SUPPLEMENT

Relativistic Atomic Calculations of Spectral Parameters of Be-Like Tungsten Ion — Supplement

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topics: electric dipole transitions, forbidden transitions, oscillator strengths, transition rates

TABLE SI

Transition energy (ΔE [eV]), wavelength (λ [Å]), radiative transition rates (A_r [s^{-1}]) and weighted oscillator strengths (gf_{ij}) for strong electric-quadrupole transitions (E2) of Be-like tungsten ion calculated by RCI method of FAC.

Upper state	J_{up}	Lower state	J_{low}	ΔE [eV]	gf_{ij}	A_r [s^{-1}]	λ [Å]
$2s_{1/2}3s_{1/2}$	0	$2p_{1/2}2p_{3/2}$	2	9078.3	1.788×10^{-5}	6.3935×10^{10}	1.3659
$2p_{3/2}3p_{1/2}$	2	$2p^2_{3/2}$	0	9285.5	8.232×10^{-4}	6.1593×10^{11}	1.3354
$2p_{1/2}3p_{1/2}$	1	$2p_{1/2}2p_{3/2}$	2	9306.9	1.259×10^{-3}	1.5774×10^{12}	1.3324
$2s_{1/2}3p_{1/2}$	1	$2s_{1/2}2p_{3/2}$	1	9321.8	1.224×10^{-3}	1.5380×10^{12}	1.3302
$2p_{1/2}3p_{1/2}$	1	$2p_{1/2}2p_{3/2}$	1	9325.1	1.264×10^{-3}	1.5893×10^{12}	1.3297
$2p_{3/2}3p_{1/2}$	1	$2p^2_{3/2}$	2	9353.0	1.294×10^{-3}	1.6373×10^{12}	1.3258
$2p_{3/2}3p_{1/2}$	2	$2p^2_{3/2}$	2	9354.5	2.958×10^{-3}	2.2461×10^{12}	1.3256
$2p_{1/2}3p_{1/2}$	0	$2p_{1/2}2p_{3/2}$	2	9363.0	8.240×10^{-4}	3.1346×10^{12}	1.3244
$2s_{1/2}3p_{1/2}$	1	$2s_{1/2}2p_{3/2}$	2	9412.8	1.308×10^{-3}	1.6759×10^{12}	1.3174
$2s_{1/2}3p_{1/2}$	0	$2s_{1/2}2p_{3/2}$	2	9412.9	8.752×10^{-4}	3.3650×10^{12}	1.3173
$2s_{1/2}4s_{1/2}$	0	$2p_{1/2}2p_{3/2}$	2	12810.3	1.164×10^{-5}	8.2901×10^{10}	0.9680
$2p_{3/2}4p_{1/2}$	2	$2p^2_{3/2}$	0	12986.6	1.688×10^{-4}	2.4712×10^{11}	0.9548
$2p_{1/2}4p_{1/2}$	1	$2p_{1/2}2p_{3/2}$	2	13016.9	1.713×10^{-4}	4.1993×10^{11}	0.9526
$2s_{1/2}4p_{1/2}$	1	$2S_{1/2}2p_{3/2}$	1	13028.0	2.428×10^{-4}	5.9598×10^{11}	0.9518
$2s_{1/2}5s_{1/2}$	0	$2p^2_{3/2}$	2	13029.9	9.172×10^{-6}	6.7568×10^{10}	0.9517
$2s_{1/2}6s_{1/2}$	0	$2p^2_{3/2}$	2	13935.7	9.703×10^{-6}	8.1765×10^{10}	0.8898
$2s_{1/2}6d_{5/2}$	2	$2p^2_{3/2}$	2	14016.7	8.361×10^{-6}	1.4255×10^{10}	0.8847
$2s_{1/2}4d_{3/2}$	2	$2p^2_{1/2}$	0	14483.1	1.783×10^{-5}	3.2450×10^{10}	0.8562
$2s_{1/2}5s_{1/2}$	0	$2p_{1/2}2p_{3/2}$	2	14504.6	1.725×10^{-5}	1.5750×10^{11}	0.8549
$2s_{1/2}4d_{5/2}$	2	$2p^2_{1/2}$	0	14537.3	1.986×10^{-5}	3.6425×10^{10}	0.8530
$2s_{1/2}6g_{7/2}$	4	$2p_{1/2}2p_{3/2}$	2	15500.3	8.890×10^{-6}	1.0298×10^{10}	0.8000
$2s_{1/2}6g_{9/2}$	4	$2p_{1/2}2p_{3/2}$	2	15504.6	9.246×10^{-6}	1.0716×10^{10}	0.7998
$2p_{3/2}6p_{1/2}$	2	$2p^2_{3/2}$	0	15571.3	4.602×10^{-5}	9.6830×10^{10}	0.7963
$2p_{1/2}6p_{1/2}$	1	$2p_{1/2}2p_{3/2}$	2	15610.4	6.456×10^{-5}	2.2756×10^{11}	0.7943
$2s_{1/2}6p_{1/2}$	1	$2s_{1/2}2p_{3/2}$	1	15614.2	5.584×10^{-5}	1.9690×10^{11}	0.7941
$2p_{3/2}5s_{1/2}$	1	$2s_{1/2}2p_{1/2}$	1	17935.8	2.357×10^{-6}	1.0966×10^{10}	0.6914

TABLE SII

Transition energy (ΔE [eV]), wavelength (λ [Å]), radiative transition rates (A_r [s^{-1}]) and weighted oscillator strengths (gf_{ij}) for strong electric-octupole transitions (E3) of Be-like tungsten ion calculated by RCI method of FAC.

Upper state	J_{up}	Lower state	J_{low}	ΔE [eV]	gf_{ij}	A_r [s^{-1}]	λ [Å]
$2p_{3/2}3d_{3/2}$	3	$2p^2_{3/2}$	0	9759.5	5.746×10^{-6}	3.3924×10^{9}	1.2706
$2p_{1/2}3d_{3/2}$	2	$2p_{1/2}2p_{3/2}$	2	9785.8	6.993×10^{-6}	5.8116×10^{9}	1.2671
$2s_{1/2}3d_{3/2}$	2	$2s_{1/2}2p_{3/2}$	1	9798.5	9.169×10^{-6}	7.6399×10^{9}	1.2655
$2p_{1/2}3d_{3/2}$	2	$2p_{1/2}2p_{3/2}$	1	9804.0	1.059×10^{-5}	8.8323×10^{9}	1.2648
$2p_{1/2}3d_{3/2}$	1	$2p_{1/2}2p_{3/2}$	2	9813.2	1.052×10^{-5}	1.4649×10^{10}	1.2636
$2p_{3/2}3d_{3/2}$	2	$2p^2_{3/2}$	2	9819.8	1.490×10^{-5}	1.2465×10^{10}	1.2628
$2p_{3/2}3d_{3/2}$	3	$2p^2_{3/2}$	2	9828.6	1.751×10^{-5}	1.0483×10^{10}	1.2616
$2p_{3/2}3d_{3/2}$	1	$2p^2_{3/2}$	2	9832.9	3.849×10^{-6}	5.3833×10^{9}	1.2611
$2s_{1/2}3d_{3/2}$	1	$2s_{1/2}2p_{3/2}$	2	9884.2	1.076×10^{-5}	1.5210×10^{10}	1.2545
$2s_{1/2}3d_{3/2}$	2	$2s_{1/2}2p_{3/2}$	2	9889.6	8.352×10^{-6}	7.0893×10^{9}	1.2538
$2s_{1/2}4p_{1/2}$	1	$2p_{1/2}2p_{3/2}$	2	12830.7	1.150×10^{-7}	2.7376×10^{8}	0.9664
$2p_{1/2}4s_{1/2}$	1	$2p_{1/2}2p_{3/2}$	2	12995.5	7.312×10^{-8}	1.7861×10^{8}	0.9542
$2s_{1/2}4p_{3/2}$	1	$2p_{1/2}2p_{3/2}$	2	13020.8	1.953×10^{-7}	4.7902×10^{8}	0.9523
$2s_{1/2}5p_{1/2}$	1	$2p^2_{3/2}$	2	13040.3	4.416×10^{-7}	1.0861×10^{9}	0.9509
$2s_{1/2}4f_{7/2}$	3	$2p_{1/2}2p_{3/2}$	2	13111.7	1.164×10^{-7}	1.2399×10^{8}	0.9457
$2s_{1/2}6p_{1/2}$	1	$2p^2_{3/2}$	2	13942.2	1.406×10^{-6}	3.9533×10^{9}	0.8894
$2s_{1/2}6f_{5/2}$	3	$2p^2_{3/2}$	0	13948.8	3.216×10^{-7}	3.8791×10^{8}	0.8890
$2s_{1/2}6f_{7/2}$	3	$2p^2_{3/2}$	0	13956.2	4.883×10^{-7}	5.8952×10^{8}	0.8885
$2s_{1/2}6p_{3/2}$	1	$2p^2_{3/2}$	2	13996.4	2.747×10^{-6}	7.7840×10^{9}	0.8859
$2s_{1/2}6f_{5/2}$	3	$2p^2_{3/2}$	2	14018.0	1.418×10^{-6}	1.7277×10^{9}	0.8846
$2s_{1/2}6f_{7/2}$	3	$2p_{1/2}2p_{3/2}$	2	15500.2	3.981×10^{-6}	5.9285×10^{9}	0.8000
$2s_{1/2}6h_{9/2}$	5	$2p_{1/2}2p_{3/2}$	2	15504.6	1.265×10^{-6}	1.1996×10^{9}	0.7998
$2s_{1/2}6h_{11/2}$	5	$2p_{1/2}2p_{3/2}$	2	15507.4	1.287×10^{-6}	1.2209×10^{9}	0.7996
$2p_{1/2}6s_{1/2}$	1	$2p_{1/2}2p_{3/2}$	2	15603.9	9.069×10^{-8}	3.1940×10^{8}	0.7947
$2p_{3/2}6d_{3/2}$	3	$2p^2_{3/2}$	0	15630.1	1.128×10^{-6}	1.7081×10^{9}	0.7933
$2p_{3/2}5d_{3/2}$	3	$2p^2_{1/2}$	0	17768.4	6.328×10^{-8}	1.2384×10^{8}	0.6979
$2p_{3/2}5d_{5/2}$	3	$2p^2_{1/2}$	0	17796.0	5.570×10^{-8}	1.0935×10^{8}	0.6968
$2p_{3/2}5p_{1/2}$	2	$2s_{1/2}2p_{1/2}$	1	17948.8	2.333×10^{-7}	6.5221×10^{8}	0.6909
$2p_{3/2}5p_{3/2}$	3	$2s_{1/2}2p_{1/2}$	1	18039.2	3.110×10^{-7}	6.2733×10^{8}	0.6874
$2p_{3/2}5p_{3/2}$	2	$2s_{1/2}2p_{1/2}$	1	18043.7	5.946×10^{-7}	1.6800×10^{9}	0.6872

TABLE SIII

Transition energy (ΔE [eV]), wavelength (λ [Å]), radiative transition rates (A_r [s^{-1}]) and weighted oscillator strengths (gf_{ij}) for strong magnetic-dipole transitions (M1) of Be-like tungsten ion calculated by RCI method of FAC.

Upper state	J_{up}	Lower state	J_{low}	ΔE [eV]	gf_{ij}	A_r [s^{-1}]	λ [Å]
$2s_{1/2}3s_{1/2}$	0	$2p_{1/2}2p_{3/2}$	1	9096.5	1.638×10^{-7}	5.8810×10^{8}	1.3632
$2p_{3/2}3p_{1/2}$	1	$2p_{3/2}^2$	0	9284.0	1.579×10^{-5}	1.9680×10^{10}	1.3356
$2p_{1/2}3p_{1/2}$	1	$2p_{1/2}2p_{3/2}$	2	9306.9	4.065×10^{-5}	5.0933×10^{10}	1.3324
$2s_{1/2}3p_{1/2}$	1	$2s_{1/2}2p_{3/2}$	1	9321.8	7.820×10^{-6}	9.8285×10^{9}	1.3302
$2s_{1/2}3p_{1/2}$	0	$2s_{1/2}2p_{3/2}$	1	9321.9	1.641×10^{-5}	6.1892×10^{10}	1.3302
$2p_{1/2}3p_{1/2}$	1	$2p_{1/2}2p_{3/2}$	1	9325.1	8.116×10^{-6}	1.0208×10^{10}	1.3297
$2p_{3/2}3p_{1/2}$	1	$2p_{3/2}^2$	2	9353.0	4.086×10^{-5}	5.1695×10^{10}	1.3258
$2p_{3/2}3p_{1/2}$	2	$2p_{3/2}^2$	2	9354.5	4.077×10^{-5}	3.0963×10^{10}	1.3256
$2p_{1/2}3p_{1/2}$	0	$2p_{1/2}2p_{3/2}$	1	9381.2	1.549×10^{-5}	5.9142×10^{10}	1.3218
$2s_{1/2}3p_{1/2}$	1	$2s_{1/2}2p_{3/2}$	2	9412.8	4.014×10^{-5}	5.1445×10^{10}	1.3174
$2p_{3/2}4p_{1/2}$	1	$2p_{3/2}^2$	0	12986.3	4.624×10^{-6}	1.1279×10^{10}	0.9549
$2p_{1/2}4p_{1/2}$	1	$2p_{1/2}2p_{3/2}$	2	13016.9	7.895×10^{-6}	1.9348×10^{10}	0.9526
$2s_{1/2}4p_{1/2}$	0	$2s_{1/2}2p_{3/2}$	1	13027.8	4.833×10^{-6}	3.5590×10^{10}	0.9518
$2s_{1/2}4p_{1/2}$	1	$2s_{1/2}2p_{3/2}$	1	13028.0	2.311×10^{-6}	5.6745×10^{9}	0.9518
$2s_{1/2}4d_{3/2}$	1	$2p_{1/2}2p_{3/2}$	2	13031.6	4.007×10^{-6}	9.8412×10^{9}	0.9515
$2s_{1/2}4s_{1/2}$	1	$2p_{1/2}^2$	0	14253.0	5.004×10^{-8}	1.4704×10^{8}	0.8700
$2p_{1/2}4p_{1/2}$	1	$2p_{1/2}^2$	0	14471.2	3.659×10^{-7}	1.1082×10^{9}	0.8569
$2s_{1/2}4d_{3/2}$	1	$2p_{1/2}^2$	0	14485.9	1.576×10^{-7}	4.7841×10^{8}	0.8560
$2p_{3/2}4p_{1/2}$	1	$2p_{1/2}2p_{3/2}$	2	14530.3	6.093×10^{-7}	1.8607×10^{9}	0.8534
$2p_{3/2}4p_{1/2}$	2	$2p_{1/2}2p_{3/2}$	2	14530.7	7.329×10^{-7}	1.3430×10^{9}	0.8534
$2p_{3/2}6p_{1/2}$	1	$2p_{3/2}^2$	0	15571.0	1.047×10^{-6}	3.6726×10^{9}	0.7964
$2p_{1/2}6p_{1/2}$	1	$2p_{1/2}2p_{3/2}$	2	15610.4	2.707×10^{-6}	9.5405×10^{9}	0.7943
$2s_{1/2}6p_{1/2}$	0	$2s_{1/2}2p_{3/2}$	1	15613.8	1.124×10^{-6}	1.1894×10^{10}	0.7942
$2s_{1/2}6p_{1/2}$	1	$2s_{1/2}2p_{3/2}$	1	15614.2	5.431×10^{-7}	1.9151×10^{9}	0.7941
$2p_{3/2}6p_{3/2}$	1	$2p_{3/2}^2$	0	15623.9	5.814×10^{-7}	2.0529×10^{9}	0.7937

TABLE SIV

Transition energy (ΔE [eV]), wavelength (λ [Å]), radiative transition rates (A_r [s^{-1}]) and weighted oscillator strengths (gf_{ij}) for strong magnetic-quadrupole transitions (M2) of Be-like tungsten ion calculated by RCI method of FAC.

Upper state	J_{up}	Lower state	J_{low}	ΔE [eV]	gf_{ij}	A_r [s^{-1}]	λ [Å]
$2p_{3/2}3s_{1/2}$	2	$2p^2_{3/2}$	0	9212.4	3.612×10^{-6}	2.6603×10^{9}	1.3460
$2s_{1/2}3s_{1/2}$	1	$2s_{1/2}2p_{3/2}$	1	9240.8	5.824×10^{-6}	7.1928×10^{9}	1.3419
$2p_{1/2}3s_{1/2}$	0	$2p_{1/2}2p_{3/2}$	2	9257.9	4.040×10^{-6}	1.5024×10^{10}	1.3394
$2p_{1/2}3s_{1/2}$	1	$2p_{1/2}2p_{3/2}$	2	9260.0	6.055×10^{-6}	7.5093×10^{9}	1.3391
$2p_{1/2}3s_{1/2}$	1	$2p_{1/2}2p_{3/2}$	1	9278.2	6.018×10^{-6}	7.4936×10^{9}	1.3365
$2p_{3/2}3s_{1/2}$	2	$2p^2_{3/2}$	2	9281.5	1.514×10^{-5}	1.1316×10^{10}	1.3360
$2p_{3/2}3s_{1/2}$	1	$2p^2_{3/2}$	2	9291.8	5.739×10^{-6}	7.1669×10^{9}	1.3345
$2s_{1/2}3s_{1/2}$	1	$2s_{1/2}2p_{3/2}$	2	9331.8	6.256×10^{-6}	7.8799×10^{9}	1.3288
$2s_{1/2}3s_{1/2}$	0	$2s_{1/2}2p_{3/2}$	2	9366.5	4.284×10^{-6}	1.6307×10^{10}	1.3239
$2p_{3/2}3d_{5/2}$	2	$2p^2_{3/2}$	0	9872.0	1.030×10^{-4}	8.7096×10^{10}	1.2561
$2p_{3/2}4s_{1/2}$	2	$2p^2_{3/2}$	0	12957.4	1.507×10^{-6}	2.1958×10^{9}	0.9570
$2p_{1/2}4s_{1/2}$	1	$2p_{1/2}2p_{3/2}$	2	12995.5	2.076×10^{-6}	5.0722×10^{9}	0.9542
$2s_{1/2}4s_{1/2}$	1	$2s_{1/2}2p_{3/2}$	1	12996.0	2.320×10^{-6}	5.6678×10^{9}	0.9541
$2p_{1/2}4s_{1/2}$	0	$2p_{1/2}2p_{3/2}$	2	12999.9	1.635×10^{-6}	1.1992×10^{10}	0.9539
$2p_{1/2}4s_{1/2}$	1	$2p_{1/2}2p_{3/2}$	1	13013.9	1.931×10^{-6}	4.7294×10^{9}	0.9528
$2p_{3/2}5s_{1/2}$	2	$2p^2_{3/2}$	0	14655.3	7.596×10^{-7}	1.4159×10^{9}	0.8461
$2p_{1/2}4d_{3/2}$	2	$2p^2_{1/2}$	0	14674.2	1.397×10^{-6}	2.6099×10^{9}	0.8450
$2s_{1/2}5s_{1/2}$	1	$2s_{1/2}2p_{3/2}$	1	14696.5	1.149×10^{-6}	3.5911×10^{9}	0.8437
$2p_{1/2}5s_{1/2}$	0	$2p_{1/2}2p_{3/2}$	2	14696.6	8.183×10^{-7}	7.6694×10^{9}	0.8437
$2p_{1/2}5s_{1/2}$	1	$2p_{1/2}2p_{3/2}$	2	14697.3	1.203×10^{-6}	3.7584×10^{9}	0.8437
$2p_{1/2}6s_{1/2}$	0	$2p_{1/2}2p_{3/2}$	2	15603.4	4.449×10^{-7}	4.7003×10^{9}	0.7947
$2p_{1/2}6s_{1/2}$	1	$2p_{1/2}2p_{3/2}$	2	15603.9	6.544×10^{-7}	2.3045×10^{9}	0.7947
$2s_{1/2}6s_{1/2}$	1	$2s_{1/2}2p_{3/2}$	1	15604.9	6.319×10^{-7}	2.2256×10^{9}	0.7946
$2p_{1/2}6s_{1/2}$	1	$2p_{1/2}2p_{3/2}$	1	15622.3	6.617×10^{-7}	2.3358×10^{9}	0.7937
$2p_{3/2}6s_{1/2}$	2	$2p^2_{3/2}$	2	15631.9	1.590×10^{-6}	3.3717×10^{9}	0.7932
$2p_{3/2}6p_{3/2}$	3	$2s_{1/2}2p_{1/2}$	1	18902.9	2.028×10^{-5}	4.4924×10^{10}	0.6560
$2p_{3/2}6p_{3/2}$	1	$2s_{1/2}2p_{1/2}$	1	18902.9	2.191×10^{-5}	1.1323×10^{11}	0.6560
$2p_{3/2}6p_{3/2}$	2	$2s_{1/2}2p_{1/2}$	1	18905.1	2.739×10^{-5}	8.4954×10^{10}	0.6559
$2p_{3/2}6p_{3/2}$	2	$2s_{1/2}2p_{1/2}$	0	18939.2	2.522×10^{-5}	7.8499×10^{10}	0.6547

TABLE SV

Transition energy (ΔE [eV]), wavelength (λ [Å]), radiative transition rates (A_r [s^{-1}]) and weighted oscillator strengths (gf_{ij}) for strong magnetic-octupole transitions (M3) of Be-like tungsten ion calculated by RCI method of FAC.

Upper state	J_{up}	Lower state	J_{low}	ΔE [eV]	gf_{ij}	A_r [s^{-1}]	λ [Å]
$2p_{3/2}3p_{3/2}$	3	$2p^2_{3/2}$	0	9704.6	1.102×10^{-7}	6.4314×10^{7}	1.2777
$2s_{1/2}3d_{5/2}$	2	$2p_{1/2}2p_{3/2}$	1	9746.0	1.571×10^{-8}	1.2953×10^{7}	1.2723
$2s_{1/2}3p_{3/2}$	2	$2s_{1/2}2p_{3/2}$	1	9758.5	1.637×10^{-7}	1.3526×10^{8}	1.2707
$2p_{1/2}3p_{3/2}$	1	$2p_{1/2}2p_{3/2}$	2	9767.3	1.688×10^{-7}	2.3298×10^{8}	1.2695
$2p_{1/2}3p_{3/2}$	2	$2p_{1/2}2p_{3/2}$	2	9772.2	1.009×10^{-7}	8.3600×10^{7}	1.2689
$2p_{3/2}3p_{3/2}$	3	$2p^2_{3/2}$	2	9773.7	2.687×10^{-7}	1.5912×10^{8}	1.2687
$2p_{3/2}3p_{3/2}$	1	$2p^2_{3/2}$	2	9774.7	6.719×10^{-8}	9.2852×10^{7}	1.2686
$2p_{1/2}3p_{3/2}$	2	$2p_{1/2}2p_{3/2}$	1	9790.4	1.543×10^{-7}	1.2838×10^{8}	1.2665
$2p_{3/2}3p_{3/2}$	2	$2p^2_{3/2}$	2	9806.6	2.277×10^{-7}	1.9006×10^{8}	1.2645
$2s_{1/2}3p_{3/2}$	2	$2s_{1/2}2p_{3/2}$	2	9849.5	1.183×10^{-7}	9.9574×10^{7}	1.2589
$2p_{3/2}4p_{3/2}$	3	$2p^2_{3/2}$	0	13164.0	5.284×10^{-8}	5.6765×10^{7}	0.9420
$2s_{1/2}4p_{3/2}$	2	$2s_{1/2}2p_{3/2}$	1	13210.4	7.454×10^{-8}	1.1289×10^{8}	0.9387
$2p_{1/2}4p_{3/2}$	1	$2p_{1/2}2p_{3/2}$	2	13211.8	8.053×10^{-8}	2.0331×10^{8}	0.9386
$2p_{1/2}4p_{3/2}$	2	$2p_{1/2}2p_{3/2}$	2	13212.2	5.338×10^{-8}	8.0872×10^{7}	0.9385
$2p_{1/2}4p_{3/2}$	2	$2p_{1/2}2p_{3/2}$	1	13230.7	8.108×10^{-8}	1.2317×10^{8}	0.9372
$2p_{1/2}4f_{5/2}$	3	$2p^2_{1/2}$	0	14734.6	1.129×10^{-8}	1.5198×10^{7}	0.8416
$2p_{1/2}4f_{7/2}$	3	$2p^2_{1/2}$	0	14759.8	3.100×10^{-7}	4.1869×10^{8}	0.8401
$2p_{3/2}5p_{3/2}$	3	$2p^2_{3/2}$	0	14760.2	3.345×10^{-8}	4.5172×10^{7}	0.8401
$2p_{3/2}4f_{5/2}$	3	$2p_{1/2}2p_{3/2}$	2	14782.1	7.413×10^{-9}	1.0041×10^{7}	0.8389
$2p_{3/2}4f_{5/2}$	2	$2p_{1/2}2p_{3/2}$	2	14784.5	8.076×10^{-9}	1.5319×10^{7}	0.8387
$2p_{3/2}6p_{3/2}$	3	$2p^2_{3/2}$	0	15623.9	2.132×10^{-8}	3.2262×10^{7}	0.7937
$2p_{3/2}6f_{7/2}$	3	$2p^2_{3/2}$	0	15653.7	1.960×10^{-7}	2.9771×10^{8}	0.7921
$2p_{1/2}6p_{3/2}$	1	$2p_{1/2}2p_{3/2}$	2	15665.8	3.241×10^{-8}	1.1505×10^{8}	0.7915
$2p_{1/2}6p_{3/2}$	2	$2p_{1/2}2p_{3/2}$	2	15666.1	2.166×10^{-8}	4.6132×10^{7}	0.7915
$2s_{1/2}6p_{3/2}$	2	$2s_{1/2}2p_{3/2}$	1	15667.9	2.648×10^{-8}	5.6411×10^{7}	0.7914