

^{136}Ba $Z = 56$ $N = 80$ [link to full NNDC output](#)

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

BE = 1142.775 (0.000) MeV

	Energy T	J+	J-	J-other	T1/2
136BA 1	0.000	0+			1 STABLE
136BA 2	0.819	2+			2 1.89 PS 3
136BA 3	1.551	2+			3 0.89 PS 29
136BA 4	1.579	0+			4 735 FS GT
136BA 5	1.867	4+			5
136BA 6			2.031 7-		6 0.3084 S 19
S-alpha= 2.033 (0.000)					
136BA 7	2.054	4+			7 0.87 PS +84-29
136BA 8	2.080	2+			8 1.0 PS +11-4
136BA 9	2.129	2+			9 50 FS 4
136BA 10			2.140 5-		10 1.6 NS 1
136BA 11	2.141	0+			11 0.26 PS +13-7
136BA 12				2.154 (1,2+)	12
136BA 13	2.207	6+			13 3.1 NS 1
136BA 14				2.223 (2,1)+	14 0.63 PS +44-19
136BA 15				2.299 (6-)	15
136BA 16	2.315	0+			16 0.85 PS GT
136BA 17				2.349	17
136BA 18	2.356	4+			18 0.51 PS +52-18
136BA 19	2.374	5+			19
136BA 20			2.391 3-		20 0.21 PS +8-5
136BA 21				2.392 (1+,2+)	21
136BA 22				2.400 (1)+	22 118 FS +28-21
136BA 23	2.431	3+			23 0.20 PS +7-4
136BA 24	2.485	2+			24 146 FS +35-28
136BA 25			2.533 3-		25 76 FS 7
136BA 26	2.544	4+			26 0.44 PS +56-17
136BA 27				2.562	27
136BA 28				2.587 (5)+	28 0.83 PS GT
136BA 29				2.641 (1+)	29 55 FS 7
136BA 30				2.660 (3,4,5)+	30
136BA 31				2.661 1,2+	31 73 FS 14
136BA 32				2.694 1	32 120 PS 20
136BA 33	2.694	5+			33
136BA 34	2.774	2+			34 180 FS +60-40
136BA 35	2.780	2+			35 0.28 PS +37-11
136BA 36	2.784	0+			36 42 FS +21-14
136BA 37				2.812 (3+)	37 0.15 PS +22-7

136BA 38						2.820	(2,3,4+)	38		
136BA 39						2.841	(4+)	39		
136BA 40						2.905		40		

136BA 41						2.935	(1,2+)	41		
136BA 42						2.946	0(+),1,2,3+	42		
136BA 43						2.978		43	0.11 PS	+16-6
136BA 44						2.985	(2+,3+,4+)	44	0.11 PS	+19-6
136BA 45						2.994	8(+)	45		
136BA 46						2.995		46		
136BA 47						3.022	(1,2+)	47	0.14 PS	+6-4
136BA 48						3.045	1(-)	48	20 FS	3
136BA 49		3.077	3+					49	0.11 PS	+8-4
136BA 50		3.110	2+					50	0.27 PS	+13-7

136BA 51		3.116	2+					51	101 FS	22
136BA 52						3.179	0(+),1,2,3(+)	52		
136BA 53						3.212	0(+),1,2,3+	53		
136BA 54						3.242		54	42 FS	+21-14
136BA 55						3.336		55		
136BA 56						3.348	0(+),1,2,3+	56		
136BA 57						3.355		57		
136BA 58						3.357	10(+)	58	91 NS	2
136BA 59						3.370	1	59	18 FS	4
136BA 60						3.378		60		

136BA 61				3.435	1-			61	6.0 FS	13
136BA 62						3.506	0(+),1,2,3+	62		
136BA 63						3.509	(4+)	63		
136BA 64		3.527	2+					64		
136BA 65						3.543	(0+),1,2,3,4(+)	65		
136BA 66						3.551		66		
136BA 67						3.559	0(+),1,2,3(+)	67		
136BA 68						3.579	0+,1,2,3,4+	68		
136BA 69						3.650	(0+),1,2,3,4(+)	69		
136BA 70						3.692	1 TO 3	70		

136BA 71						3.698	(0+),1,2,3,4(+)	71		
136BA 72						3.706	(1,2+)	72		
136BA 73						3.706		73		
136BA 74						3.760		74		
136BA 75						3.769	1(-),2,3+	75		
136BA 76						3.795	(1,2+)	76		
136BA 77						3.849	0(+),1,2,3+	77		
136BA 78						3.850		78		
136BA 79						3.853	(1,2+)	79		
136BA 80						3.863	(1,2+)	80		

136BA 81						3.881	(1,2+)	81		
136BA 82						3.926		82		

136BA 83				3.963		83
136BA 84				3.966	(1,2+)	84
136BA 85				3.980	(1)	85
136BA 86				3.993	0(+),1,2,3+	86
136BA 87				4.009	1,2+	87
136BA 88				4.075		88
136BA 89				4.137	1	89
136BA 90				4.215		90

136BA 91				4.231	1	91
136BA 92				4.367	1	92
136BA 93				4.413	(1)	93
136BA 94				4.475	(1)	94
136BA 95				4.536	1	95
136BA 96				4.601	(1)	96
136BA 97		4.624	1-			97
136BA 98		4.640	1-			98
136BA 99		4.698	1-			99
136BA 100		4.768	1-			100

136BA 101				4.814	1	101
136BA 102				4.833		102
136BA 103				4.898	1	103
136BA 104		4.985	1-			104
136BA 105		5.040	1-			105
136BA 106		5.061	1-			106
136BA 107				5.065		107
136BA 108		5.077	1-			108
136BA 109		5.095	1-			109
136BA 110		5.135	1-			110

136BA 111				5.216	(1)	111
136BA 112				5.268	(1)	112
136BA 113				5.294	1	113
136BA 114				5.338	1	114
136BA 115				5.380		115
136BA 116				5.393		116
136BA 117				5.397	(1)	117
136BA 118				5.418	(1)	118
136BA 119				5.431	1	119
136BA 120				5.444	(1)	120

136BA 121		5.498	1-			121
136BA 122		5.561	1-			122
136BA 123		5.586	1-			123
136BA 124		5.601	1-			124
136BA 125		5.610	1-			125
136BA 126		5.648	1-			126
136BA 127		5.652	1-			127
136BA 128				5.718	(1)	128

136BA 129				5.735		129
136BA 130				5.768	1	130

136BA 131				5.782	1	131
136BA 132				5.805	1	132
136BA 133				5.924	1	133
136BA 134		5.966	1-			134
136BA 135		5.979	1-			135
136BA 136		6.005	1-			136
136BA 137		6.036	1-			137
136BA 138		6.053	1-			138
136BA 139		6.061	1-			139
136BA 140		6.083	1-			140

136BA 141		6.113	1-			141
136BA 142		6.161	1-			142
136BA 143		6.182	1-			143
136BA 144				6.193	(1)	144
136BA 145				6.216	(1)	145
136BA 146				6.232	(1)	146
136BA 147				6.244	(1)	147
136BA 148				6.265	(1)	148
136BA 149				6.289	(1)	149
136BA 150		6.332	1-			150

136BA 151		6.344	1-			151
136BA 152		6.358	1-			152
136BA 153		6.374	1-			153
136BA 154		6.391	1-			154
136BA 155		6.410	1-			155
136BA 156		6.431	1-			156
136BA 157		6.449	1-			157
136BA 158		6.478	1-			158
136BA 159		6.489	1-			159
136BA 160		6.529	1-			160

136BA 161		6.554	1-			161
136BA 162		6.592	1-			162
136BA 163		6.625	1-			163
136BA 164				6.677	1	164
136BA 165				6.693	1	165
136BA 166				6.717	1	166
136BA 167		6.742	1-			167
136BA 168		6.757	1-			168
136BA 169		6.768	1-			169
136BA 170		6.777	1-			170

136BA 171		6.788	1-			171
136BA 172		6.831	1-			172
136BA 173		6.840	1-			173

136BA 174		6.847	1-					174
136BA 175		6.859	1-					175
136BA 176		6.870	1-					176
136BA 177		6.880	1-					177
136BA 178		6.896	1-					178
136BA 179		6.952	1-					179
136BA 180		6.982	1-					180

136BA 181		6.998	1-					181
136BA 182		7.007	1-					182
136BA 183		7.019	1-					183
136BA 184					7.151	(1)		184
136BA 185		7.251	1-					185
136BA 186		7.272	1-					186
136BA 187		7.281	1-					187
136BA 188		7.299	1-					188
136BA 189		7.315	1-					189
136BA 190		7.350	1-					190

136BA 191		7.364	1-					191
136BA 192		7.382	1-					192
136BA 193		7.394	1-					193
136BA 194		7.403	1-					194
136BA 195		7.415	1-					195
136BA 196		7.444	1-					196
136BA 197		7.473	1-					197
136BA 198		7.488	1-					198
136BA 199		7.503	1-					199
136BA 200		7.519	1-					200

136BA 201		7.541	1-					201
136BA 202		7.558	1-					202
136BA 203		7.572	1-					203
136BA 204		7.583	1-					204
136BA 205		7.595	1-					205
136BA 206					7.604	1		206
136BA 207					7.626	1		207
136BA 208					7.662	1		208
136BA 209					7.676	1		209
136BA 210					7.699	1		210

136BA 211					7.748	1		211
136BA 212					7.770	1		212
136BA 213					7.788	(1)		213
136BA 214		7.820	1-					214
136BA 215		7.849	1-					215
136BA 216		7.858	1-					216
136BA 217		7.875	1-					217
136BA 218		7.895	1-					218
136BA 219		7.911	1-					219

136BA 220		7.972	1-			220

136BA 221		8.007	1-			221
136BA 222		8.083	1-			222
136BA 223		8.125	1-			223
136BA 224		8.144	1-			224
136BA 225		8.171	1-			225
136BA 226		8.184	1-			226
136BA 227		8.228	1-			227
136BA 228		8.251	1-			228
136BA 229		8.280	1-			229
136BA 230		8.315	1-			230

136BA 231		8.339	1-			231
136BA 232		8.359	1-			232
136BA 233		8.390	1-			233
136BA 234		8.404	1-			234
S-p	=	8.594	(0.001)	-----		
136BA 235		8.611	1-			235
136BA 236		8.825	1-			236
136BA 237		9.050	1-			237
136BA 238		9.078	1-			238
136BA 239	9.107	1+				239
136BA 240				9.107	2(+)	240

136BA 241				9.107	1(+),2	241
136BA 242				9.107	2(+)	242
136BA 243				9.107	2(+)	243
136BA 244				9.107	2(+)	244
136BA 245				9.107	1(+)	245
136BA 246				9.108	2(+)	246
136BA 247				9.108	2	247
S-n	=	9.108	(0.000)	-----		
136BA 248				9.108	2(+)	248

S-p	=	8.594	(0.001)	-----		
S-n	=	9.108	(0.000)	-----		
S-2p	=	15.339	(0.000)	-----		
S-2n	=	16.080	(0.000)	-----		
S-alpha	=	2.033	(0.000)	-----		
S+p	=	-5.543	(0.002)			
S+n	=	-6.906	(0.000)			
S+2p	=	-13.262	(0.005)			
S+2n	=	-15.517	(0.000)			
S+alpha	=	-1.614	(0.002)			
gap p	=	3.052	(0.002)			
gap n	=	2.202	(0.001)			

gap 2p = 2.077 (0.005)
gap 2n = 0.563 (0.001)
gap alpha = 0.419 (0.002)