

Laboratorium für Organische Chemie

Kernspin-Quantenzahlen und relative Häufigkeiten für natürlich vorkommende Nuklide

Nuklid	Spin	Häufigkeit (%)	Nuklid	Spin	Häufigkeit (%)
H-1	1/2	99.985	S-32	0	95.02
H-2	1	0.015	S-33	3/2	0.75
He-3	1/2	0.000137	S-34	0	4.21
He-4	0	99.999863	S-36	0	0.02
Li-6	1	7.5	Cl-35	3/2	75.77
Li-7	3/2	92.5	Cl-37	3/2	24.23
Be-9	3/2	100	Ar-36	0	0.337
B-10	3	19.9	Ar-38	0	0.063
B-11	3/2	80.1	Ar-40	0	99.600
C-12	0	98.90	K-39	3/2	93.2581
C-13	1/2	1.10	K-40	4	0.0117
N-14	1	99.634	K-41	3/2	6.7302
N-15	1/2	0.366	Ca-40	0	96.941
O-16	0	99.762	Ca-42	0	0.647
O-17	5/2	0.038	Ca-43	7/2	0.135
O-18	0	0.200	Ca-44	0	2.086
F-19	1/2	100	Ca-46	0	0.004
Ne-20	0	90.48	Ca-48	0	0.187
Ne-21	3/2	0.27	Sc-45	7/2	100
Ne-22	0	9.25	Ti-46	0	8.0
Na-23	3/2	100	Ti-47	5/2	7.3
Mg-24	0	78.99	Ti-48	0	73.8
Mg-25	5/2	10.00	Ti-49	7/2	5.5
Mg-26	0	11.01	Ti-50	0	5.4
Al-27	5/2	100	V-50	6	0.250
Si-28	0	92.23	V-51	7/2	99.750
Si-29	1/2	4.67	Cr-50	0	4.345
Si-30	0	3.10	Cr-52	0	83.789
P-31	1/2	100	Cr-53	3/2	9.501
			Cr-54	0	2.365
			Mn-55	5/2	100
			Fe-54	0	5.8
			Fe-56	0	91.72
			Fe-57	1/2	2.2
			Fe-58	0	0.28

Nuklid	Spin	Häufigkeit (%)	Nuklid	Spin	Häufigkeit (%)
Co-59	7/2	100	Zr-90	0	51.45
Ni-58	0	68.077	Zr-91	5/2	11.22
Ni-60	0	26.223	Zr-92	0	17.15
Ni-61	3/2	1.140	Zr-94	0	17.38
Ni-62	0	3.634	Zr-96	0	2.80
Ni-64	0	0.926	Nb-93	9/2	100
Cu-63	3/2	69.17	Mo-92	0	14.84
Cu-65	3/2	30.83	Mo-94	0	9.25
Zn-64	0	48.6	Mo-95	5/2	15.92
Zn-66	0	27.9	Mo-96	0	16.68
Zn-67	5/2	4.1	Mo-97	5/2	9.55
Zn-68	0	18.8	Mo-98	0	24.13
Zn-70	0	0.6	Mo-100	0	9.63
Ga-69	3/2	60.108	Ru-96	0	5.52
Ga-71	3/2	39.892	Ru-98	0	1.88
Ge-70	0	21.23	Ru-99	3/2	12.7
Ge-72	0	27.66	Ru-100	0	12.6
Ge-73	9/2	7.73	Ru-101	5/2	17.0
Ge-74	0	35.94	Ru-102	0	31.6
Ge-76	0	7.44	Ru-104	0	18.7
As-75	3/2	100	Rh-103	1/2	100
Se-74	0	0.89	Pd-102	0	1.02
Se-76	0	9.36	Pd-104	0	11.14
Se-77	1/2	7.63	Pd-105	5/2	22.33
Se-78	0	23.78	Pd-106	0	27.33
Se-80	0	49.61	Pd-108	0	26.46
Se-82	0	8.73	Pd-110	0	11.72
Br-79	3/2	50.69	Ag-107	1/2	51.839
Br-81	3/2	49.31	Ag-109	1/2	48.161
Kr-78	0	0.35	Cd-106	0	1.25
Kr-80	0	2.25	Cd-108	0	0.89
Kr-82	0	11.6	Cd-110	0	12.49
Kr-83	9/2	11.5	Cd-111	1/2	12.80
Kr-84	0	57.0	Cd-112	0	24.13
Kr-86	0	17.3	Cd-113	1/2	12.22
Rb-85	5/2	72.165	Cd-114	0	28.73
Rb-87	3/2	27.835	Cd-116	0	7.49
Sr-84	0	0.56	In-113	9/2	4.3
Sr-86	0	9.86	In-115	9/2	95.7
Sr-87	9/2	7.00	Sn-112	0	0.97
Sr-88	0	82.58	Sn-114	0	0.65
Y-89	1/2	100	Sn-115	1/2	0.34
			Sn-116	0	14.53
			Sn-117	1/2	7.68
			Sn-118	0	24.23
			Sn-119	1/2	8.59
			Sn-120	0	32.59
			Sn-122	0	4.63
			Sn-124	0	5.79

Nuklid	Spin	Häufigkeit (%)	Nuklid	Spin	Häufigkeit (%)
Sb-121	5/2	57.36	Sm-144	0	3.1
Sb-123	7/2	42.64	Sm-147	7/2	15.0
Te-120	0	0.096	Sm-148	0	11.3
Te-122	0	2.603	Sm-149	7/2	13.8
Te-123	1/2	0.908	Sm-150	0	7.4
Te-124	0	4.816	Sm-152	0	26.7
Te-125	1/2	7.139	Sm-154	0	22.7
Te-126	0	18.95	Eu-151	5/2	47.8
Te-128	0	31.69	Eu-153	5/2	52.2
Te-130	0	33.80	Gd-152	0	0.20
I-127	5/2	100	Gd-154	0	2.18
Xe-124	0	0.10	Gd-155	3/2	14.80
Xe-126	0	0.09	Gd-156	0	20.47
Xe-128	0	1.91	Gd-157	3/2	15.65
Xe-129	1/2	26.4	Gd-158	0	24.84
Xe-130	0	4.1	Gd-160	0	21.86
Xe-131	3/2	21.2	Tb-159	3/2	100
Xe-132	0	26.9	Dy-156	0	0.06
Xe-134	0	10.4	Dy-158	0	0.10
Xe-136	0	8.9	Dy-160	0	2.34
Cs-133	7/2	100	Dy-161	5/2	18.9
Ba-130	0	0.106	Dy-162	0	25.5
Ba-132	0	0.101	Dy-163	5/2	24.9
Ba-134	0	2.417	Dy-164	0	28.2
Ba-135	3/2	6.592	Ho-165	7/2	100
Ba-136	0	7.854	Er-162	0	0.14
Ba-137	3/2	11.23	Er-164	0	1.61
Ba-138	0	71.70	Er-166	0	33.6
La-138	5	0.0902	Er-167	7/2	22.95
La-139	7/2	99.9098	Er-168	0	26.8
Ce-136	0	0.19	Er-170	0	14.9
Ce-138	0	0.25	Tm-169	1/2	100
Ce-140	0	88.48	Yb-168	0	0.13
Ce-142	0	11.08	Yb-170	0	3.05
Pr-141	5/2	100	Yb-171	1/2	14.3
Nd-142	0	27.13	Yb-172	0	21.9
Nd-143	7/2	12.18	Yb-173	5/2	16.12
Nd-144	0	23.80	Yb-174	0	31.8
Nd-145	7/2	8.30	Yb-176	0	12.7
Nd-146	0	17.19	Lu-175	7/2	97.41
Nd-148	0	5.76	Lu-176	7	2.59
Nd-150	0	5.64	Hf-174	0	0.162
			Hf-176	0	5.206
			Hf-177	7/2	18.60
			Hf-178	0	27.30
			Hf-179	9/2	13.63
			Hf-180	0	35.10

Nuklid	Spin	Häufigkeit (%)
Ta-180		0.012
Ta-181	7/2	99.988
W-180	0	0.13
W-182	0	26.3
W-183	1/2	14.3
W-184	0	30.67
W-186	0	28.6
Re-185	5/2	37.40
Re-187	5/2	62.60
Os-184	0	0.02
Os-186	0	1.58
Os-187	1/2	1.6
Os-188	0	13.3
Os-189	3/2	16.1
Os-190	0	26.4
Os-192	0	41.0
Ir-191	3/2	37.3
Ir-193	3/2	62.7
Pt-190	0	0.01
Pt-192	0	0.79
Pt-194	0	32.9
Pt-195	1/2	33.8
Pt-196	0	25.3
Pt-198	0	7.2
Au-197	3/2	100
Hg-196	0	0.15
Hg-198	0	9.97
Hg-199	1/2	16.87
Hg-200	0	23.10
Hg-201	1/2	13.18
Hg-202	0	29.86
Hg-204	0	6.87
Tl-203	1/2	29.524
Tl-205	1/2	70.476
Pb-204	0	1.4
Pb-206	0	24.1
Pb-207	1/2	22.1
Pb-208	0	52.4
Bi-209	9/2	100
Th-232	0	100
U-234	0	0.0055
U-235	7/2	0.7200
U-238	0	99.2745