



1 Decay Scheme

Bi-214 disintegrates by beta minus emissions to the excited levels and to the ground state level of Po-214 (99,979 (13) %) and by alpha emission to the excited levels of Tl-210 (0,0210 (13) %). Some long range alpha emissions from the excited levels of Po-214 were pointed out with an intensity of 3,1 E-3 %.

Le bismuth 214 se désintègre par émission bêta moins vers des niveaux excités et le niveau fondamental de polonium 214 et par émission alpha vers les niveaux excités du thalium 210 (0,0210 (13) %). Des émissions alpha de long parcours provenant des niveaux excités de polonium 214 vers des niveaux du plomb 210, d'intensité de l'ordre de 3,1 E-3 %, ont été mises en évidence.

2 Nuclear Data

$T_{1/2}({}^{214}\text{Bi})$: 19,8	(1)	min
$T_{1/2}({}^{214}\text{Po})$: 162,3	(12)	10^{-6} s
$T_{1/2}({}^{210}\text{Tl})$: 1,30	(3)	min
$T_{1/2}({}^{210}\text{Pb})$: 22,23	(12)	a
$Q^{-}({}^{214}\text{Bi})$: 3270	(11)	keV
$Q^{\alpha}({}^{214}\text{Bi})$: 5621	(3)	keV

2.1 α Transitions

	Energy keV	Probability $\times 100$	F
$\alpha_{0,5}$	5035 (3)	0,000052 (3)	45
$\alpha_{0,4}$	5119 (3)	0,000045 (3)	160
$\alpha_{0,3}$	5283 (3)	0,00013 (1)	450
$\alpha_{0,2}$	5373 (9)	0,00125 (7)	130
$\alpha_{0,1}$	5556 (3)	0,0116 (7)	130
$\alpha_{0,0}$	5621 (3)	0,0082 (5)	370
* $\alpha_{1,0}$	8442 (6)	0,00012	
* $\alpha_{6,1}$	8694 (6)	0,00006	
* $\alpha_{2,0}$	9108 (6)	0,00002	

	Energy keV	Probability × 100	F
* $\alpha_{4,0}$	9249 (6)	0,0022	
* $\alpha_{6,0}$	9494 (6)	0,00005	
* $\alpha_{7,0}$	9563 (8)	0,00002	
* $\alpha_{10,0}$	9680 (6)	0,0001	
* $\alpha_{14,0}$	9850 (8)	0,00004	
* $\alpha_{17,0}$	9981 (6)	0,00012	
* $\alpha_{21,0}$	10100 (6)	0,00007	
* $\alpha_{24,0}$	10281 (6)	0,00014	
* $\alpha_{26,0}$	10339 (8)	0,00002	
* $\alpha_{32,0}$	10532 (6)	0,00008	
* $\alpha_{38,0}$	10713 (10)	0,00002	

* Transitions α of long range.

2.2 β^- Transitions

	Energy keV	Probability × 100	Nature	lg <i>ft</i>
$\beta_{0,80}^-$	86 (11)	0,0011 (5)		6,8
$\beta_{0,79}^-$	99 (11)	0,00014 (9)	1st Forbidden	7,8
$\beta_{0,77}^-$	110 (11)	0,00079 (12)		7,2
$\beta_{0,76}^-$	121 (11)	0,00019		8
$\beta_{0,75}^-$	127 (11)	0,00118 (9)		7,3
$\beta_{0,73}^-$	176 (11)	0,00037 (4)		8,2
$\beta_{0,72}^-$	188 (11)	0,0052 (7)		7,1
$\beta_{0,70}^-$	204 (11)	0,00141 (23)	1st Forbidden	7,8
$\beta_{0,69}^-$	216 (11)	0,030 (5)		6,6
$\beta_{0,65}^-$	256 (11)	0,0252 (24)		6,9
$\beta_{0,62}^-$	270 (11)	0,0160 (16)		7,1
$\beta_{0,61}^-$	284 (11)	0,032 (5)		6,9
$\beta_{0,60}^-$	291 (11)	0,0165 (6)		7,2
$\beta_{0,58}^-$	309 (11)	0,00036 (14)	1st Forbidden	9
$\beta_{0,57}^-$	329 (11)	0,041 (7)		7
$\beta_{0,56}^-$	336 (11)	0,00216 (32)		8,3
$\beta_{0,55}^-$	341 (11)	0,0025 (9)		8,3
$\beta_{0,54}^-$	348 (11)	0,0220 (9)		7,3
$\beta_{0,53}^-$	353 (11)	0,0014 (9)	1st Forbidden	8,6
$\beta_{0,52}^-$	373 (11)	0,0046 (5)	1st Forbidden	8,1
$\beta_{0,51}^-$	376 (11)	0,022 (3)		7,5
$\beta_{0,50}^-$	390 (11)	0,0115 (16)		7,8
$\beta_{0,49}^-$	400 (11)	0,0087 (4)	1st Forbidden	7,9

	Energy keV	Probability × 100	Nature	lg <i>ft</i>
$\beta_{0,48}^-$	409 (11)	0,0146 (20)		7,6
$\beta_{0,47}^-$	443 (11)	0,00218 (17)		8,7
$\beta_{0,44}^-$	484 (11)	0,0248 (31)		7,8
$\beta_{0,43}^-$	500 (11)	0,038 (5)		7,6
$\beta_{0,42}^-$	541 (11)	0,525 (16)		6,6
$\beta_{0,41}^-$	551 (11)	0,247 (8)		6,9
$\beta_{0,39}^-$	571 (11)	0,026 (4)		8
$\beta_{0,40}^-$	573 (11)	0,0471 (23)	1st Forbidden	7,7
$\beta_{0,38}^-$	575 (11)	0,231 (15)	1st Forbidden	7
$\beta_{0,37}^-$	608 (11)	0,098 (9)		7,5
$\beta_{0,36}^-$	639 (11)	0,0223 (21)		8,2
$\beta_{0,35}^-$	665 (11)	0,058 (4)		7,7
$\beta_{0,34}^-$	710 (11)	0,00018 (9)	1st Forbidden	10,5
$\beta_{0,32}^-$	727 (11)	0,044 (7)	1st Forbidden	8,1
$\beta_{0,31}^-$	764 (11)	0,092 (9)	1st Forbidden	7,9
$\beta_{0,30}^-$	765 (11)	0,169 (10)	1st Forbidden	7,6
$\beta_{0,29}^-$	788 (11)	1,227 (27)		6,8
$\beta_{0,28}^-$	822 (11)	2,76 (6)	Allowed	6,5
$\beta_{0,27}^-$	847 (11)	0,0620 (49)		8,1
$\beta_{0,26}^-$	909 (11)	0,0030 (8)		9,6
$\beta_{0,25}^-$	922 (11)	0,0014 (9)		9,9
$\beta_{0,24}^-$	977 (11)	0,558 (8)	1st Forbidden	7,4
$\beta_{0,23}^-$	1004 (11)	0,187 (12)	1st Forbidden	8
$\beta_{0,21}^-$	1068 (11)	5,642 (43)	1st Forbidden	6,6
$\beta_{0,20}^-$	1077 (11)	0,851 (10)	1st Forbidden	7,4
$\beta_{0,19}^-$	1124 (11)	0,433 (22)	1st Forbidden	7,8
$\beta_{0,18}^-$	1151 (11)	4,339 (18)	1st Forbidden	6,8
$\beta_{0,17}^-$	1182 (11)	0,114 (6)		8,4
$\beta_{0,16}^-$	1253 (11)	2,449 (10)	1st Forbidden	7,2
$\beta_{0,15}^-$	1261 (11)	1,430 (9)	1st Forbidden	7,4
$\beta_{0,14}^-$	1275 (11)	1,171 (18)		7,5
$\beta_{0,13}^-$	1382 (11)	1,584 (10)	1st Forbidden	7,5
$\beta_{0,12}^-$	1423 (11)	8,147 (28)	1st Forbidden	6,9
$\beta_{0,11}^-$	1506 (11)	17,10 (8)	1st Forbidden	6,6
$\beta_{0,10}^-$	1529 (11)	0,116 (16)	1st Forbidden	8,8
$\beta_{0,9}^-$	1540 (11)	17,494 (36)	1st Forbidden	6,7
$\beta_{0,8}^-$	1557 (11)	0,170 (16)		8,7
$\beta_{0,7}^-$	1609 (11)	0,65 (6)	1st Forbidden	8,2
$\beta_{0,6}^-$	1727 (11)	3,12 (4)	1st Forbidden	7,6
$\beta_{0,5}^-$	1857 (11)	0,396 (46)	1st Forbidden	8,6
$\beta_{0,4}^-$	1894 (11)	7,45 (5)	1st Forbidden	7,4
$\beta_{0,1}^-$	2661 (11)	0,62 (20)	1st Forbidden	9
$\beta_{0,0}^-$	3270 (11)	19,67 (20)	1st Forbidden	7,9

2.3 Gamma Transitions and Internal Conversion Coefficients

	Energy keV	$P_{\gamma+ce}$ $\times 100$	Multipolarity	α_K	α_L	α_M	α_T
$\gamma_{1,0}$ (Tl)	62,5 (10)	0,0116 (7)	(M1)				
$\gamma_{2,1}$ (Tl)	191,1 (18)	0,00125 (7)					
$\gamma_{11,6}$ (Po)	221 (1)	0,106 (31)	[M1,E2]	0,5 (5)	0,158 (10)	0,0394 (9)	0,8 (5)
$\gamma_{(-1,0)}$ (Po)	230 (1)	0,0031 (11)		0,0474 (9)	0,00848 (15)	0,00200 (4)	0,0585 (11)
$\gamma_{16,11}$ (Po)	252,80 (6)	0,0212 (33)	[M1]	0,658 (10)	0,1154 (17)	0,0272 (4)	0,809 (12)
$\gamma_{6,3}$ (Po)	268,614 (26)	0,0168 (19)	[E1]	0,0329 (5)	0,00577 (9)	0,001359 (20)	0,0405 (6)
$\gamma_{29,22}$ (Po)	273,80 (5)	0,120 (8)					
$\gamma_{42,28}$ (Po)	280,95 (5)	0,062 (6)					
$\gamma_{(-1,1)}$ (Po)	304,2 (2)	0,033 (6)		0,23 (17)	0,055 (14)	0,014 (3)	0,30 (19)
$\gamma_{14,7}$ (Po)	333,350 (42)	0,0646 (41)	[E1]	0,0202 (3)	0,00345 (5)	0,000811 (12)	0,0247 (4)
$\gamma_{(-1,2)}$ (Po)	334,78 (8)	0,033 (5)					
$\gamma_{11,5}$ (Po)	349,009 (24)	0,164 (43)	[M1]	0,272 (4)	0,0475 (7)	0,01118 (16)	0,335 (5)
$\gamma_{11,4}$ (Po)	386,823 (18)	0,343 (30)	[M1,E2]	0,12 (9)	0,027 (10)	0,0065 (20)	0,16 (10)
$\gamma_{18,9}$ (Po)	388,94 (5)	0,493 (6)	(M1)	0,203 (3)	0,0353 (5)	0,00832 (12)	0,250 (4)
$\gamma_{29,17}$ (Po)	394,05 (8)	0,0127 (18)					
$\gamma_{35,22}$ (Po)	396,01 (8)	0,0259 (18)					
$\gamma_{2,1}$ (Po)	405,74 (4)	0,180 (7)	[E2]	0,0344 (5)	0,01478 (21)	0,00377 (6)	0,0541 (8)
$\gamma_{28,14}$ (Po)	452,92 (10)	0,034 (5)	[M1,E2]	0,08 (6)	0,017 (7)	0,0040 (15)	0,10 (7)
$\gamma_{9,3}$ (Po)	454,850 (26)	0,292 (5)	[E1]	0,01028 (15)	0,001706 (24)	0,000399 (6)	0,01251 (18)
$\gamma_{21,10}$ (Po)	461,15 (20)	0,067 (9)	[M1]	0,1289 (19)	0,0223 (4)	0,00525 (8)	0,1581 (23)
$\gamma_{12,4}$ (Po)	469,756 (18)	0,145 (18)	[M1,E2]	0,07 (5)	0,015 (6)	0,0036 (14)	0,09 (6)
$\gamma_{21,9}$ (Po)	474,52 (5)	0,100 (9)	[M1,E2]	0,07 (5)	0,015 (6)	0,0035 (14)	0,09 (6)
$\gamma_{38,22}$ (Po)	485,92 (11)	0,021 (4)					
$\gamma_{29,14}$ (Po)	487,95 (13)	0,028 (9)	[E1]	0,00889 (13)	0,001463 (21)	0,000342 (5)	0,01080 (16)
$\gamma_{39,21}$ (Po)	494,2 (4)	0,011 (3)					
$\gamma_{31,15}$ (Po)	496,90 (18)	0,0068 (18)					
$\gamma_{23,11}$ (Po)	501,96 (15)	0,0181 (22)					
$\gamma_{42,22}$ (Po)	519,90 (5)	0,0166 (17)					
$\gamma_{42,21}$ (Po)	524,6 (2)	0,0169 (17)					
$\gamma_{6,2}$ (Po)	528 (1)	0,0112 (13)	[E2]	0,0198 (3)	0,00633 (10)	0,001584 (24)	0,0282 (5)
$\gamma_{23,9}$ (Po)	536,77 (4)	0,061 (8)					
$\gamma_{21,7}$ (Po)	543,0 (2)	0,093 (23)	[M1,E2]	0,05 (4)	0,010 (5)	0,0024 (10)	0,06 (4)
$\gamma_{22,7}$ (Po)	547,6 (3)	0,034 (3)					
$\gamma_{62,28}$ (Po)	551,9 (8)	0,0055 (14)					
$\gamma_{12,3}$ (Po)	572,76 (7)	0,072 (8)	[E1]	0,00643 (9)	0,001042 (15)	0,000243 (4)	0,00779 (11)
$\gamma_{15,5}$ (Po)	595,32 (7)	0,0183 (17)	[M1,E2]	0,04 (3)	0,008 (4)	0,0019 (8)	0,05 (3)
$\gamma_{41,18}$ (Po)	600,0 (5)	0,008 (4)					
$\gamma_{1,0}$ (Po)	609,316 (7)	46,42 (19)	E2	0,01487 (21)	0,00416 (6)	0,001030 (15)	0,0204 (3)
$\gamma_{13,3}$ (Po)	615,53 (10)	0,055 (7)	[E1]	0,00557 (8)	0,000898 (13)	0,000209 (3)	0,00674 (10)
$\gamma_{14,4}$ (Po)	617,0 (2)	0,027 (5)	[E1]	0,00555 (8)	0,000894 (13)	0,000209 (3)	0,00672 (10)
$\gamma_{51,23}$ (Po)	626,4 (6)	0,0041 (14)					
$\gamma_{(-1,3)}$ (Po)	630,79 (7)	0,0166 (14)					
$\gamma_{15,4}$ (Po)	633,14 (10)	0,057 (3)	[M1,E2]	0,035 (21)	0,007 (3)	0,0016 (7)	0,044 (25)
$\gamma_{29,12}$ (Po)	634,72 (21)	0,0067 (24)	[M1,E2]	0,035 (21)	0,007 (3)	0,0016 (7)	0,043 (25)
$\gamma_{16,4}$ (Po)	639,62 (10)	0,035 (5)	[E2]	0,01351 (19)	0,00363 (5)	0,000895 (13)	0,0183 (3)
$\gamma_{20,6}$ (Po)	649,19 (7)	0,056 (7)	[M1,E2]	0,033 (20)	0,006 (3)	0,0015 (7)	0,041 (24)
$\gamma_{27,11}$ (Po)	658,7 (2)	0,017 (4)					
$\gamma_{21,6}$ (Po)	661,1 (2)	0,056 (4)	[M1,E2]	0,031 (19)	0,006 (3)	0,0014 (6)	0,039 (22)
$\gamma_{3,1}$ (Po)	665,445 (23)	1,539 (7)	E1	0,00479 (7)	0,000767 (11)	0,000179 (3)	0,00579 (9)
$\gamma_{38,16}$ (Po)	677,41 (15)	0,0055 (23)					
$\gamma_{28,11}$ (Po)	683,22 (6)	0,084 (6)	[E1]	0,00456 (7)	0,000728 (11)	0,00016960 (24)	0,00551 (8)
$\gamma_{39,15}$ (Po)	687,6 (3)	0,0066 (14)					
$\gamma_{27,9}$ (Po)	693,3 (5)	0,0059 (15)					
$\gamma_{8,2}$ (Po)	697,88 (20)	0,069 (4)	[M1,E2]	0,027 (16)	0,0051 (23)	0,0012 (6)	0,034 (19)
$\gamma_{38,14}$ (Po)	699,82 (18)	0,016 (5)					
$\gamma_{18,5}$ (Po)	703,11 (4)	0,504 (12)	[M1]	0,0424 (6)	0,00724 (11)	0,001702 (24)	0,0519 (8)
$\gamma_{28,10}$ (Po)	704,9 (3)	0,051 (10)	[E1]	0,00429 (6)	0,000684 (10)	0,0001593 (23)	0,00519 (8)

	Energy keV	P _{γ+ce} × 100	Multipolarity	α _K	α _L	α _M	α _T
γ _{41,15} (Po)	708,8 (3)	0,0119 (20)					
γ _{17,4} (Po)	710,73 (10)	0,076 (4)					
γ _{14,3} (Po)	719,869 (37)	0,399 (10)	E2	0,01075 (15)	0,00264 (4)	0,000646 (9)	0,01424 (20)
γ _{23,6} (Po)	722,98 (12)	0,037 (7)					
γ _{42,14} (Po)	733,80 (15)	0,038 (3)					
γ _{18,4} (Po)	740,73 (18)	0,0440 (23)	[M1,E2]	0,024 (14)	0,0044 (20)	0,0010 (5)	0,029 (16)
γ _{29,9} (Po)	752,84 (3)	0,130 (8)	[M1,E2]	0,023 (13)	0,0042 (19)	0,0010 (5)	0,028 (16)
γ _{4,1} (Po)	768,359 (14)	4,969 (19)	M1 + E2	0,0122 (18)	0,0026 (3)	0,00063 (6)	0,0157 (21)
γ _{28,7} (Po)	786,1 (4)	0,31 (5)	[E1]	0,00350 (5)	0,000553 (8)	0,0001285 (18)	0,00422 (6)
γ _{21,5} (Po)	788,6 (5)	0,016 (5)	[M1]	0,0315 (5)	0,00536 (8)	0,001258 (18)	0,0385 (6)
γ _{5,1} (Po)	806,173 (20)	1,276 (6)	E2	0,00867 (13)	0,00197 (3)	0,000480 (7)	0,01127 (16)
γ _{20,4} (Po)	814,885 (10)	0,0399 (31)	[M1,E2]	0,019 (11)	0,0034 (15)	0,0008 (4)	0,023 (13)
γ _{29,7} (Po)	821,18 (3)	0,172 (10)	M1	0,0283 (4)	0,00482 (7)	0,001131 (16)	0,0346 (5)
γ _{21,4} (Po)	826,46 (20)	0,133 (11)	M1	0,0279 (4)	0,00474 (7)	0,001113 (16)	0,0341 (5)
γ _{12,2} (Po)	832,38 (11)	0,0354 (20)	[E2]	0,00816 (12)	0,00182 (4)	0,000442 (7)	0,01057 (15)
γ _{38,12} (Po)	847,16 (11)	0,016 (6)					
γ _{19,3} (Po)	873,02 (19)	0,019 (3)					
γ _{24,5} (Po)	878,03 (12)	0,0120 (28)	[M1,E2]	0,016 (9)	0,0028 (13)	0,0007 (3)	0,019 (10)
γ _{28,6} (Po)	904,29 (10)	0,066 (8)	[E1]	0,00271 (4)	0,000423 (6)	0,0000983 (14)	0,00326 (5)
γ _{24,4} (Po)	915,74 (15)	0,023 (5)	[M1,E2]	0,014 (8)	0,0025 (11)	0,0006 (3)	0,017 (9)
γ _{20,3} (Po)	917,8 (3)	0,005 (3)	[E1]	0,00263 (4)	0,000411 (6)	0,0000956 (14)	0,00317 (5)
γ _{38,11} (Po)	930,2 (2)	0,043 (8)					
γ _{6,1} (Po)	934,059 (16)	3,173 (11)	M1 + E2	0,0192 (8)	0,00327 (13)	0,00077 (3)	0,0234 (10)
γ _{29,6} (Po)	939,6 (5)	0,016 (4)	[M1,E2]	0,013 (7)	0,0024 (11)	0,00056 (24)	0,016 (8)
γ _{35,7} (Po)	943,34 (12)	0,017 (3)					
γ _{37,8} (Po)	949,8 (5)	0,0055 (23)					
γ _{38,10} (Po)	952,2 (8)	0,0059 (23)					
γ _{30,6} (Po)	961,61 (17)	0,0101 (14)					
γ _{42,11} (Po)	964,08 (3)	0,363 (12)					
γ _{41,10} (Po)	976,18 (12)	0,0151 (21)					
γ _{23,3} (Po)	991,49 (19)	0,011 (3)	[M1,E2]	0,012 (6)	0,0021 (9)	0,00049 (21)	0,014 (7)
γ _{48,12} (Po)	1013,8 (2)	0,0087 (19)					
γ _{44,11} (Po)	1021,0 (5)	0,016 (3)					
γ _{28,5} (Po)	1032,37 (8)	0,061 (4)	[E1]	0,00213 (3)	0,000331 (5)	0,0000768 (11)	0,00257 (4)
γ _{39,7} (Po)	1038,0 (3)	0,0086 (15)					
γ _{27,4} (Po)	1045,6 (2)	0,023 (3)					
γ _{7,1} (Po)	1051,964 (31)	0,328 (8)	[M1,E2]	0,010 (5)	0,0018 (8)	0,00042 (17)	0,012 (6)
γ _{42,7} (Po)	1067,2 (3)	0,024 (7)					
γ _{28,4} (Po)	1069,96 (8)	0,272 (10)	[E1]	0,00200 (3)	0,000310 (5)	0,0000719 (10)	0,00241 (4)
γ _{8,1} (Po)	1103,61 (20)	0,107 (15)	[M1,E2]	0,009 (5)	0,0016 (7)	0,00037 (15)	0,011 (5)
γ _{29,4} (Po)	1104,79 (19)	0,074 (14)	[M1,E2]	0,009 (5)	0,0016 (7)	0,00037 (15)	0,011 (5)
γ _{37,6} (Po)	1118,9 (5)	0,010 (4)					
γ _{9,1} (Po)	1120,295 (15)	15,14 (3)	M1 + E2	0,01246 (19)	0,00210 (3)	0,000494 (8)	0,01522 (23)
γ _{31,4} (Po)	1130,29 (19)	0,036 (3)					
γ _{10,1} (Po)	1133,664 (31)	0,255 (8)	[E2]	0,00462 (7)	0,000888 (13)	0,000212 (3)	0,00578 (8)
γ _{11,1} (Po)	1155,182 (16)	1,657 (7)	M1+E2	0,0110 (3)	0,00187 (5)	0,000438 (11)	0,0135 (4)
γ _{32,4} (Po)	1167,3 (2)	0,0123 (17)					
γ _{28,3} (Po)	1172,98 (10)	0,055 (7)	[E2]	0,00434 (6)	0,000824 (12)	0,000196 (3)	0,00542 (8)
γ _{29,3} (Po)	1207,70 (3)	0,455 (12)	[E1]	0,001622 (23)	0,000249 (4)	0,0000577 (8)	0,00196 (3)
γ _(-1,4) (Po)	1226,7 (3)	0,018 (8)					
γ _{30,3} (Po)	1230,6 (4)	0,007 (5)					
γ _{12,1} (Po)	1238,115 (12)	5,901 (14)	M1 + E2	0,00983 (14)	0,001651 (24)	0,000387 (6)	0,01200 (17)
γ _{13,1} (Po)	1280,97 (2)	1,451 (6)	M1	0,00901 (13)	0,001513 (22)	0,000355 (5)	0,01101 (16)
γ _{37,4} (Po)	1284 (1)	0,013 (6)					
γ _{41,5} (Po)	1303,76 (8)	0,105 (5)					
γ _{38,4} (Po)	1316,96 (15)	0,077 (7)					
γ _{35,3} (Po)	1330,0 (2)	0,0120 (14)					
γ _{41,4} (Po)	1341,49 (16)	0,0214 (27)					
γ _{42,4} (Po)	1351 (1)	0,0042 (11)					

	Energy keV	$P_{\gamma+ce}$ × 100	Multipolarity	α_K	α_L	α_M	α_T
$\gamma_{65,7}$ (Po)	1353,4 (8)	0,0036 (9)					
$\gamma_{4,0}$ (Po)	1377,675 (12)	3,984 (11)	E2	0,00324 (5)	0,000585 (9)	0,0001385 (20)	0,00404 (6)
$\gamma_{14,1}$ (Po)	1385,314 (31)	0,796 (5)	[E1]	0,001281 (18)	0,000196 (3)	0,0000453 (7)	0,001631 (23)
$\gamma_{43,4}$ (Po)	1392,5 (4)	0,0087 (19)					
$\gamma_{15,1}$ (Po)	1401,494 (41)	1,337 (7)	(M1 + E2)	0,0043 (7)	0,00074 (11)	0,00017 (3)	0,0053 (9)
$\gamma_{16,1}$ (Po)	1407,98 (4)	2,398 (8)	(E2)	0,00312 (5)	0,000559 (8)	0,0001323 (19)	0,00389 (6)
$\gamma_{38,3}$ (Po)	1419,7 (3)	0,0055 (10)					
$\gamma_{65,6}$ (Po)	1470,9 (3)	0,0094 (13)					
$\gamma_{17,1}$ (Po)	1479,15 (14)	0,051 (4)					
$\gamma_{18,1}$ (Po)	1509,236 (15)	2,144 (10)	M1+E2	0,00591 (9)	0,000988 (14)	0,000232 (4)	0,00732 (11)
$\gamma_{51,4}$ (Po)	1515,5 (3)	0,0072 (21)					
$\gamma_{19,1}$ (Po)	1538,46 (6)	0,401 (22)					
$\gamma_{6,0}$ (Po)	1543,375 (14)	0,303 (13)	[E2]	0,00265 (4)	0,000463 (7)	0,0001093 (16)	0,00333 (5)
$\gamma_{20,1}$ (Po)	1583,244 (40)	0,712 (5)	M1 +E2	0,00513 (14)	0,000858 (23)	0,000201 (6)	0,00642 (18)
$\gamma_{21,1}$ (Po)	1594,81 (8)	0,276 (15)	[M1]	0,00514 (8)	0,000859 (12)	0,000201 (3)	0,00644 (9)
$\gamma_{22,1}$ (Po)	1599,31 (6)	0,322 (15)					
$\gamma_{65,4}$ (Po)	1636,3 (2)	0,0111 (16)					
$\gamma_{23,1}$ (Po)	1657,00 (19)	0,047 (5)					
$\gamma_{7,0}$ (Po)	1661,28 (6)	1,051 (9)	E2	0,00232 (4)	0,000399 (6)	0,0000940 (14)	0,00296 (5)
$\gamma_{57,3}$ (Po)	1665,8 (2)	0,015 (6)					
$\gamma_{24,1}$ (Po)	1683,99 (4)	0,217 (3)					
$\gamma_{61,3}$ (Po)	1711,0 (8)	0,023 (5)					
$\gamma_{9,0}$ (Po)	1729,611 (13)	2,852 (10)	E2	0,00216 (3)	0,000368 (6)	0,0000866 (13)	0,00278 (4)
$\gamma_{26,1}$ (Po)	1751,4 (8)	0,0009 (5)					
$\gamma_{11,0}$ (Po)	1764,498 (14)	15,39 (5)	M1	0,00397 (6)	0,000661 (10)	0,0001548 (22)	0,00511 (8)
$\gamma_{27,1}$ (Po)	1813,73 (14)	0,0108 (9)					
$\gamma_{28,1}$ (Po)	1838,36 (5)	0,343 (10)					
$\gamma_{12,0}$ (Po)	1847,431 (25)	2,025 (12)					
$\gamma_{29,1}$ (Po)	1873,16 (6)	0,212 (8)					
$\gamma_{13,0}$ (Po)	1890,29 (15)	0,078 (4)					
$\gamma_{30,1}$ (Po)	1895,92 (14)	0,146 (8)					
$\gamma_{31,1}$ (Po)	1898,7 (4)	0,049 (8)					
$\gamma_{32,1}$ (Po)	1935,6 (2)	0,032 (7)					
$\gamma_{35,1}$ (Po)	1994,6 (6)	0,0024 (5)					
$\gamma_{15,0}$ (Po)	2010,81 (12)	0,0434 (17)					
$\gamma_{36,1}$ (Po)	2021,6 (2)	0,0214 (21)					
$\gamma_{37,1}$ (Po)	2052,95 (12)	0,069 (4)					
$\gamma_{38,1}$ (Po)	2085,1 (2)	0,0082 (5)					
$\gamma_{40,1}$ (Po)	2089,7 (2)	0,0443 (22)					
$\gamma_{41,1}$ (Po)	2109,94 (12)	0,084 (3)					
$\gamma_{18,0}$ (Po)	2118,552 (30)	1,162 (5)	M1	0,00248 (4)	0,000412 (6)	0,0000964 (14)	0,00356 (5)
$\gamma_{19,0}$ (Po)	2147,9 (2)	0,0134 (13)					
$\gamma_{43,1}$ (Po)	2160,4 (3)	0,007 (5)					
$\gamma_{44,1}$ (Po)	2176,5 (2)	0,0033 (6)					
$\gamma_{20,0}$ (Po)	2192,56 (16)	0,038 (3)					
$\gamma_{21,0}$ (Po)	2204,21 (4)	4,929 (23)	M1	0,00224 (4)	0,000372 (6)	0,0000870 (13)	0,00333 (5)
$\gamma_{48,1}$ (Po)	2251,6 (2)	0,0055 (5)					
$\gamma_{49,1}$ (Po)	2260,3 (2)	0,0087 (4)					
$\gamma_{23,0}$ (Po)	2266,52 (19)	0,0165 (8)					
$\gamma_{50,1}$ (Po)	2270,9 (4)	0,0014 (3)					
$\gamma_{51,1}$ (Po)	2284,3 (2)	0,0050 (4)					
$\gamma_{52,1}$ (Po)	2287,65 (23)	0,0046 (5)					
$\gamma_{24,0}$ (Po)	2293,40 (12)	0,306 (4)					
$\gamma_{53,1}$ (Po)	2310,2 (3)	0,0014 (9)					
$\gamma_{54,1}$ (Po)	2312,4 (2)	0,0086 (8)					
$\gamma_{55,1}$ (Po)	2319,3 (3)	0,0014 (9)					
$\gamma_{56,1}$ (Po)	2325,0 (3)	0,0017 (3)					
$\gamma_{57,1}$ (Po)	2331,3 (2)	0,026 (4)					
$\gamma_{25,0}$ (Po)	2348,3 (13)	0,0014 (9)					

	Energy keV	$P_{\gamma+ce}$ $\times 100$	Multipolarity	α_K	α_L	α_M	α_T
$\gamma_{58,1}(\text{Po})$	2353,5 (7)	0,00036 (14)					
$\gamma_{26,0}(\text{Po})$	2361,00 (19)	0,0021 (6)					
$\gamma_{60,1}(\text{Po})$	2369,0 (4)	0,0028 (4)					
$\gamma_{61,1}(\text{Po})$	2376,9 (2)	0,0086 (8)					
$\gamma_{62,1}(\text{Po})$	2390,8 (2)	0,00156 (14)					
$\gamma_{65,1}(\text{Po})$	2405,1 (5)	0,0011 (7)					
$\gamma_{27,0}(\text{Po})$	2423,27 (13)	0,0048 (6)					
$\gamma_{69,1}(\text{Po})$	2444,7 (8)	0,008 (4)					
$\gamma_{28,0}(\text{Po})$	2447,86 (10)	1,550 (7)	E1	0,000503 (7)	0,0000751 (11)	0,00001735 (25)	0,001424 (20)
$\gamma_{70,1}(\text{Po})$	2459,0 (8)	0,00141 (23)					
$\gamma_{29,0}(\text{Po})$	2482,8 (4)	0,00096 (18)					
$\gamma_{30,0}(\text{Po})$	2505,4 (2)	0,0056 (6)					
$\gamma_{77,1}(\text{Po})$	2550,7 (7)	0,00032 (9)					
$\gamma_{34,0}(\text{Po})$	2562,0 (6)	0,00018 (9)					
$\gamma_{79,1}(\text{Po})$	2564,0 (6)	0,00014 (9)					
$\gamma_{35,0}(\text{Po})$	2604,6 (5)	0,00036 (9)					
$\gamma_{36,0}(\text{Po})$	2630,9 (3)	0,00086 (23)					
$\gamma_{37,0}(\text{Po})$	2662,5 (10)	0,000200 (41)					
$\gamma_{38,0}(\text{Po})$	2694,8 (2)	0,033 (3)					
$\gamma_{40,0}(\text{Po})$	2699,4 (3)	0,00282 (23)					
$\gamma_{41,0}(\text{Po})$	2719,3 (2)	0,00170 (17)					
$\gamma_{43,0}(\text{Po})$	2769,9 (2)	0,0225 (8)					
$\gamma_{44,0}(\text{Po})$	2785,9 (2)	0,0055 (5)					
$\gamma_{47,0}(\text{Po})$	2827,0 (2)	0,00218 (17)					
$\gamma_{48,0}(\text{Po})$	2861,1 (4)	0,00041 (13)					
$\gamma_{50,0}(\text{Po})$	2880,3 (2)	0,0101 (16)					
$\gamma_{51,0}(\text{Po})$	2893,6 (2)	0,0057 (5)					
$\gamma_{54,0}(\text{Po})$	2921,9 (2)	0,0134 (5)					
$\gamma_{55,0}(\text{Po})$	2928,6 (3)	0,00109 (9)					
$\gamma_{56,0}(\text{Po})$	2934,6 (3)	0,00046 (12)					
$\gamma_{60,0}(\text{Po})$	2978,9 (2)	0,0137 (4)					
$\gamma_{62,0}(\text{Po})$	3000,0 (2)	0,0089 (7)					
$\gamma_{69,0}(\text{Po})$	3053,9 (2)	0,022 (3)					
$\gamma_{72,0}(\text{Po})$	3081,7 (3)	0,0052 (7)					
$\gamma_{73,0}(\text{Po})$	3094,0 (4)	0,00037 (4)					
$\gamma_{75,0}(\text{Po})$	3142,6 (4)	0,00118 (9)					
$\gamma_{76,0}(\text{Po})$	3149,0 (5)	0,00019					
$\gamma_{77,0}(\text{Po})$	3160,6 (6)	0,00047 (8)					
$\gamma_{80,0}(\text{Po})$	3183,6 (4)	0,0011 (5)					

3 Atomic Data

3.1 Po

ω_K	:	0,97	(2)
$\bar{\omega}_L$:	0,43	(4)
$\bar{\omega}_M$:	0,0328	
n_{KL}	:	0,805	(40)
\bar{n}_{LM}	:	1,267	

3.1.1 X Radiations

	Energy keV	Relative probability	
X _K	Kα ₂	76,864	
	Kα ₁	79,293	
	Kβ ₃	89,256	}
	Kβ ₁	89,807	}
	Kβ ₅ ^{''}	90,363	}
			34,4
	Kβ ₂	92,263	}
	Kβ ₄	92,618	}
	KO _{2,3}	92,983	}
			10,8
X _L	Lℓ	9,66	
	Lα	11,016 – 11,13	
	Lη	12,085	
	Lβ	12,824 – 14,248	
	Lγ	15,251 – 16,21	

3.1.2 Auger Electrons

	Energy keV	Relative probability
Auger K		
KLL	58,97 – 65,20	100
KLX	71,93 – 76,60	56,5
KXY	84,72 – 93,04	9,27
Auger L	5,43 – 16,86	

3.2 Pb

ω_K	:	0,968	(13)
$\bar{\omega}_L$:	0,40	(4)
n_{KL}	:	0,806	(40)

4 α Emissions

	Energy keV	Probability $\times 100$
$\alpha_{0,5}$	4941 (3)	0,000052 (3)
$\alpha_{0,4}$	5023 (3)	0,000045 (3)
$\alpha_{0,3}$	5184 (3)	0,00013 (1)
$\alpha_{0,2}$	5273 (9)	0,00125 (7)
$\alpha_{0,1}$	5452 (3)	0,0116 (7)
$\alpha_{0,0}$	5516 (3)	0,0082 (5)
* $\alpha_{1,0}$	8287 (6)	0,00012
* $\alpha_{6,1}$	8430 (6)	0,00006
* $\alpha_{2,0}$	8950 (6)	0,00002
* $\alpha_{4,0}$	9080 (6)	0,0022
* $\alpha_{6,0}$	9320 (6)	0,00005
* $\alpha_{7,0}$	9378 (8)	0,00002
* $\alpha_{10,0}$	9500 (6)	0,0001
* $\alpha_{14,0}$	9670 (8)	0,00004
* $\alpha_{17,0}$	9802 (6)	0,00012
* $\alpha_{21,0}$	9907 (6)	0,00007
* $\alpha_{24,0}$	10082 (6)	0,00014
* $\alpha_{26,0}$	10150 (8)	0,00002
* $\alpha_{32,0}$	10332 (6)	0,00008
* $\alpha_{38,0}$	10505 (10)	0,00002

* α of long range.

5 Electron Emissions

		Energy keV		Electrons per 100 disint.
e _{AL}	(Po)	5,43	- 16,86	0,934 (16)
e _{AK}	(Po)			0,053 (7)
	KLL	58,97	- 65,20	}
	KLX	71,93	- 76,60	}
	KXY	84,72	- 93,04	}
ec _{18,9 K}	(Po)	295,84	(5)	0,0800 (16)
ec _{1,0 K}	(Po)	516,216	(7)	0,676 (10)
ec _{1,0 L}	(Po)	592,388	- 595,510	0,1892 (28)
ec _{4,1 K}	(Po)	675,259	(14)	0,060 (9)
ec _{6,1 K}	(Po)	840,959	(16)	0,0595 (25)
ec _{9,1 K}	(Po)	1027,195	(15)	0,1858 (29)
ec _{12,1 K}	(Po)	1145,015	(12)	0,0573 (8)
ec _{11,0 K}	(Po)	1671,398	(14)	0,0608 (9)
$\beta_{0,80}^-$	max:	86	(11)	0,0011 (5)
$\beta_{0,80}^-$	avg:	23	(3)	
$\beta_{0,79}^-$	max:	97	(11)	0,00014 (9)
$\beta_{0,79}^-$	avg:	26	(3)	
$\beta_{0,77}^-$	max:	110	(11)	0,00079 (12)
$\beta_{0,77}^-$	avg:	29	(3)	
$\beta_{0,76}^-$	max:	121	(11)	0,00019
$\beta_{0,76}^-$	avg:	32	(3)	
$\beta_{0,75}^-$	max:	127	(11)	0,00118 (9)
$\beta_{0,75}^-$	avg:	34	(3)	
$\beta_{0,73}^-$	max:	176	(11)	0,00037 (4)
$\beta_{0,73}^-$	avg:	48	(3)	
$\beta_{0,72}^-$	max:	188	(11)	0,0052 (7)
$\beta_{0,72}^-$	avg:	51	(3)	
$\beta_{0,70}^-$	max:	202	(11)	0,00141 (23)
$\beta_{0,70}^-$	avg:	55	(3)	
$\beta_{0,69}^-$	max:	216	(11)	0,030 (5)
$\beta_{0,69}^-$	avg:	59	(3)	
$\beta_{0,65}^-$	max:	256	(11)	0,0252 (24)
$\beta_{0,65}^-$	avg:	71	(3)	
$\beta_{0,62}^-$	max:	270	(11)	0,0160 (16)
$\beta_{0,62}^-$	avg:	75	(3)	
$\beta_{0,61}^-$	max:	284	(11)	0,032 (5)
$\beta_{0,61}^-$	avg:	80	(3)	
$\beta_{0,60}^-$	max:	291	(11)	0,0165 (6)
$\beta_{0,60}^-$	avg:	82	(3)	

		Energy keV	Electrons per 100 disint.
$\beta_{0,58}^-$	max:	307 (11)	0,00036 (14)
$\beta_{0,58}^-$	avg:	87 (3)	
$\beta_{0,57}^-$	max:	329 (11)	0,041 (7)
$\beta_{0,57}^-$	avg:	93 (3)	
$\beta_{0,56}^-$	max:	336 (11)	0,00216 (32)
$\beta_{0,56}^-$	avg:	95 (3)	
$\beta_{0,55}^-$	max:	341 (11)	0,0025 (9)
$\beta_{0,55}^-$	avg:	97 (3)	
$\beta_{0,54}^-$	max:	348 (11)	0,0220 (9)
$\beta_{0,54}^-$	avg:	99 (3)	
$\beta_{0,53}^-$	max:	350 (11)	0,0014 (9)
$\beta_{0,53}^-$	avg:	100 (3)	
$\beta_{0,52}^-$	max:	373 (11)	0,0046 (5)
$\beta_{0,52}^-$	avg:	107 (3)	
$\beta_{0,51}^-$	max:	376 (11)	0,022 (3)
$\beta_{0,51}^-$	avg:	108 (3)	
$\beta_{0,50}^-$	max:	390 (11)	0,0115 (16)
$\beta_{0,50}^-$	avg:	113 (3)	
$\beta_{0,49}^-$	max:	400 (11)	0,0087 (4)
$\beta_{0,49}^-$	avg:	116 (3)	
$\beta_{0,48}^-$	max:	409 (11)	0,0146 (20)
$\beta_{0,48}^-$	avg:	119 (4)	
$\beta_{0,47}^-$	max:	443 (11)	0,00218 (17)
$\beta_{0,47}^-$	avg:	130 (4)	
$\beta_{0,44}^-$	max:	484 (11)	0,0248 (31)
$\beta_{0,44}^-$	avg:	143 (4)	
$\beta_{0,43}^-$	max:	500 (11)	0,038 (5)
$\beta_{0,43}^-$	avg:	149 (4)	
$\beta_{0,42}^-$	max:	541 (11)	0,525 (16)
$\beta_{0,42}^-$	avg:	162 (4)	
$\beta_{0,41}^-$	max:	551 (11)	0,247 (8)
$\beta_{0,41}^-$	avg:	166 (4)	
$\beta_{0,40}^-$	max:	571 (11)	0,0471 (23)
$\beta_{0,40}^-$	avg:	172 (4)	
$\beta_{0,39}^-$	max:	571 (11)	0,026 (4)
$\beta_{0,39}^-$	avg:	173 (4)	
$\beta_{0,38}^-$	max:	575 (11)	0,231 (15)
$\beta_{0,38}^-$	avg:	174 (4)	
$\beta_{0,37}^-$	max:	608 (11)	0,098 (9)
$\beta_{0,37}^-$	avg:	185 (4)	
$\beta_{0,36}^-$	max:	639 (11)	0,0223 (21)
$\beta_{0,36}^-$	avg:	196 (4)	

		Energy keV		Electrons per 100 disint.
$\beta_{0,35}^-$	max:	665	(11)	0,058 (4)
$\beta_{0,35}^-$	avg:	205	(4)	
$\beta_{0,34}^-$	max:	708	(11)	0,00018 (9)
$\beta_{0,34}^-$	avg:	220	(4)	
$\beta_{0,32}^-$	max:	725	(11)	0,044 (7)
$\beta_{0,32}^-$	avg:	226	(4)	
$\beta_{0,31}^-$	max:	762	(11)	0,092 (9)
$\beta_{0,31}^-$	avg:	240	(4)	
$\beta_{0,30}^-$	max:	765	(11)	0,169 (10)
$\beta_{0,30}^-$	avg:	241	(4)	
$\beta_{0,29}^-$	max:	788	(11)	1,227 (27)
$\beta_{0,29}^-$	avg:	249	(3)	
$\beta_{0,28}^-$	max:	822	(11)	2,76 (6)
$\beta_{0,28}^-$	avg:	262	(4)	
$\beta_{0,27}^-$	max:	847	(11)	0,0620 (49)
$\beta_{0,27}^-$	avg:	271	(4)	
$\beta_{0,26}^-$	max:	909	(11)	0,0030 (8)
$\beta_{0,26}^-$	avg:	294	(4)	
$\beta_{0,25}^-$	max:	922	(11)	0,0014 (9)
$\beta_{0,25}^-$	avg:	298	(4)	
$\beta_{0,24}^-$	max:	977	(11)	0,558 (8)
$\beta_{0,24}^-$	avg:	319	(4)	
$\beta_{0,23}^-$	max:	1004	(11)	0,187 (12)
$\beta_{0,23}^-$	avg:	329	(4)	
$\beta_{0,21}^-$	max:	1066	(11)	5,642 (43)
$\beta_{0,21}^-$	avg:	353	(4)	
$\beta_{0,20}^-$	max:	1077	(11)	0,851 (10)
$\beta_{0,20}^-$	avg:	357	(4)	
$\beta_{0,19}^-$	max:	1122	(11)	0,433 (22)
$\beta_{0,19}^-$	avg:	375	(4)	
$\beta_{0,18}^-$	max:	1151	(11)	4,339 (18)
$\beta_{0,18}^-$	avg:	386	(4)	
$\beta_{0,17}^-$	max:	1182	(11)	0,114 (6)
$\beta_{0,17}^-$	avg:	398	(4)	
$\beta_{0,16}^-$	max:	1253	(11)	2,449 (10)
$\beta_{0,16}^-$	avg:	425	(4)	
$\beta_{0,15}^-$	max:	1259	(11)	1,430 (9)
$\beta_{0,15}^-$	avg:	428	(4)	
$\beta_{0,14}^-$	max:	1275	(11)	1,171 (18)
$\beta_{0,14}^-$	avg:	434	(4)	
$\beta_{0,13}^-$	max:	1380	(11)	1,584 (10)
$\beta_{0,13}^-$	avg:	476	(4)	

		Energy keV		Electrons per 100 disint.
$\beta_{0,12}^-$	max:	1423	(11)	8,147 (28)
$\beta_{0,12}^-$	avg:	493	(4)	
$\beta_{0,11}^-$	max:	1506	(11)	17,10 (8)
$\beta_{0,11}^-$	avg:	526	(4)	
$\beta_{0,10}^-$	max:	1527	(11)	0,116 (16)
$\beta_{0,10}^-$	avg:	535	(4)	
$\beta_{0,9}^-$	max:	1540	(11)	17,494 (36)
$\beta_{0,9}^-$	avg:	540	(4)	
$\beta_{0,8}^-$	max:	1557	(11)	0,170 (16)
$\beta_{0,8}^-$	avg:	547	(4)	
$\beta_{0,7}^-$	max:	1609	(11)	0,65 (6)
$\beta_{0,7}^-$	avg:	568	(4)	
$\beta_{0,6}^-$	max:	1727	(11)	3,12 (4)
$\beta_{0,6}^-$	avg:	616	(5)	
$\beta_{0,5}^-$	max:	1855	(11)	0,396 (46)
$\beta_{0,5}^-$	avg:	669	(5)	
$\beta_{0,4}^-$	max:	1892	(11)	7,45 (5)
$\beta_{0,4}^-$	avg:	685	(5)	
$\beta_{0,1}^-$	max:	2661	(11)	0,62 (20)
$\beta_{0,1}^-$	avg:	1008	(5)	
$\beta_{0,0}^-$	max:	3270	(11)	19,67 (20)
$\beta_{0,0}^-$	avg:	1270	(5)	

6 Photon Emissions

6.1 X-Ray Emissions

		Energy keV	Photons per 100 disint.	
XL	(Po)	9,66 — 16,21	0,627 (15)	
XK α_2	(Po)	76,864	0,426 (13)	} K α
XK α_1	(Po)	79,293	0,710 (22)	
XK β_3	(Po)	89,256	}	K' β_1
XK β_1	(Po)	89,807		
XK β_5''	(Po)	90,363		
XK β_2	(Po)	92,263	}	K' β_2
XK β_4	(Po)	92,618		
XKO _{2,3}	(Po)	92,983		

6.2 Gamma Emissions

	Energy keV	Photons per 100 disint.
$\gamma_{1,0}$ (Tl)	62,5 (10)	0,0116 (7)
$\gamma_{2,1}$ (Tl)	191,1 (18)	0,00125 (7)
$\gamma_{11,6}$ (Po)	221 (1)	0,059 (6)
$\gamma_{(-1,0)}$ (Po)	230 (1)	0,0029 (10)
$\gamma_{16,11}$ (Po)	252,80 (6)	0,0117 (18)
$\gamma_{6,3}$ (Po)	268,8 (2)	0,0161 (18)
$\gamma_{29,22}$ (Po)	273,80 (5)	0,120 (8)
$\gamma_{42,28}$ (Po)	280,95 (5)	0,062 (6)
$\gamma_{(-1,1)}$ (Po)	304,2 (2)	0,0255 (23)
$\gamma_{14,7}$ (Po)	333,350 (42)	0,063 (4)
$\gamma_{(-1,2)}$ (Po)	334,78 (8)	0,033 (5)
$\gamma_{11,5}$ (Po)	348,92 (6)	0,123 (32)
$\gamma_{11,4}$ (Po)	386,77 (5)	0,296 (5)
$\gamma_{18,9}$ (Po)	388,88 (5)	0,394 (5)
$\gamma_{29,17}$ (Po)	394,05 (8)	0,0127 (18)
$\gamma_{35,22}$ (Po)	396,01 (8)	0,0259 (18)
$\gamma_{2,1}$ (Po)	405,74 (3)	0,171 (7)
$\gamma_{28,14}$ (Po)	452,92 (10)	0,031 (4)
$\gamma_{9,3}$ (Po)	454,770 (12)	0,288 (5)
$\gamma_{21,10}$ (Po)	461,0 (2)	0,058 (8)
$\gamma_{12,4}$ (Po)	469,76 (7)	0,133 (15)
$\gamma_{21,9}$ (Po)	474,41 (5)	0,092 (6)
$\gamma_{38,22}$ (Po)	485,92 (11)	0,021 (4)
$\gamma_{29,14}$ (Po)	487,95 (13)	0,028 (9)

	Energy keV	Photons per 100 disint.
$\gamma_{39,21}$ (Po)	494,2 (4)	0,011 (3)
$\gamma_{31,15}$ (Po)	496,90 (18)	0,0068 (18)
$\gamma_{23,11}$ (Po)	501,96 (15)	0,0181 (22)
$\gamma_{42,22}$ (Po)	519,90 (5)	0,0166 (17)
$\gamma_{42,21}$ (Po)	524,6 (2)	0,0169 (17)
$\gamma_{6,2}$ (Po)	528 (1)	0,0109 (13)
$\gamma_{23,9}$ (Po)	536,77 (4)	0,061 (8)
$\gamma_{21,7}$ (Po)	543,0 (2)	0,088 (21)
$\gamma_{22,7}$ (Po)	547,6 (3)	0,034 (3)
$\gamma_{62,28}$ (Po)	551,9 (8)	0,0055 (14)
$\gamma_{12,3}$ (Po)	572,76 (7)	0,071 (8)
$\gamma_{15,5}$ (Po)	595,23 (7)	0,0174 (15)
$\gamma_{41,18}$ (Po)	600,0 (5)	0,008 (4)
$\gamma_{1,0}$ (Po)	609,312 (7)	45,49 (19)
$\gamma_{13,3}$ (Po)	615,73 (10)	0,055 (7)
$\gamma_{14,4}$ (Po)	617,0 (2)	0,027 (5)
$\gamma_{51,23}$ (Po)	626,4 (6)	0,0041 (14)
$\gamma_{(-1,3)}$ (Po)	630,79 (7)	0,0166 (14)
$\gamma_{15,4}$ (Po)	633,14 (10)	0,055 (3)
$\gamma_{29,12}$ (Po)	634,72 (21)	0,0064 (23)
$\gamma_{16,4}$ (Po)	639,67 (10)	0,034 (5)
$\gamma_{20,6}$ (Po)	649,18 (7)	0,054 (7)
$\gamma_{27,11}$ (Po)	658,7 (2)	0,017 (4)
$\gamma_{21,6}$ (Po)	661,1 (2)	0,054 (4)
$\gamma_{3,1}$ (Po)	665,453 (22)	1,530 (7)
$\gamma_{38,16}$ (Po)	677,41 (15)	0,0055 (23)
$\gamma_{28,11}$ (Po)	683,22 (6)	0,084 (6)
$\gamma_{39,15}$ (Po)	687,6 (3)	0,0066 (14)
$\gamma_{27,9}$ (Po)	693,3 (5)	0,0059 (15)
$\gamma_{8,2}$ (Po)	697,90 (25)	0,067 (4)
$\gamma_{38,14}$ (Po)	699,82 (18)	0,016 (5)
$\gamma_{18,5}$ (Po)	703,11 (4)	0,479 (11)
$\gamma_{28,10}$ (Po)	704,9 (3)	0,051 (10)
$\gamma_{41,15}$ (Po)	708,8 (3)	0,0119 (20)
$\gamma_{17,4}$ (Po)	710,67 (10)	0,076 (4)
$\gamma_{14,3}$ (Po)	719,86 (3)	0,393 (10)
$\gamma_{23,6}$ (Po)	722,98 (12)	0,037 (7)
$\gamma_{42,14}$ (Po)	733,80 (15)	0,038 (3)
$\gamma_{18,4}$ (Po)	740,73 (18)	0,0428 (21)
$\gamma_{29,9}$ (Po)	752,84 (3)	0,126 (8)
$\gamma_{4,1}$ (Po)	768,356 (10)	4,892 (16)
$\gamma_{28,7}$ (Po)	786,1 (4)	0,31 (5)
$\gamma_{21,5}$ (Po)	788,6 (5)	0,015 (5)
$\gamma_{5,1}$ (Po)	806,174 (18)	1,262 (6)
$\gamma_{20,4}$ (Po)	815,0 (1)	0,039 (3)
$\gamma_{29,7}$ (Po)	821,18 (3)	0,166 (10)
$\gamma_{21,4}$ (Po)	826,3 (2)	0,129 (11)

	Energy keV	Photons per 100 disint.
$\gamma_{12,2}(\text{Po})$	832,39 (11)	0,035 (2)
$\gamma_{38,12}(\text{Po})$	847,16 (11)	0,016 (6)
$\gamma_{19,3}(\text{Po})$	873,07 (19)	0,019 (3)
$\gamma_{24,5}(\text{Po})$	878,03 (12)	0,0118 (27)
$\gamma_{28,6}(\text{Po})$	904,29 (10)	0,066 (8)
$\gamma_{24,4}(\text{Po})$	915,74 (15)	0,023 (5)
$\gamma_{20,3}(\text{Po})$	917,8 (3)	0,005 (3)
$\gamma_{38,11}(\text{Po})$	930,2 (2)	0,043 (8)
$\gamma_{6,1}(\text{Po})$	934,061 (12)	3,10 (1)
$\gamma_{29,6}(\text{Po})$	939,6 (5)	0,016 (4)
$\gamma_{35,7}(\text{Po})$	943,34 (12)	0,017 (3)
$\gamma_{37,8}(\text{Po})$	949,8 (5)	0,0055 (23)
$\gamma_{38,10}(\text{Po})$	952,2 (8)	0,0059 (23)
$\gamma_{30,6}(\text{Po})$	961,61 (17)	0,0101 (14)
$\gamma_{42,11}(\text{Po})$	964,08 (3)	0,363 (12)
$\gamma_{41,10}(\text{Po})$	976,18 (12)	0,0151 (21)
$\gamma_{23,3}(\text{Po})$	991,49 (19)	0,011 (3)
$\gamma_{48,12}(\text{Po})$	1013,8 (2)	0,0087 (19)
$\gamma_{44,11}(\text{Po})$	1021,0 (5)	0,016 (3)
$\gamma_{28,5}(\text{Po})$	1032,37 (8)	0,061 (4)
$\gamma_{39,7}(\text{Po})$	1038,0 (3)	0,0086 (15)
$\gamma_{27,4}(\text{Po})$	1045,6 (2)	0,023 (3)
$\gamma_{7,1}(\text{Po})$	1051,96 (3)	0,324 (8)
$\gamma_{42,7}(\text{Po})$	1067,2 (3)	0,024 (7)
$\gamma_{28,4}(\text{Po})$	1069,96 (8)	0,271 (10)
$\gamma_{8,1}(\text{Po})$	1103,64 (19)	0,106 (15)
$\gamma_{29,4}(\text{Po})$	1104,79 (19)	0,073 (14)
$\gamma_{37,6}(\text{Po})$	1118,9 (5)	0,010 (4)
$\gamma_{9,1}(\text{Po})$	1120,287 (10)	14,91 (3)
$\gamma_{31,4}(\text{Po})$	1130,29 (19)	0,036 (3)
$\gamma_{10,1}(\text{Po})$	1133,66 (3)	0,254 (8)
$\gamma_{11,1}(\text{Po})$	1155,19 (2)	1,635 (7)
$\gamma_{32,4}(\text{Po})$	1167,3 (2)	0,0123 (17)
$\gamma_{28,3}(\text{Po})$	1172,98 (10)	0,055 (7)
$\gamma_{29,3}(\text{Po})$	1207,68 (3)	0,454 (12)
$\gamma_{(-1,4)}(\text{Po})$	1226,7 (3)	0,018 (8)
$\gamma_{30,3}(\text{Po})$	1230,6 (4)	0,007 (5)
$\gamma_{12,1}(\text{Po})$	1238,111 (12)	5,831 (14)
$\gamma_{13,1}(\text{Po})$	1280,96 (2)	1,435 (6)
$\gamma_{37,4}(\text{Po})$	1284 (1)	0,013 (6)
$\gamma_{41,5}(\text{Po})$	1303,76 (8)	0,105 (5)
$\gamma_{38,4}(\text{Po})$	1316,96 (15)	0,077 (7)
$\gamma_{35,3}(\text{Po})$	1330,0 (2)	0,0120 (14)
$\gamma_{41,4}(\text{Po})$	1341,49 (16)	0,0214 (27)
$\gamma_{42,4}(\text{Po})$	1351 (1)	0,0042 (11)
$\gamma_{65,7}(\text{Po})$	1353,4 (8)	0,0036 (9)
$\gamma_{4,0}(\text{Po})$	1377,669 (12)	3,968 (11)

	Energy keV	Photons per 100 disint.
$\gamma_{14,1}$ (Po)	1385,31 (3)	0,795 (5)
$\gamma_{43,4}$ (Po)	1392,5 (4)	0,0087 (19)
$\gamma_{15,1}$ (Po)	1401,50 (4)	1,330 (7)
$\gamma_{16,1}$ (Po)	1407,98 (4)	2,389 (8)
$\gamma_{38,3}$ (Po)	1419,7 (3)	0,0055 (10)
$\gamma_{65,6}$ (Po)	1470,9 (3)	0,0094 (13)
$\gamma_{17,1}$ (Po)	1479,15 (14)	0,051 (4)
$\gamma_{18,1}$ (Po)	1509,228 (15)	2,128 (10)
$\gamma_{51,4}$ (Po)	1515,5 (3)	0,0072 (21)
$\gamma_{19,1}$ (Po)	1538,50 (6)	0,401 (22)
$\gamma_{6,0}$ (Po)	1543,32 (6)	0,302 (13)
$\gamma_{20,1}$ (Po)	1583,22 (4)	0,707 (5)
$\gamma_{21,1}$ (Po)	1594,73 (8)	0,274 (15)
$\gamma_{22,1}$ (Po)	1599,31 (6)	0,322 (15)
$\gamma_{65,4}$ (Po)	1636,3 (2)	0,0111 (16)
$\gamma_{23,1}$ (Po)	1657,00 (19)	0,047 (5)
$\gamma_{7,0}$ (Po)	1661,28 (6)	1,048 (9)
$\gamma_{57,3}$ (Po)	1665,8 (2)	0,015 (6)
$\gamma_{24,1}$ (Po)	1683,99 (4)	0,217 (3)
$\gamma_{61,3}$ (Po)	1711,0 (8)	0,023 (5)
$\gamma_{9,0}$ (Po)	1729,595 (15)	2,844 (10)
$\gamma_{26,1}$ (Po)	1751,4 (8)	0,0009 (5)
$\gamma_{11,0}$ (Po)	1764,494 (14)	15,31 (5)
$\gamma_{27,1}$ (Po)	1813,73 (14)	0,0108 (9)
$\gamma_{28,1}$ (Po)	1838,36 (5)	0,343 (10)
$\gamma_{12,0}$ (Po)	1847,420 (25)	2,025 (12)
$\gamma_{29,1}$ (Po)	1873,16 (6)	0,212 (8)
$\gamma_{13,0}$ (Po)	1890,30 (15)	0,078 (4)
$\gamma_{30,1}$ (Po)	1895,92 (14)	0,146 (8)
$\gamma_{31,1}$ (Po)	1898,7 (4)	0,049 (8)
$\gamma_{32,1}$ (Po)	1935,5 (2)	0,032 (7)
$\gamma_{35,1}$ (Po)	1994,6 (6)	0,0024 (5)
$\gamma_{15,0}$ (Po)	2010,78 (12)	0,0434 (17)
$\gamma_{36,1}$ (Po)	2021,6 (2)	0,0214 (21)
$\gamma_{37,1}$ (Po)	2052,94 (12)	0,069 (4)
$\gamma_{38,1}$ (Po)	2085,1 (2)	0,0082 (5)
$\gamma_{40,1}$ (Po)	2089,7 (2)	0,0443 (22)
$\gamma_{41,1}$ (Po)	2109,92 (12)	0,084 (3)
$\gamma_{18,0}$ (Po)	2118,55 (3)	1,158 (5)
$\gamma_{19,0}$ (Po)	2147,9 (2)	0,0134 (13)
$\gamma_{43,1}$ (Po)	2160,4 (3)	0,007 (5)
$\gamma_{44,1}$ (Po)	2176,5 (2)	0,0033 (6)
$\gamma_{20,0}$ (Po)	2192,58 (16)	0,038 (3)
$\gamma_{21,0}$ (Po)	2204,21 (4)	4,913 (23)
$\gamma_{48,1}$ (Po)	2251,6 (2)	0,0055 (5)
$\gamma_{49,1}$ (Po)	2260,3 (2)	0,0087 (4)
$\gamma_{23,0}$ (Po)	2266,51 (13)	0,0165 (8)

	Energy keV	Photons per 100 disint.
$\gamma_{50,1}$ (Po)	2270,9 (4)	0,0014 (3)
$\gamma_{51,1}$ (Po)	2284,3 (2)	0,0050 (4)
$\gamma_{52,1}$ (Po)	2287,65 (23)	0,0046 (5)
$\gamma_{24,0}$ (Po)	2293,40 (12)	0,306 (4)
$\gamma_{53,1}$ (Po)	2310,2 (3)	0,0014 (9)
$\gamma_{54,1}$ (Po)	2312,4 (2)	0,0086 (8)
$\gamma_{55,1}$ (Po)	2319,3 (3)	0,0014 (9)
$\gamma_{56,1}$ (Po)	2325,0 (3)	0,0017 (3)
$\gamma_{57,1}$ (Po)	2331,3 (2)	0,026 (4)
$\gamma_{25,0}$ (Po)	2348,0 (13)	0,0014 (9)
$\gamma_{58,1}$ (Po)	2353,5 (7)	0,00036 (14)
$\gamma_{26,0}$ (Po)	2361,00 (19)	0,0021 (6)
$\gamma_{60,1}$ (Po)	2369,0 (4)	0,0028 (4)
$\gamma_{61,1}$ (Po)	2376,9 (2)	0,0086 (8)
$\gamma_{62,1}$ (Po)	2390,8 (2)	0,00156 (14)
$\gamma_{65,1}$ (Po)	2405,1 (5)	0,0011 (7)
$\gamma_{27,0}$ (Po)	2423,27 (13)	0,0048 (6)
$\gamma_{69,1}$ (Po)	2444,7 (8)	0,008 (4)
$\gamma_{28,0}$ (Po)	2447,86 (10)	1,548 (7)
$\gamma_{70,1}$ (Po)	2459,0 (8)	0,00141 (23)
$\gamma_{29,0}$ (Po)	2482,8 (4)	0,00096 (18)
$\gamma_{30,0}$ (Po)	2505,4 (2)	0,0056 (6)
$\gamma_{77,1}$ (Po)	2550,7 (7)	0,00032 (9)
$\gamma_{34,0}$ (Po)	2562,0 (6)	0,00018 (9)
$\gamma_{79,1}$ (Po)	2564,0 (6)	0,00014 (9)
$\gamma_{35,0}$ (Po)	2604,5 (5)	0,00036 (9)
$\gamma_{36,0}$ (Po)	2630,9 (3)	0,00086 (23)
$\gamma_{37,0}$ (Po)	2662,4 (10)	0,000200 (41)
$\gamma_{38,0}$ (Po)	2694,7 (2)	0,033 (3)
$\gamma_{40,0}$ (Po)	2699,4 (3)	0,00282 (23)
$\gamma_{41,0}$ (Po)	2719,3 (2)	0,00170 (17)
$\gamma_{43,0}$ (Po)	2769,9 (2)	0,0225 (8)
$\gamma_{44,0}$ (Po)	2785,9 (2)	0,0055 (5)
$\gamma_{47,0}$ (Po)	2826,98 (20)	0,00218 (17)
$\gamma_{48,0}$ (Po)	2861,08 (40)	0,00041 (13)
$\gamma_{50,0}$ (Po)	2880,3 (2)	0,0101 (16)
$\gamma_{51,0}$ (Po)	2893,5 (2)	0,0057 (5)
$\gamma_{54,0}$ (Po)	2921,9 (2)	0,0134 (5)
$\gamma_{55,0}$ (Po)	2928,6 (3)	0,00109 (9)
$\gamma_{56,0}$ (Po)	2934,6 (3)	0,00046 (12)
$\gamma_{60,0}$ (Po)	2978,9 (2)	0,0137 (4)
$\gamma_{62,0}$ (Po)	2999,98 (20)	0,0089 (7)
$\gamma_{69,0}$ (Po)	3053,88 (20)	0,022 (3)
$\gamma_{72,0}$ (Po)	3081,7 (3)	0,0052 (7)
$\gamma_{73,0}$ (Po)	3093,98 (40)	0,00037 (4)
$\gamma_{75,0}$ (Po)	3142,58 (40)	0,00118 (9)
$\gamma_{76,0}$ (Po)	3149,0 (5)	0,00019

	Energy keV	Photons per 100 disint.
$\gamma_{77,0}(\text{Po})$	3160,6 (6)	0,00047 (8)
$\gamma_{80,0}(\text{Po})$	3183,57 (40)	0,0011 (5)

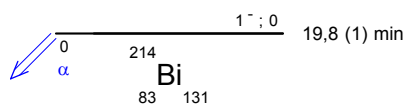
7 Main Production Modes

- { Ra – 226 decay chain
Possible impurities : Bi – 210

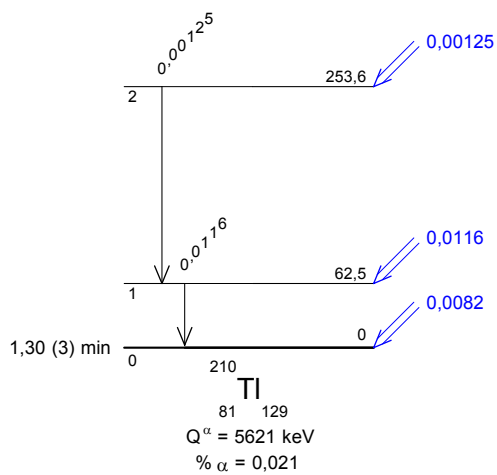
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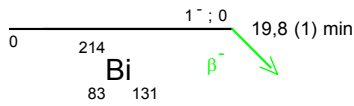
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(Gamma-ray emission probabilities.)

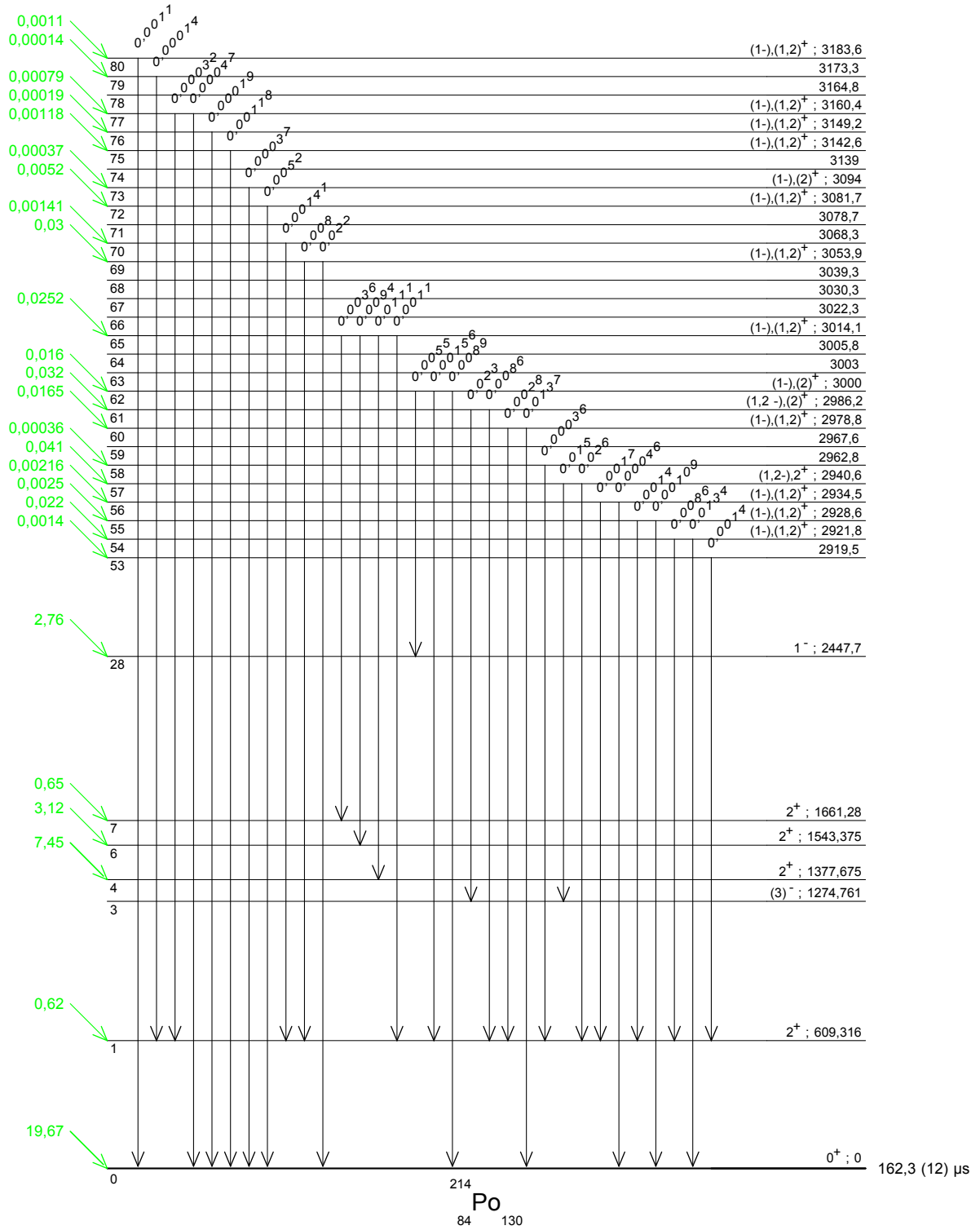


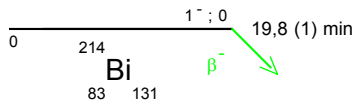
γ Emission intensities
per 100 disintegrations



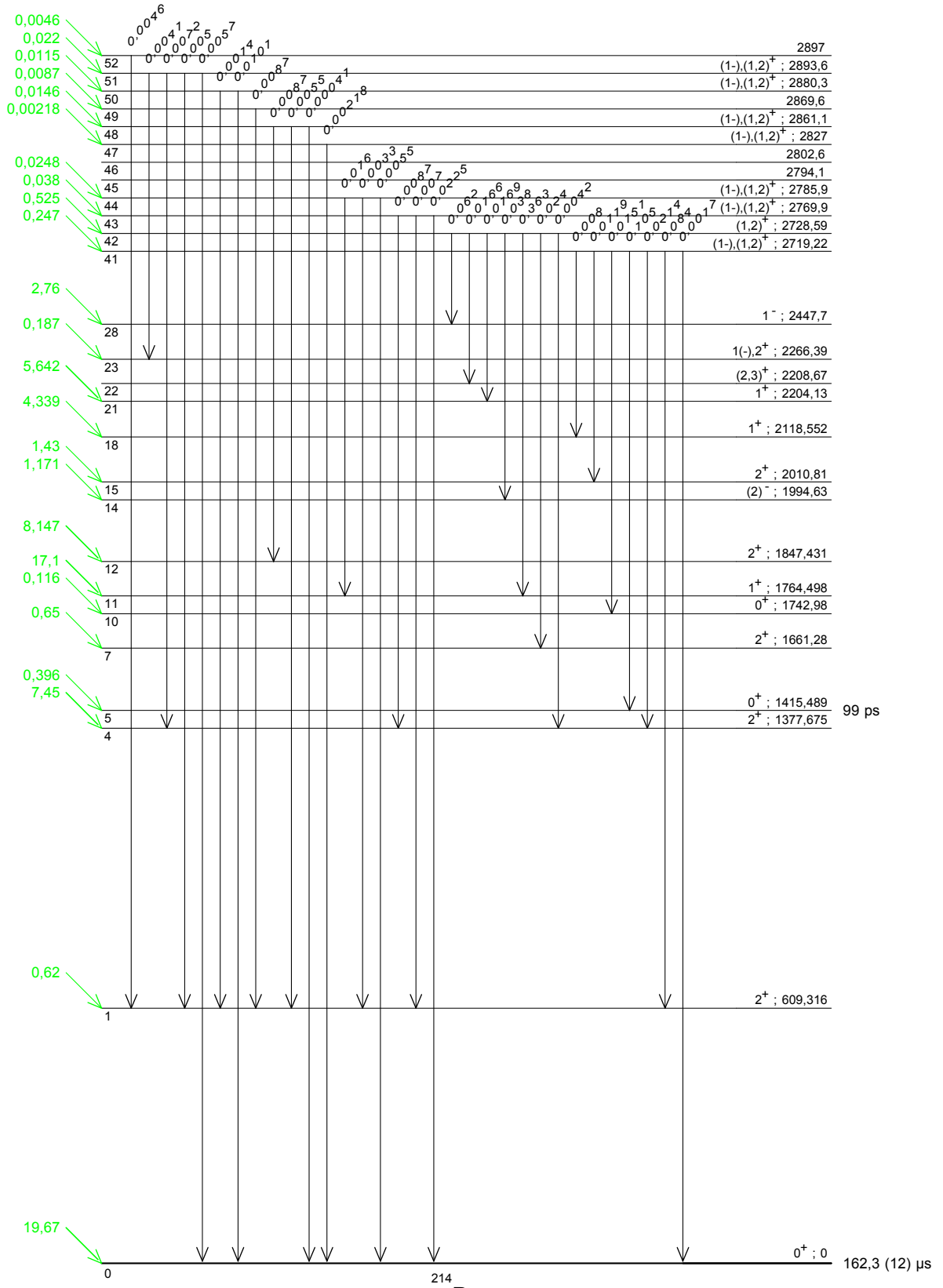


γ Emission intensities per 100 disintegrations



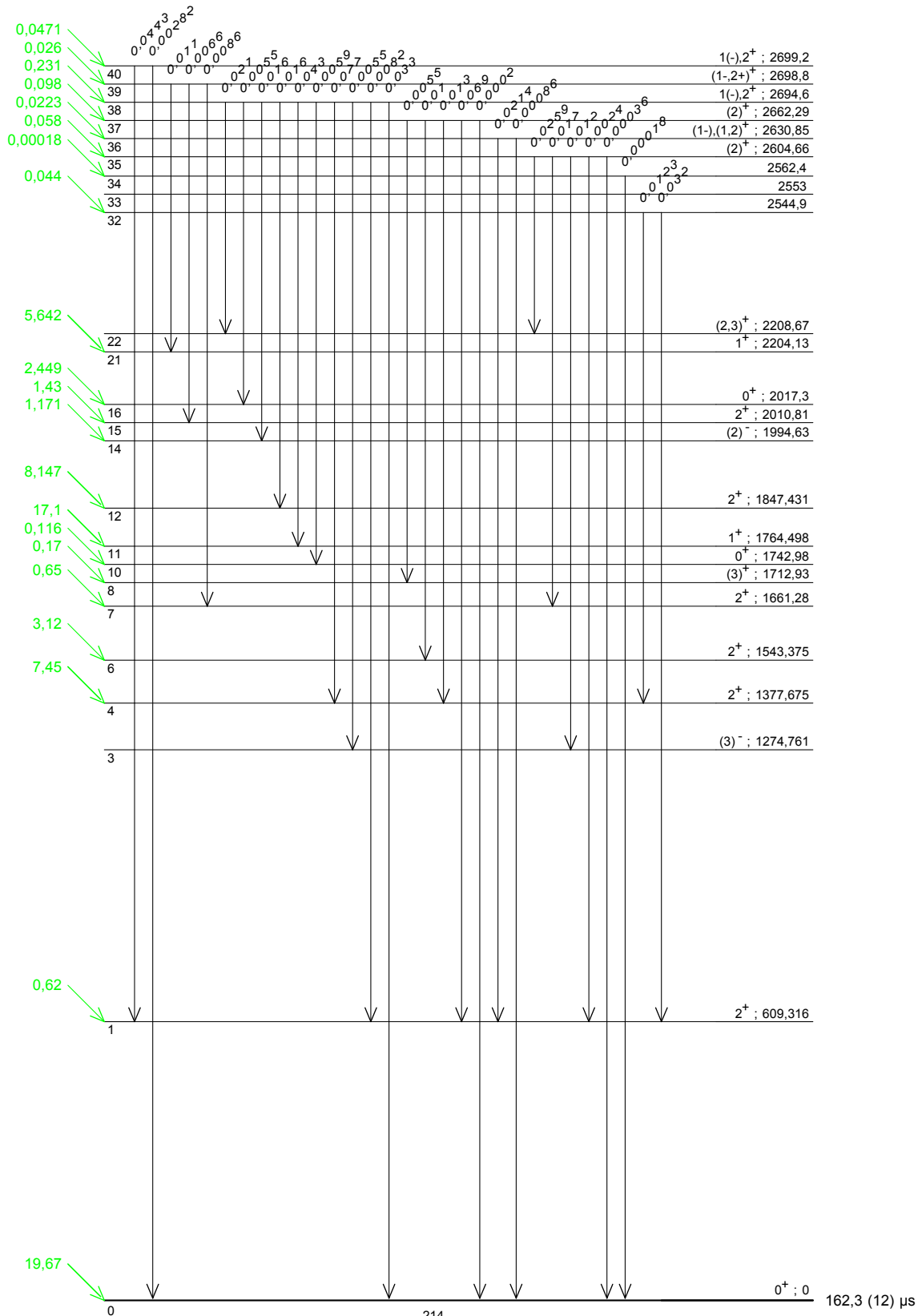


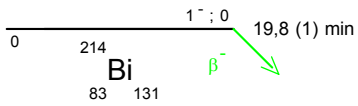
γ Emission intensities per 100 disintegrations



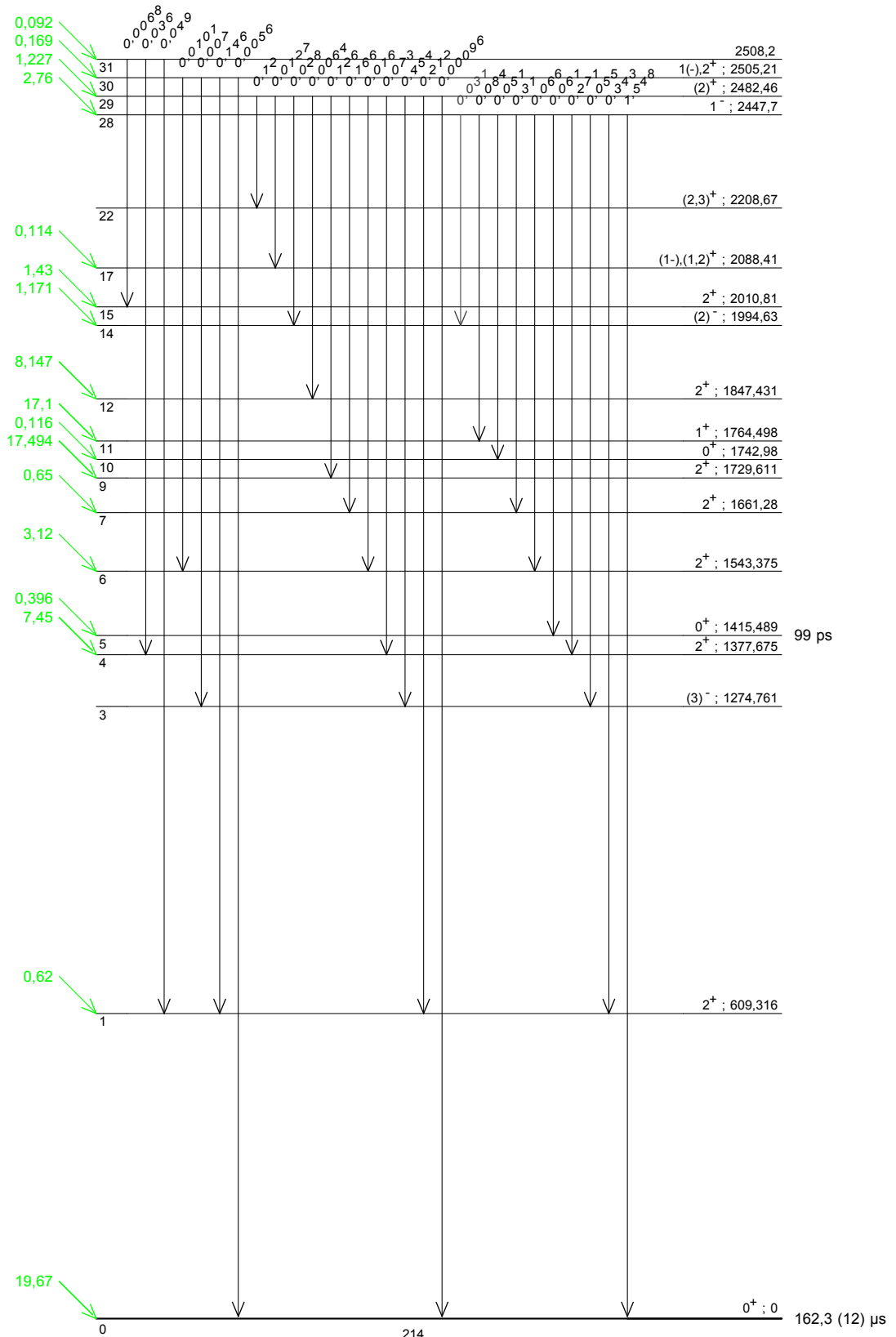
0 ²¹⁴Bi ₈₃ 131 $1^-; 0$ 19,8 (1) min β^-

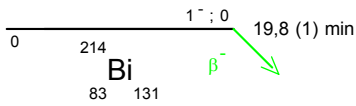
γ Emission intensities per 100 disintegrations



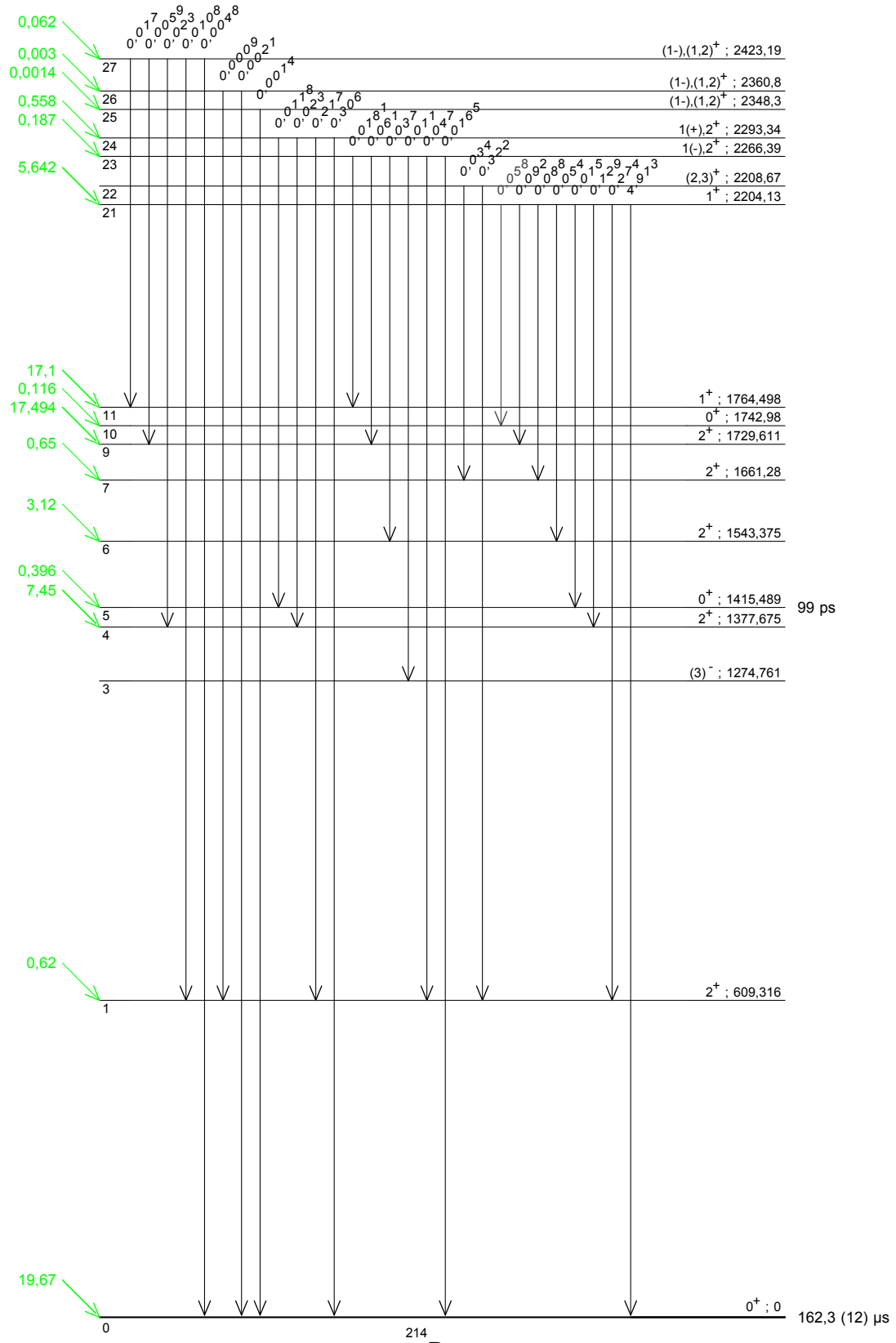


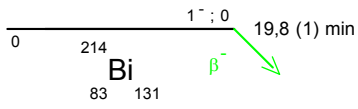
γ Emission intensities per 100 disintegrations



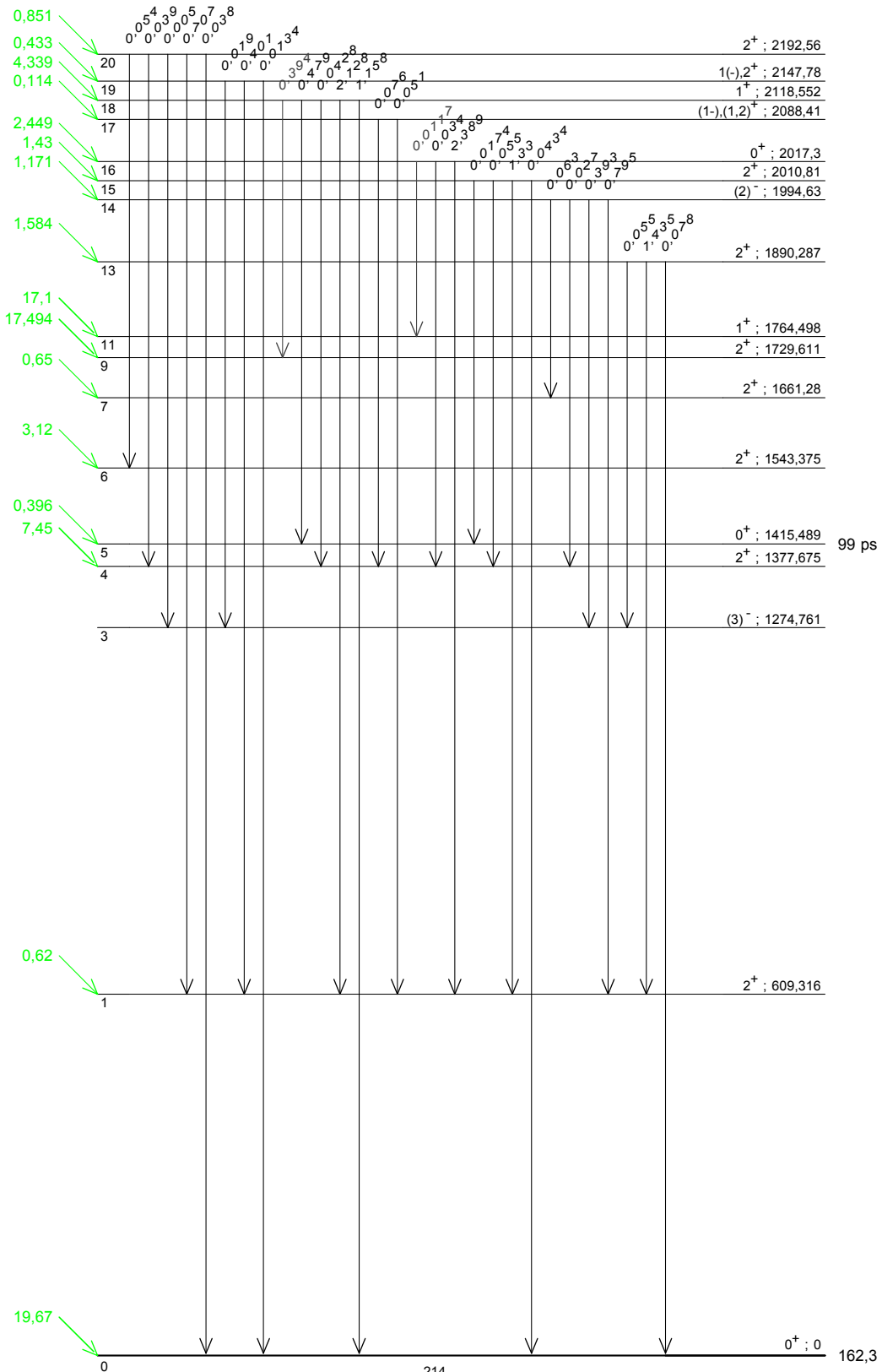


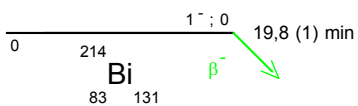
γ Emission intensities per 100 disintegrations





γ Emission intensities per 100 disintegrations





γ Emission intensities per 100 disintegrations

