

<sup>9</sup>Be(<sup>208</sup>Pb,X $\gamma$ ) 2011St21

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 195,368 (2024)	1-Dec-2023

Others: [2012AI05](#), [2009AI30](#), [2009AI16](#), [2009St16](#).

**2011St21**: <sup>191</sup>W produced from fragmentation of <sup>208</sup>Pb beam, E=1 GeV/nucleon, bombarding <sup>9</sup>Be target (thickness=2.526 g/cm<sup>2</sup>) at GSI. Fragments identified in flight by the Fragment Separator (FRS) operated in achromatic mode based on time of flight, B $\rho$  and energy loss. Transmitted ions slowed in Al degraders and stopped in a plastic catcher. The stopper was surrounded by the RISING  $\gamma$ -ray spectrometer. Measured E $\gamma$ , I $\gamma$ , delayed  $\gamma$  rays, isomer lifetime. Other articles [2012AI05](#), [2009AI30](#), [2009AI16](#), [2009St16](#) are from the same research group and facility.

<sup>191</sup>W Levels

E(level)	T <sub>1/2</sub>	Comments
0.0		
0.0+x	0.34 $\mu$ s 2	E(level): Other: 235 keV 10 from systematics ( <a href="#">2021Ko07</a> – NUBASE). If unplaced $\gamma$ s of 67.5 and 167.4 were in cascade, for x=0 the isomeric level would be at 234.9 keV. T <sub>1/2</sub> : Weighted average of 0.36 $\mu$ s 2 ( <a href="#">2011St21</a> – x-ray(t) and 67.5 $\gamma$ (t)) and 0.32 $\mu$ s 2 ( <a href="#">2009AI30</a> – $\gamma$ (t)).

$\gamma$ (<sup>191</sup>W)

E $\gamma$	I $\gamma$ <sup>‡</sup>	E <sub>i</sub> (level)
<sup>x</sup> 67.5 <sup>†</sup> 5	100 25	
<sup>x</sup> 167.4 <sup>†</sup> 5	50 10	

<sup>†</sup> From Table I in [2011St21](#). Uncertainty of 0.5 keV assigned by W. D. Kulp (XUNDL dataset compiler) in consultation with Zs. Podolyak (co-author of [2011St21](#)). This  $\gamma$  ray deexcites 0.36- $\mu$ s (0.34  $\mu$ s in this dataset) isomer, but the level scheme is unknown.

<sup>‡</sup> From [2011St21](#).

<sup>x</sup>  $\gamma$  ray not placed in level scheme.