

$^{56}\text{Co}$        $Z = 27$        $N = 29$       [link to full NNDC output](#)

Based on ENSDF from Dec 2018, and mass evaluation from 2016

BE = 486.911 ( 0.001) MeV

Qbeta+ = 4.567 ( 0.001) MeV

|      | Energy T   | J+ | J- | J-other | T1/2              |
|------|------------|----|----|---------|-------------------|
| 56Co | 1   0.000  | 4+ |    |         | 1 77.236 D 26     |
| 56Co | 2   0.158  | 3+ |    |         | 2 0.1 NS LT       |
| 56Co | 3   0.576  | 5+ |    |         | 3 0.28 PS +7-5    |
| 56Co | 4   0.830  | 4+ |    |         | 4 1.7 PS GT       |
| 56Co | 5   0.970  | 2+ |    |         | 5 0.12 PS +12-6   |
| 56Co | 6   1.009  | 5+ |    |         | 6 0.38 PS +14-9   |
| 56Co | 7   1.115  | 3+ |    |         | 7 0.19 PS +9-6    |
| 56Co | 8   1.451  | 0+ |    |         | 8 1.58 NS 6       |
| 56Co | 9          |    |    | 1.585   | 9                 |
| 56Co | 10   1.720 | 1+ |    |         | 10 0.34 PS +35-12 |
| 56Co | 11   1.930 | 3+ |    |         | 11 33 FS +8-7     |
| 56Co | 12   2.060 | 2+ |    |         | 12 24 FS 6        |
| 56Co | 13   2.225 | 2+ |    |         | 13                |
| 56Co | 14   2.283 | 7+ |    |         | 14 1.25 PS GT     |
| 56Co | 15         |    |    | 2.290   | 15                |
| 56Co | 16         |    |    | 2.306   | (2)+ 16           |
| 56Co | 17   2.357 | 1+ |    |         | 17                |
| 56Co | 18   2.372 | 6+ |    |         | 18 42 FS 21       |
| 56Co | 19         |    |    | 2.456   | 0+,1+ 19          |
| 56Co | 20         |    |    | 2.470   | 20 16 FS 9        |
| 56Co | 21   2.609 | 3+ |    |         | 21                |
| 56Co | 22   2.636 | 1+ |    |         | 22 14 FS 8        |
| 56Co | 23         |    |    | 2.647   | (0+,1+) 23        |
| 56Co | 24         |    |    | 2.665   | (3+) 24           |
| 56Co | 25   2.730 | 1+ |    |         | 25 69 FS +21-17   |
| 56Co | 26         |    |    | 2.770   | 26                |
| 56Co | 27         |    |    | 2.789   | 27                |
| 56Co | 28         |    |    | 2.926   | (2+) 28           |
| 56Co | 29   2.969 | 2+ |    |         | 29                |
| 56Co | 30         |    |    | 3.048   | 3+,4+,5+ 30       |
| 56Co | 31   3.060 | 5+ |    |         | 31                |
| 56Co | 32   3.076 | 1+ |    |         | 32 22 FS +8-6     |
| 56Co | 33   3.140 | 3+ |    |         | 33                |
| 56Co | 34         |    |    | 3.180   | 1+,3+ 34          |
| 56Co | 35         |    |    | 3.234   | (0+) 35           |
| 56Co | 36         |    |    | 3.255   | 36                |
| 56Co | 37   3.297 | 4+ |    |         | 37                |

|       |    |       |    |  |       |          |    |              |
|-------|----|-------|----|--|-------|----------|----|--------------|
| 56C0  | 38 |       |    |  | 3.366 | (-)      |    | 38           |
| 56C0  | 39 | 3.378 | 1+ |  |       |          |    | 39           |
| 56C0  | 40 | 3.382 | 2+ |  |       |          |    | 40           |
| ----- |    |       |    |  |       |          |    |              |
| 56C0  | 41 |       |    |  | 3.436 | 0+,1+    |    | 41           |
| 56C0  | 42 |       |    |  | 3.493 |          |    | 42           |
| 56C0  | 43 |       |    |  | 3.510 | (0+)     |    | 43           |
| 56C0  | 44 | 3.527 | 0+ |  |       |          | 44 | 6 FS 5       |
| 56C0  | 45 | 3.544 | 7+ |  |       |          | 45 |              |
| 56C0  | 46 |       |    |  | 3.570 |          | 46 |              |
| 56C0  | 47 |       |    |  | 3.592 | (0+)     | 47 |              |
| 56C0  | 48 |       |    |  | 3.599 | 0+,1+    | 48 | 18 FS 5      |
| 56C0  | 49 |       |    |  | 3.610 |          | 49 |              |
| 56C0  | 50 | 3.638 | 8+ |  |       |          | 50 | 55 FS +28-12 |
| ----- |    |       |    |  |       |          |    |              |
| 56C0  | 51 |       |    |  | 3.642 | (-)      |    | 51           |
| 56C0  | 52 |       |    |  | 3.694 |          |    | 52           |
| 56C0  | 53 |       |    |  | 3.717 | (-)      |    | 53           |
| 56C0  | 54 |       |    |  | 3.798 | (+)      |    | 54           |
| 56C0  | 55 |       |    |  | 3.807 | 1+,2+,3+ |    | 55           |
| 56C0  | 56 |       |    |  | 3.863 |          |    | 56           |
| 56C0  | 57 |       |    |  | 3.876 | (+)      |    | 57           |
| 56C0  | 58 |       |    |  | 3.900 |          |    | 58           |
| 56C0  | 59 |       |    |  | 3.935 |          |    | 59           |
| 56C0  | 60 |       |    |  | 3.960 |          |    | 60           |
| ----- |    |       |    |  |       |          |    |              |
| 56C0  | 61 |       |    |  | 4.011 | 3+,4+,5+ |    | 61           |
| 56C0  | 62 |       |    |  | 4.019 |          |    | 62           |
| 56C0  | 63 |       |    |  | 4.032 | 1+,2+,3+ |    | 63           |
| 56C0  | 64 |       |    |  | 4.062 |          |    | 64           |
| 56C0  | 65 |       |    |  | 4.094 |          |    | 65           |
| 56C0  | 66 |       |    |  | 4.139 | 3+,4+,5+ |    | 66           |
| 56C0  | 67 | 4.180 | 9+ |  |       |          | 67 | 0.41 PS 4    |
| 56C0  | 68 |       |    |  | 4.183 | (+)      |    | 68           |
| 56C0  | 69 |       |    |  | 4.209 |          |    | 69           |
| 56C0  | 70 |       |    |  | 4.222 |          |    | 70           |
| ----- |    |       |    |  |       |          |    |              |
| 56C0  | 71 |       |    |  | 4.281 |          |    | 71           |
| 56C0  | 72 |       |    |  | 4.293 |          |    | 72           |
| 56C0  | 73 |       |    |  | 4.308 |          |    | 73           |
| 56C0  | 74 |       |    |  | 4.349 |          |    | 74           |
| 56C0  | 75 | 4.372 | 1+ |  |       |          | 75 | 10 FS +12-8  |
| 56C0  | 76 |       |    |  | 4.388 | 1+,2+,3+ |    | 76           |
| 56C0  | 77 |       |    |  | 4.429 | (2+)     |    | 77           |
| 56C0  | 78 | 4.441 | 7+ |  |       |          | 78 |              |
| 56C0  | 79 |       |    |  | 4.453 |          |    | 79           |
| 56C0  | 80 |       |    |  | 4.501 |          |    | 80           |
| ----- |    |       |    |  |       |          |    |              |
| 56C0  | 81 |       |    |  | 4.531 |          |    | 81           |
| 56C0  | 82 |       |    |  | 4.560 |          |    | 82           |

|          |        |           |          |        |          |                 |
|----------|--------|-----------|----------|--------|----------|-----------------|
| 56C0 83  |        |           |          | 4.684  |          | 83              |
| 56C0 84  |        |           |          | 4.743  |          | 84              |
| 56C0 85  |        |           |          | 4.768  |          | 85              |
| 56C0 86  |        |           |          | 4.796  |          | 86              |
| 56C0 87  |        |           |          | 4.846  |          | 87              |
| 56C0 88  |        |           |          | 4.928  |          | 88              |
| 56C0 89  |        |           | 4.992 8- |        |          | 89              |
| 56C0 90  |        |           |          | 5.008  |          | 90              |
| -----    |        |           |          |        |          |                 |
| 56C0 91  |        |           |          | 5.081  |          | 91              |
| 56C0 92  |        | 5.146 5+  |          |        |          | 92              |
| 56C0 93  |        |           |          | 5.187  |          | 93              |
| 56C0 94  |        |           |          | 5.239  |          | 94              |
| 56C0 95  |        | 5.275 10+ |          |        | 1+,2+,3+ | 95 42 FS +28-14 |
| 56C0 96  |        |           |          | 5.338  |          | 96 8 FS LE      |
| 56C0 97  |        |           | 5.430 6- |        |          | 97              |
| 56C0 98  |        |           |          | 5.472  |          | 98 7 FS +4-3    |
| 56C0 99  |        |           |          | 5.500  |          | 99              |
| 56C0 100 |        |           |          | 5.562  |          | 100             |
| -----    |        |           |          |        |          |                 |
| 56C0 101 |        |           |          | 5.620  |          | 101             |
| S-p =    | 5.848  | ( 0.001)  | -----    |        |          |                 |
| 56C0 102 |        |           |          | 6.069  |          | 102             |
| 56C0 103 |        |           |          | 6.228  |          | 103             |
| 56C0 104 |        |           |          | 6.319  |          | 104             |
| 56C0 105 |        |           |          | 6.545  |          | 105             |
| 56C0 106 |        |           | 6.570 6- |        | (0+,1+)  | 106             |
| 56C0 107 |        |           |          | 6.850  |          | 107             |
| 56C0 108 |        |           |          | 7.350  |          | 108             |
| 56C0 109 |        |           |          | 7.480  |          | 109             |
| S-alpha= | 7.758  | ( 0.002)  | -----    |        |          |                 |
| 56C0 110 |        |           |          | 7.870  |          | 110             |
| -----    |        |           |          |        |          |                 |
| 56C0 111 |        | 8.920 9+  |          |        |          | 111             |
| S-n =    | 10.082 | ( 0.001)  | -----    |        |          |                 |
| 56C0 112 |        |           |          | 10.300 |          | 112             |
| 56C0 113 |        |           |          | 11.802 |          | 113             |
| 56C0 114 |        |           |          | 13.650 |          | 114             |
| S-2p =   | 15.061 | ( 0.001)  | -----    |        |          |                 |
| 56C0 115 |        |           |          | 15.895 |          | 115             |
| 56C0 116 |        |           |          | 18.600 |          | 116             |
| -----    |        |           |          |        |          |                 |
| S-p =    | 5.848  | ( 0.001)  | -----    |        |          |                 |
| S-n =    | 10.082 | ( 0.001)  | -----    |        |          |                 |
| S-2p =   | 15.061 | ( 0.001)  | -----    |        |          |                 |
| S-2n =   | 24.173 | ( 0.001)  | -----    |        |          |                 |
| S-alpha= | 7.758  | ( 0.002)  | -----    |        |          |                 |
| -----    |        |           |          |        |          |                 |
| S+p =    | -7.332 | ( 0.001)  | -----    |        |          |                 |

S+n = -11.376 ( 0.001)  
S+2p = -10.205 ( 0.001)  
S+2n = -19.949 ( 0.001)  
S+alpha = -4.730 ( 0.002)

gap p = -1.484 ( 0.001)  
gap n = -1.295 ( 0.001)  
gap 2p = 4.855 ( 0.001)  
gap 2n = 4.224 ( 0.001)  
gap alpha = 3.028 ( 0.003)