

^{99}Mo $Z = 42$ $N = 57$ adopted link ENSDF link

Based on ENSDF from Oct 2022, and mass evaluation from 2020

BE = 852.172 (0.000) MeV

Qbeta- = 1.358 (0.001) MeV

| | Energy T | J+ | | J- | | J-other | T1/2 |
|------|----------|-------|------|-------|-------|-------------------|---------------|
| 99MO | 1 | 0.000 | 1/2+ | | | | 1 65.924 H 6 |
| 99MO | 2 | 0.098 | 5/2+ | | | | 2 15.5 US 2 |
| 99MO | 3 | 0.236 | 7/2+ | | | | 3 0.87 NS 15 |
| 99MO | 4 | 0.351 | 3/2+ | | | | 4 0.23 NS 17 |
| 99MO | 5 | 0.525 | 1/2+ | | | | 5 |
| 99MO | 6 | 0.549 | 3/2+ | | | | 6 0.030 NS 25 |
| 99MO | 7 | 0.615 | 5/2+ | | | | 7 |
| 99MO | 8 | 0.632 | 3/2+ | | | | 8 |
| 99MO | 9 | | | 0.684 | 11/2- | | 9 0.76 US 6 |
| 99MO | 10 | | | | | 0.698 (7/2+) | 10 |
| 99MO | 11 | | | | | 0.752 (3/2+,5/2+) | 11 |
| 99MO | 12 | | | 0.754 | 7/2- | | 12 |
| 99MO | 13 | 0.793 | 3/2+ | | | | 13 |
| 99MO | 14 | | | | | 0.798 | 14 |
| 99MO | 15 | | | | | 0.866 (7/2+) | 15 |
| 99MO | 16 | 0.891 | 3/2+ | | | | 16 |
| 99MO | 17 | 0.905 | 1/2+ | | | | 17 |
| 99MO | 18 | | | | | 0.906 (9/2)+ | 18 |
| 99MO | 19 | | | | | 0.924 3/2+,5/2+ | 19 |
| 99MO | 20 | 0.945 | 5/2+ | | | | 20 |
| 99MO | 21 | | | | | 0.952 - | 21 |
| 99MO | 22 | | | | | 1.026 (5/2+) | 22 |
| 99MO | 23 | | | 1.030 | 3/2- | | 23 |
| 99MO | 24 | 1.048 | 7/2+ | | | | 24 |
| 99MO | 25 | | | | | 1.143 (7/2+) | 25 |
| 99MO | 26 | | | | | 1.148 5/2-,7/2- | 26 |
| 99MO | 27 | | | | | 1.165 (15/2)- | 27 |
| 99MO | 28 | 1.167 | 5/2+ | | | | 28 |
| 99MO | 29 | | | | | 1.196 | 29 |
| 99MO | 30 | 1.198 | 3/2+ | | | | 30 |
| 99MO | 31 | 1.254 | 5/2+ | | | | 31 |
| 99MO | 32 | 1.261 | 1/2+ | | | | 32 |
| 99MO | 33 | | | | | 1.272 | 33 |
| 99MO | 34 | | | | | 1.280 | 34 |
| 99MO | 35 | | | | | 1.283 | 35 |
| 99MO | 36 | | | | | 1.314 (11/2)+ | 36 |
| 99MO | 37 | | | | | 1.343 (7/2)+ | 37 |

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|---------|--|-------|------|-------|------|-------|------------------|----|
| 99MO 38 | | | | | | 1.353 | | 38 |
| 99MO 39 | | | | | | 1.354 | | 39 |
| 99MO 40 | | | | | | 1.368 | | 40 |
| ----- | | | | | | | | |
| 99MO 41 | | | | | | 1.383 | 3/2+,5/2+ | 41 |
| 99MO 42 | | | | | | 1.401 | (7/2+) | 42 |
| 99MO 43 | | | | | | 1.405 | (17/2) | 43 |
| 99MO 44 | | | | | | 1.442 | (3/2,5/2)+ | 44 |
| 99MO 45 | | | | | | 1.449 | 3/2+,5/2+ | 45 |
| 99MO 46 | | | | | | 1.455 | 3/2+,5/2+ | 46 |
| 99MO 47 | | | | | | 1.464 | (9/2)+ | 47 |
| 99MO 48 | | | | | | 1.467 | 1/2+,3/2+,5/2 | 48 |
| 99MO 49 | | | | | | 1.472 | (11/2)+ | 49 |
| 99MO 50 | | 1.493 | 5/2+ | | | | | 50 |
| ----- | | | | | | | | |
| 99MO 51 | | | | | | 1.533 | 3/2+,5/2+ | 51 |
| 99MO 52 | | | | | | 1.536 | | 52 |
| 99MO 53 | | 1.545 | 5/2+ | | | | | 53 |
| 99MO 54 | | | | | | 1.561 | 1/2,3/2,5/2+ | 54 |
| 99MO 55 | | | | | | 1.571 | 1/2,3/2,5/2+ | 55 |
| 99MO 56 | | 1.580 | 3/2+ | | | | | 56 |
| 99MO 57 | | | | | | 1.618 | (3/2-,5/2-,7/2-) | 57 |
| 99MO 58 | | | | | | 1.635 | 3/2+,5/2+ | 58 |
| 99MO 59 | | | | 1.639 | 9/2- | | | 59 |
| 99MO 60 | | | | | | 1.661 | | 60 |
| ----- | | | | | | | | |
| 99MO 61 | | | | | | 1.676 | | 61 |
| 99MO 62 | | | | | | 1.679 | (13/2+) | 62 |
| 99MO 63 | | | | | | 1.682 | (3/2+,5/2+) | 63 |
| 99MO 64 | | | | | | 1.710 | 3/2+,5/2+ | 64 |
| 99MO 65 | | | | | | 1.722 | 1/2-,3/2- | 65 |
| 99MO 66 | | | | | | 1.742 | | 66 |
| 99MO 67 | | | | | | 1.755 | 3/2+,5/2+ | 67 |
| 99MO 68 | | | | | | 1.778 | 5/2-,7/2- | 68 |
| 99MO 69 | | | | | | 1.799 | 7/2+,9/2+ | 69 |
| 99MO 70 | | | | | | 1.813 | | 70 |
| ----- | | | | | | | | |
| 99MO 71 | | | | | | 1.828 | + | 71 |
| 99MO 72 | | | | | | 1.845 | | 72 |
| 99MO 73 | | | | | | 1.858 | (9/2,11/2)+ | 73 |
| 99MO 74 | | | | | | 1.858 | (19/2-) | 74 |
| 99MO 75 | | | | | | 1.885 | (15/2-) | 75 |
| 99MO 76 | | | | | | 1.893 | (3/2-) | 76 |
| 99MO 77 | | | | | | 1.909 | 1/2-,3/2- | 77 |
| 99MO 78 | | 1.932 | 1/2+ | | | | | 78 |
| 99MO 79 | | | | | | 1.934 | 7/2+,9/2+ | 79 |
| 99MO 80 | | 1.949 | 1/2+ | | | | | 80 |
| ----- | | | | | | | | |
| 99MO 81 | | 1.965 | 1/2+ | | | | | 81 |
| 99MO 82 | | | | | | 1.987 | | 82 |

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|----------|----------------|-------|------|-------|------------------|------------|
| 99MO 83 | | | | 2.000 | | 83 |
| 99MO 84 | | | | 2.024 | 3/2-, 5/2-, 7/2- | 84 |
| 99MO 85 | | | | 2.056 | 3/2-, 5/2-, 7/2- | 85 |
| 99MO 86 | | | | 2.060 | | 86 |
| 99MO 87 | | | | 2.078 | 9/2-, 11/2- | 87 |
| 99MO 88 | | | | 2.103 | 7/2+, 9/2+ | 88 |
| 99MO 89 | | 2.134 | 3/2- | | | 89 |
| 99MO 90 | | | | 2.160 | 7/2+, 9/2+ | 90 |
| ----- | | | | | | |
| 99MO 91 | | | | 2.175 | 9/2-, 11/2- | 91 |
| 99MO 92 | | | | 2.180 | | 92 |
| 99MO 93 | | | | 2.218 | - | 93 |
| 99MO 94 | | | | 2.221 | (17/2-) | 94 |
| 99MO 95 | | | | 2.232 | (15/2) | 95 |
| 99MO 96 | | | | 2.299 | | 96 |
| 99MO 97 | | | | 2.319 | | 97 |
| 99MO 98 | | | | 2.340 | 1/2, 3/2 | 98 |
| 99MO 99 | | | | 2.409 | (17/2+) | 99 |
| 99MO 100 | | | | 2.436 | 1/2-, 3/2- | 100 |
| ----- | | | | | | |
| 99MO 101 | | | | 2.441 | (13/2) | 101 |
| 99MO 102 | 2.482 | 1/2+ | | | | 102 |
| 99MO 103 | | | | 2.517 | 7/2+, 9/2+ | 103 |
| 99MO 104 | | | | 2.531 | 1/2-, 3/2- | 104 |
| 99MO 105 | | | | 2.595 | 1/2-, 3/2- | 105 |
| 99MO 106 | | | | 2.641 | (3/2)- | 106 |
| 99MO 107 | | | | 2.687 | (3/2)- | 107 |
| 99MO 108 | | | | 2.705 | (23/2-) | 108 |
| 99MO 109 | | | | 2.730 | (3/2)- | 109 |
| S-alpha= | 2.735 (0.001) | ----- | | | | |
| 99MO 110 | | | | 2.786 | 1/2-, 3/2- | 110 |
| ----- | | | | | | |
| 99MO 111 | | | | 2.797 | 3/2+, 5/2+ | 111 |
| 99MO 112 | | 2.852 | 3/2- | | | 112 |
| 99MO 113 | | | | 2.870 | 1/2-, 3/2- | 113 |
| 99MO 114 | | | | 2.925 | 1/2-, 3/2- | 114 |
| 99MO 115 | | | | 2.944 | 1/2, 3/2 | 115 |
| 99MO 116 | | | | 2.990 | (1/2-, 3/2-) | 116 |
| 99MO 117 | | | | 3.010 | (27/2-) | 117 8 NS 2 |
| 99MO 118 | | | | 3.066 | 3/2+, 5/2+ | 118 |
| 99MO 119 | | | | 3.130 | (7/2+, 9/2+) | 119 |
| 99MO 120 | | | | 3.214 | 7/2+, 9/2+ | 120 |
| ----- | | | | | | |
| 99MO 121 | | | | 3.260 | | 121 |
| 99MO 122 | | | | 3.305 | (1/2-, 3/2-) | 122 |
| 99MO 123 | | | | 3.358 | 1/2-, 3/2- | 123 |
| 99MO 124 | | | | 3.397 | (1/2-, 3/2-) | 124 |
| 99MO 125 | | | | 3.483 | 7/2+, 9/2+ | 125 |
| 99MO 126 | | | | 3.623 | (1/2-, 3/2-) | 126 |
| 99MO 127 | | | | 3.666 | 7/2+, 9/2+ | 127 |

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|-----------|---|---------|----------|-------|-----------|-----|
| 99M0 128 | | | | 3.685 | (27/2-) | 128 |
| 99M0 129 | | | | 3.707 | | 129 |
| 99M0 130 | | | | 3.753 | 1/2-,3/2- | 130 |
| ----- | | | | | | |
| 99M0 131 | | | | 3.817 | 7/2+,9/2+ | 131 |
| 99M0 132 | | | | 3.918 | | 132 |
| 99M0 133 | | | | 4.002 | 1/2-,3/2- | 133 |
| 99M0 134 | | | | 4.062 | 1/2-,3/2- | 134 |
| 99M0 135 | | | | 4.140 | 1/2-,3/2- | 135 |
| 99M0 136 | | | | 4.179 | 1/2-,3/2- | 136 |
| 99M0 137 | | | | 4.241 | 1/2-,3/2- | 137 |
| 99M0 138 | | | | 4.749 | (31/2-) | 138 |
| 99M0 139 | | | | 5.795 | (35/2-) | 139 |
| S-n | = | 5.925 | (0.000) | ----- | | |
| 99M0 140 | | | | 6.896 | (39/2-) | 140 |
| ----- | | | | | | |
| 99M0 141 | | | | 8.118 | (43/2-) | 141 |
| ----- | | | | | | |
| S-p | = | 9.734 | (0.005) | ----- | | |
| S-n | = | 5.925 | (0.000) | ----- | | |
| S-2p | = | 17.611 | (0.000) | ----- | | |
| S-2n | = | 14.568 | (0.000) | ----- | | |
| S-alpha | = | 2.735 | (0.001) | ----- | | |
| ----- | | | | | | |
| S+p | = | -7.340 | (0.001) | | | |
| S+n | = | -8.294 | (0.000) | | | |
| S+2p | = | -16.566 | (0.000) | | | |
| S+2n | = | -13.693 | (0.000) | | | |
| S+alpha | = | -3.722 | (0.000) | | | |
| ----- | | | | | | |
| gap p | = | 2.395 | (0.005) | | | |
| gap n | = | -2.369 | (0.000) | | | |
| gap 2p | = | 1.045 | (0.001) | | | |
| gap 2n | = | 0.875 | (0.000) | | | |
| gap alpha | = | -0.987 | (0.001) | | | |