1.23 × 10 ⁵
5p ⁵ 5d	³ P ^o	2	5p ⁵ 7g	³ F ^o	3	491.22	-5.431	1.02 × 10 ⁵
5p ⁵ 5d	³ D ^o	3	5p ⁵ 7g	³ F ^o	3	518.1	-6.186	1.62 × 10 ⁴
5p ⁵ 5d	³ D ^o	1	5p ⁵ 7g	³ F ^o	3	538.87	-5.906	2.85 × 10 ⁴
5p ⁵ 5d	¹ P ^o	1	5p ⁵ 7g	³ F ^o	3	664.55	-5.969	1.62 × 10 ⁴
5p ⁵ 5d	³ F ^o	4	5p ⁵ 7g	³ H ^o	6	493.23	-4.608	6.76 × 10 ⁵
5p ⁵ 6d	³ F ^o	4	5p ⁵ 7g	³ H ^o	6	1239.98	-5.572	1.16 × 10 ⁴
5p ⁵ 5d	³ F ^o	4	5p ⁵ 7g	¹ H ^o	5	493.17	-5.937	3.17 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 7g	¹ H ^o	5	496.21	-4.811	4.19 × 10 ⁵
5p ⁵ 5d	³ D ^o	3	5p ⁵ 7g	¹ H ^o	5	517.92	-5.527	7.39 × 10 ⁴
5p ⁵ 5d	³ P ^o	2	5p ⁵ 7g	³ F ^o	4	490.76	-5.189	1.79 × 10 ⁵
5p ⁵ 5d	³ F ^o	4	5p ⁵ 7g	³ F ^o	4	492.87	-6.024	2.60 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 7g	³ F ^o	4	504.01	-6.229	1.55 × 10 ⁴
5p ⁵ 5d	³ D ^o	3	5p ⁵ 7g	³ F ^o	4	517.59	-5.627	5.88 × 10 ⁴
5p ⁵ 5d	³ D ^o	2	5p ⁵ 7g	³ F ^o	4	561.09	-6.208	1.31 × 10 ⁴
5p ⁵ 5d	³ P ^o	1	5p ⁵ 7g	³ G ^o	3	480.22	-5.995	2.93 × 10 ⁴
5p ⁵ 5d	³ P ^o	2	5p ⁵ 7g	³ G ^o	3	490.76	-6.272	1.48 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 7g	³ G ^o	3	495.9	-6.034	2.51 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 7g	³ G ^o	3	504.01	-5.987	2.71 × 10 ⁴
5p ⁵ 5d	³ D ^o	1	5p ⁵ 7g	³ G ^o	3	538.31	-5.606	5.70 × 10 ⁴
5p ⁵ 5d	¹ P ^o	1	5p ⁵ 7g	³ G ^o	3	663.69	-6.005	1.50 × 10 ⁴
5p ⁵ 5d	³ P ^o	2	5p ⁵ 9d	³ F ^o	4	490.49	-5.512	8.53 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 9d	³ F ^o	4	495.63	-6.272	1.45 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 9d	³ F ^o	4	503.72	-6.384	1.09 × 10 ⁴
5p ⁵ 5d	³ D ^o	3	5p ⁵ 9d	³ F ^o	4	517.29	-5.722	4.73 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 7g	¹ G ^o	4	495.6	-5.392	1.10 × 10 ⁵
5p ⁵ 5d	³ F ^o	2	5p ⁵ 7g	¹ G ^o	4	503.69	-4.937	3.04 × 10 ⁵
5p ⁵ 5d	³ F ^o	4	5p ⁵ 7g	³ G ^o	5	492.55	-5.419	1.05 × 10 ⁵
5p ⁵ 5d	³ F ^o	3	5p ⁵ 7g	³ G ^o	5	495.58	-5.769	4.63 × 10 ⁴

TABLE VI (cont.)

Lower Level			Upper Level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^5 5d$	$^3D^o$	3	$5p^5 7g$	$^3G^o$	5	517.23	-4.857	3.47×10^5
$5p^5 5d$	$^3P^o$	1	$5p^5 9d$	$^3F^o$	3	479.86	-6.21	1.79×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 9d$	$^3F^o$	3	490.38	-6.067	2.38×10^4
$5p^5 5d$	$^3F^o$	2	$5p^5 9d$	$^3F^o$	3	503.61	-5.711	5.12×10^4
$5p^5 5d$	$^3D^o$	1	$5p^5 9d$	$^3F^o$	3	537.86	-6.023	2.19×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 9d$	$^3D^o$	3	489.78	-6.351	1.24×10^4
$5p^5 7d$	$^3P^o$	2	$5p^5 7i$	$^3H^o$	4	2769.47	-4.855	1.21×10^4
$5p^5 5g$	$^3F^o$	2	$5p^5 7i$	$^3H^o$	4	2771.93	-4.695	1.75×10^4
$5p^5 5g$	$^3F^o$	3	$5p^5 7i$	$^3H^o$	5	2777.44	-4.377	3.63×10^4
$5p^5 5g$	$^1H^o$	5	$5p^5 7i$	$^1K^o$	7	2791.56	-4.145	6.12×10^4
$5p^5 5g$	$^3H^o$	6	$5p^5 7i$	$^3K^o$	8	2788.73	-4.082	7.10×10^4
$5p^5 7d$	$^3D^o$	3	$5p^5 7i$	$^3I^o$	5	2821.03	-4.755	1.47×10^4
$5p^5 5g$	$^3G^o$	3	$5p^5 7i$	$^3I^o$	5	2834.59	-4.598	2.10×10^4
$5p^5 5g$	$^3F^o$	4	$5p^5 7i$	$^3H^o$	6	2823.52	-4.267	4.52×10^4
$5p^5 5g$	$^1G^o$	4	$5p^5 7i$	$^1I^o$	6	2842.19	-4.248	4.66×10^4
$5p^5 5g$	$^3G^o$	5	$5p^5 7i$	$^3I^o$	7	2843.29	-4.172	5.56×10^4
$5p^5 5d$	$^1P^o$	1	$5p^5 10s$	$^1P^o$	1	659.98	-5.892	1.96×10^4
$5p^5 5d$	$^3F^o$	2	$5p^5 8d$	$^3F^o$	2	527.78	-6.34	1.09×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 6g$	$^3F^o$	4	472.34	-5.322	1.43×10^5
$5p^5 5d$	$^3D^o$	2	$5p^5 6g$	$^3F^o$	4	537.14	-4.735	4.26×10^5
$5p^5 5d$	$^1F^o$	3	$5p^5 6g$	$^3F^o$	4	544.24	-5.641	5.15×10^4
$5p^5 5d$	$^3F^o$	2	$5p^5 6g$	$^3H^o$	4	484.56	-5.555	7.92×10^4
$5p^5 5d$	$^3F^o$	2	$5p^5 6g$	$^3H^o$	4	527.54	-4.659	5.26×10^5
$5p^5 5d$	$^1F^o$	3	$5p^5 6g$	$^3H^o$	4	544.19	-5.764	3.88×10^4
$5p^5 5d$	$^3F^o$	3	$5p^5 6g$	$^3H^o$	5	477.02	-5.654	6.50×10^4
$5p^5 5d$	$^1F^o$	3	$5p^5 6g$	$^3H^o$	5	544.13	-4.539	6.51×10^5
$5p^5 7d$	$^3F^o$	3	$5p^5 6g$	$^3H^o$	5	4459.01	-4.485	1.10×10^4
$5p^5 5d$	$^3P^o$	1	$5p^5 6g$	$^3G^o$	3	462.44	-5.808	4.85×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 6g$	$^3G^o$	3	472.21	-6.278	1.58×10^4
$5p^5 5d$	$^3D^o$	1	$5p^5 6g$	$^3G^o$	3	516.07	-5.313	1.22×10^5
$5p^5 5d$	$^3F^o$	2	$5p^5 6g$	$^3G^o$	3	527.43	-5.731	4.45×10^4
$5p^5 5d$	$^3D^o$	2	$5p^5 6g$	$^3G^o$	3	536.98	-5.884	3.02×10^4
$5p^5 5d$	$^1F^o$	3	$5p^5 6g$	$^3G^o$	3	544.07	-6.293	1.15×10^4
$5p^5 5d$	$^1P^o$	1	$5p^5 6g$	$^3G^o$	3	630.22	-5.131	1.24×10^5
$5p^5 5d$	$^3D^o$	2	$5p^5 8d$	$^3P^o$	2	536.94	-6.16	1.60×10^4
$5p^5 5d$	$^3P^o$	1	$5p^5 8d$	$^3F^o$	3	462.25	-6.209	1.93×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 8d$	$^3F^o$	3	472	-5.911	3.67×10^4
$5p^5 5d$	$^1F^o$	3	$5p^5 8d$	$^3F^o$	3	543.8	-6.257	1.25×10^4
$5p^5 6s$	$^3P^o$	1	$5p^5 8d$	$^3F^o$	3	648.61	-6.192	1.02×10^4
$5p^5 5d$	$^3P^o$	0	$5p^5 8g$	$^3F^o$	2	456.73	-5.455	1.12×10^5
$5p^5 5d$	$^3P^o$	1	$5p^5 8g$	$^3F^o$	2	461.55	-5.414	1.21×10^5
$5p^5 5d$	$^3P^o$	2	$5p^5 8g$	$^3F^o$	2	471.28	-6.096	2.41×10^4
$5p^5 5d$	$^3F^o$	4	$5p^5 8g$	$^3H^o$	6	473.16	-4.667	6.41×10^5
$5p^5 6d$	$^3F^o$	4	$5p^5 8g$	$^3H^o$	6	1120.48	-5.448	1.89×10^4
$5p^5 5d$	$^3F^o$	4	$5p^5 8g$	$^1H^o$	5	473.12	-6.057	2.62×10^4
$5p^5 5d$	$^3F^o$	3	$5p^5 8g$	$^1H^o$	5	475.92	-4.975	3.12×10^5
$5p^5 5d$	$^3D^o$	3	$5p^5 8g$	$^1H^o$	5	495.85	-5.79	4.40×10^4
$5p^5 6d$	$^3F^o$	3	$5p^5 8g$	$^1H^o$	5	1124.17	-5.617	1.27×10^4
$5p^5 5d$	$^3P^o$	1	$5p^5 8g$	$^3F^o$	3	461.39	-5.643	7.12×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 8g$	$^3F^o$	3	471.12	-5.776	5.03×10^4
$5p^5 5d$	$^3D^o$	3	$5p^5 8g$	$^3F^o$	3	495.78	-6.261	1.49×10^4
$5p^5 5d$	$^3D^o$	2	$5p^5 8g$	$^3F^o$	3	535.56	-6.319	1.12×10^4

TABLE VI (cont.)

Lower Level			Upper Level			λ [Å]	$\log(gf)$	gA_{ji} [s ⁻¹]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
5p ⁵ 6s	³ P ^o	1	5p ⁵ 8g	³ F ^o	3	646.93	-6.093	1.29 × 10 ⁴
5p ⁵ 5d	³ P ^o	2	5p ⁵ 8g	³ F ^o	4	470.83	-5.172	2.02 × 10 ⁵
5p ⁵ 5d	³ F ^o	3	5p ⁵ 8g	³ F ^o	4	475.57	-6.368	1.27 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 8g	³ F ^o	4	483.02	-6.271	1.53 × 10 ⁴
5p ⁵ 5d	³ D ^o	3	5p ⁵ 8g	³ F ^o	4	495.47	-5.875	3.62 × 10 ⁴
5p ⁵ 5d	³ D ^o	2	5p ⁵ 8g	³ F ^o	4	535.2	-5.618	5.61 × 10 ⁴
5p ⁵ 5d	³ P ^o	1	5p ⁵ 8g	³ G ^o	3	461.12	-5.739	5.72 × 10 ⁴
5p ⁵ 5d	³ P ^o	2	5p ⁵ 8g	³ G ^o	3	470.83	-5.883	3.94 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 8g	³ G ^o	3	475.56	-6.153	2.07 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 8g	³ G ^o	3	483.01	-5.913	3.50 × 10 ⁴
5p ⁵ 5d	³ D ^o	1	5p ⁵ 8g	³ G ^o	3	514.43	-5.594	6.42 × 10 ⁴
5p ⁵ 5d	¹ P ^o	1	5p ⁵ 8g	³ G ^o	3	627.76	-5.838	2.46 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 8g	¹ G ^o	4	475.47	-5.57	7.94 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 8g	¹ G ^o	4	482.91	-5.179	1.90 × 10 ⁵
5p ⁵ 5d	³ F ^o	2	5p ⁵ 8g	¹ G ^o	4	525.59	-5.753	4.26 × 10 ⁴
5p ⁵ 5d	³ F ^o	4	5p ⁵ 8g	³ G ^o	5	472.68	-5.502	9.41 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 8g	³ G ^o	5	475.46	-5.909	3.64 × 10 ⁴
5p ⁵ 5d	³ D ^o	3	5p ⁵ 8g	³ G ^o	5	495.36	-5.105	2.13 × 10 ⁵
5p ⁵ 5d	¹ F ^o	3	5p ⁵ 8g	³ G ^o	5	542.11	-5.858	3.15 × 10 ⁴
5p ⁵ 5d	³ F ^o	4	5p ⁵ 10d	³ F ^o	4	472.67	-6.136	2.18 × 10 ⁴
5p ⁵ 5d	³ D ^o	3	5p ⁵ 10d	³ F ^o	4	495.35	-5.98	2.84 × 10 ⁴
5p ⁵ 5d	³ D ^o	2	5p ⁵ 10d	³ F ^o	4	535.05	-6.069	1.99 × 10 ⁴
5p ⁵ 6s	³ P ^o	2	5p ⁵ 10d	³ F ^o	4	565.09	-5.885	2.72 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 10d	³ F ^o	3	482.76	-6.031	2.67 × 10 ⁴
5p ⁵ 5d	¹ F ^o	3	5p ⁵ 10d	³ F ^o	3	541.92	-6.202	1.43 × 10 ⁴
5p ⁵ 5d	¹ P ^o	1	5p ⁵ 10d	³ F ^o	3	627.33	-6.062	1.47 × 10 ⁴
5p ⁵ 5d	³ P ^o	2	5p ⁵ 10d	³ D ^o	2	470.49	-6.053	2.67 × 10 ⁴
5p ⁵ 5d	³ D ^o	1	5p ⁵ 10d	¹ D ^o	2	513.88	-5.642	5.76 × 10 ⁴
5p ⁵ 5d	¹ P ^o	1	5p ⁵ 10d	¹ D ^o	2	626.95	-4.771	2.87 × 10 ⁵
5p ⁵ 6s	³ P ^o	1	5p ⁵ 10d	¹ D ^o	2	645.54	-6.165	1.10 × 10 ⁴
5p ⁵ 6d	¹ P ^o	1	5p ⁵ 10d	¹ D ^o	2	1180.62	-5.642	1.09 × 10 ⁴
5p ⁵ 5g	³ F ^o	2	5p ⁵ 8i	³ H ^o	4	2247.55	-4.974	1.40 × 10 ⁴
5p ⁵ 5g	³ F ^o	3	5p ⁵ 8i	³ H ^o	5	2251.17	-4.659	2.89 × 10 ⁴
5p ⁵ 5g	¹ H ^o	5	5p ⁵ 8i	¹ K ^o	7	2260.76	-4.428	4.87 × 10 ⁴
5p ⁵ 5g	³ H ^o	6	5p ⁵ 8i	³ K ^o	8	2258.9	-4.364	5.66 × 10 ⁴
5p ⁵ 7d	³ D ^o	3	5p ⁵ 8i	³ I ^o	5	2281.15	-5.041	1.17 × 10 ⁴
5p ⁵ 5g	³ G ^o	3	5p ⁵ 8i	³ I ^o	5	2290.01	-4.888	1.65 × 10 ⁴
5p ⁵ 5g	³ F ^o	4	5p ⁵ 8i	³ H ^o	6	2282.77	-4.554	3.57 × 10 ⁴
5p ⁵ 5d	³ P ^o	1	5p ⁵ 10d	³ D ^o	3	460.56	-6.132	2.32 × 10 ⁴
5p ⁵ 5d	³ P ^o	2	5p ⁵ 10d	³ D ^o	3	470.25	-5.844	4.32 × 10 ⁴
5p ⁵ 5d	³ D ^o	3	5p ⁵ 10d	³ D ^o	3	494.82	-6.338	1.25 × 10 ⁴
5p ⁵ 5d	³ D ^o	2	5p ⁵ 10d	³ D ^o	3	534.44	-5.977	2.46 × 10 ⁴
5p ⁵ 5g	¹ G ^o	4	5p ⁵ 8i	¹ I ^o	6	2295.3	-4.538	3.67 × 10 ⁴
5p ⁵ 5g	³ G ^o	5	5p ⁵ 8i	³ I ^o	7	2296.02	-4.462	4.37 × 10 ⁴
5p ⁵ 5d	³ P ^o	0	5p ⁵ 9g	³ F ^o	2	444.8	-6.371	1.43 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 9g	³ F ^o	2	470.14	-6.128	2.25 × 10 ⁴
5p ⁵ 5d	³ D ^o	1	5p ⁵ 9g	³ F ^o	2	499.85	-6.105	2.10 × 10 ⁴
5p ⁵ 6s	¹ P ^o	1	5p ⁵ 9g	³ F ^o	2	553.29	-6.164	1.49 × 10 ⁴
5p ⁵ 6s	³ P ^o	0	5p ⁵ 9g	³ F ^o	2	618.84	-5.839	2.52 × 10 ⁴
5p ⁵ 6s	³ P ^o	1	5p ⁵ 9g	³ F ^o	2	623.54	-6.052	1.52 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 9g	³ F ^o	3	463.02	-6.375	1.31 × 10 ⁴
5p ⁵ 5d	³ D ^o	3	5p ⁵ 9g	³ F ^o	3	481.87	-6.309	1.41 × 10 ⁴

TABLE VI (cont.)

Lower Level			Upper Level			λ [Å]	$\log(gf)$	gA_{ji} [s ⁻¹]
Conf.	Term	<i>J</i>	Conf.	Term	<i>J</i>	HFR	HFR	HFR
5p ⁵ 5d	³ D ^o	1	5p ⁵ 9g	³ F ^o	3	499.78	-5.359	1.17 × 10 ⁵
5p ⁵ 5d	³ D ^o	2	5p ⁵ 9g	³ F ^o	3	519.36	-5.878	3.27 × 10 ⁴
5p ⁵ 6s	³ P ^o	2	5p ⁵ 9g	³ F ^o	3	547.61	-5.86	3.07 × 10 ⁴
5p ⁵ 6s	¹ P ^o	1	5p ⁵ 9g	³ F ^o	3	553.2	-6.289	1.12 × 10 ⁴
5p ⁵ 5d	¹ P ^o	1	5p ⁵ 9g	³ F ^o	3	606.08	-4.275	9.65 × 10 ⁵
5p ⁵ 6s	³ P ^o	1	5p ⁵ 9g	³ F ^o	3	623.44	-5.483	5.64 × 10 ⁴
5p ⁵ 6d	¹ P ^o	1	5p ⁵ 9g	³ F ^o	3	1108.74	-5.096	4.35 × 10 ⁴
5p ⁵ 6d	³ D ^o	1	5p ⁵ 9g	³ F ^o	3	1407.32	-5.373	1.43 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 9g	¹ H ^o	5	462.97	-5.494	9.99 × 10 ⁴
5p ⁵ 5d	³ D ^o	3	5p ⁵ 9g	¹ H ^o	5	481.81	-5.338	1.32 × 10 ⁵
5p ⁵ 5d	¹ F ^o	3	5p ⁵ 9g	¹ H ^o	5	525.92	-5.236	1.40 × 10 ⁵
5p ⁵ 5d	³ F ^o	4	5p ⁵ 9g	³ F ^o	4	460.17	-6.363	1.37 × 10 ⁴
5p ⁵ 5d	³ D ^o	3	5p ⁵ 9g	³ F ^o	4	481.64	-5.486	9.40 × 10 ⁴
5p ⁵ 5d	³ D ^o	2	5p ⁵ 9g	³ F ^o	4	519.09	-5.557	6.87 × 10 ⁴
5p ⁵ 6s	³ P ^o	2	5p ⁵ 9g	³ F ^o	4	547.31	-5.503	6.99 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 9g	³ G ^o	3	469.81	-6.198	1.92 × 10 ⁴
5p ⁵ 5d	³ D ^o	1	5p ⁵ 9g	³ G ^o	3	499.47	-4.817	4.07 × 10 ⁵
5p ⁵ 5d	³ F ^o	2	5p ⁵ 9g	³ G ^o	3	510.11	-5.938	2.95 × 10 ⁴
5p ⁵ 5d	¹ P ^o	1	5p ⁵ 9g	³ G ^o	3	605.64	-4.196	1.16 × 10 ⁶
5p ⁵ 6d	¹ P ^o	1	5p ⁵ 9g	³ G ^o	3	1107.24	-4.836	7.94 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 9g	¹ G ^o	4	462.71	-6.387	1.28 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 9g	¹ G ^o	4	469.76	-5.4	1.20 × 10 ⁵
5p ⁵ 5d	³ F ^o	2	5p ⁵ 9g	¹ G ^o	4	510.05	-5.702	5.10 × 10 ⁴
5p ⁵ 5d	¹ F ^o	3	5p ⁵ 9g	¹ G ^o	4	525.6	-5.855	3.37 × 10 ⁴
5p ⁵ 6d	¹ D ^o	2	5p ⁵ 9g	¹ G ^o	4	1067.03	-5.703	1.16 × 10 ⁴
5p ⁵ 5d	³ D ^o	3	5p ⁵ 9g	³ G ^o	5	481.53	-4.921	3.45 × 10 ⁵
5p ⁵ 6d	³ D ^o	3	5p ⁵ 9g	³ G ^o	5	1072.45	-5.437	2.12 × 10 ⁴
5p ⁵ 5g	³ F ^o	2	5p ⁵ 9i	³ H ^o	4	1989.36	-5.213	1.03 × 10 ⁴
5p ⁵ 5g	³ F ^o	3	5p ⁵ 9i	³ H ^o	5	1992.19	-4.9	2.12 × 10 ⁴
5p ⁵ 5g	¹ H ^o	5	5p ⁵ 9i	¹ K ^o	7	1999.84	-4.672	3.55 × 10 ⁴
5p ⁵ 5g	³ H ^o	6	5p ⁵ 9i	³ K ^o	8	1998.39	-4.606	4.14 × 10 ⁴
5p ⁵ 5g	³ G ^o	3	5p ⁵ 9i	³ I ^o	5	2023.22	-5.14	1.18 × 10 ⁴
5p ⁵ 5g	³ F ^o	4	5p ⁵ 9i	³ H ^o	6	2017.57	-4.802	2.59 × 10 ⁴
5p ⁵ 5g	¹ G ^o	4	5p ⁵ 9i	¹ I ^o	6	2027.51	-4.787	2.65 × 10 ⁴
5p ⁵ 5g	³ G ^o	5	5p ⁵ 9i	³ I ^o	7	2028.07	-4.712	3.15 × 10 ⁴
5p ⁵ 5d	³ P ^o	0	5p ⁵ 10g	³ F ^o	2	436.62	-6.169	2.37 × 10 ⁴
5p ⁵ 5d	³ P ^o	1	5p ⁵ 10g	³ F ^o	2	441.02	-6.054	3.03 × 10 ⁴
5p ⁵ 5d	³ P ^o	2	5p ⁵ 10g	³ F ^o	2	449.89	-6.236	1.92 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 10g	³ F ^o	2	454.21	-5.399	1.29 × 10 ⁵
5p ⁵ 5d	³ F ^o	2	5p ⁵ 10g	³ F ^o	2	461	-5.234	1.83 × 10 ⁵
5p ⁵ 5d	³ F ^o	2	5p ⁵ 10g	³ F ^o	2	499.74	-5.297	1.35 × 10 ⁵
5p ⁵ 5d	¹ F ^o	3	5p ⁵ 10g	³ F ^o	2	514.66	-5.993	2.56 × 10 ⁴
5p ⁵ 5d	³ P ^o	1	5p ⁵ 10g	³ F ^o	3	440.98	-6.024	3.25 × 10 ⁴
5p ⁵ 5d	³ P ^o	2	5p ⁵ 10g	³ F ^o	3	449.86	-6.18	2.18 × 10 ⁴
5p ⁵ 5d	³ F ^o	4	5p ⁵ 10g	³ F ^o	3	451.63	-5.437	1.20 × 10 ⁵
5p ⁵ 5d	³ F ^o	3	5p ⁵ 10g	³ F ^o	3	454.18	-5.214	1.98 × 10 ⁵
5p ⁵ 5d	³ F ^o	2	5p ⁵ 10g	³ F ^o	3	460.96	-5.68	6.55 × 10 ⁴
5p ⁵ 5d	³ D ^o	3	5p ⁵ 10g	³ F ^o	3	472.3	-6.325	1.42 × 10 ⁴
5p ⁵ 5d	³ D ^o	1	5p ⁵ 10g	³ F ^o	3	489.49	-6.297	1.41 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 10g	³ F ^o	3	499.7	-5.68	5.58 × 10 ⁴
5p ⁵ 5d	¹ F ^o	3	5p ⁵ 10g	³ F ^o	3	514.61	-5.631	5.90 × 10 ⁴
5p ⁵ 5d	¹ P ^o	1	5p ⁵ 10g	³ F ^o	3	591.02	-5.842	2.75 × 10 ⁴

TABLE VI (cont.)

Lower Level			Upper Level			λ [Å]	$\log(gf)$	gA_{ji} [s ⁻¹]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
5p ⁵ 5d	³ F ^o	4	5p ⁵ 10g	³ H ^o	6	451.61	-5.116	2.50 × 10 ⁵
5p ⁵ 6d	³ F ^o	4	5p ⁵ 10g	³ H ^o	6	1006.71	-5.813	1.01 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 10g	¹ H ^o	5	454.13	-5.258	1.79 × 10 ⁵
5p ⁵ 5d	³ D ^o	3	5p ⁵ 10g	¹ H ^o	5	472.25	-5.937	3.46 × 10 ⁴
5p ⁵ 5d	³ P ^o	2	5p ⁵ 10g	³ F ^o	4	449.72	-5.589	8.49 × 10 ⁴
5p ⁵ 5d	³ F ^o	4	5p ⁵ 10g	³ F ^o	4	451.49	-5.052	2.90 × 10 ⁵
5p ⁵ 5d	³ F ^o	3	5p ⁵ 10g	³ F ^o	4	454.03	-5.561	8.88 × 10 ⁴
5p ⁵ 5d	³ D ^o	3	5p ⁵ 10g	³ F ^o	4	472.14	-5.913	3.65 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 10g	³ F ^o	4	499.53	-6.293	1.36 × 10 ⁴
5p ⁵ 5d	¹ F ^o	3	5p ⁵ 10g	³ F ^o	4	514.43	-5.693	5.11 × 10 ⁴
5p ⁵ 5d	³ P ^o	1	5p ⁵ 10g	³ G ^o	3	440.81	-6.521	1.03 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 10g	³ G ^o	3	453.99	-6.203	2.03 × 10 ⁴
5p ⁵ 5d	³ D ^o	1	5p ⁵ 10g	³ G ^o	3	489.28	-5.673	5.91 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 10g	³ G ^o	3	499.48	-5.588	6.90 × 10 ⁴
5p ⁵ 5d	¹ P ^o	1	5p ⁵ 10g	³ G ^o	3	590.71	-5.589	4.93 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 10g	¹ G ^o	4	460.74	-5.27	1.69 × 10 ⁵
5p ⁵ 5d	³ F ^o	4	5p ⁵ 10g	³ G ^o	5	451.41	-6.06	2.85 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 10g	³ G ^o	5	453.95	-5.801	5.12 × 10 ⁴
5p ⁵ 5d	³ D ^o	3	5p ⁵ 10g	³ G ^o	5	472.06	-5.255	1.67 × 10 ⁵
5p ⁵ 5d	³ F ^o	4	5p ⁵ 10i	³ H ^o	5	451.21	-6.402	1.30 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 10i	³ H ^o	5	453.75	-5.623	7.71 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 10i	³ H ^o	4	453.75	-6.253	1.81 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 10i	³ H ^o	4	460.52	-5.625	7.45 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 10i	³ H ^o	4	499.18	-5.588	6.91 × 10 ⁴
5p ⁵ 5d	¹ F ^o	3	5p ⁵ 10i	³ H ^o	5	514.06	-5.931	2.96 × 10 ⁴
5p ⁵ 5g	³ F ^o	3	5p ⁵ 10i	³ H ^o	5	1840.8	-5.078	1.64 × 10 ⁴
5p ⁵ 5g	³ H ^o	6	5p ⁵ 10i	³ K ^o	8	1846.17	-4.785	3.21 × 10 ⁴
5p ⁵ 5g	¹ H ^o	5	5p ⁵ 10i	¹ K ^o	7	1847.38	-4.858	2.71 × 10 ⁴
5p ⁵ 5d	³ F ^o	4	5p ⁵ 10i	³ H ^o	6	451.15	-5.454	1.15 × 10 ⁵
5p ⁵ 5d	³ F ^o	3	5p ⁵ 10i	³ I ^o	5	453.69	-5.971	3.46 × 10 ⁴
5p ⁵ 5g	³ F ^o	4	5p ⁵ 10i	³ H ^o	6	1862.81	-5.019	1.84 × 10 ⁴
5p ⁵ 5g	¹ G ^o	4	5p ⁵ 10i	¹ I ^o	6	1871.35	-5.019	1.83 × 10 ⁴
5p ⁵ 5g	³ G ^o	5	5p ⁵ 10i	³ I ^o	7	1871.84	-4.945	2.16 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 7g	³ H ^o	4	455.33	-6.166	2.19 × 10 ⁴
5p ⁵ 5d	³ F ^o	2	5p ⁵ 7g	³ H ^o	4	493.09	-4.814	4.21 × 10 ⁵
5p ⁵ 5d	¹ F ^o	3	5p ⁵ 7g	³ H ^o	4	507.6	-5.885	3.37 × 10 ⁴
5p ⁵ 5d	³ P ^o	2	5p ⁵ 7g	³ F ^o	4	444.47	-5.914	4.12 × 10 ⁴
5p ⁵ 5d	³ D ^o	2	5p ⁵ 7g	³ F ^o	4	501.39	-4.854	3.72 × 10 ⁵
5p ⁵ 5d	¹ F ^o	3	5p ⁵ 7g	³ F ^o	4	507.57	-5.895	3.30 × 10 ⁴
5p ⁵ 6s	³ P ^o	2	5p ⁵ 7g	³ F ^o	4	527.67	-6.364	1.04 × 10 ⁴
5p ⁵ 5d	³ F ^o	3	5p ⁵ 7g	³ H ^o	5	448.68	-6.1	2.63 × 10 ⁴
5p ⁵ 5d	¹ F ^o	3	5p ⁵ 7g	³ H ^o	5	507.56	-4.726	4.87 × 10 ⁵
5p ⁵ 5d	³ P ^o	1	5p ⁵ 7g	³ G ^o	3	435.74	-6.357	1.54 × 10 ⁴
5p ⁵ 5d	³ D ^o	1	5p ⁵ 7g	³ G ^o	3	483.03	-5.306	1.41 × 10 ⁵
5p ⁵ 5d	³ F ^o	2	5p ⁵ 7g	³ G ^o	3	492.97	-5.982	2.86 × 10 ⁴
5p ⁵ 5d	³ D ^o	2	5p ⁵ 7g	³ G ^o	3	501.3	-5.921	3.18 × 10 ⁴
5p ⁵ 5d	¹ P ^o	1	5p ⁵ 7g	³ G ^o	3	581.63	-5.487	6.43 × 10 ⁴
5p ⁵ 5d	¹ F ^o	3	5p ⁵ 9d	³ F ^o	3	506.92	-6.413	1.00 × 10 ⁴
5p ⁵ 5g	³ H ^o	4	5p ⁵ 7i	³ K ^o	6	2801.47	-4.243	4.86 × 10 ⁴
5p ⁵ 5g	³ G ^o	3	5p ⁵ 7i	³ I ^o	5	2801.69	-4.391	3.46 × 10 ⁴
5p ⁵ 5g	³ H ^o	5	5p ⁵ 7i	³ K ^o	7	2803.94	-4.164	5.81 × 10 ⁴
5p ⁵ 5g	³ F ^o	4	5p ⁵ 7i	³ H ^o	6	2796.88	-4.292	4.36 × 10 ⁴

TABLE VI (cont.)

Lower Level			Upper Level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^5 5d$	$^1P^o$	1	$5p^5 9d$	$^3D^o$	1	579.77	-6.119	1.51×10^4
$5p^5 5d$	$^1P^o$	1	$5p^5 10s$	$^3P^o$	1	579.02	-6.214	1.22×10^4
$5p^5 5d$	$^3F^o$	2	$5p^5 8g$	$^3H^o$	4	438.26	-5.914	4.23×10^4
$5p^5 5d$	$^3F^o$	2	$5p^5 8g$	$^3H^o$	4	473.12	-4.922	3.56×10^5
$5p^5 5d$	$^1F^o$	3	$5p^5 8g$	$^3H^o$	4	486.47	-6.075	2.37×10^4
$5p^5 6d$	$^3F^o$	2	$5p^5 8g$	$^3H^o$	4	1121.84	-5.688	1.09×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 8g$	$^3F^o$	4	428.19	-5.624	8.65×10^4
$5p^5 5d$	$^3D^o$	2	$5p^5 8g$	$^3F^o$	4	480.77	-5.002	2.87×10^5
$5p^5 5d$	$^1F^o$	3	$5p^5 8g$	$^3F^o$	4	486.45	-6.035	2.60×10^4
$5p^5 6s$	$^3P^o$	2	$5p^5 8g$	$^3F^o$	4	504.88	-5.999	2.62×10^4
$5p^5 6d$	$^3P^o$	2	$5p^5 8g$	$^3F^o$	4	1127.47	-5.697	1.06×10^4
$5p^5 5d$	$^3F^o$	3	$5p^5 8g$	$^3H^o$	5	432.09	-5.797	5.70×10^4
$5p^5 5d$	$^1F^o$	3	$5p^5 8g$	$^3H^o$	5	486.44	-4.916	3.42×10^5
$5p^5 6d$	$^3F^o$	3	$5p^5 8g$	$^3H^o$	5	1131.01	-5.606	1.29×10^4
$5p^5 5d$	$^3P^o$	1	$5p^5 8g$	$^3G^o$	3	420.09	-6.223	2.26×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 8g$	$^3G^o$	3	428.13	-6.56	1.00×10^4
$5p^5 5d$	$^3D^o$	1	$5p^5 8g$	$^3G^o$	3	463.88	-5.319	1.49×10^5
$5p^5 5d$	$^3F^o$	2	$5p^5 8g$	$^3G^o$	3	473.03	-5.996	3.01×10^4
$5p^5 5d$	$^3D^o$	2	$5p^5 8g$	$^3G^o$	3	480.7	-6.058	2.53×10^4
$5p^5 5d$	$^3P^o$	0	$5p^5 10d$	$^3F^o$	2	415.96	-6.253	2.15×10^4
$5p^5 6s$	$^1P^o$	1	$5p^5 10d$	$^3F^o$	2	509.35	-6.405	1.01×10^4
$5p^5 5d$	$^1P^o$	1	$5p^5 10d$	$^3F^o$	2	553.84	-5.164	1.49×10^5
$5p^5 5d$	$^3P^o$	0	$5p^5 10d$	$^3P^o$	2	415.83	-6.103	3.04×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 10d$	$^3P^o$	2	427.86	-6.132	2.69×10^4
$5p^5 6s$	$^3P^o$	2	$5p^5 10d$	$^3P^o$	2	504.42	-6.262	1.44×10^4
$5p^5 5d$	$^1P^o$	1	$5p^5 10d$	$^3P^o$	2	553.62	-5.309	1.07×10^5
$5p^5 5d$	$^3P^o$	1	$5p^5 10d$	$^3F^o$	3	419.75	-5.75	6.73×10^4
$5p^5 5d$	$^3F^o$	3	$5p^5 10d$	$^3F^o$	3	431.68	-6.129	2.66×10^4
$5p^5 5g$	$^3H^o$	4	$5p^5 8i$	$^3K^o$	6	2267.83	-4.525	3.87×10^4
$5p^5 5g$	$^3G^o$	3	$5p^5 8i$	$^3I^o$	5	2267.99	-4.672	2.76×10^4
$5p^5 5g$	$^3H^o$	5	$5p^5 8i$	$^3K^o$	7	2269.45	-4.447	4.63×10^4
$5p^5 5g$	$^3F^o$	4	$5p^5 8i$	$^3H^o$	6	2264.83	-4.571	3.49×10^4
$5p^5 5d$	$^3P^o$	1	$5p^5 10d$	$^3D^o$	1	419.34	-5.925	4.51×10^4
$5p^5 5d$	$^1P^o$	1	$5p^5 10d$	$^3D^o$	1	552.79	-5.448	7.78×10^4
$5p^5 5d$	$^3F^o$	2	$5p^5 9g$	$^3H^o$	4	427.28	-5.985	3.78×10^4
$5p^5 5d$	$^3F^o$	2	$5p^5 9g$	$^3H^o$	4	460.35	-5.862	4.33×10^4
$5p^5 5d$	$^1F^o$	3	$5p^5 9g$	$^3H^o$	4	472.98	-6.157	2.08×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 9g$	$^3F^o$	4	417.71	-5.456	1.34×10^5
$5p^5 5d$	$^3F^o$	4	$5p^5 9g$	$^3F^o$	4	419.24	-6.01	3.71×10^4
$5p^5 5d$	$^3D^o$	2	$5p^5 9g$	$^3F^o$	4	467.59	-5.518	9.25×10^4
$5p^5 5d$	$^1F^o$	3	$5p^5 9g$	$^3F^o$	4	472.97	-6.101	2.36×10^4
$5p^5 6s$	$^3P^o$	2	$5p^5 9g$	$^3F^o$	4	490.37	-5.453	9.77×10^4
$5p^5 6d$	$^3P^o$	2	$5p^5 9g$	$^3F^o$	4	861.3	-5.803	1.42×10^4
$5p^5 5d$	$^3F^o$	3	$5p^5 9g$	$^3H^o$	5	421.42	-5.522	1.13×10^5
$5p^5 5d$	$^1F^o$	3	$5p^5 9g$	$^3H^o$	5	472.96	-5.038	2.73×10^5
$5p^5 6d$	$^3F^o$	3	$5p^5 9g$	$^3H^o$	5	1060.68	-5.709	1.16×10^4
$5p^5 5d$	$^3P^o$	1	$5p^5 9g$	$^3G^o$	3	410.01	-5.815	6.07×10^4
$5p^5 5d$	$^3P^o$	2	$5p^5 9g$	$^3G^o$	3	417.67	-6.473	1.29×10^4
$5p^5 5d$	$^3F^o$	3	$5p^5 9g$	$^3G^o$	3	421.39	-6.363	1.63×10^4
$5p^5 5d$	$^3D^o$	1	$5p^5 9g$	$^3G^o$	3	451.62	-6.246	1.86×10^4
$5p^5 6s$	$^3P^o$	2	$5p^5 9g$	$^3G^o$	3	490.31	-6.408	1.09×10^4
$5p^5 6s$	$^1P^o$	1	$5p^5 9g$	$^3G^o$	3	494.8	-6.15	1.93×10^4

TABLE VI (cont.)

Lower Level			Upper Level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^5 5d$	$^1P^o$	1	$5p^5 9g$	$^3G^o$	3	536.68	-4.118	1.77×10^6
$5p^5 6d$	$^3P^o$	1	$5p^5 9g$	$^3G^o$	3	852.34	-5.948	1.04×10^4
$5p^5 6d$	$^1P^o$	1	$5p^5 9g$	$^3G^o$	3	896.61	-5.177	5.52×10^4
$5p^5 6d$	$^3D^o$	1	$5p^5 9g$	$^3G^o$	3	1082.3	-5.009	5.57×10^4
$5p^5 5g$	$^3H^o$	4	$5p^5 9i$	$^3K^o$	6	2005.65	-4.769	2.82×10^4
$5p^5 5g$	$^3G^o$	3	$5p^5 9i$	$^3I^o$	5	2005.77	-4.915	2.02×10^4
$5p^5 5g$	$^3H^o$	5	$5p^5 9i$	$^3K^o$	7	2006.91	-4.691	3.37×10^4
$5p^5 5g$	$^3F^o$	4	$5p^5 9i$	$^3H^o$	6	2003.3	-4.812	2.56×10^4
$5p^5 5d$	$^3F^o$	3	$5p^5 10g$	$^3H^o$	4	414.12	-6.211	2.39×10^4
$5p^5 5d$	$^3F^o$	2	$5p^5 10g$	$^3H^o$	4	451.64	-5.391	1.33×10^5
$5p^5 5d$	$^1F^o$	3	$5p^5 10g$	$^3H^o$	4	463.78	-6.086	2.55×10^4
$5p^5 5d$	$^3F^o$	4	$5p^5 10g$	$^3F^o$	4	412	-4.725	7.40×10^5
$5p^5 5d$	$^3F^o$	3	$5p^5 10g$	$^3F^o$	4	414.12	-6.131	2.88×10^4
$5p^5 5d$	$^3D^o$	2	$5p^5 10g$	$^3F^o$	4	458.61	-5.397	1.27×10^5
$5p^5 5d$	$^1F^o$	3	$5p^5 10g$	$^3F^o$	4	463.77	-6.029	2.90×10^4
$5p^5 5d$	$^3F^o$	4	$5p^5 10g$	$^3H^o$	5	411.99	-5.759	6.84×10^4
$5p^5 5d$	$^1F^o$	3	$5p^5 10g$	$^3H^o$	5	463.77	-5.232	1.82×10^5
$5p^5 6d$	$^3F^o$	3	$5p^5 10g$	$^3H^o$	5	1015.55	-5.795	1.04×10^4
$5p^5 5d$	$^3F^o$	4	$5p^5 10g$	$^3G^o$	3	411.97	-5.767	6.72×10^4
$5p^5 5d$	$^3F^o$	3	$5p^5 10g$	$^3G^o$	3	414.08	-5.284	2.02×10^5
$5p^5 5d$	$^3D^o$	1	$5p^5 10g$	$^3G^o$	3	443.24	-6.065	2.92×10^4
$5p^5 5d$	$^3F^o$	2	$5p^5 10g$	$^3G^o$	3	451.59	-6.437	1.20×10^4
$5p^5 5d$	$^3D^o$	2	$5p^5 10g$	$^3G^o$	3	458.57	-6.421	1.20×10^4
$5p^5 5d$	$^1F^o$	3	$5p^5 10g$	$^3G^o$	3	463.74	-6.371	1.32×10^4
$5p^5 5d$	$^1P^o$	1	$5p^5 10g$	$^3G^o$	3	524.89	-5.378	1.01×10^5
$5p^5 5g$	$^3H^o$	4	$5p^5 10i$	$^3K^o$	6	1852.49	-4.957	2.14×10^4
$5p^5 5g$	$^3H^o$	5	$5p^5 10i$	$^3K^o$	7	1853.59	-4.888	2.51×10^4
$5p^5 5d$	$^3F^o$	4	$5p^5 10i$	$^3H^o$	6	411.69	-5.222	2.36×10^5
$5p^5 5d$	$^3F^o$	3	$5p^5 10i$	$^3I^o$	5	413.81	-5.741	7.08×10^4
$5p^5 5g$	$^3F^o$	4	$5p^5 10i$	$^3H^o$	6	1850.51	-4.99	2.00×10^4
$5p^5 5g$	$^3G^o$	3	$5p^5 10i$	$^3I^o$	5	1852.6	-5.105	1.53×10^4

New magnetic dipole ($M1$) transitions for La IV.

TABLE VII

Lower level			Upper level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^5 7h$	3I	7	$5p^5 7h$	3I	6	4692.29	-5.366	1.30×10^3
$5p^5 8h$	3I	7	$5p^5 8h$	3I	6	4696.58	-5.366	1.30×10^3
$5p^5 9h$	3I	7	$5p^5 9h$	3I	6	4699.12	-5.365	1.30×10^3
$5p^5 10h$	3I	7	$5p^5 10h$	3I	6	4700.72	-5.365	1.30×10^3
$5p^5 6h$	3I	7	$5p^5 6h$	3I	6	4688.68	-5.397	1.22×10^3
$5p^5 7h$	1I	6	$5p^5 7h$	3I	5	4692.62	-5.434	1.12×10^3
$5p^5 9h$	1I	6	$5p^5 9h$	3I	5	4699.36	-5.433	1.12×10^3
$5p^5 8h$	1I	6	$5p^5 8h$	3I	5	4696.89	-5.433	1.11×10^3
$5p^5 10h$	1I	6	$5p^5 10h$	3I	5	4700.92	-5.433	1.11×10^3
$5p^5 6h$	1I	6	$5p^5 6h$	3I	5	4688.94	-5.464	1.04×10^3
$5p^5 5f$	3G	5	$5p^5 5f$	3G	4	4555.49	-5.524	9.63×10^2
$5p^5 8f$	3G	5	$5p^5 8f$	3G	4	4679.33	-5.504	9.55×10^2
$5p^5 9f$	3G	5	$5p^5 9f$	3G	4	4688.53	-5.502	9.55×10^2
$5p^5 10f$	3G	5	$5p^5 10f$	3G	4	4693.72	-5.501	9.54×10^2
$5p^5 7f$	3G	5	$5p^5 7f$	3G	4	4649.58	-5.577	8.17×10^2
$5p^5 10f$	3G	4	$5p^5 10f$	3G	3	4703.81	-5.591	7.74×10^2
$5p^5 8f$	3G	4	$5p^5 8f$	3G	3	4700.07	-5.592	7.73×10^2
$5p^5 8h$	3G	4	$5p^5 8h$	3G	5	4691.28	-5.598	7.64×10^2
$5p^5 5f$	1G	4	$5p^5 5f$	3G	3	4638.21	-5.609	7.64×10^2
$5p^5 7h$	3G	4	$5p^5 7h$	3G	5	4684.1	-5.6	7.63×10^2
$5p^5 9h$	3G	4	$5p^5 9h$	3G	5	4695.54	-5.6	7.60×10^2
$5p^5 10h$	3G	4	$5p^5 10h$	3G	5	4698.21	-5.6	7.59×10^2
$5p^5 9f$	3G	4	$5p^5 9f$	3G	3	4700.36	-5.6	7.59×10^2
$5p^5 6p$	3D	3	$5p^5 6p$	3D	2	4367.97	-5.71	6.82×10^2
$5p^5 9h$	3G	5	$5p^5 9h$	3G	5	4709.82	-5.648	6.76×10^2
$5p^5 7h$	3G	5	$5p^5 7h$	3G	5	4714.49	-5.648	6.76×10^2
$5p^5 10h$	3H	6	$5p^5 10h$	3I	6	4711.65	-5.649	6.75×10^2
$5p^5 10h$	3G	5	$5p^5 10h$	3G	5	4708.36	-5.649	6.74×10^2
$5p^5 9h$	3H	6	$5p^5 9h$	3I	6	4714.2	-5.649	6.74×10^2
$5p^5 7h$	3H	6	$5p^5 7h$	3I	6	4723.97	-5.648	6.72×10^2
$5p^5 4f$	3G	5	$5p^5 4f$	3F	4	4383.75	-5.714	6.71×10^2
$5p^5 6h$	3G	4	$5p^5 6h$	3G	5	4677.07	-5.66	6.68×10^2
$5p^5 8h$	3H	6	$5p^5 8h$	3I	6	4721.36	-5.679	6.27×10^2
$5p^5 6h$	3H	6	$5p^5 6h$	3I	6	4738.87	-5.677	6.24×10^2
$5p^5 7h$	3G	3	$5p^5 7h$	3H	4	4683.57	-5.698	6.09×10^2
$5p^5 8h$	3G	3	$5p^5 8h$	3H	4	4690.83	-5.697	6.09×10^2
$5p^5 9h$	3G	3	$5p^5 9h$	3H	4	4695.11	-5.697	6.08×10^2
$5p^5 10h$	3G	3	$5p^5 10h$	3H	4	4697.84	-5.697	6.08×10^2
$5p^5 10p$	3D	3	$5p^5 10p$	3D	2	4688.88	-5.7	6.05×10^2
$5p^5 8p$	3D	3	$5p^5 8p$	3D	2	4658.78	-5.709	6.01×10^2
$5p^5 6h$	3G	5	$5p^5 6h$	3G	5	4727.08	-5.702	5.93×10^2
$5p^5 8h$	3G	5	$5p^5 8h$	3G	5	4717.94	-5.706	5.90×10^2
$5p^5 9p$	3D	3	$5p^5 9p$	3D	2	4688.5	-5.722	5.76×10^2
$5p^5 7p$	3D	3	$5p^5 7p$	3D	2	4653.24	-5.737	5.65×10^2
$5p^5 9h$	1H	5	$5p^5 9h$	3I	5	4714.26	-5.727	5.63×10^2
$5p^5 7h$	1H	5	$5p^5 7h$	3I	5	4724.05	-5.725	5.63×10^2
$5p^5 10h$	1H	5	$5p^5 10h$	3I	5	4711.7	-5.728	5.62×10^2
$5p^5 7h$	3H	4	$5p^5 7h$	3H	4	4714.43	-5.736	5.52×10^2
$5p^5 9h$	3H	4	$5p^5 9h$	3H	4	4709.76	-5.737	5.51×10^2
$5p^5 10h$	3H	4	$5p^5 10h$	3H	4	4708.32	-5.737	5.51×10^2
$5p^5 6h$	3G	3	$5p^5 6h$	3H	4	4676.55	-5.757	5.33×10^2
$5p^5 7f$	3G	4	$5p^5 7f$	3G	3	4665.77	-5.761	5.32×10^2

TABLE VII (cont.)

Lower level			Upper level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^5 6h$	1H	5	$5p^5 6h$	3I	5	4738.96	-5.75	5.28×10^2
$5p^5 8h$	1H	5	$5p^5 8h$	3I	5	4721.45	-5.756	5.25×10^2
$5p^5 6f$	3G	5	$5p^5 6f$	3G	4	4566.59	-5.802	5.05×10^2
$5p^5 8h$	3H	4	$5p^5 8h$	3H	4	4717.73	-5.792	4.84×10^2
$5p^5 6h$	3H	4	$5p^5 6h$	3H	4	4726.89	-5.791	4.83×10^2
$5p^5 10f$	3F	4	$5p^5 10f$	3G	4	4729.02	-5.825	4.47×10^2
$5p^5 8f$	3F	4	$5p^5 8f$	3G	4	4754.3	-5.823	4.43×10^2
$5p^5 9h$	3H	6	$5p^5 9h$	3G	5	4714.04	-5.835	4.39×10^2
$5p^5 7h$	3H	6	$5p^5 7h$	3G	5	4723.45	-5.833	4.39×10^2
$5p^5 10h$	3H	6	$5p^5 10h$	3G	5	4711.54	-5.836	4.39×10^2
$5p^5 10p$	3D	2	$5p^5 10p$	3D	1	4714.09	-5.848	4.26×10^2
$5p^5 6p$	3D	2	$5p^5 6p$	3D	1	4741.86	-5.847	4.22×10^2
$5p^5 6f$	1G	4	$5p^5 6f$	3G	3	4756.99	-5.845	4.21×10^2
$5p^5 8p$	3D	2	$5p^5 8p$	3D	1	4725.04	-5.855	4.17×10^2
$5p^5 9p$	3D	2	$5p^5 9p$	3D	1	4722.14	-5.857	4.16×10^2
$5p^5 8h$	3H	6	$5p^5 8h$	3G	5	4721.11	-5.864	4.10×10^2
$5p^5 8f$	3D	3	$5p^5 8f$	3D	3	4720.2	-5.864	4.09×10^2
$5p^5 5f$	3F	4	$5p^5 5f$	3G	4	5030.48	-5.809	4.09×10^2
$5p^5 10f$	3D	3	$5p^5 10f$	3D	3	4715.15	-5.867	4.07×10^2
$5p^5 5f$	3D	3	$5p^5 5f$	3D	3	4756.61	-5.866	4.01×10^2
$5p^5 9f$	3F	4	$5p^5 9f$	3G	4	4725.57	-5.878	3.96×10^2
$5p^5 4f$	3G	4	$5p^5 4f$	3G	3	5256.94	-5.788	3.93×10^2
$5p^5 6h$	3H	6	$5p^5 6h$	3G	5	4741.11	-5.885	3.87×10^2
$5p^5 9h$	1H	5	$5p^5 9h$	3H	4	4713.8	-5.912	3.67×10^2
$5p^5 10h$	1H	5	$5p^5 10h$	3H	4	4711.34	-5.913	3.67×10^2
$5p^5 7h$	1H	5	$5p^5 7h$	3H	4	4723.16	-5.911	3.67×10^2
$5p^5 6f$	3G	5	$5p^5 7f$	3F	4	4695.05	-5.924	3.61×10^2
$5p^5 8h$	1H	5	$5p^5 8h$	3H	4	4720.85	-5.942	3.42×10^2
$5p^5 6f$	1G	4	$5p^5 7f$	1F	3	4596.23	-5.966	3.42×10^2
$5p^5 9f$	3D	3	$5p^5 9f$	3D	3	4690.41	-5.949	3.41×10^2
$5p^5 10f$	3F	4	$5p^5 10f$	3D	3	4731.68	-5.965	3.23×10^2
$5p^5 8f$	3F	4	$5p^5 8f$	3D	3	4757.86	-5.963	3.21×10^2
$5p^5 6h$	1H	5	$5p^5 6h$	3H	4	4740.75	-5.967	3.20×10^2
$5p^5 5f$	3D	2	$5p^5 5f$	3D	3	4458.37	-6.03	3.13×10^2
$5p^5 8f$	1F	3	$5p^5 8f$	3G	3	4759.43	-5.983	3.06×10^2
$5p^5 10f$	1F	3	$5p^5 10f$	3G	3	4731.62	-5.991	3.04×10^2
$5p^5 5f$	3F	4	$5p^5 5f$	3D	3	5021.03	-5.951	2.96×10^2
$5p^5 5f$	1F	3	$5p^5 5f$	3G	3	5054.54	-5.956	2.89×10^2
$5p^5 9f$	3F	4	$5p^5 9f$	3D	3	4728.83	-6.029	2.79×10^2
$5p^5 5f$	3D	1	$5p^5 5f$	3F	2	4319.52	-6.117	2.73×10^2
$5p^5 9f$	3D	1	$5p^5 9f$	3F	2	4655.08	-6.072	2.61×10^2
$5p^5 8f$	3D	1	$5p^5 8f$	3F	2	4635.45	-6.076	2.60×10^2
$5p^5 8f$	3D	2	$5p^5 8f$	3D	3	4675.65	-6.072	2.59×10^2
$5p^5 6f$	3D	3	$5p^5 6f$	3D	3	4660.79	-6.075	2.59×10^2
$5p^5 9h$	3G	5	$5p^5 9h$	3I	6	4709.99	-6.071	2.55×10^2
$5p^5 10h$	3G	5	$5p^5 10h$	3I	6	4708.46	-6.071	2.55×10^2
$5p^5 7h$	3G	5	$5p^5 7h$	3I	6	4715	-6.07	2.55×10^2
$5p^5 10f$	3D	1	$5p^5 10f$	3F	2	4678.08	-6.078	2.55×10^2
$5p^5 9f$	1F	3	$5p^5 9f$	3G	3	4720.18	-6.088	2.45×10^2
$5p^5 7f$	3D	1	$5p^5 7f$	3F	2	4567.69	-6.124	2.40×10^2
$5p^5 6h$	3G	5	$5p^5 6h$	3I	6	4724.85	-6.1	2.37×10^2
$5p^5 8f$	1F	3	$5p^5 8f$	3F	2	4730.84	-6.103	2.35×10^2

TABLE VII (cont.)

Lower level			Upper level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^5 10f$	1F	3	$5p^5 10f$	3F	2	4717.75	-6.105	2.35×10^2
$5p^5 6f$	3F	4	$5p^5 6f$	3G	4	4782	-6.104	2.29×10^2
$5p^5 5f$	1F	3	$5p^5 5f$	3F	2	4919.21	-6.092	2.23×10^2
$5p^5 8h$	3G	5	$5p^5 8h$	3I	6	4718.2	-6.129	2.23×10^2
$5p^5 5f$	1D	2	$5p^5 5f$	3F	2	4812.83	-6.115	2.21×10^2
$5p^5 9f$	3D	2	$5p^5 9f$	3D	3	4674.94	-6.148	2.17×10^2
$5p^5 10f$	3D	2	$5p^5 10f$	3D	3	4699.66	-6.146	2.16×10^2
$5p^5 7f$	3D	3	$5p^5 7f$	3D	3	4604.39	-6.164	2.16×10^2
$5p^5 7f$	3F	4	$5p^5 7f$	3G	4	4709.76	-6.145	2.16×10^2
$5p^5 4f$	3D	1	$5p^5 4f$	1D	2	3148.38	-6.496	2.15×10^2
$5p^5 10p$	3P	2	$5p^5 10p$	3D	2	4735.15	-6.146	2.13×10^2
$5p^5 10p$	3P	2	$5p^5 10p$	3P	1	4742.86	-6.145	2.13×10^2
$5p^5 9f$	1D	2	$5p^5 9f$	3D	3	4732.93	-6.148	2.12×10^2
$5p^5 9p$	3P	2	$5p^5 9p$	3P	1	4762.36	-6.143	2.11×10^2
$5p^5 7h$	3H	4	$5p^5 7h$	3I	5	4715.31	-6.156	2.09×10^2
$5p^5 9h$	3H	4	$5p^5 9h$	3I	5	4710.22	-6.158	2.09×10^2
$5p^5 10h$	3H	4	$5p^5 10h$	3I	5	4708.68	-6.16	2.08×10^2
$5p^5 8p$	3P	2	$5p^5 8p$	3D	2	4789.18	-6.147	2.07×10^2
$5p^5 8p$	3P	2	$5p^5 8p$	3P	1	4795.79	-6.148	2.06×10^2
$5p^5 6p$	3P	2	$5p^5 6p$	3D	2	5028	-6.114	2.03×10^2
$5p^5 9p$	3P	2	$5p^5 9p$	3D	2	4757.56	-6.163	2.03×10^2
$5p^5 7p$	3P	2	$5p^5 7p$	3P	1	4932.17	-6.136	2.00×10^2
$5p^5 10f$	1D	2	$5p^5 10f$	3D	3	4729.3	-6.175	1.99×10^2
$5p^5 6h$	3H	4	$5p^5 6h$	3I	5	4725.11	-6.177	1.99×10^2
$5p^5 4f$	3F	4	$5p^5 4f$	3F	4	6871.67	-5.853	1.98×10^2
$5p^5 6f$	3F	4	$5p^5 6f$	3D	3	4765.98	-6.18	1.94×10^2
$5p^5 8f$	1D	2	$5p^5 8f$	3F	2	4730.75	-6.191	1.92×10^2
$5p^5 7p$	3P	2	$5p^5 7p$	3D	2	4938.31	-6.159	1.90×10^2
$5p^5 9f$	1F	3	$5p^5 9f$	3F	2	4700.95	-6.202	1.89×10^2
$5p^5 7f$	1D	2	$5p^5 7f$	3D	3	4718.42	-6.207	1.86×10^2
$5p^5 6f$	3D	1	$5p^5 6f$	3F	2	4498.7	-6.253	1.84×10^2
$5p^5 8h$	3H	4	$5p^5 8h$	3I	5	4718.33	-6.212	1.84×10^2
$5p^5 10p$	1P	1	$5p^5 10p$	3P	1	4717.59	-6.232	1.76×10^2
$5p^5 10f$	1D	2	$5p^5 10f$	3F	2	4719.81	-6.243	1.71×10^2
$5p^5 6f$	1F	3	$5p^5 6f$	3F	2	4746.18	-6.242	1.70×10^2
$5p^5 8f$	1D	2	$5p^5 8f$	3D	3	4748.32	-6.244	1.69×10^2
$5p^5 6f$	1F	3	$5p^5 6f$	3G	3	4947.51	-6.211	1.68×10^2
$5p^5 8p$	1P	1	$5p^5 8p$	3P	1	4726.88	-6.258	1.65×10^2
$5p^5 6f$	3G	4	$5p^5 7f$	3G	4	4846.52	-6.24	1.63×10^2
$5p^5 10f$	3D	2	$5p^5 10f$	3F	2	4690.29	-6.27	1.63×10^2
$5p^5 9p$	1P	1	$5p^5 9p$	3P	1	4716.78	-6.271	1.61×10^2
$5p^5 7f$	3D	2	$5p^5 7f$	3D	3	4587.07	-6.3	1.59×10^2
$5p^5 6f$	3F	4	$5p^5 7f$	3F	4	4923.06	-6.241	1.58×10^2
$5p^5 6f$	3D	2	$5p^5 6f$	3D	3	4557.64	-6.309	1.58×10^2
$5p^5 9f$	3D	2	$5p^5 9f$	3F	2	4662.44	-6.294	1.56×10^2
$5p^5 6f$	3D	3	$5p^5 7f$	3D	3	4916.68	-6.249	1.56×10^2
$5p^5 7p$	1P	1	$5p^5 7p$	3P	1	4784.61	-6.279	1.53×10^2
$5p^5 9f$	1D	2	$5p^5 9f$	3F	2	4720.12	-6.291	1.53×10^2
$5p^5 7f$	3G	4	$5p^5 9f$	1F	3	4761.27	-6.286	1.52×10^2
$5p^5 6f$	1D	2	$5p^5 6f$	3F	2	4723.95	-6.315	1.45×10^2
$5p^5 7p$	3S	1	$5p^5 7p$	3P	0	4204.32	-6.417	1.45×10^2
$5p^5 6f$	1F	3	$5p^5 7f$	1F	3	4773.86	-6.308	1.44×10^2

TABLE VII (cont.)

Lower level			Upper level			λ [Å]	$\log(gf)$	gA_{ji} [s ⁻¹]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
5p ⁵ 10p	³ S	1	5p ⁵ 10p	³ P	0	4607.93	-6.34	1.43 × 10 ²
5p ⁵ 8f	³ D	2	5p ⁵ 8f	³ F	2	4658.62	-6.334	1.43 × 10 ²
5p ⁵ 4f	³ G	3	5p ⁵ 4f	³ G	3	6692.95	-6.023	1.41 × 10 ²
5p ⁵ 7f	³ D	2	5p ⁵ 7f	³ F	2	4576.94	-6.357	1.40 × 10 ²
5p ⁵ 8p	³ S	1	5p ⁵ 8p	³ P	0	4434.11	-6.393	1.37 × 10 ²
5p ⁵ 9p	³ S	1	5p ⁵ 9p	³ P	0	4536.18	-6.379	1.35 × 10 ²
5p ⁵ 7f	¹ F	3	5p ⁵ 7f	³ G	3	4846.86	-6.323	1.35 × 10 ²
5p ⁵ 6f	³ D	3	5p ⁵ 7f	³ D	3	4853.96	-6.327	1.33 × 10 ²
5p ⁵ 10f	³ D	3	5p ⁵ 10f	³ G	4	4712.51	-6.356	1.32 × 10 ²
5p ⁵ 8f	³ D	3	5p ⁵ 8f	³ G	4	4716.7	-6.356	1.32 × 10 ²
5p ⁵ 5f	³ D	3	5p ⁵ 5f	³ G	4	4765.1	-6.353	1.30 × 10 ²
5p ⁵ 4f	³ G	3	5p ⁵ 4f	¹ D	2	4605.27	-6.388	1.29 × 10 ²
5p ⁵ 7f	³ F	4	5p ⁵ 7f	³ D	3	4701.19	-6.372	1.28 × 10 ²
5p ⁵ 4f	³ F	4	5p ⁵ 4f	³ F	3	7068.46	-6.037	1.23 × 10 ²
5p ⁵ 7f	¹ F	3	5p ⁵ 7f	³ F	2	4809.89	-6.377	1.21 × 10 ²
5p ⁵ 6f	³ F	4	5p ⁵ 7f	³ D	3	5033.88	-6.342	1.20 × 10 ²
5p ⁵ 6f	³ G	4	5p ⁵ 7f	³ D	3	4837.45	-6.378	1.19 × 10 ²
5p ⁵ 7f	³ G	5	5p ⁵ 9f	³ F	4	4745.21	-6.407	1.16 × 10 ²
5p ⁵ 6f	³ G	3	5p ⁵ 7f	³ G	3	4680.08	-6.42	1.16 × 10 ²
5p ⁵ 5f	¹ D	2	5p ⁵ 5f	³ D	3	4858.39	-6.401	1.12 × 10 ²
5p ⁵ 9f	³ D	3	5p ⁵ 9f	³ G	4	4687.2	-6.438	1.11 × 10 ²
5p ⁵ 4f	³ D	2	5p ⁵ 4f	³ F	3	3956.15	-6.588	1.10 × 10 ²
5p ⁵ 5f	³ D	2	5p ⁵ 5f	³ F	2	4419.98	-6.501	1.08 × 10 ²
5p ⁵ 6f	³ G	3	5p ⁵ 7f	³ F	2	4645.6	-6.483	1.02 × 10 ²
5p ⁵ 6f	³ D	2	5p ⁵ 7f	³ D	3	4802.03	-6.461	1.00 × 10 ²
5p ⁵ 5d	³ F ^o	3	5p ⁵ 5d	³ F ^o	2	4985.55	-5.784	4.41 × 10 ²
5p ⁵ 5d	³ F ^o	2	5p ⁵ 5d	³ F ^o	2	5946.85	-6.153	1.33 × 10 ²
5p ⁵ 6d	³ P ^o	2	5p ⁵ 6d	³ P ^o	2	4640.78	-6.062	2.69 × 10 ²
5p ⁵ 6d	³ D ^o	3	5p ⁵ 6d	³ P ^o	2	5035.97	-6.025	2.49 × 10 ²
5p ⁵ 6d	¹ P ^o	1	5p ⁵ 6d	³ P ^o	2	5899.23	-6.116	1.47 × 10 ²
5p ⁵ 6d	³ F ^o	4	5p ⁵ 6d	³ F ^o	3	4513.22	-5.609	8.05 × 10 ²
5p ⁵ 6d	³ D ^o	3	5p ⁵ 6d	³ F ^o	3	4965.66	-5.933	3.15 × 10 ²
5p ⁵ 6d	³ P ^o	1	5p ⁵ 6d	³ D ^o	1	4011.57	-6.34	1.89 × 10 ²
5p ⁵ 6d	¹ D ^o	2	5p ⁵ 6d	³ D ^o	1	4440.69	-6.308	1.66 × 10 ²
5p ⁵ 7d	³ F ^o	3	5p ⁵ 7d	³ F ^o	2	4762.4	-5.759	5.12 × 10 ²
5p ⁵ 7d	¹ D ^o	2	5p ⁵ 7d	³ F ^o	2	4913.68	-6.362	1.20 × 10 ²
5p ⁵ 7d	³ D ^o	3	5p ⁵ 7d	³ P ^o	2	4918.15	-6.332	1.29 × 10 ²
5p ⁵ 7d	¹ P ^o	1	5p ⁵ 7d	³ P ^o	2	5461.62	-6.177	1.49 × 10 ²
5p ⁵ 7d	³ F ^o	4	5p ⁵ 7d	³ F ^o	3	4665.07	-5.675	6.48 × 10 ²
5p ⁵ 7d	³ D ^o	3	5p ⁵ 7d	³ F ^o	3	4876.13	-6.293	1.43 × 10 ²
5p ⁵ 5g	³ G ^o	3	5p ⁵ 7d	³ F ^o	3	4916.8	-6.368	1.18 × 10 ²
5p ⁵ 5g	³ F ^o	3	5p ⁵ 5g	³ F ^o	4	4638.75	-5.845	4.43 × 10 ²
5p ⁵ 5g	³ F ^o	4	5p ⁵ 5g	³ F ^o	4	4787.65	-5.803	4.58 × 10 ²
5p ⁵ 5g	³ G ^o	5	5p ⁵ 5g	³ F ^o	4	4849.37	-5.951	3.18 × 10 ²
5p ⁵ 5g	¹ H ^o	5	5p ⁵ 5g	³ H ^o	4	4669.59	-5.538	8.86 × 10 ²
5p ⁵ 5g	¹ G ^o	4	5p ⁵ 5g	³ H ^o	4	4832.59	-5.842	4.11 × 10 ²
5p ⁵ 7d	³ P ^o	2	5p ⁵ 5g	³ G ^o	3	4603.48	-6.324	1.49 × 10 ²
5p ⁵ 5g	³ F ^o	2	5p ⁵ 5g	³ G ^o	3	4610.3	-6.182	2.06 × 10 ²
5p ⁵ 7d	³ D ^o	3	5p ⁵ 5g	³ G ^o	3	4766.51	-6.322	1.40 × 10 ²
5p ⁵ 5g	³ G ^o	3	5p ⁵ 5g	³ G ^o	3	4805.37	-6.194	1.85 × 10 ²
5p ⁵ 5g	¹ G ^o	4	5p ⁵ 5g	³ G ^o	3	4831.81	-6.063	2.47 × 10 ²
5p ⁵ 5g	³ H ^o	6	5p ⁵ 5g	³ H ^o	5	4654.89	-5.461	1.07 × 10 ³

TABLE VII (cont.)

Lower level			Upper level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^55g$	$^3F^o$	4	$5p^55g$	$^3H^o$	5	4767.23	-6.215	1.79×10^2
$5p^55g$	$^3G^o$	5	$5p^55g$	$^3H^o$	5	4828.43	-5.75	5.09×10^2
$5p^58s$	$^1P^o$	1	$5p^58s$	$^3P^o$	0	4783.92	-6.26	1.60×10^2
$5p^58s$	$^3P^o$	2	$5p^58s$	$^3P^o$	1	4699.39	-5.922	3.62×10^2
$5p^56g$	$^3F^o$	3	$5p^58d$	$^3F^o$	2	4697.23	-6.337	1.39×10^2
$5p^58d$	$^3F^o$	3	$5p^58d$	$^3F^o$	2	4760.66	-5.981	3.07×10^2
$5p^56g$	$^3F^o$	3	$5p^56g$	$^3F^o$	4	4681.74	-5.915	3.70×10^2
$5p^56g$	$^3F^o$	4	$5p^56g$	$^3F^o$	4	4779.45	-5.836	4.26×10^2
$5p^56g$	$^3G^o$	5	$5p^56g$	$^3F^o$	4	4797.15	-5.953	3.23×10^2
$5p^56g$	$^1H^o$	5	$5p^56g$	$^3H^o$	4	4685.13	-5.531	8.95×10^2
$5p^56g$	$^3G^o$	3	$5p^56g$	$^3H^o$	4	4784.55	-6.418	1.11×10^2
$5p^56g$	$^1G^o$	4	$5p^56g$	$^3H^o$	4	4792.83	-5.866	3.95×10^2
$5p^56g$	$^3H^o$	6	$5p^56g$	$^3H^o$	5	4674.31	-5.449	1.09×10^3
$5p^56g$	$^3F^o$	4	$5p^56g$	$^3H^o$	5	4771.19	-6.266	1.59×10^2
$5p^56g$	$^3G^o$	5	$5p^56g$	$^3H^o$	5	4788.83	-5.773	4.91×10^2
$5p^56g$	$^3F^o$	2	$5p^56g$	$^3G^o$	3	4653.36	-5.927	3.65×10^2
$5p^56g$	$^3G^o$	3	$5p^56g$	$^3G^o$	3	4775.55	-6.069	2.49×10^2
$5p^56g$	$^1G^o$	4	$5p^56g$	$^3G^o$	3	4783.8	-6.068	2.49×10^2
$5p^58d$	$^3D^o$	2	$5p^58d$	$^3P^o$	2	4760.46	-6.368	1.26×10^2
$5p^58d$	$^1D^o$	2	$5p^58d$	$^3P^o$	2	4791.87	-6.332	1.35×10^2
$5p^58d$	$^3D^o$	3	$5p^58d$	$^3P^o$	2	4824.84	-6.106	2.24×10^2
$5p^58d$	$^1P^o$	1	$5p^58d$	$^3P^o$	2	5211.01	-6.247	1.39×10^2
$5p^58d$	$^3F^o$	4	$5p^58d$	$^3F^o$	3	4681.09	-5.728	5.69×10^2
$5p^58d$	$^3D^o$	3	$5p^58d$	$^3F^o$	3	4806.51	-6.094	2.33×10^2
$5p^59s$	$^1P^o$	1	$5p^59s$	$^3P^o$	0	4765.96	-6.317	1.42×10^2
$5p^59s$	$^3P^o$	2	$5p^59s$	$^3P^o$	1	4692.7	-5.846	4.32×10^2
$5p^57g$	$^1H^o$	5	$5p^57g$	$^3H^o$	4	4687.57	-5.506	9.46×10^2
$5p^57g$	$^1G^o$	4	$5p^57g$	$^3H^o$	4	4742.83	-5.823	4.46×10^2
$5p^57g$	$^3F^o$	3	$5p^57g$	$^3F^o$	4	4669.45	-5.753	5.41×10^2
$5p^57g$	$^3F^o$	4	$5p^57g$	$^3F^o$	4	4711.88	-5.864	4.11×10^2
$5p^59d$	$^3F^o$	4	$5p^57g$	$^3F^o$	4	4736.87	-6.31	1.46×10^2
$5p^57g$	$^3G^o$	5	$5p^57g$	$^3F^o$	4	4741.53	-5.89	3.83×10^2
$5p^57g$	$^3H^o$	6	$5p^57g$	$^3H^o$	5	4678.59	-5.43	1.13×10^3
$5p^57g$	$^3F^o$	4	$5p^57g$	$^3H^o$	5	4711.33	-6.316	1.45×10^2
$5p^57g$	$^3G^o$	5	$5p^57g$	$^3H^o$	5	4740.97	-5.726	5.58×10^2
$5p^57g$	$^3F^o$	2	$5p^57g$	$^3G^o$	3	4651.81	-5.86	4.25×10^2
$5p^57g$	$^3G^o$	3	$5p^57g$	$^3G^o$	3	4704.2	-6.121	2.28×10^2
$5p^57g$	$^1G^o$	4	$5p^57g$	$^3G^o$	3	4731.78	-5.996	3.01×10^2
$5p^59d$	$^3F^o$	3	$5p^57g$	$^3G^o$	3	4739.01	-6.315	1.44×10^2
$5p^57g$	$^3G^o$	3	$5p^59d$	$^3F^o$	2	4693.37	-6.091	2.46×10^2
$5p^59d$	$^3F^o$	3	$5p^59d$	$^3F^o$	2	4728.03	-5.923	3.57×10^2
$5p^59d$	$^1D^o$	2	$5p^59d$	$^3F^o$	2	4758.94	-6.315	1.43×10^2
$5p^59d$	$^3P^o$	2	$5p^59d$	$^3P^o$	2	4701.34	-6.132	2.23×10^2
$5p^59d$	$^1D^o$	2	$5p^59d$	$^3P^o$	2	4735.97	-6.424	1.12×10^2
$5p^59d$	$^3D^o$	3	$5p^59d$	$^3P^o$	2	4761.25	-6.057	2.58×10^2
$5p^59d$	$^1P^o$	1	$5p^59d$	$^3P^o$	2	4900.82	-6.166	1.90×10^2
$5p^57g$	$^3F^o$	4	$5p^59d$	$^3F^o$	3	4656.63	-6.21	1.90×10^2
$5p^59d$	$^3F^o$	4	$5p^59d$	$^3F^o$	3	4681.03	-5.721	5.79×10^2
$5p^59d$	$^3D^o$	3	$5p^59d$	$^3F^o$	3	4746.49	-5.983	3.08×10^2
$5p^57i$	$^1K^o$	7	$5p^57i$	$^3K^o$	6	4697.4	-5.37	1.29×10^3
$5p^57i$	$^3I^o$	5	$5p^57i$	$^3K^o$	6	4711.69	-6.057	2.64×10^2
$5p^57i$	$^1I^o$	6	$5p^57i$	$^3K^o$	6	4716.04	-5.646	6.77×10^2

TABLE VII (cont.)

Lower level			Upper level			λ [Å]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^5 7i$	$^3H^o$	4	$5p^5 7i$	$^3I^o$	5	4693.21	-5.588	7.82×10^2
$5p^5 7i$	$^3K^o$	8	$5p^5 7i$	$^3K^o$	7	4697.4	-5.311	1.48×10^3
$5p^5 7i$	$^3I^o$	5	$5p^5 7i$	$^3I^o$	5	4711.56	-5.65	6.73×10^2
$5p^5 7i$	$^3H^o$	6	$5p^5 7i$	$^3K^o$	7	4711.68	-5.982	3.14×10^2
$5p^5 7i$	$^1I^o$	6	$5p^5 7i$	$^3I^o$	5	4715.9	-5.847	4.26×10^2
$5p^5 7i$	$^3I^o$	7	$5p^5 7i$	$^3K^o$	7	4716.03	-5.579	7.91×10^2
$5p^5 7i$	$^3H^o$	5	$5p^5 7i$	$^3H^o$	6	4693.24	-5.508	9.39×10^2
$5p^5 7i$	$^3H^o$	6	$5p^5 7i$	$^3H^o$	6	4711.56	-5.58	7.91×10^2
$5p^5 7i$	$^3I^o$	7	$5p^5 7i$	$^3H^o$	6	4715.91	-5.784	4.93×10^2
$5p^5 9d$	$^3P^o$	1	$5p^5 9d$	$^3D^o$	1	4571.83	-6.248	1.80×10^2
$5p^5 9d$	$^1D^o$	2	$5p^5 9d$	$^3D^o$	1	4647.9	-6.343	1.40×10^2
$5p^5 10s$	$^1P^o$	1	$5p^5 10s$	$^3P^o$	0	4731.72	-6.255	1.66×10^2
$5p^5 10s$	$^3P^o$	2	$5p^5 10s$	$^3P^o$	1	4697.64	-5.844	4.33×10^2
$5p^5 8g$	$^1H^o$	5	$5p^5 8g$	$^3H^o$	4	4695.28	-5.508	9.38×10^2
$5p^5 8g$	$^3G^o$	3	$5p^5 8g$	$^3H^o$	4	4729.87	-6.415	1.15×10^2
$5p^5 8g$	$^1G^o$	4	$5p^5 8g$	$^3H^o$	4	4739.23	-5.842	4.27×10^2
$5p^5 8d$	$^3F^o$	3	$5p^5 8g$	$^3F^o$	4	4612.92	-6.483	1.03×10^2
$5p^5 8g$	$^3F^o$	3	$5p^5 8g$	$^3F^o$	4	4699.6	-5.848	4.28×10^2
$5p^5 8g$	$^3F^o$	4	$5p^5 8g$	$^3F^o$	4	4727.77	-5.866	4.07×10^2
$5p^5 8g$	$^3G^o$	5	$5p^5 8g$	$^3F^o$	4	4738.03	-5.907	3.68×10^2
$5p^5 10d$	$^3F^o$	4	$5p^5 8g$	$^3F^o$	4	4739	-6.466	1.02×10^2
$5p^5 8g$	$^3H^o$	6	$5p^5 8g$	$^3H^o$	5	4689.02	-5.429	1.13×10^3
$5p^5 8g$	$^3F^o$	4	$5p^5 8g$	$^3H^o$	5	4726.86	-6.318	1.43×10^2
$5p^5 8g$	$^3G^o$	5	$5p^5 8g$	$^3H^o$	5	4737.11	-5.747	5.33×10^2
$5p^5 8g$	$^3F^o$	2	$5p^5 8g$	$^3G^o$	3	4676.41	-5.875	4.07×10^2
$5p^5 8g$	$^3G^o$	3	$5p^5 8g$	$^3G^o$	3	4721.04	-5.98	3.14×10^2
$5p^5 8g$	$^1G^o$	4	$5p^5 8g$	$^3G^o$	3	4730.37	-6.013	2.90×10^2
$5p^5 10d$	$^3F^o$	3	$5p^5 10d$	$^3F^o$	2	4728.01	-5.855	4.16×10^2
$5p^5 10d$	$^3D^o$	2	$5p^5 10d$	$^3F^o$	2	4738.14	-6.398	1.19×10^2
$5p^5 10d$	$^3D^o$	2	$5p^5 10d$	$^3P^o$	2	4722.03	-6.418	1.14×10^2
$5p^5 10d$	$^1D^o$	2	$5p^5 10d$	$^3P^o$	2	4733.41	-6.198	1.89×10^2
$5p^5 10d$	$^3D^o$	3	$5p^5 10d$	$^3P^o$	2	4746.44	-6.054	2.62×10^2
$5p^5 7d$	$^1P^o$	1	$5p^5 10d$	$^3P^o$	2	4924.89	-6.248	1.56×10^2
$5p^5 8g$	$^3F^o$	4	$5p^5 10d$	$^3F^o$	3	4677.71	-6.367	1.31×10^2
$5p^5 10d$	$^3F^o$	4	$5p^5 10d$	$^3F^o$	3	4688.71	-5.677	6.38×10^2
$5p^5 10d$	$^3D^o$	3	$5p^5 10d$	$^3F^o$	3	4736.52	-5.968	3.20×10^2
$5p^5 8i$	$^1K^o$	7	$5p^5 8i$	$^3K^o$	6	4699.89	-5.37	1.29×10^3
$5p^5 8i$	$^3I^o$	5	$5p^5 8i$	$^3K^o$	6	4709.5	-6.058	2.63×10^2
$5p^5 8i$	$^1I^o$	6	$5p^5 8i$	$^3K^o$	6	4712.41	-5.648	6.76×10^2
$5p^5 8i$	$^3H^o$	4	$5p^5 8i$	$^3I^o$	5	4697.11	-5.588	7.81×10^2
$5p^5 8i$	$^3I^o$	5	$5p^5 8i$	$^3I^o$	5	4709.4	-5.65	6.73×10^2
$5p^5 8i$	$^1I^o$	6	$5p^5 8i$	$^3I^o$	5	4712.32	-5.848	4.26×10^2
$5p^5 8i$	$^3K^o$	8	$5p^5 8i$	$^3K^o$	7	4699.88	-5.311	1.48×10^3
$5p^5 8i$	$^3H^o$	6	$5p^5 8i$	$^3K^o$	7	4709.48	-5.982	3.13×10^2
$5p^5 8i$	$^3I^o$	7	$5p^5 8i$	$^3K^o$	7	4712.41	-5.579	7.92×10^2
$5p^5 8i$	$^3H^o$	5	$5p^5 8i$	$^3H^o$	6	4697.13	-5.508	9.38×10^2
$5p^5 8i$	$^3H^o$	6	$5p^5 8i$	$^3H^o$	6	4709.4	-5.581	7.90×10^2
$5p^5 8i$	$^3I^o$	7	$5p^5 8i$	$^3H^o$	6	4712.33	-5.785	4.93×10^2
$5p^5 10d$	$^3P^o$	1	$5p^5 10d$	$^3D^o$	1	4648.33	-6.306	1.53×10^2
$5p^5 10d$	$^3D^o$	2	$5p^5 10d$	$^3D^o$	1	4662.08	-6.386	1.26×10^2
$5p^5 9g$	$^1H^o$	5	$5p^5 9g$	$^3H^o$	4	4698.16	-5.504	9.46×10^2
$5p^5 9g$	$^3G^o$	3	$5p^5 9g$	$^3H^o$	4	4719.69	-6.307	1.48×10^2

TABLE VII (cont.)

Lower level			Upper level			λ [\AA]	$\log(gf)$	gA_{ji} [s^{-1}]
Conf.	Term	J	Conf.	Term	J	HFR	HFR	HFR
$5p^5 9g$	$^1G^o$	4	$5p^5 9g$	$^3H^o$	4	4724.16	-5.824	4.48×10^2
$5p^5 9g$	$^3F^o$	3	$5p^5 9g$	$^3F^o$	4	4691.71	-5.765	5.21×10^2
$5p^5 9g$	$^3F^o$	4	$5p^5 9g$	$^3F^o$	4	4713.39	-5.73	5.59×10^2
$5p^5 9g$	$^3G^o$	5	$5p^5 9g$	$^3F^o$	4	4724.1	-5.891	3.85×10^2
$5p^5 9g$	$^3H^o$	6	$5p^5 9g$	$^3H^o$	5	4693.21	-5.428	1.13×10^3
$5p^5 9g$	$^3F^o$	4	$5p^5 9g$	$^3H^o$	5	4712.35	-6.183	1.97×10^2
$5p^5 9g$	$^3G^o$	5	$5p^5 9g$	$^3H^o$	5	4723.06	-5.726	5.62×10^2
$5p^5 9g$	$^3F^o$	2	$5p^5 9g$	$^3G^o$	3	4680.49	-5.845	4.35×10^2
$5p^5 9g$	$^3G^o$	3	$5p^5 9g$	$^3G^o$	3	4713.33	-5.903	3.76×10^2
$5p^5 9g$	$^1G^o$	4	$5p^5 9g$	$^3G^o$	3	4717.79	-5.989	3.08×10^2
$5p^5 9i$	$^1K^o$	7	$5p^5 9i$	$^3K^o$	6	4701.4	-5.37	1.29×10^3
$5p^5 9i$	$^3I^o$	5	$5p^5 9i$	$^3K^o$	6	4708.15	-6.06	2.62×10^2
$5p^5 9i$	$^1I^o$	6	$5p^5 9i$	$^3K^o$	6	4710.22	-5.649	6.75×10^2
$5p^5 9i$	$^3H^o$	4	$5p^5 9i$	$^3I^o$	5	4699.44	-5.587	7.81×10^2
$5p^5 9i$	$^3I^o$	5	$5p^5 9i$	$^3I^o$	5	4708.09	-5.65	6.73×10^2
$5p^5 9i$	$^1I^o$	6	$5p^5 9i$	$^3I^o$	5	4710.16	-5.849	4.26×10^2
$5p^5 9i$	$^3K^o$	8	$5p^5 9i$	$^3K^o$	7	4701.39	-5.311	1.48×10^3
$5p^5 9i$	$^3H^o$	6	$5p^5 9i$	$^3K^o$	7	4708.14	-5.983	3.13×10^2
$5p^5 9i$	$^3I^o$	7	$5p^5 9i$	$^3K^o$	7	4710.21	-5.579	7.92×10^2
$5p^5 9i$	$^3H^o$	5	$5p^5 9i$	$^3H^o$	6	4699.45	-5.508	9.37×10^2
$5p^5 9i$	$^3H^o$	6	$5p^5 9i$	$^3H^o$	6	4708.08	-5.582	7.88×10^2
$5p^5 9i$	$^3I^o$	7	$5p^5 9i$	$^3H^o$	6	4710.16	-5.786	4.92×10^2
$5p^5 10g$	$^1H^o$	5	$5p^5 10g$	$^3H^o$	4	4700.21	-5.503	9.47×10^2
$5p^5 10g$	$^3G^o$	3	$5p^5 10g$	$^3H^o$	4	4715.29	-6.313	1.46×10^2
$5p^5 10g$	$^1G^o$	4	$5p^5 10g$	$^3H^o$	4	4718.54	-5.825	4.48×10^2
$5p^5 10g$	$^3F^o$	3	$5p^5 10g$	$^3F^o$	4	4695	-5.769	5.15×10^2
$5p^5 10g$	$^3F^o$	4	$5p^5 10g$	$^3F^o$	4	4710.12	-5.731	5.58×10^2
$5p^5 10g$	$^3G^o$	5	$5p^5 10g$	$^3F^o$	4	4718.69	-5.892	3.84×10^2
$5p^5 10g$	$^3H^o$	6	$5p^5 10g$	$^3H^o$	5	4696.45	-5.428	1.13×10^3
$5p^5 10g$	$^3F^o$	4	$5p^5 10g$	$^3H^o$	5	4709.24	-6.184	1.97×10^2
$5p^5 10g$	$^3G^o$	5	$5p^5 10g$	$^3H^o$	5	4717.8	-5.726	5.63×10^2
$5p^5 10g$	$^3F^o$	2	$5p^5 10g$	$^3G^o$	3	4687.01	-5.844	4.35×10^2
$5p^5 10g$	$^3G^o$	3	$5p^5 10g$	$^3G^o$	3	4710.52	-5.908	3.72×10^2
$5p^5 10g$	$^1G^o$	4	$5p^5 10g$	$^3G^o$	3	4713.76	-5.989	3.08×10^2
$5p^5 10i$	$^1K^o$	7	$5p^5 10i$	$^3K^o$	6	4702.36	-5.369	1.29×10^3
$5p^5 10i$	$^3I^o$	5	$5p^5 10i$	$^3K^o$	6	4707.28	-6.049	2.69×10^2
$5p^5 10i$	$^1I^o$	6	$5p^5 10i$	$^3K^o$	6	4708.8	-5.642	6.86×10^2
$5p^5 10i$	$^3K^o$	8	$5p^5 10i$	$^3K^o$	7	4702.36	-5.311	1.48×10^3
$5p^5 10i$	$^3H^o$	6	$5p^5 10i$	$^3K^o$	7	4707.28	-5.981	3.14×10^2
$5p^5 10i$	$^3I^o$	7	$5p^5 10i$	$^3K^o$	7	4708.8	-5.579	7.92×10^2
$5p^5 10i$	$^3H^o$	5	$5p^5 10i$	$^3H^o$	6	4700.96	-5.507	9.40×10^2
$5p^5 10i$	$^3H^o$	4	$5p^5 10i$	$^3I^o$	5	4700.95	-5.587	7.81×10^2
$5p^5 10i$	$^3H^o$	6	$5p^5 10i$	$^3H^o$	6	4707.23	-5.576	7.99×10^2
$5p^5 10i$	$^3I^o$	5	$5p^5 10i$	$^3I^o$	5	4707.23	-5.65	6.74×10^2
$5p^5 10i$	$^3I^o$	7	$5p^5 10i$	$^3H^o$	6	4708.76	-5.779	5.00×10^2
$5p^5 10i$	$^1I^o$	6	$5p^5 10i$	$^3I^o$	5	4708.75	-5.847	4.28×10^2

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