(HI,xnγ) 1996Sh04,1988JaZZ

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 111, 717 (2010)	1-Dec-2009

^{102}Ru(^{19}F,p4n) E=90 MeV (1996Sh04,1993Sh20), preliminary work given in 1993Sh20.
Measured: γ, γ(E), γγ(θ), γ detector array, 14 BGO + 5 Ge, 30 10×10^6 γγ coin.
^{96}Mo(^{23}Na,p2nγ) E=95 MeV enriched target (96.8%)(1988JaZZ).
Measured: γ, γ(E), γγ(θ).
^{70}Zn(^{50}Ti,xn) E=170 MeV (1987Le01).
Measured: γ, γγ, distribution of the total energy and multiplicity of γ rays feeding the yrast transition. Ge and NaI detectors γ-ray spectrum of the yrast band up to the level 14^+ shown, in agreement with the results from ^{106}Pd(^{12}C,2nγ) (1982Ch01). γ, Iγ, and level scheme not given.
The level scheme is from 1996Sh04. The two works (1996Sh04,1988JaZZ) agree until the 3477-keV level. Above we have adopted 1996Sh04 because they have much more statistics.

^{116}Te Levels

E(level)	Jπ†	$T_{1/2}$	Comments
0	0^+	2.49 h *4*	
678.90@ *20*	2^+		
1219.0 *6*	2^+		
1360.1@ *3*	4^+		
1746.0 *8*	4^+		
2003.2@ *4*	6^+		
2340.8 *5*	6^+		Jπ: $(5)^+$ In Adopted Levels.
2773.8@ *4*	8^+		
3028.2a *4*	7^-		
3175.9b *6*	8^-		
3246.3 *7*	(8^+)		Jπ: $(7)^+$ In Adopted Levels.
3430.6a *5*	(9^-)		
3575.4@ *5*	10^+		
3684.6 *7*	$^+$		
3698.7‡ *5*	10^+		
3747.1# *6*	(9^-)		
3994.5b *7*	10^-		
4228.8a *6*	11^-		
4328.9# *6*	(11^-)		
4339.9‡ *5*	12^+		
4586.3 *8*			
4705.2b *7*	12^-		
4920.1a *7*	13^-		
4995.3# *8*	(13^-)		
5110.5‡ *7*	14^+		
5114.4 *7*	$^+$		
5198.8b *8*	14^-		
5622.0‡ *8*	16^+		
5775.5# *10*	(15^-)		
5997.6a *9*	(15^-)		
6107.3 *9*	16^+		
6661.3# *11*	(17^-)		
6676.7‡ *8*	18^+		

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(HI,xnγ) 1996Sh04,1988JaZZ (continued)

^{116}Te Levels (continued)

E(level)	Jπ†	E(level)	Jπ†	E(level)	Jπ†	E(level)	Jπ†
7095.6& *8*	19(−)	7645.4‡ *9*	20+	8671.6& *11*	22(−)	9760.3& *12*	24(−)
7099.3 *9*	19(−)	8123.6& *10*	21(−)	8999.4& *11*	23(−)	10062.8& *13*	25(−)

† As given by the authors mainly based on γ multipolarities and band consideration.
‡ Band(A): Positive parity band (part of the g.s. band in adopted).
# Band(B): Negative parity band based on (9−).
@ Band(C): g.s. yrast band member.
& Band(D): Negative parity band based on (19−).
a Band(E): Negative parity band based on (7−).
b Band(F): Negative parity band based on 8−.

γ(^{116}Te)

Eγ	Iγ†	Ei(level)	Jiπ	Ef	Jfπ	Mult.†	Comments
147.5 *5*	90 *9*	3175.9	8−	3028.2	7−	M1	Mult.: A2=−0.15 *4*; A4=0.09 *5*.
254.7 *5*	24 *3*	3430.6	(9−)	3175.9	8−	M1	
278.7 *5*	34 *5*	5198.8	14−	4920.1	13−	M1	
302.5 *5*	36 *5*	10062.8	25(−)	9760.3	24(−)	(M1)	
337.5 *5*	50 *9*	2340.8	6+	2003.2	6+	E2	
418.9 *2*	106 *12*	7095.6	19(−)	6676.7	18+	(E1)	Eγ: major component of an unresolved multiplet. Mult.: A2=−0.09 *2*$ A4=0.01 *3*.
422.6 *5*	17 *3*	7099.3	19(−)	6676.7	18+	(E1)	
477 *1*	6 *2*	4705.2	12−	4228.8	11−		
493.6 *5*	51 *6*	5198.8	14−	4705.2	12−	E2	Mult.: A2=0.29 *9*; A4=0.00 *11*.
511.5 *2*	265 *30*	5622.0	16+	5110.5	14+	E2	
527.0 *5*	32 *5*	1746.0	4+	1219.0	2+	E2	
530.5 *5*	12 *2*	4228.8	11−	3698.7	10+		
540.1 *5*	38 *6*	1219.0	2+	678.90	2+	E2	
548.0 *5*	44 *6*	8671.6	22(−)	8123.6	21(−)	(M1)	Mult.: A2=0.28 *2*$ A4=−0.08 *3*.
582.0 *5*	60 *7*	4328.9	(11−)	3747.1	(9−)	E2	
593.3 *5*	21 *2*	2340.8	6+	1746.0	4+	E2	
641.2 *5*	41 *5*	4339.9	12+	3698.7	10+	E2	
643.1 *2*	854 *90*	2003.2	6+	1360.1	4+	E2	Mult.: A2=0.32 *2*; A4=−0.10 *3*.
656.7 *5*	92 *9*	3430.6	(9−)	2773.8	8+	E1	Mult.: A2=−0.32 *2*; A4=0.04 *5*.
666.4 *5*	43 *5*	4995.3	(13−)	4328.9	(11−)	E2	
678.9 *2*	1000 *50*	678.90	2+	0	0+	E2	Mult.: A2=0.28 *2*; A4=−0.08 *3*.
681.2 *2*	929 *50*	1360.1	4+	678.90	2+	E2	Mult.: A2=0.35 *2*; A4=−0.12 *3*.
691.3 *5*	88 *10*	4920.1	13−	4228.8	11−	E2	Mult.: A2=0.30 *7*; A4=−0.04 *8*.
710.5 *5*	69 *9*	4705.2	12−	3994.5	10−	E2	Mult.: A2=0.19 *8*; A4=−0.07 *9*.
753.3 *5*	24 *4*	4328.9	(11−)	3575.4	10+	(E1)	
764.5 *2*	287 *30*	4339.9	12+	3575.4	10+	E2	Mult.: A2=0.34 *3*; A4=−0.13 *3*.
770.6‡ *2*	601‡ *60*	2773.8	8+	2003.2	6+	E2	
770.6‡ *5*	289‡ *30*	5110.5	14+	4339.9	12+	E2	
774.5 *5*	39 *5*	5114.4	+	4339.9	12+	E2	
780.2 *5*	49 *6*	5775.5	(15−)	4995.3	(13−)	E2	
798.1 *2*	102 *11*	4228.8	11−	3430.6	(9−)	E2	Mult.: A2=0.34 *5*; A4=−0.14 *7*.
801.6 *2*	395 *40*	3575.4	10+	2773.8	8+	E2	Mult.: A2=0.36 *2*; A4=−0.12 *7*.
818.5 *5*	86 *9*	3994.5	10−	3175.9	8−	E2	Mult.: A2=0.36 *6*; A4=−0.09 *7*.
875.8 *5*	41 *5*	8999.4	23(−)	8123.6	21(−)	E2	

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(HI,xnγ) 1996Sh04,1988JaZZ (continued)

$\gamma(^{116}Te)$ (continued)

E_γ	I_γ †	E_i(level)	J_i^π	E_f	J_f^π	Mult. †	Comments
885.8 *5*	45 *6*	6661.3	(17^-)	5775.5	(15^-)	E2	
901.7 *5*	45 *5*	4586.3		3684.6	$^+$	E2	
905.5 *5*	55 *6*	3246.3	(8^+)	2340.8	6^+	(E2)	
910.8 *5*	49 *5*	3684.6	$^+$	2773.8	8^+	M1	
925.2 *5*	66 *7*	3698.7	10^+	2773.8	8^+	E2	Mult.: A_2=0.32 *8*; A_4=−0.02 *10*.
968.7 *5*	29 *4*	7645.4	20^+	6676.7	18^+	E2	
973.5 *5*	40 *5*	3747.1	(9^-)	2773.8	8^+	(E1)	
980.7 *5*	61 *8*	2340.8	6^+	1360.1	4^+	E2	
996.8 *5*	40 *5*	6107.3	16^+	5110.5	14^+	E2	
1024.9 *2*	127 *13*	3028.2	7^-	2003.2	6^+	E1	Mult.: A_2=−0.32 *2*; A_4=0.05 *5*.
1028.0 *5*	83 *9*	8123.6	$21^{(-)}$	7095.6	$19^{(-)}$	E2	Mult.: A_2=0.36 *7*$ A_4=−0.09 *8*.
1054.7 *2*	182 *20*	6676.7	18^+	5622.0	16^+	E2	Mult.: A_2=0.35 *3*; A_4=−0.15 *4*.
1077.5 *5*	26 *4*	5997.6	(15^-)	4920.1	13^-	(E2)	
1088.7 *5*	36 *5*	9760.3	$24^{(-)}$	8671.6	$22^{(-)}$	E2	

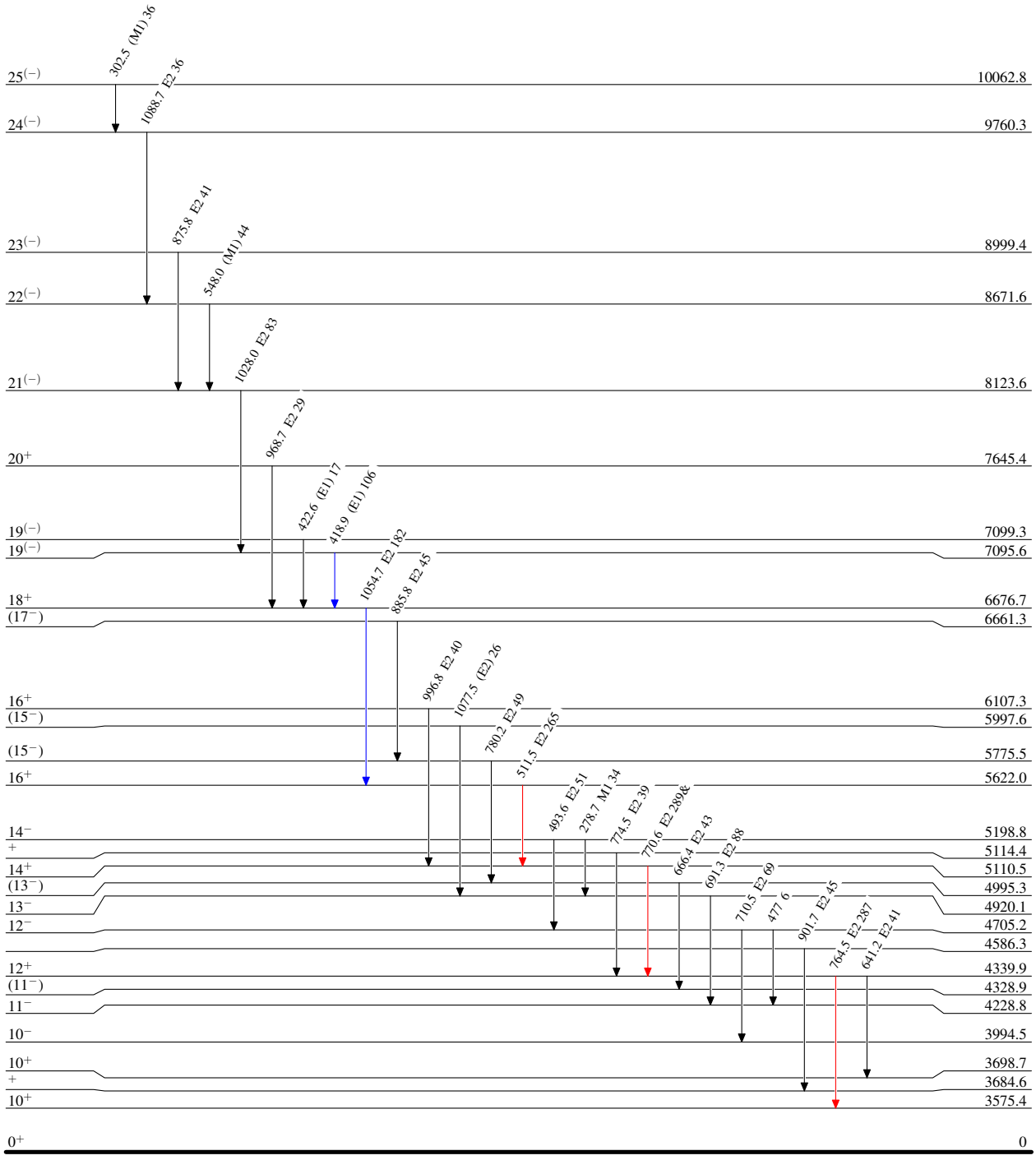
† The Iγ and the mult from DCO are from 1996Sh04, A_2, A_4 from 1988JaZZ.
‡ Multiply placed with undivided intensity.

(HI,xnγ) 1996Sh04,1988JaZZ

Level Scheme

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

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



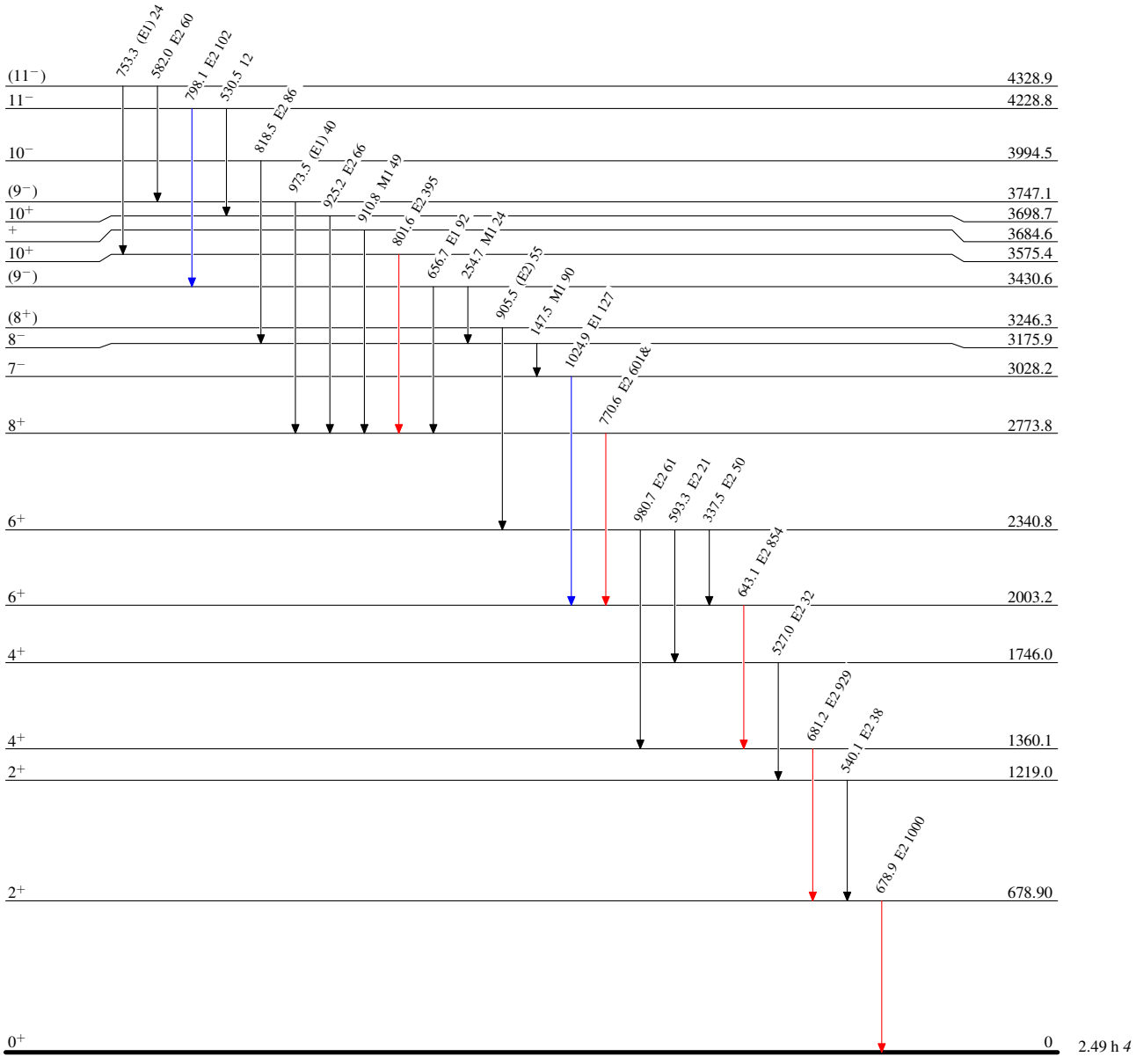
$^{116}_{52}Te_{64}$

(HI,xnγ) 1996Sh04,1988JaZZ

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given

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



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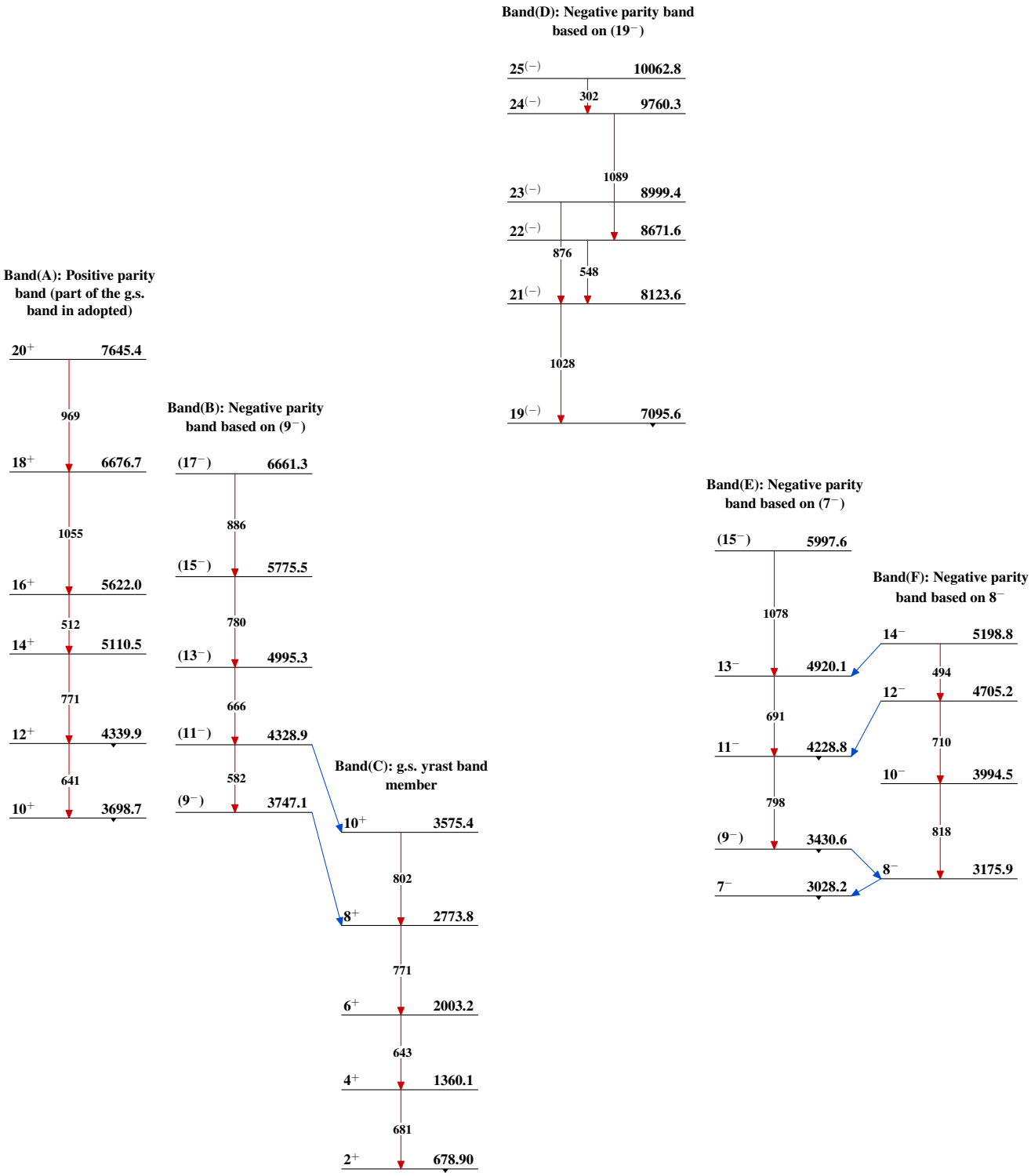

$^{116}_{52}Te_{64}$