^{80}Se(p,γ) 1969Sa23,1979ChZM

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 199,271 (2025)	1-Sep-2024

Other: 1977ChXQ.

1969Sa23: E=2 MeV to 2.6 MeV, 49.8% and 94% ^{80}Se targets, NaI and Ge(Li) (FWHM=4.5 keV at 1 MeV) detectors.

1979ChZM: E=2.6 MeV, 95.7% ^{80}Se target. Pair spectrometer (Ge(Li) and NaI); only E(level) and relative Iγ for primary γ rays reported.

1977ChXQ: Ge(Li) and NaI detectors; measured triple angular correlations.

^{81}Br Levels

E(level)[†]	J$^\pi$[‡]	E(level)[†]	E(level)[†]	E(level)[†]
0	3/2$^-$[#]	1024.2 *10*	1708 *15*	2620 *15*
275.99 *20*	5/2$^-$[#]	1105 *15*	1745 *15*	2650 *15*
536.5 *3*		1170 *15*	1870 *15*	2700 *15*
538.0 *4*		1237 *15*	1960 *15*	2788 *15*
567.3 *8*	3/2$^-$	1300 *15*	2000 *15*	2900 *15*
650.4 *5*	3/2,5/2	1327.3 *6*	2030 *15*	2990 *15*
767.4 *5*	3/2,5/2	1350 *15*	2061 *15*	3100 *15*
800 *15*		1400 *15*	2155 *15*	3190 *15*
828.0 *6*	3/2	1512 *15*	2245 *15*	3242 *15*
835.4 *7*	7/2	1543 *15*	2285 *15*	3759 *15*
906 *15*		1615 *15*	2410 *15*	
975 *15*		1650 *15*	2490 *15*	

[†] From 1979ChZM if ΔE=15 keV; from Eγ of 1969Sa23 otherwise.

[‡] Based on angular correlation measurements (1977ChXQ), except as noted. Consistent with adopted values.

[#] From Adopted Levels.

γ(^{81}Br)

For relative Iγ for 43 primary capture γ rays, see 1979ChZM.

E$_\gamma$[†]	I$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.[‡]	δ[‡]	Comments
260.5 *2*	13 *2*	536.5		275.99	5/2$^-$			
276.0 *2*	100 *5*	275.99	5/2$^-$	0	3/2$^-$			
290.2[@] *2*	13[@#] *2*	567.3	3/2$^-$	275.99	5/2$^-$	D+Q	+0.85 *30*	
290.2[@] *2*	6[@#] *2*	828.0	3/2	538.0				
456[&]	3	1024.2		567.3	3/2$^-$			E$_\gamma$: shown in drawing, not in γ table.
491.7 *6*	6 *1*	767.4	3/2,5/2	275.99	5/2$^-$			
492[&]		1327.3		835.4	7/2			
538.1 *4*	26 *4*	538.0		0	3/2$^-$			
551.6 *9*	6 *1*	828.0	3/2	275.99	5/2$^-$	D+Q	+0.32 *20*	δ: +1.6 *5* also possible, but this implies an abnormally large B(E2)(W.u.).
561.4[@] *12*	10[@] *4*	835.4	7/2	275.99	5/2$^-$	D+Q	−0.24 *3*	Iγ=14 *4* for doublet.
561.4[@] *12*	4[@] *4*	1327.3		767.4	3/2,5/2			Iγ=14 *4* for doublet.
567.3 *8*	6 *3*	567.3	3/2$^-$	0	3/2$^-$	D+Q	−3.0 *5*	δ: −3.0 *5* or −0.08 *5*. See comments in adopted gammas.
650.2 *5*	18 *4*	650.4	3/2,5/2	0	3/2$^-$	D+Q		δ: +0.08 *4* if J=3/2; −0.32 *2* or +179 *36* if J=5/2.
676.6 *7*	3 *1*	1327.3		650.4	3/2,5/2			

Continued on next page (footnotes at end of table)

^{80}Se(p,γ) 1969Sa23,1979ChZM (continued)

$\gamma(^{81}Br)$ (continued)

E_γ [†]	I_γ [†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[‡]	δ[‡]
748.2 *9*	9 *2*	1024.2		275.99	$5/2^-$		
767.0 *7*	23 *5*	767.4	3/2,5/2	0	$3/2^-$		
789.6 *7*	20 *5*	1327.3		538.0			
828.2 *7*	18 *4*	828.0	3/2	0	$3/2^-$	D+Q	+0.16 *+5−10*
835.4 *11*	6 *3*	835.4	7/2	0	$3/2^-$		

† From 1969Sa23.
‡ From angular correlation measurement (1977ChXQ).
# I(290γ)=19 *2* for doublet. Authors′ division of this Iγ between 566 and 828 level deexcitations is shown here; however, this leads to branching for the 828 level which is inconsistent with the adopted value. Based on the latter, Iγ=1.0 *2* from 828 level, leaving Iγ=18 *2* to deexcite the 568 level.
@ Multiply placed with intensity suitably divided.
& Placement of transition in the level scheme is uncertain.

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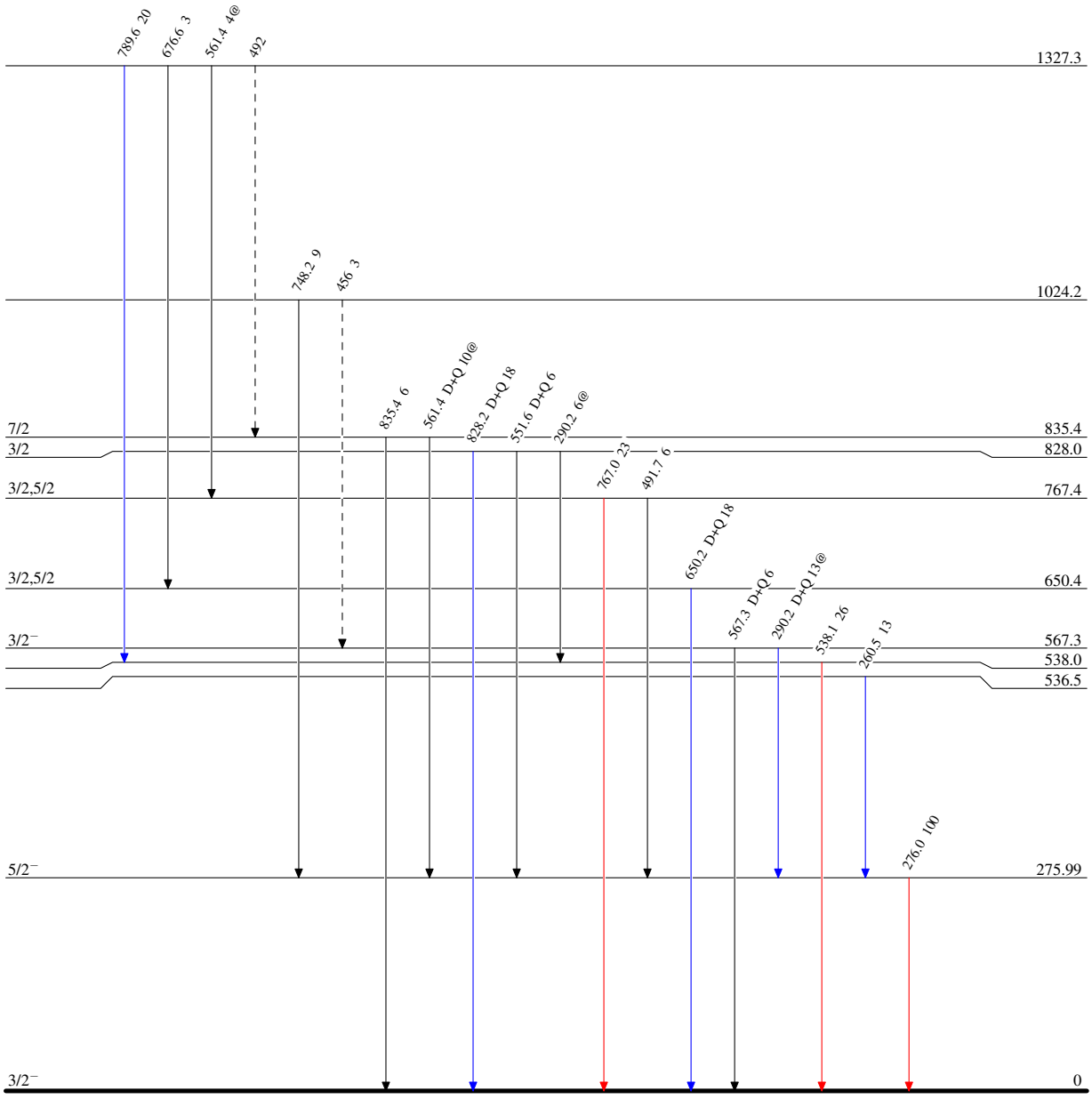
Level Scheme

Intensities: Relative I_γ

@ Multiply placed: intensity suitably divided

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- γ Decay (Uncertain)



$^{81}_{35}Br_{46}$