

# PLASUS SpecLine Database

Lower wavelength limit: 100 nm  
Upper wavelength limit: 1000 nm

Lines found:

Line [nm]	Element	I (rel.) lower - upper	Energy [eV] lower - upper	Transition lower - upper	Quantum number	Comment
<hr/>						
165.5320	Cu I	0 -	-	-		
168.8090	Cu I	0 -	-	-		
169.1080	Cu I	0 -	-	-		
170.3840	Cu I	0 -	-	-		
171.3360	Cu I	0 -	-	-		
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172.5660	Cu I	0 -	-	-		
174.1570	Cu I	0 -	-	-		
177.4820	Cu I	0 -	-	-		
182.5350	Cu I	0 -	-	-		
202.4325	Cu I	110 0.00 -	6.12 4s 2S	- 5p 2P	1/2 - 1/2	
202.4338	Cu I	219 0.00 -	6.12 4s 2S	- 5p 2P	1/2 - 3/2	
213.8540	Cu I	19 1.39 -	7.18 4s2 2D	- 7p 2P	5/2 - 3/2	
216.5090	Cu I	165 0.00 -	5.72 4s 2S	- 4p' 2D	1/2 - 3/2	
217.8940	Cu I	268 0.00 -	5.69 4s 2S	- 4p' 2P	1/2 - 3/2	
218.1720	Cu I	160 0.00 -	5.68 4s 2S	- 4p' 2P	1/2 - 1/2	
219.9580	Cu I	75 1.39 -	7.02 4s2 2D	- 4p" 2D	5/2 - 5/2	
219.9750	Cu I	913 1.64 -	7.28 4s2 2D	- 4p" 2D	3/2 - 3/2	
221.4580	Cu I	29 1.39 -	6.99 4s2 2D	- 4p" 2P	5/2 - 3/2	
221.5650	Cu I	0 -	-	-		
222.5700	Cu I	72 0.00 -	5.57 4s 2S	- 4p' 4D	1/2 - 1/2	
222.7780	Cu I	85 1.64 -	7.21 4s2 2D	- 4p" 2F	3/2 - 5/2	
223.0080	Cu I	69 1.39 -	6.95 4s2 2D	- 4p" 2F	5/2 - 7/2	
223.8450	Cu I	0 -	-	-		
224.4260	Cu I	7 0.00 -	5.52 4s 2S	- 4p' 4D	1/2 - 3/2	
226.0530	Cu I	0 -	-	-		
226.3080	Cu I	0 -	-	-		
229.3840	Cu I	29 1.39 -	6.79 4s2 2D	- 6p 2P	5/2 - 3/2	
230.3120	Cu I	0 -	-	-		
239.2630	Cu I	0 -	-	-		
240.6660	Cu I	0 -	-	-		
244.1640	Cu I	4 0.00 -	5.08 4s 2S	- 4p' 4P	1/2 - 1/2	
249.2150	Cu I	12 0.00 -	4.97 4s 2S	- 4p' 4P	1/2 - 3/2	
261.8370	Cu I	127 1.39 -	6.12 4s2 2D	- 5p 2P	5/2 - 3/2	

262.6690 Cu I	80	5.08 -	9.80 4p' 4P	-	5d' 4D	1/2 -	3/2
262.9968 Cu I	90	4.84 -	9.55 4p' 4P	-	5d' 4P	5/2 -	5/2
263.4931 Cu I	98	4.84 -	9.54 4p' 4P	-	5d' 4S	5/2 -	3/2
264.5309 Cu I	34	4.97 -	9.66 4p' 4P	-	5d' 4D	3/2 -	5/2
264.9839 Cu I	49	4.97 -	9.65 4p' 4P	-	5d' 4P	3/2 -	3/2
276.6370 Cu I	45	1.64 -	6.12 4s2 2D	-	5p 2P	3/2 -	3/2
282.4370 Cu I	57	1.39 -	5.78 4s2 2D	-	4p' 2D	5/2 -	5/2
284.6492 Cu I	11	5.08 -	9.43 4p' 4P	-	6s' 4D	1/2 -	1/2
285.8223 Cu I	67	4.84 -	9.17 4p' 4P	-	6s' 4D	5/2 -	7/2
285.8731 Cu I	1	1.39 -	5.72 4s2 2D	-	4p' 2D	5/2 -	3/2
288.2931 Cu I	9	1.39 -	5.69 4s2 2D	-	4p' 2P	5/2 -	3/2
289.0827 Cu I	88	5.51 -	9.79 4p' 4D	-	5d' 4G	5/2 -	7/2
289.1637 Cu I	78	5.52 -	9.81 4p' 4D	-	5d' 4F	3/2 -	5/2
293.1704 Cu I	7	5.08 -	9.30 4p' 4P	-	6s' 4D	1/2 -	3/2
293.3062 Cu I	13	4.84 -	9.06 4p' 4P	-	4d' 4G	5/2 -	7/2
296.1160 Cu I	40	1.39 -	5.57 4s2 2D	-	4p' 2F	5/2 -	7/2
297.8287 Cu I	121	5.40 -	9.56 4p' 4D	-	5d' 4F	7/2 -	9/2
297.9379 Cu I	103	5.40 -	9.56 4p' 4D	-	5d' 4D	7/2 -	7/2
299.7360 Cu I	10	1.64 -	5.78 4s2 2D	-	4p' 2D	3/2 -	5/2
299.8383 Cu I	1	1.39 -	5.52 4s2 2D	-	4p' 4D	5/2 -	3/2
301.0840 Cu I	11	1.39 -	5.51 4s2 2D	-	4p' 4D	5/2 -	5/2
301.2016 Cu I	78	4.97 -	9.09 4p' 4P	-	4d' 4F	3/2 -	5/2
301.4851 Cu I	33	5.10 -	9.21 4p' 4F	-	6s' 4D	7/2 -	5/2
302.1545 Cu I	108	5.07 -	9.17 4p' 4F	-	6s' 4D	9/2 -	7/2
302.2603 Cu I	70	4.84 -	8.94 4p' 4P	-	4d' 4F	5/2 -	7/2
303.0257 Cu I	21	4.97 -	9.06 4p' 4P	-	4d' 4D	3/2 -	3/2
303.6100 Cu I	14	1.64 -	5.72 4s2 2D	-	4p' 2D	3/2 -	3/2
304.4022 Cu I	22	5.10 -	9.17 4p' 4F	-	6s' 4D	7/2 -	7/2
305.2546 Cu I	11	5.15 -	9.21 4p' 4F	-	6s' 4D	5/2 -	5/2
306.3410 Cu I	9	1.64 -	5.69 4s2 2D	-	4p' 2P	3/2 -	3/2
306.8892 Cu I	0	1.64 -	5.68 4s2 2D	-	4p' 2P	3/2 -	1/2
307.3800 Cu I	2	1.39 -	5.42 4s2 2D	-	4p' 2F	5/2 -	5/2
308.8123 Cu I	75	5.08 -	9.09 4p' 4P	-	4d' 4F	1/2 -	3/2
309.3990 Cu I	4	1.39 -	5.40 4s2 2D	-	4p' 4D	5/2 -	7/2
309.9930 Cu I	296	4.84 -	8.84 4p' 4P	-	4d' 4D	5/2 -	7/2
310.8600 Cu I	0	-	-	-	-	-	-
311.3473 Cu I	27	4.84 -	8.82 4p' 4P	-	4d' 2F	5/2 -	7/2
312.0437 Cu I	34	4.97 -	8.95 4p' 4P	-	4d' 2P	3/2 -	1/2
312.6110 Cu I	447	4.84 -	8.80 4p' 4P	-	4d' 4S	5/2 -	3/2
312.8692 Cu I	195	4.97 -	8.94 4p' 4P	-	4d' 4D	3/2 -	5/2
314.0313 Cu I	103	4.84 -	8.78 4p' 4P	-	4d' 2P	5/2 -	3/2
314.2436 Cu I	270	4.97 -	8.92 4p' 4P	-	4d' 4P	3/2 -	3/2

314.6814Cu I	148	4.97 -	8.91 4p' 4P	-	4d' 4P	3/2 -	1/2
314.8341Cu I	11	5.15 -	9.09 4p' 4F	-	4d' 4F	5/2 -	3/2
314.9510Cu I	25	5.15 -	9.09 4p' 4F	-	4d' 4F	5/2 -	5/2
315.6630Cu I	1	1.64 -	5.57 4s2 2D	-	4p' 4D	3/2 -	1/2
316.0059Cu I	26	5.15 -	9.08 4p' 4F	-	4d' 4G	5/2 -	5/2
316.9675Cu I	205	5.15 -	9.06 4p' 4F	-	4d' 4G	5/2 -	7/2
317.1649Cu I	22	5.52 -	9.43 4p' 4D	-	6s' 4D	3/2 -	1/2
319.4100Cu I	10	1.64 -	5.52 4s2 2D	-	4p' 4D	3/2 -	3/2
320.8230Cu I	5	1.64 -	5.51 4s2 2D	-	4p' 4D	3/2 -	5/2
322.3420Cu I	129	5.24 -	9.09 4p' 4F	-	4d' 4F	3/2 -	3/2
322.4646Cu I	159	5.24 -	9.09 4p' 4F	-	4d' 4F	3/2 -	5/2
323.1166Cu I	235	5.10 -	8.94 4p' 4F	-	4d' 4F	7/2 -	7/2
323.3895Cu I	78	5.10 -	8.94 4p' 4F	-	4d' 4D	7/2 -	5/2
323.5706Cu I	417	5.24 -	9.08 4p' 4F	-	4d' 4G	3/2 -	5/2
324.3160Cu I	708	5.10 -	8.92 4p' 4F	-	4d' 4G	7/2 -	9/2
324.7540Cu I	867	0.00 -	3.82 4s 2S	-	4p 2P	1/2 -	3/2
326.8283Cu I	214	5.15 -	8.95 4p' 4F	-	4d' 2F	5/2 -	5/2
327.3960Cu I	438	0.00 -	3.79 4s 2S	-	4p 2P	1/2 -	1/2
327.9812Cu I	7	1.64 -	5.42 4s2 2D	-	4p' 2F	3/2 -	5/2
328.2720Cu I	538	5.15 -	8.93 4p' 4F	-	4d' 2G	5/2 -	7/2
328.5079Cu I	16	3.82 -	7.59 4p 2P	-	11d 2D	3/2 -	5/2
328.6189Cu I	13	3.79 -	7.56 4p 2P	-	10d 2D	1/2 -	3/2
329.0540Cu I	646	5.07 -	8.84 4p' 4F	-	4d' 4F	9/2 -	9/2
329.2390Cu I	57	5.15 -	8.92 4p' 4F	-	4d' 4P	5/2 -	3/2
329.2823Cu I	1	1.39 -	5.15 4s2 2D	-	4p' 4F	5/2 -	5/2
330.7950Cu I	4366	5.07 -	8.82 4p' 4F	-	4d' 4G	9/2 -	11/2
331.3195Cu I	23	3.82 -	7.56 4p 2P	-	10d 2D	3/2 -	5/2
331.3242Cu I	3	3.82 -	7.56 4p 2P	-	10d 2D	3/2 -	3/2
331.7214Cu I	324	5.10 -	8.84 4p' 4F	-	4d' 4F	7/2 -	9/2
331.9674Cu I	219	5.10 -	8.84 4p' 4F	-	4d' 4D	7/2 -	7/2
332.5808Cu I	19	3.79 -	7.51 4p 2P	-	9d 2D	1/2 -	3/2
332.9627Cu I	92	5.10 -	8.83 4p' 4F	-	4d' 4P	7/2 -	5/2
333.5223Cu I	94	5.10 -	8.82 4p' 4F	-	4d' 2F	7/2 -	7/2
333.7840Cu I	6	1.39 -	5.10 4s2 2D	-	4p' 4F	5/2 -	7/2
334.9266Cu I	240	5.24 -	8.95 4p' 4F	-	4d' 2F	3/2 -	5/2
335.3462Cu I	33	3.82 -	7.51 4p 2P	-	9d 2D	3/2 -	5/2
335.3520Cu I	4	3.82 -	7.51 4p 2P	-	9d 2D	3/2 -	3/2
335.4478Cu I	110	5.24 -	8.94 4p' 4F	-	4d' 2D	3/2 -	3/2
336.5345Cu I	282	5.10 -	8.79 4p' 4F	-	4d' 2G	7/2 -	9/2
337.5664Cu I	34	5.15 -	8.83 4p' 4F	-	4d' 4P	5/2 -	5/2
338.1416Cu I	182	5.15 -	8.82 4p' 4F	-	4d' 2F	5/2 -	7/2

338.4810Cu I	34	5.15 -	8.82 4p' 4F	-	4d' 2D	5/2 -	5/2
338.5391Cu I	29	3.79 -	7.45 4p 2P	-	8d 2D	1/2 -	3/2
339.2017Cu I	14	5.42 -	9.08 4p' 2F	-	4d' 4G	5/2 -	5/2
339.6315Cu I	14	5.15 -	8.80 4p' 4F	-	4d' 4S	5/2 -	3/2
341.3335Cu I	121	5.68 -	9.31 4p' 2P	-	4d" 2P	1/2 -	1/2
341.4013Cu I	52	3.82 -	7.45 4p 2P	-	8d 2D	3/2 -	5/2
341.4108Cu I	6	3.82 -	7.45 4p 2P	-	8d 2D	3/2 -	3/2
342.0144Cu I	34	5.69 -	9.31 4p' 2P	-	4d" 2P	3/2 -	1/2
343.3957Cu I	1	3.79 -	7.40 4p 2P	-	9s 2S	1/2 -	1/2
343.6550Cu I	39	5.72 -	9.33 4p' 2D	-	4d" 2P	3/2 -	3/2
344.0520Cu I	1	1.64 -	5.24 4s2 2D	-	4p' 4F	3/2 -	3/2
345.7850Cu I	1	1.39 -	4.97 4s2 2D	-	4p' 4P	5/2 -	3/2
345.9408Cu I	35	5.51 -	9.09 4p' 4D	-	4d' 4F	5/2 -	5/2
346.3508Cu I	2	3.82 -	7.40 4p 2P	-	9s 2S	3/2 -	1/2
347.2139Cu I	90	5.51 -	9.08 4p' 4D	-	4d' 4G	5/2 -	5/2
347.4569Cu I	14	5.52 -	9.09 4p' 4D	-	4d' 4F	3/2 -	3/2
347.5994Cu I	381	5.52 -	9.09 4p' 4D	-	4d' 4F	3/2 -	5/2
348.1606Cu I	18	3.79 -	7.35 4p 2P	-	7d 2D	1/2 -	3/2
348.3760Cu I	538	5.51 -	9.06 4p' 4D	-	4d' 4G	5/2 -	7/2
348.7563Cu I	62	5.78 -	9.33 4p' 2D	-	4d" 2P	5/2 -	3/2
348.8848Cu I	59	5.52 -	9.08 4p' 4D	-	4d' 4G	3/2 -	5/2
349.8056Cu I	58	5.40 -	8.94 4p' 4D	-	4d' 4F	7/2 -	7/2
350.0310Cu I	53	5.52 -	9.06 4p' 4D	-	4d' 4D	3/2 -	3/2
350.7423Cu I	22	5.40 -	8.93 4p' 4D	-	4d' 2G	7/2 -	7/2
351.1831Cu I	88	3.82 -	7.35 4p 2P	-	7d 2D	3/2 -	5/2
351.1986Cu I	10	3.82 -	7.35 4p 2P	-	7d 2D	3/2 -	3/2
351.2112Cu I	332	5.40 -	8.92 4p' 4D	-	4d' 4G	7/2 -	9/2
351.7025Cu I	46	5.42 -	8.95 4p' 2F	-	4d' 2F	5/2 -	5/2
352.0015Cu I	289	5.57 -	9.09 4p' 4D	-	4d' 4F	1/2 -	3/2
352.4230Cu I	490	5.42 -	8.94 4p' 2F	-	4d' 4F	5/2 -	7/2
352.7476Cu I	209	5.42 -	8.94 4p' 2F	-	4d' 4D	5/2 -	5/2
353.0380Cu I	3	1.64 -	5.15 4s2 2D	-	4p' 4F	3/2 -	5/2
353.3737Cu I	240	5.42 -	8.93 4p' 2F	-	4d' 2G	5/2 -	7/2
354.4957Cu I	76	5.42 -	8.92 4p' 2F	-	4d' 4P	5/2 -	3/2
354.6436Cu I	30	5.57 -	9.06 4p' 4D	-	4d' 4D	1/2 -	3/2
356.6127Cu I	4	3.79 -	7.26 4p 2P	-	8s 2S	1/2 -	1/2
359.4016Cu I	1	1.39 -	4.84 4s2 2D	-	4p' 4P	5/2 -	5/2
359.8007Cu I	7	3.82 -	7.26 4p 2P	-	8s 2S	3/2 -	1/2
359.9130Cu I	2512	5.40 -	8.84 4p' 4D	-	4d' 4F	7/2 -	9/2
360.2030Cu I	2512	5.40 -	8.84 4p' 4D	-	4d' 4D	7/2 -	7/2
360.9299Cu I	1	1.64 -	5.08 4s2 2D	-	4p' 4P	3/2 -	1/2
361.0798Cu I	92	5.51 -	8.94 4p' 4D	-	4d' 4F	5/2 -	7/2

361.3744 Cu I	240	5.40 -	8.83 4p' 4D	-	4d' 4P	7/2 -	5/2
361.4206 Cu I	100	5.51 -	8.94 4p' 4D	-	4d' 4D	5/2 -	5/2
362.0337 Cu I	80	5.40 -	8.82 4p' 4D	-	4d' 2F	7/2 -	7/2
362.1233 Cu I	240	5.52 -	8.95 4p' 4D	-	4d' 2F	3/2 -	5/2
362.4228 Cu I	76	5.40 -	8.82 4p' 4D	-	4d' 2D	7/2 -	5/2
362.7328 Cu I	209	5.52 -	8.94 4p' 4D	-	4d' 2D	3/2 -	3/2
362.9781 Cu I	17	5.42 -	8.84 4p' 2F	-	4d' 4D	5/2 -	7/2
363.2560 Cu I	59	5.51 -	8.92 4p' 4D	-	4d' 4P	5/2 -	3/2
363.5928 Cu I	166	5.68 -	9.09 4p' 2P	-	4d' 4F	1/2 -	3/2
364.1684 Cu I	55	5.42 -	8.83 4p' 2F	-	4d' 4P	5/2 -	5/2
364.5221 Cu I	108	5.69 -	9.09 4p' 2P	-	4d' 4F	3/2 -	5/2
364.8380 Cu I	45	5.42 -	8.82 4p' 2F	-	4d' 2F	5/2 -	7/2
365.0851 Cu I	22	5.52 -	8.92 4p' 4D	-	4d' 4P	3/2 -	3/2
365.2330 Cu I	264	5.42 -	8.82 4p' 2F	-	4d' 2D	5/2 -	5/2
365.4230 Cu I	96	3.79 -	7.18 4p 2P	-	6d 2D	1/2 -	3/2
365.5856 Cu I	142	5.40 -	8.79 4p' 4D	-	4d' 2G	7/2 -	9/2
365.6762 Cu I	67	5.52 -	8.91 4p' 4D	-	4d' 4P	3/2 -	1/2
365.9360 Cu I	86	5.69 -	9.08 4p' 2P	-	4d' 4G	3/2 -	5/2
366.5730 Cu I	43	5.42 -	8.80 4p' 2F	-	4d' 4S	5/2 -	3/2
367.1972 Cu I	75	5.69 -	9.06 4p' 2P	-	4d' 4D	3/2 -	3/2
368.7434 Cu I	127	3.82 -	7.18 4p 2P	-	6d 2D	3/2 -	5/2
368.7712 Cu I	20	3.82 -	7.18 4p 2P	-	6d 2D	3/2 -	3/2
369.5322 Cu I	23	5.57 -	8.93 4p' 2F	-	4d' 2G	7/2 -	7/2
369.9106 Cu I	23	5.72 -	9.08 4p' 2D	-	4d' 4G	3/2 -	5/2
370.0529 Cu I	121	5.57 -	8.92 4p' 2F	-	4d' 4G	7/2 -	9/2
371.1994 Cu I	58	5.72 -	9.06 4p' 2D	-	4d' 4D	3/2 -	3/2
372.0763 Cu I	0	1.64 -	4.97 4s2 2D	-	4p' 4P	3/2 -	3/2
372.1680 Cu I	19	5.51 -	8.84 4p' 4D	-	4d' 4D	5/2 -	7/2
373.4195 Cu I	76	5.51 -	8.83 4p' 4D	-	4d' 4P	5/2 -	5/2
374.1235 Cu I	126	5.51 -	8.82 4p' 4D	-	4d' 2F	5/2 -	7/2
374.5390 Cu I	78	5.51 -	8.82 4p' 4D	-	4d' 2D	5/2 -	5/2
375.9482 Cu I	42	5.51 -	8.80 4p' 4D	-	4d' 4S	5/2 -	3/2
376.4839 Cu I	18	5.52 -	8.82 4p' 4D	-	4d' 2D	3/2 -	5/2
377.1887 Cu I	96	5.78 -	9.06 4p' 2D	-	4d' 4G	5/2 -	7/2
378.0056 Cu I	13	5.51 -	8.78 4p' 4D	-	4d' 2P	5/2 -	3/2
379.7258 Cu I	16	5.57 -	8.84 4p' 2F	-	4d' 4F	7/2 -	9/2
379.9867 Cu I	27	5.52 -	8.78 4p' 4D	-	4d' 2P	3/2 -	3/2
380.0481 Cu I	45	5.57 -	8.84 4p' 2F	-	4d' 4D	7/2 -	7/2
380.5227 Cu I	78	5.69 -	8.95 4p' 2P	-	4d' 2P	3/2 -	1/2
381.2002 Cu I	41	5.69 -	8.94 4p' 2P	-	4d' 2D	3/2 -	3/2
381.3532 Cu I	22	5.57 -	8.83 4p' 2F	-	4d' 4P	7/2 -	5/2
381.7509 Cu I	12	5.69 -	8.94 4p' 2P	-	4d' 4D	3/2 -	5/2

382.0875 Cu I	54	5.57 -	8.82 4p' 2F	-	4d' 2F	7/2 -	7/2
382.5042 Cu I	13	3.79 -	7.03 4p 2P	-	7s 2S	1/2 -	1/2
383.7991 Cu I	12	5.69 -	8.92 4p' 2P	-	4d' 4P	3/2 -	3/2
386.0460 Cu I	230	5.57 -	8.79 4p' 2F	-	4d' 2G	7/2 -	9/2
386.1743 Cu I	14	3.82 -	7.03 4p 2P	-	7s 2S	3/2 -	1/2
388.1735 Cu I	18	5.72 -	8.92 4p' 2D	-	4d' 4P	3/2 -	3/2
388.8417 Cu I	14	5.72 -	8.91 4p' 2D	-	4d' 4P	3/2 -	1/2
392.1267 Cu I	39	5.78 -	8.94 4p' 2D	-	4d' 4F	5/2 -	7/2
392.5287 Cu I	47	5.78 -	8.94 4p' 2D	-	4d' 4D	5/2 -	5/2
393.3041 Cu I	23	5.78 -	8.93 4p' 2D	-	4d' 2G	5/2 -	7/2
394.6945 Cu I	15	5.78 -	8.92 4p' 2D	-	4d' 4P	5/2 -	3/2
395.1626 Cu I	6	5.69 -	8.83 4p' 2P	-	4d' 4P	3/2 -	5/2
396.4165 Cu I	20	5.69 -	8.82 4p' 2P	-	4d' 2D	3/2 -	5/2
397.5633 Cu I	12	4.97 -	8.09 4p' 4P	-	5s' 2D	3/2 -	3/2
397.9955 Cu I	8	5.69 -	8.80 4p' 2P	-	4d' 4S	3/2 -	3/2
399.3695 Cu I	4	5.68 -	8.78 4p' 2P	-	4d' 2P	1/2 -	3/2
399.8014 Cu I	8	5.72 -	8.83 4p' 2D	-	4d' 4P	3/2 -	5/2
400.3020 Cu I	37	5.69 -	8.78 4p' 2P	-	4d' 2P	3/2 -	3/2
401.0849 Cu I	12	5.72 -	8.82 4p' 2D	-	4d' 2D	3/2 -	5/2
401.5817 Cu I	3	3.79 -	6.87 4p 2P	-	4f 2F	1/2 -	5/2
402.2630 Cu I	140	3.79 -	6.87 4p 2P	-	5d 2D	1/2 -	3/2
402.7014 Cu I	39	5.72 -	8.80 4p' 2D	-	4d' 4S	3/2 -	3/2
405.0629 Cu I	31	5.72 -	8.78 4p' 2D	-	4d' 2P	3/2 -	3/2
405.2383 Cu I	17	5.78 -	8.84 4p' 2D	-	4d' 4D	5/2 -	7/2
406.2640 Cu I	312	3.82 -	6.87 4p 2P	-	5d 2D	3/2 -	5/2
406.3235 Cu I	48	3.82 -	6.87 4p 2P	-	5d 2D	3/2 -	3/2
406.9531 Cu I	3	4.84 -	7.88 4p' 4P	-	5s' 4D	5/2 -	3/2
407.3197 Cu I	17	4.97 -	8.02 4p' 4P	-	5s' 2D	3/2 -	5/2
407.5578 Cu I	105	5.78 -	8.82 4p' 2D	-	4d' 2F	5/2 -	7/2
408.0509 Cu I	76	5.78 -	8.82 4p' 2D	-	4d' 2D	5/2 -	5/2
410.4217 Cu I	16	4.97 -	7.99 4p' 4P	-	5s' 4D	3/2 -	1/2
411.1296 Cu I	13	5.08 -	8.09 4p' 4P	-	5s' 2D	1/2 -	3/2
412.1690 Cu I	29	5.78 -	8.78 4p' 2D	-	4d' 2P	5/2 -	3/2
412.3271 Cu I	48	5.42 -	8.43 4p' 2F	-	5s'' 2D	5/2 -	3/2
417.7740 Cu I	25	4.84 -	7.80 4p' 4P	-	5s' 4D	5/2 -	5/2
423.0941 Cu I	27	5.40 -	8.32 4p' 4D	-	5s'' 2D	7/2 -	5/2
424.2266 Cu I	36	5.51 -	8.43 4p' 4D	-	5s'' 2D	5/2 -	3/2
424.9000 Cu I	108	5.08 -	7.99 4p' 4P	-	5s' 4D	1/2 -	1/2
425.9454 Cu I	117	4.97 -	7.88 4p' 4P	-	5s' 4D	3/2 -	3/2
427.5110 Cu I	697	4.84 -	7.74 4p' 4P	-	5s' 4D	5/2 -	7/2
432.8742 Cu I	11	5.15 -	8.02 4p' 4F	-	5s' 2D	5/2 -	5/2

433.5984 Cu I	17	5.57 -	8.43 4p' 4D	-	5s'' 2D	1/2 -	3/2
435.4626 Cu I	18	5.24 -	8.09 4p' 4F	-	5s' 2D	3/2 -	3/2
437.8146 Cu I	228	4.97 -	7.80 4p' 4P	-	5s' 4D	3/2 -	5/2
441.5557 Cu I	73	5.08 -	7.88 4p' 4P	-	5s' 4D	1/2 -	3/2
448.0400 Cu I	19	3.79 -	6.55 4p 2P	-	6s 2S	1/2 -	1/2
450.7408 Cu I	458	5.57 -	8.32 4p' 2F	-	5s'' 2D	7/2 -	5/2
450.9400 Cu I	181	5.24 -	7.99 4p' 4F	-	5s' 4D	3/2 -	1/2
452.5127 Cu I	57	5.69 -	8.43 4p' 2P	-	5s'' 2D	3/2 -	3/2
453.0800 Cu I	57	3.82 -	6.55 4p 2P	-	6s 2S	3/2 -	1/2
453.9700 Cu I	316	5.15 -	7.88 4p' 4F	-	5s' 4D	5/2 -	3/2
458.7000 Cu I	487	5.10 -	7.80 4p' 4F	-	5s' 4D	7/2 -	5/2
464.2538 Cu I	96	5.42 -	8.09 4p' 2F	-	5s' 2D	5/2 -	3/2
465.1120 Cu I	1089	5.07 -	7.74 4p' 4F	-	5s' 4D	9/2 -	7/2
467.4780 Cu I	154	5.15 -	7.80 4p' 4F	-	5s' 4D	5/2 -	5/2
469.7470 Cu I	71	5.24 -	7.88 4p' 4F	-	5s' 4D	3/2 -	3/2
470.4600 Cu I	166	5.10 -	7.74 4p' 4F	-	5s' 4D	7/2 -	7/2
476.7416 Cu I	155	5.72 -	8.32 4p' 2D	-	5s'' 2D	3/2 -	5/2
477.6128 Cu I	17	5.42 -	8.02 4p' 2F	-	5s' 2D	5/2 -	5/2
479.7025 Cu I	9	5.15 -	7.74 4p' 4F	-	5s' 4D	5/2 -	7/2
484.2242 Cu I	14	5.24 -	7.80 4p' 4F	-	5s' 4D	3/2 -	5/2
486.6156 Cu I	324	5.78 -	8.32 4p' 2D	-	5s'' 2D	5/2 -	5/2
501.6629 Cu I	123	5.52 -	7.99 4p' 4D	-	5s' 4D	3/2 -	1/2
503.4254 Cu I	93	5.42 -	7.88 4p' 2F	-	5s' 4D	5/2 -	3/2
507.6125 Cu I	179	5.57 -	8.02 4p' 2F	-	5s' 2D	7/2 -	5/2
510.5540 Cu I	31	1.39 -	3.82 4s 2D	-	4p 2P	5/2 -	3/2
511.1915 Cu I	83	5.57 -	7.99 4p' 4D	-	5s' 4D	1/2 -	1/2
514.4098 Cu I	166	5.40 -	7.80 4p' 4D	-	5s' 4D	7/2 -	5/2
515.3240 Cu I	1649	3.79 -	6.19 4p 2P	-	4d 2D	1/2 -	3/2
520.0897 Cu I	117	5.42 -	7.80 4p' 2F	-	5s' 4D	5/2 -	5/2
521.2774 Cu I	47	5.51 -	7.88 4p' 4D	-	5s' 4D	5/2 -	3/2
521.8200 Cu I	2993	3.82 -	6.19 4p 2P	-	4d 2D	3/2 -	5/2
522.0100 Cu I	357	3.82 -	6.19 4p 2P	-	4d 2D	3/2 -	3/2
525.0524 Cu I	141	5.52 -	7.88 4p' 4D	-	5s' 4D	3/2 -	3/2
529.2520 Cu I	367	5.40 -	7.74 4p' 4D	-	5s' 4D	7/2 -	7/2
535.2653 Cu I	24	5.42 -	7.74 4p' 2F	-	5s' 4D	5/2 -	7/2
535.4995 Cu I	71	5.57 -	7.88 4p' 4D	-	5s' 4D	1/2 -	3/2
536.0066 Cu I	22	5.68 -	7.99 4p' 2P	-	5s' 4D	1/2 -	1/2
537.6876 Cu I	6	5.69 -	7.99 4p' 2P	-	5s' 4D	3/2 -	1/2
539.1656 Cu I	136	5.51 -	7.80 4p' 4D	-	5s' 4D	5/2 -	5/2
543.2051 Cu I	78	5.52 -	7.80 4p' 4D	-	5s' 4D	3/2 -	5/2
546.3124 Cu I	16	5.72 -	7.99 4p' 2D	-	5s' 4D	3/2 -	1/2
555.4923 Cu I	23	5.51 -	7.74 4p' 4D	-	5s' 4D	5/2 -	7/2

560.9866 Cu I	3	5.35 -	7.56 5s 2S	-	11p 2P	1/2 -	3/2
560.9866 Cu I	2	5.35 -	7.56 5s 2S	-	11p 2P	1/2 -	1/2
570.0240 Cu I	5	1.64 -	3.82 4s2 2D	-	4p 2P	3/2 -	3/2
572.4250 Cu I	3	5.35 -	7.51 5s 2S	-	10p 2P	1/2 -	1/2
572.6513 Cu I	4	5.35 -	7.51 5s 2S	-	10p 2P	1/2 -	3/2
573.2323 Cu I	17	5.57 -	7.74 4p' 2F	-	5s' 4D	7/2 -	7/2
578.2130 Cu I	20	1.64 -	3.79 4s2 2D	-	4p 2P	3/2 -	1/2
589.8769 Cu I	4	5.35 -	7.45 5s 2S	-	9p 2P	1/2 -	1/2
590.3855 Cu I	7	5.35 -	7.45 5s 2S	-	9p 2P	1/2 -	3/2
617.6484 Cu I	10	5.35 -	7.36 5s 2S	-	8p 2P	1/2 -	1/2
619.4794 Cu I	15	5.35 -	7.35 5s 2S	-	8p 2P	1/2 -	3/2
622.3715 Cu I	47	6.95 -	8.94 4p'' 2F	-	4d' 4F	7/2 -	7/2
632.5370 Cu I	6	5.78 -	7.74 4p' 2D	-	5s' 4D	5/2 -	7/2
647.4223 Cu I	68	7.02 -	8.94 4p'' 2D	-	4d' 4F	5/2 -	7/2
648.5189 Cu I	46	7.02 -	8.94 4p'' 2D	-	4d' 4D	5/2 -	5/2
650.6381 Cu I	12	7.02 -	8.93 4p'' 2D	-	4d' 2G	5/2 -	7/2
654.4519 Cu I	18	7.02 -	8.92 4p'' 2D	-	4d' 4P	5/2 -	3/2
655.1017 Cu I	14	6.95 -	8.84 4p'' 2F	-	4d' 4F	7/2 -	9/2
658.3458 Cu I	22	7.21 -	9.09 4p'' 2F	-	4d' 4F	5/2 -	5/2
659.9604 Cu I	12	6.95 -	8.83 4p'' 2F	-	4d' 4P	7/2 -	5/2
662.1626 Cu I	100	6.95 -	8.82 4p'' 2F	-	4d' 2F	7/2 -	7/2
662.9719 Cu I	31	7.21 -	9.08 4p'' 2F	-	4d' 4G	5/2 -	5/2
667.2183 Cu I	124	7.21 -	9.06 4p'' 2F	-	4d' 4G	5/2 -	7/2
674.1418 Cu I	339	6.95 -	8.79 4p'' 2F	-	4d' 2G	7/2 -	9/2
674.9647 Cu I	35	5.35 -	7.18 5s 2S	-	7p 2P	1/2 -	3/2
688.1972 Cu I	31	7.02 -	8.83 4p'' 2D	-	4d' 4P	5/2 -	5/2
689.0890 Cu I	36	7.12 -	8.92 7p 2P	-	4d' 4P	1/2 -	3/2
690.5923 Cu I	166	7.02 -	8.82 4p'' 2D	-	4d' 2F	5/2 -	7/2
696.8351 Cu I	15	7.02 -	8.80 4p'' 2D	-	4d' 4S	5/2 -	3/2
699.9840 Cu I	3	5.35 -	7.12 5s 2S	-	7p 2P	1/2 -	1/2
715.4277 Cu I	23	7.21 -	8.94 4p'' 2F	-	4d' 4F	5/2 -	7/2
793.3130 Cu I	425	3.79 -	5.35 4p 2P	-	5s 2S	1/2 -	1/2
809.2630 Cu I	902	3.82 -	5.35 4p 2P	-	5s 2S	3/2 -	1/2
840.7743 Cu I	20	5.35 -	6.82 5s 2S	-	6p 2P	1/2 -	1/2
844.8877 Cu I	29	6.12 -	7.59 5p 2P	-	11d 2D	3/2 -	5/2
858.3653 Cu I	10	5.35 -	6.79 5s 2S	-	6p 2P	1/2 -	3/2
863.7384 Cu I	40	6.12 -	7.56 5p 2P	-	10d 2D	3/2 -	5/2
863.7705 Cu I	5	6.12 -	7.56 5p 2P	-	10d 2D	3/2 -	3/2
863.7936 Cu I	23	6.12 -	7.56 5p 2P	-	10d 2D	1/2 -	3/2
891.6487 Cu I	62	6.12 -	7.51 5p 2P	-	9d 2D	3/2 -	5/2
891.6901 Cu I	7	6.12 -	7.51 5p 2P	-	9d 2D	3/2 -	3/2
891.7147 Cu I	34	6.12 -	7.51 5p 2P	-	9d 2D	1/2 -	3/2



906.9615Cu I	1	6.19 -	7.56 4d 2D	-	11p 2P	3/2 -	1/2
906.9615Cu I	0	6.19 -	7.56 4d 2D	-	11p 2P	3/2 -	3/2
907.5261Cu I	1	6.19 -	7.56 4d 2D	-	11p 2P	5/2 -	3/2
935.7766Cu I	103	6.12 -	7.45 5p 2P	-	8d 2D	3/2 -	5/2
935.8484Cu I	12	6.12 -	7.45 5p 2P	-	8d 2D	3/2 -	3/2
935.8756Cu I	57	6.12 -	7.45 5p 2P	-	8d 2D	1/2 -	3/2
937.2399Cu I	1	6.19 -	7.51 4d 2D	-	10p 2P	3/2 -	1/2
937.8466Cu I	1	6.19 -	7.51 4d 2D	-	10p 2P	3/2 -	3/2
938.4502Cu I	2	6.19 -	7.51 4d 2D	-	10p 2P	5/2 -	3/2
973.9236Cu I	12	6.12 -	7.40 5p 2P	-	9s 2S	3/2 -	1/2
973.9531Cu I	6	6.12 -	7.40 5p 2P	-	9s 2S	1/2 -	1/2
984.9516Cu I	1	6.19 -	7.45 4d 2D	-	9p 2P	3/2 -	1/2
986.3704Cu I	1	6.19 -	7.45 4d 2D	-	9p 2P	3/2 -	3/2
987.0382Cu I	3	6.19 -	7.45 4d 2D	-	9p 2P	5/2 -	3/2
100.1013Cu II	3	2.83 -	15.22 4s 3D	-	5p 3F	2 -	2
100.4055Cu II	19	2.72 -	15.07 4s 3D	-	5p 3D	3 -	3
100.4435Cu II	0	2.98 -	15.32 4s 3D	-	5p 1D	1 -	2
100.6984Cu II	1	2.98 -	15.29 4s 3D	-	5p 3D	1 -	1
100.7001Cu II	0	3.26 -	15.57 4s 1D	-	4p 5P	2 -	1
100.8569Cu II	5	2.72 -	15.01 4s 3D	-	4p 1F	3 -	3
100.8728Cu II	38	2.83 -	15.12 4s 3D	-	5p 3D	2 -	2
101.0269Cu II	9	3.26 -	15.53 4s 1D	-	4p 5P	2 -	2
101.0453Cu II	4	3.26 -	15.53 4s 1D	-	4p 5P	2 -	3
101.0639Cu II	4	2.72 -	14.99 4s 3D	-	4p 1D	3 -	2
101.1436Cu II	0	2.98 -	15.23 4s 3D	-	5p 1P	1 -	1
101.1521Cu II	7	2.72 -	14.98 4s 3D	-	5p 3F	3 -	4
101.2597Cu II	12	2.72 -	14.96 4s 3D	-	5p 3F	3 -	3
101.2683Cu II	1	2.98 -	15.22 4s 3D	-	5p 3F	1 -	2
101.3400Cu II	3	2.83 -	15.07 4s 3D	-	5p 3D	2 -	3
101.7998Cu II	4	2.83 -	15.01 4s 3D	-	4p 1F	2 -	3
101.8064Cu II	0	2.98 -	15.15 4s 3D	-	5p 3P	1 -	0
101.8707Cu II	0	2.72 -	14.89 4s 3D	-	5p 3P	3 -	2
101.9655Cu II	0	2.83 -	14.99 4s 3D	-	5p 3P	2 -	1
102.0108Cu II	4	2.83 -	14.99 4s 3D	-	4p 1D	2 -	2
102.0580Cu II	3	2.98 -	15.12 4s 3D	-	5p 3D	1 -	2
102.2102Cu II	2	2.83 -	14.96 4s 3D	-	5p 3F	2 -	3
102.7831Cu II	75	3.26 -	15.32 4s 1D	-	5p 1D	2 -	2
102.8328Cu II	3	2.83 -	14.89 4s 3D	-	5p 3P	2 -	2
102.9751Cu II	14	2.72 -	14.76 4s 3D	-	4p 3F	3 -	2
103.0263Cu II	9	2.72 -	14.75 4s 3D	-	4p 1G	3 -	4
103.0500Cu II	0	3.26 -	15.29 4s 1D	-	5p 3D	2 -	1

103.1766Cu II	1	2.98 -	14.99	4s 3D	-	5p 3P	1	-	1
103.2230Cu II	1	2.98 -	14.99	4s 3D	-	4p 1D	1	-	2
103.3568Cu II	15	3.26 -	15.25	4s 1D	-	5p 1F	2	-	3
103.5163Cu II	0	3.26 -	15.23	4s 1D	-	5p 1P	2	-	1
103.6470Cu II	43	3.26 -	15.22	4s 1D	-	5p 3F	2	-	2
103.9348Cu II	131	2.72 -	14.65	4s 3D	-	4p 3F	3	-	3
103.9582Cu II	94	2.83 -	14.76	4s 3D	-	4p 3F	2	-	2
104.0648Cu II	0	2.98 -	14.89	4s 3D	-	5p 3P	1	-	2
104.4519Cu II	214	2.72 -	14.59	4s 3D	-	4p 3F	3	-	4
104.4744Cu II	274	3.26 -	15.12	4s 1D	-	5p 3D	2	-	2
104.9364Cu II	88	2.83 -	14.65	4s 3D	-	4p 3F	2	-	3
104.9755Cu II	87	3.26 -	15.07	4s 1D	-	5p 3D	2	-	3
105.0154Cu II	46	2.83 -	14.64	4s 3D	-	4p 3D	2	-	1
105.0403Cu II	45	2.72 -	14.52	4s 3D	-	4p 3D	3	-	2
105.2175Cu II	42	2.98 -	14.76	4s 3D	-	4p 3F	1	-	2
105.4690Cu II	138	3.26 -	15.01	4s 1D	-	4p 1F	2	-	3
105.5797Cu II	114	2.72 -	14.46	4s 3D	-	4p 3G	3	-	3
105.6468Cu II	0	3.26 -	14.99	4s 1D	-	5p 3P	2	-	1
105.6955Cu II	208	3.26 -	14.99	4s 1D	-	4p 1D	2	-	2
105.8799Cu II	211	2.72 -	14.43	4s 3D	-	4p 3D	3	-	3
105.9096Cu II	15	3.26 -	14.96	4s 1D	-	5p 3F	2	-	3
106.0634Cu II	178	2.83 -	14.52	4s 3D	-	4p 3D	2	-	2
106.3005Cu II	138	2.98 -	14.64	4s 3D	-	4p 3D	1	-	1
106.5782Cu II	3	3.26 -	14.89	4s 1D	-	5p 3P	2	-	2
106.6134Cu II	13	2.83 -	14.46	4s 3D	-	4p 3G	2	-	3
106.9195Cu II	88	2.83 -	14.43	4s 3D	-	4p 3D	2	-	3
107.0311Cu II	3	2.72 -	14.30	4s 3D	-	4p 3G	3	-	4
107.3745Cu II	80	2.98 -	14.52	4s 3D	-	4p 3D	1	-	2
107.7876Cu II	3	3.26 -	14.76	4s 1D	-	4p 3F	2	-	2
108.0463Cu II	0	2.72 -	14.19	4s 3D	-	4p 5F	3	-	2
108.6110Cu II	1	2.72 -	14.13	4s 3D	-	4p 5F	3	-	3
108.8035Cu II	0	2.83 -	14.23	4s 3D	-	4p 5F	2	-	1
108.8395Cu II	17	3.26 -	14.65	4s 1D	-	4p 3F	2	-	3
108.9245Cu II	6	3.26 -	14.64	4s 1D	-	4p 3D	2	-	1
109.1292Cu II	1	2.83 -	14.19	4s 3D	-	4p 5F	2	-	2
109.4402Cu II	7	2.72 -	14.05	4s 3D	-	4p 5F	3	-	4
109.7053Cu II	5	2.83 -	14.13	4s 3D	-	4p 5F	2	-	3
110.0525Cu II	1	3.26 -	14.52	4s 1D	-	4p 3D	2	-	2
110.1836Cu II	0	2.98 -	14.23	4s 3D	-	4p 5F	1	-	1
110.5022Cu II	0	2.72 -	13.94	4s 3D	-	4p 5G	3	-	2
110.5176Cu II	2	2.98 -	14.19	4s 3D	-	4p 5F	1	-	2
110.6447Cu II	4	3.26 -	14.46	4s 1D	-	4p 3G	2	-	3

110.9744Cu II	3	3.26 -	14.43	4s 1D	-	4p 3D	2	-	3
111.1758Cu II	1	2.72 -	13.87	4s 3D	-	4p 5G	3	-	3
111.6351Cu II	0	2.83 -	13.94	4s 3D	-	4p 5G	2	-	2
111.9947Cu II	2	2.72 -	13.79	4s 3D	-	4p 5G	3	-	4
112.3226Cu II	1	2.83 -	13.87	4s 3D	-	4p 5G	2	-	3
113.0053Cu II	0	3.26 -	14.23	4s 1D	-	4p 5F	2	-	1
113.0774Cu II	0	2.72 -	13.68	4s 3D	-	4p 5D	3	-	2
113.0885Cu II	1	2.98 -	13.94	4s 3D	-	4p 5G	1	-	2
113.2792Cu II	0	2.83 -	13.78	4s 3D	-	4p 5D	2	-	1
113.3567Cu II	0	3.26 -	14.19	4s 1D	-	4p 5F	2	-	2
113.9785Cu II	0	3.26 -	14.13	4s 1D	-	4p 5F	2	-	3
114.2640Cu II	3	2.83 -	13.68	4s 3D	-	4p 5D	2	-	2
114.4856Cu II	4	2.72 -	13.55	4s 3D	-	4p 5D	3	-	3
114.7760Cu II	1	2.98 -	13.78	4s 3D	-	4p 5D	1	-	1
115.7021Cu II	1	2.83 -	13.55	4s 3D	-	4p 5D	2	-	3
115.7872Cu II	1	2.98 -	13.68	4s 3D	-	4p 5D	1	-	2
116.0630Cu II	0	3.26 -	13.94	4s 1D	-	4p 5G	2	-	2
116.2601Cu II	1	2.72 -	13.38	4s 3D	-	4p 5D	3	-	4
116.8063Cu II	0	3.26 -	13.87	4s 1D	-	4p 5G	2	-	3
117.8411Cu II	0	3.26 -	13.78	4s 1D	-	4p 5D	2	-	1
118.5343Cu II	1	8.23 -	18.69	4p 3P	-	8s 3D	2	-	2
118.5899Cu II	14	8.23 -	18.69	4p 3P	-	8s 3D	2	-	3
118.9073Cu II	0	3.26 -	13.68	4s 1D	-	4p 5D	2	-	2
120.4653Cu II	0	3.26 -	13.55	4s 1D	-	4p 5D	2	-	3
120.6769Cu II	5	8.42 -	18.69	4p 3P	-	8s 3D	1	-	2
121.4555Cu II	17	8.49 -	18.69	4p 3F	-	8s 3D	3	-	2
121.5138Cu II	4	8.49 -	18.69	4p 3F	-	8s 3D	3	-	3
121.6193Cu II	1	8.23 -	18.43	4p 3P	-	6d 3F	2	-	2
121.6361Cu II	5	8.23 -	18.43	4p 3P	-	6d 1F	2	-	3
121.7415Cu II	2	8.23 -	18.42	4p 3P	-	6d 1D	2	-	2
121.7984Cu II	1	8.23 -	18.41	4p 3P	-	6d 3D	2	-	1
121.8575Cu II	0	8.23 -	18.41	4p 3P	-	6d 3G	2	-	3
121.9334Cu II	27	8.52 -	18.69	4p 3F	-	8s 3D	4	-	3
122.0363Cu II	0	8.23 -	18.39	4p 3P	-	6d 1P	2	-	1
123.0223Cu II	4	8.42 -	18.50	4p 3P	-	6d 1S	1	-	0
123.5873Cu II	4	8.66 -	18.69	4p 3F	-	8s 3D	2	-	2
123.6477Cu II	1	8.66 -	18.69	4p 3F	-	8s 3D	2	-	3
123.8759Cu II	1	8.42 -	18.43	4p 3P	-	6d 3F	1	-	2
124.0027Cu II	26	8.42 -	18.42	4p 3P	-	6d 1D	1	-	2
124.0618Cu II	2	8.42 -	18.41	4p 3P	-	6d 3D	1	-	1
124.1964Cu II	2	8.23 -	18.22	4p 3P	-	7s 1D	2	-	2

124.2738Cu II	1	8.23 -	18.21	4p 3P	-	7s 3D	2	-	1
124.3086Cu II	20	8.42 -	18.39	4p 3P	-	6d 1P	1	-	1
124.6965Cu II	1	8.49 -	18.43	4p 3F	-	6d 3F	3	-	2
124.7142Cu II	3	8.49 -	18.43	4p 3F	-	6d 1F	3	-	3
124.7561Cu II	2	8.23 -	18.17	4p 3P	-	6d 3D	2	-	2
124.7852Cu II	1	8.23 -	18.17	4p 3P	-	6d 3F	2	-	3
124.8249Cu II	0	8.49 -	18.42	4p 3F	-	6d 1D	3	-	2
124.8792Cu II	43	8.23 -	18.16	4p 3P	-	6d 3D	2	-	3
124.8942Cu II	9	8.49 -	18.41	4p 3F	-	6d 1G	3	-	4
124.9469Cu II	1	8.49 -	18.41	4p 3F	-	6d 3G	3	-	3
124.9856Cu II	7	8.23 -	18.15	4p 3P	-	6d 3P	2	-	1
125.0048Cu II	66	8.23 -	18.15	4p 3P	-	6d 3P	2	-	2
125.0923Cu II	4	8.78 -	18.69	4p 3D	-	8s 3D	3	-	2
125.1542Cu II	7	8.78 -	18.69	4p 3D	-	8s 3D	3	-	3
125.3181Cu II	53	8.23 -	18.13	4p 3P	-	6d 3S	2	-	1
125.3374Cu II	0	8.52 -	18.41	4p 3F	-	6d 1G	4	-	4
125.5157Cu II	22	8.54 -	18.41	4p 3P	-	6d 3D	0	-	1
125.7683Cu II	14	8.54 -	18.39	4p 3P	-	6d 1P	0	-	1
126.1215Cu II	11	8.86 -	18.69	4p 3D	-	8s 3D	2	-	2
126.1845Cu II	1	8.86 -	18.69	4p 3D	-	8s 3D	2	-	3
126.2925Cu II	15	8.42 -	18.24	4p 3P	-	6d 3P	1	-	0
126.5506Cu II	8	8.42 -	18.22	4p 3P	-	7s 1D	1	-	2
126.6310Cu II	3	8.42 -	18.21	4p 3P	-	7s 3D	1	-	1
126.8032Cu II	1	8.92 -	18.69	4p 1F	-	8s 3D	3	-	2
126.8669Cu II	10	8.92 -	18.69	4p 1F	-	8s 3D	3	-	3
126.9446Cu II	23	8.66 -	18.43	4p 3F	-	6d 3F	2	-	2
126.9630Cu II	1	8.66 -	18.43	4p 3F	-	6d 1F	2	-	3
127.0352Cu II	4	8.87 -	18.63	4s2 3F	-	4p 3F	3	-	2
127.0778Cu II	3	8.66 -	18.42	4p 3F	-	6d 1D	2	-	2
127.1318Cu II	18	8.42 -	18.17	4p 3P	-	6d 3D	1	-	2
127.1398Cu II	3	8.66 -	18.41	4p 3F	-	6d 3D	2	-	1
127.2042Cu II	102	8.66 -	18.41	4p 3F	-	6d 3G	2	-	3
127.3701Cu II	18	8.42 -	18.15	4p 3P	-	6d 3P	1	-	1
127.3990Cu II	1	8.66 -	18.39	4p 3F	-	6d 1P	2	-	1
127.4071Cu II	2	8.49 -	18.22	4p 3F	-	7s 1D	3	-	2
127.4465Cu II	2	8.23 -	17.96	4p 3P	-	7s 3D	2	-	2
127.5572Cu II	30	8.23 -	17.95	4p 3P	-	7s 3D	2	-	3
127.7154Cu II	6	8.42 -	18.13	4p 3P	-	6d 3S	1	-	1
127.9961Cu II	6	8.49 -	18.17	4p 3F	-	6d 3D	3	-	2
128.0214Cu II	1	8.49 -	18.17	4p 3F	-	6d 3F	3	-	4
128.0268Cu II	47	8.49 -	18.17	4p 3F	-	6d 3F	3	-	3
128.1257Cu II	7	8.49 -	18.16	4p 3F	-	6d 3D	3	-	3

128.1462 Cu II	7	8.54 -	18.21	4p 3P	-	7s 3D	0	-	1
128.2455 Cu II	165	8.49 -	18.15	4p 3F	-	6d 3G	3	-	4
128.2580 Cu II	6	8.49 -	18.15	4p 3F	-	6d 3P	3	-	2
128.4871 Cu II	59	8.52 -	18.17	4p 3F	-	6d 3F	4	-	4
128.4926 Cu II	1	8.52 -	18.17	4p 3F	-	6d 3F	4	-	3
128.5330 Cu II	2	8.78 -	18.43	4p 3D	-	6d 3F	3	-	2
128.5519 Cu II	20	8.78 -	18.43	4p 3D	-	6d 1F	3	-	3
128.5922 Cu II	13	8.52 -	18.16	4p 3F	-	6d 3D	4	-	3
128.6695 Cu II	2	8.78 -	18.42	4p 3D	-	6d 1D	3	-	2
128.7129 Cu II	12	8.52 -	18.15	4p 3F	-	6d 3G	4	-	4
128.7326 Cu II	2	9.06 -	18.69	4p 3D	-	8s 3D	1	-	2
128.7468 Cu II	84	8.78 -	18.41	4p 3D	-	6d 1G	3	-	4
128.7468 Cu II	226	8.52 -	18.15	4p 3F	-	6d 3G	4	-	5
128.7991 Cu II	5	8.78 -	18.41	4p 3D	-	6d 3G	3	-	3
128.9889 Cu II	4	9.02 -	18.63	4s2 3F	-	4p 3F	2	-	2
129.1503 Cu II	0	9.09 -	18.69	4p 1D	-	8s 3D	2	-	2
129.2163 Cu II	1	9.09 -	18.69	4p 1D	-	8s 3D	2	-	3
129.2568 Cu II	1	8.54 -	18.13	4p 3P	-	6d 3S	0	-	1
129.5561 Cu II	4	9.12 -	18.69	4p 1P	-	8s 3D	1	-	2
129.6199 Cu II	7	8.86 -	18.43	4p 3D	-	6d 3F	2	-	2
129.6391 Cu II	1	8.86 -	18.43	4p 3D	-	6d 1F	2	-	3
129.7550 Cu II	4	8.66 -	18.22	4p 3F	-	7s 1D	2	-	2
129.7587 Cu II	1	8.86 -	18.42	4p 3D	-	6d 1D	2	-	2
129.8234 Cu II	1	8.86 -	18.41	4p 3D	-	6d 3D	2	-	1
129.8395 Cu II	20	8.66 -	18.21	4p 3F	-	7s 3D	2	-	1
129.8905 Cu II	35	8.86 -	18.41	4p 3D	-	6d 3G	2	-	3
129.9268 Cu II	9	8.42 -	17.96	4p 3P	-	7s 3D	1	-	2
130.0937 Cu II	0	8.86 -	18.39	4p 3D	-	6d 1P	2	-	1
130.3401 Cu II	2	8.92 -	18.43	4p 1F	-	6d 3F	3	-	2
130.3594 Cu II	18	8.92 -	18.43	4p 1F	-	6d 1F	3	-	3
130.3660 Cu II	14	8.66 -	18.17	4p 3F	-	6d 3D	2	-	2
130.3978 Cu II	25	8.66 -	18.17	4p 3F	-	6d 3F	2	-	3
130.4804 Cu II	2	8.92 -	18.42	4p 1F	-	6d 1D	3	-	2
130.5004 Cu II	0	8.66 -	18.16	4p 3F	-	6d 3D	2	-	3
130.5561 Cu II	92	8.92 -	18.41	4p 1F	-	6d 1G	3	-	4
130.6137 Cu II	5	8.92 -	18.41	4p 1F	-	6d 3G	3	-	3
130.6166 Cu II	5	8.66 -	18.15	4p 3F	-	6d 3P	2	-	1
130.6376 Cu II	1	8.66 -	18.15	4p 3F	-	6d 3P	2	-	2
130.8297 Cu II	34	8.49 -	17.96	4p 3F	-	7s 3D	3	-	2
130.9463 Cu II	8	8.49 -	17.95	4p 3F	-	7s 3D	3	-	3
131.4149 Cu II	21	8.78 -	18.22	4p 3D	-	7s 1D	3	-	2
131.4337 Cu II	56	8.52 -	17.95	4p 3F	-	7s 3D	4	-	3

132.0418Cu II	2	8.78 -	18.17	4p 3D	-	6d 3D	3	-	2
132.0686Cu II	69	8.78 -	18.17	4p 3D	-	6d 3F	3	-	4
132.0744Cu II	4	8.78 -	18.17	4p 3D	-	6d 3F	3	-	3
132.1796Cu II	35	8.78 -	18.16	4p 3D	-	6d 3D	3	-	3
132.2633Cu II	17	9.12 -	18.50	4p 1P	-	6d 1S	1	-	0
132.3071Cu II	8	8.78 -	18.15	4p 3D	-	6d 3G	3	-	4
132.3204Cu II	12	8.78 -	18.15	4p 3D	-	6d 3P	3	-	2
132.3794Cu II	32	9.06 -	18.43	4p 3D	-	6d 3F	1	-	2
132.5242Cu II	31	9.06 -	18.42	4p 3D	-	6d 1D	1	-	2
132.5513Cu II	2	8.86 -	18.22	4p 3D	-	7s 1D	2	-	2
132.5917Cu II	17	9.06 -	18.41	4p 3D	-	6d 3D	1	-	1
132.6395Cu II	7	8.86 -	18.21	4p 3D	-	7s 3D	2	-	1
132.8212Cu II	16	9.09 -	18.43	4p 1D	-	6d 3F	2	-	2
132.8413Cu II	96	9.09 -	18.43	4p 1D	-	6d 1F	2	-	3
132.8736Cu II	6	9.06 -	18.39	4p 3D	-	6d 1P	1	-	1
132.9670Cu II	35	9.09 -	18.42	4p 1D	-	6d 1D	2	-	2
133.0349Cu II	4	9.09 -	18.41	4p 1D	-	6d 3D	2	-	1
133.1053Cu II	1	9.09 -	18.41	4p 1D	-	6d 3G	2	-	3
133.1891Cu II	44	8.86 -	18.17	4p 3D	-	6d 3D	2	-	2
133.2223Cu II	67	8.86 -	18.17	4p 3D	-	6d 3F	2	-	3
133.2504Cu II	20	9.12 -	18.43	4p 1P	-	6d 3F	1	-	2
133.3045Cu II	21	8.92 -	18.22	4p 1F	-	7s 1D	3	-	2
133.3067Cu II	7	8.66 -	17.96	4p 3F	-	7s 3D	2	-	2
133.3187Cu II	10	9.09 -	18.39	4p 1D	-	6d 1P	2	-	1
133.3293Cu II	1	8.86 -	18.16	4p 3D	-	6d 3D	2	-	3
133.3971Cu II	4	9.12 -	18.42	4p 1P	-	6d 1D	1	-	2
133.4278Cu II	1	8.66 -	17.95	4p 3F	-	7s 3D	2	-	3
133.4506Cu II	13	8.86 -	18.15	4p 3D	-	6d 3P	2	-	1
133.4655Cu II	16	9.12 -	18.41	4p 1P	-	6d 3D	1	-	1
133.4726Cu II	2	8.86 -	18.15	4p 3D	-	6d 3P	2	-	2
133.7511Cu II	13	9.12 -	18.39	4p 1P	-	6d 1P	1	-	1
133.8298Cu II	0	8.86 -	18.13	4p 3D	-	6d 3S	2	-	1
133.9495Cu II	1	8.92 -	18.17	4p 1F	-	6d 3D	3	-	2
133.9771Cu II	55	8.92 -	18.17	4p 1F	-	6d 3F	3	-	4
133.9831Cu II	1	8.92 -	18.17	4p 1F	-	6d 3F	3	-	3
134.0914Cu II	45	8.92 -	18.16	4p 1F	-	6d 3D	3	-	3
134.2226Cu II	2	8.92 -	18.15	4p 1F	-	6d 3G	3	-	4
134.2363Cu II	17	8.92 -	18.15	4p 1F	-	6d 3P	3	-	2
135.0594Cu II	8	8.78 -	17.96	4p 3D	-	7s 3D	3	-	2
135.1428Cu II	4	9.06 -	18.24	4p 3D	-	6d 3P	1	-	0
135.1837Cu II	15	8.78 -	17.95	4p 3D	-	7s 3D	3	-	3

135.4384Cu II	1	9.06 -	18.22	4p 3D	-	7s 1D	1	-	2
135.5305Cu II	15	9.06 -	18.21	4p 3D	-	7s 3D	1	-	1
135.8773Cu II	540	0.00 -	9.12 3d10 1S	-	4p 1P	0	-	1	
135.9009Cu II	24	9.09 -	18.22	4p 1D	-	7s 1D	2	-	2
135.9936Cu II	5	9.09 -	18.21	4p 1D	-	7s 3D	2	-	1
136.0507Cu II	3	9.12 -	18.24	4p 1P	-	6d 3P	1	-	0
136.1043Cu II	6	9.06 -	18.17	4p 3D	-	6d 3D	1	-	2
136.2600Cu II	22	8.86 -	17.96	4p 3D	-	7s 3D	2	-	2
136.3503Cu II	11	9.12 -	18.22	4p 1P	-	7s 1D	1	-	2
136.3775Cu II	7	9.06 -	18.15	4p 3D	-	6d 3P	1	-	1
136.3865Cu II	1	8.86 -	17.95	4p 3D	-	7s 3D	2	-	3
136.4436Cu II	1	9.12 -	18.21	4p 1P	-	7s 3D	1	-	1
136.5714Cu II	0	9.09 -	18.17	4p 1D	-	6d 3D	2	-	2
136.6063Cu II	0	9.09 -	18.17	4p 1D	-	6d 3F	2	-	3
136.7188Cu II	2	9.09 -	18.16	4p 1D	-	6d 3D	2	-	3
136.7735Cu II	1	9.06 -	18.13	4p 3D	-	6d 3S	1	-	1
136.7951Cu II	34	0.00 -	9.06 3d10 1S	-	4p 3D	0	-	1	
136.8464Cu II	1	9.09 -	18.15	4p 1D	-	6d 3P	2	-	1
136.8695Cu II	3	9.09 -	18.15	4p 1D	-	6d 3P	2	-	2
137.0252Cu II	13	9.12 -	18.17	4p 1P	-	6d 3D	1	-	2
137.0560Cu II	2	8.92 -	17.96	4p 1F	-	7s 3D	3	-	2
137.1840Cu II	21	8.92 -	17.95	4p 1F	-	7s 3D	3	-	3
137.2451Cu II	2	9.09 -	18.13	4p 1D	-	6d 3S	2	-	1
137.3021Cu II	14	9.12 -	18.15	4p 1P	-	6d 3P	1	-	1
137.5074Cu II	3	8.23 -	17.25	4p 3P	-	5d 3F	2	-	2
137.5502Cu II	13	8.23 -	17.25	4p 3P	-	5d 1F	2	-	3
137.6031Cu II	4	8.42 -	17.43	4p 3P	-	5d 1S	1	-	0
137.7035Cu II	3	9.12 -	18.13	4p 1P	-	6d 3S	1	-	1
137.8122Cu II	4	8.23 -	17.23	4p 3P	-	5d 1D	2	-	2
137.9698Cu II	1	8.23 -	17.22	4p 3P	-	5d 3D	2	-	1
138.1208Cu II	0	8.23 -	17.21	4p 3P	-	5d 3G	2	-	3
138.5534Cu II	1	8.23 -	17.18	4p 3P	-	5d 1P	2	-	1
139.3128Cu II	3	9.06 -	17.96	4p 3D	-	7s 3D	1	-	2
139.8021Cu II	0	9.09 -	17.96	4p 1D	-	7s 3D	2	-	2
139.8642Cu II	62	8.64 -	17.51	4s2 3F	-	6p 1F	4	-	3
139.9353Cu II	2	9.09 -	17.95	4p 1D	-	7s 3D	2	-	3
140.2777Cu II	7	9.12 -	17.96	4p 1P	-	7s 3D	1	-	2
140.3992Cu II	2	8.42 -	17.25	4p 3P	-	5d 3F	1	-	2
140.7169Cu II	75	8.42 -	17.23	4p 3P	-	5d 1D	1	-	2
140.8812Cu II	8	8.42 -	17.22	4p 3P	-	5d 3D	1	-	1
141.4541Cu II	1	8.49 -	17.25	4p 3F	-	5d 3F	3	-	2
141.4898Cu II	58	8.42 -	17.18	4p 3P	-	5d 1P	1	-	1

141.4994Cu II	8	8.49 -	17.25	4p 3F	-	5d 1F	3	-	3
141.5329Cu II	0	8.23 -	17.00	4p 3P	-	5d 3D	2	-	2
141.6108Cu II	1	8.23 -	16.99	4p 3P	-	5d 3F	2	-	3
141.7766Cu II	1	8.49 -	17.23	4p 3F	-	5d 1D	3	-	2
141.8426Cu II	137	8.23 -	16.98	4p 3P	-	5d 3D	2	-	3
141.9746Cu II	24	8.49 -	17.22	4p 3F	-	5d 1G	3	-	4
142.0686Cu II	0	8.52 -	17.25	4p 3F	-	5d 1F	4	-	3
142.1033Cu II	0	8.49 -	17.21	4p 3F	-	5d 3G	3	-	3
142.1374Cu II	25	8.23 -	16.96	4p 3P	-	5d 3P	2	-	1
142.1759Cu II	215	8.23 -	16.96	4p 3P	-	5d 3P	2	-	2
142.4448Cu II	154	8.87 -	17.57	4s2 3F	-	6p 3F	3	-	2
142.5476Cu II	1	8.52 -	17.22	4p 3F	-	5d 1G	4	-	4
142.6774Cu II	0	8.52 -	17.21	4p 3F	-	5d 3G	4	-	3
142.7591Cu II	60	8.54 -	17.22	4p 3P	-	5d 3D	0	-	1
142.7829Cu II	6	8.64 -	17.33	4s2 3F	-	6p 3D	4	-	3
142.8358Cu II	127	8.87 -	17.55	4s2 3F	-	6p 1D	3	-	2
143.0243Cu II	163	8.23 -	16.90	4p 3P	-	5d 3S	2	-	1
143.3840Cu II	51	8.54 -	17.18	4p 3P	-	5d 1P	0	-	1
143.4770Cu II	54	8.42 -	17.06	4p 3P	-	5d 3P	1	-	0
143.4904Cu II	994	8.64 -	17.28	4s2 3F	-	6p 3F	4	-	4
143.5316Cu II	320	8.87 -	17.51	4s2 3F	-	6p 1F	3	-	3
143.6236Cu II	444	8.64 -	17.28	4s2 3F	-	6p 3F	4	-	3
144.2139Cu II	4	8.23 -	16.83	4p 3P	-	6s 1D	2	-	2
144.3542Cu II	70	8.66 -	17.25	4p 3F	-	5d 3F	2	-	2
144.4013Cu II	2	8.66 -	17.25	4p 3F	-	5d 1F	2	-	3
144.4130Cu II	1	8.23 -	16.82	4p 3P	-	6s 3D	2	-	1
144.5984Cu II	61	8.42 -	17.00	4p 3P	-	5d 3D	1	-	2
144.6901Cu II	9	8.66 -	17.23	4p 3F	-	5d 1D	2	-	2
144.8638Cu II	11	8.66 -	17.22	4p 3F	-	5d 3D	2	-	1
144.9058Cu II	580	9.02 -	17.57	4s2 3F	-	6p 3F	2	-	2
145.0304Cu II	310	8.66 -	17.21	4p 3F	-	5d 3G	2	-	3
145.2294Cu II	53	8.42 -	16.96	4p 3P	-	5d 3P	1	-	1
145.2696Cu II	2	8.42 -	16.96	4p 3P	-	5d 3P	1	-	2
145.3104Cu II	176	9.02 -	17.55	4s2 3F	-	6p 1D	2	-	2
145.5074Cu II	1	8.66 -	17.18	4p 3F	-	5d 1P	2	-	1
145.5662Cu II	41	8.64 -	17.16	4s2 3F	-	4p 3G	4	-	3
145.7176Cu II	24	8.49 -	17.00	4p 3F	-	5d 3D	3	-	2
145.7796Cu II	1	8.49 -	16.99	4p 3F	-	5d 3F	3	-	4
145.8002Cu II	158	8.49 -	16.99	4p 3F	-	5d 3F	3	-	3
145.9412Cu II	287	9.02 -	17.51	4s2 3F	-	6p 3D	2	-	1
146.0306Cu II	49	9.02 -	17.51	4s2 3F	-	6p 1F	2	-	3
146.0459Cu II	10	8.49 -	16.98	4p 3F	-	5d 3D	3	-	3



146.1554Cu II	22	8.42 -	16.90	4p 3P	-	5d 3S	1	-	1	
146.3752Cu II	525	8.49 -	16.96	4p 3F	-	5d 3G	3	-	4	
146.3838Cu II	187	8.52 -	16.99	4p 3F	-	5d 3F	4	-	4	
146.3993Cu II	13	8.49 -	16.96	4p 3F	-	5d 3P	3	-	2	
146.4046Cu II	4	8.52 -	16.99	4p 3F	-	5d 3F	4	-	3	
146.4117Cu II	7	8.78 -	17.25	4p 3D	-	5d 3F	3	-	2	
146.4602Cu II	67	8.78 -	17.25	4p 3D	-	5d 1F	3	-	3	
146.5036Cu II	0	9.02 -	17.48	4s2 3F	-	6p 1P	2	-	1	
146.5541Cu II	541	8.64 -	17.10	4s2 3F	-	4p 3P	4	-	4	
146.6070Cu II	1362	8.87 -	17.33	4s2 3F	-	6p 3D	3	-	3	3
146.6524Cu II	37	8.52 -	16.98	4p 3F	-	5d 3D	4	-	3	
146.6728Cu II	7	8.87 -	17.32	4s2 3F	-	6p 3D	3	-	2	
146.7572Cu II	6	8.78 -	17.23	4p 3D	-	5d 1D	3	-	2	
146.9693Cu II	254	8.78 -	17.22	4p 3D	-	5d 1G	3	-	4	
146.9843Cu II	33	8.52 -	16.96	4p 3F	-	5d 3G	4	-	4	
147.0697Cu II	712	8.52 -	16.95	4p 3F	-	5d 3G	4	-	5	
147.1073Cu II	12	8.78 -	17.21	4p 3D	-	5d 3G	3	-	3	
147.2257Cu II	0	8.54 -	16.96	4p 3P	-	5d 3P	0	-	1	
147.2395Cu II	9	0.00 -	8.42	3d10 1S	-	4p 3P	0	-	1	
147.3530Cu II	139	8.87 -	17.28	4s2 3F	-	6p 3F	3	-	4	
147.3978Cu II	20	8.42 -	16.83	4p 3P	-	6s 1D	1	-	2	
147.4935Cu II	17	8.87 -	17.28	4s2 3F	-	6p 3F	3	-	3	
147.6059Cu II	9	8.42 -	16.82	4p 3P	-	6s 3D	1	-	1	
147.8236Cu II	22	8.86 -	17.25	4p 3D	-	5d 3F	2	-	2	
147.8731Cu II	1	8.86 -	17.25	4p 3D	-	5d 1F	2	-	3	
148.1544Cu II	4	8.87 -	17.24	4s2 3F	-	4p 3D	3	-	2	
148.1759Cu II	1	8.86 -	17.23	4p 3D	-	5d 1D	2	-	2	
148.1760Cu II	1	9.06 -	17.43	4p 3D	-	5d 1S	1	-	0	
148.1775Cu II	1	8.54 -	16.90	4p 3P	-	5d 3S	0	-	1	
148.3581Cu II	3	8.86 -	17.22	4p 3D	-	5d 3D	2	-	1	
148.4168Cu II	2	8.64 -	17.00	4s2 3F	-	4p 3G	4	-	5	
148.4263Cu II	0	8.64 -	17.00	4s2 3F	-	4p 3G	4	-	3	
148.5328Cu II	120	8.86 -	17.21	4p 3D	-	5d 3G	2	-	3	
148.5610Cu II	5	8.49 -	16.83	4p 3F	-	6s 1D	3	-	2	
148.5678Cu II	4	8.23 -	16.58	4p 3P	-	6s 3D	2	-	2	
148.7610Cu II	6	8.92 -	17.25	4p 1F	-	5d 3F	3	-	2	
148.7970Cu II	43	8.66 -	17.00	4p 3F	-	5d 3D	2	-	2	
148.8110Cu II	54	8.92 -	17.25	4p 1F	-	5d 1F	3	-	3	
148.8637Cu II	85	8.23 -	16.56	4p 3P	-	6s 3D	2	-	3	
148.8831Cu II	87	8.66 -	16.99	4p 3F	-	5d 3F	2	-	3	
149.0331Cu II	0	8.86 -	17.18	4p 3D	-	5d 1P	2	-	1	

149.1177Cu II	4	8.92 -	17.23	4p 1F	-	5d 1D	3	-	2	
149.1394Cu II	2	8.66 -	16.98	4p 3F	-	5d 3D	2	-	3	
149.2153Cu II	248	9.02 -	17.33	4s2 3F	-	6p 3D	2	-	3	
149.2682Cu II	61	9.12 -	17.43	4p 1P	-	5d 1S	1	-	0	
149.2834Cu II	1	8.64 -	16.95	4s2 3F	-	4p 3G	4	-	4	
149.2834Cu II	1343	9.02 -	17.32	4s2 3F	-	6p 3D	2	-	2	
149.3366Cu II	302	8.92 -	17.22	4p 1F	-	5d 1G	3	-	4	
149.4653Cu II	13	8.66 -	16.96	4p 3F	-	5d 3P	2	-	1	
149.4791Cu II	13	8.92 -	17.21	4p 1F	-	5d 3G	3	-	3	
149.5079Cu II	1	8.66 -	16.96	4p 3F	-	5d 3P	2	-	2	
149.5430Cu II	329	8.87 -	17.16	4s2 3F	-	4p 3G	3	-	3	
149.6687Cu II	19	8.54 -	16.82	4p 3P	-	6s 3D	0	-	1	
149.8417Cu II	1	8.64 -	16.92	4s2 3F	-	4p 3D	4	-	3	
150.1336Cu II	17	9.02 -	17.28	4s2 3F	-	6p 3F	2	-	3	
150.3368Cu II	172	9.02 -	17.26	4s2 3F	-	6p 3P	2	-	1	
150.4463Cu II	0	8.66 -	16.90	4p 3F	-	5d 3S	2	-	1	
150.4757Cu II	0	-		-	-					
150.5388Cu II	0	-		-	-					
150.5857Cu II	111	8.87 -	17.10	4s2 3F	-	4p 3P	3	-	4	
150.8185Cu II	23	9.02 -	17.24	4s2 3F	-	4p 3D	2	-	2	
150.8632Cu II	0	-		-	-					
150.9840Cu II	1	8.78 -	17.00	4p 3D	-	5d 3D	3	-	2	
151.0506Cu II	225	8.78 -	16.99	4p 3D	-	5d 3F	3	-	4	
151.0727Cu II	4	8.78 -	16.99	4p 3D	-	5d 3F	3	-	3	
151.2174Cu II	442	8.64 -	16.84	4s2 3F	-	4p 3F	4	-	4	
151.2465Cu II	118	8.87 -	17.07	4s2 3F	-	4p 1D	3	-	2	
151.3366Cu II	111	8.78 -	16.98	4p 3D	-	5d 3D	3	-	3	
151.4234Cu II	97	9.06 -	17.25	4p 3D	-	5d 3F	1	-	2	
151.4492Cu II	1672	8.64 -	16.83	4s2 3F	-	4p 3F	4	-	3	
151.6901Cu II	25	8.78 -	16.96	4p 3D	-	5d 3G	3	-	4	
151.7160Cu II	37	8.78 -	16.96	4p 3D	-	5d 3P	3	-	2	
151.7631Cu II	10	8.66 -	16.83	4p 3F	-	6s 1D	2	-	2	
151.7930Cu II	102	9.06 -	17.23	4p 3D	-	5d 1D	1	-	2	
151.9492Cu II	27	8.42 -	16.58	4p 3P	-	6s 3D	1	-	2	
151.9837Cu II	58	8.66 -	16.82	4p 3F	-	6s 3D	2	-	1	
151.9843Cu II	49	9.06 -	17.22	4p 3D	-	5d 3D	1	-	1	
152.0017Cu II	51	9.09 -	17.25	4p 1D	-	5d 3F	2	-	2	
152.0540Cu II	302	9.09 -	17.25	4p 1D	-	5d 1F	2	-	3	
152.2577Cu II	88	9.02 -	17.16	4s2 3F	-	4p 3G	2	-	3	
152.3741Cu II	110	9.09 -	17.23	4p 1D	-	5d 1D	2	-	2	
152.4860Cu II	141	8.86 -	17.00	4p 3D	-	5d 3D	2	-	2	
152.5631Cu II	78	8.87 -	17.00	4s2 3F	-	4p 3G	3	-	3	

152.5641Cu II	64	9.12 -	17.25	4p 1P	-	5d 3F	1	-	2	
152.5764Cu II	13	9.09 -	17.22	4p 1D	-	5d 3D	2	-	1	
152.5764Cu II	191	8.86 -	16.99	4p 3D	-	5d 3F	2	-	3	
152.6928Cu II	21	9.06 -	17.18	4p 3D	-	5d 1P	1	-	1	
152.7516Cu II	3	9.09 -	17.21	4p 1D	-	5d 3G	2	-	3	
152.8456Cu II	9	8.86 -	16.98	4p 3D	-	5d 3D	2	-	3	
152.9393Cu II	13	9.12 -	17.23	4p 1P	-	5d 1D	1	-	2	
153.1335Cu II	51	9.12 -	17.22	4p 1P	-	5d 3D	1	-	1	
153.1856Cu II	100	8.49 -	16.58	4p 3F	-	6s 3D	3	-	2	
153.1879Cu II	39	8.86 -	16.96	4p 3D	-	5d 3P	2	-	1	
153.2131Cu II	1726	8.87 -	16.96	4s2 3F	-	4p 3F	3	-	2	
153.2326Cu II	1	8.86 -	16.96	4p 3D	-	5d 3P	2	-	2	
153.2808Cu II	29	9.09 -	17.18	4p 1D	-	5d 1P	2	-	1	
153.3986Cu II	1245	9.02 -	17.10	4s2 3F	-	4p 3S	2	-	1	
153.4627Cu II	16	8.87 -	16.95	4s2 3F	-	4p 3G	3	-	4	
153.4836Cu II	1	8.92 -	17.00	4p 1F	-	5d 3D	3	-	2	
153.5002Cu II	21	8.49 -	16.56	4p 3F	-	6s 3D	3	-	3	
153.5524Cu II	159	8.92 -	16.99	4p 1F	-	5d 3F	3	-	4	
153.5752Cu II	3	8.92 -	16.99	4p 1F	-	5d 3F	3	-	3	
153.7559Cu II	4765	8.64 -	16.71	4s2 3F	-	4p 3H	4	-	4	
153.8480Cu II	141	8.92 -	16.98	4p 1F	-	5d 3D	3	-	3	
153.8527Cu II	37	9.12 -	17.18	4p 1P	-	5d 1P	1	-	1	
154.0239Cu II	451	9.02 -	17.07	4s2 3F	-	4p 1D	2	-	2	
154.0389Cu II	62	8.78 -	16.83	4p 3D	-	6s 1D	3	-	2	
154.0588Cu II	3098	8.87 -	16.92	4s2 3F	-	4p 3D	3	-	3	
154.1703Cu II	160	8.52 -	16.56	4p 3F	-	6s 3D	4	-	3	
154.1756Cu II	3266	10.59 -	18.63	4s2 1D	-	4p 3F	2	-	2	
154.2133Cu II	2	8.92 -	16.96	4p 1F	-	5d 3G	3	-	4	
154.2186Cu II	1	8.86 -	16.90	4p 3D	-	5d 3S	2	-	1	
154.2401Cu II	53	8.92 -	16.96	4p 1F	-	5d 3P	3	-	2	
154.4677Cu II	0	-	-	-	-	-	-	-	-	
154.7958Cu II	0	-	-	-	-	-	-	-	-	
155.0097Cu II	11	9.06 -	17.06	4p 3D	-	5d 3P	1	-	0	
155.0653Cu II	1	9.02 -	17.01	4s2 3F	-	4p 1P	2	-	1	
155.1389Cu II	0	-	-	-	-	-	-	-	-	
155.2296Cu II	1	8.87 -	16.86	4s2 3F	-	4p 5S	3	-	2	
155.2646Cu II	8073	8.64 -	16.63	4s2 3F	-	4p 3H	4	-	5	
155.3896Cu II	4093	9.02 -	17.00	4s2 3F	-	4p 3G	2	-	3	
155.5134Cu II	5396	8.87 -	16.84	4s2 3F	-	4p 3F	3	-	4	
155.5703Cu II	2153	8.64 -	16.61	4s2 3F	-	4p 3D	4	-	3	
155.6026Cu II	5	8.86 -	16.83	4p 3D	-	6s 1D	2	-	2	
155.7587Cu II	5	8.87 -	16.83	4s2 3F	-	4p 3F	3	-	3	

155.8345 Cu II	18	8.86 -	16.82	4p 3D	-	6s 3D	2	-	1
156.0639 Cu II	47	9.02 -	16.96	4s2 3F	-	4p 3F	2	-	2
156.2053 Cu II	2	9.12 -	17.06	4p 1P	-	5d 3P	1	-	0
156.3194 Cu II	14	9.06 -	17.00	4p 3D	-	5d 3D	1	-	2
156.5924 Cu II	21	8.66 -	16.58	4p 3F	-	6s 3D	2	-	2
156.6415 Cu II	58	8.92 -	16.83	4p 1F	-	6s 1D	3	-	2
156.9212 Cu II	1	8.66 -	16.56	4p 3F	-	6s 3D	2	-	3
156.9416 Cu II	1	9.09 -	17.00	4p 1D	-	5d 3D	2	-	2
156.9416 Cu II	643	9.02 -	16.92	4s2 3F	-	4p 3D	2	-	3
157.0315 Cu II	1	9.09 -	16.99	4p 1D	-	5d 3F	2	-	3
157.0571 Cu II	17	9.06 -	16.96	4p 3D	-	5d 3P	1	-	1
157.1041 Cu II	1	9.06 -	16.96	4p 3D	-	5d 3P	1	-	2
157.3167 Cu II	4	9.09 -	16.98	4p 1D	-	5d 3D	2	-	3
157.5353 Cu II	35	9.12 -	17.00	4p 1P	-	5d 3D	1	-	2
157.6793 Cu II	1	9.09 -	16.96	4p 1D	-	5d 3P	2	-	1
157.7267 Cu II	7	9.09 -	16.96	4p 1D	-	5d 3P	2	-	2
157.9492 Cu II	0	-		-		-			
158.0626 Cu II	0	-		-		-			
158.1407 Cu II	3	9.06 -	16.90	4p 3D	-	5d 3S	1	-	1
158.1567 Cu II	1	9.02 -	16.86	4s2 3F	-	4p 5S	2	-	2
158.1995 Cu II	929	8.87 -	16.71	4s2 3F	-	4p 3H	3	-	4
158.2846 Cu II	44	9.12 -	16.96	4p 1P	-	5d 3P	1	-	1
158.3324 Cu II	1	9.12 -	16.96	4p 1P	-	5d 3P	1	-	2
158.3682 Cu II	313	8.87 -	16.70	4s2 3F	-	4p 3D	3	-	2
158.7060 Cu II	3	9.02 -	16.83	4s2 3F	-	4p 3F	2	-	3
158.7715 Cu II	5	9.09 -	16.90	4p 1D	-	5d 3S	2	-	1
159.0165 Cu II	21	8.78 -	16.58	4p 3D	-	6s 3D	3	-	2
159.3556 Cu II	41	8.78 -	16.56	4p 3D	-	6s 3D	3	-	3
159.3852 Cu II	7	9.12 -	16.90	4p 1P	-	5d 3S	1	-	1
159.5963 Cu II	1	9.06 -	16.83	4p 3D	-	6s 1D	1	-	2
159.8402 Cu II	42	9.06 -	16.82	4p 3D	-	6s 3D	1	-	1
160.1210 Cu II	14	8.87 -	16.61	4s2 3F	-	4p 3D	3	-	3
160.2273 Cu II	63	9.02 -	16.75	4s2 3F	-	4p 3D	2	-	1
160.2388 Cu II	69	9.09 -	16.83	4p 1D	-	6s 1D	2	-	2
160.4848 Cu II	14	9.09 -	16.82	4p 1D	-	6s 3D	2	-	1
160.5281 Cu II	321	8.87 -	16.59	4s2 3F	-	4p 3P	3	-	2
160.6834 Cu II	62	8.86 -	16.58	4p 3D	-	6s 3D	2	-	2
160.8639 Cu II	33	9.12 -	16.83	4p 1P	-	6s 1D	1	-	2
161.0296 Cu II	2	8.86 -	16.56	4p 3D	-	6s 3D	2	-	3
161.1118 Cu II	2	9.12 -	16.82	4p 1P	-	6s 3D	1	-	1
161.4161 Cu II	7	9.02 -	16.70	4s2 3F	-	4p 3D	2	-	2

161.5825Cu II	162	10.96	-	18.63	4s2 3P	-	4p 3F	2	-	2
161.7915Cu II	4	8.92	-	16.58	4p 1F	-	6s 3D	3	-	2
162.1426Cu II	59	8.92	-	16.56	4p 1F	-	6s 3D	3	-	3
162.2197Cu II	164	10.99	-	18.63	4s2 3P	-	4p 3F	1	-	2
162.2428Cu II	249	9.02	-	16.66	4s2 3F	-	4p 3P	2	-	1
162.3173Cu II	23	8.64	-	16.28	4s2 3F	-	4p 5D	4	-	3
163.0268Cu II	0	-		-			-			
163.2373Cu II	1	9.02	-	16.61	4s2 3F	-	4p 3D	2	-	3
163.6605Cu II	19	9.02	-	16.59	4s2 3F	-	4p 3P	2	-	2
164.9458Cu II	9	9.06	-	16.58	4p 3D	-	6s 3D	1	-	2
165.6322Cu II	0	9.09	-	16.58	4p 1D	-	6s 3D	2	-	2
166.0001Cu II	4	9.09	-	16.56	4p 1D	-	6s 3D	2	-	3
166.3002Cu II	17	9.12	-	16.58	4p 1P	-	6s 3D	1	-	2
167.2776Cu II	1	8.87	-	16.28	4s2 3F	-	4p 5D	3	-	3
168.3155Cu II	516	8.64	-	16.01	4s2 3F	-	4p 3D	4	-	3
168.3159Cu II	14	8.87	-	16.24	4s2 3F	-	4p 5D	3	-	2
169.2811Cu II	2	8.64	-	15.97	4s2 3F	-	4p 3F	4	-	4
169.9095Cu II	16	8.87	-	16.17	4s2 3F	-	4p 3P	3	-	2
169.9102Cu II	31	8.64	-	15.94	4s2 3F	-	4p 3F	4	-	3
170.6817Cu II	1	9.02	-	16.28	4s2 3F	-	4p 5D	2	-	3
171.7721Cu II	1	9.02	-	16.24	4s2 3F	-	4p 5D	2	-	2
171.7721Cu II	4	9.02	-	16.23	4s2 3F	-	4p 5D	2	-	1
173.4227Cu II	2	9.02	-	16.17	4s2 3F	-	4p 3P	2	-	2
173.6551Cu II	36	8.87	-	16.01	4s2 3F	-	4p 3D	3	-	3
174.4516Cu II	173	8.87	-	15.98	4s2 3F	-	4p 3D	3	-	2
174.6832Cu II	1	8.87	-	15.97	4s2 3F	-	4p 3F	3	-	4
175.3281Cu II	27	8.87	-	15.94	4s2 3F	-	4p 3D	3	-	2
175.3281Cu II	28	9.02	-	16.09	4s2 3F	-	4p 3P	2	-	1
175.3532Cu II	1	8.87	-	15.94	4s2 3F	-	4p 3F	3	-	3
177.3266Cu II	2	9.02	-	16.01	4s2 3F	-	4p 3D	2	-	3
177.4768Cu II	2	10.59	-	17.57	4s2 1D	-	6p 3F	2	-	2
178.0842Cu II	10	10.59	-	17.55	4s2 1D	-	6p 1D	2	-	2
178.1572Cu II	20	9.02	-	15.98	4s2 3F	-	4p 3D	2	-	2
179.0324Cu II	1	10.59	-	17.51	4s2 1D	-	6p 3D	2	-	1
179.0660Cu II	1	9.02	-	15.94	4s2 3F	-	4p 3D	2	-	2
179.0976Cu II	1	9.02	-	15.94	4s2 3F	-	4p 3F	2	-	3
179.1670Cu II	3	10.59	-	17.51	4s2 1D	-	6p 1F	2	-	3
179.8796Cu II	3	10.59	-	17.48	4s2 1D	-	6p 1P	2	-	1
180.0978Cu II	23	8.64	-	15.53	4s2 3F	-	4p 5P	4	-	3
183.4883Cu II	1	8.42	-	15.18	4p 3P	-	4d 1S	1	-	0
183.9848Cu II	3	10.59	-	17.33	4s2 1D	-	6p 3D	2	-	3
184.0884Cu II	1	10.59	-	17.32	4s2 1D	-	6p 3D	2	-	2

185.3830Cu II	1	10.59	-	17.28	4s2 1D	-	6p 3F	2	-	3
185.6929Cu II	20	10.59	-	17.26	4s2 1D	-	6p 3P	2	-	1
186.1623Cu II	6	8.87 -	15.53	4s2 3F	-	4p 5P	3	-	2	
186.2248Cu II	2	8.87 -	15.53	4s2 3F	-	4p 5P	3	-	3	
186.4283Cu II	23	10.59	-	17.24	4s2 1D	-	4p 3D	2	-	2
187.5746Cu II	3	8.64 -	15.25	4s2 3F	-	5p 1F	4	-	3	
188.0406Cu II	4	10.96	-	17.55	4s2 3P	-	6p 1D	2	-	2
188.2208Cu II	0	10.99	-	17.57	4s2 3P	-	6p 3F	1	-	2
188.6324Cu II	2	10.59	-	17.16	4s2 1D	-	4p 3G	2	-	3
188.9041Cu II	6	10.99	-	17.55	4s2 3P	-	6p 1D	1	-	2
189.2309Cu II	1	9.02 -	15.57	4s2 3F	-	4p 5P	2	-	1	
189.2483Cu II	1	10.96	-	17.51	4s2 3P	-	6p 1F	2	-	3
189.9715Cu II	1	10.99	-	17.51	4s2 3P	-	6p 3D	1	-	1
190.0436Cu II	11	10.96	-	17.48	4s2 3P	-	6p 1P	2	-	1
190.3867Cu II	0	10.59	-	17.10	4s2 1D	-	4p 3S	2	-	1
190.3881Cu II	1	9.02 -	15.53	4s2 3F	-	4p 5P	2	-	2	
190.4534Cu II	0	9.02 -	15.53	4s2 3F	-	4p 5P	2	-	3	
190.9256Cu II	3	10.99	-	17.48	4s2 3P	-	6p 1P	1	-	1
191.1367Cu II	5	11.03	-	17.51	4s2 3P	-	6p 3D	0	-	1
191.3509Cu II	4	10.59	-	17.07	4s2 1D	-	4p 1D	2	-	2
191.8899Cu II	9	8.23 -	14.70	4p 3P	-	4d 3F	2	-	2	
192.0672Cu II	73	8.23 -	14.69	4p 3P	-	4d 1F	2	-	3	
192.1026Cu II	4	11.03	-	17.48	4s2 3P	-	6p 1P	0	-	1
192.2143Cu II	11	8.87 -	15.32	4s2 3F	-	5p 1D	3	-	2	
192.9608Cu II	28	10.59	-	17.01	4s2 1D	-	4p 1P	2	-	1
192.9751Cu II	44	8.64 -	15.07	4s2 3F	-	5p 3D	4	-	3	
193.2570Cu II	14	8.23 -	14.65	4p 3P	-	4d 1D	2	-	2	
193.4632Cu II	1	10.59	-	17.00	4s2 1D	-	4p 3G	2	-	3
194.1389Cu II	3	8.23 -	14.62	4p 3P	-	4d 3D	2	-	1	
194.2303Cu II	2	8.87 -	15.25	4s2 3F	-	5p 1F	3	-	3	
194.4597Cu II	77	2.72 -	9.09	4s 3D	-	4p 1D	3	-	2	
194.5095Cu II	4	10.59	-	16.96	4s2 1D	-	4p 3F	2	-	2
194.6317Cu II	3	10.96	-	17.33	4s2 3P	-	6p 3D	2	-	3
194.6493Cu II	1	8.64 -	15.01	4s2 3F	-	4p 1F	4	-	3	
194.7477Cu II	3	10.96	-	17.32	4s2 3P	-	6p 3D	2	-	2
194.8230Cu II	2	8.23 -	14.60	4p 3P	-	4d 3G	2	-	3	
195.2576Cu II	4	8.87 -	15.22	4s2 3F	-	5p 3F	3	-	2	
195.6740Cu II	2	10.99	-	17.32	4s2 3P	-	6p 3D	1	-	2
195.7518Cu II	7	8.64 -	14.98	4s2 3F	-	5p 3F	4	-	4	
195.8747Cu II	2	10.59	-	16.92	4s2 1D	-	4p 3D	2	-	3
196.1553Cu II	1	8.64 -	14.96	4s2 3F	-	5p 3F	4	-	3	
196.1971Cu II	4	10.96	-	17.28	4s2 3P	-	6p 3F	2	-	3

196.5443Cu II	1	10.96	-	17.26	4s2 3P	-	6p 3P	2	-	1
196.8012Cu II	37	8.23	-	14.53	4p 3P	-	4d 1P	2	-	1
197.0495Cu II	11	2.83	-	9.12	4s 3D	-	4p 1P	2	-	1
197.3683Cu II	8	10.96	-	17.24	4s2 3P	-	4p 3D	2	-	2
197.4878Cu II	8	10.99	-	17.26	4s2 3P	-	6p 3P	1	-	1
197.5686Cu II	4	8.42	-	14.70	4p 3P	-	4d 3F	1	-	2
197.7027Cu II	9	9.02	-	15.29	4s2 3F	-	5p 3D	2	-	1
197.7712Cu II	1	10.59	-	16.86	4s2 1D	-	4p 5S	2	-	2
197.9956Cu II	320	2.83	-	9.09	4s 3D	-	4p 1D	2	-	2
198.2149Cu II	2	8.87	-	15.12	4s2 3F	-	5p 3D	3	-	2
198.3198Cu II	5	10.99	-	17.24	4s2 3P	-	4p 3D	1	-	2
198.6308Cu II	24	10.59	-	16.83	4s2 1D	-	4p 3F	2	-	3
198.7474Cu II	0	11.03	-	17.26	4s2 3P	-	6p 3P	0	-	1
198.9855Cu II	178	2.83	-	9.06	4s 3D	-	4p 3D	2	-	1
199.0180Cu II	497	8.42	-	14.65	4p 3P	-	4d 1D	1	-	2
199.4260Cu II	1	9.02	-	15.23	4s2 3F	-	5p 1P	2	-	1
199.6639Cu II	8	8.49	-	14.70	4p 3F	-	4d 3F	3	-	2
199.8403Cu II	1	10.96	-	17.16	4s2 3P	-	4p 3G	2	-	3
199.8559Cu II	74	8.49	-	14.69	4p 3F	-	4d 1F	3	-	3
199.9116Cu II	1	9.02	-	15.22	4s2 3F	-	5p 3F	2	-	2
199.9534Cu II	95	8.42	-	14.62	4p 3P	-	4d 3D	1	-	1
199.9698Cu II	1	8.87	-	15.07	4s2 3F	-	5p 3D	3	-	3
199.9698Cu II	1189	2.72	-	8.92	4s 3D	-	4p 1F	3	-	3
200.0589Cu II	7	8.23	-	14.43	4p 3P	-	4d 3D	2	-	2
200.3070Cu II	3	8.23	-	14.42	4p 3P	-	4d 3F	2	-	3
200.9283Cu II	3	8.52	-	14.69	4p 3F	-	4d 1F	4	-	3
200.9547Cu II	7	10.59	-	16.75	4s2 1D	-	4p 3D	2	-	1
201.0795Cu II	0	8.49	-	14.65	4p 3F	-	4d 1D	3	-	2
201.2981Cu II	1211	8.23	-	14.39	4p 3P	-	4d 3D	2	-	3
201.5583Cu II	31	2.98	-	9.12	4s 3D	-	4p 1P	1	-	1
201.6898Cu II	39	2.72	-	8.86	4s 3D	-	4p 3D	3	-	2
201.7454Cu II	1	10.96	-	17.10	4s2 3P	-	4p 3S	2	-	1
201.7610Cu II	3	8.87	-	15.01	4s2 3F	-	4p 1F	3	-	3
202.2192Cu II	116	8.49	-	14.62	4p 3F	-	4d 1G	3	-	4
202.5488Cu II	260	2.98	-	9.09	4s 3D	-	4p 1D	1	-	2
202.5917Cu II	5	8.87	-	14.99	4s2 3F	-	4p 1D	3	-	2
202.7134Cu II	400	8.42	-	14.53	4p 3P	-	4d 1P	1	-	1
202.7172Cu II	18	9.06	-	15.18	4p 3D	-	4d 1S	1	-	0
202.7401Cu II	15	10.99	-	17.10	4s2 3P	-	4p 3S	1	-	1
202.7761Cu II	31	8.49	-	14.60	4p 3F	-	4d 3G	3	-	3
202.8288Cu II	3	10.96	-	17.07	4s2 3P	-	4p 1D	2	-	2

202.8290Cu II	2	10.59	-	16.70	4s2 1D	-	4p 3D	2	-	2
202.8295Cu II	0	8.64	-	14.75	4s2 3F	-	4p 1G	4	-	4
202.9463Cu II	0	8.87	-	14.98	4s2 3F	-	5p 3F	3	-	4
202.9473Cu II	7	9.02	-	15.12	4s2 3F	-	5p 3D	2	-	2
202.9949Cu II	227	8.23	-	14.34	4p 3P	-	4d 3P	2	-	1
203.1036Cu II	1863	8.23	-	14.34	4p 3P	-	4d 3P	2	-	2
203.3803Cu II	2	8.87	-	14.96	4s2 3F	-	5p 3F	3	-	3
203.3843Cu II	71	8.52	-	14.62	4p 3F	-	4d 1G	4	-	4
203.5854Cu II	821	2.98	-	9.06	4s 3D	-	4p 3D	1	-	1
203.6920Cu II	499	8.54	-	14.62	4p 3P	-	4d 3D	0	-	1
203.7127Cu II	575	2.83	-	8.92	4s 3D	-	4p 1F	2	-	3
203.8343Cu II	13	10.99	-	17.07	4s2 3P	-	4p 1D	1	-	2
203.9477Cu II	3	8.52	-	14.60	4p 3F	-	4d 3G	4	-	3
204.0684Cu II	27	11.03	-	17.10	4s2 3P	-	4p 3S	0	-	1
204.1366Cu II	5	10.59	-	16.66	4s2 1D	-	4p 3P	2	-	1
204.3802Cu II	788	2.72	-	8.78	4s 3D	-	4p 3D	3	-	3
204.6394Cu II	11	10.96	-	17.01	4s2 3P	-	4p 1P	2	-	1
204.7678Cu II	551	9.12	-	15.18	4p 1P	-	4d 1S	1	-	0
204.8480Cu II	1	9.02	-	15.07	4s2 3F	-	5p 3D	2	-	3
205.2048Cu II	1	10.96	-	17.00	4s2 3P	-	4p 3G	2	-	3
205.4253Cu II	607	8.66	-	14.70	4p 3F	-	4d 3F	2	-	2
205.4418Cu II	479	8.42	-	14.45	4p 3P	-	4d 3P	1	-	0
205.4980Cu II	666	2.83	-	8.86	4s 3D	-	4p 3D	2	-	2
205.6285Cu II	11	8.66	-	14.69	4p 3F	-	4d 1F	2	-	3
205.6630Cu II	2	10.99	-	17.01	4s2 3P	-	4p 1P	1	-	1
205.7143Cu II	5	10.59	-	16.61	4s2 1D	-	4p 3D	2	-	3
205.8614Cu II	1	8.87	-	14.89	4s2 3F	-	5p 3P	3	-	2
206.2420Cu II	624	8.42	-	14.43	4p 3P	-	4d 3D	1	-	2
206.3825Cu II	2	8.64	-	14.65	4s2 3F	-	4p 3F	4	-	3
206.3830Cu II	5	10.96	-	16.96	4s2 3P	-	4p 3F	2	-	2
206.3872Cu II	8	10.59	-	16.59	4s2 1D	-	4p 3P	2	-	2
206.6261Cu II	415	8.54	-	14.53	4p 3P	-	4d 1P	0	-	1
206.7364Cu II	2	9.02	-	15.01	4s2 3F	-	4p 1F	2	-	3
206.9935Cu II	97	8.66	-	14.65	4p 3F	-	4d 1D	2	-	2
207.0300Cu II	0	11.03	-	17.01	4s2 3P	-	4p 1P	0	-	1
207.4210Cu II	1	9.02	-	14.99	4s2 3F	-	5p 3P	2	-	1
207.4241Cu II	40	10.99	-	16.96	4s2 3P	-	4p 3F	1	-	2
207.8663Cu II	1325	8.23	-	14.20	4p 3P	-	4d 3S	2	-	1
207.9213Cu II	4	10.96	-	16.92	4s2 3P	-	4p 3D	2	-	3
208.0060Cu II	98	8.66	-	14.62	4p 3F	-	4d 3D	2	-	1
208.2916Cu II	1	2.83	-	8.78	4s 3D	-	4p 3D	2	-	3
208.4324Cu II	6	8.64	-	14.59	4s2 3F	-	4p 3F	4	-	4



208.5275 Cu II	226	8.49 -	14.43	4p 3F	-	4d 3D	3	-	2	
208.5311 Cu II	19	2.72 -	8.66	4s 3D	-	4p 3F	3	-	2	
208.5998 Cu II	2	8.49 -	14.43	4p 3F	-	4d 3F	3	-	4	
208.7919 Cu II	2124	8.66 -	14.60	4p 3F	-	4d 3G	2	-	3	
208.7971 Cu II	1325	8.49 -	14.42	4p 3F	-	4d 3F	3	-	3	
209.3637 Cu II	425	8.42 -	14.34	4p 3P	-	4d 3P	1	-	1	
209.4793 Cu II	57	8.42 -	14.34	4p 3P	-	4d 3P	1	-	2	
209.6191 Cu II	64	8.78 -	14.70	4p 3D	-	4d 3F	3	-	2	
209.8398 Cu II	652	8.78 -	14.69	4p 3D	-	4d 1F	3	-	3	
209.8398 Cu II	1532	8.52 -	14.43	4p 3F	-	4d 3F	4	-	4	
209.8742 Cu II	67	8.49 -	14.39	4p 3F	-	4d 3D	3	-	3	
210.0394 Cu II	34	8.52 -	14.42	4p 3F	-	4d 3F	4	-	3	
210.0603 Cu II	1	10.96	-	16.86	4s2 3P	-	4p 5S	2	-	2
210.4237 Cu II	2	8.87 -	14.76	4s2 3F	-	4p 3F	3	-	2	
210.4797 Cu II	330	2.98 -	8.86	4s 3D	-	4p 3D	1	-	2	
210.6379 Cu II	5	8.87 -	14.75	4s2 3F	-	4p 1G	3	-	4	
211.0309 Cu II	53	10.96	-	16.83	4s2 3P	-	4p 3F	2	-	3
211.0436 Cu II	0	9.02 -	14.89	4s2 3F	-	5p 3P	2	-	2	
211.0666 Cu II	2	8.66 -	14.53	4p 3F	-	4d 1P	2	-	1	
211.1294 Cu II	307	8.52 -	14.39	4p 3F	-	4d 3D	4	-	3	
211.1390 Cu II	0	10.99	-	16.86	4s2 3P	-	4p 5S	1	-	2
211.2100 Cu II	932	3.26 -	9.12	4s 1D	-	4p 1P	2	-	1	
211.2522 Cu II	63	8.78 -	14.65	4p 3D	-	4d 1D	3	-	2	
211.7310 Cu II	4529	8.49 -	14.34	4p 3F	-	4d 3G	3	-	4	
211.8375 Cu II	77	8.49 -	14.34	4p 3F	-	4d 3P	3	-	2	
212.2980 Cu II	994	3.26 -	9.09	4s 1D	-	4p 1D	2	-	2	
212.5106 Cu II	1714	8.78 -	14.62	4p 3D	-	4d 1G	3	-	4	
212.5267 Cu II	190	8.86 -	14.70	4p 3D	-	4d 3F	2	-	2	
212.6044 Cu II	560	2.83 -	8.66	4s 3D	-	4p 3F	2	-	2	
212.7443 Cu II	4	8.86 -	14.69	4p 3D	-	4d 1F	2	-	3	
212.9741 Cu II	6	8.64 -	14.46	4s2 3F	-	4p 3G	4	-	3	
213.0085 Cu II	271	8.52 -	14.34	4p 3F	-	4d 3G	4	-	4	
213.1257 Cu II	108	8.78 -	14.60	4p 3D	-	4d 3G	3	-	3	
213.2479 Cu II	10	10.99	-	16.80	4s2 3P	-	4p 3P	1	-	0
213.4341 Cu II	6012	8.52 -	14.33	4p 3F	-	4d 3G	4	-	5	
213.4369 Cu II	13	3.26 -	9.06	4s 1D	-	4p 3D	2	-	1	
213.5399 Cu II	4	8.54 -	14.34	4p 3P	-	4d 3P	0	-	1	
213.5981 Cu II	2878	2.72 -	8.52	4s 3D	-	4p 3F	3	-	4	
213.7304 Cu II	5	10.96	-	16.75	4s2 3P	-	4p 3D	2	-	1
214.1997 Cu II	14	8.64 -	14.43	4s2 3F	-	4p 3D	4	-	3	
214.2057 Cu II	6	8.86 -	14.65	4p 3D	-	4d 1D	2	-	2	
214.4704 Cu II	35	8.92 -	14.70	4p 1F	-	4d 3F	3	-	2	

214.4722 Cu II	2	8.87 -	14.65	4s2 3F	-	4p 3F	3	-	3	
214.5492 Cu II	258	8.42 -	14.20	4p 3P	-	4d 3S	1	-	1	
214.6920 Cu II	379	8.92 -	14.69	4p 1F	-	4d 1F	3	-	3	
214.8472 Cu II	3	10.99	-	16.75	4s2 3P	-	4p 3D	1	-	1
214.8984 Cu II	334	8.66 -	14.43	4p 3F	-	4d 3D	2	-	2	
214.8984 Cu II	371	2.72 -	8.49	4s 3D	-	4p 3F	3	-	3	
215.1809 Cu II	1236	8.66 -	14.42	4p 3F	-	4d 3F	2	-	3	
215.2901 Cu II	10	8.86 -	14.62	4p 3D	-	4d 3D	2	-	1	
215.8412 Cu II	2	9.02 -	14.76	4s2 3F	-	4p 3F	2	-	2	
215.8519 Cu II	3	10.96	-	16.70	4s2 3P	-	4p 3D	2	-	2
216.1320 Cu II	1443	8.86 -	14.60	4p 3D	-	4d 3G	2	-	3	
216.1803 Cu II	23	8.92 -	14.65	4p 1F	-	4d 1D	3	-	2	
216.3250 Cu II	12	8.66 -	14.39	4p 3F	-	4d 3D	2	-	3	
216.3394 Cu II	6	11.03	-	16.75	4s2 3P	-	4p 3D	0	-	1
216.6868 Cu II	2	8.87 -	14.59	4s2 3F	-	4p 3F	3	-	4	
216.9909 Cu II	4	10.99	-	16.70	4s2 3P	-	4p 3D	1	-	2
217.3334 Cu II	3	10.96	-	16.66	4s2 3P	-	4p 3P	2	-	1
217.4982 Cu II	2972	8.92 -	14.62	4p 1F	-	4d 1G	3	-	4	
217.6845 Cu II	0	10.59	-	16.28	4s2 1D	-	4p 5D	2	-	3
217.9410 Cu II	1000	2.98 -	8.66	4s 3D	-	4p 3F	1	-	2	
218.0752 Cu II	15	8.64 -	14.33	4s2 3F	-	4p 3G	4	-	5	
218.1426 Cu II	124	8.92 -	14.60	4p 1F	-	4d 3G	3	-	3	
218.2858 Cu II	92	8.66 -	14.34	4p 3F	-	4d 3P	2	-	1	
218.4115 Cu II	1	8.66 -	14.34	4p 3F	-	4d 3P	2	-	2	
218.4882 Cu II	5	10.99	-	16.66	4s2 3P	-	4p 3P	1	-	1
218.5704 Cu II	2	8.86 -	14.53	4p 3D	-	4d 1P	2	-	1	
218.9370 Cu II	28	8.54 -	14.20	4p 3P	-	4d 3S	0	-	1	
218.9630 Cu II	564	3.26 -	8.92	4s 1D	-	4p 1F	2	-	3	
219.0520 Cu II	9	11.85	-	17.51	4s2 1G	-	6p 1F	4	-	3
219.1224 Cu II	12	10.96	-	16.61	4s2 3P	-	4p 3D	2	-	3
219.2268 Cu II	1649	2.83 -	8.49	4s 3D	-	4p 3F	2	-	3	
219.2355 Cu II	6	8.87 -	14.52	4s2 3F	-	4p 3D	3	-	2	
219.4469 Cu II	0	10.59	-	16.24	4s2 1D	-	4p 5D	2	-	2
219.5683 Cu II	2372	8.78 -	14.43	4p 3D	-	4d 3F	3	-	4	
219.7868 Cu II	13	8.78 -	14.42	4p 3D	-	4d 3F	3	-	3	
219.8860 Cu II	16	10.96	-	16.59	4s2 3P	-	4p 3P	2	-	2
220.0315 Cu II	0	11.03	-	16.66	4s2 3P	-	4p 3P	0	-	1
220.0509 Cu II	854	9.06 -	14.70	4p 3D	-	4d 3F	1	-	2	
220.1028 Cu II	2	9.02 -	14.65	4s2 3F	-	4p 3F	2	-	3	
220.4506 Cu II	3	9.02 -	14.64	4s2 3F	-	4p 3D	2	-	1	
220.9806 Cu II	860	8.78 -	14.39	4p 3D	-	4d 3D	3	-	3	

221.0268Cu II	579	3.26 -	8.86	4s 1D	-	4p 3D	2	-	2	
221.0681Cu II	0	10.99	-	16.59	4s2 3P	-	4p 3P	1	-	2
221.2748Cu II	398	9.09 -	14.70	4p 1D	-	4d 3F	2	-	2	
221.5106Cu II	2553	9.09 -	14.69	4p 1D	-	4d 1F	2	-	3	
221.5995Cu II	0	8.87 -	14.46	4s2 3F	-	4p 3G	3	-	3	
221.8108Cu II	756	2.83 -	8.42	4s 3D	-	4p 3P	2	-	1	
221.8512Cu II	871	9.06 -	14.65	4p 3D	-	4d 1D	1	-	2	
222.1648Cu II	1	10.59	-	16.17	4s2 1D	-	4p 3P	2	-	2
222.4691Cu II	531	9.12 -	14.70	4p 1P	-	4d 3F	1	-	2	
222.6780Cu II	1167	8.86 -	14.43	4p 3D	-	4d 3D	2	-	2	
222.8868Cu II	307	2.98 -	8.54	4s 3D	-	4p 3P	1	-	0	
222.9266Cu II	1	8.87 -	14.43	4s2 3F	-	4p 3D	3	-	3	
222.9854Cu II	1165	8.86 -	14.42	4p 3D	-	4d 3F	2	-	3	
223.0146Cu II	431	9.06 -	14.62	4p 3D	-	4d 3D	1	-	1	
223.0400Cu II	140	8.78 -	14.34	4p 3D	-	4d 3G	3	-	4	
223.0953Cu II	947	9.09 -	14.65	4p 1D	-	4d 1D	2	-	2	
223.1583Cu II	290	8.78 -	14.34	4p 3D	-	4d 3P	3	-	2	
223.9285Cu II	1	8.66 -	14.20	4p 3F	-	4d 3S	2	-	1	
224.2143Cu II	90	8.86 -	14.39	4p 3D	-	4d 3D	2	-	3	
224.2618Cu II	1413	3.26 -	8.78	4s 1D	-	4p 3D	2	-	3	
224.2718Cu II	109	9.09 -	14.62	4p 1D	-	4d 3D	2	-	1	
224.3094Cu II	170	9.12 -	14.65	4p 1P	-	4d 1D	1	-	2	
224.7002Cu II	1403	2.72 -	8.23	4s 3D	-	4p 3P	3	-	2	
224.8127Cu II	5	8.92 -	14.43	4p 1F	-	4d 3D	3	-	2	
224.8967Cu II	917	8.92 -	14.43	4p 1F	-	4d 3F	3	-	4	
225.1224Cu II	2	9.02 -	14.52	4s2 3F	-	4p 3D	2	-	2	
225.1260Cu II	13	8.92 -	14.42	4p 1F	-	4d 3F	3	-	3	
225.1856Cu II	19	9.09 -	14.60	4p 1D	-	4d 3G	2	-	3	
225.3028Cu II	1	10.59	-	16.09	4s2 1D	-	4p 3P	2	-	1
225.4988Cu II	382	9.12 -	14.62	4p 1P	-	4d 3D	1	-	1	
225.6855Cu II	1	8.64 -	14.13	4s2 3F	-	4p 5F	4	-	3	
226.3000Cu II	2	11.85	-	17.33	4s2 1G	-	6p 3D	4	-	3
226.3213Cu II	329	8.86 -	14.34	4p 3D	-	4d 3P	2	-	1	
226.3786Cu II	1234	8.92 -	14.39	4p 1F	-	4d 3D	3	-	3	
226.4565Cu II	3	8.86 -	14.34	4p 3D	-	4d 3P	2	-	2	
226.5365Cu II	192	9.06 -	14.53	4p 3D	-	4d 1P	1	-	1	
227.4741Cu II	27	8.23 -	13.68	4p 3P	-	5s 1D	2	-	2	
227.6157Cu II	2	9.02 -	14.46	4s2 3F	-	4p 3G	2	-	3	
227.6258Cu II	141	2.98 -	8.42	4s 3D	-	4p 3P	1	-	1	
227.8338Cu II	256	9.09 -	14.53	4p 1D	-	4d 1P	2	-	1	
228.0830Cu II	1	11.85	-	17.28	4s2 1G	-	6p 3F	4	-	4
228.0943Cu II	3	8.87 -	14.30	4s2 3F	-	4p 3G	3	-	4	

228.4199Cu II	3	11.85	-	17.28	4s2 1G	-	6p 3F	4	-	3
228.5404Cu II	2	8.92	-	14.34	4p 1F	-	4d 3G	3	-	4
228.6150Cu II	4	10.59	-	16.01	4s2 1D	-	4p 3D	2	-	3
228.6645Cu II	449	8.92	-	14.34	4p 1F	-	4d 3P	3	-	2
228.9417Cu II	4	8.23	-	13.65	4p 3P	-	5s 3D	2	-	1
229.0161Cu II	0	9.02	-	14.43	4s2 3F	-	4p 3D	2	-	3
229.1002Cu II	320	9.12	-	14.53	4p 1P	-	4d 1P	1	-	1
229.2692Cu II	4	3.26	-	8.66	4s 1D	-	4p 3F	2	-	2
229.2970Cu II	1	8.64	-	14.05	4s2 3F	-	4p 5F	4	-	4
229.4368Cu II	99	2.83	-	8.23	4s 3D	-	4p 3P	2	-	2
229.9489Cu II	79	9.06	-	14.45	4p 3D	-	4d 3P	1	-	0
229.9979Cu II	1	10.59	-	15.98	4s2 1D	-	4p 3D	2	-	2
230.9519Cu II	53	9.06	-	14.43	4p 3D	-	4d 3D	1	-	2
231.5156Cu II	1	10.59	-	15.94	4s2 1D	-	4p 3D	2	-	2
231.5683Cu II	3	10.59	-	15.94	4s2 1D	-	4p 3F	2	-	3
232.3004Cu II	33	9.09	-	14.43	4p 1D	-	4d 3D	2	-	2
232.3928Cu II	5	8.86	-	14.20	4p 3D	-	4d 3S	2	-	1
232.5909Cu II	1	9.12	-	14.45	4p 1P	-	4d 3P	1	-	0
232.6349Cu II	3	9.09	-	14.42	4p 1D	-	4d 3F	2	-	3
232.7552Cu II	1	10.96	-	16.28	4s2 3P	-	4p 5D	2	-	3
232.7567Cu II	1	8.87	-	14.19	4s2 3F	-	4p 5F	3	-	2
233.3752Cu II	8	11.85	-	17.16	4s2 1G	-	4p 3G	4	-	3
233.6171Cu II	231	9.12	-	14.43	4p 1P	-	4d 3D	1	-	2
233.9728Cu II	7	9.09	-	14.39	4p 1D	-	4d 3D	2	-	3
234.7710Cu II	1	10.96	-	16.24	4s2 3P	-	4p 5D	2	-	2
234.7885Cu II	0	10.96	-	16.23	4s2 3P	-	4p 5D	2	-	1
234.8733Cu II	111	9.06	-	14.34	4p 3D	-	4d 3P	1	-	1
235.0189Cu II	5	9.06	-	14.34	4p 3D	-	4d 3P	1	-	2
235.3944Cu II	1	8.87	-	14.13	4s2 3F	-	4p 5F	3	-	3
235.5014Cu II	131	8.42	-	13.68	4p 3P	-	5s 1D	1	-	2
235.6641Cu II	7	2.98	-	8.23	4s 3D	-	4p 3P	1	-	2
235.9257Cu II	1	11.85	-	17.10	4s2 1G	-	4p 3P	4	-	4
236.1191Cu II	1	10.99	-	16.24	4s2 3P	-	4p 5D	1	-	2
236.1368Cu II	0	10.99	-	16.23	4s2 3P	-	4p 5D	1	-	1
236.2682Cu II	4	9.09	-	14.34	4p 1D	-	4d 3P	2	-	1
236.4154Cu II	25	9.09	-	14.34	4p 1D	-	4d 3P	2	-	2
236.6979Cu II	5	13.39	-	18.63	5s 3D	-	4p 3F	3	-	2
236.9890Cu II	159	3.26	-	8.49	4s 1D	-	4p 3F	2	-	3
237.0534Cu II	0	8.64	-	13.87	4s2 3F	-	4p 5G	4	-	3
237.0747Cu II	75	8.42	-	13.65	4p 3P	-	5s 3D	1	-	1
237.6303Cu II	392	9.12	-	14.34	4p 1P	-	4d 3P	1	-	1
237.7793Cu II	6	9.12	-	14.34	4p 1P	-	4d 3P	1	-	2

237.8405 Cu II	1	9.02 -	14.23	4s2 3F	-	4p 5F	2	-	1
237.8845 Cu II	2	10.96	- 16.17	4s2 3P	-	4p 3P	2	-	2
237.9406 Cu II	1	11.03	- 16.23	4s2 3P	-	4p 5D	0	-	1
238.4859 Cu II	12	8.49 -	13.68	4p 3F	-	5s 1D	3	-	2
238.4945 Cu II	33	8.23 -	13.43	4p 3P	-	5s 3D	2	-	2
238.5095 Cu II	5	13.43	- 18.63	5s 3D	-	4p 3F	2	-	2
239.2686 Cu II	3	10.99	- 16.17	4s2 3P	-	4p 3P	1	-	2
239.3261 Cu II	0	8.87 -	14.05	4s2 3F	-	4p 5F	3	-	4
239.4030 Cu II	1	9.02 -	14.19	4s2 3F	-	4p 5F	2	-	2
240.0115 Cu II	24	3.26 -	8.42	4s 1D	-	4p 3P	2	-	1
240.3337 Cu II	723	8.23 -	13.39	4p 3P	-	5s 3D	2	-	3
240.7927 Cu II	2	11.85	- 17.00	4s2 1G	-	4p 3G	4	-	5
241.4189 Cu II	8	9.06 -	14.20	4p 3D	-	4d 3S	1	-	1
241.4857 Cu II	0	10.96	- 16.09	4s2 3P	-	4p 3P	2	-	1
242.1943 Cu II	0	9.02 -	14.13	4s2 3F	-	4p 5F	2	-	3
242.4435 Cu II	156	8.54 -	13.65	4p 3P	-	5s 3D	0	-	1
242.8928 Cu II	15	9.09 -	14.20	4p 1D	-	4d 3S	2	-	1
242.9122 Cu II	1	10.99	- 16.09	4s2 3P	-	4p 3P	1	-	1
243.0678 Cu II	1	11.85	- 16.95	4s2 1G	-	4p 3G	4	-	4
244.2640 Cu II	3	8.64 -	13.72	4s2 3F	-	4p 5G	4	-	5
244.3326 Cu II	26	9.12 -	14.20	4p 1P	-	4d 3S	1	-	1
244.4657 Cu II	0	8.87 -	13.94	4s2 3F	-	4p 5G	3	-	2
244.5672 Cu II	1	11.85	- 16.92	4s2 1G	-	4p 3D	4	-	3
244.8213 Cu II	2	11.03	- 16.09	4s2 3P	-	4p 3P	0	-	1
245.2948 Cu II	5	10.96	- 16.01	4s2 3P	-	4p 3D	2	-	3
246.8501 Cu II	63	8.66 -	13.68	4p 3F	-	5s 1D	2	-	2
246.8875 Cu II	1	10.96	- 15.98	4s2 3P	-	4p 3D	2	-	2
247.3334 Cu II	262	8.42 -	13.43	4p 3P	-	5s 3D	1	-	2
247.7882 Cu II	0	8.87 -	13.87	4s2 3F	-	4p 5G	3	-	3
248.2548 Cu II	0	11.85	- 16.84	4s2 1G	-	4p 3F	4	-	4
248.3787 Cu II	4	10.99	- 15.98	4s2 3P	-	4p 3D	1	-	2
248.5792 Cu II	484	8.66 -	13.65	4p 3F	-	5s 3D	2	-	1
248.6370 Cu II	1	10.96	- 15.94	4s2 3P	-	4p 3D	2	-	2
248.6978 Cu II	1	10.96	- 15.94	4s2 3P	-	4p 3F	2	-	3
248.8806 Cu II	1	11.85	- 16.83	4s2 1G	-	4p 3F	4	-	3
248.8954 Cu II	1	13.65	- 18.63	5s 3D	-	4p 3F	1	-	2
248.9700 Cu II	7	3.26 -	8.23	4s 1D	-	4p 3P	2	-	2
250.1495 Cu II	2	10.99	- 15.94	4s2 3P	-	4p 3D	1	-	2
250.6273 Cu II	865	8.49 -	13.43	4p 3F	-	5s 3D	3	-	2
250.6533 Cu II	2	13.68	- 18.63	5s 1D	-	4p 3F	2	-	2
250.8067 Cu II	0	10.59	- 15.53	4s2 1D	-	4p 5P	2	-	2

250.9201Cu II	1	10.59	-	15.53	4s2 1D	-	4p 5P	2	-	3
251.8079Cu II	1	9.02	-	13.94	4s2 3F	-	4p 5G	2	-	2
251.8949Cu II	2	8.87	-	13.79	4s2 3F	-	4p 5G	3	-	4
252.6323Cu II	1	8.64	-	13.55	4s2 3F	-	4p 5D	4	-	3
252.6593Cu II	174	8.49	-	13.39	4p 3F	-	5s 3D	3	-	3
252.9304Cu II	568	8.78	-	13.68	4p 3D	-	5s 1D	3	-	2
254.4805Cu II	742	8.52	-	13.39	4p 3F	-	5s 3D	4	-	3
254.7686Cu II	0	13.55	-	18.41	4p 5D	-	6d 1G	3	-	4
255.3343Cu II	1	9.02	-	13.87	4s2 3F	-	4p 5G	2	-	3
257.1756Cu II	66	8.86	-	13.68	4p 3D	-	5s 1D	2	-	2
257.4413Cu II	1	8.87	-	13.68	4s2 3F	-	4p 5D	3	-	2
259.0529Cu II	148	8.86	-	13.65	4p 3D	-	5s 3D	2	-	1
259.3579Cu II	0	11.85	-	16.63	4s2 1G	-	4p 3H	4	-	5
259.8812Cu II	195	8.66	-	13.43	4p 3F	-	5s 3D	2	-	2
260.0270Cu II	450	8.92	-	13.68	4p 1F	-	5s 1D	3	-	2
260.3336Cu II	0	9.02	-	13.78	4s2 3F	-	4p 5D	2	-	1
261.2412Cu II	0	13.68	-	18.43	4p 5D	-	6d 1F	2	-	3
261.4413Cu II	1	8.64	-	13.38	4s2 3F	-	4p 5D	4	-	4
261.7278Cu II	0	13.68	-	18.42	4p 5D	-	6d 1D	2	-	2
261.9211Cu II	5	10.59	-	15.32	4s2 1D	-	5p 1D	2	-	2
262.0666Cu II	9	8.66	-	13.39	4p 3F	-	5s 3D	2	-	3
263.6620Cu II	1	10.59	-	15.29	4s2 1D	-	5p 3D	2	-	1
264.5231Cu II	0	14.34	-	19.03	4d 3G	-	6f 3H	4	-	4
264.5619Cu II	3	14.34	-	19.03	4d 3G	-	6f 1H	4	-	5
264.8606Cu II	1	8.87	-	13.55	4s2 3F	-	4p 5D	3	-	3
265.5965Cu II	1	9.02	-	13.68	4s2 3F	-	4p 5D	2	-	2
265.6802Cu II	0	10.59	-	15.25	4s2 1D	-	5p 1F	2	-	3
266.4604Cu II	0	13.78	-	18.43	4p 5D	-	6d 3F	1	-	2
266.6291Cu II	117	8.78	-	13.43	4p 3D	-	5s 3D	3	-	2
266.7370Cu II	1	10.59	-	15.23	4s2 1D	-	5p 1P	2	-	1
267.0141Cu II	0	14.05	-	18.69	4p 5F	-	8s 3D	4	-	3
267.0478Cu II	0	13.78	-	18.42	4p 5D	-	6d 1D	1	-	2
267.4793Cu II	0	14.39	-	19.03	4d 3D	-	6f 3H	3	-	4
267.6067Cu II	3	10.59	-	15.22	4s2 1D	-	5p 3F	2	-	2
268.1341Cu II	1	13.55	-	18.17	4p 5D	-	6d 3F	3	-	4
268.2750Cu II	2	9.06	-	13.68	4p 3D	-	5s 1D	1	-	2
268.5924Cu II	0	13.55	-	18.16	4p 5D	-	6d 3D	3	-	3
268.9300Cu II	310	8.78	-	13.39	4p 3D	-	5s 3D	3	-	3
269.1746Cu II	0	13.55	-	18.15	4p 5D	-	6d 3P	3	-	2
269.2494Cu II	15	14.42	-	19.03	4d 3F	-	6f 3H	3	-	4
269.5780Cu II	1	14.43	-	19.03	4d 3F	-	6f 3H	4	-	4
269.6184Cu II	9	14.43	-	19.03	4d 3F	-	6f 1H	4	-	5

270.0962 Cu II	364	9.09 -	13.68	4p 1D	-	5s 1D	2	-	2
270.3184 Cu II	390	9.06 -	13.65	4p 3D	-	5s 3D	1	-	1
270.4516 Cu II	1	10.99	-	15.57	4s2 3P	-	4p 5P	1	- 1
270.9760 Cu II	0	14.20	-	18.77	4d 3S	-	6f 3D	1	- 2
271.0244 Cu II	1	10.96	-	15.53	4s2 3P	-	4p 5P	2	- 2
271.1569 Cu II	1	10.96	-	15.53	4s2 3P	-	4p 5P	2	- 3
271.1864 Cu II	45	14.20	-	18.77	4d 3S	-	6f 3P	1	- 2
271.3508 Cu II	372	8.86 -	13.43	4p 3D	-	5s 3D	2	-	2
271.7915 Cu II	0	14.13	-	18.69	4p 5F	-	8s 3D	3	- 2
271.8778 Cu II	301	9.12 -	13.68	4p 1P	-	5s 1D	1	-	2
272.1677 Cu II	107	9.09 -	13.65	4p 1D	-	5s 3D	2	-	1
272.8202 Cu II	0	11.03	-	15.57	4s2 3P	-	4p 5P	0	- 1
272.8225 Cu II	0	10.99	-	15.53	4s2 3P	-	4p 5P	1	- 2
272.8514 Cu II	0	13.87	-	18.41	4p 5G	-	6d 1G	3	- 4
273.1949 Cu II	11	10.59	-	15.12	4s2 1D	-	5p 3D	2	- 2
273.3479 Cu II	0	13.68	-	18.22	4p 5D	-	7s 1D	2	- 2
273.5004 Cu II	0	9.02 -	13.55	4s2 3F	-	4p 5D	2	-	3
273.7342 Cu II	16	8.86 -	13.39	4p 3D	-	5s 3D	2	-	3
273.9767 Cu II	13	9.12 -	13.65	4p 1P	-	5s 3D	1	-	1
274.5271 Cu II	57	8.92 -	13.43	4p 1F	-	5s 3D	3	-	2
274.5592 Cu II	0	8.87 -	13.38	4s2 3F	-	4p 5D	3	-	4
276.0748 Cu II	0	13.68	-	18.17	4p 5D	-	6d 3D	2	- 2
276.2175 Cu II	0	13.68	-	18.17	4p 5D	-	6d 3F	2	- 3
276.6500 Cu II	1	10.59	-	15.07	4s2 1D	-	5p 3D	2	- 3
276.9669 Cu II	490	8.92 -	13.39	4p 1F	-	5s 3D	3	-	3
277.2562 Cu II	0	13.94	-	18.41	4p 5G	-	6d 3G	2	- 3
279.1795 Cu II	390	14.33	-	18.77	4d 3G	-	6f 3H	5	- 6
279.2212 Cu II	6	14.33	-	18.77	4d 3G	-	6f 3H	5	- 5
279.5195 Cu II	20	14.34	-	18.77	4d 3P	-	6f 3D	2	- 2
279.5298 Cu II	86	14.34	-	18.77	4d 3P	-	6f 3F	2	- 3
279.5475 Cu II	0	13.78	-	18.21	4p 5D	-	7s 3D	1	- 1
279.5873 Cu II	5	14.34	-	18.77	4d 3G	-	6f 3F	4	- 3
279.6630 Cu II	0	11.85	-	16.28	4s2 1G	-	4p 5D	4	- 3
279.7156 Cu II	1	14.34	-	18.77	4d 3G	-	6f 3F	4	- 3
279.7256 Cu II	65	14.34	-	18.77	4d 3P	-	6f 3D	1	- 2
279.7267 Cu II	2	14.20	-	18.63	4d 3S	-	4p 3F	1	- 2
279.7434 Cu II	69	14.34	-	18.77	4d 3P	-	6f 3P	2	- 2
279.9528 Cu II	10	14.34	-	18.77	4d 3P	-	6f 3P	1	- 2
279.9529 Cu II	316	14.34	-	18.77	4d 3G	-	6f 3H	4	- 5
279.9680 Cu II	248	14.60	-	19.03	4d 3G	-	6f 3H	3	- 4
280.1050 Cu II	1	10.59	-	15.01	4s2 1D	-	4p 1F	2	- 3
281.0365 Cu II	8	14.62	-	19.03	4d 1G	-	6f 3H	4	- 4

281.0804 Cu II	317	14.62	-	19.03	4d 1G	-	6f 1H	4	-	5
281.2990 Cu II	0	13.55	-	17.95	4p 5D	-	7s 3D	3	-	3
281.3632 Cu II	1	10.59	-	14.99	4s2 1D	-	5p 3P	2	-	1
281.7085 Cu II	3	10.59	-	14.99	4s2 1D	-	4p 1D	2	-	2
282.5355 Cu II	0	14.30	-	18.69	4p 3G	-	8s 3D	4	-	3
282.8742 Cu II	0	13.79	-	18.17	4p 5G	-	6d 3F	4	-	4
282.8919 Cu II	10	14.39	-	18.77	4d 3D	-	6f 3F	3	-	3
283.0126 Cu II	6	14.39	-	18.77	4d 3D	-	6f 3D	3	-	2
283.0232 Cu II	90	14.39	-	18.77	4d 3D	-	6f 3F	3	-	3
283.2354 Cu II	0	10.59	-	14.96	4s2 1D	-	5p 3F	2	-	3
283.2422 Cu II	17	14.39	-	18.77	4d 3D	-	6f 3P	3	-	2
283.7368 Cu II	73	9.06 -	13.43	4p 3D	-	5s 3D	1	-	2	
284.0492 Cu II	3	10.96	-	15.32	4s2 3P	-	5p 1D	2	-	2
284.1365 Cu II	0	13.79	-	18.15	4p 5G	-	6d 3G	4	-	5
284.8725 Cu II	61	14.42	-	18.77	4d 3F	-	6f 3F	3	-	3
284.9950 Cu II	8	14.42	-	18.77	4d 3F	-	6f 3D	3	-	2
285.0057 Cu II	2	14.42	-	18.77	4d 3F	-	6f 3F	3	-	3
285.2278 Cu II	0	14.42	-	18.77	4d 3F	-	6f 3P	3	-	2
285.2405 Cu II	2	14.43	-	18.77	4d 3F	-	6f 3F	4	-	3
285.3740 Cu II	11	14.43	-	18.77	4d 3F	-	6f 3F	4	-	3
285.3757 Cu II	117	14.43	-	18.77	4d 3D	-	6f 3F	2	-	3
285.4986 Cu II	51	14.43	-	18.77	4d 3D	-	6f 3D	2	-	2
285.5094 Cu II	17	14.43	-	18.77	4d 3D	-	6f 3F	2	-	3
285.6210 Cu II	6	14.43	-	18.77	4d 3F	-	6f 3H	4	-	5
285.7322 Cu II	8	14.43	-	18.77	4d 3D	-	6f 3P	2	-	2
285.7748 Cu II	4	9.09 -	13.43	4p 1D	-	5s 3D	2	-	2	
285.8642 Cu II	0	14.69	-	19.03	4d 1F	-	6f 3H	3	-	4
286.0249 Cu II	1	10.99	-	15.32	4s2 3P	-	5p 1D	1	-	2
287.7100 Cu II	0	-	-	-	-	-	-	-	-	-
287.7699 Cu II	97	9.12 -	13.43	4p 1P	-	5s 3D	1	-	2	
288.0700 Cu II	0	10.59	-	14.89	4s2 1D	-	5p 3P	2	-	2
288.1022 Cu II	1	10.99	-	15.29	4s2 3P	-	5p 3D	1	-	1
288.4196 Cu II	29	9.09 -	13.39	4p 1D	-	5s 3D	2	-	3	
288.4756 Cu II	1	10.96	-	15.25	4s2 3P	-	5p 1F	2	-	3
288.6769 Cu II	0	14.13	-	18.43	4p 5F	-	6d 1F	3	-	3
288.8401 Cu II	3	14.34	-	18.63	4d 3P	-	4p 3F	2	-	2
289.3776 Cu II	0	13.87	-	18.15	4p 5G	-	6d 3G	3	-	4
289.6085 Cu II	0	13.68	-	17.96	4p 5D	-	7s 3D	2	-	2
289.6434 Cu II	1	14.13	-	18.41	4p 5F	-	6d 1G	3	-	4
289.7220 Cu II	1	10.96	-	15.23	4s2 3P	-	5p 1P	2	-	1
290.5530 Cu II	1	14.43	-	18.69	4p 3D	-	8s 3D	3	-	2



290.7483Cu II	1	10.96	-	15.22	4s2 3P	-	5p 3F	2	-	2
290.7916Cu II	1	11.03	-	15.29	4s2 3P	-	5p 3D	0	-	1
290.8874Cu II	2	14.43	-	18.69	4p 3D	-	8s 3D	3	-	3
291.7777Cu II	1	10.99	-	15.23	4s2 3P	-	5p 1P	1	-	1
292.5717Cu II	3	14.39	-	18.63	4d 3D	-	4p 3F	3	-	2
292.6475Cu II	0	14.19	-	18.43	4p 5F	-	6d 3F	2	-	2
292.7923Cu II	3	14.53	-	18.77	4d 1P	-	6f 3P	1	-	2
292.8186Cu II	0	10.99	-	15.22	4s2 3P	-	5p 3F	1	-	2
292.8387Cu II	0	14.46	-	18.69	4p 3G	-	8s 3D	3	-	2
293.1784Cu II	1	14.46	-	18.69	4p 3G	-	8s 3D	3	-	3
294.0309Cu II	1	14.19	-	18.41	4p 5F	-	6d 3G	2	-	3
294.5364Cu II	0	11.03	-	15.23	4s2 3P	-	5p 1P	0	-	1
294.6907Cu II	2	14.42	-	18.63	4d 3F	-	4p 3F	3	-	2
295.2292Cu II	1	14.43	-	18.63	4d 3D	-	4p 3F	2	-	2
296.8988Cu II	4	14.60	-	18.77	4d 3G	-	6f 3F	3	-	3
297.0319Cu II	1	14.60	-	18.77	4d 3G	-	6f 3D	3	-	2
297.0436Cu II	0	14.60	-	18.77	4d 3G	-	6f 3F	3	-	3
297.0714Cu II	2	14.52	-	18.69	4p 3D	-	8s 3D	2	-	2
297.0825Cu II	1	10.59	-	14.76	4s2 1D	-	4p 3F	2	-	2
297.3565Cu II	1	10.96	-	15.12	4s2 3P	-	5p 3D	2	-	2
297.3647Cu II	1	10.99	-	15.15	4s2 3P	-	5p 3P	1	-	0
297.4210Cu II	1	14.52	-	18.69	4p 3D	-	8s 3D	2	-	3
297.5658Cu II	0	13.79	-	17.95	4p 5G	-	7s 3D	4	-	3
297.9641Cu II	1	11.85	-	16.01	4s2 1G	-	4p 3D	4	-	3
298.1007Cu II	1	14.62	-	18.77	4d 1G	-	6f 3F	4	-	3
298.1786Cu II	1	13.39	-	17.55	5s 3D	-	6p 1D	3	-	2
298.2466Cu II	1	14.62	-	18.77	4d 1G	-	6f 3F	4	-	3
298.3766Cu II	5	14.20	-	18.35	4d 3S	-	5f 3D	1	-	1
298.5163Cu II	2	14.62	-	18.77	4d 1G	-	6f 3H	4	-	5
298.6335Cu II	22	14.20	-	18.35	4d 3S	-	5f 1D	1	-	2
298.6368Cu II	1	14.62	-	18.77	4d 3D	-	6f 3D	1	-	2
298.8924Cu II	0	14.62	-	18.77	4d 3D	-	6f 3P	1	-	2
299.3268Cu II	1	13.43	-	17.57	5s 3D	-	6p 3F	2	-	2
299.5224Cu II	0	10.99	-	15.12	4s2 3P	-	5p 3D	1	-	2
300.6019Cu II	1	14.05	-	18.17	4p 5F	-	6d 3F	4	-	4
300.6122Cu II	3	14.65	-	18.77	4d 1D	-	6f 3F	2	-	3
300.7486Cu II	1	14.65	-	18.77	4d 1D	-	6f 3D	2	-	2
300.7606Cu II	3	14.65	-	18.77	4d 1D	-	6f 3F	2	-	3
301.0046Cu II	0	11.85	-	15.97	4s2 1G	-	4p 3F	4	-	4
301.0078Cu II	2	14.65	-	18.77	4d 1D	-	6f 3P	2	-	2
301.0591Cu II	4	13.43	-	17.55	5s 3D	-	6p 1D	2	-	2
301.1780Cu II	0	14.05	-	18.16	4p 5F	-	6d 3D	4	-	3

301.2278Cu II	1	13.39	-	17.51	5s 3D	-	6p 1F	3	-	3
301.4543Cu II	2	10.96	-	15.07	4s2 3P	-	5p 3D	2	-	3
301.8409Cu II	0	14.05	-	18.15	4p 5F	-	6d 3G	4	-	4
302.0278Cu II	1	14.05	-	18.15	4p 5F	-	6d 3G	4	-	5
302.2435Cu II	4	14.59	-	18.69	4p 3F	-	8s 3D	4	-	3
302.7725Cu II	1	14.53	-	18.63	4d 1P	-	4p 3F	1	-	2
302.8818Cu II	0	13.87	-	17.96	4p 5G	-	7s 3D	3	-	2
303.0002Cu II	1	11.85	-	15.94	4s2 1G	-	4p 3F	4	-	3
303.5319Cu II	0	14.13	-	18.22	4p 5F	-	7s 1D	3	-	2
303.5381Cu II	0	14.69	-	18.77	4d 1F	-	6f 3F	3	-	3
303.6771Cu II	0	14.69	-	18.77	4d 1F	-	6f 3D	3	-	2
303.6894Cu II	1	14.69	-	18.77	4d 1F	-	6f 3F	3	-	3
303.7801Cu II	1	13.43	-	17.51	5s 3D	-	6p 3D	2	-	1
303.9415Cu II	1	14.69	-	18.77	4d 1F	-	6f 3P	3	-	2
304.1337Cu II	1	14.70	-	18.77	4d 3F	-	6f 3F	2	-	3
304.1678Cu II	6	13.43	-	17.51	5s 3D	-	6p 1F	2	-	3
304.3865Cu II	1	14.70	-	18.77	4d 3F	-	6f 3P	2	-	2
305.2158Cu II	1	10.59	-	14.65	4s2 1D	-	4p 3F	2	-	3
305.5612Cu II	0	10.96	-	15.01	4s2 3P	-	4p 1F	2	-	3
305.6173Cu II	1	14.64	-	18.69	4p 3D	-	8s 3D	1	-	2
305.8849Cu II	1	10.59	-	14.64	4s2 1D	-	4p 3D	2	-	1
306.2882Cu II	3	14.65	-	18.69	4p 3F	-	8s 3D	3	-	2
306.6598Cu II	3	14.65	-	18.69	4p 3F	-	8s 3D	3	-	3
306.8980Cu II	0	14.13	-	18.17	4p 5F	-	6d 3D	3	-	2
307.0591Cu II	0	10.96	-	14.99	4s2 3P	-	5p 3P	2	-	1
307.0744Cu II	1	14.13	-	18.17	4p 5F	-	6d 3F	3	-	3
307.4704Cu II	1	10.96	-	14.99	4s2 3P	-	4p 1D	2	-	2
307.5789Cu II	1	14.60	-	18.63	4d 3G	-	4p 3F	3	-	2
307.6440Cu II	0	14.13	-	18.16	4p 5F	-	6d 3D	3	-	3
307.9424Cu II	1	14.34	-	18.36	4d 3P	-	5f 3G	2	-	3
307.9845Cu II	0	14.33	-	18.35	4d 3G	-	5f 1H	5	-	5
308.0328Cu II	0	14.19	-	18.22	4p 5F	-	7s 1D	2	-	2
308.1453Cu II	2	14.34	-	18.36	4d 3G	-	5f 1G	4	-	4
308.1679Cu II	0	14.34	-	18.36	4d 3G	-	5f 3G	4	-	3
308.2935Cu II	1	14.34	-	18.36	4d 3P	-	5f 3F	2	-	2
308.3357Cu II	1	14.13	-	18.15	4p 5F	-	6d 3G	3	-	4
308.3367Cu II	5	14.34	-	18.36	4d 3P	-	5f 1F	2	-	3
308.4081Cu II	0	14.13	-	18.15	4p 5F	-	6d 3P	3	-	2
308.5097Cu II	0	14.19	-	18.21	4p 5F	-	7s 3D	2	-	1
308.5443Cu II	2	14.34	-	18.36	4d 3P	-	5f 3F	1	-	2
308.5628Cu II	0	14.34	-	18.36	4d 3G	-	5f 1F	4	-	3
308.7682Cu II	1	14.34	-	18.35	4d 3P	-	5f 3D	2	-	1

308.8287 Cu II	0	14.34	-	18.35	4d 3G	-	5f 3H	4	-	4
308.8749 Cu II	10	14.34	-	18.35	4d 3G	-	5f 1H	4	-	5
309.0197 Cu II	1	14.34	-	18.35	4d 3P	-	5f 3D	1	-	1
309.0432 Cu II	1	14.34	-	18.35	4d 3P	-	5f 1D	2	-	2
309.2902 Cu II	1	10.96	-	14.96	4s2 3P	-	5p 3F	2	-	3
309.2951 Cu II	1	14.34	-	18.35	4d 3P	-	5f 1D	1	-	2
309.3002 Cu II	0	14.62	-	18.63	4d 3D	-	4p 3F	1	-	2
309.3691 Cu II	0	10.99	-	14.99	4s2 3P	-	5p 3P	1	-	1
309.7866 Cu II	1	10.99	-	14.99	4s2 3P	-	4p 1D	1	-	2
309.8235 Cu II	0	14.43	-	18.43	4p 3D	-	6d 3F	3	-	2
309.9329 Cu II	1	14.43	-	18.43	4p 3D	-	6d 1F	3	-	3
310.6180 Cu II	0	14.43	-	18.42	4p 3D	-	6d 1D	3	-	2
311.0472 Cu II	4	14.43	-	18.41	4p 3D	-	6d 1G	3	-	4
311.3745 Cu II	1	14.43	-	18.41	4p 3D	-	6d 3G	3	-	3
311.5661 Cu II	1	14.65	-	18.63	4d 1D	-	4p 3F	2	-	2
311.6818 Cu II	0	14.19	-	18.17	4p 5F	-	6d 3F	2	-	3
312.1642 Cu II	7	14.39	-	18.36	4d 3D	-	5f 1G	3	-	4
312.1874 Cu II	1	14.39	-	18.36	4d 3D	-	5f 3G	3	-	3
312.4238 Cu II	0	14.46	-	18.43	4p 3G	-	6d 3F	3	-	2
312.4722 Cu II	1	11.03	-	14.99	4s2 3P	-	5p 3P	0	-	1
312.5350 Cu II	1	14.46	-	18.43	4p 3G	-	6d 1F	3	-	3
312.5483 Cu II	0	14.39	-	18.36	4d 3D	-	5f 3F	3	-	2
312.5927 Cu II	1	14.39	-	18.36	4d 3D	-	5f 1F	3	-	3
312.8656 Cu II	1	14.39	-	18.35	4d 3D	-	5f 3H	3	-	4
313.2317 Cu II	0	14.46	-	18.42	4p 3G	-	6d 1D	3	-	2
313.3188 Cu II	0	14.39	-	18.35	4d 3D	-	5f 1D	3	-	2
313.6681 Cu II	2	14.46	-	18.41	4p 3G	-	6d 1G	3	-	4
314.0010 Cu II	0	14.46	-	18.41	4p 3G	-	6d 3G	3	-	3
314.5777 Cu II	0	14.42	-	18.36	4d 3F	-	5f 1G	3	-	4
314.6012 Cu II	6	14.42	-	18.36	4d 3F	-	5f 3G	3	-	3
314.7101 Cu II	1	14.69	-	18.63	4d 1F	-	4p 3F	3	-	2
314.8539 Cu II	1	14.75	-	18.69	4p 1G	-	8s 3D	4	-	3
314.9407 Cu II	2	14.76	-	18.69	4p 3F	-	8s 3D	2	-	2
314.9531 Cu II	1	10.59	-	14.52	4s2 1D	-	4p 3D	2	-	2
314.9677 Cu II	1	14.42	-	18.36	4d 3F	-	5f 3F	3	-	2
315.0265 Cu II	4	14.43	-	18.36	4d 3F	-	5f 1G	4	-	4
315.0500 Cu II	1	14.43	-	18.36	4d 3F	-	5f 3G	4	-	3
315.0642 Cu II	1	10.96	-	14.89	4s2 3P	-	5p 3P	2	-	2
315.1051 Cu II	14	13.39	-	17.33	5s 3D	-	6p 3D	3	-	3
315.1873 Cu II	1	14.70	-	18.63	4d 3F	-	4p 3F	2	-	2
315.2150 Cu II	1	14.43	-	18.36	4d 3D	-	5f 3G	2	-	3

315.2900Cu II	44	14.42	-	18.35	4d 3F	-	5f 3H	3	-	4
315.3336Cu II	1	14.76	-	18.69	4p 3F	-	8s 3D	2	-	3
315.4094Cu II	1	13.39	-	17.32	5s 3D	-	6p 3D	3	-	2
315.4628Cu II	1	14.43	-	18.36	4d 3F	-	5f 1F	4	-	3
315.5829Cu II	1	14.43	-	18.36	4d 3D	-	5f 3F	2	-	2
315.6282Cu II	18	14.43	-	18.36	4d 3D	-	5f 1F	2	-	3
315.7408Cu II	1	14.43	-	18.35	4d 3F	-	5f 3H	4	-	4
315.7890Cu II	27	14.43	-	18.35	4d 3F	-	5f 1H	4	-	5
315.8673Cu II	18	13.65	-	17.57	5s 3D	-	6p 3F	1	-	2
316.0804Cu II	1	14.43	-	18.35	4d 3D	-	5f 3D	2	-	1
316.3685Cu II	4	14.43	-	18.35	4d 3D	-	5f 1D	2	-	2
317.2462Cu II	0	14.52	-	18.43	4p 3D	-	6d 3F	2	-	2
317.2467Cu II	1	14.05	-	17.95	4p 5F	-	7s 3D	4	-	3
317.3609Cu II	7	14.52	-	18.43	4p 3D	-	6d 1F	2	-	3
317.4967Cu II	1	10.99	-	14.89	4s2 3P	-	5p 3P	1	-	2
317.6311Cu II	0	14.20	-	18.10	4d 3S	-	5f 3D	1	-	2
317.7970Cu II	1	13.65	-	17.55	5s 3D	-	6p 1D	1	-	2
317.9316Cu II	1	14.20	-	18.10	4d 3S	-	5f 1P	1	-	1
317.9784Cu II	61	14.45	-	18.35	4d 3P	-	5f 3D	0	-	1
318.0793Cu II	3	14.52	-	18.42	4p 3D	-	6d 1D	2	-	2
318.2172Cu II	148	14.20	-	18.09	4d 3S	-	5f 3P	1	-	2
318.3236Cu II	7	13.43	-	17.33	5s 3D	-	6p 3D	2	-	3
318.4682Cu II	0	14.52	-	18.41	4p 3D	-	6d 3D	2	-	1
318.4841Cu II	180	14.20	-	18.09	4d 3S	-	5f 3P	1	-	1
318.5725Cu II	35	13.39	-	17.28	5s 3D	-	6p 3F	3	-	4
318.6015Cu II	76	14.20	-	18.09	4d 3S	-	5f 3P	1	-	0
318.6341Cu II	6	13.43	-	17.32	5s 3D	-	6p 3D	2	-	2
318.7039Cu II	0	13.68	-	17.57	5s 1D	-	6p 3F	2	-	2
318.8726Cu II	5	14.52	-	18.41	4p 3D	-	6d 3G	2	-	3
319.2301Cu II	15	13.39	-	17.28	5s 3D	-	6p 3F	3	-	3
319.8546Cu II	1	10.59	-	14.46	4s2 1D	-	4p 3G	2	-	3
320.1001Cu II	1	14.52	-	18.39	4p 3D	-	6d 1P	2	-	1
320.4184Cu II	0	14.30	-	18.17	4p 3G	-	6d 3F	4	-	4
320.6685Cu II	11	13.68	-	17.55	5s 1D	-	6p 1D	2	-	2
320.8305Cu II	10	13.65	-	17.51	5s 3D	-	6p 3D	1	-	1
321.0730Cu II	0	14.30	-	18.16	4p 3G	-	6d 3D	4	-	3
321.1274Cu II	1	14.64	-	18.50	4p 3D	-	6d 1S	1	-	0
321.8264Cu II	0	14.30	-	18.15	4p 3G	-	6d 3G	4	-	4
322.0389Cu II	1	14.30	-	18.15	4p 3G	-	6d 3G	4	-	5
322.3434Cu II	4	13.39	-	17.24	5s 3D	-	4p 3D	3	-	2
322.5339Cu II	8	13.43	-	17.28	5s 3D	-	6p 3F	2	-	3
322.6267Cu II	1	10.59	-	14.43	4s2 1D	-	4p 3D	2	-	3

323.4734Cu II	6	13.43	-	17.26	5s 3D	-	6p 3P	2	-	1	
323.5623Cu II	1	13.65	-	17.48	5s 3D	-	6p 1P	1	-	1	
323.7141Cu II	1	14.13	-	17.96	4p 5F	-	7s 3D	3	-	2	
323.7573Cu II	2	13.68	-	17.51	5s 1D	-	6p 3D	2	-	1	
324.0669Cu II	0	14.59	-	18.41	4p 3F	-	6d 1G	4	-	4	
324.1977Cu II	13	13.68	-	17.51	5s 1D	-	6p 1F	2	-	3	
324.2174Cu II	1	14.53	-	18.36	4d 1P	-	5f 3F	1	-	2	
324.4293Cu II	0	14.13	-	17.95	4p 5F	-	7s 3D	3	-	3	
324.7424Cu II	70	14.53	-	18.35	4d 1P	-	5f 3D	1	-	1	
325.0466Cu II	326	14.53	-	18.35	4d 1P	-	5f 1D	1	-	2	
325.7122Cu II	2	13.43	-	17.24	5s 3D	-	4p 3D	2	-	2	
325.7443Cu II	3	14.89	-	18.69	5p 3P	-	8s 3D	2	-	2	
325.8764Cu II	0	10.96	-	14.76	4s2 3P	-	4p 3F	2	-	2	
326.1647Cu II	49	14.89	-	18.69	5p 3P	-	8s 3D	2	-	3	
326.5394Cu II	4	13.68	-	17.48	5s 1D	-	6p 1P	2	-	1	
327.0112Cu II	12	14.64	-	18.43	4p 3D	-	6d 3F	1	-	2	
327.1211Cu II	2	14.43	-	18.22	4p 3D	-	7s 1D	3	-	2	
327.7794Cu II	0	14.65	-	18.43	4p 3F	-	6d 3F	3	-	2	
327.8965Cu II	5	14.64	-	18.42	4p 3D	-	6d 1D	1	-	2	
327.9019Cu II	1	14.65	-	18.43	4p 3F	-	6d 1F	3	-	3	
328.1697Cu II	198	14.33	-	18.11	4d 3G	-	5f 3G	5	-	5	
328.2011Cu II	17	14.33	-	18.11	4d 3G	-	5f 3G	5	-	4	
328.2602Cu II	4	14.33	-	18.10	4d 3G	-	5f 3F	5	-	4	
328.3098Cu II	8	14.64	-	18.41	4p 3D	-	6d 3D	1	-	1	
328.4794Cu II	1	10.99	-	14.76	4s2 3P	-	4p 3F	1	-	2	
328.9921Cu II	1	13.39	-	17.16	5s 3D	-	4p 3G	3	-	3	
329.0418Cu II	1283	14.33	-	18.10	4d 3G	-	5f 3H	5	-	6	
329.0424Cu II	21	14.34	-	18.10	4d 3P	-	5f 3D	2	-	3	
329.1060Cu II	20	14.33	-	18.10	4d 3G	-	5f 3H	5	-	5	
329.1494Cu II	1	14.65	-	18.41	4p 3F	-	6d 1G	3	-	4	
329.1808Cu II	3	14.34	-	18.11	4d 3G	-	5f 3G	4	-	5	
329.2123Cu II	3	14.34	-	18.11	4d 3G	-	5f 3G	4	-	4	
329.2718Cu II	171	14.34	-	18.10	4d 3G	-	5f 3F	4	-	4	
329.2998Cu II	15	14.34	-	18.10	4d 3G	-	5f 3D	4	-	3	
329.3075Cu II	3	14.60	-	18.36	4d 3G	-	5f 1G	3	-	4	
329.3333Cu II	91	14.60	-	18.36	4d 3G	-	5f 3G	3	-	3	
329.4335Cu II	63	14.34	-	18.10	4d 3P	-	5f 3D	2	-	2	
329.5102Cu II	283	14.34	-	18.10	4d 3P	-	5f 3F	2	-	3	
329.5159Cu II	0	14.65	-	18.41	4p 3F	-	6d 3G	3	-	3	
329.7199Cu II	212	14.34	-	18.10	4d 3P	-	5f 3D	1	-	2	
329.7349Cu II	5	14.60	-	18.36	4d 3G	-	5f 3F	3	-	2	
329.7569Cu II	10	14.34	-	18.10	4d 3P	-	5f 1P	2	-	1	

329.7684Cu II	1	14.34	-	18.10	4d 3G	-	5f 3F	4	-	3	
329.7843Cu II	0	14.60	-	18.36	4d 3G	-	5f 1F	3	-	3	
330.0211Cu II	1	14.46	-	18.22	4p 3G	-	7s 1D	3	-	2	
330.0438Cu II	147	14.34	-	18.10	4d 3P	-	5f 1P	1	-	1	
330.0444Cu II	0	14.64	-	18.39	4p 3D	-	6d 1P	1	-	1	
330.0641Cu II	224	14.34	-	18.09	4d 3P	-	5f 3P	2	-	2	
330.0881Cu II	817	14.60	-	18.35	4d 3G	-	5f 3H	3	-	4	
330.1229Cu II	1038	14.34	-	18.10	4d 3G	-	5f 3H	4	-	5	
330.3512Cu II	83	14.34	-	18.09	4d 3P	-	5f 3P	2	-	1	
330.3515Cu II	31	14.34	-	18.09	4d 3P	-	5f 3P	1	-	2	
330.6392Cu II	2	14.34	-	18.09	4d 3P	-	5f 3P	1	-	1	
330.7657Cu II	21	14.34	-	18.09	4d 3P	-	5f 3P	1	-	0	
330.7868Cu II	118	14.62	-	18.36	4d 1G	-	5f 1G	4	-	4	
330.8127Cu II	4	14.62	-	18.36	4d 1G	-	5f 3G	4	-	3	
331.0340Cu II	1	14.43	-	18.17	4p 3D	-	6d 3D	3	-	2	
331.2027Cu II	20	14.43	-	18.17	4p 3D	-	6d 3F	3	-	4	
331.2393Cu II	1	14.43	-	18.17	4p 3D	-	6d 3F	3	-	3	
331.2678Cu II	6	14.62	-	18.36	4d 1G	-	5f 1F	4	-	3	
331.5744Cu II	24	14.62	-	18.35	4d 1G	-	5f 3H	4	-	4	
331.6276Cu II	1040	14.62	-	18.35	4d 1G	-	5f 1H	4	-	5	
331.7139Cu II	327	14.62	-	18.36	4d 3D	-	5f 3F	1	-	2	
331.9021Cu II	13	14.43	-	18.16	4p 3D	-	6d 3D	3	-	3	
332.1553Cu II	58	14.96	-	18.69	5p 3F	-	8s 3D	3	-	2	
332.2635Cu II	65	14.62	-	18.35	4d 3D	-	5f 3D	1	-	1	
332.5021Cu II	1	13.43	-	17.16	5s 3D	-	4p 3G	2	-	3	
332.5819Cu II	18	14.62	-	18.35	4d 3D	-	5f 1D	1	-	2	
332.5924Cu II	6	14.96	-	18.69	5p 3F	-	8s 3D	3	-	3	
332.7073Cu II	1	14.43	-	18.15	4p 3D	-	6d 3G	3	-	4	
332.7916Cu II	5	14.43	-	18.15	4p 3D	-	6d 3P	3	-	2	
333.7594Cu II	88	14.98	-	18.69	5p 3F	-	8s 3D	4	-	3	
333.8036Cu II	548	14.39	-	18.11	4d 3D	-	5f 3G	3	-	4	
333.8648Cu II	3	14.39	-	18.10	4d 3D	-	5f 3F	3	-	4	
333.8936Cu II	30	14.39	-	18.10	4d 3D	-	5f 3D	3	-	3	
333.9085Cu II	39	14.65	-	18.36	4d 1D	-	5f 3G	2	-	3	
334.0041Cu II	0	14.46	-	18.17	4p 3G	-	6d 3D	3	-	2	
334.0832Cu II	2	13.39	-	17.10	5s 3D	-	4p 3P	3	-	4	
334.1759Cu II	9	14.46	-	18.17	4p 3G	-	6d 3F	3	-	4	
334.2131Cu II	0	14.46	-	18.17	4p 3G	-	6d 3F	3	-	3	
334.2800Cu II	32	14.99	-	18.69	4p 1D	-	8s 3D	2	-	2	
334.2964Cu II	18	14.39	-	18.10	4d 3D	-	5f 3D	3	-	2	
334.3214Cu II	9	14.65	-	18.36	4d 1D	-	5f 3F	2	-	2	

334.3722 Cu II	485	14.65	-	18.36	4d 1D	-	5f 1F	2	-	3
334.3753 Cu II	294	14.39	-	18.10	4d 3D	-	5f 3F	3	-	3
334.7228 Cu II	2	14.99	-	18.69	4p 1D	-	8s 3D	2	-	3
334.7676 Cu II	27	14.99	-	18.69	5p 3P	-	8s 3D	1	-	2
334.8797 Cu II	9	14.65	-	18.35	4d 1D	-	5f 3D	2	-	1
334.8879 Cu II	7	14.46	-	18.16	4p 3G	-	6d 3D	3	-	3
334.9457 Cu II	54	14.39	-	18.09	4d 3D	-	5f 3P	3	-	2
335.2031 Cu II	114	14.65	-	18.35	4d 1D	-	5f 1D	2	-	2
335.4067 Cu II	2	14.52	-	18.22	4p 3D	-	7s 1D	2	-	2
335.6887 Cu II	1	10.96	-	14.65	4s2 3P	-	4p 3F	2	-	3
335.7077 Cu II	1	14.46	-	18.15	4p 3G	-	6d 3G	3	-	4
335.7935 Cu II	3	14.46	-	18.15	4p 3G	-	6d 3P	3	-	2
335.9721 Cu II	4	14.52	-	18.21	4p 3D	-	7s 3D	2	-	1
336.5648 Cu II	19	14.42	-	18.11	4d 3F	-	5f 3G	3	-	4
336.6269 Cu II	652	14.42	-	18.10	4d 3F	-	5f 3F	3	-	4
336.6562 Cu II	200	14.42	-	18.10	4d 3F	-	5f 3D	3	-	3
337.0069 Cu II	0	11.85	-	15.53	4s2 1G	-	4p 5P	4	-	3
337.0150 Cu II	32	15.01	-	18.69	4p 1F	-	8s 3D	3	-	3
337.0454 Cu II	842	14.43	-	18.11	4d 3F	-	5f 3G	4	-	5
337.0657 Cu II	24	14.42	-	18.10	4d 3F	-	5f 3D	3	-	2
337.0785 Cu II	275	14.43	-	18.11	4d 3F	-	5f 3G	4	-	4
337.1408 Cu II	8	14.43	-	18.10	4d 3F	-	5f 3F	4	-	4
337.1459 Cu II	5	14.42	-	18.10	4d 3F	-	5f 3F	3	-	3
337.1702 Cu II	6	14.43	-	18.10	4d 3F	-	5f 3D	4	-	3
337.3539 Cu II	1	13.39	-	17.07	5s 3D	-	4p 1D	3	-	2
337.3591 Cu II	382	14.43	-	18.10	4d 3D	-	5f 3D	2	-	3
337.4442 Cu II	2	13.65	-	17.32	5s 3D	-	6p 3D	1	-	2
337.4952 Cu II	737	14.69	-	18.36	4d 1F	-	5f 1G	3	-	4
337.5223 Cu II	26	14.69	-	18.36	4d 1F	-	5f 3G	3	-	3
337.6614 Cu II	36	14.43	-	18.10	4d 3F	-	5f 3F	4	-	3
337.7084 Cu II	6	14.76	-	18.43	4p 3F	-	6d 3F	2	-	2
337.7258 Cu II	1	14.42	-	18.09	4d 3F	-	5f 3P	3	-	2
337.7704 Cu II	167	14.43	-	18.10	4d 3D	-	5f 3D	2	-	2
337.8383 Cu II	1	14.76	-	18.43	4p 3F	-	6d 1F	2	-	3
337.8509 Cu II	54	14.43	-	18.10	4d 3D	-	5f 3F	2	-	3
337.9441 Cu II	8	14.69	-	18.36	4d 1F	-	5f 3F	3	-	2
337.9939 Cu II	1	13.43	-	17.10	5s 3D	-	4p 3S	2	-	1
337.9960 Cu II	156	14.69	-	18.36	4d 1F	-	5f 1F	3	-	3
338.0331 Cu II	19	14.43	-	18.10	4d 3F	-	5f 3H	4	-	5
338.0712 Cu II	510	14.70	-	18.36	4d 3F	-	5f 3G	2	-	3
338.1103 Cu II	24	14.43	-	18.10	4d 3D	-	5f 1P	2	-	1
338.3152 Cu II	1	14.69	-	18.35	4d 1F	-	5f 3H	3	-	4

338.4332 Cu II	26	14.43	-	18.09	4d 3D	-	5f 3P	2	-	2
338.4945 Cu II	135	14.70	-	18.36	4d 3F	-	5f 3F	2	-	2
338.5465 Cu II	10	14.70	-	18.36	4d 3F	-	5f 1F	2	-	3
338.7352 Cu II	1	14.43	-	18.09	4d 3D	-	5f 3P	2	-	1
338.8451 Cu II	9	14.69	-	18.35	4d 1F	-	5f 1D	3	-	2
339.0668 Cu II	11	14.70	-	18.35	4d 3F	-	5f 3D	2	-	1
339.0935 Cu II	1	14.76	-	18.41	4p 3F	-	6d 3D	2	-	1
339.2744 Cu II	1	10.99	-	14.64	4s2 3P	-	4p 3D	1	-	1
339.3984 Cu II	5	14.70	-	18.35	4d 3F	-	5f 1D	2	-	2
339.3991 Cu II	0	14.30	-	17.95	4p 3G	-	7s 3D	4	-	3
339.5216 Cu II	10	14.52	-	18.17	4p 3D	-	6d 3D	2	-	2
339.5519 Cu II	17	14.76	-	18.41	4p 3F	-	6d 3G	2	-	3
339.7375 Cu II	16	14.52	-	18.17	4p 3D	-	6d 3F	2	-	3
340.2830 Cu II	63	14.45	-	18.10	4d 3P	-	5f 1P	0	-	1
340.3285 Cu II	1	13.68	-	17.33	5s 1D	-	6p 3D	2	-	3
340.4349 Cu II	1	14.52	-	18.16	4p 3D	-	6d 3D	2	-	3
340.6835 Cu II	0	13.68	-	17.32	5s 1D	-	6p 3D	2	-	2
340.9160 Cu II	15	14.45	-	18.09	4d 3P	-	5f 3P	0	-	1
340.9442 Cu II	1	14.76	-	18.39	4p 3F	-	6d 1P	2	-	1
341.0455 Cu II	1	13.43	-	17.07	5s 3D	-	4p 1D	2	-	2
341.2270 Cu II	5	14.52	-	18.15	4p 3D	-	6d 3P	2	-	1
341.3707 Cu II	4	14.52	-	18.15	4p 3D	-	6d 3P	2	-	2
341.6936 Cu II	11	15.07	-	18.69	5p 3D	-	8s 3D	3	-	2
342.1562 Cu II	31	15.07	-	18.69	5p 3D	-	8s 3D	3	-	3
342.8766 Cu II	1	13.65	-	17.26	5s 3D	-	6p 3P	1	-	1
343.0101 Cu II	1	11.03	-	14.64	4s2 3P	-	4p 3D	0	-	1
343.7178 Cu II	2	14.52	-	18.13	4p 3D	-	6d 3S	2	-	1
343.9774 Cu II	1	13.39	-	17.00	5s 3D	-	4p 3G	3	-	3
344.4137 Cu II	2	14.64	-	18.24	4p 3D	-	6d 3P	1	-	0
345.1454 Cu II	1	13.68	-	17.28	5s 1D	-	6p 3F	2	-	3
345.3931 Cu II	1	13.65	-	17.24	5s 3D	-	4p 3D	1	-	2
346.0044 Cu II	14	14.59	-	18.17	4p 3F	-	6d 3F	4	-	4
346.0443 Cu II	1	14.59	-	18.17	4p 3F	-	6d 3F	4	-	3
346.1952 Cu II	1	13.43	-	17.01	5s 3D	-	4p 1P	2	-	1
346.3410 Cu II	2	14.64	-	18.22	4p 3D	-	7s 1D	1	-	2
346.7679 Cu II	3	14.59	-	18.16	4p 3F	-	6d 3D	4	-	3
346.9439 Cu II	6	14.64	-	18.21	4p 3D	-	7s 3D	1	-	1
347.1155 Cu II	12	15.12	-	18.69	5p 3D	-	8s 3D	2	-	2
347.2028 Cu II	1	14.65	-	18.22	4p 3F	-	7s 1D	3	-	2
347.3002 Cu II	2	13.39	-	16.96	5s 3D	-	4p 3F	3	-	2
347.5049 Cu II	1	10.96	-	14.52	4s2 3P	-	4p 3D	2	-	2
347.5929 Cu II	1	15.12	-	18.69	5p 3D	-	8s 3D	2	-	3



347.6469Cu II	3	14.59	-	18.15	4p 3F	-	6d 3G	4	-	4
347.8163Cu II	0	13.43	-	17.00	5s 3D	-	4p 3G	2	-	3
347.8949Cu II	52	14.59	-	18.15	4p 3F	-	6d 3G	4	-	5
348.3830Cu II	8	14.53	-	18.09	4d 1P	-	5f 3P	1	-	2
348.7029Cu II	11	14.53	-	18.09	4d 1P	-	5f 3P	1	-	1
348.7875Cu II	0	13.68	-	17.24	5s 1D	-	4p 3D	2	-	2
348.8437Cu II	5	14.53	-	18.09	4d 1P	-	5f 3P	1	-	0
350.1613Cu II	1	14.89	-	18.43	5p 3P	-	6d 3F	2	-	2
350.3010Cu II	4	14.89	-	18.43	5p 3P	-	6d 1F	2	-	3
350.4664Cu II	2	10.99	-	14.52	4s2 3P	-	4p 3D	1	-	2
350.6836Cu II	3	14.43	-	17.96	4p 3D	-	7s 3D	3	-	2
350.7302Cu II	2	14.64	-	18.17	4p 3D	-	6d 3D	1	-	2
351.1764Cu II	2	14.89	-	18.42	5p 3P	-	6d 1D	2	-	2
351.2140Cu II	8	13.43	-	16.96	5s 3D	-	4p 3F	2	-	2
351.5230Cu II	9	14.43	-	17.95	4p 3D	-	7s 3D	3	-	3
351.6140Cu II	2	14.65	-	18.17	4p 3F	-	6d 3D	3	-	2
351.6506Cu II	1	14.89	-	18.41	5p 3P	-	6d 3D	2	-	1
351.6780Cu II	2	13.39	-	16.92	5s 3D	-	4p 3D	3	-	3
351.8044Cu II	4	14.65	-	18.17	4p 3F	-	6d 3F	3	-	4
351.8457Cu II	14	14.65	-	18.17	4p 3F	-	6d 3F	3	-	3
352.1437Cu II	0	14.89	-	18.41	5p 3P	-	6d 3G	2	-	3
352.5504Cu II	2	14.64	-	18.15	4p 3D	-	6d 3P	1	-	1
352.5937Cu II	11	14.65	-	18.16	4p 3F	-	6d 3D	3	-	3
353.4808Cu II	1	14.60	-	18.11	4d 3G	-	5f 3G	3	-	4
353.4814Cu II	1	10.96	-	14.46	4s2 3P	-	4p 3G	2	-	3
353.5025Cu II	49	14.65	-	18.15	4p 3F	-	6d 3G	3	-	4
353.5493Cu II	32	14.60	-	18.10	4d 3G	-	5f 3F	3	-	4
353.5816Cu II	12	14.60	-	18.10	4d 3G	-	5f 3D	3	-	3
353.5976Cu II	6	14.65	-	18.15	4p 3F	-	6d 3P	3	-	2
353.6413Cu II	1	14.89	-	18.39	5p 3P	-	6d 1P	2	-	1
354.0186Cu II	1	14.46	-	17.96	4p 3G	-	7s 3D	3	-	2
354.0334Cu II	2	14.60	-	18.10	4d 3G	-	5f 3D	3	-	2
354.1219Cu II	1	14.60	-	18.10	4d 3G	-	5f 3F	3	-	3
354.8741Cu II	6	14.46	-	17.95	4p 3G	-	7s 3D	3	-	3
355.1489Cu II	21	14.62	-	18.11	4d 1G	-	5f 3G	4	-	5
355.1857Cu II	9	14.62	-	18.11	4d 1G	-	5f 3G	4	-	4
355.2099Cu II	1	14.64	-	18.13	4p 3D	-	6d 3S	1	-	1
355.2549Cu II	3	14.62	-	18.10	4d 1G	-	5f 3F	4	-	4
355.2875Cu II	1	14.62	-	18.10	4d 1G	-	5f 3D	4	-	3
355.6917Cu II	0	13.43	-	16.92	5s 3D	-	4p 3D	2	-	3
355.8330Cu II	2	14.62	-	18.10	4d 1G	-	5f 3F	4	-	3

356.2458Cu II	5	14.62	-	18.10	4d 1G	-	5f 3H	4	-	5
356.3158Cu II	1	14.62	-	18.10	4d 3D	-	5f 3D	1	-	2
356.5759Cu II	2	15.22	-	18.69	5p 3F	-	8s 3D	2	-	2
356.5851Cu II	2	13.68	-	17.16	5s 1D	-	4p 3G	2	-	3
356.6940Cu II	1	14.62	-	18.10	4d 3D	-	5f 1P	1	-	1
356.8701Cu II	2	10.96	-	14.43	4s2 3P	-	4p 3D	2	-	3
357.0535Cu II	1	14.62	-	18.09	4d 3D	-	5f 3P	1	-	2
357.0797Cu II	1	15.22	-	18.69	5p 3F	-	8s 3D	2	-	3
357.5375Cu II	1	14.62	-	18.09	4d 3D	-	5f 3P	1	-	0
357.8406Cu II	1	13.39	-	16.86	5s 3D	-	4p 5S	3	-	2
358.1317Cu II	4	15.23	-	18.69	5p 1P	-	8s 3D	1	-	2
358.3632Cu II	3	14.76	-	18.22	4p 3F	-	7s 1D	2	-	2
358.6390Cu II	0	14.96	-	18.42	5p 3F	-	6d 1D	3	-	2
358.8608Cu II	10	14.65	-	18.10	4d 1D	-	5f 3D	2	-	3
359.0088Cu II	5	14.76	-	18.21	4p 3F	-	7s 3D	2	-	1
359.0764Cu II	0	14.98	-	18.43	5p 3F	-	6d 1F	4	-	3
359.2113Cu II	1	14.96	-	18.41	5p 3F	-	6d 1G	3	-	4
359.2352Cu II	11	13.65	-	17.10	5s 3D	-	4p 3S	1	-	1
359.3261Cu II	3	14.65	-	18.10	4d 1D	-	5f 3D	2	-	2
359.3534Cu II	1	13.39	-	16.84	5s 3D	-	4p 3F	3	-	4
359.4173Cu II	7	14.65	-	18.10	4d 1D	-	5f 3F	2	-	3
359.6478Cu II	1	14.96	-	18.41	5p 3F	-	6d 3G	3	-	3
359.7108Cu II	1	14.65	-	18.10	4d 1D	-	5f 1P	2	-	1
360.0183Cu II	0	13.55	-	16.99	4p 5D	-	5d 3F	3	-	4
360.0439Cu II	6	14.99	-	18.43	4p 1D	-	6d 3F	2	-	2
360.0547Cu II	1	15.25	-	18.69	5p 1F	-	8s 3D	3	-	2
360.0764Cu II	5	14.65	-	18.09	4d 1D	-	5f 3P	2	-	2
360.1916Cu II	24	14.99	-	18.43	4p 1D	-	6d 1F	2	-	3
360.2232Cu II	8	14.52	-	17.96	4p 3D	-	7s 3D	2	-	2
360.4182Cu II	1	14.65	-	18.09	4d 1D	-	5f 3P	2	-	1
360.5684Cu II	1	15.25	-	18.69	5p 1F	-	8s 3D	3	-	3
360.5729Cu II	1	14.98	-	18.41	5p 3F	-	6d 1G	4	-	4
360.6096Cu II	1	14.99	-	18.43	5p 3P	-	6d 3F	1	-	2
360.6659Cu II	18	13.39	-	16.83	5s 3D	-	4p 3F	3	-	3
361.1090Cu II	3	14.52	-	17.95	4p 3D	-	7s 3D	2	-	3
361.1173Cu II	11	14.99	-	18.42	4p 1D	-	6d 1D	2	-	2
361.6187Cu II	1	14.99	-	18.41	4p 1D	-	6d 3D	2	-	1
361.6478Cu II	0	13.55	-	16.98	4p 5D	-	5d 3D	3	-	3
361.6863Cu II	26	14.99	-	18.42	5p 3P	-	6d 1D	1	-	2
361.9970Cu II	0	13.43	-	16.86	5s 3D	-	4p 5S	2	-	2
362.1401Cu II	1	14.99	-	18.41	4p 1D	-	6d 3G	2	-	3
362.1893Cu II	2	14.99	-	18.41	5p 3P	-	6d 3D	1	-	1

362.6310Cu II	2	14.75	-	18.17	4p 1G	-	6d 3F	4	-	4
362.6748Cu II	0	14.75	-	18.17	4p 1G	-	6d 3F	4	-	3
362.6844Cu II	1	13.65	-	17.07	5s 3D	-	4p 1D	1	-	2
362.6975Cu II	2	15.01	-	18.43	4p 1F	-	6d 3F	3	-	2
362.8474Cu II	15	15.01	-	18.43	4p 1F	-	6d 1F	3	-	3
362.9087Cu II	2	13.68	-	17.10	5s 1D	-	4p 3S	2	-	1
362.9318Cu II	5	14.69	-	18.11	4d 1F	-	5f 3G	3	-	4
363.0382Cu II	1	14.69	-	18.10	4d 1F	-	5f 3D	3	-	3
363.0646Cu II	9	14.76	-	18.17	4p 3F	-	6d 3D	2	-	2
363.3115Cu II	17	14.76	-	18.17	4p 3F	-	6d 3F	2	-	3
363.4697Cu II	1	14.75	-	18.16	4p 1G	-	6d 3D	4	-	3
363.5144Cu II	1	14.69	-	18.10	4d 1F	-	5f 3D	3	-	2
363.6077Cu II	2	14.69	-	18.10	4d 1F	-	5f 3F	3	-	3
363.6733Cu II	0	14.70	-	18.10	4d 3F	-	5f 3D	2	-	3
363.7242Cu II	3	14.99	-	18.39	4p 1D	-	6d 1P	2	-	1
363.7868Cu II	1	15.01	-	18.42	4p 1F	-	6d 1D	3	-	2
364.1092Cu II	1	14.76	-	18.16	4p 3F	-	6d 3D	2	-	3
364.1792Cu II	4	11.85	-	15.25	4s2 1G	-	5p 1F	4	-	3
364.2448Cu II	1	14.70	-	18.10	4d 3F	-	5f 3F	2	-	3
364.2823Cu II	1	14.69	-	18.09	4d 1F	-	5f 3P	3	-	2
364.3015Cu II	19	14.99	-	18.39	5p 3P	-	6d 1P	1	-	1
364.3756Cu II	51	15.01	-	18.41	4p 1F	-	6d 1G	3	-	4
364.4355Cu II	1	14.75	-	18.15	4p 1G	-	6d 3G	4	-	4
364.7080Cu II	5	14.75	-	18.15	4p 1G	-	6d 3G	4	-	5
364.8248Cu II	3	15.01	-	18.41	4p 1F	-	6d 3G	3	-	3
364.8886Cu II	4	13.43	-	16.83	5s 3D	-	4p 3F	2	-	3
364.9218Cu II	1	14.70	-	18.09	4d 3F	-	5f 3P	2	-	2
365.0154Cu II	5	14.76	-	18.15	4p 3F	-	6d 3P	2	-	1
365.1799Cu II	5	14.76	-	18.15	4p 3F	-	6d 3P	2	-	2
365.2728Cu II	1	14.70	-	18.09	4d 3F	-	5f 3P	2	-	1
366.4291Cu II	4	13.68	-	17.07	5s 1D	-	4p 1D	2	-	2
367.1963Cu II	1	15.32	-	18.69	5p 1D	-	8s 3D	2	-	2
367.7306Cu II	1	15.32	-	18.69	5p 1D	-	8s 3D	2	-	3
367.8670Cu II	2	14.76	-	18.13	4p 3F	-	6d 3S	2	-	1
368.2425Cu II	21	14.59	-	17.95	4p 3F	-	7s 3D	4	-	3
368.5139Cu II	0	13.65	-	17.01	5s 3D	-	4p 1P	1	-	1
368.6555Cu II	1	15.07	-	18.43	5p 3D	-	6d 3F	3	-	2
368.8138Cu II	4	15.07	-	18.43	5p 3D	-	6d 1F	3	-	3
369.7844Cu II	1	15.07	-	18.42	5p 3D	-	6d 1D	3	-	2
369.8435Cu II	0	14.20	-	17.55	4d 3S	-	6p 1D	1	-	2
370.3928Cu II	24	15.07	-	18.41	5p 3D	-	6d 1G	3	-	4
370.8570Cu II	1	15.07	-	18.41	5p 3D	-	6d 3G	3	-	3

372.3806Cu II	5	13.68	-	17.01	5s 1D	-	4p 1P	2	-	1
372.4176Cu II	2	14.89	-	18.22	5p 3P	-	7s 1D	2	-	2
372.8658Cu II	2	14.64	-	17.96	4p 3D	-	7s 3D	1	-	2
373.0344Cu II	2	13.43	-	16.75	5s 3D	-	4p 3D	2	-	1
373.1148Cu II	1	14.89	-	18.21	5p 3P	-	7s 3D	2	-	1
373.8648Cu II	12	14.65	-	17.96	4p 3F	-	7s 3D	3	-	2
373.9583Cu II	0	14.20	-	17.51	4d 3S	-	6p 3D	1	-	1
374.0329Cu II	3	13.39	-	16.71	5s 3D	-	4p 3H	3	-	4
374.2059Cu II	6	13.65	-	16.96	5s 3D	-	4p 3F	1	-	2
374.2568Cu II	1	13.68	-	17.00	5s 1D	-	4p 3G	2	-	3
374.8190Cu II	12	14.65	-	17.95	4p 3F	-	7s 3D	3	-	3
374.8318Cu II	0	13.68	-	16.99	4p 5D	-	5d 3F	2	-	3
374.9776Cu II	2	13.39	-	16.70	5s 3D	-	4p 3D	3	-	2
374.9783Cu II	60	15.12	-	18.43	5p 3D	-	6d 3F	2	-	2
375.1385Cu II	48	15.12	-	18.43	5p 3D	-	6d 1F	2	-	3
376.1427Cu II	11	15.12	-	18.42	5p 3D	-	6d 1D	2	-	2
376.6867Cu II	10	15.12	-	18.41	5p 3D	-	6d 3D	2	-	1
377.2526Cu II	85	15.12	-	18.41	5p 3D	-	6d 3G	2	-	3
377.4975Cu II	14	14.89	-	18.17	5p 3P	-	6d 3D	2	-	2
377.7645Cu II	4	14.89	-	18.17	5p 3P	-	6d 3F	2	-	3
378.1936Cu II	6	13.68	-	16.96	5s 1D	-	4p 3F	2	-	2
378.6270Cu II	191	14.89	-	18.16	5p 3P	-	6d 3D	2	-	3
378.9719Cu II	8	15.12	-	18.39	5p 3D	-	6d 1P	2	-	1
379.5442Cu II	2	13.43	-	16.70	5s 3D	-	4p 3D	2	-	2
379.6070Cu II	25	14.89	-	18.15	5p 3P	-	6d 3P	2	-	1
379.6169Cu II	69	15.23	-	18.50	5p 1P	-	6d 1S	1	-	0
379.7849Cu II	286	14.89	-	18.15	5p 3P	-	6d 3P	2	-	2
380.1556Cu II	92	15.15	-	18.41	5p 3P	-	6d 3D	0	-	1
380.8210Cu II	1	14.96	-	18.22	5p 3F	-	7s 1D	3	-	2
381.8879Cu II	88	14.99	-	18.24	5p 3P	-	6d 3P	1	-	0
382.4832Cu II	61	15.15	-	18.39	5p 3P	-	6d 1P	0	-	1
382.6921Cu II	234	14.89	-	18.13	5p 3P	-	6d 3S	2	-	1
383.4883Cu II	0	14.34	-	17.57	4d 3P	-	6p 3F	1	-	2
383.6165Cu II	13	14.99	-	18.22	4p 1D	-	7s 1D	2	-	2
384.1482Cu II	3	13.43	-	16.66	5s 3D	-	4p 3P	2	-	1
384.2587Cu II	8	14.99	-	18.22	5p 3P	-	7s 1D	1	-	2
384.3564Cu II	1	14.99	-	18.21	4p 1D	-	7s 3D	2	-	1
384.9582Cu II	24	13.39	-	16.61	5s 3D	-	4p 3D	3	-	3
385.0010Cu II	5	14.99	-	18.21	5p 3P	-	7s 3D	1	-	1
385.1103Cu II	5	11.85	-	15.07	4s2 1G	-	5p 3D	4	-	3
385.9432Cu II	0	14.34	-	17.55	4d 3P	-	6p 1D	2	-	2

386.0240Cu II	23	15.29	-	18.50	5p 3D	-	6d 1S	1	-	0
386.0425Cu II	65	15.22	-	18.43	5p 3F	-	6d 3F	2	-	2
386.1344Cu II	25	14.96	-	18.17	5p 3F	-	6d 3D	3	-	2
386.2124Cu II	50	15.22	-	18.43	5p 3F	-	6d 1F	2	-	3
386.3362Cu II	1	14.34	-	17.55	4d 3P	-	6p 1D	1	-	2
386.3640Cu II	26	14.96	-	18.17	5p 3F	-	6d 3F	3	-	4
386.4137Cu II	191	14.96	-	18.17	5p 3F	-	6d 3F	3	-	3
386.6304Cu II	19	15.01	-	18.22	4p 1F	-	7s 1D	3	-	2
386.8371Cu II	7	14.76	-	17.96	4p 3F	-	7s 3D	2	-	2
387.1332Cu II	2	14.75	-	17.95	4p 1G	-	7s 3D	4	-	3
387.2768Cu II	34	15.22	-	18.42	5p 3F	-	6d 1D	2	-	2
387.3161Cu II	6	14.96	-	18.16	5p 3F	-	6d 3D	3	-	3
387.3207Cu II	9	13.39	-	16.59	5s 3D	-	4p 3P	3	-	2
387.8535Cu II	8	15.22	-	18.41	5p 3F	-	6d 3D	2	-	1
387.8588Cu II	3	14.76	-	17.95	4p 3F	-	7s 3D	2	-	3
387.8667Cu II	4	15.23	-	18.43	5p 1P	-	6d 3F	1	-	2
387.9397Cu II	239	14.98	-	18.17	5p 3F	-	6d 3F	4	-	4
387.9898Cu II	3	14.98	-	18.17	5p 3F	-	6d 3F	4	-	3
388.4131Cu II	658	14.96	-	18.15	5p 3F	-	6d 3G	3	-	4
388.4534Cu II	488	15.22	-	18.41	5p 3F	-	6d 3G	2	-	3
388.5279Cu II	10	14.96	-	18.15	5p 3F	-	6d 3P	3	-	2
388.8996Cu II	51	14.98	-	18.16	5p 3F	-	6d 3D	4	-	3
389.0087Cu II	174	14.99	-	18.17	4p 1D	-	6d 3D	2	-	2
389.1127Cu II	182	15.23	-	18.42	5p 1P	-	6d 1D	1	-	2
389.2924Cu II	285	14.99	-	18.17	4p 1D	-	6d 3F	2	-	3
389.6691Cu II	140	14.99	-	18.17	5p 3P	-	6d 3D	1	-	2
389.6949Cu II	10	15.23	-	18.41	5p 1P	-	6d 3D	1	-	1
389.7726Cu II	2	13.43	-	16.61	5s 3D	-	4p 3D	2	-	3
390.0056Cu II	47	14.98	-	18.15	5p 3F	-	6d 3G	4	-	4
390.1233Cu II	16	15.25	-	18.43	5p 1F	-	6d 3F	3	-	2
390.2082Cu II	2	14.99	-	18.16	4p 1D	-	6d 3D	2	-	3
390.2766Cu II	1	15.22	-	18.39	5p 3F	-	6d 1P	2	-	1
390.2968Cu II	154	15.25	-	18.43	5p 1F	-	6d 1F	3	-	3
390.3177Cu II	925	14.98	-	18.15	5p 3F	-	6d 3G	4	-	5
390.5114Cu II	67	15.18	-	18.35	4d 1S	-	5f 3D	0	-	1
390.7264Cu II	1	13.68	-	16.86	5s 1D	-	4p 5S	2	-	2
390.8284Cu II	1	14.34	-	17.51	4d 3P	-	6p 3D	1	-	1
391.2491Cu II	53	14.99	-	18.15	4p 1D	-	6d 3P	2	-	1
391.3838Cu II	12	15.25	-	18.42	5p 1F	-	6d 1D	3	-	2
391.4306Cu II	2	14.34	-	17.51	4d 3G	-	6p 1F	4	-	3
391.4381Cu II	9	14.99	-	18.15	4p 1D	-	6d 3P	2	-	2
391.8381Cu II	5	11.85	-	15.01	4s2 1G	-	4p 1F	4	-	3

391.9172 Cu II	144	14.99	-	18.15	5p 3P	-	6d 3P	1	-	1
391.9360 Cu II	0	13.79	-	16.95	4p 5G	-	5d 3G	4	-	5
392.0654 Cu II	727	15.25	-	18.41	5p 1F	-	6d 1G	3	-	4
392.1412 Cu II	147	15.23	-	18.39	5p 1P	-	6d 1P	1	-	1
392.1948 Cu II	0	13.43	-	16.59	5s 3D	-	4p 3P	2	-	2
392.3450 Cu II	202	15.01	-	18.17	4p 1F	-	6d 3F	3	-	4
392.3963 Cu II	7	15.01	-	18.17	4p 1F	-	6d 3F	3	-	3
392.5856 Cu II	34	15.25	-	18.41	5p 1F	-	6d 3G	3	-	3
393.3268 Cu II	168	15.01	-	18.16	4p 1F	-	6d 3D	3	-	3
393.4119 Cu II	7	15.07	-	18.22	5p 3D	-	7s 1D	3	-	2
393.4614 Cu II	1	14.42	-	17.57	4d 3F	-	6p 3F	3	-	2
393.5956 Cu II	3	13.65	-	16.80	5s 3D	-	4p 3P	1	-	0
394.0972 Cu II	3	13.68	-	16.83	5s 1D	-	4p 3F	2	-	3
394.4219 Cu II	0	14.43	-	17.57	4d 3D	-	6p 3F	2	-	2
394.4582 Cu II	32	15.01	-	18.15	4p 1F	-	6d 3G	3	-	4
394.5272 Cu II	0	14.99	-	18.13	4p 1D	-	6d 3S	2	-	1
394.5577 Cu II	222	15.29	-	18.43	5p 3D	-	6d 3F	1	-	2
394.5766 Cu II	67	15.01	-	18.15	4p 1F	-	6d 3P	3	-	2
395.2065 Cu II	34	14.99	-	18.13	5p 3P	-	6d 3S	1	-	1
395.8471 Cu II	56	15.29	-	18.42	5p 3D	-	6d 1D	1	-	2
396.4497 Cu II	133	15.29	-	18.41	5p 3D	-	6d 3D	1	-	1
396.4600 Cu II	1	14.42	-	17.55	4d 3F	-	6p 1D	3	-	2
397.4352 Cu II	1	14.43	-	17.55	4d 3D	-	6p 1D	2	-	2
397.9912 Cu II	1	11.85	-	14.96	4s2 1G	-	5p 3F	4	-	3
398.5214 Cu II	67	15.32	-	18.43	5p 1D	-	6d 3F	2	-	2
398.7024 Cu II	332	15.32	-	18.43	5p 1D	-	6d 1F	2	-	3
398.9817 Cu II	0	15.29	-	18.39	5p 3D	-	6d 1P	1	-	1
399.0778 Cu II	4	13.65	-	16.75	5s 3D	-	4p 3D	1	-	1
399.0850 Cu II	5	15.07	-	18.17	5p 3D	-	6d 3D	3	-	2
399.3302 Cu II	309	15.07	-	18.17	5p 3D	-	6d 3F	3	-	4
399.3834 Cu II	8	15.07	-	18.17	5p 3D	-	6d 3F	3	-	3
399.8369 Cu II	119	15.32	-	18.42	5p 1D	-	6d 1D	2	-	2
400.3476 Cu II	189	15.07	-	18.16	5p 3D	-	6d 3D	3	-	3
400.4516 Cu II	13	15.32	-	18.41	5p 1D	-	6d 3D	2	-	1
400.6165 Cu II	44	15.12	-	18.22	5p 3D	-	7s 1D	2	-	2
401.0912 Cu II	1	15.32	-	18.41	5p 1D	-	6d 3G	2	-	3
401.4235 Cu II	8	15.12	-	18.21	5p 3D	-	7s 3D	2	-	1
401.5196 Cu II	16	15.07	-	18.15	5p 3D	-	6d 3G	3	-	4
401.6423 Cu II	63	15.07	-	18.15	5p 3D	-	6d 3P	3	-	2
401.6713 Cu II	0	13.87	-	16.96	4p 5G	-	5d 3G	3	-	4
401.7760 Cu II	0	14.13	-	17.22	4p 5F	-	5d 1G	3	-	4
401.8686 Cu II	1	14.42	-	17.51	4d 3F	-	6p 1F	3	-	3

402.1908 Cu II	0	14.43	-	17.51	4d 3D	-	6p 3D	2	-	1
402.8706 Cu II	0	14.43	-	17.51	4d 3D	-	6p 1F	2	-	3
403.0353 Cu II	34	15.32	-	18.39	5p 1D	-	6d 1P	2	-	1
403.2647 Cu II	10	14.89	-	17.96	5p 3P	-	7s 3D	2	-	2
403.6163 Cu II	1	13.68	-	16.75	5s 1D	-	4p 3D	2	-	1
404.2547 Cu II	0	14.20	-	17.26	4d 3S	-	6p 3P	1	-	1
404.3484 Cu II	0	-	-	-	-	-	-	-	-	-
404.3751 Cu II	150	14.89	-	17.95	5p 3P	-	7s 3D	2	-	3
405.2689 Cu II	1	14.45	-	17.51	4d 3P	-	6p 3D	0	-	1
405.3653 Cu II	33	15.15	-	18.21	5p 3P	-	7s 3D	0	-	1
405.3945 Cu II	0	14.19	-	17.25	4p 5F	-	5d 3F	2	-	2
406.5009 Cu II	50	15.12	-	18.17	5p 3D	-	6d 3D	2	-	2
406.5373 Cu II	1	13.65	-	16.70	5s 3D	-	4p 3D	1	-	2
406.8106 Cu II	82	15.12	-	18.17	5p 3D	-	6d 3F	2	-	3
407.8108 Cu II	1	15.12	-	18.16	5p 3D	-	6d 3D	2	-	3
408.0018 Cu II	0	14.53	-	17.57	4d 1P	-	6p 3F	1	-	2
408.9480 Cu II	15	15.12	-	18.15	5p 3D	-	6d 3P	2	-	1
409.1544 Cu II	3	15.12	-	18.15	5p 3D	-	6d 3P	2	-	2
410.7744 Cu II	0	14.19	-	17.21	4p 5F	-	5d 3G	2	-	3
411.2270 Cu II	0	14.53	-	17.55	4d 1P	-	6p 1D	1	-	2
411.2481 Cu II	5	13.68	-	16.70	5s 1D	-	4p 3D	2	-	2
411.8239 Cu II	0	13.65	-	16.66	5s 3D	-	4p 3P	1	-	1
412.5307 Cu II	0	15.12	-	18.13	5p 3D	-	6d 3S	2	-	1
412.5935 Cu II	1	15.23	-	18.24	5p 1P	-	6d 3P	1	-	0
413.1363 Cu II	178	14.96	-	17.96	5p 3F	-	7s 3D	3	-	2
413.2710 Cu II	3	15.22	-	18.22	5p 3F	-	7s 1D	2	-	2
414.1297 Cu II	131	15.22	-	18.21	5p 3F	-	7s 3D	2	-	1
414.3017 Cu II	14	14.96	-	17.95	5p 3F	-	7s 3D	3	-	3
414.7812 Cu II	1	14.34	-	17.33	4d 3P	-	6p 3D	2	-	3
415.1904 Cu II	5	14.34	-	17.33	4d 3G	-	6p 3D	4	-	3
415.3623 Cu II	61	15.23	-	18.22	5p 1P	-	7s 1D	1	-	2
415.7637 Cu II	1	14.34	-	17.32	4d 3P	-	6p 3D	1	-	2
416.1140 Cu II	261	14.98	-	17.95	5p 3F	-	7s 3D	4	-	3
416.2297 Cu II	23	15.23	-	18.21	5p 1P	-	7s 3D	1	-	1
416.3205 Cu II	0	14.53	-	17.51	4d 1P	-	6p 3D	1	-	1
416.4284 Cu II	112	14.99	-	17.96	4p 1D	-	7s 3D	2	-	2
416.6588 Cu II	1	13.68	-	16.66	5s 1D	-	4p 3P	2	-	1
416.6948 Cu II	1	15.15	-	18.13	5p 3P	-	6d 3S	0	-	1
416.7779 Cu II	4	14.60	-	17.57	4d 3G	-	6p 3F	3	-	2
417.1851 Cu II	83	14.99	-	17.96	5p 3P	-	7s 3D	1	-	2
417.6125 Cu II	5	14.99	-	17.95	4p 1D	-	7s 3D	2	-	3

417.9512 Cu II	194	15.25	-	18.22	5p 1F	-	7s 1D	3	-	2
419.5358 Cu II	10	15.22	-	18.17	5p 3F	-	6d 3D	2	-	2
419.5772 Cu II	10	14.33	-	17.28	4d 3G	-	6p 3F	5	-	4
419.8656 Cu II	11	15.22	-	18.17	5p 3F	-	6d 3F	2	-	3
419.9446 Cu II	0	14.62	-	17.57	4d 3D	-	6p 3F	1	-	2
419.9821 Cu II	1	15.01	-	17.96	4p 1F	-	7s 3D	3	-	2
420.1440 Cu II	0	14.60	-	17.55	4d 3G	-	6p 1D	3	-	2
420.1730 Cu II	3	15.29	-	18.24	5p 3D	-	6d 3P	1	-	0
420.9312 Cu II	1	15.22	-	18.16	5p 3F	-	6d 3D	2	-	3
421.0822 Cu II	0	14.05	-	16.99	4p 5F	-	5d 3F	4	-	4
421.0857 Cu II	0	13.65	-	16.59	5s 3D	-	4p 3P	1	-	2
421.1866 Cu II	100	15.01	-	17.95	4p 1F	-	7s 3D	3	-	3
421.2314 Cu II	1	14.34	-	17.28	4d 3G	-	6p 3F	4	-	4
421.6912 Cu II	16	15.23	-	18.17	5p 1P	-	6d 3D	1	-	2
421.9583 Cu II	1	14.34	-	17.28	4d 3P	-	6p 3F	2	-	3
422.1428 Cu II	3	15.22	-	18.15	5p 3F	-	6d 3P	2	-	1
422.3628 Cu II	1	15.22	-	18.15	5p 3F	-	6d 3P	2	-	2
422.3818 Cu II	1	14.34	-	17.28	4d 3G	-	6p 3F	4	-	3
422.5195 Cu II	2	14.39	-	17.33	4d 3D	-	6p 3D	3	-	3
423.0449 Cu II	26	15.29	-	18.22	5p 3D	-	7s 1D	1	-	2
423.2837 Cu II	2	13.68	-	16.61	5s 1D	-	4p 3D	2	-	3
423.3130 Cu II	0	14.05	-	16.98	4p 5F	-	5d 3D	4	-	3
423.3622 Cu II	0	14.62	-	17.55	4d 3D	-	6p 1D	1	-	2
423.9447 Cu II	66	15.29	-	18.21	5p 3D	-	7s 3D	1	-	1
424.0412 Cu II	1	14.34	-	17.26	4d 3P	-	6p 3P	1	-	1
424.1323 Cu II	1	14.65	-	17.57	4d 1D	-	6p 3F	2	-	2
424.3251 Cu II	20	15.23	-	18.15	5p 1P	-	6d 3P	1	-	1
424.3598 Cu II	0	15.25	-	18.17	5p 1F	-	6d 3D	3	-	2
424.6371 Cu II	0	15.25	-	18.17	5p 1F	-	6d 3F	3	-	4
424.6972 Cu II	2	15.25	-	18.17	5p 1F	-	6d 3F	3	-	3
424.6985 Cu II	38	15.18	-	18.10	4d 1S	-	5f 1P	0	-	1
425.1019 Cu II	31	14.20	-	17.11	4d 3S	-	4f 3D	1	-	1
425.5635 Cu II	166	14.20	-	17.11	4d 3S	-	4f 1D	1	-	2
425.6849 Cu II	8	15.18	-	18.09	4d 1S	-	5f 3P	0	-	1
425.7876 Cu II	3	15.25	-	18.16	5p 1F	-	6d 3D	3	-	3
426.0914 Cu II	0	14.05	-	16.96	4p 5F	-	5d 3G	4	-	4
426.1418 Cu II	0	13.68	-	16.59	5s 1D	-	4p 3P	2	-	2
426.7616 Cu II	1	11.85	-	14.75	4s2 1G	-	4p 1G	4	-	4
426.8101 Cu II	1	14.05	-	16.95	4p 5F	-	5d 3G	4	-	5
426.9530 Cu II	2	14.42	-	17.33	4d 3F	-	6p 3D	3	-	3
427.1136 Cu II	4	15.25	-	18.15	5p 1F	-	6d 3G	3	-	4
427.1898 Cu II	0	14.20	-	17.10	4d 3S	-	4p 3S	1	-	1



427.2120Cu II	0	15.53	-	18.43	4p 5P	-	6d 1F	3	-	3
427.2525Cu II	1	15.25	-	18.15	5p 1F	-	6d 3P	3	-	2
427.3330Cu II	0	15.53	-	18.43	4p 5P	-	6d 3F	2	-	2
427.5118Cu II	3	14.42	-	17.32	4d 3F	-	6p 3D	3	-	2
427.5412Cu II	1	15.53	-	18.43	4p 5P	-	6d 1F	2	-	3
427.6048Cu II	100	15.32	-	18.22	5p 1D	-	7s 1D	2	-	2
427.6187Cu II	1	14.65	-	17.55	4d 1D	-	6p 1D	2	-	2
427.7800Cu II	2	14.43	-	17.33	4d 3F	-	6p 3D	4	-	3
427.9962Cu II	30	15.07	-	17.96	5p 3D	-	7s 3D	3	-	2
428.0842Cu II	1	14.43	-	17.33	4d 3D	-	6p 3D	2	-	3
428.1836Cu II	2	15.23	-	18.13	5p 1P	-	6d 3S	1	-	1
428.5243Cu II	14	15.32	-	18.21	5p 1D	-	7s 3D	2	-	1
428.6460Cu II	1	14.43	-	17.32	4d 3D	-	6p 3D	2	-	2
428.7043Cu II	2	14.62	-	17.51	4d 1G	-	6p 1F	4	-	3
428.7626Cu II	1	14.62	-	17.51	4d 3D	-	6p 3D	1	-	1
428.7772Cu II	1	14.39	-	17.28	4d 3D	-	6p 3F	3	-	4
428.8459Cu II	1	15.53	-	18.42	4p 5P	-	6d 1D	2	-	2
429.1084Cu II	0	13.39	-	16.28	5s 3D	-	4p 5D	3	-	3
429.2470Cu II	90	15.07	-	17.95	5p 3D	-	7s 3D	3	-	3
429.3320Cu II	1	15.53	-	18.41	4p 5P	-	6d 1G	3	-	4
429.5533Cu II	0	15.53	-	18.41	4p 5P	-	6d 3D	2	-	1
429.6119Cu II	0	15.29	-	18.17	5p 3D	-	6d 3D	1	-	2
429.9693Cu II	2	14.39	-	17.28	4d 3D	-	6p 3F	3	-	3
429.9799Cu II	1	14.69	-	17.57	4d 1F	-	6p 3F	3	-	2
430.8711Cu II	1	14.70	-	17.57	4d 3F	-	6p 3F	2	-	2
432.0761Cu II	0	14.20	-	17.07	4d 3S	-	4p 1D	1	-	2
432.5274Cu II	0	15.53	-	18.39	4p 5P	-	6d 1P	2	-	1
432.5768Cu II	0	15.29	-	18.15	5p 3D	-	6d 3P	1	-	2
433.1290Cu II	1	14.65	-	17.51	4d 1D	-	6p 3D	2	-	1
433.2822Cu II	0	15.57	-	18.43	4p 5P	-	6d 3F	1	-	2
433.3437Cu II	0	14.42	-	17.28	4d 3F	-	6p 3F	3	-	4
433.5634Cu II	1	14.69	-	17.55	4d 1F	-	6p 1D	3	-	2
434.0126Cu II	0	14.13	-	16.99	4p 5F	-	5d 3F	3	-	3
434.1957Cu II	3	14.43	-	17.28	4d 3F	-	6p 3F	4	-	4
434.3153Cu II	1	15.32	-	18.17	5p 1D	-	6d 3D	2	-	2
434.4696Cu II	1	14.70	-	17.55	4d 3F	-	6p 1D	2	-	2
434.5614Cu II	0	14.42	-	17.28	4d 3F	-	6p 3F	3	-	3
434.6688Cu II	2	15.32	-	18.17	5p 1D	-	6d 3F	2	-	3
435.0990Cu II	1	13.43	-	16.28	5s 3D	-	4p 5D	2	-	3
435.4182Cu II	2	14.43	-	17.28	4d 3F	-	6p 3F	4	-	3
435.8110Cu II	2	15.32	-	18.16	5p 1D	-	6d 3D	2	-	3
436.0099Cu II	0	13.39	-	16.24	5s 3D	-	4p 5D	3	-	2

436.5370Cu II	24	15.12	-	17.96	5p 3D	-	7s 3D	2	-	2
437.1099Cu II	0	15.32	-	18.15	5p 1D	-	6d 3P	2	-	1
437.3458Cu II	3	15.32	-	18.15	5p 1D	-	6d 3P	2	-	2
437.4498Cu II	0	14.43	-	17.26	4d 3D	-	6p 3P	2	-	1
437.8384Cu II	2	15.12	-	17.95	5p 3D	-	7s 3D	2	-	3
439.1159Cu II	0	14.43	-	17.25	4p 3D	-	5d 3F	3	-	2
439.1491Cu II	1	14.13	-	16.96	4p 5F	-	5d 3G	3	-	4
439.1831Cu II	0	14.34	-	17.16	4d 3P	-	4p 3G	2	-	3
439.5526Cu II	1	14.43	-	17.25	4p 3D	-	5d 1F	3	-	3
439.6419Cu II	3	14.34	-	17.16	4d 3G	-	4p 3G	4	-	3
440.0400Cu II	1	14.69	-	17.51	4d 1F	-	6p 1F	3	-	3
440.1590Cu II	2	14.70	-	17.51	4d 3F	-	6p 3D	2	-	1
440.3507Cu II	0	14.42	-	17.24	4d 3F	-	4p 3D	3	-	2
440.3751Cu II	0	14.20	-	17.01	4d 3S	-	4p 1P	1	-	1
440.9734Cu II	0	14.70	-	17.51	4d 3F	-	6p 1F	2	-	3
441.0937Cu II	1	14.45	-	17.26	4d 3P	-	6p 3P	0	-	1
441.2055Cu II	2	15.32	-	18.13	5p 1D	-	6d 3S	2	-	1
441.9083Cu II	4	14.34	-	17.14	4d 3P	-	4f 3G	2	-	3
442.2396Cu II	0	14.43	-	17.23	4p 3D	-	5d 1D	3	-	2
442.2583Cu II	0	13.43	-	16.23	5s 3D	-	4p 5D	2	-	1
442.3728Cu II	1	14.34	-	17.14	4d 3G	-	4f 3G	4	-	3
442.7981Cu II	2	11.85	-	14.65	4s2 1G	-	4p 3F	4	-	3
443.1911Cu II	10	14.34	-	17.14	4d 3G	-	4f 1G	4	-	4
443.5691Cu II	4	14.34	-	17.13	4d 3P	-	4f 3F	2	-	2
443.9639Cu II	0	14.64	-	17.43	4p 3D	-	5d 1S	1	-	0
444.0883Cu II	11	14.34	-	17.13	4d 3P	-	4f 3F	1	-	2
444.1717Cu II	3	14.43	-	17.22	4p 3D	-	5d 1G	3	-	4
444.1896Cu II	0	14.33	-	17.12	4d 3G	-	4f 3H	5	-	4
444.4124Cu II	2	14.33	-	17.12	4d 3G	-	4f 1H	5	-	5
444.4831Cu II	27	14.34	-	17.13	4d 3P	-	4f 1F	2	-	3
444.7329Cu II	0	14.53	-	17.32	4d 1P	-	6p 3D	1	-	2
444.8045Cu II	0	14.46	-	17.25	4p 3G	-	5d 1F	3	-	3
444.9531Cu II	1	14.34	-	17.13	4d 3G	-	4f 1F	4	-	3
445.4350Cu II	0	14.43	-	17.21	4p 3D	-	5d 3G	3	-	3
446.0439Cu II	0	14.34	-	17.12	4d 3G	-	4f 3H	4	-	4
446.2686Cu II	80	14.34	-	17.12	4d 3G	-	4f 1H	4	-	5
446.5110Cu II	1	14.34	-	17.11	4d 3P	-	4f 3D	2	-	1
446.8708Cu II	1	13.39	-	16.17	5s 3D	-	4p 3P	3	-	2
446.9036Cu II	9	14.33	-	17.10	4d 3G	-	4p 3P	5	-	4
447.0202Cu II	4	14.34	-	17.11	4d 3P	-	4f 1D	2	-	2
447.0371Cu II	2	14.34	-	17.11	4d 3P	-	4f 3D	1	-	1

447.5476Cu II	1	14.34	-	17.11	4d 3P	-	4f 1D	1	-	2
448.5280Cu II	0	14.20	-	16.96	4d 3S	-	4p 3F	1	-	2
448.7807Cu II	1	14.34	-	17.10	4d 3G	-	4p 3P	4	-	4
448.8150Cu II	0	14.34	-	17.10	4d 3P	-	4p 3S	2	-	1
449.3466Cu II	1	14.34	-	17.10	4d 3P	-	4p 3S	1	-	1
449.5353Cu II	1	14.46	-	17.22	4p 3G	-	5d 1G	3	-	4
449.8552Cu II	0	15.94	-	18.69	4p 3F	-	8s 3D	3	-	2
450.6002Cu II	0	-		-		-				
450.7026Cu II	1	14.39	-	17.14	4d 3D	-	4f 3G	3	-	3
450.8294Cu II	0	14.46	-	17.21	4p 3G	-	5d 3G	3	-	3
451.5520Cu II	53	14.39	-	17.14	4d 3D	-	4f 1G	3	-	4
451.6049Cu II	5	15.22	-	17.96	5p 3F	-	7s 3D	2	-	2
452.3416Cu II	0	11.85	-	14.59	4s2 1G	-	4p 3F	4	-	4
452.4303Cu II	1	14.39	-	17.13	4d 3D	-	4f 3F	3	-	2
452.8528Cu II	1	14.42	-	17.16	4d 3F	-	4p 3G	3	-	3
452.9979Cu II	1	15.22	-	17.95	5p 3F	-	7s 3D	2	-	3
453.3714Cu II	0	13.43	-	16.17	5s 3D	-	4p 3P	2	-	2
453.3813Cu II	4	14.39	-	17.13	4d 3D	-	4f 1F	3	-	3
454.1032Cu II	10	15.23	-	17.96	5p 1P	-	7s 3D	1	-	2
454.1256Cu II	1	14.43	-	17.16	4d 3D	-	4p 3G	2	-	3
454.2117Cu II	1	14.34	-	17.07	4d 3P	-	4p 1D	2	-	2
454.2171Cu II	1	14.53	-	17.26	4d 1P	-	6p 3P	1	-	1
454.5138Cu II	1	14.39	-	17.12	4d 3D	-	4f 3H	3	-	4
454.5470Cu II	0	14.60	-	17.33	4d 3G	-	6p 3D	3	-	3
454.6436Cu II	4	14.52	-	17.25	4p 3D	-	5d 1F	2	-	3
454.7562Cu II	1	14.34	-	17.07	4d 3P	-	4p 1D	1	-	2
455.1451Cu II	0	15.97	-	18.69	4p 3F	-	8s 3D	4	-	3
455.1805Cu II	4	14.60	-	17.32	4d 3G	-	6p 3D	3	-	2
455.5920Cu II	0	-		-		-				
455.7508Cu II	51	14.42	-	17.14	4d 3F	-	4f 3G	3	-	3
456.0212Cu II	0	14.39	-	17.11	4d 3D	-	4f 1D	3	-	2
456.6193Cu II	1	14.42	-	17.14	4d 3F	-	4f 1G	3	-	4
456.6933Cu II	1	14.43	-	17.14	4d 3F	-	4f 3G	4	-	3
456.7254Cu II	0	15.98	-	18.69	4p 3D	-	8s 3D	2	-	3
457.0400Cu II	5	14.43	-	17.14	4d 3D	-	4f 3G	2	-	3
457.1995Cu II	1	15.25	-	17.96	5p 1F	-	7s 3D	3	-	2
457.3559Cu II	1	14.39	-	17.10	4d 3D	-	4p 3P	3	-	4
457.3701Cu II	3	14.62	-	17.33	4d 1G	-	6p 3D	4	-	3
457.5175Cu II	4	14.42	-	17.13	4d 3F	-	4f 3F	3	-	2
457.5189Cu II	2	14.52	-	17.23	4p 3D	-	5d 1D	2	-	2
457.5654Cu II	33	14.43	-	17.14	4d 3F	-	4f 1G	4	-	4
458.6273Cu II	2	15.25	-	17.95	5p 1F	-	7s 3D	3	-	3

458.8167 Cu II	12	14.43	-	17.13	4d 3D	-	4f 3F	2	-	2	
458.9602 Cu II	1	14.62	-	17.32	4d 3D	-	6p 3D	1	-	2	
459.2614 Cu II	0	14.52	-	17.22	4p 3D	-	5d 3D	2	-	1	
459.4438 Cu II	4	14.43	-	17.13	4d 3F	-	4f 1F	4	-	3	
459.6482 Cu II	305	14.42	-	17.12	4d 3F	-	4f 3H	3	-	4	
459.6906 Cu II	0	-		-		-					
459.7947 Cu II	130	14.43	-	17.13	4d 3D	-	4f 1F	2	-	3	
460.6069 Cu II	5	14.43	-	17.12	4d 3F	-	4f 3H	4	-	4	
460.8465 Cu II	174	14.43	-	17.12	4d 3F	-	4f 1H	4	-	5	
460.9397 Cu II	4	14.52	-	17.21	4p 3D	-	5d 3G	2	-	3	
460.9510 Cu II	0	15.53	-	18.22	4p 5P	-	7s 1D	2	-	2	
461.0205 Cu II	0	14.30	-	16.99	4p 3G	-	5d 3F	4	-	4	
461.4337 Cu II	0	16.01	-	18.69	4p 3D	-	8s 3D	3	-	2	
461.9650 Cu II	4	14.43	-	17.11	4d 3D	-	4f 3D	2	-	1	
462.5102 Cu II	30	14.43	-	17.11	4d 3D	-	4f 1D	2	-	2	
462.5551 Cu II	0	14.42	-	17.10	4d 3F	-	4p 3P	3	-	4	
463.1805 Cu II	0	14.60	-	17.28	4d 3G	-	6p 3F	3	-	3	
463.3017 Cu II	0	15.29	-	17.96	5p 3D	-	7s 3D	1	-	2	
463.3087 Cu II	0	14.65	-	17.33	4d 1D	-	6p 3D	2	-	3	
463.5076 Cu II	0	14.39	-	17.07	4d 3D	-	4p 1D	3	-	2	
463.5259 Cu II	3	14.43	-	17.10	4d 3F	-	4p 3P	4	-	4	
463.9585 Cu II	1	14.34	-	17.01	4d 3P	-	4p 1P	1	-	1	
463.9668 Cu II	0	14.65	-	17.32	4d 1D	-	6p 3D	2	-	2	
464.4317 Cu II	1	14.43	-	17.10	4d 3D	-	4p 3S	2	-	1	
464.7116 Cu II	0	14.62	-	17.28	4d 1G	-	6p 3F	4	-	4	
464.9271 Cu II	0	14.20	-	16.86	4d 3S	-	4f 3D	1	-	2	
465.7942 Cu II	1	14.52	-	17.18	4p 3D	-	5d 1P	2	-	1	
466.0307 Cu II	495	14.45	-	17.11	4d 3P	-	4f 3D	0	-	1	
466.1122 Cu II	3	14.62	-	17.28	4d 1G	-	6p 3F	4	-	3	
466.1363 Cu II	13	14.20	-	16.86	4d 3S	-	4f 1P	1	-	1	
466.2649 Cu II	1	14.20	-	16.86	4d 3S	-	4p 5S	1	-	2	
466.3007 Cu II	0	14.34	-	17.00	4d 3P	-	4p 3G	2	-	3	
466.6326 Cu II	1	13.43	-	16.09	5s 3D	-	4p 3P	2	-	1	
467.1702 Cu II	1205	14.20	-	16.85	4d 3S	-	4f 3P	1	-	2	
467.3577 Cu II	611	14.20	-	16.85	4d 3S	-	4f 3P	1	-	0	
467.8953 Cu II	1	14.30	-	16.95	4p 3G	-	5d 3G	4	-	5	
468.1994 Cu II	1439	14.20	-	16.85	4d 3S	-	4f 3P	1	-	1	
468.5411 Cu II	1	14.45	-	17.10	4d 3P	-	4p 3S	0	-	1	
468.7764 Cu II	0	15.32	-	17.96	5p 1D	-	7s 3D	2	-	2	
468.8485 Cu II	1	14.42	-	17.07	4d 3F	-	4p 1D	3	-	2	
469.0678 Cu II	1	14.62	-	17.26	4d 3D	-	6p 3P	1	-	1	
469.7633 Cu II	1	14.60	-	17.24	4d 3G	-	4p 3D	3	-	2	

470.2129Cu II	1	14.43	-	17.07	4d 3D	-	4p 1D	2	-	2	
470.2776Cu II	2	15.32	-	17.95	5p 1D	-	7s 3D	2	-	3	
470.2952Cu II	1	14.69	-	17.33	4d 1F	-	6p 3D	3	-	3	
471.2043Cu II	1	14.59	-	17.22	4p 3F	-	5d 1G	4	-	4	
471.3616Cu II	0	14.70	-	17.33	4d 3F	-	6p 3D	2	-	3	
472.0428Cu II	2	14.70	-	17.32	4d 3F	-	6p 3D	2	-	2	
472.2815Cu II	0	14.65	-	17.28	4d 1D	-	6p 3F	2	-	3	
472.4279Cu II	1	14.34	-	16.96	4d 3P	-	4p 3F	2	-	2	
473.0169Cu II	2	14.34	-	16.96	4d 3P	-	4p 3F	1	-	2	
473.7540Cu II	1	13.39	-	16.01	5s 3D	-	4p 3D	3	-	3	
474.2886Cu II	0	11.85	-	14.46	4s2 1G	-	4p 3G	4	-	3	
474.2987Cu II	1	14.65	-	17.26	4d 1D	-	6p 3P	2	-	1	
474.4592Cu II	10	14.64	-	17.25	4p 3D	-	5d 3F	1	-	2	
475.8433Cu II	0	-	-	-	-	-	-	-	-	-	
476.0780Cu II	0	14.65	-	17.25	4p 3F	-	5d 3F	3	-	2	
476.1034Cu II	1	14.39	-	17.00	4d 3D	-	4p 3G	3	-	3	
476.5913Cu II	1	14.65	-	17.25	4p 3F	-	5d 1F	3	-	3	
476.6740Cu II	0	14.20	-	16.80	4d 3S	-	4p 3P	1	-	0	
477.2787Cu II	1	13.68	-	16.28	5s 1D	-	4p 5D	2	-	3	
477.2966Cu II	1	14.53	-	17.13	4d 1P	-	4f 3F	1	-	2	
478.0146Cu II	0	10.96	-	13.55	4s2 3P	-	4p 5D	2	-	3	
478.1080Cu II	4	14.64	-	17.23	4p 3D	-	5d 1D	1	-	2	
479.2712Cu II	1	13.65	-	16.24	5s 3D	-	4p 5D	1	-	2	
479.5434Cu II	1	14.69	-	17.28	4d 1F	-	6p 3F	3	-	3	
479.7308Cu II	2	13.39	-	15.98	5s 3D	-	4p 3D	3	-	2	
479.7519Cu II	0	14.65	-	17.23	4p 3F	-	5d 1D	3	-	2	
480.0112Cu II	6	14.64	-	17.22	4p 3D	-	5d 3D	1	-	1	
480.0582Cu II	1	14.43	-	17.01	4d 3D	-	4p 1P	2	-	1	
480.4092Cu II	0	11.85	-	14.43	4s2 1G	-	4p 3D	4	-	3	
480.5653Cu II	1	14.34	-	16.92	4d 3P	-	4p 3D	2	-	3	
480.6522Cu II	0	14.70	-	17.28	4d 3F	-	6p 3F	2	-	3	
480.7046Cu II	564	14.53	-	17.11	4d 1P	-	4f 3D	1	-	1	
481.0666Cu II	1	13.43	-	16.01	5s 3D	-	4p 3D	2	-	3	
481.1147Cu II	0	14.34	-	16.92	4d 3G	-	4p 3D	4	-	3	
481.2948Cu II	2613	14.53	-	17.11	4d 1P	-	4f 1D	1	-	2	
481.4868Cu II	5	13.39	-	15.97	5s 3D	-	4p 3F	3	-	4	
482.0265Cu II	1	14.65	-	17.22	4p 3F	-	5d 1G	3	-	4	
482.4926Cu II	0	14.39	-	16.96	4d 3D	-	4p 3F	3	-	2	
482.7416Cu II	1	14.70	-	17.26	4d 3F	-	6p 3P	2	-	1	
482.7933Cu II	0	14.43	-	17.00	4d 3F	-	4p 3G	4	-	3	
482.9335Cu II	87	14.33	-	16.90	4d 3G	-	4f 3G	5	-	4	

482.9980 Cu II	0	14.43	-	17.00	4p 3D	-	5d 3D	3	-	2	
483.3760 Cu II	1	14.53	-	17.10	4d 1P	-	4p 3S	1	-	1	
483.5146 Cu II	0	14.65	-	17.21	4p 3F	-	5d 3G	3	-	3	
483.6799 Cu II	17	14.43	-	16.99	4p 3D	-	5d 3F	3	-	4	
483.9067 Cu II	0	14.43	-	16.99	4p 3D	-	5d 3F	3	-	3	
484.4500 Cu II	0	14.45	-	17.01	4d 3P	-	4p 1P	0	-	1	
484.7382 Cu II	1	14.20	-	16.75	4d 3S	-	4p 3D	1	-	1	
485.1262 Cu II	48	14.34	-	16.90	4d 3G	-	4f 3G	4	-	4	
485.4988 Cu II	1567	14.33	-	16.88	4d 3G	-	4f 3G	5	-	5	
485.9070 Cu II	0	13.68	-	16.23	5s 1D	-	4p 5D	2	-	1	
486.1561 Cu II	72	14.33	-	16.88	4d 3G	-	4f 3F	5	-	4	
486.3803 Cu II	1	13.39	-	15.94	5s 3D	-	4p 3D	3	-	2	
486.6130 Cu II	1	13.39	-	15.94	5s 3D	-	4p 3F	3	-	3	
486.6256 Cu II	11	14.43	-	16.98	4p 3D	-	5d 3D	3	-	3	
487.1523 Cu II	0	14.64	-	17.18	4p 3D	-	5d 1P	1	-	1	
487.2205 Cu II	2	14.62	-	17.16	4d 1G	-	4p 3G	4	-	3	
487.2306 Cu II	1	13.43	-	15.98	5s 3D	-	4p 3D	2	-	2	
487.3304 Cu II	727	14.60	-	17.14	4d 3G	-	4f 3G	3	-	3	
487.7149 Cu II	15	14.34	-	16.88	4d 3G	-	4f 3G	4	-	5	
487.7447 Cu II	0	14.70	-	17.24	4d 3F	-	4p 3D	2	-	2	
488.2826 Cu II	4	14.42	-	16.96	4d 3F	-	4p 3F	3	-	2	
488.3235 Cu II	24	14.60	-	17.14	4d 3G	-	4f 1G	3	-	4	
488.3783 Cu II	1331	14.34	-	16.88	4d 3G	-	4f 3F	4	-	4	
489.3469 Cu II	0	14.46	-	17.00	4p 3G	-	5d 3D	3	-	2	
489.3508 Cu II	36	14.60	-	17.13	4d 3G	-	4f 3F	3	-	2	
489.6416 Cu II	1	14.53	-	17.07	4d 1P	-	4p 1D	1	-	2	
489.7627 Cu II	6	14.43	-	16.96	4d 3D	-	4p 3F	2	-	2	
490.0469 Cu II	8	14.46	-	16.99	4p 3G	-	5d 3F	3	-	4	
490.1427 Cu II	119	14.34	-	16.87	4d 3P	-	4f 3D	2	-	3	
490.2797 Cu II	1	14.46	-	16.99	4p 3G	-	5d 3F	3	-	3	
490.3008 Cu II	1	14.43	-	16.96	4p 3D	-	5d 3G	3	-	4	
490.5715 Cu II	4	14.43	-	16.96	4p 3D	-	5d 3P	3	-	2	
490.5767 Cu II	25	14.62	-	17.14	4d 1G	-	4f 3G	4	-	3	
490.6567 Cu II	440	14.34	-	16.86	4d 3P	-	4f 3D	2	-	2	
490.7142 Cu II	118	14.34	-	16.87	4d 3G	-	4f 3D	4	-	3	
490.9039 Cu II	168	14.33	-	16.85	4d 3G	-	4f 3H	5	-	5	
490.9836 Cu II	1	14.39	-	16.92	4d 3D	-	4p 3D	3	-	3	
491.1063 Cu II	0	16.17	-	18.69	4p 3P	-	8s 3D	2	-	3	
491.2366 Cu II	2297	14.34	-	16.86	4d 3P	-	4f 3F	2	-	3	
491.2921 Cu II	1722	14.34	-	16.86	4d 3P	-	4f 3D	1	-	2	
491.5832 Cu II	927	14.62	-	17.14	4d 1G	-	4f 1G	4	-	4	
491.7892 Cu II	6532	14.60	-	17.12	4d 3G	-	4f 3H	3	-	4	

491.8106Cu II	6	14.34	-	16.86	4d 3G	-	4f 3F	4	-	3	
491.8376Cu II	0	-		-		-					
492.0036Cu II	104	14.34	-	16.86	4d 3P	-	4f 1P	2	-	1	
492.1469Cu II	1	14.34	-	16.86	4d 3P	-	4p 5S	2	-	2	
492.6424Cu II	1178	14.34	-	16.86	4d 3P	-	4f 1P	1	-	1	
492.6819Cu II	0	14.05	-	16.56	4p 5F	-	6s 3D	4	-	3	
492.7861Cu II	0	14.34	-	16.86	4d 3P	-	4p 5S	1	-	2	
493.0709Cu II	7	14.46	-	16.98	4p 3G	-	5d 3D	3	-	3	
493.1556Cu II	1837	14.34	-	16.85	4d 3P	-	4f 3P	2	-	2	
493.1698Cu II	8223	14.34	-	16.85	4d 3G	-	4f 3H	4	-	5	
493.3075Cu II	1	14.33	-	16.84	4d 3G	-	4p 3F	5	-	4	
493.5545Cu II	0	14.60	-	17.11	4d 3G	-	4f 1D	3	-	2	
493.7221Cu II	2619	14.62	-	17.13	4d 3D	-	4f 3F	1	-	2	
493.7520Cu II	50	14.62	-	17.13	4d 1G	-	4f 1F	4	-	3	
493.7975Cu II	201	14.34	-	16.85	4d 3P	-	4f 3P	1	-	2	
493.9653Cu II	0	14.65	-	17.16	4d 1D	-	4p 3G	2	-	3	
494.0070Cu II	160	14.34	-	16.85	4d 3P	-	4f 3P	1	-	0	
494.0911Cu II	0	13.43	-	15.94	5s 3D	-	4p 3D	2	-	2	
494.3026Cu II	631	14.34	-	16.85	4d 3P	-	4f 3P	2	-	1	
494.3312Cu II	2	13.43	-	15.94	5s 3D	-	4p 3F	2	-	3	
494.9474Cu II	4	14.34	-	16.85	4d 3P	-	4f 3P	1	-	1	
495.0955Cu II	200	14.62	-	17.12	4d 1G	-	4f 3H	4	-	4	
495.1621Cu II	3829	14.39	-	16.90	4d 3D	-	4f 3G	3	-	4	
495.3724Cu II	8280	14.62	-	17.12	4d 1G	-	4f 1H	4	-	5	
495.5956Cu II	0	14.34	-	16.84	4d 3G	-	4p 3F	4	-	4	
495.7879Cu II	1	14.20	-	16.70	4d 3S	-	4p 3D	1	-	2	
496.8445Cu II	1	14.46	-	16.96	4p 3G	-	5d 3G	3	-	4	
496.9805Cu II	0	14.42	-	16.92	4d 3F	-	4p 3D	3	-	3	
497.1225Cu II	3	14.46	-	16.96	4p 3G	-	5d 3P	3	-	2	
497.3142Cu II	8	14.76	-	17.25	4p 3F	-	5d 3F	2	-	2	
497.3695Cu II	509	14.62	-	17.11	4d 3D	-	4f 3D	1	-	1	
497.4154Cu II	382	14.65	-	17.14	4d 1D	-	4f 3G	2	-	3	
497.5066Cu II	4	14.34	-	16.83	4d 3P	-	4p 3F	2	-	3	
497.7905Cu II	0	15.94	-	18.43	4p 3F	-	6d 3F	3	-	2	
497.8743Cu II	1	14.76	-	17.25	4p 3F	-	5d 1F	2	-	3	
498.0014Cu II	122	14.62	-	17.11	4d 3D	-	4f 1D	1	-	2	
498.0729Cu II	1	15.94	-	18.43	4p 3F	-	6d 1F	3	-	3	
498.0955Cu II	0	14.34	-	16.83	4d 3G	-	4p 3F	4	-	3	
498.1014Cu II	2	14.43	-	16.92	4d 3F	-	4p 3D	4	-	3	
498.3170Cu II	0	15.94	-	18.43	4p 3D	-	6d 1F	2	-	3	
498.4696Cu II	0	14.62	-	17.10	4d 1G	-	4p 3P	4	-	4	
498.5139Cu II	0	14.43	-	16.92	4d 3D	-	4p 3D	2	-	3	

498.5506Cu II	556	14.39	-	16.88	4d 3D	-	4f 3F	3	-	4	
499.3553Cu II	1	13.68	-	16.17	5s 1D	-	4p 3P	2	-	2	
499.5206Cu II	59	14.65	-	17.13	4d 1D	-	4f 3F	2	-	2	
500.0904Cu II	0	15.94	-	18.42	4p 3D	-	6d 1D	2	-	2	
500.2300Cu II	5	14.62	-	17.10	4d 3D	-	4p 3S	1	-	1	
500.3265Cu II	2	14.53	-	17.01	4d 1P	-	4p 1P	1	-	1	
500.6801Cu II	3767	14.65	-	17.13	4d 1D	-	4f 1F	2	-	3	
500.9569Cu II	1	15.94	-	18.41	4p 3F	-	6d 1G	3	-	4	
500.9851Cu II	183	14.39	-	16.87	4d 3D	-	4f 3D	3	-	3	
501.0525Cu II	0	15.94	-	18.41	4p 3D	-	6d 3D	2	-	1	
501.2620Cu II	1055	14.42	-	16.90	4d 3F	-	4f 3G	3	-	4	
501.2816Cu II	12	14.52	-	17.00	4p 3D	-	5d 3D	2	-	2	
501.3245Cu II	1	14.76	-	17.23	4p 3F	-	5d 1D	2	-	2	
501.5220Cu II	123	14.39	-	16.86	4d 3D	-	4f 3D	3	-	2	
501.8064Cu II	0	15.94	-	18.41	4p 3F	-	6d 3G	3	-	3	
501.9149Cu II	1	14.69	-	17.16	4d 1F	-	4p 3G	3	-	3	
502.0541Cu II	1	15.94	-	18.41	4p 3D	-	6d 3G	2	-	3	
502.1279Cu II	2366	14.39	-	16.86	4d 3D	-	4f 3F	3	-	3	
502.2604Cu II	17	14.52	-	16.99	4p 3D	-	5d 3F	2	-	3	
502.3358Cu II	0	14.60	-	17.07	4d 3G	-	4p 1D	3	-	2	
502.4023Cu II	1803	14.43	-	16.90	4d 3F	-	4f 3G	4	-	4	
502.5853Cu II	0	14.75	-	17.22	4p 1G	-	5d 1G	4	-	4	
503.0791Cu II	1	14.39	-	16.86	4d 3D	-	4p 5S	3	-	2	
503.1297Cu II	0	14.70	-	17.16	4d 3F	-	4p 3G	2	-	3	
503.2546Cu II	64	14.65	-	17.11	4d 1D	-	4f 3D	2	-	1	
503.4173Cu II	2	14.76	-	17.22	4p 3F	-	5d 3D	2	-	1	
503.6731Cu II	1	14.20	-	16.66	4d 3S	-	4p 3P	1	-	1	
503.9016Cu II	908	14.65	-	17.11	4d 1D	-	4f 1D	2	-	2	
504.1331Cu II	437	14.39	-	16.85	4d 3D	-	4f 3P	3	-	2	
504.4278Cu II	0	14.34	-	16.80	4d 3P	-	4p 3P	1	-	0	
504.7348Cu II	4286	14.42	-	16.88	4d 3F	-	4f 3F	3	-	4	
505.0655Cu II	0	11.85	-	14.30	4s2 1G	-	4p 3G	4	-	4	
505.1793Cu II	6715	14.43	-	16.88	4d 3F	-	4f 3G	4	-	5	
505.1901Cu II	1	14.52	-	16.98	4p 3D	-	5d 3D	2	-	3	
505.2046Cu II	1	15.98	-	18.43	4p 3D	-	6d 3F	2	-	2	
505.4347Cu II	23	14.76	-	17.21	4p 3F	-	5d 3G	2	-	3	
505.4773Cu II	172	14.69	-	17.14	4d 1F	-	4f 3G	3	-	3	
505.4955Cu II	0	15.98	-	18.43	4p 3D	-	6d 1F	2	-	3	
505.8910Cu II	431	14.43	-	16.88	4d 3F	-	4f 3F	4	-	4	
506.0740Cu II	0	14.39	-	16.84	4d 3D	-	4p 3F	3	-	4	
506.1833Cu II	4	14.65	-	17.10	4d 1D	-	4p 3S	2	-	1	



506.5459Cu II	5808	14.69	-	17.14	4d 1F	-	4f 1G	3	-	4
506.7094Cu II	3982	14.70	-	17.14	4d 3F	-	4f 3G	2	-	3
506.7629Cu II	0	14.13	-	16.58	4p 5F	-	6s 3D	3	-	2
506.9431Cu II	1	14.62	-	17.07	4d 3D	-	4p 1D	1	-	2
507.2302Cu II	1578	14.42	-	16.87	4d 3F	-	4f 3D	3	-	3
507.6515Cu II	59	14.69	-	17.13	4d 1F	-	4f 3F	3	-	2
507.7807Cu II	185	14.42	-	16.86	4d 3F	-	4f 3D	3	-	2
508.1106Cu II	1	13.65	-	16.09	5s 3D	-	4p 3P	1	-	1
508.2526Cu II	29	14.99	-	17.43	5p 3P	-	5d 1S	1	-	0
508.3106Cu II	0	15.98	-	18.41	4p 3D	-	6d 3D	2	-	1
508.3979Cu II	35	14.43	-	16.87	4d 3F	-	4f 3D	4	-	3
508.4018Cu II	23	14.42	-	16.86	4d 3F	-	4f 3F	3	-	3
508.6810Cu II	10	14.39	-	16.83	4d 3D	-	4p 3F	3	-	3
508.8277Cu II	3077	14.43	-	16.87	4d 3D	-	4f 3D	2	-	3
508.8490Cu II	1256	14.69	-	17.13	4d 1F	-	4f 1F	3	-	3
508.8942Cu II	1057	14.70	-	17.13	4d 3F	-	4f 3F	2	-	2
508.9498Cu II	6	14.52	-	16.96	4p 3D	-	5d 3P	2	-	1
509.3415Cu II	1	15.98	-	18.41	4p 3D	-	6d 3G	2	-	3
509.3816Cu II	1334	14.43	-	16.86	4d 3D	-	4f 3D	2	-	2
509.4442Cu II	3	14.52	-	16.96	4p 3D	-	5d 3P	2	-	2
509.5749Cu II	284	14.43	-	16.86	4d 3F	-	4f 3F	4	-	3
510.0067Cu II	350	14.43	-	16.86	4d 3D	-	4f 3F	2	-	3
510.0977Cu II	120	14.70	-	17.13	4d 3F	-	4f 1F	2	-	3
510.2761Cu II	1	14.69	-	17.12	4d 1F	-	4f 3H	3	-	4
510.4576Cu II	1	14.42	-	16.85	4d 3F	-	4f 3P	3	-	2
510.8334Cu II	183	14.43	-	16.86	4d 3D	-	4f 1P	2	-	1
510.8768Cu II	1	14.53	-	16.96	4d 1P	-	4p 3F	1	-	2
511.0341Cu II	122	14.43	-	16.85	4d 3F	-	4f 3H	4	-	5
511.2775Cu II	1	14.76	-	17.18	4p 3F	-	5d 1P	2	-	1
511.5537Cu II	3	14.64	-	17.06	4p 3D	-	5d 3P	1	-	0
512.0754Cu II	170	14.43	-	16.85	4d 3D	-	4f 3P	2	-	2
512.1769Cu II	73	14.69	-	17.11	4d 1F	-	4f 1D	3	-	2
512.3058Cu II	0	16.01	-	18.43	4p 3D	-	6d 1F	3	-	3
512.4476Cu II	0	-	-	-	-	-	-	-	-	-
512.4806Cu II	0	15.98	-	18.39	4p 3D	-	6d 1P	2	-	1
512.7702Cu II	84	14.70	-	17.11	4d 3F	-	4f 3D	2	-	1
512.7733Cu II	0	14.34	-	16.75	4d 3P	-	4p 3D	2	-	1
513.0583Cu II	2	14.65	-	17.07	4d 1D	-	4p 1D	2	-	2
513.3122Cu II	1	14.43	-	16.85	4d 3D	-	4f 3P	2	-	1
513.4419Cu II	41	14.70	-	17.11	4d 3F	-	4f 1D	2	-	2
513.4673Cu II	1	14.34	-	16.75	4d 3P	-	4p 3D	1	-	1
513.6394Cu II	0	14.43	-	16.84	4d 3F	-	4p 3F	4	-	4

514.5120Cu II	0	16.28	-	18.69	4p 5D	-	8s 3D	3	-	3
515.1207Cu II	0	14.42	-	16.83	4d 3F	-	4p 3F	3	-	3
515.3574Cu II	0	16.01	-	18.41	4p 3D	-	6d 1G	3	-	4
515.7258Cu II	1	14.43	-	16.83	4p 3D	-	6s 1D	3	-	2
515.8093Cu II	450	14.45	-	16.86	4d 3P	-	4f 1P	0	-	1
515.8111Cu II	8	14.70	-	17.10	4d 3F	-	4p 3S	2	-	1
515.9097Cu II	23	14.59	-	16.99	4p 3F	-	5d 3F	4	-	4
516.1678Cu II	1	14.59	-	16.99	4p 3F	-	5d 3F	4	-	3
516.3251Cu II	11	14.43	-	16.83	4d 3F	-	4p 3F	4	-	3
516.7683Cu II	0	14.43	-	16.83	4d 3D	-	4p 3F	2	-	3
517.5965Cu II	3	14.20	-	16.59	4d 3S	-	4p 3P	1	-	2
518.3367Cu II	144	14.45	-	16.85	4d 3P	-	4f 3P	0	-	1
518.4053Cu II	1	14.62	-	17.01	4d 3D	-	4p 1P	1	-	1
519.2624Cu II	5	14.59	-	16.98	4p 3F	-	5d 3D	4	-	3
520.5107Cu II	2	14.52	-	16.90	4p 3D	-	5d 3S	2	-	1
520.8215Cu II	1	14.62	-	17.00	4d 1G	-	4p 3G	4	-	3
521.3980Cu II	2	14.33	-	16.71	4d 3G	-	4p 3H	5	-	4
521.6396Cu II	4	14.69	-	17.07	4d 1F	-	4p 1D	3	-	2
522.9519Cu II	1	14.70	-	17.07	4d 3F	-	4p 1D	2	-	2
522.9707Cu II	1	14.46	-	16.83	4p 3G	-	6s 1D	3	-	2
523.4493Cu II	4	14.59	-	16.96	4p 3F	-	5d 3G	4	-	4
523.9549Cu II	0	14.34	-	16.71	4d 3G	-	4p 3H	4	-	4
524.5342Cu II	87	14.59	-	16.95	4p 3F	-	5d 3G	4	-	5
524.7114Cu II	3	14.60	-	16.96	4d 3G	-	4p 3F	3	-	2
524.7976Cu II	3	14.89	-	17.25	5p 3P	-	5d 3F	2	-	2
524.8019Cu II	2	14.65	-	17.01	4d 1D	-	4p 1P	2	-	1
525.1544Cu II	1	14.34	-	16.70	4d 3P	-	4p 3D	2	-	2
525.4214Cu II	23	14.89	-	17.25	5p 3P	-	5d 1F	2	-	3
526.1046Cu II	3	14.64	-	17.00	4p 3D	-	5d 3D	1	-	2
526.9991Cu II	0	-	-	-	-	-	-	-	-	-
527.6525Cu II	0	-	-	-	-	-	-	-	-	-
528.0958Cu II	5	14.65	-	17.00	4p 3F	-	5d 3D	3	-	2
528.9110Cu II	6	14.65	-	16.99	4p 3F	-	5d 3F	3	-	4
529.1823Cu II	32	14.65	-	16.99	4p 3F	-	5d 3F	3	-	3
529.2654Cu II	6	14.89	-	17.23	5p 3P	-	5d 1D	2	-	2
529.4369Cu II	0	16.09	-	18.43	4p 3P	-	6d 3F	1	-	2
529.7404Cu II	1	14.62	-	16.96	4d 3D	-	4p 3F	1	-	2
531.5987Cu II	2	14.89	-	17.22	5p 3P	-	5d 3D	2	-	1
531.7610Cu II	0	16.09	-	18.42	4p 3P	-	6d 1D	1	-	2
532.2606Cu II	0	14.53	-	16.86	4d 1P	-	4f 3D	1	-	2
532.4355Cu II	14	14.65	-	16.98	4p 3F	-	5d 3D	3	-	3
532.6292Cu II	0	13.65	-	15.98	5s 3D	-	4p 3D	1	-	2

533.2596Cu II	2	14.43	-	16.75	4d 3D	-	4p 3D	2	-	1
533.8459Cu II	1	14.53	-	16.86	4d 1P	-	4f 1P	1	-	1
533.8487Cu II	1	14.89	-	17.21	5p 3P	-	5d 3G	2	-	3
534.0097Cu II	0	14.34	-	16.66	4d 3P	-	4p 3P	2	-	1
534.5574Cu II	3	14.64	-	16.96	4p 3D	-	5d 3P	1	-	1
534.7624Cu II	1	14.34	-	16.66	4d 3P	-	4p 3P	1	-	1
535.1029Cu II	0	14.64	-	16.96	4p 3D	-	5d 3P	1	-	2
535.1581Cu II	1	14.70	-	17.01	4d 3F	-	4p 1P	2	-	1
535.2025Cu II	46	14.53	-	16.85	4d 1P	-	4f 3P	1	-	2
535.4486Cu II	36	14.53	-	16.85	4d 1P	-	4f 3P	1	-	0
535.6809Cu II	0	14.39	-	16.71	4d 3D	-	4p 3H	3	-	4
536.4216Cu II	3	14.65	-	16.96	4d 1D	-	4p 3F	2	-	2
536.5537Cu II	76	14.53	-	16.85	4d 1P	-	4f 3P	1	-	1
536.6246Cu II	1	14.52	-	16.83	4p 3D	-	6s 1D	2	-	2
536.8383Cu II	98	14.65	-	16.96	4p 3F	-	5d 3G	3	-	4
537.1628Cu II	9	14.65	-	16.96	4p 3F	-	5d 3P	3	-	2
537.6207Cu II	1	14.39	-	16.70	4d 3D	-	4p 3D	3	-	2
537.6475Cu II	0	14.69	-	17.00	4d 1F	-	4p 3G	3	-	3
538.6806Cu II	0	14.62	-	16.92	4d 1G	-	4p 3D	4	-	3
538.6843Cu II	1	14.45	-	16.75	4d 3P	-	4p 3D	0	-	1
539.3938Cu II	2	14.52	-	16.82	4p 3D	-	6s 3D	2	-	1
539.7295Cu II	38	14.60	-	16.90	4d 3G	-	4f 3G	3	-	4
540.3711Cu II	11	14.89	-	17.18	5p 3P	-	5d 1P	2	-	1
540.7445Cu II	4	13.68	-	15.98	5s 1D	-	4p 3D	2	-	2
540.8385Cu II	7	13.65	-	15.94	5s 3D	-	4p 3D	1	-	2
541.6398Cu II	1	14.96	-	17.25	5p 3F	-	5d 3F	3	-	2
542.3042Cu II	3	14.96	-	17.25	5p 3F	-	5d 1F	3	-	3
542.8272Cu II	0	14.42	-	16.71	4d 3F	-	4p 3H	3	-	4
543.7144Cu II	45	14.62	-	16.90	4d 1G	-	4f 3G	4	-	4
543.7579Cu II	165	14.60	-	16.88	4d 3G	-	4f 3F	3	-	4
544.0071Cu II	1	15.94	-	18.22	4p 3F	-	7s 1D	3	-	2
544.1648Cu II	1	14.43	-	16.71	4d 3F	-	4p 3H	4	-	4
544.8193Cu II	1	14.42	-	16.70	4d 3F	-	4p 3D	3	-	2
544.9406Cu II	4	14.34	-	16.61	4d 3P	-	4p 3D	2	-	3
545.4136Cu II	1	14.98	-	17.25	5p 3F	-	5d 1F	4	-	3
545.6472Cu II	0	14.34	-	16.61	4d 3G	-	4p 3D	4	-	3
545.7888Cu II	1	15.94	-	18.21	4p 3D	-	7s 3D	2	-	1
545.8094Cu II	8	14.69	-	16.96	4d 1F	-	4p 3F	3	-	2
546.4002Cu II	1	14.96	-	17.23	5p 3F	-	5d 1D	3	-	2
546.6552Cu II	91	14.60	-	16.87	4d 3G	-	4f 3D	3	-	3
546.6626Cu II	1	14.43	-	16.70	4d 3D	-	4p 3D	2	-	2

546.9683Cu II	117	14.62	-	16.88	4d 1G	-	4f 3G	4	-	5
547.2463Cu II	1	14.70	-	16.96	4d 3F	-	4p 3F	2	-	2
547.2946Cu II	12	14.60	-	16.86	4d 3G	-	4f 3D	3	-	2
547.3124Cu II	9	14.99	-	17.25	4p 1D	-	5d 3F	2	-	2
547.3256Cu II	1	14.64	-	16.90	4p 3D	-	5d 3S	1	-	1
547.6103Cu II	0	16.17	-	18.43	4p 3P	-	6d 3F	2	-	2
547.7128Cu II	2	14.53	-	16.80	4d 1P	-	4p 3P	1	-	0
547.8027Cu II	40	14.62	-	16.88	4d 1G	-	4f 3F	4	-	4
547.9521Cu II	1	16.17	-	18.43	4p 3P	-	6d 1F	2	-	3
547.9908Cu II	55	14.99	-	17.25	4p 1D	-	5d 1F	2	-	3
548.0162Cu II	1	14.60	-	16.86	4d 3G	-	4f 3F	3	-	3
548.2527Cu II	0	14.30	-	16.56	4p 3G	-	6s 3D	4	-	3
548.6205Cu II	2	14.99	-	17.25	5p 3P	-	5d 3F	1	-	2
549.2078Cu II	0	13.68	-	15.94	5s 1D	-	4p 3D	2	-	2
549.3527Cu II	1	14.96	-	17.22	5p 3F	-	5d 1G	3	-	4
549.5046Cu II	6	13.68	-	15.94	5s 1D	-	4p 3F	2	-	3
549.6869Cu II	4	14.34	-	16.59	4d 3P	-	4p 3P	2	-	2
550.0972Cu II	0	16.17	-	18.42	4p 3P	-	6d 1D	2	-	2
550.4845Cu II	1	14.34	-	16.59	4d 3P	-	4p 3P	1	-	2
550.7434Cu II	4	14.62	-	16.87	4d 1G	-	4f 3D	4	-	3
551.2864Cu II	5	14.96	-	17.21	5p 3F	-	5d 3G	3	-	3
552.1249Cu II	11	14.62	-	16.86	4d 1G	-	4f 3F	4	-	3
552.1735Cu II	44	14.99	-	17.23	4p 1D	-	5d 1D	2	-	2
552.5436Cu II	9	14.98	-	17.22	5p 3F	-	5d 1G	4	-	4
552.7680Cu II	4	14.62	-	16.86	4d 3D	-	4f 3D	1	-	2
552.8740Cu II	1	15.98	-	18.22	4p 3D	-	7s 1D	2	-	2
553.4677Cu II	7	15.01	-	17.25	4p 1F	-	5d 3F	3	-	2
553.5050Cu II	136	14.99	-	17.23	5p 3P	-	5d 1D	1	-	2
553.7667Cu II	4	14.75	-	16.99	4p 1G	-	5d 3F	4	-	4
553.8384Cu II	40	14.62	-	16.85	4d 1G	-	4f 3H	4	-	5
554.0640Cu II	0	14.75	-	16.99	4p 1G	-	5d 3F	4	-	3
554.1615Cu II	66	15.01	-	17.25	4p 1F	-	5d 1F	3	-	3
554.3539Cu II	25	14.76	-	17.00	4p 3F	-	5d 3D	2	-	2
554.4120Cu II	0	15.98	-	18.21	4p 3D	-	7s 3D	2	-	1
554.4781Cu II	6	14.62	-	16.86	4d 3D	-	4f 1P	1	-	1
554.4999Cu II	1	14.98	-	17.21	5p 3F	-	5d 3G	4	-	3
554.7136Cu II	1	14.99	-	17.22	4p 1D	-	5d 3D	2	-	1
554.9147Cu II	0	15.94	-	18.17	4p 3F	-	6d 3D	3	-	2
555.2177Cu II	0	15.94	-	18.17	4p 3D	-	6d 3D	2	-	2
555.4919Cu II	1	15.94	-	18.17	4p 3F	-	6d 3F	3	-	3
555.5513Cu II	43	14.76	-	16.99	4p 3F	-	5d 3F	2	-	3
555.7954Cu II	0	15.94	-	18.17	4p 3D	-	6d 3F	2	-	3

555.8310Cu II	1	14.60	-	16.83	4d 3G	-	4p 3F	3	-	3
555.9417Cu II	1	14.62	-	16.85	4d 3D	-	4f 3P	1	-	2
556.0573Cu II	23	14.99	-	17.22	5p 3P	-	5d 3D	1	-	1
556.2073Cu II	1	14.62	-	16.85	4d 3D	-	4f 3P	1	-	0
556.2647Cu II	1	14.43	-	16.66	4d 3D	-	4p 3P	2	-	1
557.1639Cu II	2	14.99	-	17.21	4p 1D	-	5d 3G	2	-	3
557.3586Cu II	0	15.94	-	18.16	4p 3F	-	6d 3D	3	-	3
557.3998Cu II	1	14.62	-	16.85	4d 3D	-	4f 3P	1	-	1
557.6313Cu II	1	14.75	-	16.98	4p 1G	-	5d 3D	4	-	3
557.6642Cu II	0	15.94	-	18.16	4p 3D	-	6d 3D	2	-	3
558.3760Cu II	10	14.39	-	16.61	4d 3D	-	4p 3D	3	-	3
558.3867Cu II	1	14.53	-	16.75	4d 1P	-	4p 3D	1	-	1
558.4393Cu II	5	15.01	-	17.23	4p 1F	-	5d 1D	3	-	2
559.1379Cu II	2	14.76	-	16.98	4p 3F	-	5d 3D	2	-	3
559.3772Cu II	76	14.65	-	16.87	4d 1D	-	4f 3D	2	-	3
559.6329Cu II	1	15.94	-	18.15	4p 3F	-	6d 3G	3	-	4
559.8713Cu II	0	15.94	-	18.15	4p 3F	-	6d 3P	3	-	2
560.0467Cu II	24	14.65	-	16.86	4d 1D	-	4f 3D	2	-	2
560.0581Cu II	5	14.62	-	16.83	4d 1G	-	4p 3F	4	-	3
560.1797Cu II	0	15.94	-	18.15	4p 3D	-	6d 3P	2	-	2
560.8023Cu II	31	14.65	-	16.86	4d 1D	-	4f 3F	2	-	3
561.0310Cu II	0	16.01	-	18.22	4p 3D	-	7s 1D	3	-	2
561.5236Cu II	141	15.01	-	17.22	4p 1F	-	5d 1G	3	-	4
561.8021Cu II	3	14.65	-	16.86	4d 1D	-	4f 1P	2	-	1
561.9890Cu II	0	14.65	-	16.86	4d 1D	-	4p 5S	2	-	2
562.0782Cu II	28	14.69	-	16.90	4d 1F	-	4f 3G	3	-	4
562.1701Cu II	1	14.45	-	16.66	4d 3P	-	4p 3P	0	-	1
562.2207Cu II	1	15.97	-	18.17	4p 3F	-	6d 3F	4	-	4
562.4626Cu II	1	14.75	-	16.96	4p 1G	-	5d 3G	4	-	4
563.3047Cu II	26	14.65	-	16.85	4d 1D	-	4f 3P	2	-	2
563.3603Cu II	2	14.39	-	16.59	4d 3D	-	4p 3P	3	-	2
563.5441Cu II	4	15.01	-	17.21	4p 1F	-	5d 3G	3	-	3
563.7155Cu II	15	14.75	-	16.95	4p 1G	-	5d 3G	4	-	5
563.7470Cu II	13	14.76	-	16.96	4p 3F	-	5d 3P	2	-	1
564.1265Cu II	488	15.23	-	17.43	5p 1P	-	5d 1S	1	-	0
564.1438Cu II	0	15.98	-	18.17	4p 3D	-	6d 3D	2	-	2
564.2392Cu II	1	15.97	-	18.16	4p 3F	-	6d 3D	4	-	3
564.2724Cu II	4	14.99	-	17.18	4p 1D	-	5d 1P	2	-	1
564.3537Cu II	9	14.76	-	16.96	4p 3F	-	5d 3P	2	-	2
564.7403Cu II	0	15.98	-	18.17	4p 3D	-	6d 3F	2	-	3
564.8017Cu II	4	14.65	-	16.85	4d 1D	-	4f 3P	2	-	1
564.8524Cu II	0	16.24	-	18.43	4p 5D	-	6d 3F	2	-	2

565.1710Cu II	1	14.64	-	16.83	4p 3D	-	6s 1D	1	-	2
565.2160Cu II	0	16.24	-	18.43	4p 5D	-	6d 1F	2	-	3
565.6629Cu II	102	14.99	-	17.18	5p 3P	-	5d 1P	1	-	1
566.1451Cu II	1	14.42	-	16.61	4d 3F	-	4p 3D	3	-	3
566.4484Cu II	3	14.69	-	16.88	4d 1F	-	4f 3F	3	-	4
566.5277Cu II	0	15.94	-	18.13	4p 3D	-	6d 3S	2	-	1
566.5701Cu II	1	15.97	-	18.15	4p 3F	-	6d 3G	4	-	4
566.6699Cu II	1	15.98	-	18.16	4p 3D	-	6d 3D	2	-	3
567.2290Cu II	3	15.97	-	18.15	4p 3F	-	6d 3G	4	-	5
567.4695Cu II	1	14.65	-	16.83	4p 3F	-	6s 1D	3	-	2
567.4703Cu II	1	15.07	-	17.25	5p 3D	-	5d 3F	3	-	2
567.6001Cu II	11	14.43	-	16.61	4d 3F	-	4p 3D	4	-	3
568.1358Cu II	0	14.43	-	16.61	4d 3D	-	4p 3D	2	-	3
568.1997Cu II	3	15.07	-	17.25	5p 3D	-	5d 1F	3	-	3
568.2434Cu II	3	14.64	-	16.82	4p 3D	-	6s 3D	1	-	1
568.8678Cu II	0	15.98	-	18.15	4p 3D	-	6d 3P	2	-	1
569.2674Cu II	1	15.98	-	18.15	4p 3D	-	6d 3P	2	-	2
569.4525Cu II	2	14.62	-	16.80	4d 3D	-	4p 3P	1	-	0
569.5933Cu II	1	14.69	-	16.87	4d 1F	-	4f 3D	3	-	3
570.0288Cu II	1	16.24	-	18.41	4p 5D	-	6d 3G	2	-	3
570.2875Cu II	1	14.69	-	16.86	4d 1F	-	4f 3D	3	-	2
571.0710Cu II	11	14.69	-	16.86	4d 1F	-	4f 3F	3	-	3
571.1583Cu II	1	14.70	-	16.87	4d 3F	-	4f 3D	2	-	3
571.2697Cu II	1	14.42	-	16.59	4d 3F	-	4p 3P	3	-	2
571.8563Cu II	1	14.70	-	16.86	4d 3F	-	4f 3D	2	-	2
572.3016Cu II	0	14.69	-	16.86	4d 1F	-	4p 5S	3	-	2
572.6393Cu II	0	16.01	-	18.17	4p 3D	-	6d 3D	3	-	2
572.6441Cu II	7	14.70	-	16.86	4d 3F	-	4f 3F	2	-	3
573.1000Cu II	1	14.53	-	16.70	4d 1P	-	4p 3D	1	-	2
573.1444Cu II	1	16.01	-	18.17	4p 3D	-	6d 3F	3	-	4
573.2539Cu II	1	16.01	-	18.17	4p 3D	-	6d 3F	3	-	3
573.2967Cu II	1	14.43	-	16.59	4d 3D	-	4p 3P	2	-	2
573.6661Cu II	3	14.69	-	16.85	4d 1F	-	4f 3P	3	-	2
573.6867Cu II	0	14.70	-	16.86	4d 3F	-	4f 1P	2	-	1
573.8816Cu II	0	14.70	-	16.86	4d 3F	-	4p 5S	2	-	2
575.2422Cu II	0	16.01	-	18.16	4p 3D	-	6d 3D	3	-	3
575.2536Cu II	5	14.70	-	16.85	4d 3F	-	4f 3P	2	-	2
575.8242Cu II	1	15.98	-	18.13	4p 3D	-	6d 3S	2	-	1
575.9421Cu II	80	15.07	-	17.22	5p 3D	-	5d 1G	3	-	4
576.1218Cu II	2	14.43	-	16.58	4p 3D	-	6s 3D	3	-	2
576.6048Cu II	0	16.09	-	18.24	4p 3P	-	6d 3P	1	-	0

576.8148Cu II	2	14.70	-	16.85	4d 3F	-	4f 3P	2	-	1
577.2513Cu II	0	16.28	-	18.43	4p 5D	-	6d 1F	3	-	3
577.6651Cu II	1	16.01	-	18.15	4p 3D	-	6d 3G	3	-	4
577.9662Cu II	5	14.76	-	16.90	4p 3F	-	5d 3S	2	-	1
578.0679Cu II	2	15.07	-	17.21	5p 3D	-	5d 3G	3	-	3
578.3920Cu II	134	15.29	-	17.43	5p 3D	-	5d 1S	1	-	0
579.5623Cu II	1	14.69	-	16.83	4d 1F	-	4p 3F	3	-	3
580.0970Cu II	0	13.43	-	15.57	5s 3D	-	4p 5P	2	-	1
580.1120Cu II	1	13.39	-	15.53	5s 3D	-	4p 5P	3	-	2
580.5989Cu II	6	14.43	-	16.56	4p 3D	-	6s 3D	3	-	3
580.7191Cu II	2	13.39	-	15.53	5s 3D	-	4p 5P	3	-	3
580.9995Cu II	0	14.62	-	16.75	4d 3D	-	4p 3D	1	-	1
581.1287Cu II	1	16.28	-	18.41	4p 5D	-	6d 1G	3	-	4
581.1826Cu II	0	14.70	-	16.83	4d 3F	-	4p 3F	2	-	3
582.2721Cu II	0	16.28	-	18.41	4p 5D	-	6d 3G	3	-	3
582.5826Cu II	271	15.12	-	17.25	5p 3D	-	5d 3F	2	-	2
583.3515Cu II	152	15.12	-	17.25	5p 3D	-	5d 1F	2	-	3
583.6622Cu II	0	14.53	-	16.66	4d 1P	-	4p 3P	1	-	1
583.7315Cu II	0	16.09	-	18.21	4p 3P	-	7s 3D	1	-	1
585.1778Cu II	0	14.46	-	16.58	4p 3G	-	6s 3D	3	-	2
588.0936Cu II	12	15.12	-	17.23	5p 3D	-	5d 1D	2	-	2
588.7212Cu II	4	14.89	-	17.00	5p 3P	-	5d 3D	2	-	2
589.0460Cu II	2	14.65	-	16.75	4d 1D	-	4p 3D	2	-	1
589.5798Cu II	0	16.59	-	18.69	4p 3P	-	8s 3D	2	-	2
589.7971Cu II	4	14.46	-	16.56	4p 3G	-	6s 3D	3	-	3
590.0718Cu II	0	14.89	-	16.99	5p 3P	-	5d 3F	2	-	3
590.9584Cu II	3	16.59	-	18.69	4p 3P	-	8s 3D	2	-	3
590.9757Cu II	52	15.12	-	17.22	5p 3D	-	5d 3D	2	-	1
591.1146Cu II	0	13.43	-	15.53	5s 3D	-	4p 5P	2	-	2
591.7450Cu II	0	13.43	-	15.53	5s 3D	-	4p 5P	2	-	3
592.9639Cu II	0	14.62	-	16.71	4d 1G	-	4p 3H	4	-	4
593.7577Cu II	418	15.12	-	17.21	5p 3D	-	5d 3G	2	-	3
594.1196Cu II	1295	14.89	-	16.98	5p 3P	-	5d 3D	2	-	3
594.5299Cu II	0	16.09	-	18.17	4p 3P	-	6d 3D	1	-	2
595.1395Cu II	1	16.61	-	18.69	4p 3D	-	8s 3D	3	-	2
596.5442Cu II	9	16.61	-	18.69	4p 3D	-	8s 3D	3	-	3
596.9456Cu II	1	14.62	-	16.70	4d 3D	-	4p 3D	1	-	2
597.7852Cu II	0	16.95	-	19.03	5d 3G	-	6f 1H	5	-	5
597.9019Cu II	2	14.76	-	16.83	4p 3F	-	6s 1D	2	-	2
598.8309Cu II	564	14.99	-	17.06	5p 3P	-	5d 3P	1	-	0
599.0015Cu II	0	16.96	-	19.03	5d 3G	-	6f 3H	4	-	4
599.2007Cu II	3	16.96	-	19.03	5d 3G	-	6f 1H	4	-	5

599.3260Cu II	211	14.89	-	16.96	5p 3P	-	5d 3P	2	-	1	
599.5587Cu II	548	15.15	-	17.22	5p 3P	-	5d 3D	0	-	1	
599.7789Cu II	0	16.09	-	18.15	4p 3P	-	6d 3P	1	-	1	
600.0120Cu II	1991	14.89	-	16.96	5p 3P	-	5d 3P	2	-	2	
600.2305Cu II	25	16.56	-	18.63	6s 3D	-	4p 3F	3	-	2	
601.3416Cu II	7	14.76	-	16.82	4p 3F	-	6s 3D	2	-	1	
601.8373Cu II	21	15.12	-	17.18	5p 3D	-	5d 1P	2	-	1	
602.1245Cu II	1	14.70	-	16.75	4d 3F	-	4p 3D	2	-	1	
602.3264Cu II	6	14.52	-	16.58	4p 3D	-	6s 3D	2	-	2	
602.4416Cu II	1	14.53	-	16.59	4d 1P	-	4p 3P	1	-	2	
604.0650Cu II	1	16.17	-	18.22	4p 3P	-	7s 1D	2	-	2	
604.5799Cu II	0	16.98	-	19.03	5d 3D	-	6f 3H	3	-	4	
605.0918Cu II	26	16.58	-	18.63	6s 3D	-	4p 3F	2	-	2	
605.4431Cu II	1	14.65	-	16.70	4d 1D	-	4p 3D	2	-	2	
607.2218Cu II	3	14.52	-	16.56	4p 3D	-	6s 3D	2	-	3	
607.5169Cu II	0	16.09	-	18.13	4p 3P	-	6d 3S	1	-	1	
608.0343Cu II	0	-	-	-	-	-	-	-	-	-	
608.4139Cu II	1	14.62	-	16.66	4d 3D	-	4p 3P	1	-	1	
608.7481Cu II	1	16.66	-	18.69	4p 3P	-	8s 3D	1	-	2	
608.8298Cu II	5	16.99	-	19.03	5d 3F	-	6f 3H	3	-	4	
609.1893Cu II	0	16.99	-	19.03	5d 3F	-	6f 3H	4	-	4	
609.3952Cu II	3	16.99	-	19.03	5d 3F	-	6f 1H	4	-	5	
609.7325Cu II	515	15.22	-	17.25	5p 3F	-	5d 3F	2	-	2	
609.9990Cu II	195	14.96	-	17.00	5p 3F	-	5d 3D	3	-	2	
610.5746Cu II	196	15.22	-	17.25	5p 3F	-	5d 1F	2	-	3	
610.7412Cu II	455	15.15	-	17.18	5p 3P	-	5d 1P	0	-	1	
611.0872Cu II	99	14.96	-	16.99	5p 3F	-	5d 3F	3	-	4	
611.4493Cu II	1316	14.96	-	16.99	5p 3F	-	5d 3F	3	-	3	
612.4378Cu II	1	15.94	-	17.96	4p 3F	-	7s 3D	3	-	2	
612.8068Cu II	0	15.94	-	17.96	4p 3D	-	7s 3D	2	-	2	
614.2956Cu II	25	15.23	-	17.25	5p 1P	-	5d 3F	1	-	2	
615.0025Cu II	1	15.94	-	17.95	4p 3F	-	7s 3D	3	-	3	
615.0384Cu II	1695	14.98	-	16.99	5p 3F	-	5d 3F	4	-	4	
615.3746Cu II	0	15.94	-	17.95	4p 3D	-	7s 3D	2	-	3	
615.4051Cu II	34	14.98	-	16.99	5p 3F	-	5d 3F	4	-	3	
615.4222Cu II	1480	14.89	-	16.90	5p 3P	-	5d 3S	2	-	1	
615.7076Cu II	1	14.60	-	16.61	4d 3G	-	4p 3D	3	-	3	
615.7717Cu II	177	15.22	-	17.23	5p 3F	-	5d 1D	2	-	2	
615.7968Cu II	15	14.96	-	16.98	5p 3F	-	5d 3D	3	-	3	
617.2037Cu II	929	14.99	-	17.00	4p 1D	-	5d 3D	2	-	2	
617.4291Cu II	3	14.69	-	16.70	4d 1F	-	4p 3D	3	-	2	
617.5439Cu II	0	16.17	-	18.17	4p 3P	-	6d 3D	2	-	2	



618.2587 Cu II	0	16.17	-	18.17	4p 3P	-	6d 3F	2	-	3	
618.6884 Cu II	1446	14.99	-	16.99	4p 1D	-	5d 3F	2	-	3	
618.7420 Cu II	0	16.23	-	18.24	4p 5D	-	6d 3P	1	-	0	
618.8676 Cu II	929	14.99	-	17.00	5p 3P	-	5d 3D	1	-	2	
618.9322 Cu II	56	15.22	-	17.22	5p 3F	-	5d 3D	2	-	1	
619.2684 Cu II	1	14.70	-	16.70	4d 3F	-	4p 3D	2	-	2	
619.8092 Cu II	333	14.98	-	16.98	5p 3F	-	5d 3D	4	-	3	
619.9751 Cu II	111	15.25	-	17.25	5p 1F	-	5d 3F	3	-	2	
620.4261 Cu II	1217	15.23	-	17.23	5p 1P	-	5d 1D	1	-	2	
620.5720 Cu II	1	16.17	-	18.16	4p 3P	-	6d 3D	2	-	3	
620.6789 Cu II	1	16.70	-	18.69	4p 3D	-	8s 3D	2	-	2	
620.8457 Cu II	1105	15.25	-	17.25	5p 1F	-	5d 1F	3	-	3	
620.8987 Cu II	3	14.62	-	16.61	4d 1G	-	4p 3D	4	-	3	
621.6939 Cu II	4426	14.96	-	16.96	5p 3F	-	5d 3G	3	-	4	
621.7735 Cu II	0	14.60	-	16.59	4d 3G	-	4p 3P	3	-	2	
621.9844 Cu II	3492	15.22	-	17.21	5p 3F	-	5d 3G	2	-	3	
622.1291 Cu II	47	14.96	-	16.96	5p 3F	-	5d 3P	3	-	2	
622.2069 Cu II	1	16.70	-	18.69	4p 3D	-	8s 3D	2	-	3	
623.1395 Cu II	25	14.99	-	16.98	4p 1D	-	5d 3D	2	-	3	
623.2090 Cu II	0	16.17	-	18.15	4p 3P	-	6d 3P	2	-	1	
623.3905 Cu II	2	15.97	-	17.95	4p 3F	-	7s 3D	4	-	3	
623.6347 Cu II	90	15.23	-	17.22	5p 1P	-	5d 3D	1	-	1	
623.6886 Cu II	1	16.17	-	18.15	4p 3P	-	6d 3P	2	-	2	
623.6988 Cu II	0	15.98	-	17.96	4p 3D	-	7s 3D	2	-	2	
624.8255 Cu II	3	16.71	-	18.69	4p 3H	-	8s 3D	4	-	3	
624.9897 Cu II	0	16.23	-	18.22	4p 5D	-	7s 1D	1	-	2	
625.0424 Cu II	17	15.01	-	17.00	4p 1F	-	5d 3D	3	-	2	
625.7837 Cu II	292	14.98	-	16.96	5p 3F	-	5d 3G	4	-	4	
626.1848 Cu II	1143	15.01	-	16.99	4p 1F	-	5d 3F	3	-	4	
626.2200 Cu II	78	15.25	-	17.23	5p 1F	-	5d 1D	3	-	2	
626.3589 Cu II	1	15.98	-	17.95	4p 3D	-	7s 3D	2	-	3	
626.5651 Cu II	139	15.01	-	16.99	4p 1F	-	5d 3F	3	-	3	
627.0806 Cu II	0	16.24	-	18.21	4p 5D	-	7s 3D	2	-	1	
627.3349 Cu II	6383	14.98	-	16.95	5p 3F	-	5d 3G	4	-	5	
627.6673 Cu II	29	14.59	-	16.56	4p 3F	-	6s 3D	4	-	3	
628.8696 Cu II	290	14.99	-	16.96	4p 1D	-	5d 3P	2	-	1	
629.6245 Cu II	14	14.99	-	16.96	4p 1D	-	5d 3P	2	-	2	
629.7407 Cu II	0	14.20	-	16.17	4d 3S	-	4p 3P	1	-	2	
630.1009 Cu II	5035	15.25	-	17.22	5p 1F	-	5d 1G	3	-	4	
630.5972 Cu II	906	14.99	-	16.96	5p 3P	-	5d 3P	1	-	1	
630.8561 Cu II	2	15.22	-	17.18	5p 3F	-	5d 1P	2	-	1	

631.1309Cu II	929	15.01	-	16.98	4p 1F	-	5d 3D	3	-	3	
631.2492Cu II	1443	15.29	-	17.25	5p 3D	-	5d 3F	1	-	2	
631.3563Cu II	27	14.99	-	16.96	5p 3P	-	5d 3P	1	-	2	
631.5676Cu II	1	16.17	-	18.13	4p 3P	-	6d 3S	2	-	1	
631.6193Cu II	1	14.70	-	16.66	4d 3F	-	4p 3P	2	-	1	
632.6466Cu II	212	15.25	-	17.21	5p 1F	-	5d 3G	3	-	3	
634.0992Cu II	1	16.01	-	17.96	4p 3D	-	7s 3D	3	-	2	
635.7422Cu II	927	15.23	-	17.18	5p 1P	-	5d 1P	1	-	1	
637.3268Cu II	317	15.01	-	16.96	4p 1F	-	5d 3G	3	-	4	
637.5726Cu II	0	16.27	-	18.21	4p 5D	-	7s 3D	0	-	1	
637.7246Cu II	367	15.29	-	17.23	5p 3D	-	5d 1D	1	-	2	
637.7840Cu II	388	15.01	-	16.96	4p 1F	-	5d 3P	3	-	2	
638.0762Cu II	15	14.89	-	16.83	5p 3P	-	6s 1D	2	-	2	
638.2847Cu II	0	14.65	-	16.59	4d 1D	-	4p 3P	2	-	2	
638.5264Cu II	2	14.64	-	16.58	4p 3D	-	6s 3D	1	-	2	
638.8065Cu II	1	14.34	-	16.28	4d 3G	-	4p 5D	4	-	3	
638.9116Cu II	1	16.75	-	18.69	4p 3D	-	8s 3D	1	-	2	
639.4297Cu II	0	16.23	-	18.17	4p 5D	-	6d 3D	1	-	2	
639.8682Cu II	1	16.28	-	18.22	4p 5D	-	7s 1D	3	-	2	
640.3384Cu II	479	15.18	-	17.11	4d 1S	-	4f 3D	0	-	1	
641.1151Cu II	858	15.29	-	17.22	5p 3D	-	5d 3D	1	-	1	
641.4563Cu II	533	15.32	-	17.25	5p 1D	-	5d 3F	2	-	2	
641.4618Cu II	23	14.65	-	16.58	4p 3F	-	6s 3D	3	-	2	
641.9952Cu II	2	14.89	-	16.82	5p 3P	-	6s 3D	2	-	1	
642.3884Cu II	2450	15.32	-	17.25	5p 1D	-	5d 1F	2	-	3	
642.8079Cu II	0	16.24	-	18.16	4p 5D	-	6d 3D	2	-	3	
642.9595Cu II	7	15.07	-	17.00	5p 3D	-	5d 3D	3	-	2	
643.2409Cu II	26	13.39	-	15.32	5s 3D	-	5p 1D	3	-	2	
644.1684Cu II	2224	15.07	-	16.99	5p 3D	-	5d 3F	3	-	4	
644.2965Cu II	0	-	-	-	-	-	-	-	-	-	
644.5708Cu II	23	15.07	-	16.99	5p 3D	-	5d 3F	3	-	3	
644.8559Cu II	0	-	-	-	-	-	-	-	-	-	
644.9616Cu II	0	14.69	-	16.61	4d 1F	-	4p 3D	3	-	3	
645.5054Cu II	0	16.23	-	18.15	4p 5D	-	6d 3P	1	-	1	
645.6141Cu II	1	13.65	-	15.57	5s 3D	-	4p 5P	1	-	1	
646.1525Cu II	0	16.24	-	18.15	4p 5D	-	6d 3P	2	-	2	
646.6246Cu II	1	14.99	-	16.90	4p 1D	-	5d 3S	2	-	1	
647.0168Cu II	18	14.65	-	16.56	4p 3F	-	6s 3D	3	-	3	
648.1437Cu II	867	15.32	-	17.23	5p 1D	-	5d 1D	2	-	2	
648.4421Cu II	259	14.99	-	16.90	5p 3P	-	5d 3S	1	-	1	
649.4038Cu II	1378	15.07	-	16.98	5p 3D	-	5d 3D	3	-	3	
651.6207Cu II	0	14.69	-	16.59	4d 1F	-	4p 3P	3	-	2	

651.6463Cu II	119	15.32	-	17.22	5p 1D	-	5d 3D	2	-	1
651.7317Cu II	0	-		-		-				
653.0083Cu II	0	-		-		-				
653.6697Cu II	0	14.70	-	16.59	4d 3F	-	4p 3P	2	-	2
653.9179Cu II	2	15.29	-	17.18	5p 3D	-	5d 1P	1	-	1
654.6131Cu II	0	16.24	-	18.13	4p 5D	-	6d 3S	2	-	1
655.0122Cu II	0	16.28	-	18.17	4p 5D	-	6d 3D	3	-	2
655.0304Cu II	4	15.32	-	17.21	5p 1D	-	5d 3G	2	-	3
655.1286Cu II	0	-		-		-				
655.6207Cu II	0	14.20	-	16.09	4d 3S	-	4p 3P	1	-	1
655.6731Cu II	0	16.28	-	18.17	4p 5D	-	6d 3F	3	-	4
655.8164Cu II	1	16.28	-	18.17	4p 5D	-	6d 3F	3	-	3
655.9655Cu II	189	15.07	-	16.96	5p 3D	-	5d 3G	3	-	4
656.4501Cu II	463	15.07	-	16.96	5p 3D	-	5d 3P	3	-	2
656.7963Cu II	1	13.43	-	15.32	5s 3D	-	5p 1D	2	-	2
657.5761Cu II	0	13.68	-	15.57	5s 1D	-	4p 5P	2	-	1
657.7080Cu II	0	-		-		-				
658.4200Cu II	0	16.28	-	18.16	4p 5D	-	6d 3D	3	-	3
659.2901Cu II	2	13.65	-	15.53	5s 3D	-	4p 5P	1	-	2
661.0514Cu II	1	16.09	-	17.96	4p 3P	-	7s 3D	1	-	2
661.5961Cu II	1	16.28	-	18.15	4p 5D	-	6d 3G	3	-	4
661.9294Cu II	0	16.28	-	18.15	4p 5D	-	6d 3P	3	-	2
662.4292Cu II	611	15.12	-	17.00	5p 3D	-	5d 3D	2	-	2
663.1474Cu II	1	14.96	-	16.83	5p 3F	-	6s 1D	3	-	2
663.5167Cu II	1	16.90	-	18.77	5d 3S	-	6f 3D	1	-	2
664.1396Cu II	964	15.12	-	16.99	5p 3D	-	5d 3F	2	-	3
664.3113Cu II	3	16.83	-	18.69	4p 3F	-	8s 3D	3	-	2
664.7799Cu II	199	16.90	-	18.77	5d 3S	-	6f 3P	1	-	2
664.8774Cu II	228	15.32	-	17.18	5p 1D	-	5d 1P	2	-	1
665.5945Cu II	0	15.57	-	17.43	4p 5P	-	5d 1S	1	-	0
666.0620Cu II	22	16.83	-	18.69	4p 3F	-	8s 3D	3	-	3
666.0962Cu II	0	-		-		-				
666.3947Cu II	19	13.39	-	15.25	5s 3D	-	5p 1F	3	-	3
667.0825Cu II	0	14.42	-	16.28	4d 3F	-	4p 5D	3	-	3
667.8534Cu II	9	13.43	-	15.29	5s 3D	-	5p 3D	2	-	1
669.1035Cu II	0	14.43	-	16.28	4d 3F	-	4p 5D	4	-	3
669.2714Cu II	43	15.12	-	16.98	5p 3D	-	5d 3D	2	-	3
669.8481Cu II	0	14.43	-	16.28	4d 3D	-	4p 5D	2	-	3
671.6706Cu II	29	14.99	-	16.83	4p 1D	-	6s 1D	2	-	2
671.7692Cu II	8	13.68	-	15.53	5s 1D	-	4p 5P	2	-	2
672.5835Cu II	3	13.68	-	15.53	5s 1D	-	4p 5P	2	-	3
673.5433Cu II	1	16.66	-	18.50	4p 3P	-	6d 1S	1	-	0

673.6417 Cu II	60	14.99	-	16.83	5p 3P	-	6s 1D	1	-	2	
674.1142 Cu II	0	16.86	-	18.69	4p 5S	-	8s 3D	2	-	2	
674.7342 Cu II	0	16.59	-	18.43	4p 3P	-	6d 3F	2	-	2	
675.2532 Cu II	1	16.59	-	18.43	4p 3P	-	6d 1F	2	-	3	
675.6347 Cu II	1	15.18	-	17.01	4d 1S	-	4p 1P	0	-	1	
675.8857 Cu II	151	15.12	-	16.96	5p 3D	-	5d 3P	2	-	1	
675.9170 Cu II	1	16.86	-	18.69	4p 5S	-	8s 3D	2	-	3	
676.0145 Cu II	6	14.99	-	16.82	4p 1D	-	6s 3D	2	-	1	
676.7579 Cu II	0	15.12	-	16.96	5p 3D	-	5d 3P	2	-	2	
677.0362 Cu II	0	-	-	-	-	-	-	-	-	-	
677.8896 Cu II	1	14.34	-	16.17	4d 3P	-	4p 3P	2	-	2	
677.9440 Cu II	4	15.23	-	17.06	5p 1P	-	5d 3P	1	-	0	
678.0113 Cu II	35	14.99	-	16.82	5p 3P	-	6s 3D	1	-	1	
678.5136 Cu II	1	16.59	-	18.42	4p 3P	-	6d 1D	2	-	2	
678.6485 Cu II	6	13.39	-	15.22	5s 3D	-	5p 3F	3	-	2	
679.1030 Cu II	0	14.34	-	16.17	4d 3P	-	4p 3P	1	-	2	
680.6216 Cu II	15	14.76	-	16.58	4p 3F	-	6s 3D	2	-	2	
680.9546 Cu II	13	13.43	-	15.25	5s 3D	-	5p 1F	2	-	3	
680.9647 Cu II	70	15.01	-	16.83	4p 1F	-	6s 1D	3	-	2	
681.7116 Cu II	50	16.96	-	18.77	5d 3P	-	6f 3F	2	-	3	
682.0258 Cu II	0	16.61	-	18.43	4p 3D	-	6d 3F	3	-	2	
682.1336 Cu II	0	16.59	-	18.41	4p 3P	-	6d 3G	2	-	3	
682.2350 Cu II	20	16.96	-	18.77	5d 3G	-	6f 3F	4	-	3	
682.3202 Cu II	1679	16.95	-	18.77	5d 3G	-	6f 3H	5	-	6	
682.4133 Cu II	106	16.96	-	18.77	5d 3P	-	6f 3D	2	-	2	
682.4750 Cu II	344	16.96	-	18.77	5d 3P	-	6f 3F	2	-	3	
682.5560 Cu II	1	16.61	-	18.43	4p 3D	-	6d 1F	3	-	3	
682.5697 Cu II	26	16.95	-	18.77	5d 3G	-	6f 3H	5	-	5	
682.9996 Cu II	1	16.96	-	18.77	5d 3G	-	6f 3F	4	-	3	
683.0532 Cu II	1125	17.21	-	19.03	5d 3G	-	6f 3H	3	-	4	
683.3024 Cu II	278	16.96	-	18.77	5d 3P	-	6f 3D	1	-	2	
683.7494 Cu II	277	16.96	-	18.77	5d 3P	-	6f 3P	2	-	2	
684.4157 Cu II	1368	16.96	-	18.77	5d 3G	-	6f 3H	4	-	5	
684.6067 Cu II	6	14.75	-	16.56	4p 1G	-	6s 3D	4	-	3	
684.6421 Cu II	42	16.96	-	18.77	5d 3P	-	6f 3P	1	-	2	
685.4297 Cu II	2	16.82	-	18.63	6s 3D	-	4p 3F	1	-	2	
685.8876 Cu II	0	16.61	-	18.42	4p 3D	-	6d 1D	3	-	2	
686.0453 Cu II	33	17.22	-	19.03	5d 1G	-	6f 3H	4	-	4	
686.3065 Cu II	1406	17.22	-	19.03	5d 1G	-	6f 1H	4	-	5	
686.8791 Cu II	10	14.76	-	16.56	4p 3F	-	6s 3D	2	-	3	
687.1357 Cu II	1	15.15	-	16.96	5p 3P	-	5d 3P	0	-	1	

687.2231Cu II	0	-	-	-	-	-	-	-	-
687.7756Cu II	1	16.59	-	18.39	4p 3P	-	6d 1P	2	- 1
687.9404Cu II	93	13.43	-	15.23	5s 3D	-	5p 1P	2	- 1
687.9837Cu II	9	16.61	-	18.41	4p 3D	-	6d 1G	3	- 4
689.4806Cu II	44	16.98	-	18.77	5d 3D	-	6f 3F	3	- 3
689.5868Cu II	1	16.61	-	18.41	4p 3D	-	6d 3G	3	- 3
689.6271Cu II	0	16.17	-	17.96	4p 3P	-	7s 3D	2	- 2
689.9540Cu II	7	16.83	-	18.63	6s 1D	-	4p 3F	2	- 2
690.1984Cu II	24	16.98	-	18.77	5d 3D	-	6f 3D	3	- 2
690.2616Cu II	387	16.98	-	18.77	5d 3D	-	6f 3F	3	- 3
691.5653Cu II	71	16.98	-	18.77	5d 3D	-	6f 3P	3	- 2
692.8808Cu II	1	16.17	-	17.95	4p 3P	-	7s 3D	2	- 3
693.7553Cu II	108	13.43	-	15.22	5s 3D	-	5p 3F	2	- 2
695.0135Cu II	273	16.99	-	18.77	5d 3F	-	6f 3F	3	- 3
695.2871Cu II	0	-	-	-	-	-	-	-	-
695.4819Cu II	8	16.99	-	18.77	5d 3F	-	6f 3F	4	- 3
695.7429Cu II	32	16.99	-	18.77	5d 3F	-	6f 3D	3	- 2
695.8070Cu II	9	16.99	-	18.77	5d 3F	-	6f 3F	3	- 3
695.9973Cu II	0	14.45	-	16.23	4d 3P	-	4p 5D	0	- 1
696.2765Cu II	48	16.99	-	18.77	5d 3F	-	6f 3F	4	- 3
696.4274Cu II	6	15.12	-	16.90	5p 3D	-	5d 3S	2	- 1
696.8966Cu II	491	17.00	-	18.77	5d 3D	-	6f 3F	2	- 3
697.0214Cu II	1	14.20	-	15.98	4d 3S	-	4p 3D	1	- 2
697.1318Cu II	1	16.99	-	18.77	5d 3F	-	6f 3P	3	- 2
697.3642Cu II	1	17.25	-	19.03	5d 1F	-	6f 3H	3	- 4
697.6299Cu II	199	17.00	-	18.77	5d 3D	-	6f 3D	2	- 2
697.6944Cu II	107	17.00	-	18.77	5d 3D	-	6f 3F	2	- 3
697.7572Cu II	21	16.99	-	18.77	5d 3F	-	6f 3H	4	- 5
697.7563Cu II	108	15.22	-	17.00	5p 3F	-	5d 3D	2	- 2
698.6521Cu II	35	15.29	-	17.06	5p 3D	-	5d 3P	1	- 0
698.8061Cu II	0	14.39	-	16.17	4d 3D	-	4p 3P	3	- 2
699.0264Cu II	56	17.00	-	18.77	5d 3D	-	6f 3P	2	- 2
699.0547Cu II	5	16.92	-	18.69	4p 3D	-	8s 3D	3	- 3
699.6543Cu II	68	15.22	-	16.99	5p 3F	-	5d 3F	2	- 3
699.9578Cu II	3	16.66	-	18.43	4p 3P	-	6d 3F	1	- 2
702.2860Cu II	9	15.07	-	16.83	5p 3D	-	6s 1D	3	- 2
703.7385Cu II	70	15.23	-	17.00	5p 1P	-	5d 3D	1	- 2
704.0259Cu II	0	16.66	-	18.42	4p 3P	-	6d 1D	1	- 2
705.3523Cu II	10	15.22	-	16.98	5p 3F	-	5d 3D	2	- 3
705.9342Cu II	3	16.66	-	18.41	4p 3P	-	6d 3D	1	- 1
708.3776Cu II	7	15.15	-	16.90	5p 3P	-	5d 3S	0	- 1
709.2964Cu II	0	14.34	-	16.09	4d 3P	-	4p 3P	1	- 1

711.0170Cu II	0	14.42	-	16.17	4d 3F	-	4p 3P	3	-	2
711.1472Cu II	0	14.20	-	15.94	4d 3S	-	4p 3D	1	-	2
711.2023Cu II	1	15.25	-	17.00	5p 1F	-	5d 3D	3	-	2
712.6817Cu II	7	15.25	-	16.99	5p 1F	-	5d 3F	3	-	4
712.7030Cu II	28	15.22	-	16.96	5p 3F	-	5d 3P	2	-	1
713.1743Cu II	9	15.25	-	16.99	5p 1F	-	5d 3F	3	-	3
713.6728Cu II	1	15.22	-	16.96	5p 3F	-	5d 3P	2	-	2
714.0026Cu II	1	16.66	-	18.39	4p 3P	-	6d 1P	1	-	1
714.1597Cu II	0	14.43	-	16.17	4d 3D	-	4p 3P	2	-	2
714.9917Cu II	20	16.96	-	18.69	4p 3F	-	8s 3D	2	-	2
715.7757Cu II	25	13.39	-	15.12	5s 3D	-	5p 3D	3	-	2
715.7780Cu II	4	16.70	-	18.43	4p 3D	-	6d 3F	2	-	2
716.3620Cu II	19	16.70	-	18.43	4p 3D	-	6d 1F	2	-	3
717.0202Cu II	8	16.96	-	18.69	4p 3F	-	8s 3D	2	-	3
717.0337Cu II	0	16.23	-	17.96	4p 5D	-	7s 3D	1	-	2
718.5547Cu II	15	16.90	-	18.63	5d 3S	-	4p 3F	1	-	2
718.6088Cu II	0	15.53	-	17.25	4p 5P	-	5d 3F	3	-	2
718.9454Cu II	123	15.23	-	16.96	5p 1P	-	5d 3P	1	-	1
719.0955Cu II	11	15.25	-	16.98	5p 1F	-	5d 3D	3	-	3
719.4896Cu II	0	-	-	-	-	-	-	-	-	-
719.5407Cu II	3	15.53	-	17.25	4p 5P	-	5d 3F	2	-	2
719.7789Cu II	1	15.53	-	17.25	4p 5P	-	5d 1F	3	-	3
719.9323Cu II	1	15.23	-	16.96	5p 1P	-	5d 3P	1	-	2
720.0327Cu II	7	16.70	-	18.42	4p 3D	-	6d 1D	2	-	2
720.7138Cu II	12	15.53	-	17.25	4p 5P	-	5d 1F	2	-	3
720.7166Cu II	0	16.24	-	17.95	4p 5D	-	7s 3D	2	-	3
722.0288Cu II	1	16.70	-	18.41	4p 3D	-	6d 3D	2	-	1
724.1105Cu II	0	16.70	-	18.41	4p 3D	-	6d 3G	2	-	3
725.5786Cu II	167	15.12	-	16.83	5p 3D	-	6s 1D	2	-	2
725.8747Cu II	0	16.71	-	18.41	4p 3H	-	6d 1G	4	-	4
726.0784Cu II	1	15.29	-	17.00	5p 3D	-	5d 3D	1	-	2
727.0123Cu II	0	15.53	-	17.23	4p 5P	-	5d 1D	3	-	2
727.1499Cu II	19	15.25	-	16.96	5p 1F	-	5d 3G	3	-	4
727.7455Cu II	5	15.25	-	16.96	5p 1F	-	5d 3P	3	-	2
727.9661Cu II	5	15.53	-	17.23	4p 5P	-	5d 1D	2	-	2
730.4715Cu II	2	16.70	-	18.39	4p 3D	-	6d 1P	2	-	1
730.6504Cu II	84	15.12	-	16.82	5p 3D	-	6s 3D	2	-	1
731.6104Cu II	2	17.00	-	18.69	4p 3G	-	8s 3D	3	-	3
732.2484Cu II	5	15.53	-	17.22	4p 5P	-	5d 1G	3	-	4
732.3873Cu II	1	15.53	-	17.22	4p 5P	-	5d 3D	2	-	1
732.6008Cu II	917	13.43	-	15.12	5s 3D	-	5p 3D	2	-	2
733.1694Cu II	64	14.89	-	16.58	5p 3P	-	6s 3D	2	-	2

735.5813Cu II	1	15.22	-	16.90	5p 3F	-	5d 3S	2	-	1	
735.6881Cu II	1	15.53	-	17.21	4p 5P	-	5d 3G	3	-	3	
736.5693Cu II	1	15.57	-	17.25	4p 5P	-	5d 3F	1	-	2	
736.6648Cu II	0	15.53	-	17.21	4p 5P	-	5d 3G	2	-	3	
736.6862Cu II	1	16.28	-	17.96	4p 5D	-	7s 3D	3	-	2	
736.7338Cu II	3	17.01	-	18.69	4p 1P	-	8s 3D	1	-	2	
738.2277Cu II	250	15.18	-	16.86	4d 1S	-	4f 1P	0	-	1	
739.6151Cu II	10	15.32	-	17.00	5p 1D	-	5d 3D	2	-	2	
739.9875Cu II	1589	13.39	-	15.07	5s 3D	-	5p 3D	3	-	3	
740.1354Cu II	4	16.75	-	18.43	4p 3D	-	6d 3F	1	-	2	
740.4002Cu II	1	16.28	-	17.95	4p 5D	-	7s 3D	3	-	3	
740.4354Cu II	1325	14.89	-	16.56	5p 3P	-	6s 3D	2	-	3	
740.7686Cu II	16	16.96	-	18.63	5d 3P	-	4p 3F	2	-	2	
741.7379Cu II	0	14.34	-	16.01	4d 3P	-	4p 3D	2	-	3	
741.7481Cu II	40	15.32	-	16.99	5p 1D	-	5d 3F	2	-	3	
741.8164Cu II	0	16.96	-	18.63	5d 3P	-	4p 3F	1	-	2	
742.0567Cu II	209	13.65	-	15.32	5s 3D	-	5p 1D	1	-	2	
742.2328Cu II	4	15.23	-	16.90	5p 1P	-	5d 3S	1	-	1	
742.2771Cu II	1	15.29	-	16.96	5p 3D	-	5d 3P	1	-	1	
743.0475Cu II	1	14.34	-	16.01	4d 3G	-	4p 3D	4	-	3	
743.3292Cu II	1	15.29	-	16.96	5p 3D	-	5d 3P	1	-	2	
743.4156Cu II	63	15.18	-	16.85	4d 1S	-	4f 3P	0	-	1	
743.8151Cu II	283	15.15	-	16.82	5p 3P	-	6s 3D	0	-	1	
744.4339Cu II	1	14.62	-	16.28	4d 1G	-	4p 5D	4	-	3	
744.6855Cu II	14	16.75	-	18.42	4p 3D	-	6d 1D	1	-	2	
745.4006Cu II	1	15.57	-	17.23	4p 5P	-	5d 1D	1	-	2	
746.8209Cu II	1	16.75	-	18.41	4p 3D	-	6d 3D	1	-	1	
747.6276Cu II	0	14.43	-	16.09	4d 3D	-	4p 3P	2	-	1	
748.1555Cu II	11	15.32	-	16.98	5p 1D	-	5d 3D	2	-	3	
749.1425Cu II	2	15.53	-	17.18	4p 5P	-	5d 1P	2	-	1	
749.4792Cu II	0	16.85	-	18.50	4f 3P	-	6d 1S	1	-	0	
749.9511Cu II	15	16.98	-	18.63	5d 3D	-	4p 3F	3	-	2	
750.0368Cu II	1	15.57	-	17.22	4p 5P	-	5d 3D	1	-	1	
754.8271Cu II	1	16.86	-	18.50	4f 1P	-	6d 1S	1	-	0	
755.8569Cu II	6	16.75	-	18.39	4p 3D	-	6d 1P	1	-	1	
756.2015Cu II	1028	13.65	-	15.29	5s 3D	-	5p 3D	1	-	1	
756.4305Cu II	2	15.32	-	16.96	5p 1D	-	5d 3P	2	-	1	
756.4939Cu II	1	14.34	-	15.98	4d 3P	-	4p 3D	2	-	2	
756.5016Cu II	11	16.99	-	18.63	5d 3F	-	4p 3F	3	-	2	
756.8484Cu II	4	14.33	-	15.97	4d 3G	-	4p 3F	5	-	4	
757.5232Cu II	13	15.32	-	16.96	5p 1D	-	5d 3P	2	-	2	

757.5789Cu II	1	14.60	-	16.24	4d 3G	-	4p 5D	3	-	2	
757.9033Cu II	1888	13.68	-	15.32	5s 1D	-	5p 1D	2	-	2	
757.9843Cu II	627	13.43	-	15.07	5s 3D	-	5p 3D	2	-	3	
758.0053Cu II	1	14.34	-	15.98	4d 3P	-	4p 3D	1	-	2	
758.3341Cu II	0	14.45	-	16.09	4d 3P	-	4p 3P	0	-	1	
758.7332Cu II	8	17.00	-	18.63	5d 3D	-	4p 3F	2	-	2	
761.1928Cu II	4	17.07	-	18.69	4p 1D	-	8s 3D	2	-	2	
762.2477Cu II	1	14.34	-	15.97	4d 3G	-	4p 3F	4	-	4	
762.5434Cu II	1	16.59	-	18.22	4p 3P	-	7s 1D	2	-	2	
763.4923Cu II	7	17.07	-	18.69	4p 1D	-	8s 3D	2	-	3	
765.2333Cu II	1453	13.39	-	15.01	5s 3D	-	4p 1F	3	-	3	
765.4721Cu II	0	16.59	-	18.21	4p 3P	-	7s 3D	2	-	1	
766.4648Cu II	1535	14.96	-	16.58	5p 3F	-	6s 3D	3	-	2	
766.8073Cu II	10	16.80	-	18.41	4p 3P	-	6d 3D	0	-	1	
766.8530Cu II	0	14.39	-	16.01	4d 3D	-	4p 3D	3	-	3	
767.1267Cu II	1	15.29	-	16.90	5p 3D	-	5d 3S	1	-	1	
767.6190Cu II	0	15.57	-	17.18	4p 5P	-	5d 1P	1	-	1	
768.1788Cu II	63	15.22	-	16.83	5p 3F	-	6s 1D	2	-	2	
768.2941Cu II	0	14.62	-	16.23	4d 3D	-	4p 5D	1	-	1	
771.8694Cu II	4	16.61	-	18.22	4p 3D	-	7s 1D	3	-	2	
772.6648Cu II	390	13.68	-	15.29	5s 1D	-	5p 3D	2	-	1	
773.1619Cu II	0	14.34	-	15.94	4d 3P	-	4p 3D	2	-	2	
773.8664Cu II	1151	15.22	-	16.82	5p 3F	-	6s 3D	2	-	1	
774.4097Cu II	159	14.96	-	16.56	5p 3F	-	6s 3D	3	-	3	
774.4369Cu II	1	16.83	-	18.43	4p 3F	-	6d 3F	3	-	2	
775.1206Cu II	5	16.83	-	18.43	4p 3F	-	6d 1F	3	-	3	
775.1753Cu II	2	14.34	-	15.94	4d 3G	-	4p 3F	4	-	3	
775.4362Cu II	534	15.23	-	16.83	5p 1P	-	6s 1D	1	-	2	
776.3365Cu II	7	16.80	-	18.39	4p 3P	-	6d 1P	0	-	1	
776.8468Cu II	18	17.10	-	18.69	4p 3S	-	8s 3D	1	-	2	
777.3202Cu II	81	13.39	-	14.99	5s 3D	-	4p 1D	3	-	2	
777.8738Cu II	672	14.99	-	16.58	4p 1D	-	6s 3D	2	-	2	
779.2931Cu II	1	14.69	-	16.28	4d 1F	-	4p 5D	3	-	3	
779.4199Cu II	1	16.83	-	18.42	4p 3F	-	6d 1D	3	-	2	
780.5184Cu II	723	14.99	-	16.58	5p 3P	-	6s 3D	1	-	2	
780.7659Cu II	2416	14.98	-	16.56	5p 3F	-	6s 3D	4	-	3	
780.7913Cu II	187	17.10	-	18.69	4p 3F	-	8s 3D	4	-	3	
781.2317Cu II	196	15.23	-	16.82	5p 1P	-	6s 3D	1	-	1	
781.5828Cu II	1	14.42	-	16.01	4d 3F	-	4p 3D	3	-	3	
782.0576Cu II	344	13.65	-	15.23	5s 3D	-	5p 1P	1	-	1	
782.1181Cu II	3	17.18	-	18.77	5d 1P	-	6f 3P	1	-	2	
782.1278Cu II	33	16.83	-	18.41	4p 3F	-	6d 1G	3	-	4	



782.2334Cu II	0	14.65	-	16.24	4d 1D	-	4p 5D	2	-	2	
782.2532Cu II	8	15.32	-	16.90	5p 1D	-	5d 3S	2	-	1	
782.5654Cu II	4150	13.39	-	14.98	5s 3D	-	5p 3F	3	-	4	
782.6358Cu II	0	14.39	-	15.98	4d 3D	-	4p 3D	3	-	2	
784.1487Cu II	1	16.59	-	18.17	4p 3P	-	6d 3D	2	-	2	
784.2004Cu II	2	16.83	-	18.41	4p 3F	-	6d 3G	3	-	3	
784.3586Cu II	0	14.43	-	16.01	4d 3F	-	4p 3D	4	-	3	
784.4950Cu II	11	13.43	-	15.01	5s 3D	-	4p 1F	2	-	3	
784.5081Cu II	1812	15.25	-	16.83	5p 1F	-	6s 1D	3	-	2	
784.8373Cu II	6	16.66	-	18.24	4p 3P	-	6d 3P	1	-	0	
785.3016Cu II	3	16.59	-	18.17	4p 3P	-	6d 3F	2	-	3	
785.3820Cu II	0	14.43	-	16.01	4d 3D	-	4p 3D	2	-	3	
785.9964Cu II	0	15.18	-	16.75	4d 1S	-	4p 3D	0	-	1	
786.0577Cu II	49	14.99	-	16.56	4p 1D	-	6s 3D	2	-	3	
787.3201Cu II	1	14.39	-	15.97	4d 3D	-	4p 3F	3	-	4	
787.7919Cu II	1	16.86	-	18.43	4p 5S	-	6d 3F	2	-	2	
788.4994Cu II	1	16.86	-	18.43	4p 5S	-	6d 1F	2	-	3	
789.0376Cu II	18	16.59	-	18.16	4p 3P	-	6d 3D	2	-	3	
789.0567Cu II	253	13.39	-	14.96	5s 3D	-	5p 3F	3	-	3	
789.5805Cu II	1968	13.65	-	15.22	5s 3D	-	5p 3F	1	-	2	
790.2553Cu II	3084	13.68	-	15.25	5s 1D	-	5p 1F	2	-	3	
790.3663Cu II	7	15.01	-	16.58	4p 1F	-	6s 3D	3	-	2	
790.9810Cu II	0	14.60	-	16.17	4d 3G	-	4p 3P	3	-	2	
792.9488Cu II	1	16.86	-	18.42	4p 5S	-	6d 1D	2	-	2	
793.3055Cu II	6	16.59	-	18.15	4p 3P	-	6d 3P	2	-	1	
793.4359Cu II	2	17.21	-	18.77	5d 3G	-	6f 3F	3	-	3	
794.0141Cu II	1	16.61	-	18.17	4p 3D	-	6d 3D	3	-	2	
794.0829Cu II	33	16.59	-	18.15	4p 3P	-	6d 3P	2	-	2	
794.3866Cu II	1	17.21	-	18.77	5d 3G	-	6f 3D	3	-	2	
794.4438Cu II	1295	13.43	-	14.99	5s 3D	-	5p 3P	2	-	1	
794.4703Cu II	0	17.21	-	18.77	5d 3G	-	6f 3F	3	-	3	
794.5894Cu II	0	16.85	-	18.41	4f 3H	-	6d 1G	5	-	4	
794.9167Cu II	3	16.66	-	18.22	4p 3P	-	7s 1D	1	-	2	
794.9855Cu II	146	16.61	-	18.17	4p 3D	-	6d 3F	3	-	4	
795.1962Cu II	1	16.61	-	18.17	4p 3D	-	6d 3F	3	-	3	
795.3704Cu II	0	16.86	-	18.41	4p 5S	-	6d 3D	2	-	1	
797.2033Cu II	1197	13.43	-	14.99	5s 3D	-	4p 1D	2	-	2	
797.4760Cu II	0	17.22	-	18.77	5d 1G	-	6f 3F	4	-	3	
797.8972Cu II	0	16.86	-	18.41	4p 5S	-	6d 3G	2	-	3	
797.9704Cu II	0	14.53	-	16.09	4d 1P	-	4p 3P	1	-	1	
797.9842Cu II	1	14.42	-	15.98	4d 3F	-	4p 3D	3	-	2	
798.0999Cu II	1	16.66	-	18.21	4p 3P	-	7s 3D	1	-	1	

798.2075 Cu II	0	16.87	-	18.42	4f 3D	-	6d 1D	3	-	2	
798.5209 Cu II	1	17.22	-	18.77	5d 1G	-	6f 3F	4	-	3	
798.8163 Cu II	775	15.01	-	16.56	4p 1F	-	6s 3D	3	-	3	
799.0272 Cu II	109	16.61	-	18.16	4p 3D	-	6d 3D	3	-	3	
799.2937 Cu II	0	16.86	-	18.41	4f 3D	-	6d 3D	2	-	1	
799.4214 Cu II	0	17.22	-	18.77	5d 3D	-	6f 3D	1	-	2	
799.6790 Cu II	964	13.68	-	15.23	5s 1D	-	5p 1P	2	-	1	
799.9171 Cu II	0	16.85	-	18.39	4f 3P	-	6d 1P	1	-	1	
800.4573 Cu II	2	17.22	-	18.77	5d 1G	-	6f 3H	4	-	5	
800.4893 Cu II	0	14.39	-	15.94	4d 3D	-	4p 3D	3	-	2	
801.2557 Cu II	0	17.22	-	18.77	5d 3D	-	6f 3P	1	-	2	
801.9449 Cu II	1	14.43	-	15.98	4d 3D	-	4p 3D	2	-	2	
802.3575 Cu II	0	14.69	-	16.24	4d 1F	-	4p 5D	3	-	2	
802.3859 Cu II	0	16.85	-	18.39	4f 3P	-	6d 1P	0	-	1	
802.6479 Cu II	218	15.29	-	16.83	5p 3D	-	6s 1D	1	-	2	
802.8547 Cu II	0	14.42	-	15.97	4d 3F	-	4p 3F	3	-	4	
803.7096 Cu II	2	16.61	-	18.15	4p 3D	-	6d 3G	3	-	4	
803.7808 Cu II	2	17.23	-	18.77	5d 1D	-	6f 3F	2	-	3	
804.2014 Cu II	40	16.61	-	18.15	4p 3D	-	6d 3P	3	-	2	
804.7564 Cu II	1	17.23	-	18.77	5d 1D	-	6f 3D	2	-	2	
804.8423 Cu II	1	17.23	-	18.77	5d 1D	-	6f 3F	2	-	3	
805.6724 Cu II	0	14.70	-	16.23	4d 3F	-	4p 5D	2	-	1	
805.7839 Cu II	1	14.43	-	15.97	4d 3F	-	4p 3F	4	-	4	
806.6153 Cu II	1	17.23	-	18.77	5d 1D	-	6f 3P	2	-	2	
806.8993 Cu II	23	16.59	-	18.13	4p 3P	-	6d 3S	2	-	1	
807.4995 Cu II	187	17.16	-	18.69	4p 3G	-	8s 3D	3	-	2	
807.5463 Cu II	105	13.68	-	15.22	5s 1D	-	5p 3F	2	-	2	
808.8590 Cu II	548	15.29	-	16.82	5p 3D	-	6s 3D	1	-	1	
809.5523 Cu II	2518	13.43	-	14.96	5s 3D	-	5p 3F	2	-	3	
810.0878 Cu II	37	17.16	-	18.69	4p 3G	-	8s 3D	3	-	3	
812.8116 Cu II	0	17.25	-	18.77	5d 1F	-	6f 3F	3	-	3	
813.8093 Cu II	0	17.25	-	18.77	5d 1F	-	6f 3D	3	-	2	
813.8971 Cu II	1	17.25	-	18.77	5d 1F	-	6f 3F	3	-	3	
814.3089 Cu II	0	17.25	-	18.77	5d 3F	-	6f 3F	2	-	3	
814.7623 Cu II	2	16.85	-	18.37	4f 3P	-	5g 3F	1	-	2	
815.3833 Cu II	13	16.70	-	18.22	4p 3D	-	7s 1D	2	-	2	
815.3984 Cu II	1	17.25	-	18.77	5d 3F	-	6f 3F	2	-	3	
815.7103 Cu II	0	17.25	-	18.77	5d 1F	-	6f 3P	3	-	2	
816.5532 Cu II	1	14.42	-	15.94	4d 3F	-	4p 3D	3	-	2	
817.2093 Cu II	1	14.42	-	15.94	4d 3F	-	4p 3F	3	-	3	
817.2182 Cu II	1	17.25	-	18.77	5d 3F	-	6f 3P	2	-	2	

817.8961Cu II	0	14.65	-	16.17	4d 1D	-	4p 3P	2	-	2	
817.8979Cu II	1	16.85	-	18.37	4f 3P	-	5g 3F	2	-	2	
817.9027Cu II	6	16.85	-	18.37	4f 3P	-	5g 1F	2	-	3	
818.4237Cu II	8	16.66	-	18.17	4p 3P	-	6d 3D	1	-	2	
818.4532Cu II	1	16.85	-	18.37	4f 3H	-	5g 1I	6	-	6	
818.6487Cu II	0	16.85	-	18.37	4f 3H	-	5g 3I	5	-	5	
818.7329Cu II	2	16.70	-	18.21	4p 3D	-	7s 3D	2	-	1	
819.2229Cu II	1038	15.32	-	16.83	5p 1D	-	6s 1D	2	-	2	
819.2336Cu II	346	15.07	-	16.58	5p 3D	-	6s 3D	3	-	2	
819.4018Cu II	0	16.92	-	18.43	4p 3D	-	6d 3F	3	-	2	
820.1673Cu II	1	16.92	-	18.43	4p 3D	-	6d 1F	3	-	3	
820.2444Cu II	0	14.43	-	15.94	4d 3F	-	4p 3F	4	-	3	
820.9494Cu II	7	16.86	-	18.37	4f 3F	-	5g 1G	3	-	4	
820.9514Cu II	1	16.86	-	18.37	4f 3F	-	5g 3G	3	-	3	
821.0863Cu II	1	16.86	-	18.37	4f 1P	-	5g 3F	1	-	2	
821.3636Cu II	0	14.43	-	15.94	4d 3D	-	4p 3F	2	-	3	
822.5760Cu II	5	16.86	-	18.37	4f 3D	-	5g 3G	2	-	3	
823.2314Cu II	0	16.86	-	18.37	4f 3F	-	5g 3F	3	-	2	
823.2363Cu II	1	16.86	-	18.37	4f 3F	-	5g 1F	3	-	3	
823.2380Cu II	1	16.87	-	18.37	4f 3D	-	5g 3H	3	-	4	
823.5279Cu II	447	13.65	-	15.15	5s 3D	-	5p 3P	1	-	0	
824.0246Cu II	0	16.87	-	18.37	4f 3D	-	5g 3G	3	-	3	
824.8652Cu II	1	16.86	-	18.37	4f 3D	-	5g 3F	2	-	2	
824.8701Cu II	0	16.86	-	18.37	4f 3D	-	5g 1F	2	-	3	
825.6941Cu II	107	15.32	-	16.82	5p 1D	-	6s 3D	2	-	1	
827.7560Cu II	2075	13.39	-	14.89	5s 3D	-	5p 3P	3	-	2	
828.0167Cu II	1	16.92	-	18.41	4p 3D	-	6d 1G	3	-	4	
828.3160Cu II	828	15.07	-	16.56	5p 3D	-	6s 3D	3	-	3	
828.4036Cu II	9	16.66	-	18.15	4p 3P	-	6d 3P	1	-	1	
829.8951Cu II	1	16.88	-	18.37	4f 3F	-	5g 1H	4	-	5	
829.8973Cu II	1	16.88	-	18.37	4f 3F	-	5g 3H	4	-	4	
830.0039Cu II	0	15.57	-	17.06	4p 5P	-	5d 3P	1	-	0	
830.6966Cu II	0	16.88	-	18.37	4f 3F	-	5g 3G	4	-	3	
831.8175Cu II	2	16.88	-	18.37	4f 3G	-	5g 1H	5	-	5	
831.8197Cu II	0	16.88	-	18.37	4f 3G	-	5g 3H	5	-	4	
832.2018Cu II	9	16.88	-	18.37	4f 3F	-	5g 3I	4	-	5	
832.6208Cu II	0	16.88	-	18.37	4f 3G	-	5g 1G	5	-	4	
833.8107Cu II	23	17.01	-	18.50	4p 1P	-	6d 1S	1	-	0	
834.1327Cu II	11	16.88	-	18.37	4f 3G	-	5g 1I	5	-	6	
834.1350Cu II	1	16.88	-	18.37	4f 3G	-	5g 3I	5	-	5	
835.7039Cu II	7	16.75	-	18.24	4p 3D	-	6d 3P	1	-	0	
839.4575Cu II	1	16.90	-	18.37	4f 3G	-	5g 1H	4	-	5	

839.4597 Cu II	1	16.90	-	18.37	4f 3G	-	5g 3H	4	-	4
839.9228 Cu II	1	14.69	-	16.17	4d 1F	-	4p 3P	3	-	2
840.1352 Cu II	8	16.70	-	18.17	4p 3D	-	6d 3D	2	-	2
840.2756 Cu II	0	16.90	-	18.37	4f 3G	-	5g 1G	4	-	4
840.2906 Cu II	121	13.65	-	15.12	5s 3D	-	5p 3D	1	-	2
841.4587 Cu II	9	16.70	-	18.17	4p 3D	-	6d 3F	2	-	3
841.8178 Cu II	1	16.90	-	18.37	4f 3G	-	5g 3I	4	-	5
843.2381 Cu II	2	16.66	-	18.13	4p 3P	-	6d 3S	1	-	1
843.3302 Cu II	0	14.70	-	16.17	4d 3F	-	4p 3P	2	-	2
844.1951 Cu II	8	16.96	-	18.43	4p 3F	-	6d 3F	2	-	2
844.9671 Cu II	0	14.62	-	16.09	4d 3D	-	4p 3P	1	-	1
845.0076 Cu II	127	16.96	-	18.43	4p 3F	-	6d 1F	2	-	3
845.7496 Cu II	8	16.70	-	18.16	4p 3D	-	6d 3D	2	-	3
846.0165 Cu II	15	16.71	-	18.17	4p 3H	-	6d 3F	4	-	4
846.1946 Cu II	2	15.53	-	16.99	4p 5P	-	5d 3F	3	-	4
846.2551 Cu II	1	16.71	-	18.17	4p 3H	-	6d 3F	4	-	3
846.8891 Cu II	0	15.53	-	16.99	4p 5P	-	5d 3F	3	-	3
847.1417 Cu II	2	16.75	-	18.22	4p 3D	-	7s 1D	1	-	2
848.1836 Cu II	0	15.53	-	16.99	4p 5P	-	5d 3F	2	-	3
850.1196 Cu II	42	16.96	-	18.42	4p 3F	-	6d 1D	2	-	2
850.3396 Cu II	111	13.43	-	14.89	5s 3D	-	5p 3P	2	-	2
850.5585 Cu II	75	17.24	-	18.69	4p 3D	-	8s 3D	2	-	2
850.5952 Cu II	4	16.71	-	18.16	4p 3H	-	6d 3D	4	-	3
850.6550 Cu II	0	16.70	-	18.15	4p 3D	-	6d 3P	2	-	1
850.7579 Cu II	10	16.75	-	18.21	4p 3D	-	7s 3D	1	-	1
851.1061 Cu II	481	15.12	-	16.58	5p 3D	-	6s 3D	2	-	2
851.5488 Cu II	7	16.70	-	18.15	4p 3D	-	6d 3P	2	-	2
852.9036 Cu II	2	16.96	-	18.41	4p 3F	-	6d 3D	2	-	1
853.4306 Cu II	120	17.24	-	18.69	4p 3D	-	8s 3D	2	-	3
855.2519 Cu II	2	15.53	-	16.98	4p 5P	-	5d 3D	3	-	3
855.8099 Cu II	25	16.96	-	18.41	4p 3F	-	6d 3G	2	-	3
855.9034 Cu II	3	16.71	-	18.15	4p 3H	-	6d 3G	4	-	4
855.9833 Cu II	8	16.90	-	18.35	5d 3S	-	5f 3D	1	-	1
856.5722 Cu II	0	15.53	-	16.98	4p 5P	-	5d 3D	2	-	3
857.4080 Cu II	57	16.71	-	18.15	4p 3H	-	6d 3G	4	-	5
857.6295 Cu II	1	17.18	-	18.63	5d 1P	-	4p 3F	1	-	2
858.0995 Cu II	46	16.90	-	18.35	5d 3S	-	5f 1D	1	-	2
860.1532 Cu II	1	14.53	-	15.98	4d 1P	-	4p 3D	1	-	2
860.6679 Cu II	231	13.68	-	15.12	5s 1D	-	5p 3D	2	-	2
860.9134 Cu II	11	15.12	-	16.56	5p 3D	-	6s 3D	2	-	3
862.0938 Cu II	1	14.65	-	16.09	4d 1D	-	4p 3P	2	-	1
864.4931 Cu II	0	17.00	-	18.43	4p 3G	-	6d 3F	3	-	2

864.7093Cu II	13	16.96	-	18.39	4p 3F	-	6d 1P	2	-	1
865.3452Cu II	1	17.00	-	18.43	4p 3G	-	6d 1F	3	-	3
866.2136Cu II	100	17.26	-	18.69	6p 3P	-	8s 3D	1	-	2
866.3046Cu II	8	16.70	-	18.13	4p 3D	-	6d 3S	2	-	1
866.6693Cu II	1	15.53	-	16.96	4p 5P	-	5d 3G	3	-	4
867.3960Cu II	63	17.26	-	18.69	6p 3P	-	8s 3D	2	-	3
867.5154Cu II	1	15.53	-	16.96	4p 5P	-	5d 3P	3	-	2
868.8739Cu II	1	15.53	-	16.96	4p 5P	-	5d 3P	2	-	2
870.7070Cu II	0	17.00	-	18.42	4p 3G	-	6d 1D	3	-	2
873.0232Cu II	74	17.28	-	18.69	6p 3F	-	8s 3D	3	-	2
873.8909Cu II	10	16.75	-	18.17	4p 3D	-	6d 3D	1	-	2
874.0877Cu II	2	17.00	-	18.41	4p 3G	-	6d 1G	3	-	4
874.5886Cu II	5	17.21	-	18.63	5d 3G	-	4p 3F	3	-	2
874.6725Cu II	11	17.01	-	18.43	4p 1P	-	6d 3F	1	-	2
876.0494Cu II	156	17.28	-	18.69	6p 3F	-	8s 3D	3	-	3
876.6771Cu II	0	17.00	-	18.41	4p 3G	-	6d 3G	3	-	3
876.7914Cu II	7	16.80	-	18.21	4p 3P	-	7s 3D	0	-	1
880.6953Cu II	1	17.22	-	18.63	5d 3D	-	4p 3F	1	-	2
880.9028Cu II	2	16.96	-	18.36	5d 3P	-	5f 3G	2	-	3
881.0341Cu II	13	17.01	-	18.42	4p 1P	-	6d 1D	1	-	2
881.0399Cu II	187	17.28	-	18.69	6p 3F	-	8s 3D	4	-	3
881.5924Cu II	3	16.96	-	18.36	5d 3G	-	5f 1G	4	-	4
881.7673Cu II	0	14.53	-	15.94	4d 1P	-	4p 3D	1	-	2
881.7770Cu II	0	16.96	-	18.36	5d 3G	-	5f 3G	4	-	3
883.7822Cu II	1	16.96	-	18.36	5d 3P	-	5f 3F	2	-	2
884.0246Cu II	10	17.01	-	18.41	4p 1P	-	6d 3D	1	-	1
884.1372Cu II	2	16.96	-	18.36	5d 3P	-	5f 1F	2	-	3
884.4877Cu II	1	16.95	-	18.35	5d 3G	-	5f 1H	5	-	5
885.0178Cu II	1	16.96	-	18.36	5d 3G	-	5f 1F	4	-	3
885.2741Cu II	1	16.96	-	18.36	5d 3P	-	5f 3F	1	-	2
885.2788Cu II	10	16.75	-	18.15	4p 3D	-	6d 3P	1	-	1
885.5624Cu II	1	17.10	-	18.50	4p 3S	-	6d 1S	1	-	0
887.1745Cu II	1	17.23	-	18.63	5d 1D	-	4p 3F	2	-	2
887.5899Cu II	17	16.96	-	18.35	5d 3G	-	5f 1H	4	-	5
887.6943Cu II	0	16.96	-	18.35	5d 3P	-	5f 3D	2	-	1
889.1994Cu II	1	16.96	-	18.35	5d 3P	-	5f 3D	1	-	1
889.8982Cu II	1	16.85	-	18.24	4f 3P	-	6d 3P	1	-	0
889.9704Cu II	1	16.96	-	18.35	5d 3P	-	5f 1D	2	-	2
890.3985Cu II	0	14.70	-	16.09	4d 3F	-	4p 3P	2	-	1
891.4833Cu II	0	16.96	-	18.35	5d 3P	-	5f 1D	1	-	2
892.3816Cu II	14	16.83	-	18.22	4p 3F	-	7s 1D	3	-	2

893.7289Cu II	12	16.98	-	18.36	5d 3D	-	5f 1G	3	-	4
893.9186Cu II	1	16.98	-	18.36	5d 3D	-	5f 3G	3	-	3
894.6713Cu II	5	17.11	-	18.50	4f 3D	-	6d 1S	1	-	0
895.9155Cu II	7	13.68	-	15.07	5s 1D	-	5p 3D	2	-	3
896.7140Cu II	20	17.01	-	18.39	4p 1P	-	6d 1P	1	-	1
896.8838Cu II	0	16.98	-	18.36	5d 3D	-	5f 3F	3	-	2
897.2494Cu II	1	16.98	-	18.36	5d 3D	-	5f 1F	3	-	3
897.4477Cu II	4	16.86	-	18.24	4f 1P	-	6d 3P	1	-	0
898.1894Cu II	3	17.25	-	18.63	5d 1F	-	4p 3F	3	-	2
899.5018Cu II	1	16.98	-	18.35	5d 3D	-	5f 3H	3	-	4
900.0180Cu II	3	17.25	-	18.63	5d 3F	-	4p 3F	2	-	2
900.1106Cu II	1	14.60	-	15.98	4d 3G	-	4p 3D	3	-	2
901.5654Cu II	0	15.53	-	16.90	4p 5P	-	5d 3S	2	-	1
902.2410Cu II	3	16.75	-	18.13	4p 3D	-	6d 3S	1	-	1
902.9344Cu II	20	17.32	-	18.69	6p 3D	-	8s 3D	2	-	2
903.0475Cu II	0	16.99	-	18.36	5d 3F	-	5f 1G	3	-	4
903.2411Cu II	6	16.99	-	18.36	5d 3F	-	5f 3G	3	-	3
903.8384Cu II	4	16.99	-	18.36	5d 3F	-	5f 1G	4	-	4
904.0324Cu II	0	16.99	-	18.36	5d 3F	-	5f 3G	4	-	3
904.1511Cu II	1	16.59	-	17.96	4p 3P	-	7s 3D	2	-	2
905.4374Cu II	22	17.33	-	18.69	6p 3D	-	8s 3D	3	-	2
906.1719Cu II	3	17.32	-	18.69	6p 3D	-	8s 3D	2	-	3
906.2686Cu II	1	16.99	-	18.36	5d 3F	-	5f 3F	3	-	2
906.4242Cu II	0	17.00	-	18.36	5d 3D	-	5f 3G	2	-	3
906.7975Cu II	17	13.39	-	14.76	5s 3D	-	4p 3F	3	-	2
907.4392Cu II	1	16.99	-	18.36	5d 3F	-	5f 1F	4	-	3
908.6928Cu II	58	17.33	-	18.69	6p 3D	-	8s 3D	3	-	3
908.9418Cu II	25	16.99	-	18.35	5d 3F	-	5f 3H	3	-	4
909.3633Cu II	15	17.07	-	18.43	4p 1D	-	6d 3F	2	-	2
909.4731Cu II	4	17.00	-	18.36	5d 3D	-	5f 3F	2	-	2
909.7431Cu II	1	16.99	-	18.35	5d 3F	-	5f 3H	4	-	4
909.7520Cu II	35	16.59	-	17.95	4p 3P	-	7s 3D	2	-	3
909.8491Cu II	23	17.00	-	18.36	5d 3D	-	5f 1F	2	-	3
910.1435Cu II	13	16.99	-	18.35	5d 3F	-	5f 1H	4	-	5
910.1609Cu II	1	16.86	-	18.22	4p 5S	-	7s 1D	2	-	2
910.3062Cu II	78	17.07	-	18.43	4p 1D	-	6d 1F	2	-	3
910.3234Cu II	66	15.22	-	16.58	5p 3F	-	6s 3D	2	-	2
910.7881Cu II	10	13.39	-	14.75	5s 3D	-	4p 1G	3	-	4
913.6165Cu II	1	17.00	-	18.35	5d 3D	-	5f 3D	2	-	1
914.3364Cu II	0	16.86	-	18.21	4p 5S	-	7s 3D	2	-	1
915.0116Cu II	1	14.62	-	15.98	4d 3D	-	4p 3D	1	-	2
916.0277Cu II	5	17.00	-	18.35	5d 3D	-	5f 1D	2	-	2

916.2416Cu II	25	17.07	-	18.42	4p 1D	-	6d 1D	2	-	2
917.2923Cu II	8	16.61	-	17.96	4p 3D	-	7s 3D	3	-	2
917.6050Cu II	0	14.62	-	15.97	4d 1G	-	4p 3F	4	-	4
919.4763Cu II	3	17.07	-	18.41	4p 1D	-	6d 3D	2	-	1
920.5323Cu II	69	15.23	-	16.58	5p 1P	-	6s 3D	1	-	2
921.5519Cu II	3	15.22	-	16.56	5p 3F	-	6s 3D	2	-	3
922.1142Cu II	3	16.83	-	18.17	4p 3F	-	6d 3D	3	-	2
922.6737Cu II	46	13.65	-	14.99	5s 3D	-	5p 3P	1	-	1
922.8549Cu II	1	17.07	-	18.41	4p 1D	-	6d 3G	2	-	3
923.0578Cu II	118	16.61	-	17.95	4p 3D	-	7s 3D	3	-	3
923.1421Cu II	0	16.09	-	17.43	4p 3P	-	5d 1S	1	-	0
923.4246Cu II	391	16.83	-	18.17	4p 3F	-	6d 3F	3	-	4
923.7088Cu II	1	16.83	-	18.17	4p 3F	-	6d 3F	3	-	3
923.8071Cu II	4	14.60	-	15.94	4d 3G	-	4p 3D	3	-	2
924.6470Cu II	0	14.60	-	15.94	4d 3G	-	4p 3F	3	-	3
926.3975Cu II	8	13.65	-	14.99	5s 3D	-	4p 1D	1	-	2
928.8822Cu II	272	16.83	-	18.16	4p 3F	-	6d 3D	3	-	3
931.5749Cu II	0	16.80	-	18.13	4p 3P	-	6d 3S	0	-	1
931.7944Cu II	224	17.10	-	18.43	4p 3S	-	6d 3F	1	-	2
932.1412Cu II	6	16.84	-	18.17	4p 3F	-	6d 3F	4	-	4
932.4309Cu II	0	16.84	-	18.17	4p 3F	-	6d 3F	4	-	3
933.1896Cu II	112	13.68	-	15.01	5s 1D	-	4p 1F	2	-	3
933.2118Cu II	11	17.07	-	18.39	4p 1D	-	6d 1P	2	-	1
933.3272Cu II	1	16.85	-	18.17	4f 3P	-	6d 3D	1	-	2
933.3448Cu II	3	15.25	-	16.58	5p 1F	-	6s 3D	3	-	2
933.9714Cu II	33	13.43	-	14.76	5s 3D	-	4p 3F	2	-	2
935.0054Cu II	1	17.10	-	18.43	4p 3F	-	6d 1F	4	-	3
935.1291Cu II	1	14.65	-	15.98	4d 1D	-	4p 3D	2	-	2
935.2162Cu II	0	16.83	-	18.15	4p 3F	-	6d 3G	3	-	4
935.8822Cu II	97	16.83	-	18.15	4p 3F	-	6d 3P	3	-	2
936.4043Cu II	4	14.62	-	15.94	4d 1G	-	4p 3F	4	-	3
937.4440Cu II	3	16.85	-	18.17	4f 3P	-	6d 3D	2	-	2
937.7027Cu II	2	16.84	-	18.16	4p 3F	-	6d 3D	4	-	3
939.0176Cu II	105	17.10	-	18.42	4p 3S	-	6d 1D	1	-	2
939.0922Cu II	0	16.85	-	18.17	4f 3P	-	6d 3F	2	-	3
939.5098Cu II	0	14.62	-	15.94	4d 3D	-	4p 3D	1	-	2
939.6266Cu II	1	17.11	-	18.43	4f 1D	-	6d 3F	2	-	2
940.6333Cu II	1	17.11	-	18.43	4f 1D	-	6d 1F	2	-	3
940.8455Cu II	1	16.85	-	18.17	4f 3H	-	6d 3F	5	-	4
941.1105Cu II	1	16.86	-	18.17	4p 5S	-	6d 3D	2	-	2
941.6350Cu II	1	16.86	-	18.17	4f 1P	-	6d 3D	1	-	2
941.8846Cu II	1	17.11	-	18.43	4f 3D	-	6d 3F	1	-	2

942.4154Cu II	131	17.10	-	18.41	4p 3S	-	6d 3D	1	-	1
944.1580Cu II	1	16.84	-	18.15	4p 3F	-	6d 3G	4	-	4
944.4397Cu II	2	16.85	-	18.16	4f 3P	-	6d 3D	2	-	3
944.4573Cu II	4	16.86	-	18.17	4f 3F	-	6d 3D	3	-	2
944.6769Cu II	1	15.94	-	17.25	4p 3F	-	5d 3F	3	-	2
945.1521Cu II	7	15.25	-	16.56	5p 1F	-	6s 3D	3	-	3
945.2204Cu II	2	17.10	-	18.41	4p 3F	-	6d 1G	4	-	4
945.5552Cu II	2	15.94	-	17.25	4p 3D	-	5d 3F	2	-	2
945.8320Cu II	2	16.86	-	18.17	4f 3F	-	6d 3F	3	-	4
945.9891Cu II	20	16.84	-	18.15	4p 3F	-	6d 3G	4	-	5
946.1303Cu II	1	16.86	-	18.17	4f 3F	-	6d 3F	3	-	3
946.6082Cu II	4	16.86	-	18.17	4f 3D	-	6d 3D	2	-	2
946.6999Cu II	3	15.94	-	17.25	4p 3F	-	5d 1F	3	-	3
946.9722Cu II	4	17.11	-	18.42	4f 1D	-	6d 1D	2	-	2
947.1124Cu II	0	17.12	-	18.43	4f 3H	-	6d 1F	4	-	3
947.3011Cu II	32	13.68	-	14.99	5s 1D	-	5p 3P	2	-	1
947.4346Cu II	3	16.85	-	18.15	4f 3P	-	6d 3P	1	-	2
947.5820Cu II	4	15.94	-	17.25	4p 3D	-	5d 1F	2	-	3
948.1613Cu II	7	16.86	-	18.16	4p 5S	-	6d 3D	2	-	3
948.2492Cu II	0	17.10	-	18.41	4p 3F	-	6d 3G	4	-	3
948.2889Cu II	1	16.86	-	18.17	4f 3D	-	6d 3F	2	-	3
948.5271Cu II	11	16.87	-	18.17	4f 3D	-	6d 3D	3	-	2
949.2656Cu II	1	17.11	-	18.42	4f 3D	-	6d 1D	1	-	2
949.4018Cu II	2	15.53	-	16.83	4p 5P	-	6s 1D	3	-	2
949.7855Cu II	1	16.85	-	18.15	4f 3P	-	6d 3P	0	-	1
949.9137Cu II	1	16.87	-	18.17	4f 3D	-	6d 3F	3	-	4
950.0262Cu II	10	16.66	-	17.96	4p 3P	-	7s 3D	1	-	2
950.2145Cu II	7	16.87	-	18.17	4f 3D	-	6d 3F	3	-	3
950.4279Cu II	1	17.11	-	18.41	4f 1D	-	6d 3D	2	-	1
950.5608Cu II	1	16.85	-	18.15	4f 3P	-	6d 3P	2	-	1
951.0291Cu II	5	15.53	-	16.83	4p 5P	-	6s 1D	2	-	2
951.0369Cu II	1	17.13	-	18.43	4f 1F	-	6d 3F	3	-	2
951.2268Cu II	114	13.68	-	14.99	5s 1D	-	4p 1D	2	-	2
951.5585Cu II	10	16.86	-	18.16	4f 3F	-	6d 3D	3	-	3
951.6771Cu II	6	16.85	-	18.15	4f 3P	-	6d 3P	2	-	2
952.0683Cu II	6	17.13	-	18.43	4f 1F	-	6d 1F	3	-	3
952.6179Cu II	1	16.92	-	18.22	4p 3D	-	7s 1D	3	-	2
952.7381Cu II	2	17.11	-	18.41	4f 3D	-	6d 3D	1	-	1
953.0892Cu II	32	16.85	-	18.15	4f 3H	-	6d 3G	5	-	4
953.7420Cu II	1	16.86	-	18.16	4f 3D	-	6d 3D	2	-	3
954.3309Cu II	2	16.86	-	18.15	4p 5S	-	6d 3P	2	-	1



954.6923Cu II	40	16.85	-	18.15	4f 3H	-	6d 3G	6	-	5
954.8703Cu II	5	16.86	-	18.15	4f 1P	-	6d 3P	1	-	1
954.9552Cu II	1	16.85	-	18.15	4f 3H	-	6d 3G	5	-	5
955.2485Cu II	5	17.13	-	18.43	4f 3F	-	6d 3F	2	-	2
955.4561Cu II	11	16.86	-	18.15	4p 5S	-	6d 3P	2	-	2
955.6899Cu II	2	16.87	-	18.16	4f 3D	-	6d 3D	3	-	3
955.9967Cu II	1	16.86	-	18.15	4f 1P	-	6d 3P	1	-	2
956.2890Cu II	1	17.13	-	18.43	4f 3F	-	6d 1F	2	-	3
956.5611Cu II	33	17.12	-	18.41	4f 1H	-	6d 1G	5	-	4
956.8501Cu II	6	17.10	-	18.39	4p 3S	-	6d 1P	1	-	1
957.5952Cu II	1	17.12	-	18.41	4f 3H	-	6d 1G	4	-	4
958.2067Cu II	0	16.86	-	18.15	4f 3F	-	6d 3G	3	-	4
958.5627Cu II	16	17.13	-	18.42	4f 1F	-	6d 1D	3	-	2
958.7911Cu II	2	16.88	-	18.17	4f 3F	-	6d 3F	4	-	4
958.9058Cu II	7	16.86	-	18.15	4f 3F	-	6d 3P	3	-	2
959.0975Cu II	16	16.88	-	18.17	4f 3F	-	6d 3F	4	-	3
959.1336Cu II	1	15.29	-	16.58	5p 3D	-	6s 3D	1	-	2
959.2529Cu II	1	15.94	-	17.23	4p 3F	-	5d 1D	3	-	2
959.7612Cu II	1	15.53	-	16.82	4p 5P	-	6s 3D	2	-	1
959.9846Cu II	7	16.86	-	18.15	4f 3D	-	6d 3P	2	-	1
960.1585Cu II	2	15.94	-	17.23	4p 3D	-	5d 1D	2	-	2
960.2369Cu II	24	17.14	-	18.43	4f 1G	-	6d 1F	4	-	3
960.7039Cu II	27	17.12	-	18.41	4f 3H	-	6d 3G	4	-	3
960.7315Cu II	1	14.65	-	15.94	4d 1D	-	4p 3D	2	-	2
961.0897Cu II	298	17.06	-	18.35	5d 3P	-	5f 3D	0	-	1
961.1231Cu II	4	16.86	-	18.15	4f 3D	-	6d 3P	2	-	2
961.3580Cu II	27	16.88	-	18.17	4f 3G	-	6d 3F	5	-	4
961.6399Cu II	0	14.65	-	15.94	4d 1D	-	4p 3F	2	-	3
962.3961Cu II	1	16.87	-	18.15	4f 3D	-	6d 3G	3	-	4
962.6617Cu II	1	17.13	-	18.41	4f 1F	-	6d 1G	3	-	4
962.8414Cu II	1	17.13	-	18.42	4f 3F	-	6d 1D	2	-	2
963.0428Cu II	16	17.14	-	18.43	4f 3G	-	6d 3F	3	-	2
963.1014Cu II	3	16.87	-	18.15	4f 3D	-	6d 3P	3	-	2
964.0344Cu II	2	14.69	-	15.98	4d 1F	-	4p 3D	3	-	2
964.1004Cu II	1	17.14	-	18.43	4f 3G	-	6d 1F	3	-	3
964.6760Cu II	4	16.88	-	18.16	4f 3F	-	6d 3D	4	-	3
965.1110Cu II	10	17.11	-	18.39	4f 1D	-	6d 1P	2	-	1
965.7362Cu II	6	16.85	-	18.13	4f 3P	-	6d 3S	1	-	1
966.4141Cu II	10	17.13	-	18.41	4f 3F	-	6d 3D	2	-	1
967.4933Cu II	3	17.11	-	18.39	4f 3D	-	6d 1P	1	-	1
967.8649Cu II	0	15.94	-	17.22	4p 3D	-	5d 3D	2	-	1
968.3897Cu II	13	15.94	-	17.22	4p 3F	-	5d 1G	3	-	4

968.5258Cu II	1	14.70	-	15.98	4d 3F	-	4p 3D	2	-	2	
968.8619Cu II	29	13.68	-	14.96	5s 1D	-	5p 3F	2	-	3	
969.3369Cu II	3	16.85	-	18.13	4f 3P	-	6d 3S	0	-	1	
970.1446Cu II	5	16.85	-	18.13	4f 3P	-	6d 3S	2	-	1	
970.1471Cu II	1	17.13	-	18.41	4f 3F	-	6d 3G	2	-	3	
970.7606Cu II	2	17.14	-	18.42	4f 3G	-	6d 1D	3	-	2	
971.0139Cu II	4	17.14	-	18.41	4f 1G	-	6d 1G	4	-	4	
971.5094Cu II	6	16.88	-	18.15	4f 3F	-	6d 3G	4	-	4	
971.5774Cu II	8	16.90	-	18.17	4f 3G	-	6d 3F	4	-	4	
971.7396Cu II	3	15.98	-	17.25	4p 3D	-	5d 3F	2	-	2	
971.8921Cu II	7	16.90	-	18.17	4f 3G	-	6d 3F	4	-	3	
973.4483Cu II	1	16.88	-	18.15	4f 3F	-	6d 3G	4	-	5	
973.8804Cu II	4	15.98	-	17.25	4p 3D	-	5d 1F	2	-	3	
974.0719Cu II	8	16.86	-	18.13	4p 5S	-	6d 3S	2	-	1	
974.1450Cu II	1	16.88	-	18.15	4f 3G	-	6d 3G	5	-	4	
974.2105Cu II	0	17.14	-	18.41	4f 1G	-	6d 3G	4	-	3	
974.4146Cu II	1	15.94	-	17.21	4p 3F	-	5d 3G	3	-	3	
974.6338Cu II	0	16.86	-	18.13	4f 1P	-	6d 3S	1	-	1	
974.9648Cu II	0	17.14	-	18.41	4f 3G	-	6d 1G	3	-	4	
975.3491Cu II	14	15.94	-	17.21	4p 3D	-	5d 3G	2	-	3	
976.0944Cu II	6	16.88	-	18.15	4f 3G	-	6d 3G	5	-	5	
976.2441Cu II	2	17.16	-	18.43	4p 3G	-	6d 3F	3	-	2	
977.3309Cu II	18	17.16	-	18.43	4p 3G	-	6d 1F	3	-	3	
977.6209Cu II	13	16.90	-	18.16	4f 3G	-	6d 3D	4	-	3	
978.1874Cu II	3	17.14	-	18.41	4f 3G	-	6d 3G	3	-	3	
979.2475Cu II	152	16.85	-	18.11	4f 3P	-	5g 1D	1	-	2	
979.4067Cu II	10	16.70	-	17.96	4p 3D	-	7s 3D	2	-	2	
981.0050Cu II	0	15.57	-	16.83	4p 5P	-	6s 1D	1	-	2	
981.3213Cu II	2704	16.85	-	18.11	4f 3P	-	5g 3D	1	-	2	
981.3322Cu II	1170	16.85	-	18.11	4f 3P	-	5g 3D	1	-	1	
981.5993Cu II	0	17.13	-	18.39	4f 3F	-	6d 1P	2	-	1	
981.7399Cu II	6	16.85	-	18.11	4f 3P	-	5g 3F	2	-	3	
982.4241Cu II	74	16.85	-	18.12	4f 3H	-	5g 3G	6	-	5	
982.7025Cu II	1	16.85	-	18.12	4f 3H	-	5g 3G	5	-	5	
982.7047Cu II	63	16.85	-	18.12	4f 3H	-	5g 3G	5	-	4	
982.7978Cu II	1521	16.85	-	18.11	4f 3H	-	5g 3H	6	-	6	
982.8013Cu II	20	16.85	-	18.11	4f 3H	-	5g 3H	6	-	5	
982.8972Cu II	16	15.32	-	16.58	5p 1D	-	6s 3D	2	-	2	
983.0798Cu II	11	16.85	-	18.11	4f 3H	-	5g 3H	5	-	6	
983.0800Cu II	1295	16.85	-	18.11	4f 3H	-	5g 3H	5	-	5	
983.5296Cu II	2	17.11	-	18.37	4f 1D	-	5g 3G	2	-	3	
983.7804Cu II	214	16.85	-	18.11	4f 3P	-	5g 1D	2	-	2	

983.7837 Cu II	4624	16.85	-	18.11	4f 3P	-	5g 3D	2	-	3
983.9767 Cu II	0	16.85	-	18.11	4f 3H	-	5g 3F	5	-	4
984.1758 Cu II	1	17.16	-	18.42	4p 3G	-	6d 1D	3	-	2
984.6395 Cu II	1	16.90	-	18.15	4f 3G	-	6d 3G	4	-	4
985.0503 Cu II	1337	16.85	-	18.11	4f 3P	-	5g 3D	0	-	1
985.8733 Cu II	1660	16.85	-	18.11	4f 3P	-	5g 3D	2	-	2
985.8844 Cu II	176	16.85	-	18.11	4f 3P	-	5g 3D	2	-	1
985.9822 Cu II	7	16.70	-	17.95	4p 3D	-	7s 3D	2	-	3
986.1331 Cu II	173	16.85	-	18.11	4f 3H	-	5g 3I	6	-	6
986.2938 Cu II	45	16.96	-	18.22	4p 3F	-	7s 1D	2	-	2
986.6312 Cu II	1	16.90	-	18.15	4f 3G	-	6d 3G	4	-	5
986.8040 Cu II	461	17.11	-	18.37	4f 1D	-	5g 3F	2	-	2
986.8110 Cu II	6209	17.11	-	18.37	4f 1D	-	5g 1F	2	-	3
987.0804 Cu II	39	13.39	-	14.65	5s 3D	-	4p 3F	3	-	3
987.1696 Cu II	1	15.98	-	17.23	4p 3D	-	5d 1D	2	-	2
988.0765 Cu II	60	16.92	-	18.17	4p 3D	-	6d 3F	3	-	4
988.1461 Cu II	11	16.86	-	18.12	4f 3F	-	5g 3G	3	-	4
988.3716 Cu II	932	17.12	-	18.37	4f 1H	-	5g 1H	5	-	5
988.3747 Cu II	18	17.12	-	18.37	4f 1H	-	5g 3H	5	-	4
988.3969 Cu II	3027	16.86	-	18.11	4f 1P	-	5g 1D	1	-	2
988.4020 Cu II	3	16.92	-	18.17	4p 3D	-	6d 3F	3	-	3
988.4972 Cu II	52	17.16	-	18.41	4p 3G	-	6d 1G	3	-	4
989.2947 Cu II	3991	17.11	-	18.37	4f 3D	-	5g 3F	1	-	2
989.3512 Cu II	0	15.97	-	17.22	4p 3F	-	5d 1G	4	-	4
989.4322 Cu II	6472	16.86	-	18.11	4f 3F	-	5g 3F	3	-	4
989.4344 Cu II	296	16.86	-	18.11	4f 3F	-	5g 3F	3	-	3
989.4756 Cu II	10	17.12	-	18.37	4f 3H	-	5g 1H	4	-	5
989.4787 Cu II	768	17.12	-	18.37	4f 3H	-	5g 3H	4	-	4
989.5059 Cu II	28	17.12	-	18.37	4f 1H	-	5g 1G	5	-	4
990.2990 Cu II	1	15.57	-	16.82	4p 5P	-	6s 3D	1	-	1
990.5096 Cu II	629	16.86	-	18.11	4f 1P	-	5g 3D	1	-	2
990.5208 Cu II	337	16.86	-	18.11	4f 1P	-	5g 3D	1	-	1
990.6125 Cu II	1	17.12	-	18.37	4f 3H	-	5g 1G	4	-	4
990.6153 Cu II	23	17.12	-	18.37	4f 3H	-	5g 3G	4	-	3
991.1990 Cu II	37	16.96	-	18.21	4p 3F	-	7s 3D	2	-	1
991.2670 Cu II	1	14.69	-	15.94	4d 1F	-	4p 3D	3	-	2
991.5070 Cu II	88	16.86	-	18.11	4f 3F	-	5g 1D	3	-	2
991.5103 Cu II	2234	16.86	-	18.11	4f 3F	-	5g 3D	3	-	3
991.6452 Cu II	207	17.12	-	18.37	4f 1H	-	5g 3I	5	-	5
991.7954 Cu II	4820	16.86	-	18.11	4f 3D	-	5g 3F	2	-	3
991.8102 Cu II	1	17.16	-	18.41	4p 3G	-	6d 3G	3	-	3

992.2341Cu II	1	14.69	-	15.94	4d 1F	-	4p 3F	3	-	3	
992.5594Cu II	0	-		-		-					
992.5740Cu II	32	16.71	-	17.95	4p 3H	-	7s 3D	4	-	3	
992.6020Cu II	7080	16.87	-	18.12	4f 3D	-	5g 3G	3	-	4	
993.6329Cu II	207	16.86	-	18.11	4f 3F	-	5g 3D	3	-	2	
993.8778Cu II	1542	16.86	-	18.11	4f 3D	-	5g 1D	2	-	2	
993.8812Cu II	165	16.86	-	18.11	4f 3D	-	5g 3D	2	-	3	
993.8998Cu II	133	16.87	-	18.11	4f 3D	-	5g 3F	3	-	4	
993.9019Cu II	1897	16.87	-	18.11	4f 3D	-	5g 3F	3	-	3	
994.3276Cu II	54	16.92	-	18.16	4p 3D	-	6d 3D	3	-	3	
994.8892Cu II	10	17.13	-	18.37	4f 1F	-	5g 3H	3	-	4	
995.3174Cu II	1	15.98	-	17.22	4p 3D	-	5d 3D	2	-	1	
995.9933Cu II	147	16.87	-	18.11	4f 3D	-	5g 1D	3	-	2	
995.9967Cu II	21	16.87	-	18.11	4f 3D	-	5g 3D	3	-	3	
996.0003Cu II	10	15.32	-	16.56	5p 1D	-	6s 3D	2	-	3	
996.0140Cu II	0	16.86	-	18.11	4f 3D	-	5g 3D	2	-	2	
996.0164Cu II	1	14.70	-	15.94	4d 3F	-	4p 3D	2	-	2	
996.0253Cu II	102	16.86	-	18.11	4f 3D	-	5g 3D	2	-	1	
996.0354Cu II	7925	17.13	-	18.37	4f 1F	-	5g 1G	3	-	4	
996.0382Cu II	331	17.13	-	18.37	4f 1F	-	5g 3G	3	-	3	
996.9929Cu II	0	14.70	-	15.94	4d 3F	-	4p 3F	2	-	3	
997.3431Cu II	1	15.94	-	17.18	4p 3D	-	5d 1P	2	-	1	
998.1386Cu II	2	16.87	-	18.11	4f 3D	-	5g 3D	3	-	2	
998.9362Cu II	2	13.65	-	14.89	5s 3D	-	5p 3P	1	-	2	
999.3965Cu II	50	17.13	-	18.37	4f 1F	-	5g 3F	3	-	2	
999.4037Cu II	938	17.13	-	18.37	4f 1F	-	5g 1F	3	-	3	
999.4774Cu II	0	16.01	-	17.25	4p 3D	-	5d 1F	3	-	3	
104.8880Cu III	0	-		-		-					
118.6800Cu III	0	-		-		-					
120.0960Cu III	0	-		-		-					
121.9300Cu III	0	-		-		-					
124.4380Cu III	0	-		-		-					
127.9140Cu III	0	-		-		-					
131.2390Cu III	0	-		-		-					
133.2970Cu III	0	-		-		-					
133.9480Cu III	0	-		-		-					
136.3080Cu III	0	-		-		-					
137.6790Cu III	0	-		-		-					
137.7490Cu III	0	-		-		-					
142.3480Cu III	0	-		-		-					
148.1230Cu III	0	-		-		-					
154.3460Cu III	0	-		-		-					

159.3750Cu III	0	-	-	-
164.2210Cu III	0	-	-	-
167.9140Cu III	0	-	-	-
170.2100Cu III	0	-	-	-
172.2370Cu III	0	-	-	-
174.1370Cu III	0	-	-	-
176.8860Cu III	0	-	-	-
184.0910Cu III	0	-	-	-
197.1950Cu III	0	-	-	-
201.3220Cu III	0	-	-	-
215.7280Cu III	0	-	-	-
229.9470Cu III	0	-	-	-
236.8170Cu III	0	-	-	-
239.1740Cu III	0	-	-	-
240.5500Cu III	0	-	-	-
241.2340Cu III	0	-	-	-
244.4440Cu III	0	-	-	-
246.8410Cu III	0	-	-	-
248.2360Cu III	0	-	-	-
248.6460Cu III	0	-	-	-
250.8490Cu III	0	-	-	-
252.2380Cu III	0	-	-	-
253.8660Cu III	0	-	-	-
256.6370Cu III	0	-	-	-
257.3330Cu III	0	-	-	-
260.9320Cu III	0	-	-	-
264.3920Cu III	0	-	-	-
269.6380Cu III	0	-	-	-
275.1330Cu III	0	-	-	-
281.2940Cu III	0	-	-	-
297.8870Cu III	0	-	-	-
354.8870Cu III	0	-	-	-
363.9420Cu III	0	-	-	-
370.2920Cu III	0	-	-	-
374.4700Cu III	0	-	-	-
374.8270Cu III	0	-	-	-
375.2060Cu III	0	-	-	-
377.6970Cu III	0	-	-	-
379.0800Cu III	0	-	-	-
380.4130Cu III	0	-	-	-
380.9180Cu III	0	-	-	-

388.1680 Cu III	0	-	-	-
395.3810 Cu III	0	-	-	-
409.0490 Cu III	0	-	-	-
428.3400 Cu III	0	-	-	-
435.1970 Cu III	0	-	-	-
435.2800 Cu III	0	-	-	-
435.5240 Cu III	0	-	-	-
437.0840 Cu III	0	-	-	-
437.1400 Cu III	0	-	-	-
437.3430 Cu III	0	-	-	-
437.7110 Cu III	0	-	-	-
438.6420 Cu III	0	-	-	-
492.7410 Cu III	0	-	-	-
509.4280 Cu III	0	-	-	-
516.8970 Cu III	0	-	-	-
520.8340 Cu III	0	-	-	-
521.9210 Cu III	0	-	-	-
526.8590 Cu III	0	-	-	-
531.7780 Cu III	0	-	-	-
536.9790 Cu III	0	-	-	-
541.8480 Cu III	0	-	-	-
549.4940 Cu III	0	-	-	-
557.3940 Cu III	0	-	-	-
560.9000 Cu III	0	-	-	-
570.2120 Cu III	0	-	-	-
576.8560 Cu III	0	-	-	-
585.0720 Cu III	0	-	-	-
596.5250 Cu III	0	-	-	-
610.0870 Cu III	0	-	-	-
636.9270 Cu III	0	-	-	-
651.2540 Cu III	0	-	-	-
664.4130 Cu III	0	-	-	-
679.3200 Cu III	0	-	-	-
105.6130 Cu IV	0	-	-	-
107.4720 Cu IV	0	-	-	-
109.1650 Cu IV	0	-	-	-
110.5500 Cu IV	0	-	-	-
111.9430 Cu IV	0	-	-	-
115.2180 Cu IV	0	-	-	-
122.7440 Cu IV	0	-	-	-
122.8870 Cu IV	0	-	-	-
125.8690 Cu IV	0	-	-	-

127.4840Cu IV	0	-	-	-
129.3460Cu IV	0	-	-	-
130.9410Cu IV	0	-	-	-
132.1170Cu IV	0	-	-	-
134.0080Cu IV	0	-	-	-
135.0420Cu IV	0	-	-	-
136.2050Cu IV	0	-	-	-
137.2140Cu IV	0	-	-	-
137.7820Cu IV	0	-	-	-
138.8800Cu IV	0	-	-	-
140.5490Cu IV	0	-	-	-
141.5270Cu IV	0	-	-	-
143.4340Cu IV	0	-	-	-
144.9690Cu IV	0	-	-	-
146.6180Cu IV	0	-	-	-
148.2770Cu IV	0	-	-	-
149.9810Cu IV	0	-	-	-
151.5280Cu IV	0	-	-	-
153.5120Cu IV	0	-	-	-
155.1120Cu IV	0	-	-	-
156.7350Cu IV	0	-	-	-
158.3470Cu IV	0	-	-	-
159.5120Cu IV	0	-	-	-
160.8140Cu IV	0	-	-	-
163.9750Cu IV	0	-	-	-
165.0160Cu IV	0	-	-	-
170.4370Cu IV	0	-	-	-
179.7990Cu IV	0	-	-	-
181.7560Cu IV	0	-	-	-
181.9230Cu IV	0	-	-	-
183.7040Cu IV	0	-	-	-
184.9620Cu IV	0	-	-	-
186.7240Cu IV	0	-	-	-
191.8710Cu IV	0	-	-	-
196.6310Cu IV	0	-	-	-
109.7100Cu V	0	-	-	-
110.6240Cu V	0	-	-	-
111.3220Cu V	0	-	-	-
112.1200Cu V	0	-	-	-
112.8800Cu V	0	-	-	-
113.3860Cu V	0	-	-	-

114.2380 Cu V	0	-	-	-
114.9060 Cu V	0	-	-	-
115.7540 Cu V	0	-	-	-
116.7350 Cu V	0	-	-	-
117.6530 Cu V	0	-	-	-
118.3630 Cu V	0	-	-	-
119.2540 Cu V	0	-	-	-
120.1220 Cu V	0	-	-	-
120.4900 Cu V	0	-	-	-
121.4360 Cu V	0	-	-	-
122.1340 Cu V	0	-	-	-
123.0110 Cu V	0	-	-	-
123.9730 Cu V	0	-	-	-
124.6990 Cu V	0	-	-	-
125.3070 Cu V	0	-	-	-
126.0240 Cu V	0	-	-	-
126.9350 Cu V	0	-	-	-
127.8200 Cu V	0	-	-	-
128.6130 Cu V	0	-	-	-
129.2080 Cu V	0	-	-	-
129.9220 Cu V	0	-	-	-
130.9720 Cu V	0	-	-	-
131.8890 Cu V	0	-	-	-
132.3280 Cu V	0	-	-	-
132.9220 Cu V	0	-	-	-