^{92}Zr(^{3}He,p2nγ) 1985Ru08

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 113, 2187 (2012)	15-Sep-2012

E(^{3}He)=33.8 MeV; Ge(Li), high purity Ge; θ(lab)=20°−90°.
Measured: Eγ, Iγ, $\gamma\gamma$ coin (detailed information not given), $\gamma(\theta)$.

^{92}Nb Levels

E(level)	E(level)	E(level)	E(level)
0	480	1473	2289
136	501	1647	3000
227	1312	1945	3330
286	1409	2087	3801
357	1414	2203	
391	1423	2237	

$\gamma(^{92}$Nb)

A_2 and A_4 values from $\gamma(\theta)$ data of 1985Ru08 are given in comments.

E$_\gamma$[†]	I$_\gamma$[‡]	E$_i$(level)	E$_f$	Mult.[#]	Comments
91	97	227	136	D	A_2=+0.02 *1*, A_4=+0.06 *2*.
116	24	2203	2087		A_2=−0.02 *7*, A_4=+0.05 *9*; very different from $\gamma(\theta)$ from (^{7}Li,3nγ) which implies a Q transition.
123	31	480	357	D	A_2=−0.17 *4*, A_4=−0.06 *7*.
150[d]	70[d]	286	136		A_2=−0.11 *1*, A_4=−0.02 *2* for doublet.
150[d]	70[d]	2237	2087		A_2=−0.11 *1*, A_4=−0.02 *2* for doublet.
164	64	391	227	D	A_2=−0.26 *3*, A_4=−0.04 *4*.
194	81	480	286		
330[@]	246	3330	3000		A_2=−0.02 *1*, A_4=−0.05 *2* for doublet.
357[@]	94	357	0		A_2=−0.03 *2*, A_4=−0.05 *3* for doublet.
471[@]	45	3801	3330		A_2=+0.78 *7*, A_4=+0.42 *10* for doublet.
501	91	501	0	D	A_2=−0.27 *3*, A_4=+0.12 *5*.
711	83[a]	3000	2289		
763	21[a]	3000	2237	D	A_2=−0.49 *11*, A_4=−0.21 *16*.
908	64	1409	501	D	A_2=−0.17 *7*, A_4=−0.21 *10*.
921	14	1312	391		
934[&]	66	1414	480	D	A_2=−0.24 *4*, A_4=+0.05 *6*.
1032	6	1423	391		
1082	24	1473	391		
1128	43	1414	286		
1146[b]	7	1647	501		
1444	<5	1945	501		
[x]1507[c]	<5				
2087	100	2087	0		A_2=−0.10 *3*, A_4=−0.06 *4*; very different from $\gamma(\theta)$ from (^{7}Li,3nγ) which leads to the adopted Q+O assignment.
2289[@]	115	2289	0		E$_\gamma$: from fig. 5 of 1985Ru08; 2287 In table I.

[†] Uncertainty not stated by authors. Detector resolution≈1.0 keV FWHM for Eγ=1 MeV. Eγ deviates from value established in other reactions by≤1 keV, except for 1128γ, 1146γ and 330γ (1.6- to 3-keV energy difference).

Continued on next page (footnotes at end of table)

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$\gamma(^{92}Nb)$ (continued)

‡ Relative intensity at 90°, normalized to 100 for 2087γ.
# Assigned by evaluator on basis of $\gamma(\theta)$ data.
@ Doublet.
& 934γ placed by evaluator on basis of energy difference and level scheme from (p,nγ). Since the 1324 level is not excited in this reaction (1098γ absent), the 934γ is presumed not to be a doublet in this reaction; however, I(934γ)/I(1129γ)=1.5 here, cf. 1.0 *3* in (p,nγ), (α,xnγ).
[a] I(711γ)/I(763γ) differs grossly from result in (^{7}Li,3nγ) reaction. See Adopted Gammas.
[b] Evaluator assumes this γ ray corresponds to 1149.0γ reported in (p,nγ).
[c] Placed by 1985Ru08 between 1647 and 136 levels. Evaluator rejects this placement due to very poor energy fit and absence of such a branch in other reactions known to excite this level.
[d] Multiply placed with undivided intensity.
[x] γ ray not placed in level scheme.

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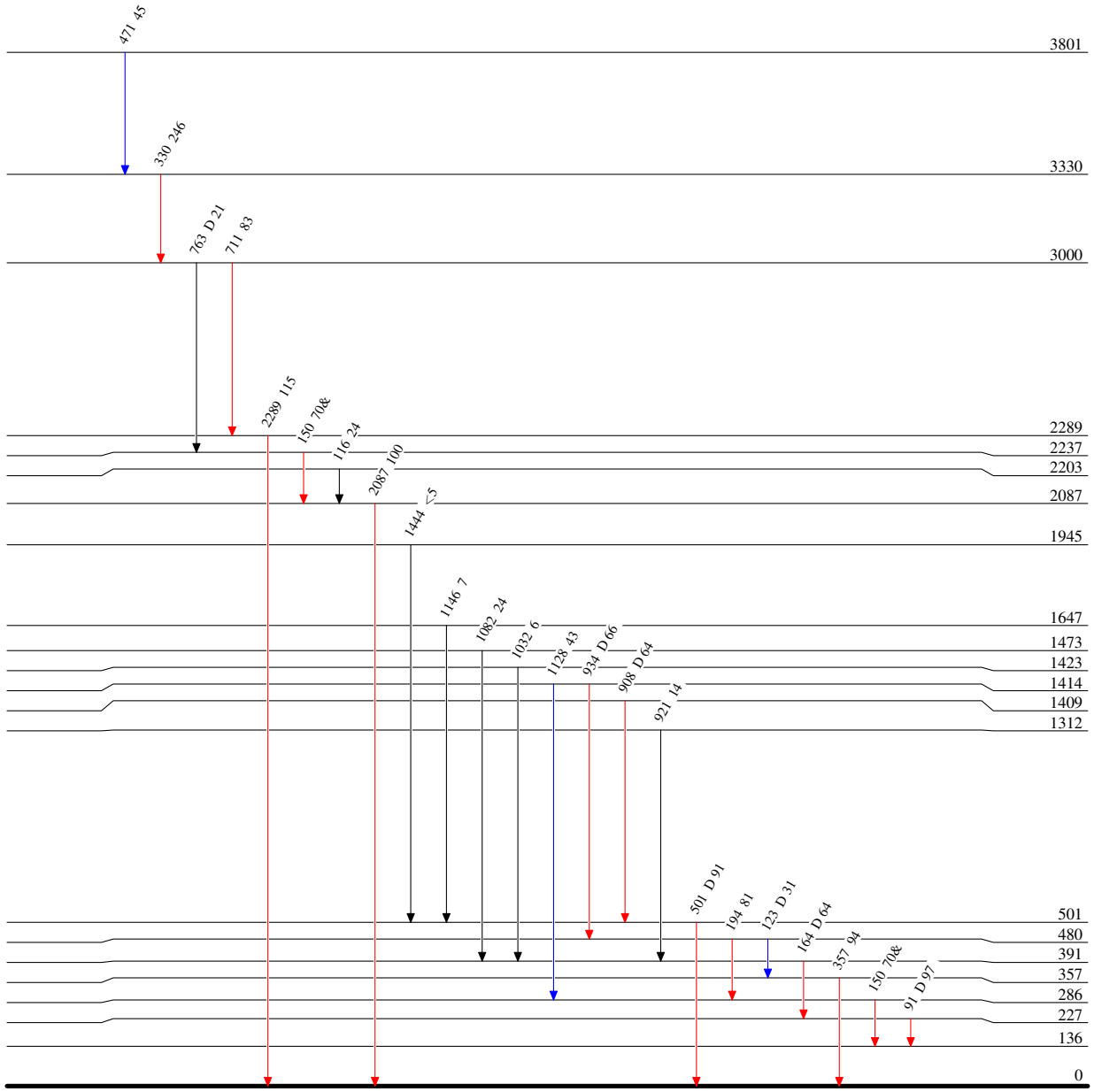
Level Scheme

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

Legend
$I_\gamma < 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$



$^{92}_{41}Nb_{51}$