

^{78}Se $Z = 34$ $N = 44$ [link to full NNDC output](#)

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

BE = 679.989 (0.000) MeV

	Energy T	J+	J-	J-other	T1/2
78SE 1	0.000	0+			1 STABLE
78SE 2	0.614	2+			2 9.79 PS 21
78SE 3	1.309	2+			3 4.2 PS 3
78SE 4	1.499	0+			4 45 PS 8
78SE 5	1.503	4+			5 1.04 PS 5
78SE 6	1.759	0+			6
78SE 7	1.854	3+			7 1.2 PS 4
78SE 8	1.996	2+			8 4.6 PS +32-14
78SE 9	2.191	4+			9 0.7 PS 3
78SE 10				2.267	10
78SE 11				2.300	11 1,2(+)
78SE 12	2.327	2+			12 0.28 PS +13-8
78SE 13	2.335	0+			13
78SE 14				2.362	14 (0+)
78SE 15			2.507	3-	15 6.2 PS 14
78SE 16	2.537	2+			16 0.055 PS 7
78SE 17				2.546	17
78SE 18	2.547	6+			18 0.49 PS 14
78SE 19				2.560	19 (1-,2-,3-)
78SE 20				2.630	20
78SE 21				2.647	21 (1,2)+
78SE 22	2.682	4+			22
78SE 23				2.719	23
78SE 24				2.735	24 (5+) 0.62 PS 21
78SE 25			2.743	4-	25 0.42 NS 14
78SE 26	2.753	0+			26
78SE 27	2.754	2+			27
78SE 28				2.838	28 (2+)
78SE 29				2.864	29
78SE 30			2.890	5-	30 18 PS 5
78SE 31				2.898	31 2
78SE 32	2.915	4+			32 0.24 NS +15-8
78SE 33			2.949	4-	33 1.4 PS GT
78SE 34			3.003	3-	34
78SE 35				3.006	35 1,2+
78SE 36			3.014	6-	36 3.0 NS 5
78SE 37				3.040	37 (1+:4+)
78SE 38				3.049	38 (3-)

78SE 39						3.061	0+&5-	39
78SE 40						3.089	(5-)	40

78SE 41						3.090	(0+)	41
78SE 42						3.130	0+,1+,2+	42
78SE 43				3.133	3-			43
78SE 44		3.140	4+					44
78SE 45						3.140	(6+)	45 0.28 PS +14-7
78SE 46				3.144	3-			46
78SE 47						3.182	(2)+	47
78SE 48		3.186	2+					48
78SE 49						3.230	(1-,2,3)	49
78SE 50		3.243	2+					50

78SE 51						3.255	(0,1,2)+	51
78SE 52				3.288	1-			52
78SE 53		3.294	4+					53
78SE 54				3.307	6-			54 11 PS 4
78SE 55						3.310		55
78SE 56						3.329		56
78SE 57				3.373	3-			57
78SE 58						3.384	0+:4+	58
78SE 59						3.386	(2+)	59
78SE 60						3.391	(5-)	60

78SE 61				3.411	3-			61
78SE 62						3.440	(1)	62
78SE 63		3.451	0+					63
78SE 64				3.453	3-			64
78SE 65						3.488		65 0.12 PS 4
78SE 66						3.494	1,2(+)	66
78SE 67						3.496		67
78SE 68				3.523	7-			68 1.4 PS +7 -4
78SE 69						3.523	1,2(+)	69
78SE 70				3.527	1-			70

78SE 71						3.546	(2-,3-,4-)	71
78SE 72						3.550	(7-)	72 3.5 PS 21
78SE 73		3.585	8+					73 0.42 PS 14
78SE 74						3.592	(1-)	74
78SE 75		3.604	2+					75
78SE 76						3.624	1,2(+)	76
78SE 77						3.628		77
78SE 78						3.632	(1+,2+)	78
78SE 79				3.687	3-			79
78SE 80						3.704	(7+)	80 0.83 PS 21

78SE 81						3.711	(1,2,3)	81
78SE 82						3.735	0+:4+	82
78SE 83						3.754		83

78SE 84				3.774	3-					84
78SE 85							3.830	1-,2-,3-		85
78SE 86		3.831	8+							86 0.55 PS 14
78SE 87				3.881	3-					87
78SE 88		3.895	2+							88
78SE 89		3.933	2+							89
78SE 90							3.960	1,2(+)		90

78SE 91				3.995	5-					91
78SE 92				3.999	1-					92
78SE 93							4.037	(1-,3-)		93
78SE 94							4.038	(1-,3-)		94
78SE 95				4.048	8-					95 0.9 PS 3
78SE 96							4.050	(5-)		96
78SE 97							4.080	1,2(+)		97
78SE 98				4.106	1-					98
78SE 99							4.120	0-,1-		99
78SE 100		4.121	8+							100 0.7 PS GT

78SE 101		4.122	4+							101
78SE 102							4.153	(1)		102
78SE 103				4.155	3-					103
78SE 104		4.182	0+							104
78SE 105							4.190	0-,1-		105
78SE 106							4.214	(8-)		106 1.4 PS GT
78SE 107				4.224	3-					107
78SE 108							4.245	(1)		108
78SE 109							4.253	(2+)		109
78SE 110							4.254	(5-)		110

78SE 111		4.265	0+							111
78SE 112		4.297	2+							112
78SE 113							4.342	1,2(+)		113
78SE 114				4.345	3-					114
78SE 115							4.367	(1)-		115
78SE 116							4.369	(3-)		116
78SE 117							4.387	(1,2+)		117
78SE 118		4.409	2+							118
78SE 119							4.412	(9-)		119
78SE 120							4.424	(2+)		120

78SE 121							4.448	1,2(+)		121
78SE 122							4.451	(0+&3-)		122
78SE 123							4.469	1,2(+)		123
78SE 124		4.483	4+							124
78SE 125							4.493	(3)-		125
78SE 126		4.509	2+							126
78SE 127							4.529			127
78SE 128							4.557			128
78SE 129							4.569	(0+&4+)		129

78SE 130					4.591	(3)-		130		
78SE 131	4.616	4+						131		
78SE 132			4.622	5-				132		
78SE 133					4.625	(10+)		133		
78SE 134			4.639	3-				134		
78SE 135					4.673			135		
78SE 136					4.684			136		
78SE 137					4.690	(2+)		137		
78SE 138					4.697	(2+)		138		
78SE 139	4.723	2+						139		
78SE 140					4.758	4+&1-		140		
78SE 141					4.787	(10+)		141	1.4 PS	GT
78SE 142					4.788	(1)-		142		
78SE 143	4.792	0+						143		
78SE 144	4.812	2+						144		
78SE 145					4.819	(9-)		145	0.9 PS	3
78SE 146					4.857	(9+)		146	1.1 PS	4
78SE 147			4.857	1-				147		
78SE 148			4.879	3-				148		
78SE 149			4.902	3-				149		
78SE 150	4.904	2+						150		
78SE 151	4.944	2+						151		
78SE 152					4.957	1,2(+)		152		
78SE 153			4.972	1-				153		
78SE 154					4.998			154		
78SE 155					5.005	1,2(+)		155		
78SE 156					5.022			156		
78SE 157	5.030	2+						157		
78SE 158					5.055			158		
78SE 159					5.091			159		
78SE 160					5.095			160		
78SE 161					5.102			161		
78SE 162					5.120	0-,1-		162		
78SE 163					5.127	(2,3,4)		163		
78SE 164					5.136			164		
78SE 165					5.164			165		
78SE 166					5.181	1(+),2(+)		166		
78SE 167					5.205	1-,2-,3-		167		
78SE 168					5.235			168		
78SE 169					5.247			169		
78SE 170					5.290	1,2(+)		170		
78SE 171			5.295	3-				171		
78SE 172					5.340	1,2(+)		172		
78SE 173					5.357	(2+)		173		
78SE 174					5.391			174		

78SE 175				5.422		175
78SE 176				5.440		176
78SE 177				5.451	1,2(+)	177
78SE 178				5.480	(1+,2+,3+)	178
78SE 179				5.513	1,2(+)	179
78SE 180				5.580		180

78SE 181		5.610		2+		181
78SE 182				5.689		182
78SE 183				5.709		183
78SE 184				5.784	(12+)	184 0.6 PS GT
78SE 185				5.837		185
S-alpha=	6.028	(0.000)	-----			
78SE 186				6.161		186

S-p = 10.399 (0.002)-----
S-n = 10.498 (0.000)-----
S-2p = 18.391 (0.000)-----
S-2n = 17.917 (0.000)-----
S-alpha= 6.028 (0.000)-----

S+p = -6.331 (0.001)
S+n = -6.963 (0.000)
S+2p = -15.445 (0.001)
S+2n = -16.876 (0.001)
S+alpha = -5.991 (0.000)

gap p = 4.068 (0.002)
gap n = 3.535 (0.000)
gap 2p = 2.945 (0.001)
gap 2n = 1.040 (0.001)
gap alpha = 0.038 (0.000)