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|  A-3.Gamma-ray energies and emission probabilities for actinides and natural decay products  |
| **Nuclide** | **Half-life1 y = 1 year = 365.24219878 days**  | **Energy  [keV]** | **Emission probability  [% decay]** | [**Source**](https://www-nds.iaea.org/sgnucdat/a3.htm#ref) | [**Notes**](https://www-nds.iaea.org/sgnucdat/a3.htm#notes) |
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|   **81-Tl-208** |

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|   3.060 ± 0.008 m |

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|   277.37 ± 0.03 |
|   583.187 ± 0.002 |
|   860.56 ± 0.03 |
|   2614.511 ± 0.010 |

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|   6.6 ± 0.3 |
|   85.0 ± 0.3 |
|   12.5 ± 0.1 |
|   99.79 ± 0.01 |

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|    BIPM-5  |
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|   **82-Pb-210** |

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|   22.20 ± 0.22 y |

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|   46.539 ± 0.001 |

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|   4.25 ± 0.04 |

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|    ENSDF  |

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|   **82-Pb-211** |

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|   36.1 ± 0.2 m |

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|   404.853 ± 0.010 |
|   427.088 ± 0.010 |
|   704.64 ± 0.03 |
|   766.51 ± 0.03 |
|   832.01 ± 0.03 |

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| --- |
|   3.78 ± 0.06 |
|   1.76 ± 0.04 |
|   0.46 ± 0.01 |
|   0.62 ± 0.02 |
|   3.52 ± 0.06 |

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|    ENSDF  |
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|   **82-Pb-212** |

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|   10.64 ± 0.01 h |

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|   115.183 ± 0.005 |
|   238.632 ± 0.002 |
|   300.09 ± 0.01 |

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|   0.623 ± 0.022 |
|   43.6 ± 0.3 |
|   3.18 ± 0.13 |

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|    BIPM-5  |
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|   **82-Pb-214** |

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|   26.8 ± 0.9 m |

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|   53.2275 ± 0.0021 |
|   241.997 ± 0.003 |
|   295.224 ± 0.002 |
|   351.932 ± 0.002 |

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|   1.066 ± 0.014 |
|   7.19 ± 0.06 |
|   18.28 ± 0.14 |
|   35.34 ± 0.27 |

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|    IAEA-CRP-XG  |
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|   **83-Bi-211** |

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|   2.14 ± 0.02 m |

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|   351.06 ± 0.04 |

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|   12.91 ± 0.11 |

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|    ENSDF  |

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|   **83-Bi-212** |

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| --- |
|   60.54 ± 0.06 m |

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|   727.33 ± 0.01 |
|   785.37 ± 0.09 |
|   1078.63 ± 0.11 |
|   1620.74 ± 0.01 |

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| --- |
|   6.74 ± 0.12 |
|   1.11 ± 0.01 |
|   0.55 ± 0.02 |
|   1.51 ± 0.03 |

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|    BIPM-5  |
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|   **83-Bi-214** |

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|   19.9 ± 0.4 m |

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|   609.316 ± 0.003 |
|   665.453 ± 0.022 |
|   768.367 ± 0.011 |
|   806.185 ± 0.011 |
|   934.061 ± 0.012 |
|   1120.287 ± 0.010 |
|   1155.19 ± 0.02 |
|   1238.110 ± 0.012 |
|   1280.96 ± 0.02 |
|   1377.669 ± 0.012 |
|   1401.516 ± 0.014 |
|   1407.993 ± 0.007 |
|   1509.217 ± 0.008 |
|   1661.316 ± 0.013 |
|   1729.640 ± 0.012 |
|   1764.539 ± 0.015 |
|   1847.420 ± 0.025 |
|   2118.536 ± 0.008 |
|   2204.071 ± 0.021 |
|   2447.673 ± 0.010 |

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| --- |
|   45.16 ± 0.33 |
|   1.521 ± 0.011 |
|   4.850 ± 0.038 |
|   1.255 ± 0.011 |
|   3.074 ± 0.025 |
|   14.78 ± 0.11 |
|   1.624 ± 0.014 |
|   5.785 ± 0.045 |
|   1.425 ± 0.012 |
|   3.954 ± 0.033 |
|   1.324 ± 0.011 |
|   2.369 ± 0.019 |
|   2.108 ± 0.021 |
|   1.037 ± 0.010 |
|   2.817 ± 0.023 |
|   15.17 ± 0.12 |
|   2.000 ± 0.018 |
|   1.148 ± 0.011 |
|   4.89 ± 0.10 |
|   1.536 ± 0.015 |

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|    IAEA-CRP-XG  |
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|   **86-Rn-219** |

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|   3.96 ± 0.01 s |

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|   271.23 ± 0.01 |
|   401.81 ± 0.01 |

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|   10.8 ± 0.6 |
|   6.6 ± 0.4 |

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|    ENSDF  |
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|   **86-Rn-220** |

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|   55.8 ± 0.3 s |

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|   549.76 ± 0.04 |

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|   0.115 ± 0.015 |

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|    BIPM-5  |

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|   **88-Ra-223** |

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|   11.43 ± 0.05 d |

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|   122.319 ± 0.010 |
|   144.235 ± 0.010 |
|   154.208 ± 0.010 |
|   269.463 ± 0.010 |
|   323.871 ± 0.010 |
|   338.282 ± 0.010 |
|   445.033 ± 0.012 |

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| --- |
|   1.21 ± 0.02 |
|   3.27 ± 0.08 |
|   5.70 ± 0.16 |
|   13.9 ± 0.3 |
|   3.99 ± 0.09 |
|   2.84 ± 0.07 |
|   1.29 ± 0.05 |

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|   **88-Ra-224** |

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|   3.627 ± 0.007 d |

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|   240.986 ± 0.006 |

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|   4.12 ± 0.04 |

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|    BIPM-5  |

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|   **88-Ra-226** |

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|   ( 1.600 ± 0.007 ) x 103 y |

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|   186.211 ± 0.013 |

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|   3.533 ± 0.028 |

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|    IAEA-CRP-XG  |

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|   **90-Th-227** |

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|   18.718 ± 0.005 d |

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|   50.13 ± 0.01 |
|   79.69 ± 0.02 |
|   93.88 ± 0.05 |
|   210.62 ± 0.05 |
|   235.96 ± 0.02 |
|   256.23 ± 0.02 |
|   286.09 ± 0.02 |
|   289.59 ± 0.10 |
|   299.98 ± 0.03 |
|   304.50 ± 0.02 |
|   329.85 ± 0.02 |
|   334.37 ± 0.02 |

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| --- |
|   8.2 ± 0.5\* |
|   1.90 ± 0.11 |
|   1.48 ± 0.08 |
|   1.22 ± 0.11 |
|   12.6 ± 0.6 |
|   6.8 ± 0.4 |
|   1.70 ± 0.17\* |
|   1.9 ± 0.4\* |
|   2.16 ± 0.12\* |
|   1.12 ± 0.14 |
|   2.9 ± 0.2 |
|   1.11 ± 0.09 |

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|   **90-Th-228** |

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|   698.60 ± 0.23 d |

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|   84.373 ± 0.003 |
|   131.612 ± 0.004 |
|   166.410 ± 0.004 |
|   215.985 ± 0.004 |

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|   1.17 ± 0.05 |
|   0.124 ± 0.006 |
|   0.094 ± 0.007 |
|   0.226 ± 0.020 |

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|    BIPM-5  |
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|   **90-Th-229** |

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|   ( 7.34 ± 0.16 ) x 103 y |

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| --- |
|   107.108 ± 0.008 |
|   136.99 ± 0.04 |
|   148.15 ± 0.04 |
|   156.409 ± 0.009 |
|   193.509 ± 0.004 |
|   210.853 ± 0.003 |

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| --- |
|   0.81 ± 0.05 |
|   1.18 ± 0.04 |
|   0.88 ± 0.07 |
|   1.19 ± 0.04 |
|   4.41 ± 0.07 |
|   2.8 ± 0.4 |

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|   **90-Th-230** |

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|   ( 7.538 ± 0.030 ) x 104 y |

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|   67.672 ± 0.002 |
|   143.872 ± 0.004 |
|   253.729 ± 0.010 |

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|   0.38 ± 0.04 |
|   0.049 ± 0.004 |
|   0.0111 ± 0.0009 |

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|   **90-Th-231** |

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|   25.52 ± 0.01 h |

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|   58.5700 ± 0.0024 |
|   81.2280 ± 0.0014 |
|   82.0870 ± 0.0014 |
|   84.2140 ± 0.0013 |
|   89.95 ± 0.02 |
|   102.2700 ± 0.0013 |

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| --- |
|   0.46 ± 0.03 |
|   0.90 ± 0.06 |
|   0.42 ± 0.03 |
|   6.6 ± 0.4 |
|   1.00 ± 0.06 |
|   0.44 ± 0.03 |

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|   **90-Th-232** |

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|   ( 1.405 ± 0.006 ) x 1010 y |

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|   63.81 ± 0.01 |
|   140.88 ± 0.01 |

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|   0.263 ± 0.013 |
|   0.021 ± 0.004 |

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|   **90-Th-233** |

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|   22.15 ± 0.15 m |

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|   29.373 ± 0.010 |
|   86.477 ± 0.010 |
|   94.65 ± 0.05 |
|   169.159 ± 0.010 |
|   459.222 ± 0.007 |
|   669.902 ± 0.016 |

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| --- |
|   2.5 ± 0.4 |
|   2.7 ± 0.4 |
|   0.8 ± 0.1 |
|   0.34 ± 0.05 |
|   1.4 ± 0.3 |
|   0.68 ± 0.14 |

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|   **90-Th-234** |

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|   24.10 ± 0.03 d |

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|   63.29 ± 0.02 |
|   92.38 ± 0.01 |
|   92.80 ± 0.02 |
|   112.81 ± 0.05 |

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|   3.70 ± 0.06 |
|   2.62 ± 0.06 |
|   2.59 ± 0.06 |
|   0.244 ± 0.015 |

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|    ADS-98  |
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|   **91-Pa-231** |

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|   ( 3.276 ± 0.011 ) x 104 y |

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| --- |
|   260.19 ± 0.06 |
|   283.69 ± 0.01 |
|   300.07 ± 0.01 |
|   302.65 ± 0.05 |
|   330.06 ± 0.01 |
|   340.74 ± 0.05 |
|   357.12 ± 0.09 |

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| --- |
|   0.188 ± 0.012 |
|   1.7 ± 0.1 |
|   2.5 ± 0.2 |
|   2.2 ± 0.4 |
|   1.40 ± 0.09 |
|   0.181 ± 0.011 |
|   0.175 ± 0.013 |

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|   **91-Pa-233** |

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|   26.98 ± 0.02 d |

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| --- |
|   75.269 ± 0.010 |
|   86.595 ± 0.010 |
|   103.86 ± 0.01 |
|   271.555 ± 0.010 |
|   300.129 ± 0.005 |
|   311.904 ± 0.005 |
|   340.476 ± 0.005 |
|   375.404 ± 0.005 |
|   398.492 ± 0.005 |
|   415.764 ± 0.005 |

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|   1.30 ± 0.03 |
|   1.99 ± 0.11 |
|   0.853 ± 0.006 |
|   0.323 ± 0.003 |
|   6.60 ± 0.21 |
|   38.25 ± 0.23 |
|   4.47 ± 0.03 |
|   0.684 ± 0.007 |
|   1.408 ± 0.014 |
|   1.747 ± 0.007 |

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|   **91-Pa-234m** |

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|   1.159 ± 0.016 m |

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|   258.24 ± 0.07 |
|   742.814 ± 0.022 |
|   766.358 ± 0.020 |
|   786.272 ± 0.022 |
|   1001.025 ± 0.022 |

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|   0.0726 ± 0.0009 |
|   0.096 ± 0.003 |
|   0.318 ± 0.005 |
|   0.054 ± 0.001 |
|   0.832 ± 0.010 |

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|    IAEA-CRP-XG  |
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|   **92-U-232** |

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|   68.9 ± 0.4 y |

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|   57.78 ± 0.05 |
|   129.08 ± 0.05 |
|   270.2 ± 0.2 |
|   327.9 ± 0.2 |

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|   0.200 ± 0.002 |
|   0.0682 ± 0.0004 |
|   0.00316 ± 0.00005 |
|   0.00283 ± 0.00006 |

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|   **92-U-233** |

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|   ( 1.592 ± 0.002 ) x 105 y |

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|   54.699 ± 0.001 |
|   118.968 ± 0.002 |
|   120.816 ± 0.001 |
|   135.36 ± 0.03 |
|   146.345 ± 0.002 |
|   164.522 ± 0.002 |
|   208.171 ± 0.002 |
|   245.345 ± 0.002 |
|   291.354 ± 0.004 |
|   317.16 ± 0.01 |
|   320.541 ± 0.005 |

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|   0.0182 ± 0.0003 |
|   0.00406 ± 0.00004 |
|   0.00332 ± 0.00003 |
|   0.00232 ± 0.00002 |
|   0.00657 ± 0.00006 |
|   0.00623 ± 0.00005 |
|   0.00229 ± 0.00003 |
|   0.00362 ± 0.00003 |
|   0.00537 ± 0.00005 |
|   0.00776 ± 0.00007 |
|   0.00290 ± 0.00003 |

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|   **92-U-234** |

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|   ( 2.455 ± 0.006 ) x 105 y |

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|   53.20 ± 0.02 |
|   120.90 ± 0.04 |

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|   0.1253 ± 0.0040 |
|   0.0386 ± 0.0032 |

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|    LNHB  |
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|   **92-U-235** |

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|   ( 7.038 ± 0.005 ) x 108 y |

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|   109.16 ± 0.02 |
|   140.76 ± 0.04 |
|   143.76 ± 0.02 |
|   163.33 ± 0.02 |
|   182.61 ± 0.05 |
|   185.715 ± 0.005 |
|   194.94 ± 0.01 |
|   202.11 ± 0.02 |
|   205.311 ± 0.010 |
|   221.38 ± 0.02 |

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|   1.54 ± 0.06 |
|   0.22 ± 0.03 |
|   10.96 ± 0.14 |
|   5.08 ± 0.07 |
|   0.34 ± 0.03 |
|   57.2 ± 0.8 |
|   0.63 ± 0.02 |
|   1.08 ± 0.03 |
|   5.01 ± 0.06 |
|   0.12 ± 0.02 |

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|    ENSDF  |
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|   **92-U-236** |

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|   ( 2.342 ± 0.004 ) x 107 y |

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|   49.369 ± 0.009 |
|   112.750 ± 0.015 |

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|   0.078 ± 0.012 |
|   0.019 ± 0.003 |

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|    ENSDF  |
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|   **92-U-237** |

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|   6.749 ± 0.016 d |

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| --- |
|   59.5409 ± 0.0001 |
|   64.83 ± 0.02 |
|   164.61 ± 0.02 |
|   208.00 ± 0.01 |
|   332.36 ± 0.04 |

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| --- |
|   34.1 ± 0.8 |
|   1.286 ± 0.017 |
|   1.86 ± 0.03 |
|   21.3 ± 0.3 |
|   1.199 ± 0.016 |

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|    LNHB  |
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|   **92-U-238** |

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|   ( 4.468 ± 0.005 ) x 109 y |

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| --- |
|   49.55 ± 0.06 |
|   113.5 ± 0.1 |

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|   0.0697 ± 0.0026 |
|   0.0174 ± 0.0047 |

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|    LNHB  |
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|   **92-U-239** |

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|   23.45 ± 0.02 m |

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| --- |
|   43.533 ± 0.001 |
|   74.664 ± 0.001 |
|   662.24 ± 0.03 |
|   819.22 ± 0.04 |
|   844.10 ± 0.04 |

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| --- |
|   4.07 ± 0.13 |
|   49.2 ± 1.2 |
|   0.182 ± 0.005 |
|   0.148 ± 0.004 |
|   0.162 ± 0.004 |

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|   **93-Np-236m** |

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|   22.5 ± 0.4 h |

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|   538.11 ± 0.10 |
|   642.35 ± 0.09 |
|   687.60 ± 0.05 |

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|   0.0125 ± 0.0015 |
|   1.08 ± 0.06 |
|   0.292 ± 0.021 |

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|   **93-Np-237** |

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|   ( 2.144 ± 0.007 ) x 106 y |

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| --- |
|   57.104 ± 0.020 |
|   86.477 ± 0.010 |
|   87.99 ± 0.03 |
|   117.702 ± 0.020 |
|   143.249 ± 0.020 |
|   151.414 ± 0.020 |
|   194.95 ± 0.03 |
|   212.29 ± 0.05 |

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|   0.354 ± 0.008 |
|   12.4 ± 0.3 |
|   0.167 ± 0.004 |
|   0.169 ± 0.004 |
|   0.443 ± 0.008 |
|   0.23 ± 0.02 |
|   0.177 ± 0.005 |
|   0.151 ± 0.003 |

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|   **93-Np-238** |

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|   2.117 ± 0.002 d |

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| --- |
|   101.90 ± 0.03 |
|   882.63 ± 0.03 |
|   918.69 ± 0.04 |
|   923.98 ± 0.02 |
|   936.61 ± 0.06 |
|   941.38 ± 0.05 |
|   962.77 ± 0.03 |
|   984.45 ± 0.02 |
|   1025.87 ± 0.02 |
|   1028.54 ± 0.02 |

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|   0.251 ± 0.007 |
|   0.811 ± 0.011 |
|   0.532 ± 0.007 |
|   2.62 ± 0.04 |
|   0.368 ± 0.006 |
|   0.514 ± 0.007 |
|   0.645 ± 0.008 |
|   25.19 ± 0.21 |
|   8.72 ± 0.15 |
|   18.3 ± 0.3 |

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|   **93-Np-239** |

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|   2.356 ± 0.003 d |

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|   61.460 ± 0.002 |
|   106.123 ± 0.002 |
|   209.753 ± 0.002 |
|   226.38 ± 0.02 |
|   228.183 ± 0.001 |
|   277.599 ± 0.001 |
|   315.880 ± 0.003 |
|   334.310 ± 0.002 |

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| --- |
|   1.30 ± 0.02 |
|   26.3 ± 1.0 |
|   3.42 ± 0.03 |
|   0.259 ± 0.016 |
|   11.14 ± 0.11 |
|   14.44 ± 0.10 |
|   1.60 ± 0.02 |
|   2.06 ± 0.02 |

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|   **94-Pu-236** |

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|   2.858 ± 0.008 y |

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|   47.57 ± 0.01 |
|   109.00 ± 0.01 |
|   165.0 ± 0.5 |
|   645. ± 2. |

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| --- |
|   0.066 ± 0.020 |
|   0.012 ± 0.004 |
|   0.00066 ± 0.00020 |
|   0.00024 ± 0.00008 |

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|   **94-Pu-238** |

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|   87.74 ± 0.03 y |

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| --- |
|   43.498 ± 0.001 |
|   99.852 ± 0.003 |
|   152.719 ± 0.002 |

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|   0.0397 ± 0.0008 |
|   0.00735 ± 0.00008 |
|   0.000930 ± 0.000007 |

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|    BIPM-5  |
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|   **94-Pu-239** |

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|   ( 2.411 ± 0.003 ) x 104 y |

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| --- |
|   51.624 ± 0.001 |
|   56.828 ± 0.003 |
|   129.296 ± 0.001 |
|   144.201 ± 0.003 |
|   146.094 ± 0.006 |
|   161.450 ± 0.015 |
|   171.393 ± 0.006 |
|   195.679 ± 0.008 |
|   203.550 ± 0.005 |
|   332.845 ± 0.005 |
|   345.013 ± 0.004 |
|   375.054 ± 0.003 |
|   380.191 ± 0.006 |
|   382.75 ± 0.05 |
|   392.53 ± 0.03 |
|   413.713 ± 0.005 |
|   422.598 ± 0.019 |
|   451.481 ± 0.010 |
|   645.94 ± 0.04 |
|   652.05 ± 0.02 |
|   658.86 ± 0.06 |

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|   0.02722 ± 0.00003 |
|   0.001152 ± 0.000013 |
|   0.00631 ± 0.00004 |
|   0.000283 ± 0.000006 |
|   0.000119 ± 0.000003 |
|   0.000123 ± 0.000002 |
|   0.000110 ± 0.000002 |
|   0.000107 ± 0.000001 |
|   0.000569 ± 0.000003 |
|   0.000494 ± 0.000003 |
|   0.000556 ± 0.000005 |
|   0.001554 ± 0.000009 |
|   0.000305 ± 0.000006 |
|   0.000259 ± 0.000005 |
|   0.000205 ± 0.000020 |
|   0.001466 ± 0.000011 |
|   0.000122 ± 0.000002 |
|   0.0001894 ± 0.0000016 |
|   0.0000152 ± 0.0000003 |
|   0.0000066 ± 0.0000002 |
|   0.0000097 ± 0.0000002 |

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|   **94-Pu-240** |

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|   ( 6.561 ± 0.007 ) x 103 y |

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|   45.242 ± 0.003 |
|   104.234 ± 0.006 |
|   160.307 ± 0.003 |

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|   0.0450 ± 0.0009 |
|   0.00714 ± 0.00007 |
|   0.0004045 ± 0.0000022 |

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|    BIPM-5  |
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|   **94-Pu-241** |

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|   14.290 ± 0.006 y |

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|   77.10 ± 0.10 |
|   103.680 ± 0.005 |
|   148.567 ± 0.010 |

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|   0.0000211 ± 0.0000008 |
|   0.000102 ± 0.000002 |
|   0.000185 ± 0.000003 |

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|   **94-Pu-242** |

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|   ( 3.73 ± 0.03 ) x 105 y |

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|   44.915 ± 0.013 |
|   103.50 ± 0.04 |
|   158.80 ± 0.08 |

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|   0.0376 ± 0.0008 |
|   0.00251 ± 0.00011 |
|   0.000298 ± 0.000020 |

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|    BIPM-5  |
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|   **95-Am-241** |

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|   432.6 ± 0.6 y |

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|   26.3446 ± 0.0002 |
|   33.1963 ± 0.0003 |
|   59.5409 ± 0.0001 |
|   98.95 ± 0.01 |
|   102.97 ± 0.01 |
|   123.02 ± 0.02 |
|   125.29 ± 0.01 |
|   146.57 ± 0.01 |
|   169.55 ± 0.02 |
|   208.00 ± 0.02 |
|   322.53 ± 0.03 |
|   335.40 ± 0.03 |
|   368.63 ± 0.03 |
|   662.41 ± 0.02 |

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| --- |
|   2.40 ± 0.03 |
|   0.121 ± 0.003 |
|   35.78 ± 0.09 |
|   0.0203 ± 0.0004 |
|   0.0195 ± 0.0004 |
|   0.00100 ± 0.00004 |
|   0.0041 ± 0.0002 |
|   0.00046 ± 0.00001 |
|   0.00017 ± 0.00001 |
|   0.000786 ± 0.000005 |
|   0.000151 ± 0.000003 |
|   0.000496 ± 0.000005 |
|   0.000214 ± 0.000004 |
|   0.000367 ± 0.000005 |

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|    BIPM-5  |
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|   **95-Am-242m** |

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|   141 ± 2 y |

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| --- |
|   49.35 ± 0.02 |
|   60.13 ± 0.06 |
|   66.89 ± 0.02 |
|   73.66 ± 0.02 |
|   86.65 ± 0.02 |
|   135.19 ± 0.02 |
|   136.03 ± 0.02 |

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| --- |
|   0.13 ± 0.01 |
|   0.005 ± 0.001 |
|   0.015 ± 0.001 |
|   0.008 ± 0.001 |
|   0.023 ± 0.001 |
|   0.007 ± 0.001 |
|   0.009 ± 0.001 |

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|    ENSDF  |
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|   **95-Am-243** |

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|   ( 7.370 ± 0.017 ) x 103 y |

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| --- |
|   43.53 ± 0.02 |
|   74.66 ± 0.02 |
|   86.71 ± 0.02 |
|   141.90 ± 0.06 |

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|   5.89 ± 0.10 |
|   67.2 ± 1.2 |
|   0.346 ± 0.009 |
|   0.115 ± 0.008 |

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|    LNHB  |
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|   **96-Cm-242** |

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|   162.86 ± 0.08 d |

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|   44.08 ± 0.03 |
|   101.92 ± 0.04 |
|   157.42 ± 0.09 |

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|   0.0330 ± 0.0007 |
|   0.00251 ± 0.00014 |
|   0.00145 ± 0.00016 |

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|    LNHB  |
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|   **96-Cm-243** |

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|   29.1 ± 0.1 y |

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|   209.753 ± 0.002 |
|   228.183 ± 0.002 |
|   277.599 ± 0.002 |
|   285.460 ± 0.002 |

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| --- |
|   3.29 ± 0.1 |
|   10.6 ± 0.3 |
|   14.0 ± 0.4 |
|   0.73 ± 0.02 |

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|    ENSDF  |
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|   **96-Cm-244** |

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|   18.11 ± 0.03 y |

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|   42.824 ± 0.008 |
|   98.860 ± 0.013 |
|   152.63 ± 0.02 |

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|   0.0258 ± 0.0007 |
|   0.00136 ± 0.00009 |
|   0.00102 ± 0.00005 |

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|   **98-Cf-252** |

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|   2.645 ± 0.008 y |

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|   43.399 ± 0.025 |
|   100.2 ± 0.4 |

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|   0.0148 ± 0.0009 |
|   0.013 ± 0.006 |

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|    ENSDF  |
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| Notes   |
| [1] 510.7-keV emission probability of 22.6 ± 0.2% has been set aside as too close in energy to any annihilation radiation.[2] Possible minor interference from other gamma-ray emissions of comparable energy (\*).[3] Doubly-placed transitions were not considered. Uncertainties of the emission probabilities are adopted from E. Browne, R. B. Firestone and V. S. Shirley, Table of Radioactive Isotopes, John Wiley & Sons, New York, 1986.[4] Measurement of the emission probability of the 63.29-keV γ-ray by Abousahl et al., Nucl. Instrum. Meth. Phys. Res. A517 (2004) 211, has been incorporated into an earlier evaluation (Adsley et al., Appl. Radiat. Isot. 49 (1998) 1337) to give a recommended value of (3.70 ± 0.06)%; all other emissions probabilities and uncertainties were adjusted accordingly.[5] Low intensity emissions.[6] Energy uncertainties are adopted from E. Browne, R. B. Firestone and V. S. Shirley, Table of Radioactive Isotopes, John Wiley & Sons, New York, 1986. [7] Low intensity emissions (no alternative).[8] Low intensity emissions included. [9] Low intensity emissions included; doubly-placed transitions were not considered. |

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