

$^{58}\text{Co}$        $Z = 27$        $N = 31$       adopted link      ENSDF link

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

BE      =      506.860 ( 0.001) MeV  
 Qbeta- =      0.382 ( 0.001) MeV  
 Qbeta+ =      2.308 ( 0.001) MeV

	Energy T	J+	J-	J-other	T1/2
58CO 1	0.000	2+			1 70.86 D 6
58CO 2	0.025	5+			2 9.10 H 9
58CO 3	0.053	4+			3 10.5 US 3
58CO 4	0.112	3+			4 0.14 NS 3
58CO 5	0.366	3+			5 1.1 PS +6-3
58CO 6	0.374	5+			6 0.8 PS +5-3
58CO 7	0.458	4+			7 0.9 PS 3
58CO 8				0.886 3+,4+	8 0.15 PS +5-3
58CO 9	1.040	3+			9 0.14 PS +6-4
58CO 10				1.044 (3+)	10 1.2 PS GT
58CO 11	1.050	1+			11 0.14 PS +6-4
58CO 12	1.076	6+			12 0.069 PS LT
58CO 13				1.133	13
58CO 14	1.185	5+			14 0.097 PS 14
58CO 15	1.237	2+			15
58CO 16				1.352	16
58CO 17				1.353 (2)+	17 0.6 PS +14-4
58CO 18	1.369	1+			18
58CO 19	1.377	1+			19 0.16 PS +9-6
58CO 20				1.418 (5)+	20
58CO 21				1.424 (3+)	21
58CO 22				1.425 (6+)	22 0.076 PS 21
58CO 23	1.435	1+			23 0.6 PS +21-3
58CO 24				1.513 (3+,4,5+)	24
58CO 25				1.523 (2+,3+)	25
58CO 26				1.524 (2+,3+)	26
58CO 27	1.549	5+			27
58CO 28				1.555 (1+,2,3+)	28
58CO 29	1.606	3+			29
58CO 30	1.670	3+			30
58CO 31	1.729	1+			31
58CO 32				1.740	32
58CO 33				1.749 (3,4)+	33
58CO 34				1.757 (1+,2,3+)	34
58CO 35				1.778 3+,4+,5+	35
58CO 36	1.813	0+			36

58C0	37				1.828		37
58C0	38	1.843	3+				38
58C0	39				1.866	(2+,3,4+)	39
58C0	40	1.868	1+				40
-----							
58C0	41				1.925	(1+,2+,3+)	41
58C0	42				1.929	(7+)	42 0.277 PS 28
58C0	43	1.979	3+				43
58C0	44				2.007	2+,3+,4+	44
58C0	45	2.070	4+				45
58C0	46				2.080	(6+)	46
58C0	47				2.105		47
58C0	48	2.166	3+				48
58C0	49				2.185		49
58C0	50				2.225	(5+,6+,7+)	50
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58C0	51	2.249	1+				51
58C0	52				2.260		52
58C0	53				2.314	(7+)	53 0.16 PS +6-7
58C0	54				2.335	1+,2+,3+	54
58C0	55				2.415	(7+)	55
58C0	56				2.425	(7+)	56
58C0	57				2.444	(1+,2+)	57
58C0	58				2.456		58
58C0	59	2.477	2+				59
58C0	60				2.510		60
-----							
58C0	61	2.534	1+				61
58C0	62				2.605	(3+,4+,5+)	62
58C0	63				2.625	0+,1+,2+	63
58C0	64	2.631	3+				64
58C0	65	2.641	1+				65
58C0	66				2.646	(2)+	66
58C0	67	2.692	7+				67
58C0	68				2.695	0+,1+,2+	68
58C0	69				2.695	(6+)	69
58C0	70				2.733	(2+)	70
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58C0	71				2.734		71
58C0	72				2.736	(6+)	72 0.17 PS 7
58C0	73	2.741	5+				73
58C0	74				2.761		74
58C0	75				2.769	(8+)	75
58C0	76				2.781	(1)+	76
58C0	77				2.792	(1+)	77
58C0	78				2.819	3+,4+,5+	78
58C0	79				2.837		79
58C0	80				2.844	3-,4-,5-	80
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58C0	81				2.849	3+,4+,5+	81

58C0 82				2.865	(1+)	82
58C0 83				2.884	0+,1+,2+	83
58C0 84				2.907		84
58C0 85	2.931	7+				85
58C0 86				2.946	2+,3+	86
58C0 87				2.987	1+,2+,3+	87
58C0 88				2.995	(0-,1-)	88
58C0 89	3.010	2+				89
58C0 90				3.044		90
-----						
58C0 91				3.062	2+,3+,4+	91
58C0 92				3.069	(7+)	92 0.076 PS +7-28
58C0 93	3.072	5+				93
58C0 94				3.096		94
58C0 95				3.118	(1)+	95
58C0 96	3.123	2+				96
58C0 97				3.146	(1+,2+,3+)	97
58C0 98				3.169		98
58C0 99	3.184	1+				99
58C0 100				3.186	2+,3+,4+	100
-----						
58C0 101				3.199	0-,1-	101
58C0 102	3.214	3+				102
58C0 103				3.226	(2)+	103
58C0 104				3.232	(0-,1-,2-)	104
58C0 105				3.243		105
58C0 106				3.261	(2)+	106
58C0 107				3.281		107
58C0 108	3.284	1+				108
58C0 109				3.337	1+,2+	109
58C0 110	3.376	2+				110
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58C0 111				3.395	(8+)	111 0.07 PS 4
58C0 112				3.403	4+,5+	112
58C0 113				3.410	(0-,1-,2-)	113
58C0 114				3.414	(2)+	114
58C0 115	3.427	3+				115
58C0 116				3.442	(1)+	116
58C0 117				3.455	2+,3+,4+	117
58C0 118				3.470		118
58C0 119				3.484	3+,4+,5+	119
58C0 120				3.507	(2-,3-,4-)	120
-----						
58C0 121				3.512	(1)+	121
58C0 122				3.518	(3+,4+,5+)	122
58C0 123				3.526	(2+)	123
58C0 124				3.534	(9+)	124
58C0 125				3.548	1+,2+	125
58C0 126				3.559	(0-,1-)	126
58C0 127				3.574		127

58C0 128				3.604	(3+,4+,5+)	128
58C0 129				3.607	(2+)	129
58C0 130	3.616	1+				130
-----						
58C0 131				3.639		131
58C0 132				3.659		132
58C0 133	3.669	1+				133
58C0 134				3.685	0+,1+,2+	134
58C0 135				3.689	(2-,3-,4-)	135
58C0 136				3.720	(3+)	136
58C0 137				3.720		137
58C0 138				3.725	(2)+	138
58C0 139				3.736	(0-,1-,2-)	139
58C0 140				3.750	(8)-	140
-----						
58C0 141				3.759		141
58C0 142				3.775	0+,1+,2+	142
58C0 143				3.776	(8+)	143
58C0 144				3.779	(0-,1-,2-)	144
58C0 145				3.790	(1-,0-)	145
58C0 146				3.802	(8+)	146
58C0 147	3.804	7+				147
58C0 148				3.806	1-,2-,3-	148
58C0 149				3.833		149
58C0 150				3.853	0+,1+,2+	150
-----						
58C0 151				3.866		151
58C0 152				3.869	0+,1+,2+	152
58C0 153				3.890	(2+)	153
58C0 154				3.898	1-,0-	154
58C0 155				3.916	1-,2-,3-	155
58C0 156				3.925	(1+)	156
58C0 157				3.943	0+,1+,2+	157
58C0 158				3.957	(2)+	158
58C0 159				4.006	0+,1+,2+	159
58C0 160				4.021	(3+)	160
-----						
58C0 161				4.030	(1+)	161
58C0 162	4.049	2+				162
58C0 163				4.082	(2)+	163
58C0 164				4.087	(4+)	164
58C0 165				4.097		165
58C0 166				4.107	(1+)	166
58C0 167				4.110	(3+)	167
58C0 168				4.127		168
58C0 169				4.175		169
58C0 170				4.206		170
-----						
58C0 171				4.240		171
58C0 172				4.253		172

0.076 PS 7

58C0 173				4.287		173
58C0 174				4.295	(7+)	174
58C0 175				4.325	3+,4+,5+	175
58C0 176				4.336		176
58C0 177				4.400		177
58C0 178				4.448		178
58C0 179				4.480	(9+)	179 0.076 PS 7
58C0 180				4.555		180
-----						
58C0 181				4.569		181
58C0 182				4.650	(5+)	182
58C0 183				4.708		183
58C0 184				4.775		184
58C0 185	4.790	7+				185
58C0 186				4.849		186
58C0 187	5.040	5+				187
58C0 188				5.057		188
58C0 189				5.058	(10+)	189 0.094 PS 10
58C0 190				5.097	(8+)	190
-----						
58C0 191				5.183		191
58C0 192				5.306		192
58C0 193	5.392	1+				193
58C0 194				5.454		194
58C0 195				5.493		195
58C0 196				5.502	(9+)	196
58C0 197				5.531		197
58C0 198	5.651	1+				198
58C0 199				5.686		199
58C0 200	5.738	0+				200
-----						
58C0 201	5.756	0+				201
58C0 202				5.852		202
58C0 203				5.888		203
58C0 204				5.948		204
58C0 205				5.956	(10+)	205
58C0 206				6.002	(11+)	206 0.062 PS 6
58C0 207				6.140	(1-,0-)	207
58C0 208				6.400	(1)+	208
58C0 209				6.427	(9+)	209
58C0 210				6.511		210
-----						
58C0 211				6.672		211
-----						
S-alpha=	6.714	( 0.002)	-----	-----	-----	-----
58C0 212				6.790	(9)+	212
-----						
S-p =	6.954	( 0.001)	-----	-----	-----	-----
58C0 213				7.025		213
58C0 214				7.685		214
58C0 215				7.692		215
58C0 216				8.044	(10+)	216

58C0 217				8.125	217
58C0 218				8.127	218
58C0 219				8.138	219
58C0 220				8.144	220
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58C0 221				8.148	221
58C0 222				8.159	222
58C0 223				8.162	223
58C0 224				8.165	224
58C0 225				8.169	225
58C0 226				8.173	226
58C0 227				8.176	227
58C0 228				8.183	228
58C0 229				8.190	229
58C0 230				8.196	230
-----					
58C0 231				8.199	231
58C0 232				8.203	232
58C0 233				8.208	233
58C0 234				8.210	234
58C0 235				8.214	235
58C0 236				8.217	236
58C0 237				8.219	237
58C0 238				8.228	238
58C0 239				8.230	239
58C0 240				8.233	240
-----					
58C0 241				8.241	241
58C0 242				8.245	242
58C0 243				8.248	243
58C0 244				8.253	244
58C0 245				8.256	245
58C0 246				8.263	246
58C0 247				8.265	247
58C0 248				8.272	248
58C0 249				8.275	249
58C0 250				8.279	250
-----					
58C0 251				8.284	251
58C0 252				8.290	252
58C0 253				8.296	253
58C0 254				8.300	254
58C0 255				8.309	255
58C0 256				8.312	256
58C0 257				8.315	257
58C0 258				8.319	258
58C0 259				8.327	259
58C0 260				8.336	260
-----					
58C0 261				8.337	261

58C0 262			8.344	262
58C0 263			8.349	263
58C0 264			8.353	264
58C0 265			8.354	265
58C0 266			8.362	266
58C0 267			8.366	267
58C0 268			8.371	268
58C0 269			8.376	269
58C0 270			8.378	270
-----				
58C0 271			8.388	271
58C0 272			8.390	272
58C0 273			8.396	273
58C0 274			8.398	274
58C0 275			8.406	275
58C0 276			8.410	276
58C0 277			8.413	277
58C0 278			8.415	278
58C0 279			8.418	279
58C0 280			8.420	280
-----				
58C0 281			8.422	281
58C0 282			8.427	282
58C0 283			8.429	283
58C0 284			8.431	284
58C0 285			8.434	285
58C0 286			8.437	286
58C0 287			8.440	287
58C0 288			8.446	288
58C0 289			8.450	289
58C0 290			8.452	290
-----				
58C0 291			8.457	291
58C0 292			8.460	292
58C0 293			8.465	293
58C0 294			8.469	294
58C0 295			8.473	295
58C0 296			8.476	296
58C0 297			8.478	297
58C0 298			8.483	298
58C0 299			8.484	299
58C0 300			8.486	300
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58C0 301			8.487	301
58C0 302			8.490	302
58C0 303			8.495	303
58C0 304			8.500	304
58C0 305			8.502	305
58C0 306			8.507	306
58C0 307			8.510	307

58C0 308			8.516	308
58C0 309			8.521	309
58C0 310			8.528	310
-----				
58C0 311			8.537	311
58C0 312			8.541	312
58C0 313			8.549	313
58C0 314			8.552	314
58C0 315			8.559	315
58C0 316			8.566	316
S-n	=	8.573 ( 0.001)	-----	
58C0 317			8.574	317
58C0 318			8.583	318
58C0 319			8.588	319
58C0 320			8.599	320
-----				
58C0 321			8.605	321
58C0 322			8.610	322
58C0 323			8.617	323
58C0 324			8.625	324
58C0 325			8.628	325
58C0 326			8.636	326
58C0 327			8.643	327
58C0 328			8.650	328
58C0 329			8.653	329
58C0 330			8.668	330
-----				
58C0 331			8.673	331
58C0 332			8.678	332
58C0 333			8.688	333
58C0 334			8.694	334
58C0 335			8.699	335
58C0 336			8.706	336
58C0 337			8.709	337
58C0 338			8.715	338
58C0 339			8.721	339
58C0 340			8.725	340
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S-p = 6.954 ( 0.001)-----  
S-n = 8.573 ( 0.001)-----  
S-2p = 17.514 ( 0.001)-----  
S-2n = 19.949 ( 0.001)-----  
S-alpha= 6.714 ( 0.002)-----

S+p = -8.599 ( 0.001)  
S+n = -10.454 ( 0.001)  
S+2p = -13.076 ( 0.002)  
S+2n = -17.946 ( 0.001)



S+alpha = -5.365 ( 0.001)

gap p = -1.644 ( 0.002)

gap n = -1.881 ( 0.002)

gap 2p = 4.438 ( 0.002)

gap 2n = 2.004 ( 0.002)

gap alpha = 1.349 ( 0.002)