



# **JANIS Book**

## **of alpha-induced cross-sections**

Comparison of evaluated and experimental data from  
JENDL/AN-2005, TENDL-2015 and EXFOR

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OECD NEA Data Bank

## Introduction

This document compares evaluated cross-sections below 200 MeV with corresponding experimental data from the EXFOR database for a number of evaluated libraries (Table 1), nuclear reactions and associated reaction products (Table 3). This document was produced using tools based on the NEA Java-based nuclear information software (JANIS) and associated databases; up-to-date plots are available from online JANIS Books [1].

Caveat: When studying plots, please take into account that the energy resolution of experimental data is not always comparable with the resolution of the evaluated data.

## Graphical comparison of nuclear data

Experimental data sets are identified by the year and first author of the main reference compiled in EXFOR. The colors give an indication on the publication year, from black/blue for the oldest data to orange/red for the most recent ones (Table 2). All experimental data are plotted on the graph but the legend will ignore all of them if there are more than 20 data sets.

Evaluated data are plotted with full lines for exclusive cross-sections explicitly defined by a MT number, whereas dashed lines indicate residual production cross-sections given in MT5. A star '\*' after the name of the library indicates additional operations performed by JANIS, e.g. summation over the ground and metastable yields, reconstruction of residual production cross-sections over the whole energy range.

The data are plotted in log-log scale (on the left hand side) and lin-log scale (on the right hand side). The best representation depends on the Q value of the reaction and/or the magnitude of the variation in the cross-section values.

## Table of reactions and Q values

In order to identify individual contributions in residual production cross-sections, reactions leading to the same product are listed along with their associated Q values. The latter are calculated using mass excess from the NUBASE2012 evaluation of nuclear properties [2].

## Navigation in this document

The data are sorted by element, then by isotope and finally by reaction. In order to facilitate access to the information, two navigation modes are available in addition to the usual bookmark. At the top of each page, on the first row, the previous (<<) and next (>>) "Isotope links" allow the reader to move from one isotope to another while staying on the same MT reaction. On the second row, the "MT links" allow scanning all reactions of a given isotope. The latter navigation mode is actually similar to the use of the page up and page down keys.

## References

- [1] N. Soperra *et al.*, *Nuclear Data Sheets* 120 (2014), 294. See also [www.oecd-nea.org/janis](http://www.oecd-nea.org/janis).
- [2] G. Audi *et al.*, *Chinese Physics C*, 36 (12), 1157–1286, 2012.

Table 1: list of databases used in the inter-comparison

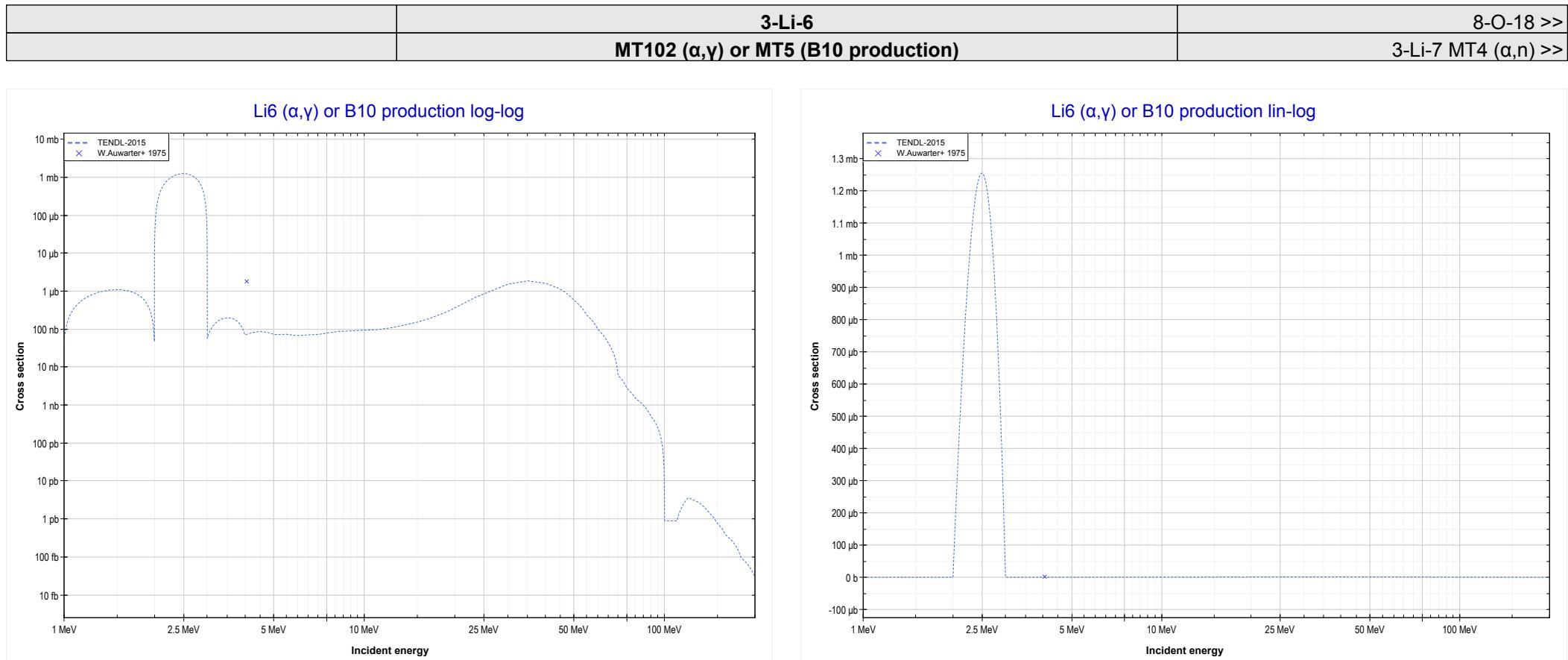
Library	Release date
JENDL/AN-2005	2005
TENDL-2015	January 2016
EXFOR	March 2017

Table 2: experimental data sets color code

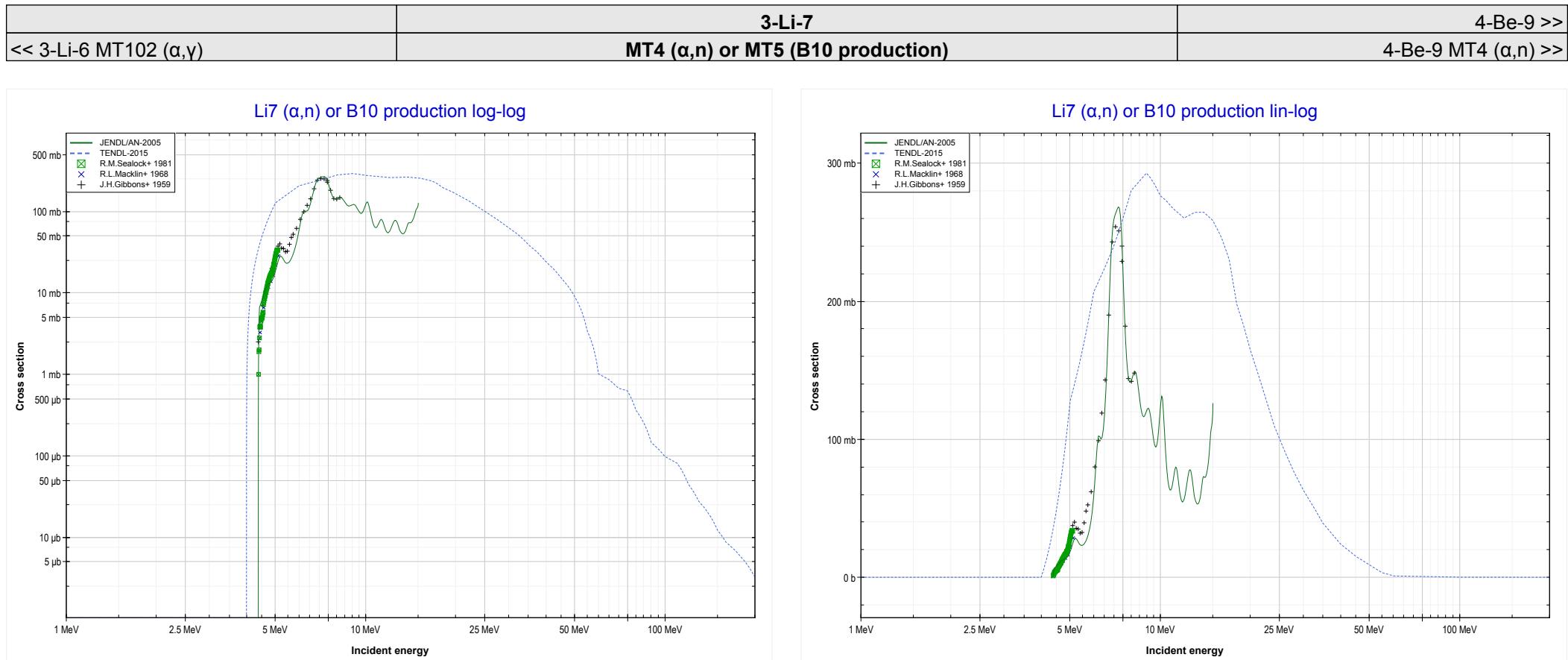
Color	Publication year
red	2005 ≤ year
orange	2000 ≤ year < 2005
light orange	1995 ≤ year < 2000
khaki	1990 ≤ year < 1995
light green	1985 ≤ year < 1990
green	1980 ≤ year < 1985
light blue	1970 ≤ year < 1980
dark blue	1960 ≤ year < 1970
black	year < 1960

Table 3: list of exclusive reactions used in the inter-comparison

MT	Reaction	MT	Reaction	MT	Reaction	MT	Reaction
4	n	102	gamma	159	2n+p+a	181	3n+p+a
11	2n+d	103	p	160	7n	182	d+t
16	2n	104	d	161	8n	183	n+p+d
17	3n	105	t	162	5n+p	184	n+p+t
18	fission	106	h	163	6n+p	185	n+d+t
22	n+a	107	a	164	7n+p	186	n+p+h
23	n+3a	108	2a	165	4n+a	187	n+d+h
24	2n+a	109	3a	166	5n+a	188	n+t+h
25	3n+a	111	2p	167	6n+a	189	n+t+a
28	n+p	112	p+a	168	7n+a	190	2n+2p
29	n+2a	113	t+2a	169	4n+d	191	p+h
30	2n+2a	114	d+2a	170	5n+d	192	d+h
32	n+d	115	p+d	171	6n+d	193	h+a
33	n+t	116	p+t	172	3n+t	194	4n+2p
34	n+h	117	d+a	173	4n+t	195	4n+2a
35	n+d+2a	152	5n	174	5n+t	196	4n+p+a
36	n+t+2a	153	6n	175	6n+t	197	3p
37	4n	154	2n+t	176	2n+h	198	n+3p
41	2n+p	155	t+a	177	3n+h	199	3n+2p+a
42	3n+p	156	4n+p	178	4n+h	200	5n+2p
44	n+2p	157	3n+d	179	3n+2p		
45	n+p+a	158	n+d+a	180	3n+2a		

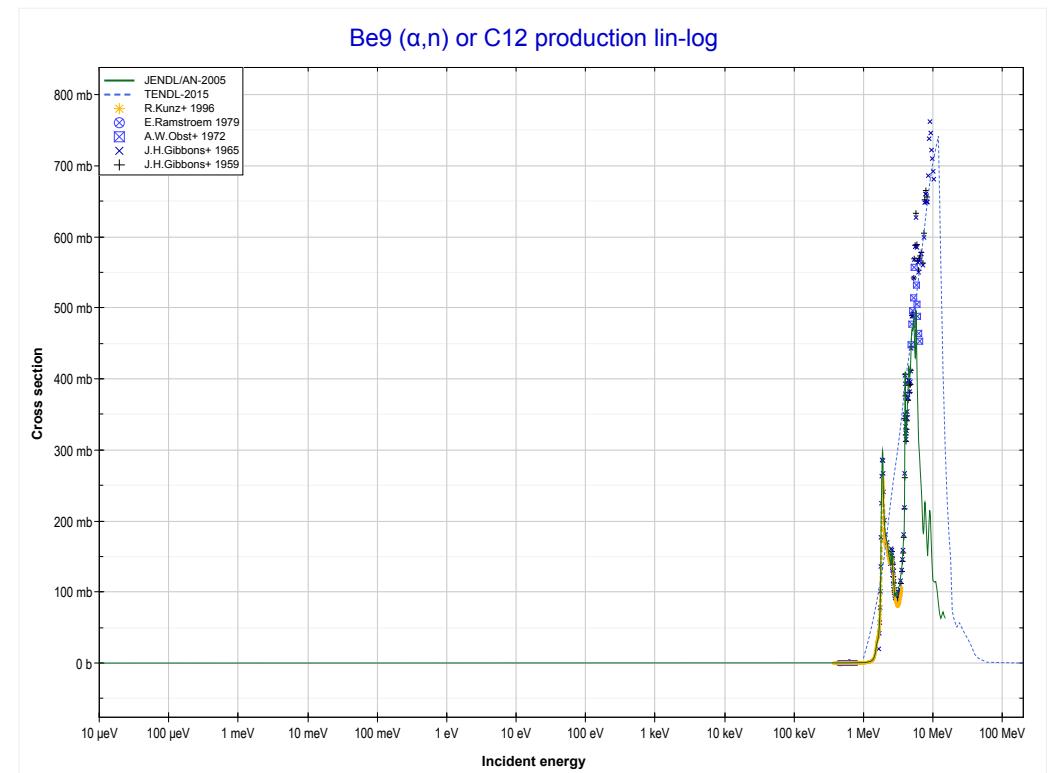
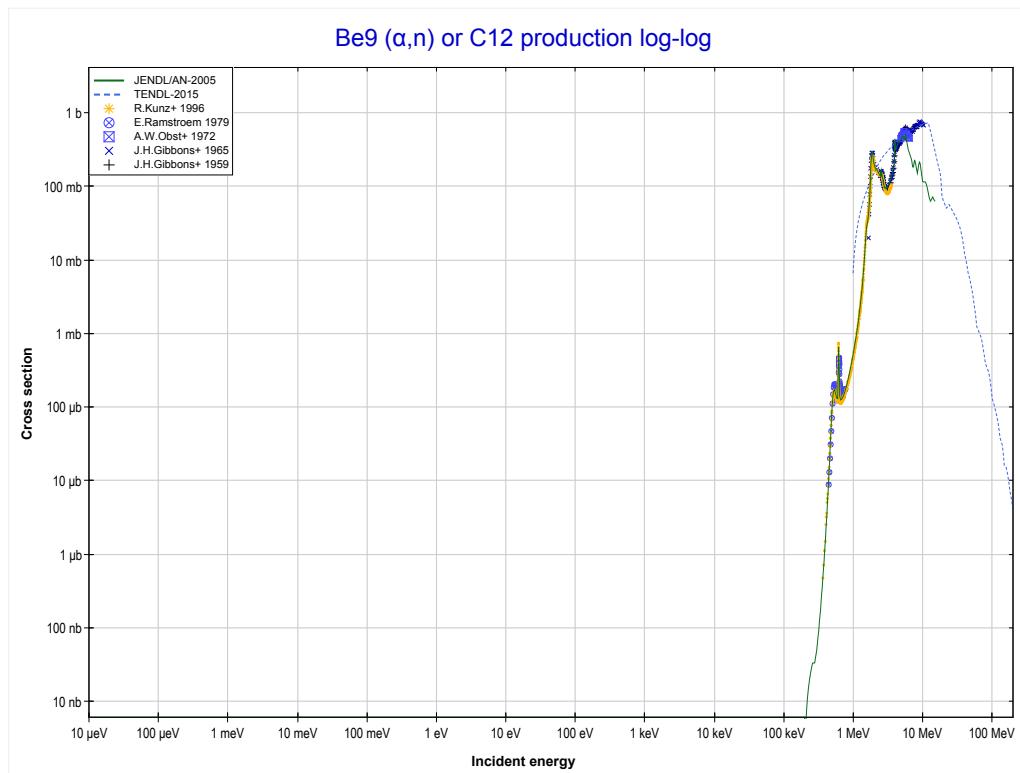


Reaction	Q-Value
Li6( $\alpha,\gamma$ )B10	4461.09 keV



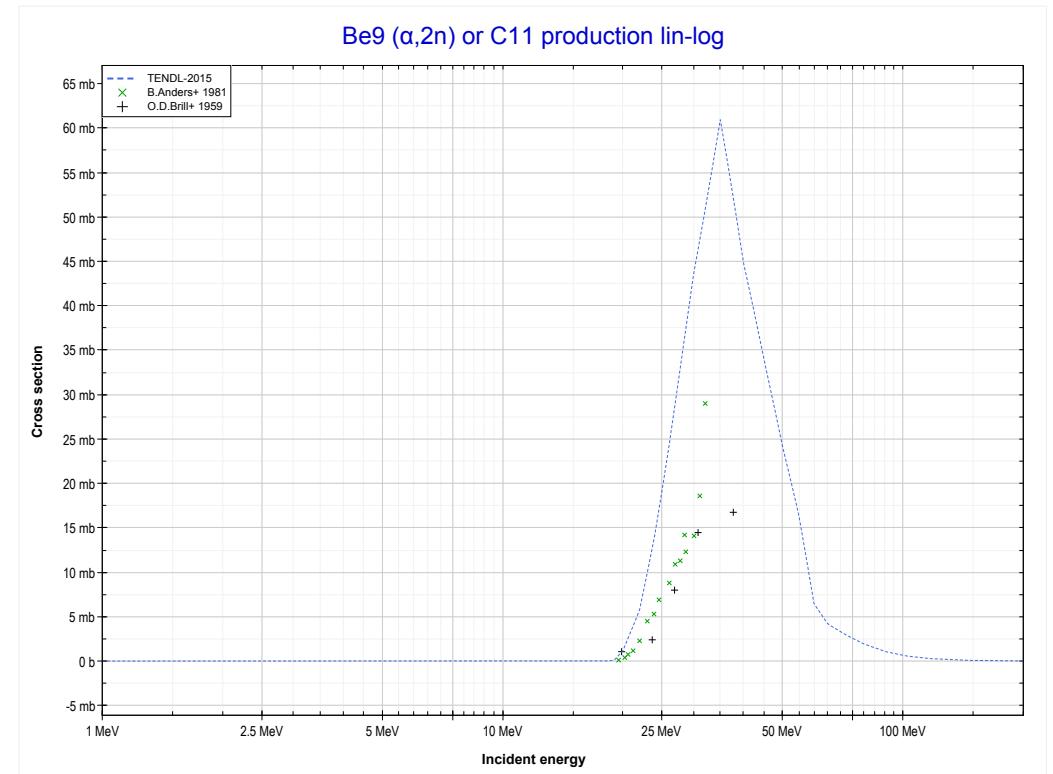
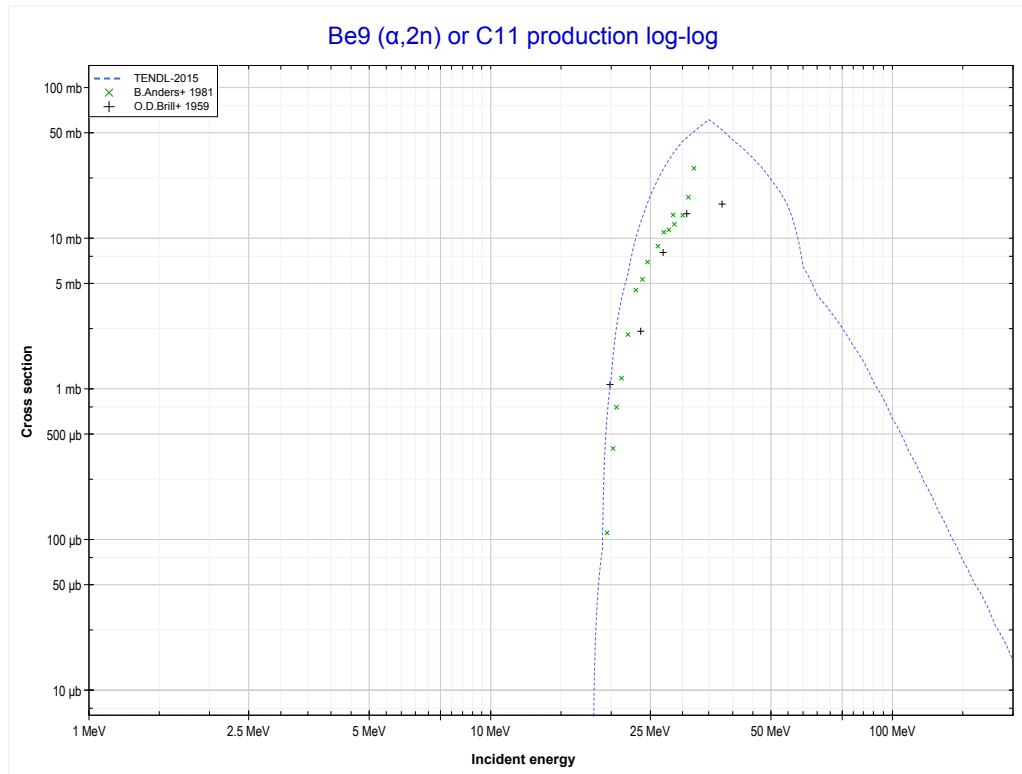
Reaction	Q-Value
Li7( $\alpha, n$ )B10	-2790.00 keV

<< 3-Li-7	4-Be-9 MT4 ( $\alpha, n$ ) or MT5 (C12 production)	5-B-10 >>
<< 3-Li-7 MT4 ( $\alpha, n$ )		MT16 ( $\alpha, 2n$ ) >>



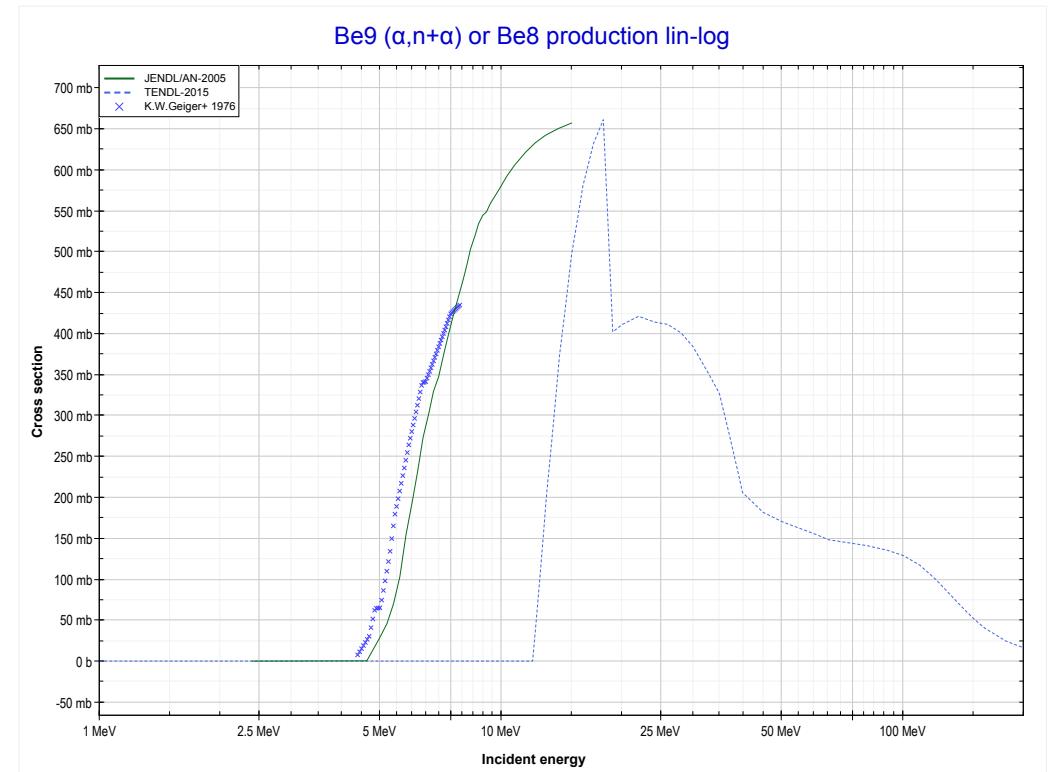
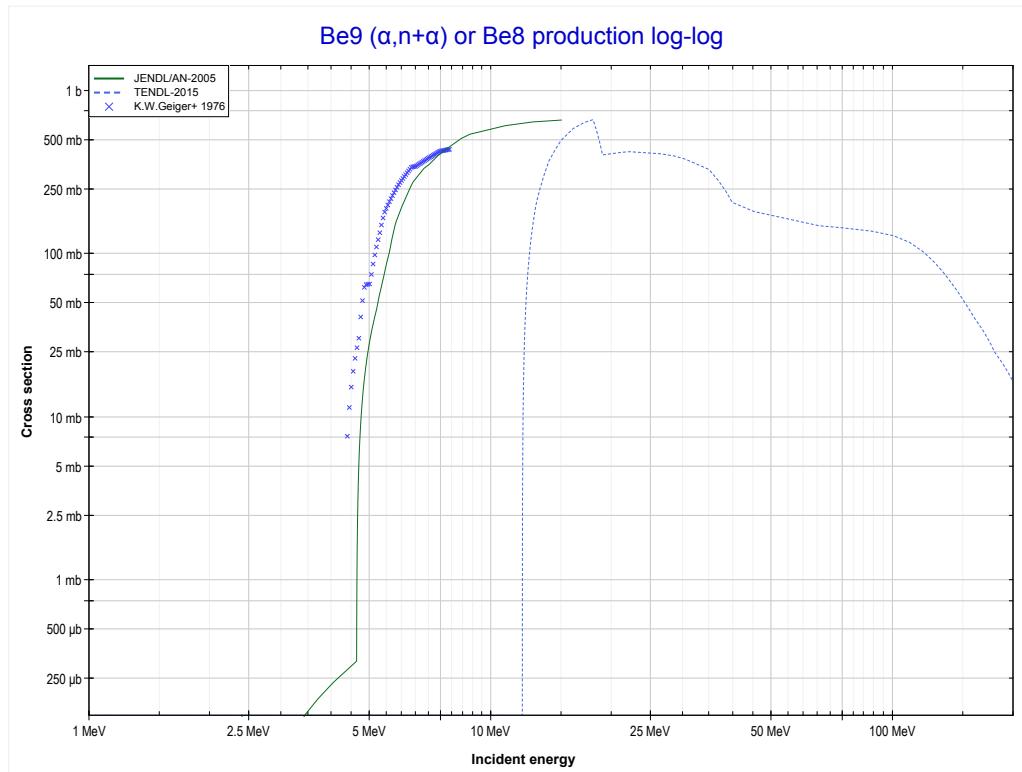
Reaction	Q-Value
Be9( $\alpha, n$ )C12	5702.05 keV

<< MT4 ( $\alpha, n$ )	<b>4-Be-9</b> MT16 ( $\alpha, 2n$ ) or MT5 (C11 production)	13-Al-27 >> MT22 ( $\alpha, n+\alpha$ ) >>
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Reaction	Q-Value
Be9( $\alpha, 2n$ )C11	-13019.57 keV

<a href="#"><b>&lt;&lt; MT16 (<math>\alpha,2n</math>)</b></a>	<b>4-Be-9</b> <b>MT22 (<math>\alpha,n+\alpha</math>) or MT5 (Be8 production)</b>	<a href="#"><b>6-C-12 &gt;&gt;</b></a> <a href="#"><b>5-B-10 MT4 (<math>\alpha,n</math>) &gt;&gt;</b></a>
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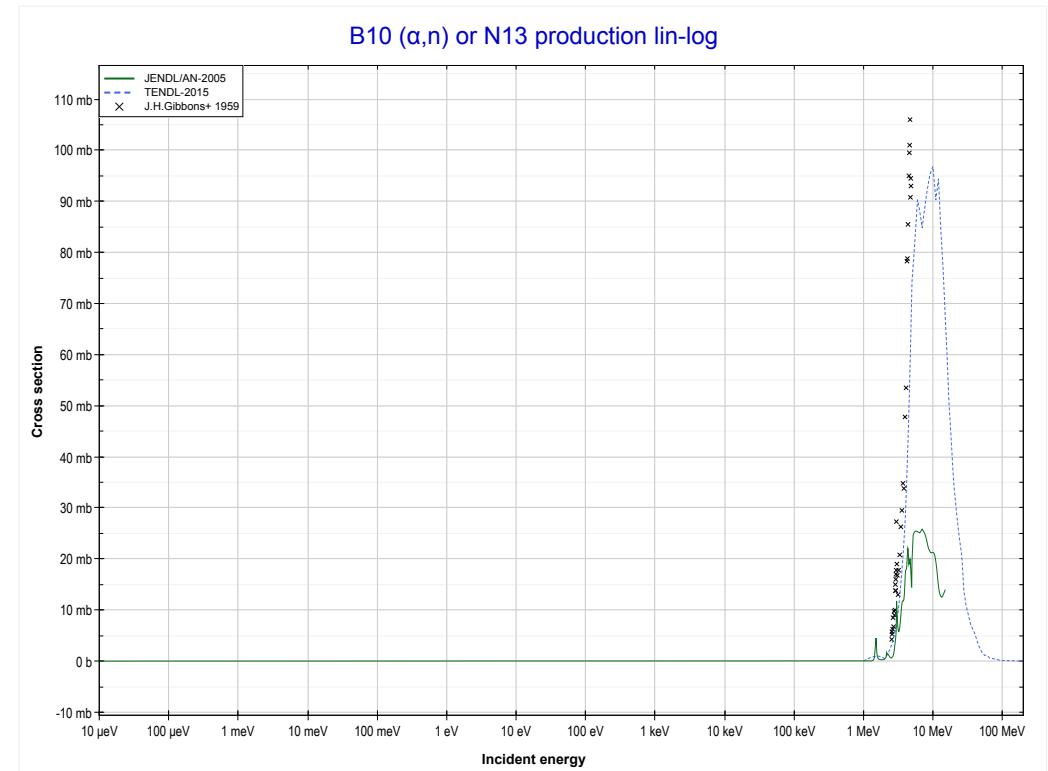
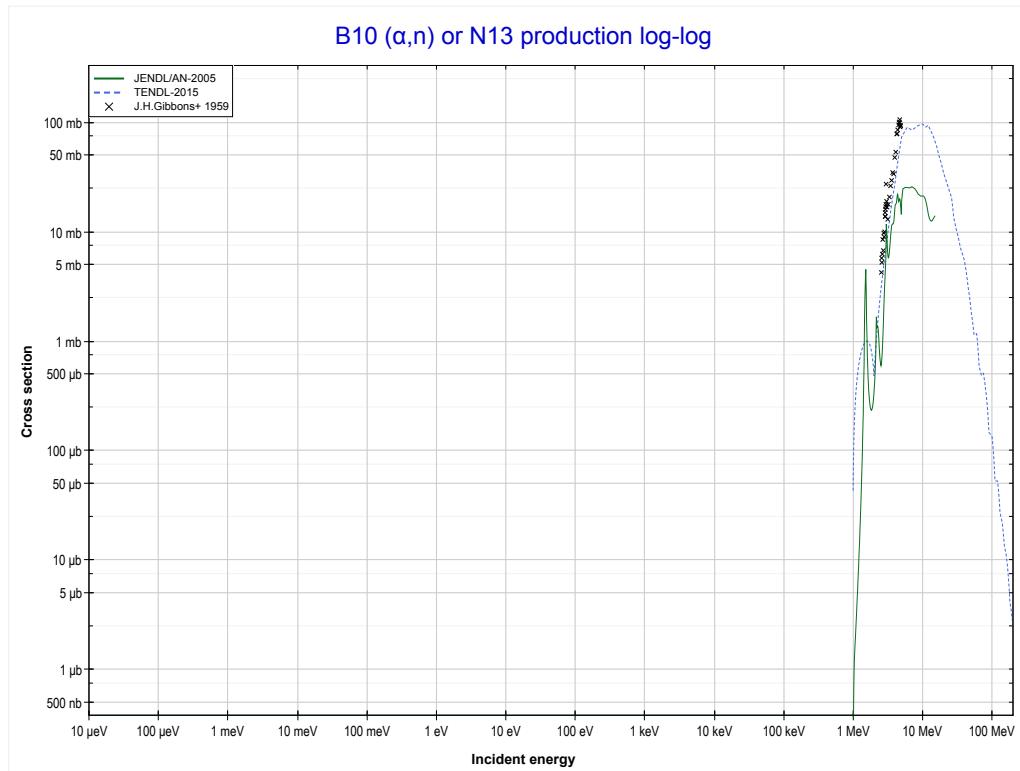
Reaction	Q-Value
Be9( $\alpha,n+\alpha$ )Be8	-1664.54 keV
Be9( $\alpha,d+t$ )Be8	-19253.83 keV
Be9( $\alpha,n+p+t$ )Be8	-21478.40 keV
Be9( $\alpha,2n+He3$ )Be8	-22242.15 keV
Be9( $\alpha,n+2d$ )Be8	-25511.06 keV
Be9( $\alpha,2n+p+d$ )Be8	-27735.63 keV
Be9( $\alpha,3n+2p$ )Be8	-29960.20 keV

<< 4-Be-9	
<< 4-Be-9 MT22 ( $\alpha, n + \alpha$ )	

5-B-10

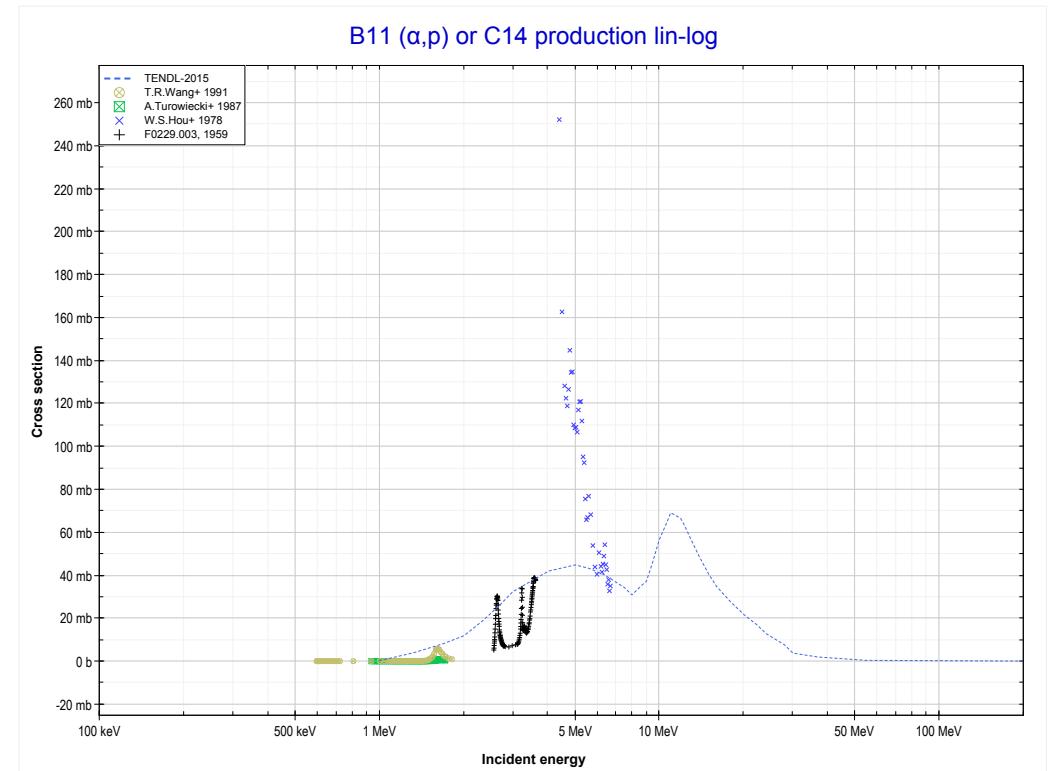
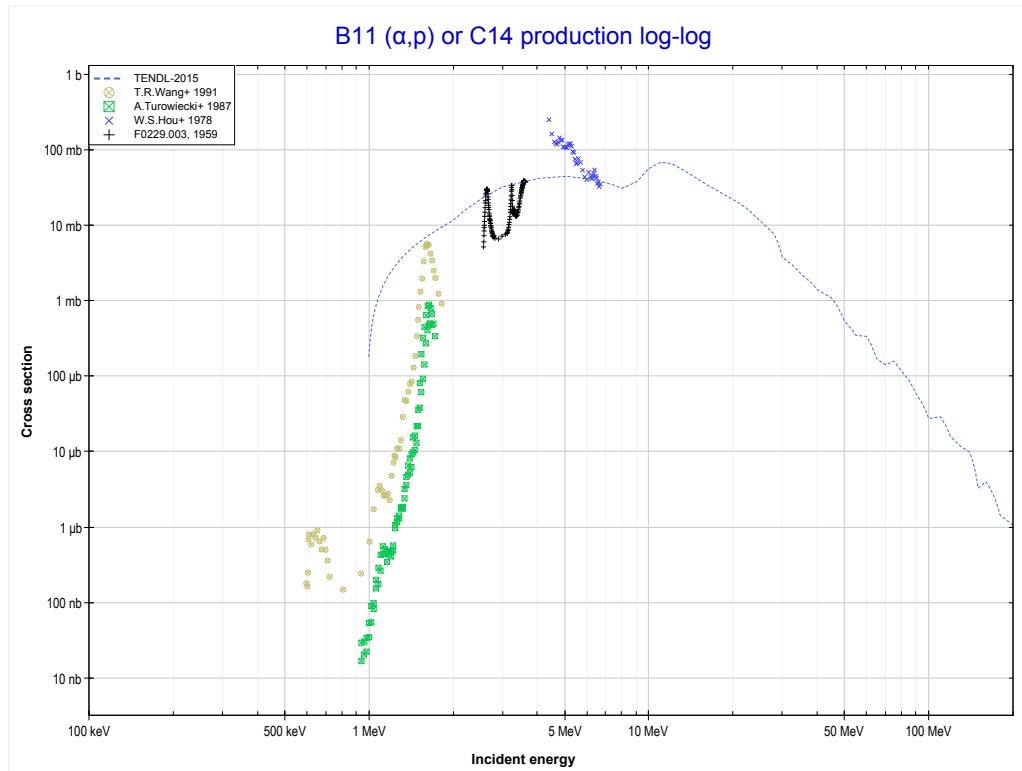
MT4 ( $\alpha, n$ ) or MT5 (N13 production)

6-C-12 &gt;&gt;

5-B-11 MT103 ( $\alpha, p$ ) >>

Reaction	Q-Value
B10( $\alpha, n$ )N13	1058.82 keV

<< 5-B-10 MT4 ( $\alpha, n$ )	<b>5-B-11</b> MT103 ( $\alpha, p$ ) or MT5 (C14 production)	12-Mg-25 >> 6-C-12 MT4 ( $\alpha, n$ ) >>
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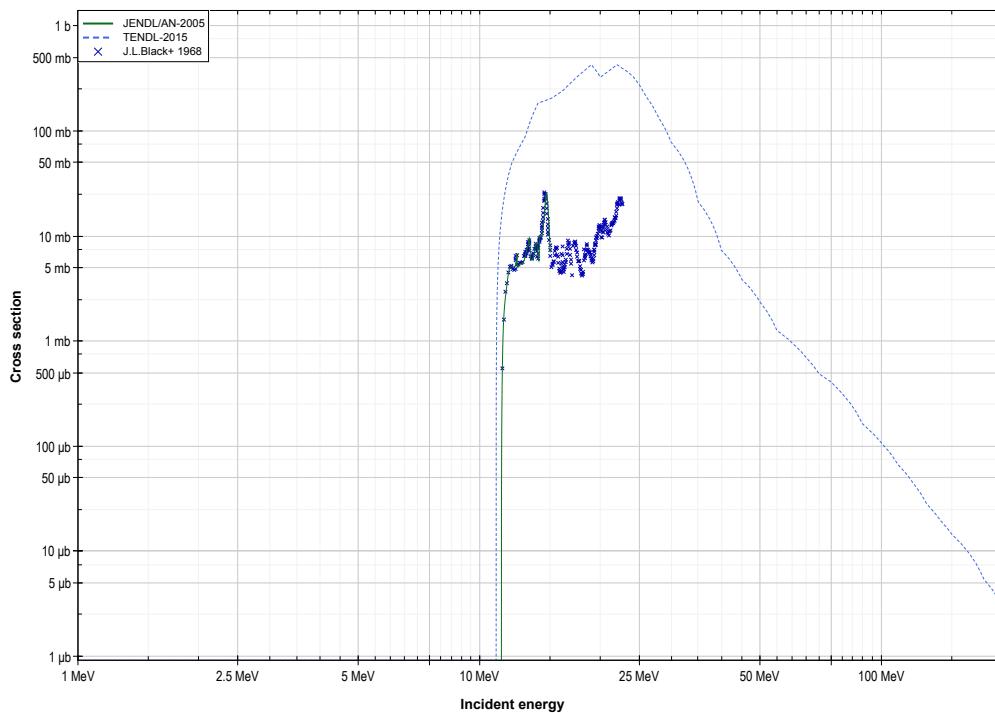
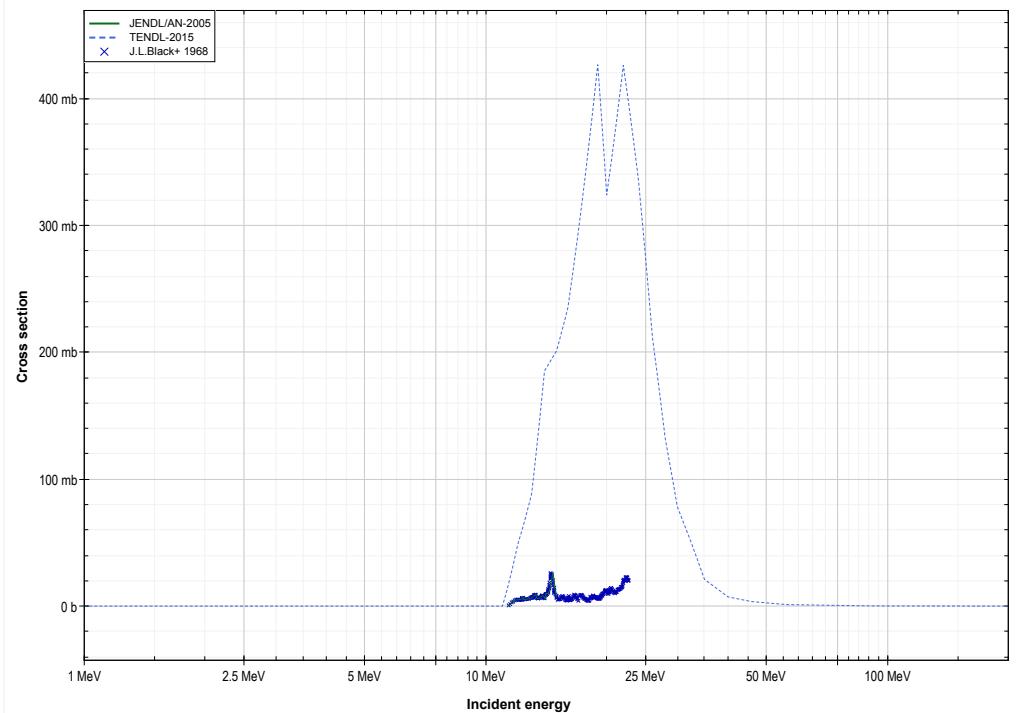
Reaction	Q-Value
B11( $\alpha, p$ )C14	783.95 keV

<< 5-B-10		
<< 5-B-11 MT103 ( $\alpha,p$ )		

6-C-12

**MT4 ( $\alpha,n$ ) or MT5 (O15 production)**

6-C-13 &gt;&gt;

**MT22 ( $\alpha,n+\alpha$ ) >>**C12 ( $\alpha,n$ ) or O15 production log-logC12 ( $\alpha,n$ ) or O15 production lin-log

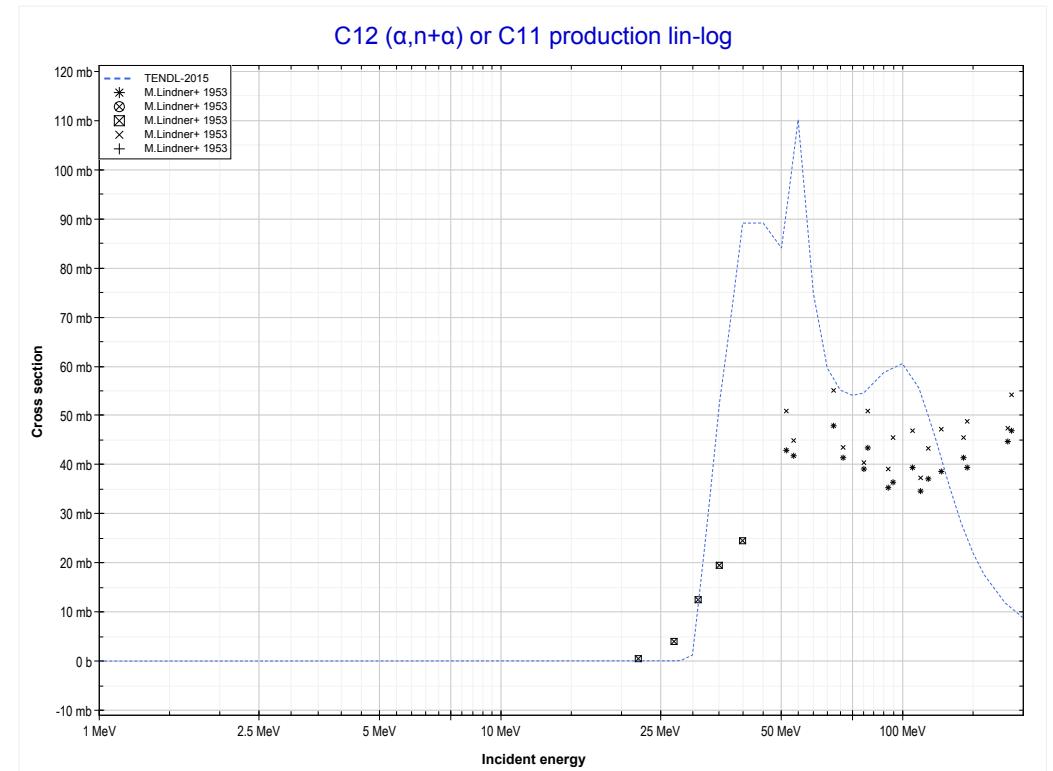
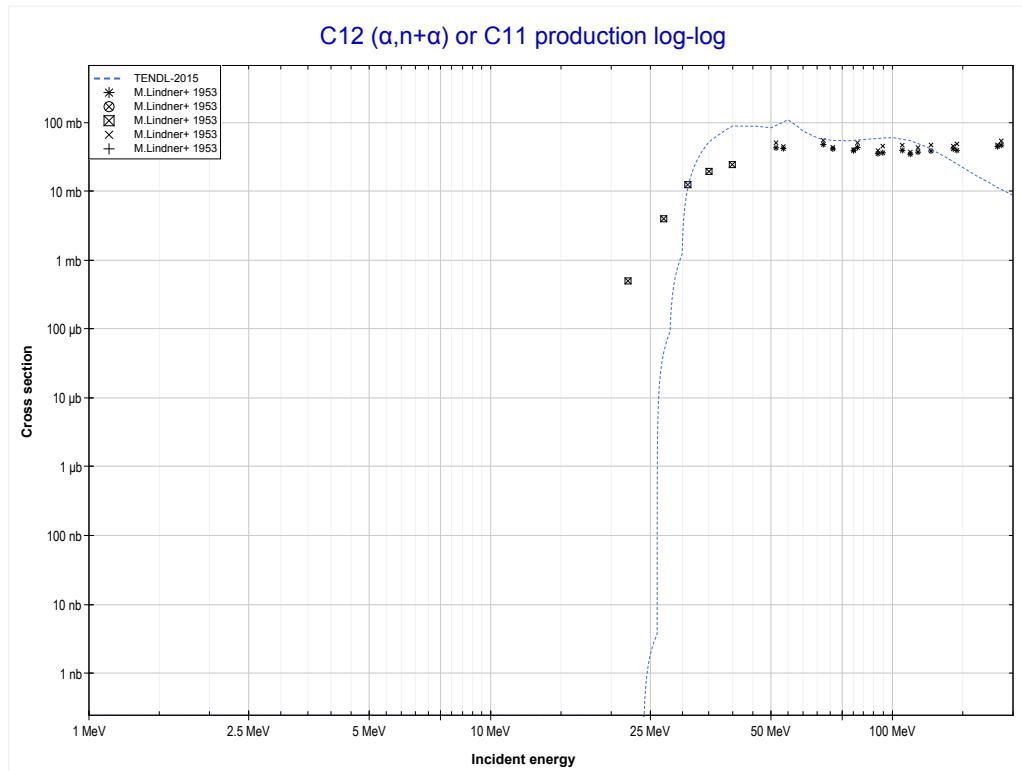
Reaction
C12( $\alpha,n$ )O15

Q-Value
-8502.00 keV

<< 4-Be-9	
<< MT4 ( $\alpha, n$ )	

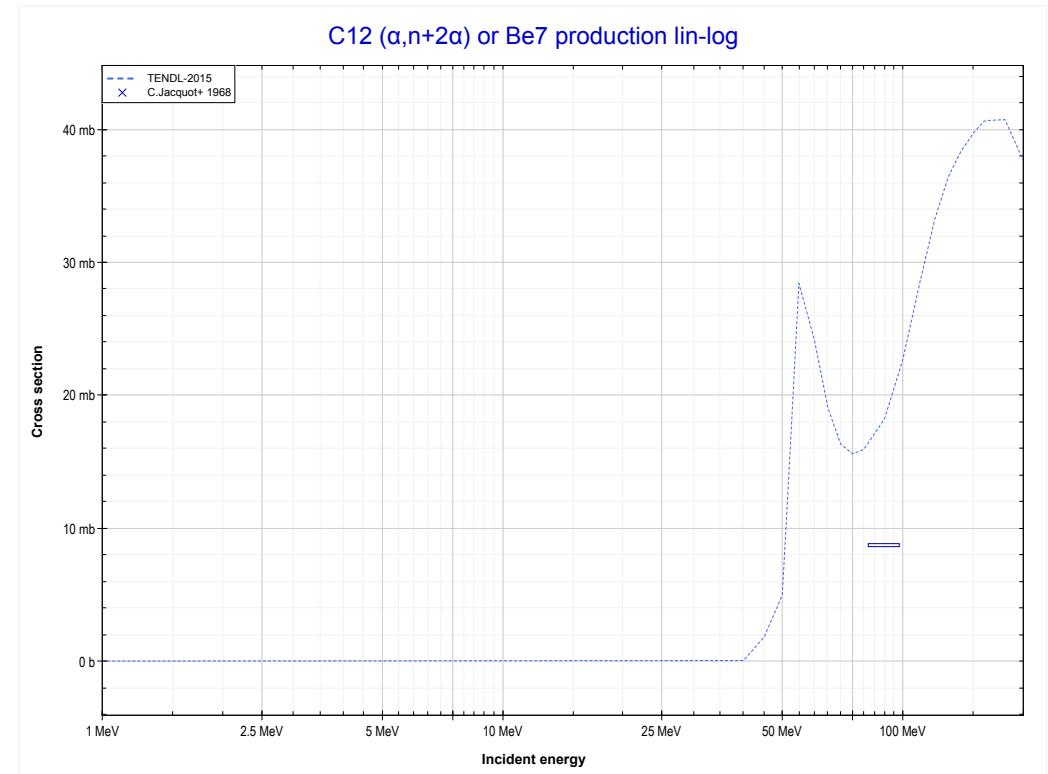
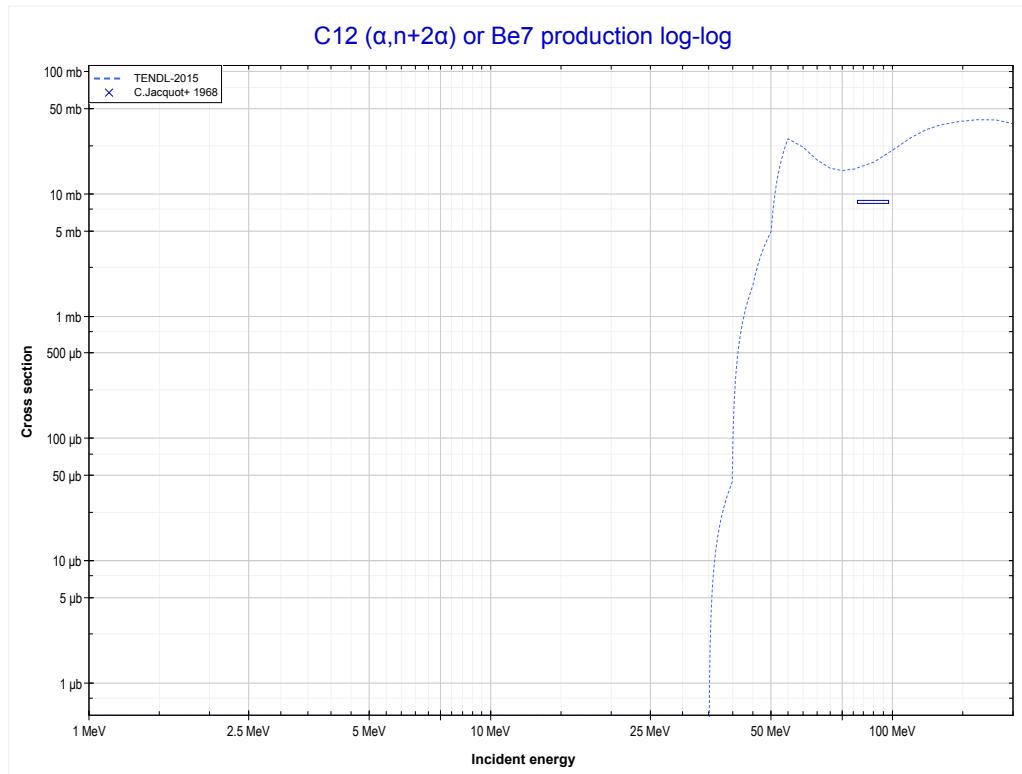
6-C-12
MT22 ( $\alpha, n+\alpha$ ) or MT5 (C11 production)

	17-CI-35 >>
	MT29 ( $\alpha, n+2\alpha$ ) >>

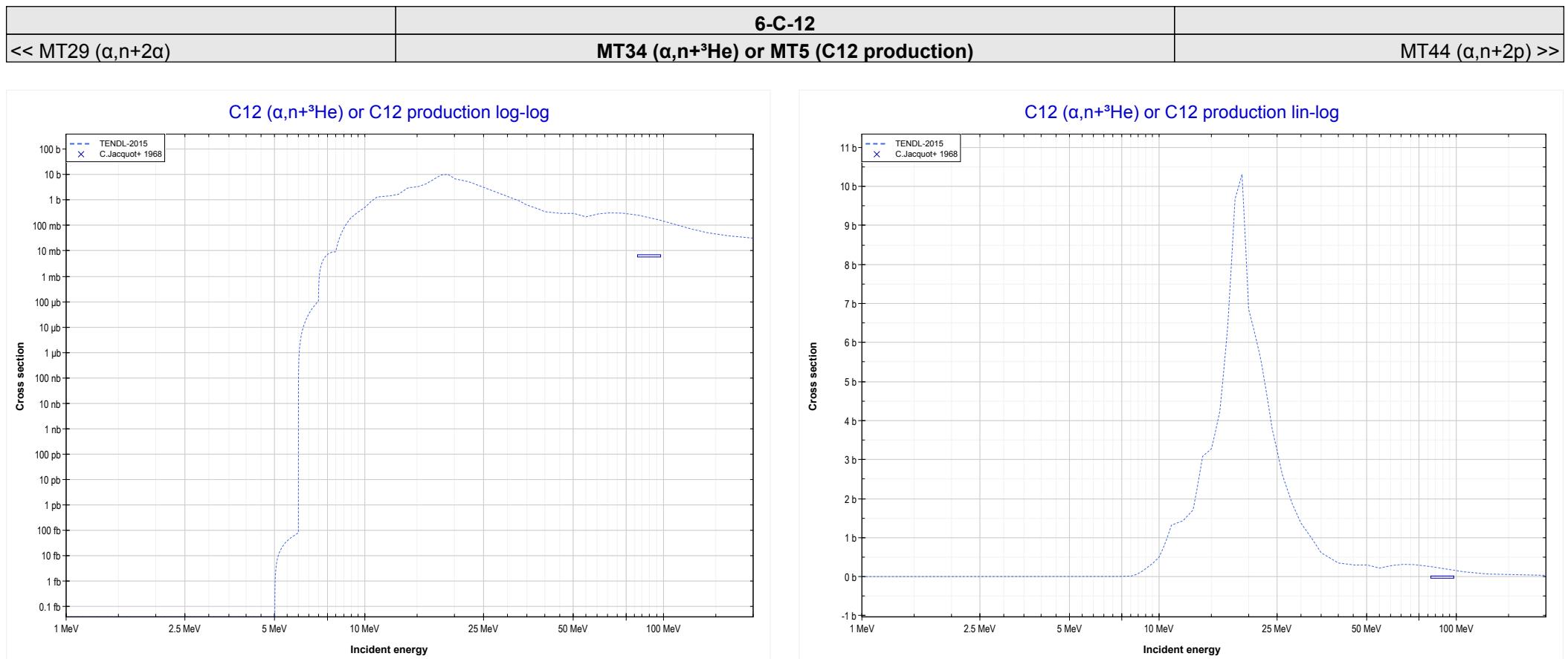


Reaction	Q-Value
C12( $\alpha, n+\alpha$ )C11	-18721.62 keV
C12( $\alpha, d+t$ )C11	-36310.91 keV
C12( $\alpha, n+p+t$ )C11	-38535.48 keV
C12( $\alpha, 2n+He3$ )C11	-39299.23 keV
C12( $\alpha, n+2d$ )C11	-42568.14 keV
C12( $\alpha, 2n+p+d$ )C11	-44792.71 keV
C12( $\alpha, 3n+2p$ )C11	-47017.28 keV

	6-C-12 MT29 ( $\alpha, n+2\alpha$ ) or MT5 (Be7 production)	23-V-51 >>
<< MT22 ( $\alpha, n+\alpha$ )		MT34 ( $\alpha, n+{}^3\text{He}$ ) >>

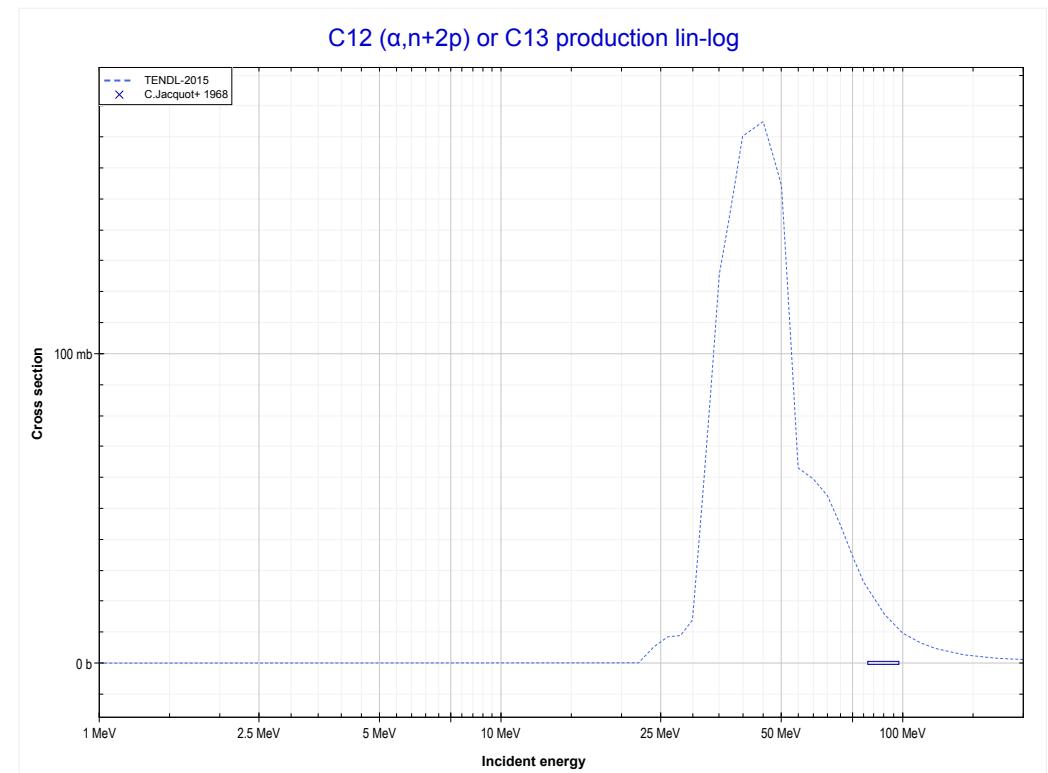
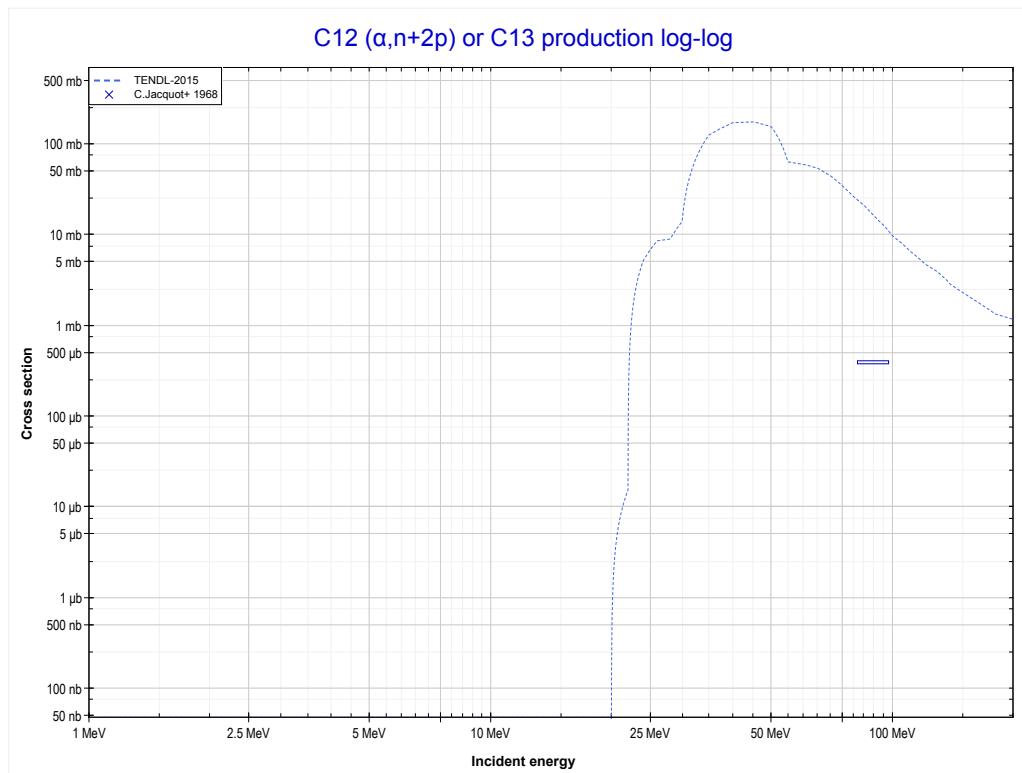


Reaction	Q-Value	Reaction	Q-Value
C12( $\alpha, n+2\alpha$ )Be7	-26265.23 keV	C12( $\alpha, p+d+2t$ )Be7	-63668.39 keV
C12( $\alpha, d+t+\alpha$ )Be7	-43854.53 keV	C12( $\alpha, n+d+t+{}^3\text{He}$ )Be7	-64432.14 keV
C12( $\alpha, n+p+t+\alpha$ )Be7	-46079.09 keV	C12( $\alpha, n+2p+2t$ )Be7	-65892.95 keV
C12( $\alpha, 2n+{}^3\text{He}+ \alpha$ )Be7	-46842.85 keV	C12( $\alpha, 2n+p+t+{}^3\text{He}$ )Be7	-66656.71 keV
C12( $\alpha, n+2d+\alpha$ )Be7	-50111.76 keV	C12( $\alpha, 3n+2{}^3\text{He}$ )Be7	-67420.47 keV
C12( $\alpha, 2n+p+d+\alpha$ )Be7	-52336.33 keV	C12( $\alpha, 3d+t$ )Be7	-67701.06 keV
C12( $\alpha, 3n+2p+\alpha$ )Be7	-54560.89 keV	C12( $\alpha, n+p+2d+t$ )Be7	-69925.62 keV
C12( $\alpha, 2t+{}^3\text{He}$ )Be7	-58174.91 keV	C12( $\alpha, 2n+2d+{}^3\text{He}$ )Be7	-70689.38 keV



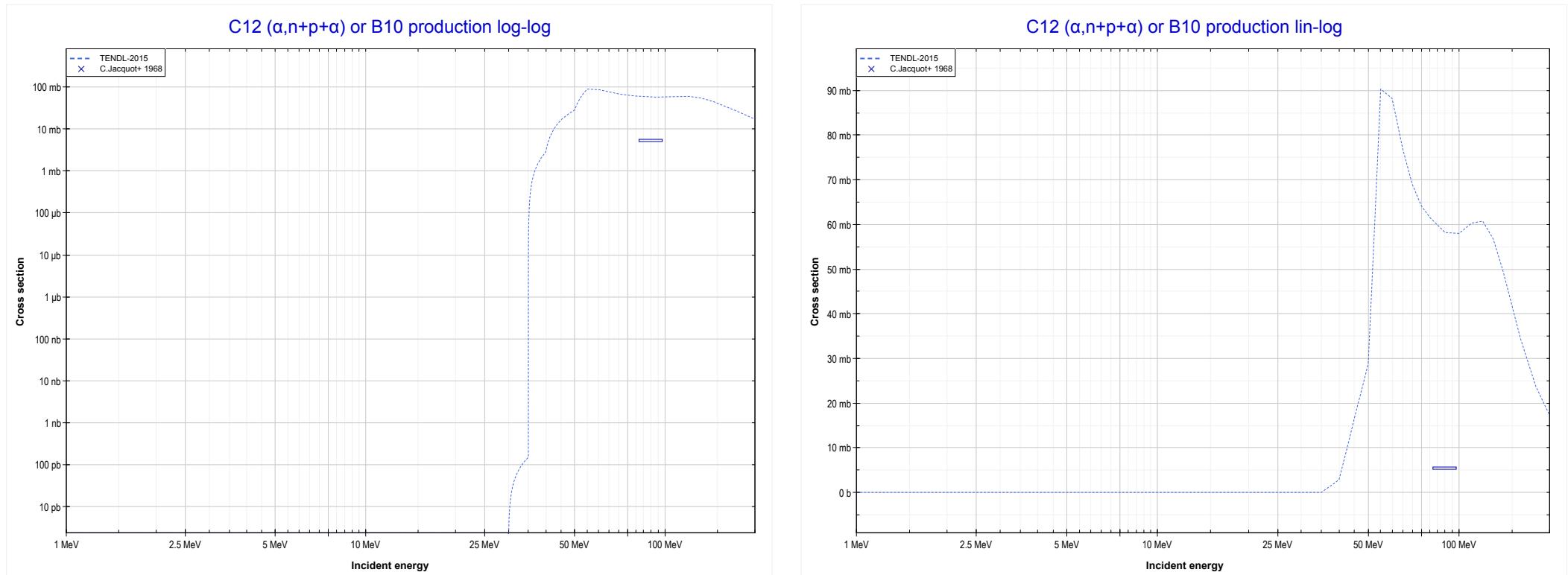
Reaction	Q-Value
$C12(\alpha, \alpha)C12$	0.00 keV
$C12(\alpha, p+t)C12$	-19813.86 keV
$C12(\alpha, n+{}^3He)C12$	-20577.62 keV
$C12(\alpha, 2d)C12$	-23846.53 keV
$C12(\alpha, n+p+d)C12$	-26071.09 keV
$C12(\alpha, 2n+2p)C12$	-28295.66 keV

<< MT34 ( $\alpha, n + {}^3\text{He}$ )	6-C-12 MT44 ( $\alpha, n + 2p$ ) or MT5 (C13 production)	13-Al-27 >> MT45 ( $\alpha, n + p + \alpha$ ) >>
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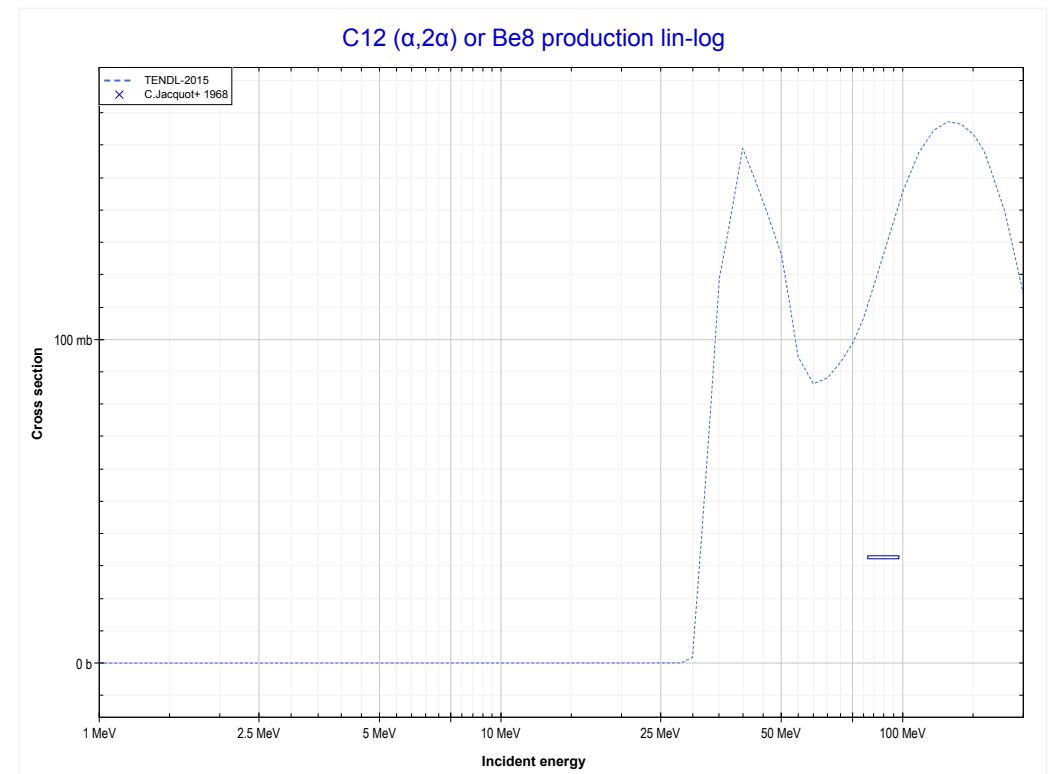
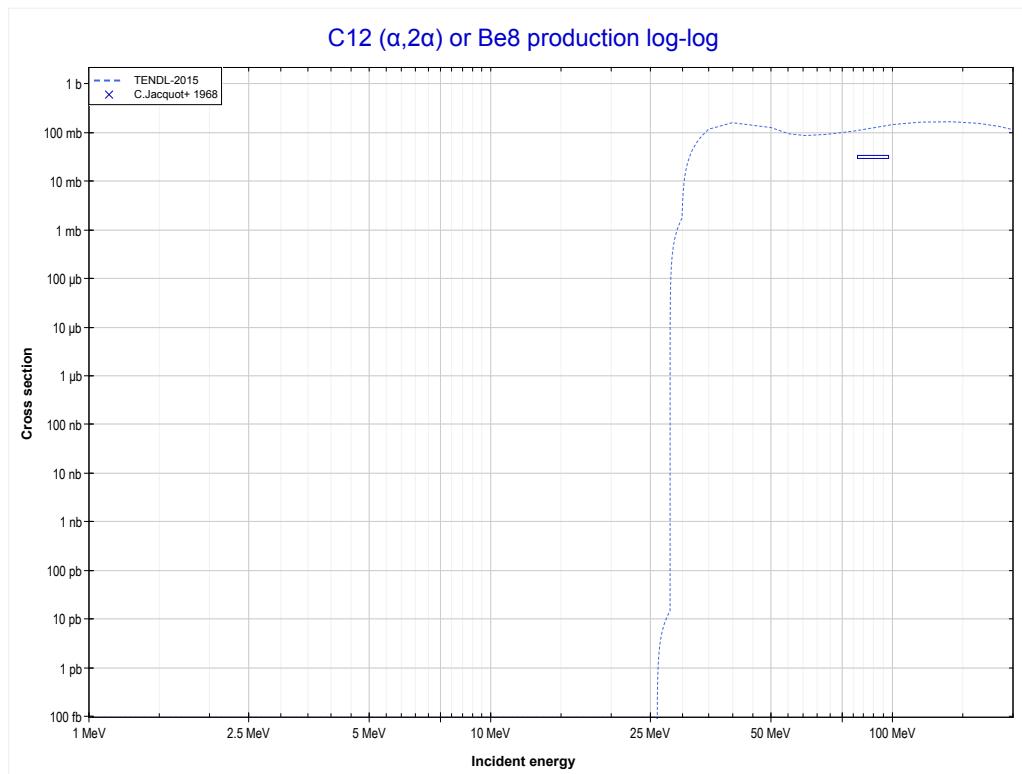
Reaction	Q-Value
C12( $\alpha, \text{He}3$ )C13	-15631.31 keV
C12( $\alpha, p + d$ )C13	-21124.79 keV
C12( $\alpha, n + 2p$ )C13	-23349.35 keV

<a href="#"><b>&lt;&lt; MT44 (<math>\alpha, n+2p</math>)</b></a>	<b>6-C-12</b> <b>MT45 (<math>\alpha, n+p+\alpha</math>) or MT5 (B10 production)</b>	<a href="#"><b>7-N-14 &gt;&gt;</b></a> <a href="#"><b>MT108 (<math>\alpha, 2\alpha</math>) &gt;&gt;</b></a>
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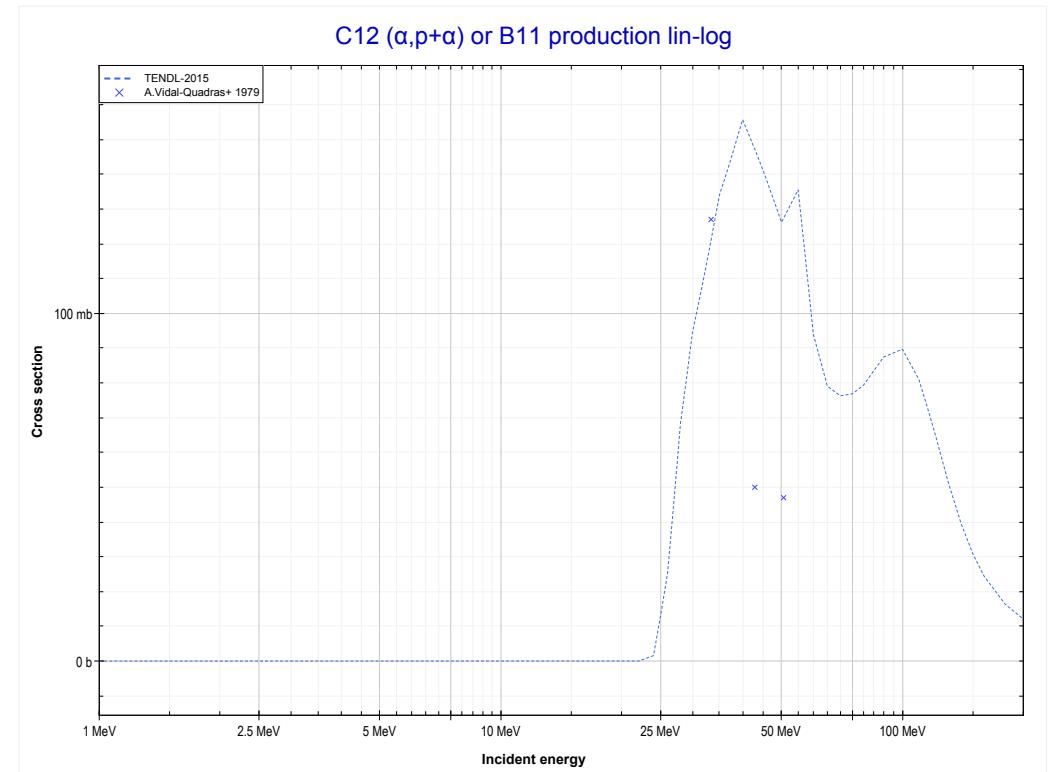
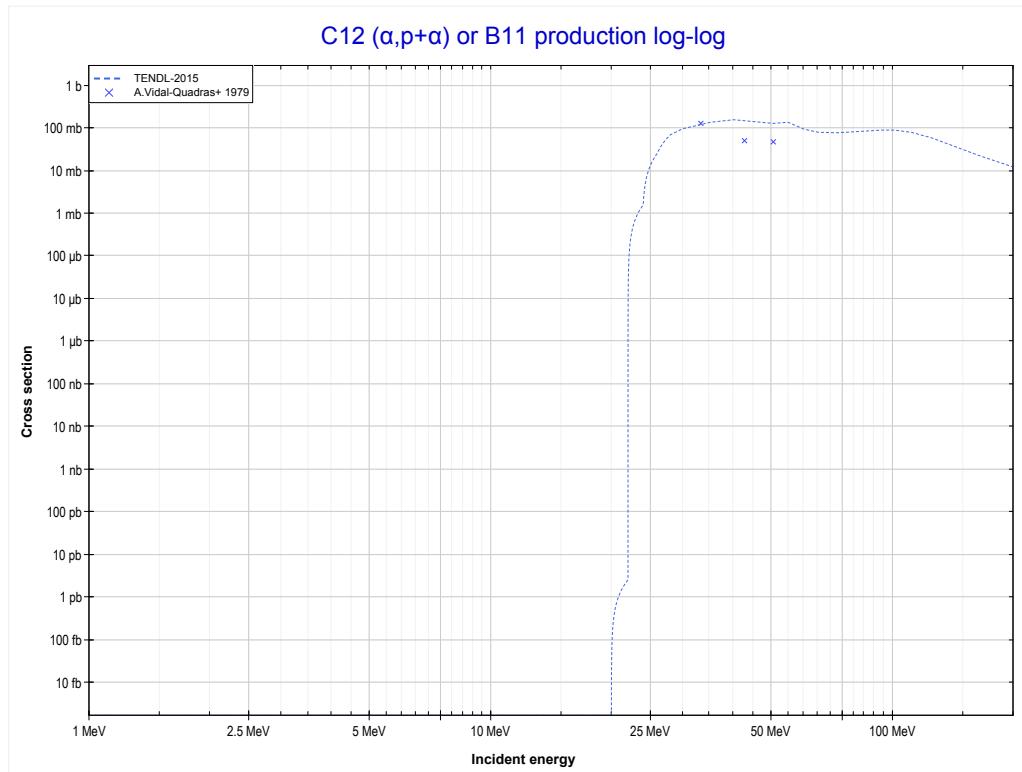
Reaction	Q-Value	Reaction	Q-Value
C12( $\alpha, d+\alpha$ )B10	-25186.42 keV	C12( $\alpha, n+p+2d$ )B10	-51257.52 keV
C12( $\alpha, n+p+\alpha$ )B10	-27410.99 keV	C12( $\alpha, 2n+2p+d$ )B10	-53482.08 keV
C12( $\alpha, t+He3$ )B10	-39506.81 keV	C12( $\alpha, 3n+3p$ )B10	-55706.65 keV
C12( $\alpha, p+d+t$ )B10	-45000.28 keV		
C12( $\alpha, n+d+He3$ )B10	-45764.04 keV		
C12( $\alpha, n+2p+t$ )B10	-47224.85 keV		
C12( $\alpha, 2n+p+He3$ )B10	-47988.60 keV		
C12( $\alpha, 3d$ )B10	-49032.95 keV		

<< MT45 ( $\alpha, n+p+\alpha$ )	6-C-12 MT108 ( $\alpha, 2\alpha$ ) or MT5 (Be8 production)	7-N-14 >> MT112 ( $\alpha, p+\alpha$ ) >>
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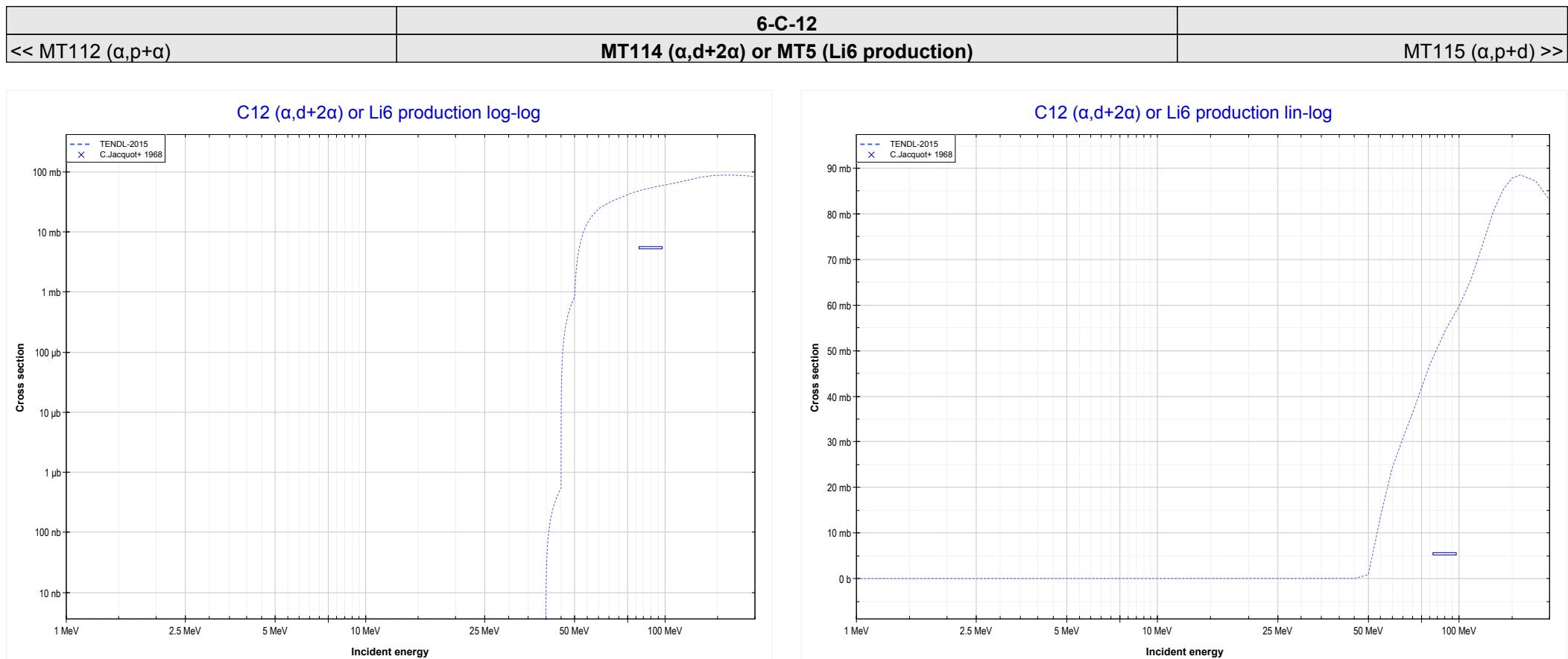


Reaction	Q-Value	Reaction	Q-Value
C12( $\alpha, 2\alpha$ )Be8	-7366.59 keV	C12( $\alpha, n+p+t+He3$ )Be8	-47758.06 keV
C12( $\alpha, p+t+\alpha$ )Be8	-27180.45 keV	C12( $\alpha, 2n+2He3$ )Be8	-48521.82 keV
C12( $\alpha, n+He3+\alpha$ )Be8	-27944.20 keV	C12( $\alpha, p+2d+t$ )Be8	-51026.97 keV
C12( $\alpha, 2d+\alpha$ )Be8	-31213.11 keV	C12( $\alpha, n+2d+He3$ )Be8	-51790.73 keV
C12( $\alpha, n+p+d+\alpha$ )Be8	-33437.68 keV	C12( $\alpha, n+2p+d+t$ )Be8	-53251.54 keV
C12( $\alpha, 2n+2p+\alpha$ )Be8	-35662.25 keV	C12( $\alpha, 2n+p+d+He3$ )Be8	-54015.30 keV
C12( $\alpha, d+t+He3$ )Be8	-45533.50 keV	C12( $\alpha, 4d$ )Be8	-55059.64 keV
C12( $\alpha, 2p+2t$ )Be8	-46994.31 keV	C12( $\alpha, 2n+3p+t$ )Be8	-55476.11 keV

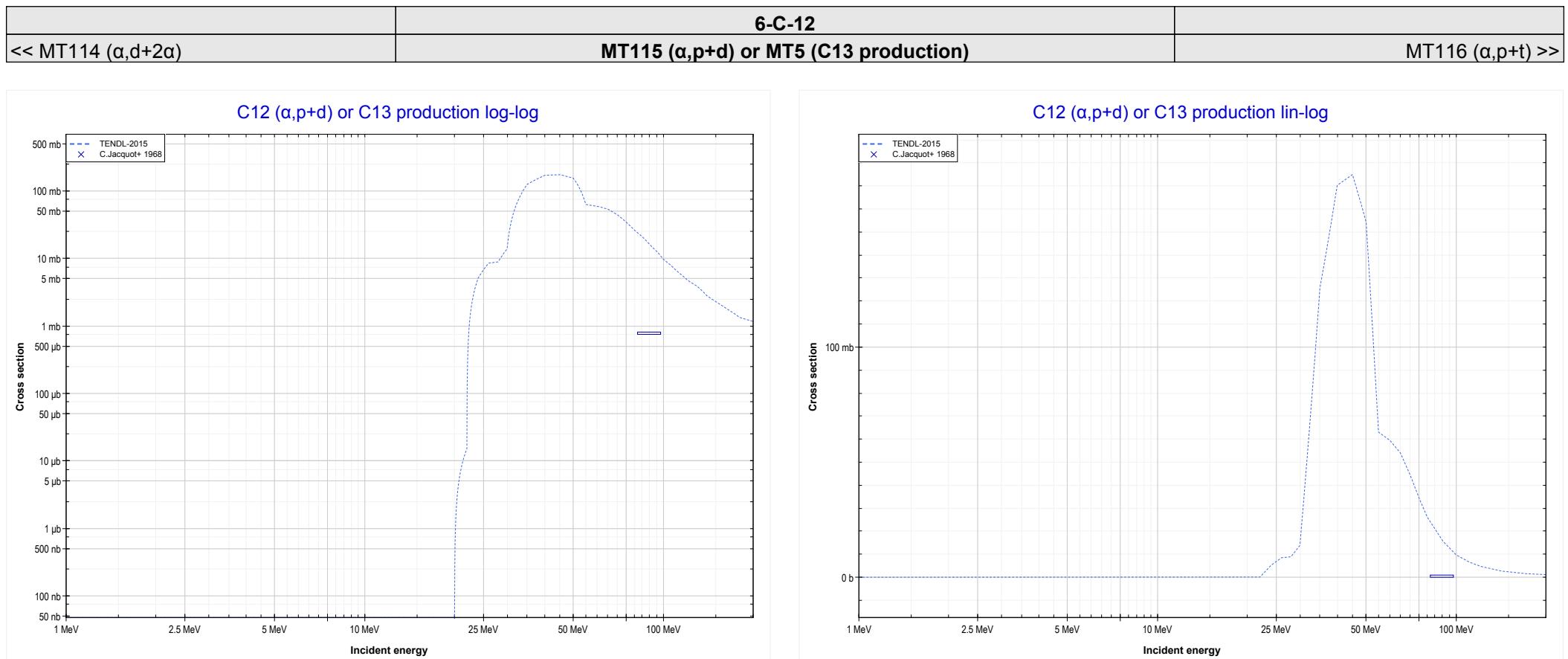
<< MT108 ( $\alpha,2\alpha$ )	6-C-12 MT112 ( $\alpha,p+\alpha$ ) or MT5 (B11 production)	7-N-14 >> MT114 ( $\alpha,d+2\alpha$ ) >>
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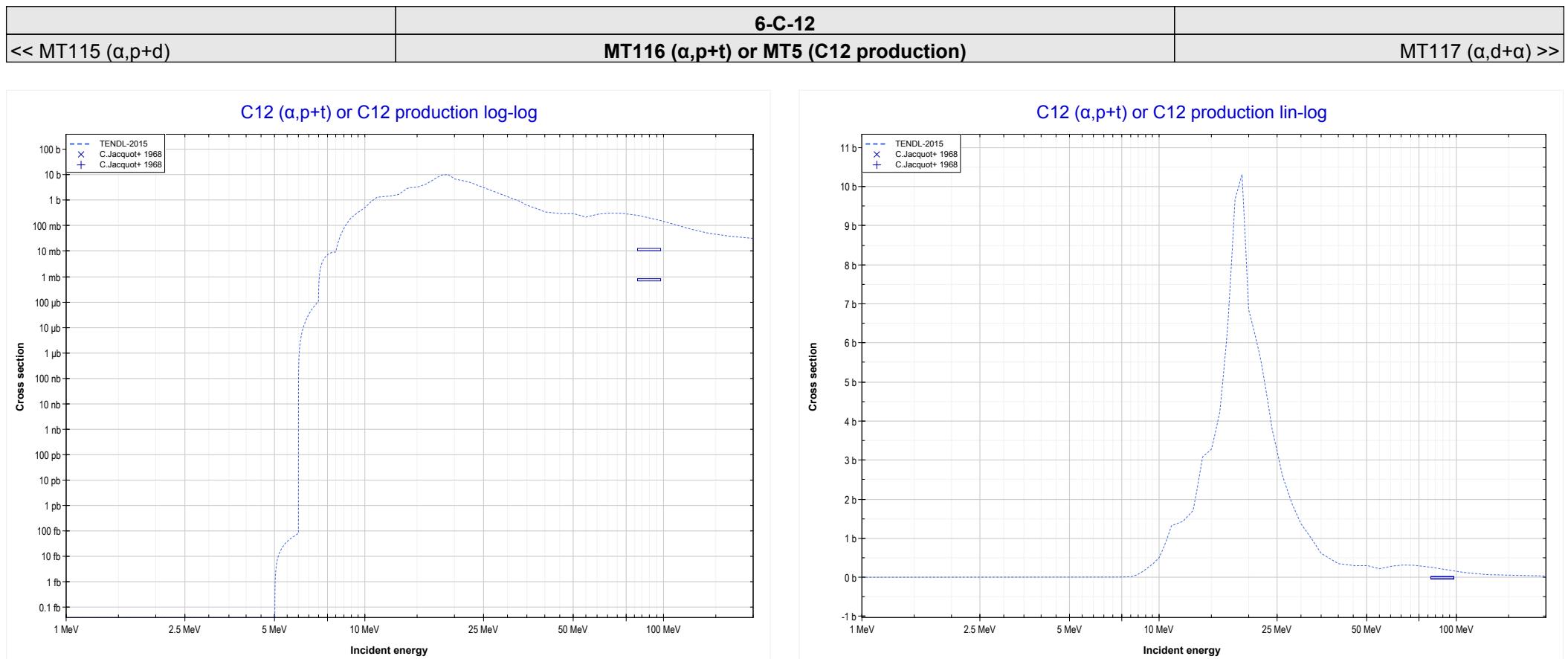
Reaction	Q-Value
C12( $\alpha,p+\alpha$ )B11	-15956.87 keV
C12( $\alpha,d+He3$ )B11	-34309.92 keV
C12( $\alpha,2p+t$ )B11	-35770.73 keV
C12( $\alpha,n+p+He3$ )B11	-36534.49 keV
C12( $\alpha,p+2d$ )B11	-39803.40 keV
C12( $\alpha,n+2p+d$ )B11	-42027.96 keV
C12( $\alpha,2n+3p$ )B11	-44252.53 keV



Reaction	Q-Value	Reaction	Q-Value
C12( $\alpha, d + 2\alpha$ )Li6	-29647.52 keV	C12( $\alpha, n + p + 2d + \alpha$ )Li6	-55718.61 keV
C12( $\alpha, n + p + 2\alpha$ )Li6	-31872.08 keV	C12( $\alpha, 2n + 2p + d + \alpha$ )Li6	-57943.18 keV
C12( $\alpha, t + He3 + \alpha$ )Li6	-43967.90 keV	C12( $\alpha, 3n + 3p + \alpha$ )Li6	-60167.74 keV
C12( $\alpha, p + d + t + \alpha$ )Li6	-49461.38 keV	C12( $\alpha, p + 2t + He3$ )Li6	-63781.76 keV
C12( $\alpha, n + d + He3 + \alpha$ )Li6	-50225.13 keV	C12( $\alpha, n + t + 2He3$ )Li6	-64545.52 keV
C12( $\alpha, n + 2p + t + \alpha$ )Li6	-51685.94 keV	C12( $\alpha, 2d + t + He3$ )Li6	-67814.43 keV
C12( $\alpha, 2n + p + He3 + \alpha$ )Li6	-52449.70 keV	C12( $\alpha, 2p + d + 2t$ )Li6	-69275.24 keV
C12( $\alpha, 3d + \alpha$ )Li6	-53494.04 keV	C12( $\alpha, n + p + d + t + He3$ )Li6	-70038.99 keV

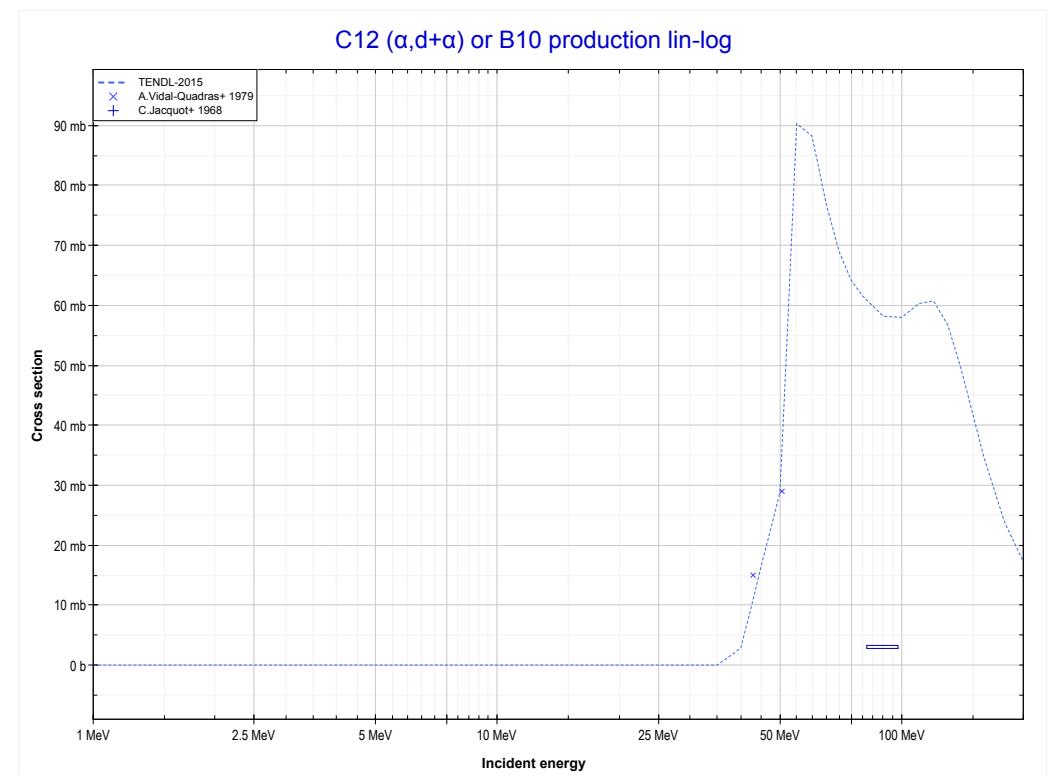
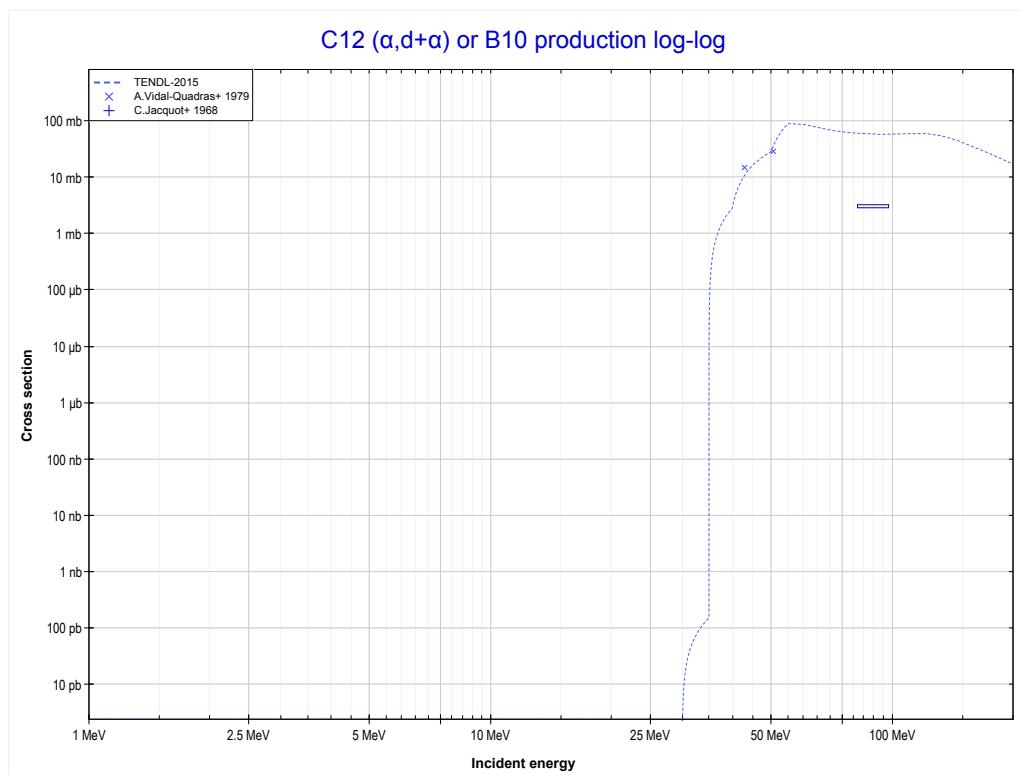


Reaction	Q-Value
C12( $\alpha, \text{He}3$ )C13	-15631.31 keV
C12( $\alpha, p+d$ )C13	-21124.79 keV
C12( $\alpha, n+2p$ )C13	-23349.35 keV

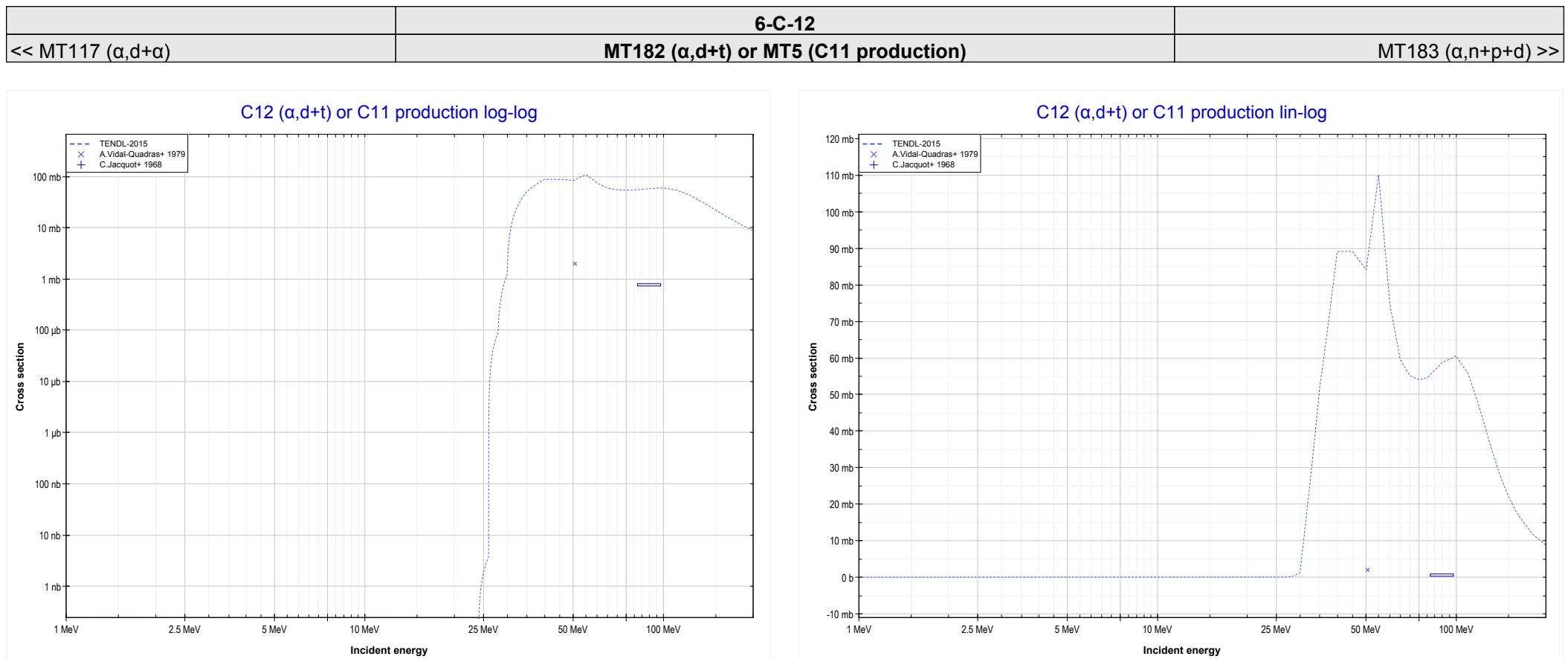


Reaction	Q-Value
$C^{12}(\alpha, \alpha)C^{12}$	0.00 keV
$C^{12}(\alpha, p+t)C^{12}$	-19813.86 keV
$C^{12}(\alpha, n+He^3)C^{12}$	-20577.62 keV
$C^{12}(\alpha, 2d)C^{12}$	-23846.53 keV
$C^{12}(\alpha, n+p+d)C^{12}$	-26071.09 keV
$C^{12}(\alpha, 2n+2p)C^{12}$	-28295.66 keV

<a href="#"><b>&lt;&lt; MT116 (<math>\alpha,p+t</math>)</b></a>	<b>6-C-12</b> <b>MT117 (<math>\alpha,d+\alpha</math>) or MT5 (B10 production)</b>	<a href="#"><b>7-N-14 &gt;&gt;</b></a> <a href="#"><b>MT182 (<math>\alpha,d+t</math>) &gt;&gt;</b></a>
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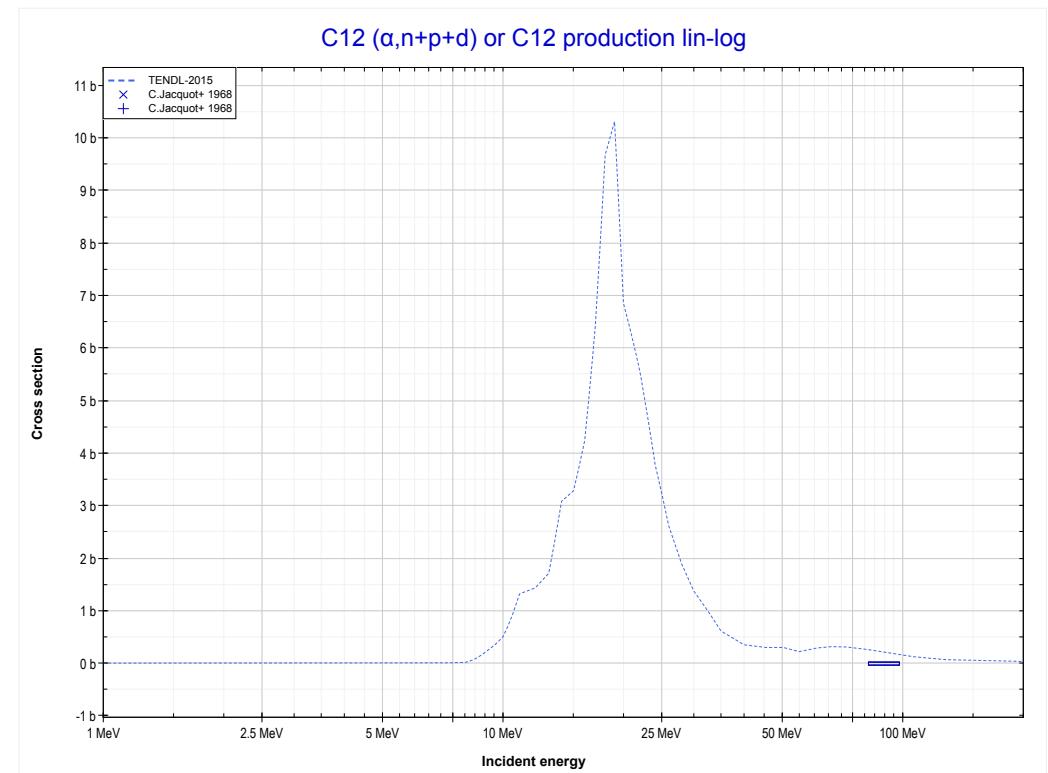
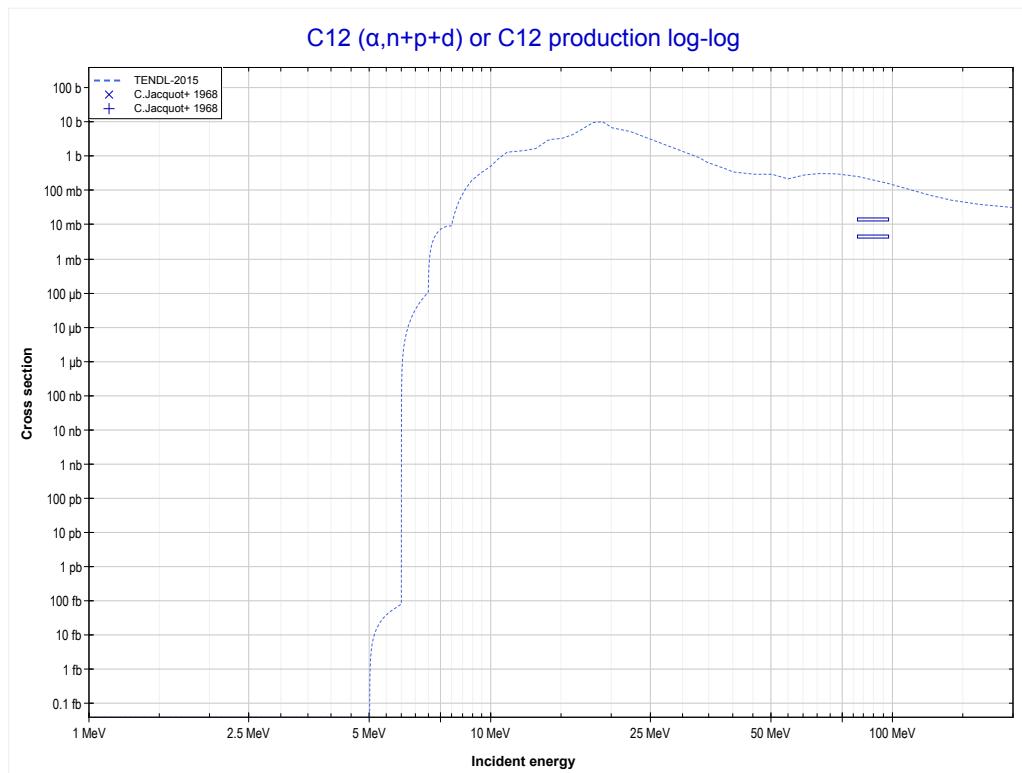


Reaction	Q-Value	Reaction	Q-Value
C12( $\alpha,d+\alpha$ )B10	-25186.42 keV	C12( $\alpha,n+p+2d$ )B10	-51257.52 keV
C12( $\alpha,n+p+\alpha$ )B10	-27410.99 keV	C12( $\alpha,2n+2p+d$ )B10	-53482.08 keV
C12( $\alpha,t+He3$ )B10	-39506.81 keV	C12( $\alpha,3n+3p$ )B10	-55706.65 keV
C12( $\alpha,p+d+t$ )B10	-45000.28 keV		
C12( $\alpha,n+d+He3$ )B10	-45764.04 keV		
C12( $\alpha,n+2p+t$ )B10	-47224.85 keV		
C12( $\alpha,2n+p+He3$ )B10	-47988.60 keV		
C12( $\alpha,3d$ )B10	-49032.95 keV		



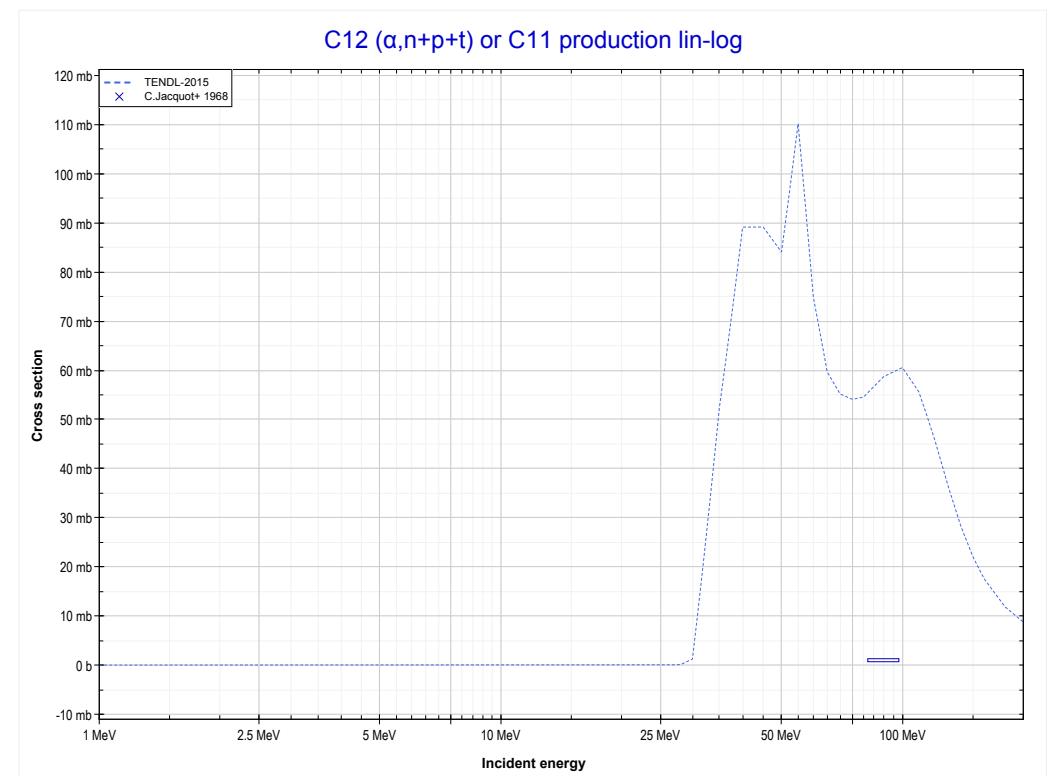
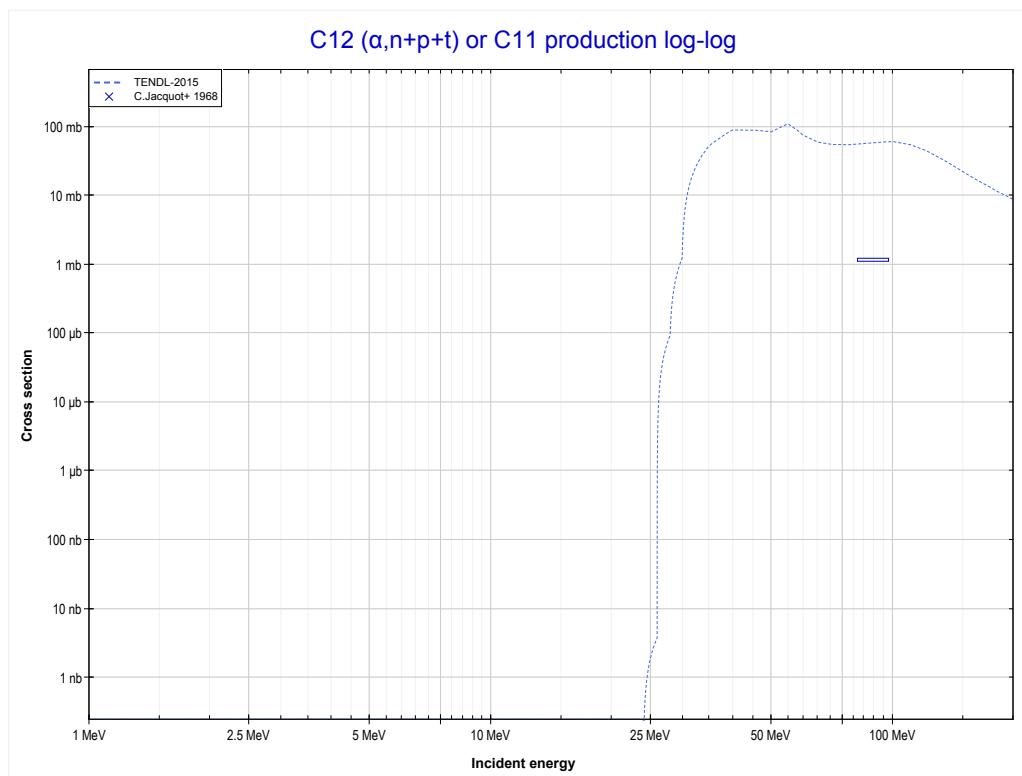
Reaction	Q-Value
$C_{12}(\alpha, n + \alpha)C_{11}$	-18721.62 keV
$C_{12}(\alpha, d + t)C_{11}$	-36310.91 keV
$C_{12}(\alpha, n + p + t)C_{11}$	-38535.48 keV
$C_{12}(\alpha, 2n + He_3)C_{11}$	-39299.23 keV
$C_{12}(\alpha, n + 2d)C_{11}$	-42568.14 keV
$C_{12}(\alpha, 2n + p + d)C_{11}$	-44792.71 keV
$C_{12}(\alpha, 3n + 2p)C_{11}$	-47017.28 keV

<a href="#"><b>&lt;&lt; MT182 (<math>\alpha, d+t</math>)</b></a>	<b>6-C-12</b> <b>MT183 (<math>\alpha, n+p+d</math>) or MT5 (C12 production)</b>	<b>7-N-14 &gt;&gt;</b> <a href="#"><b>MT184 (<math>\alpha, n+p+t</math>) &gt;&gt;</b></a>
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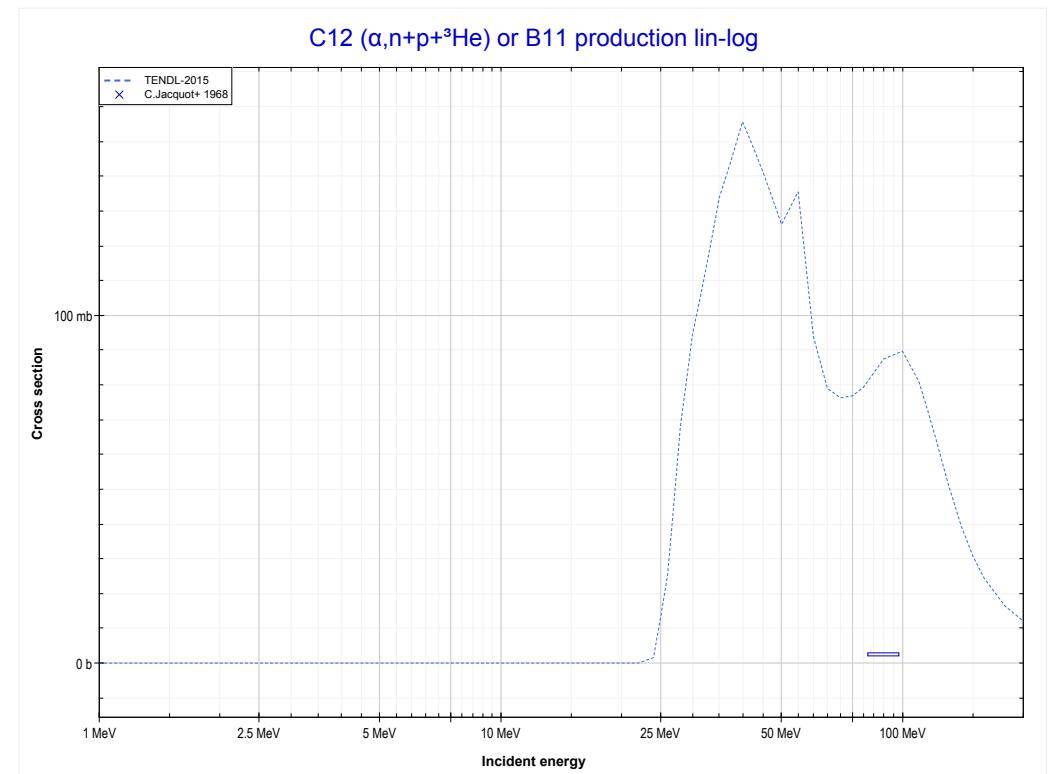
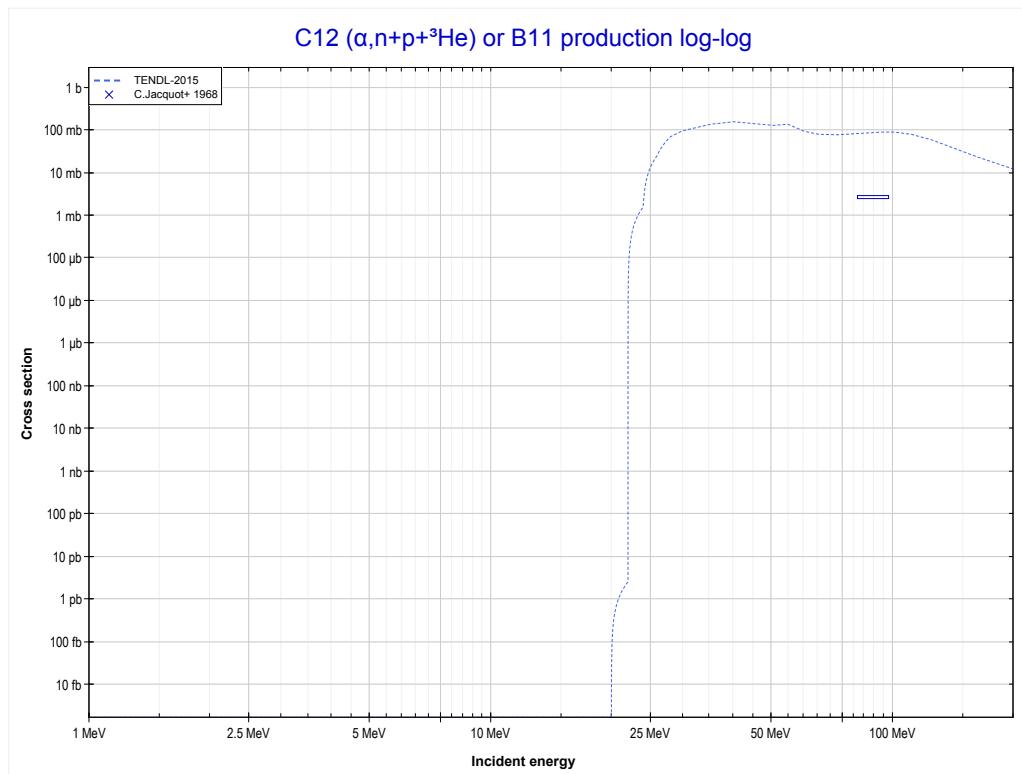
Reaction	Q-Value
C12( $\alpha, \alpha$ )C12	0.00 keV
C12( $\alpha, p+t$ )C12	-19813.86 keV
C12( $\alpha, n+He3$ )C12	-20577.62 keV
C12( $\alpha, 2d$ )C12	-23846.53 keV
C12( $\alpha, n+p+d$ )C12	-26071.09 keV
C12( $\alpha, 2n+2p$ )C12	-28295.66 keV

<a href="#"><b>&lt;&lt; MT183 (<math>\alpha, n+p+d</math>)</b></a>	<b>6-C-12</b> <b>MT184 (<math>\alpha, n+p+t</math>) or MT5 (C11 production)</b>	<a href="#"><b>7-N-14 &gt;&gt;</b></a> <b>MT186 (<math>\alpha, n+p+{}^3\text{He}</math>) &gt;&gt;</b>
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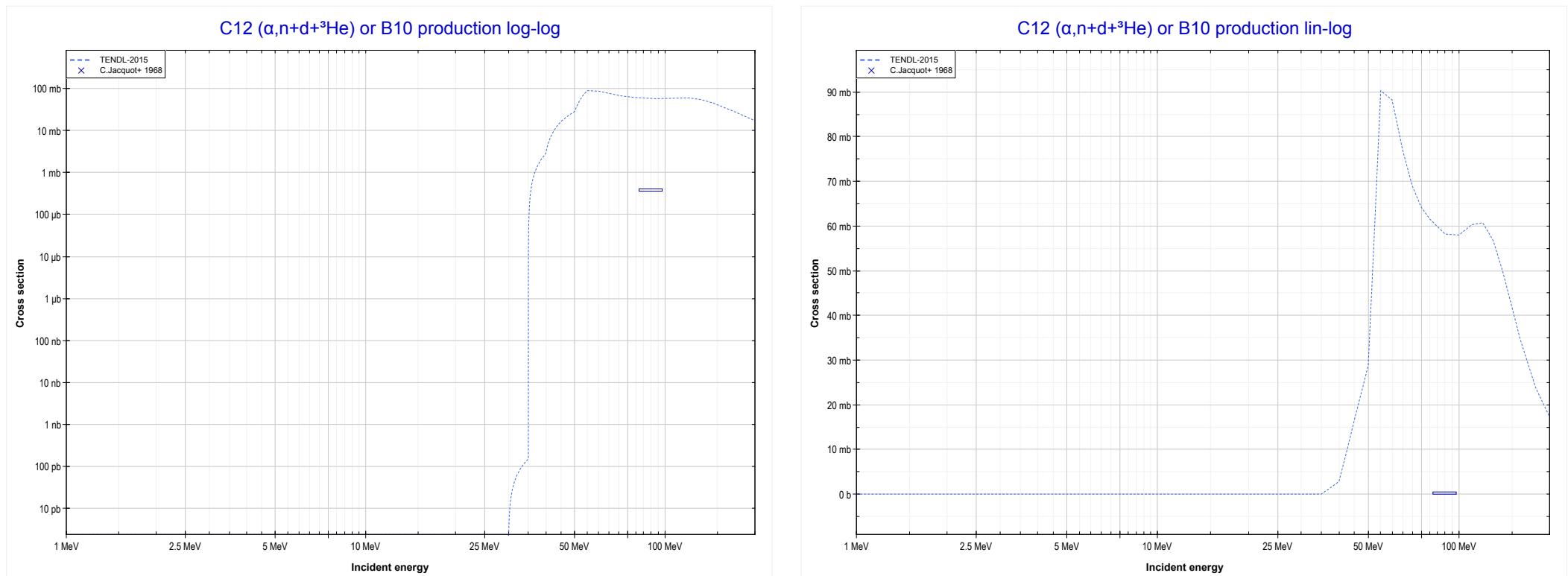
Reaction	Q-Value
C12( $\alpha, n+\alpha$ )C11	-18721.62 keV
C12( $\alpha, d+t$ )C11	-36310.91 keV
C12( $\alpha, n+p+t$ )C11	-38535.48 keV
C12( $\alpha, 2n+{}^3\text{He}$ )C11	-39299.23 keV
C12( $\alpha, n+2d$ )C11	-42568.14 keV
C12( $\alpha, 2n+p+d$ )C11	-44792.71 keV
C12( $\alpha, 3n+2p$ )C11	-47017.28 keV

<a href="#"><b>&lt;&lt; MT184 (<math>\alpha, n+p+t</math>)</b></a>	<b>6-C-12</b> <b>MT186 (<math>\alpha, n+p+{}^3\text{He}</math>) or MT5 (B11 production)</b>	<a href="#"><b>7-N-14 &gt;&gt;</b></a> <a href="#"><b>MT187 (<math>\alpha, n+d+{}^3\text{He}</math>) &gt;&gt;</b></a>
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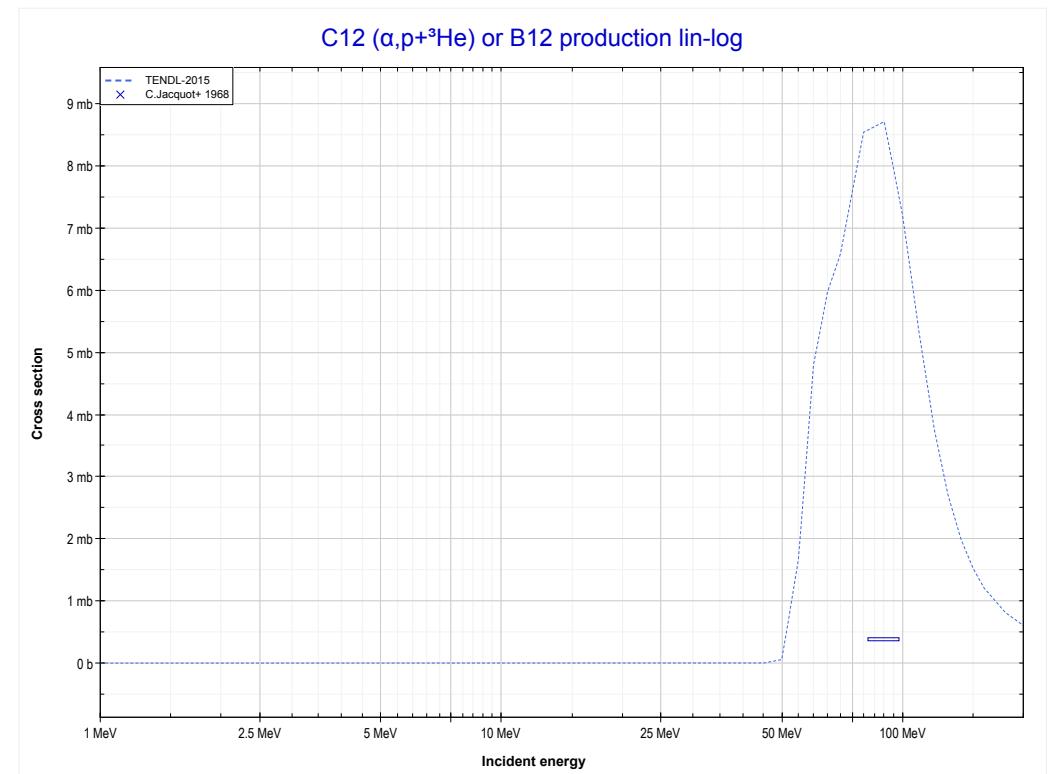
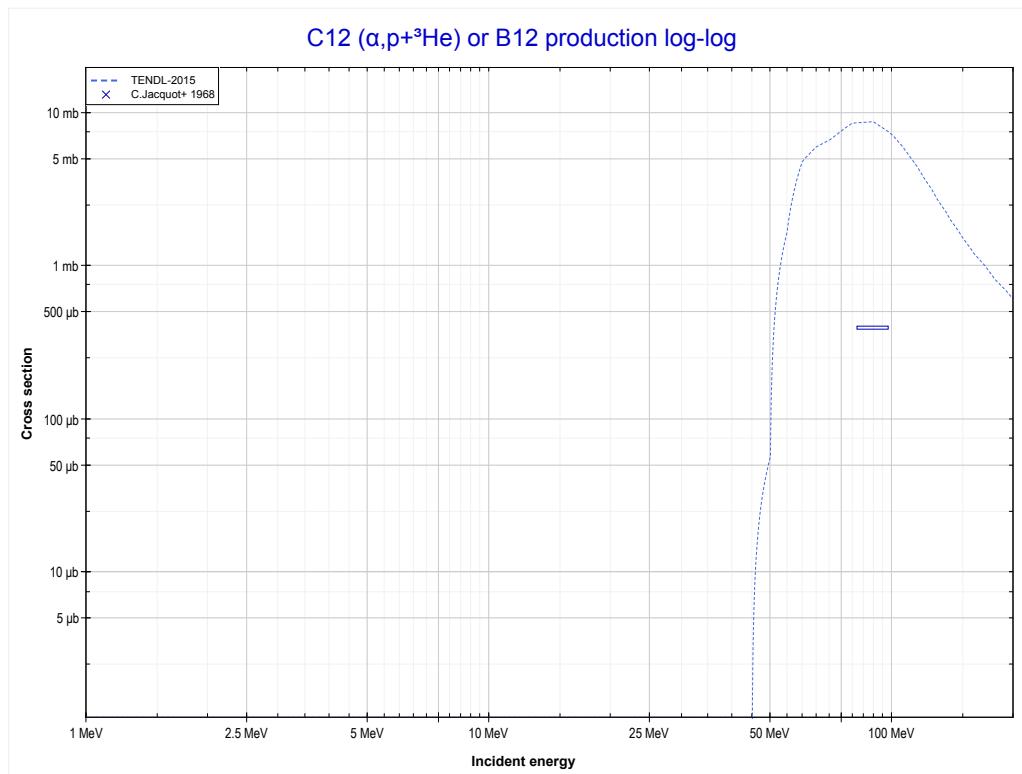
Reaction	Q-Value
C12( $\alpha, p+\alpha$ )B11	-15956.87 keV
C12( $\alpha, d+{}^3\text{He}$ )B11	-34309.92 keV
C12( $\alpha, 2p+t$ )B11	-35770.73 keV
C12( $\alpha, n+p+{}^3\text{He}$ )B11	-36534.49 keV
C12( $\alpha, p+2d$ )B11	-39803.40 keV
C12( $\alpha, n+2p+d$ )B11	-42027.96 keV
C12( $\alpha, 2n+3p$ )B11	-44252.53 keV

<a href="#"><b>&lt;&lt; MT186 (<math>\alpha, n + p + {}^3\text{He}</math>)</b></a>	<b>6-C-12</b> <b>MT187 (<math>\alpha, n + d + {}^3\text{He}</math>) or MT5 (B10 production)</b>	<a href="#"><b>7-N-14 &gt;&gt;</b></a> <a href="#"><b>MT191 (<math>\alpha, p + {}^3\text{He}</math>) &gt;&gt;</b></a>
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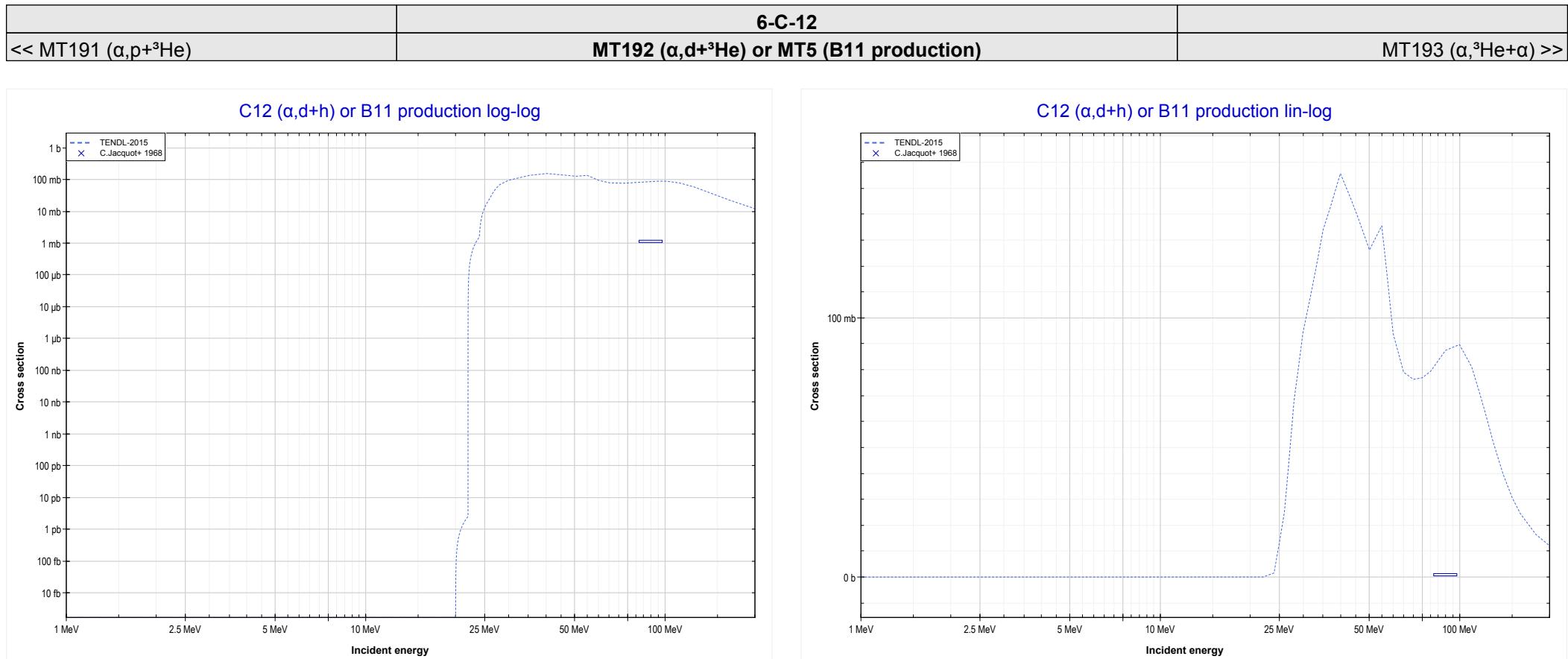


Reaction	Q-Value	Reaction	Q-Value
C12( $\alpha, d + \alpha$ )B10	-25186.42 keV	C12( $\alpha, n + p + 2d$ )B10	-51257.52 keV
C12( $\alpha, n + p + \alpha$ )B10	-27410.99 keV	C12( $\alpha, 2n + 2p + d$ )B10	-53482.08 keV
C12( $\alpha, t + {}^3\text{He}$ )B10	-39506.81 keV	C12( $\alpha, 3n + 3p$ )B10	-55706.65 keV
C12( $\alpha, p + d + t$ )B10	-45000.28 keV		
C12( $\alpha, n + d + {}^3\text{He}$ )B10	-45764.04 keV		
C12( $\alpha, n + 2p + t$ )B10	-47224.85 keV		
C12( $\alpha, 2n + p + {}^3\text{He}$ )B10	-47988.60 keV		
C12( $\alpha, 3d$ )B10	-49032.95 keV		

<a href="#"><b>&lt;&lt; MT187 (<math>\alpha, n + d + {}^3\text{He}</math>)</b></a>	<b>6-C-12</b> <b>MT191 (<math>\alpha, p + {}^3\text{He}</math>) or MT5 (B12 production)</b>	<a href="#"><b>7-N-14 &gt;&gt;</b></a> <a href="#"><b>MT192 (<math>\alpha, d + {}^3\text{He}</math>) &gt;&gt;</b></a>
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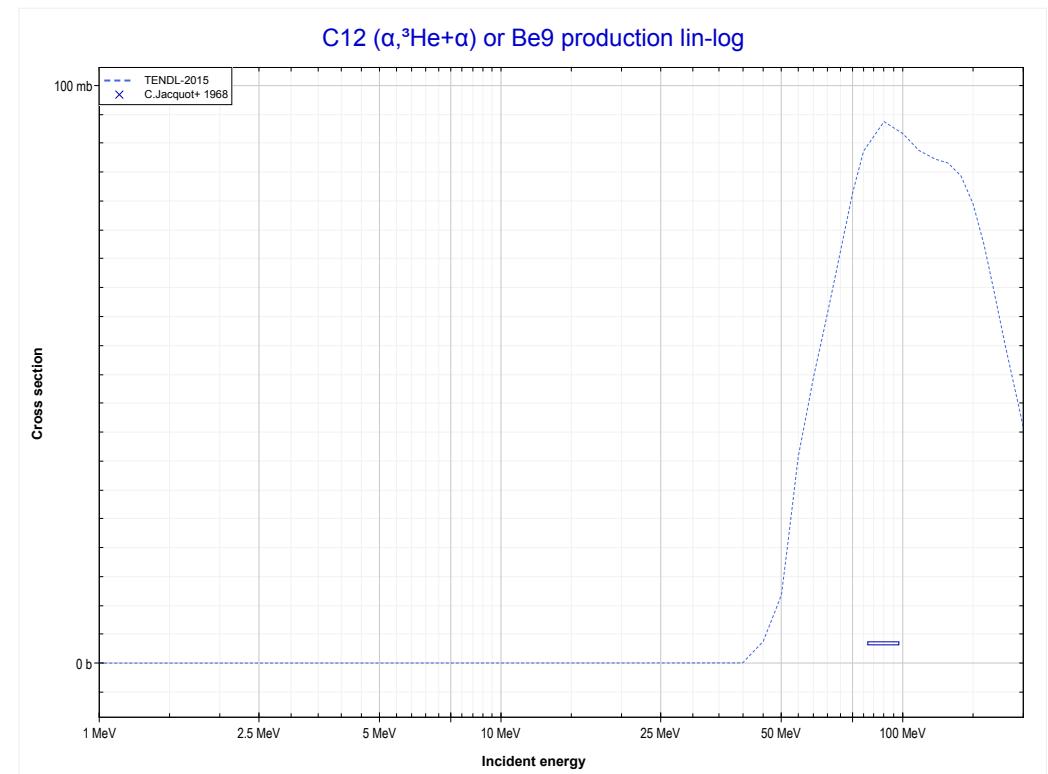
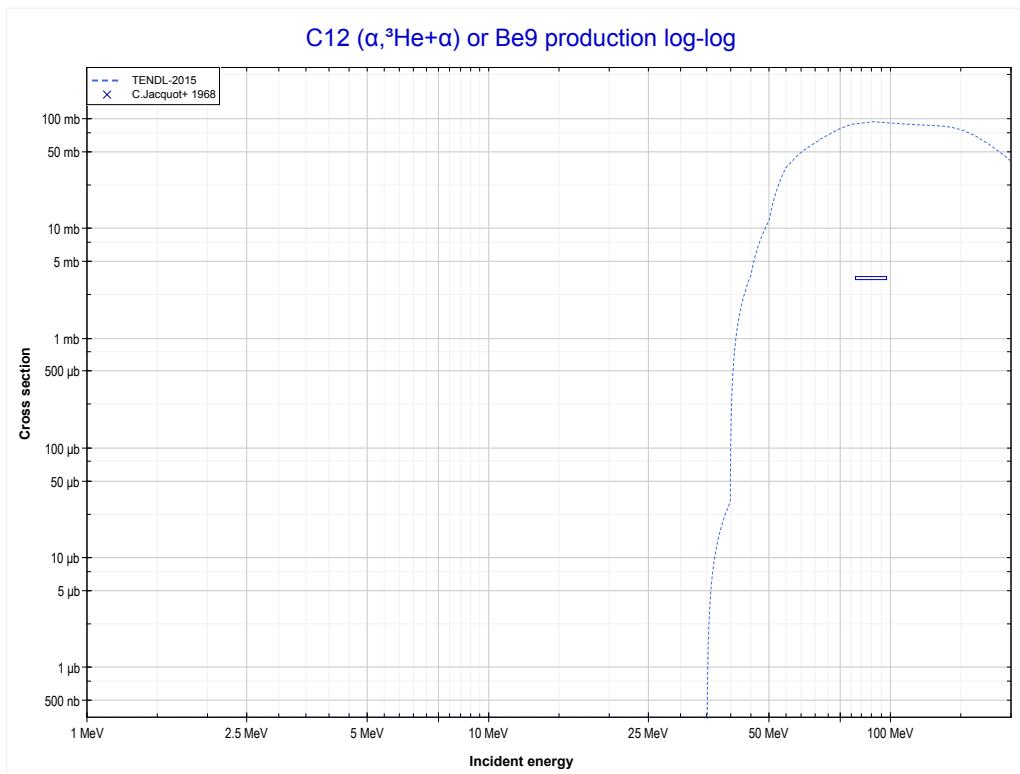


Reaction	Q-Value
C12( $\alpha, p + \text{He}3$ )B12	-33164.67 keV
C12( $\alpha, 2p + d$ )B12	-38658.15 keV
C12( $\alpha, n + 3p$ )B12	-40882.71 keV



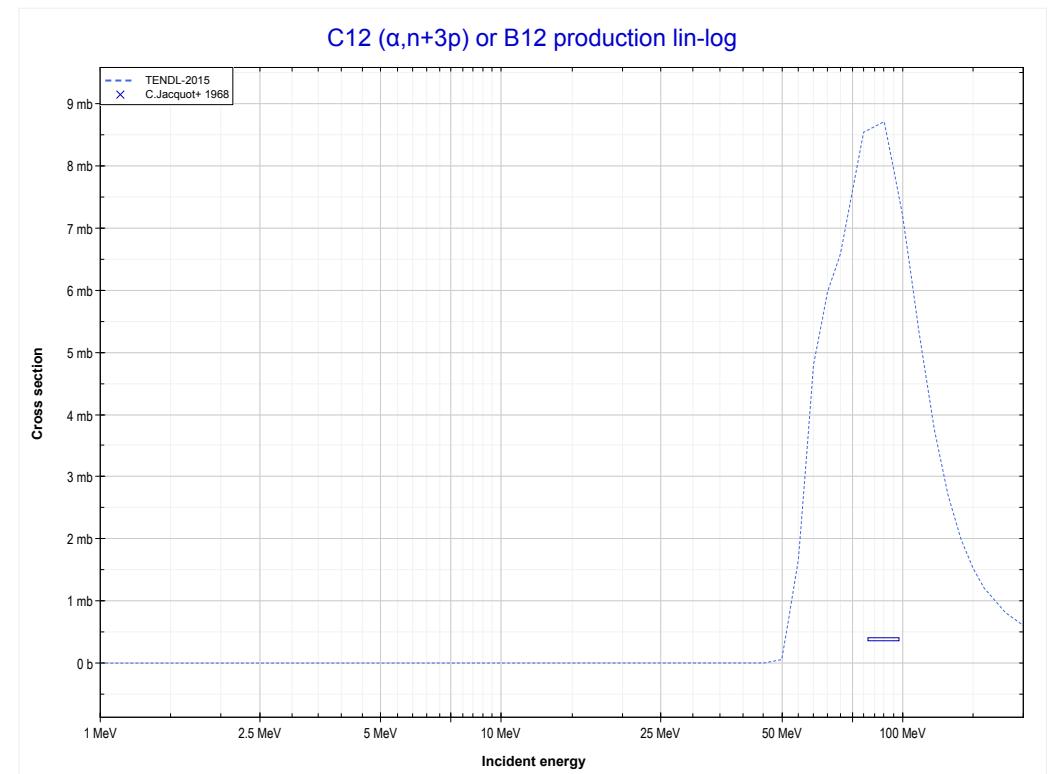
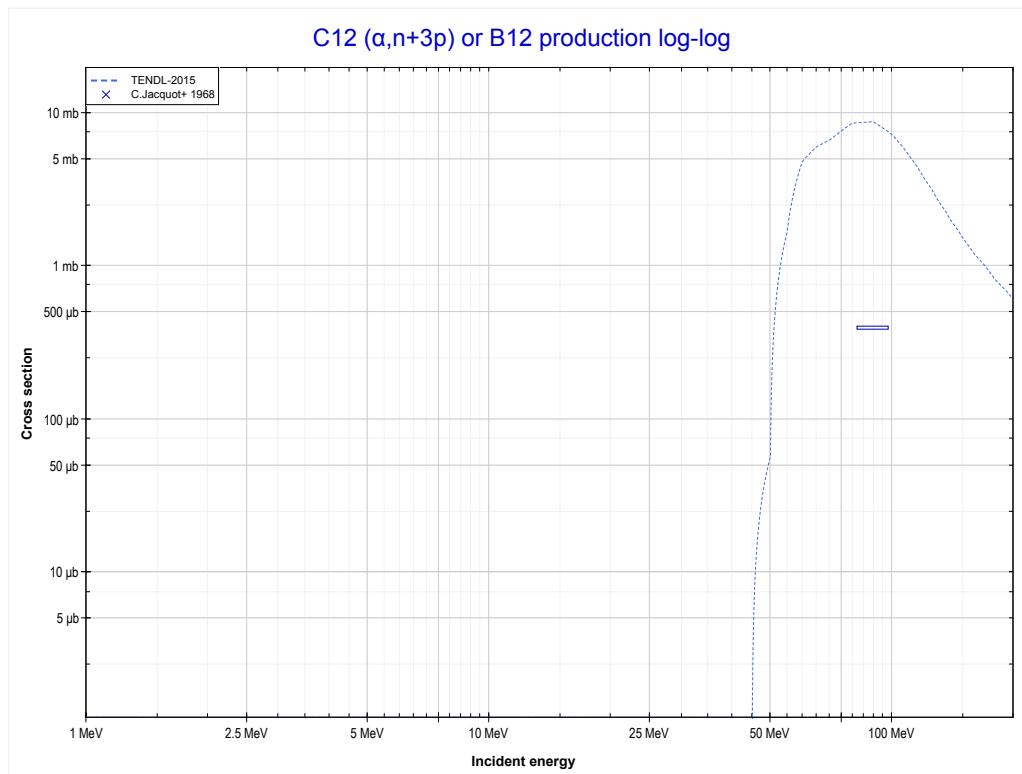
Reaction	Q-Value
$C12(\alpha, p+\alpha)B11$	-15956.87 keV
$C12(\alpha, d+He3)B11$	-34309.92 keV
$C12(\alpha, 2p+t)B11$	-35770.73 keV
$C12(\alpha, n+p+He3)B11$	-36534.49 keV
$C12(\alpha, p+2d)B11$	-39803.40 keV
$C12(\alpha, n+2p+d)B11$	-42027.96 keV
$C12(\alpha, 2n+3p)B11$	-44252.53 keV

<a href="#"><b>&lt;&lt; MT192 (<math>\alpha, d + {}^3\text{He}</math>)</b></a>	<b>6-C-12</b> <b>MT193 (<math>\alpha, {}^3\text{He} + \alpha</math>) or MT5 (Be9 production)</b>	<b>7-N-14 &gt;&gt;</b> <a href="#"><b>MT198 (<math>\alpha, n + 3p</math>) &gt;&gt;</b></a>
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Reaction	Q-Value	Reaction	Q-Value
C12( $\alpha, \text{He}3 + \alpha$ )Be9	-26279.67 keV	C12( $\alpha, n + 3p + t$ )Be9	-53811.57 keV
C12( $\alpha, p + d + \alpha$ )Be9	-31773.14 keV	C12( $\alpha, 2n + 2p + \text{He}3$ )Be9	-54575.33 keV
C12( $\alpha, n + 2p + \alpha$ )Be9	-33997.71 keV	C12( $\alpha, p + 3d$ )Be9	-55619.67 keV
C12( $\alpha, p + t + \text{He}3$ )Be9	-46093.53 keV	C12( $\alpha, n + 2p + 2d$ )Be9	-57844.24 keV
C12( $\alpha, n + 2\text{He}3$ )Be9	-46857.28 keV	C12( $\alpha, 2n + 3p + d$ )Be9	-60068.80 keV
C12( $\alpha, 2d + \text{He}3$ )Be9	-50126.19 keV	C12( $\alpha, 3n + 4p$ )Be9	-62293.37 keV
C12( $\alpha, 2p + d + t$ )Be9	-51587.00 keV		
C12( $\alpha, n + p + d + \text{He}3$ )Be9	-52350.76 keV		

<< MT193 ( $\alpha, {}^3\text{He} + \alpha$ )	<b>6-C-12</b> <b>MT198 (<math>\alpha, n + 3p</math>) or MT5 (B12 production)</b>	7-N-14 >>
		6-C-13 MT4 ( $\alpha, n$ ) >>

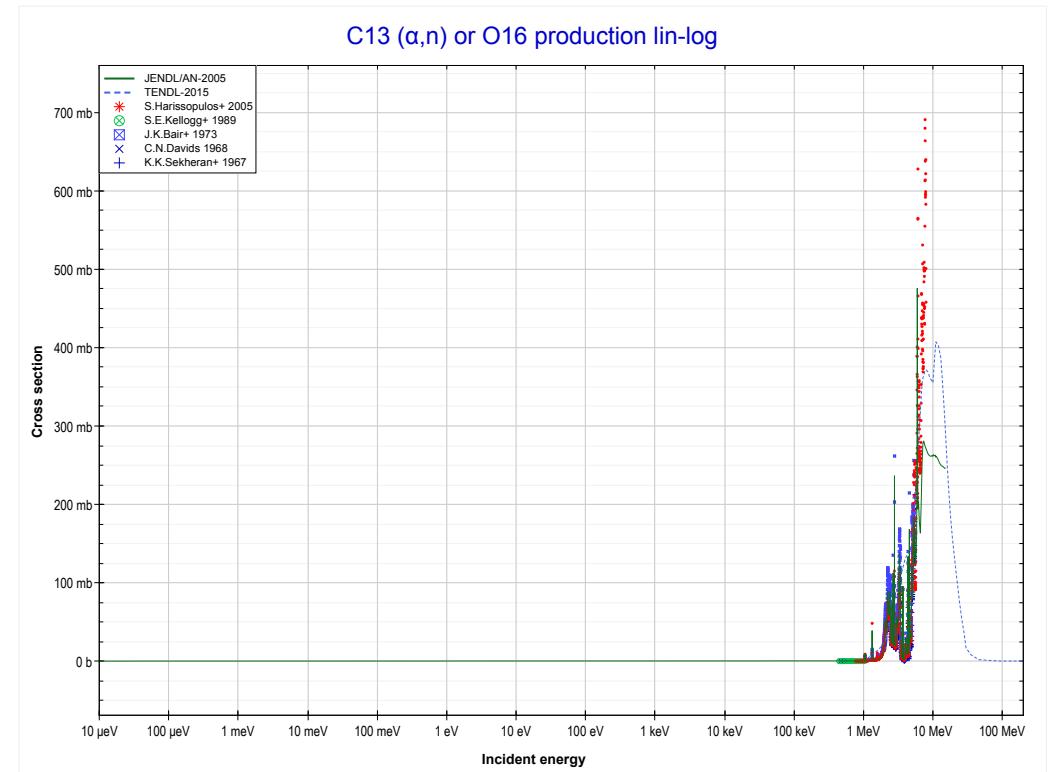
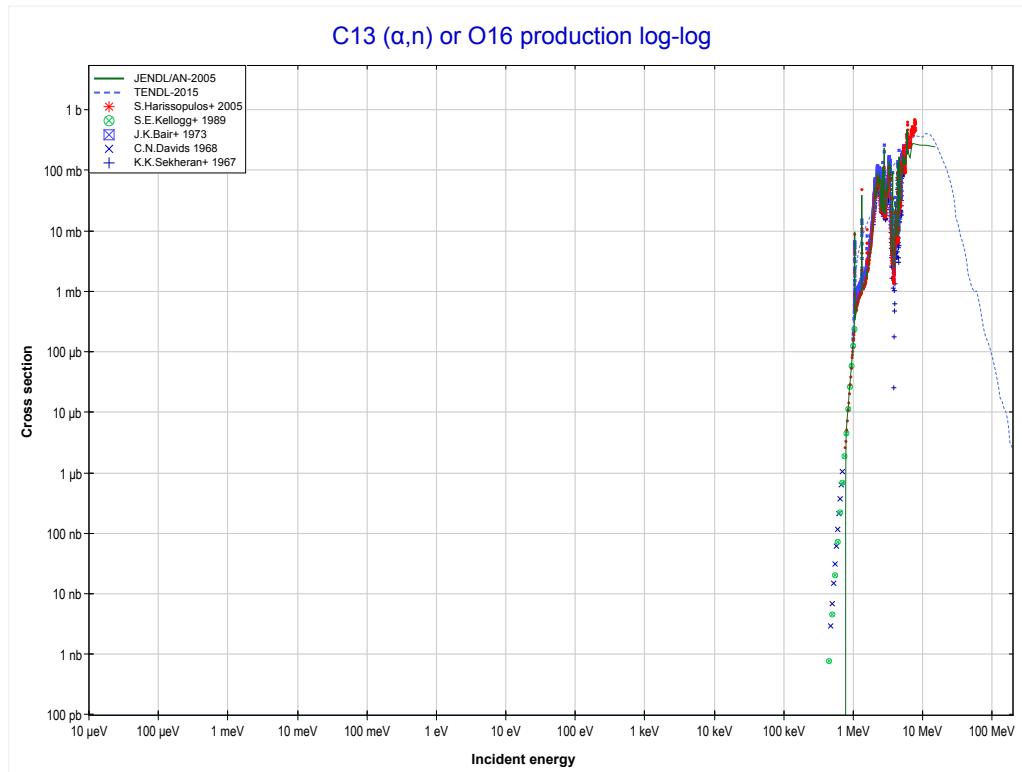


Reaction	Q-Value
C12( $\alpha, p + {}^3\text{He}$ )B12	-33164.67 keV
C12( $\alpha, 2p + d$ )B12	-38658.15 keV
C12( $\alpha, n + 3p$ )B12	-40882.71 keV

<< 6-C-12		
<< 6-C-12 MT198 ( $\alpha, n+3p$ )		

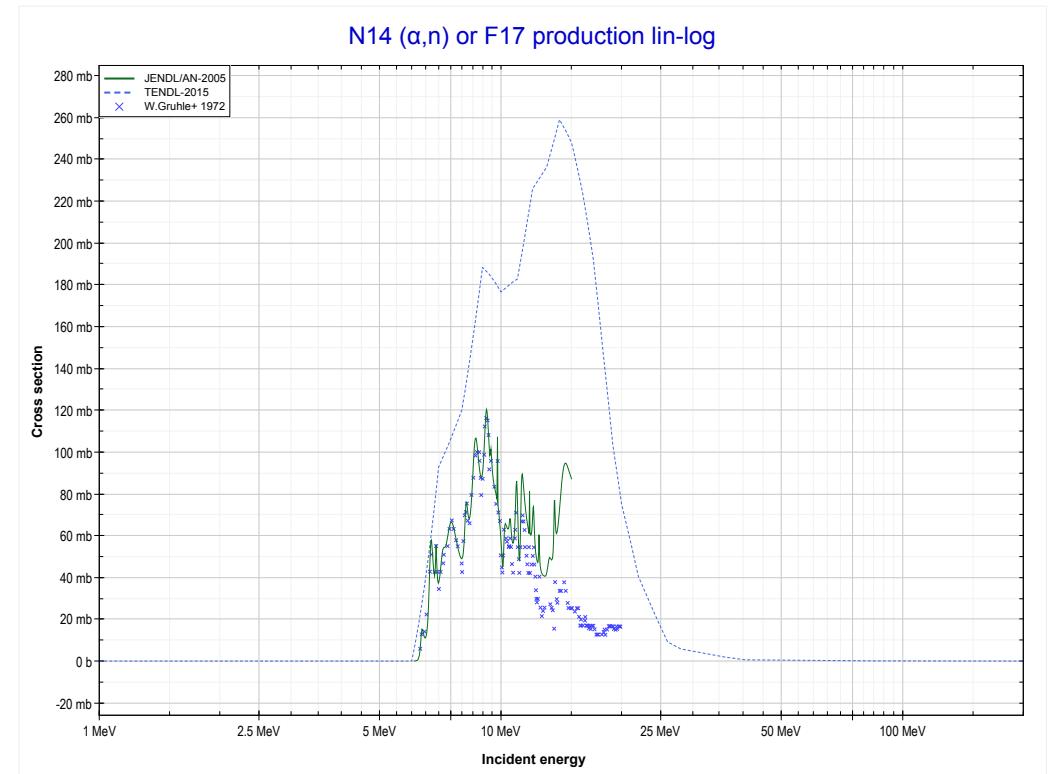
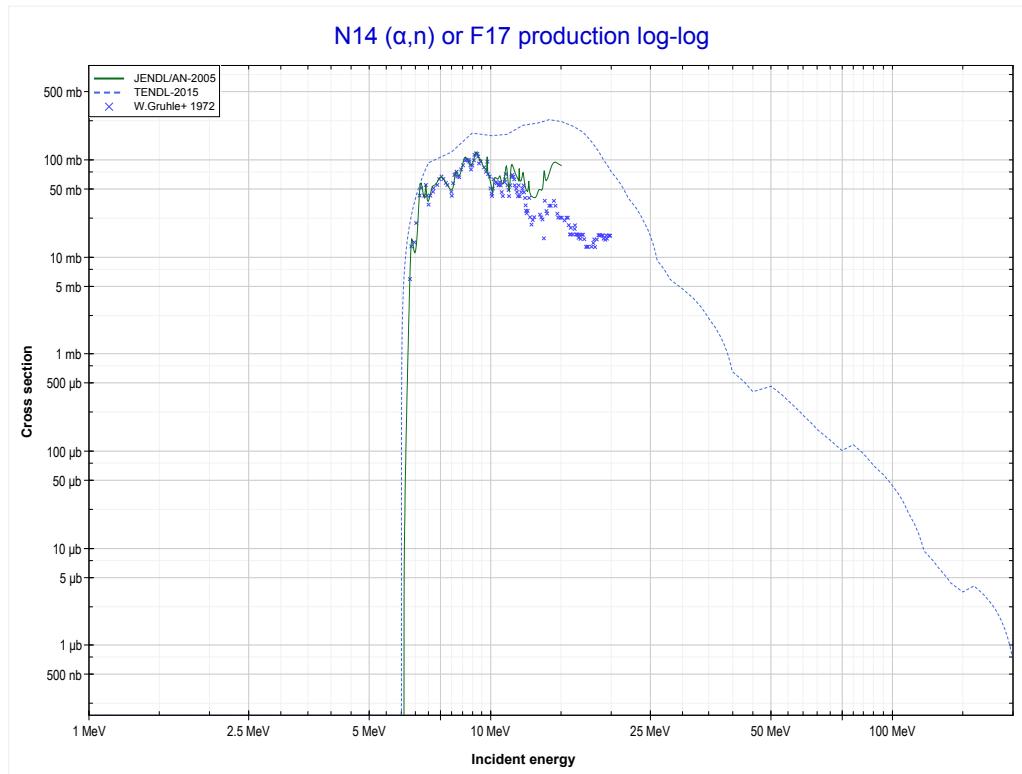
6-C-13
<b>MT4 (<math>\alpha, n</math>) or MT5 (O16 production)</b>

7-N-14 >>
7-N-14 MT4 ( $\alpha, n$ ) >>



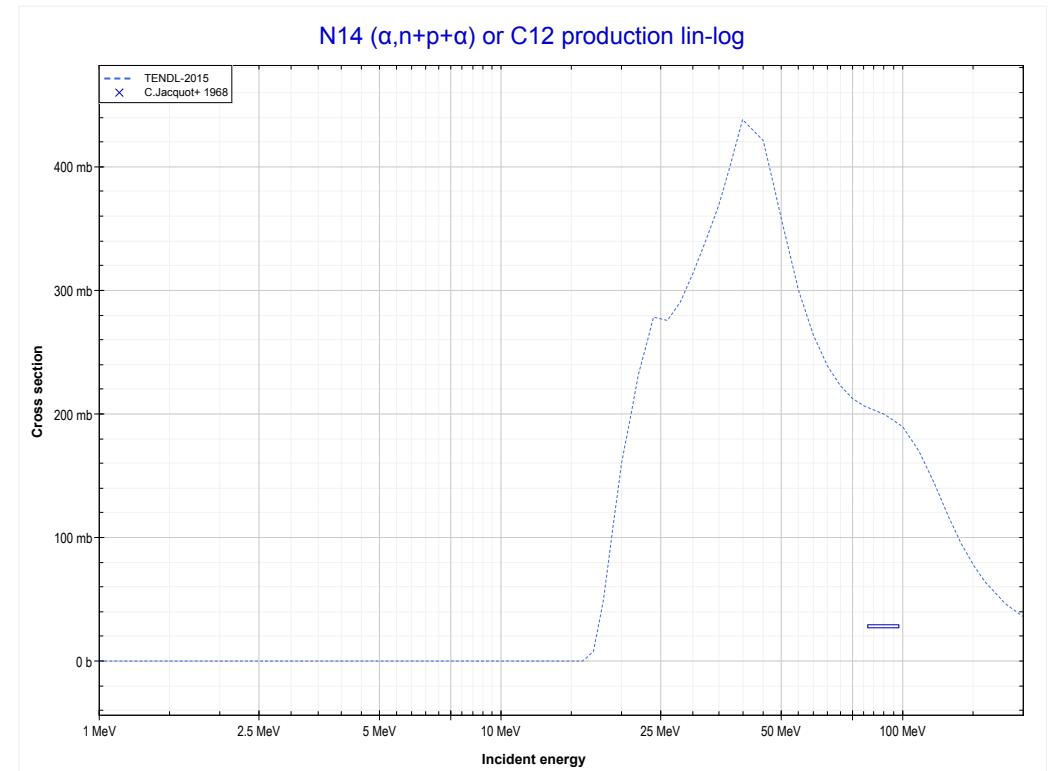
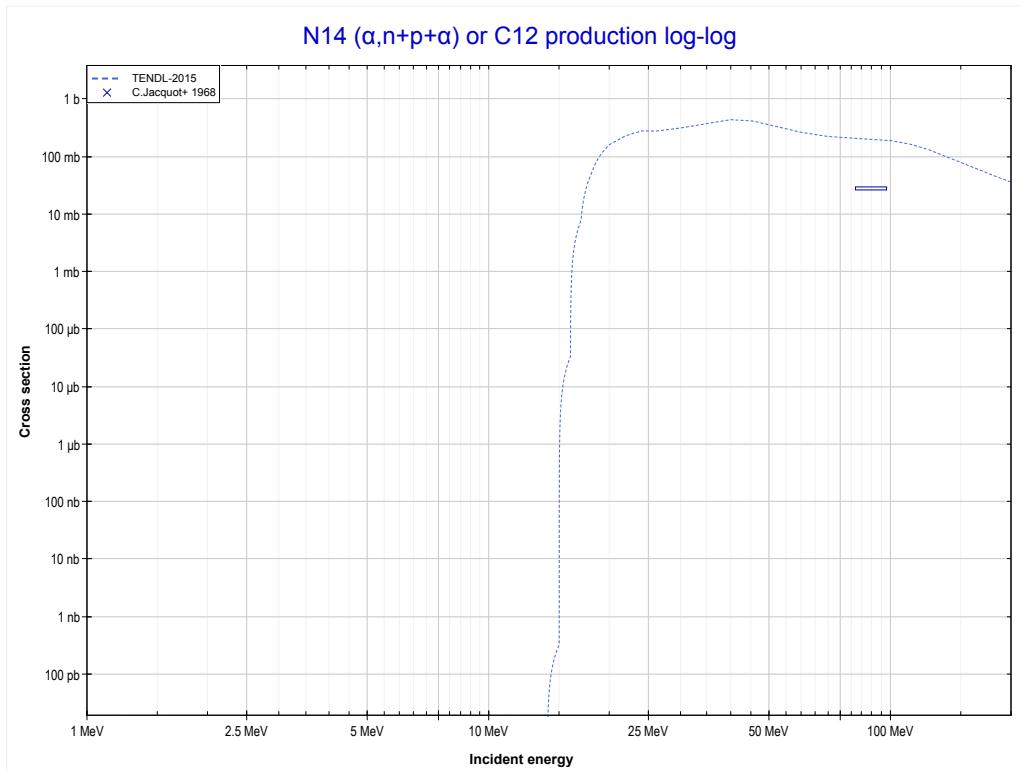
Reaction	Q-Value
C13( $\alpha, n$ )O16	2215.61 keV

<< 6-C-13	7-N-14	8-O-16 >>
<< 6-C-13 MT4 ( $\alpha, n$ )	MT4 ( $\alpha, n$ ) or MT5 (F17 production)	MT45 ( $\alpha, n+p+\alpha$ ) >>

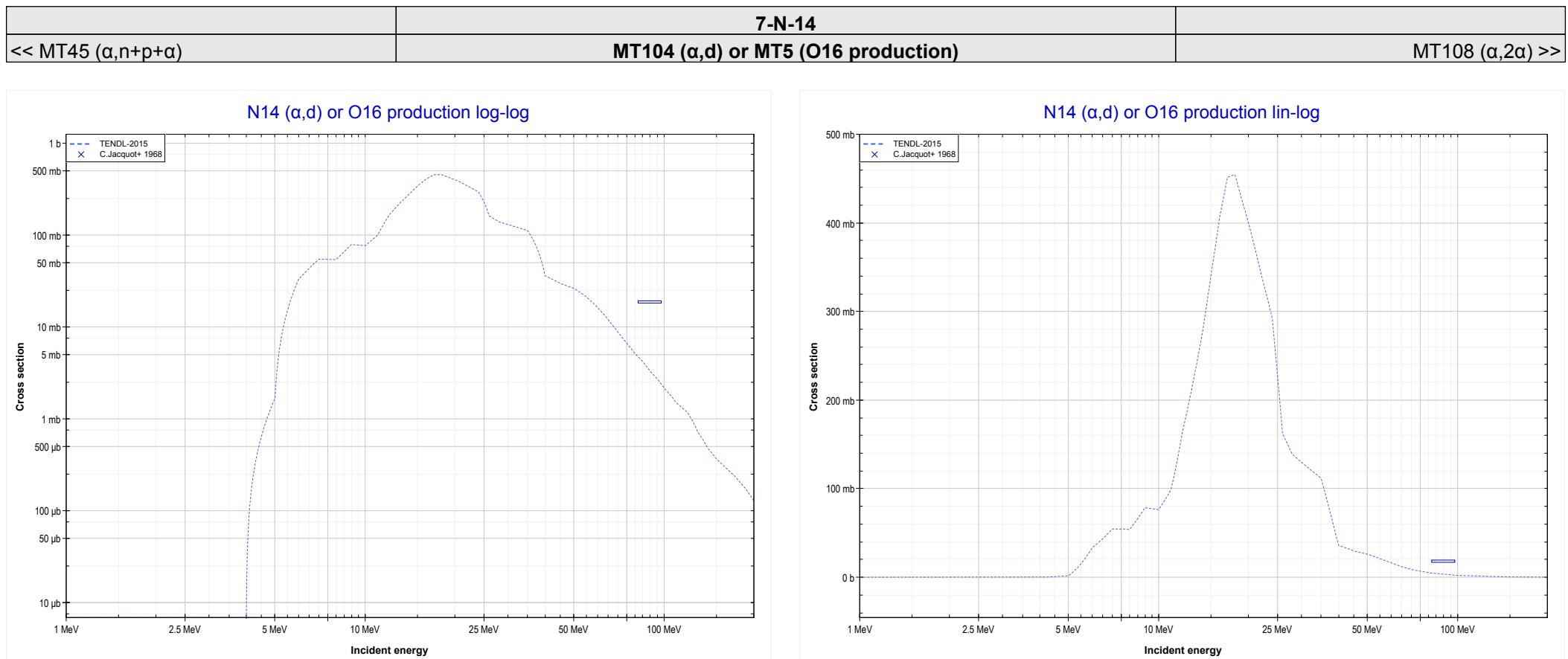


Reaction	Q-Value
N14( $\alpha, n$ )F17	-4734.68 keV

<< 6-C-12	7-N-14 MT45 ( $\alpha, n+p+\alpha$ ) or MT5 (C12 production)	26-Fe-54 >> MT104 ( $\alpha, d$ ) >>
<< MT4 ( $\alpha, n$ )		

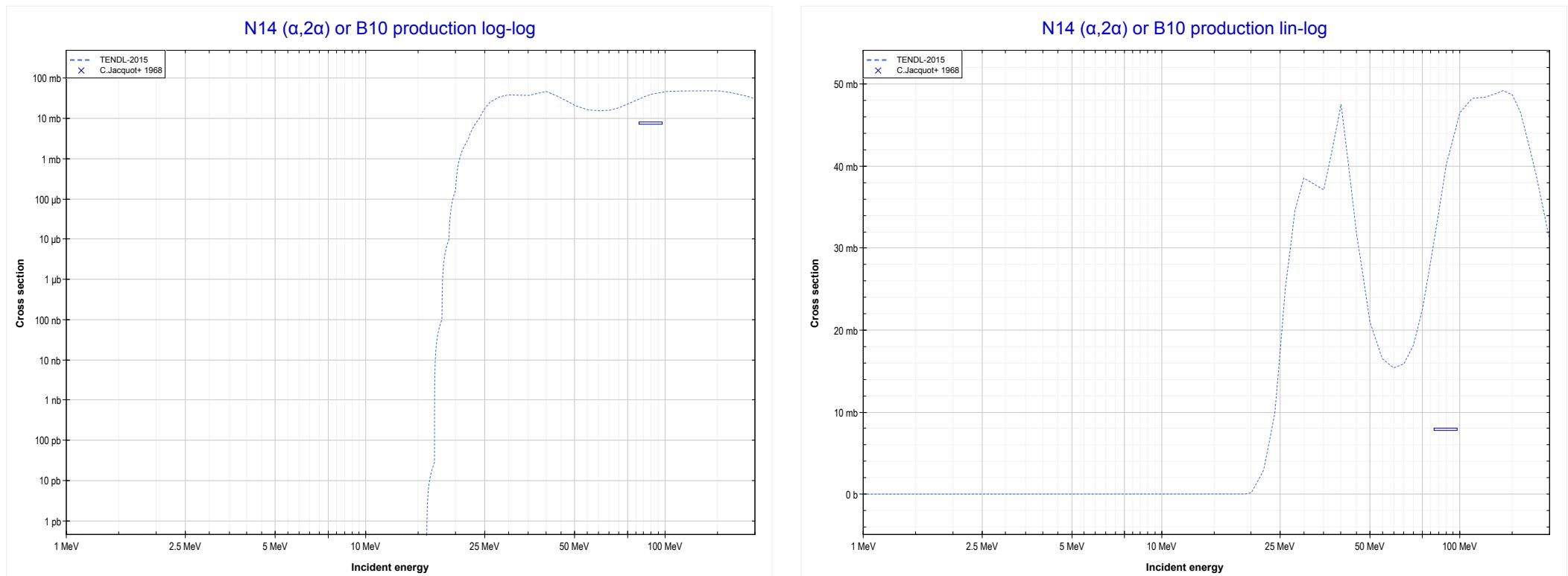


Reaction	Q-Value	Reaction	Q-Value
N14( $\alpha, d+\alpha$ )C12	-10272.31 keV	N14( $\alpha, n+p+2d$ )C12	-36343.40 keV
N14( $\alpha, n+p+\alpha$ )C12	-12496.87 keV	N14( $\alpha, 2n+2p+d$ )C12	-38567.96 keV
N14( $\alpha, t+He3$ )C12	-24592.69 keV	N14( $\alpha, 3n+3p$ )C12	-40792.53 keV
N14( $\alpha, p+d+t$ )C12	-30086.17 keV		
N14( $\alpha, n+d+He3$ )C12	-30849.92 keV		
N14( $\alpha, n+2p+t$ )C12	-32310.73 keV		
N14( $\alpha, 2n+p+He3$ )C12	-33074.49 keV		
N14( $\alpha, 3d$ )C12	-34118.83 keV		

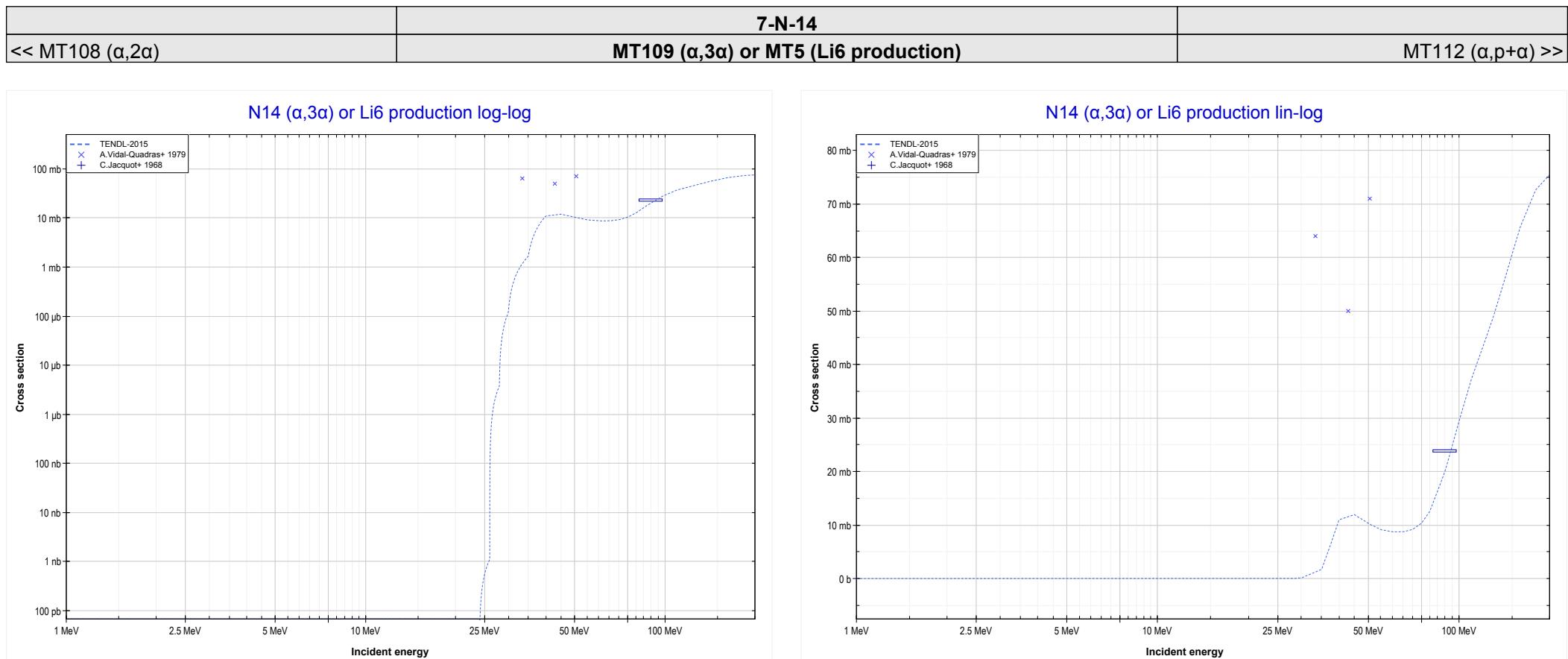


Reaction	Q-Value
N14( $\alpha, d$ )O16	-3110.39 keV
N14( $\alpha, n+p$ )O16	-5334.95 keV

<< 6-C-12	7-N-14 MT108 ( $\alpha,2\alpha$ ) or MT5 (B10 production)	23-V-51 >> MT109 ( $\alpha,3\alpha$ ) >>
<< MT104 (a,d)		

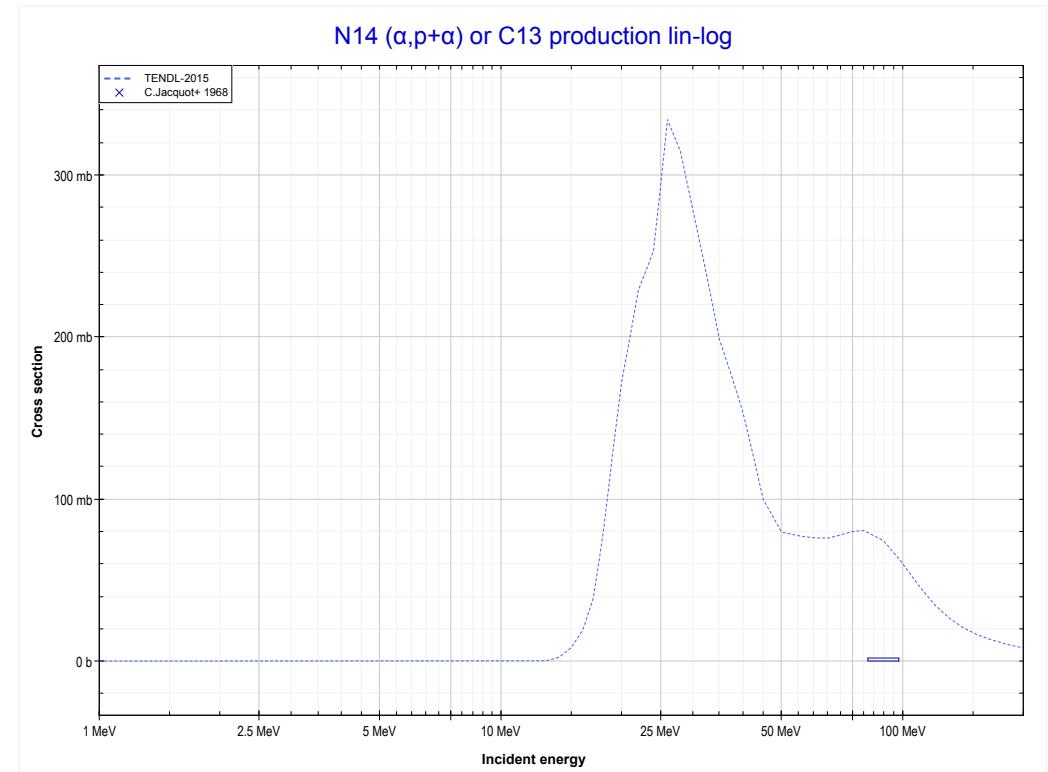
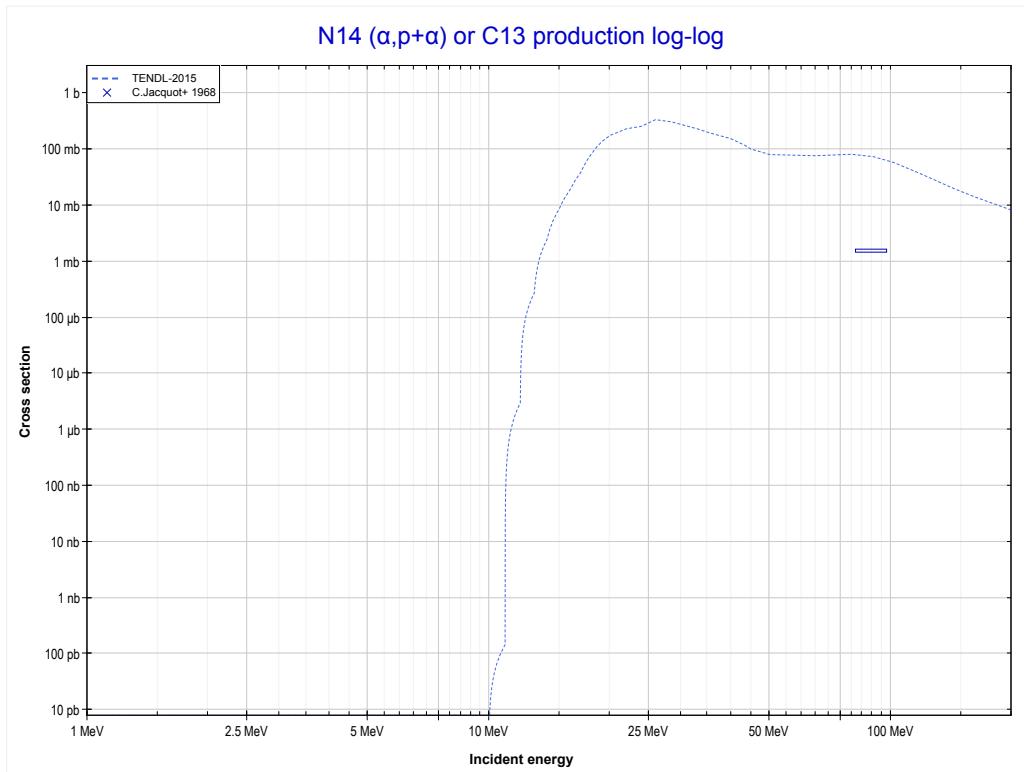


Reaction	Q-Value	Reaction	Q-Value
N14( $\alpha,2\alpha$ )B10	-11612.20 keV	N14( $\alpha,n+p+t+He3$ )B10	-52003.68 keV
N14( $\alpha,p+t+\alpha$ )B10	-31426.06 keV	N14( $\alpha,2n+2He3$ )B10	-52767.43 keV
N14( $\alpha,n+He3+\alpha$ )B10	-32189.82 keV	N14( $\alpha,p+2d+t$ )B10	-55272.59 keV
N14( $\alpha,2d+\alpha$ )B10	-35458.73 keV	N14( $\alpha,n+2d+He3$ )B10	-56036.34 keV
N14( $\alpha,n+p+d+\alpha$ )B10	-37683.29 keV	N14( $\alpha,n+2p+d+t$ )B10	-57497.15 keV
N14( $\alpha,2n+2p+\alpha$ )B10	-39907.86 keV	N14( $\alpha,2n+p+d+He3$ )B10	-58260.91 keV
N14( $\alpha,d+t+He3$ )B10	-49779.11 keV	N14( $\alpha,4d$ )B10	-59305.25 keV
N14( $\alpha,2p+2t$ )B10	-51239.92 keV	N14( $\alpha,2n+3p+t$ )B10	-59721.72 keV

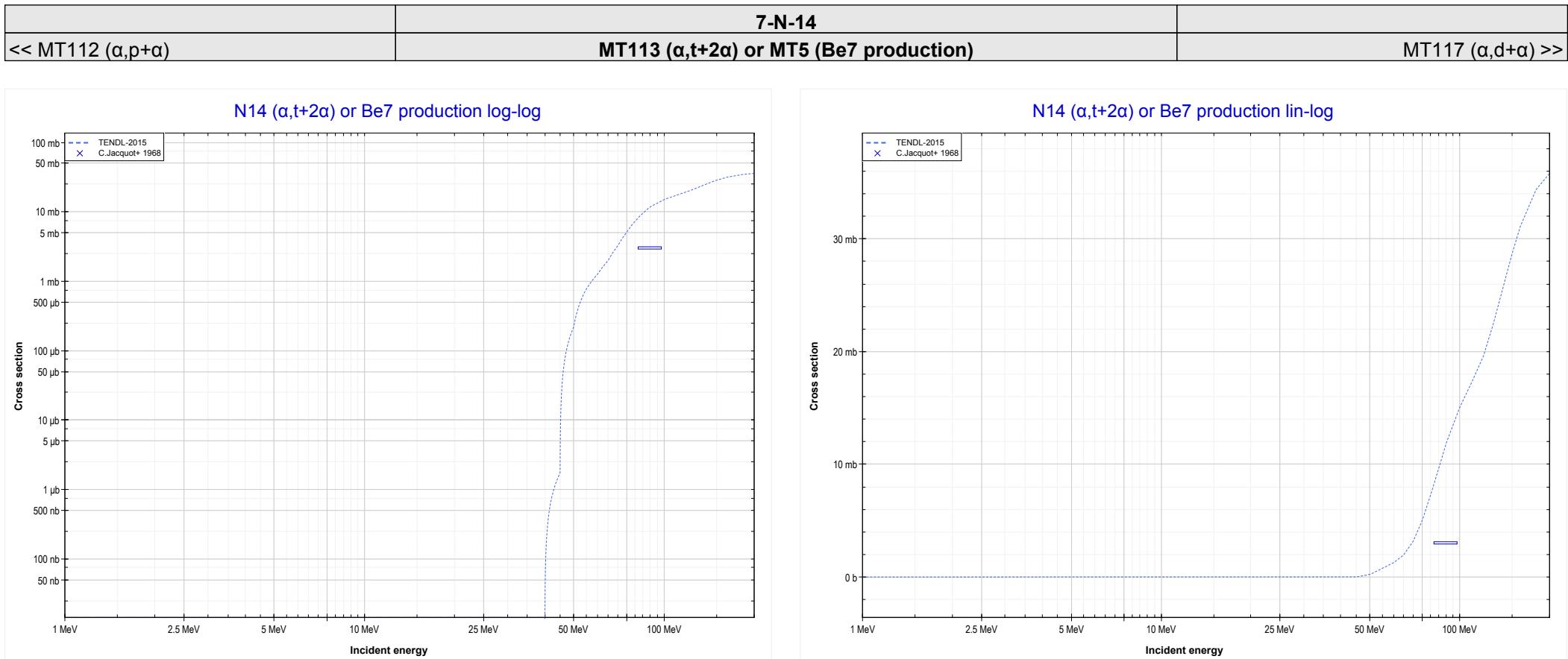


Reaction	Q-Value	Reaction	Q-Value
N14( $\alpha,3\alpha$ )Li6	-16073.29 keV	N14( $\alpha,n+p+t+He3+\alpha$ )Li6	-56464.77 keV
N14( $\alpha,p+t+2\alpha$ )Li6	-35887.15 keV	N14( $\alpha,2n+2He3+\alpha$ )Li6	-57228.53 keV
N14( $\alpha,n+He3+2\alpha$ )Li6	-36650.91 keV	N14( $\alpha,p+2d+t+\alpha$ )Li6	-59733.68 keV
N14( $\alpha,2d+2\alpha$ )Li6	-39919.82 keV	N14( $\alpha,n+2d+He3+\alpha$ )Li6	-60497.44 keV
N14( $\alpha,n+p+d+2\alpha$ )Li6	-42144.39 keV	N14( $\alpha,n+2p+d+t+\alpha$ )Li6	-61958.25 keV
N14( $\alpha,2n+2p+2\alpha$ )Li6	-44368.95 keV	N14( $\alpha,2n+p+d+He3+\alpha$ )Li6	-62722.00 keV
N14( $\alpha,d+t+He3+\alpha$ )Li6	-54240.21 keV	N14( $\alpha,4d+\alpha$ )Li6	-63766.35 keV
N14( $\alpha,2p+2t+\alpha$ )Li6	-55701.02 keV	N14( $\alpha,2n+3p+t+\alpha$ )Li6	-64182.81 keV

<< 6-C-12	7-N-14 MT112 ( $\alpha, p + \alpha$ ) or MT5 (C13 production)	26-Fe-57 >> MT113 ( $\alpha, t + 2\alpha$ ) >>
<< MT109 ( $\alpha, 3\alpha$ )		

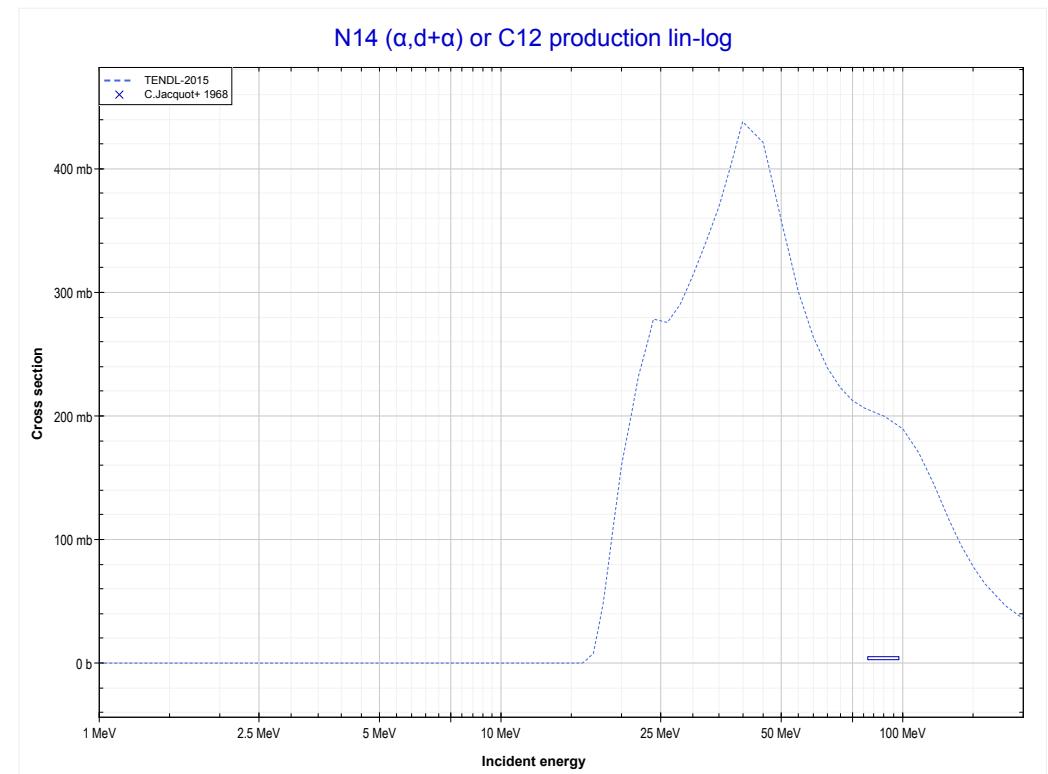
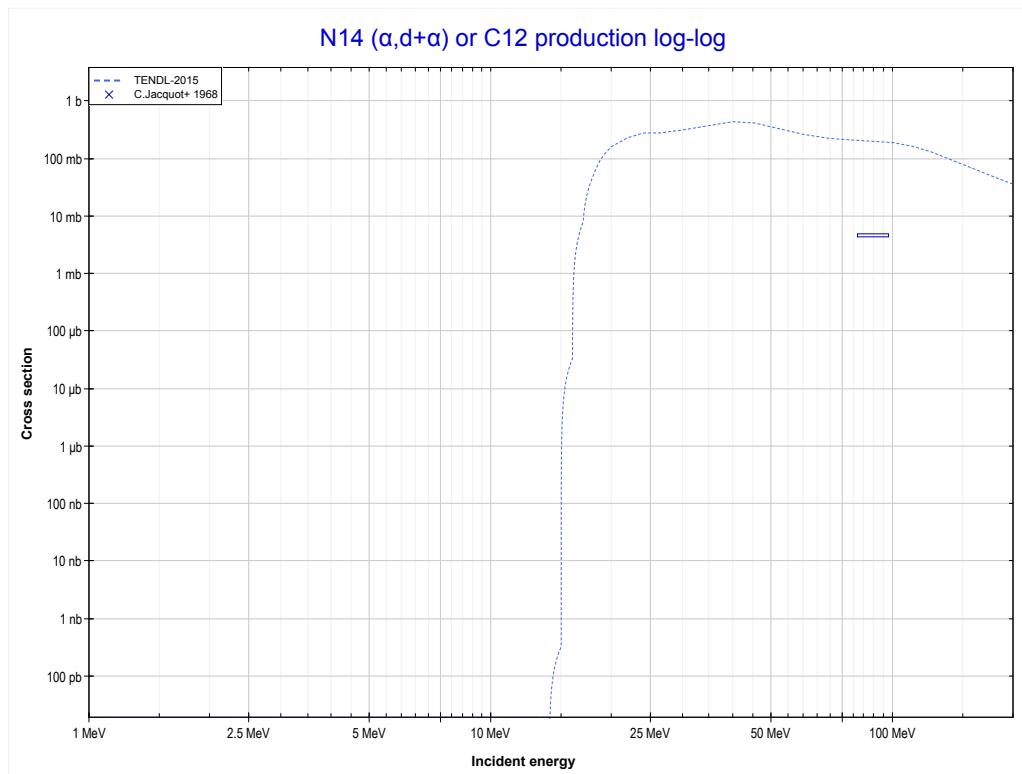


Reaction	Q-Value
N14( $\alpha, p + \alpha$ )C13	-7550.56 keV
N14( $\alpha, d + \text{He}3$ )C13	-25903.61 keV
N14( $\alpha, 2p + t$ )C13	-27364.42 keV
N14( $\alpha, n + p + \text{He}3$ )C13	-28128.18 keV
N14( $\alpha, p + 2d$ )C13	-31397.09 keV
N14( $\alpha, n + 2p + d$ )C13	-33621.66 keV
N14( $\alpha, 2n + 3p$ )C13	-35846.22 keV

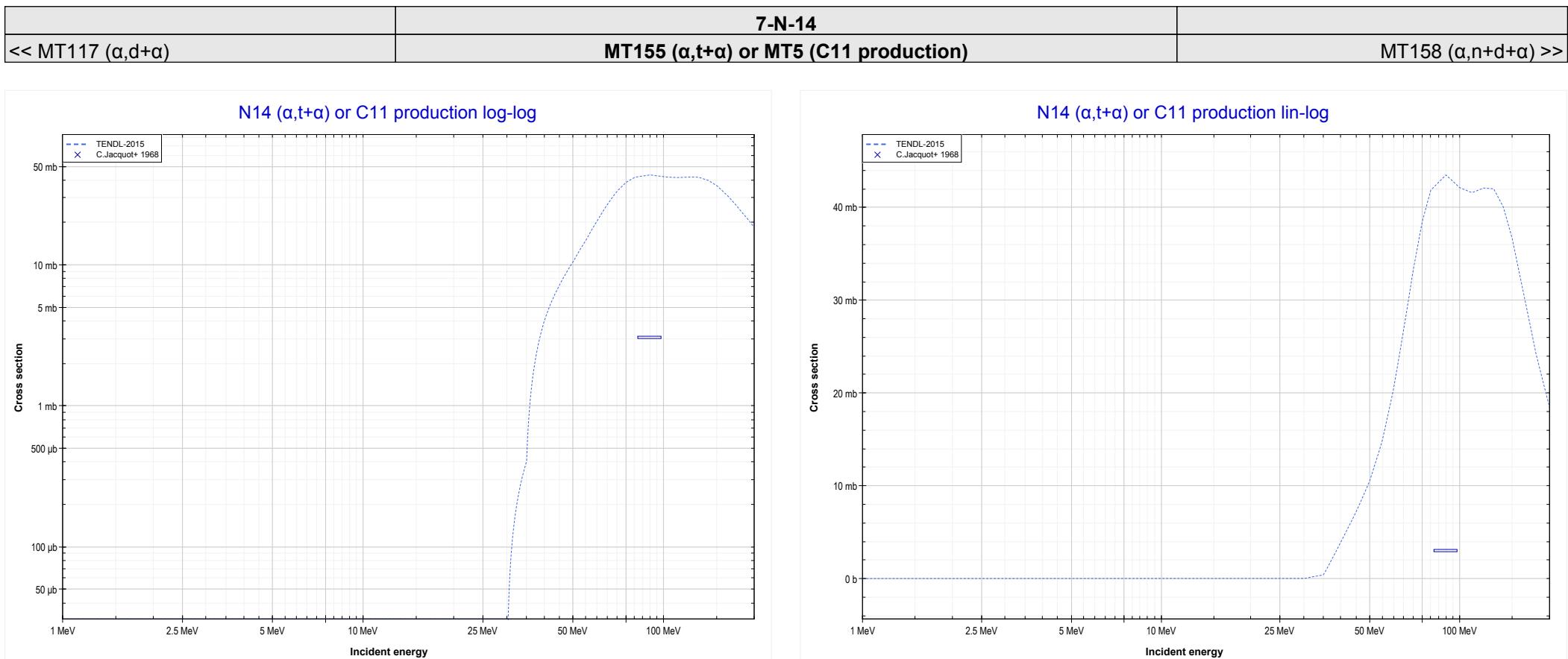


Reaction	Q-Value	Reaction	Q-Value
N14( $\alpha, t+2\alpha$ )Be7	-30280.31 keV	N14( $\alpha, 2n+2p+t+\alpha$ )Be7	-58575.96 keV
N14( $\alpha, n+d+2\alpha$ )Be7	-36537.54 keV	N14( $\alpha, 3n+p+He3+\alpha$ )Be7	-59339.72 keV
N14( $\alpha, 2n+p+2\alpha$ )Be7	-38762.10 keV	N14( $\alpha, n+3d+\alpha$ )Be7	-60384.07 keV
N14( $\alpha, p+2t+\alpha$ )Be7	-50094.17 keV	N14( $\alpha, 2n+p+2d+\alpha$ )Be7	-62608.63 keV
N14( $\alpha, n+t+He3+\alpha$ )Be7	-50857.92 keV	N14( $\alpha, 3n+2p+d+\alpha$ )Be7	-64833.20 keV
N14( $\alpha, 2d+t+\alpha$ )Be7	-54126.83 keV	N14( $\alpha, 4n+3p+\alpha$ )Be7	-67057.76 keV
N14( $\alpha, n+p+d+t+\alpha$ )Be7	-56351.40 keV	N14( $\alpha, d+2t+He3$ )Be7	-68447.22 keV
N14( $\alpha, 2n+d+He3+\alpha$ )Be7	-57115.15 keV	N14( $\alpha, 2p+3t$ )Be7	-69908.03 keV

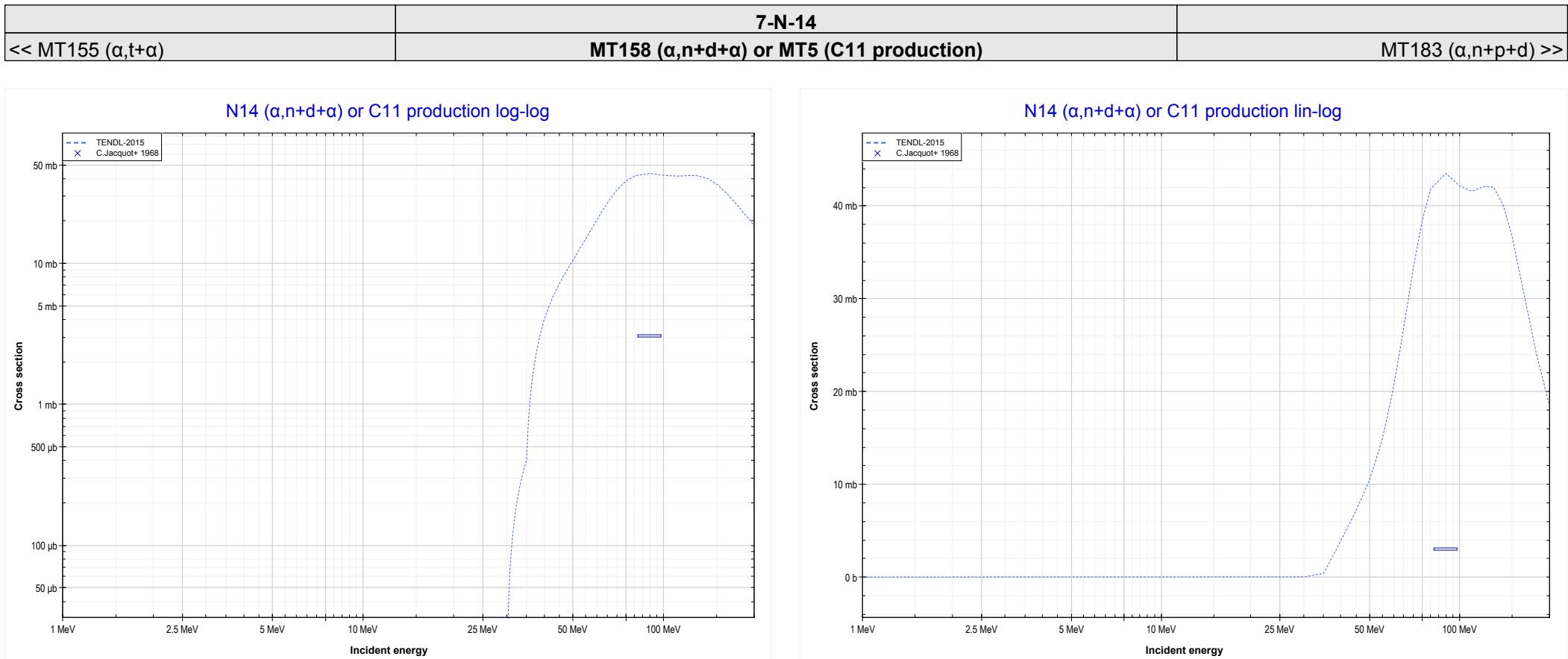
<< 6-C-12	7-N-14	
<< MT113 ( $\alpha, t+2\alpha$ )	MT117 ( $\alpha, d+\alpha$ ) or MT5 (C12 production)	MT155 ( $\alpha, t+\alpha$ ) >>



Reaction	Q-Value	Reaction	Q-Value
N14( $\alpha, d+\alpha$ )C12	-10272.31 keV	N14( $\alpha, n+p+2d$ )C12	-36343.40 keV
N14( $\alpha, n+p+\alpha$ )C12	-12496.87 keV	N14( $\alpha, 2n+2p+d$ )C12	-38567.96 keV
N14( $\alpha, t+He3$ )C12	-24592.69 keV	N14( $\alpha, 3n+3p$ )C12	-40792.53 keV
N14( $\alpha, p+d+t$ )C12	-30086.17 keV		
N14( $\alpha, n+d+He3$ )C12	-30849.92 keV		
N14( $\alpha, n+2p+t$ )C12	-32310.73 keV		
N14( $\alpha, 2n+p+He3$ )C12	-33074.49 keV		
N14( $\alpha, 3d$ )C12	-34118.83 keV		

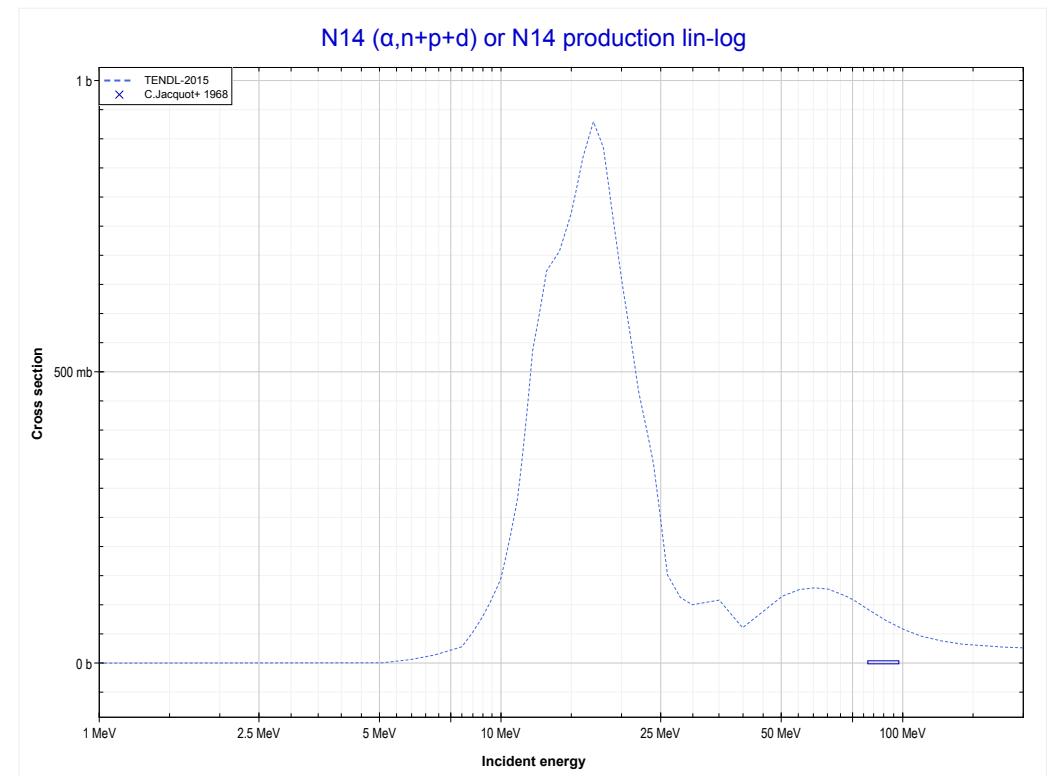
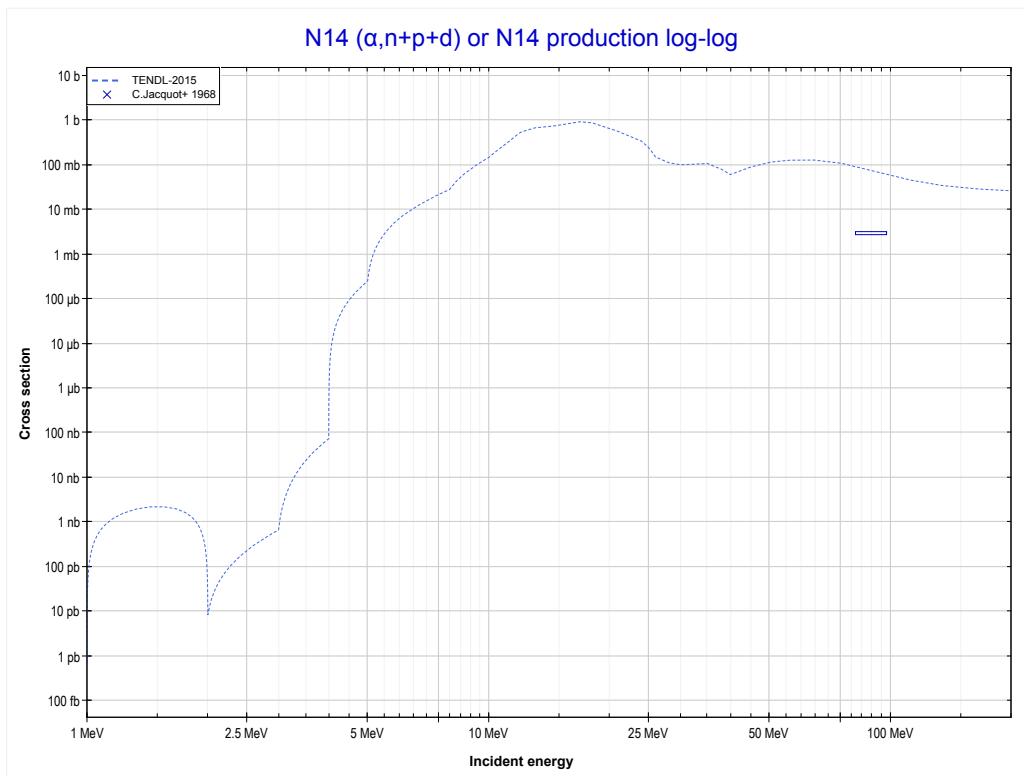


Reaction	Q-Value	Reaction	Q-Value
N14( $\alpha, t+\alpha$ )C11	-22736.69 keV	N14( $\alpha, 2n+2p+t$ )C11	-51032.35 keV
N14( $\alpha, n+d+\alpha$ )C11	-28993.92 keV	N14( $\alpha, 3n+p+He3$ )C11	-51796.11 keV
N14( $\alpha, 2n+p+\alpha$ )C11	-31218.49 keV	N14( $\alpha, n+3d$ )C11	-52840.45 keV
N14( $\alpha, p+2t$ )C11	-42550.55 keV	N14( $\alpha, 2n+p+2d$ )C11	-55065.02 keV
N14( $\alpha, n+t+He3$ )C11	-43314.31 keV	N14( $\alpha, 3n+2p+d$ )C11	-57289.58 keV
N14( $\alpha, 2d+t$ )C11	-46583.22 keV	N14( $\alpha, 4n+3p$ )C11	-59514.15 keV
N14( $\alpha, n+p+d+t$ )C11	-48807.78 keV		
N14( $\alpha, 2n+d+He3$ )C11	-49571.54 keV		



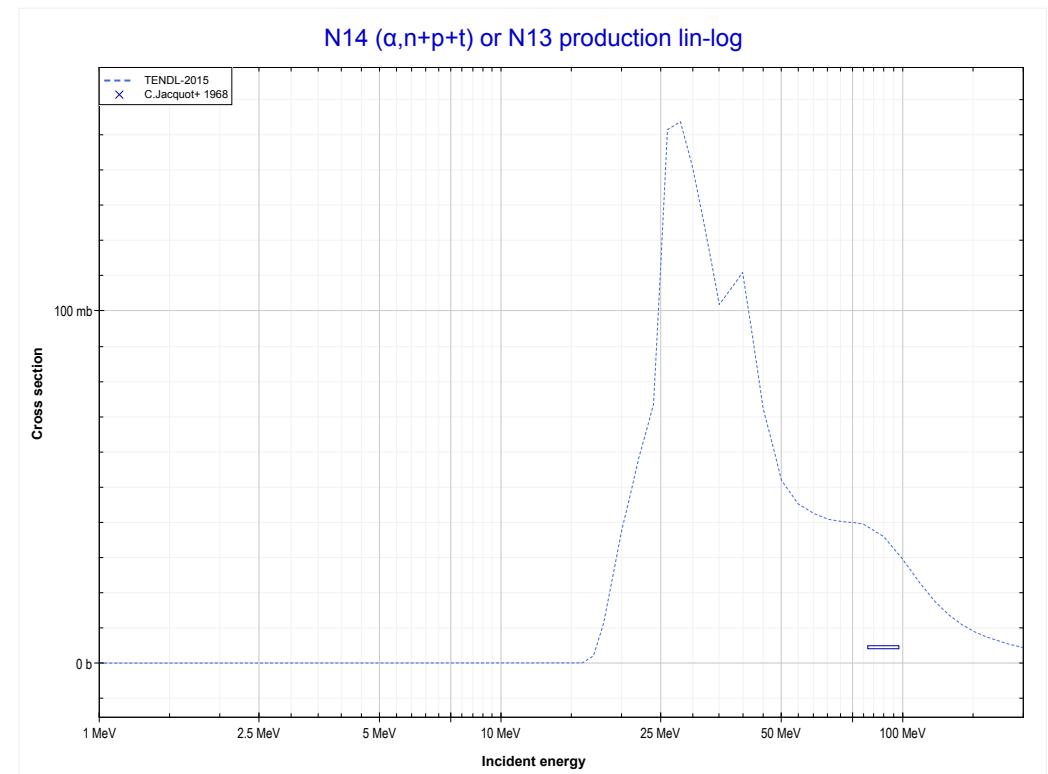
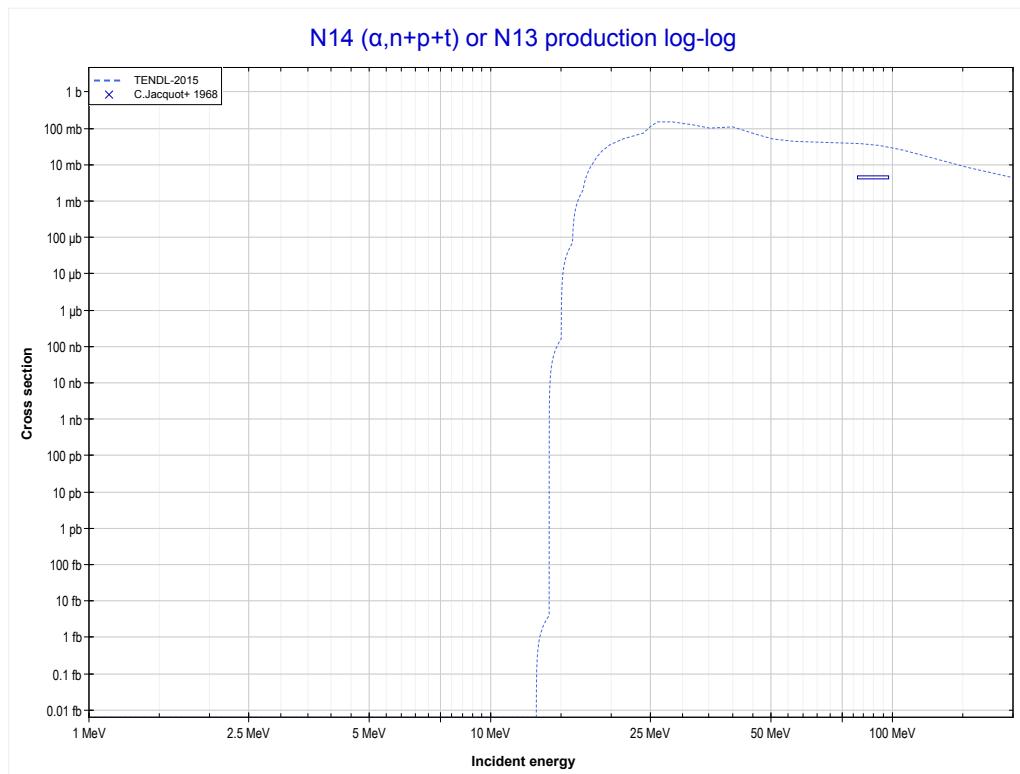
Reaction	Q-Value	Reaction	Q-Value
$N14(\alpha,t+\alpha)C11$	-22736.69 keV	$N14(\alpha,2n+2p+t)C11$	-51032.35 keV
$N14(\alpha,n+d+\alpha)C11$	-28993.92 keV	$N14(\alpha,3n+p+He3)C11$	-51796.11 keV
$N14(\alpha,2n+p+\alpha)C11$	-31218.49 keV	$N14(\alpha,n+3d)C11$	-52840.45 keV
$N14(\alpha,p+2t)C11$	-42550.55 keV	$N14(\alpha,2n+p+2d)C11$	-55065.02 keV
$N14(\alpha,n+t+He3)C11$	-43314.31 keV	$N14(\alpha,3n+2p+d)C11$	-57289.58 keV
$N14(\alpha,2d+t)C11$	-46583.22 keV	$N14(\alpha,4n+3p)C11$	-59514.15 keV
$N14(\alpha,n+p+d+t)C11$	-48807.78 keV		
$N14(\alpha,2n+d+He3)C11$	-49571.54 keV		

<< 6-C-12	7-N-14	
<< MT158 ( $\alpha, n+d+\alpha$ )	MT183 ( $\alpha, n+p+d$ ) or MT5 (N14 production)	MT184 ( $\alpha, n+p+t$ ) >>



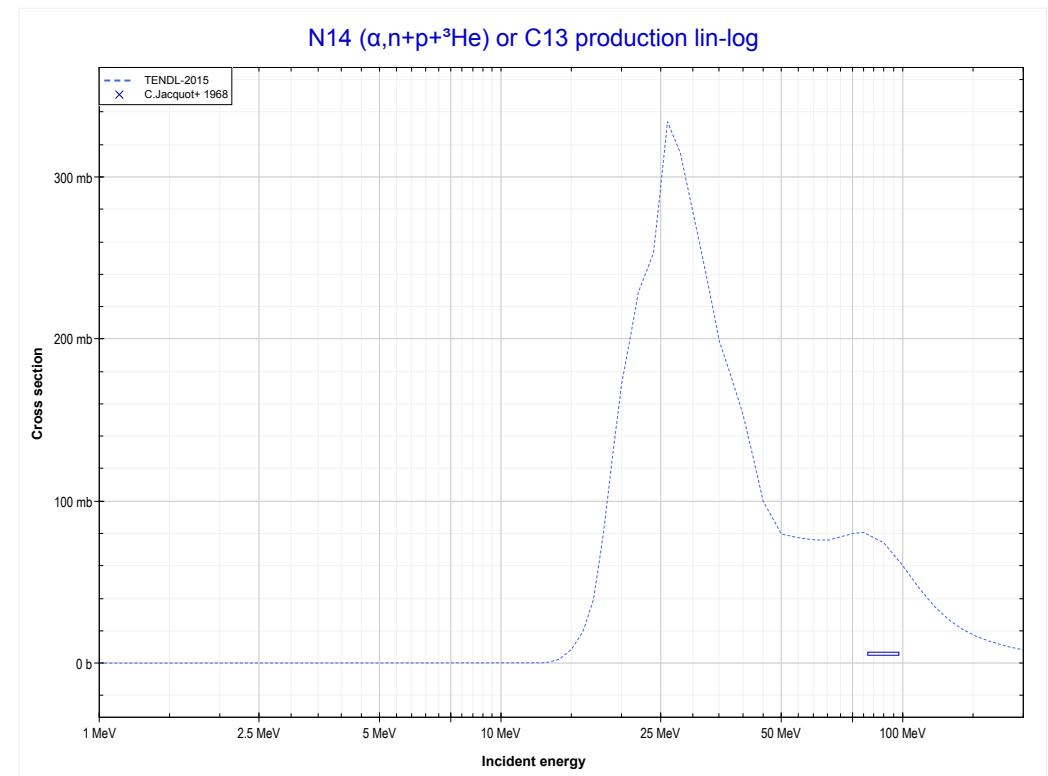
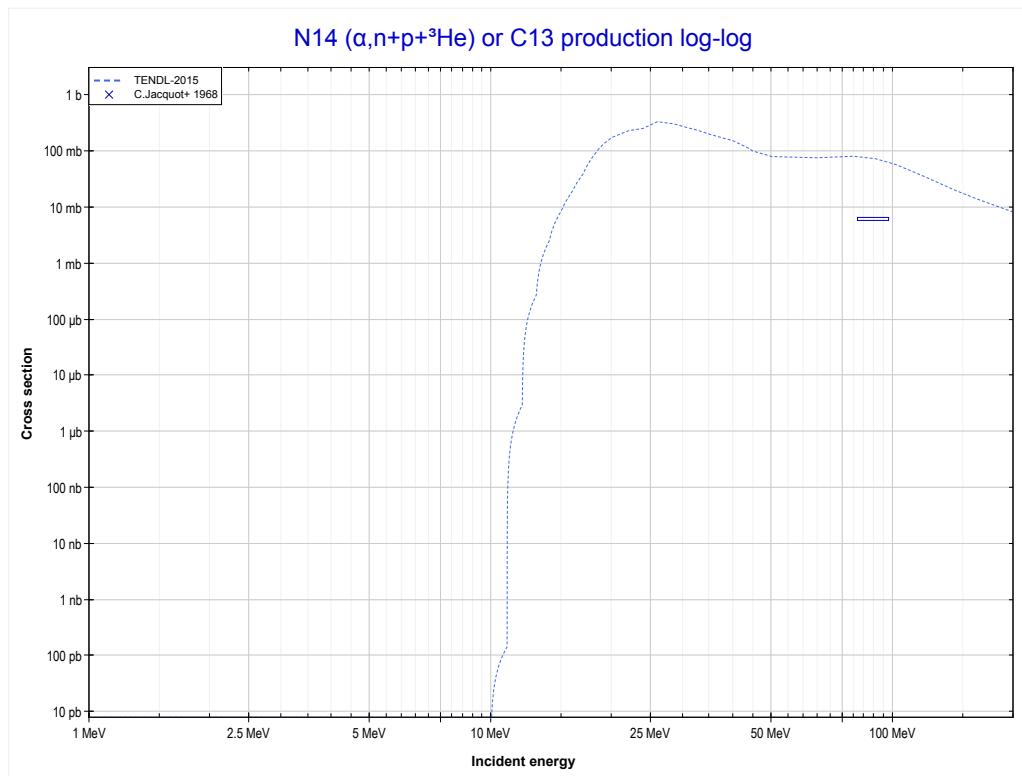
Reaction	Q-Value
$N14(\alpha,\alpha)N14$	0.00 keV
$N14(\alpha,p+t)N14$	-19813.86 keV
$N14(\alpha,n+He3)N14$	-20577.62 keV
$N14(\alpha,2d)N14$	-23846.53 keV
$N14(\alpha,n+p+d)N14$	-26071.09 keV
$N14(\alpha,2n+2p)N14$	-28295.66 keV

<< 6-C-12	7-N-14	
<< MT183 ( $\alpha, n+p+d$ )	MT184 ( $\alpha, n+p+t$ ) or MT5 (N13 production)	MT186 ( $\alpha, n+p+{}^3\text{He}$ ) >>



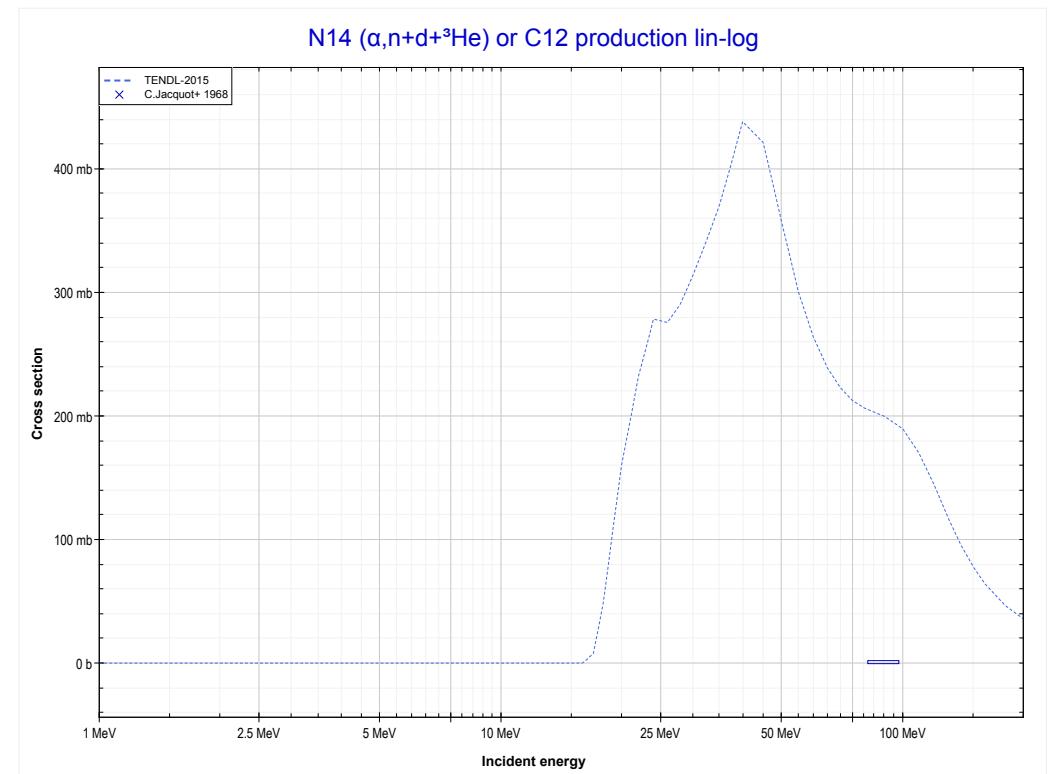
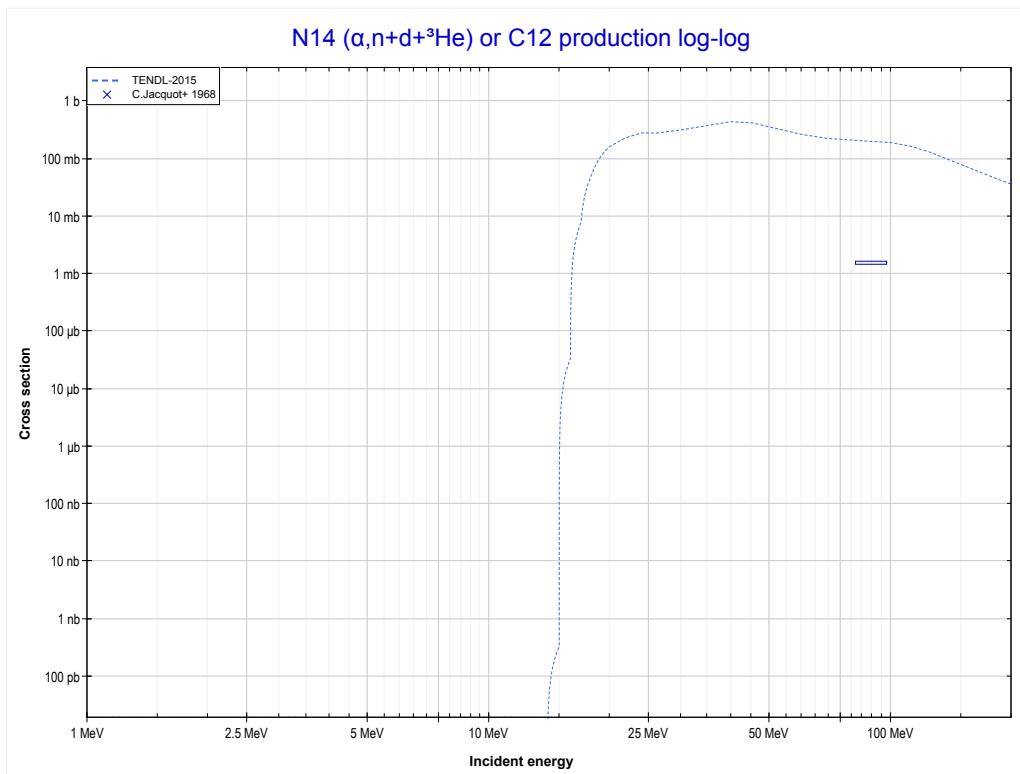
Reaction	Q-Value
$\text{N}14(\alpha, n+\alpha)\text{N}13$	-10553.38 keV
$\text{N}14(\alpha, d+t)\text{N}13$	-28142.68 keV
$\text{N}14(\alpha, n+p+t)\text{N}13$	-30367.24 keV
$\text{N}14(\alpha, 2n+{}^3\text{He})\text{N}13$	-31131.00 keV
$\text{N}14(\alpha, n+2d)\text{N}13$	-34399.91 keV
$\text{N}14(\alpha, 2n+p+d)\text{N}13$	-36624.47 keV
$\text{N}14(\alpha, 3n+2p)\text{N}13$	-38849.04 keV

<< 6-C-12	7-N-14	
<< MT184 ( $\alpha, n+p+t$ )	MT186 ( $\alpha, n+p+{}^3\text{He}$ ) or MT5 (C13 production)	MT187 ( $\alpha, n+d+{}^3\text{He}$ ) >>



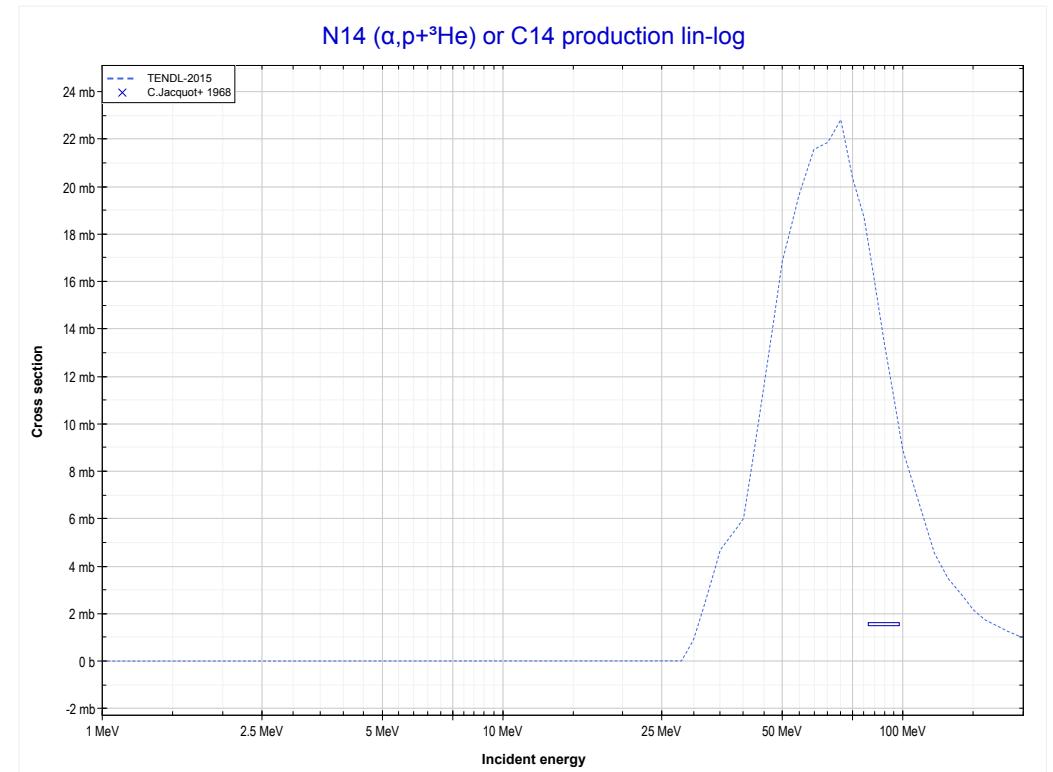
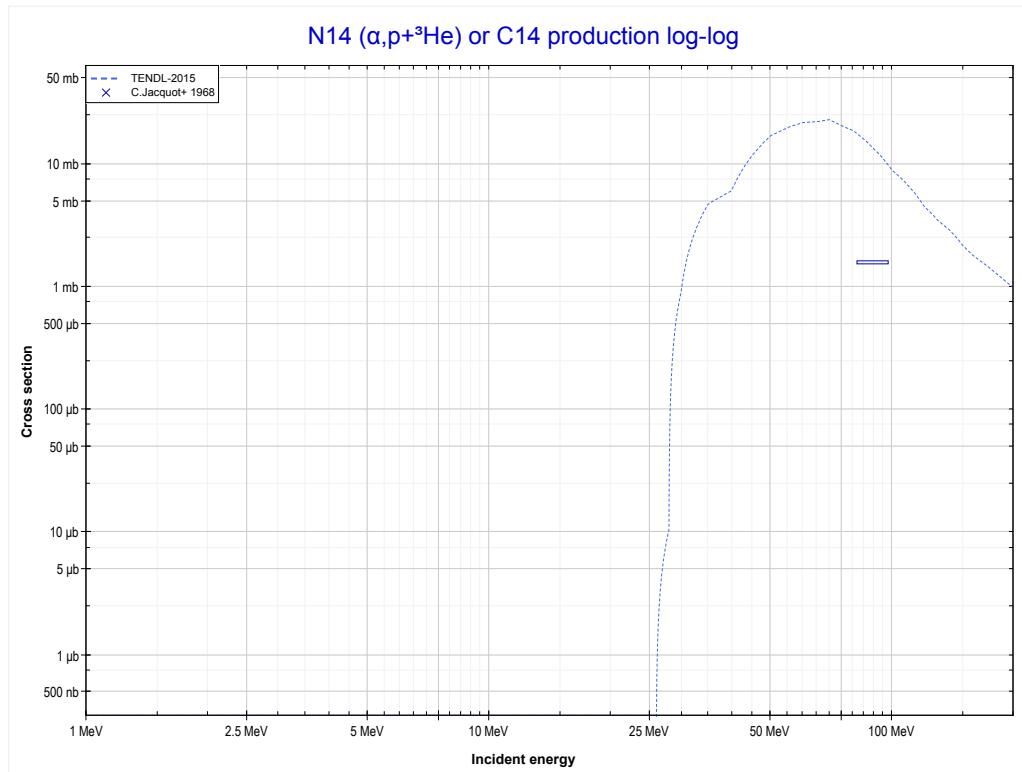
Reaction	Q-Value
N14( $\alpha, p+\alpha$ )C13	-7550.56 keV
N14( $\alpha, d+{}^3\text{He}$ )C13	-25903.61 keV
N14( $\alpha, 2p+t$ )C13	-27364.42 keV
N14( $\alpha, n+p+{}^3\text{He}$ )C13	-28128.18 keV
N14( $\alpha, p+2d$ )C13	-31397.09 keV
N14( $\alpha, n+2p+d$ )C13	-33621.66 keV
N14( $\alpha, 2n+3p$ )C13	-35846.22 keV

<< 6-C-12	7-N-14	
<< MT186 ( $\alpha, n + p + {}^3\text{He}$ )	MT187 ( $\alpha, n + d + {}^3\text{He}$ ) or MT5 (C12 production)	MT191 ( $\alpha, p + {}^3\text{He}$ ) >>



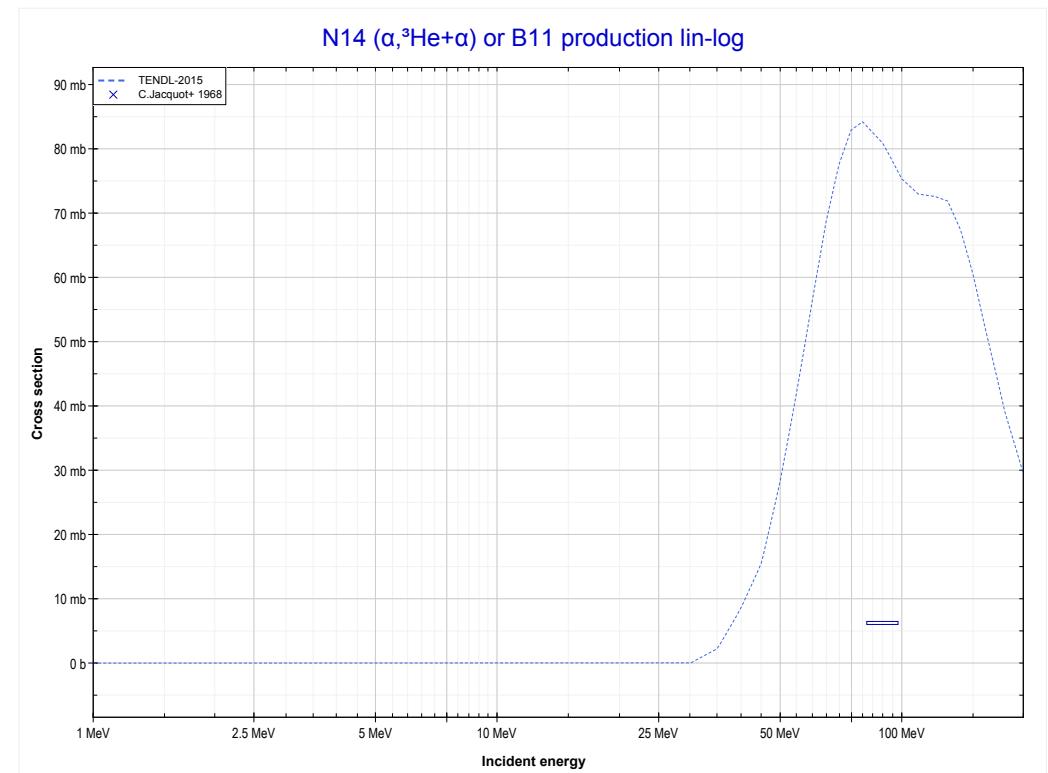
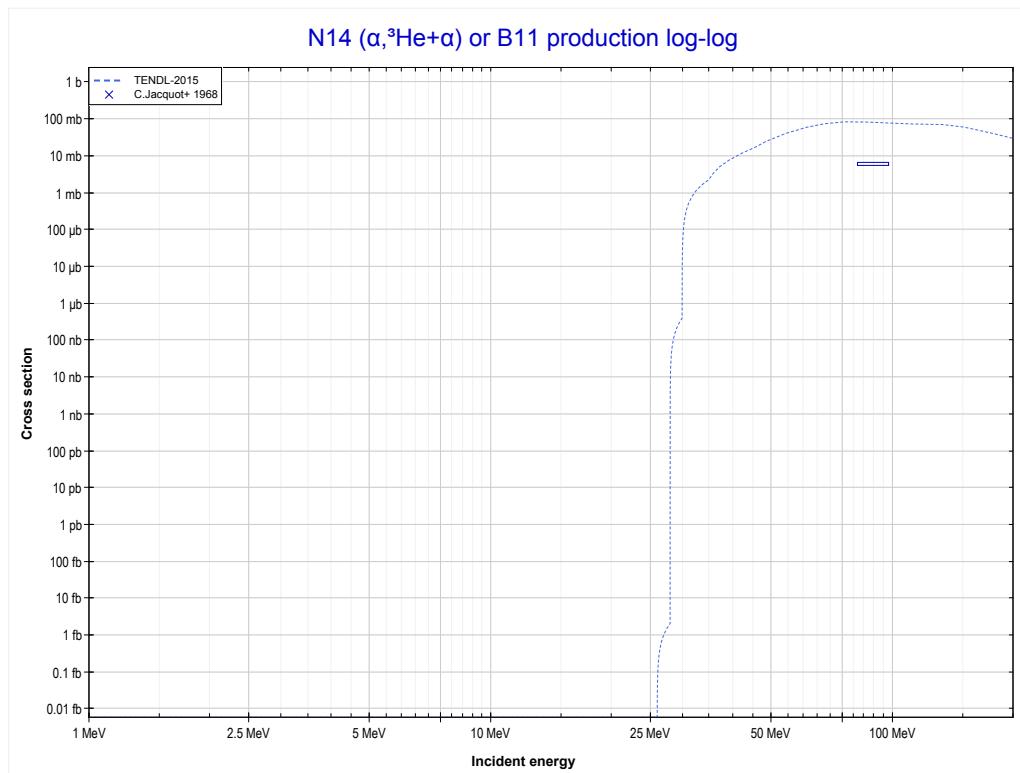
Reaction	Q-Value	Reaction	Q-Value
N14( $\alpha, d + \alpha$ )C12	-10272.31 keV	N14( $\alpha, n + p + 2d$ )C12	-36343.40 keV
N14( $\alpha, n + p + \alpha$ )C12	-12496.87 keV	N14( $\alpha, 2n + 2p + d$ )C12	-38567.96 keV
N14( $\alpha, t + {}^3\text{He}$ )C12	-24592.69 keV	N14( $\alpha, 3n + 3p$ )C12	-40792.53 keV
N14( $\alpha, p + d + t$ )C12	-30086.17 keV		
N14( $\alpha, n + d + {}^3\text{He}$ )C12	-30849.92 keV		
N14( $\alpha, n + 2p + t$ )C12	-32310.73 keV		
N14( $\alpha, 2n + p + {}^3\text{He}$ )C12	-33074.49 keV		
N14( $\alpha, 3d$ )C12	-34118.83 keV		

<< 6-C-12	7-N-14	
<< MT187 ( $\alpha, n + d + {}^3\text{He}$ )	MT191 ( $\alpha, p + {}^3\text{He}$ ) or MT5 (C14 production)	MT193 ( $\alpha, {}^3\text{He} + \alpha$ ) >>



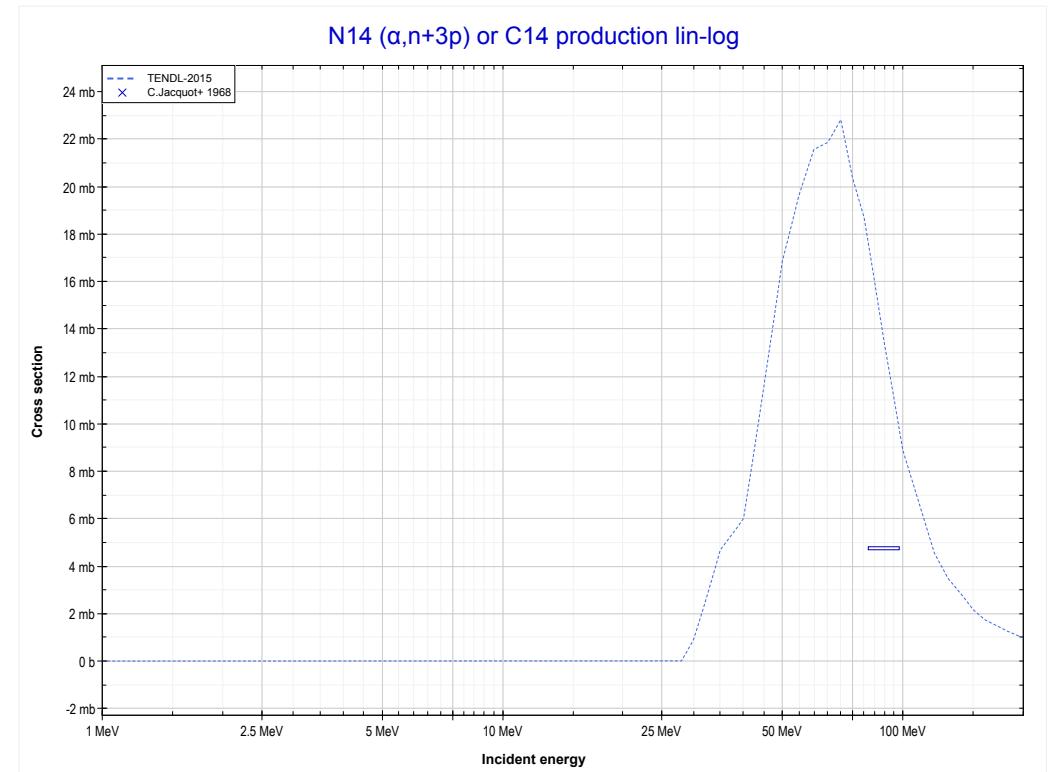
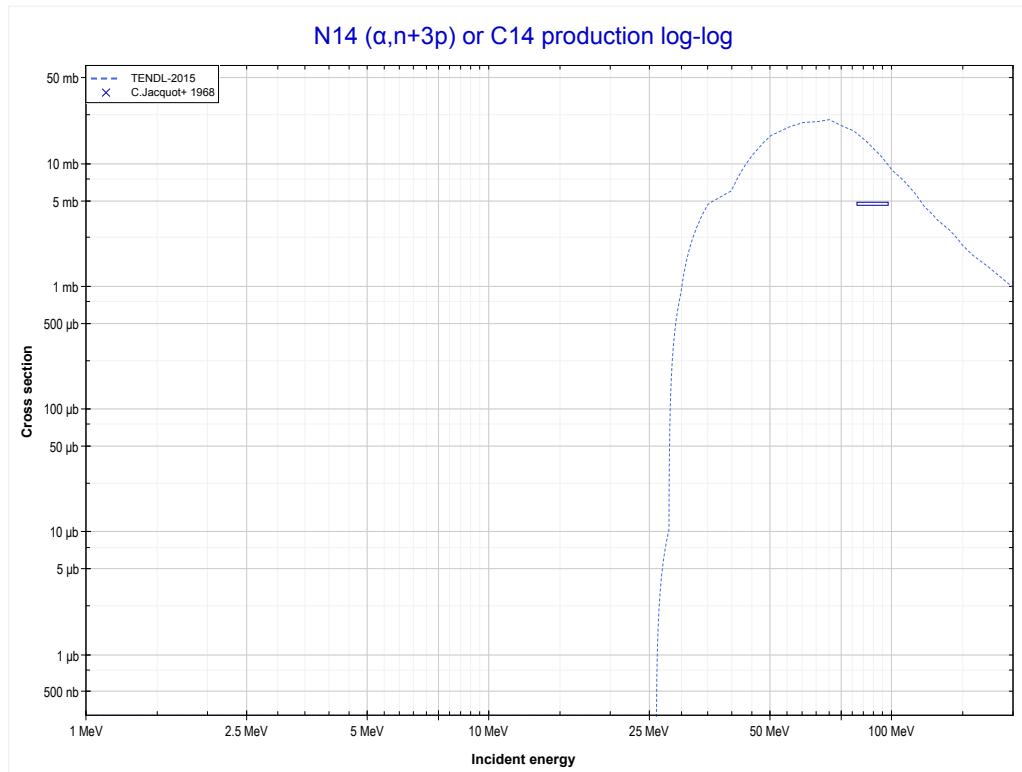
Reaction	Q-Value
N14( $\alpha, p + {}^3\text{He}$ )C14	-19951.75 keV
N14( $\alpha, 2p + d$ )C14	-25445.22 keV
N14( $\alpha, n + 3p$ )C14	-27669.79 keV

<< 6-C-12	7-N-14	
<< MT191 ( $\alpha, p + {}^3\text{He}$ )	MT193 ( $\alpha, {}^3\text{He} + \alpha$ ) or MT5 (B11 production)	MT198 ( $\alpha, n + 3p$ ) >>



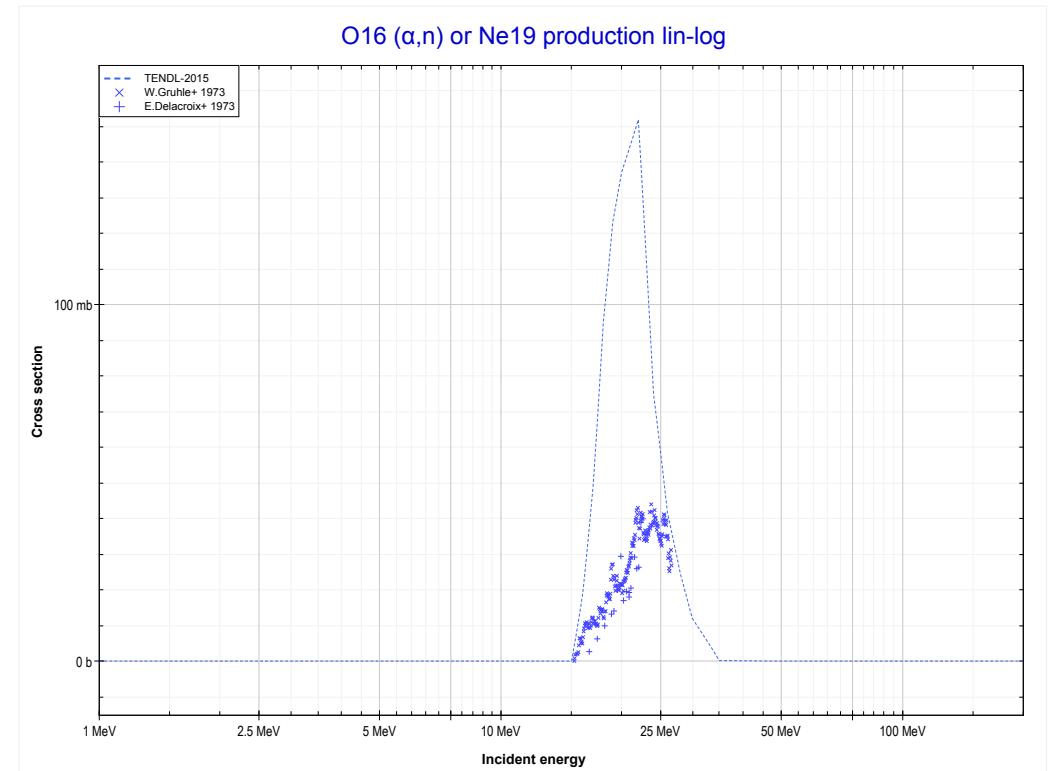
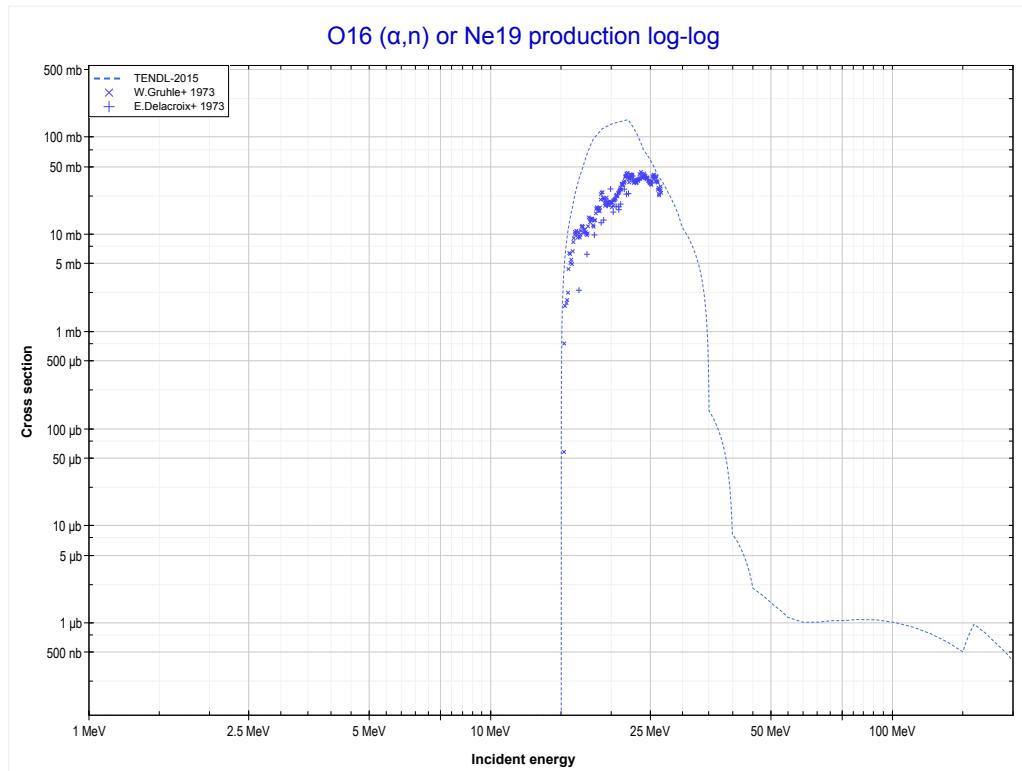
Reaction	Q-Value	Reaction	Q-Value
N14( $\alpha, \text{He}3 + \alpha$ )B11	-20735.70 keV	N14( $\alpha, n + 3p + t$ )B11	-48267.60 keV
N14( $\alpha, p + d + \alpha$ )B11	-26229.18 keV	N14( $\alpha, 2n + 2p + \text{He}3$ )B11	-49031.36 keV
N14( $\alpha, n + 2p + \alpha$ )B11	-28453.74 keV	N14( $\alpha, p + 3d$ )B11	-50075.70 keV
N14( $\alpha, p + t + \text{He}3$ )B11	-40549.56 keV	N14( $\alpha, n + 2p + 2d$ )B11	-52300.27 keV
N14( $\alpha, n + 2\text{He}3$ )B11	-41313.32 keV	N14( $\alpha, 2n + 3p + d$ )B11	-54524.84 keV
N14( $\alpha, 2d + \text{He}3$ )B11	-44582.23 keV	N14( $\alpha, 3n + 4p$ )B11	-56749.40 keV
N14( $\alpha, 2p + d + t$ )B11	-46043.04 keV		
N14( $\alpha, n + p + d + \text{He}3$ )B11	-46806.79 keV		

<< 6-C-12	7-N-14 MT198 ( $\alpha, n+3p$ ) or MT5 (C14 production)	28-Ni-58 >> 8-O-16 MT4 ( $\alpha, n$ ) >>
<< MT193 ( $\alpha, {}^3He+\alpha$ )		



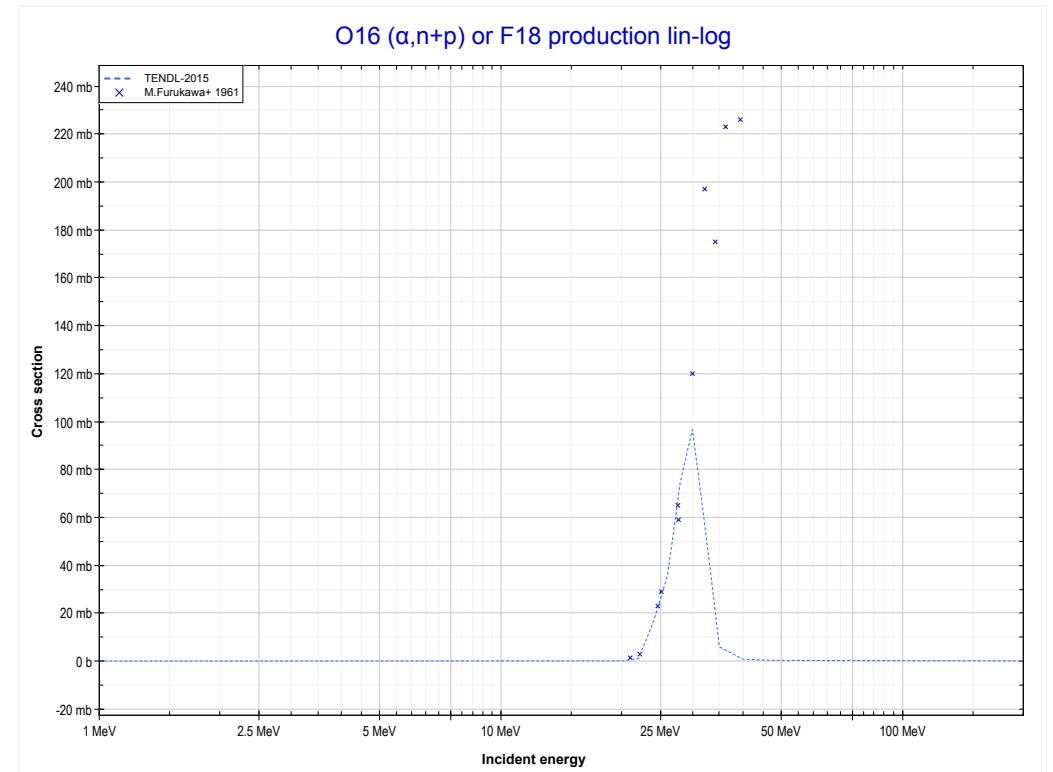
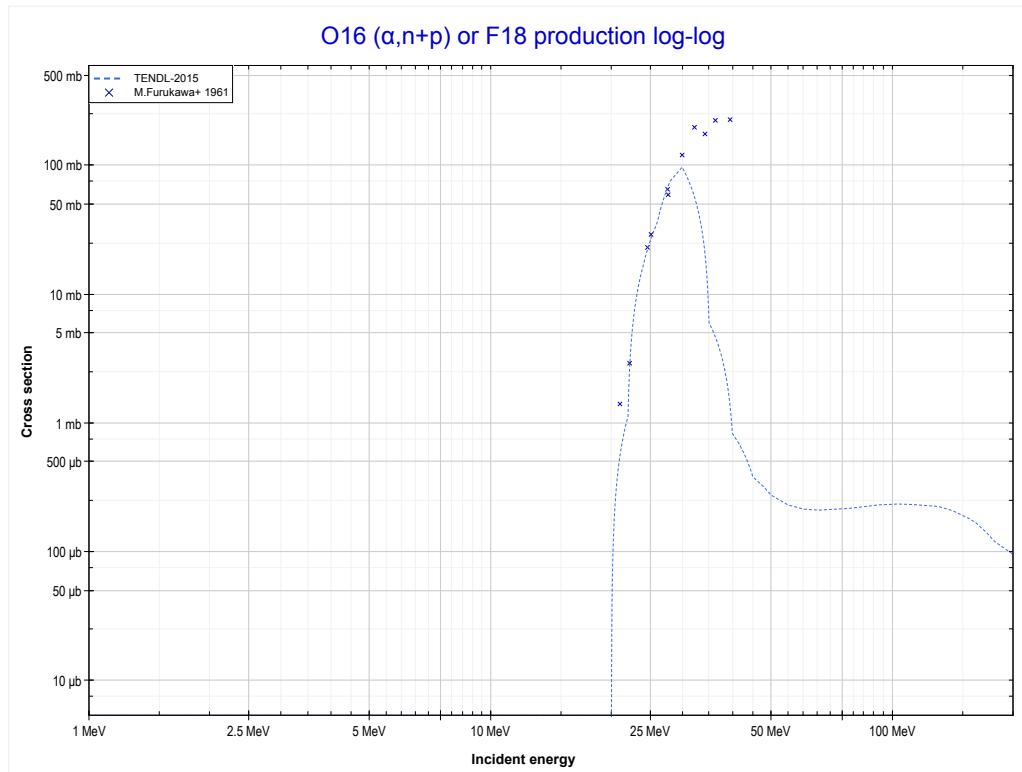
Reaction	Q-Value
N14( $\alpha, p+He3$ )C14	-19951.75 keV
N14( $\alpha, 2p+d$ )C14	-25445.22 keV
N14( $\alpha, n+3p$ )C14	-27669.79 keV

<< 7-N-14	8-O-16	8-O-17 >>
<< 7-N-14 MT198 ( $\alpha, n+3p$ )	MT4 ( $\alpha, n$ ) or MT5 (Ne19 production)	MT28 ( $\alpha, n+p$ ) >>



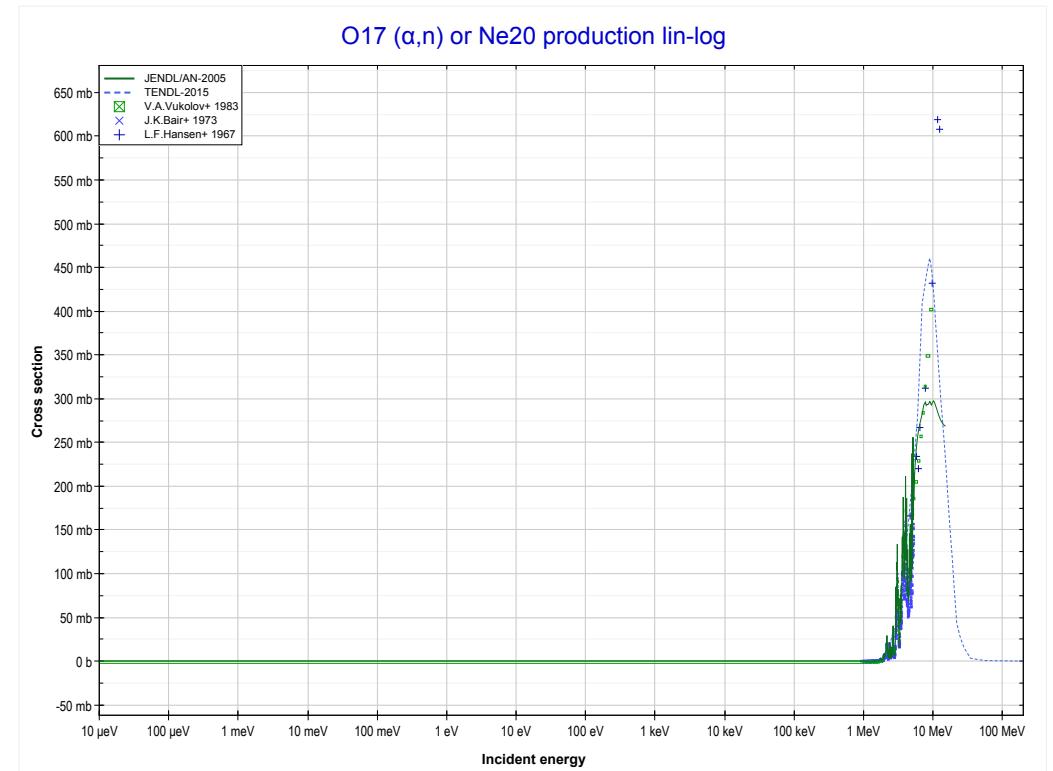
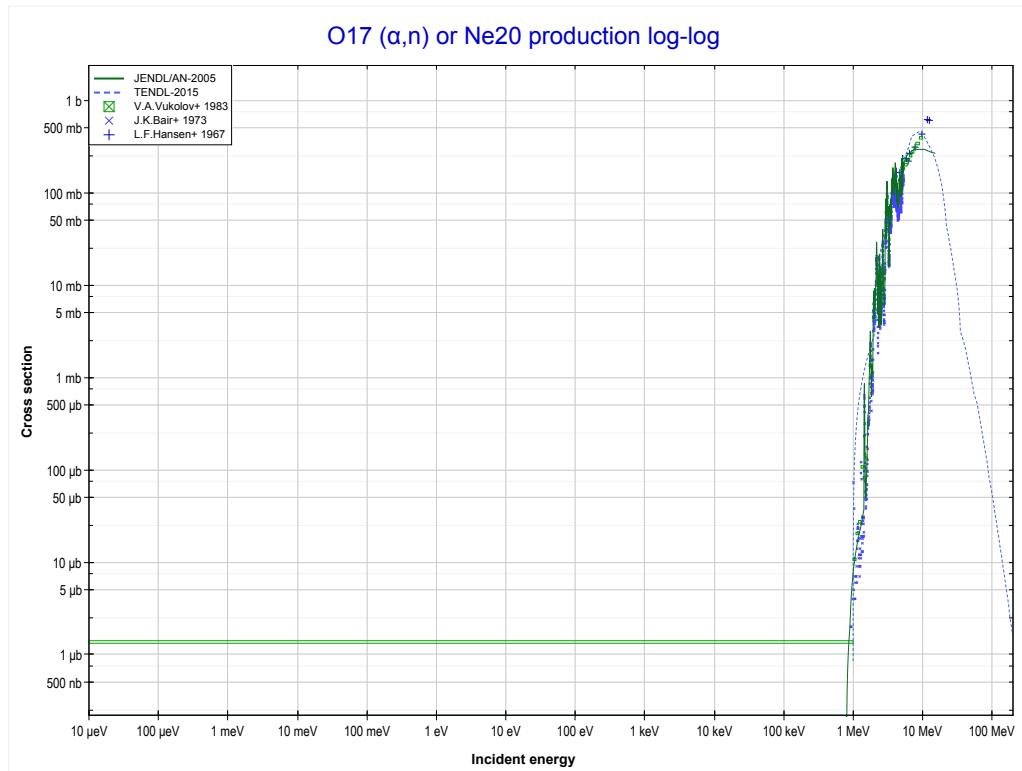
Reaction	Q-Value
O16( $\alpha, n$ )Ne19	-12135.45 keV

	<b>8-O-16</b> <b>MT28 (<math>\alpha, n+p</math>) or MT5 (F18 production)</b>	18-Ar-40 >>
<< MT4 ( $\alpha, n$ )		8-O-17 MT4 ( $\alpha, n$ ) >>



Reaction	Q-Value
O16( $\alpha, d$ )F18	-16320.91 keV
O16( $\alpha, n+p$ )F18	-18545.47 keV

<< 8-O-16	8-O-17	8-O-18 >>
<< 8-O-16 MT28 ( $\alpha, n+p$ )	MT4 ( $\alpha, n$ ) or MT5 (Ne20 production)	8-O-18 MT4 ( $\alpha, n$ ) >>

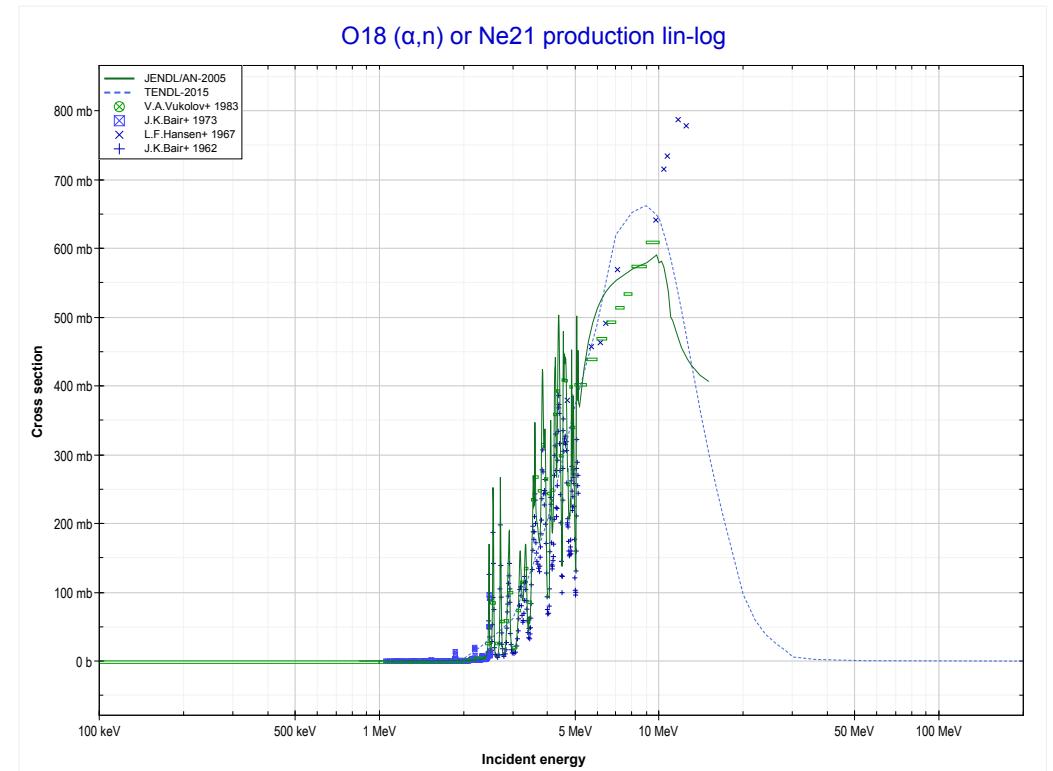
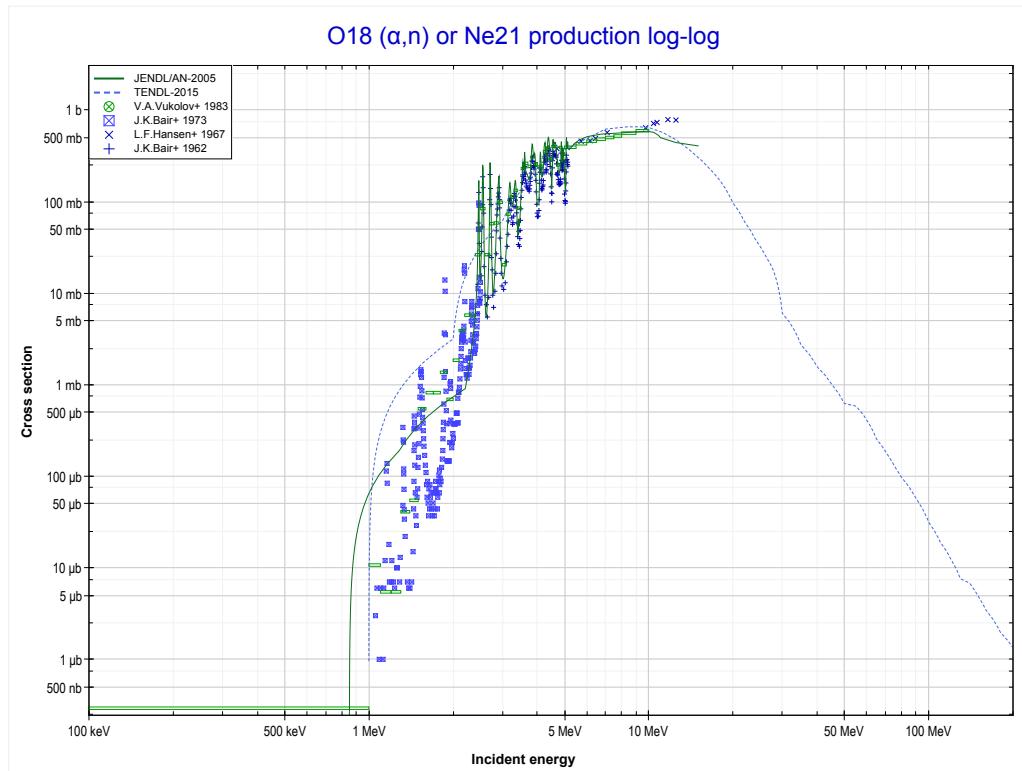


Reaction	Q-Value
O17( $\alpha, n$ )Ne20	586.77 keV

<< 8-O-17	
<< 8-O-17 MT4 ( $\alpha, n$ )	

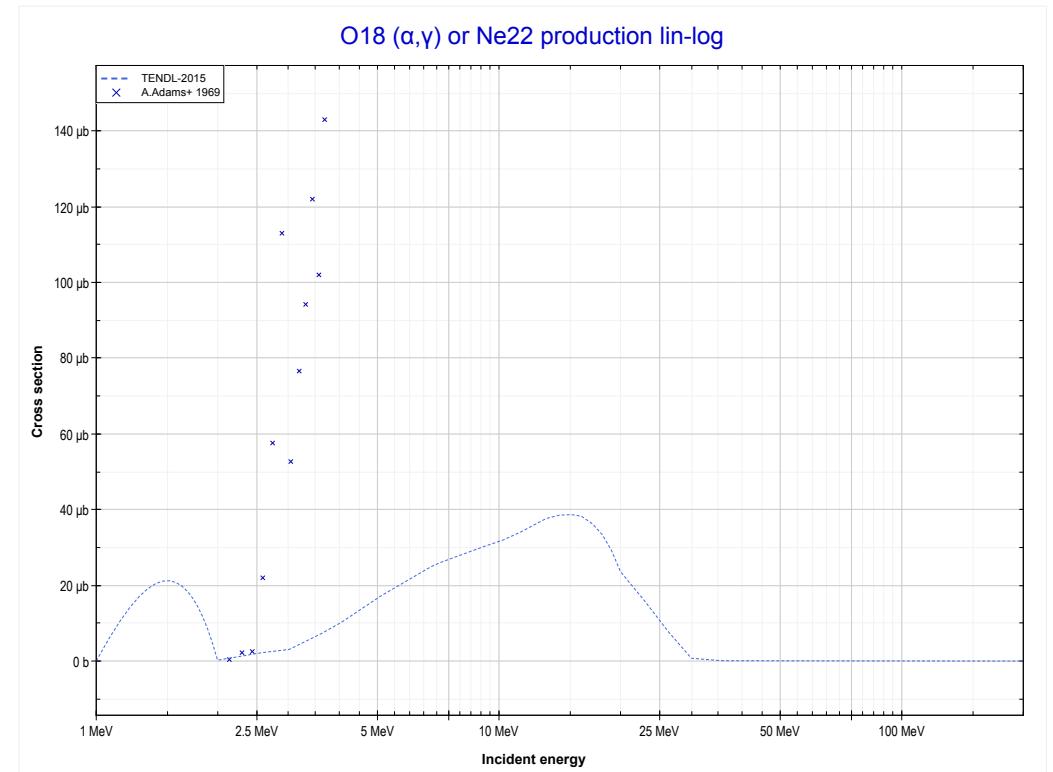
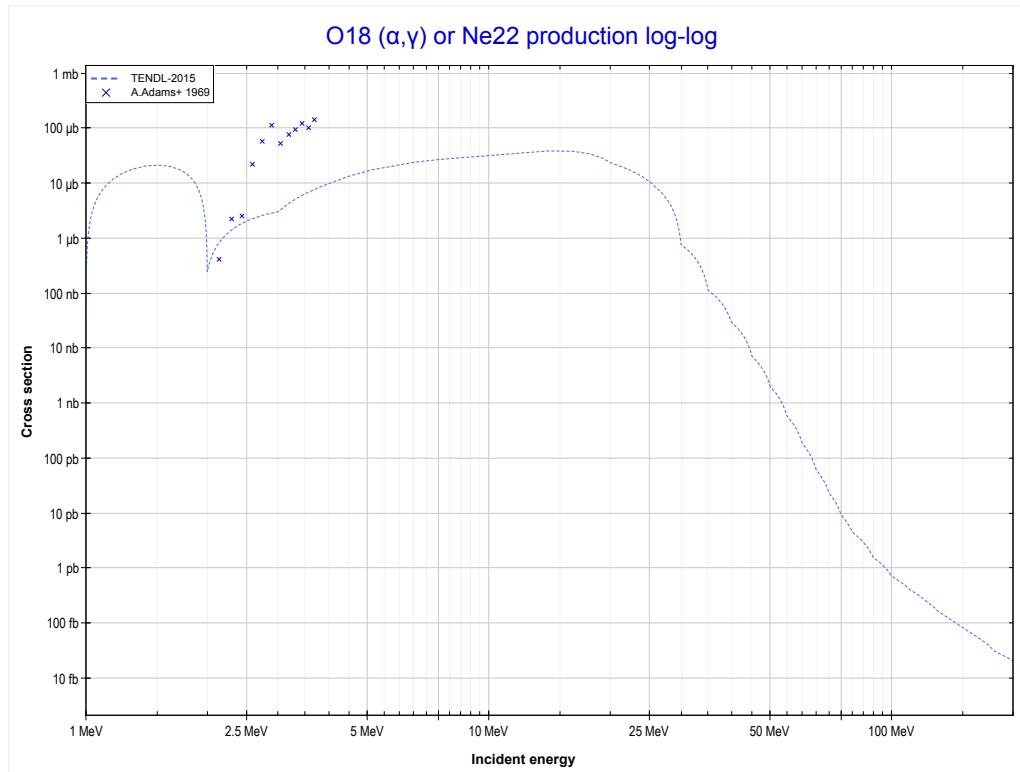
8-O-18
MT4 ( $\alpha, n$ ) or MT5 (Ne21 production)

9-F-19 >>
MT102 ( $\alpha, \gamma$ ) >>



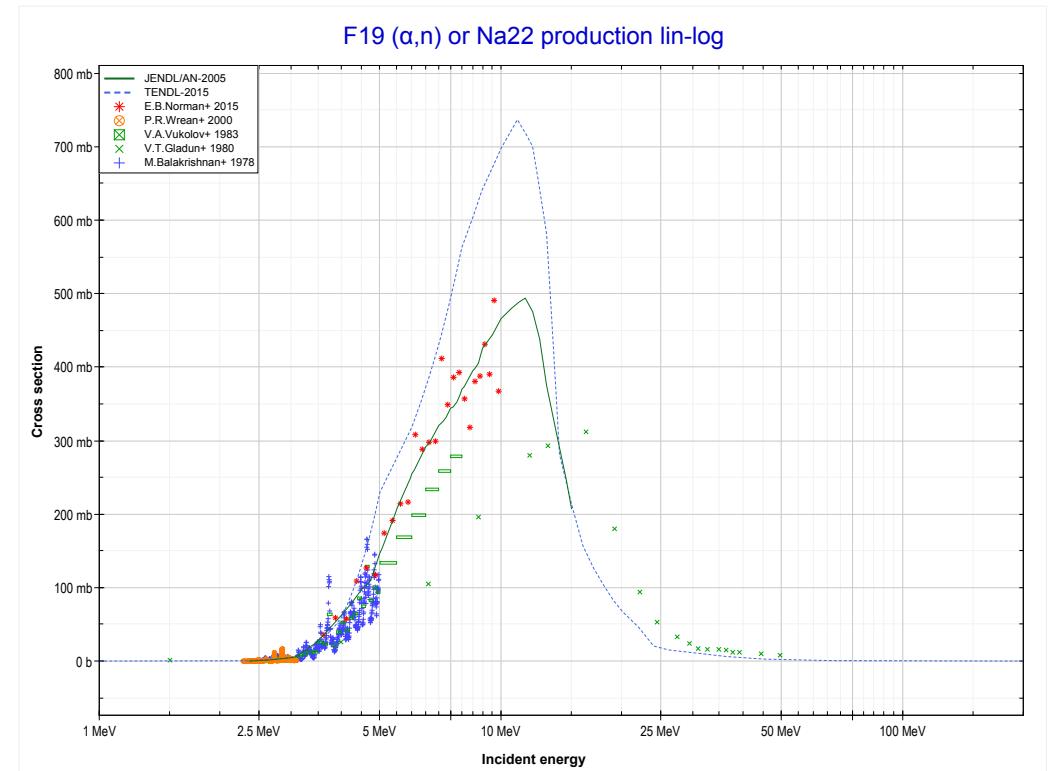
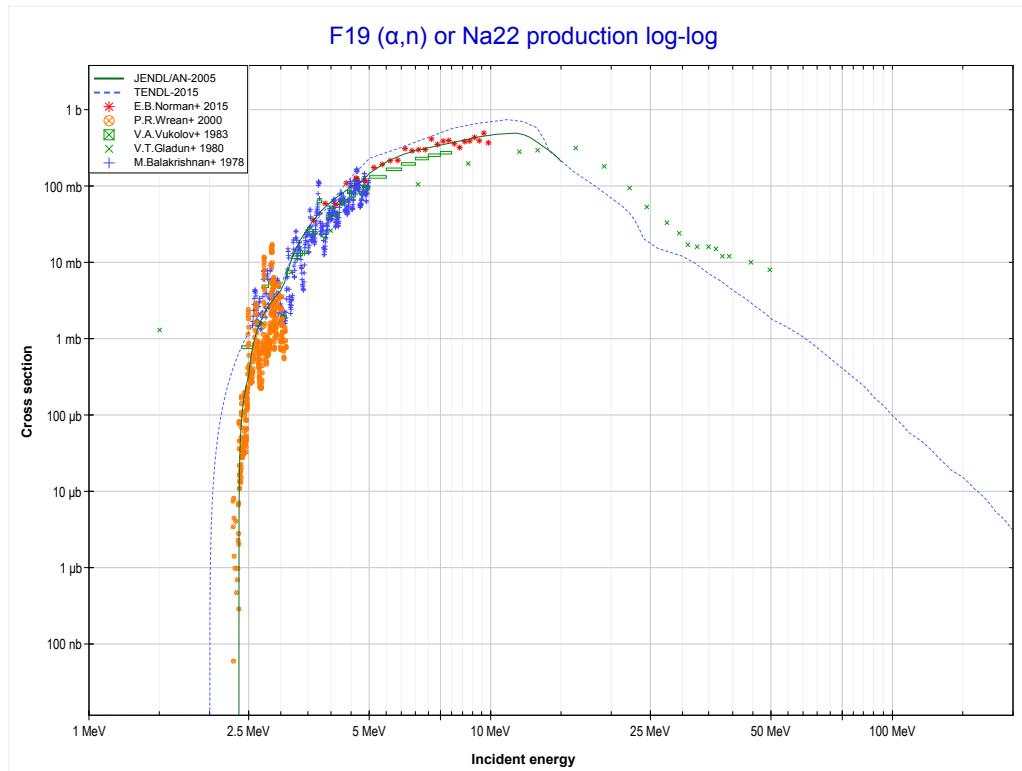
Reaction	Q-Value
O18( $\alpha, n$ )Ne21	-697.44 keV

<< 3-Li-6	8-O-18 MT102 ( $\alpha,\gamma$ ) or MT5 (Ne22 production)	16-S-34 >>
<< MT4 ( $\alpha,n$ )		9-F-19 MT4 ( $\alpha,n$ ) >>



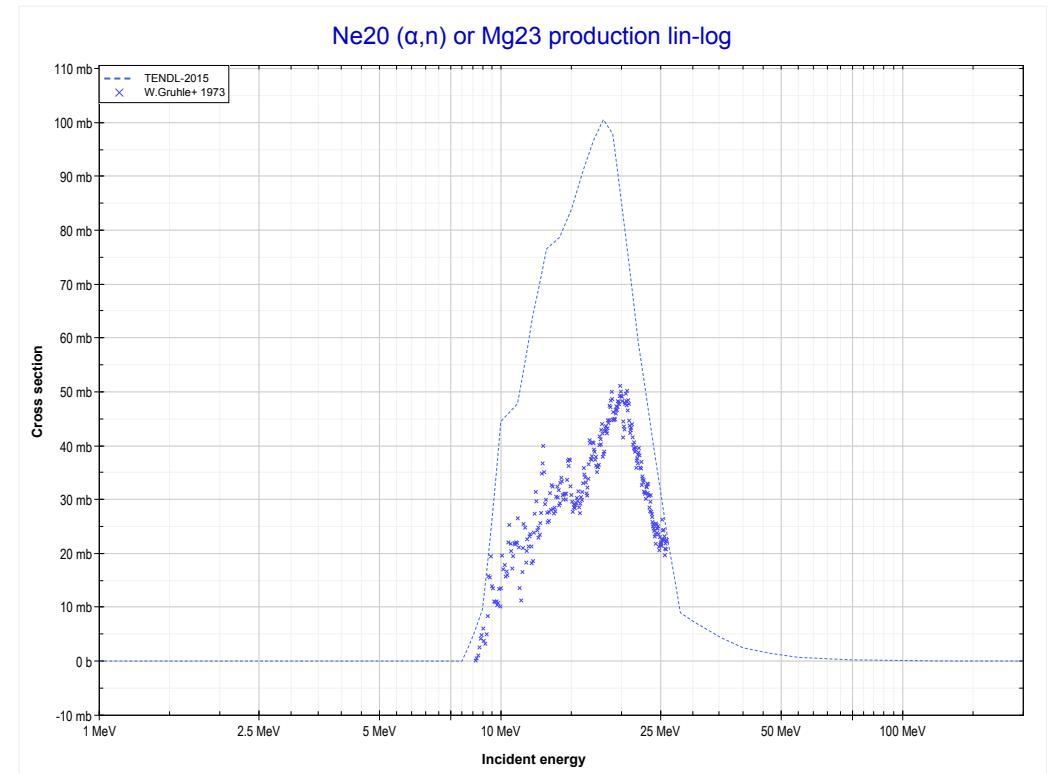
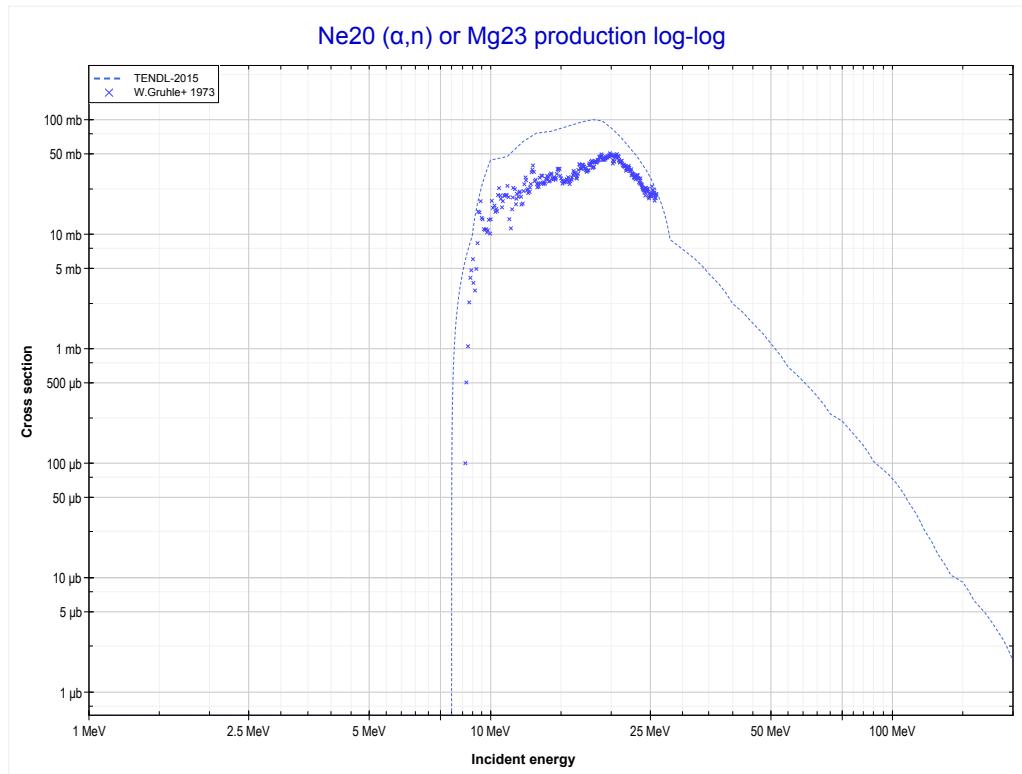
Reaction	Q-Value
O18( $\alpha,\gamma$ )Ne22	9666.81 keV

<< 8-O-18	9-F-19 MT4 ( $\alpha, n$ ) or MT5 (Na22 production)	10-Ne-20 >>
<< 8-O-18 MT102 ( $\alpha, \gamma$ )		10-Ne-20 MT4 ( $\alpha, n$ ) >>



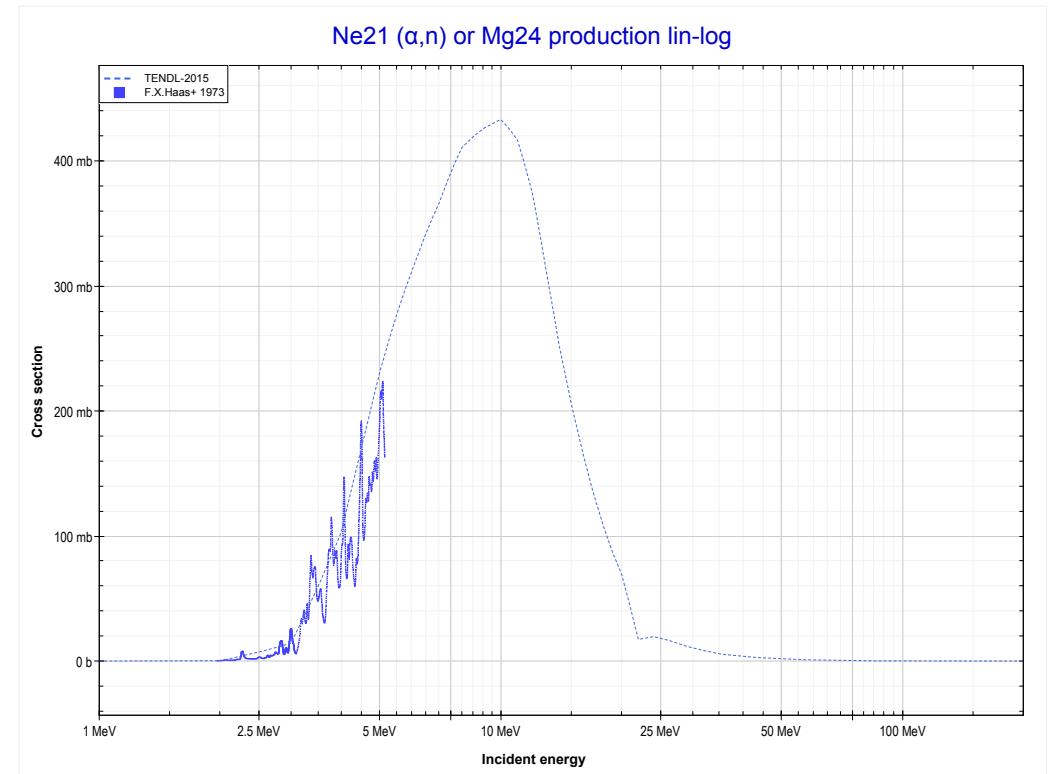
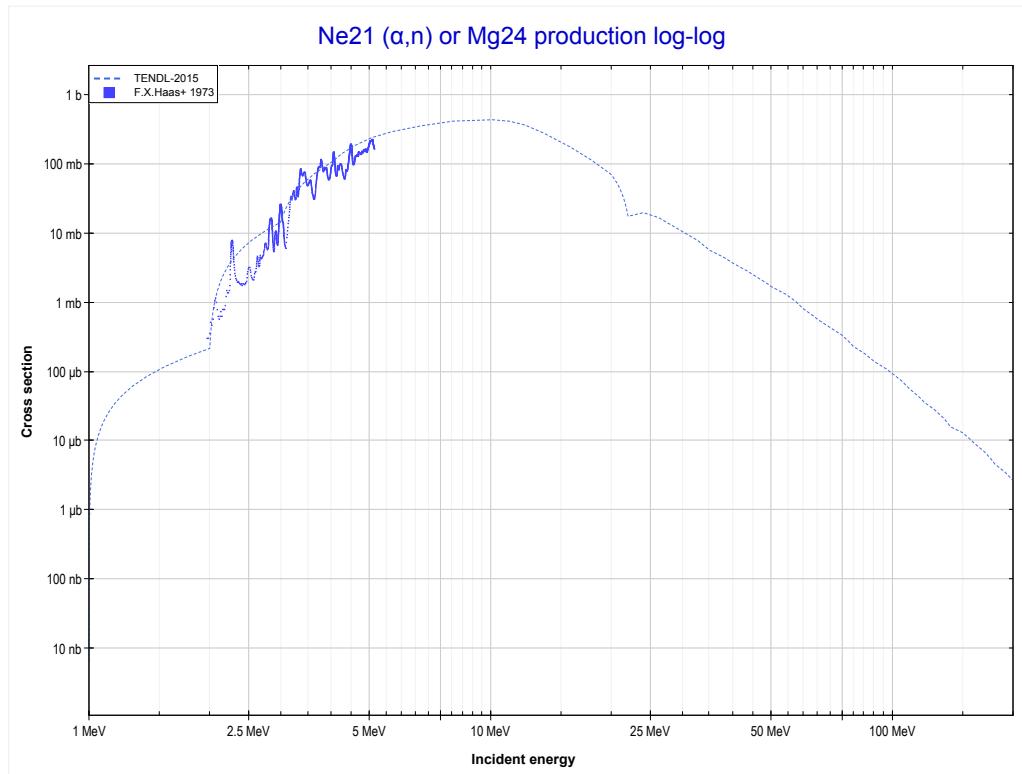
Reaction	Q-Value
F19( $\alpha, n$ )Na22	-1952.33 keV

<< 9-F-19	<b>10-Ne-20</b> MT4 ( $\alpha, n$ ) or MT5 (Mg23 production)	10-Ne-21 >>
<< 9-F-19 MT4 ( $\alpha, n$ )		10-Ne-21 MT4 ( $\alpha, n$ ) >>



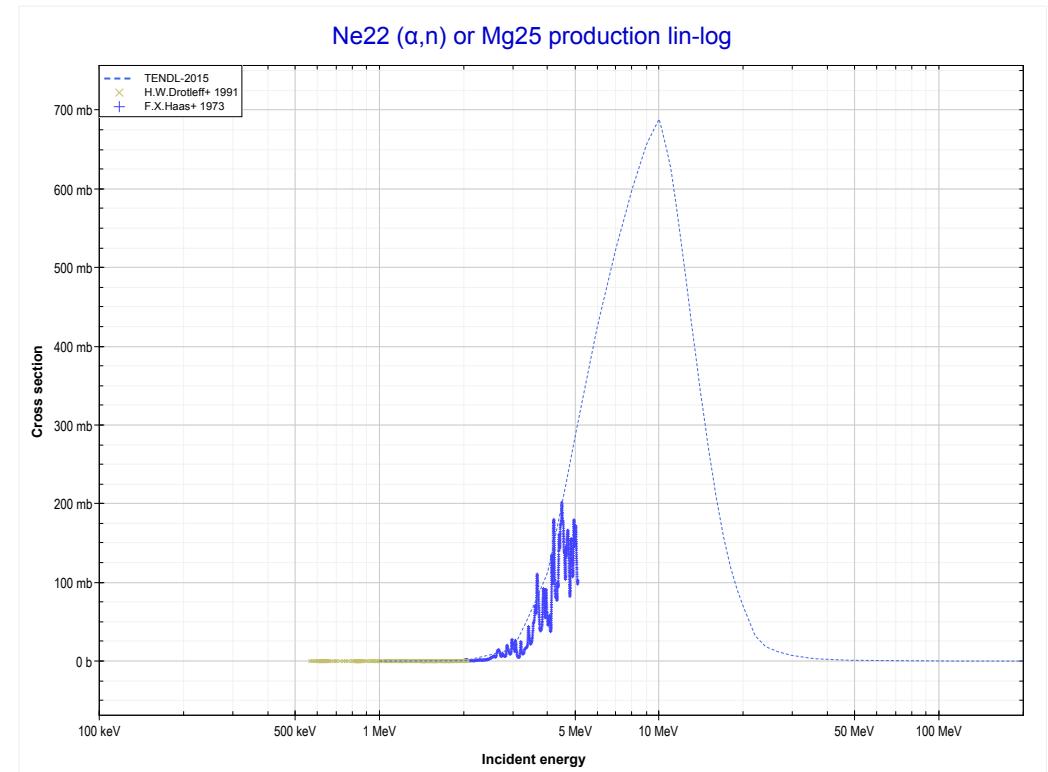
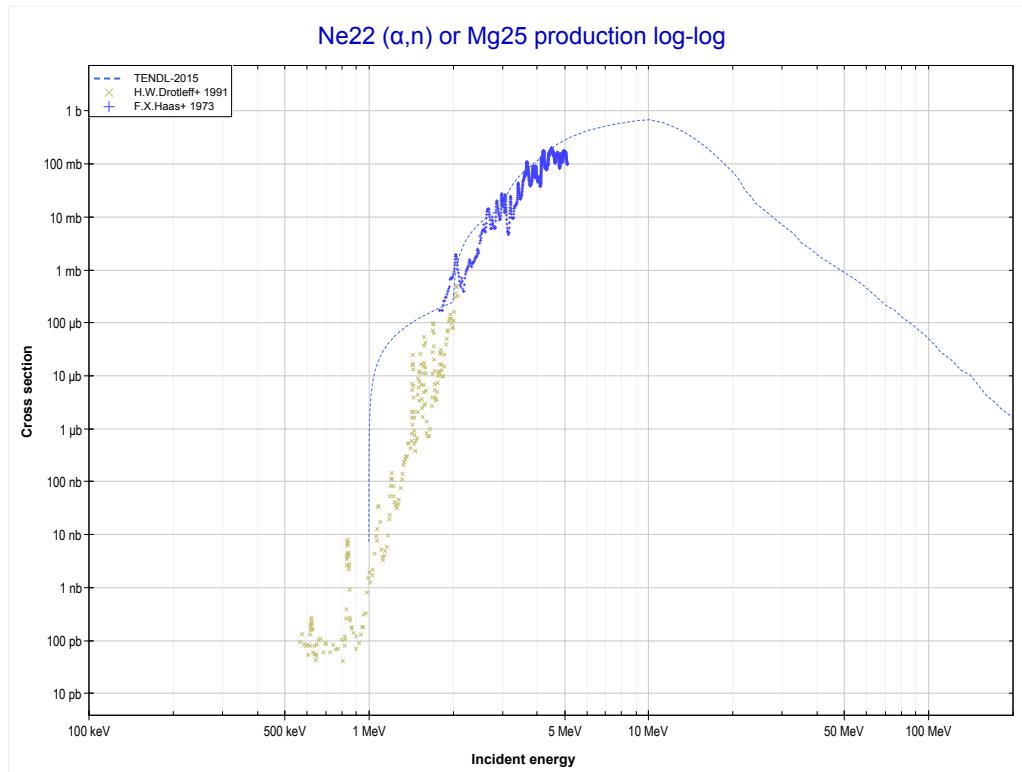
Reaction	Q-Value
Ne20( $\alpha, n$ )Mg23	-7215.03 keV

<< 10-Ne-20	<b>10-Ne-21</b> MT4 ( $\alpha, n$ ) or MT5 (Mg24 production)	10-Ne-22 >>
<< 10-Ne-20 MT4 ( $\alpha, n$ )		10-Ne-22 MT4 ( $\alpha, n$ ) >>



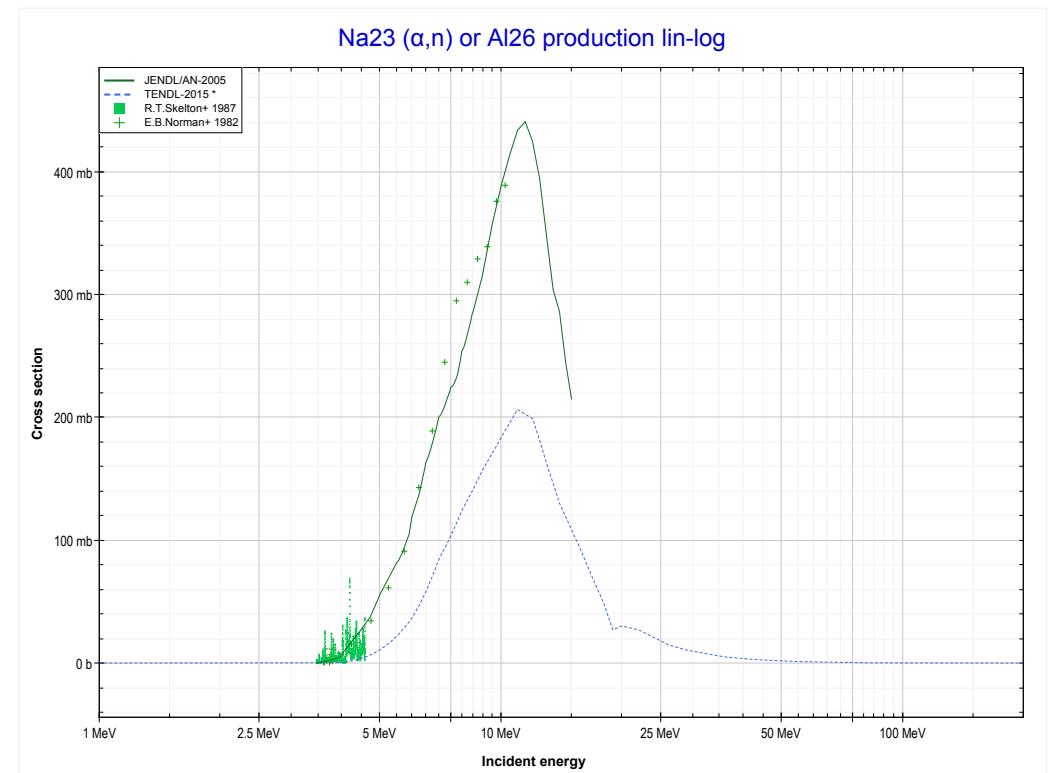
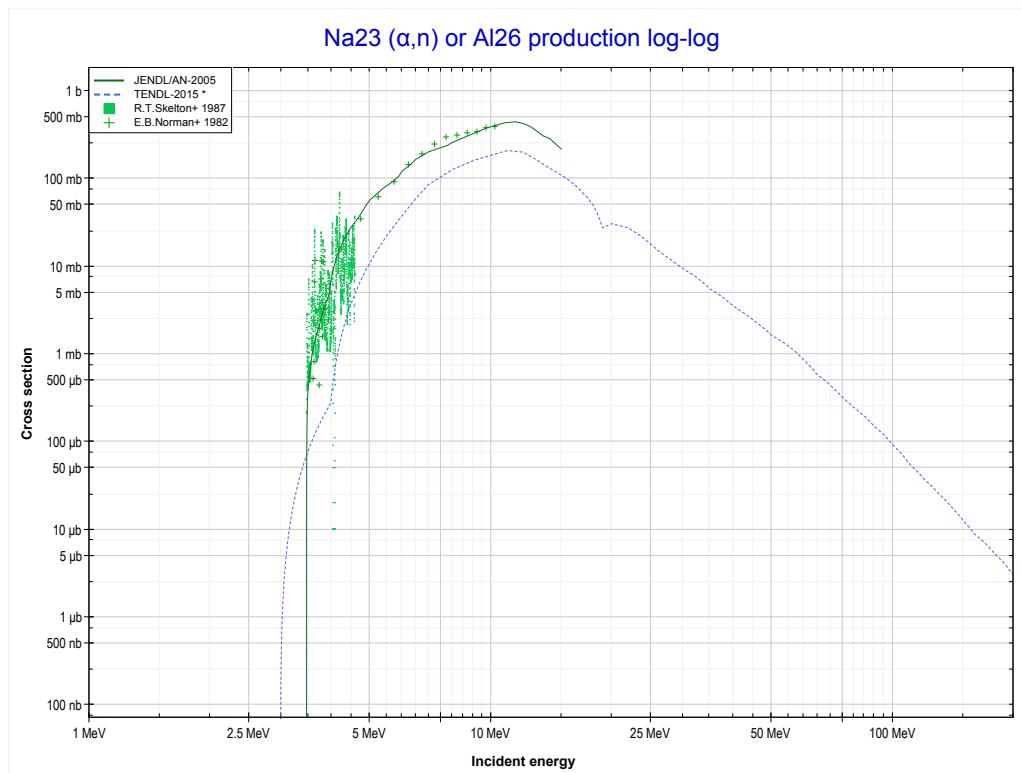
Reaction	Q-Value
Ne21( $\alpha, n$ )Mg24	2555.39 keV

<< 10-Ne-21	<b>10-Ne-22</b> MT4 ( $\alpha, n$ ) or MT5 (Mg25 production)	11-Na-23 >>
<< 10-Ne-21 MT4 ( $\alpha, n$ )		11-Na-23 MT4 ( $\alpha, n$ ) >>



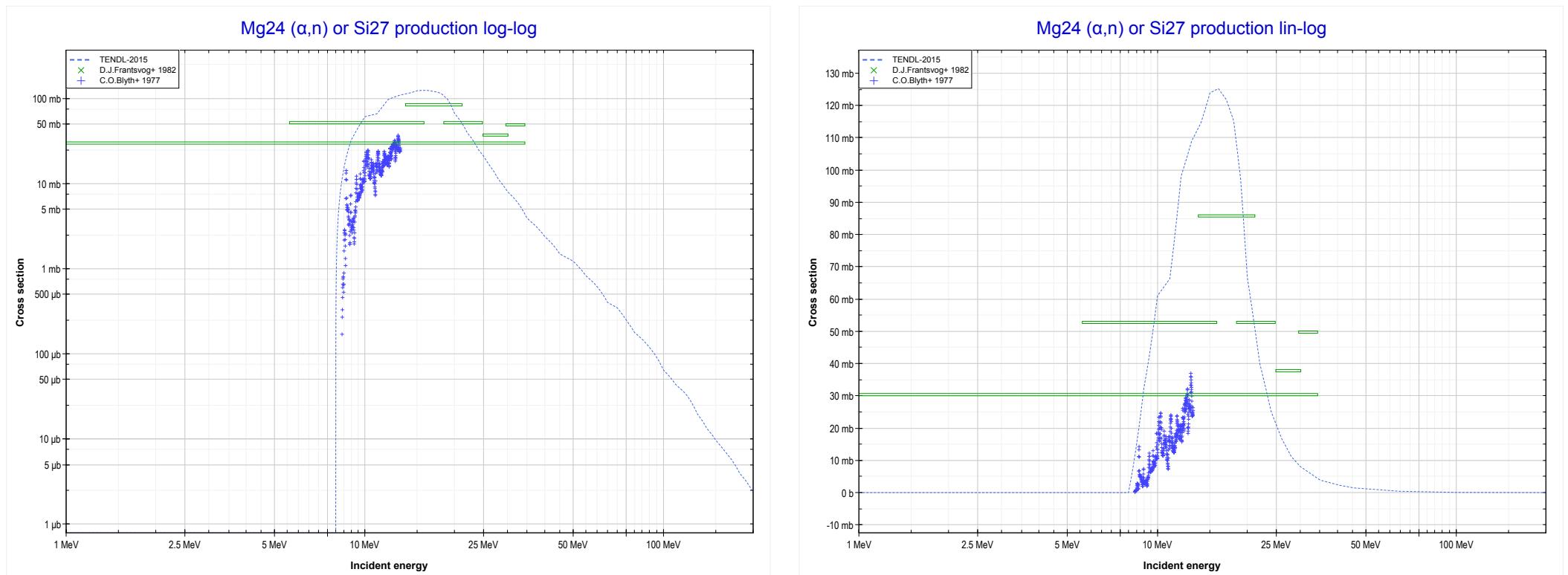
Reaction	Q-Value
Ne22( $\alpha, n$ )Mg25	-478.35 keV

<< 10-Ne-22	11-Na-23 MT4 ( $\alpha, n$ ) or MT5 (Al26 production)	12-Mg-24 >>
<< 10-Ne-22 MT4 ( $\alpha, n$ )		12-Mg-24 MT4 ( $\alpha, n$ ) >>



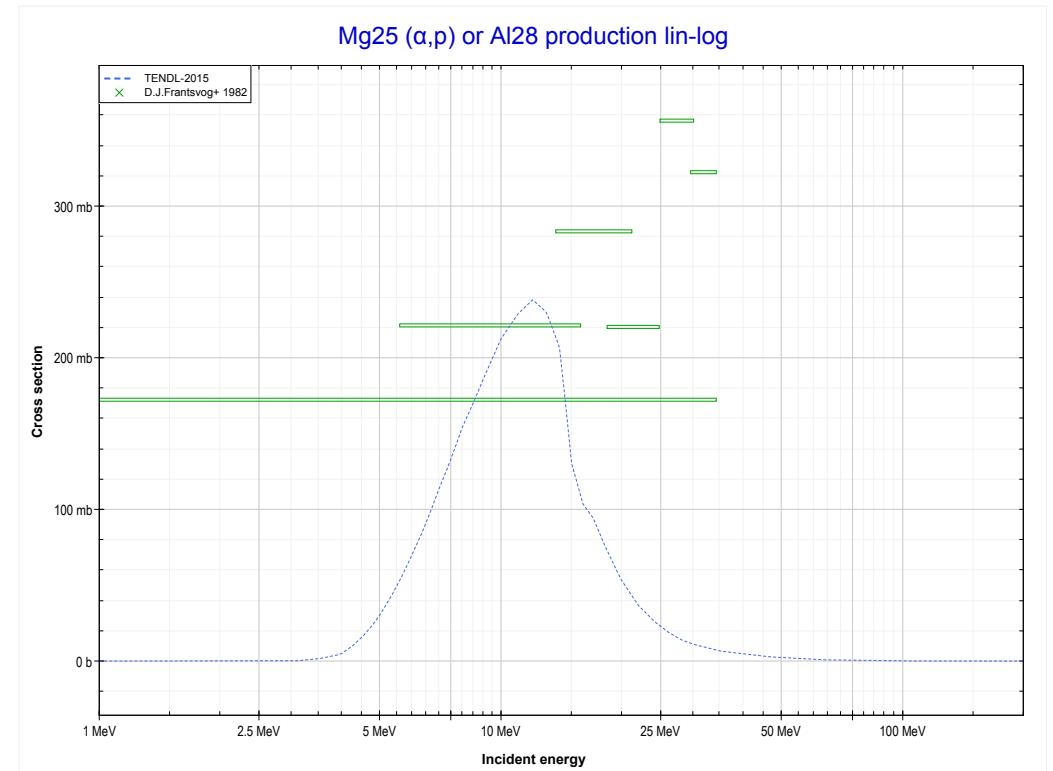
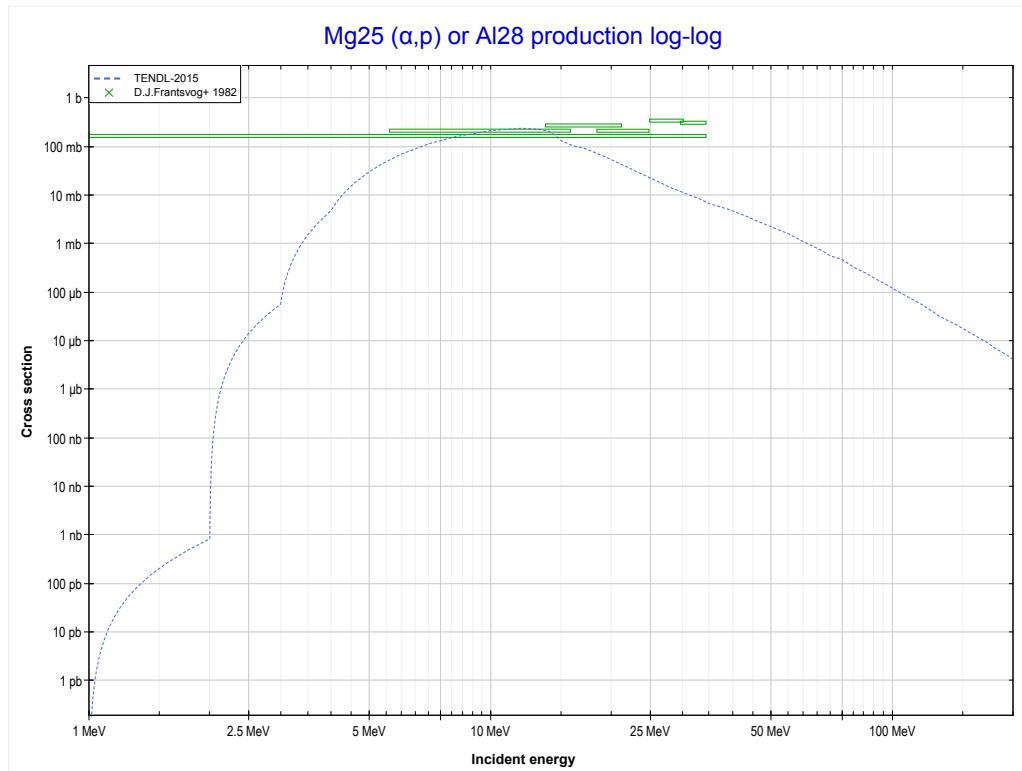
Reaction	Q-Value
Na23( $\alpha, n$ )Al26	-2966.14 keV

<< 11-Na-23	<b>12-Mg-24</b> MT4 ( $\alpha, n$ ) or MT5 (Si27 production)	13-Al-27 >>
<< 11-Na-23 MT4 ( $\alpha, n$ )		12-Mg-25 MT103 ( $\alpha, p$ ) >>



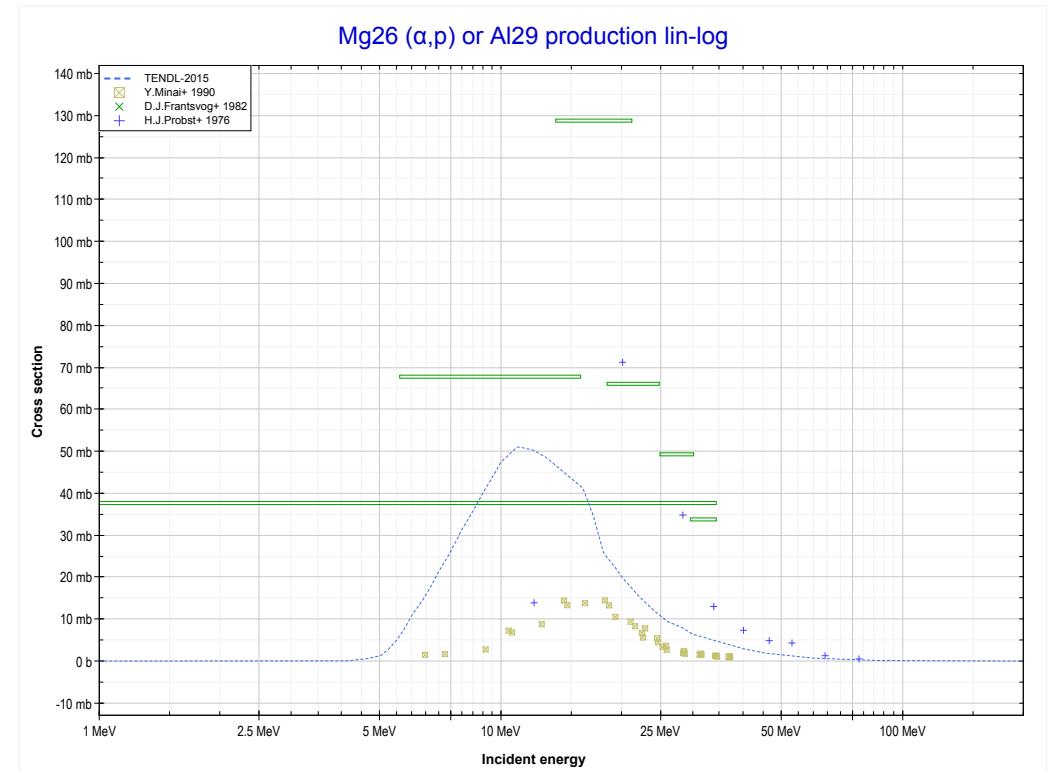
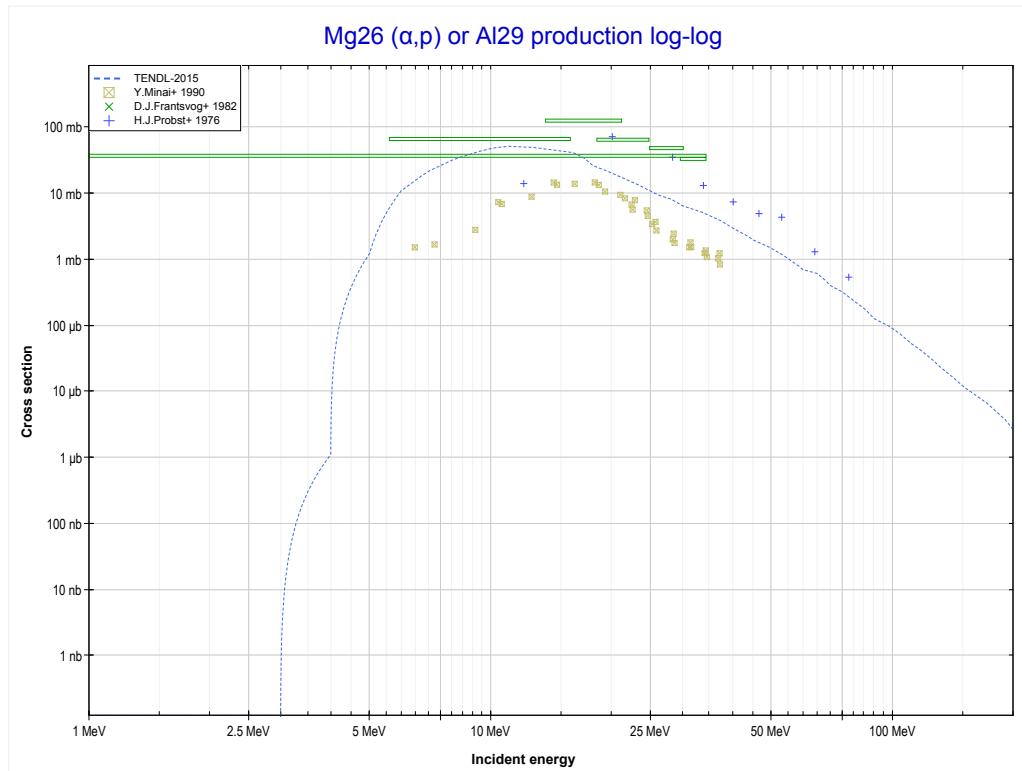
Reaction	Q-Value
Mg24( $\alpha, n$ )Si27	-7195.58 keV

<< 5-B-11	<b>12-Mg-25</b> MT103 ( $\alpha, p$ ) or MT5 (Al28 production)	12-Mg-26 >>
<< 12-Mg-24 MT4 ( $\alpha, n$ )		12-Mg-26 MT103 ( $\alpha, p$ ) >>



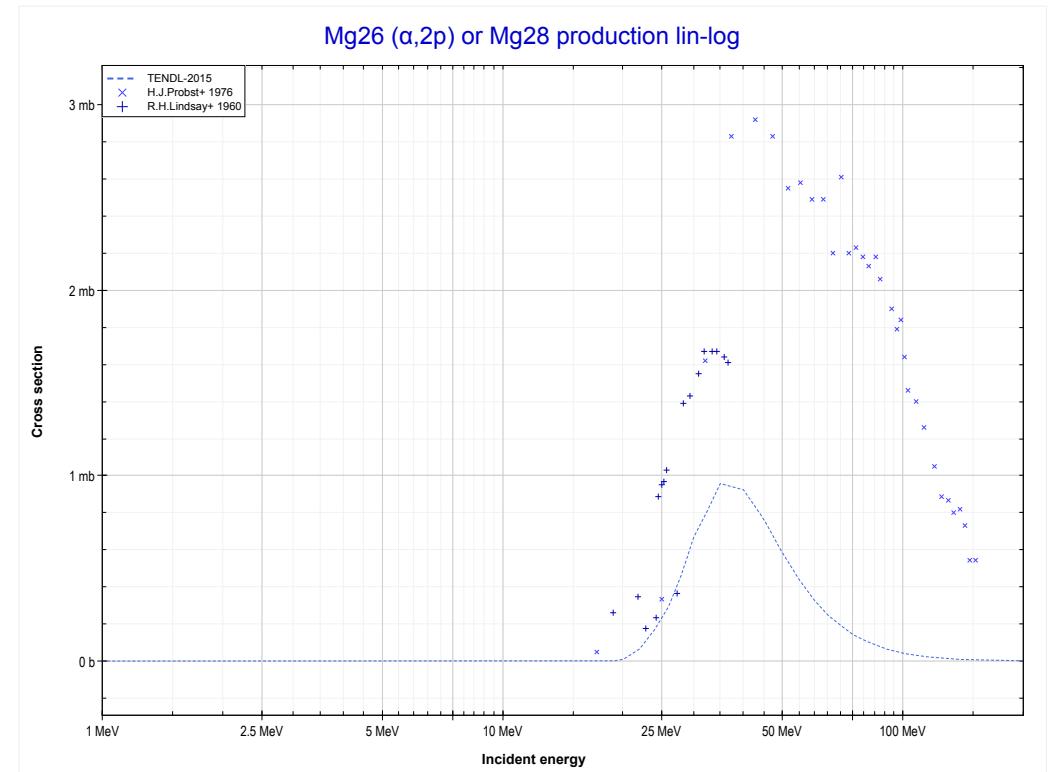
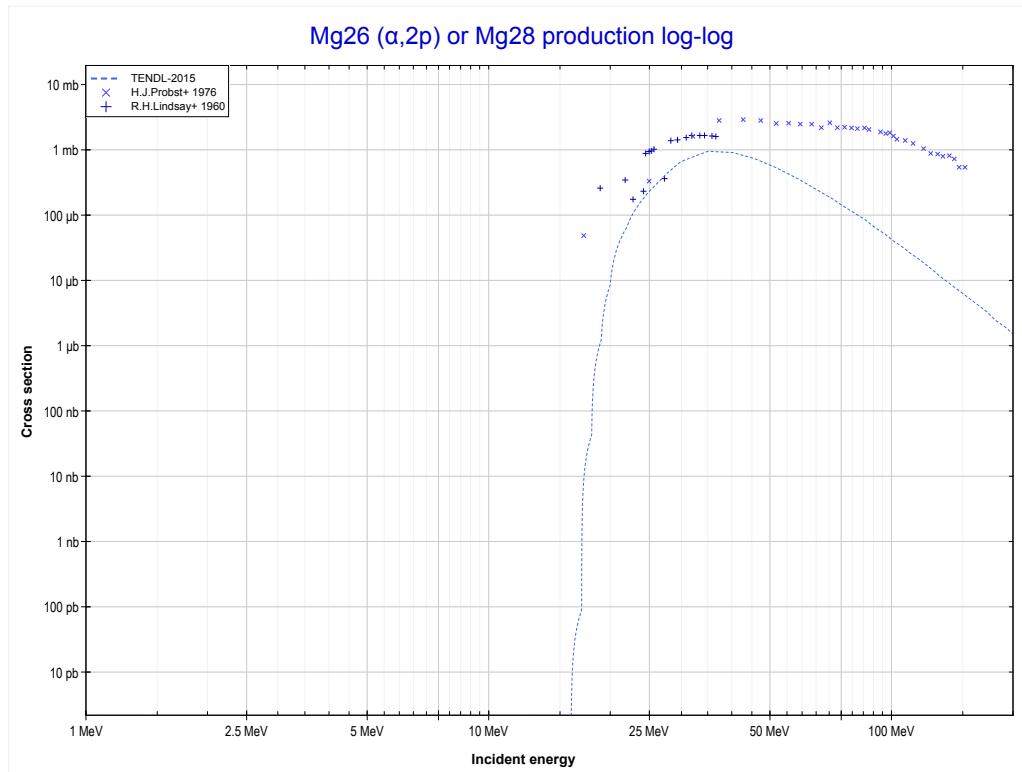
Reaction	Q-Value
Mg25( $\alpha, p$ )Al28	-1206.29 keV

<< 12-Mg-25	<b>12-Mg-26</b> MT103 ( $\alpha, p$ ) or MT5 (Al29 production)	>> 18-Ar-40
<< 12-Mg-25 MT103 ( $\alpha, p$ )		MT111 ( $\alpha, 2p$ ) >>



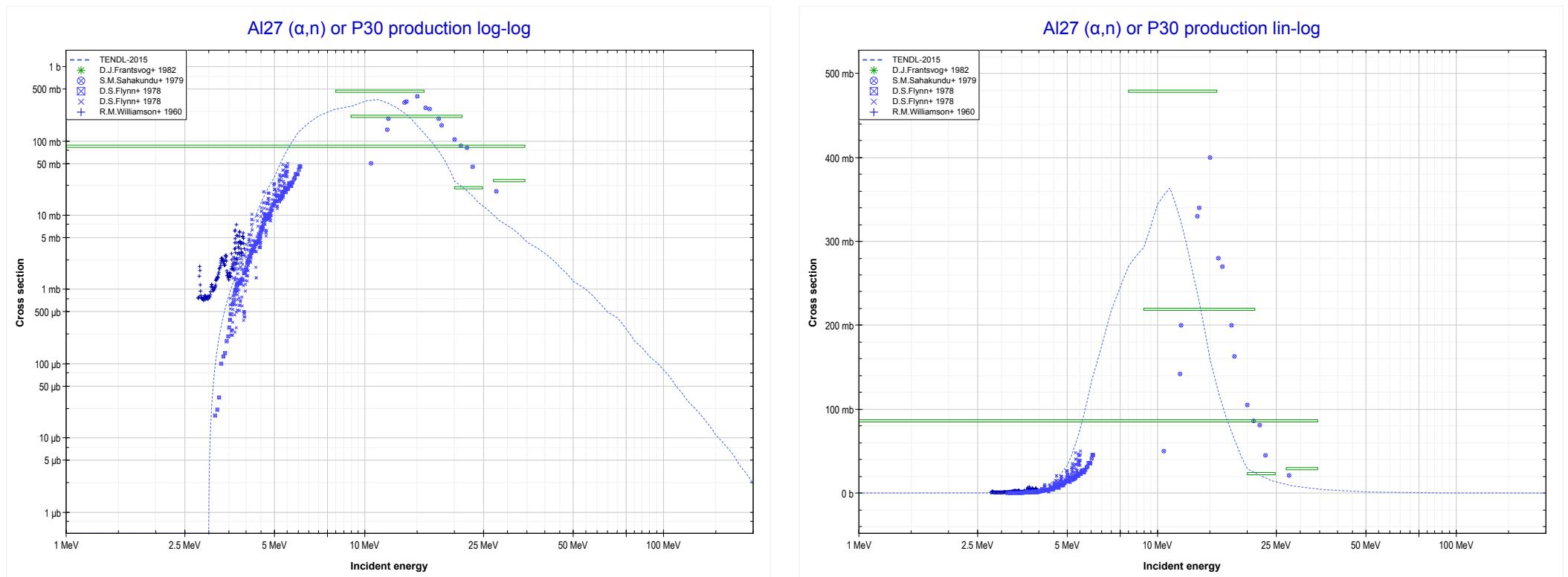
Reaction	Q-Value
Mg26( $\alpha, p$ )Al29	-2873.90 keV

<a href="#">&lt;&lt; MT103 (<math>\alpha,p</math>)</a>	<b>12-Mg-26</b> <b>MT111 (<math>\alpha,2p</math>) or MT5 (Mg28 production)</b>	<a href="#">13-Al-27 &gt;&gt;</a> <a href="#">13-Al-27 MT4 (<math>\alpha,n</math>) &gt;&gt;</a>
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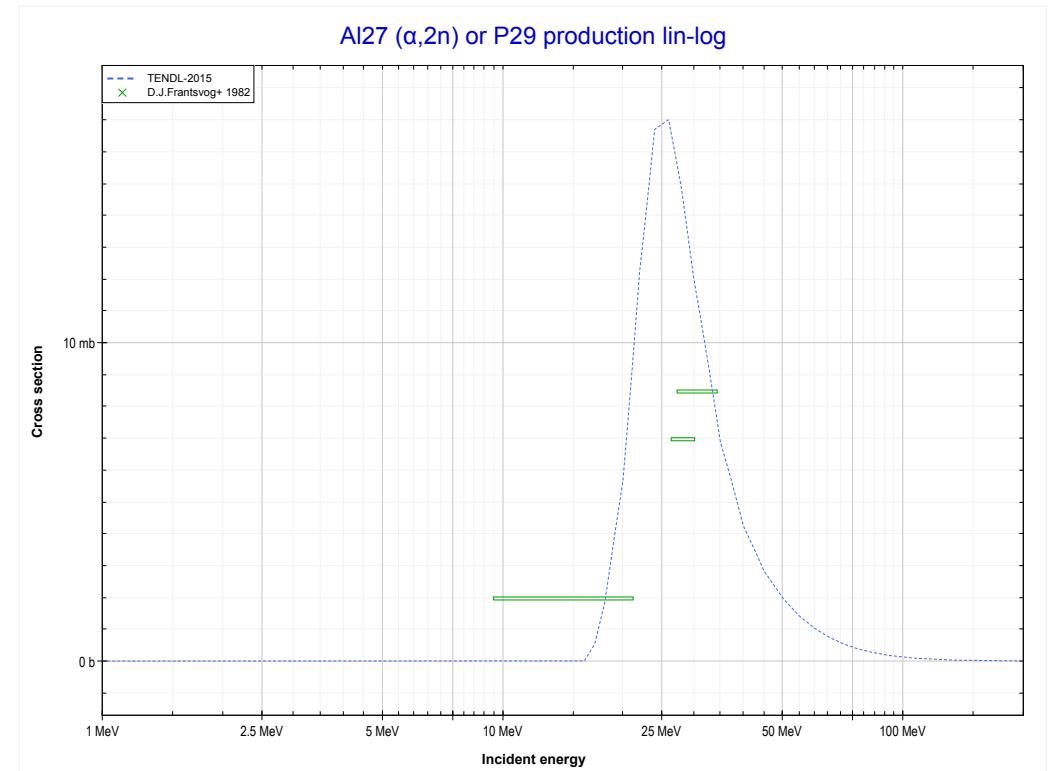
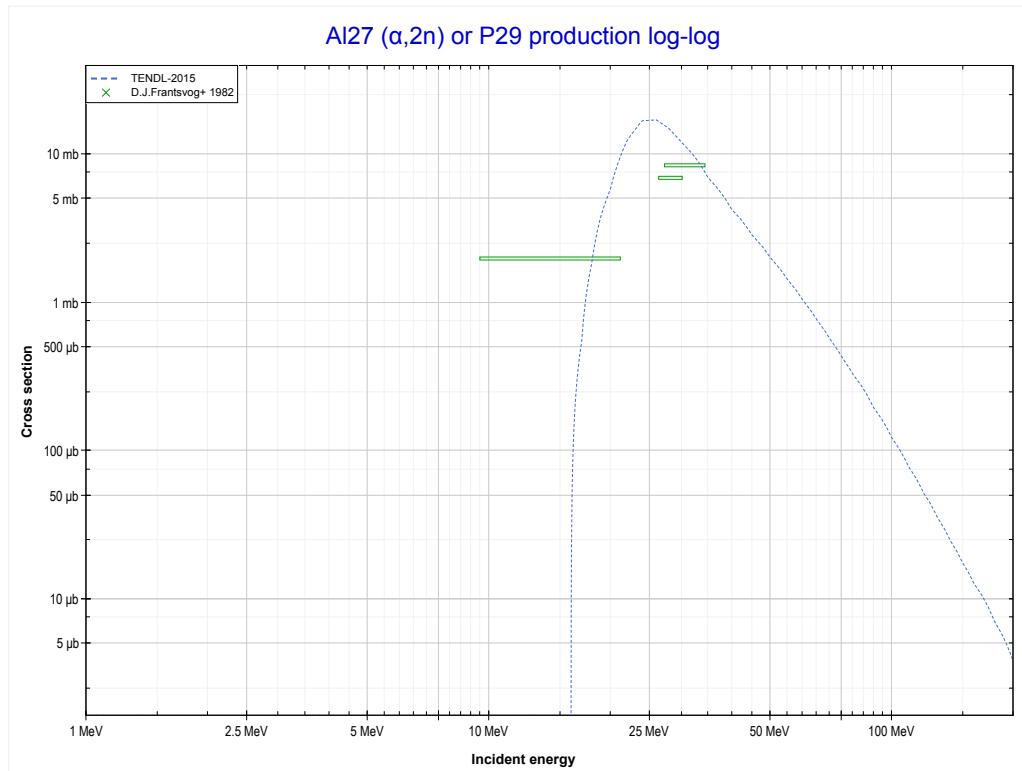
Reaction	Q-Value
Mg26( $\alpha,2p$ )Mg28	-13348.87 keV

<< 12-Mg-24	13-Al-27 MT4 ( $\alpha, n$ ) or MT5 (P30 production)	14-Si-28 >>
<< 12-Mg-26 MT111 ( $\alpha, 2p$ )		MT16 ( $\alpha, 2n$ ) >>



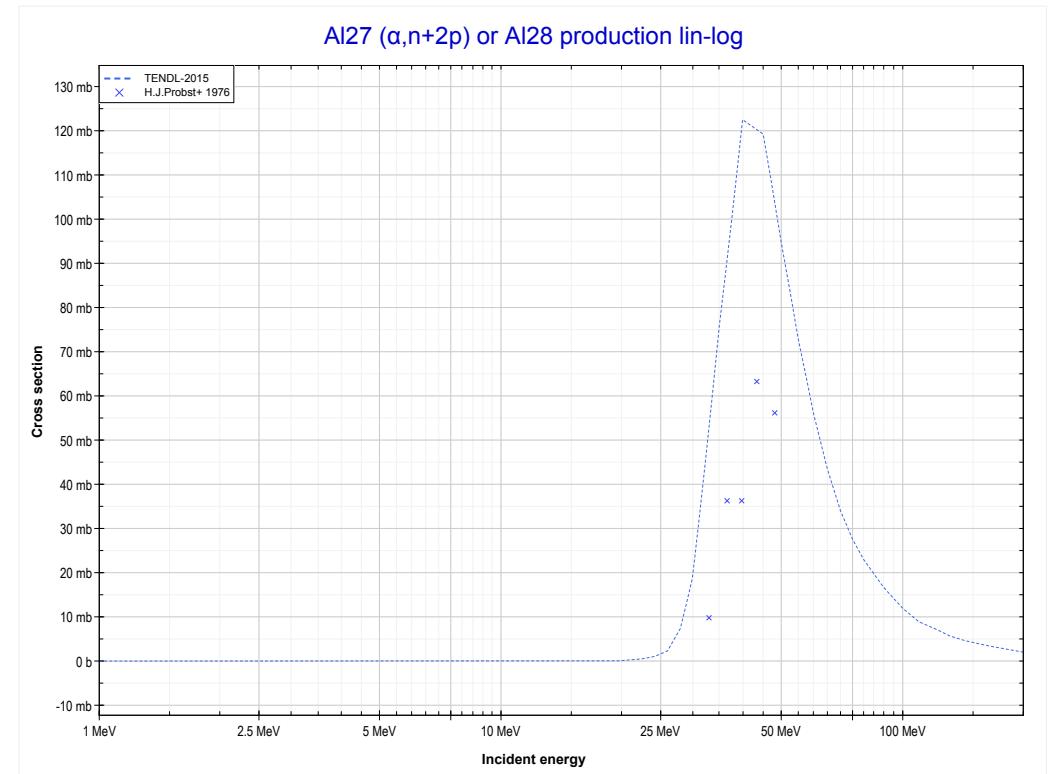
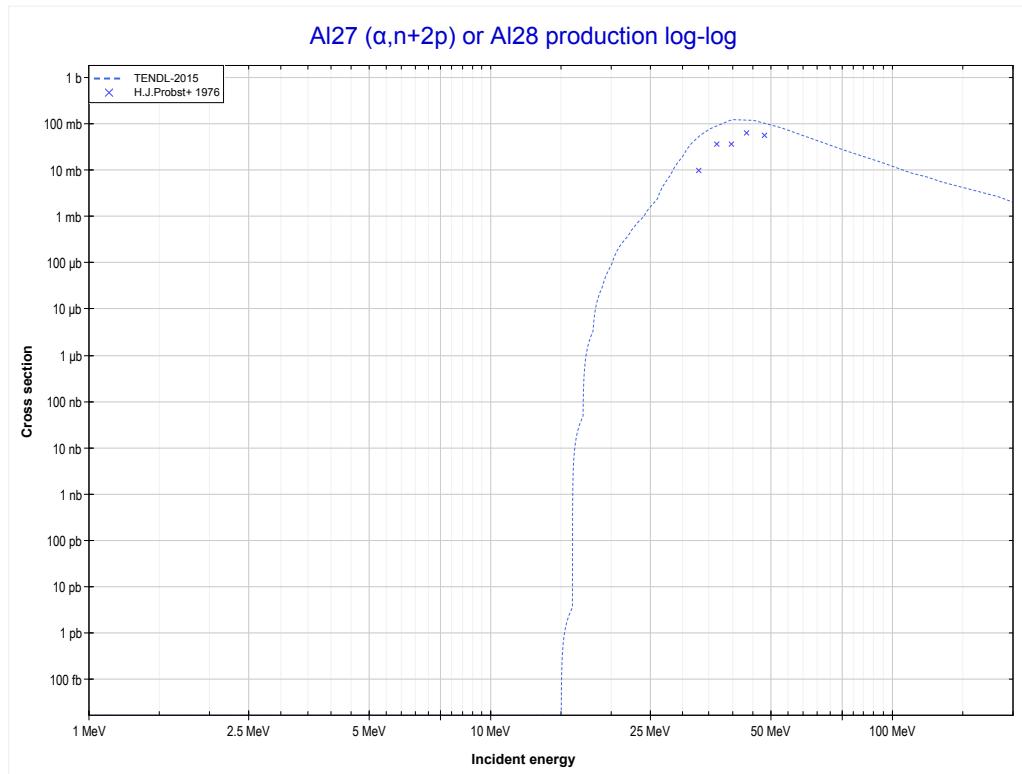
Reaction	Q-Value
Al27( $\alpha, n$ )P30	-2642.55 keV

<< 4-Be-9	13-Al-27 MT16 ( $\alpha,2n$ ) or MT5 (P29 production)	14-Si-28 >> MT44 ( $\alpha,n+2p$ ) >>
<< MT4 ( $\alpha,n$ )		



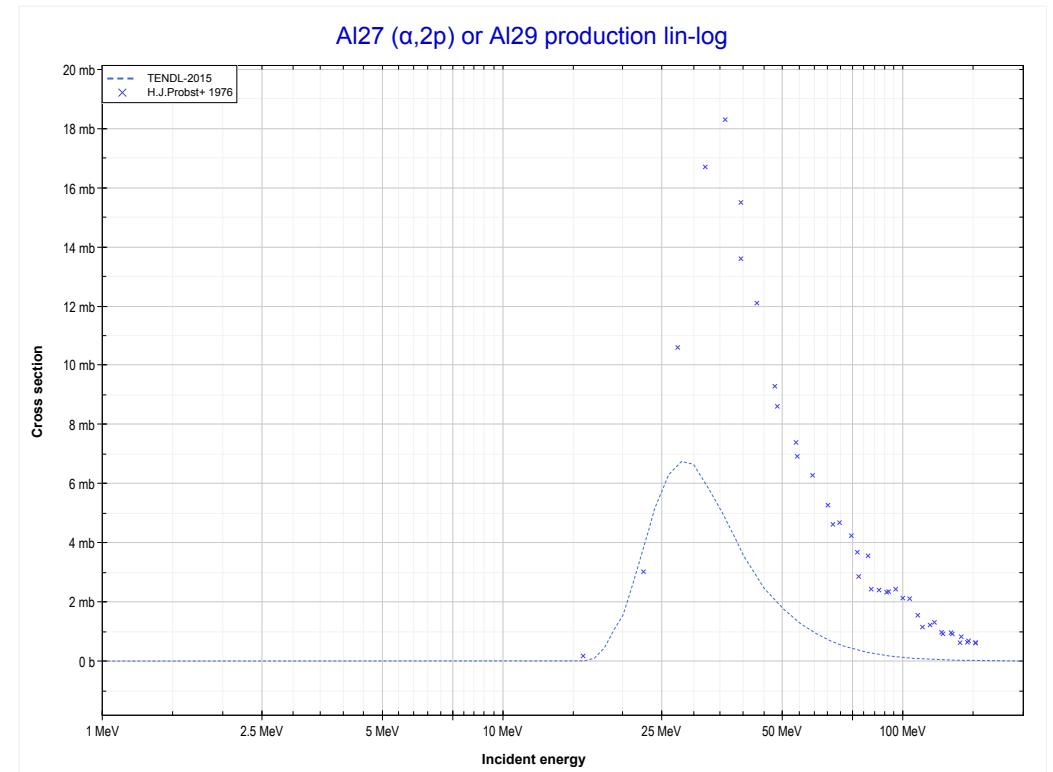
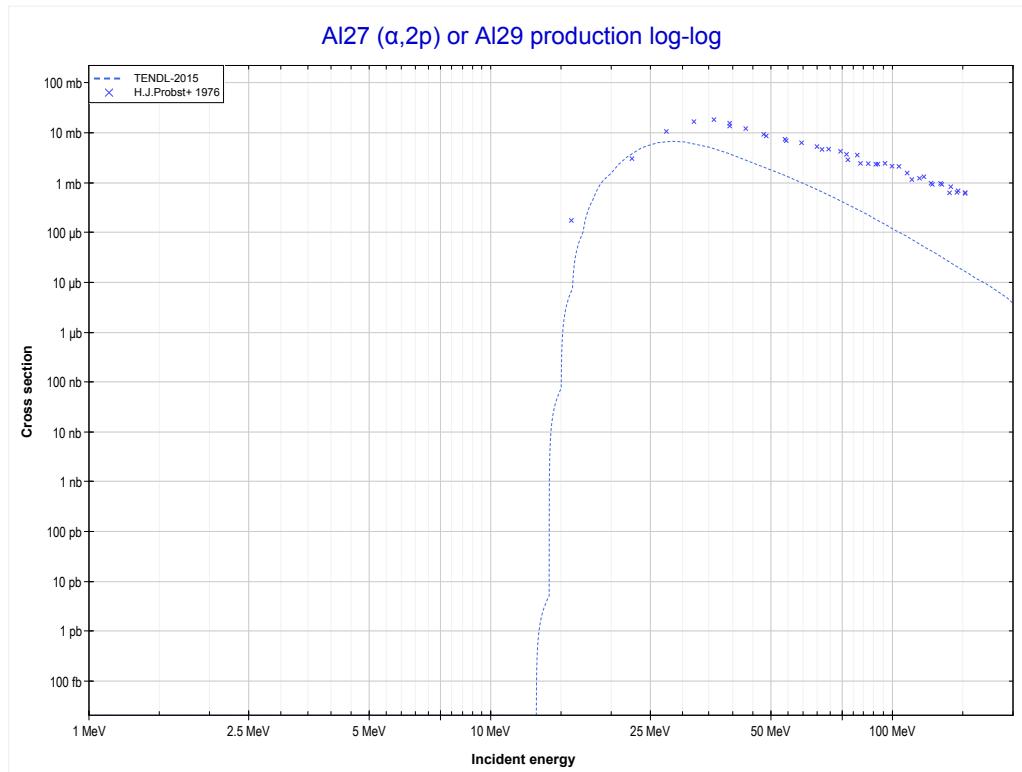
Reaction	Q-Value
AI27( $\alpha,2n$ )P29	-13961.97 keV

<< 6-C-12	13-AI-27 MT44 ( $\alpha, n+2p$ ) or MT5 (Al28 production)	21-Sc-45 >> MT111 ( $\alpha, 2p$ ) >>
<< MT16 ( $\alpha, 2n$ )		

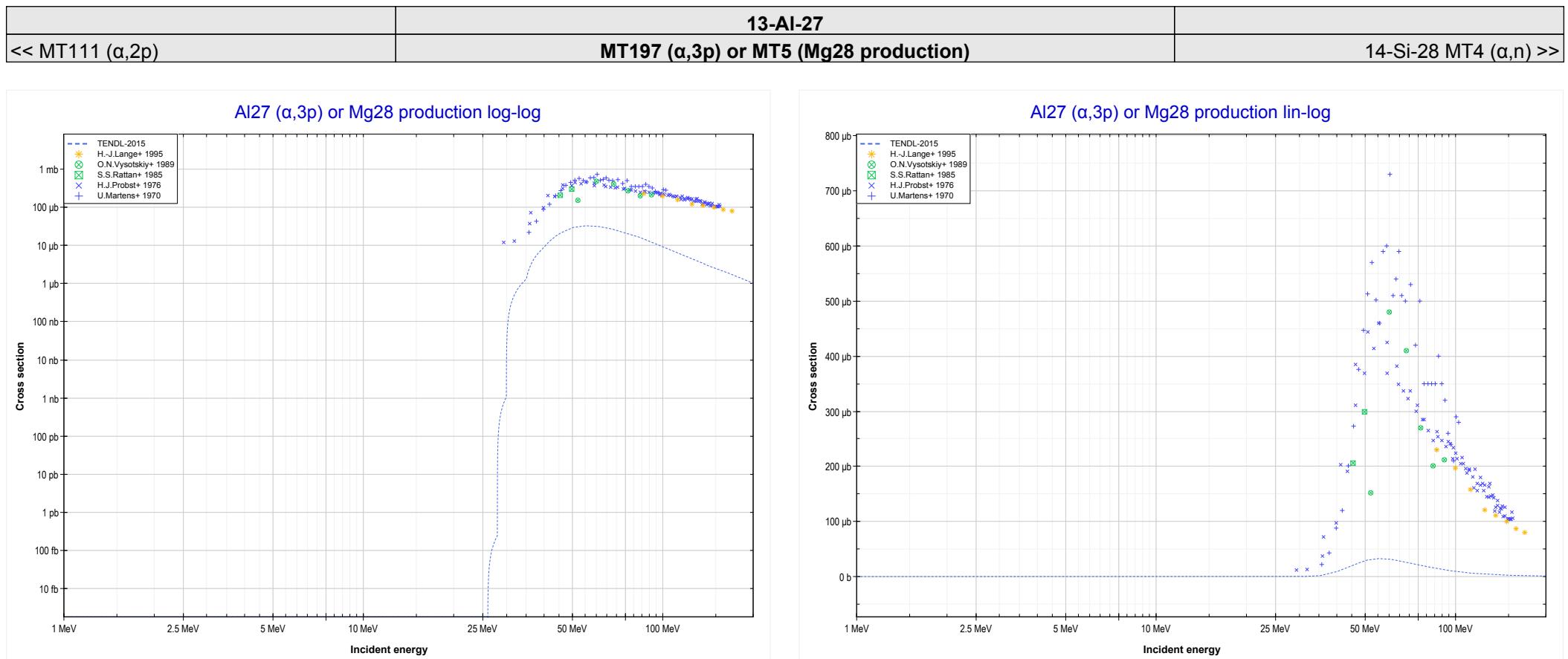


Reaction	Q-Value
AI27( $\alpha, \text{He}3$ )Al28	-12852.52 keV
AI27( $\alpha, p+d$ )Al28	-18346.00 keV
AI27( $\alpha, n+2p$ )Al28	-20570.56 keV

<< 12-Mg-26	<b>13-Al-27</b> MT111 ( $\alpha,2p$ ) or MT5 (Al29 production)	17-Cl-37 >>
<< MT44 ( $\alpha,n+2p$ )		MT197 ( $\alpha,3p$ ) >>

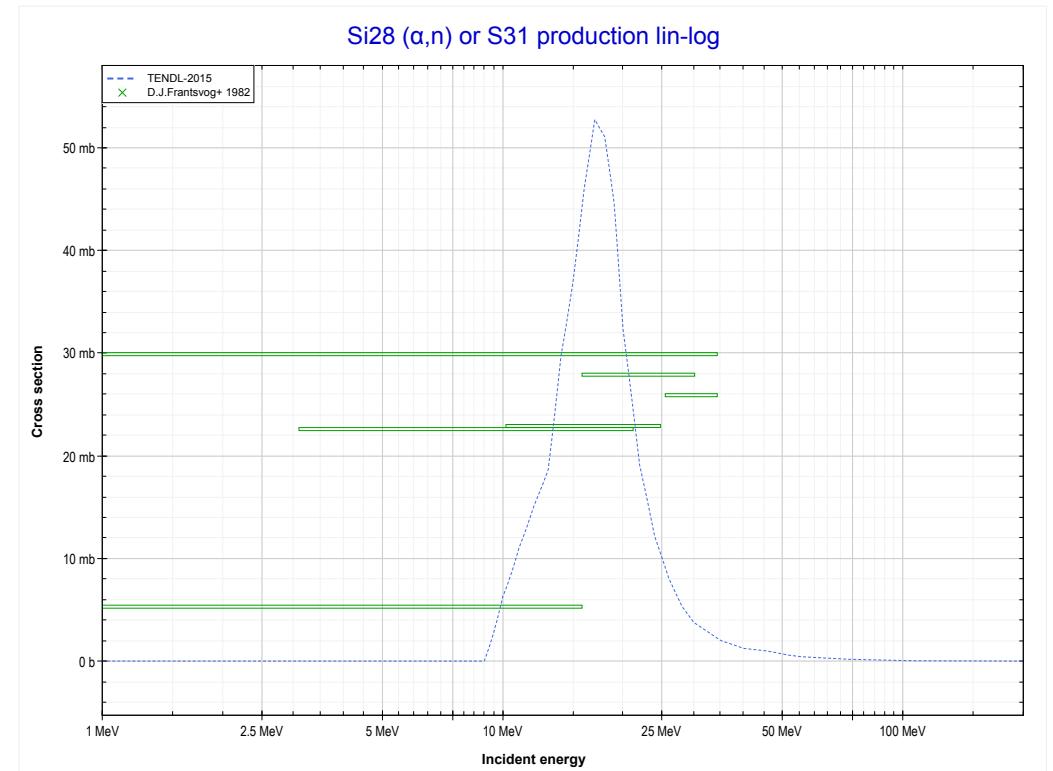
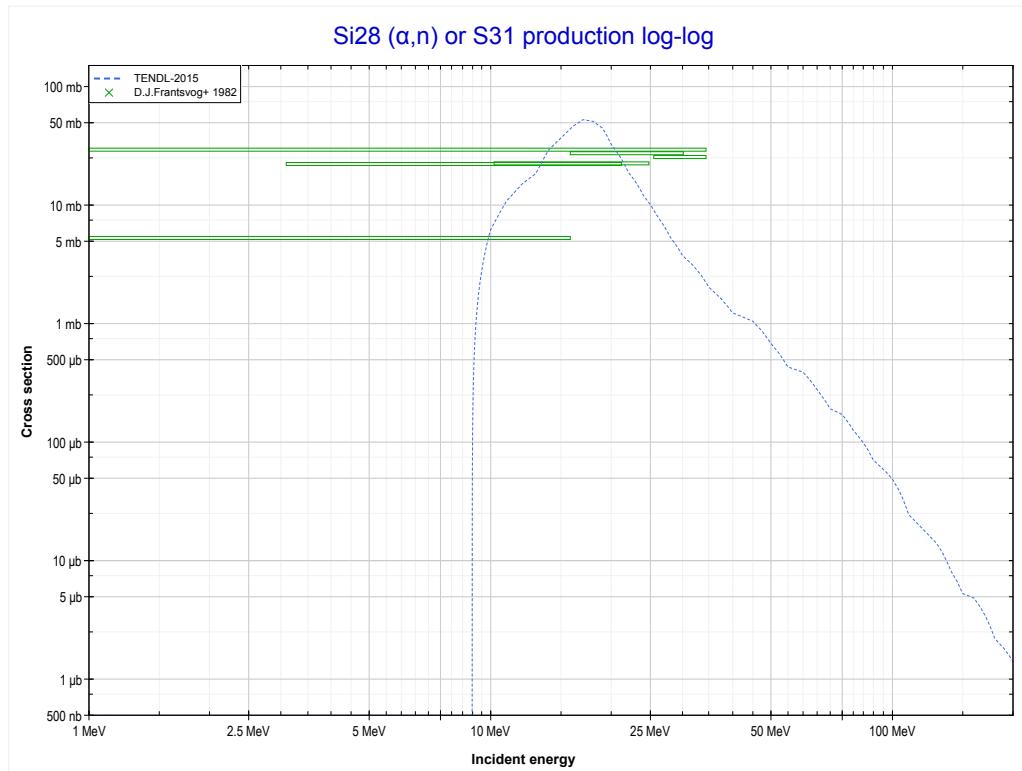


Reaction	Q-Value
Al27( $\alpha,2p$ )Al29	-11145.08 keV



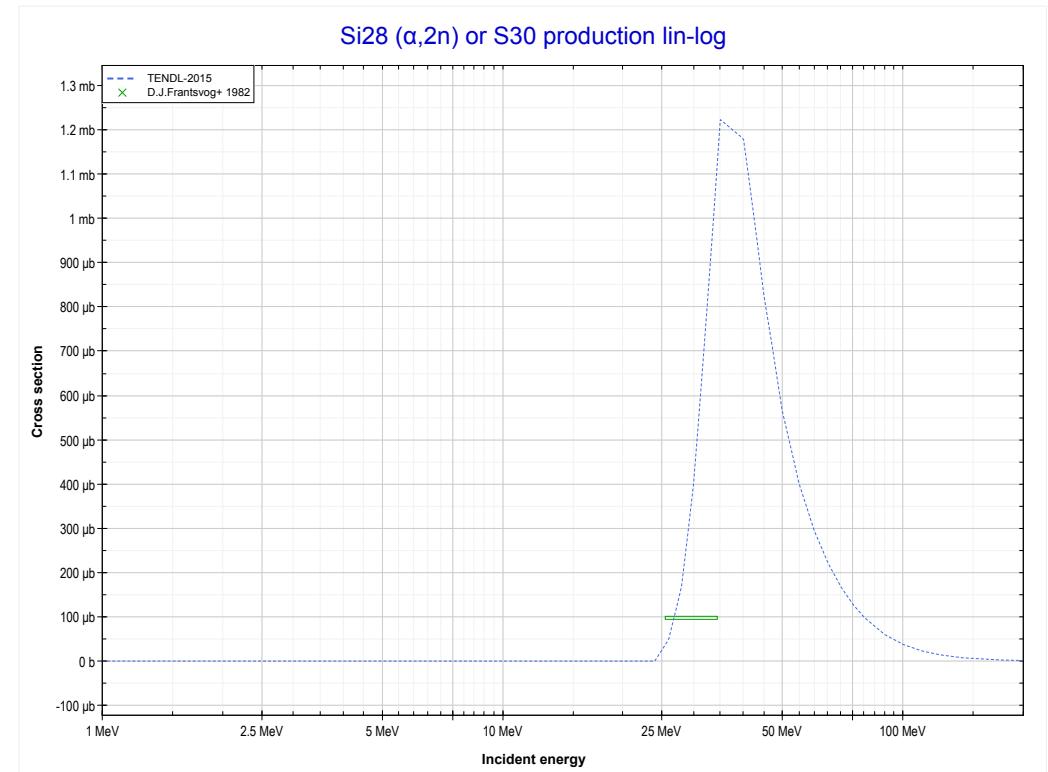
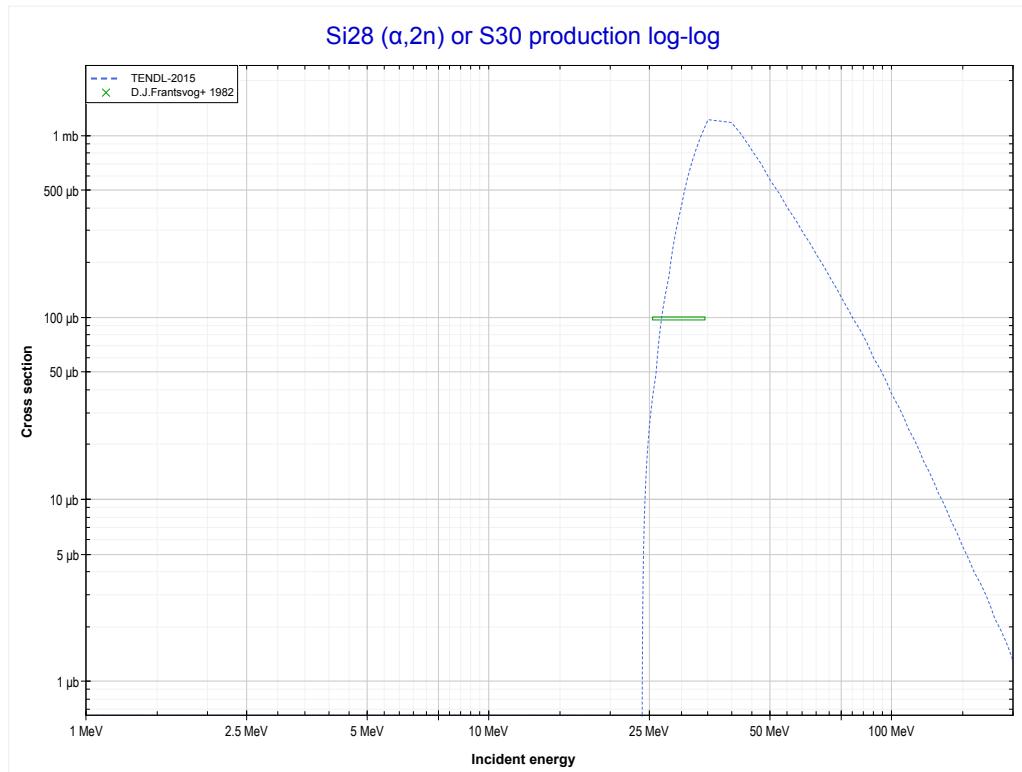
Reaction	Q-Value
Al27( $\alpha$ ,3p)Mg28	-21620.05 keV

<< 13-Al-27	<b>14-Si-28</b> MT4 ( $\alpha, n$ ) or MT5 (S31 production)	14-Si-29 >> MT16 ( $\alpha, 2n$ ) >>
<< 13-Al-27 MT197 ( $\alpha, 3p$ )		



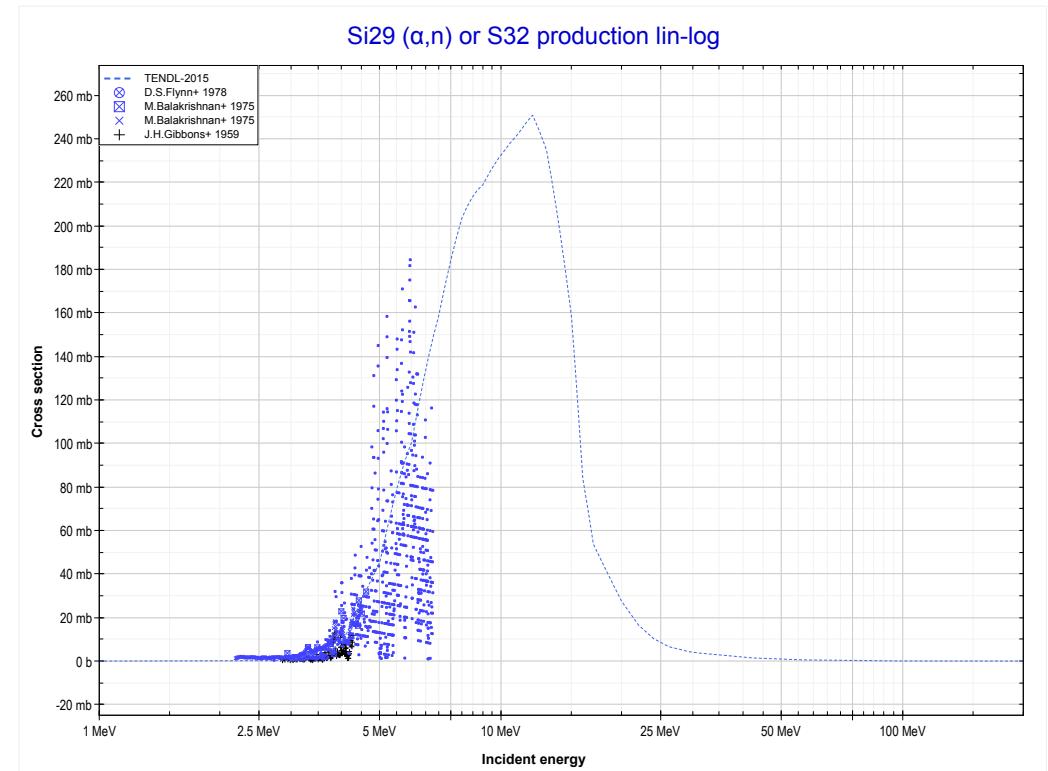
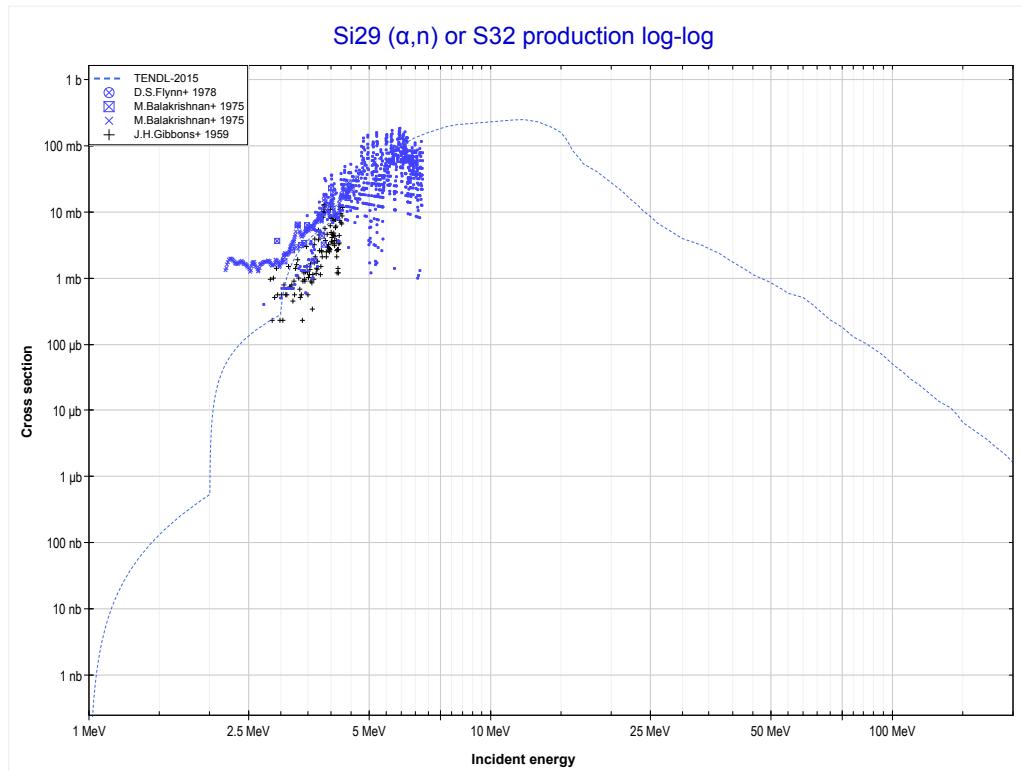
Reaction	Q-Value
Si28( $\alpha, n$ )S31	-8096.68 keV

<< 13-Al-27	<b>14-Si-28</b> MT16 ( $\alpha,2n$ ) or MT5 (S30 production)	>> 19-K-41
<< MT4 ( $\alpha,n$ )		14-Si-29 MT4 ( $\alpha,n$ ) >>



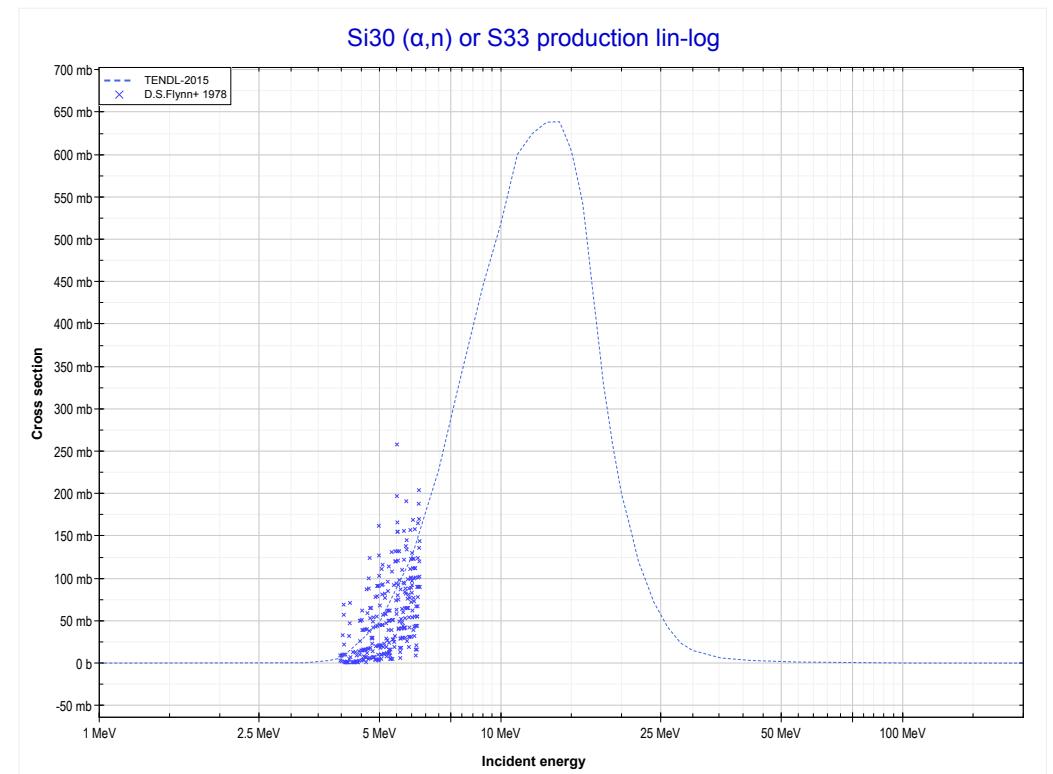
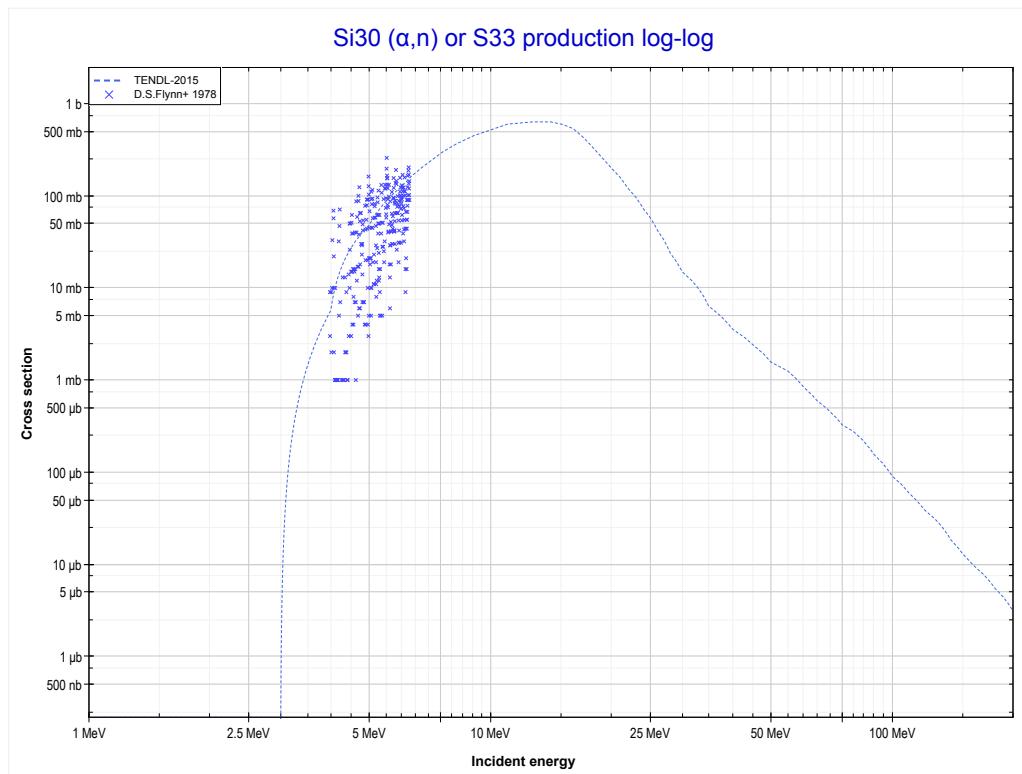
Reaction	Q-Value
Si28( $\alpha,2n$ )S30	-21151.51 keV

<< 14-Si-28	<b>14-Si-29</b> MT4 ( $\alpha, n$ ) or MT5 (S32 production)	14-Si-30 >>
<< 14-Si-28 MT16 ( $\alpha, 2n$ )		14-Si-30 MT4 ( $\alpha, n$ ) >>



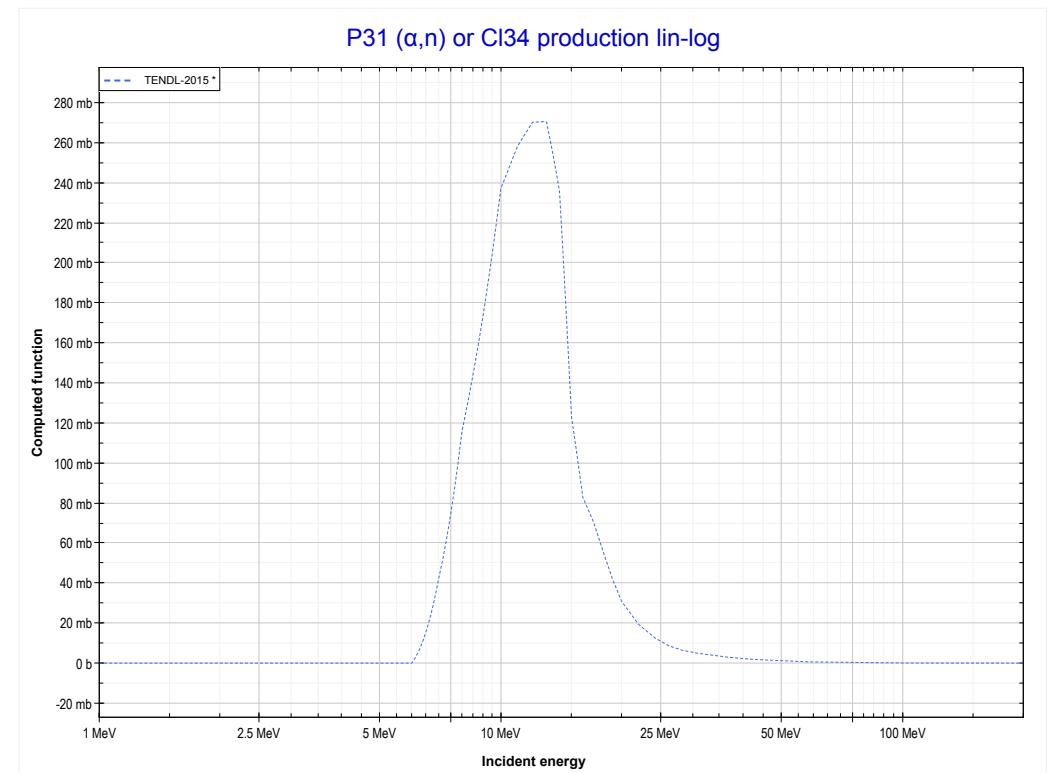
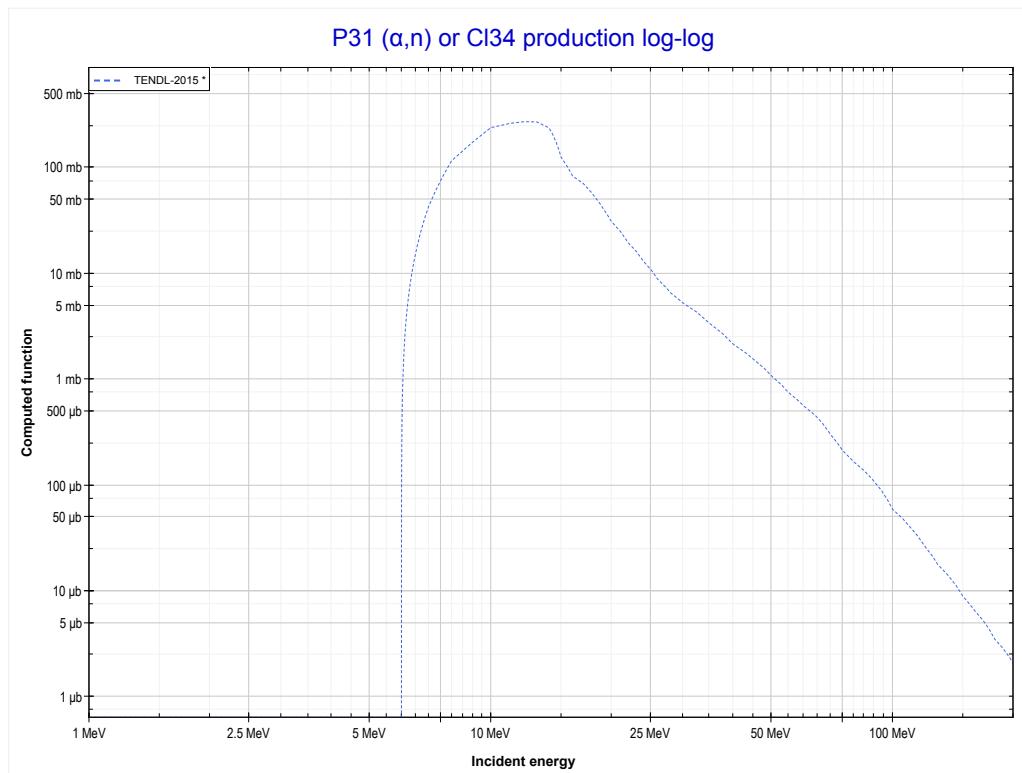
Reaction	Q-Value
Si29( $\alpha, n$ )S32	-1525.95 keV

<< 14-Si-29	<b>14-Si-30</b> MT4 ( $\alpha, n$ ) or MT5 (S33 production)	15-P-31 >>
<< 14-Si-29 MT4 ( $\alpha, n$ )		15-P-31 MT4 ( $\alpha, n$ ) >>



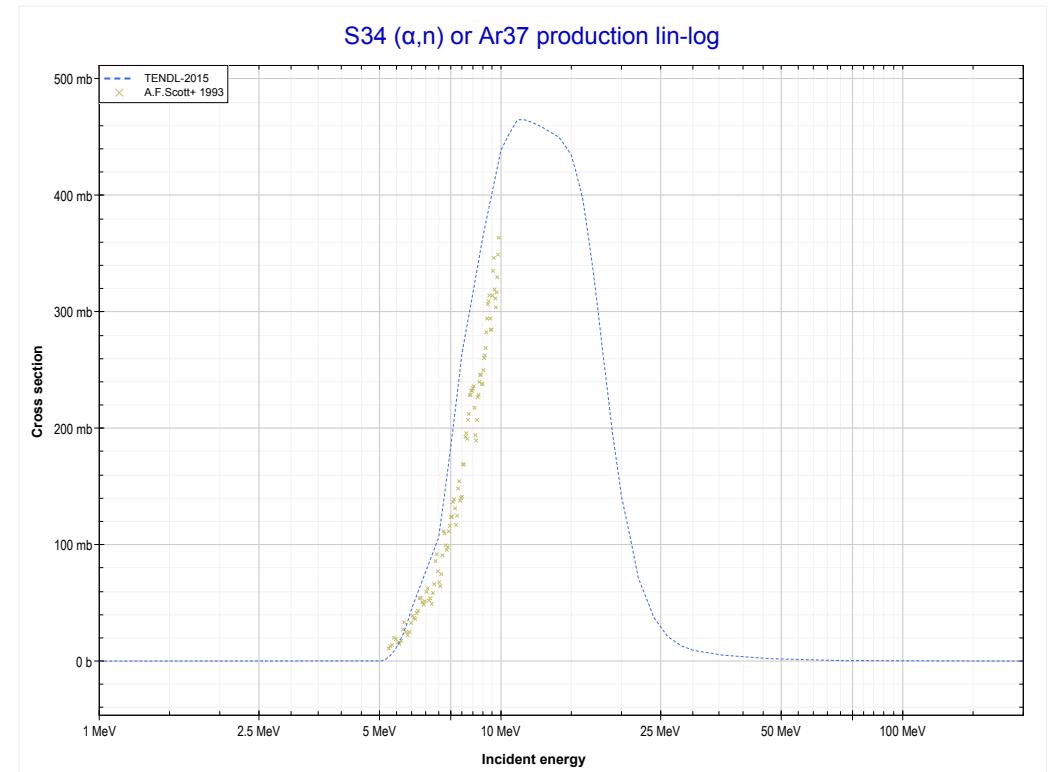
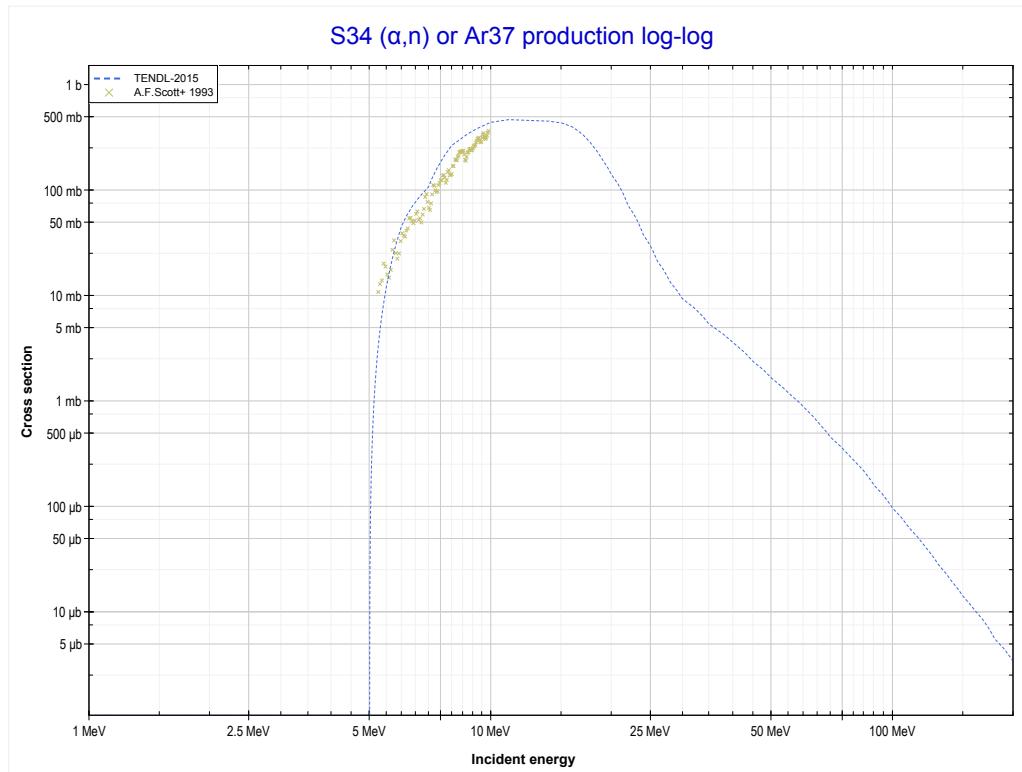
Reaction	Q-Value
Si30( $\alpha, n$ )S33	-3493.51 keV

<< 14-Si-30	15-P-31 MT4 ( $\alpha, n$ ) or MT5 (Cl34 production)	16-S-34 >>
<< 14-Si-30 MT4 ( $\alpha, n$ )		16-S-34 MT4 ( $\alpha, n$ ) >>



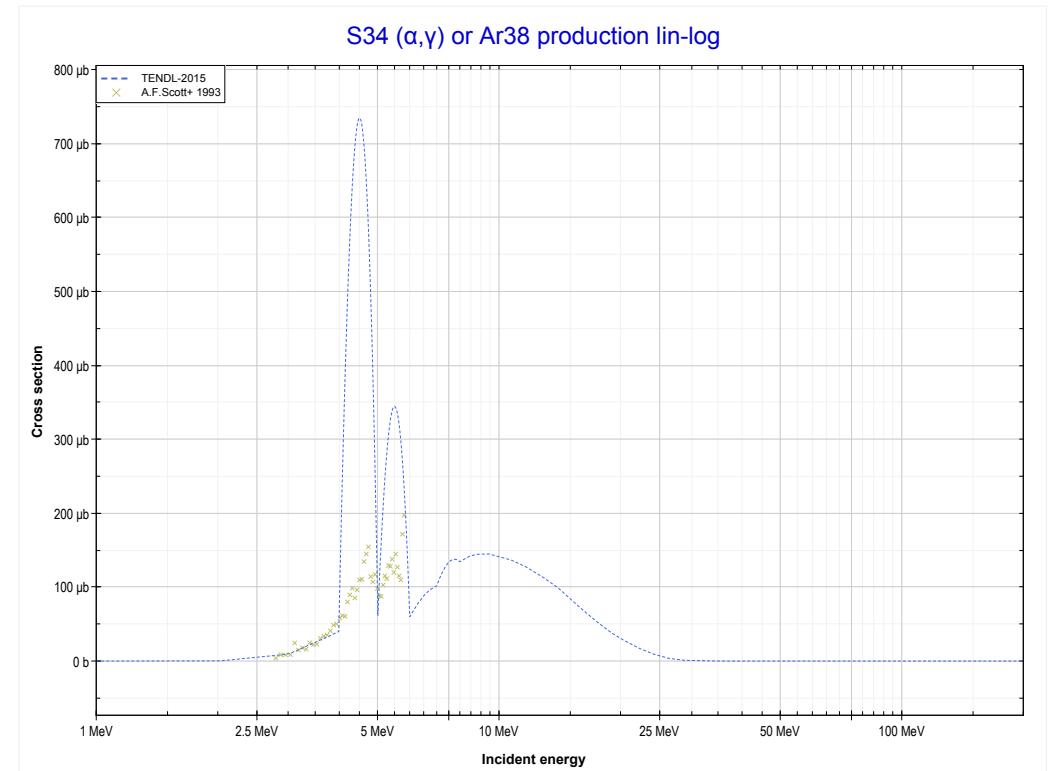
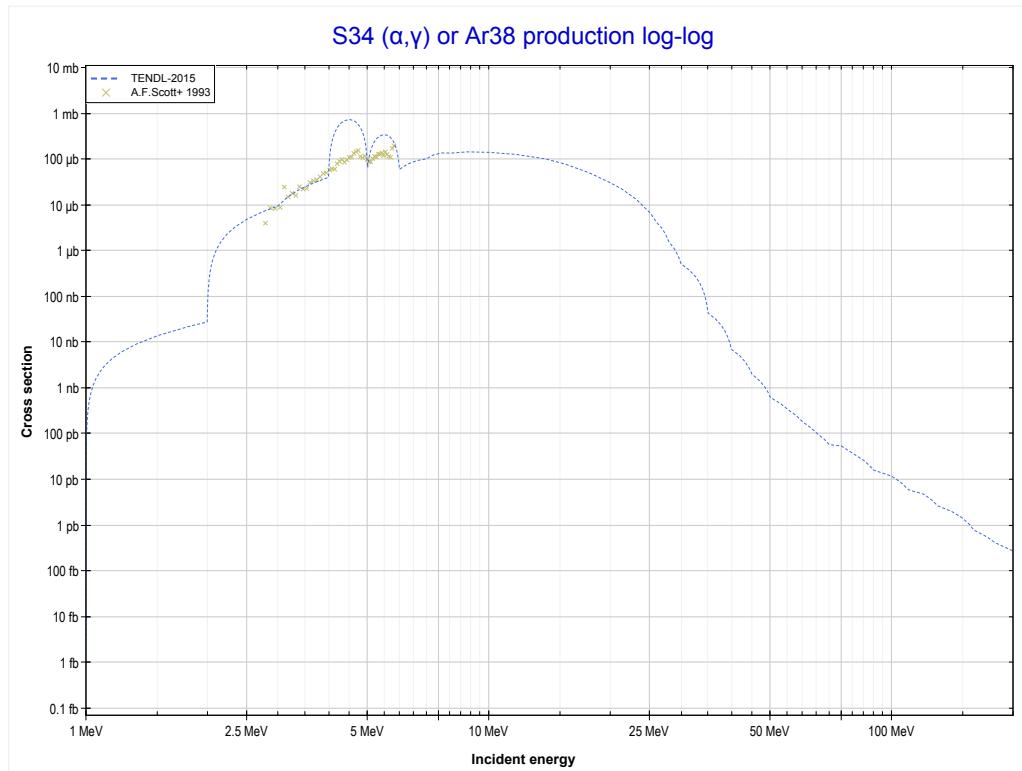
Reaction	Q-Value
P31( $\alpha, n$ )Cl34	-5646.85 keV

<< 15-P-31	<b>16-S-34</b> MT4 ( $\alpha, n$ ) or MT5 (Ar37 production)	17-CI-35 >>
<< 15-P-31 MT4 ( $\alpha, n$ )		MT102 ( $\alpha, \gamma$ ) >>



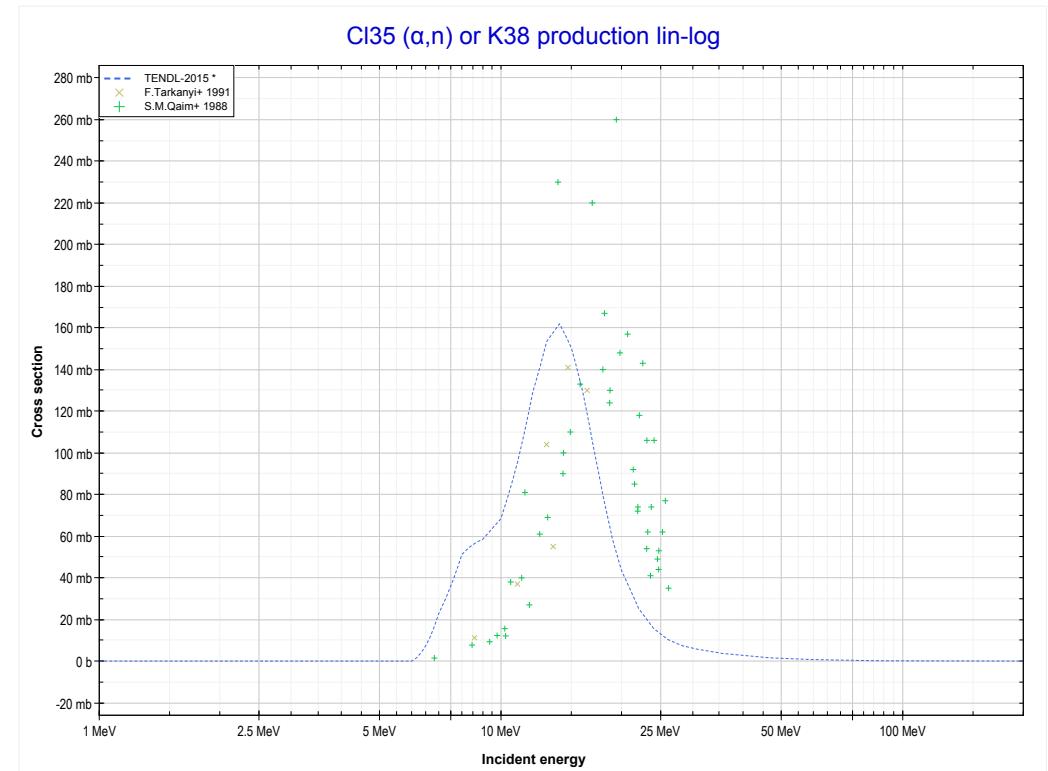
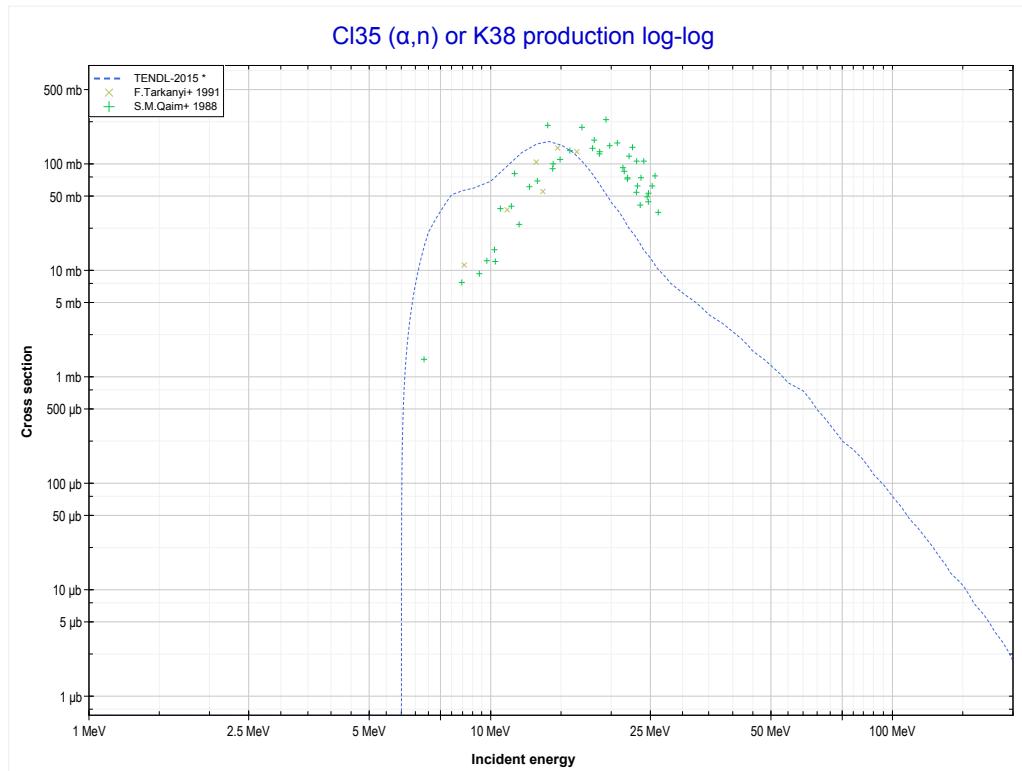
Reaction	Q-Value
S34( $\alpha, n$ )Ar37	-4630.44 keV

<< 8-O-18	16-S-34 MT102 ( $\alpha,\gamma$ ) or MT5 (Ar38 production)	17-CI-37 >>
<< MT4 ( $\alpha,n$ )		17-CI-35 MT4 ( $\alpha,n$ ) >>



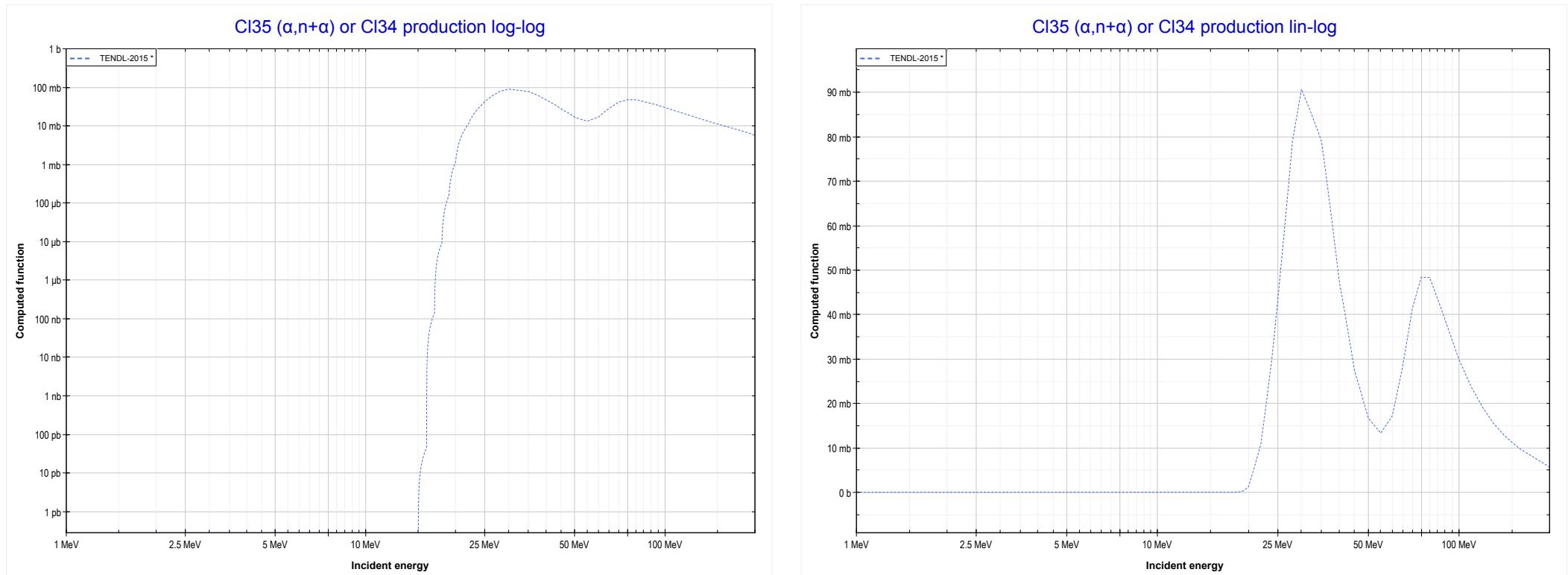
Reaction	Q-Value
S34( $\alpha,\gamma$ )Ar38	7208.05 keV

<< 16-S-34	17-CI-35 MT4 ( $\alpha, n$ ) or MT5 (K38 production)	19-K-39 >>
<< 16-S-34 MT102 ( $\alpha, \gamma$ )		MT22 ( $\alpha, n + \alpha$ ) >>



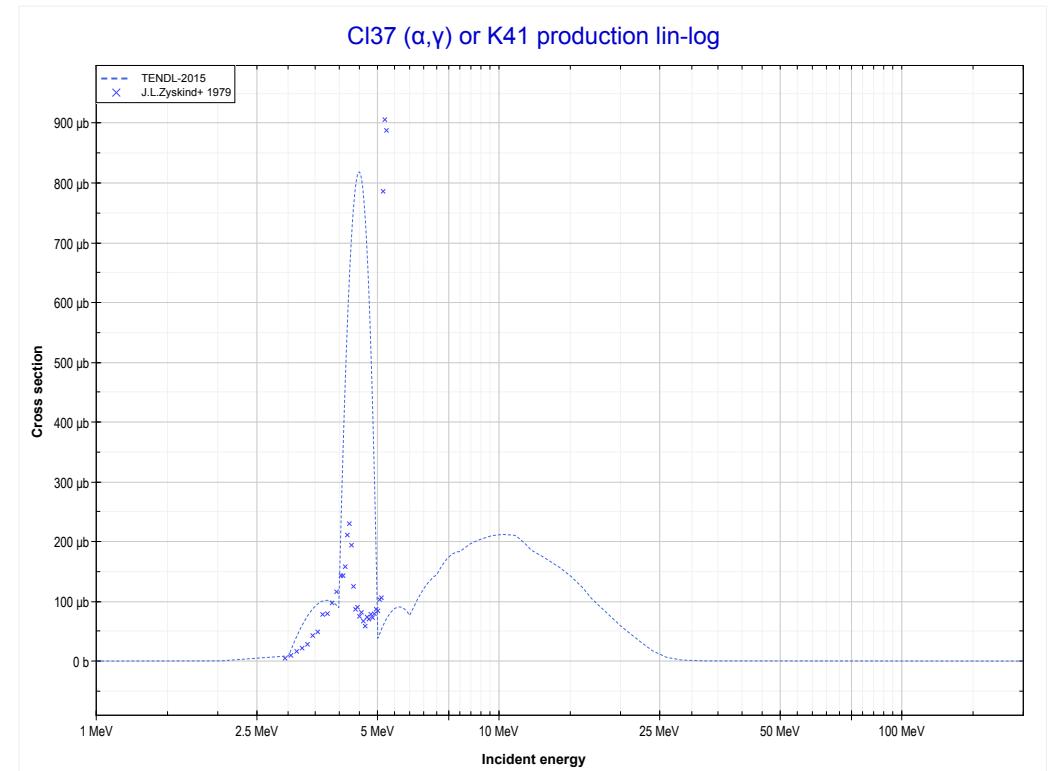
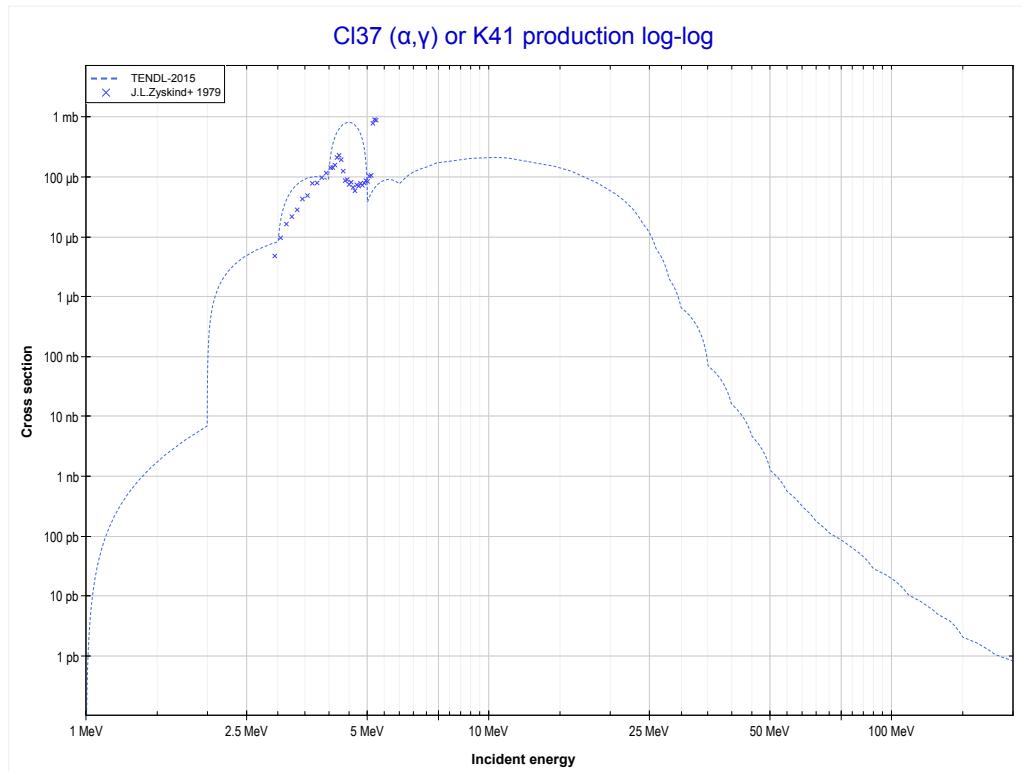
Reaction	Q-Value
CI35( $\alpha, n$ )K38	-5859.19 keV

<< 6-C-12	17-CI-35 MT22 ( $\alpha, n+\alpha$ ) or MT5 (Cl34 production)	20-Ca-48 >>
<< MT4 ( $\alpha, n$ )		17-CI-37 MT102 ( $\alpha, \gamma$ ) >>



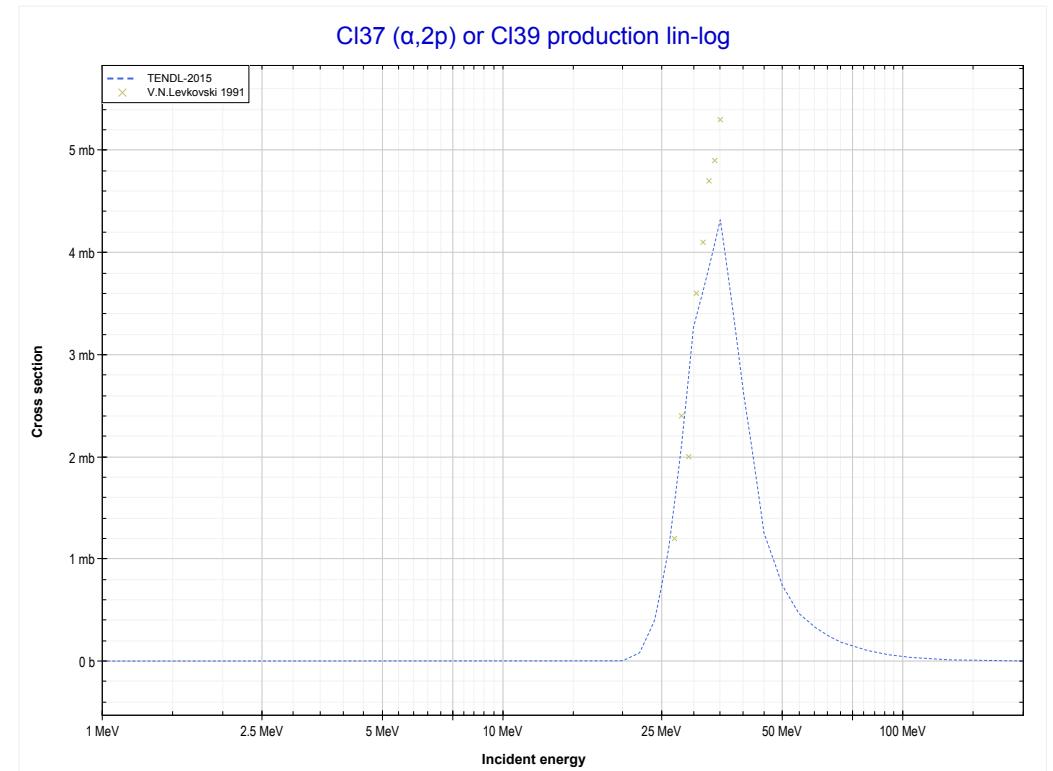
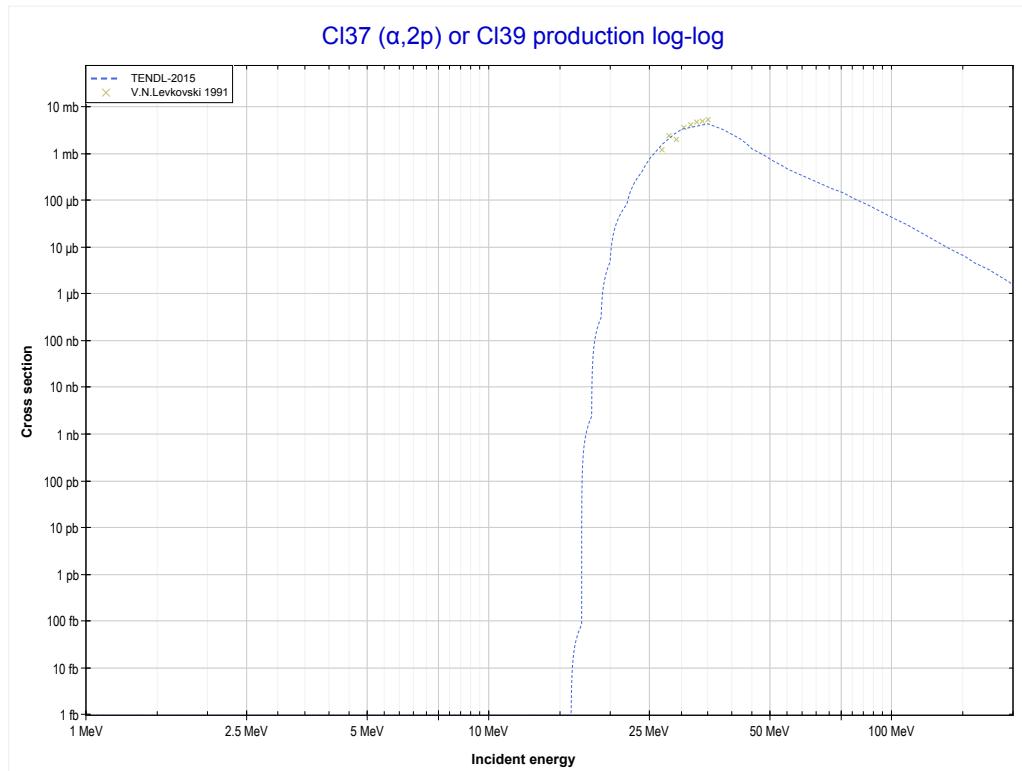
Reaction	Q-Value
Cl35( $\alpha, n+\alpha$ )Cl34	-12644.77 keV
Cl35( $\alpha, d+t$ )Cl34	-30234.06 keV
Cl35( $\alpha, n+p+t$ )Cl34	-32458.63 keV
Cl35( $\alpha, 2n+He3$ )Cl34	-33222.38 keV
Cl35( $\alpha, n+2d$ )Cl34	-36491.29 keV
Cl35( $\alpha, 2n+p+d$ )Cl34	-38715.86 keV
Cl35( $\alpha, 3n+2p$ )Cl34	-40940.43 keV

<< 16-S-34	17-CI-37 MT102 ( $\alpha,\gamma$ ) or MT5 (K41 production)	28-Ni-58 >> MT111 ( $\alpha,2p$ ) >>
<< 17-CI-35 MT22 ( $\alpha,n+\alpha$ )		



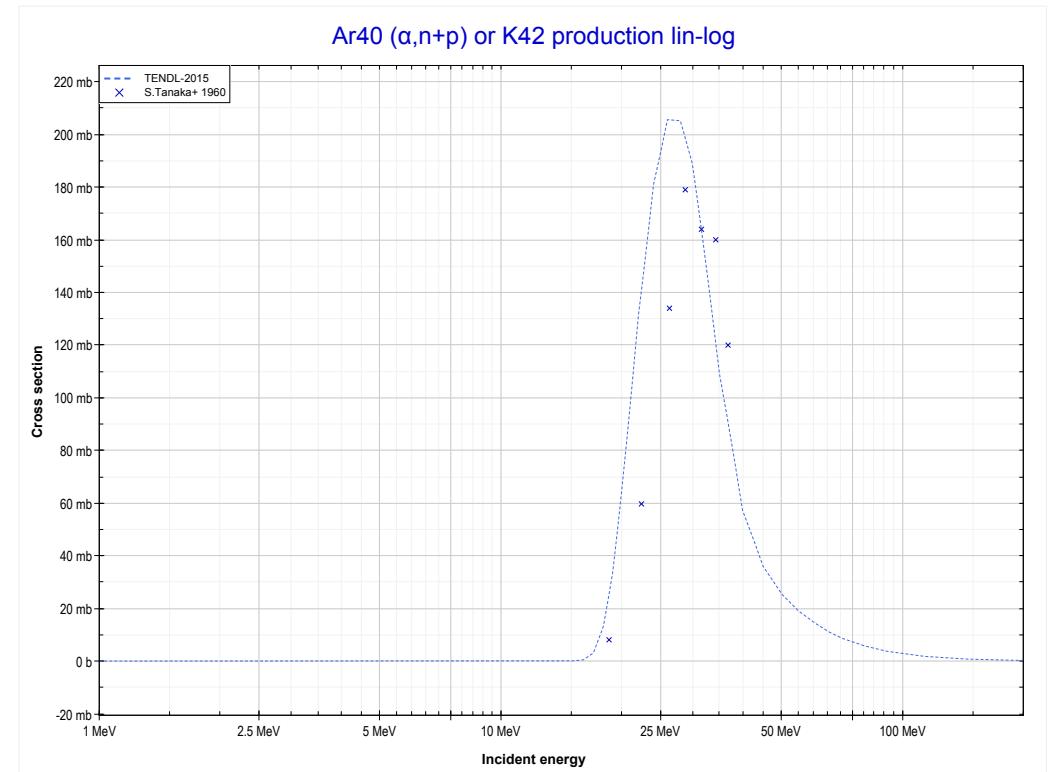
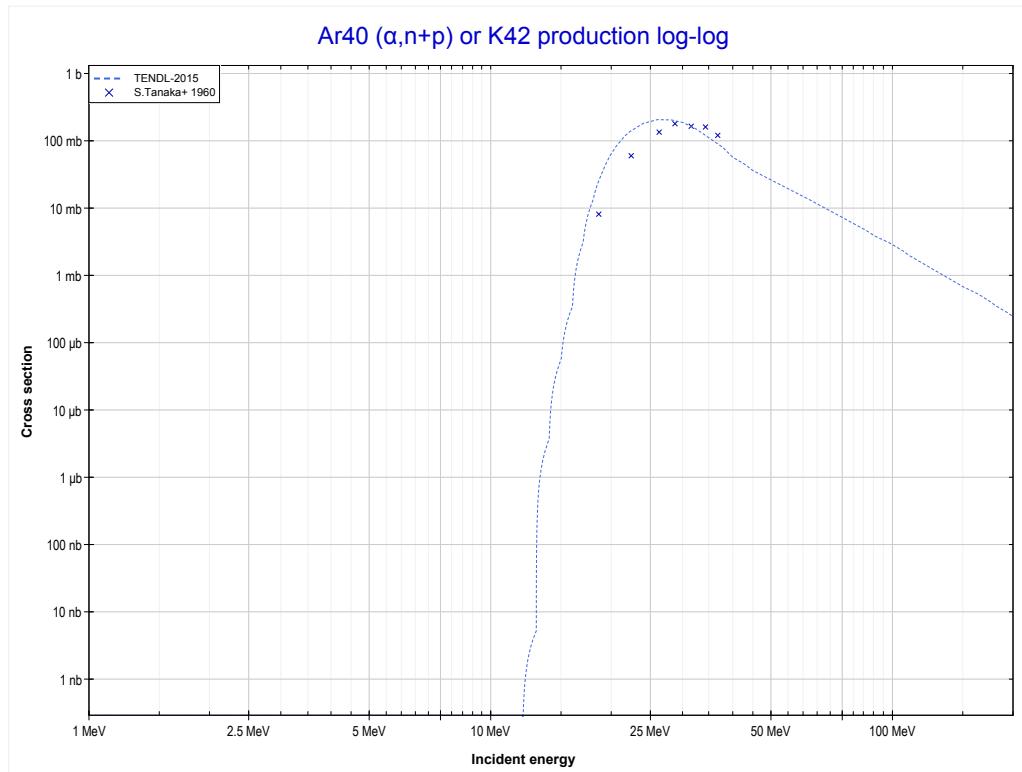
Reaction	Q-Value
Cl37( $\alpha,\gamma$ )K41	6222.94 keV

<< 13-Al-27	<b>17-CI-37</b> <b>MT111 (<math>\alpha</math>,2p) or MT5 (Cl39 production)</b>	19-K-41 >>
<< MT102 ( $\alpha$ , $\gamma$ )		18-Ar-40 MT28 ( $\alpha$ ,n+p) >>



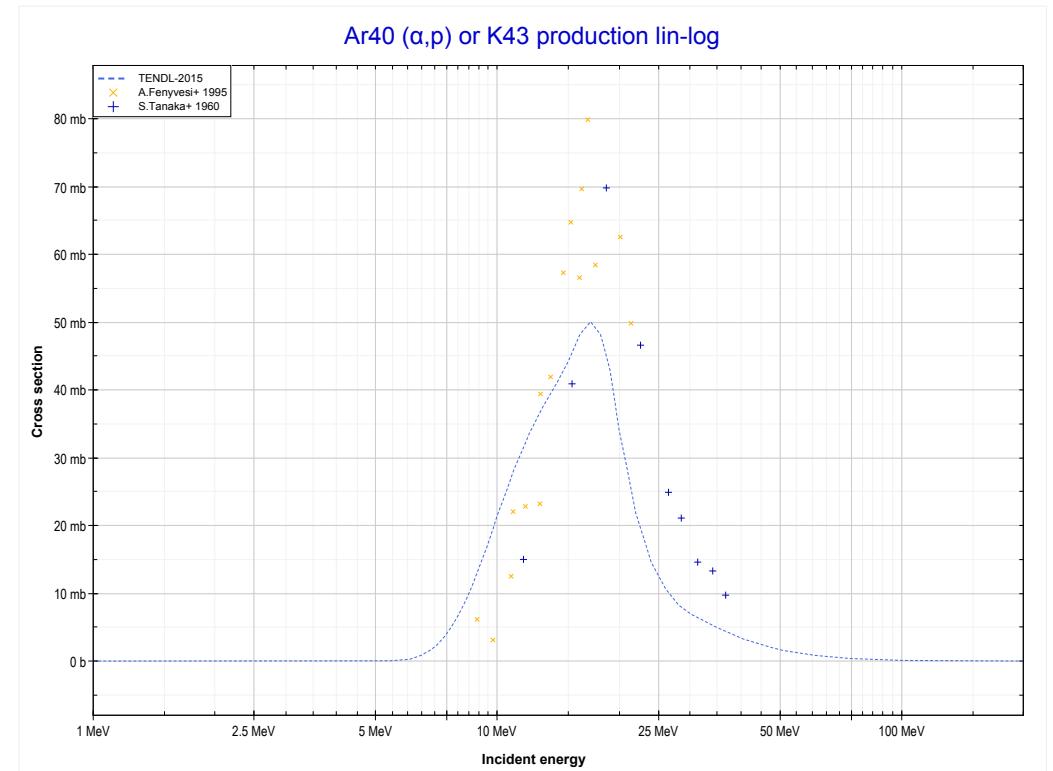
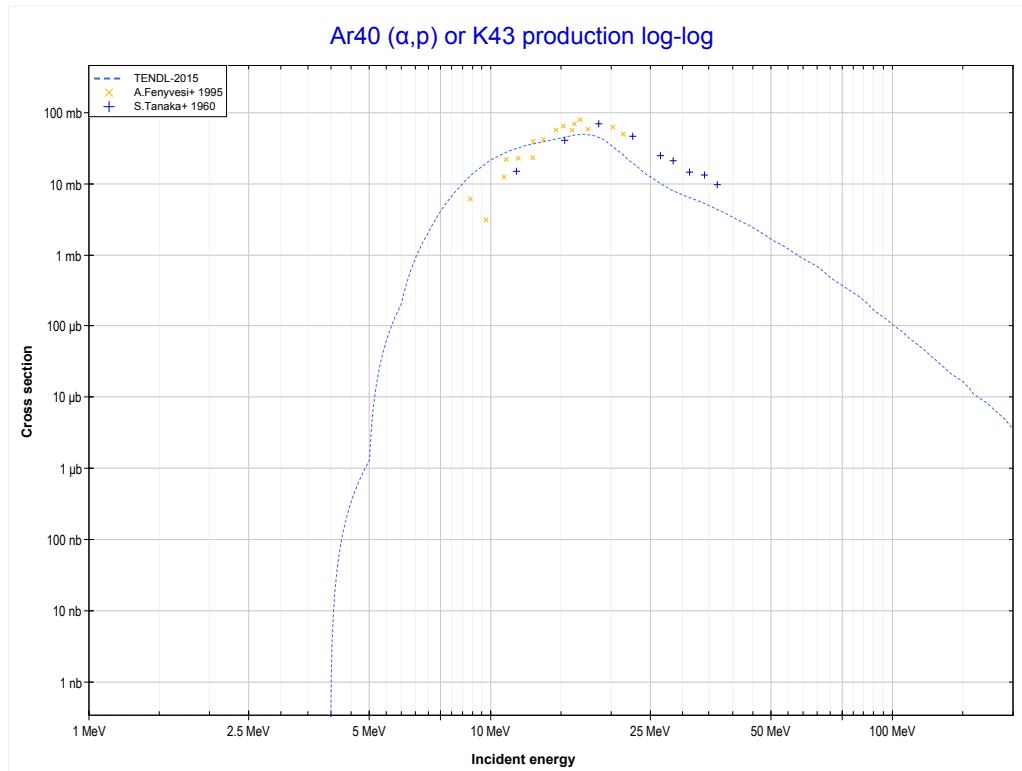
Reaction	Q-Value
Cl37( $\alpha$ ,2p)Cl39	-14114.35 keV

<< 8-O-16	<b>18-Ar-40</b> MT28 ( $\alpha, n+p$ ) or MT5 (K42 production)	>> 24-Cr-52
<< 17-Cl-37 MT111 ( $\alpha, 2p$ )		MT103 ( $\alpha, p$ ) >>



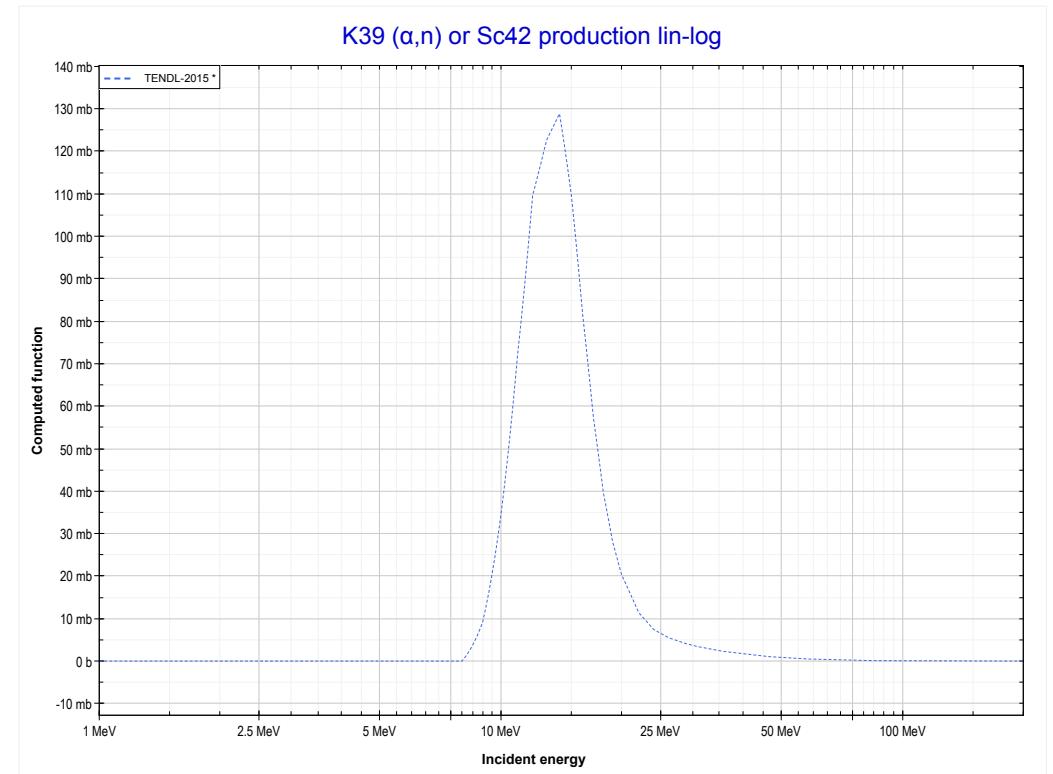
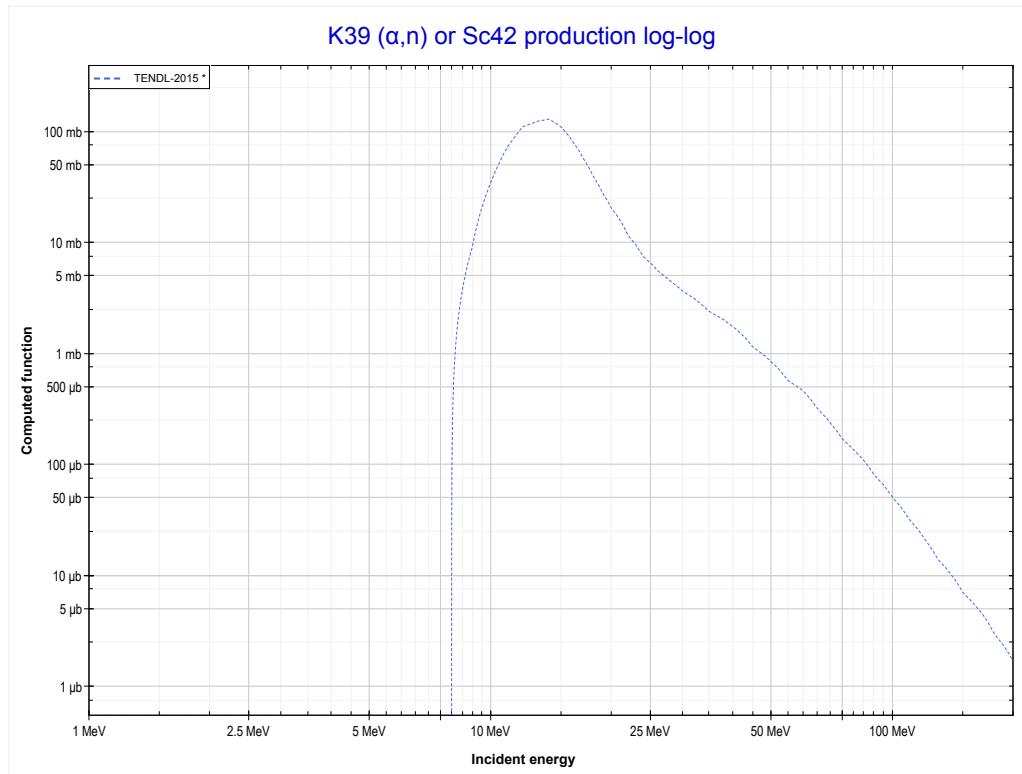
Reaction	Q-Value
Ar40( $\alpha, d$ )K42	-10728.67 keV
Ar40( $\alpha, n+p$ )K42	-12953.24 keV

<< 12-Mg-26	<b>18-Ar-40</b> MT103 ( $\alpha,p$ ) or MT5 (K43 production)	20-Ca-40 >>
<< MT28 ( $\alpha,n+p$ )		19-K-39 MT4 ( $\alpha,n$ ) >>



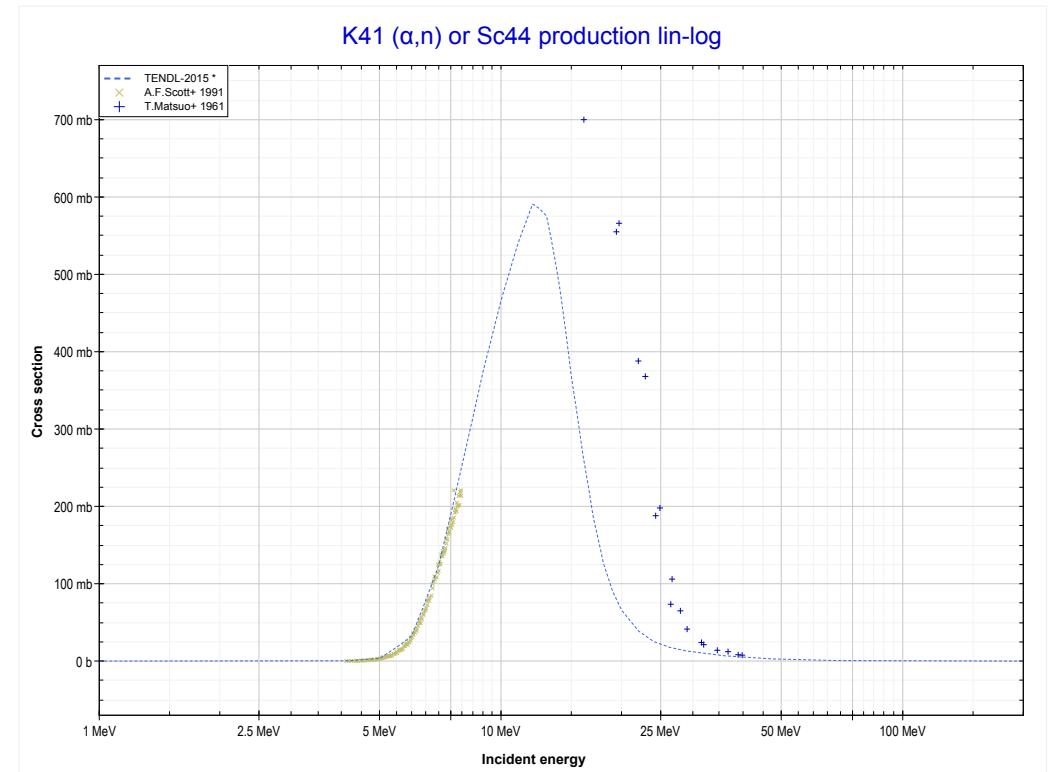
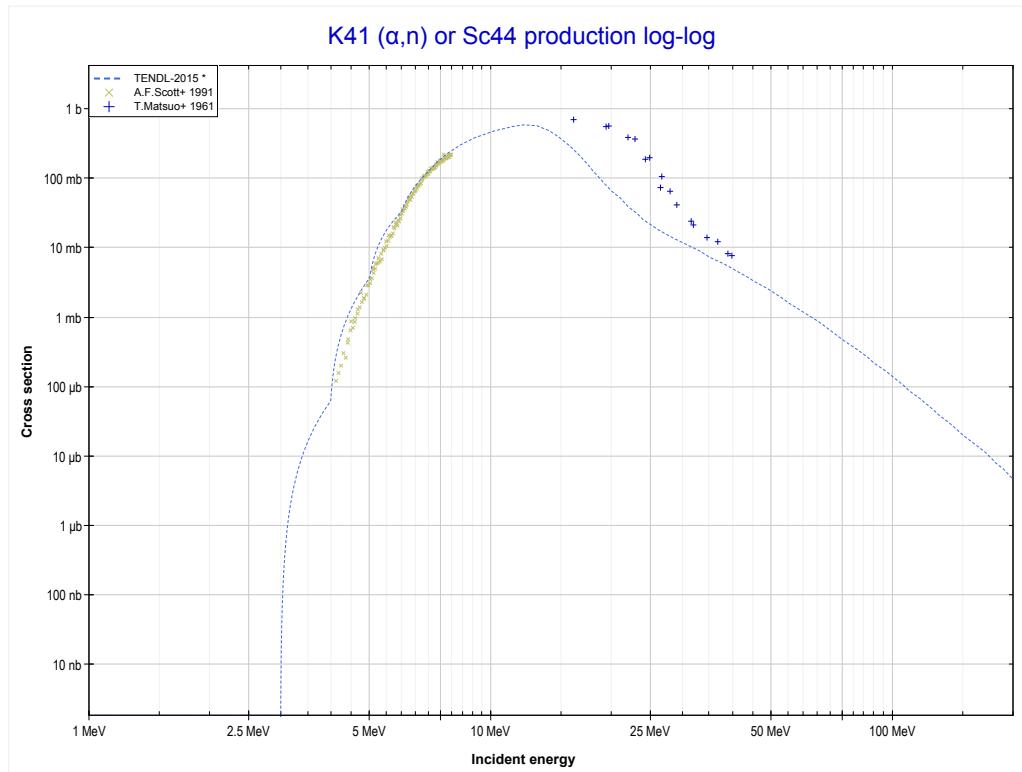
Reaction	Q-Value
Ar40( $\alpha,p$ )K43	-3328.55 keV

<< 17-CI-35	<b>19-K-39</b> MT4 ( $\alpha, n$ ) or MT5 (Sc42 production)	19-K-41 >>
<< 18-Ar-40 MT103 ( $\alpha, p$ )		19-K-41 MT4 ( $\alpha, n$ ) >>



Reaction	Q-Value
K39( $\alpha, n$ )Sc42	-7332.45 keV

<< 19-K-39	<b>19-K-41</b> MT4 ( $\alpha, n$ ) or MT5 (Sc44 production)	21-Sc-45 >>
<< 19-K-39 MT4 ( $\alpha, n$ )		MT16 ( $\alpha, 2n$ ) >>

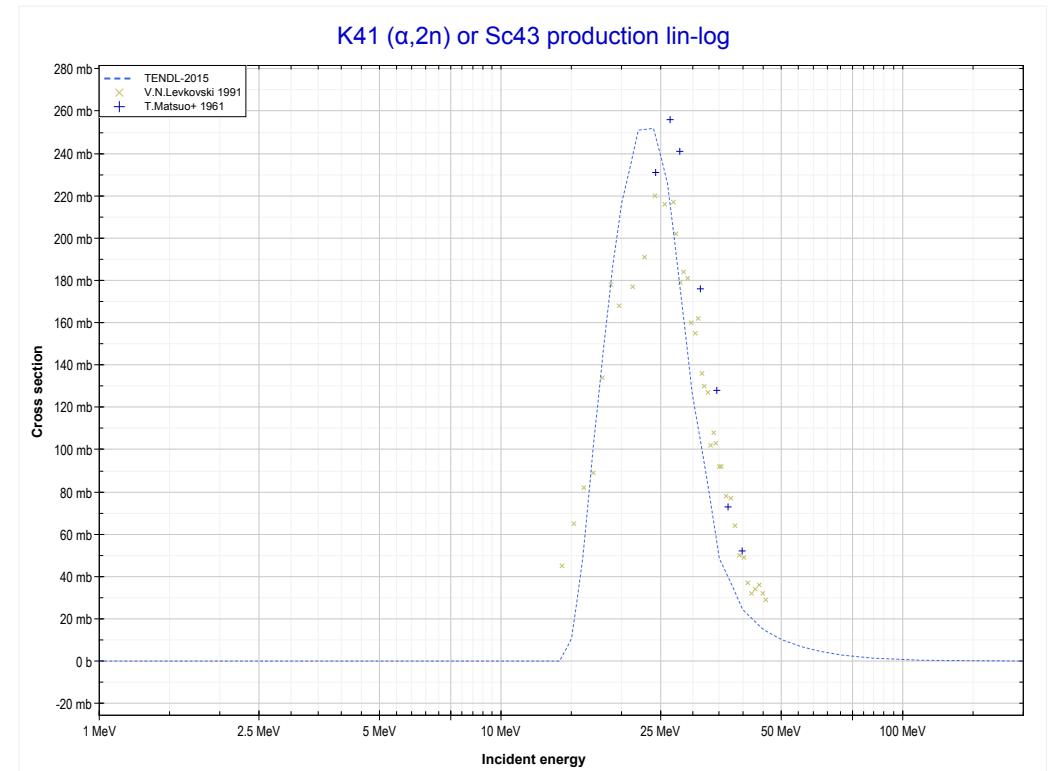
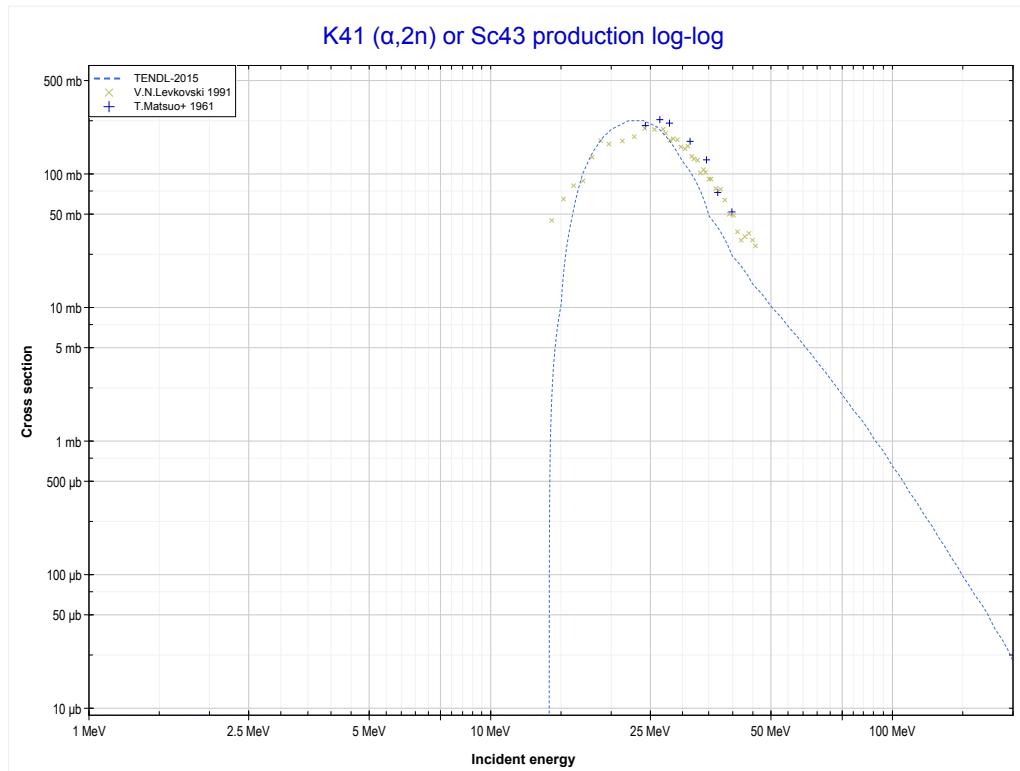


Reaction	Q-Value
K41( $\alpha, n$ )Sc44	-3389.94 keV

<< 14-Si-28	
<< MT4 ( $\alpha, n$ )	

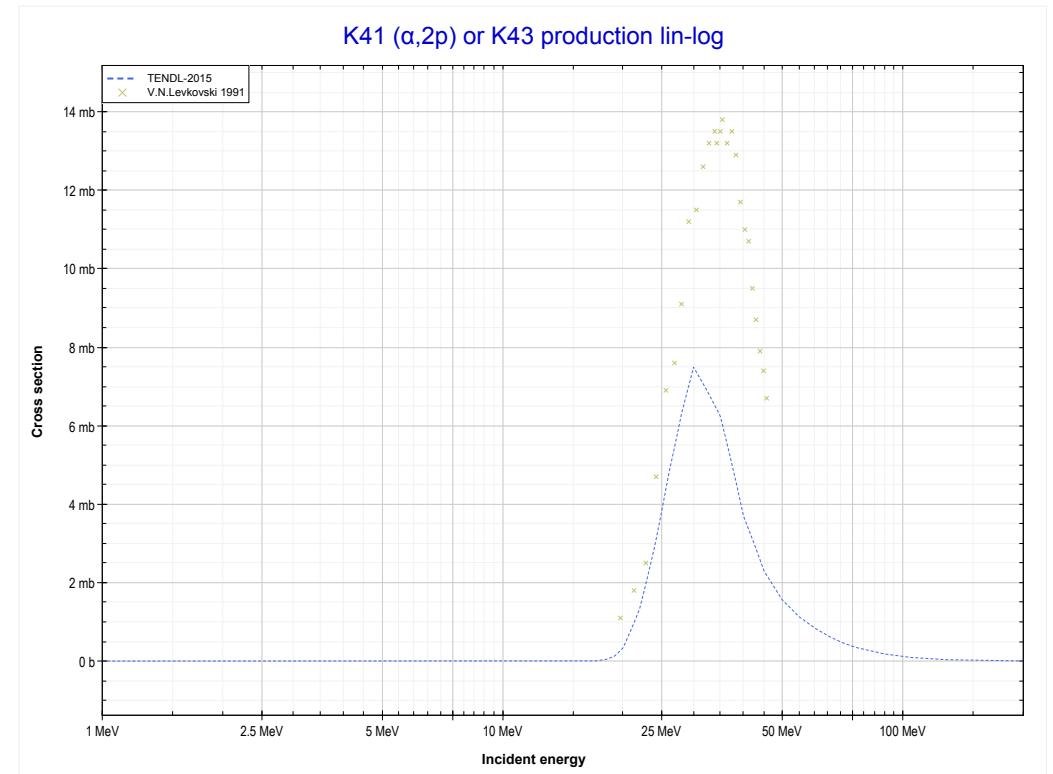
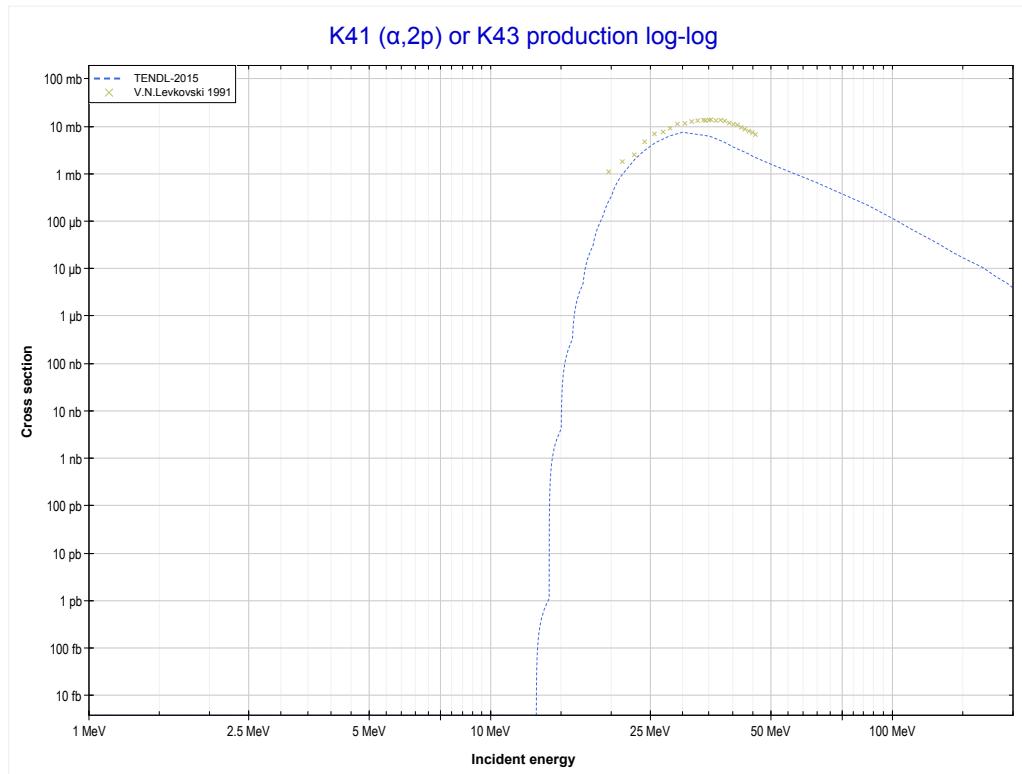
19-K-41
<b>MT16 (<math>\alpha, 2n</math>) or MT5 (Sc43 production)</b>

	20-Ca-42 >>
	MT111 ( $\alpha, 2p$ ) >>



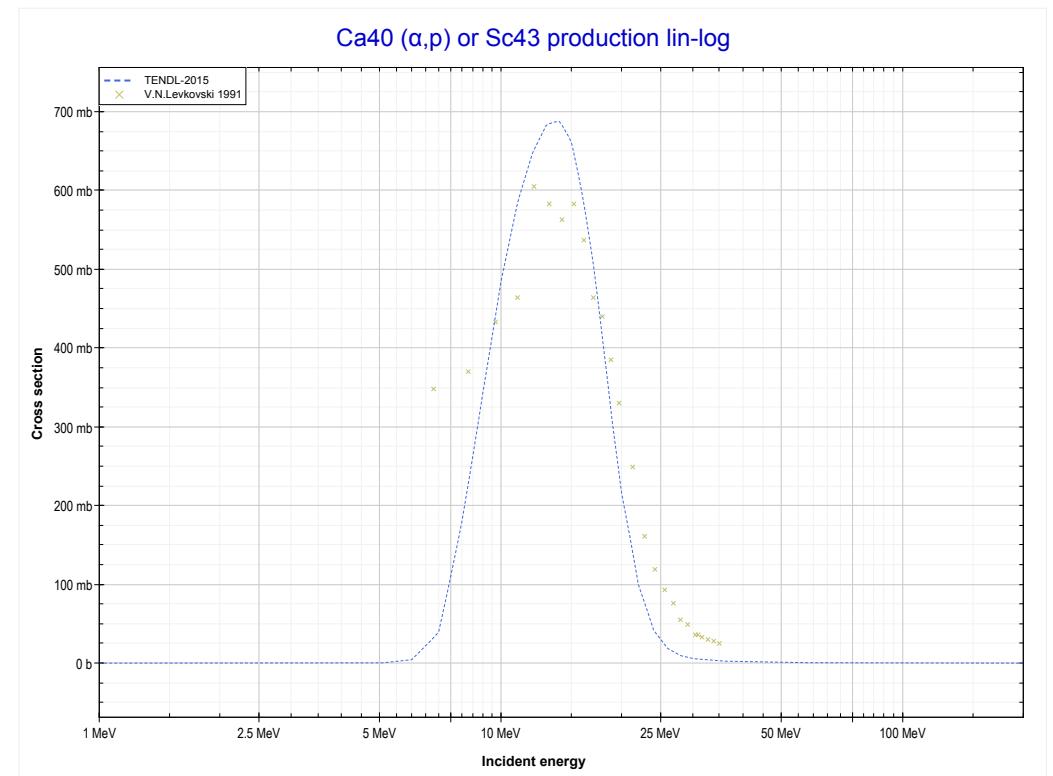
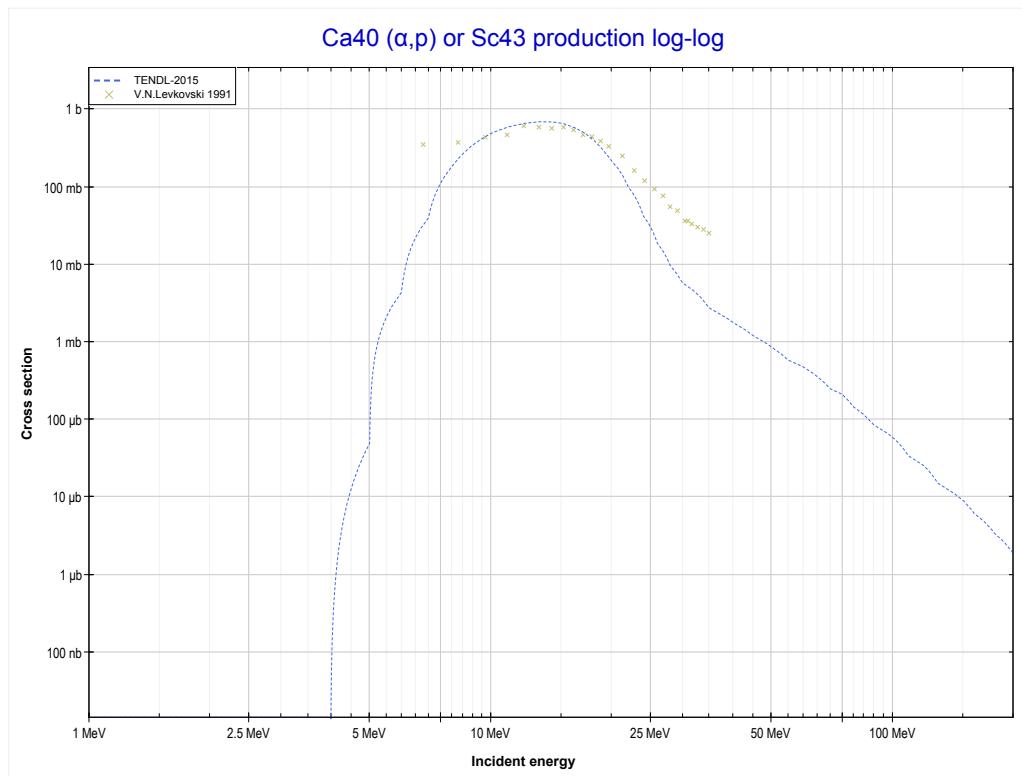
Reaction	Q-Value
K41( $\alpha, 2n$ )Sc43	-13089.16 keV

<< 17-CI-37	19-K-41 MT111 ( $\alpha,2p$ ) or MT5 (K43 production)	21-Sc-45 >>
<< MT16 ( $\alpha,2n$ )		20-Ca-40 MT103 ( $\alpha,p$ ) >>



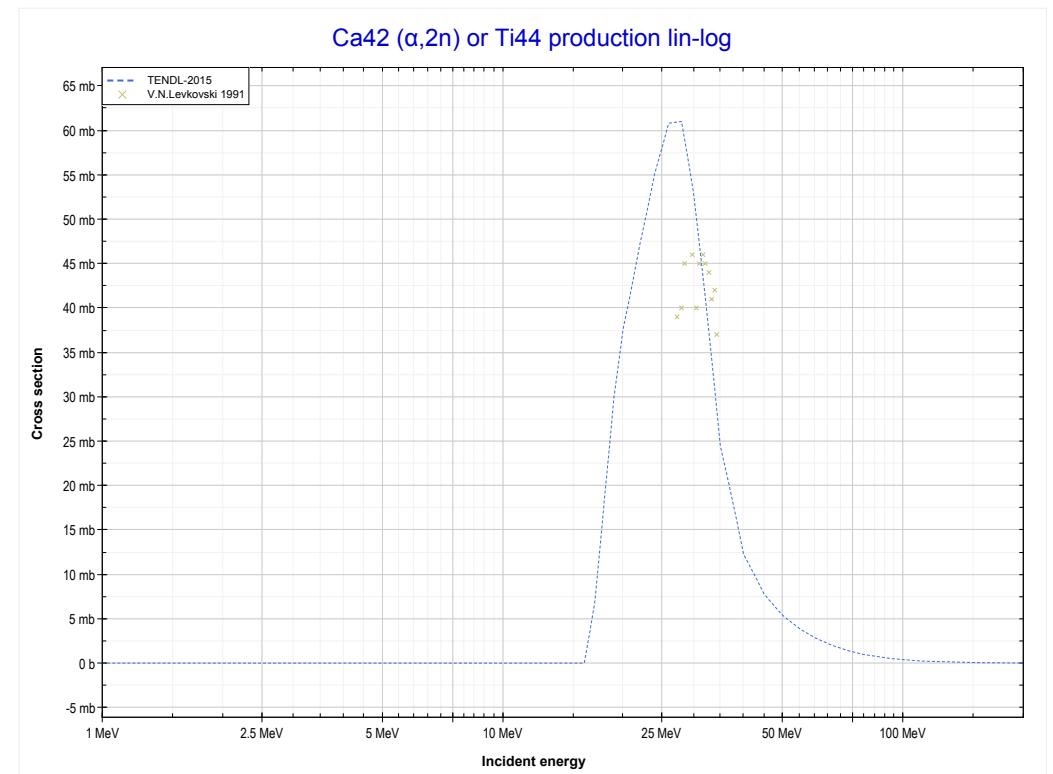
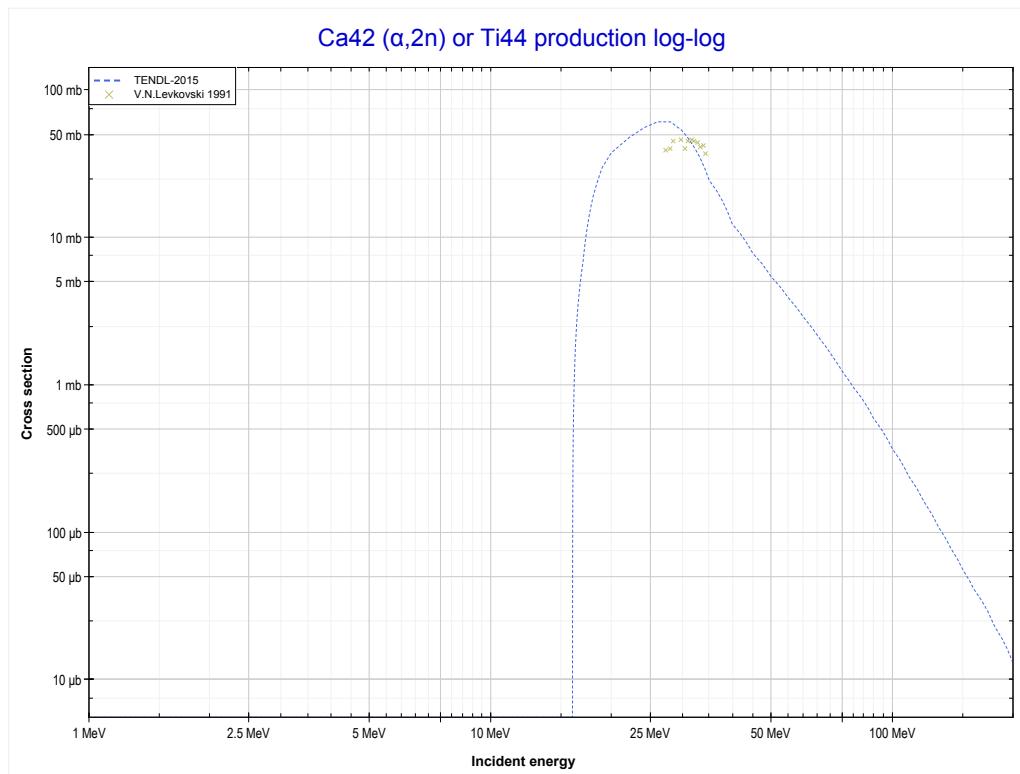
Reaction	Q-Value
K41( $\alpha,2p$ )K43	-11137.17 keV

<< 18-Ar-40	<b>20-Ca-40</b> MT103 ( $\alpha,p$ ) or MT5 (Sc43 production)	20-Ca-43 >>
<< 19-K-41 MT111 ( $\alpha,2p$ )		20-Ca-42 MT16 ( $\alpha,2n$ ) >>



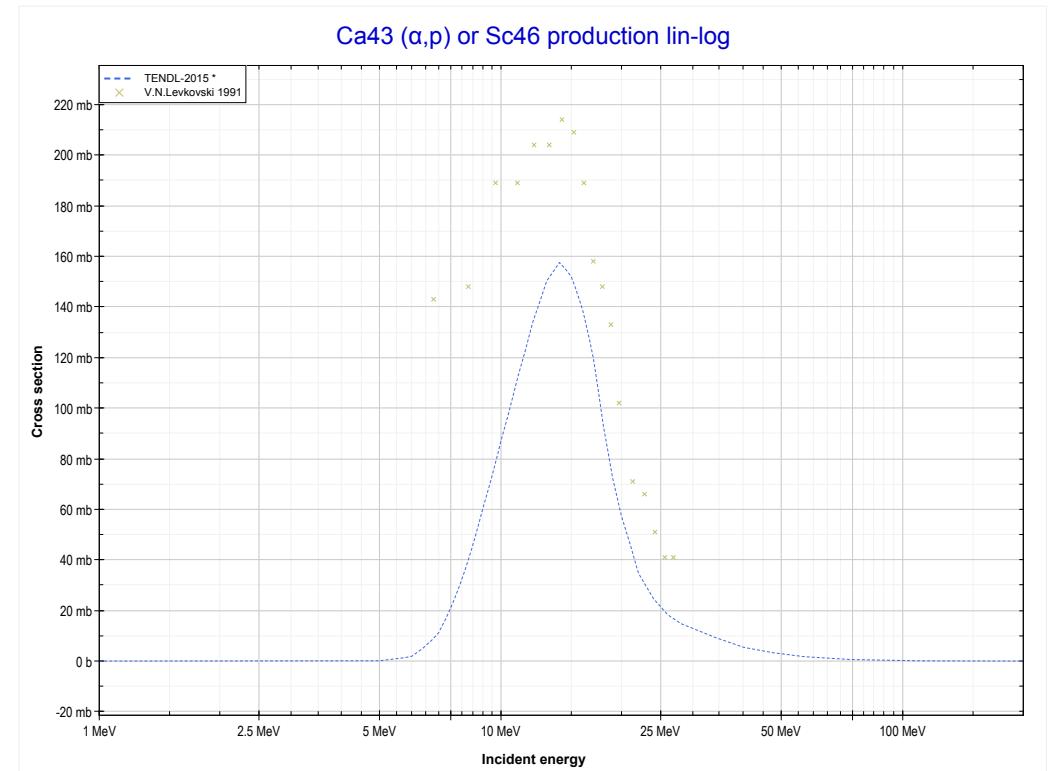
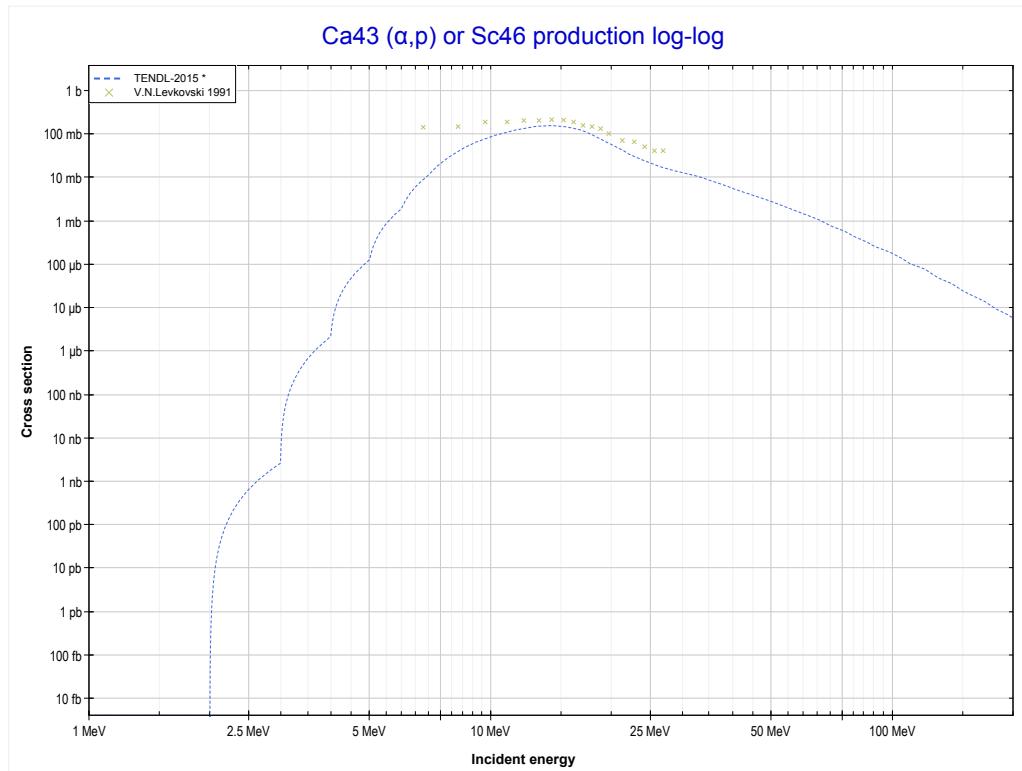
Reaction	Q-Value
Ca40( $\alpha,p$ )Sc43	-3522.34 keV

<< 19-K-41	<b>20-Ca-42</b> MT16 ( $\alpha,2n$ ) or MT5 (Ti44 production)	21-Sc-45 >>
<< 20-Ca-40 MT103 ( $\alpha,p$ )		20-Ca-43 MT103 ( $\alpha,p$ ) >>



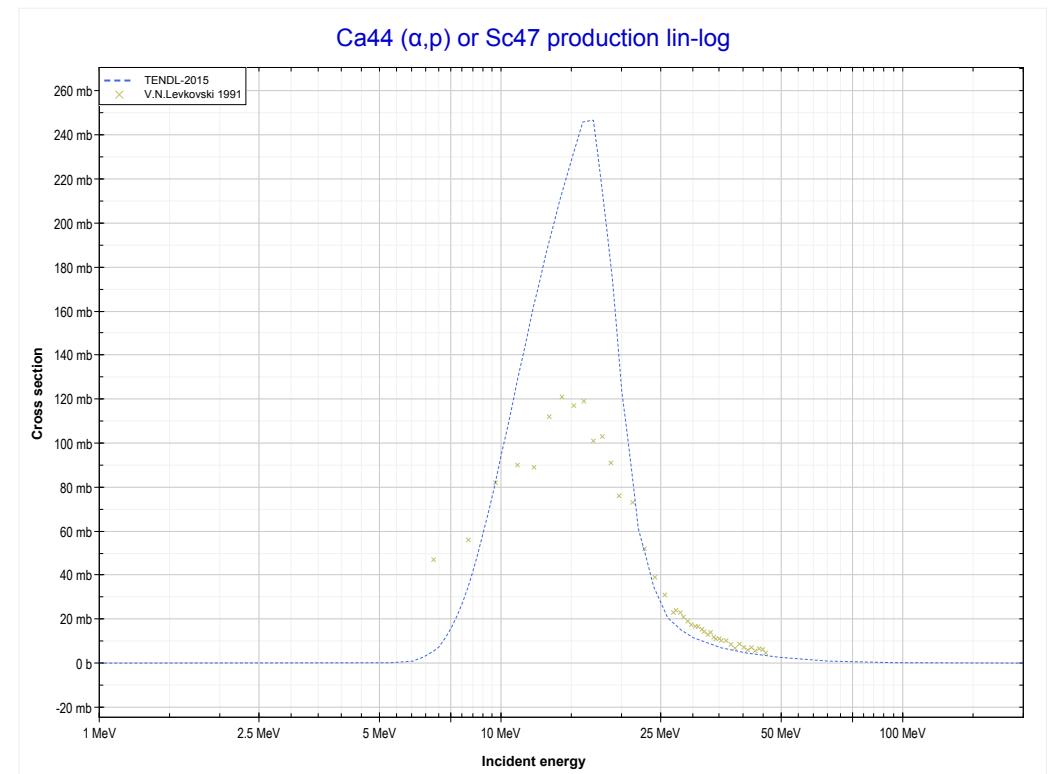
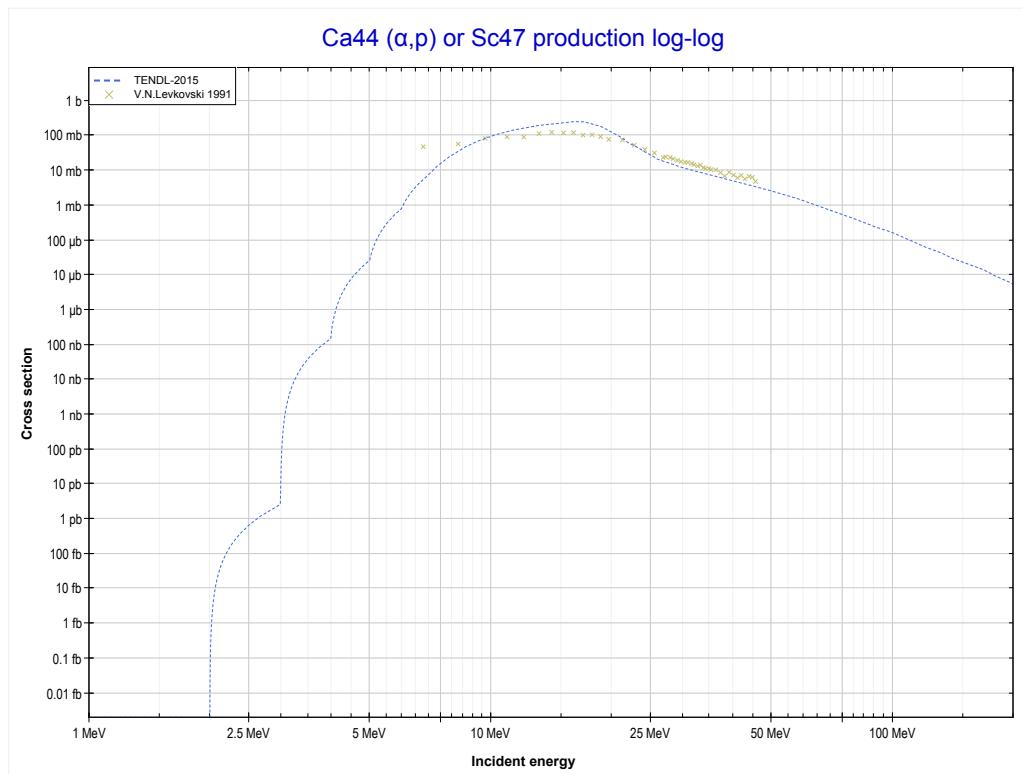
Reaction	Q-Value
Ca42( $\alpha,2n$ )Ti44	-14716.36 keV

<< 20-Ca-40	<b>20-Ca-43</b> MT103 ( $\alpha,p$ ) or MT5 (Sc46 production)	20-Ca-44 >>
<< 20-Ca-42 MT16 ( $\alpha,2n$ )		20-Ca-44 MT103 ( $\alpha,p$ ) >>



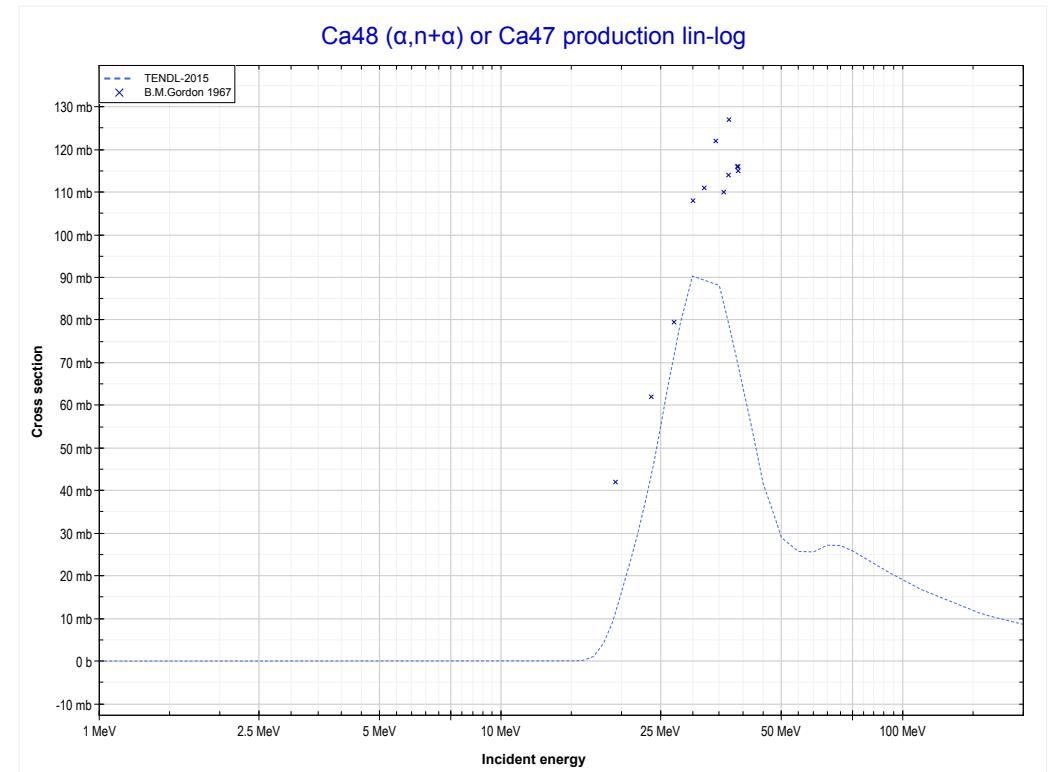
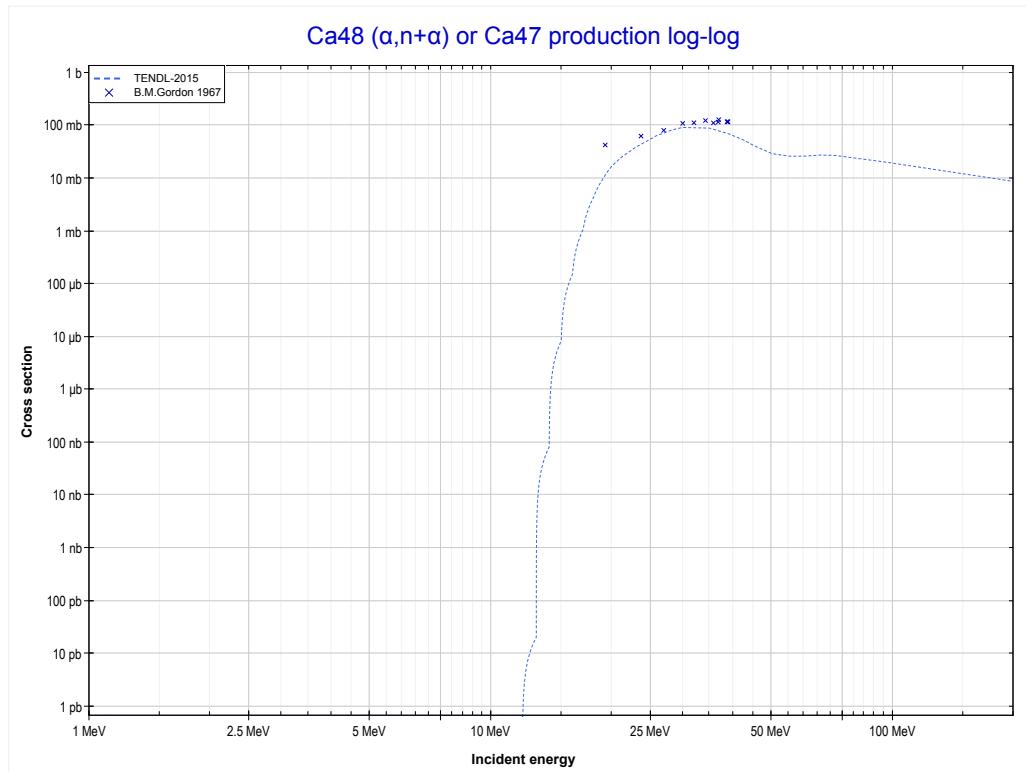
Reaction	Q-Value
Ca43( $\alpha,p$ )Sc46	-1512.37 keV

<< 20-Ca-43	<b>20-Ca-44</b> MT103 ( $\alpha,p$ ) or MT5 (Sc47 production)	24-Cr-53 >>
<< 20-Ca-43 MT103 ( $\alpha,p$ )		20-Ca-48 MT22 ( $\alpha,n+\alpha$ ) >>



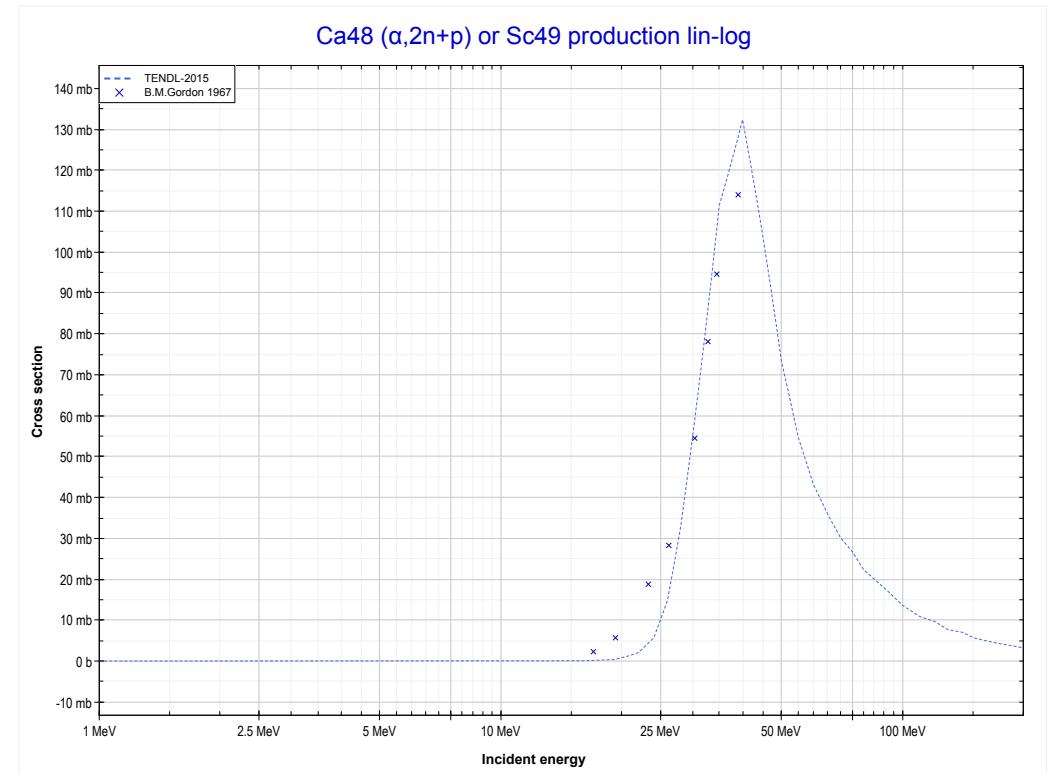
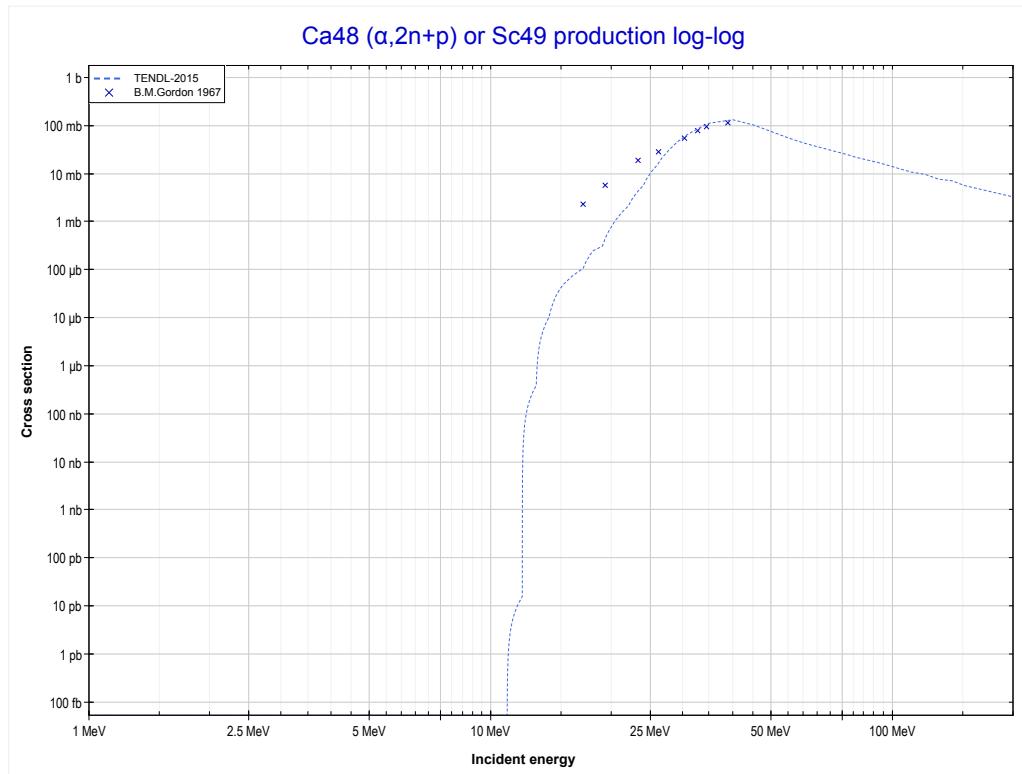
Reaction	Q-Value
Ca44( $\alpha,p$ )Sc47	-1997.15 keV

<< 17-CI-35	<b>20-Ca-48</b> MT22 ( $\alpha, n + \alpha$ ) or MT5 (Ca47 production)	21-Sc-45 >>
<< 20-Ca-44 MT103 ( $\alpha, p$ )		MT41 ( $\alpha, 2n + p$ ) >>



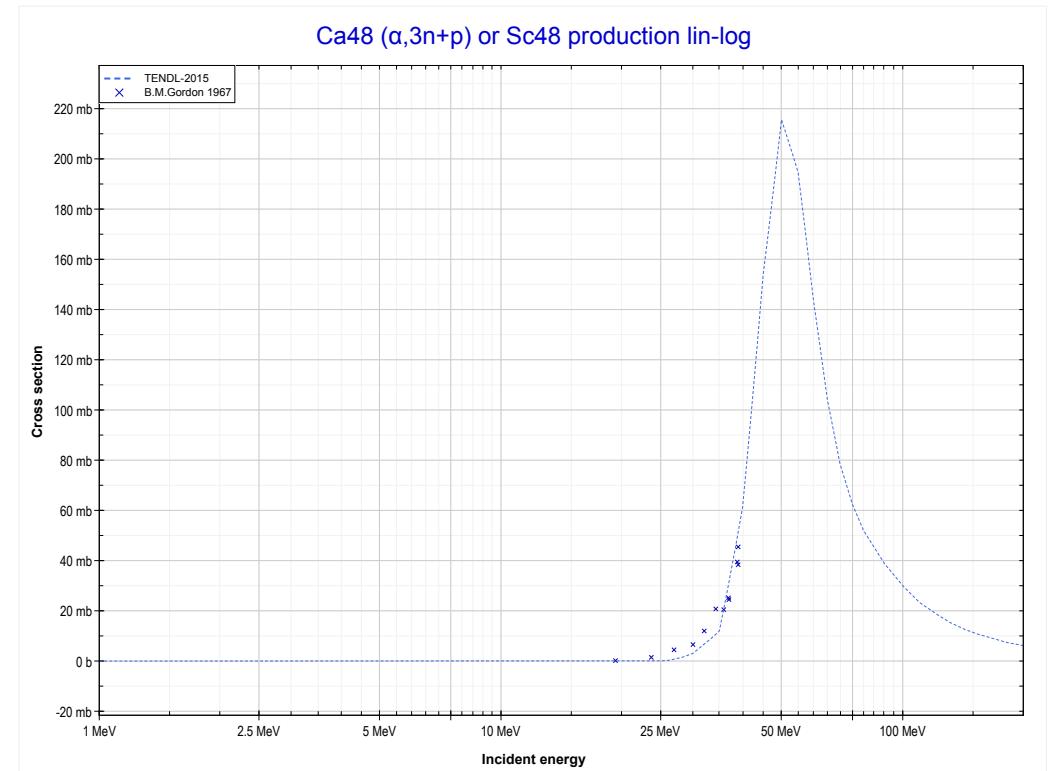
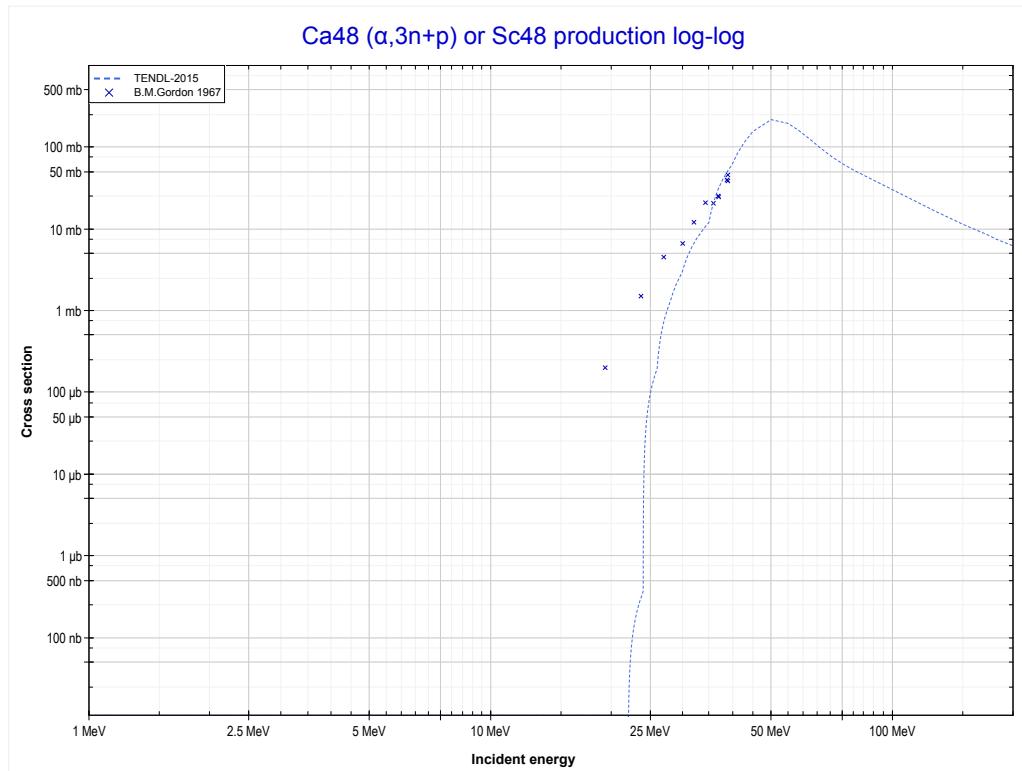
Reaction	Q-Value
Ca48( $\alpha, n + \alpha$ )Ca47	-9952.58 keV
Ca48( $\alpha, d + t$ )Ca47	-27541.87 keV
Ca48( $\alpha, n + p + t$ )Ca47	-29766.44 keV
Ca48( $\alpha, 2n + \text{He}3$ )Ca47	-30530.19 keV
Ca48( $\alpha, n + 2d$ )Ca47	-33799.10 keV
Ca48( $\alpha, 2n + p + d$ )Ca47	-36023.67 keV
Ca48( $\alpha, 3n + 2p$ )Ca47	-38248.24 keV

<< MT22 ( $\alpha, n + \alpha$ )	<b>20-Ca-48</b> MT41 ( $\alpha, 2n + p$ ) or MT5 (Sc49 production)	26-Fe-54 >> MT42 ( $\alpha, 3n + p$ ) >>
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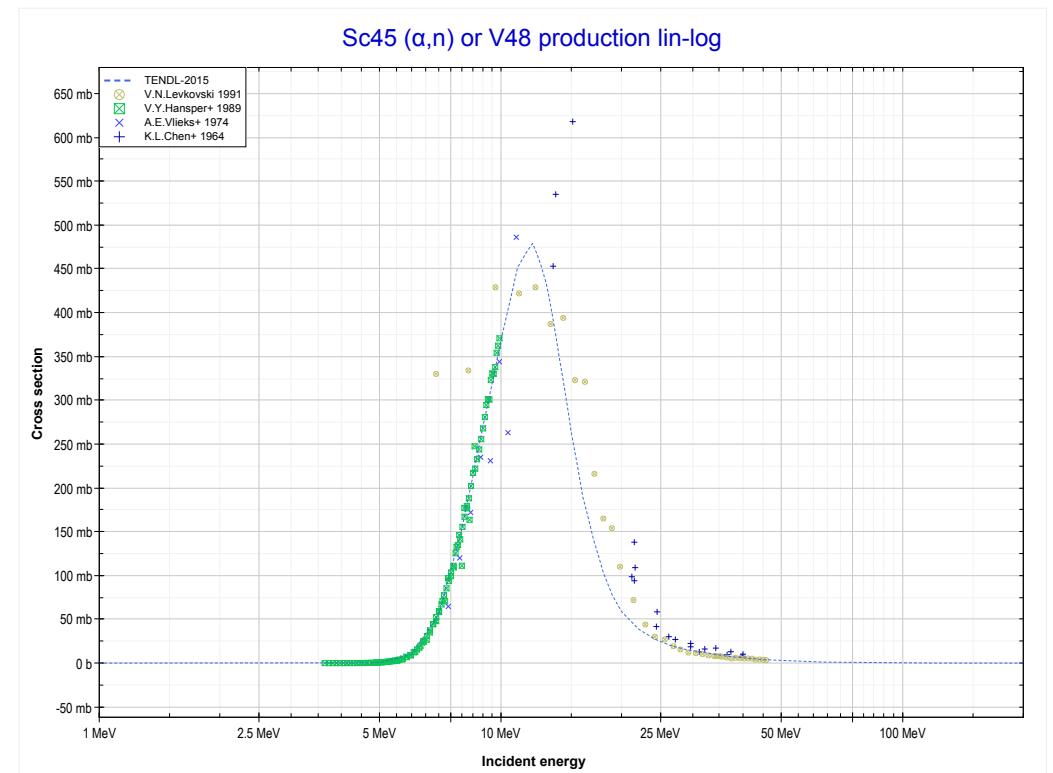
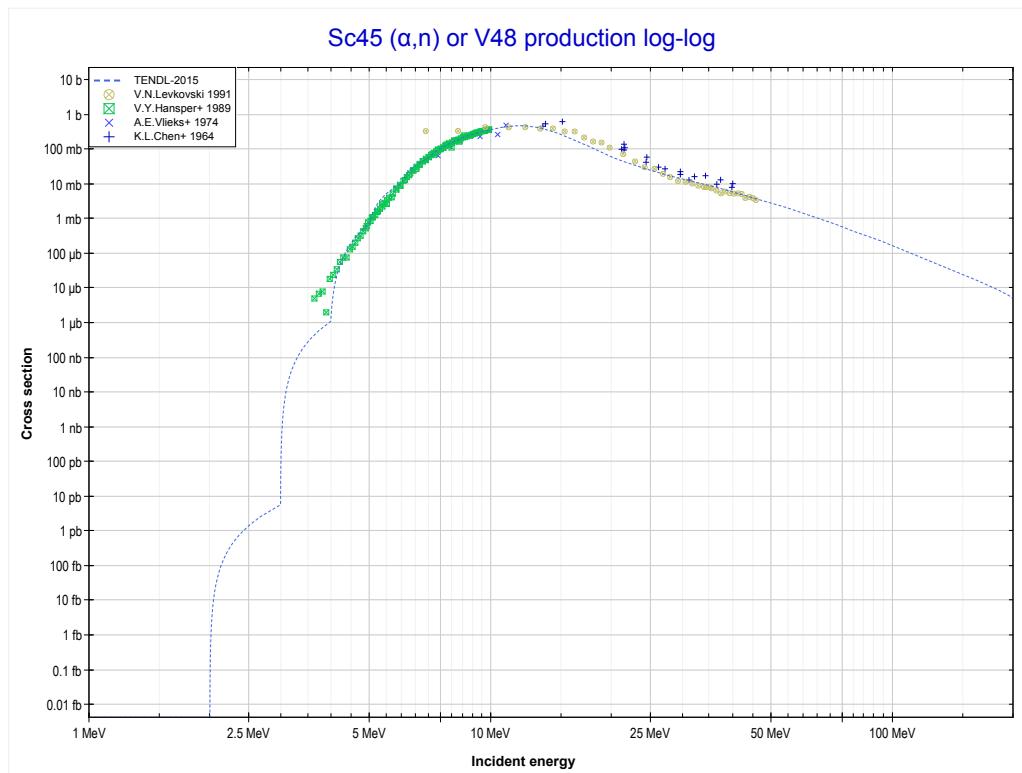
Reaction	Q-Value
Ca48( $\alpha, t$ )Sc49	-10188.55 keV
Ca48( $\alpha, n + d$ )Sc49	-16445.78 keV
Ca48( $\alpha, 2n + p$ )Sc49	-18670.35 keV

<a href="#">&lt;&lt; MT41 (<math>\alpha,2n+p</math>)</a>	<b>20-Ca-48</b> <b>MT42 (<math>\alpha,3n+p</math>) or MT5 (Sc48 production)</b>	<a href="#">26-Fe-56 &gt;&gt;</a>
		<a href="#">21-Sc-45 MT4 (<math>\alpha,n</math>) &gt;&gt;</a>



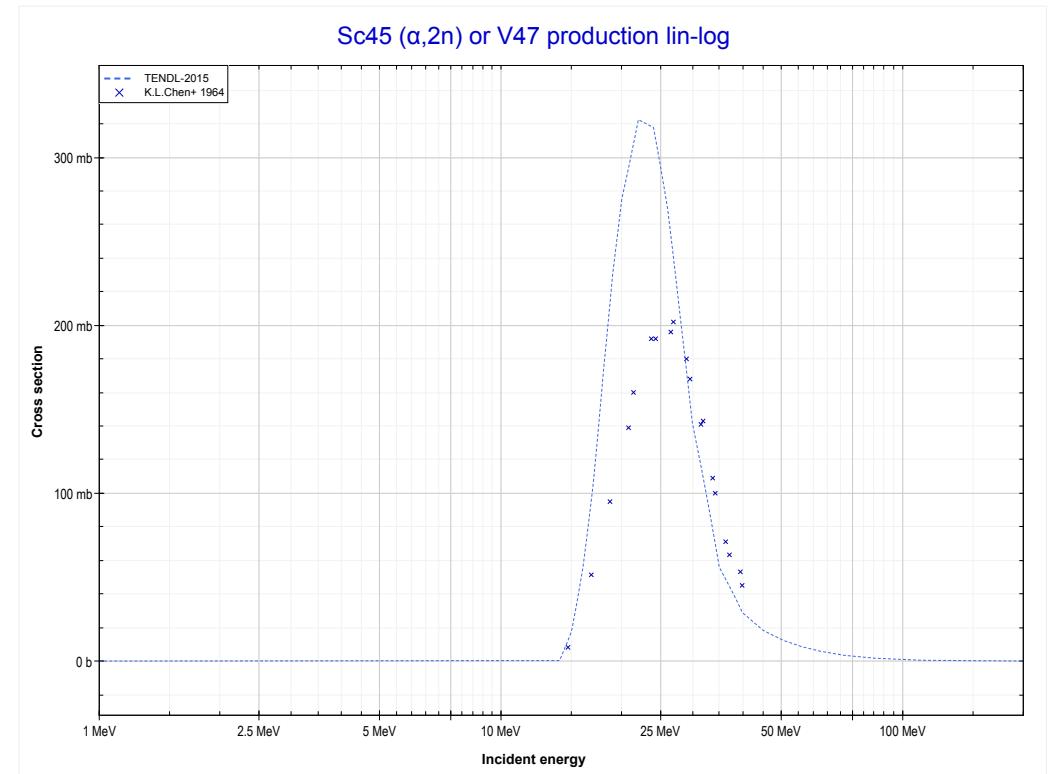
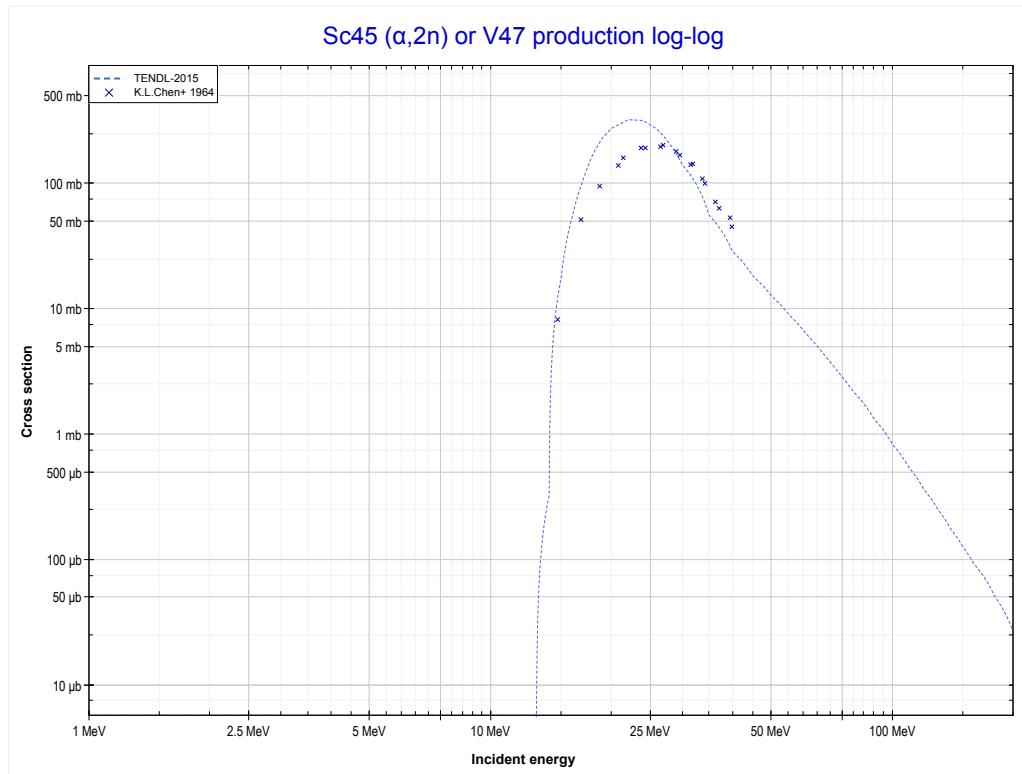
Reaction	Q-Value
Ca48( $\alpha,n+t$ )Sc48	-20317.97 keV
Ca48( $\alpha,2n+d$ )Sc48	-26575.20 keV
Ca48( $\alpha,3n+p$ )Sc48	-28799.77 keV

<< 19-K-41	21-Sc-45 MT4 ( $\alpha, n$ ) or MT5 (V48 production)	22-Ti-46 >> MT16 ( $\alpha, 2n$ ) >>
<< 20-Ca-48 MT42 ( $\alpha, 3n+p$ )		



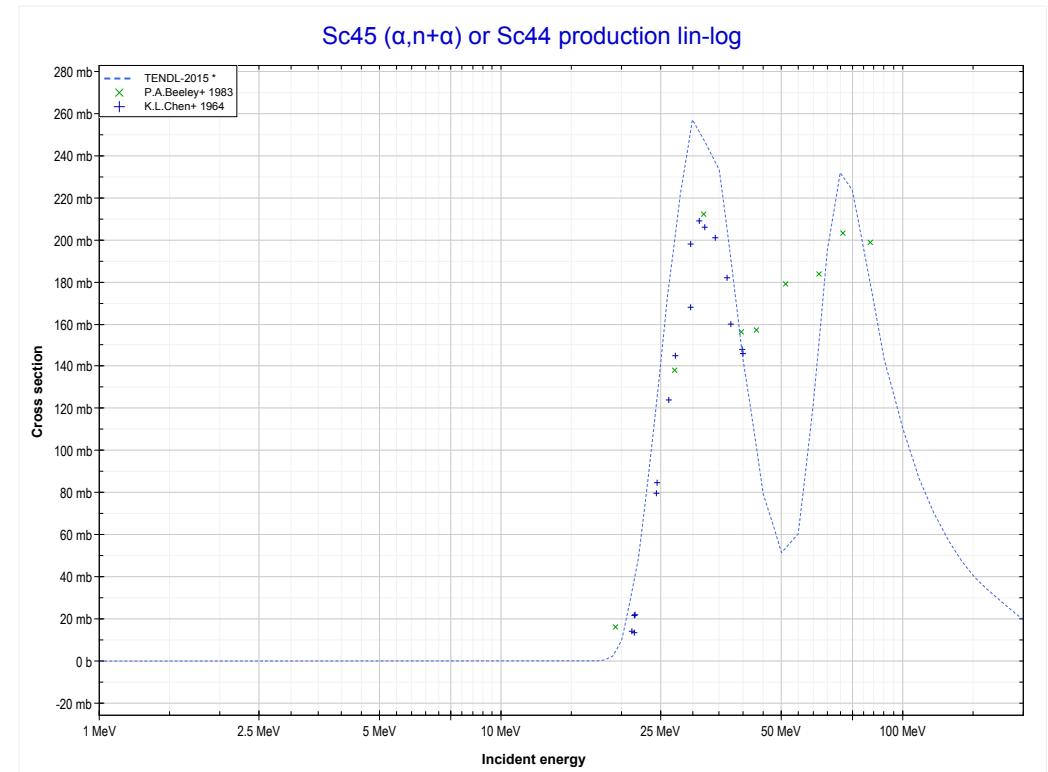
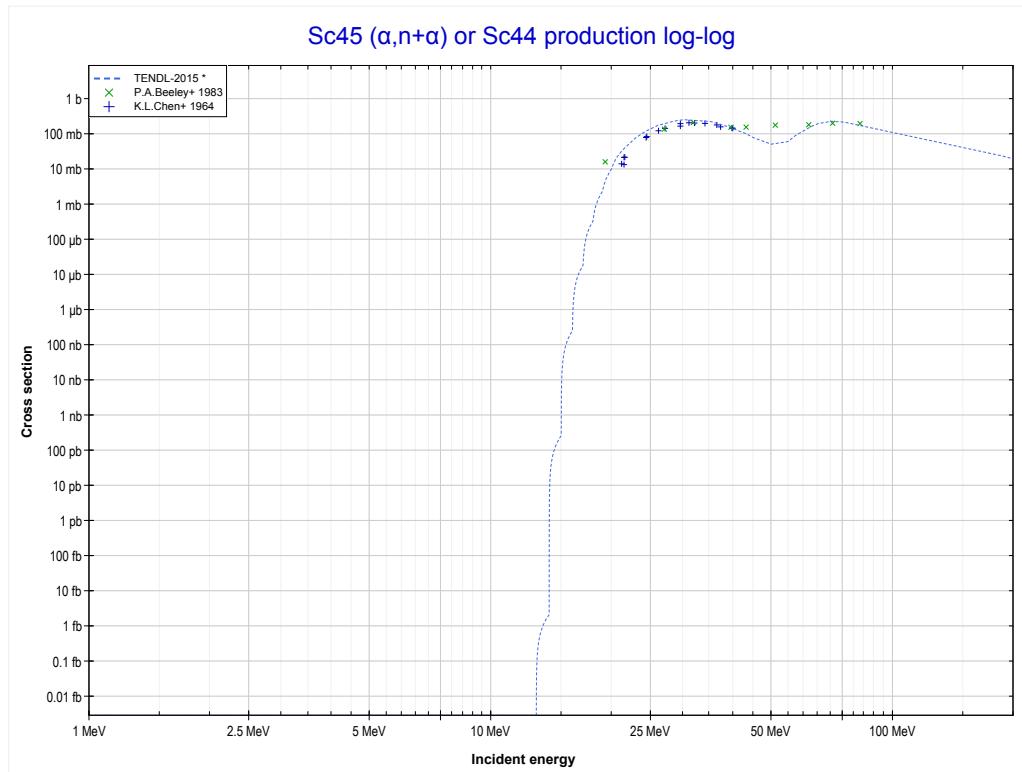
Reaction	Q-Value
Sc45( $\alpha, n$ )V48	-2240.80 keV

<< 20-Ca-42	21-Sc-45 MT16 ( $\alpha,2n$ ) or MT5 (V47 production)	22-Ti-46 >>
<< MT4 ( $\alpha,n$ )		MT22 ( $\alpha,n+\alpha$ ) >>



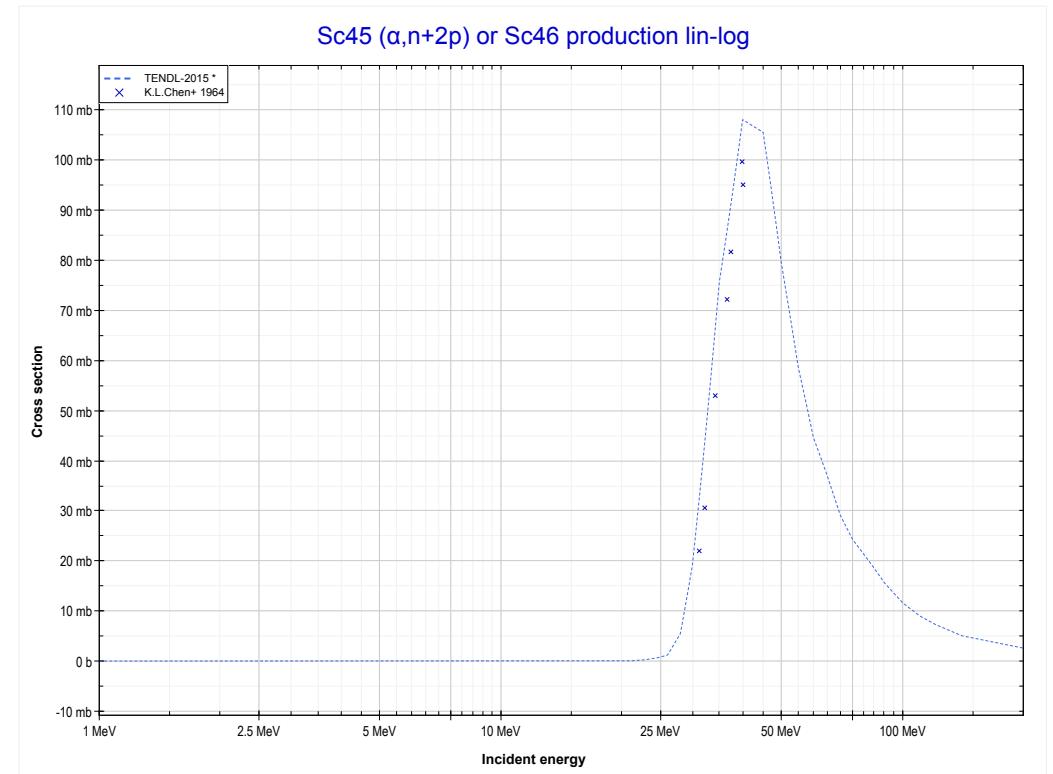
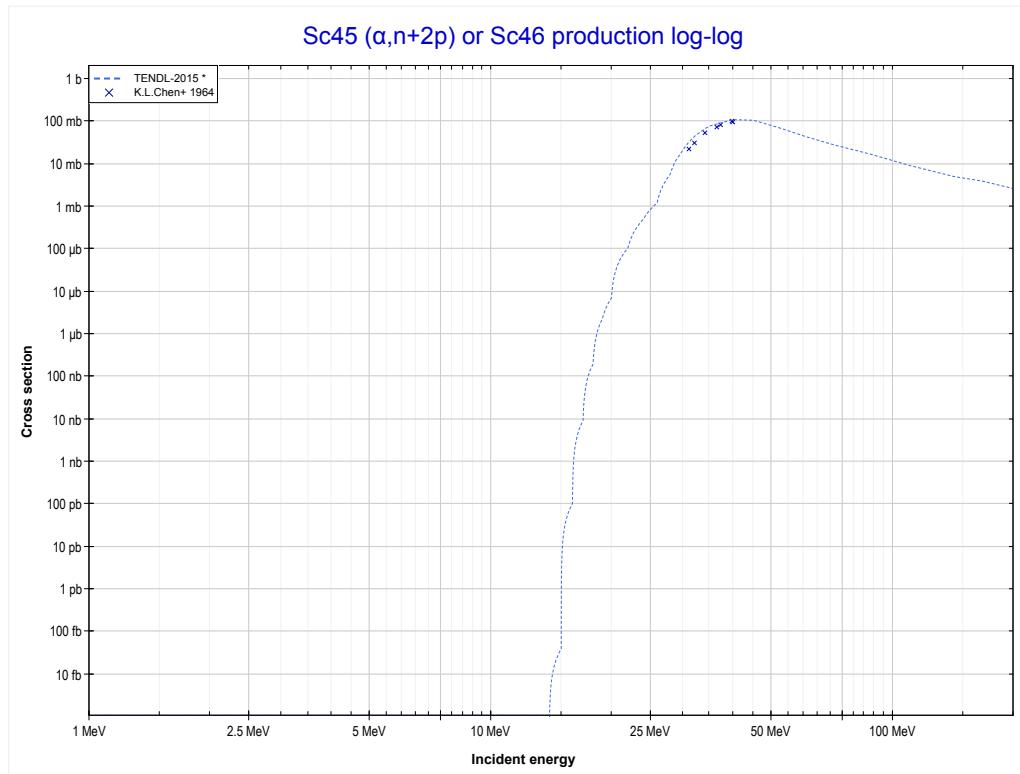
Reaction	Q-Value
Sc45( $\alpha,2n$ )V47	-12783.12 keV

<< 20-Ca-48	<b>21-Sc-45</b> MT22 ( $\alpha, n + \alpha$ ) or MT5 (Sc44 production)	>> 24-Cr-50 >>
<< MT16 ( $\alpha, 2n$ )		MT44 ( $\alpha, n + 2p$ ) >>



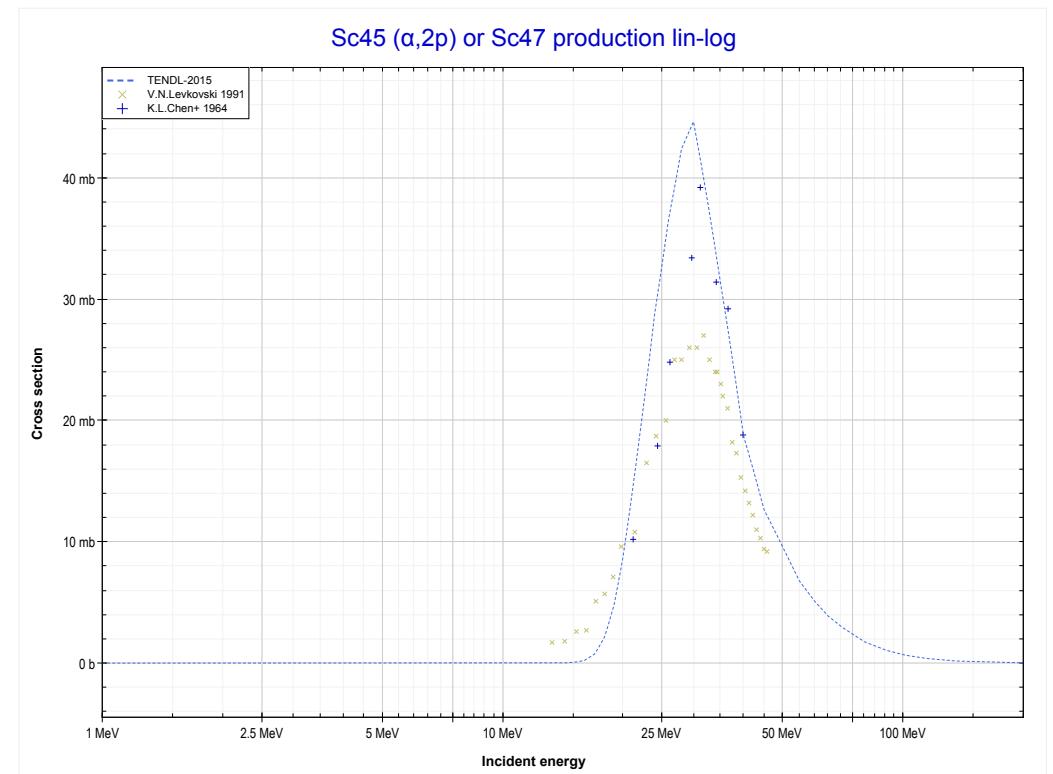
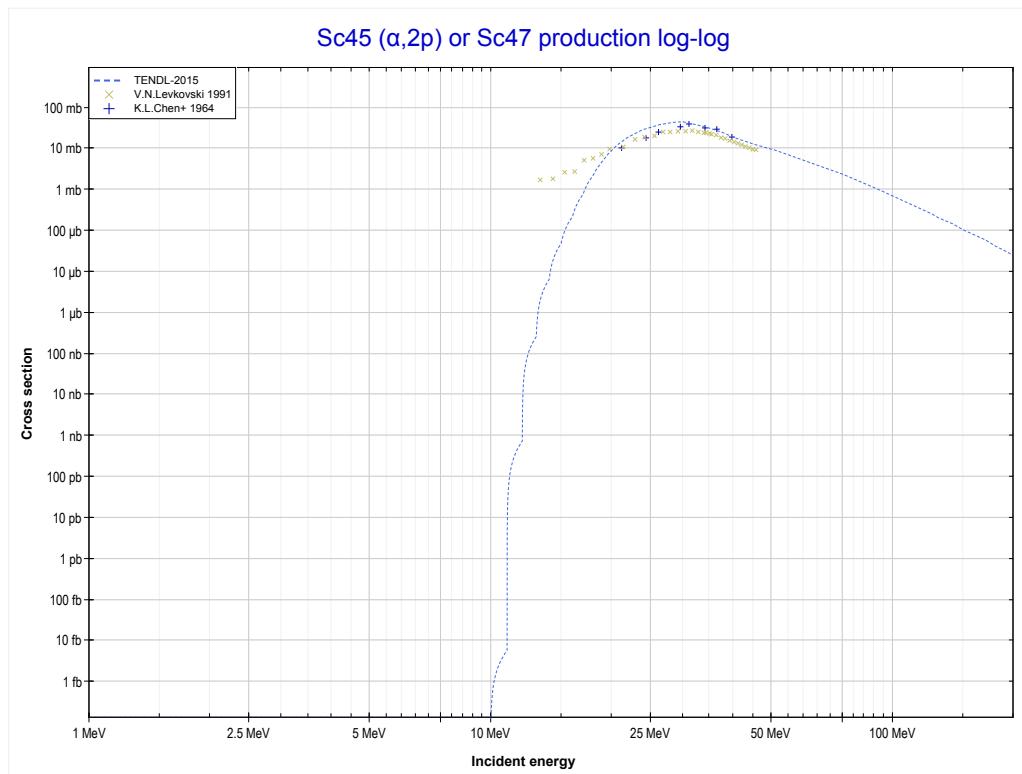
Reaction	Q-Value
Sc45( $\alpha, n + \alpha$ )Sc44	-11326.52 keV
Sc45( $\alpha, d + t$ )Sc44	-28915.81 keV
Sc45( $\alpha, n + p + t$ )Sc44	-31140.38 keV
Sc45( $\alpha, 2n + \text{He}3$ )Sc44	-31904.13 keV
Sc45( $\alpha, n + 2d$ )Sc44	-35173.04 keV
Sc45( $\alpha, 2n + p + d$ )Sc44	-37397.61 keV
Sc45( $\alpha, 3n + 2p$ )Sc44	-39622.18 keV

<< 13-Al-27	<b>21-Sc-45</b> MT44 ( $\alpha, n+2p$ ) or MT5 (Sc46 production)	25-Mn-55 >>
<< MT22 ( $\alpha, n+\alpha$ )		MT111 ( $\alpha, 2p$ ) >>



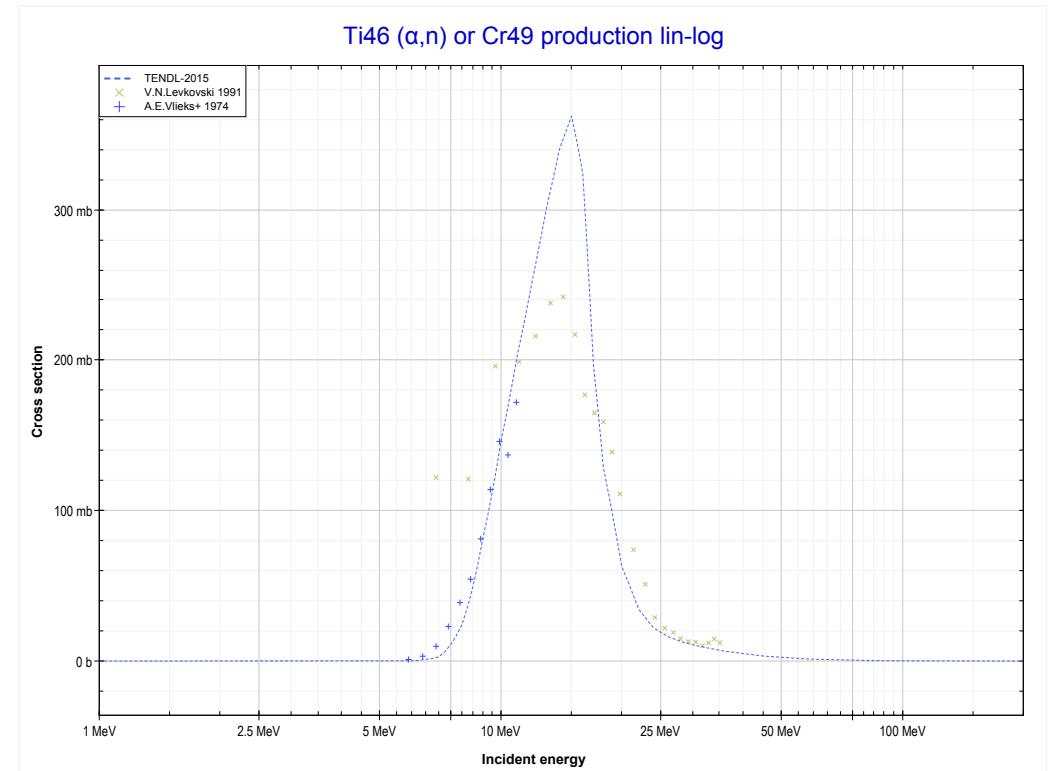
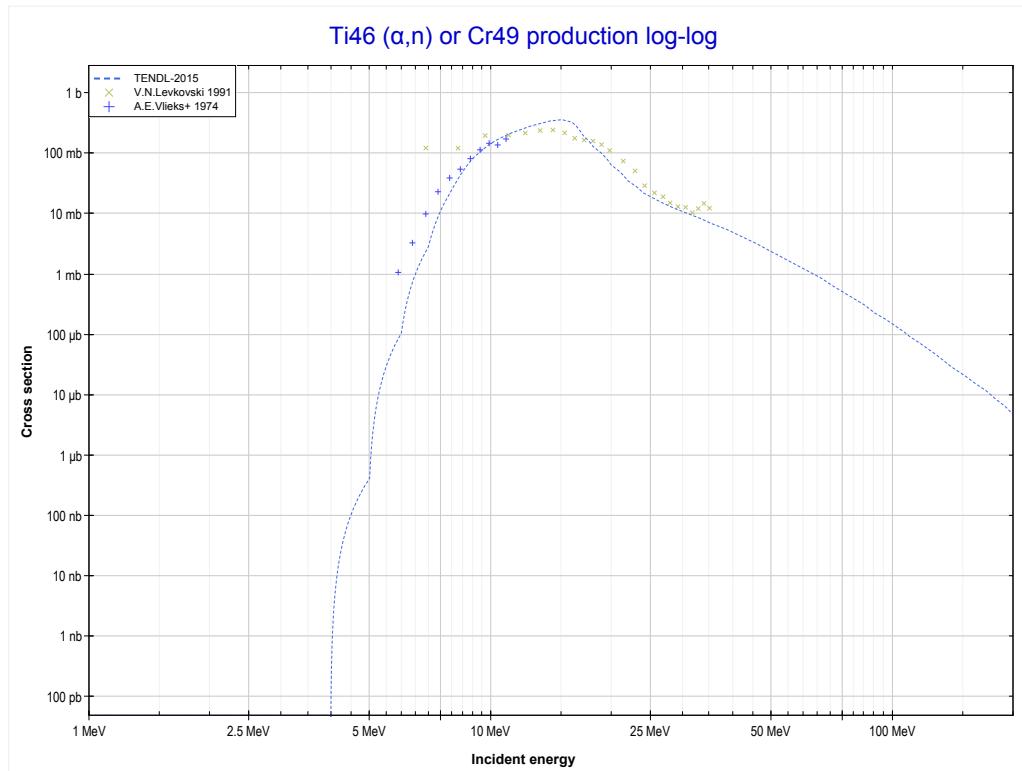
Reaction	Q-Value
Sc45( $\alpha, \text{He}3$ )Sc46	-11817.00 keV
Sc45( $\alpha, p+d$ )Sc46	-17310.48 keV
Sc45( $\alpha, n+2p$ )Sc46	-19535.04 keV

<< 19-K-41	<b>21-Sc-45</b> MT111 ( $\alpha,2p$ ) or MT5 (Sc47 production)	26-Fe-57 >>
<< MT44 ( $\alpha,n+2p$ )		22-Ti-46 MT4 ( $\alpha,n$ ) >>



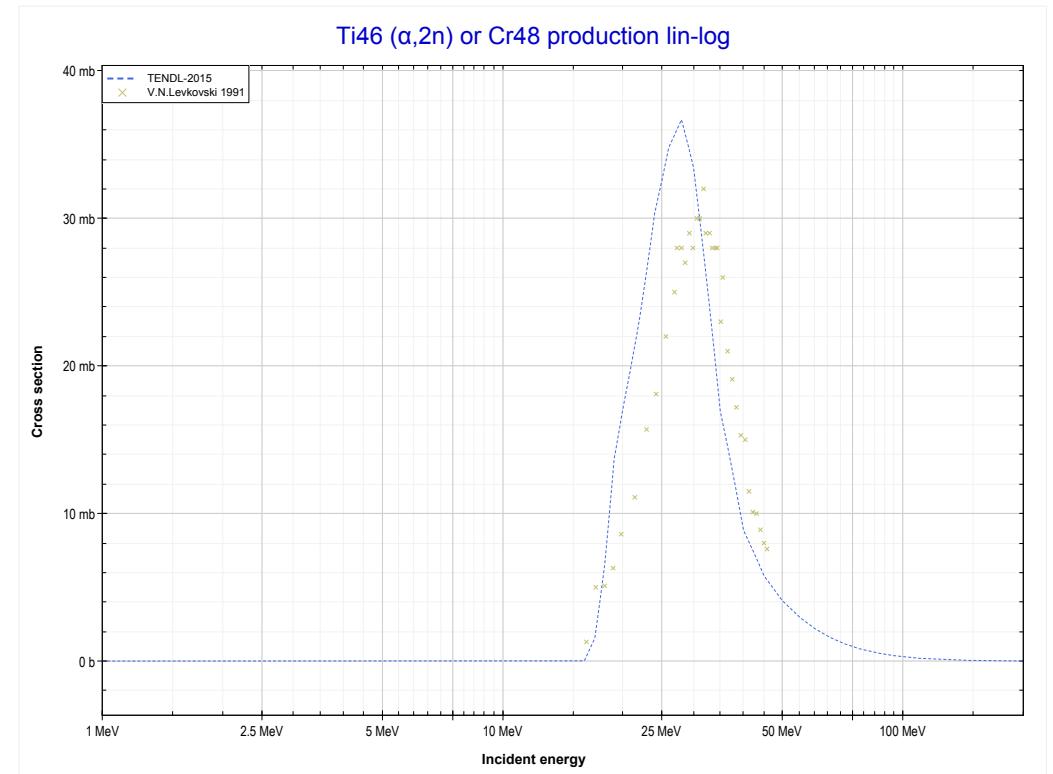
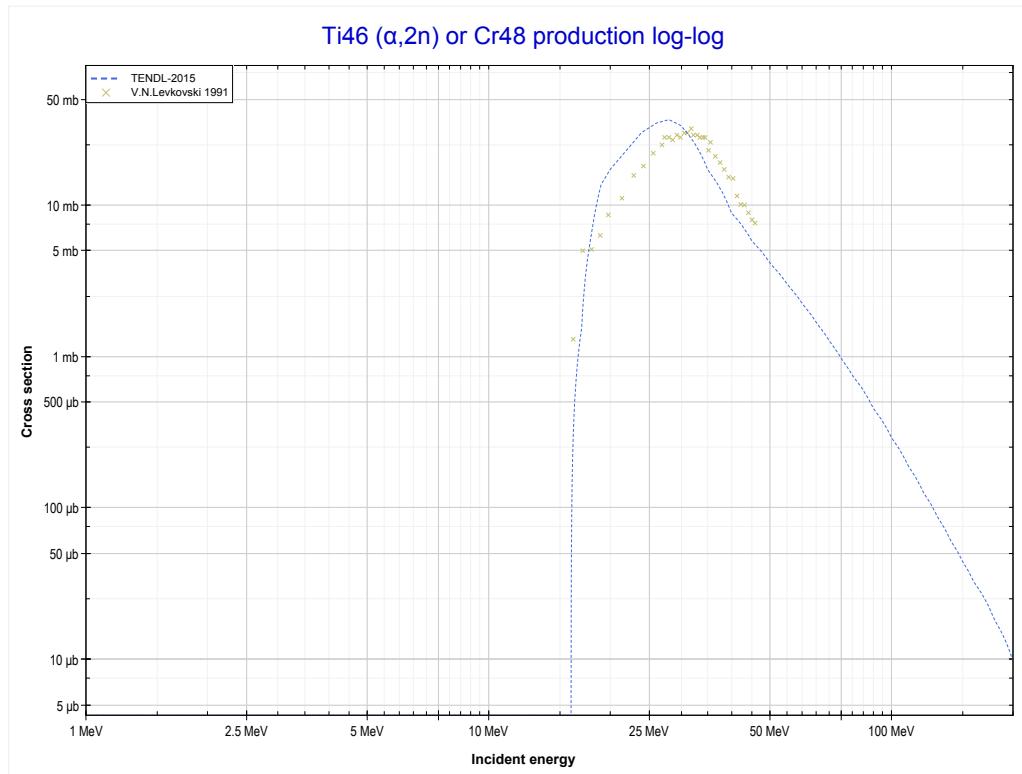
Reaction	Q-Value
Sc45( $\alpha,2p$ )Sc47	-8888.63 keV

<< 21-Sc-45	<b>22-Ti-46</b> MT4 ( $\alpha, n$ ) or MT5 (Cr49 production)	>> 22-Ti-48 >>
<< 21-Sc-45 MT111 ( $\alpha, 2p$ )		MT16 ( $\alpha, 2n$ ) >>



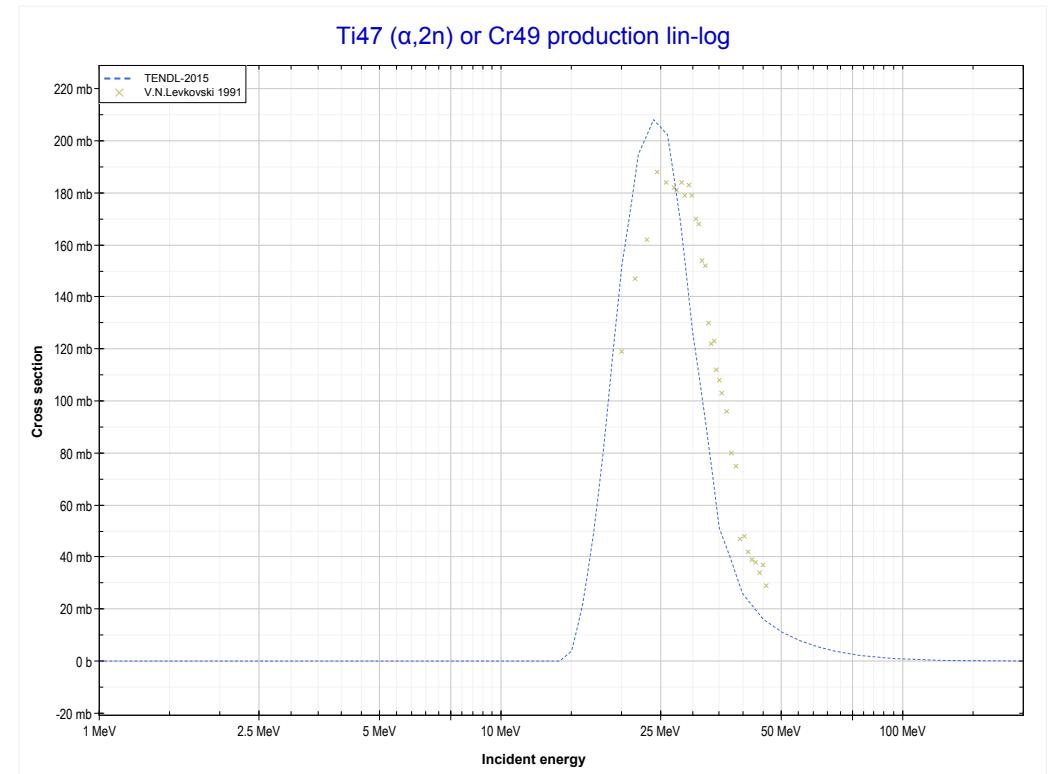
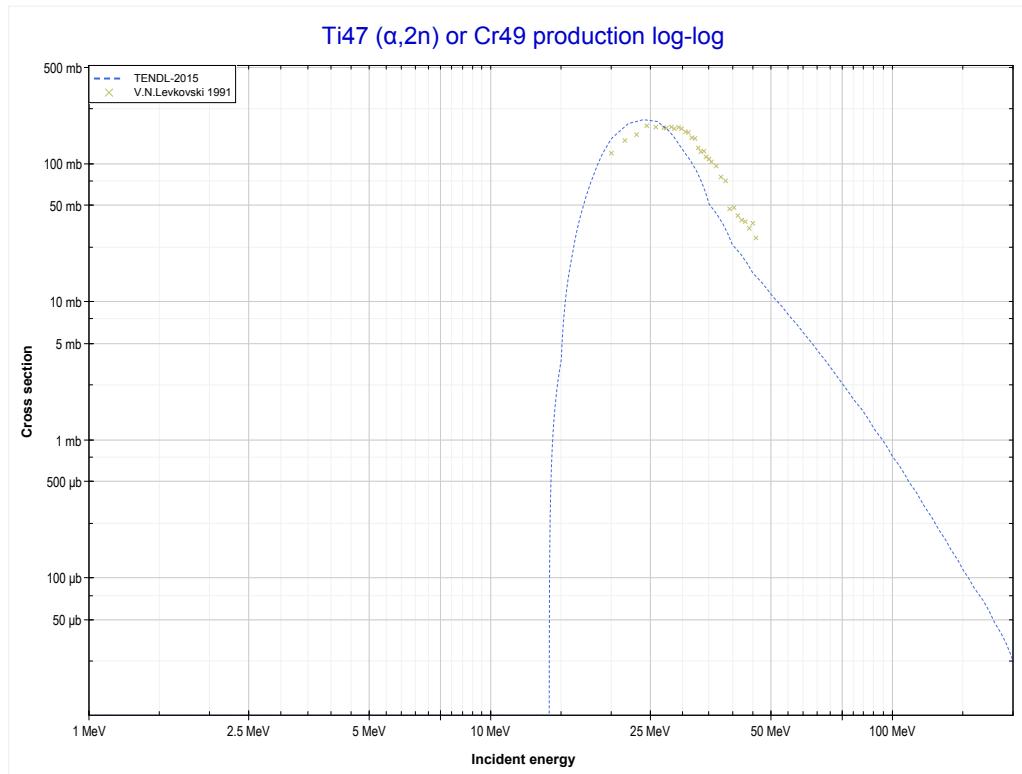
Reaction	Q-Value
Ti46( $\alpha, n$ )Cr49	-4440.70 keV

<< 21-Sc-45	<b>22-Ti-46</b> MT16 ( $\alpha,2n$ ) or MT5 (Cr48 production)	22-Ti-47 >>
<< MT4 ( $\alpha,n$ )		22-Ti-47 MT16 ( $\alpha,2n$ ) >>



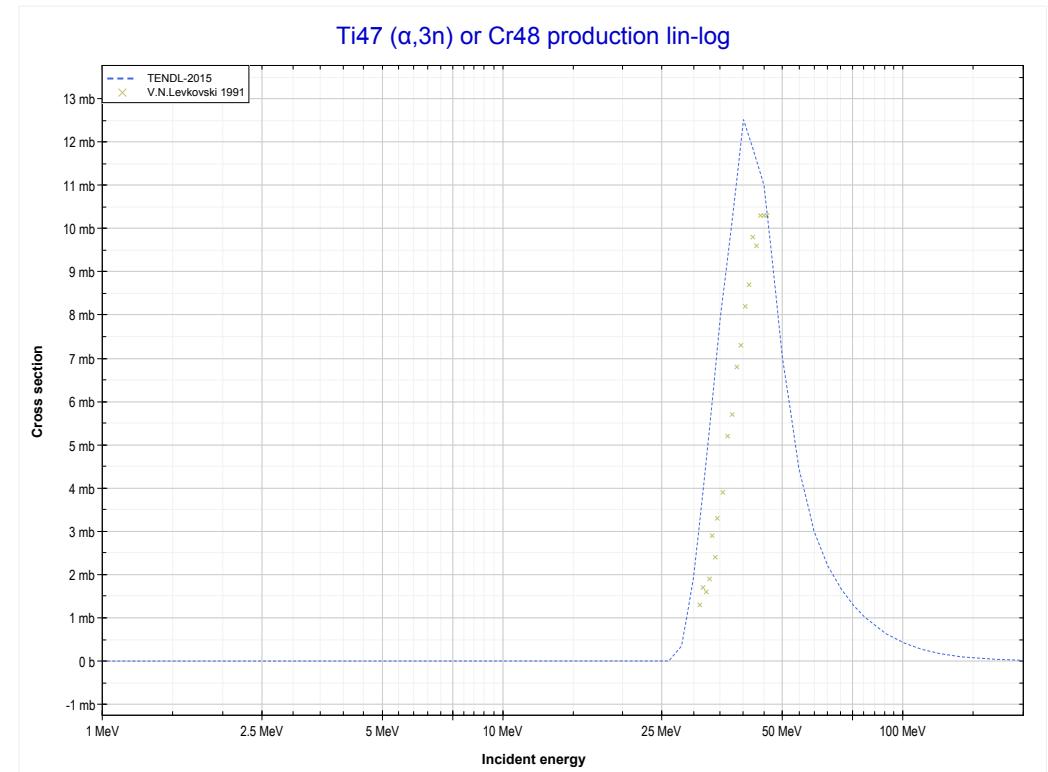
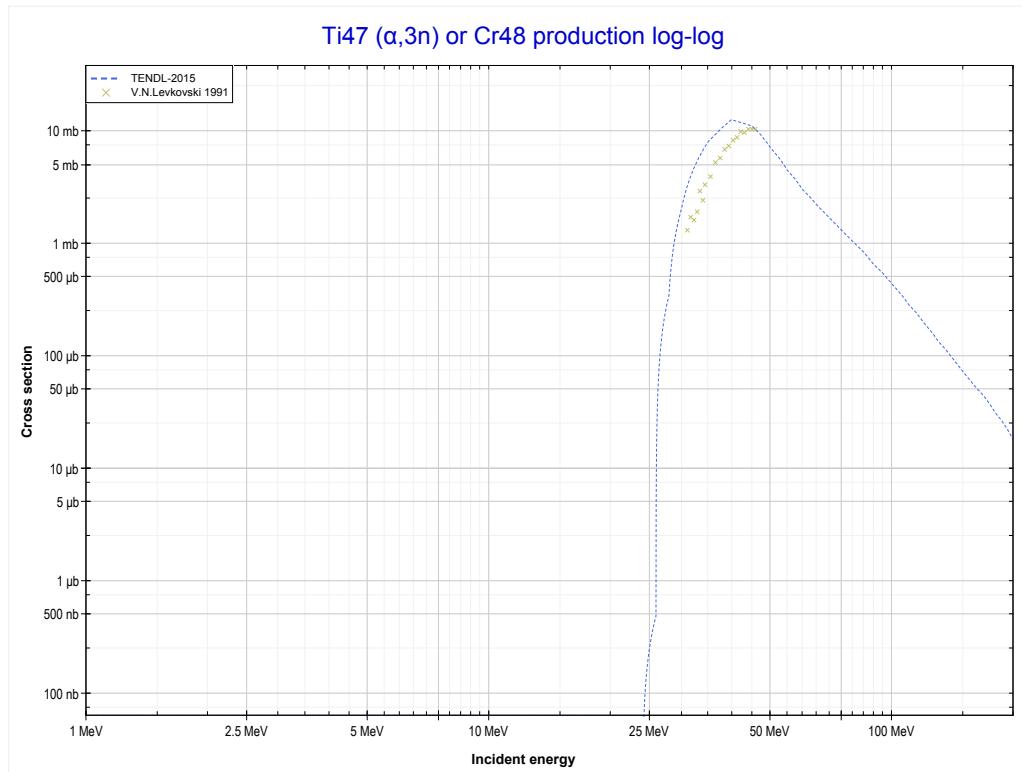
Reaction	Q-Value
Ti46( $\alpha,2n$ )Cr48	-15022.72 keV

<< 22-Ti-46	<b>22-Ti-47</b>	>> 22-Ti-49 >>
<< 22-Ti-46 MT16 ( $\alpha,2n$ )	<b>MT16 (<math>\alpha,2n</math>) or MT5 (Cr49 production)</b>	<b>MT17 (<math>\alpha,3n</math>) &gt;&gt;</b>



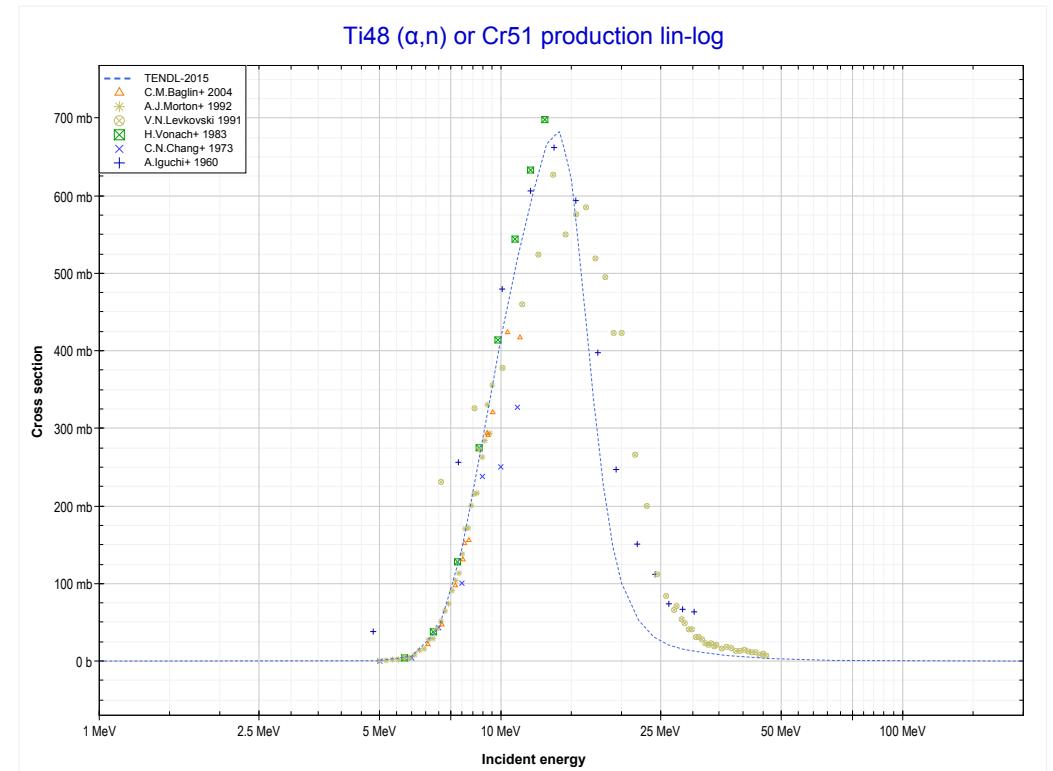
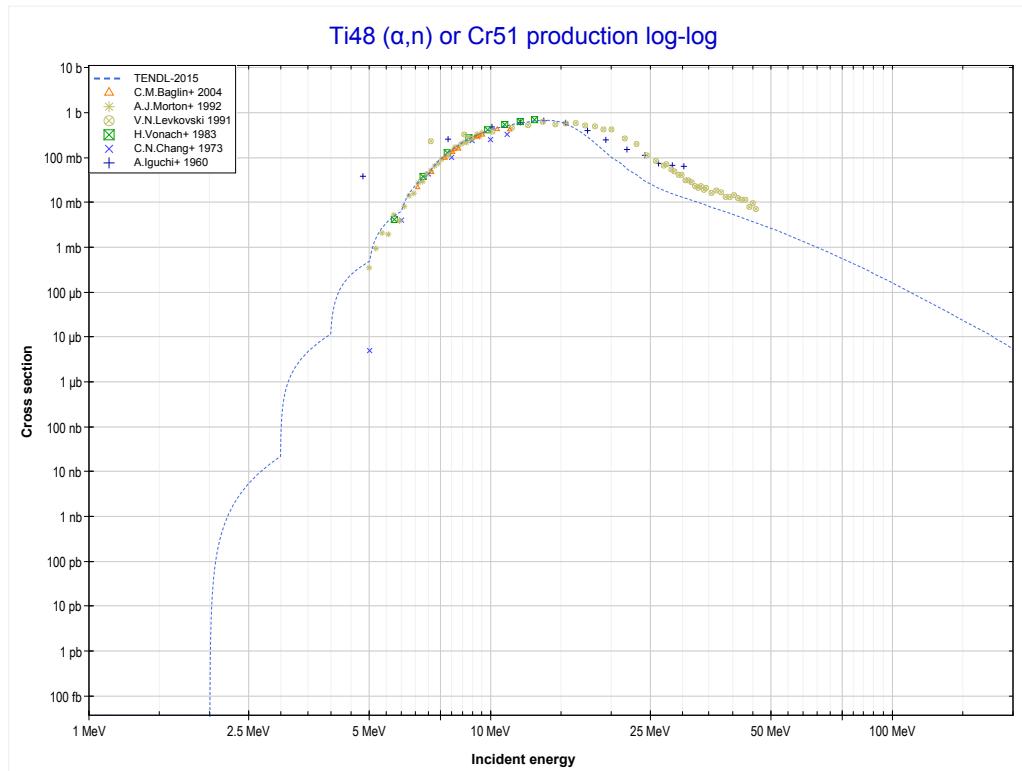
Reaction	Q-Value
Ti47( $\alpha,2n$ )Cr49	-13321.42 keV

<a href="#">&lt;&lt; MT16 (<math>\alpha,2n</math>)</a>	<b>22-Ti-47</b> <b>MT17 (<math>\alpha,3n</math>) or MT5 (Cr48 production)</b>	<a href="#">22-Ti-48 &gt;&gt;</a> <a href="#">22-Ti-48 MT4 (<math>\alpha,n</math>) &gt;&gt;</a>
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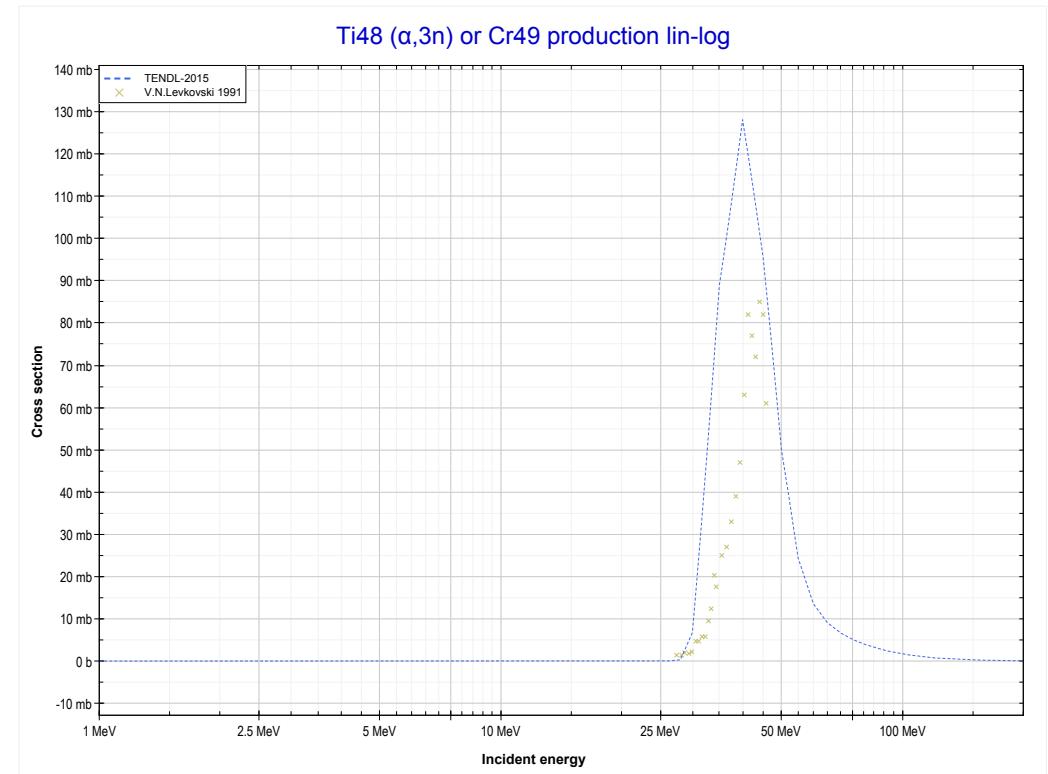
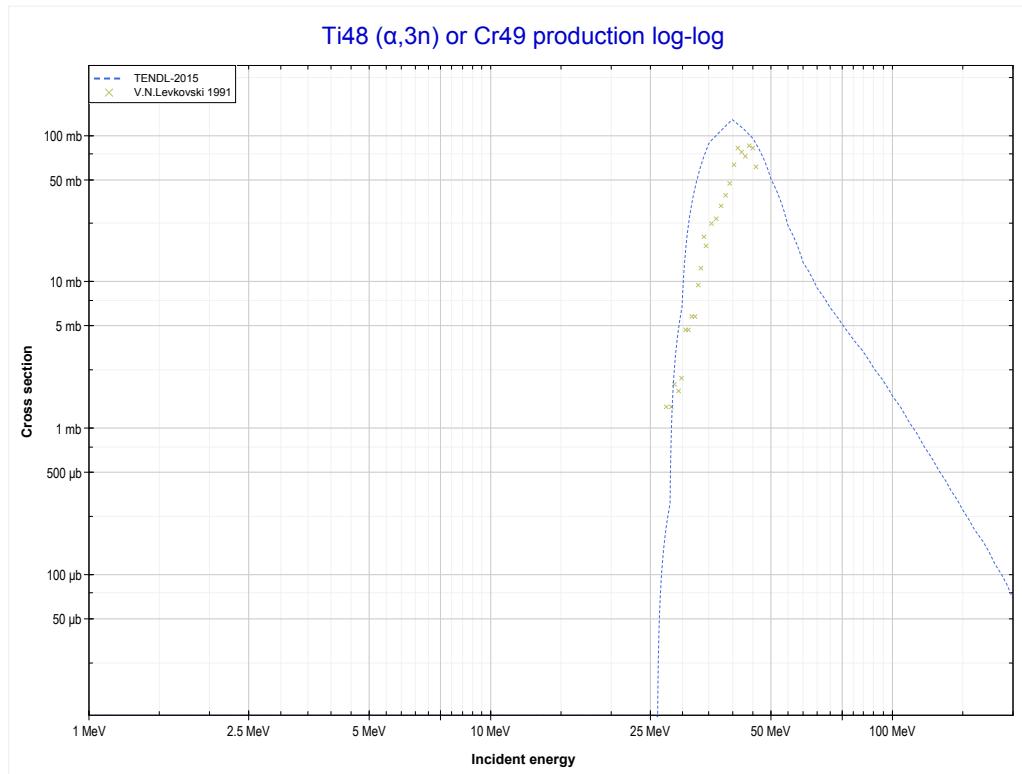
Reaction	Q-Value
Ti47( $\alpha,3n$ )Cr48	-23903.44 keV

<< 22-Ti-46	<b>22-Ti-48</b> MT4 ( $\alpha, n$ ) or MT5 (Cr51 production)	23-V-51 >>
<< 22-Ti-47 MT17 ( $\alpha, 3n$ )		MT17 ( $\alpha, 3n$ ) >>



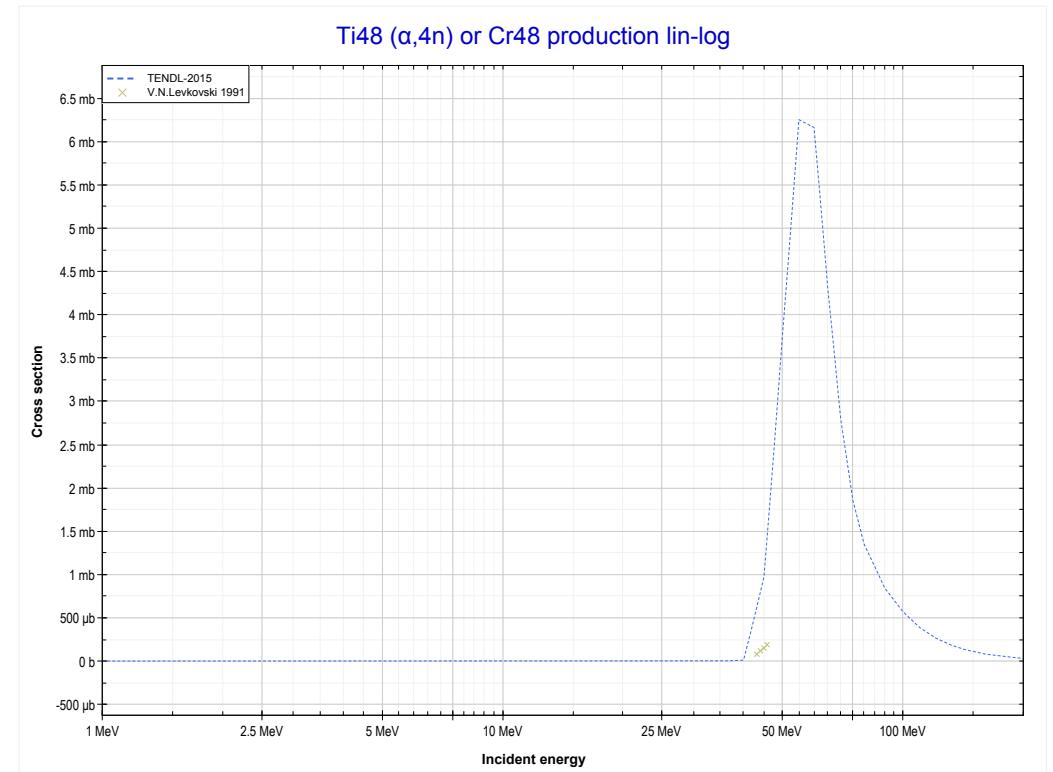
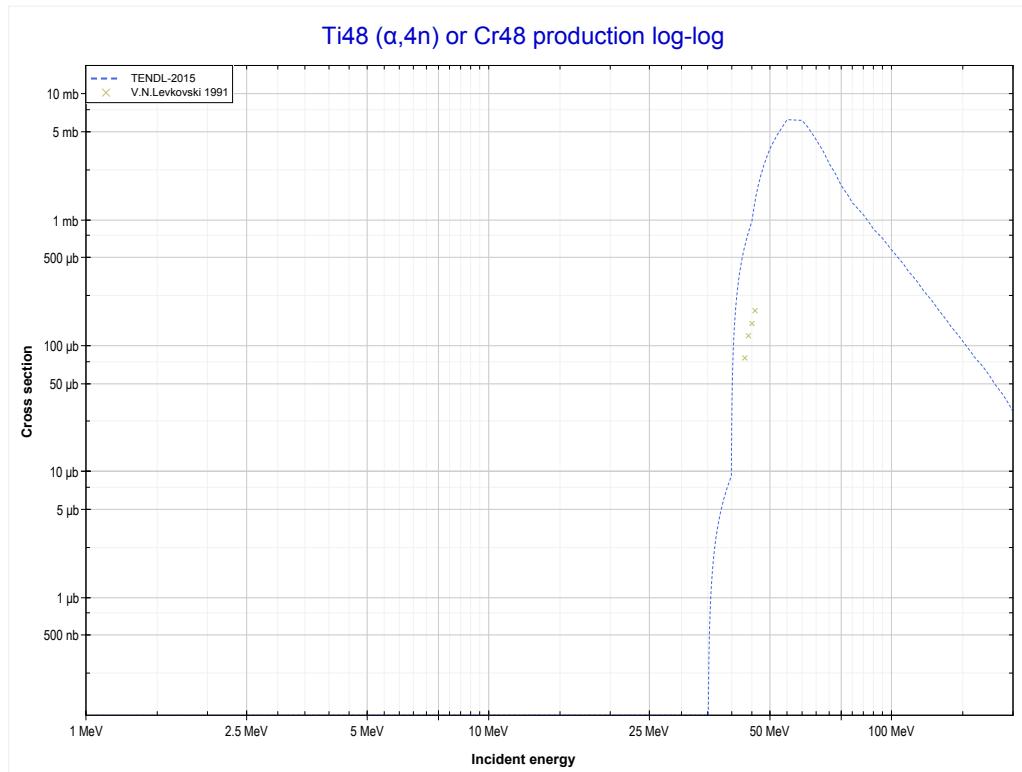
Reaction	Q-Value
Ti48( $\alpha, n$ )Cr51	-2687.00 keV

<< 22-Ti-47	<b>22-Ti-48</b> MT17 ( $\alpha,3n$ ) or MT5 (Cr49 production)	23-V-51 >>
<< MT4 ( $\alpha,n$ )		MT37 ( $\alpha,4n$ ) >>



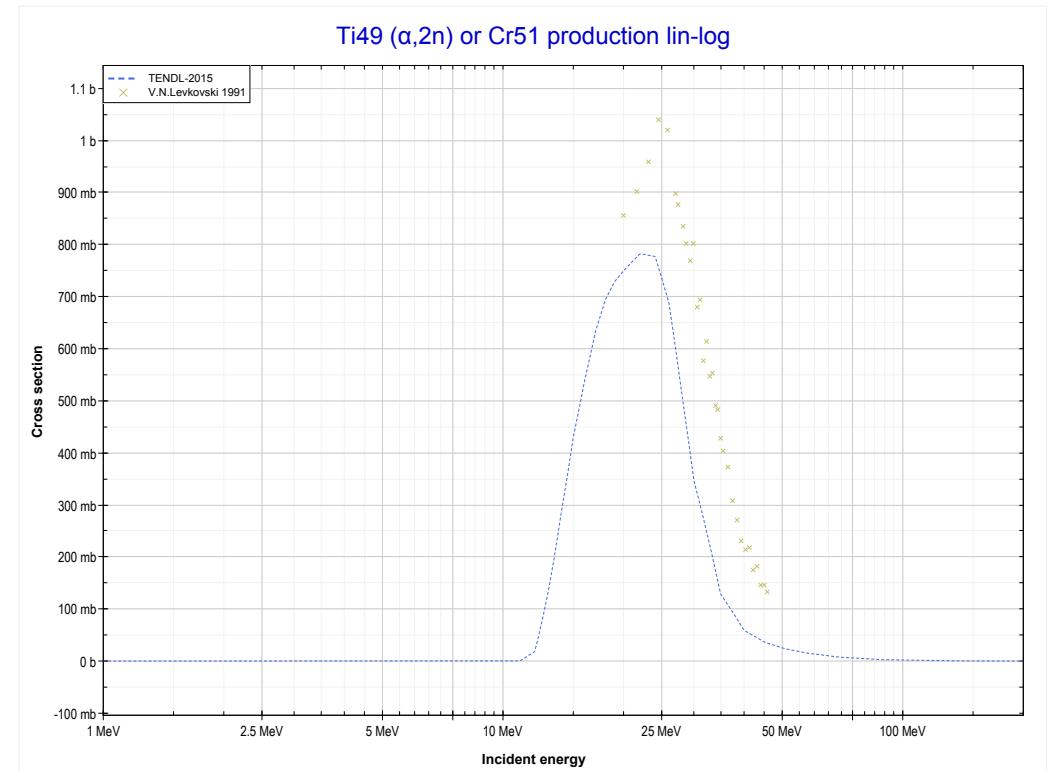
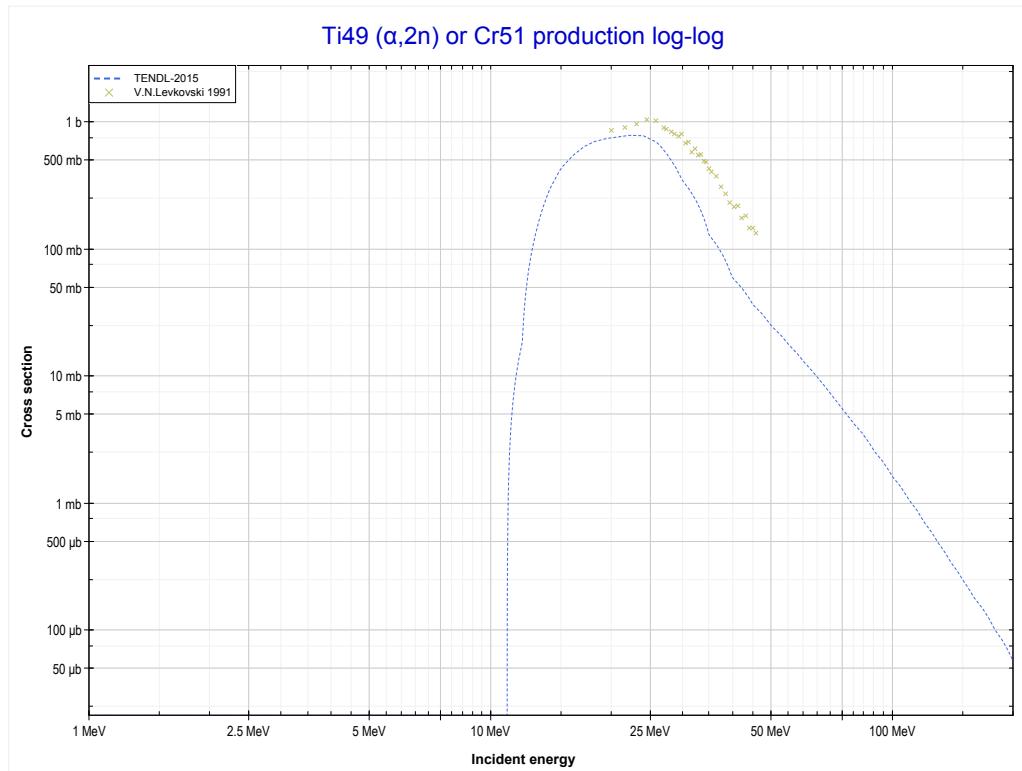
Reaction	Q-Value
Ti48( $\alpha,3n$ )Cr49	-24948.04 keV

<< MT17 ( $\alpha,3n$ )	<b>22-Ti-48</b> MT37 ( $\alpha,4n$ ) or MT5 (Cr48 production)	<b>25-Mn-55 &gt;&gt;</b> 22-Ti-49 MT16 ( $\alpha,2n$ ) >>
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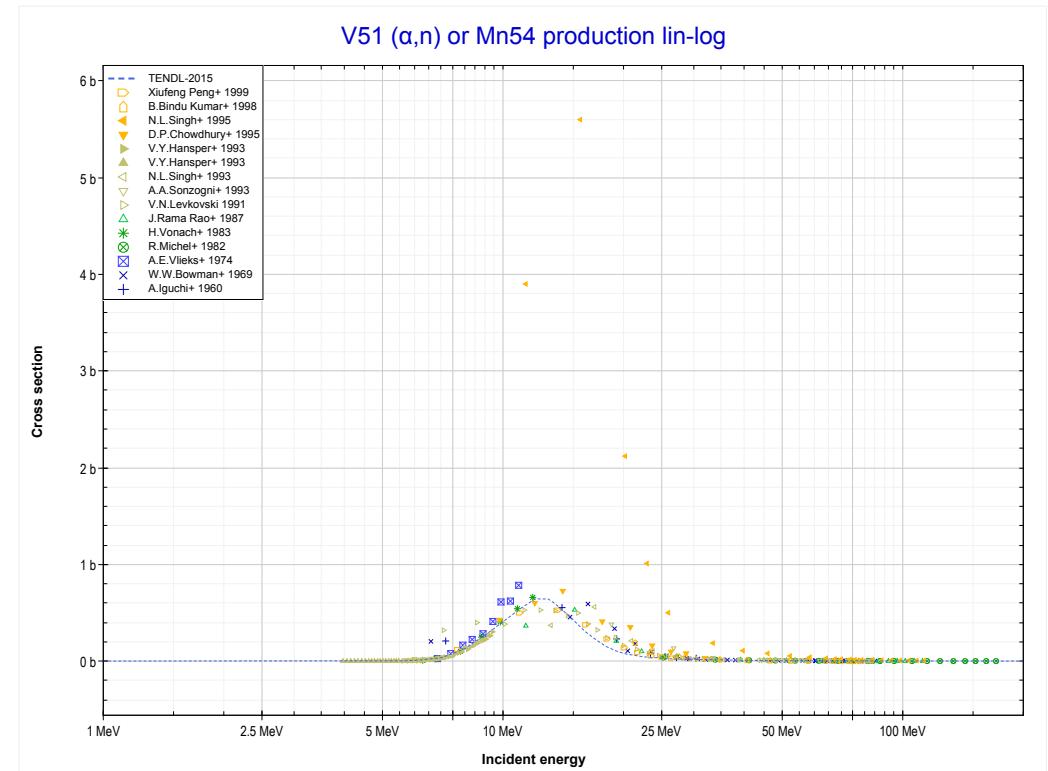
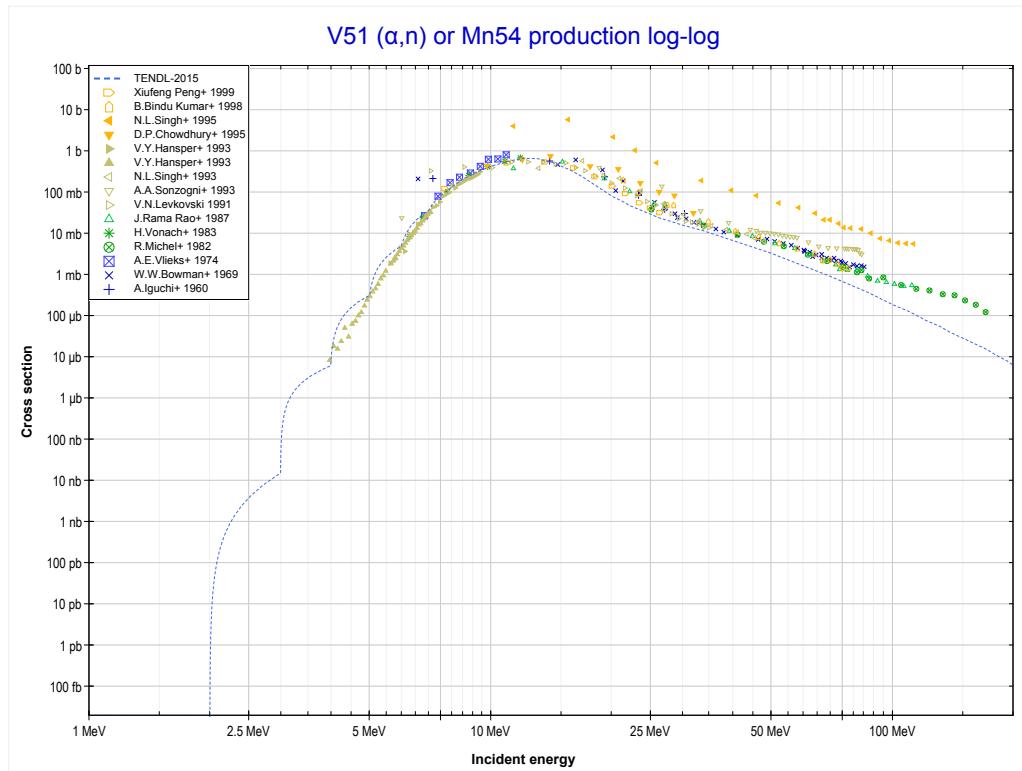
Reaction	Q-Value
Ti48( $\alpha,4n$ )Cr48	-35530.05 keV

<< 22-Ti-47	<b>22-Ti-49</b> MT16 ( $\alpha,2n$ ) or MT5 (Cr51 production)	24-Cr-50 >>
<< 22-Ti-48 MT37 ( $\alpha,4n$ )		23-V-51 MT4 ( $\alpha,n$ ) >>



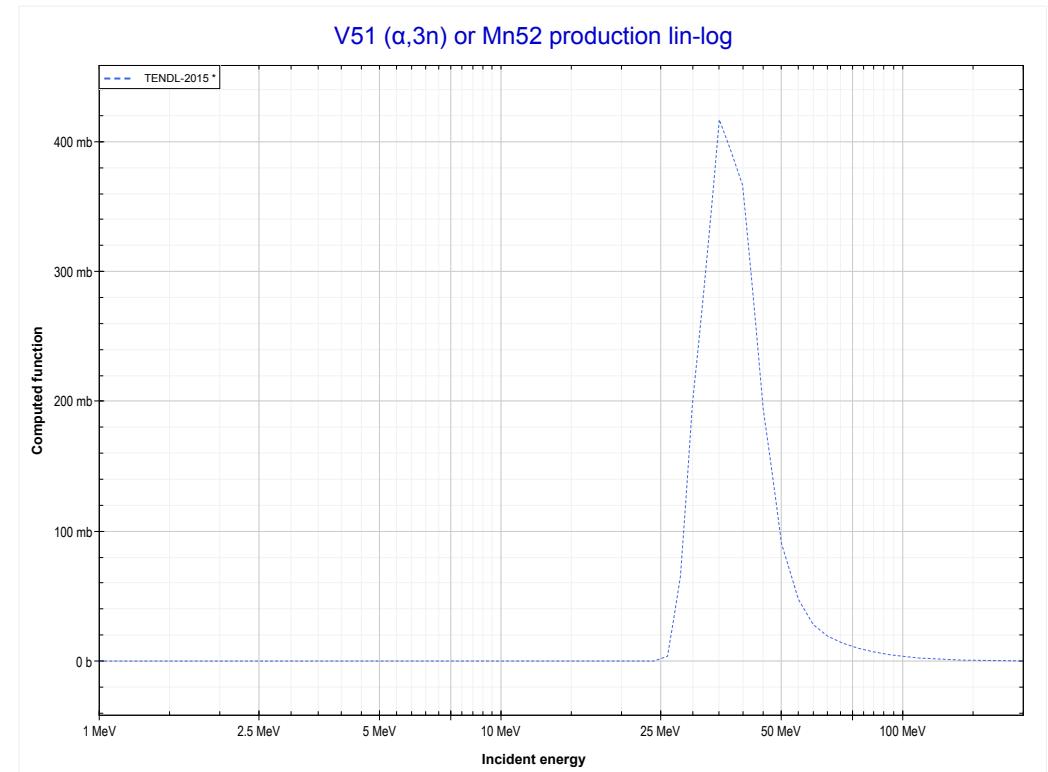
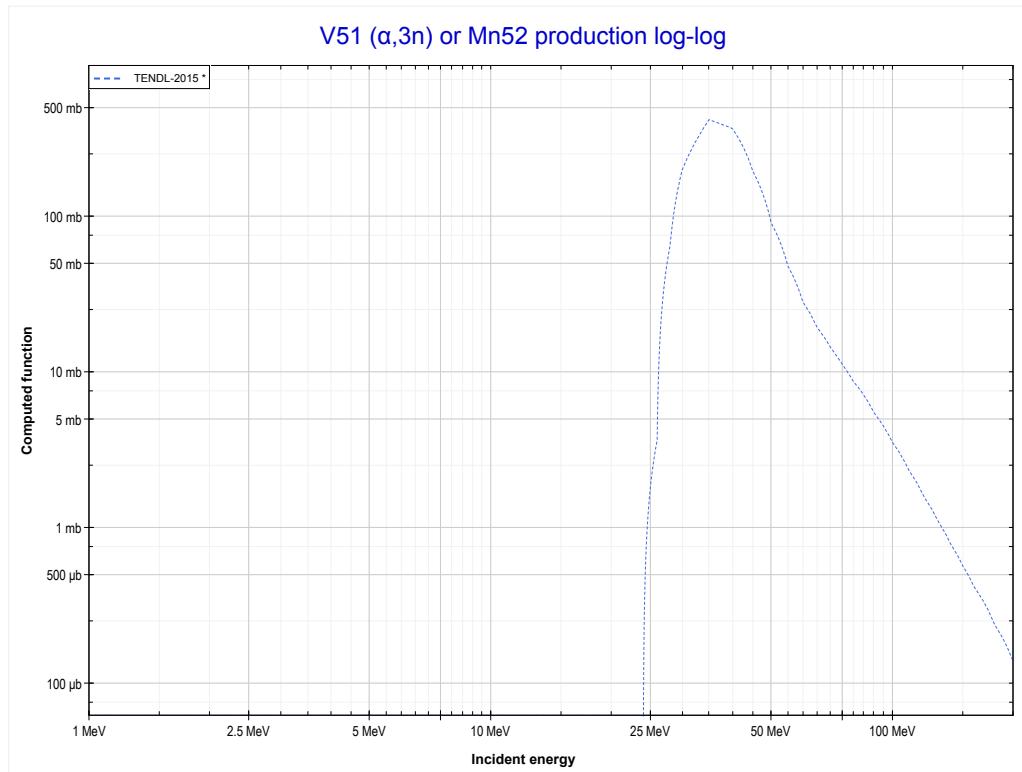
Reaction	Q-Value
Ti49( $\alpha,2n$ )Cr51	-10829.42 keV

<< 22-Ti-48	23-V-51	24-Cr-50 >>
<< 22-Ti-49 MT16 ( $\alpha,2n$ )	MT4 ( $\alpha,n$ ) or MT5 (Mn54 production)	MT17 ( $\alpha,3n$ ) >>



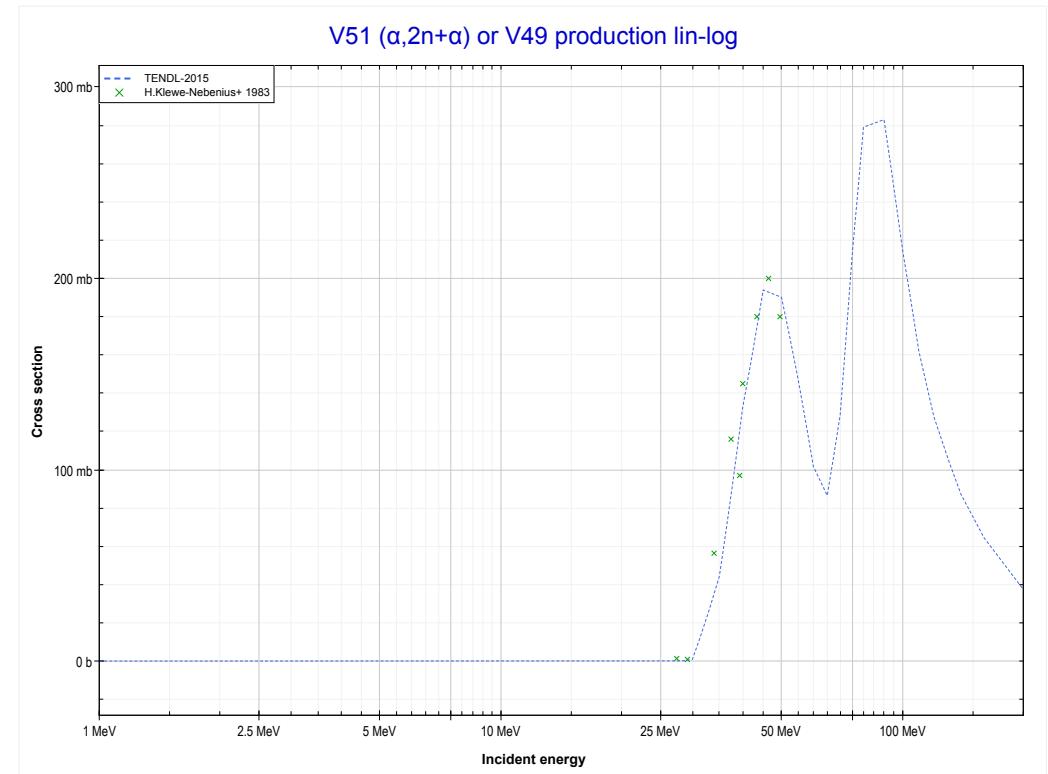
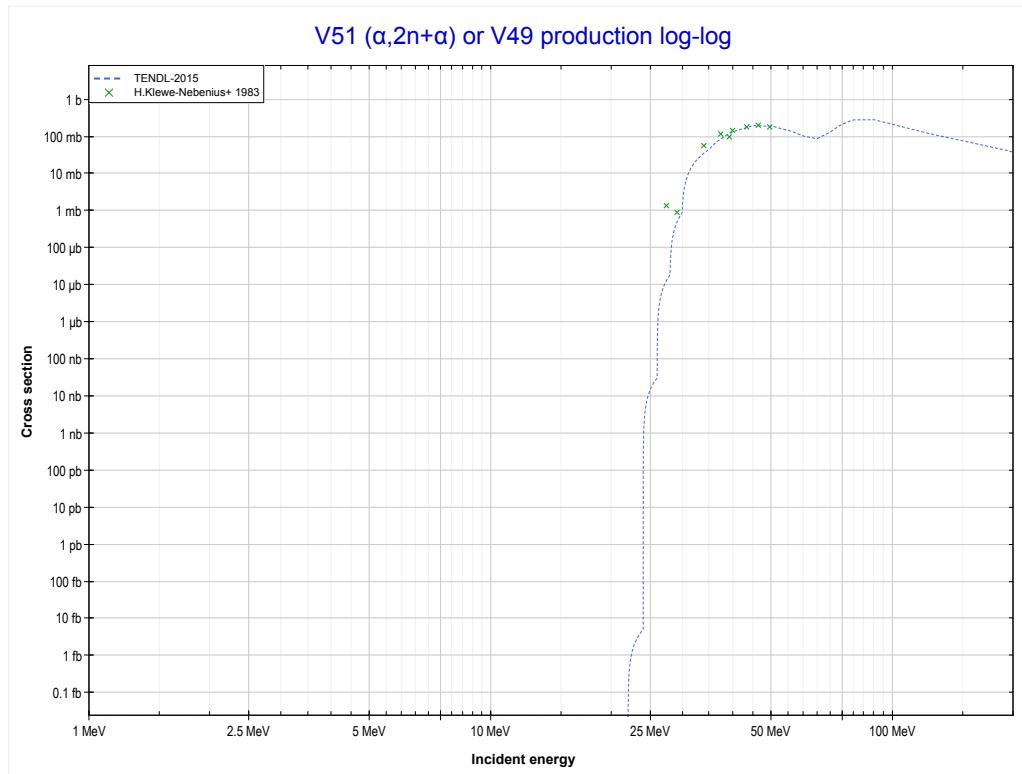
Reaction	Q-Value
V51( $\alpha,n$ )Mn54	-2293.60 keV

<< 22-Ti-48	23-V-51 MT17 ( $\alpha$ ,3n) or MT5 (Mn52 production)	25-Mn-55 >> MT24 ( $\alpha$ ,2n+ $\alpha$ ) >>
<< MT4 ( $\alpha$ ,n)		



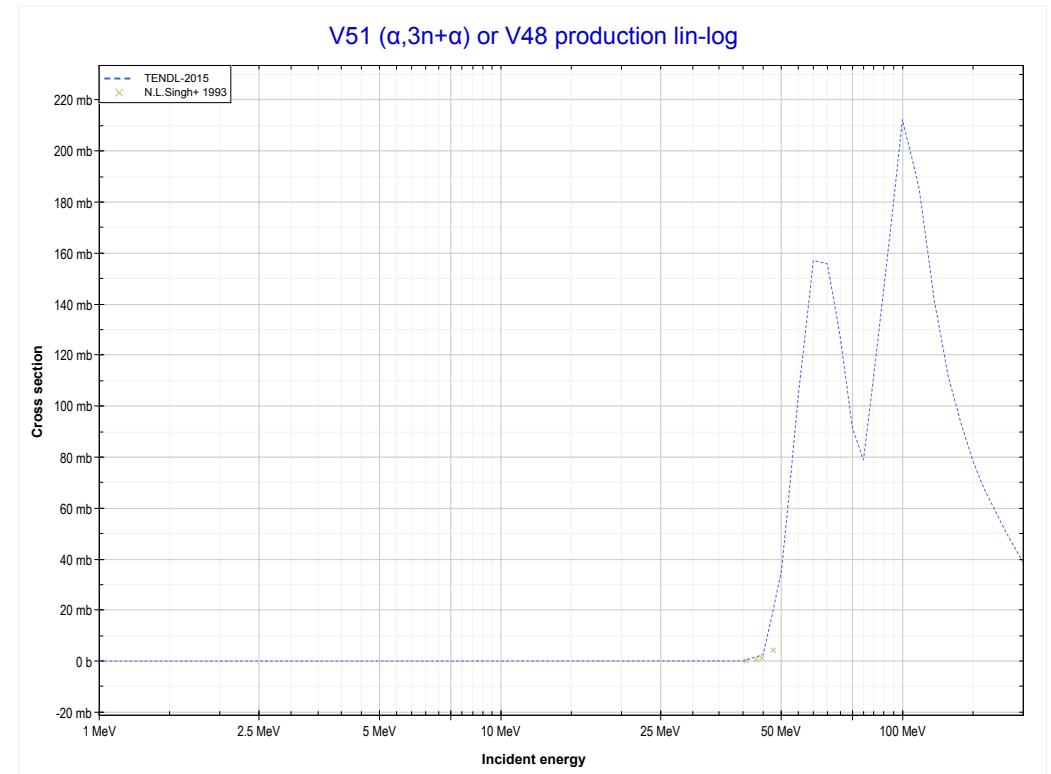
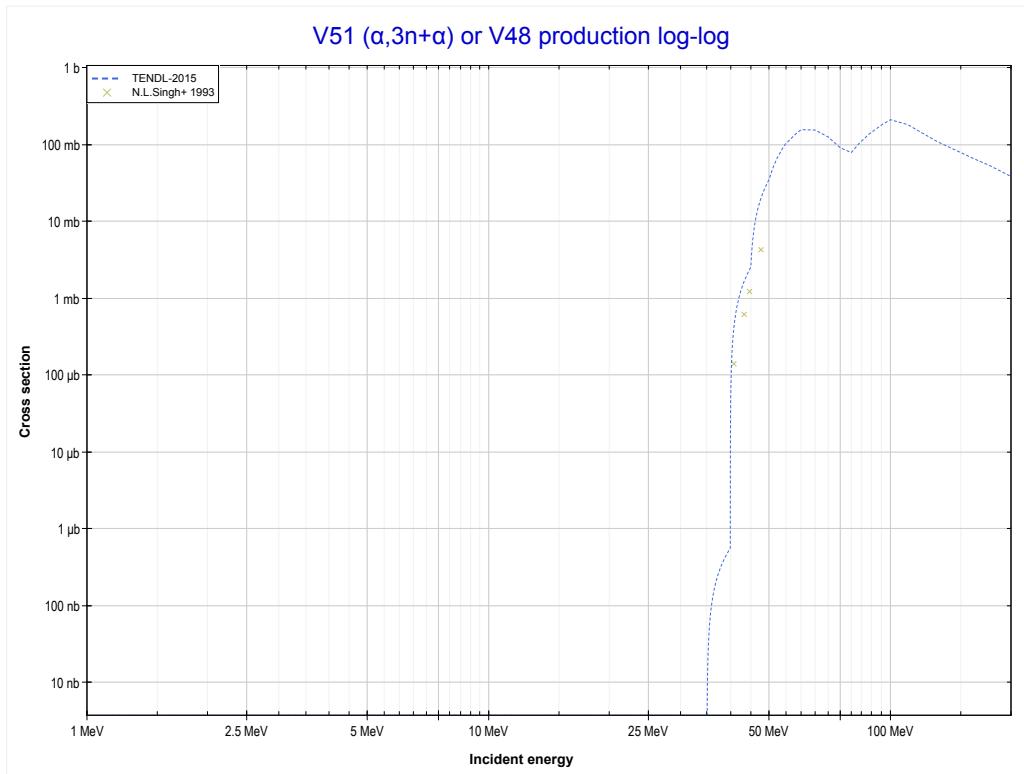
Reaction	Q-Value
V51( $\alpha$ ,3n)Mn52	-23285.84 keV

<< MT17 ( $\alpha,3n$ )	<b>23-V-51</b> <b>MT24 (<math>\alpha,2n+\alpha</math>) or MT5 (V49 production)</b>	26-Fe-54 >> <b>MT25 (<math>\alpha,3n+\alpha</math>) &gt;&gt;</b>
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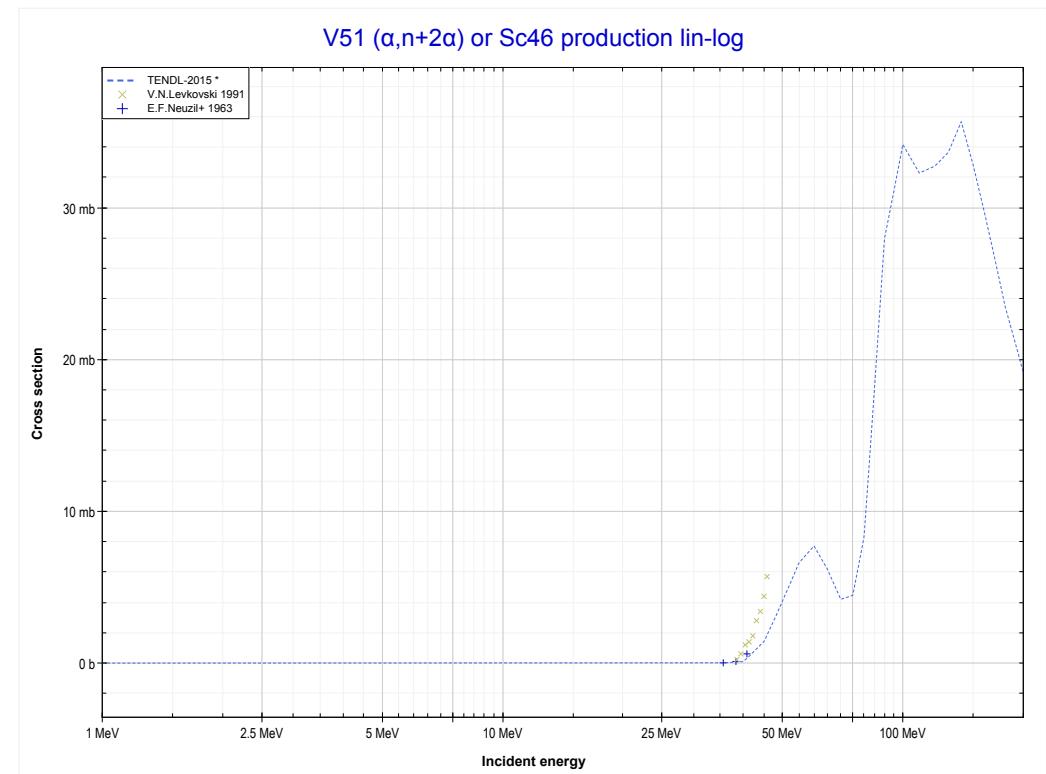
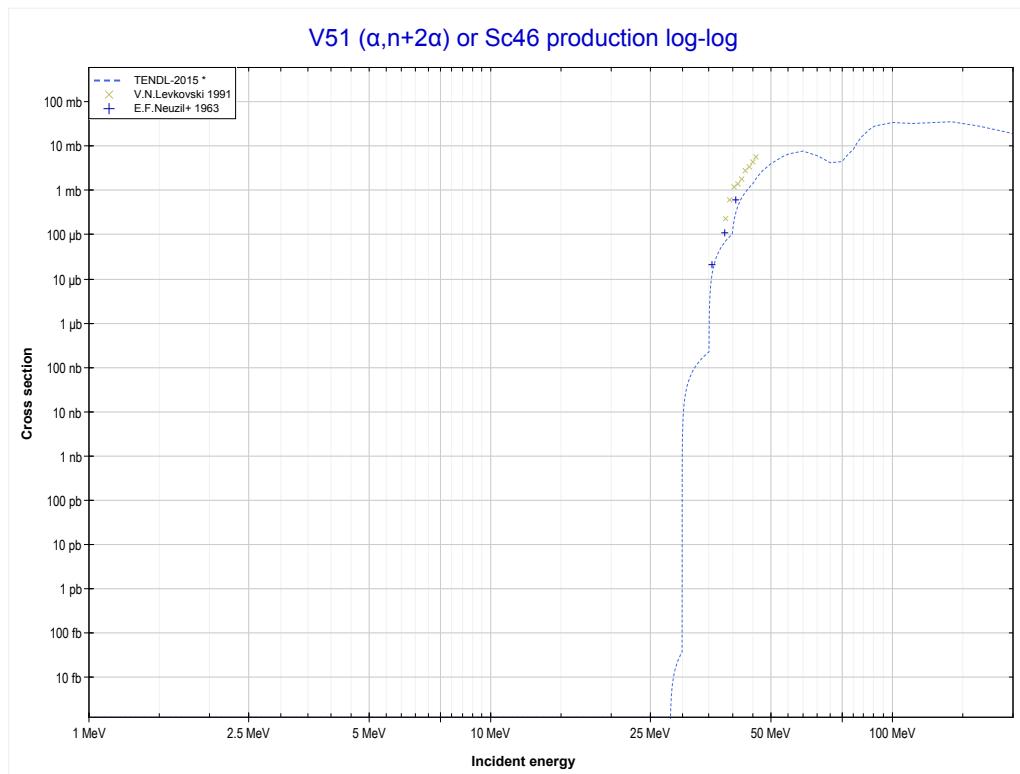
Reaction	Q-Value
V51( $\alpha,2n+\alpha$ )V49	-20385.33 keV
V51( $\alpha,2t$ )V49	-31717.40 keV
V51( $\alpha,n+d+t$ )V49	-37974.63 keV
V51( $\alpha,2n+p+t$ )V49	-40199.20 keV
V51( $\alpha,3n+He3$ )V49	-40962.95 keV
V51( $\alpha,2n+2d$ )V49	-44231.86 keV
V51( $\alpha,3n+p+d$ )V49	-46456.43 keV
V51( $\alpha,4n+2p$ )V49	-48680.99 keV

	23-V-51 MT25 ( $\alpha,3n+\alpha$ ) or MT5 (V48 production)	27-Co-59 >> MT29 ( $\alpha,n+2\alpha$ ) >>
<< MT24 ( $\alpha,2n+\alpha$ )		

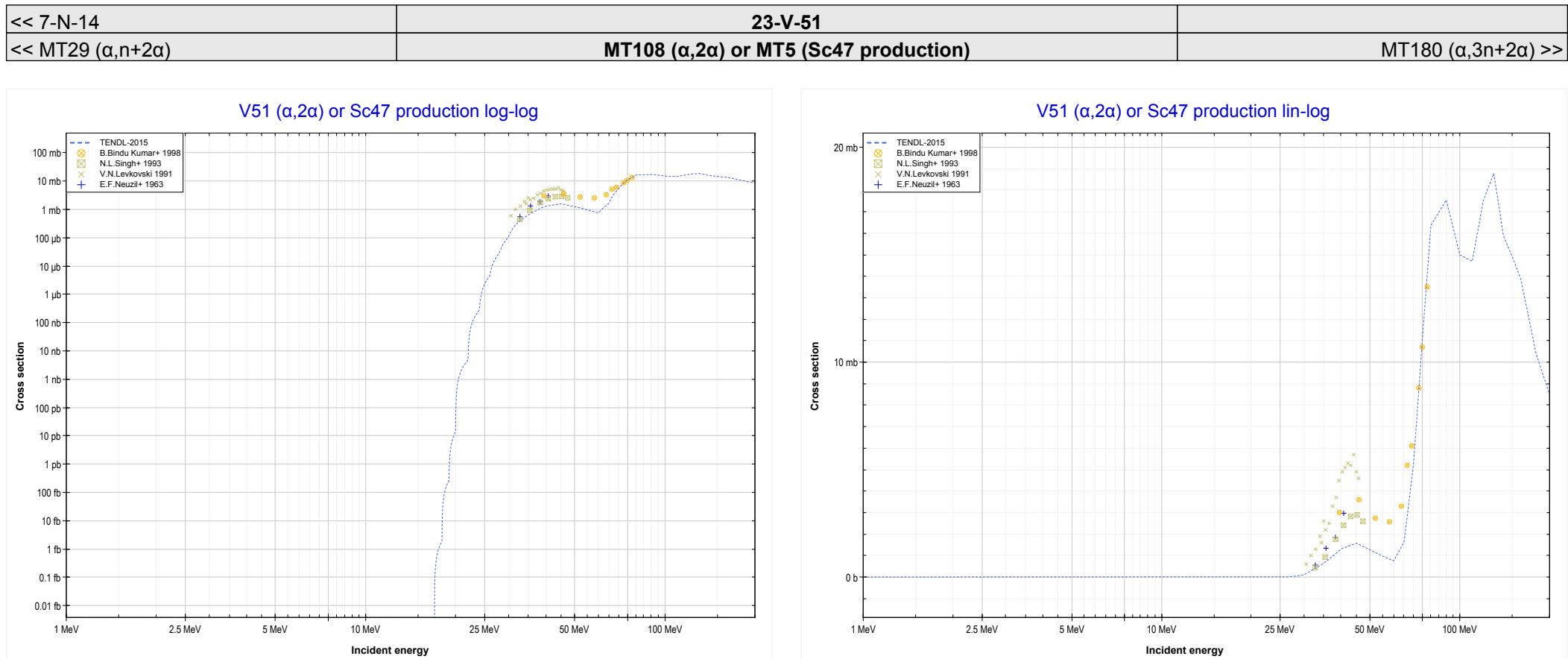


Reaction	Q-Value
V51( $\alpha,3n+\alpha$ )V48	-31940.85 keV
V51( $\alpha,n+2t$ )V48	-43272.91 keV
V51( $\alpha,2n+d+t$ )V48	-49530.15 keV
V51( $\alpha,3n+p+t$ )V48	-51754.71 keV
V51( $\alpha,4n+He3$ )V48	-52518.47 keV
V51( $\alpha,3n+2d$ )V48	-55787.38 keV
V51( $\alpha,4n+p+d$ )V48	-58011.94 keV
V51( $\alpha,5n+2p$ )V48	-60236.51 keV

<< 6-C-12	23-V-51 MT29 ( $\alpha, n+2\alpha$ ) or MT5 (Sc46 production)	27-Co-59 >> MT108 ( $\alpha, 2\alpha$ ) >>
<< MT25 ( $\alpha, 3n+\alpha$ )		

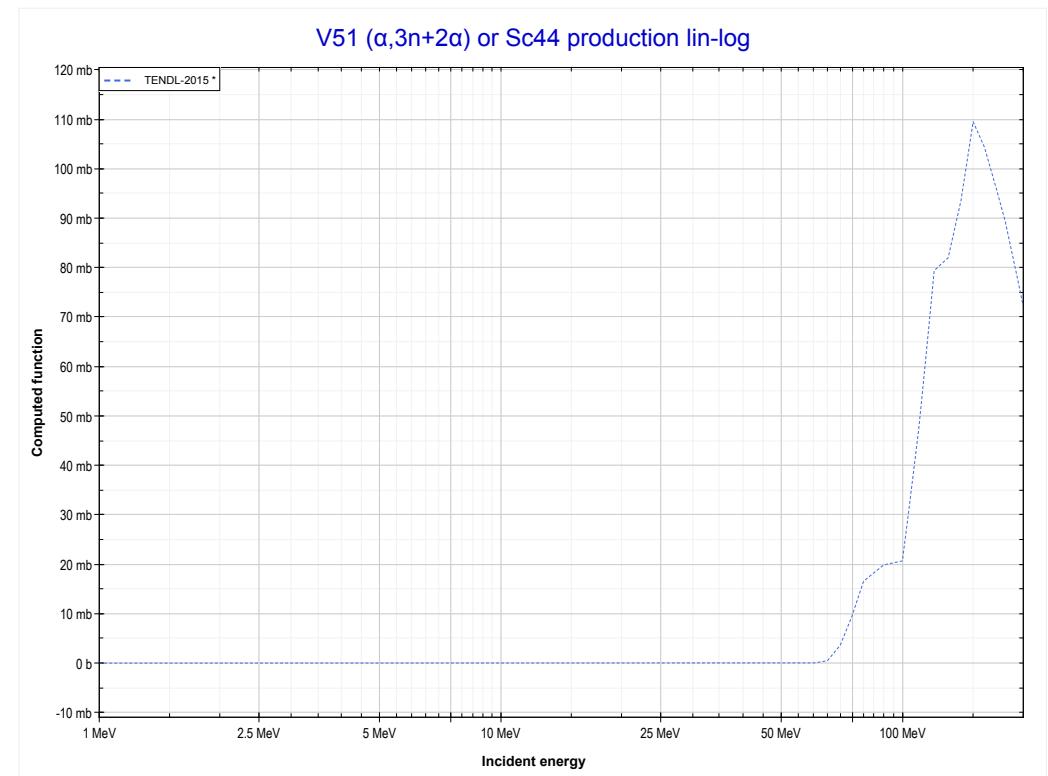
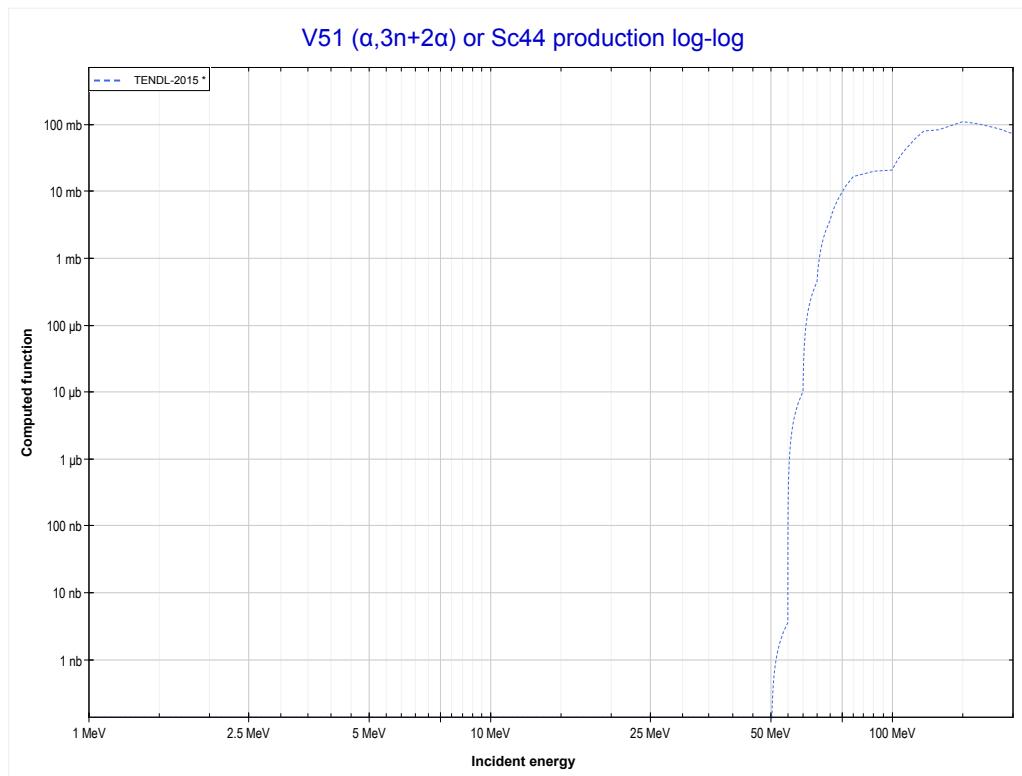


Reaction	Q-Value	Reaction	Q-Value
V51( $\alpha, n+2\alpha$ )Sc46	-20939.43 keV	V51( $\alpha, p+d+2t$ )Sc46	-58342.59 keV
V51( $\alpha, d+t+\alpha$ )Sc46	-38528.73 keV	V51( $\alpha, n+d+t+He3$ )Sc46	-59106.34 keV
V51( $\alpha, n+p+t+\alpha$ )Sc46	-40753.29 keV	V51( $\alpha, n+2p+2t$ )Sc46	-60567.15 keV
V51( $\alpha, 2n+He3+\alpha$ )Sc46	-41517.05 keV	V51( $\alpha, 2n+p+t+He3$ )Sc46	-61330.91 keV
V51( $\alpha, n+2d+\alpha$ )Sc46	-44785.96 keV	V51( $\alpha, 3n+2He3$ )Sc46	-62094.67 keV
V51( $\alpha, 2n+p+d+\alpha$ )Sc46	-47010.53 keV	V51( $\alpha, 3d+t$ )Sc46	-62375.26 keV
V51( $\alpha, 3n+2p+\alpha$ )Sc46	-49235.09 keV	V51( $\alpha, n+p+2d+t$ )Sc46	-64599.82 keV
V51( $\alpha, 2t+He3$ )Sc46	-52849.11 keV	V51( $\alpha, 2n+2d+He3$ )Sc46	-65363.58 keV



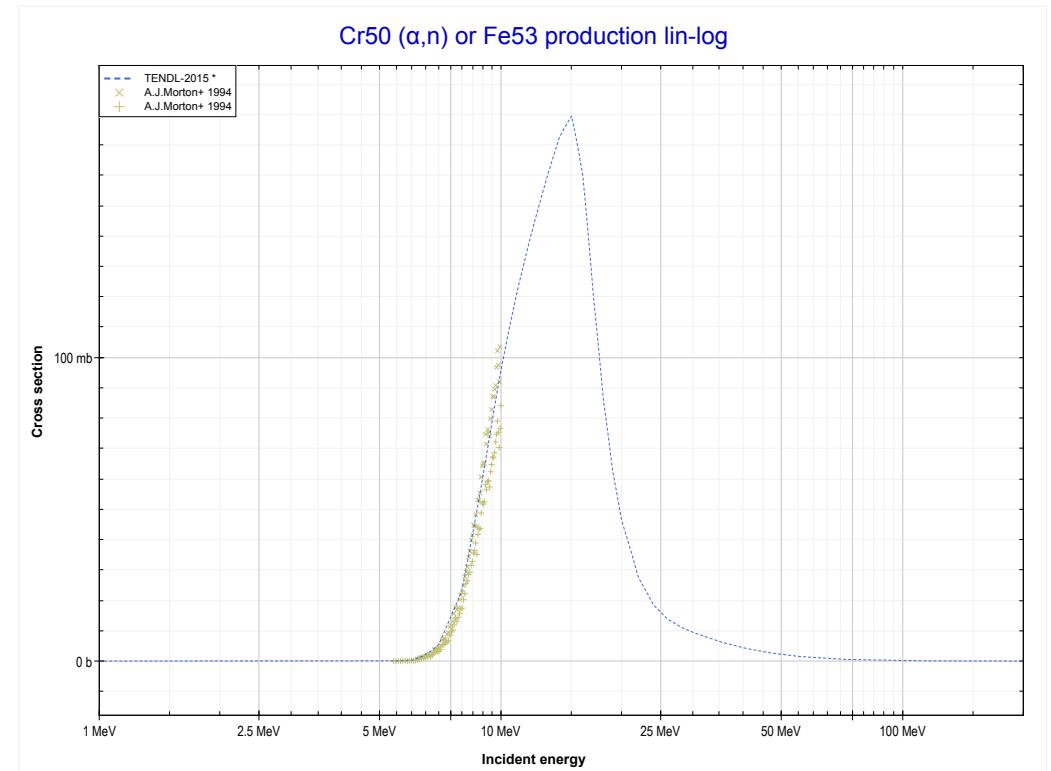
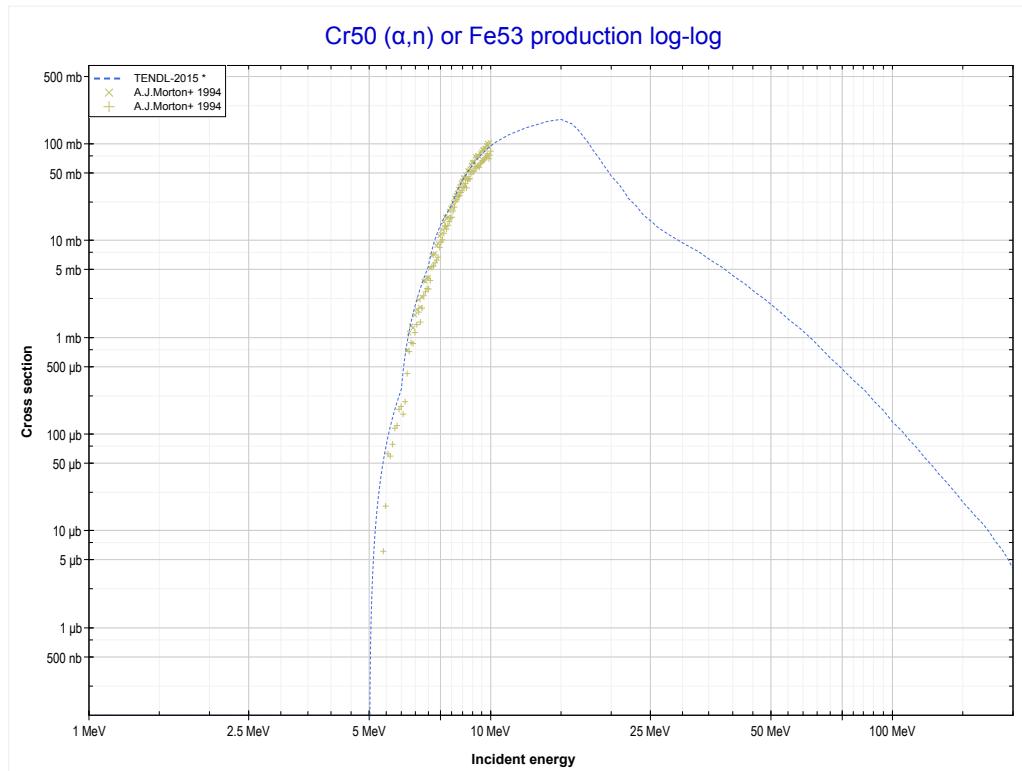
Reaction	Q-Value	Reaction	Q-Value
V51( $\alpha,2\alpha$ )Sc47	-10293.02 keV	V51( $\alpha,n+p+t+He3$ )Sc47	-50684.49 keV
V51( $\alpha,p+t+\alpha$ )Sc47	-30106.88 keV	V51( $\alpha,2n+2He3$ )Sc47	-51448.25 keV
V51( $\alpha,n+He3+\alpha$ )Sc47	-30870.63 keV	V51( $\alpha,p+2d+t$ )Sc47	-53953.40 keV
V51( $\alpha,2d+\alpha$ )Sc47	-34139.54 keV	V51( $\alpha,n+2d+He3$ )Sc47	-54717.16 keV
V51( $\alpha,n+p+d+\alpha$ )Sc47	-36364.11 keV	V51( $\alpha,n+2p+d+t$ )Sc47	-56177.97 keV
V51( $\alpha,2n+2p+\alpha$ )Sc47	-38588.68 keV	V51( $\alpha,2n+p+d+He3$ )Sc47	-56941.73 keV
V51( $\alpha,d+t+He3$ )Sc47	-48459.93 keV	V51( $\alpha,4d$ )Sc47	-57986.07 keV
V51( $\alpha,2p+2t$ )Sc47	-49920.74 keV	V51( $\alpha,2n+3p+t$ )Sc47	-58402.54 keV

<< MT108 ( $\alpha,2\alpha$ )	23-V-51 MT180 ( $\alpha,3n+2\alpha$ ) or MT5 (Sc44 production)	24-Cr-50 MT4 ( $\alpha,n$ ) >>
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Reaction	Q-Value	Reaction	Q-Value
V51( $\alpha,3n+2\alpha$ )Sc44	-41026.57 keV	V51( $\alpha,d+3t$ )Sc44	-69947.92 keV
V51( $\alpha,n+2t+\alpha$ )Sc44	-52358.63 keV	V51( $\alpha,n+p+3t$ )Sc44	-72172.49 keV
V51( $\alpha,2n+d+t+\alpha$ )Sc44	-58615.86 keV	V51( $\alpha,2n+2t+He3$ )Sc44	-72936.25 keV
V51( $\alpha,3n+p+t+\alpha$ )Sc44	-60840.43 keV	V51( $\alpha,n+2d+2t$ )Sc44	-76205.16 keV
V51( $\alpha,4n+He3+\alpha$ )Sc44	-61604.18 keV	V51( $\alpha,2n+p+d+2t$ )Sc44	-78429.72 keV
V51( $\alpha,3n+2d+\alpha$ )Sc44	-64873.09 keV	V51( $\alpha,3n+d+t+He3$ )Sc44	-79193.48 keV
V51( $\alpha,4n+p+d+\alpha$ )Sc44	-67097.66 keV	V51( $\alpha,3n+2p+2t$ )Sc44	-80654.29 keV
V51( $\alpha,5n+2p+\alpha$ )Sc44	-69322.23 keV	V51( $\alpha,4n+p+t+He3$ )Sc44	-81418.04 keV

<< 23-V-51	<b>24-Cr-50</b> MT4 ( $\alpha, n$ ) or MT5 (Fe53 production)	>> 25-Mn-55
<< 23-V-51 MT180 ( $\alpha, 3n+2\alpha$ )		MT16 ( $\alpha, 2n$ ) >>

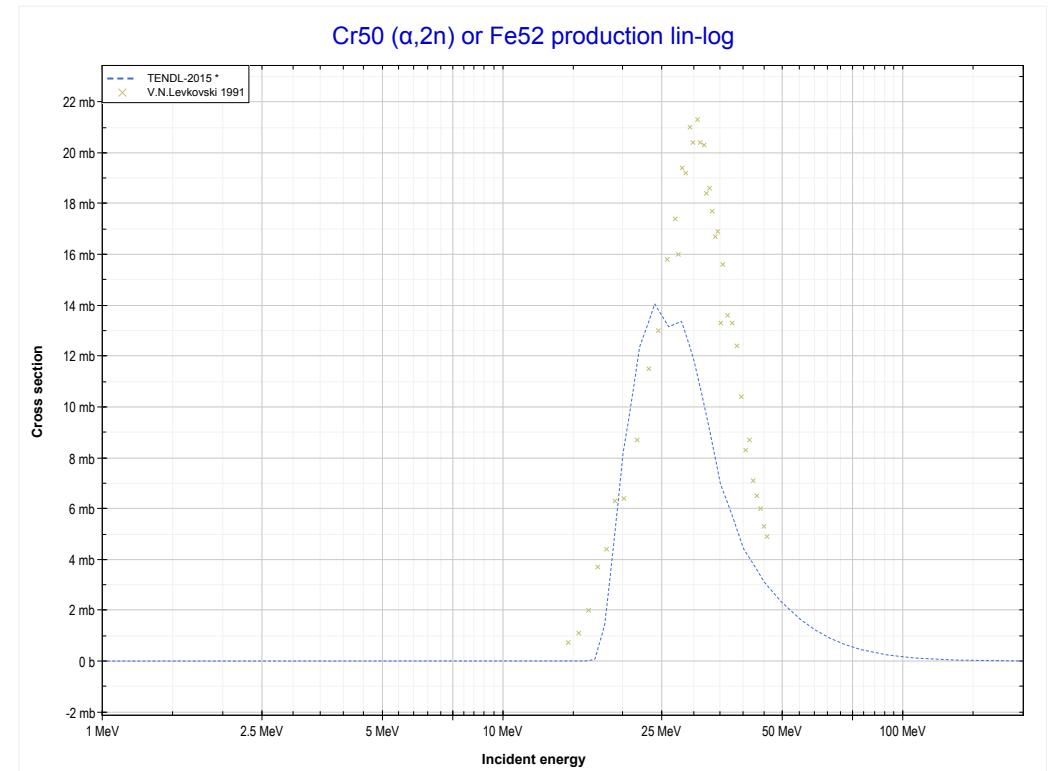
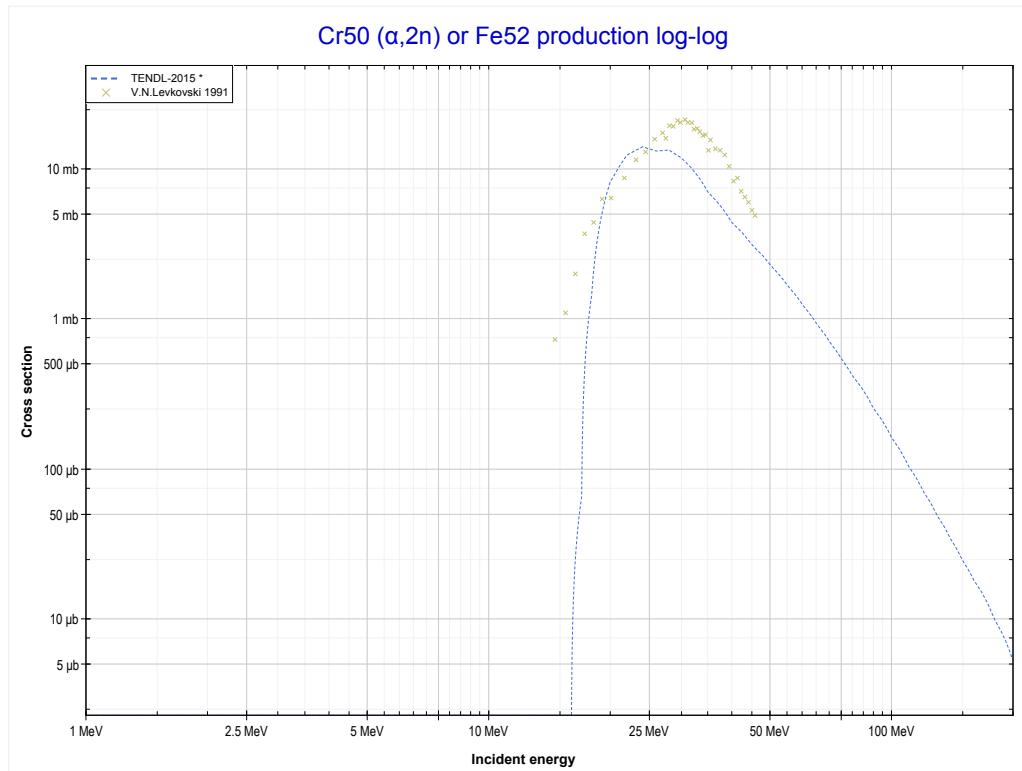


Reaction	Q-Value
Cr50( $\alpha, n$ )Fe53	-4961.40 keV

<< 22-Ti-49	
<< MT4 ( $\alpha, n$ )	

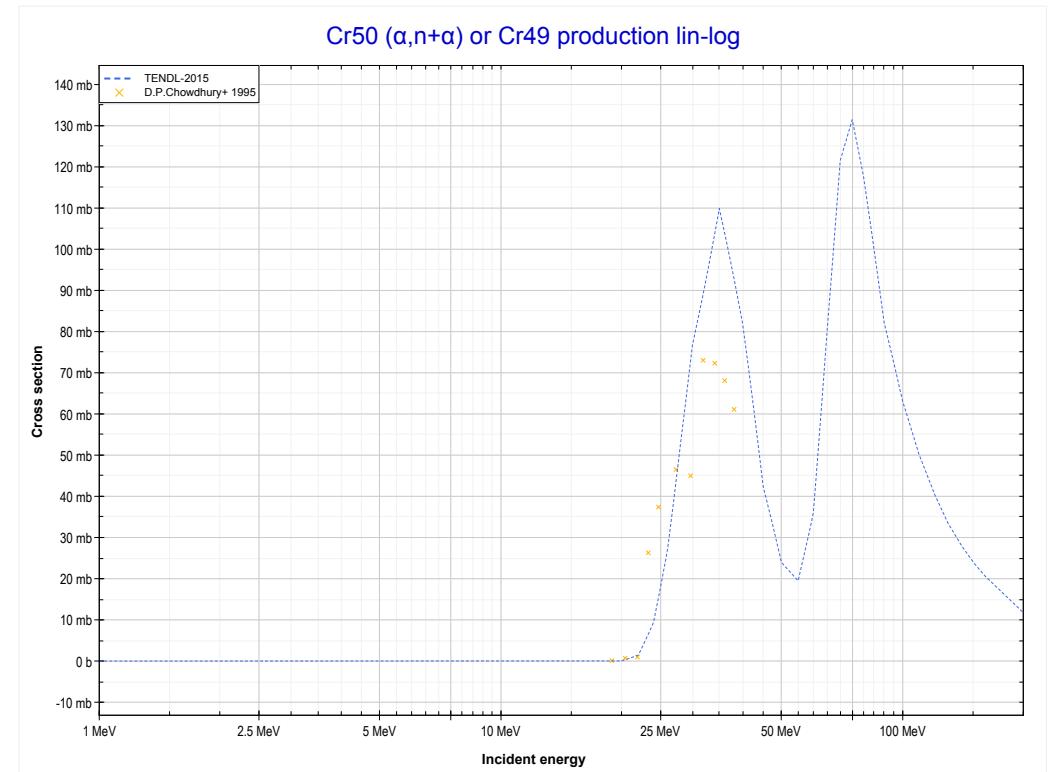
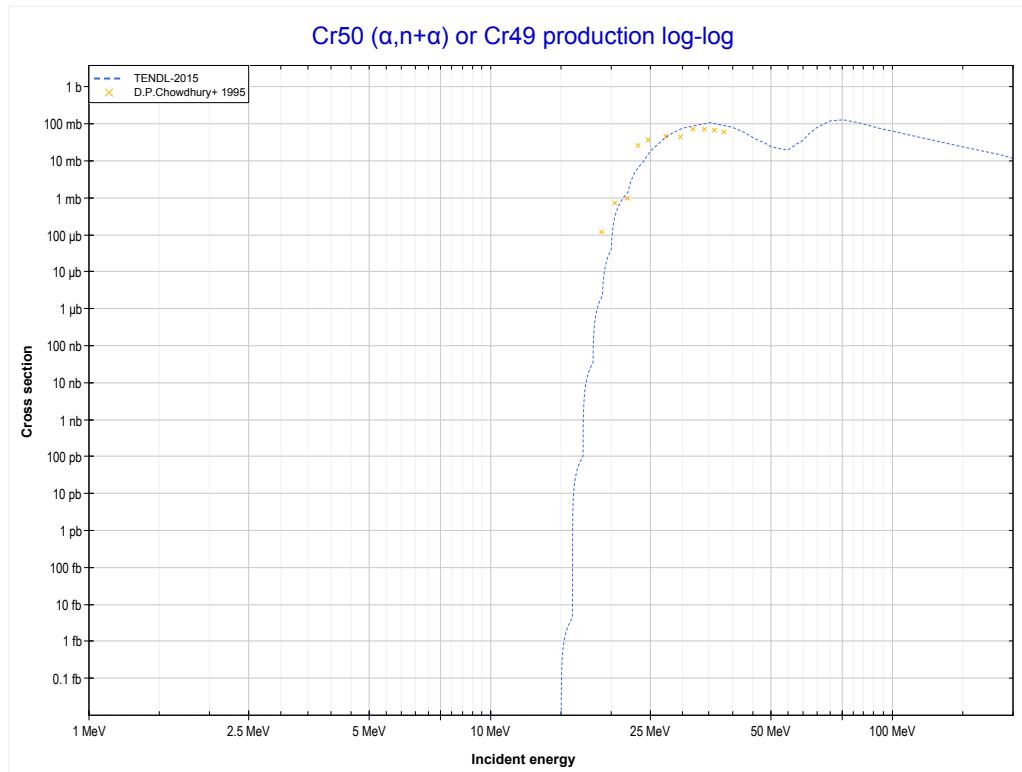
**24-Cr-50**  
**MT16 ( $\alpha, 2n$ ) or MT5 (Fe52 production)**

25-Mn-55 >>  
MT22 ( $\alpha, n+\alpha$ ) >>



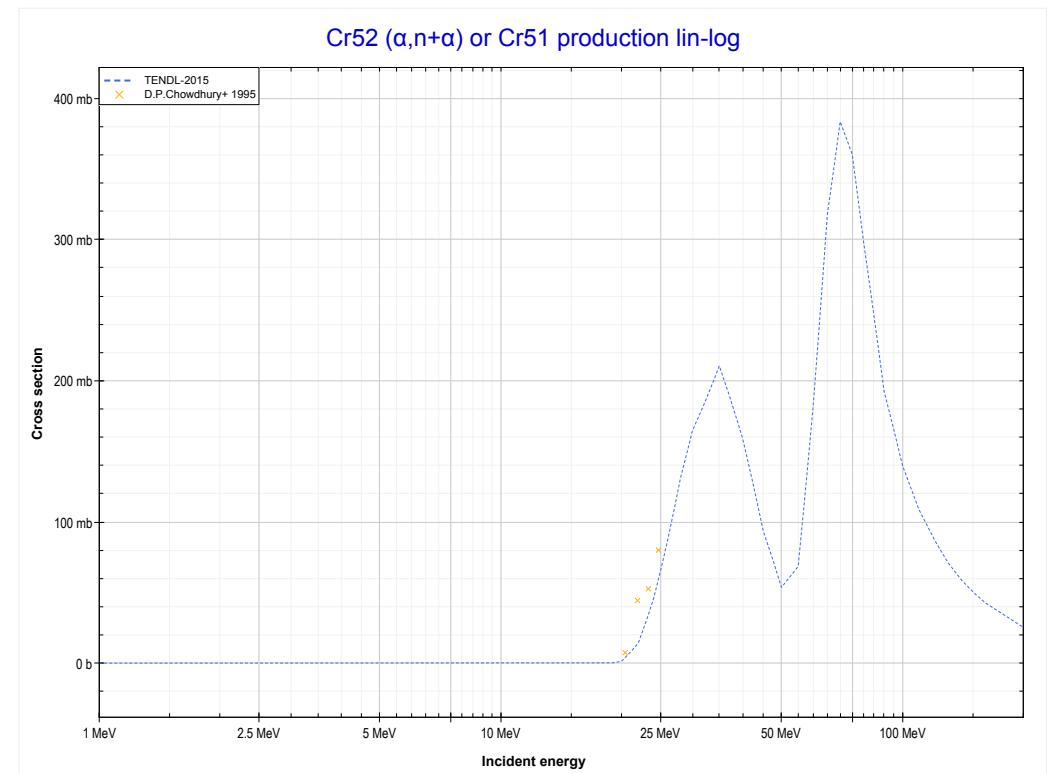
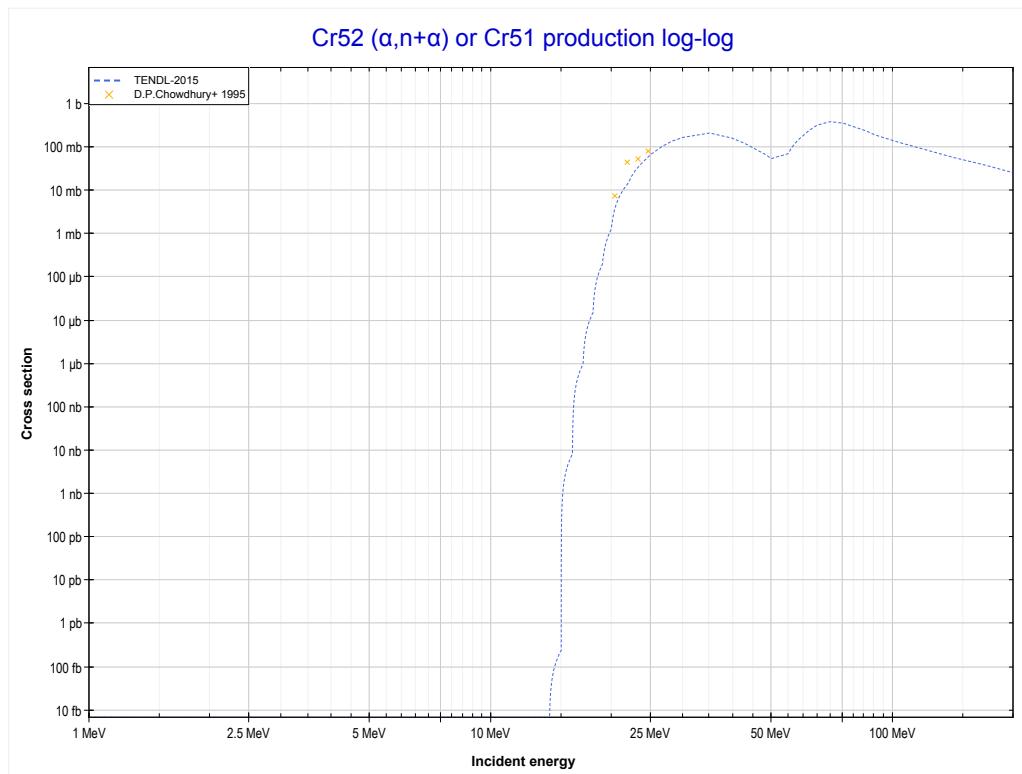
Reaction	Q-Value
Cr50( $\alpha, 2n$ )Fe52	-15647.42 keV

<< 21-Sc-45	<b>24-Cr-50</b> MT22 ( $\alpha, n+\alpha$ ) or MT5 (Cr49 production)	24-Cr-52 >>
<< MT16 ( $\alpha, 2n$ )		24-Cr-52 MT22 ( $\alpha, n+\alpha$ ) >>



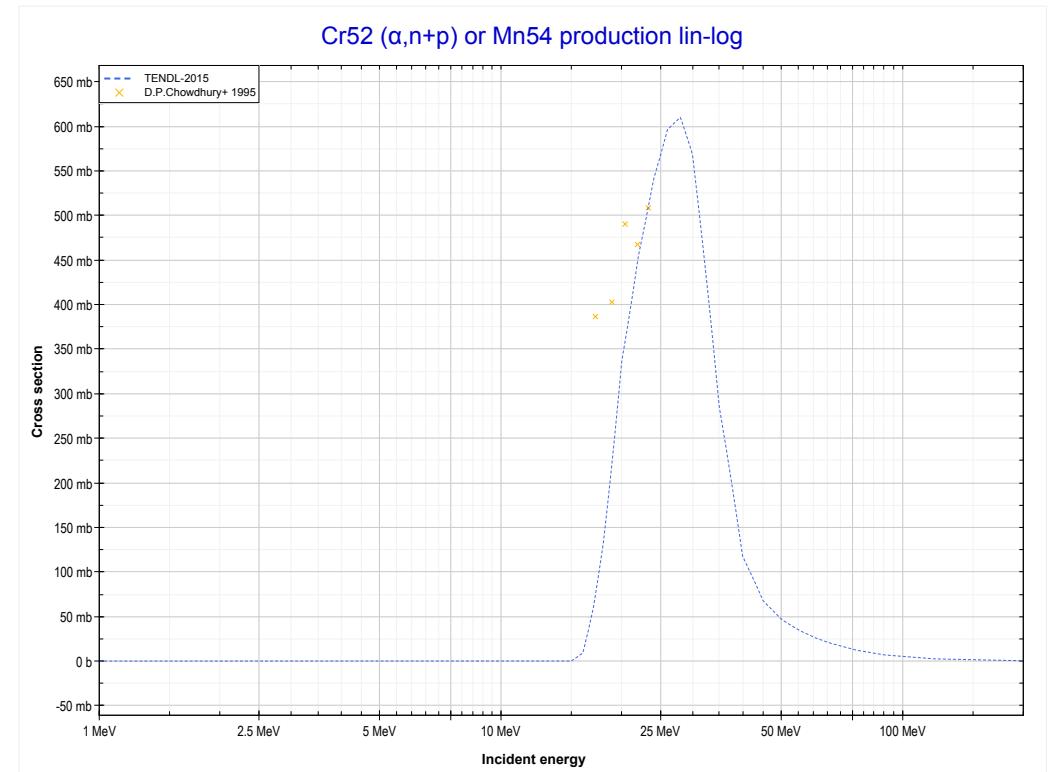
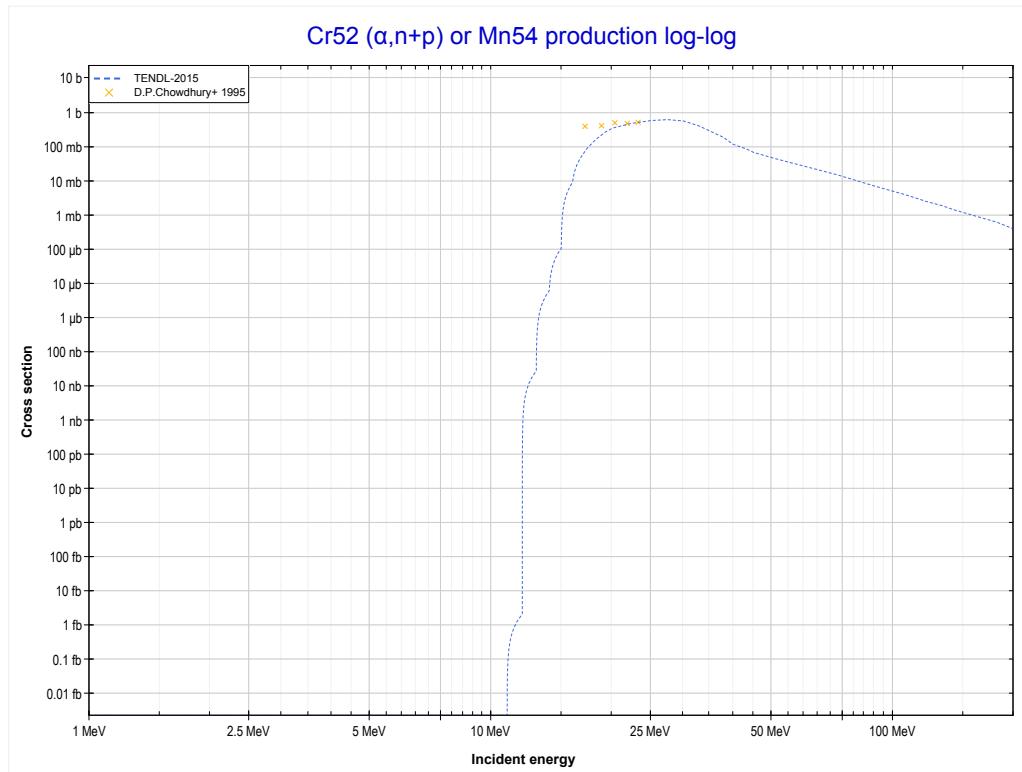
Reaction	Q-Value
Cr50( $\alpha, n+\alpha$ )Cr49	-13000.32 keV
Cr50( $\alpha, d+t$ )Cr49	-30589.61 keV
Cr50( $\alpha, n+p+t$ )Cr49	-32814.18 keV
Cr50( $\alpha, 2n+He3$ )Cr49	-33577.93 keV
Cr50( $\alpha, n+2d$ )Cr49	-36846.84 keV
Cr50( $\alpha, 2n+p+d$ )Cr49	-39071.41 keV
Cr50( $\alpha, 3n+2p$ )Cr49	-41295.98 keV

<< 24-Cr-50	<b>24-Cr-52</b> MT22 ( $\alpha, n + \alpha$ ) or MT5 (Cr51 production)	25-Mn-55 >>
<< 24-Cr-50 MT22 ( $\alpha, n + \alpha$ )		MT28 ( $\alpha, n + p$ ) >>



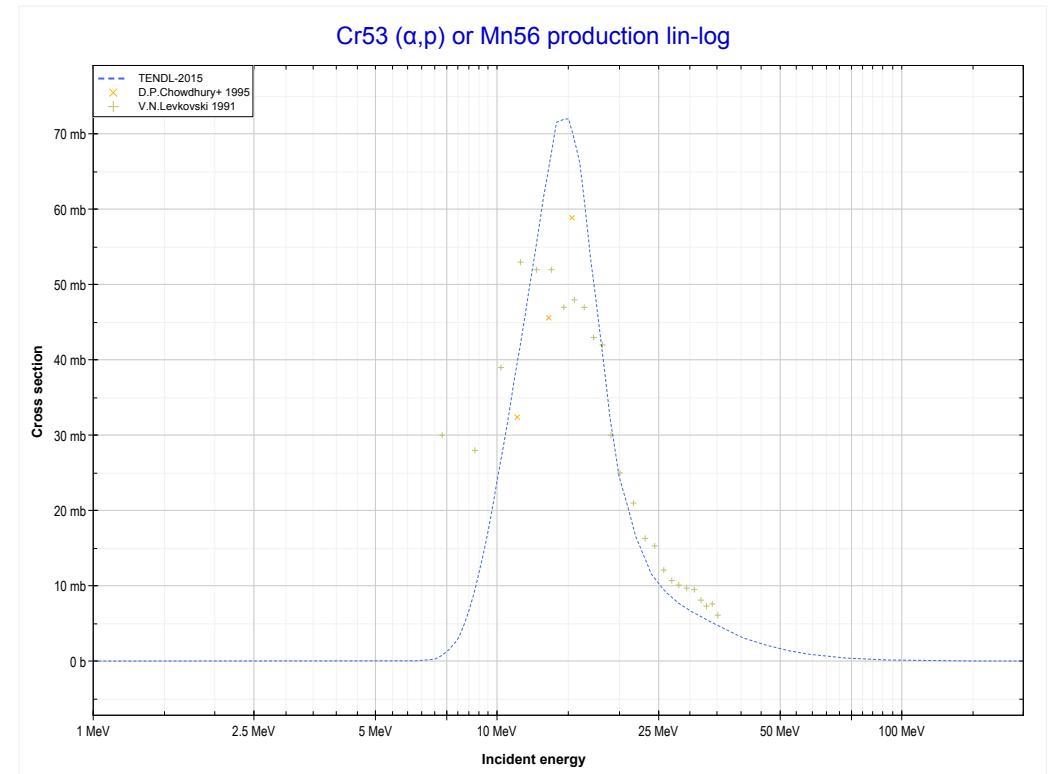
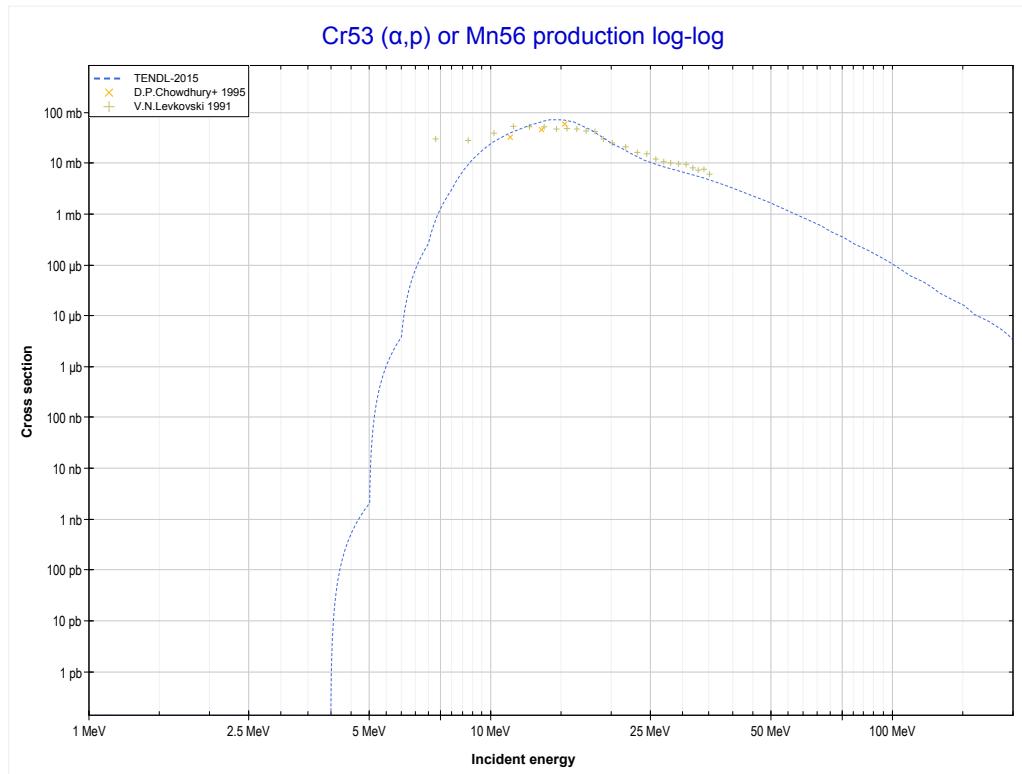
Reaction	Q-Value
Cr52( $\alpha, n + \alpha$ )Cr51	-12038.32 keV
Cr52( $\alpha, d + t$ )Cr51	-29627.61 keV
Cr52( $\alpha, n + p + t$ )Cr51	-31852.18 keV
Cr52( $\alpha, 2n + \text{He}3$ )Cr51	-32615.93 keV
Cr52( $\alpha, n + 2d$ )Cr51	-35884.84 keV
Cr52( $\alpha, 2n + p + d$ )Cr51	-38109.41 keV
Cr52( $\alpha, 3n + 2p$ )Cr51	-40333.98 keV

<< 18-Ar-40	<b>24-Cr-52</b> MT28 ( $\alpha, n+p$ ) or MT5 (Mn54 production)	26-Fe-54 >>
<< MT22 ( $\alpha, n+\alpha$ )		24-Cr-53 MT103 ( $\alpha, p$ ) >>



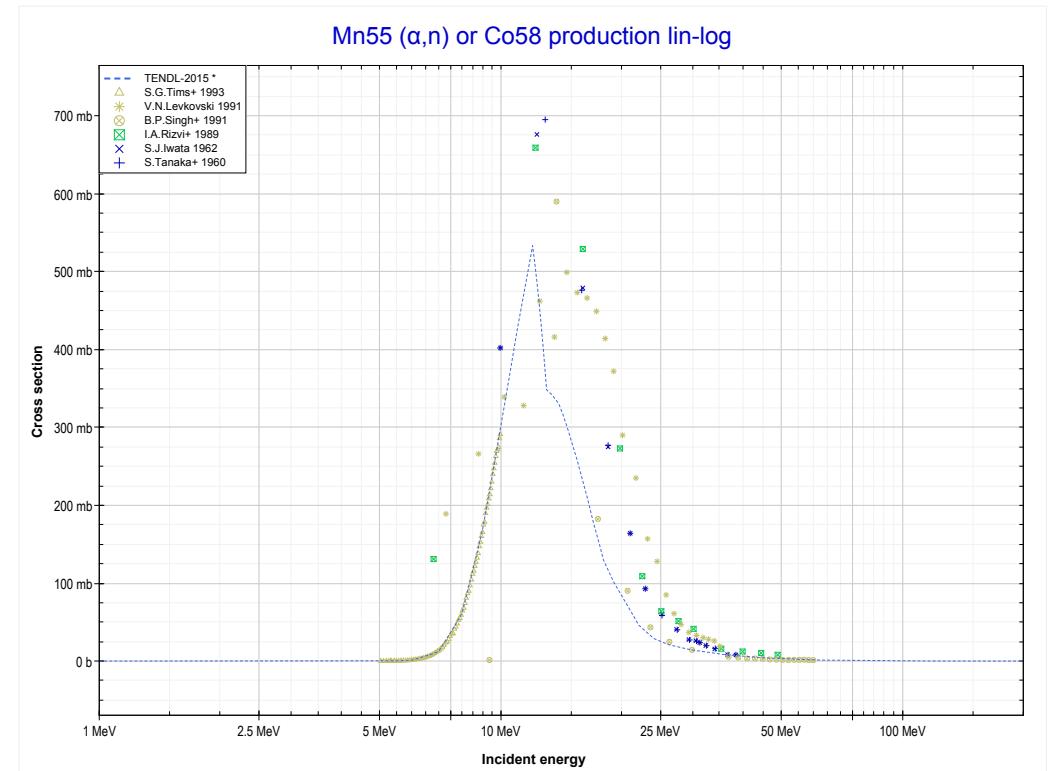
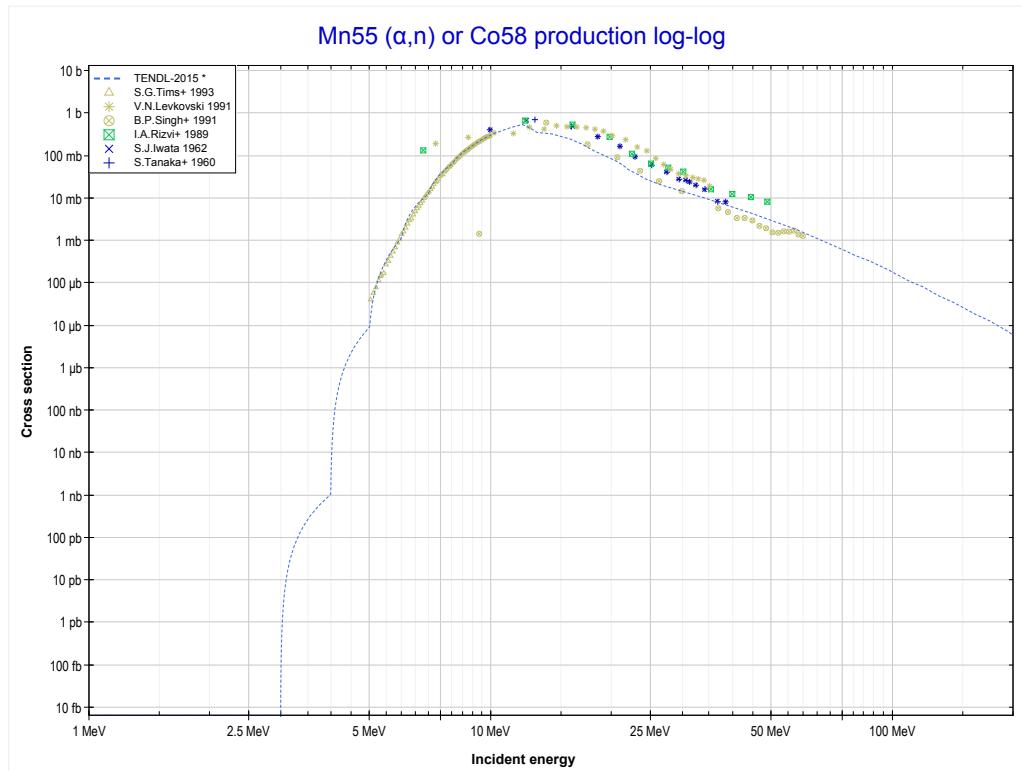
Reaction	Q-Value
Cr52( $\alpha, d$ )Mn54	-10572.41 keV
Cr52( $\alpha, n+p$ )Mn54	-12796.97 keV

<< 20-Ca-44	<b>24-Cr-53</b> MT103 ( $\alpha,p$ ) or MT5 (Mn56 production)	>> 26-Fe-54 >>
<< 24-Cr-52 MT28 ( $\alpha,n+p$ )		25-Mn-55 MT4 ( $\alpha,n$ ) >>



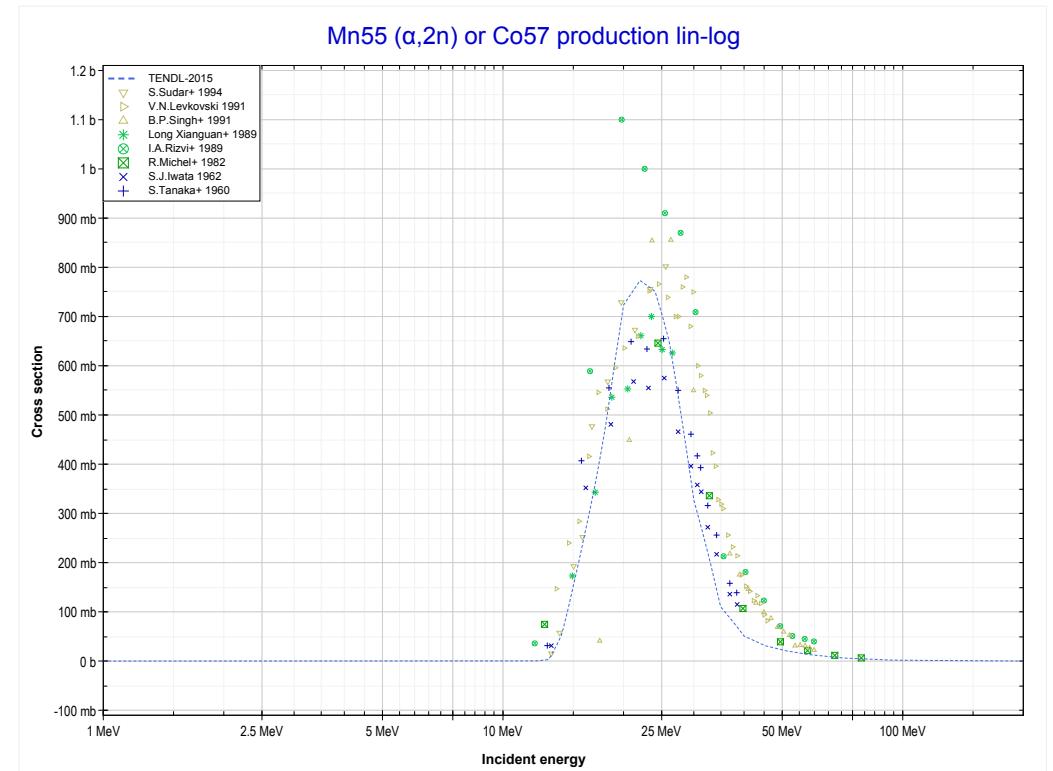
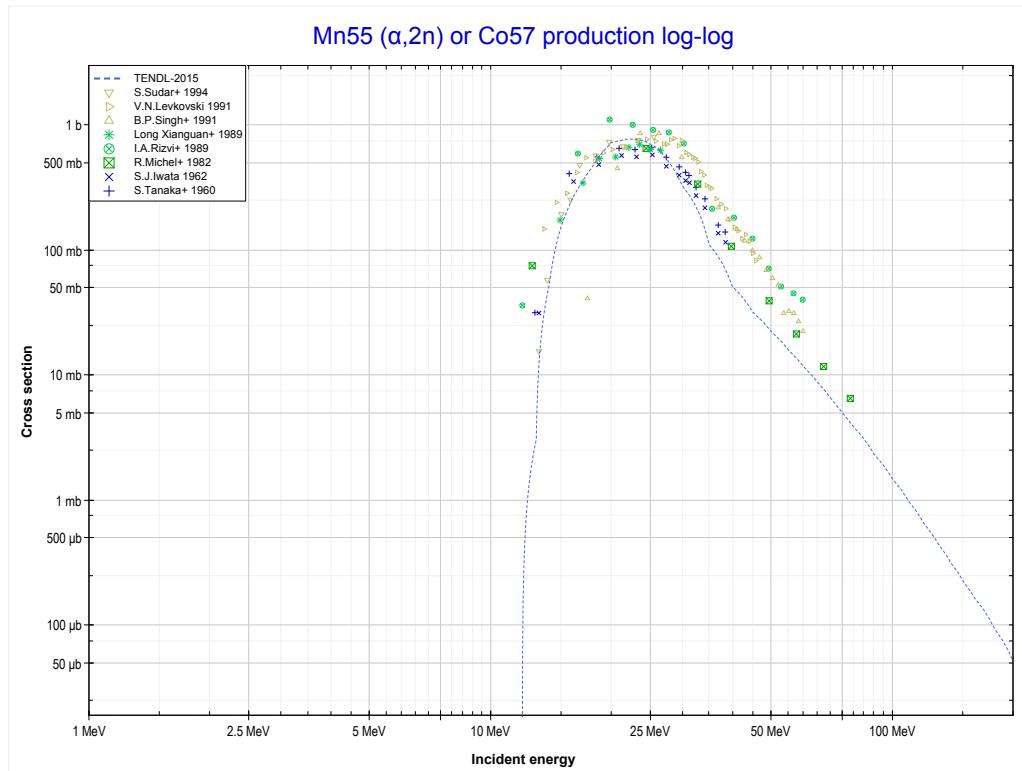
Reaction	Q-Value
Cr53( $\alpha,p$ )Mn56	-3239.15 keV

<< 24-Cr-50	<b>25-Mn-55</b> MT4 ( $\alpha, n$ ) or MT5 (Co58 production)	>> 26-Fe-54
<< 24-Cr-53 MT103 ( $\alpha, p$ )		MT16 ( $\alpha, 2n$ ) >>



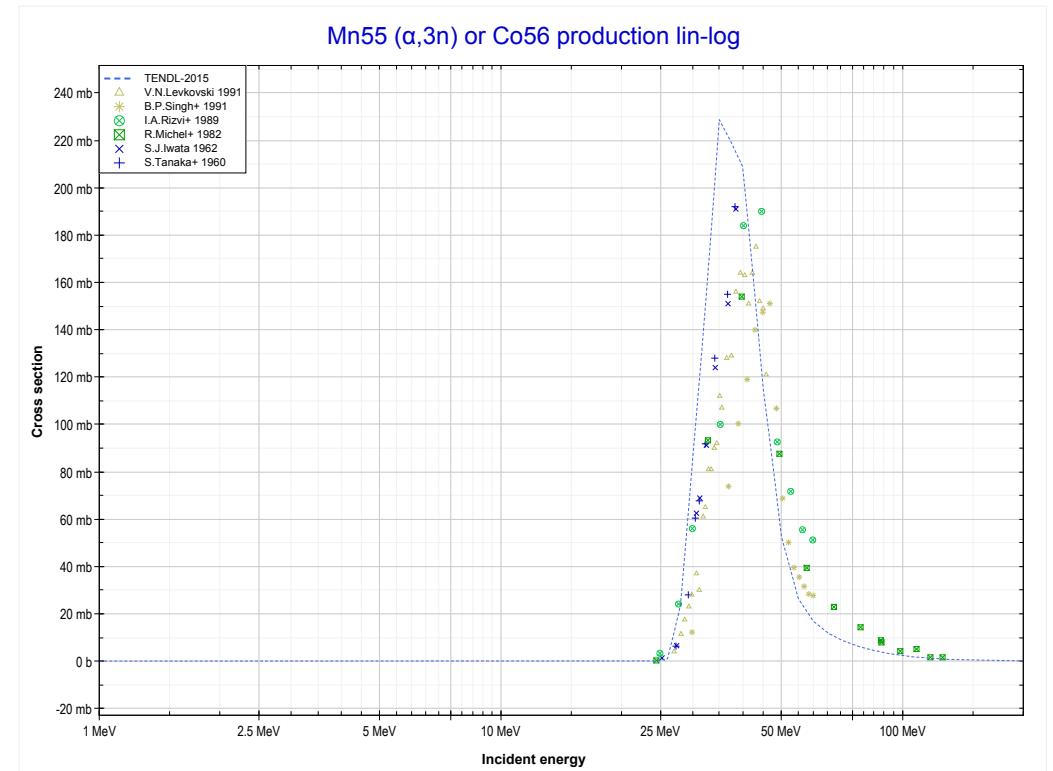
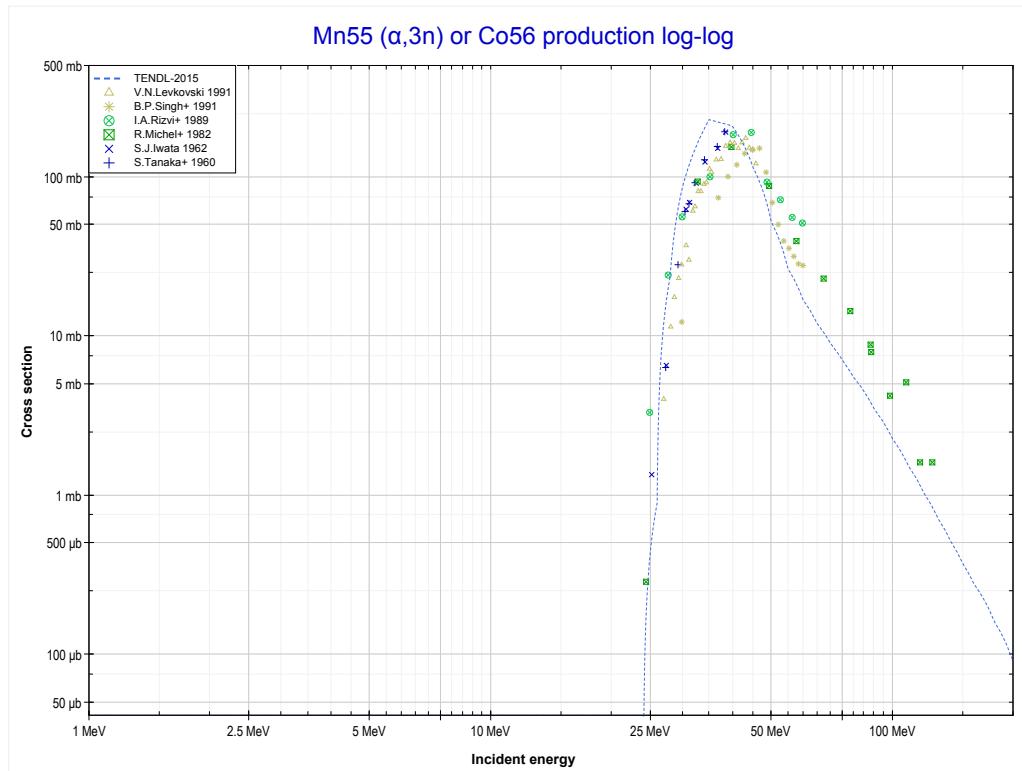
Reaction	Q-Value
Mn55( $\alpha, n$ )Co58	-3511.50 keV

<< 24-Cr-50	<b>25-Mn-55</b> <b>MT16 (<math>\alpha,2n</math>) or MT5 (Co57 production)</b>	26-Fe-54 >>
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



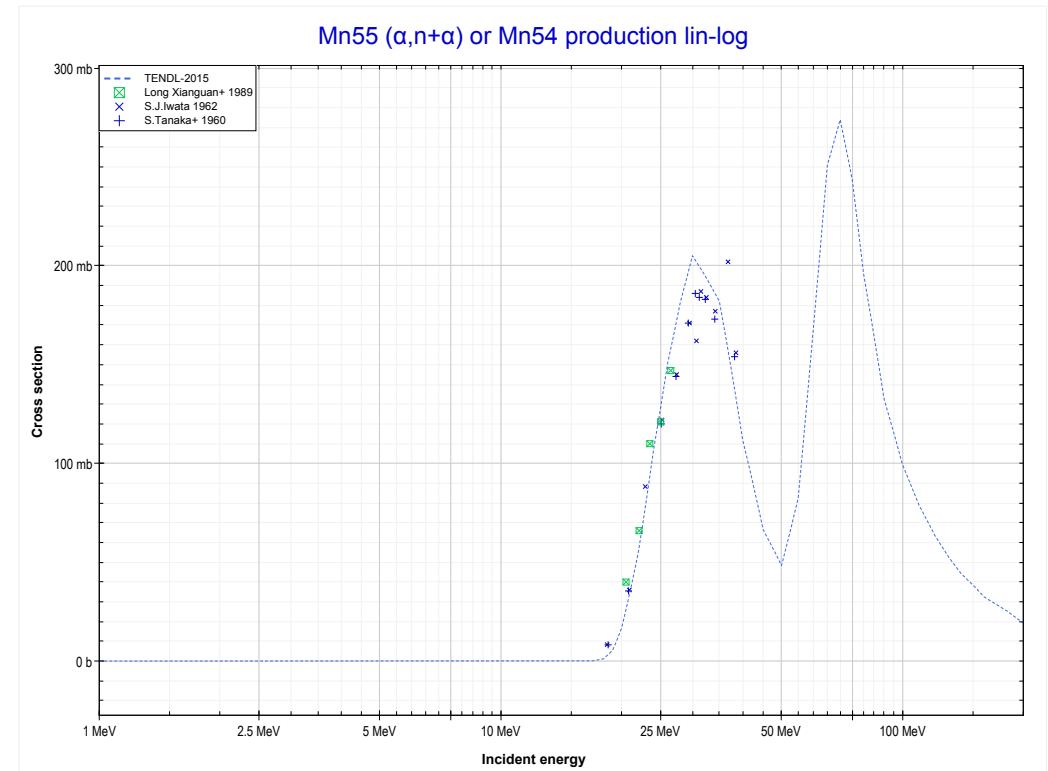
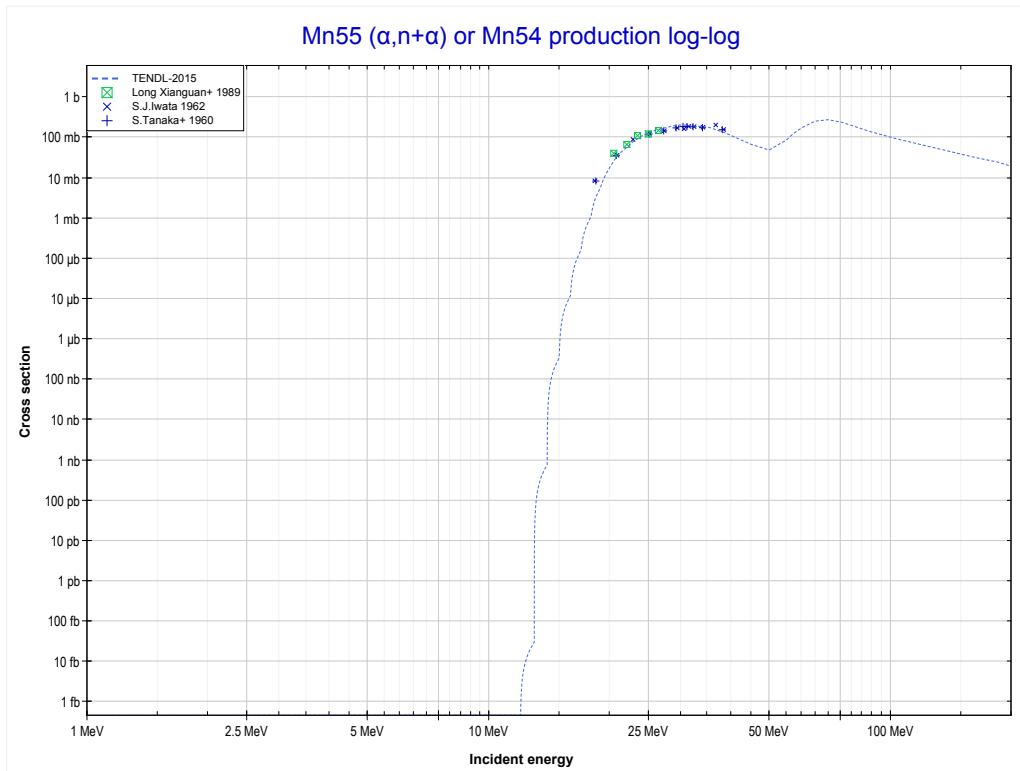
Reaction	Q-Value
Mn55( $\alpha,2n$ )Co57	-12084.52 keV

<< 23-V-51	<b>25-Mn-55</b> <b>MT17 (<math>\alpha,3n</math>) or MT5 (Co56 production)</b>	26-Fe-56 >>
<< MT16 ( $\alpha,2n$ )		MT22 ( $\alpha,n+\alpha$ ) >>



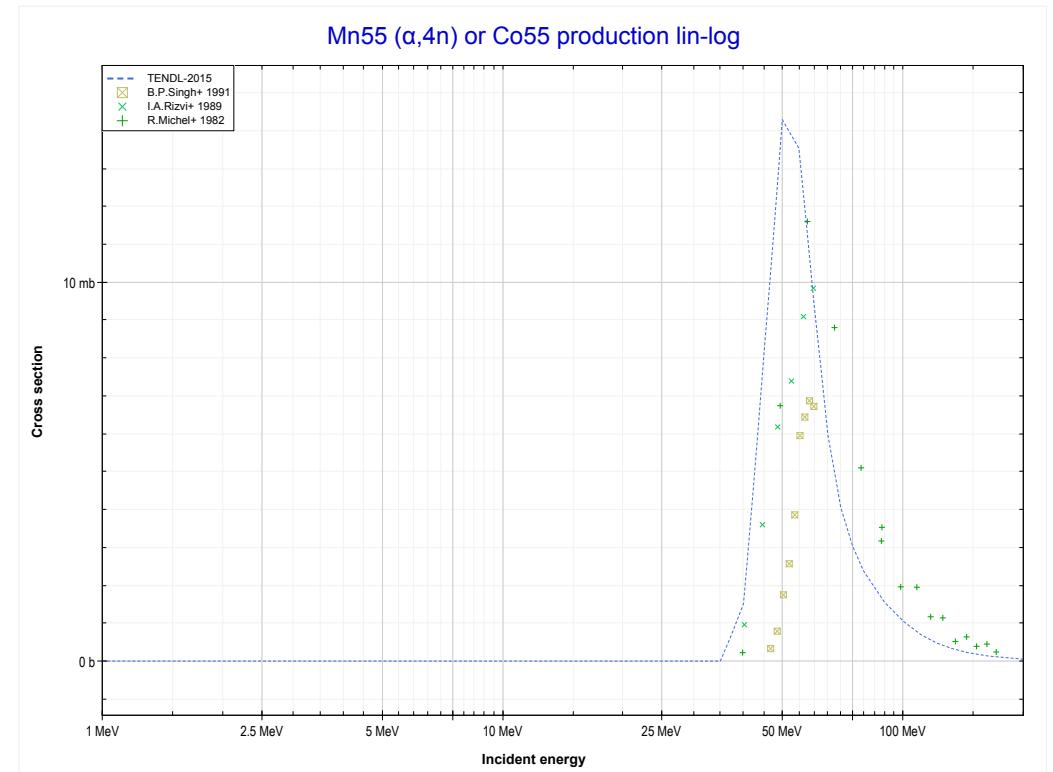
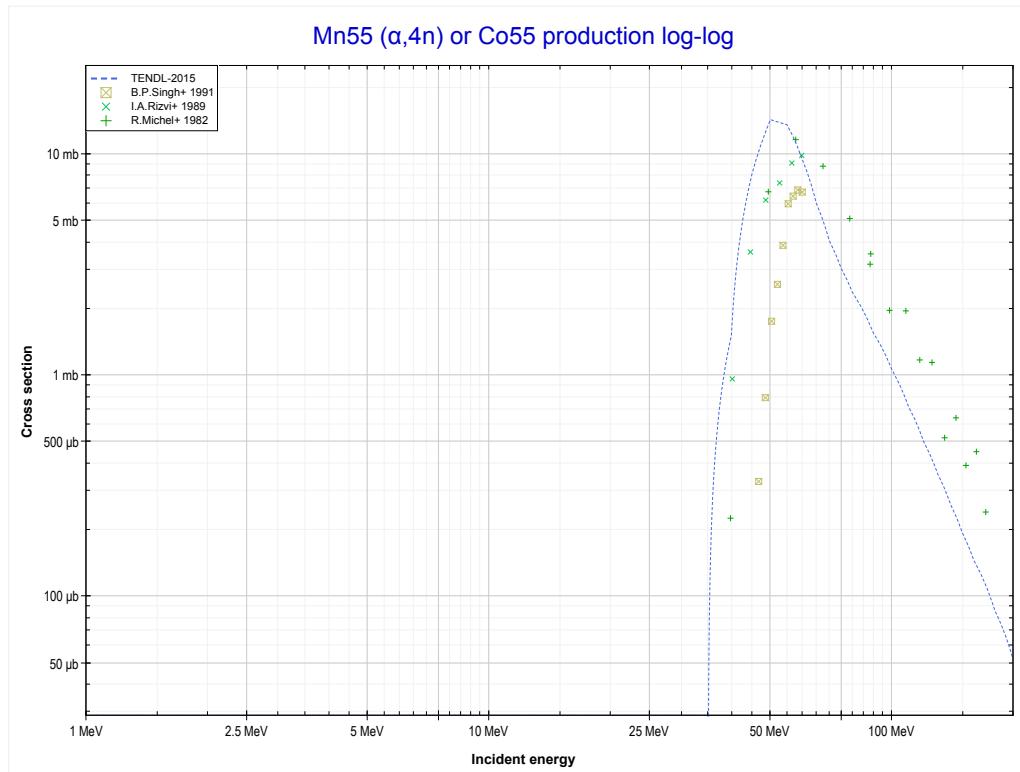
Reaction	Q-Value
Mn55( $\alpha,3n$ )Co56	-23460.94 keV

<< 24-Cr-52	<b>25-Mn-55</b> <b>MT22 (<math>\alpha, n+\alpha</math>) or MT5 (Mn54 production)</b>	26-Fe-54 >>
<< MT17 ( $\alpha, 3n$ )		MT37 ( $\alpha, 4n$ ) >>



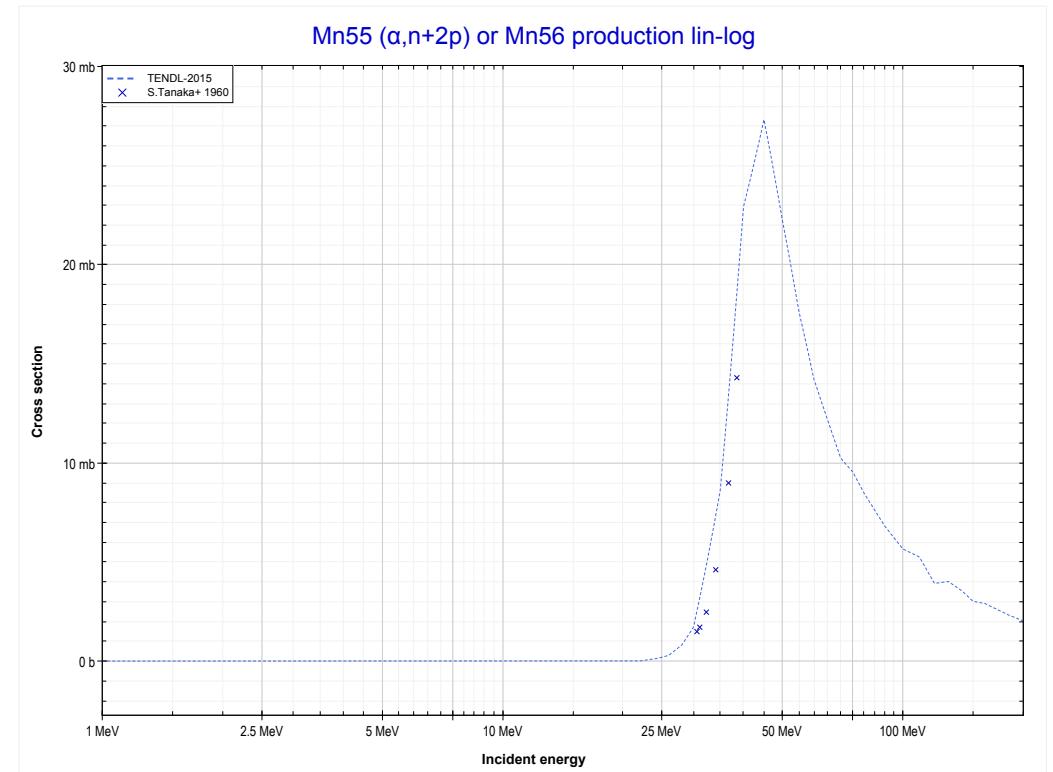
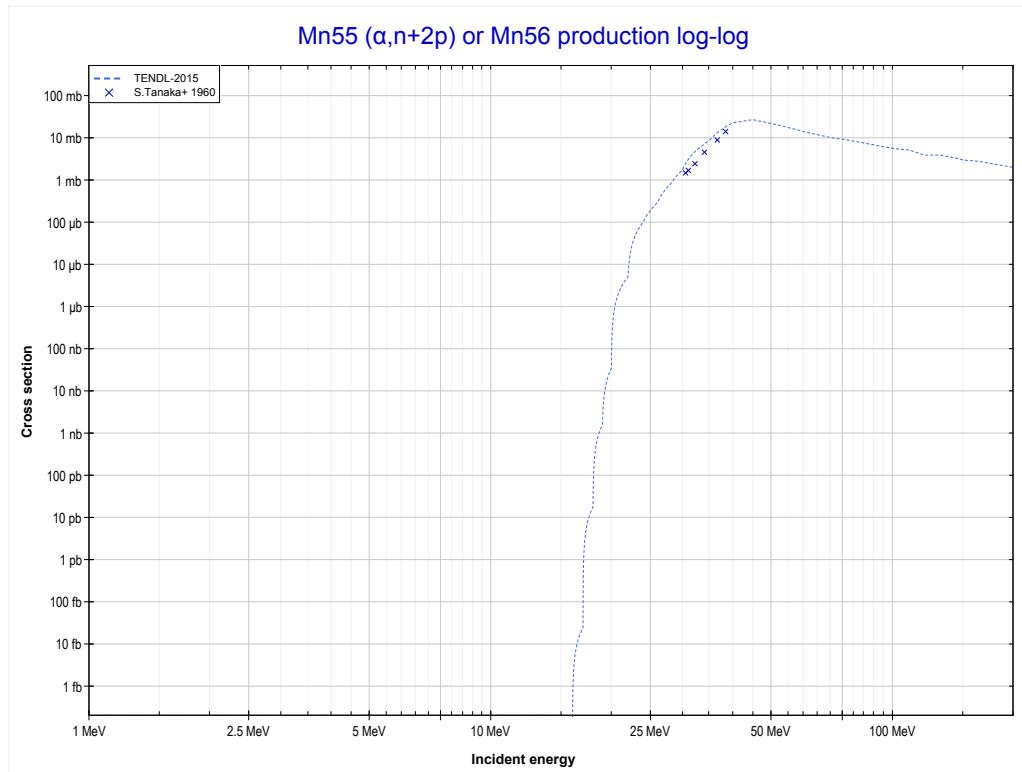
Reaction	Q-Value
Mn55( $\alpha, n+\alpha$ )Mn54	-10226.52 keV
Mn55( $\alpha, d+t$ )Mn54	-27815.81 keV
Mn55( $\alpha, n+p+t$ )Mn54	-30040.38 keV
Mn55( $\alpha, 2n+He3$ )Mn54	-30804.13 keV
Mn55( $\alpha, n+2d$ )Mn54	-34073.04 keV
Mn55( $\alpha, 2n+p+d$ )Mn54	-36297.61 keV
Mn55( $\alpha, 3n+2p$ )Mn54	-38522.18 keV

<< 22-Ti-48	<b>25-Mn-55</b> <b>MT37 (<math>\alpha,4n</math>) or MT5 (Co55 production)</b>	26-Fe-56 >>
<< MT22 ( $\alpha,n+\alpha$ )		MT44 ( $\alpha,n+2p$ ) >>



Reaction	Q-Value
Mn55( $\alpha,4n$ )Co55	-33542.75 keV

<< 21-Sc-45	<b>25-Mn-55</b> MT44 ( $\alpha, n+2p$ ) or MT5 (Mn56 production)	26-Fe-54 >>
<< MT37 ( $\alpha, 4n$ )		26-Fe-54 MT4 ( $\alpha, n$ ) >>

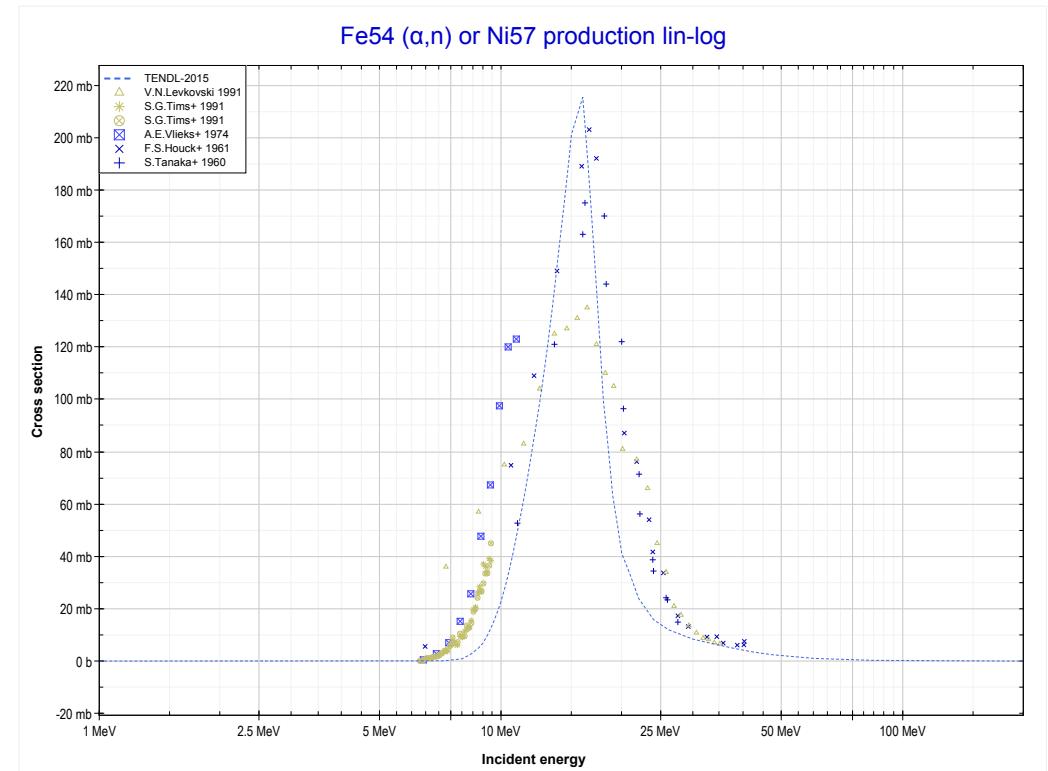
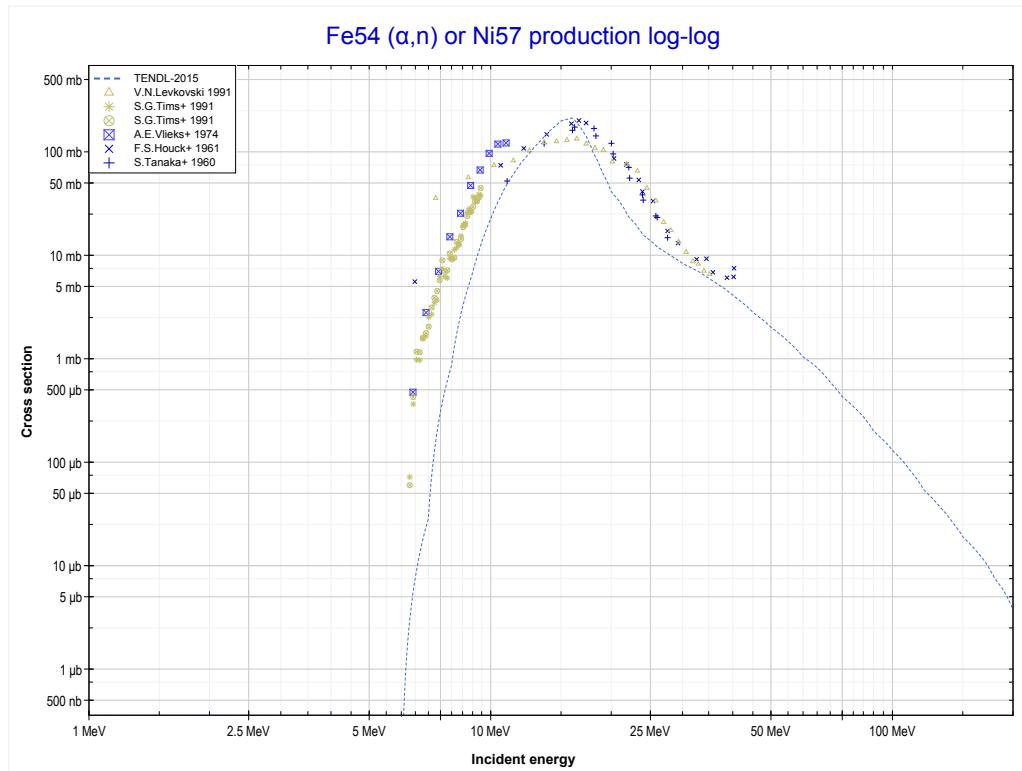


Reaction	Q-Value
Mn55( $\alpha, \text{He}3$ )Mn56	-13307.20 keV
Mn55( $\alpha, p+d$ )Mn56	-18800.68 keV
Mn55( $\alpha, n+2p$ )Mn56	-21025.24 keV

<< 25-Mn-55	
<< 25-Mn-55 MT44 ( $\alpha, n+2p$ )	

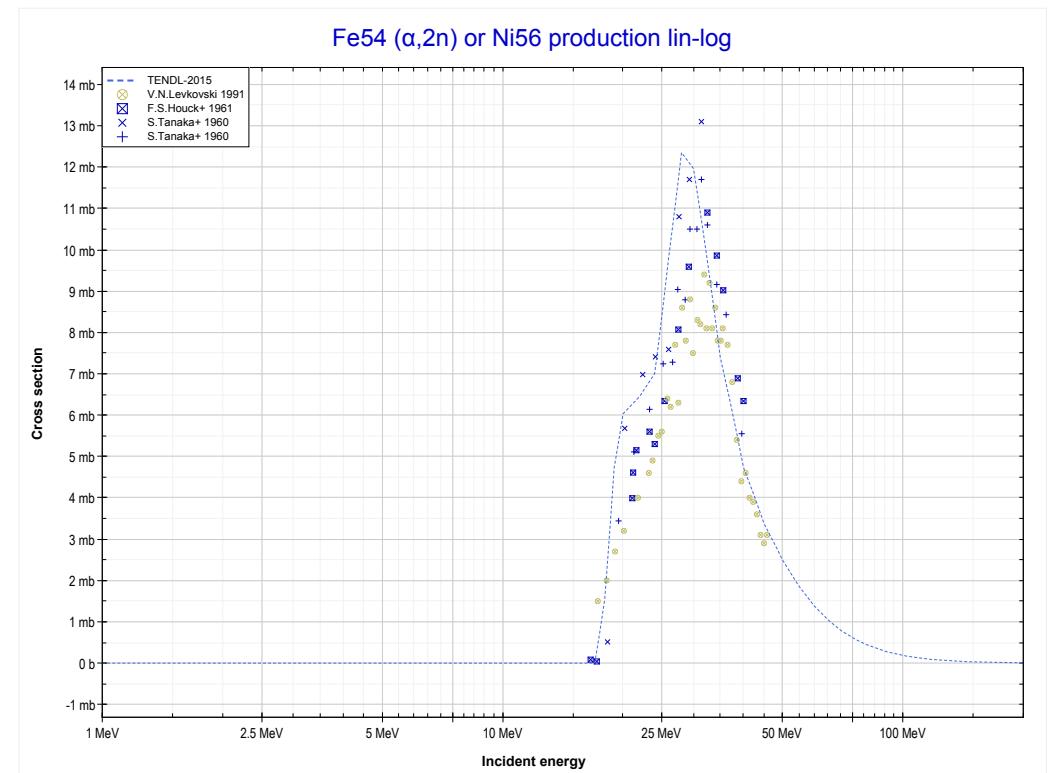
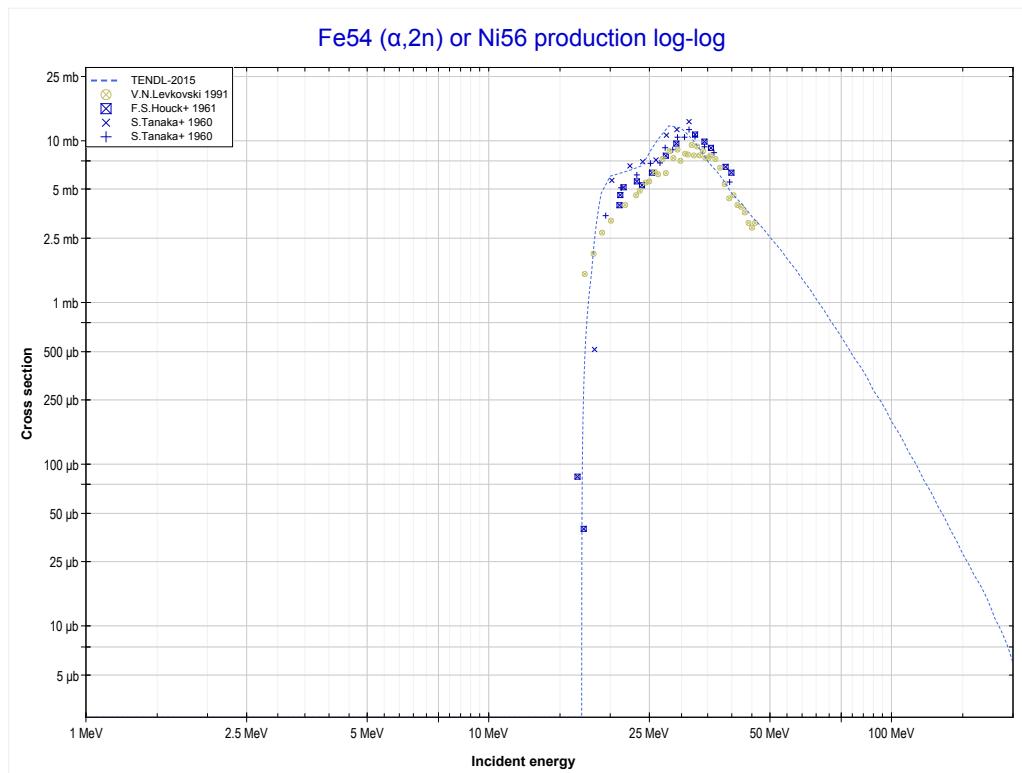
26-Fe-54
MT4 ( $\alpha, n$ ) or MT5 (Ni57 production)

27-Co-59 >>
MT16 ( $\alpha, 2n$ ) >>



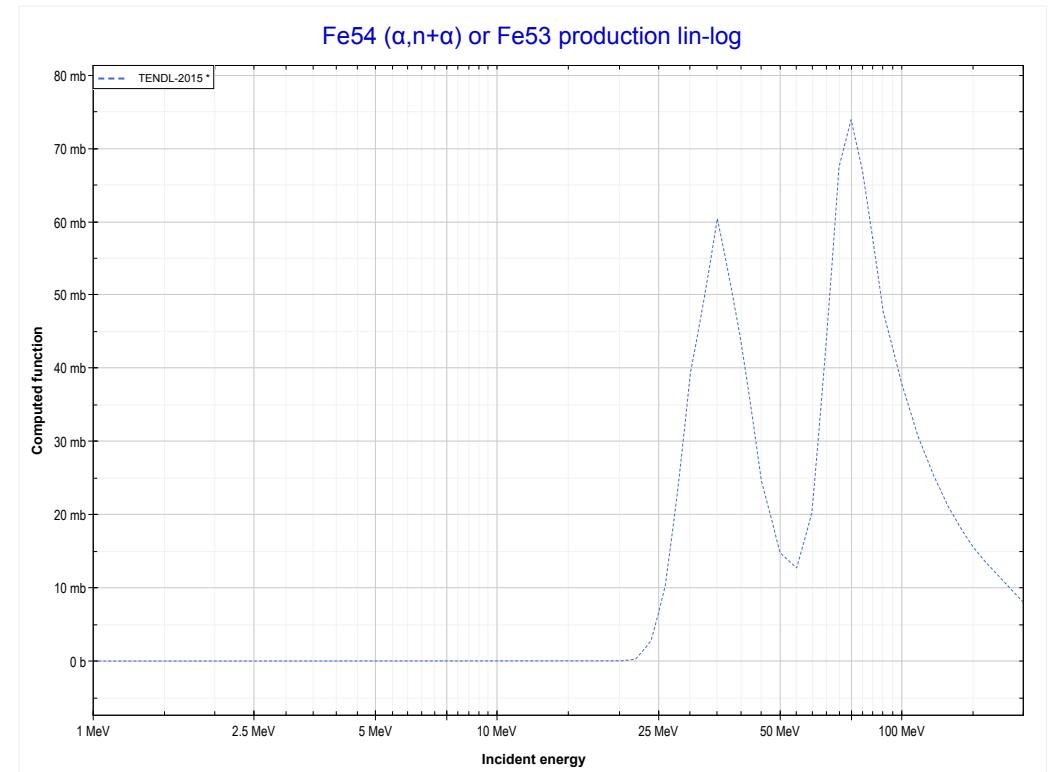
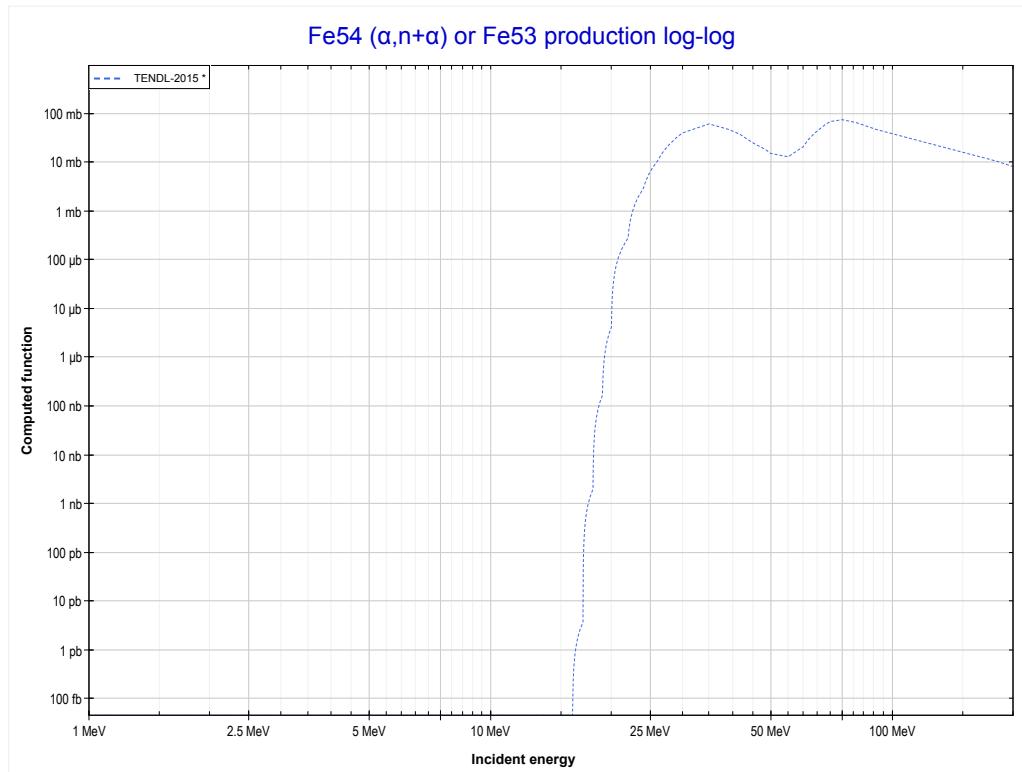
Reaction	Q-Value
Fe54( $\alpha, n$ )Ni57	-5817.10 keV

<< 25-Mn-55	<b>26-Fe-54</b> MT16 ( $\alpha,2n$ ) or MT5 (Ni56 production)	27-Co-59 >>
<< MT4 ( $\alpha,n$ )		MT22 ( $\alpha,n+\alpha$ ) >>



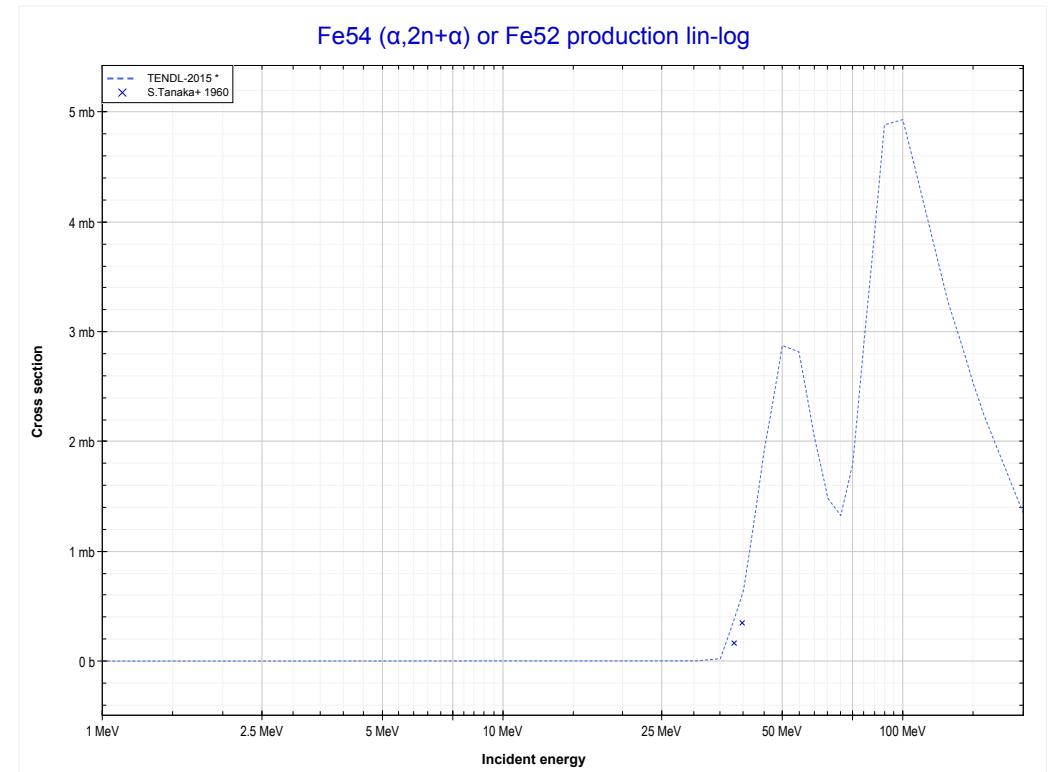
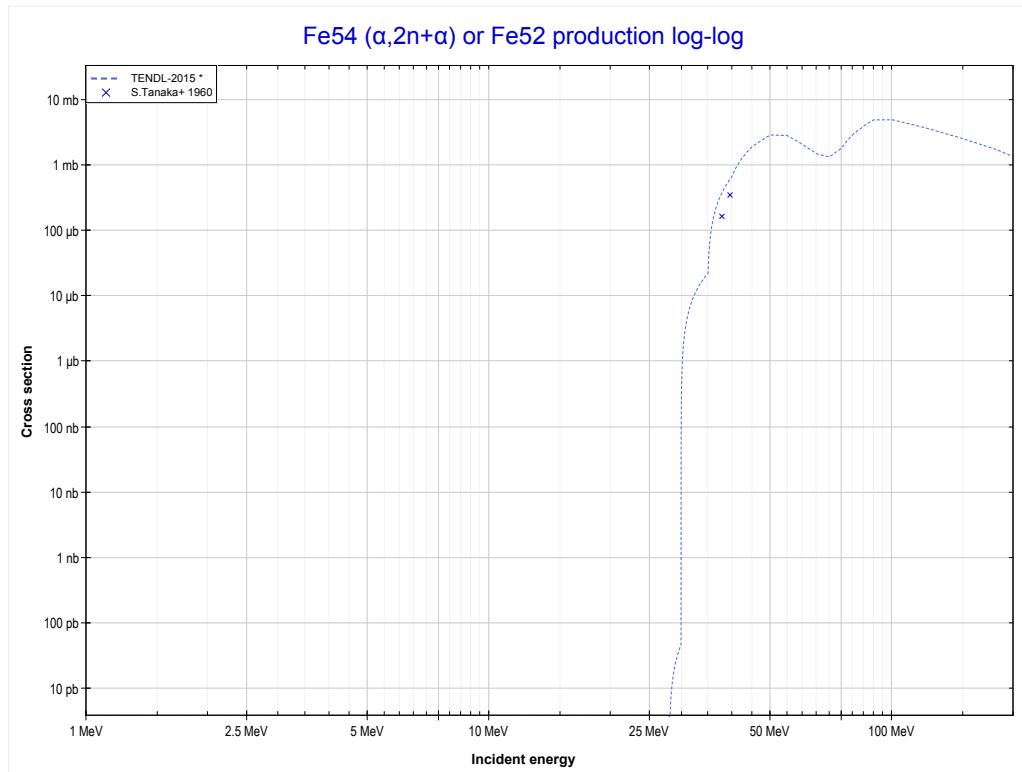
Reaction	Q-Value
Fe54( $\alpha,2n$ )Ni56	-16064.72 keV

<< 25-Mn-55	<b>26-Fe-54</b> MT22 ( $\alpha, n + \alpha$ ) or MT5 (Fe53 production)	27-Co-59 >>
<< MT16 ( $\alpha, 2n$ )		MT24 ( $\alpha, 2n + \alpha$ ) >>



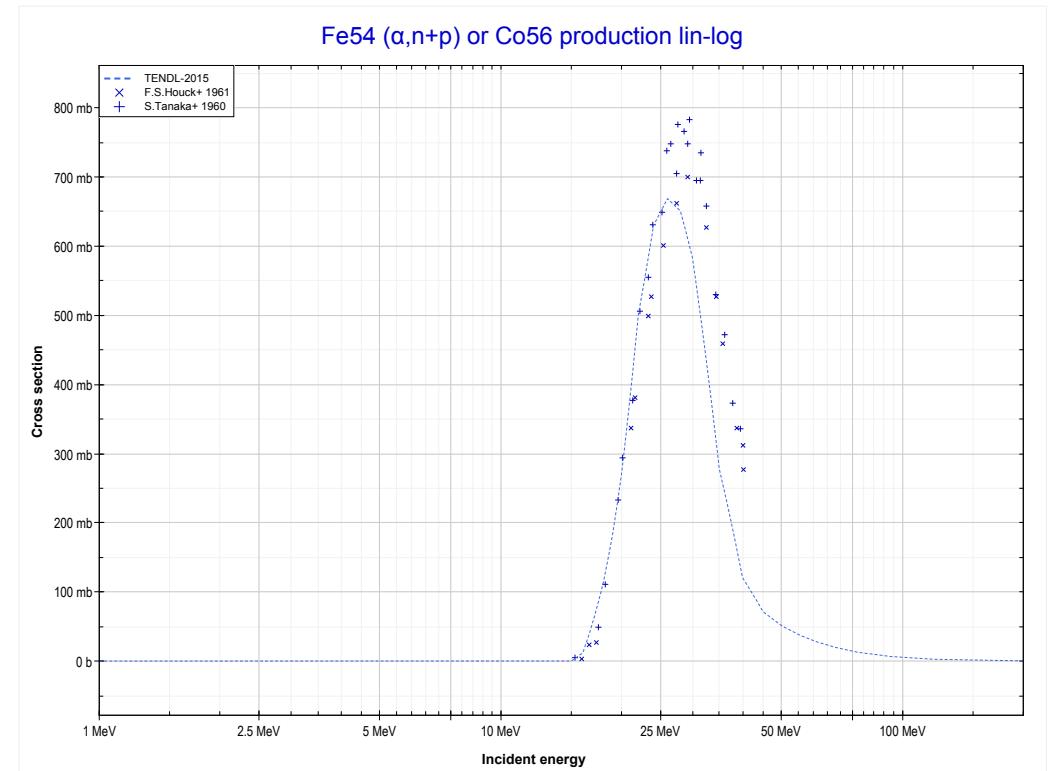
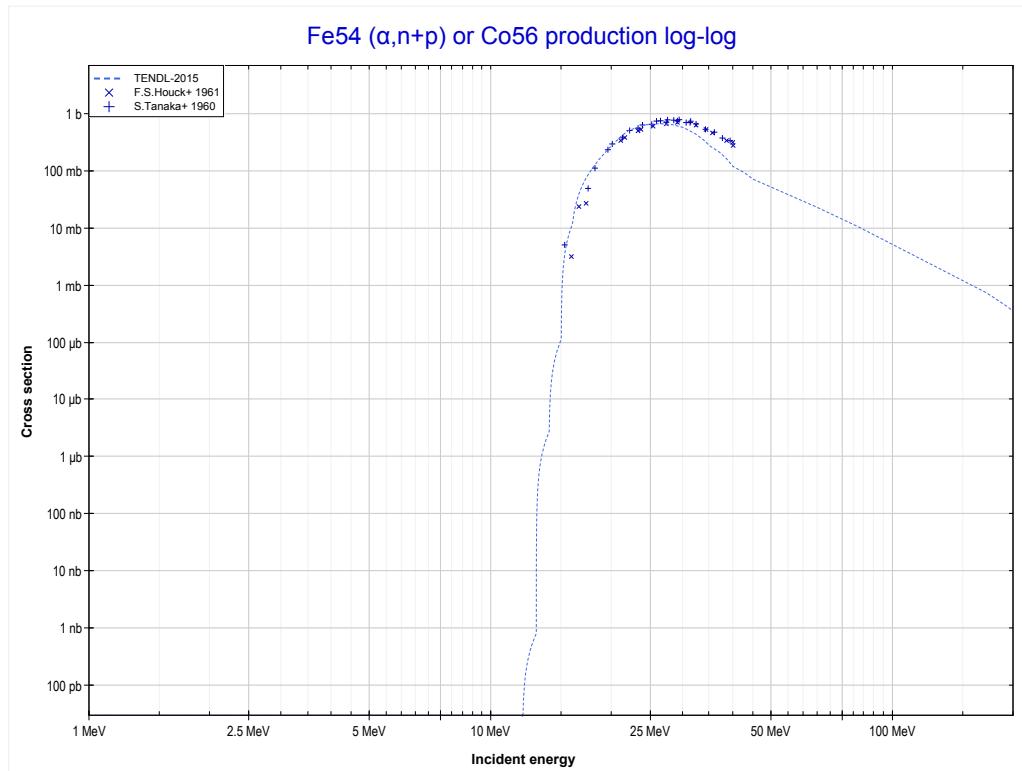
Reaction	Q-Value
Fe54( $\alpha, n + \alpha$ )Fe53	-13378.52 keV
Fe54( $\alpha, d + t$ )Fe53	-30967.81 keV
Fe54( $\alpha, n + p + t$ )Fe53	-33192.38 keV
Fe54( $\alpha, 2n + \text{He}3$ )Fe53	-33956.13 keV
Fe54( $\alpha, n + 2d$ )Fe53	-37225.04 keV
Fe54( $\alpha, 2n + p + d$ )Fe53	-39449.61 keV
Fe54( $\alpha, 3n + 2p$ )Fe53	-41674.18 keV

<< 23-V-51	<b>26-Fe-54</b> <b>MT24 (<math>\alpha,2n+\alpha</math>) or MT5 (Fe52 production)</b>	27-Co-59 >>
<< MT22 ( $\alpha,n+\alpha$ )		MT28 ( $\alpha,n+p$ ) >>



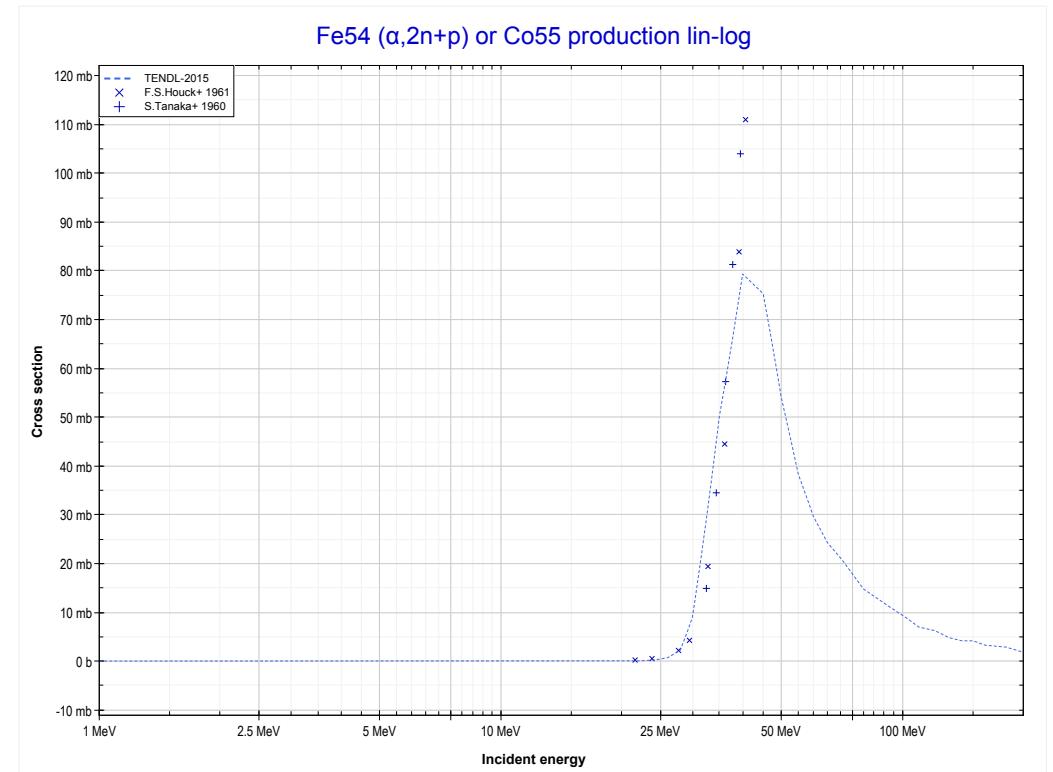
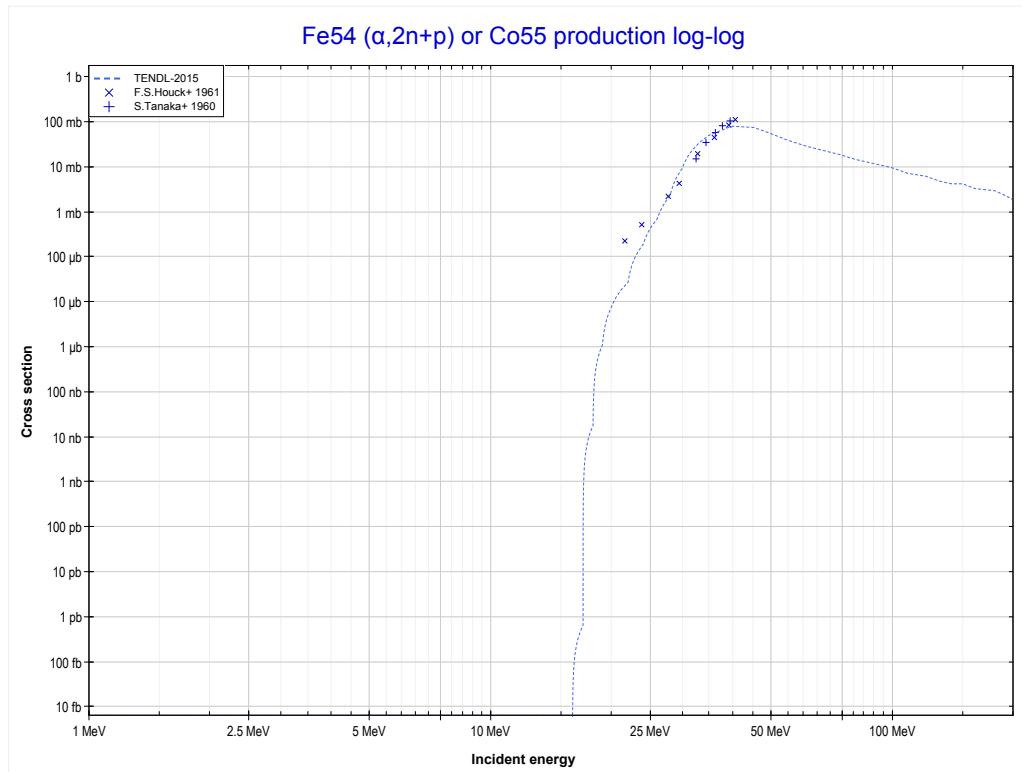
Reaction	Q-Value
Fe54( $\alpha,2n+\alpha$ )Fe52	-24064.53 keV
Fe54( $\alpha,2t$ )Fe52	-35396.60 keV
Fe54( $\alpha,n+d+t$ )Fe52	-41653.83 keV
Fe54( $\alpha,2n+p+t$ )Fe52	-43878.40 keV
Fe54( $\alpha,3n+He3$ )Fe52	-44642.15 keV
Fe54( $\alpha,2n+2d$ )Fe52	-47911.06 keV
Fe54( $\alpha,3n+p+d$ )Fe52	-50135.63 keV
Fe54( $\alpha,4n+2p$ )Fe52	-52360.19 keV

<< 24-Cr-52	<b>26-Fe-54</b> MT28 ( $\alpha, n+p$ ) or MT5 (Co56 production)	26-Fe-56 >>
<< MT24 ( $\alpha, 2n+\alpha$ )		MT41 ( $\alpha, 2n+p$ ) >>



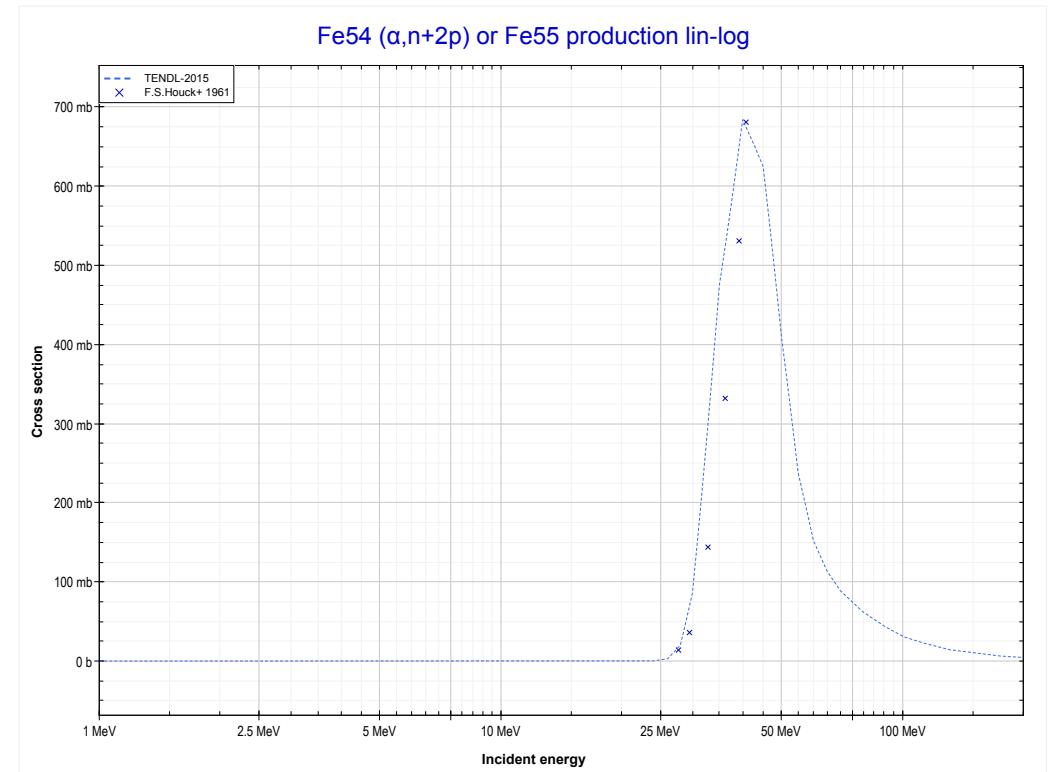
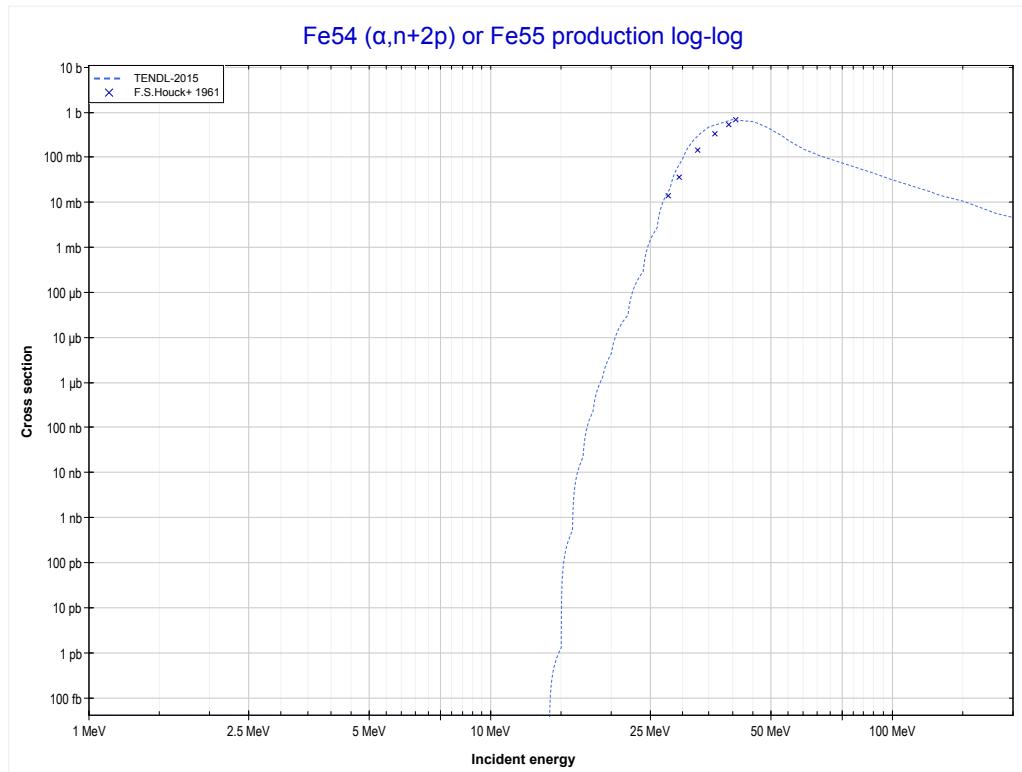
Reaction	Q-Value
Fe54( $\alpha, d$ )Co56	-10924.91 keV
Fe54( $\alpha, n+p$ )Co56	-13149.47 keV

<< 20-Ca-48	<b>26-Fe-54</b> <b>MT41 (<math>\alpha,2n+p</math>) or MT5 (Co55 production)</b>	26-Fe-56 >>
<< MT28 ( $\alpha,n+p$ )		MT44 ( $\alpha,n+2p$ ) >>



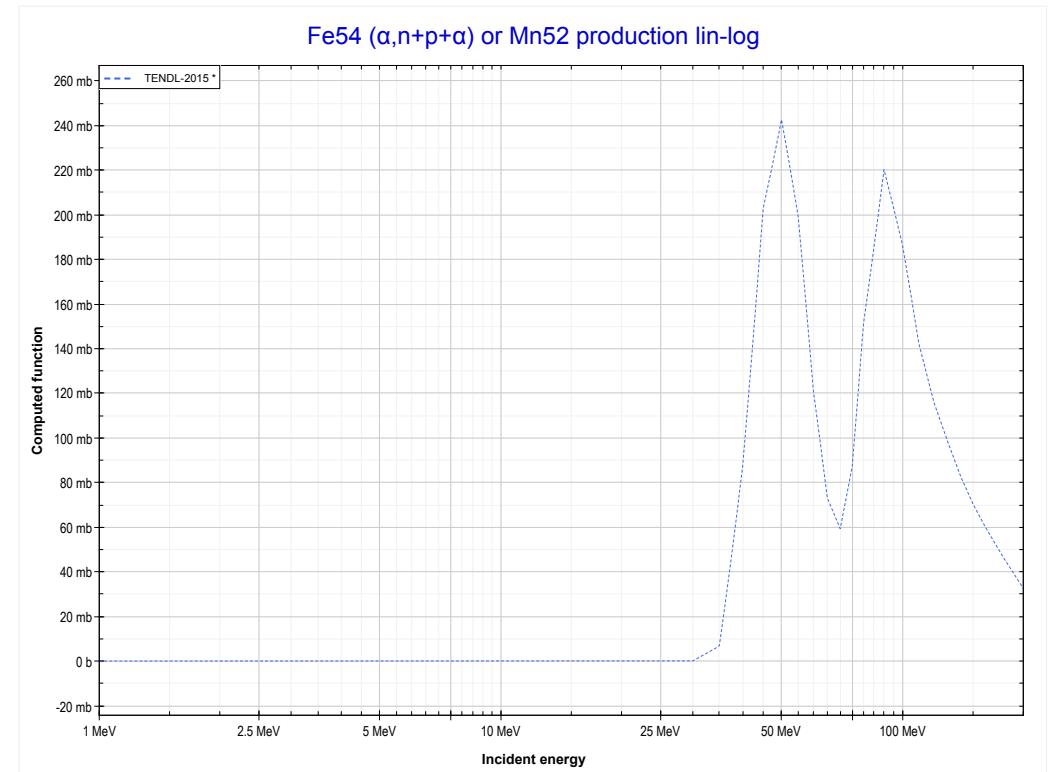
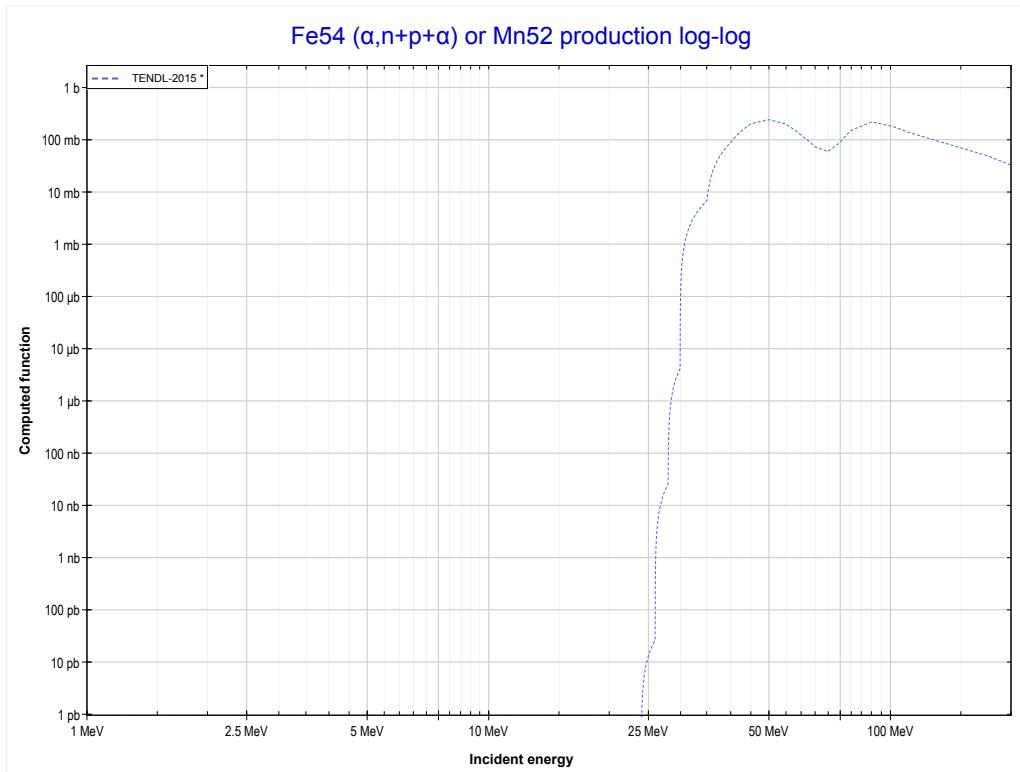
Reaction	Q-Value
Fe54( $\alpha,t$ )Co55	-14749.49 keV
Fe54( $\alpha,n+d$ )Co55	-21006.72 keV
Fe54( $\alpha,2n+p$ )Co55	-23231.29 keV

<< 25-Mn-55	<b>26-Fe-54</b> MT44 ( $\alpha, n+2p$ ) or MT5 (Fe55 production)	27-Co-59 >>
<< MT41 ( $\alpha, 2n+p$ )		MT45 ( $\alpha, n+p+\alpha$ ) >>



Reaction	Q-Value
Fe54( $\alpha, \text{He}3$ )Fe55	-11279.60 keV
Fe54( $\alpha, p+d$ )Fe55	-16773.08 keV
Fe54( $\alpha, n+2p$ )Fe55	-18997.64 keV

<< 7-N-14	<b>26-Fe-54</b> <b>MT45 (<math>\alpha, n+p+\alpha</math>) or MT5 (Mn52 production)</b>	26-Fe-56 >>
<< MT44 ( $\alpha, n+2p$ )		MT103 ( $\alpha, p$ ) >>

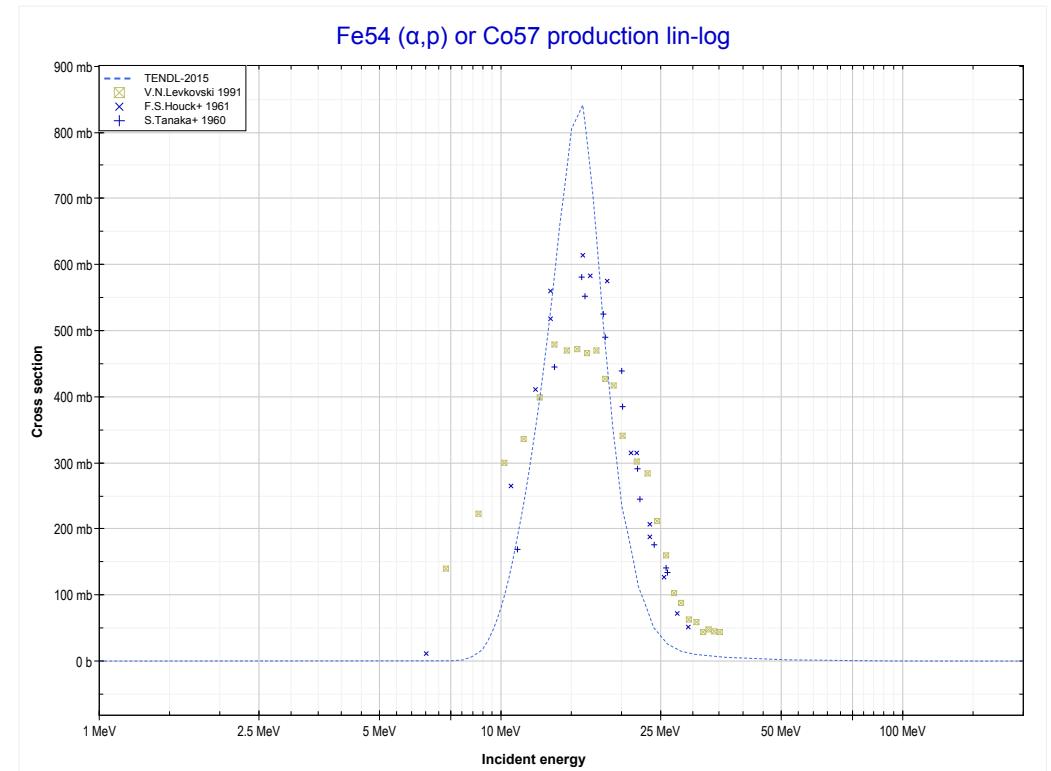
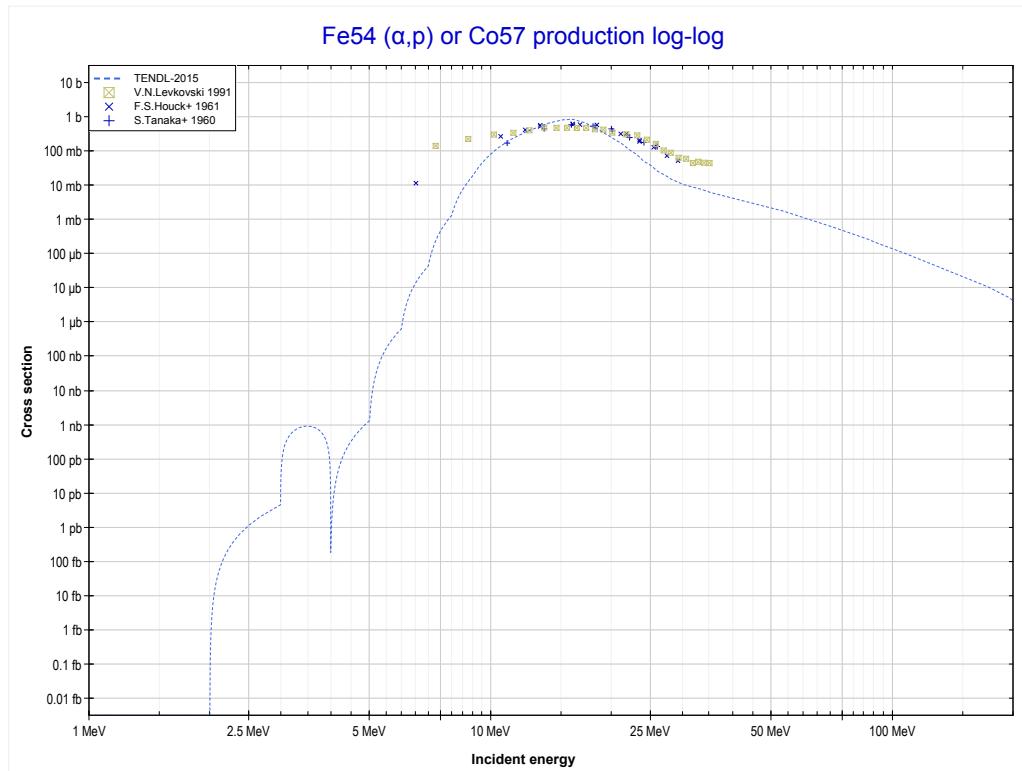


Reaction	Q-Value	Reaction	Q-Value
Fe54( $\alpha, d+\alpha$ )Mn52	-18682.72 keV	Fe54( $\alpha, n+p+2d$ )Mn52	-44753.82 keV
Fe54( $\alpha, n+p+\alpha$ )Mn52	-20907.29 keV	Fe54( $\alpha, 2n+2p+d$ )Mn52	-46978.38 keV
Fe54( $\alpha, t+He3$ )Mn52	-33003.11 keV	Fe54( $\alpha, 3n+3p$ )Mn52	-49202.95 keV
Fe54( $\alpha, p+d+t$ )Mn52	-38496.58 keV		
Fe54( $\alpha, n+d+He3$ )Mn52	-39260.34 keV		
Fe54( $\alpha, n+2p+t$ )Mn52	-40721.15 keV		
Fe54( $\alpha, 2n+p+He3$ )Mn52	-41484.90 keV		
Fe54( $\alpha, 3d$ )Mn52	-42529.25 keV		

<< 24-Cr-53	
<< MT45 ( $\alpha, n+p+\alpha$ )	

**26-Fe-54**  
**MT103 ( $\alpha,p$ ) or MT5 (Co57 production)**

26-Fe-57 >>  
26-Fe-56 MT17 ( $\alpha,3n$ ) >>

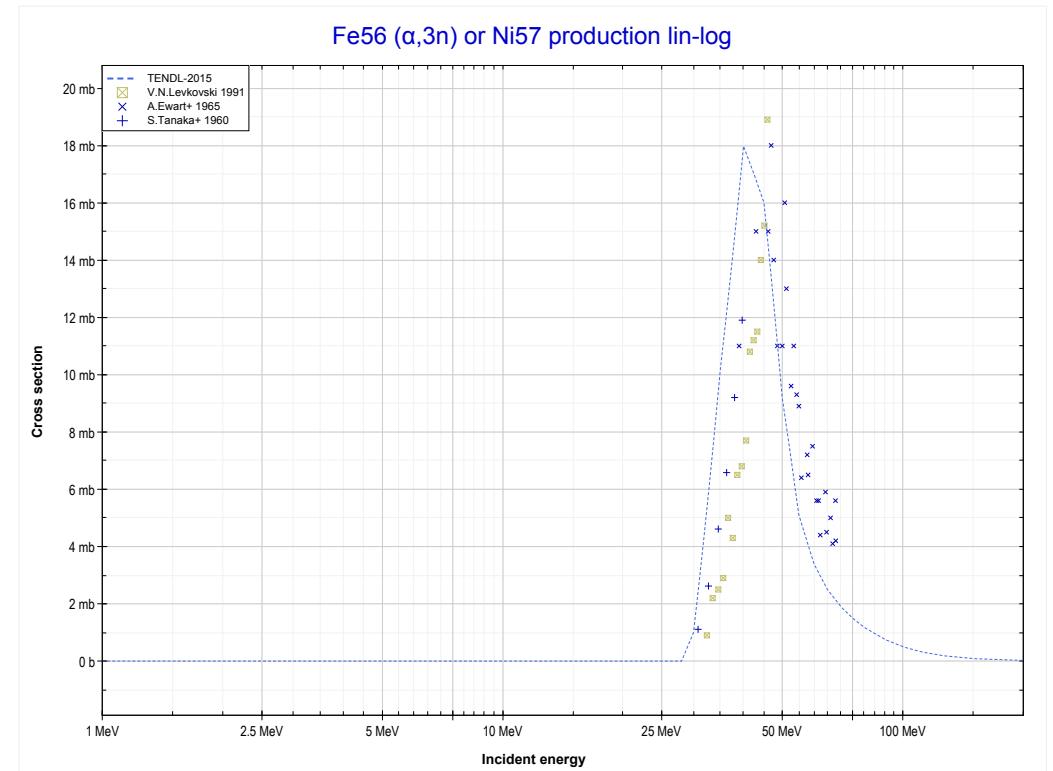
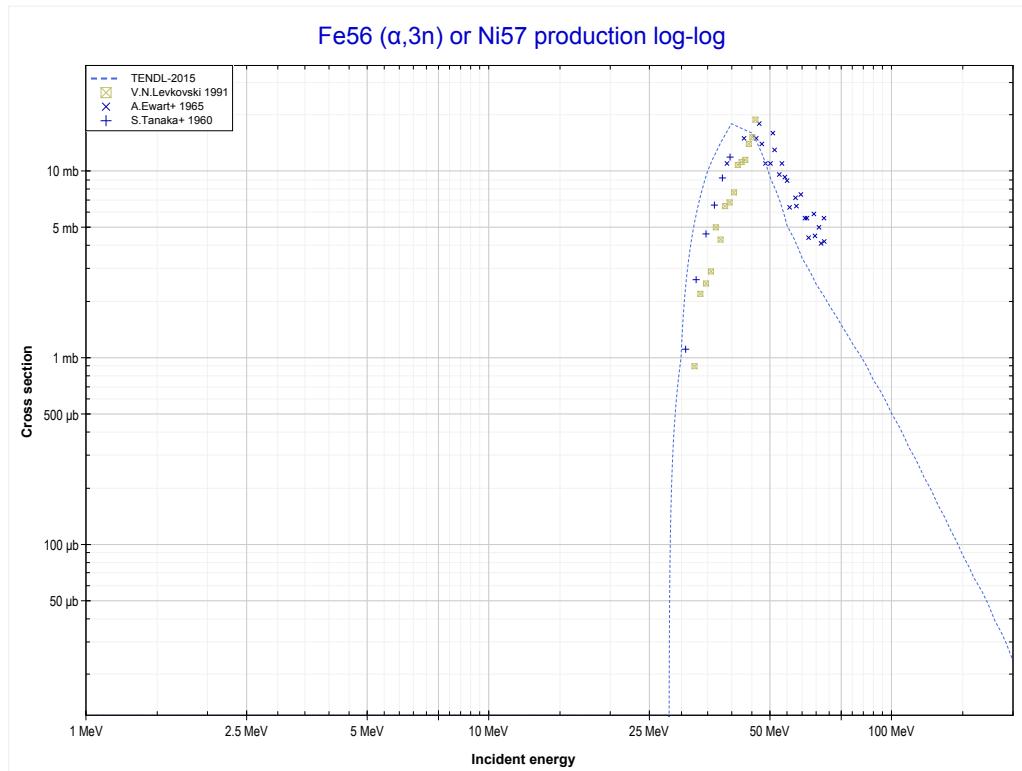


Reaction	Q-Value
Fe54( $\alpha,p$ )Co57	-1773.05 keV

<< 25-Mn-55		
<< 26-Fe-54 MT103 ( $\alpha,p$ )		

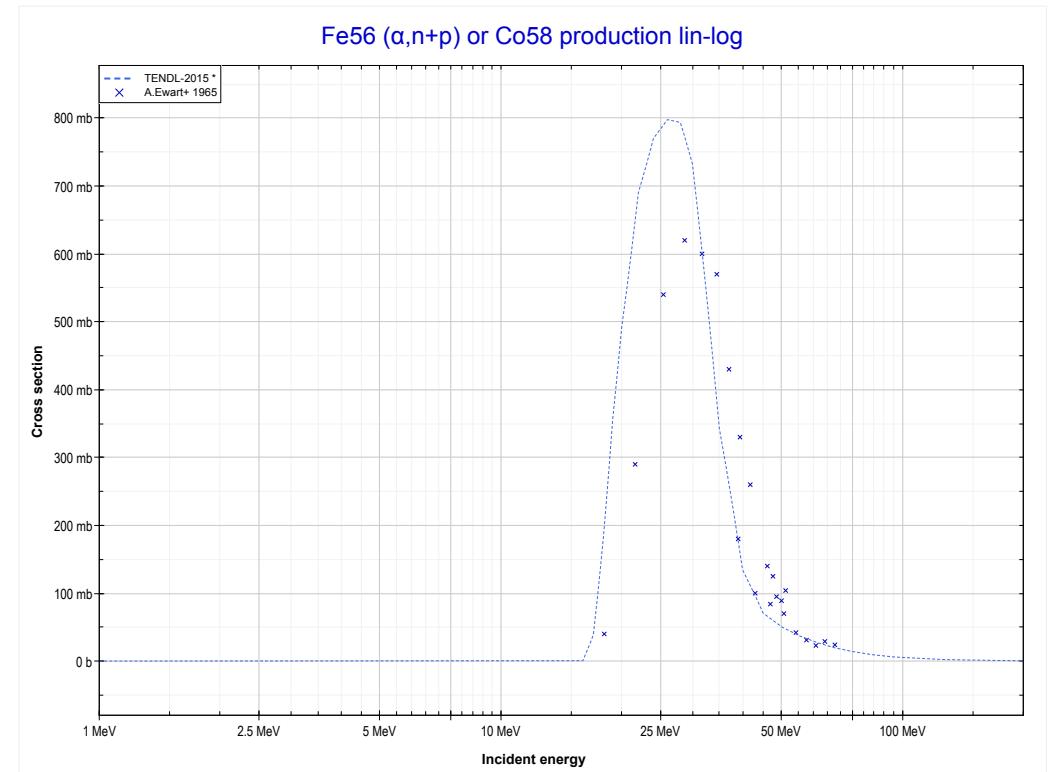
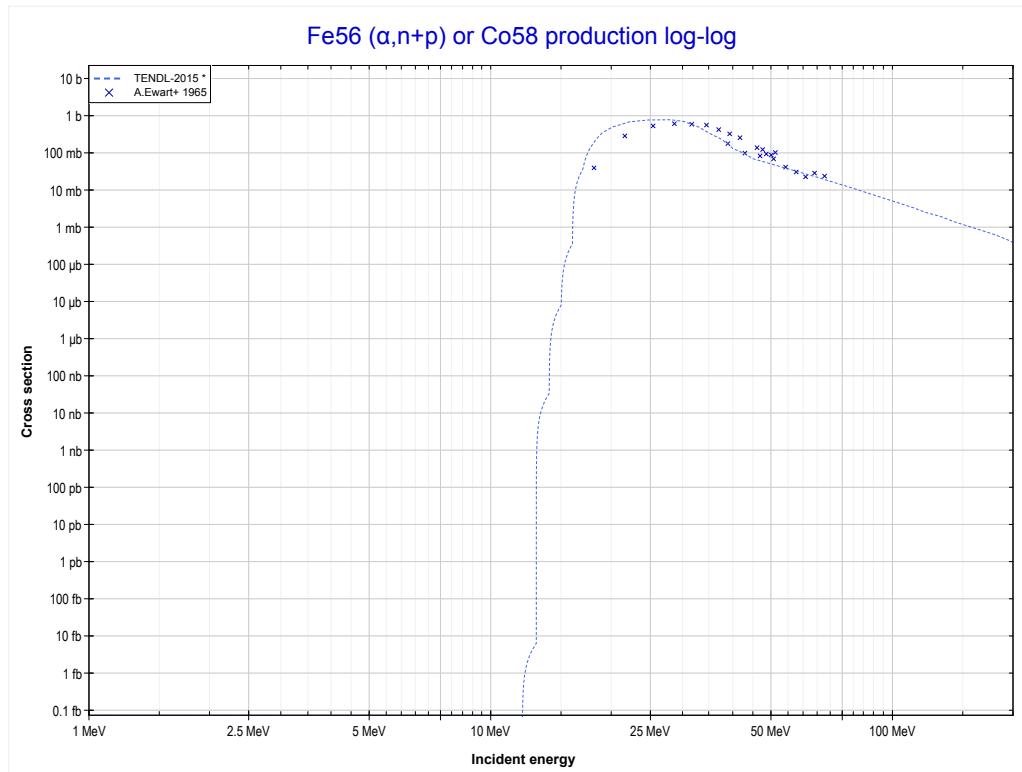
26-Fe-56
MT17 ( $\alpha,3n$ ) or MT5 (Ni57 production)

27-Co-59 >>
MT28 ( $\alpha,n+p$ ) >>



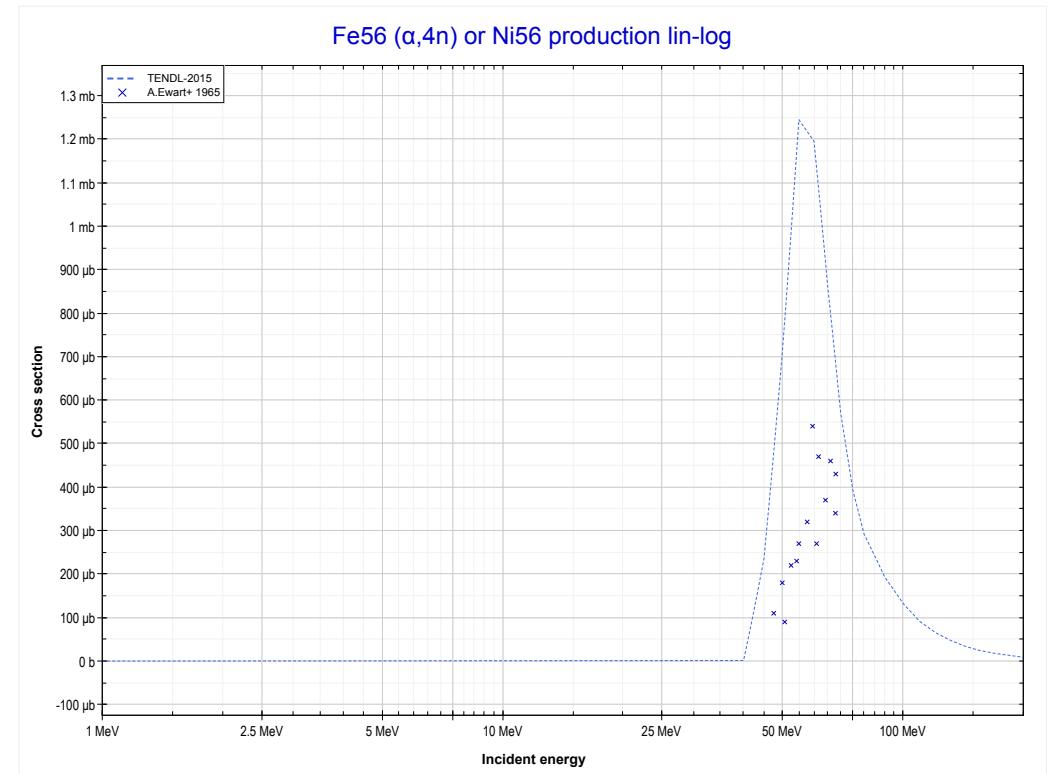
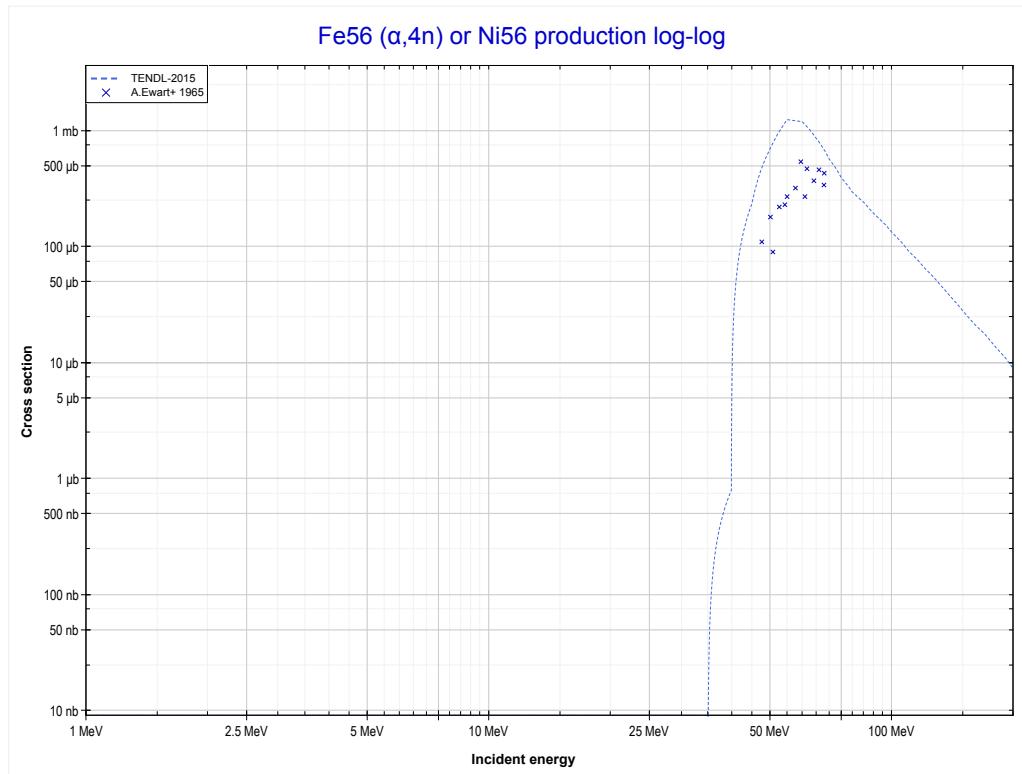
Reaction	Q-Value
Fe56( $\alpha,3n$ )Ni57	-26312.24 keV

<< 26-Fe-54	<b>26-Fe-56</b> MT28 ( $\alpha, n+p$ ) or MT5 (Co58 production)	28-Ni-60 >>
<< MT17 ( $\alpha, 3n$ )		MT37 ( $\alpha, 4n$ ) >>



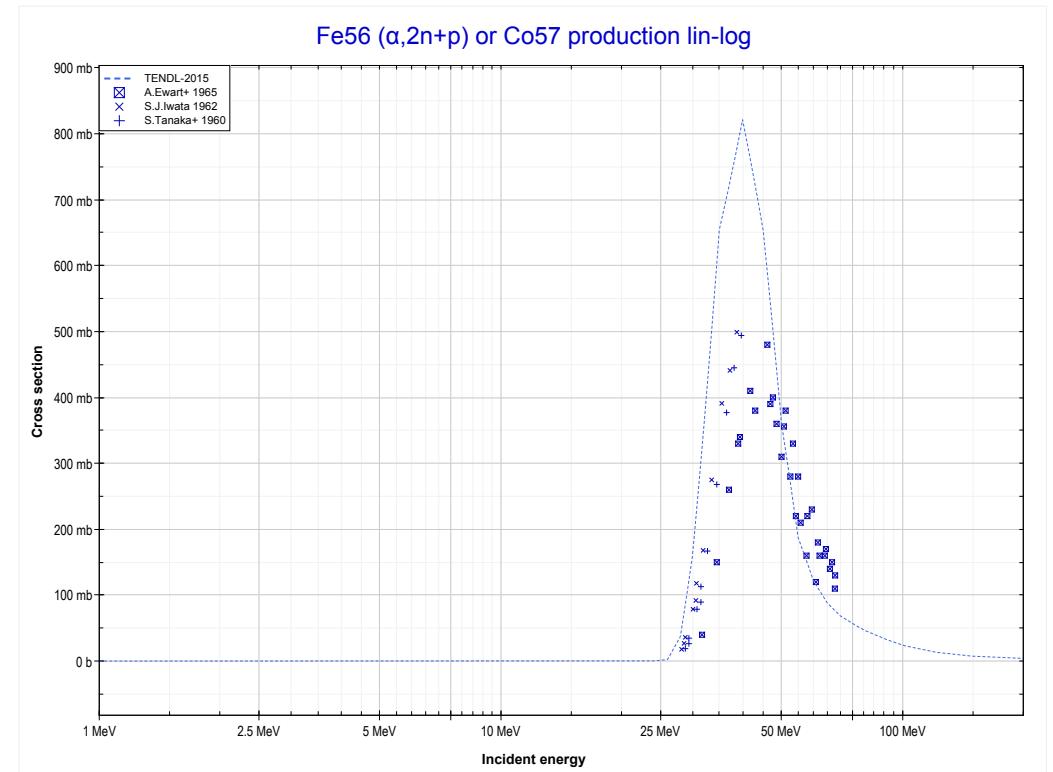
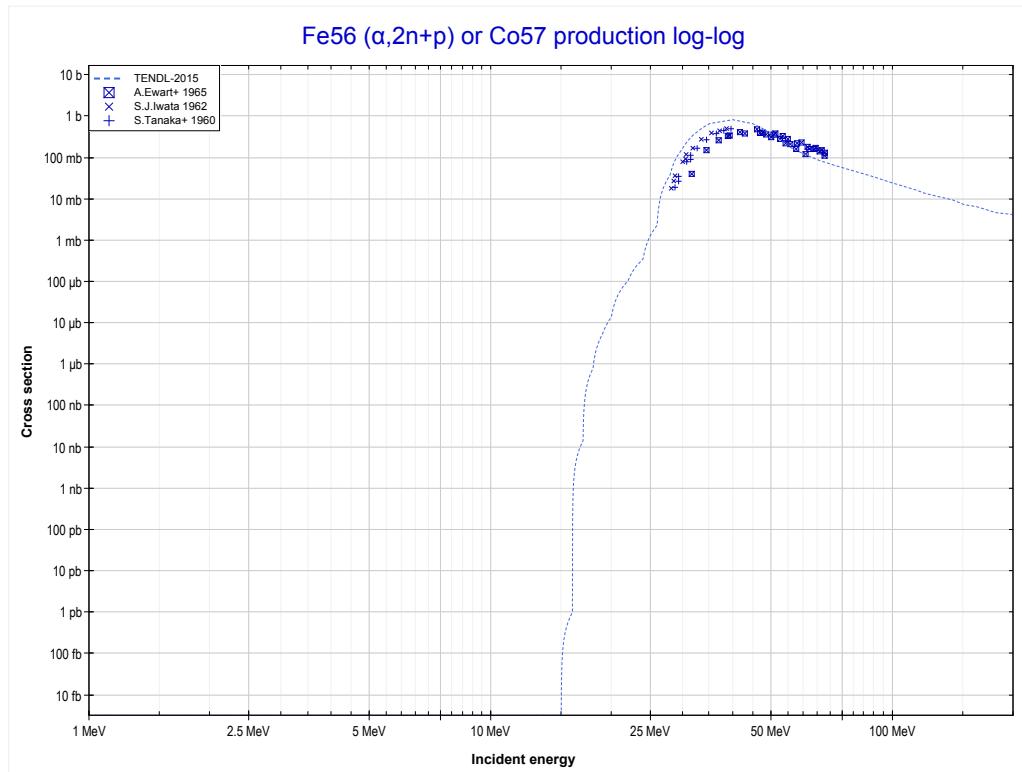
Reaction	Q-Value
Fe56( $\alpha, d$ )Co58	-11470.61 keV
Fe56( $\alpha, n+p$ )Co58	-13695.17 keV

<< 25-Mn-55	<b>26-Fe-56</b> MT37 ( $\alpha,4n$ ) or MT5 (Ni56 production)	30-Zn-67 >>
<< MT28 ( $\alpha,n+p$ )		MT41 ( $\alpha,2n+p$ ) >>



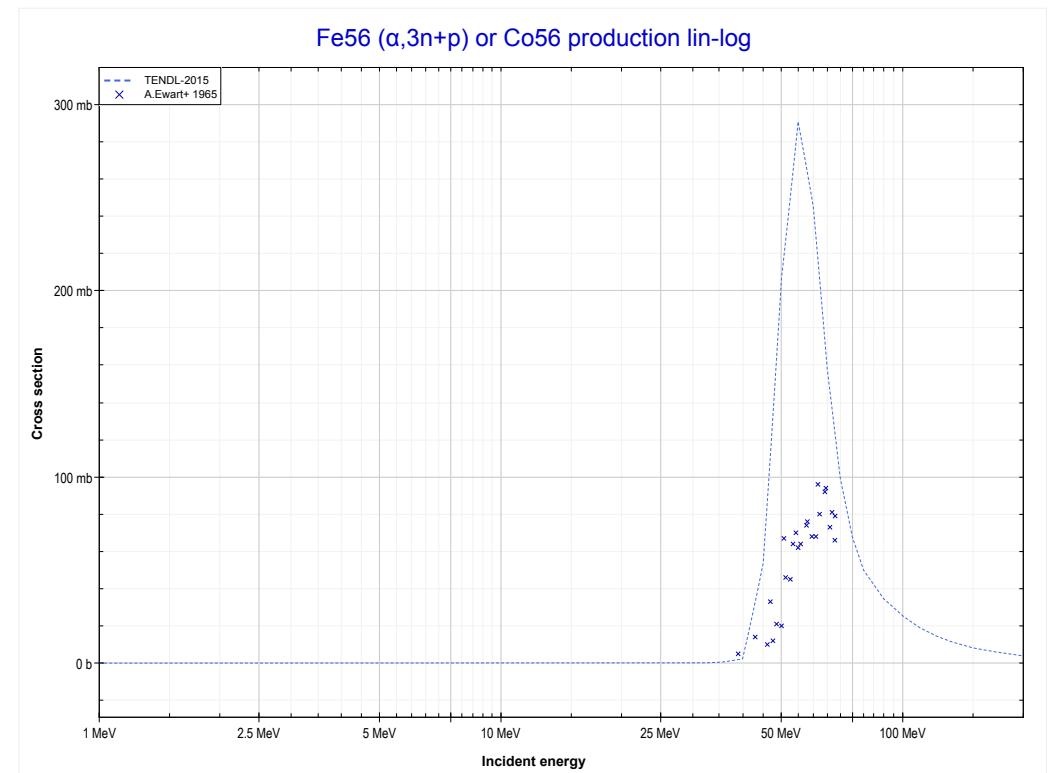
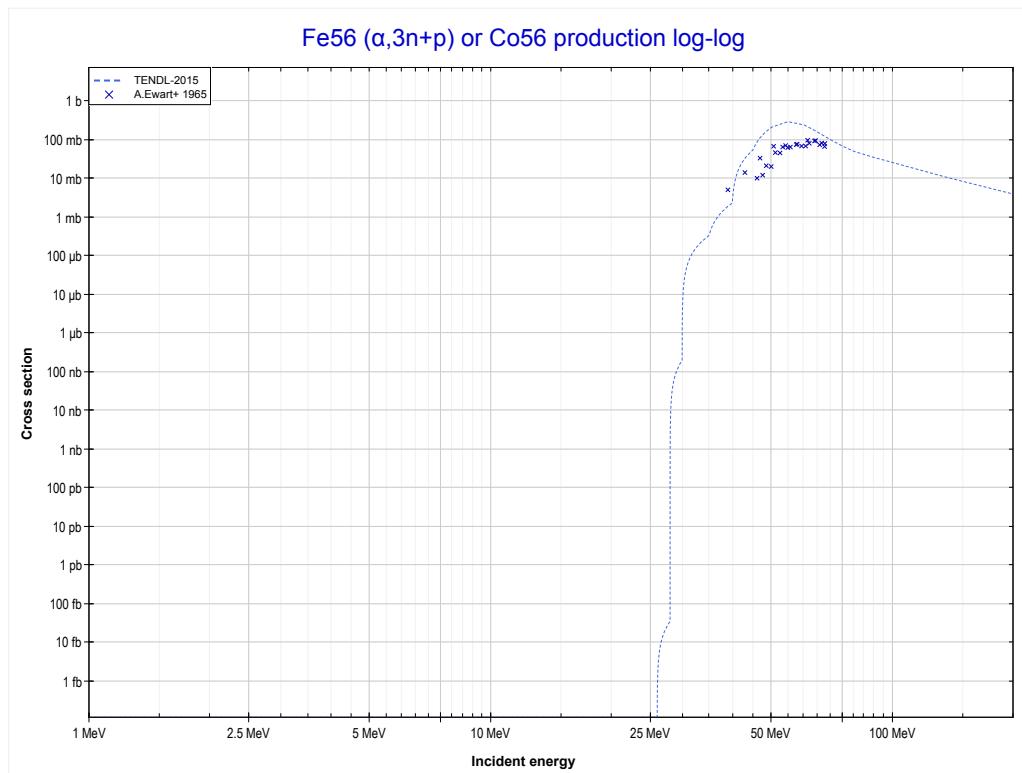
Reaction	Q-Value
Fe56( $\alpha,4n$ )Ni56	-36559.85 keV

<< 26-Fe-54	<b>26-Fe-56</b> <b>MT41 (<math>\alpha,2n+p</math>) or MT5 (Co57 production)</b>	30-Zn-64 >>
<< MT37 ( $\alpha,4n$ )		MT42 ( $\alpha,3n+p$ ) >>



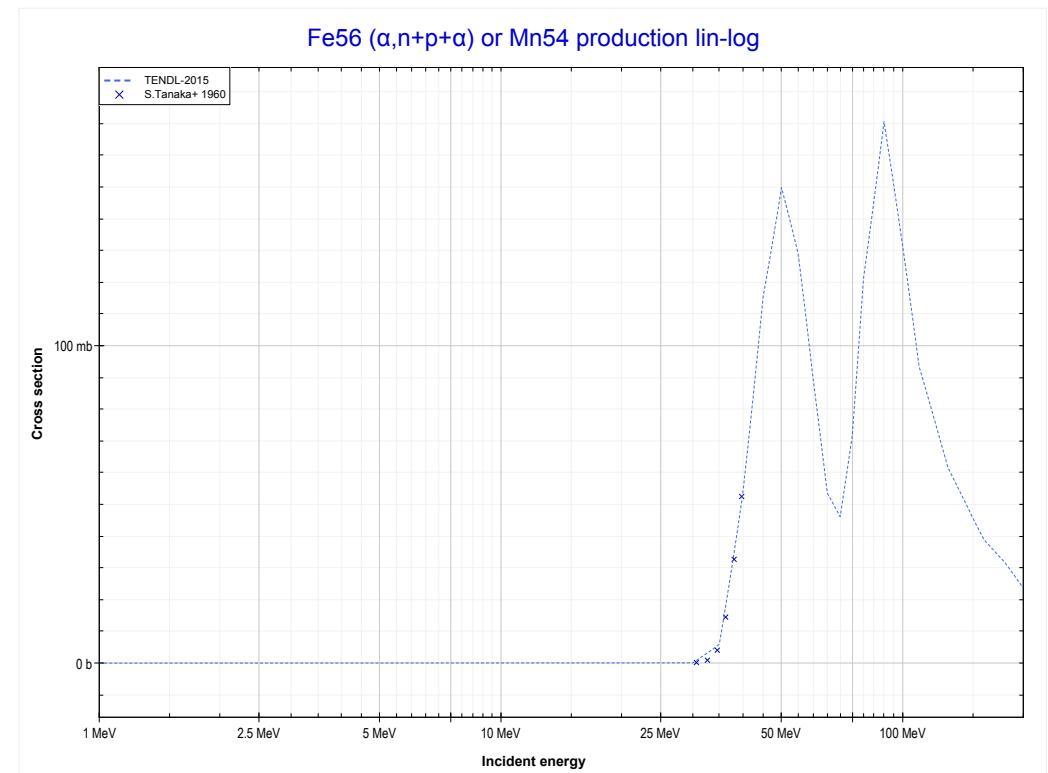
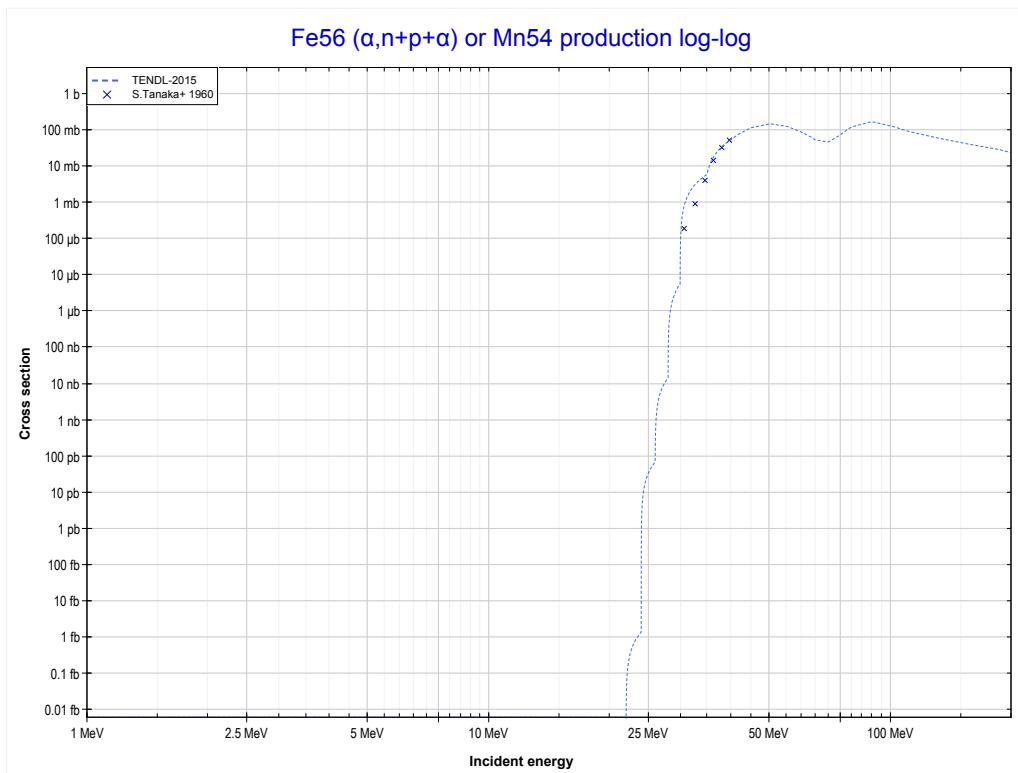
Reaction	Q-Value
Fe56( $\alpha,t$ )Co57	-13786.39 keV
Fe56( $\alpha,n+d$ )Co57	-20043.62 keV
Fe56( $\alpha,2n+p$ )Co57	-22268.19 keV

<< 20-Ca-48	<b>26-Fe-56</b> MT42 ( $\alpha,3n+p$ ) or MT5 (Co56 production)	>> 40-Zr-90
<< MT41 ( $\alpha,2n+p$ )		>> MT45 ( $\alpha,n+p+\alpha$ )

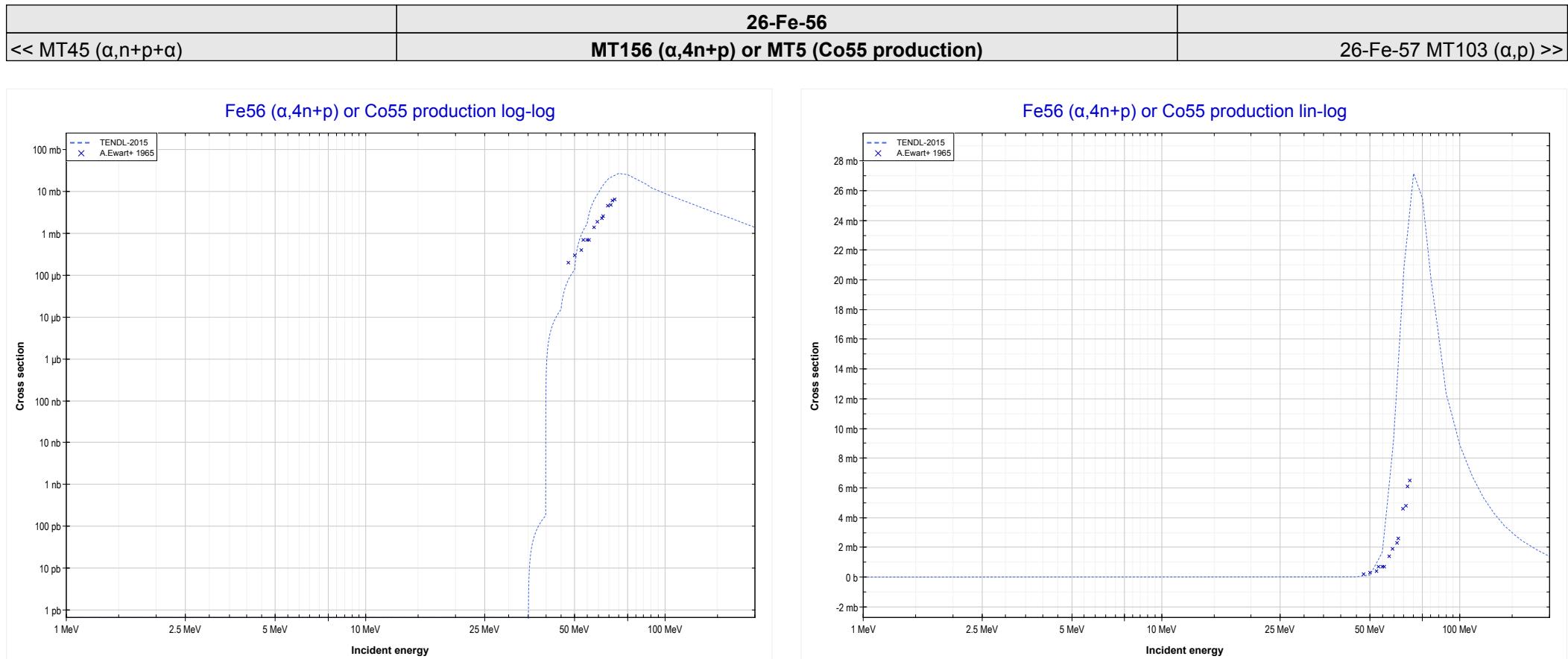


Reaction	Q-Value
Fe56( $\alpha,n+t$ )Co56	-25162.81 keV
Fe56( $\alpha,2n+d$ )Co56	-31420.04 keV
Fe56( $\alpha,3n+p$ )Co56	-33644.61 keV

<< 26-Fe-54	<b>26-Fe-56</b> MT45 ( $\alpha, n+p+\alpha$ ) or MT5 (Mn54 production)	>> 28-Ni-58
<< MT42 ( $\alpha, 3n+p$ ) >>		MT156 ( $\alpha, 4n+p$ ) >>

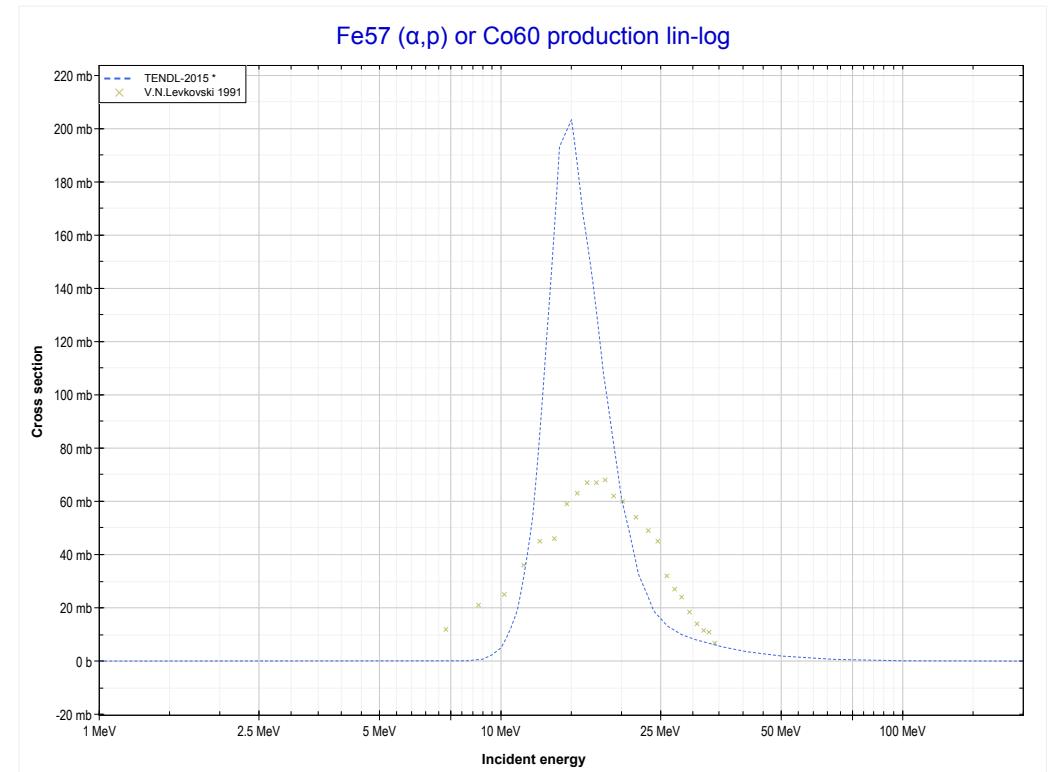
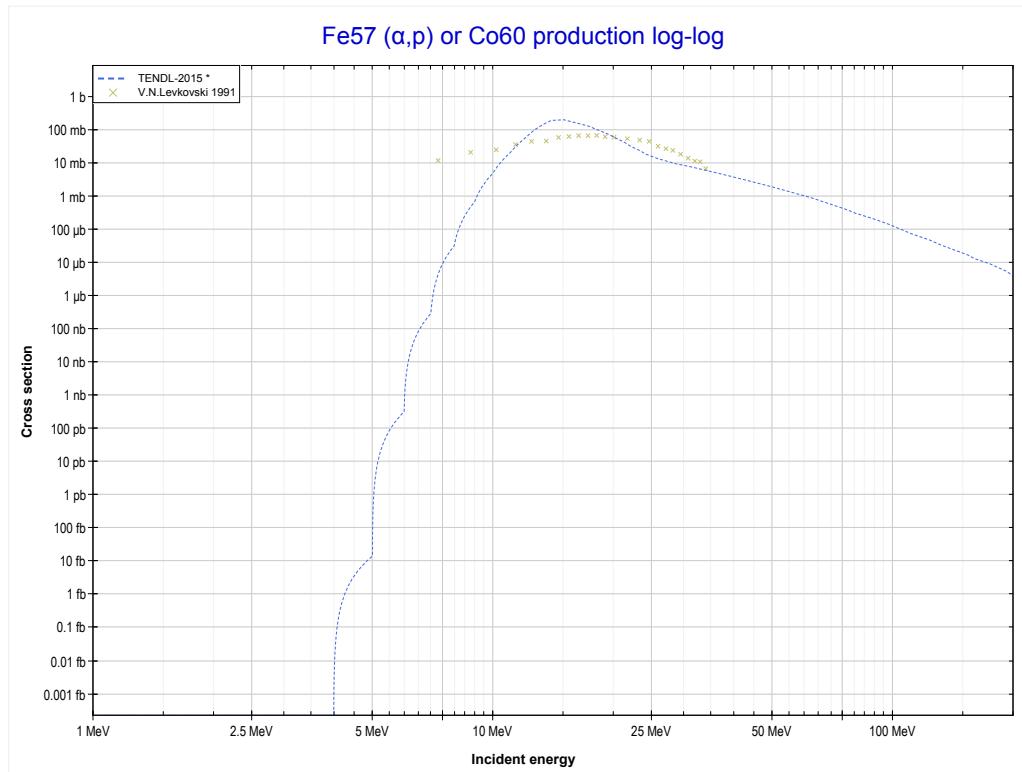


Reaction	Q-Value	Reaction	Q-Value
Fe56( $\alpha, d+\alpha$ )Mn54	-18185.62 keV	Fe56( $\alpha, n+p+2d$ )Mn54	-44256.72 keV
Fe56( $\alpha, n+p+\alpha$ )Mn54	-20410.19 keV	Fe56( $\alpha, 2n+2p+d$ )Mn54	-46481.28 keV
Fe56( $\alpha, t+He3$ )Mn54	-32506.01 keV	Fe56( $\alpha, 3n+3p$ )Mn54	-48705.85 keV
Fe56( $\alpha, p+d+t$ )Mn54	-37999.48 keV		
Fe56( $\alpha, n+d+He3$ )Mn54	-38763.24 keV		
Fe56( $\alpha, n+2p+t$ )Mn54	-40224.05 keV		
Fe56( $\alpha, 2n+p+He3$ )Mn54	-40987.80 keV		
Fe56( $\alpha, 3d$ )Mn54	-42032.15 keV		



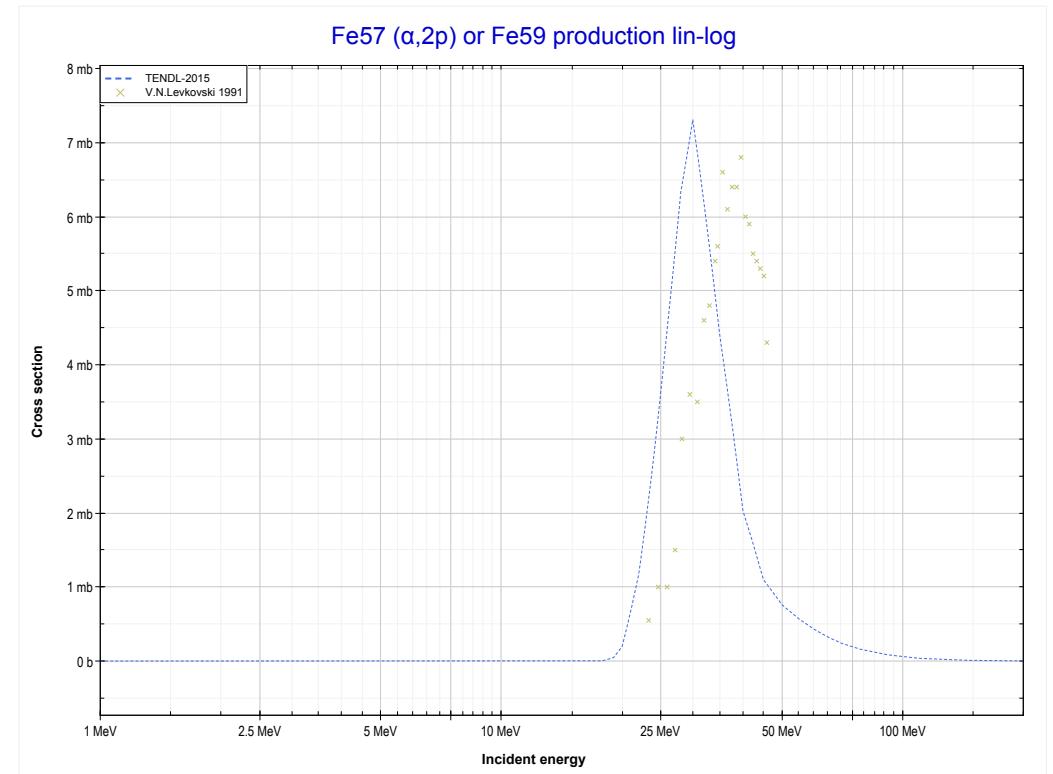
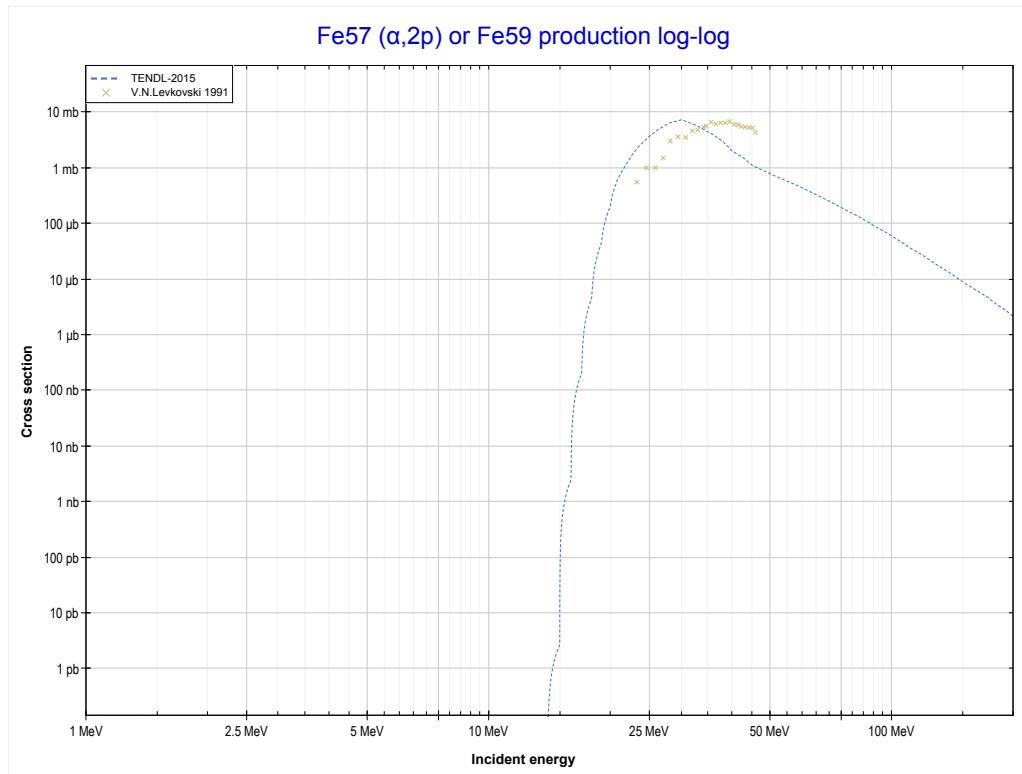
Reaction	Q-Value
Fe56( $\alpha, 2n+t$ )Co55	-35244.62 keV
Fe56( $\alpha, 3n+d$ )Co55	-41501.86 keV
Fe56( $\alpha, 4n+p$ )Co55	-43726.42 keV

<< 26-Fe-54	<b>26-Fe-57</b> MT103 ( $\alpha,p$ ) or MT5 (Co60 production)	>> 26-Fe-58 >>
<< 26-Fe-56 MT156 ( $\alpha,4n+p$ )		MT111 ( $\alpha,2p$ ) >>



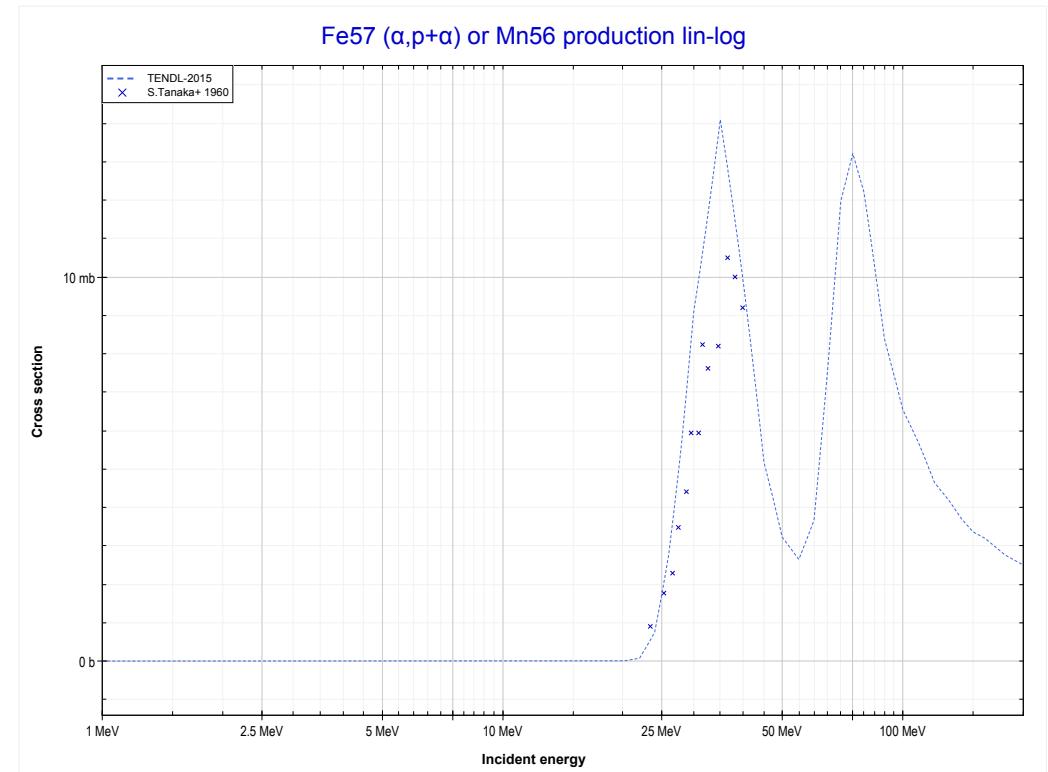
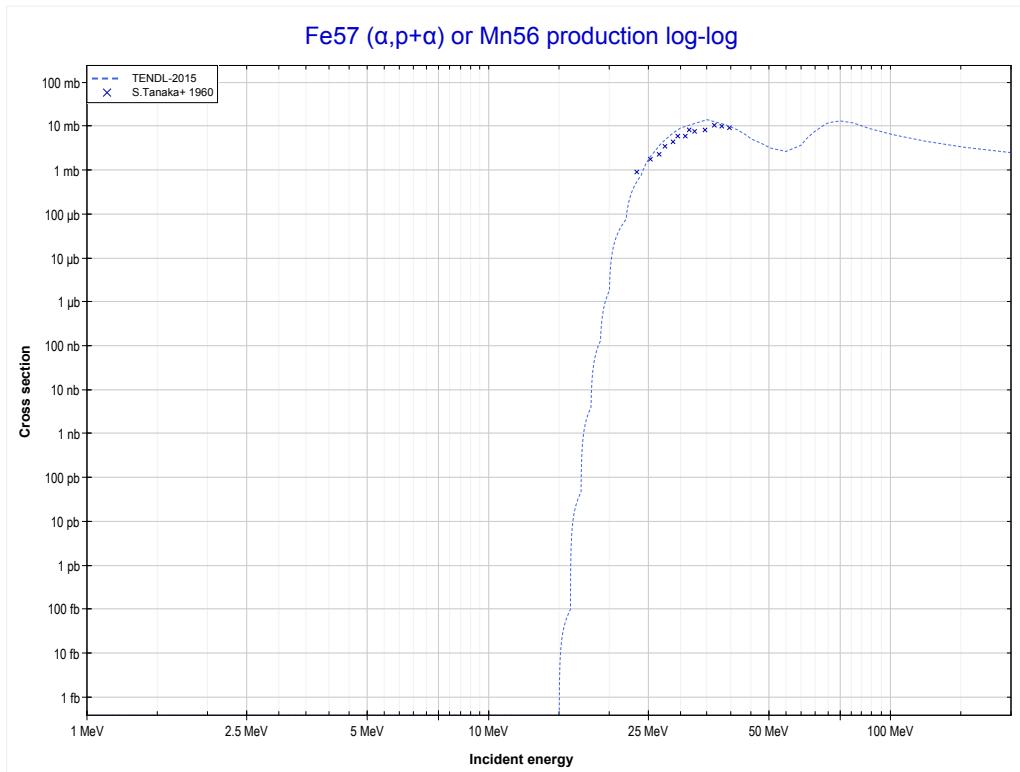
Reaction	Q-Value
Fe57( $\alpha,p$ )Co60	-3395.55 keV

<< 21-Sc-45	<b>26-Fe-57</b> <b>MT111 (<math>\alpha</math>,2p) or MT5 (Fe59 production)</b>	27-Co-59 >>
<< MT103 ( $\alpha$ ,p) >>		MT112 ( $\alpha$ ,p+ $\alpha$ ) >>



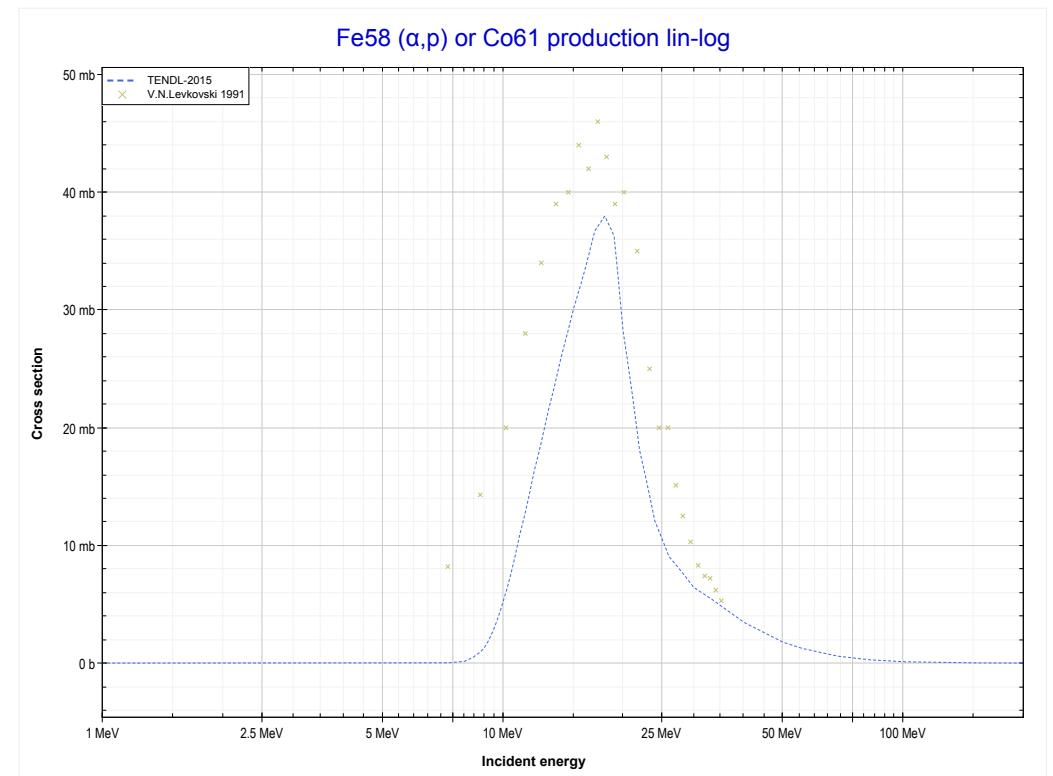
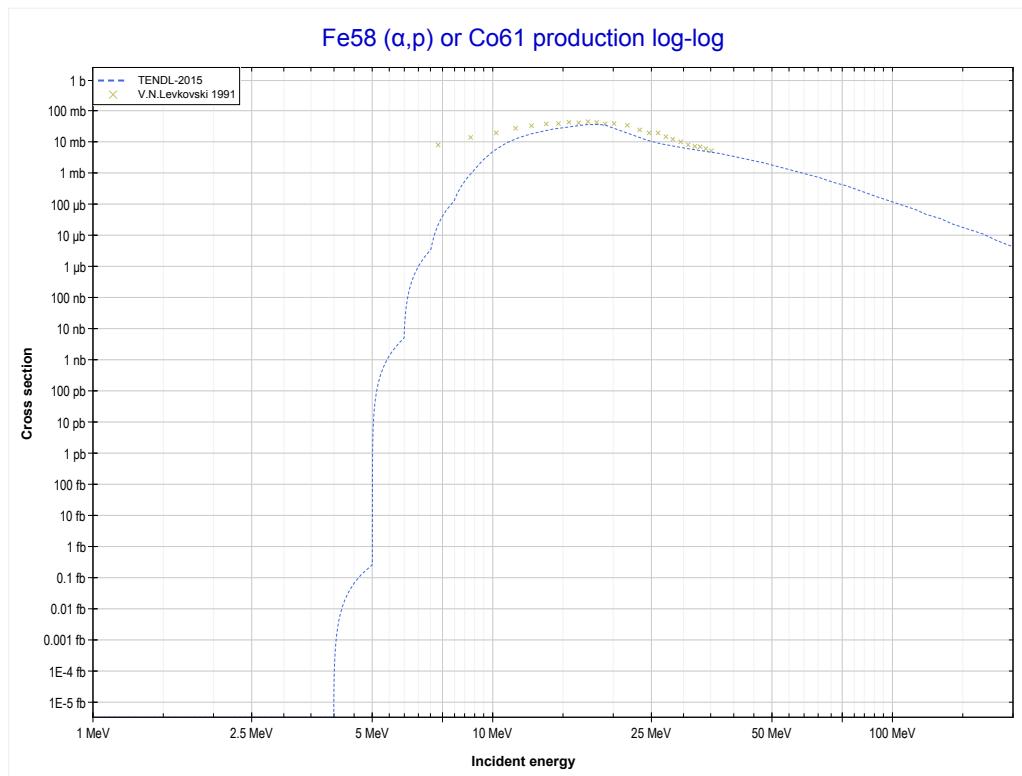
Reaction	Q-Value
Fe57( $\alpha$ ,2p)Fe59	-11670.03 keV

<< 7-N-14	26-Fe-57 MT112 ( $\alpha, p+\alpha$ ) or MT5 (Mn56 production)	28-Ni-58 >>
<< MT111 ( $\alpha, 2p$ )		26-Fe-58 MT103 ( $\alpha, p$ ) >>



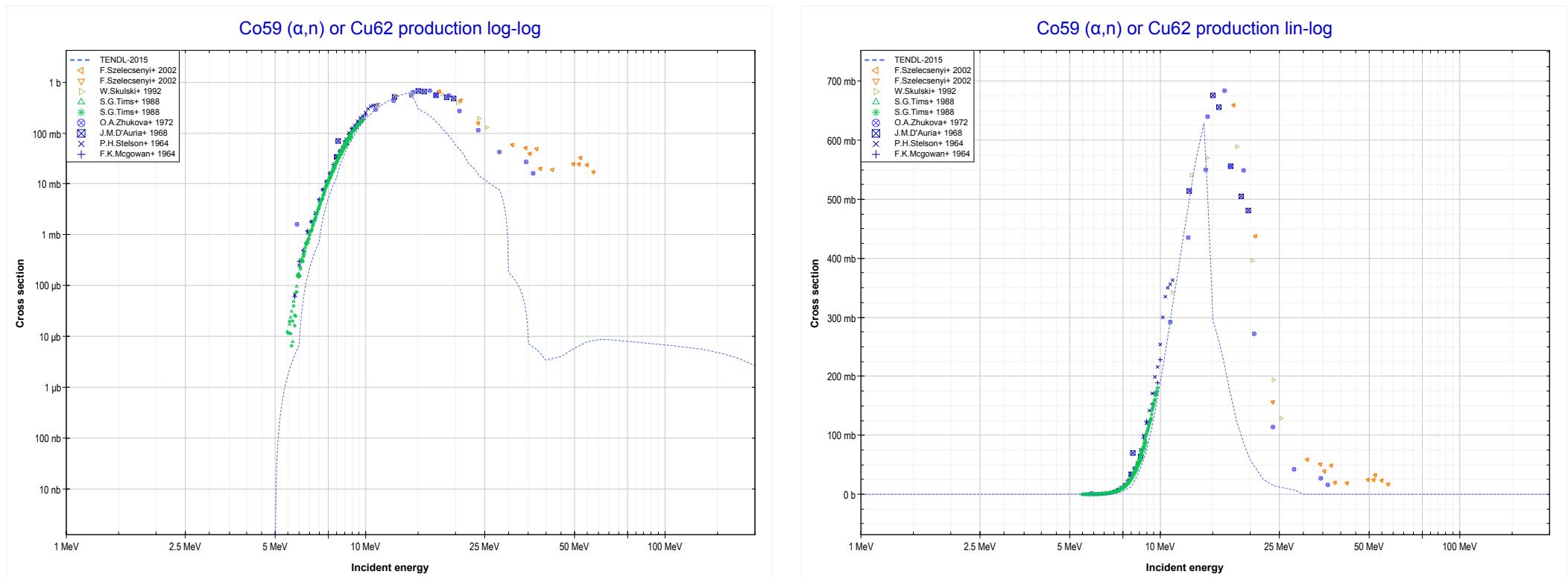
Reaction	Q-Value
Fe57( $\alpha, p+\alpha$ )Mn56	-10559.37 keV
Fe57( $\alpha, d+He3$ )Mn56	-28912.42 keV
Fe57( $\alpha, 2p+t$ )Mn56	-30373.23 keV
Fe57( $\alpha, n+p+He3$ )Mn56	-31136.99 keV
Fe57( $\alpha, p+2d$ )Mn56	-34405.90 keV
Fe57( $\alpha, n+2p+d$ )Mn56	-36630.46 keV
Fe57( $\alpha, 2n+3p$ )Mn56	-38855.03 keV

<< 26-Fe-57	<b>26-Fe-58</b> MT103 ( $\alpha,p$ ) or MT5 (Co61 production)	28-Ni-58 >>
<< 26-Fe-57 MT112 ( $\alpha,p+\alpha$ )		27-Co-59 MT4 ( $\alpha,n$ ) >>



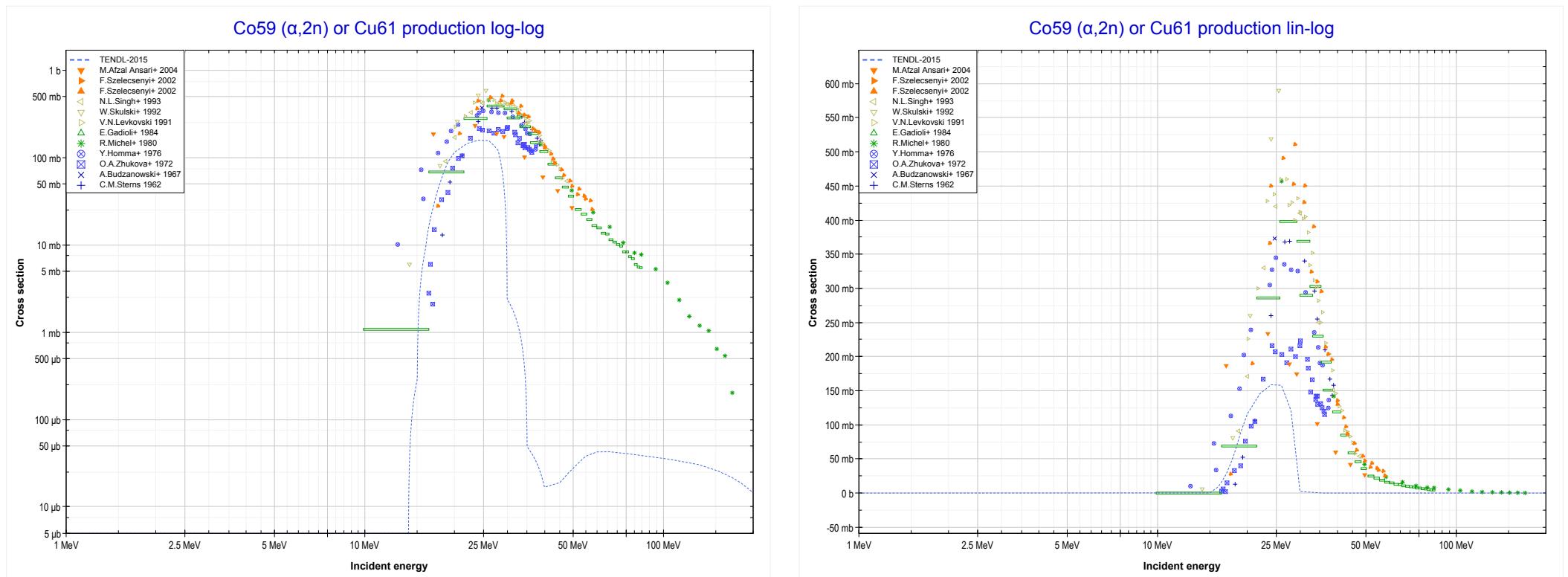
Reaction	Q-Value
Fe58( $\alpha,p$ )Co61	-4120.95 keV

<< 26-Fe-54	<b>27-Co-59</b> MT4 ( $\alpha, n$ ) or MT5 (Cu62 production)	>> 28-Ni-58
<< 26-Fe-58 MT103 ( $\alpha, p$ )		MT16 ( $\alpha, 2n$ ) >>



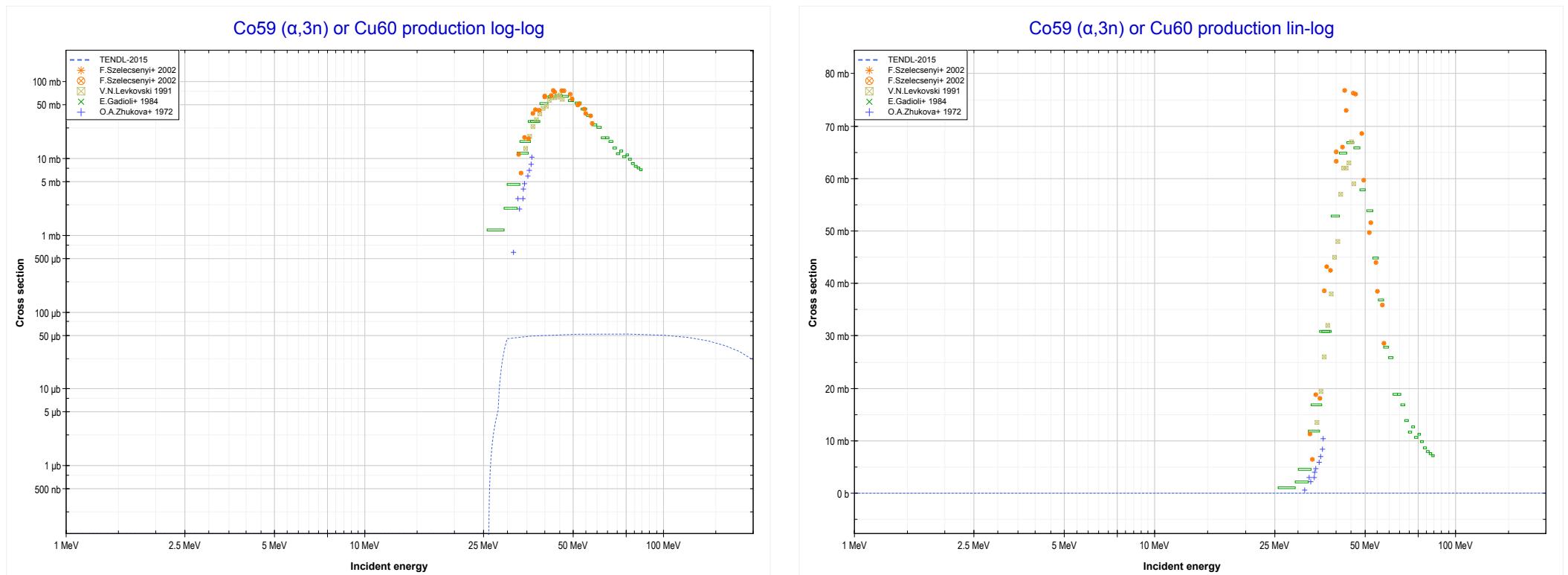
Reaction	Q-Value
$\text{Co}^{59}(\alpha, n) \text{Cu}^{62}$	-5088.50 keV

<< 26-Fe-54	<b>27-Co-59</b> MT16 ( $\alpha,2n$ ) or MT5 (Cu61 production)	28-Ni-58 >>
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



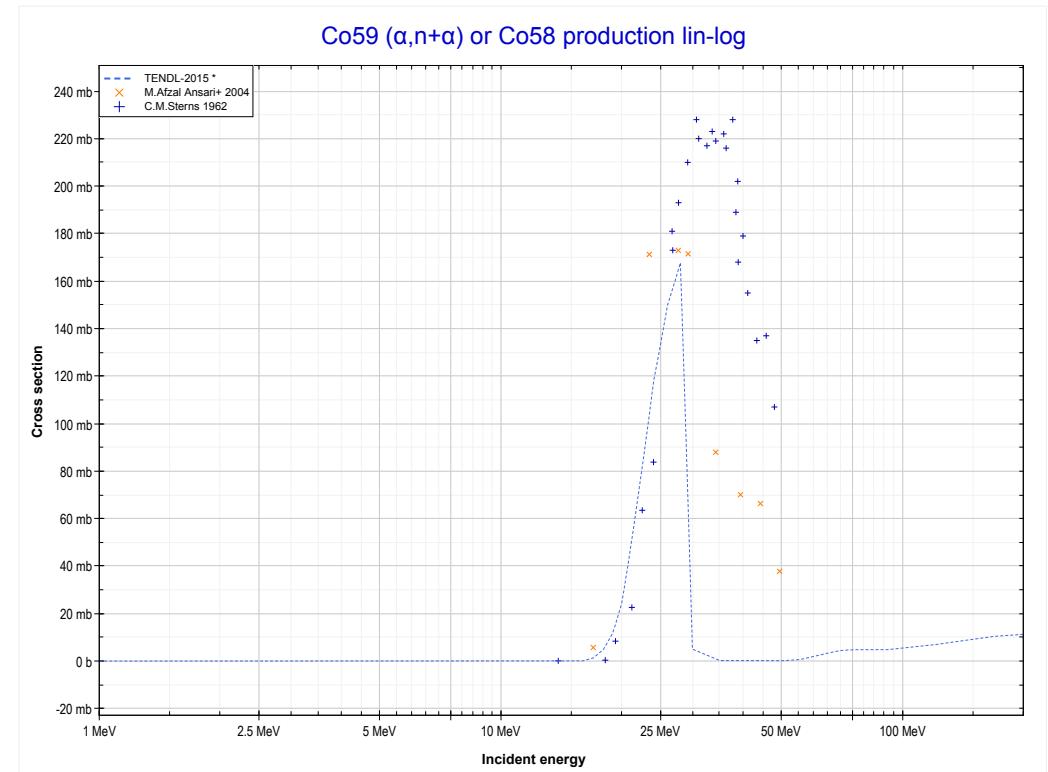
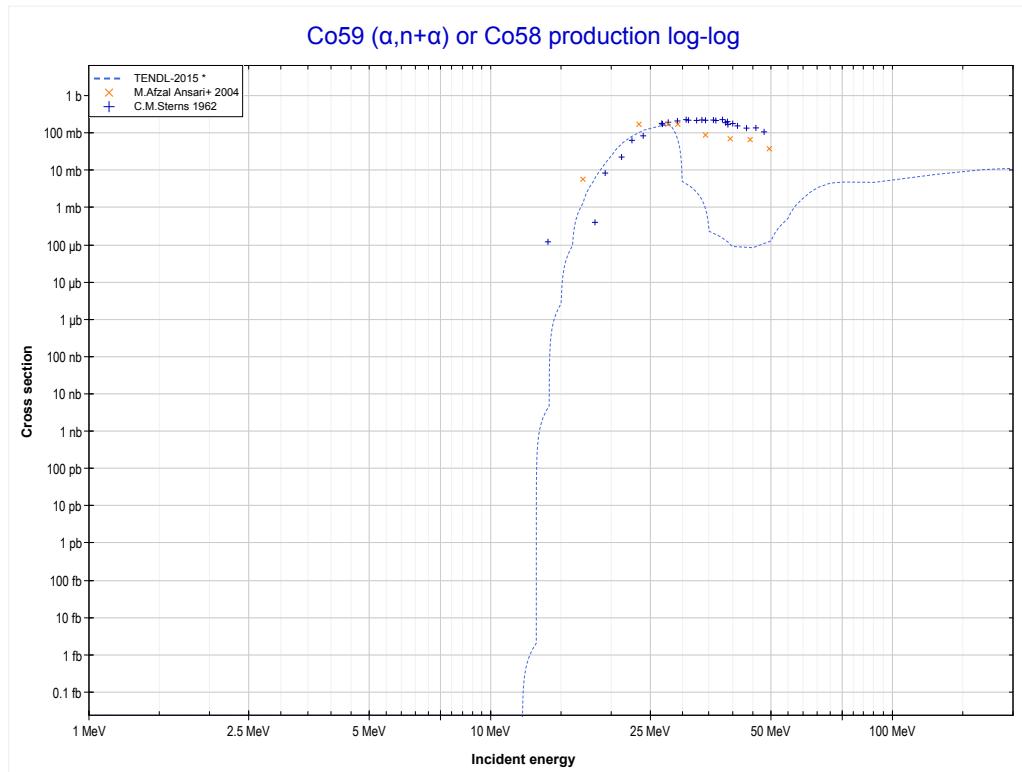
Reaction	Q-Value
Co59( $\alpha,2n$ )Cu61	-13963.02 keV

<< 26-Fe-56	<b>27-Co-59</b>	28-Ni-61 >>
<< MT16 ( $\alpha,2n$ )	<b>MT17 (<math>\alpha,3n</math>) or MT5 (Cu60 production)</b>	MT22 ( $\alpha,n+\alpha$ ) >>



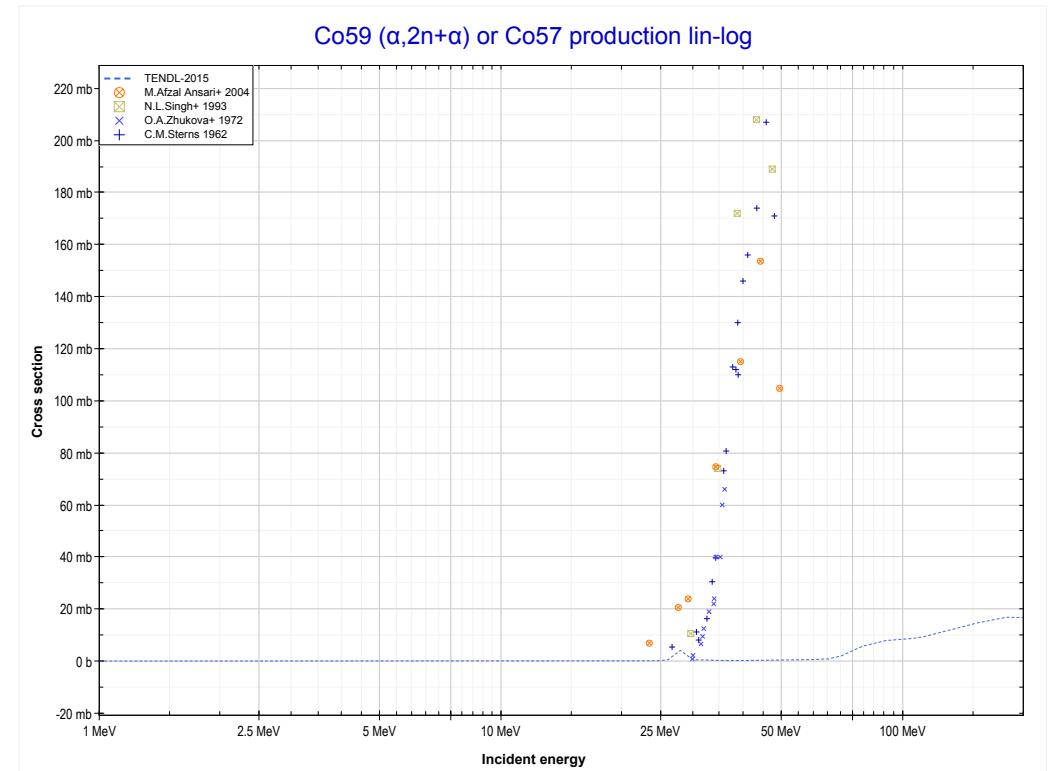
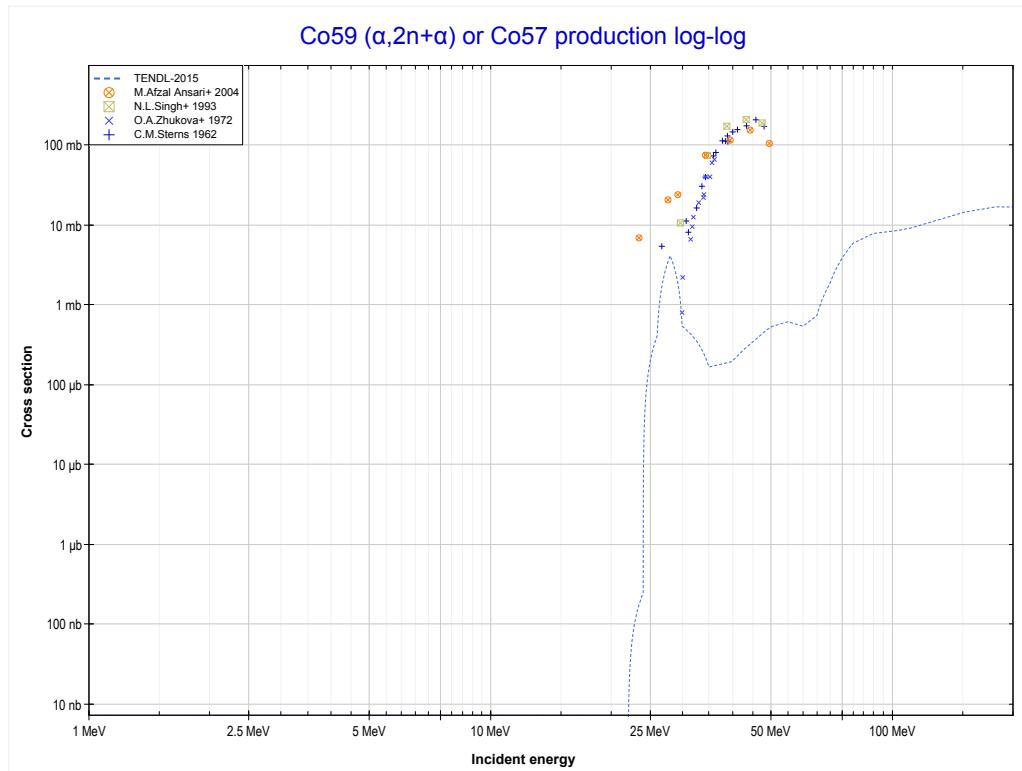
Reaction	Q-Value
$^{59}\text{Co}(\alpha,3n)^{60}\text{Cu}$	-25673.54 keV

<< 26-Fe-54	<b>27-Co-59</b> MT22 ( $\alpha, n + \alpha$ ) or MT5 (Co58 production)	28-Ni-58 >>
<< MT17 ( $\alpha, 3n$ )		MT24 ( $\alpha, 2n + \alpha$ ) >>



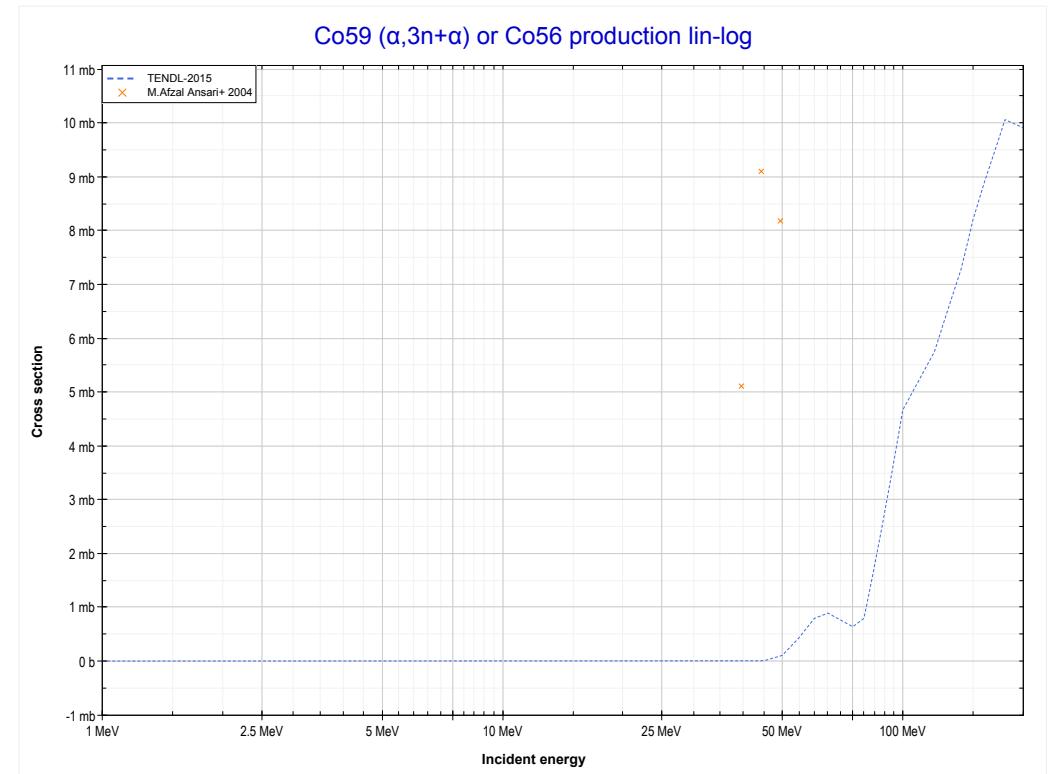
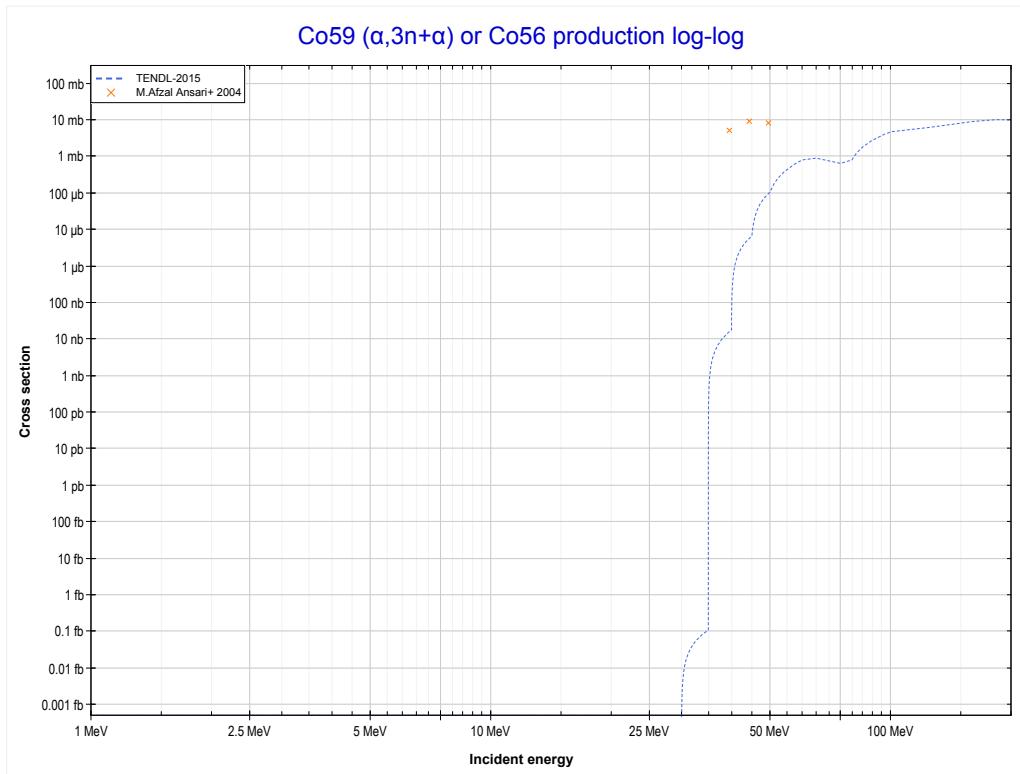
Reaction	Q-Value
Co59( $\alpha, n + \alpha$ )Co58	-10453.82 keV
Co59( $\alpha, d + t$ )Co58	-28043.11 keV
Co59( $\alpha, n + p + t$ )Co58	-30267.68 keV
Co59( $\alpha, 2n + \text{He}3$ )Co58	-31031.43 keV
Co59( $\alpha, n + 2d$ )Co58	-34300.34 keV
Co59( $\alpha, 2n + p + d$ )Co58	-36524.91 keV
Co59( $\alpha, 3n + 2p$ )Co58	-38749.48 keV

<< 26-Fe-54	<b>27-Co-59</b> <b>MT24 (<math>\alpha,2n+\alpha</math>) or MT5 (Co57 production)</b>	28-Ni-58 >>
<< MT22 ( $\alpha,n+\alpha$ )		MT25 ( $\alpha,3n+\alpha$ ) >>



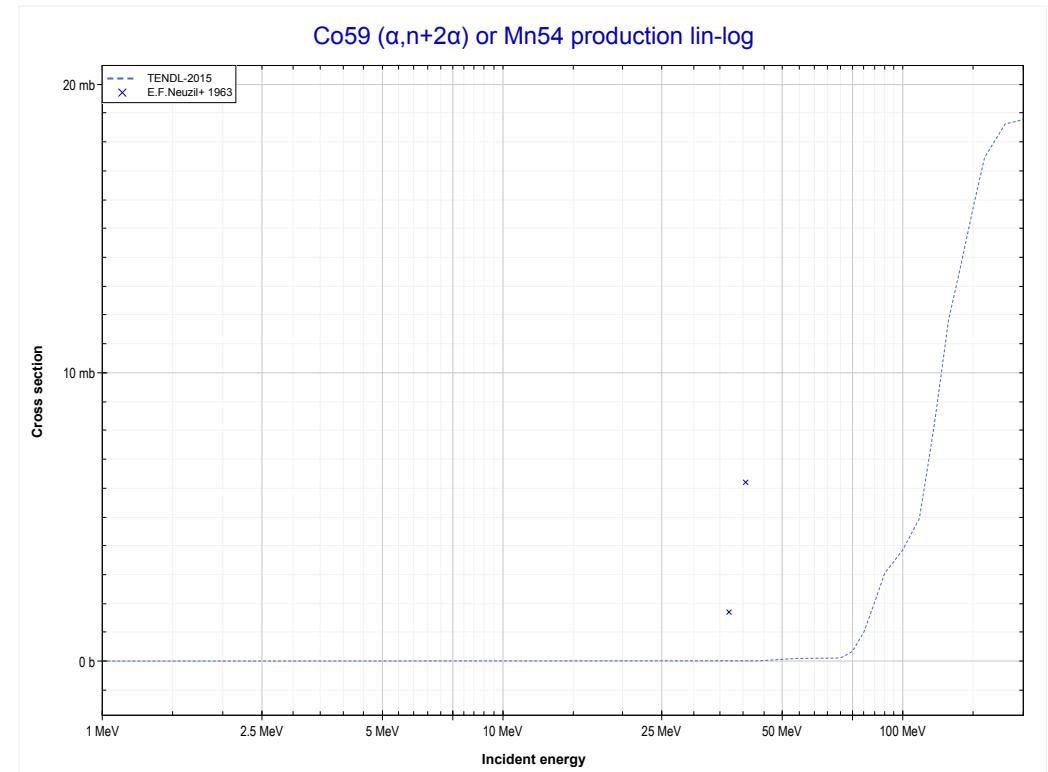
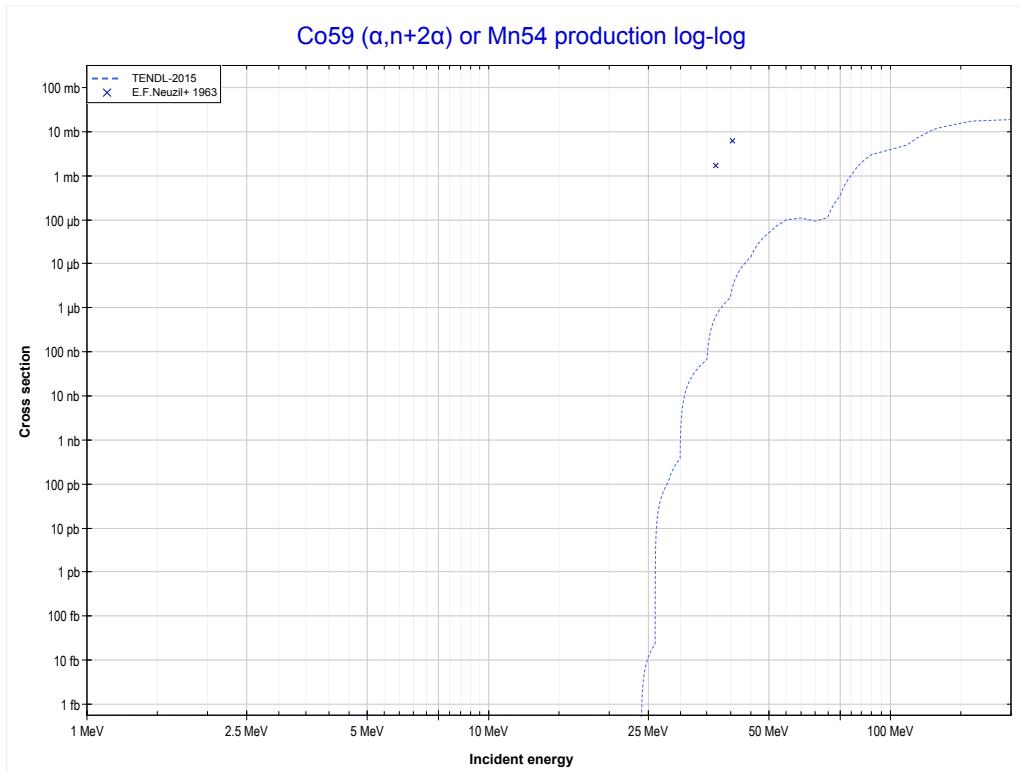
Reaction	Q-Value
Co59( $\alpha,2n+\alpha$ )Co57	-19026.83 keV
Co59( $\alpha,2t$ )Co57	-30358.90 keV
Co59( $\alpha,n+d+t$ )Co57	-36616.13 keV
Co59( $\alpha,2n+p+t$ )Co57	-38840.70 keV
Co59( $\alpha,3n+He3$ )Co57	-39604.45 keV
Co59( $\alpha,2n+2d$ )Co57	-42873.36 keV
Co59( $\alpha,3n+p+d$ )Co57	-45097.93 keV
Co59( $\alpha,4n+2p$ )Co57	-47322.49 keV

<< 23-V-51	<b>27-Co-59</b> <b>MT25 (<math>\alpha,3n+\alpha</math>) or MT5 (Co56 production)</b>	40-Zr-90 >>
<< MT24 ( $\alpha,2n+\alpha$ )		MT29 ( $\alpha,n+2\alpha$ ) >>



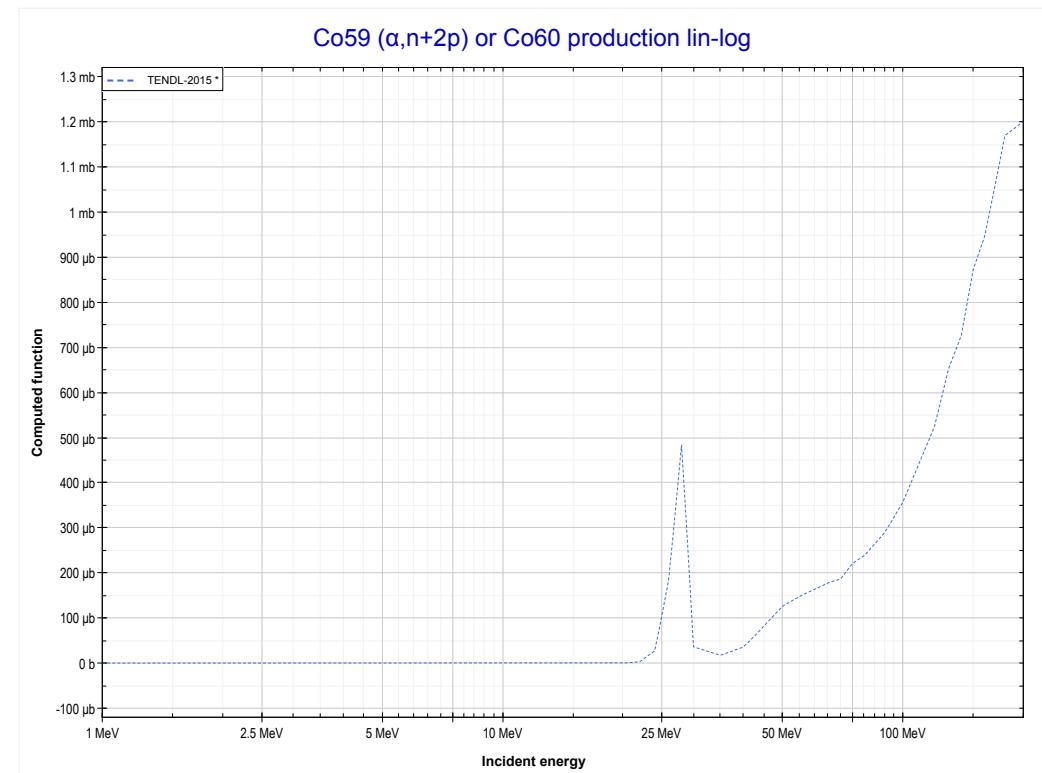
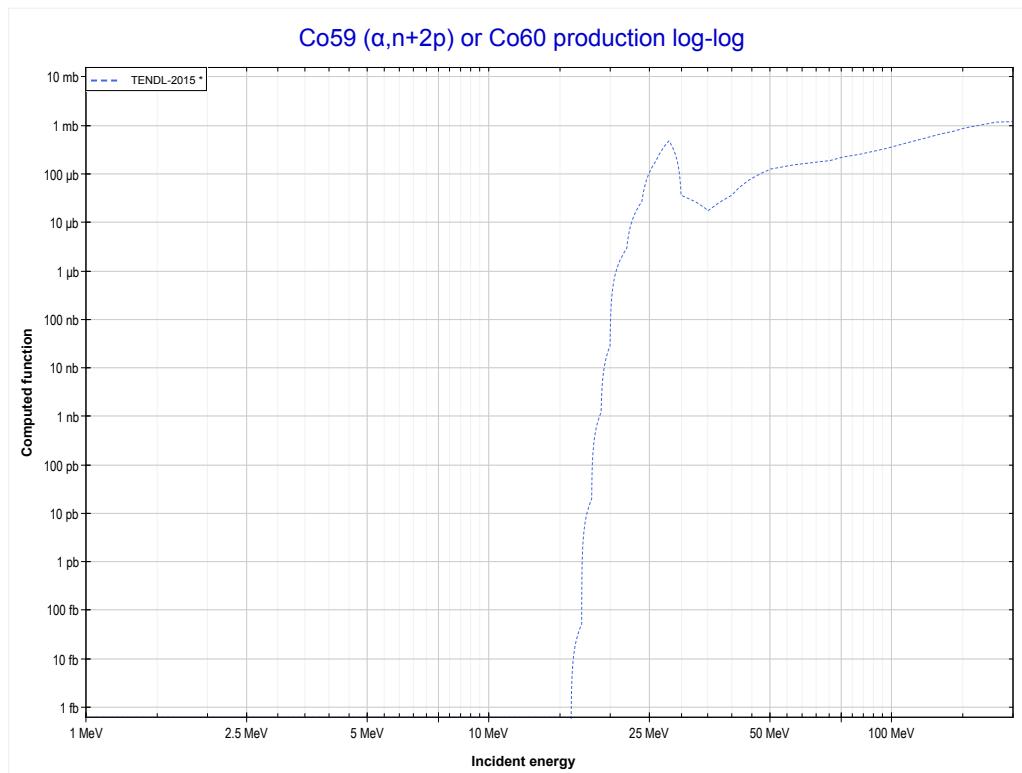
Reaction	Q-Value
Co59( $\alpha,3n+\alpha$ )Co56	-30403.25 keV
Co59( $\alpha,n+2t$ )Co56	-41735.31 keV
Co59( $\alpha,2n+d+t$ )Co56	-47992.55 keV
Co59( $\alpha,3n+p+t$ )Co56	-50217.11 keV
Co59( $\alpha,4n+He3$ )Co56	-50980.87 keV
Co59( $\alpha,3n+2d$ )Co56	-54249.78 keV
Co59( $\alpha,4n+p+d$ )Co56	-56474.35 keV
Co59( $\alpha,5n+2p$ )Co56	-58698.91 keV

<< 23-V-51	<b>27-Co-59</b> <b>MT29 (<math>\alpha, n+2\alpha</math>) or MT5 (Mn54 production)</b>	48-Cd-106 >>
<< MT25 ( $\alpha, 3n+\alpha$ )		MT44 ( $\alpha, n+2p$ ) >>

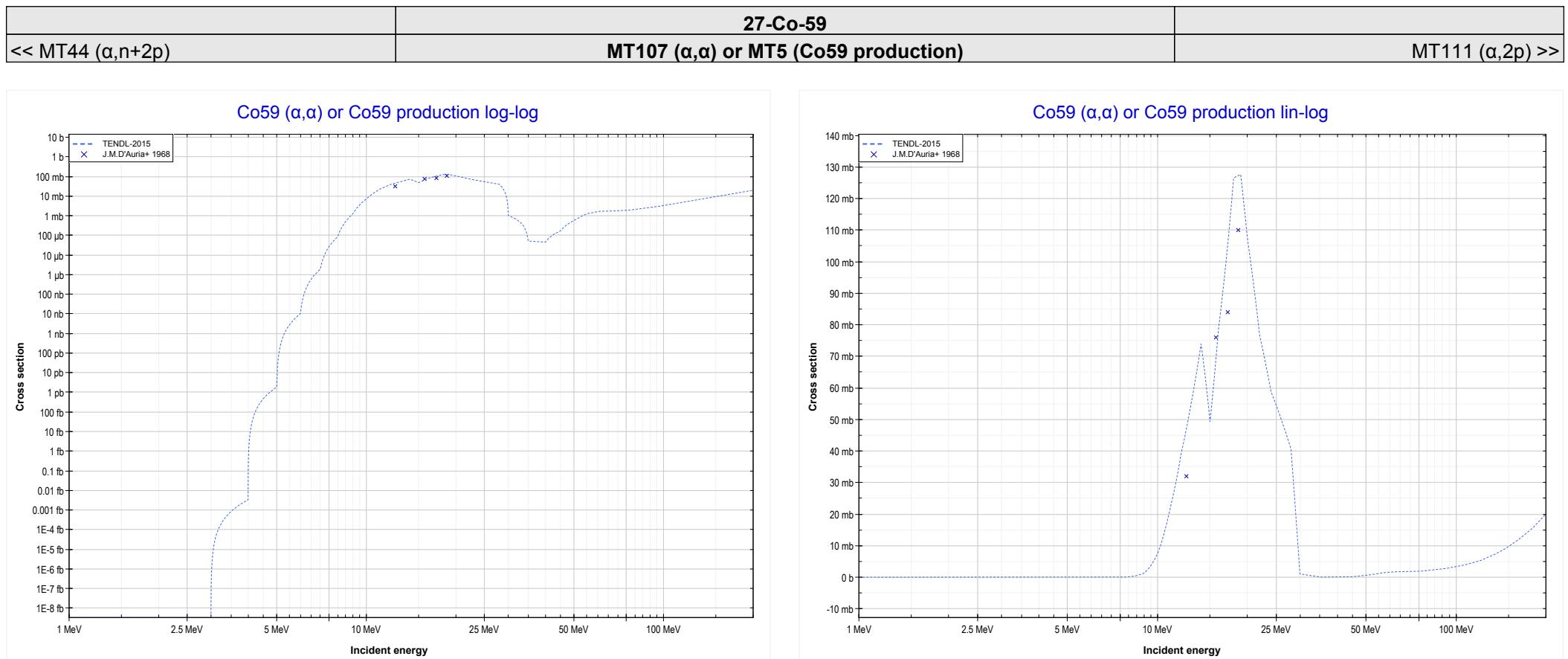


Reaction	Q-Value	Reaction	Q-Value
Co59( $\alpha, n+2\alpha$ )Mn54	-17168.83 keV	Co59( $\alpha, p+d+2t$ )Mn54	-54571.99 keV
Co59( $\alpha, d+t+\alpha$ )Mn54	-34758.13 keV	Co59( $\alpha, n+d+t+He3$ )Mn54	-55335.74 keV
Co59( $\alpha, n+p+t+\alpha$ )Mn54	-36982.69 keV	Co59( $\alpha, n+2p+2t$ )Mn54	-56796.55 keV
Co59( $\alpha, 2n+He3+\alpha$ )Mn54	-37746.45 keV	Co59( $\alpha, 2n+p+t+He3$ )Mn54	-57560.31 keV
Co59( $\alpha, n+2d+\alpha$ )Mn54	-41015.36 keV	Co59( $\alpha, 3n+2He3$ )Mn54	-58324.07 keV
Co59( $\alpha, 2n+p+d+\alpha$ )Mn54	-43239.93 keV	Co59( $\alpha, 3d+t$ )Mn54	-58604.66 keV
Co59( $\alpha, 3n+2p+\alpha$ )Mn54	-45464.49 keV	Co59( $\alpha, n+p+2d+t$ )Mn54	-60829.22 keV
Co59( $\alpha, 2t+He3$ )Mn54	-49078.51 keV	Co59( $\alpha, 2n+2d+He3$ )Mn54	-61592.98 keV

<< 26-Fe-54	<b>27-Co-59</b> MT44 ( $\alpha, n+2p$ ) or MT5 (Co60 production)	30-Zn-64 >>
<< MT29 ( $\alpha, n+2\alpha$ )		MT107 ( $\alpha, \alpha$ ) >>

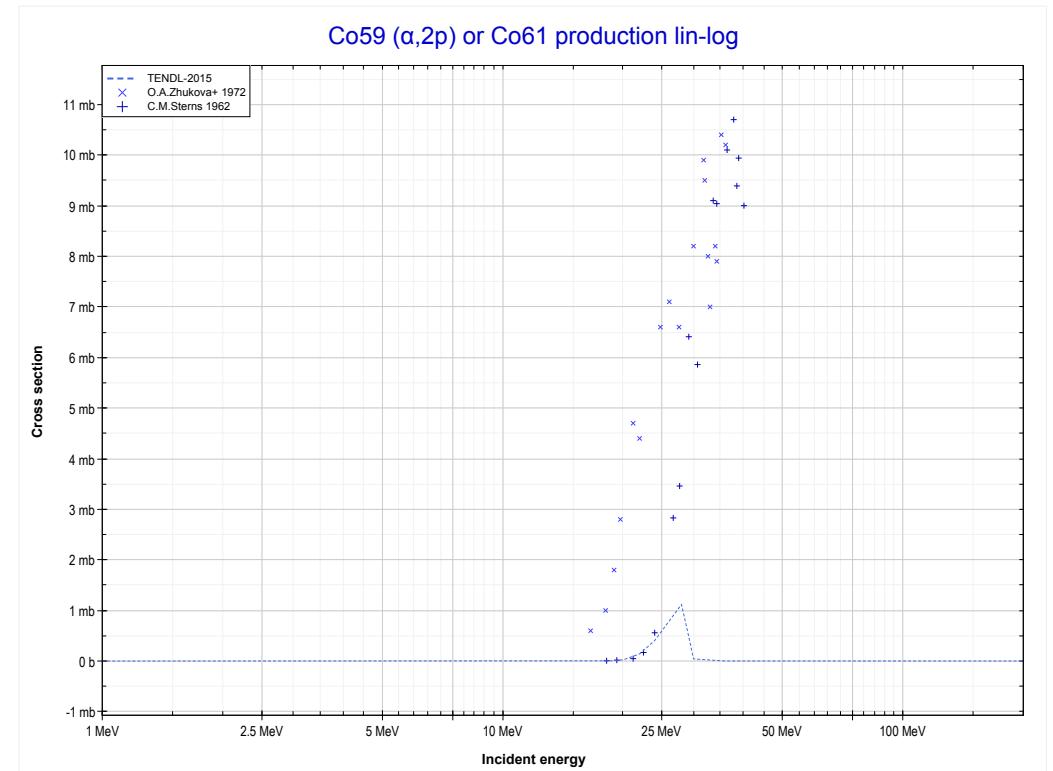
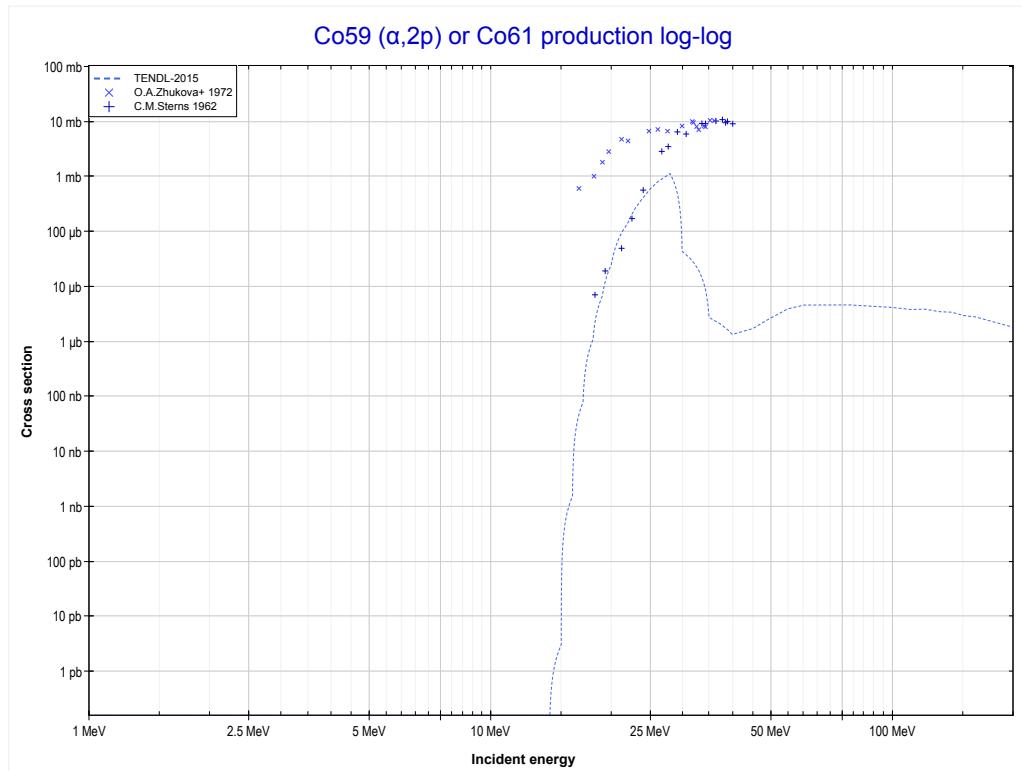


Reaction	Q-Value
Co59( $\alpha, \text{He}3$ )Co60	-13085.70 keV
Co59( $\alpha, p+d$ )Co60	-18579.18 keV
Co59( $\alpha, n+2p$ )Co60	-20803.74 keV



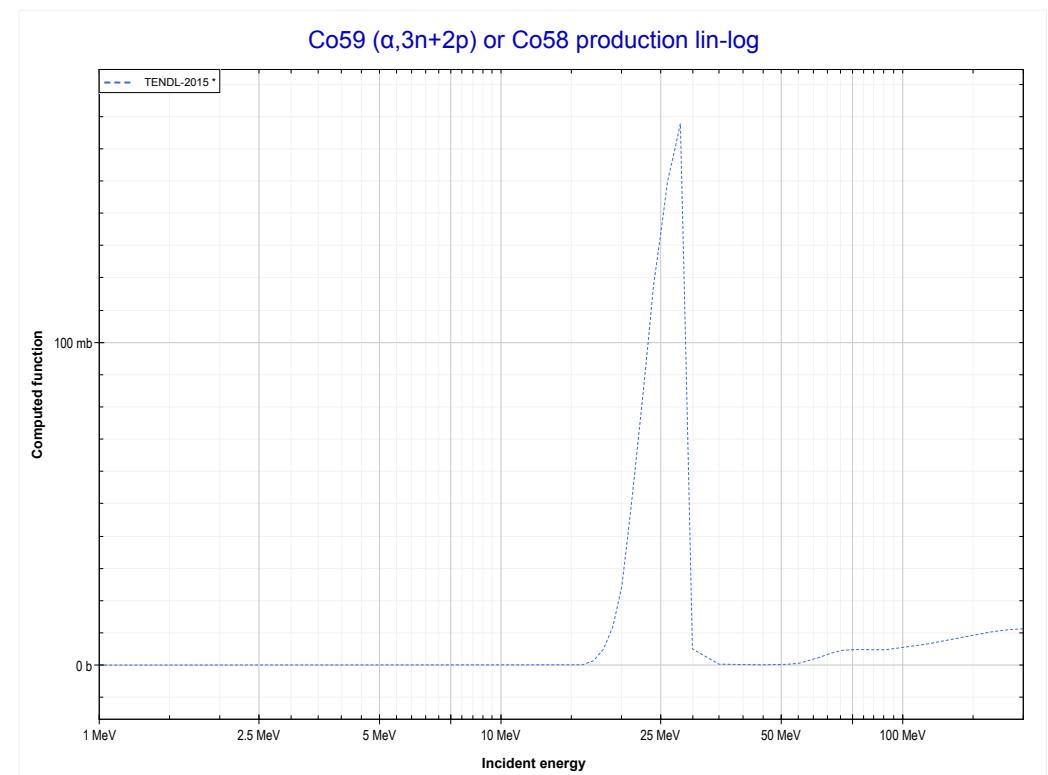
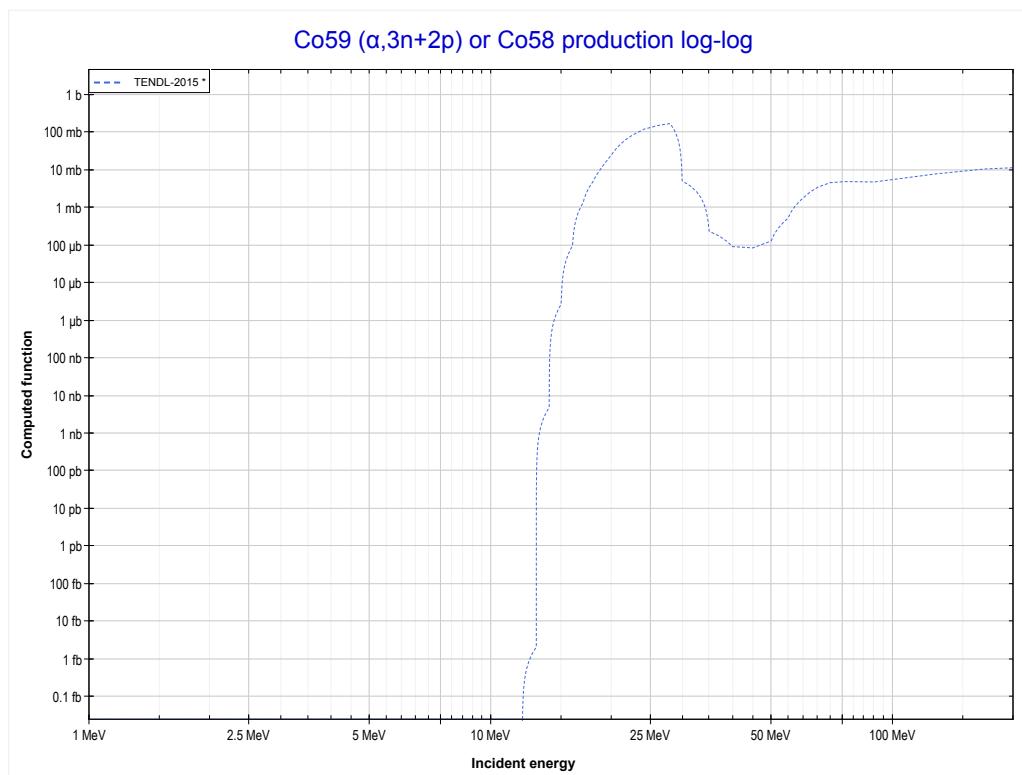
Reaction	Q-Value
Co59( $\alpha, \alpha$ )Co59	0.00 keV
Co59( $\alpha, p+t$ )Co59	-19813.86 keV
Co59( $\alpha, n+He3$ )Co59	-20577.62 keV
Co59( $\alpha, 2d$ )Co59	-23846.53 keV
Co59( $\alpha, n+p+d$ )Co59	-26071.09 keV
Co59( $\alpha, 2n+2p$ )Co59	-28295.66 keV

<< 26-Fe-57	<b>27-Co-59</b> MT111 ( $\alpha, 2p$ ) or MT5 (Co61 production)	29-Cu-65 >>
<< MT107 ( $\alpha, \alpha$ )		MT179 ( $\alpha, 3n+2p$ ) >>



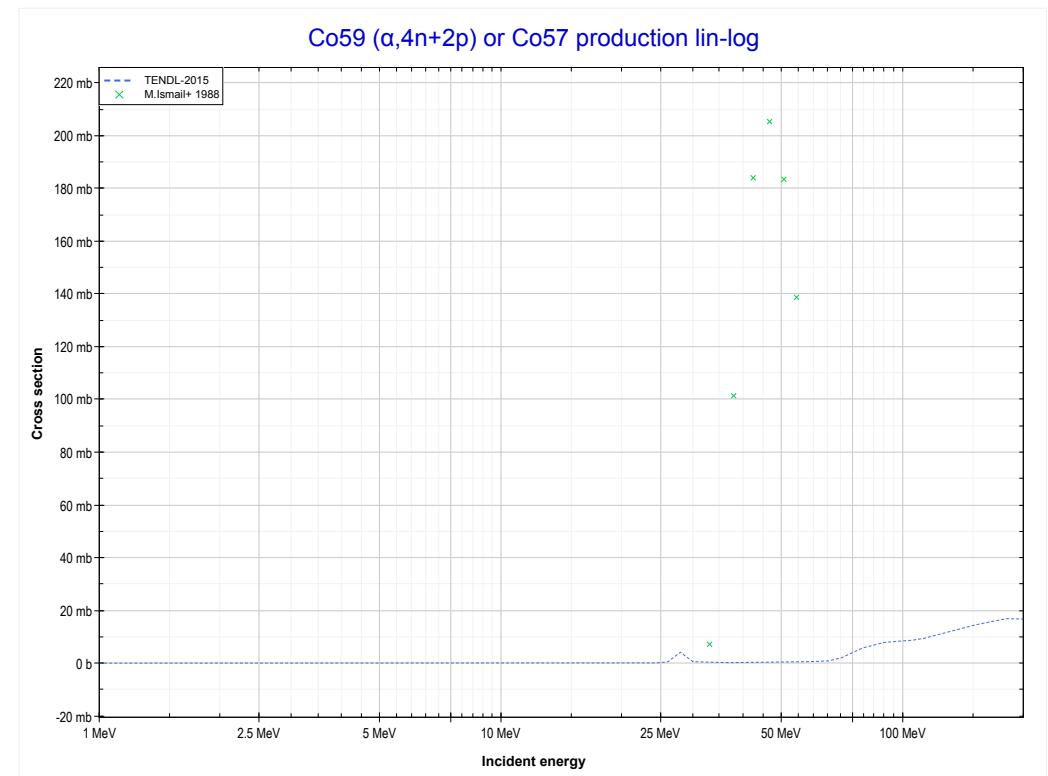
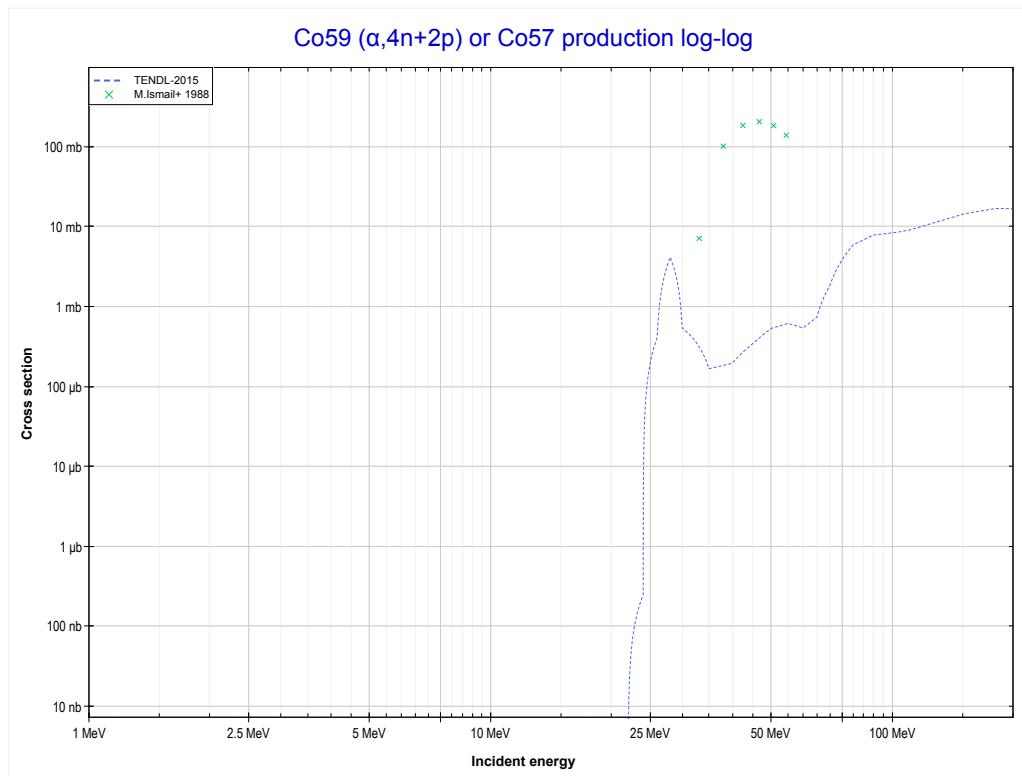
Reaction	Q-Value
Co59( $\alpha, 2p$ )Co61	-11484.53 keV

<< MT111 ( $\alpha$ ,2p)	27-Co-59 MT179 ( $\alpha$ ,3n+2p) or MT5 (Co58 production)	48-Cd-116 >> MT194 ( $\alpha$ ,4n+2p) >>
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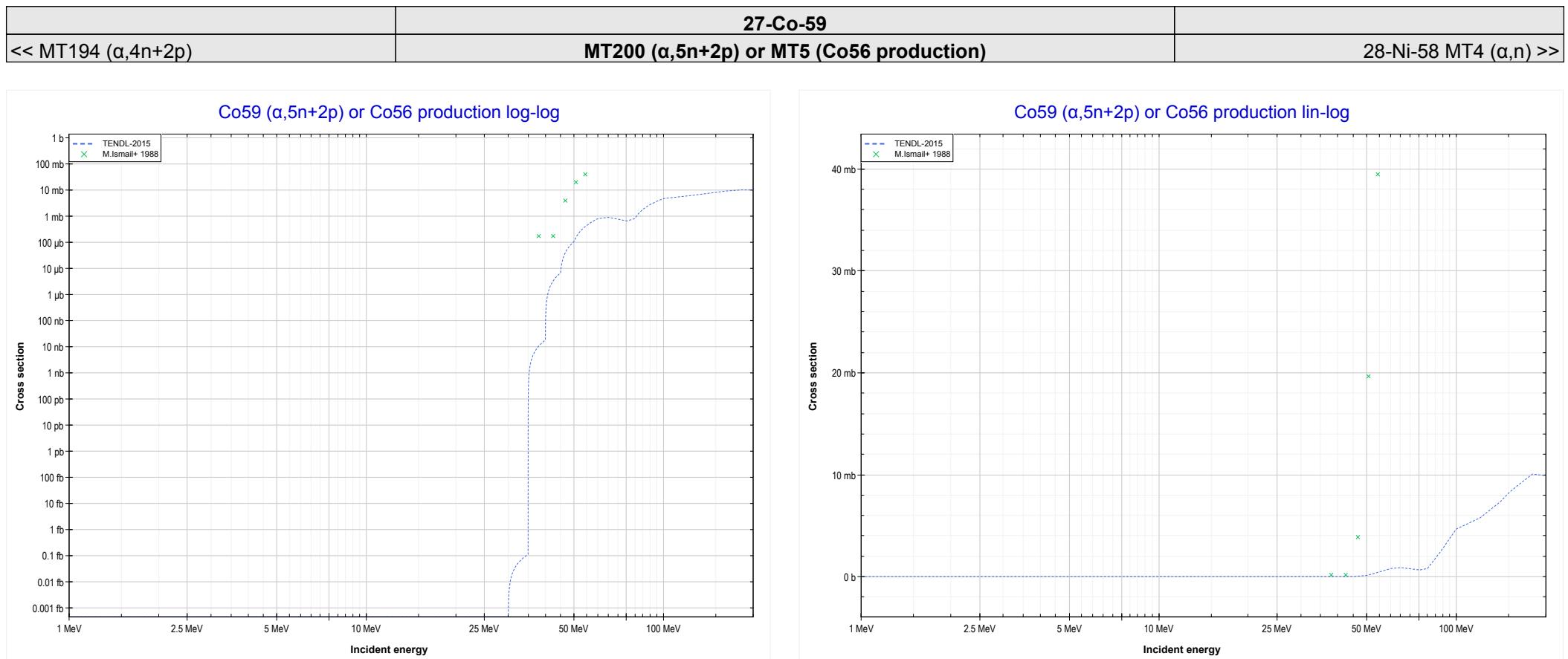


Reaction	Q-Value
Co59( $\alpha$ ,n+ $\alpha$ )Co58	-10453.82 keV
Co59( $\alpha$ ,d+t)Co58	-28043.11 keV
Co59( $\alpha$ ,n+p+t)Co58	-30267.68 keV
Co59( $\alpha$ ,2n+He3)Co58	-31031.43 keV
Co59( $\alpha$ ,n+2d)Co58	-34300.34 keV
Co59( $\alpha$ ,2n+p+d)Co58	-36524.91 keV
Co59( $\alpha$ ,3n+2p)Co58	-38749.48 keV

<< MT179 ( $\alpha,3n+2p$ )	<b>27-Co-59</b> MT194 ( $\alpha,4n+2p$ ) or MT5 (Co57 production)	47-Ag-107 >> MT200 ( $\alpha,5n+2p$ ) >>
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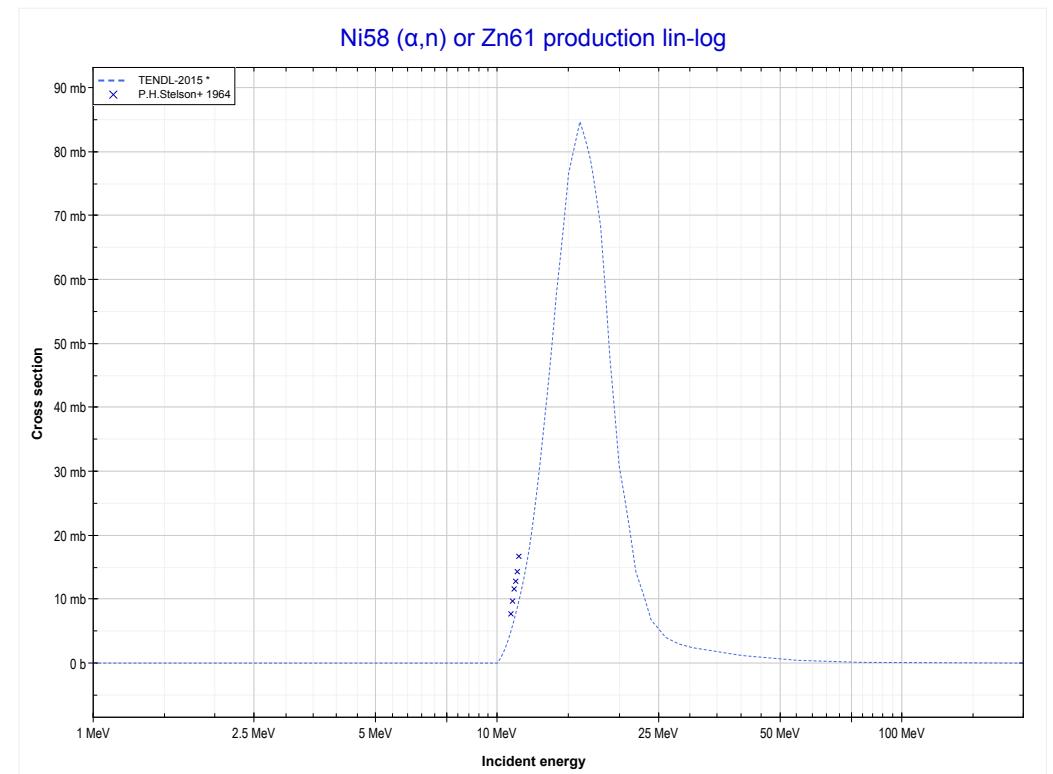
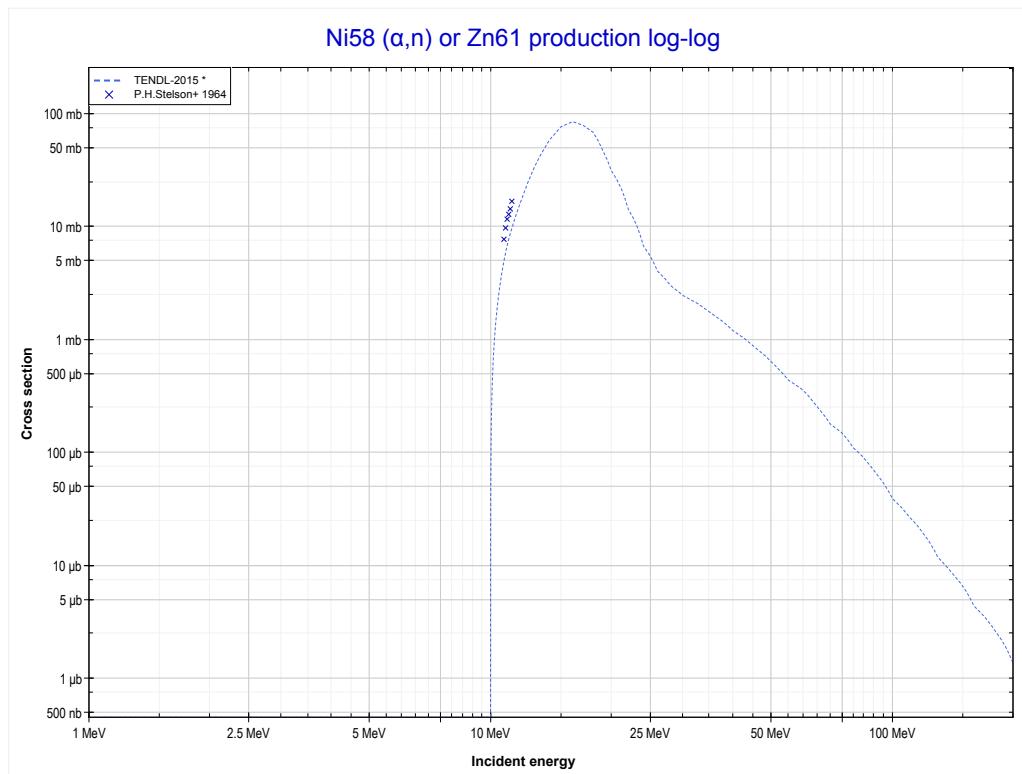


Reaction	Q-Value
Co59( $\alpha,2n+\alpha$ )Co57	-19026.83 keV
Co59( $\alpha,2t$ )Co57	-30358.90 keV
Co59( $\alpha,n+d+t$ )Co57	-36616.13 keV
Co59( $\alpha,2n+p+t$ )Co57	-38840.70 keV
Co59( $\alpha,3n+He3$ )Co57	-39604.45 keV
Co59( $\alpha,2n+2d$ )Co57	-42873.36 keV
Co59( $\alpha,3n+p+d$ )Co57	-45097.93 keV
Co59( $\alpha,4n+2p$ )Co57	-47322.49 keV



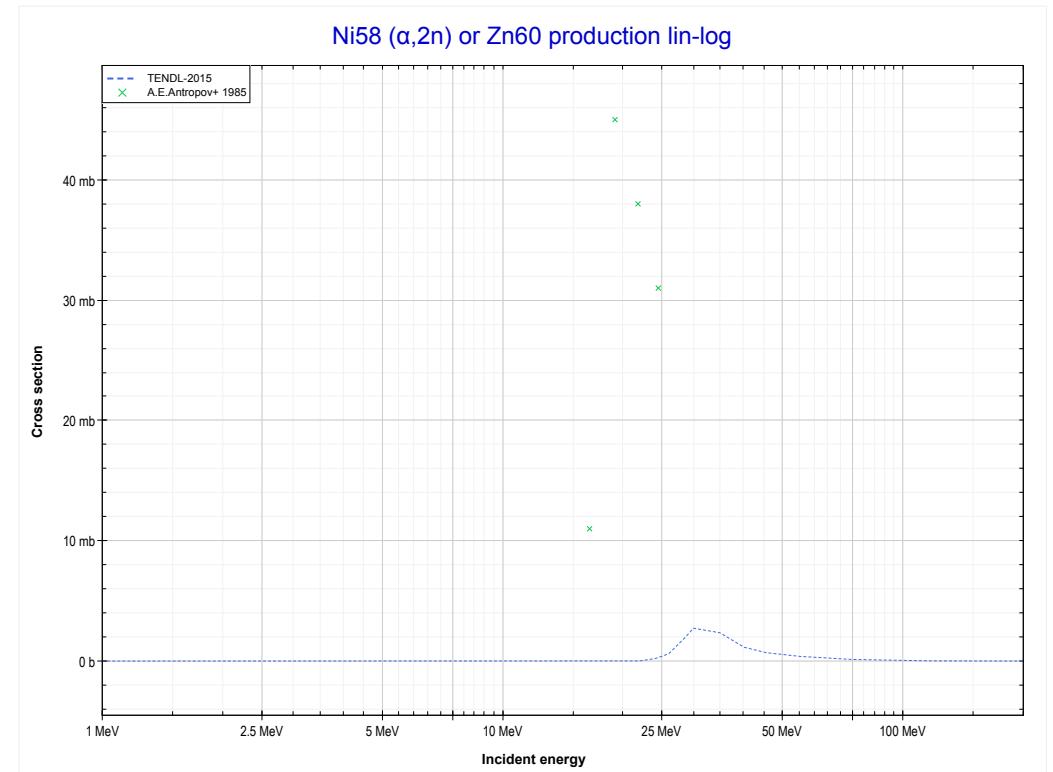
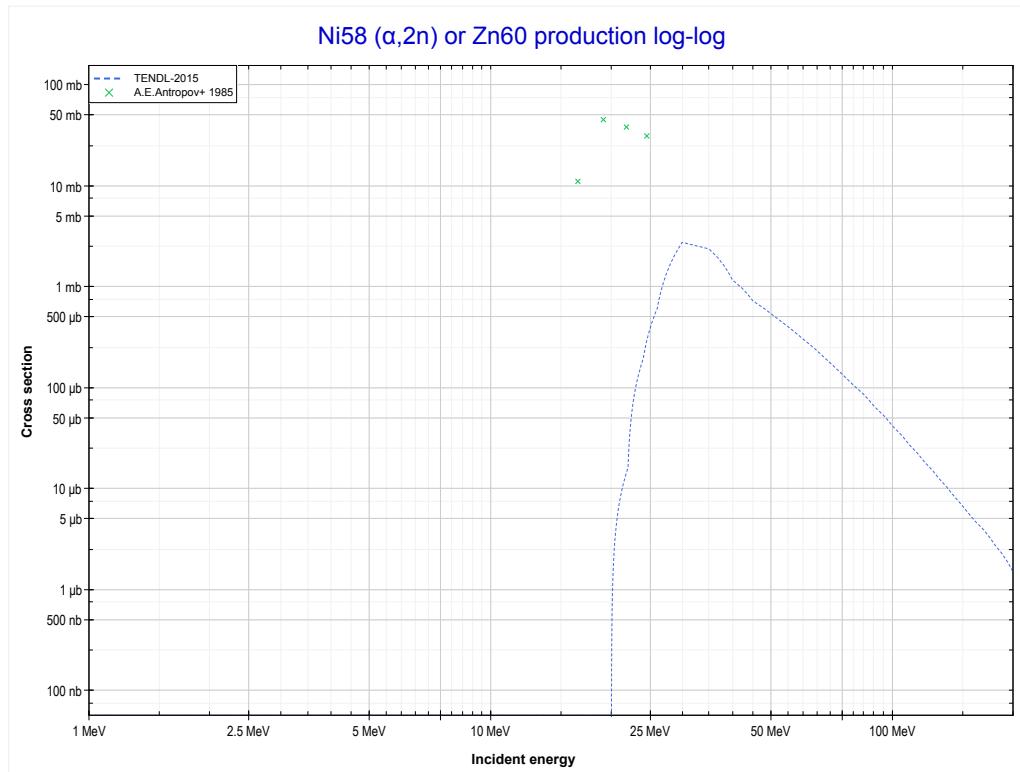
Reaction	Q-Value
Co59( $\alpha,3n+\alpha$ )Co56	-30403.25 keV
Co59( $\alpha,n+2t$ )Co56	-41735.31 keV
Co59( $\alpha,2n+d+t$ )Co56	-47992.55 keV
Co59( $\alpha,3n+p+t$ )Co56	-50217.11 keV
Co59( $\alpha,4n+He3$ )Co56	-50980.87 keV
Co59( $\alpha,3n+2d$ )Co56	-54249.78 keV
Co59( $\alpha,4n+p+d$ )Co56	-56474.35 keV
Co59( $\alpha,5n+2p$ )Co56	-58698.91 keV

<< 27-Co-59	<b>28-Ni-58</b> MT4 ( $\alpha, n$ ) or MT5 (Zn61 production)	28-Ni-60 >>
<< 27-Co-59 MT200 ( $\alpha, 5n+2p$ )		MT16 ( $\alpha, 2n$ ) >>



Reaction	Q-Value
Ni58( $\alpha, n$ )Zn61	-9525.60 keV

<< 27-Co-59	<b>28-Ni-58</b> MT16 ( $\alpha,2n$ ) or MT5 (Zn60 production)	28-Ni-60 >>
<< MT4 ( $\alpha,n$ )		MT22 ( $\alpha,n+\alpha$ ) >>

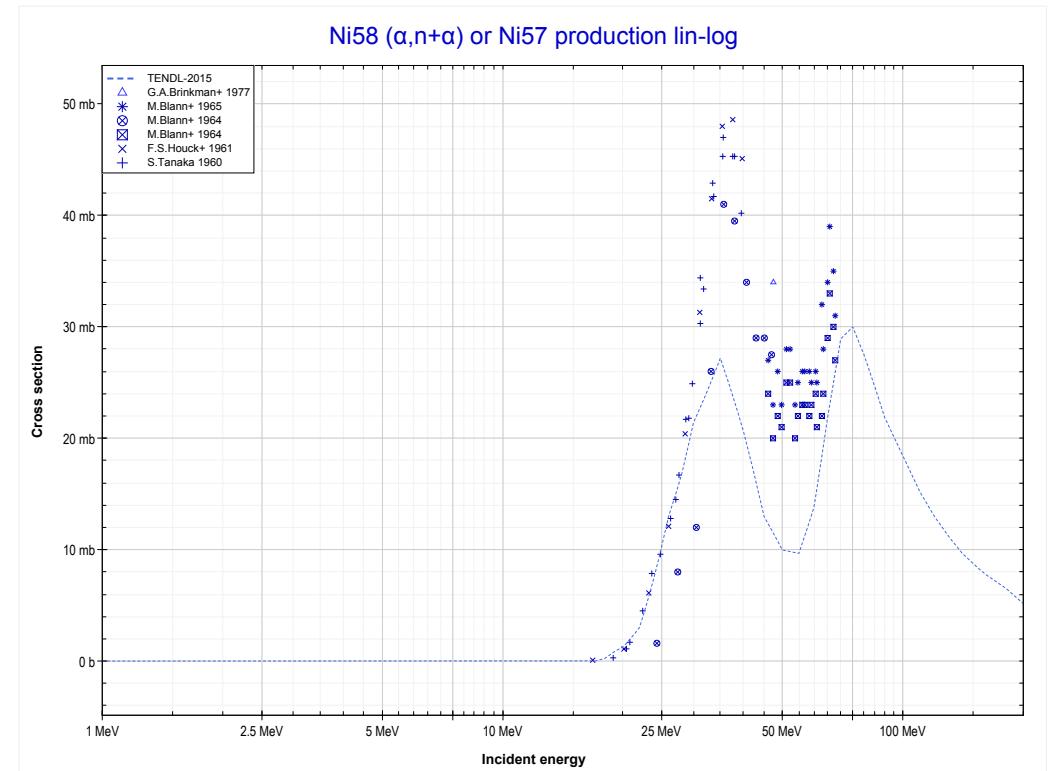
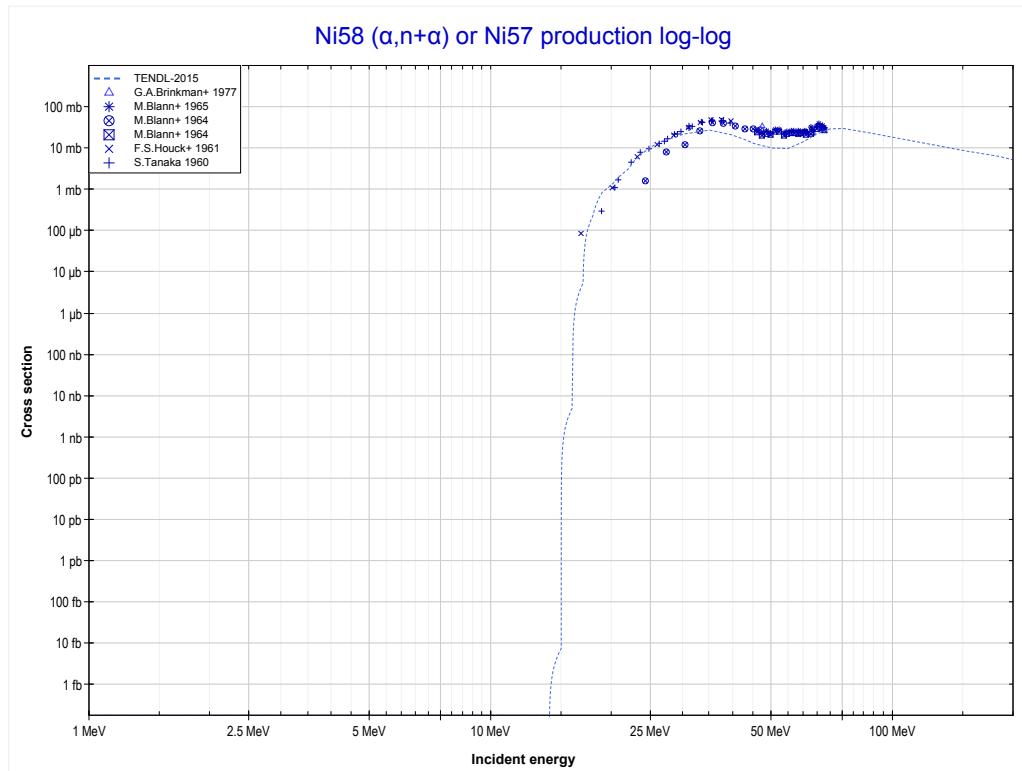


Reaction	Q-Value
Ni58( $\alpha,2n$ )Zn60	-19772.22 keV

<< 27-Co-59	
<< MT16 ( $\alpha,2n$ )	

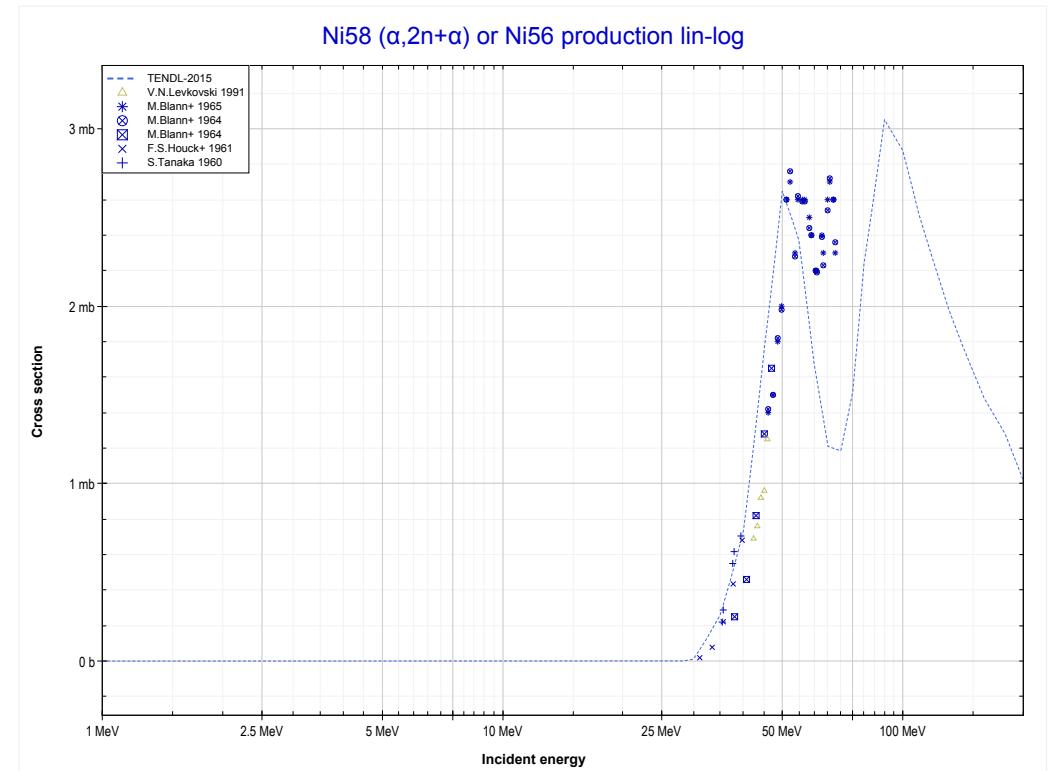
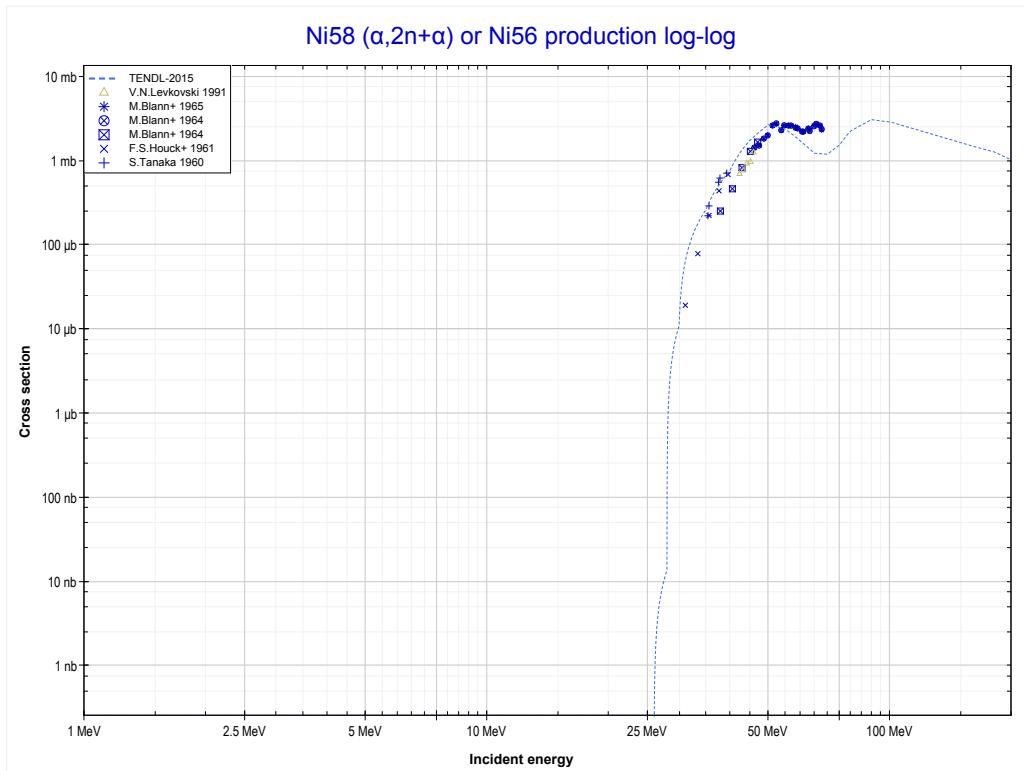
**28-Ni-58**  
**MT22 ( $\alpha,n+\alpha$ ) or MT5 (Ni57 production)**

29-Cu-65 >>  
MT24 ( $\alpha,2n+\alpha$ ) >>



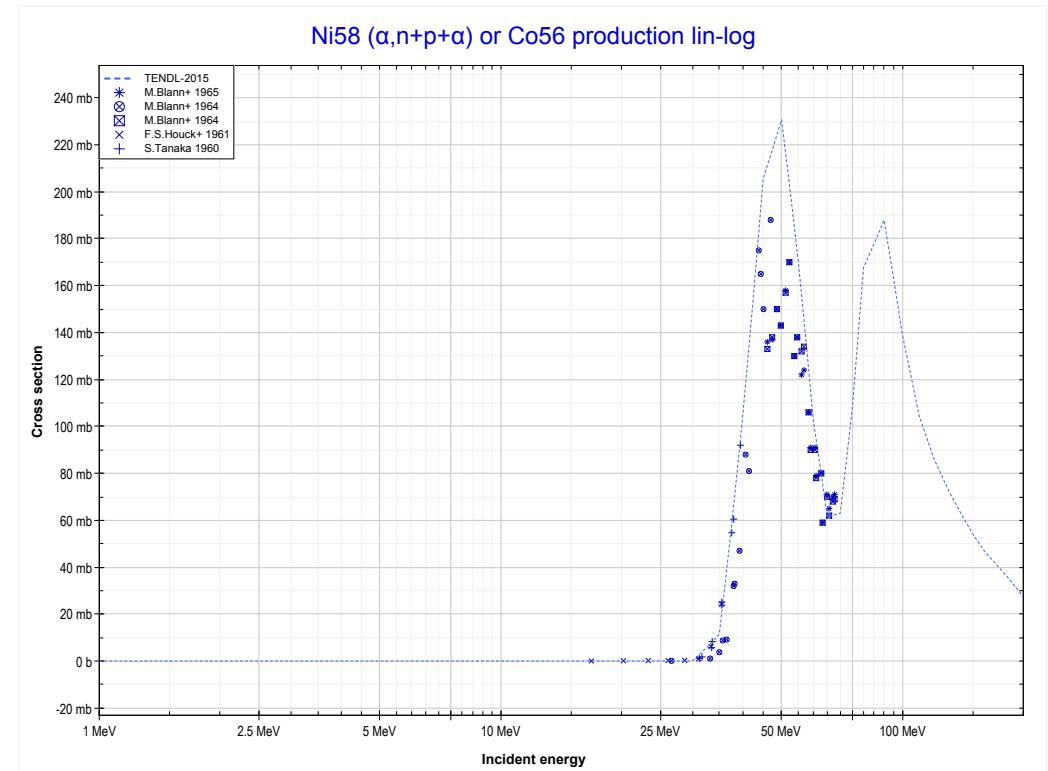
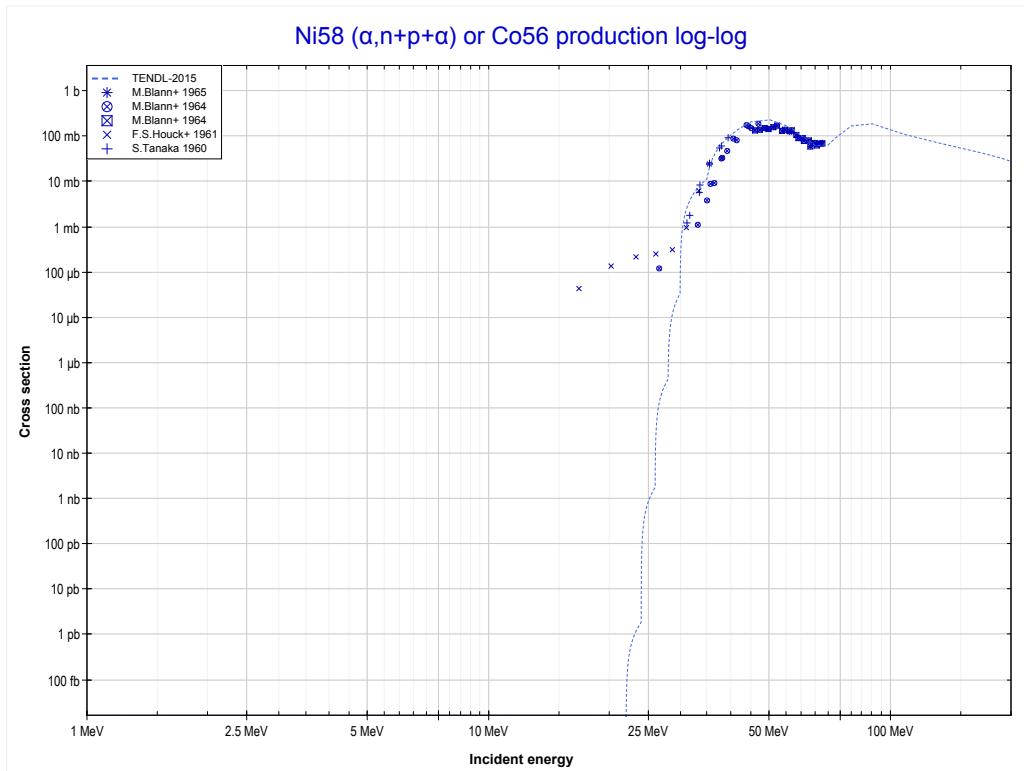
Reaction	Q-Value
Ni58( $\alpha,n+\alpha$ )Ni57	-12216.32 keV
Ni58( $\alpha,d+t$ )Ni57	-29805.61 keV
Ni58( $\alpha,n+p+t$ )Ni57	-32030.18 keV
Ni58( $\alpha,2n+He3$ )Ni57	-32793.93 keV
Ni58( $\alpha,n+2d$ )Ni57	-36062.84 keV
Ni58( $\alpha,2n+p+d$ )Ni57	-38287.41 keV
Ni58( $\alpha,3n+2p$ )Ni57	-40511.98 keV

<< 27-Co-59	<b>28-Ni-58</b> MT24 ( $\alpha, 2n + \alpha$ ) or MT5 (Ni56 production)	29-Cu-63 >>
<< MT22 ( $\alpha, n + \alpha$ )		MT45 ( $\alpha, n + p + \alpha$ ) >>



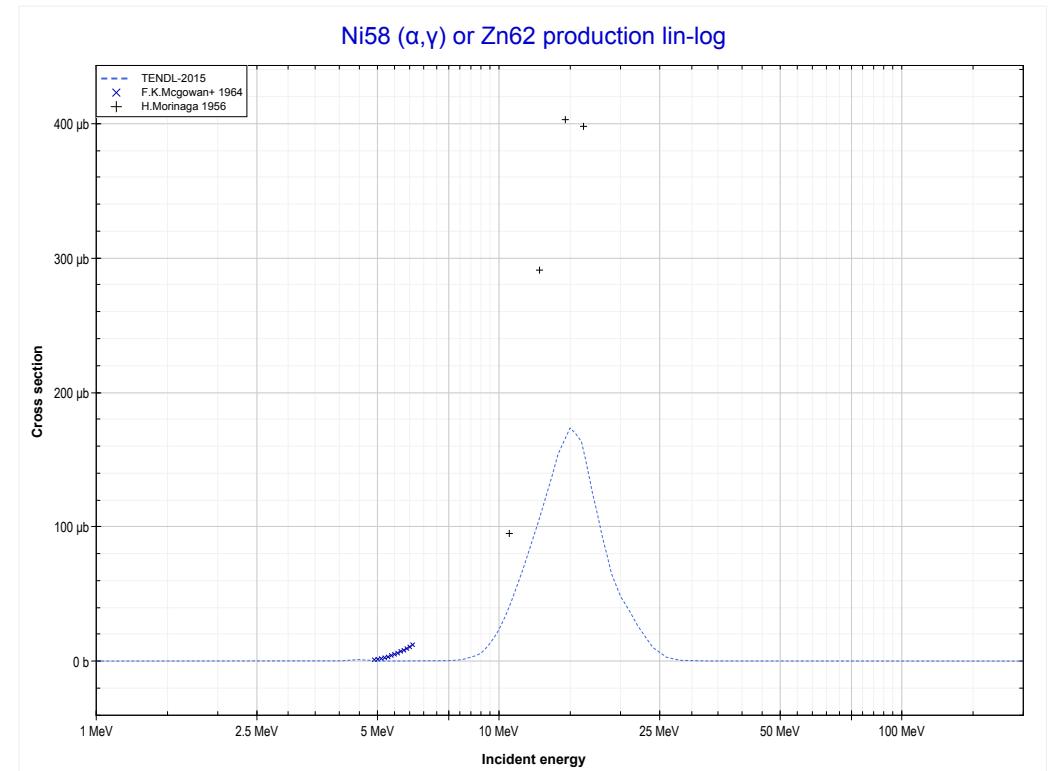
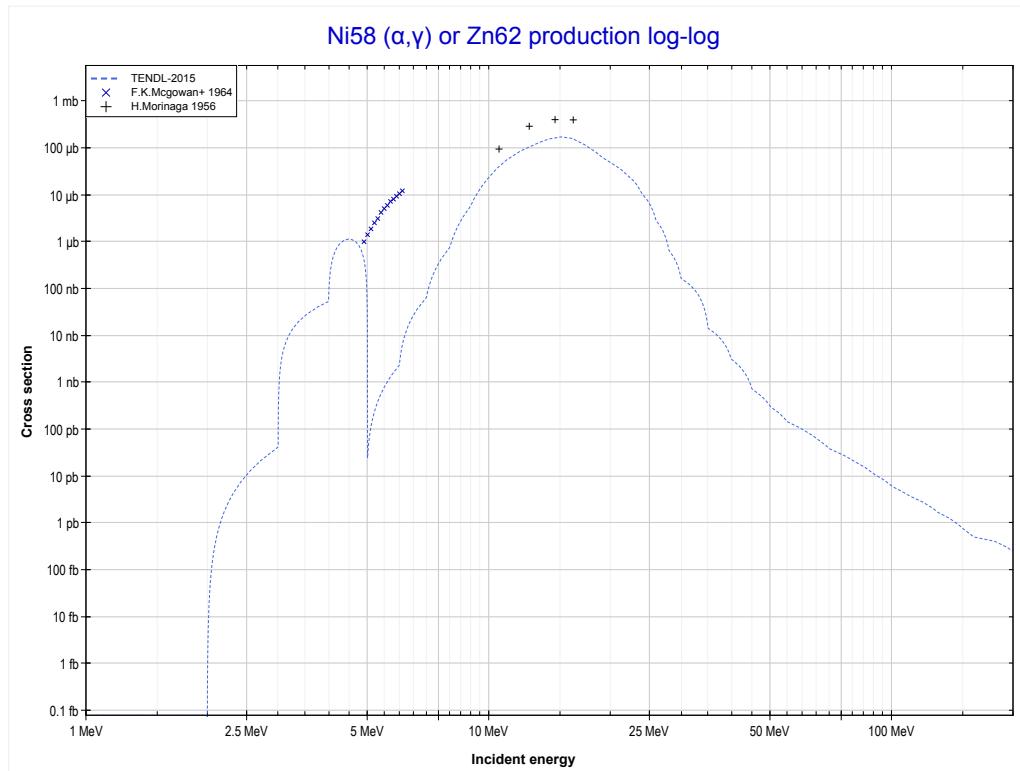
Reaction	Q-Value
$\text{Ni58}(\alpha, 2n + \alpha)\text{Ni56}$	-22463.93 keV
$\text{Ni58}(\alpha, 2t)\text{Ni56}$	-33796.00 keV
$\text{Ni58}(\alpha, n + d + t)\text{Ni56}$	-40053.23 keV
$\text{Ni58}(\alpha, 2n + p + t)\text{Ni56}$	-42277.80 keV
$\text{Ni58}(\alpha, 3n + \text{He3})\text{Ni56}$	-43041.55 keV
$\text{Ni58}(\alpha, 2n + 2d)\text{Ni56}$	-46310.46 keV
$\text{Ni58}(\alpha, 3n + p + d)\text{Ni56}$	-48535.03 keV
$\text{Ni58}(\alpha, 4n + 2p)\text{Ni56}$	-50759.59 keV

<< 26-Fe-56	<b>28-Ni-58</b> MT45 ( $\alpha, n+p+\alpha$ ) or MT5 (Co56 production)	28-Ni-60 >>
<< MT24 ( $\alpha, 2n+\alpha$ )		MT102 ( $\alpha, \gamma$ ) >>



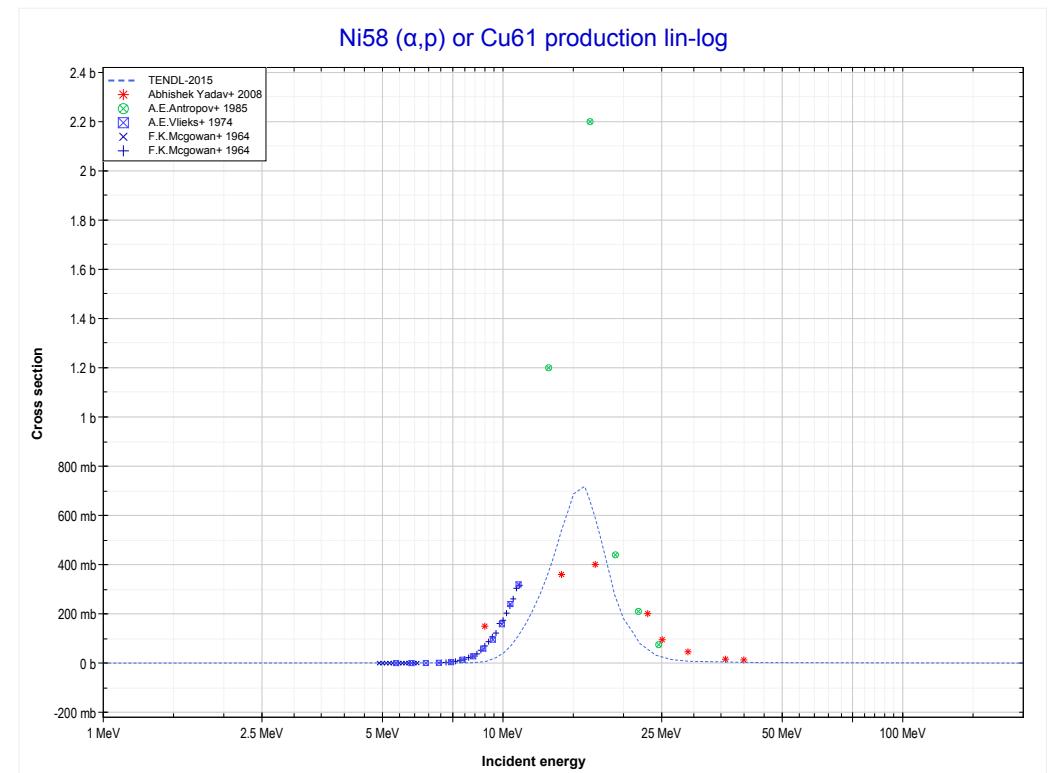
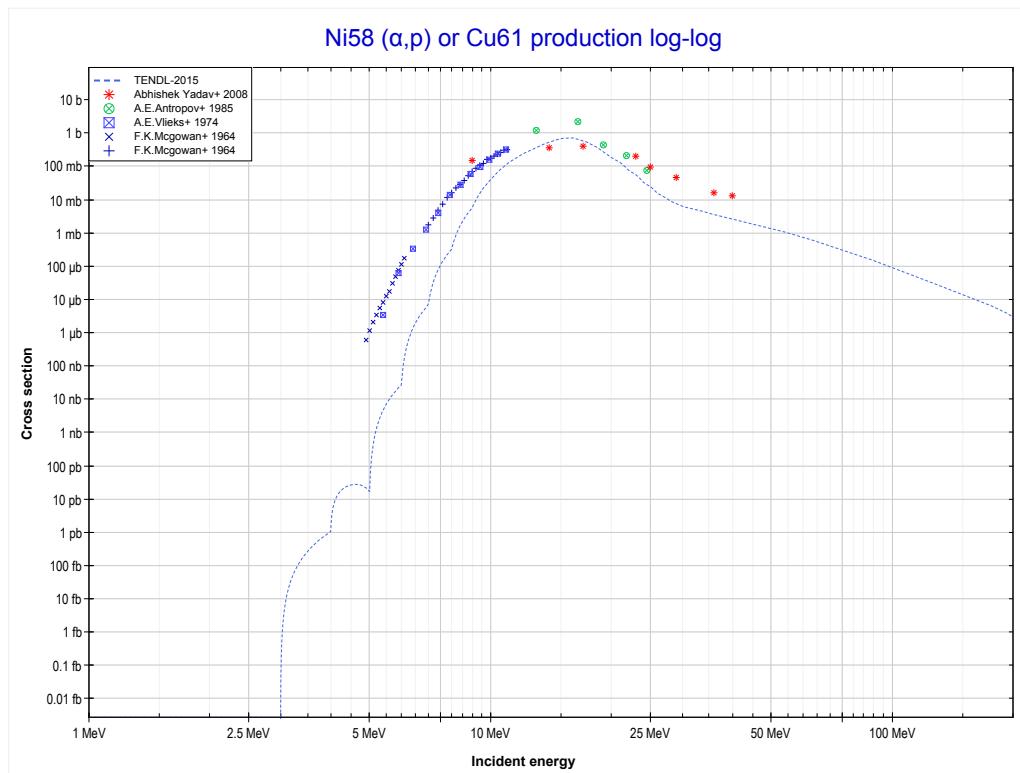
Reaction	Q-Value	Reaction	Q-Value
Ni58( $\alpha, d+\alpha$ )Co56	-17324.12 keV	Ni58( $\alpha, n+p+2d$ )Co56	-43395.22 keV
Ni58( $\alpha, n+p+\alpha$ )Co56	-19548.69 keV	Ni58( $\alpha, 2n+2p+d$ )Co56	-45619.78 keV
Ni58( $\alpha, t+He3$ )Co56	-31644.51 keV	Ni58( $\alpha, 3n+3p$ )Co56	-47844.35 keV
Ni58( $\alpha, p+d+t$ )Co56	-37137.98 keV		
Ni58( $\alpha, n+d+He3$ )Co56	-37901.74 keV		
Ni58( $\alpha, n+2p+t$ )Co56	-39362.55 keV		
Ni58( $\alpha, 2n+p+He3$ )Co56	-40126.30 keV		
Ni58( $\alpha, 3d$ )Co56	-41170.65 keV		

<< 17-CI-37	<b>28-Ni-58</b> MT102 ( $\alpha,\gamma$ ) or MT5 (Zn62 production)	28-Ni-62 >>
<< MT45 ( $\alpha,n+p+\alpha$ )		MT103 ( $\alpha,p$ ) >>



Reaction	Q-Value
Ni58( $\alpha,\gamma$ )Zn62	3364.22 keV

<< 26-Fe-58	<b>28-Ni-58</b> MT103 ( $\alpha,p$ ) or MT5 (Cu61 production)	28-Ni-61 >>
<< MT102 ( $\alpha,\gamma$ )		MT112 ( $\alpha,p+\alpha$ ) >>

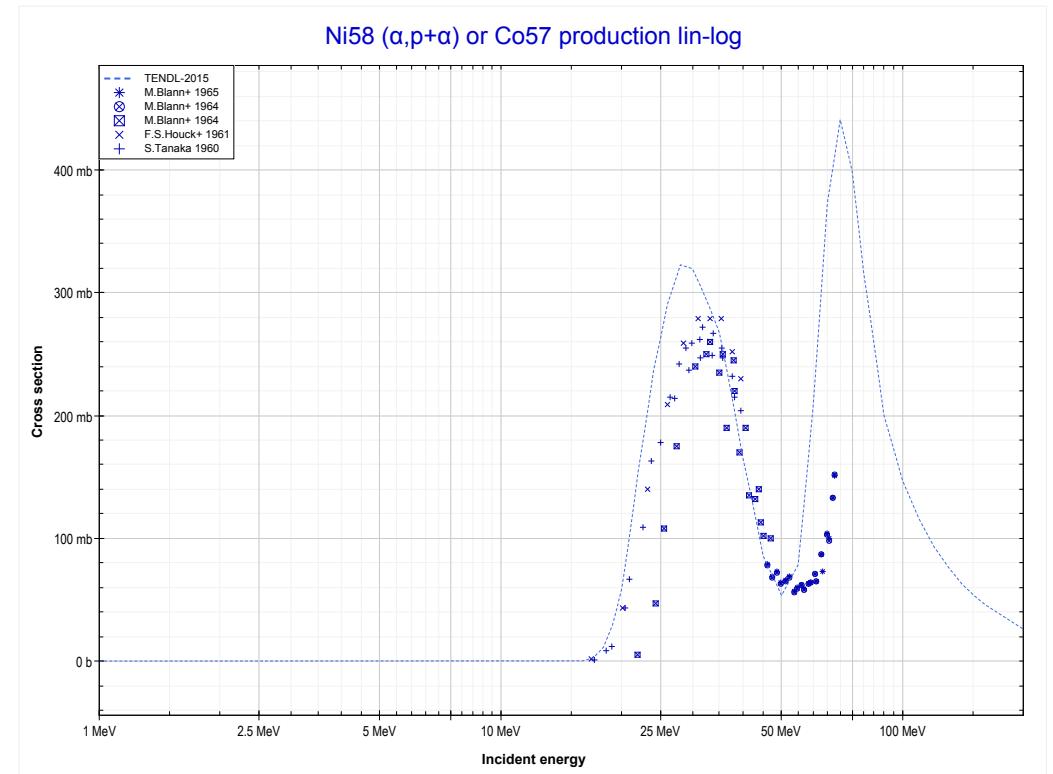
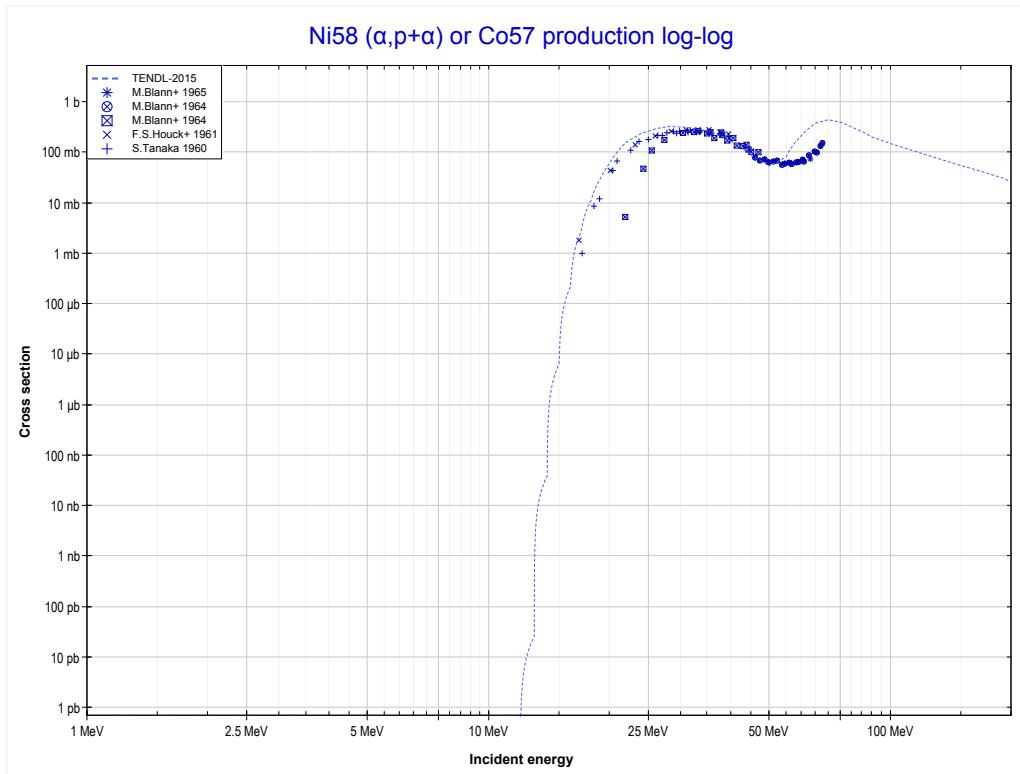


Reaction	Q-Value
Ni58( $\alpha,p$ )Cu61	-3108.45 keV

<< 26-Fe-57	
<< MT103 ( $\alpha, p$ )	

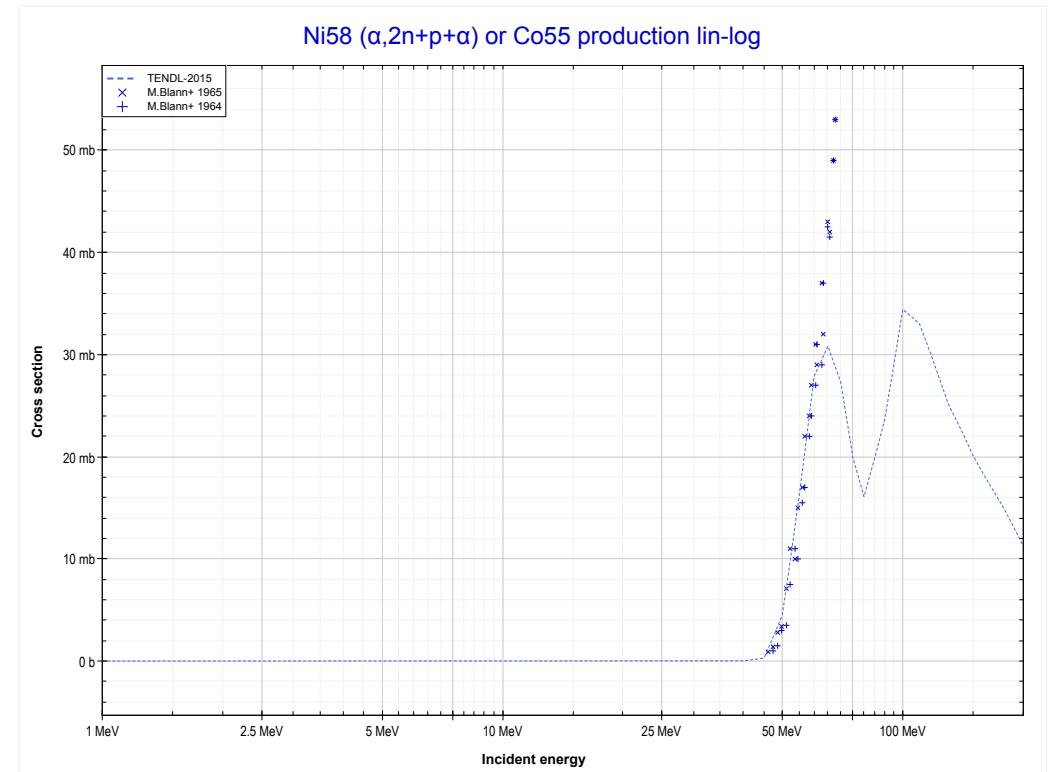
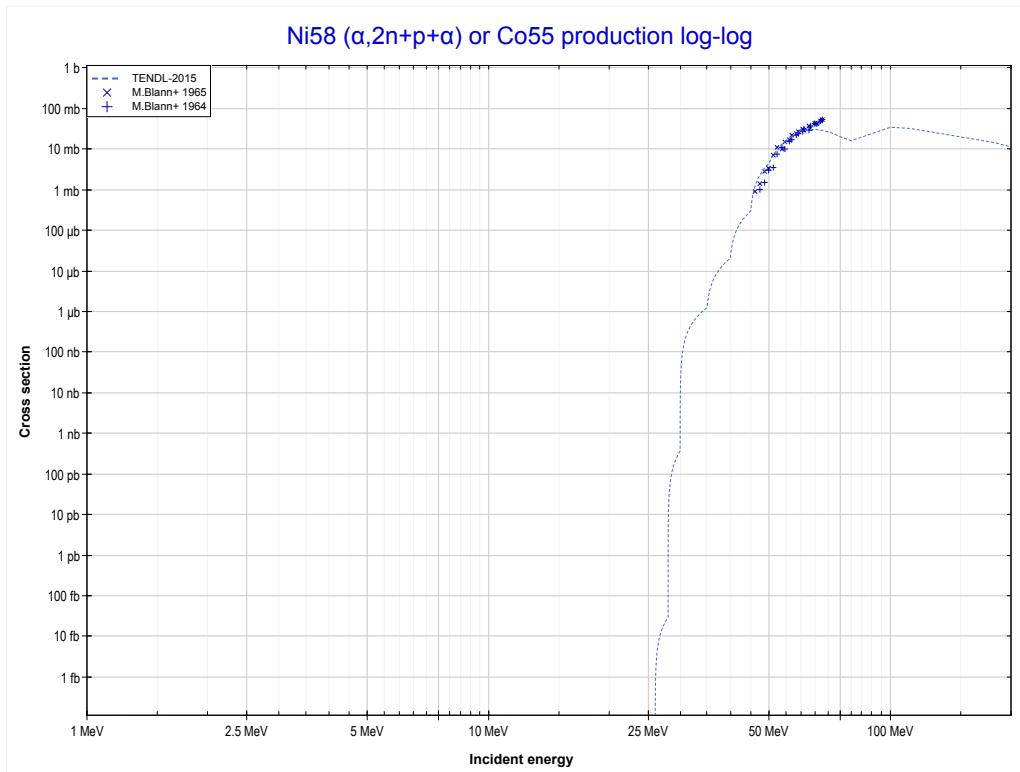
28-Ni-58
MT112 ( $\alpha, p+\alpha$ ) or MT5 (Co57 production)

28-Ni-62 >>
MT159 ( $\alpha, 2n+p+\alpha$ ) >>



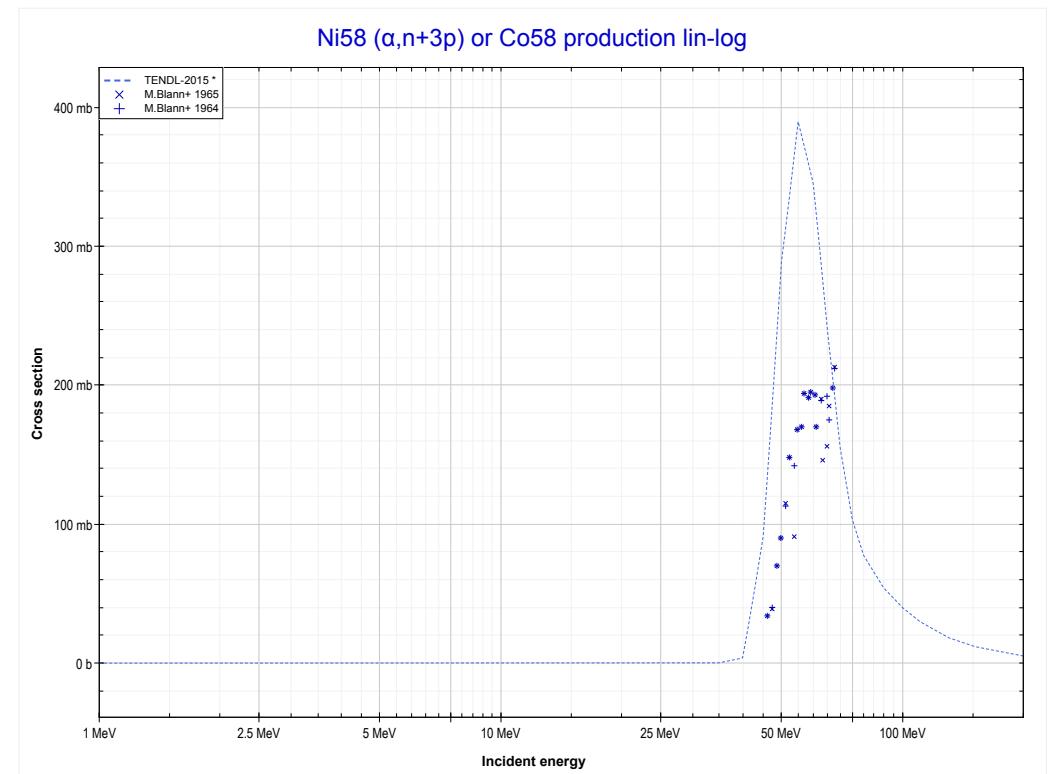
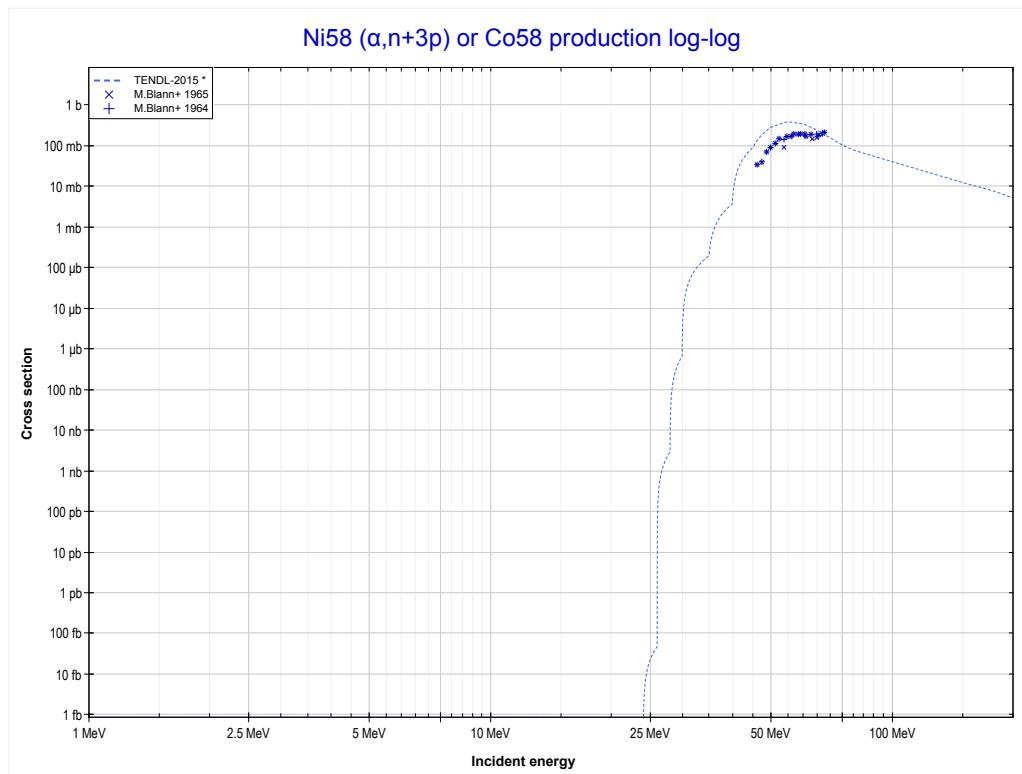
Reaction	Q-Value
Ni58( $\alpha, p+\alpha$ )Co57	-8172.27 keV
Ni58( $\alpha, d+He3$ )Co57	-26525.32 keV
Ni58( $\alpha, 2p+t$ )Co57	-27986.13 keV
Ni58( $\alpha, n+p+He3$ )Co57	-28749.89 keV
Ni58( $\alpha, p+2d$ )Co57	-32018.80 keV
Ni58( $\alpha, n+2p+d$ )Co57	-34243.36 keV
Ni58( $\alpha, 2n+3p$ )Co57	-36467.93 keV

	28-Ni-58 MT159 ( $\alpha, 2n+p+\alpha$ ) or MT5 (Co55 production)	40-Zr-90 >> MT198 ( $\alpha, n+3p$ ) >>
<< MT112 ( $\alpha, p+\alpha$ )		



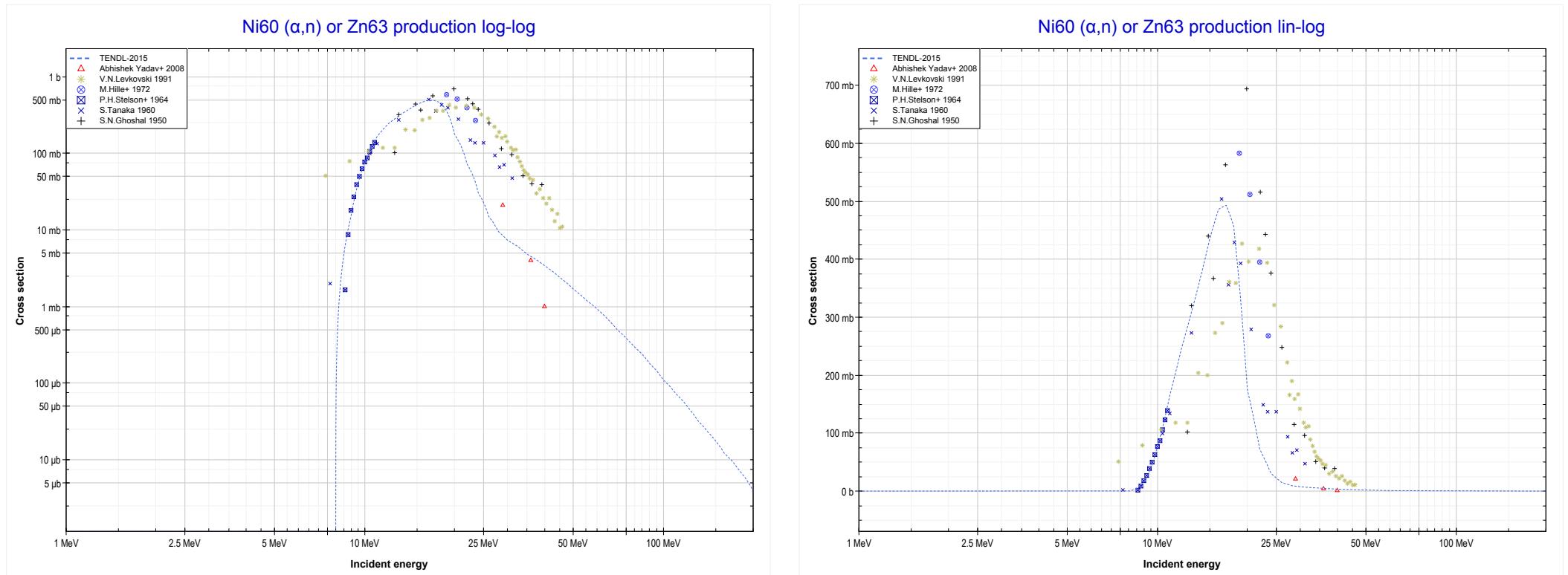
Reaction	Q-Value	Reaction	Q-Value
Ni58( $\alpha, t+\alpha$ )Co55	-21148.71 keV	Ni58( $\alpha, 2n+2p+t$ )Co55	-49444.37 keV
Ni58( $\alpha, n+d+\alpha$ )Co55	-27405.94 keV	Ni58( $\alpha, 3n+p+He3$ )Co55	-50208.12 keV
Ni58( $\alpha, 2n+p+\alpha$ )Co55	-29630.50 keV	Ni58( $\alpha, n+3d$ )Co55	-51252.47 keV
Ni58( $\alpha, p+2t$ )Co55	-40962.57 keV	Ni58( $\alpha, 2n+p+2d$ )Co55	-53477.03 keV
Ni58( $\alpha, n+t+He3$ )Co55	-41726.32 keV	Ni58( $\alpha, 3n+2p+d$ )Co55	-55701.60 keV
Ni58( $\alpha, 2d+t$ )Co55	-44995.23 keV	Ni58( $\alpha, 4n+3p$ )Co55	-57926.16 keV
Ni58( $\alpha, n+p+d+t$ )Co55	-47219.80 keV		
Ni58( $\alpha, 2n+d+He3$ )Co55	-47983.56 keV		

<< 7-N-14	<b>28-Ni-58</b>	
<< MT159 ( $\alpha$ , $2n+p+\alpha$ )	<b>MT198 (<math>\alpha</math>,<math>n+3p</math>) or MT5 (Co58 production)</b>	<b>28-Ni-60 MT4 (<math>\alpha</math>,<math>n</math>) &gt;&gt;</b>



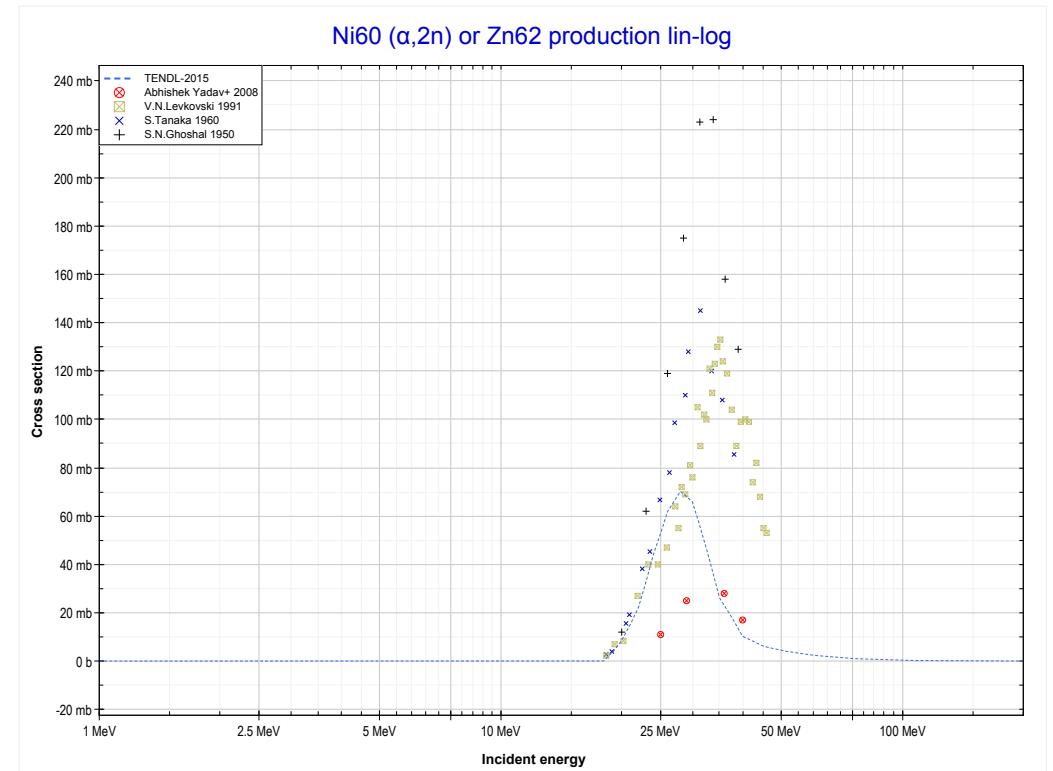
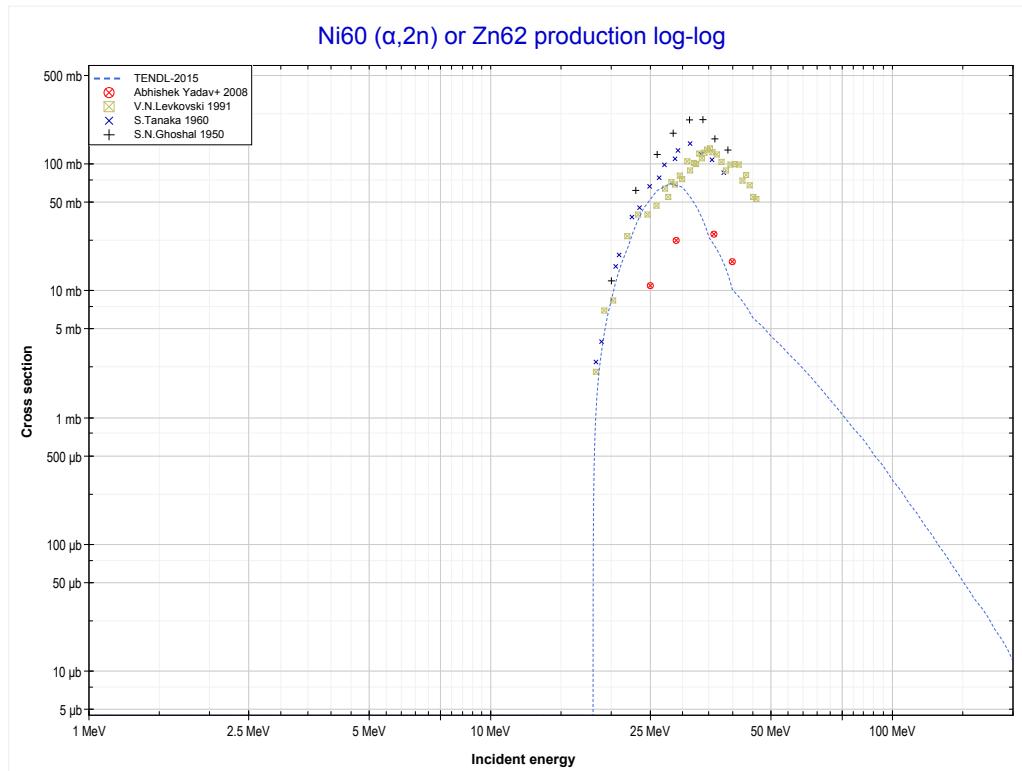
Reaction	Q-Value
Ni58( $\alpha$ , $p+He3$ )Co58	-20176.87 keV
Ni58( $\alpha$ , $2p+d$ )Co58	-25670.35 keV
Ni58( $\alpha$ , $n+3p$ )Co58	-27894.91 keV

<< 28-Ni-58	<b>28-Ni-60</b> MT4 ( $\alpha, n$ ) or MT5 (Zn63 production)	>> 28-Ni-62
<< 28-Ni-58 MT198 ( $\alpha, n+3p$ )		MT16 ( $\alpha, 2n$ ) >>



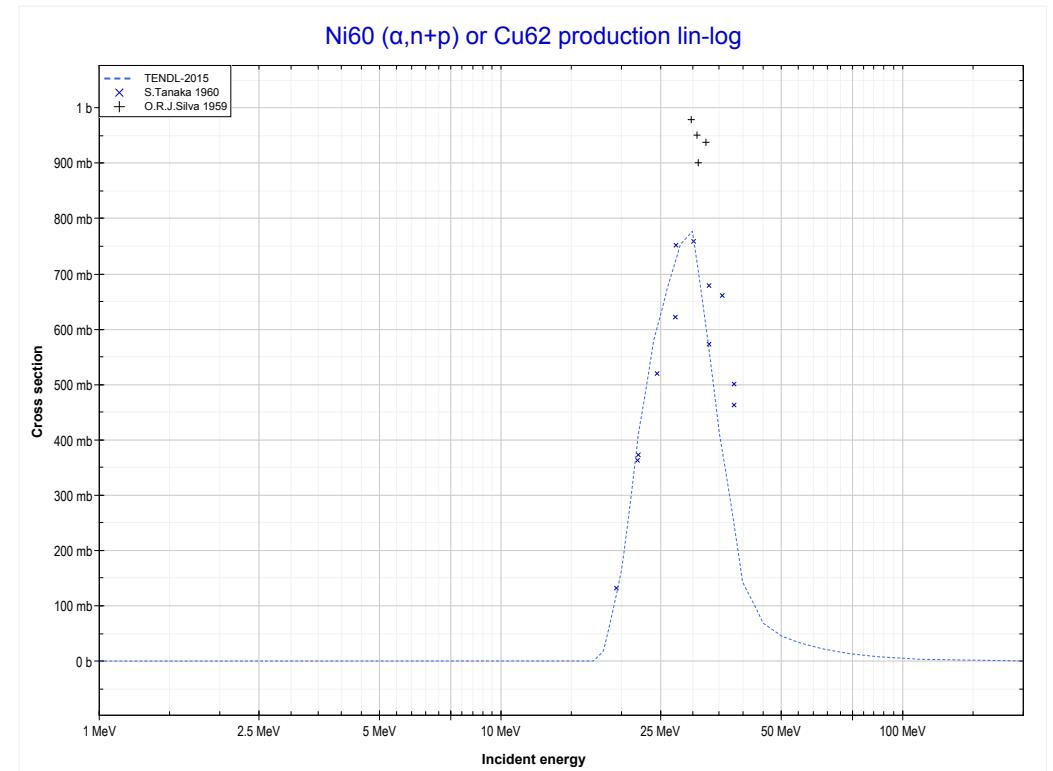
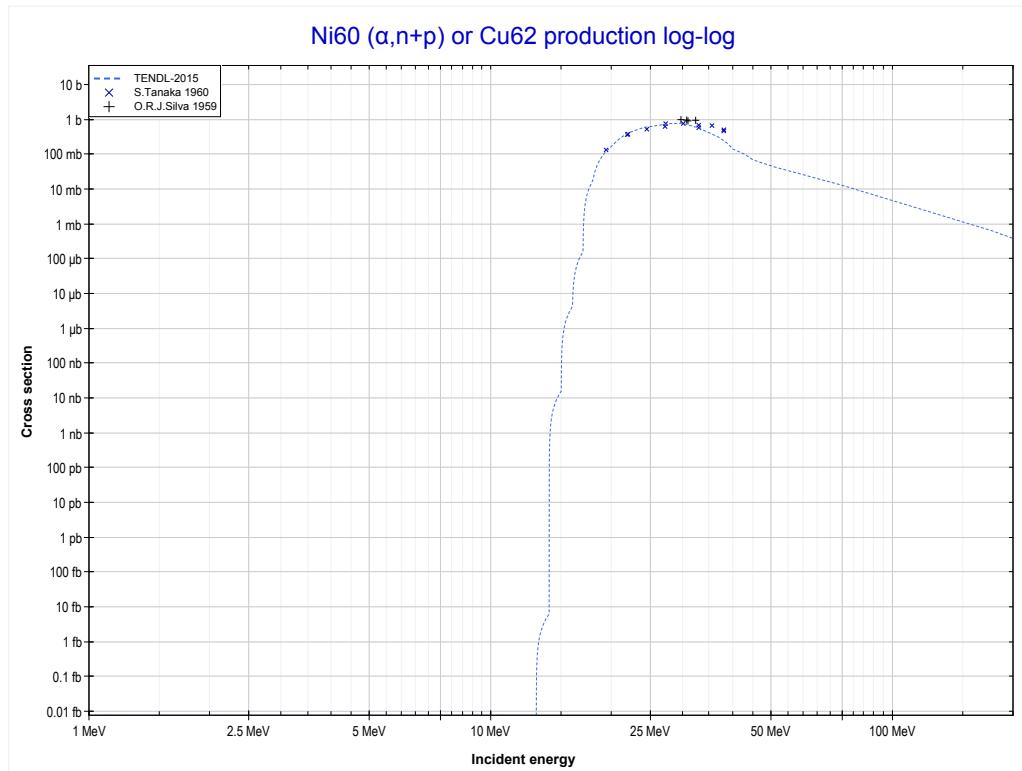
Reaction	Q-Value
Ni60( $\alpha, n$ )Zn63	-7905.80 keV

<< 28-Ni-58	<b>28-Ni-60</b> MT16 ( $\alpha,2n$ ) or MT5 (Zn62 production)	>> 28-Ni-61
<< MT4 ( $\alpha,n$ )		>> MT28 ( $\alpha,n+p$ )



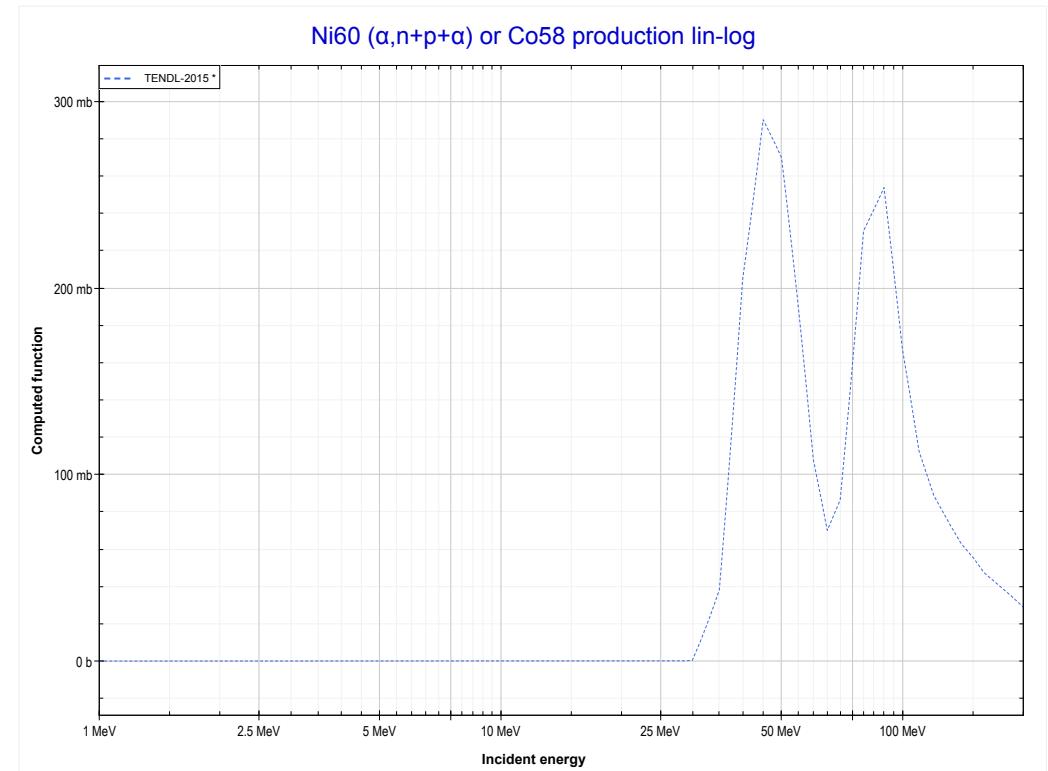
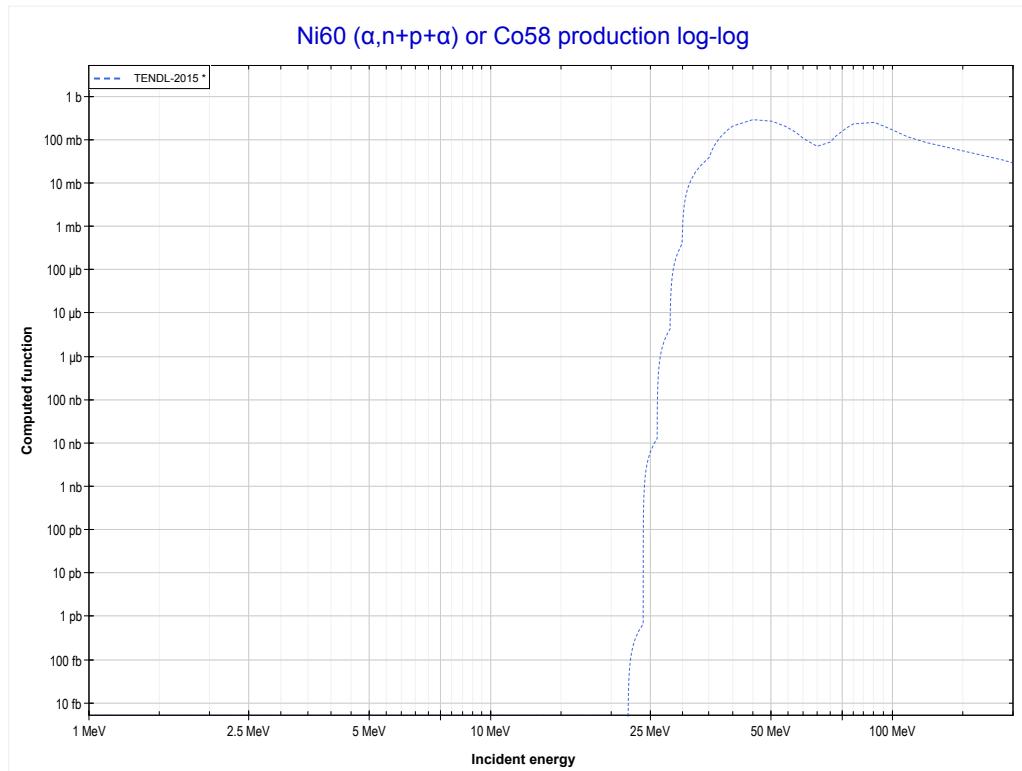
Reaction	Q-Value
Ni60( $\alpha,2n$ )Zn62	-17022.72 keV

<< 26-Fe-56	<b>28-Ni-60</b>	28-Ni-62 >>
<< MT16 ( $\alpha,2n$ )	<b>MT28 (<math>\alpha,n+p</math>) or MT5 (Cu62 production)</b>	<b>MT45 (<math>\alpha,n+p+\alpha</math>) &gt;&gt;</b>



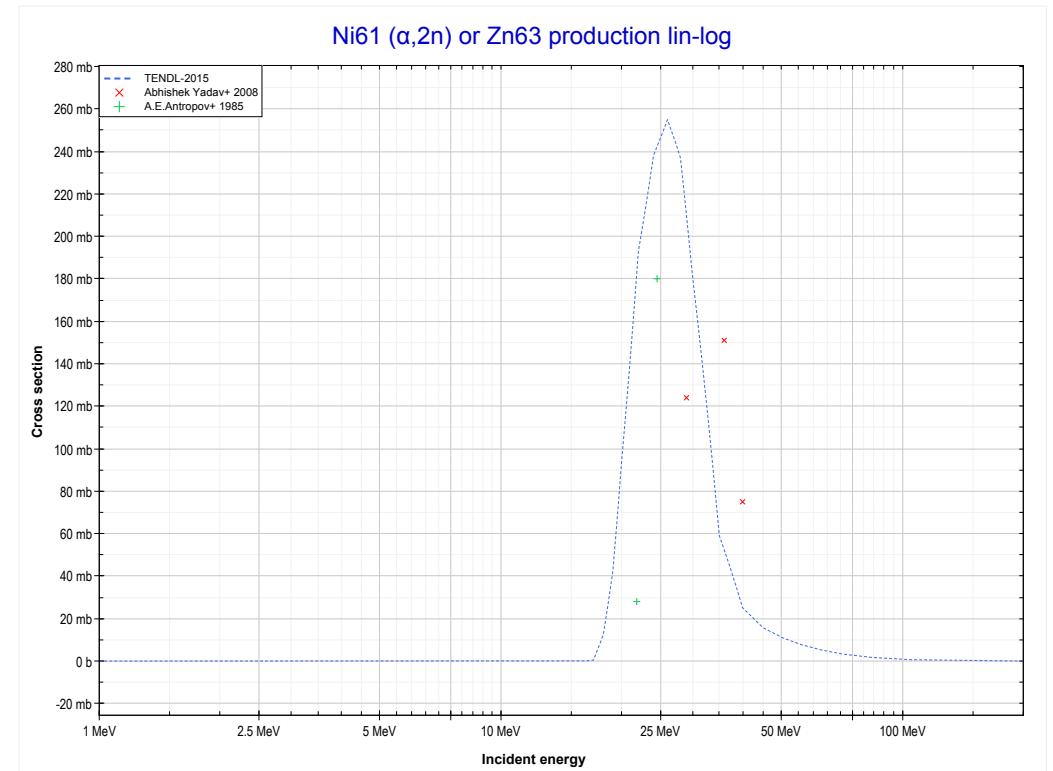
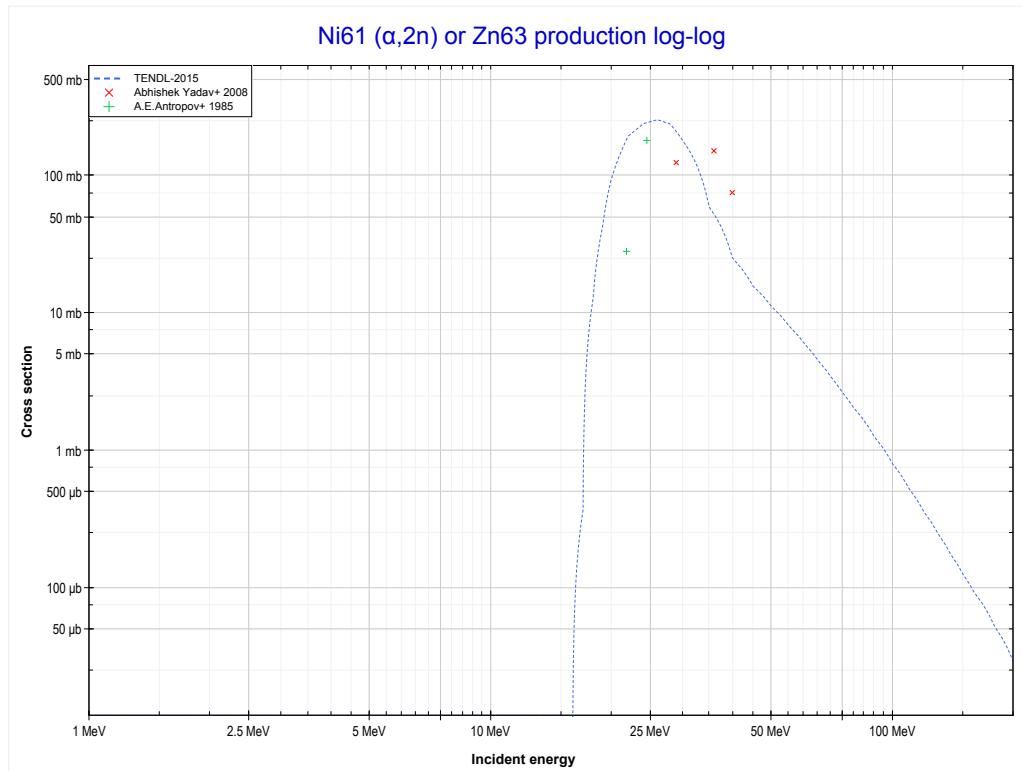
Reaction	Q-Value
Ni60( $\alpha,d$ )Cu62	-12396.31 keV
Ni60( $\alpha,n+p$ )Cu62	-14620.87 keV

<< 28-Ni-58	<b>28-Ni-60</b> MT45 ( $\alpha, n+p+\alpha$ ) or MT5 (Co58 production)	30-Zn-64 >>
<< MT28 ( $\alpha, n+p$ )		28-Ni-61 MT16 ( $\alpha, 2n$ ) >>



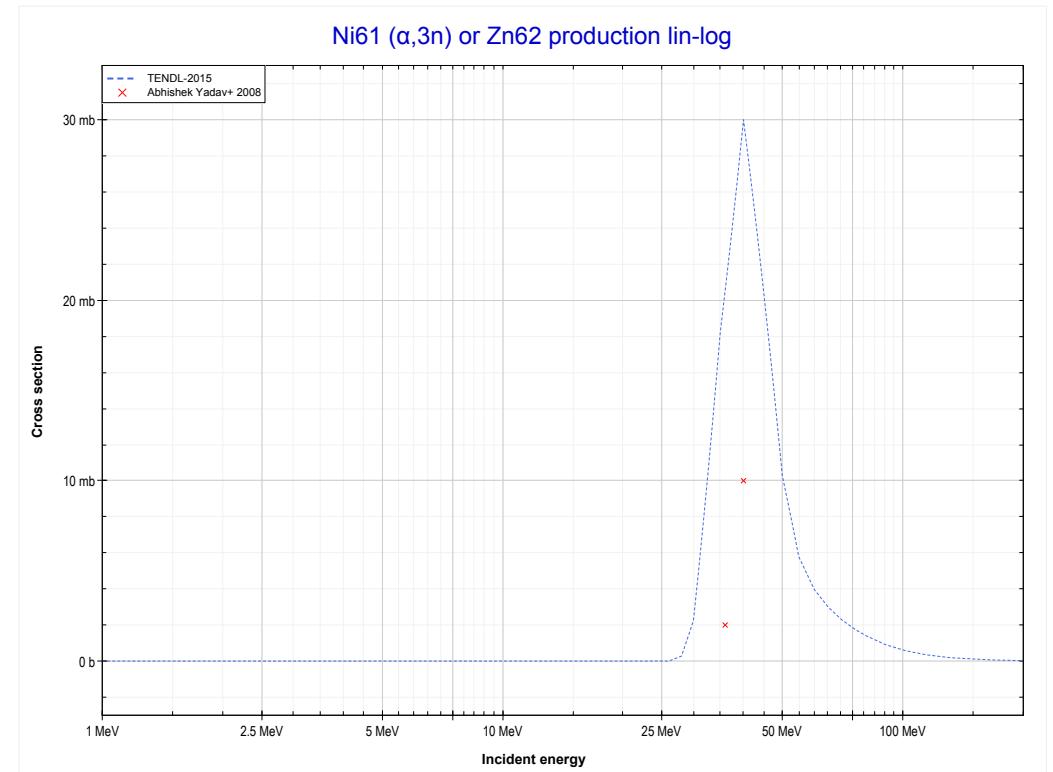
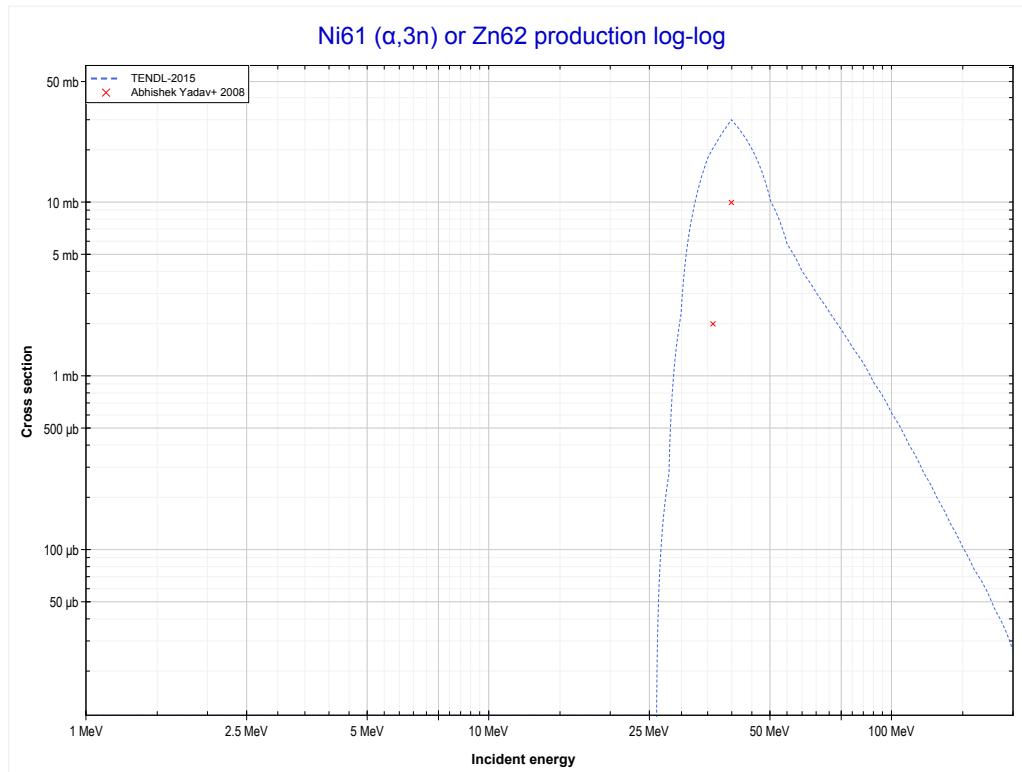
Reaction	Q-Value	Reaction	Q-Value
Ni60( $\alpha, d+\alpha$ )Co58	-17761.62 keV	Ni60( $\alpha, n+p+2d$ )Co58	-43832.72 keV
Ni60( $\alpha, n+p+\alpha$ )Co58	-19986.19 keV	Ni60( $\alpha, 2n+2p+d$ )Co58	-46057.28 keV
Ni60( $\alpha, t+He3$ )Co58	-32082.01 keV	Ni60( $\alpha, 3n+3p$ )Co58	-48281.85 keV
Ni60( $\alpha, p+d+t$ )Co58	-37575.48 keV		
Ni60( $\alpha, n+d+He3$ )Co58	-38339.24 keV		
Ni60( $\alpha, n+2p+t$ )Co58	-39800.05 keV		
Ni60( $\alpha, 2n+p+He3$ )Co58	-40563.80 keV		
Ni60( $\alpha, 3d$ )Co58	-41608.15 keV		

<< 28-Ni-60	<b>28-Ni-61</b> MT16 ( $\alpha,2n$ ) or MT5 (Zn63 production)	>> 29-Cu-63
<< 28-Ni-60 MT45 ( $\alpha,n+p+\alpha$ )		MT17 ( $\alpha,3n$ ) >>



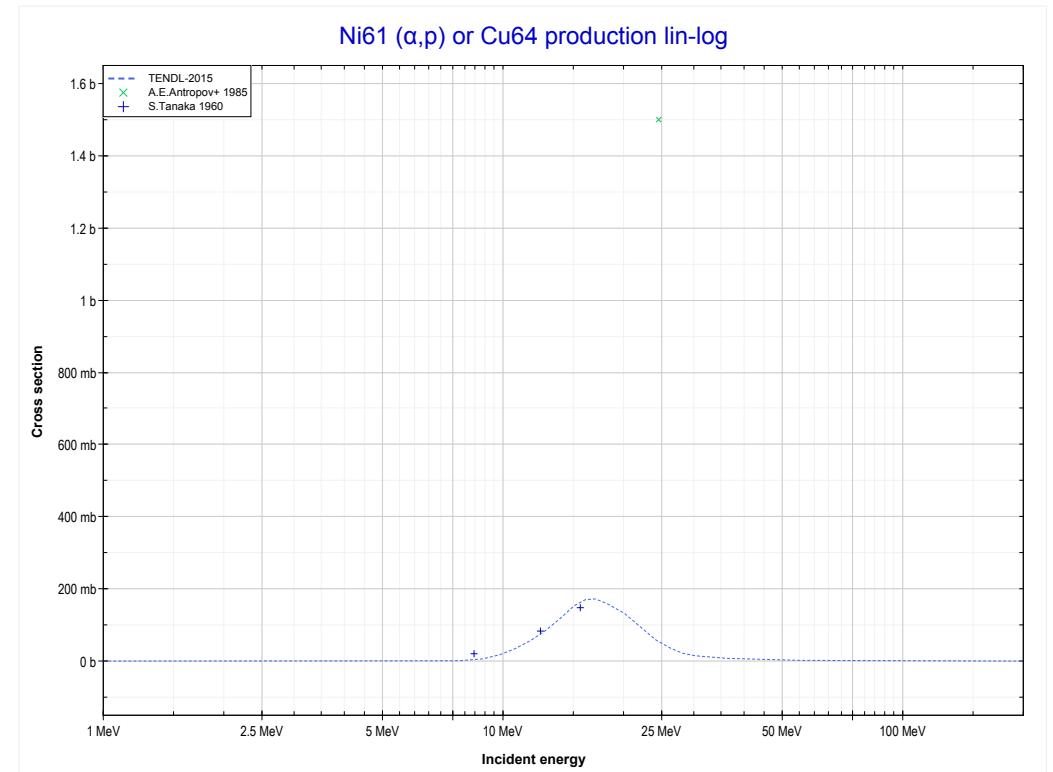
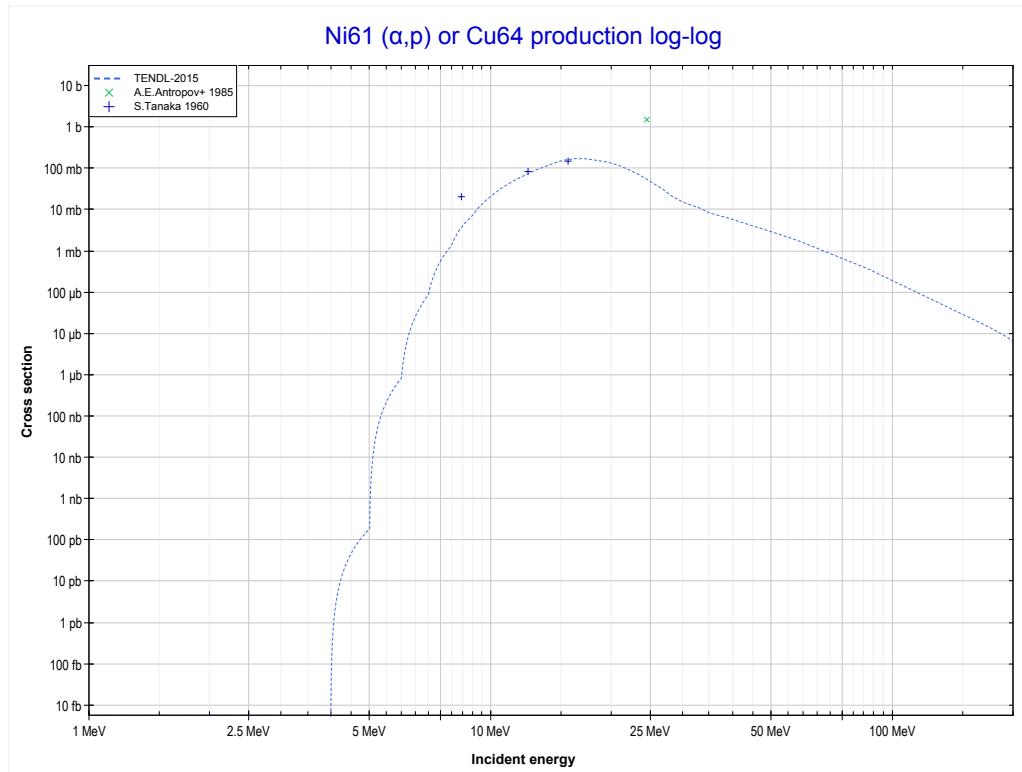
Reaction	Q-Value
Ni61( $\alpha,2n$ )Zn63	-15725.92 keV

<< 27-Co-59	<b>28-Ni-61</b> MT17 ( $\alpha,3n$ ) or MT5 (Zn62 production)	28-Ni-62 >>
<< MT16 ( $\alpha,2n$ )		MT103 ( $\alpha,p$ ) >>



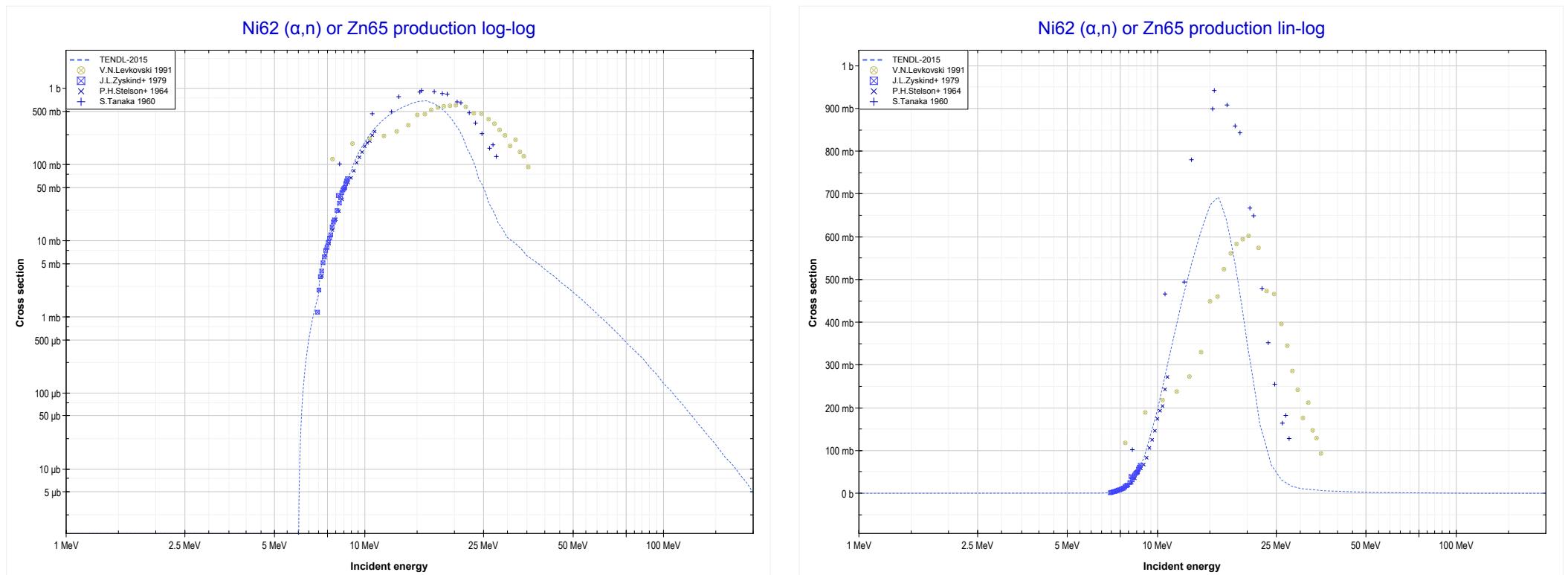
Reaction	Q-Value
Ni61( $\alpha,3n$ )Zn62	-24842.84 keV

<< 28-Ni-58	<b>28-Ni-61</b> MT103 ( $\alpha,p$ ) or MT5 (Cu64 production)	28-Ni-64 >>
<< MT17 ( $\alpha,3n$ )		28-Ni-62 MT4 ( $\alpha,n$ ) >>



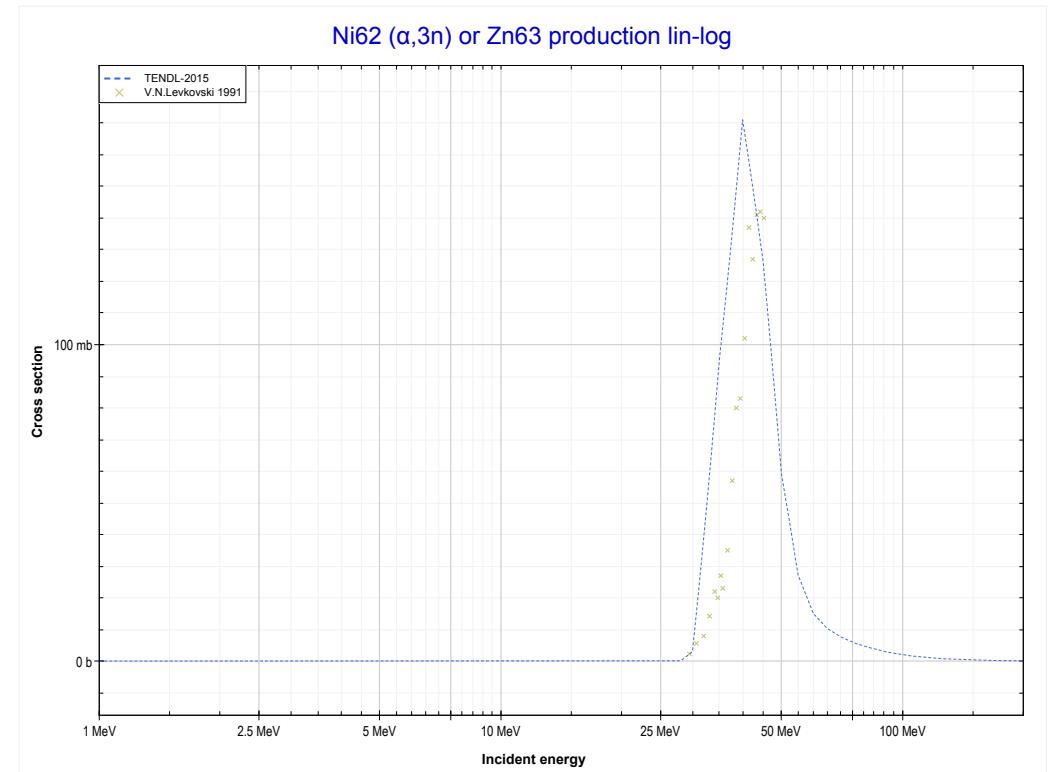
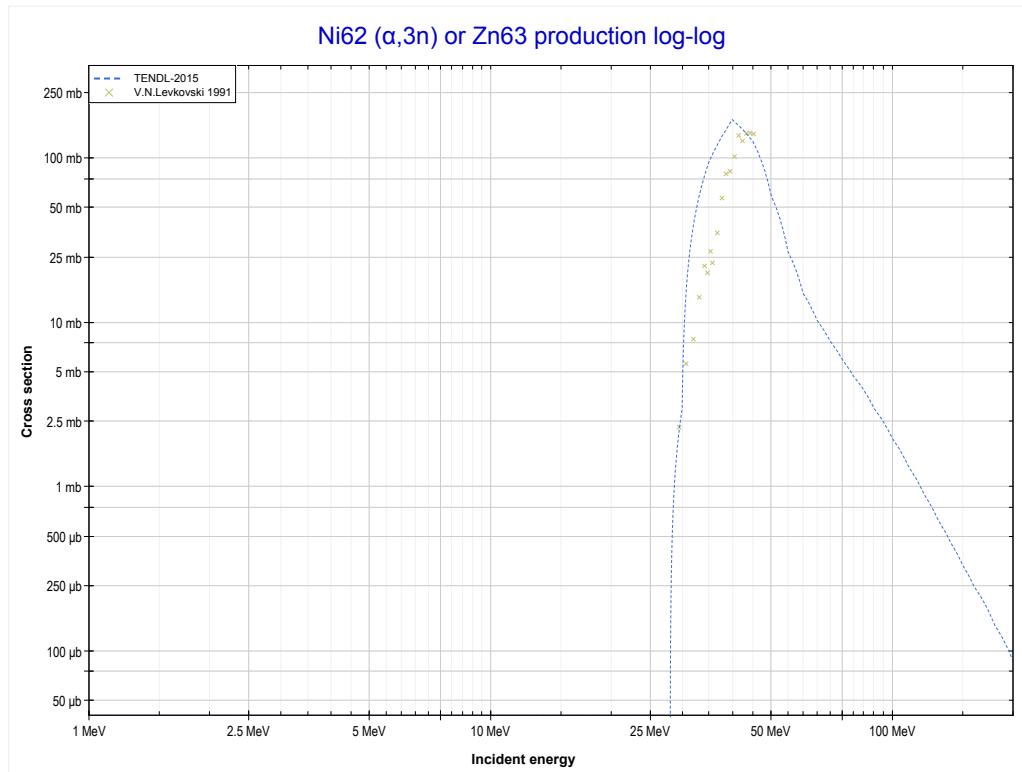
Reaction	Q-Value
Ni61( $\alpha,p$ )Cu64	-3661.25 keV

<< 28-Ni-60	<b>28-Ni-62</b> MT4 ( $\alpha, n$ ) or MT5 (Zn65 production)	28-Ni-64 >>
<< 28-Ni-61 MT103 ( $\alpha, p$ )		MT17 ( $\alpha, 3n$ ) >>



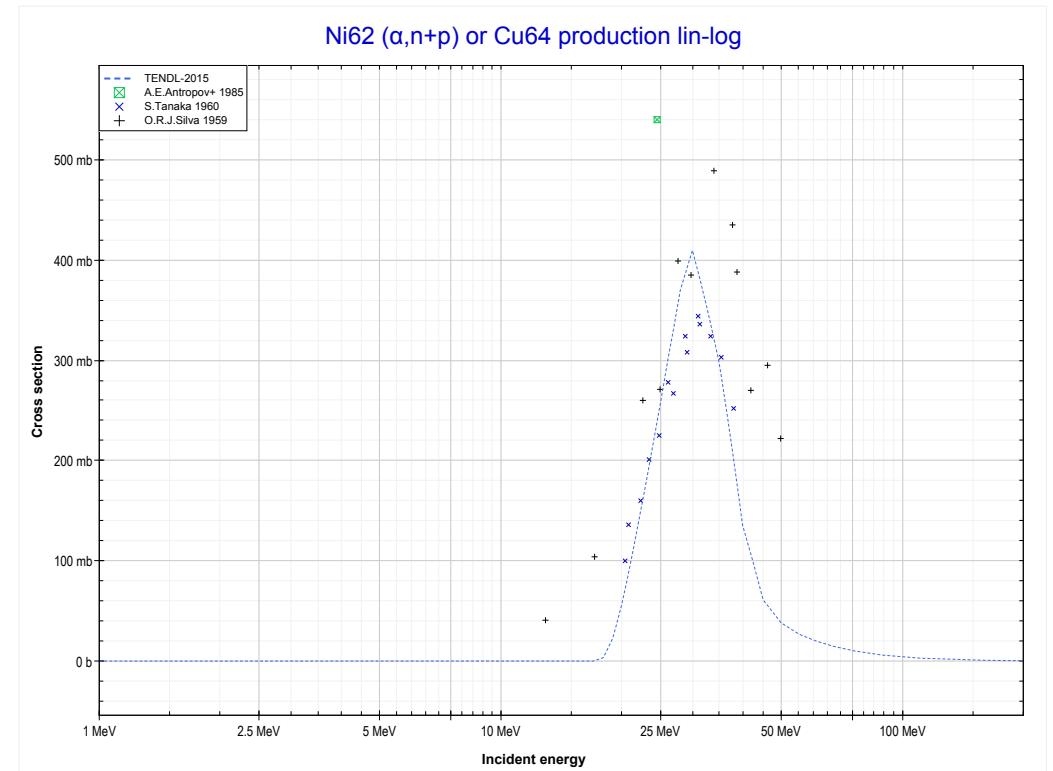
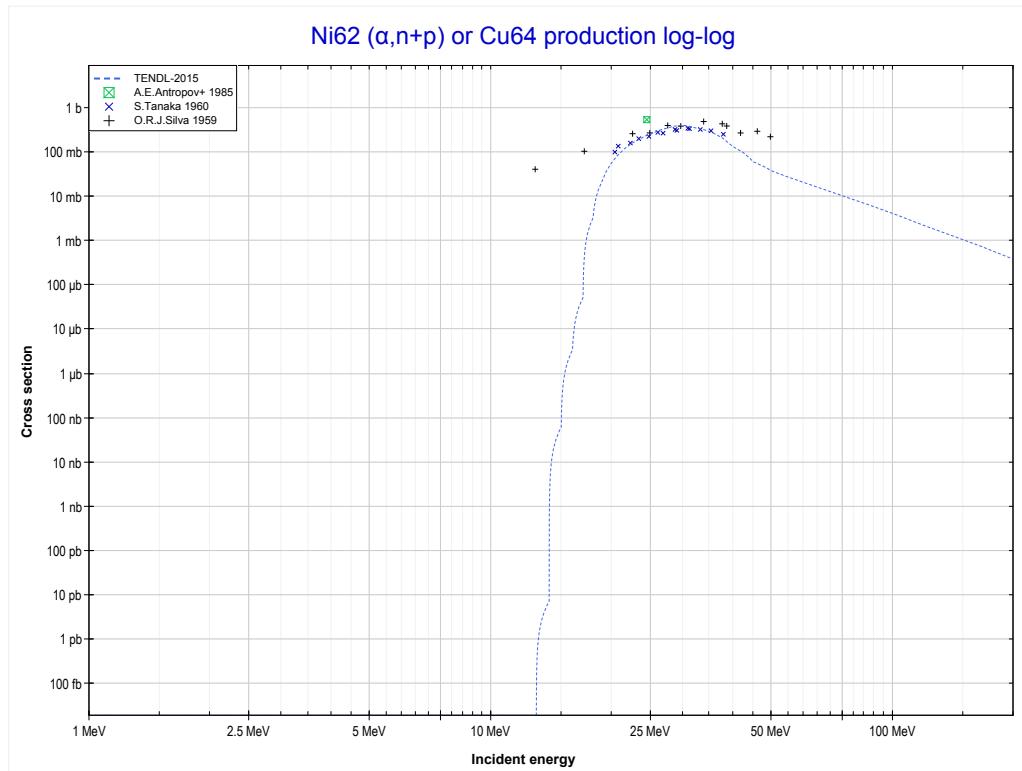
Reaction	Q-Value
Ni62( $\alpha, n$ )Zn65	-6480.50 keV

<< 28-Ni-61	<b>28-Ni-62</b> <b>MT17 (<math>\alpha,3n</math>) or MT5 (Zn63 production)</b>	28-Ni-64 >>
<< MT4 ( $\alpha,n$ )		MT28 ( $\alpha,n+p$ ) >>



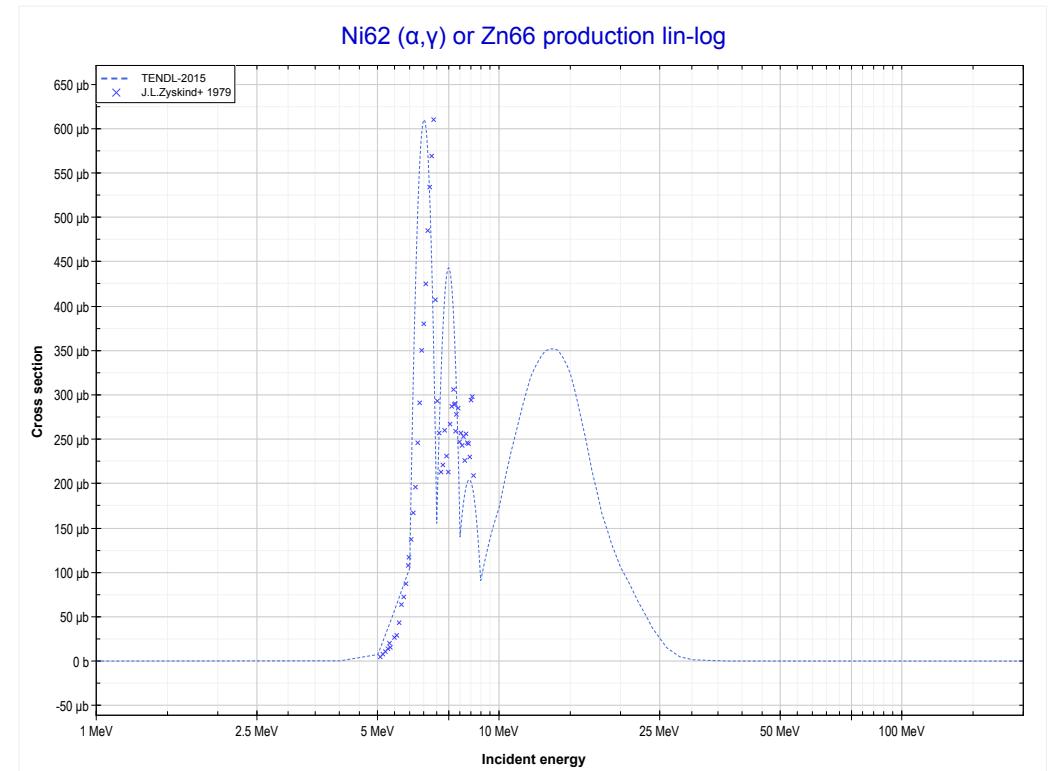
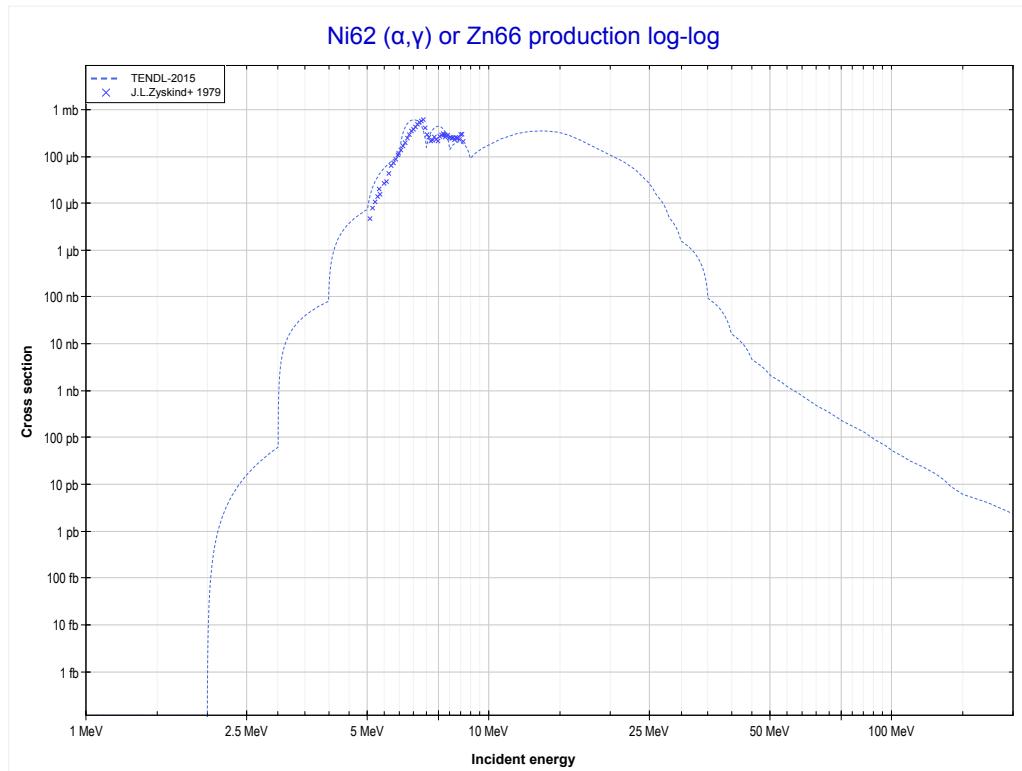
Reaction	Q-Value
Ni62( $\alpha,3n$ )Zn63	-26321.84 keV

<< 28-Ni-60	<b>28-Ni-62</b> MT28 ( $\alpha, n+p$ ) or MT5 (Cu64 production)	30-Zn-64 >>
<< MT17 ( $\alpha, 3n$ )		MT102 ( $\alpha, \gamma$ ) >>



Reaction	Q-Value
Ni62( $\alpha, d$ )Cu64	-12032.61 keV
Ni62( $\alpha, n+p$ )Cu64	-14257.17 keV

<< 28-Ni-58	<b>28-Ni-62</b> MT102 ( $\alpha,\gamma$ ) or MT5 (Zn66 production)	28-Ni-64 >>
<< MT28 ( $\alpha,n+p$ )		MT112 ( $\alpha,p+\alpha$ ) >>

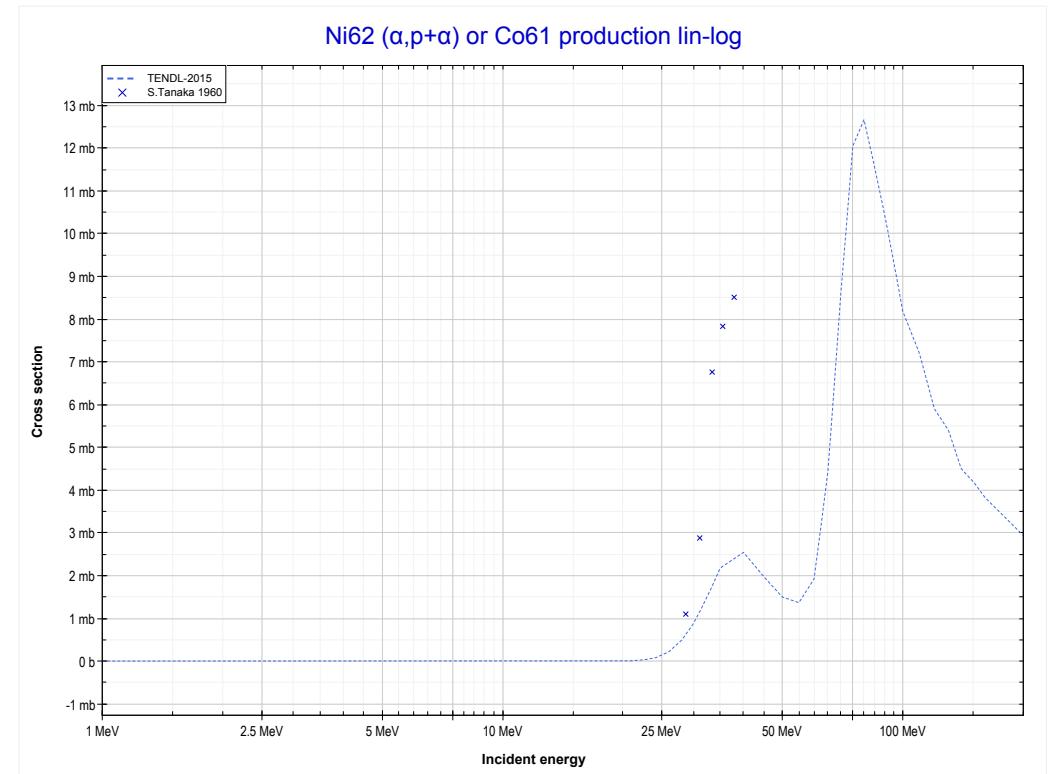
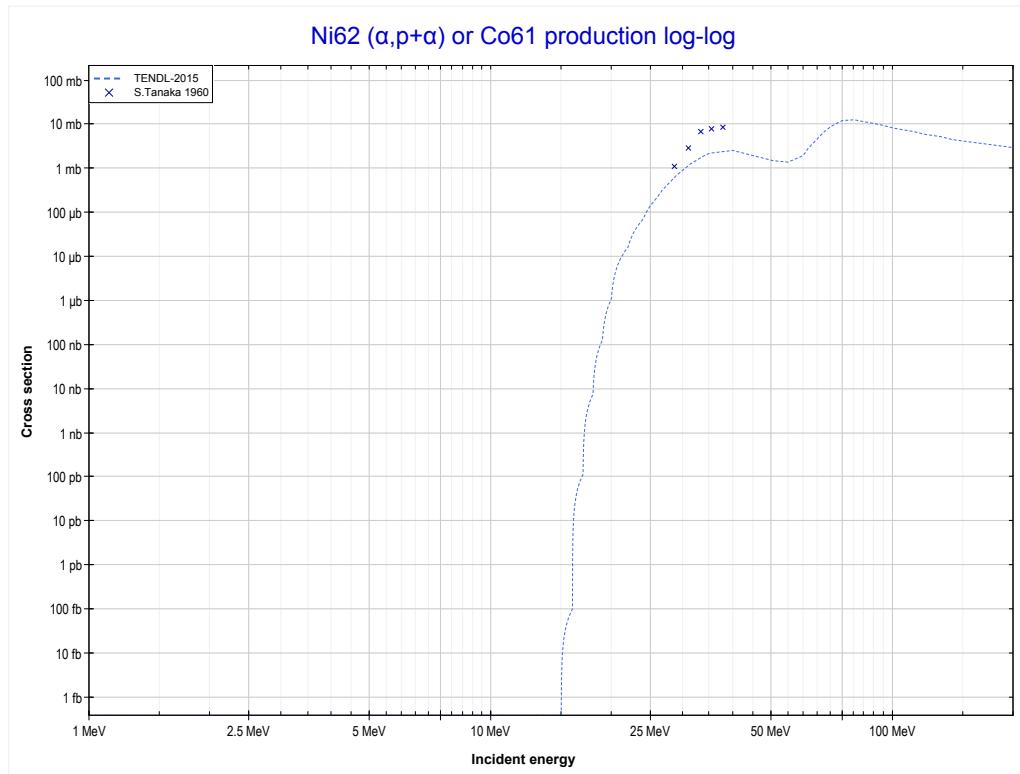


Reaction	Q-Value
Ni62( $\alpha,\gamma$ )Zn66	4578.12 keV

<< 28-Ni-58	
<< MT102 ( $\alpha, \gamma$ )	

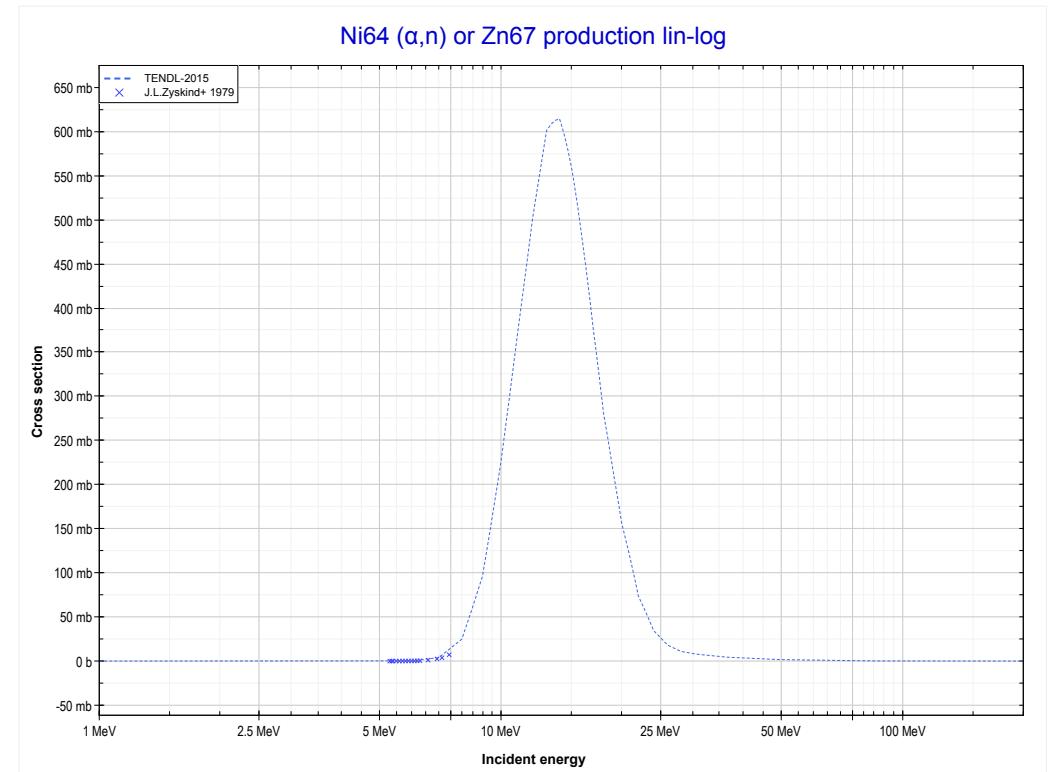
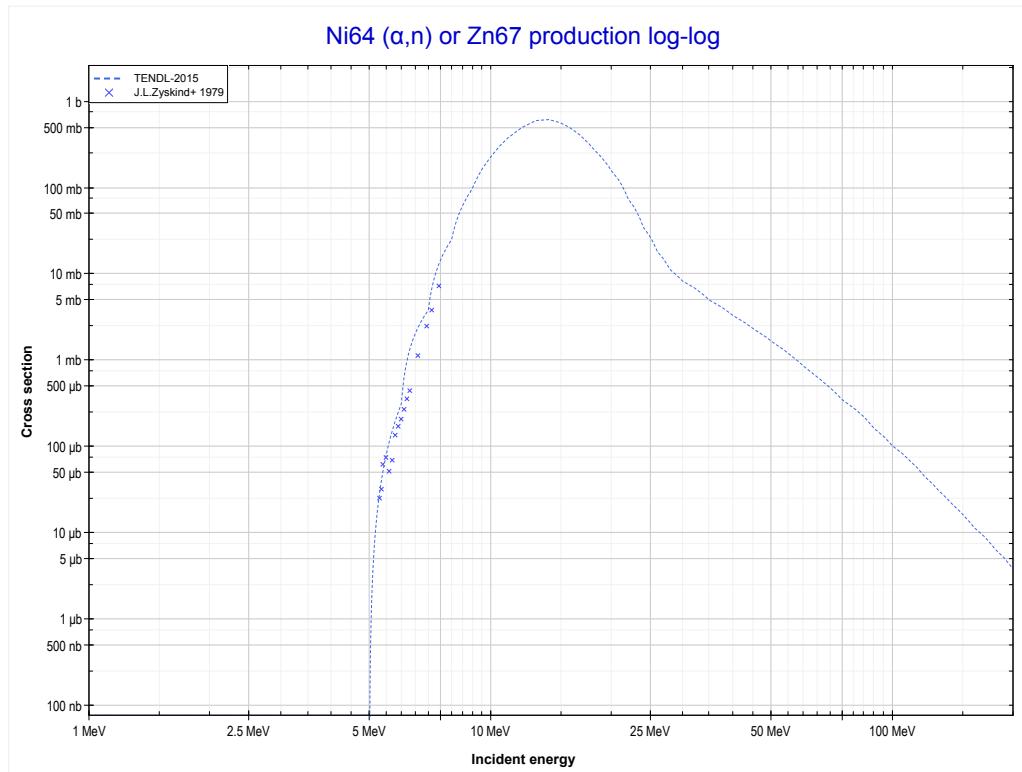
28-Ni-62
<b>MT112 (<math>\alpha, p+\alpha</math>) or MT5 (Co61 production)</b>

28-Ni-64 MT4 ( $\alpha, n$ ) >>
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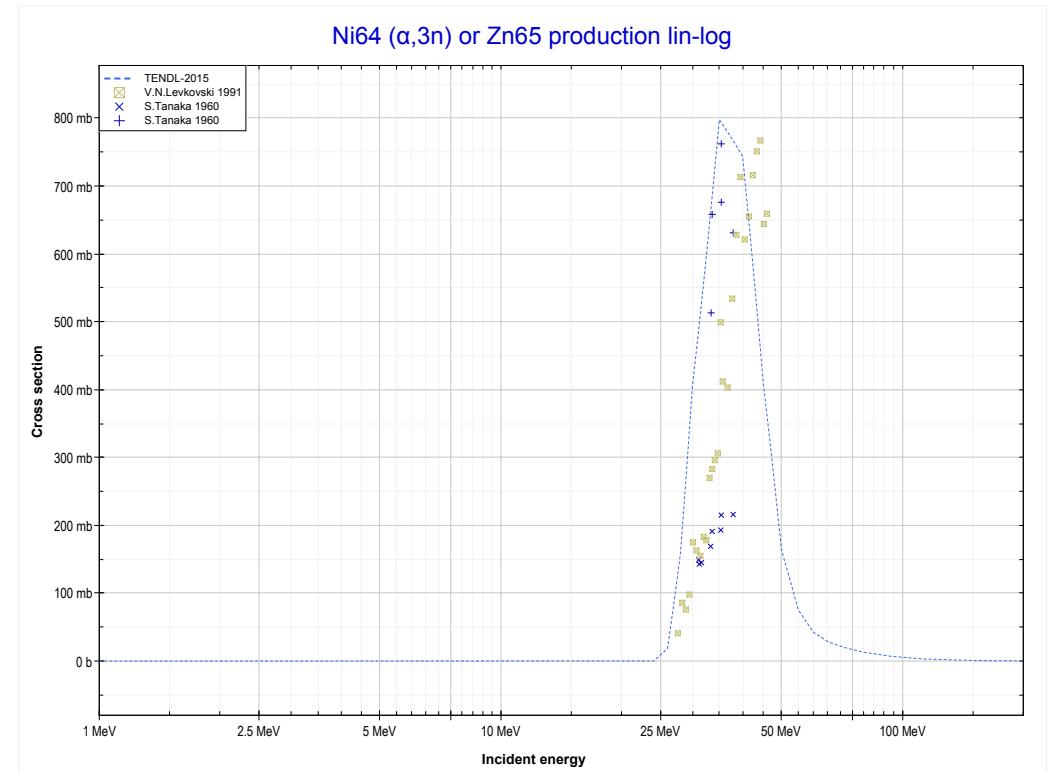
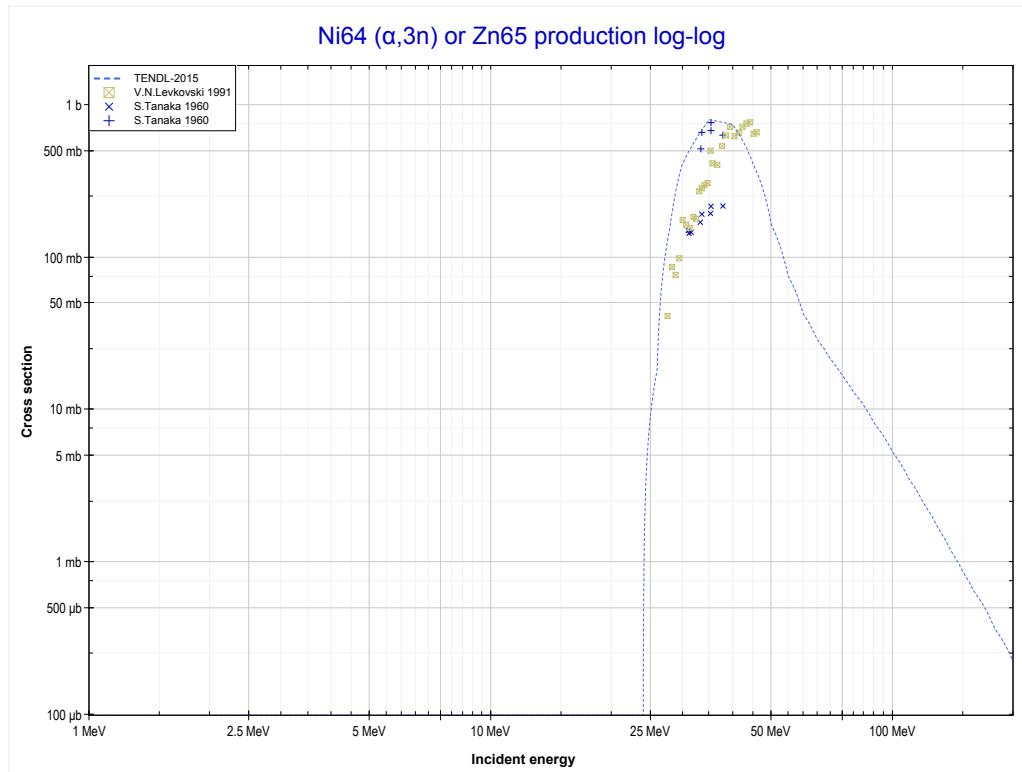
Reaction	Q-Value
Ni62( $\alpha, p+\alpha$ )Co61	-11137.27 keV
Ni62( $\alpha, d+He3$ )Co61	-29490.32 keV
Ni62( $\alpha, 2p+t$ )Co61	-30951.13 keV
Ni62( $\alpha, n+p+He3$ )Co61	-31714.89 keV
Ni62( $\alpha, p+2d$ )Co61	-34983.80 keV
Ni62( $\alpha, n+2p+d$ )Co61	-37208.36 keV
Ni62( $\alpha, 2n+3p$ )Co61	-39432.93 keV

<< 28-Ni-62	<b>28-Ni-64</b> MT4 ( $\alpha, n$ ) or MT5 (Zn67 production)	>> 29-Cu-63
<< 28-Ni-62 MT112 ( $\alpha, p + \alpha$ )		MT17 ( $\alpha, 3n$ ) >>



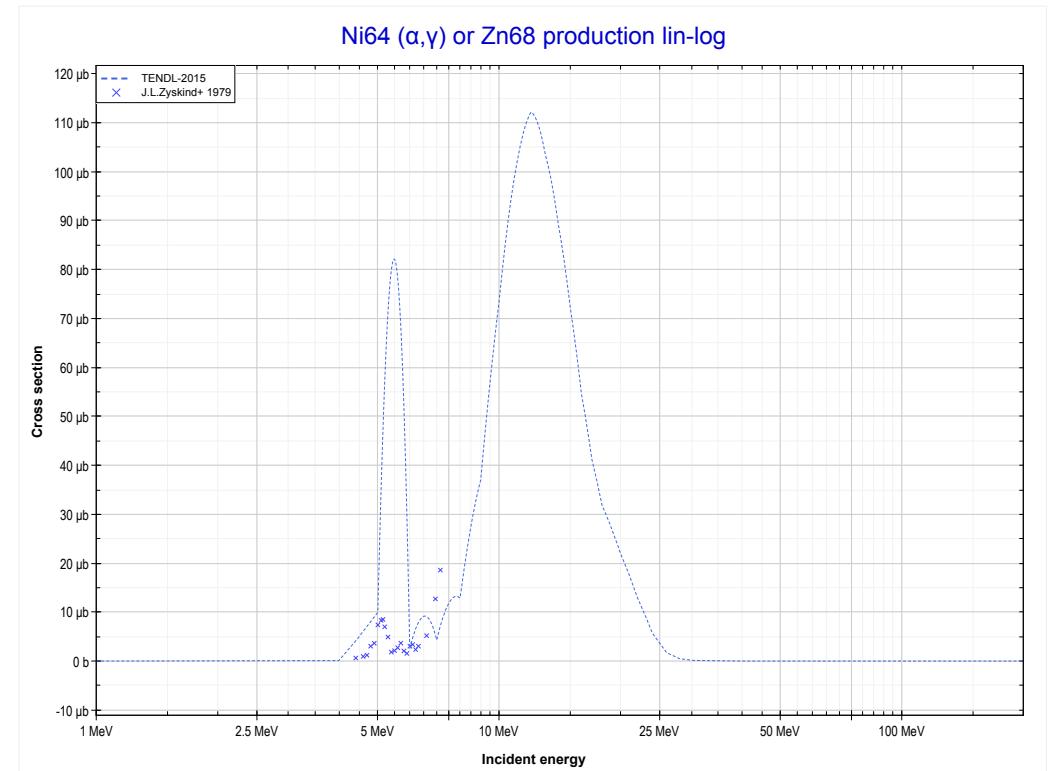
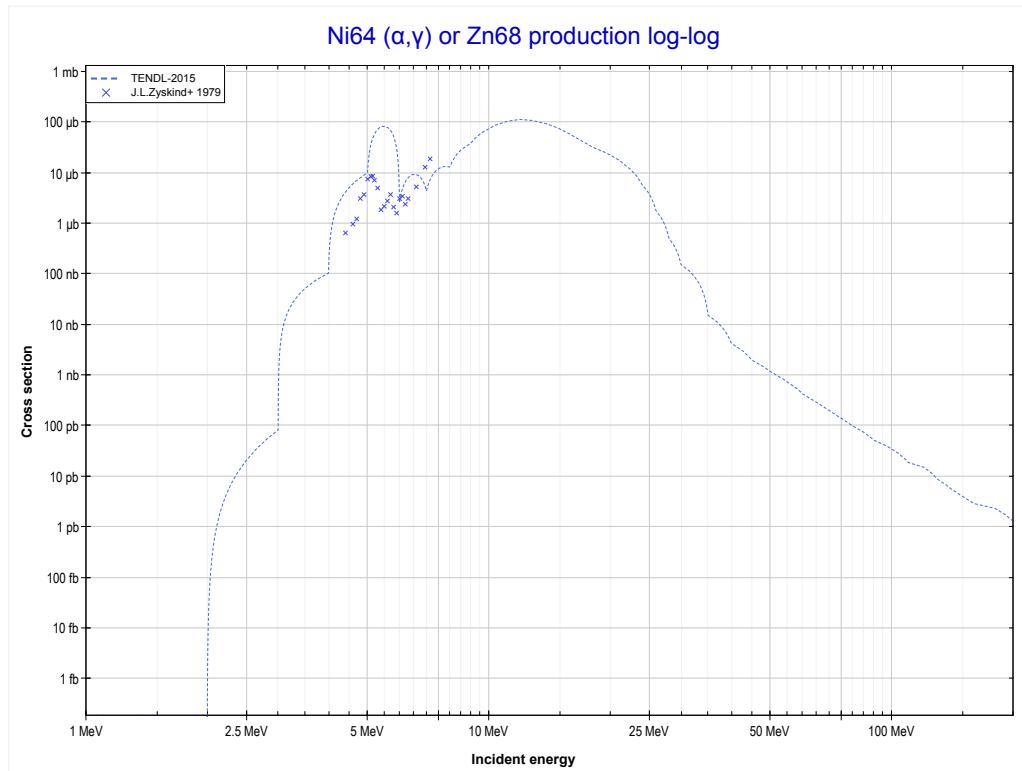
Reaction	Q-Value
Ni64( $\alpha, n$ )Zn67	-4864.80 keV

<< 28-Ni-62	<b>28-Ni-64</b> MT17 ( $\alpha,3n$ ) or MT5 (Zn65 production)	29-Cu-65 >>
<< MT4 ( $\alpha,n$ )		MT102 ( $\alpha,\gamma$ ) >>



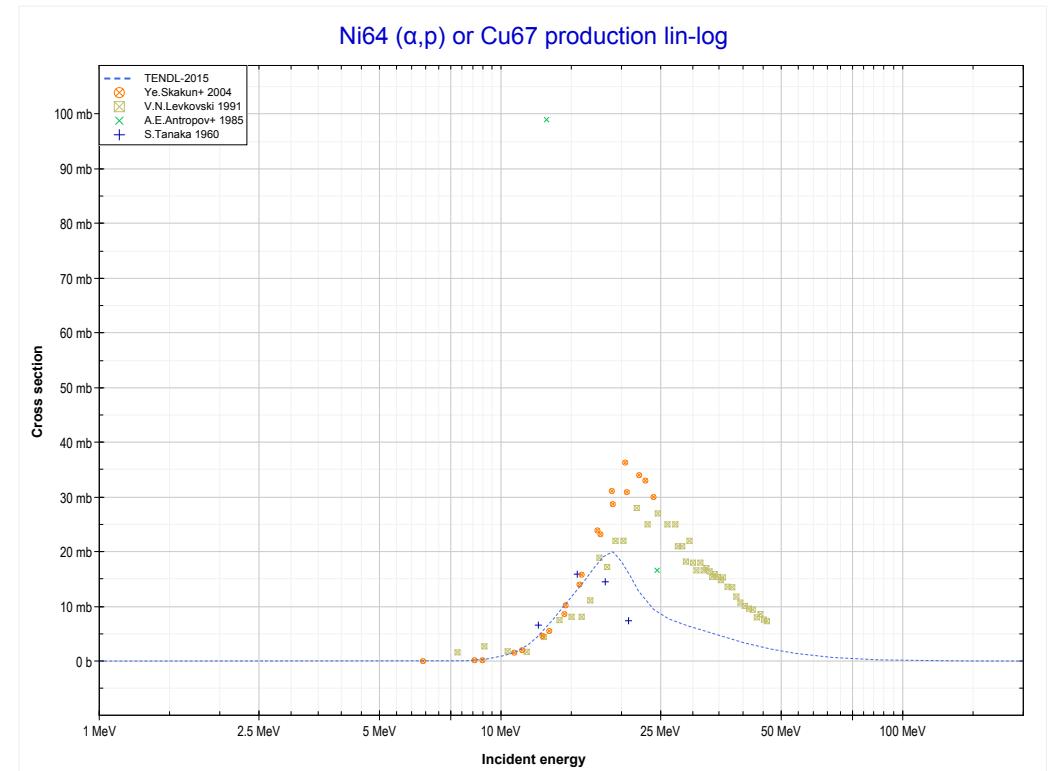
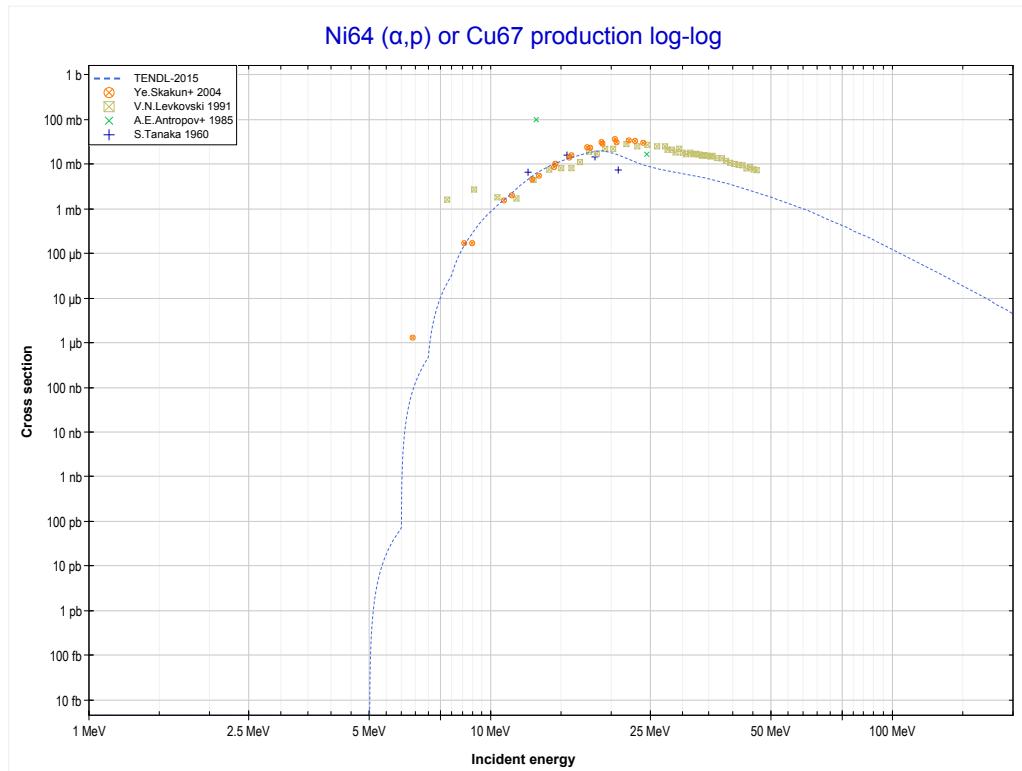
Reaction	Q-Value
Ni64( $\alpha,3n$ )Zn65	-22975.74 keV

<< 28-Ni-62	<b>28-Ni-64</b> MT102 ( $\alpha,\gamma$ ) or MT5 (Zn68 production)	29-Cu-63 >>
<< MT17 ( $\alpha,3n$ )		MT103 ( $\alpha,p$ ) >>



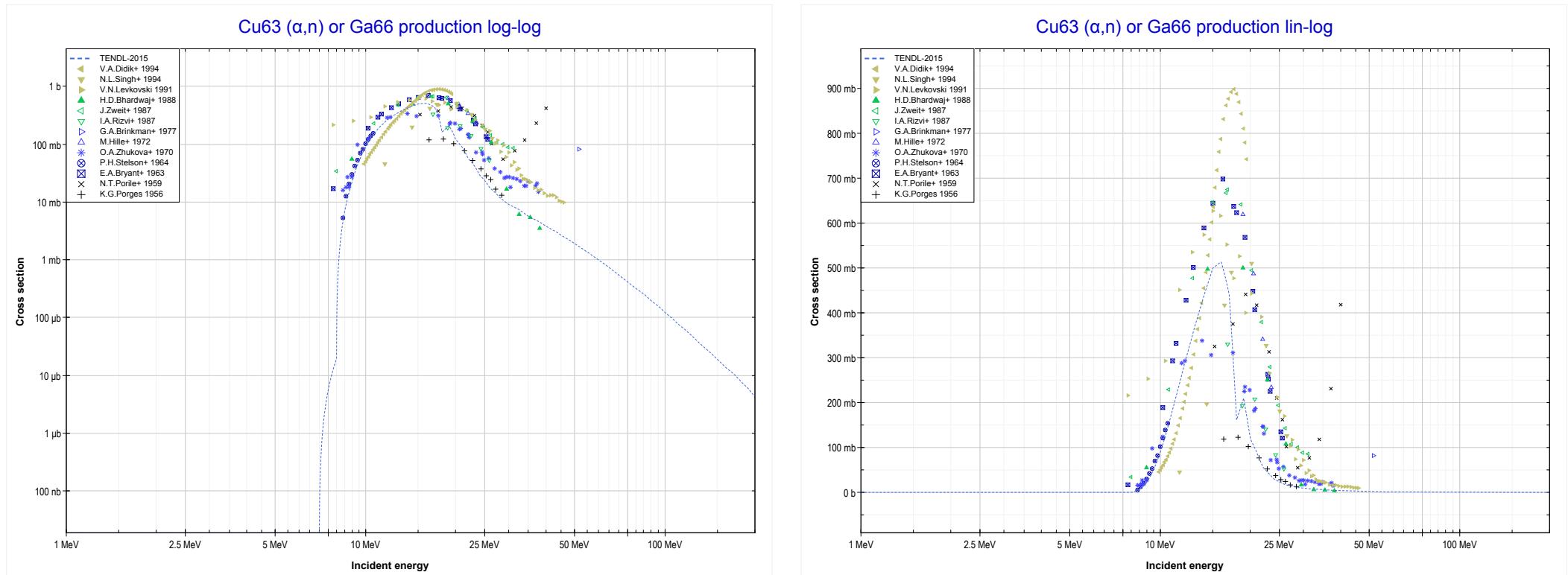
Reaction	Q-Value
Ni64( $\alpha,\gamma$ )Zn68	5333.22 keV

<< 28-Ni-61	<b>28-Ni-64</b> MT103 ( $\alpha,p$ ) or MT5 (Cu67 production)	30-Zn-64 >>
<< MT102 ( $\alpha,\gamma$ )		29-Cu-63 MT4 ( $\alpha,n$ ) >>



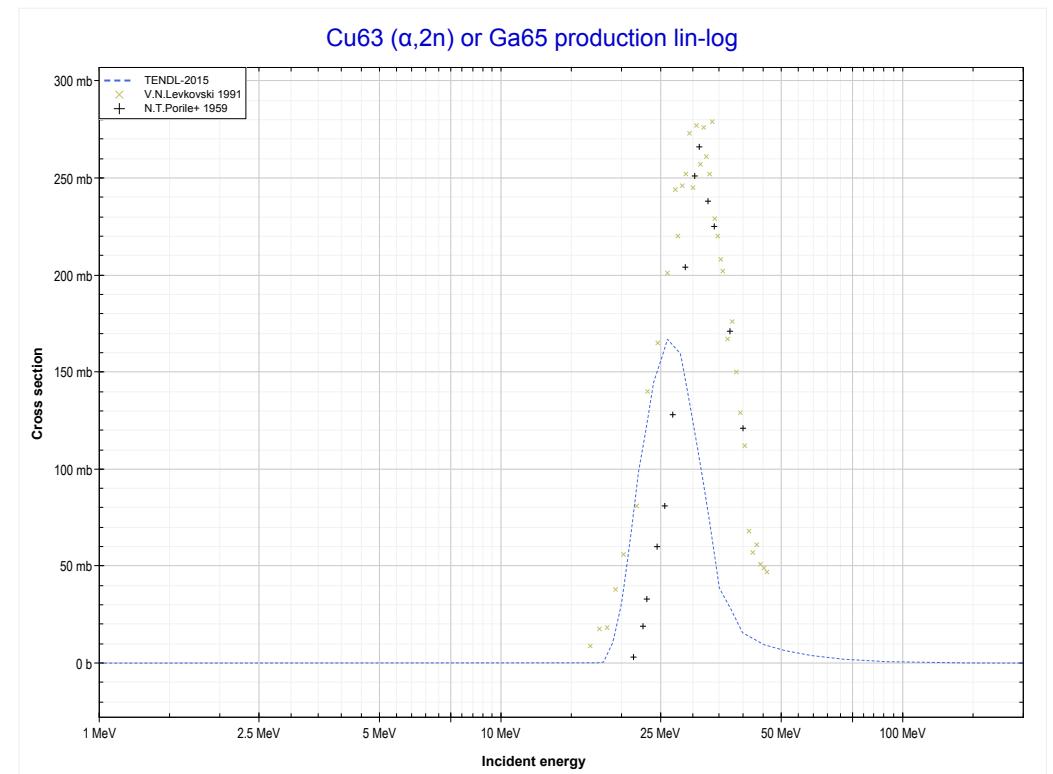
Reaction	Q-Value
Ni64( $\alpha,p$ )Cu67	-4643.75 keV

<< 28-Ni-64	<b>29-Cu-63</b>	29-Cu-65 >>
<< 28-Ni-64 MT103 ( $\alpha,p$ )	MT4 ( $\alpha,n$ ) or MT5 (Ga66 production)	MT16 ( $\alpha,2n$ ) >>



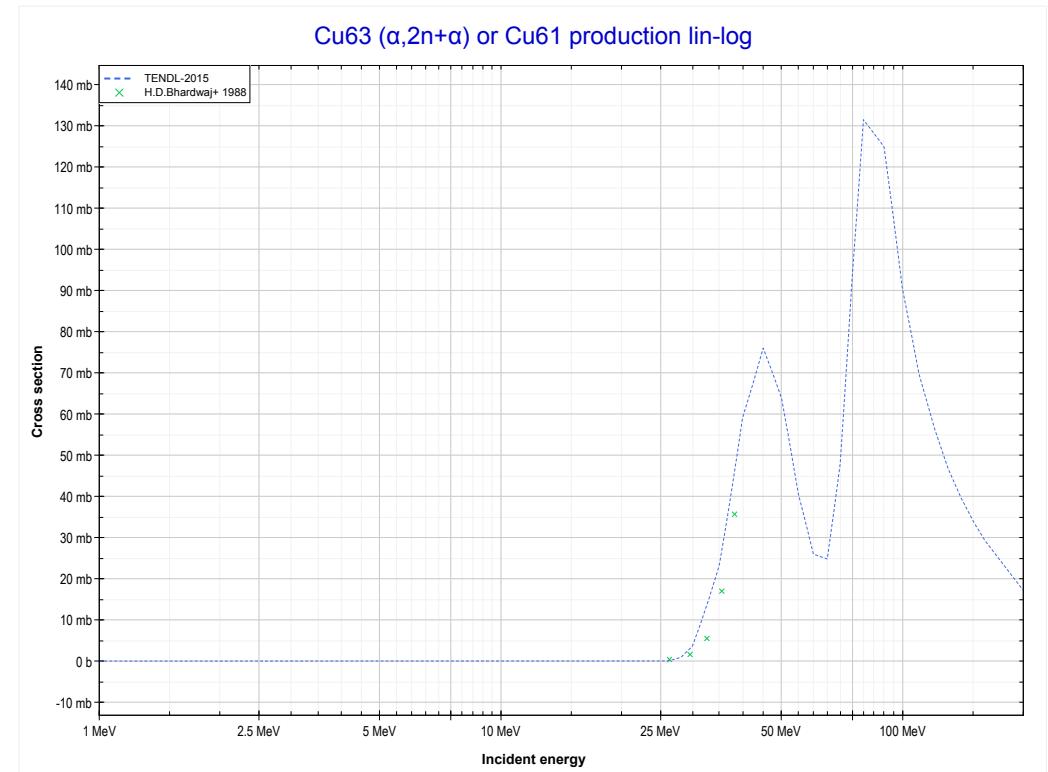
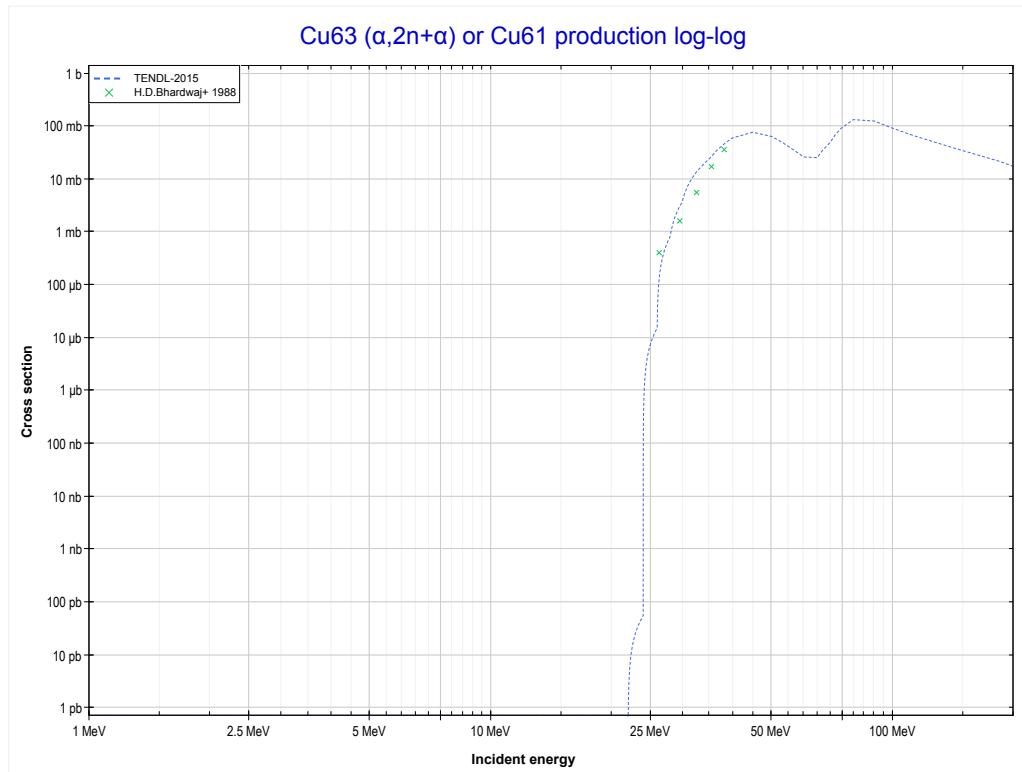
Reaction	Q-Value
Cu63( $\alpha,n$ )Ga66	-7501.70 keV

<< 28-Ni-61	<b>29-Cu-63</b> <b>MT16 (<math>\alpha,2n</math>) or MT5 (Ga65 production)</b>	29-Cu-65 >>
<< MT4 ( $\alpha,n$ )		MT24 ( $\alpha,2n+\alpha$ ) >>



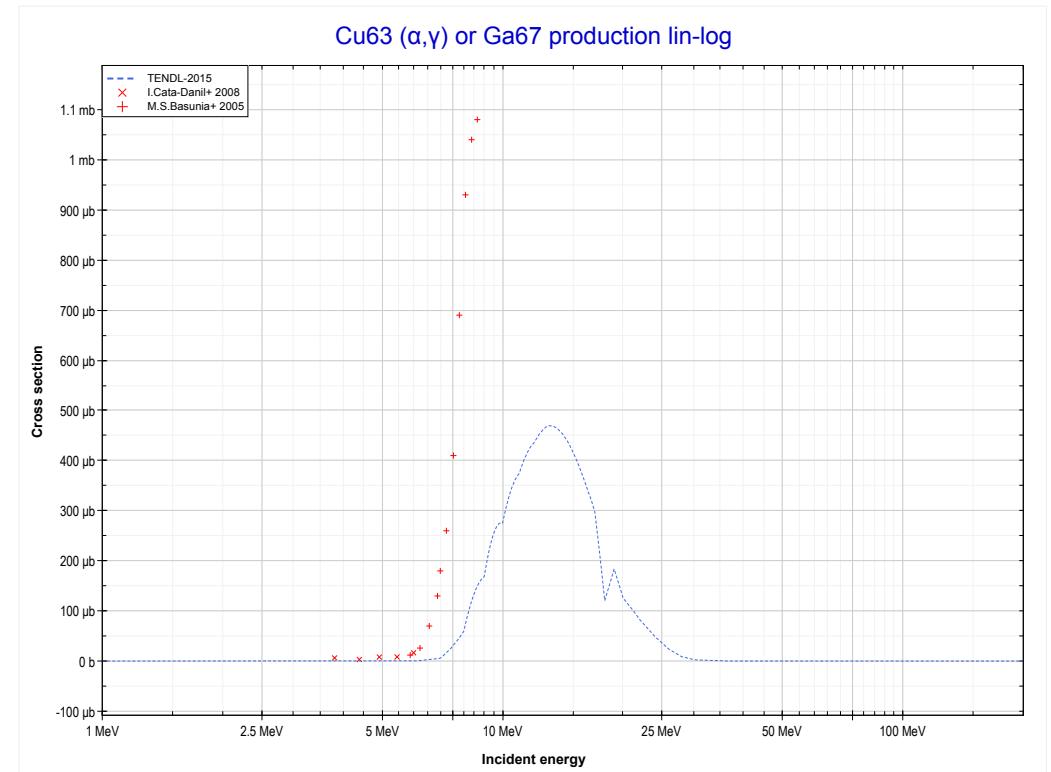
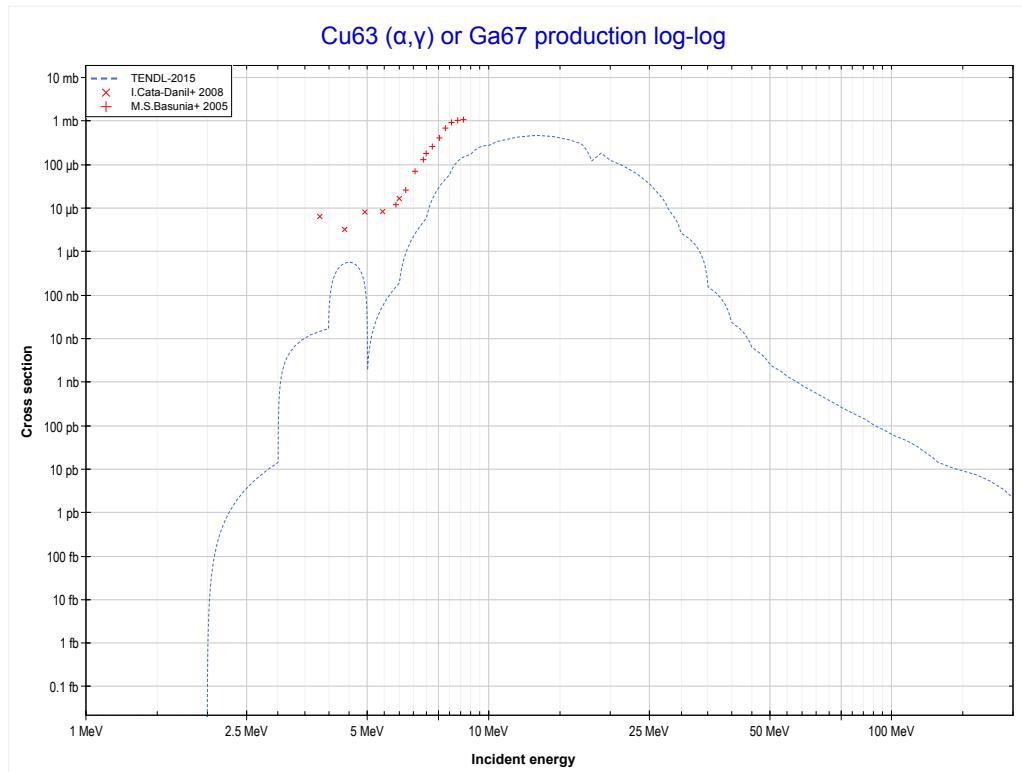
Reaction	Q-Value
Cu63( $\alpha,2n$ )Ga65	-16639.72 keV

<< 28-Ni-58	<b>29-Cu-63</b> MT24 ( $\alpha, 2n + \alpha$ ) or MT5 (Cu61 production)	30-Zn-64 >>
<< MT16 ( $\alpha, 2n$ )		MT102 ( $\alpha, \gamma$ ) >>



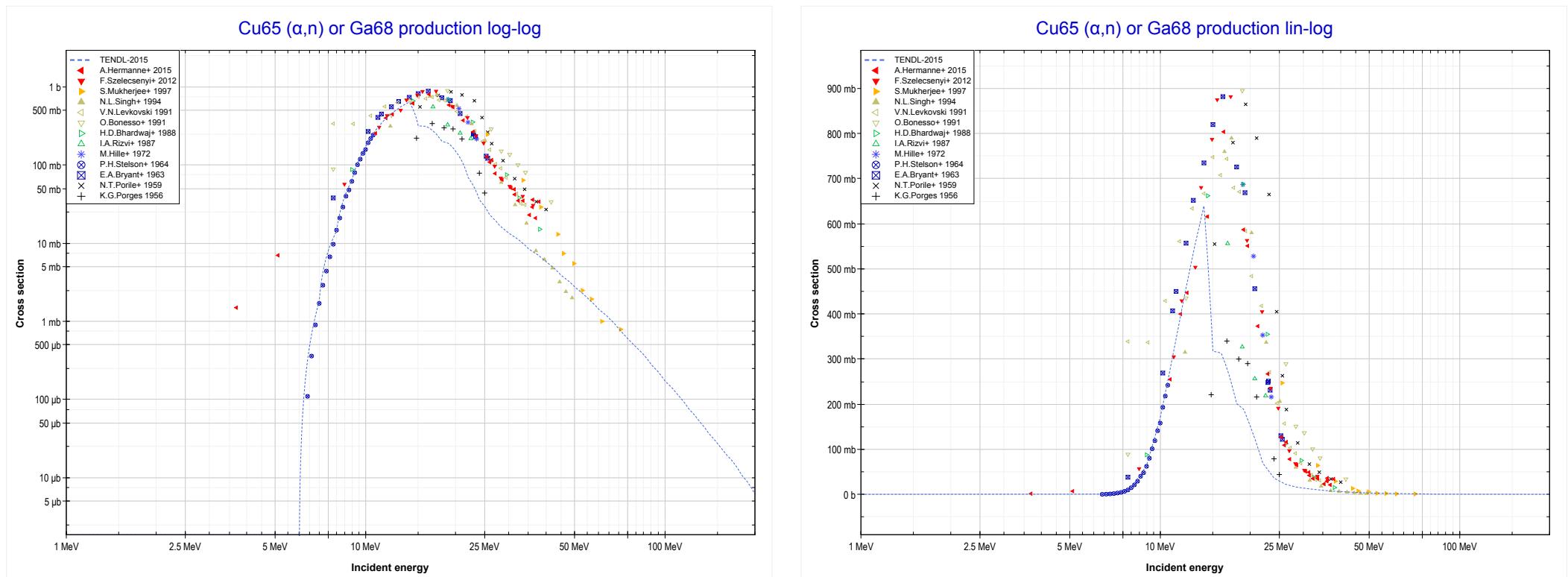
Reaction	Q-Value
Cu63( $\alpha, 2n + \alpha$ )Cu61	-19738.13 keV
Cu63( $\alpha, 2t$ )Cu61	-31070.20 keV
Cu63( $\alpha, n + d + t$ )Cu61	-37327.43 keV
Cu63( $\alpha, 2n + p + t$ )Cu61	-39552.00 keV
Cu63( $\alpha, 3n + He3$ )Cu61	-40315.75 keV
Cu63( $\alpha, 2n + 2d$ )Cu61	-43584.66 keV
Cu63( $\alpha, 3n + p + d$ )Cu61	-45809.23 keV
Cu63( $\alpha, 4n + 2p$ )Cu61	-48033.79 keV

<< 28-Ni-64	<b>29-Cu-63</b> MT102 ( $\alpha,\gamma$ ) or MT5 (Ga67 production)	30-Zn-64 >>
<< MT24 ( $\alpha,2n+\alpha$ )		29-Cu-65 MT4 ( $\alpha,n$ ) >>



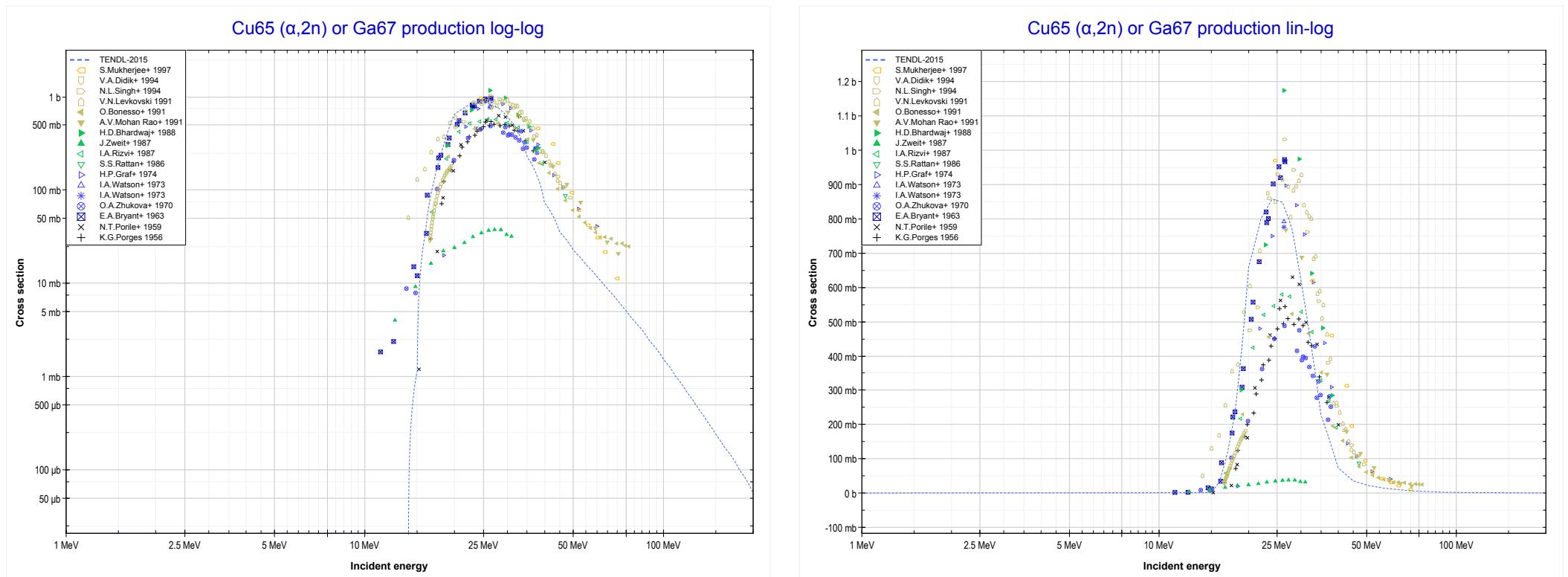
Reaction	Q-Value
Cu63( $\alpha,\gamma$ )Ga67	3724.52 keV

<< 29-Cu-63	<b>29-Cu-65</b> MT4 ( $\alpha, n$ ) or MT5 (Ga68 production)	>> 30-Zn-64
<< 29-Cu-63 MT102 ( $\alpha, \gamma$ )		MT16 ( $\alpha, 2n$ ) >>



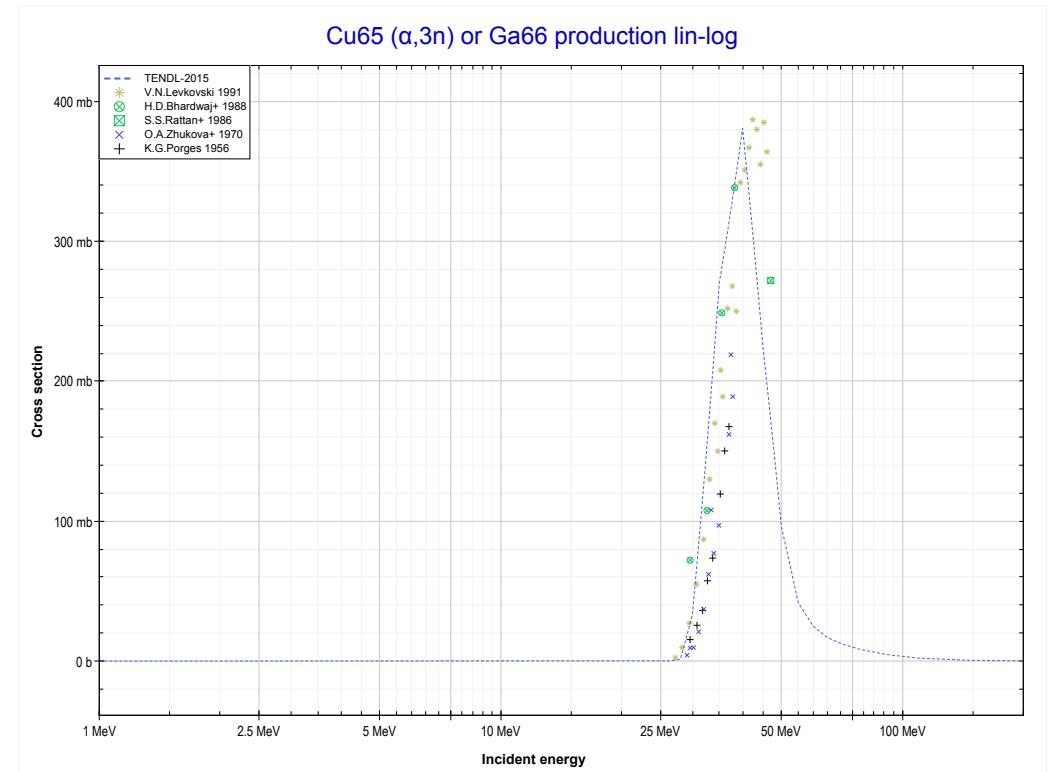
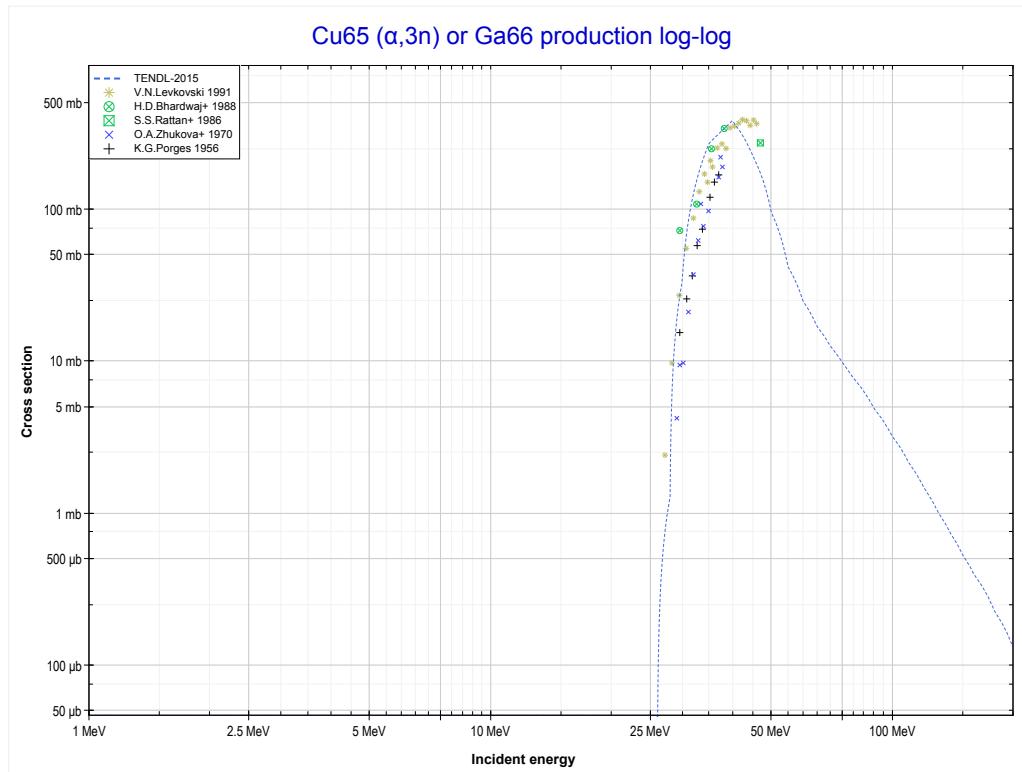
Reaction	Q-Value
Cu65( $\alpha, n$ )Ga68	-5824.20 keV

<< 29-Cu-63	<b>29-Cu-65</b> MT16 ( $\alpha,2n$ ) or MT5 (Ga67 production)	>> 30-Zn-64
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



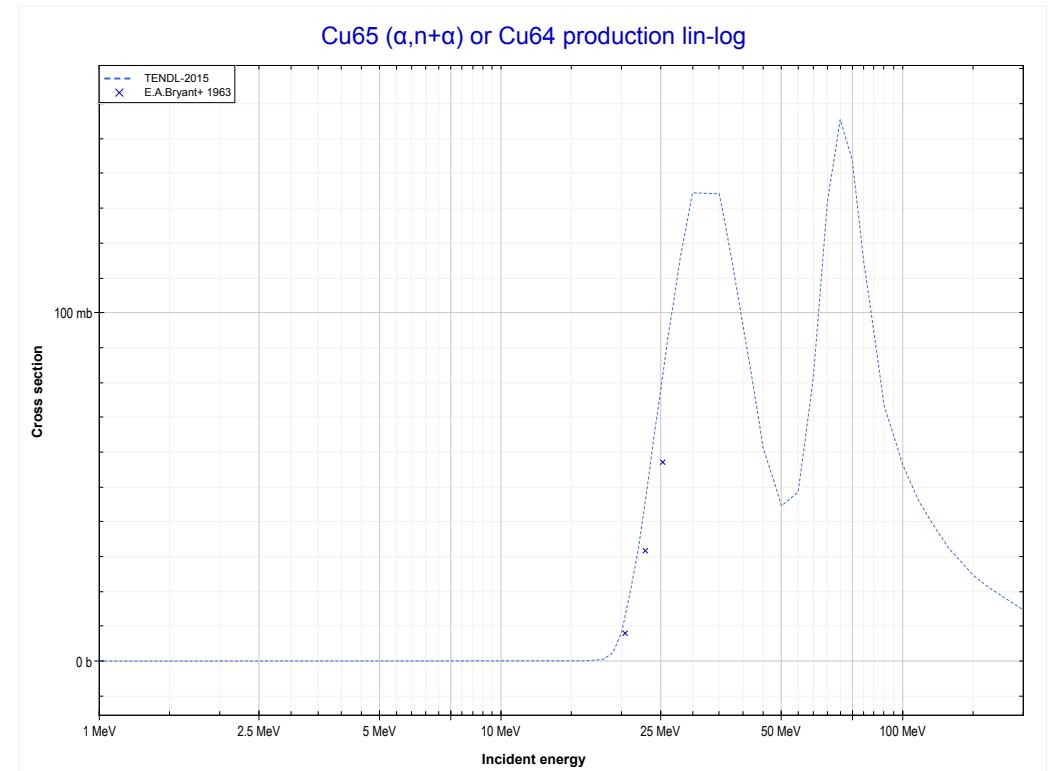
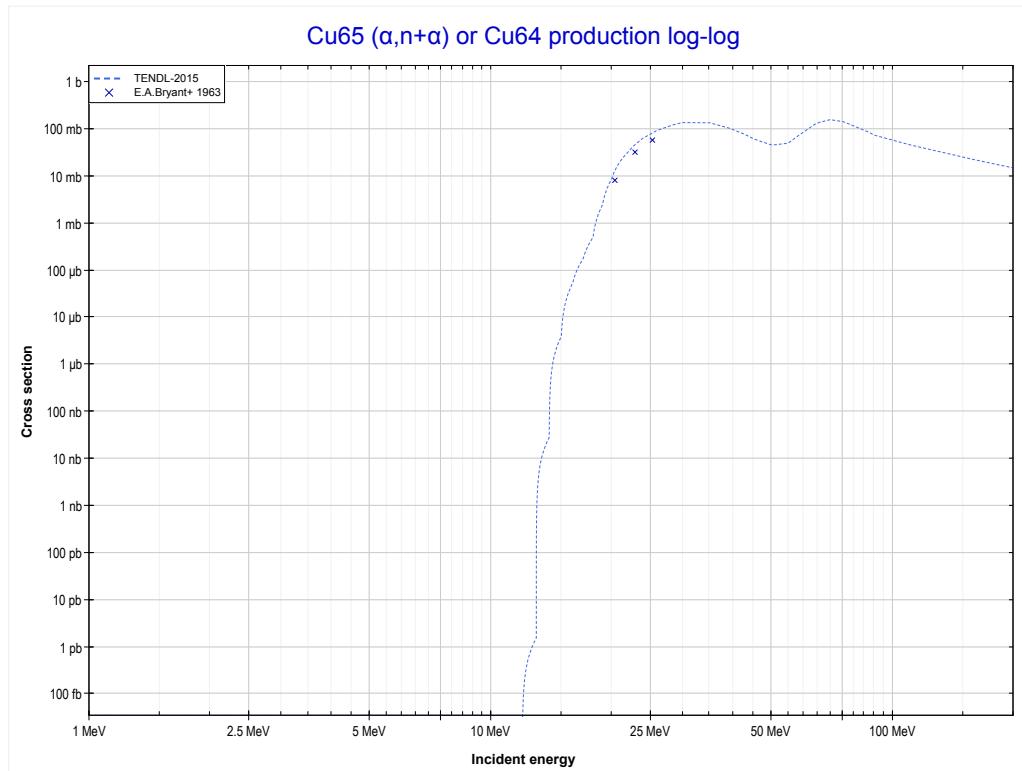
Reaction	Q-Value
Cu65( $\alpha,2n$ )Ga67	-14102.32 keV

<< 28-Ni-64	<b>29-Cu-65</b> <b>MT17 (<math>\alpha,3n</math>) or MT5 (Ga66 production)</b>	30-Zn-64 >>
<< MT16 ( $\alpha,2n$ )		MT22 ( $\alpha,n+\alpha$ ) >>



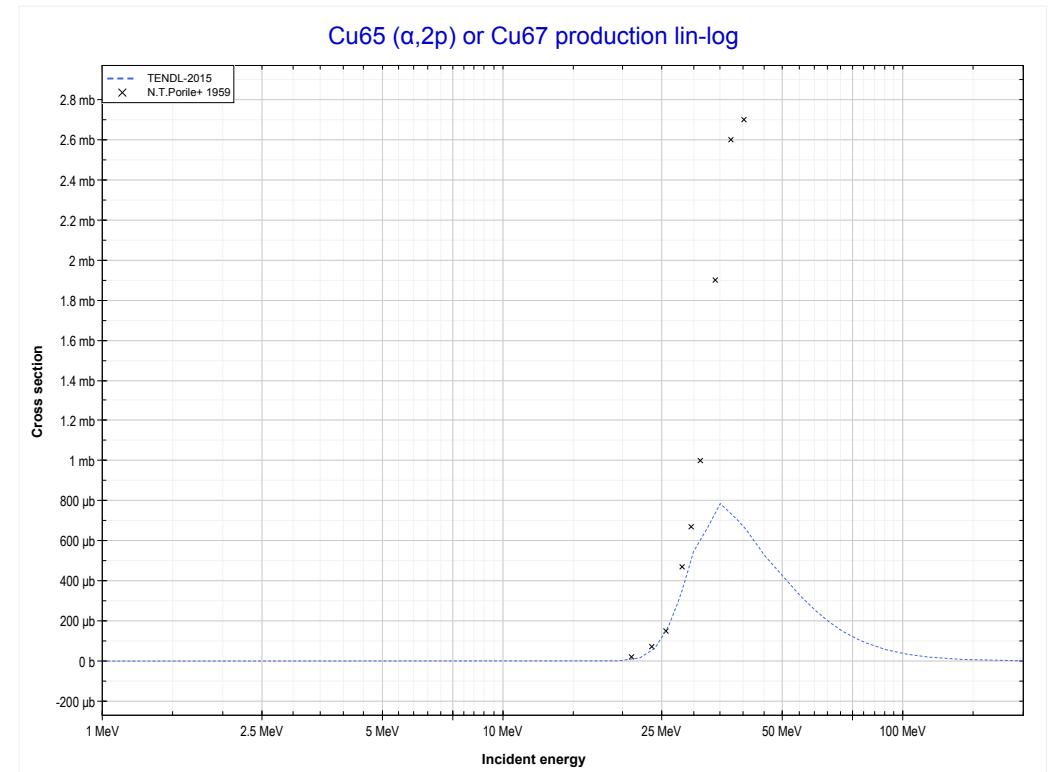
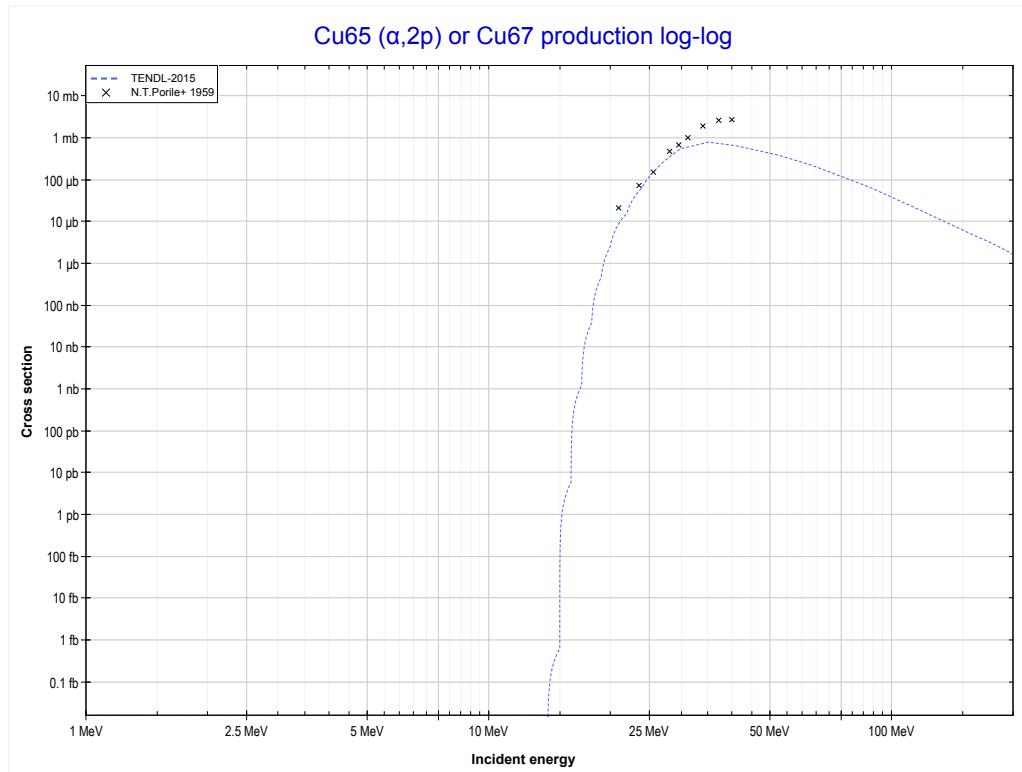
Reaction	Q-Value
Cu65( $\alpha,3n$ )Ga66	-25328.54 keV

<< 28-Ni-58	<b>29-Cu-65</b> MT22 ( $\alpha, n + \alpha$ ) or MT5 (Cu64 production)	30-Zn-64 >>
<< MT17 ( $\alpha, 3n$ )		MT111 ( $\alpha, 2p$ ) >>



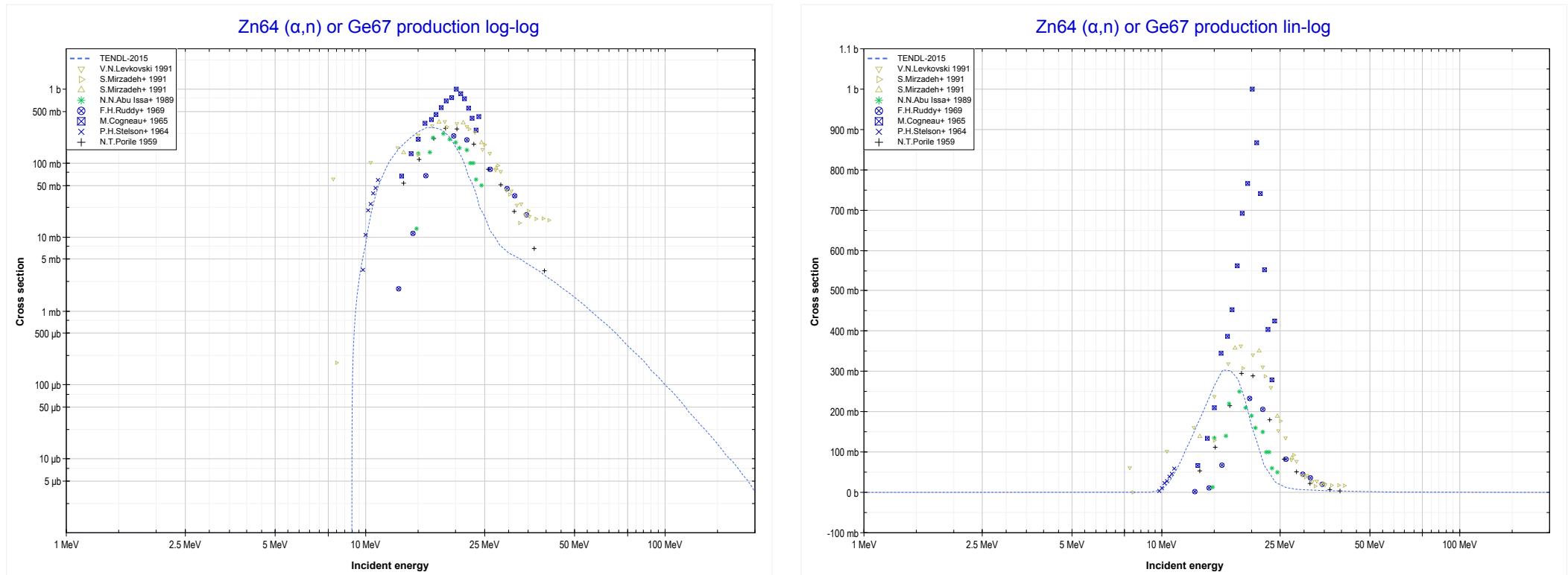
Reaction	Q-Value
Cu65( $\alpha, n + \alpha$ )Cu64	-9910.72 keV
Cu65( $\alpha, d + t$ )Cu64	-27500.01 keV
Cu65( $\alpha, n + p + t$ )Cu64	-29724.58 keV
Cu65( $\alpha, 2n + \text{He}3$ )Cu64	-30488.33 keV
Cu65( $\alpha, n + 2d$ )Cu64	-33757.24 keV
Cu65( $\alpha, 2n + p + d$ )Cu64	-35981.81 keV
Cu65( $\alpha, 3n + 2p$ )Cu64	-38206.38 keV

<< 27-Co-59	<b>29-Cu-65</b> <b>MT111 (<math>\alpha</math>,2p) or MT5 (Cu67 production)</b>	30-Zn-64 MT4 ( $\alpha$ ,n) >>
<< MT22 ( $\alpha$ ,n+ $\alpha$ )		



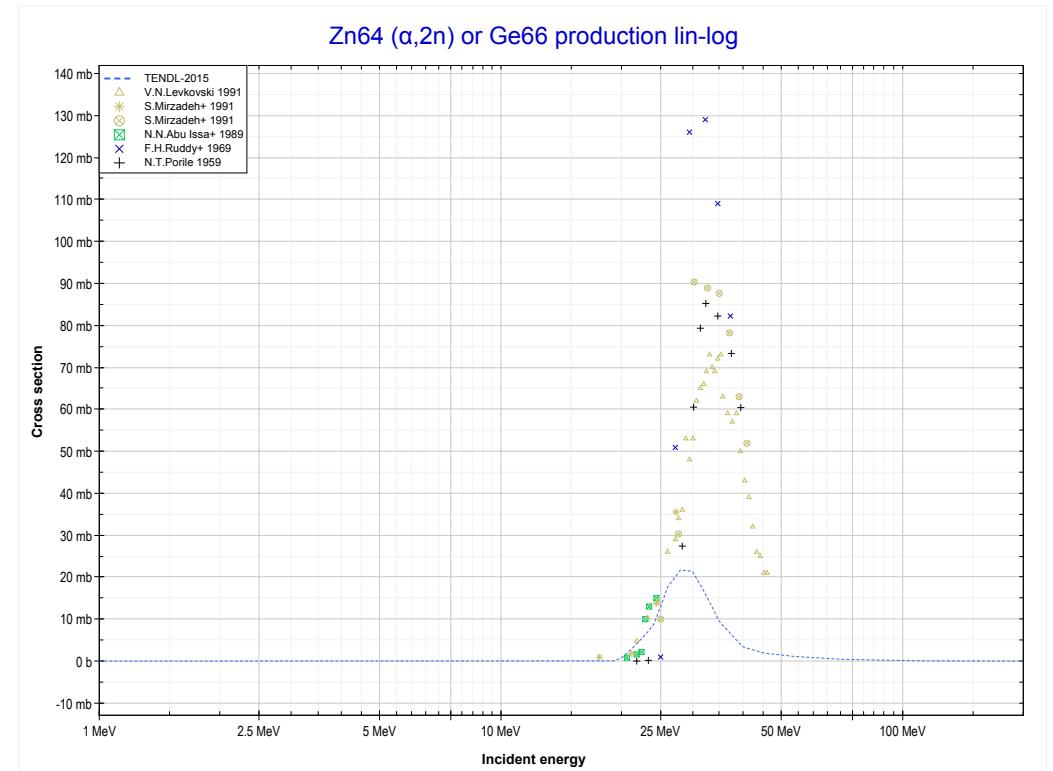
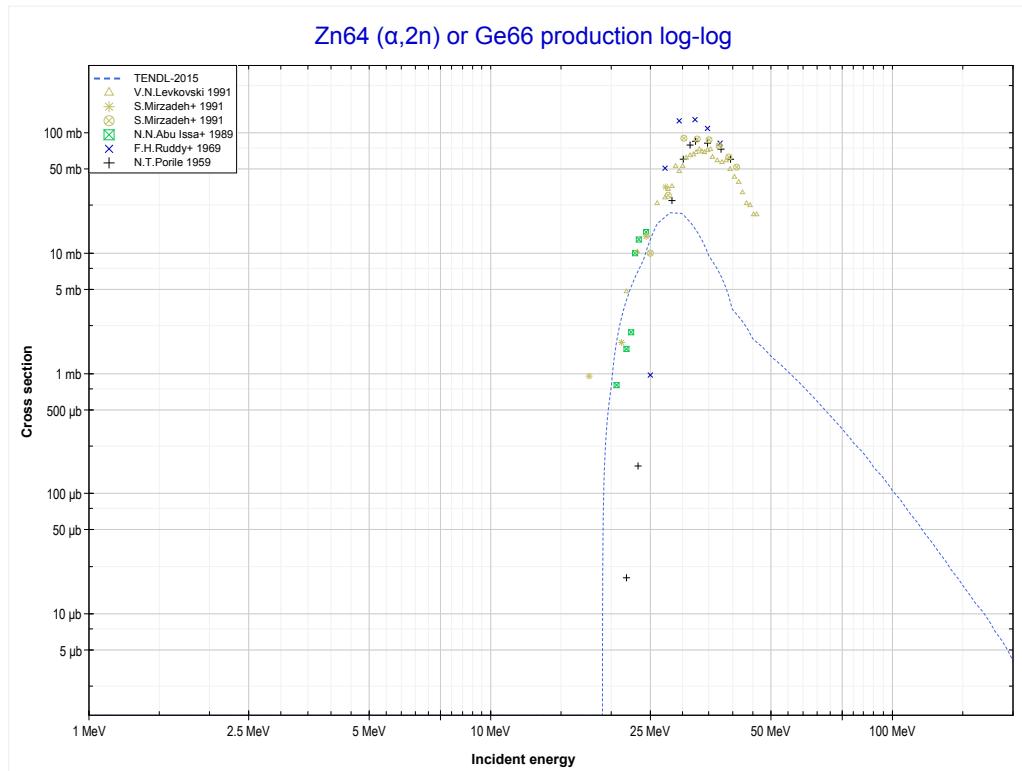
Reaction	Q-Value
Cu65( $\alpha$ ,2p)Cu67	-12097.73 keV

<< 29-Cu-65	<b>30-Zn-64</b> MT4 ( $\alpha, n$ ) or MT5 (Ge67 production)	30-Zn-66 >>
<< 29-Cu-65 MT111 ( $\alpha, 2p$ )		MT16 ( $\alpha, 2n$ ) >>



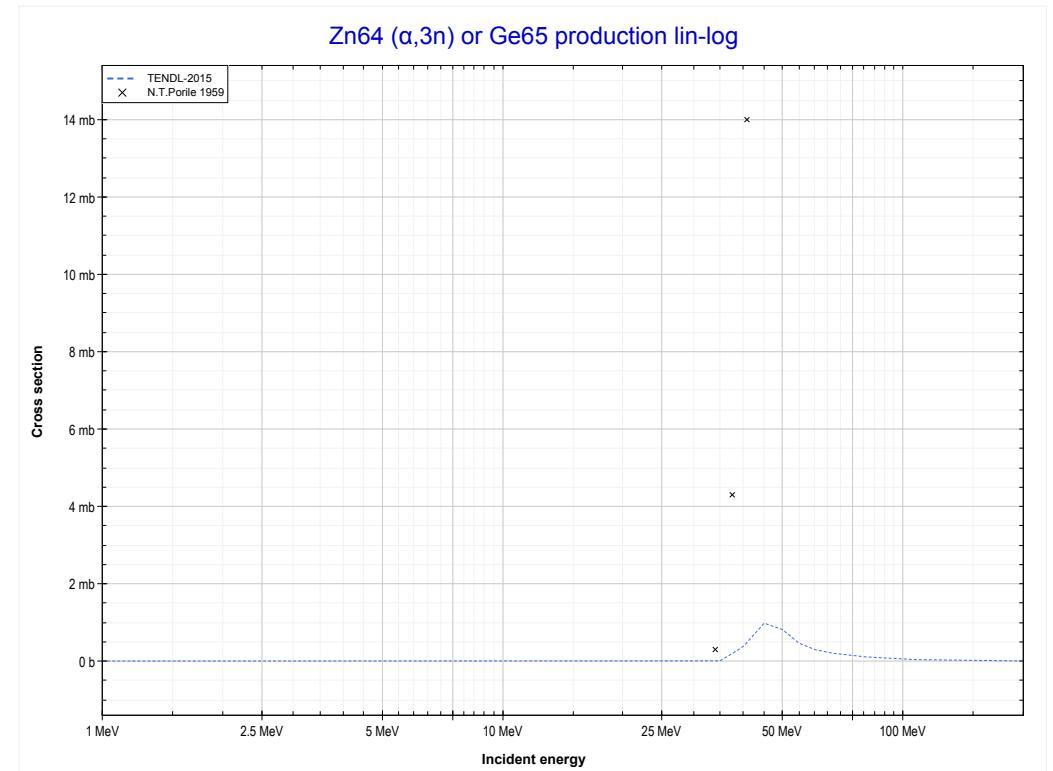
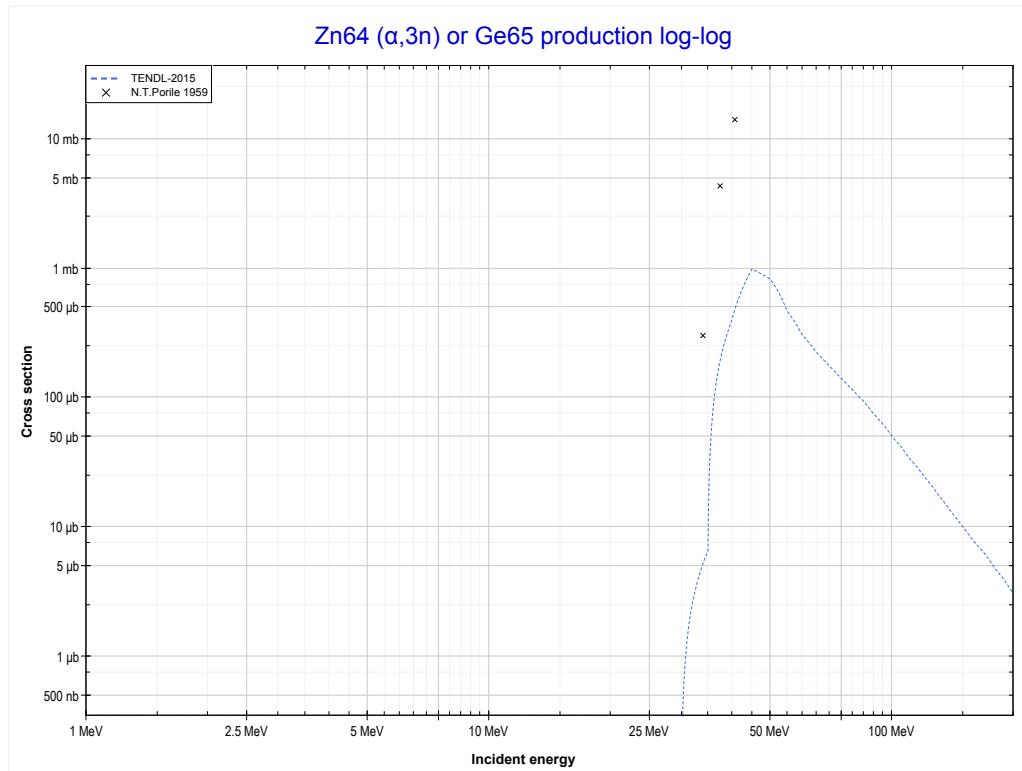
Reaction	Q-Value
Zn64( $\alpha, n$ )Ge67	-8992.20 keV

<< 29-Cu-65	<b>30-Zn-64</b> <b>MT16 (<math>\alpha,2n</math>) or MT5 (Ge66 production)</b>	30-Zn-66 >>
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



Reaction	Q-Value
Zn64( $\alpha,2n$ )Ge66	-18114.52 keV

<< 29-Cu-65	<b>30-Zn-64</b> <b>MT17 (<math>\alpha,3n</math>) or MT5 (Ge65 production)</b>	30-Zn-66 >>
<< MT16 ( $\alpha,2n$ )		MT22 ( $\alpha,n+\alpha$ ) >>

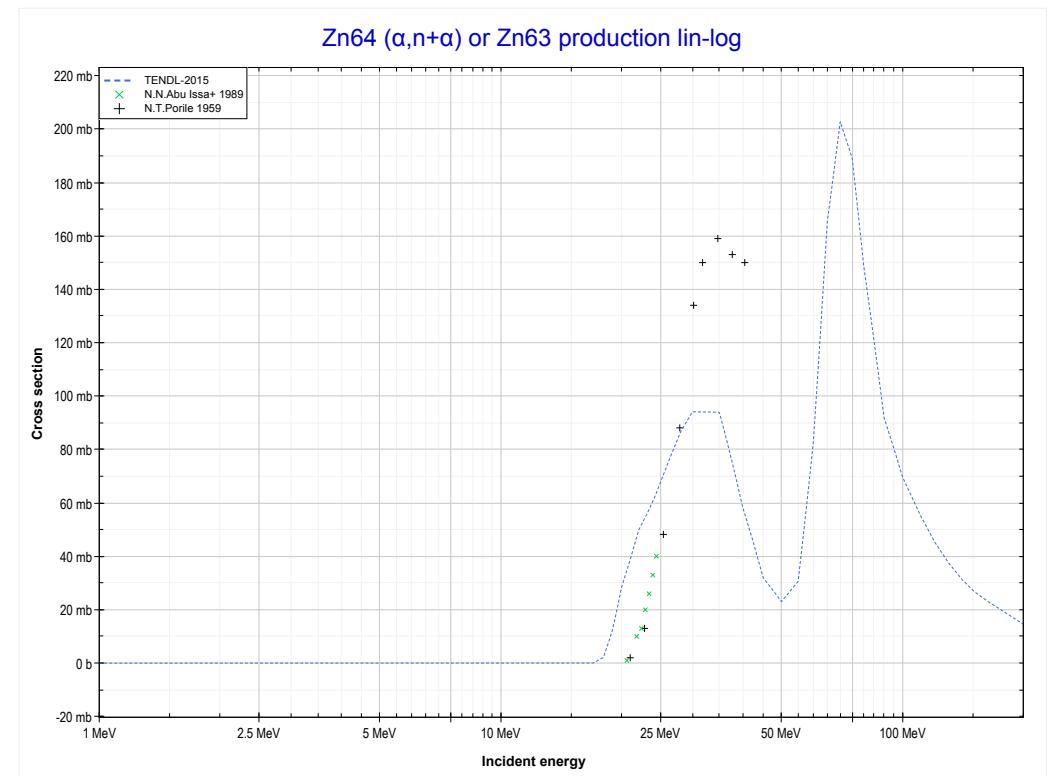
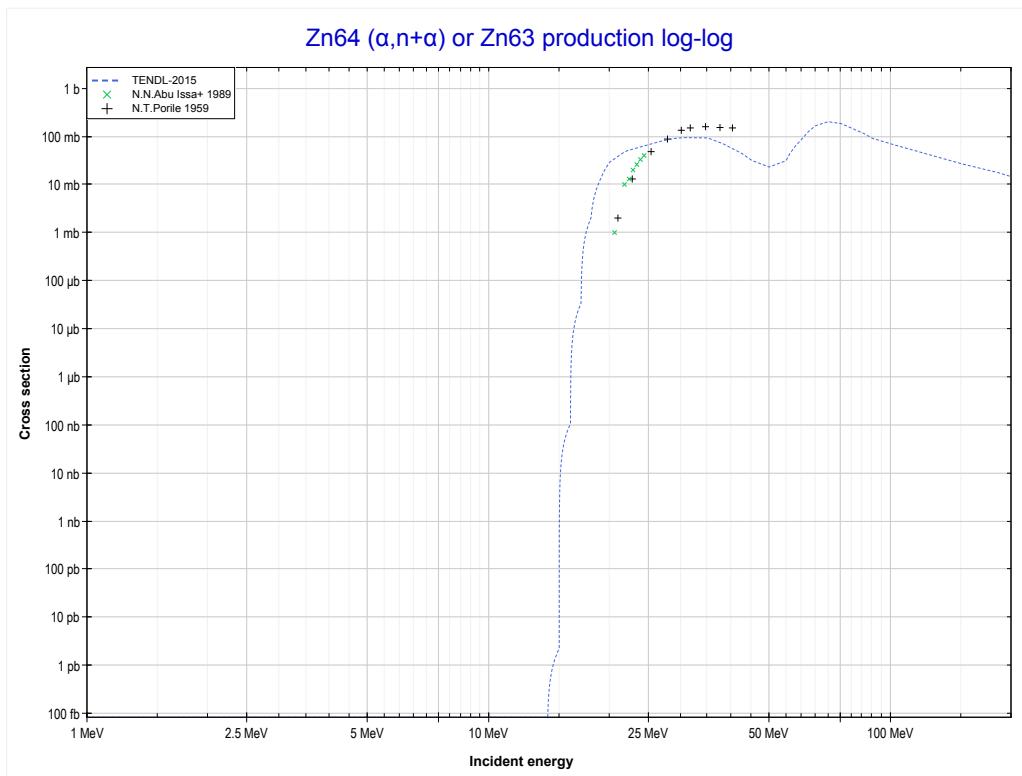


Reaction	Q-Value
Zn64( $\alpha,3n$ )Ge65	-31314.64 keV

<< 29-Cu-65		
<< MT17 ( $\alpha$ ,3n)		

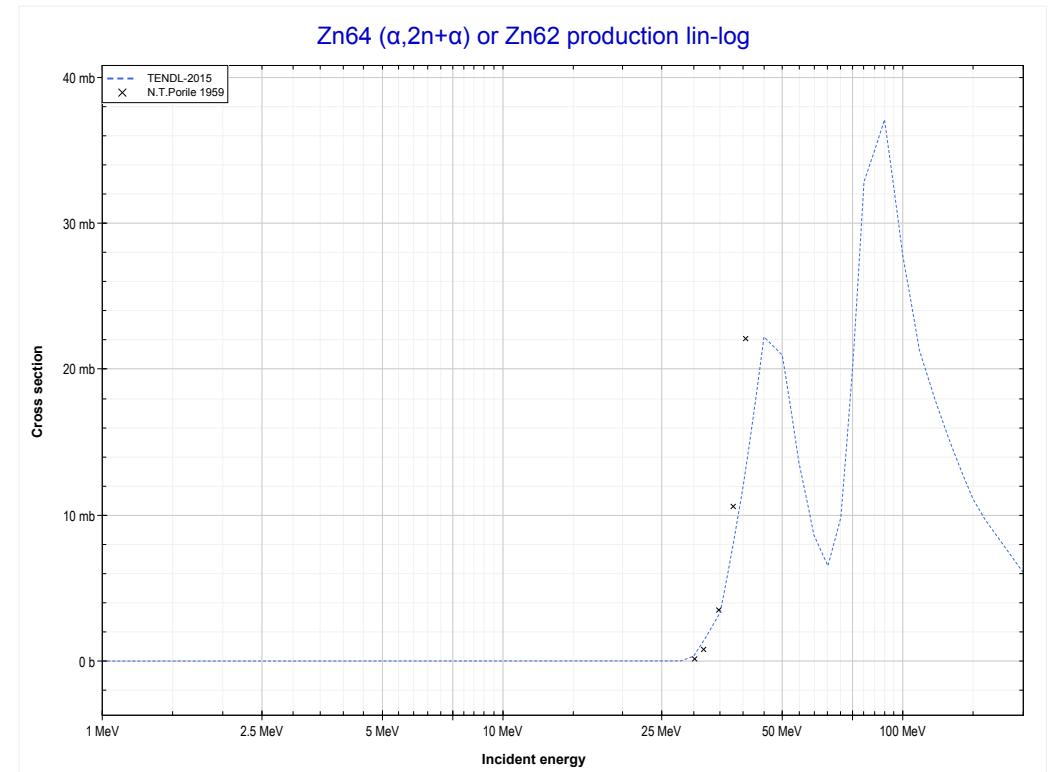
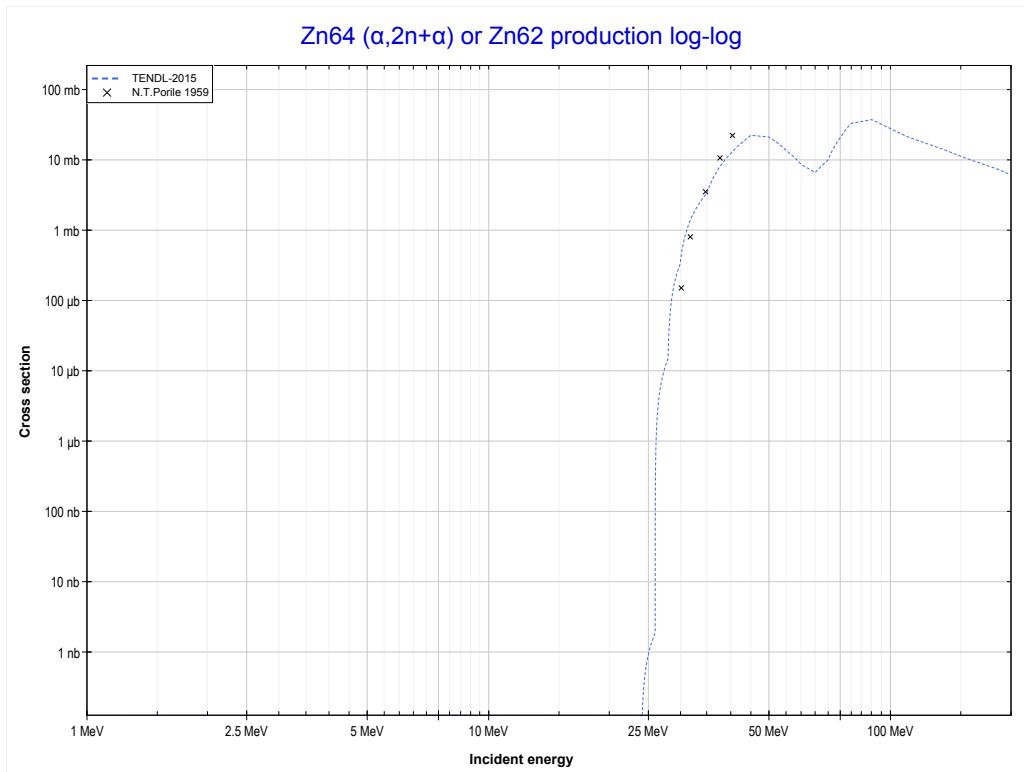
**30-Zn-64**  
**MT22 ( $\alpha$ ,n+ $\alpha$ ) or MT5 (Zn63 production)**

35-Br-79 >>  
MT24 ( $\alpha$ ,2n+ $\alpha$ ) >>



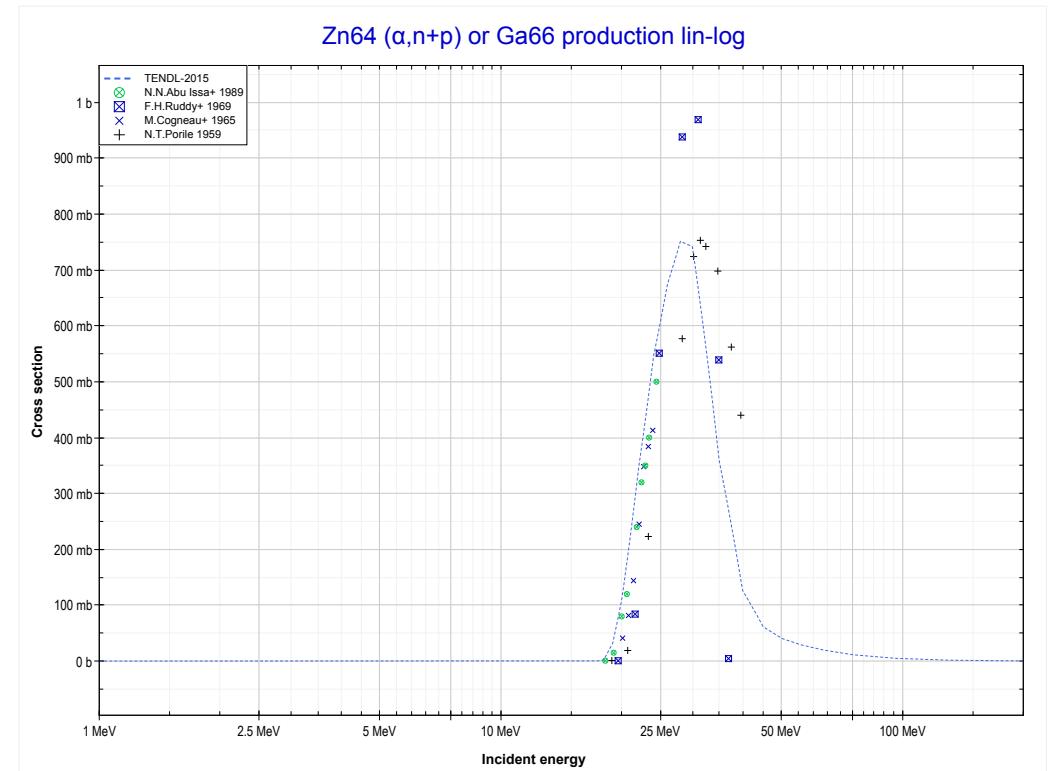
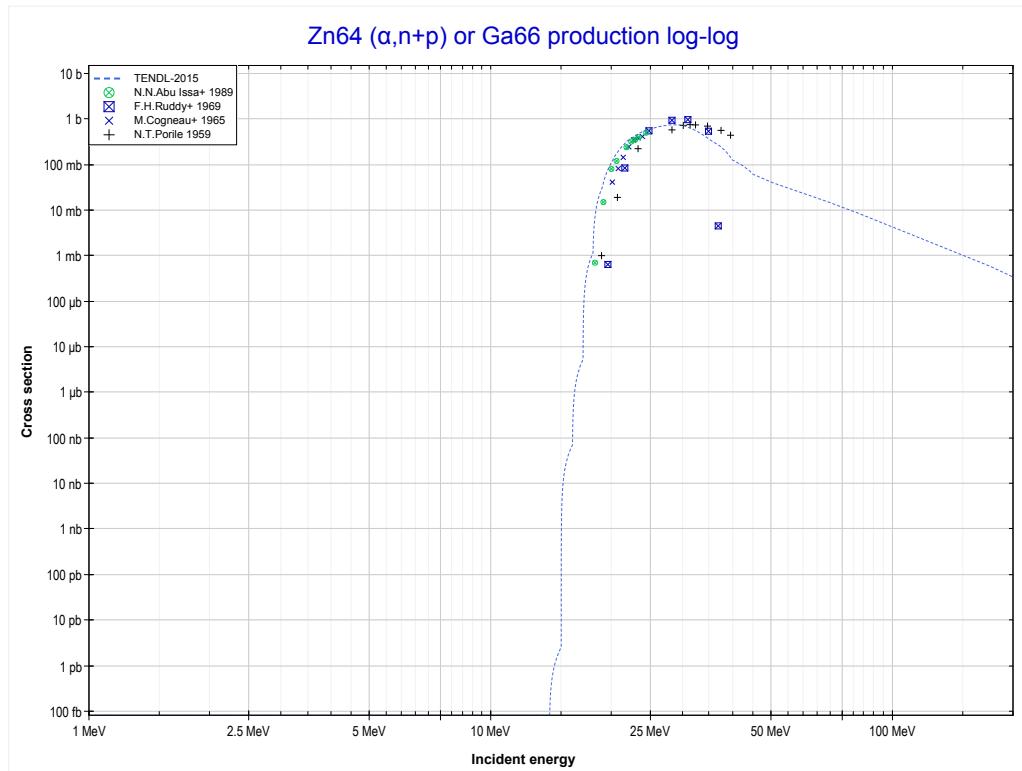
Reaction	Q-Value
Zn64( $\alpha$ ,n+ $\alpha$ )Zn63	-11862.02 keV
Zn64( $\alpha$ ,d+t)Zn63	-29451.31 keV
Zn64( $\alpha$ ,n+p+t)Zn63	-31675.88 keV
Zn64( $\alpha$ ,2n+He3)Zn63	-32439.63 keV
Zn64( $\alpha$ ,n+2d)Zn63	-35708.54 keV
Zn64( $\alpha$ ,2n+p+d)Zn63	-37933.11 keV
Zn64( $\alpha$ ,3n+2p)Zn63	-40157.68 keV

<< 29-Cu-63	<b>30-Zn-64</b> <b>MT24 (<math>\alpha,2n+\alpha</math>) or MT5 (Zn62 production)</b>	39-Y-89 >>
<< MT22 ( $\alpha,n+\alpha$ )		MT28 ( $\alpha,n+p$ ) >>



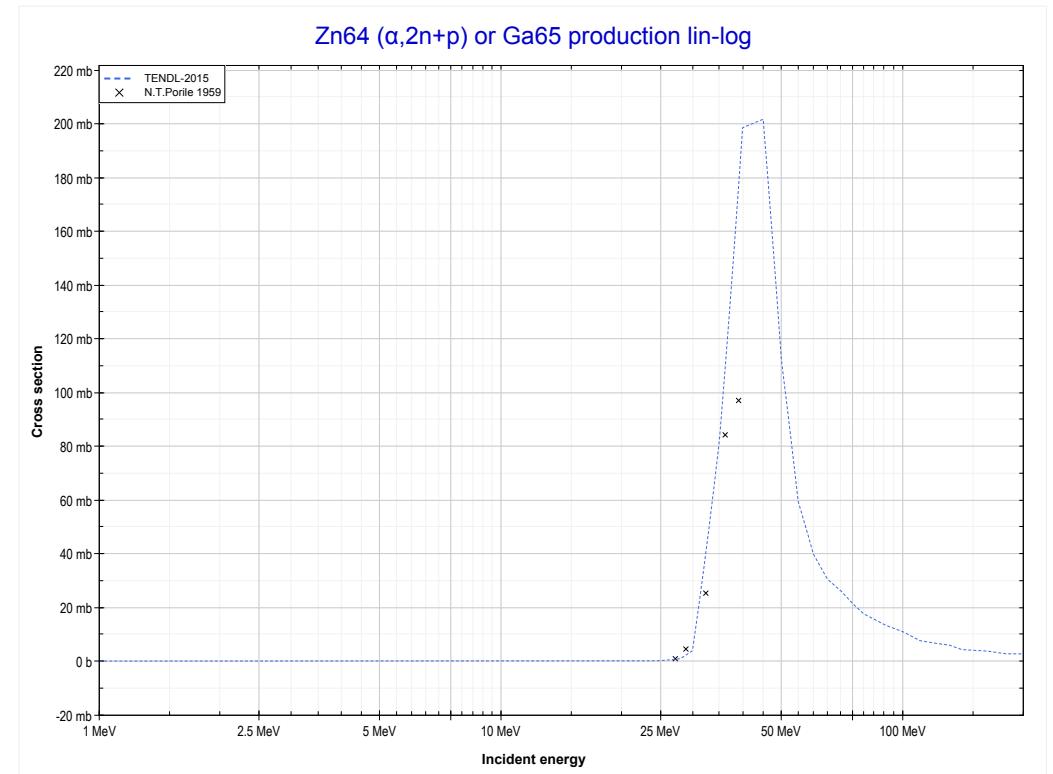
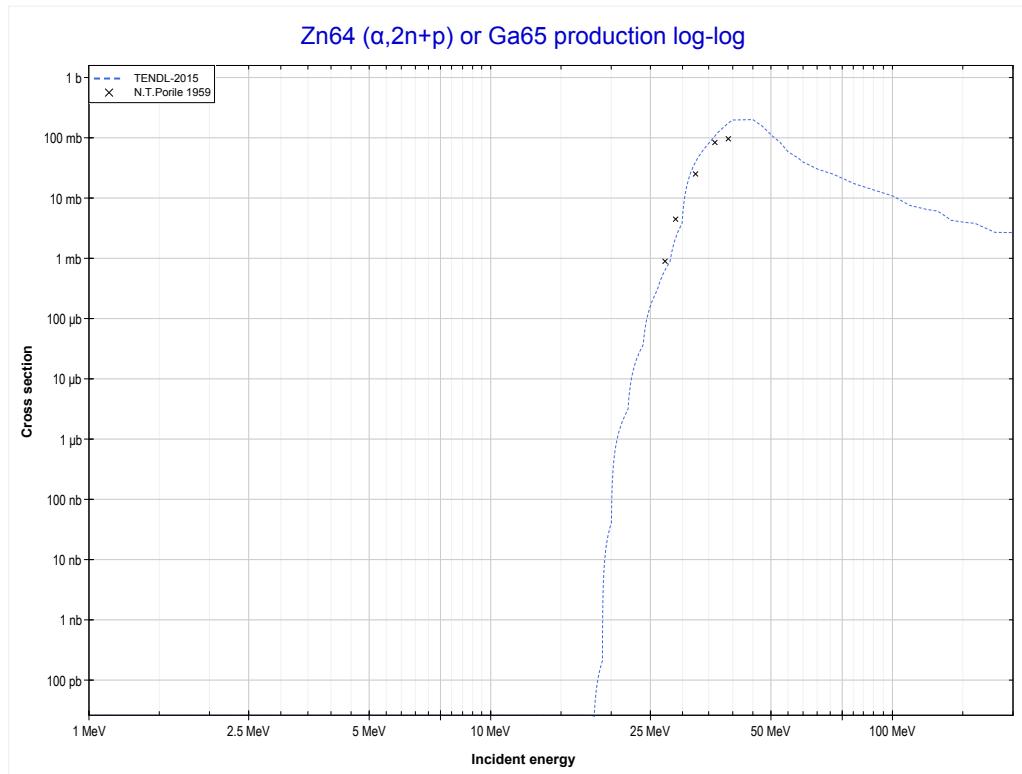
Reaction	Q-Value
Zn64( $\alpha,2n+\alpha$ )Zn62	-20978.93 keV
Zn64( $\alpha,2t$ )Zn62	-32311.00 keV
Zn64( $\alpha,n+d+t$ )Zn62	-38568.23 keV
Zn64( $\alpha,2n+p+t$ )Zn62	-40792.80 keV
Zn64( $\alpha,3n+He3$ )Zn62	-41556.55 keV
Zn64( $\alpha,2n+2d$ )Zn62	-44825.46 keV
Zn64( $\alpha,3n+p+d$ )Zn62	-47050.03 keV
Zn64( $\alpha,4n+2p$ )Zn62	-49274.59 keV

<< 28-Ni-62	<b>30-Zn-64</b> MT28 ( $\alpha, n+p$ ) or MT5 (Ga66 production)	30-Zn-66 >>
<< MT24 ( $\alpha, 2n+\alpha$ )		MT41 ( $\alpha, 2n+p$ ) >>



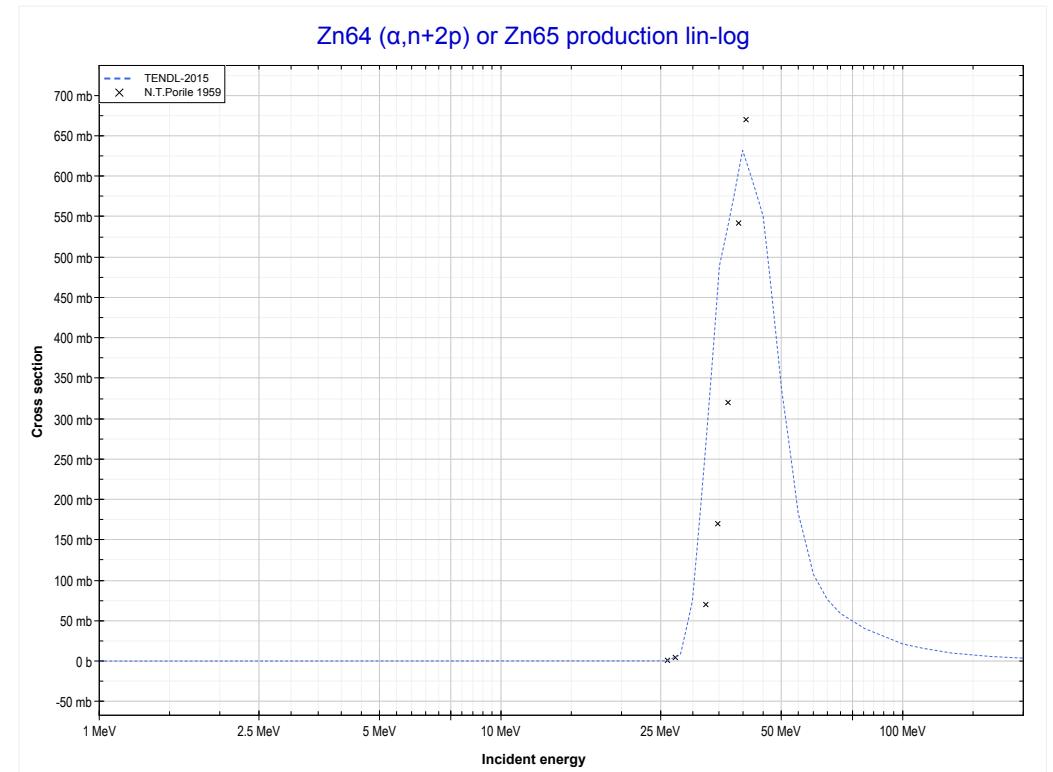
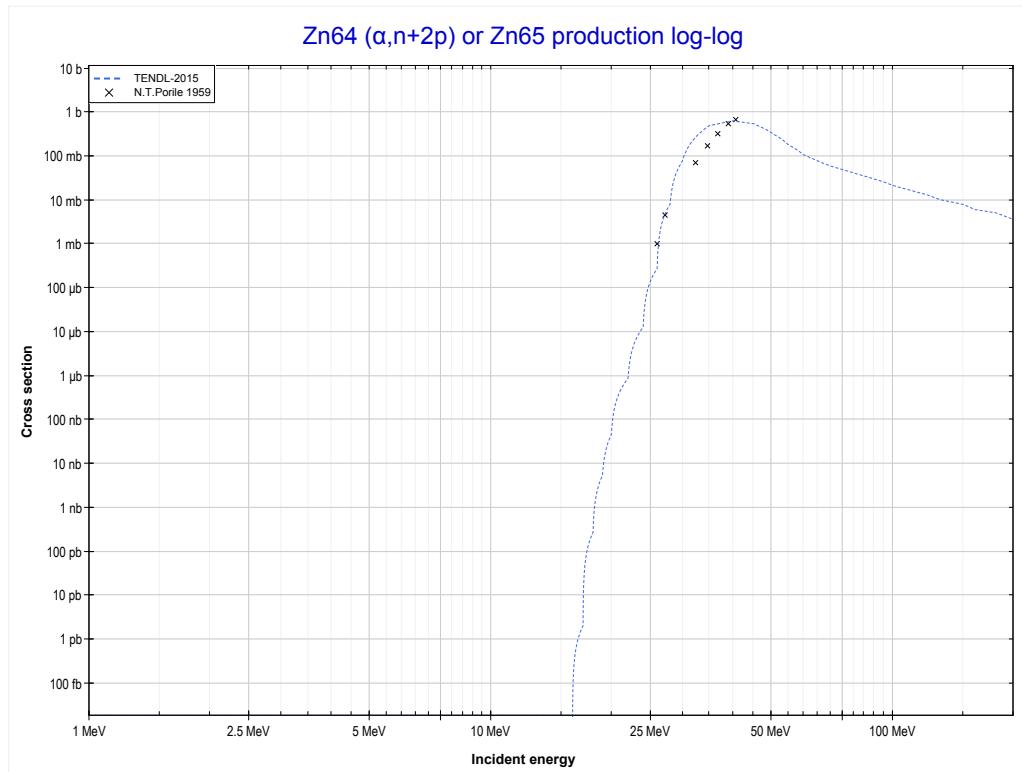
Reaction	Q-Value
Zn64( $\alpha, d$ )Ga66	-12990.61 keV
Zn64( $\alpha, n+p$ )Ga66	-15215.17 keV

<< 26-Fe-56	<b>30-Zn-64</b> <b>MT41 (<math>\alpha,2n+p</math>) or MT5 (Ga65 production)</b>	48-Cd-114 >>
<< MT28 ( $\alpha,n+p$ )		MT44 ( $\alpha,n+2p$ ) >>



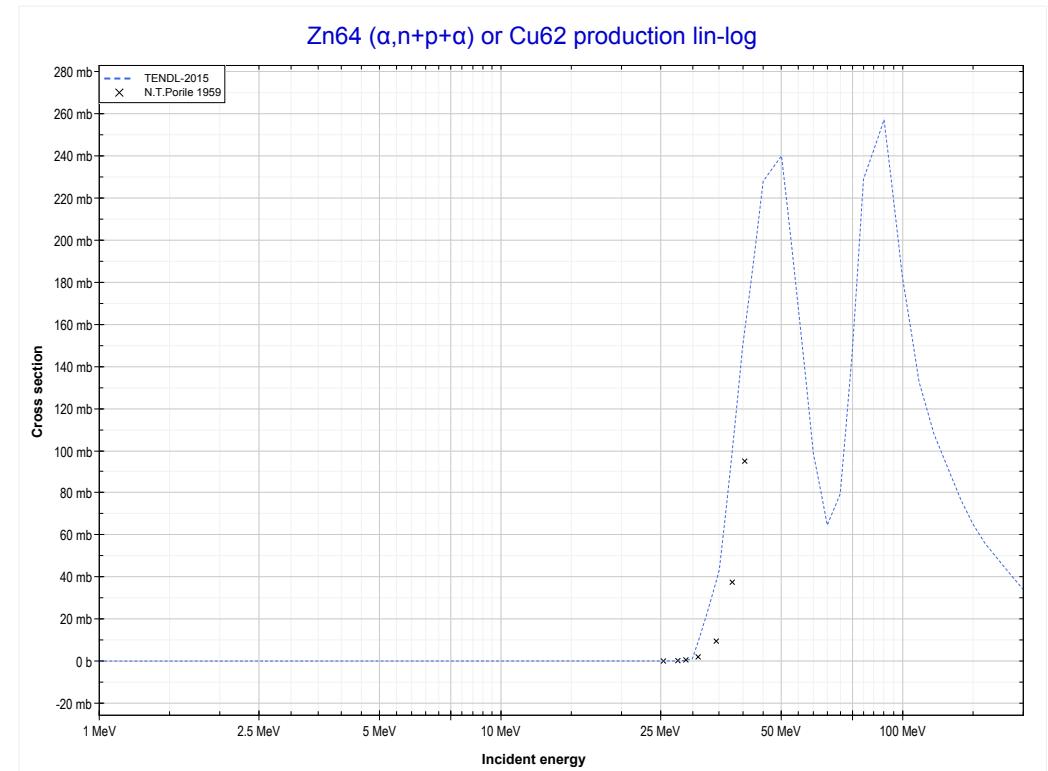
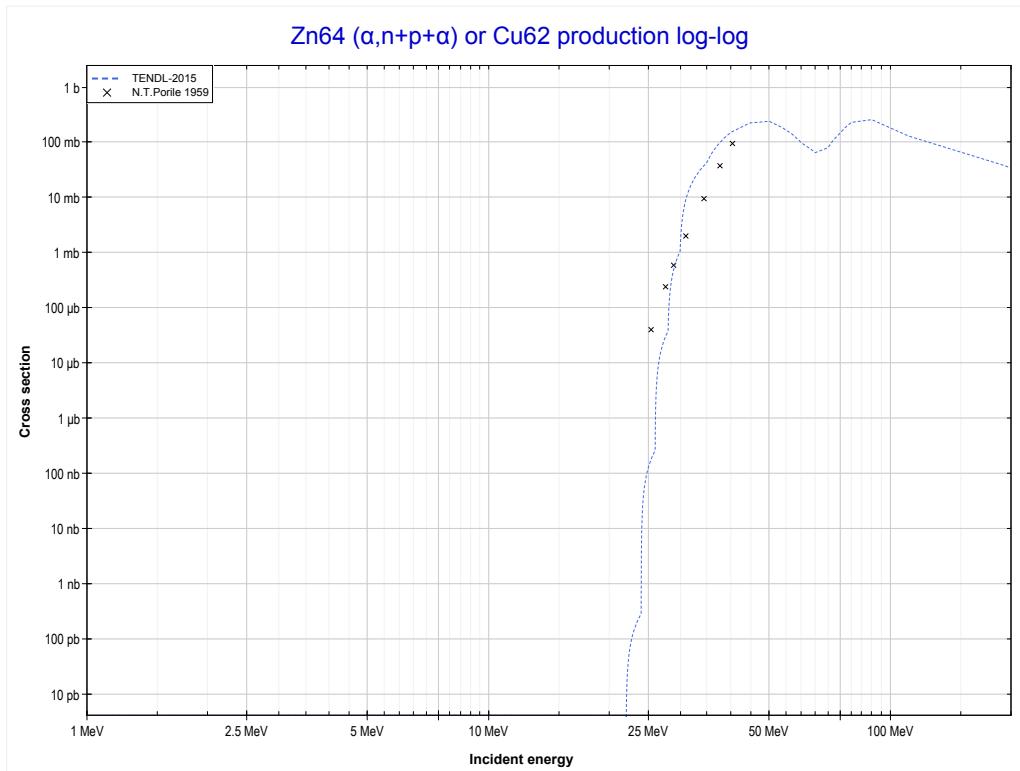
Reaction	Q-Value
Zn64( $\alpha,t$ )Ga65	-15871.39 keV
Zn64( $\alpha,n+d$ )Ga65	-22128.62 keV
Zn64( $\alpha,2n+p$ )Ga65	-24353.19 keV

<< 27-Co-59	<b>30-Zn-64</b> <b>MT44 (<math>\alpha, n+2p</math>) or MT5 (Zn65 production)</b>	50-Sn-124 >>
<< MT41 ( $\alpha, 2n+p$ )		MT45 ( $\alpha, n+p+\alpha$ ) >>



Reaction	Q-Value
Zn64( $\alpha, \text{He}3$ )Zn65	-12598.30 keV
Zn64( $\alpha, p+d$ )Zn65	-18091.78 keV
Zn64( $\alpha, n+2p$ )Zn65	-20316.34 keV

<< 28-Ni-60	<b>30-Zn-64</b> <b>MT45 (<math>\alpha, n+p+\alpha</math>) or MT5 (Cu62 production)</b>	>> 40-Zr-90
<< MT44 ( $\alpha, n+2p$ )		>> MT102 ( $\alpha, \gamma$ ) >>

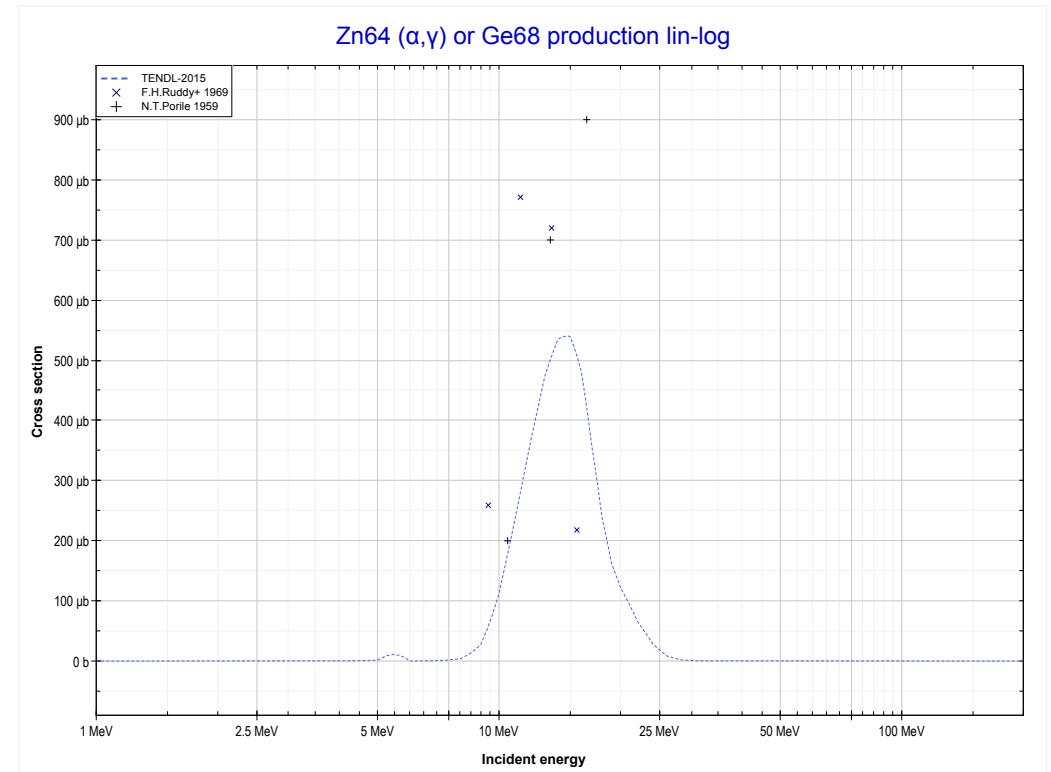
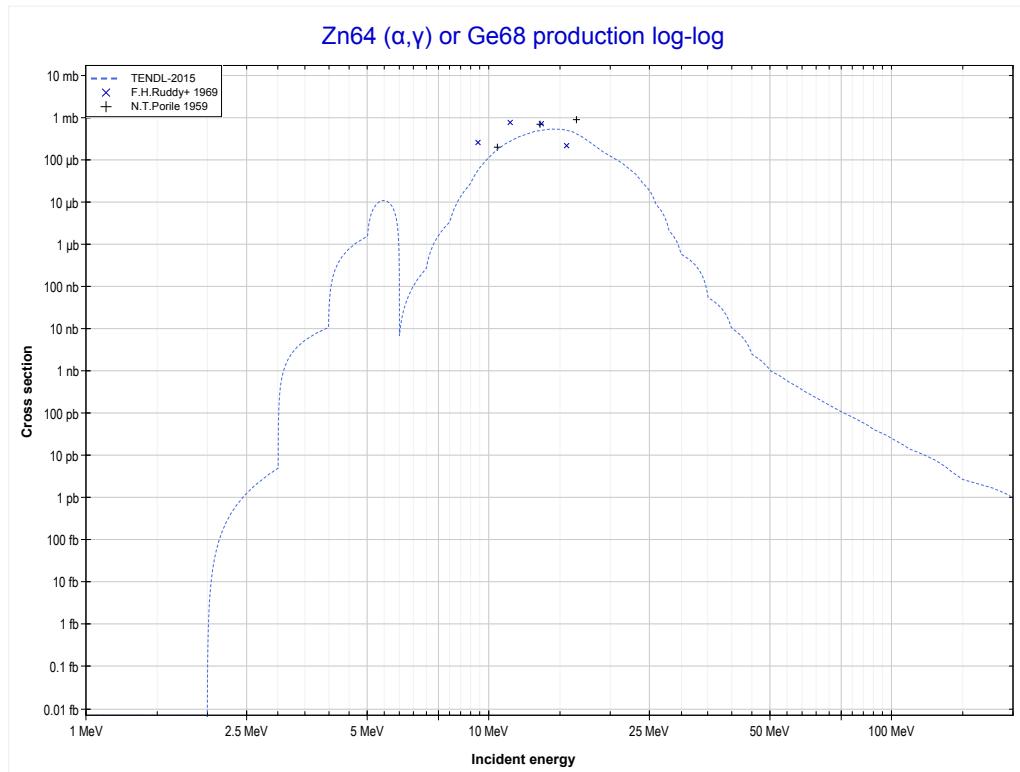


Reaction	Q-Value	Reaction	Q-Value
Zn64( $\alpha, d+\alpha$ )Cu62	-16352.52 keV	Zn64( $\alpha, n+p+2d$ )Cu62	-42423.62 keV
Zn64( $\alpha, n+p+\alpha$ )Cu62	-18577.09 keV	Zn64( $\alpha, 2n+2p+d$ )Cu62	-44648.18 keV
Zn64( $\alpha, t+He3$ )Cu62	-30672.91 keV	Zn64( $\alpha, 3n+3p$ )Cu62	-46872.75 keV
Zn64( $\alpha, p+d+t$ )Cu62	-36166.38 keV		
Zn64( $\alpha, n+d+He3$ )Cu62	-36930.14 keV		
Zn64( $\alpha, n+2p+t$ )Cu62	-38390.95 keV		
Zn64( $\alpha, 2n+p+He3$ )Cu62	-39154.70 keV		
Zn64( $\alpha, 3d$ )Cu62	-40199.05 keV		

<< 29-Cu-63	
<< MT45 ( $\alpha, n+p+\alpha$ )	

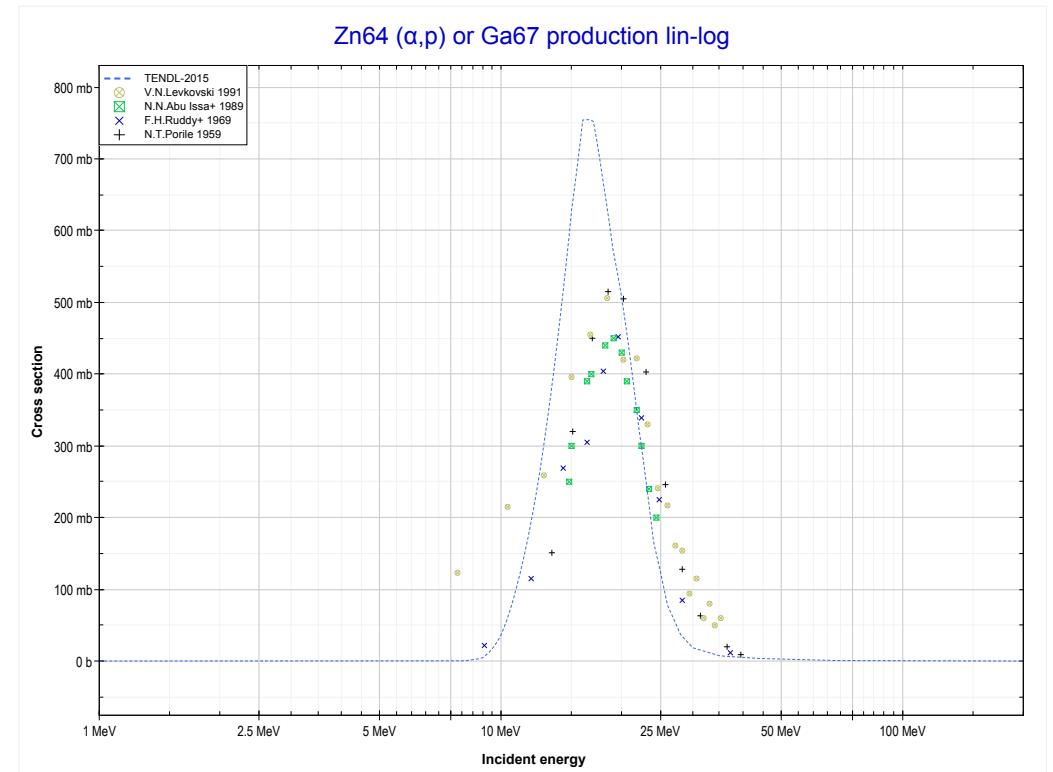
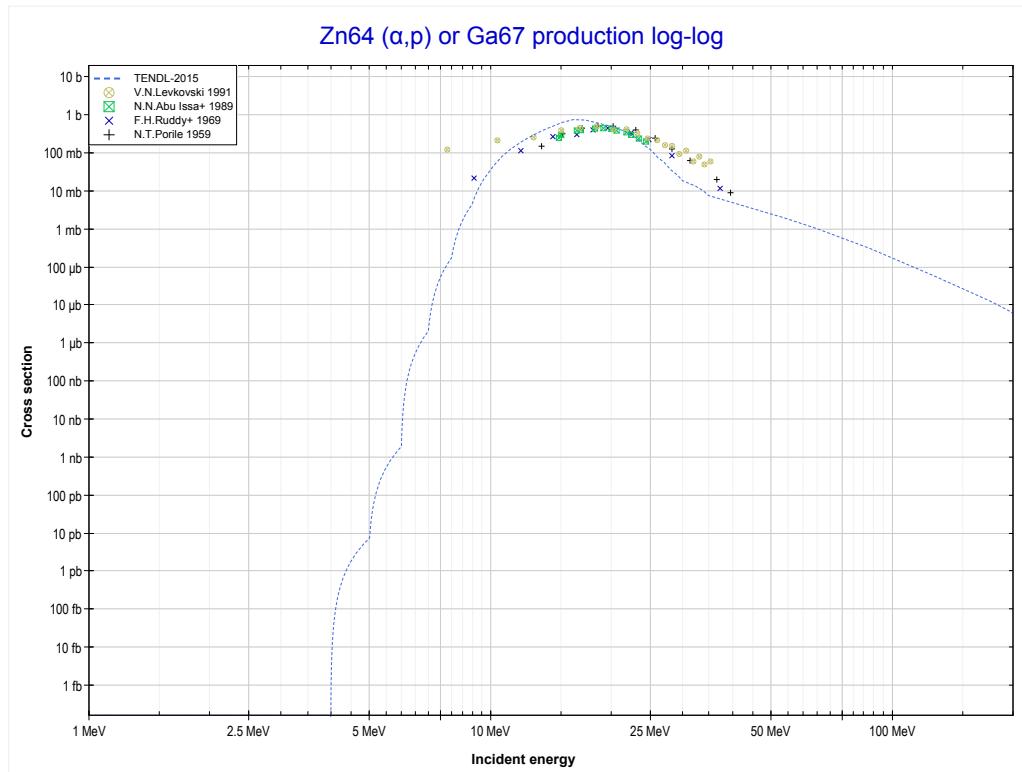
**30-Zn-64**  
**MT102 ( $\alpha,\gamma$ ) or MT5 (Ge68 production)**

32-Ge-70 >>
MT103 ( $\alpha,p$ ) >>



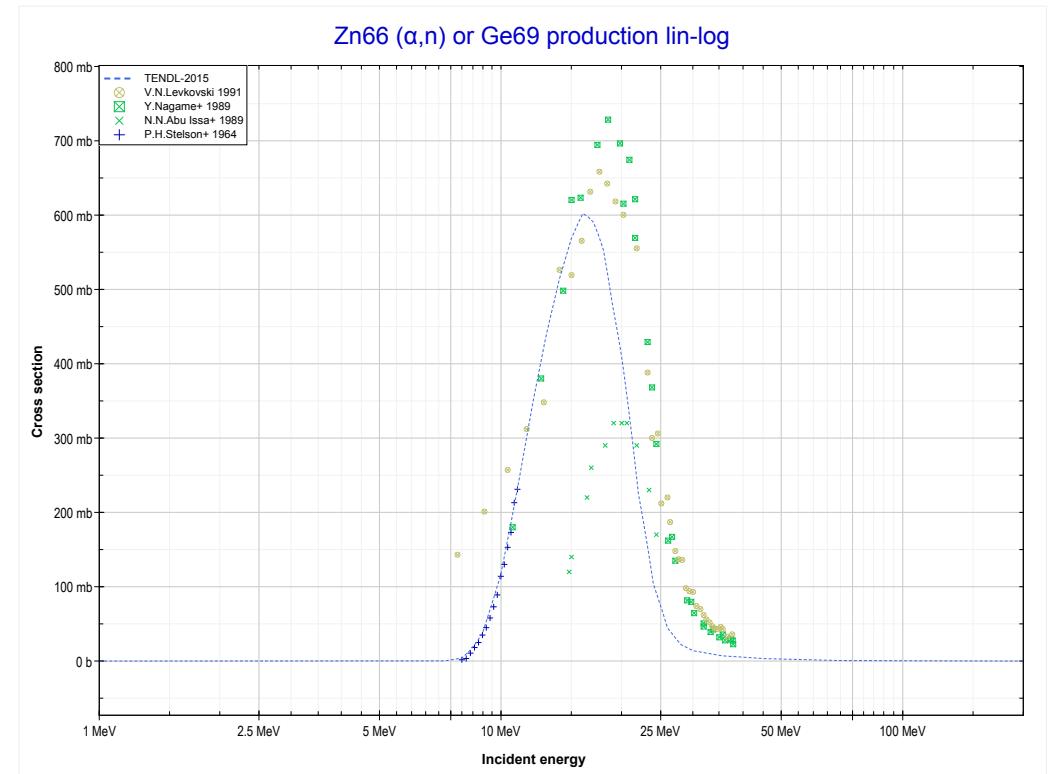
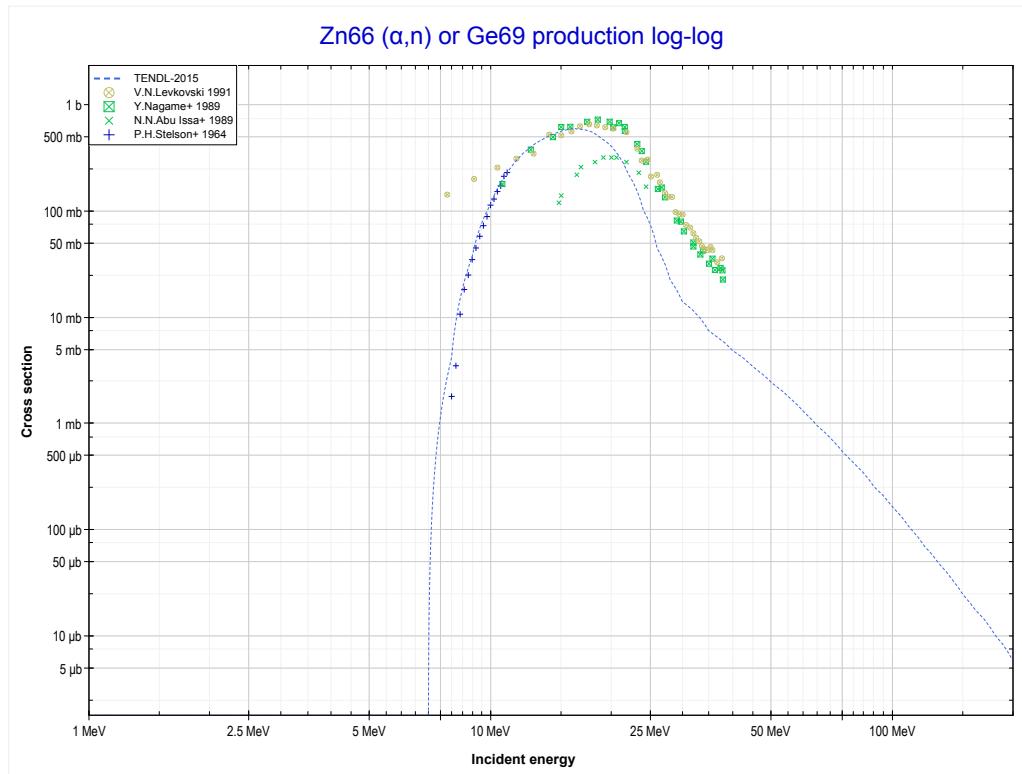
Reaction	Q-Value
Zn64( $\alpha,\gamma$ )Ge68	3399.92 keV

<< 28-Ni-64	<b>30-Zn-64</b> MT103 ( $\alpha,p$ ) or MT5 (Ga67 production)	30-Zn-70 >>
<< MT102 ( $\alpha,\gamma$ )		30-Zn-66 MT4 ( $\alpha,n$ ) >>



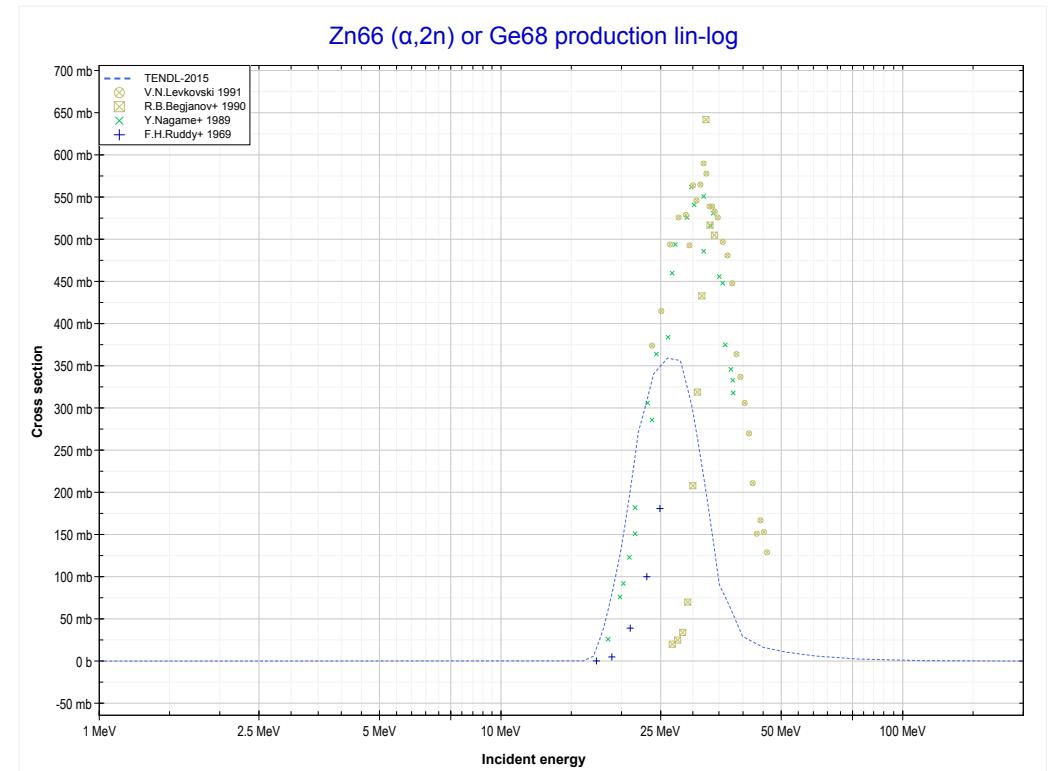
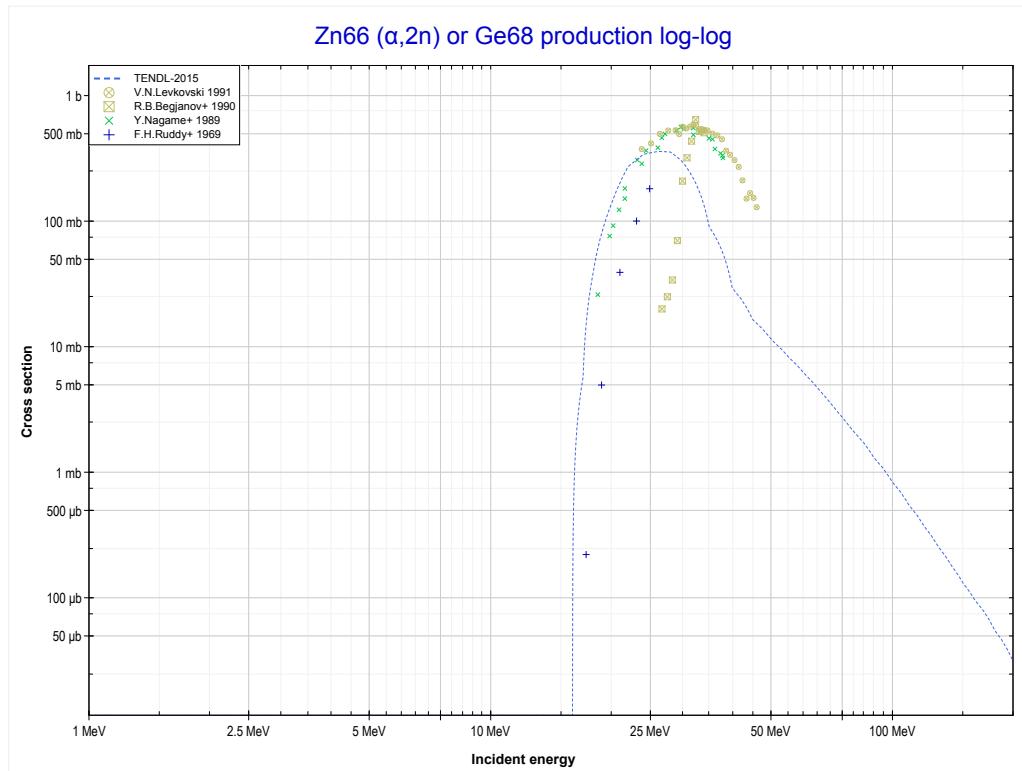
Reaction	Q-Value
Zn64( $\alpha,p$ )Ga67	-3988.95 keV

<< 30-Zn-64	<b>30-Zn-66</b> MT4 ( $\alpha, n$ ) or MT5 (Ge69 production)	>> 30-Zn-68
<< 30-Zn-64 MT103 ( $\alpha, p$ )		MT16 ( $\alpha, 2n$ ) >>



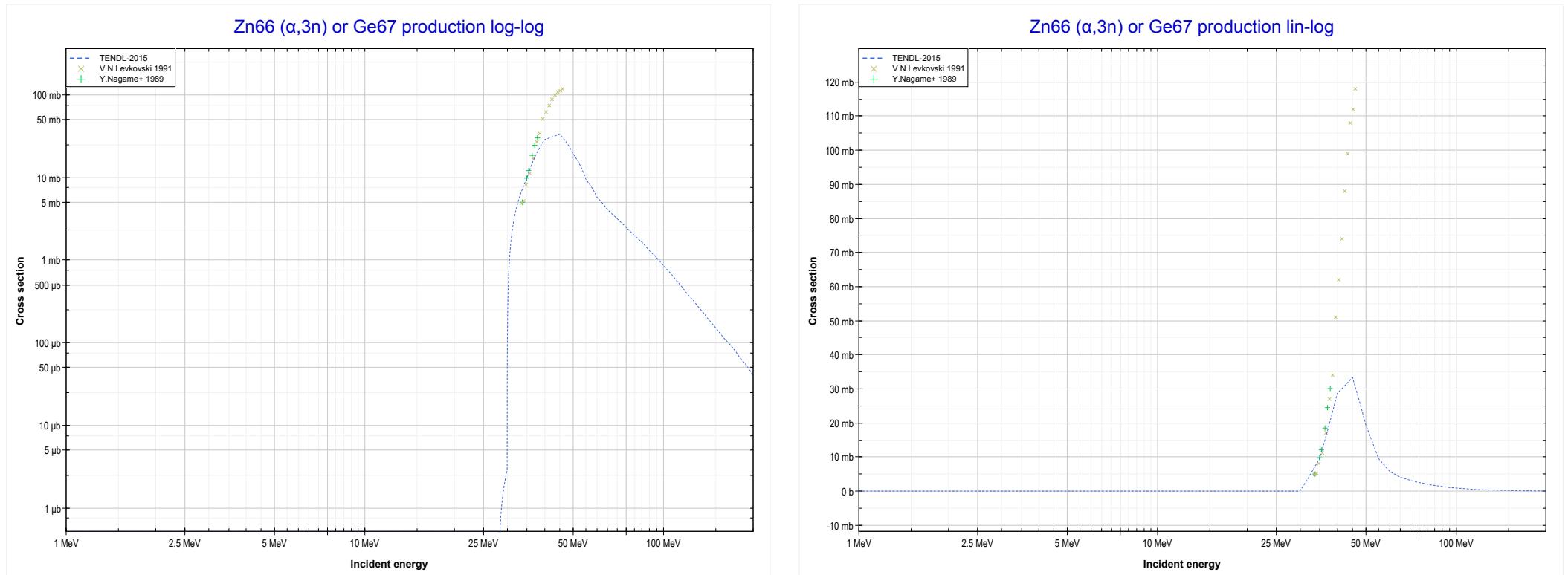
Reaction	Q-Value
Zn66( $\alpha, n$ )Ge69	-7444.80 keV

<< 30-Zn-64	<b>30-Zn-66</b> MT16 ( $\alpha,2n$ ) or MT5 (Ge68 production)	>> 30-Zn-67
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



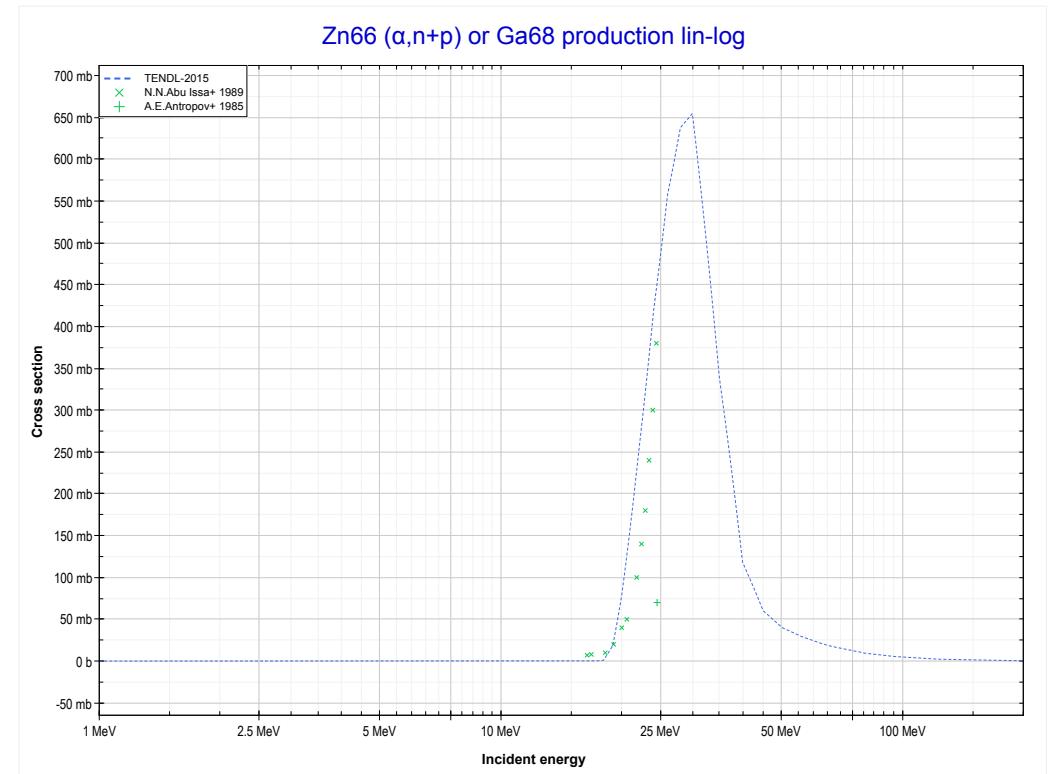
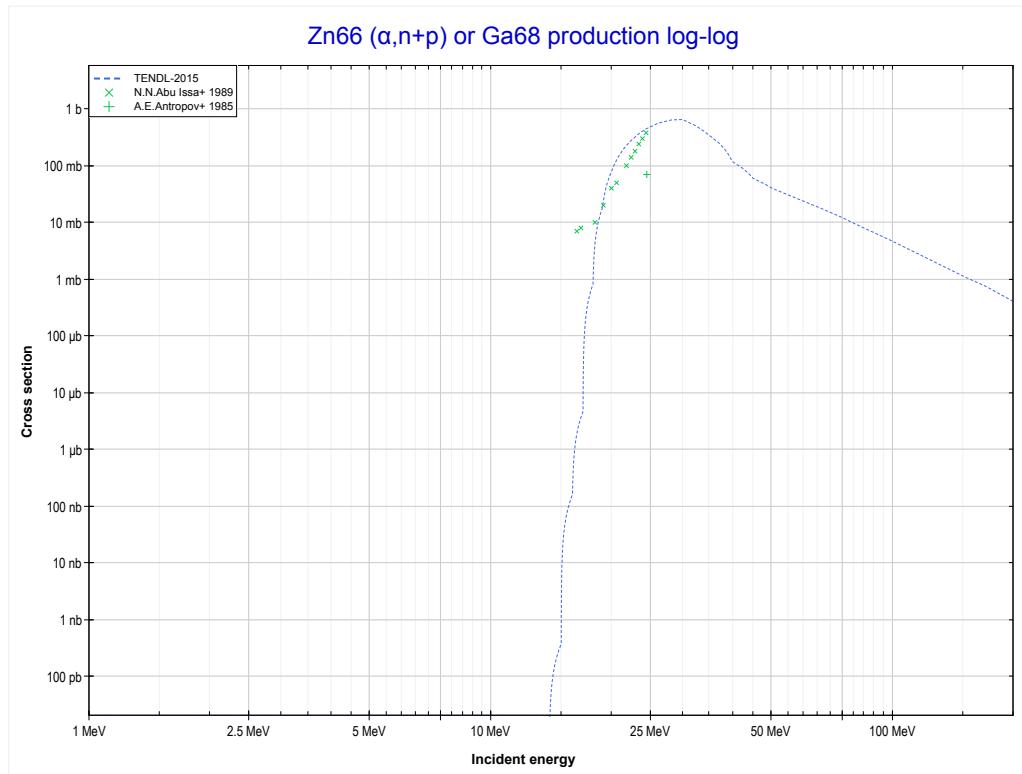
Reaction	Q-Value
Zn66( $\alpha,2n$ )Ge68	-15638.02 keV

<< 30-Zn-64	<b>30-Zn-66</b> MT17 ( $\alpha,3n$ ) or MT5 (Ge67 production)	>> 30-Zn-67 >>
<< MT16 ( $\alpha,2n$ )		MT28 ( $\alpha,n+p$ ) >>



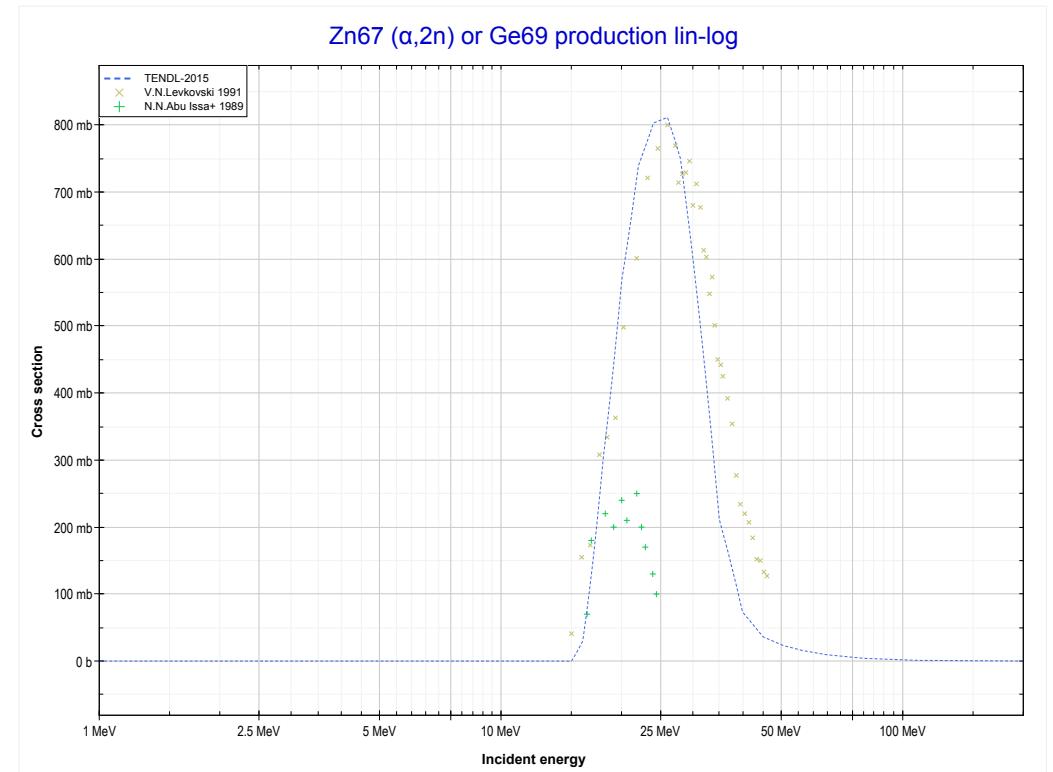
Reaction	Q-Value
Zn66( $\alpha,3n$ )Ge67	-28030.14 keV

<< 30-Zn-64	<b>30-Zn-66</b> MT28 ( $\alpha, n+p$ ) or MT5 (Ga68 production)	30-Zn-68 >>
<< MT17 ( $\alpha, 3n$ )		30-Zn-67 MT16 ( $\alpha, 2n$ ) >>



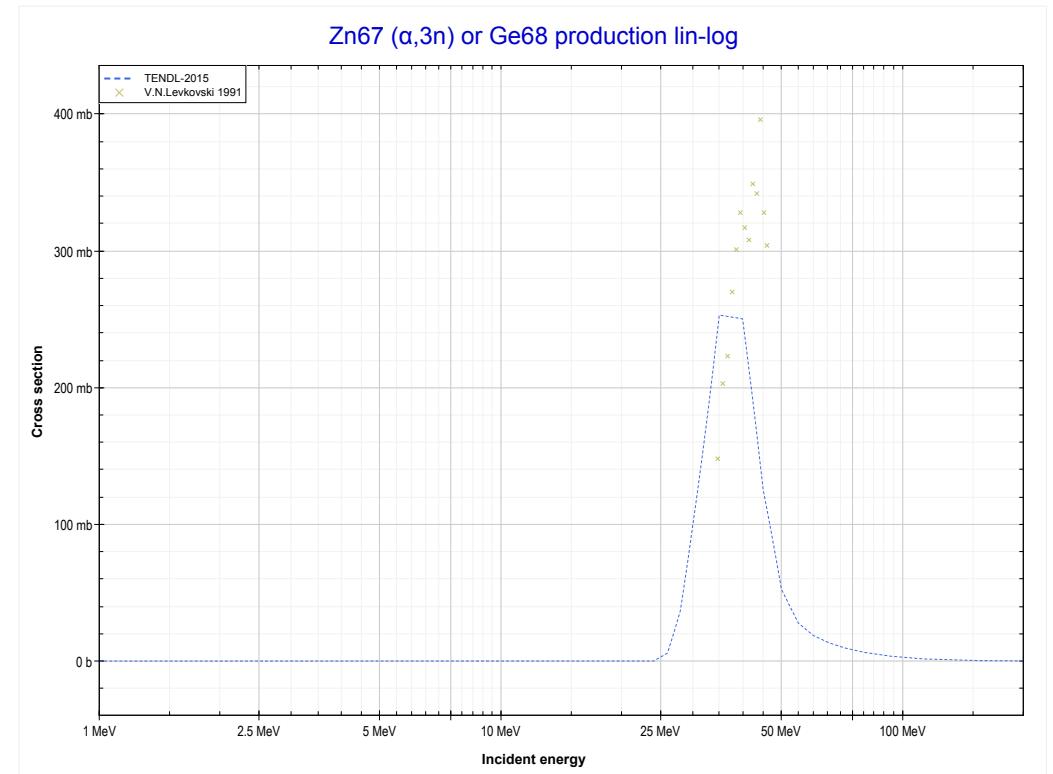
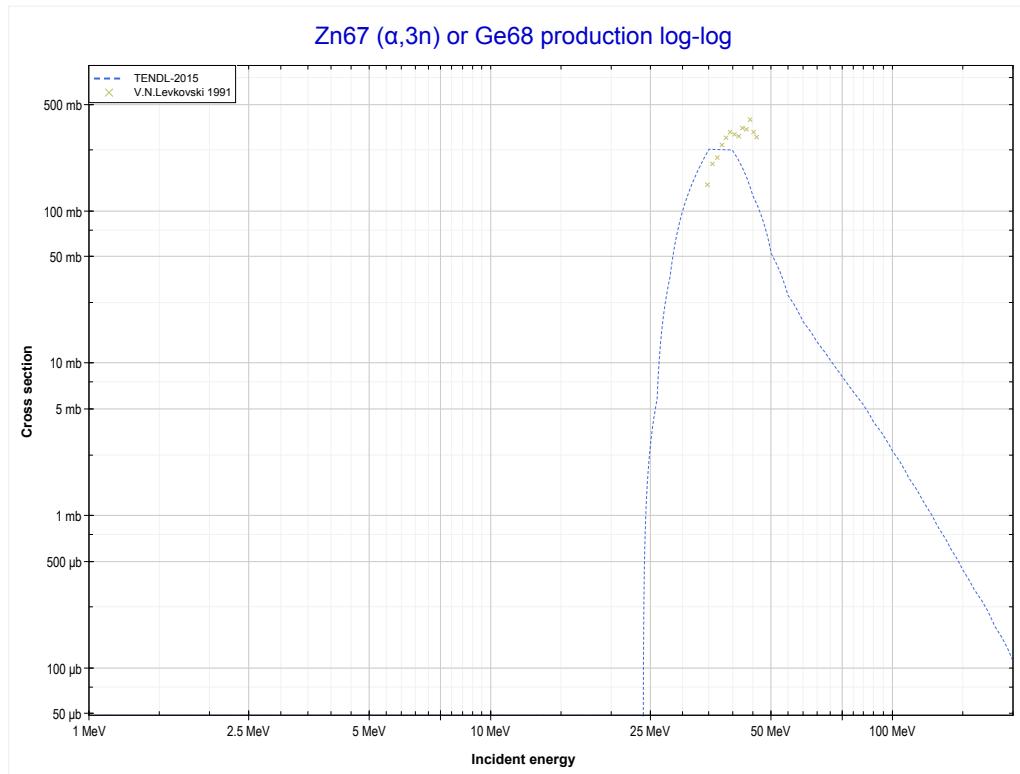
Reaction	Q-Value
Zn66( $\alpha, d$ )Ga68	-12524.21 keV
Zn66( $\alpha, n+p$ )Ga68	-14748.77 keV

<< 30-Zn-66	<b>30-Zn-67</b> MT16 ( $\alpha,2n$ ) or MT5 (Ge69 production)	31-Ga-69 >>
<< 30-Zn-66 MT28 ( $\alpha,n+p$ )		MT17 ( $\alpha,3n$ ) >>



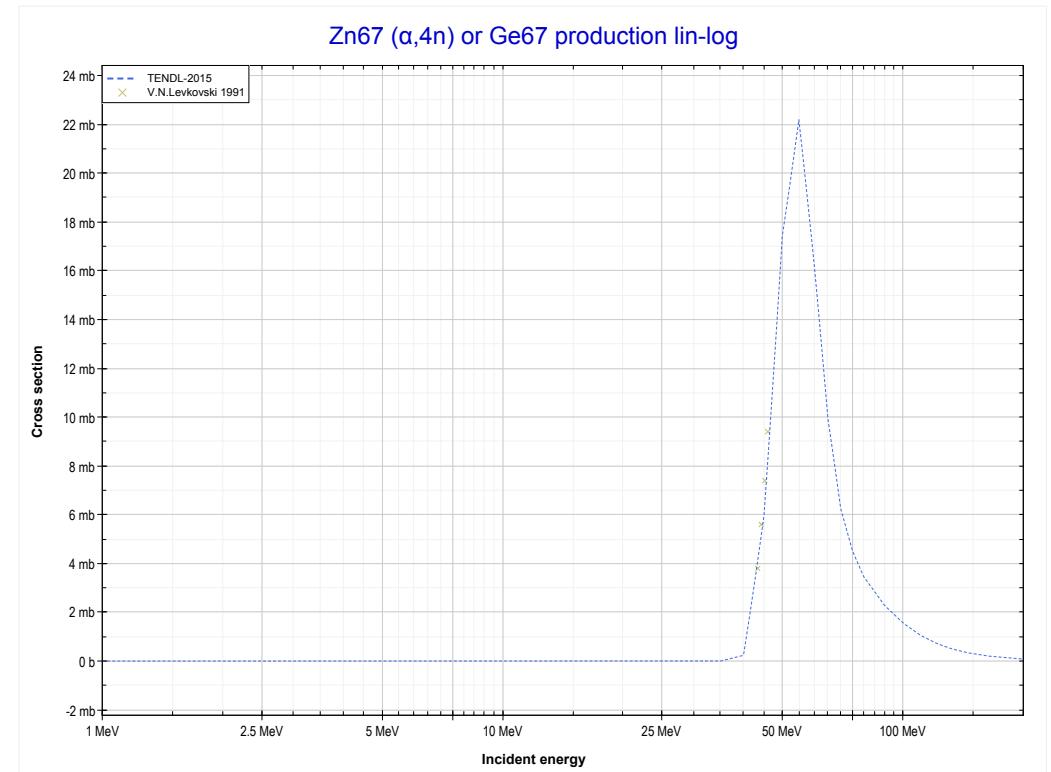
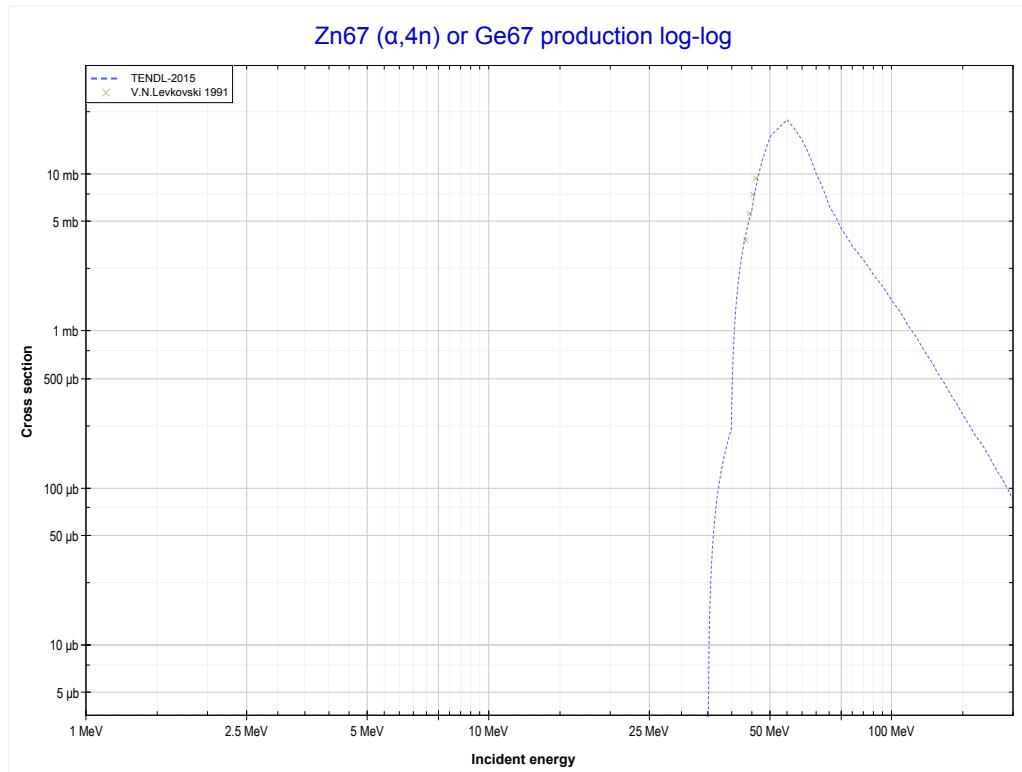
Reaction	Q-Value
Zn67( $\alpha,2n$ )Ge69	-14497.12 keV

<< 30-Zn-66	<b>30-Zn-67</b> MT17 ( $\alpha,3n$ ) or MT5 (Ge68 production)	30-Zn-68 >>
<< MT16 ( $\alpha,2n$ )		MT37 ( $\alpha,4n$ ) >>



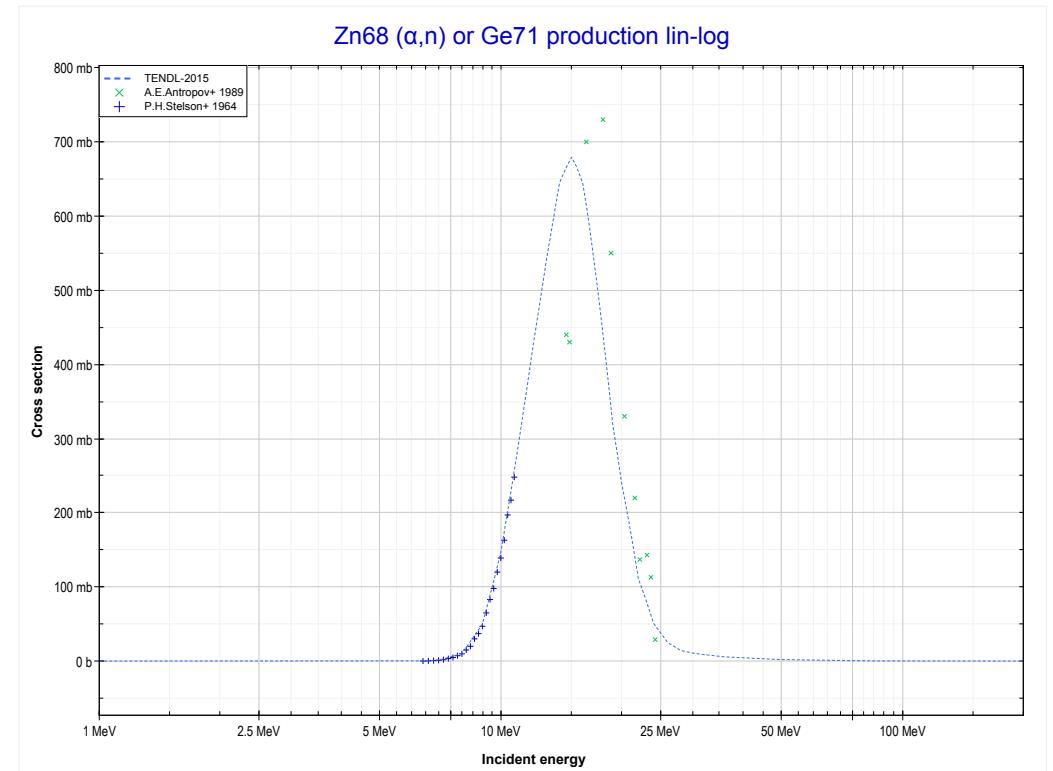
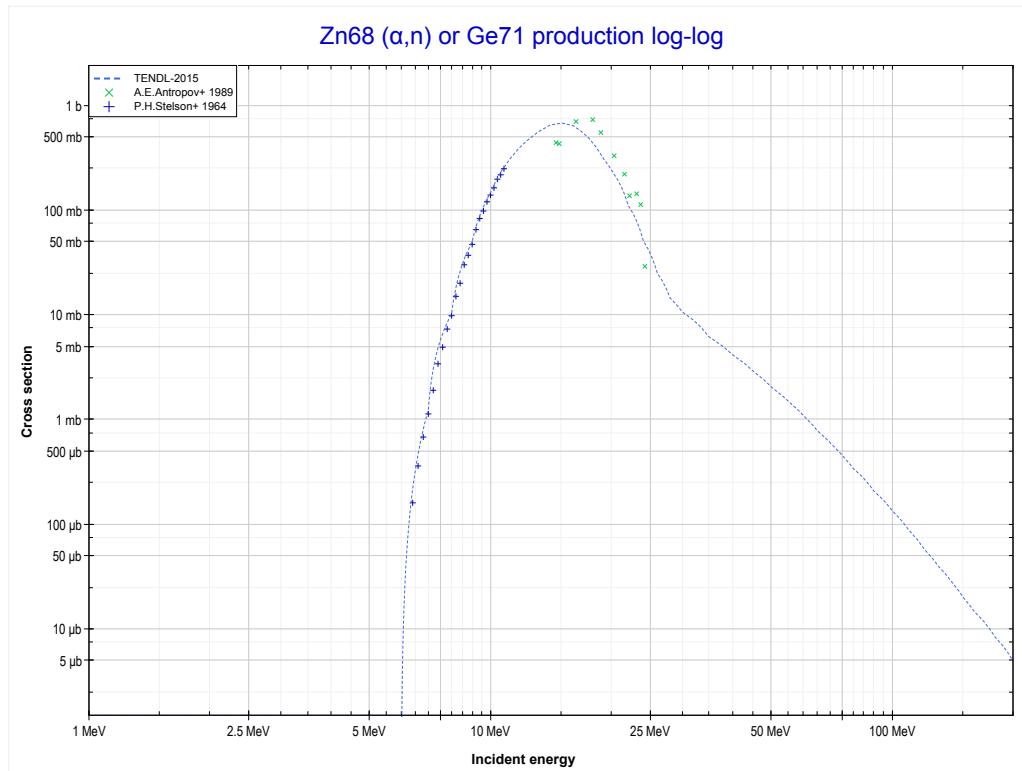
Reaction	Q-Value
Zn67( $\alpha,3n$ )Ge68	-22690.34 keV

<< 26-Fe-56	<b>30-Zn-67</b> MT37 ( $\alpha$ ,4n) or MT5 (Ge67 production)	31-Ga-71 >>
<< MT17 ( $\alpha$ ,3n)		30-Zn-68 MT4 ( $\alpha$ ,n) >>



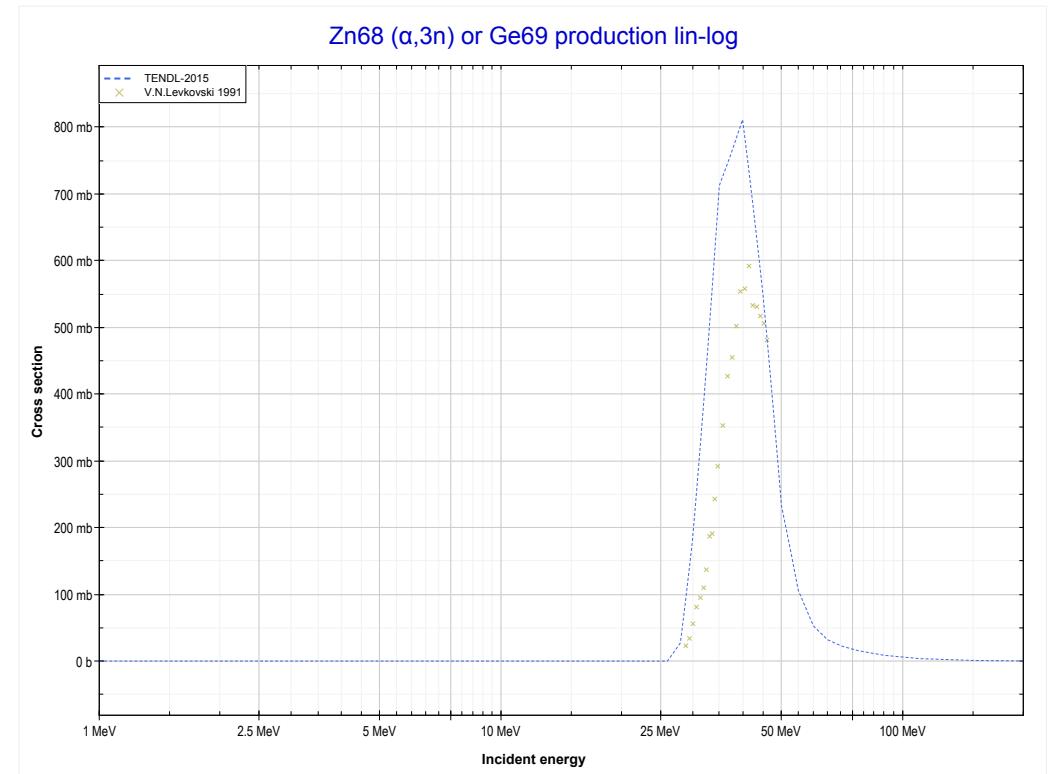
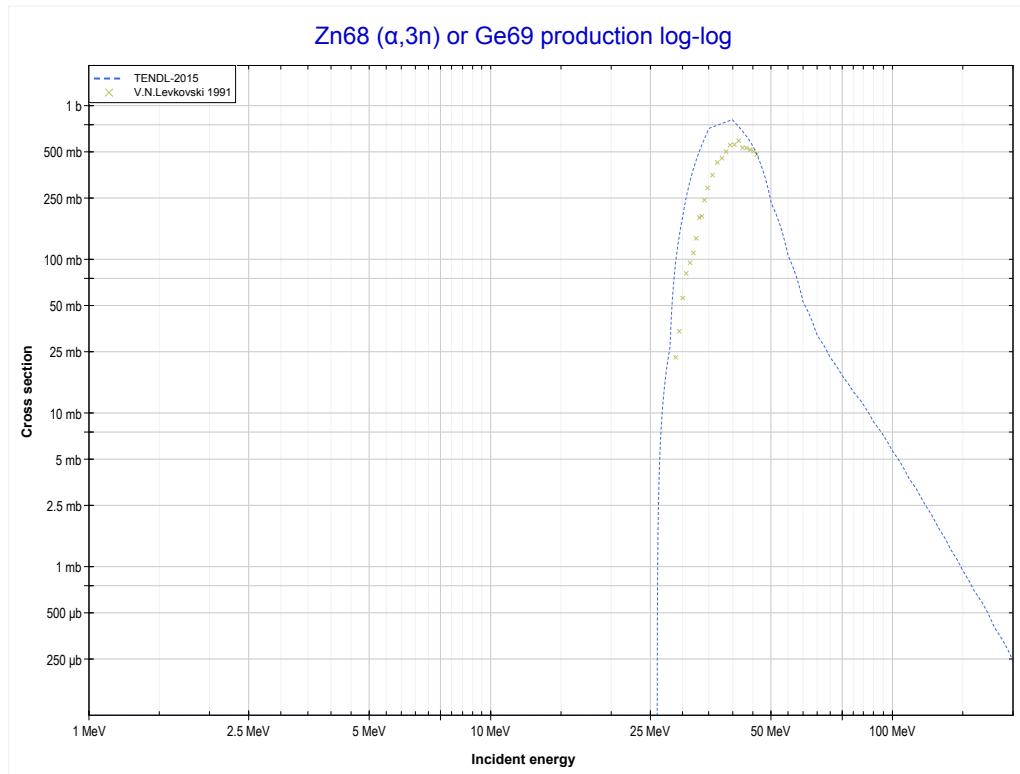
Reaction	Q-Value
Zn67( $\alpha$ ,4n)Ge67	-35082.45 keV

<< 30-Zn-66	<b>30-Zn-68</b> MT4 ( $\alpha, n$ ) or MT5 (Ge71 production)	31-Ga-69 >>
<< 30-Zn-67 MT37 ( $\alpha, 4n$ )		MT17 ( $\alpha, 3n$ ) >>



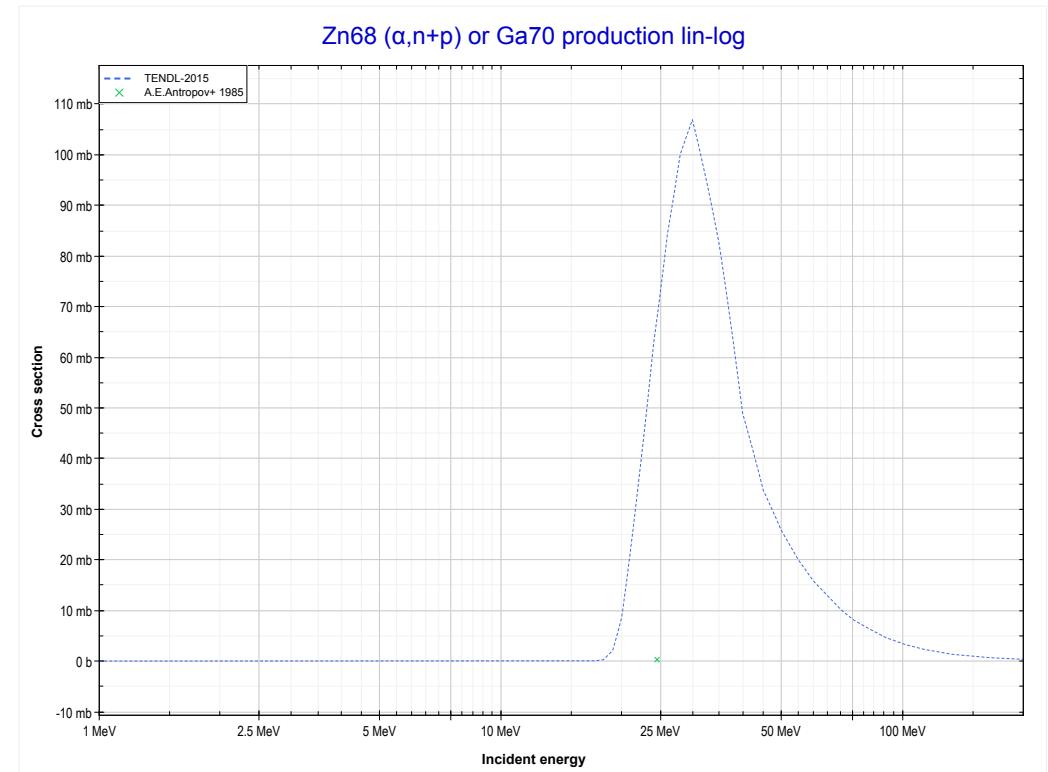
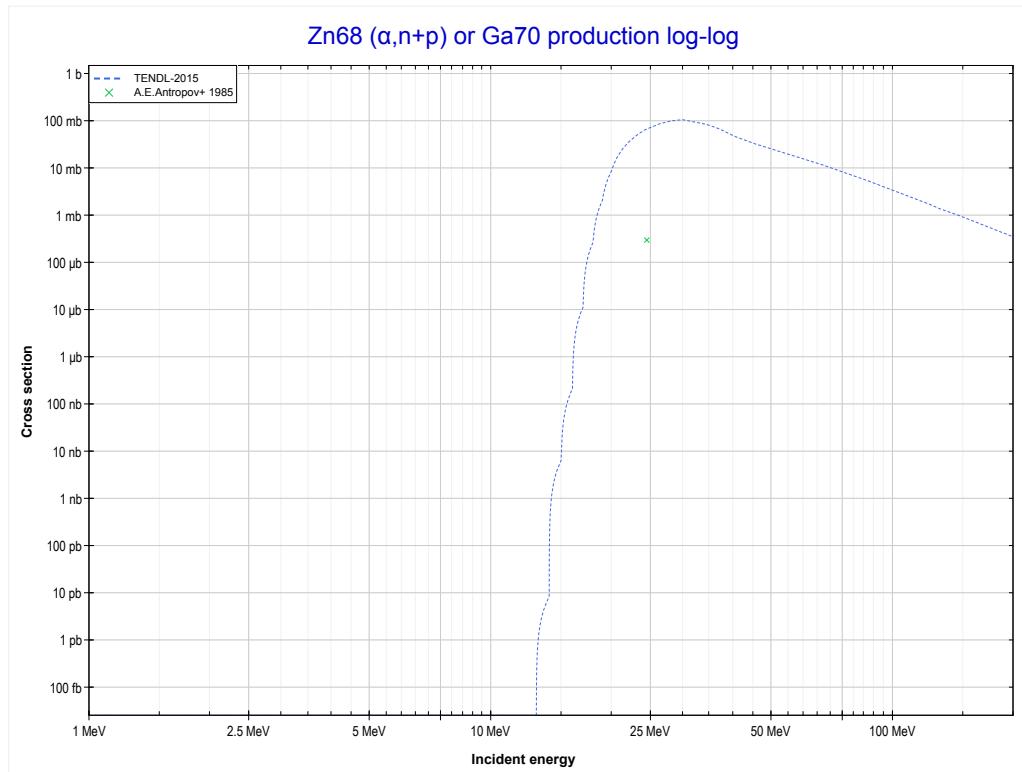
Reaction	Q-Value
Zn68( $\alpha, n$ )Ge71	-5746.70 keV

<< 30-Zn-67	<b>30-Zn-68</b> MT17 ( $\alpha,3n$ ) or MT5 (Ge69 production)	31-Ga-69 >>
<< MT4 ( $\alpha,n$ )		MT28 ( $\alpha,n+p$ ) >>



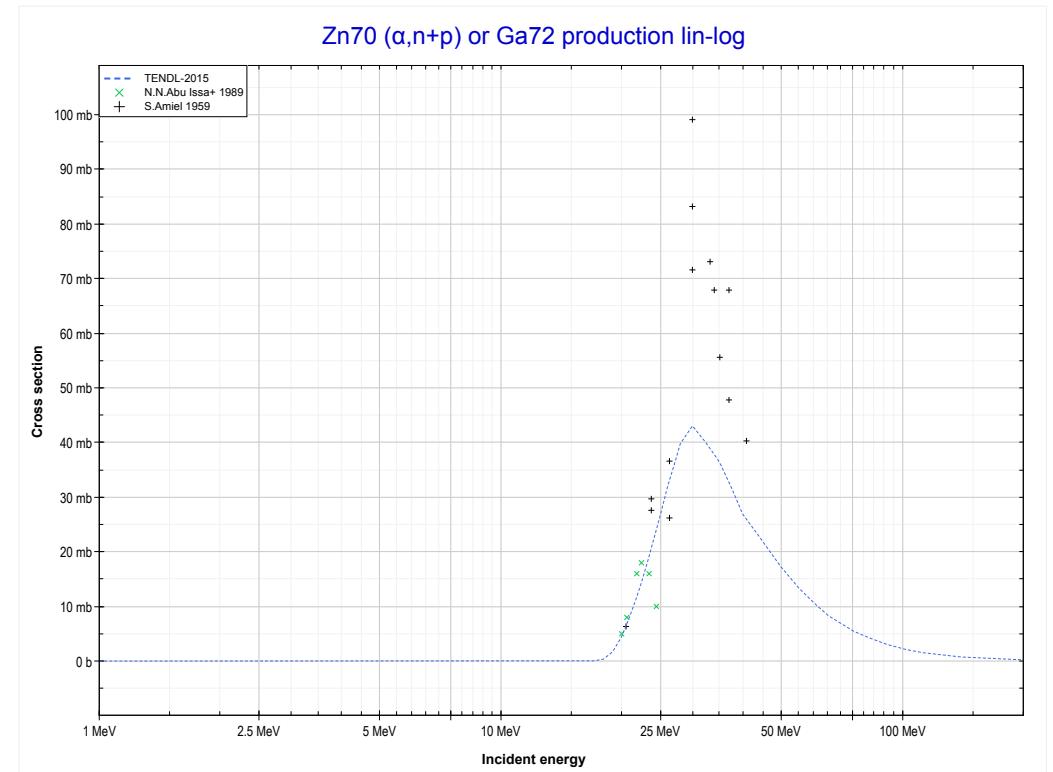
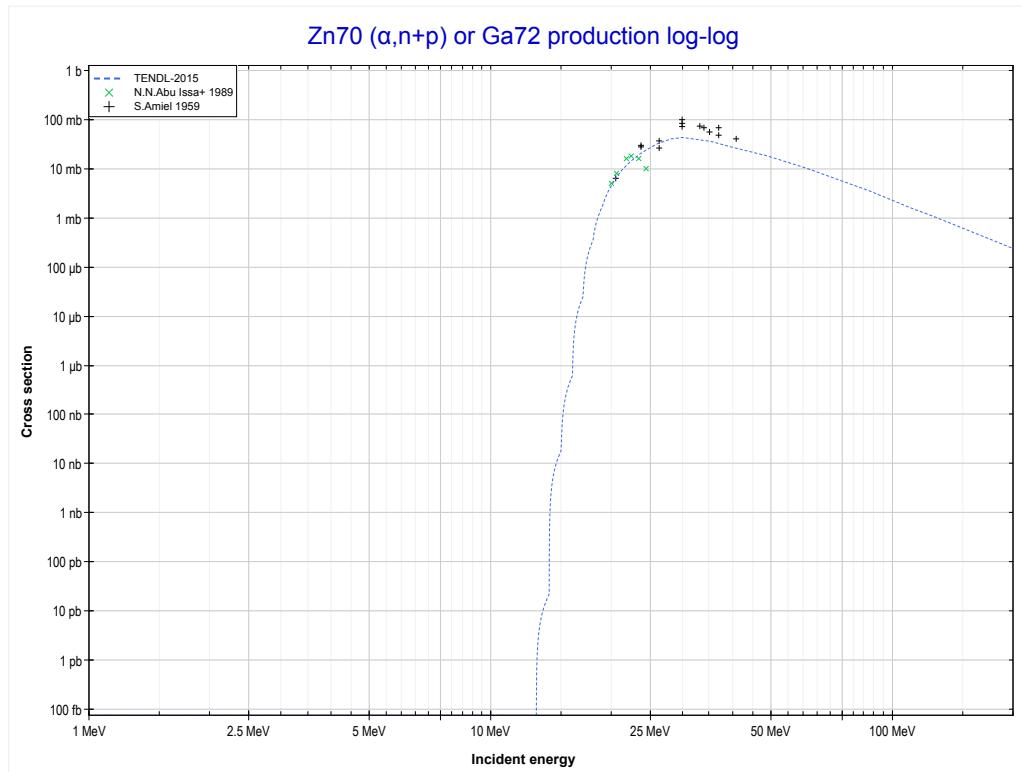
Reaction	Q-Value
Zn68( $\alpha,3n$ )Ge69	-24695.14 keV

<< 30-Zn-66	<b>30-Zn-68</b> MT28 ( $\alpha, n+p$ ) or MT5 (Ga70 production)	30-Zn-70 >>
<< MT17 ( $\alpha, 3n$ )		30-Zn-70 MT28 ( $\alpha, n+p$ ) >>



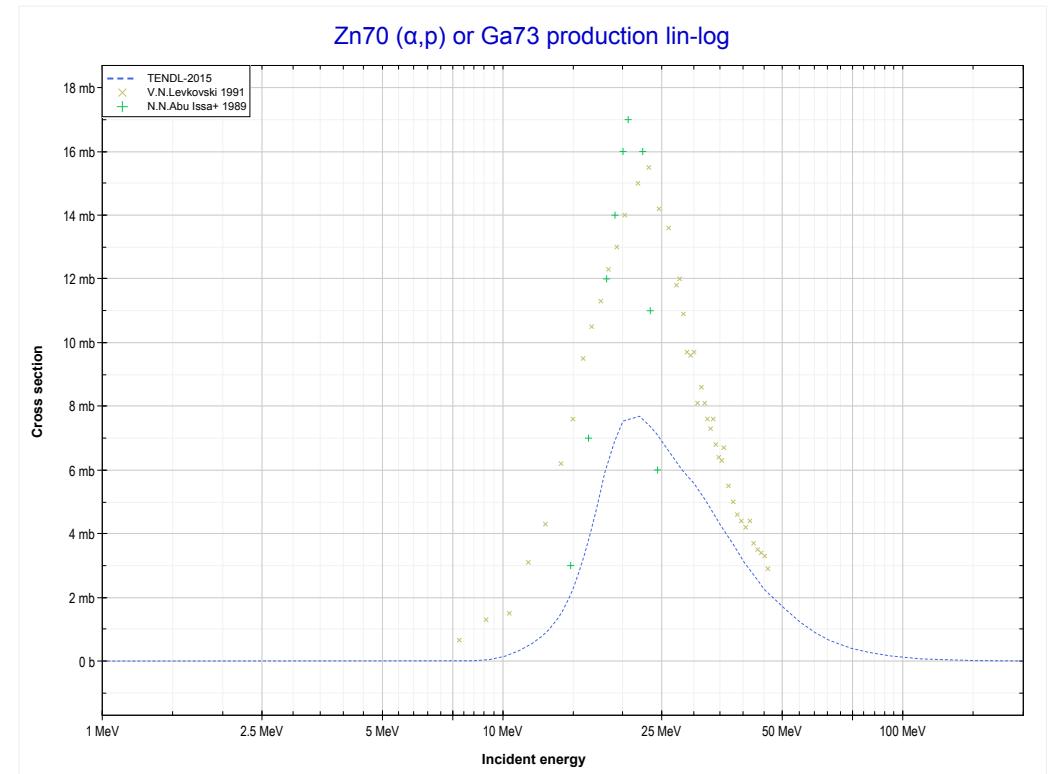
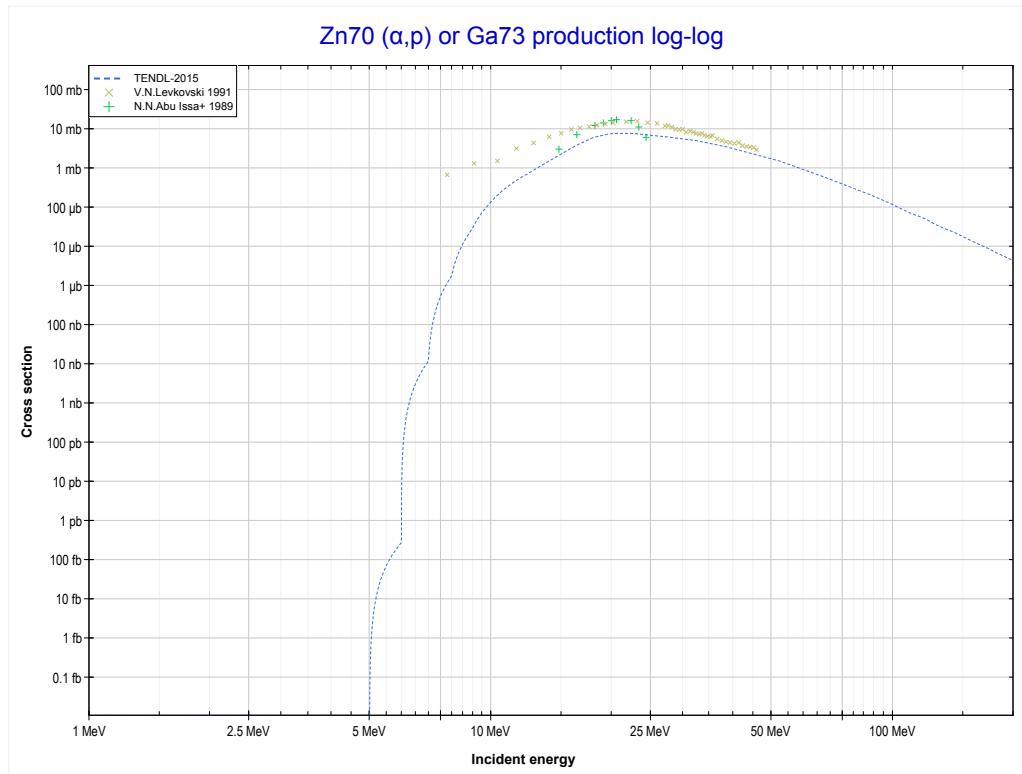
Reaction	Q-Value
Zn68( $\alpha, d$ )Ga70	-11807.51 keV
Zn68( $\alpha, n+p$ )Ga70	-14032.07 keV

<< 30-Zn-68	<b>30-Zn-70</b> MT28 ( $\alpha, n+p$ ) or MT5 (Ga72 production)	32-Ge-70 >>
<< 30-Zn-68 MT28 ( $\alpha, n+p$ )		MT103 ( $\alpha, p$ ) >>



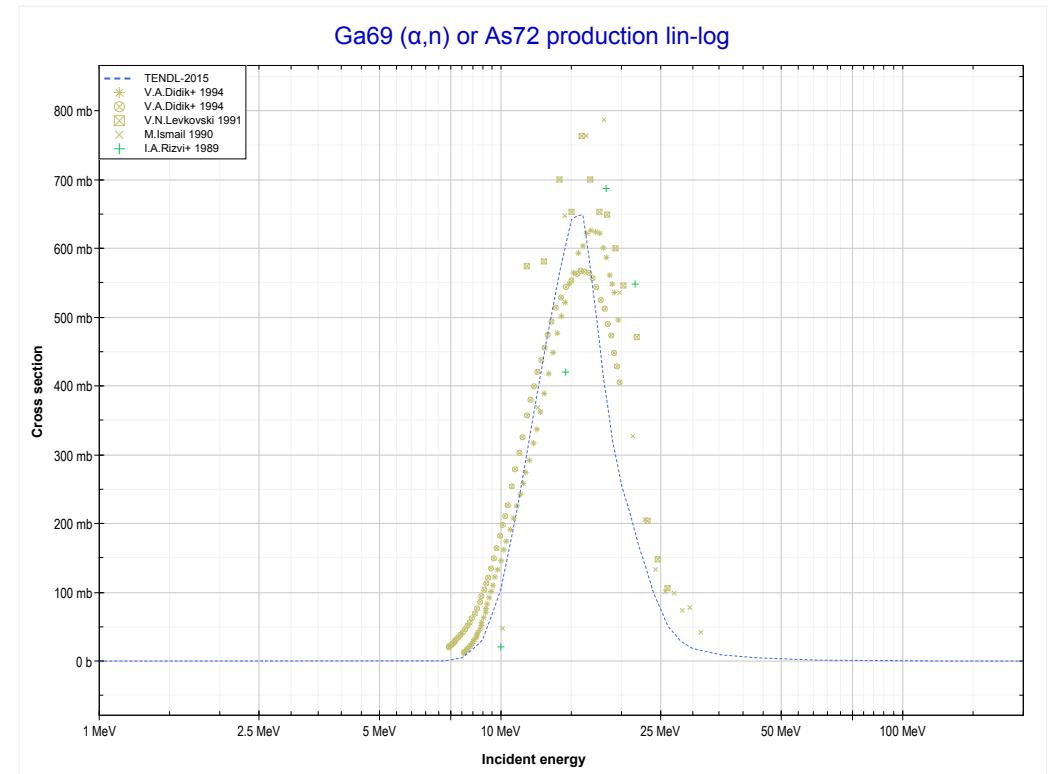
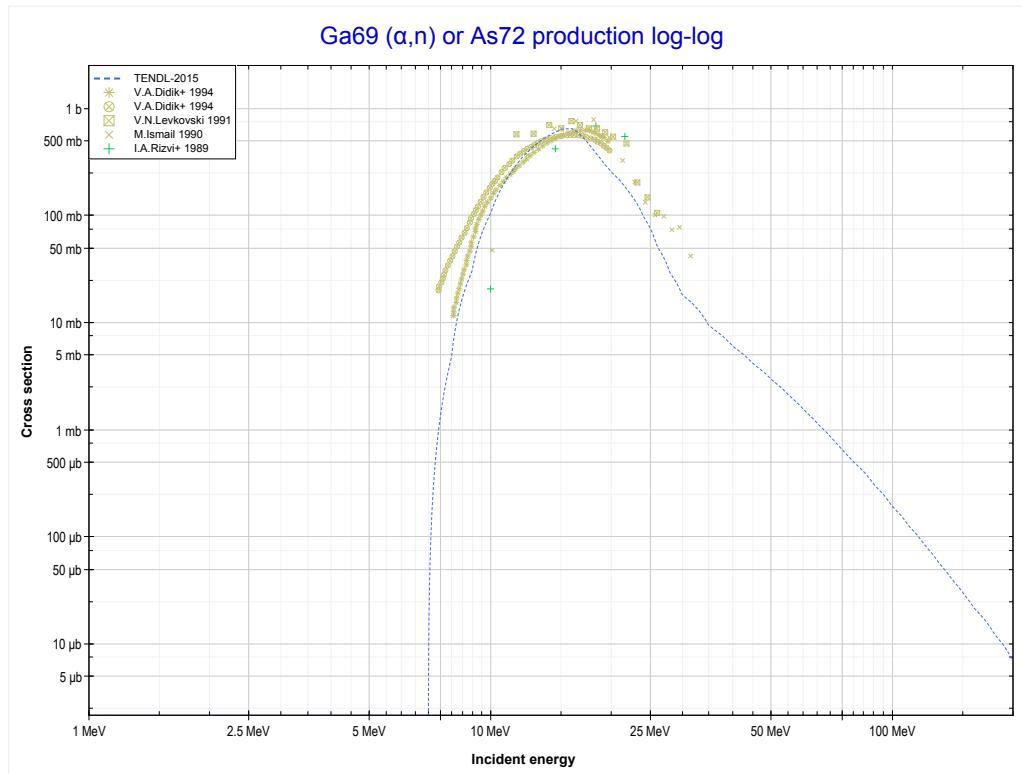
Reaction	Q-Value
Zn70( $\alpha, d$ )Ga72	-11687.21 keV
Zn70( $\alpha, n+p$ )Ga72	-13911.77 keV

<< 30-Zn-64	<b>30-Zn-70</b> MT103 ( $\alpha,p$ ) or MT5 (Ga73 production)	32-Ge-74 >>
<< MT28 ( $\alpha,n+p$ )		31-Ga-69 MT4 ( $\alpha,n$ ) >>



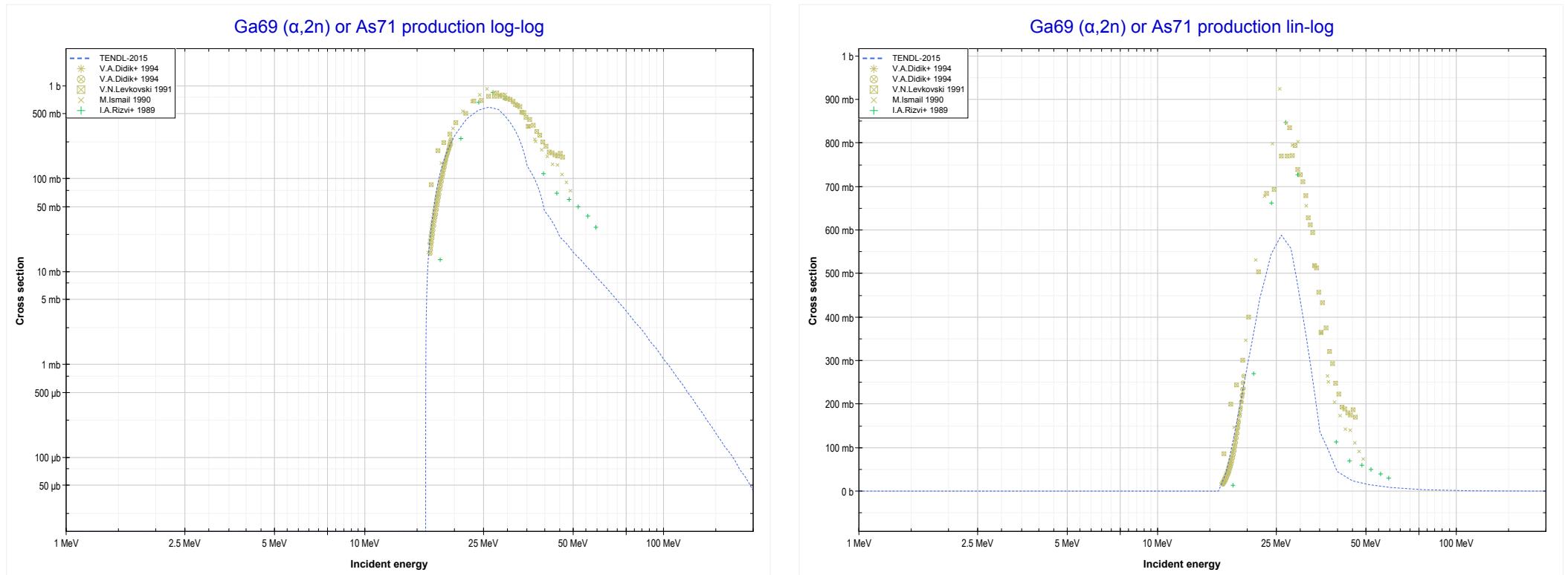
Reaction	Q-Value
Zn70( $\alpha,p$ )Ga73	-4729.45 keV

<< 30-Zn-68	<b>31-Ga-69</b> MT4 ( $\alpha, n$ ) or MT5 (As72 production)	31-Ga-71 >>
<< 30-Zn-70 MT103 ( $\alpha, p$ )		MT16 ( $\alpha, 2n$ ) >>



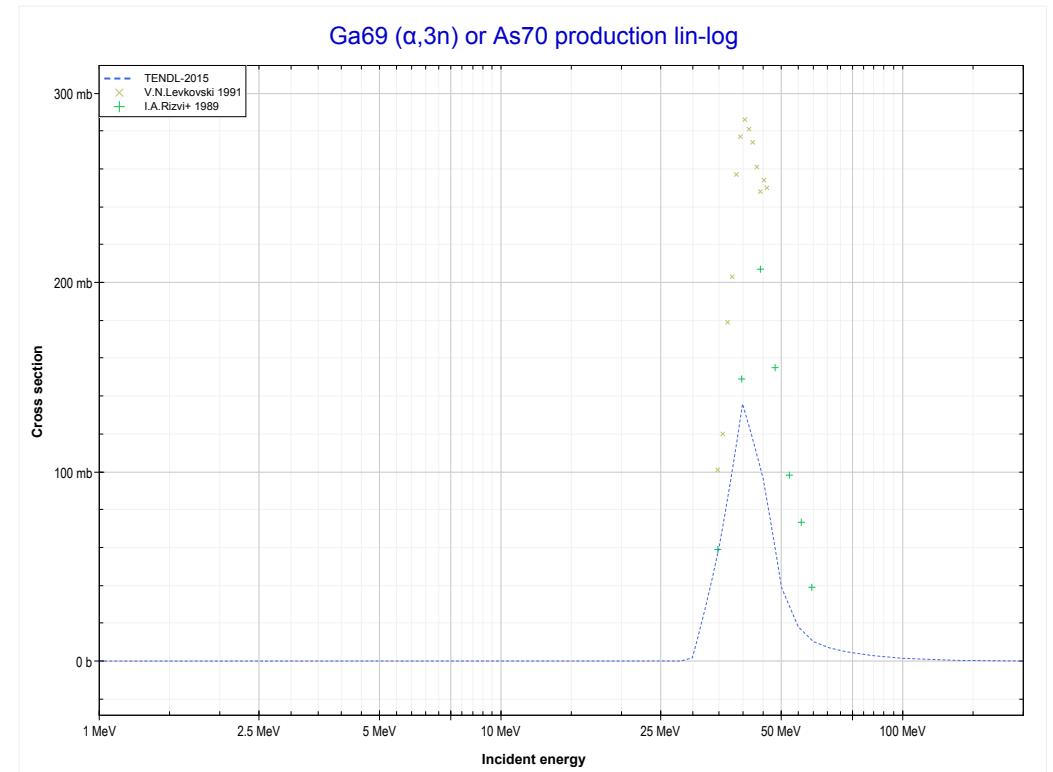
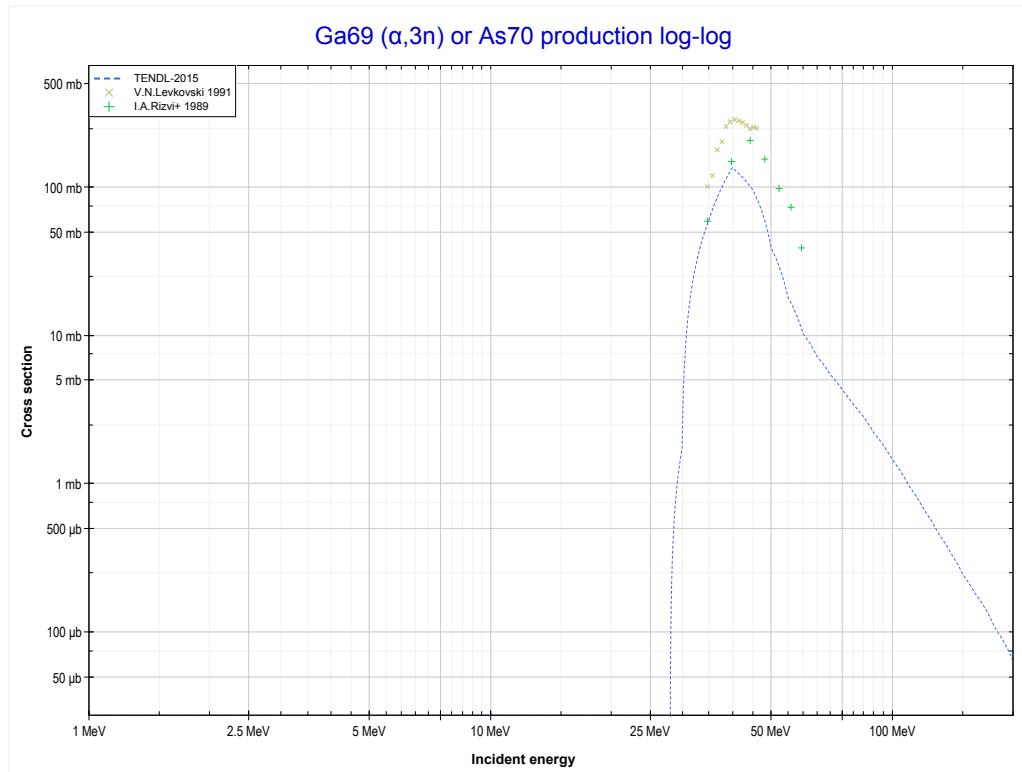
Reaction	Q-Value
Ga69( $\alpha, n$ )As72	-6744.20 keV

<< 30-Zn-67	<b>31-Ga-69</b> MT16 ( $\alpha,2n$ ) or MT5 (As71 production)	32-Ge-70 >>
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



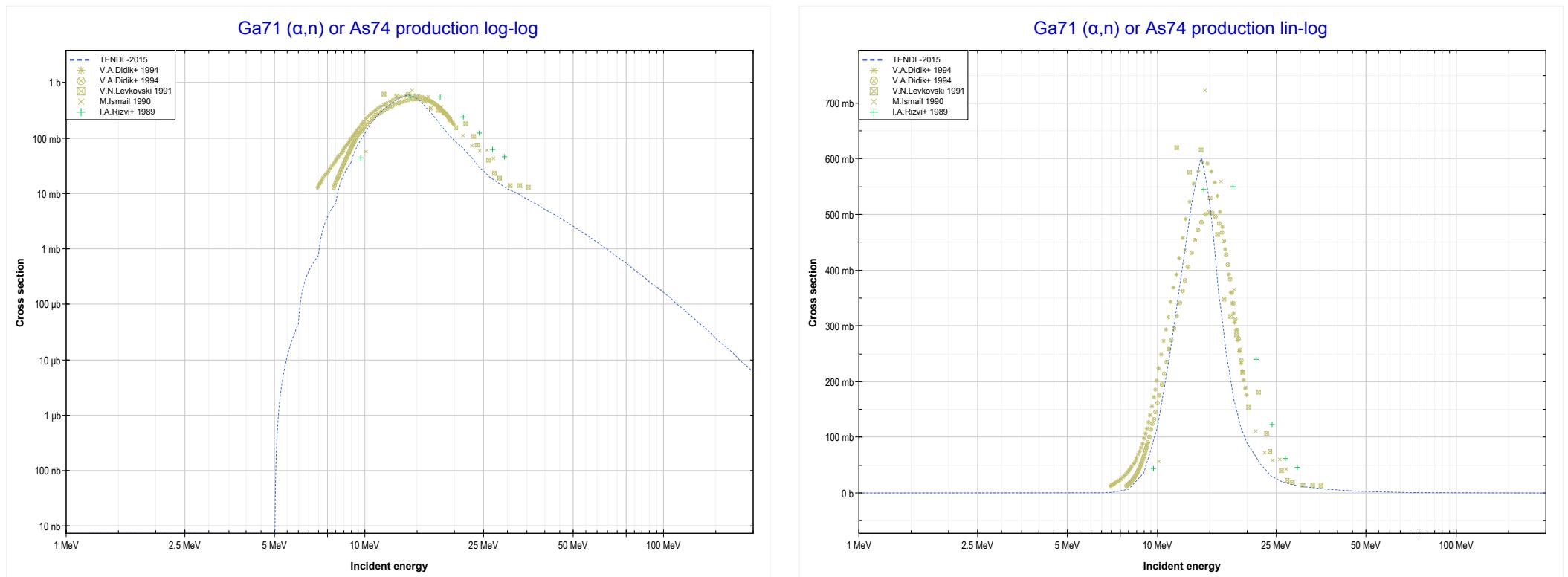
Reaction	Q-Value
Ga69( $\alpha,2n$ )As71	-15152.52 keV

<< 30-Zn-68	<b>31-Ga-69</b> MT17 ( $\alpha,3n$ ) or MT5 (As70 production)	31-Ga-71 >>
<< MT16 ( $\alpha,2n$ )		31-Ga-71 MT4 ( $\alpha,n$ ) >>



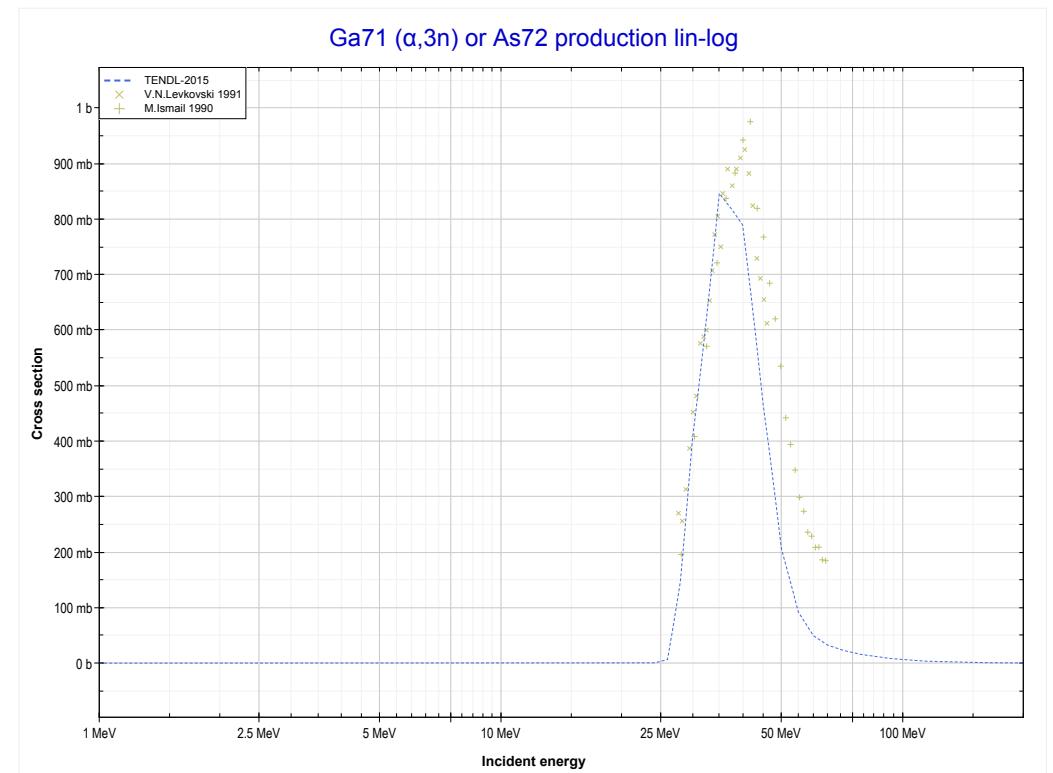
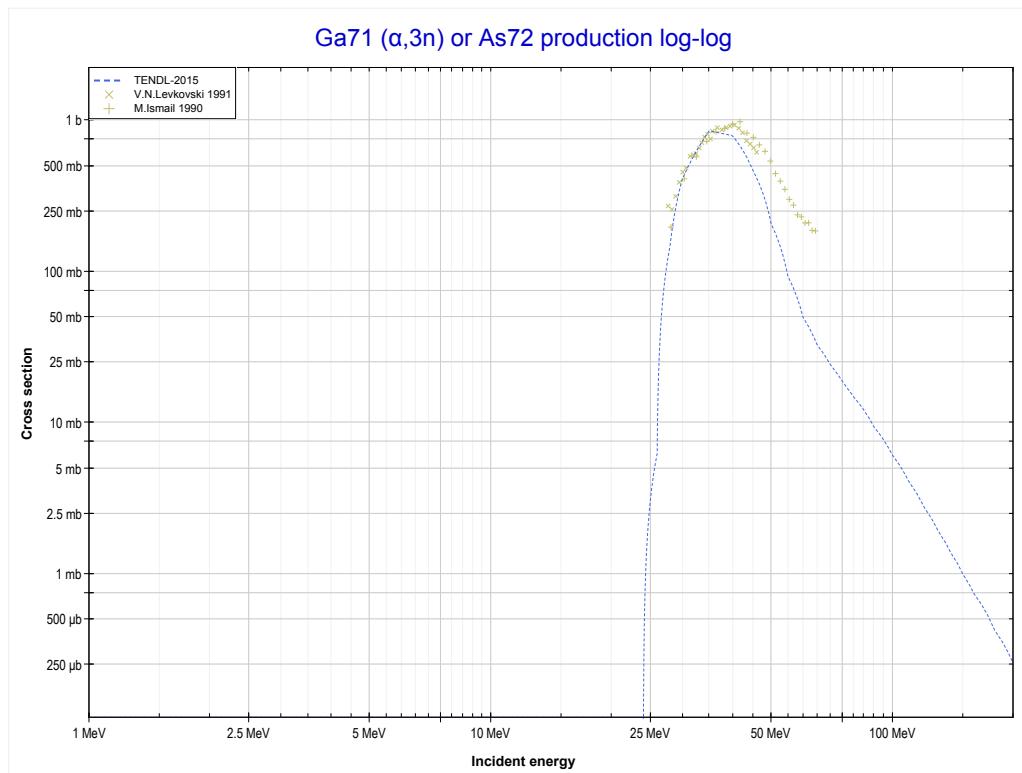
Reaction	Q-Value
Ga69( $\alpha,3n$ )As70	-26776.84 keV

<< 31-Ga-69	<b>31-Ga-71</b>	32-Ge-70 >>
<< 31-Ga-69 MT17 ( $\alpha$ ,3n) >>	<b>MT4 (<math>\alpha</math>,n) or MT5 (As74 production)</b>	MT17 ( $\alpha$ ,3n) >>



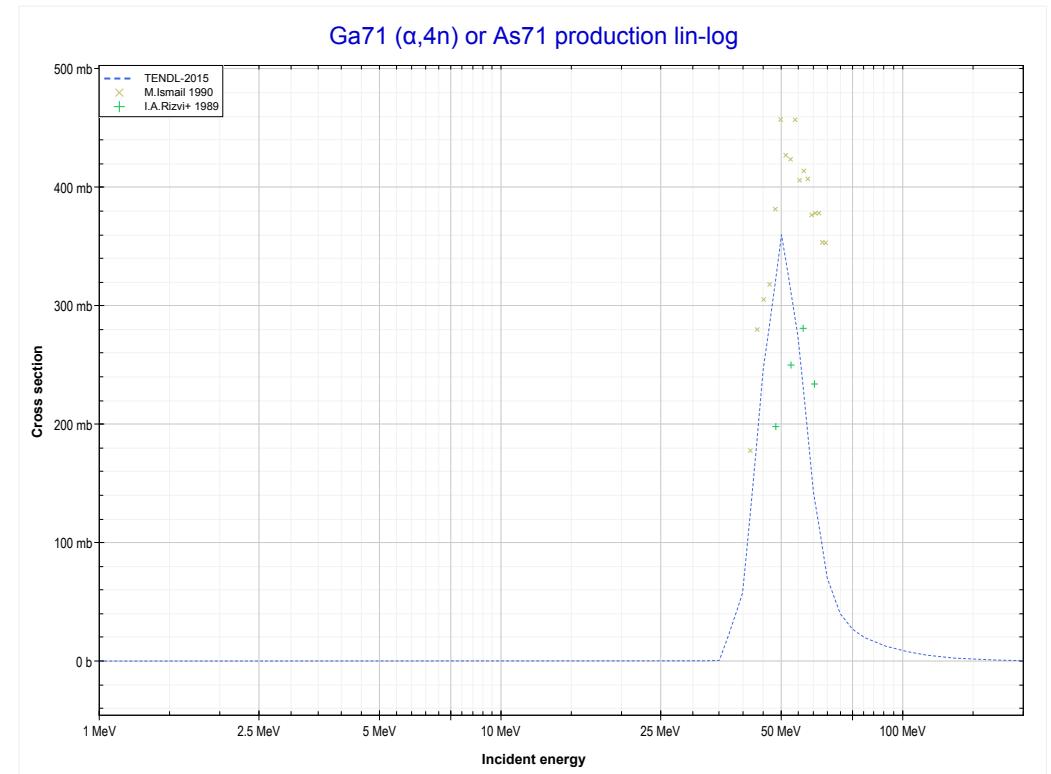
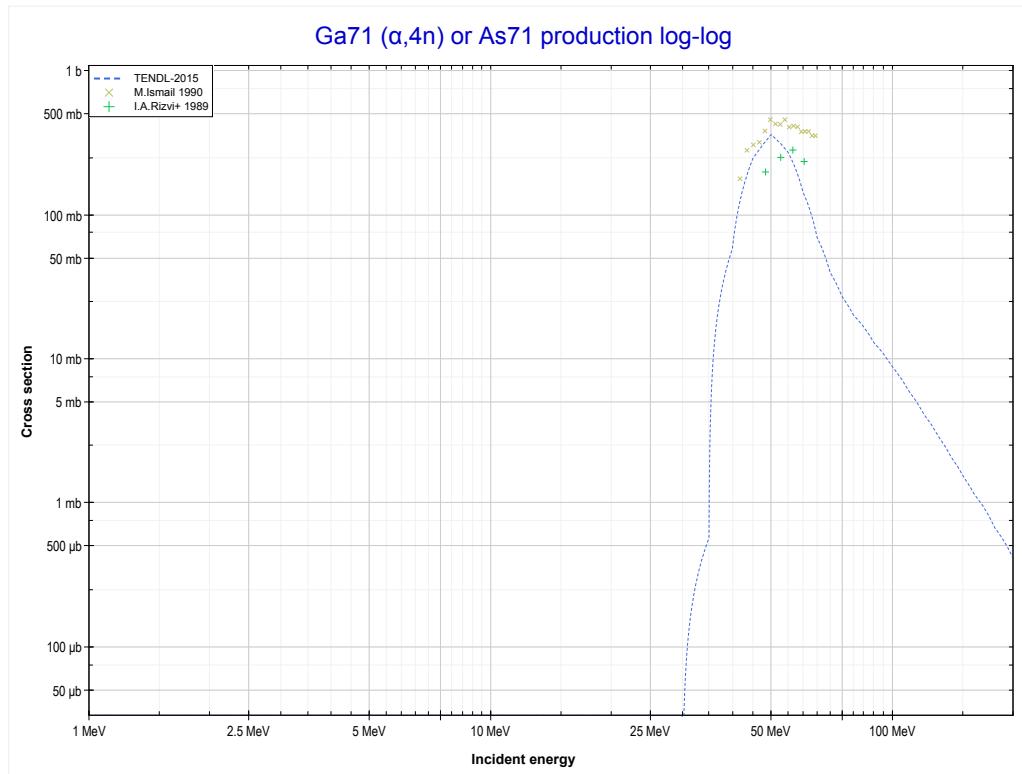
Reaction	Q-Value
Ga71( $\alpha$ ,n)As74	-4925.40 keV

<< 31-Ga-69	<b>31-Ga-71</b> <b>MT17 (<math>\alpha,3n</math>) or MT5 (As72 production)</b>	32-Ge-72 >>
<< MT4 ( $\alpha,n$ )		MT37 ( $\alpha,4n$ ) >>



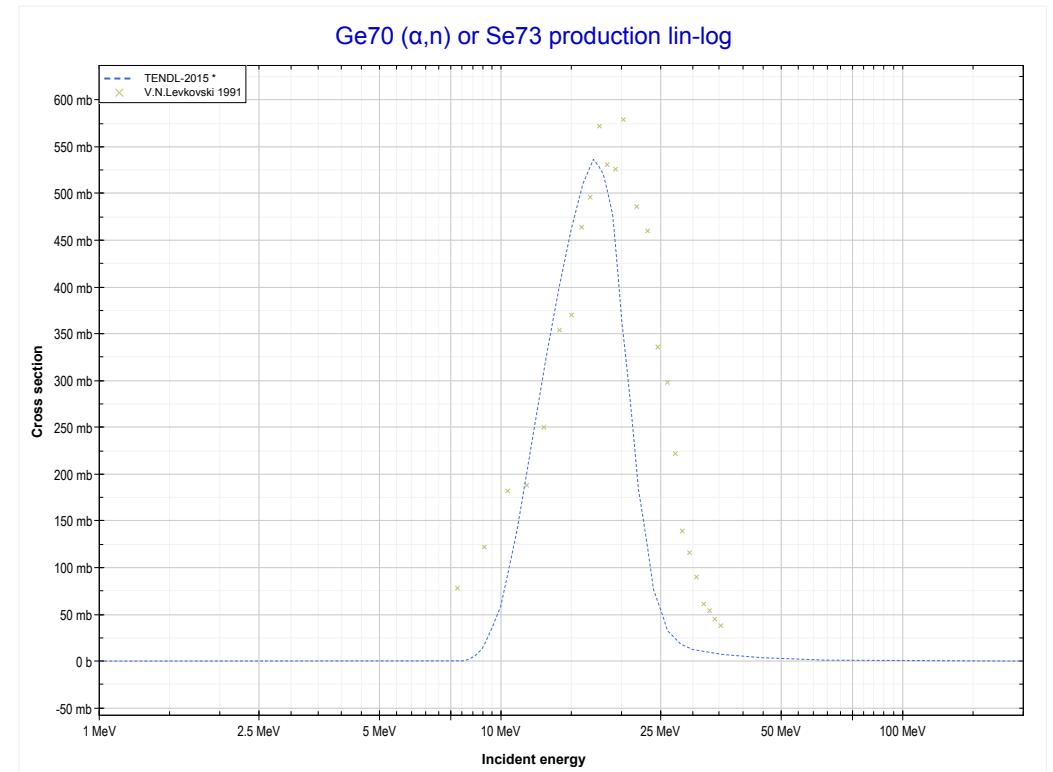
Reaction	Q-Value
Ga71( $\alpha,3n$ )As72	-23698.14 keV

<< 30-Zn-67	<b>31-Ga-71</b> MT37 ( $\alpha,4n$ ) or MT5 (As71 production)	32-Ge-72 >>
<< MT17 ( $\alpha,3n$ )		32-Ge-70 MT4 ( $\alpha,n$ ) >>



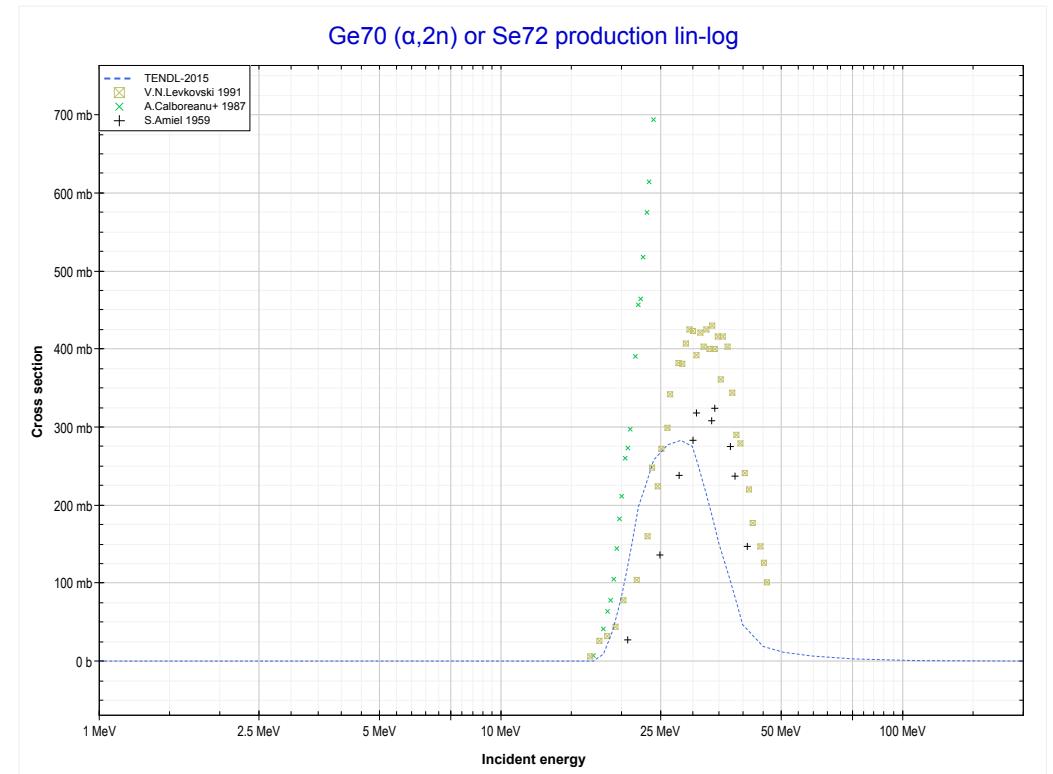
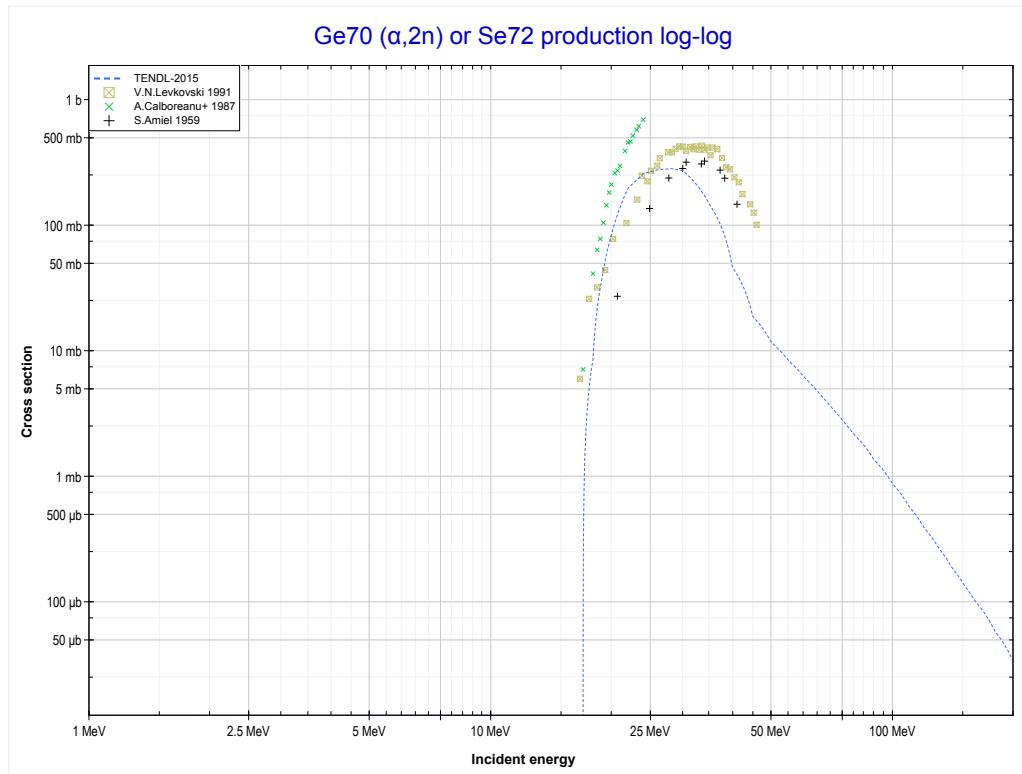
Reaction	Q-Value
Ga71( $\alpha,4n$ )As71	-32106.45 keV

<< 31-Ga-71	<b>32-Ge-70</b> MT4 ( $\alpha, n$ ) or MT5 (Se73 production)	32-Ge-72 >>
<< 31-Ga-71 MT37 ( $\alpha, 4n$ )		MT16 ( $\alpha, 2n$ ) >>



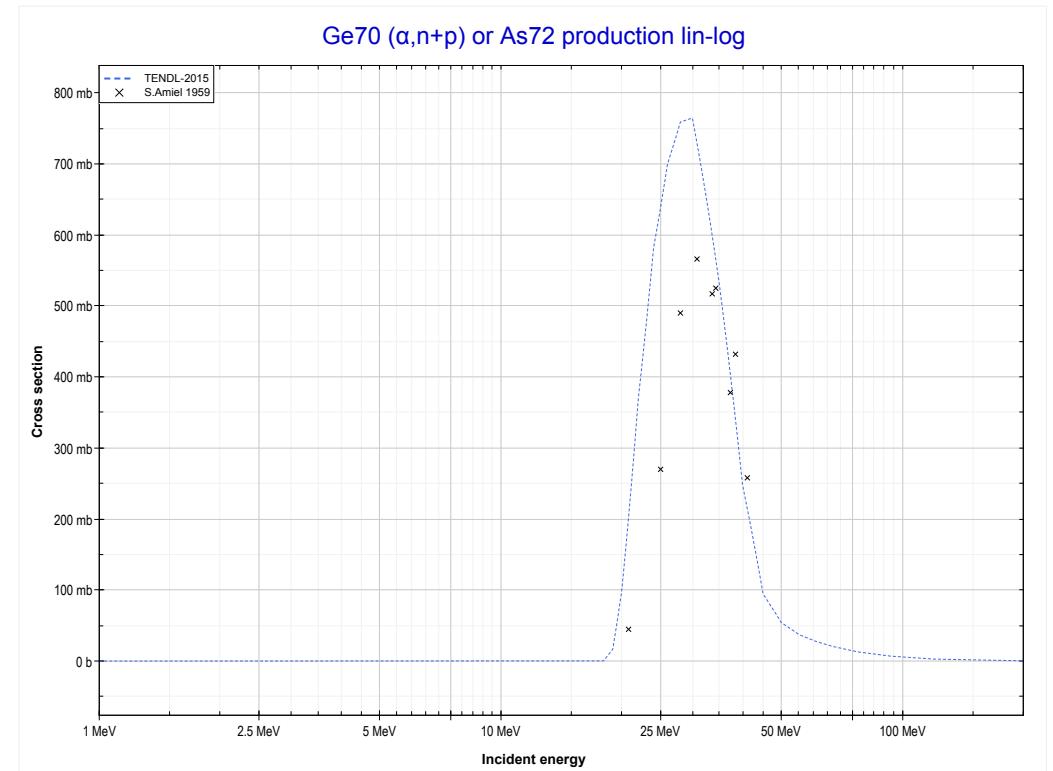
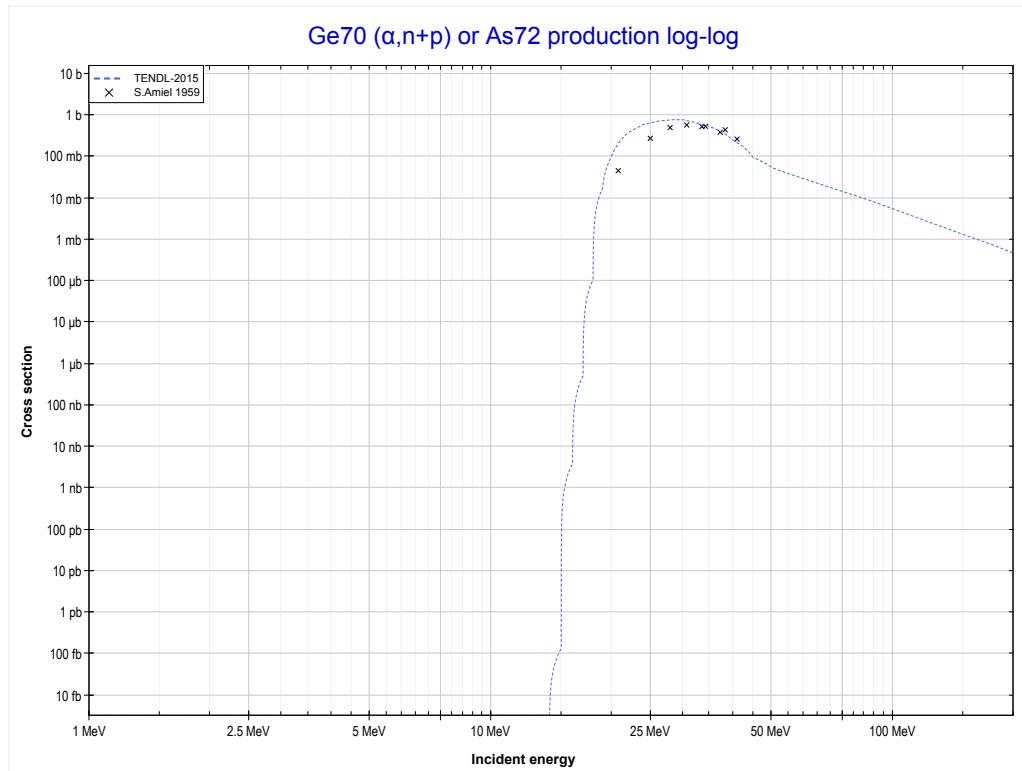
Reaction	Q-Value
Ge70( $\alpha, n$ )Se73	-7981.20 keV

<< 31-Ga-69	<b>32-Ge-70</b> <b>MT16 (<math>\alpha,2n</math>) or MT5 (Se72 production)</b>	32-Ge-73 >>
<< MT4 ( $\alpha,n$ )		MT28 ( $\alpha,n+p$ ) >>



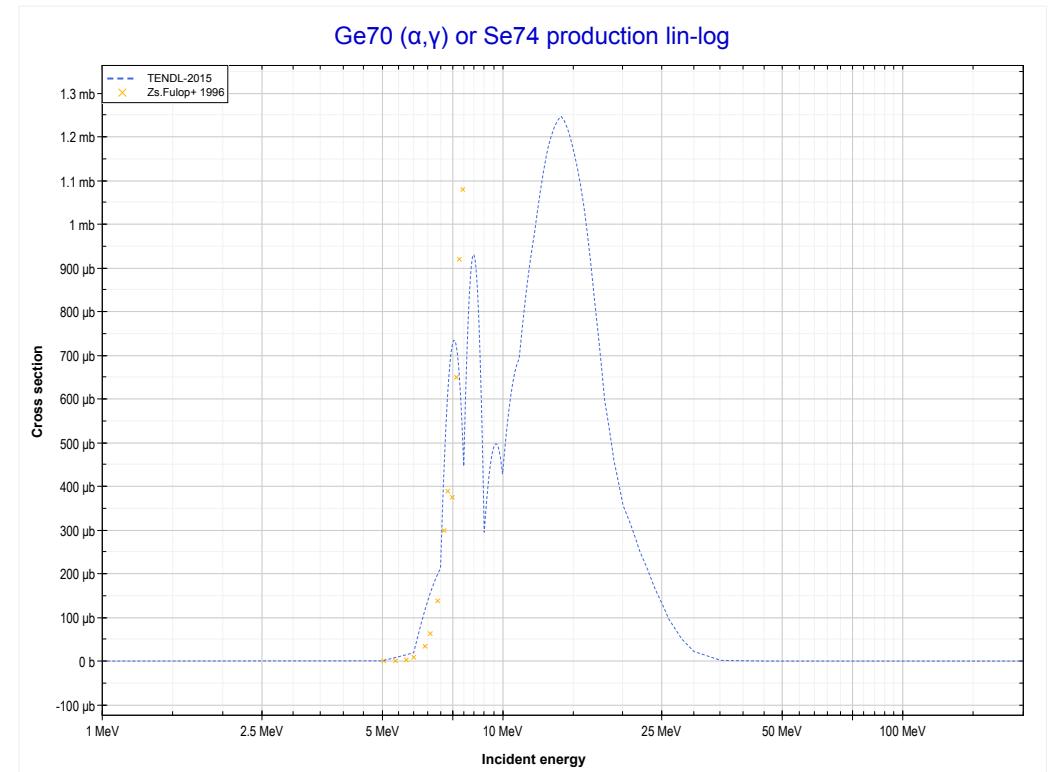
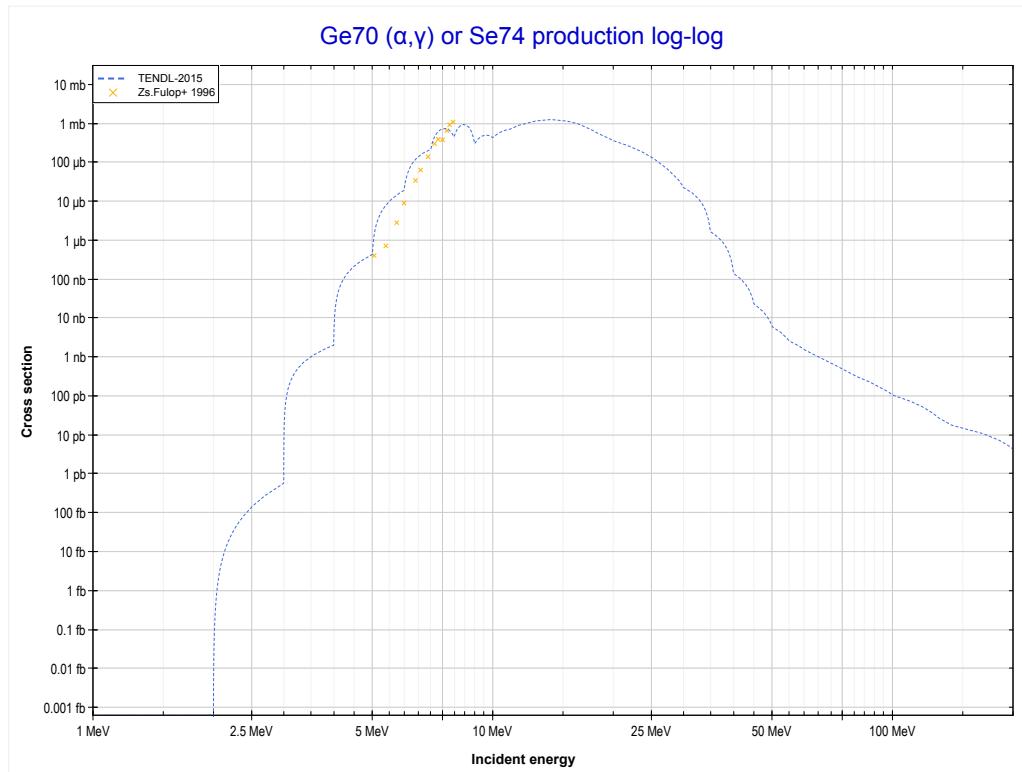
Reaction	Q-Value
Ge70( $\alpha,2n$ )Se72	-16411.32 keV

<< 30-Zn-70	<b>32-Ge-70</b> MT28 ( $\alpha, n+p$ ) or MT5 (As72 production)	40-Zr-90 >>
<< MT16 ( $\alpha, 2n$ )		MT102 ( $\alpha, \gamma$ ) >>



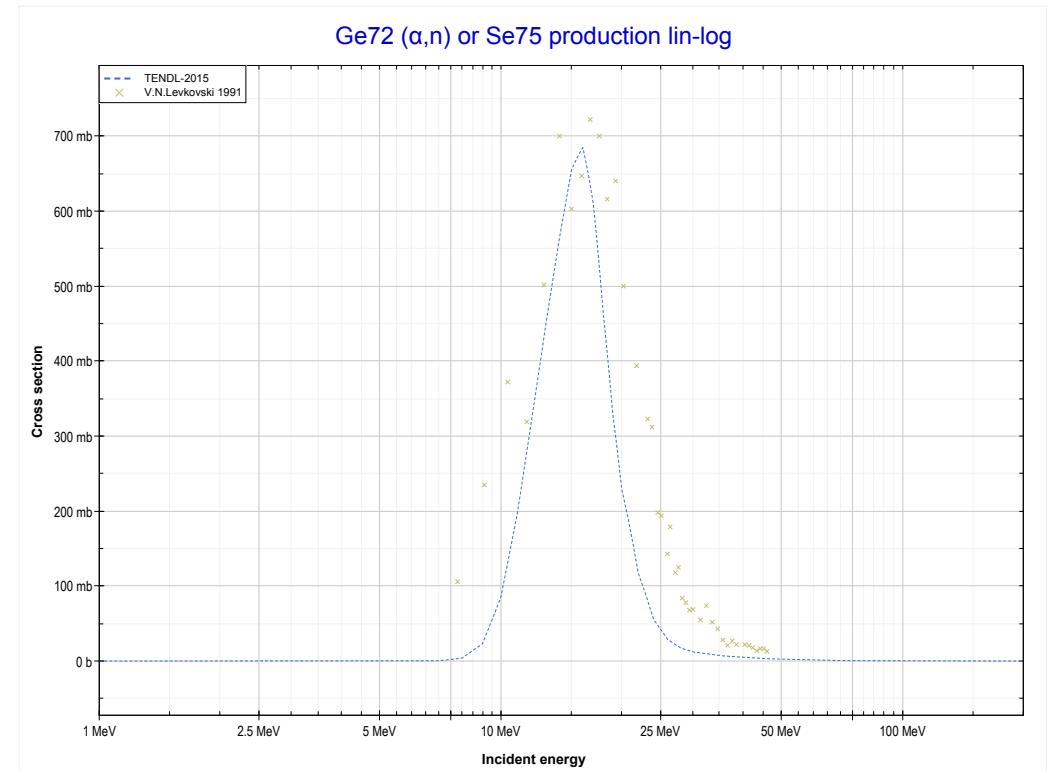
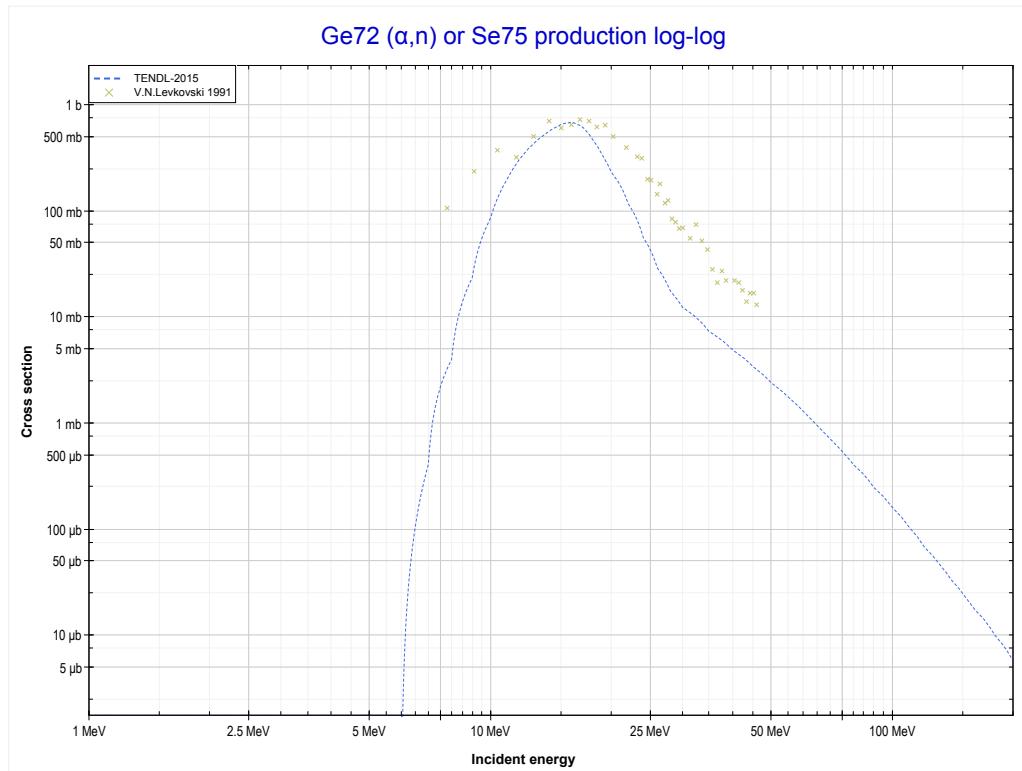
Reaction	Q-Value
Ge70( $\alpha, d$ )As72	-13042.61 keV
Ge70( $\alpha, n+p$ )As72	-15267.17 keV

<< 30-Zn-64	<b>32-Ge-70</b> MT102 ( $\alpha,\gamma$ ) or MT5 (Se74 production)	47-Ag-107 >>
<< MT28 ( $\alpha,n+p$ )		32-Ge-72 MT4 ( $\alpha,n$ ) >>



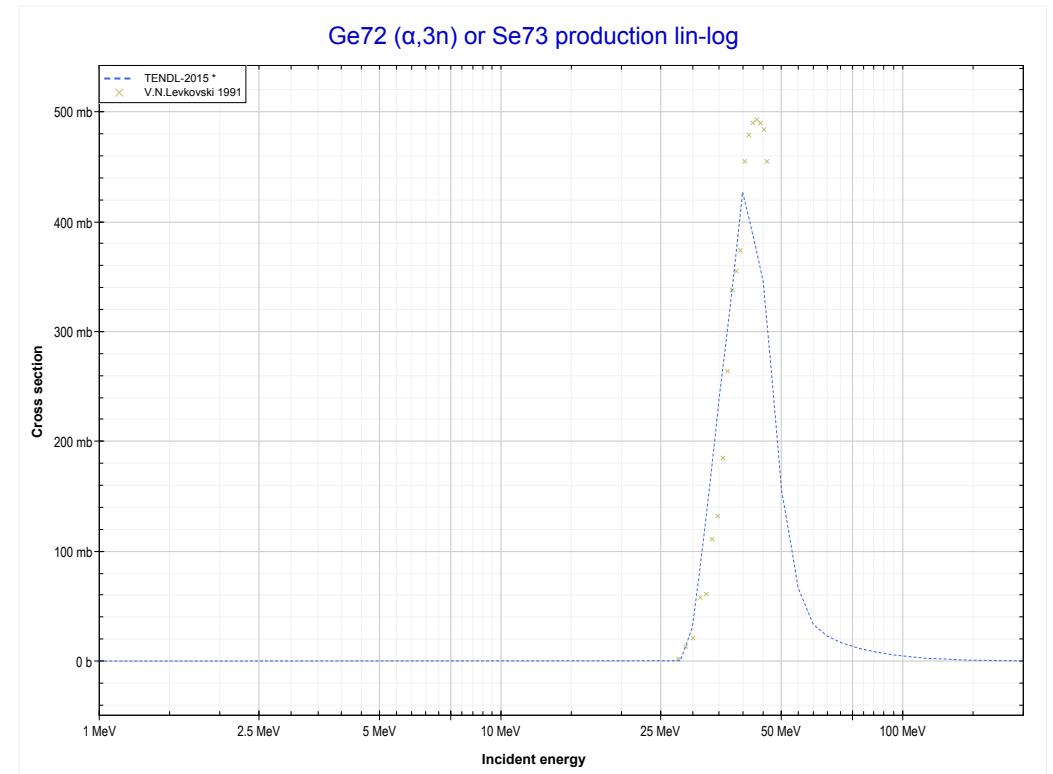
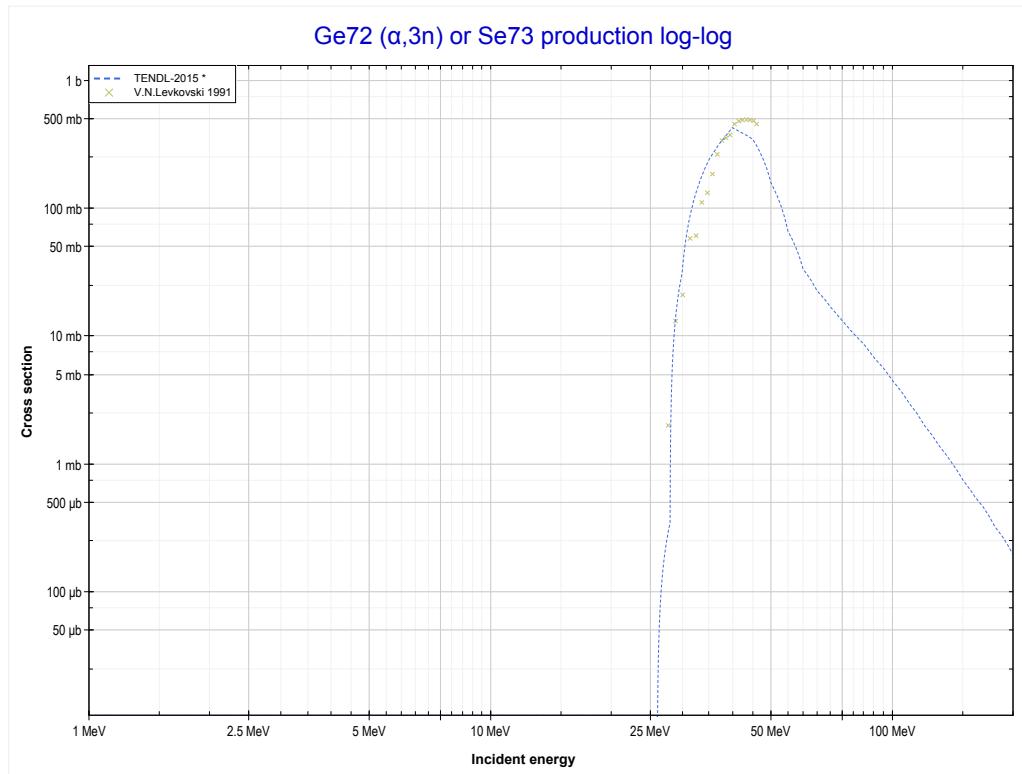
Reaction	Q-Value
Ge70( $\alpha,\gamma$ )Se74	4076.32 keV

<< 32-Ge-70	<b>32-Ge-72</b> MT4 ( $\alpha, n$ ) or MT5 (Se75 production)	34-Se-76 >>
<< 32-Ge-70 MT102 ( $\alpha, \gamma$ )		MT17 ( $\alpha, 3n$ ) >>



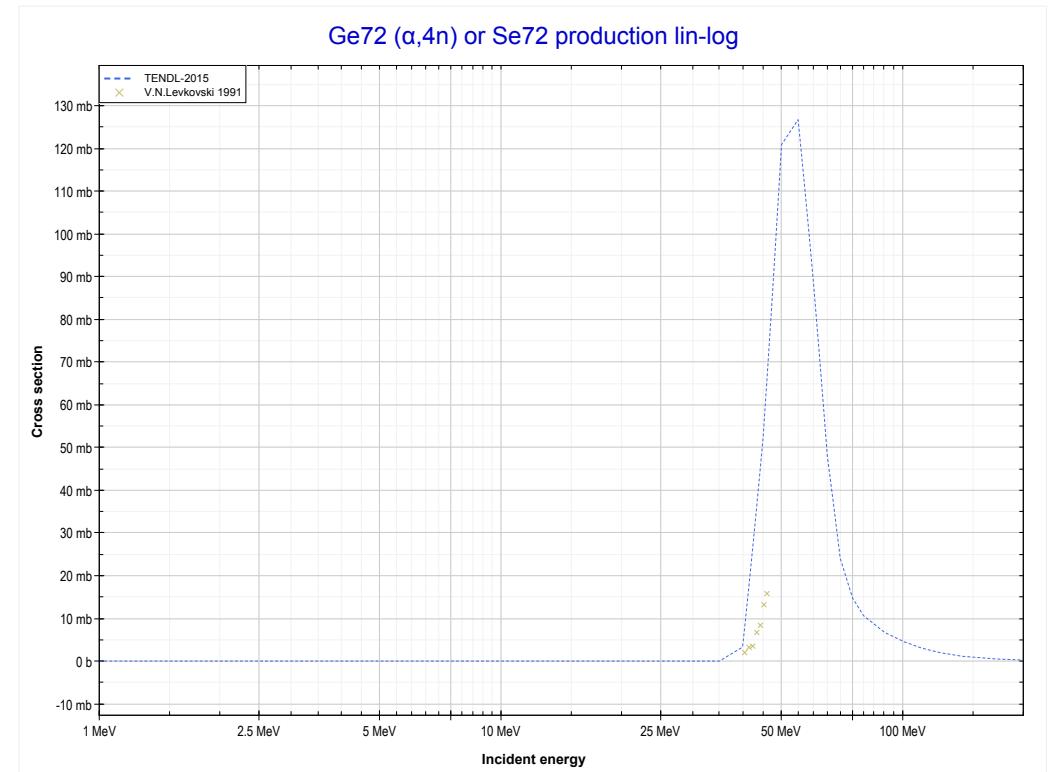
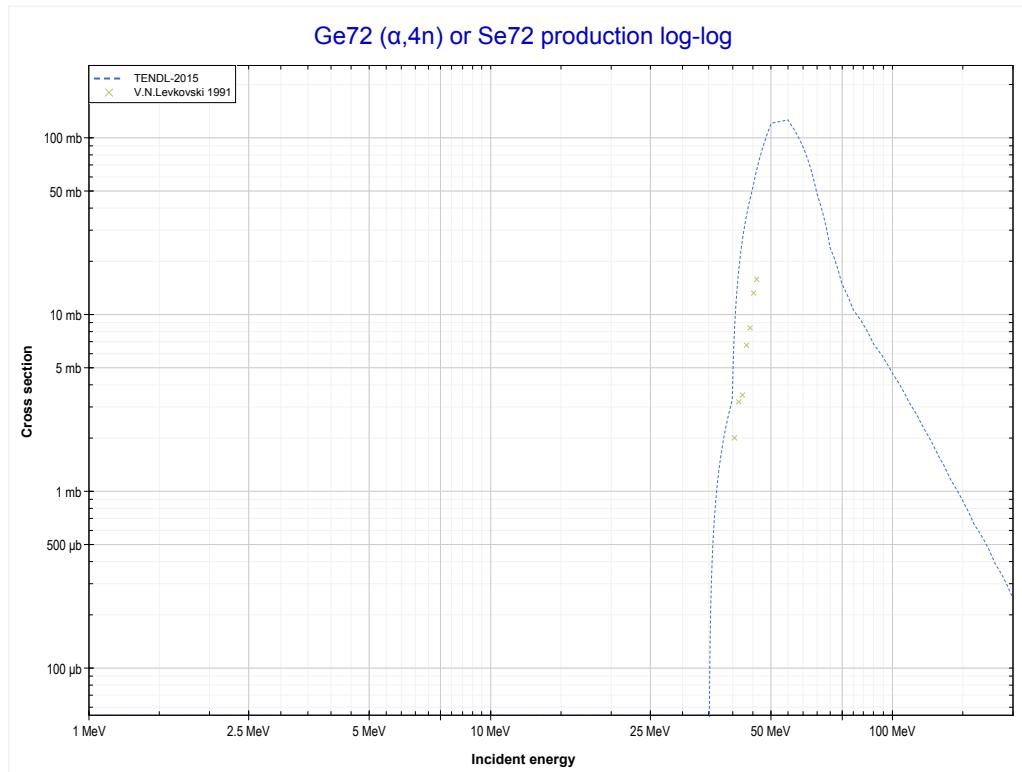
Reaction	Q-Value
Ge72( $\alpha, n$ )Se75	-6062.82 keV

<< 31-Ga-71	<b>32-Ge-72</b> <b>MT17 (<math>\alpha</math>,3n) or MT5 (Se73 production)</b>	32-Ge-74 >>
<< MT4 ( $\alpha$ ,n)		MT37 ( $\alpha$ ,4n) >>



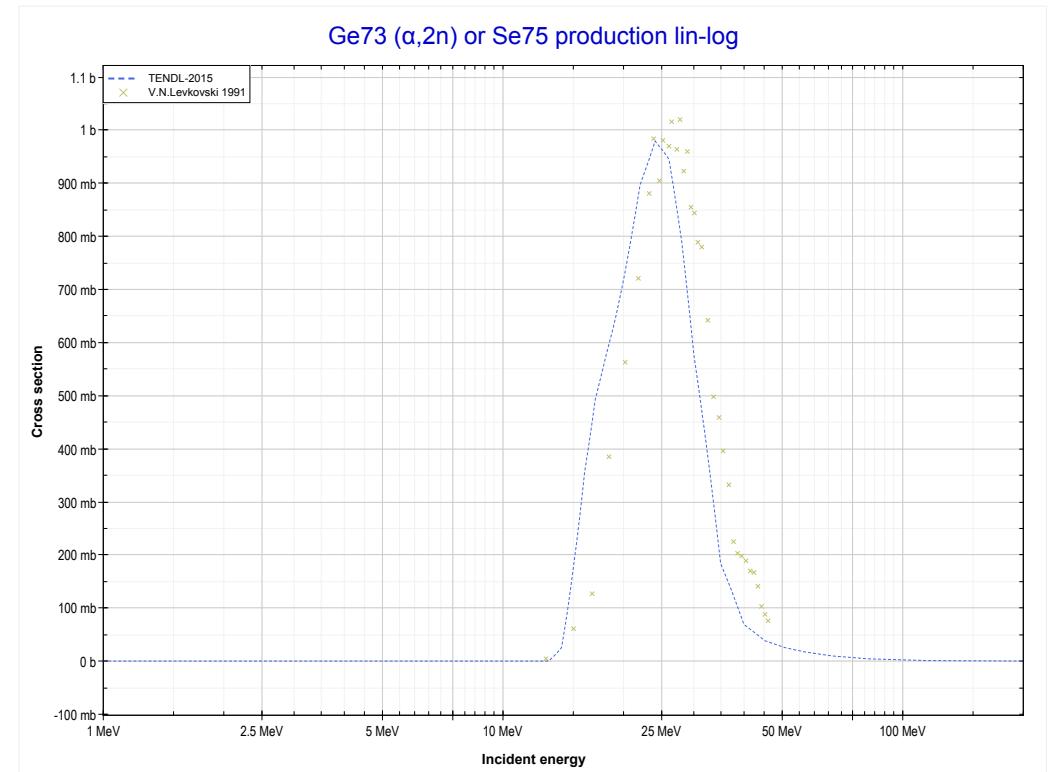
Reaction	Q-Value
Ge72( $\alpha$ ,3n)Se73	-26147.94 keV

<< 31-Ga-71	<b>32-Ge-72</b> MT37 ( $\alpha,4n$ ) or MT5 (Se72 production)	32-Ge-73 >>
<< MT17 ( $\alpha,3n$ )		32-Ge-73 MT16 ( $\alpha,2n$ ) >>



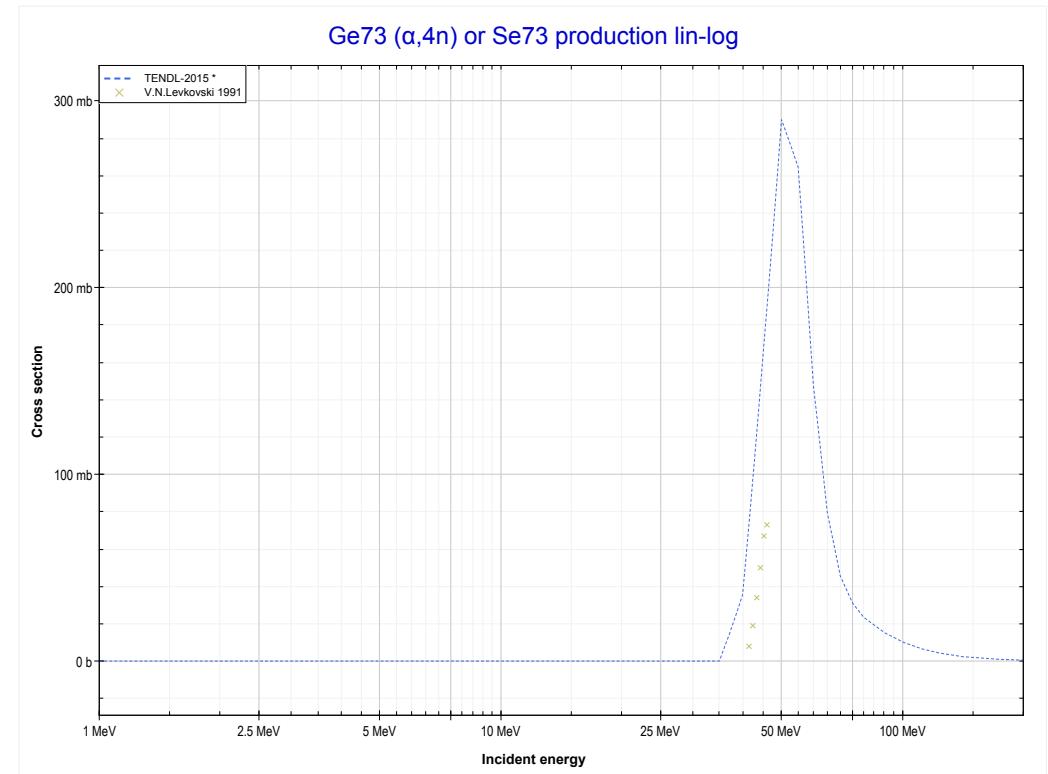
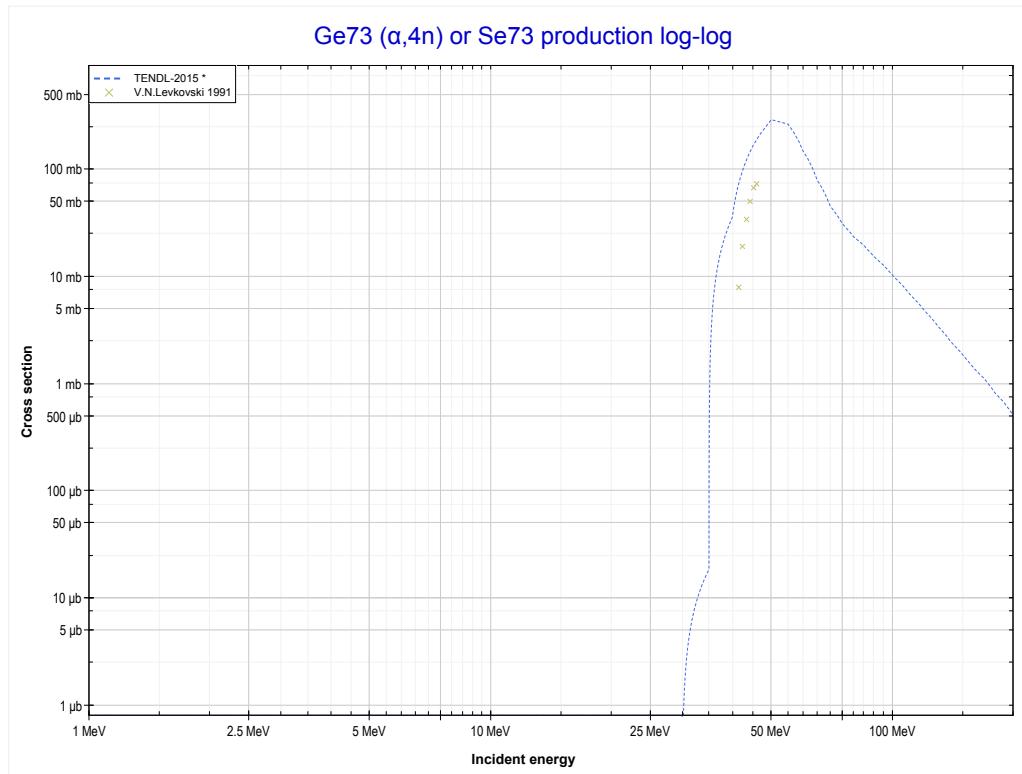
Reaction	Q-Value
Ge72( $\alpha,4n$ )Se72	-34578.05 keV

<< 32-Ge-70	<b>32-Ge-73</b> MT16 ( $\alpha$ ,2n) or MT5 (Se75 production)	34-Se-74 >>
<< 32-Ge-72 MT37 ( $\alpha$ ,4n)		MT37 ( $\alpha$ ,4n) >>



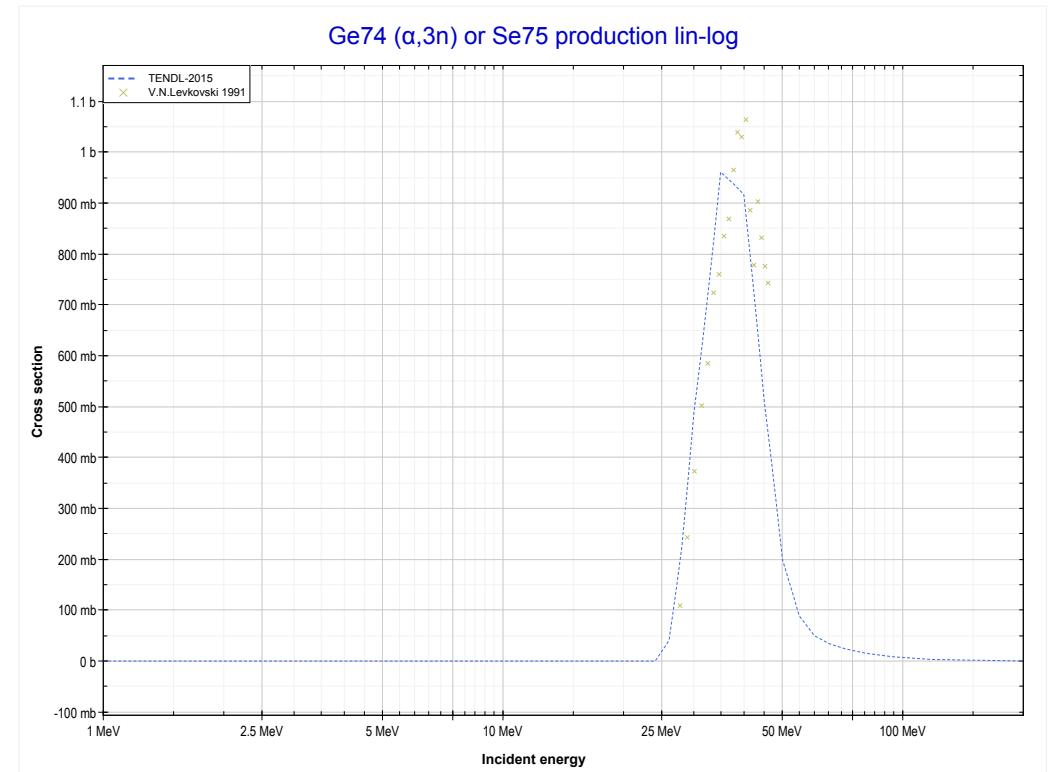
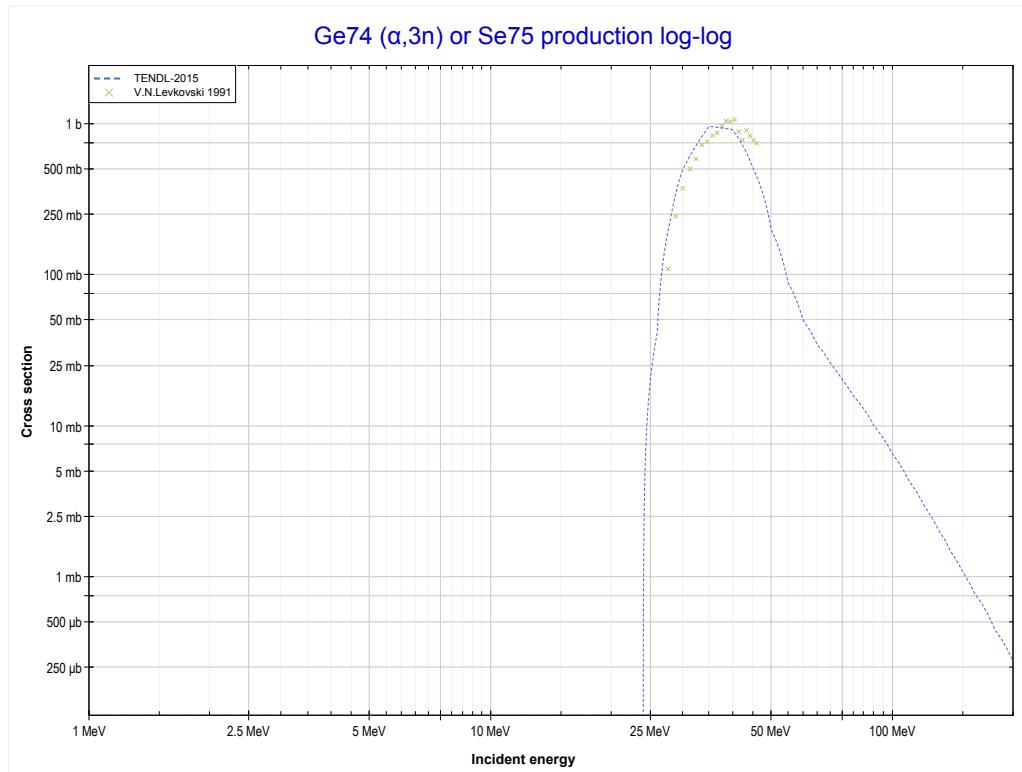
Reaction	Q-Value
Ge73( $\alpha$ ,2n)Se75	-12845.76 keV

<< 32-Ge-72	<b>32-Ge-73</b> MT37 ( $\alpha,4n$ ) or MT5 (Se73 production)	>> 33-As-75
<< MT16 ( $\alpha,2n$ )		32-Ge-74 MT17 ( $\alpha,3n$ ) >>



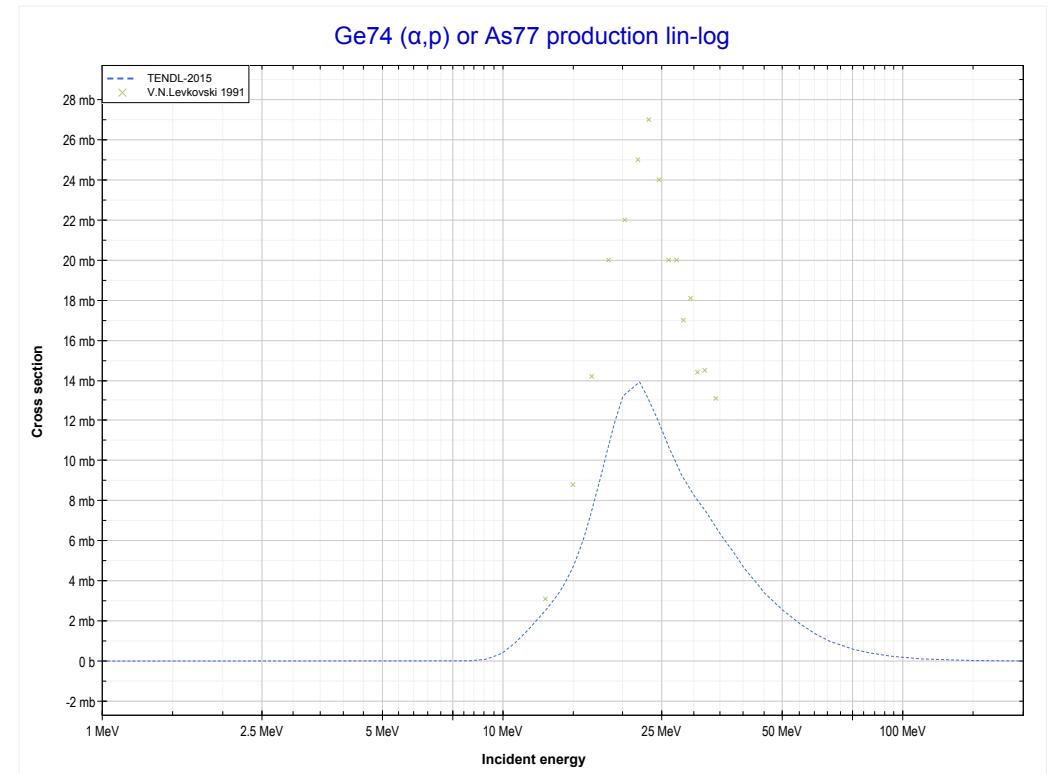
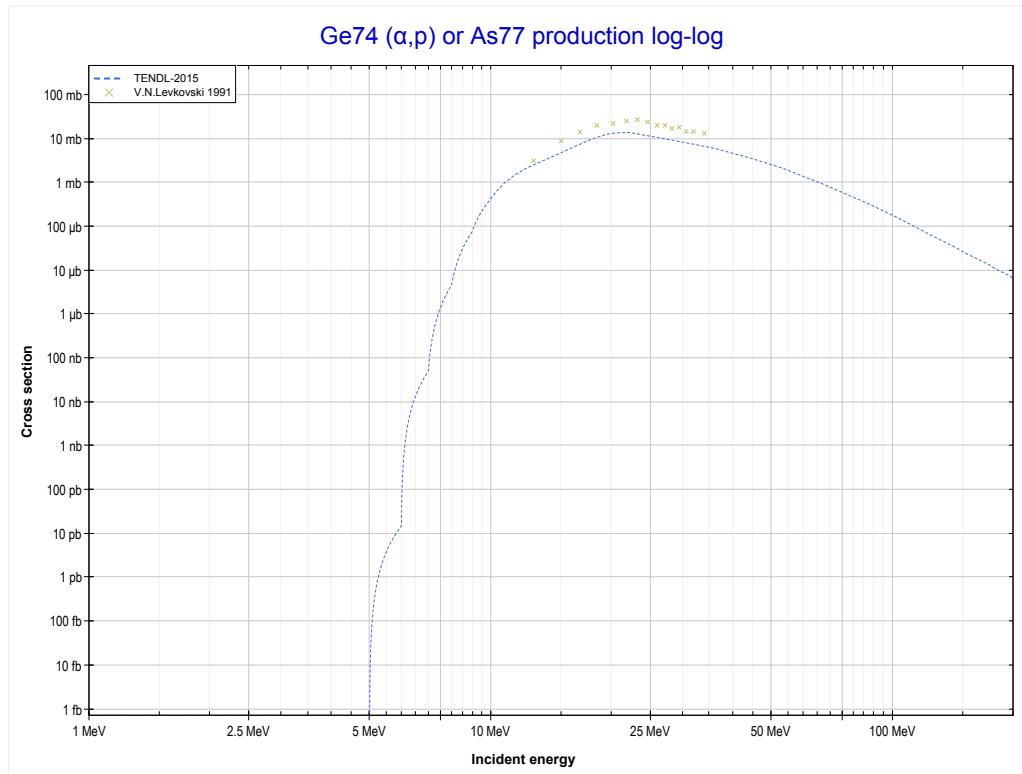
Reaction	Q-Value
Ge73( $\alpha,4n$ )Se73	-32930.87 keV

<< 32-Ge-72	<b>32-Ge-74</b> <b>MT17 (<math>\alpha,3n</math>) or MT5 (Se75 production)</b>	33-As-75 >>
<< 32-Ge-73 MT37 ( $\alpha,4n$ )		MT103 ( $\alpha,p$ ) >>



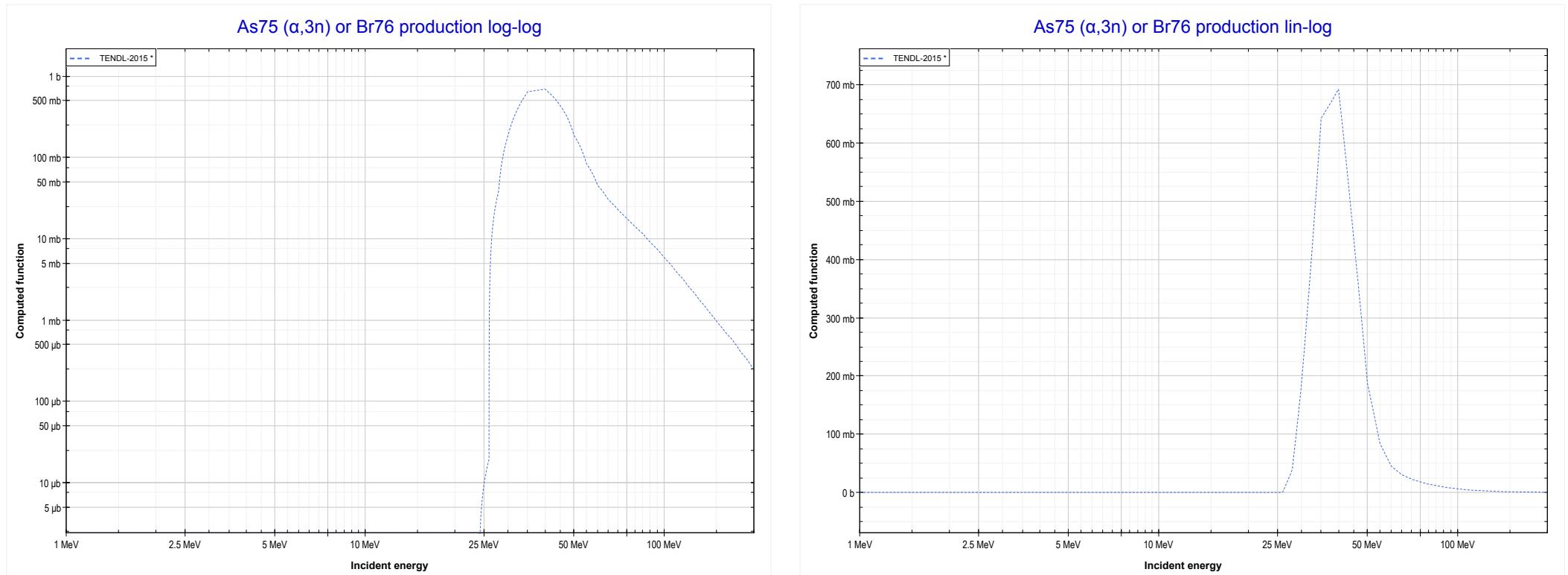
Reaction	Q-Value
Ge74( $\alpha,3n$ )Se75	-23042.00 keV

<< 30-Zn-70	<b>32-Ge-74</b> MT103 ( $\alpha,p$ ) or MT5 (As77 production)	40-Zr-92 >>
<< MT17 ( $\alpha,3n$ )		33-As-75 MT17 ( $\alpha,3n$ ) >>



Reaction	Q-Value
Ge74( $\alpha,p$ )As77	-4370.20 keV

<< 32-Ge-74	<b>33-As-75</b>	34-Se-76 >>
<< 32-Ge-74 MT103 ( $\alpha, p$ )	<b>MT17 (<math>\alpha, 3n</math>) or MT5 (Br76 production)</b>	<b>MT37 (<math>\alpha, 4n</math>) &gt;&gt;</b>

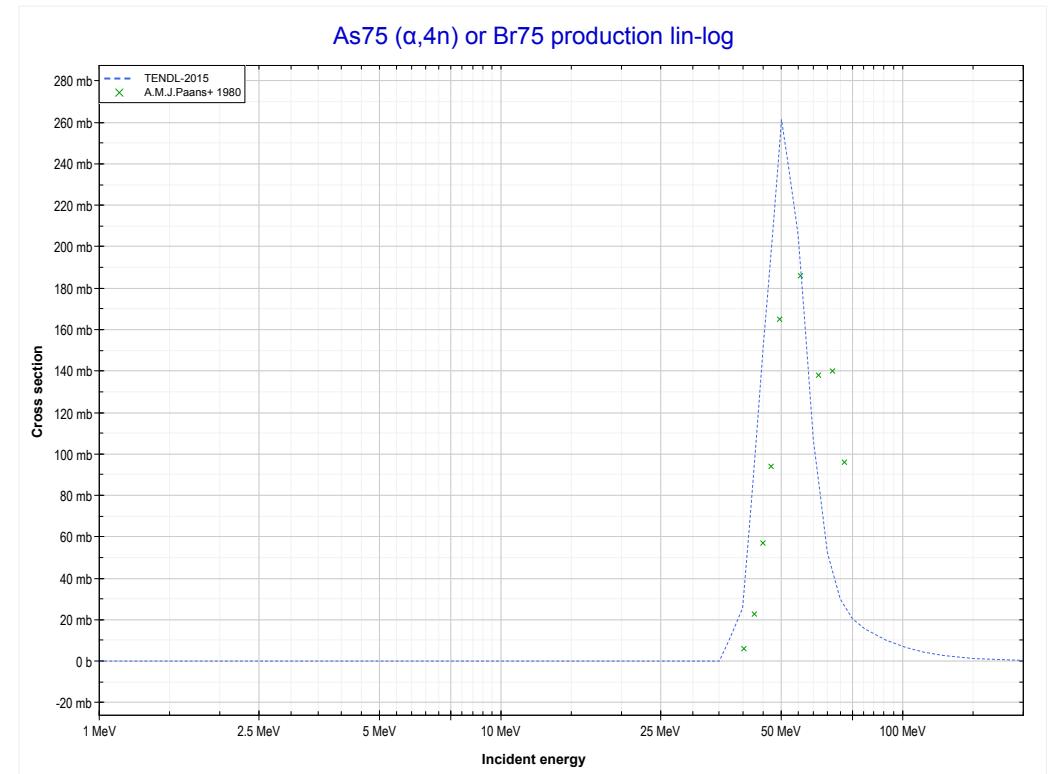
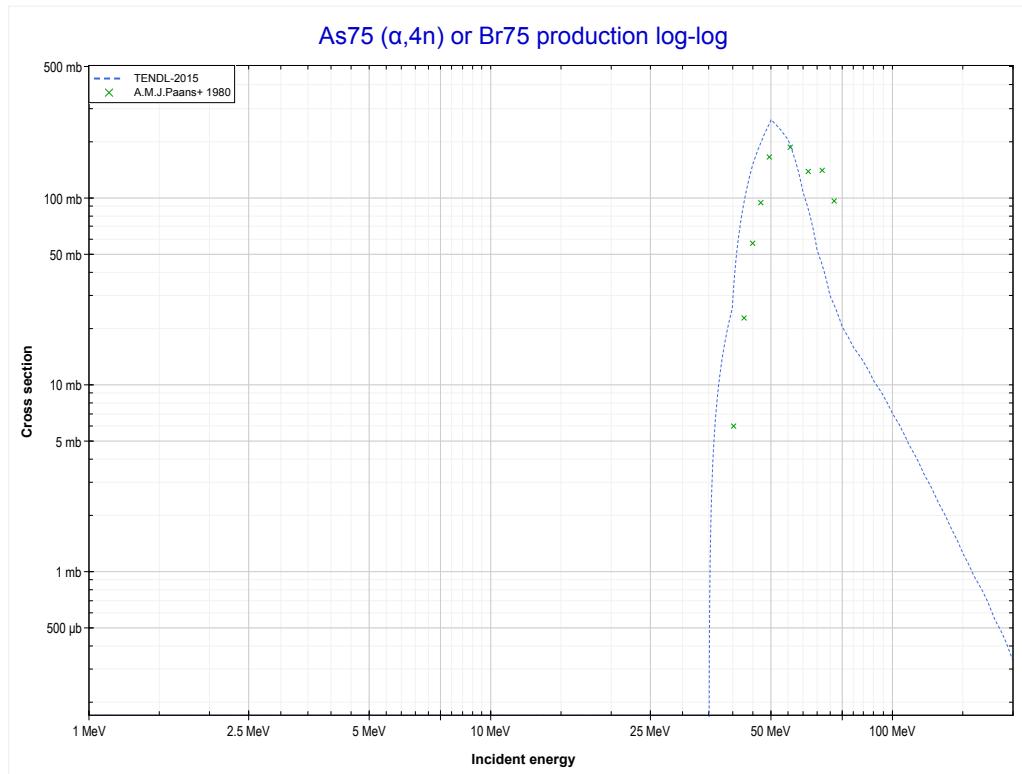


Reaction	Q-Value
As75( $\alpha, 3n$ )Br76	-24534.24 keV

<< 32-Ge-73	
<< MT17 ( $\alpha$ ,3n)	

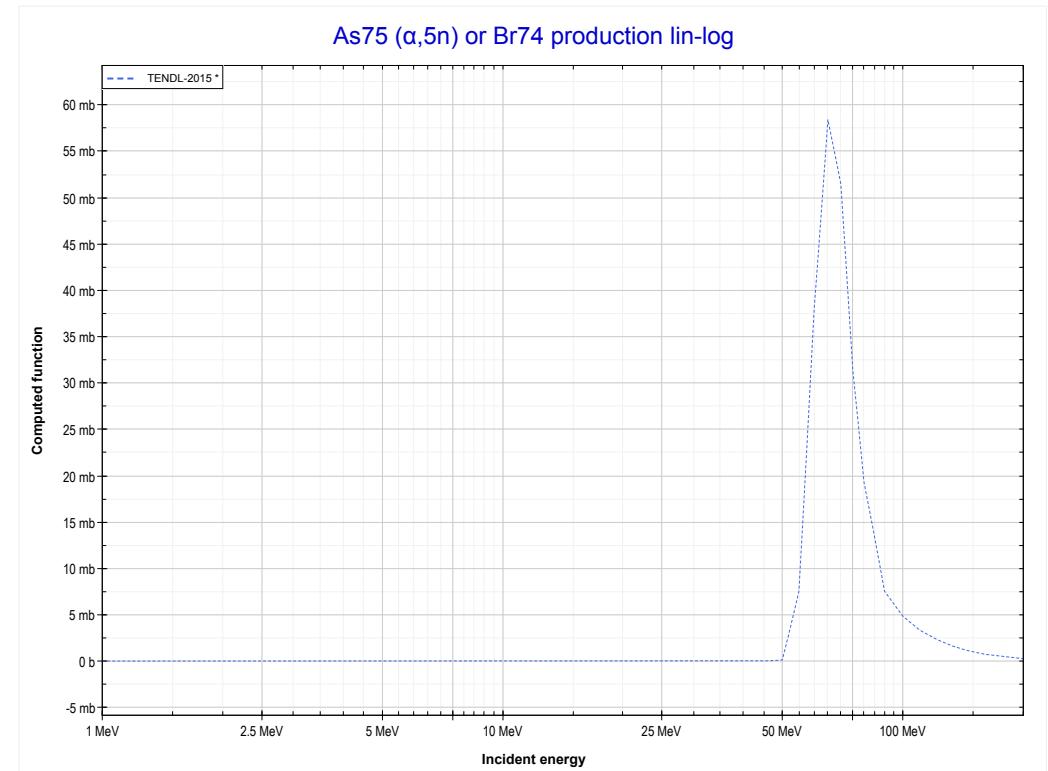
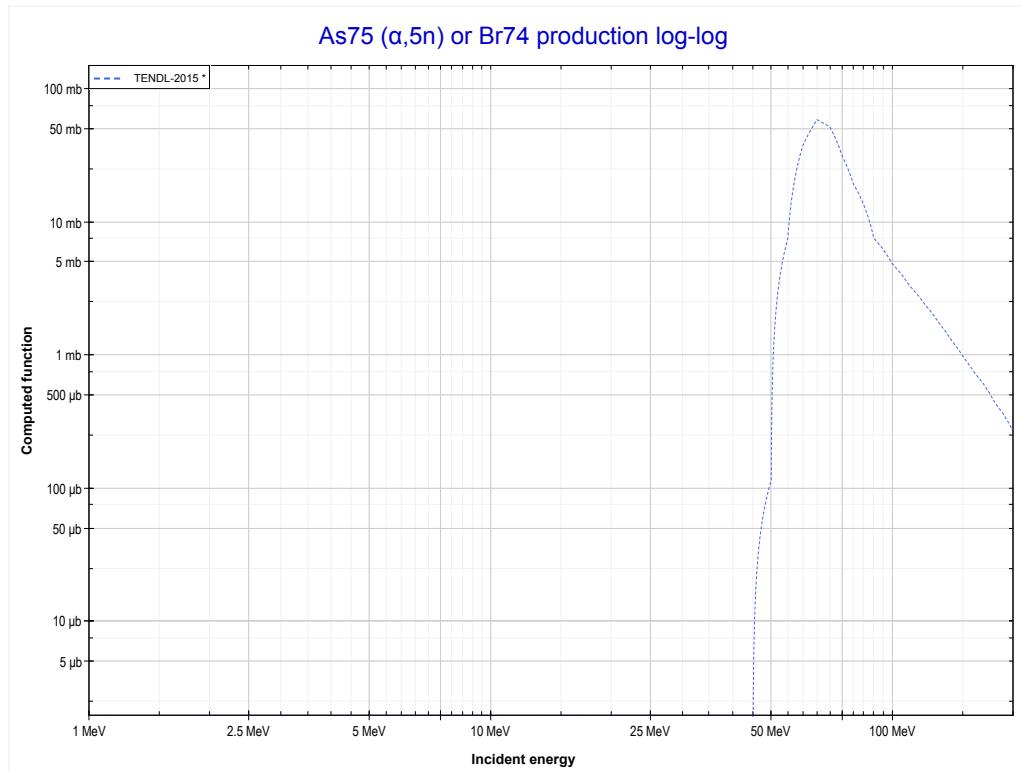
**33-As-75**  
**MT37 ( $\alpha$ ,4n) or MT5 (Br75 production)**

35-Br-81 >>
MT152 ( $\alpha$ ,5n) >>



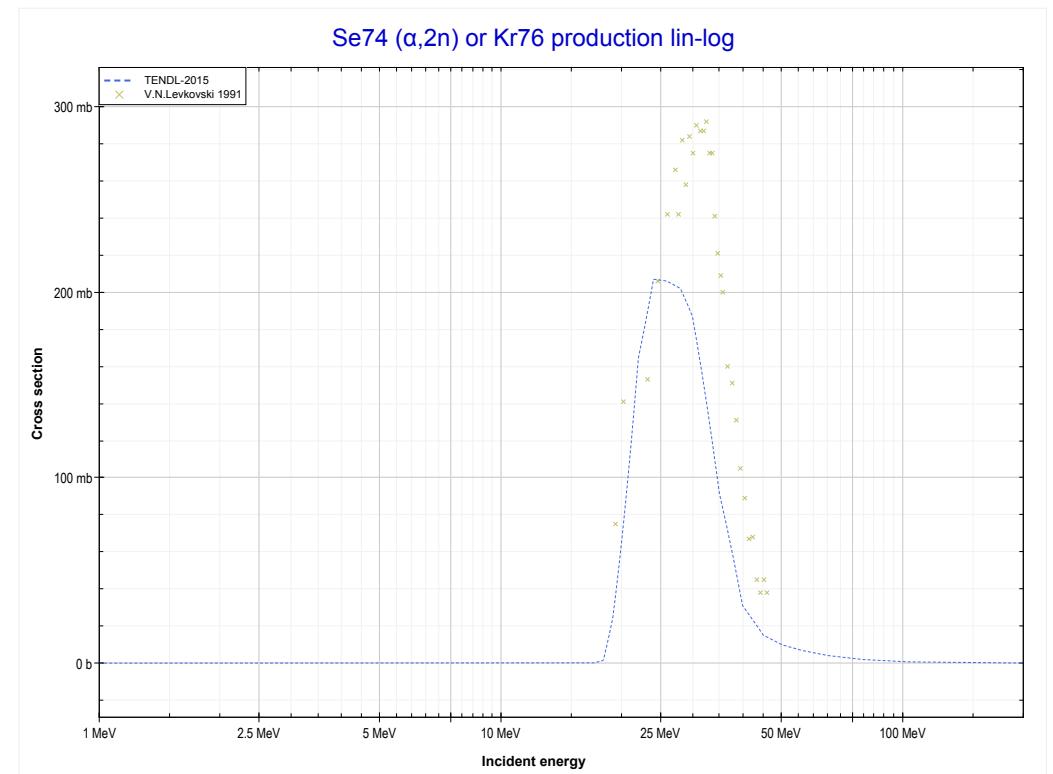
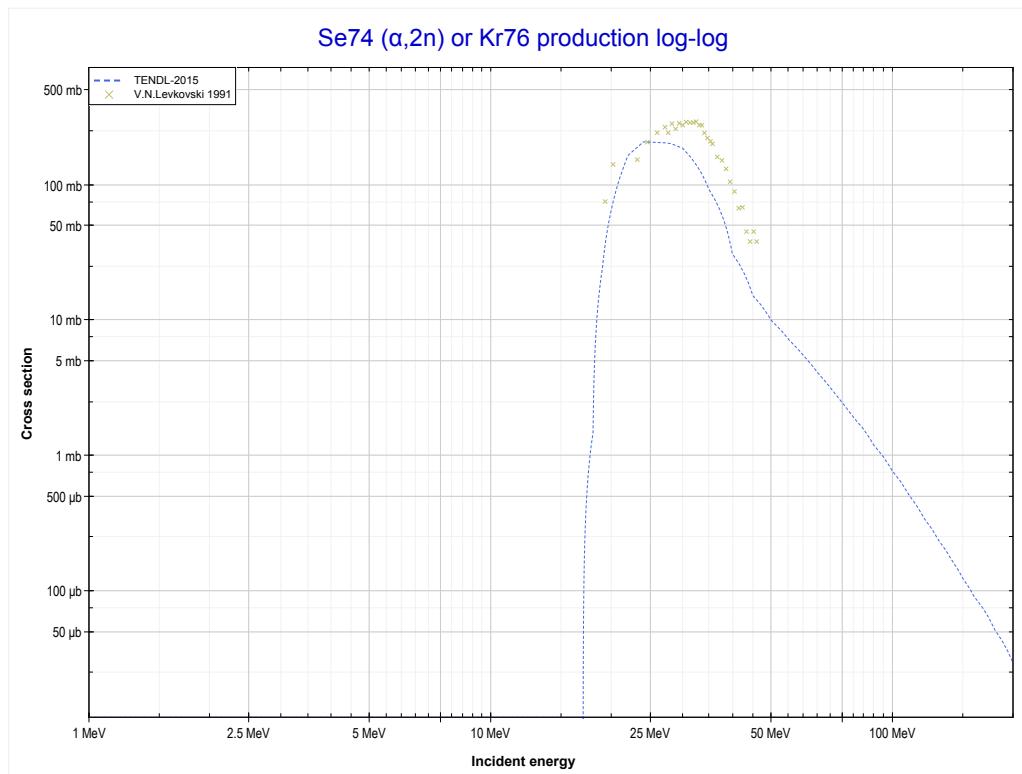
Reaction	Q-Value
As75( $\alpha$ ,4n)Br75	-33787.55 keV

<a href="#"><b>&lt;&lt; MT37 (<math>\alpha,4n</math>)</b></a>	<b>33-As-75</b> <b>MT152 (<math>\alpha,5n</math>) or MT5 (Br74 production)</b>	<a href="#"><b>36-Kr-83 &gt;&gt;</b></a> <a href="#"><b>34-Se-74 MT16 (<math>\alpha,2n</math>) &gt;&gt;</b></a>
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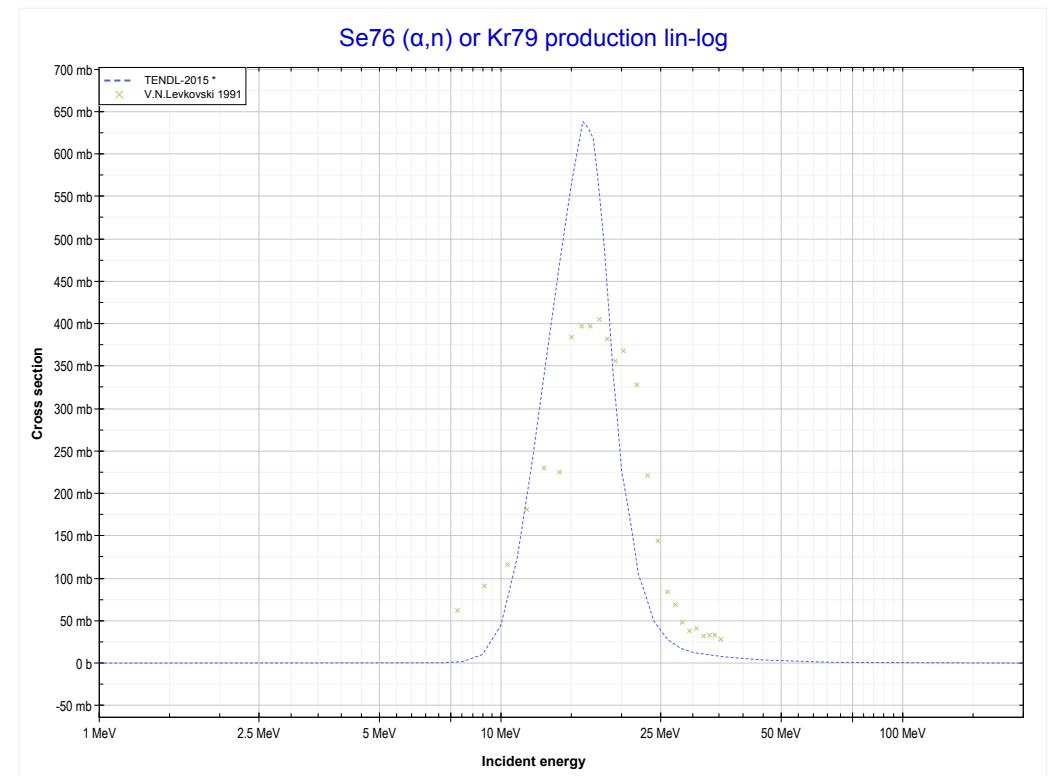
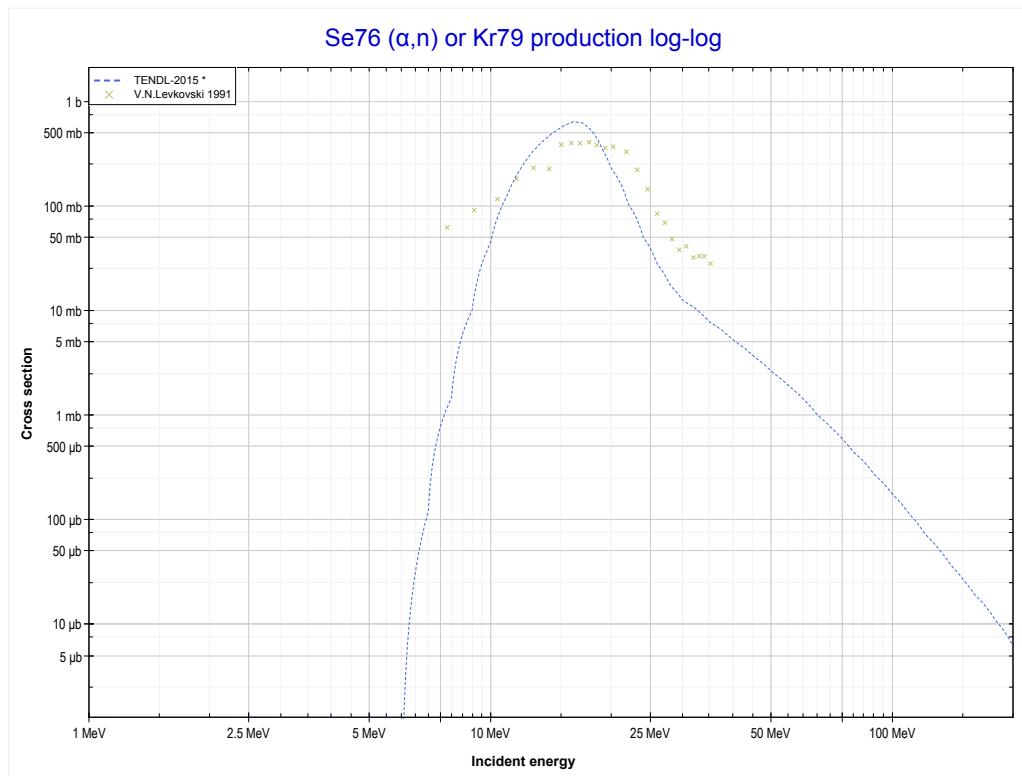
Reaction	Q-Value
As75( $\alpha,5n$ )Br74	-45677.87 keV

<< 32-Ge-73	<b>34-Se-74</b> MT16 ( $\alpha,2n$ ) or MT5 (Kr76 production)	34-Se-77 >>
<< 33-As-75 MT152 ( $\alpha,5n$ )		34-Se-76 MT4 ( $\alpha,n$ ) >>



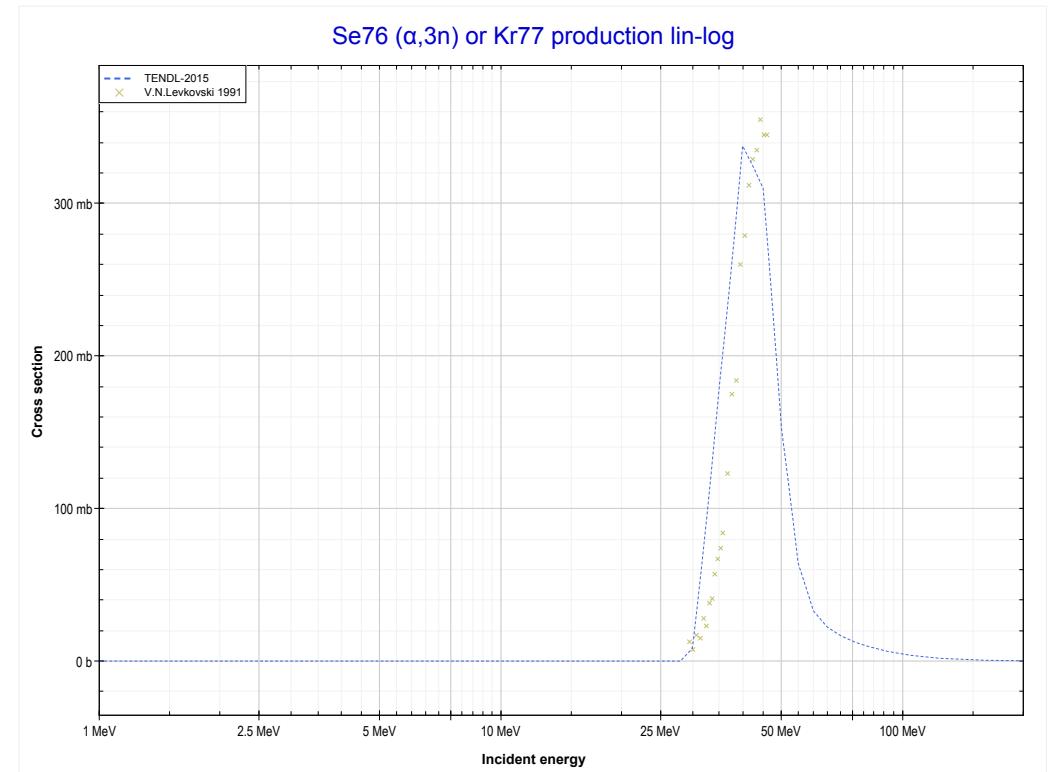
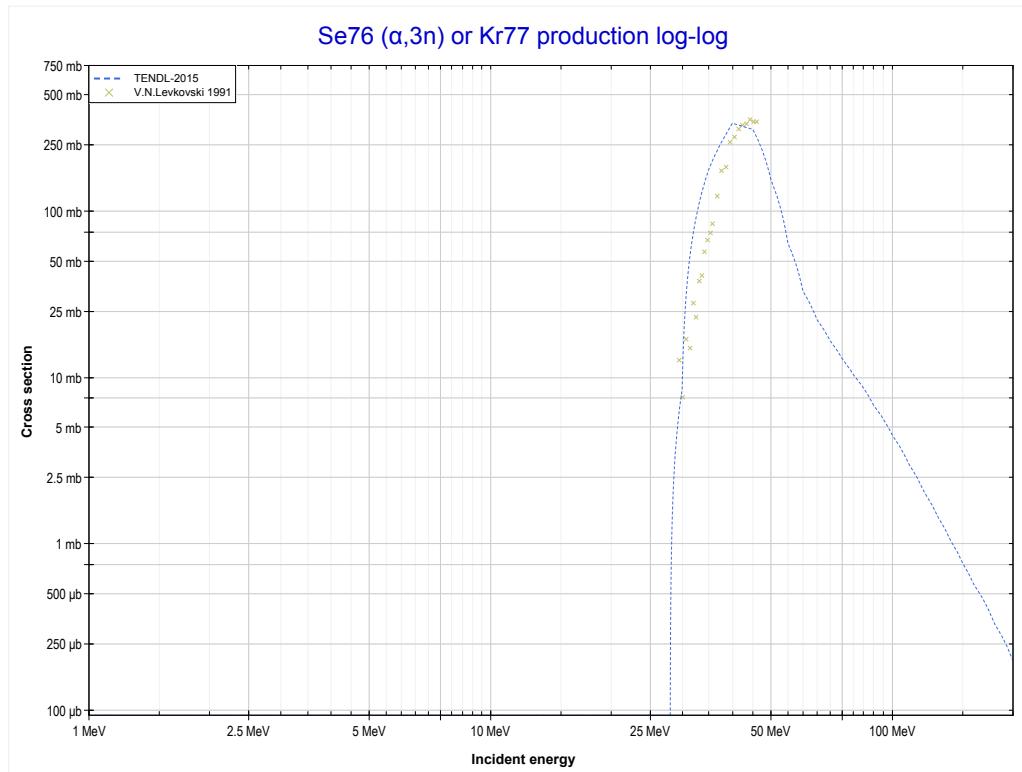
Reaction	Q-Value
Se74( $\alpha,2n$ )Kr76	-16916.92 keV

<< 32-Ge-72	<b>34-Se-76</b> MT4 ( $\alpha, n$ ) or MT5 (Kr79 production)	>> 35-Br-79
<< 34-Se-74 MT16 ( $\alpha, 2n$ )		MT17 ( $\alpha, 3n$ ) >>



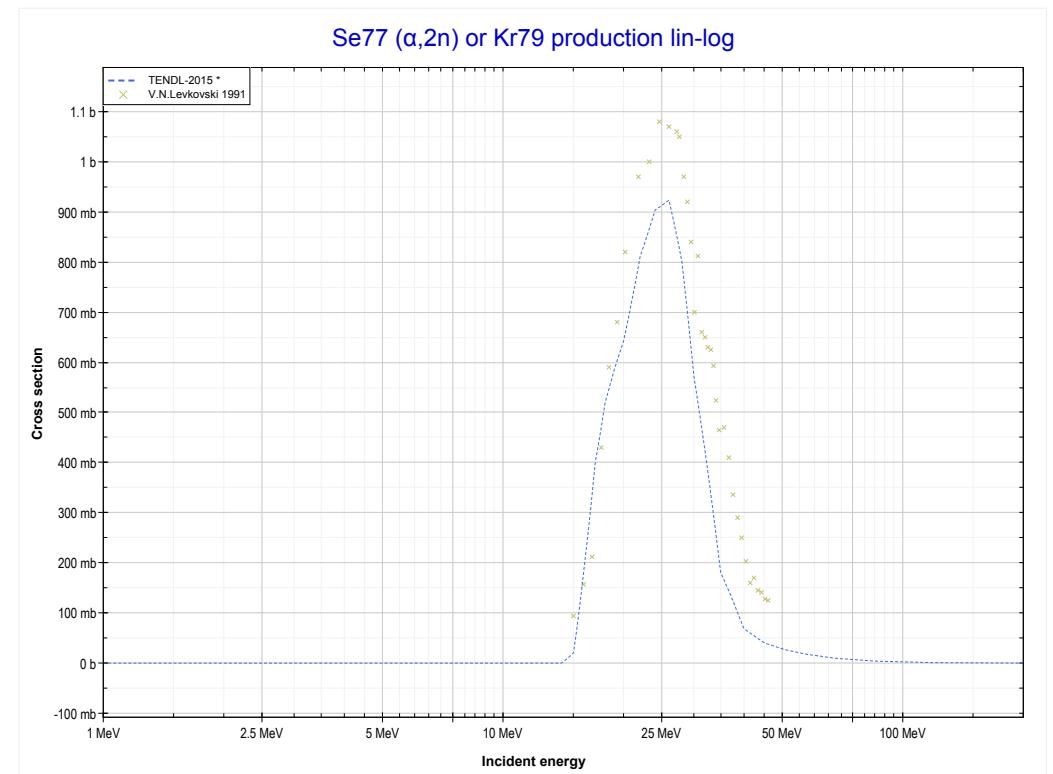
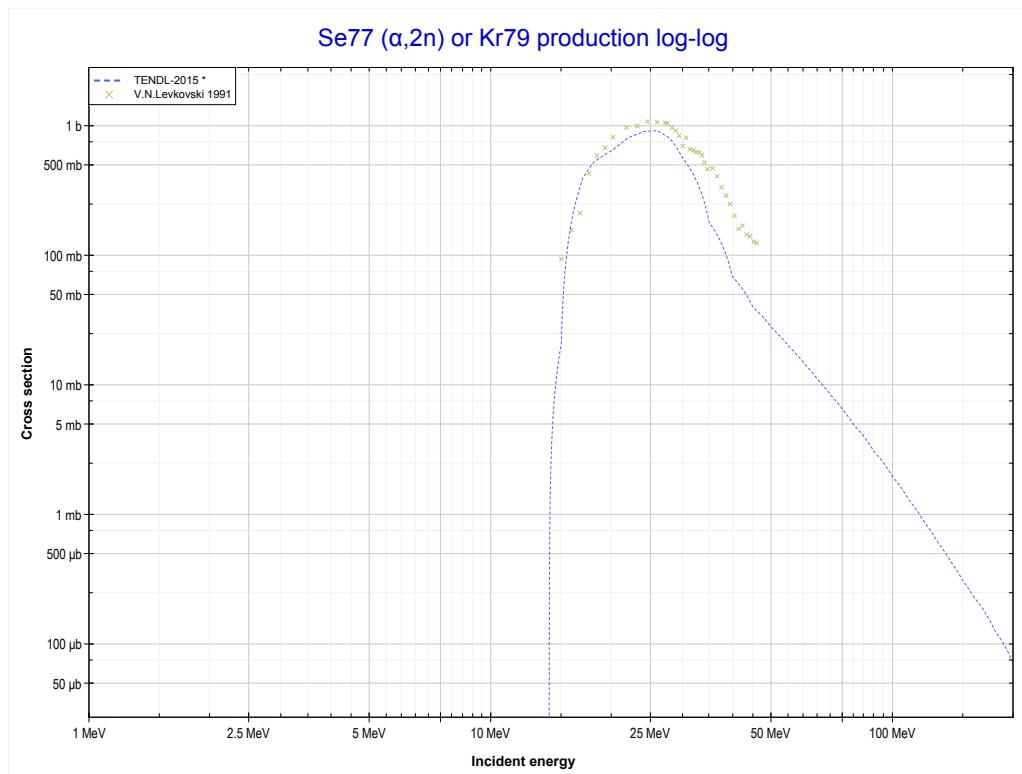
Reaction	Q-Value
Se76( $\alpha, n$ )Kr79	-6456.35 keV

<< 33-As-75	<b>34-Se-76</b> MT17 ( $\alpha$ ,3n) or MT5 (Kr77 production)	34-Se-78 >>
<< MT4 ( $\alpha$ ,n)		34-Se-77 MT16 ( $\alpha$ ,2n) >>



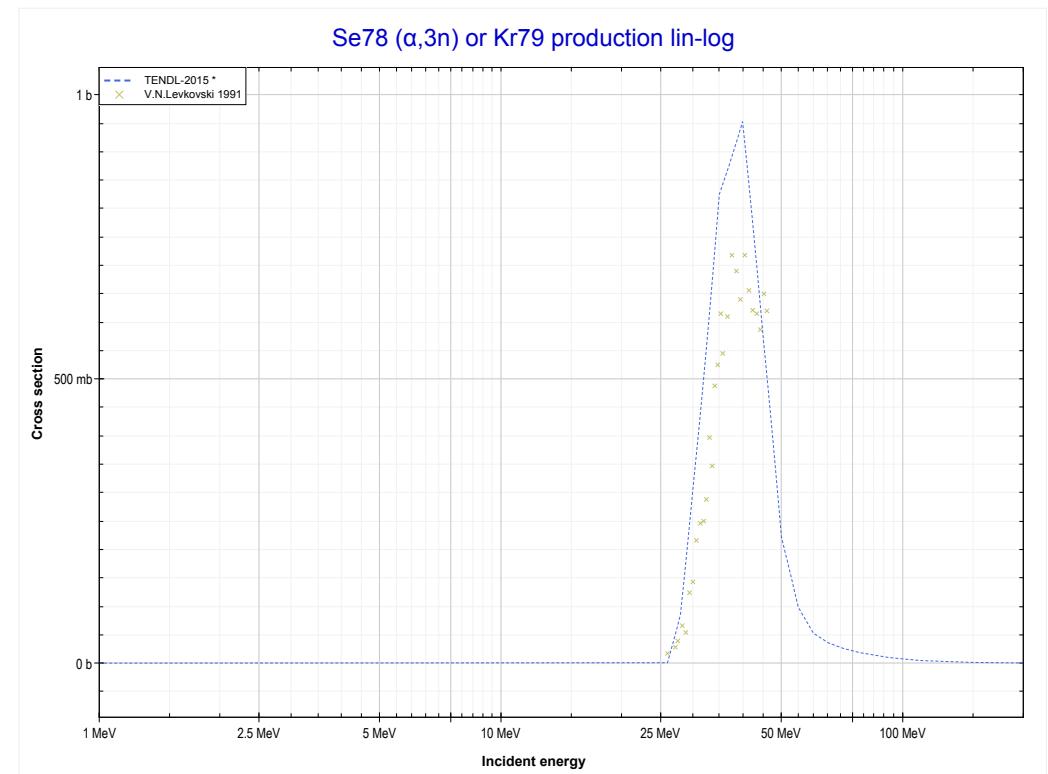
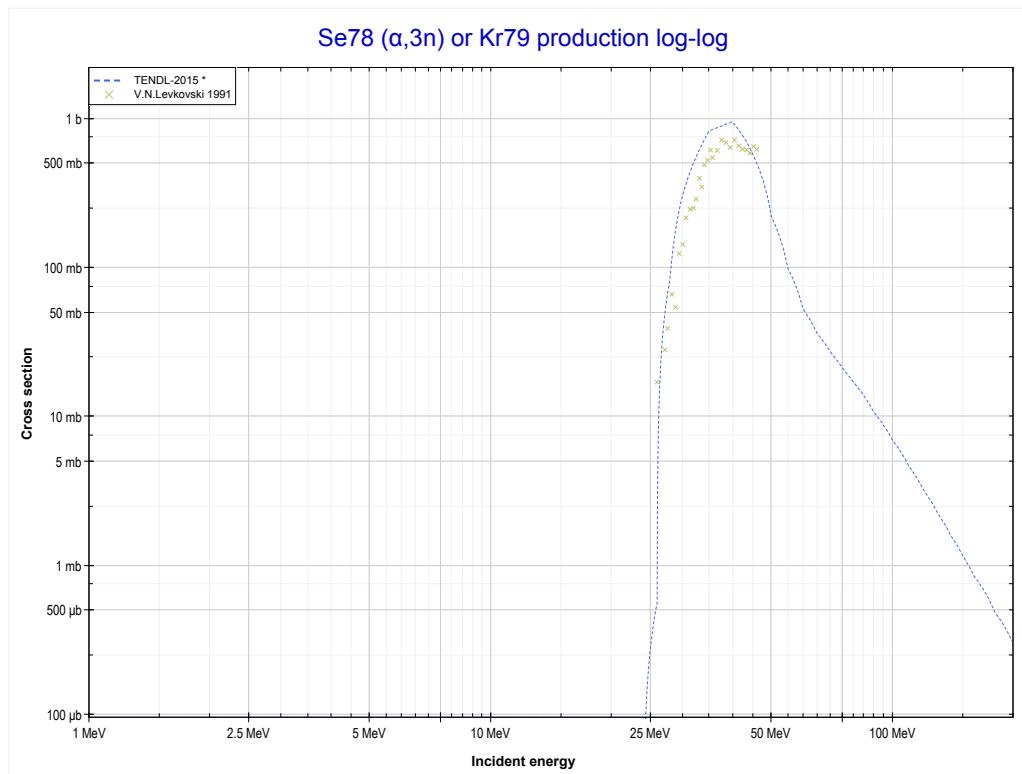
Reaction	Q-Value
Se76( $\alpha$ ,3n)Kr77	-26871.59 keV

<< 34-Se-74	<b>34-Se-77</b> MT16 ( $\alpha,2n$ ) or MT5 (Kr79 production)	35-Br-79 >>
<< 34-Se-76 MT17 ( $\alpha,3n$ )		34-Se-78 MT17 ( $\alpha,3n$ ) >>



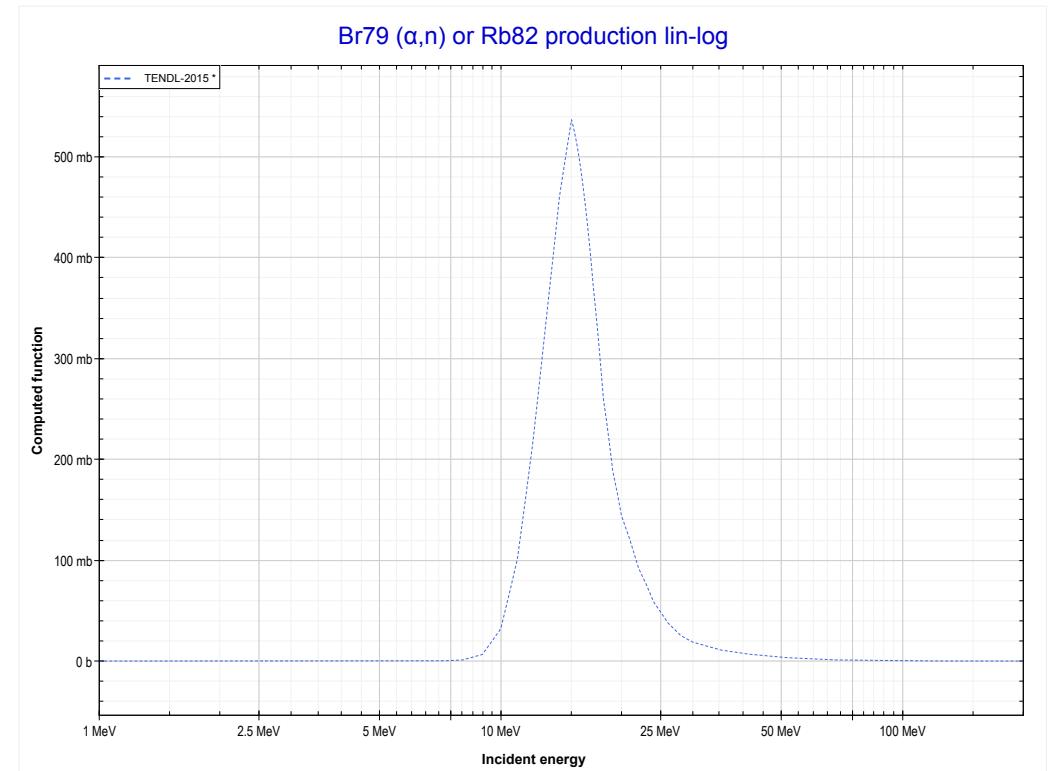
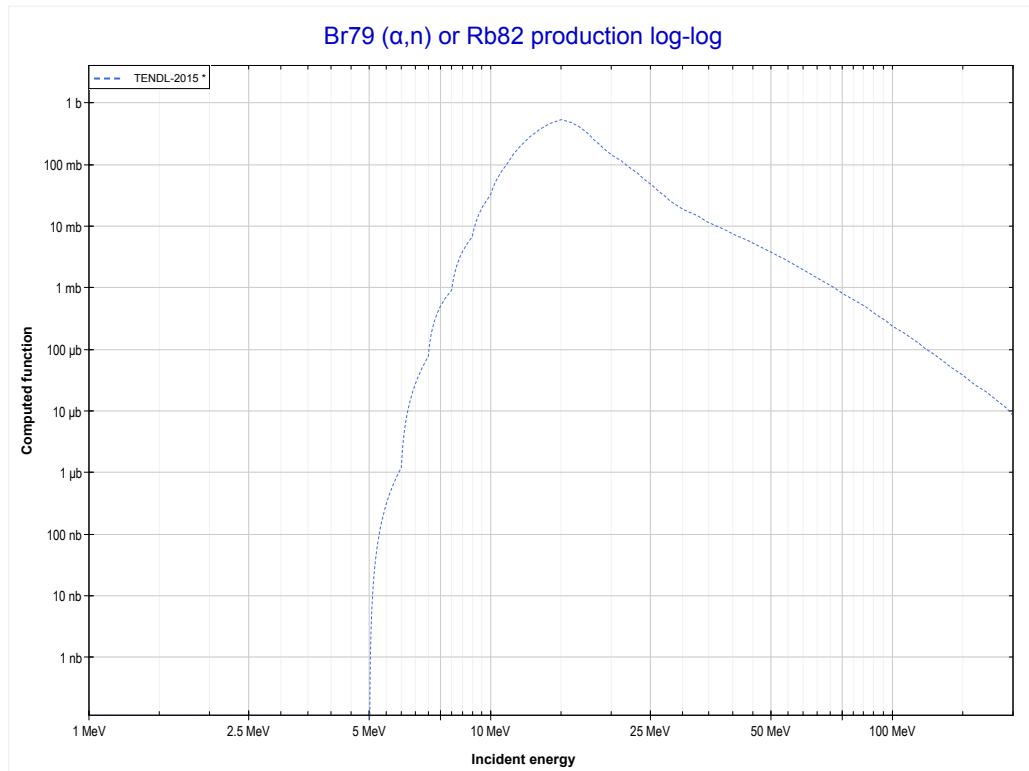
Reaction	Q-Value
Se77( $\alpha,2n$ )Kr79	-13875.20 keV

<< 34-Se-76	<b>34-Se-78</b>	35-Br-81 >>
<< 34-Se-77 MT16 ( $\alpha,2n$ )	<b>MT17 (<math>\alpha,3n</math>) or MT5 (Kr79 production)</b>	35-Br-79 MT4 ( $\alpha,n$ ) >>



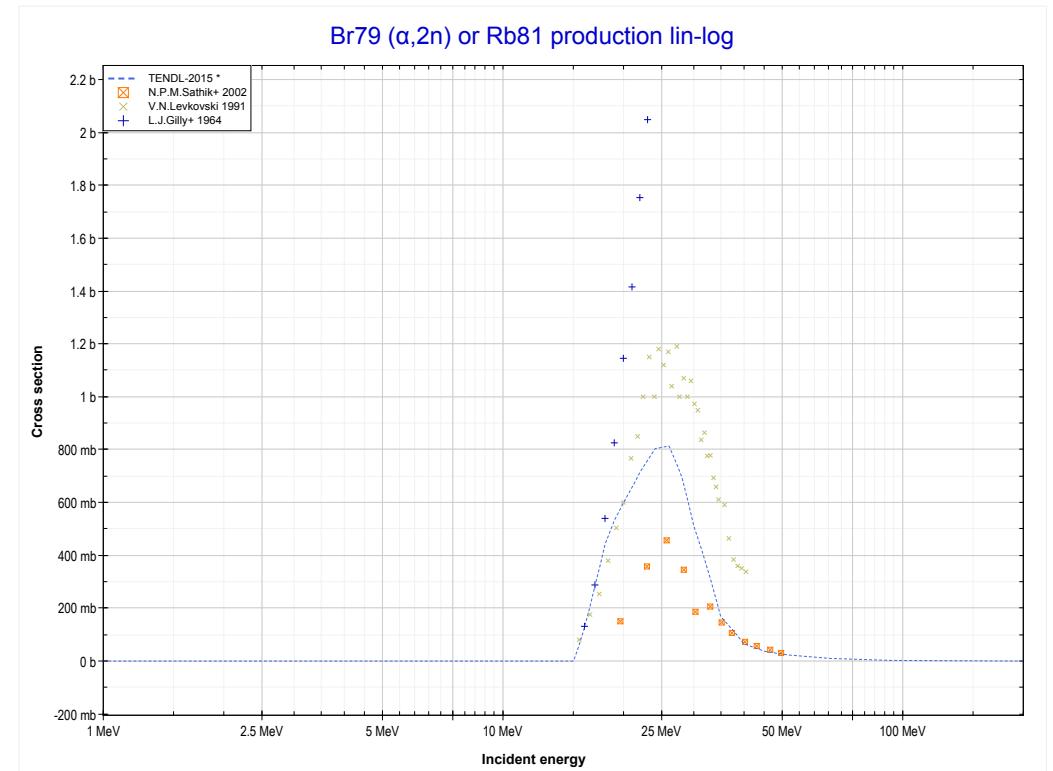
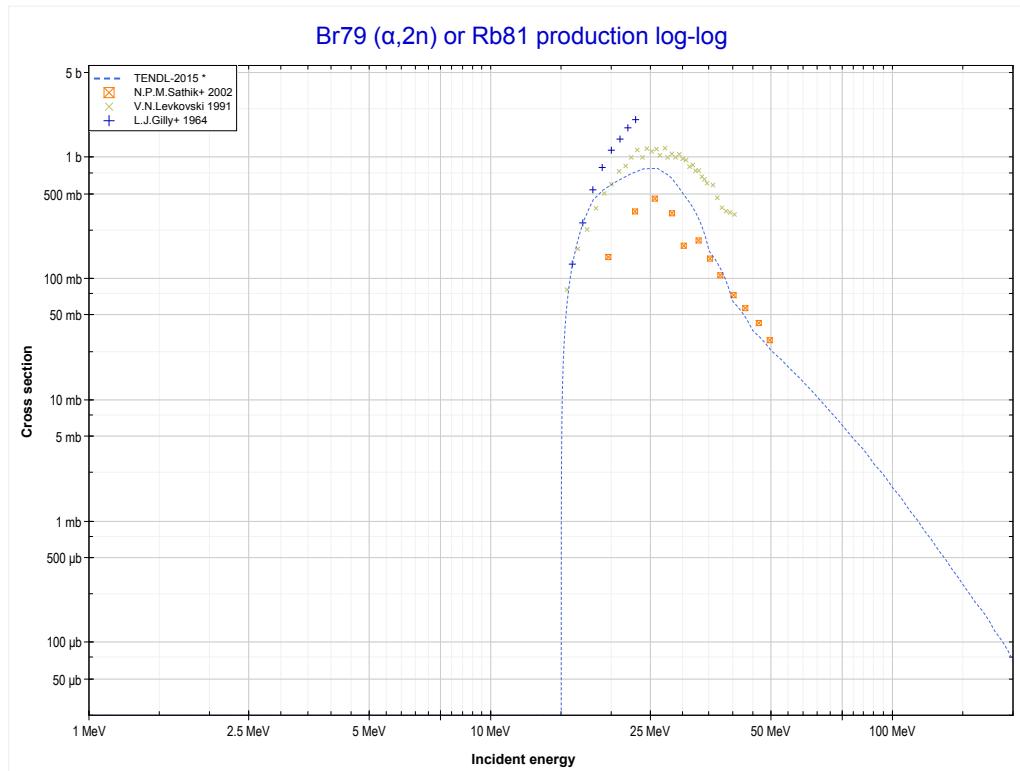
Reaction	Q-Value
Se78( $\alpha,3n$ )Kr79	-24372.95 keV

<< 34-Se-76	<b>35-Br-79</b> MT4 ( $\alpha, n$ ) or MT5 (Rb82 production)	35-Br-81 >>
<< 34-Se-78 MT17 ( $\alpha, 3n$ )		MT16 ( $\alpha, 2n$ ) >>



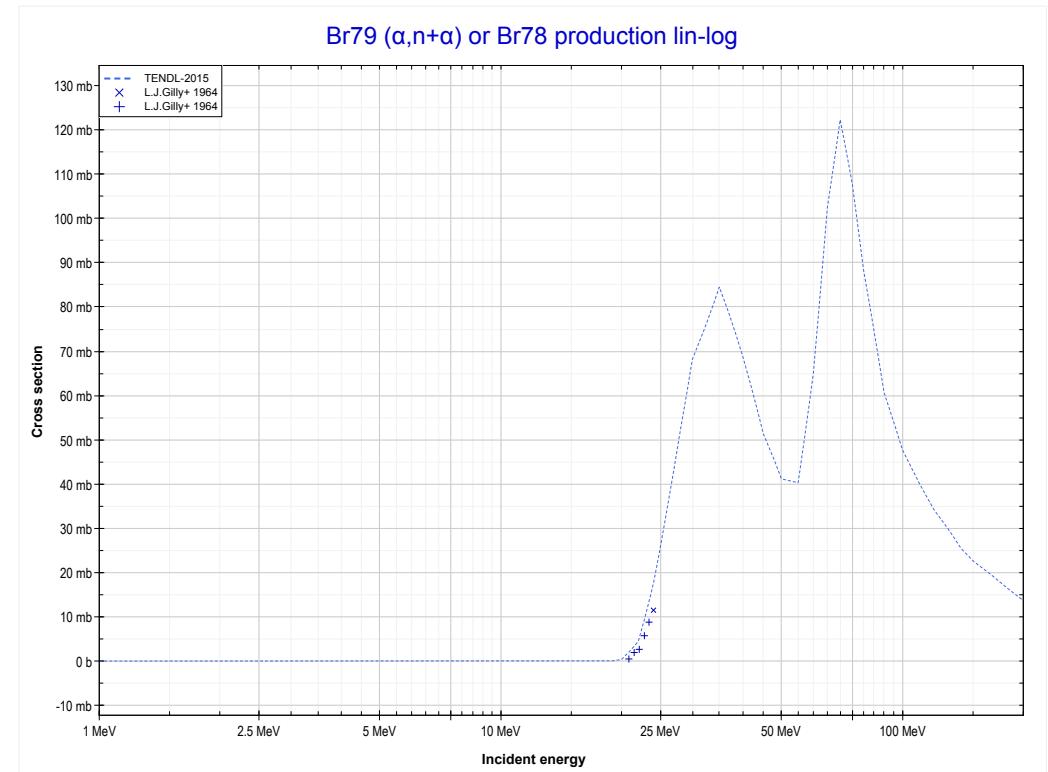
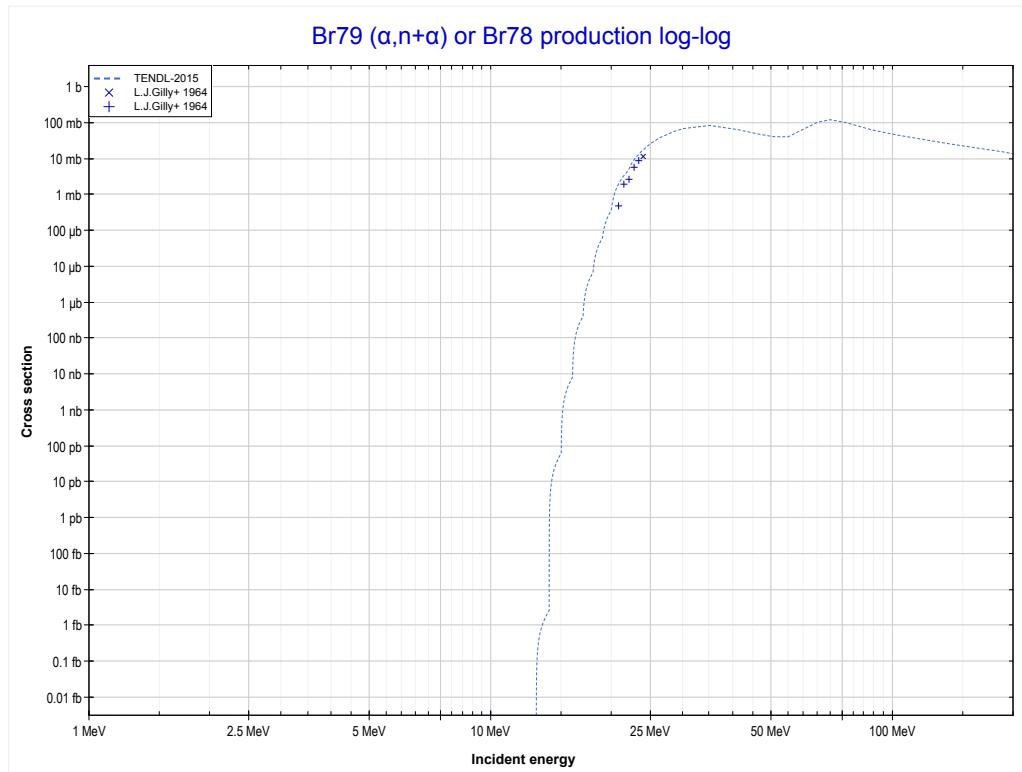
Reaction	Q-Value
Br79( $\alpha, n$ )Rb82	-5526.50 keV

<< 34-Se-77	<b>35-Br-79</b> MT16 ( $\alpha,2n$ ) or MT5 (Rb81 production)	35-Br-81 >> MT22 ( $\alpha,n+\alpha$ ) >>
<< MT4 ( $\alpha,n$ )		



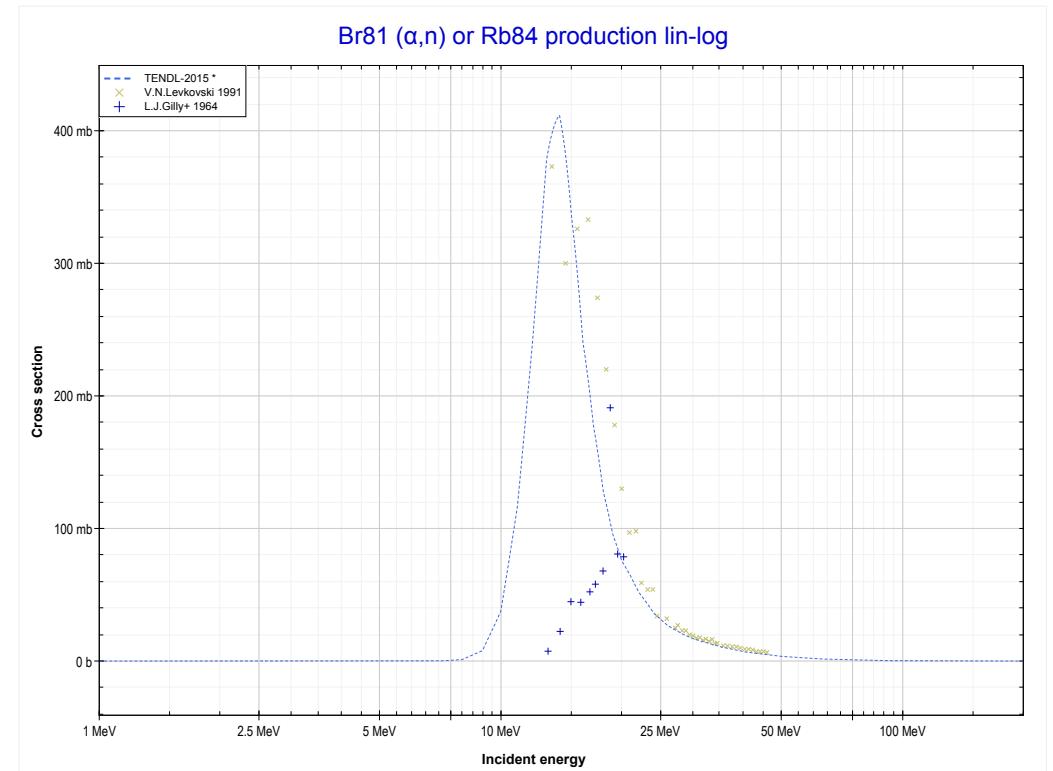
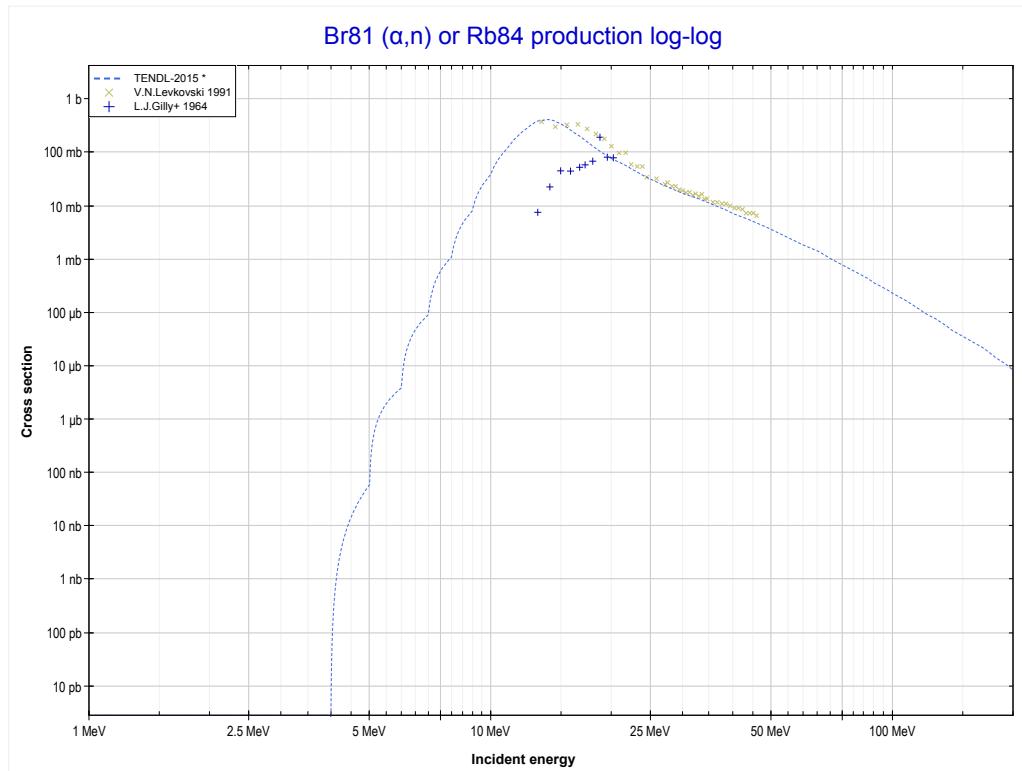
Reaction	Q-Value
Br79( $\alpha,2n$ )Rb81	-14328.82 keV

<< 30-Zn-64	<b>35-Br-79</b> MT22 ( $\alpha, n+\alpha$ ) or MT5 (Br78 production)	35-Br-81 >>
<< MT16 ( $\alpha, 2n$ )		35-Br-81 MT4 ( $\alpha, n$ ) >>



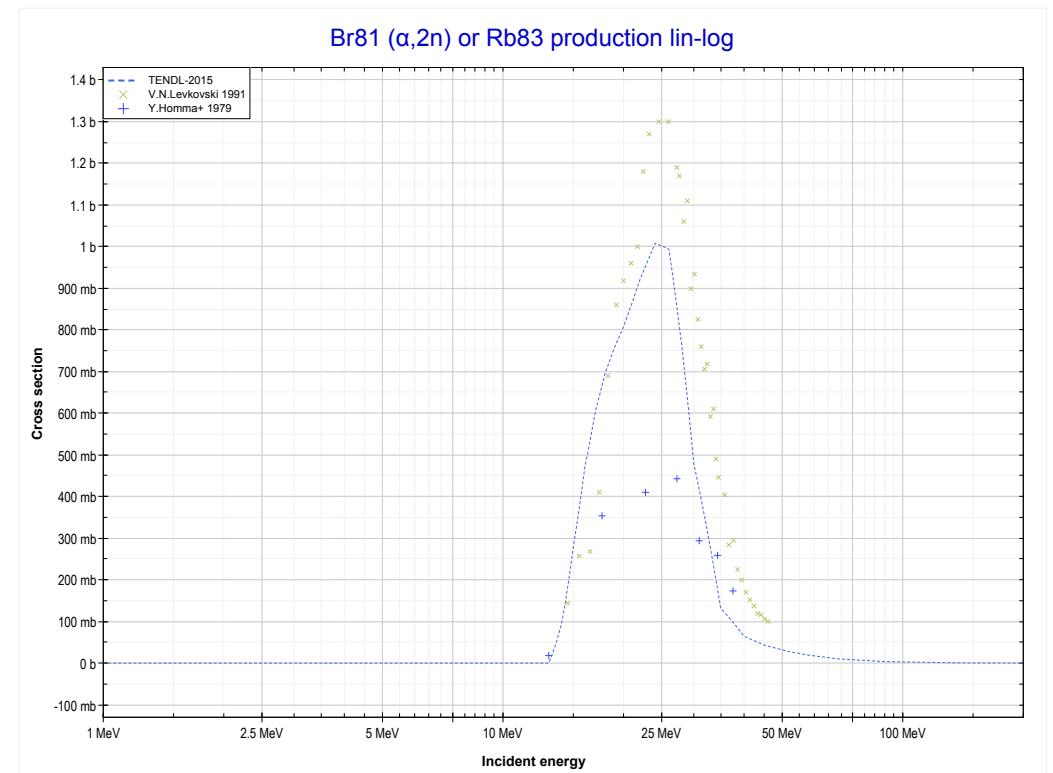
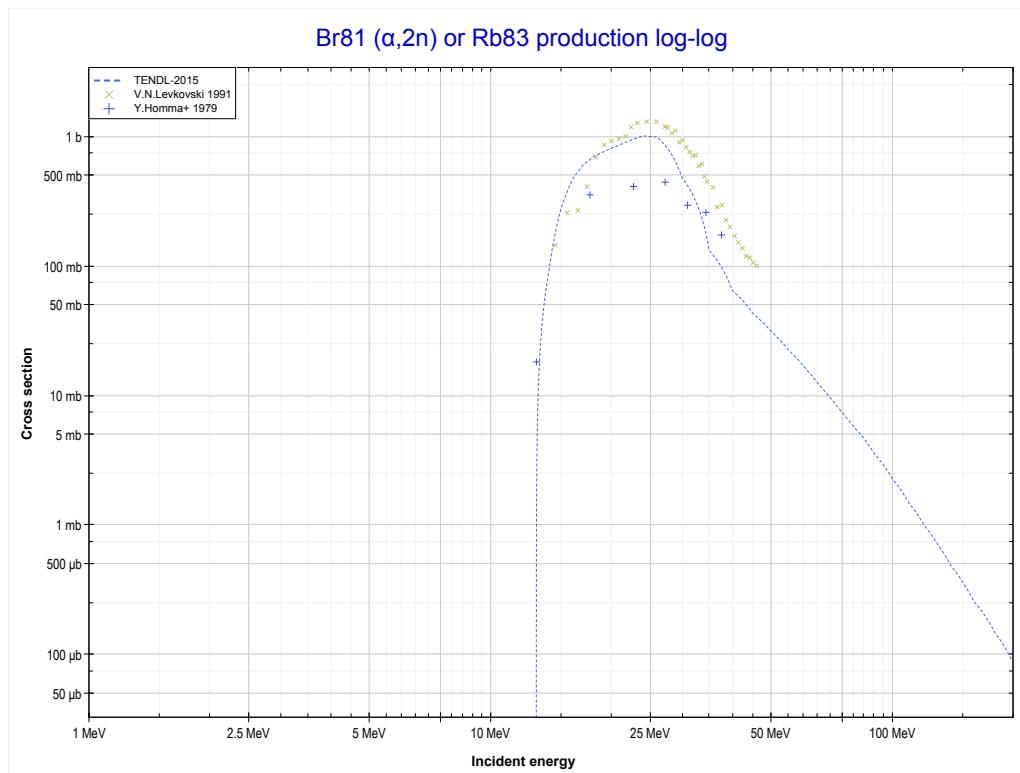
Reaction	Q-Value
Br79( $\alpha, n+\alpha$ )Br78	-10687.42 keV
Br79( $\alpha, d+t$ )Br78	-28276.71 keV
Br79( $\alpha, n+p+t$ )Br78	-30501.28 keV
Br79( $\alpha, 2n+He3$ )Br78	-31265.03 keV
Br79( $\alpha, n+2d$ )Br78	-34533.94 keV
Br79( $\alpha, 2n+p+d$ )Br78	-36758.51 keV
Br79( $\alpha, 3n+2p$ )Br78	-38983.08 keV

<< 35-Br-79	<b>35-Br-81</b> MT4 ( $\alpha, n$ ) or MT5 (Rb84 production)	37-Rb-85 >>
<< 35-Br-79 MT22 ( $\alpha, n + \alpha$ )		MT16 ( $\alpha, 2n$ ) >>



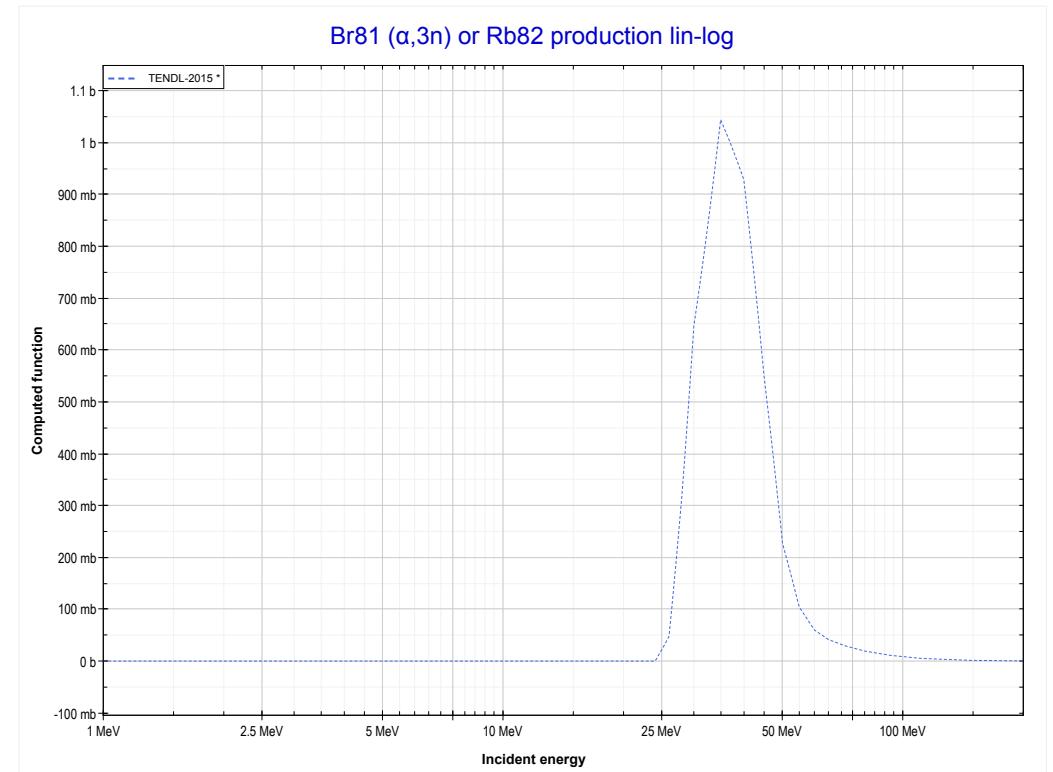
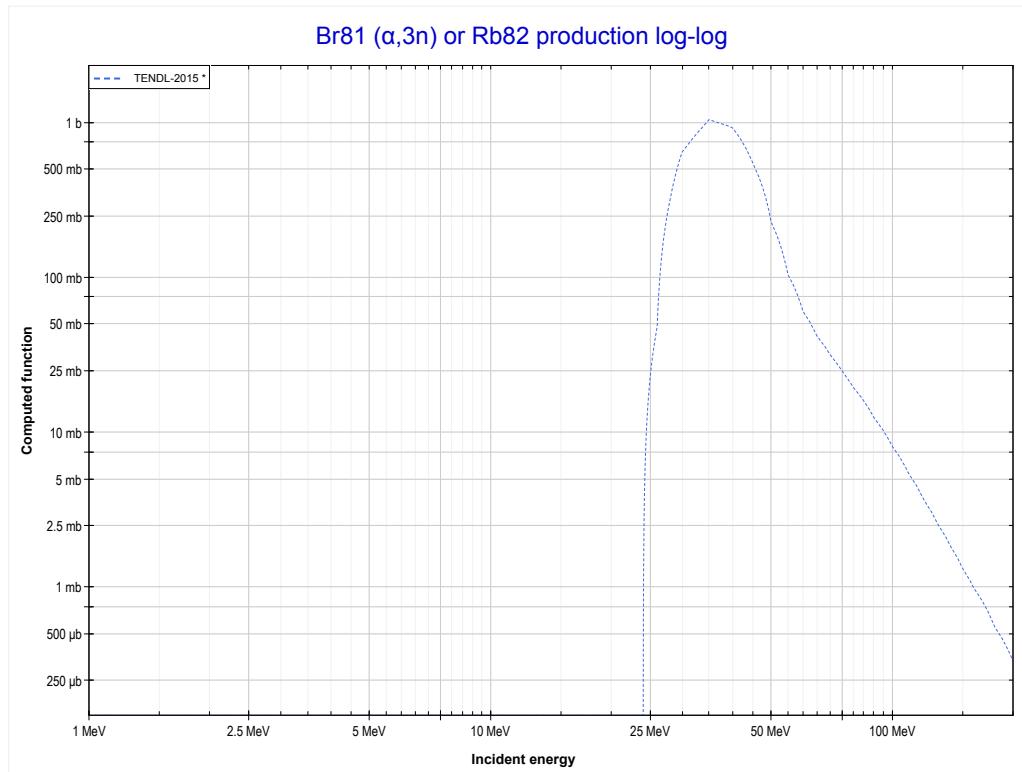
Reaction	Q-Value
Br81( $\alpha, n$ )Rb84	-3863.10 keV

<< 35-Br-79	<b>35-Br-81</b> <b>MT16 (<math>\alpha,2n</math>) or MT5 (Rb83 production)</b>	36-Kr-80 >>
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



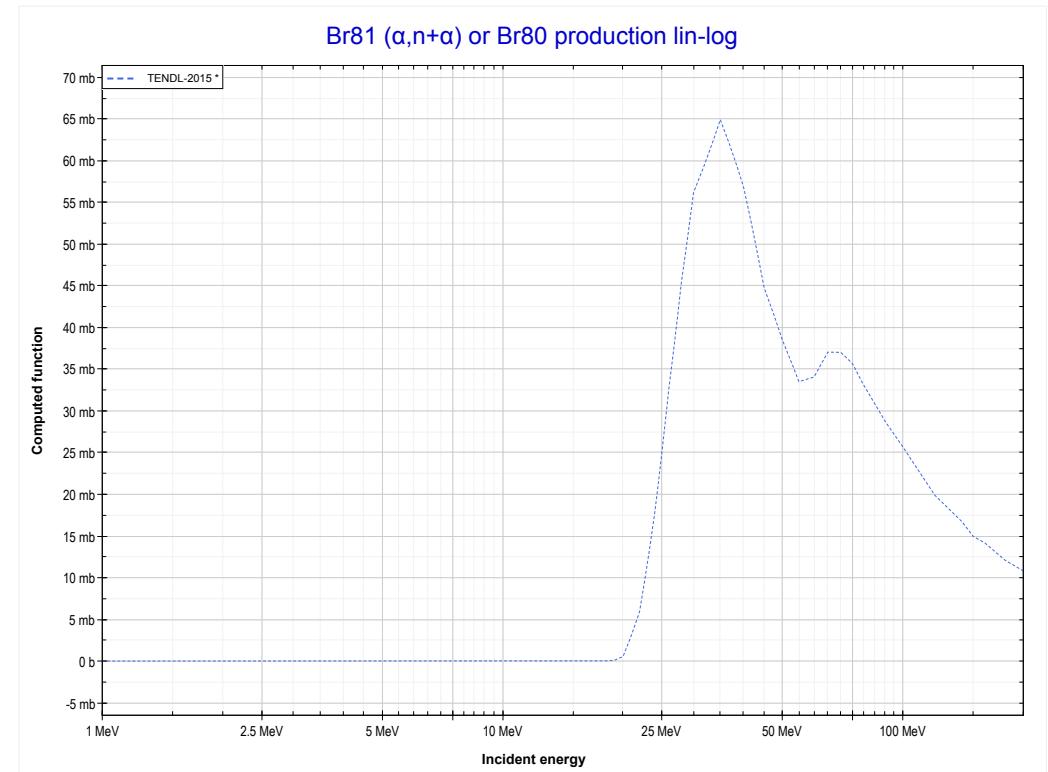
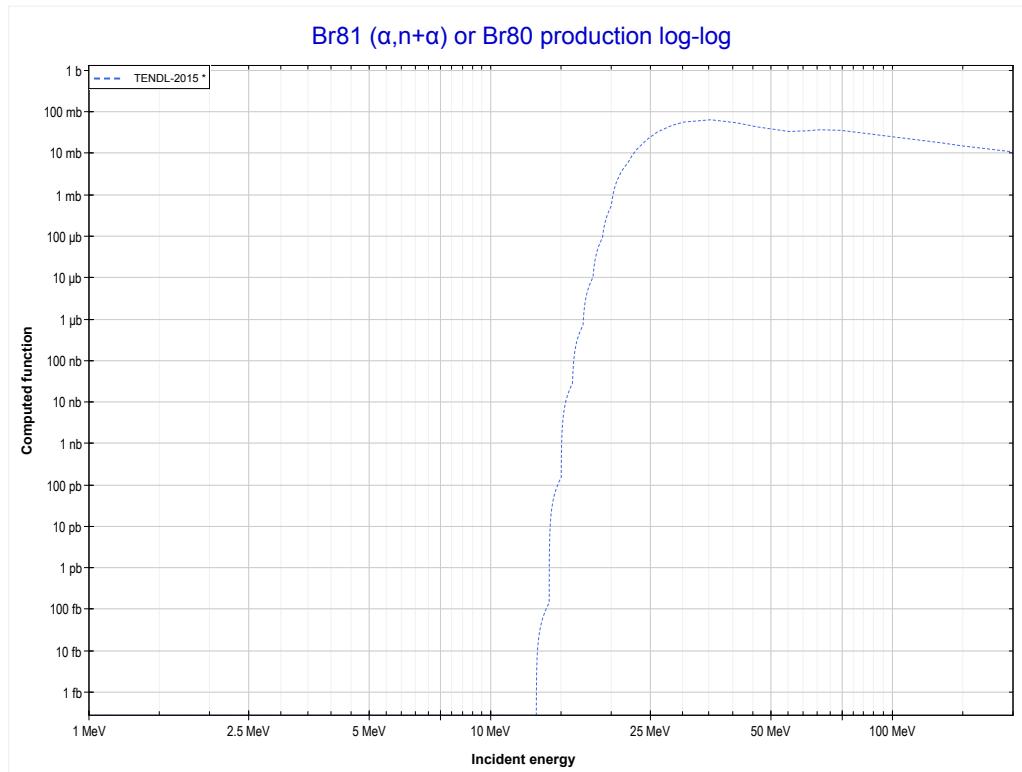
Reaction	Q-Value
Br81( $\alpha,2n$ )Rb83	-12622.82 keV

<< 34-Se-78	<b>35-Br-81</b> MT17 ( $\alpha,3n$ ) or MT5 (Rb82 production)	37-Rb-85 >>
<< MT16 ( $\alpha,2n$ )		MT22 ( $\alpha,n+\alpha$ ) >>



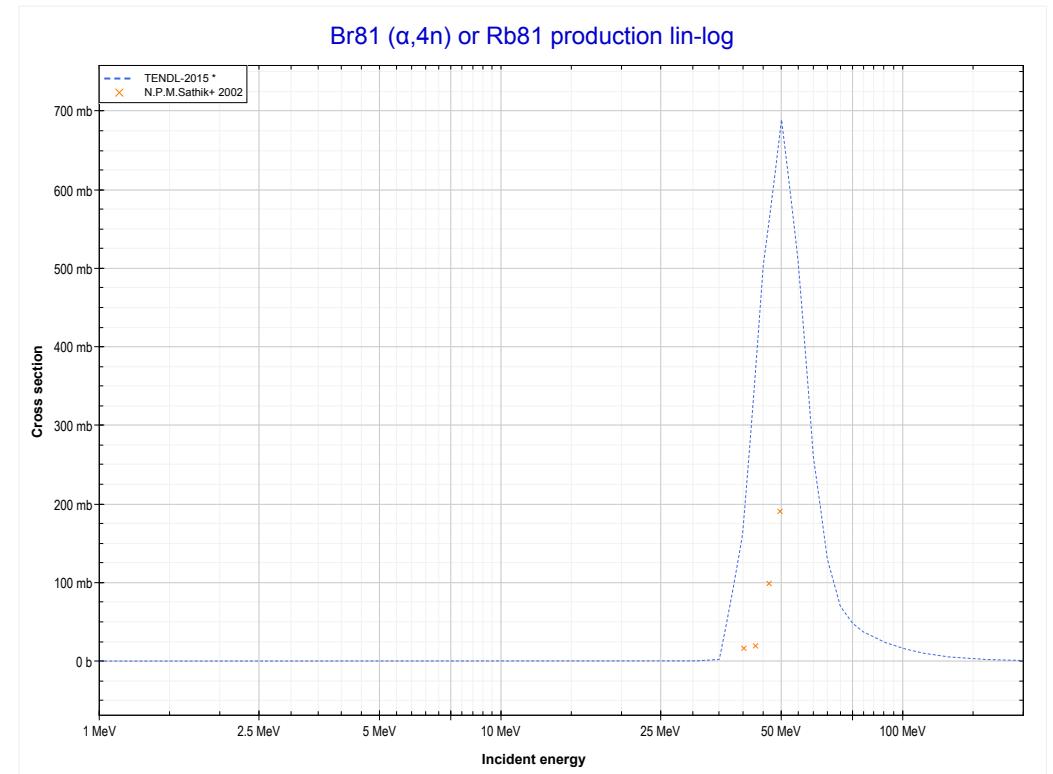
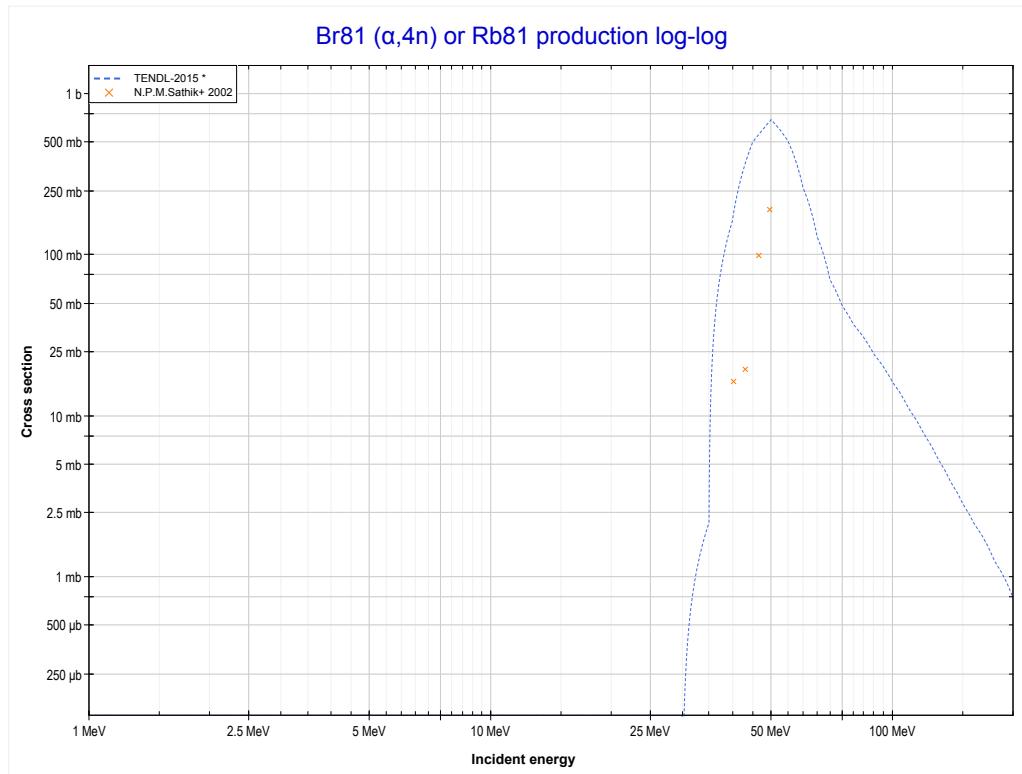
Reaction	Q-Value
Br81( $\alpha,3n$ )Rb82	-23576.74 keV

<< 35-Br-79	<b>35-Br-81</b> MT22 ( $\alpha, n+\alpha$ ) or MT5 (Br80 production)	37-Rb-85 >>
<< MT17 ( $\alpha, 3n$ )		MT37 ( $\alpha, 4n$ ) >>



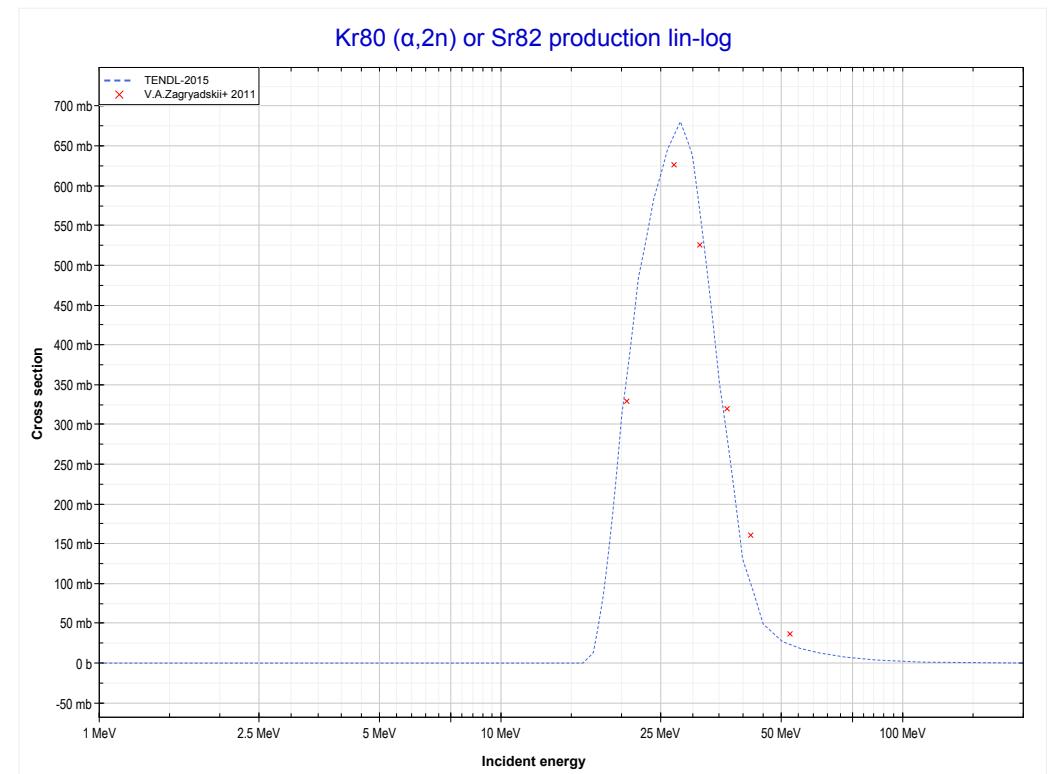
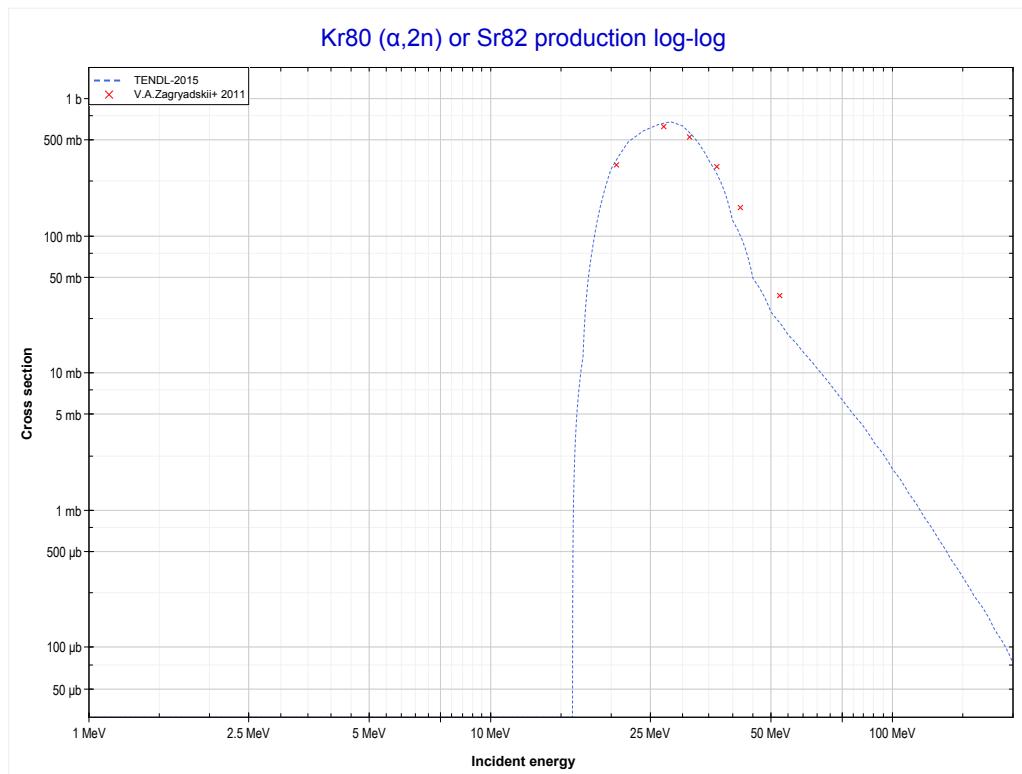
Reaction	Q-Value
Br81( $\alpha, n+\alpha$ )Br80	-10158.02 keV
Br81( $\alpha, d+t$ )Br80	-27747.31 keV
Br81( $\alpha, n+p+t$ )Br80	-29971.88 keV
Br81( $\alpha, 2n+He3$ )Br80	-30735.63 keV
Br81( $\alpha, n+2d$ )Br80	-34004.54 keV
Br81( $\alpha, 2n+p+d$ )Br80	-36229.11 keV
Br81( $\alpha, 3n+2p$ )Br80	-38453.68 keV

<< 33-As-75	<b>35-Br-81</b> MT37 ( $\alpha,4n$ ) or MT5 (Rb81 production)	>> 36-Kr-82 >>
<< MT22 ( $\alpha,n+\alpha$ )		36-Kr-80 MT16 ( $\alpha,2n$ ) >>



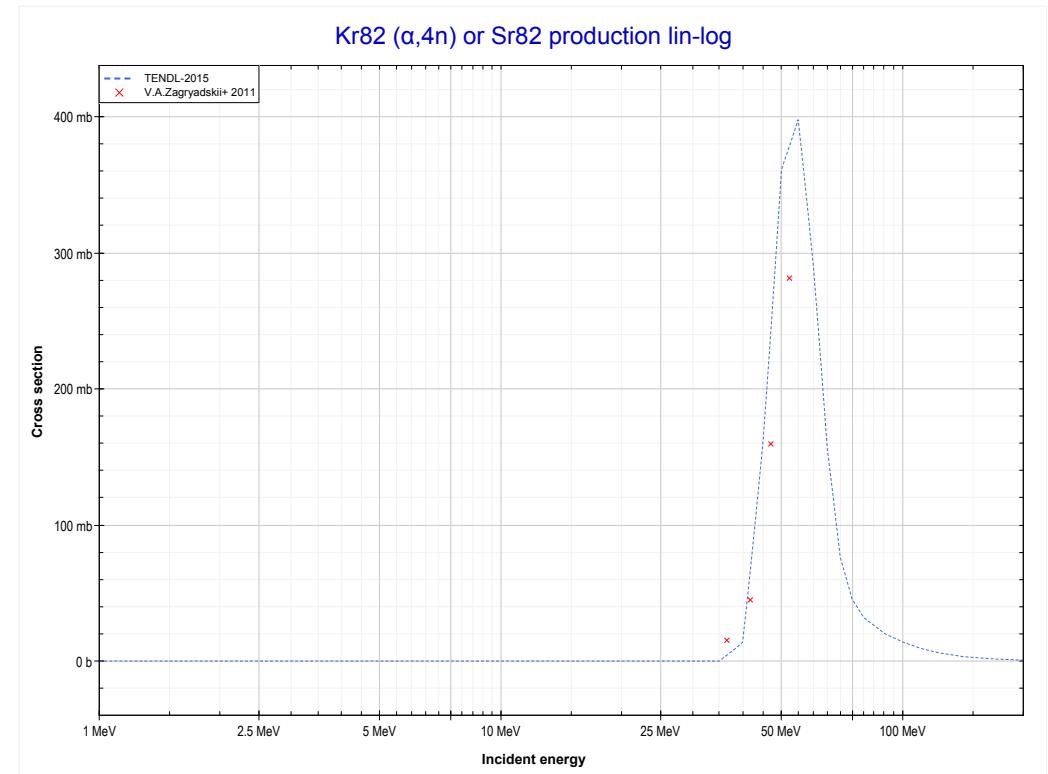
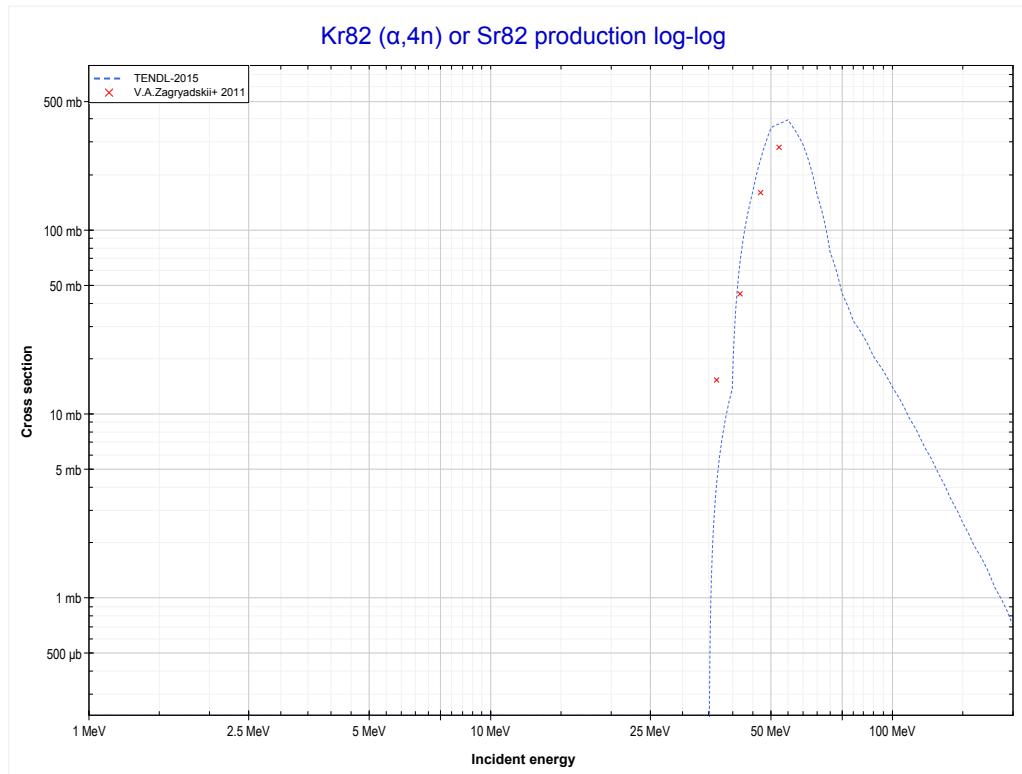
Reaction	Q-Value
Br81( $\alpha,4n$ )Rb81	-32379.05 keV

<< 35-Br-81	<b>36-Kr-80</b> MT16 ( $\alpha,2n$ ) or MT5 (Sr82 production)	37-Rb-85 >>
<< 35-Br-81 MT37 ( $\alpha,4n$ )		36-Kr-82 MT37 ( $\alpha,4n$ ) >>



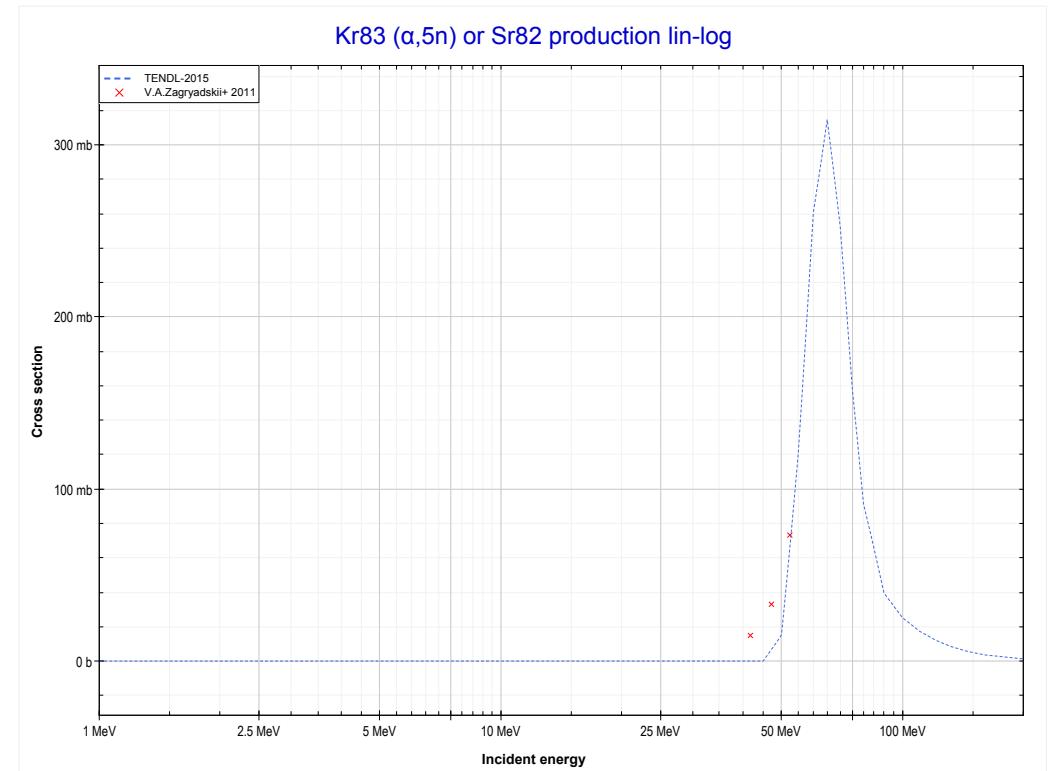
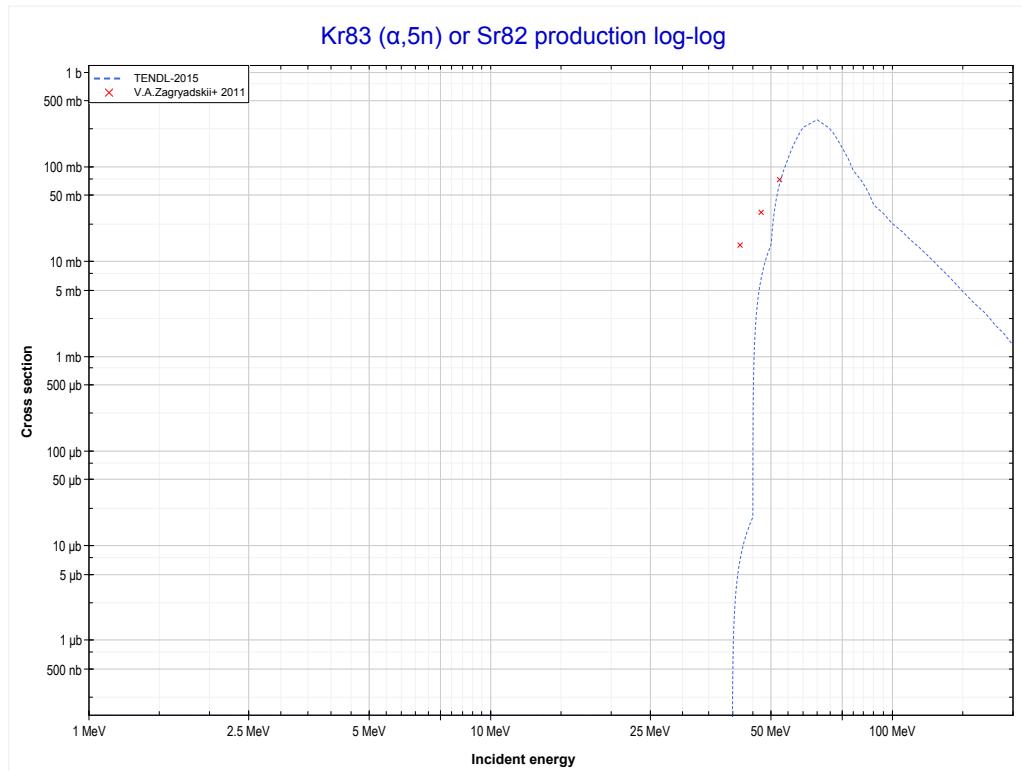
Reaction	Q-Value
Kr80( $\alpha,2n$ )Sr82	-15601.02 keV

<< 35-Br-81	<b>36-Kr-82</b>	37-Rb-85 >>
<< 36-Kr-80 MT16 ( $\alpha,2n$ )	<b>MT37 (<math>\alpha,4n</math>) or MT5 (Sr82 production)</b>	36-Kr-83 MT152 ( $\alpha,5n$ ) >>



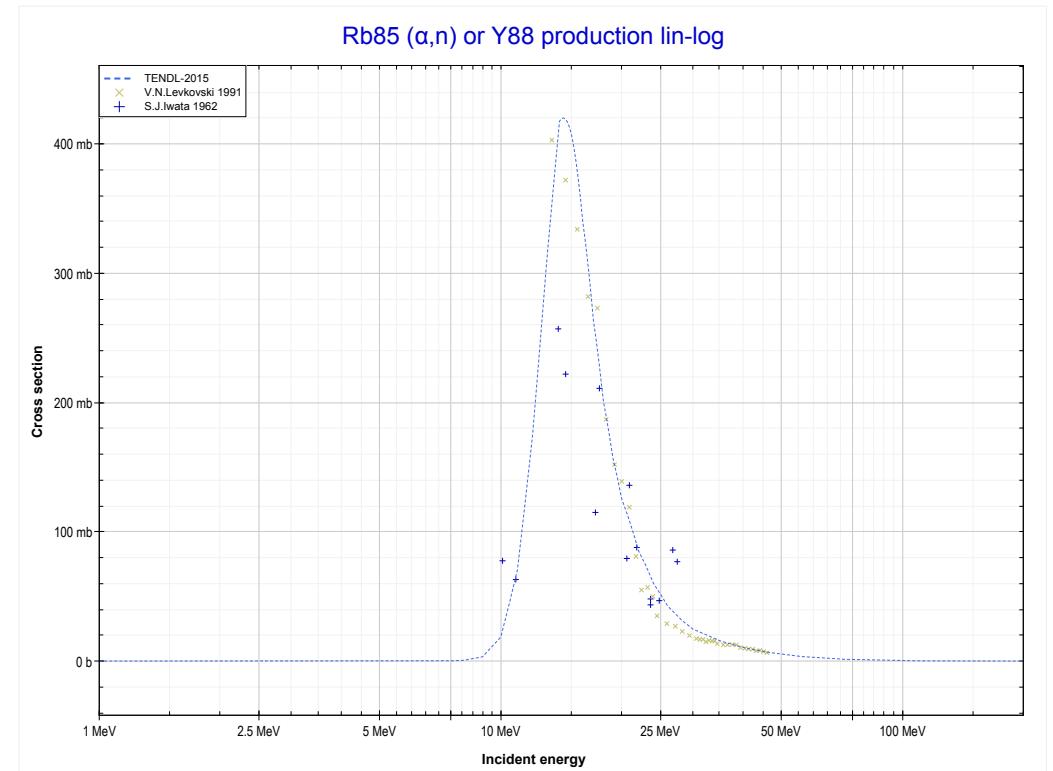
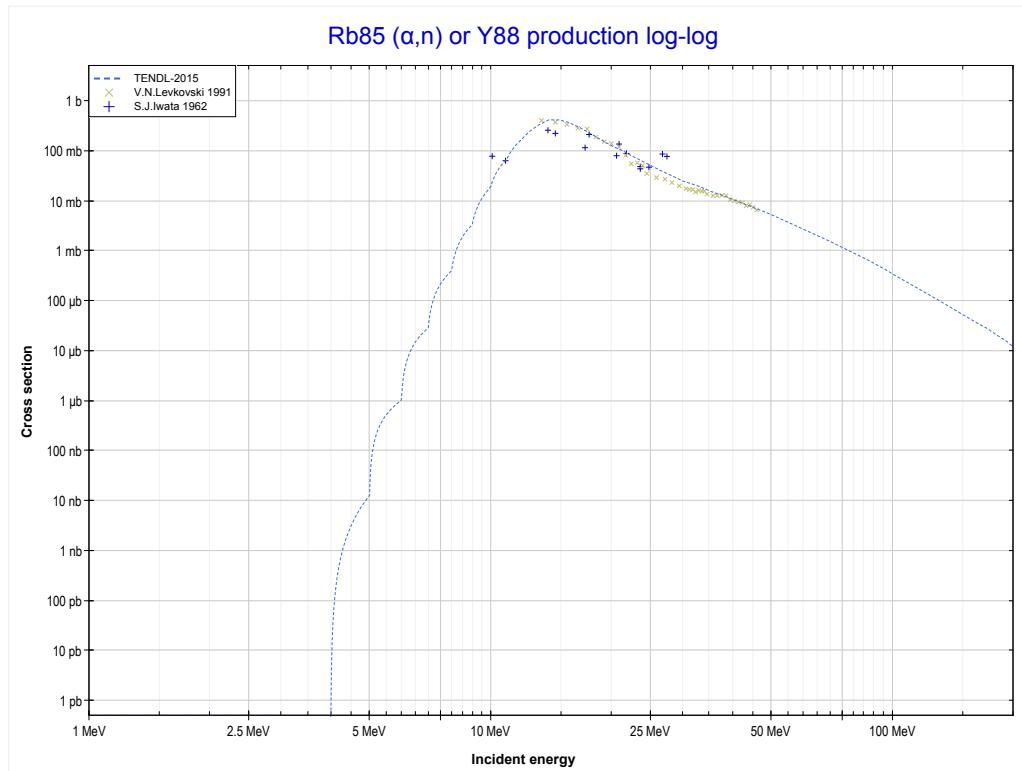
Reaction	Q-Value
Kr82( $\alpha,4n$ )Sr82	-34440.65 keV

<< 33-As-75	36-Kr-83 MT152 ( $\alpha,5n$ ) or MT5 (Sr82 production)	41-Nb-93 >>
<< 36-Kr-82 MT37 ( $\alpha,4n$ )		37-Rb-85 MT4 ( $\alpha,n$ ) >>



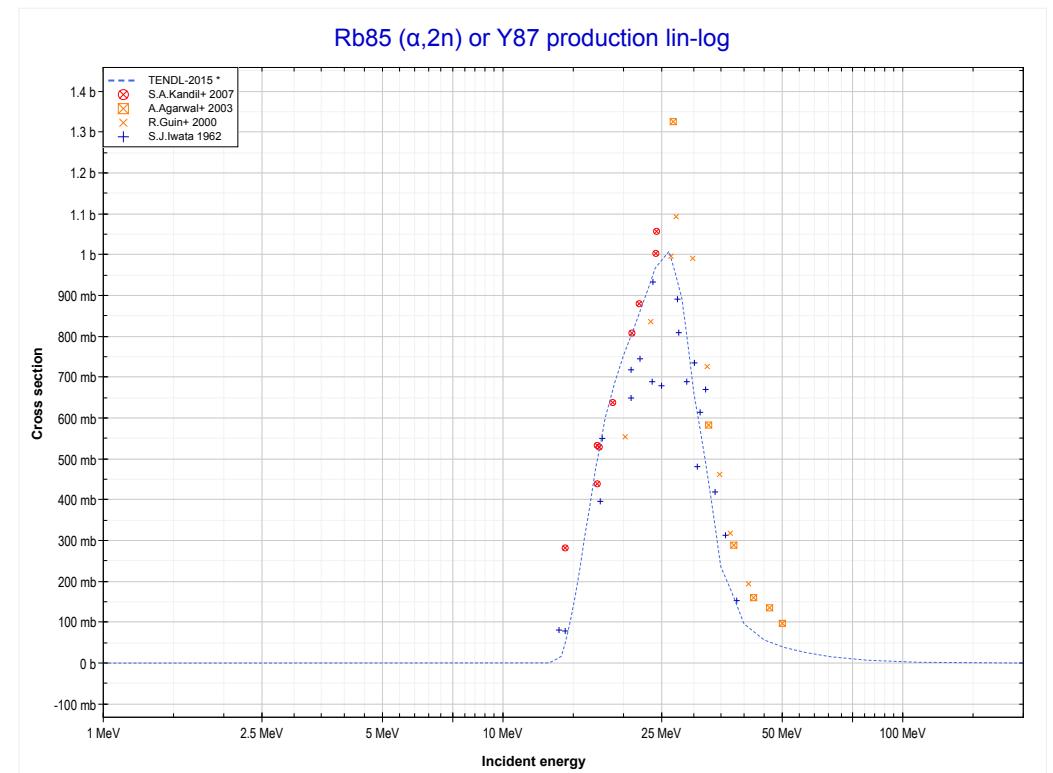
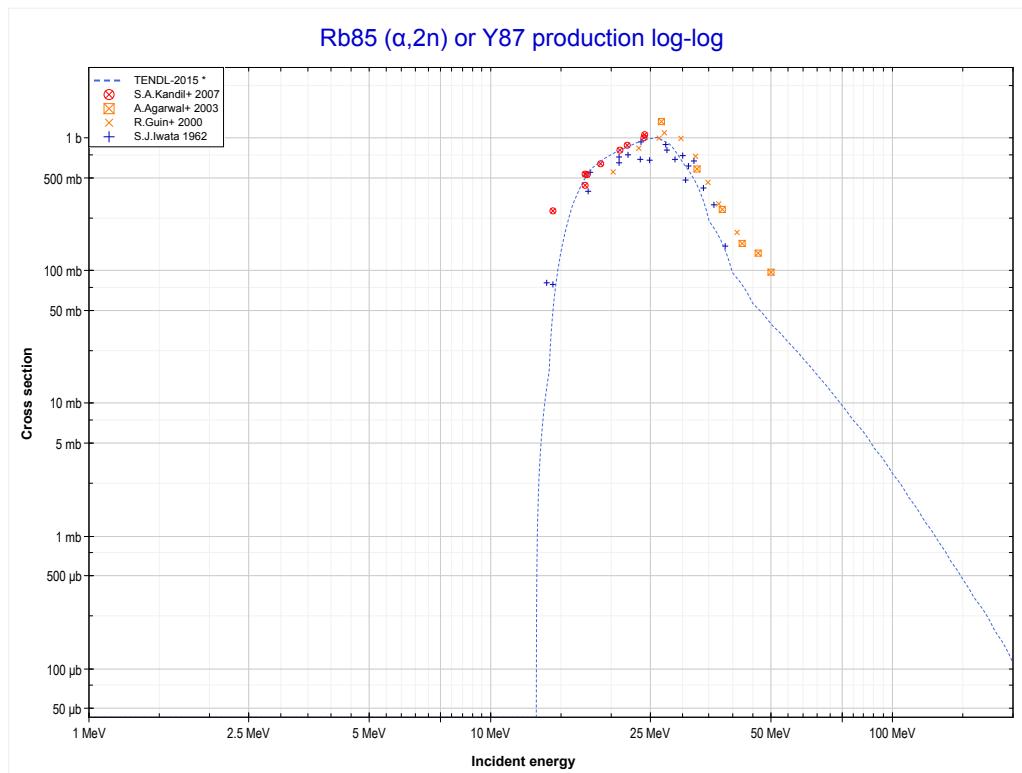
Reaction	Q-Value
Kr83( $\alpha,5n$ )Sr82	-41911.70 keV

<< 35-Br-81	<b>37-Rb-85</b> MT4 ( $\alpha, n$ ) or MT5 (Y88 production)	>> 38-Sr-86
<< 36-Kr-83 MT152 ( $\alpha, 5n$ )		MT16 ( $\alpha, 2n$ ) >>



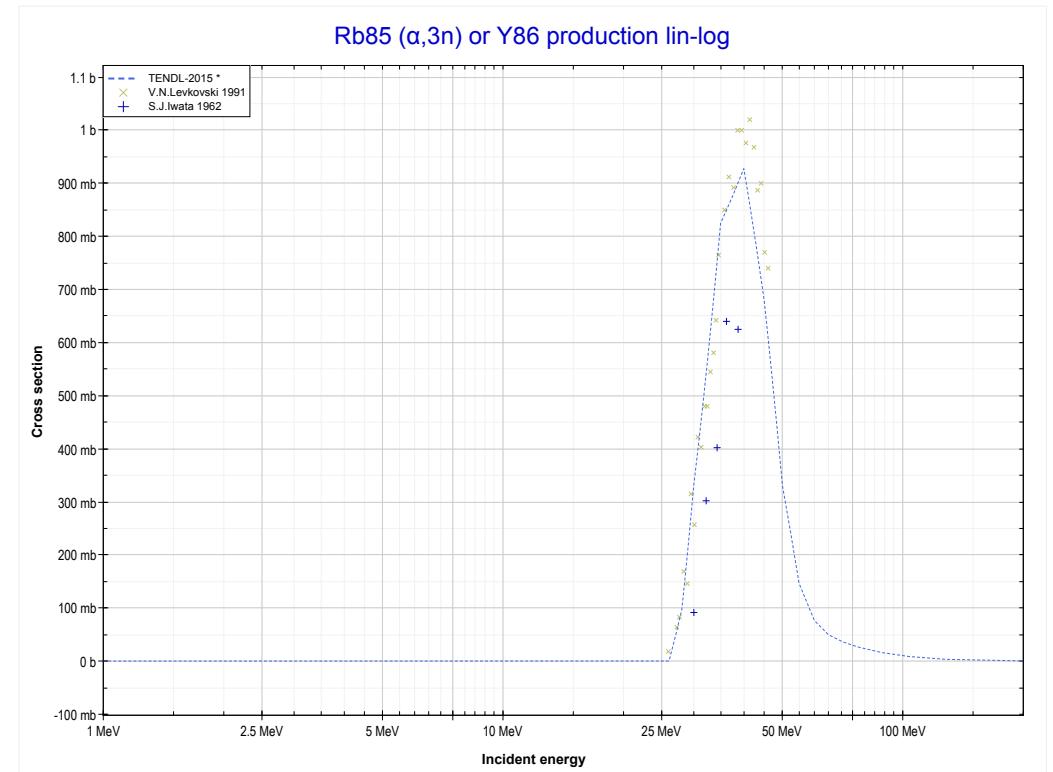
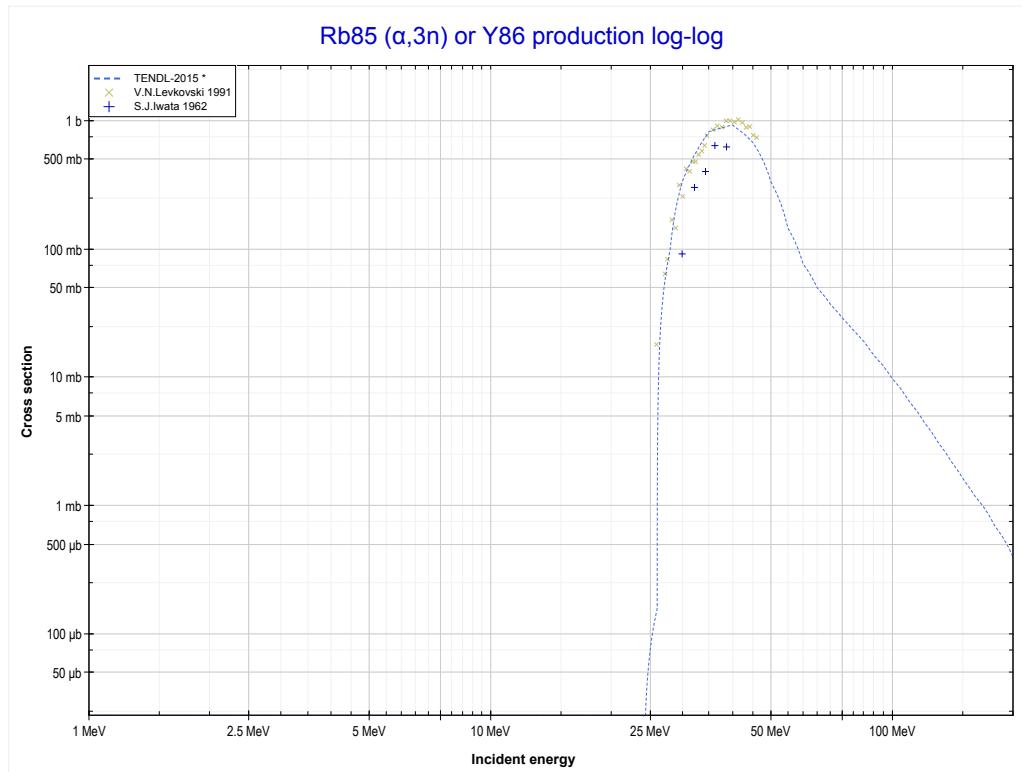
Reaction	Q-Value
Rb85( $\alpha, n$ )Y88	-3514.93 keV

<< 36-Kr-80	<b>37-Rb-85</b> <b>MT16 (<math>\alpha</math>,2n) or MT5 (Y87 production)</b>	38-Sr-86 >>
<< MT4 ( $\alpha$ ,n)		MT17 ( $\alpha$ ,3n) >>



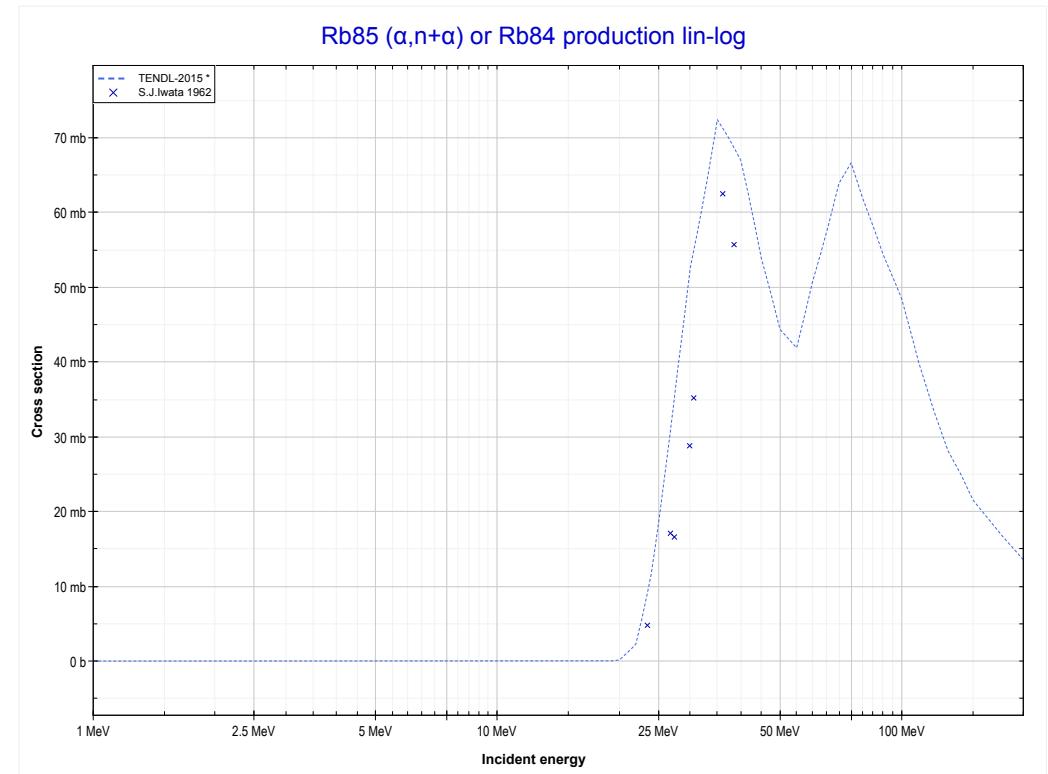
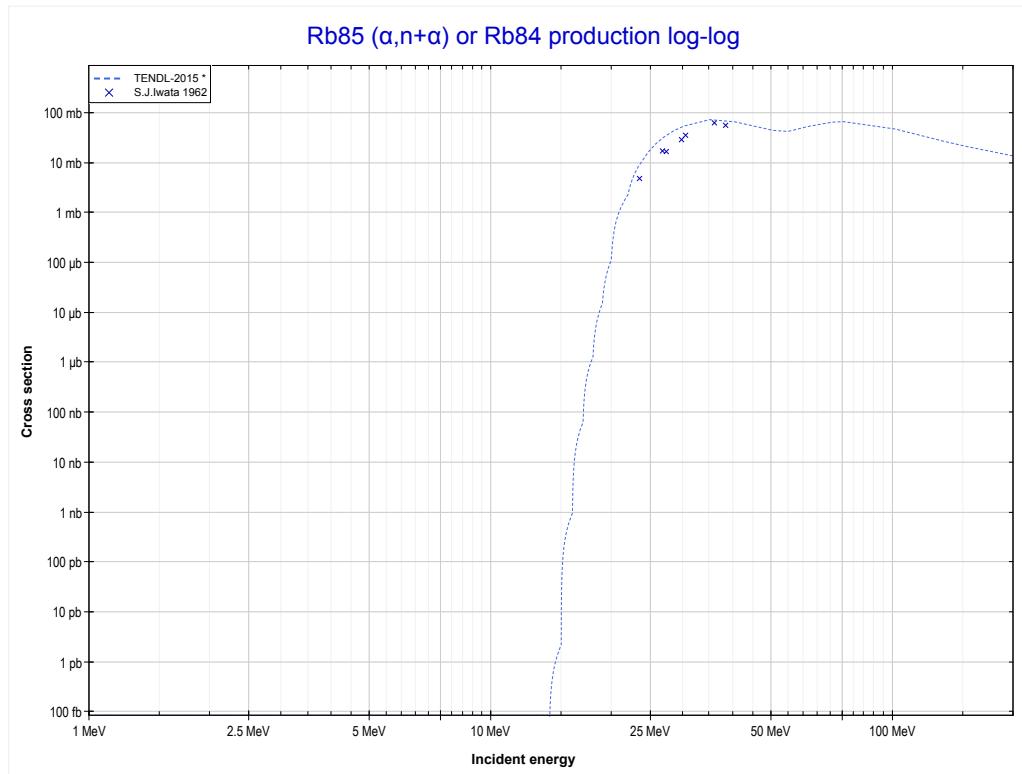
Reaction	Q-Value
Rb85( $\alpha$ ,2n)Y87	-12866.75 keV

<< 35-Br-81	<b>37-Rb-85</b> <b>MT17 (<math>\alpha,3n</math>) or MT5 (Y86 production)</b>	38-Sr-86 >>
<< MT16 ( $\alpha,2n$ )		MT22 ( $\alpha,n+\alpha$ ) >>



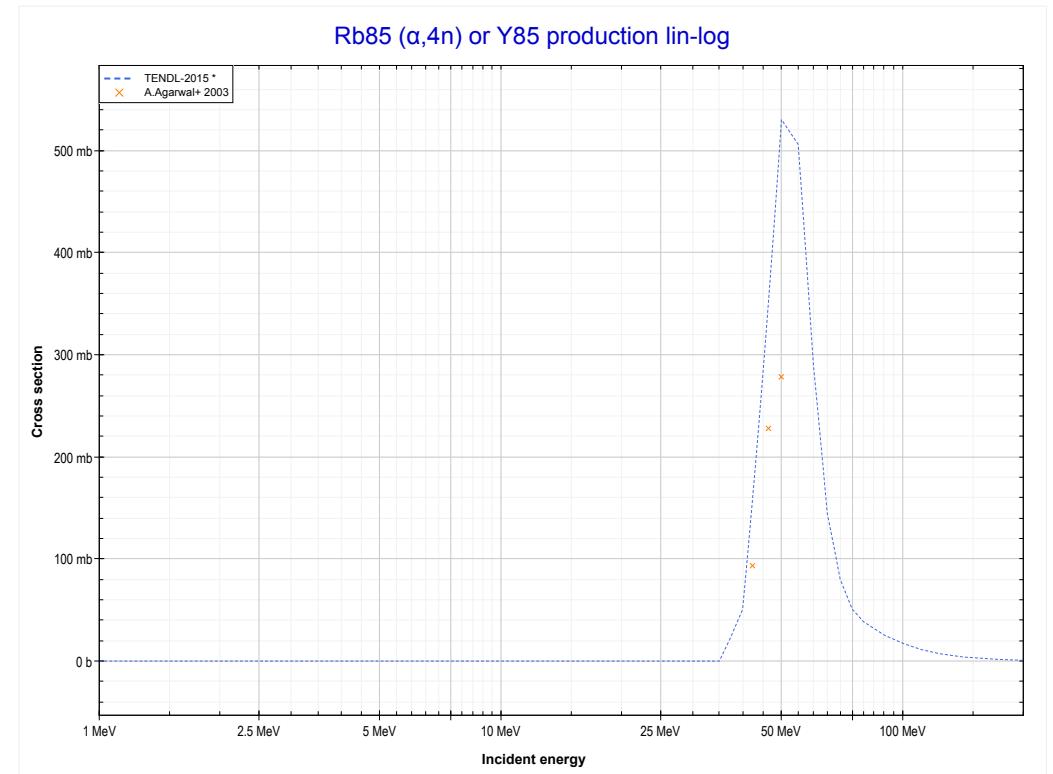
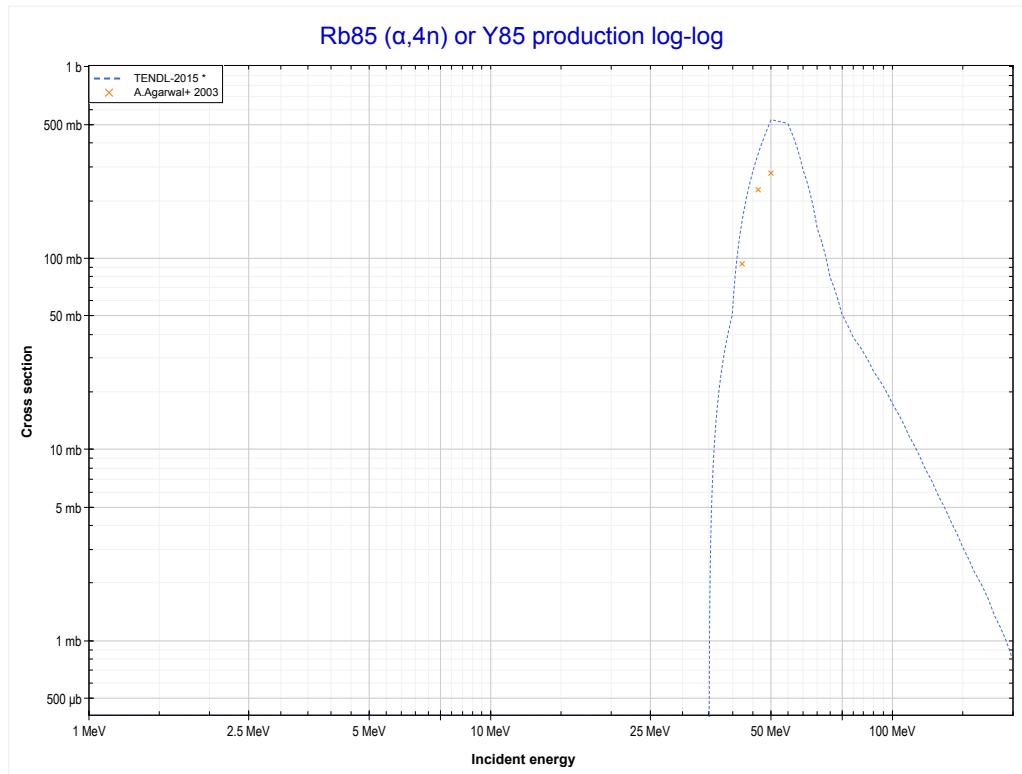
Reaction	Q-Value
Rb85( $\alpha,3n$ )Y86	-24673.37 keV

<< 35-Br-81	<b>37-Rb-85</b> MT22 ( $\alpha, n + \alpha$ ) or MT5 (Rb84 production)	39-Y-89 >>
<< MT17 ( $\alpha, 3n$ )		MT37 ( $\alpha, 4n$ ) >>



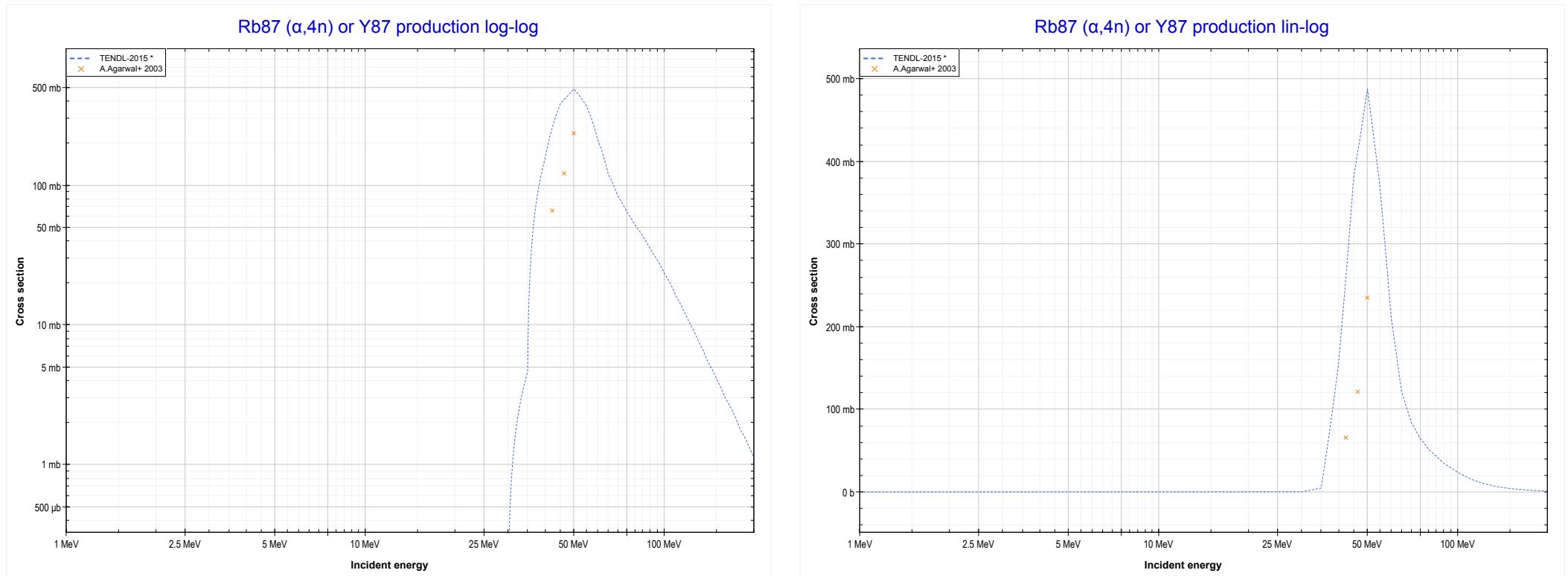
Reaction	Q-Value
Rb85( $\alpha, n + \alpha$ )Rb84	-10479.65 keV
Rb85( $\alpha, d + t$ )Rb84	-28068.94 keV
Rb85( $\alpha, n + p + t$ )Rb84	-30293.51 keV
Rb85( $\alpha, 2n + \text{He}3$ )Rb84	-31057.26 keV
Rb85( $\alpha, n + 2d$ )Rb84	-34326.17 keV
Rb85( $\alpha, 2n + p + d$ )Rb84	-36550.74 keV
Rb85( $\alpha, 3n + 2p$ )Rb84	-38775.31 keV

<< 36-Kr-82	<b>37-Rb-85</b>	37-Rb-87 >>
<< MT22 ( $\alpha, n + \alpha$ )	<b>MT37 (<math>\alpha, 4n</math>) or MT5 (Y85 production)</b>	37-Rb-87 MT37 ( $\alpha, 4n$ ) >>



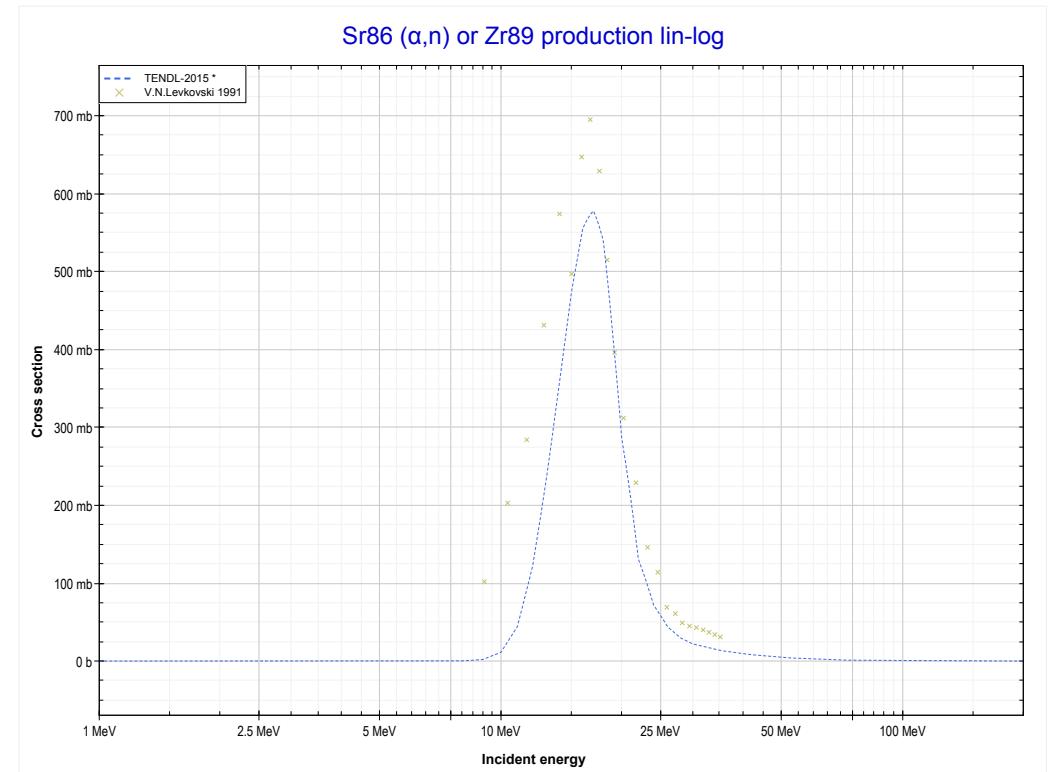
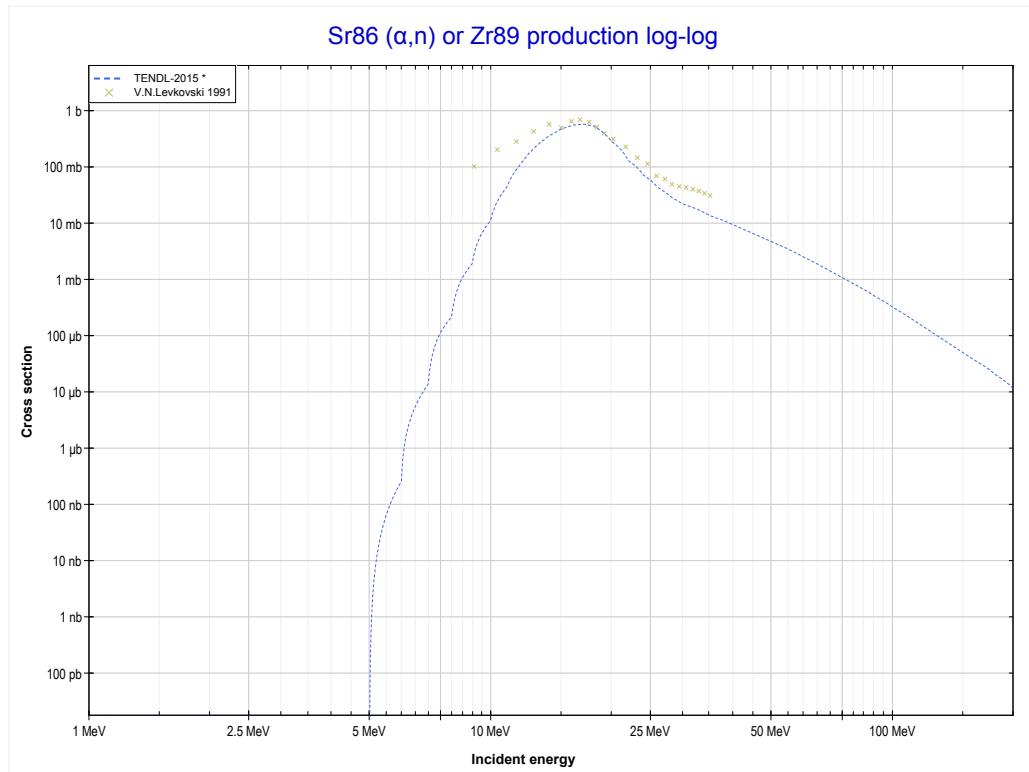
Reaction	Q-Value
Rb85( $\alpha, 4n$ )Y85	-34185.68 keV

<< 37-Rb-85	<b>37-Rb-87</b>	39-Y-89 >>
<< 37-Rb-85 MT37 ( $\alpha$ ,4n)	<b>MT37 (<math>\alpha</math>,4n) or MT5 (Y87 production)</b>	38-Sr-86 MT4 ( $\alpha$ ,n) >>



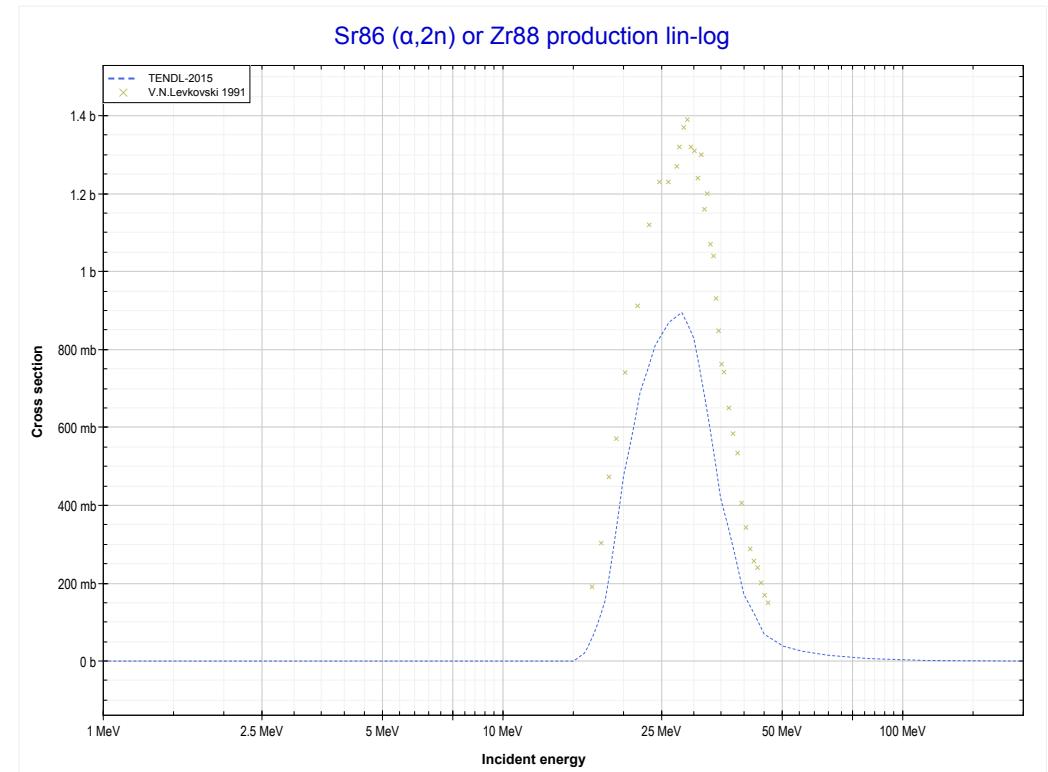
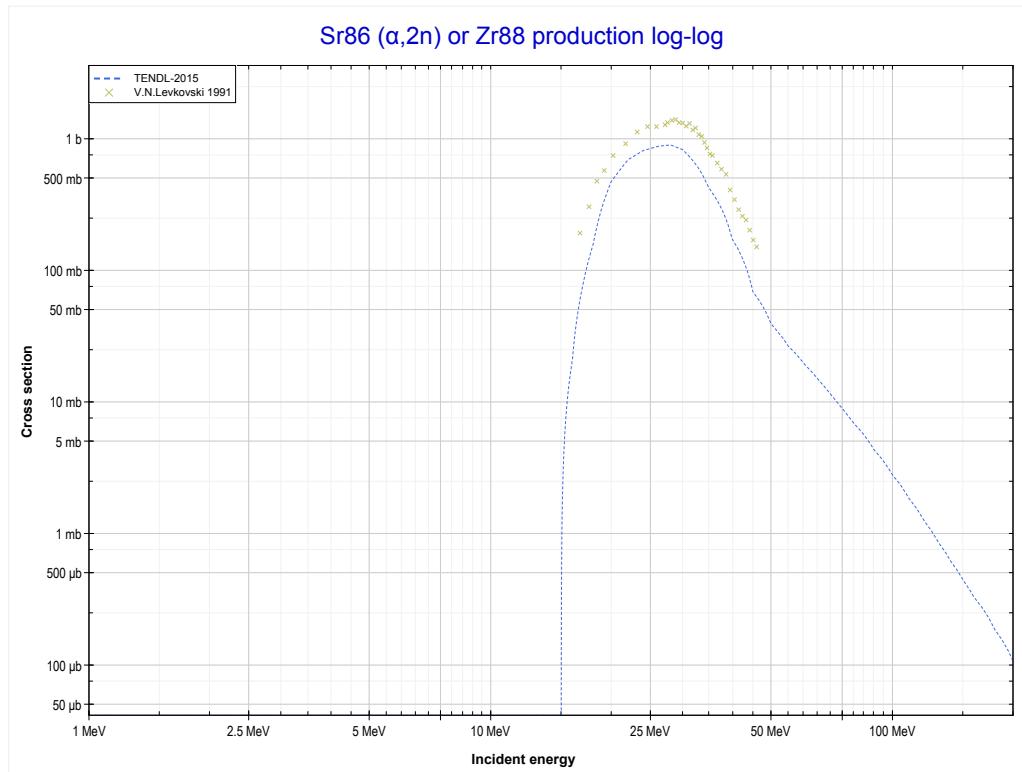
Reaction	Q-Value
$Rb^{87}(\alpha, 4n)Y^{87}$	-31439.84 keV

<< 37-Rb-85	<b>38-Sr-86</b> MT4 ( $\alpha, n$ ) or MT5 (Zr89 production)	>> 39-Y-89
<< 37-Rb-87 MT37 ( $\alpha, 4n$ )		MT16 ( $\alpha, 2n$ ) >>



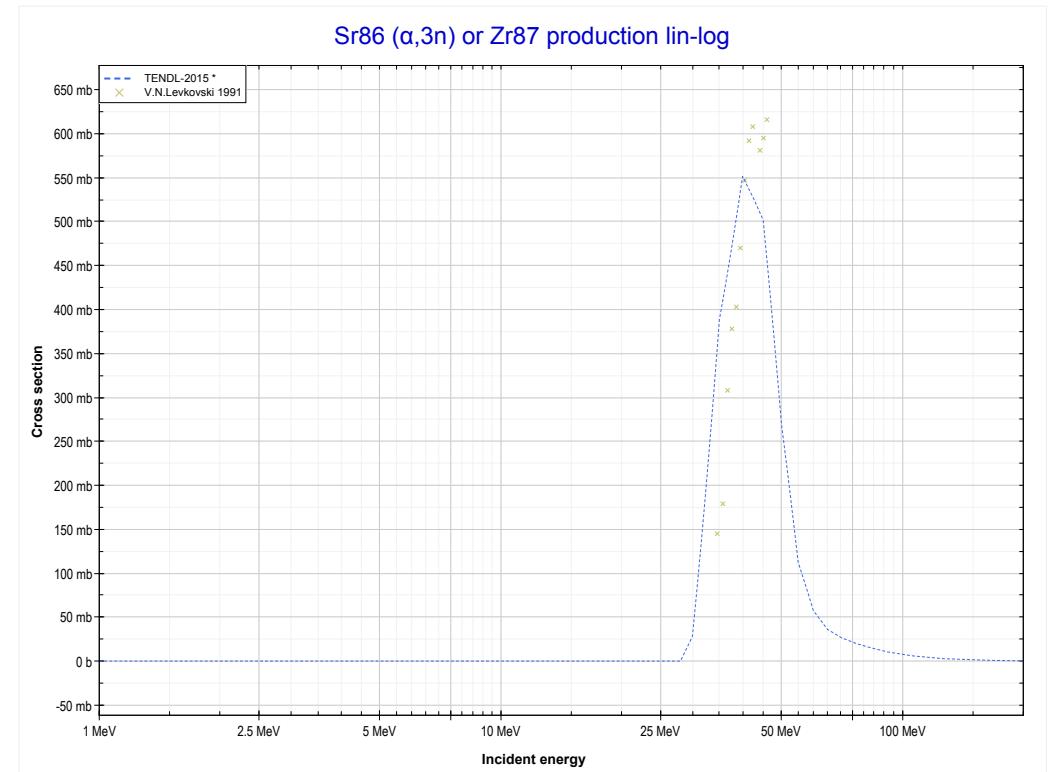
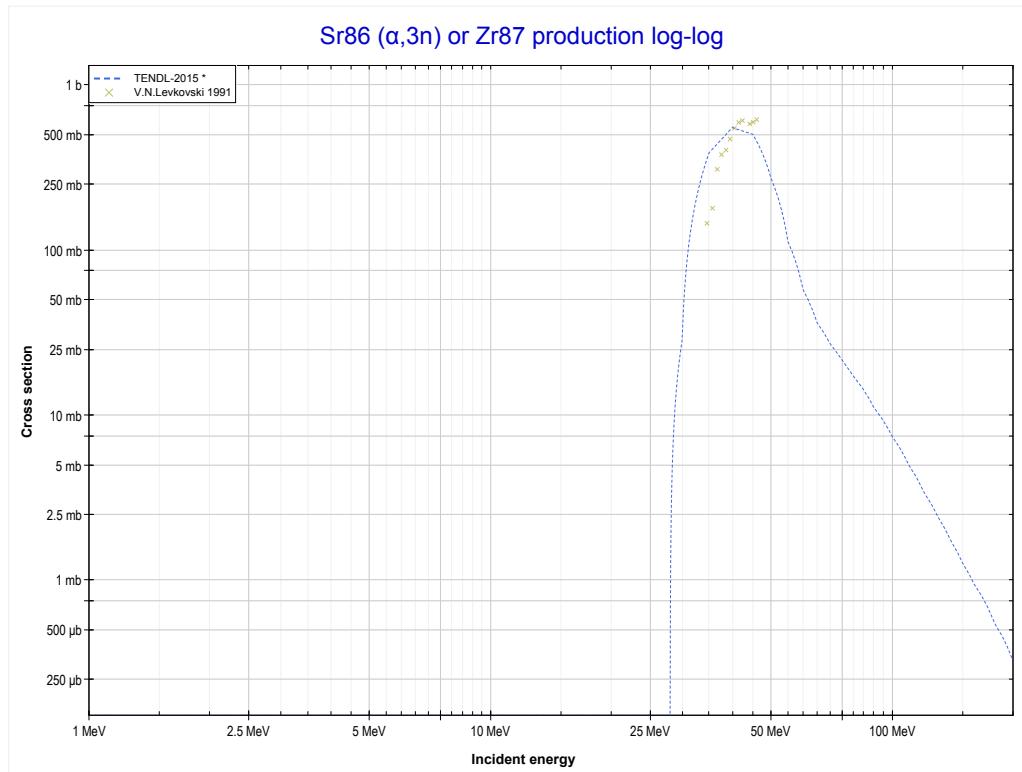
Reaction	Q-Value
Sr86( $\alpha, n$ )Zr89	-5293.60 keV

<< 37-Rb-85	<b>38-Sr-86</b> MT16 ( $\alpha,2n$ ) or MT5 (Zr88 production)	>> 38-Sr-87
<< MT4 ( $\alpha,n$ )		>> MT17 ( $\alpha,3n$ ) >>



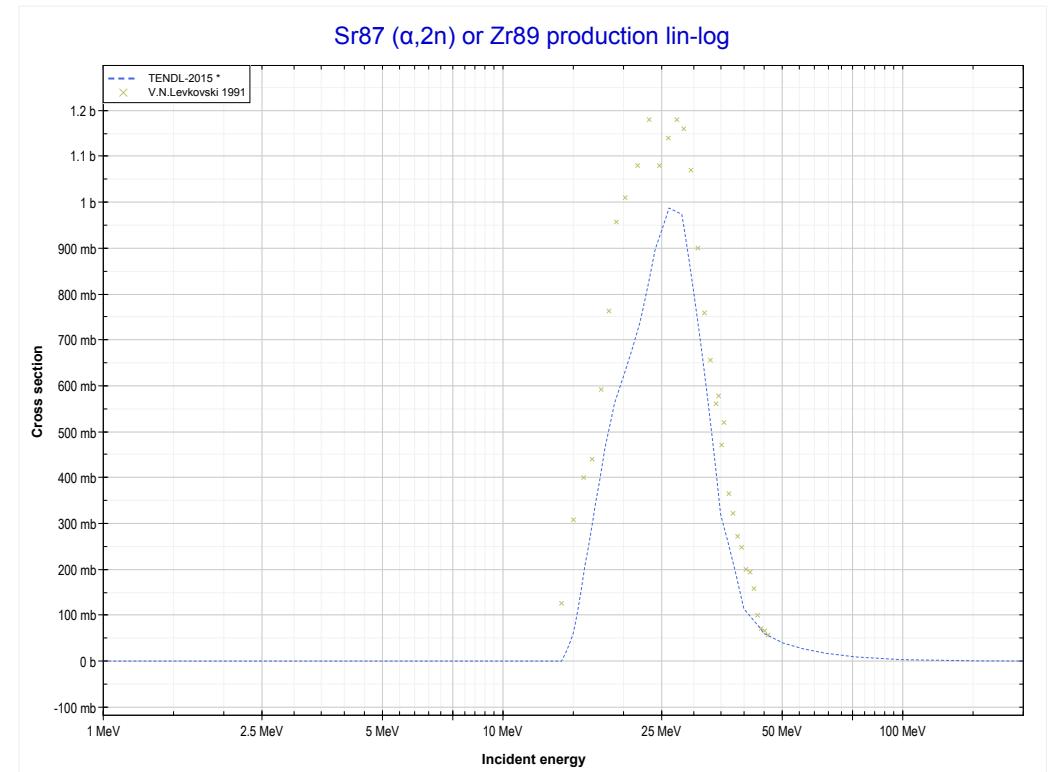
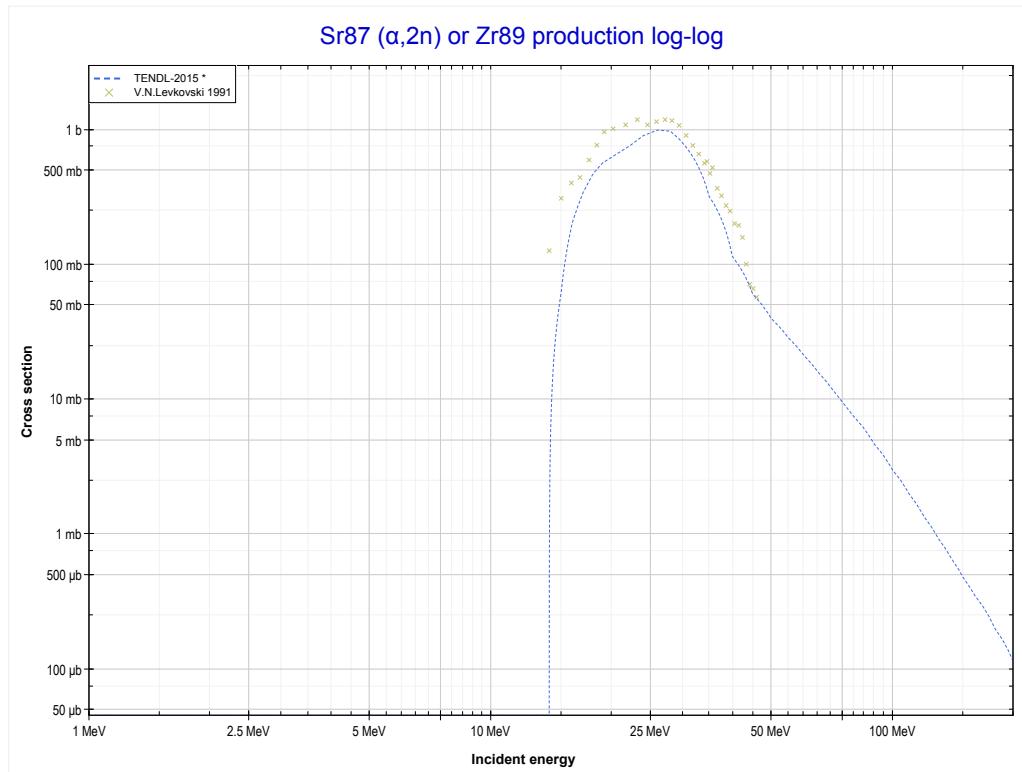
Reaction	Q-Value
Sr86( $\alpha,2n$ )Zr88	-14612.92 keV

<< 37-Rb-85	<b>38-Sr-86</b> MT17 ( $\alpha, 3n$ ) or MT5 (Zr87 production)	38-Sr-87 >>
<< MT16 ( $\alpha, 2n$ )		38-Sr-87 MT16 ( $\alpha, 2n$ ) >>



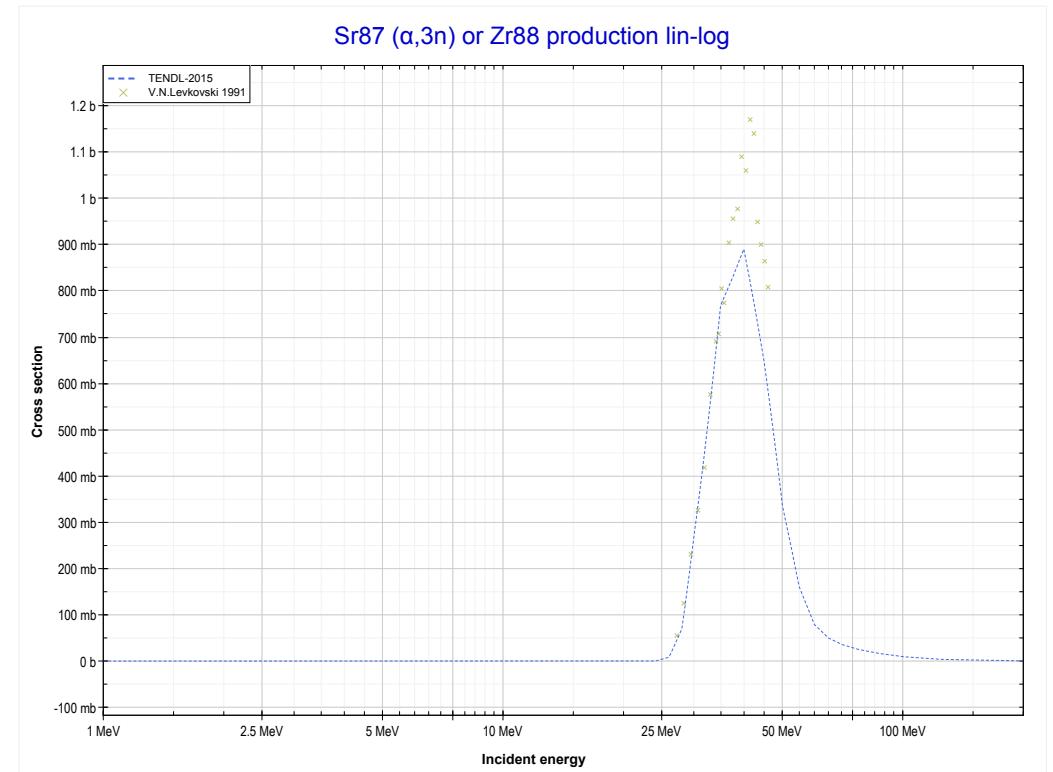
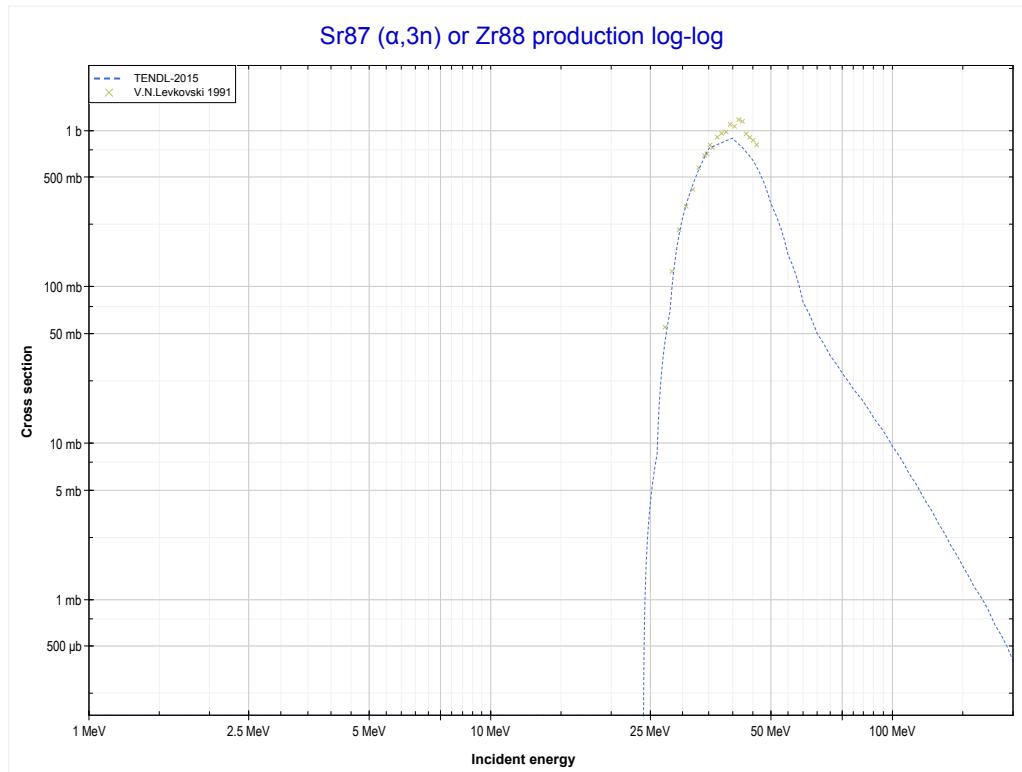
Reaction	Q-Value
Sr86( $\alpha, 3n$ )Zr87	-26965.24 keV

<< 38-Sr-86	<b>38-Sr-87</b>	41-Nb-93 >>
<< 38-Sr-86 MT17 ( $\alpha$ ,3n)	<b>MT16 (<math>\alpha</math>,2n) or MT5 (Zr89 production)</b>	<b>MT17 (<math>\alpha</math>,3n) &gt;&gt;</b>



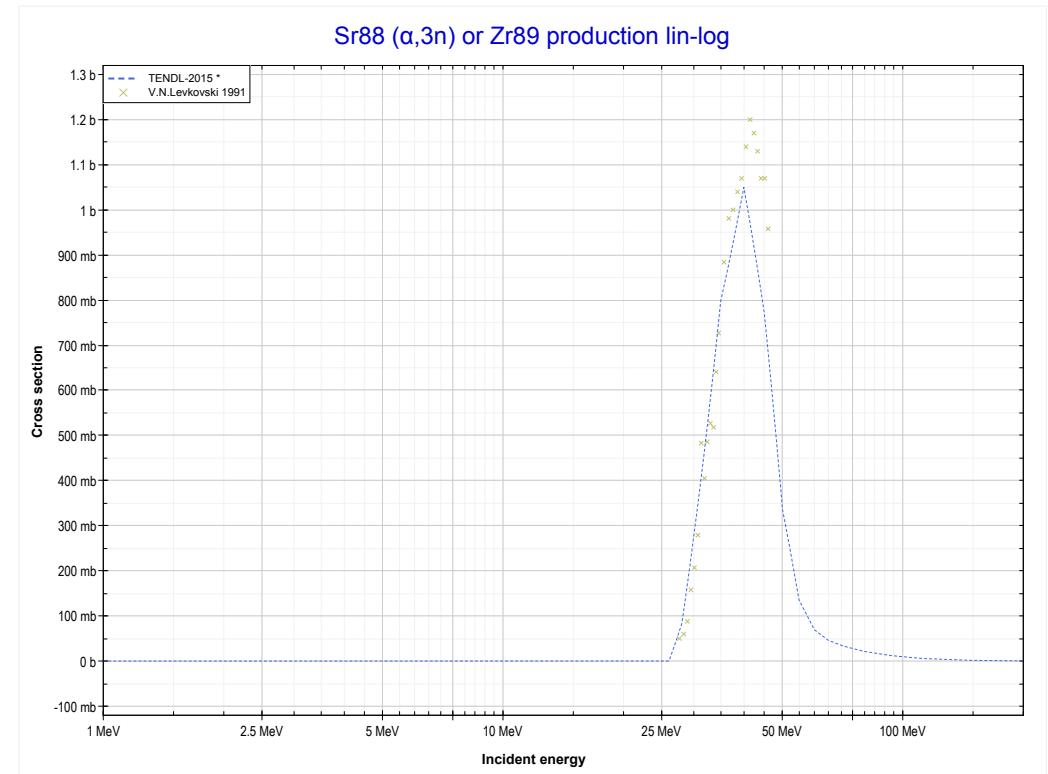
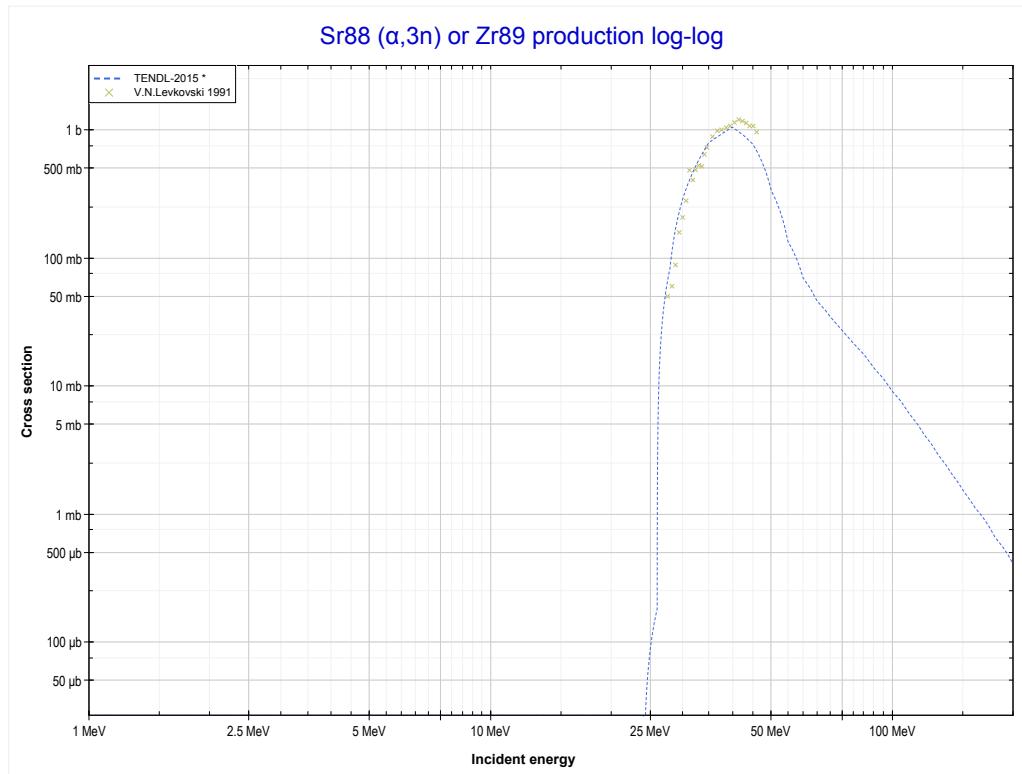
Reaction	Q-Value
Sr87( $\alpha$ ,2n)Zr89	-13721.72 keV

<< 38-Sr-86	<b>38-Sr-87</b> MT17 ( $\alpha, 3n$ ) or MT5 (Zr88 production)	38-Sr-88 >>
<< MT16 ( $\alpha, 2n$ )		38-Sr-88 MT17 ( $\alpha, 3n$ ) >>



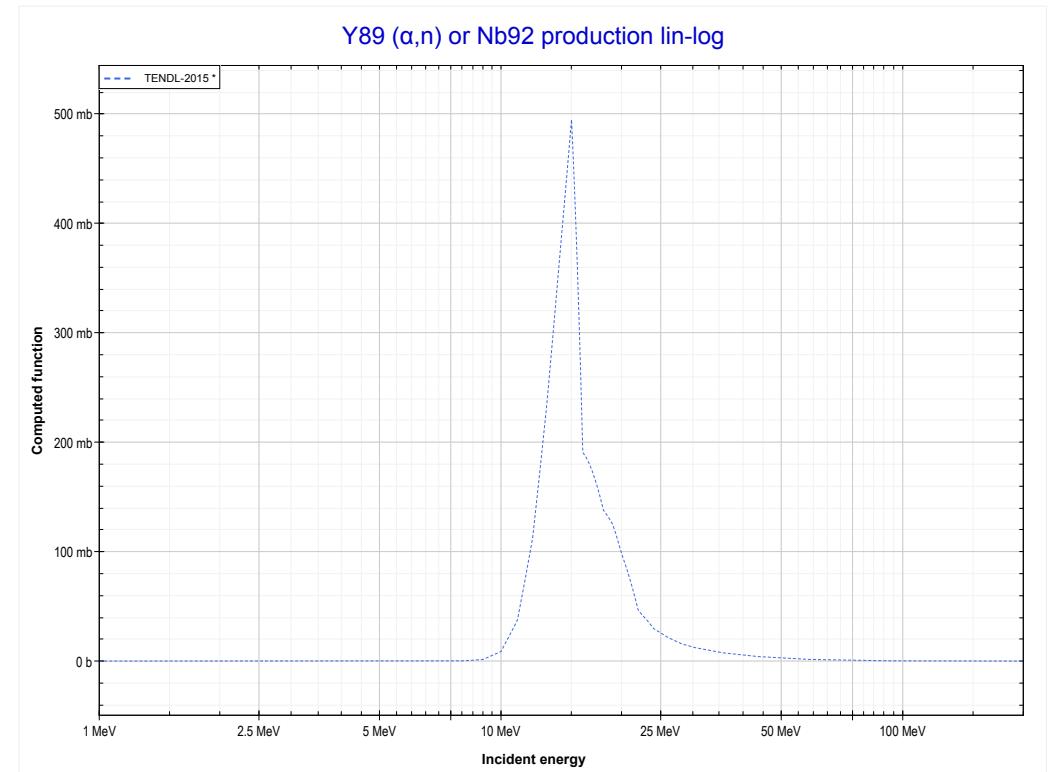
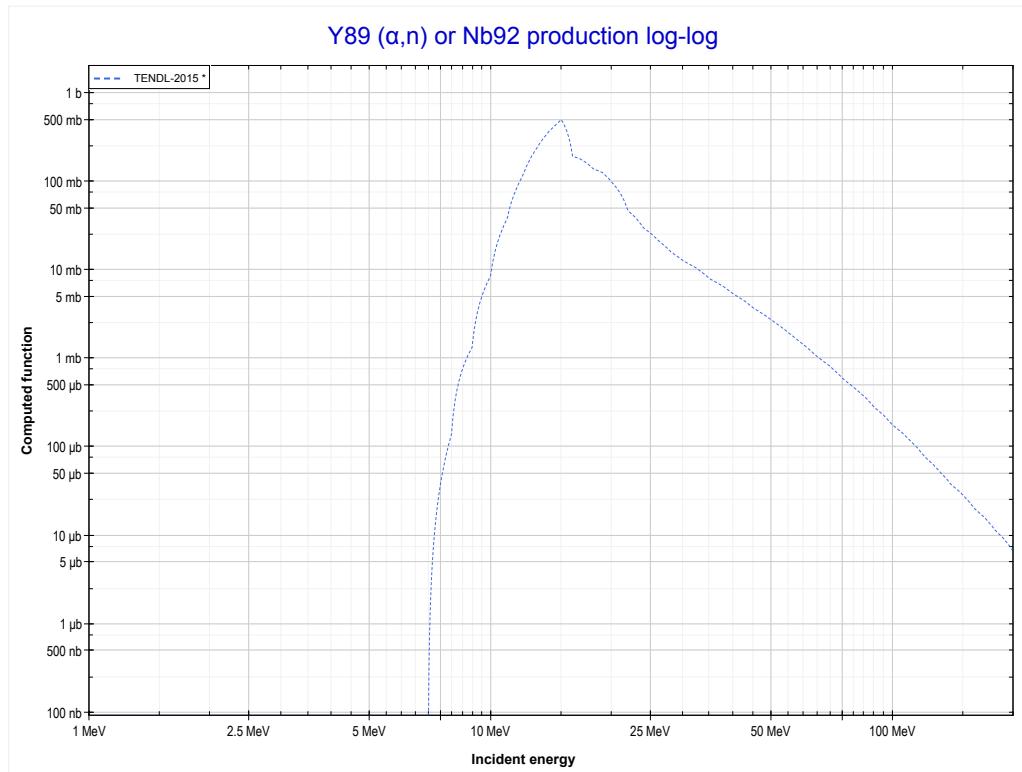
Reaction	Q-Value
Sr87( $\alpha, 3n$ )Zr88	-23041.04 keV

<< 38-Sr-87	<b>38-Sr-88</b>	>> 39-Y-89
<< 38-Sr-87 MT17 ( $\alpha,3n$ )	<b>MT17 (<math>\alpha,3n</math>) or MT5 (Zr89 production)</b>	>> 39-Y-89 MT4 ( $\alpha,n$ )



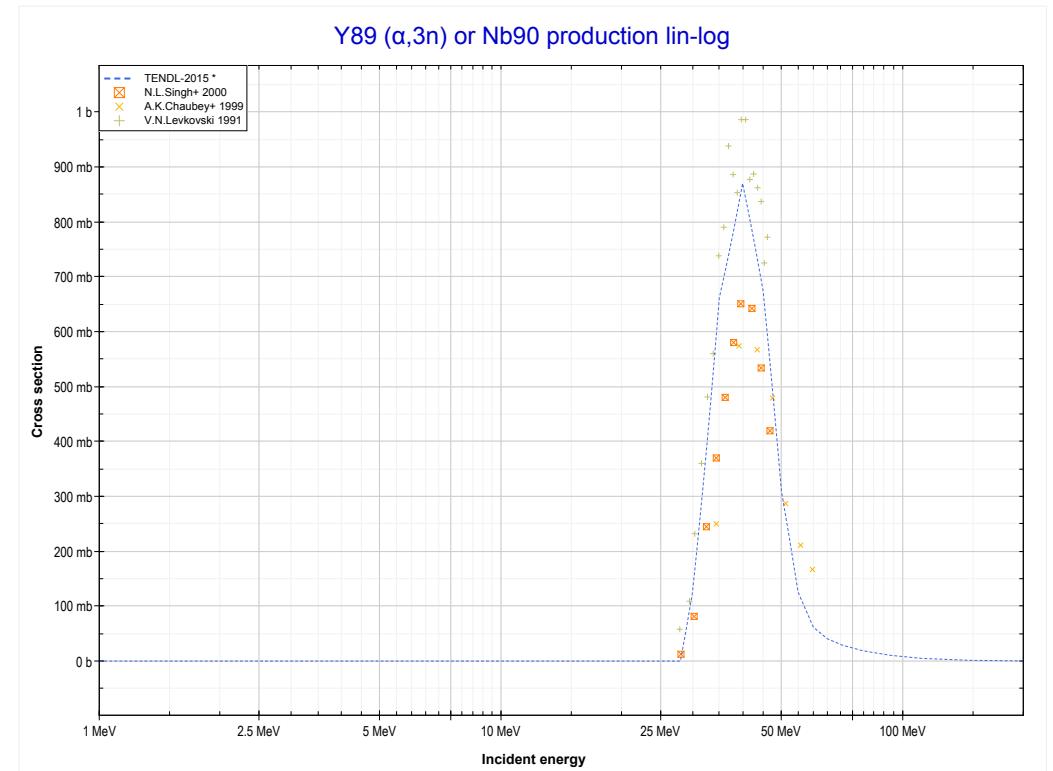
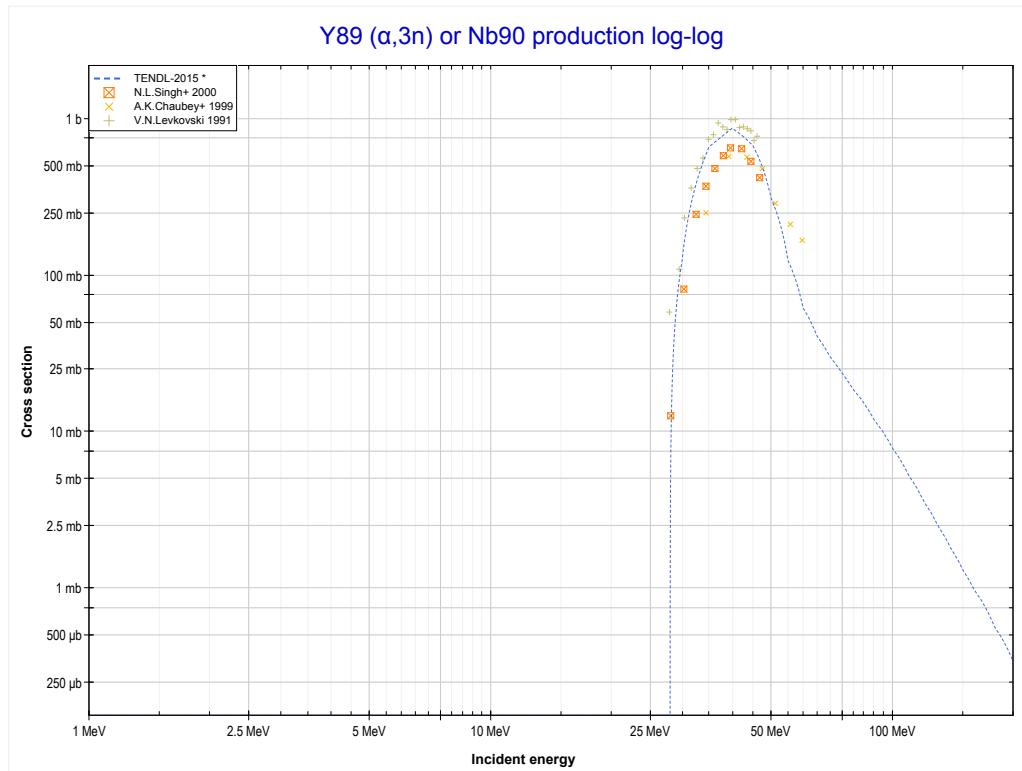
Reaction	Q-Value
Sr88( $\alpha,3n$ )Zr89	-24834.44 keV

<< 38-Sr-86	<b>39-Y-89</b> MT4 ( $\alpha, n$ ) or MT5 (Nb92 production)	40-Zr-96 >>
<< 38-Sr-88 MT17 ( $\alpha, 3n$ )		MT17 ( $\alpha, 3n$ ) >>



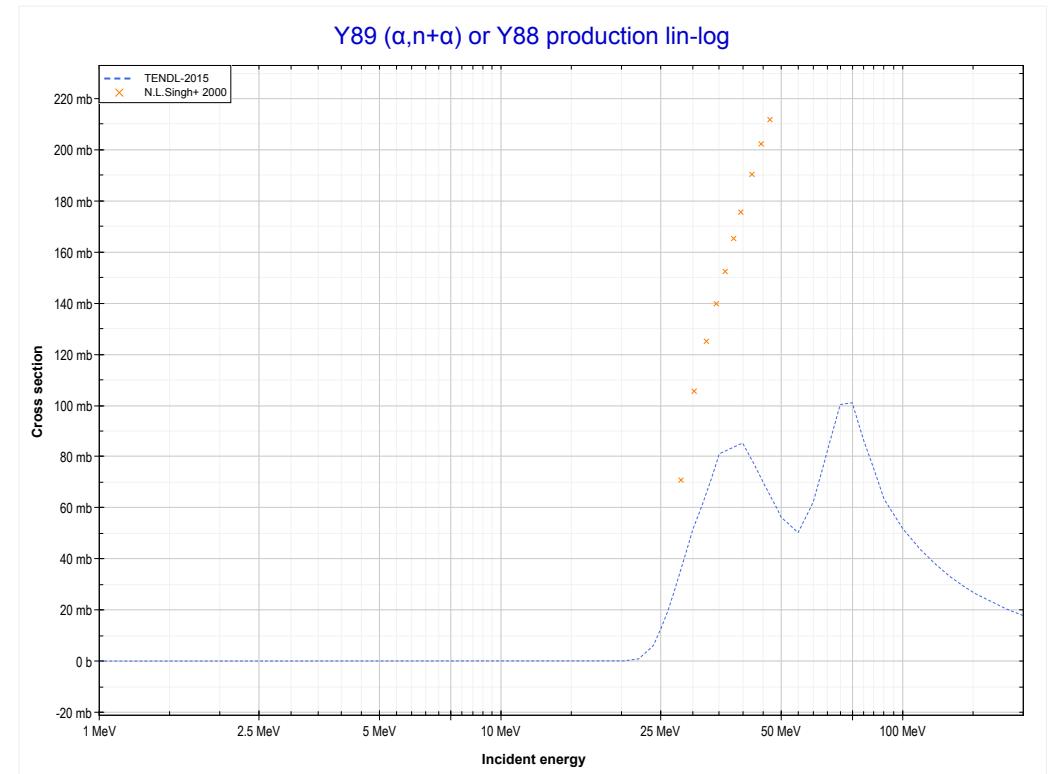
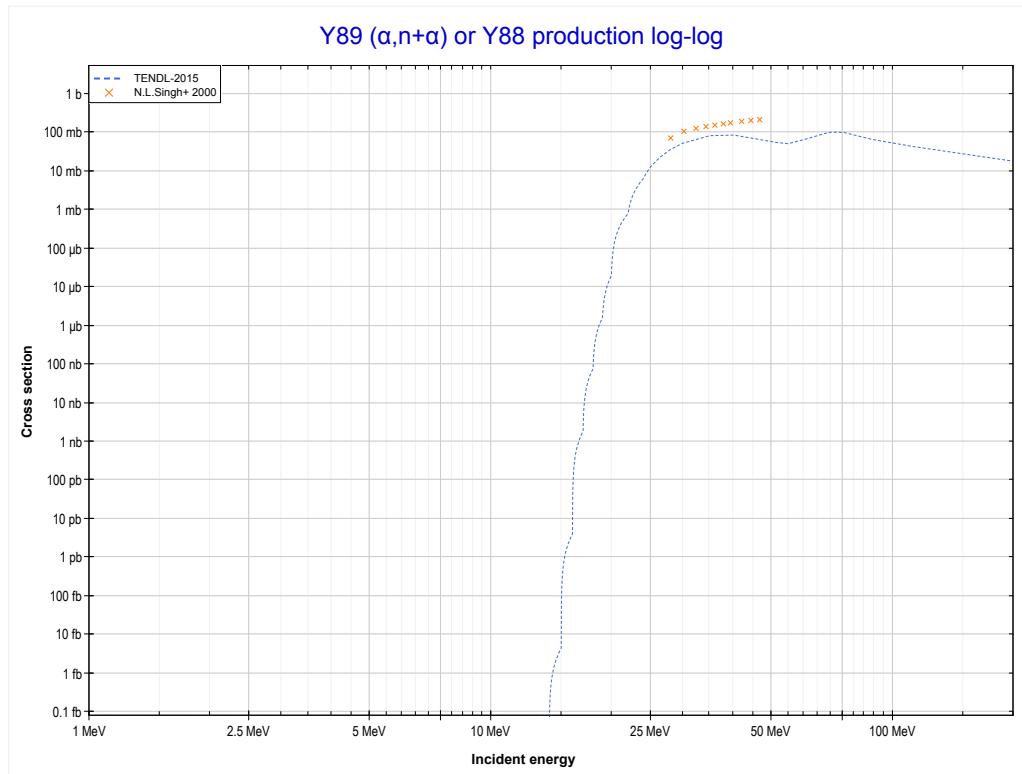
Reaction	Q-Value
Y89( $\alpha, n$ )Nb92	-6901.90 keV

<< 38-Sr-88	<b>39-Y-89</b> <b>MT17 (<math>\alpha,3n</math>) or MT5 (Nb90 production)</b>	41-Nb-93 >>
<< MT4 ( $\alpha,n$ )		MT22 ( $\alpha,n+\alpha$ ) >>



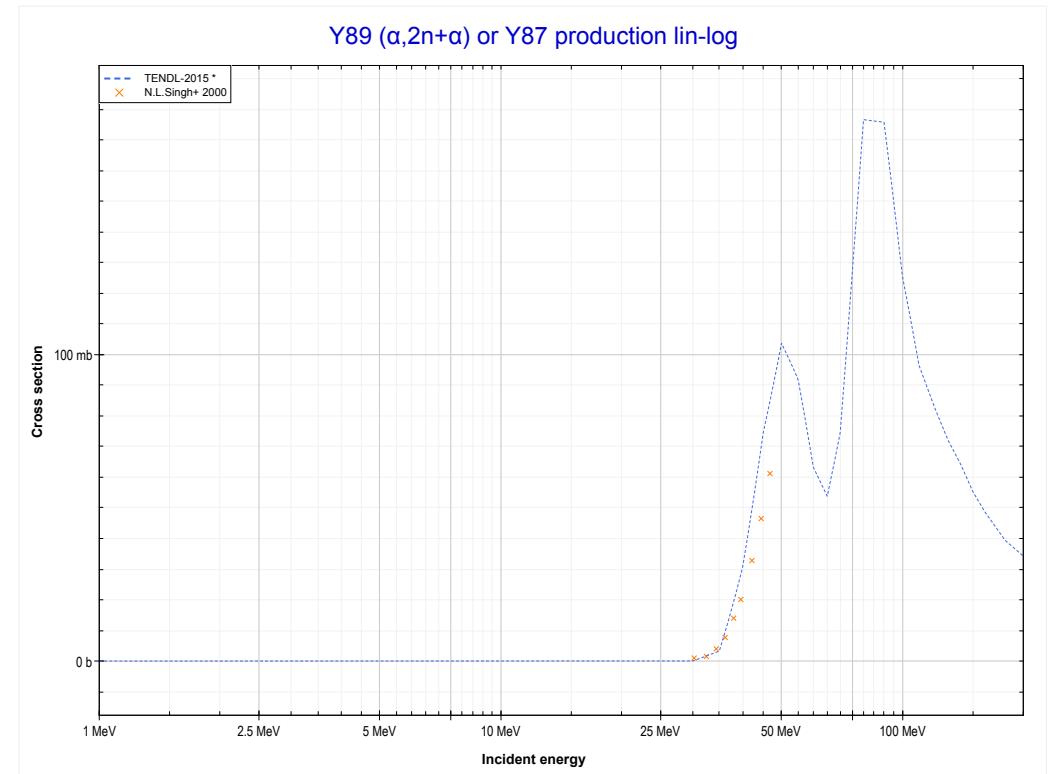
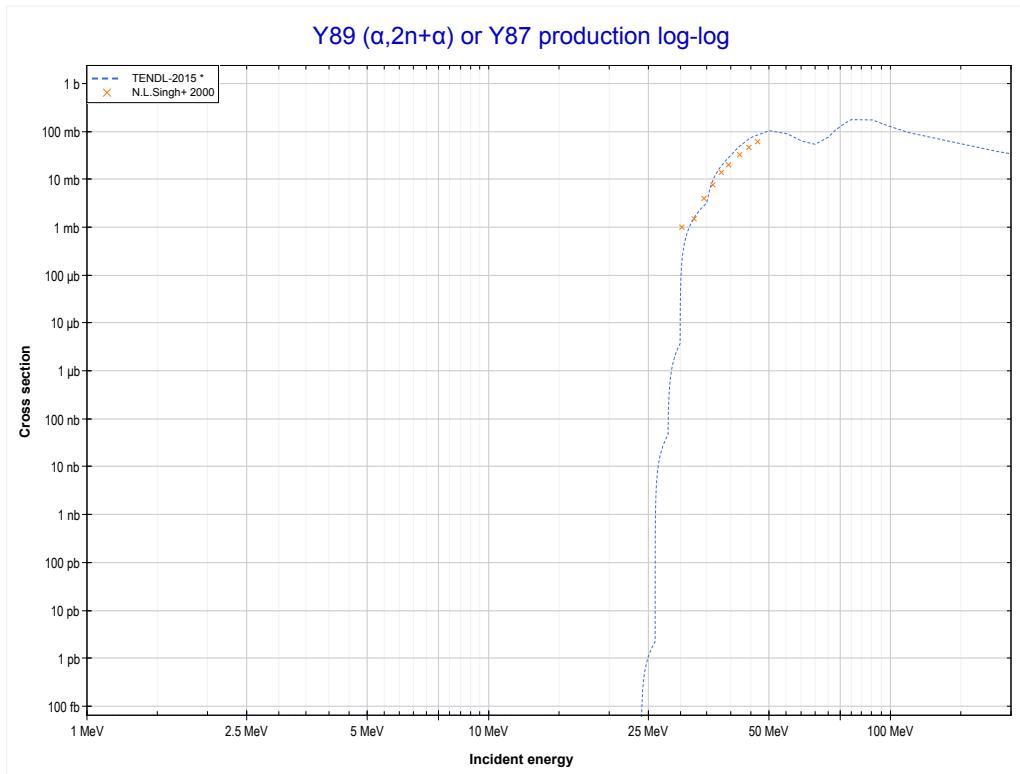
Reaction	Q-Value
Y89( $\alpha,3n$ )Nb90	-26836.24 keV

<< 37-Rb-85	<b>39-Y-89</b> MT22 ( $\alpha, n+\alpha$ ) or MT5 (Y88 production)	40-Zr-90 >>
<< MT17 ( $\alpha, 3n$ )		MT24 ( $\alpha, 2n+\alpha$ ) >>



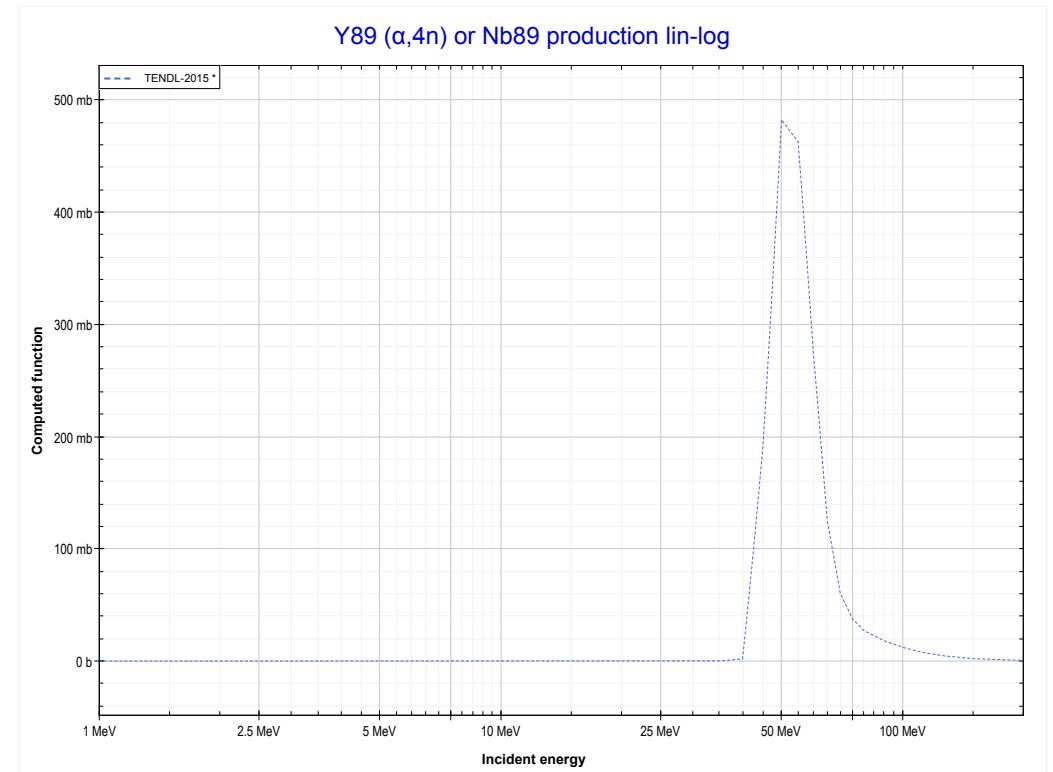
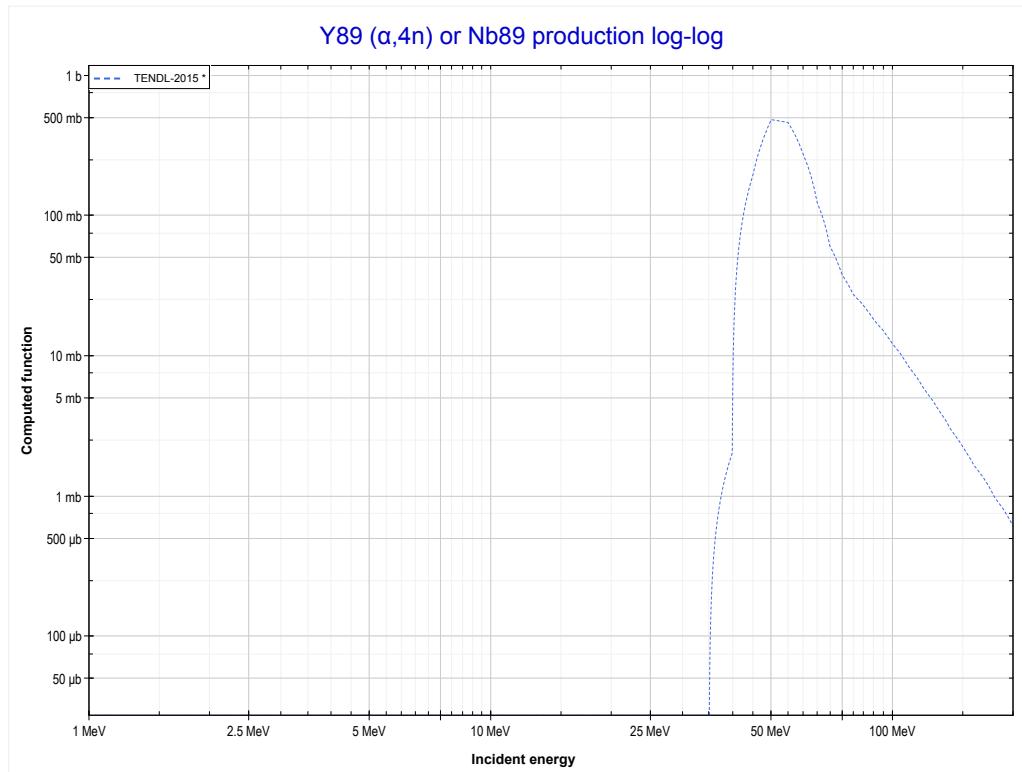
Reaction	Q-Value
Y89( $\alpha, n+\alpha$ )Y88	-11481.72 keV
Y89( $\alpha, d+t$ )Y88	-29071.01 keV
Y89( $\alpha, n+p+t$ )Y88	-31295.58 keV
Y89( $\alpha, 2n+He3$ )Y88	-32059.33 keV
Y89( $\alpha, n+2d$ )Y88	-35328.24 keV
Y89( $\alpha, 2n+p+d$ )Y88	-37552.81 keV
Y89( $\alpha, 3n+2p$ )Y88	-39777.38 keV

<< 30-Zn-64	<b>39-Y-89</b>	40-Zr-90 >>
<< MT22 ( $\alpha, n + \alpha$ )	<b>MT24 (<math>\alpha, 2n + \alpha</math>) or MT5 (Y87 production)</b>	<b>MT37 (<math>\alpha, 4n</math>) &gt;&gt;</b>



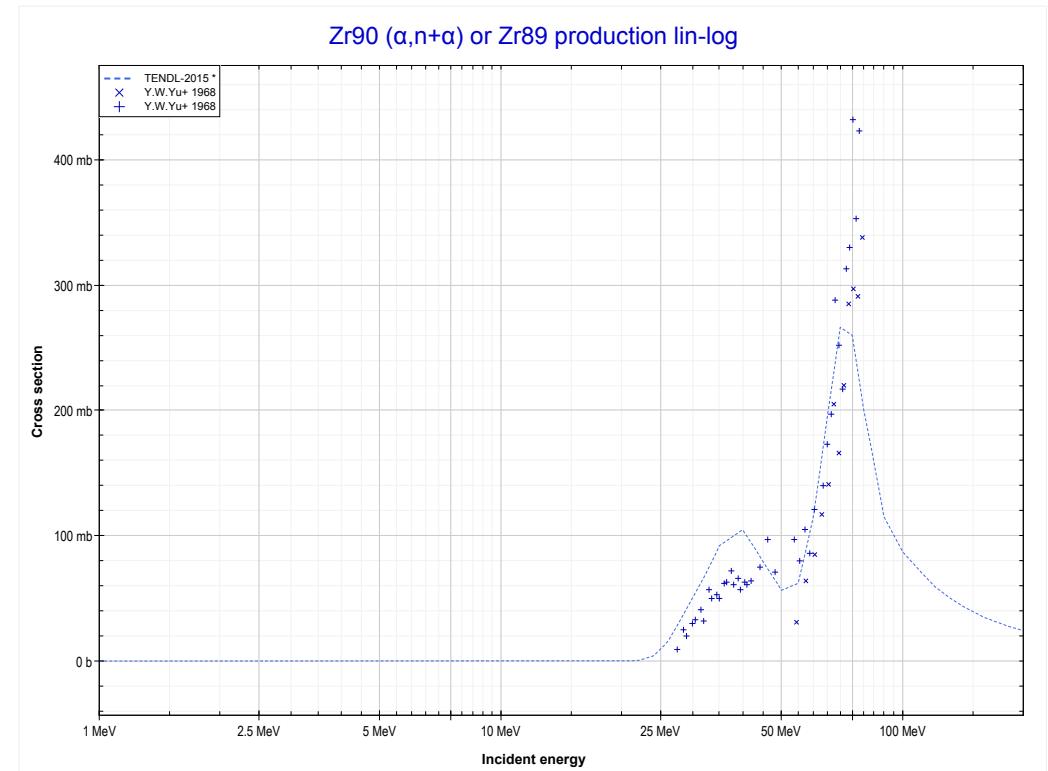
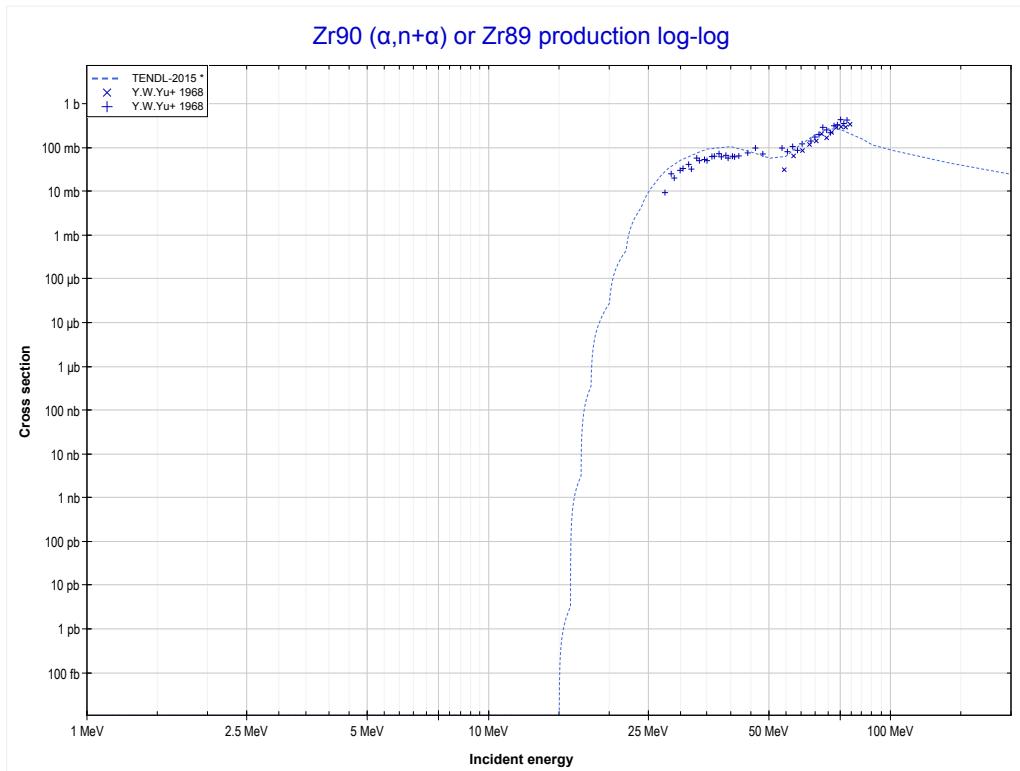
Reaction	Q-Value
Y89( $\alpha, 2n + \alpha$ )Y87	-20833.53 keV
Y89( $\alpha, 2t$ )Y87	-32165.60 keV
Y89( $\alpha, n + d + t$ )Y87	-38422.83 keV
Y89( $\alpha, 2n + p + t$ )Y87	-40647.40 keV
Y89( $\alpha, 3n + \text{He}3$ )Y87	-41411.15 keV
Y89( $\alpha, 2n + 2d$ )Y87	-44680.06 keV
Y89( $\alpha, 3n + p + d$ )Y87	-46904.63 keV
Y89( $\alpha, 4n + 2p$ )Y87	-49129.19 keV

<< 37-Rb-87	<b>39-Y-89</b> MT37 ( $\alpha$ ,4n) or MT5 (Nb89 production)	40-Zr-90 >>
<< MT24 ( $\alpha$ ,2n+ $\alpha$ )		40-Zr-90 MT22 ( $\alpha$ ,n+ $\alpha$ ) >>



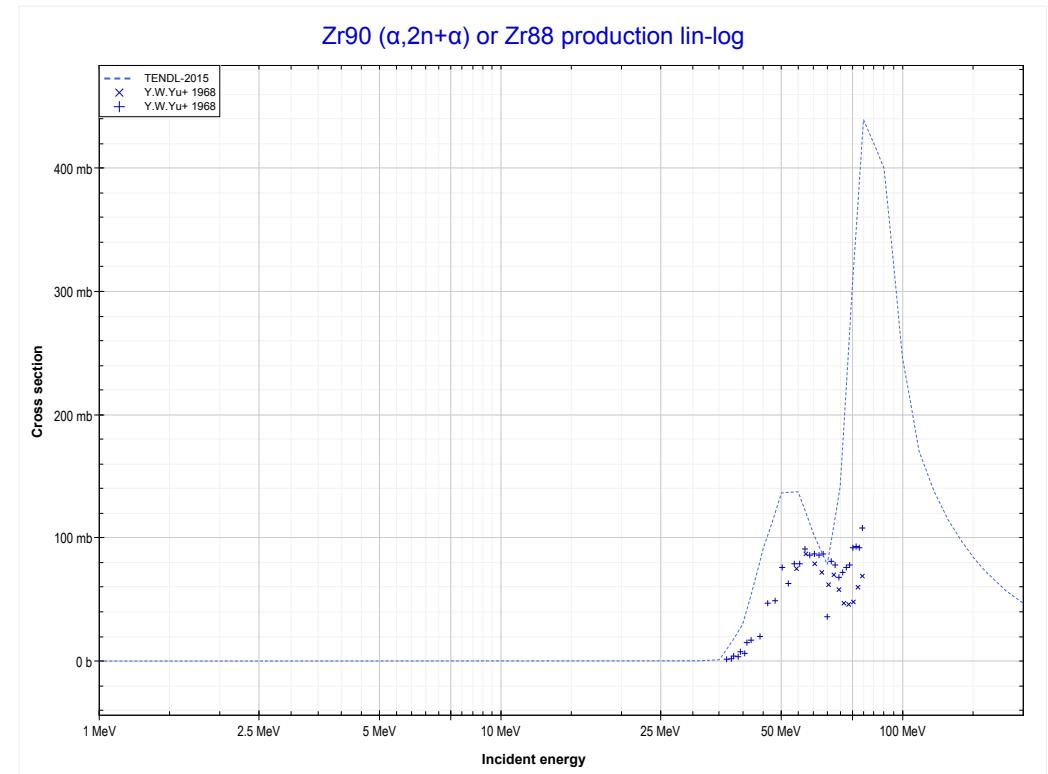
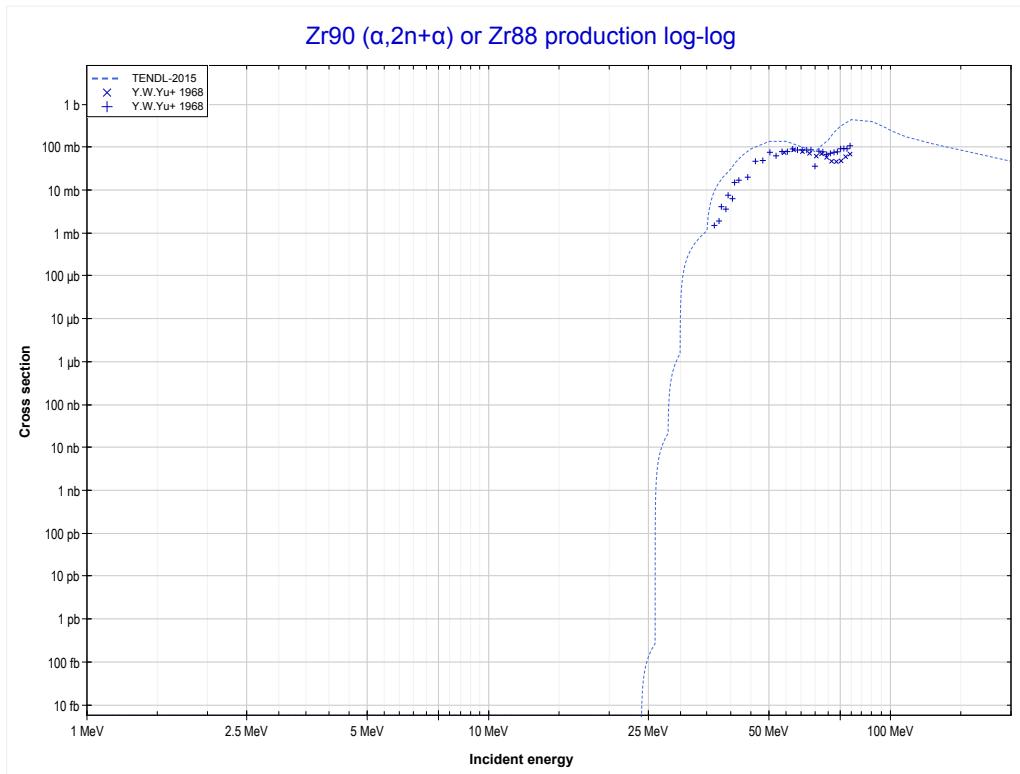
Reaction	Q-Value
Y89( $\alpha$ ,4n)Nb89	-36944.55 keV

<< 39-Y-89	<b>40-Zr-90</b> <b>MT22 (<math>\alpha, n+\alpha</math>) or MT5 (Zr89 production)</b>	40-Zr-96 >>
<< 39-Y-89 MT37 ( $\alpha, 4n$ )		MT24 ( $\alpha, 2n+\alpha$ ) >>



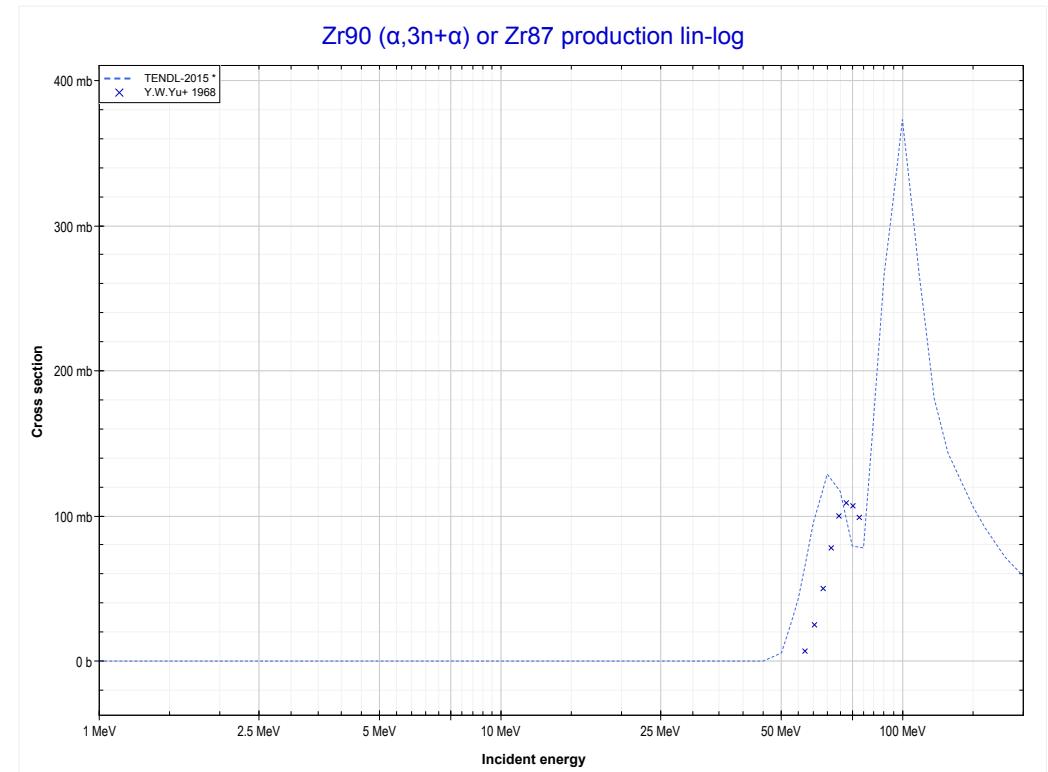
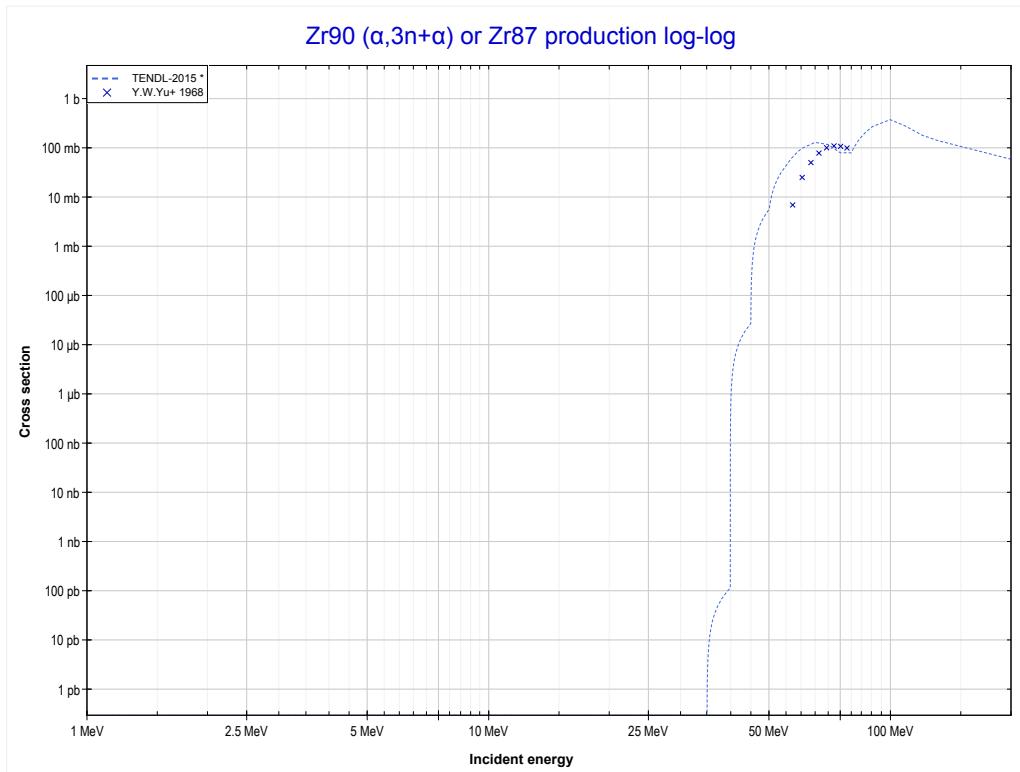
Reaction	Q-Value
Zr90( $\alpha, n+\alpha$ )Zr89	-11968.92 keV
Zr90( $\alpha, d+t$ )Zr89	-29558.21 keV
Zr90( $\alpha, n+p+t$ )Zr89	-31782.78 keV
Zr90( $\alpha, 2n+He3$ )Zr89	-32546.53 keV
Zr90( $\alpha, n+2d$ )Zr89	-35815.44 keV
Zr90( $\alpha, 2n+p+d$ )Zr89	-38040.01 keV
Zr90( $\alpha, 3n+2p$ )Zr89	-40264.58 keV

<< 39-Y-89	<b>40-Zr-90</b> <b>MT24 (<math>\alpha,2n+\alpha</math>) or MT5 (Zr88 production)</b>	45-Rh-103 >>
<< MT22 ( $\alpha,n+\alpha$ )		MT25 ( $\alpha,3n+\alpha$ ) >>



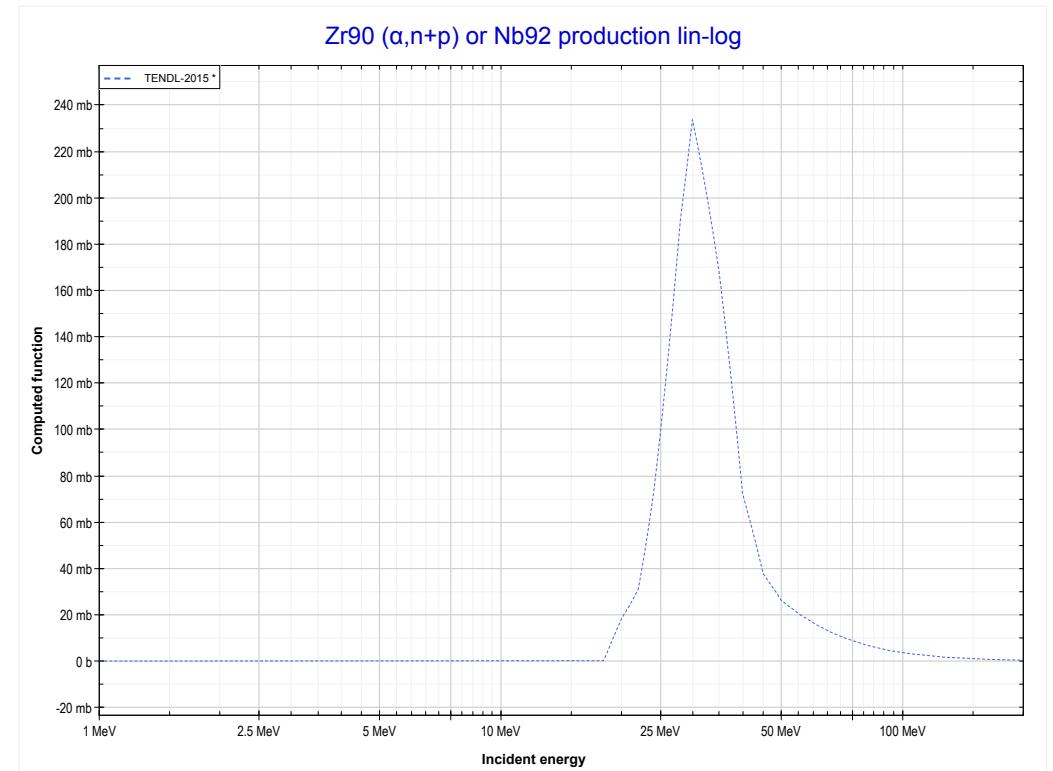
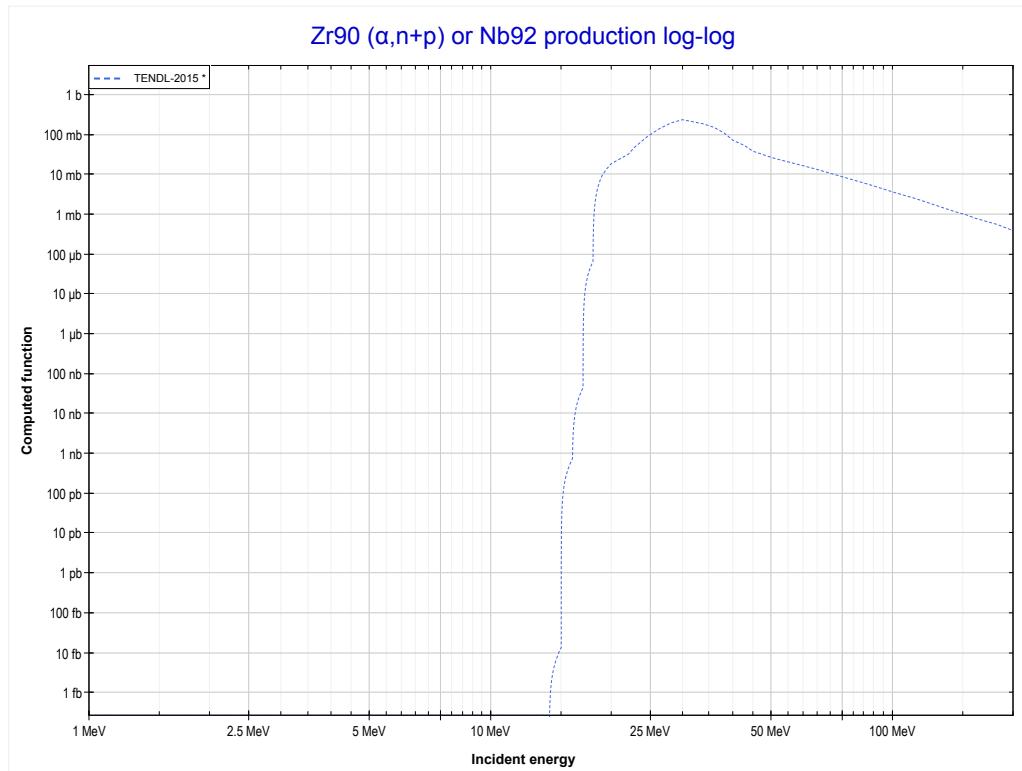
Reaction	Q-Value
Zr90( $\alpha,2n+\alpha$ )Zr88	-21288.23 keV
Zr90( $\alpha,2t$ )Zr88	-32620.30 keV
Zr90( $\alpha,n+d+t$ )Zr88	-38877.53 keV
Zr90( $\alpha,2n+p+t$ )Zr88	-41102.10 keV
Zr90( $\alpha,3n+He3$ )Zr88	-41865.85 keV
Zr90( $\alpha,2n+2d$ )Zr88	-45134.76 keV
Zr90( $\alpha,3n+p+d$ )Zr88	-47359.33 keV
Zr90( $\alpha,4n+2p$ )Zr88	-49583.89 keV

<< 27-Co-59	<b>40-Zr-90</b> <b>MT25 (<math>\alpha,3n+\alpha</math>) or MT5 (Zr87 production)</b>	45-Rh-103 >>
<< MT24 ( $\alpha,2n+\alpha$ )		MT28 ( $\alpha,n+p$ ) >>



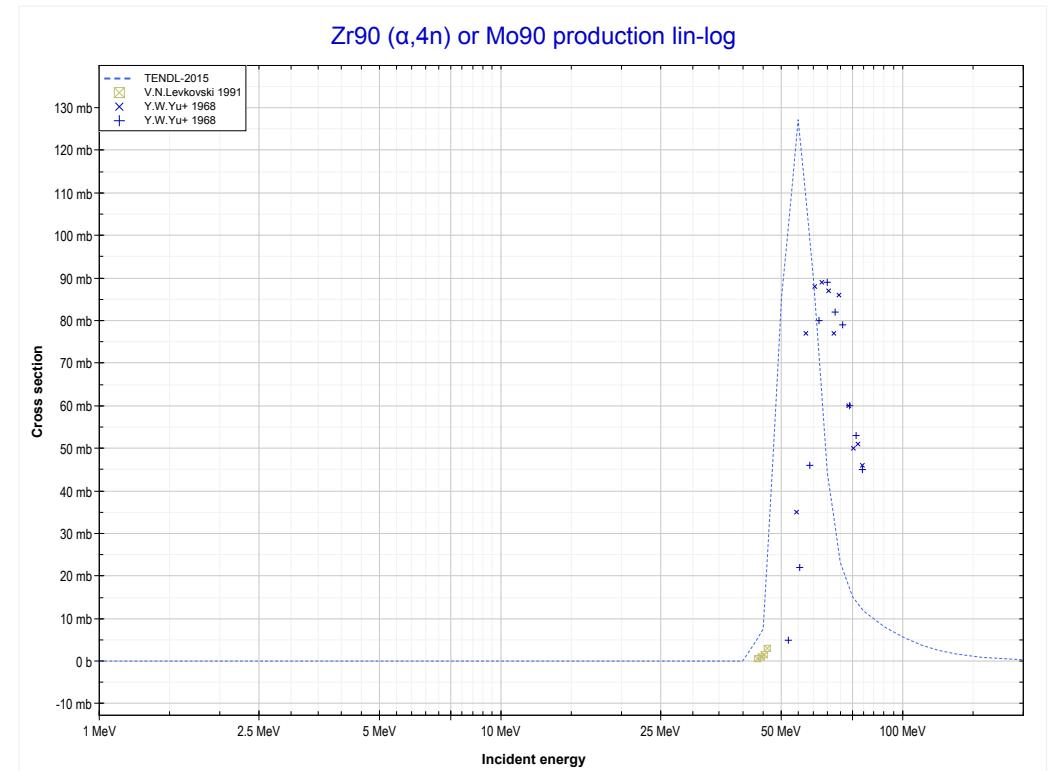
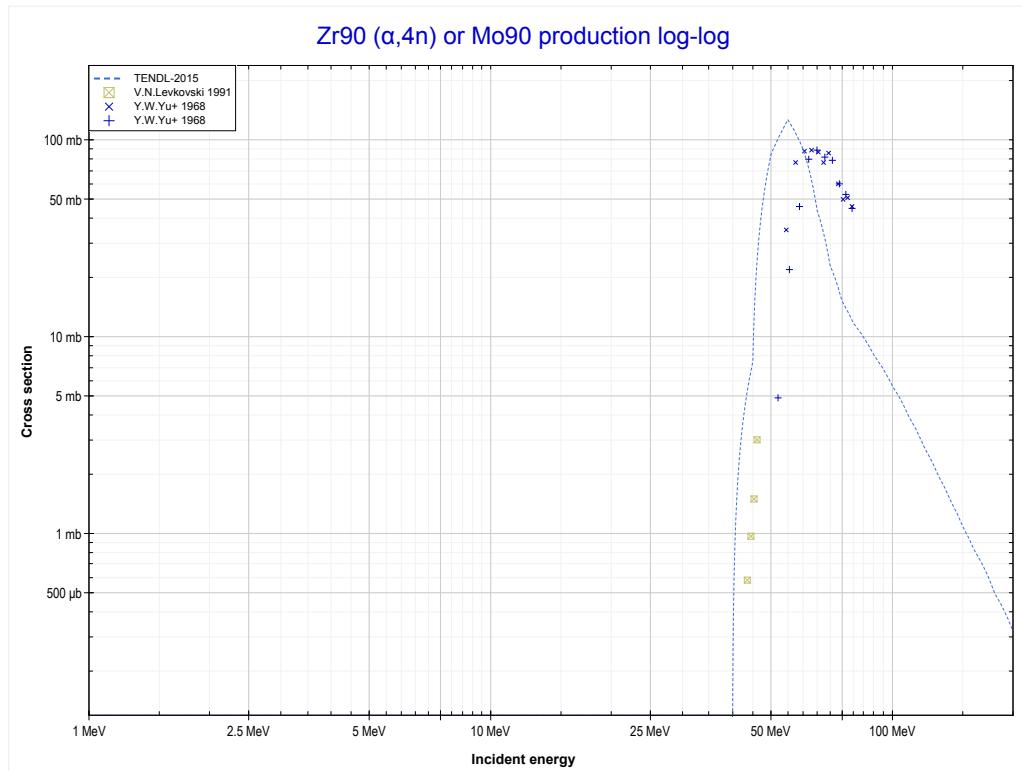
Reaction	Q-Value
Zr90( $\alpha,3n+\alpha$ )Zr87	-33640.55 keV
Zr90( $\alpha,n+2t$ )Zr87	-44972.61 keV
Zr90( $\alpha,2n+d+t$ )Zr87	-51229.85 keV
Zr90( $\alpha,3n+p+t$ )Zr87	-53454.41 keV
Zr90( $\alpha,4n+He3$ )Zr87	-54218.17 keV
Zr90( $\alpha,3n+2d$ )Zr87	-57487.08 keV
Zr90( $\alpha,4n+p+d$ )Zr87	-59711.64 keV
Zr90( $\alpha,5n+2p$ )Zr87	-61936.21 keV

<< 32-Ge-70	<b>40-Zr-90</b> MT28 ( $\alpha, n+p$ ) or MT5 (Nb92 production)	40-Zr-94 >> MT37 ( $\alpha, 4n$ ) >>
<< MT25 ( $\alpha, 3n+\alpha$ )		



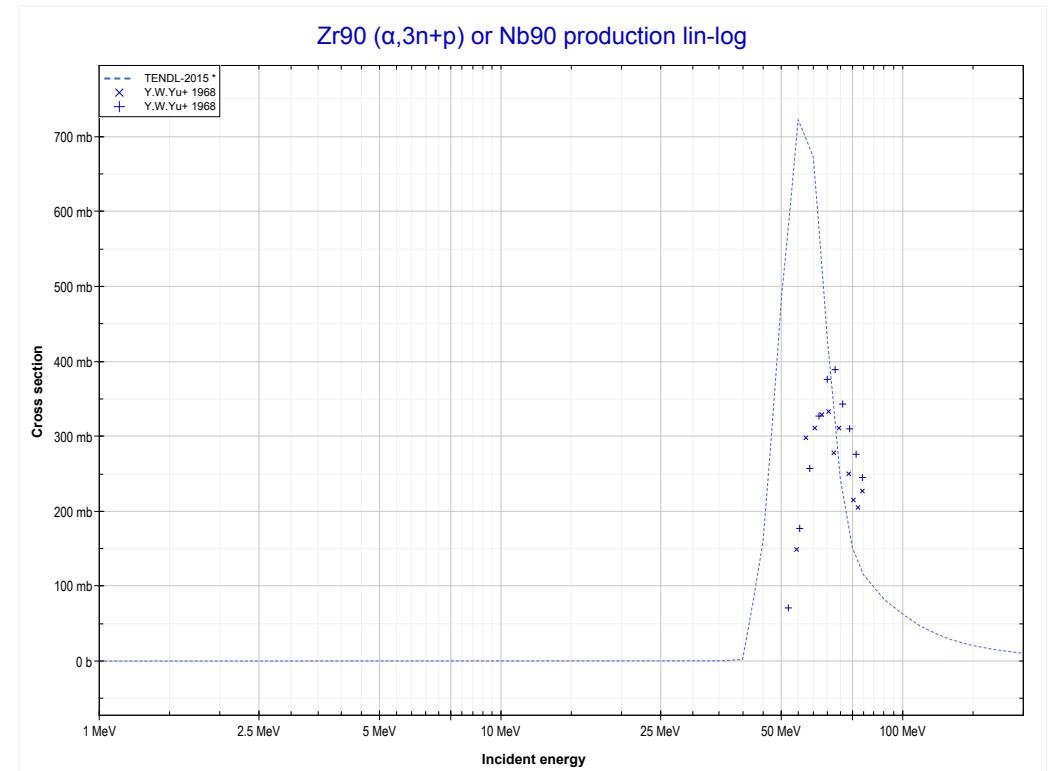
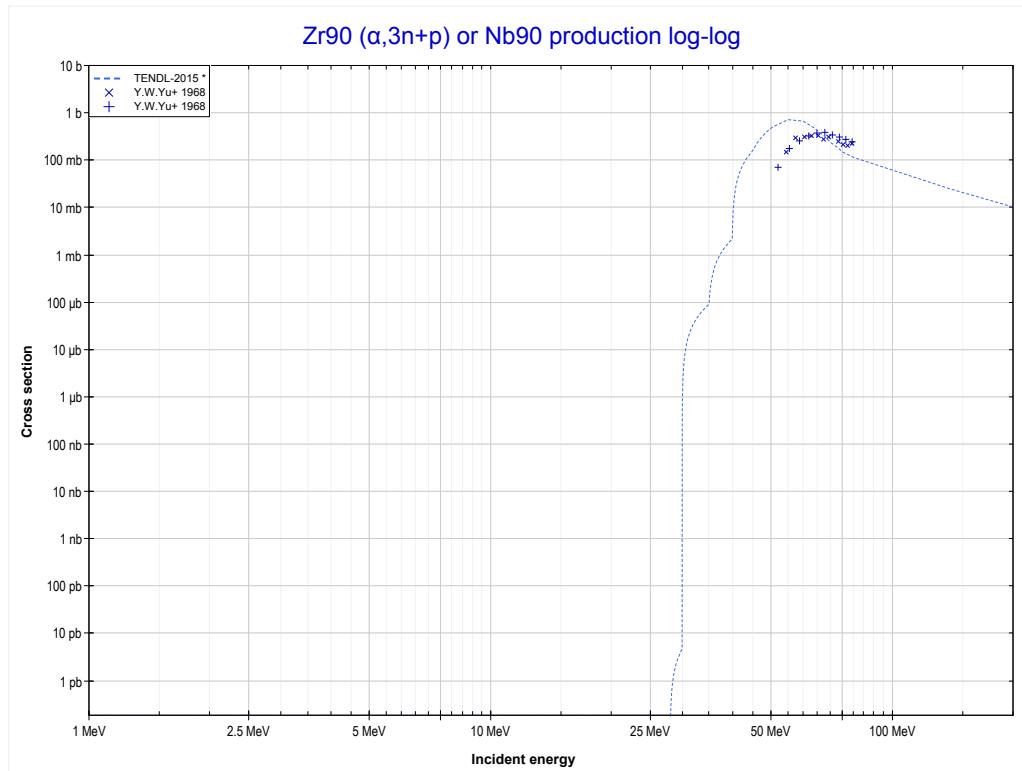
Reaction	Q-Value
Zr90( $\alpha, d$ )Nb92	-13030.71 keV
Zr90( $\alpha, n+p$ )Nb92	-15255.27 keV

<< 39-Y-89	<b>40-Zr-90</b> <b>MT37 (<math>\alpha,4n</math>) or MT5 (Mo90 production)</b>	41-Nb-93 >>
<< MT28 ( $\alpha,n+p$ )		MT42 ( $\alpha,3n+p$ ) >>



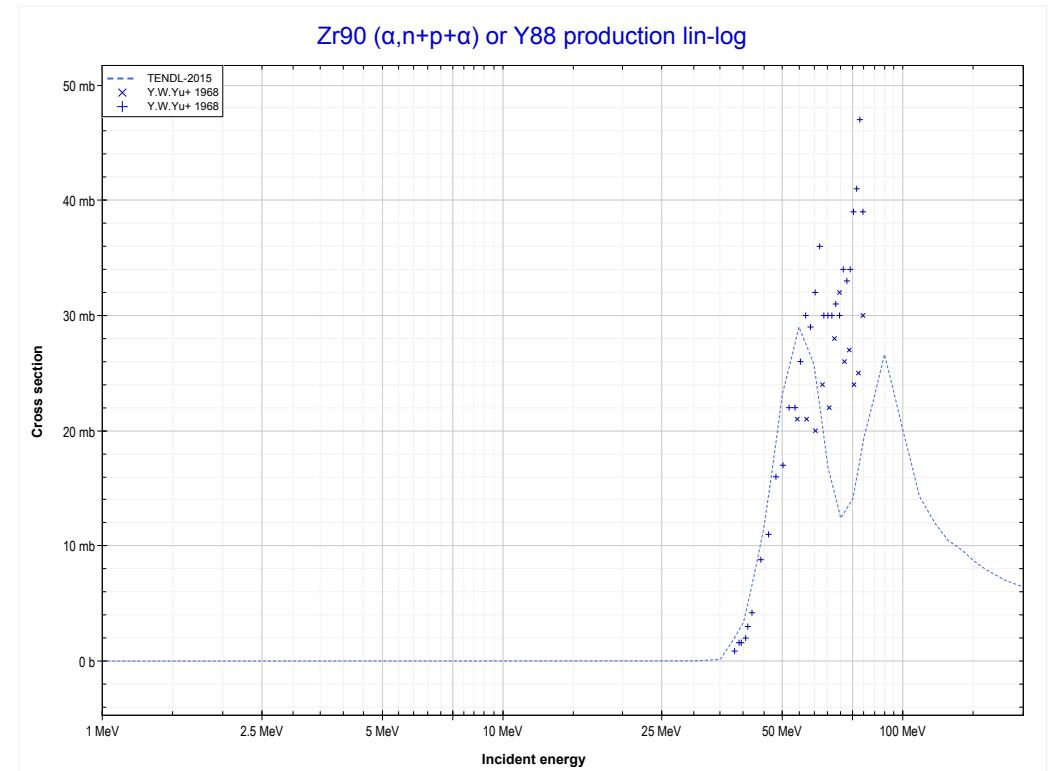
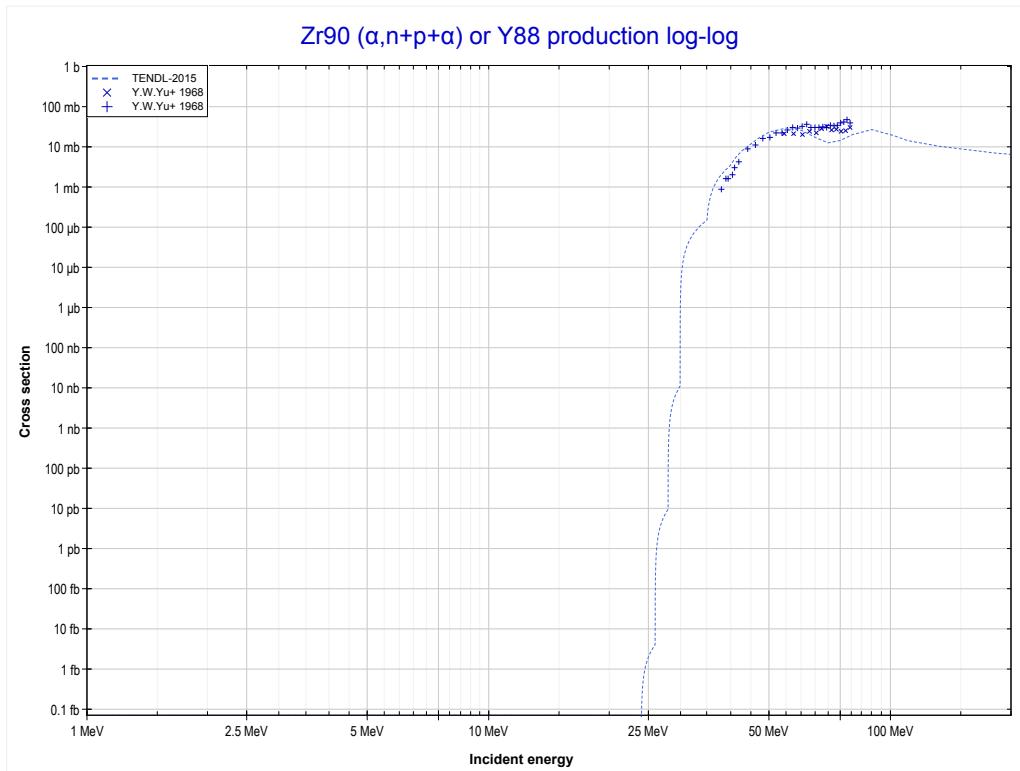
Reaction	Q-Value
Zr90( $\alpha,4n$ )Mo90	-38460.95 keV

<< 26-Fe-56	<b>40-Zr-90</b> <b>MT42 (<math>\alpha</math>,3n+p) or MT5 (Nb90 production)</b>	41-Nb-93 >>
<< MT37 ( $\alpha$ ,4n)		MT45 ( $\alpha$ ,n+p+ $\alpha$ ) >>



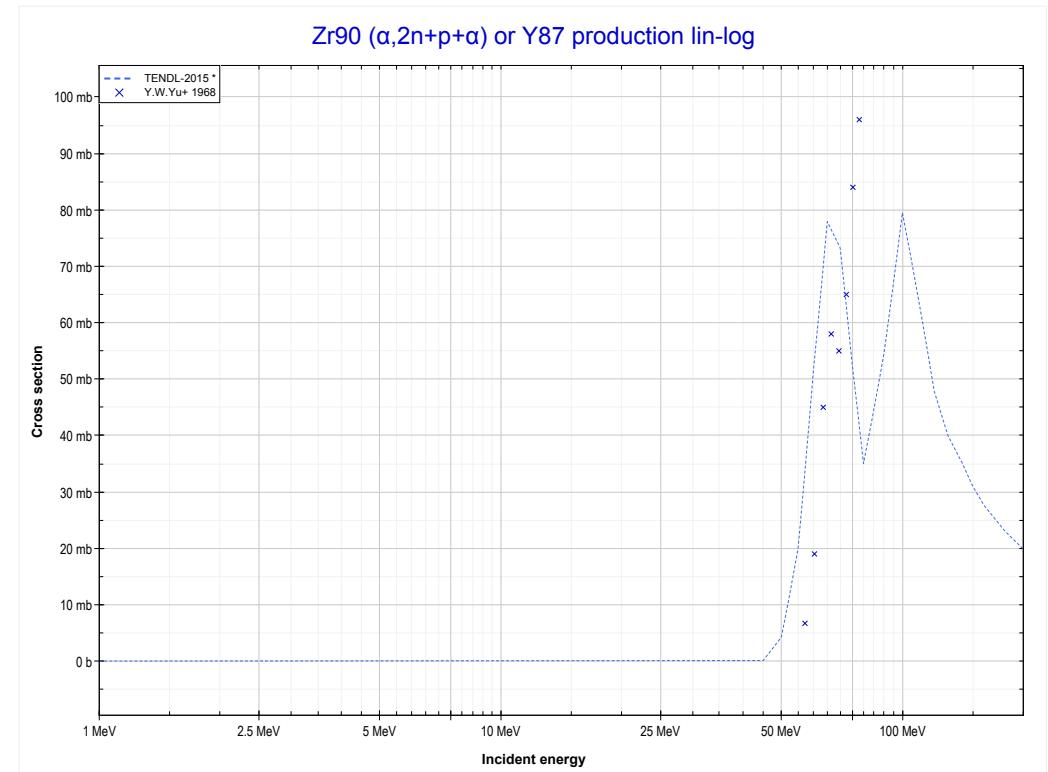
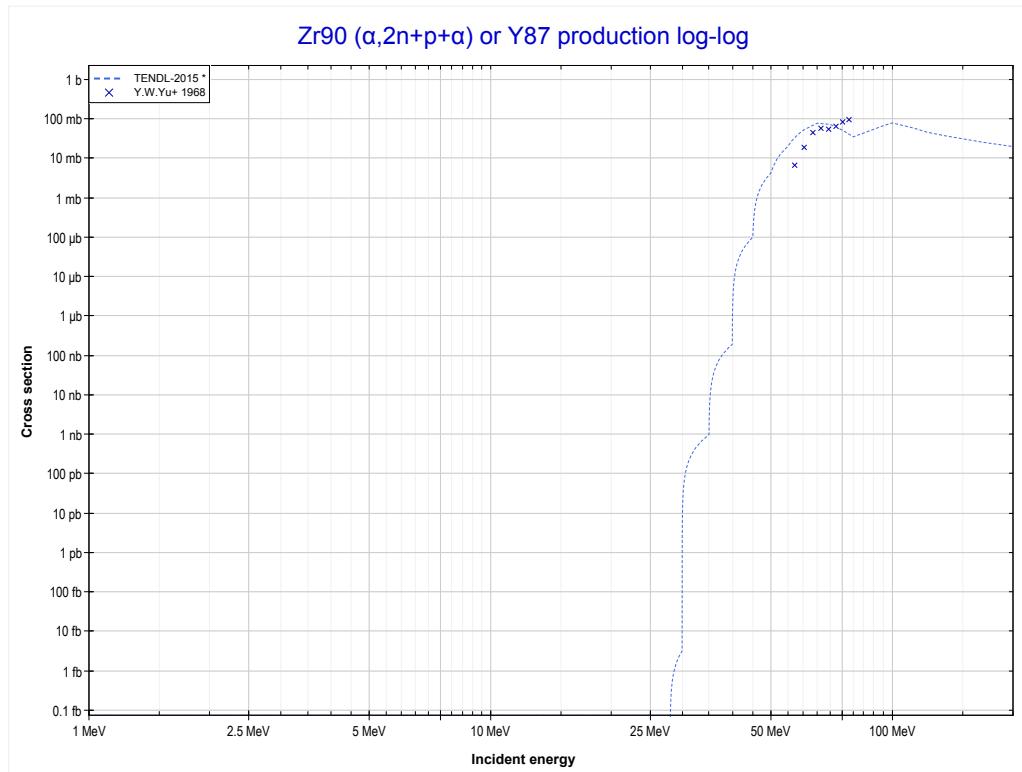
Reaction	Q-Value
Zr90( $\alpha$ ,n+t)Nb90	-26707.81 keV
Zr90( $\alpha$ ,2n+d)Nb90	-32965.04 keV
Zr90( $\alpha$ ,3n+p)Nb90	-35189.61 keV

<< 30-Zn-64	<b>40-Zr-90</b> <b>MT45 (<math>\alpha, n+p+\alpha</math>) or MT5 (Y88 production)</b>	MT159 ( $\alpha, 2n+p+\alpha$ ) >>
<< MT42 ( $\alpha, 3n+p$ )		



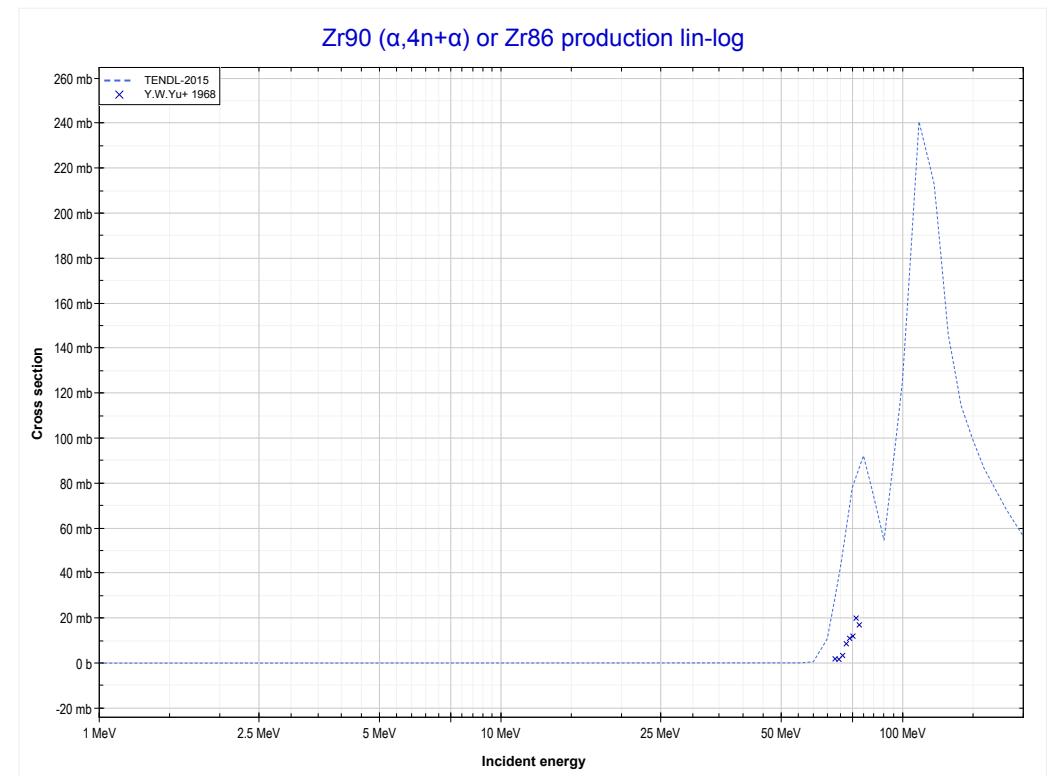
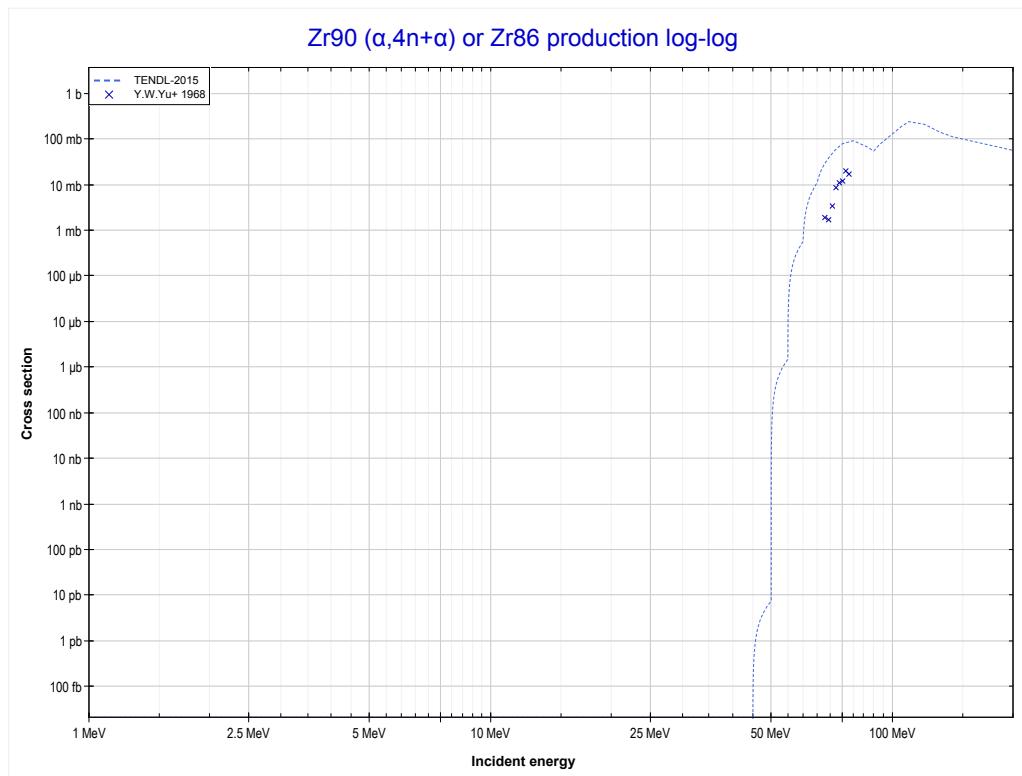
Reaction	Q-Value	Reaction	Q-Value
Zr90( $\alpha, d+\alpha$ )Y88	-17610.52 keV	Zr90( $\alpha, n+p+2d$ )Y88	-43681.62 keV
Zr90( $\alpha, n+p+\alpha$ )Y88	-19835.09 keV	Zr90( $\alpha, 2n+2p+d$ )Y88	-45906.18 keV
Zr90( $\alpha, t+He3$ )Y88	-31930.91 keV	Zr90( $\alpha, 3n+3p$ )Y88	-48130.75 keV
Zr90( $\alpha, p+d+t$ )Y88	-37424.38 keV		
Zr90( $\alpha, n+d+He3$ )Y88	-38188.14 keV		
Zr90( $\alpha, n+2p+t$ )Y88	-39648.95 keV		
Zr90( $\alpha, 2n+p+He3$ )Y88	-40412.70 keV		
Zr90( $\alpha, 3d$ )Y88	-41457.05 keV		

<< 28-Ni-58	<b>40-Zr-90</b> <b>MT159 (<math>\alpha,2n+p+\alpha</math>) or MT5 (Y87 production)</b>	MT165 ( $\alpha,4n+\alpha$ ) >>
<< MT45 ( $\alpha,n+p+\alpha$ )		

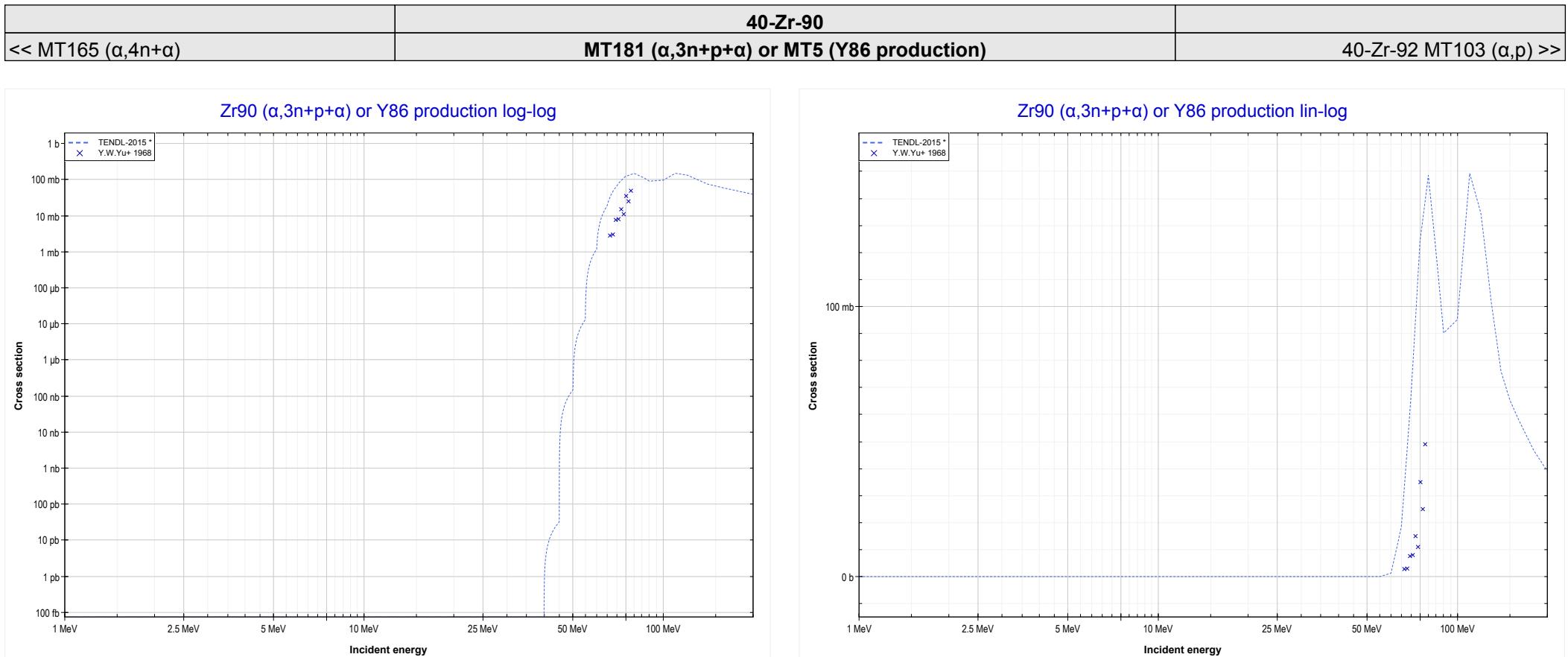


Reaction	Q-Value	Reaction	Q-Value
Zr90( $\alpha,t+\alpha$ )Y87	-20705.11 keV	Zr90( $\alpha,2n+2p+t$ )Y87	-49000.77 keV
Zr90( $\alpha,n+d+\alpha$ )Y87	-26962.34 keV	Zr90( $\alpha,3n+p+He3$ )Y87	-49764.52 keV
Zr90( $\alpha,2n+p+\alpha$ )Y87	-29186.90 keV	Zr90( $\alpha,n+3d$ )Y87	-50808.87 keV
Zr90( $\alpha,p+2t$ )Y87	-40518.97 keV	Zr90( $\alpha,2n+p+2d$ )Y87	-53033.43 keV
Zr90( $\alpha,n+t+He3$ )Y87	-41282.72 keV	Zr90( $\alpha,3n+2p+d$ )Y87	-55258.00 keV
Zr90( $\alpha,2d+t$ )Y87	-44551.63 keV	Zr90( $\alpha,4n+3p$ )Y87	-57482.56 keV
Zr90( $\alpha,n+p+d+t$ )Y87	-46776.20 keV		
Zr90( $\alpha,2n+d+He3$ )Y87	-47539.96 keV		

<< MT159 ( $\alpha, 2n+p+\alpha$ )	<b>40-Zr-90</b> MT165 ( $\alpha, 4n+\alpha$ ) or MT5 (Zr86 production)	45-Rh-103 >> MT181 ( $\alpha, 3n+p+\alpha$ ) >>
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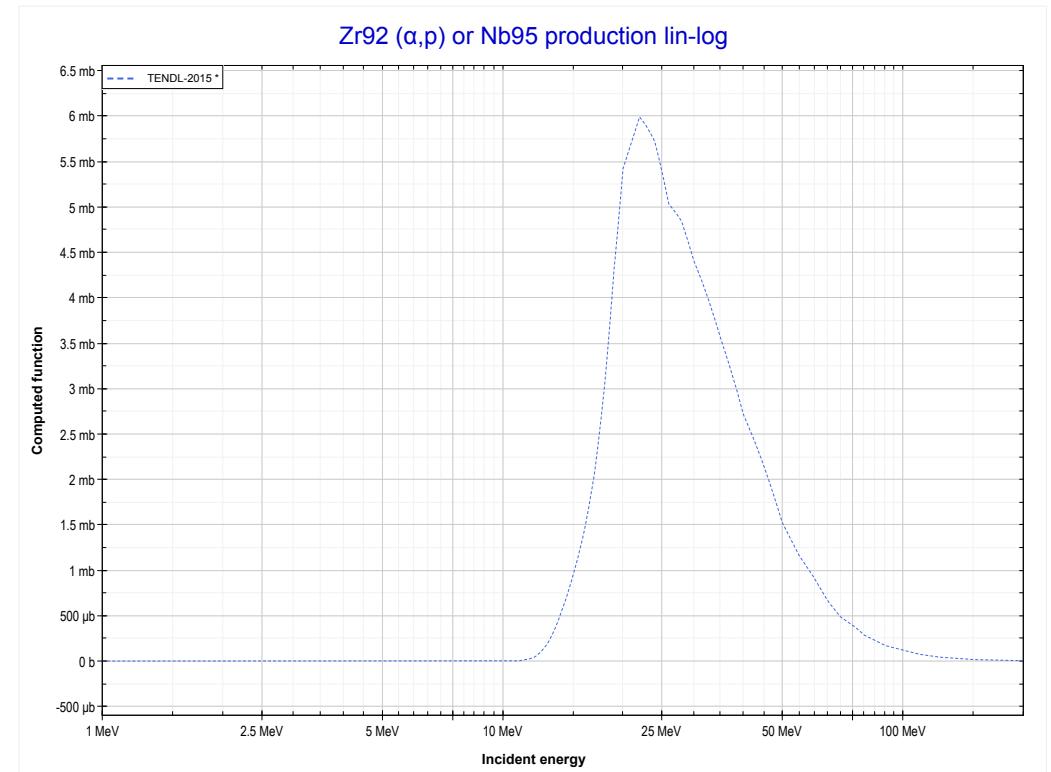
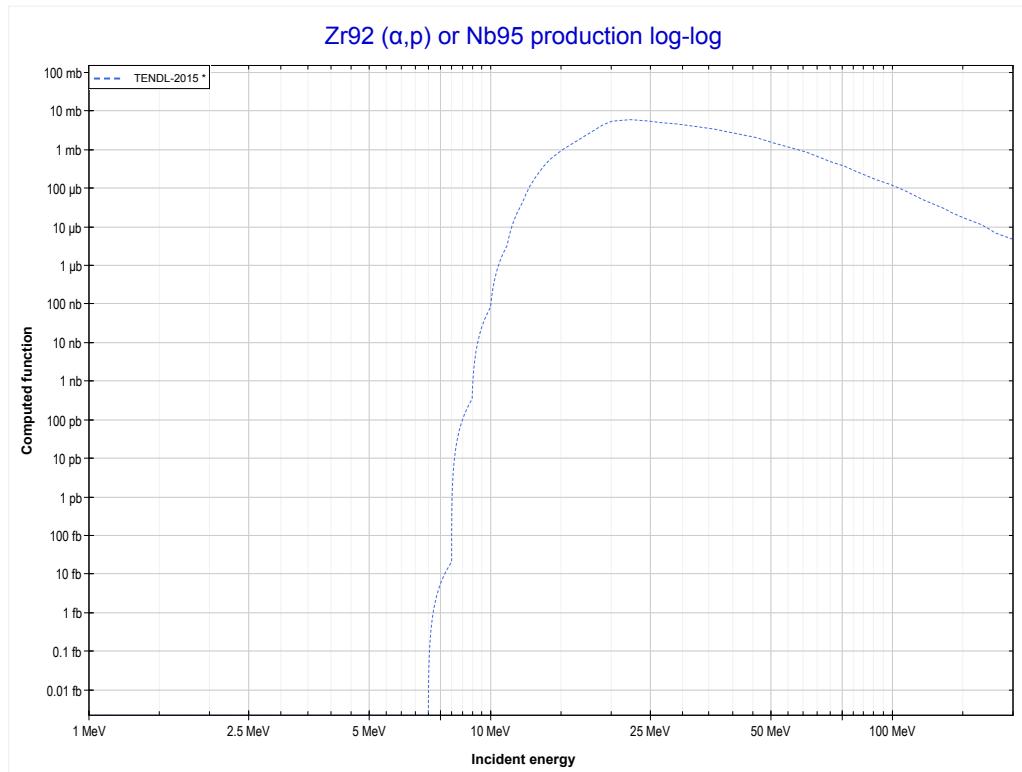


Reaction	Q-Value
Zr90( $\alpha, 4n+\alpha$ )Zr86	-43089.87 keV
Zr90( $\alpha, 2n+2t$ )Zr86	-54421.93 keV
Zr90( $\alpha, 3n+d+t$ )Zr86	-60679.16 keV
Zr90( $\alpha, 4n+p+t$ )Zr86	-62903.73 keV
Zr90( $\alpha, 5n+He3$ )Zr86	-63667.49 keV
Zr90( $\alpha, 4n+2d$ )Zr86	-66936.40 keV
Zr90( $\alpha, 5n+p+d$ )Zr86	-69160.96 keV
Zr90( $\alpha, 6n+2p$ )Zr86	-71385.53 keV



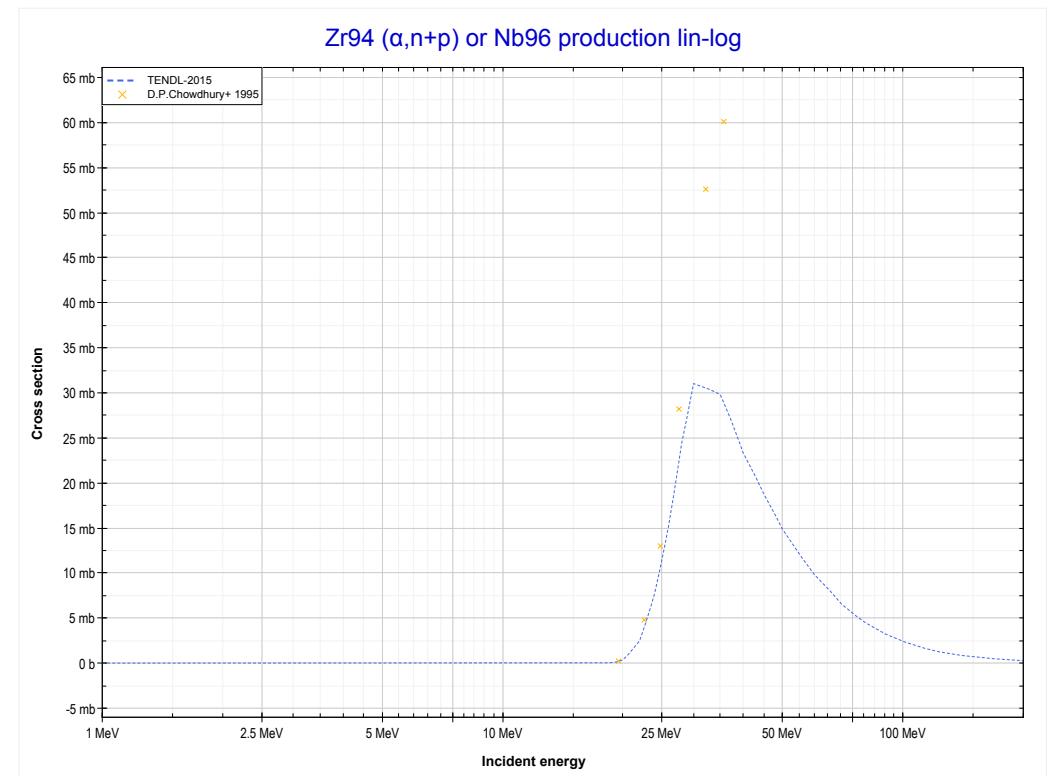
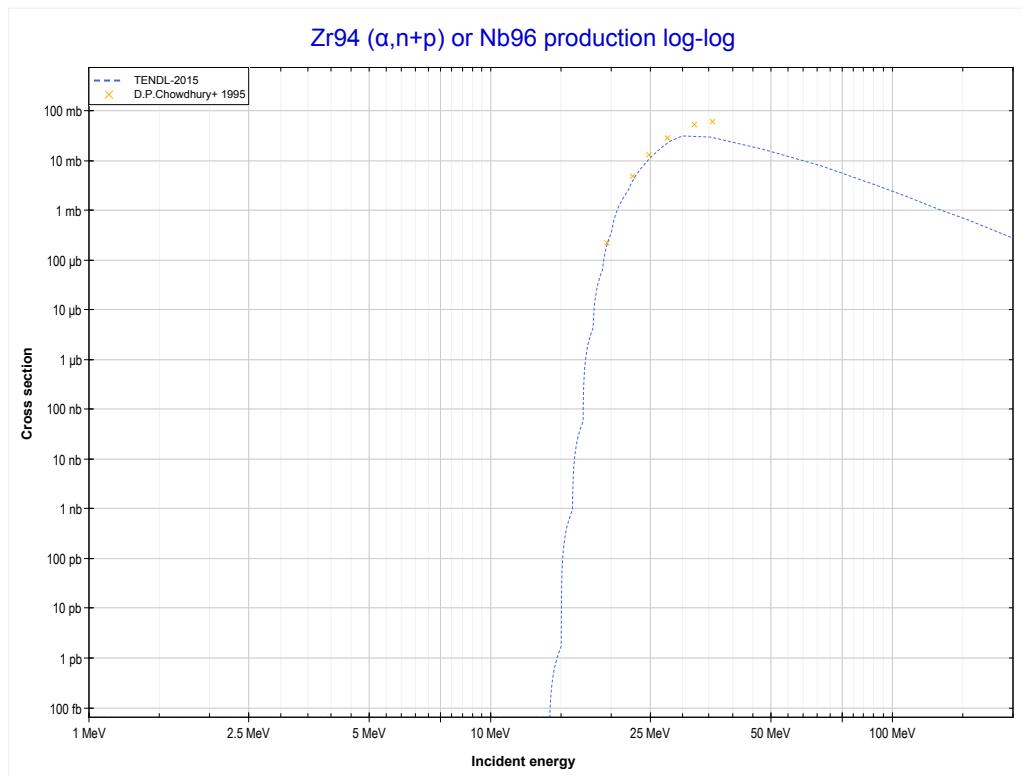
Reaction	Q-Value	Reaction	Q-Value
Zr90( $\alpha,n+t+\alpha$ )Y86	-32511.72 keV	Zr90( $\alpha,3n+d+He3$ )Y86	-59346.57 keV
Zr90( $\alpha,2n+d+\alpha$ )Y86	-38768.96 keV	Zr90( $\alpha,3n+2p+t$ )Y86	-60807.38 keV
Zr90( $\alpha,3n+p+\alpha$ )Y86	-40993.52 keV	Zr90( $\alpha,4n+p+He3$ )Y86	-61571.14 keV
Zr90( $\alpha,d+2t$ )Y86	-50101.02 keV	Zr90( $\alpha,2n+3d$ )Y86	-62615.48 keV
Zr90( $\alpha,n+p+2t$ )Y86	-52325.58 keV	Zr90( $\alpha,3n+p+2d$ )Y86	-64840.05 keV
Zr90( $\alpha,2n+t+He3$ )Y86	-53089.34 keV	Zr90( $\alpha,4n+2p+d$ )Y86	-67064.62 keV
Zr90( $\alpha,n+2d+t$ )Y86	-56358.25 keV	Zr90( $\alpha,5n+3p$ )Y86	-69289.18 keV
Zr90( $\alpha,2n+p+d+t$ )Y86	-58582.82 keV		

<< 32-Ge-74	<b>40-Zr-92</b> MT103 ( $\alpha,p$ ) or MT5 (Nb95 production)	40-Zr-94 >>
<< 40-Zr-90 MT181 ( $\alpha,3n+p+\alpha$ )		40-Zr-94 MT28 ( $\alpha,n+p$ ) >>



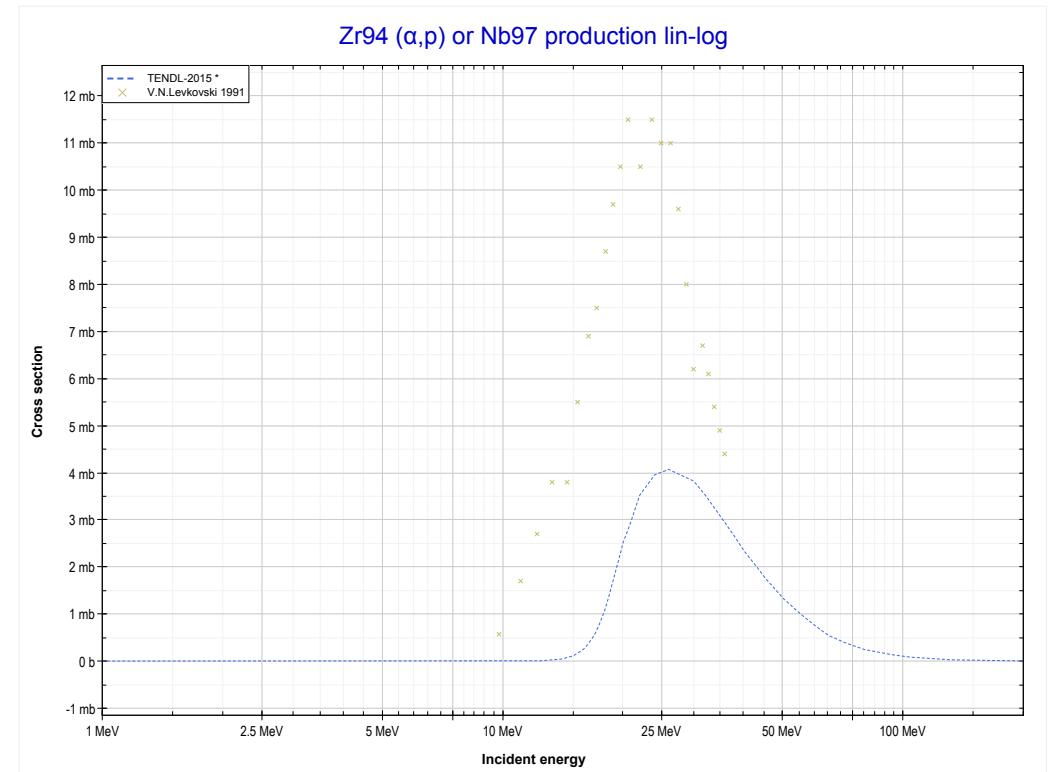
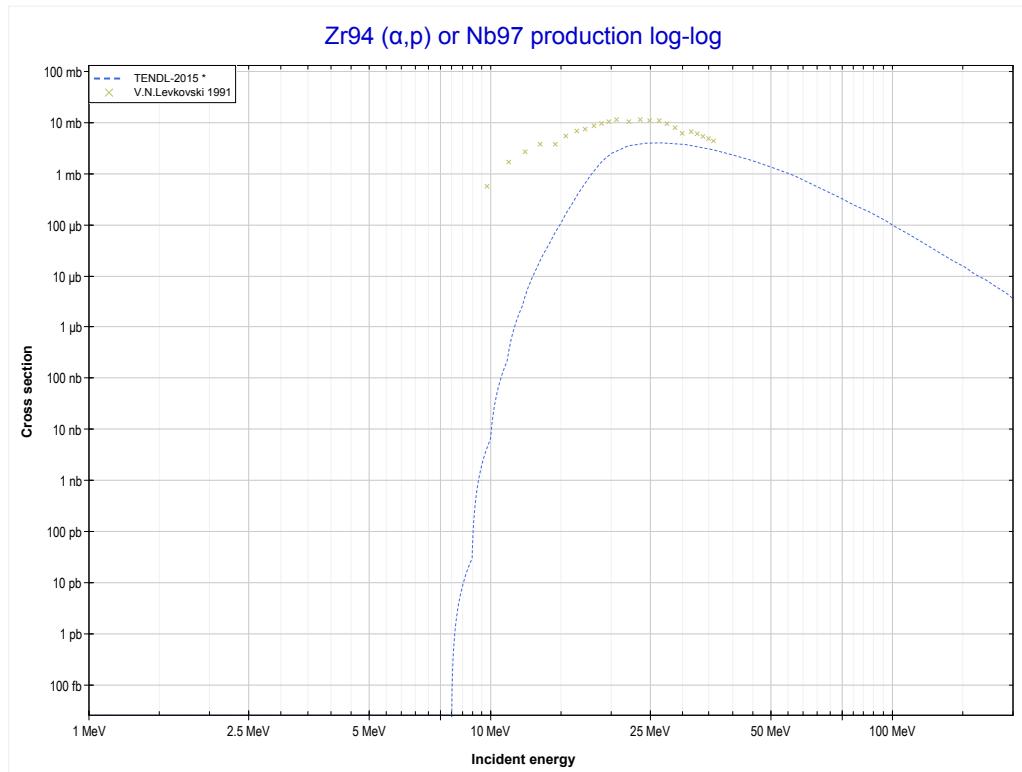
Reaction	Q-Value
Zr92( $\alpha,p$ )Nb95	-6538.55 keV

<< 40-Zr-90	<b>40-Zr-94</b> MT28 ( $\alpha, n+p$ ) or MT5 (Nb96 production)	42-Mo-92 >>
<< 40-Zr-92 MT103 ( $\alpha, p$ )		MT103 ( $\alpha, p$ ) >>



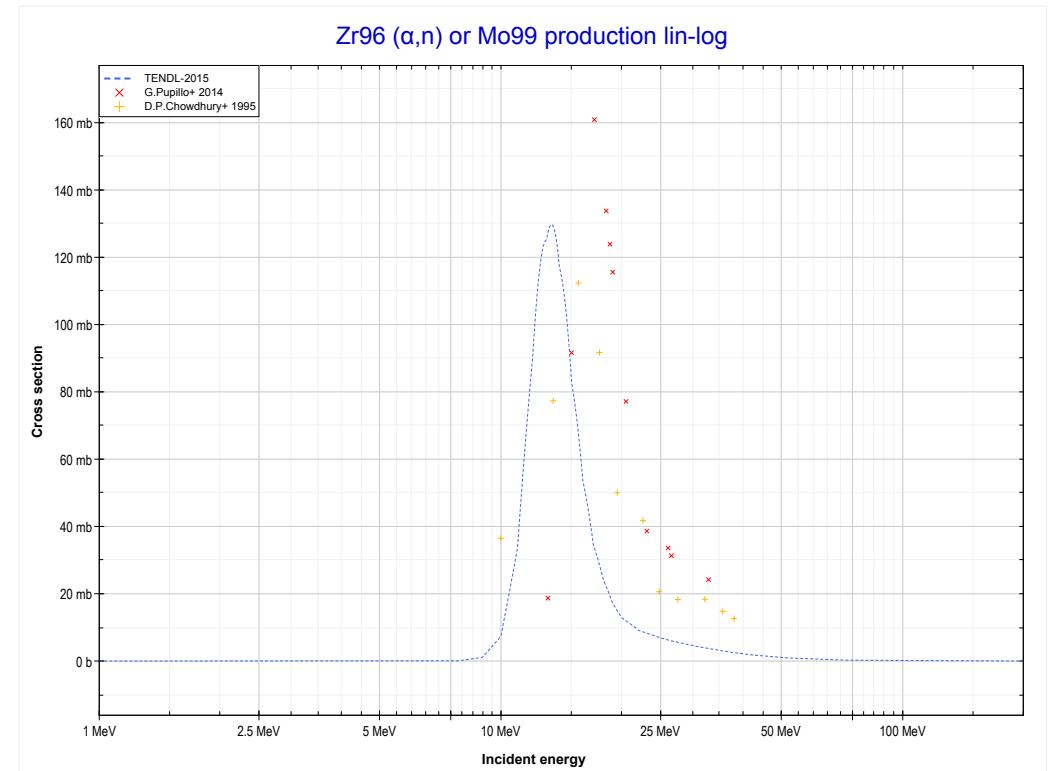
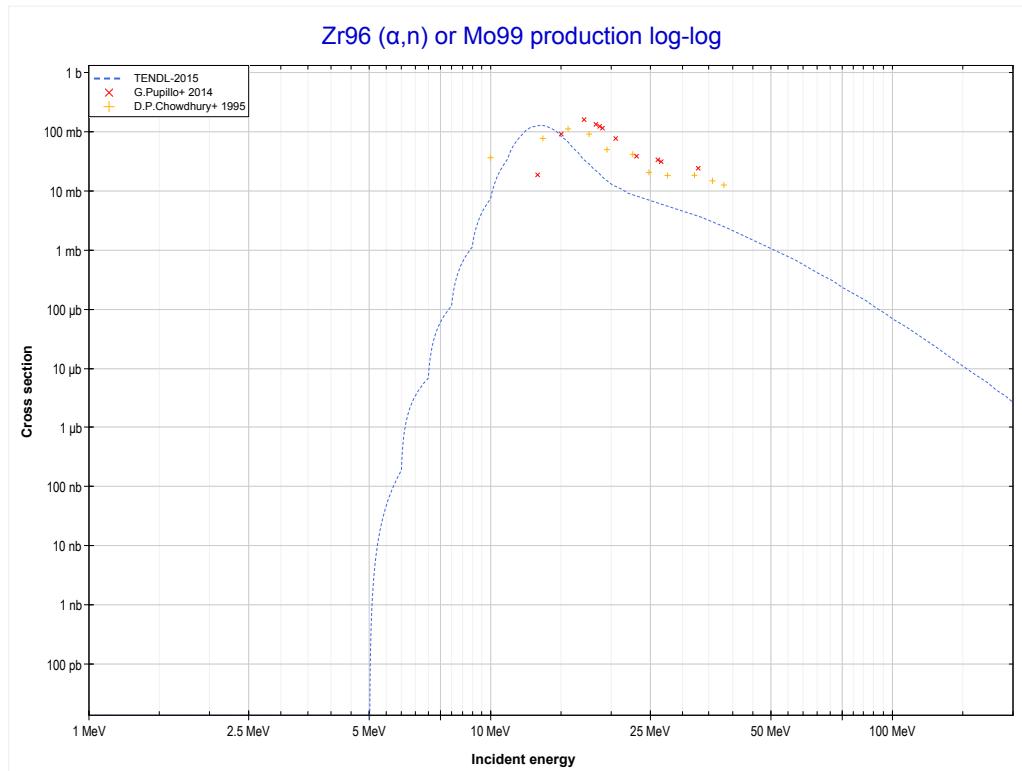
Reaction	Q-Value
Zr94( $\alpha, d$ )Nb96	-12374.71 keV
Zr94( $\alpha, n+p$ )Nb96	-14599.27 keV

<< 40-Zr-92	<b>40-Zr-94</b> MT103 ( $\alpha,p$ ) or MT5 (Nb97 production)	42-Mo-92 >>
<< MT28 ( $\alpha,n+p$ )		40-Zr-96 MT4 ( $\alpha,n$ ) >>



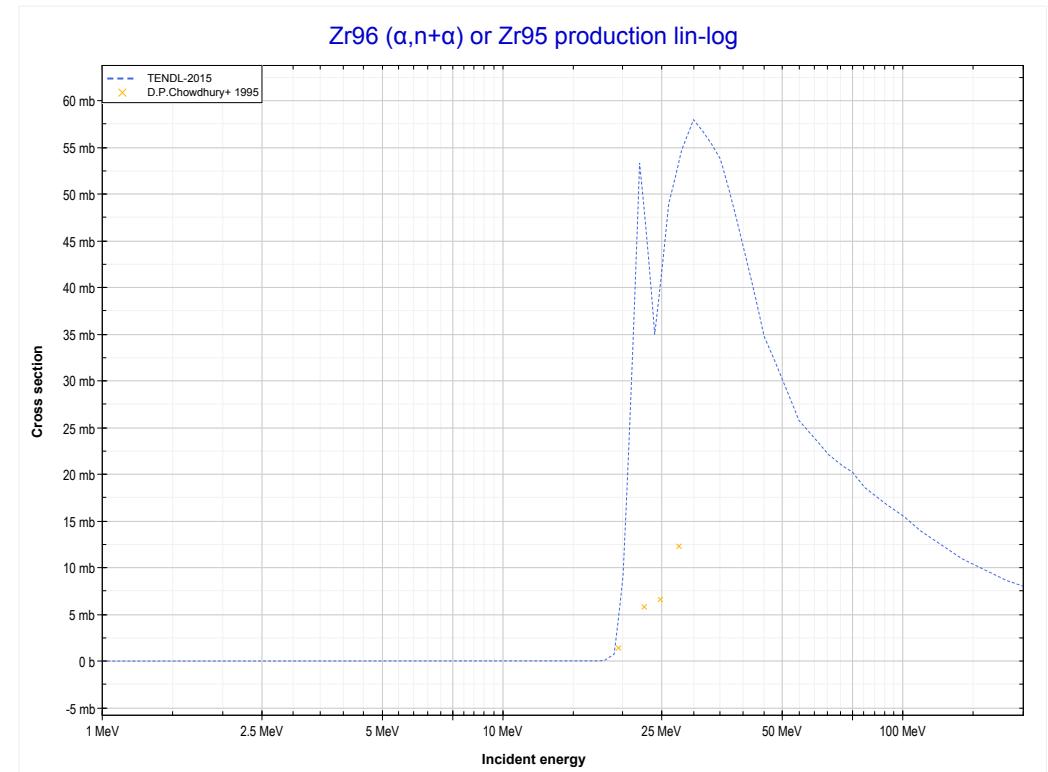
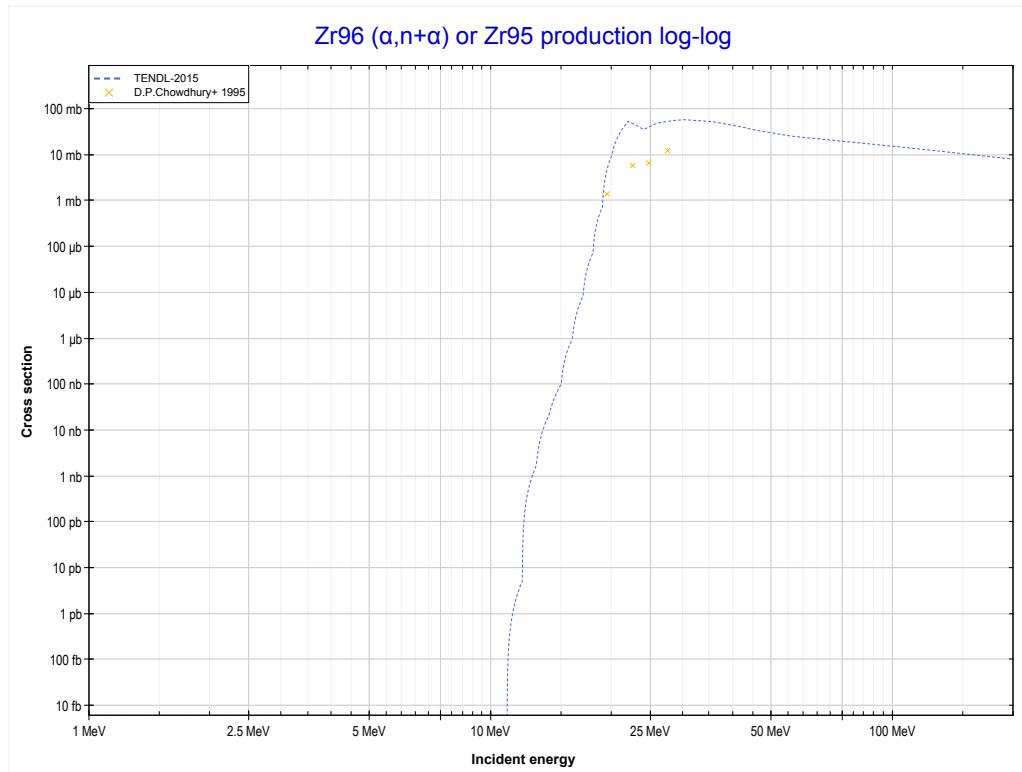
Reaction	Q-Value
Zr94( $\alpha,p$ )Nb97	-6526.85 keV

<< 39-Y-89	<b>40-Zr-96</b> MT4 ( $\alpha, n$ ) or MT5 (Mo99 production)	41-Nb-93 >>
<< 40-Zr-94 MT103 ( $\alpha, p$ )		MT22 ( $\alpha, n+\alpha$ ) >>



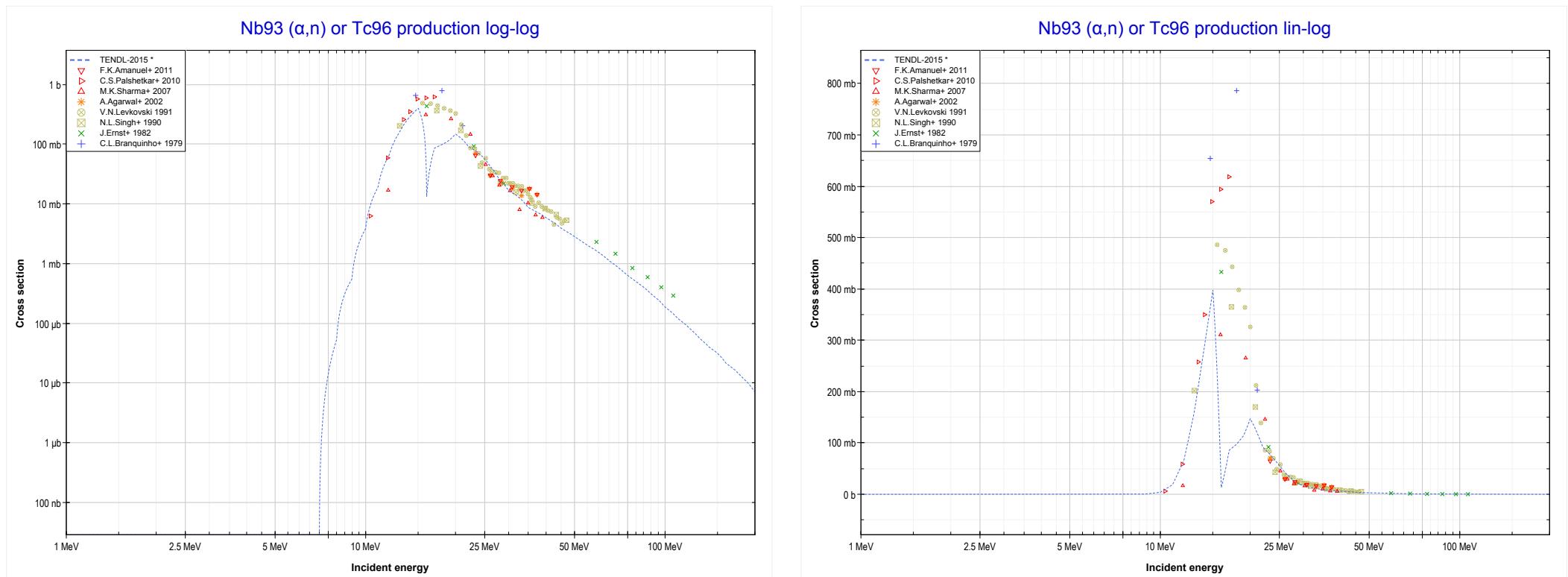
Reaction	Q-Value
Zr96( $\alpha, n$ )Mo99	-5122.00 keV

<< 40-Zr-90	<b>40-Zr-96</b> <b>MT22 (<math>\alpha, n+\alpha</math>) or MT5 (Zr95 production)</b>	41-Nb-93 >>
<< MT4 ( $\alpha, n$ )		41-Nb-93 MT4 ( $\alpha, n$ ) >>



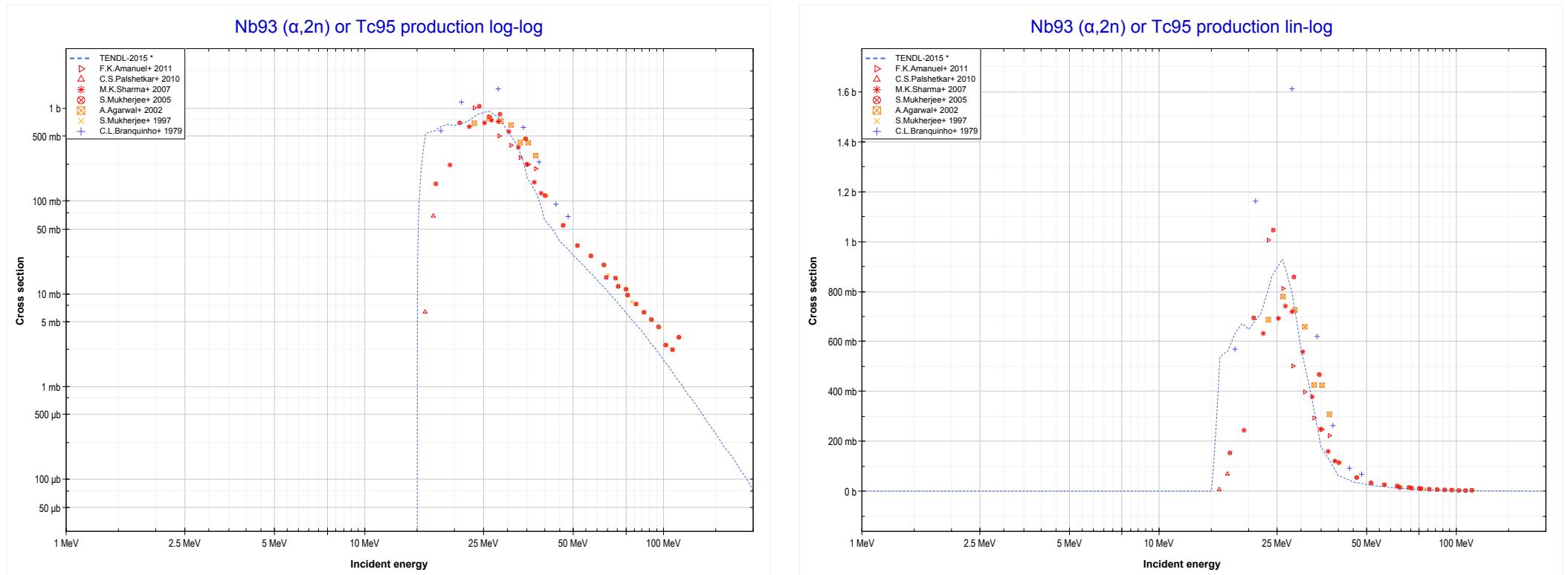
Reaction	Q-Value
Zr96( $\alpha, n+\alpha$ )Zr95	-7854.32 keV
Zr96( $\alpha, d+t$ )Zr95	-25443.61 keV
Zr96( $\alpha, n+p+t$ )Zr95	-27668.18 keV
Zr96( $\alpha, 2n+He3$ )Zr95	-28431.93 keV
Zr96( $\alpha, n+2d$ )Zr95	-31700.84 keV
Zr96( $\alpha, 2n+p+d$ )Zr95	-33925.41 keV
Zr96( $\alpha, 3n+2p$ )Zr95	-36149.98 keV

<< 40-Zr-96	<b>41-Nb-93</b>	>> 42-Mo-92
<< 40-Zr-96 MT22 ( $\alpha, n + \alpha$ )	<b>MT4 (<math>\alpha, n</math>) or MT5 (Tc96 production)</b>	<b>MT16 (<math>\alpha, 2n</math>) &gt;&gt;</b>



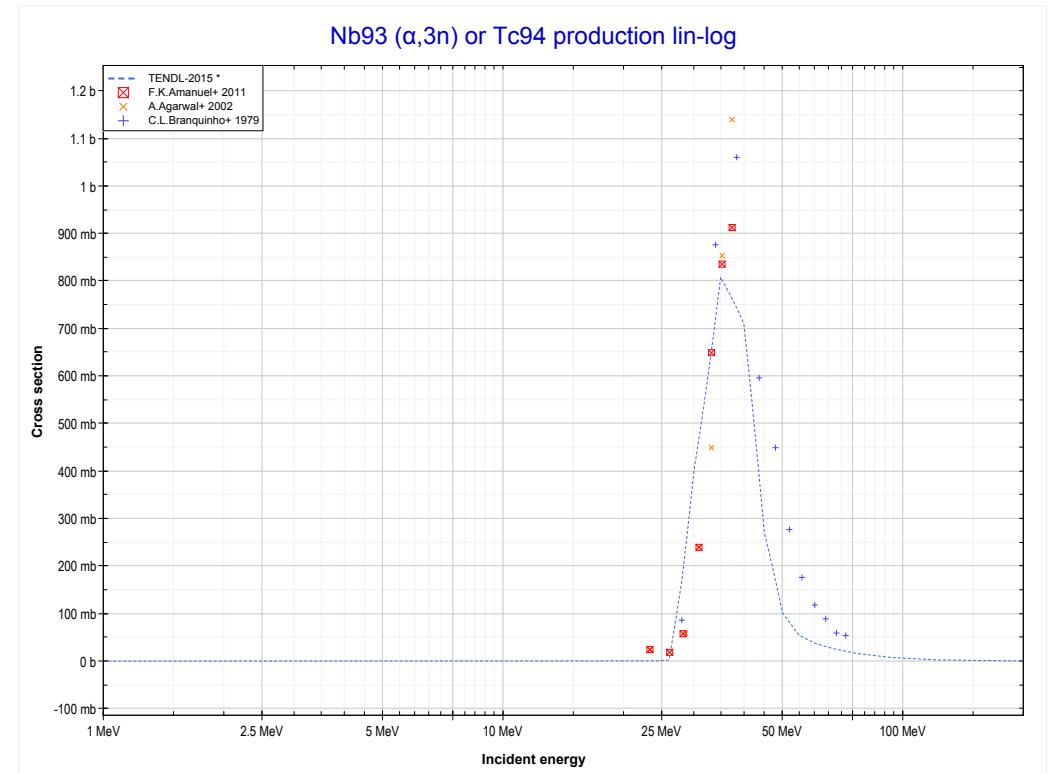
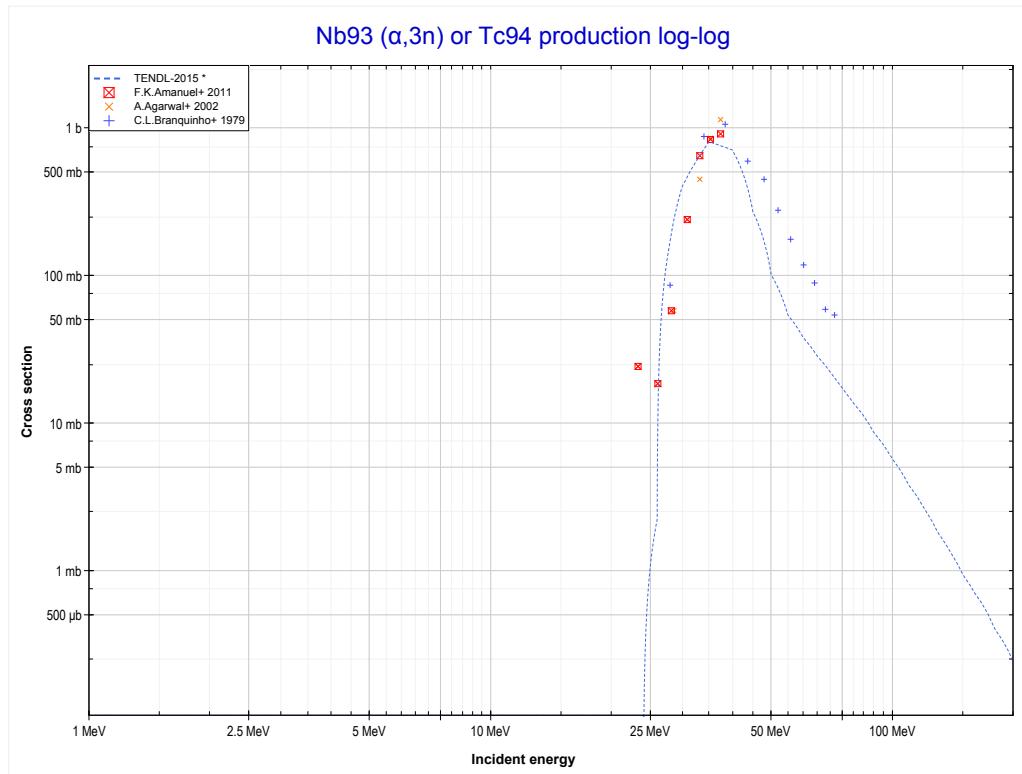
Reaction	Q-Value
$\text{Nb93}(\alpha, n)\text{Tc96}$	-7039.40 keV

<< 38-Sr-87	<b>41-Nb-93</b> <b>MT16 (<math>\alpha</math>,2n) or MT5 (Tc95 production)</b>	42-Mo-92 >>
<< MT4 ( $\alpha$ ,n)		MT17 ( $\alpha$ ,3n) >>



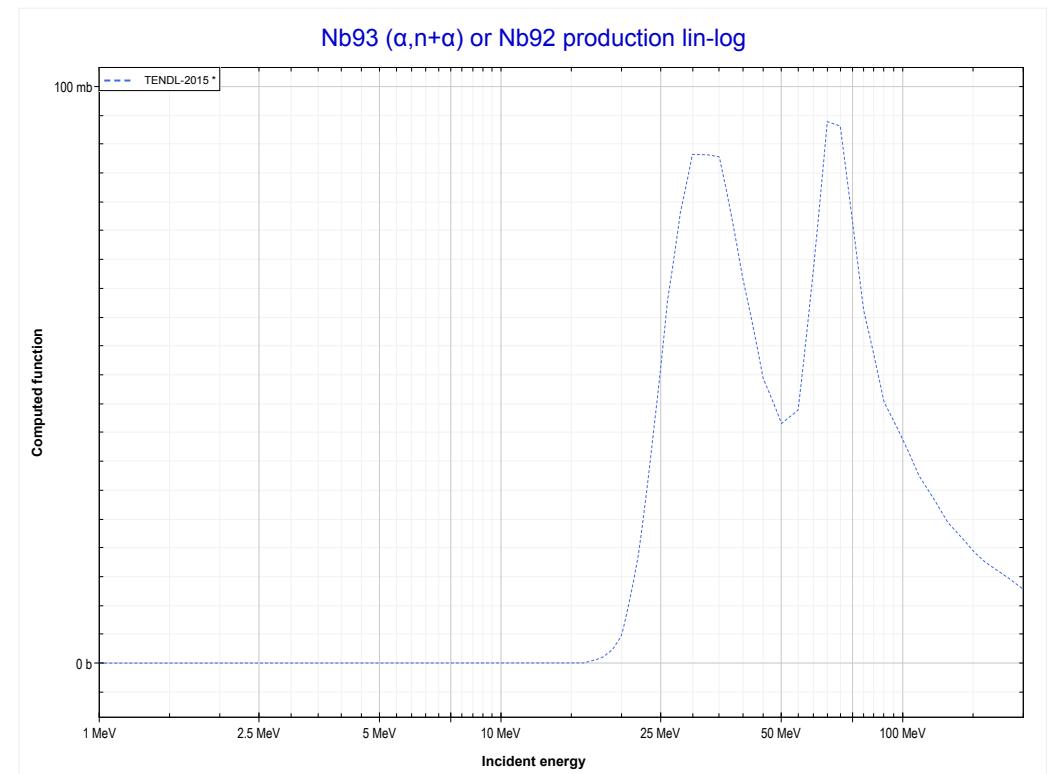
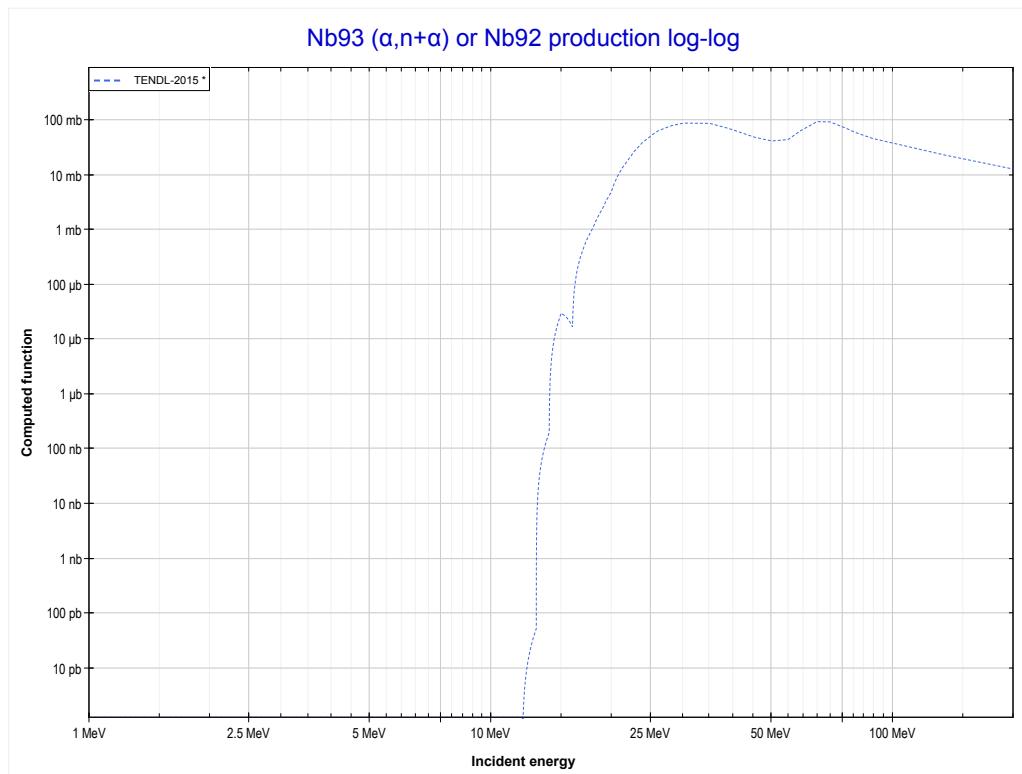
Reaction	Q-Value
Nb93( $\alpha$ ,2n)Tc95	-14910.72 keV

<< 39-Y-89	<b>41-Nb-93</b> <b>MT17 (<math>\alpha,3n</math>) or MT5 (Tc94 production)</b>	42-Mo-94 >>
<< MT16 ( $\alpha,2n$ )		MT22 ( $\alpha,n+\alpha$ ) >>



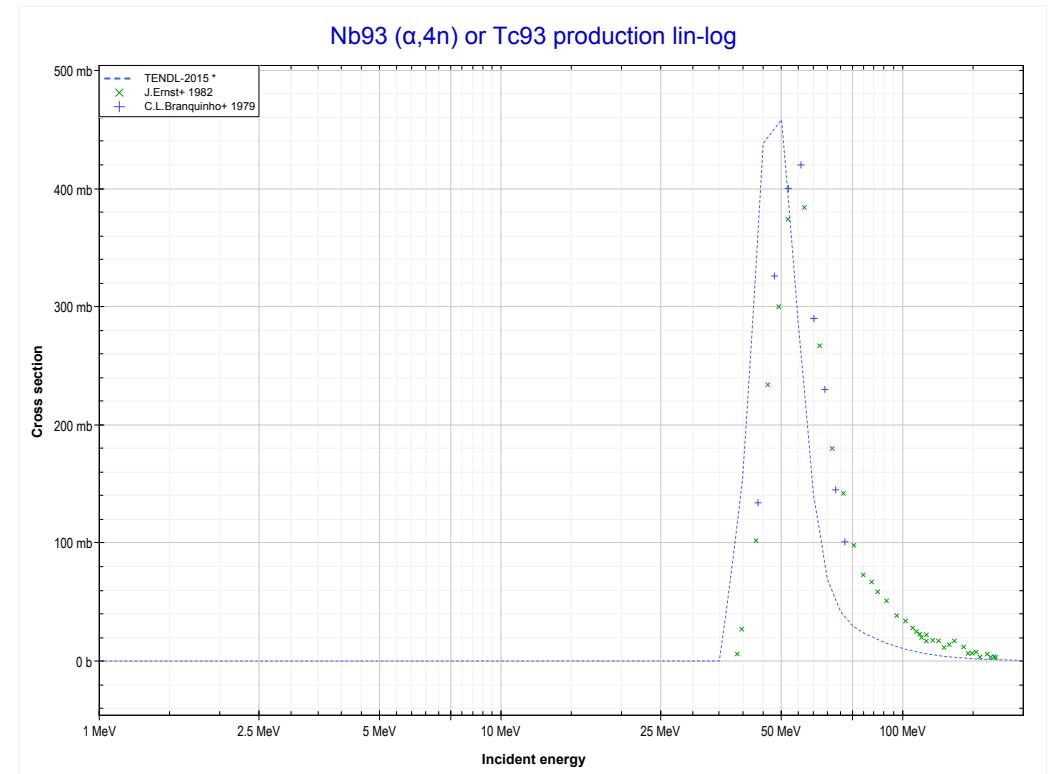
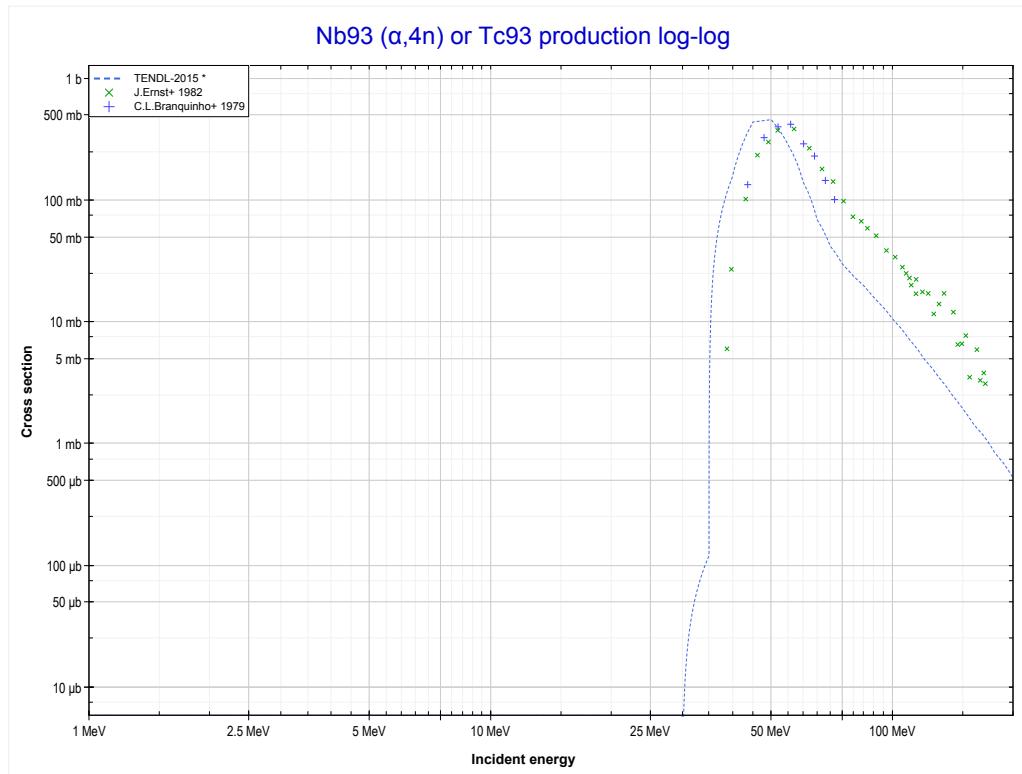
Reaction	Q-Value
Nb93( $\alpha,3n$ )Tc94	-24845.04 keV

<< 40-Zr-96	<b>41-Nb-93</b> MT22 ( $\alpha, n+\alpha$ ) or MT5 (Nb92 production)	>> 48-Cd-106
<< MT17 ( $\alpha, 3n$ )		MT37 ( $\alpha, 4n$ ) >>



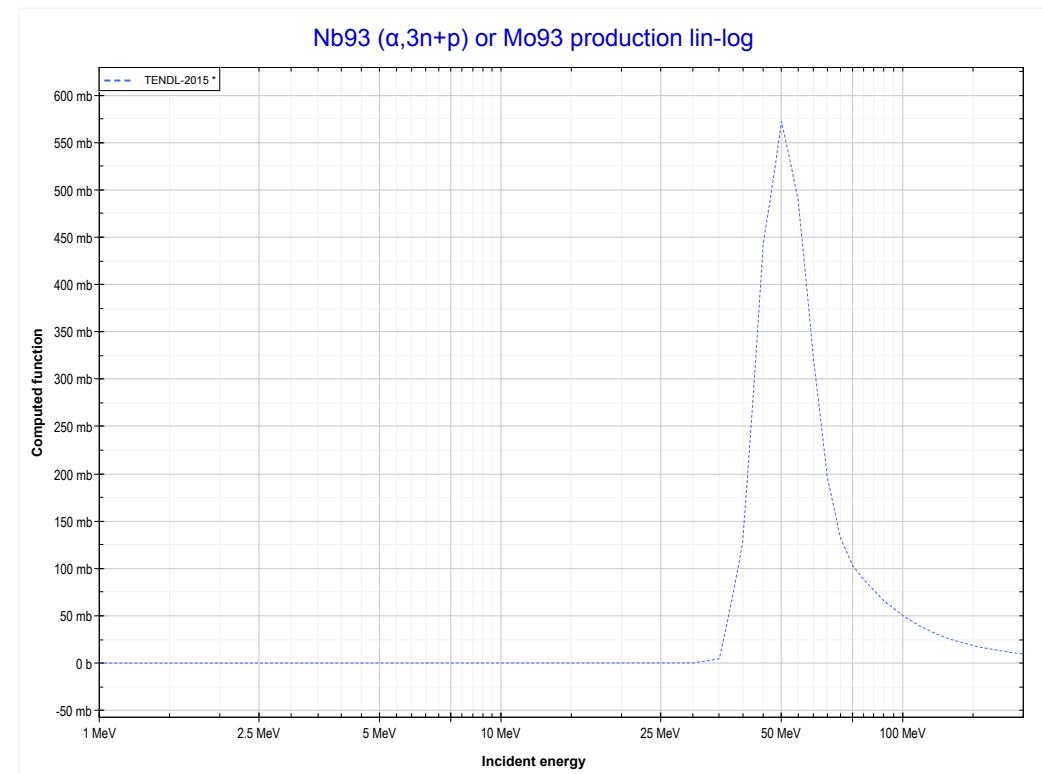
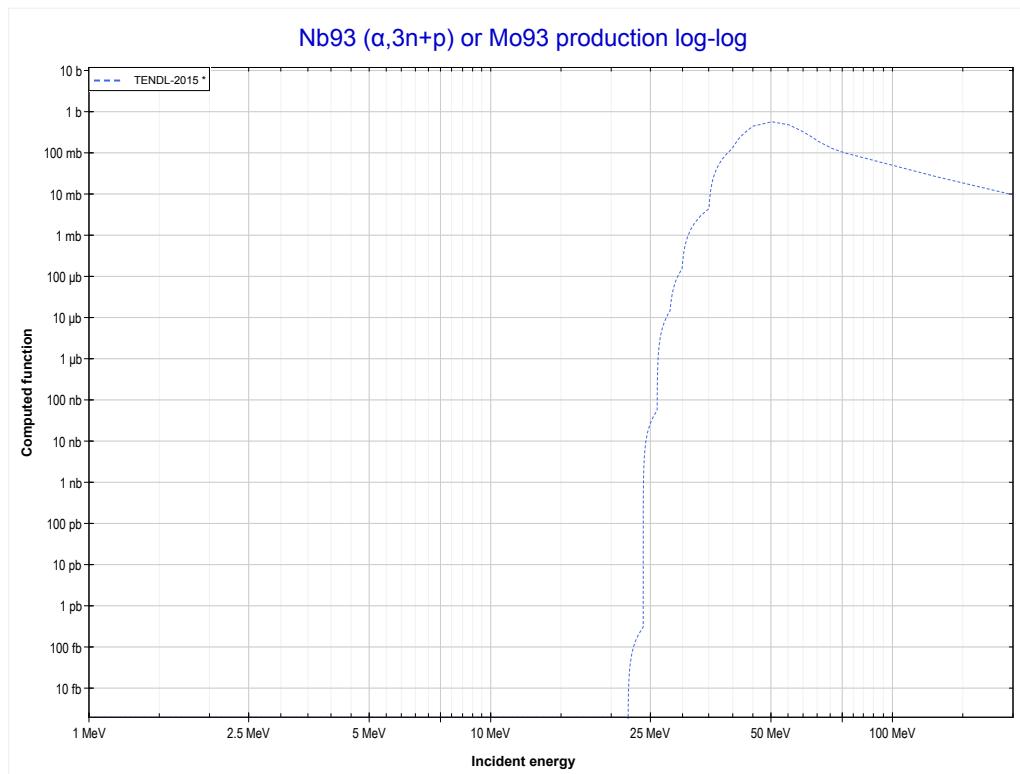
Reaction	Q-Value
Nb93( $\alpha, n+\alpha$ )Nb92	-8830.62 keV
Nb93( $\alpha, d+t$ )Nb92	-26419.91 keV
Nb93( $\alpha, n+p+t$ )Nb92	-28644.48 keV
Nb93( $\alpha, 2n+He3$ )Nb92	-29408.23 keV
Nb93( $\alpha, n+2d$ )Nb92	-32677.14 keV
Nb93( $\alpha, 2n+p+d$ )Nb92	-34901.71 keV
Nb93( $\alpha, 3n+2p$ )Nb92	-37126.28 keV

<< 40-Zr-90	<b>41-Nb-93</b> MT37 ( $\alpha,4n$ ) or MT5 (Tc93 production)	42-Mo-94 >>
<< MT22 ( $\alpha,n+\alpha$ )		MT42 ( $\alpha,3n+p$ ) >>



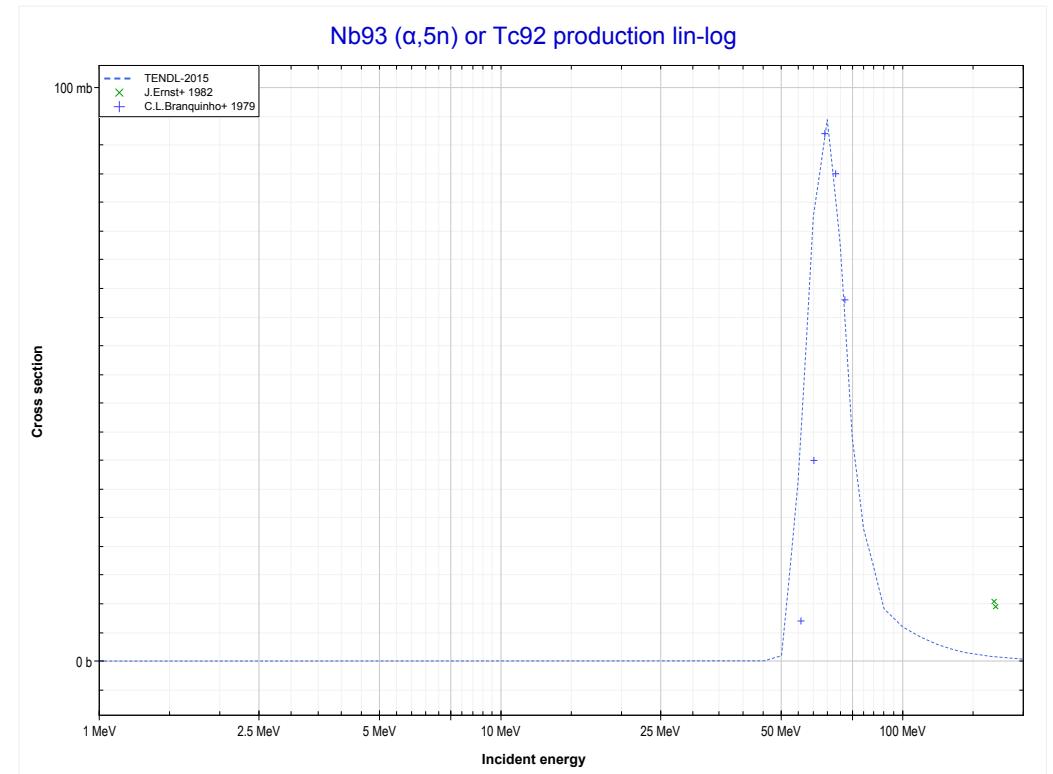
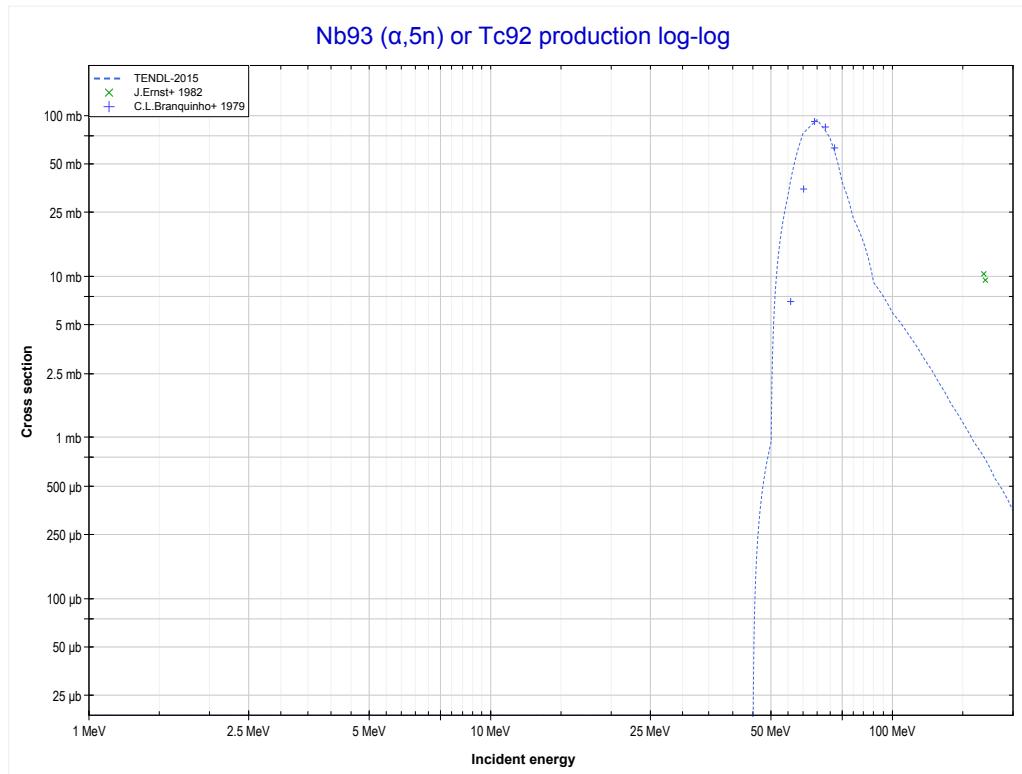
Reaction	Q-Value
Nb93( $\alpha,4n$ )Tc93	-33467.95 keV

<< 40-Zr-90	<b>41-Nb-93</b> MT42 ( $\alpha$ ,3n+p) or MT5 (Mo93 production)	48-Cd-114 >>
<< MT37 ( $\alpha$ ,4n)		MT152 ( $\alpha$ ,5n) >>



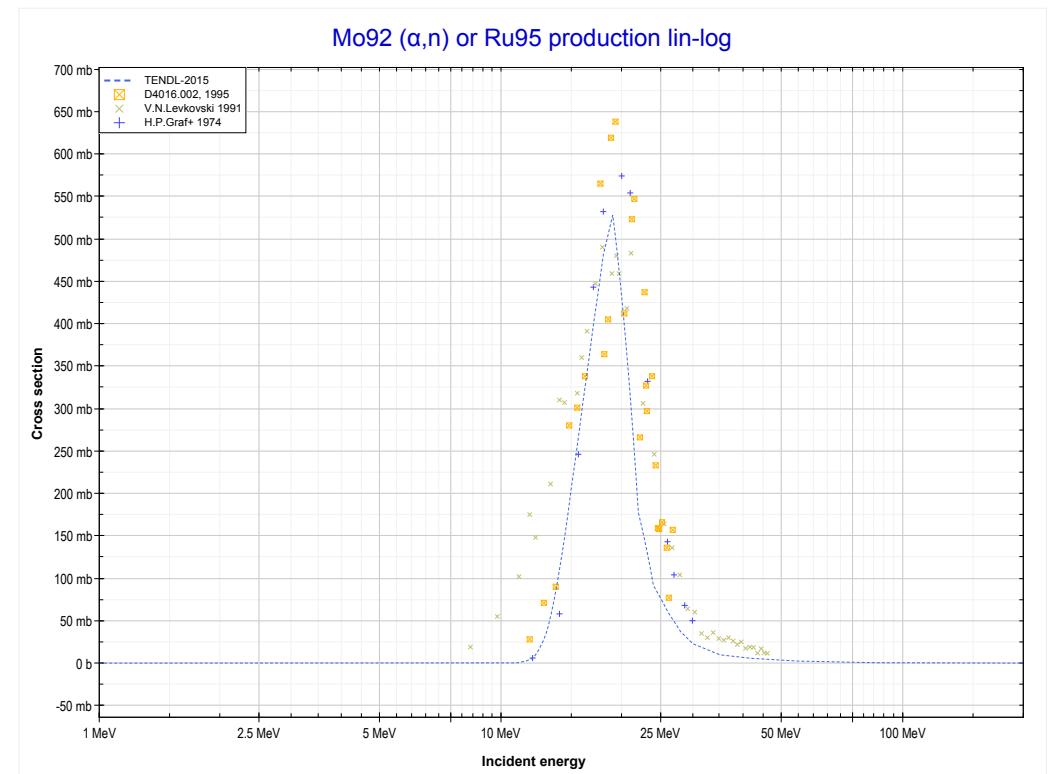
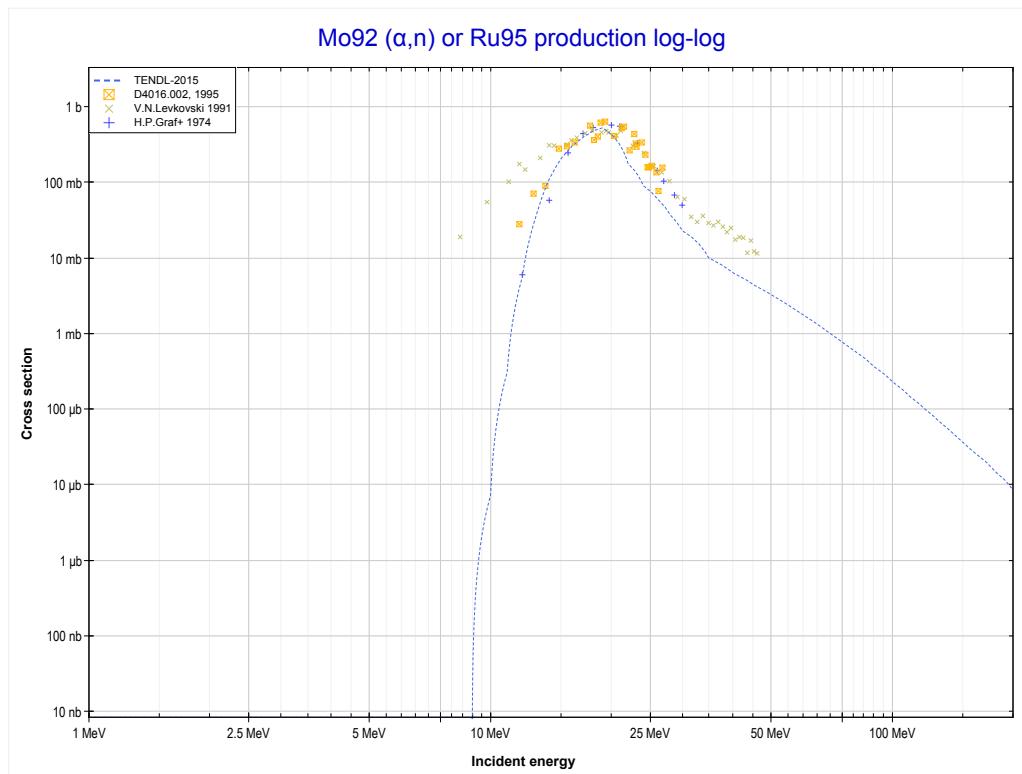
Reaction	Q-Value
Nb93( $\alpha$ ,n+t)Mo93	-21002.91 keV
Nb93( $\alpha$ ,2n+d)Mo93	-27260.14 keV
Nb93( $\alpha$ ,3n+p)Mo93	-29484.71 keV

<< 36-Kr-83	<b>41-Nb-93</b> MT152 ( $\alpha,5n$ ) or MT5 (Tc92 production)	>> 45-Rh-103
<< MT42 ( $\alpha,3n+p$ )		42-Mo-92 MT4 ( $\alpha,n$ ) >>



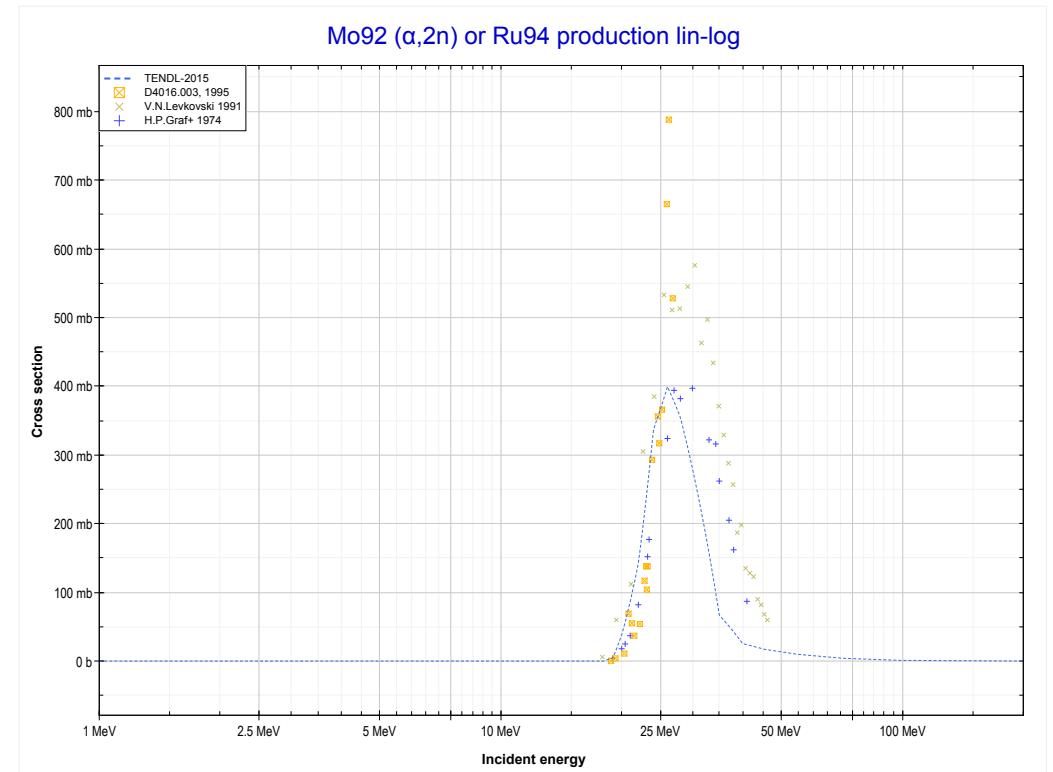
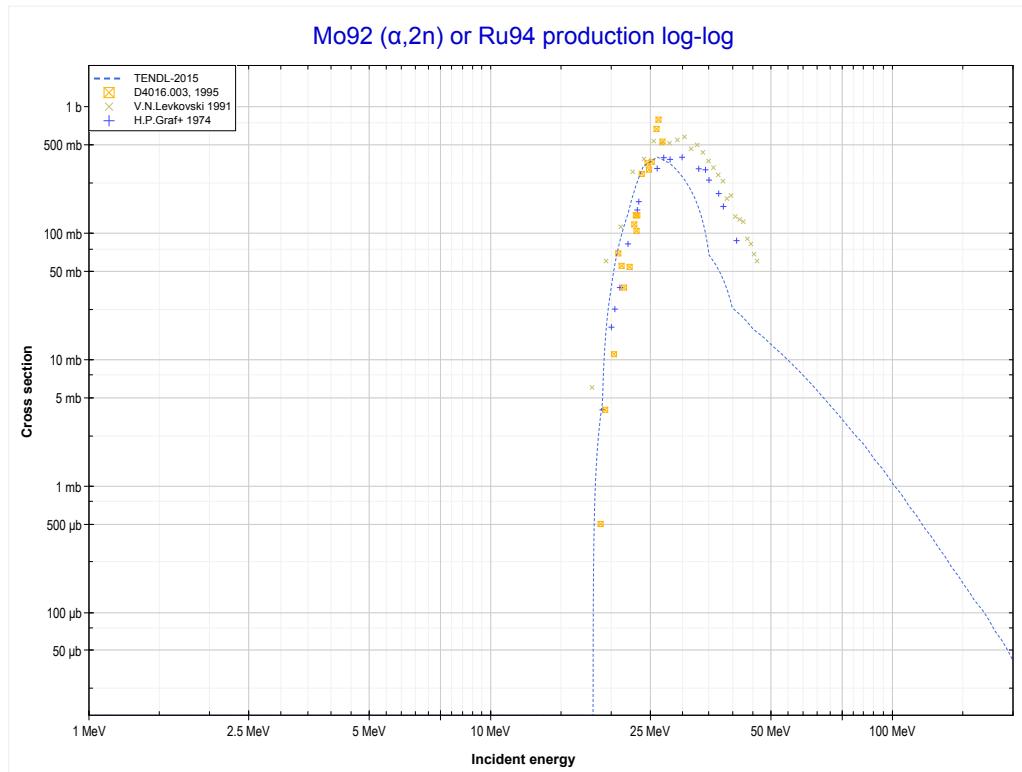
Reaction	Q-Value
Nb93( $\alpha,5n$ )Tc92	-46218.67 keV

<< 41-Nb-93	<b>42-Mo-92</b> MT4 ( $\alpha, n$ ) or MT5 (Ru95 production)	42-Mo-94 >>
<< 41-Nb-93 MT152 ( $\alpha, 5n$ )		MT16 ( $\alpha, 2n$ ) >>



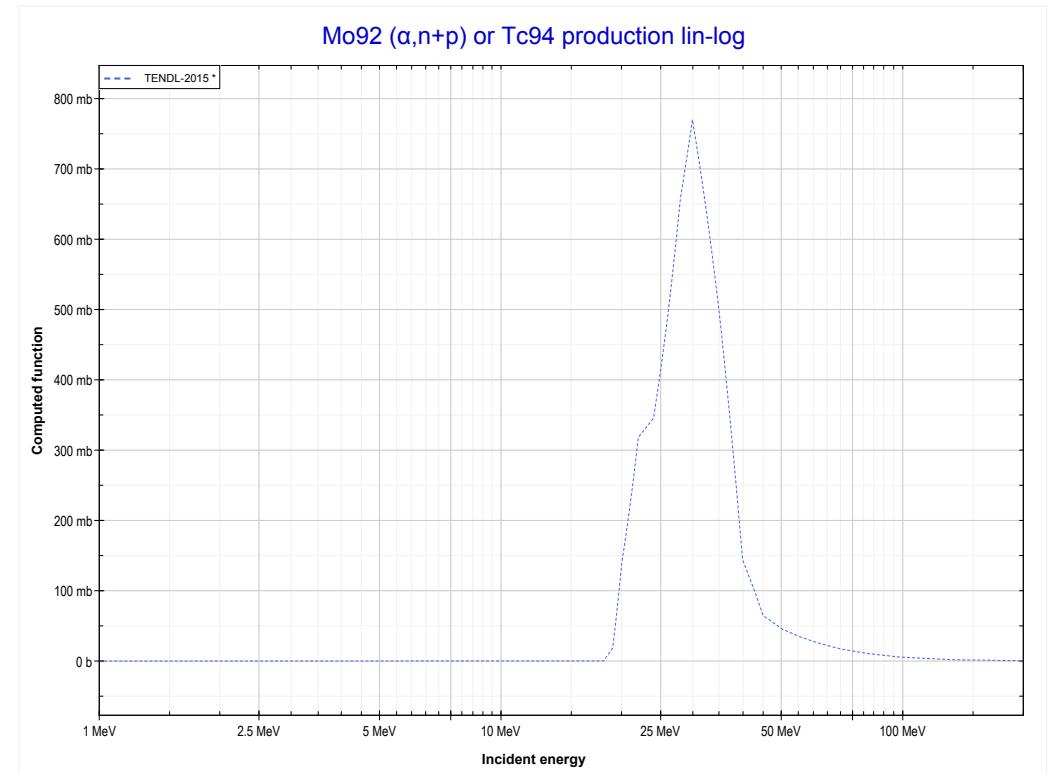
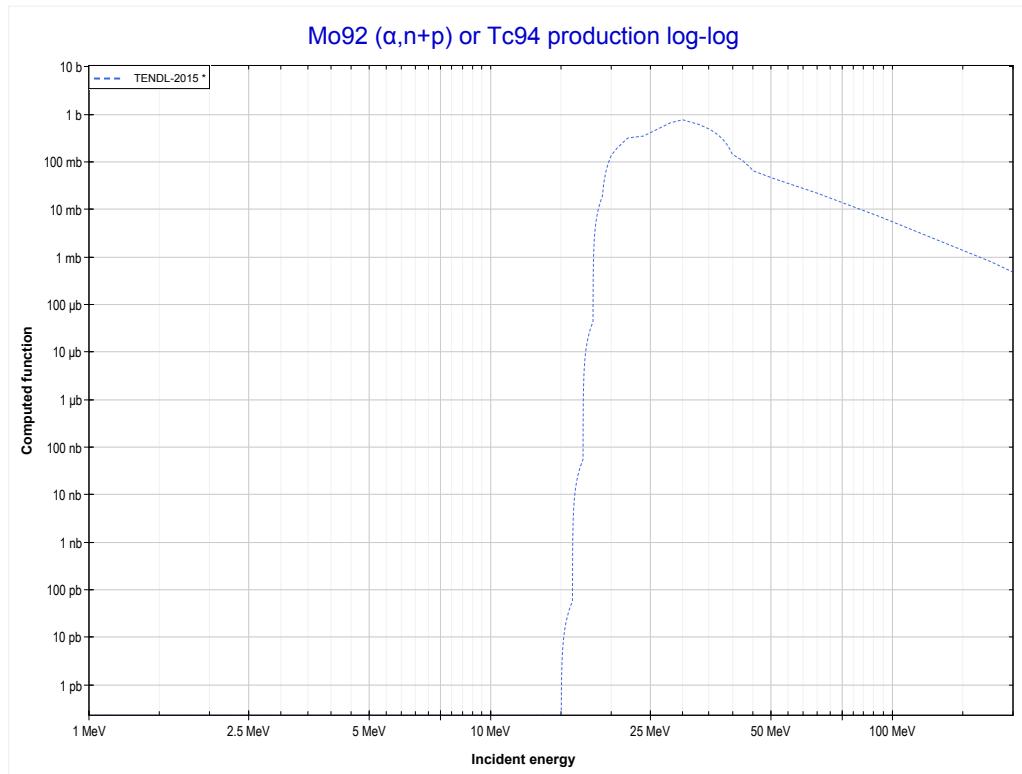
Reaction	Q-Value
Mo92( $\alpha, n$ )Ru95	-8998.20 keV

<< 41-Nb-93	<b>42-Mo-92</b> <b>MT16 (<math>\alpha,2n</math>) or MT5 (Ru94 production)</b>	42-Mo-95 >>
<< MT4 ( $\alpha,n$ )		MT28 ( $\alpha,n+p$ ) >>



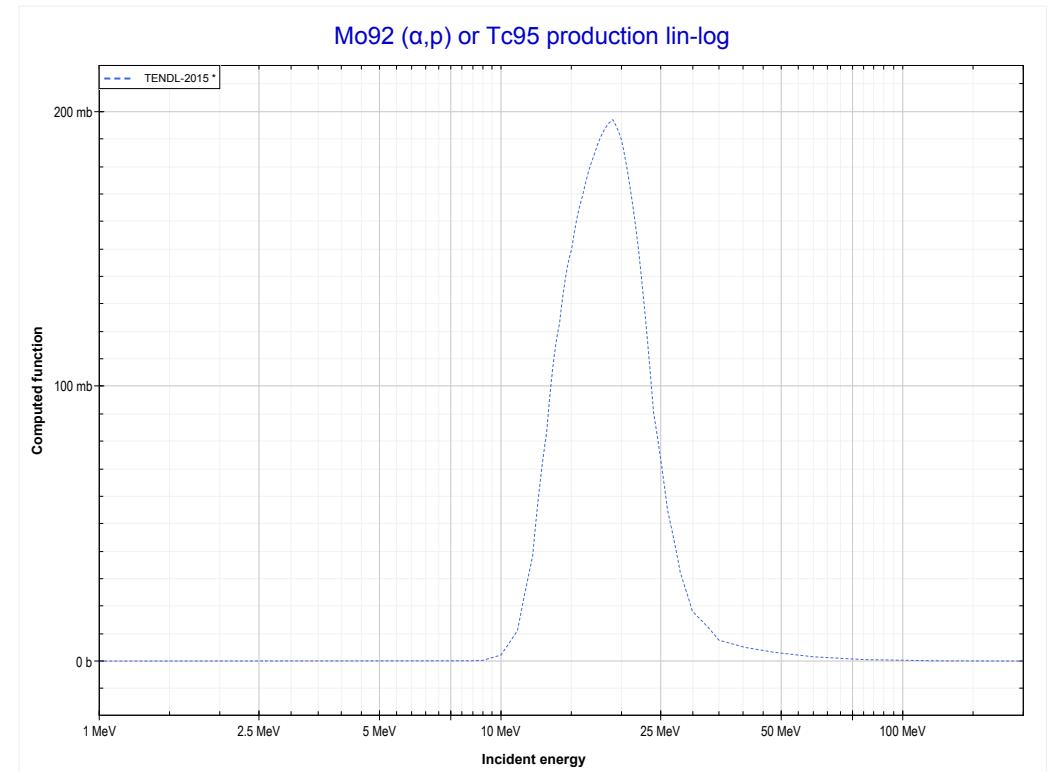
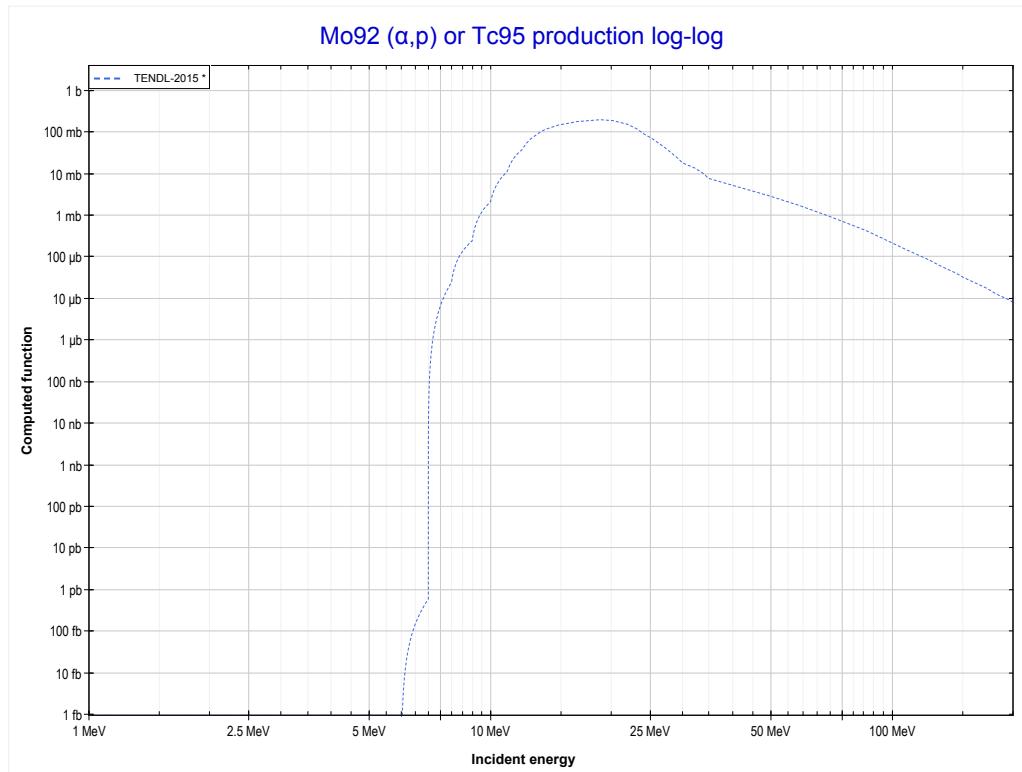
Reaction	Q-Value
Mo92( $\alpha,2n$ )Ru94	-17941.52 keV

<< 40-Zr-94	<b>42-Mo-92</b> MT28 ( $\alpha, n+p$ ) or MT5 (Tc94 production)	>> 47-Ag-107
<< MT16 ( $\alpha, 2n$ )		MT103 ( $\alpha, p$ ) >>



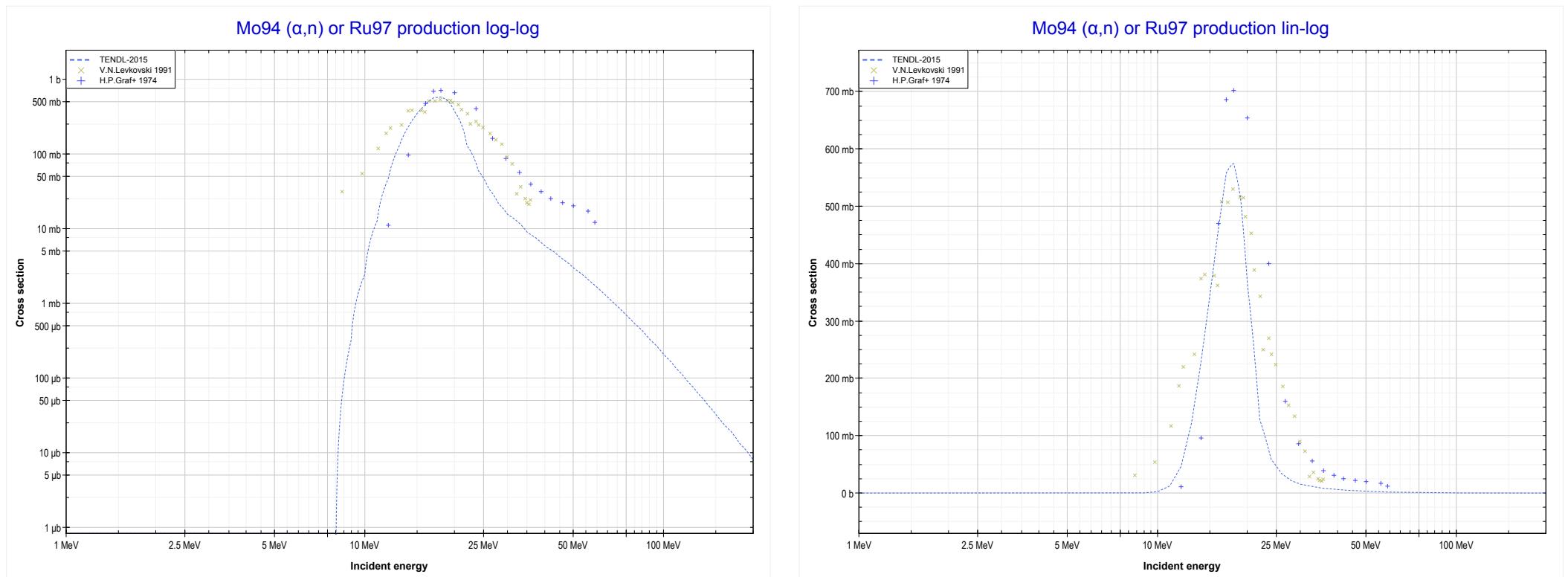
Reaction	Q-Value
Mo92( $\alpha, d$ )Tc94	-13361.61 keV
Mo92( $\alpha, n+p$ )Tc94	-15586.17 keV

<< 40-Zr-94	<b>42-Mo-92</b> MT103 ( $\alpha,p$ ) or MT5 (Tc95 production)	42-Mo-98 >>
<< MT28 ( $\alpha,n+p$ )		42-Mo-94 MT4 ( $\alpha,n$ ) >>



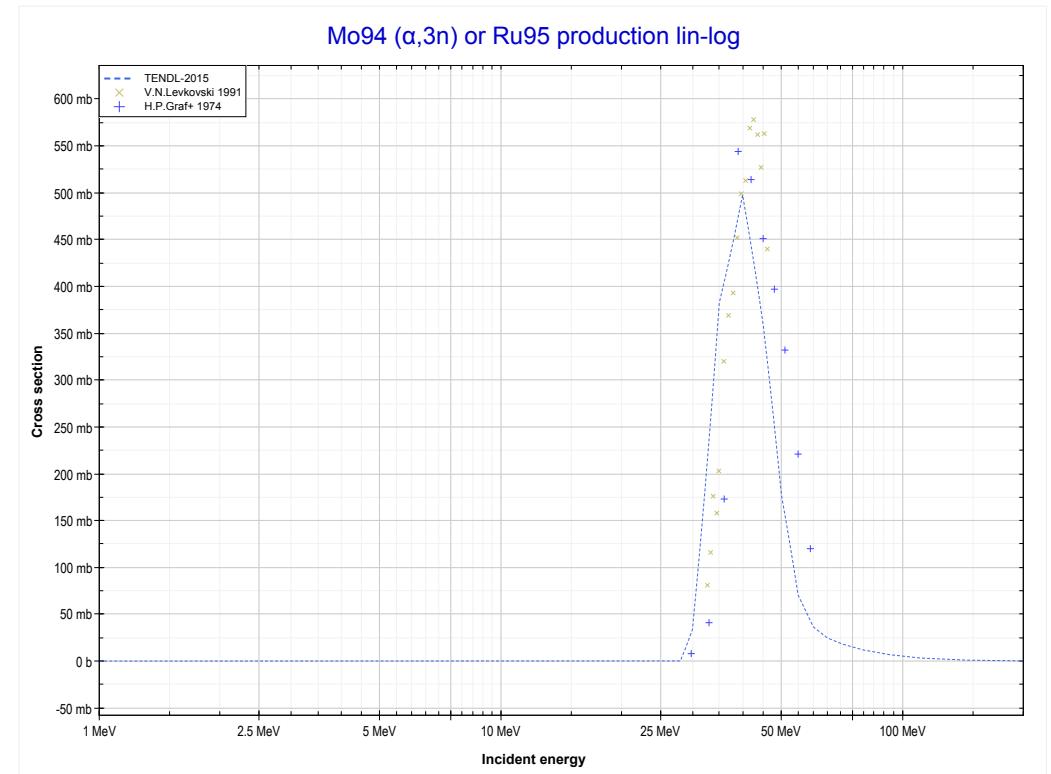
Reaction	Q-Value
Mo92( $\alpha,p$ )Tc95	-5651.85 keV

<< 42-Mo-92	<b>42-Mo-94</b> MT4 ( $\alpha, n$ ) or MT5 (Ru97 production)	>> 42-Mo-100
<< 42-Mo-92 MT103 ( $\alpha, p$ )		MT17 ( $\alpha, 3n$ ) >>



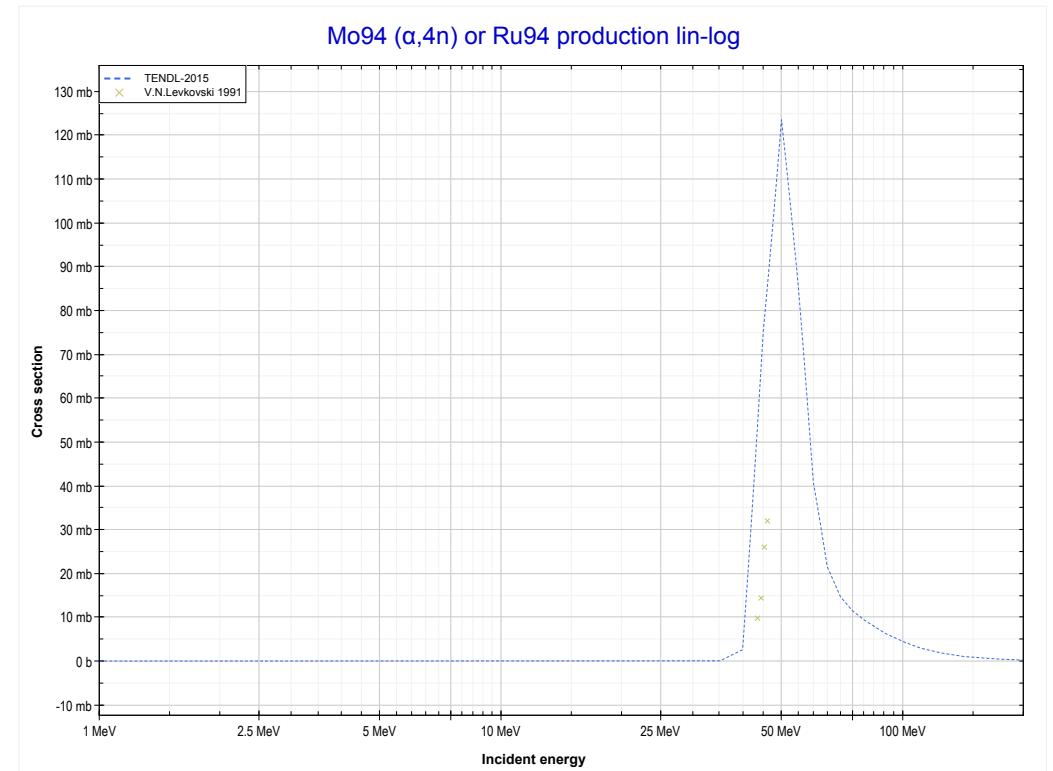
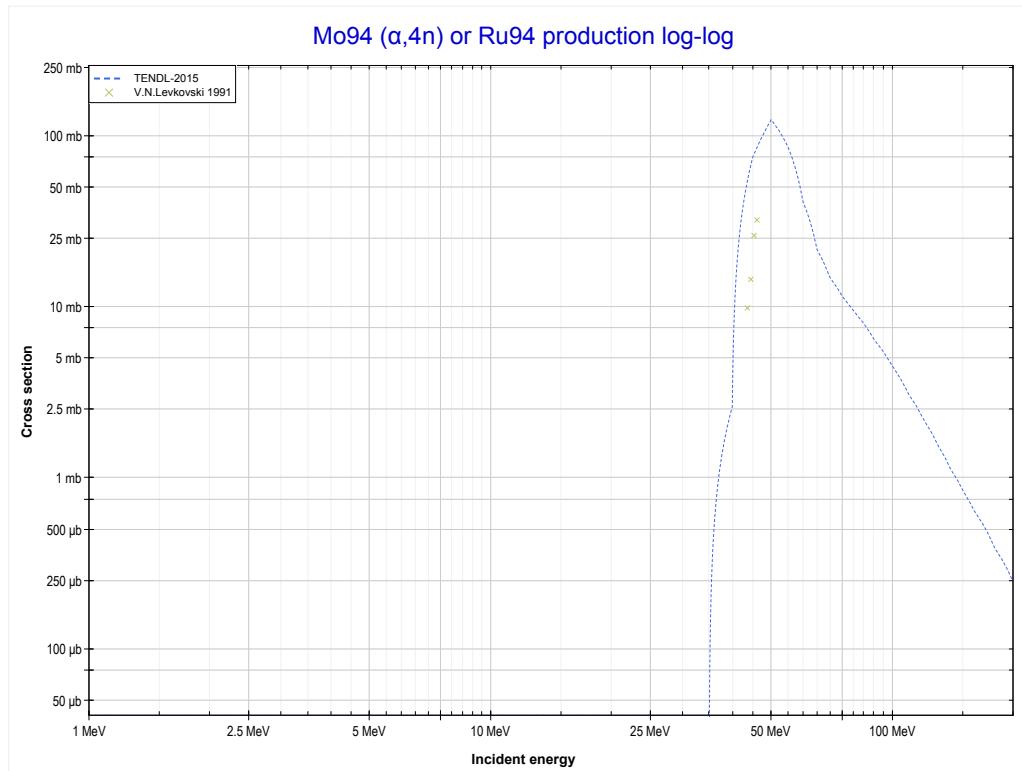
Reaction	Q-Value
Mo94( $\alpha, n$ )Ru97	-7939.90 keV

<< 41-Nb-93	<b>42-Mo-94</b> MT17 ( $\alpha$ ,3n) or MT5 (Ru95 production)	42-Mo-96 >>
<< MT4 ( $\alpha$ ,n)		MT37 ( $\alpha$ ,4n) >>



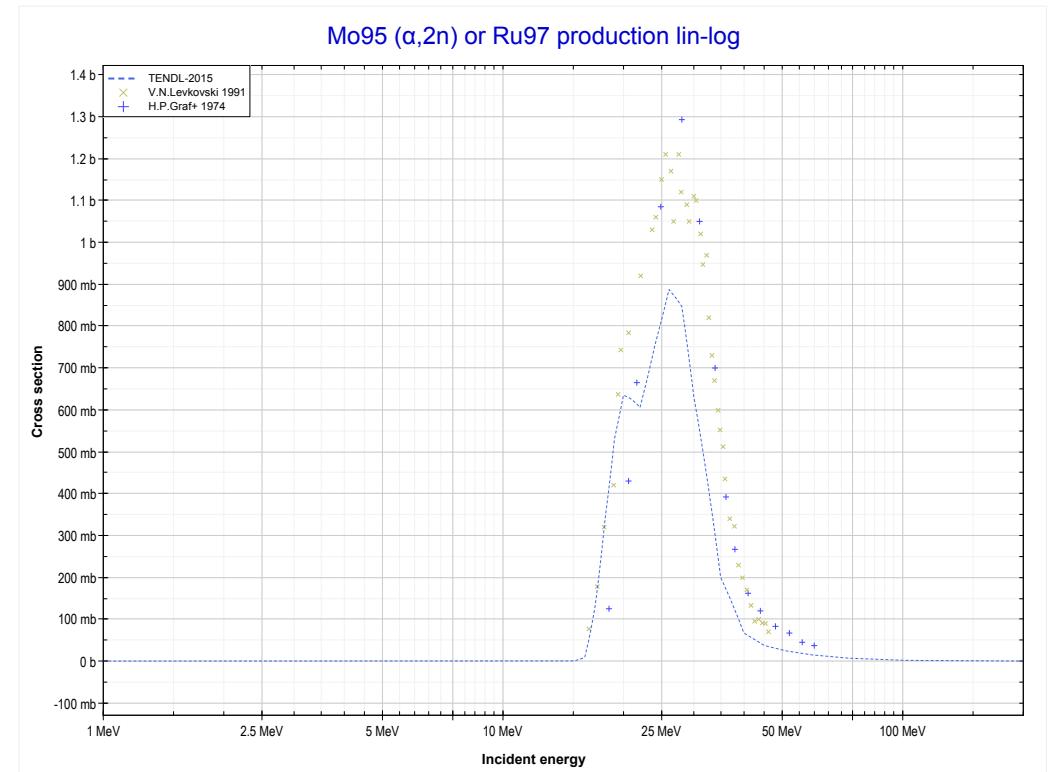
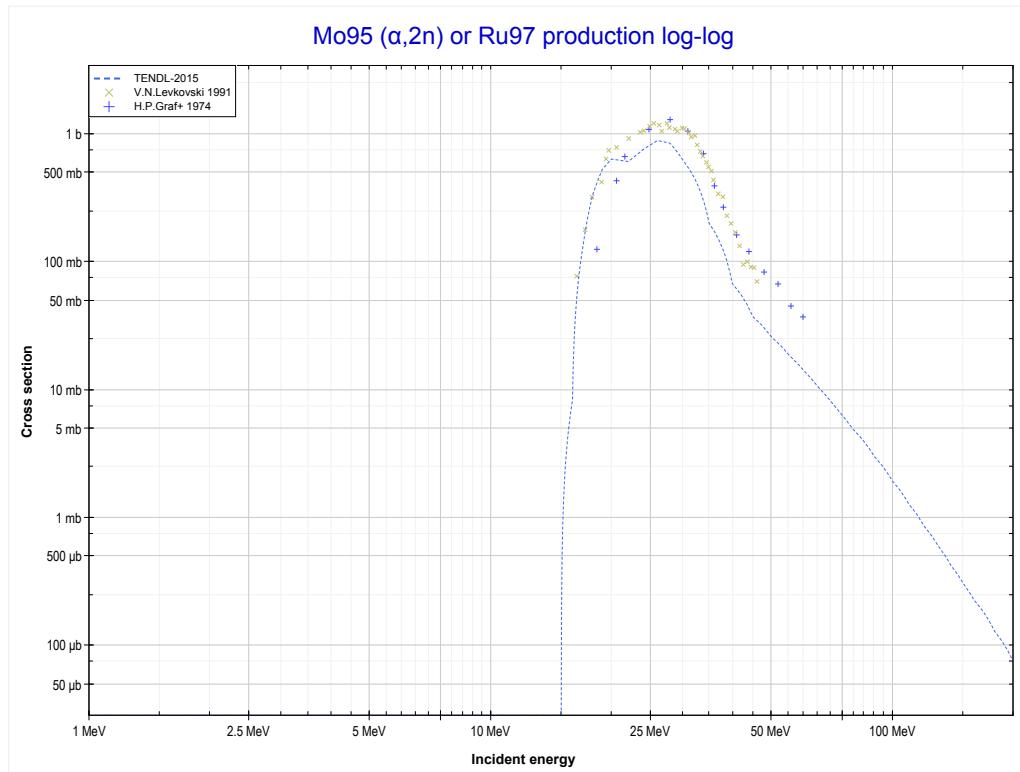
Reaction	Q-Value
Mo94( $\alpha$ ,3n)Ru95	-26745.84 keV

<< 41-Nb-93	<b>42-Mo-94</b> MT37 ( $\alpha,4n$ ) or MT5 (Ru94 production)	42-Mo-95 >>
<< MT17 ( $\alpha,3n$ )		42-Mo-95 MT16 ( $\alpha,2n$ ) >>



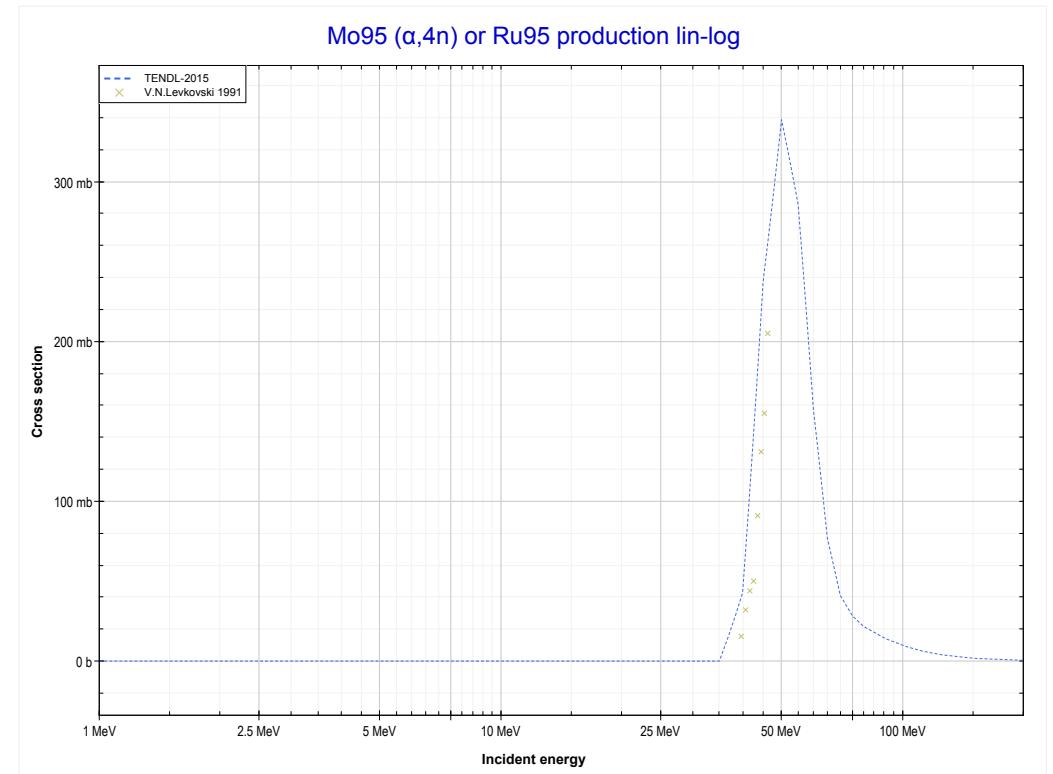
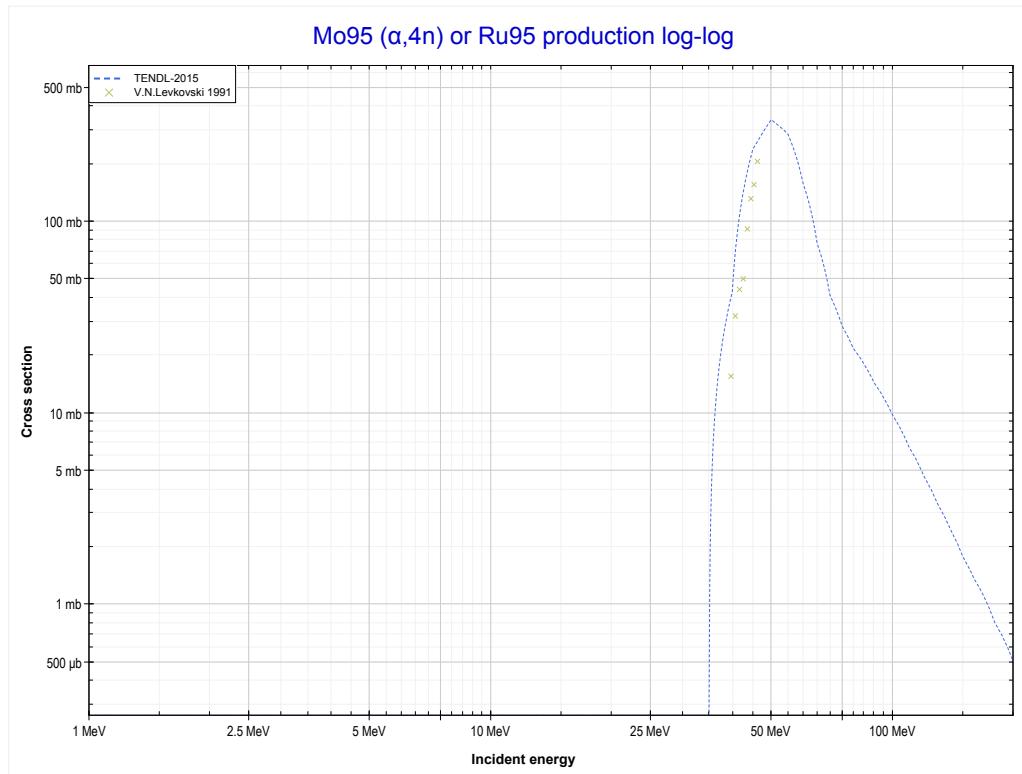
Reaction	Q-Value
Mo94( $\alpha,4n$ )Ru94	-35689.15 keV

<< 42-Mo-92	<b>42-Mo-95</b> MT16 ( $\alpha,2n$ ) or MT5 (Ru97 production)	44-Ru-101 >>
<< 42-Mo-94 MT37 ( $\alpha,4n$ )		MT37 ( $\alpha,4n$ ) >>



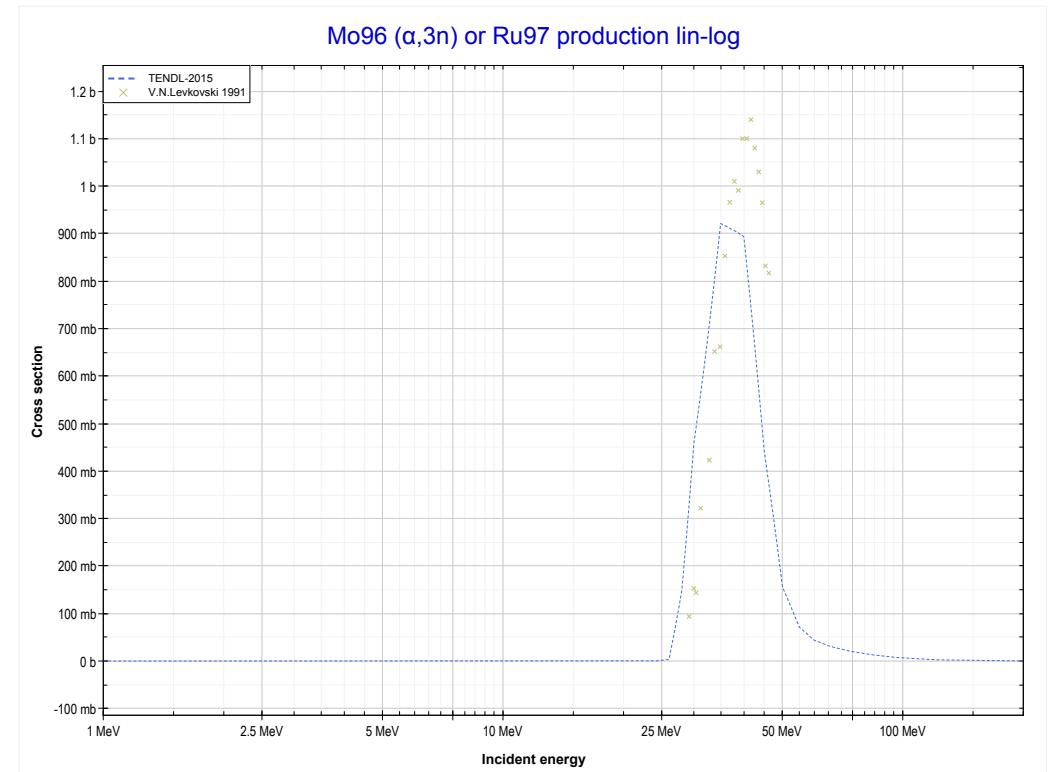
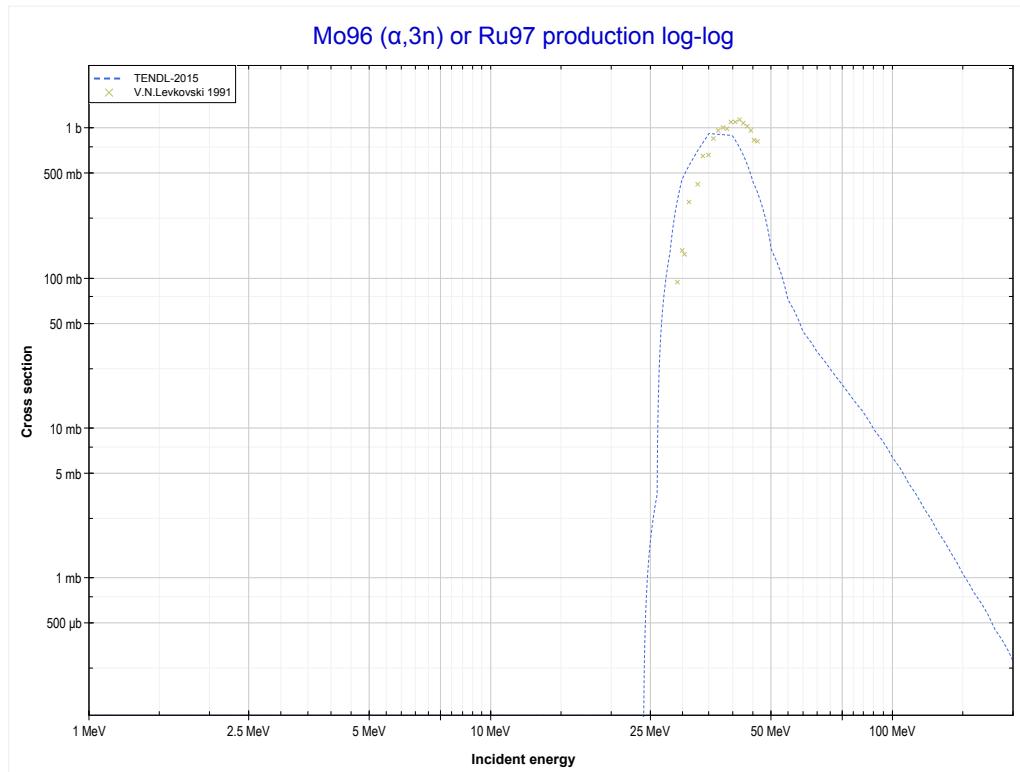
Reaction	Q-Value
Mo95( $\alpha,2n$ )Ru97	-15309.02 keV

<< 42-Mo-94	<b>42-Mo-95</b> MT37 ( $\alpha,4n$ ) or MT5 (Ru95 production)	42-Mo-97 >>
<< MT16 ( $\alpha,2n$ )		42-Mo-96 MT17 ( $\alpha,3n$ ) >>



Reaction	Q-Value
Mo95( $\alpha,4n$ )Ru95	-34114.95 keV

<< 42-Mo-94	<b>42-Mo-96</b> MT17 ( $\alpha$ ,3n) or MT5 (Ru97 production)	45-Rh-103 >>
<< 42-Mo-95 MT37 ( $\alpha$ ,4n) >>		42-Mo-97 MT37 ( $\alpha$ ,4n) >>

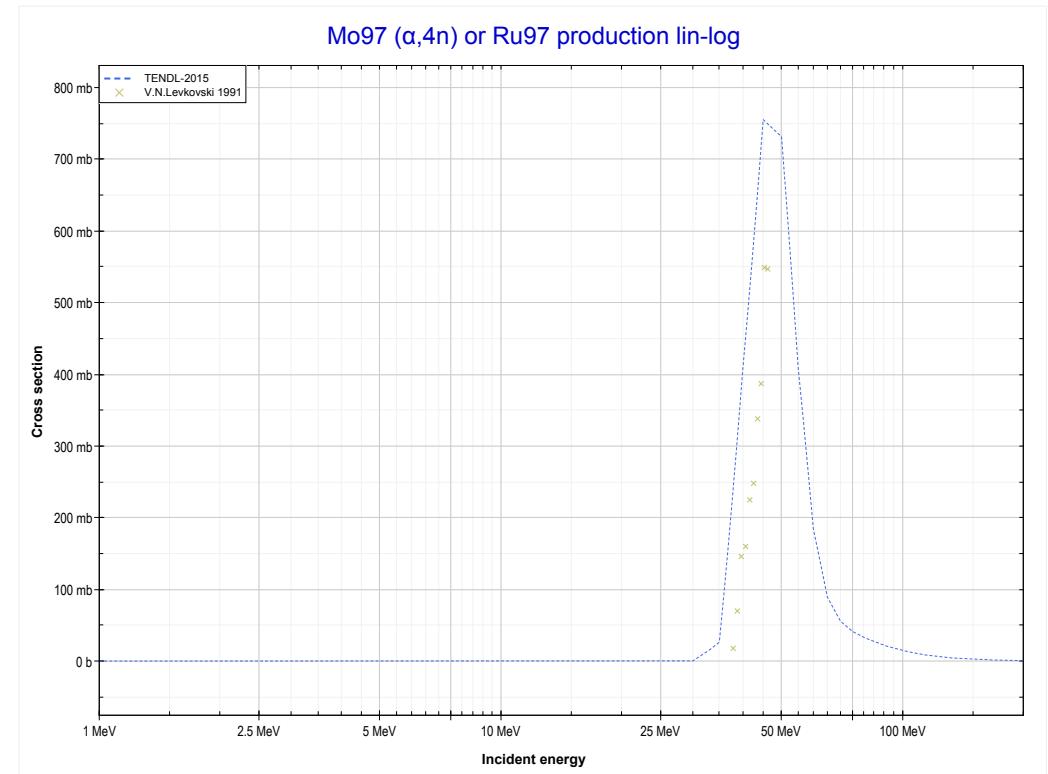
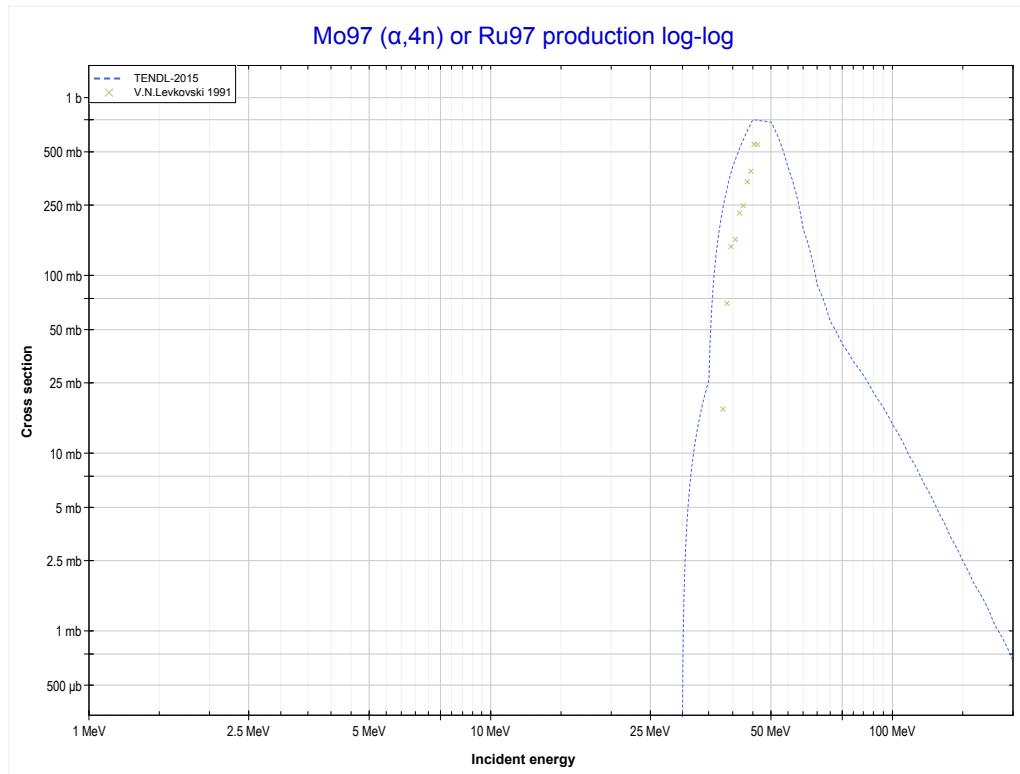


Reaction	Q-Value
Mo96( $\alpha$ ,3n)Ru97	-24463.34 keV

<< 42-Mo-95	
<< 42-Mo-96 MT17 ( $\alpha$ ,3n)	

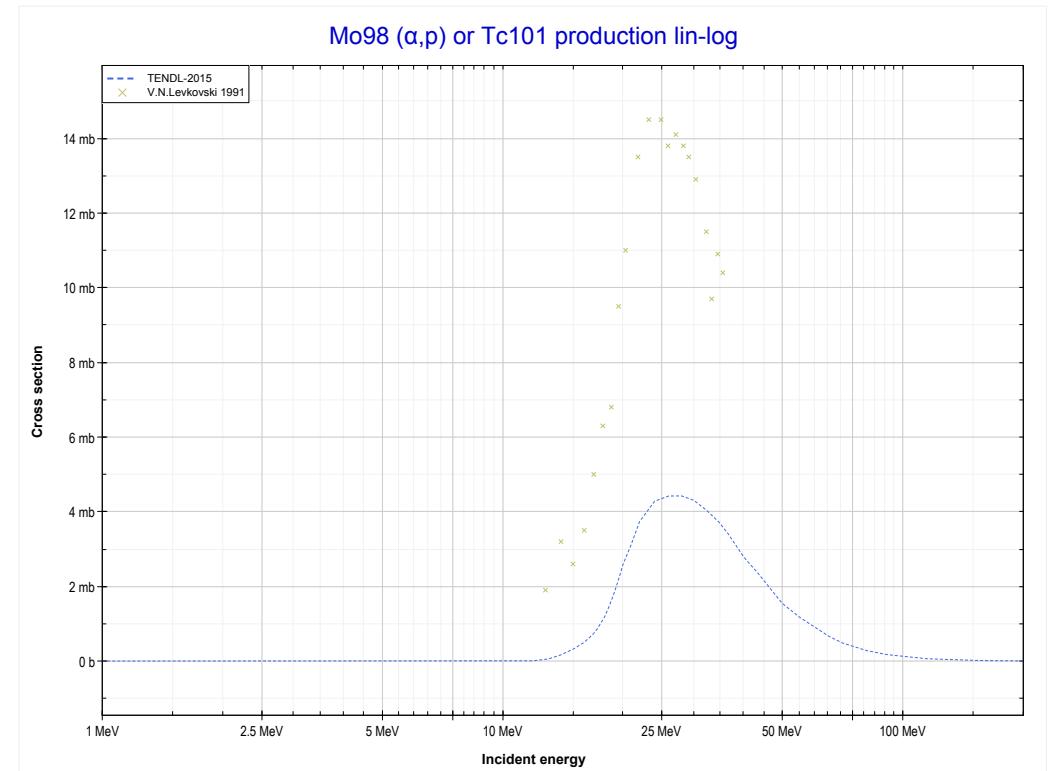
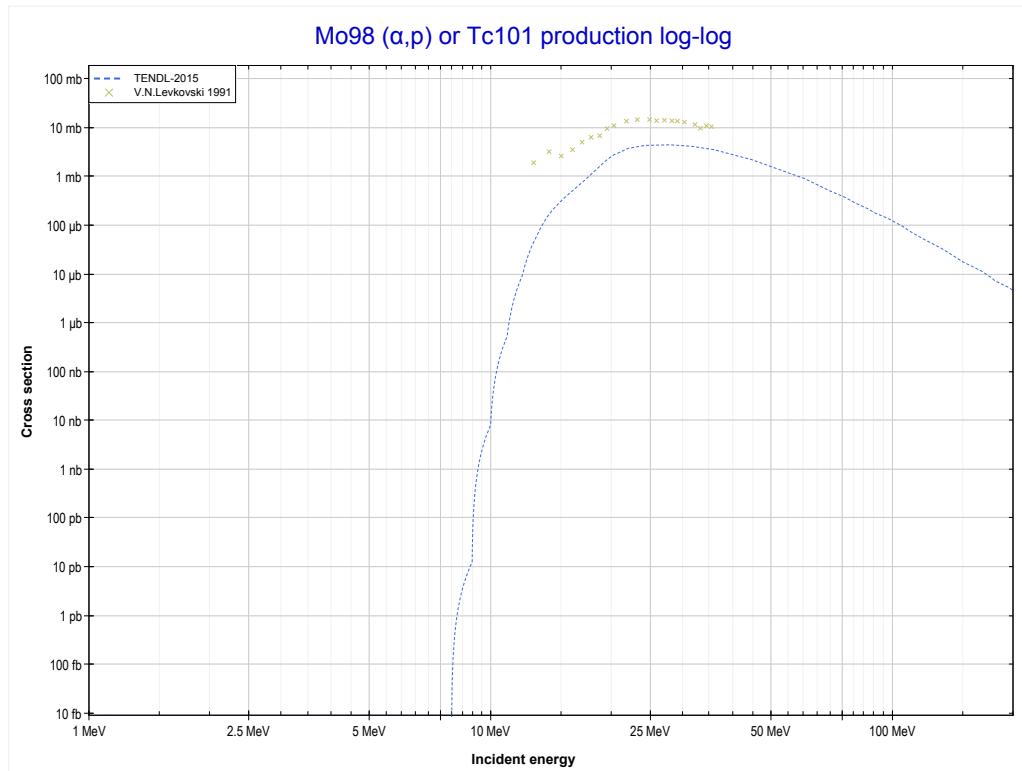
42-Mo-97
MT37 ( $\alpha$ ,4n) or MT5 (Ru97 production)

45-Rh-103 >>
42-Mo-98 MT103 ( $\alpha$ ,p) >>



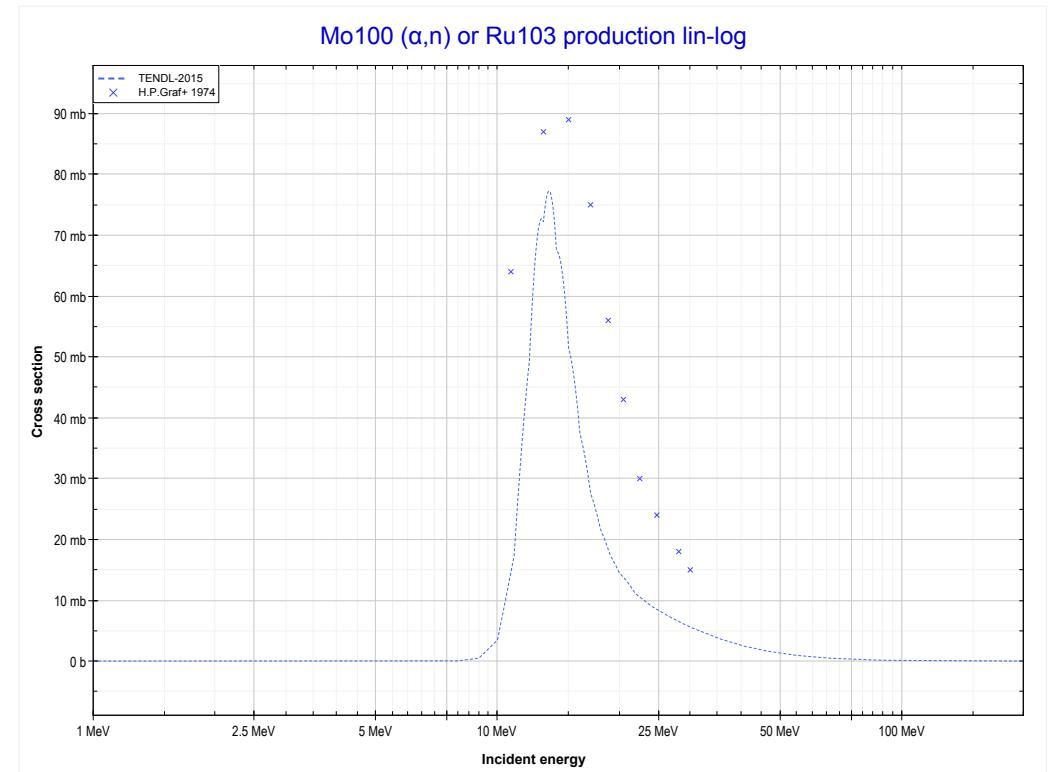
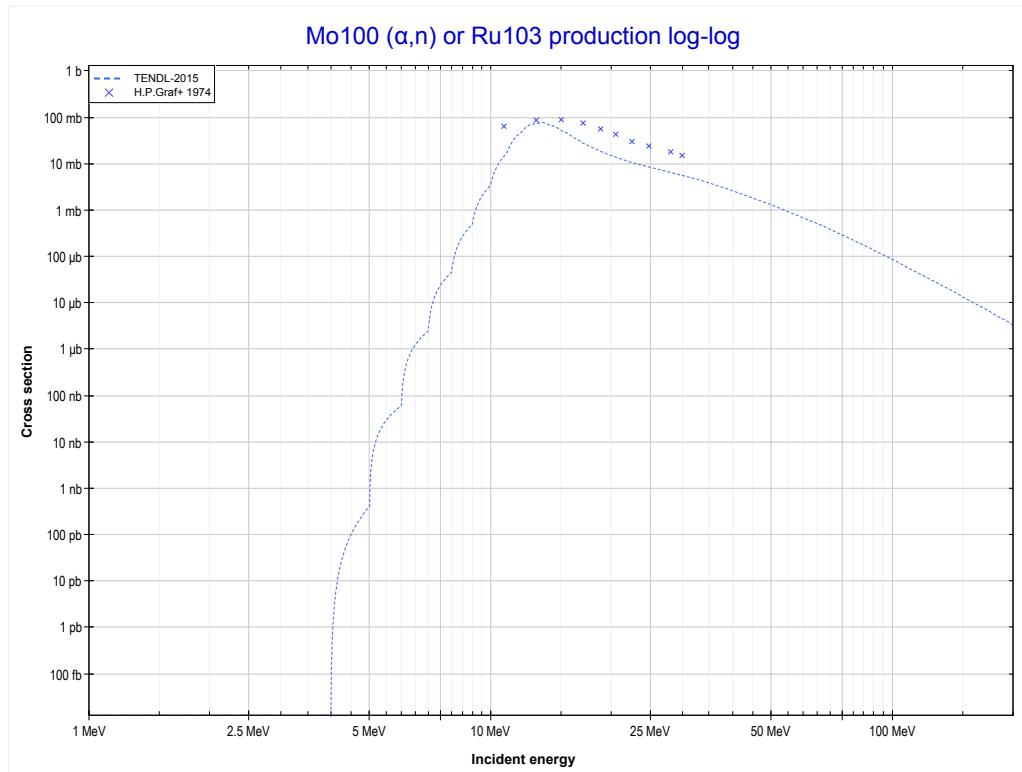
Reaction	Q-Value
Mo97( $\alpha$ ,4n)Ru97	-31284.65 keV

<< 42-Mo-92	<b>42-Mo-98</b> MT103 ( $\alpha,p$ ) or MT5 (Tc101 production)	42-Mo-100 >>
<< 42-Mo-97 MT37 ( $\alpha,4n$ )		42-Mo-100 MT4 ( $\alpha,n$ ) >>



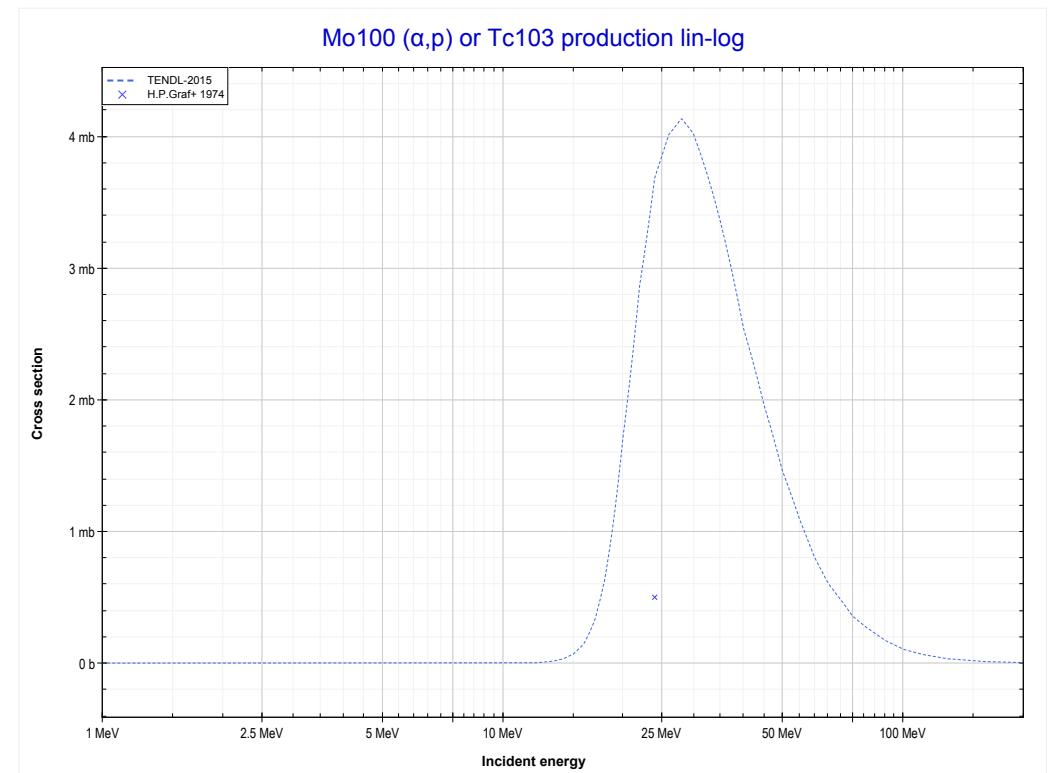
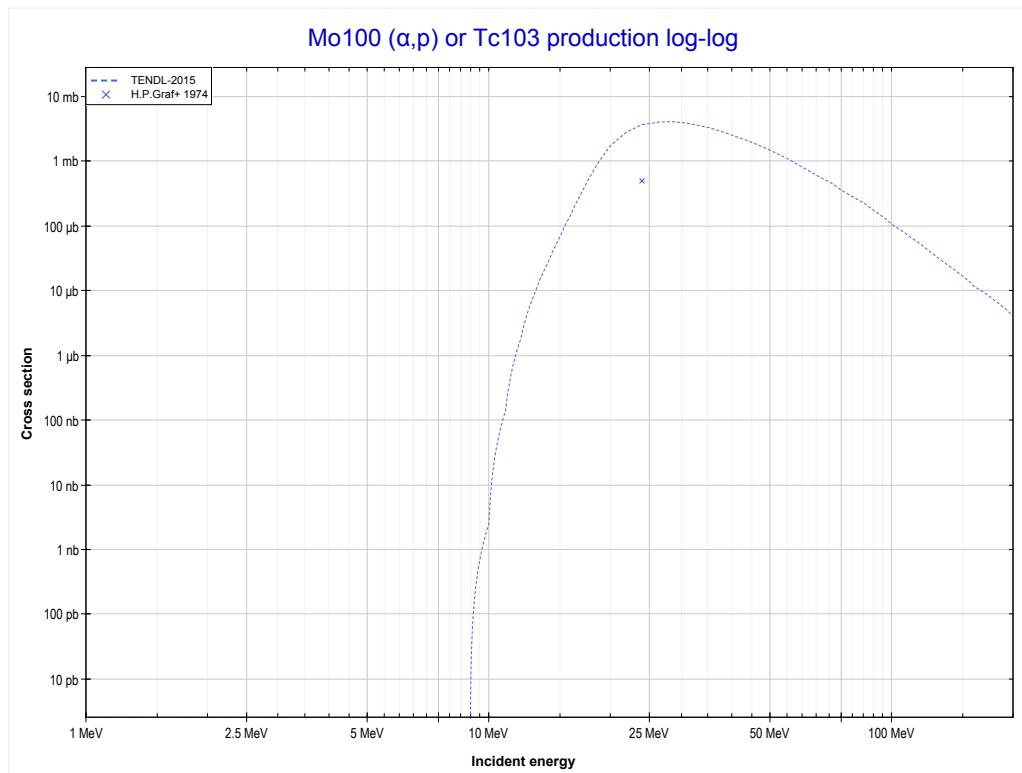
Reaction	Q-Value
Mo98( $\alpha,p$ )Tc101	-6637.85 keV

<< 42-Mo-94	<b>42-Mo-100</b> MT4 ( $\alpha, n$ ) or MT5 (Ru103 production)	44-Ru-100 >>
<< 42-Mo-98 MT103 ( $\alpha, p$ )		MT103 ( $\alpha, p$ ) >>



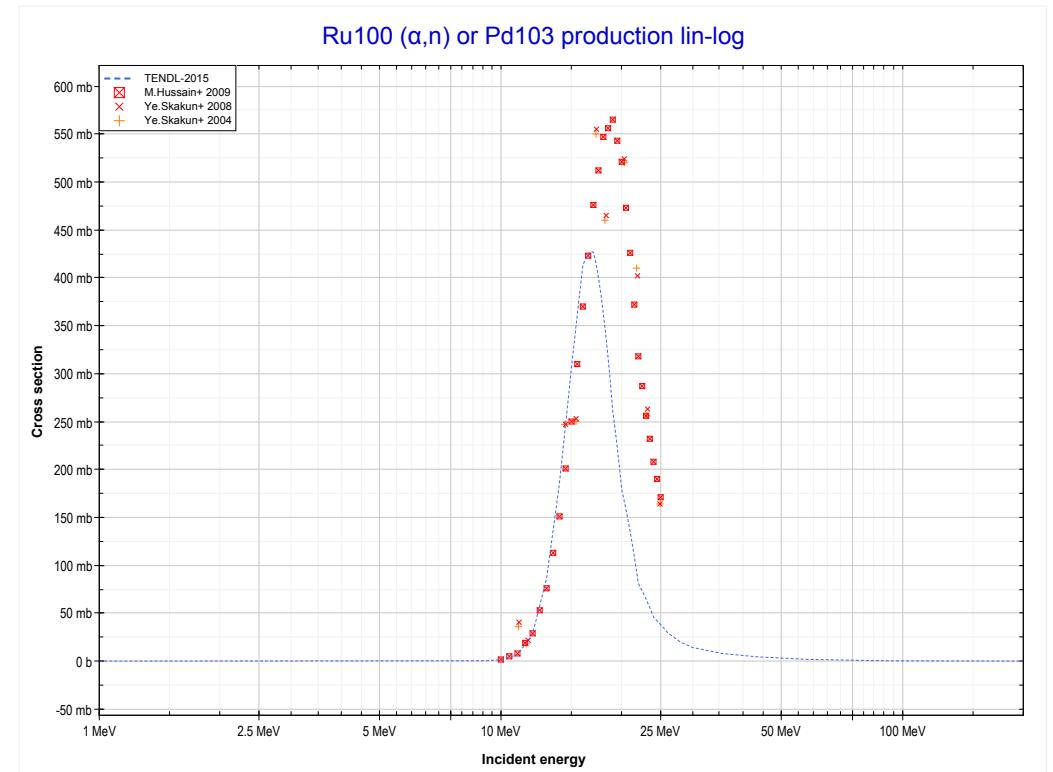
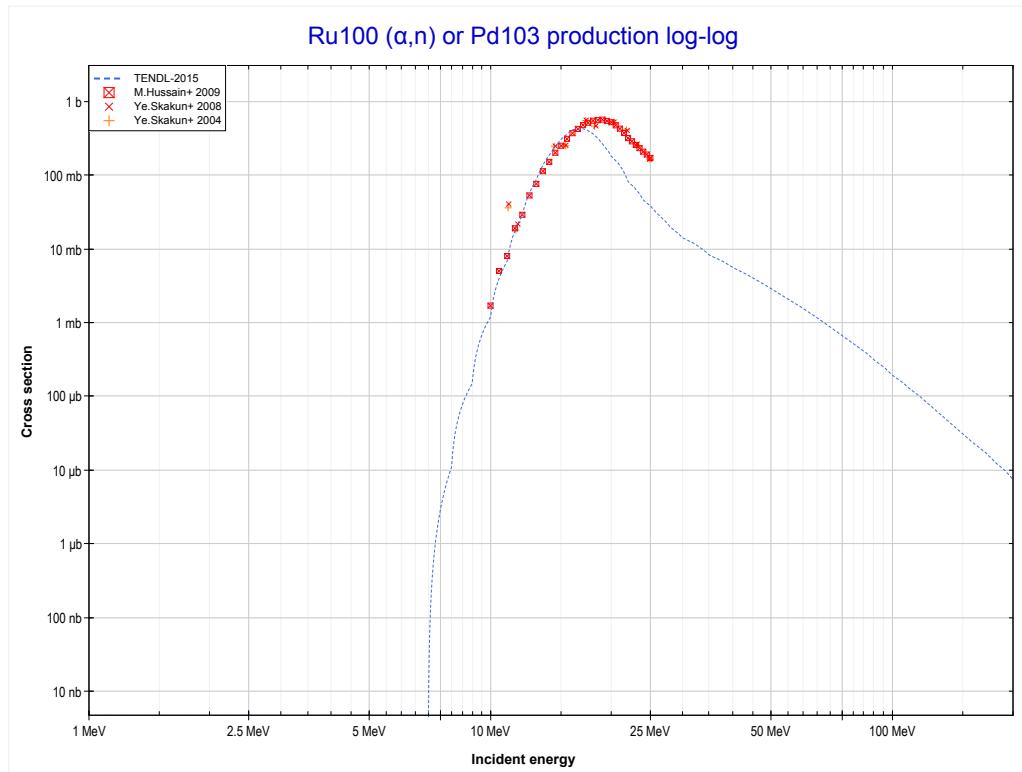
Reaction	Q-Value
Mo100( $\alpha, n$ )Ru103	-4572.30 keV

<< 42-Mo-98	<b>42-Mo-100</b> MT103 ( $\alpha,p$ ) or MT5 (Tc103 production)	>> 48-Cd-106
<< MT4 ( $\alpha,n$ )		>> 44-Ru-100 MT4 ( $\alpha,n$ ) >>



Reaction	Q-Value
Mo100( $\alpha,p$ )Tc103	-6451.55 keV

<< 42-Mo-100	<b>44-Ru-100</b> MT4 ( $\alpha, n$ ) or MT5 (Pd103 production)	45-Rh-103 >>
<< 42-Mo-100 MT103 ( $\alpha, p$ )		44-Ru-101 MT16 ( $\alpha, 2n$ ) >>

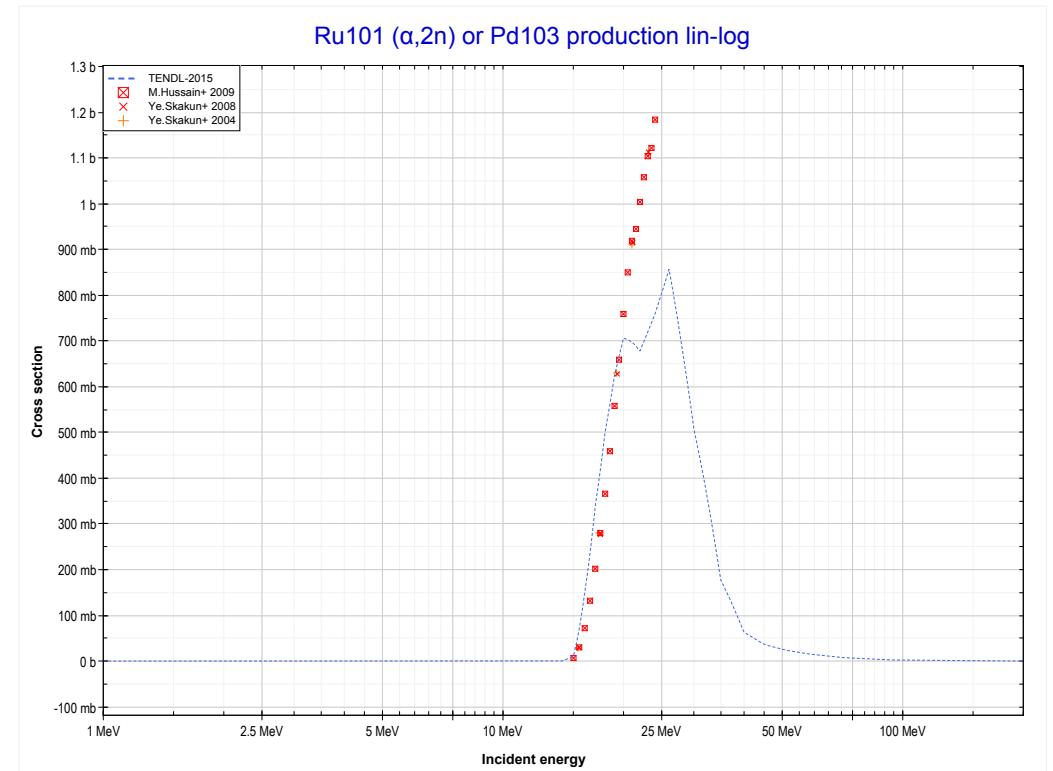
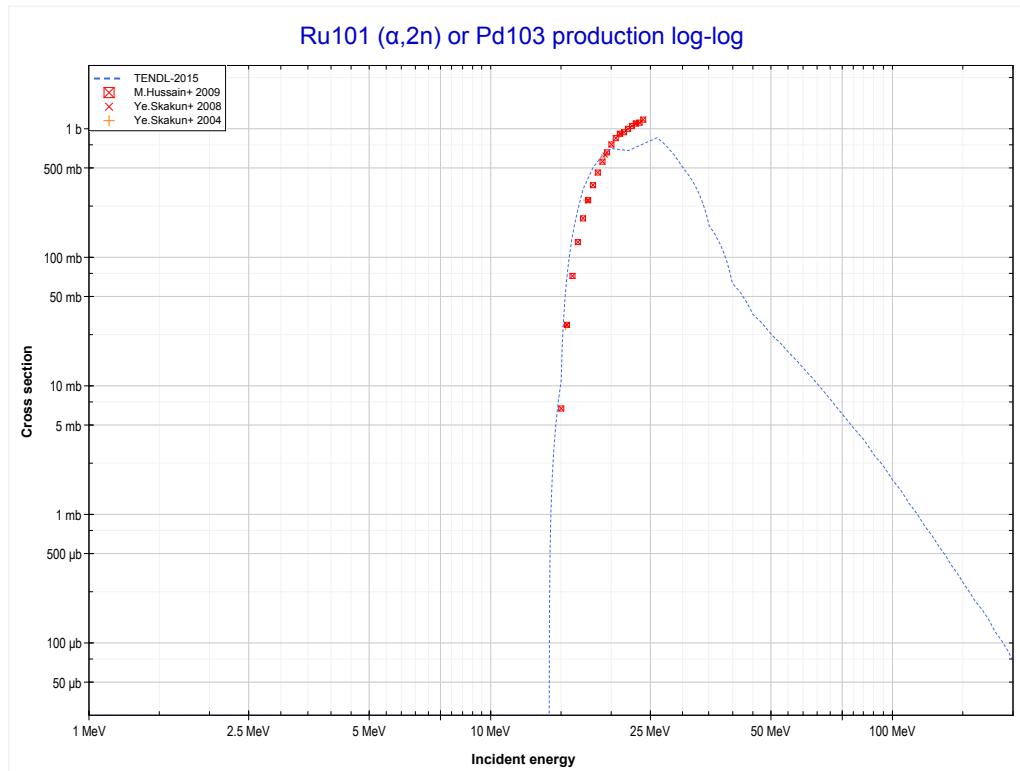


Reaction	Q-Value
Ru100( $\alpha, n$ )Pd103	-7385.20 keV

<< 42-Mo-95	
<< 44-Ru-100 MT4 ( $\alpha, n$ )	

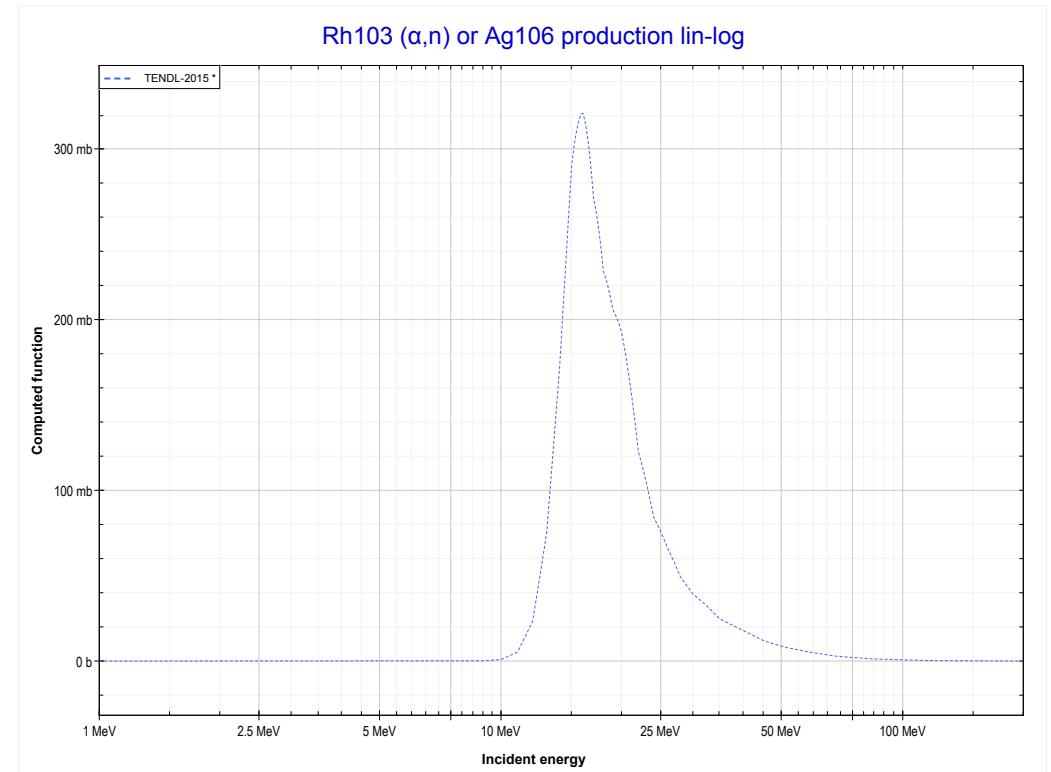
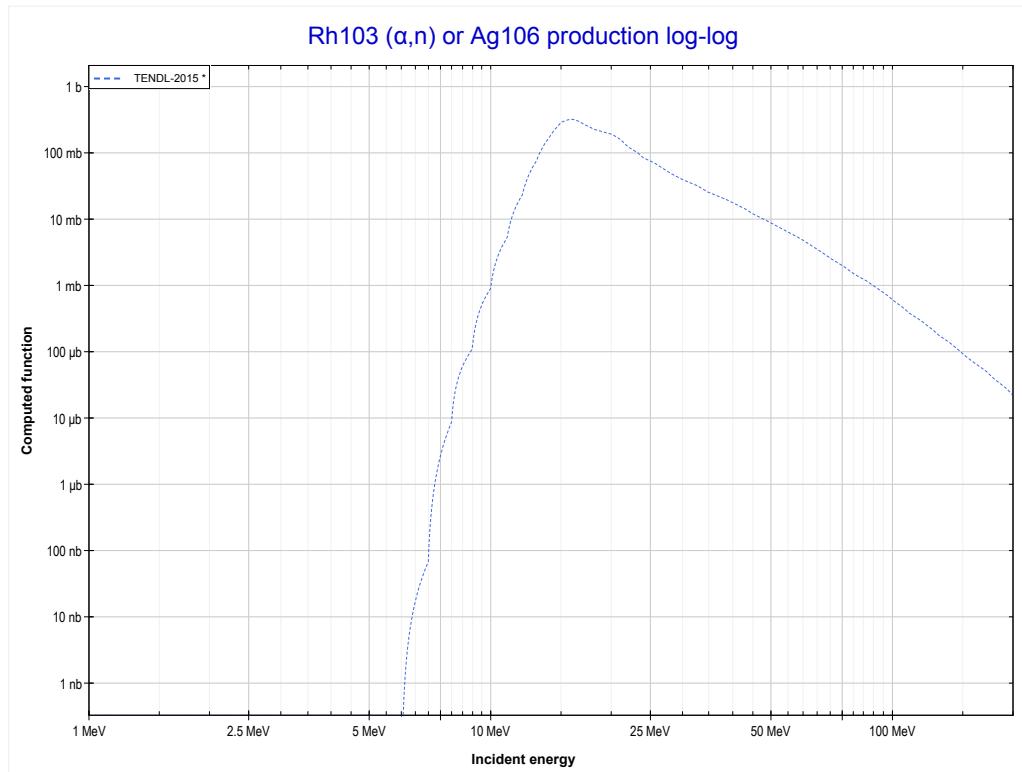
44-Ru-101
MT16 ( $\alpha, 2n$ ) or MT5 (Pd103 production)

45-Rh-103 >>
45-Rh-103 MT4 ( $\alpha, n$ ) >>



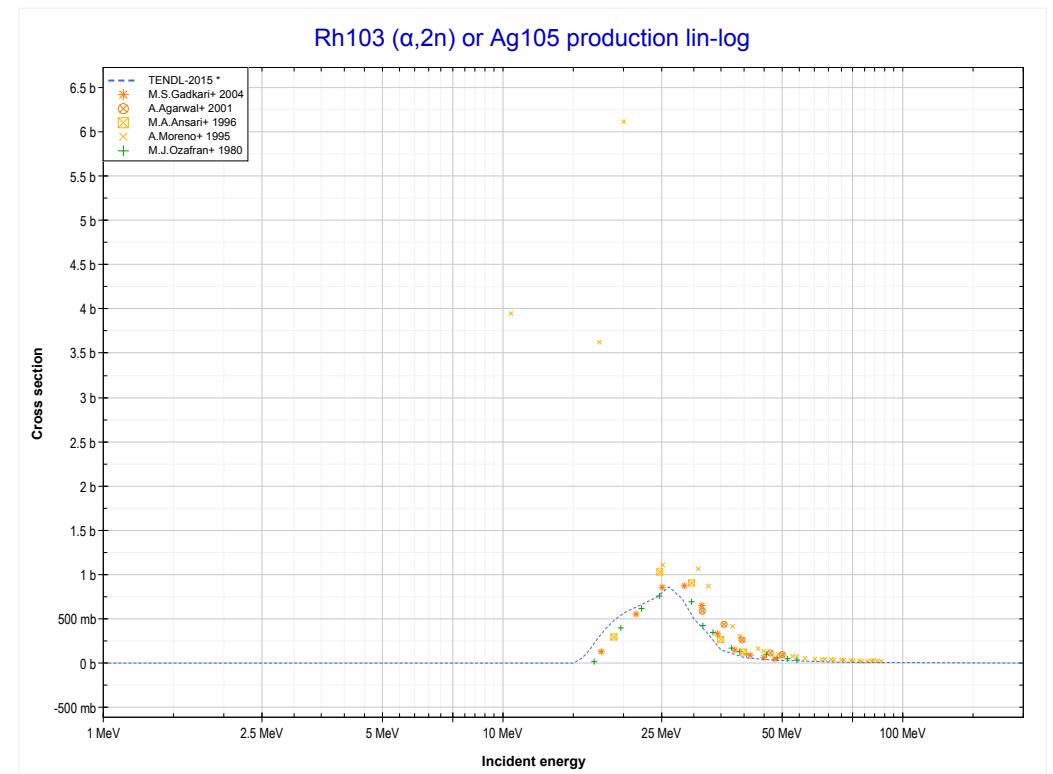
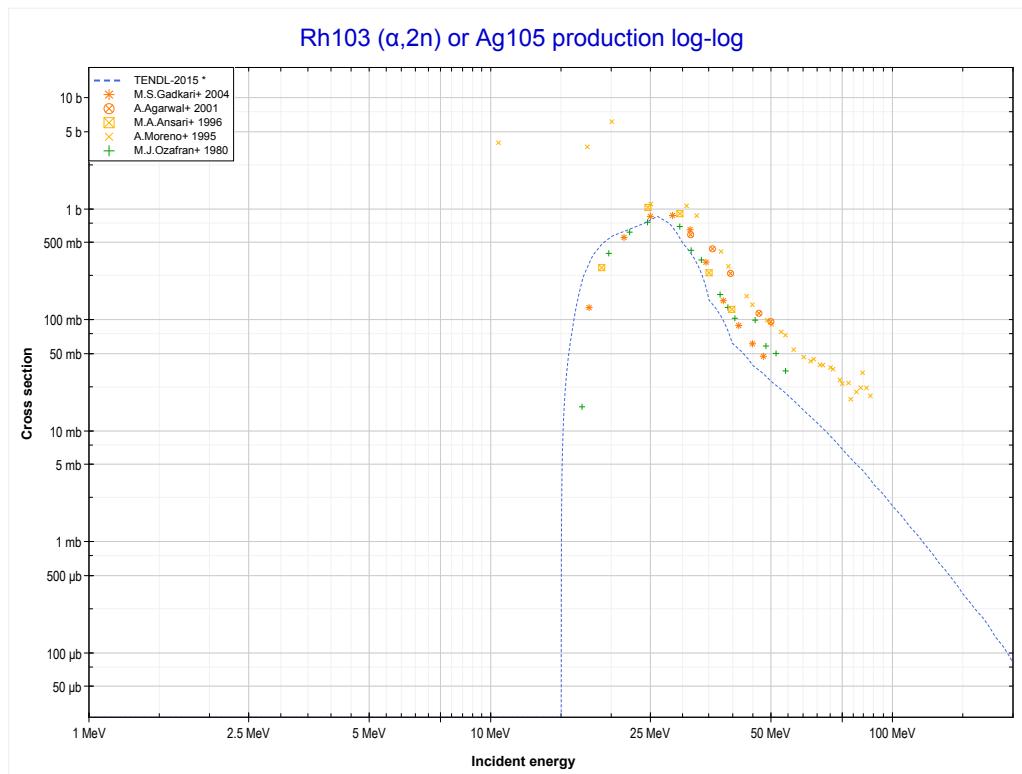
Reaction	Q-Value
Ru101( $\alpha, 2n$ )Pd103	-14187.32 keV

<< 44-Ru-100	<b>45-Rh-103</b> MT4 ( $\alpha, n$ ) or MT5 (Ag106 production)	47-Ag-107 >>
<< 44-Ru-101 MT16 ( $\alpha, 2n$ )		MT16 ( $\alpha, 2n$ ) >>



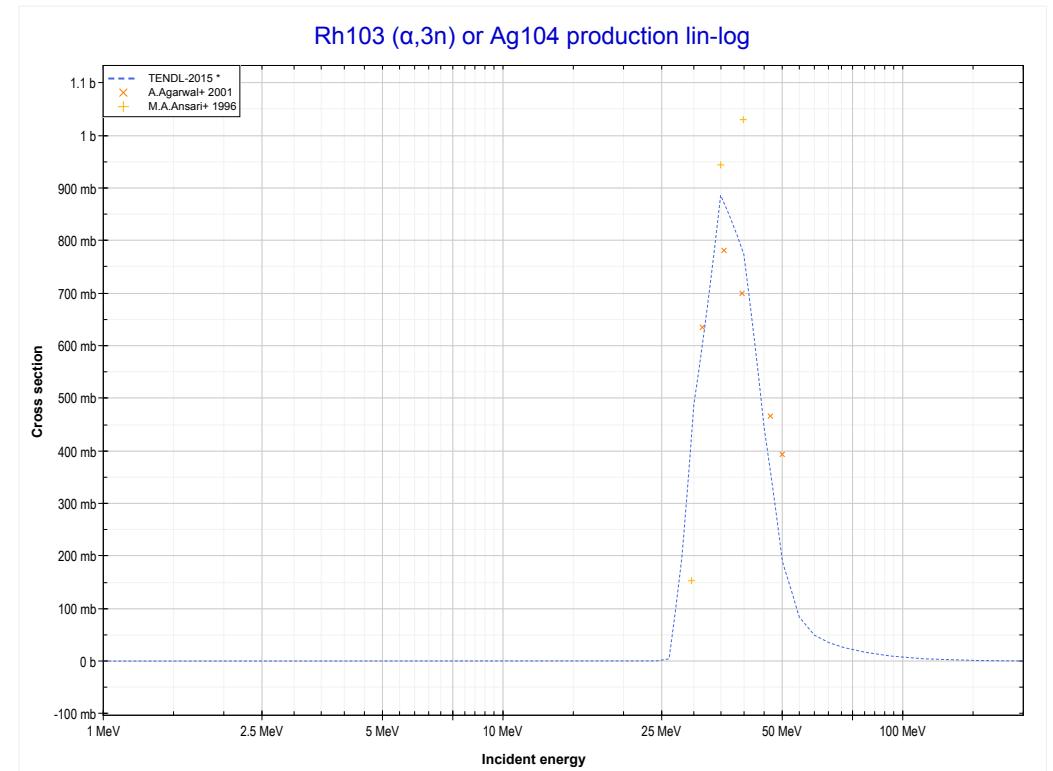
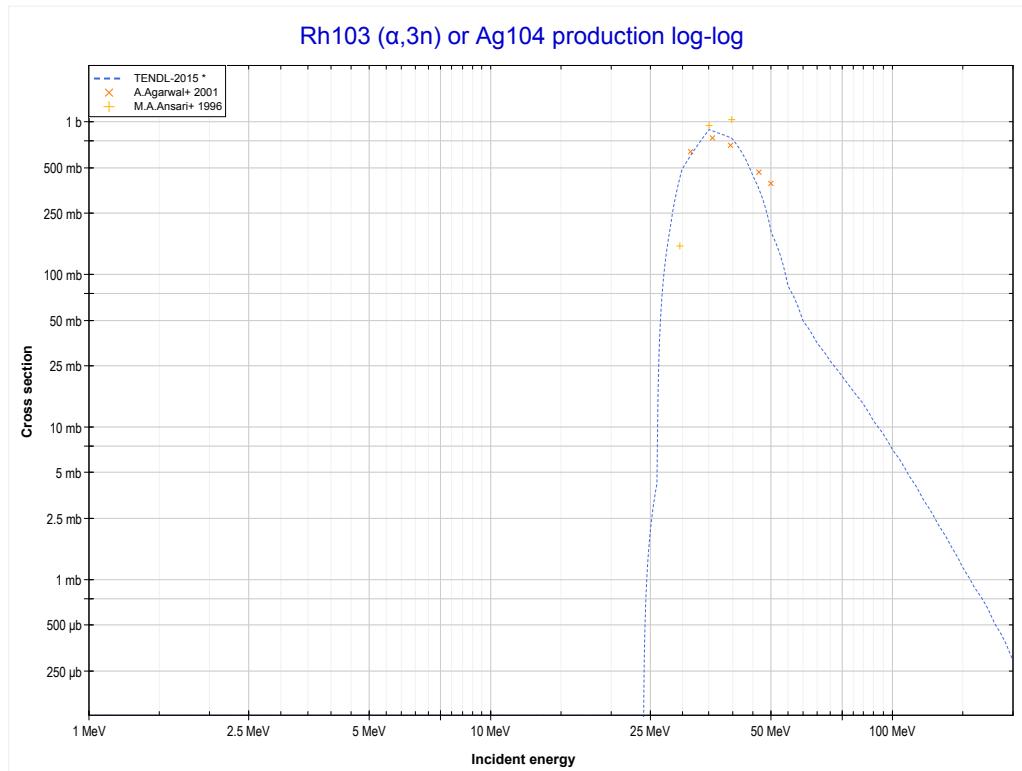
Reaction	Q-Value
Rh103( $\alpha, n$ )Ag106	-6732.50 keV

<< 44-Ru-101	45-Rh-103 MT16 ( $\alpha,2n$ ) or MT5 (Ag105 production)	47-Ag-107 >>
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



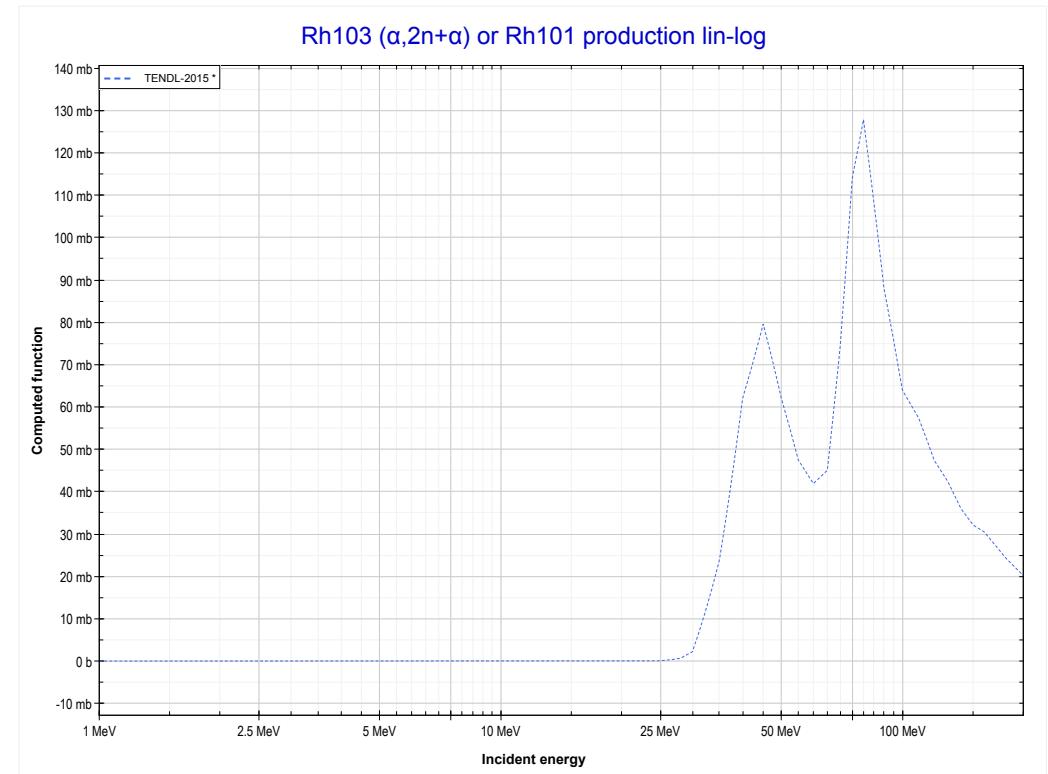
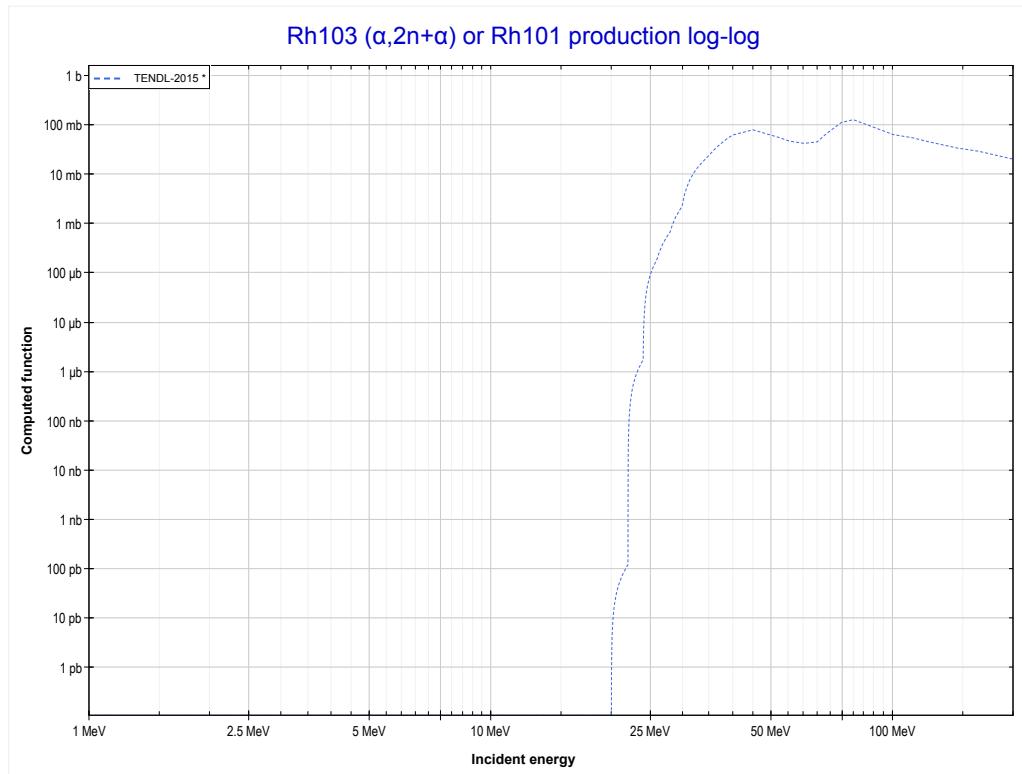
Reaction	Q-Value
Rh103( $\alpha,2n$ )Ag105	-14674.82 keV

<< 42-Mo-96	<b>45-Rh-103</b> MT17 ( $\alpha,3n$ ) or MT5 (Ag104 production)	47-Ag-107 >>
<< MT16 ( $\alpha,2n$ )		MT24 ( $\alpha,2n+\alpha$ ) >>



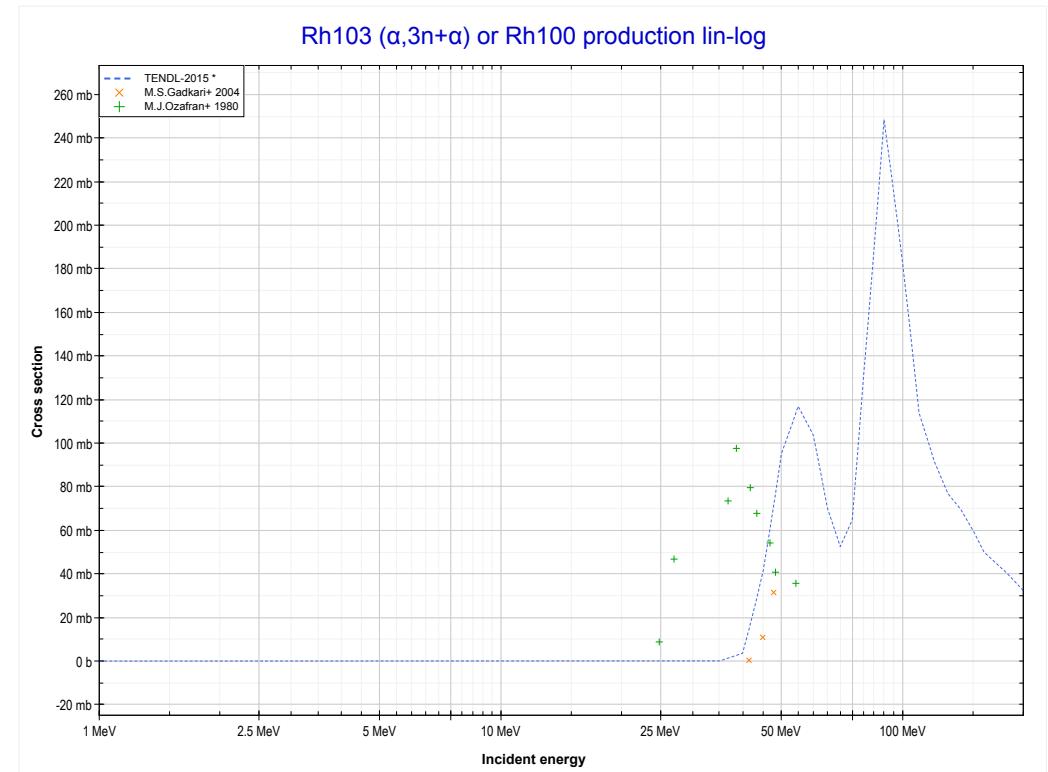
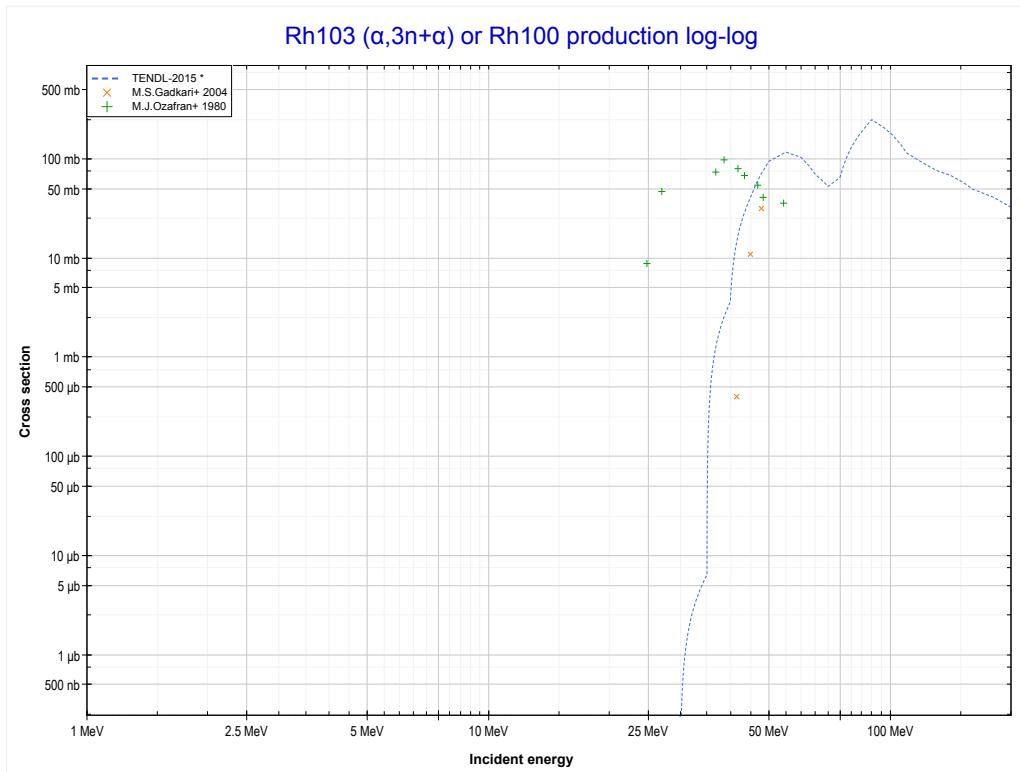
Reaction	Q-Value
Rh103( $\alpha,3n$ )Ag104	-24701.14 keV

<< 40-Zr-90	<b>45-Rh-103</b> <b>MT24 (<math>\alpha,2n+\alpha</math>) or MT5 (Rh101 production)</b>	69-Tm-169 >>
<< MT17 ( $\alpha,3n$ )		MT25 ( $\alpha,3n+\alpha$ ) >>



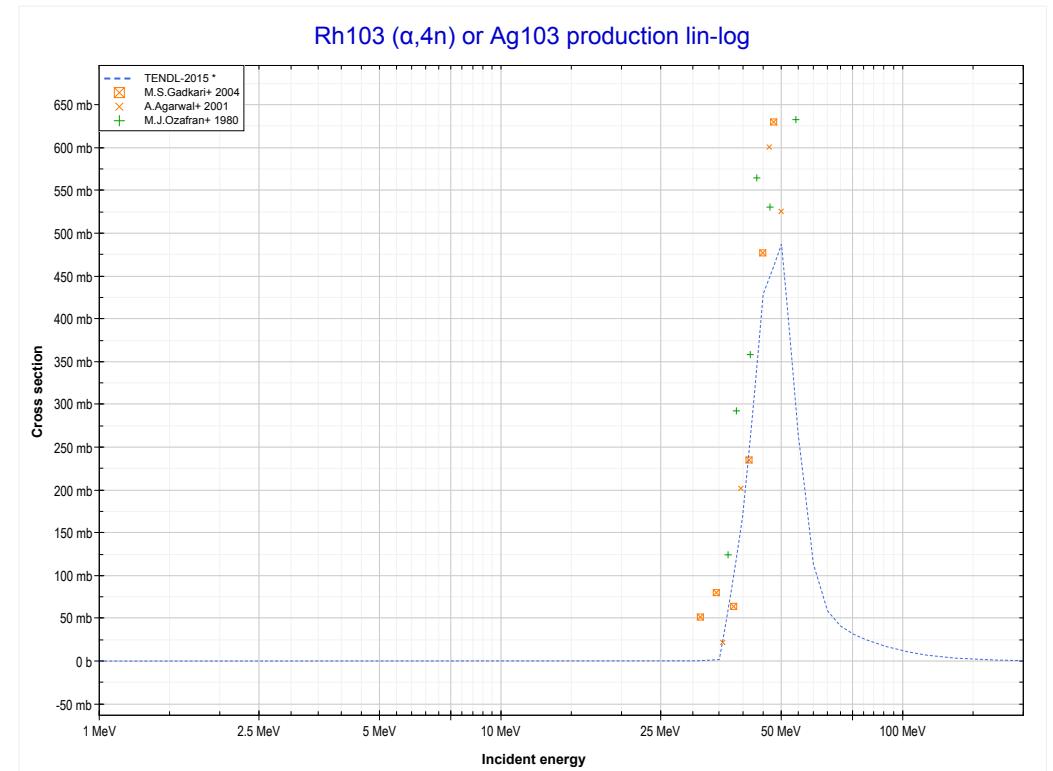
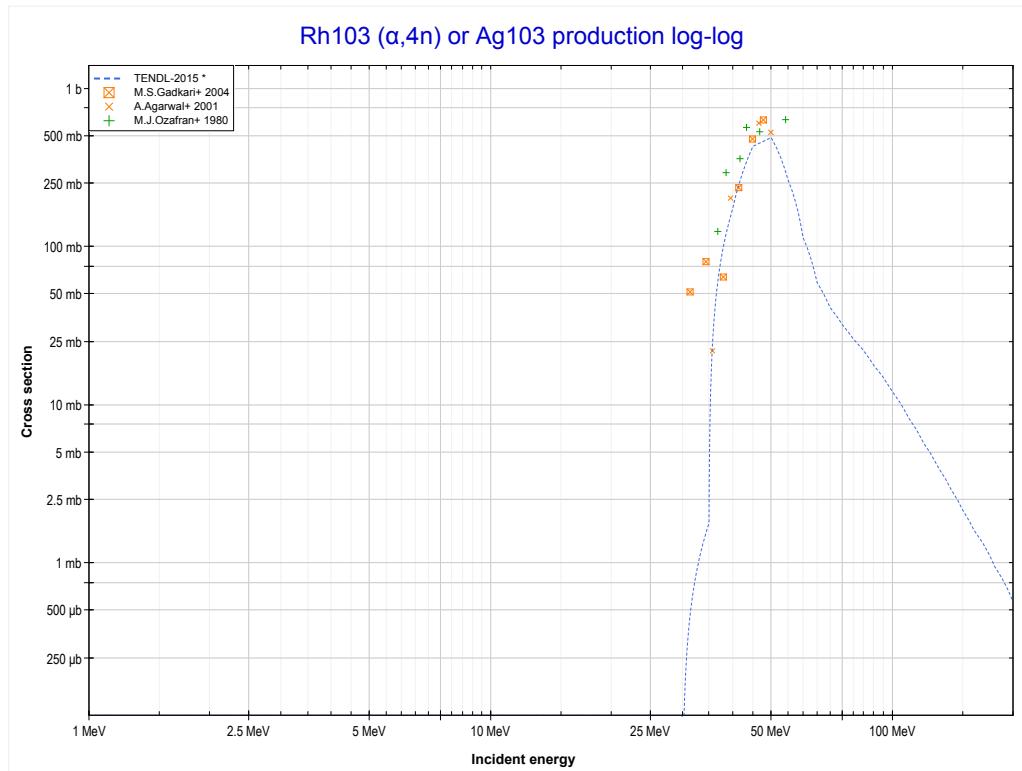
Reaction	Q-Value
Rh103( $\alpha,2n+\alpha$ )Rh101	-16759.73 keV
Rh103( $\alpha,2t$ )Rh101	-28091.80 keV
Rh103( $\alpha,n+d+t$ )Rh101	-34349.03 keV
Rh103( $\alpha,2n+p+t$ )Rh101	-36573.60 keV
Rh103( $\alpha,3n+He3$ )Rh101	-37337.35 keV
Rh103( $\alpha,2n+2d$ )Rh101	-40606.26 keV
Rh103( $\alpha,3n+p+d$ )Rh101	-42830.83 keV
Rh103( $\alpha,4n+2p$ )Rh101	-45055.39 keV

<< 40-Zr-90	<b>45-Rh-103</b> <b>MT25 (<math>\alpha</math>,<math>3n+\alpha</math>) or MT5 (Rh100 production)</b>	47-Ag-109 >>
<< MT24 ( $\alpha$ , $2n+\alpha$ )		MT37 ( $\alpha$ , $4n$ ) >>



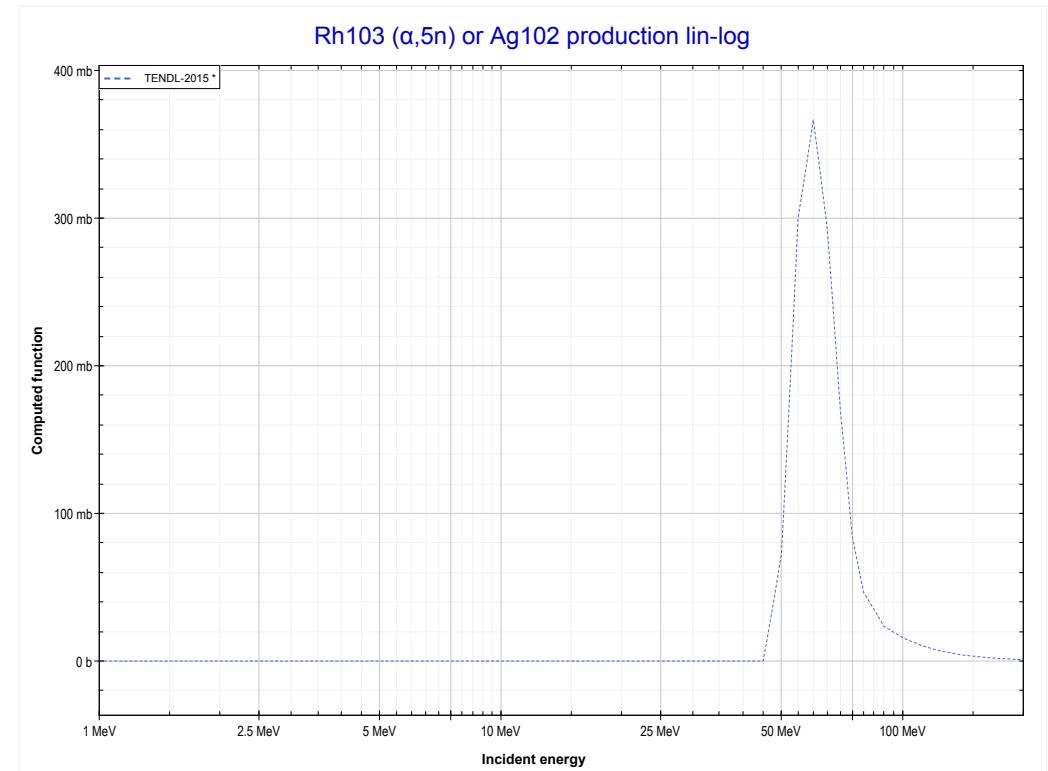
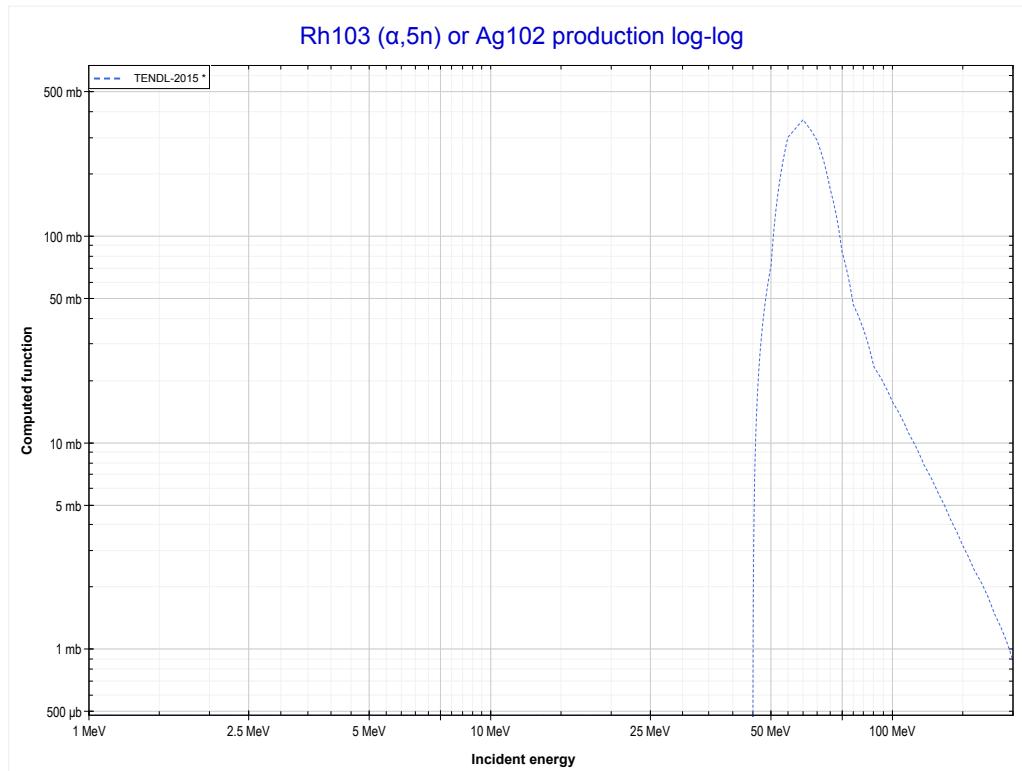
Reaction	Q-Value
Rh103( $\alpha$ , $3n+\alpha$ )Rh100	-26654.05 keV
Rh103( $\alpha$ , $n+2t$ )Rh100	-37986.11 keV
Rh103( $\alpha$ , $2n+d+t$ )Rh100	-44243.35 keV
Rh103( $\alpha$ , $3n+p+t$ )Rh100	-46467.91 keV
Rh103( $\alpha$ , $4n+He3$ )Rh100	-47231.67 keV
Rh103( $\alpha$ , $3n+2d$ )Rh100	-50500.58 keV
Rh103( $\alpha$ , $4n+p+d$ )Rh100	-52725.14 keV
Rh103( $\alpha$ , $5n+2p$ )Rh100	-54949.71 keV

<< 42-Mo-97	<b>45-Rh-103</b> <b>MT37 (<math>\alpha,4n</math>) or MT5 (Ag103 production)</b>	47-Ag-107 >>
<< MT25 ( $\alpha,3n+\alpha$ )		MT152 ( $\alpha,5n$ ) >>



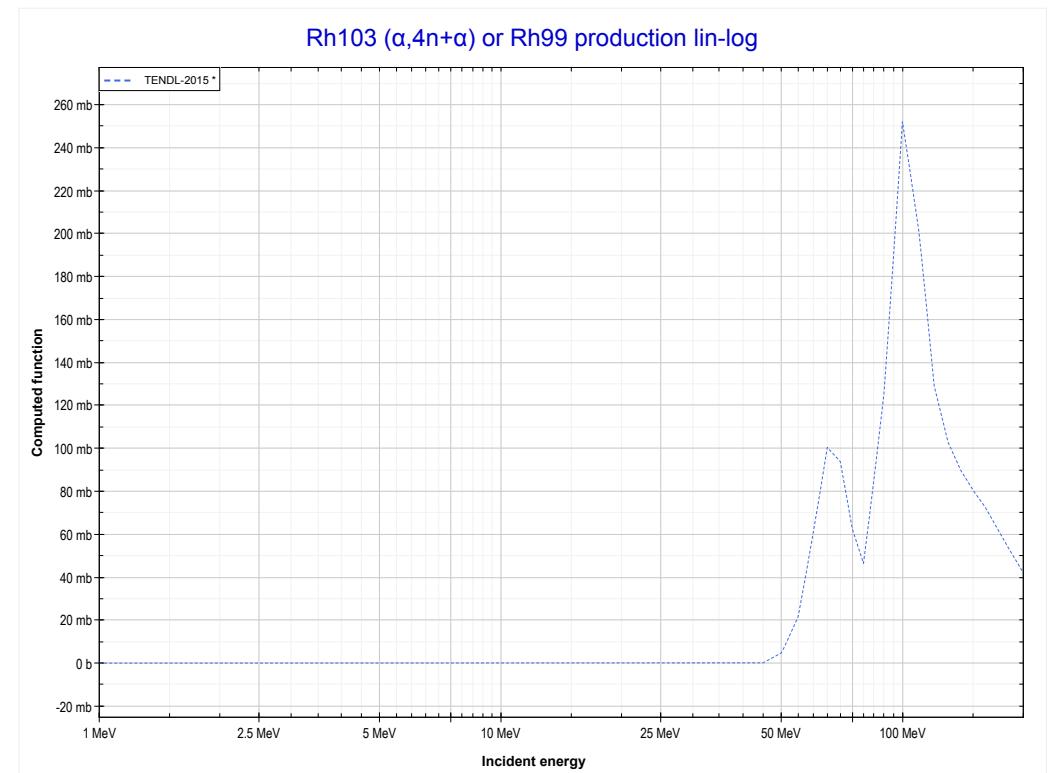
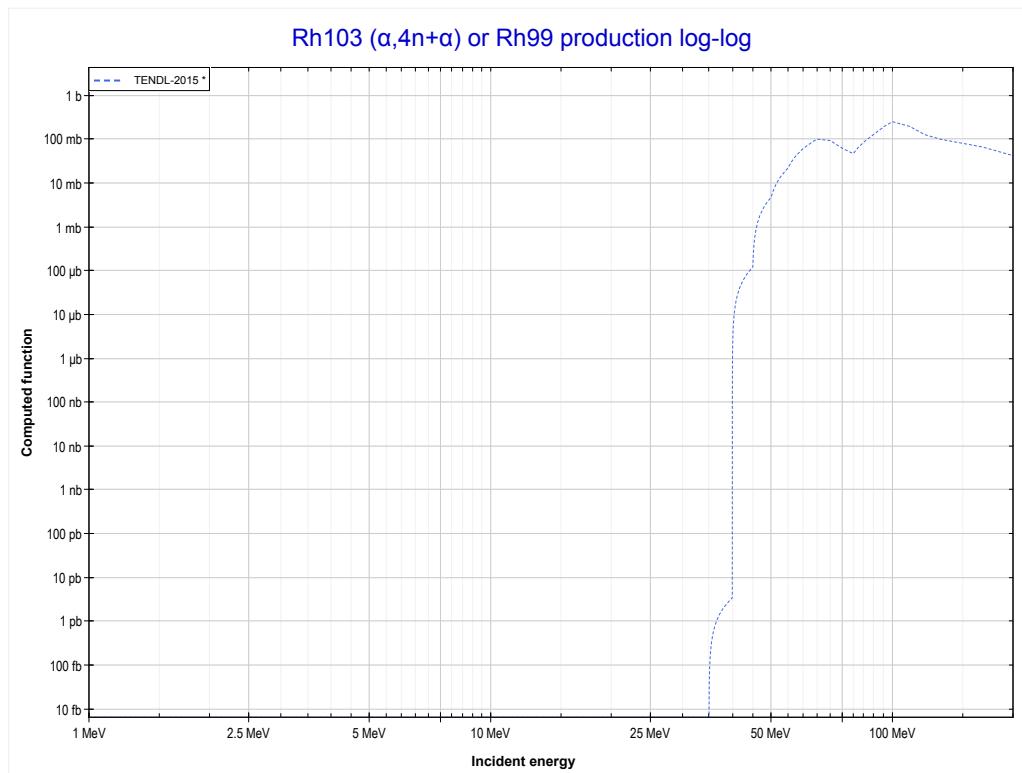
Reaction	Q-Value
Rh103( $\alpha,4n$ )Ag103	-33088.45 keV

<< 41-Nb-93	<b>45-Rh-103</b> <b>MT152 (<math>\alpha,5n</math>) or MT5 (Ag102 production)</b>	47-Ag-107 >>
<< MT37 ( $\alpha,4n$ )		MT165 ( $\alpha,4n+\alpha$ ) >>



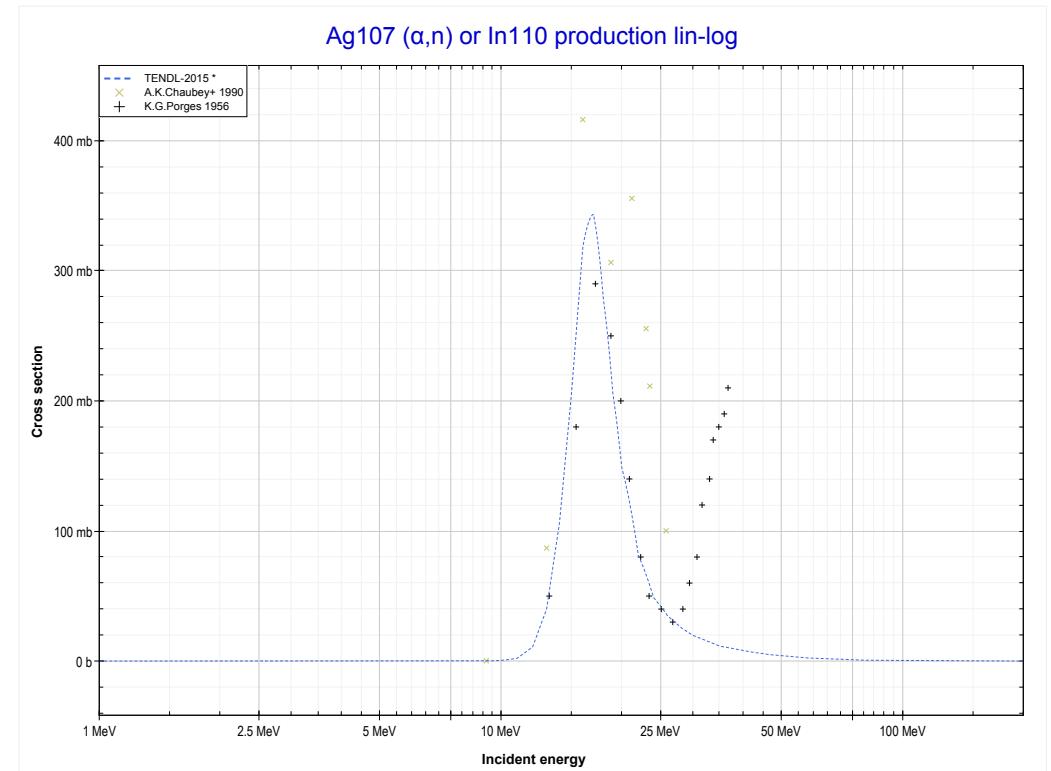
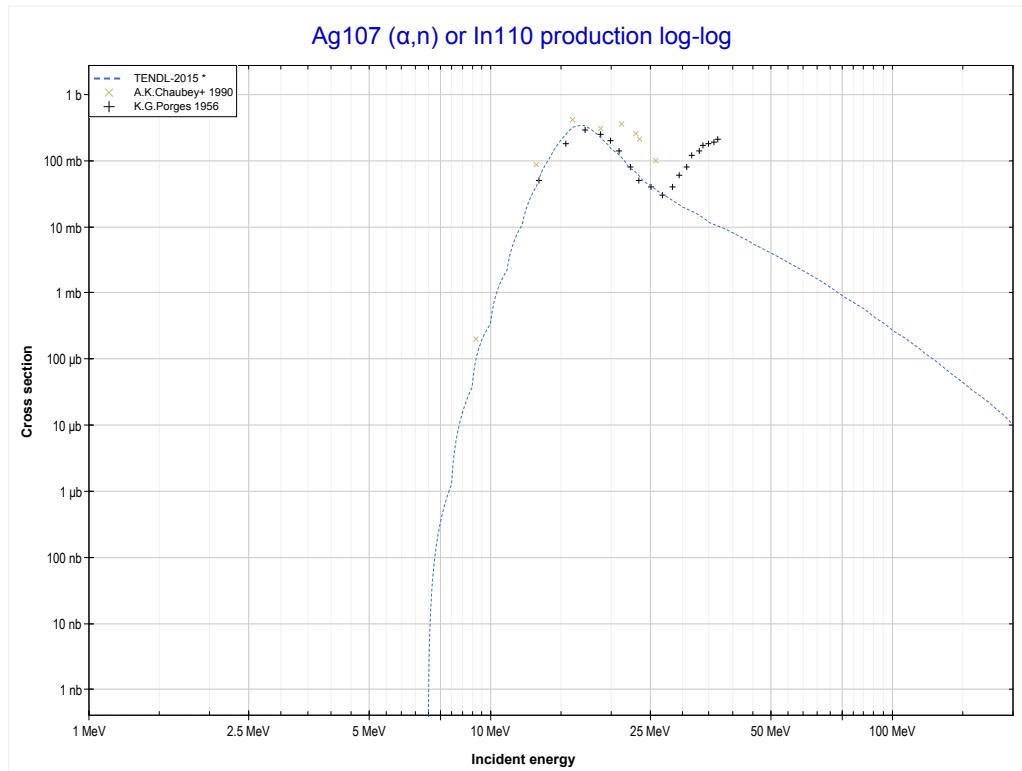
Reaction	Q-Value
Rh103( $\alpha,5n$ )Ag102	-43712.77 keV

<< 40-Zr-90	<b>45-Rh-103</b> <b>MT165 (<math>\alpha</math>,4n+<math>\alpha</math>) or MT5 (Rh99 production)</b>	>> 47-Ag-107 MT4 ( $\alpha$ ,n) >>
<< MT152 ( $\alpha$ ,5n)		



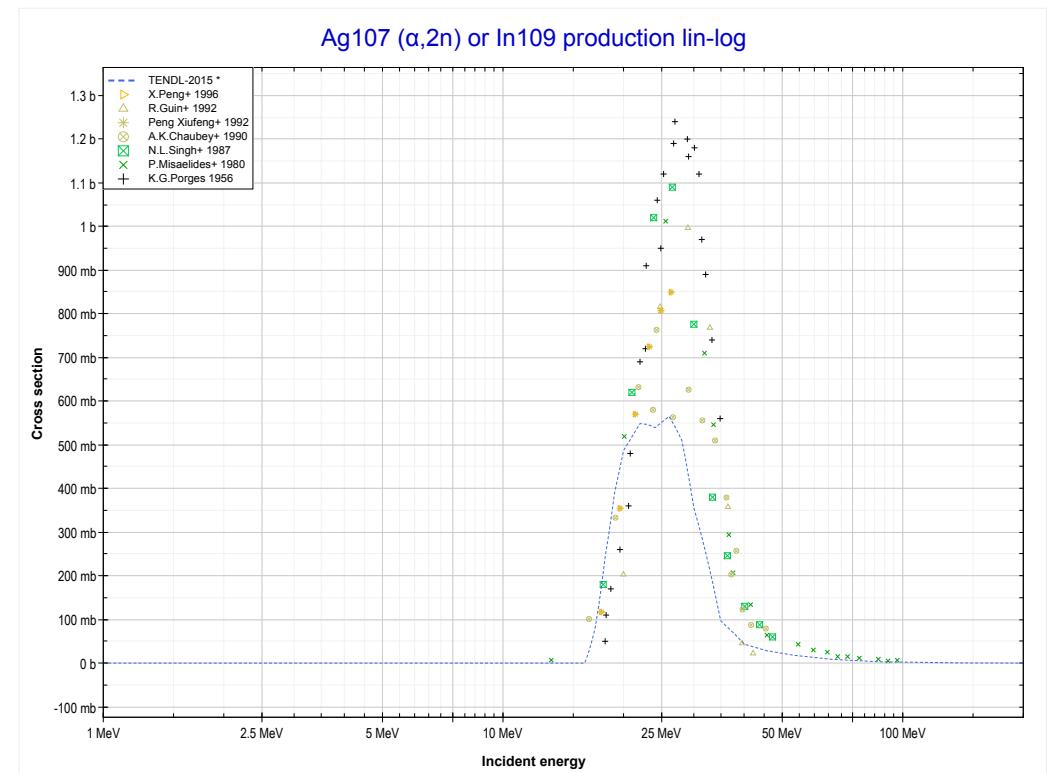
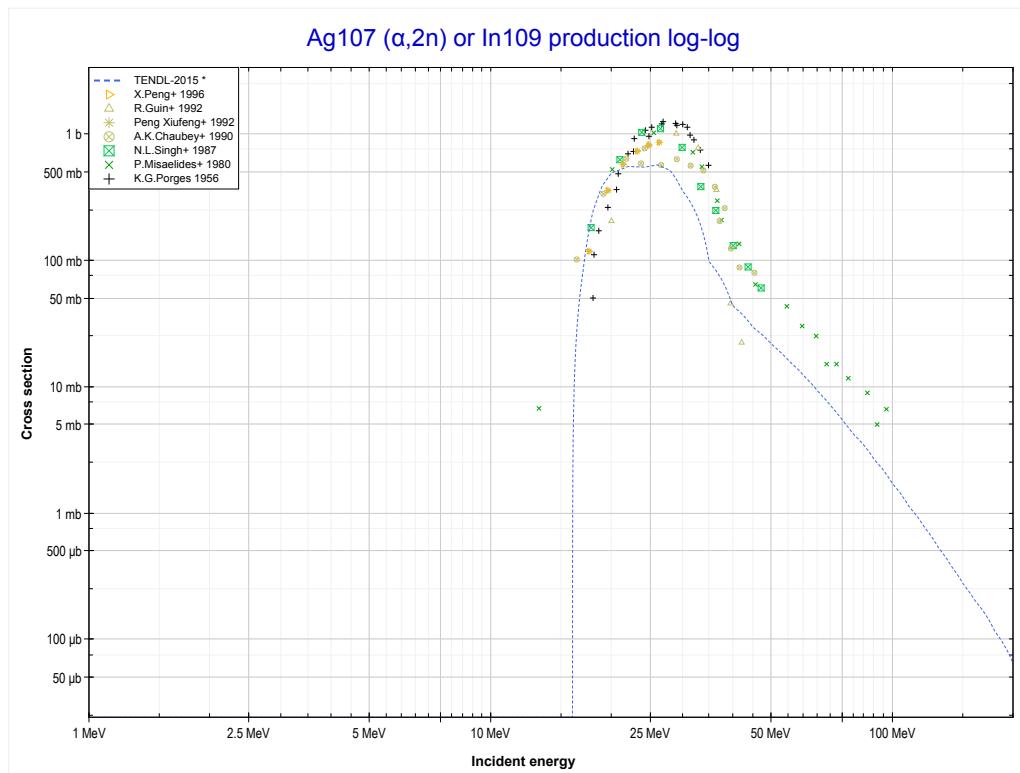
Reaction	Q-Value
Rh103( $\alpha$ ,4n+ $\alpha$ )Rh99	-34735.37 keV
Rh103( $\alpha$ ,2n+2t)Rh99	-46067.43 keV
Rh103( $\alpha$ ,3n+d+t)Rh99	-52324.66 keV
Rh103( $\alpha$ ,4n+p+t)Rh99	-54549.23 keV
Rh103( $\alpha$ ,5n+He3)Rh99	-55312.99 keV
Rh103( $\alpha$ ,4n+2d)Rh99	-58581.90 keV
Rh103( $\alpha$ ,5n+p+d)Rh99	-60806.46 keV
Rh103( $\alpha$ ,6n+2p)Rh99	-63031.03 keV

<< 45-Rh-103		
<< 45-Rh-103 MT165 ( $\alpha, 4n + \alpha$ )		

**47-Ag-107****MT4 ( $\alpha, n$ ) or MT5 (In110 production)****47-Ag-109 >>****MT16 ( $\alpha, 2n$ ) >>**

Reaction	Q-Value
Ag107( $\alpha, n$ )In110	-7582.00 keV

<< 45-Rh-103	<b>47-Ag-107</b> MT16 ( $\alpha,2n$ ) or MT5 (In109 production)	47-Ag-109 >>
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>

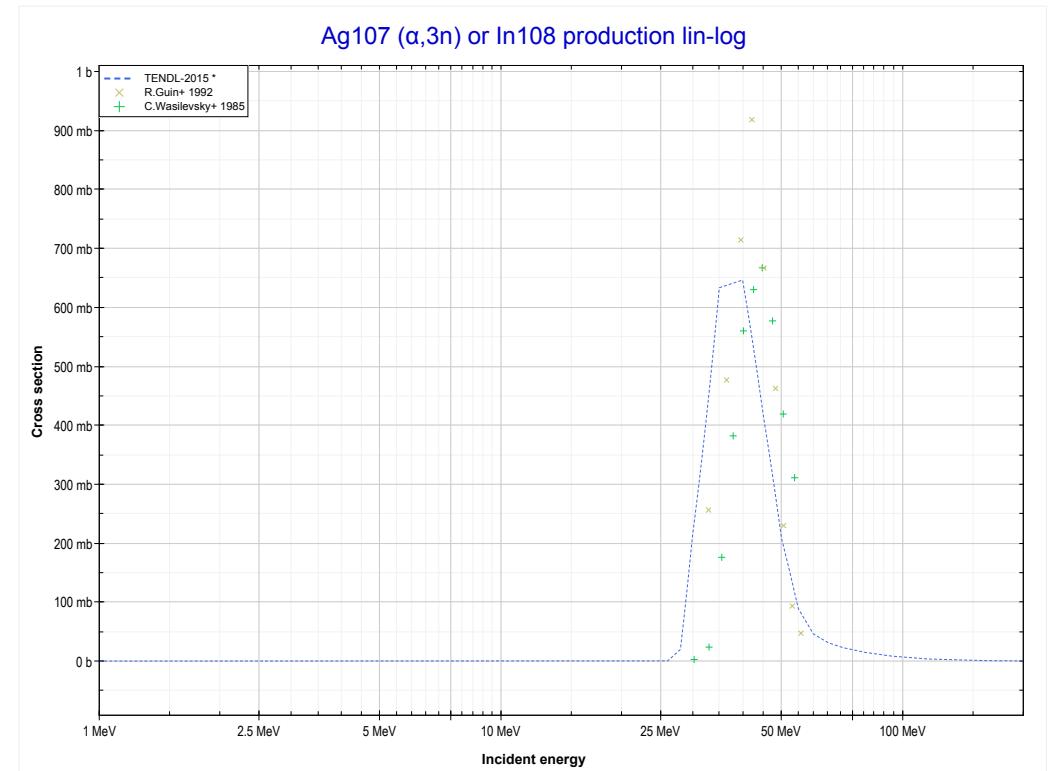
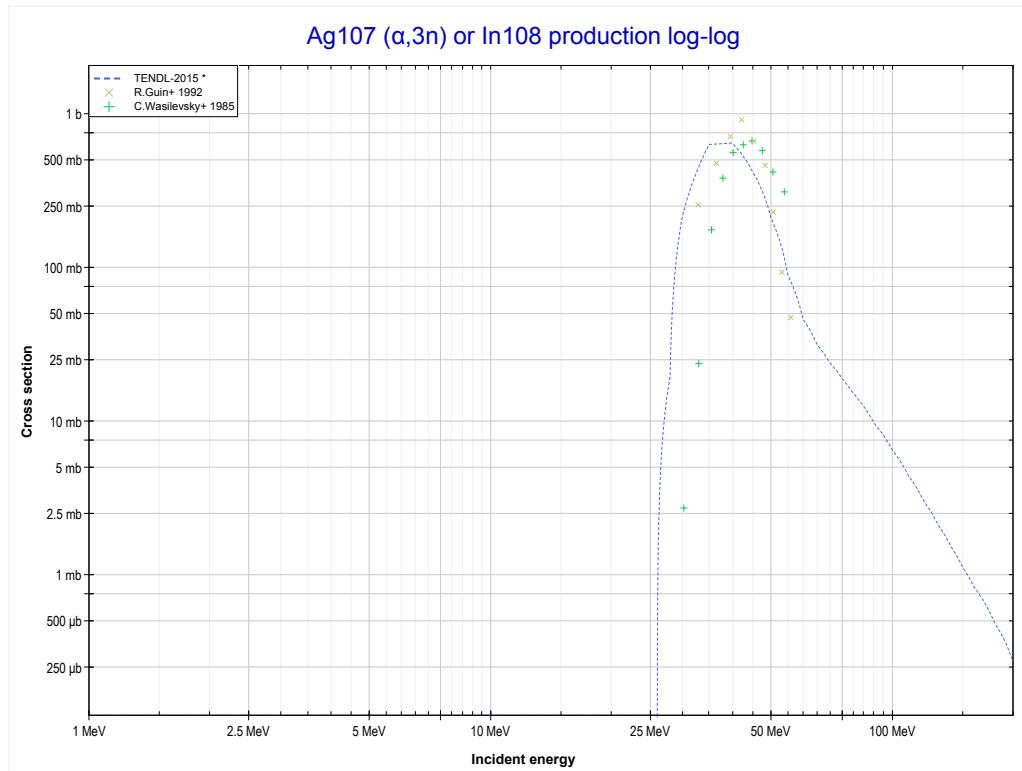


Reaction	Q-Value
Ag107( $\alpha,2n$ )In109	-15636.32 keV

<< 45-Rh-103	
<< MT16 ( $\alpha$ ,2n)	

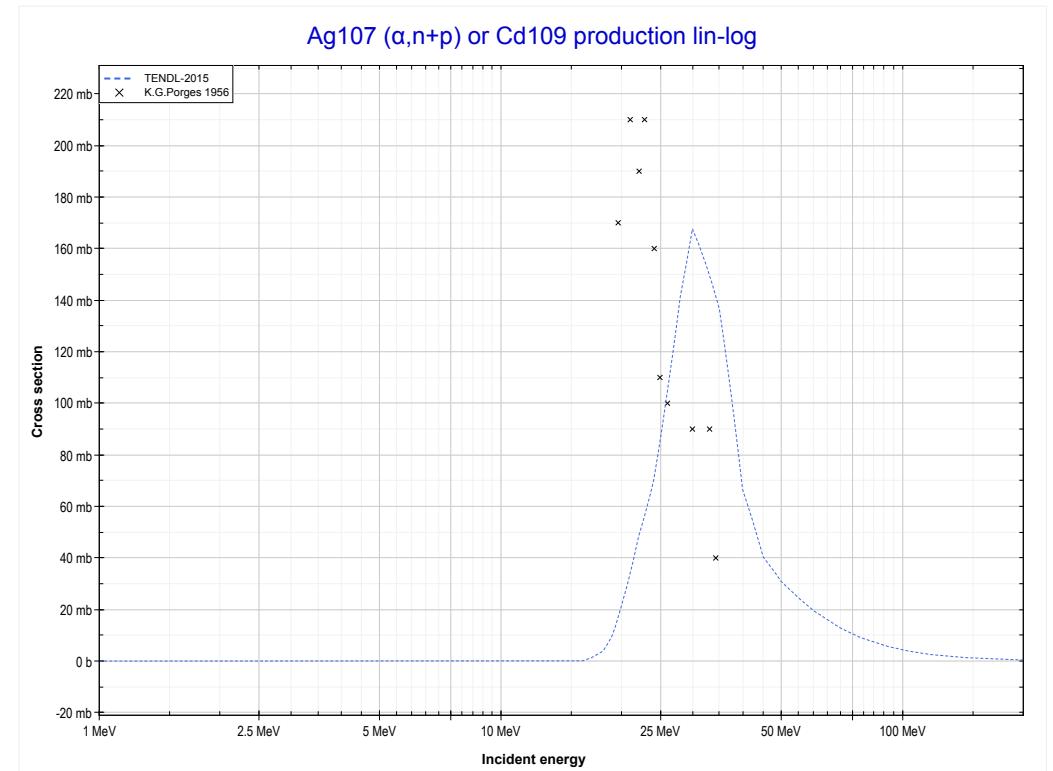
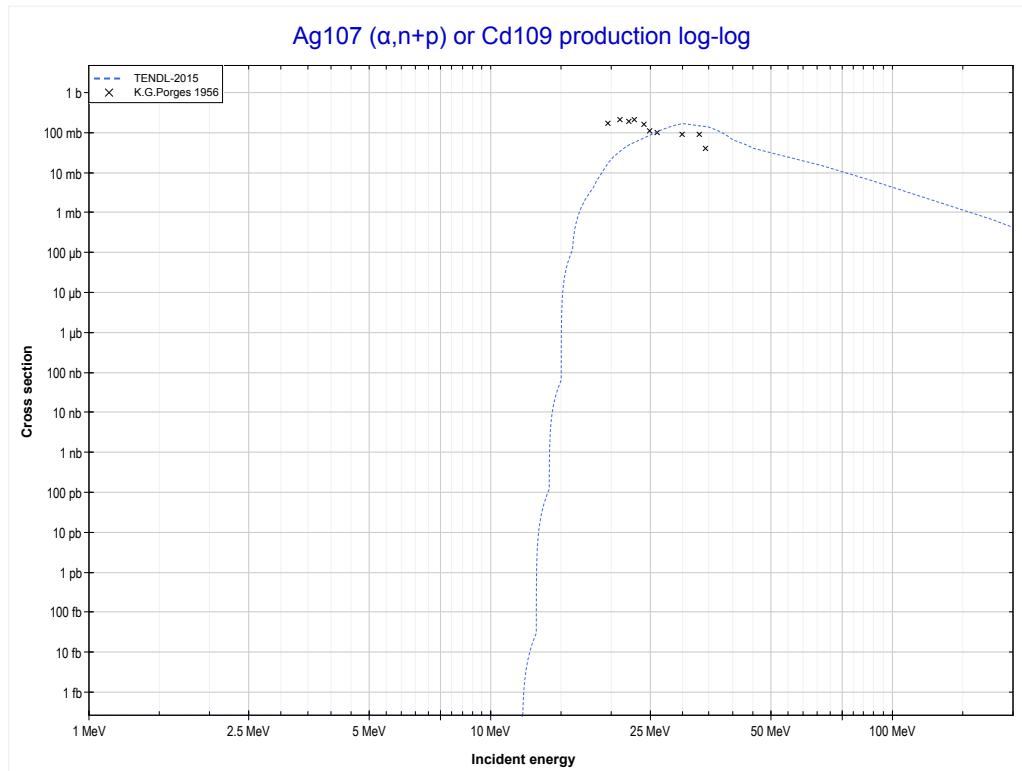
**47-Ag-107**  
**MT17 ( $\alpha$ ,3n) or MT5 (In108 production)**

47-Ag-109 >>  
MT28 ( $\alpha$ ,n+p) >>



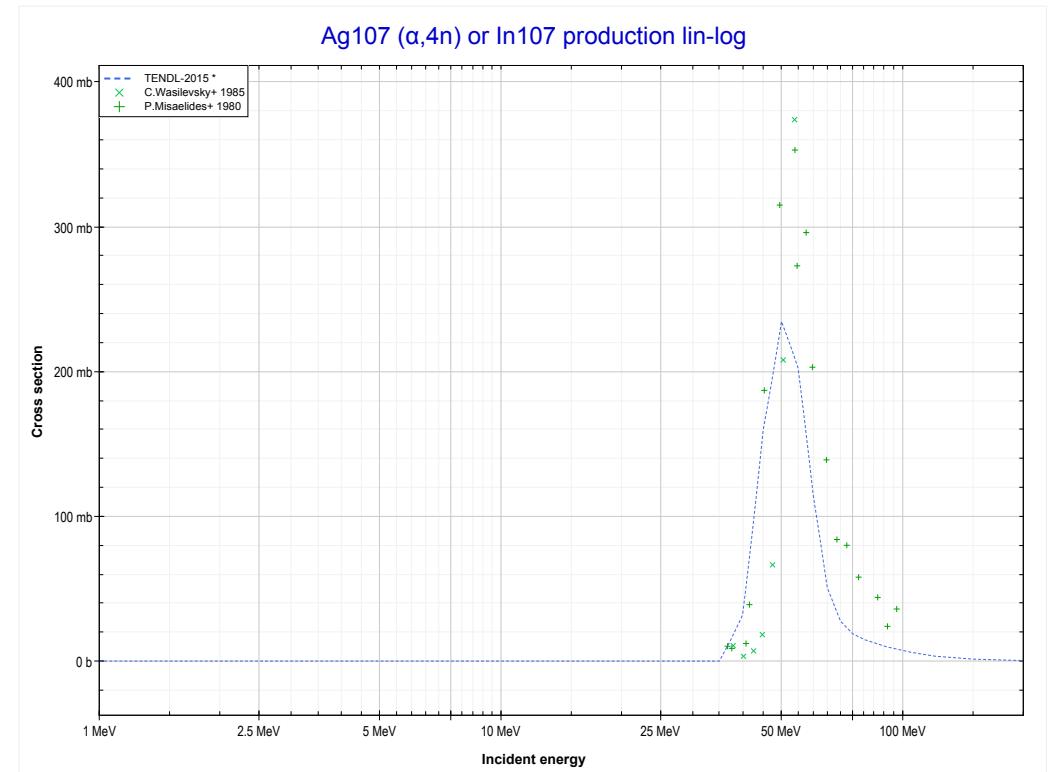
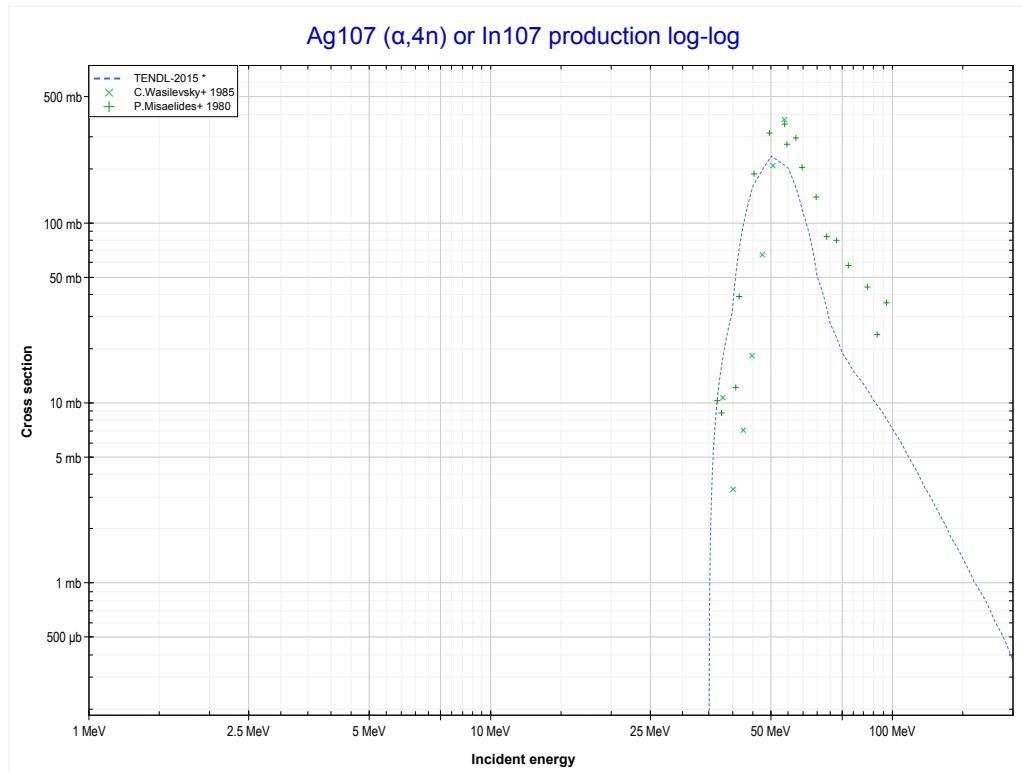
Reaction	Q-Value
Ag107( $\alpha$ ,3n)In108	-26075.64 keV

<< 42-Mo-92	<b>47-Ag-107</b> <b>MT28 (<math>\alpha, n+p</math>) or MT5 (Cd109 production)</b>	48-Cd-114 >>
<< MT17 ( $\alpha, 3n$ )		MT37 ( $\alpha, 4n$ ) >>



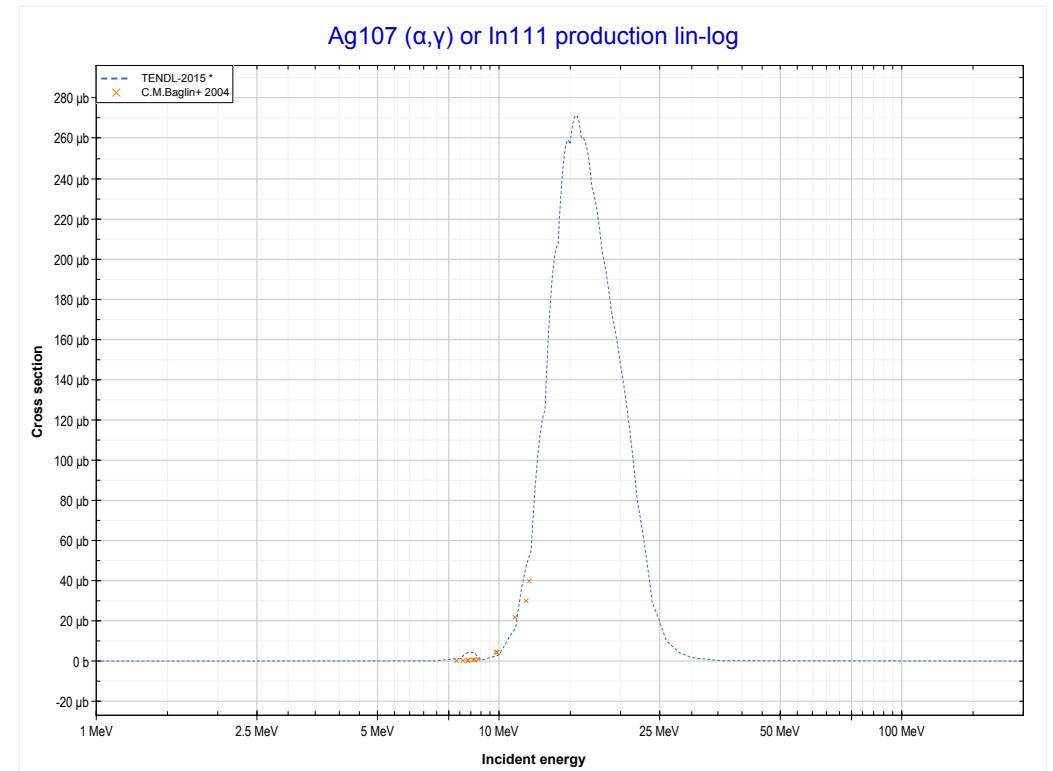
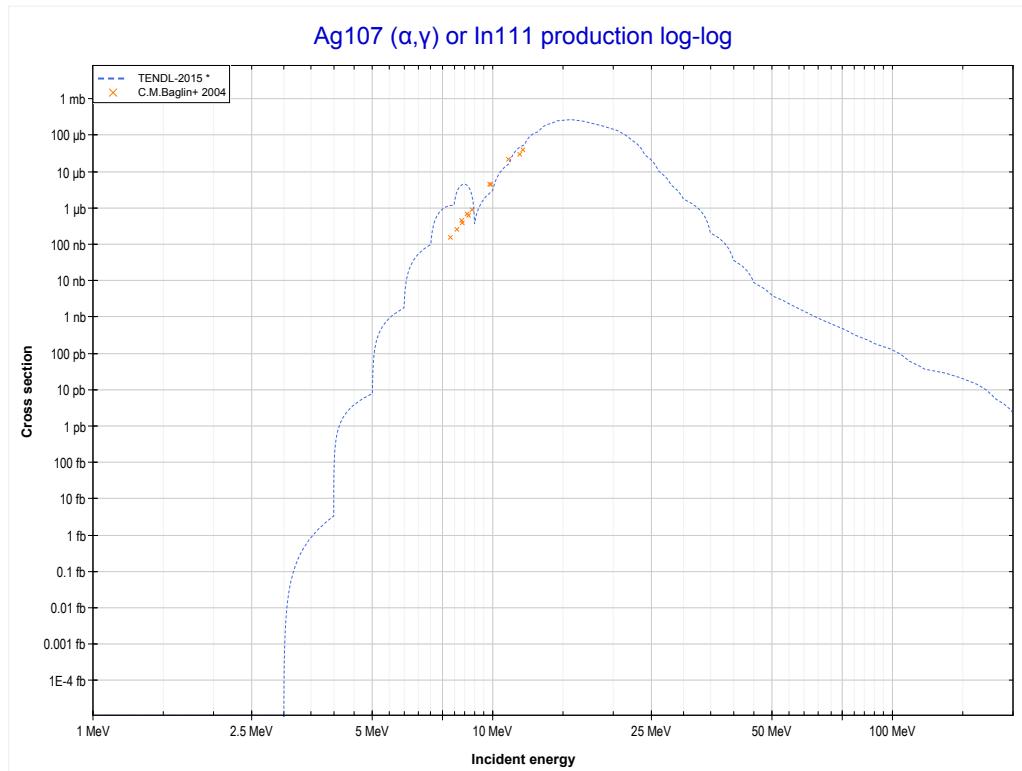
Reaction	Q-Value
Ag107( $\alpha, d$ )Cd109	-10613.01 keV
Ag107( $\alpha, n+p$ )Cd109	-12837.57 keV

<< 45-Rh-103	<b>47-Ag-107</b> MT37 ( $\alpha,4n$ ) or MT5 (In107 production)	47-Ag-109 >>
<< MT28 ( $\alpha,n+p$ )		MT102 ( $\alpha,\gamma$ ) >>



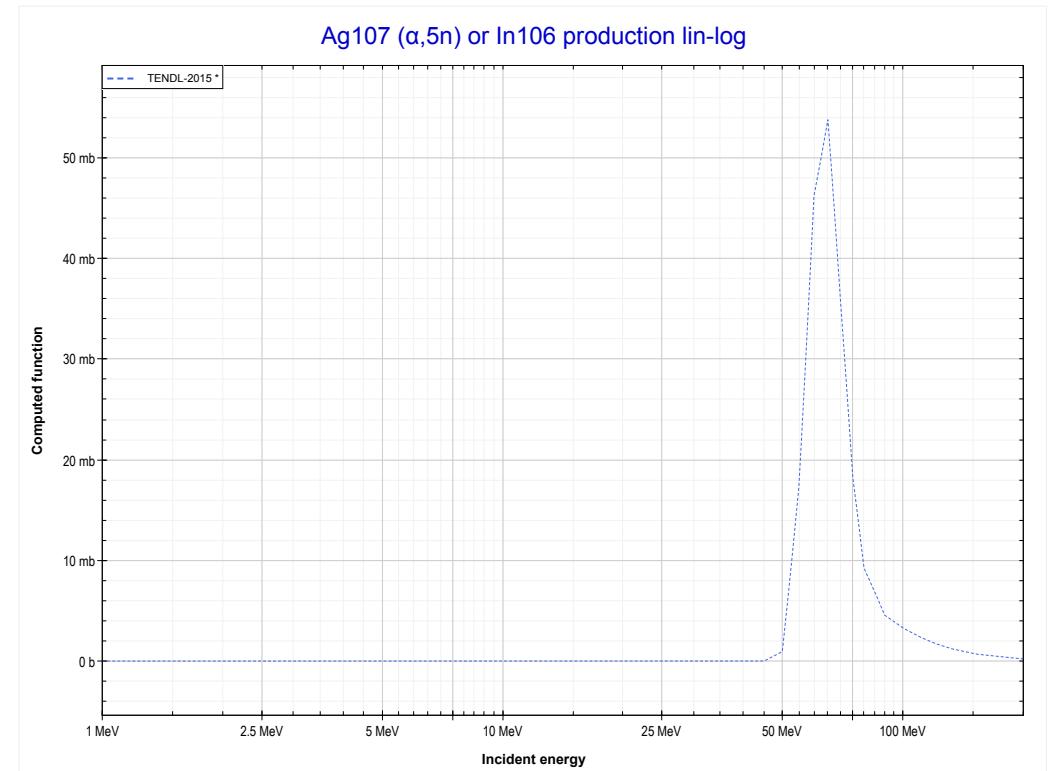
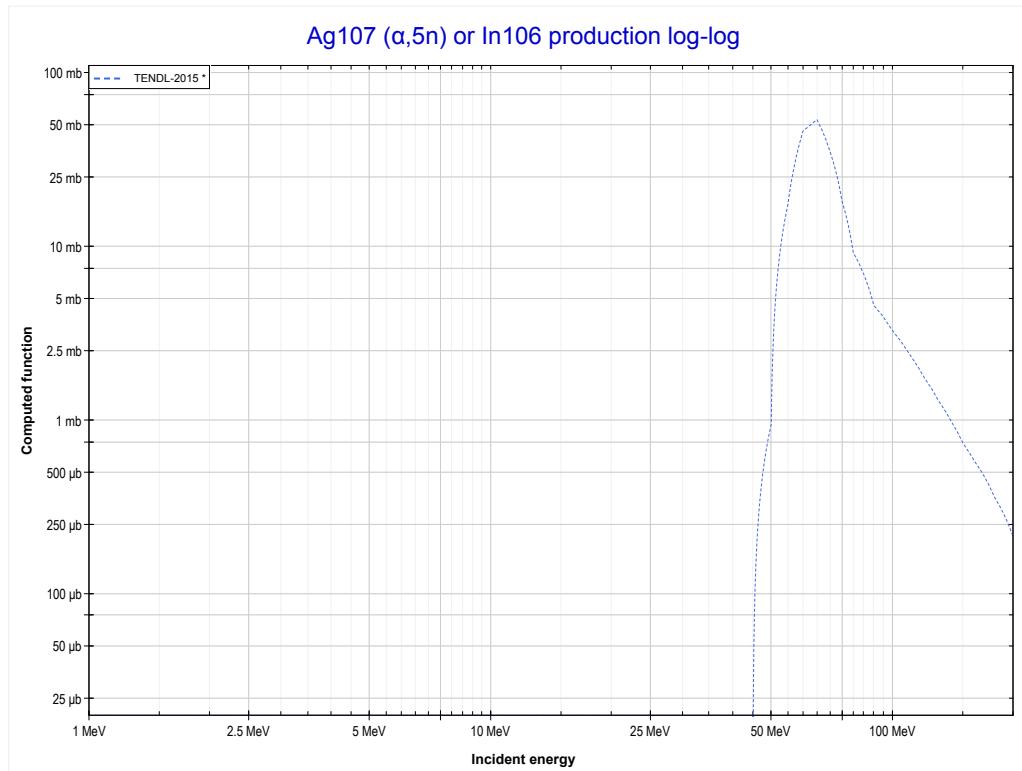
Reaction	Q-Value
Ag107( $\alpha,4n$ )In107	-34702.95 keV

<< 32-Ge-70	<b>47-Ag-107</b> MT102 ( $\alpha,\gamma$ ) or MT5 (In111 production)	48-Cd-106 >>
<< MT37 ( $\alpha,4n$ )		MT152 ( $\alpha,5n$ ) >>



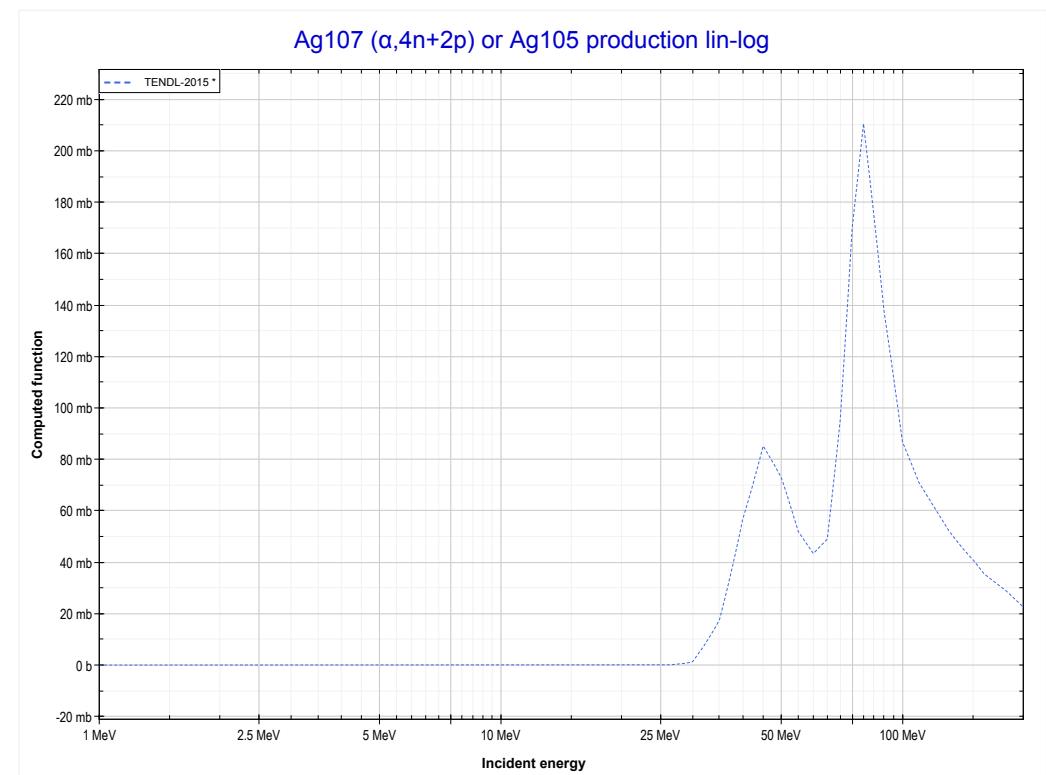
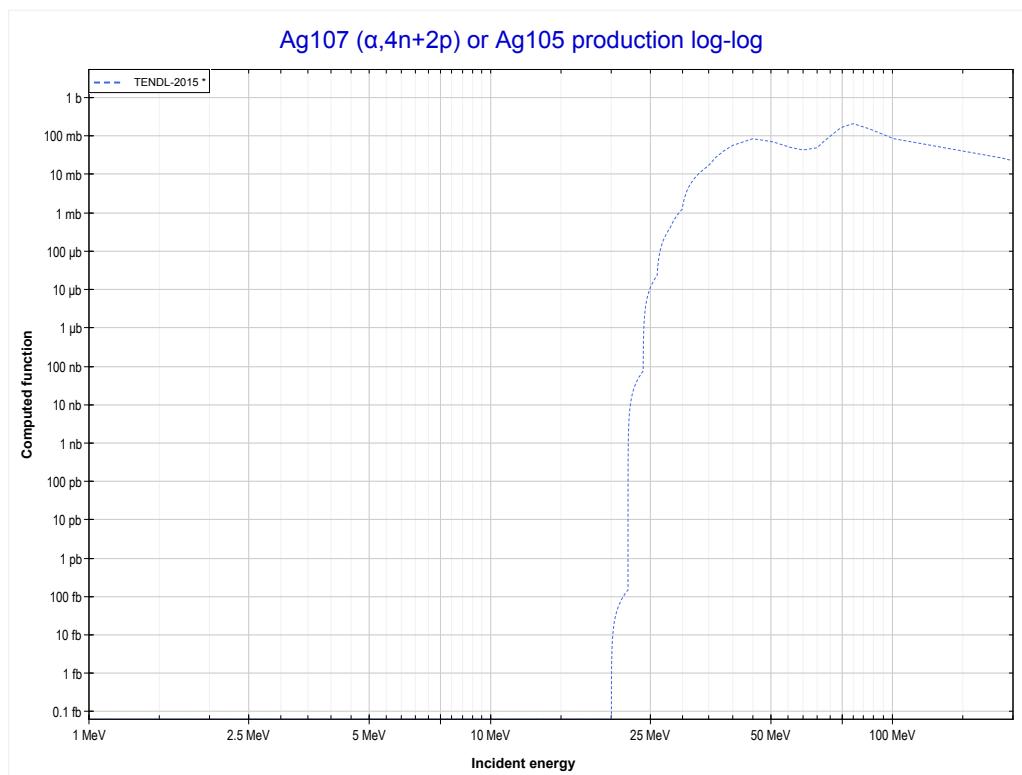
Reaction	Q-Value
Ag107( $\alpha,\gamma$ )In111	2409.32 keV

<< 45-Rh-103	<b>47-Ag-107</b> MT152 ( $\alpha,5n$ ) or MT5 (In106 production)	47-Ag-109 >> MT194 ( $\alpha,4n+2p$ ) >>
<< MT102 ( $\alpha,\gamma$ )		



Reaction	Q-Value
Ag107( $\alpha,5n$ )In106	-45730.27 keV

<< 27-Co-59	<b>47-Ag-107</b> MT194 ( $\alpha, 4n+2p$ ) or MT5 (Ag105 production)	47-Ag-109 MT4 ( $\alpha, n$ ) >>
<< MT152 ( $\alpha, 5n$ )		



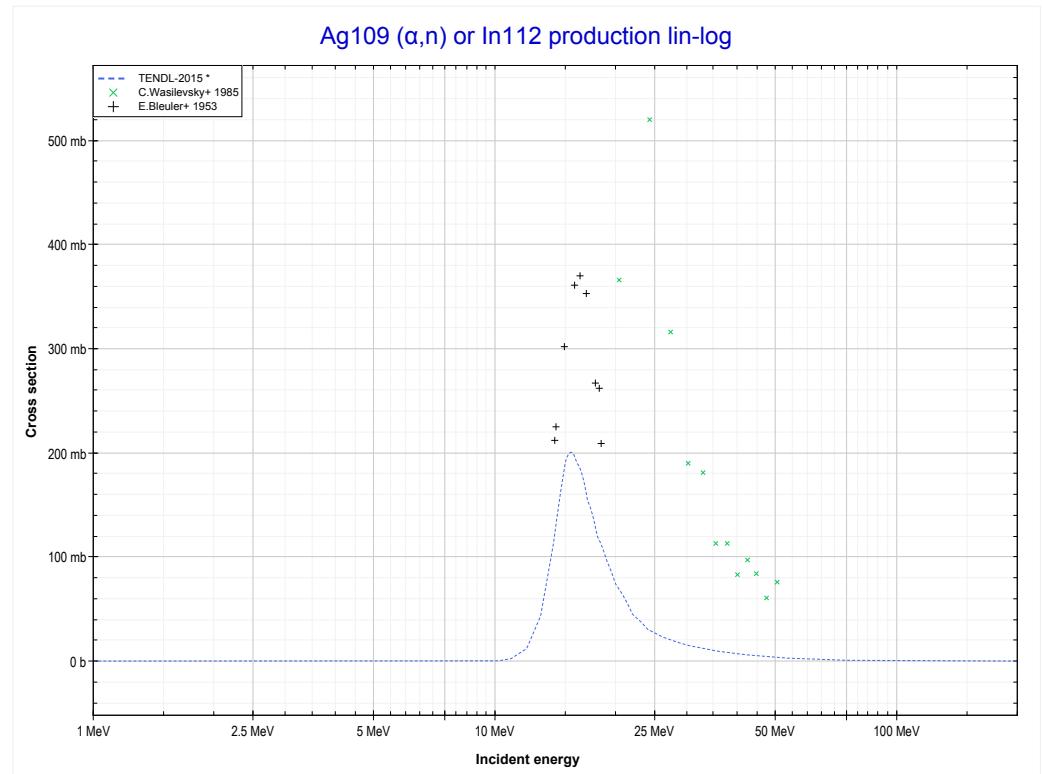
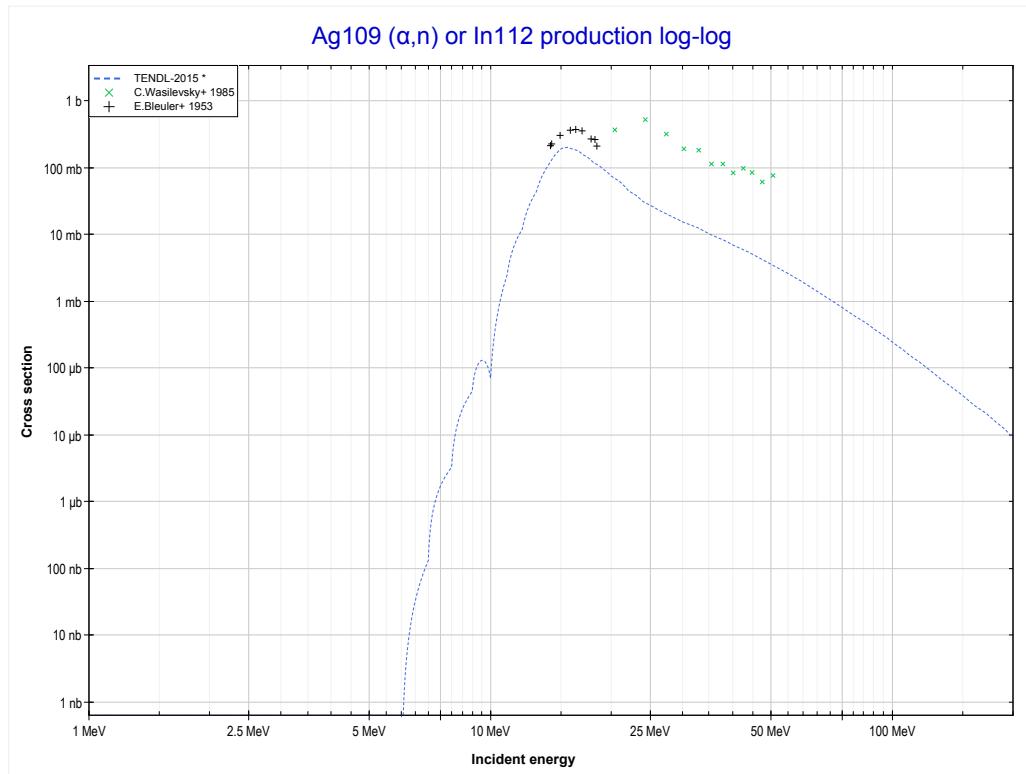
Reaction	Q-Value
Ag107( $\alpha, 2n+\alpha$ )Ag105	-17478.23 keV
Ag107( $\alpha, 2t$ )Ag105	-28810.30 keV
Ag107( $\alpha, n+d+t$ )Ag105	-35067.53 keV
Ag107( $\alpha, 2n+p+t$ )Ag105	-37292.10 keV
Ag107( $\alpha, 3n+He3$ )Ag105	-38055.85 keV
Ag107( $\alpha, 2n+2d$ )Ag105	-41324.76 keV
Ag107( $\alpha, 3n+p+d$ )Ag105	-43549.33 keV
Ag107( $\alpha, 4n+2p$ )Ag105	-45773.89 keV

<< 47-Ag-107		
<< 47-Ag-107 MT194 ( $\alpha, 4n+2p$ )		

## 47-Ag-109

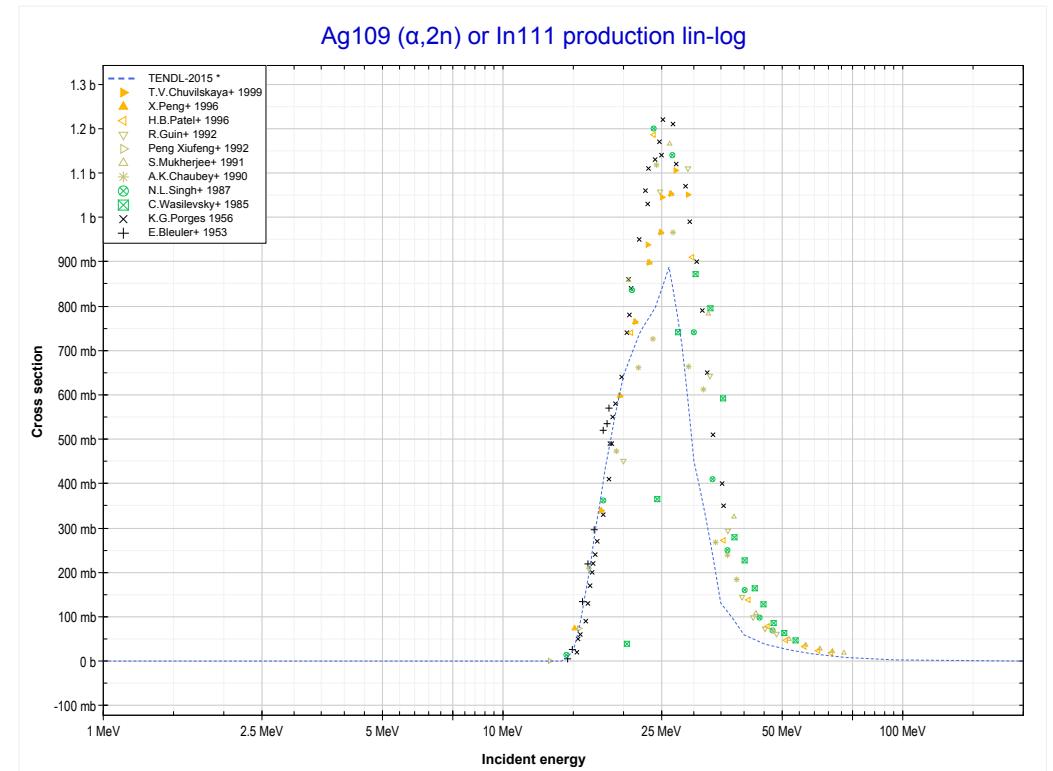
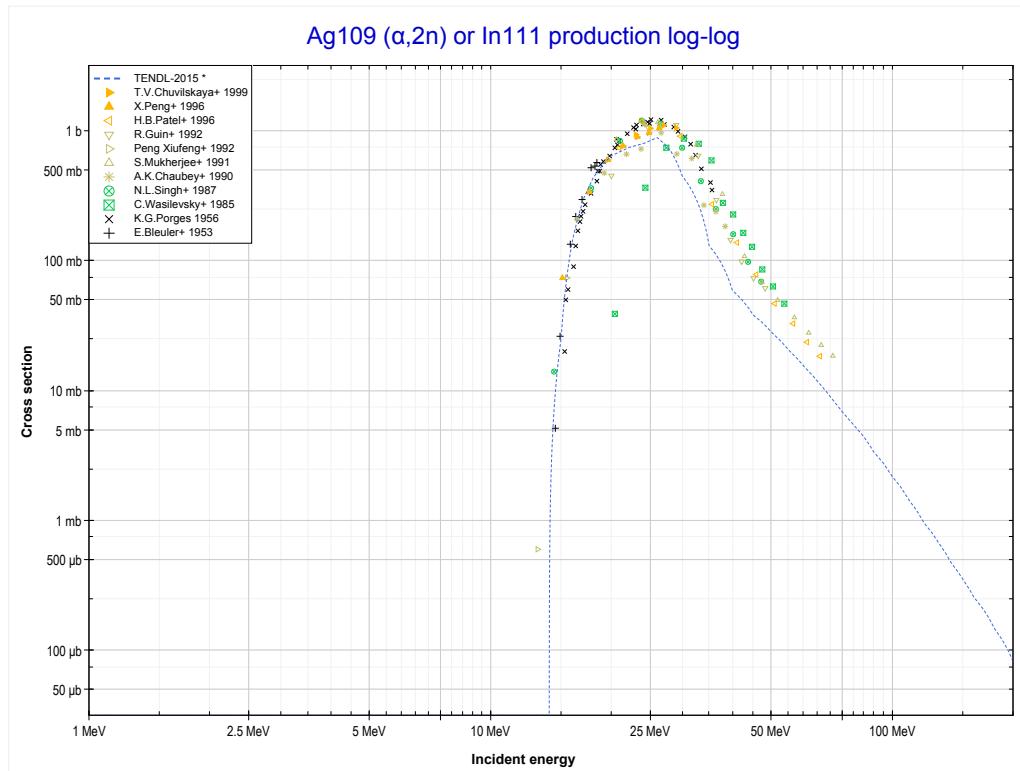
MT4 ( $\alpha, n$ ) or MT5 (In112 production)

## 48-Cd-106 &gt;&gt;

MT16 ( $\alpha, 2n$ ) >>

Reaction	Q-Value
Ag109( $\alpha, n$ )In112	-6375.30 keV

<< 47-Ag-107	47-Ag-109 MT16 ( $\alpha,2n$ ) or MT5 (In111 production)	48-Cd-106 >>
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>

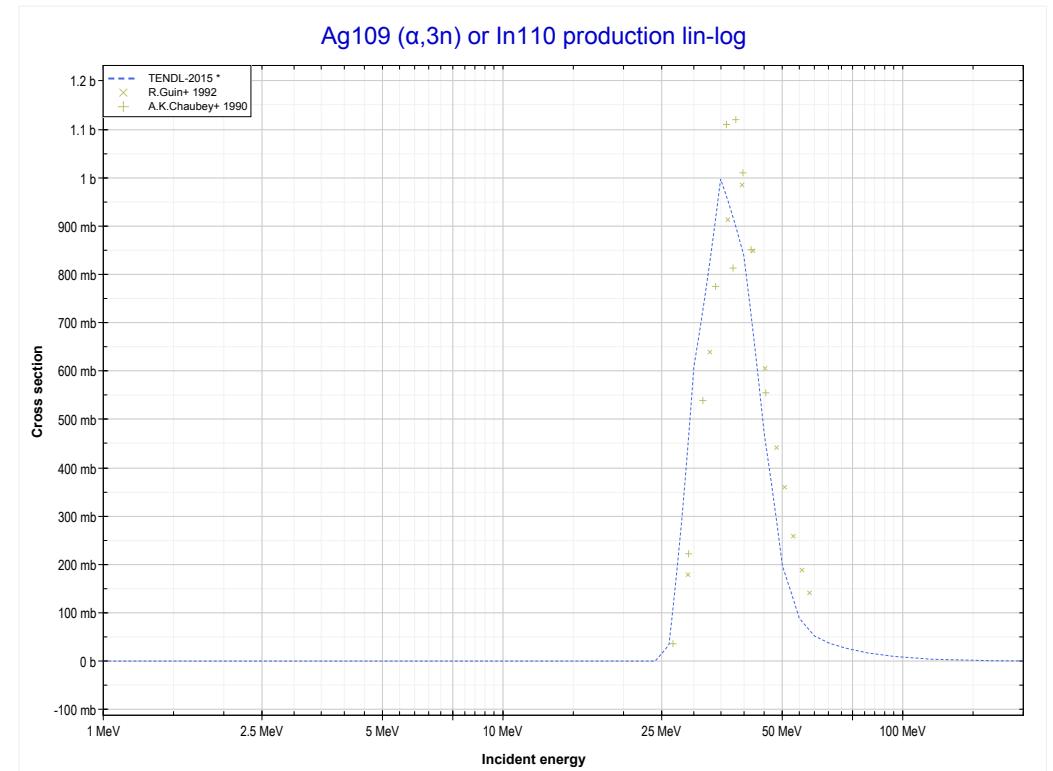
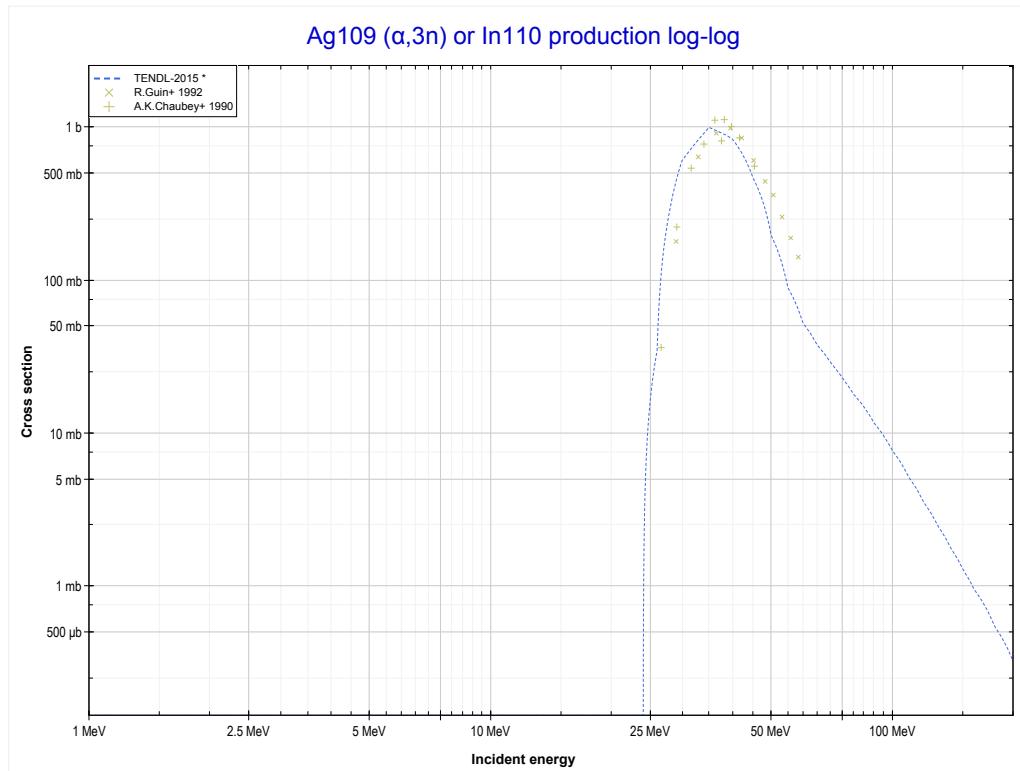


Reaction	Q-Value
Ag109( $\alpha,2n$ )In111	-14046.62 keV

<< 47-Ag-107	
<< MT16 ( $\alpha,2n$ )	

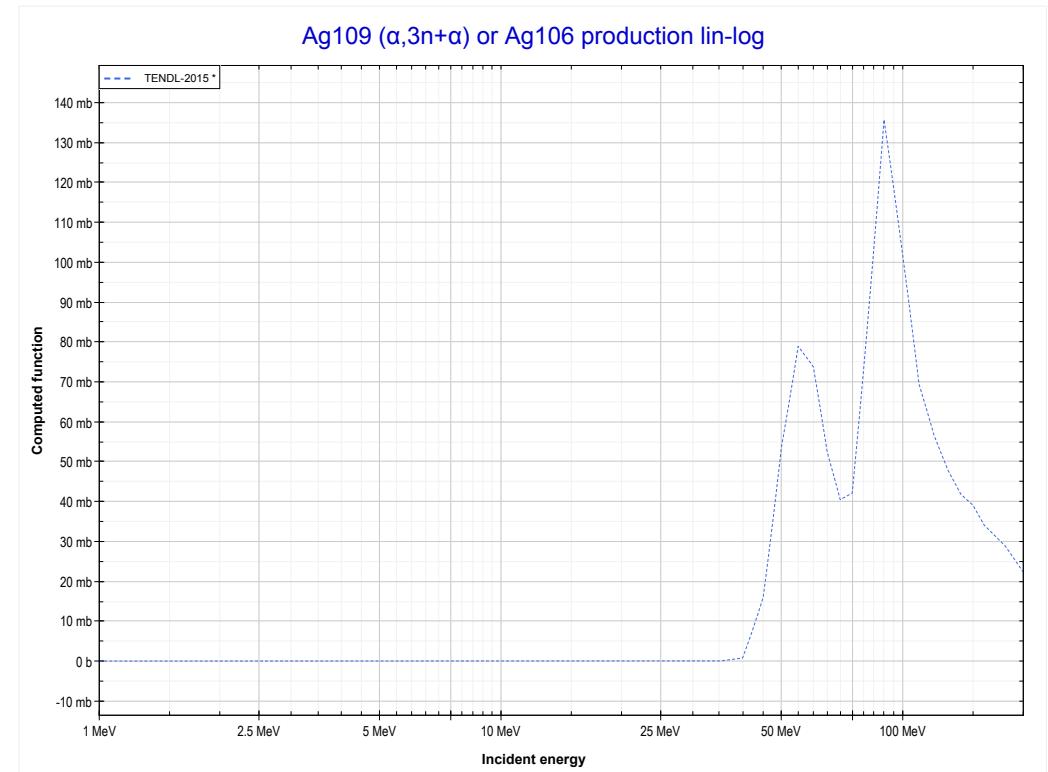
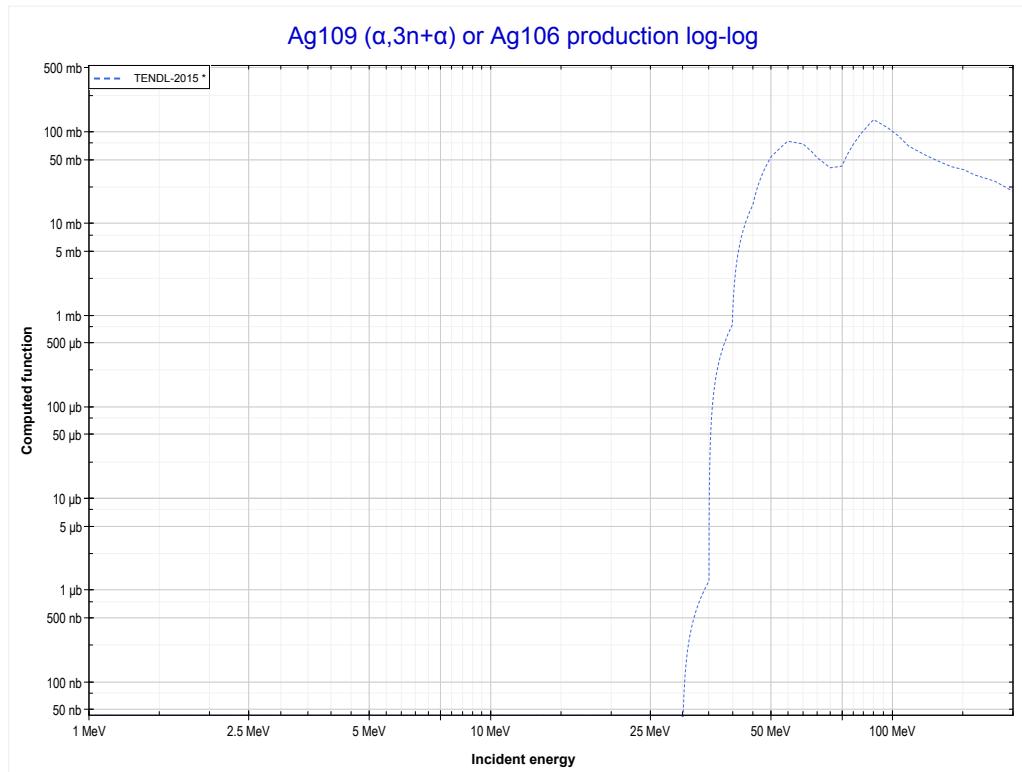
47-Ag-109
MT17 ( $\alpha,3n$ ) or MT5 (In110 production)

	48-Cd-114 >>
	MT25 ( $\alpha,3n+\alpha$ ) >>



Reaction	Q-Value
Ag109( $\alpha,3n$ )In110	-24037.94 keV

<< 45-Rh-103	<b>47-Ag-109</b> MT25 ( $\alpha$ ,3n+ $\alpha$ ) or MT5 (Ag106 production)	65-Tb-159 >>
<< MT17 ( $\alpha$ ,3n)		MT37 ( $\alpha$ ,4n) >>

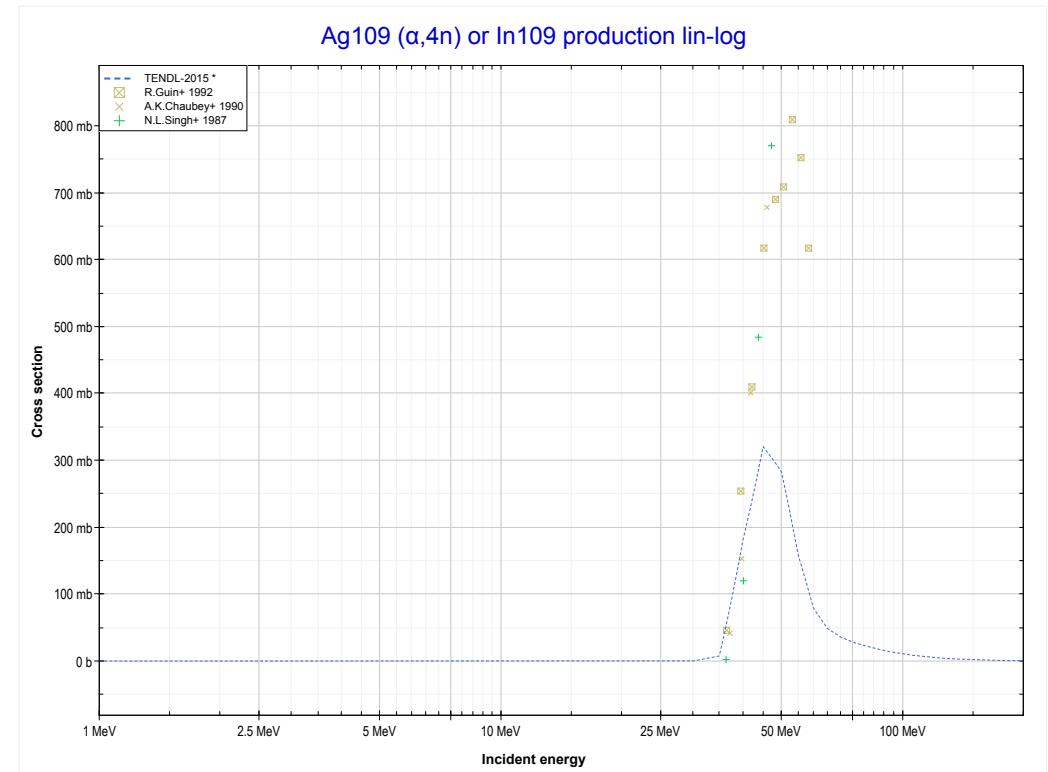
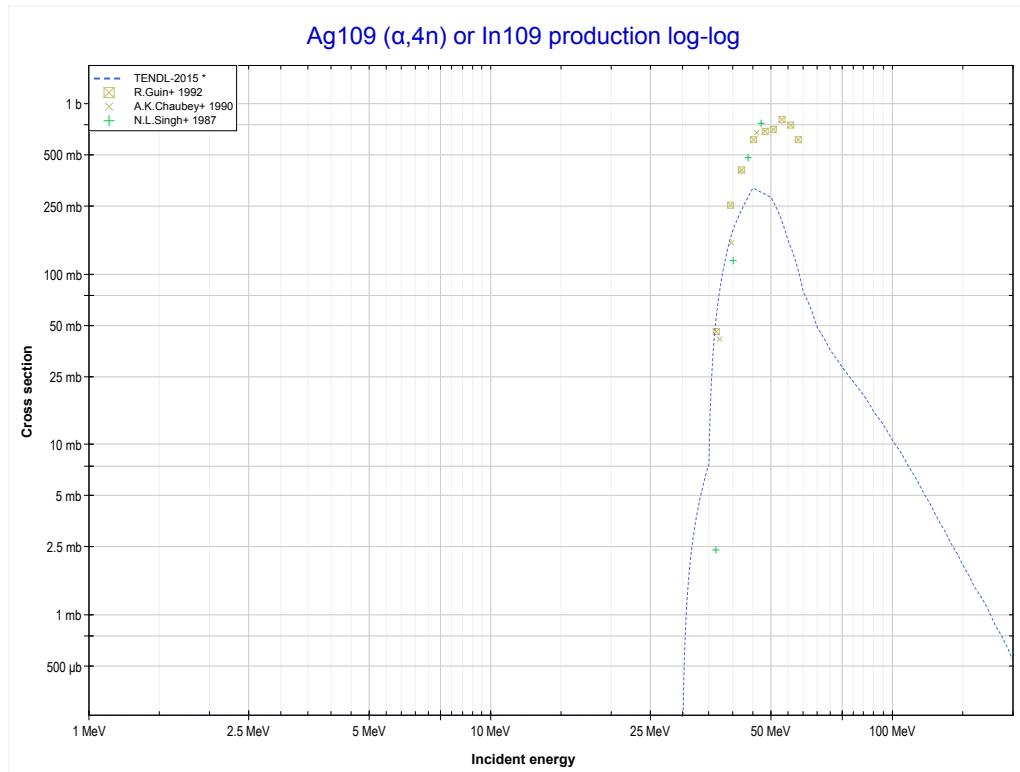


Reaction	Q-Value
Ag109( $\alpha$ ,3n+ $\alpha$ )Ag106	-25991.85 keV
Ag109( $\alpha$ ,n+2t)Ag106	-37323.91 keV
Ag109( $\alpha$ ,2n+d+t)Ag106	-43581.15 keV
Ag109( $\alpha$ ,3n+p+t)Ag106	-45805.71 keV
Ag109( $\alpha$ ,4n+He3)Ag106	-46569.47 keV
Ag109( $\alpha$ ,3n+2d)Ag106	-49838.38 keV
Ag109( $\alpha$ ,4n+p+d)Ag106	-52062.94 keV
Ag109( $\alpha$ ,5n+2p)Ag106	-54287.51 keV

<< 47-Ag-107	
<< MT25 ( $\alpha$ ,3n+ $\alpha$ )	

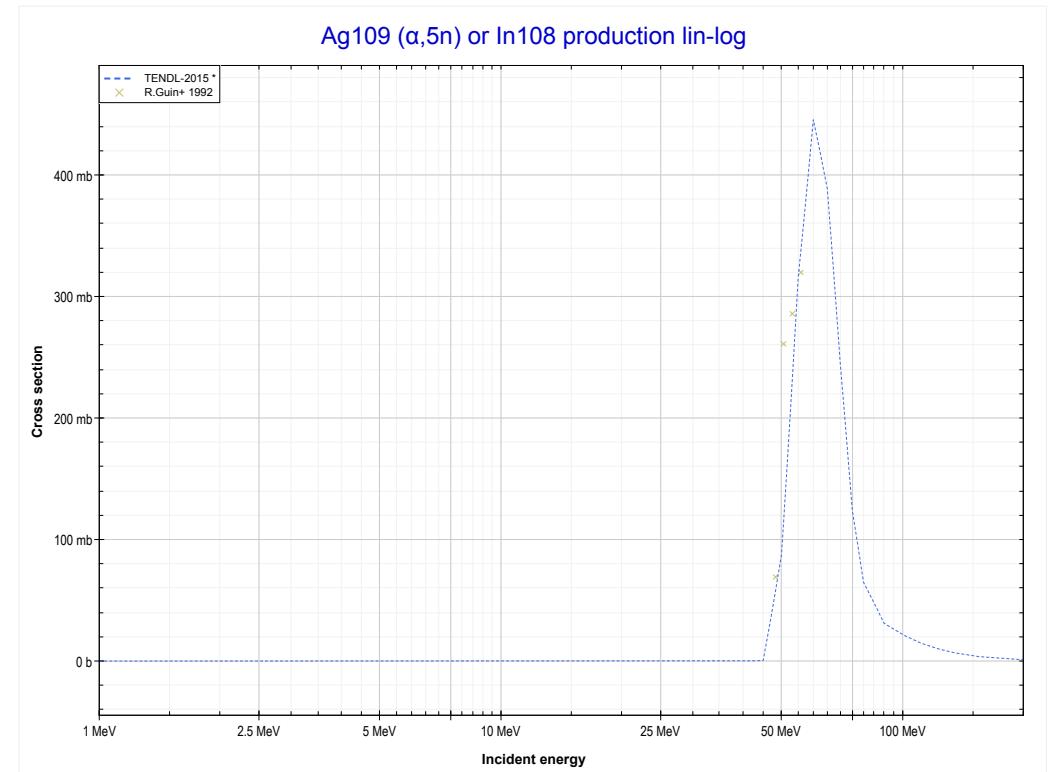
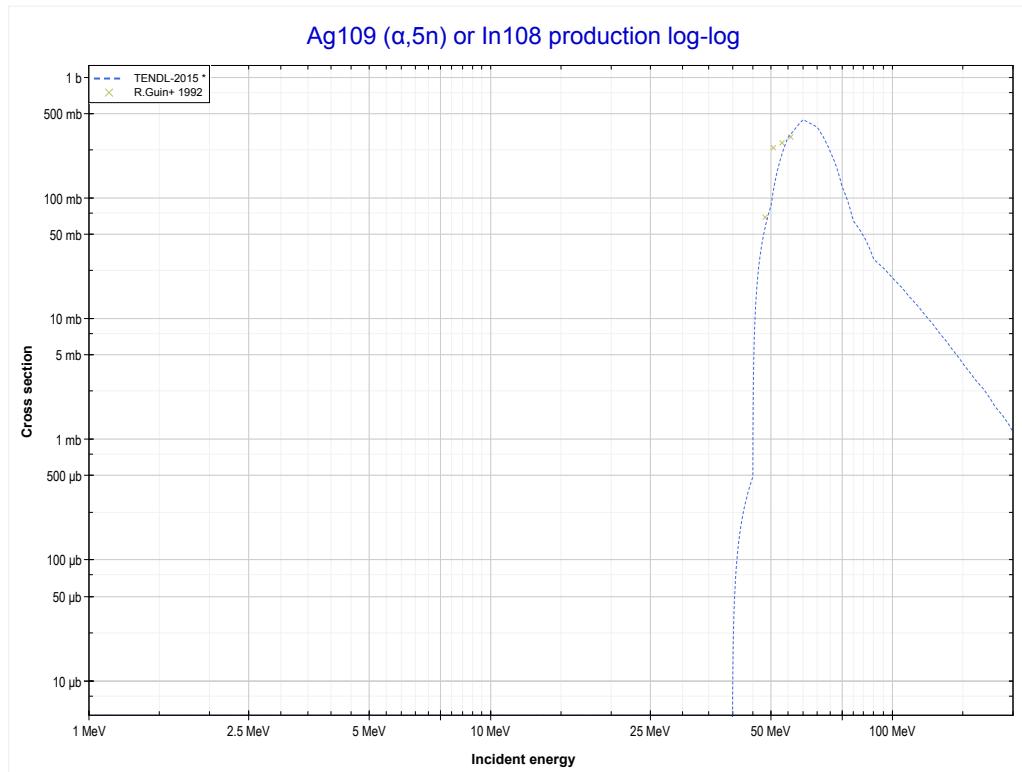
47-Ag-109
MT37 ( $\alpha$ ,4n) or MT5 (In109 production)

48-Cd-114 >>
MT152 ( $\alpha$ ,5n) >>



Reaction	Q-Value
Ag109( $\alpha$ ,4n)In109	-32092.25 keV

<< 47-Ag-107	<b>47-Ag-109</b> MT152 ( $\alpha,5n$ ) or MT5 (In108 production)	48-Cd-114 >>
<< MT37 ( $\alpha,4n$ )		48-Cd-106 MT4 ( $\alpha,n$ ) >>

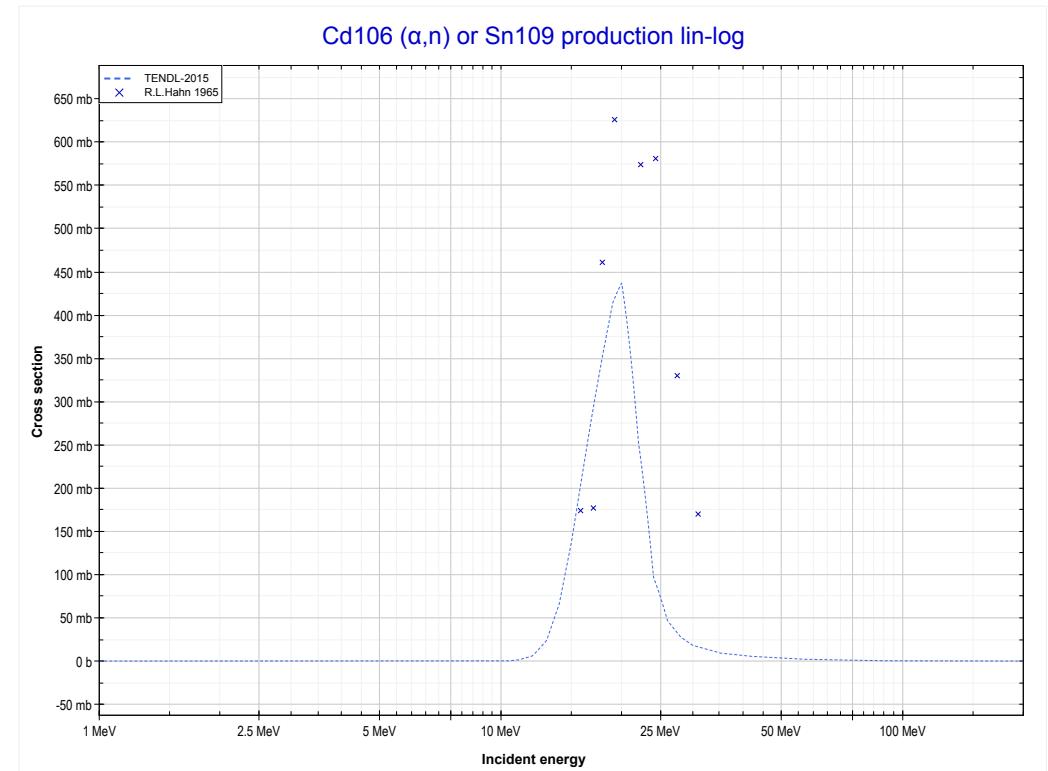
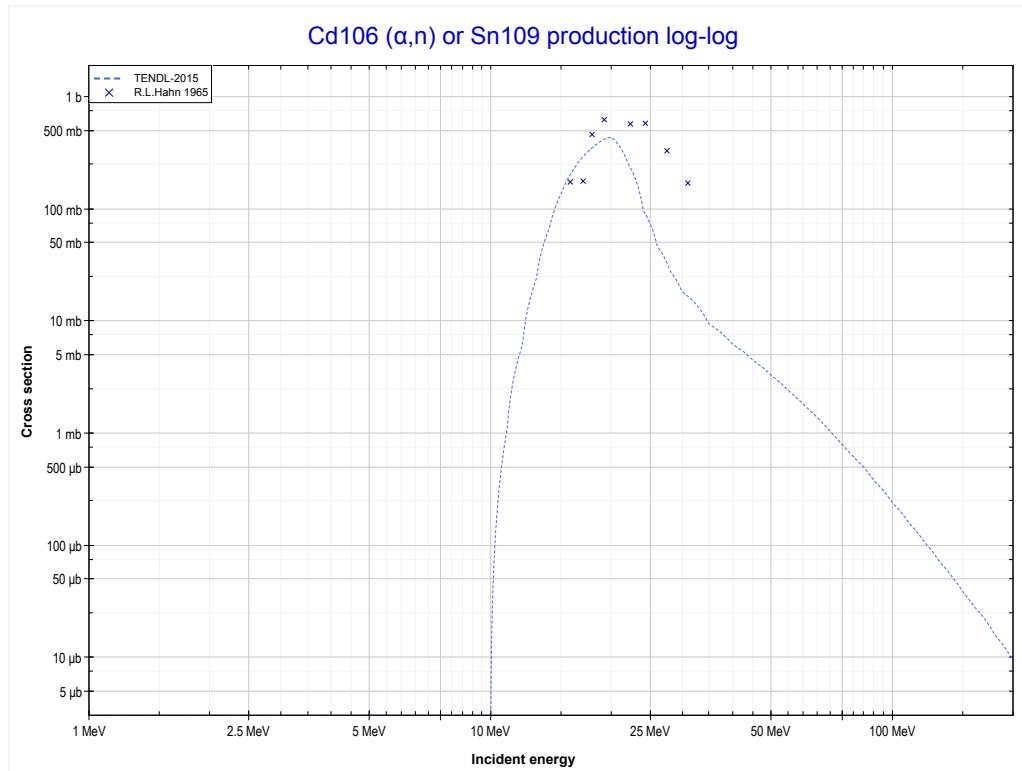


Reaction	Q-Value
Ag109( $\alpha,5n$ )In108	-42531.57 keV

<< 47-Ag-109		
<< 47-Ag-109 MT152 ( $\alpha,5n$ )		

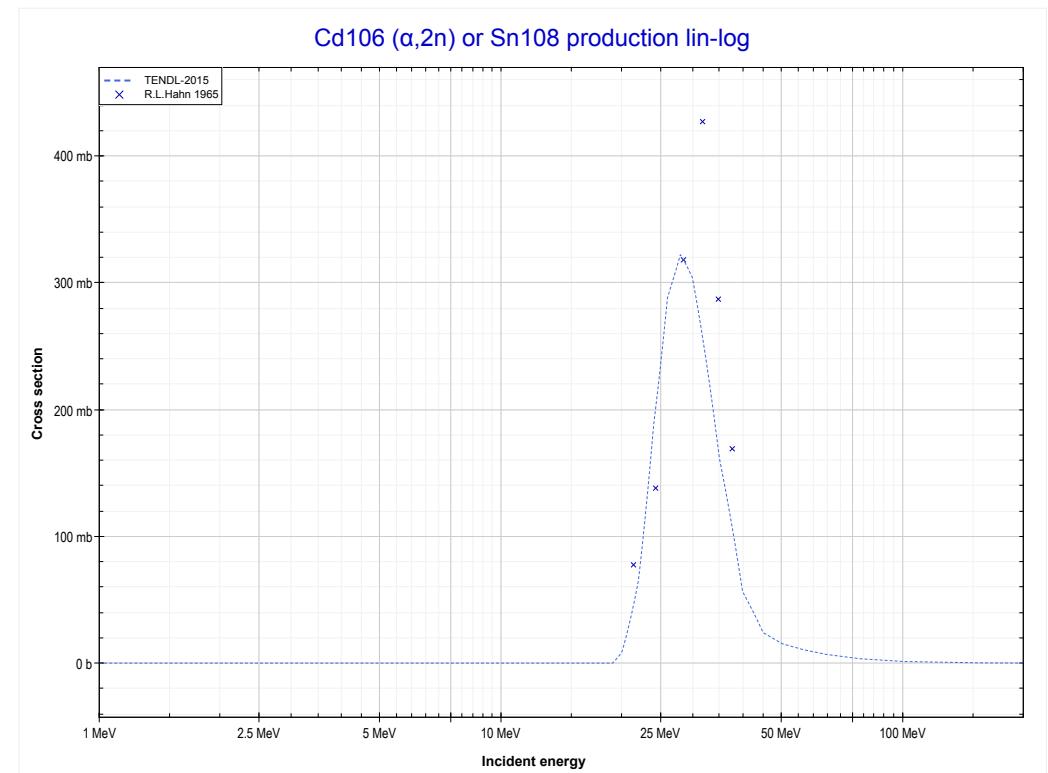
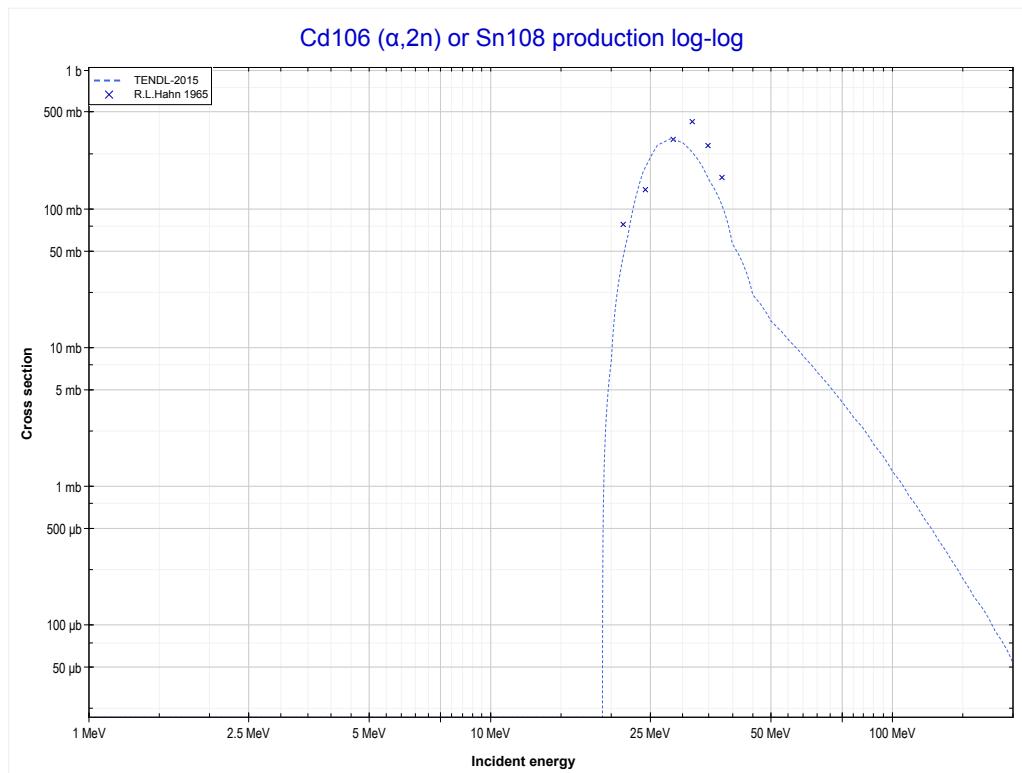
48-Cd-106
MT4 ( $\alpha,n$ ) or MT5 (Sn109 production)

48-Cd-114 >>
MT16 ( $\alpha,2n$ ) >>



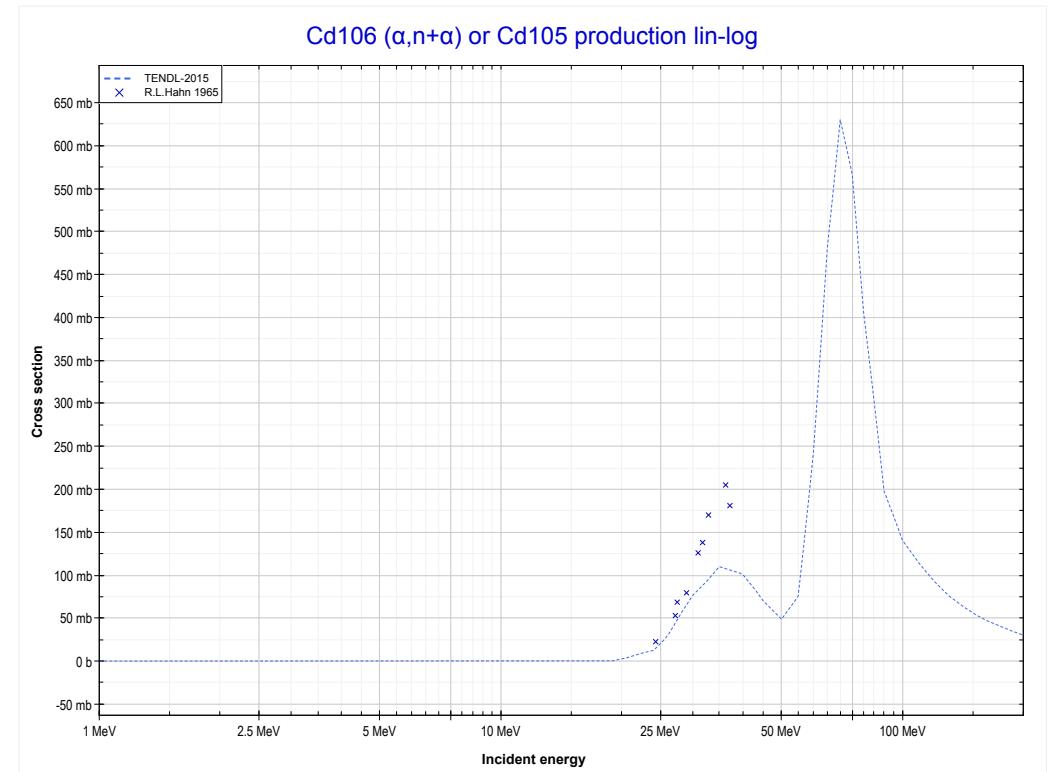
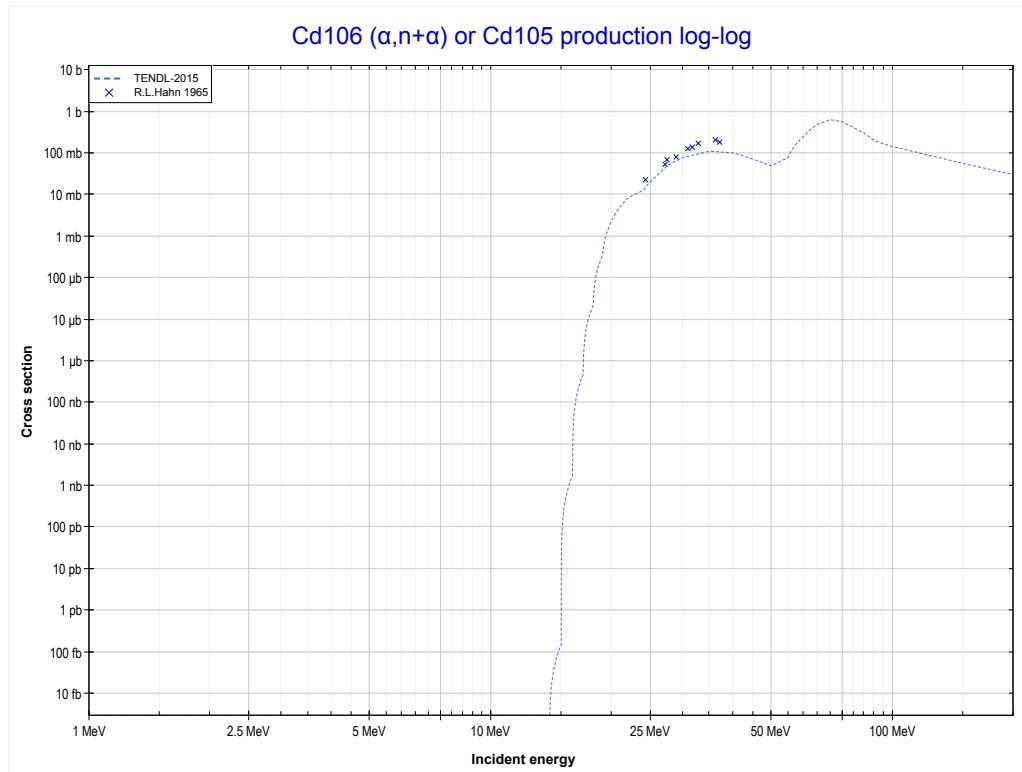
Reaction	Q-Value
Cd106( $\alpha,n$ )Sn109	-10147.40 keV

<< 47-Ag-109	<b>48-Cd-106</b> MT16 ( $\alpha,2n$ ) or MT5 (Sn108 production)	48-Cd-114 >>
<< MT4 ( $\alpha,n$ )		MT22 ( $\alpha,n+\alpha$ ) >>



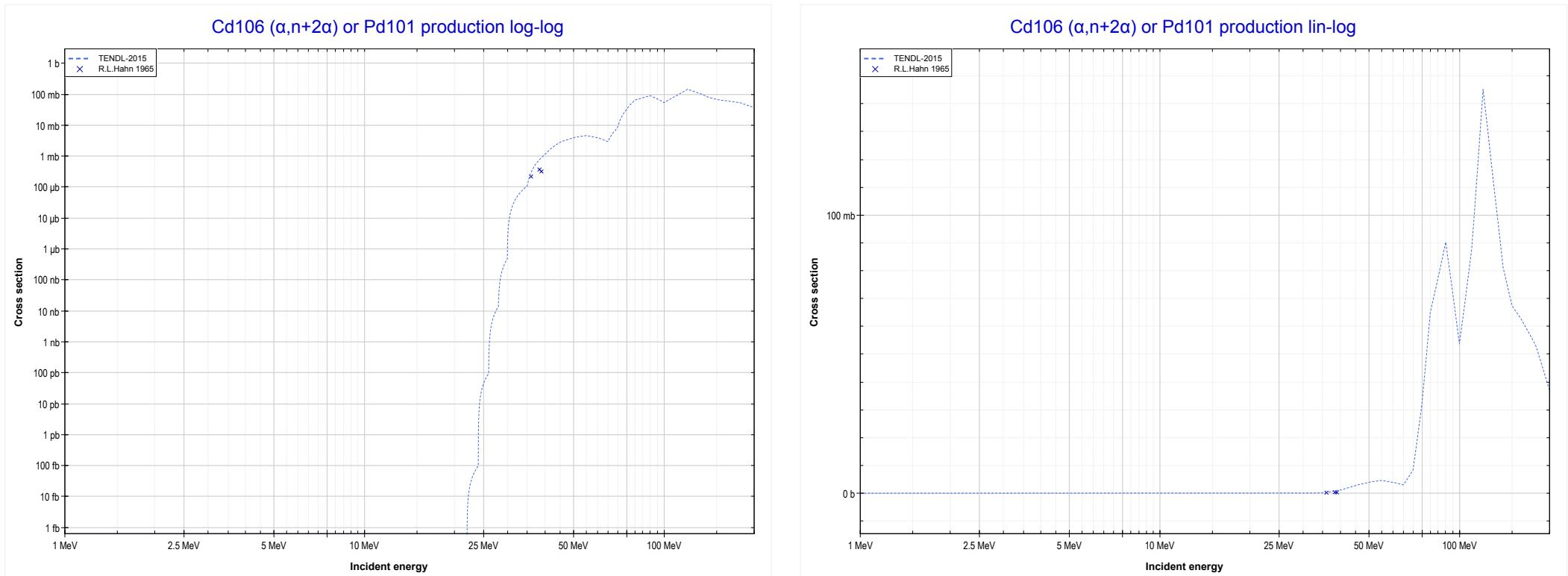
Reaction	Q-Value
Cd106( $\alpha,2n$ )Sn108	-18779.72 keV

<< 41-Nb-93	<b>48-Cd-106</b> <b>MT22 (<math>\alpha, n+\alpha</math>) or MT5 (Cd105 production)</b>	48-Cd-116 >>
<< MT16 ( $\alpha, 2n$ )		MT29 ( $\alpha, n+2\alpha$ ) >>



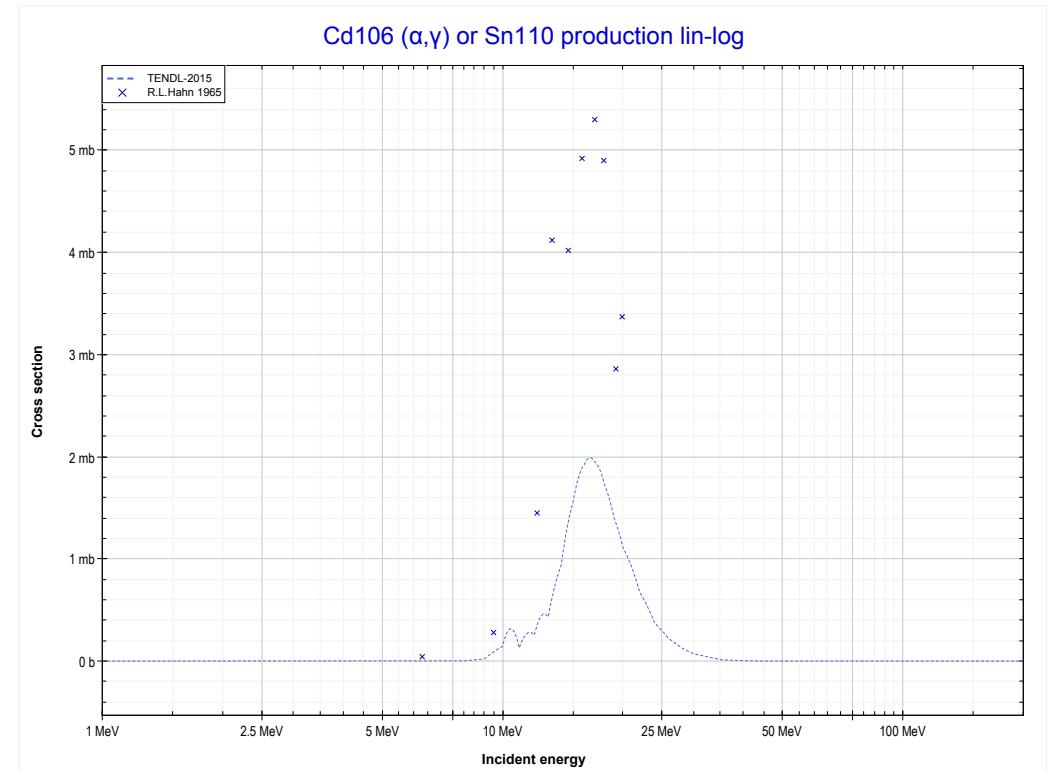
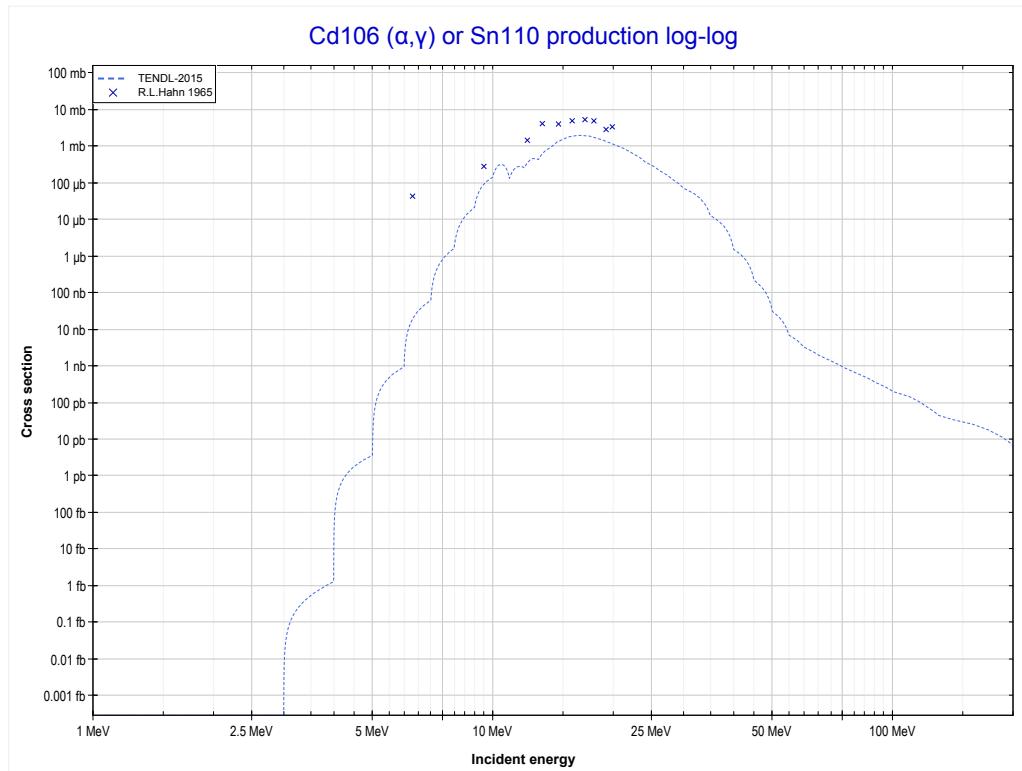
Reaction	Q-Value
Cd106( $\alpha, n+\alpha$ )Cd105	-10869.52 keV
Cd106( $\alpha, d+t$ )Cd105	-28458.81 keV
Cd106( $\alpha, n+p+t$ )Cd105	-30683.38 keV
Cd106( $\alpha, 2n+He3$ )Cd105	-31447.13 keV
Cd106( $\alpha, n+2d$ )Cd105	-34716.04 keV
Cd106( $\alpha, 2n+p+d$ )Cd105	-36940.61 keV
Cd106( $\alpha, 3n+2p$ )Cd105	-39165.18 keV

<< 27-Co-59	<b>48-Cd-106</b>	
<< MT22 ( $\alpha, n + \alpha$ )	MT29 ( $\alpha, n + 2\alpha$ ) or MT5 (Pd101 production)	MT102 ( $\alpha, \gamma$ ) >>



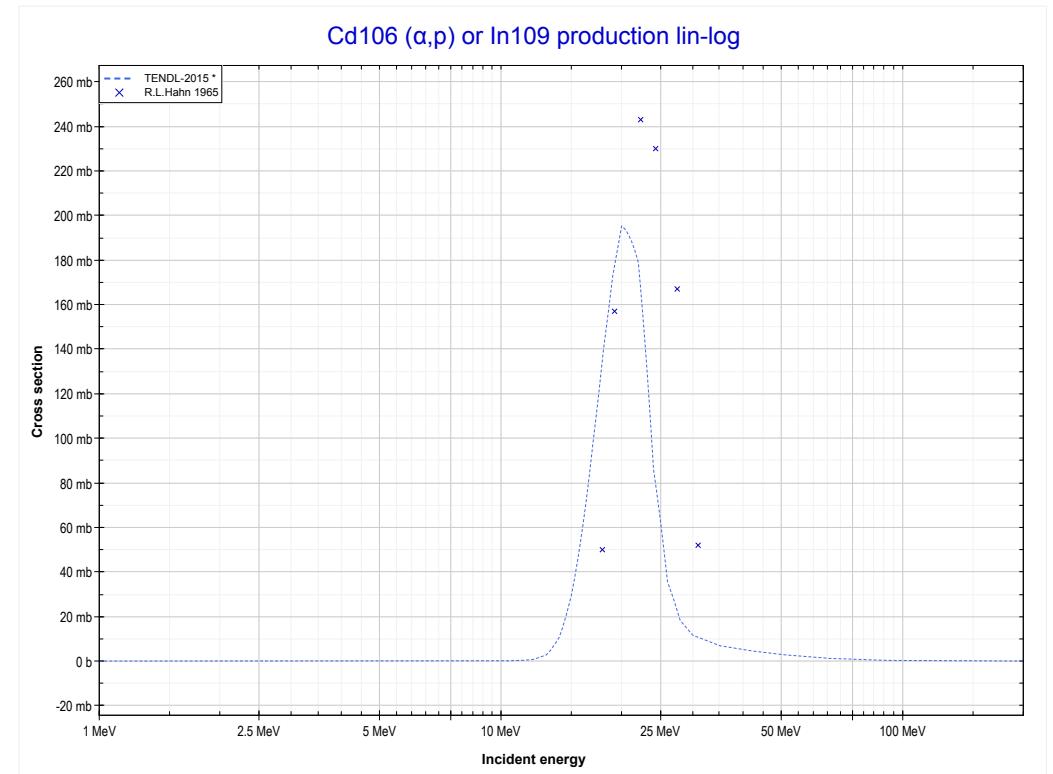
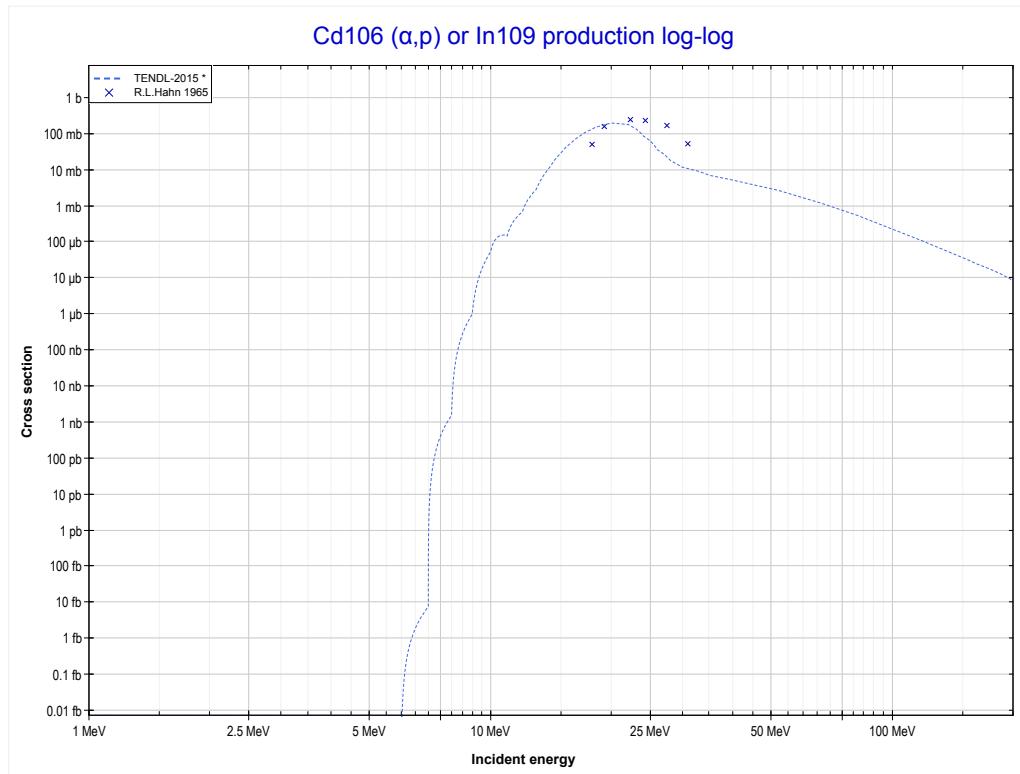
Reaction	Q-Value	Reaction	Q-Value
Cd106( $\alpha, n + 2\alpha$ )Pd101	-12197.23 keV	Cd106( $\alpha, p + d + 2t$ )Pd101	-49600.39 keV
Cd106( $\alpha, d + t + \alpha$ )Pd101	-29786.53 keV	Cd106( $\alpha, n + d + t + \text{He}3$ )Pd101	-50364.14 keV
Cd106( $\alpha, n + p + t + \alpha$ )Pd101	-32011.09 keV	Cd106( $\alpha, n + 2p + 2t$ )Pd101	-51824.95 keV
Cd106( $\alpha, 2n + \text{He}3 + \alpha$ )Pd101	-32774.85 keV	Cd106( $\alpha, 2n + p + t + \text{He}3$ )Pd101	-52588.71 keV
Cd106( $\alpha, n + 2d + \alpha$ )Pd101	-36043.76 keV	Cd106( $\alpha, 3n + 2\text{He}3$ )Pd101	-53352.47 keV
Cd106( $\alpha, 2n + p + d + \alpha$ )Pd101	-38268.33 keV	Cd106( $\alpha, 3d + t$ )Pd101	-53633.06 keV
Cd106( $\alpha, 3n + 2p + \alpha$ )Pd101	-40492.89 keV	Cd106( $\alpha, n + p + 2d + t$ )Pd101	-55857.62 keV
Cd106( $\alpha, 2t + \text{He}3$ )Pd101	-44106.91 keV	Cd106( $\alpha, 2n + 2d + \text{He}3$ )Pd101	-56621.38 keV

<< 47-Ag-107	48-Cd-106 MT102 ( $\alpha,\gamma$ ) or MT5 (Sn110 production)	50-Sn-112 >> MT103 ( $\alpha,p$ ) >>
<< MT29 ( $\alpha,n+2\alpha$ )		



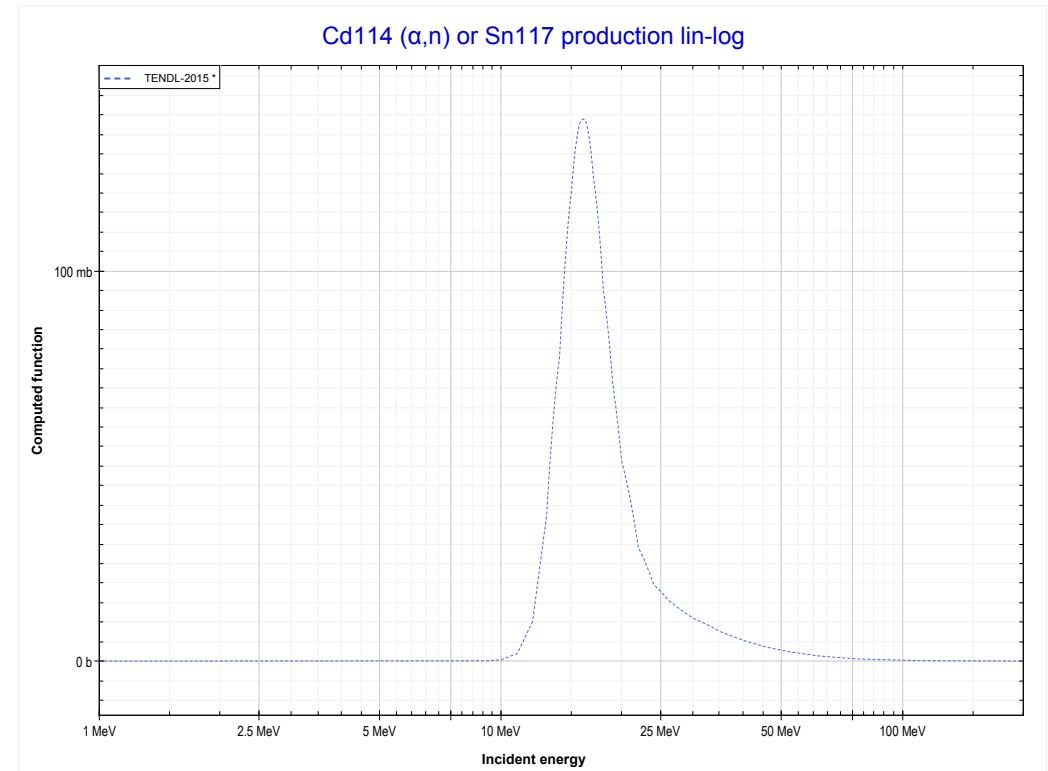
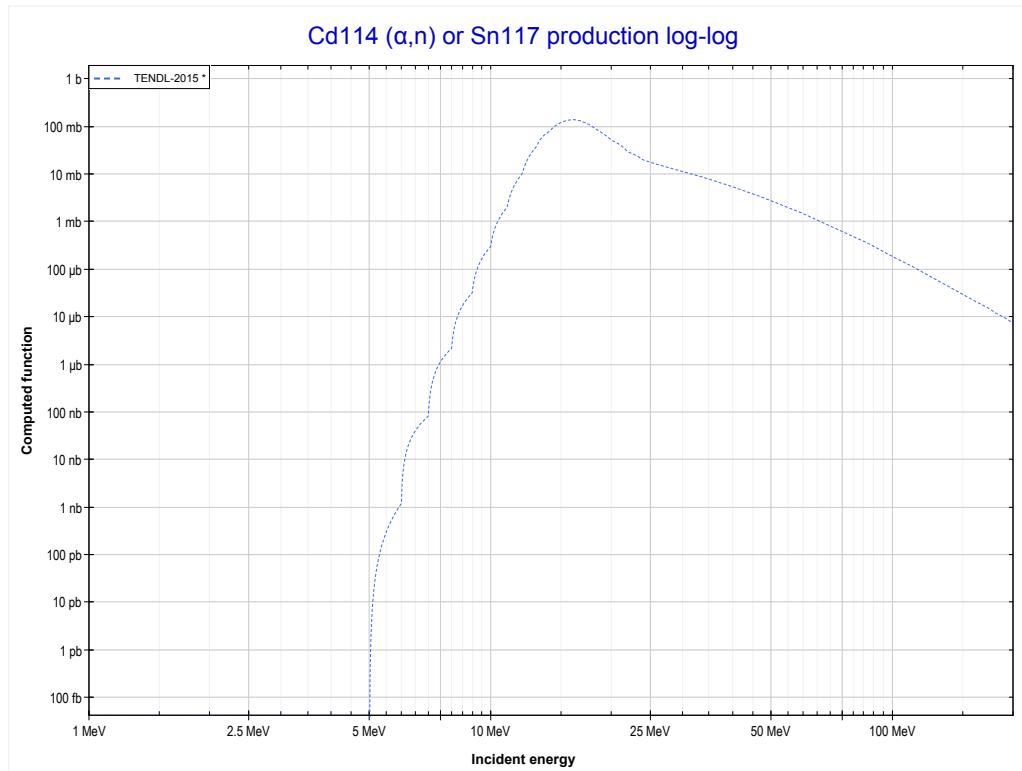
Reaction	Q-Value
Cd106( $\alpha,\gamma$ )Sn110	1134.92 keV

<< 42-Mo-100	<b>48-Cd-106</b> <b>MT103 (<math>\alpha,p</math>) or MT5 (In109 production)</b>	48-Cd-114 >>
<< MT102 ( $\alpha,\gamma$ )		48-Cd-114 MT4 ( $\alpha,n$ ) >>



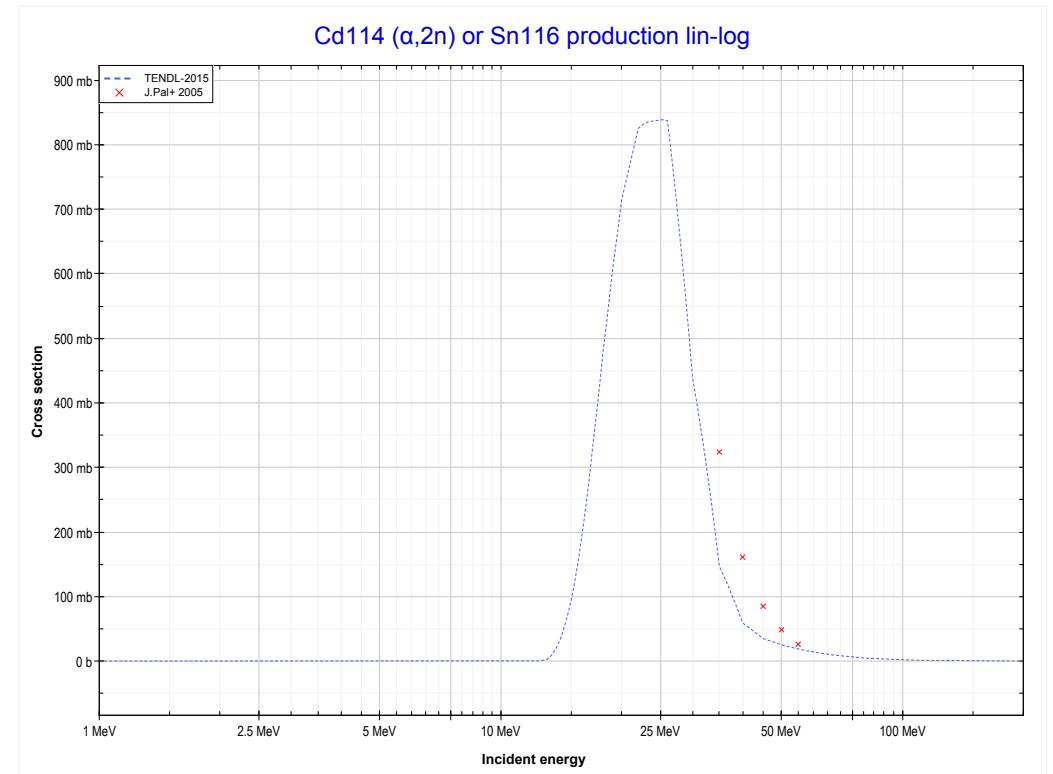
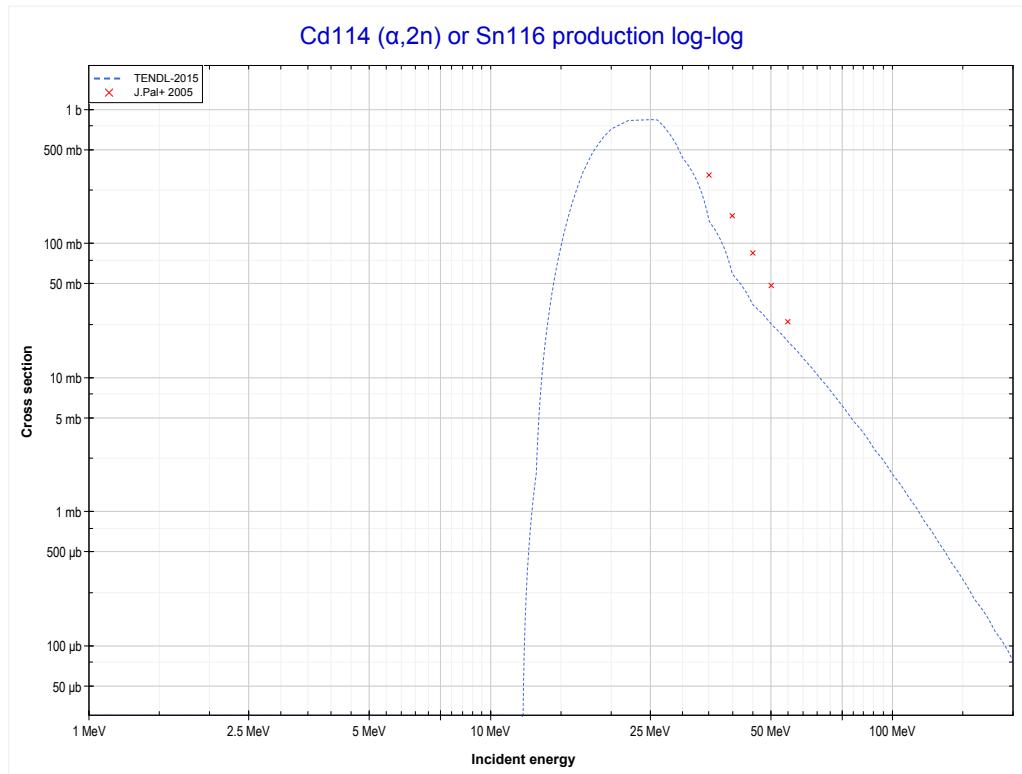
Reaction	Q-Value
Cd106( $\alpha,p$ )In109	-5508.05 keV

<< 48-Cd-106	<b>48-Cd-114</b> MT4 ( $\alpha, n$ ) or MT5 (Sn117 production)	48-Cd-116 >>
<< 48-Cd-106 MT103 ( $\alpha, p$ )		MT16 ( $\alpha, 2n$ ) >>



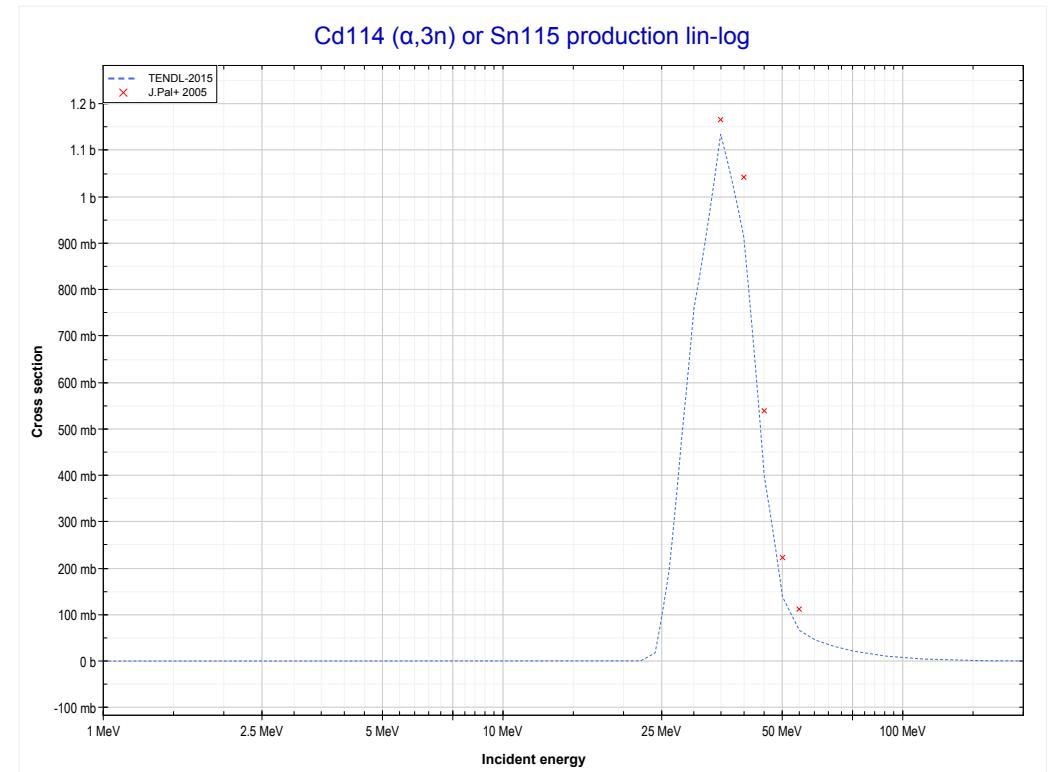
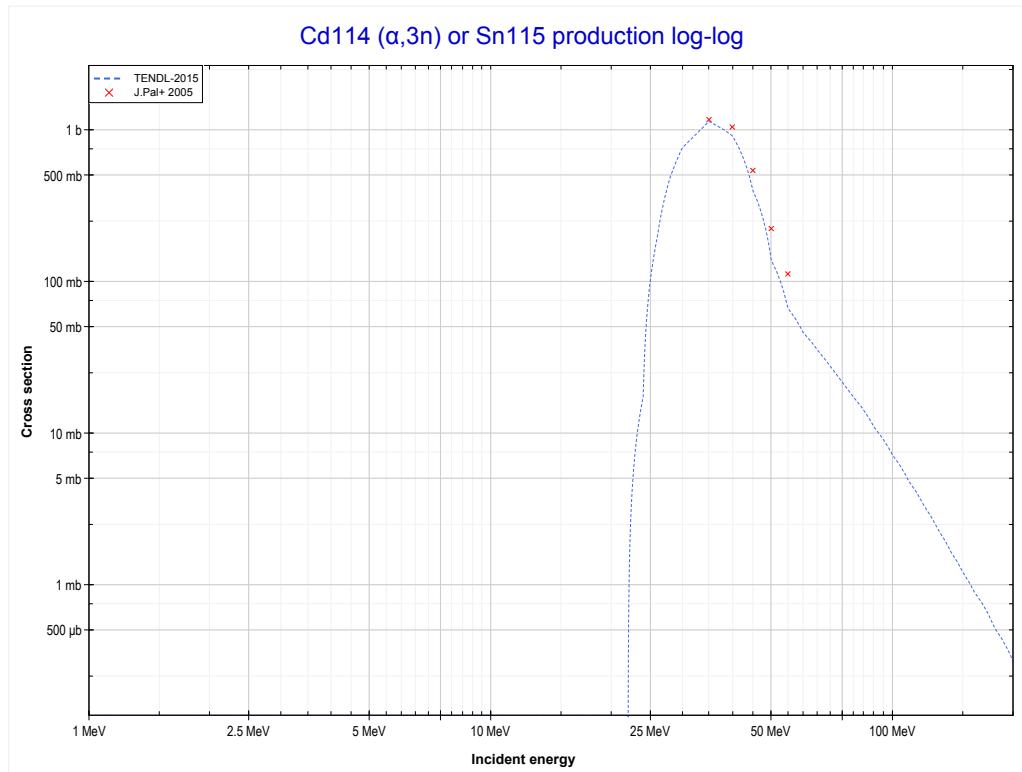
Reaction	Q-Value
Cd114( $\alpha, n$ )Sn117	-5263.40 keV

<< 48-Cd-106	<b>48-Cd-114</b> <b>MT16 (<math>\alpha,2n</math>) or MT5 (Sn116 production)</b>	49-In-113 >>
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



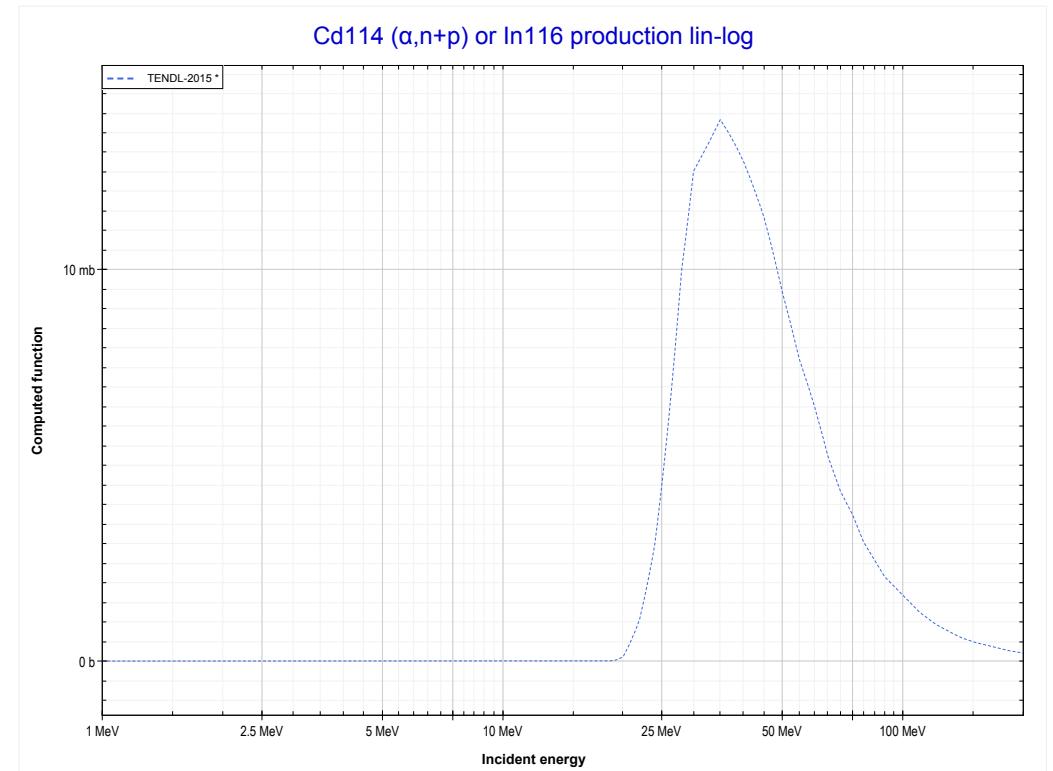
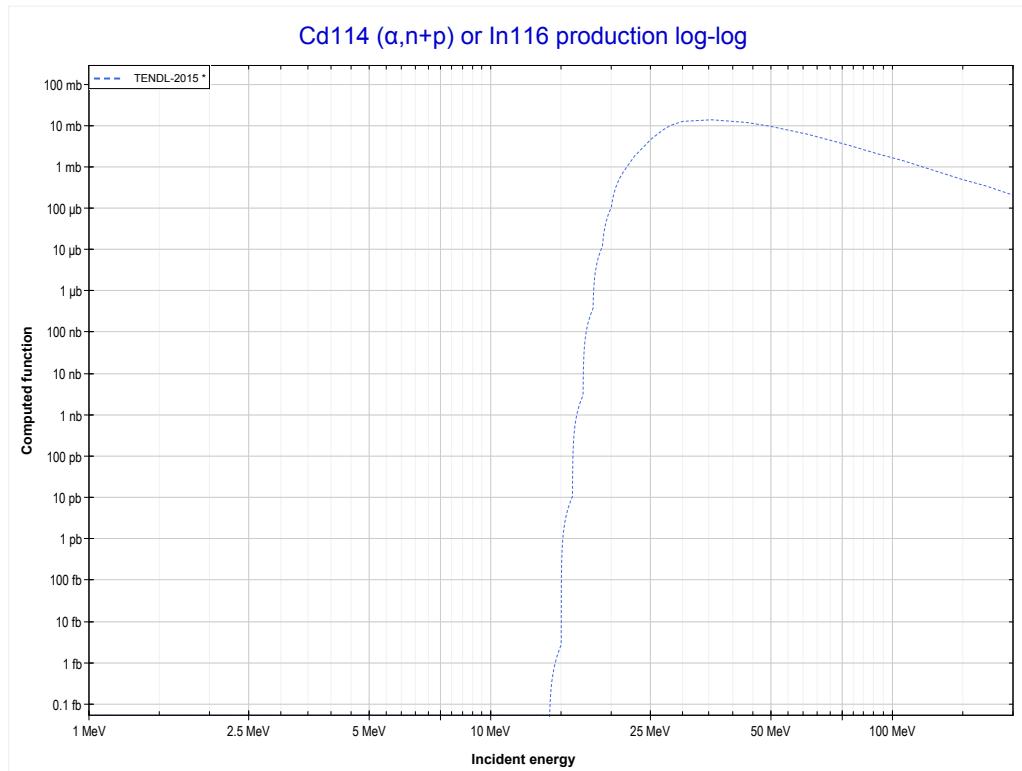
Reaction	Q-Value
Cd114( $\alpha,2n$ )Sn116	-12206.53 keV

<< 47-Ag-109	<b>48-Cd-114</b> MT17 ( $\alpha,3n$ ) or MT5 (Sn115 production)	48-Cd-116 >>
<< MT16 ( $\alpha,2n$ )		MT28 ( $\alpha,n+p$ ) >>



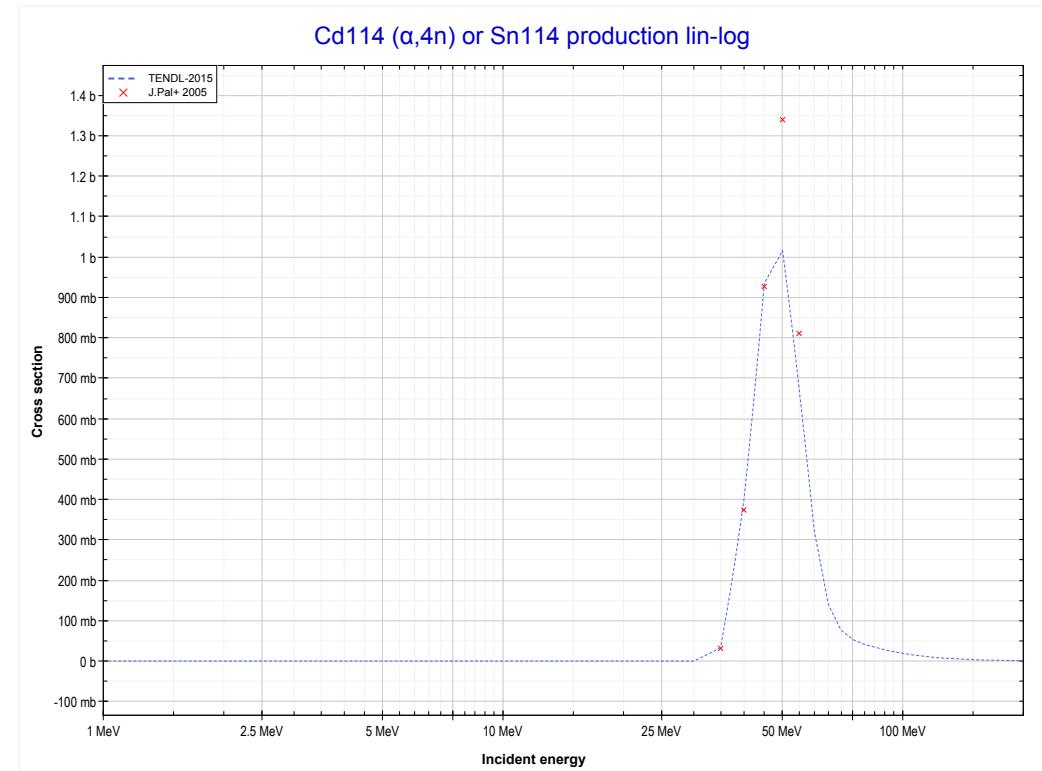
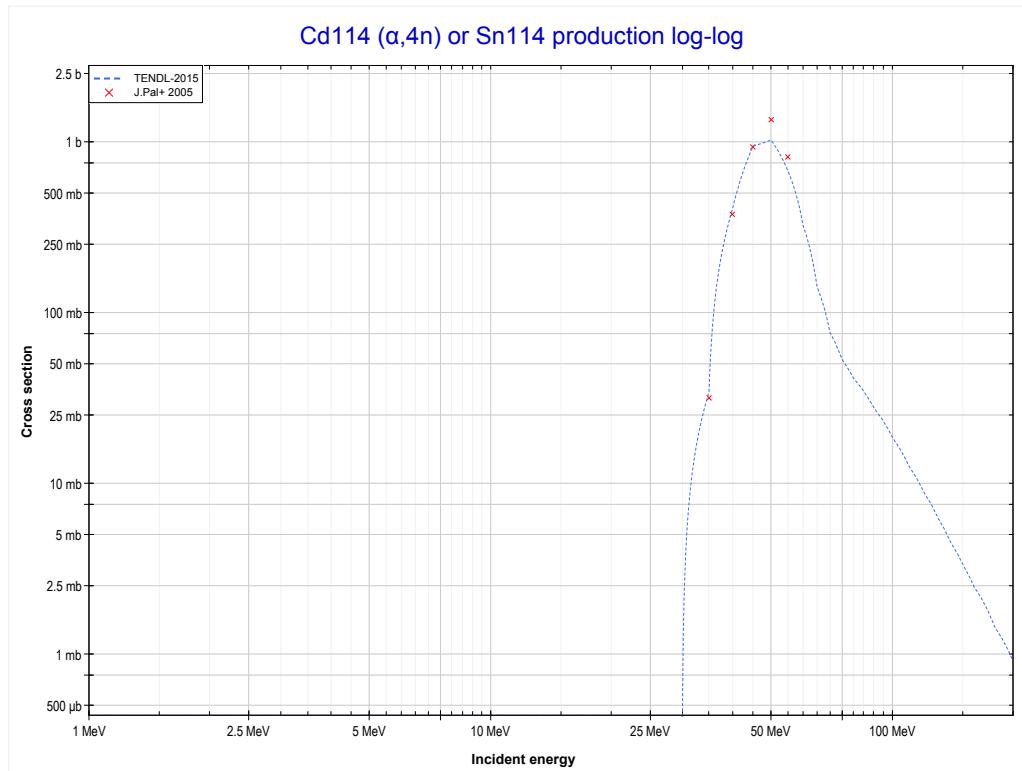
Reaction	Q-Value
Cd114( $\alpha,3n$ )Sn115	-21770.00 keV

<< 47-Ag-107	48-Cd-114 MT28 ( $\alpha, n+p$ ) or MT5 (In116 production)	50-Sn-124 >> MT37 ( $\alpha, 4n$ ) >>
<< MT17 ( $\alpha, 3n$ )		



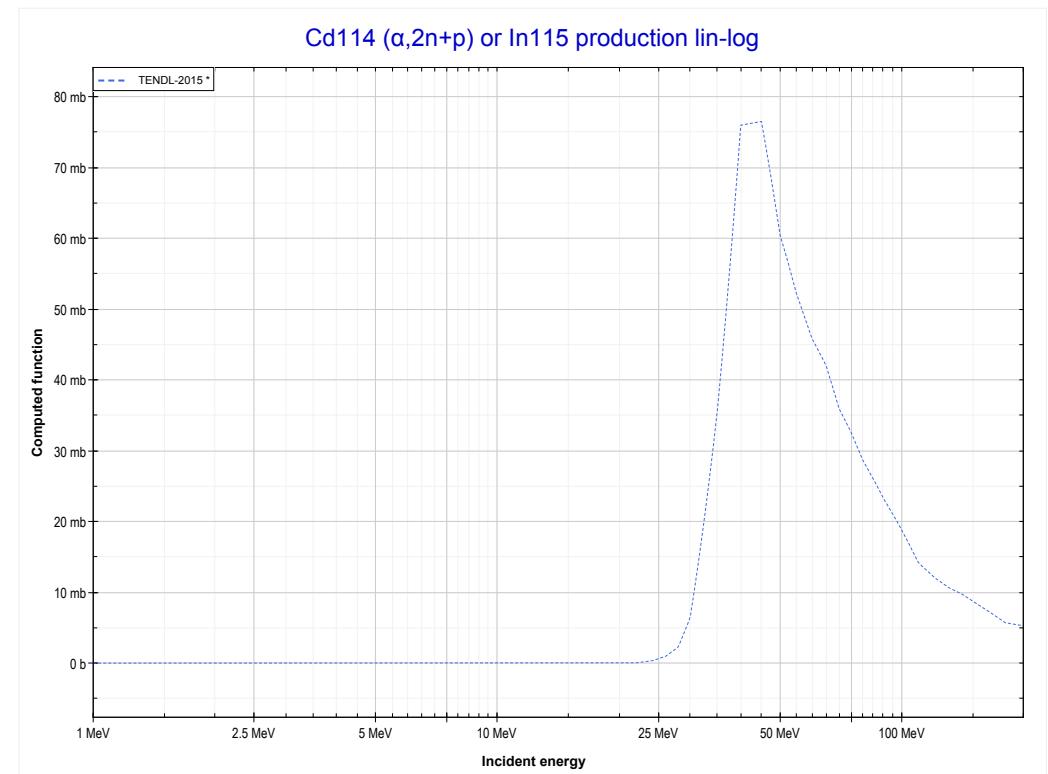
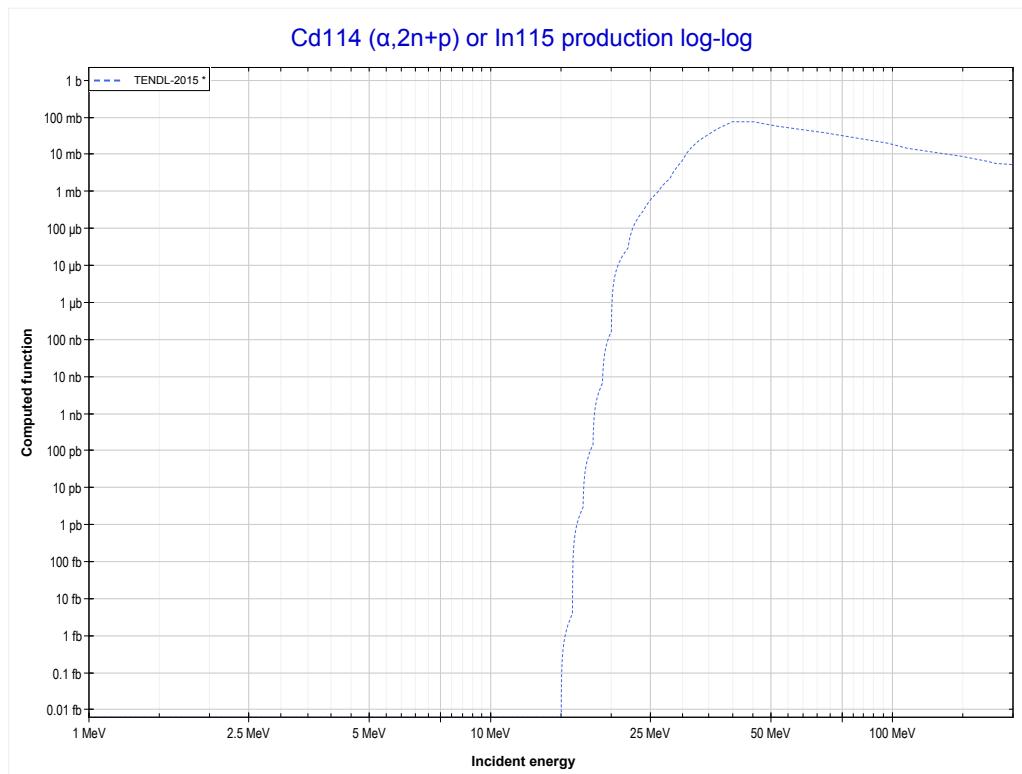
Reaction	Q-Value
Cd114( $\alpha, d$ )In116	-12475.86 keV
Cd114( $\alpha, n+p$ )In116	-14700.42 keV

<< 47-Ag-109	48-Cd-114 MT37 ( $\alpha,4n$ ) or MT5 (Sn114 production)	49-In-115 >> MT41 ( $\alpha,2n+p$ ) >>
<< MT28 ( $\alpha,n+p$ )		



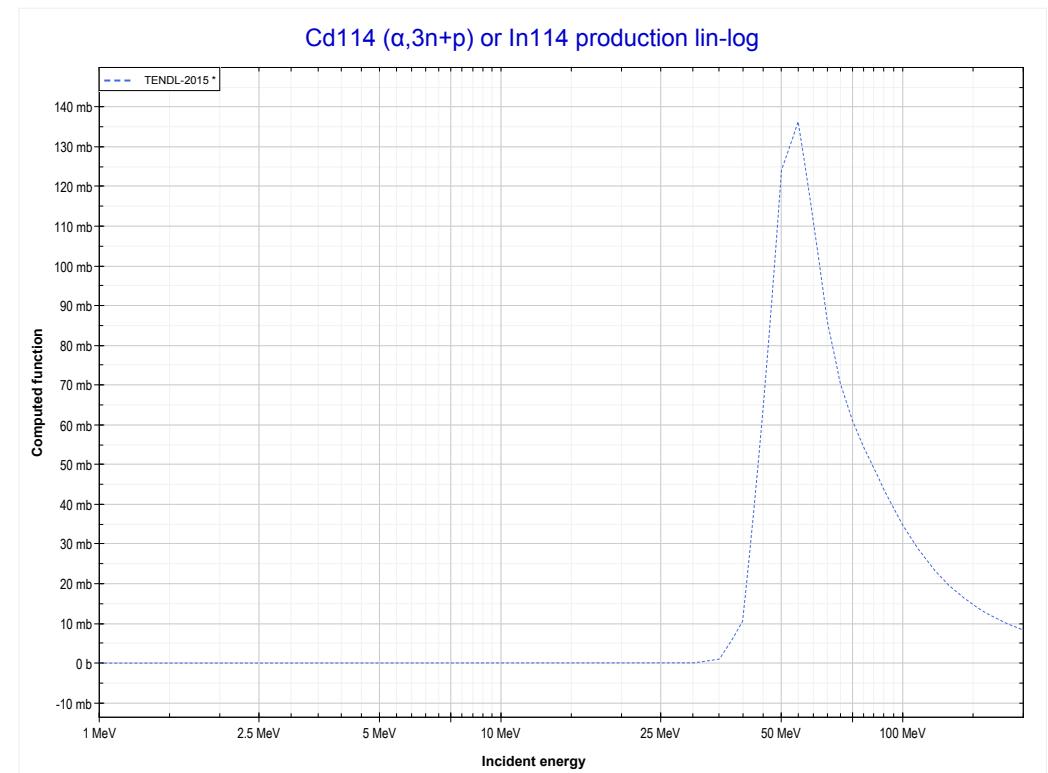
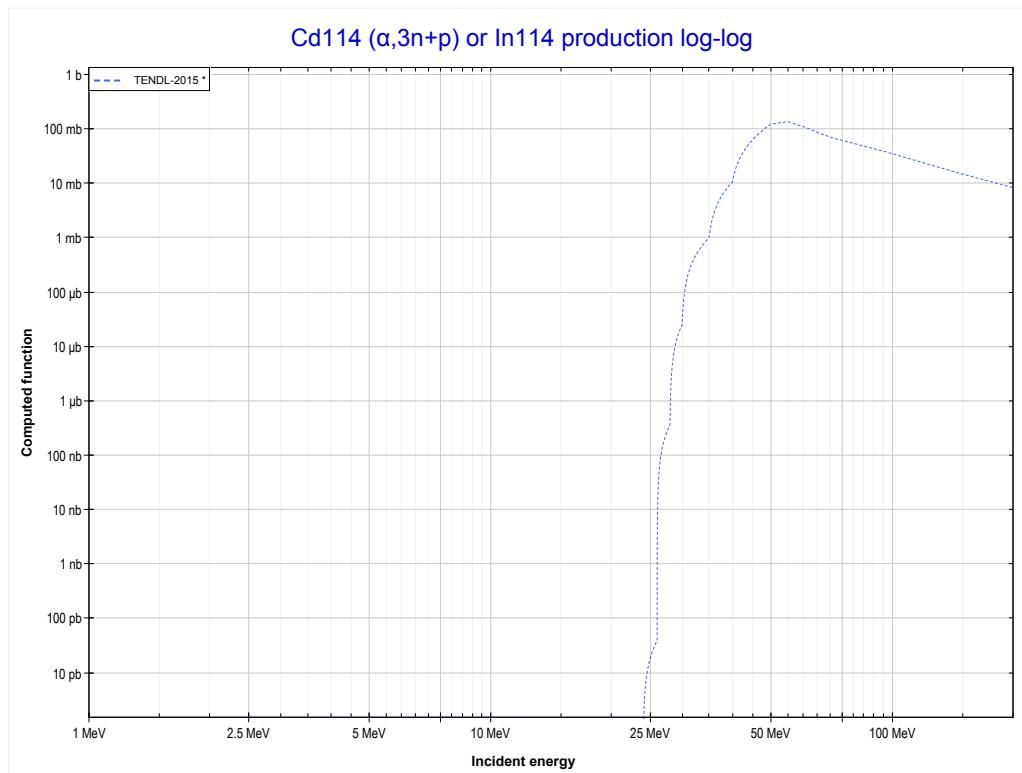
Reaction	Q-Value
Cd114( $\alpha,4n$ )Sn114	-29317.85 keV

<< 30-Zn-64	<b>48-Cd-114</b> <b>MT41 (<math>\alpha,2n+p</math>) or MT5 (In115 production)</b>	48-Cd-116 >>
<< MT37 ( $\alpha,4n$ )		MT42 ( $\alpha,3n+p$ ) >>



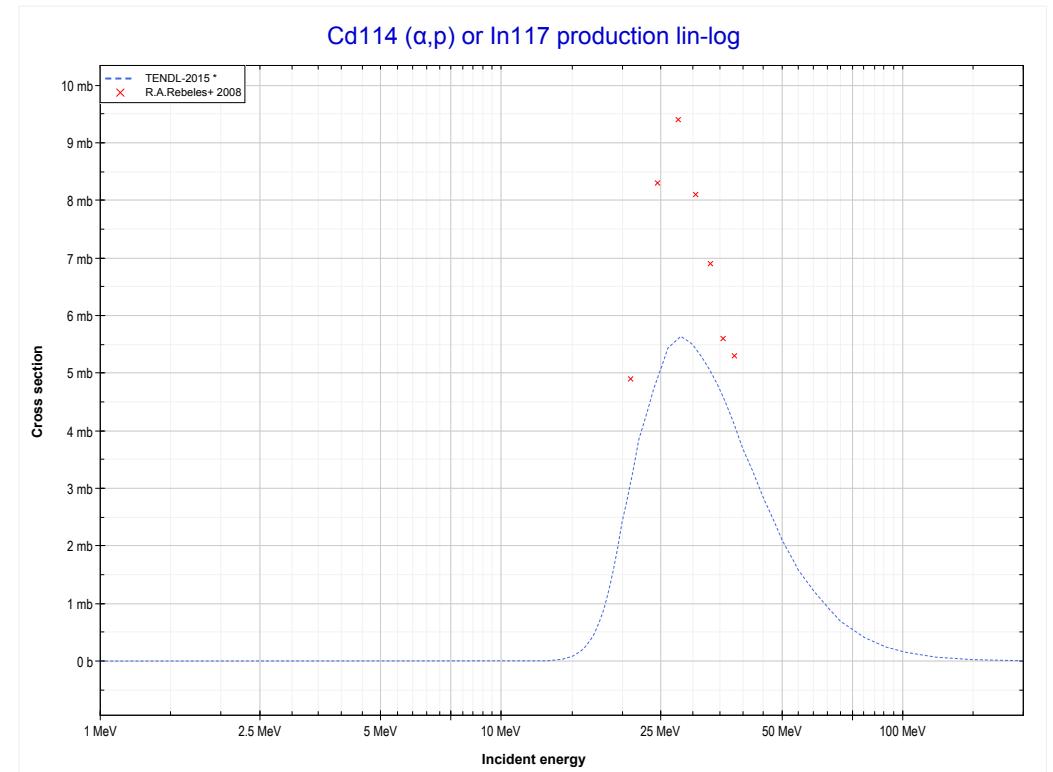
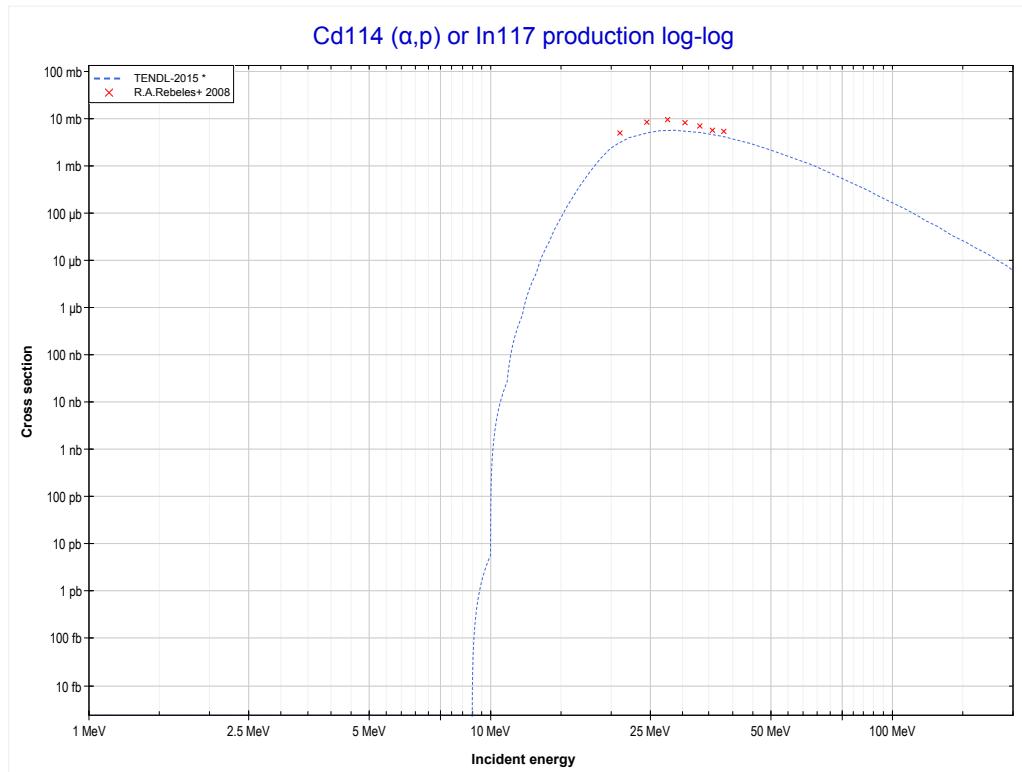
Reaction	Q-Value
Cd114( $\alpha,t$ )In115	-13003.35 keV
Cd114( $\alpha,n+d$ )In115	-19260.58 keV
Cd114( $\alpha,2n+p$ )In115	-21485.15 keV

<< 41-Nb-93	<b>48-Cd-114</b> <b>MT42 (<math>\alpha,3n+p</math>) or MT5 (In114 production)</b>	48-Cd-116 >>
<< MT41 ( $\alpha,2n+p$ )		MT103 ( $\alpha,p$ ) >>



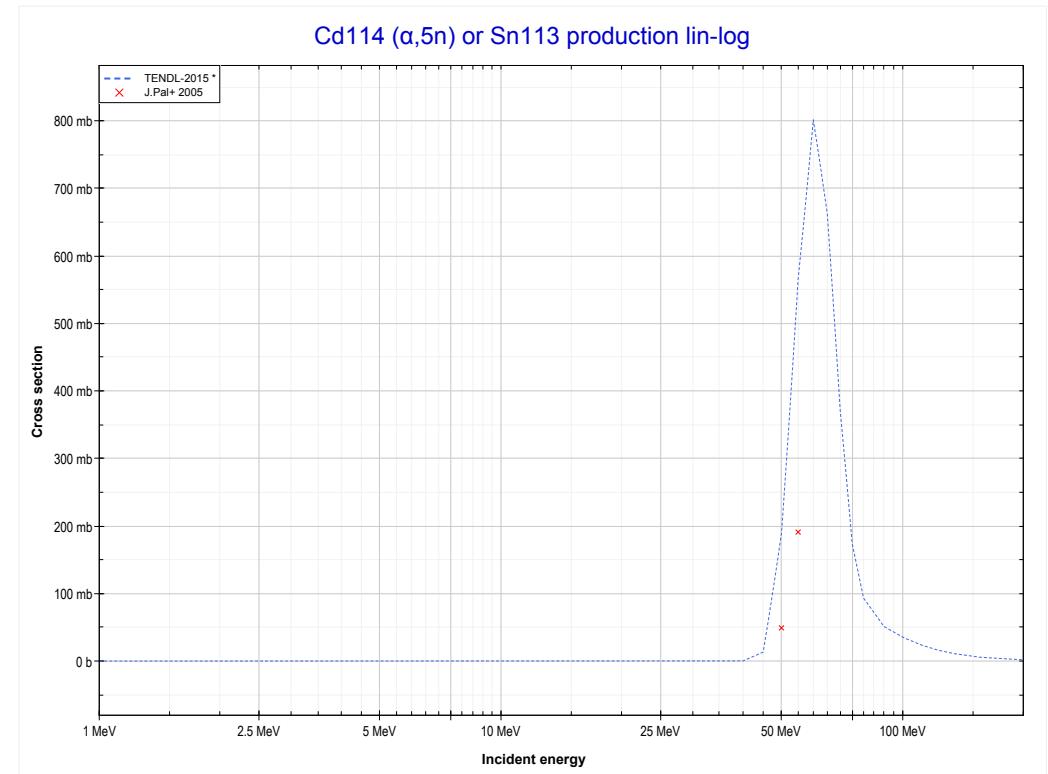
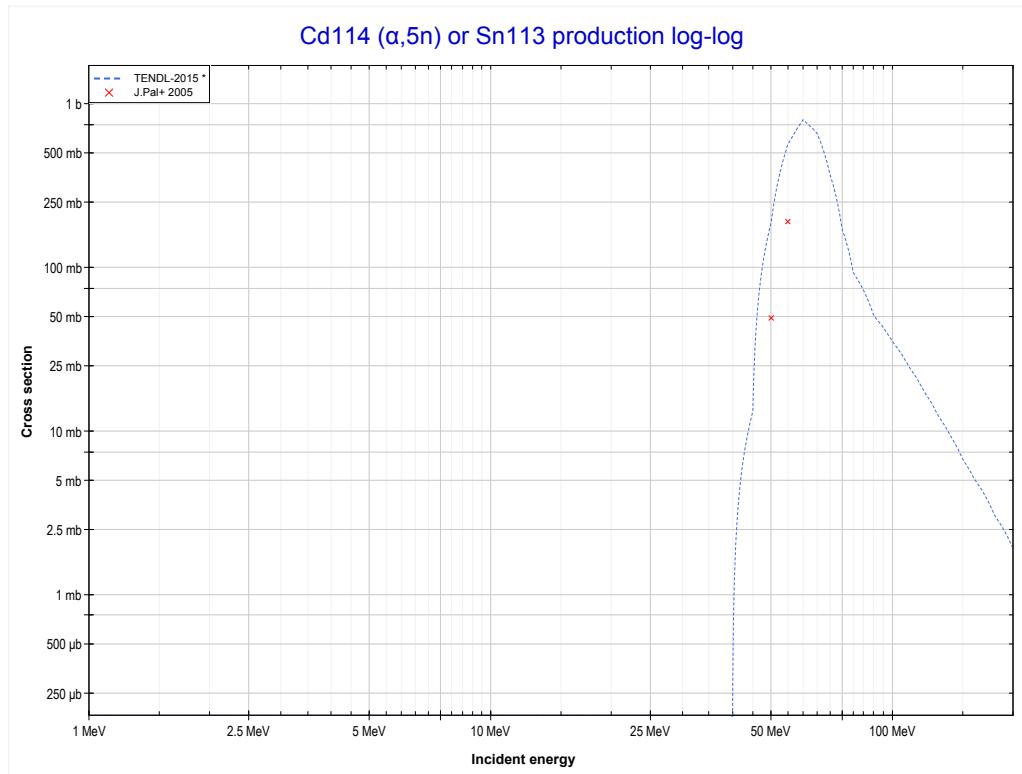
Reaction	Q-Value
Cd114( $\alpha,n+t$ )In114	-22042.61 keV
Cd114( $\alpha,2n+d$ )In114	-28299.84 keV
Cd114( $\alpha,3n+p$ )In114	-30524.41 keV

<< 48-Cd-106	<b>48-Cd-114</b> MT103 ( $\alpha, p$ ) or MT5 (In117 production)	50-Sn-112 >>
<< MT42 ( $\alpha, 3n+p$ )		MT152 ( $\alpha, 5n$ ) >>



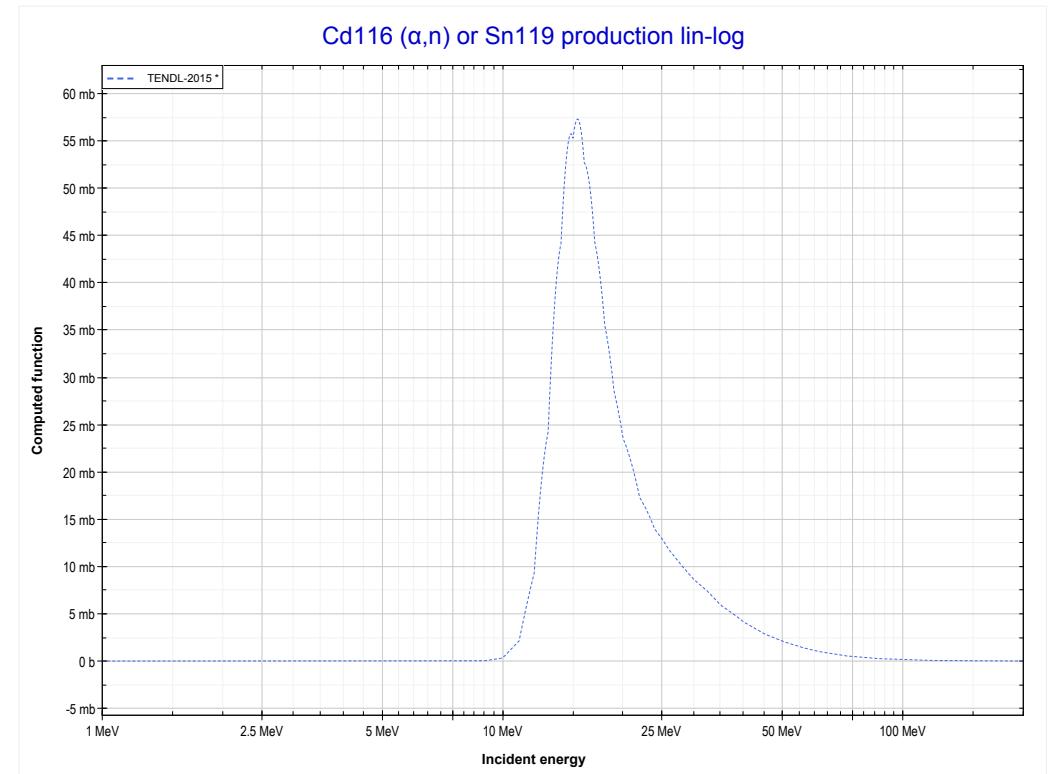
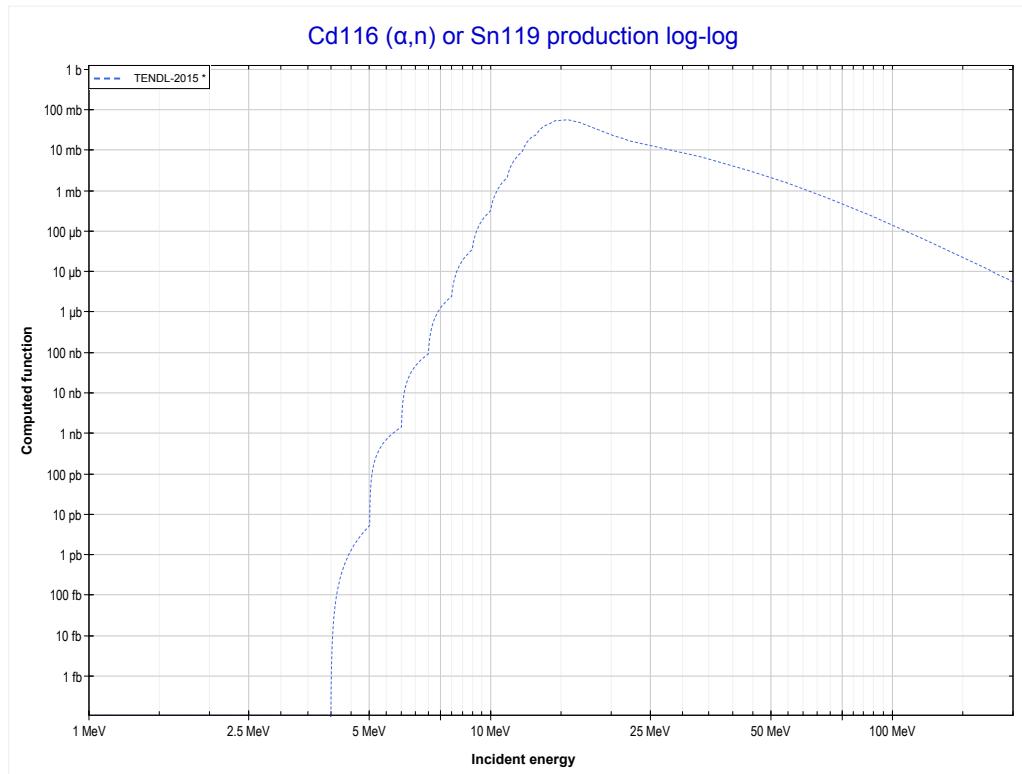
Reaction	Q-Value
Cd114( $\alpha, p$ )In117	-5935.85 keV

<< 47-Ag-109	48-Cd-114 MT152 ( $\alpha,5n$ ) or MT5 (Sn113 production)	65-Tb-159 >>
<< MT103 ( $\alpha,p$ )		48-Cd-116 MT4 ( $\alpha,n$ ) >>



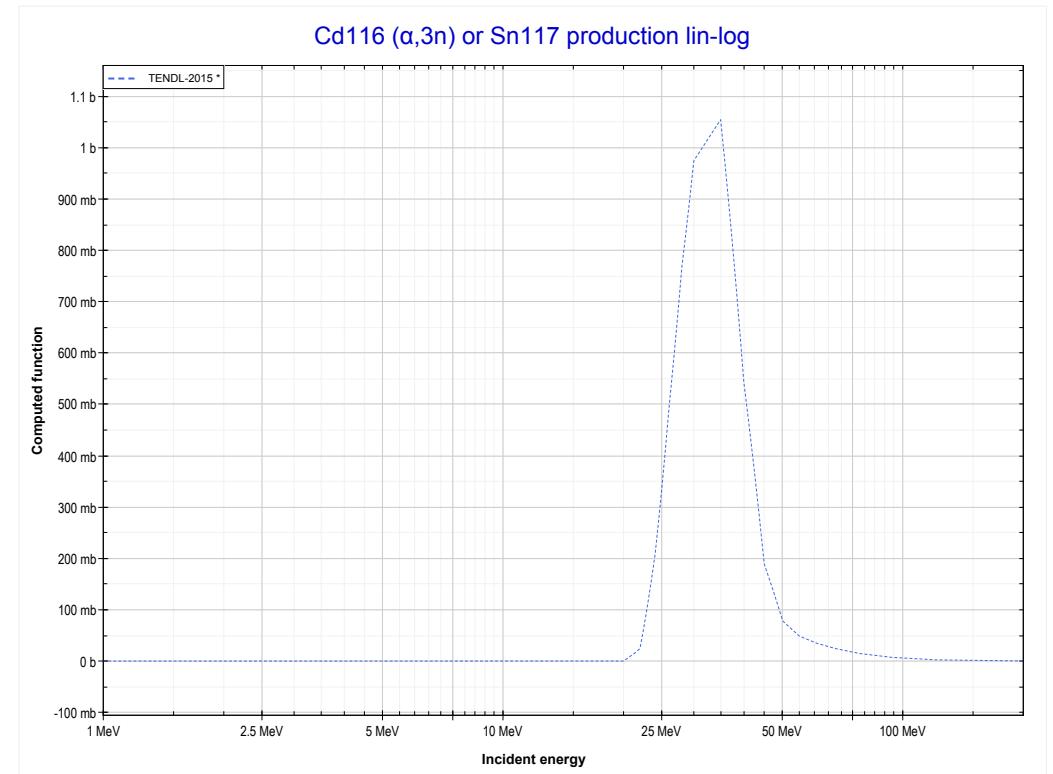
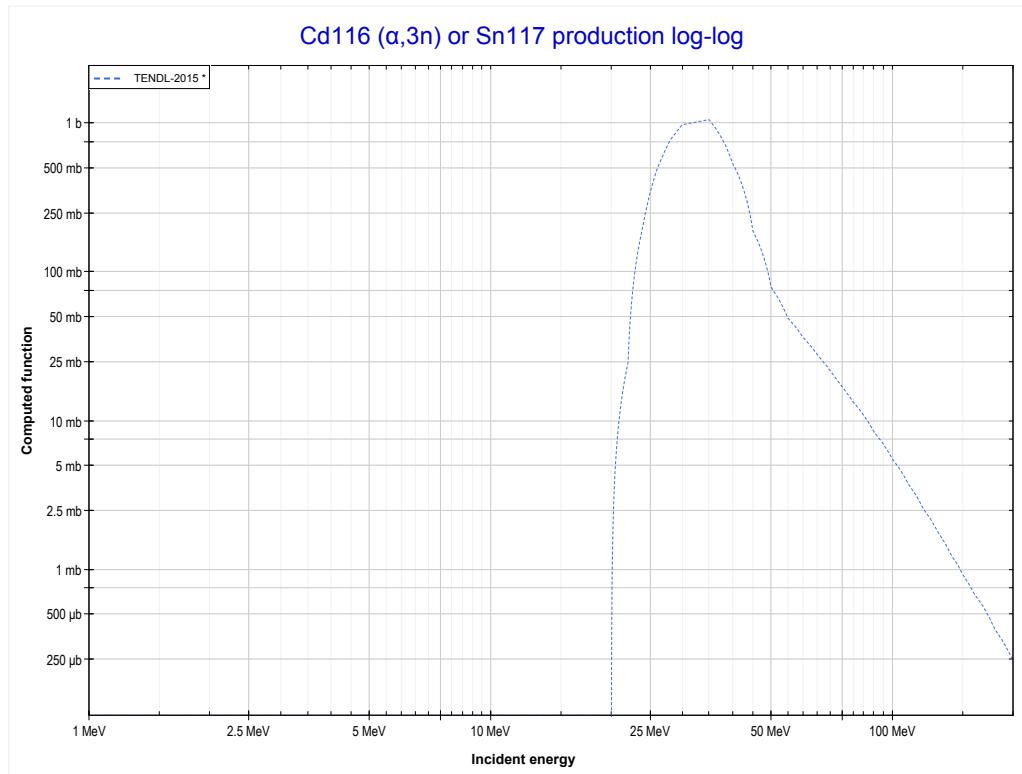
Reaction	Q-Value
Cd114( $\alpha,5n$ )Sn113	-39618.27 keV

<< 48-Cd-114	<b>48-Cd-116</b> MT4 ( $\alpha, n$ ) or MT5 (Sn119 production)	>> 49-In-113
<< 48-Cd-114 MT152 ( $\alpha, 5n$ )		MT17 ( $\alpha, 3n$ ) >>



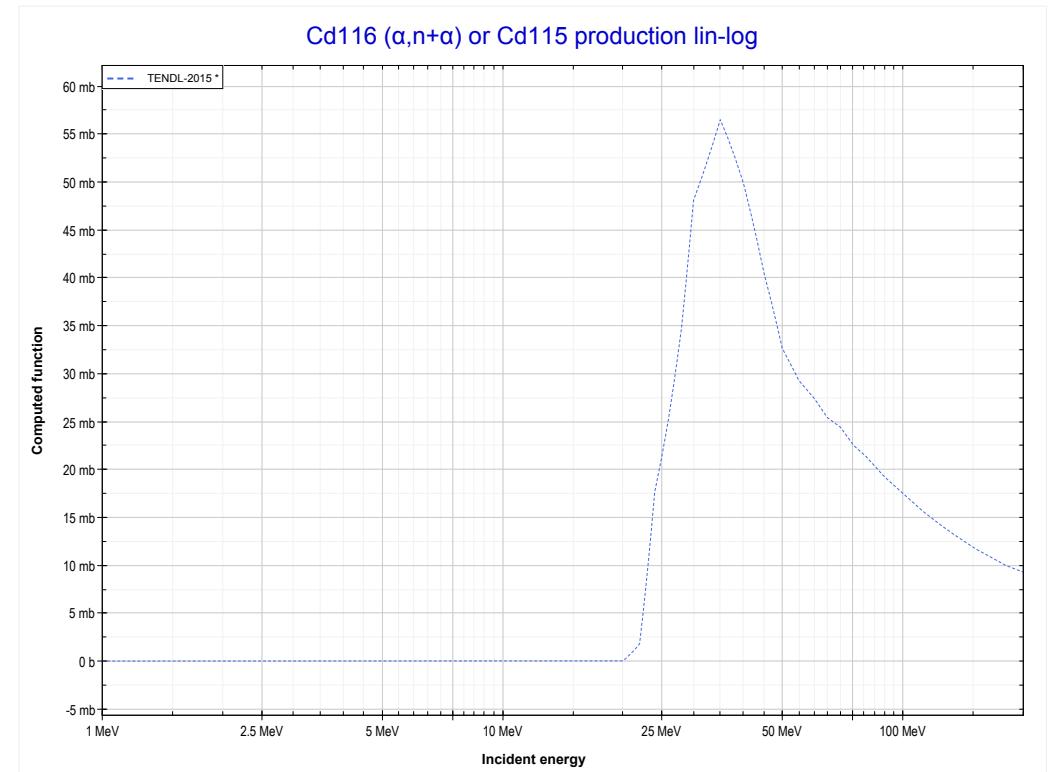
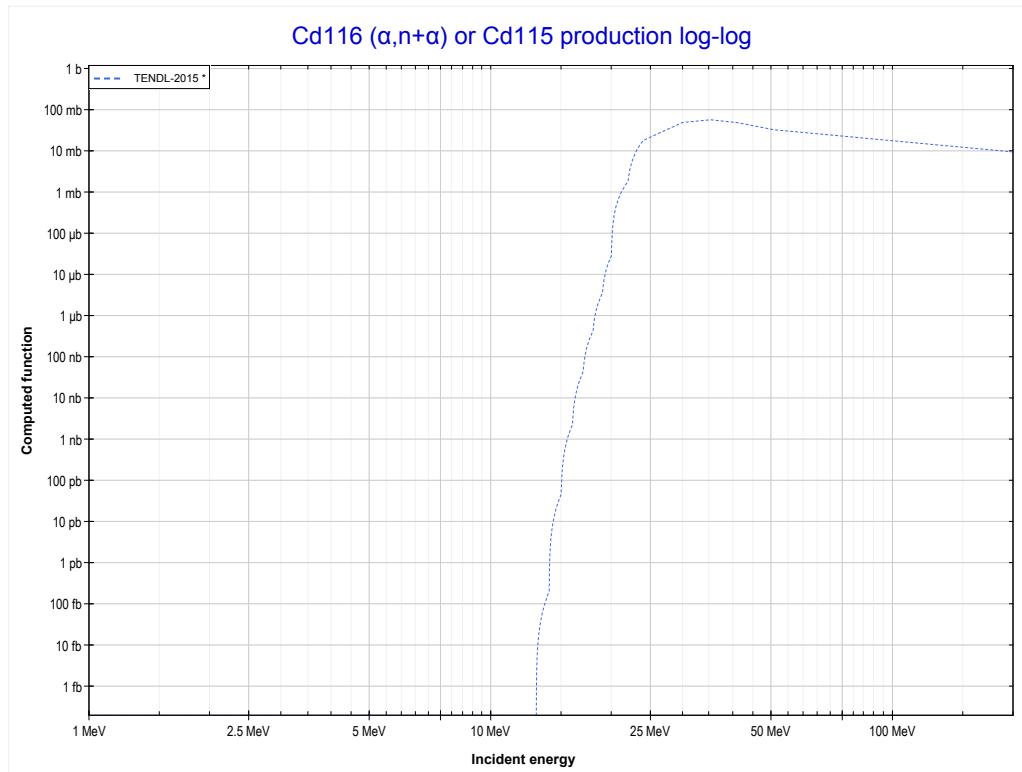
Reaction	Q-Value
Cd116( $\alpha, n$ )Sn119	-4293.86 keV

<< 48-Cd-114	<b>48-Cd-116</b> MT17 ( $\alpha,3n$ ) or MT5 (Sn117 production)	50-Sn-117 >>
<< MT4 ( $\alpha,n$ )		MT22 ( $\alpha,n+\alpha$ ) >>



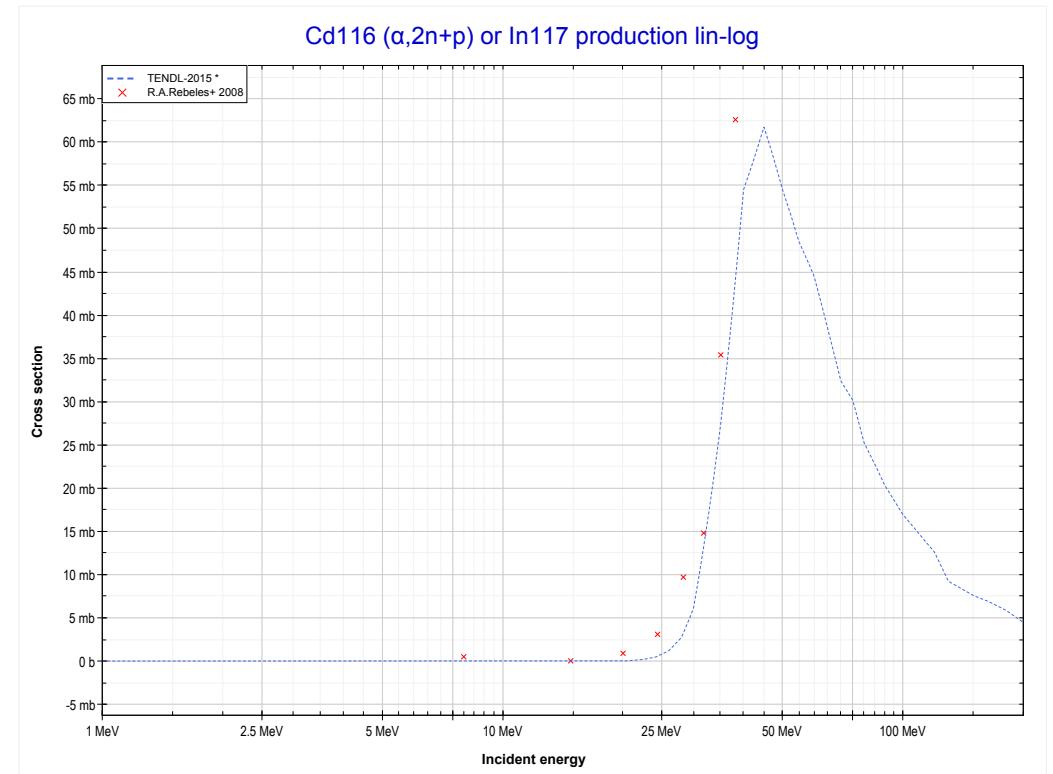
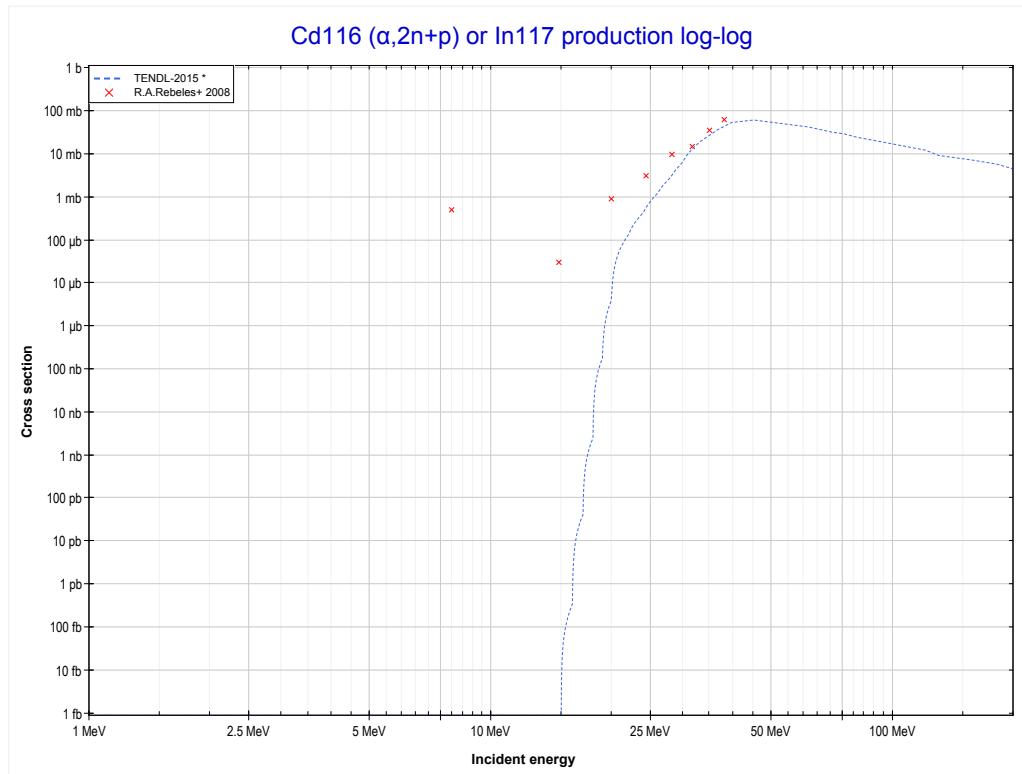
Reaction	Q-Value
Cd116( $\alpha,3n$ )Sn117	-20103.80 keV

<< 48-Cd-106	<b>48-Cd-116</b> <b>MT22 (<math>\alpha, n+\alpha</math>) or MT5 (Cd115 production)</b>	50-Sn-124 >>
<< MT17 ( $\alpha, 3n$ )		MT41 ( $\alpha, 2n+p$ ) >>



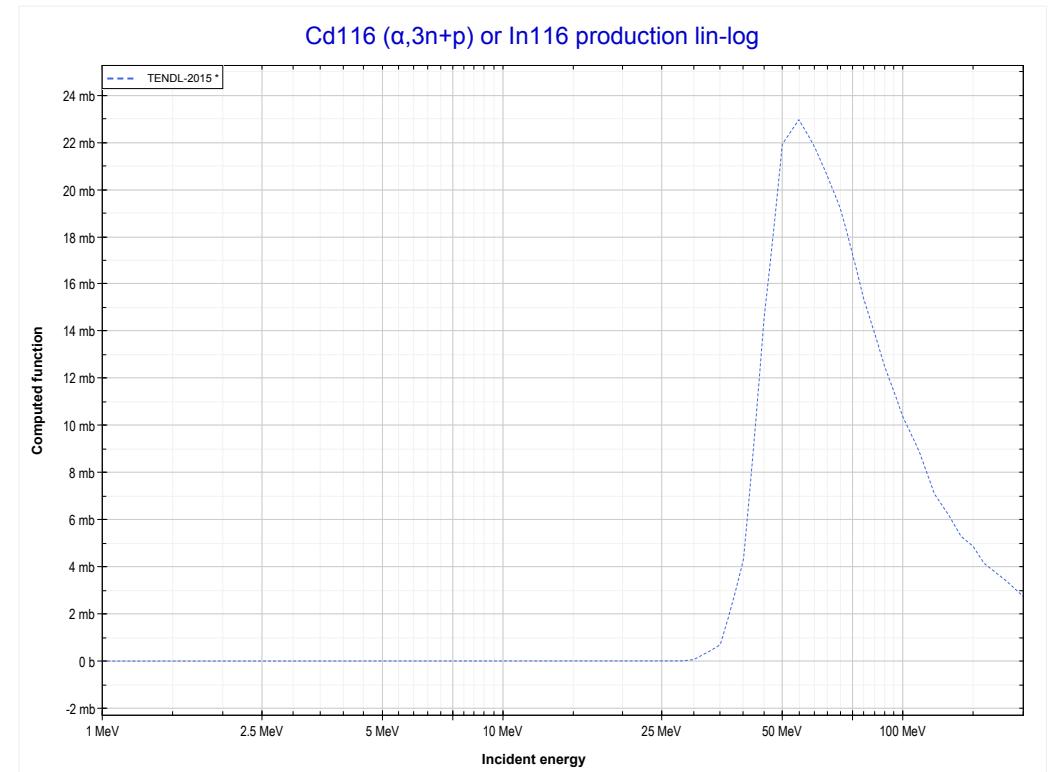
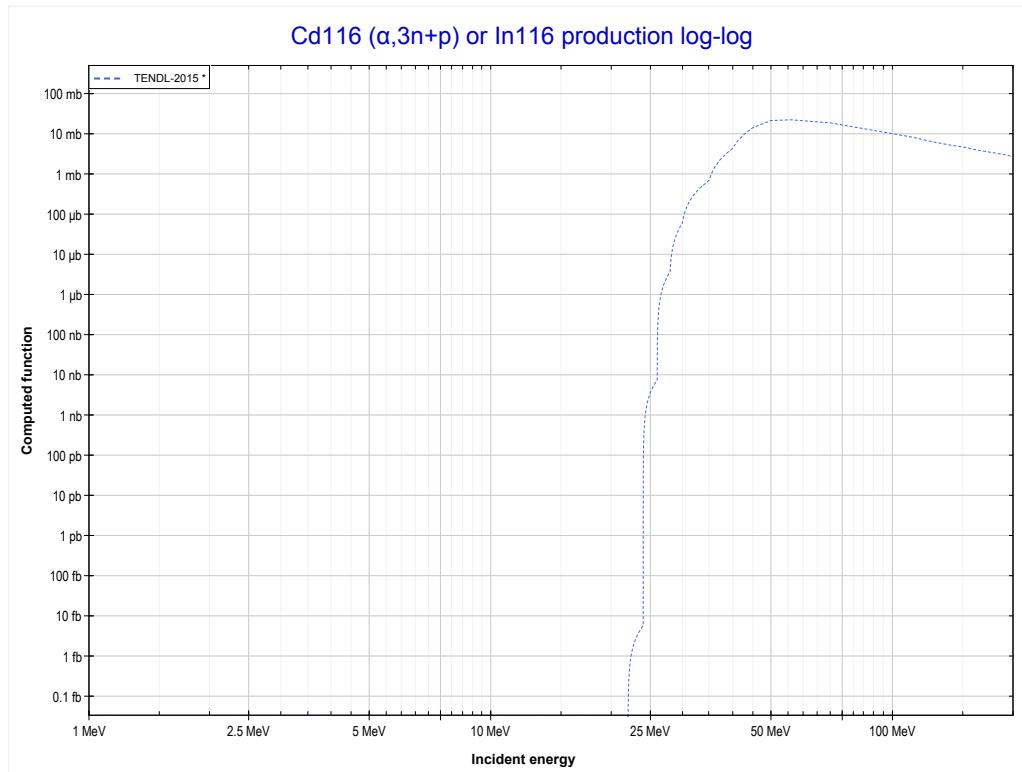
Reaction	Q-Value
Cd116( $\alpha, n+\alpha$ )Cd115	-8699.48 keV
Cd116( $\alpha, d+t$ )Cd115	-26288.77 keV
Cd116( $\alpha, n+p+t$ )Cd115	-28513.34 keV
Cd116( $\alpha, 2n+He3$ )Cd115	-29277.09 keV
Cd116( $\alpha, n+2d$ )Cd115	-32546.00 keV
Cd116( $\alpha, 2n+p+d$ )Cd115	-34770.57 keV
Cd116( $\alpha, 3n+2p$ )Cd115	-36995.14 keV

<< 48-Cd-114	<b>48-Cd-116</b> MT41 ( $\alpha, 2n+p$ ) or MT5 (In117 production)	>> 68-Er-167
<< MT22 ( $\alpha, n+\alpha$ )		>> MT42 ( $\alpha, 3n+p$ ) >>



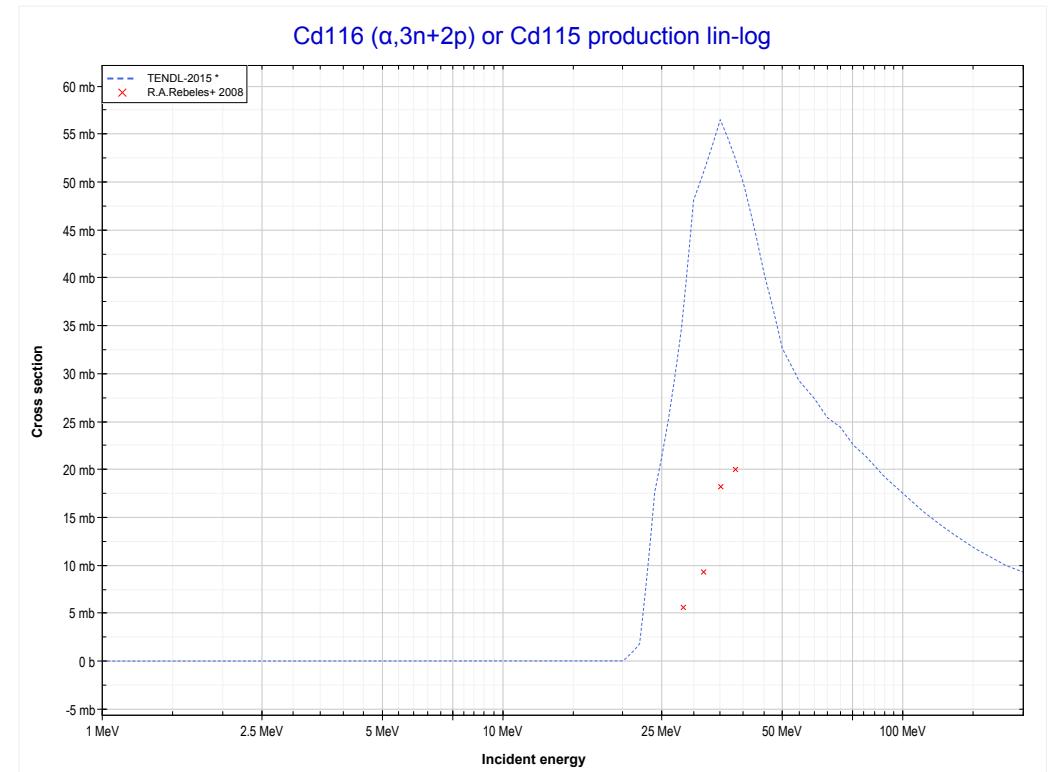
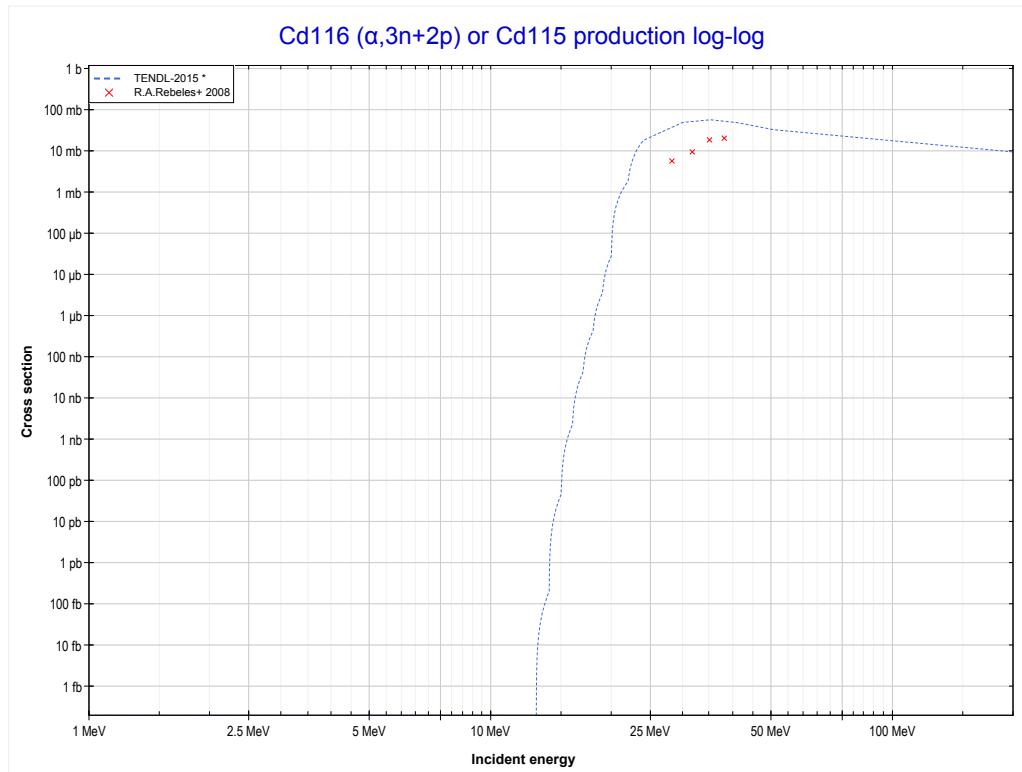
Reaction	Q-Value
Cd116( $\alpha, t$ )In117	-12294.45 keV
Cd116( $\alpha, n+d$ )In117	-18551.68 keV
Cd116( $\alpha, 2n+p$ )In117	-20776.25 keV

<< 48-Cd-114	<b>48-Cd-116</b> MT42 ( $\alpha,3n+p$ ) or MT5 (In116 production)	51-Sb-121 >>
<< MT41 ( $\alpha,2n+p$ )		MT179 ( $\alpha,3n+2p$ ) >>



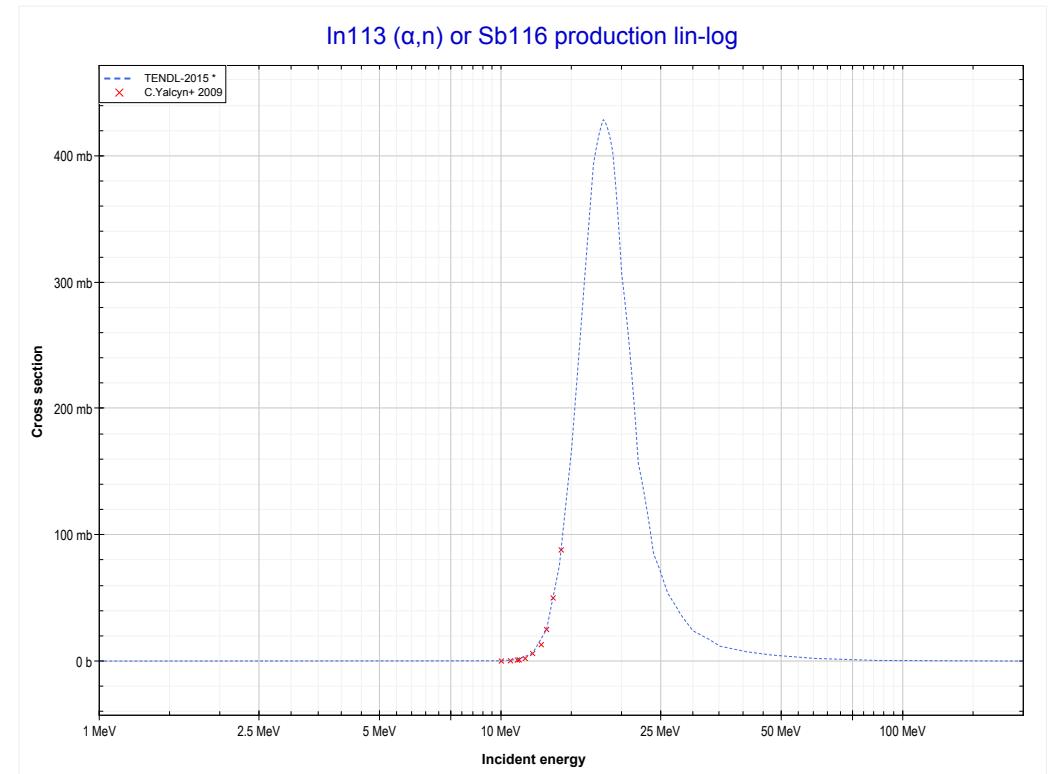
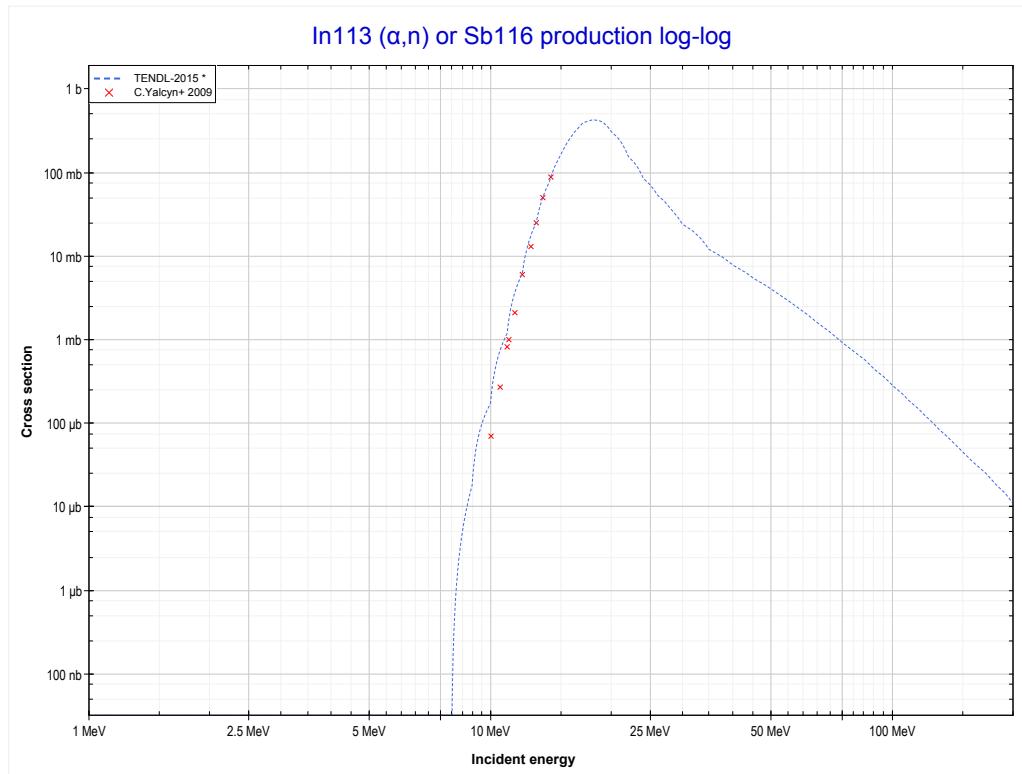
Reaction	Q-Value
Cd116( $\alpha,n+t$ )In116	-21059.02 keV
Cd116( $\alpha,2n+d$ )In116	-27316.25 keV
Cd116( $\alpha,3n+p$ )In116	-29540.82 keV

<< 27-Co-59	<b>48-Cd-116</b> MT179 ( $\alpha, 3n+2p$ ) or MT5 (Cd115 production)	49-In-113 MT4 ( $\alpha, n$ ) >>
<< MT42 ( $\alpha, 3n+p$ )		



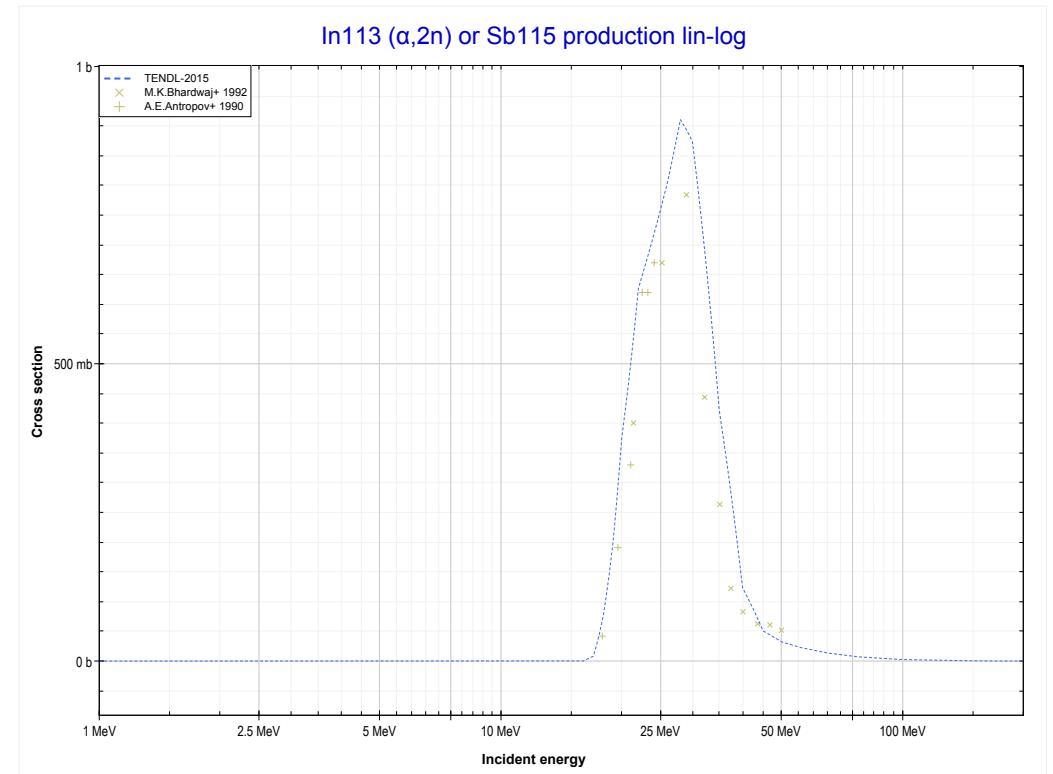
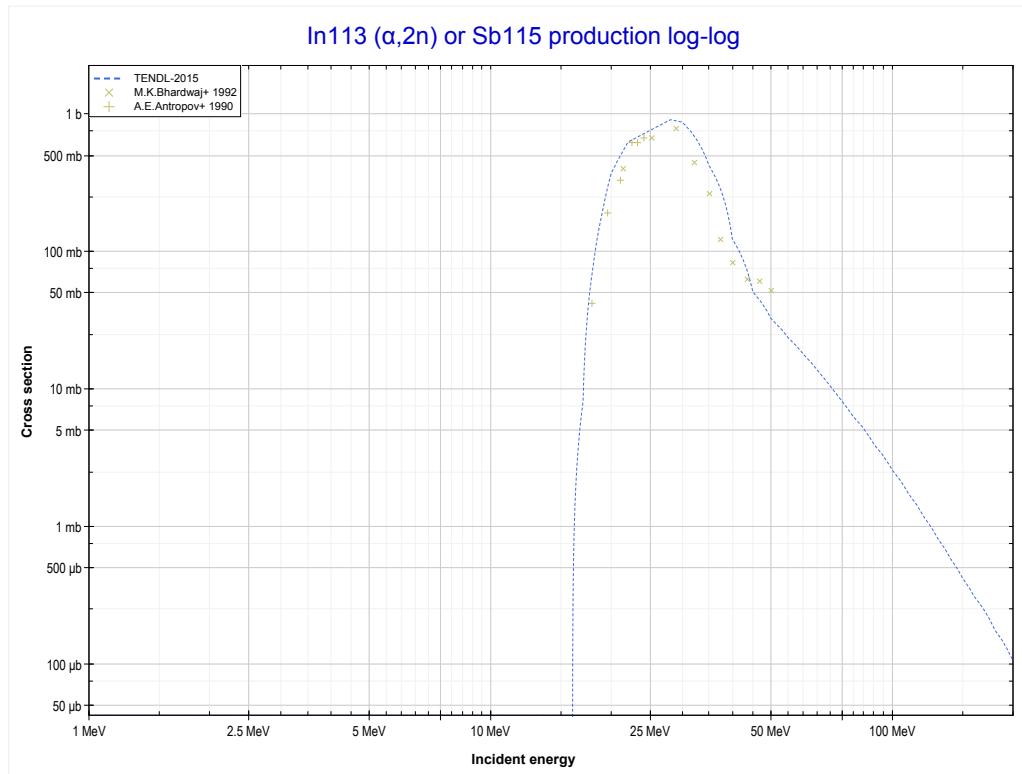
Reaction	Q-Value
Cd116( $\alpha, n+\alpha$ )Cd115	-8699.48 keV
Cd116( $\alpha, d+t$ )Cd115	-26288.77 keV
Cd116( $\alpha, n+p+t$ )Cd115	-28513.34 keV
Cd116( $\alpha, 2n+He3$ )Cd115	-29277.09 keV
Cd116( $\alpha, n+2d$ )Cd115	-32546.00 keV
Cd116( $\alpha, 2n+p+d$ )Cd115	-34770.57 keV
Cd116( $\alpha, 3n+2p$ )Cd115	-36995.14 keV

<< 48-Cd-116	<b>49-In-113</b>	49-In-115 >>
<< 48-Cd-116 MT179 ( $\alpha, 3n+2p$ )	<b>MT4 (<math>\alpha, n</math>) or MT5 (Sb116 production)</b>	MT16 ( $\alpha, 2n$ ) >>



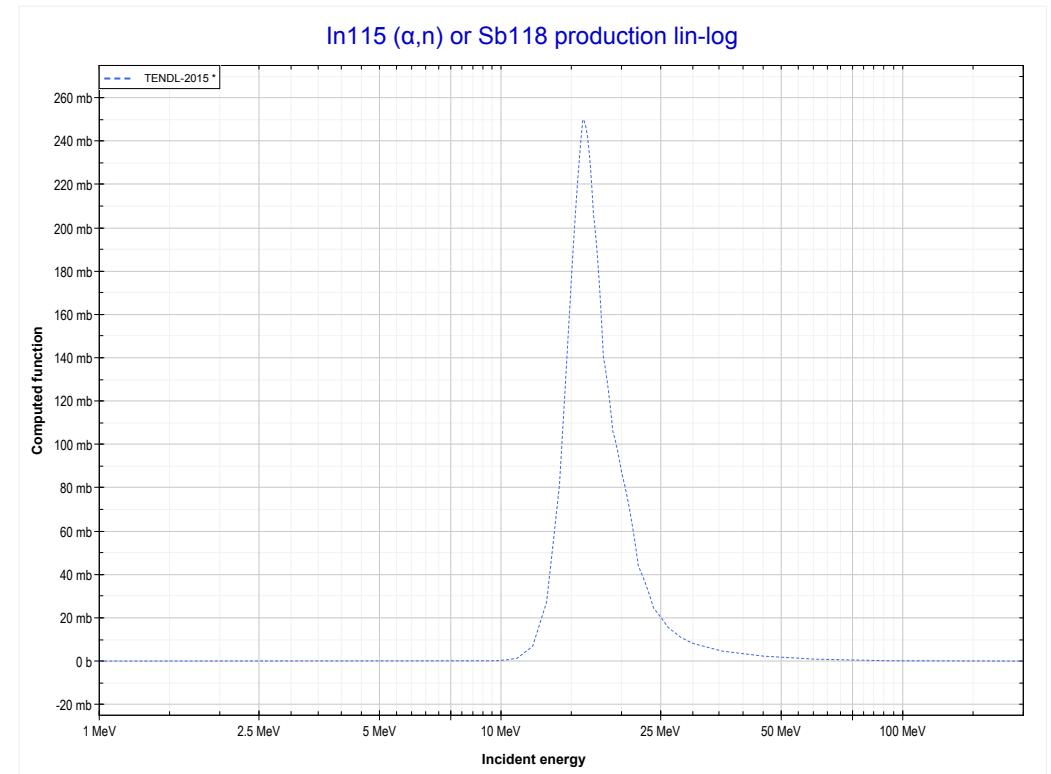
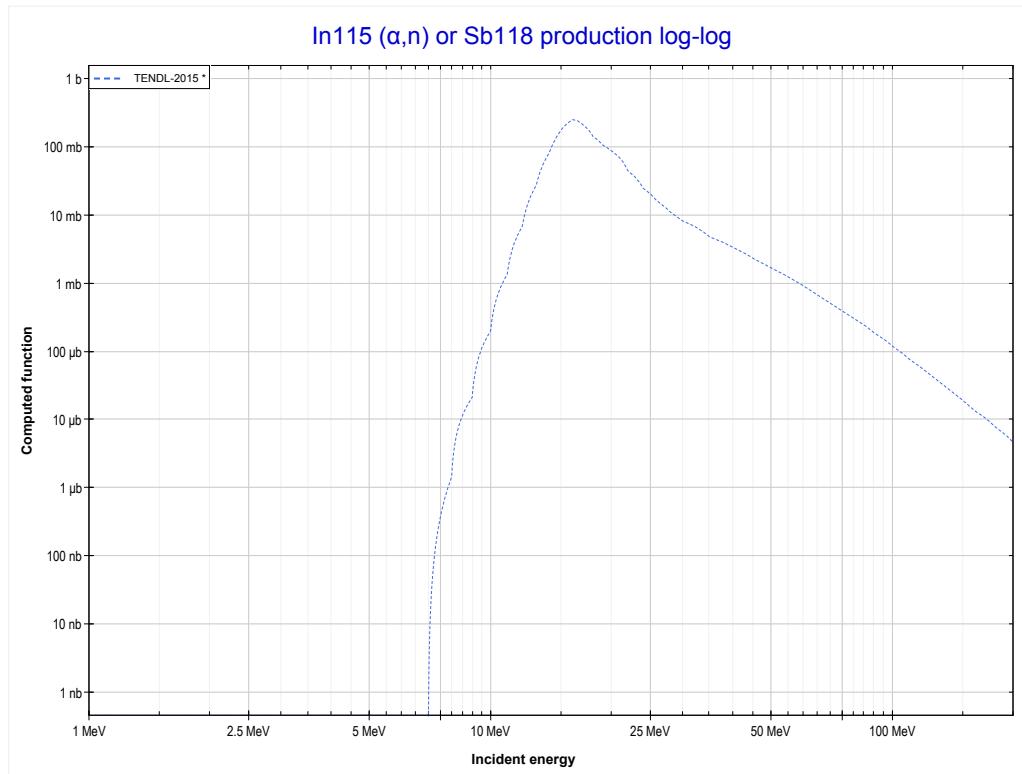
Reaction	Q-Value
In113( $\alpha, n$ )Sb116	-8190.20 keV

<< 48-Cd-114	<b>49-In-113</b> MT16 ( $\alpha,2n$ ) or MT5 (Sb115 production)	49-In-115 >>
<< MT4 ( $\alpha,n$ )		49-In-115 MT4 ( $\alpha,n$ ) >>



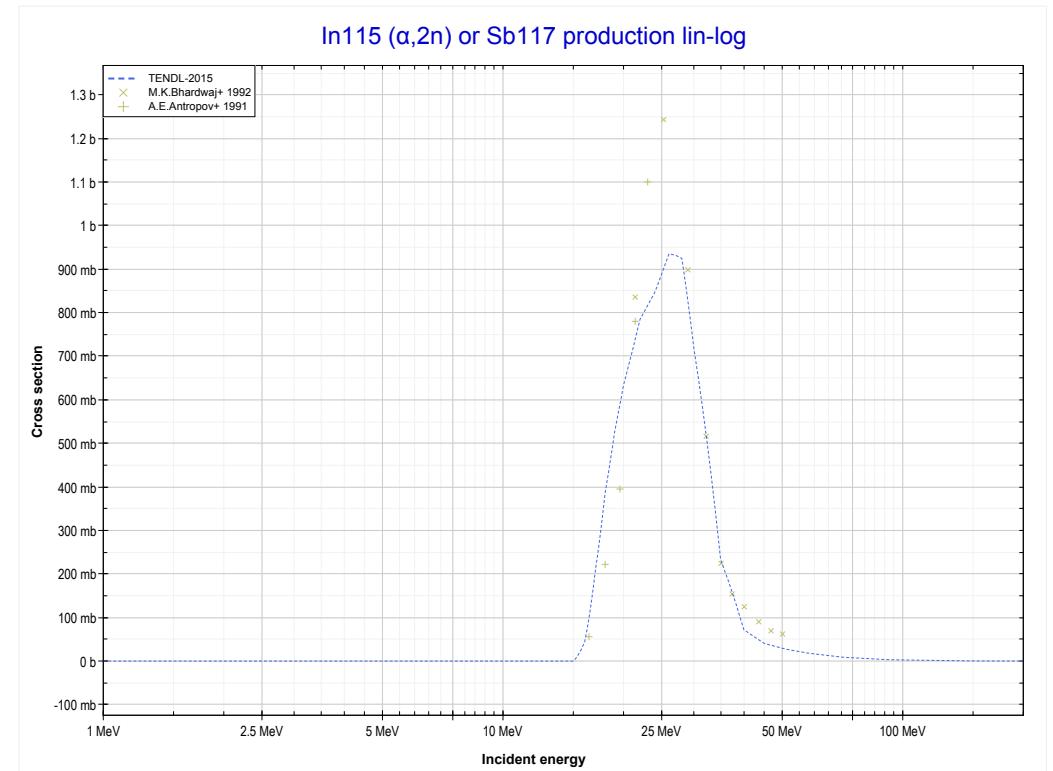
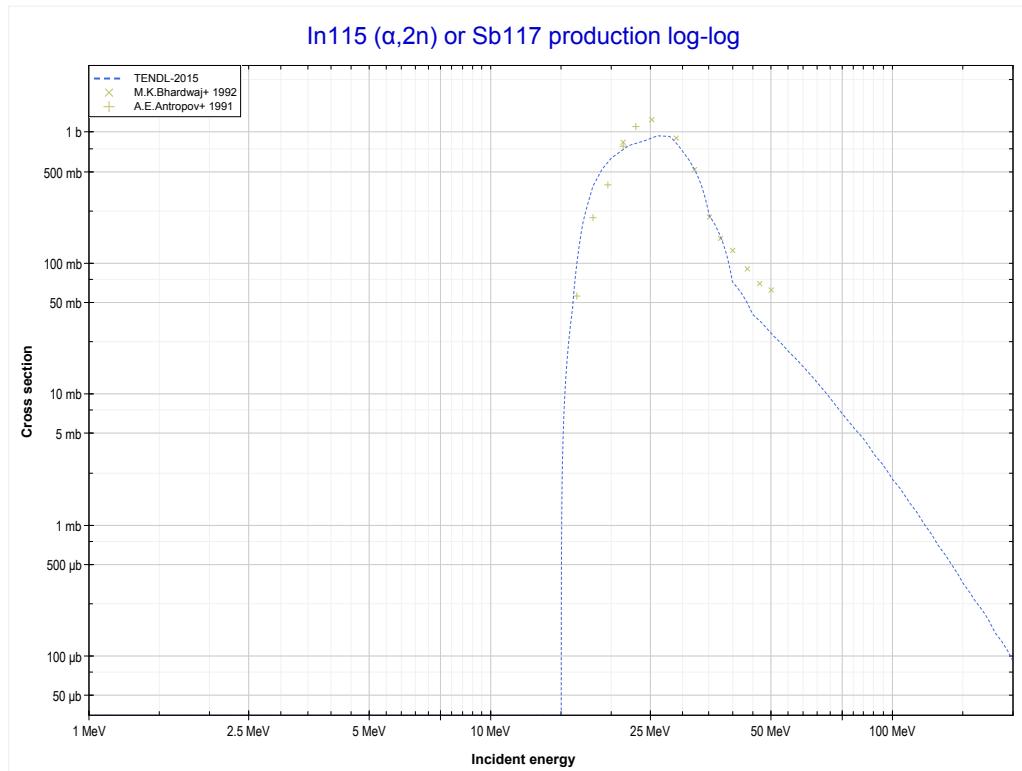
Reaction	Q-Value
In113( $\alpha,2n$ )Sb115	-16080.52 keV

<< 49-In-113	<b>49-In-115</b> MT4 ( $\alpha, n$ ) or MT5 (Sb118 production)	50-Sn-112 >>
<< 49-In-113 MT16 ( $\alpha, 2n$ )		MT16 ( $\alpha, 2n$ ) >>



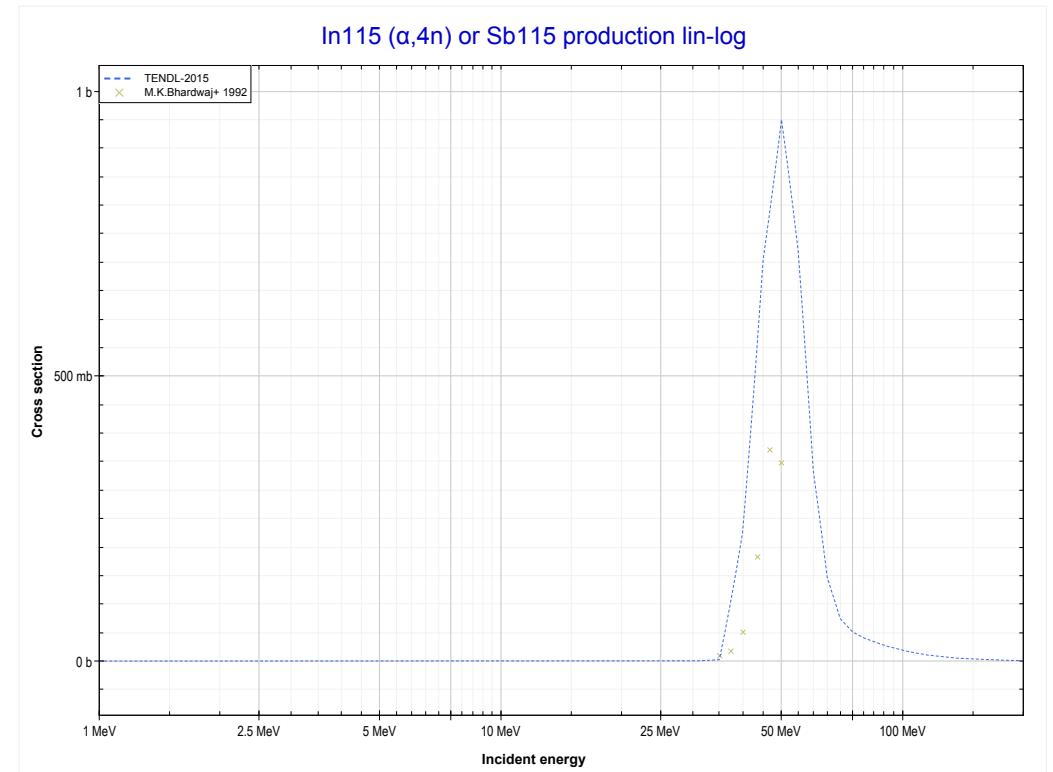
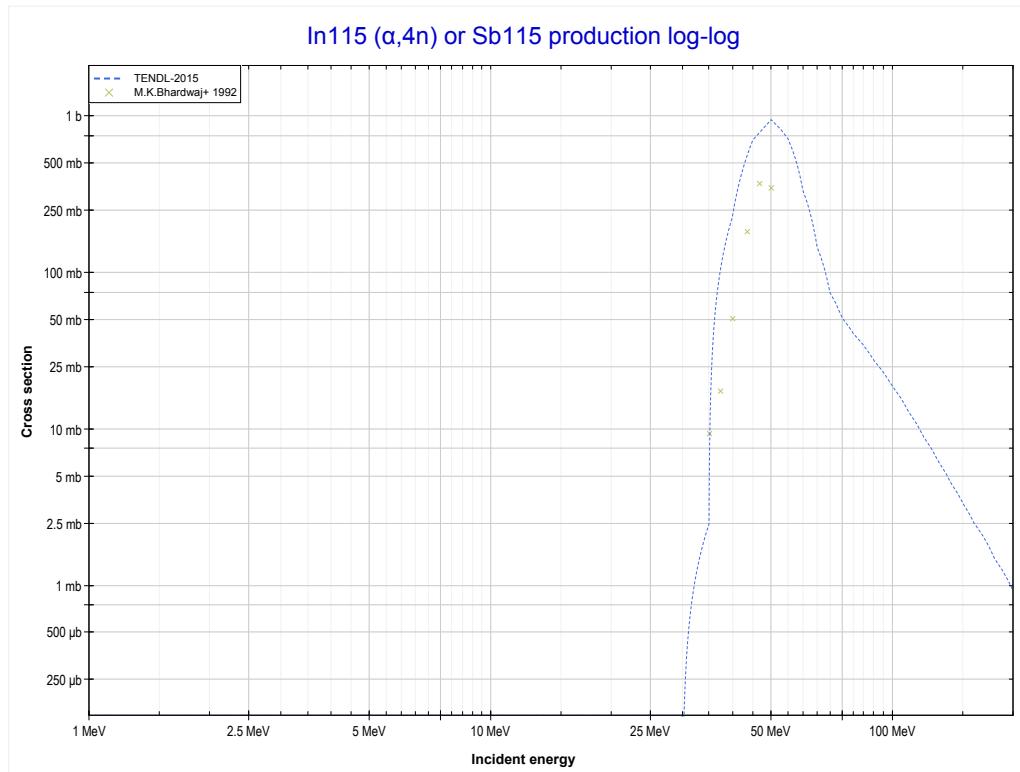
Reaction	Q-Value
In115( $\alpha, n$ )Sb118	-7186.74 keV

<< 49-In-113	<b>49-In-115</b> <b>MT16 (<math>\alpha,2n</math>) or MT5 (Sb117 production)</b>	50-Sn-116 >>
<< MT4 ( $\alpha,n$ )		MT37 ( $\alpha,4n$ ) >>



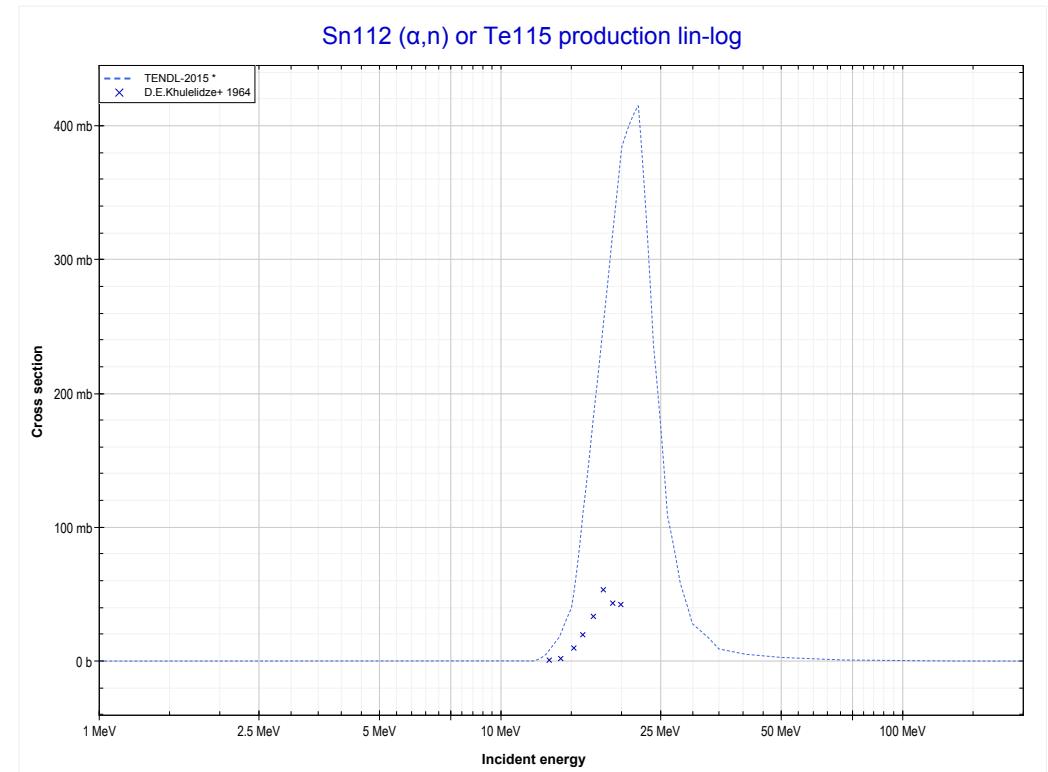
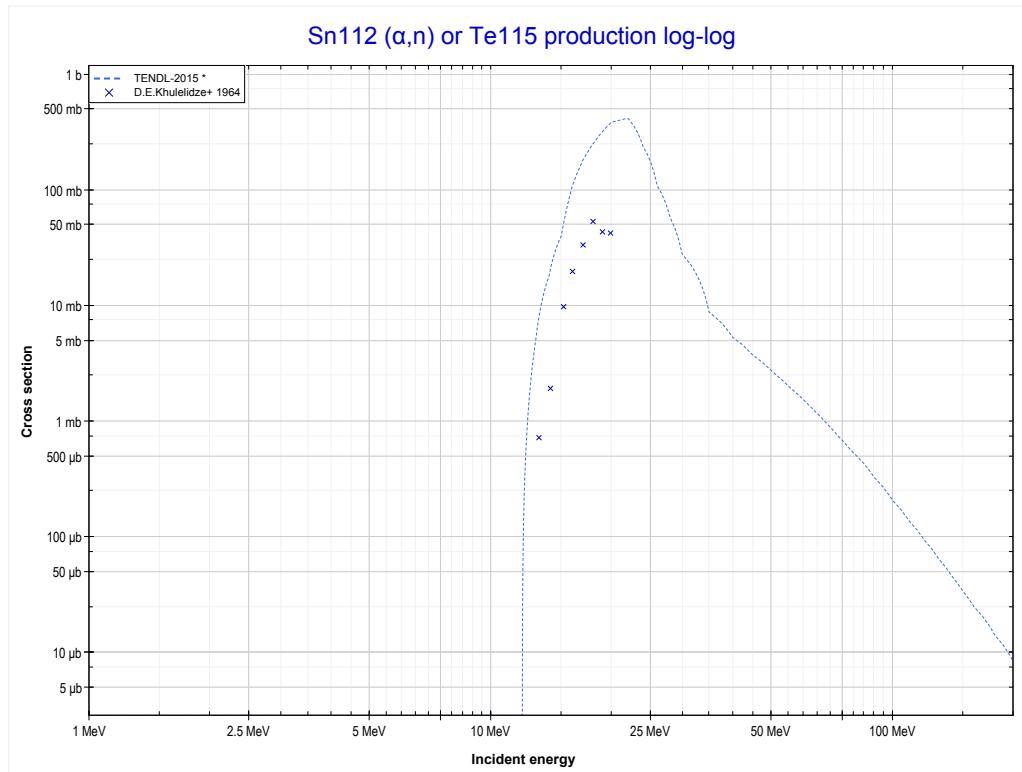
Reaction	Q-Value
In115( $\alpha,2n$ )Sb117	-14614.06 keV

<< 48-Cd-114	<b>49-In-115</b> MT37 ( $\alpha,4n$ ) or MT5 (Sb115 production)	51-Sb-121 >>
<< MT16 ( $\alpha,2n$ )		50-Sn-112 MT4 ( $\alpha,n$ ) >>



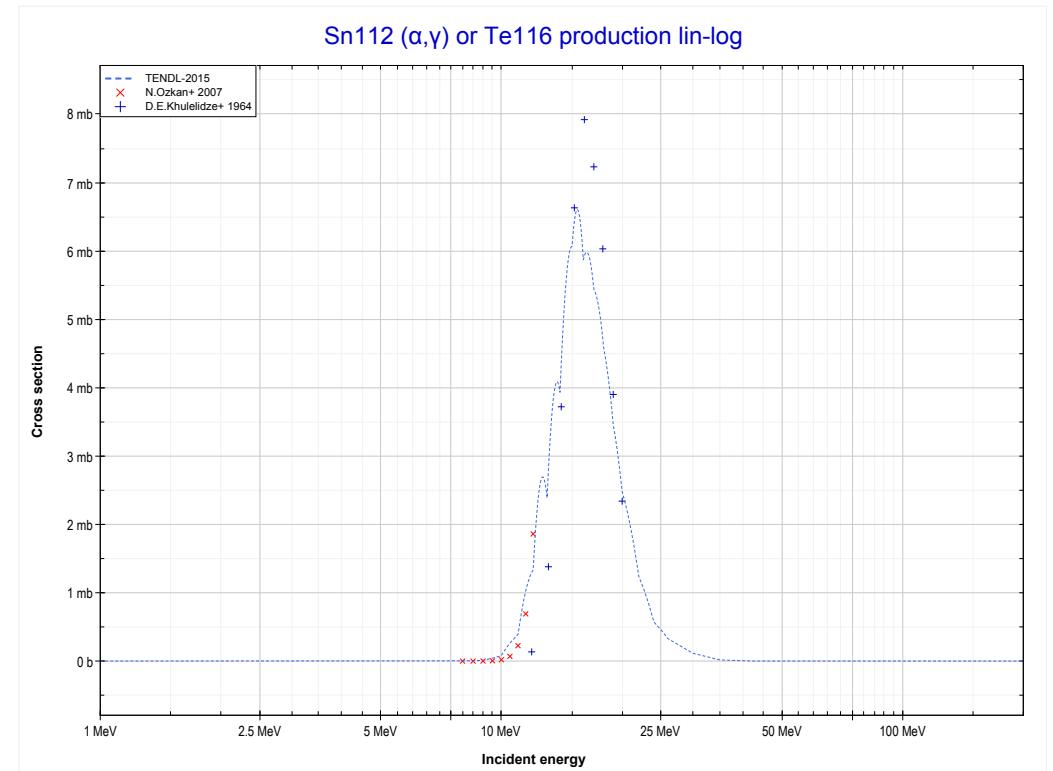
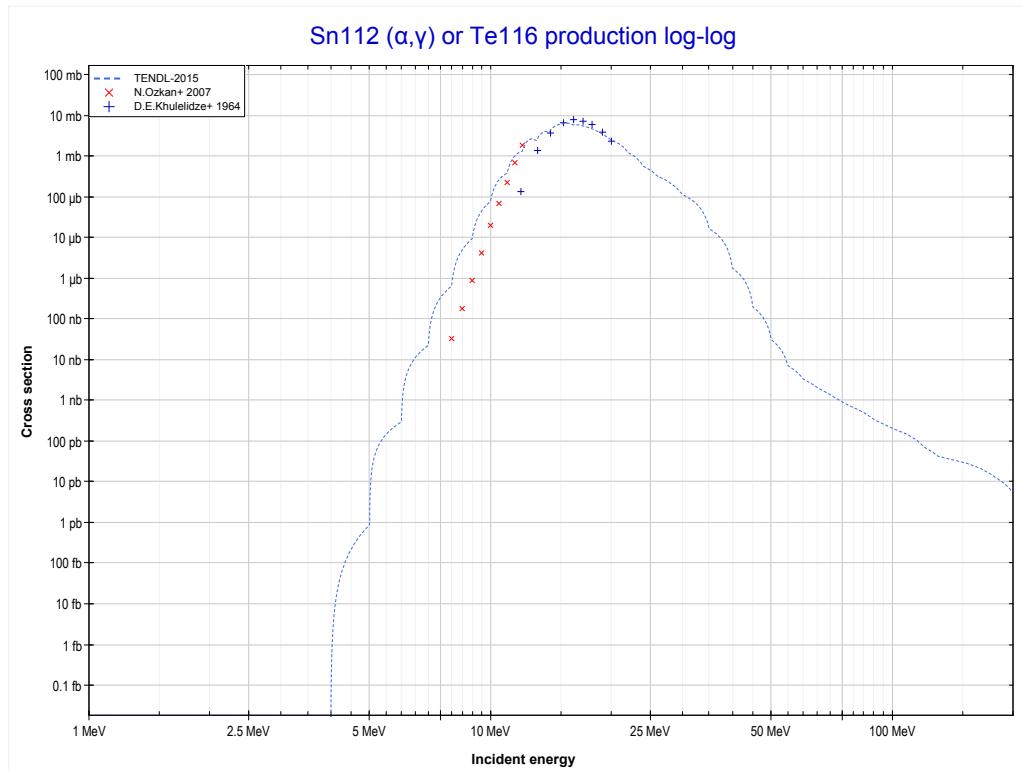
Reaction	Q-Value
In115( $\alpha,4n$ )Sb115	-32393.70 keV

<< 49-In-115	<b>50-Sn-112</b> MT4 ( $\alpha, n$ ) or MT5 (Te115 production)	50-Sn-114 >>
<< 49-In-115 MT37 ( $\alpha, 4n$ )		MT102 ( $\alpha, \gamma$ ) >>



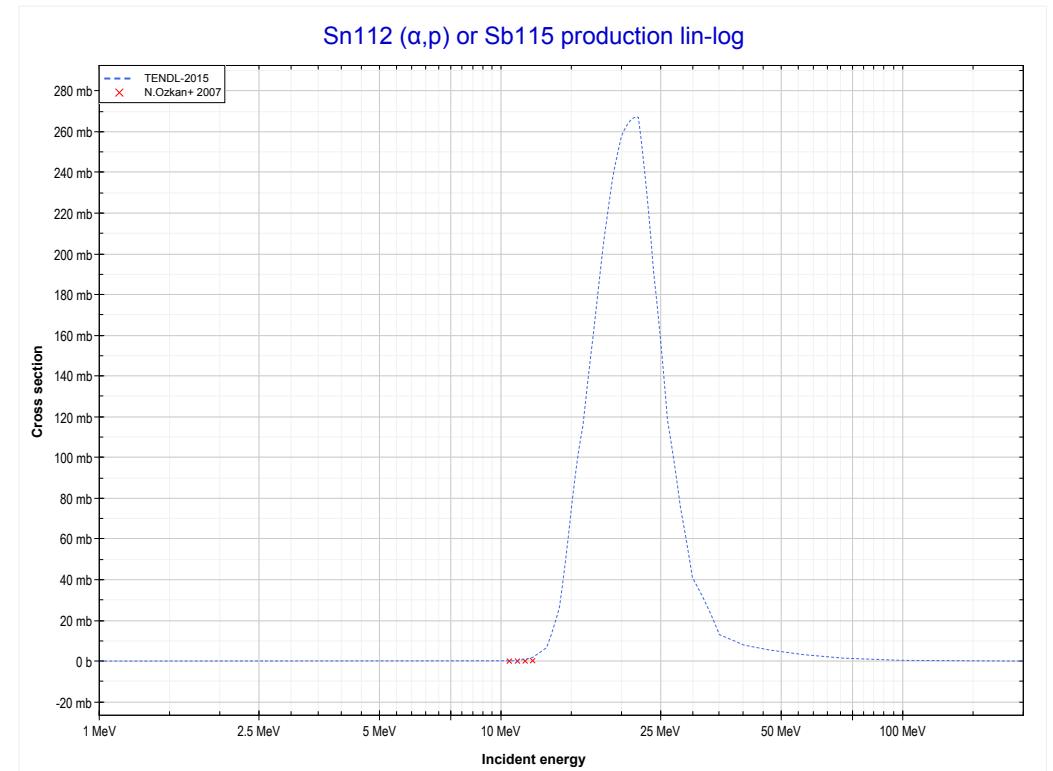
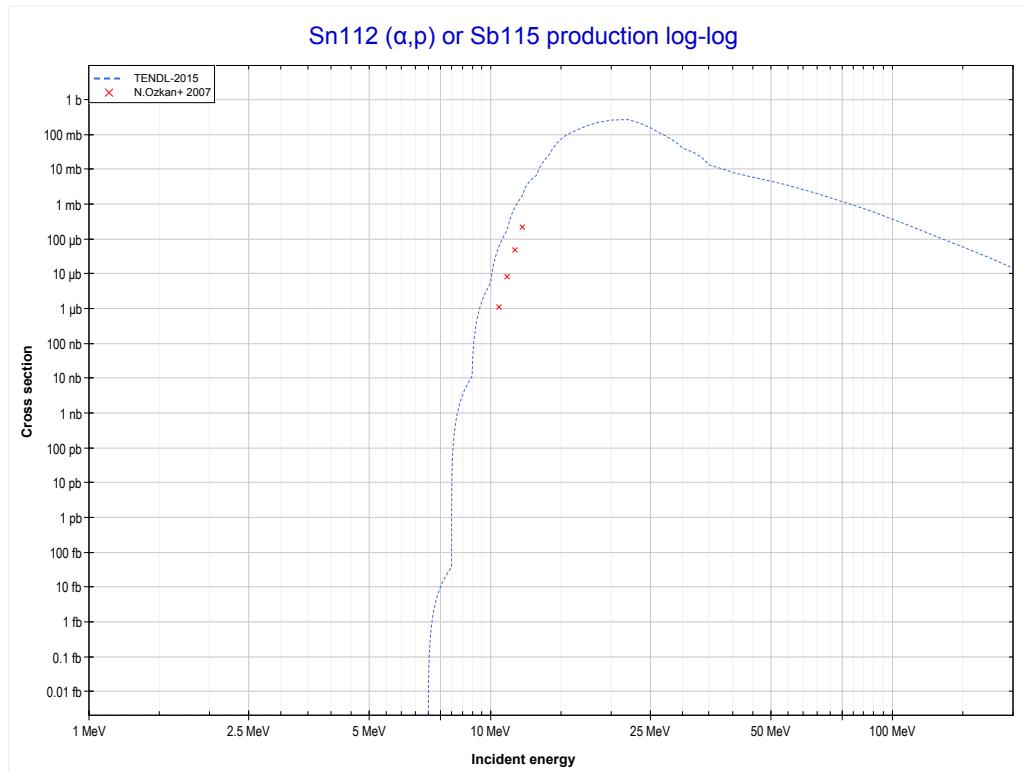
Reaction	Q-Value
Sn112( $\alpha, n$ )Te115	-12239.40 keV

<< 48-Cd-106	<b>50-Sn-112</b> MT102 ( $\alpha,\gamma$ ) or MT5 (Te116 production)	50-Sn-115 >>
<< MT4 ( $\alpha,n$ )		MT103 ( $\alpha,p$ ) >>



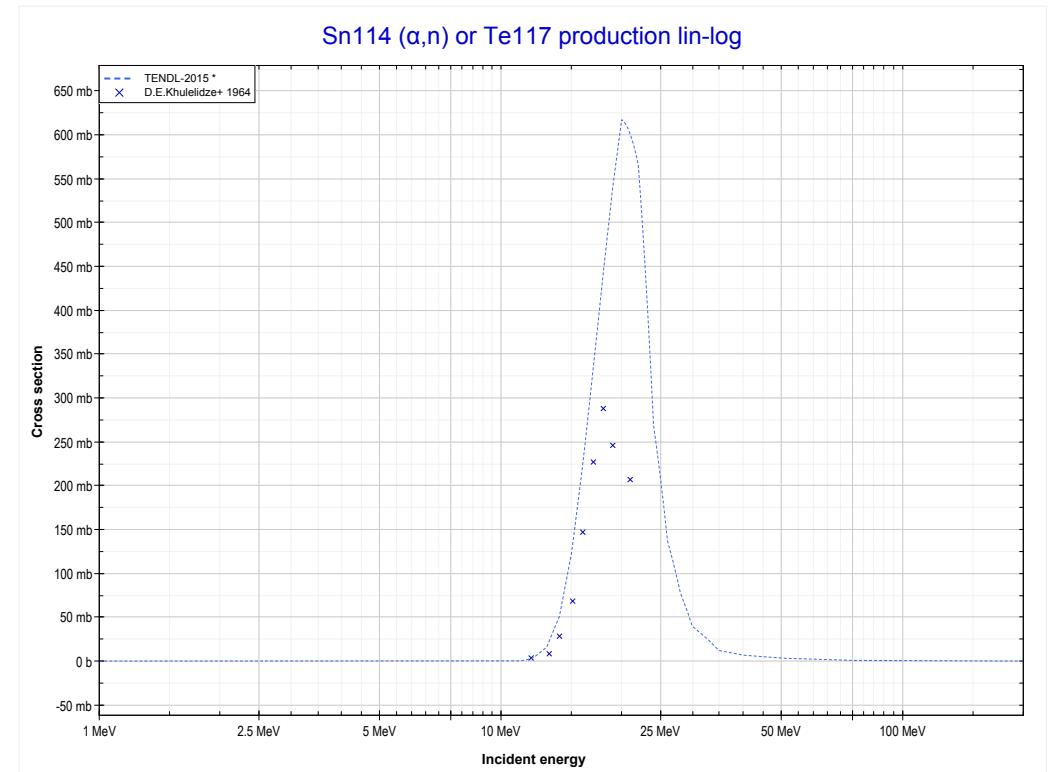
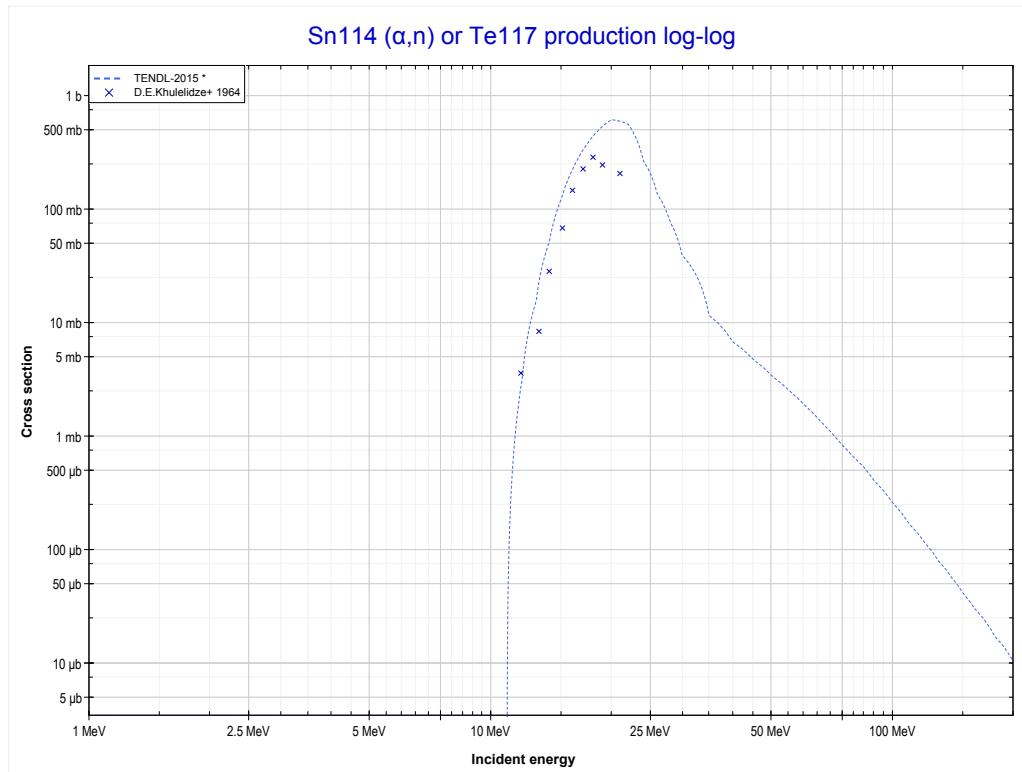
Reaction	Q-Value
Sn112( $\alpha,\gamma$ )Te116	-962.08 keV

<< 48-Cd-114	<b>50-Sn-112</b> MT103 ( $\alpha, p$ ) or MT5 (Sb115 production)	50-Sn-117 >>
<< MT102 ( $\alpha, \gamma$ )		50-Sn-114 MT4 ( $\alpha, n$ ) >>



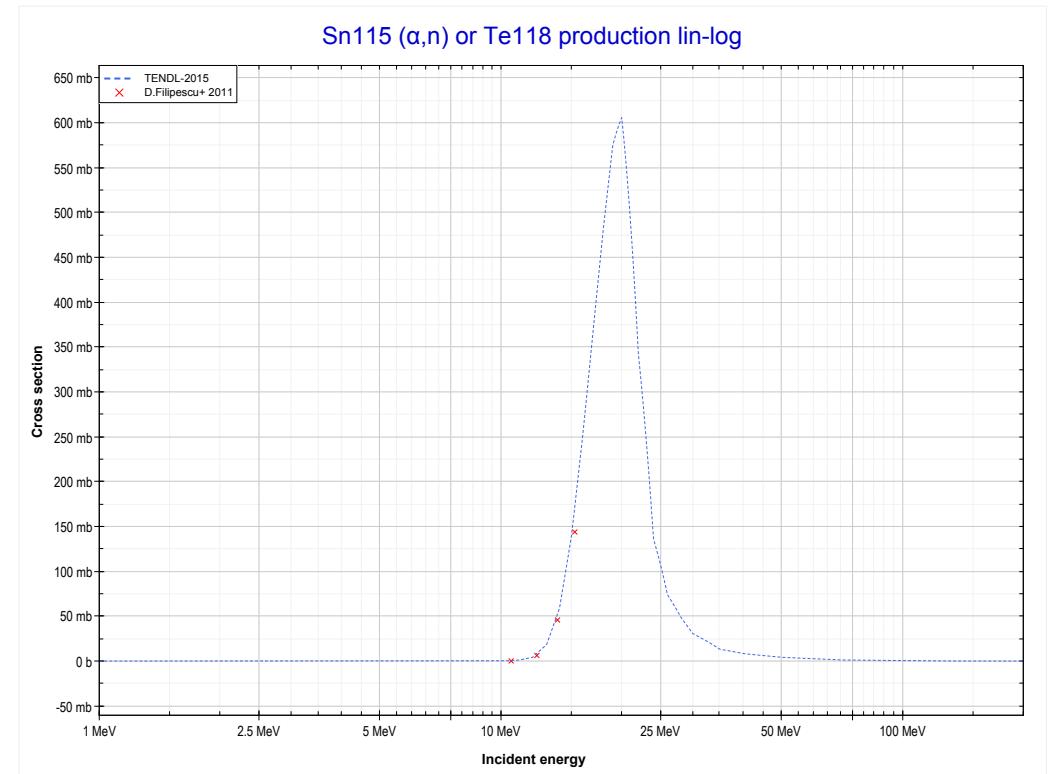
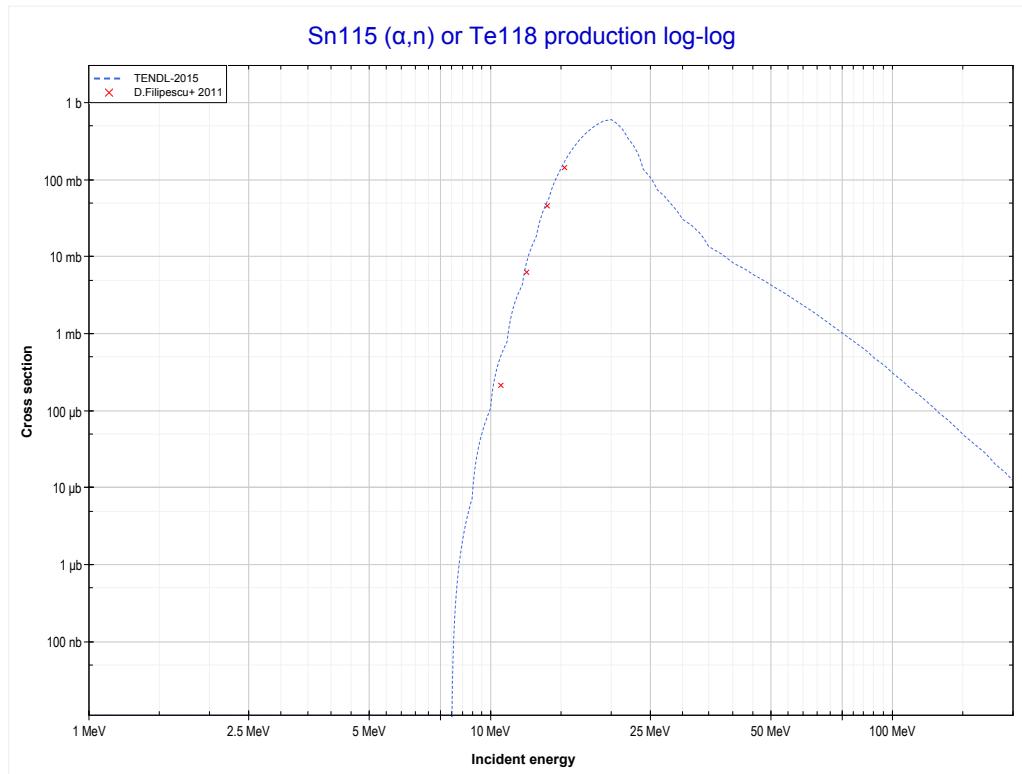
Reaction	Q-Value
Sn112( $\alpha, p$ )Sb115	-6517.05 keV

<< 50-Sn-112	<b>50-Sn-114</b> MT4 ( $\alpha, n$ ) or MT5 (Te117 production)	50-Sn-115 >>
<< 50-Sn-112 MT103 ( $\alpha, p$ )		50-Sn-115 MT4 ( $\alpha, n$ ) >>



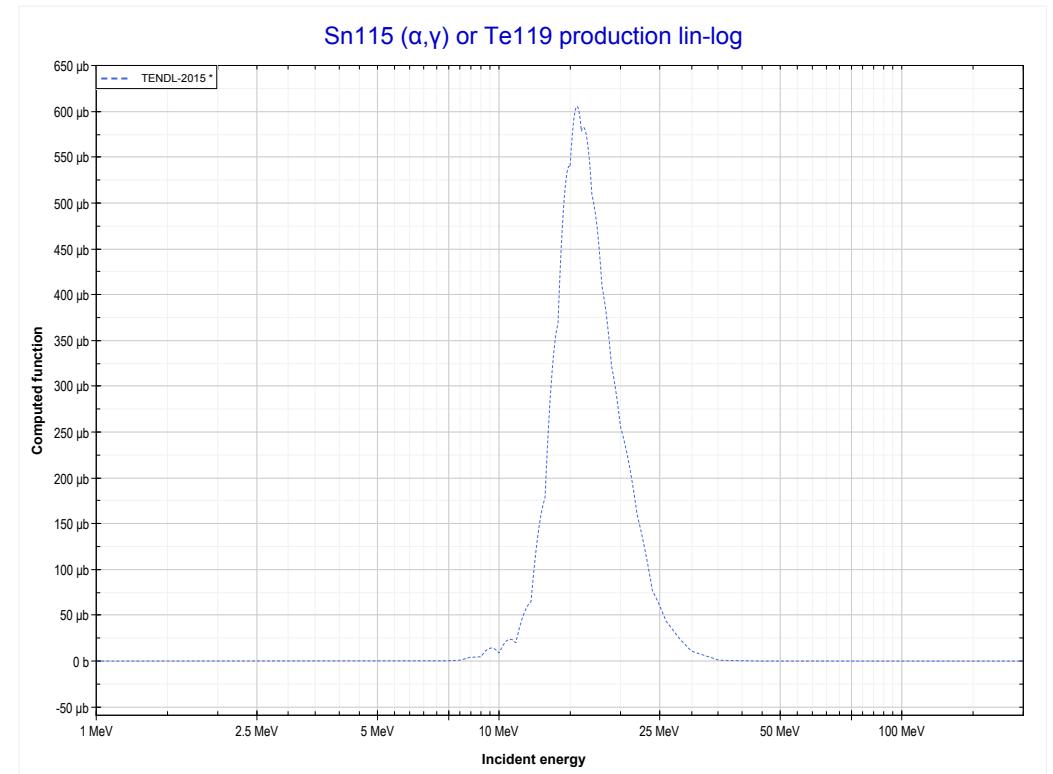
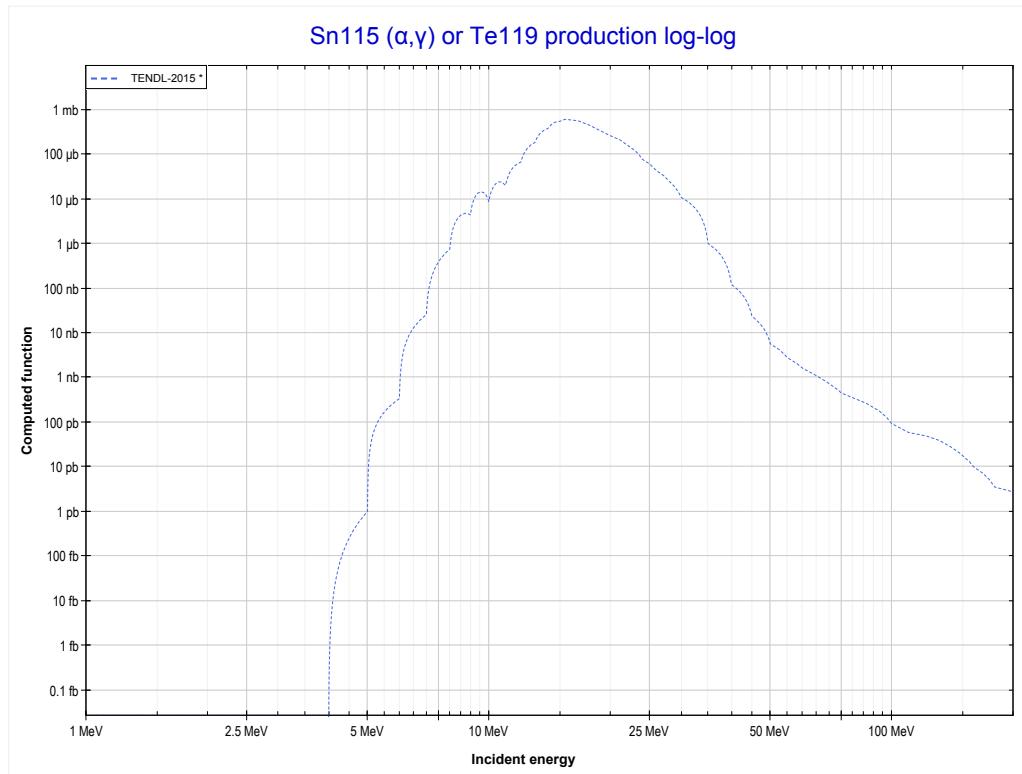
Reaction	Q-Value
Sn114( $\alpha, n$ )Te117	-11108.70 keV

<< 50-Sn-114	<b>50-Sn-115</b> MT4 ( $\alpha, n$ ) or MT5 (Te118 production)	50-Sn-116 >>
<< 50-Sn-114 MT4 ( $\alpha, n$ )		MT102 ( $\alpha, \gamma$ ) >>



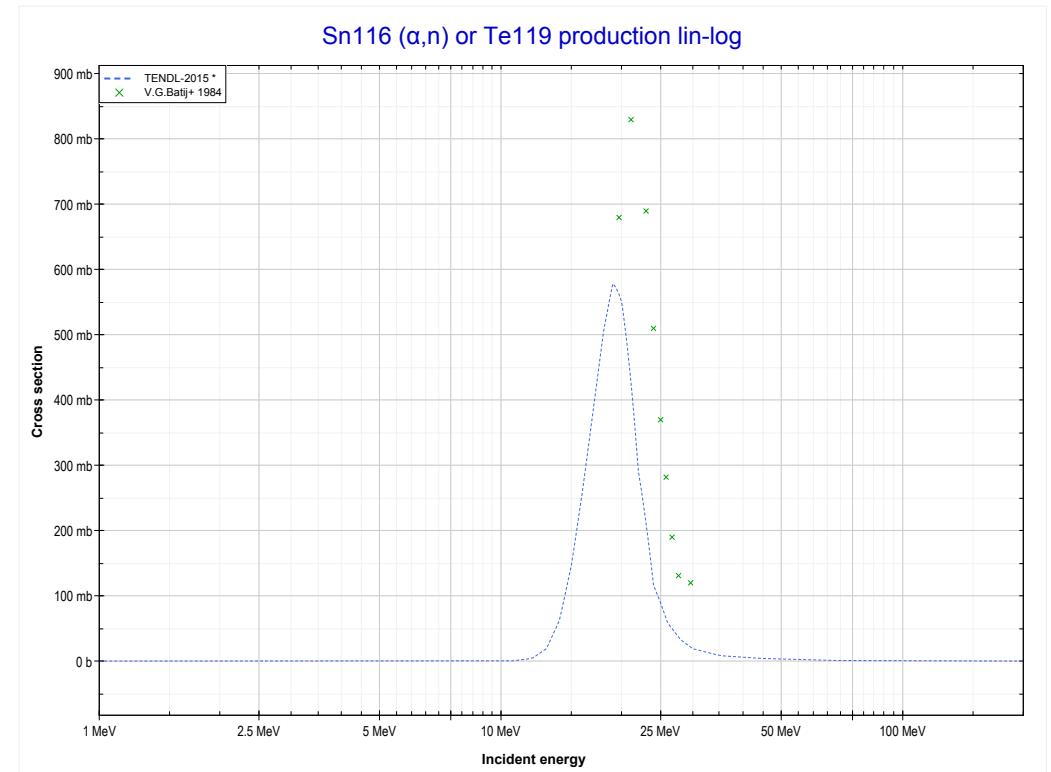
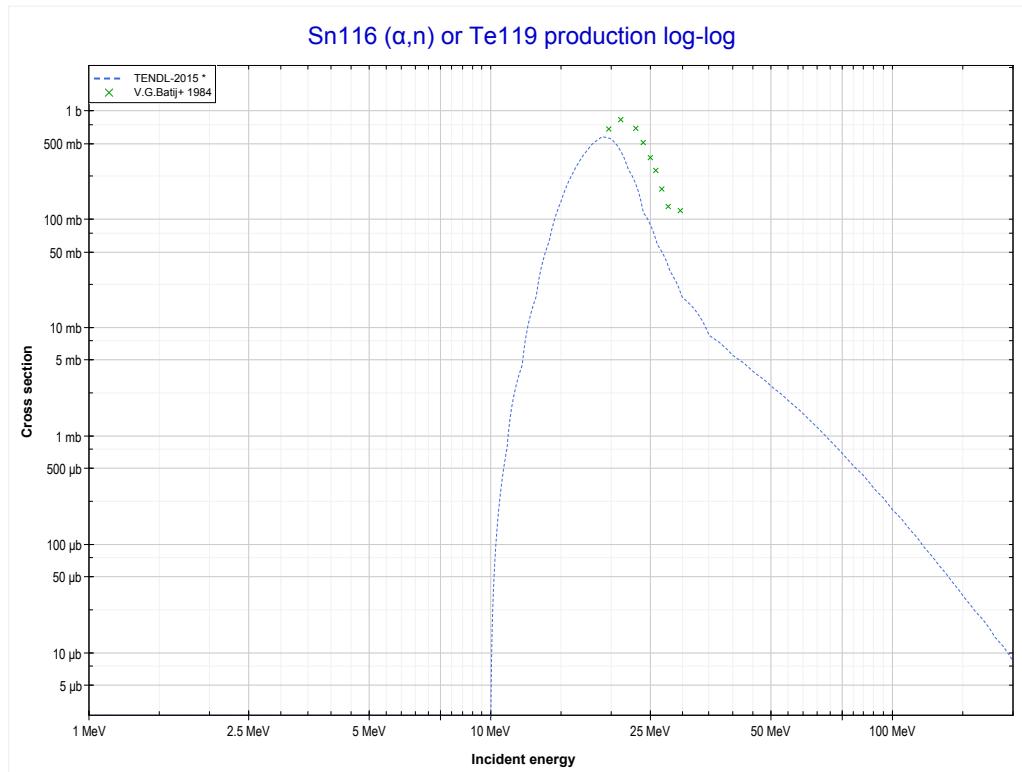
Reaction	Q-Value
Sn115( $\alpha, n$ )Te118	-7983.23 keV

<< 50-Sn-112	<b>50-Sn-115</b>	
<< MT4 ( $\alpha, n$ )	<b>MT102 (<math>\alpha, \gamma</math>) or MT5 (Te119 production)</b>	<b>50-Sn-116 MT4 (<math>\alpha, n</math>) &gt;&gt;</b>



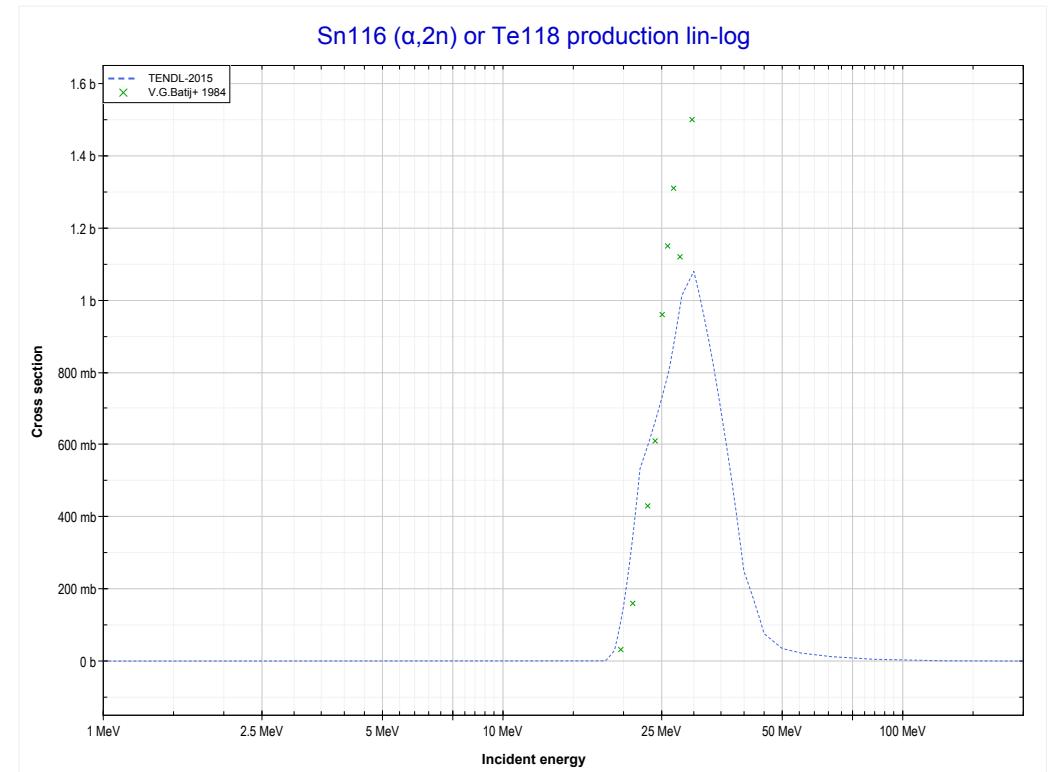
Reaction	Q-Value
Sn115( $\alpha, \gamma$ )Te119	-427.92 keV

<< 50-Sn-115	<b>50-Sn-116</b> MT4 ( $\alpha, n$ ) or MT5 (Te119 production)	50-Sn-118 >>
<< 50-Sn-115 MT102 ( $\alpha, \gamma$ )		MT16 ( $\alpha, 2n$ ) >>



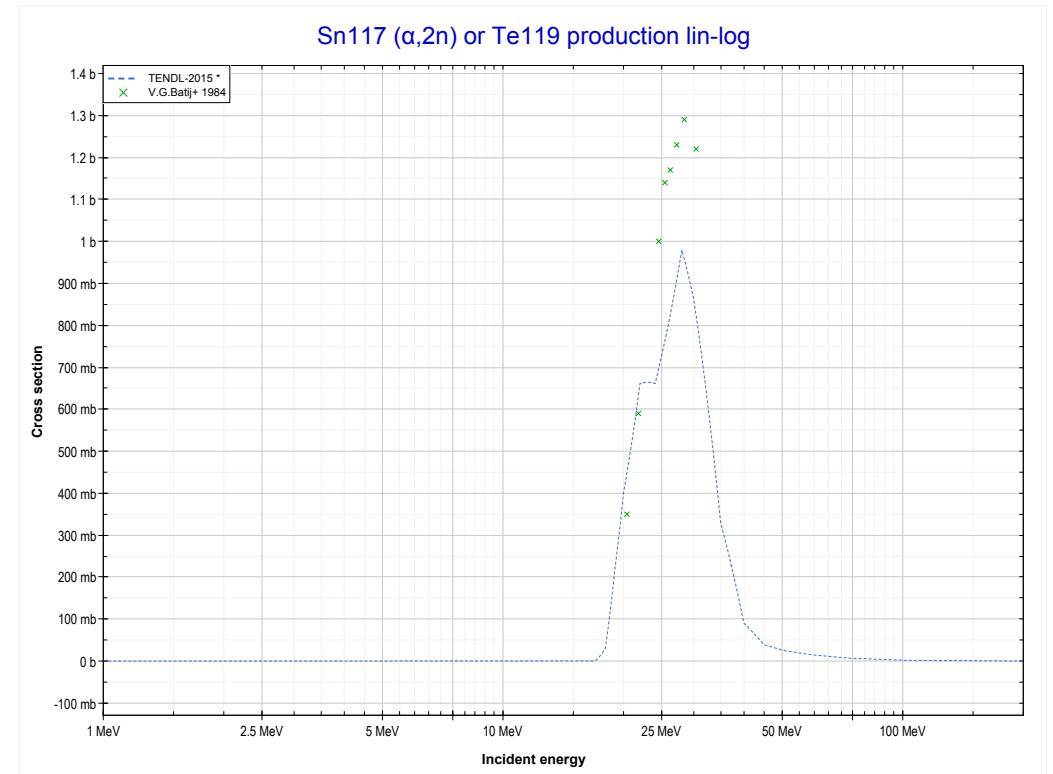
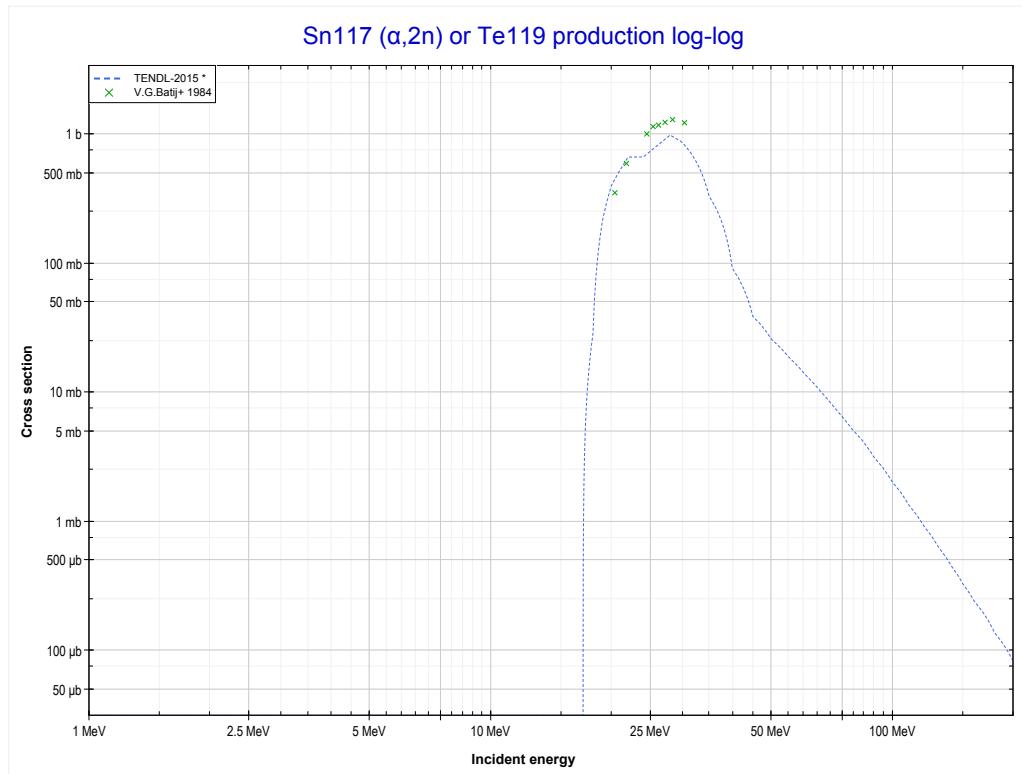
Reaction	Q-Value
Sn116( $\alpha, n$ )Te119	-9991.39 keV

<< 49-In-115	<b>50-Sn-116</b> MT16 ( $\alpha,2n$ ) or MT5 (Te118 production)	50-Sn-117 >>
<< MT4 ( $\alpha,n$ )		50-Sn-117 MT16 ( $\alpha,2n$ ) >>



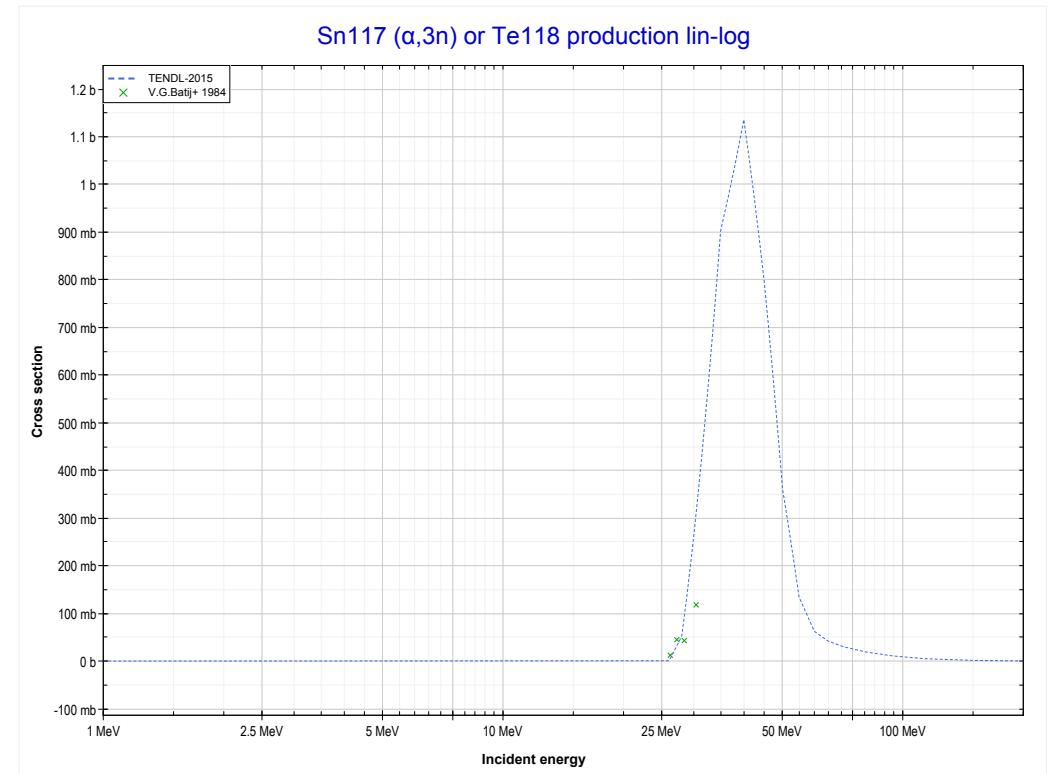
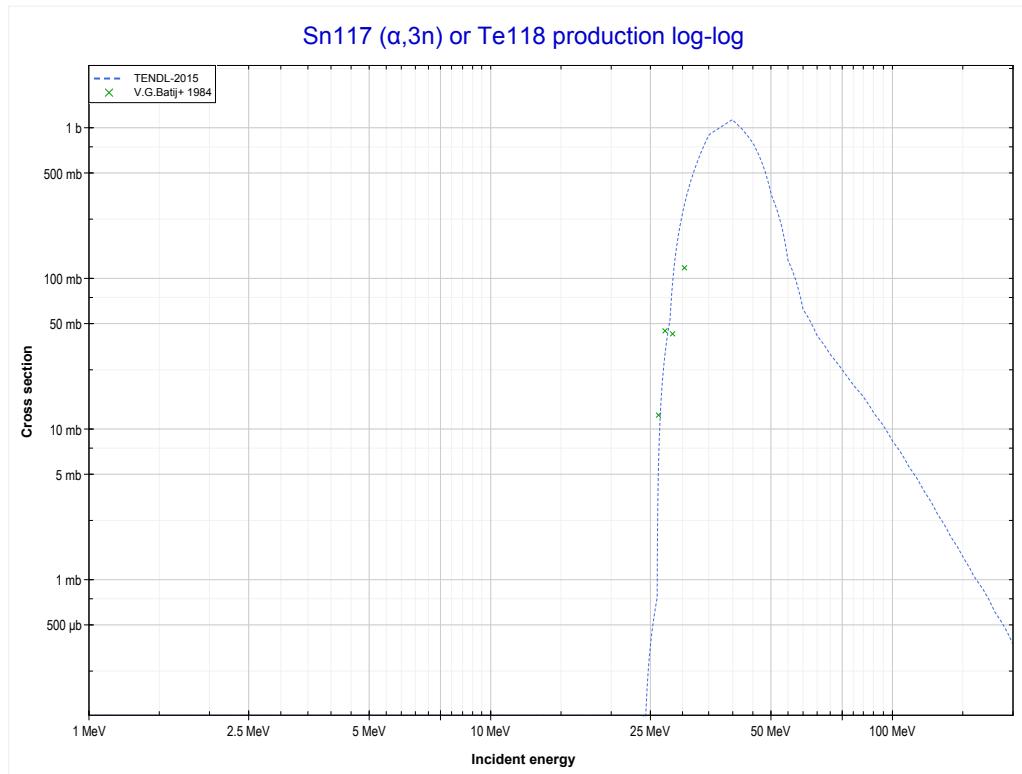
Reaction	Q-Value
Sn116( $\alpha,2n$ )Te118	-17546.71 keV

<< 50-Sn-116	<b>50-Sn-117</b>	51-Sb-121 >>
<< 50-Sn-116 MT16 ( $\alpha,2n$ )	<b>MT16 (<math>\alpha,2n</math>) or MT5 (Te119 production)</b>	<b>MT17 (<math>\alpha,3n</math>) &gt;&gt;</b>



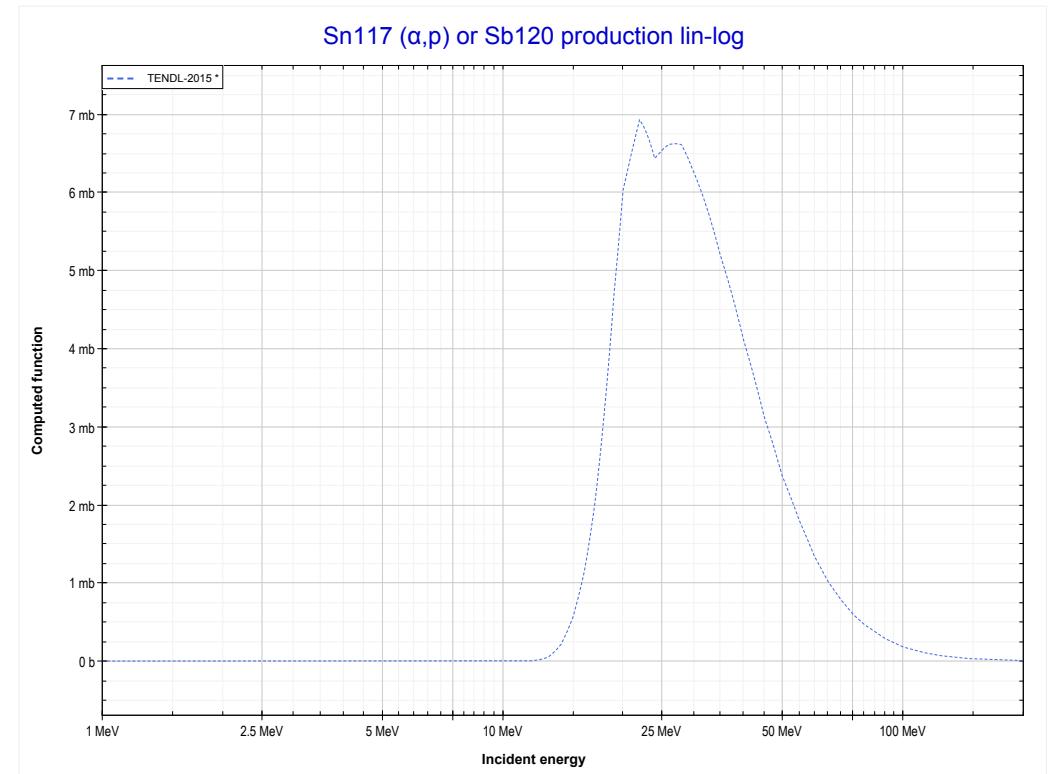
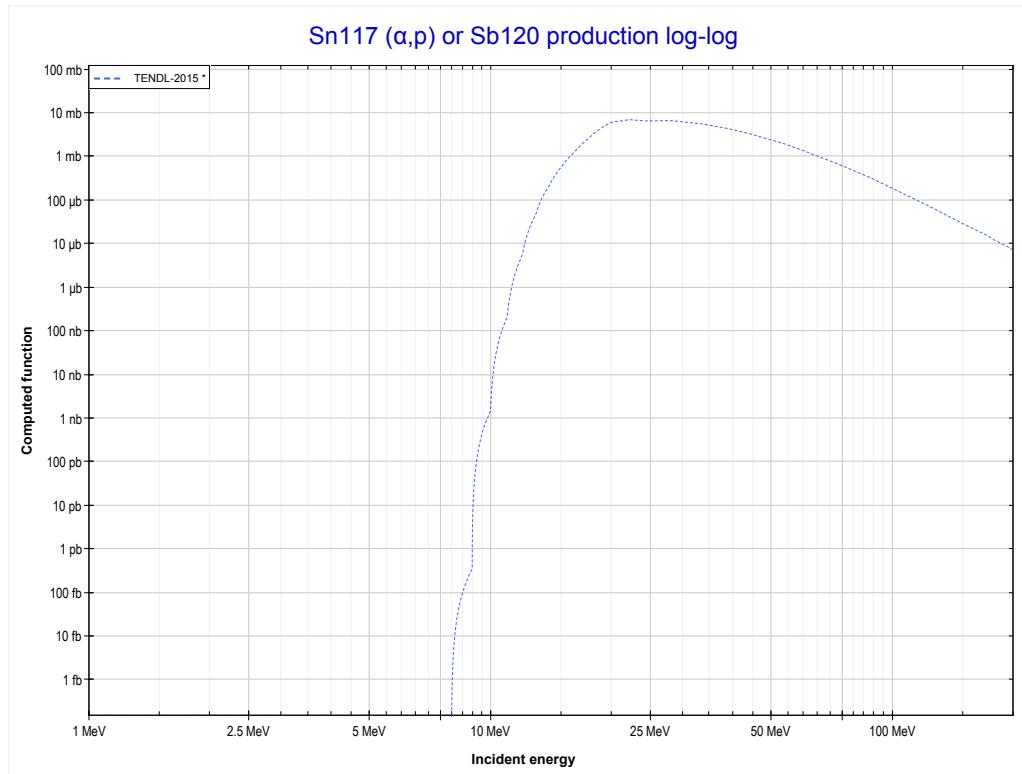
Reaction	Q-Value
Sn117( $\alpha,2n$ )Te119	-16934.52 keV

<< 48-Cd-116	<b>50-Sn-117</b> MT17 ( $\alpha,3n$ ) or MT5 (Te118 production)	50-Sn-124 >>
<< MT16 ( $\alpha,2n$ )		MT103 ( $\alpha,p$ ) >>



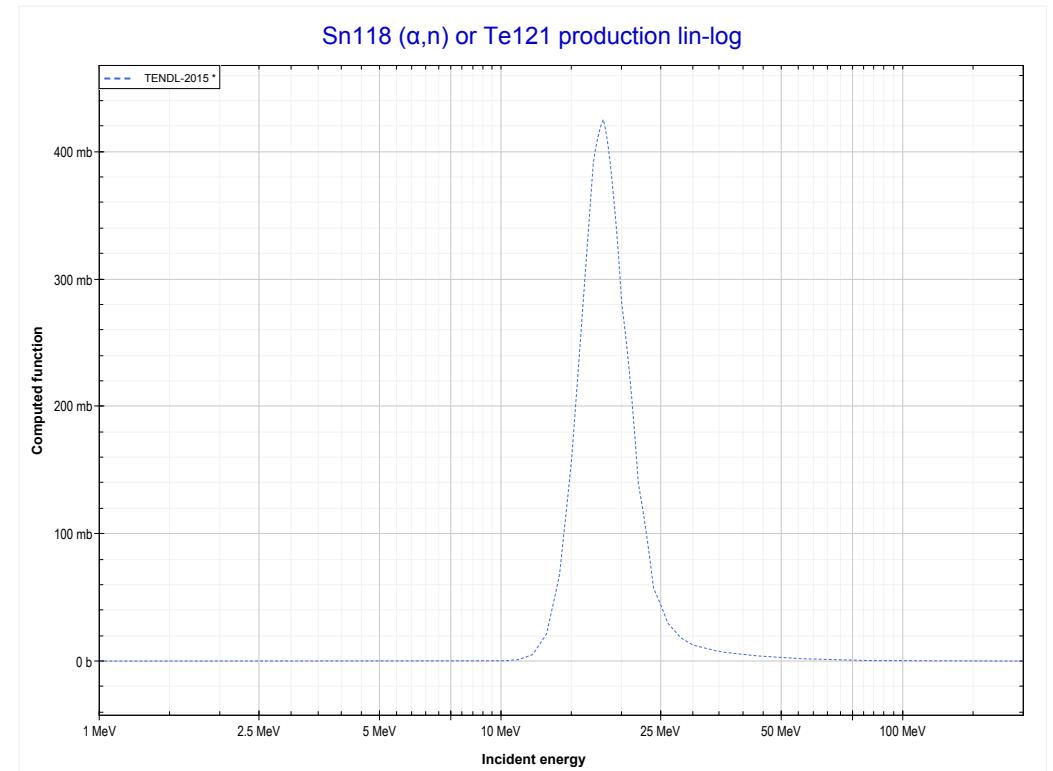
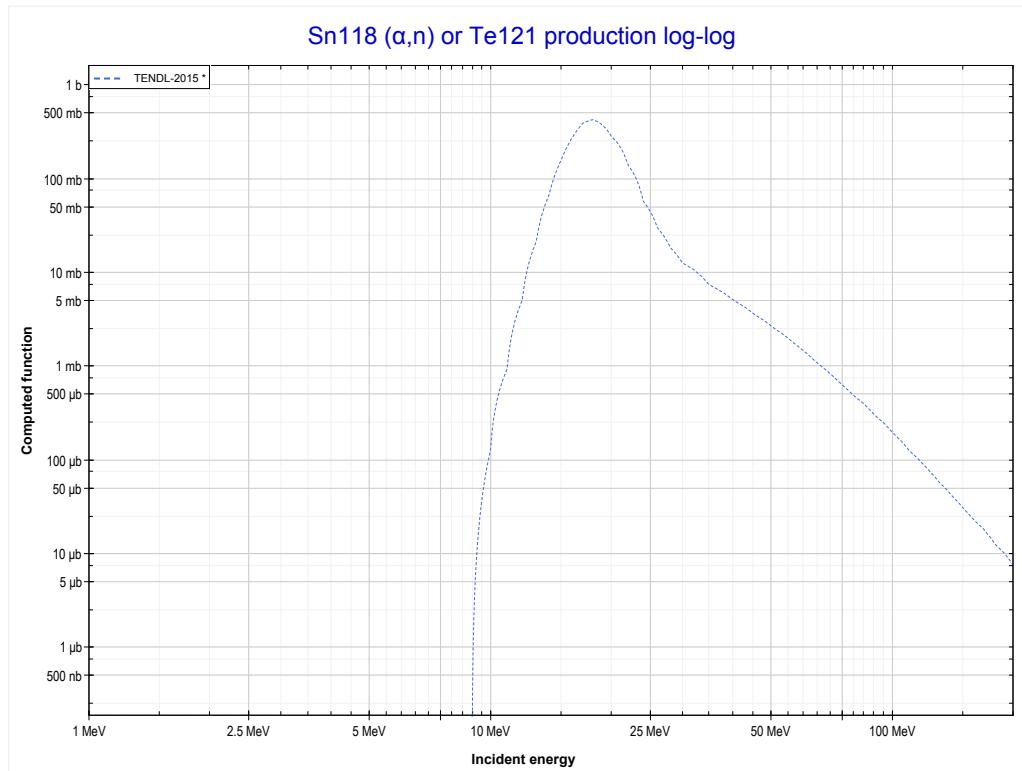
Reaction	Q-Value
Sn117( $\alpha,3n$ )Te118	-24489.84 keV

<< 50-Sn-112	<b>50-Sn-117</b> MT103 ( $\alpha,p$ ) or MT5 (Sb120 production)	50-Sn-124 >>
<< MT17 ( $\alpha,3n$ )		50-Sn-118 MT4 ( $\alpha,n$ ) >>



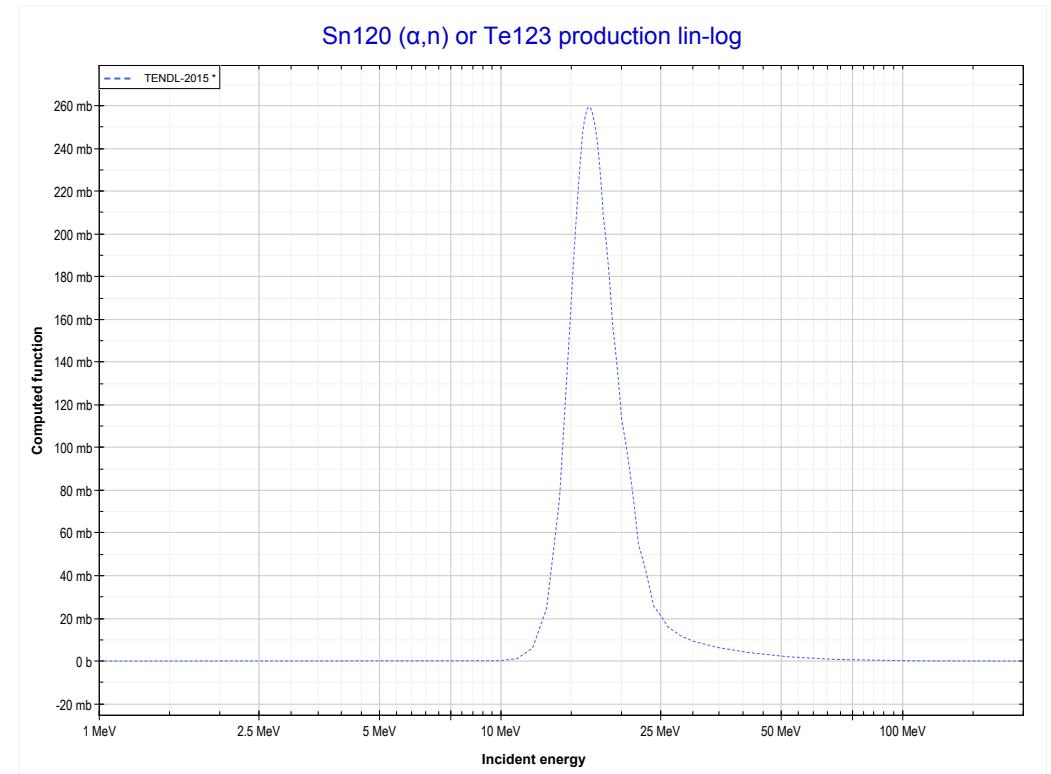
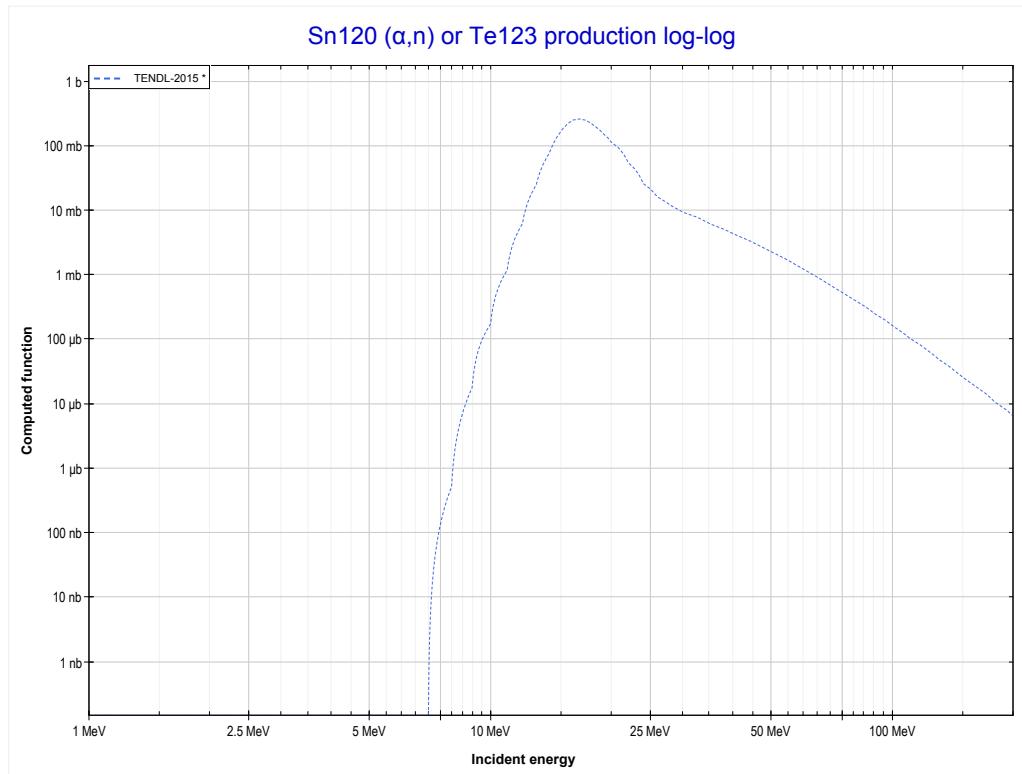
Reaction	Q-Value
Sn117( $\alpha,p$ )Sb120	-6843.85 keV

<< 50-Sn-116	<b>50-Sn-118</b> MT4 ( $\alpha, n$ ) or MT5 (Te121 production)	50-Sn-120 >>
<< 50-Sn-117 MT103 ( $\alpha, p$ )		50-Sn-120 MT4 ( $\alpha, n$ ) >>



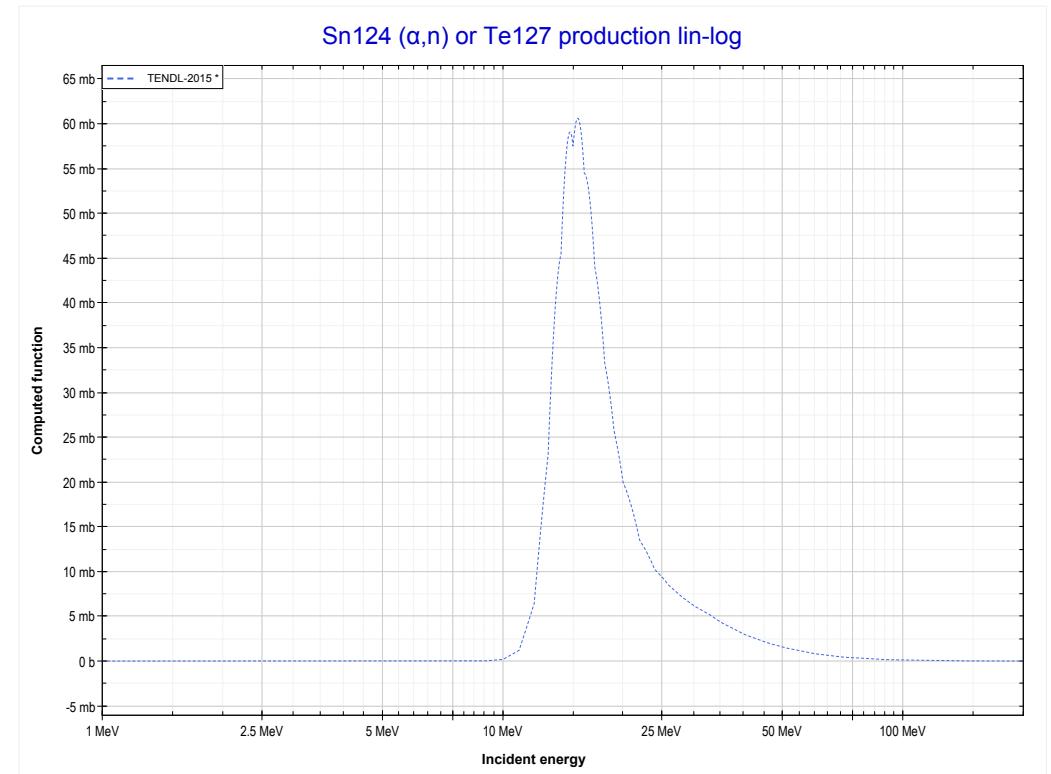
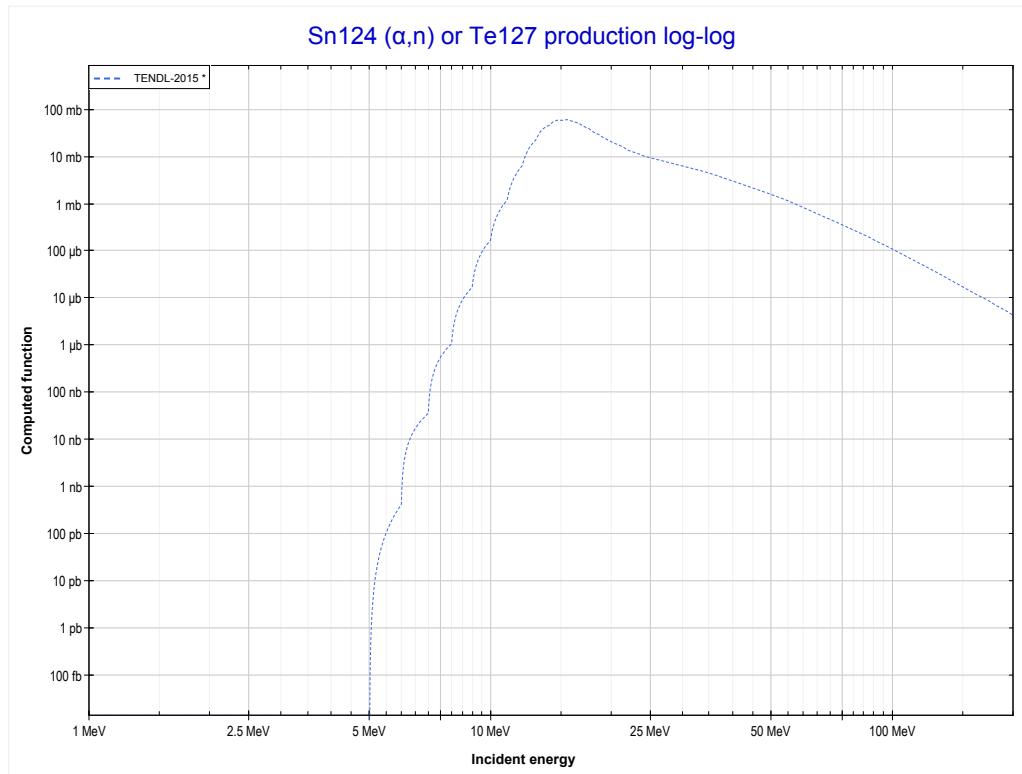
Reaction	Q-Value
Sn118( $\alpha, n$ )Te121	-8755.30 keV

<< 50-Sn-118	<b>50-Sn-120</b>	50-Sn-124 >>
<< 50-Sn-118 MT4 ( $\alpha, n$ )	<b>MT4 (<math>\alpha, n</math>) or MT5 (Te123 production)</b>	<b>50-Sn-124 MT4 (<math>\alpha, n</math>) &gt;&gt;</b>



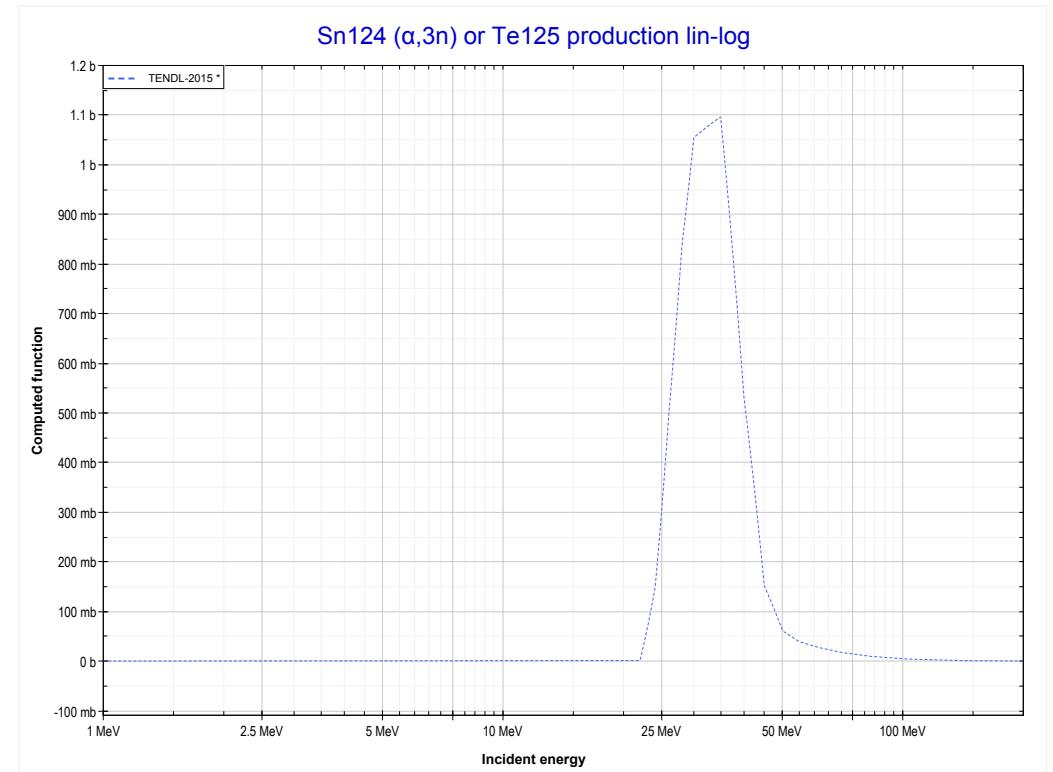
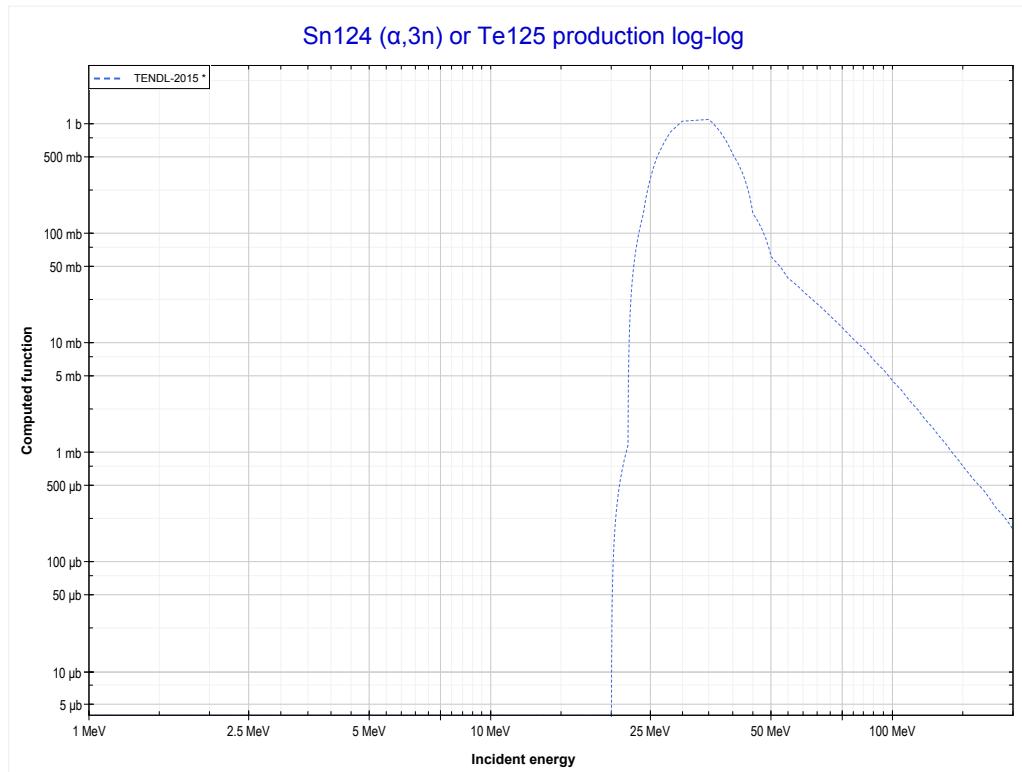
Reaction	Q-Value
Sn120( $\alpha, n$ )Te123	-7572.90 keV

<< 50-Sn-120	<b>50-Sn-124</b>	51-Sb-121 >>
<< 50-Sn-120 MT4 ( $\alpha, n$ )	<b>MT4 (<math>\alpha, n</math>) or MT5 (Te127 production)</b>	<b>MT17 (<math>\alpha, 3n</math>) &gt;&gt;</b>



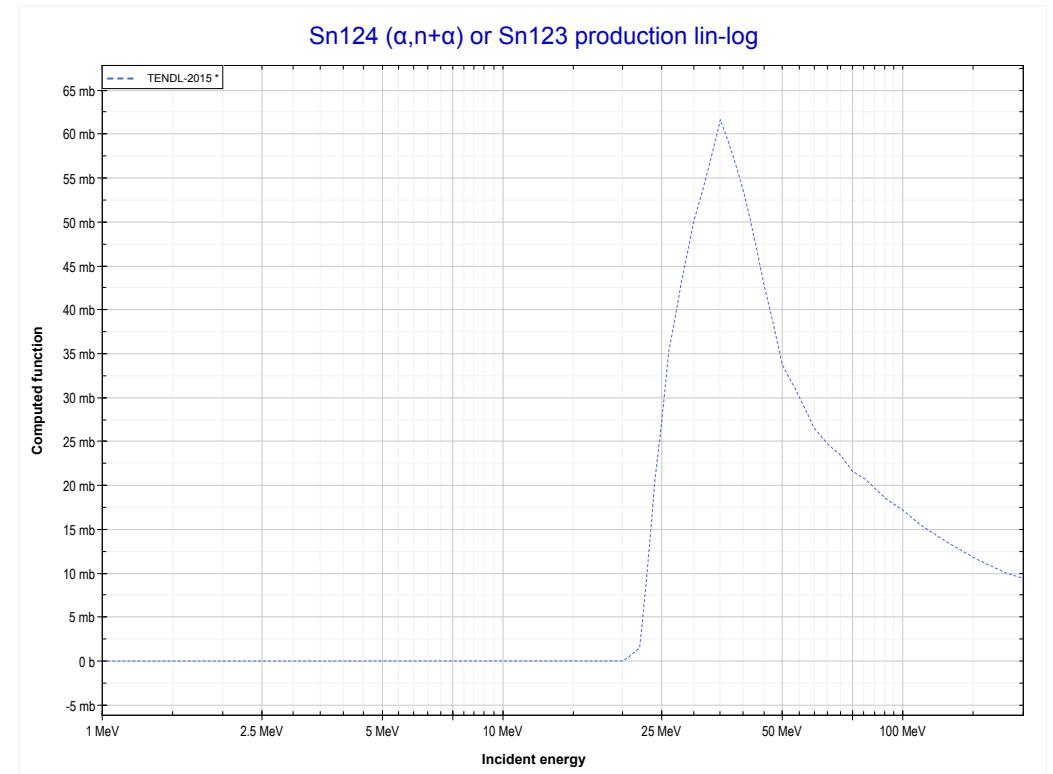
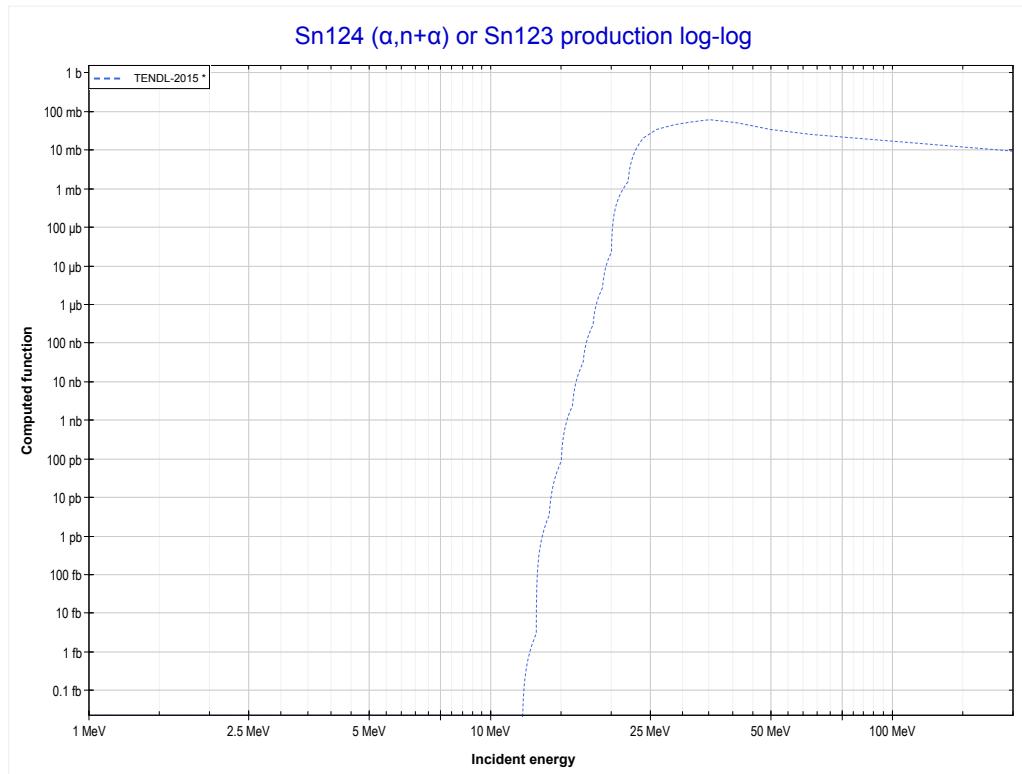
Reaction	Q-Value
Sn124( $\alpha, n$ )Te127	-5598.90 keV

<< 50-Sn-117	<b>50-Sn-124</b> MT17 ( $\alpha,3n$ ) or MT5 (Te125 production)	51-Sb-123 >>
<< MT4 ( $\alpha,n$ )		MT22 ( $\alpha,n+\alpha$ ) >>



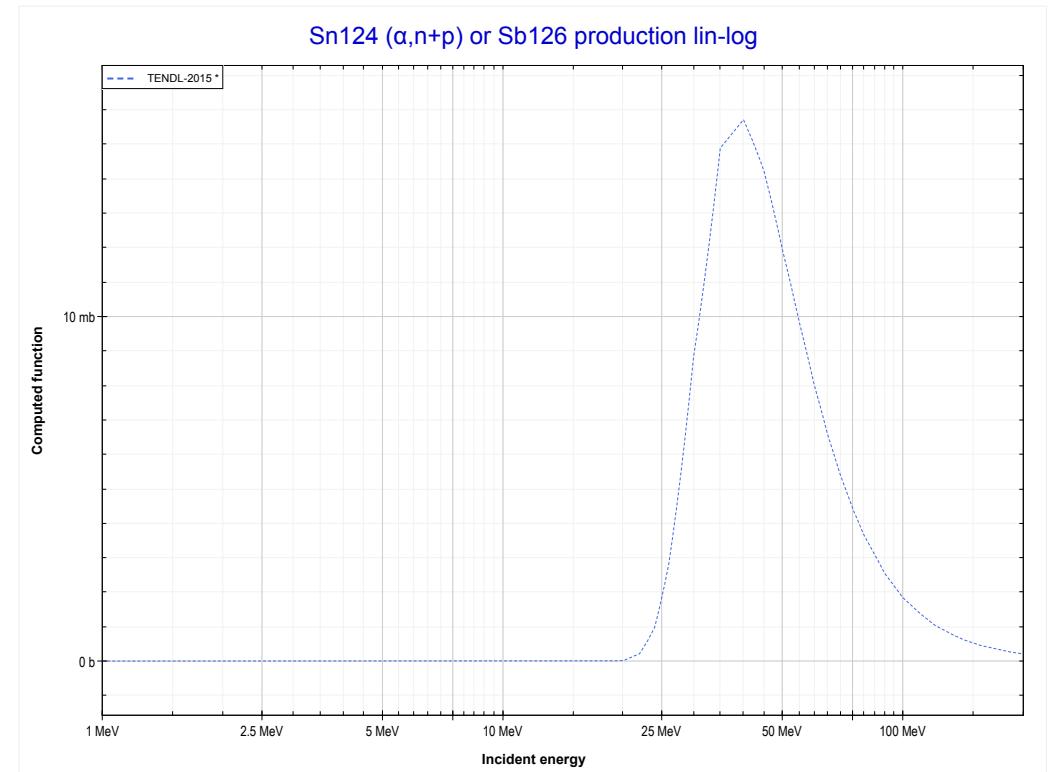
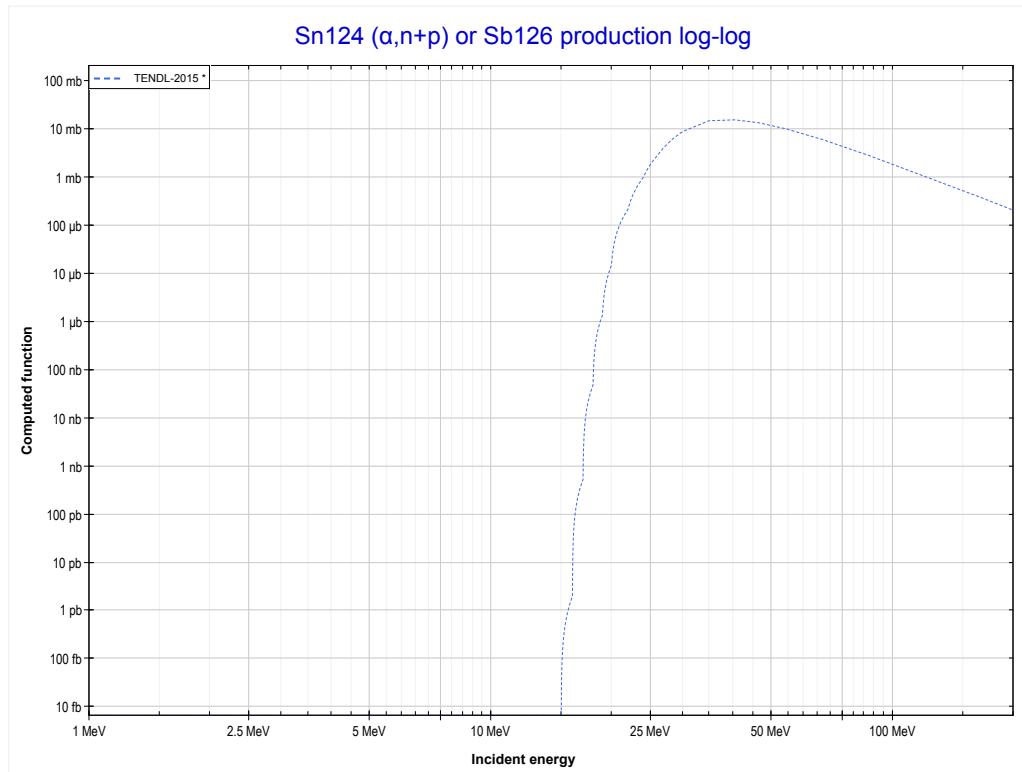
Reaction	Q-Value
Sn124( $\alpha,3n$ )Te125	-21000.24 keV

<< 48-Cd-116	<b>50-Sn-124</b> MT22 ( $\alpha, n+\alpha$ ) or MT5 (Sn123 production)	58-Ce-142 >>
<< MT17 ( $\alpha, 3n$ )		MT28 ( $\alpha, n+p$ ) >>



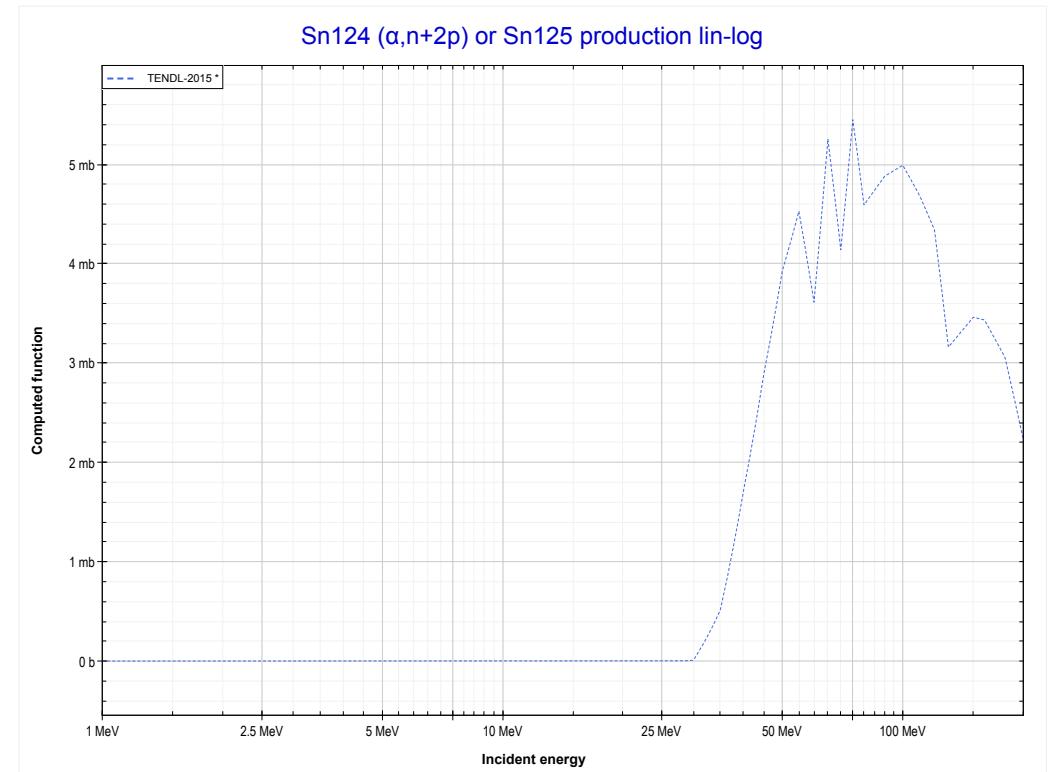
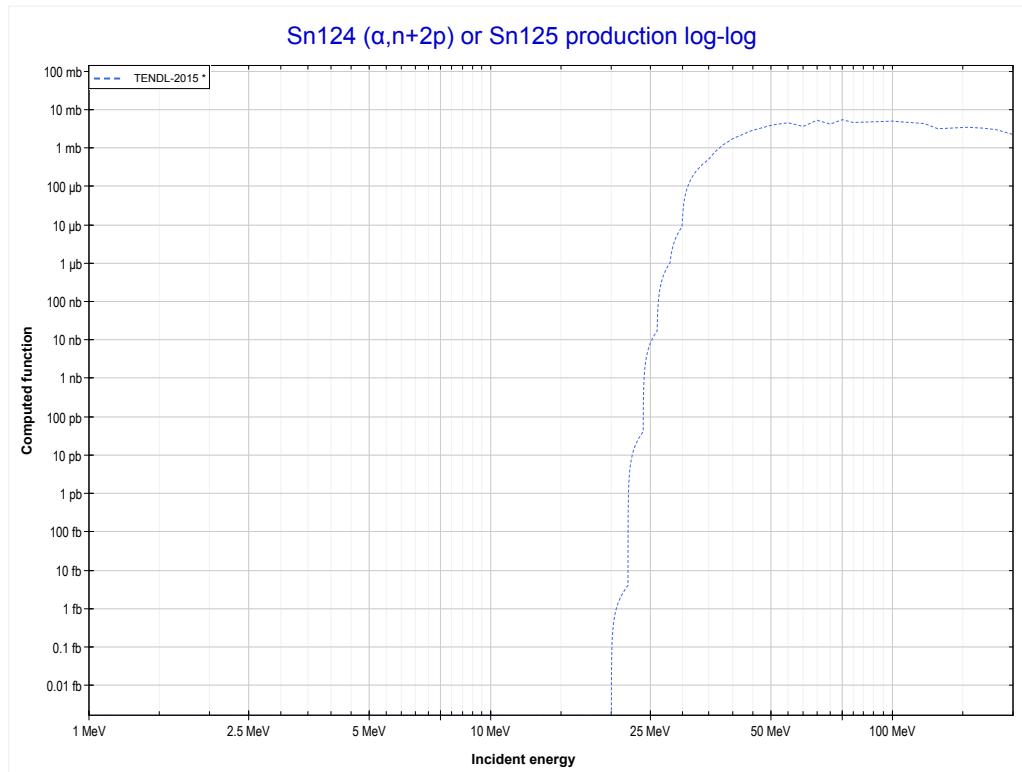
Reaction	Q-Value
Sn124( $\alpha, n+\alpha$ )Sn123	-8489.12 keV
Sn124( $\alpha, d+t$ )Sn123	-26078.41 keV
Sn124( $\alpha, n+p+t$ )Sn123	-28302.98 keV
Sn124( $\alpha, 2n+He3$ )Sn123	-29066.73 keV
Sn124( $\alpha, n+2d$ )Sn123	-32335.64 keV
Sn124( $\alpha, 2n+p+d$ )Sn123	-34560.21 keV
Sn124( $\alpha, 3n+2p$ )Sn123	-36784.78 keV

<< 48-Cd-114	<b>50-Sn-124</b> MT28 ( $\alpha, n+p$ ) or MT5 (Sb126 production)	>> 57-La-139
<< MT22 ( $\alpha, n+\alpha$ )		MT44 ( $\alpha, n+2p$ ) >>



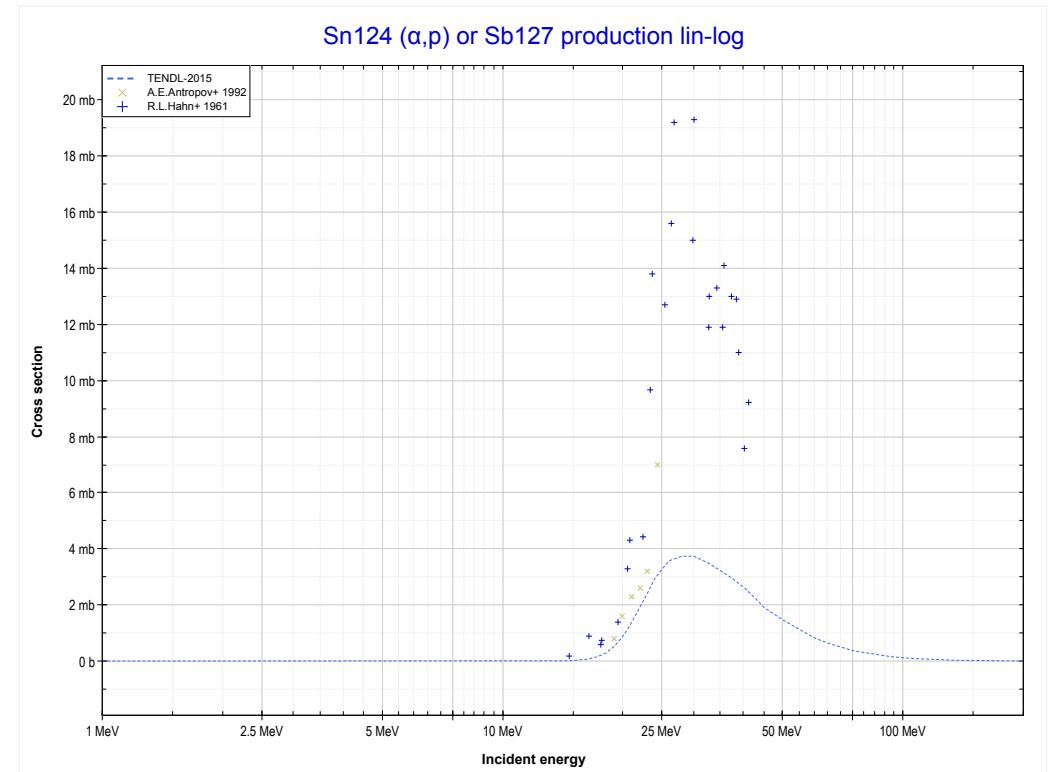
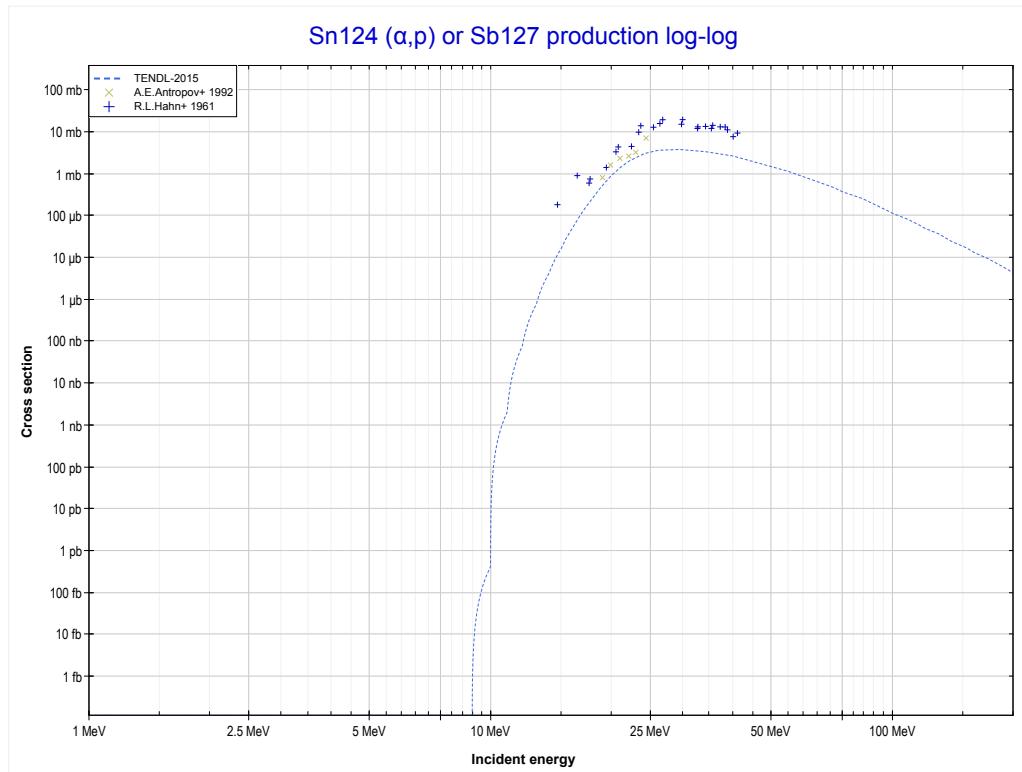
Reaction	Q-Value
Sn124( $\alpha, d$ )Sb126	-12555.01 keV
Sn124( $\alpha, n+p$ )Sb126	-14779.57 keV

<< 30-Zn-64	<b>50-Sn-124</b> MT44 ( $\alpha, n+2p$ ) or MT5 (Sn125 production)	>> 58-Ce-142
<< MT28 ( $\alpha, n+p$ )		>> MT103 ( $\alpha, p$ ) >>



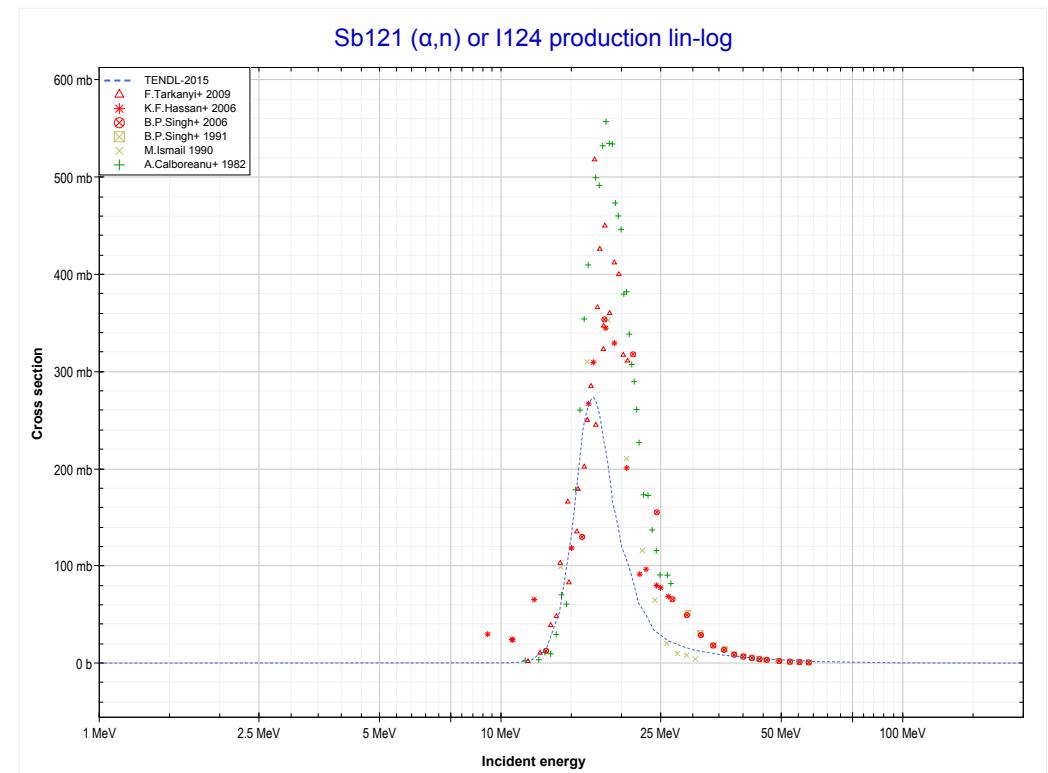
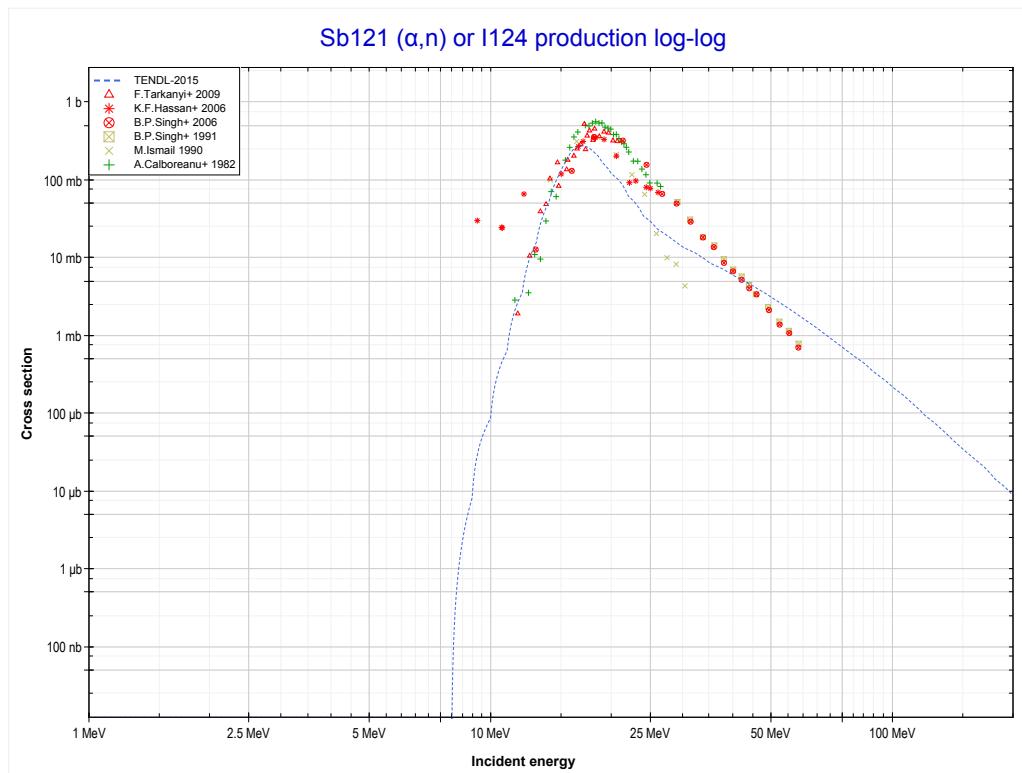
Reaction	Q-Value
Sn124( $\alpha, \text{He}3$ )Sn125	-14844.10 keV
Sn124( $\alpha, p+d$ )Sn125	-20337.58 keV
Sn124( $\alpha, n+2p$ )Sn125	-22562.14 keV

<< 50-Sn-117	<b>50-Sn-124</b> MT103 ( $\alpha,p$ ) or MT5 (Sb127 production)	74-W-186 >>
<< MT44 ( $\alpha,n+2p$ )		51-Sb-121 MT4 ( $\alpha,n$ ) >>



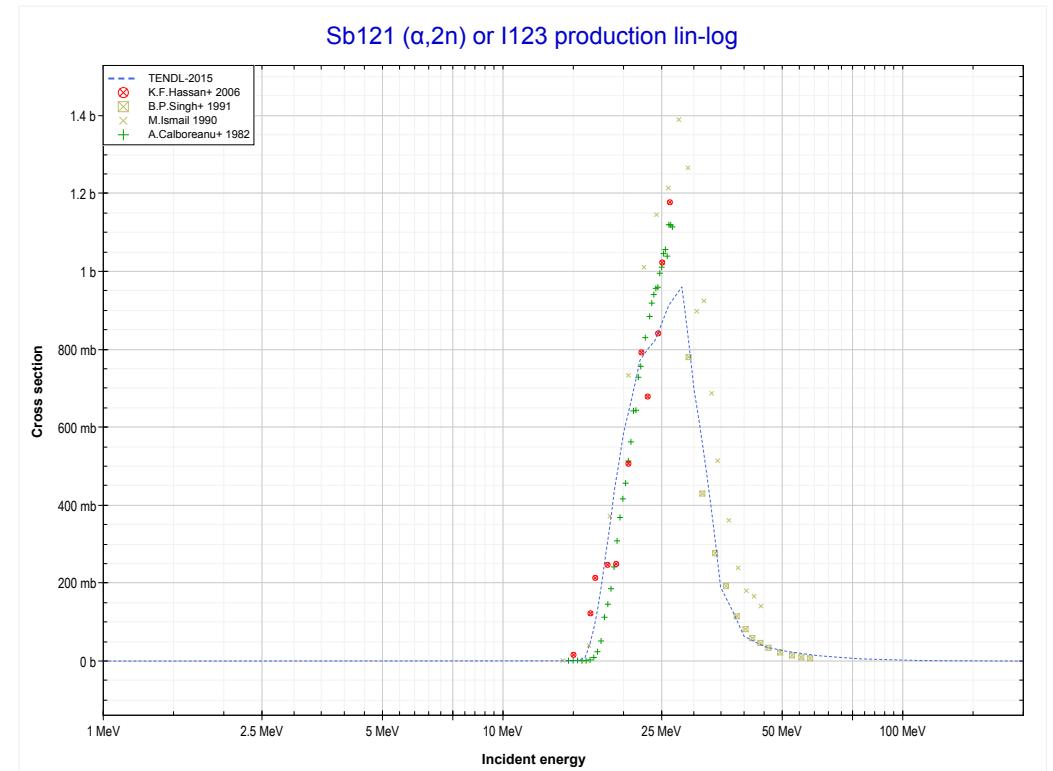
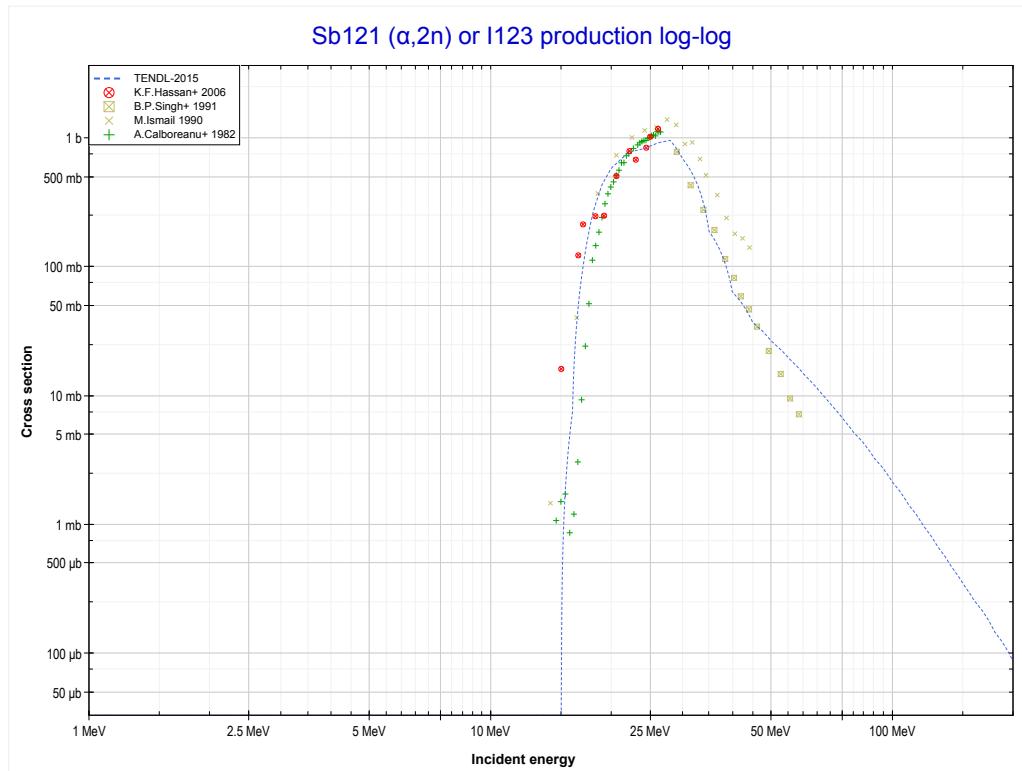
Reaction	Q-Value
Sn124( $\alpha,p$ )Sb127	-6399.25 keV

<< 50-Sn-124	
<< 50-Sn-124 MT103 ( $\alpha, p$ )	

**51-Sb-121****MT4 ( $\alpha, n$ ) or MT5 (I124 production)****51-Sb-123 >>****MT16 ( $\alpha, 2n$ ) >>**

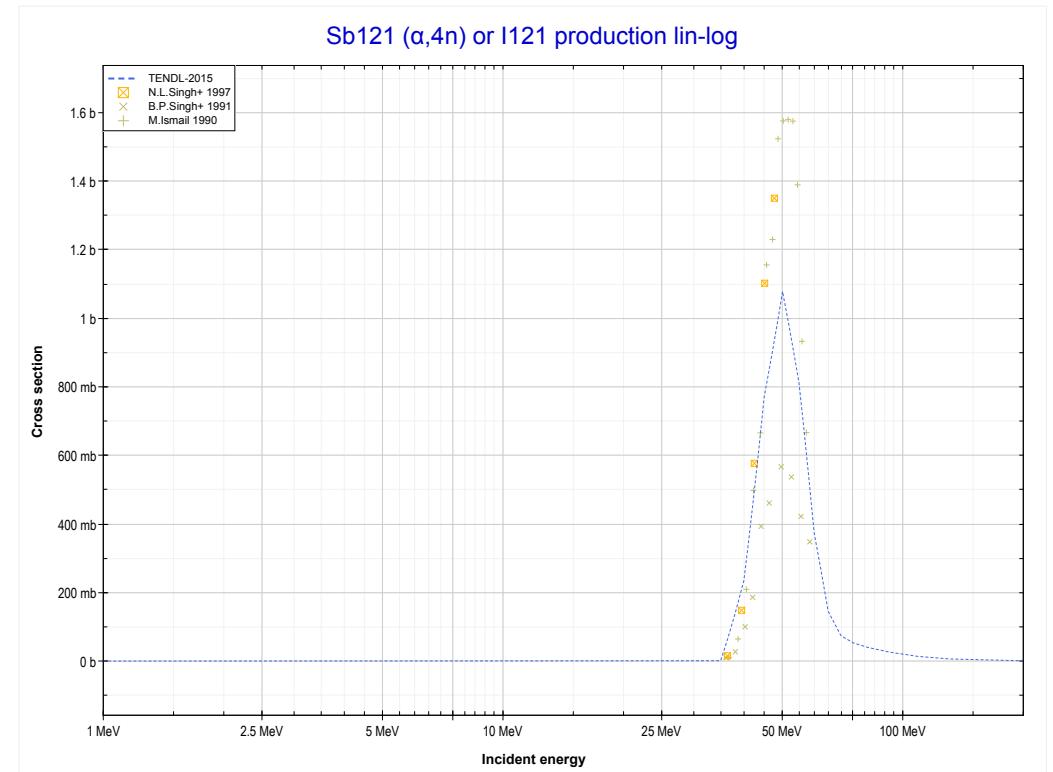
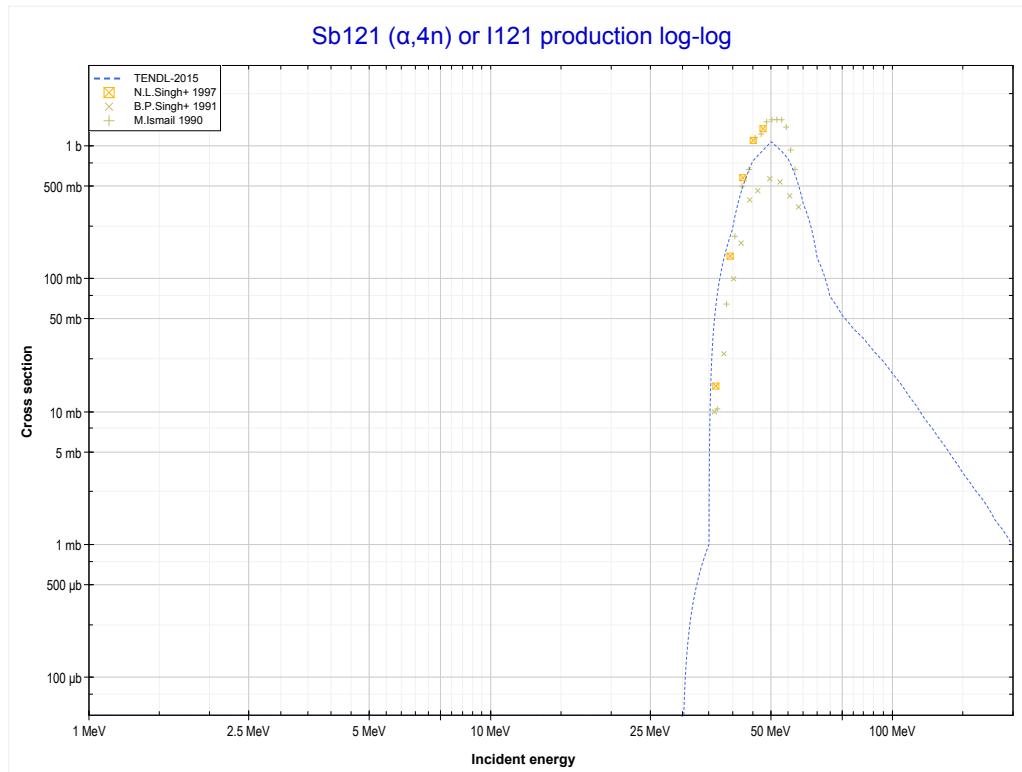
Reaction	Q-Value
Sb121( $\alpha, n$ )I124	-7879.30 keV

<< 50-Sn-117	<b>51-Sb-121</b> MT16 ( $\alpha,2n$ ) or MT5 (I123 production)	51-Sb-123 >> MT37 ( $\alpha,4n$ ) >>
<< MT4 ( $\alpha,n$ )		



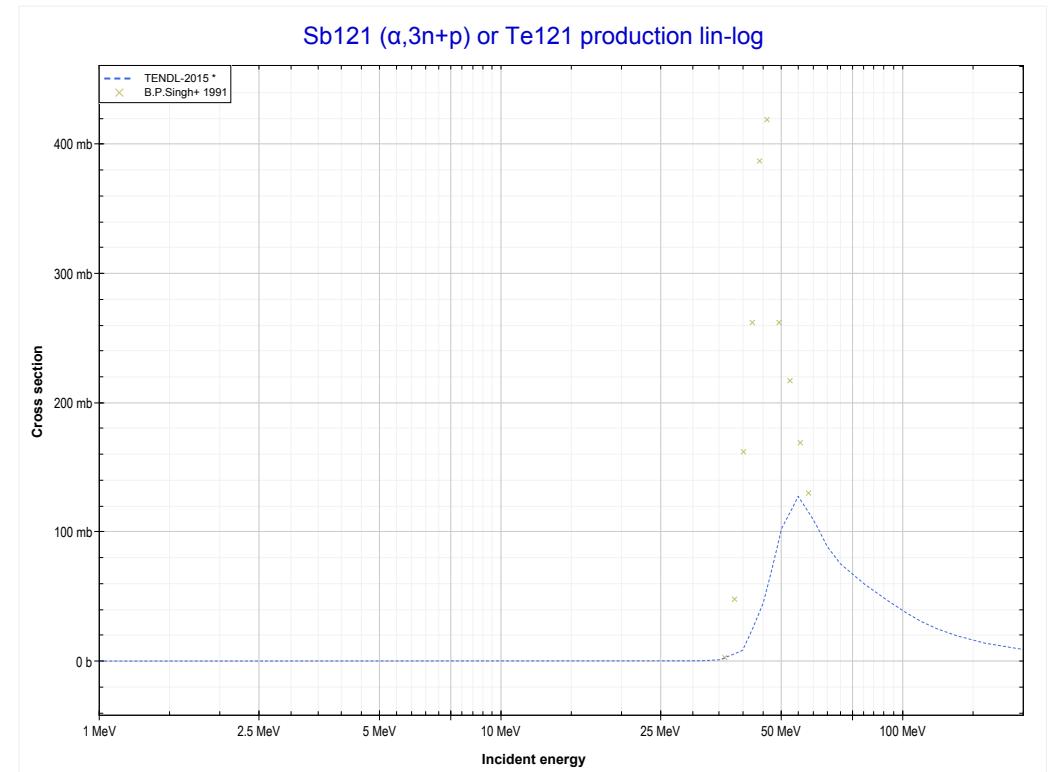
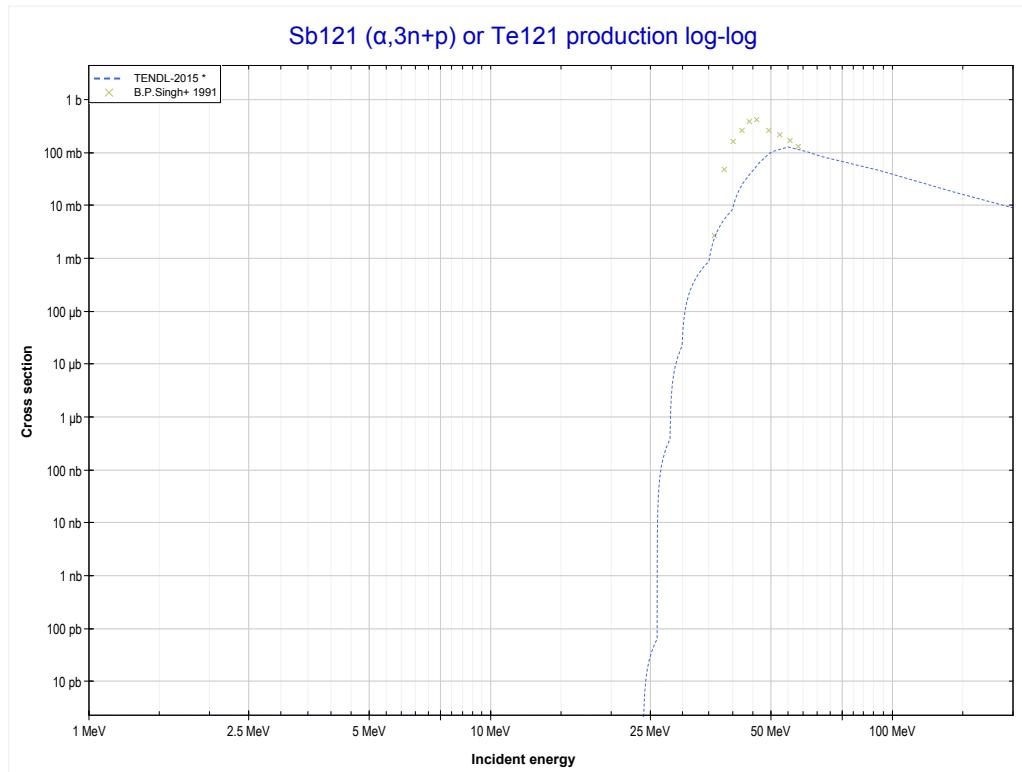
Reaction	Q-Value
Sb121( $\alpha,2n$ )I123	-15372.32 keV

<< 49-In-115	<b>51-Sb-121</b> MT37 ( $\alpha,4n$ ) or MT5 (I121 production)	51-Sb-123 >> MT42 ( $\alpha,3n+p$ ) >>
<< MT16 ( $\alpha,2n$ )		



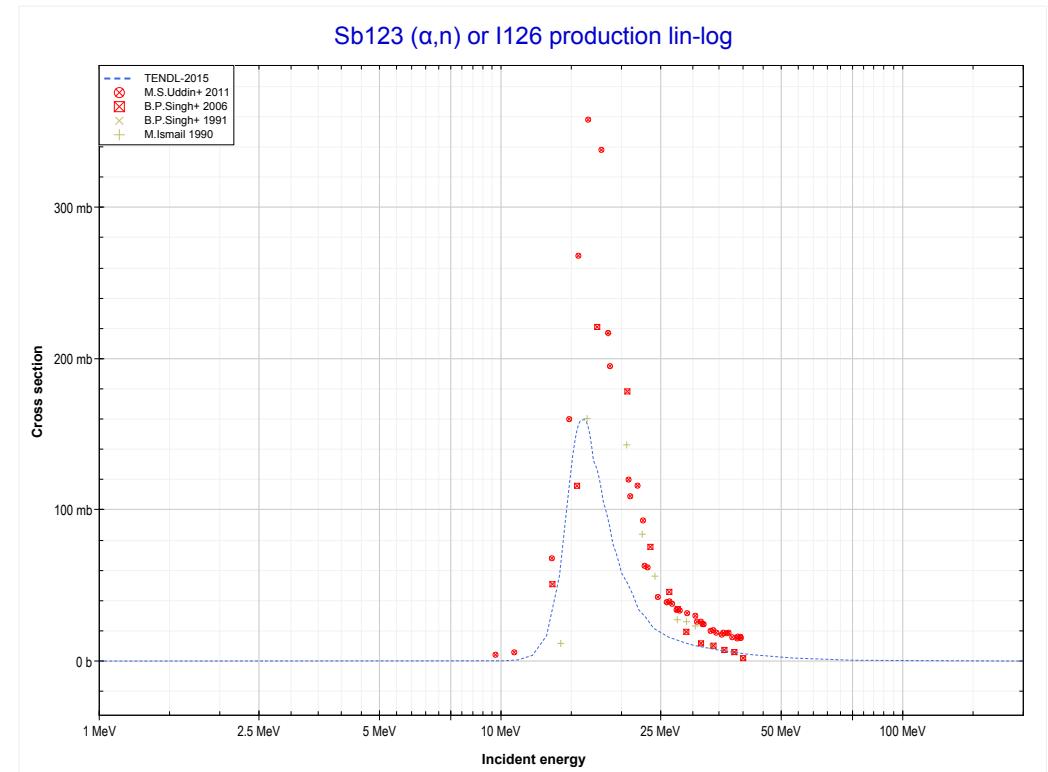
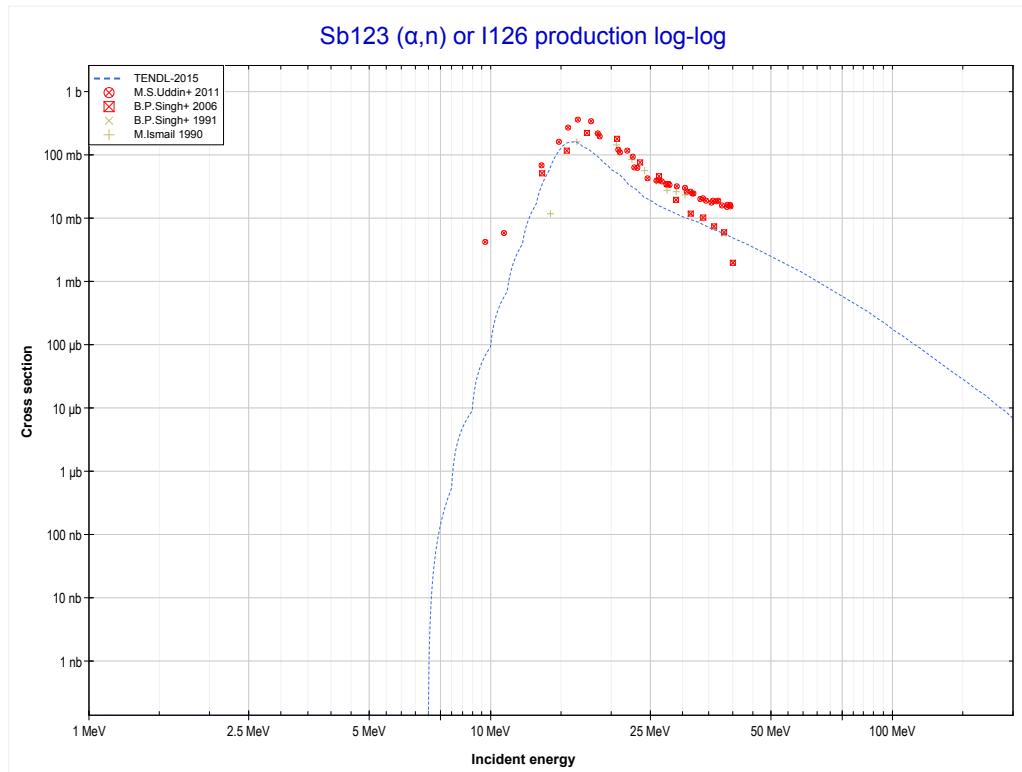
Reaction	Q-Value
Sb121( $\alpha,4n$ )I121	-33206.95 keV

<< 48-Cd-116	<b>51-Sb-121</b> MT42 ( $\alpha$ ,3n+p) or MT5 (Te121 production)	79-Au-197 >>
<< MT37 ( $\alpha$ ,4n)		51-Sb-123 MT4 ( $\alpha$ ,n) >>



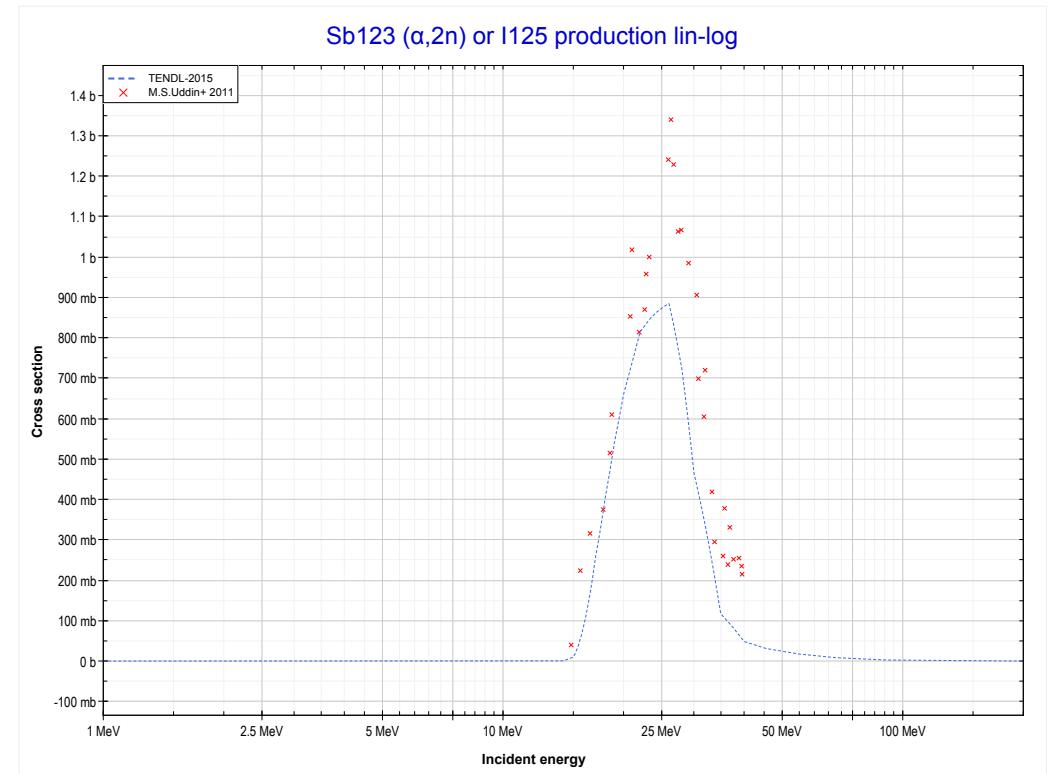
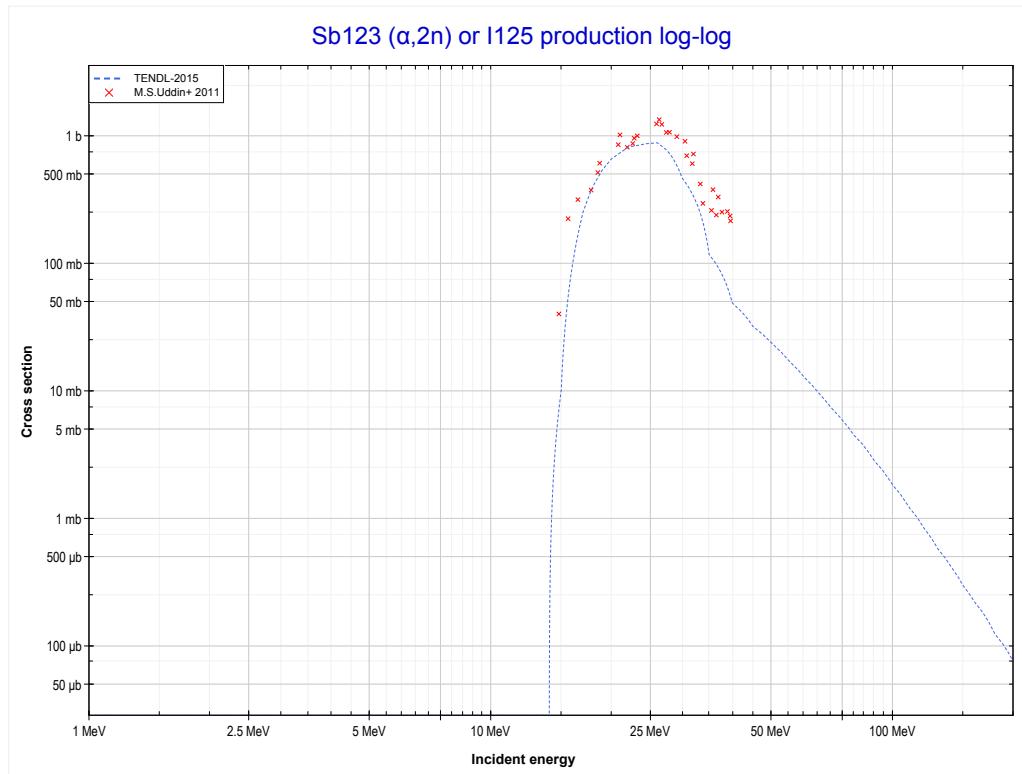
Reaction	Q-Value
Sb121( $\alpha$ ,n+t)Te121	-21650.81 keV
Sb121( $\alpha$ ,2n+d)Te121	-27908.04 keV
Sb121( $\alpha$ ,3n+p)Te121	-30132.61 keV

<< 51-Sb-121	<b>51-Sb-123</b> MT4 ( $\alpha, n$ ) or MT5 (I126 production)	>> 52-Te-130
<< 51-Sb-121 MT42 ( $\alpha, 3n+p$ )		MT16 ( $\alpha, 2n$ ) >>



Reaction	Q-Value
Sb123( $\alpha, n$ )I126	-6960.20 keV

<< 51-Sb-121	<b>51-Sb-123</b> MT16 ( $\alpha,2n$ ) or MT5 (I125 production)	>> 52-Te-130
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>

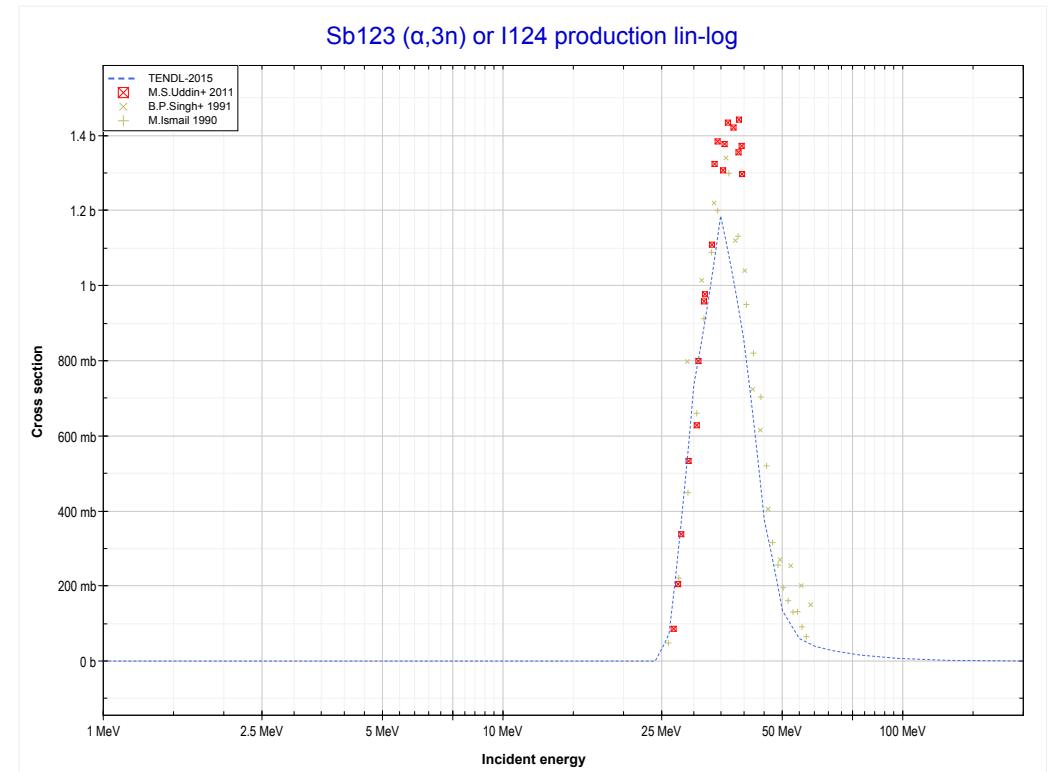
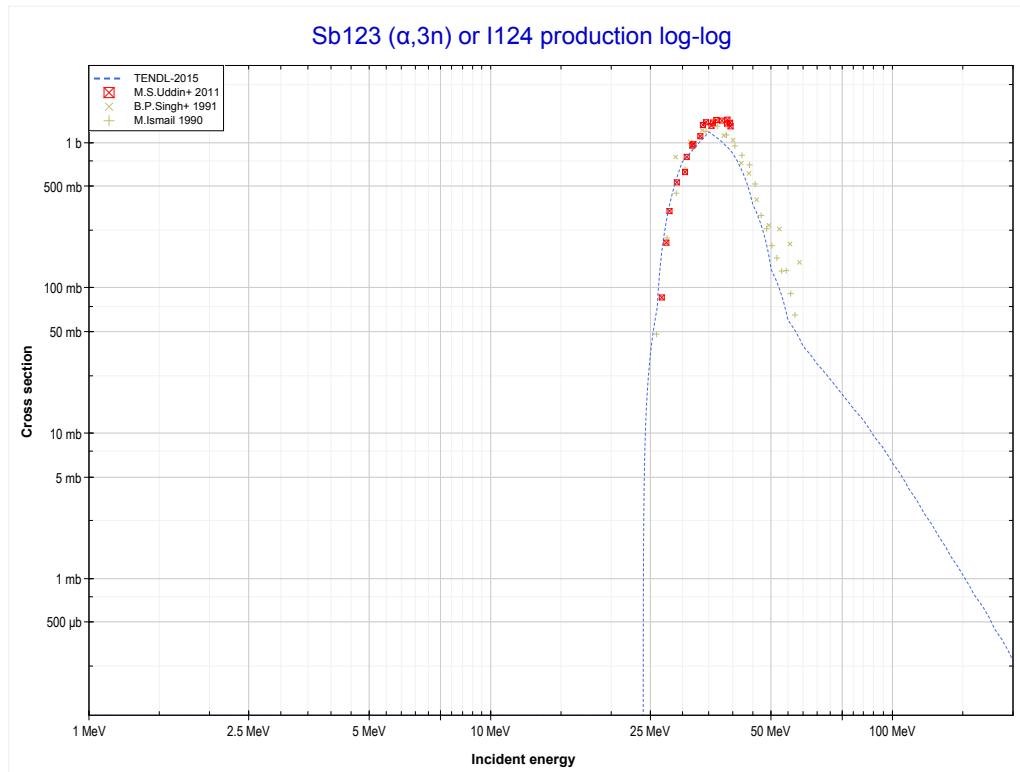


Reaction	Q-Value
Sb123( $\alpha,2n$ )I125	-14105.32 keV

<< 50-Sn-124	
<< MT16 ( $\alpha$ ,2n)	

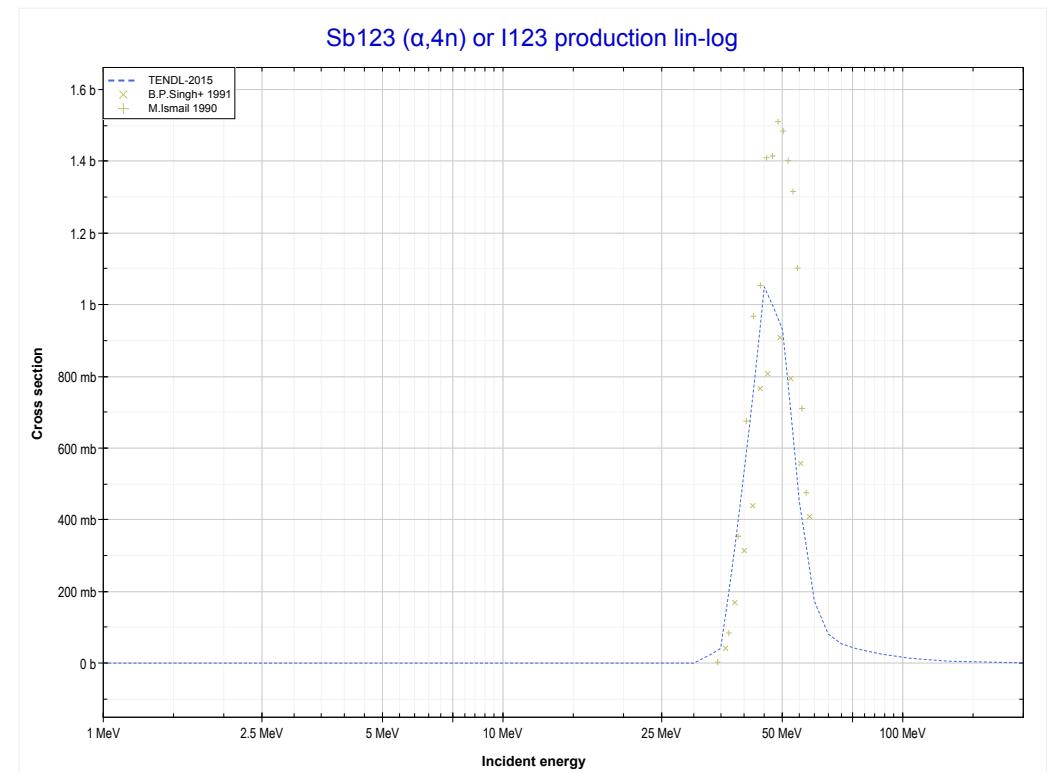
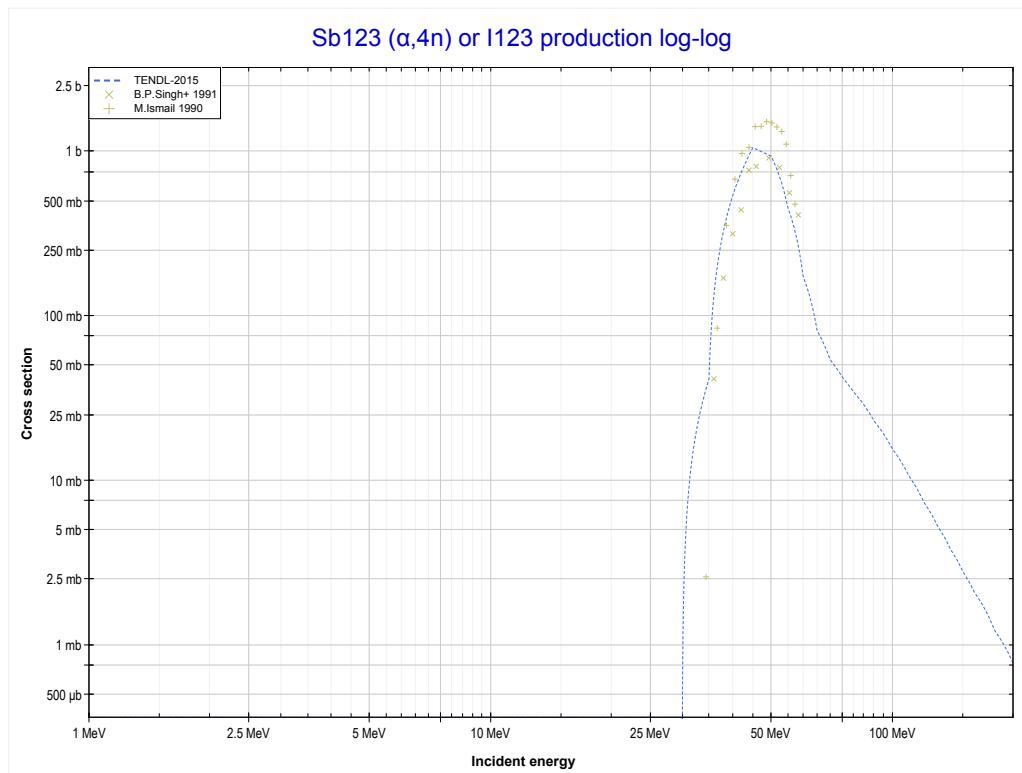
51-Sb-123
MT17 ( $\alpha$ ,3n) or MT5 (I124 production)

56-Ba-136 >>
MT37 ( $\alpha$ ,4n) >>



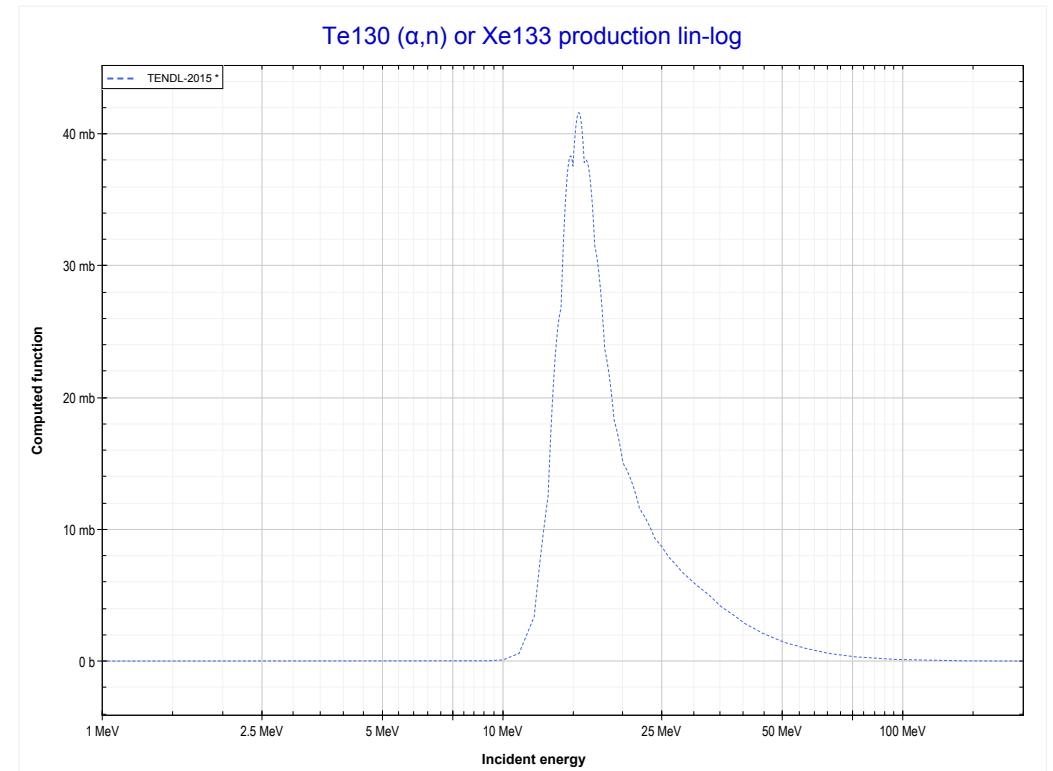
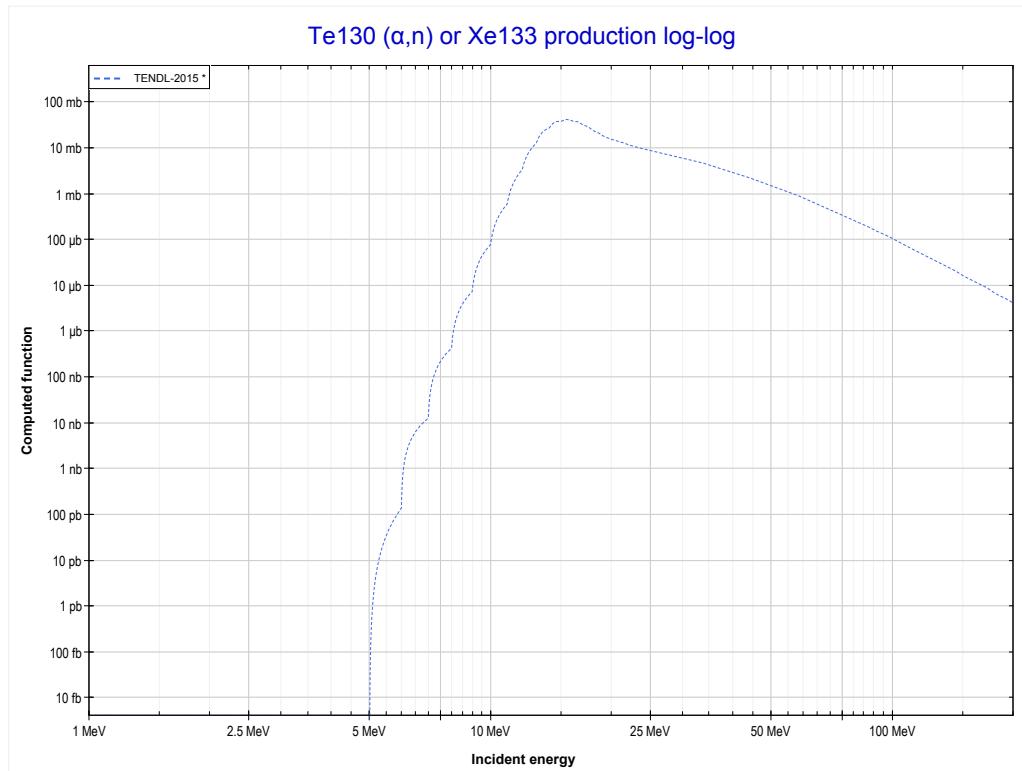
Reaction	Q-Value
Sb123( $\alpha$ ,3n)I124	-23648.14 keV

<< 51-Sb-121	<b>51-Sb-123</b> MT37 ( $\alpha$ ,4n) or MT5 (I123 production)	53-I-127 >>
<< MT17 ( $\alpha$ ,3n)		52-Te-130 MT4 ( $\alpha$ ,n) >>



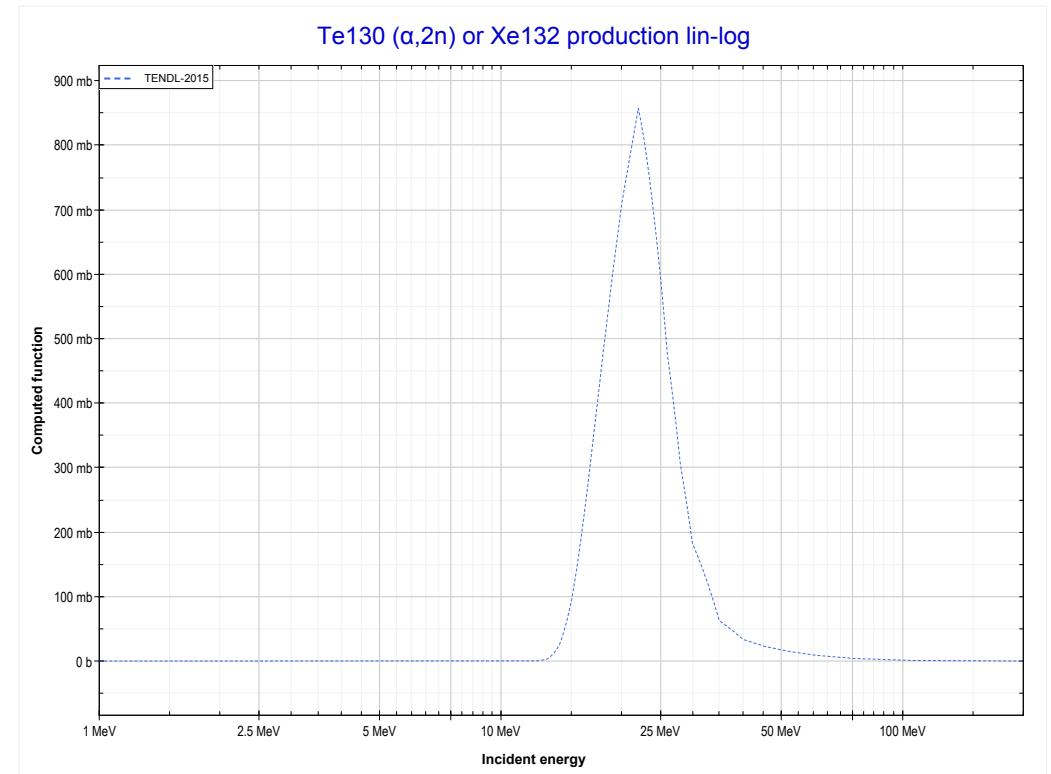
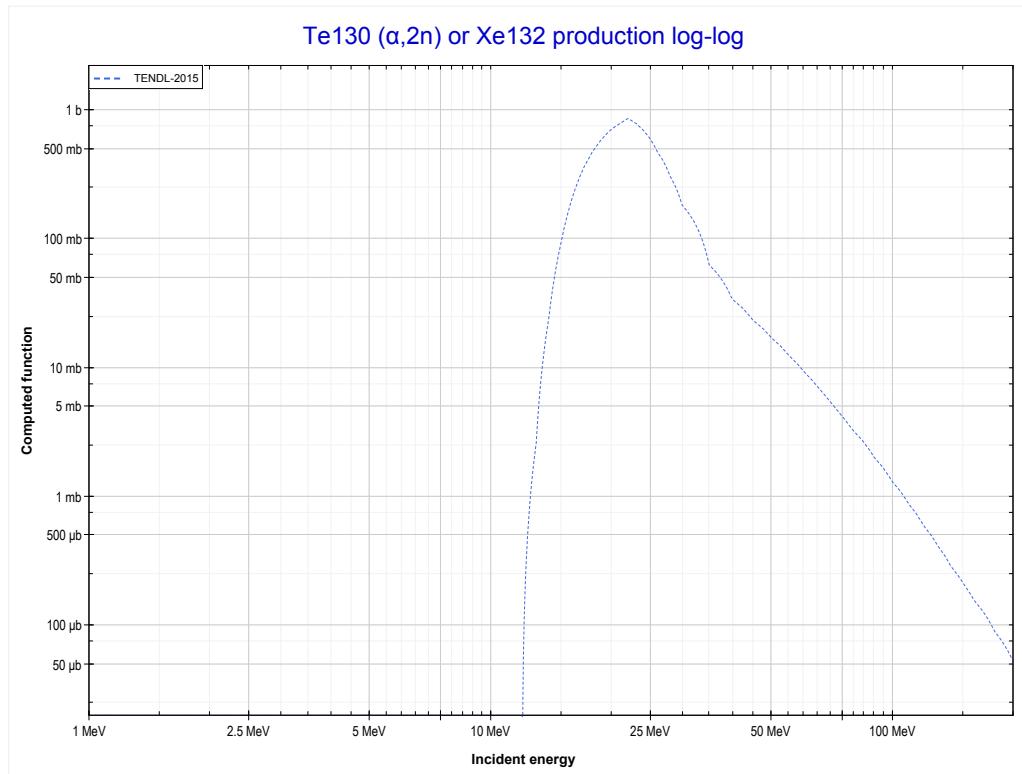
Reaction	Q-Value
Sb123( $\alpha$ ,4n)I123	-31141.15 keV

<< 51-Sb-123	<b>52-Te-130</b> MT4 ( $\alpha, n$ ) or MT5 (Xe133 production)	57-La-139 >>
<< 51-Sb-123 MT37 ( $\alpha, 4n$ )		MT16 ( $\alpha, 2n$ ) >>



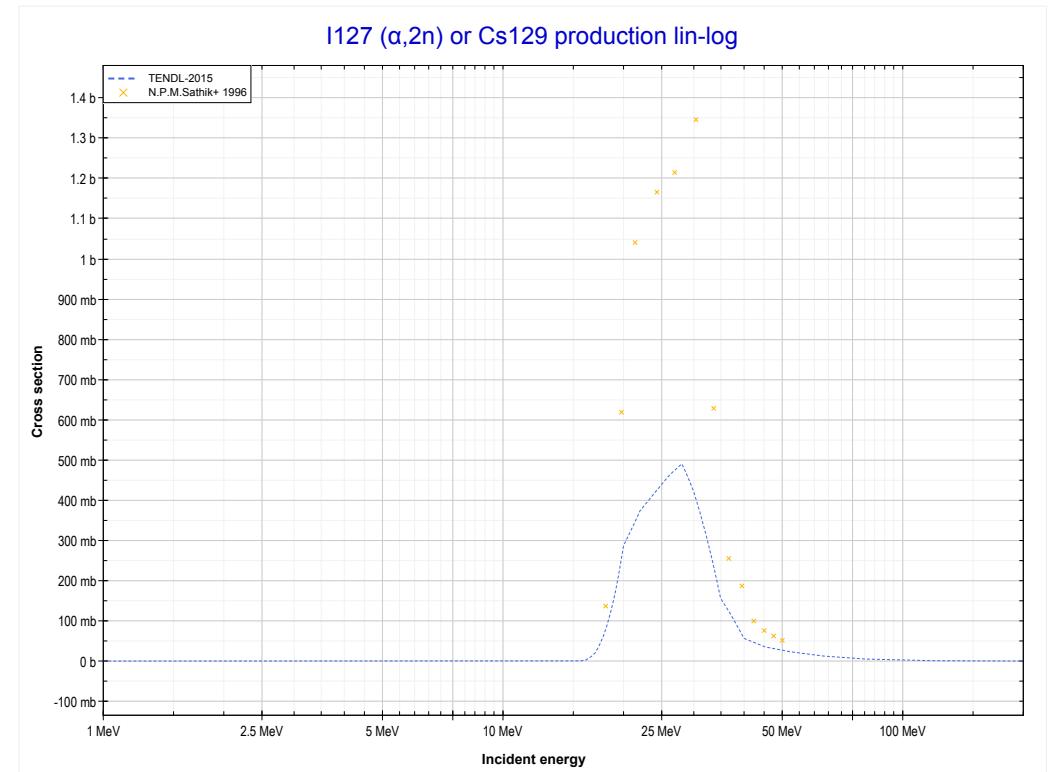
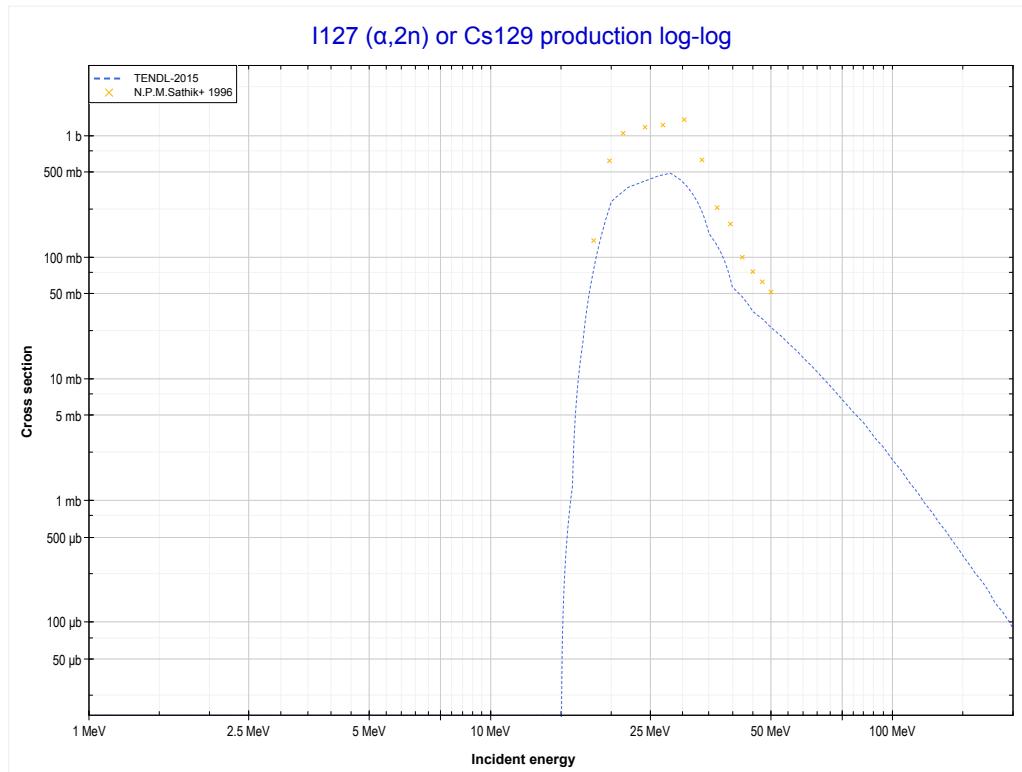
Reaction	Q-Value
Te130( $\alpha, n$ )Xe133	-5355.75 keV

<< 51-Sb-123	<b>52-Te-130</b> MT16 ( $\alpha,2n$ ) or MT5 (Xe132 production)	53-I-127 >>
<< MT4 ( $\alpha,n$ )		53-I-127 MT16 ( $\alpha,2n$ ) >>



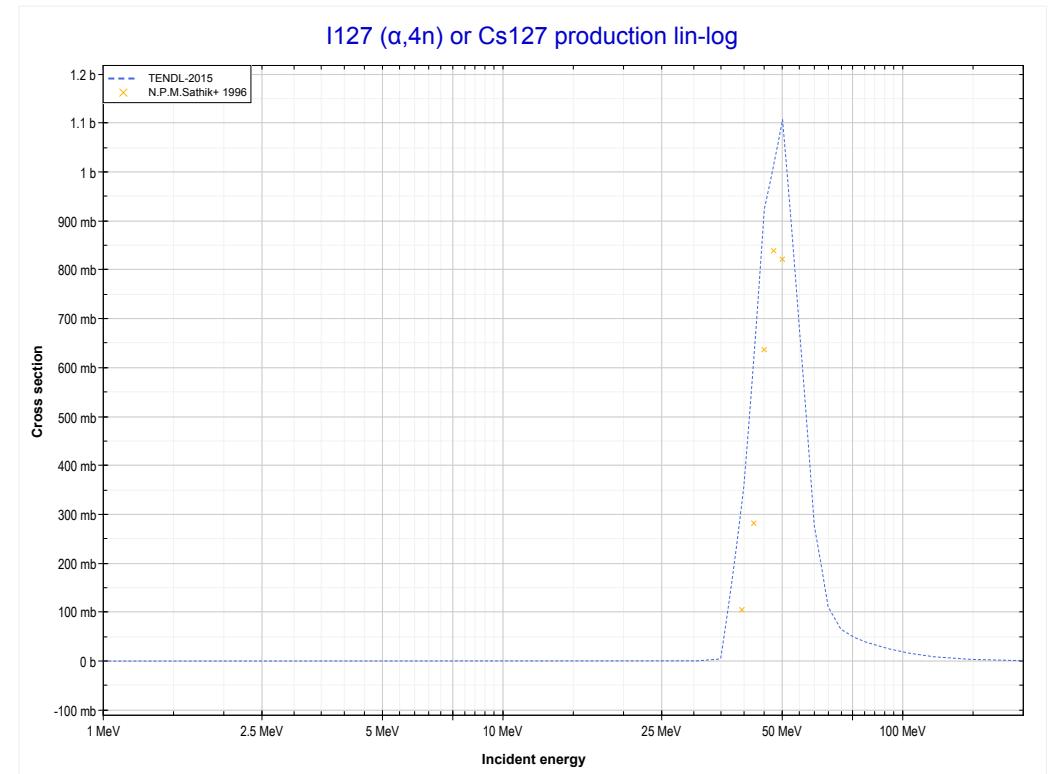
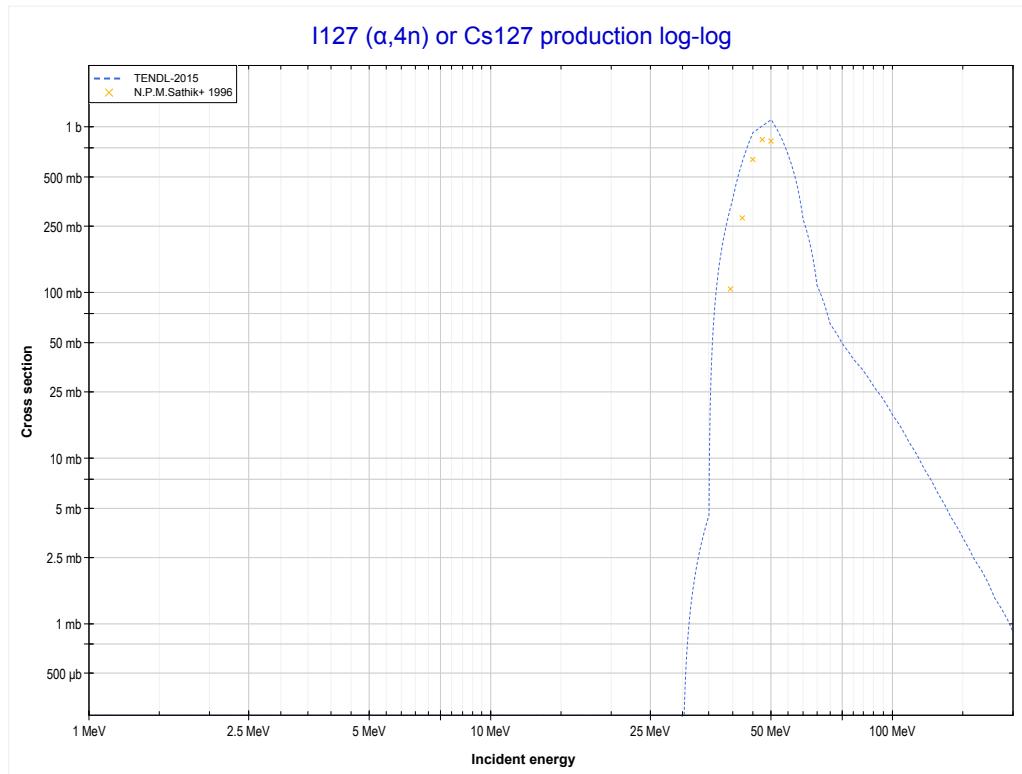
Reaction	Q-Value
Te130( $\alpha,2n$ )Xe132	-11791.70 keV

<< 52-Te-130	53-I-127 MT16 ( $\alpha,2n$ ) or MT5 (Cs129 production)	55-Cs-133 >>
<< 52-Te-130 MT16 ( $\alpha,2n$ )		MT37 ( $\alpha,4n$ ) >>



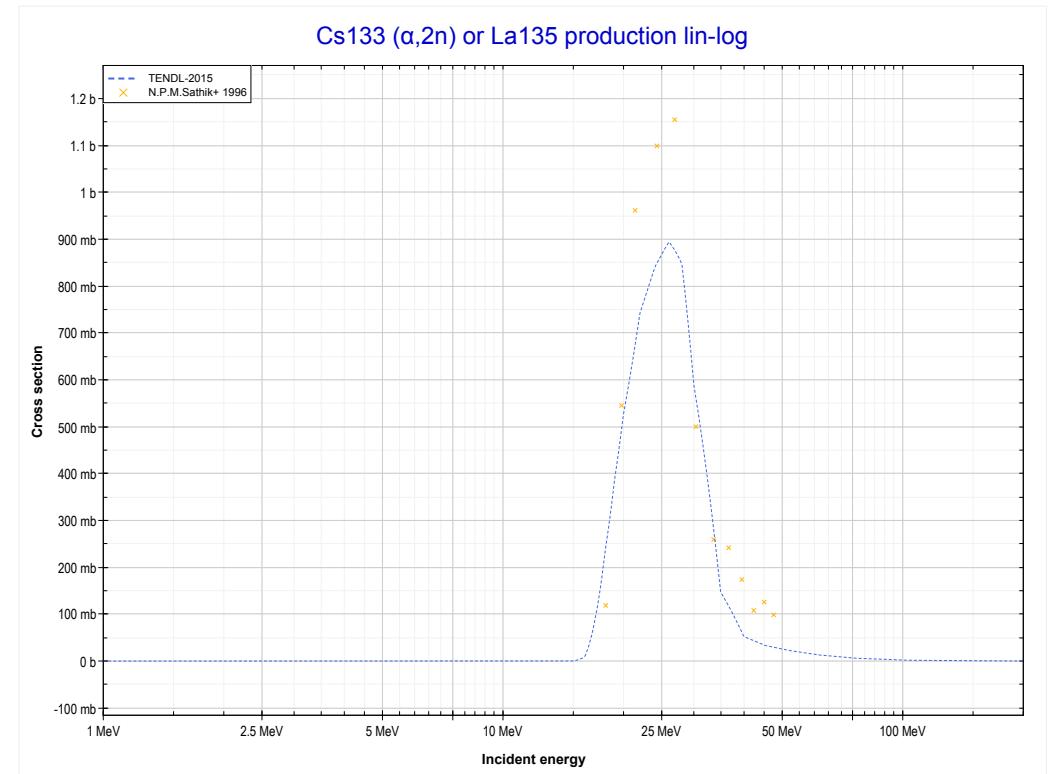
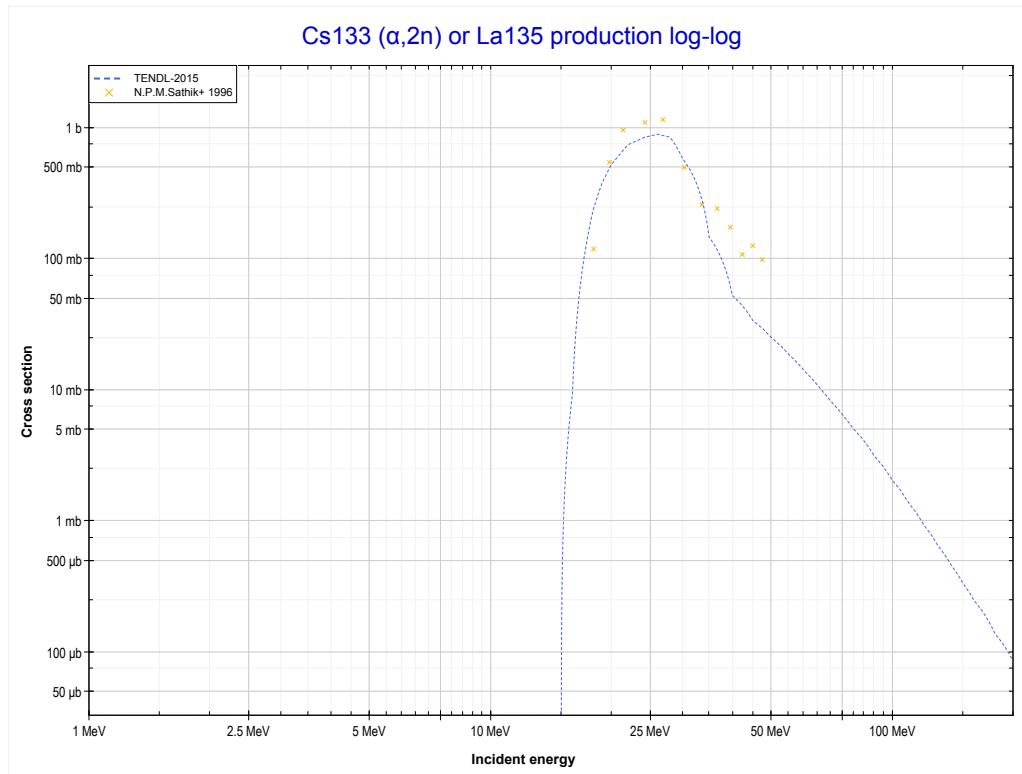
Reaction	Q-Value
I127( $\alpha,2n$ )Cs129	-15202.72 keV

<< 51-Sb-123	<b>53-I-127</b> MT37 ( $\alpha,4n$ ) or MT5 (Cs127 production)	55-Cs-133 >>
<< MT16 ( $\alpha,2n$ )		55-Cs-133 MT16 ( $\alpha,2n$ ) >>



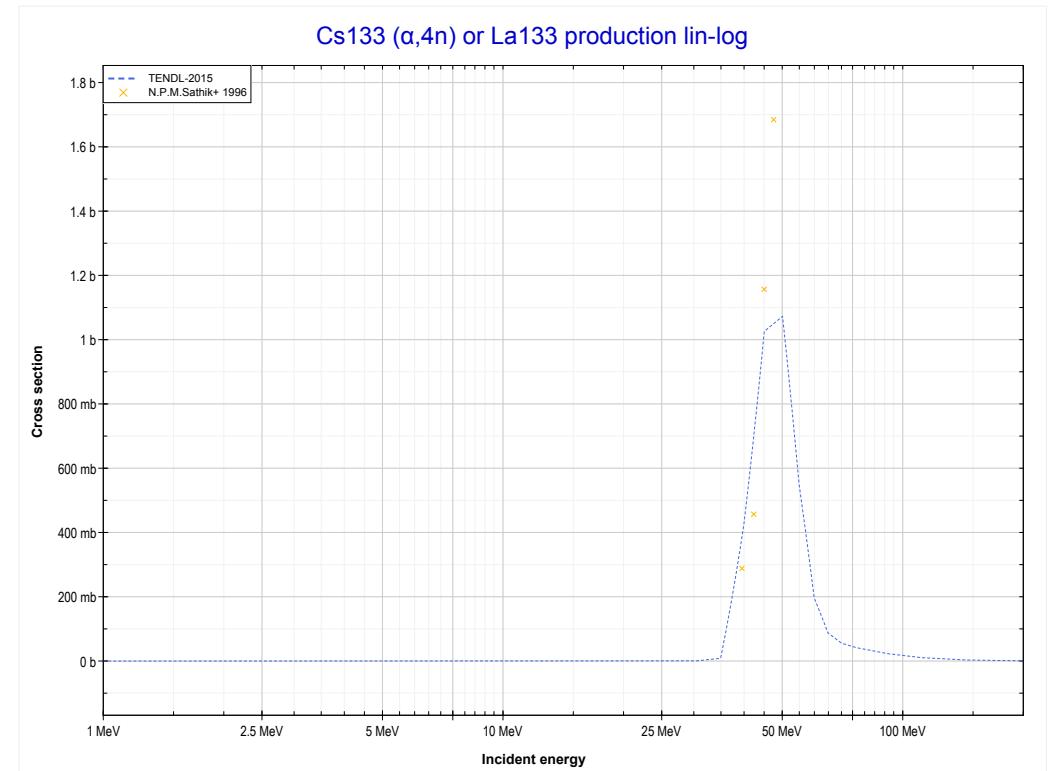
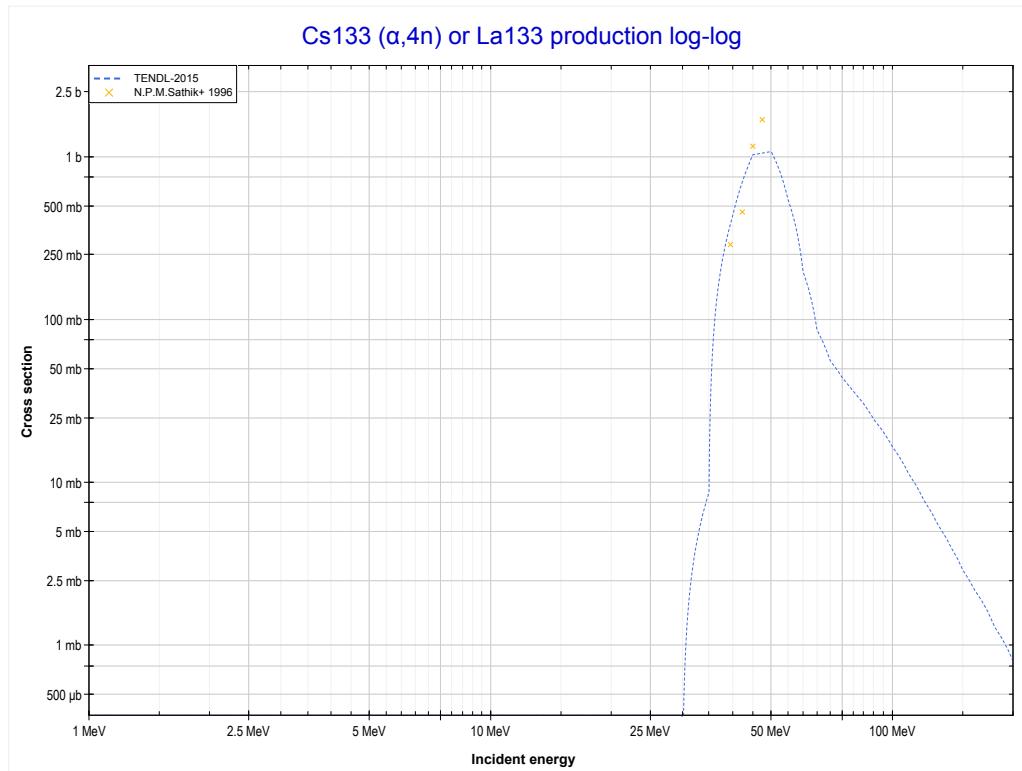
Reaction	Q-Value
I127( $\alpha,4n$ )Cs127	-32604.35 keV

<< 53-I-127	<b>55-Cs-133</b> MT16 ( $\alpha,2n$ ) or MT5 (La135 production)	59-Pr-141 >>
<< 53-I-127 MT37 ( $\alpha,4n$ )		MT37 ( $\alpha,4n$ ) >>



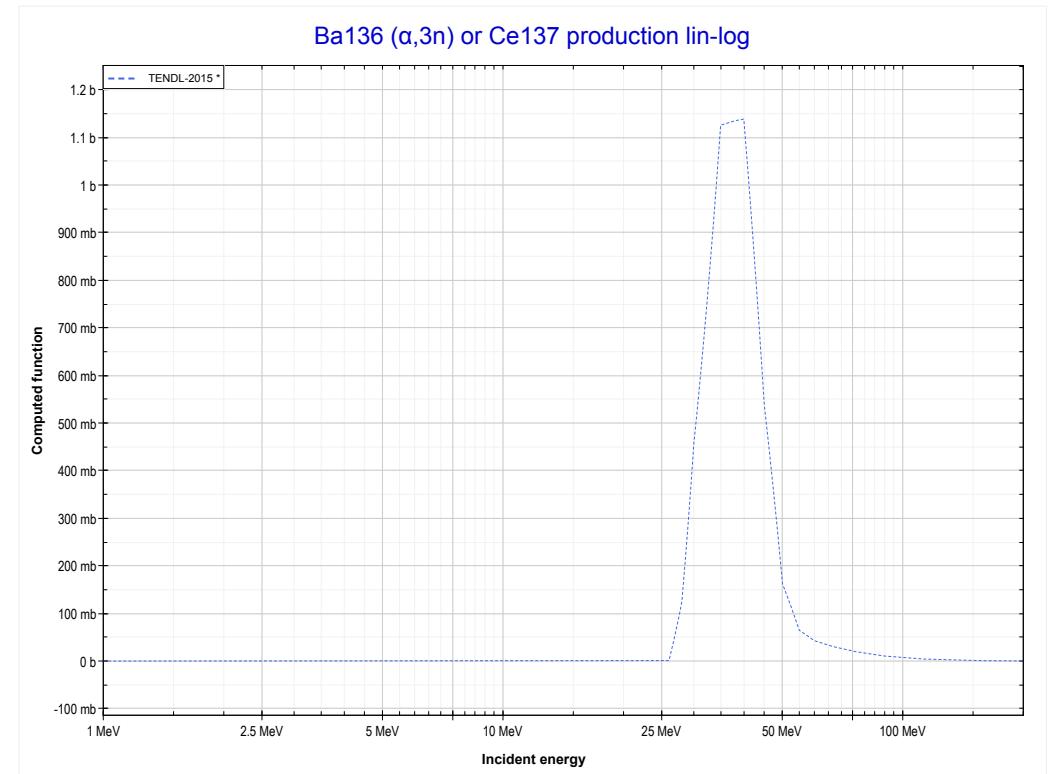
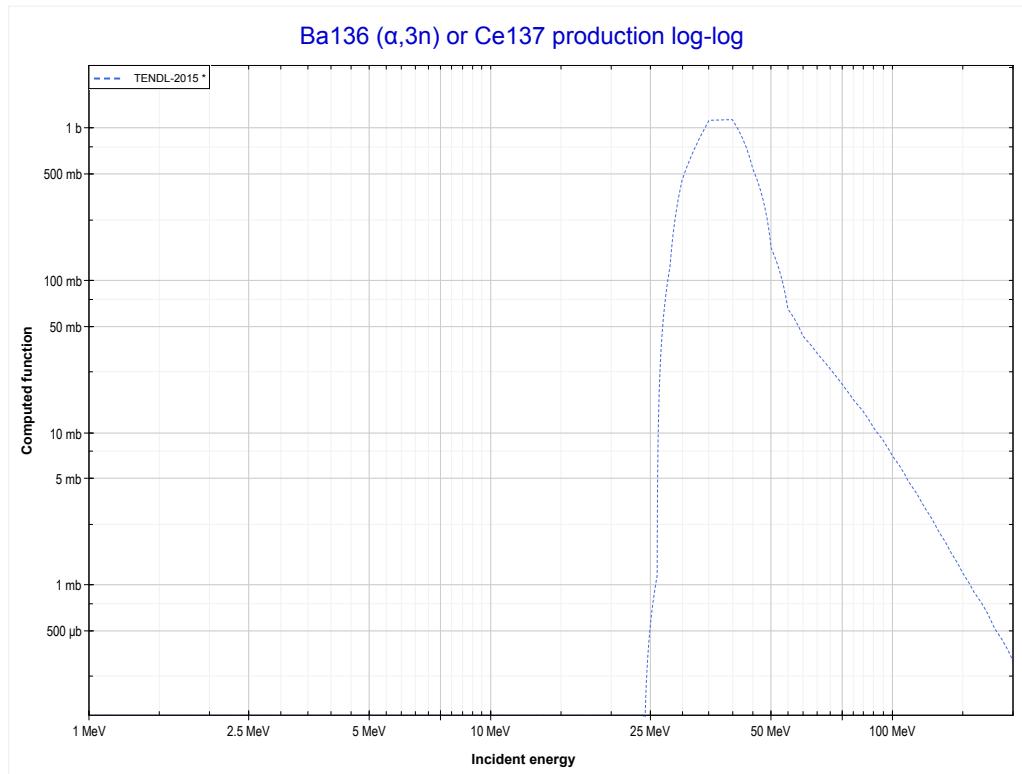
Reaction	Q-Value
Cs133( $\alpha,2n$ )La135	-15144.65 keV

<< 53-I-127	<b>55-Cs-133</b> MT37 ( $\alpha,4n$ ) or MT5 (La133 production)	57-La-139 >>
<< MT16 ( $\alpha,2n$ )		56-Ba-136 MT17 ( $\alpha,3n$ ) >>



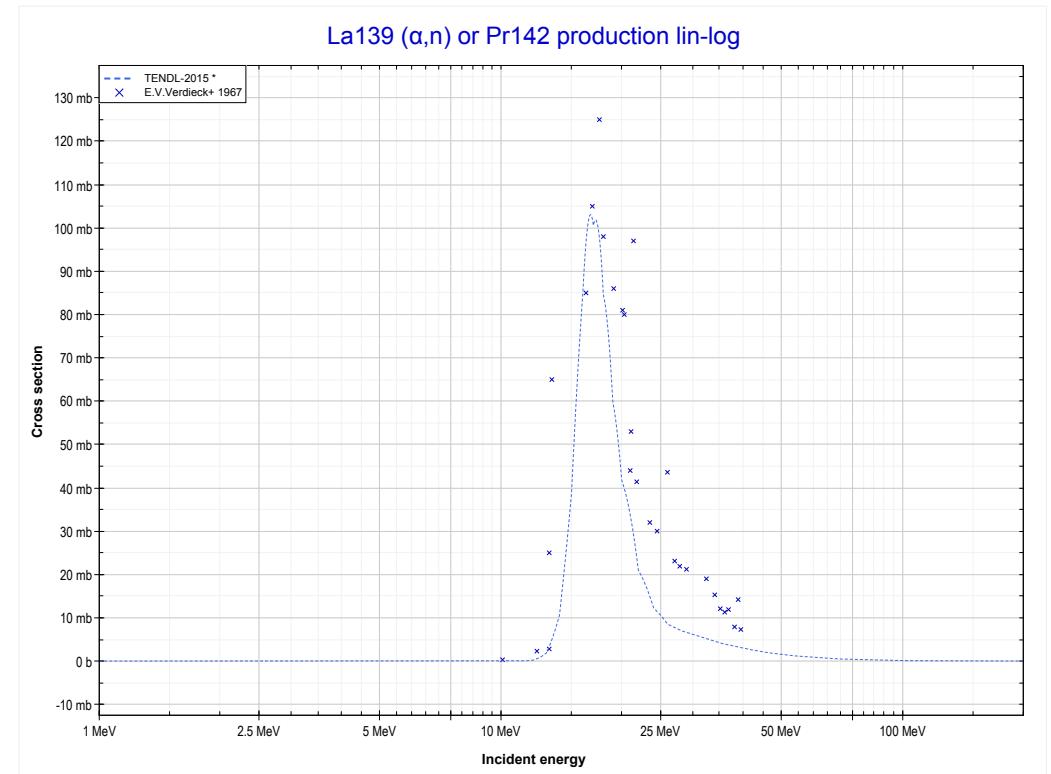
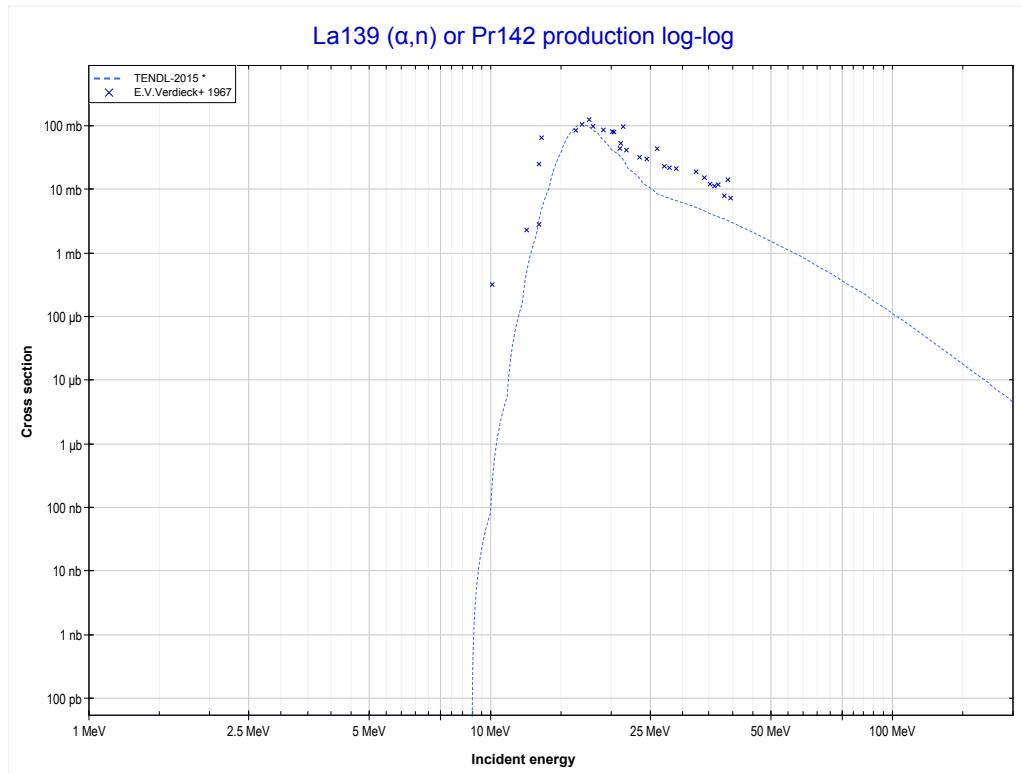
Reaction	Q-Value
Cs133( $\alpha,4n$ )La133	-32437.28 keV

<< 51-Sb-123	<b>56-Ba-136</b> MT17 ( $\alpha,3n$ ) or MT5 (Ce137 production)	57-La-139 >>
<< 55-Cs-133 MT37 ( $\alpha,4n$ )		57-La-139 MT4 ( $\alpha,n$ ) >>



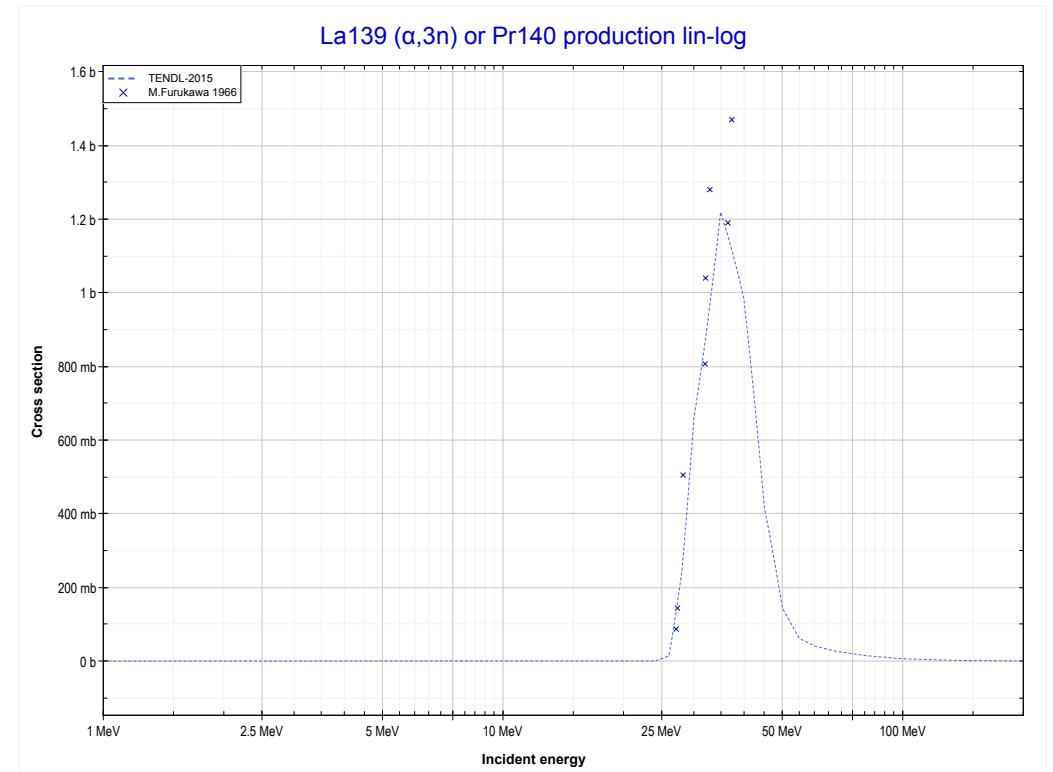
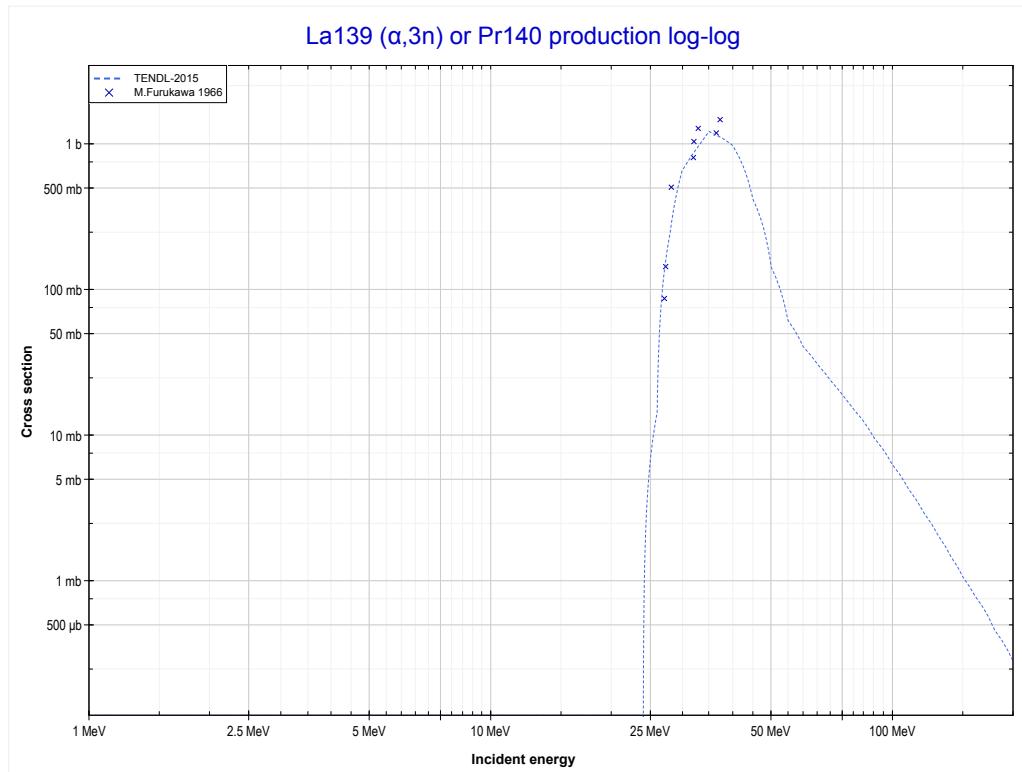
Reaction	Q-Value
Ba136( $\alpha,3n$ )Ce137	-24757.38 keV

<< 52-Te-130	<b>57-La-139</b> MT4 ( $\alpha, n$ ) or MT5 (Pr142 production)	59-Pr-141 >>
<< 56-Ba-136 MT17 ( $\alpha, 3n$ )		MT17 ( $\alpha, 3n$ ) >>



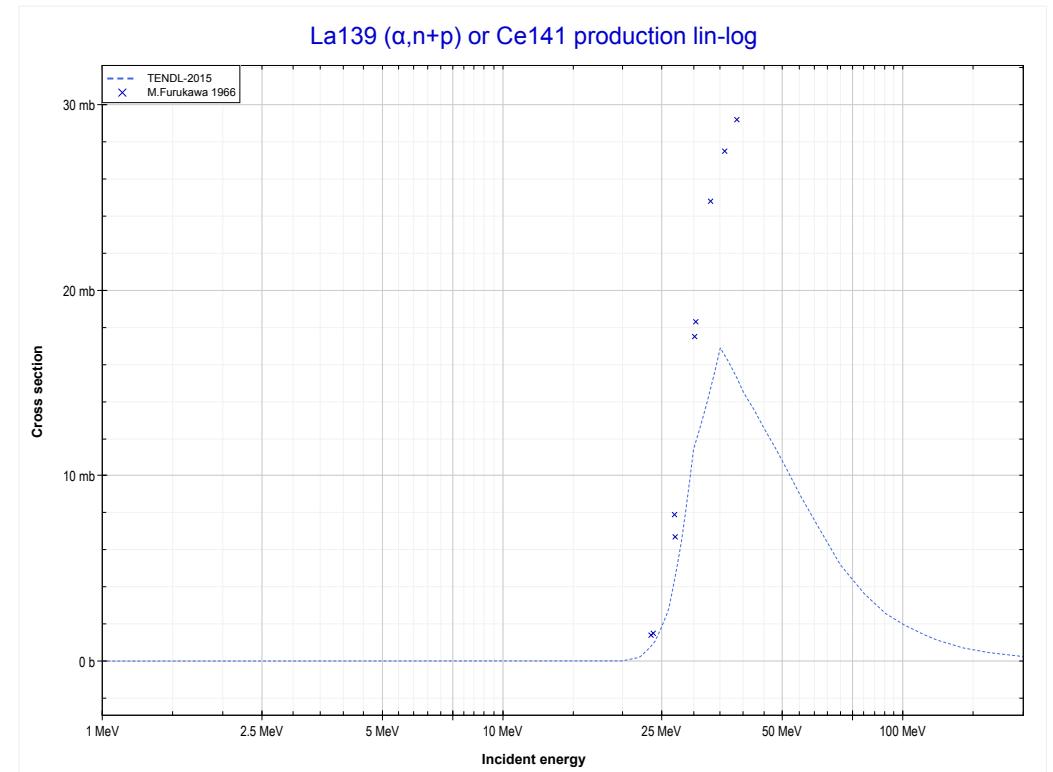
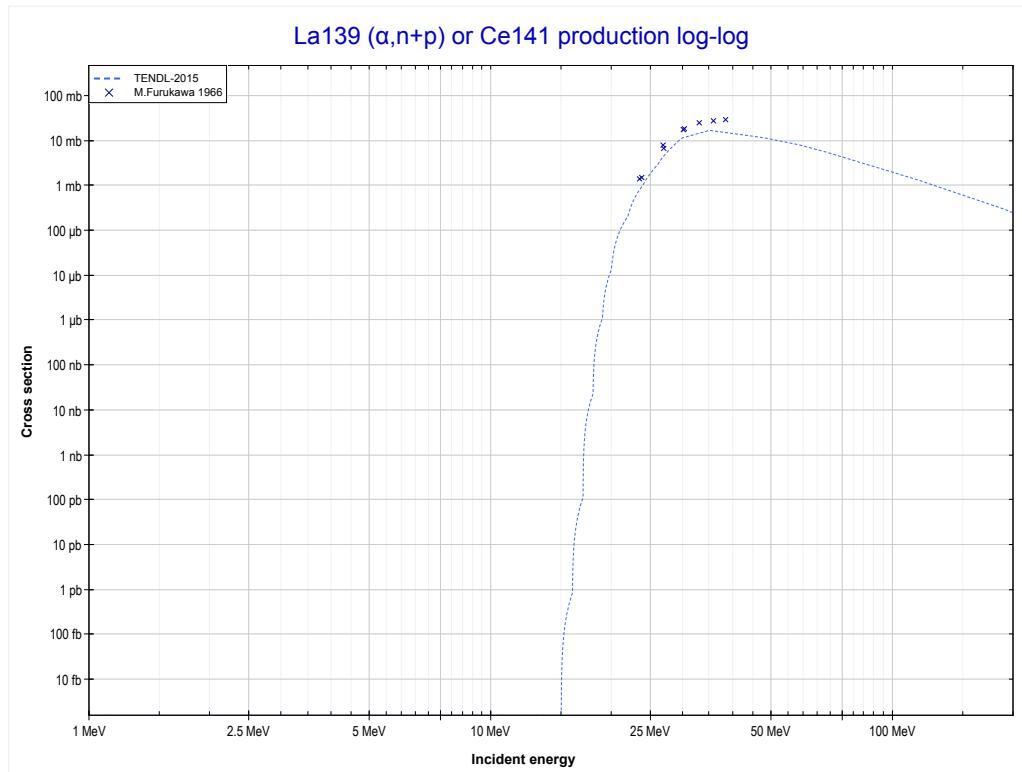
Reaction	Q-Value
La139( $\alpha, n$ )Pr142	-9086.70 keV

<< 56-Ba-136	<b>57-La-139</b> MT17 ( $\alpha$ ,3n) or MT5 (Pr140 production)	60-Nd-142 >>
<< MT4 ( $\alpha$ ,n)		MT28 ( $\alpha$ ,n+p) >>



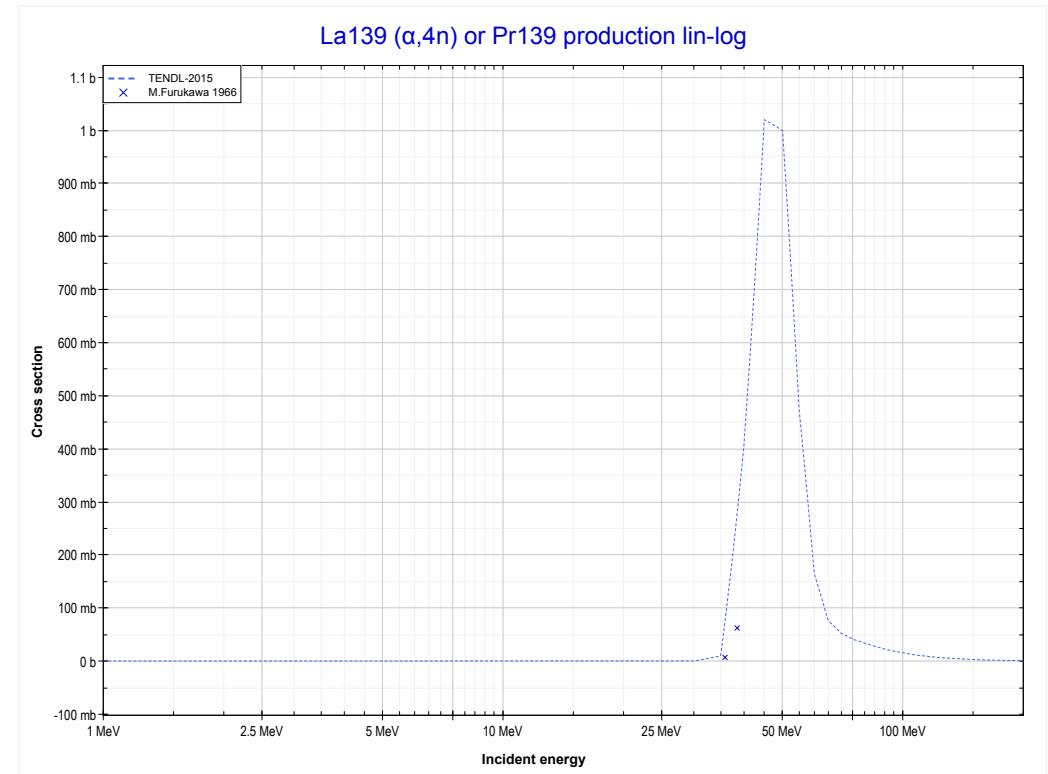
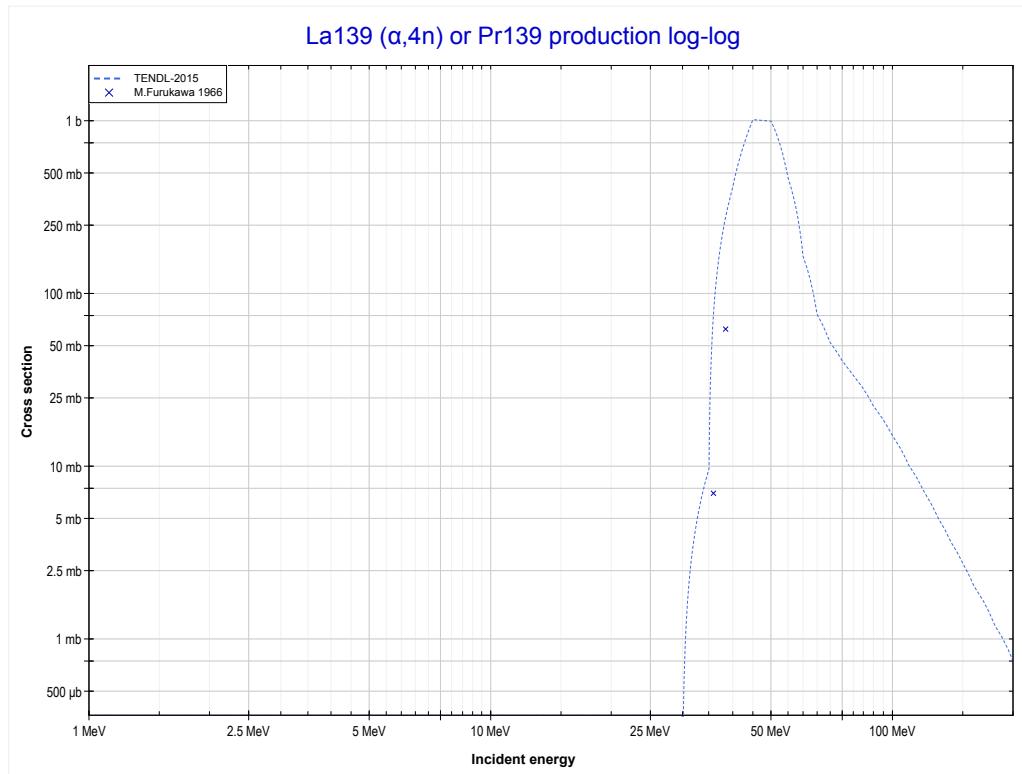
Reaction	Q-Value
La139( $\alpha$ ,3n)Pr140	-24326.64 keV

<< 50-Sn-124	<b>57-La-139</b> MT28 ( $\alpha, n+p$ ) or MT5 (Ce141 production)	68-Er-166 >>
<< MT17 ( $\alpha, 3n$ )		MT37 ( $\alpha, 4n$ ) >>



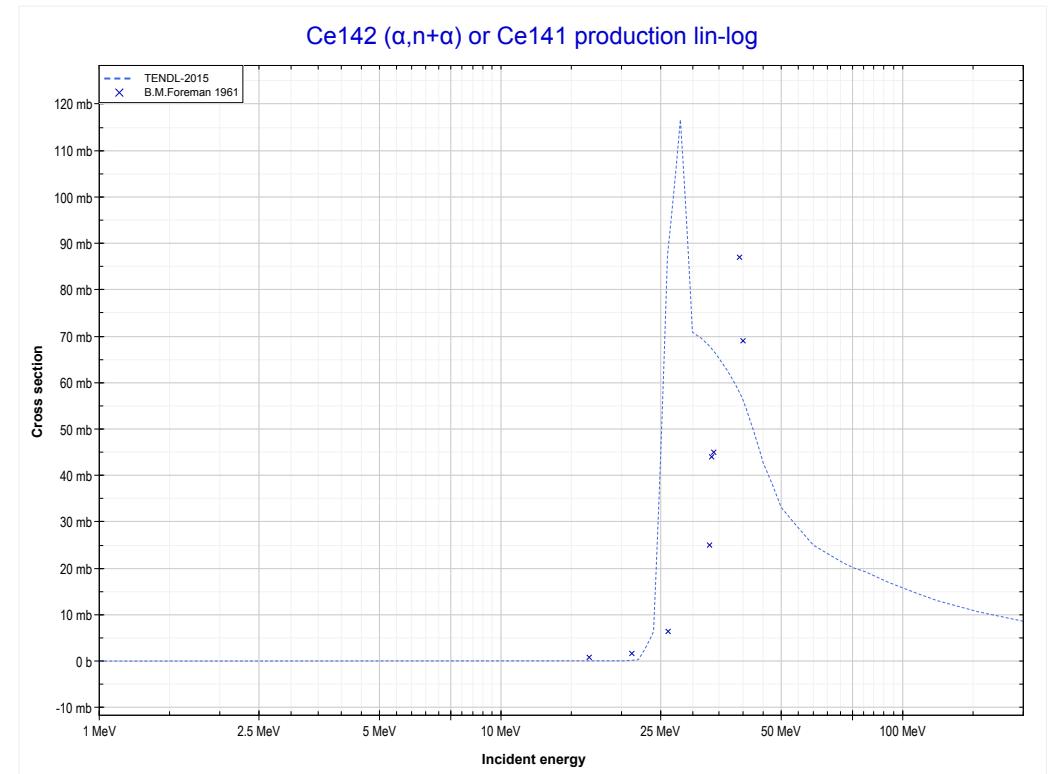
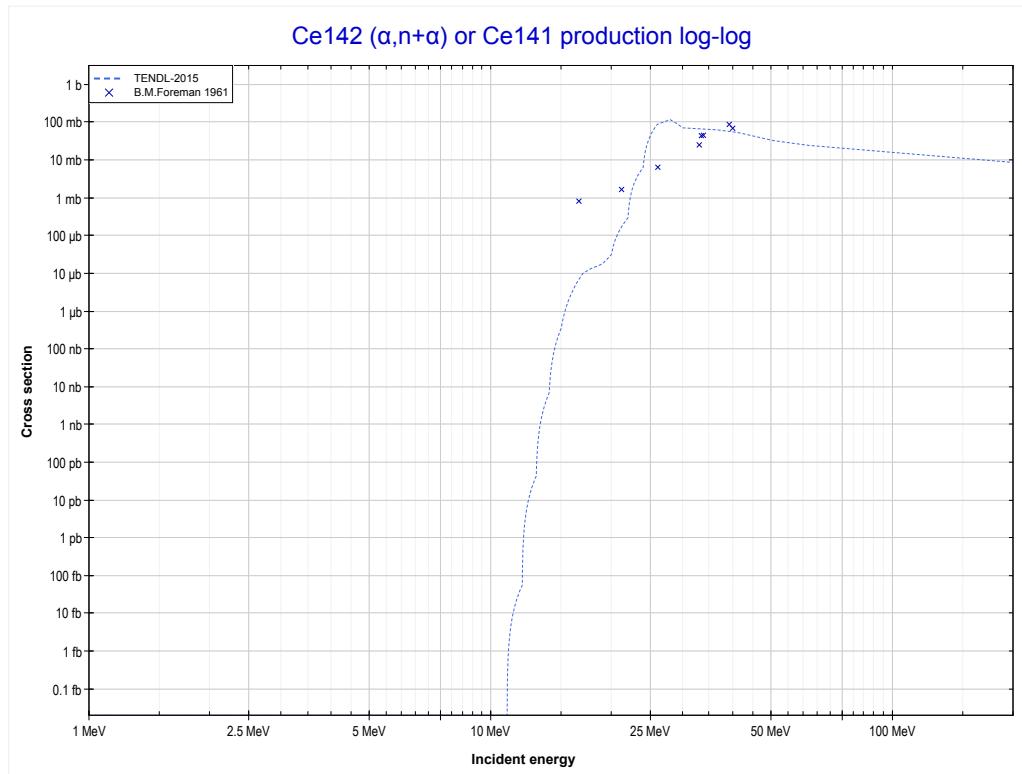
Reaction	Q-Value
La139( $\alpha, d$ )Ce141	-12503.41 keV
La139( $\alpha, n+p$ )Ce141	-14727.97 keV

<< 55-Cs-133	<b>57-La-139</b> MT37 ( $\alpha$ ,4n) or MT5 (Pr139 production)	60-Nd-142 >>
<< MT28 ( $\alpha$ ,n+p)		58-Ce-142 MT22 ( $\alpha$ ,n+ $\alpha$ ) >>



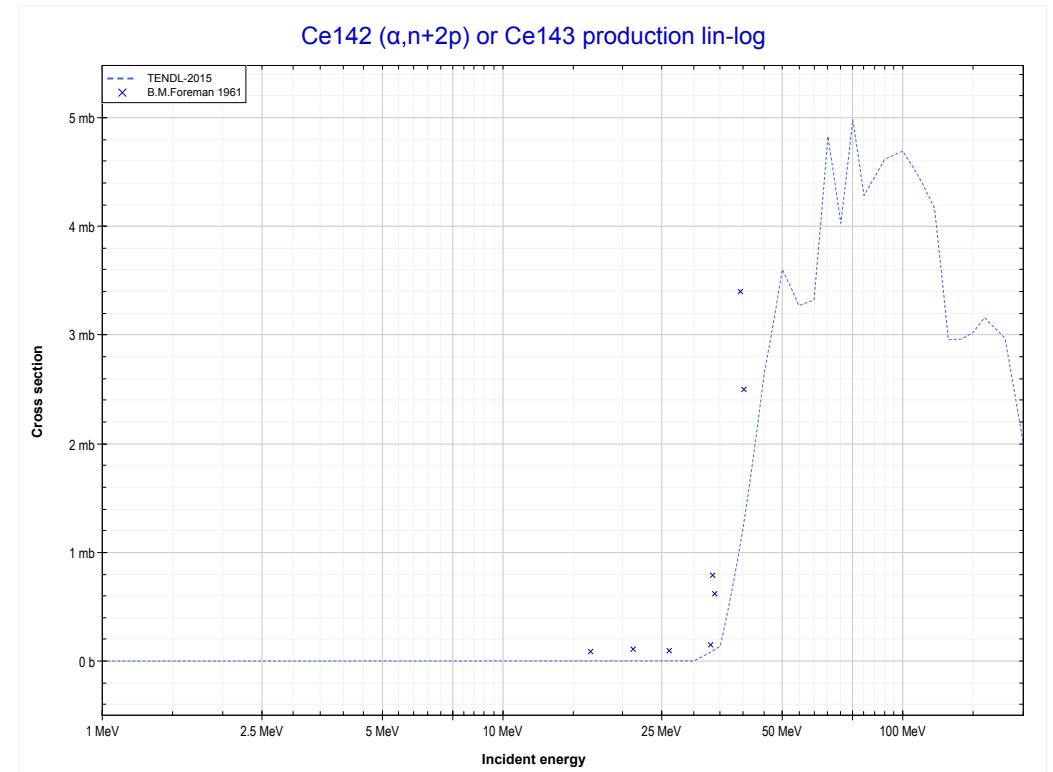
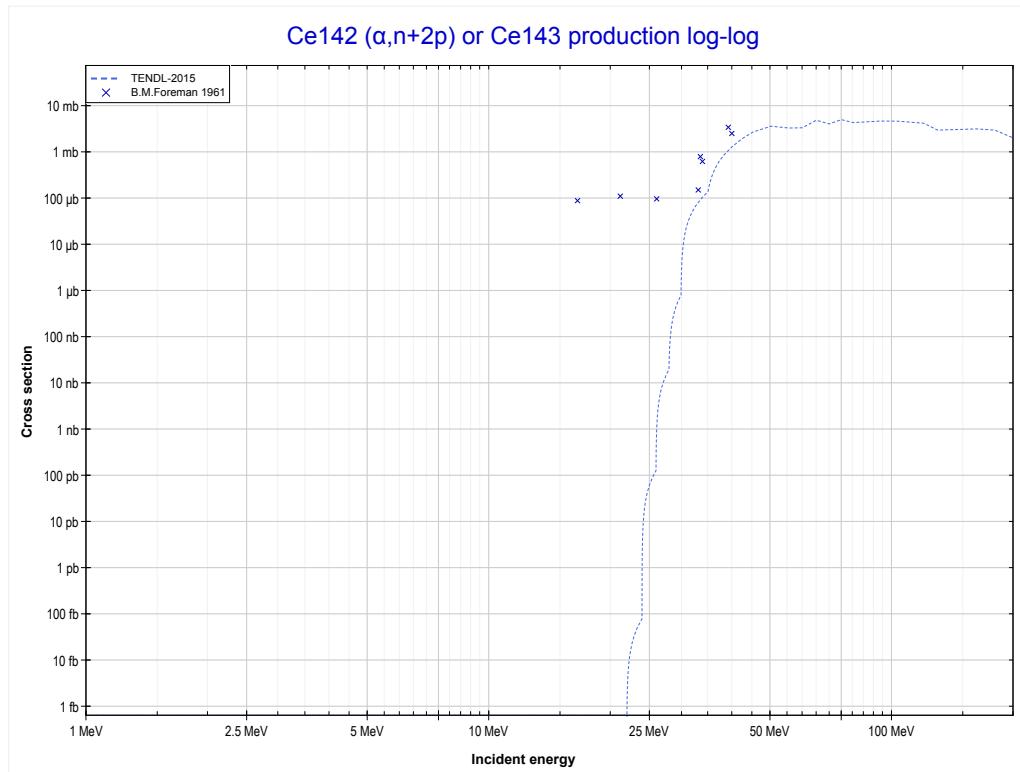
Reaction	Q-Value
La139( $\alpha$ ,4n)Pr139	-32267.95 keV

<< 50-Sn-124	<b>58-Ce-142</b> <b>MT22 (<math>\alpha, n+\alpha</math>) or MT5 (Ce141 production)</b>	60-Nd-142 >>
<< 57-La-139 MT37 ( $\alpha, 4n$ )		MT44 ( $\alpha, n+2p$ ) >>



Reaction	Q-Value
Ce142( $\alpha, n+\alpha$ )Ce141	-7168.02 keV
Ce142( $\alpha, d+t$ )Ce141	-24757.31 keV
Ce142( $\alpha, n+p+t$ )Ce141	-26981.88 keV
Ce142( $\alpha, 2n+He3$ )Ce141	-27745.63 keV
Ce142( $\alpha, n+2d$ )Ce141	-31014.54 keV
Ce142( $\alpha, 2n+p+d$ )Ce141	-33239.11 keV
Ce142( $\alpha, 3n+2p$ )Ce141	-35463.68 keV

<< 50-Sn-124	<b>58-Ce-142</b> <b>MT44 (<math>\alpha, n+2p</math>) or MT5 (Ce143 production)</b>	59-Pr-141 MT4 ( $\alpha, n$ ) >>
<< MT22 ( $\alpha, n+\alpha$ )		

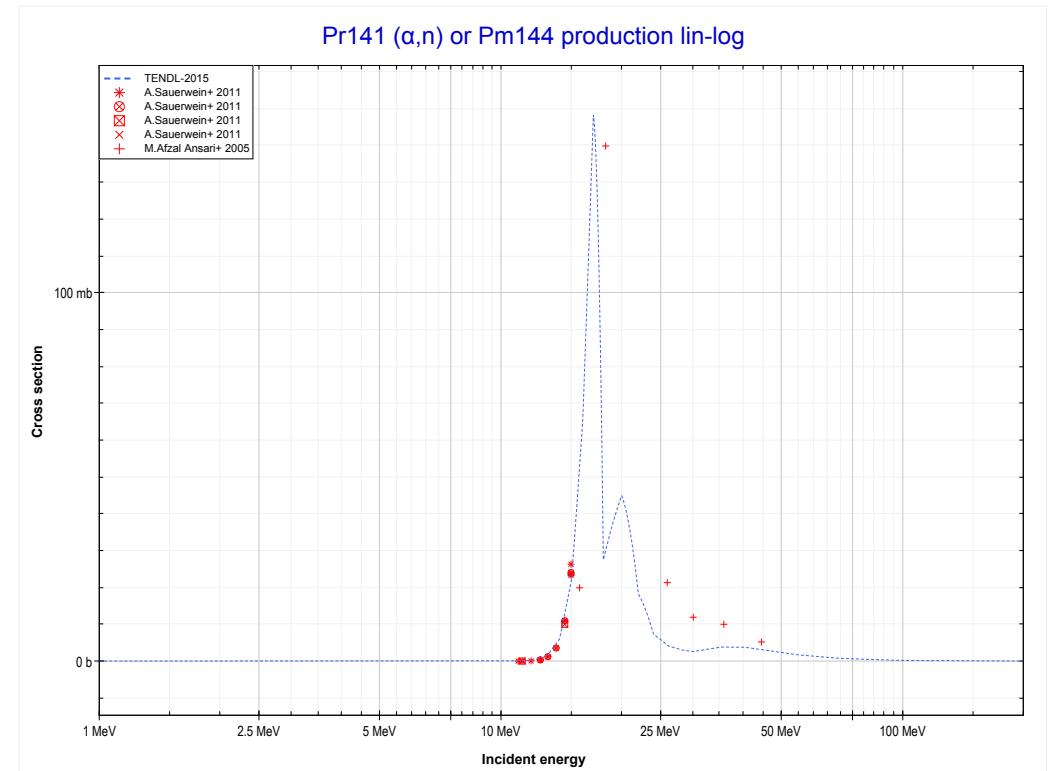
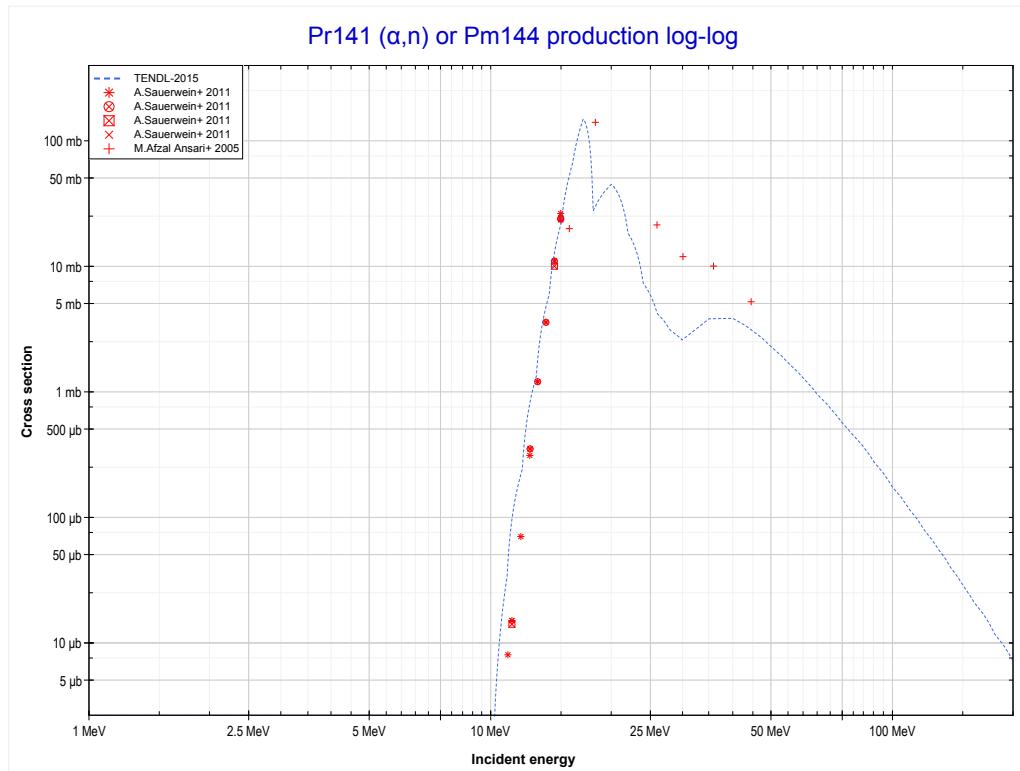


Reaction	Q-Value
Ce142( $\alpha$ ,He3)Ce143	-15432.80 keV
Ce142( $\alpha$ ,p+d)Ce143	-20926.28 keV
Ce142( $\alpha, n+2p$ )Ce143	-23150.84 keV

<< 57-La-139		
<< 58-Ce-142 MT44 ( $\alpha, n+2p$ )		

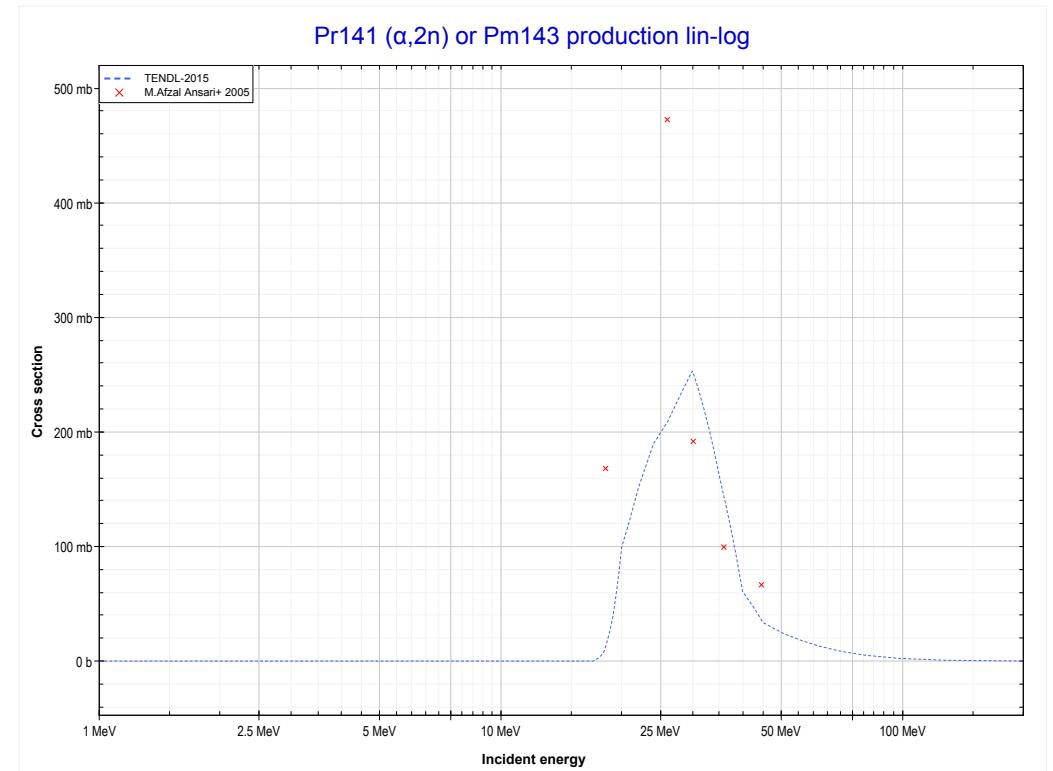
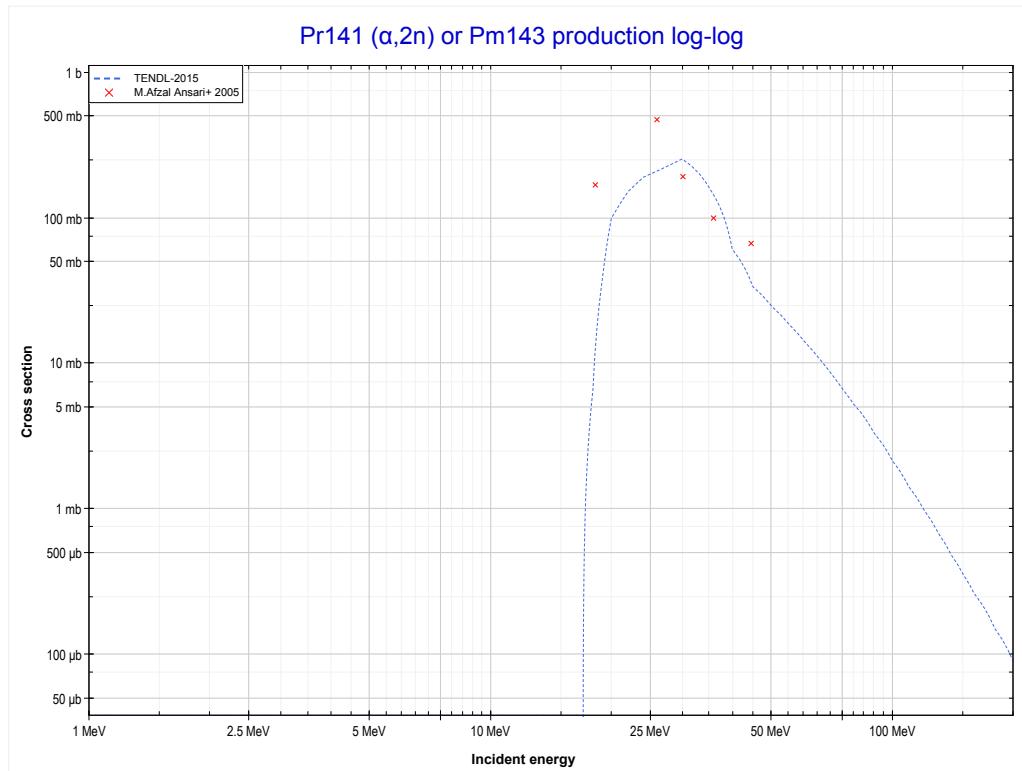
59-Pr-141
MT4 ( $\alpha, n$ ) or MT5 (Pm144 production)

	60-Nd-150 >>
	MT16 ( $\alpha, 2n$ ) >>



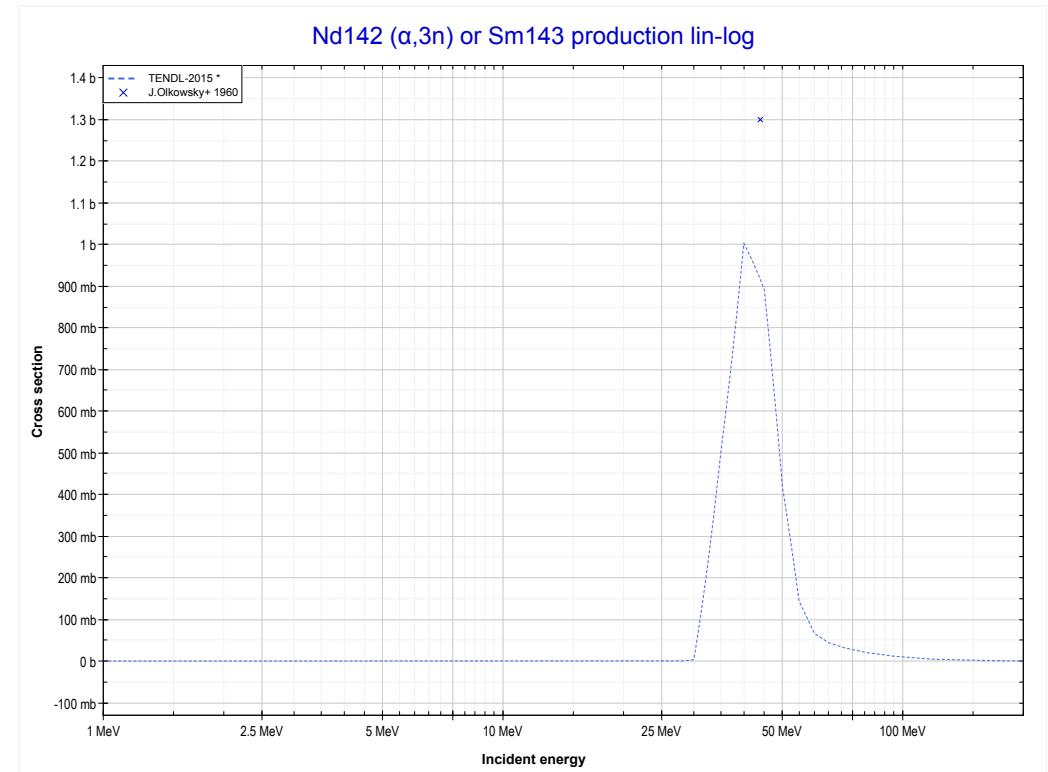
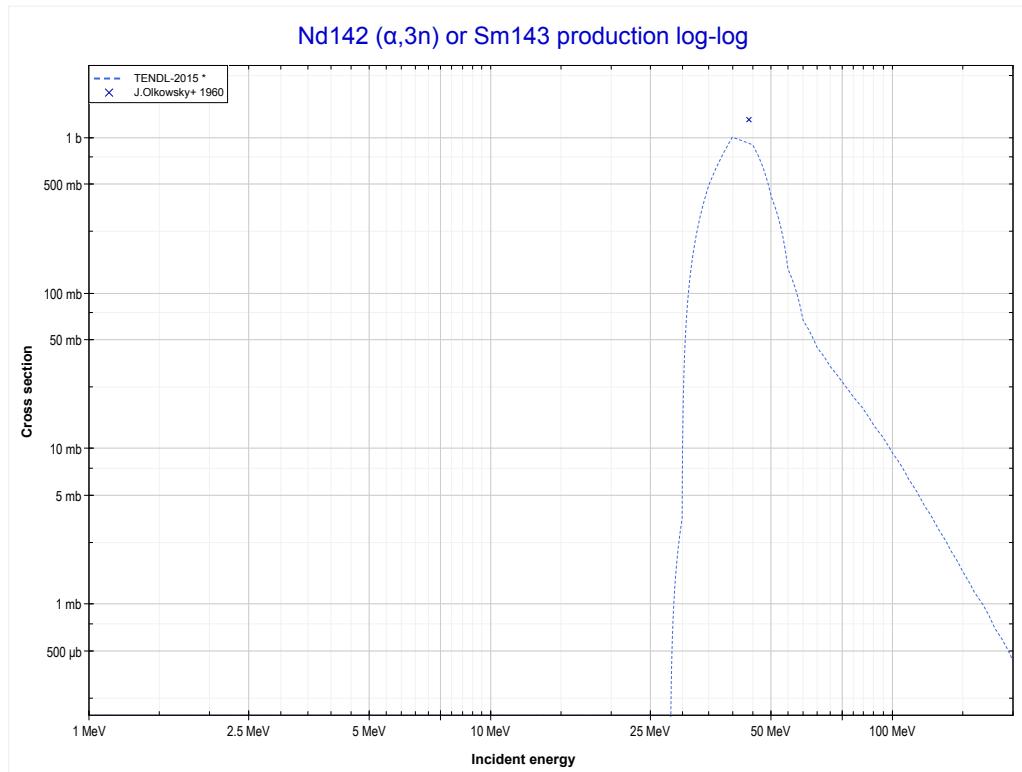
Reaction	Q-Value
Pr141( $\alpha, n$ )Pm144	-10246.80 keV

<< 55-Cs-133	<b>59-Pr-141</b> <b>MT16 (<math>\alpha,2n</math>) or MT5 (Pm143 production)</b>	62-Sm-154 >>
<< MT4 ( $\alpha,n$ )		60-Nd-142 MT17 ( $\alpha,3n$ ) >>



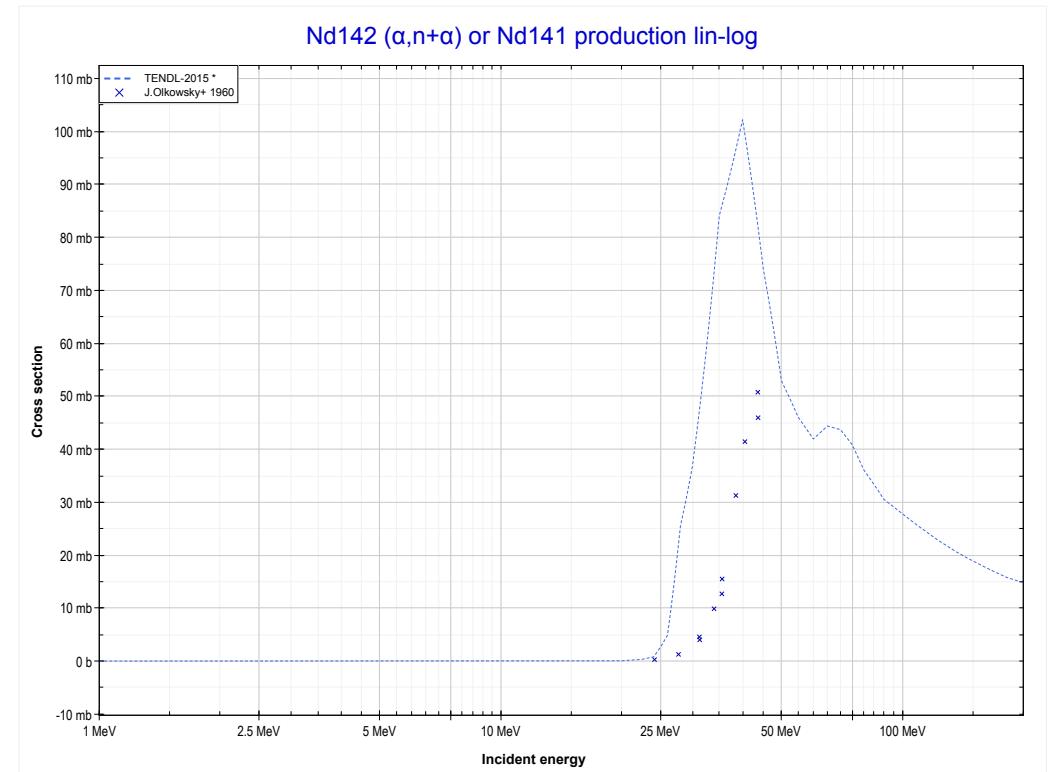
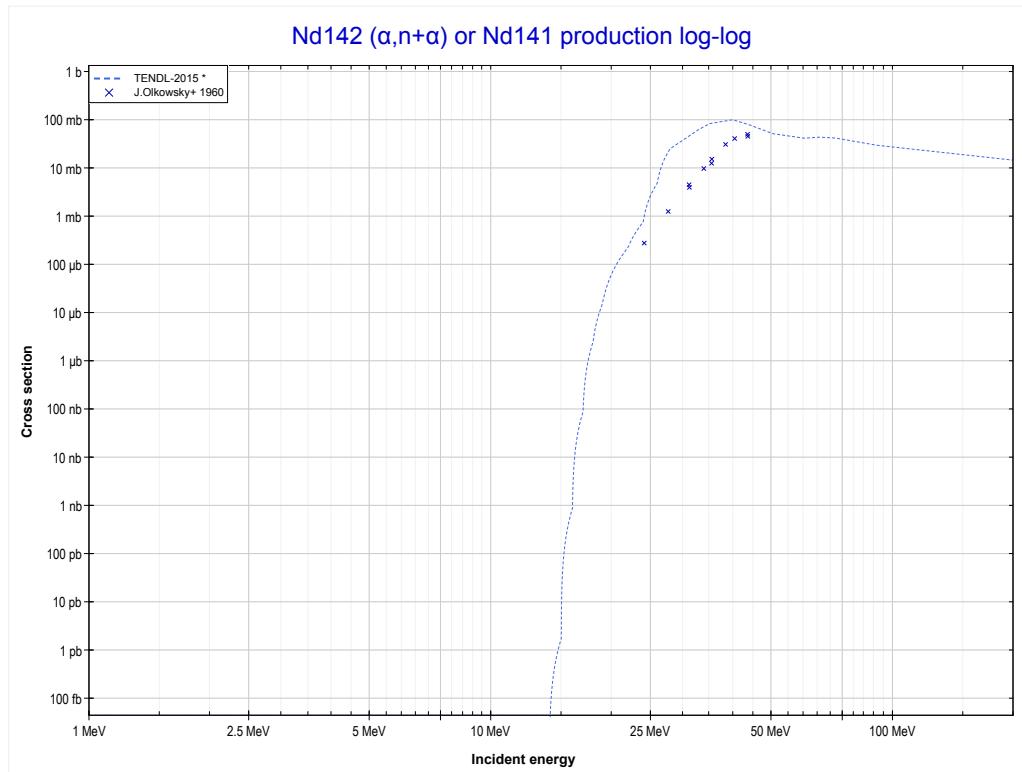
Reaction	Q-Value
Pr141( $\alpha,2n$ )Pm143	-16774.12 keV

<< 57-La-139	<b>60-Nd-142</b> MT17 ( $\alpha,3n$ ) or MT5 (Sm143 production)	65-Tb-159 >>
<< 59-Pr-141 MT16 ( $\alpha,2n$ )		MT22 ( $\alpha,n+\alpha$ ) >>



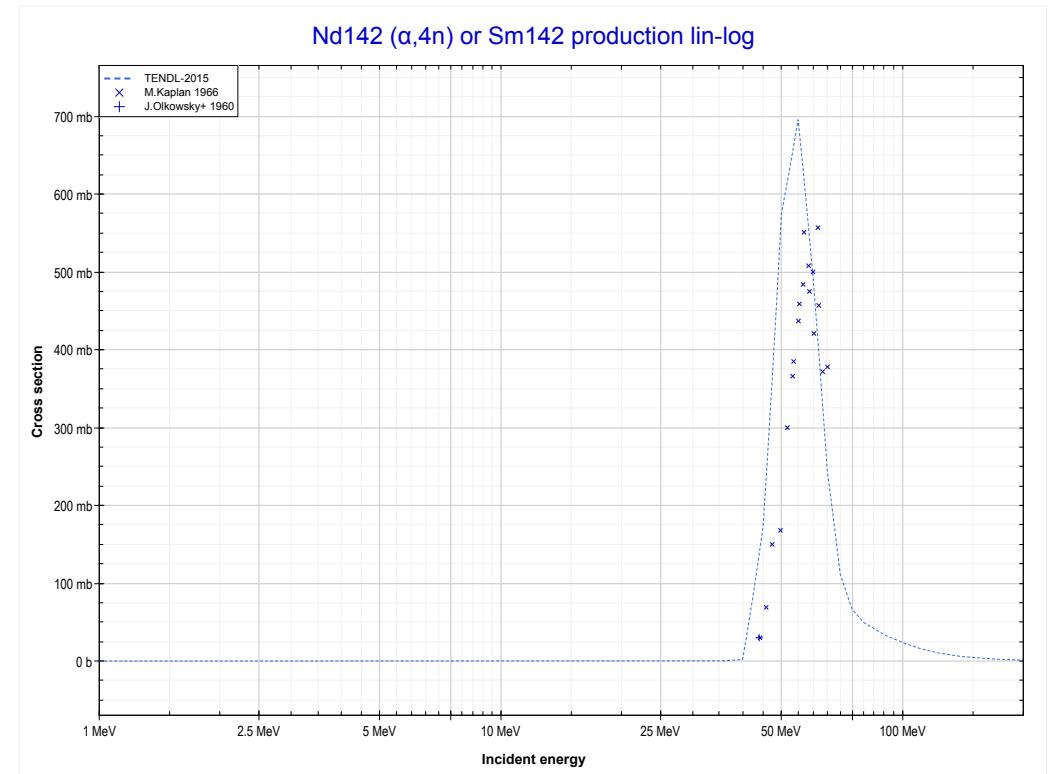
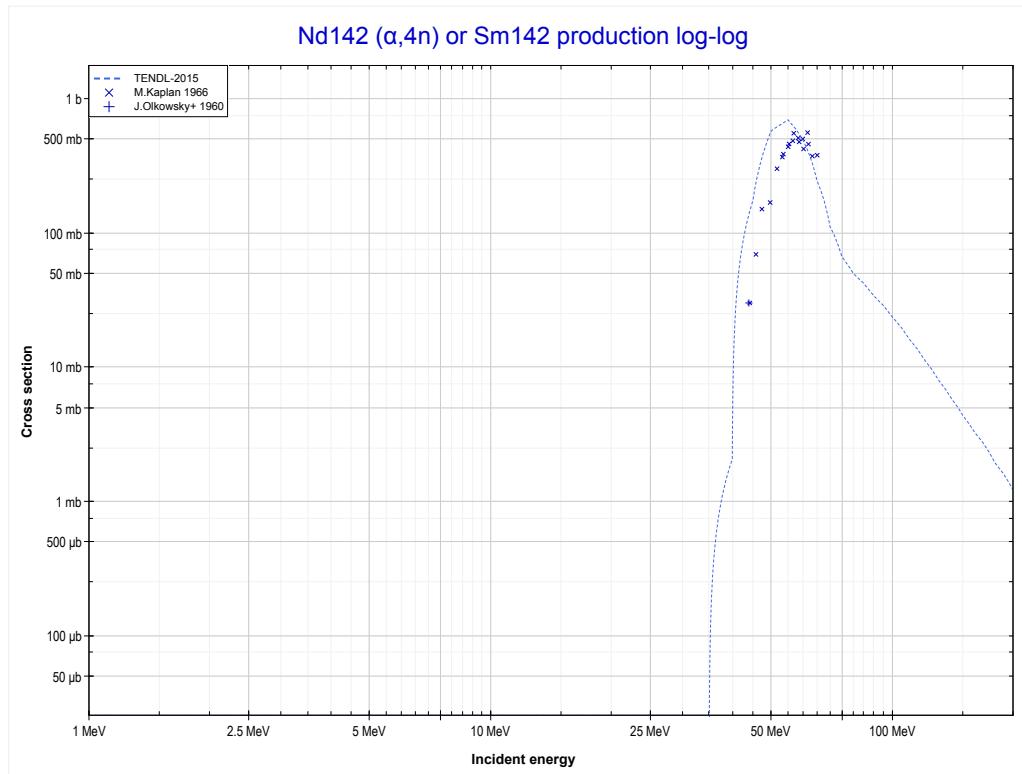
Reaction	Q-Value
Nd142( $\alpha,3n$ )Sm143	-28221.94 keV

<< 58-Ce-142	<b>60-Nd-142</b> <b>MT22 (<math>\alpha, n+\alpha</math>) or MT5 (Nd141 production)</b>	69-Tm-169 >>
<< MT17 ( $\alpha, 3n$ )		MT37 ( $\alpha, 4n$ ) >>



Reaction	Q-Value
Nd142( $\alpha, n+\alpha$ )Nd141	-9828.22 keV
Nd142( $\alpha, d+t$ )Nd141	-27417.51 keV
Nd142( $\alpha, n+p+t$ )Nd141	-29642.08 keV
Nd142( $\alpha, 2n+He3$ )Nd141	-30405.83 keV
Nd142( $\alpha, n+2d$ )Nd141	-33674.74 keV
Nd142( $\alpha, 2n+p+d$ )Nd141	-35899.31 keV
Nd142( $\alpha, 3n+2p$ )Nd141	-38123.88 keV

<< 57-La-139	<b>60-Nd-142</b> MT37 ( $\alpha,4n$ ) or MT5 (Sm142 production)	>> 65-Tb-159
<< MT22 ( $\alpha,n+\alpha$ )		60-Nd-150 MT4 ( $\alpha,n$ ) >>

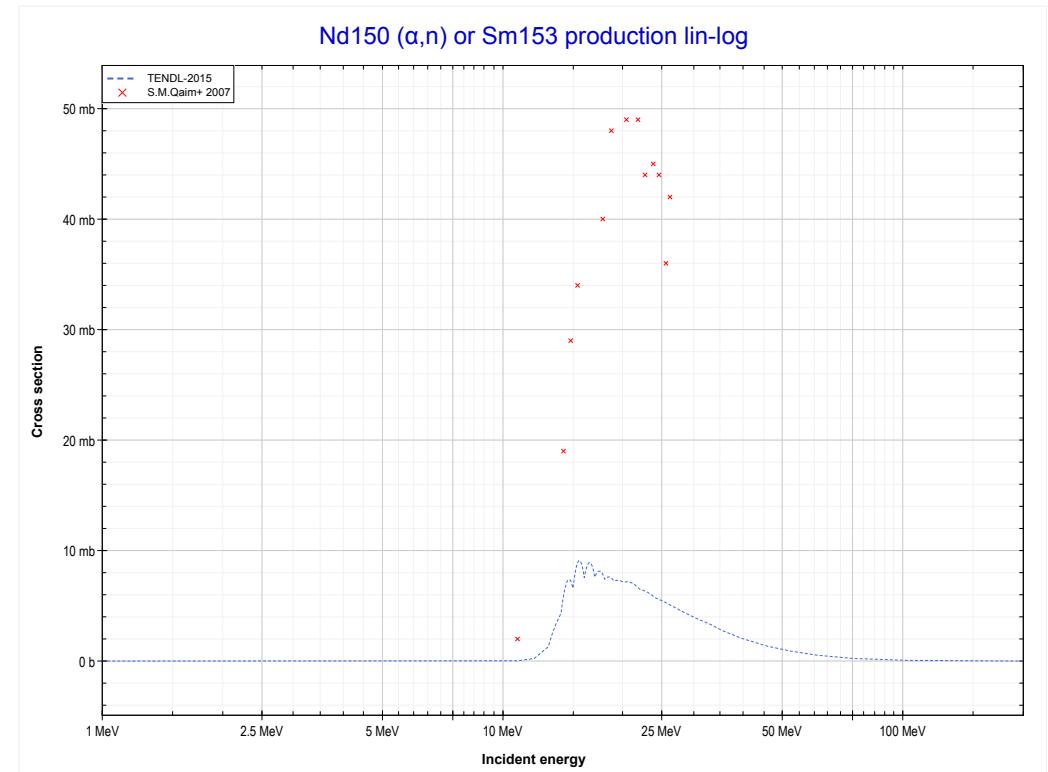
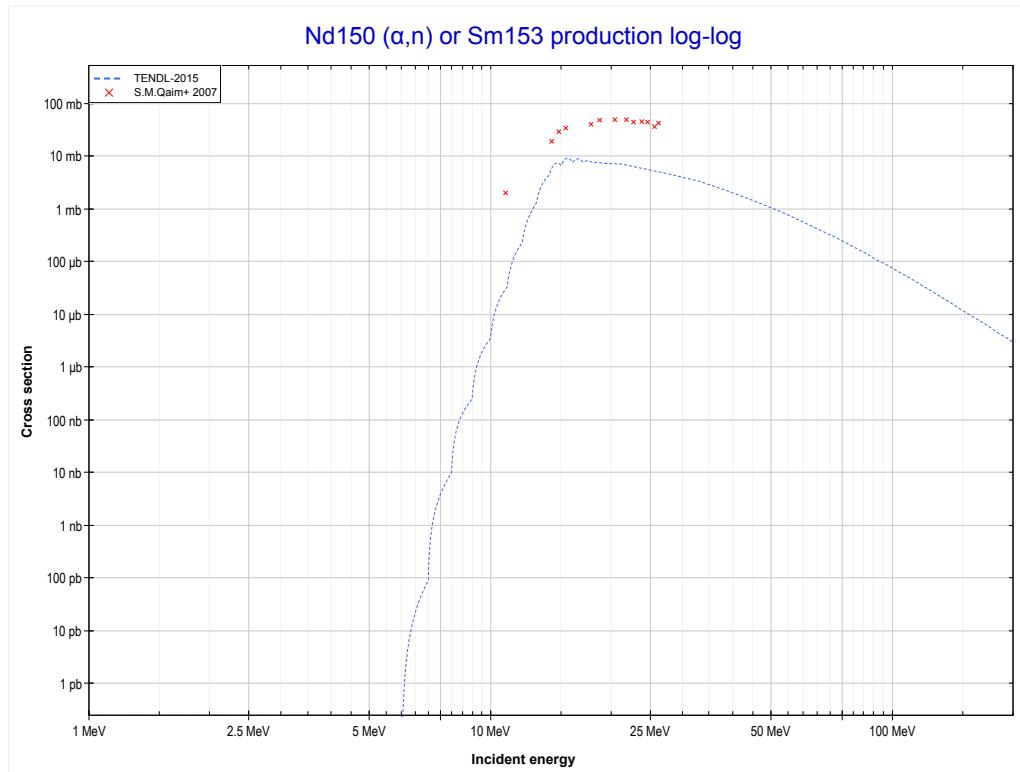


Reaction	Q-Value
Nd142( $\alpha,4n$ )Sm142	-36823.25 keV

<< 59-Pr-141	
<< 60-Nd-142 MT37 ( $\alpha,4n$ )	

60-Nd-150
MT4 ( $\alpha,n$ ) or MT5 (Sm153 production)

65-Tb-159 >>
62-Sm-154 MT16 ( $\alpha,2n$ ) >>

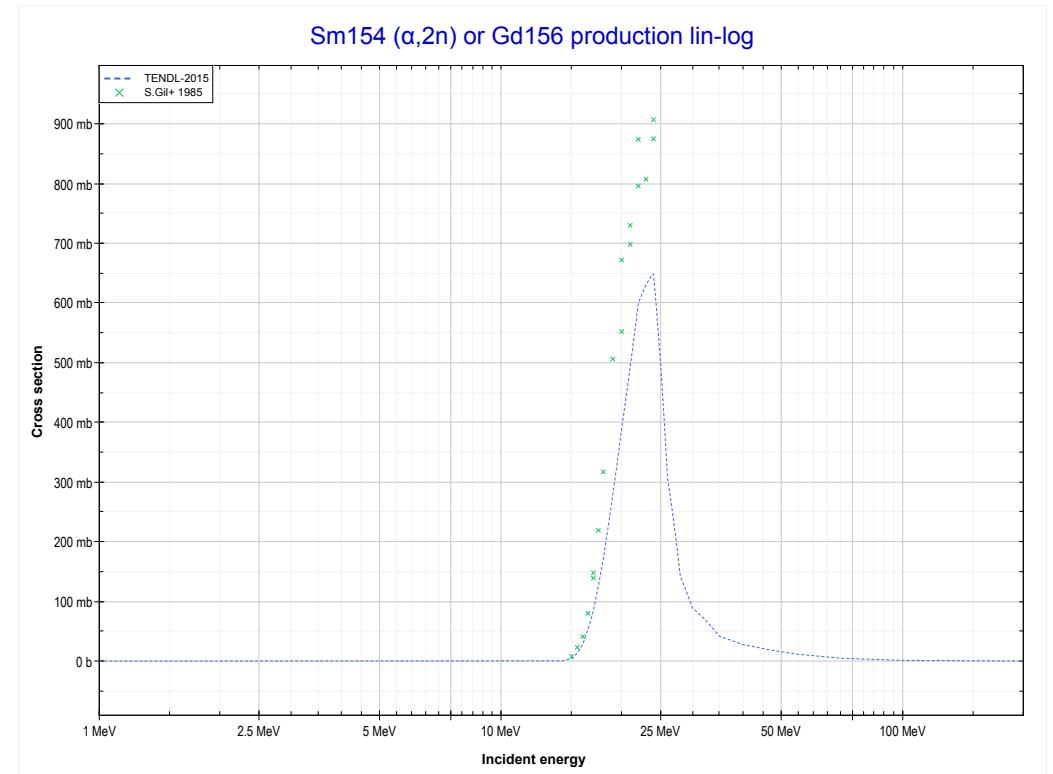
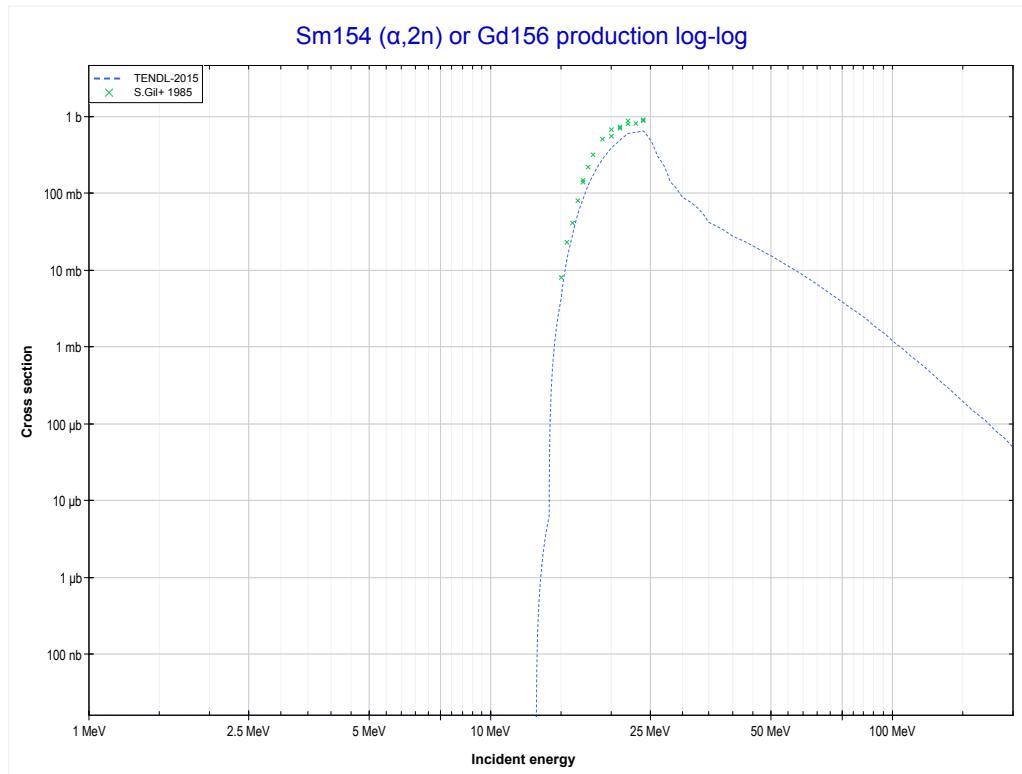


Reaction	Q-Value
Nd150( $\alpha,n$ )Sm153	-6766.40 keV

<< 59-Pr-141	
<< 60-Nd-150 MT4 ( $\alpha, n$ )	

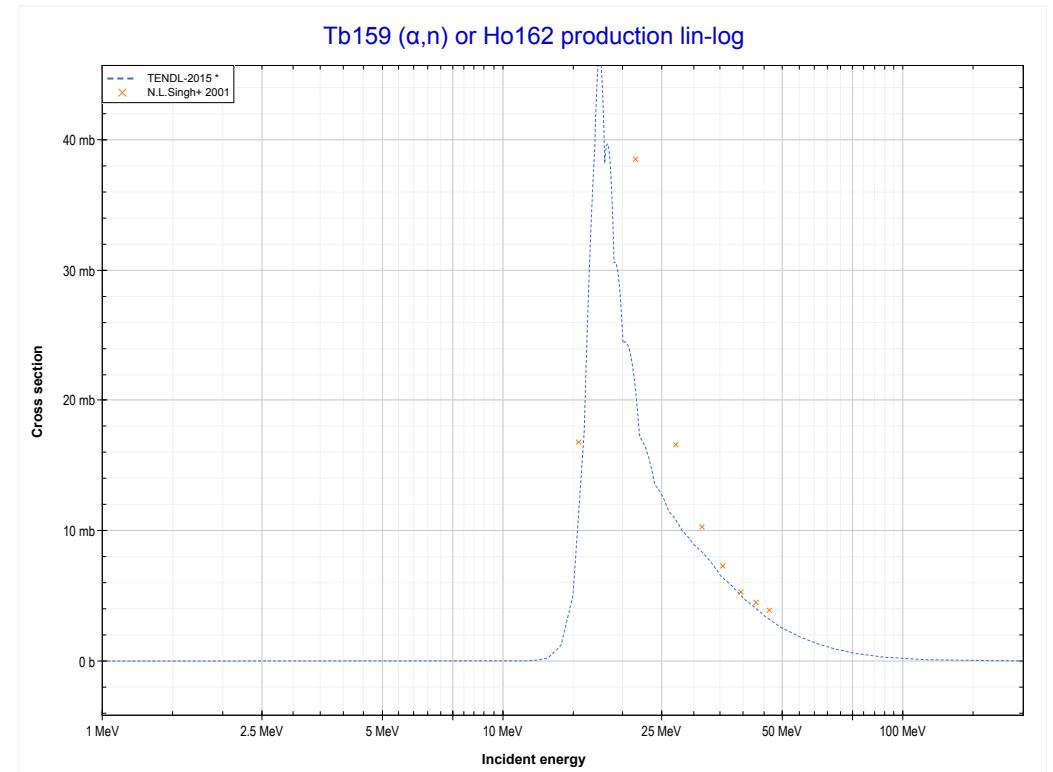
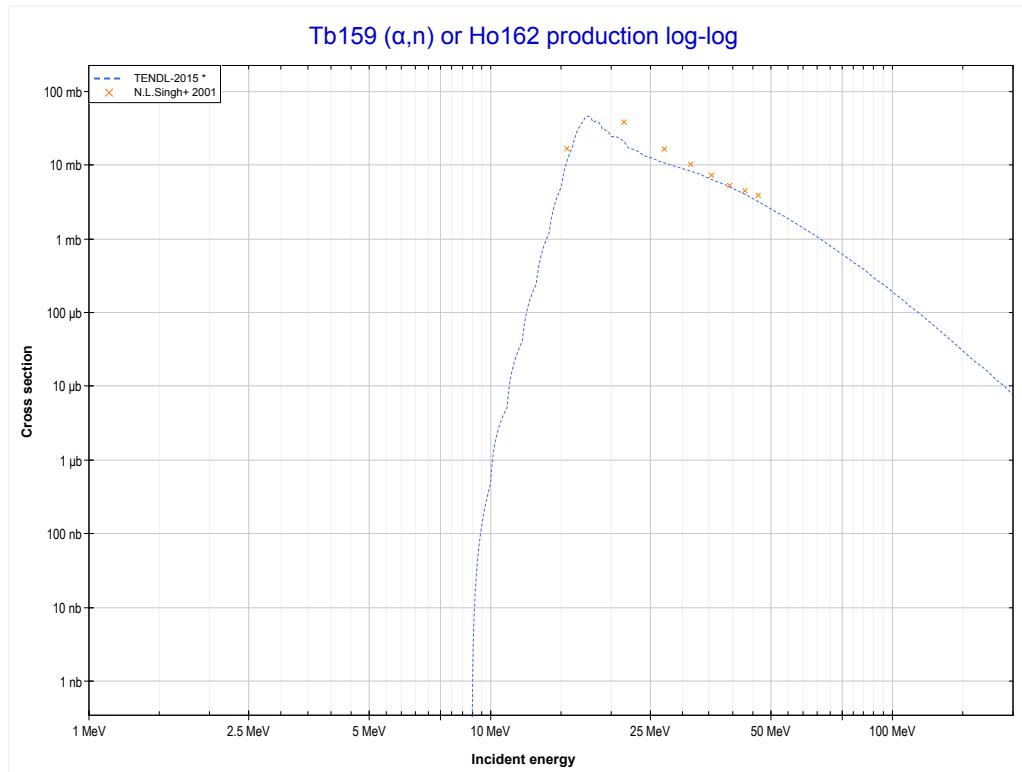
62-Sm-154
MT16 ( $\alpha, 2n$ ) or MT5 (Gd156 production)

65-Tb-159 >>
65-Tb-159 MT4 ( $\alpha, n$ ) >>



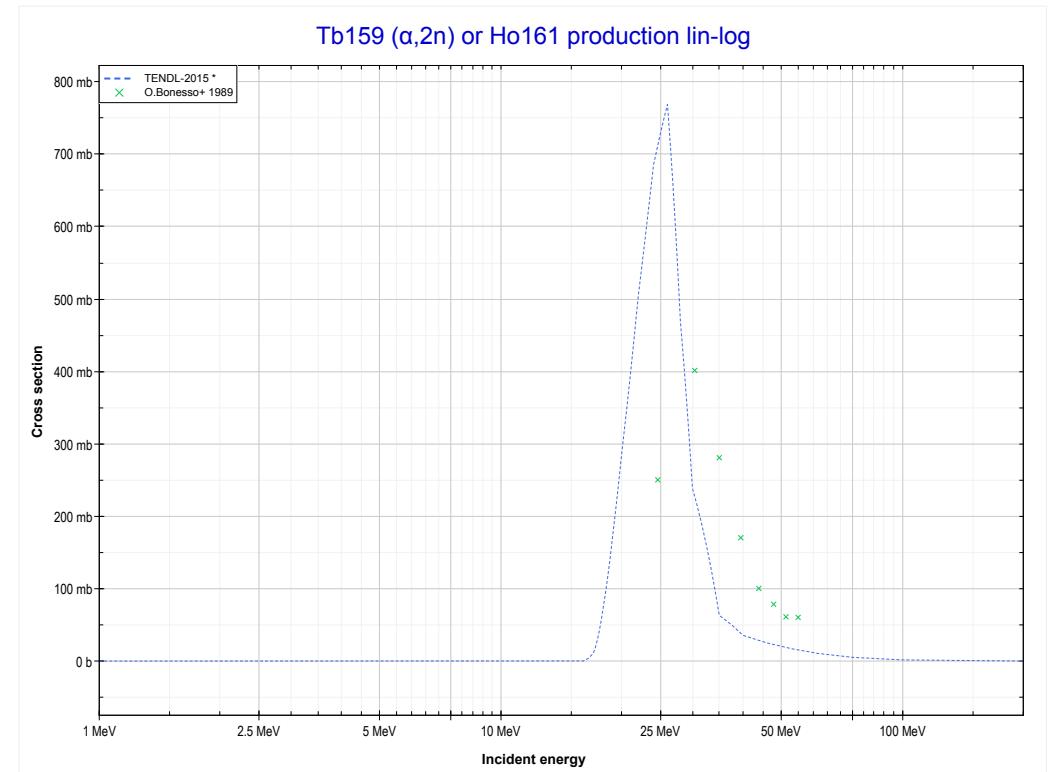
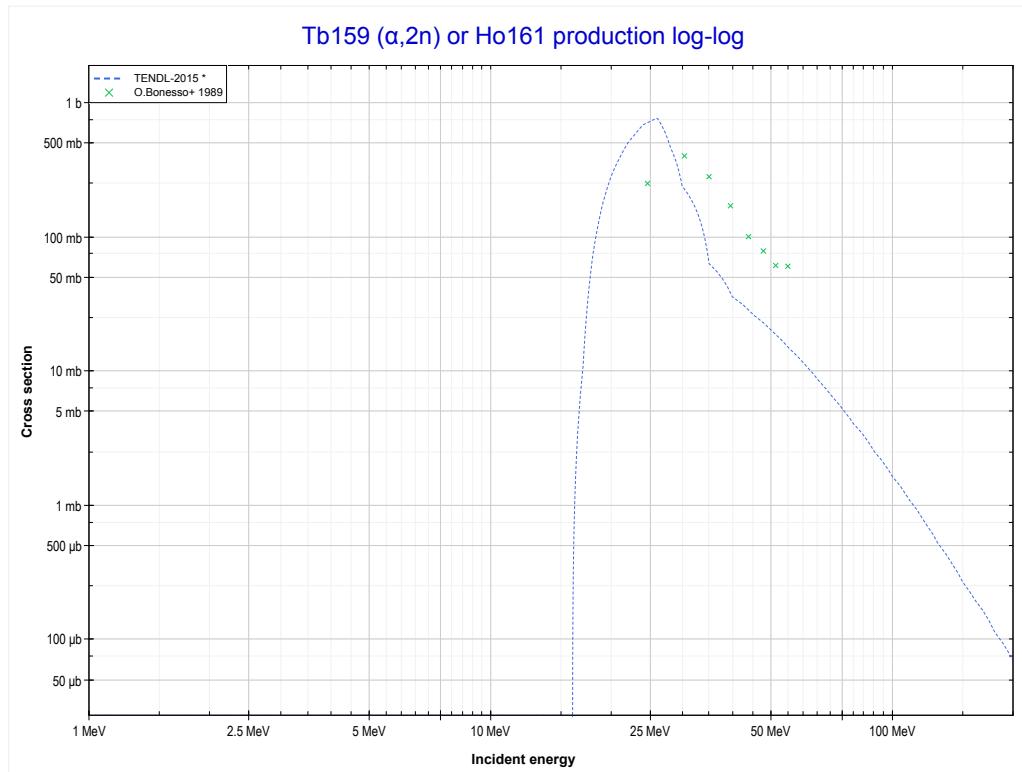
Reaction	Q-Value
Sm154( $\alpha, 2n$ )Gd156	-13637.92 keV

<< 60-Nd-150	<b>65-Tb-159</b> MT4 ( $\alpha, n$ ) or MT5 (Ho162 production)	>> 67-Ho-165
<< 62-Sm-154 MT16 ( $\alpha, 2n$ )		MT16 ( $\alpha, 2n$ ) >>



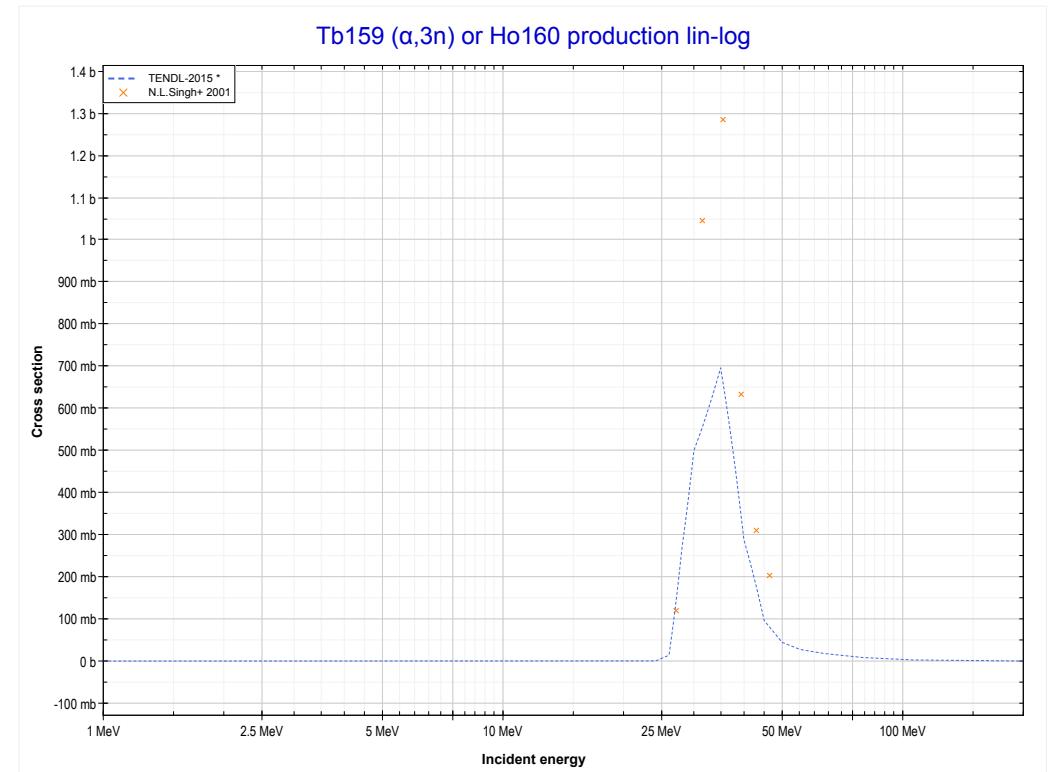
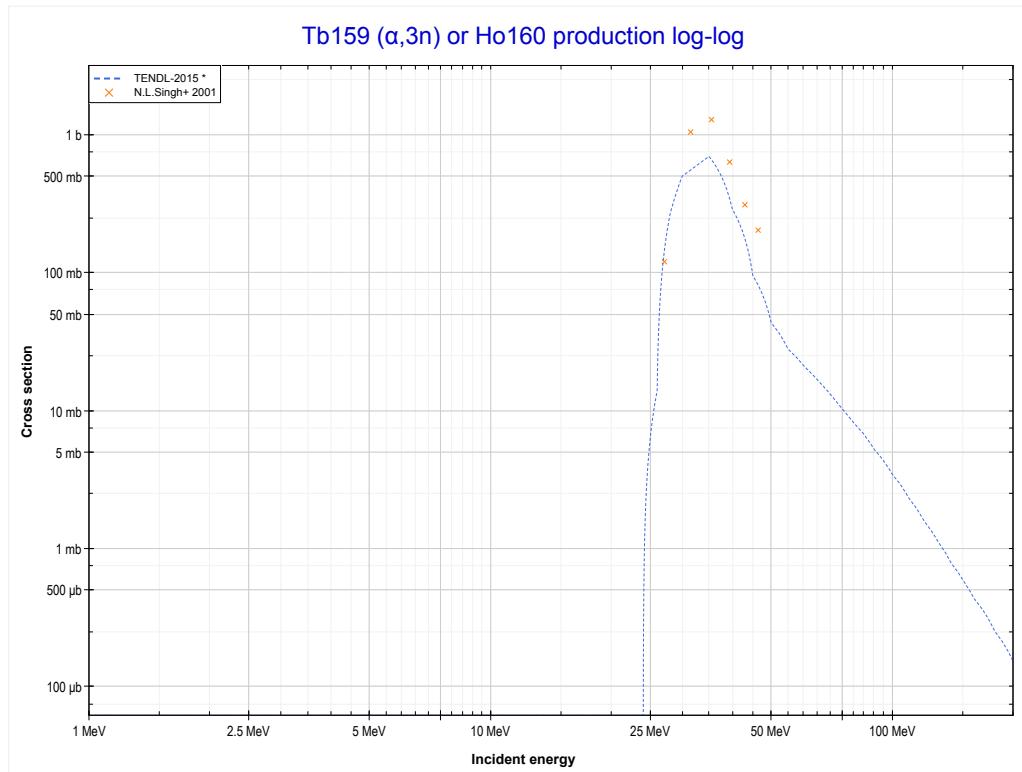
Reaction	Q-Value
Tb159( $\alpha, n$ )Ho162	-9137.00 keV

<< 62-Sm-154	<b>65-Tb-159</b> MT16 ( $\alpha,2n$ ) or MT5 (Ho161 production)	>> 67-Ho-165
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



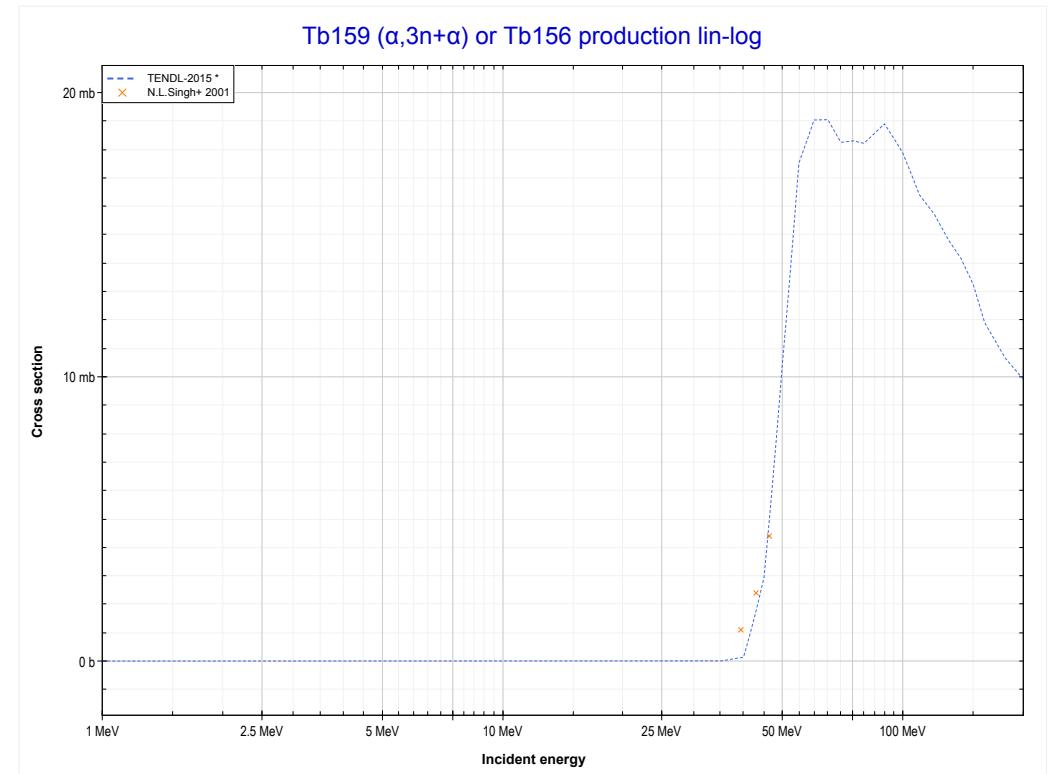
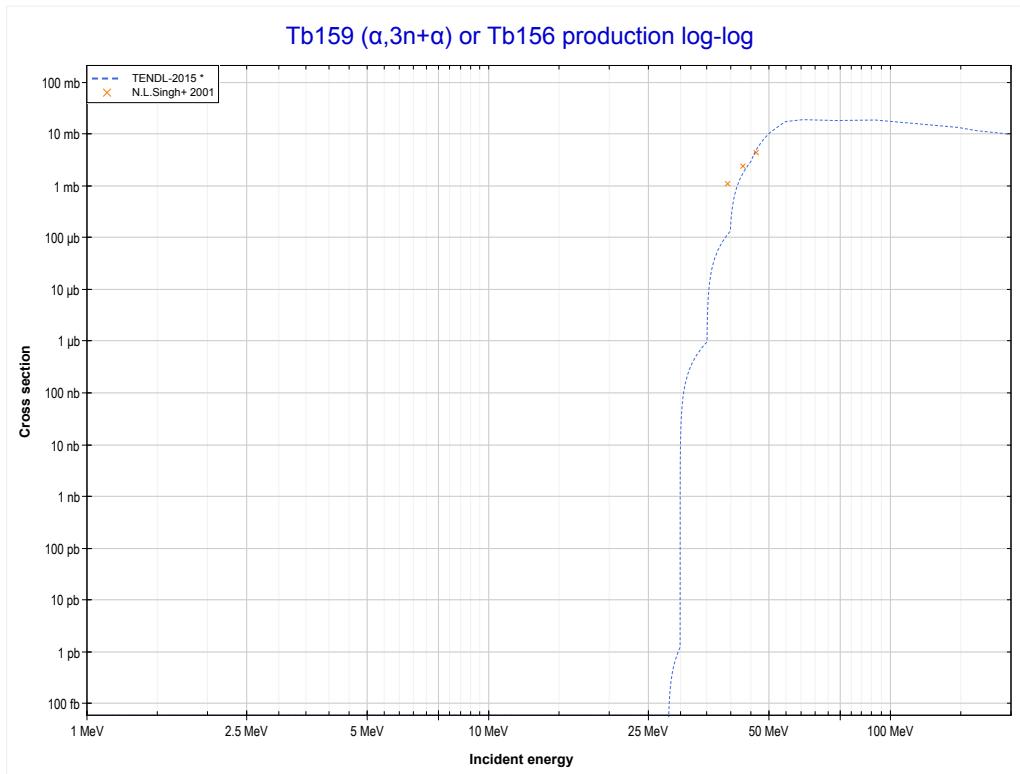
Reaction	Q-Value
Tb159( $\alpha,2n$ )Ho161	-16052.82 keV

<< 60-Nd-142	<b>65-Tb-159</b> <b>MT17 (<math>\alpha,3n</math>) or MT5 (Ho160 production)</b>	67-Ho-165 >>
<< MT16 ( $\alpha,2n$ )		MT25 ( $\alpha,3n+\alpha$ ) >>



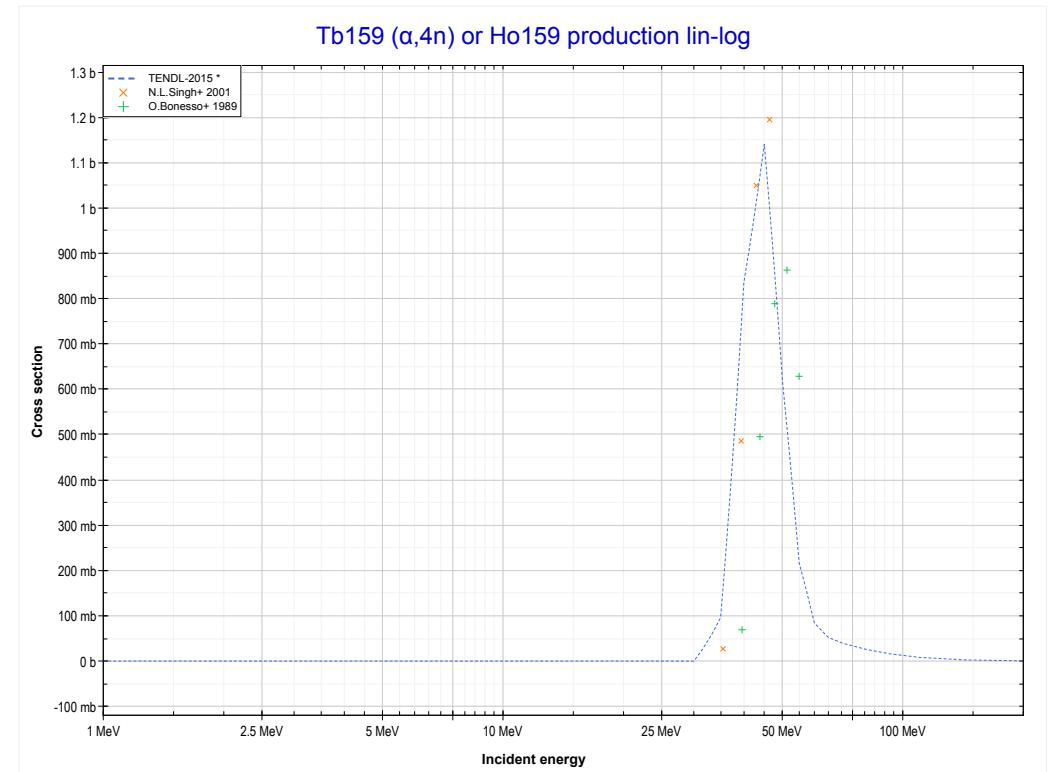
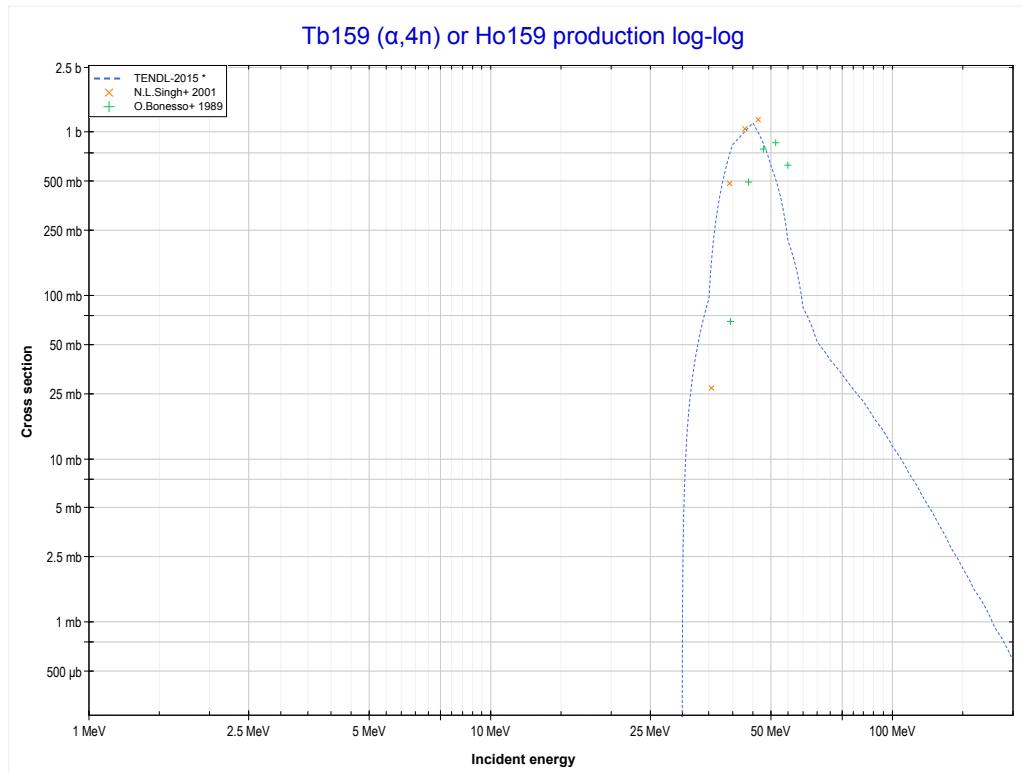
Reaction	Q-Value
Tb159( $\alpha,3n$ )Ho160	-24939.64 keV

<< 47-Ag-109	<b>65-Tb-159</b> MT25 ( $\alpha$ ,3n+ $\alpha$ ) or MT5 (Tb156 production)	79-Au-197 >>
<< MT17 ( $\alpha$ ,3n)		MT37 ( $\alpha$ ,4n) >>



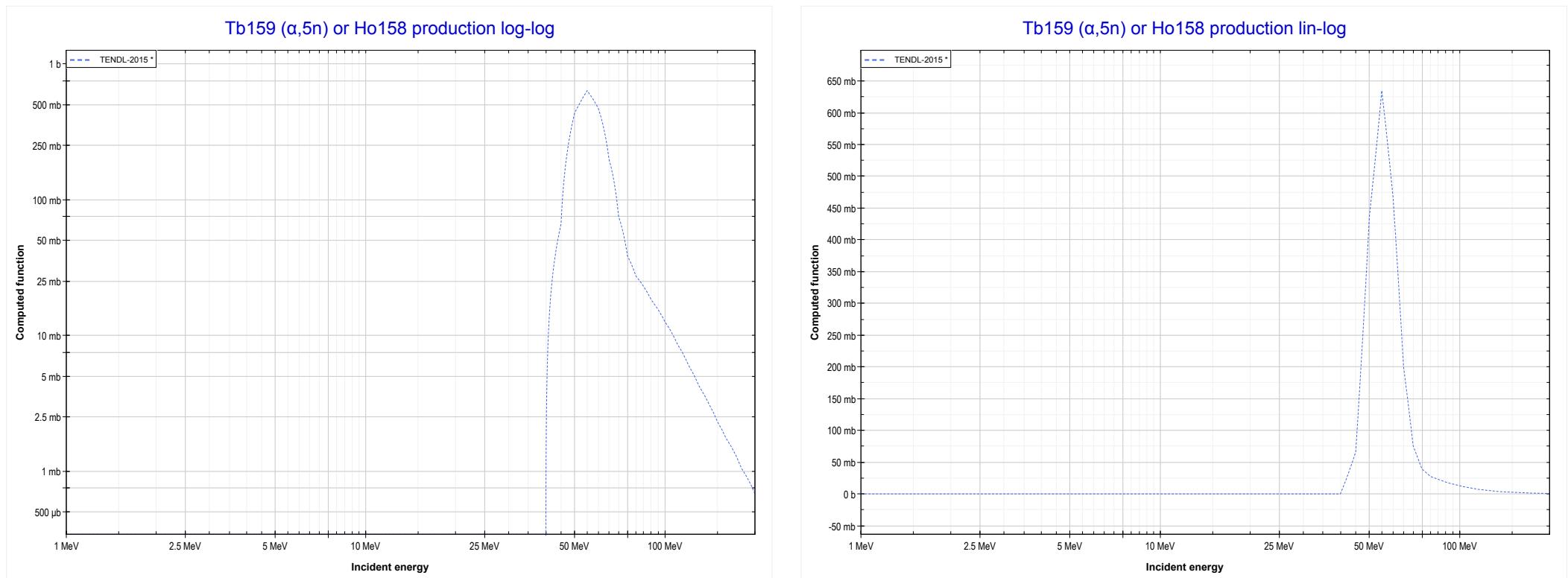
Reaction	Q-Value
Tb159( $\alpha$ ,3n+ $\alpha$ )Tb156	-23655.55 keV
Tb159( $\alpha$ ,n+2t)Tb156	-34987.61 keV
Tb159( $\alpha$ ,2n+d+t)Tb156	-41244.85 keV
Tb159( $\alpha$ ,3n+p+t)Tb156	-43469.41 keV
Tb159( $\alpha$ ,4n+He3)Tb156	-44233.17 keV
Tb159( $\alpha$ ,3n+2d)Tb156	-47502.08 keV
Tb159( $\alpha$ ,4n+p+d)Tb156	-49726.64 keV
Tb159( $\alpha$ ,5n+2p)Tb156	-51951.21 keV

<< 60-Nd-142	<b>65-Tb-159</b> MT37 ( $\alpha,4n$ ) or MT5 (Ho159 production)	>> 67-Ho-165
<< MT25 ( $\alpha,3n+\alpha$ )		>> MT152 ( $\alpha,5n$ ) >>



Reaction	Q-Value
Tb159( $\alpha,4n$ )Ho159	-32062.95 keV

<< 48-Cd-114	<b>65-Tb-159</b> <b>MT152 (<math>\alpha,5n</math>) or MT5 (Ho158 production)</b>	69-Tm-169 >>
<< MT37 ( $\alpha,4n$ )		67-Ho-165 MT4 ( $\alpha,n$ ) >>

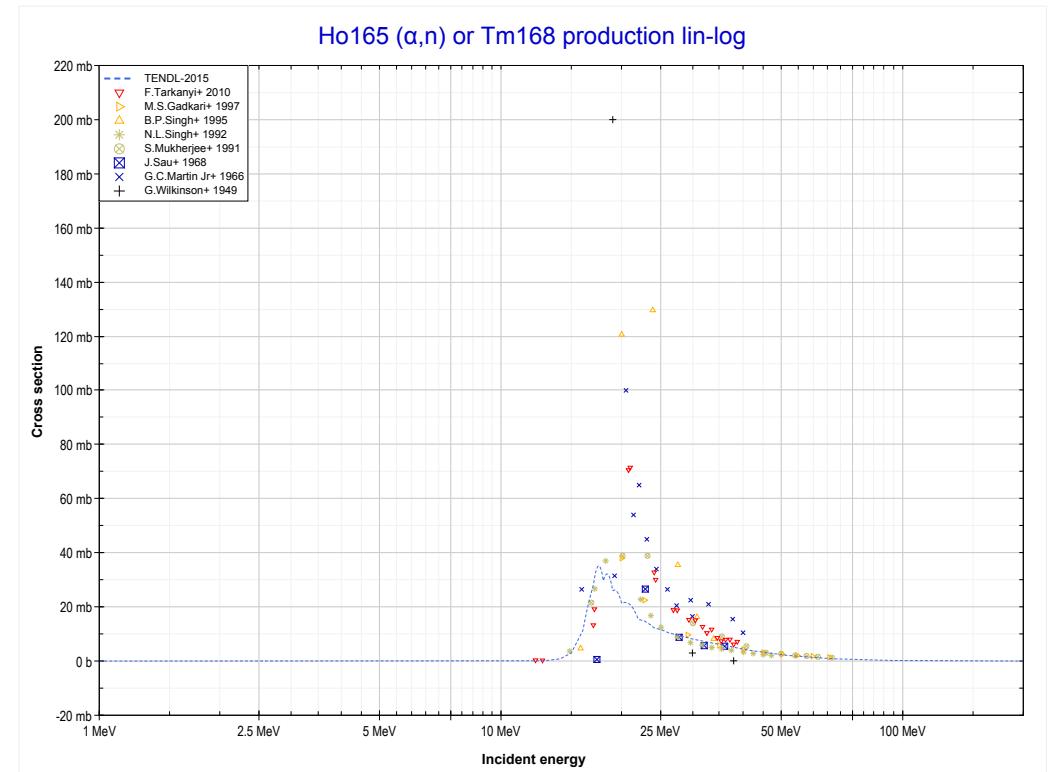
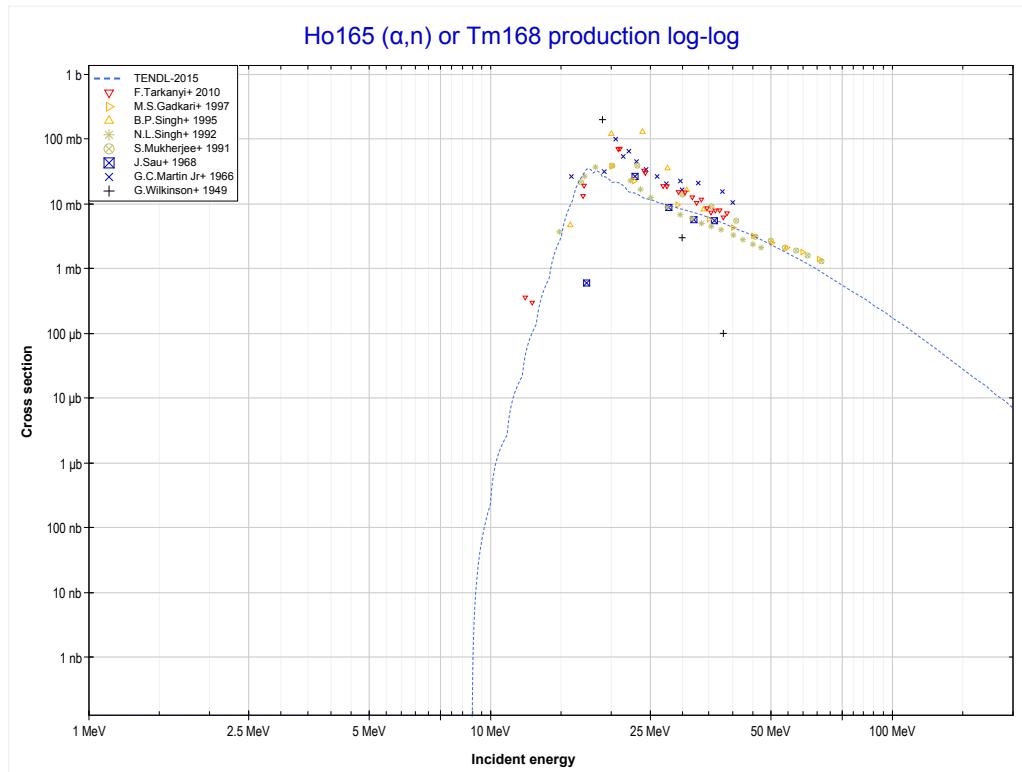


Reaction	Q-Value
Tb159( $\alpha,5n$ )Ho158	-41277.27 keV

<< 65-Tb-159		
<< 65-Tb-159 MT152 ( $\alpha,5n$ )		

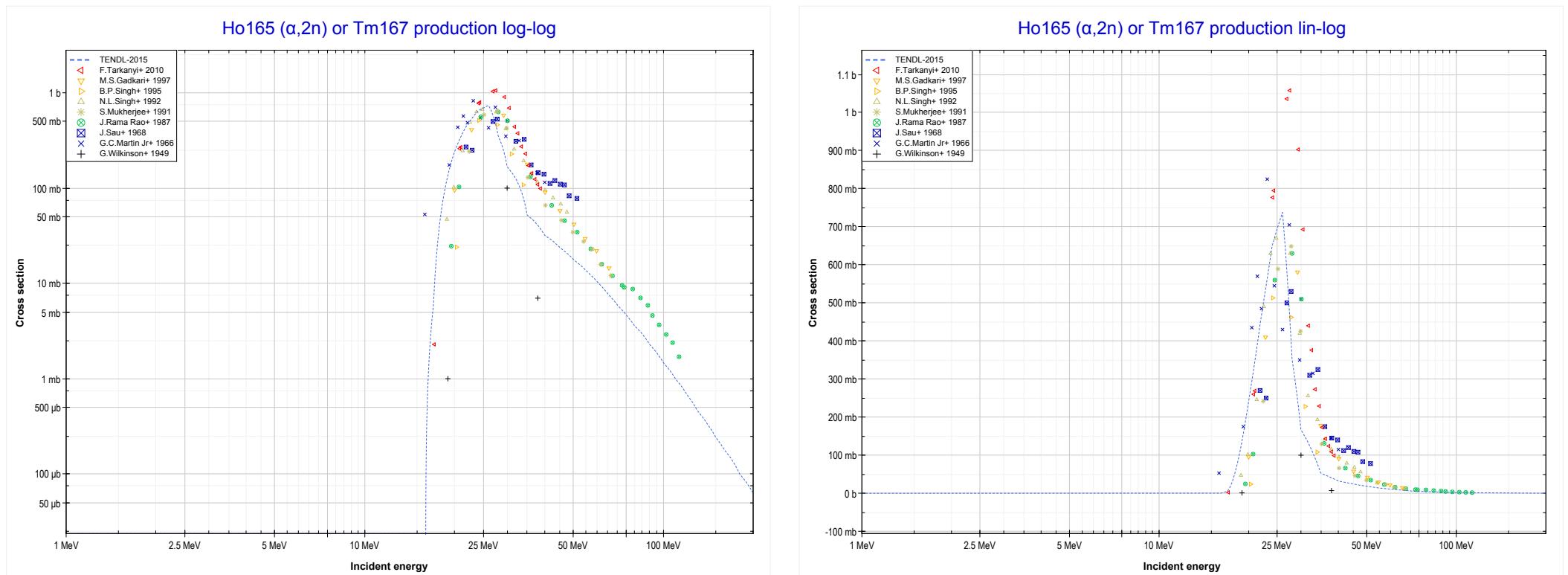
**67-Ho-165**  
**MT4 ( $\alpha,n$ ) or MT5 (Tm168 production)**

68-Er-164 >>	
MT16 ( $\alpha,2n$ ) >>	



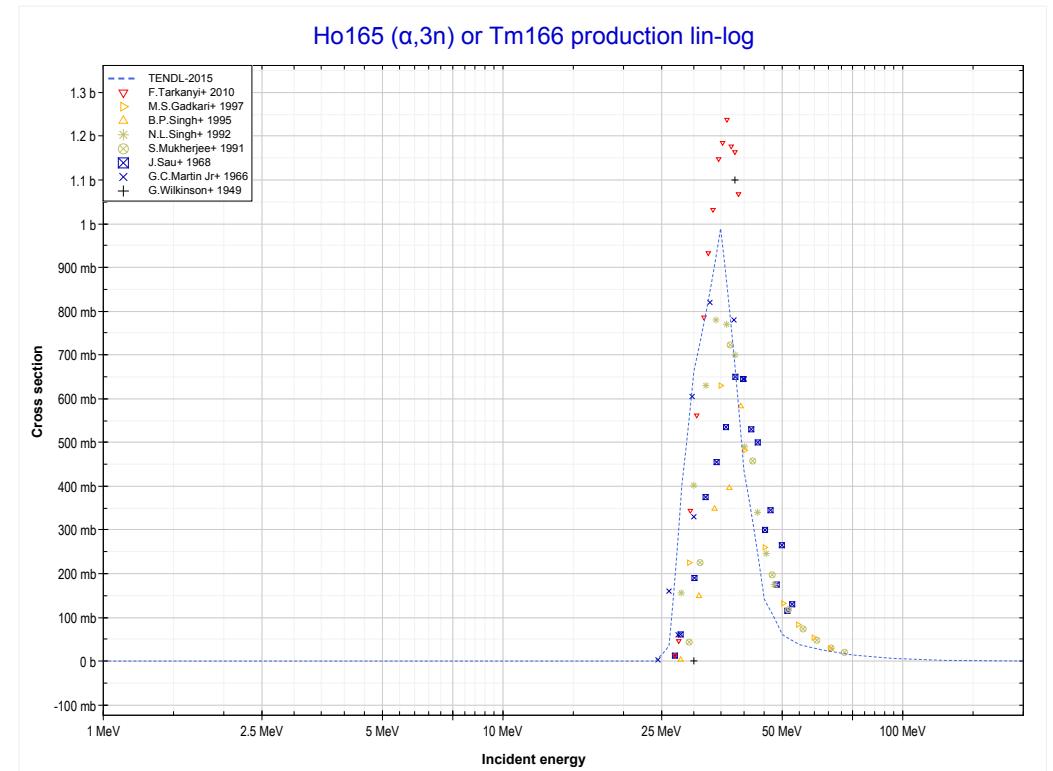
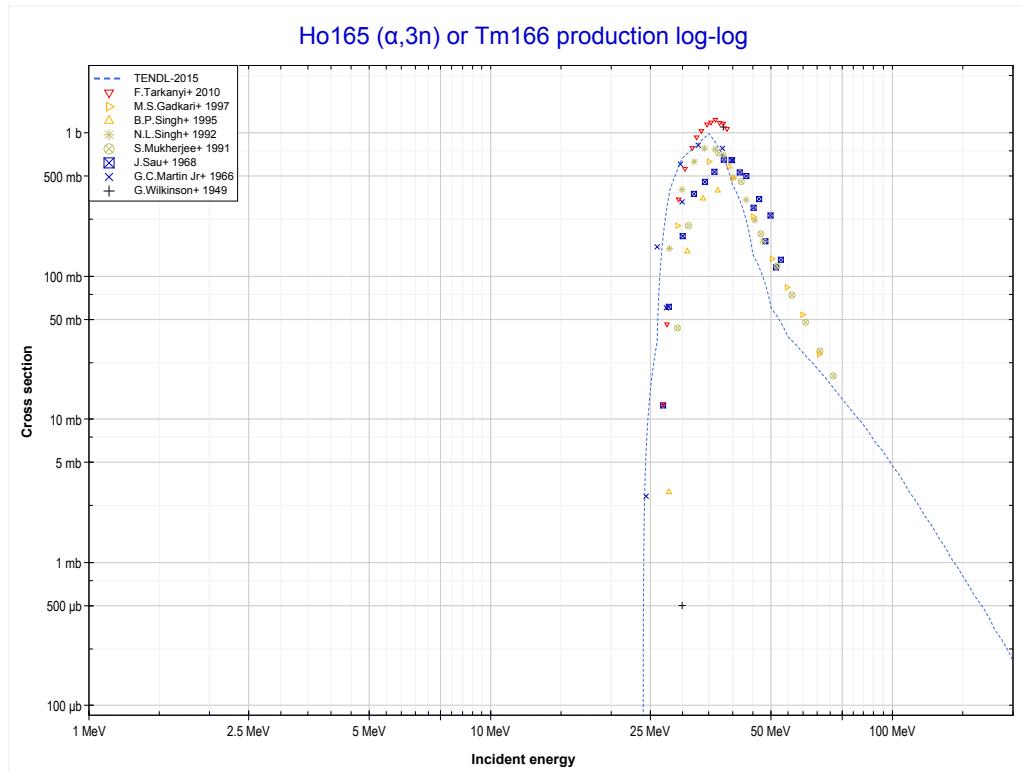
Reaction	Q-Value
Ho165( $\alpha,n$ )Tm168	-9231.40 keV

<< 65-Tb-159	<b>67-Ho-165</b> <b>MT16 (<math>\alpha,2n</math>) or MT5 (Tm167 production)</b>	68-Er-164 >>
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



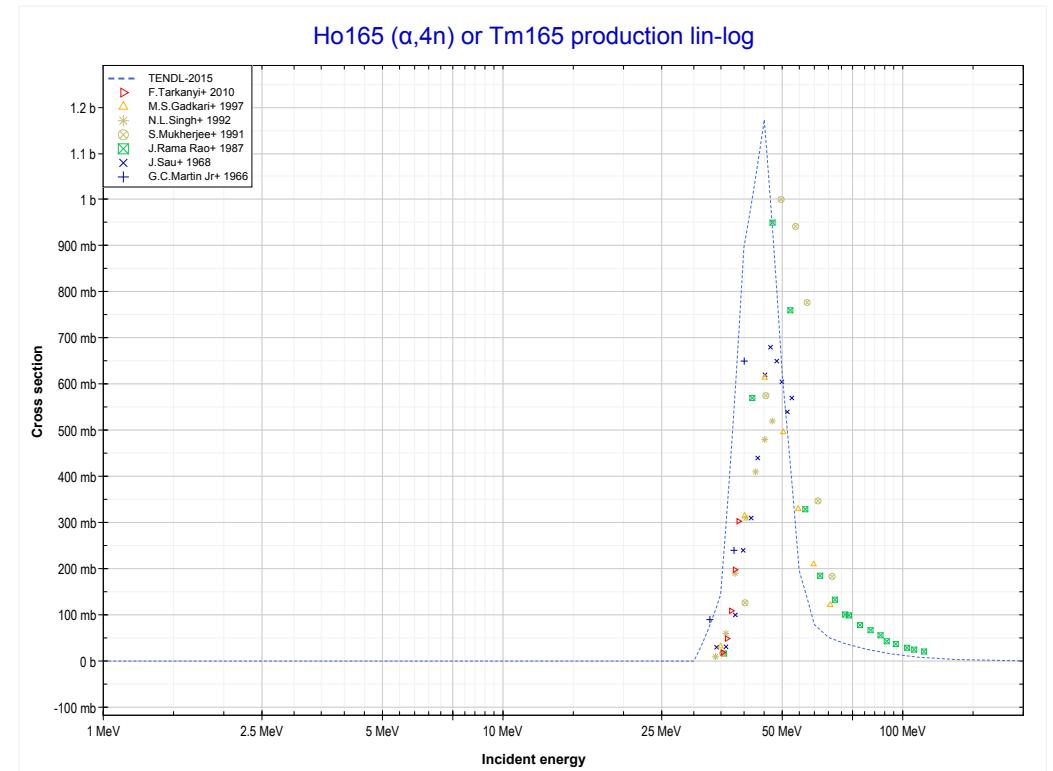
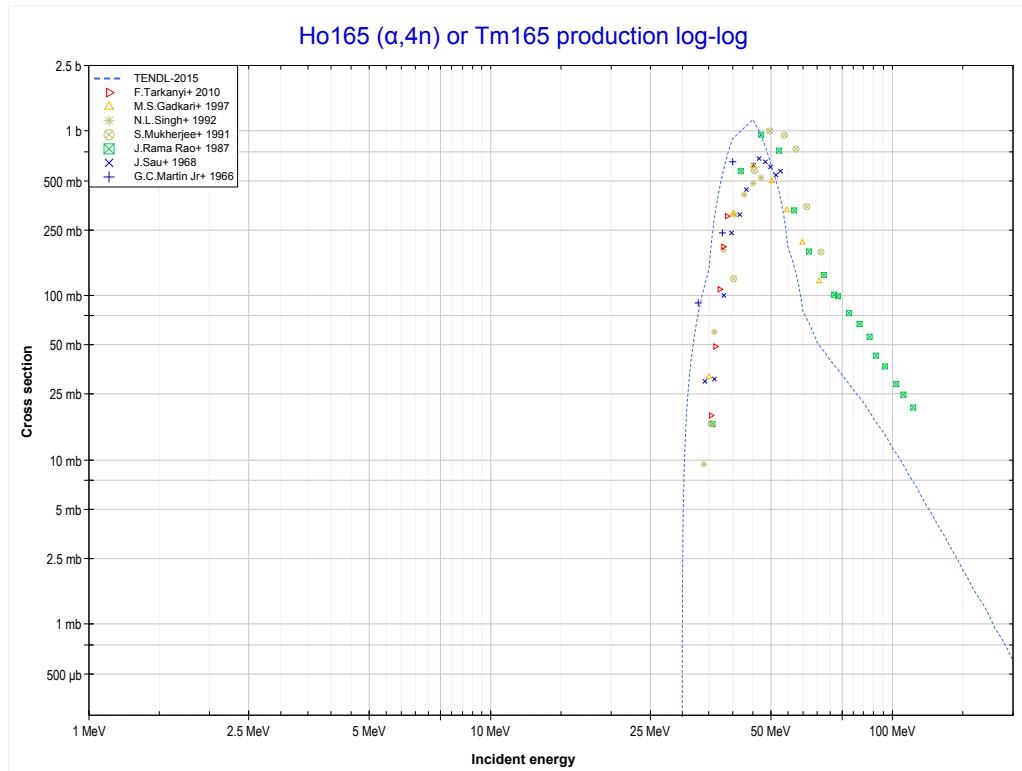
Reaction	Q-Value
Ho165( $\alpha,2n$ )Tm167	-16071.92 keV

<< 65-Tb-159	<b>67-Ho-165</b> <b>MT17 (<math>\alpha,3n</math>) or MT5 (Tm166 production)</b>	68-Er-164 >>
<< MT16 ( $\alpha,2n$ )		MT37 ( $\alpha,4n$ ) >>



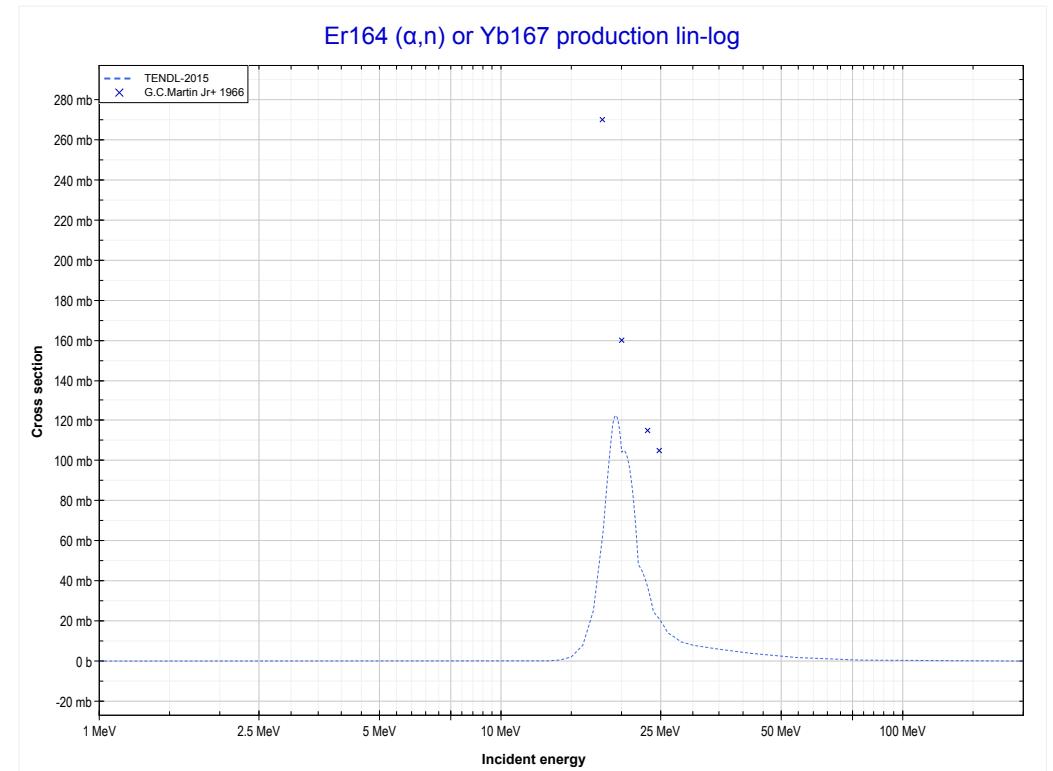
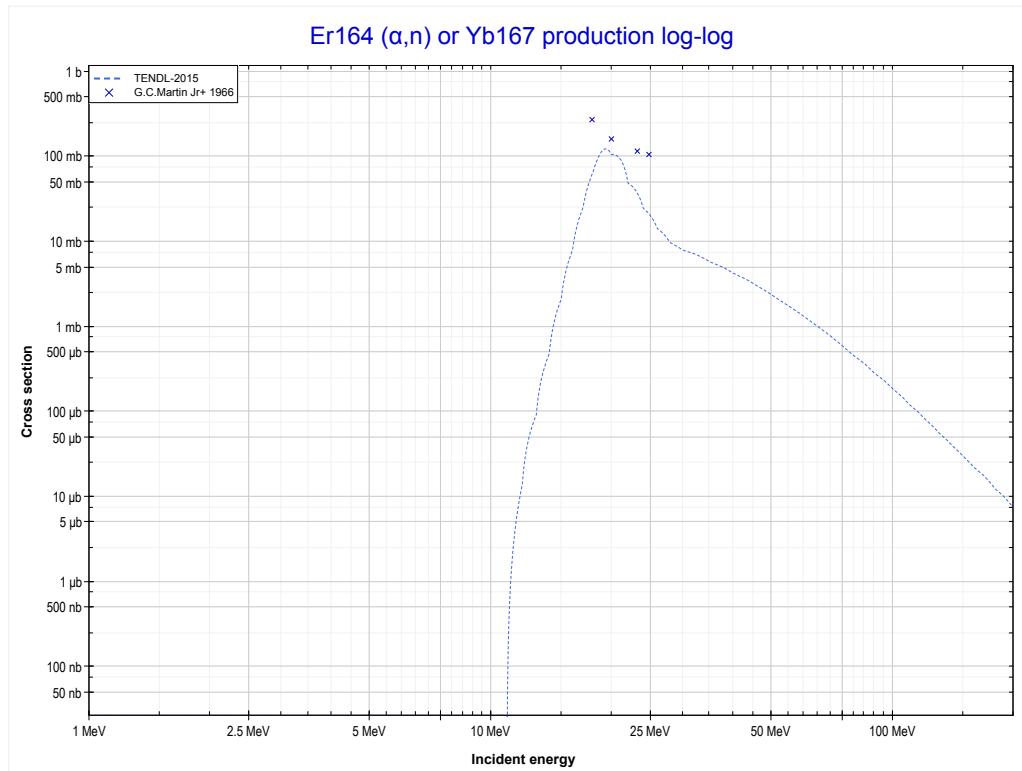
Reaction	Q-Value
Ho165( $\alpha,3n$ )Tm166	-24799.34 keV

<< 65-Tb-159	<b>67-Ho-165</b> <b>MT37 (<math>\alpha,4n</math>) or MT5 (Tm165 production)</b>	68-Er-166 >>
<< MT17 ( $\alpha,3n$ )		68-Er-164 MT4 ( $\alpha,n$ ) >>



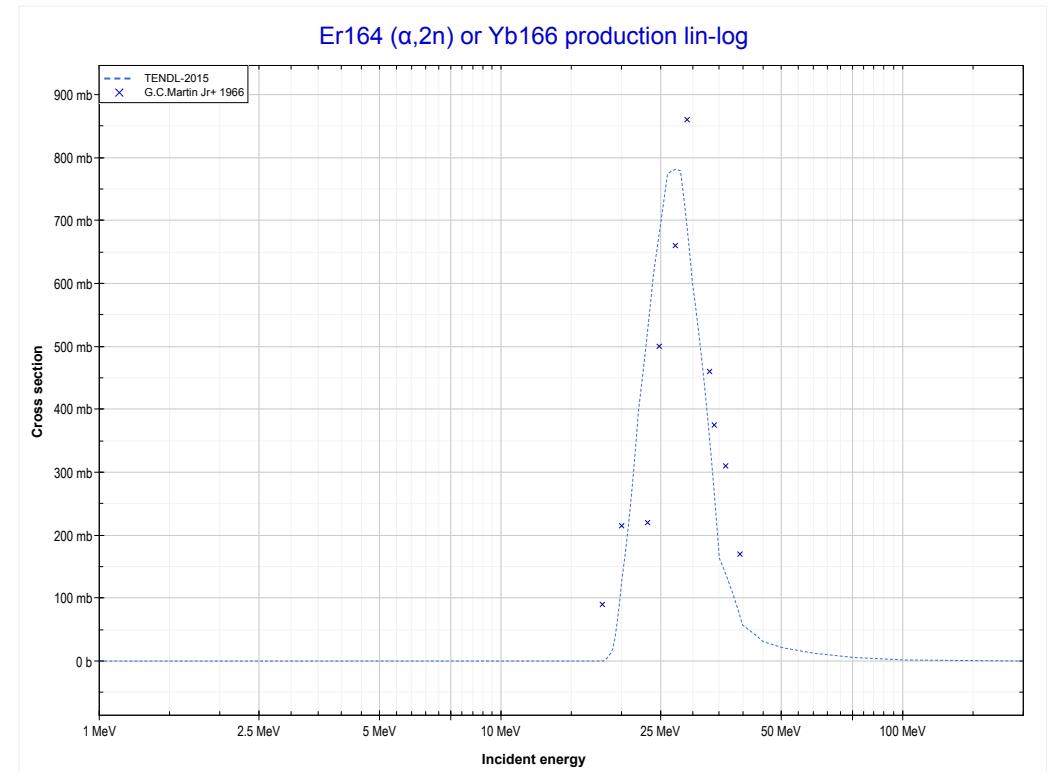
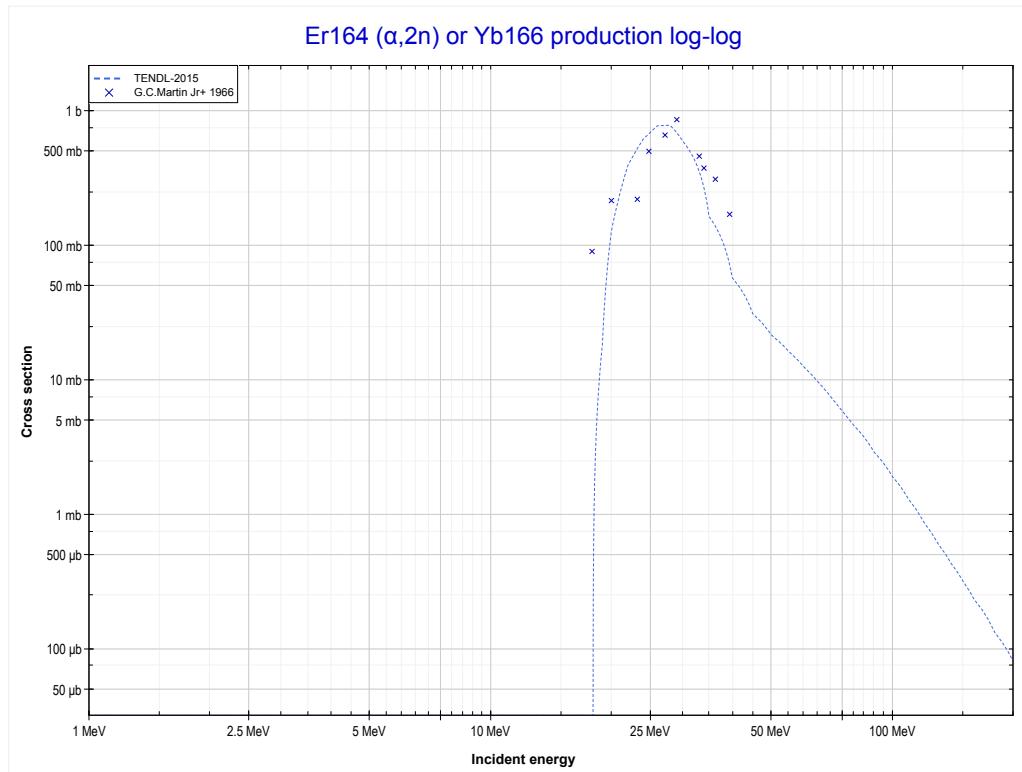
Reaction	Q-Value
Ho165( $\alpha,4n$ )Tm165	-31829.85 keV

<< 67-Ho-165	<b>68-Er-164</b> MT4 ( $\alpha, n$ ) or MT5 (Yb167 production)	>> 69-Tm-169
<< 67-Ho-165 MT37 ( $\alpha, 4n$ )		MT16 ( $\alpha, 2n$ ) >>



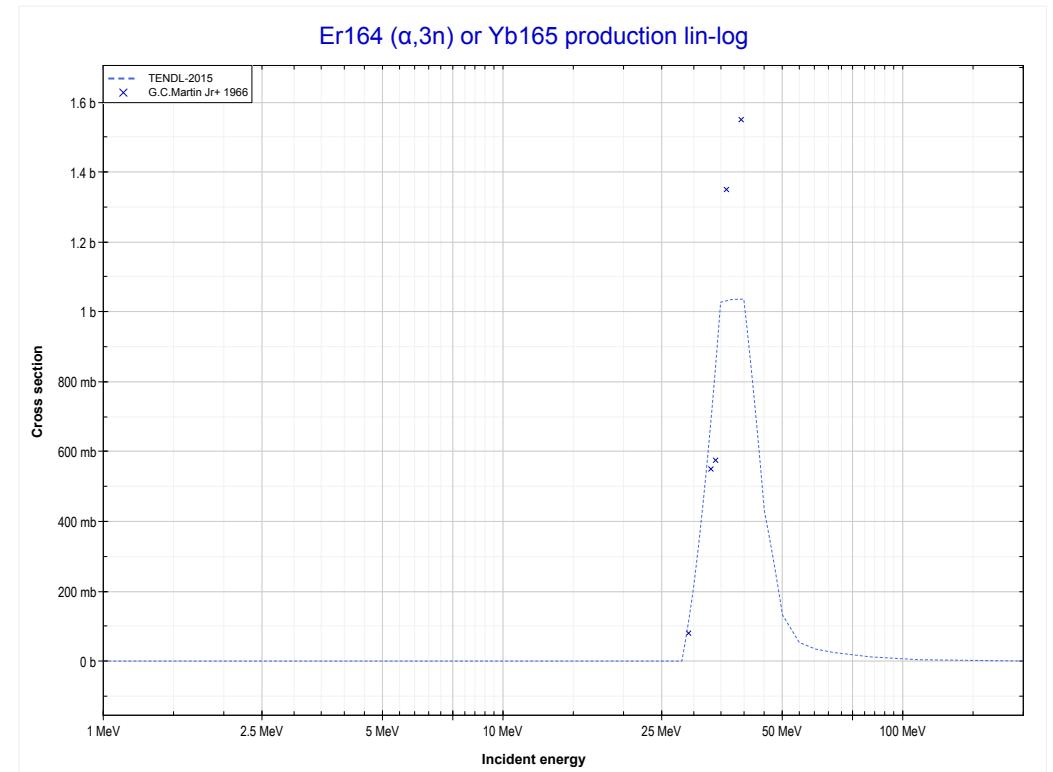
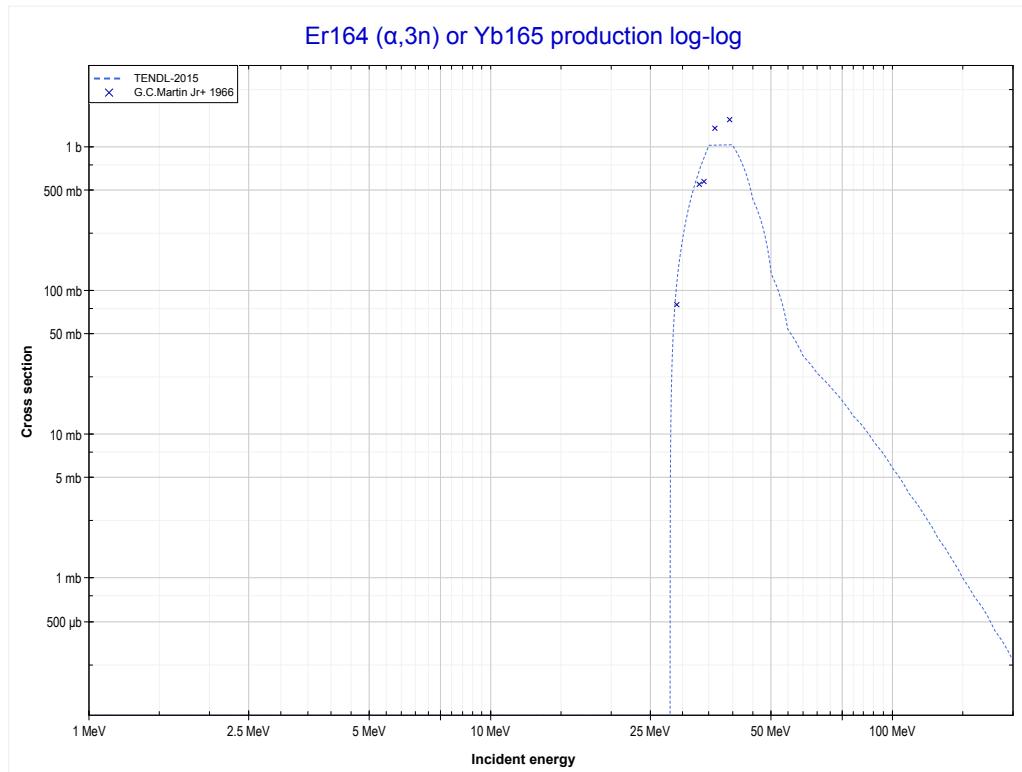
Reaction	Q-Value
Er164( $\alpha, n$ )Yb167	-10997.00 keV

<< 67-Ho-165	<b>68-Er-164</b> MT16 ( $\alpha,2n$ ) or MT5 (Yb166 production)	>> 69-Tm-169
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



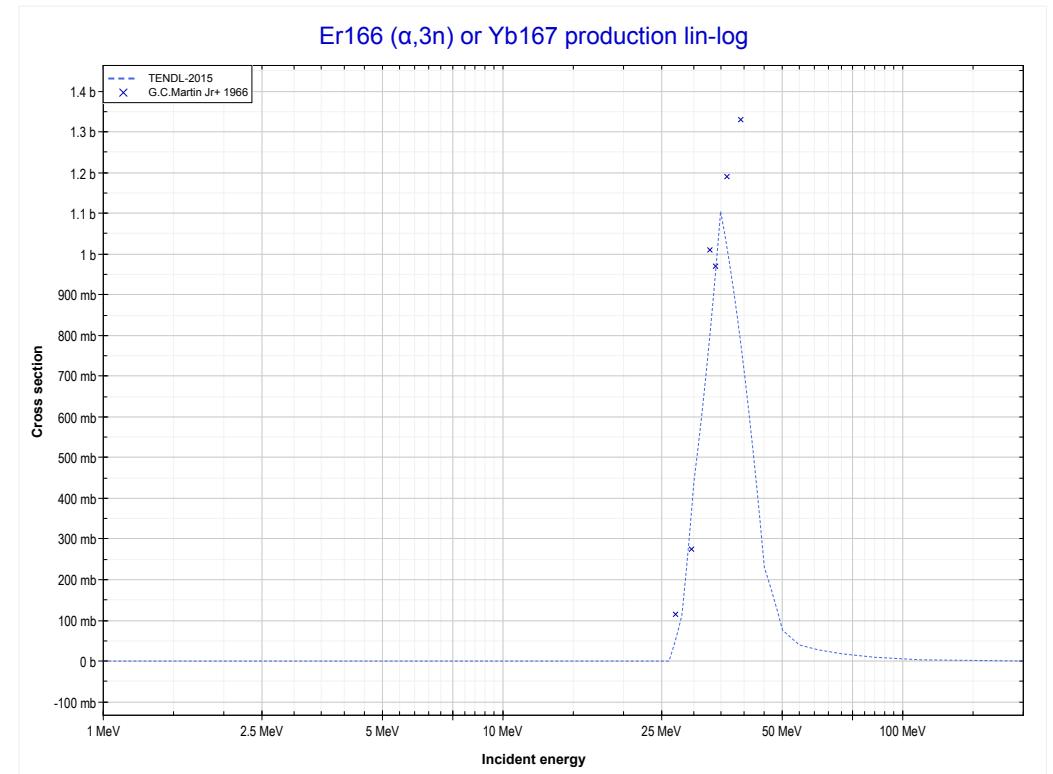
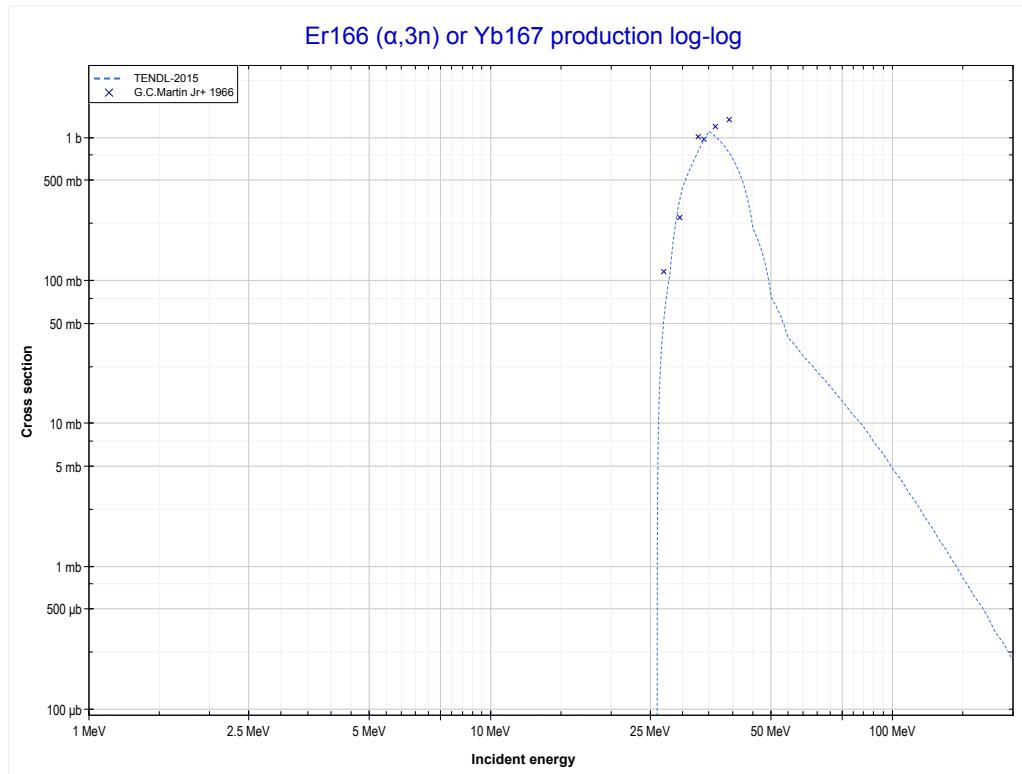
Reaction	Q-Value
Er164( $\alpha,2n$ )Yb166	-18064.32 keV

<< 67-Ho-165	<b>68-Er-164</b> MT17 ( $\alpha,3n$ ) or MT5 (Yb165 production)	68-Er-166 >>
<< MT16 ( $\alpha,2n$ )		68-Er-166 MT17 ( $\alpha,3n$ ) >>



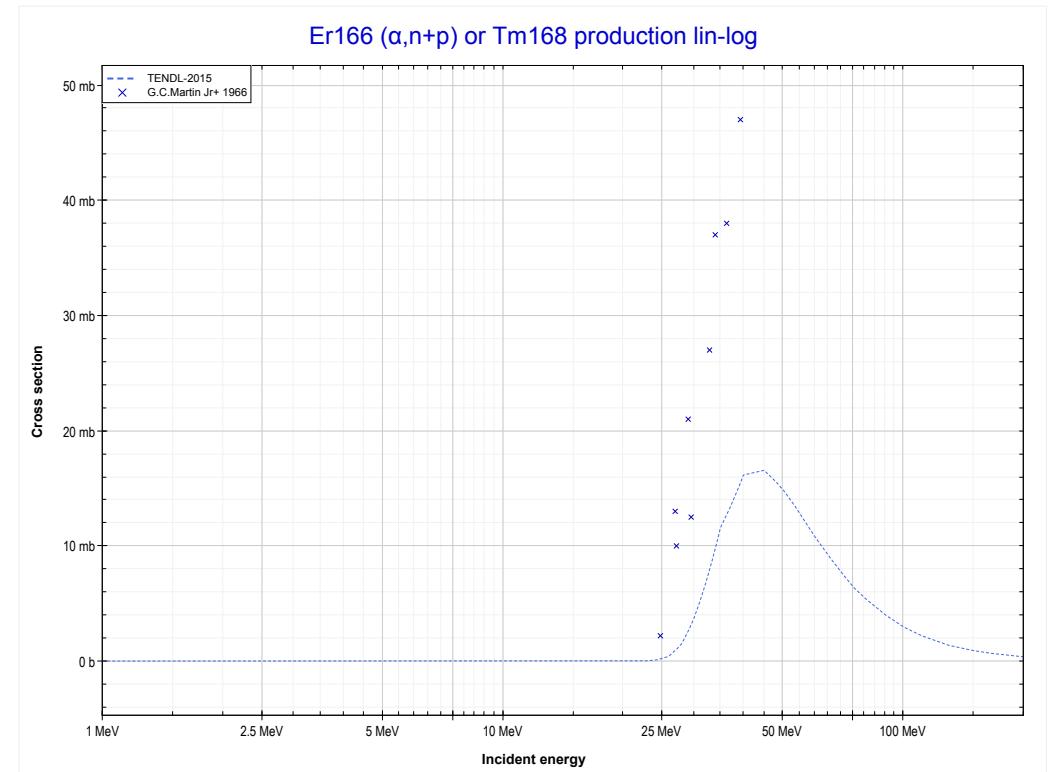
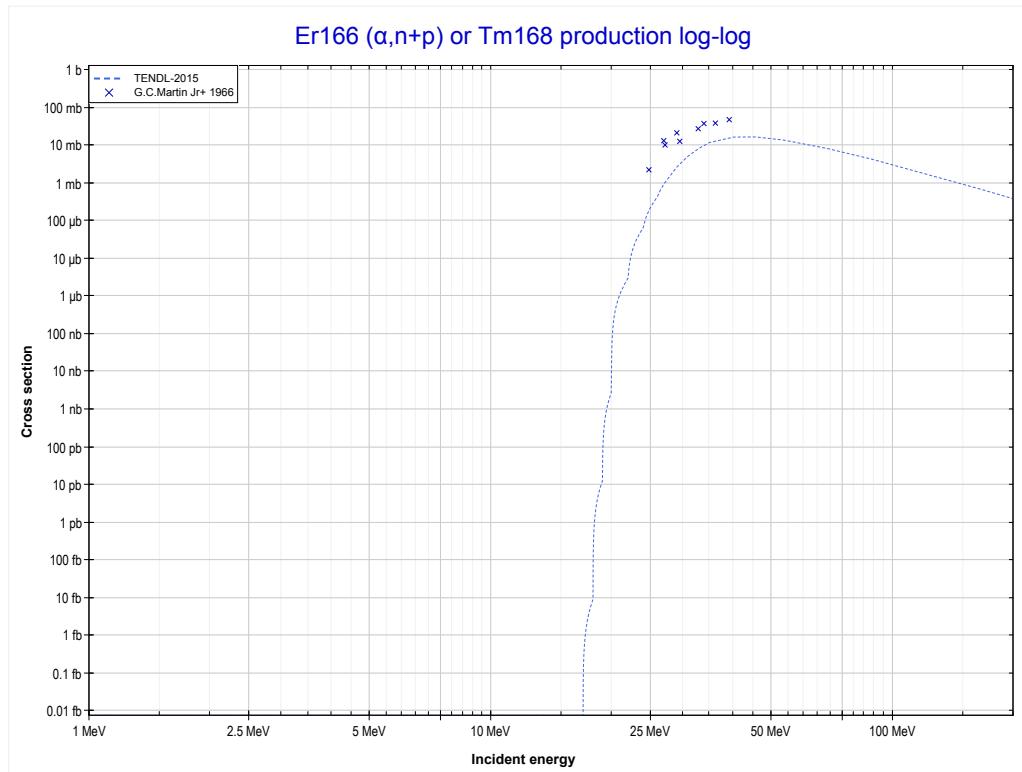
Reaction	Q-Value
Er164( $\alpha,3n$ )Yb165	-27435.64 keV

<< 68-Er-164	<b>68-Er-166</b> MT17 ( $\alpha,3n$ ) or MT5 (Yb167 production)	>> 69-Tm-169
<< 68-Er-164 MT17 ( $\alpha,3n$ )		MT28 ( $\alpha,n+p$ ) >>



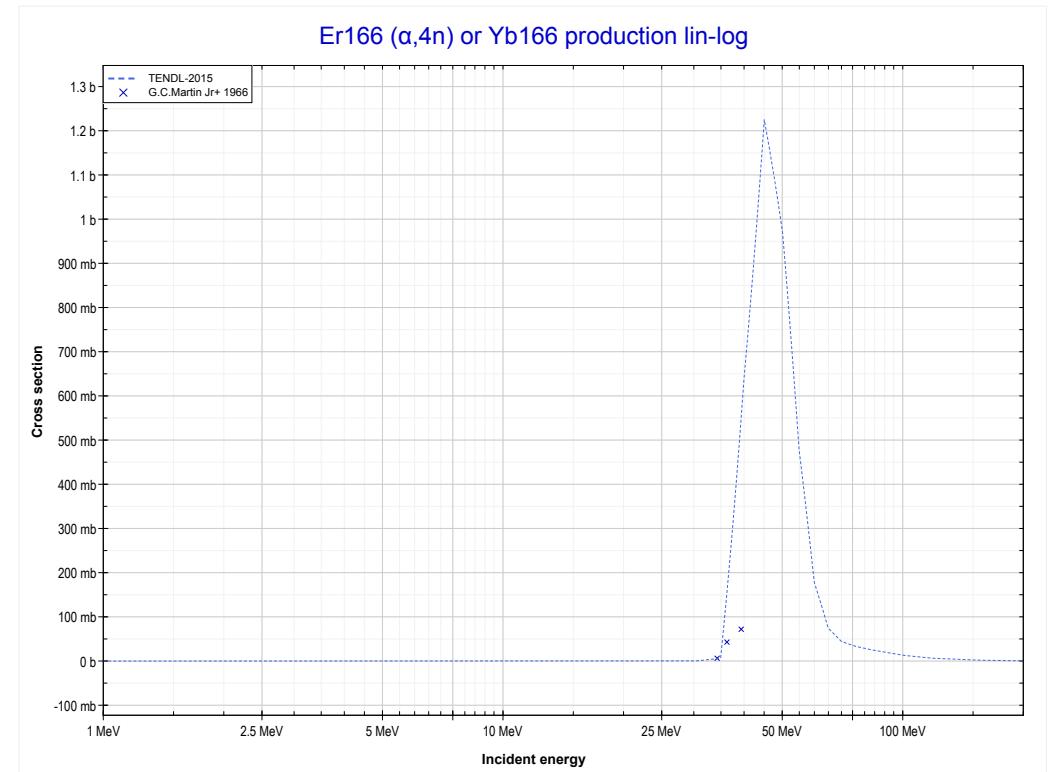
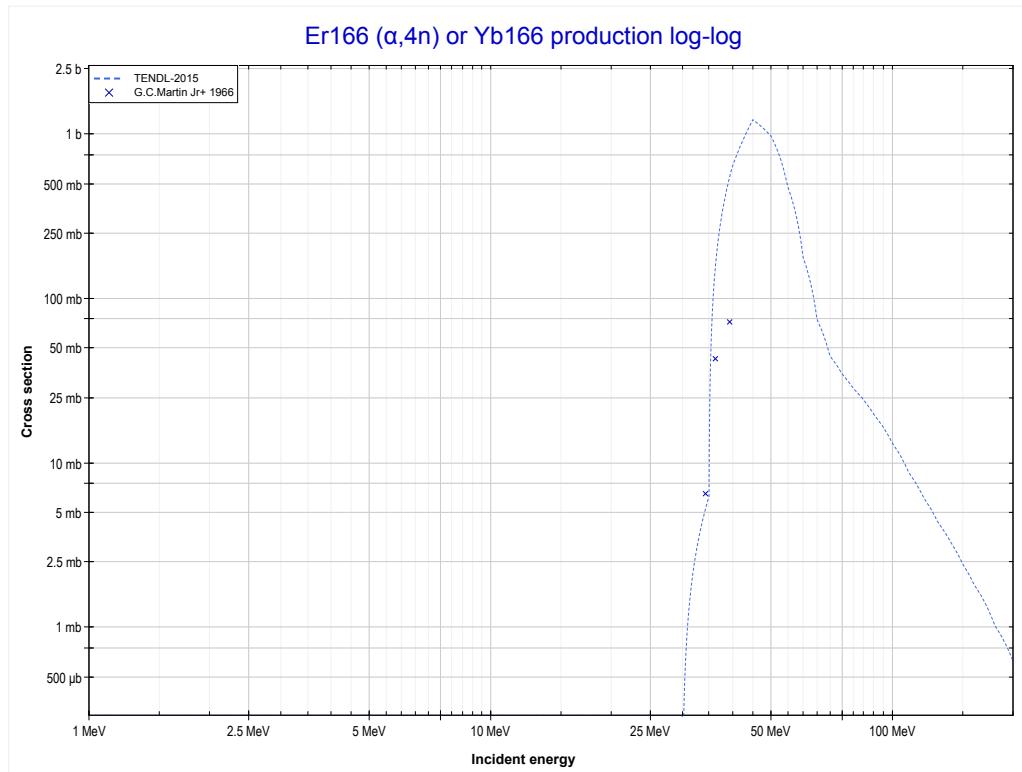
Reaction	Q-Value
Er166( $\alpha,3n$ )Yb167	-26123.64 keV

<< 57-La-139	<b>68-Er-166</b> MT28 ( $\alpha, n+p$ ) or MT5 (Tm168 production)	83-Bi-209 >>
<< MT17 ( $\alpha, 3n$ )		MT37 ( $\alpha, 4n$ ) >>



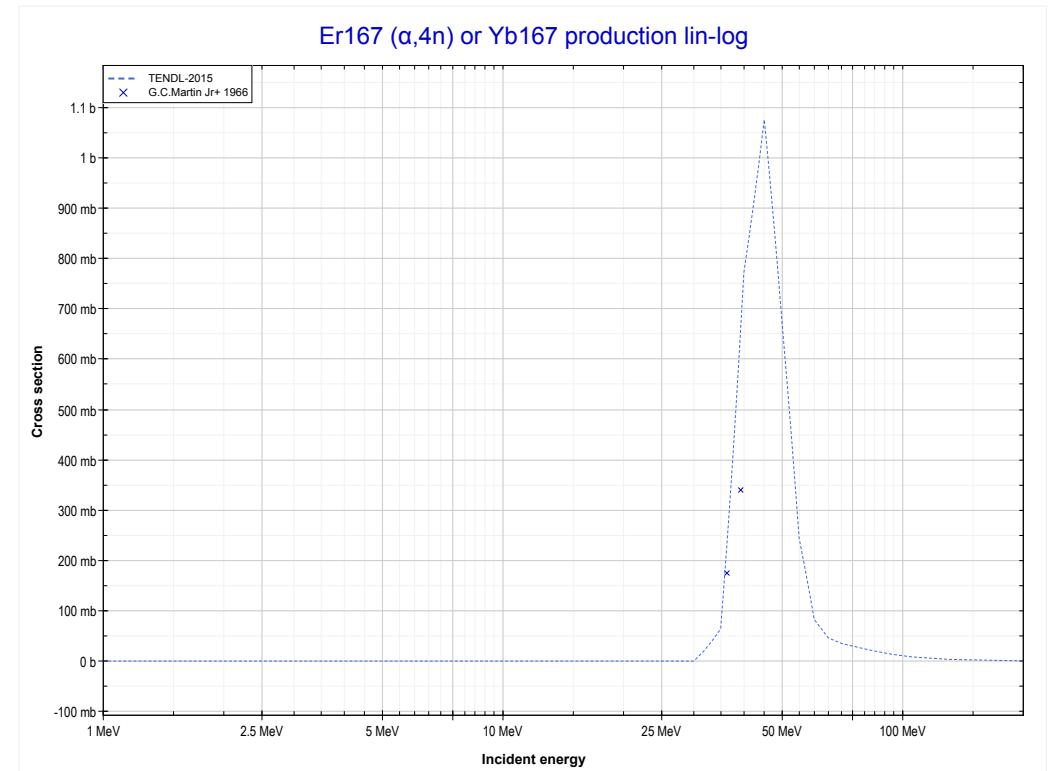
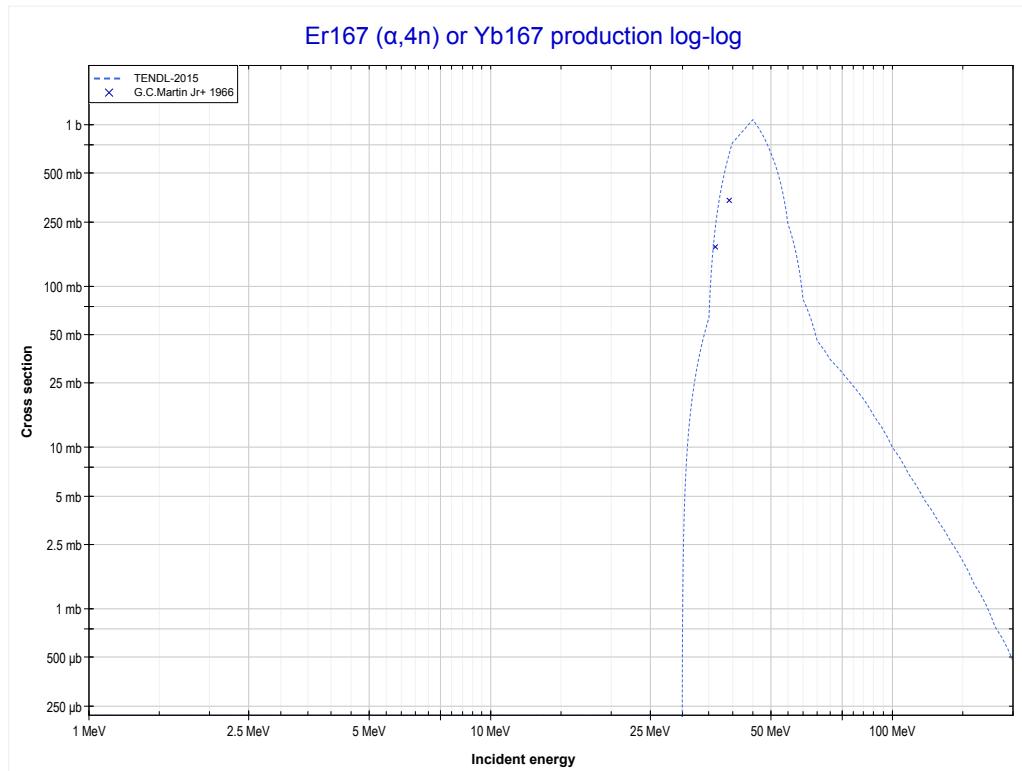
Reaction	Q-Value
Er166( $\alpha, d$ )Tm168	-14323.11 keV
Er166( $\alpha, n+p$ )Tm168	-16547.67 keV

<< 67-Ho-165	<b>68-Er-166</b> MT37 ( $\alpha,4n$ ) or MT5 (Yb166 production)	68-Er-167 >>
<< MT28 ( $\alpha,n+p$ )		68-Er-167 MT37 ( $\alpha,4n$ ) >>



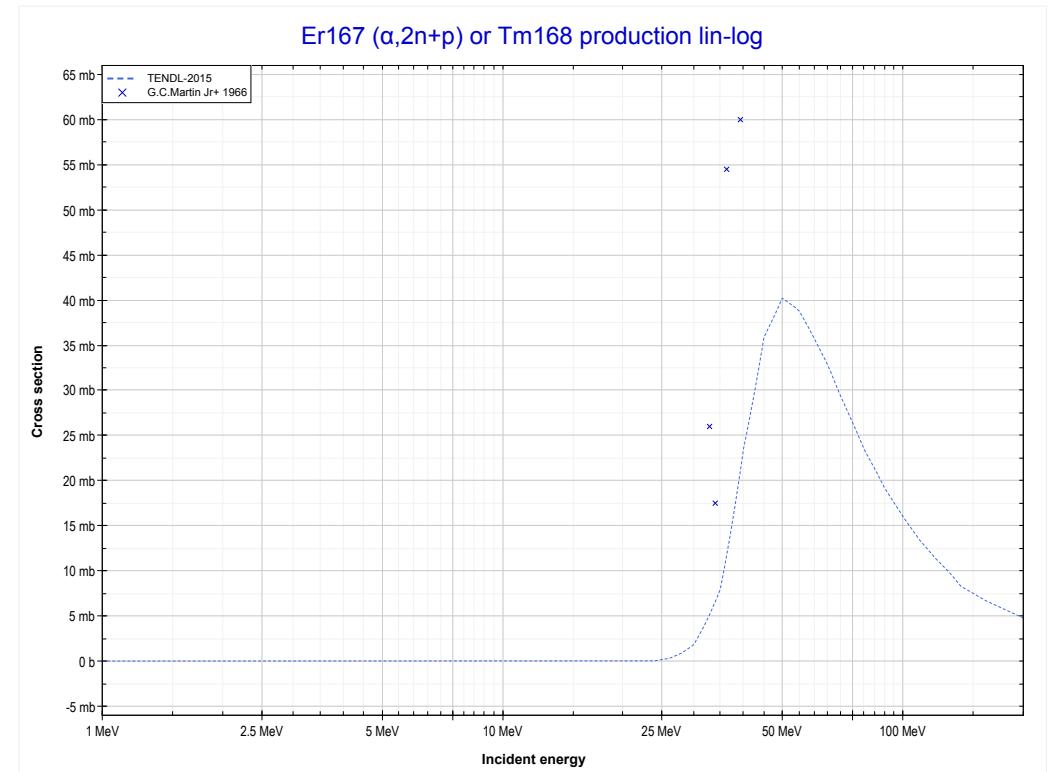
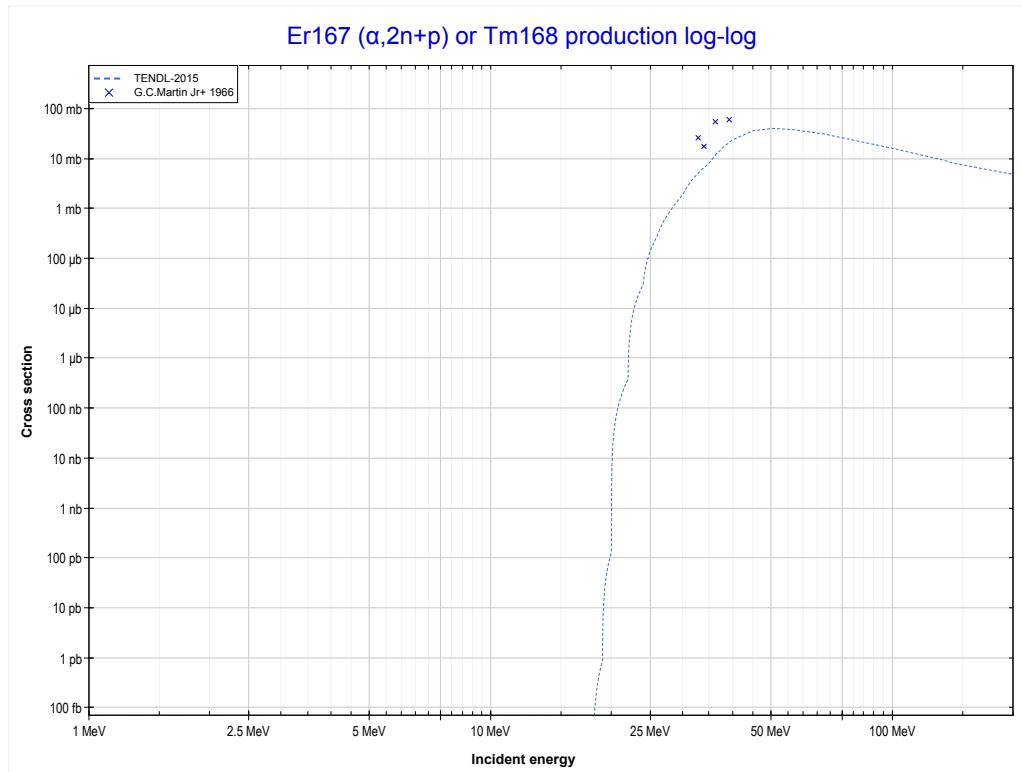
Reaction	Q-Value
Er166( $\alpha,4n$ )Yb166	-33190.95 keV

<< 68-Er-166	<b>68-Er-167</b> MT37 ( $\alpha,4n$ ) or MT5 (Yb167 production)	>> 69-Tm-169
<< 68-Er-166 MT37 ( $\alpha,4n$ )		MT41 ( $\alpha,2n+p$ ) >>



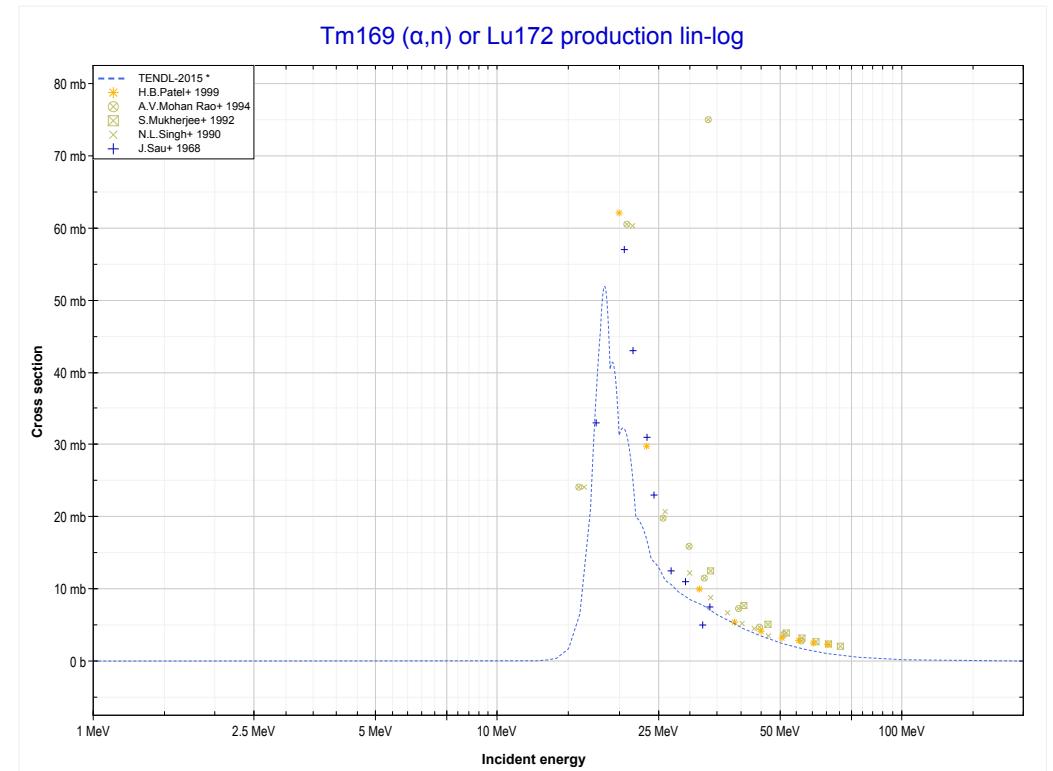
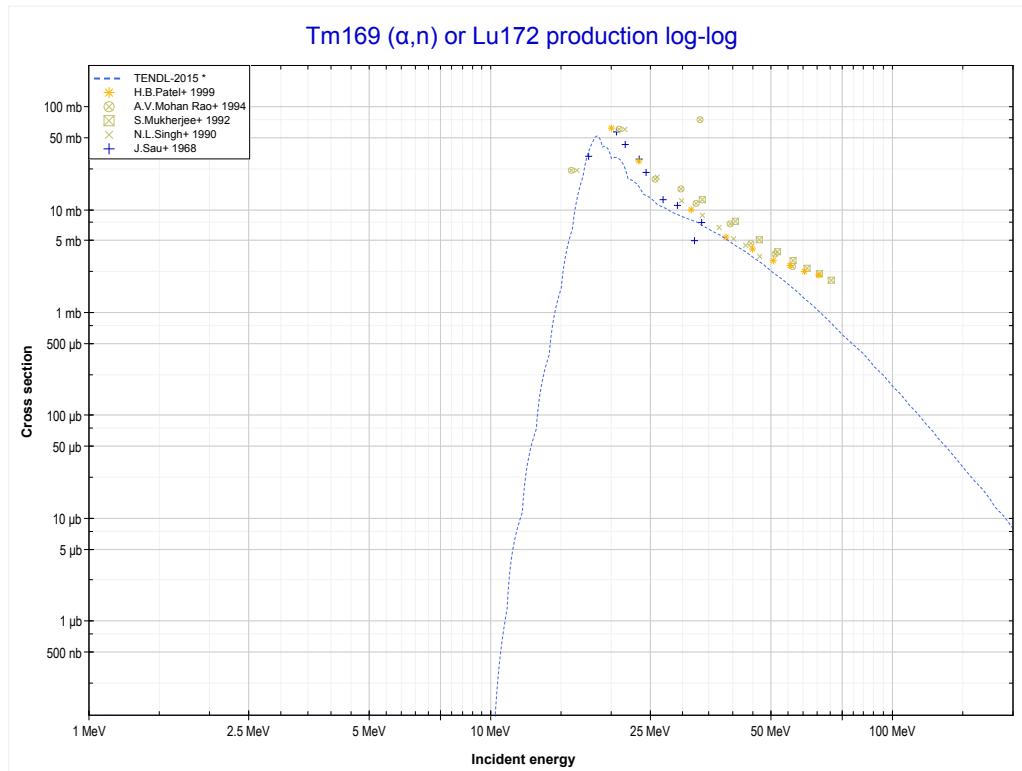
Reaction	Q-Value
Er167( $\alpha,4n$ )Yb167	-32560.05 keV

<< 48-Cd-116	<b>68-Er-167</b>	
<< MT37 ( $\alpha$ ,4n)	<b>MT41 (<math>\alpha</math>,2n+p) or MT5 (Tm168 production)</b>	<b>69-Tm-169 MT4 (<math>\alpha</math>,n) &gt;&gt;</b>



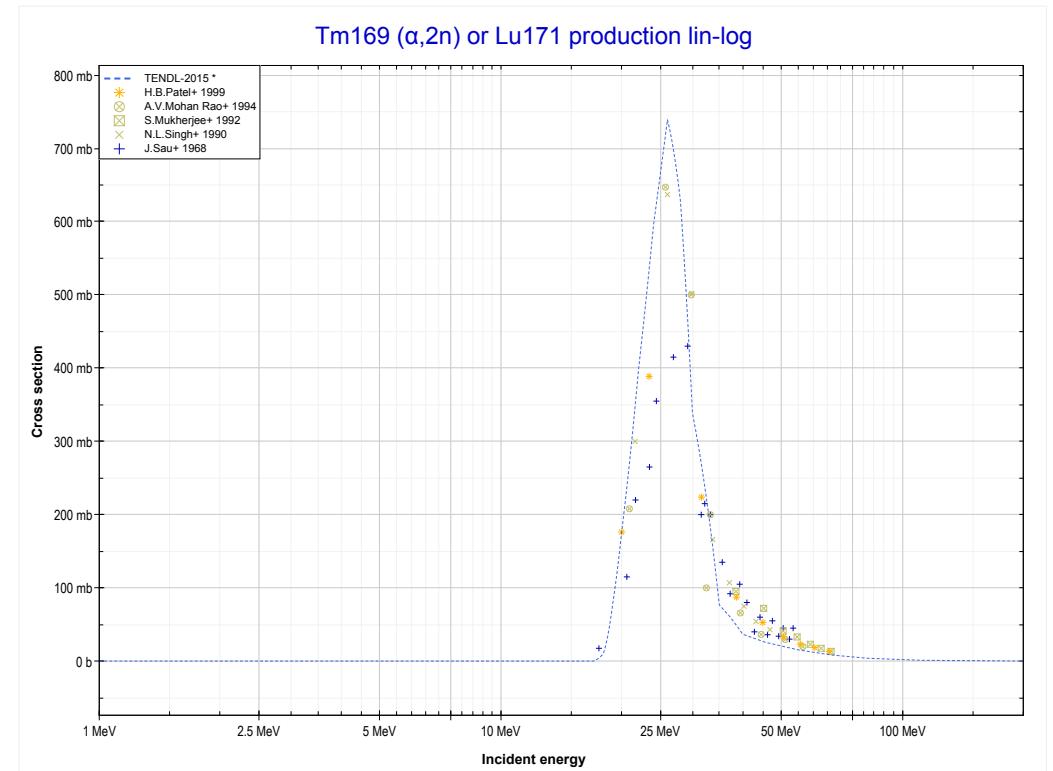
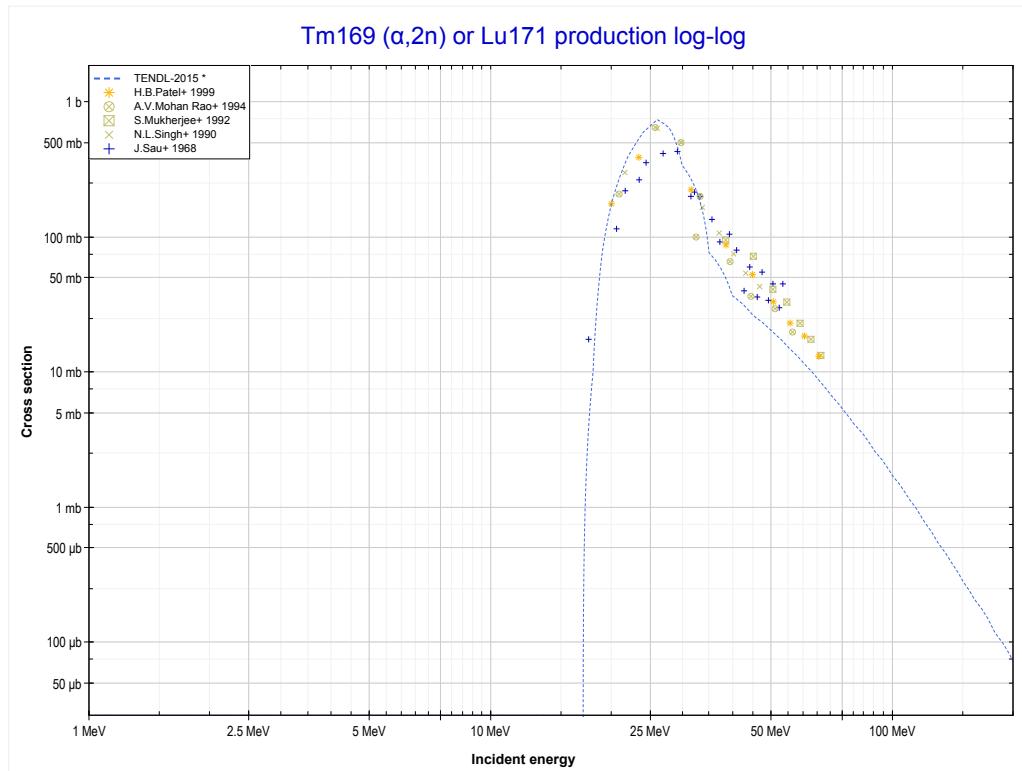
Reaction	Q-Value
Er167( $\alpha$ ,t)Tm168	-14502.29 keV
Er167( $\alpha$ ,n+d)Tm168	-20759.52 keV
Er167( $\alpha$ ,2n+p)Tm168	-22984.09 keV

<< 68-Er-164	<b>69-Tm-169</b> MT4 ( $\alpha, n$ ) or MT5 (Lu172 production)	70-Yb-176 >>
<< 68-Er-167 MT41 ( $\alpha, 2n+p$ )		MT16 ( $\alpha, 2n$ ) >>



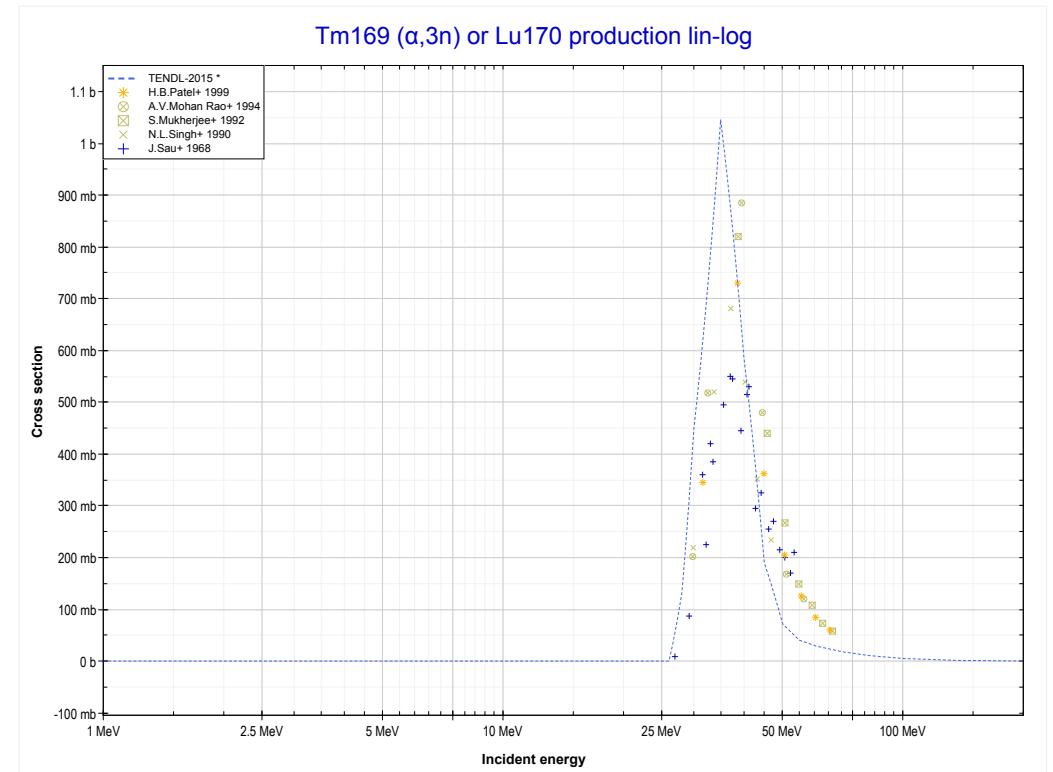
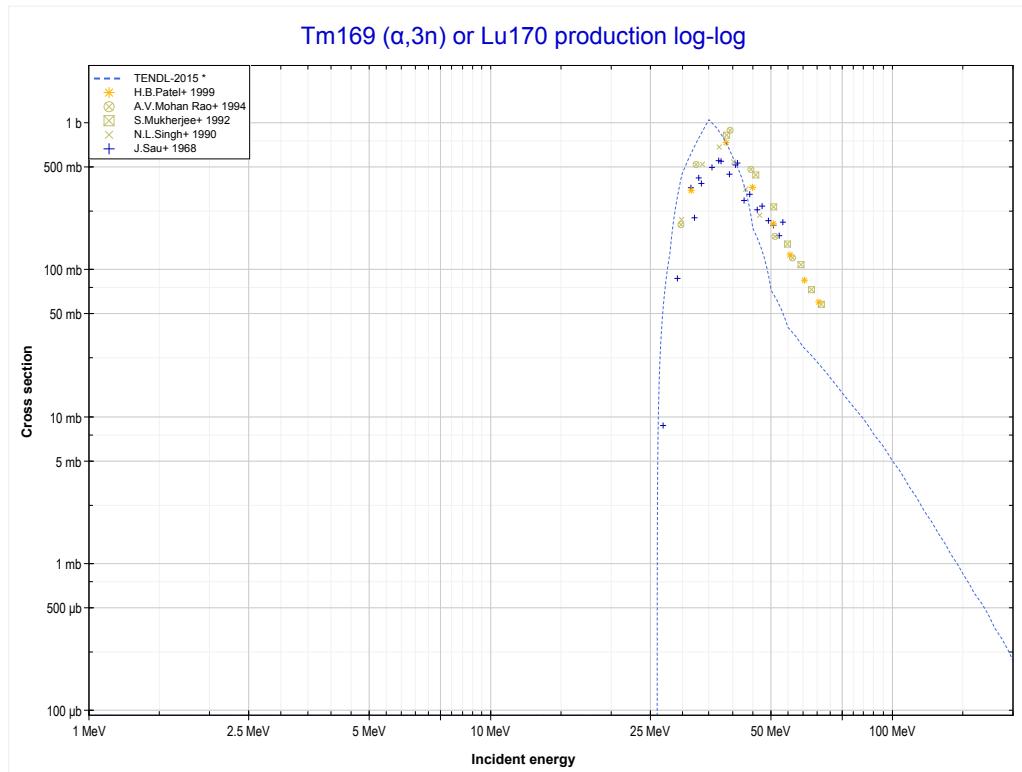
Reaction	Q-Value
Tm169( $\alpha, n$ )Lu172	-10183.90 keV

<< 68-Er-164	<b>69-Tm-169</b> MT16 ( $\alpha,2n$ ) or MT5 (Lu171 production)	70-Yb-176 >>
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



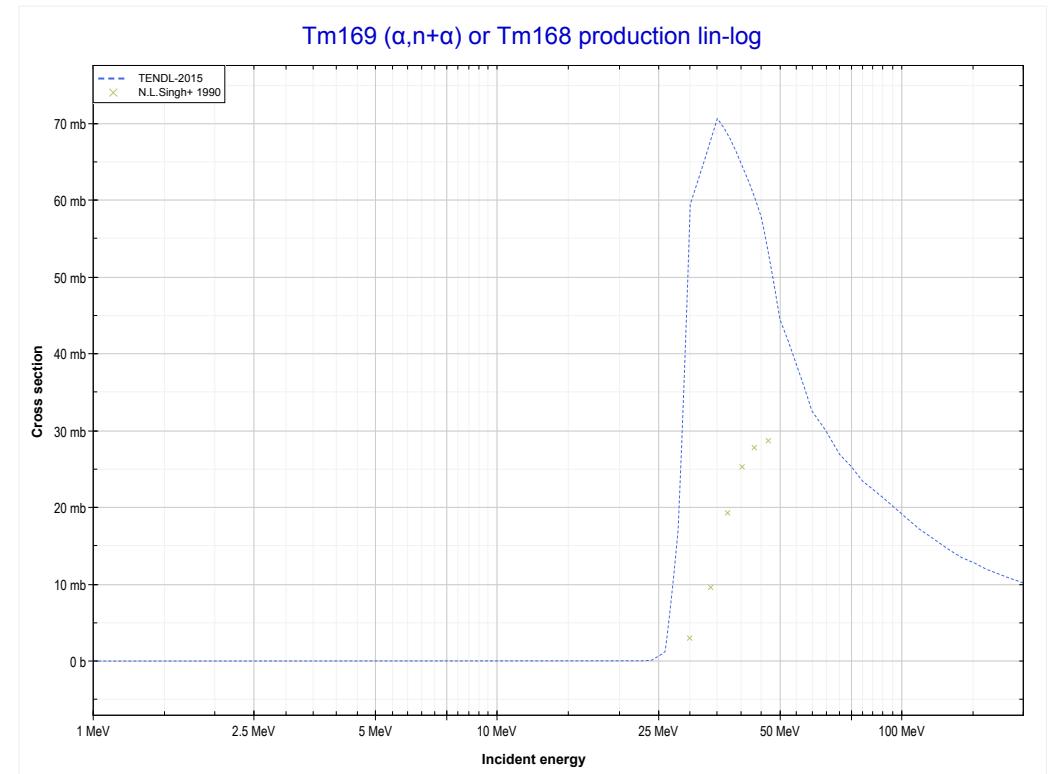
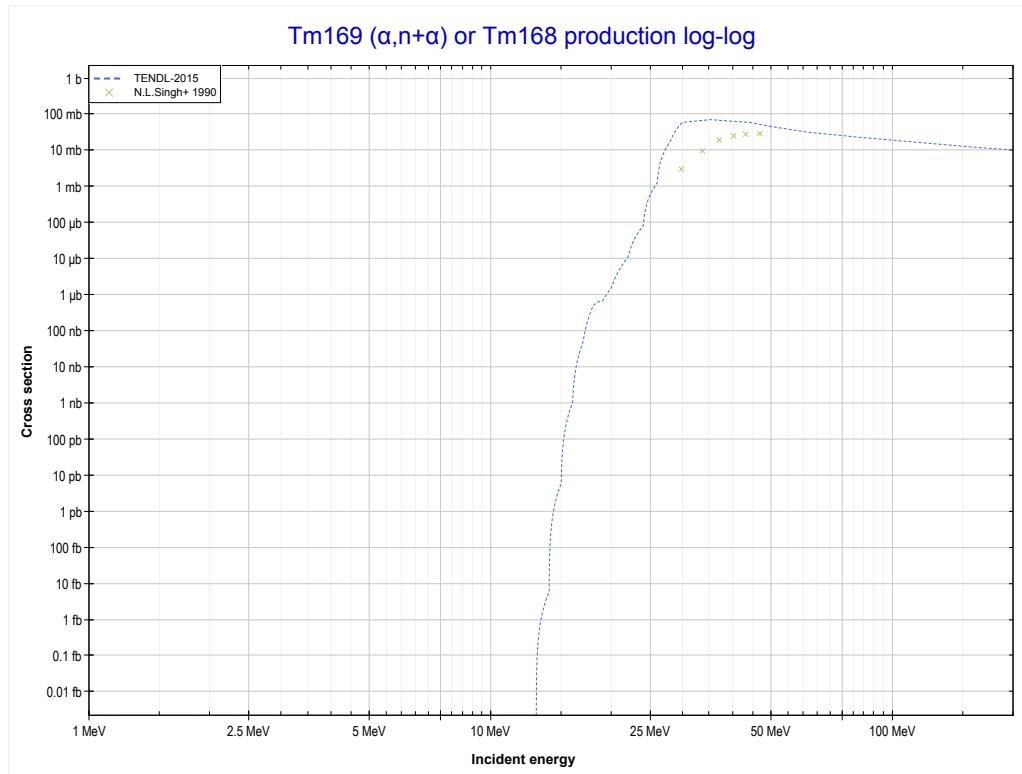
Reaction	Q-Value
Tm169( $\alpha,2n$ )Lu171	-17163.32 keV

<< 68-Er-166	<b>69-Tm-169</b> MT17 ( $\alpha,3n$ ) or MT5 (Lu170 production)	>> 73-Ta-181
<< MT16 ( $\alpha,2n$ )		MT22 ( $\alpha,n+\alpha$ ) >>



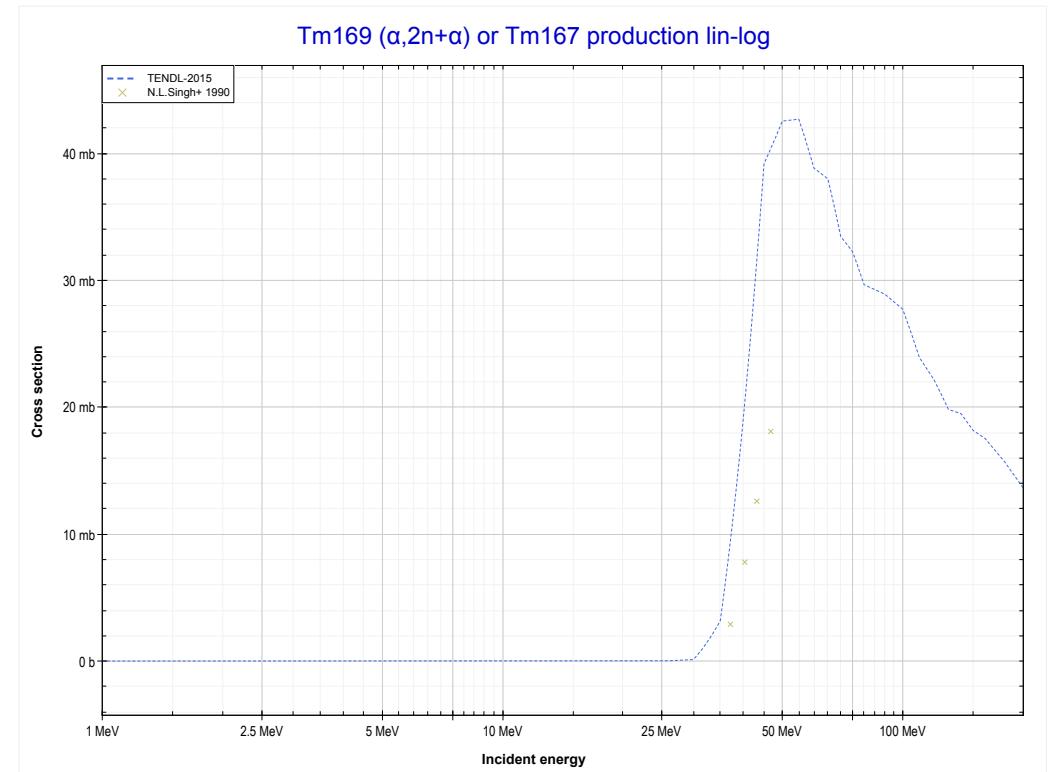
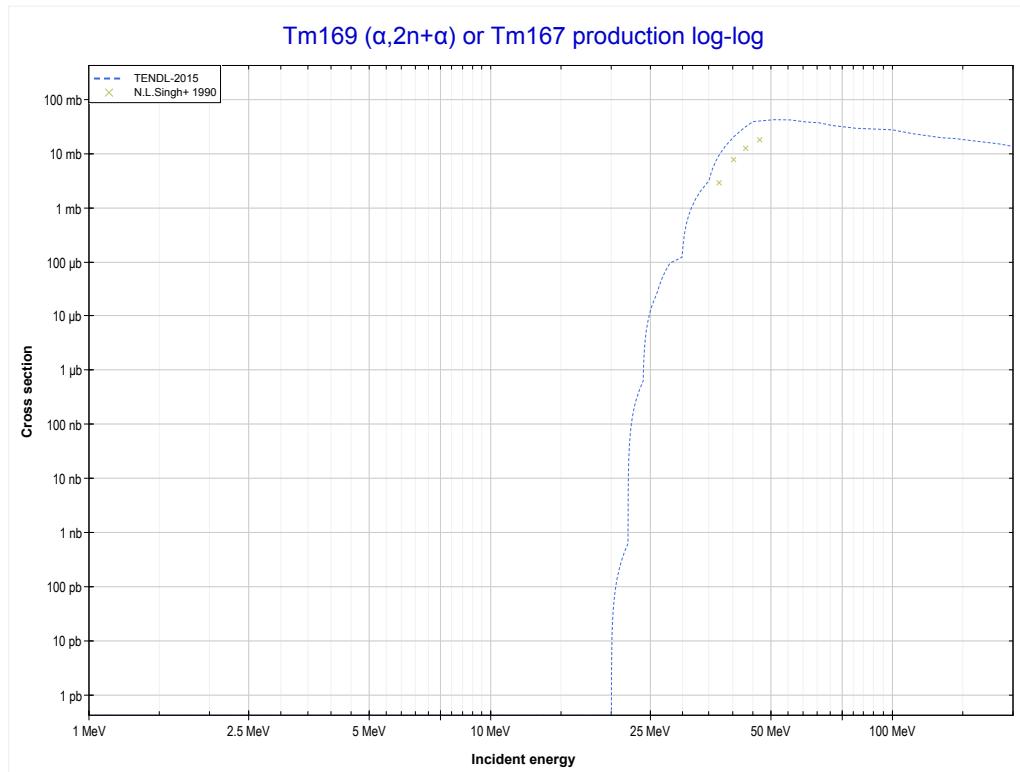
Reaction	Q-Value
Tm169( $\alpha,3n$ )Lu170	-25757.64 keV

<< 60-Nd-142	<b>69-Tm-169</b> <b>MT22 (<math>\alpha, n+\alpha</math>) or MT5 (Tm168 production)</b>	79-Au-197 >>
<< MT17 ( $\alpha, 3n$ )		MT24 ( $\alpha, 2n+\alpha$ ) >>



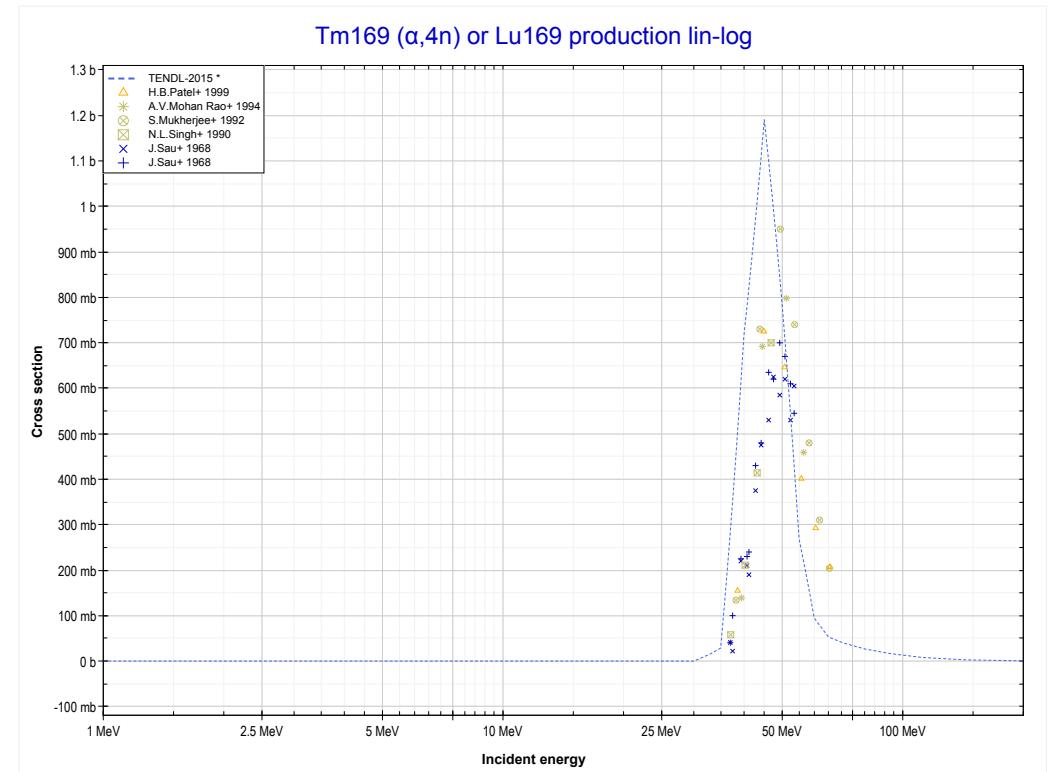
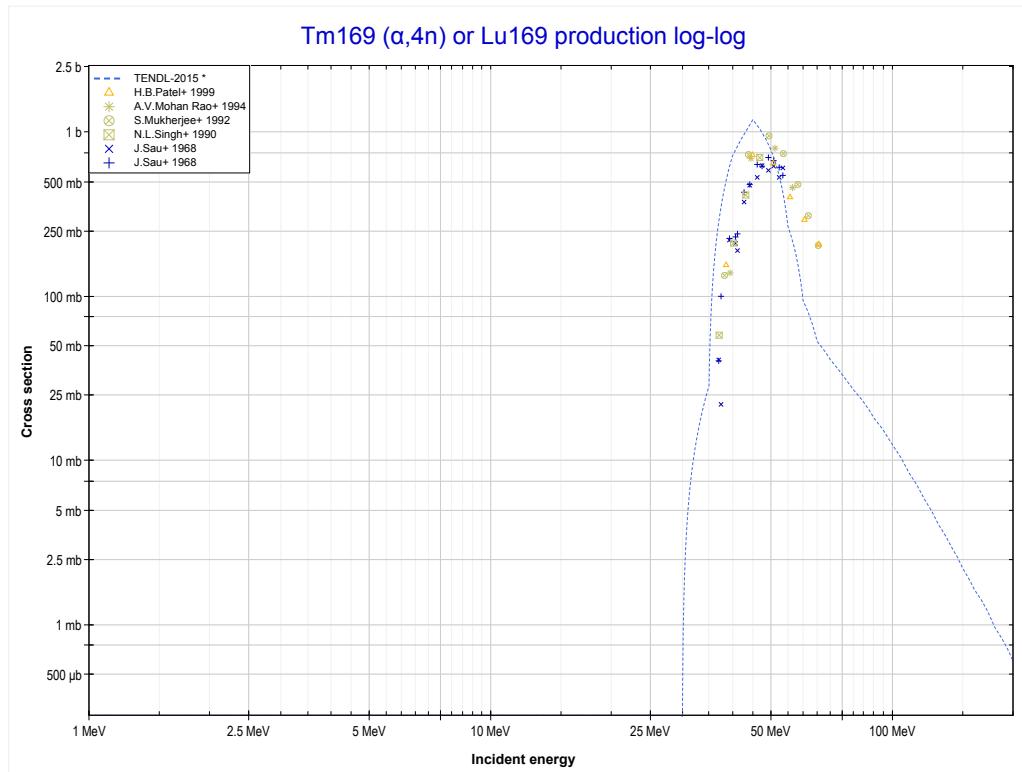
Reaction	Q-Value
Tm169( $\alpha, n+\alpha$ )Tm168	-8033.62 keV
Tm169( $\alpha, d+t$ )Tm168	-25622.91 keV
Tm169( $\alpha, n+p+t$ )Tm168	-27847.48 keV
Tm169( $\alpha, 2n+He3$ )Tm168	-28611.23 keV
Tm169( $\alpha, n+2d$ )Tm168	-31880.14 keV
Tm169( $\alpha, 2n+p+d$ )Tm168	-34104.71 keV
Tm169( $\alpha, 3n+2p$ )Tm168	-36329.28 keV

<< 45-Rh-103	<b>69-Tm-169</b> <b>MT24 (<math>\alpha, 2n+\alpha</math>) or MT5 (Tm167 production)</b>	MT37 ( $\alpha, 4n$ ) >>
<< MT22 ( $\alpha, n+\alpha$ )		



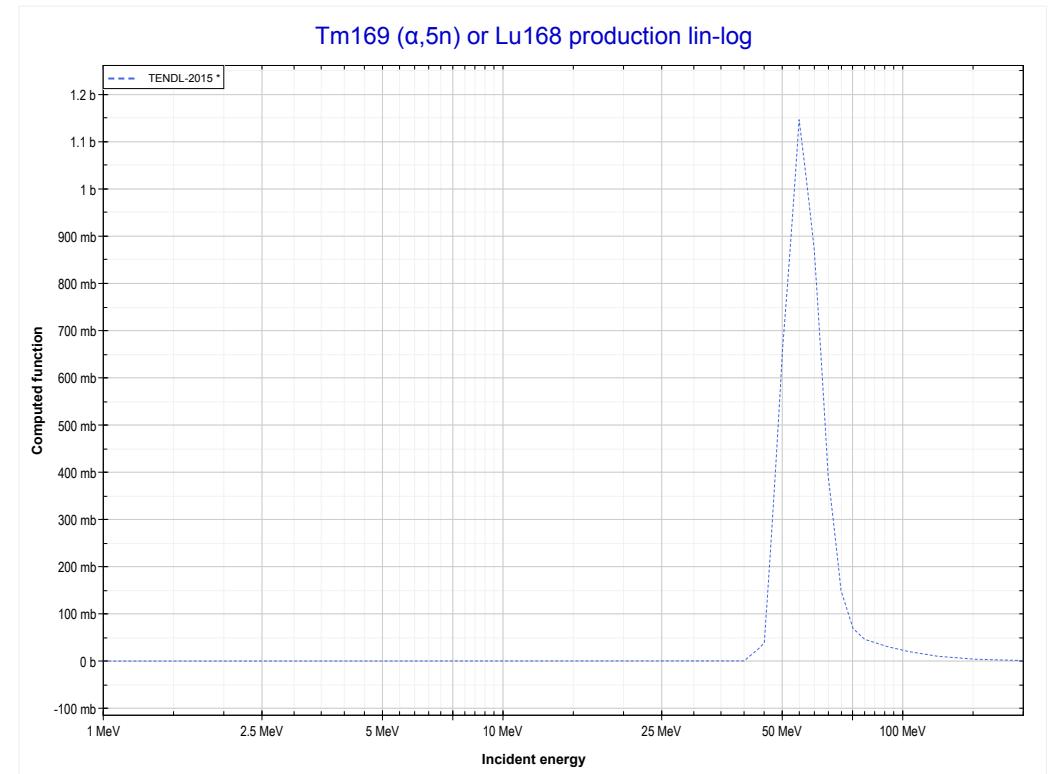
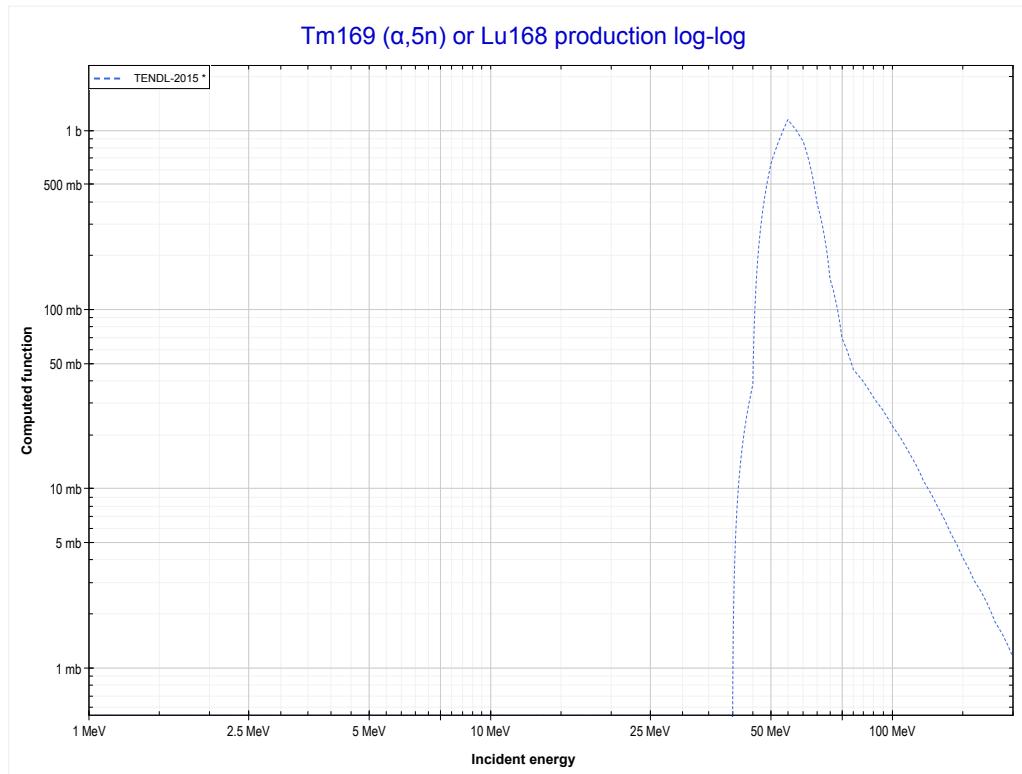
Reaction	Q-Value
Tm169( $\alpha, 2n+\alpha$ )Tm167	-14874.13 keV
Tm169( $\alpha, 2t$ )Tm167	-26206.20 keV
Tm169( $\alpha, n+d+t$ )Tm167	-32463.43 keV
Tm169( $\alpha, 2n+p+t$ )Tm167	-34688.00 keV
Tm169( $\alpha, 3n+He3$ )Tm167	-35451.75 keV
Tm169( $\alpha, 2n+2d$ )Tm167	-38720.66 keV
Tm169( $\alpha, 3n+p+d$ )Tm167	-40945.23 keV
Tm169( $\alpha, 4n+2p$ )Tm167	-43169.79 keV

<< 68-Er-167	<b>69-Tm-169</b> MT37 ( $\alpha,4n$ ) or MT5 (Lu169 production)	>> 73-Ta-181
<< MT24 ( $\alpha,2n+\alpha$ )		>> MT152 ( $\alpha,5n$ )



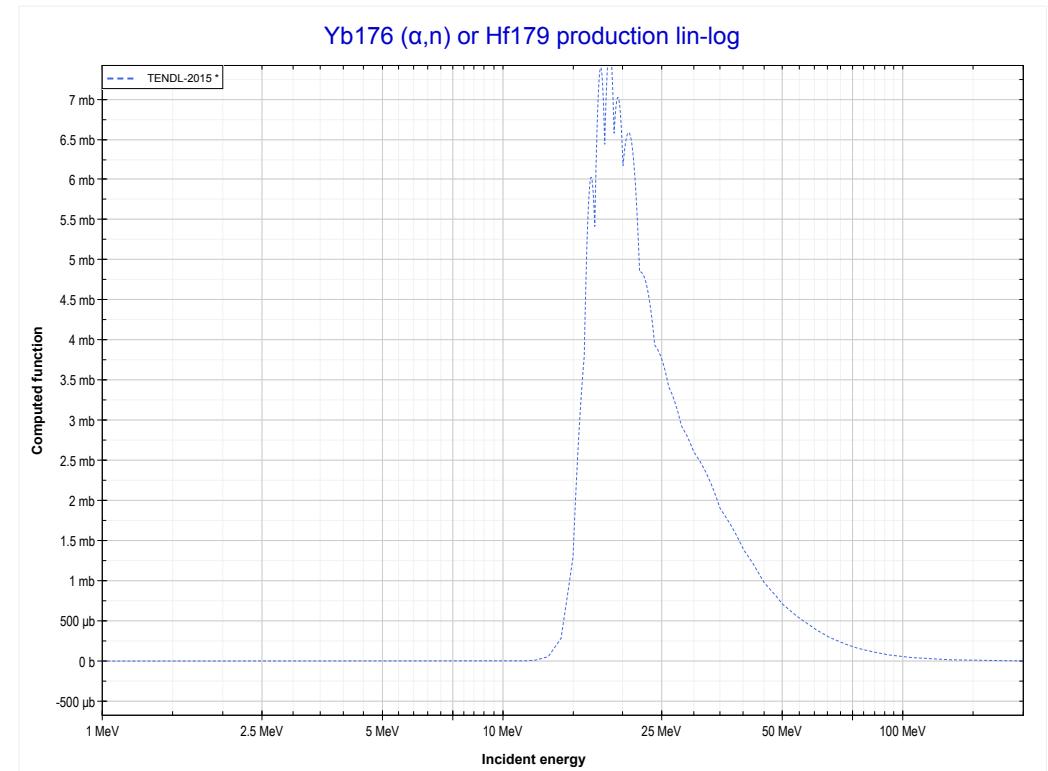
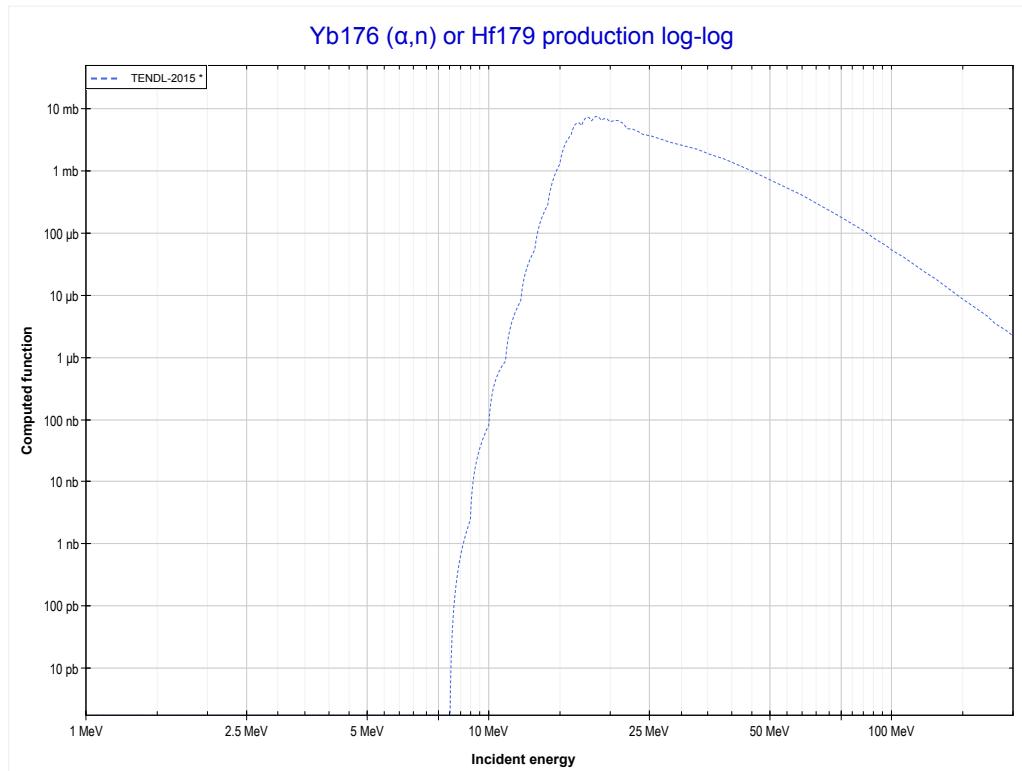
Reaction	Q-Value
Tm169( $\alpha,4n$ )Lu169	-33051.95 keV

<< 65-Tb-159	<b>69-Tm-169</b> MT152 ( $\alpha,5n$ ) or MT5 (Lu168 production)	73-Ta-181 >>
<< MT37 ( $\alpha,4n$ )		70-Yb-176 MT4 ( $\alpha,n$ ) >>



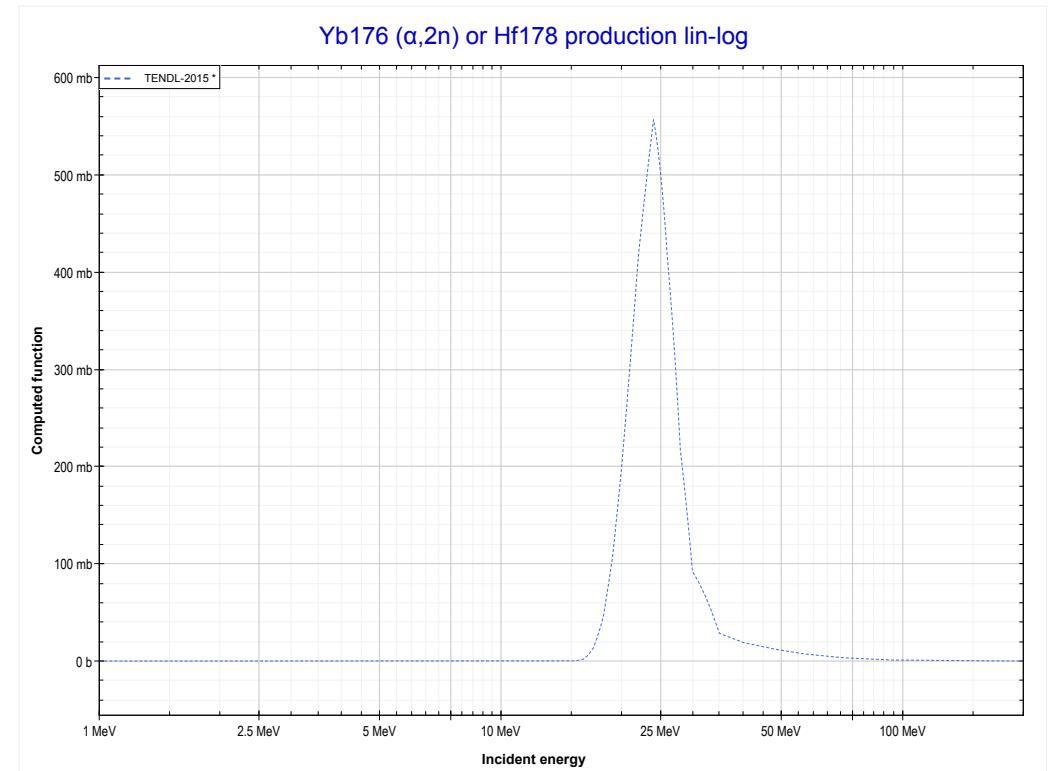
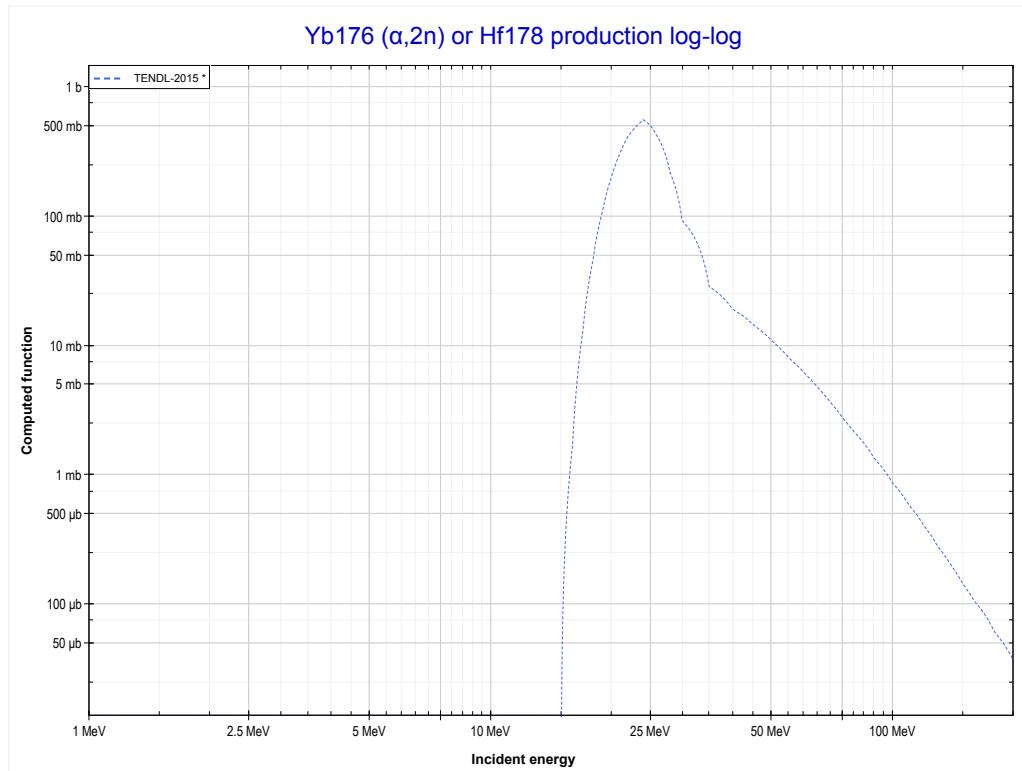
Reaction	Q-Value
Tm169( $\alpha,5n$ )Lu168	-42137.27 keV

<< 69-Tm-169	<b>70-Yb-176</b> MT4 ( $\alpha, n$ ) or MT5 (Hf179 production)	73-Ta-181 >>
<< 69-Tm-169 MT152 ( $\alpha, 5n$ )		MT16 ( $\alpha, 2n$ ) >>



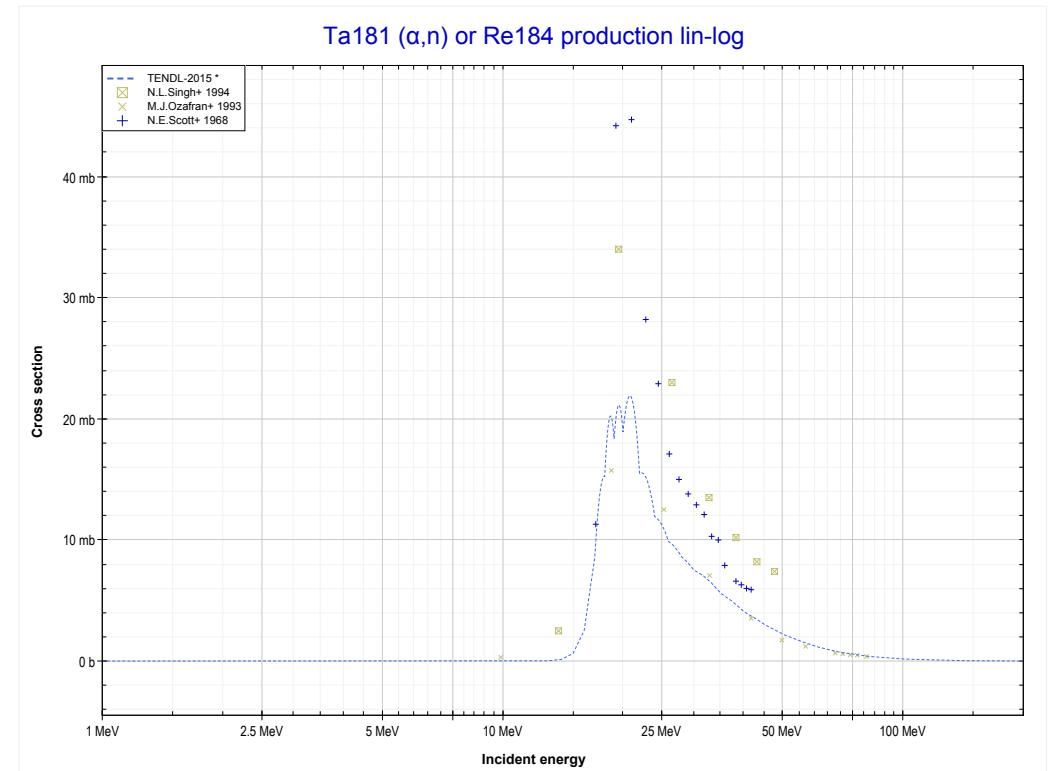
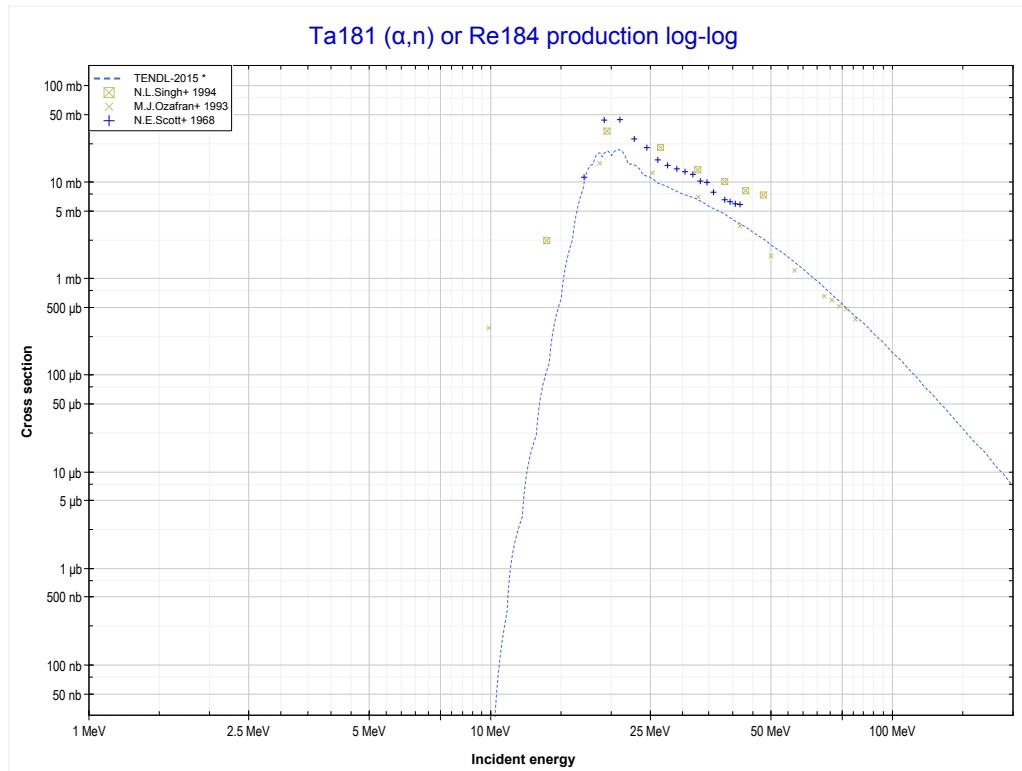
Reaction	Q-Value
Yb176( $\alpha, n$ )Hf179	-8670.70 keV

<< 69-Tm-169	<b>70-Yb-176</b> MT16 ( $\alpha,2n$ ) or MT5 (Hf178 production)	>> 73-Ta-181
<< MT4 ( $\alpha,n$ )		73-Ta-181 MT4 ( $\alpha,n$ ) >>



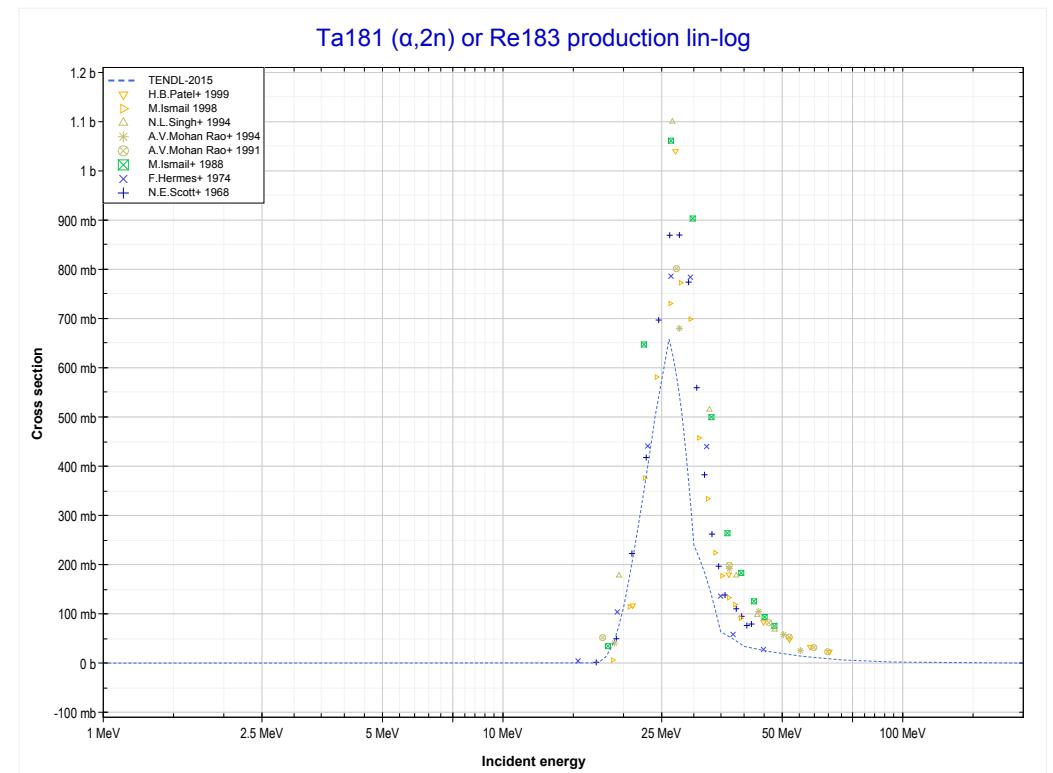
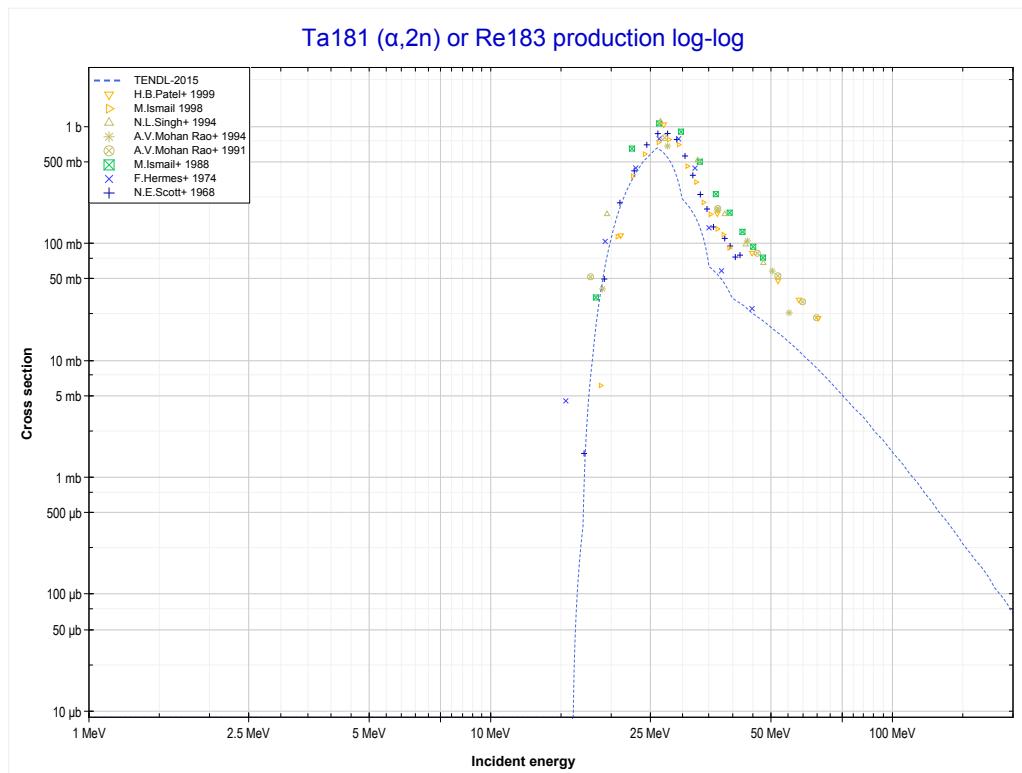
Reaction	Q-Value
Yb176( $\alpha,2n$ )Hf178	-14769.72 keV

<< 70-Yb-176	73-Ta-181 MT4 ( $\alpha, n$ ) or MT5 (Re184 production)	75-Re-187 >>
<< 70-Yb-176 MT16 ( $\alpha, 2n$ )		MT16 ( $\alpha, 2n$ ) >>



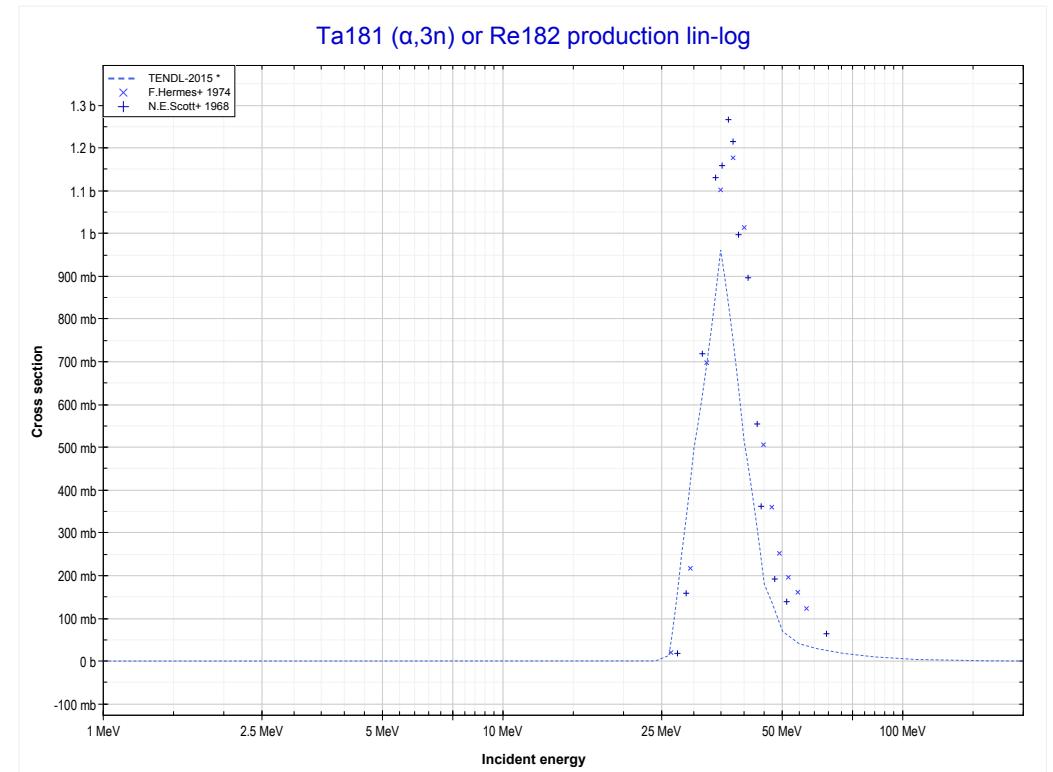
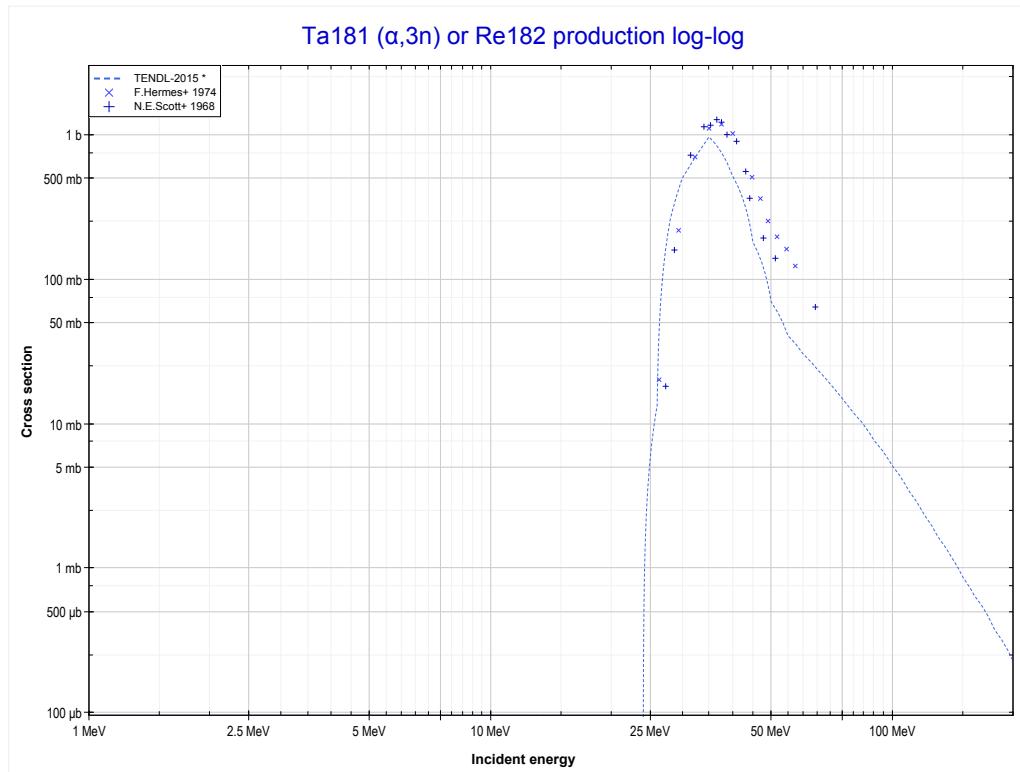
Reaction	Q-Value
Ta181( $\alpha, n$ )Re184	-9863.00 keV

<< 70-Yb-176	73-Ta-181 MT16 ( $\alpha,2n$ ) or MT5 (Re183 production)	>> 77-Ir-191
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



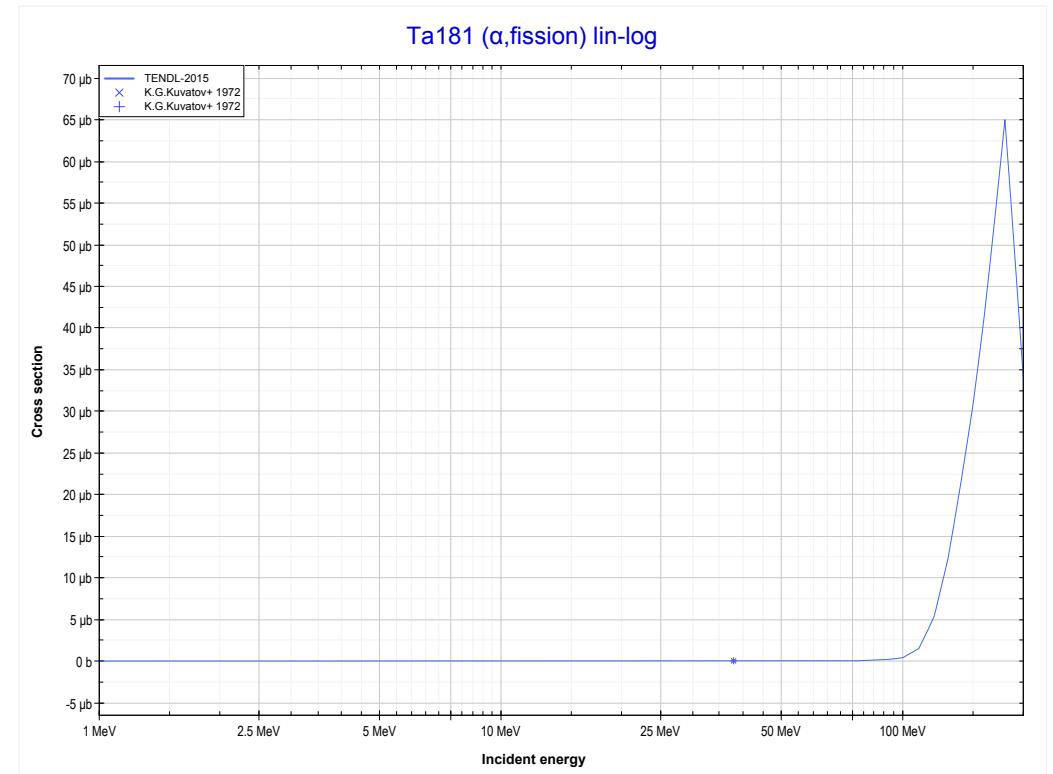
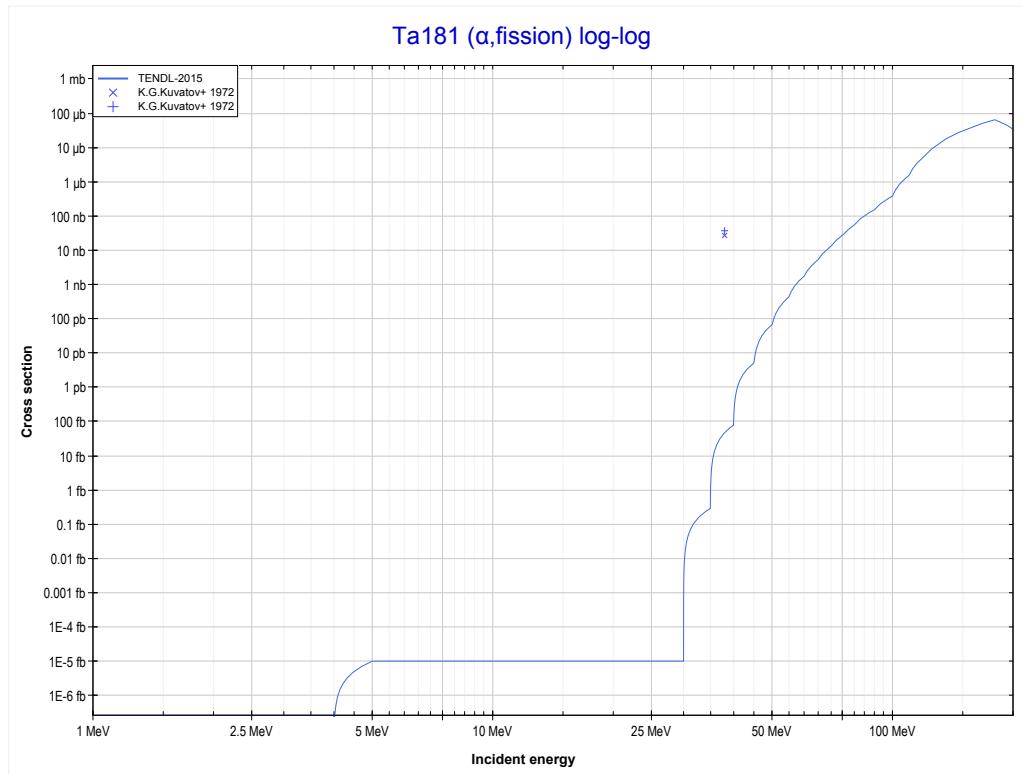
Reaction	Q-Value
Ta181( $\alpha,2n$ )Re183	-16348.32 keV

<< 69-Tm-169	<b>73-Ta-181</b> MT17 ( $\alpha,3n$ ) or MT5 (Re182 production)	75-Re-187 >>
<< MT16 ( $\alpha,2n$ )		MT18 ( $\alpha,fission$ ) >>

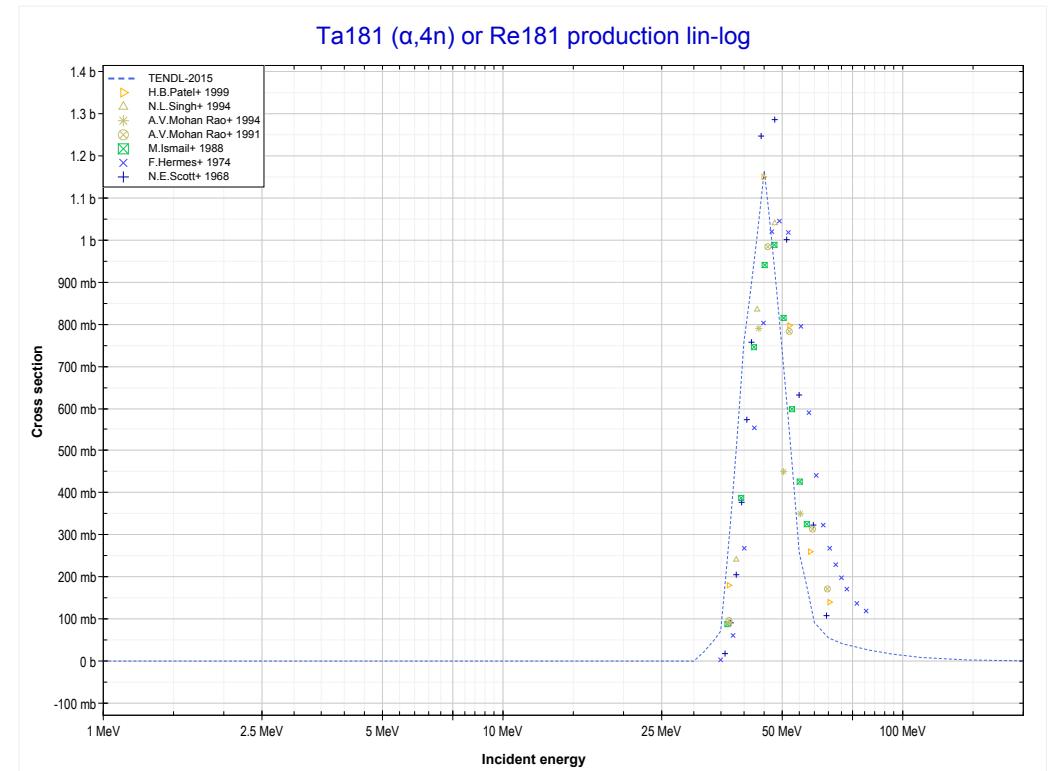
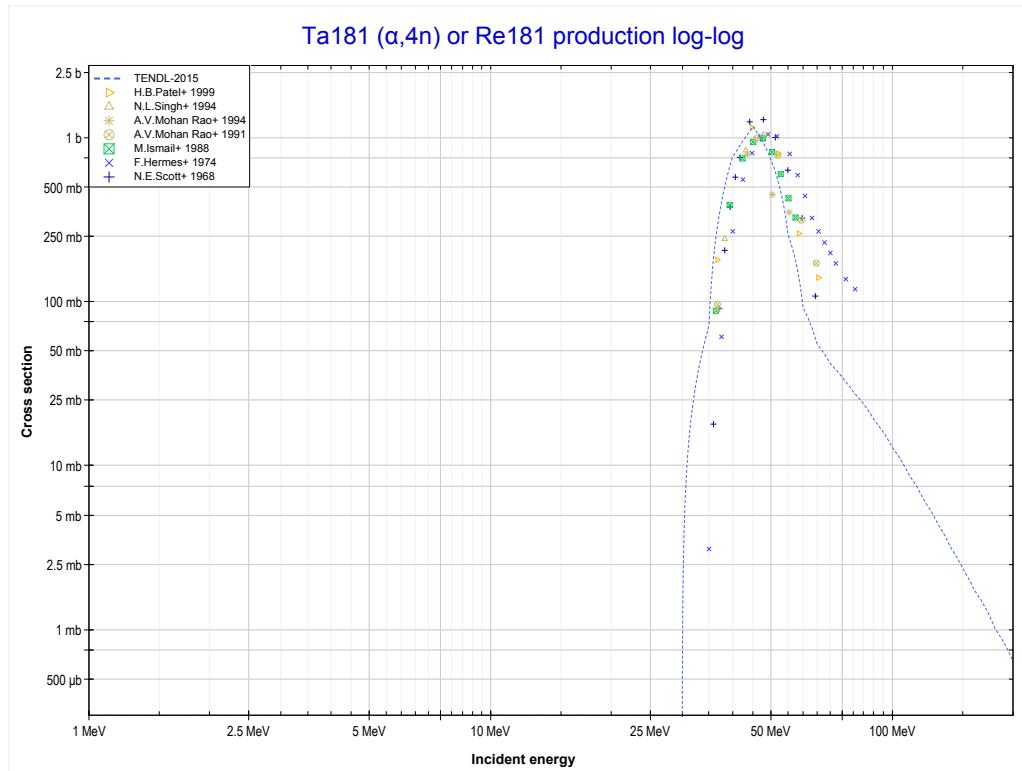


Reaction	Q-Value
Ta181( $\alpha,3n$ )Re182	-24780.64 keV

<< MT17 ( $\alpha$ ,3n)	<b>73-Ta-181</b> MT18 ( $\alpha$ ,fission)	75-Re-185 >> MT37 ( $\alpha$ ,4n) >>
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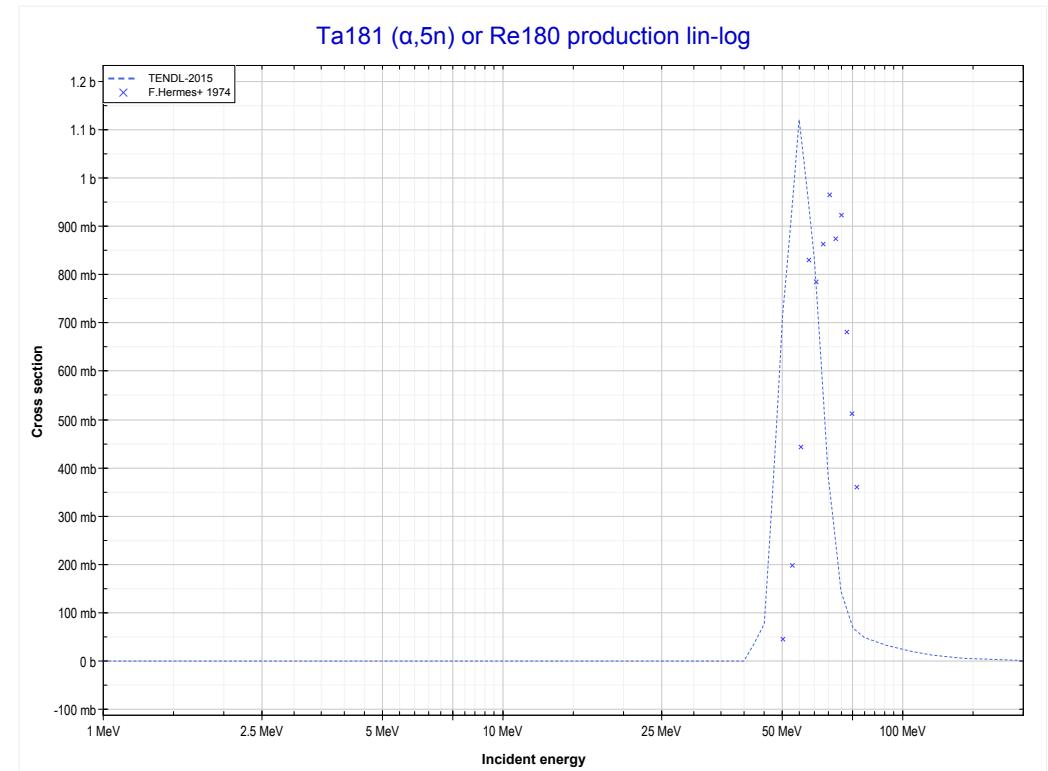
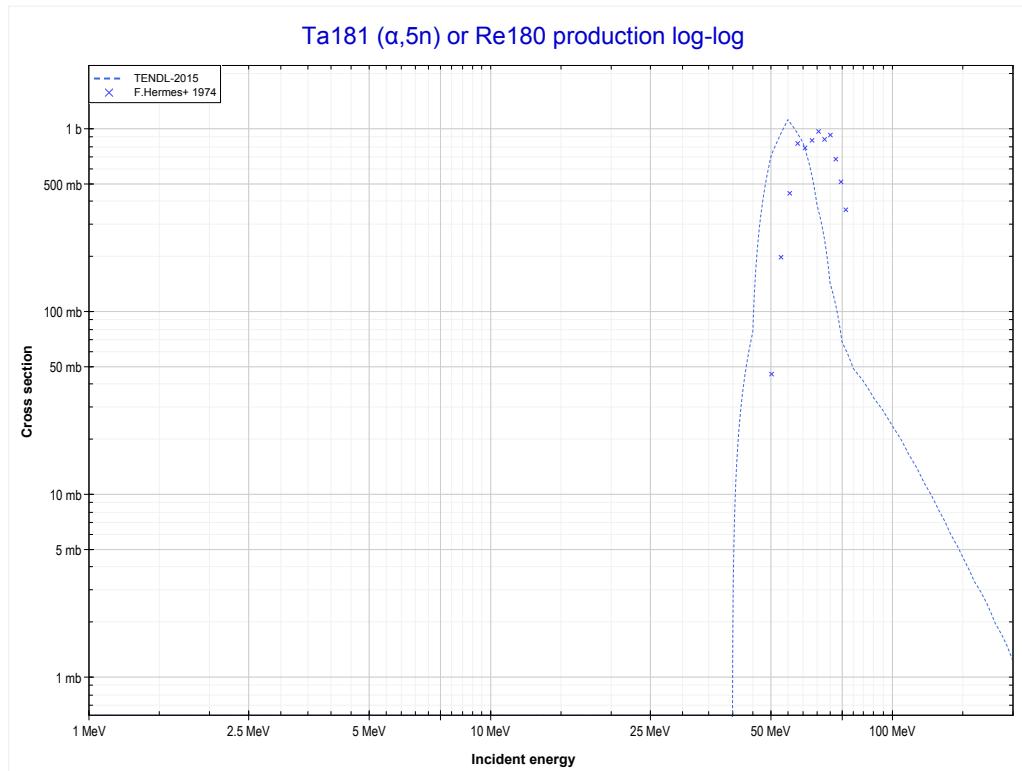


<< 69-Tm-169	73-Ta-181 MT37 ( $\alpha,4n$ ) or MT5 (Re181 production)	75-Re-187 >>
<< MT18 ( $\alpha, \text{fission}$ )		MT152 ( $\alpha,5n$ ) >>

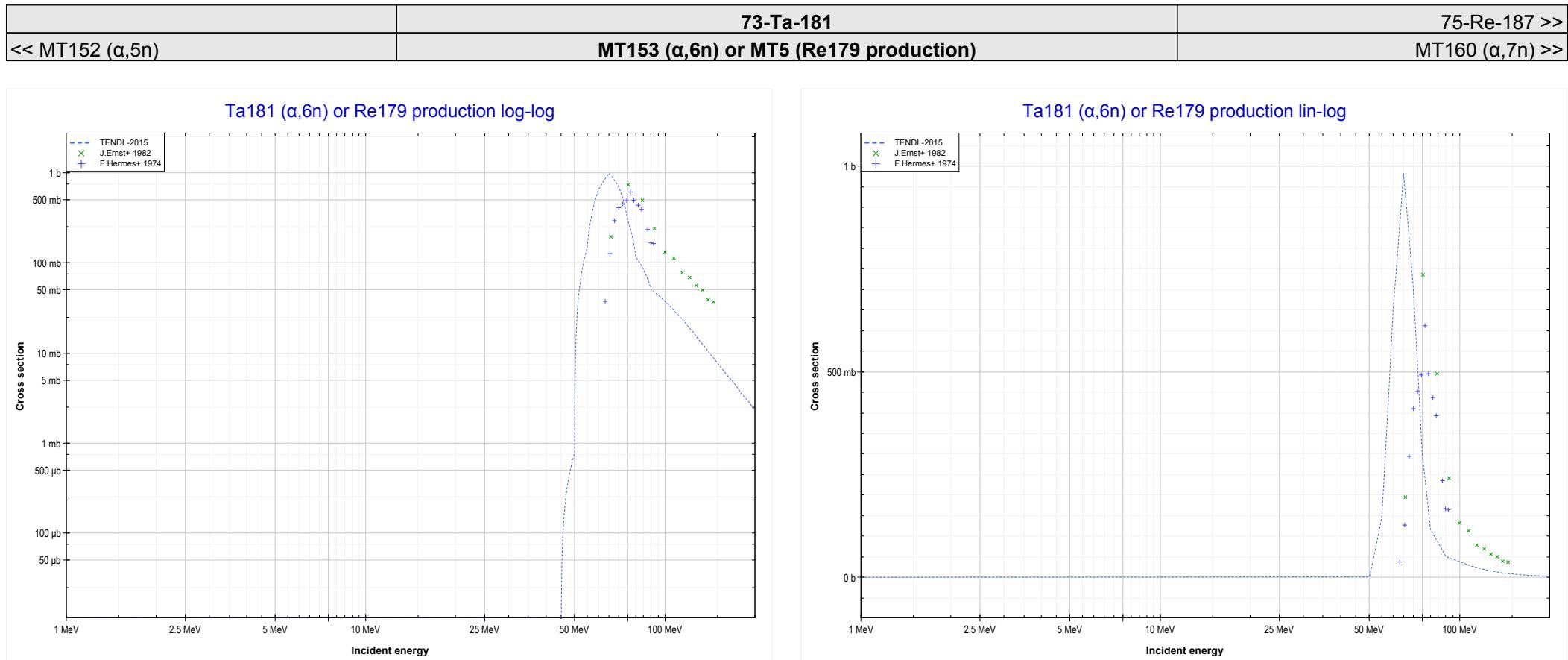


Reaction	Q-Value
Ta181( $\alpha,4n$ )Re181	-31780.95 keV

<< 69-Tm-169	<b>73-Ta-181</b> MT152 ( $\alpha,5n$ ) or MT5 (Re180 production)	>> 75-Re-187
<< MT37 ( $\alpha,4n$ )		MT153 ( $\alpha,6n$ ) >>

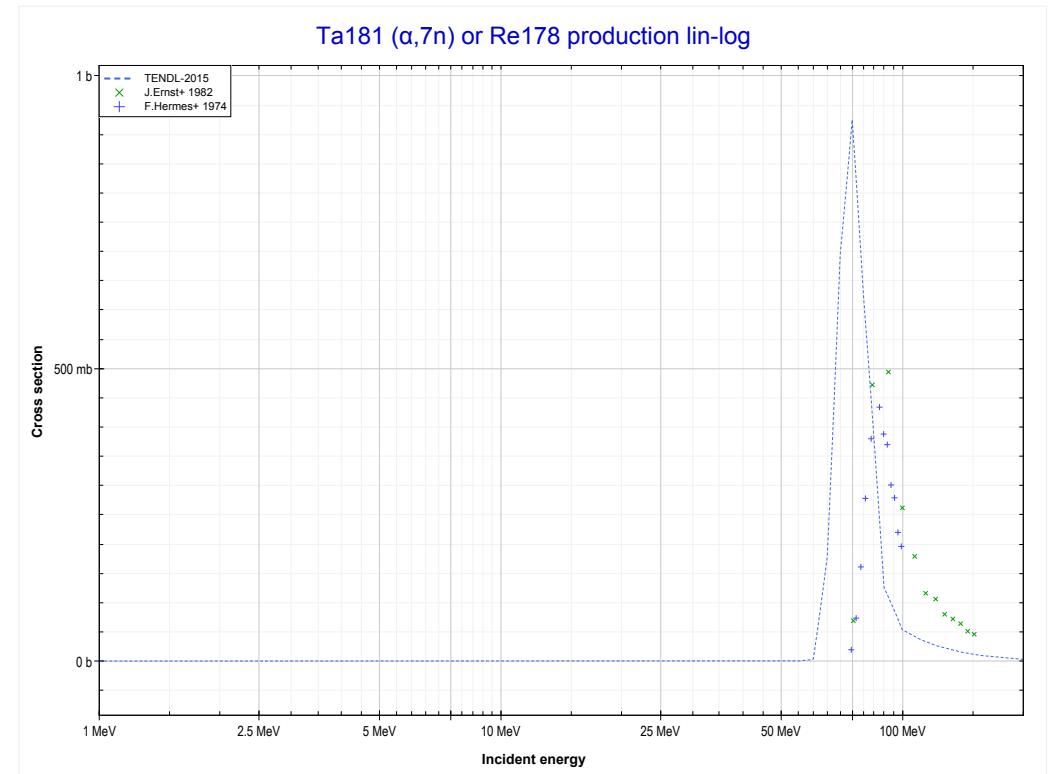
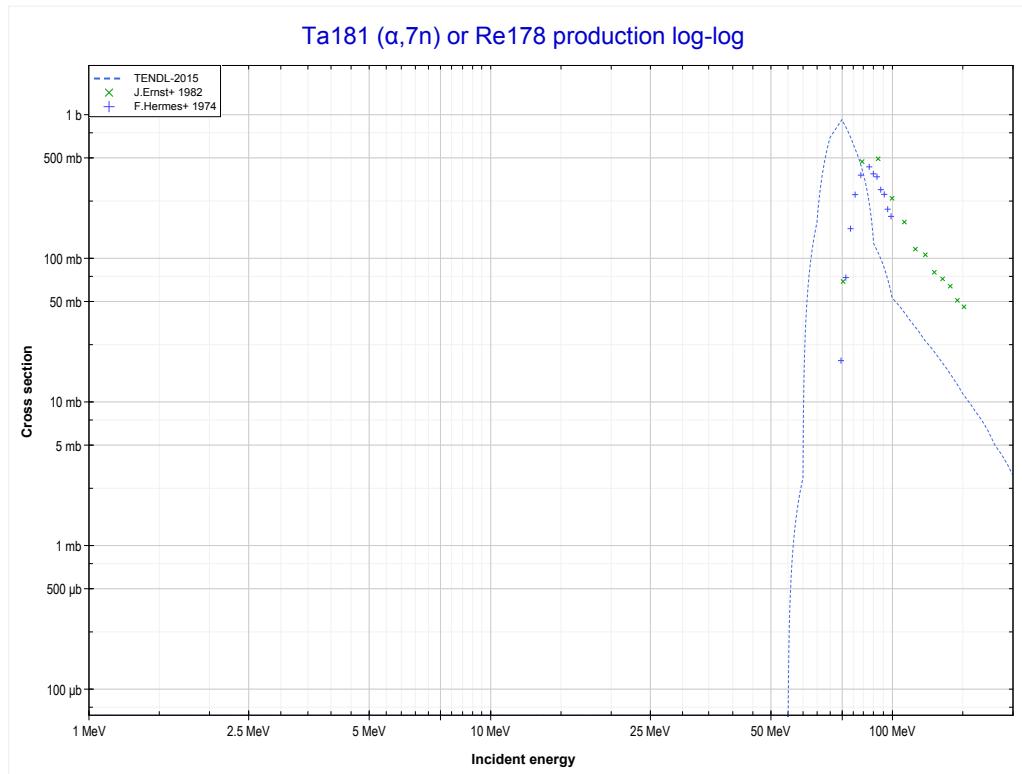


Reaction	Q-Value
Ta181( $\alpha,5n$ )Re180	-40536.27 keV



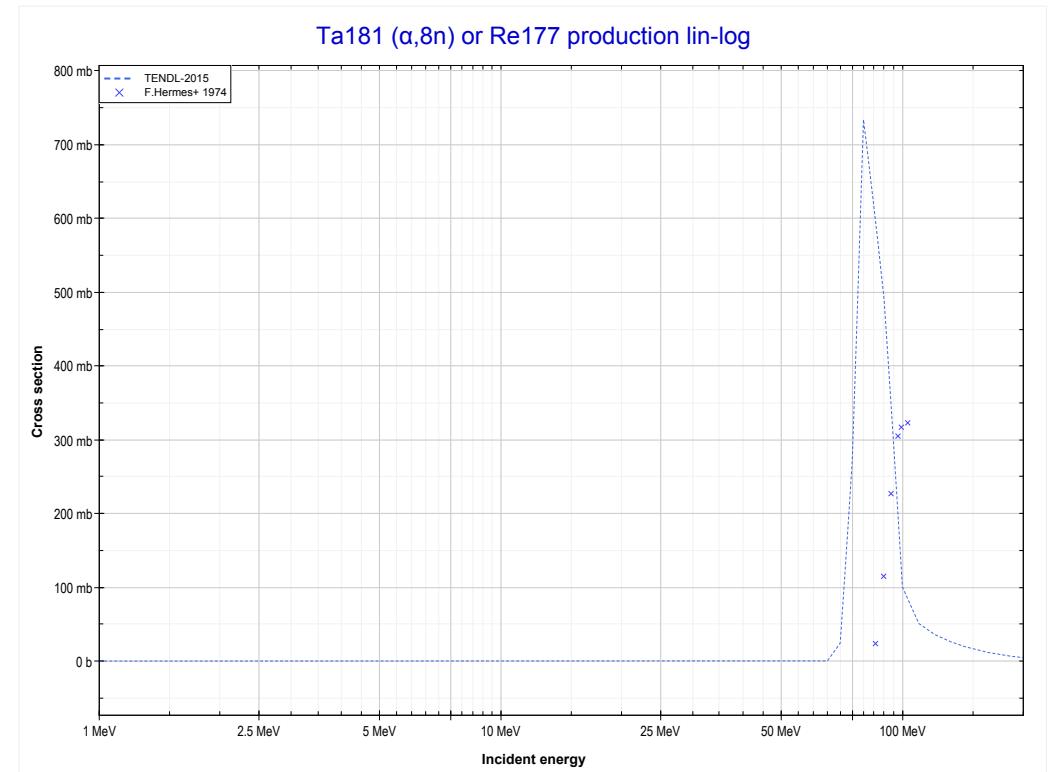
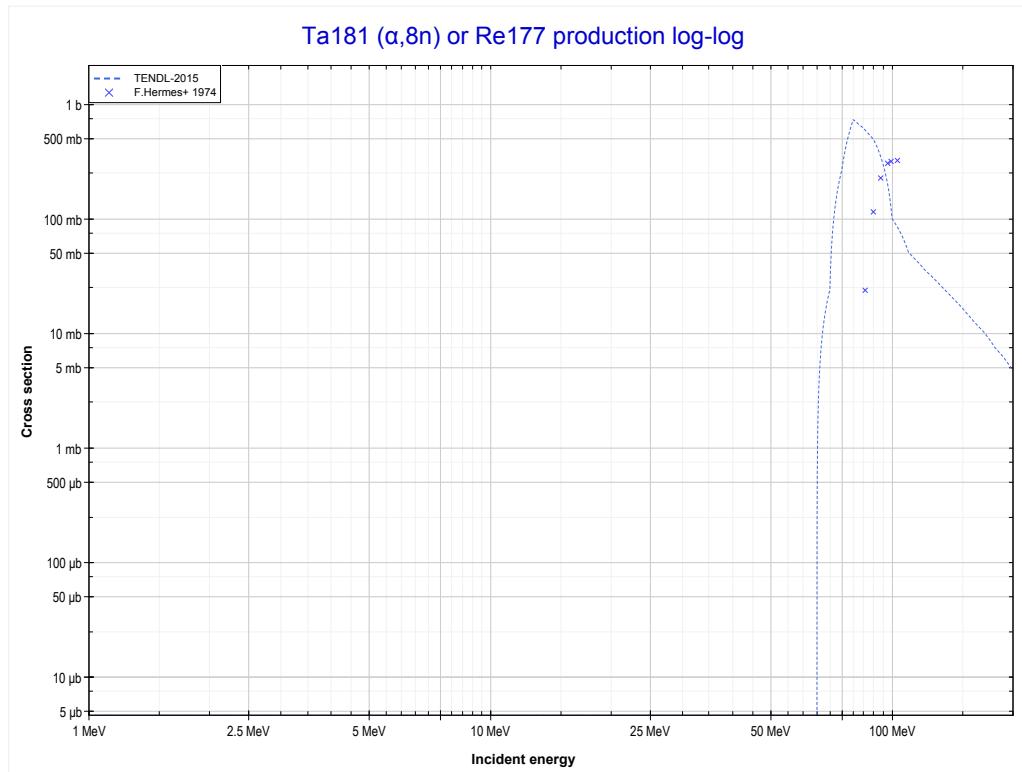
Reaction	Q-Value
Ta181( $\alpha,6n$ )Re179	-47859.59 keV

<a href="#">&lt;&lt; MT153 (<math>\alpha,6n</math>)</a>	<b>73-Ta-181</b> <b>MT160 (<math>\alpha,7n</math>) or MT5 (Re178 production)</b>	<a href="#">75-Re-187 &gt;&gt;</a> <a href="#">MT161 (<math>\alpha,8n</math>) &gt;&gt;</a>
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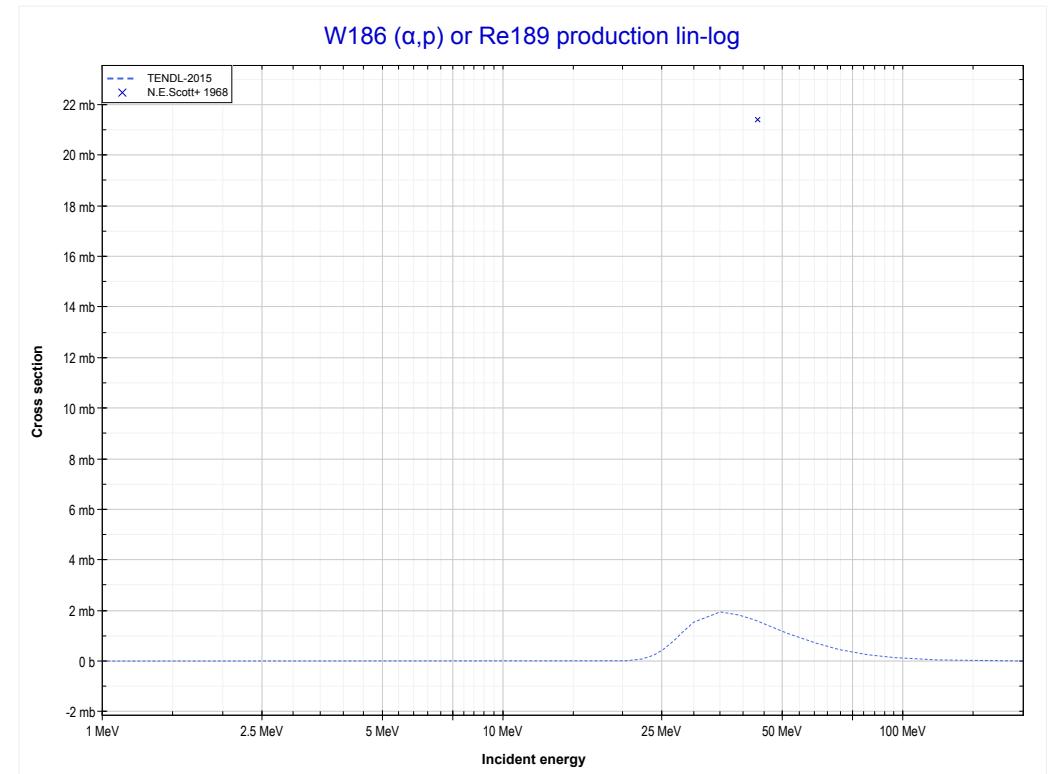
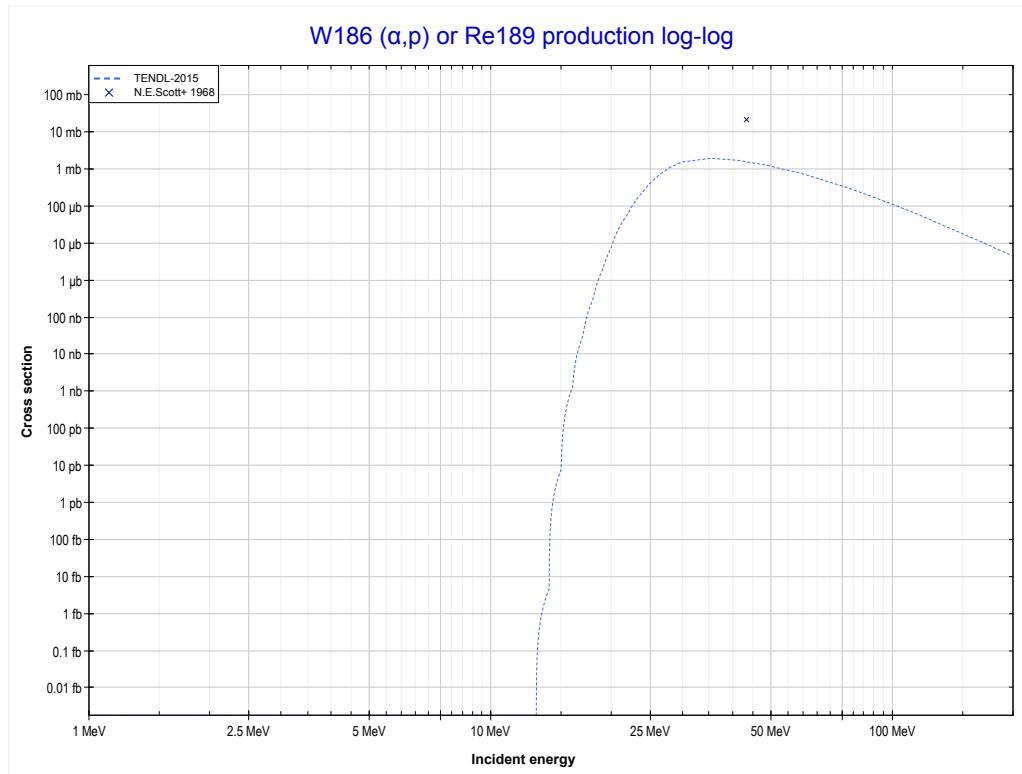
Reaction	Q-Value
Ta181( $\alpha,7n$ )Re178	-56862.90 keV

<< MT160 ( $\alpha,7n$ )	<b>73-Ta-181</b> MT161 ( $\alpha,8n$ ) or MT5 (Re177 production)	79-Au-197 >> 74-W-186 MT103 ( $\alpha,p$ ) >>
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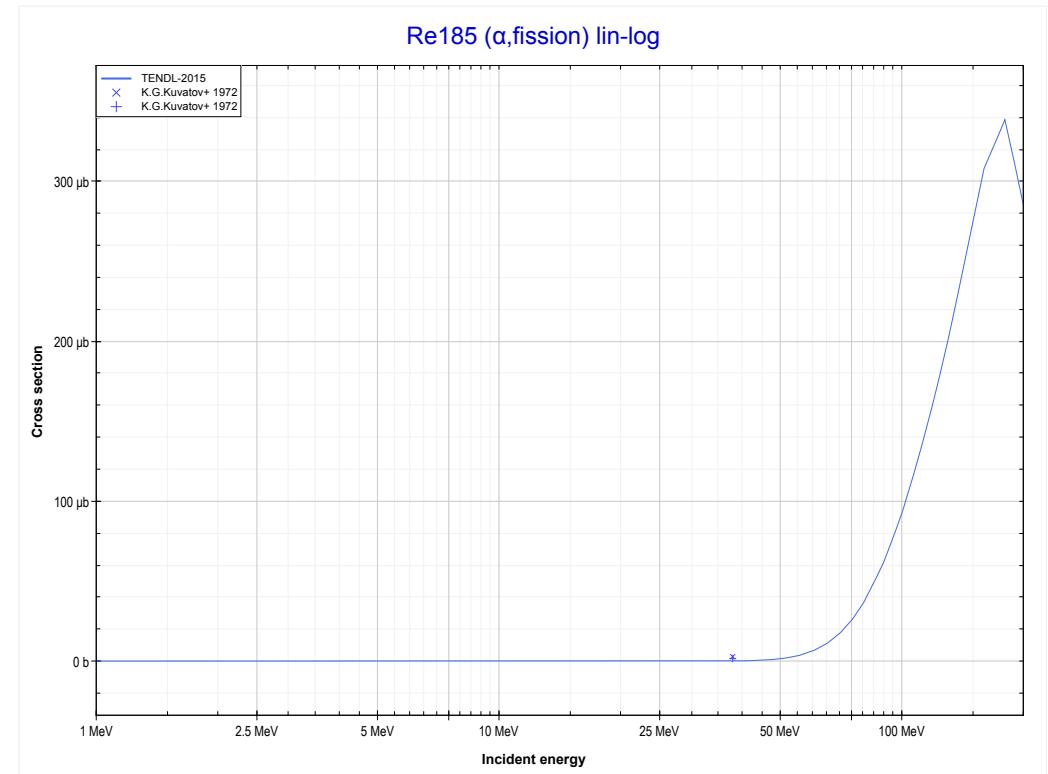
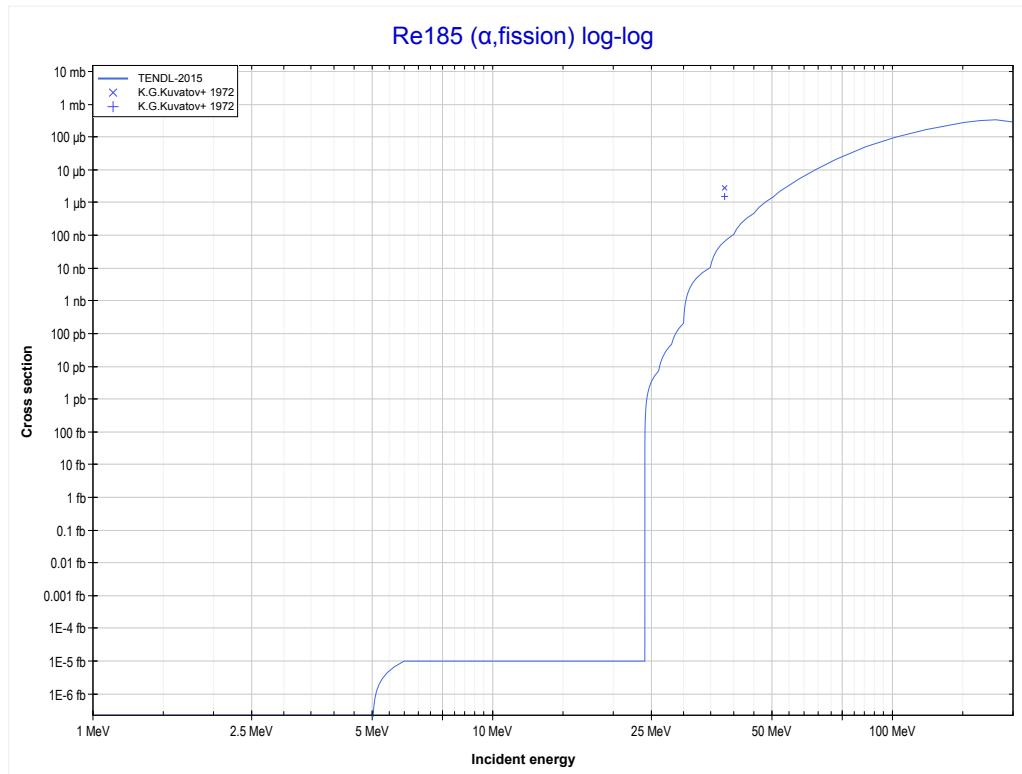
Reaction	Q-Value
Ta181( $\alpha,8n$ )Re177	-64318.22 keV

<< 50-Sn-124	<b>74-W-186</b> MT103 ( $\alpha,p$ ) or MT5 (Re189 production)	83-Bi-209 >>
<< 73-Ta-181 MT161 ( $\alpha,8n$ )		75-Re-185 MT18 ( $\alpha,fission$ ) >>

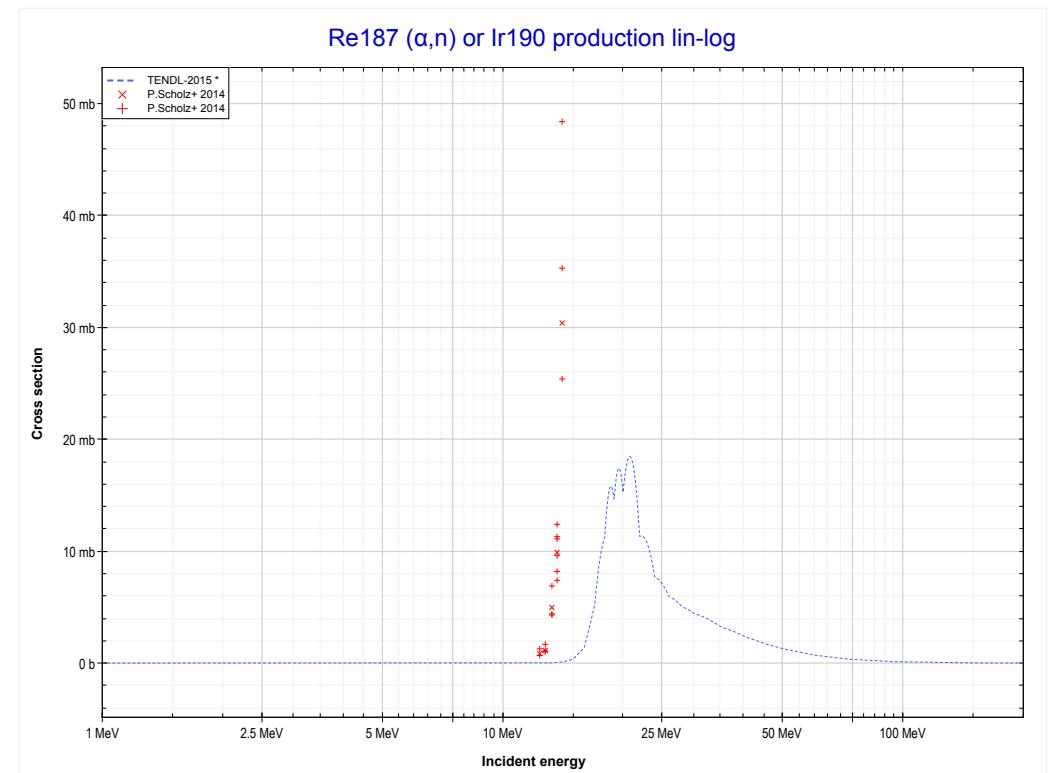
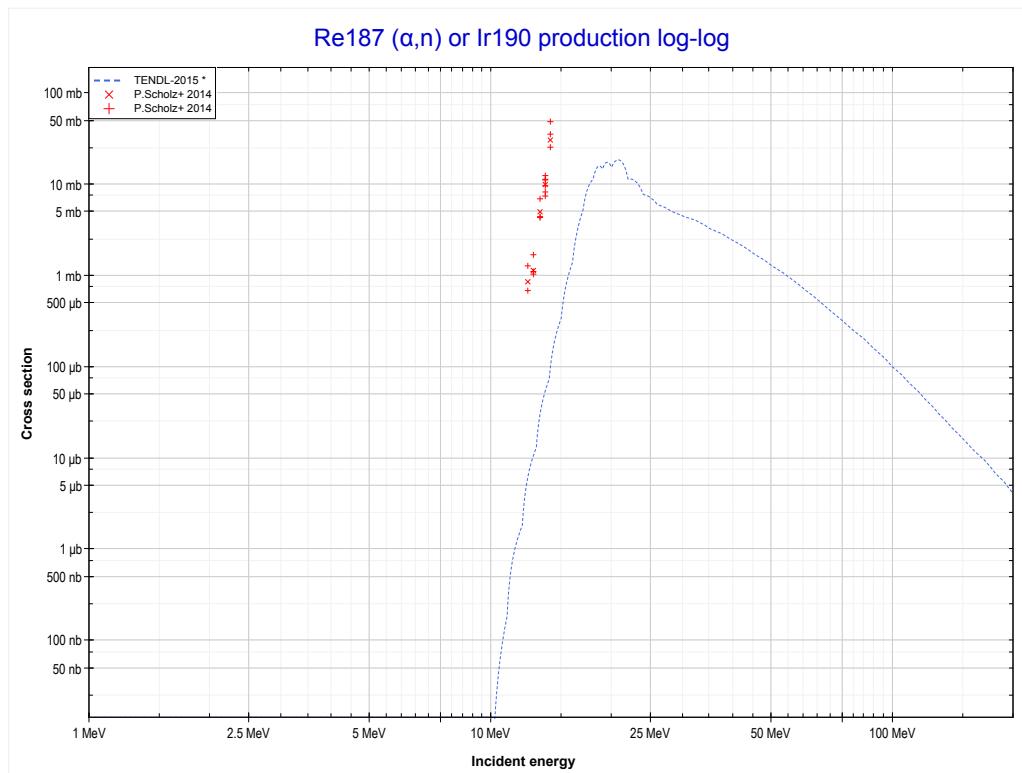


Reaction	Q-Value
W186( $\alpha,p$ )Re189	-9393.85 keV

<< 73-Ta-181	<b>75-Re-185</b> MT18 ( $\alpha$ ,fission)	75-Re-187 >>
<< 74-W-186 MT103 ( $\alpha$ ,p) >>		75-Re-187 MT4 ( $\alpha$ ,n) >>

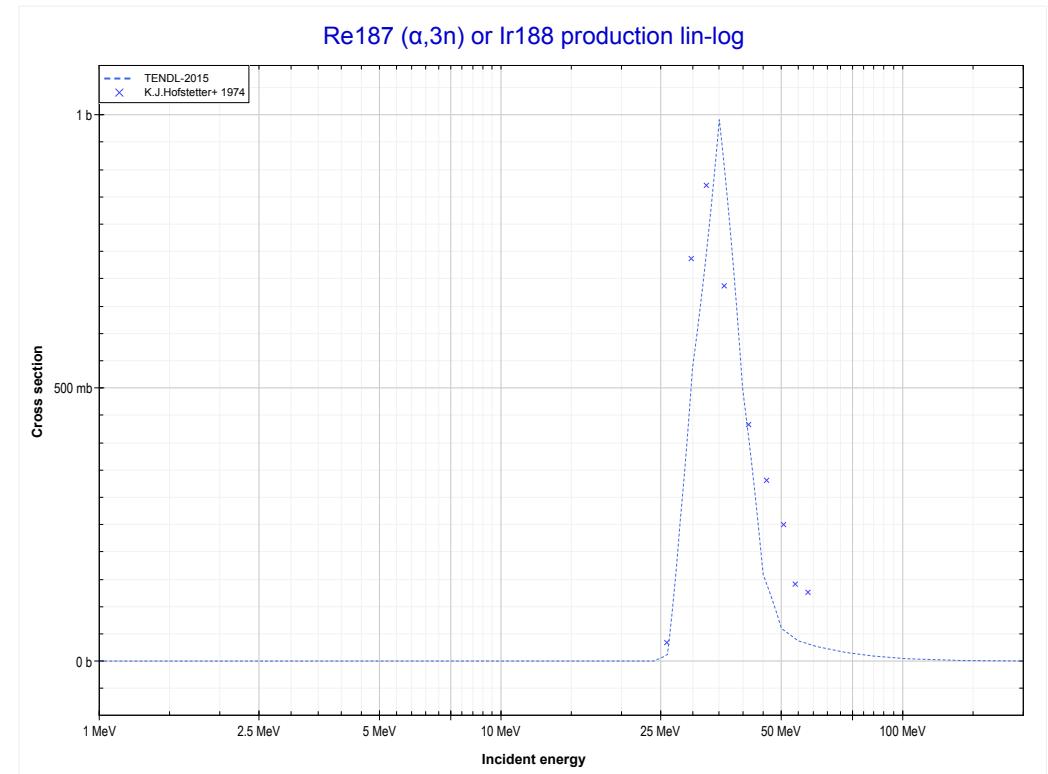
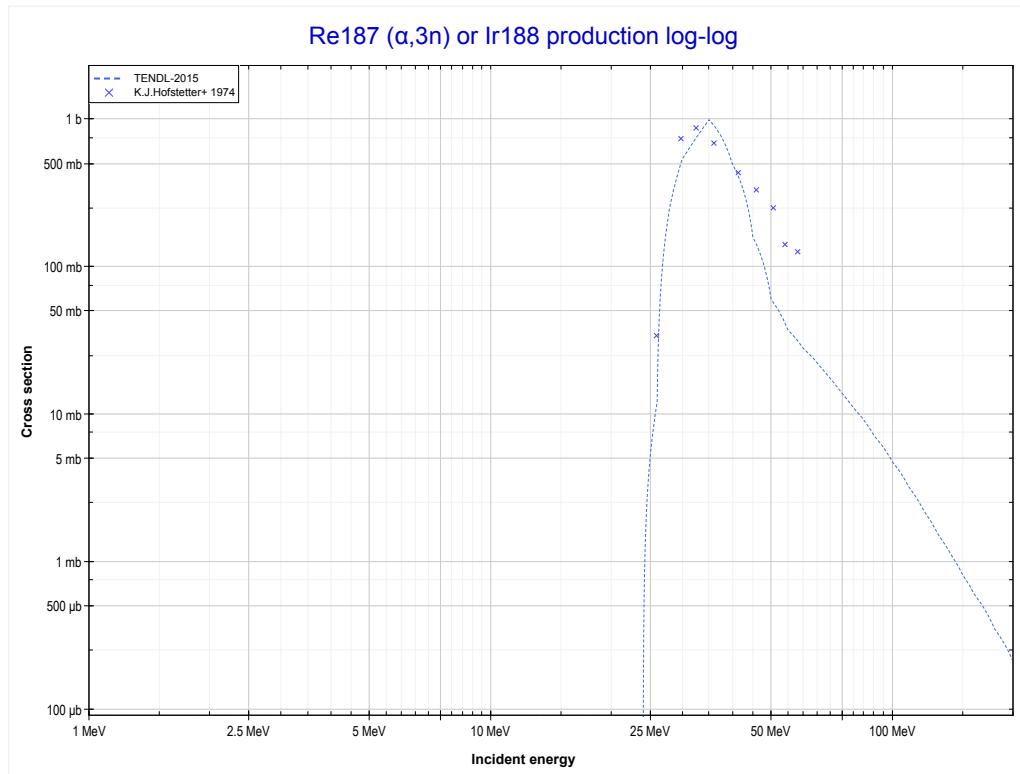


<< 73-Ta-181	<b>75-Re-187</b> MT4 ( $\alpha, n$ ) or MT5 (Ir190 production)	76-Os-192 >>
<< 75-Re-185 MT18 ( $\alpha, \text{fission}$ )		MT17 ( $\alpha, 3n$ ) >>



Reaction	Q-Value
Re187( $\alpha, n$ )Ir190	-10109.30 keV

<< 73-Ta-181	<b>75-Re-187</b> MT17 ( $\alpha,3n$ ) or MT5 (Ir188 production)	76-Os-192 >>
<< MT4 ( $\alpha,n$ )		MT18 ( $\alpha,fission$ ) >>

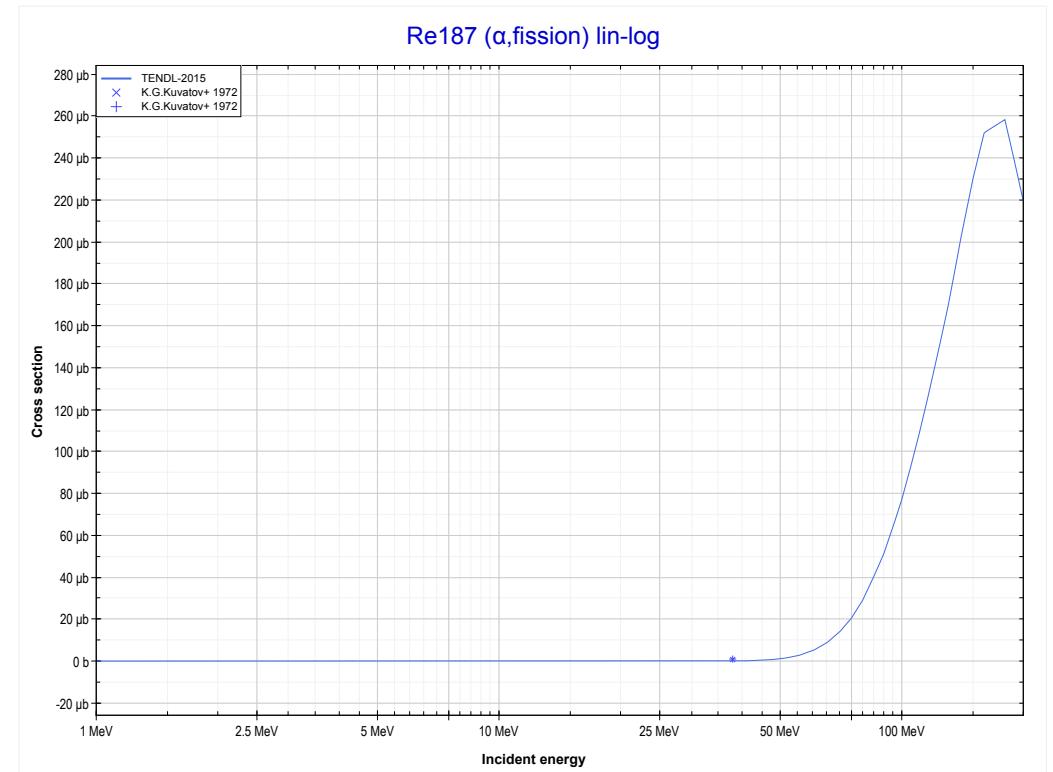
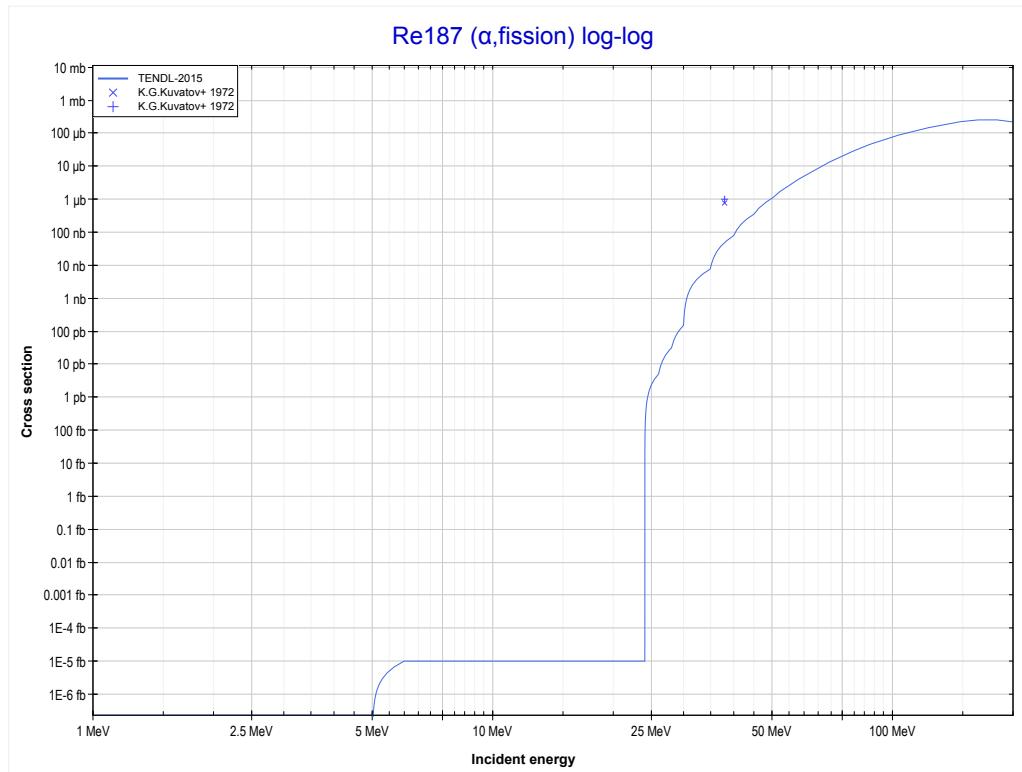


Reaction	Q-Value
Re187( $\alpha,3n$ )Ir188	-24656.54 keV

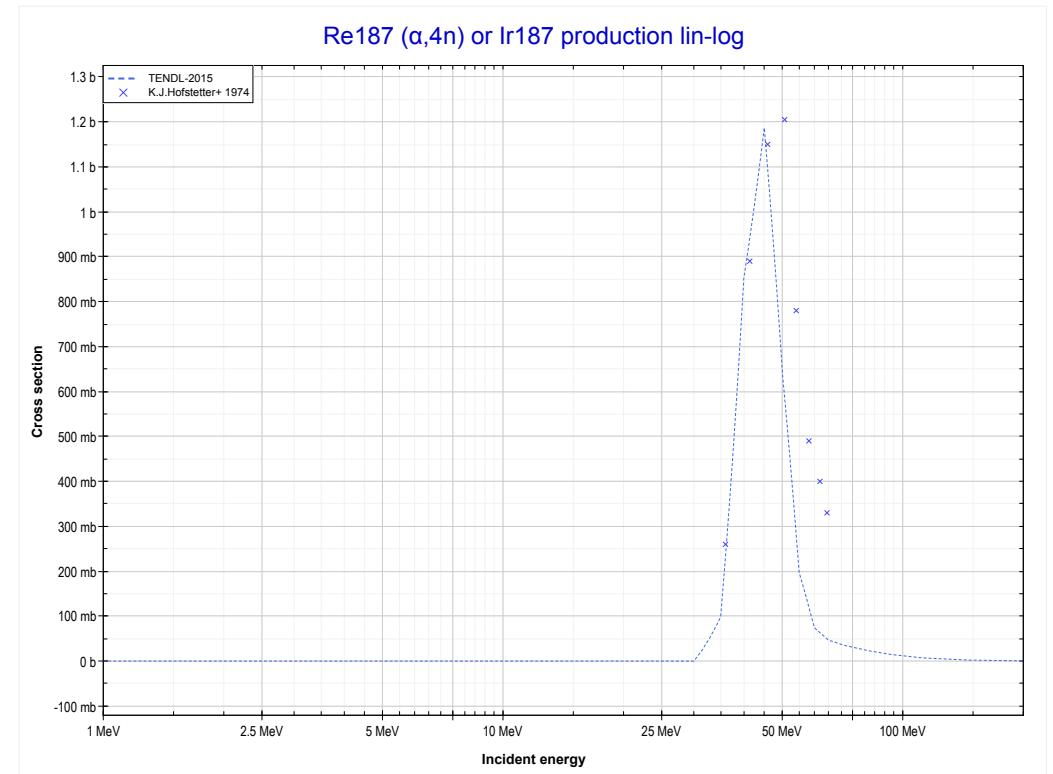
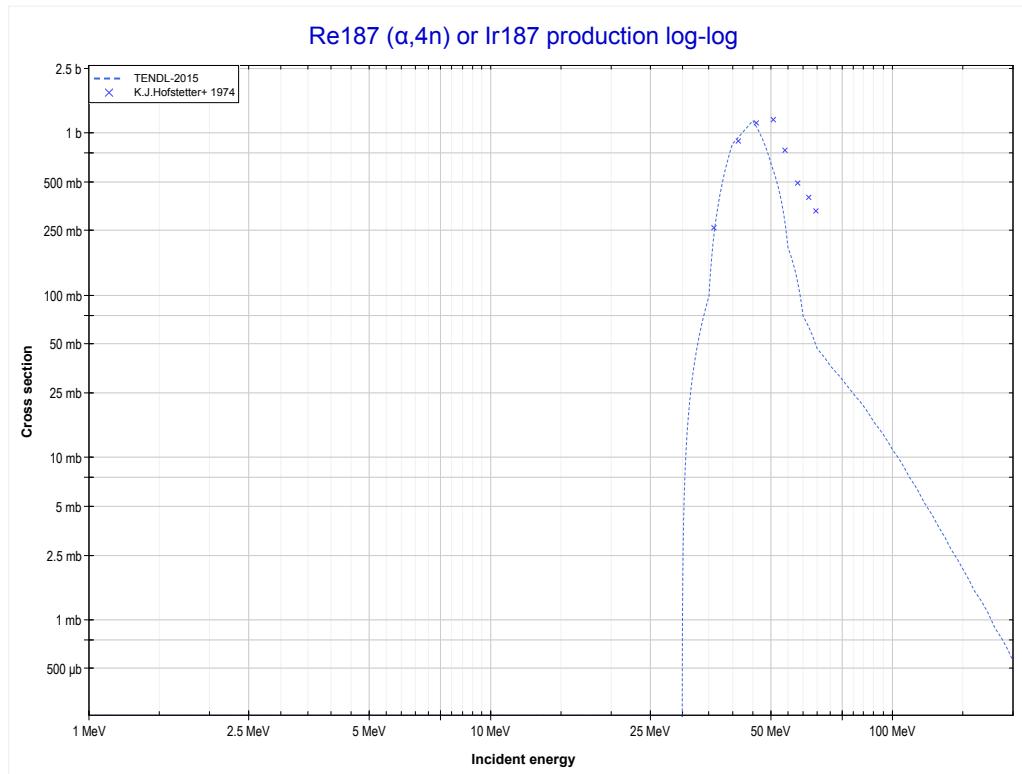
<< 75-Re-185	
<< MT17 ( $\alpha$ ,3n)	

75-Re-187
MT18 ( $\alpha$ ,fission)

76-Os-188 >>
MT37 ( $\alpha$ ,4n) >>

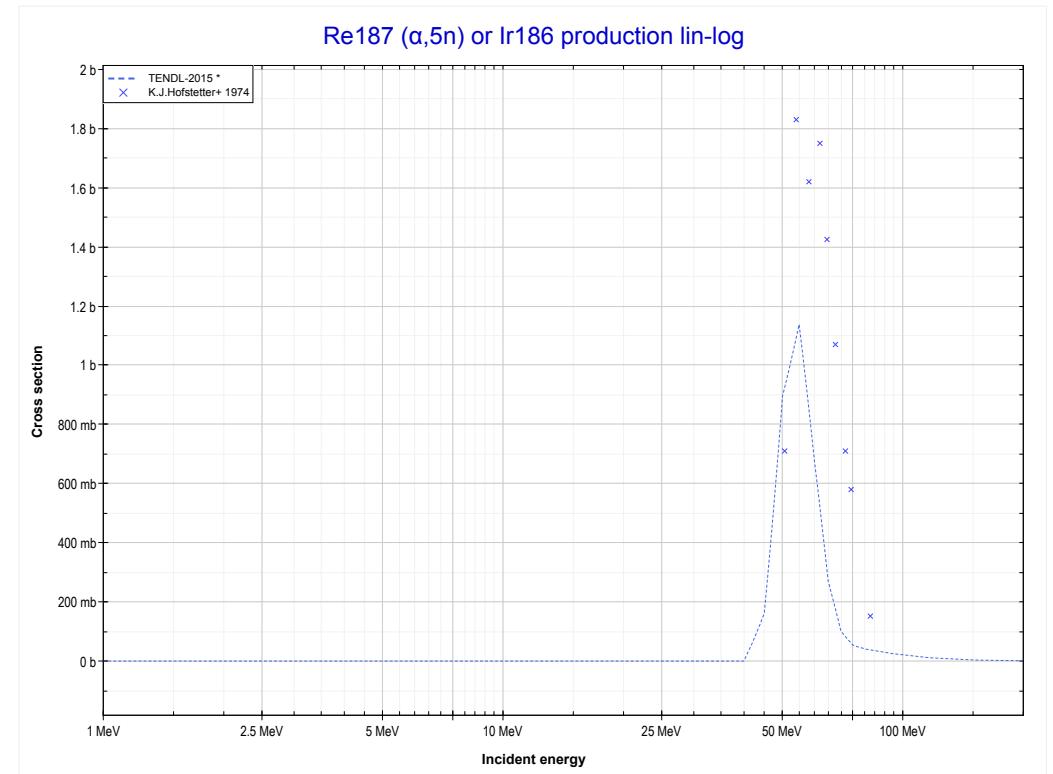
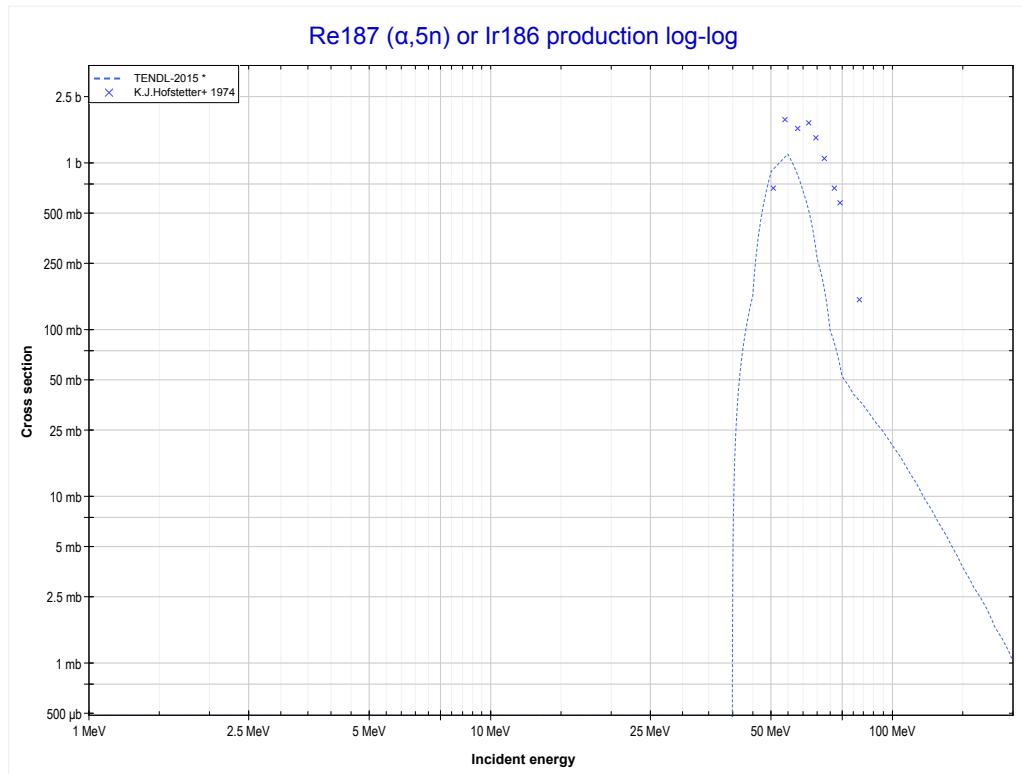


<< 73-Ta-181	<b>75-Re-187</b> MT37 ( $\alpha,4n$ ) or MT5 (Ir187 production)	>> 77-Ir-191
<< MT18 ( $\alpha, \text{fission}$ )		MT152 ( $\alpha,5n$ ) >>



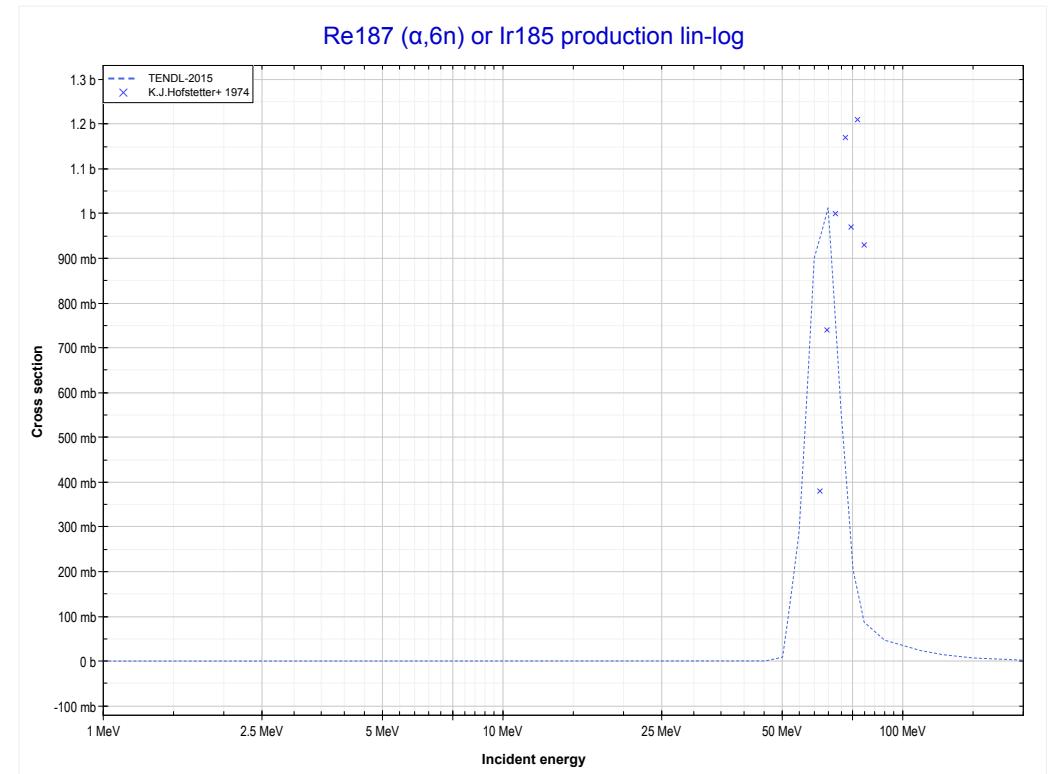
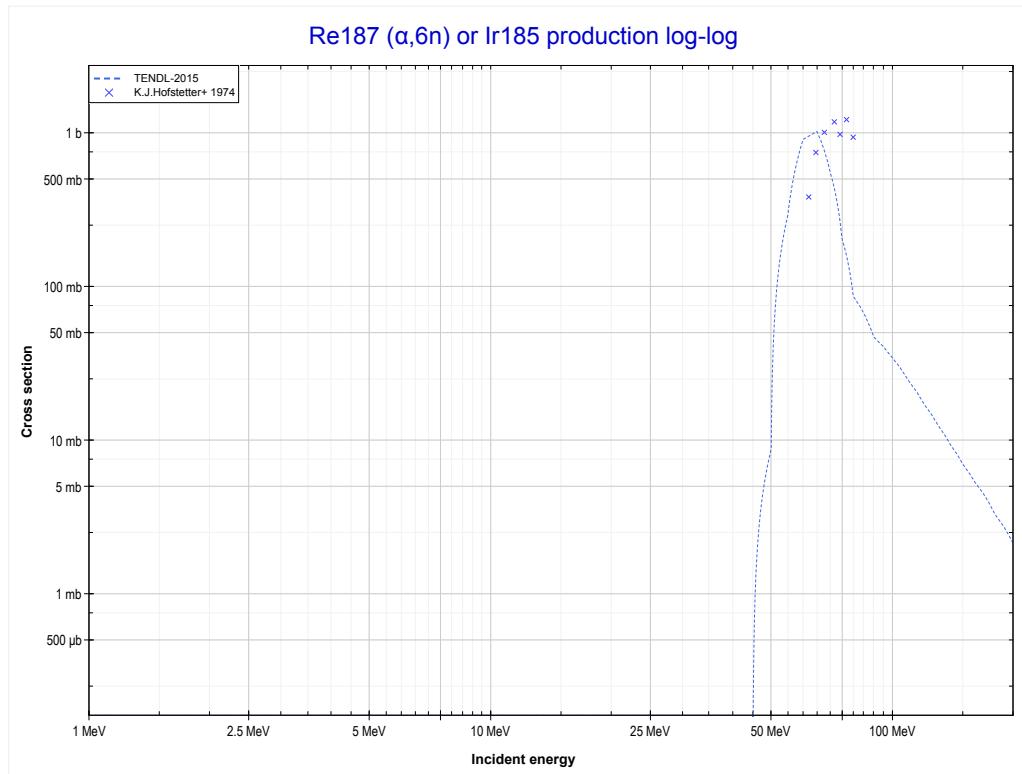
Reaction	Q-Value
Re187( $\alpha,4n$ )Ir187	-31529.85 keV

<< 73-Ta-181	<b>75-Re-187</b> MT152 ( $\alpha,5n$ ) or MT5 (Ir186 production)	>> 77-Ir-191
<< MT37 ( $\alpha,4n$ )		MT153 ( $\alpha,6n$ ) >>



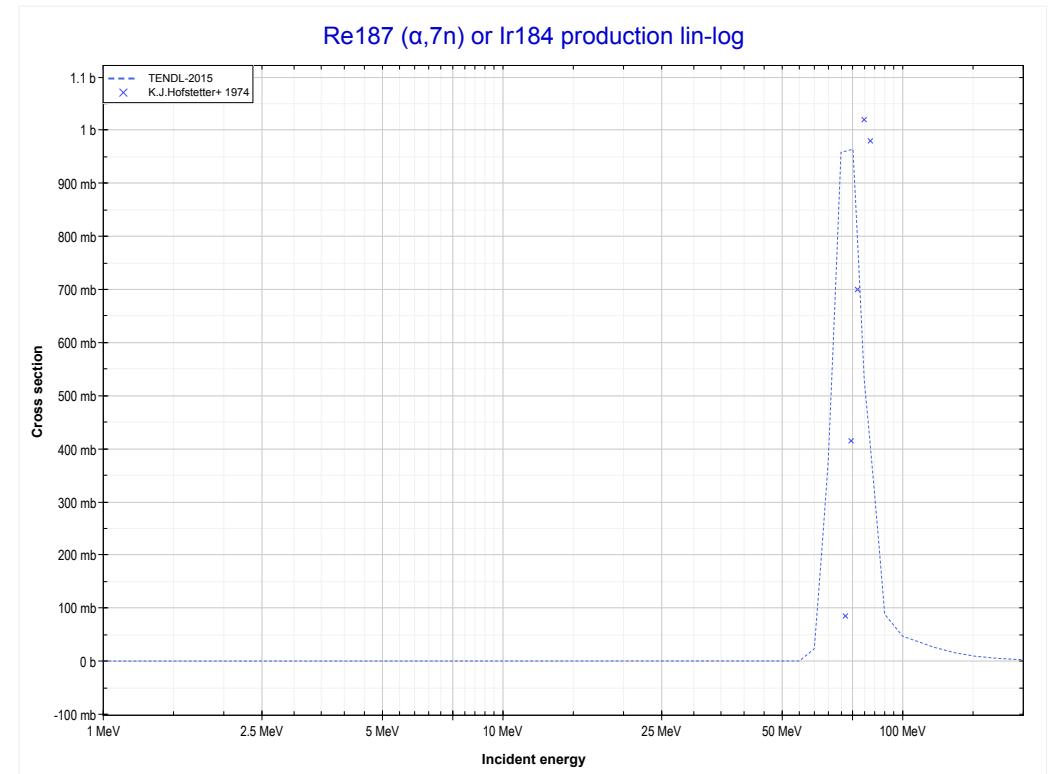
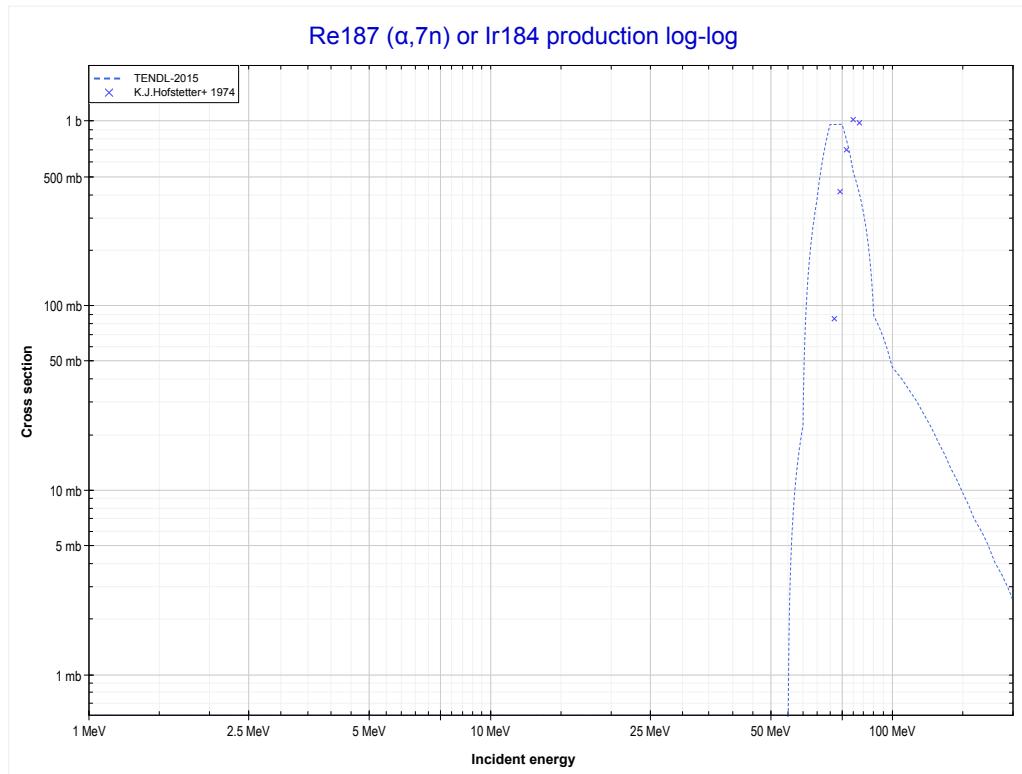
Reaction	Q-Value
Re187( $\alpha,5n$ )Ir186	-39975.17 keV

<< 73-Ta-181	<b>75-Re-187</b> MT153 ( $\alpha, 6n$ ) or MT5 (Ir185 production)	79-Au-197 >>
<< MT152 ( $\alpha, 5n$ )		MT160 ( $\alpha, 7n$ ) >>



Reaction	Q-Value
Re187( $\alpha, 6n$ )Ir185	-46885.49 keV

<< 73-Ta-181	<b>75-Re-187</b> MT160 ( $\alpha, 7n$ ) or MT5 (Ir184 production)	79-Au-197 >>
<< MT153 ( $\alpha, 6n$ )		76-Os-188 MT18 ( $\alpha, \text{fission}$ ) >>

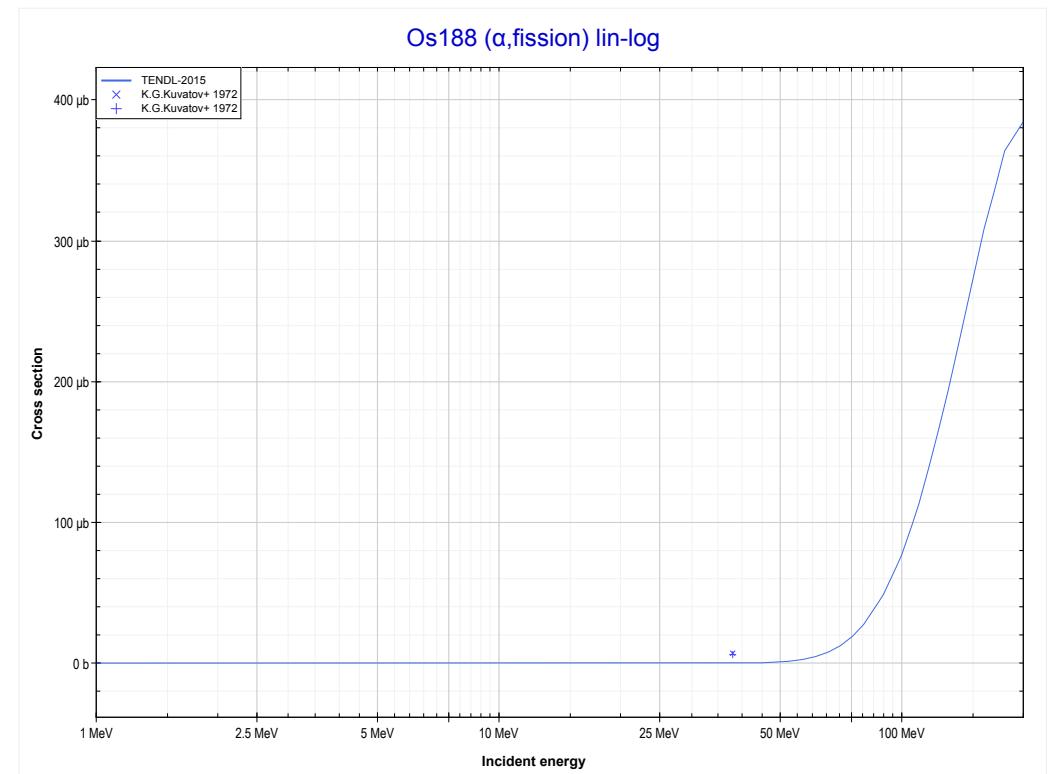
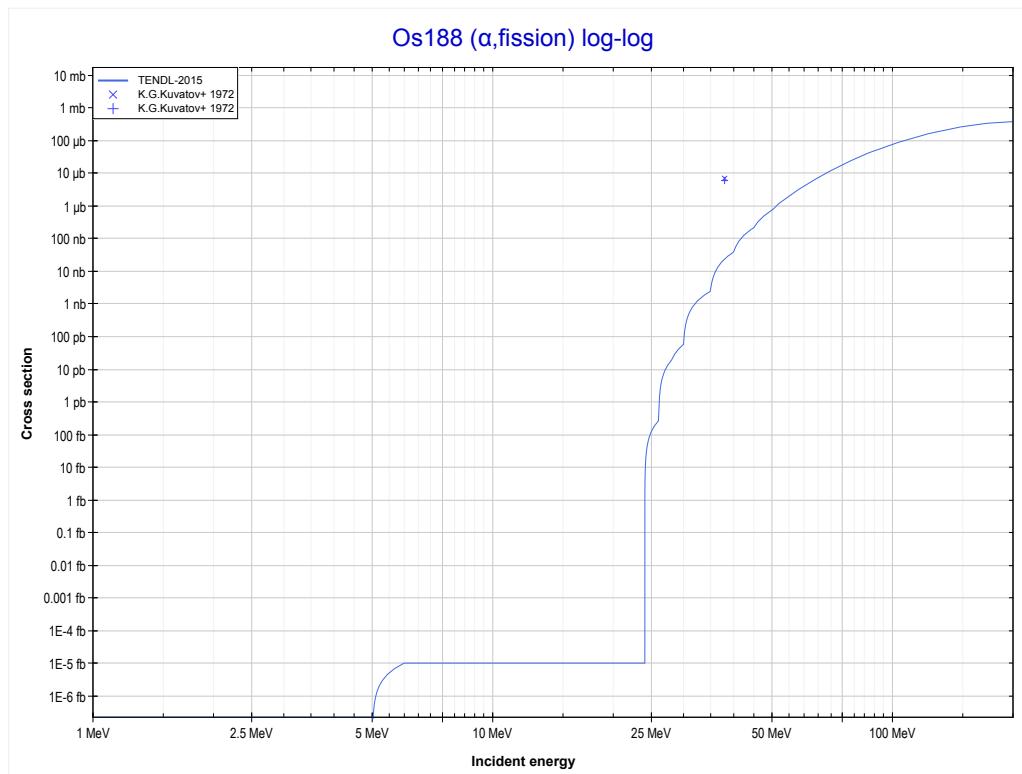


Reaction	Q-Value
Re187( $\alpha, 7n$ )Ir184	-55681.80 keV

<< 75-Re-187	
<< 75-Re-187 MT160 ( $\alpha,7n$ )	

**76-Os-188**  
**MT18 ( $\alpha$ ,fission)**

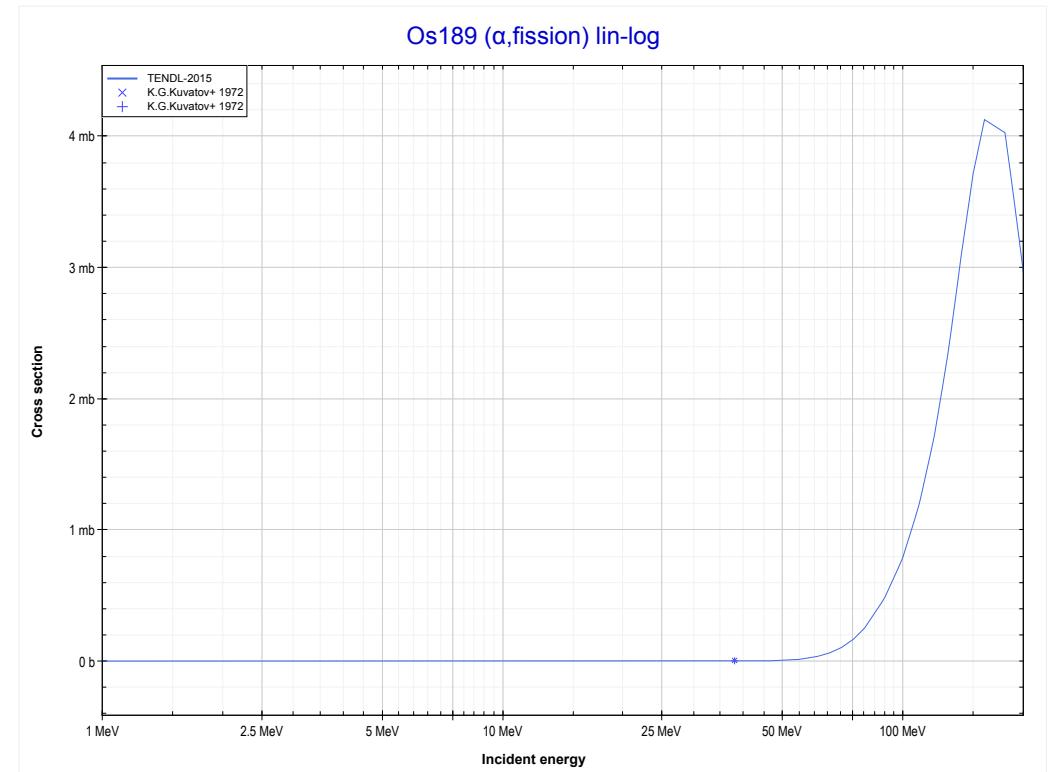
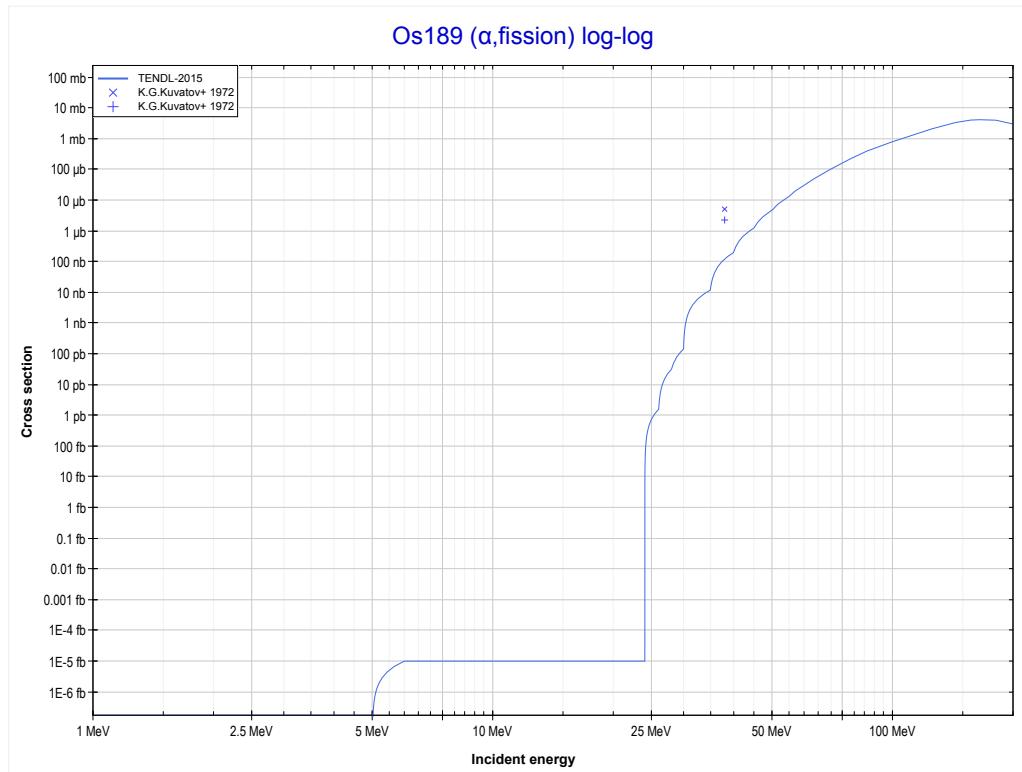
76-Os-189 >>  
76-Os-189 MT18 ( $\alpha$ ,fission) >>



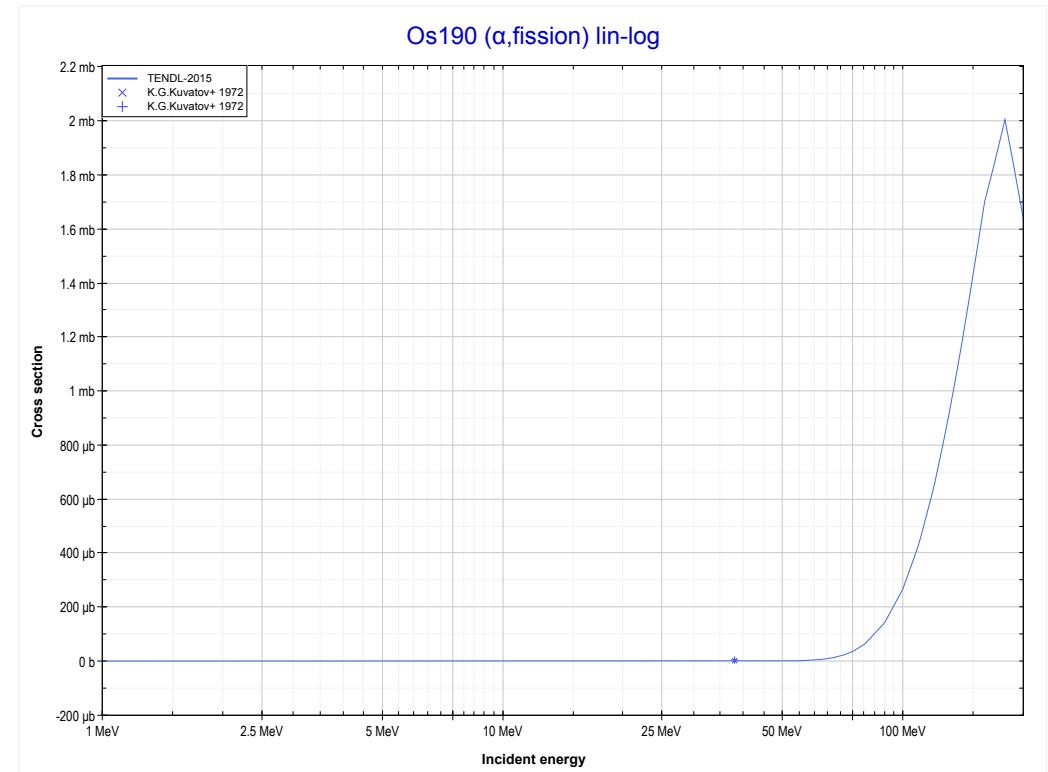
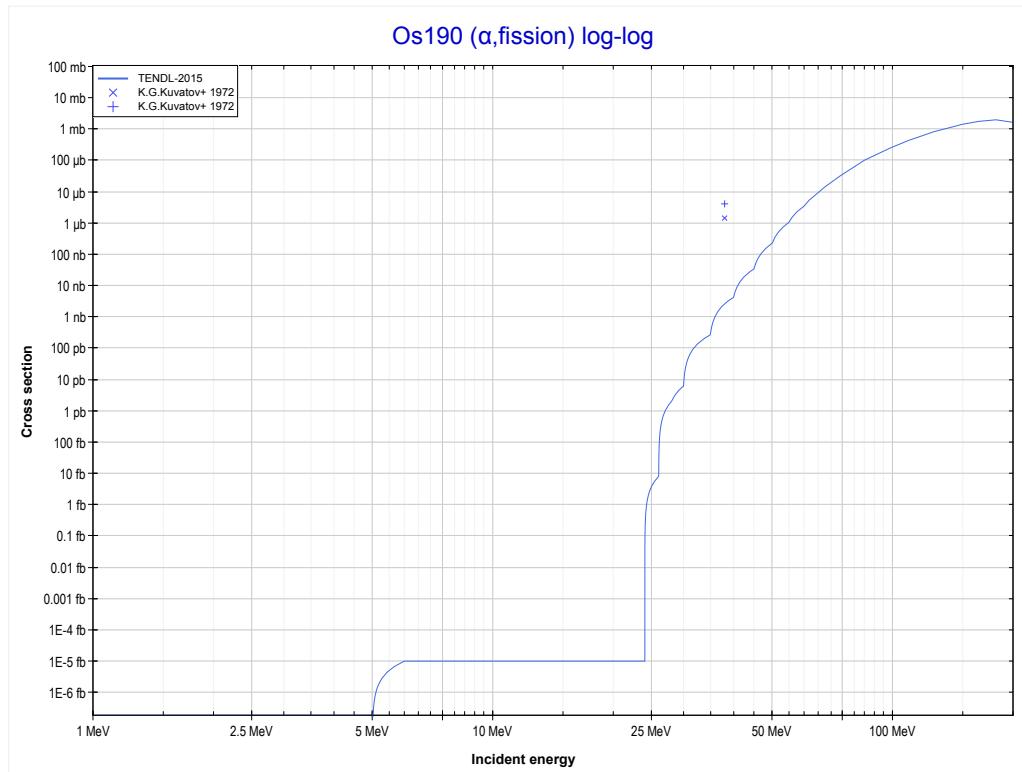
<< 76-Os-188		
<< 76-Os-188 MT18 ( $\alpha$ ,fission)		

76-Os-189
MT18 ( $\alpha$ ,fission)

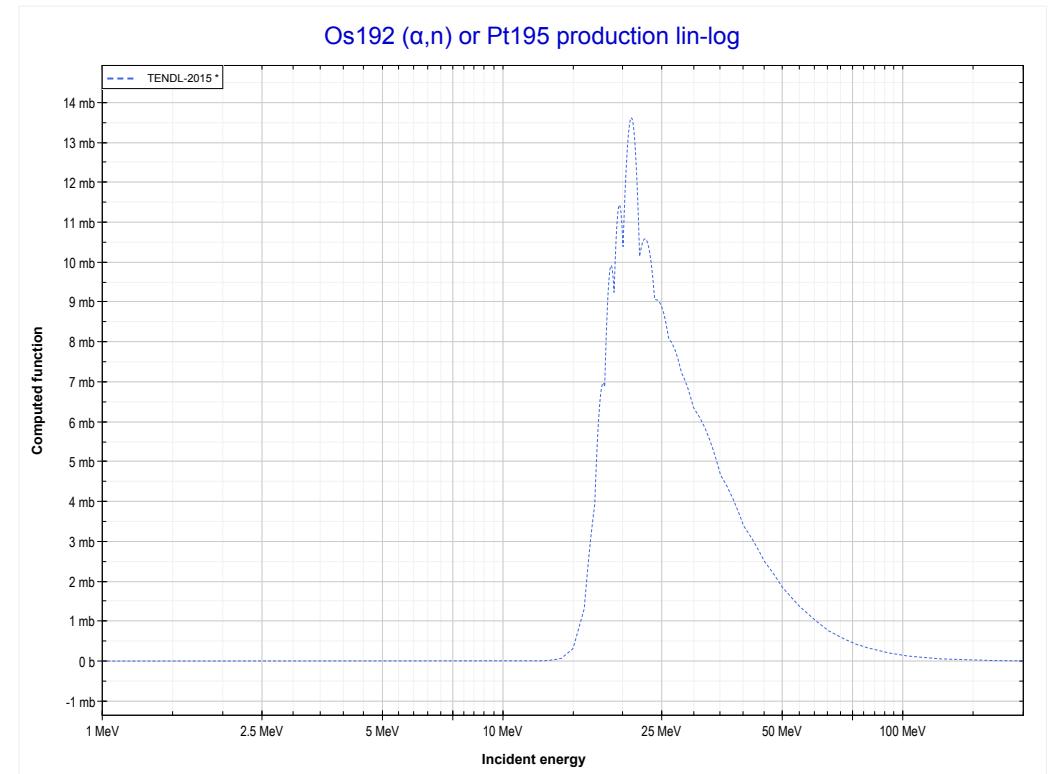
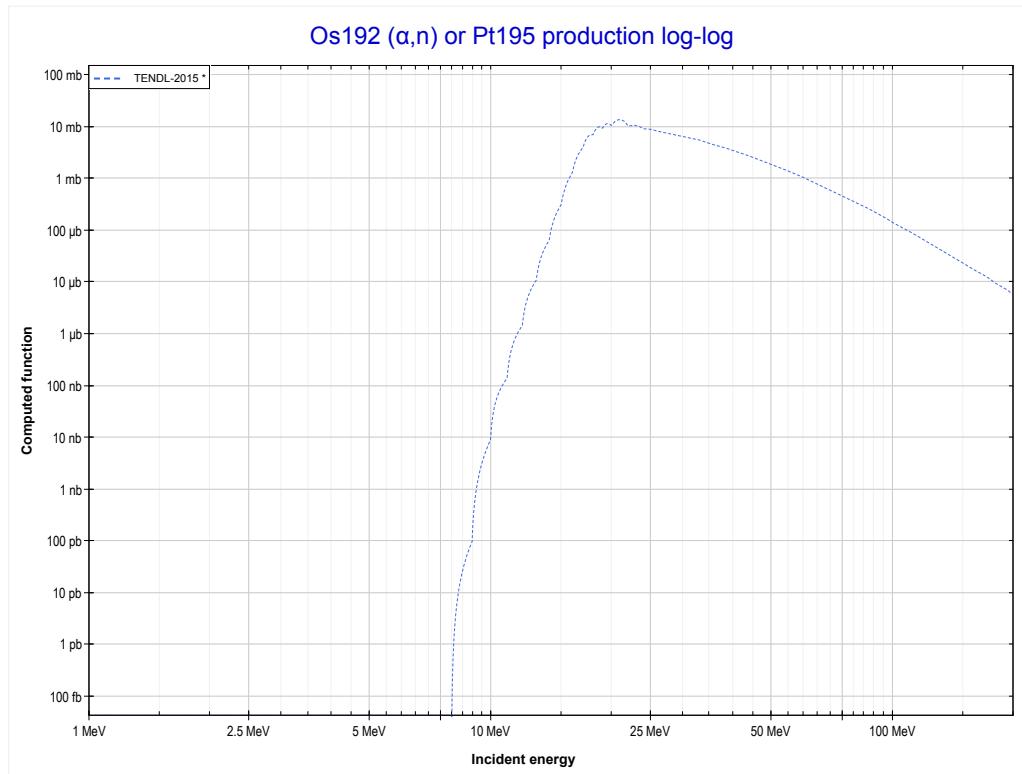
76-Os-190 >>
76-Os-190 MT18 ( $\alpha$ ,fission) >>



<< 76-Os-189	76-Os-190 MT18 ( $\alpha$ ,fission)	76-Os-192 >>
<< 76-Os-189 MT18 ( $\alpha$ ,fission)		76-Os-192 MT4 ( $\alpha$ ,n) >>

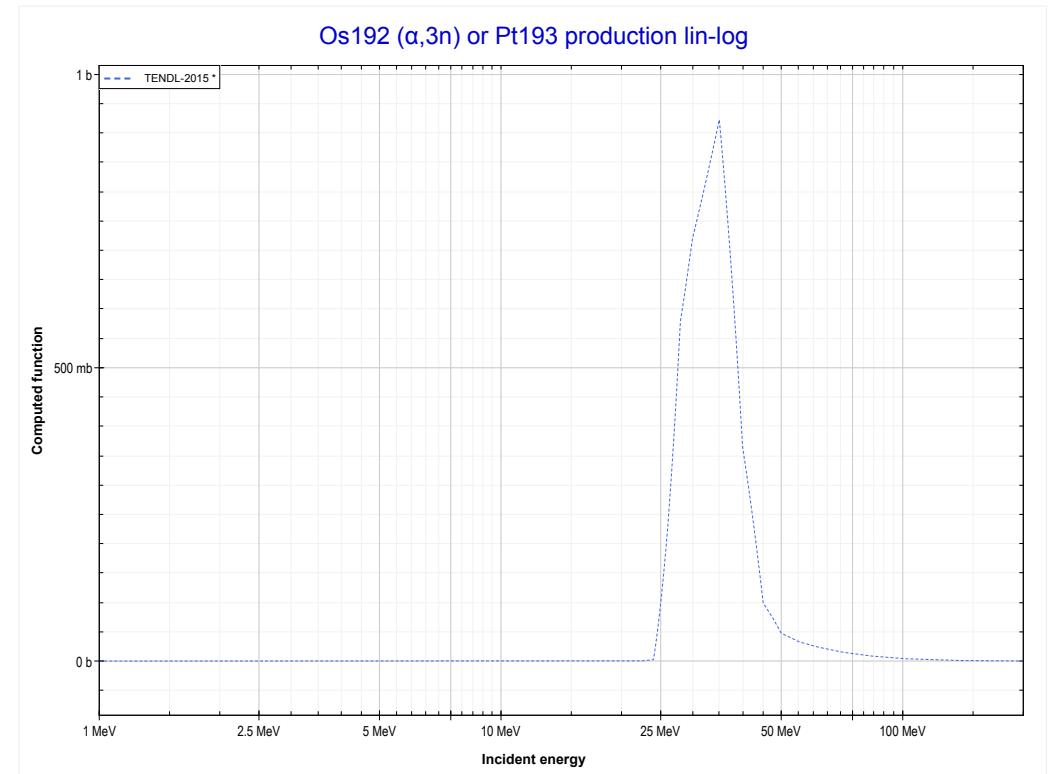
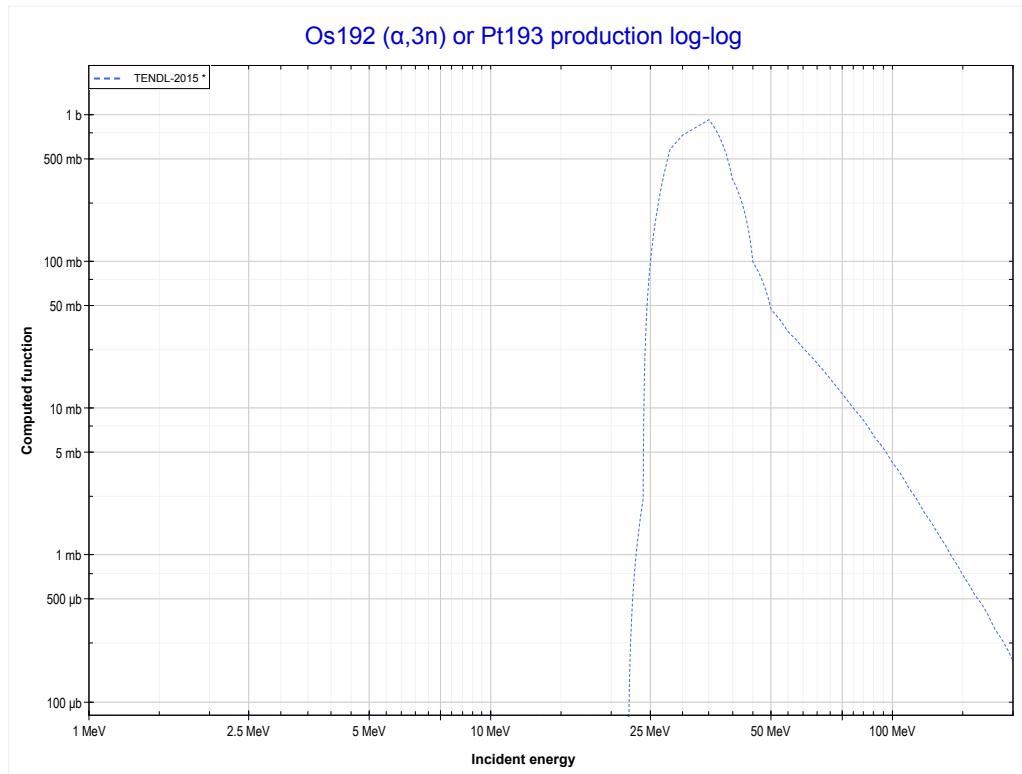


<< 75-Re-187	<b>76-Os-192</b> MT4 ( $\alpha, n$ ) or MT5 (Pt195 production)	>> 77-Ir-191
<< 76-Os-190 MT18 ( $\alpha, \text{fission}$ )		MT17 ( $\alpha, 3n$ ) >>



Reaction	Q-Value
Os192( $\alpha, n$ )Pt195	-8734.00 keV

<< 75-Re-187	<b>76-Os-192</b> MT17 ( $\alpha,3n$ ) or MT5 (Pt193 production)	>> 77-Ir-191
<< MT4 ( $\alpha,n$ )		MT18 ( $\alpha,fission$ ) >>

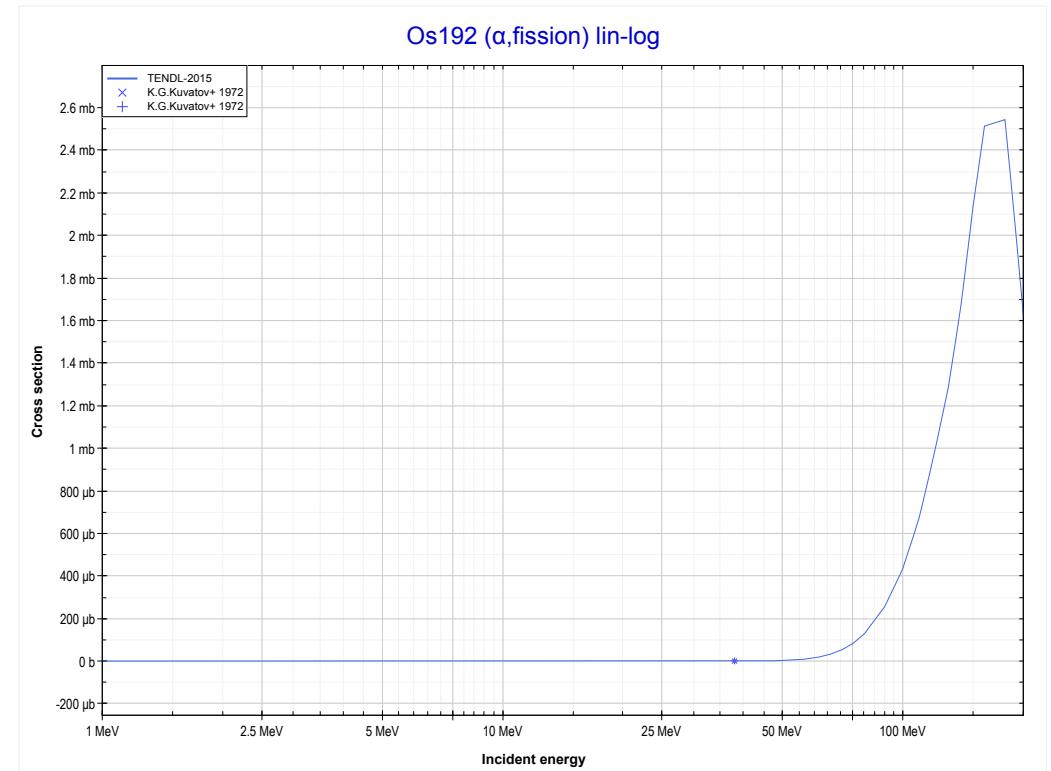
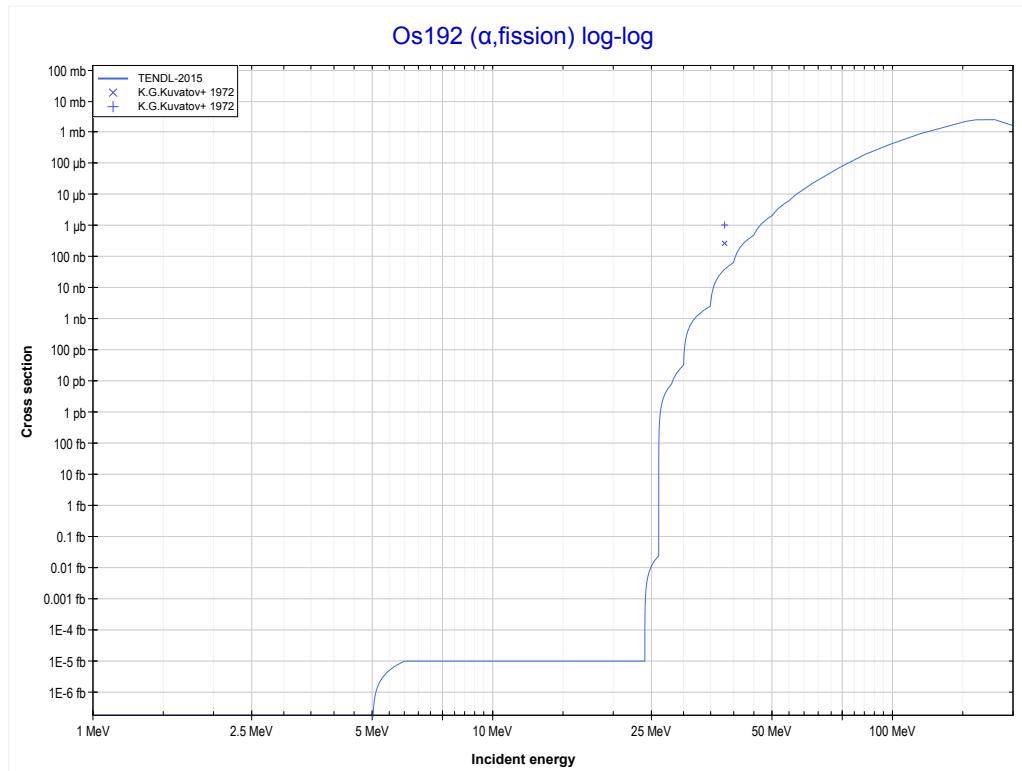


Reaction	Q-Value
Os192( $\alpha,3n$ )Pt193	-23191.24 keV

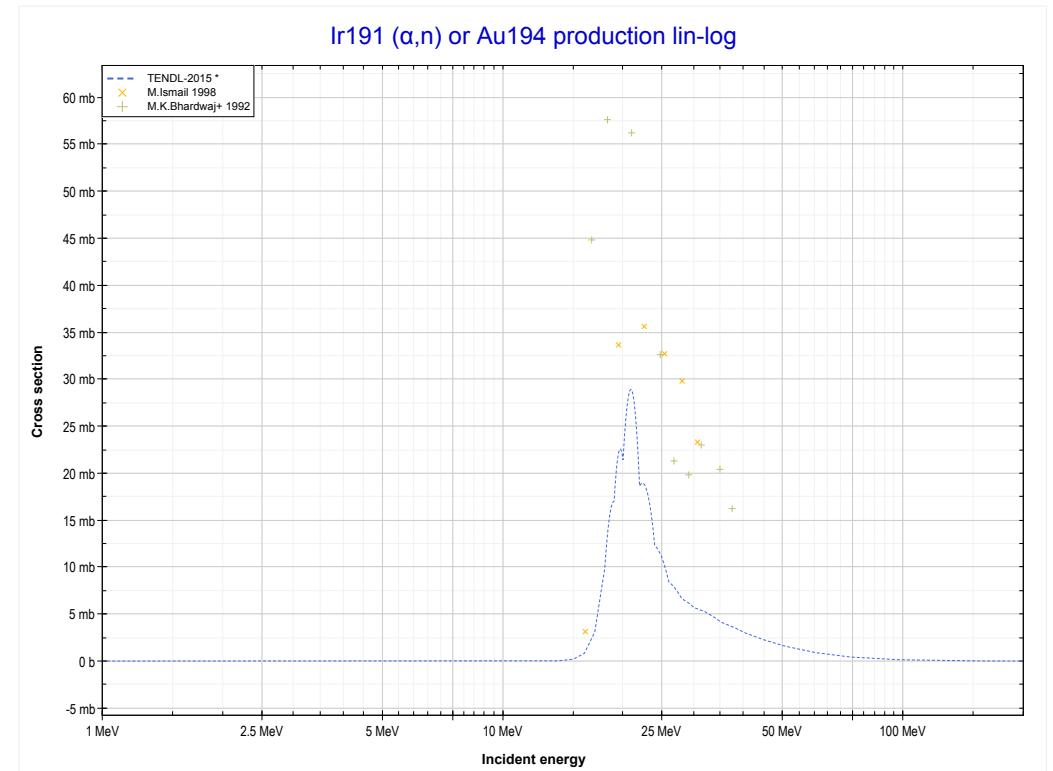
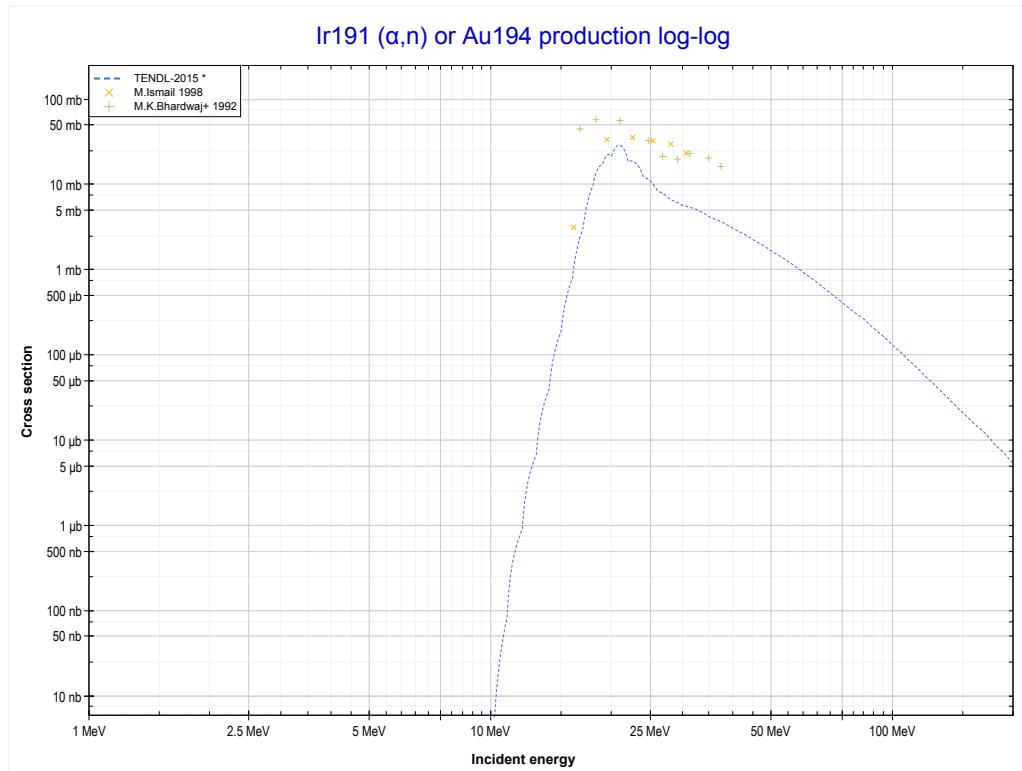
<< 76-Os-190	
<< MT17 ( $\alpha$ ,3n)	

**76-Os-192**  
**MT18 ( $\alpha$ ,fission)**

78-Pt-194 >>  
77-Ir-191 MT4 ( $\alpha$ ,n) >>

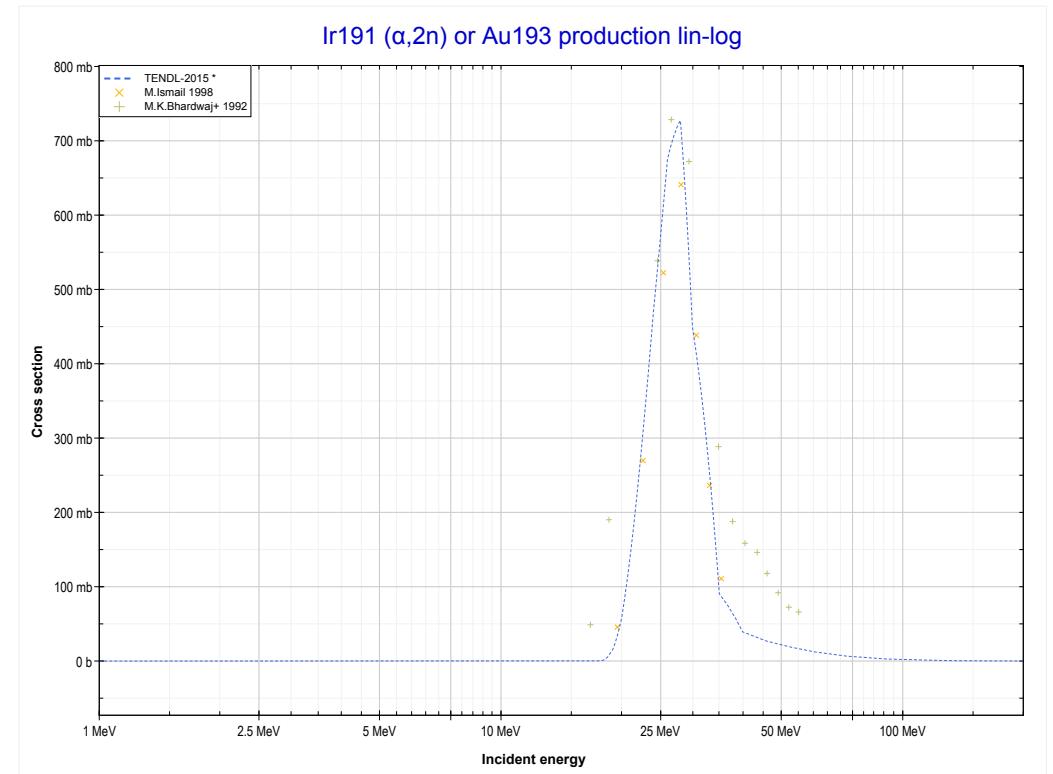
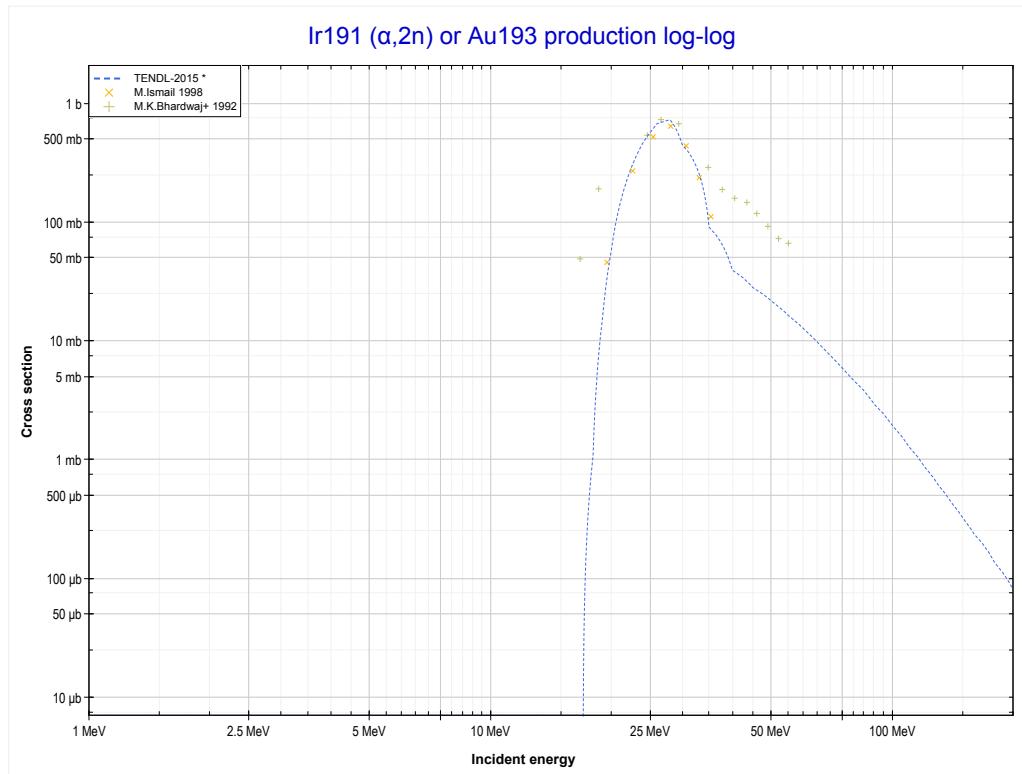


<< 76-Os-192	<b>77-Ir-191</b>	79-Au-197 >>
<< 76-Os-192 MT18 ( $\alpha$ ,fission)	<b>MT4 (<math>\alpha</math>,n) or MT5 (Au194 production)</b>	MT16 ( $\alpha$ ,2n) >>



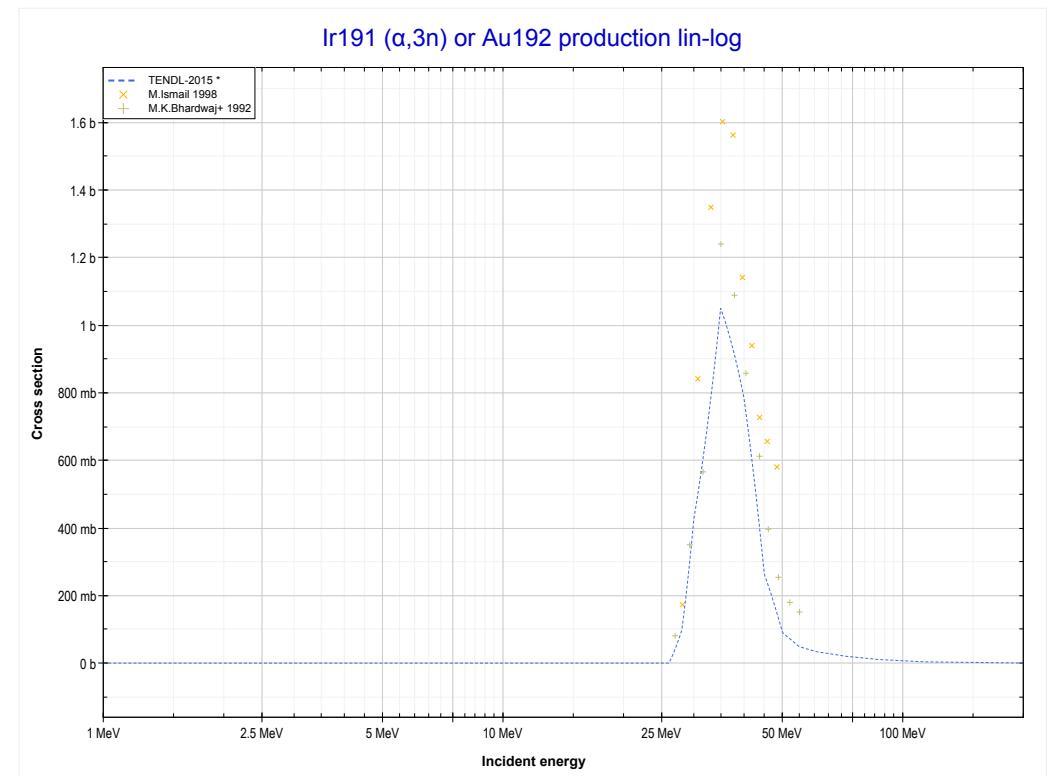
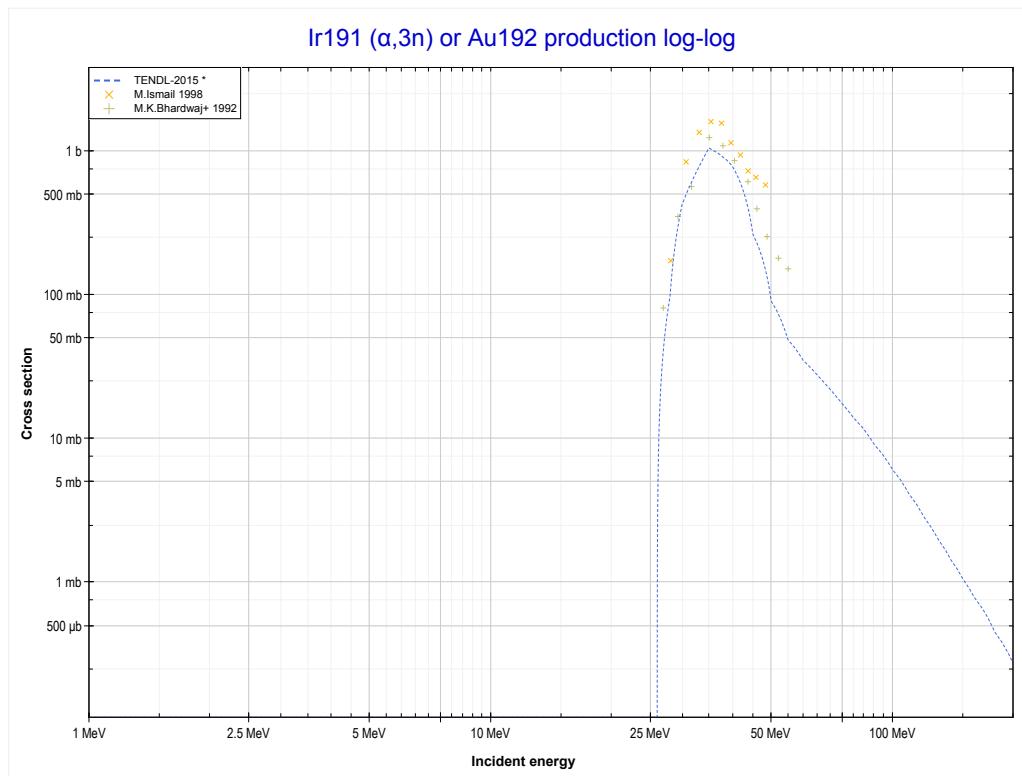
Reaction	Q-Value
Ir191( $\alpha$ ,n)Au194	-10144.00 keV

<< 73-Ta-181	<b>77-Ir-191</b> MT16 ( $\alpha,2n$ ) or MT5 (Au193 production)	77-Ir-193 >>
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



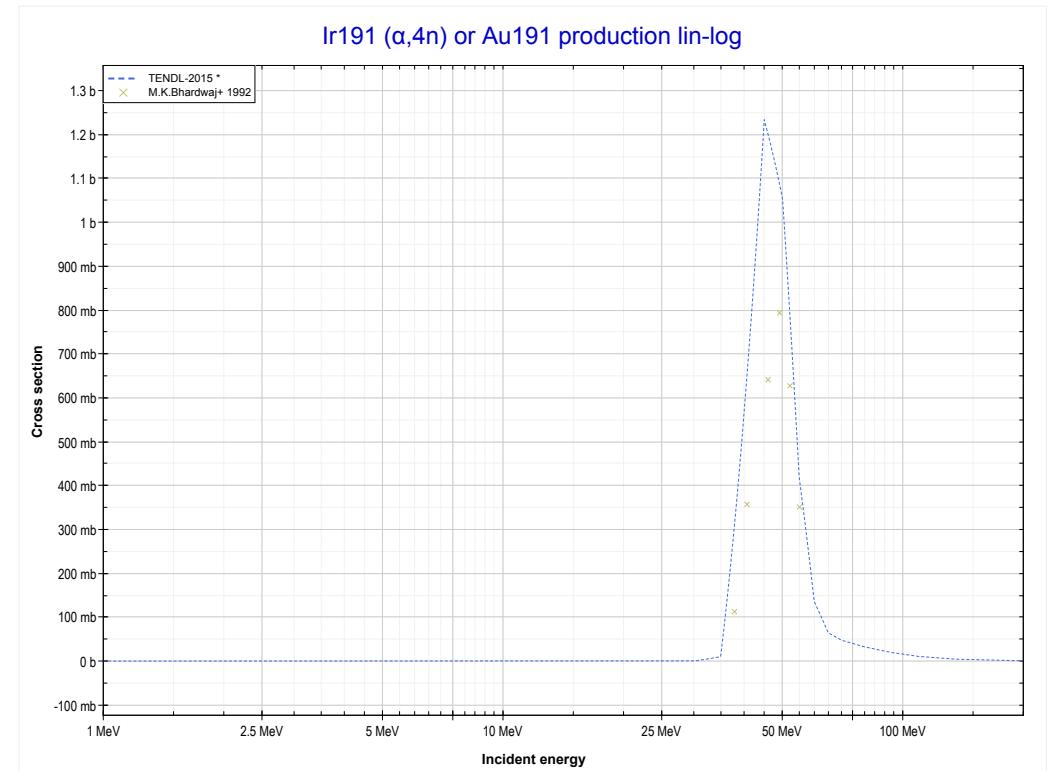
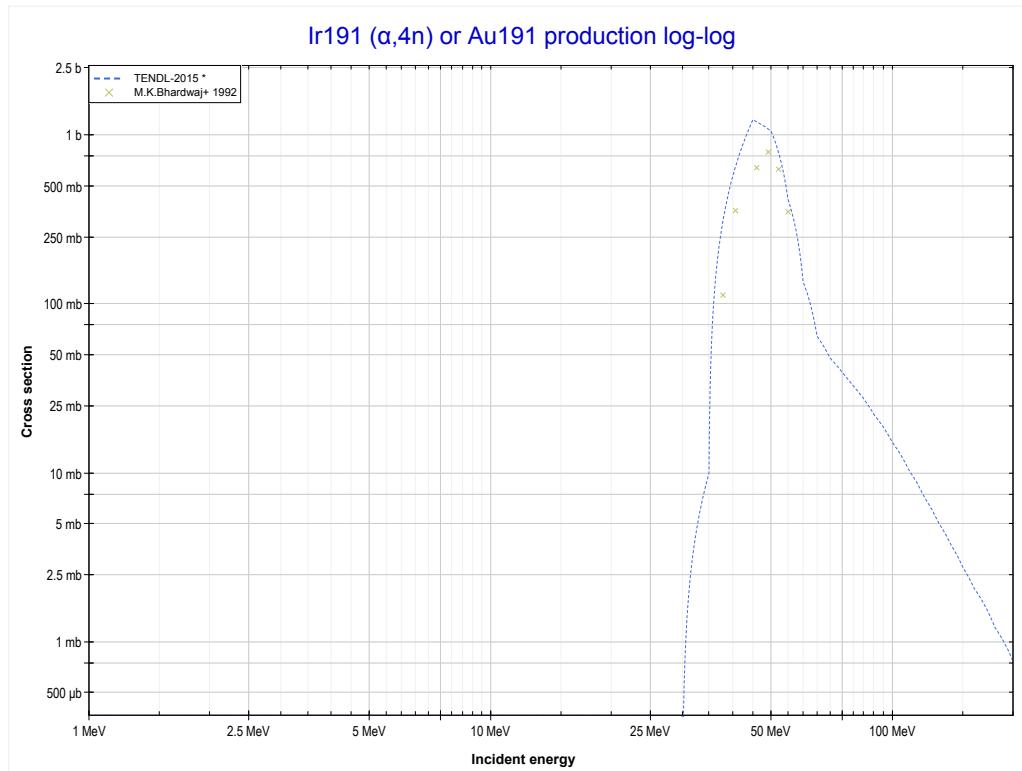
Reaction	Q-Value
Ir191( $\alpha,2n$ )Au193	-17022.52 keV

<< 76-Os-192	77-Ir-191 MT17 ( $\alpha,3n$ ) or MT5 (Au192 production)	77-Ir-193 >>
<< MT16 ( $\alpha,2n$ )		MT37 ( $\alpha,4n$ ) >>



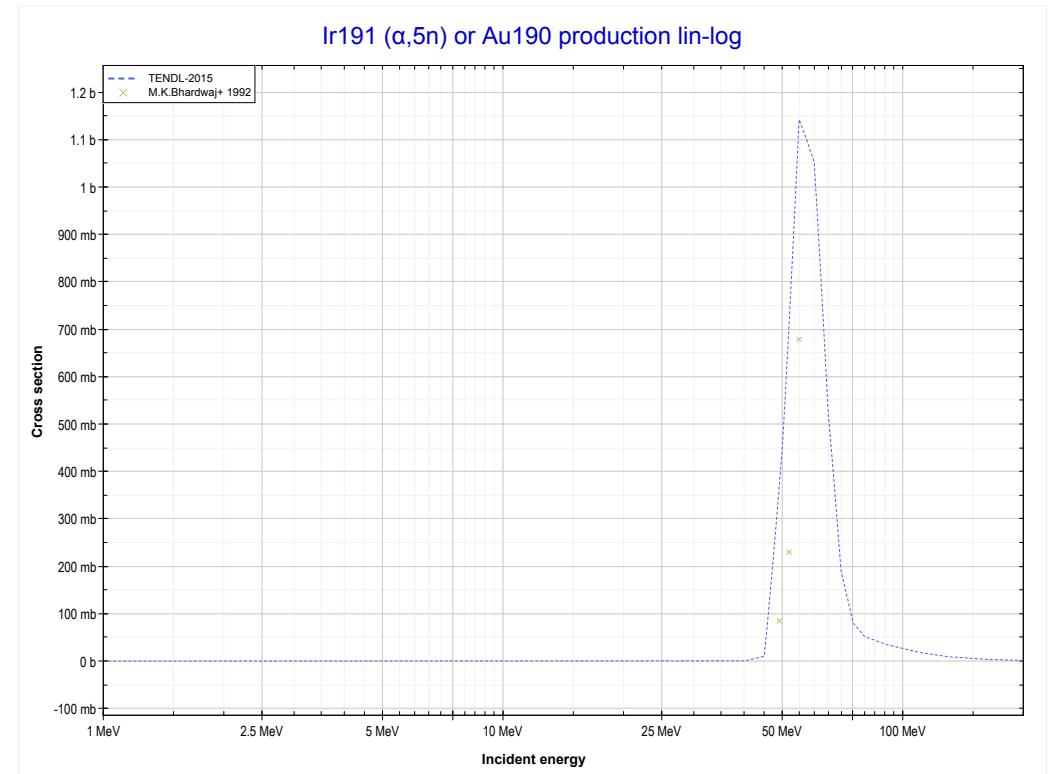
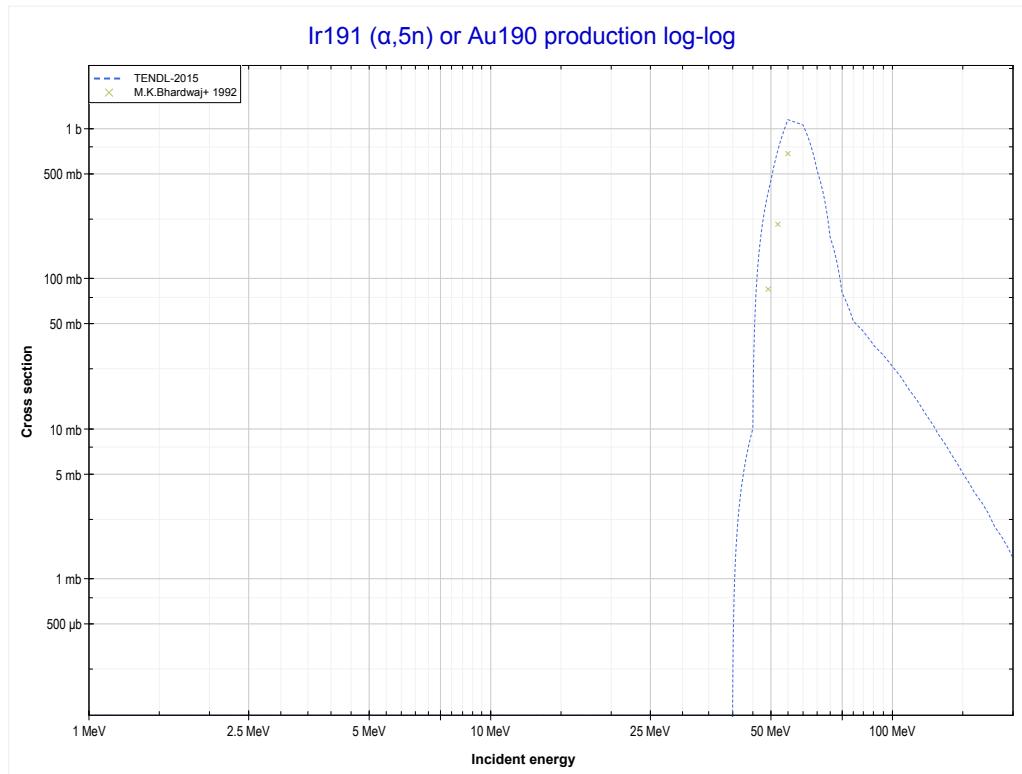
Reaction	Q-Value
Ir191( $\alpha,3n$ )Au192	-25723.84 keV

<< 75-Re-187	77-Ir-191 MT37 ( $\alpha,4n$ ) or MT5 (Au191 production)	77-Ir-193 >>
<< MT17 ( $\alpha,3n$ )		MT152 ( $\alpha,5n$ ) >>



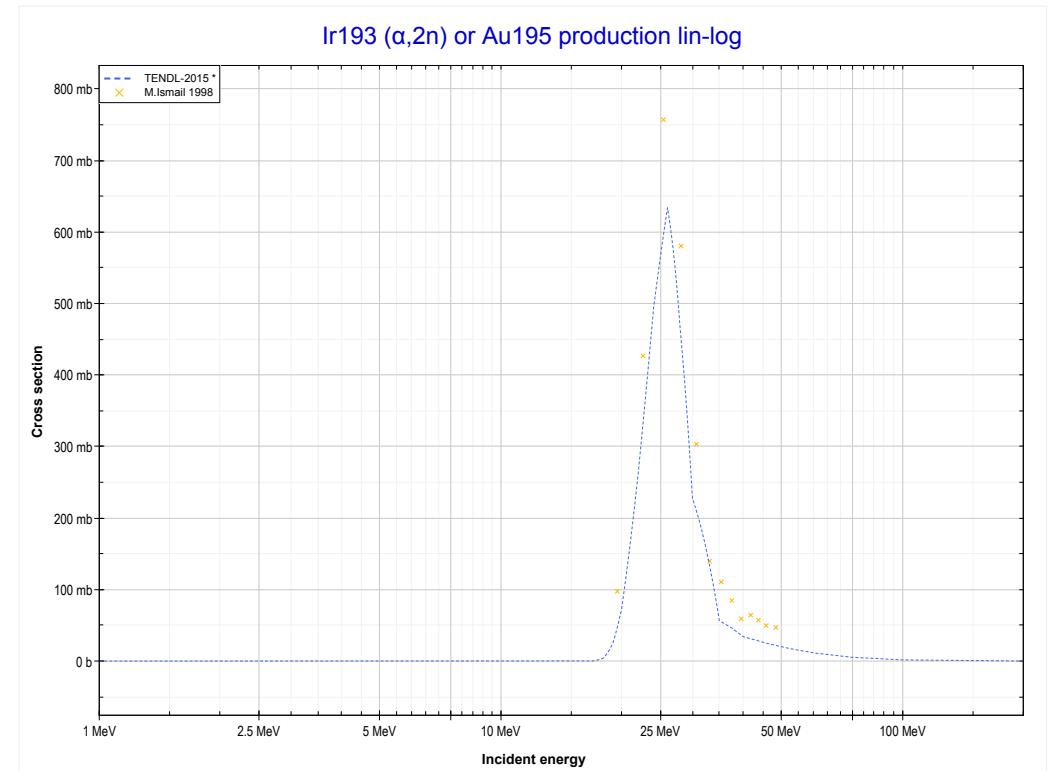
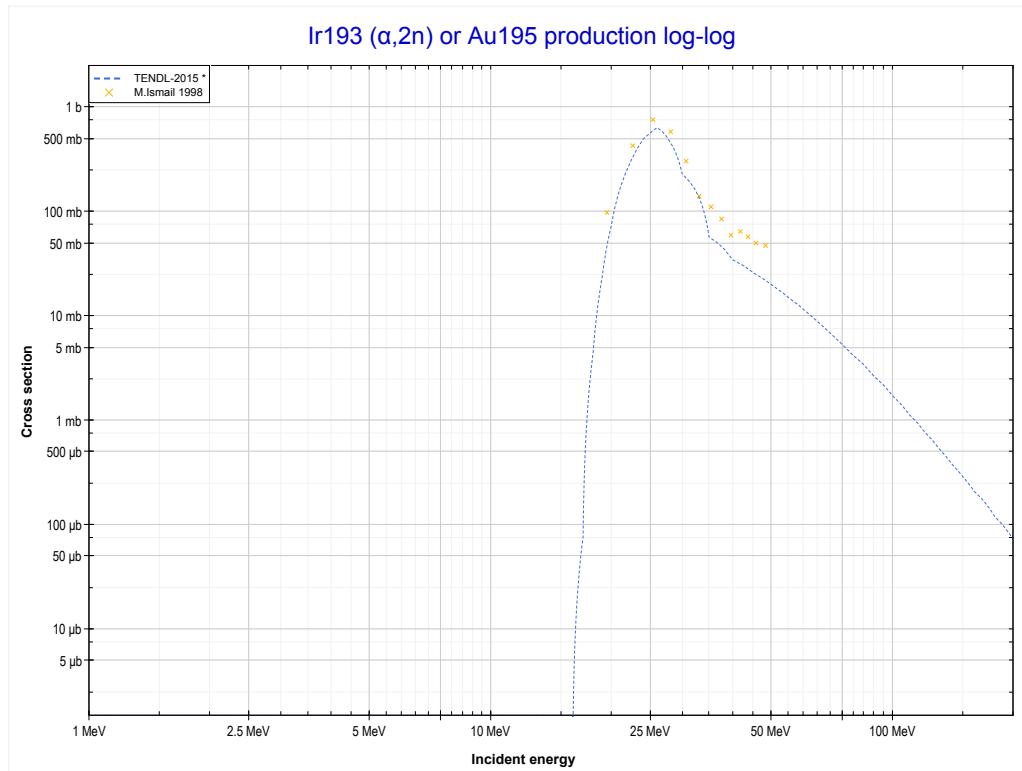
Reaction	Q-Value
Ir191( $\alpha,4n$ )Au191	-32761.15 keV

<< 75-Re-187	77-Ir-191 MT152 ( $\alpha,5n$ ) or MT5 (Au190 production)	77-Ir-193 >> 77-Ir-193 MT16 ( $\alpha,2n$ ) >>
<< MT37 ( $\alpha,4n$ )		



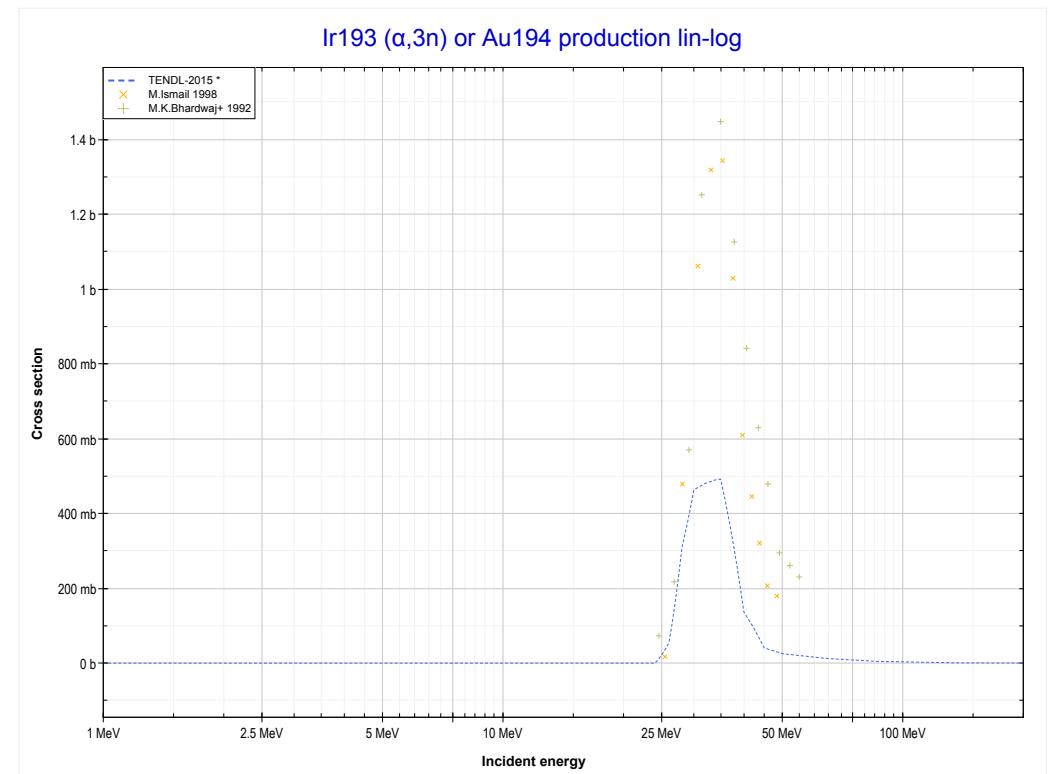
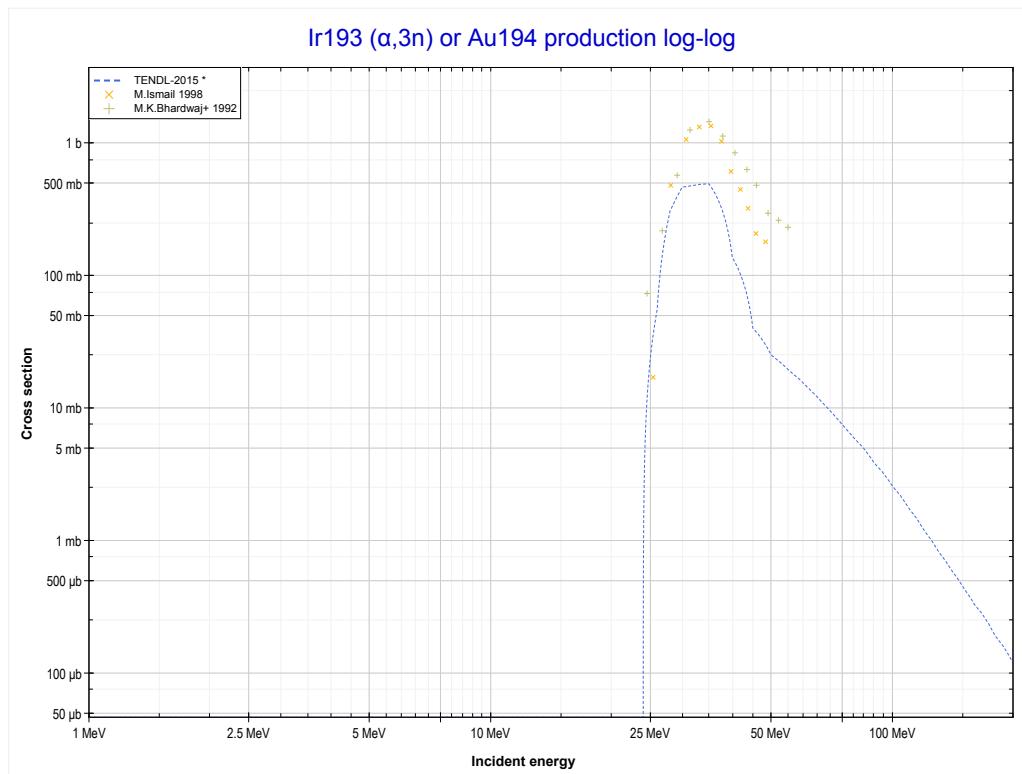
Reaction	Q-Value
Ir191( $\alpha,5n$ )Au190	-41759.47 keV

<< 77-Ir-191	<b>77-Ir-193</b> MT16 ( $\alpha,2n$ ) or MT5 (Au195 production)	79-Au-197 >>
<< 77-Ir-191 MT152 ( $\alpha,5n$ )		MT17 ( $\alpha,3n$ ) >>



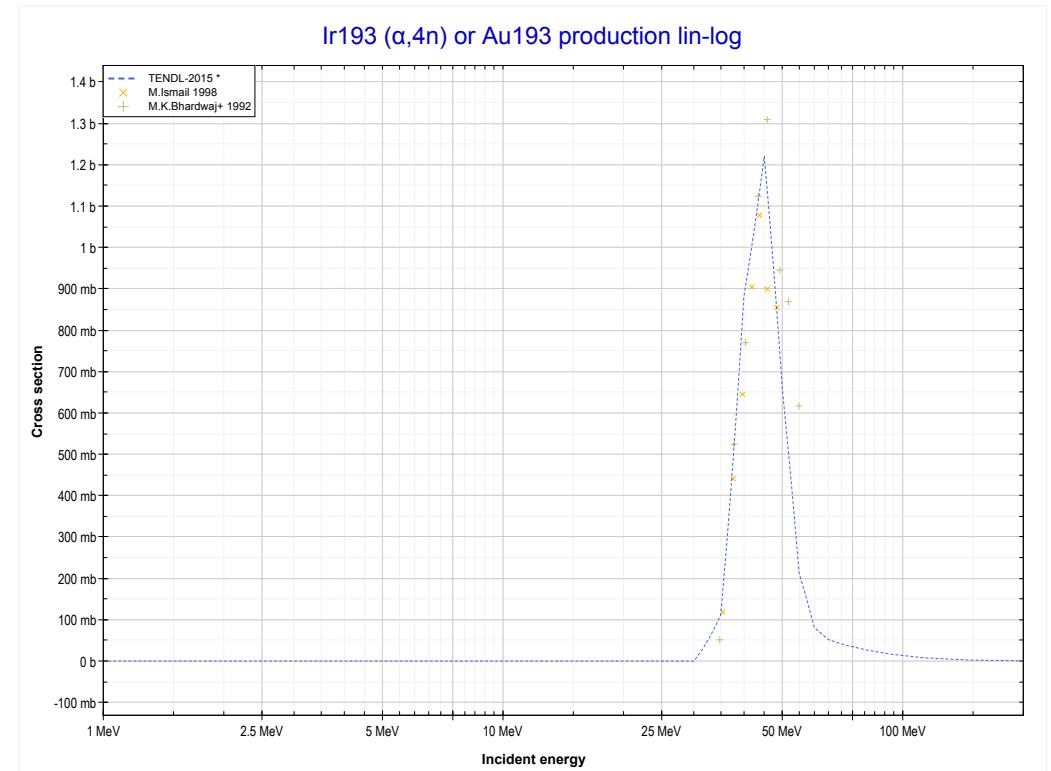
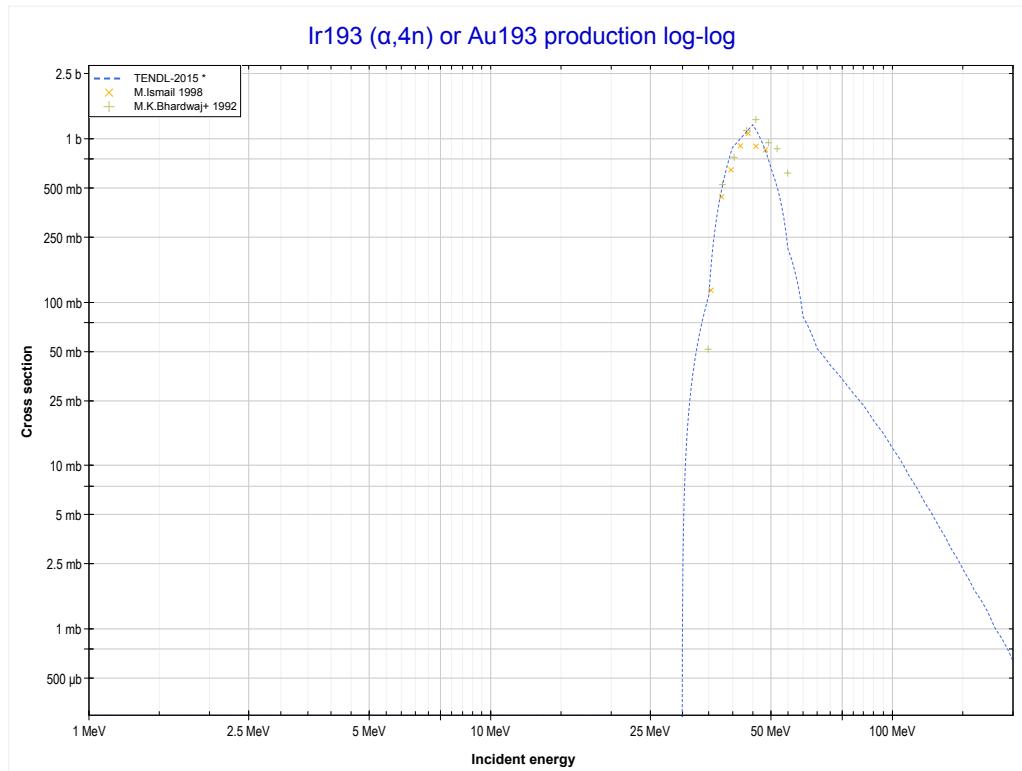
Reaction	Q-Value
Ir193( $\alpha,2n$ )Au195	-15686.52 keV

<< 77-Ir-191	<b>77-Ir-193</b> MT17 ( $\alpha,3n$ ) or MT5 (Au194 production)	79-Au-197 >>
<< MT16 ( $\alpha,2n$ )		MT37 ( $\alpha,4n$ ) >>



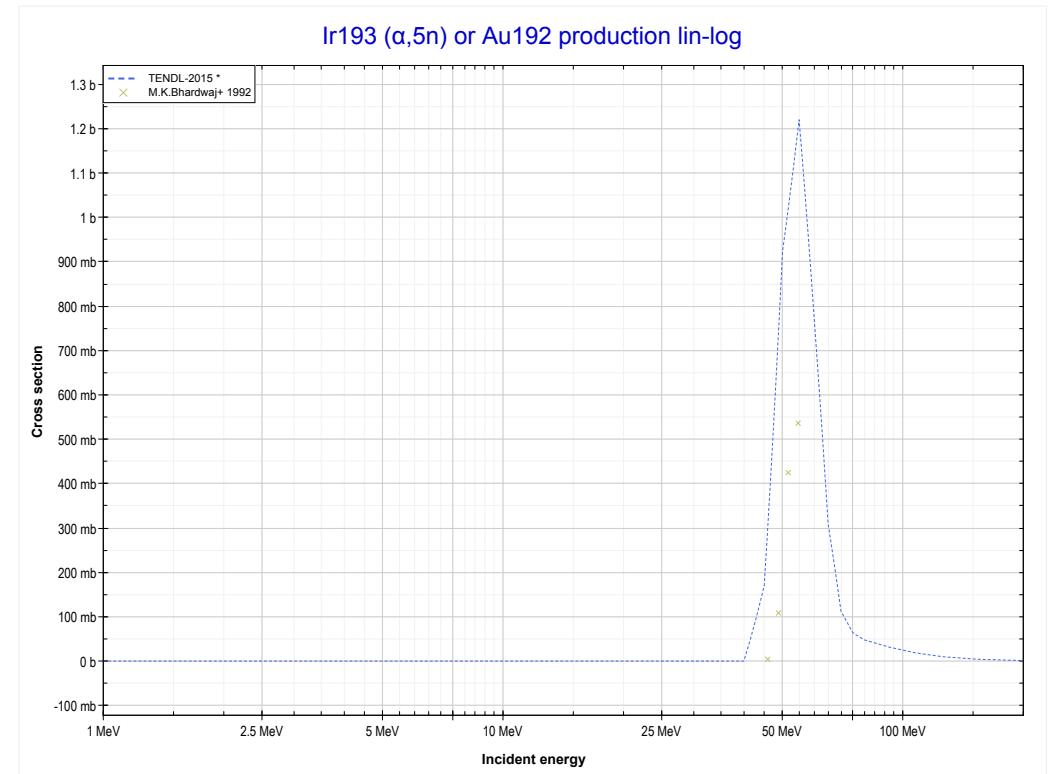
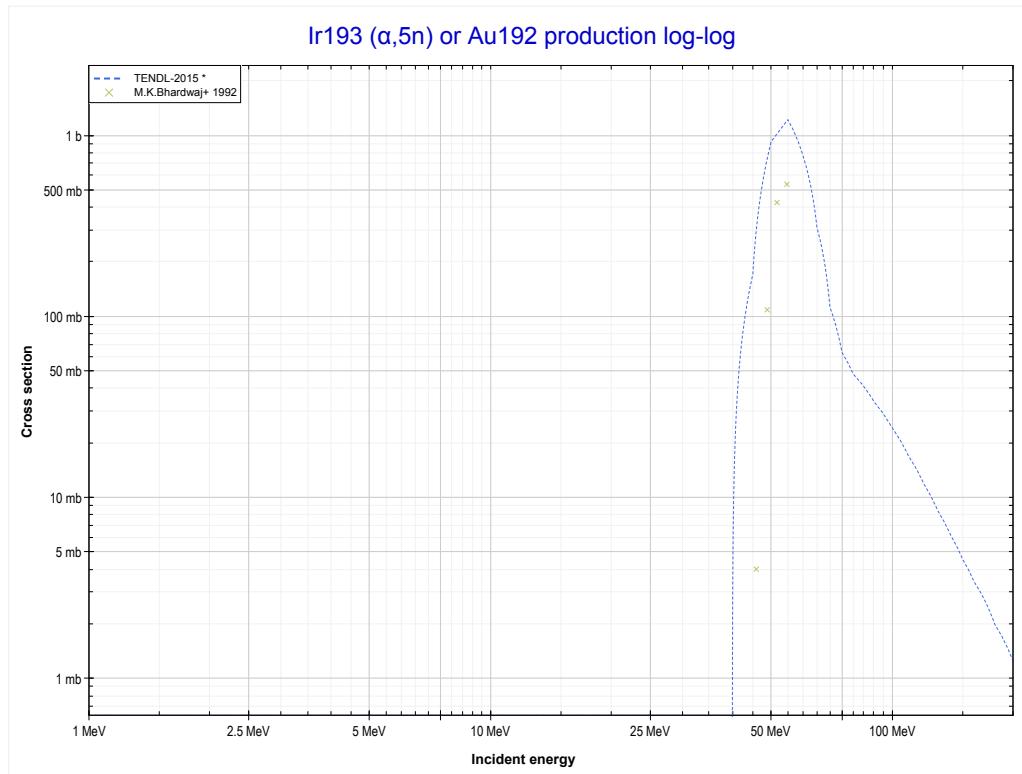
Reaction	Q-Value
Ir193( $\alpha,3n$ )Au194	-24114.14 keV

<< 77-Ir-191	<b>77-Ir-193</b> MT37 ( $\alpha,4n$ ) or MT5 (Au193 production)	79-Au-197 >>
<< MT17 ( $\alpha,3n$ )		MT152 ( $\alpha,5n$ ) >>



Reaction	Q-Value
Ir193( $\alpha,4n$ )Au193	-30992.65 keV

<< 77-Ir-191	<b>77-Ir-193</b> <b>MT152 (<math>\alpha,5n</math>) or MT5 (Au192 production)</b>	79-Au-197 >>
<< MT37 ( $\alpha,4n$ )		78-Pt-194 MT18 ( $\alpha,fission$ ) >>

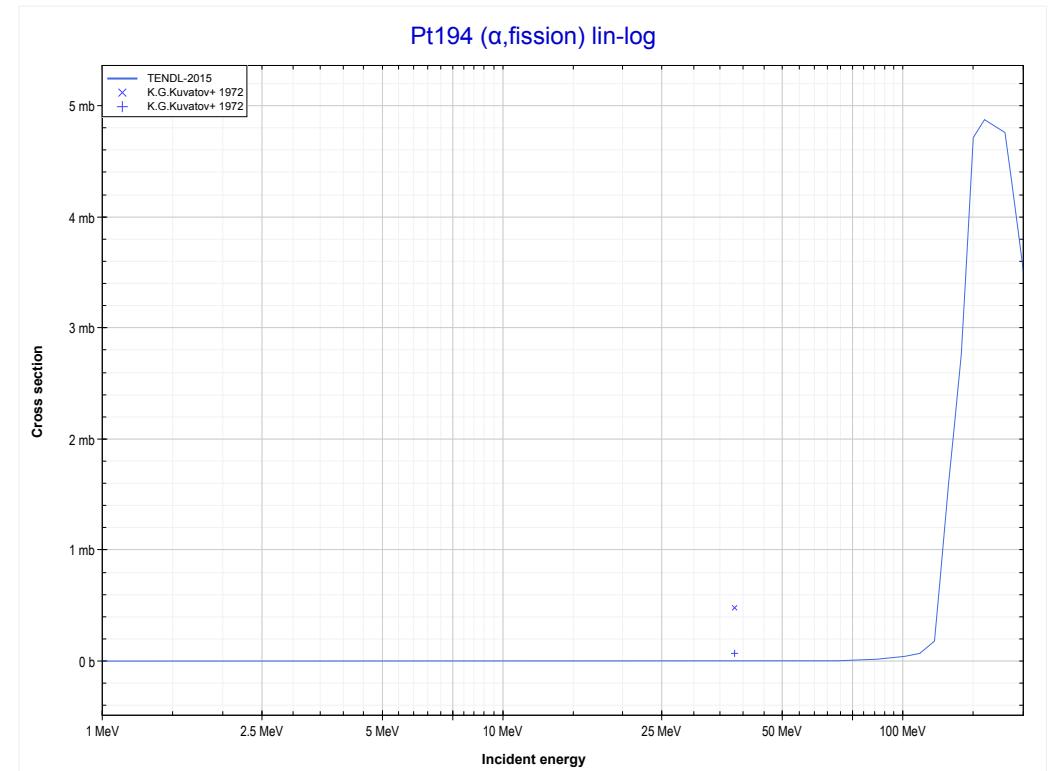
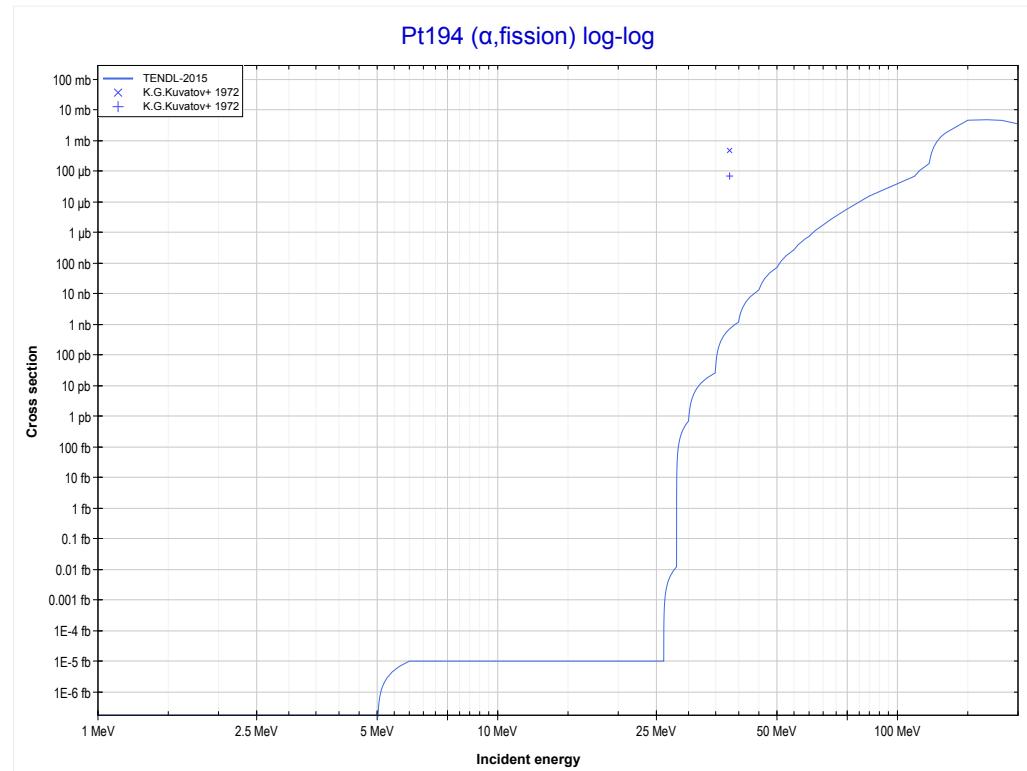


Reaction	Q-Value
Ir193( $\alpha,5n$ )Au192	-39693.97 keV

<< 76-Os-192	
<< 77-Ir-193 MT152 ( $\alpha,5n$ )	

**78-Pt-194**  
**MT18 ( $\alpha$ ,fission)**

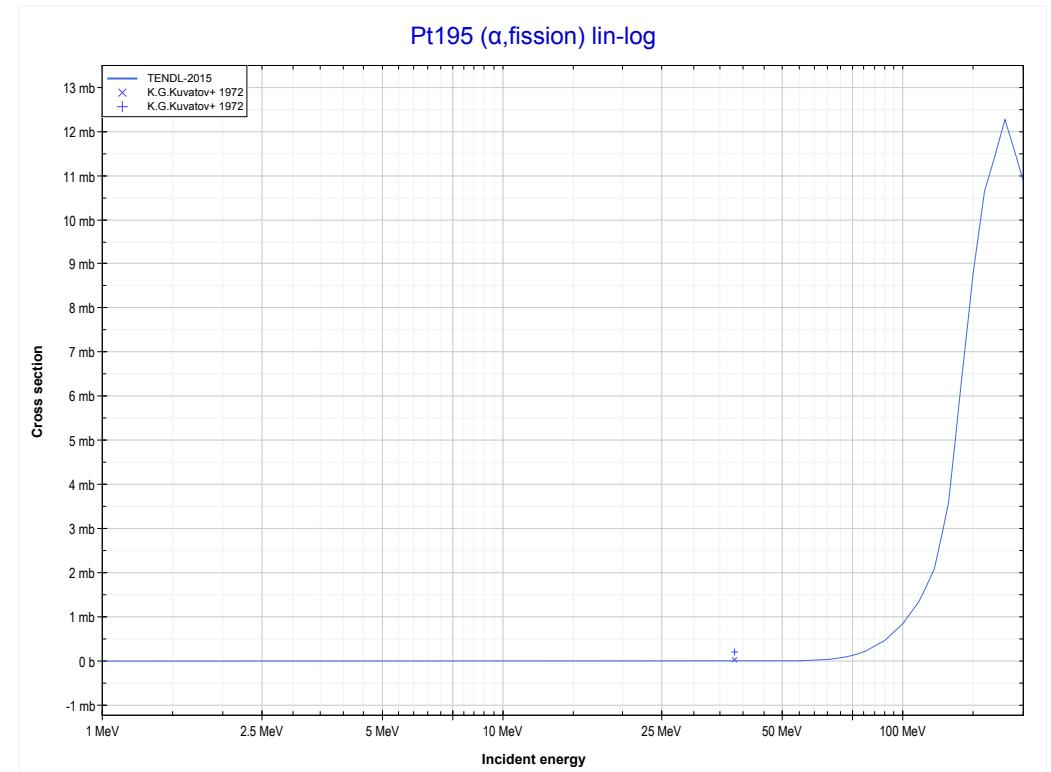
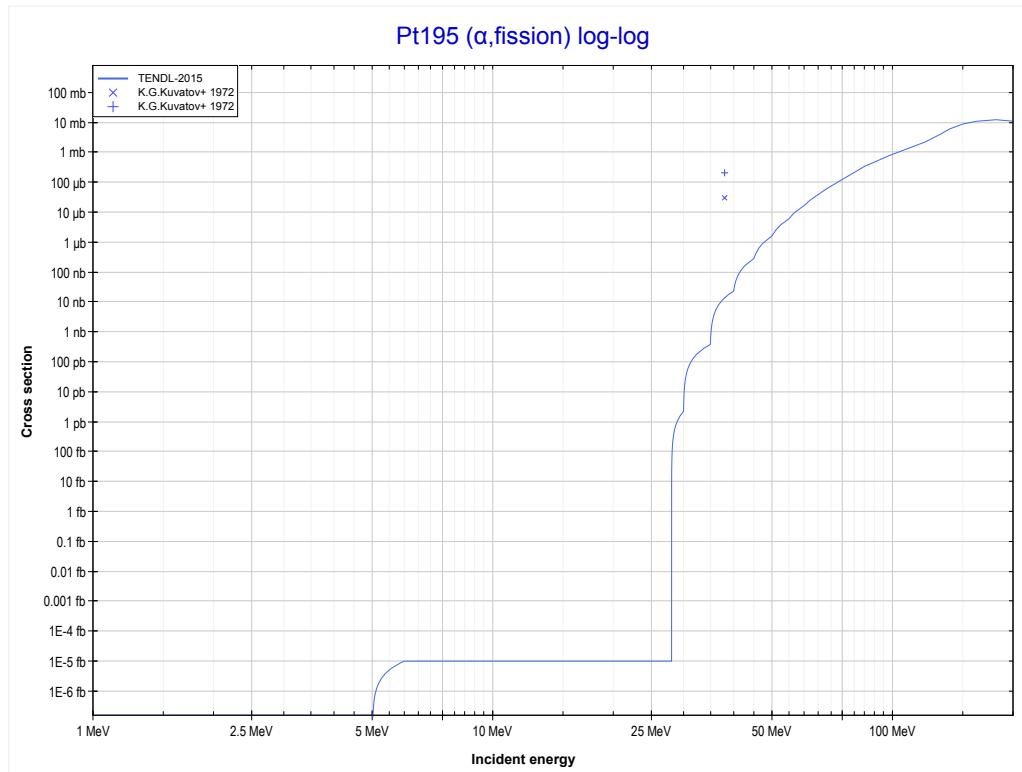
78-Pt-195 >>  
78-Pt-195 MT18 ( $\alpha$ ,fission) >>



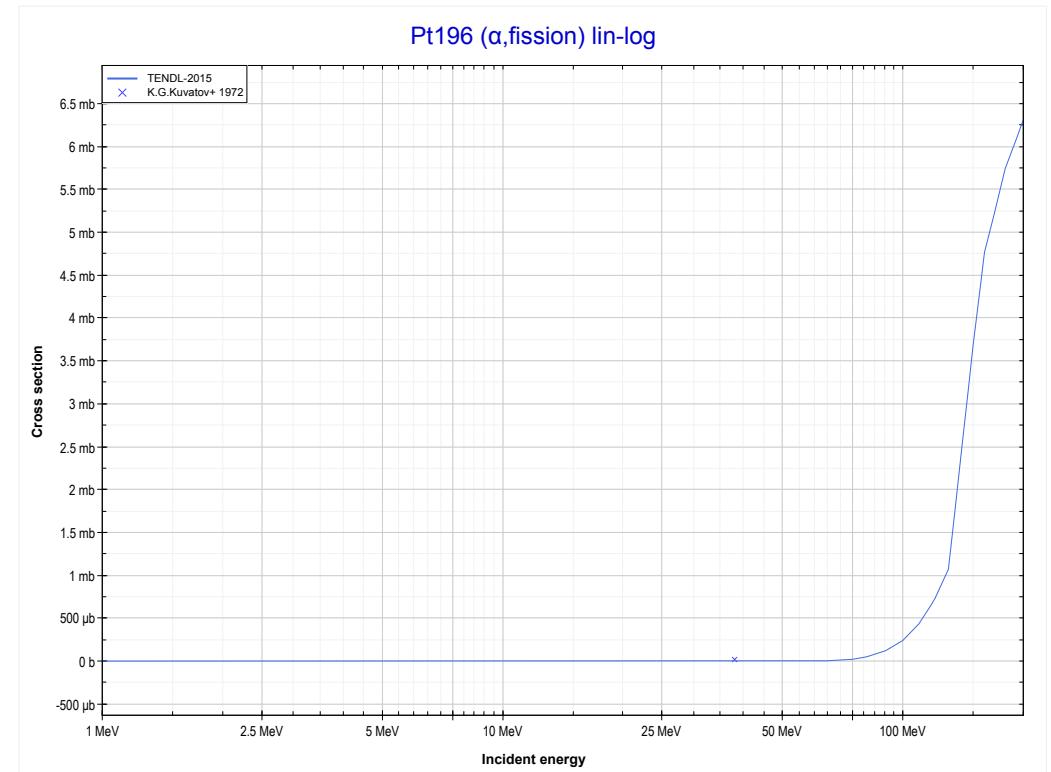
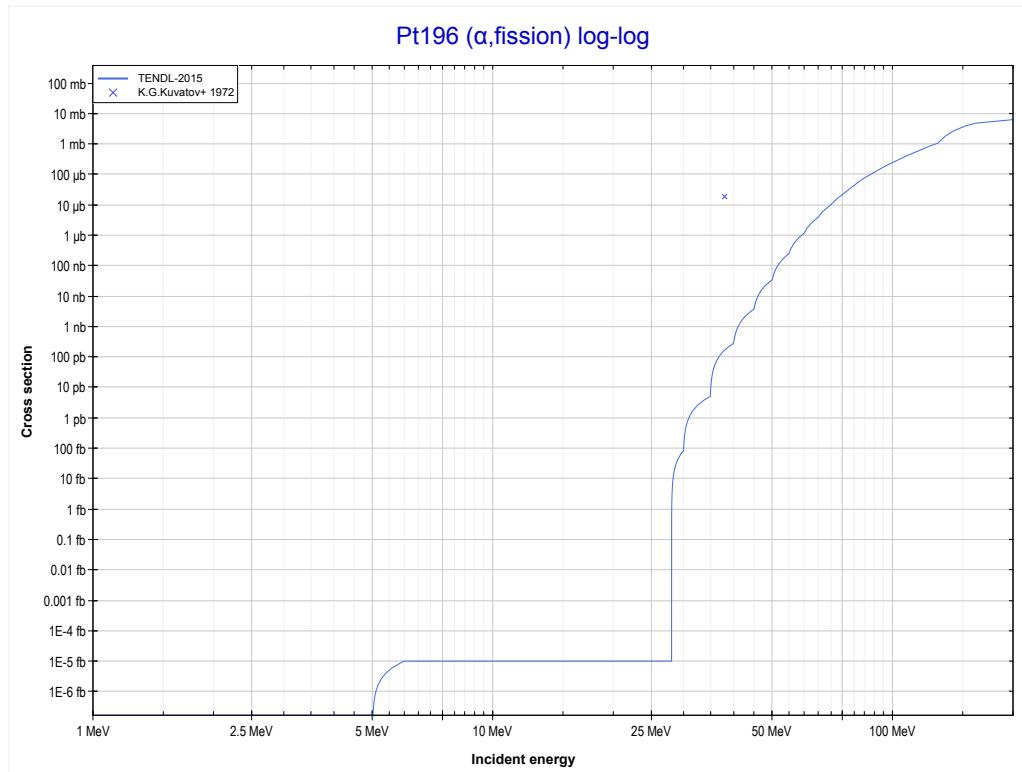
<a href="#"><b>&lt;&lt; 78-Pt-194</b></a>		
<a href="#"><b>&lt;&lt; 78-Pt-194 MT18 (<math>\alpha</math>,fission)</b></a>		

<b>78-Pt-195</b>
<b>MT18 (<math>\alpha</math>,fission)</b>

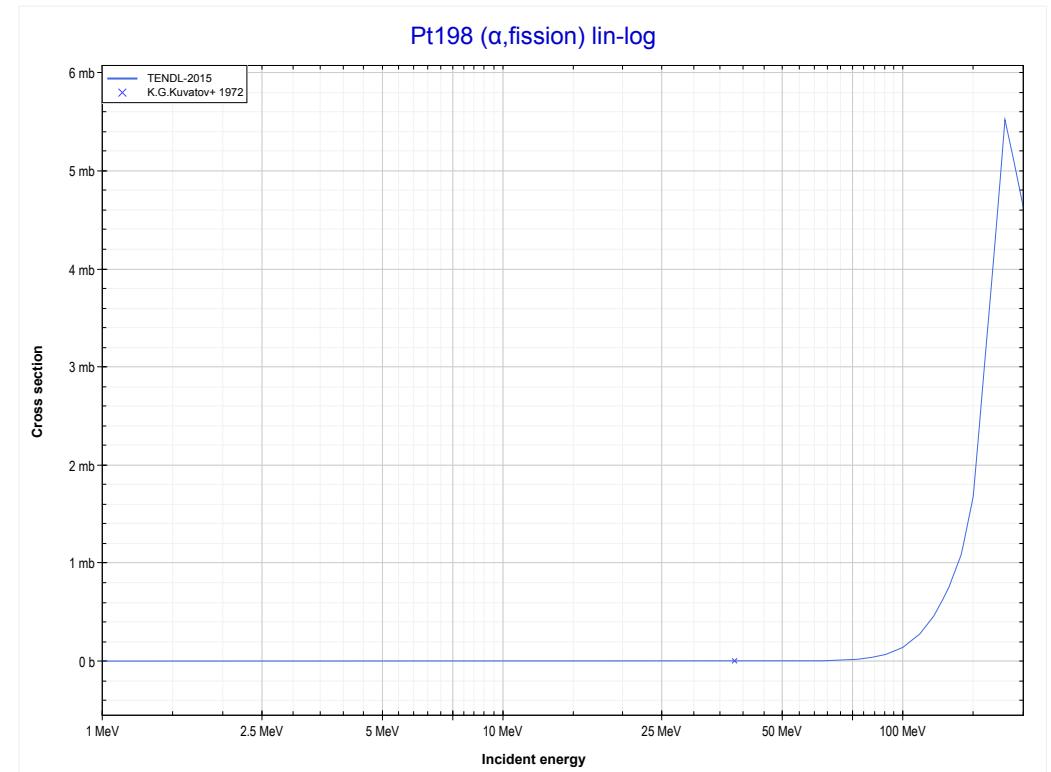
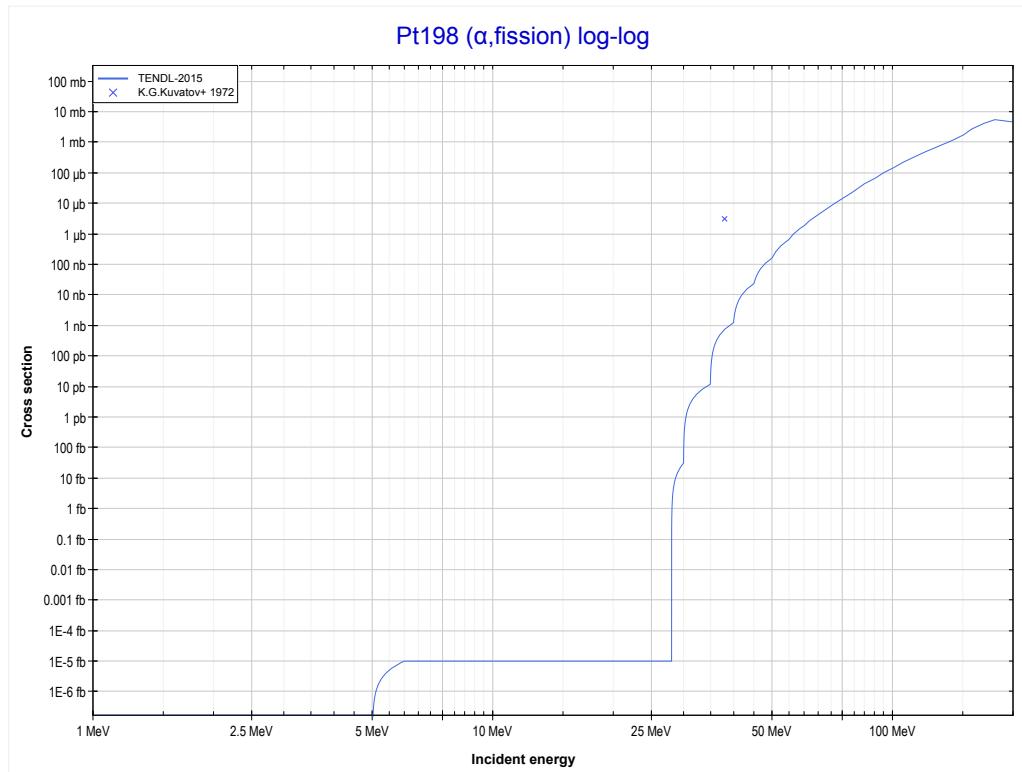
<a href="#"><b>78-Pt-196 &gt;&gt;</b></a>
<a href="#"><b>78-Pt-196 MT18 (<math>\alpha</math>,fission) &gt;&gt;</b></a>



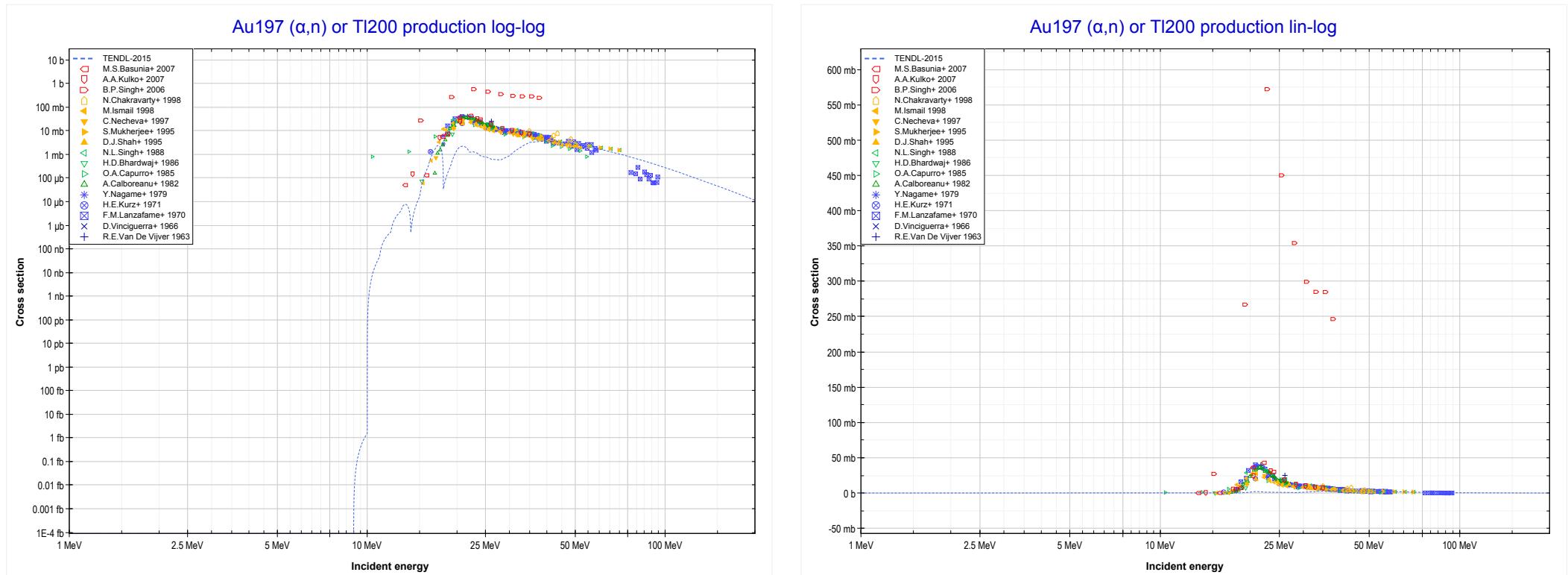
<< 78-Pt-195	78-Pt-196 MT18 ( $\alpha$ ,fission)	78-Pt-198 >> 78-Pt-198 MT18 ( $\alpha$ ,fission) >>
<< 78-Pt-195 MT18 ( $\alpha$ ,fission)		



<< 78-Pt-196	<b>78-Pt-198</b>	79-Au-197 >>
<< 78-Pt-196 MT18 ( $\alpha$ ,fission)	<b>MT18 (<math>\alpha</math>,fission)</b>	79-Au-197 MT4 ( $\alpha$ ,n) >>

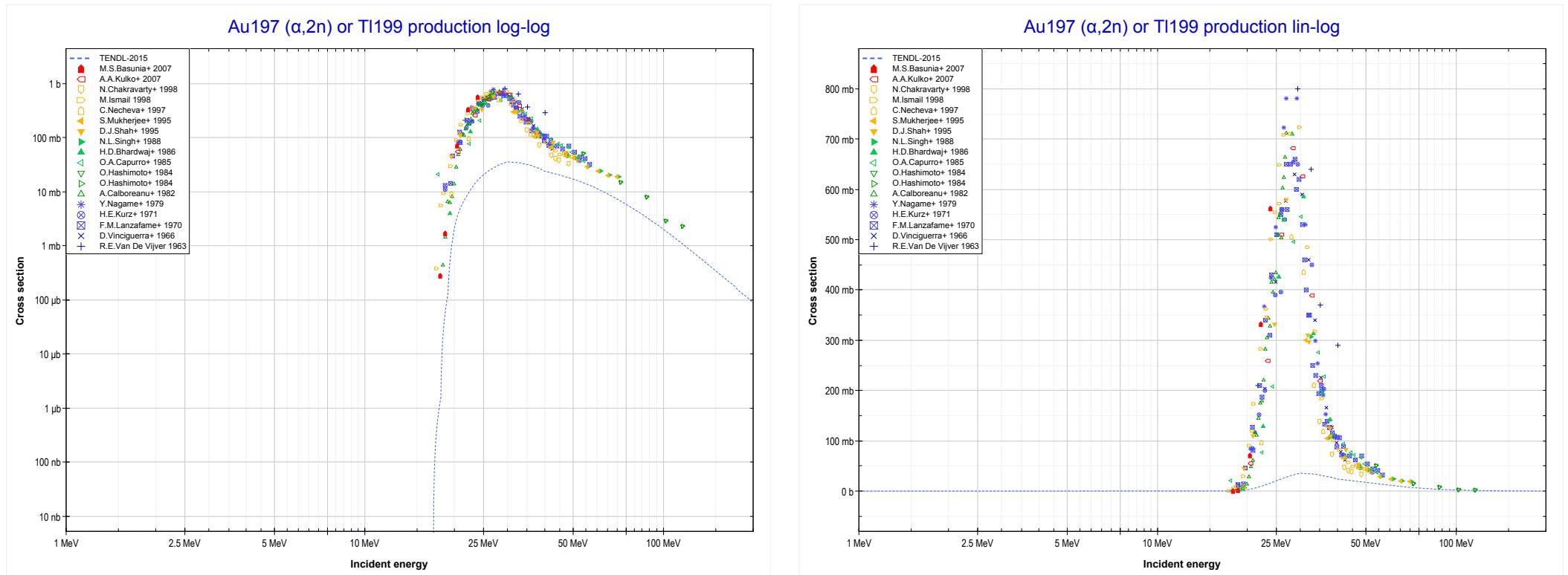


<< 77-Ir-191	79-Au-197 MT4 ( $\alpha$ ,n) or MT5 (Ti200 production)	81-Tl-203 >>
<< 78-Pt-198 MT18 ( $\alpha$ ,fission)		MT16 ( $\alpha$ ,2n) >>



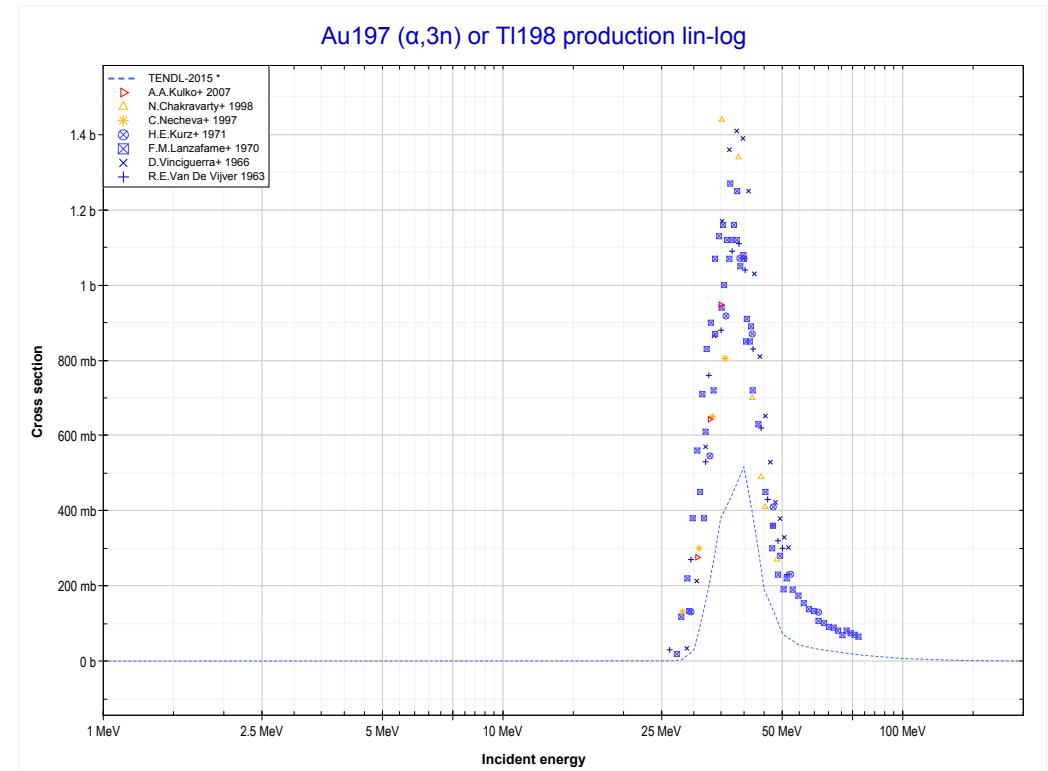
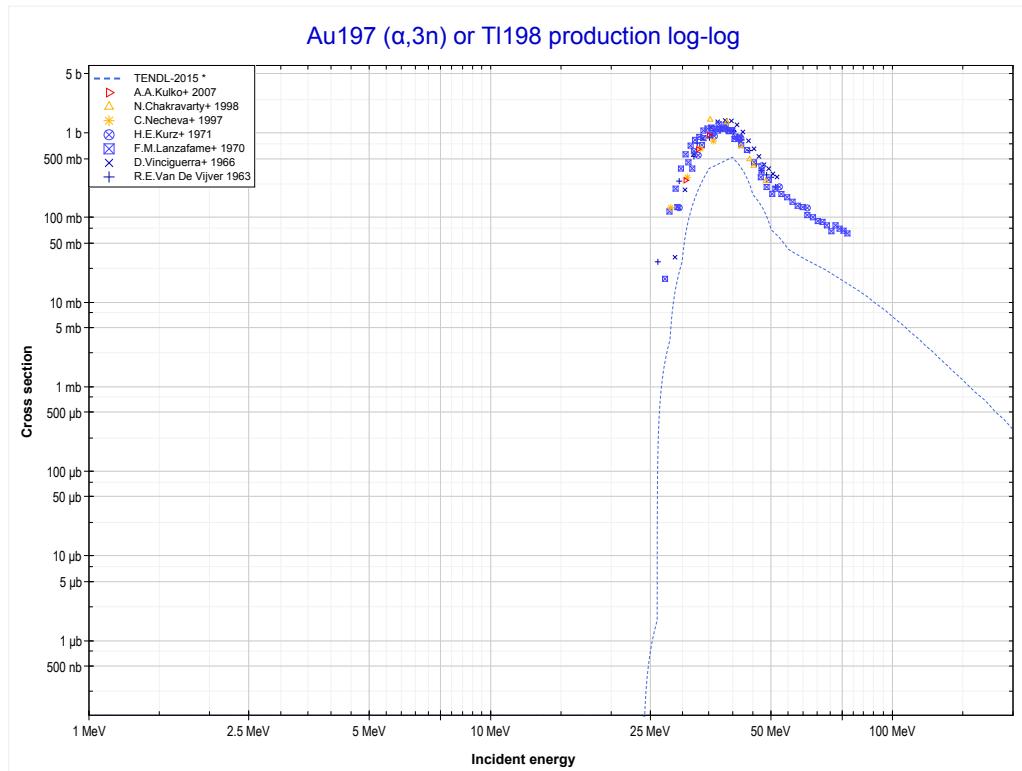
Reaction	Q-Value
Au197( $\alpha$ ,n)Ti200	-9739.40 keV

<< 77-Ir-193	<b>79-Au-197</b> MT16 ( $\alpha,2n$ ) or MT5 (Tl199 production)	>> 81-Tl-203
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



Reaction	Q-Value
$Au^{197}(\alpha,2n)Tl^{199}$	-16799.72 keV

<< 77-Ir-193	<b>79-Au-197</b> MT17 ( $\alpha,3n$ ) or MT5 (Ti198 production)	81-Tl-203 >>
<< MT16 ( $\alpha,2n$ )		MT18 ( $\alpha,fission$ ) >>

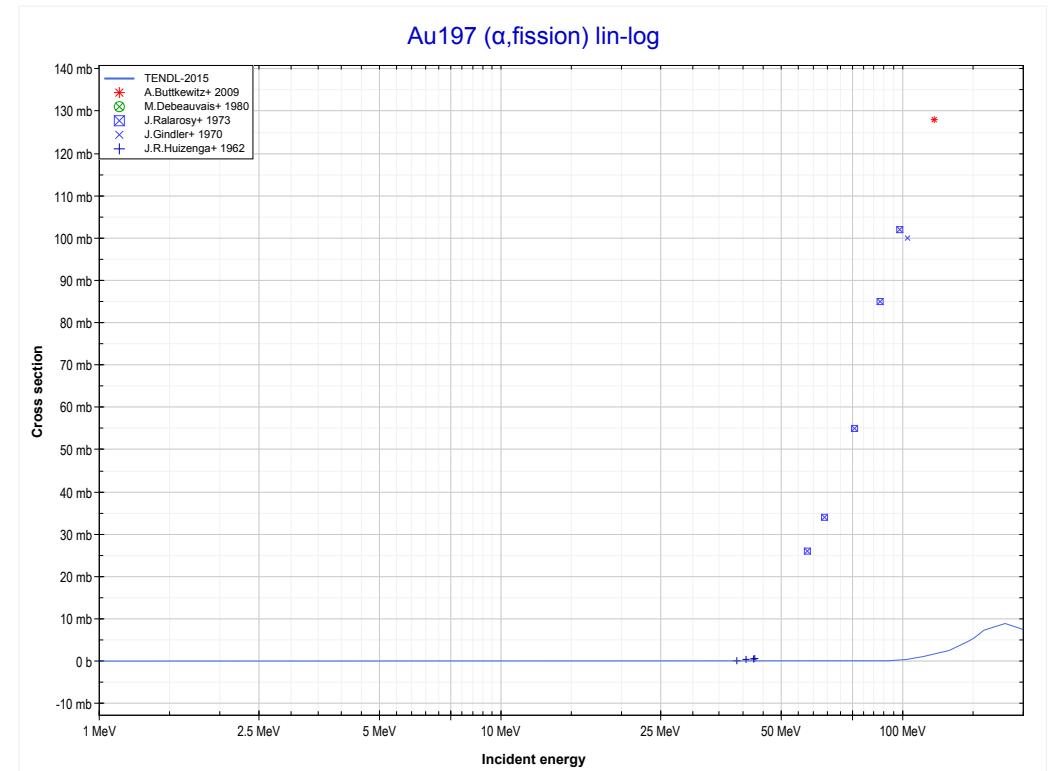
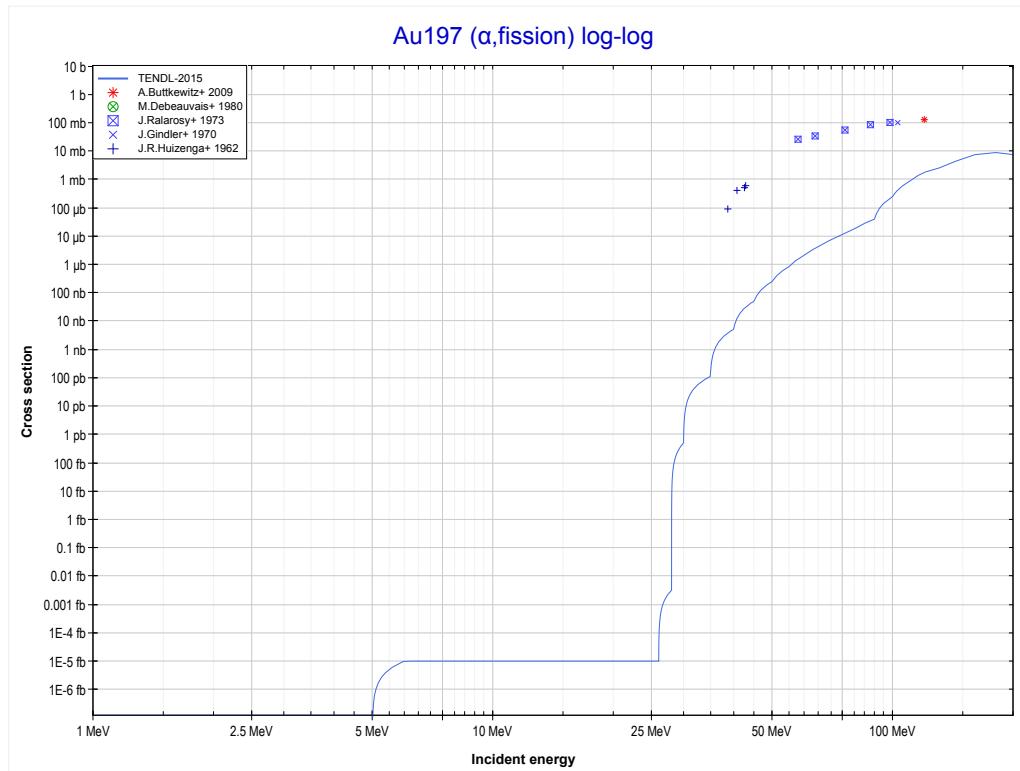


Reaction	Q-Value
Au197( $\alpha,3n$ )Ti198	-25440.04 keV

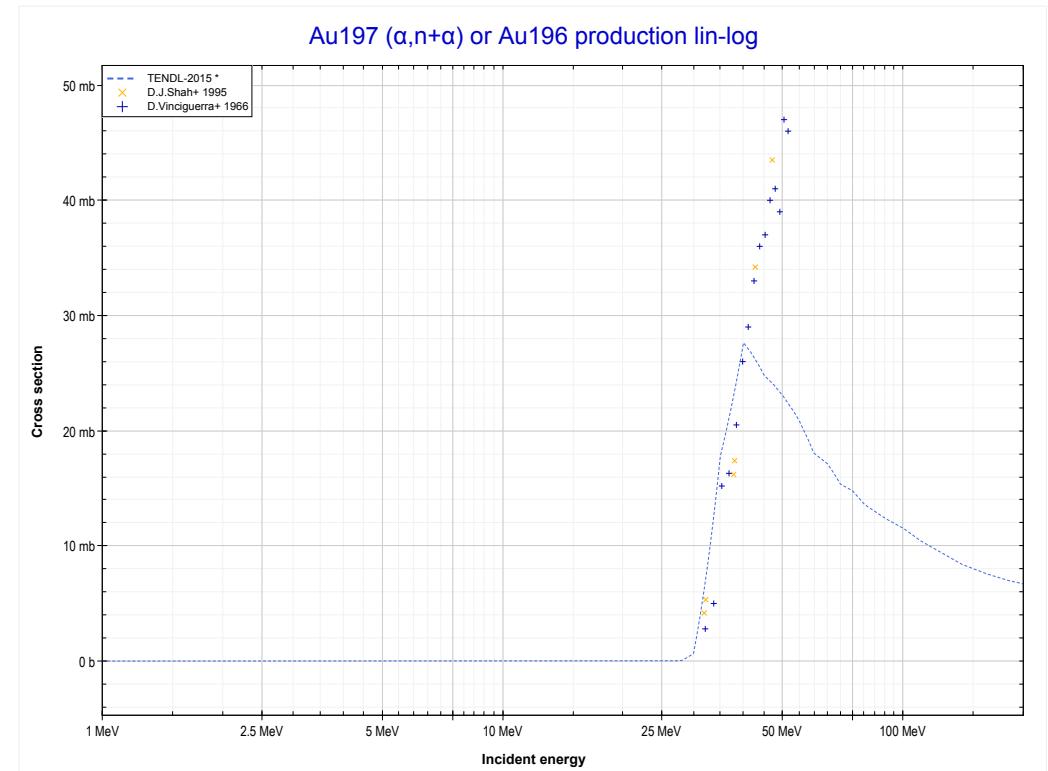
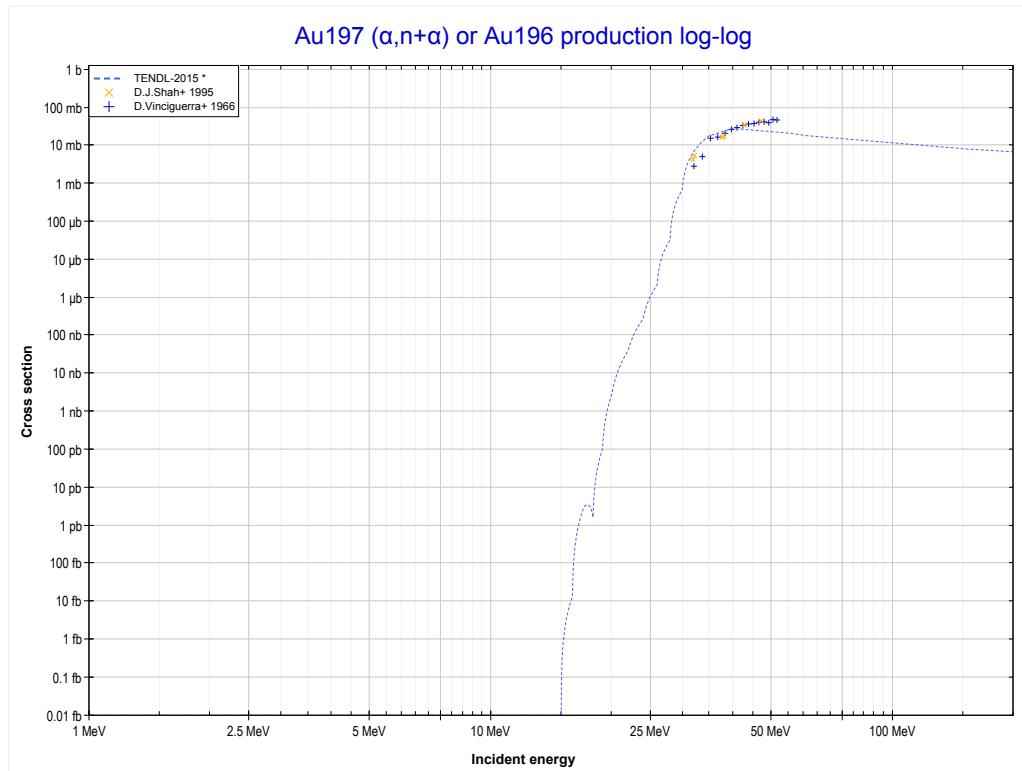
<< 78-Pt-198		
<< MT17 ( $\alpha$ ,3n)		

79-Au-197
MT18 ( $\alpha$ ,fission)

81-Tl-203 >>
MT22 ( $\alpha$ ,n+ $\alpha$ ) >>

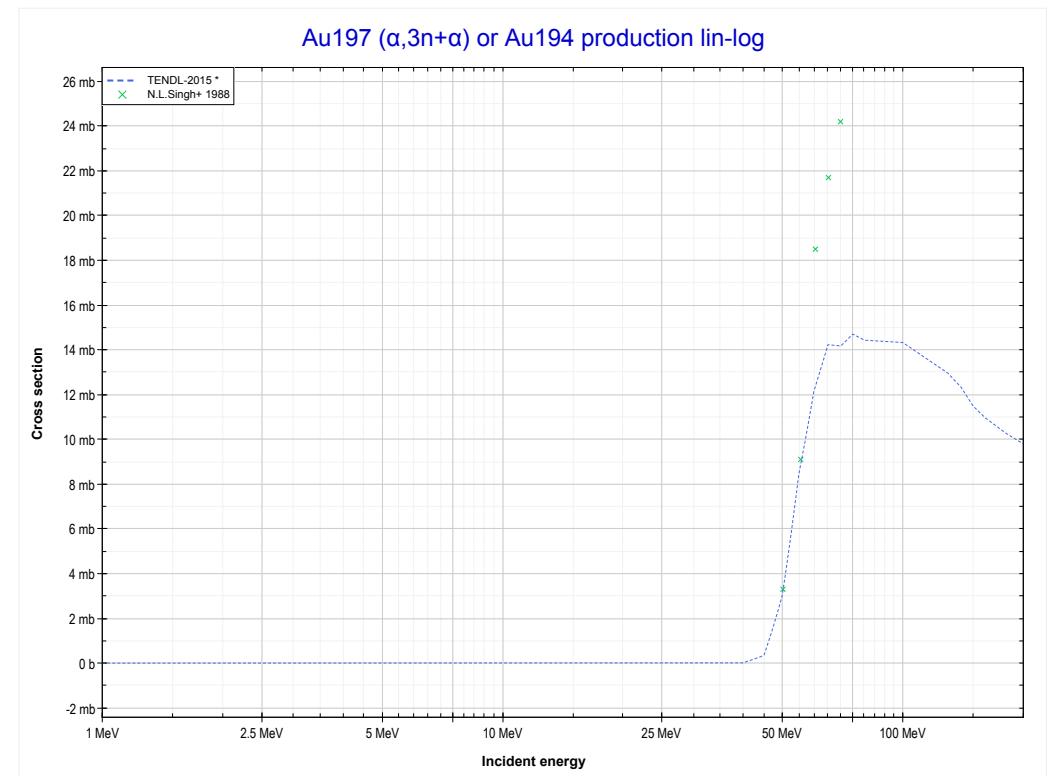
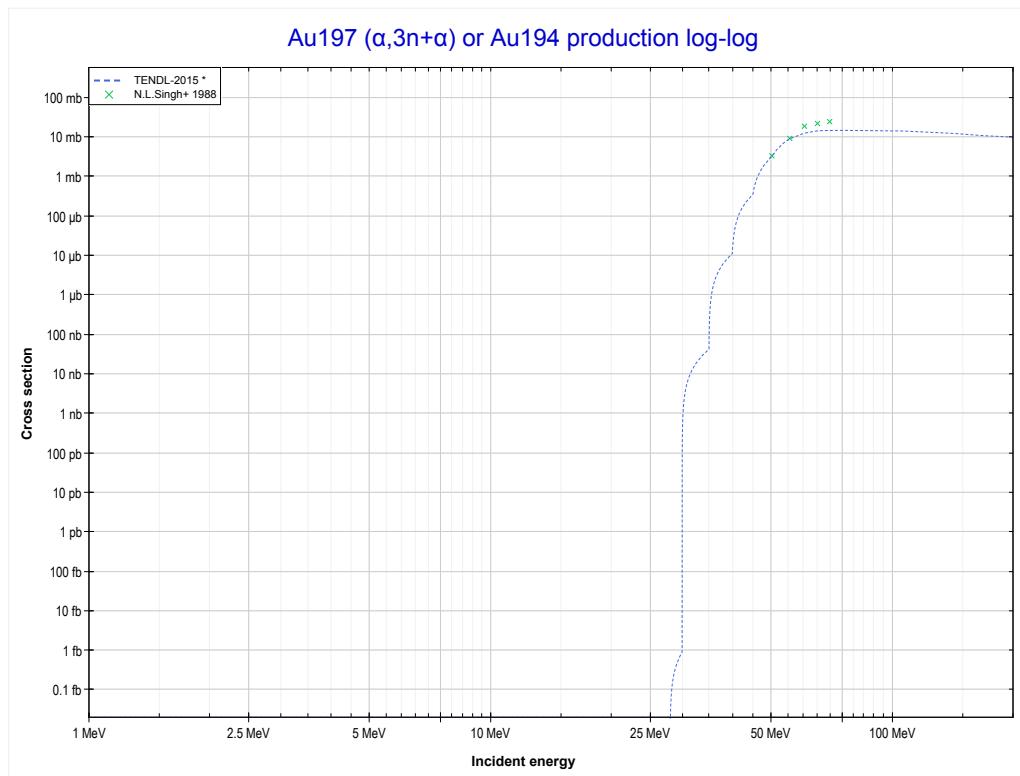


<< 69-Tm-169	79-Au-197 MT22 ( $\alpha, n+\alpha$ ) or MT5 (Au196 production)	93-Np-237 >>
<< MT18 ( $\alpha, \text{fission}$ )		MT25 ( $\alpha, 3n+\alpha$ ) >>



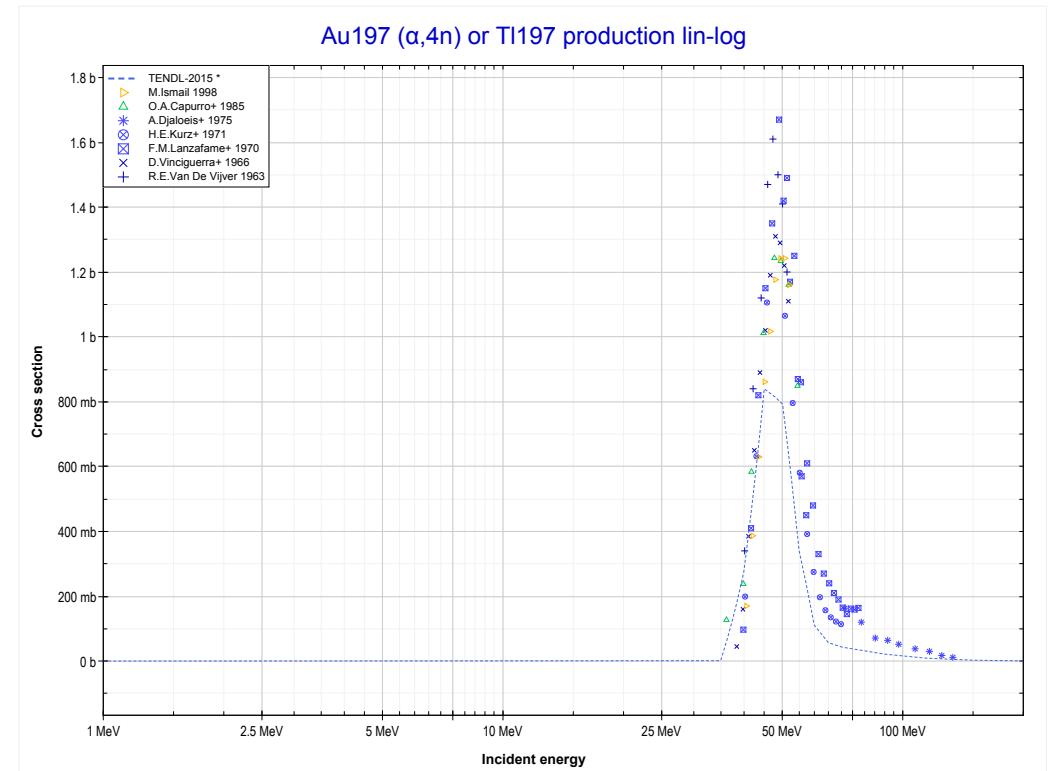
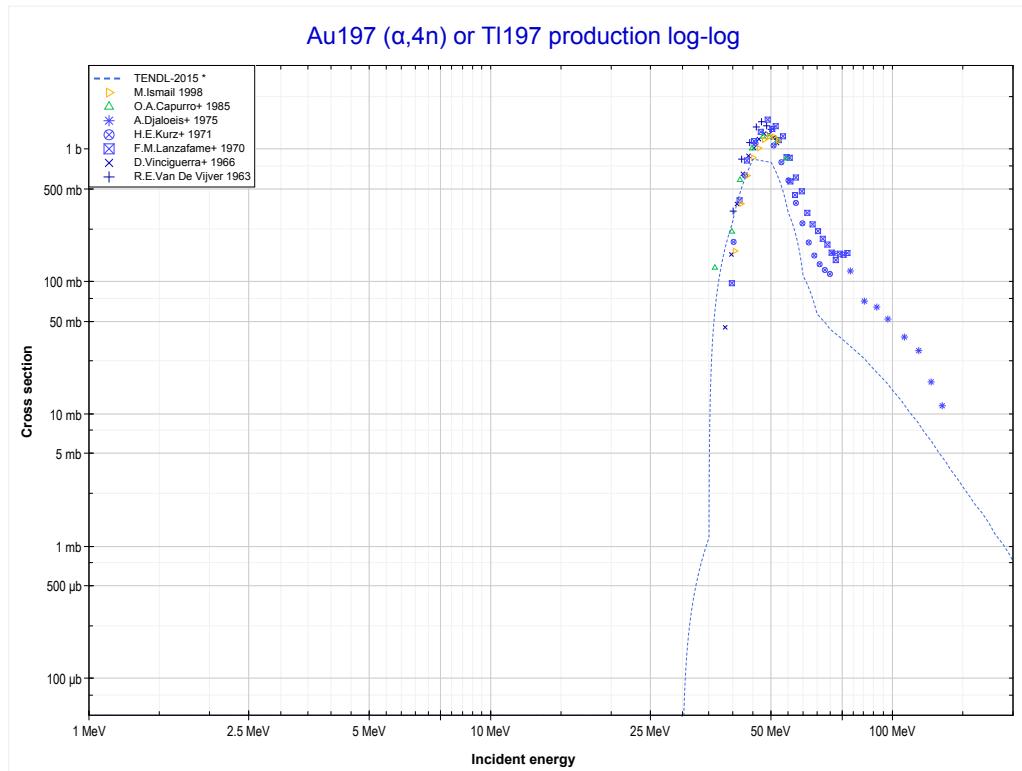
Reaction	Q-Value
Au197( $\alpha, n+\alpha$ )Au196	-8072.42 keV
Au197( $\alpha, d+t$ )Au196	-25661.71 keV
Au197( $\alpha, n+p+t$ )Au196	-27886.28 keV
Au197( $\alpha, 2n+He3$ )Au196	-28650.03 keV
Au197( $\alpha, n+2d$ )Au196	-31918.94 keV
Au197( $\alpha, 2n+p+d$ )Au196	-34143.51 keV
Au197( $\alpha, 3n+2p$ )Au196	-36368.08 keV

<< 65-Tb-159	79-Au-197 MT25 ( $\alpha, 3n+\alpha$ ) or MT5 (Au194 production)	MT37 ( $\alpha, 4n$ ) >>
<< MT22 ( $\alpha, n+\alpha$ )		



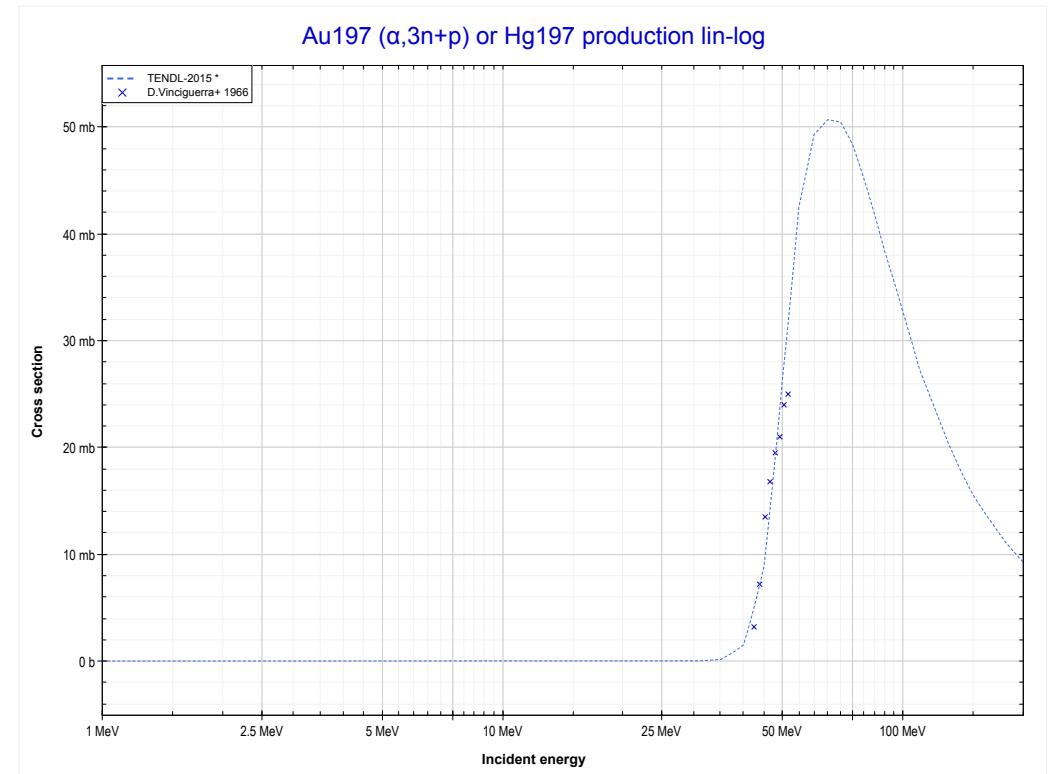
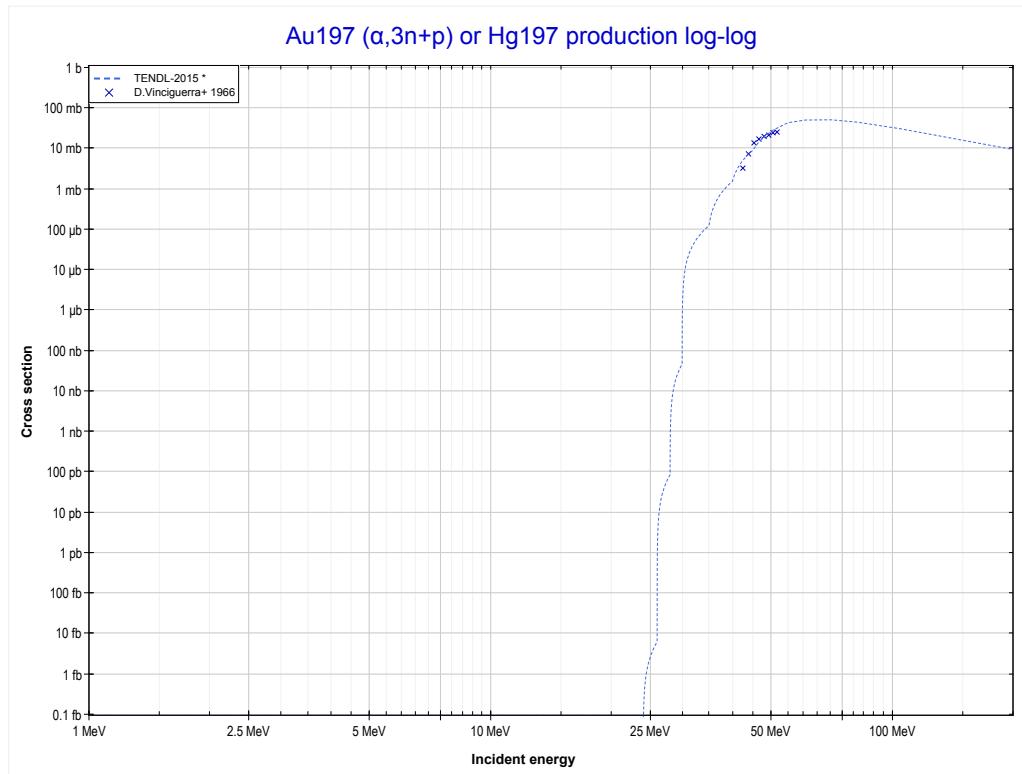
Reaction	Q-Value
Au197( $\alpha, 3n+\alpha$ )Au194	-23141.75 keV
Au197( $\alpha, n+2t$ )Au194	-34473.81 keV
Au197( $\alpha, 2n+d+t$ )Au194	-40731.05 keV
Au197( $\alpha, 3n+p+t$ )Au194	-42955.61 keV
Au197( $\alpha, 4n+He3$ )Au194	-43719.37 keV
Au197( $\alpha, 3n+2d$ )Au194	-46988.28 keV
Au197( $\alpha, 4n+p+d$ )Au194	-49212.85 keV
Au197( $\alpha, 5n+2p$ )Au194	-51437.41 keV

<< 77-Ir-193	<b>79-Au-197</b> MT37 ( $\alpha$ ,4n) or MT5 (Ti197 production)	>> 81-Tl-203 >>
<< MT25 ( $\alpha$ ,3n+ $\alpha$ )		MT42 ( $\alpha$ ,3n+p) >>



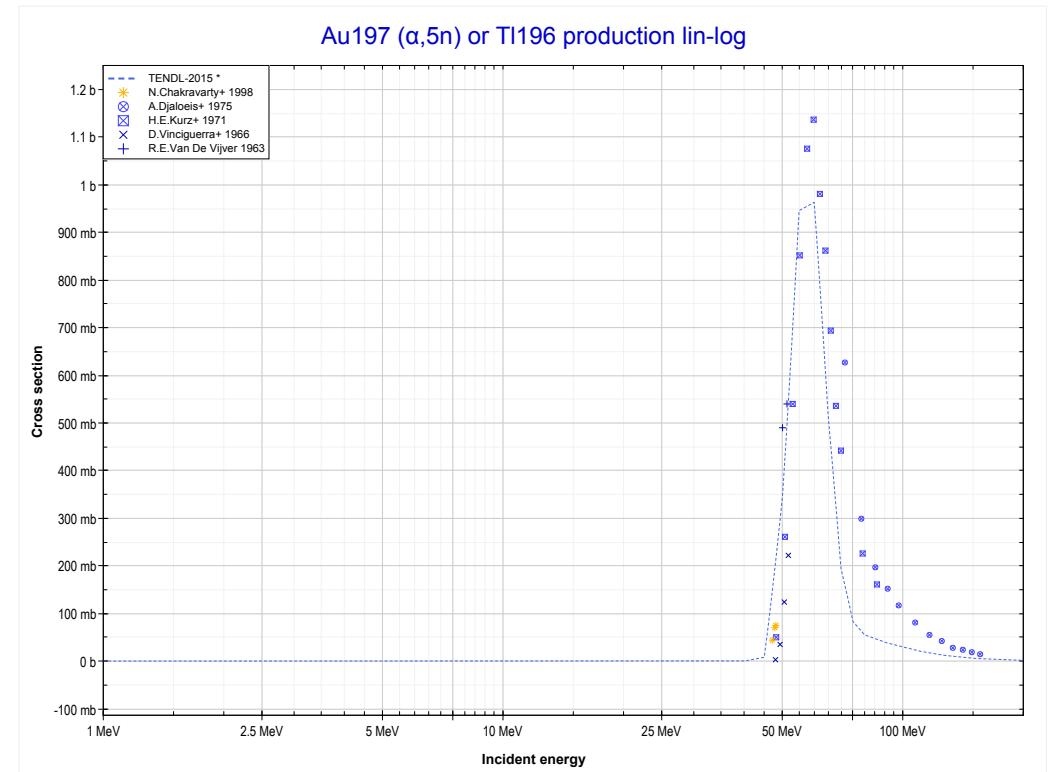
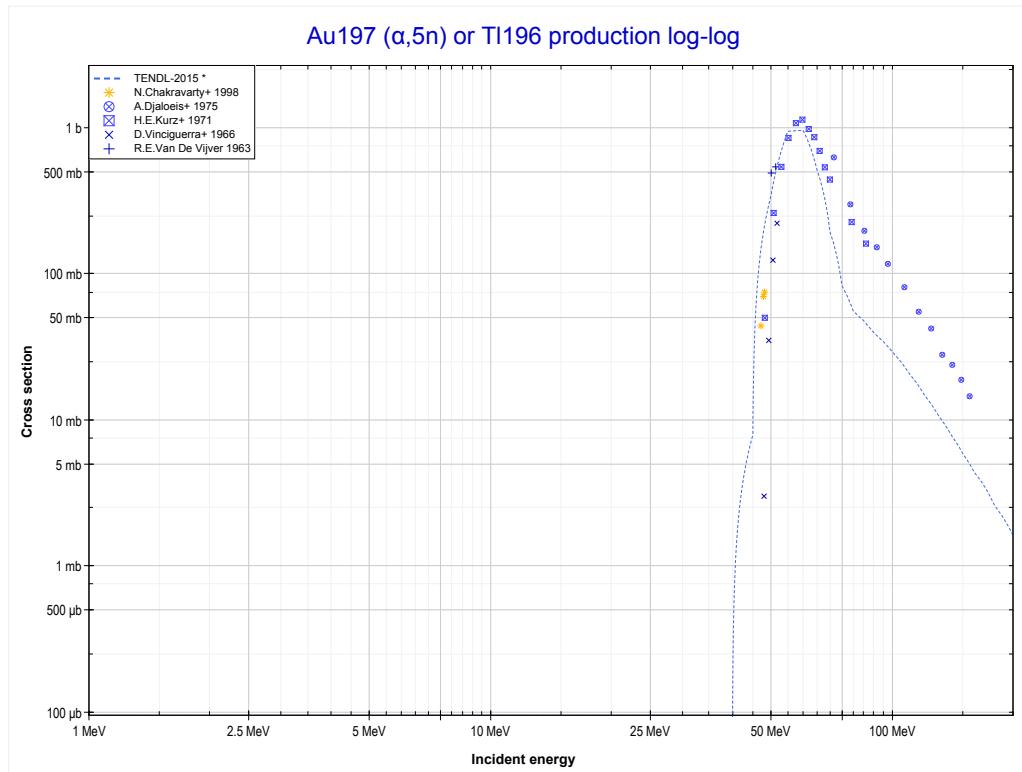
Reaction	Q-Value
Au197( $\alpha$ ,4n)Ti197	-32661.35 keV

<< 51-Sb-121	79-Au-197	
<< MT37 ( $\alpha$ ,4n)	MT42 ( $\alpha$ ,3n+p) or MT5 (Hg197 production)	MT152 ( $\alpha$ ,5n) >>



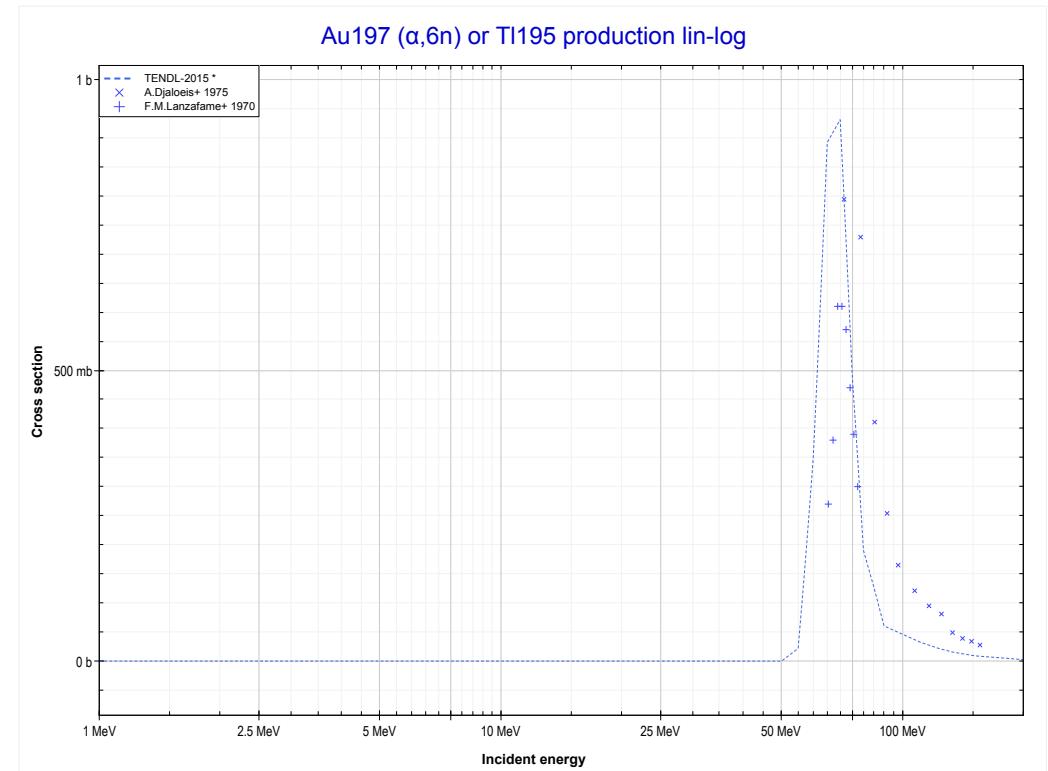
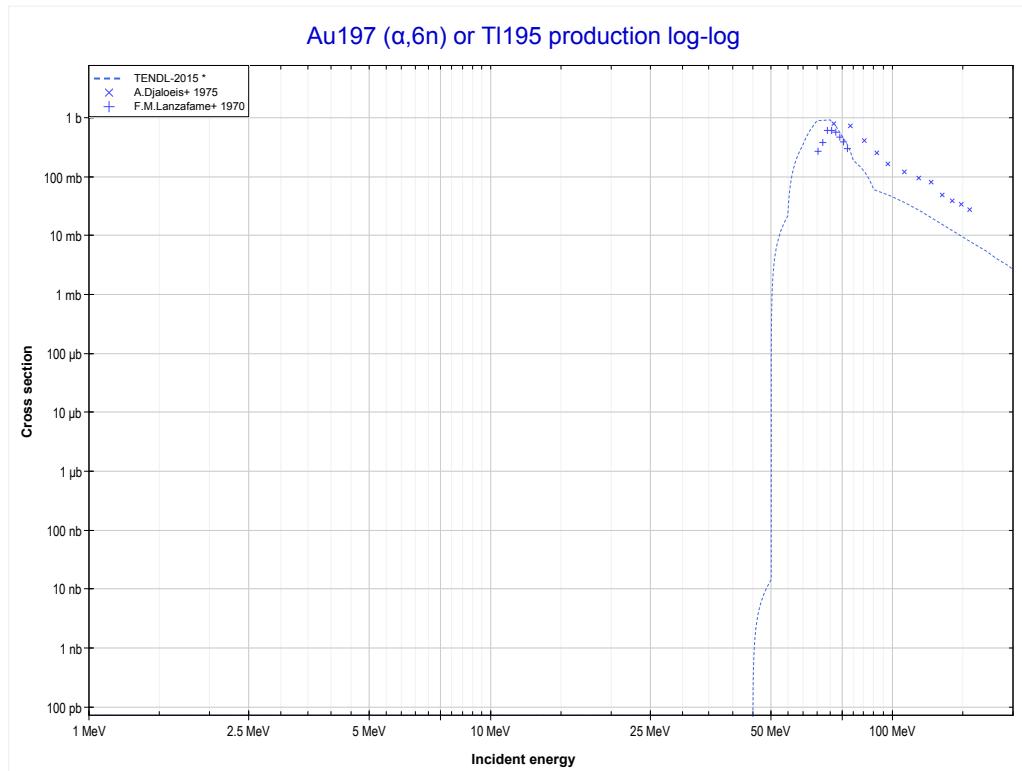
Reaction	Q-Value
Au197( $\alpha$ ,n+t)Hg197	-21196.21 keV
Au197( $\alpha$ ,2n+d)Hg197	-27453.44 keV
Au197( $\alpha$ ,3n+p)Hg197	-29678.01 keV

<< 77-Ir-193	79-Au-197 MT152 ( $\alpha$ ,5n) or MT5 (Ti196 production)	82-Pb-206 >> MT153 ( $\alpha$ ,6n) >>
<< MT42 ( $\alpha$ ,3n+p)		



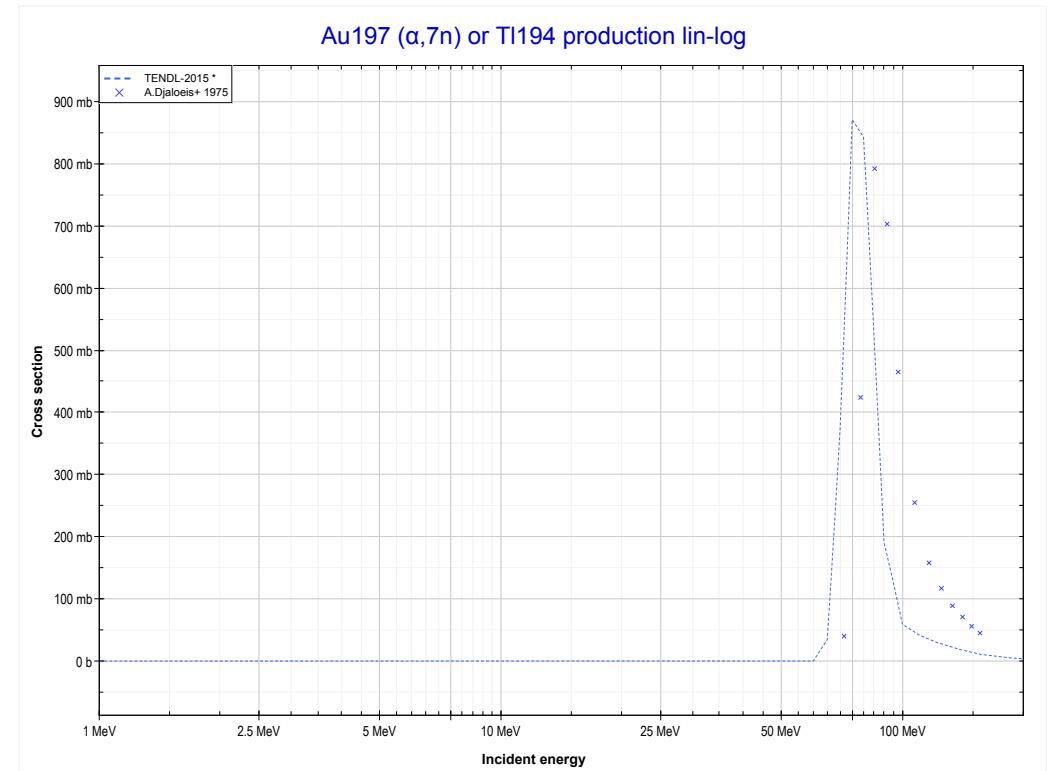
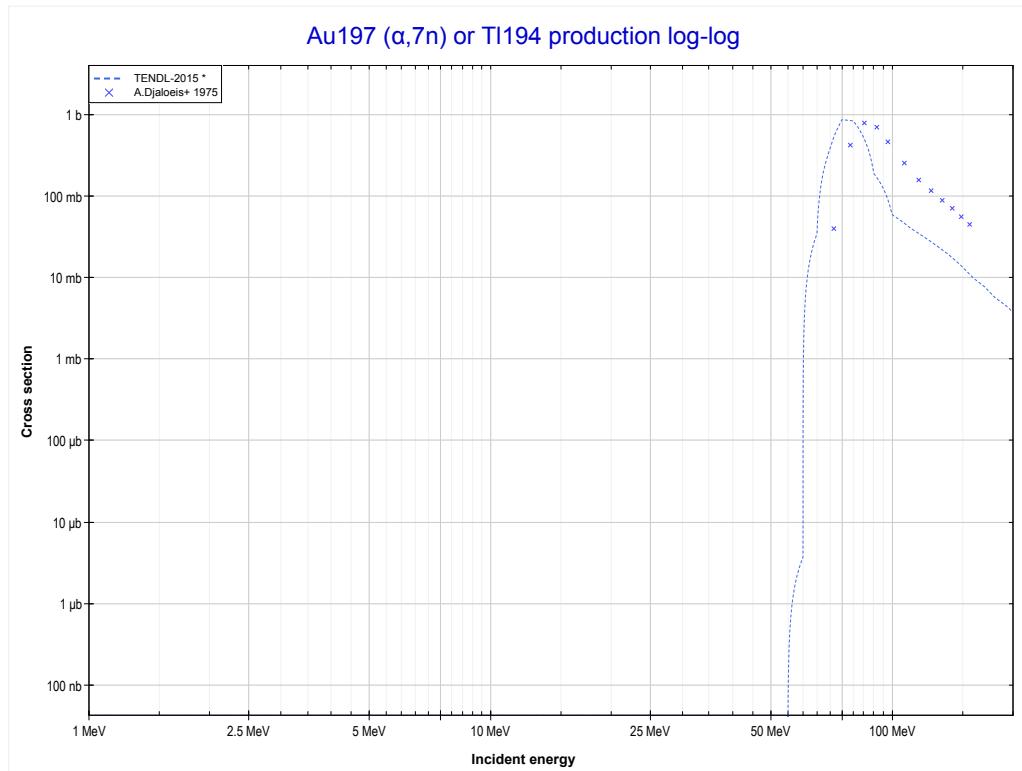
Reaction	Q-Value
Au197( $\alpha$ ,5n)Ti196	-41575.67 keV

<< 75-Re-187	79-Au-197 MT153 ( $\alpha, 6n$ ) or MT5 (Ti195 production)	82-Pb-206 >> MT160 ( $\alpha, 7n$ ) >>
<< MT152 ( $\alpha, 5n$ )		



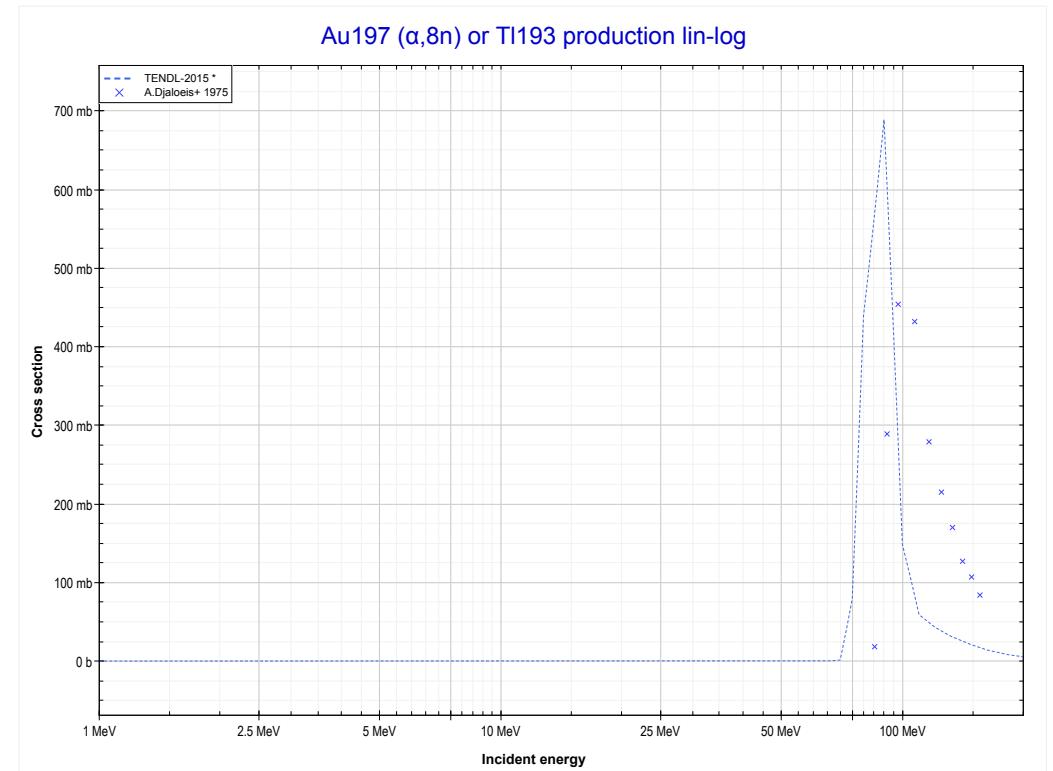
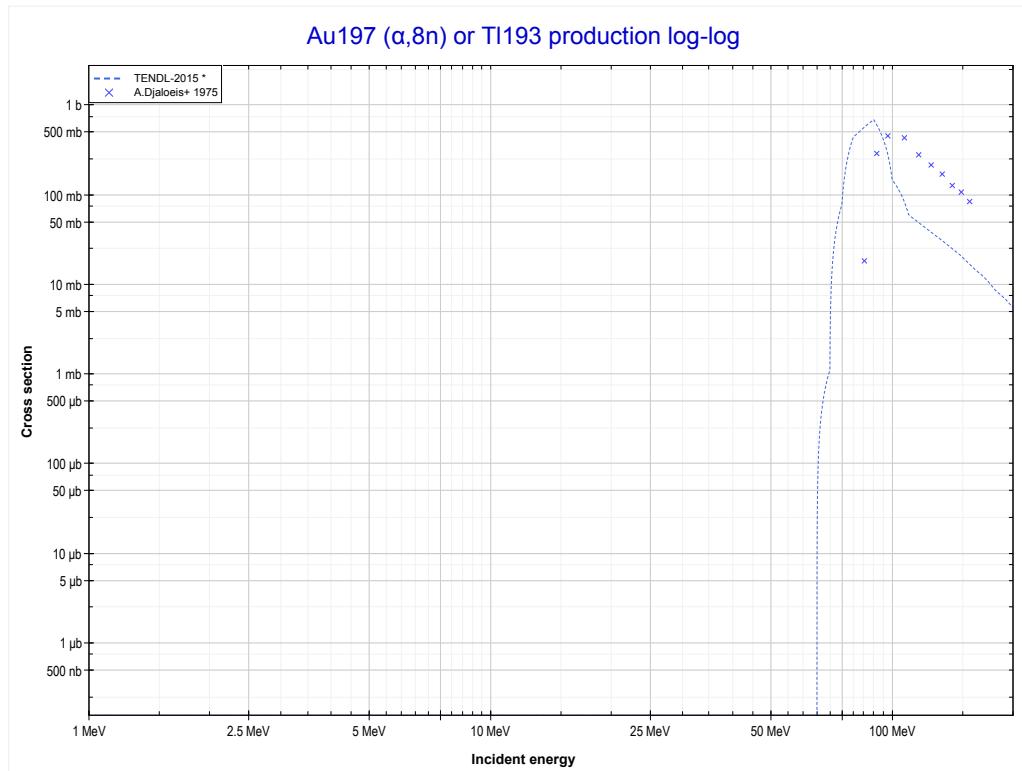
Reaction	Q-Value
Au197( $\alpha, 6n$ )Ti195	-48988.99 keV

<< 75-Re-187	<b>79-Au-197</b> MT160 ( $\alpha, 7n$ ) or MT5 (Tl194 production)	82-Pb-206 >>
<< MT153 ( $\alpha, 6n$ )		MT161 ( $\alpha, 8n$ ) >>



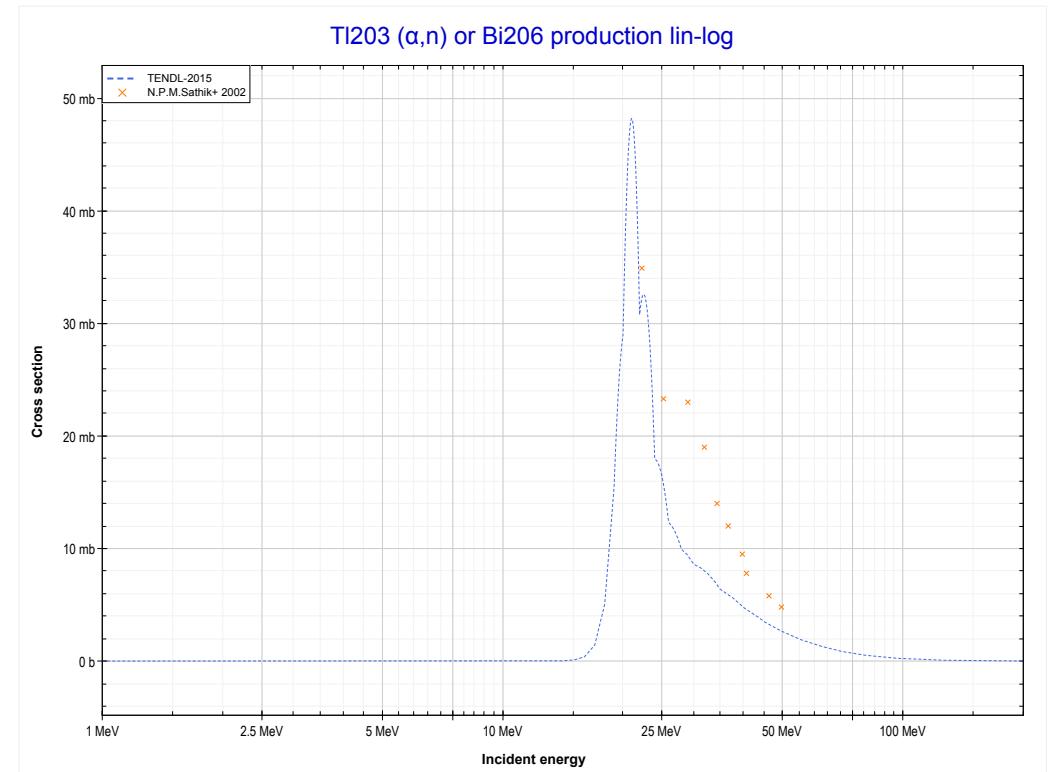
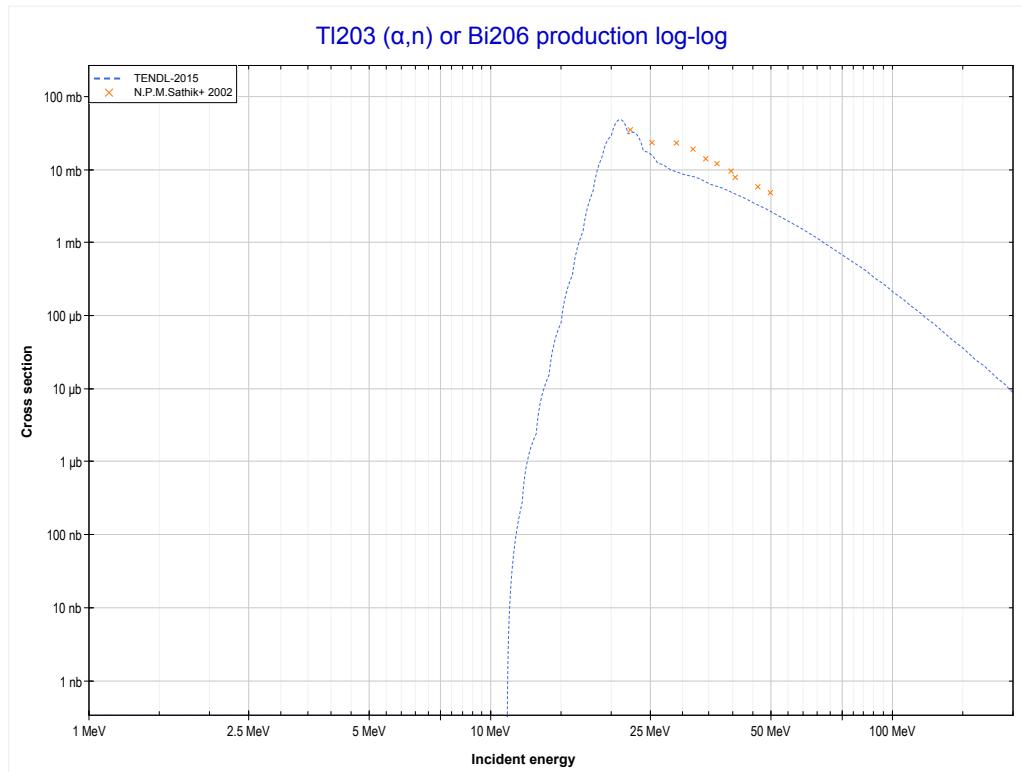
Reaction	Q-Value
Au197( $\alpha, 7n$ )Tl194	-58278.30 keV

<< 73-Ta-181	<b>79-Au-197</b> MT161 ( $\alpha, 8n$ ) or MT5 (Ti193 production)	>> 82-Pb-206
<< MT160 ( $\alpha, 7n$ )		>> 81-TI-203 MT4 ( $\alpha, n$ ) >>



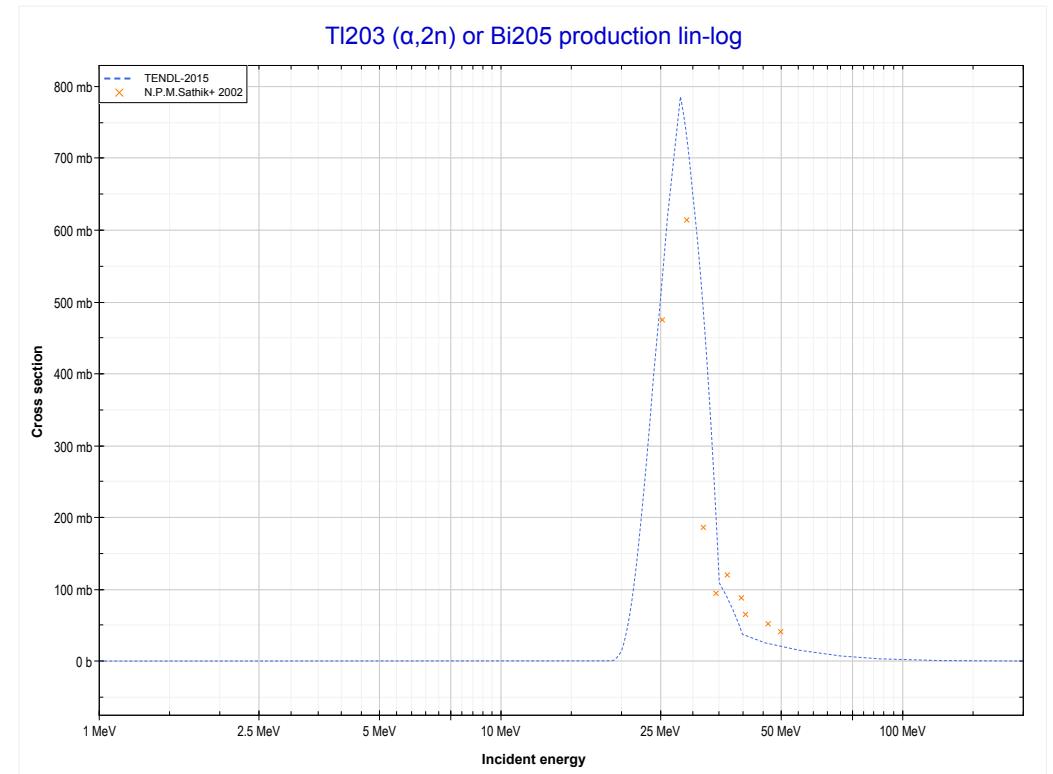
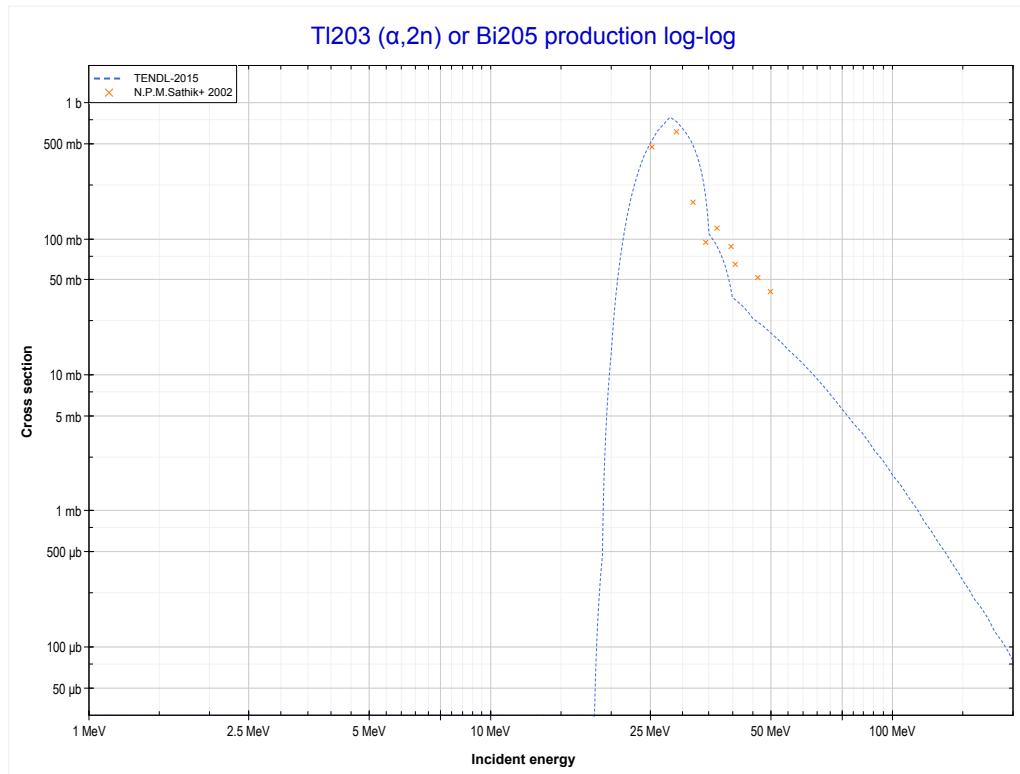
Reaction	Q-Value
Au197( $\alpha, 8n$ )Ti193	-65809.62 keV

<< 79-Au-197	<b>81-Tl-203</b> MT4 ( $\alpha, n$ ) or MT5 (Bi206 production)	>> 82-Pb-208
<< 79-Au-197 MT161 ( $\alpha, 8n$ )		MT16 ( $\alpha, 2n$ ) >>



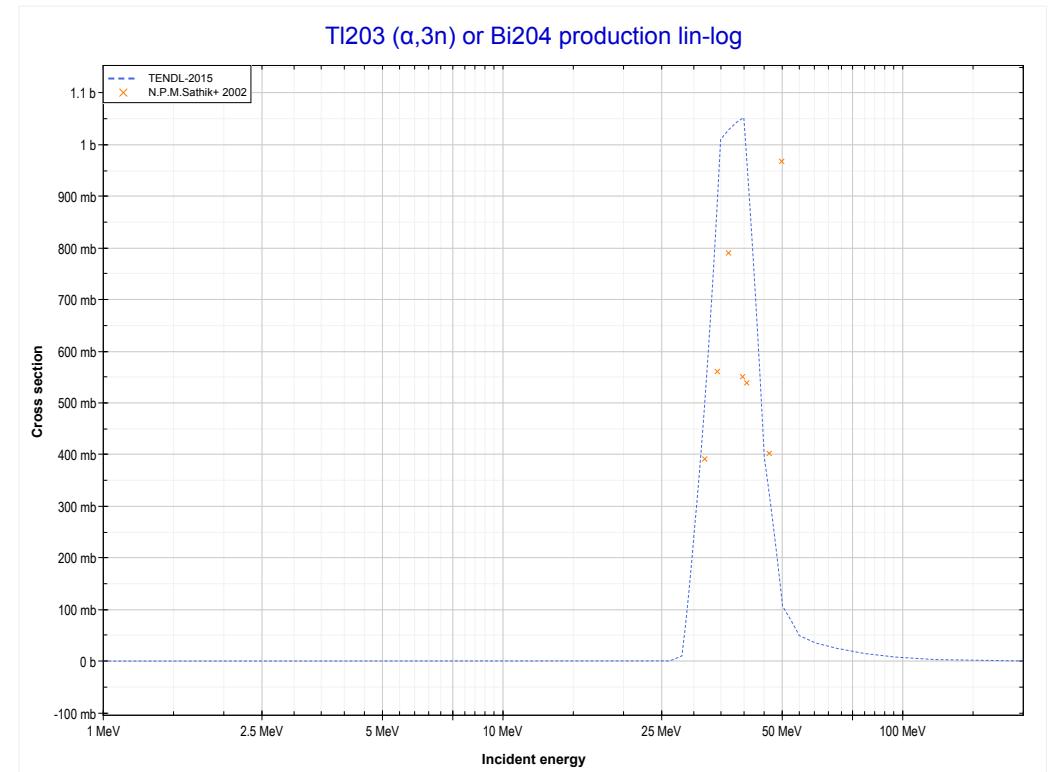
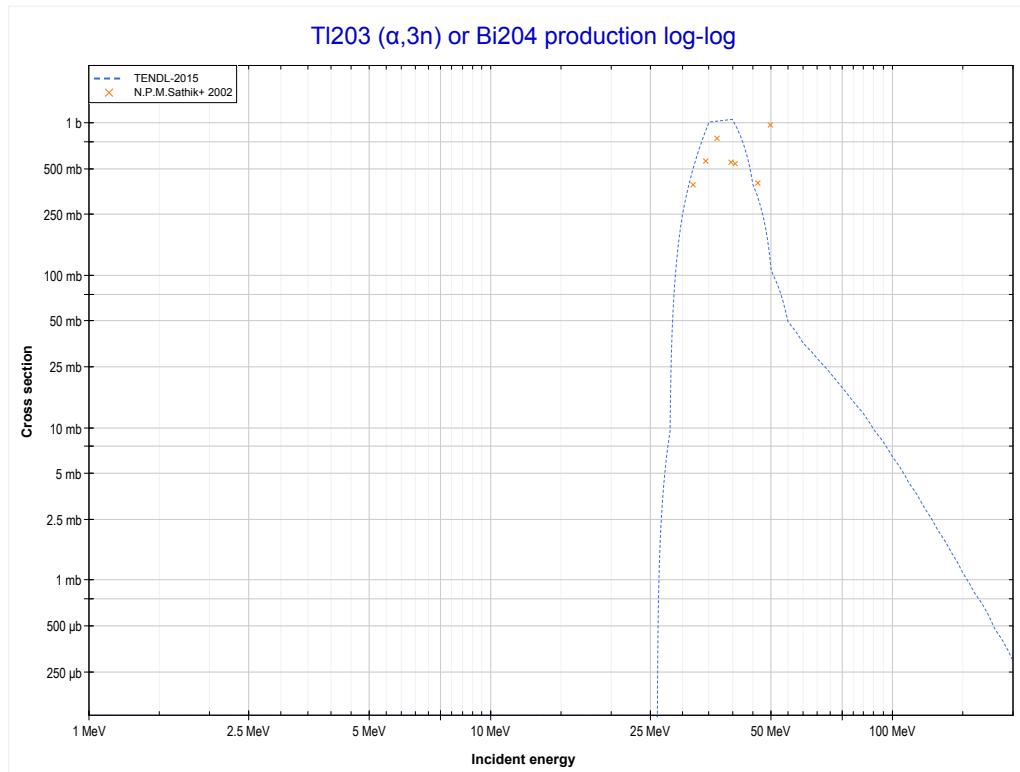
Reaction	Q-Value
Tl203( $\alpha, n$ )Bi206	-11379.20 keV

<< 79-Au-197	81-Tl-203 MT16 ( $\alpha,2n$ ) or MT5 (Bi205 production)	82-Pb-206 >>
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



Reaction	Q-Value
TI203( $\alpha,2n$ )Bi205	-18414.52 keV

<< 79-Au-197	81-TI-203 MT17 ( $\alpha,3n$ ) or MT5 (Bi204 production)	81-TI-205 >>
<< MT16 ( $\alpha,2n$ )		MT18 ( $\alpha,\text{fission}$ ) >>

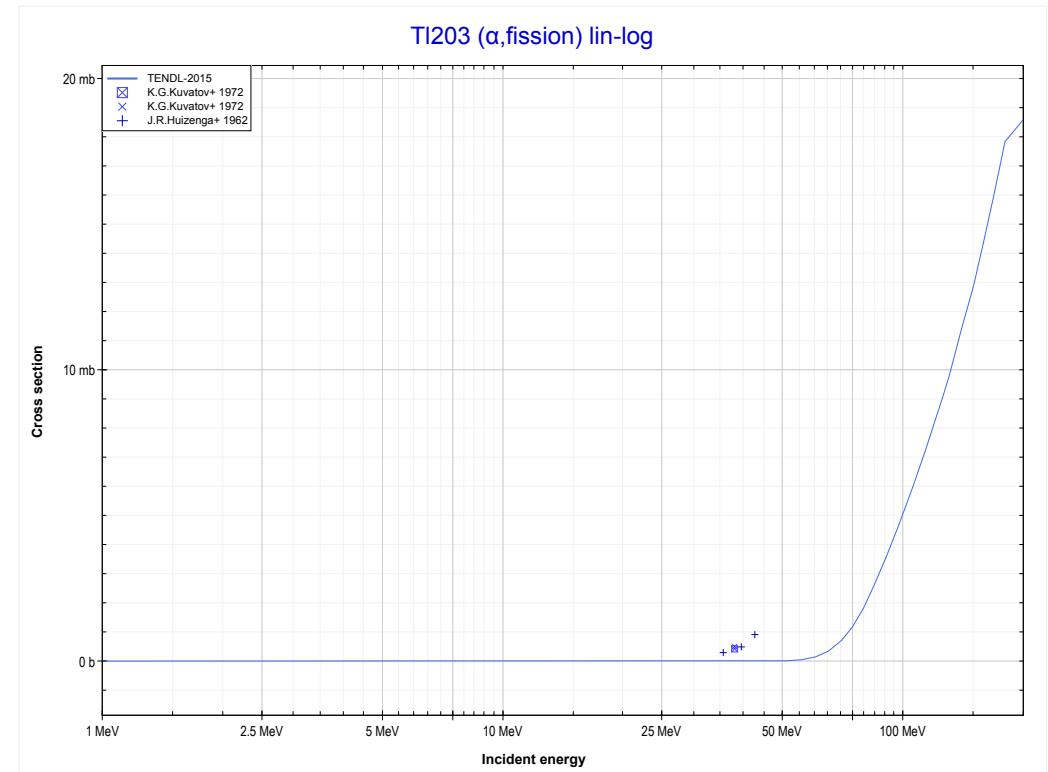
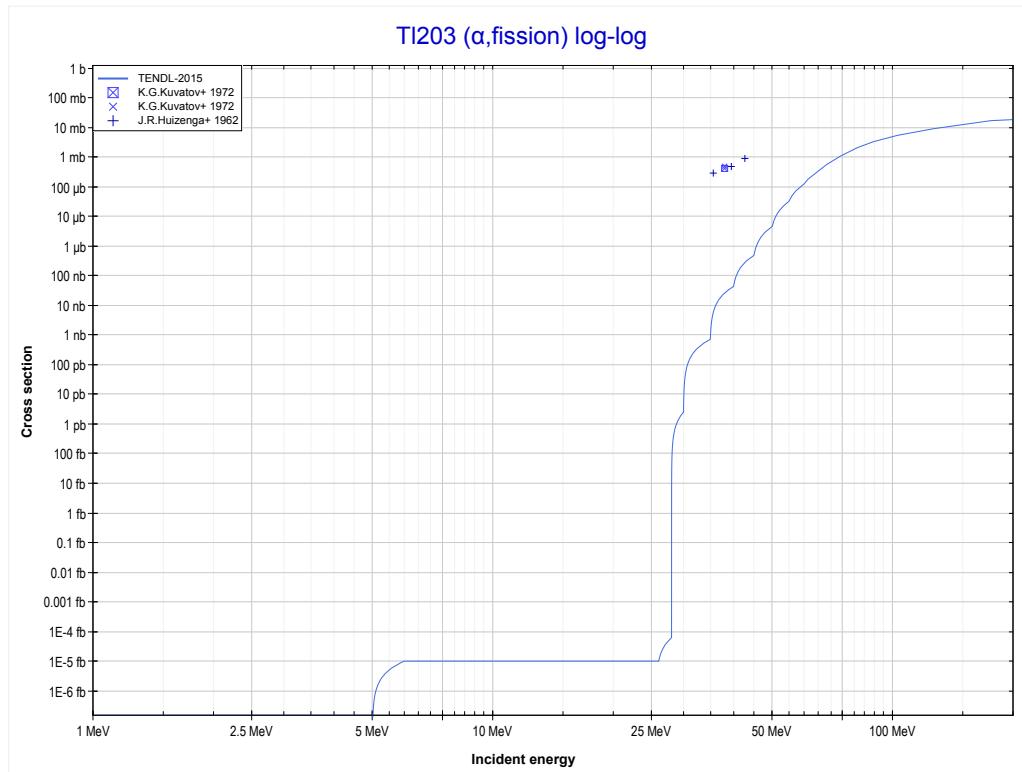


Reaction	Q-Value
TI203( $\alpha,3n$ )Bi204	-26903.84 keV

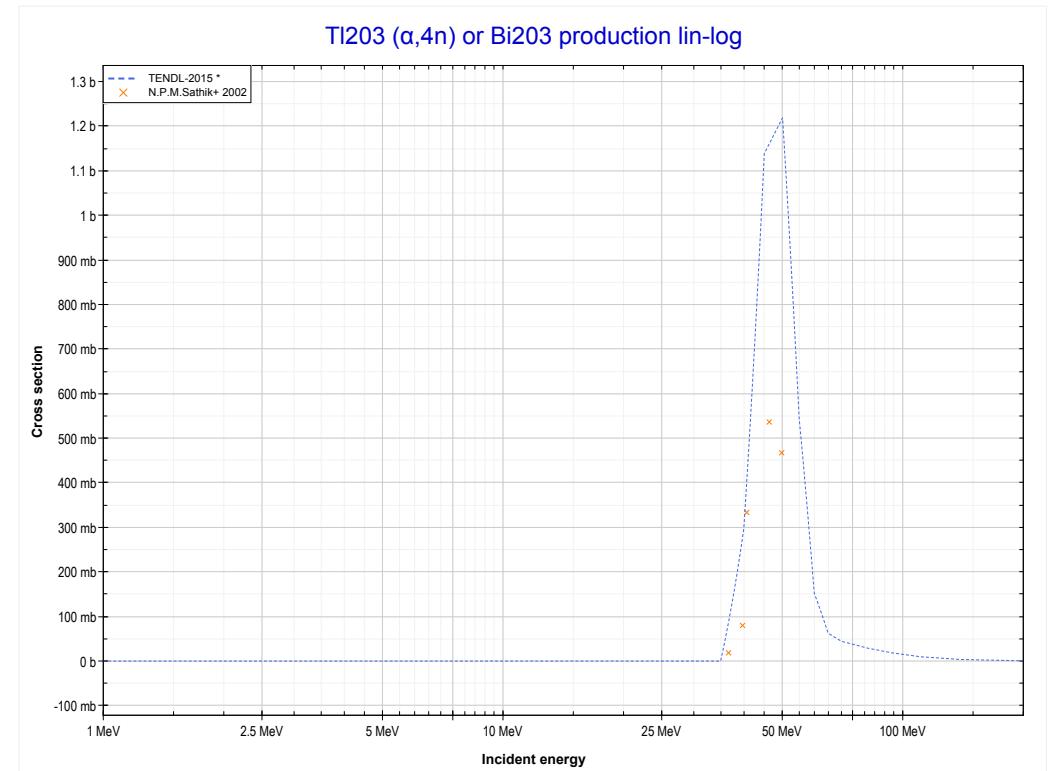
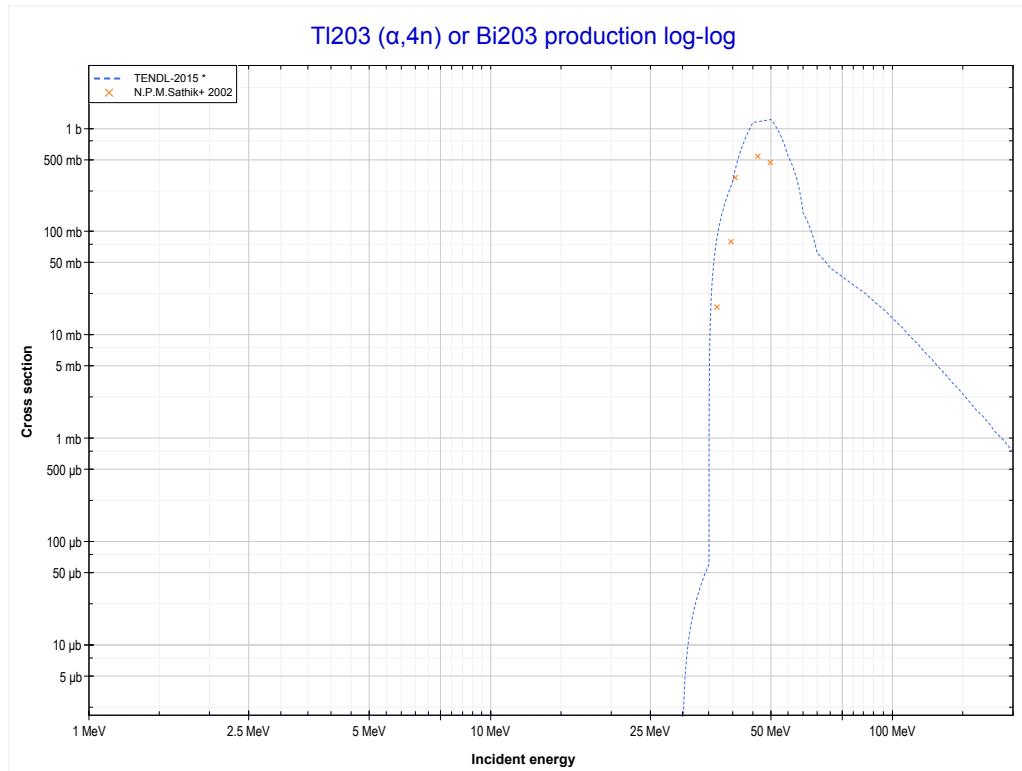
<< 79-Au-197	
<< MT17 ( $\alpha$ ,3n)	

81-TI-203  
MT18 ( $\alpha$ ,fission)

81-TI-205 >>  
MT37 ( $\alpha$ ,4n) >>

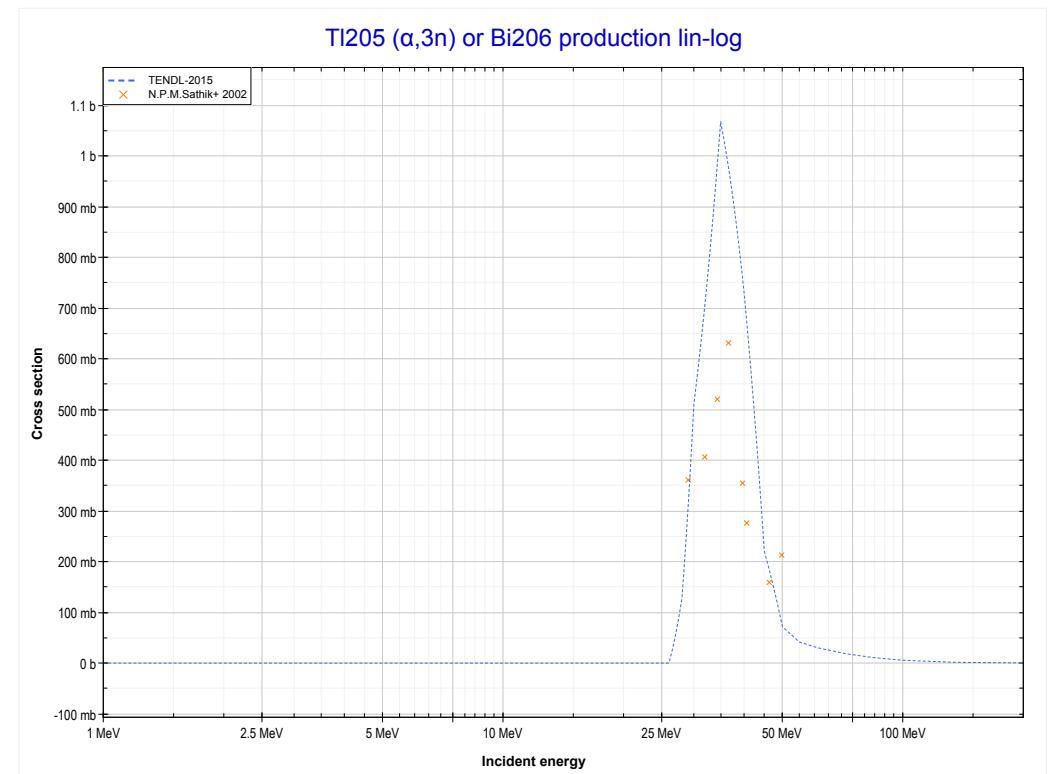
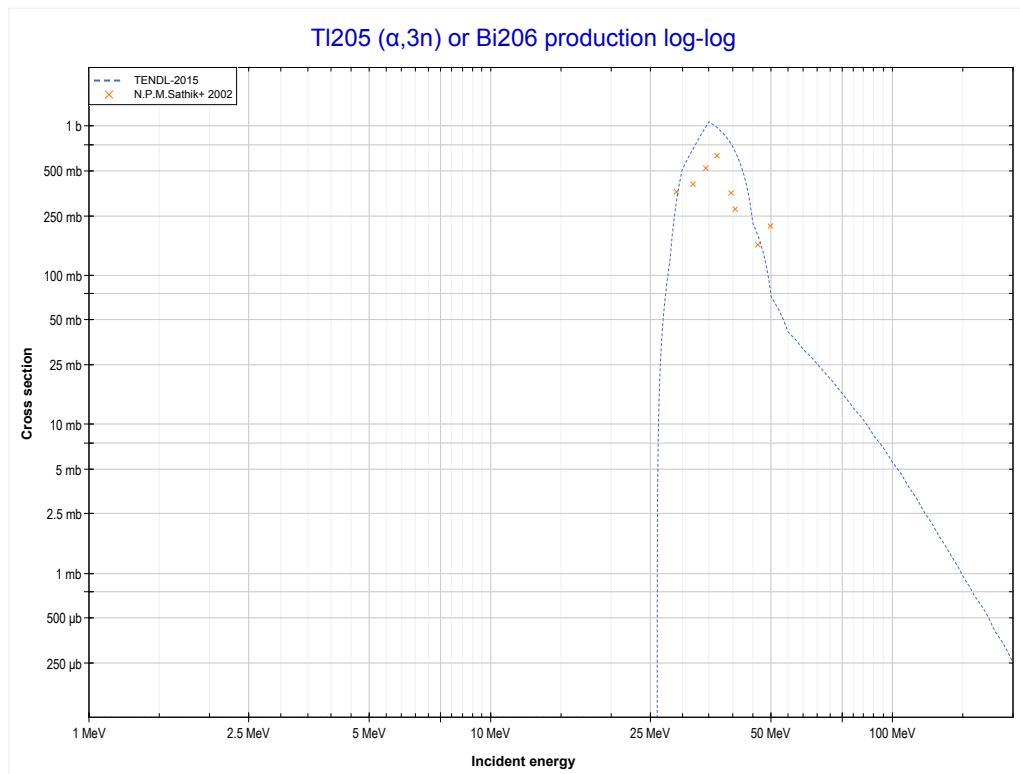


<< 79-Au-197	<b>81-TI-203</b> MT37 ( $\alpha,4n$ ) or MT5 (Bi203 production)	81-TI-205 >>
<< MT18 ( $\alpha$ ,fission)		81-TI-205 MT17 ( $\alpha,3n$ ) >>



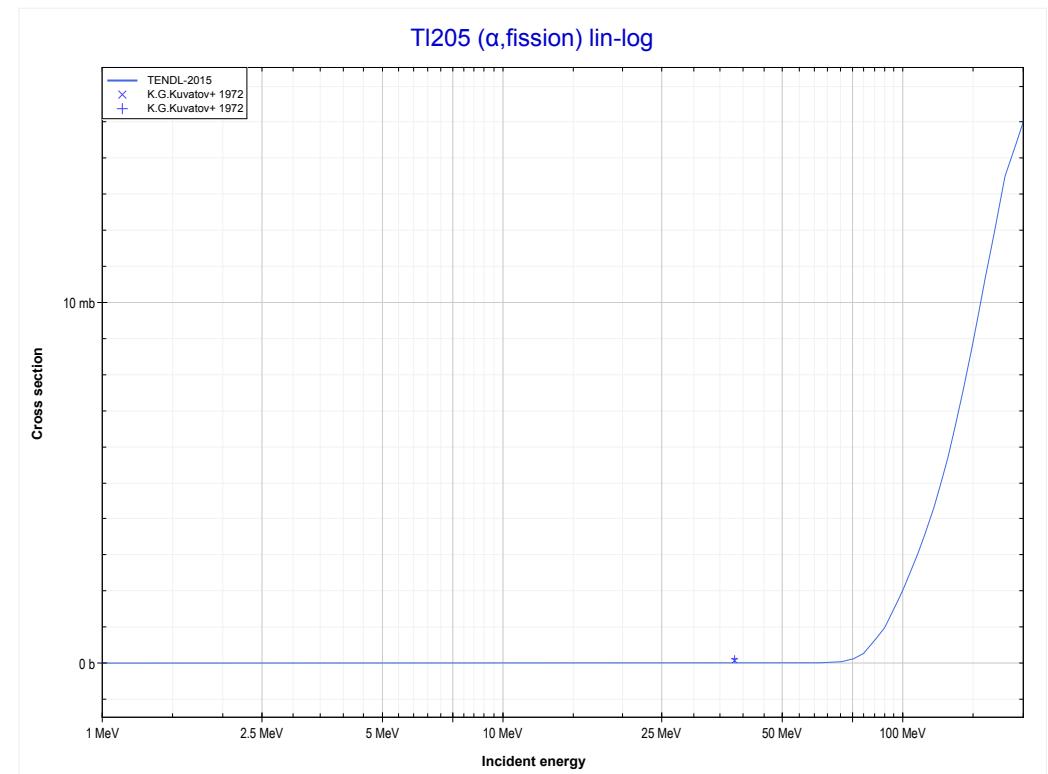
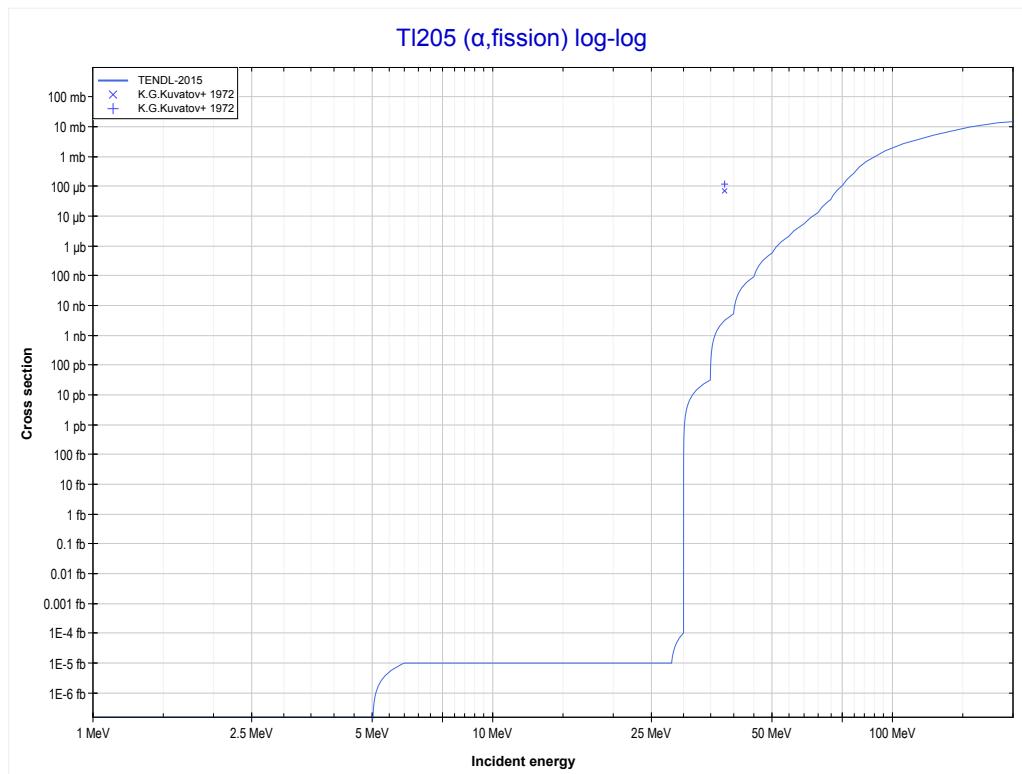
Reaction	Q-Value
TI203( $\alpha,4n$ )Bi203	-34097.15 keV

<< 81-TI-203	<b>81-TI-205</b> MT17 ( $\alpha,3n$ ) or MT5 (Bi206 production)	82-Pb-206 >>
<< 81-TI-203 MT37 ( $\alpha,4n$ )		MT18 ( $\alpha,fission$ ) >>

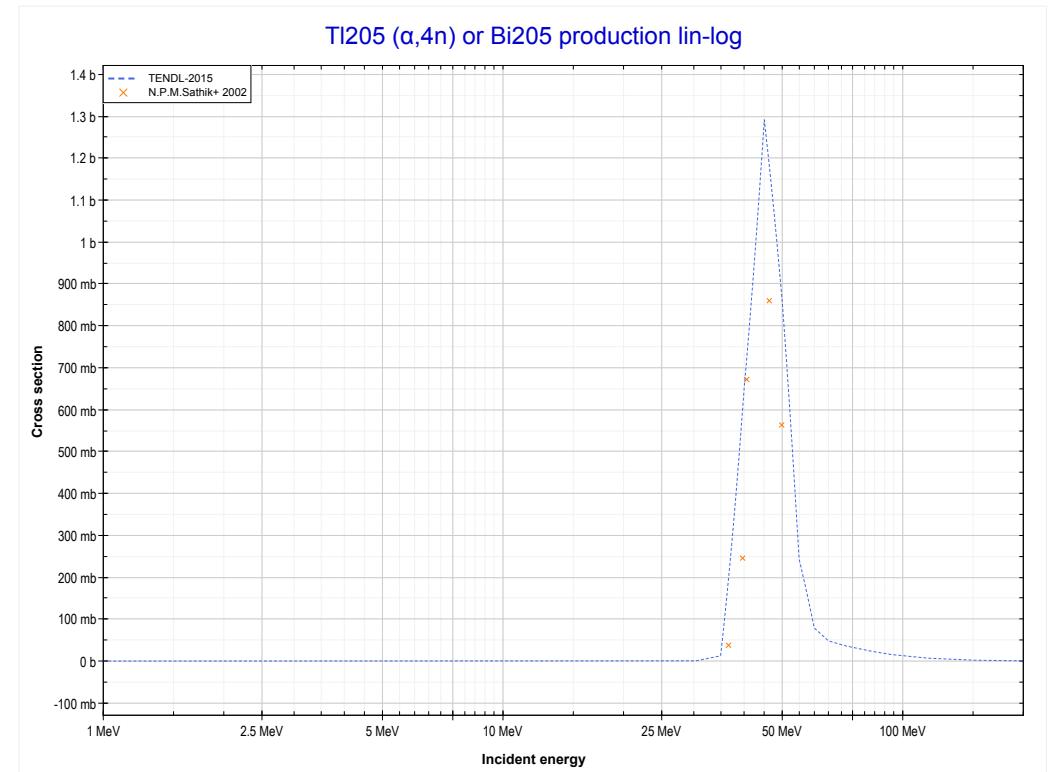
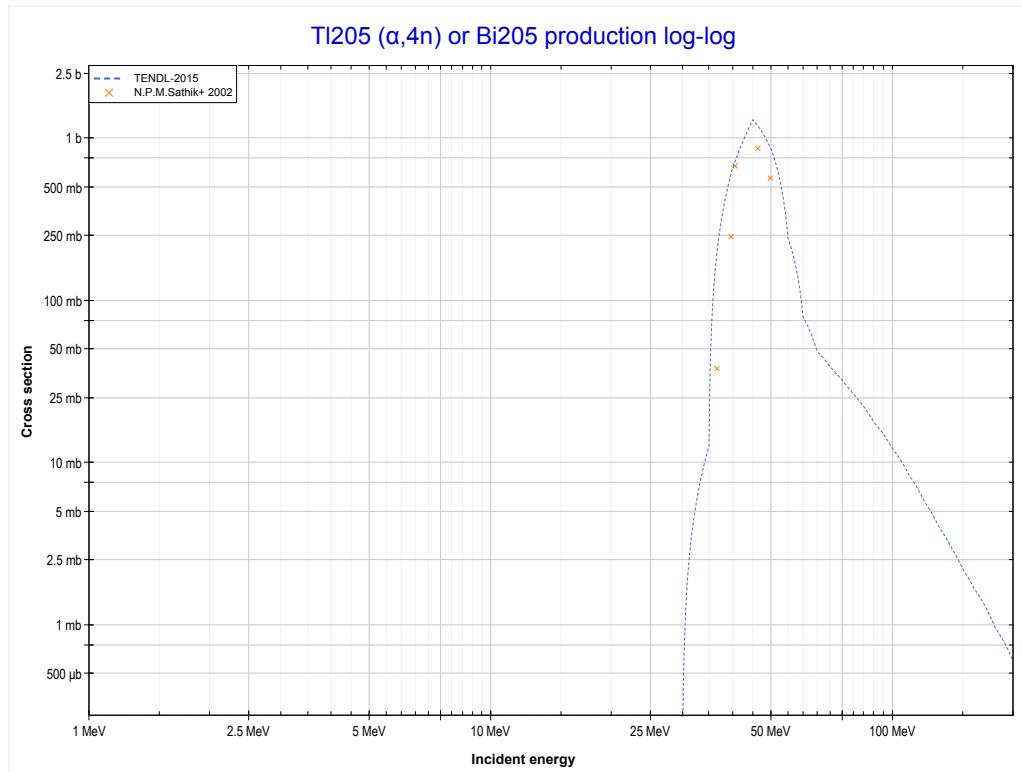


Reaction	Q-Value
TI205( $\alpha,3n$ )Bi206	-25581.34 keV

<< 81-TI-203	<b>81-TI-205</b> MT18 ( $\alpha$ ,fission)	82-Pb-204 >>
<< MT17 ( $\alpha$ ,3n)		MT37 ( $\alpha$ ,4n) >>



<< 81-TI-203	<b>81-TI-205</b> MT37 ( $\alpha,4n$ ) or MT5 (Bi205 production)	82-Pb-204 >>
<< MT18 ( $\alpha$ ,fission)		82-Pb-204 MT18 ( $\alpha$ ,fission) >>

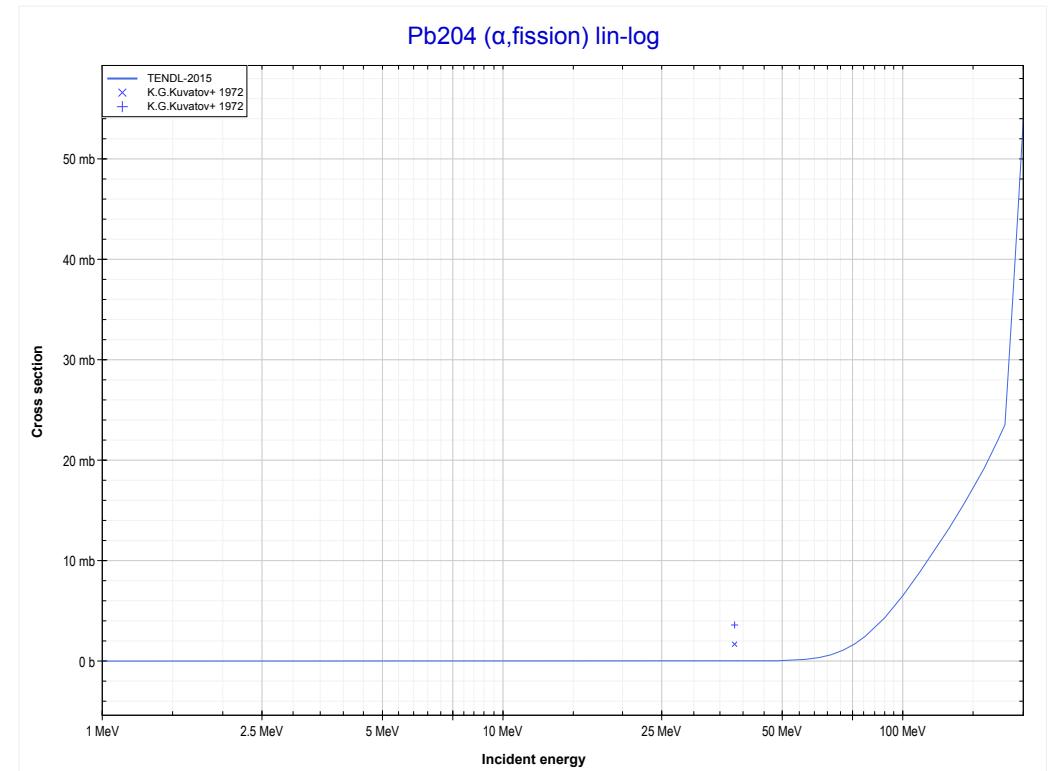
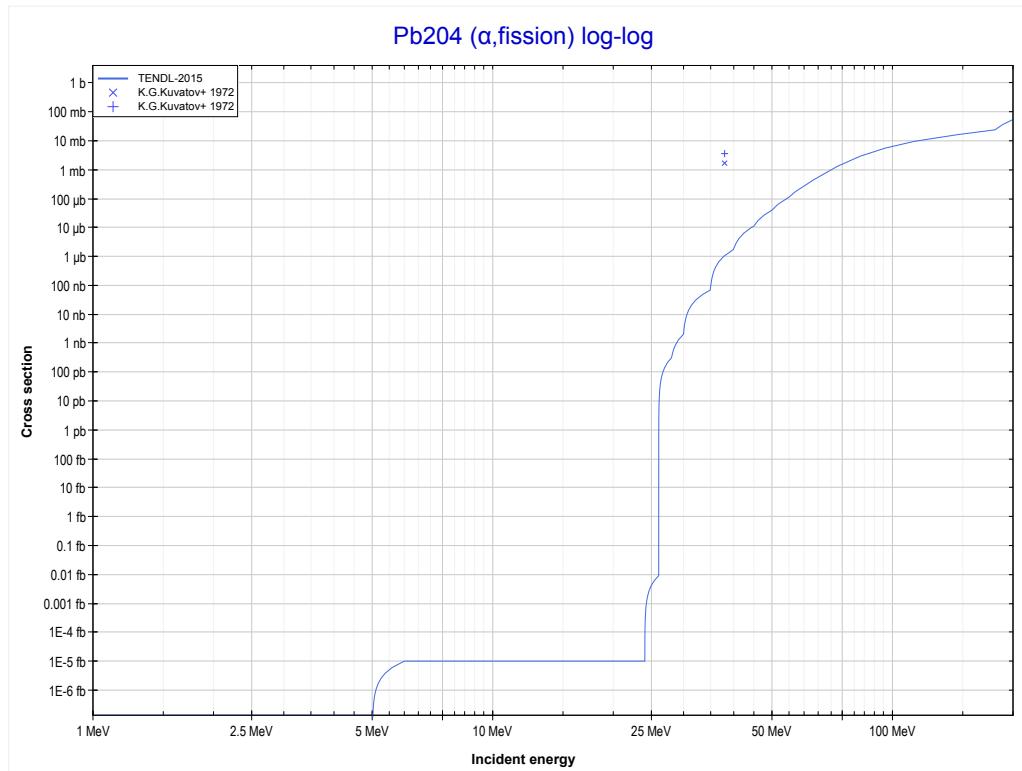


Reaction	Q-Value
TI205( $\alpha,4n$ )Bi205	-32616.65 keV

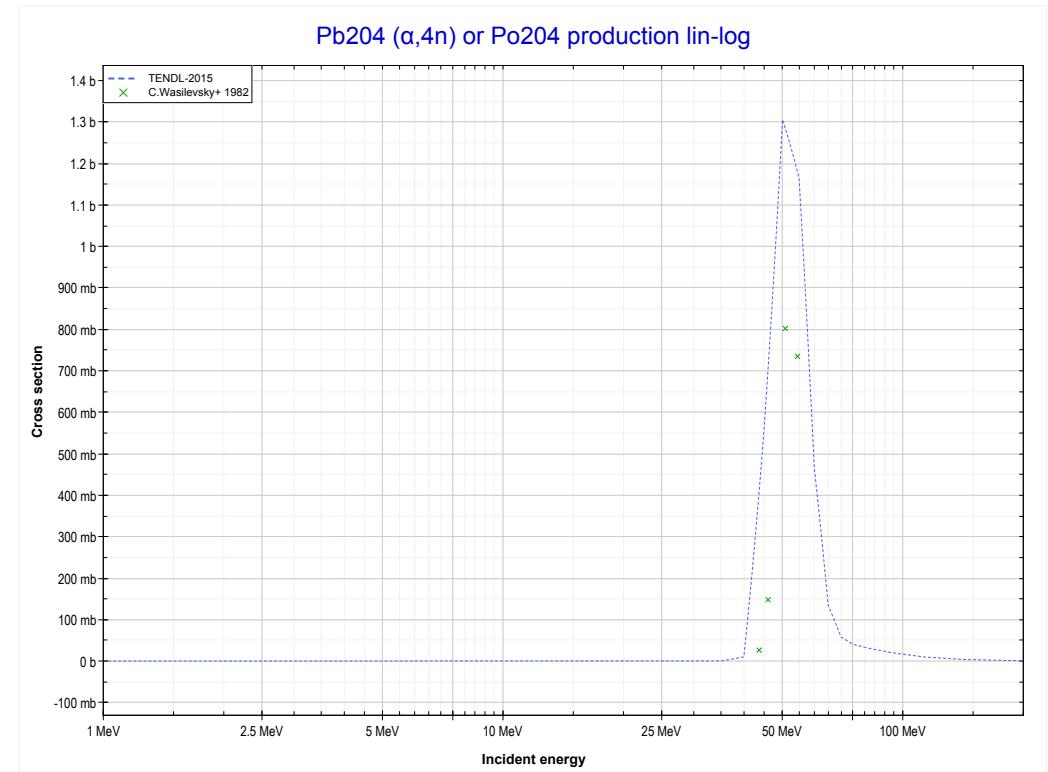
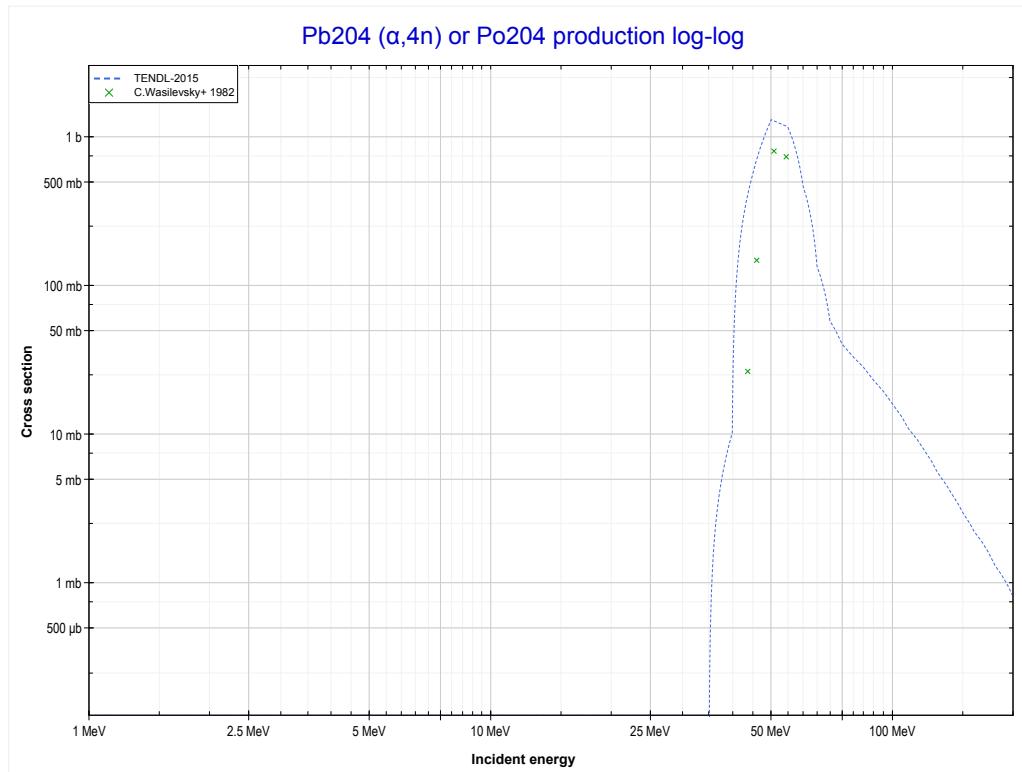
<< 81-TI-205	
<< 81-TI-205 MT37 ( $\alpha$ ,4n)	

**82-Pb-204**  
**MT18 ( $\alpha$ ,fission)**

**82-Pb-206 >>**  
**MT37 ( $\alpha$ ,4n) >>**

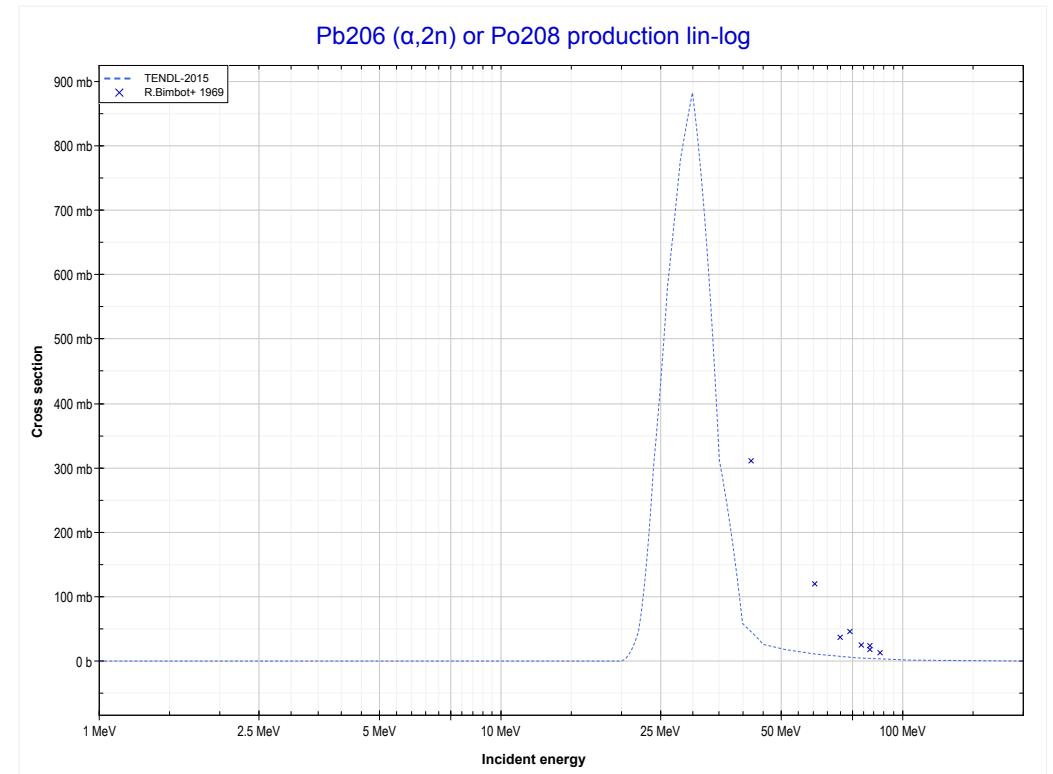
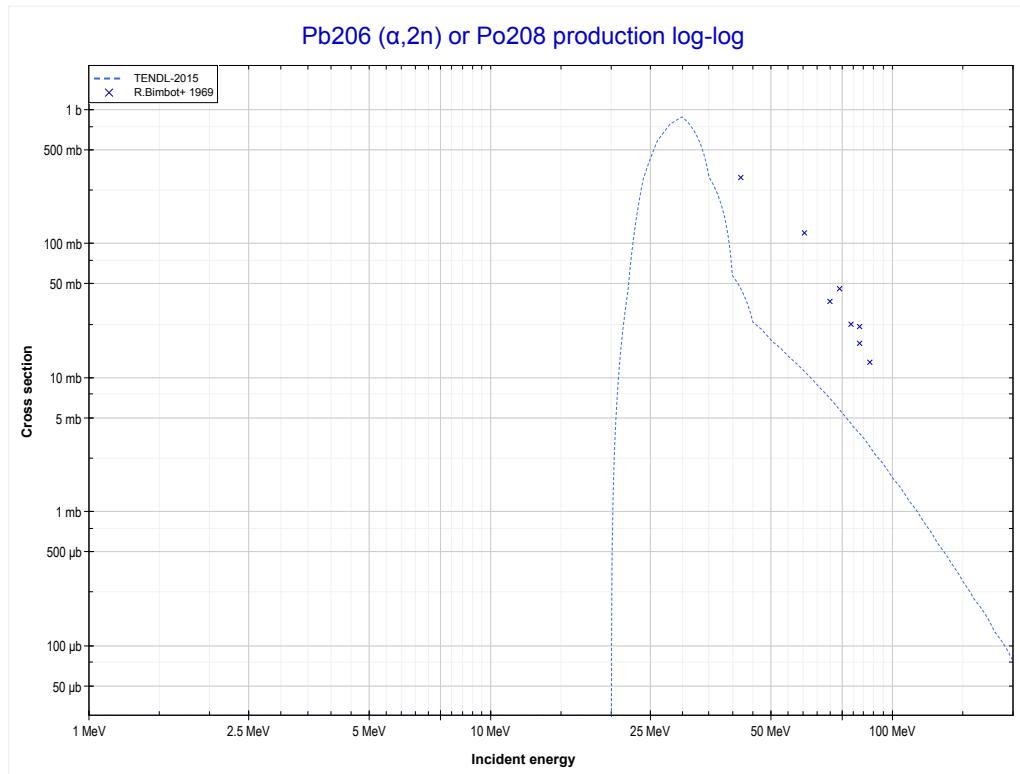


<< 81-TI-205	<b>82-Pb-204</b> MT37 ( $\alpha,4n$ ) or MT5 (Po204 production)	82-Pb-206 >>
<< MT18 ( $\alpha$ ,fission)		82-Pb-206 MT16 ( $\alpha,2n$ ) >>



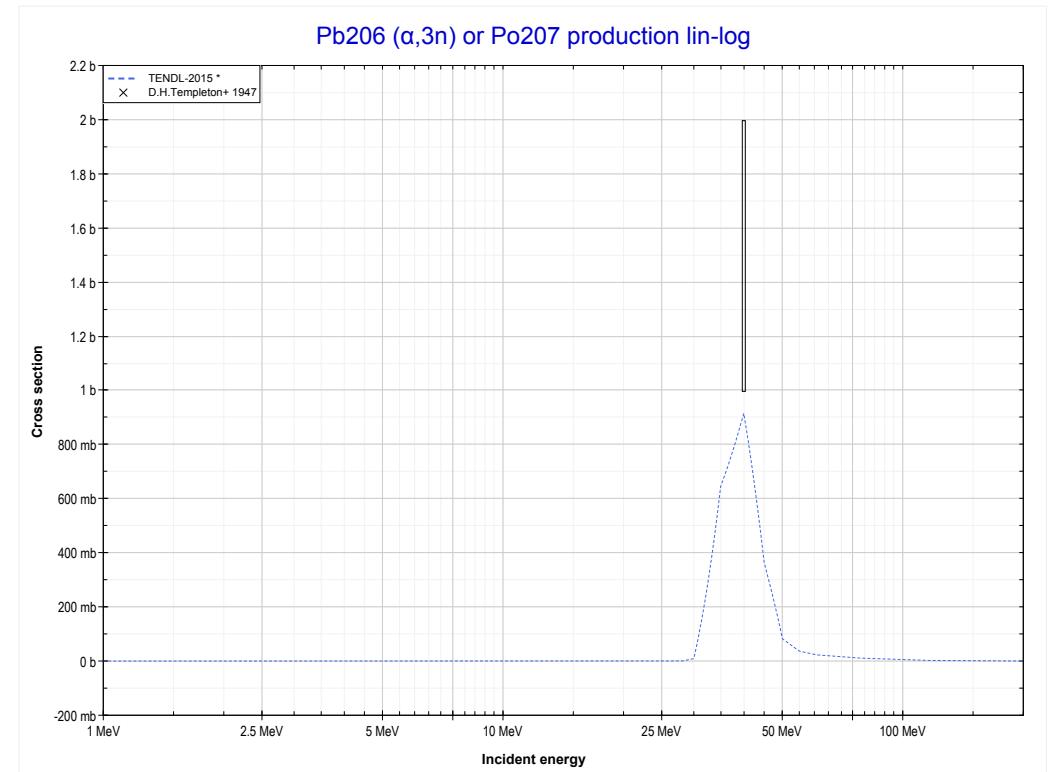
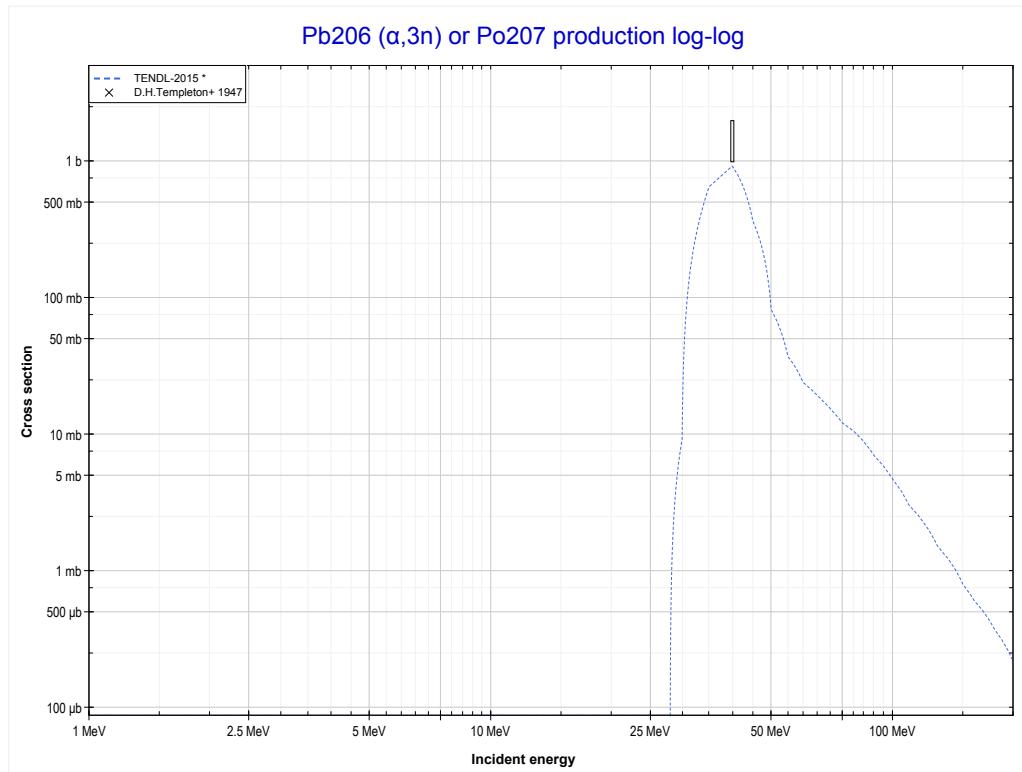
Reaction	Q-Value
Pb204( $\alpha,4n$ )Po204	-36628.75 keV

<< 81-TI-203	<b>82-Pb-206</b> MT16 ( $\alpha,2n$ ) or MT5 (Po208 production)	82-Pb-208 >>
<< 82-Pb-204 MT37 ( $\alpha,4n$ )		MT17 ( $\alpha,3n$ ) >>



Reaction	Q-Value
Pb206( $\alpha,2n$ )Po208	-20033.62 keV

<< 81-TI-205	<b>82-Pb-206</b> MT17 ( $\alpha,3n$ ) or MT5 (Po207 production)	83-Bi-209 >>
<< MT16 ( $\alpha,2n$ )		MT18 ( $\alpha,fission$ ) >>

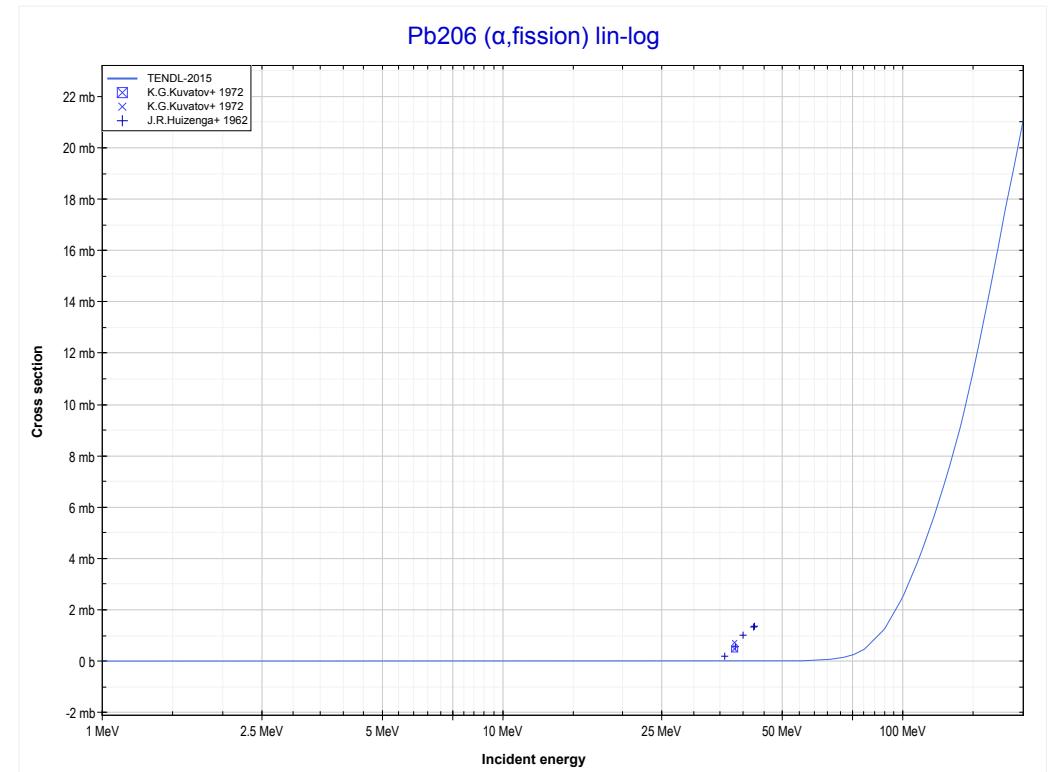
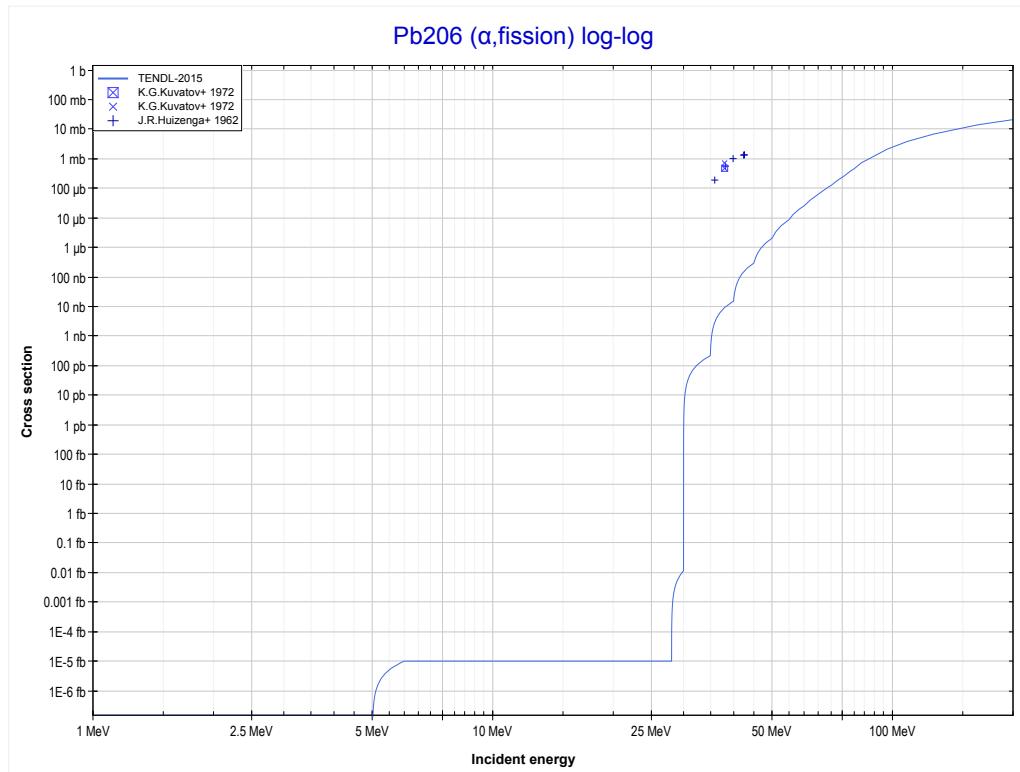


Reaction	Q-Value
Pb206( $\alpha,3n$ )Po207	-28429.14 keV

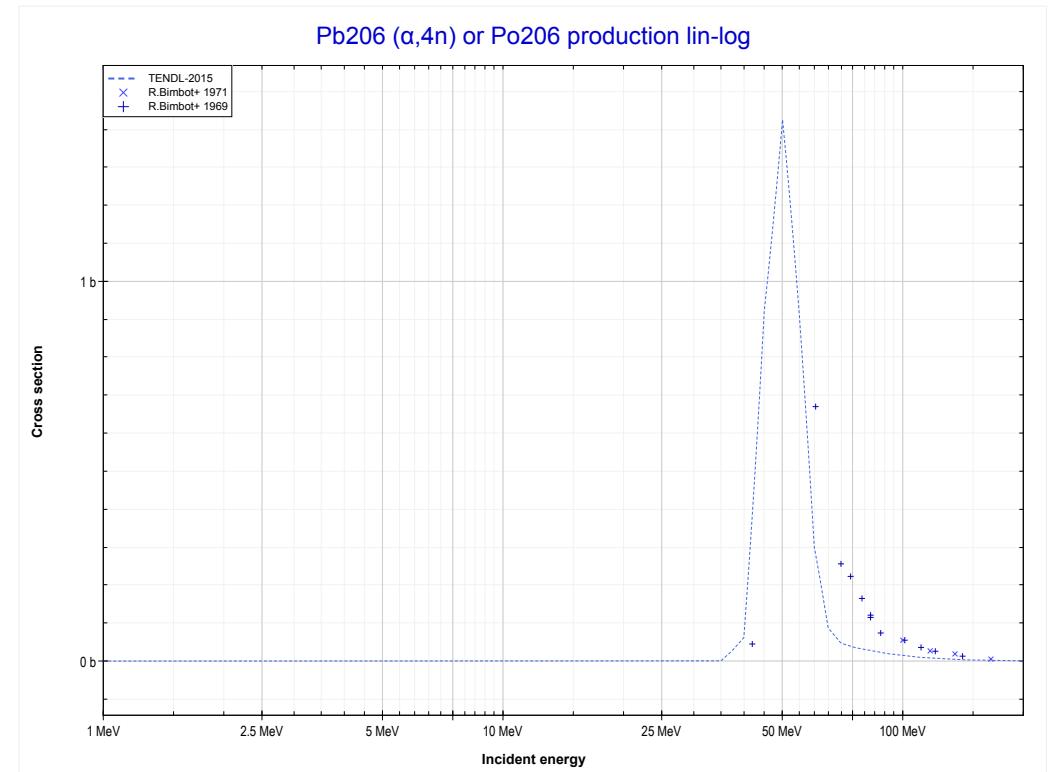
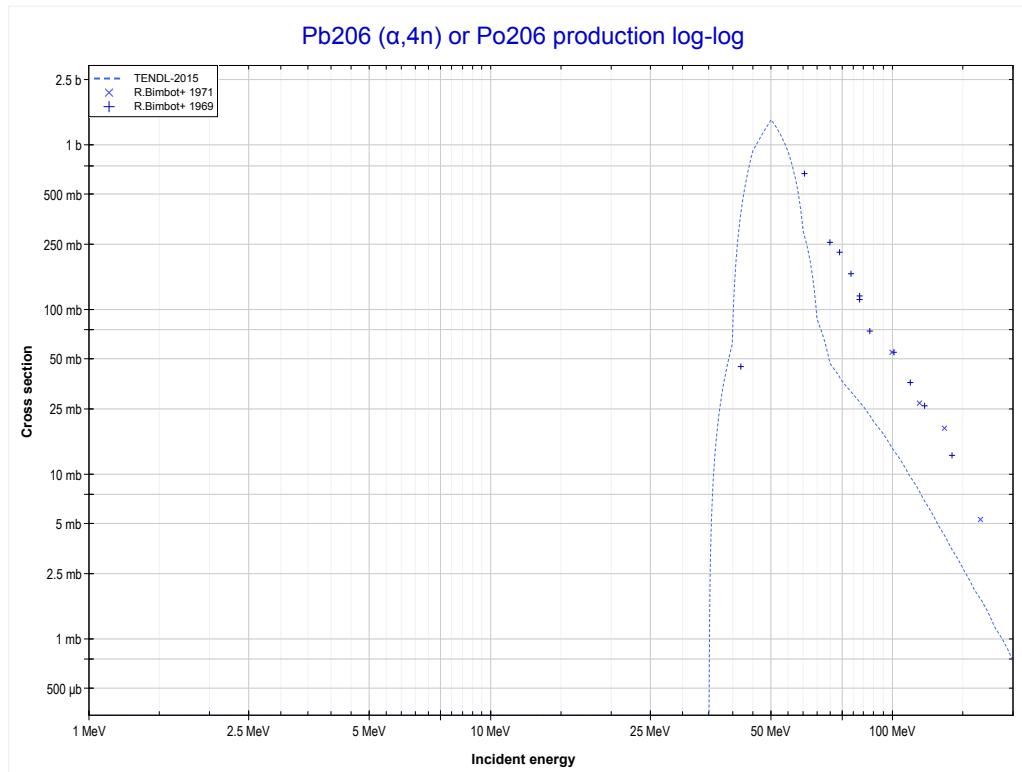
<< 82-Pb-204	
<< MT17 ( $\alpha$ ,3n)	

82-Pb-206
MT18 ( $\alpha$ ,fission)

82-Pb-207 >>
MT37 ( $\alpha$ ,4n) >>

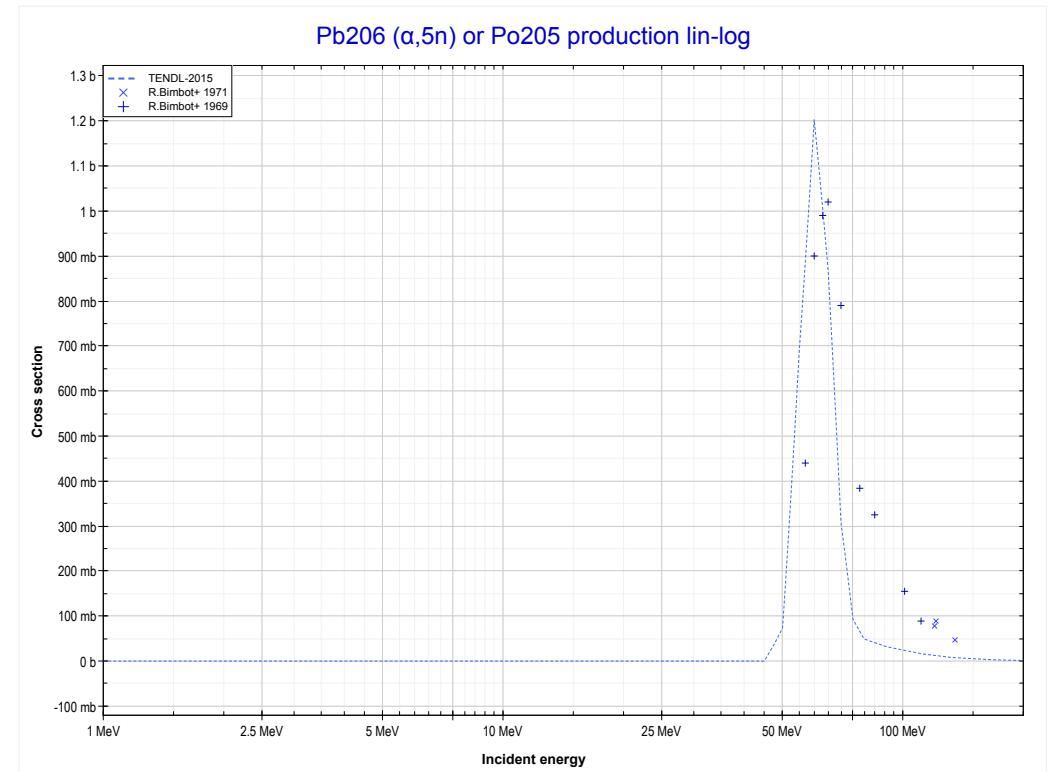
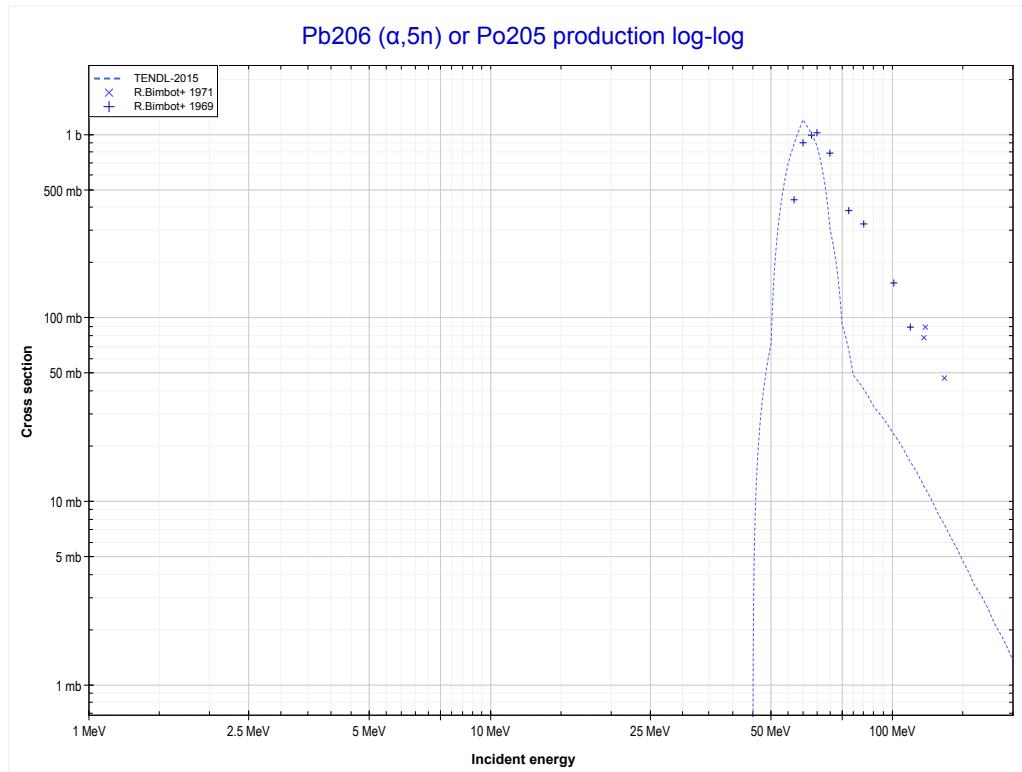


<< 82-Pb-204	<b>82-Pb-206</b> MT37 ( $\alpha,4n$ ) or MT5 (Po206 production)	>> 83-Bi-209
<< MT18 ( $\alpha$ ,fission)		MT152 ( $\alpha,5n$ ) >>



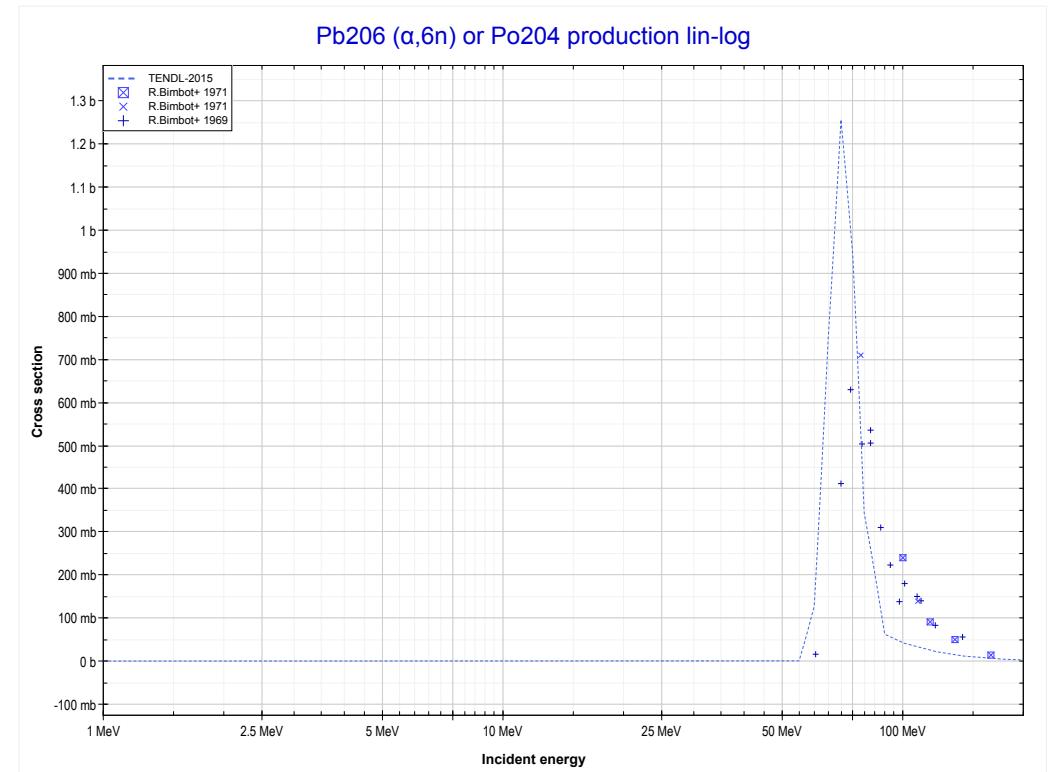
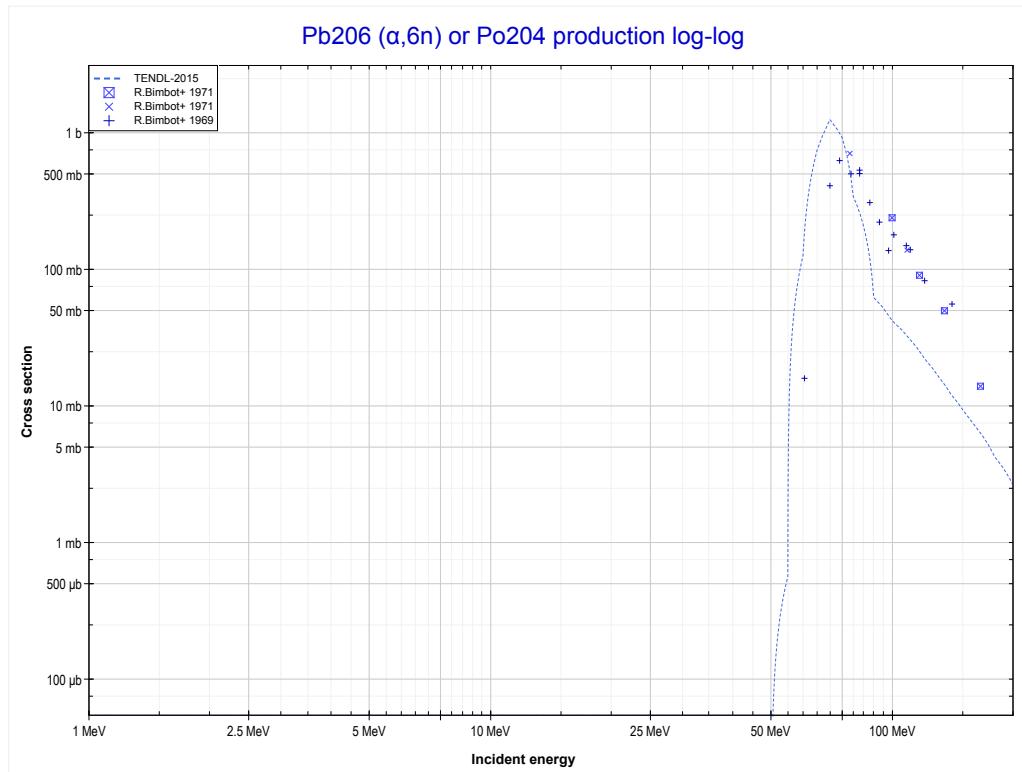
Reaction	Q-Value
Pb206( $\alpha,4n$ )Po206	-35457.45 keV

<< 79-Au-197	<b>82-Pb-206</b> MT152 ( $\alpha,5n$ ) or MT5 (Po205 production)	83-Bi-209 >>
<< MT37 ( $\alpha,4n$ )		MT153 ( $\alpha,6n$ ) >>



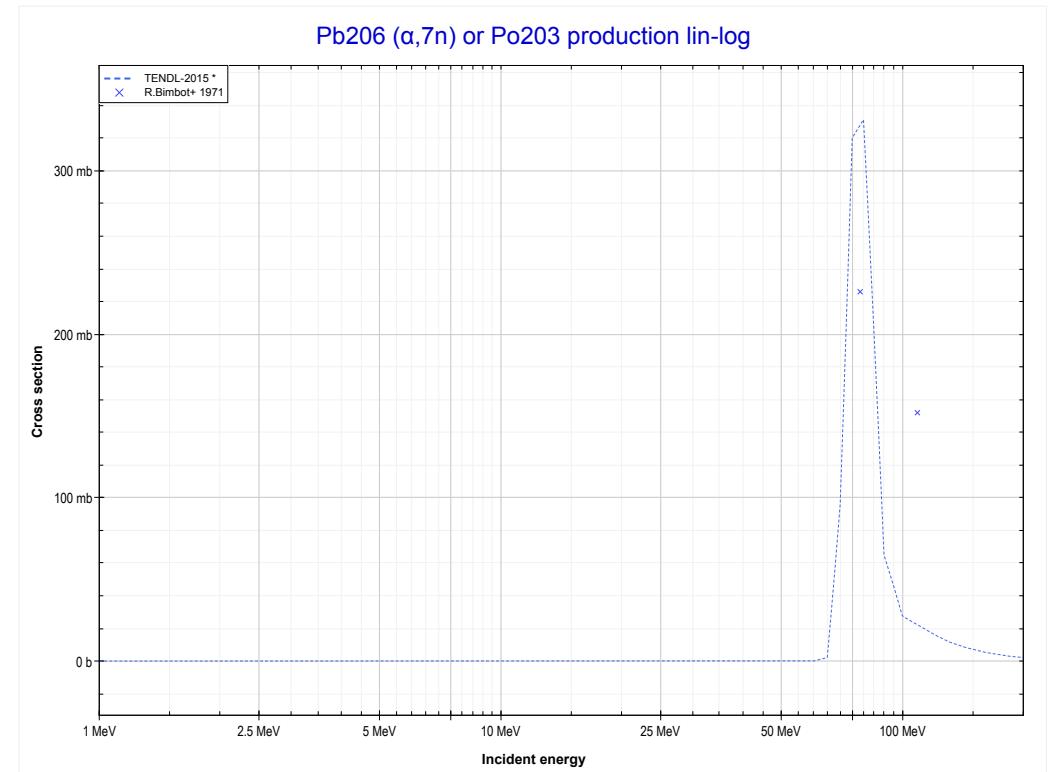
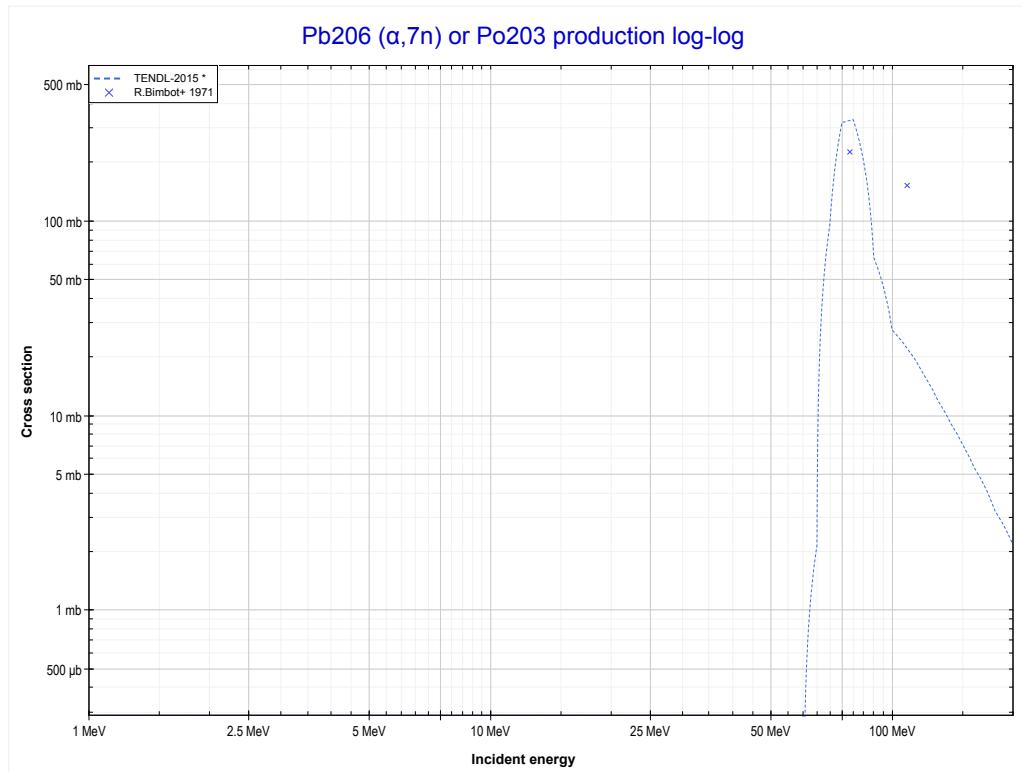
Reaction	Q-Value
Pb206( $\alpha,5n$ )Po205	-44207.77 keV

<< 79-Au-197	<b>82-Pb-206</b> MT153 ( $\alpha, 6n$ ) or MT5 (Po204 production)	>> 82-Pb-208
<< MT152 ( $\alpha, 5n$ )		>> MT160 ( $\alpha, 7n$ )



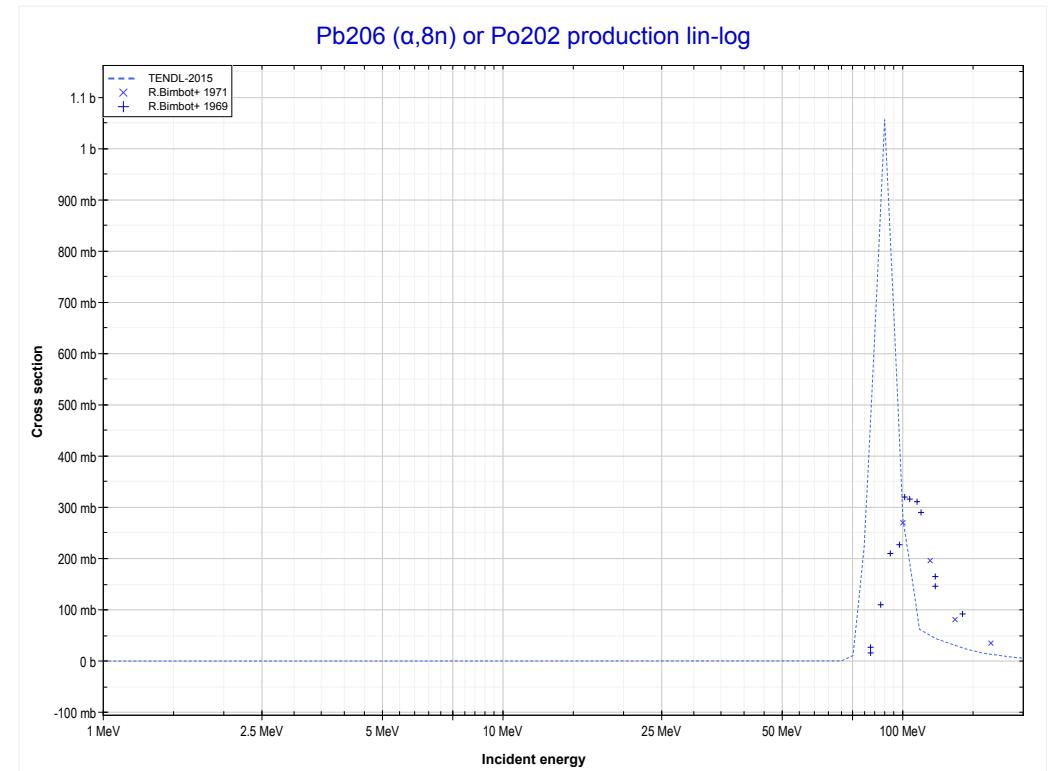
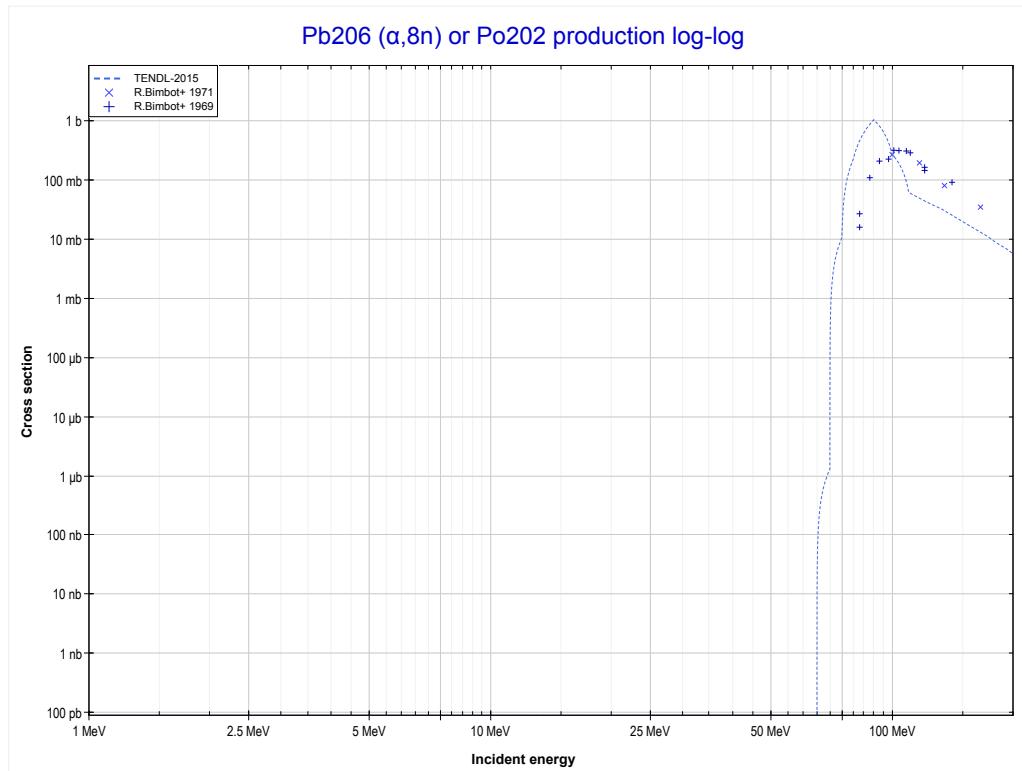
Reaction	Q-Value
Pb206( $\alpha, 6n$ )Po204	-51447.09 keV

<< 79-Au-197	<b>82-Pb-206</b> MT160 ( $\alpha, 7n$ ) or MT5 (Po203 production)	82-Pb-208 >> MT161 ( $\alpha, 8n$ ) >>
<< MT153 ( $\alpha, 6n$ )		



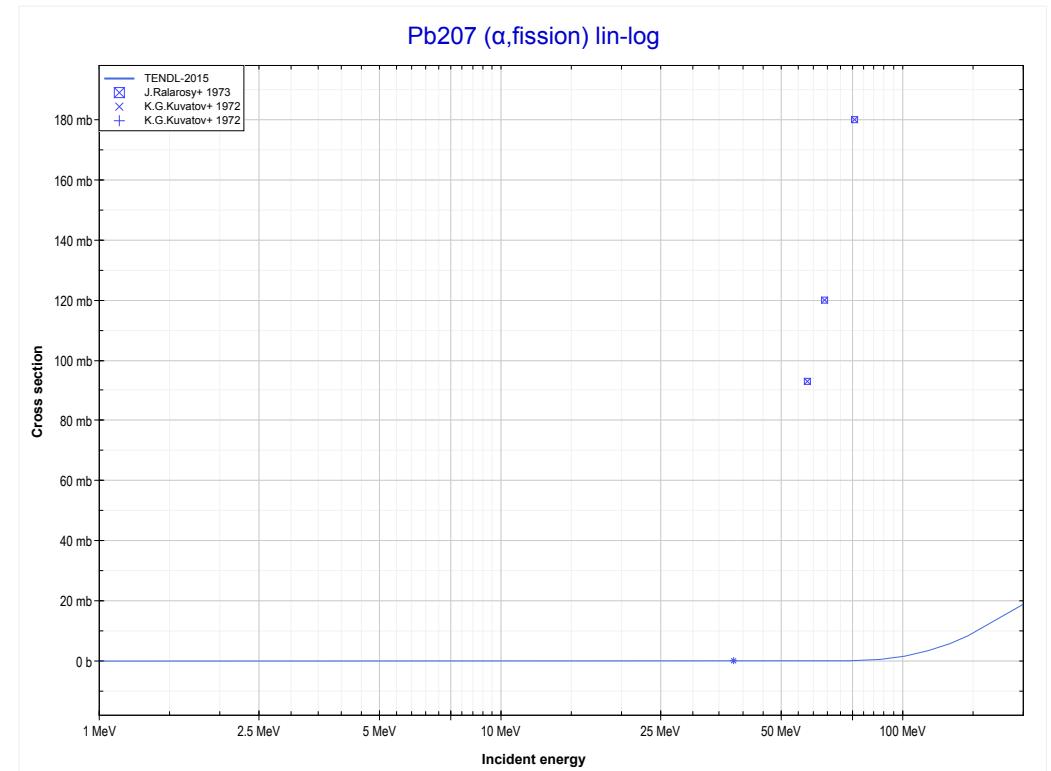
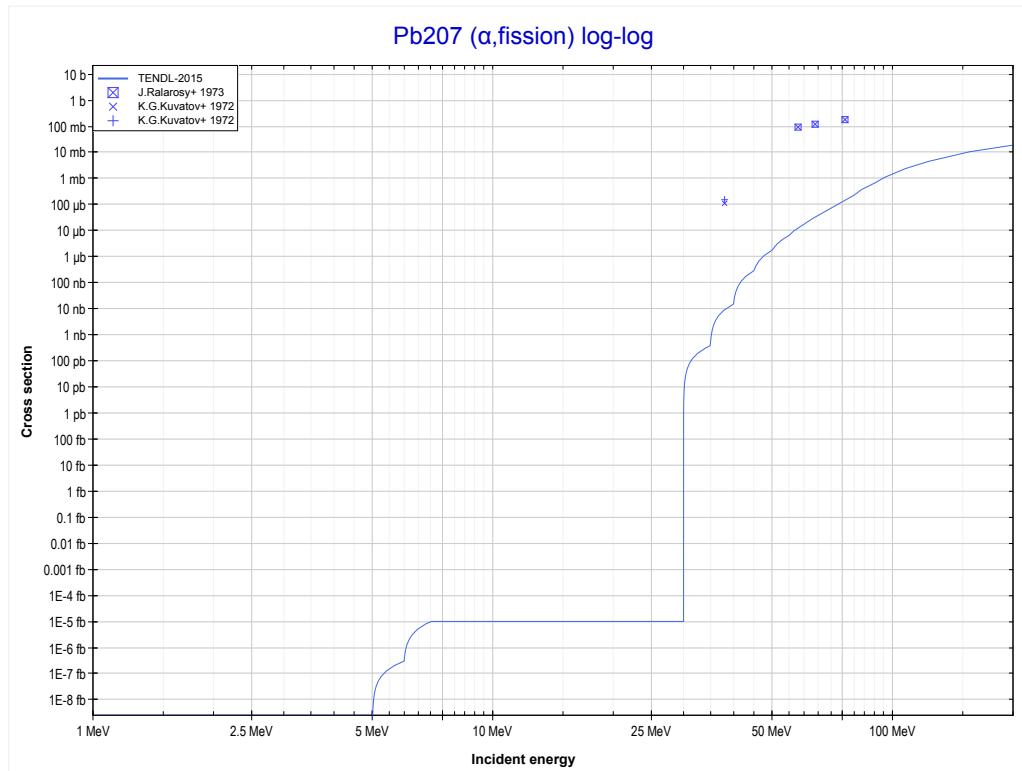
Reaction	Q-Value
Pb206( $\alpha, 7n$ )Po203	-60548.40 keV

<< 79-Au-197	<b>82-Pb-206</b> MT161 ( $\alpha, 8n$ ) or MT5 (Po202 production)	82-Pb-208 >>
<< MT160 ( $\alpha, 7n$ )		82-Pb-207 MT18 ( $\alpha, \text{fission}$ ) >>

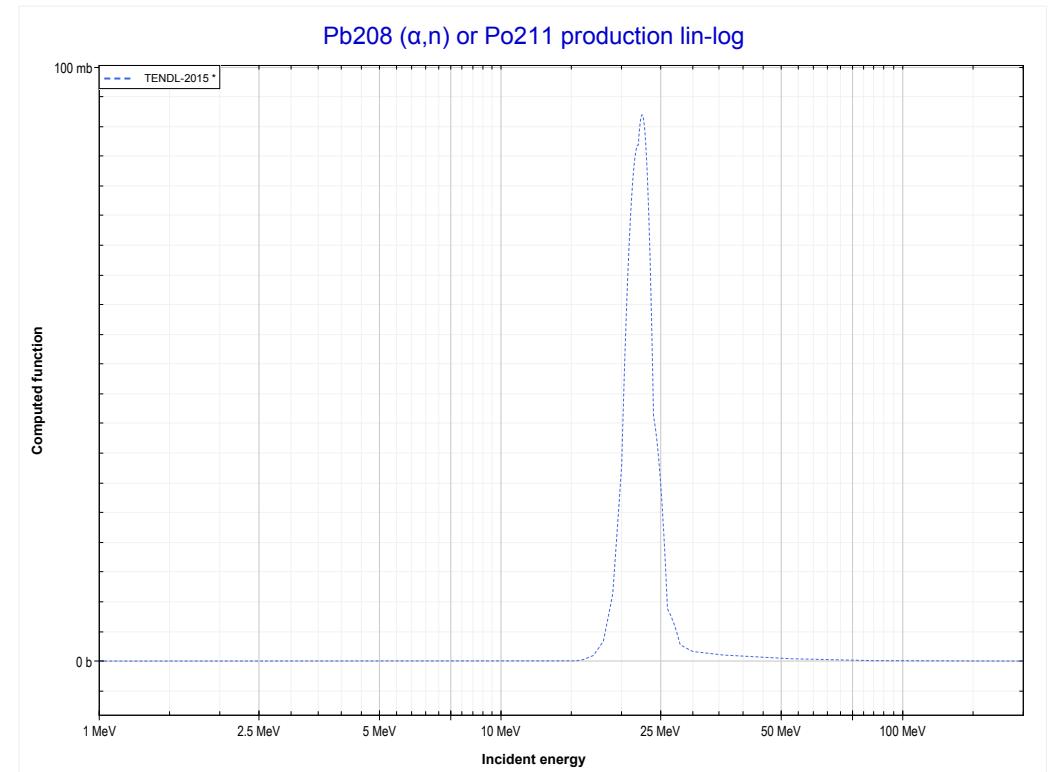
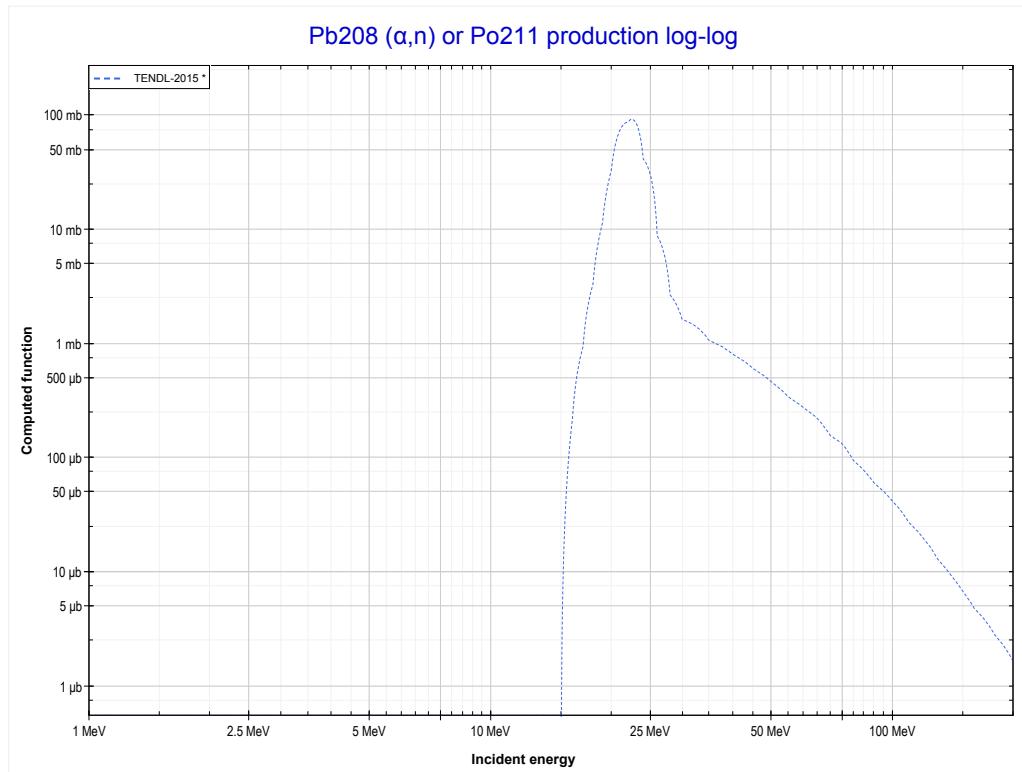


Reaction	Q-Value
Pb206( $\alpha, 8n$ )Po202	-68006.72 keV

<a href="#"><b>&lt;&lt; 82-Pb-206</b></a>	<b>82-Pb-207</b>	<a href="#"><b>82-Pb-208 &gt;&gt;</b></a>
<a href="#"><b>&lt;&lt; 82-Pb-206 MT161 (<math>\alpha</math>,8n)</b></a>	<b>MT18 (<math>\alpha</math>,fission)</b>	<a href="#"><b>82-Pb-208 MT4 (<math>\alpha</math>,n) &gt;&gt;</b></a>

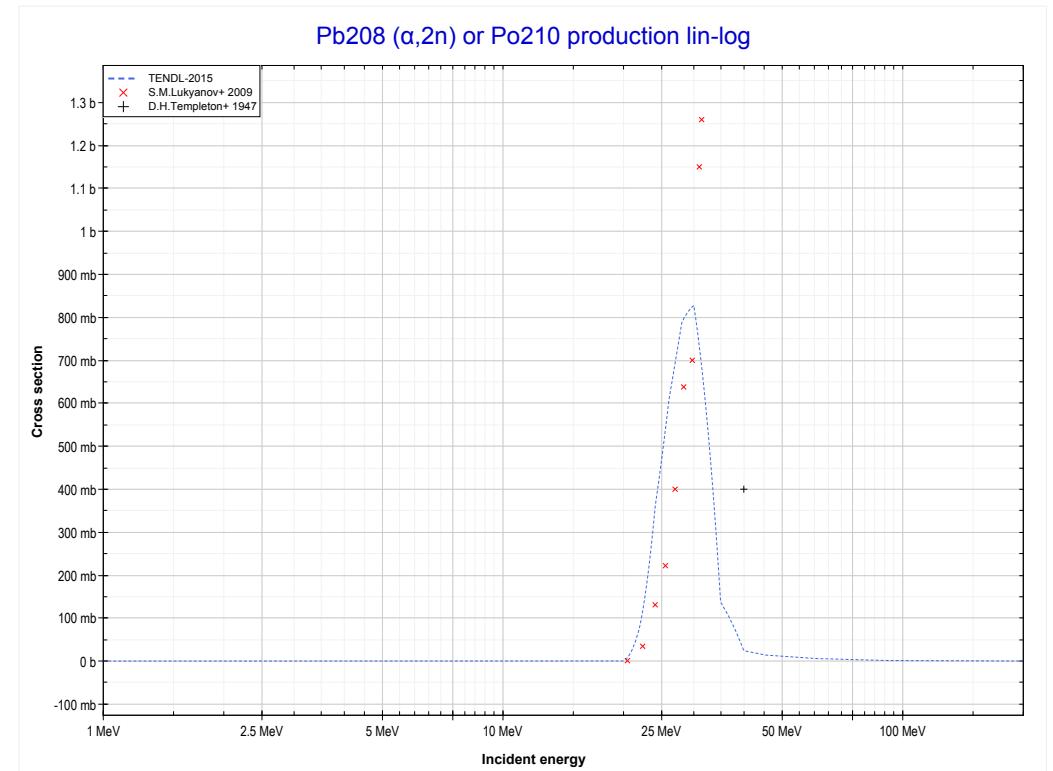
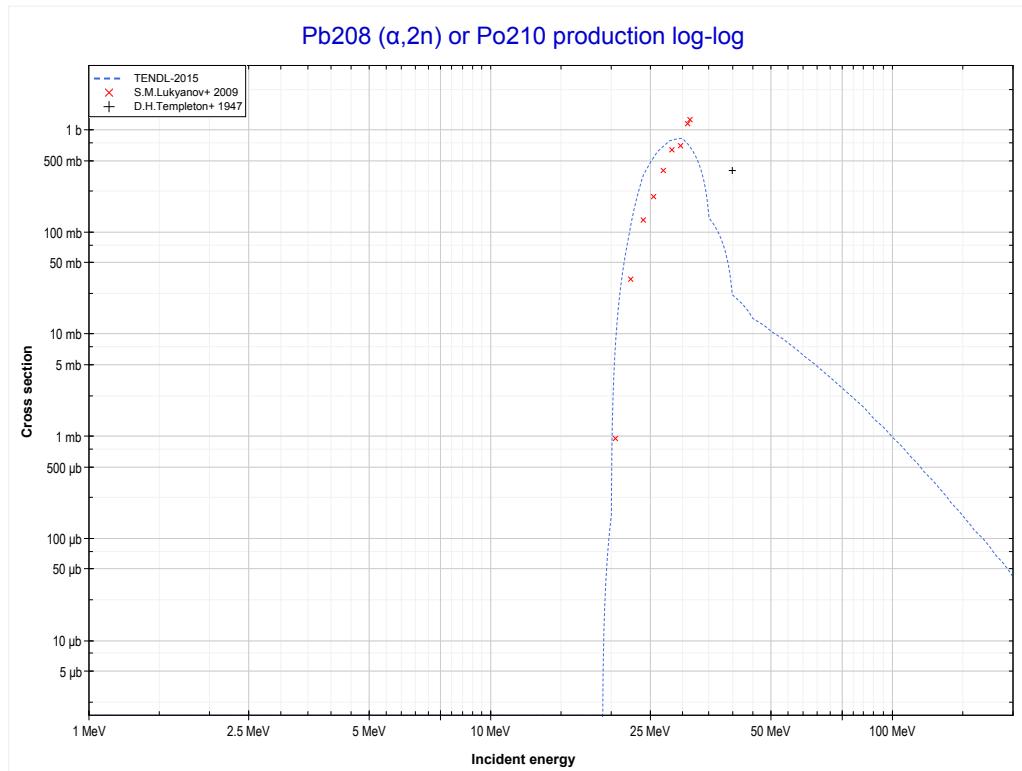


<< 81-Tl-203	<b>82-Pb-208</b> MT4 ( $\alpha, n$ ) or MT5 (Po211 production)	83-Bi-209 >>
<< 82-Pb-207 MT18 ( $\alpha, \text{fission}$ )		MT16 ( $\alpha, 2n$ ) >>



Reaction	Q-Value
Pb208( $\alpha, n$ )Po211	-14962.40 keV

<< 82-Pb-206	<b>82-Pb-208</b> MT16 ( $\alpha,2n$ ) or MT5 (Po210 production)	83-Bi-209 >>
<< MT4 ( $\alpha,n$ )		MT18 ( $\alpha,fission$ ) >>

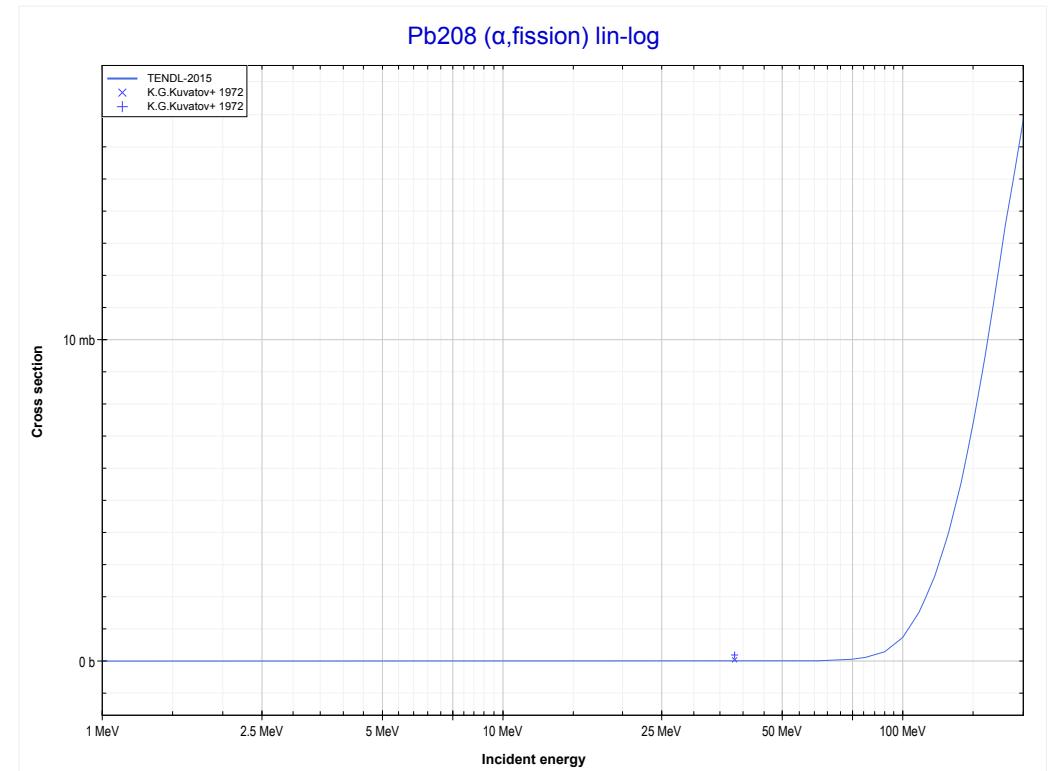
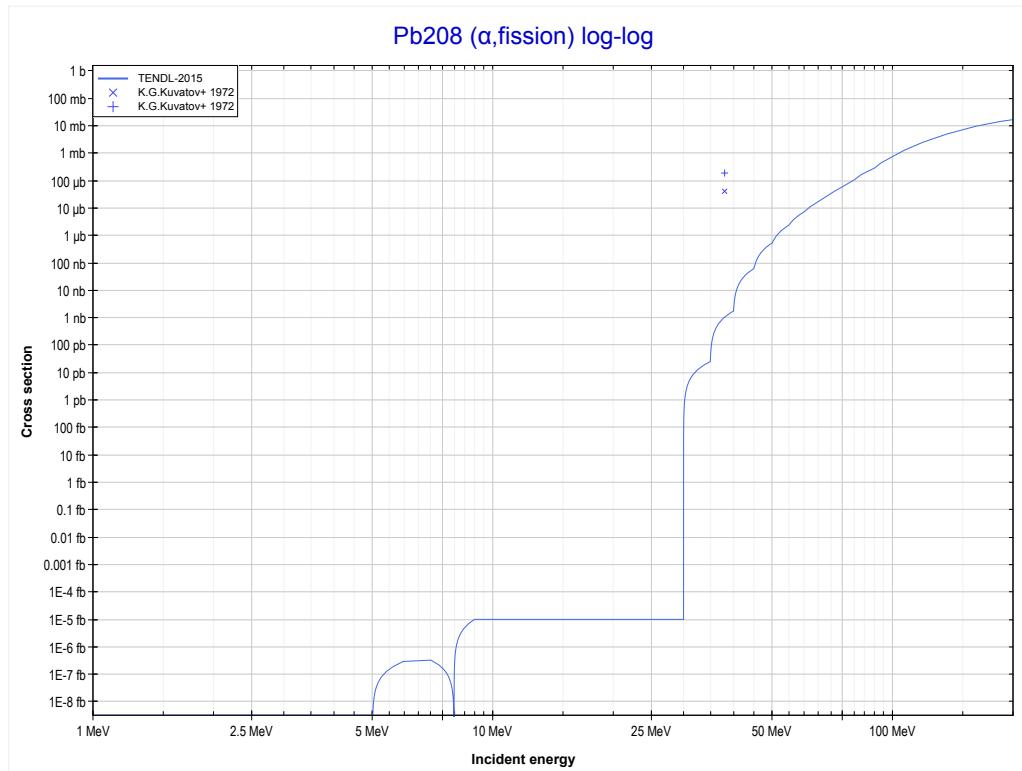


Reaction	Q-Value
Pb208( $\alpha,2n$ )Po210	-19513.12 keV

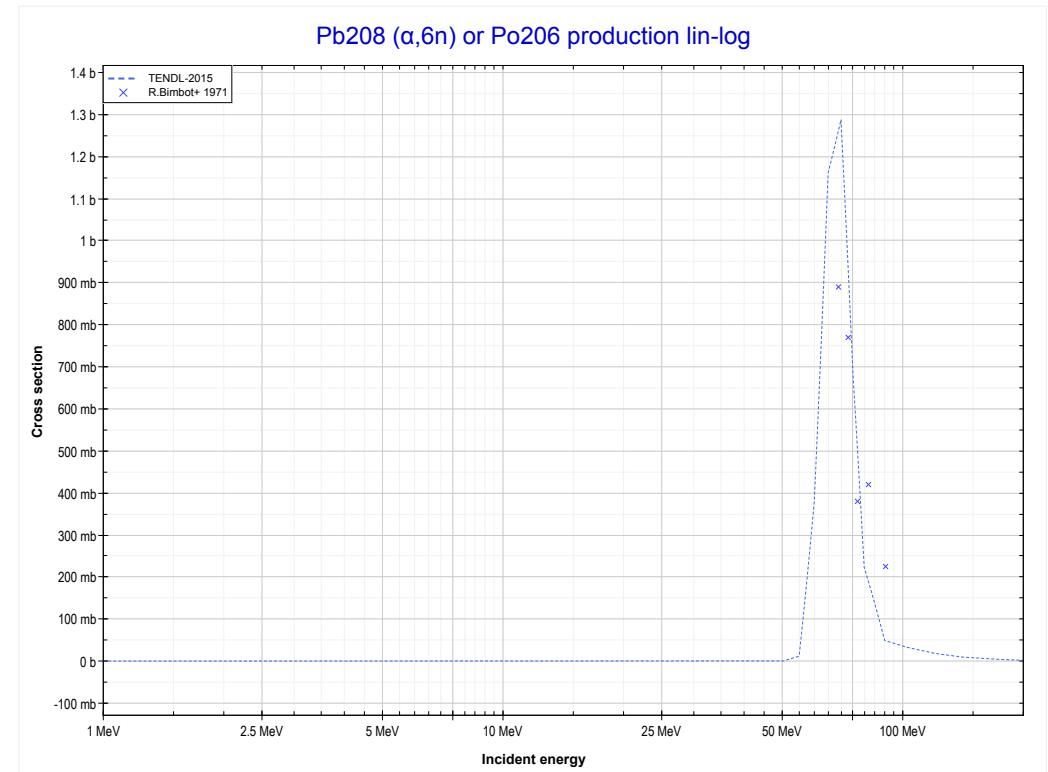
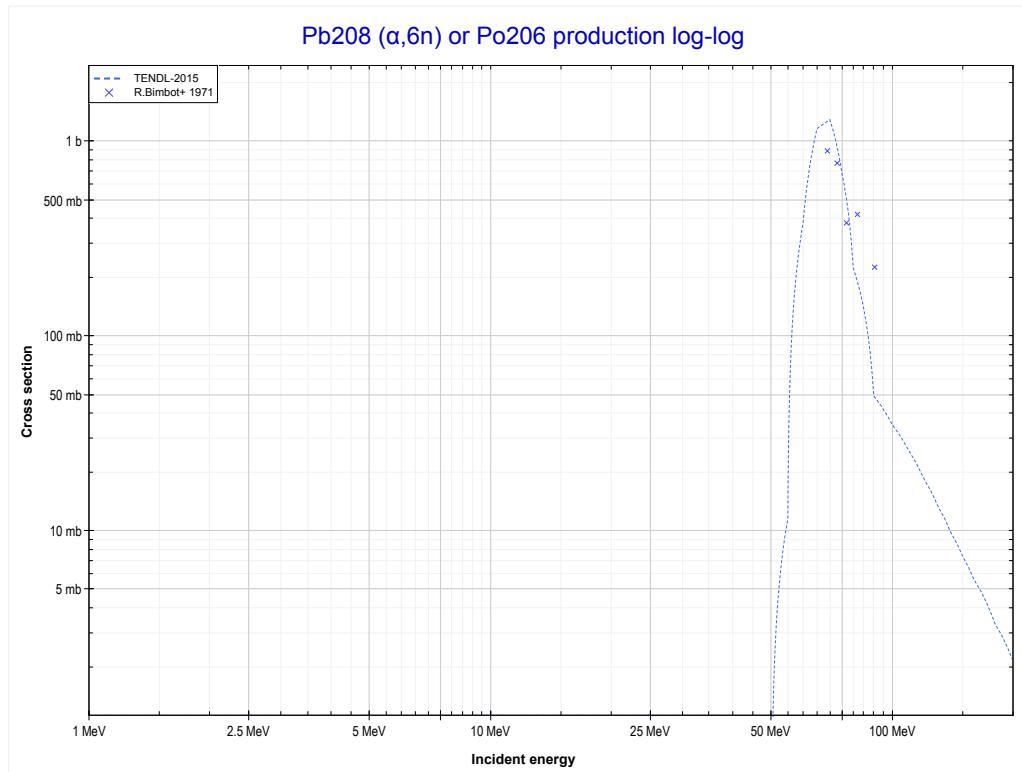
<< 82-Pb-207	
<< MT16 ( $\alpha$ ,2n)	

82-Pb-208
MT18 ( $\alpha$ ,fission)

83-Bi-209 >>
MT153 ( $\alpha$ ,6n) >>

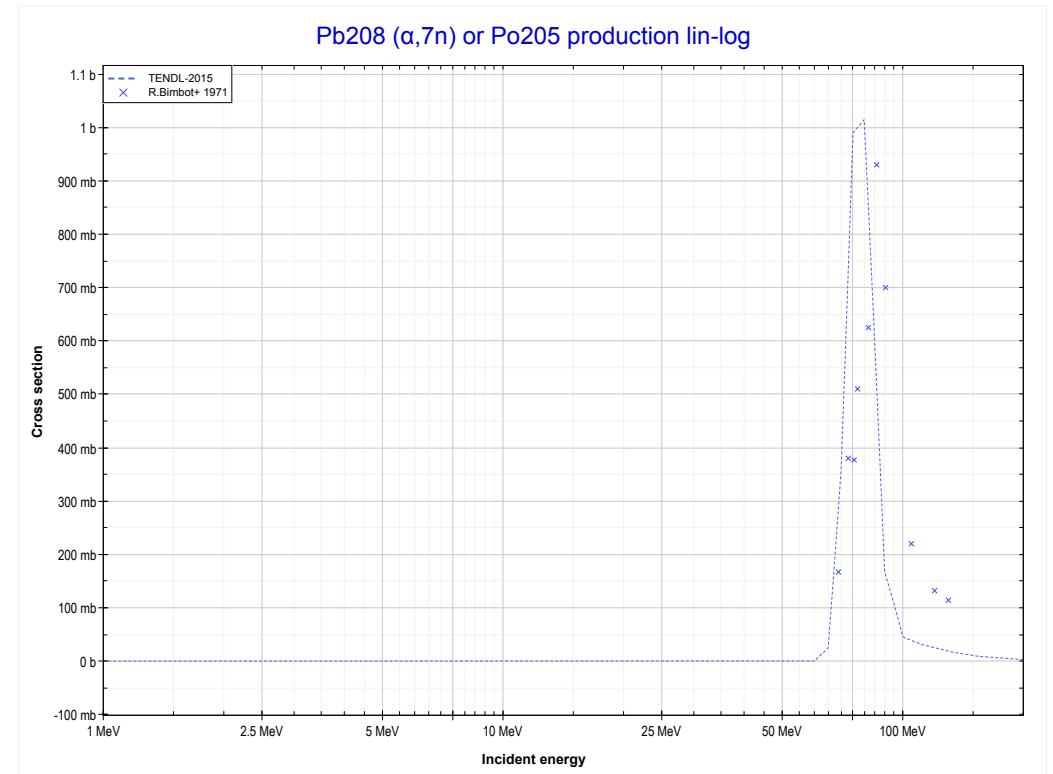
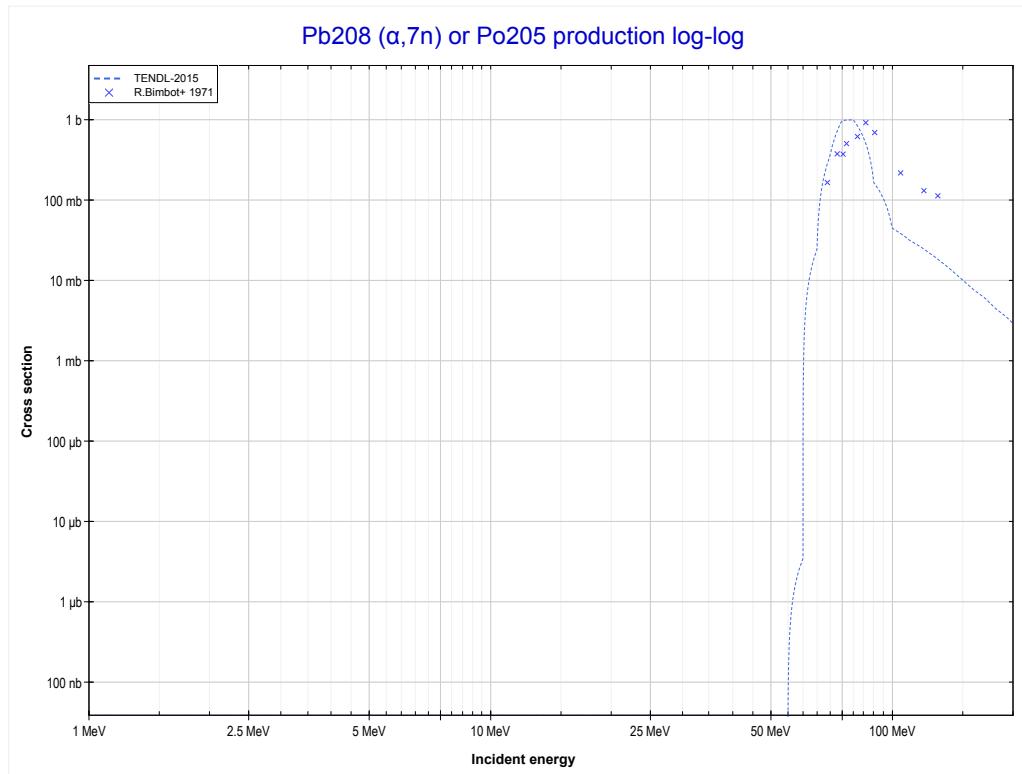


<< 82-Pb-206	<b>82-Pb-208</b>	>> 83-Bi-209
<< MT18 ( $\alpha$ ,fission)	<b>MT153 (<math>\alpha</math>,6n) or MT5 (Po206 production)</b>	>> MT160 ( $\alpha$ ,7n) >>



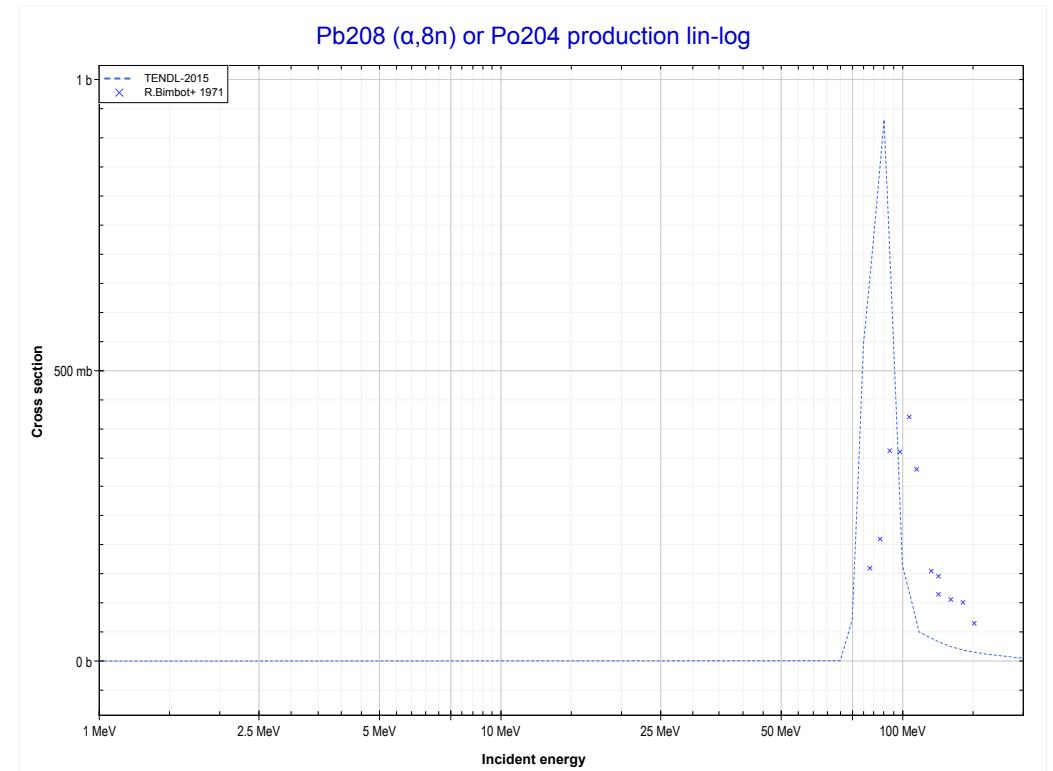
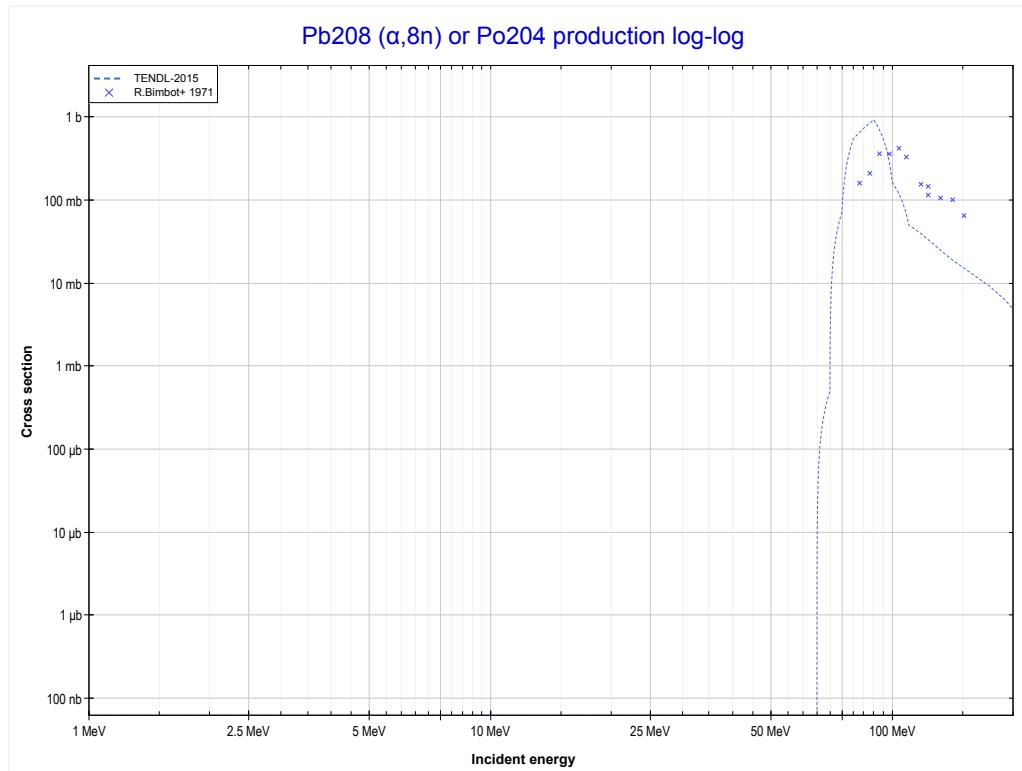
Reaction	Q-Value
Pb208( $\alpha$ ,6n)Po206	-49563.09 keV

<< 82-Pb-206	<b>82-Pb-208</b>	
<< MT153 ( $\alpha,6n$ )	<b>MT160 (<math>\alpha,7n</math>) or MT5 (Po205 production)</b>	<b>MT161 (<math>\alpha,8n</math>) &gt;&gt;</b>



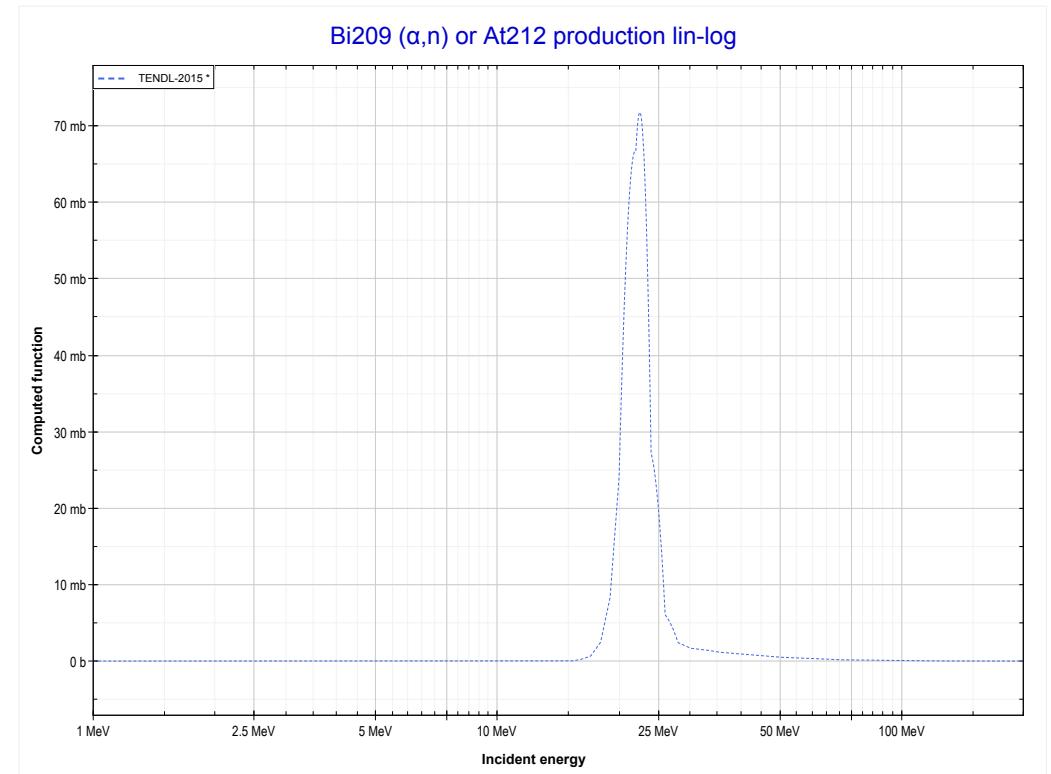
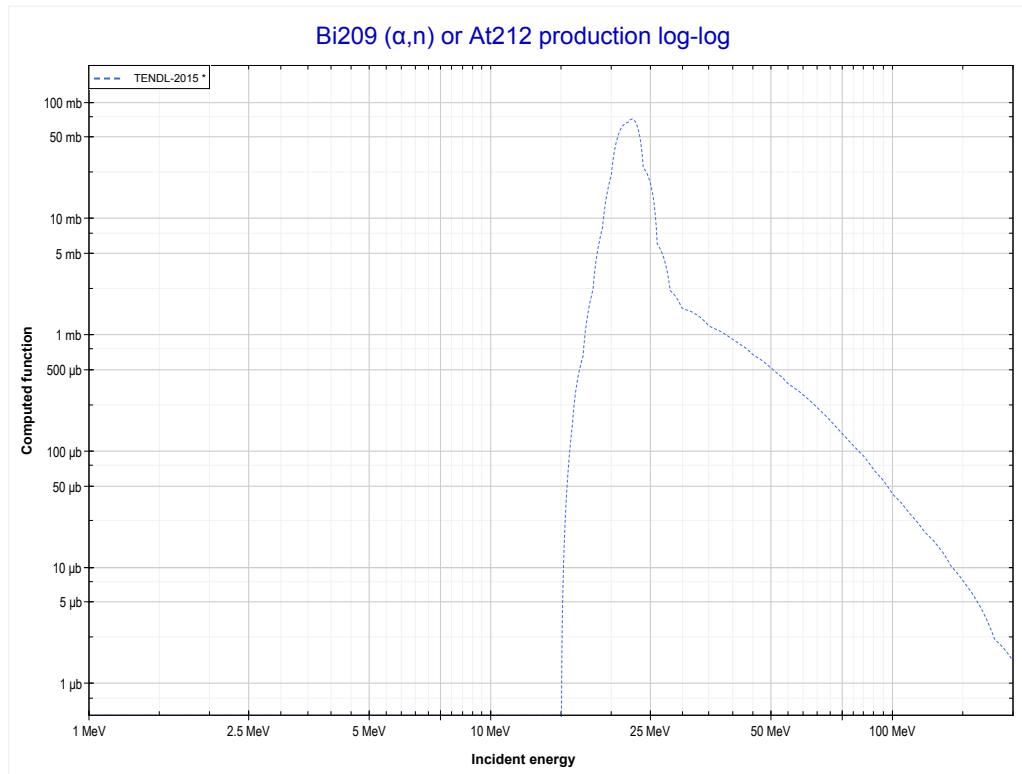
Reaction	Q-Value
Pb208( $\alpha,7n$ )Po205	-58313.40 keV

<< 82-Pb-206	<b>82-Pb-208</b> MT161 ( $\alpha, 8n$ ) or MT5 (Po204 production)	83-Bi-209 >>
<< MT160 ( $\alpha, 7n$ )		83-Bi-209 MT4 ( $\alpha, n$ ) >>



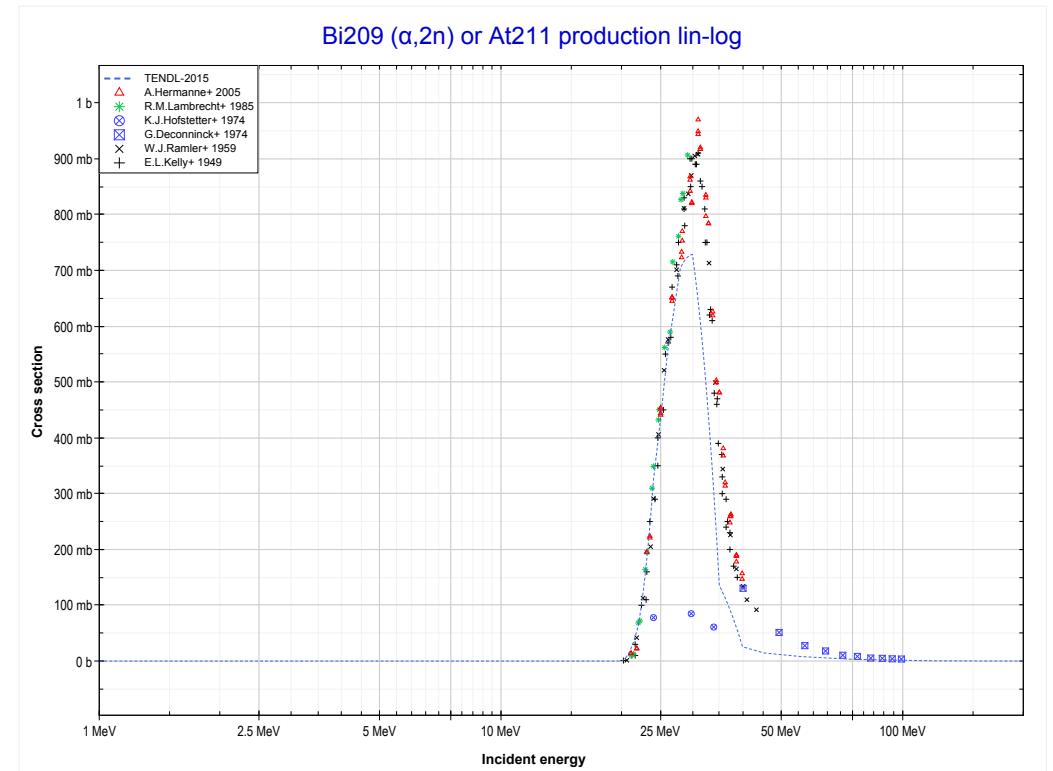
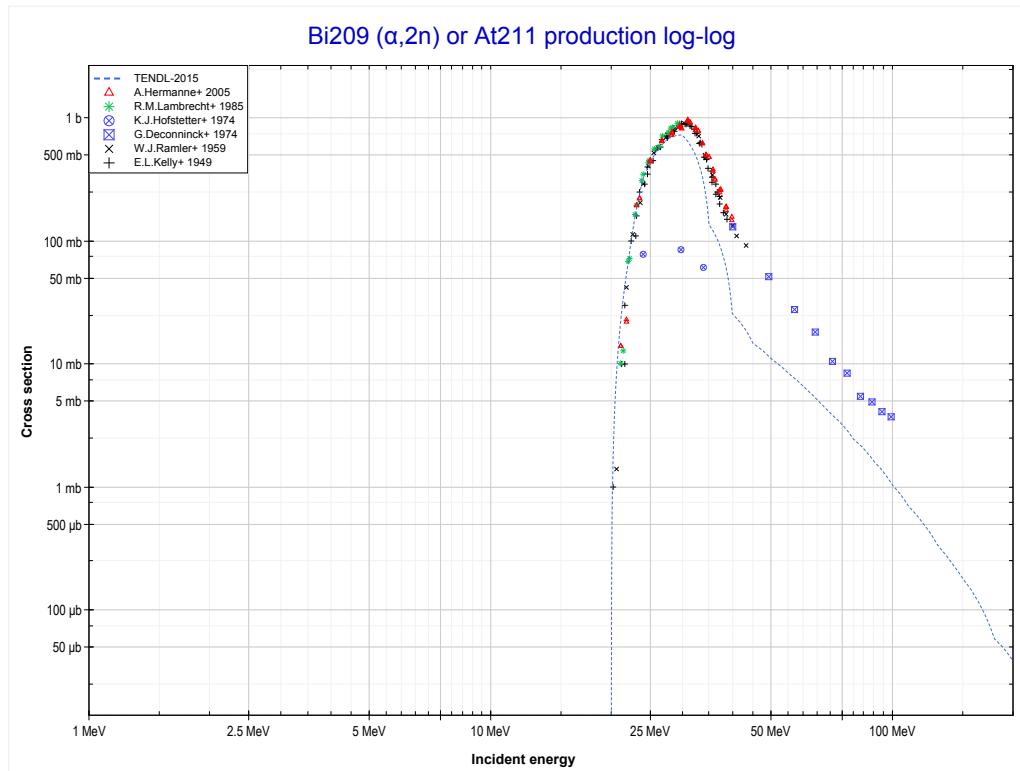
Reaction	Q-Value
Pb208( $\alpha, 8n$ )Po204	-65552.72 keV

<< 82-Pb-208	<b>83-Bi-209</b>	92-U-234 >>
<< 82-Pb-208 MT161 ( $\alpha$ ,8n)	<b>MT4 (<math>\alpha</math>,n) or MT5 (At212 production)</b>	MT16 ( $\alpha$ ,2n) >>



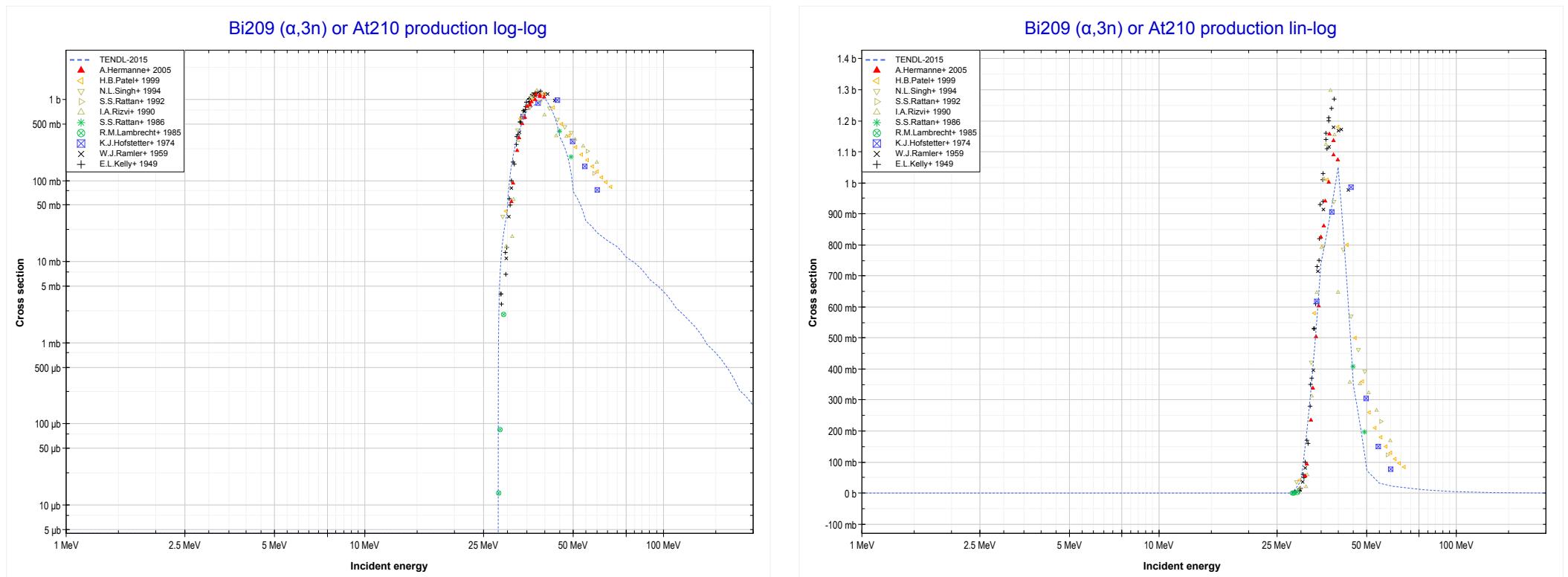
Reaction	Q-Value
Bi209( $\alpha$ ,n)At212	-15276.80 keV

<< 82-Pb-208	<b>83-Bi-209</b> <b>MT16 (<math>\alpha</math>,2n) or MT5 (At211 production)</b>	92-U-234 >>
<< MT4 ( $\alpha$ ,n)		MT17 ( $\alpha$ ,3n) >>



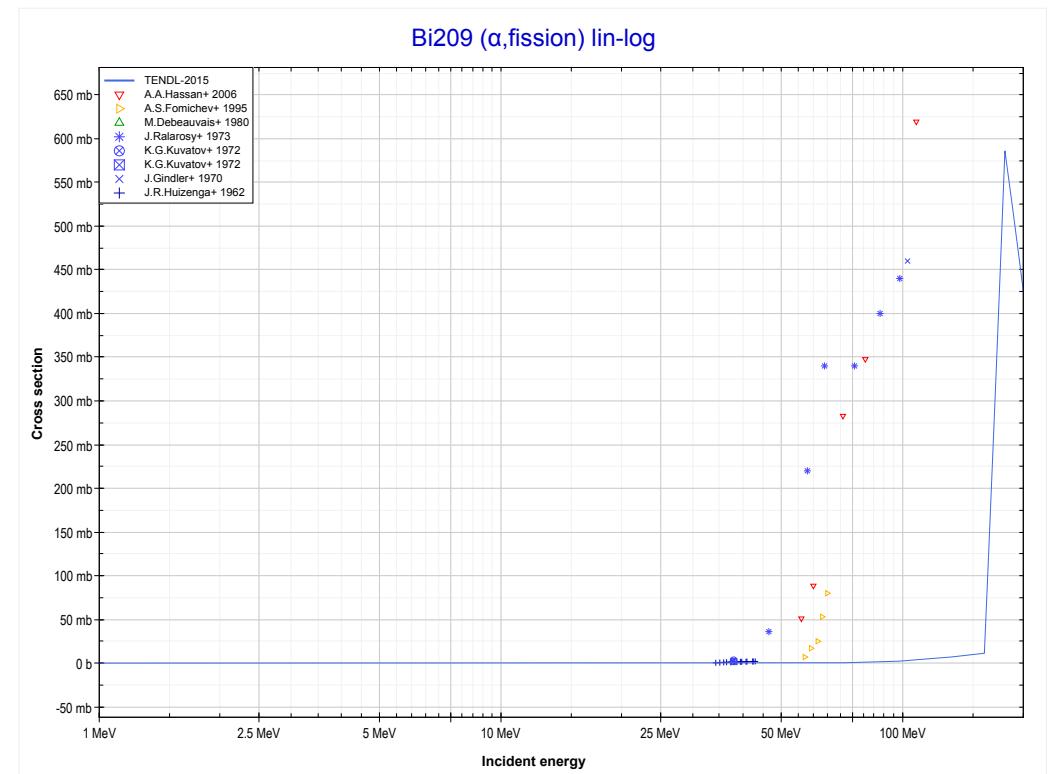
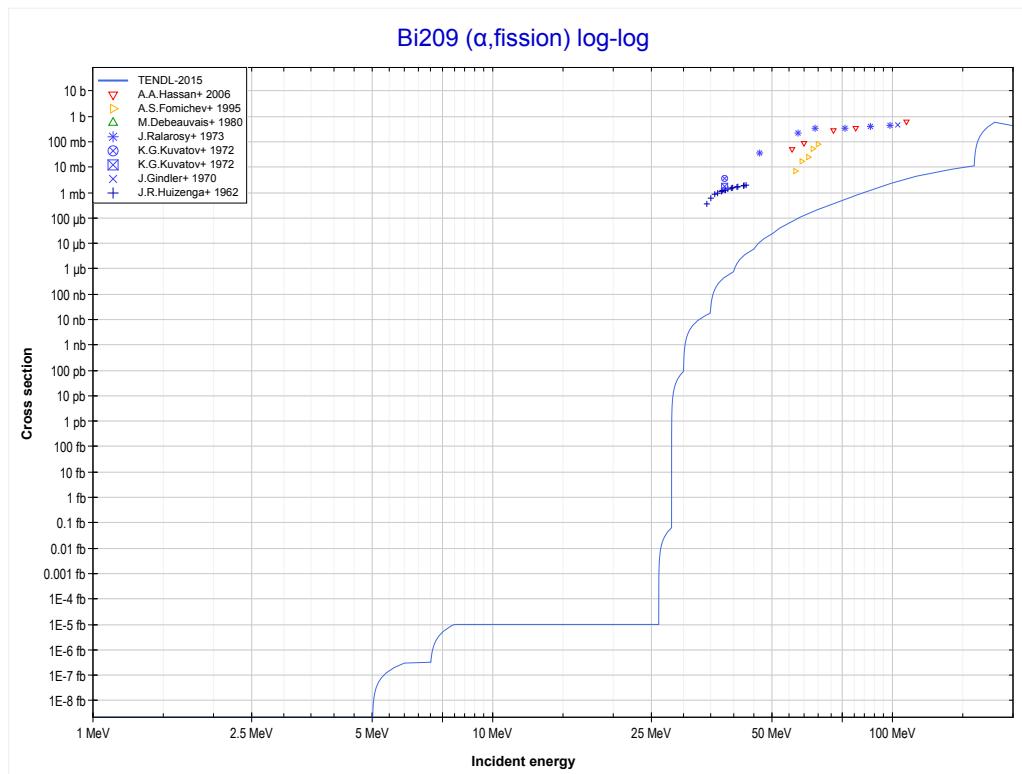
Reaction	Q-Value
Bi209( $\alpha$ ,2n)At211	-20329.12 keV

<< 82-Pb-206	83-Bi-209 MT17 ( $\alpha$ ,3n) or MT5 (At210 production)	92-U-235 >>
<< MT16 ( $\alpha$ ,2n)		MT18 ( $\alpha$ ,fission) >>

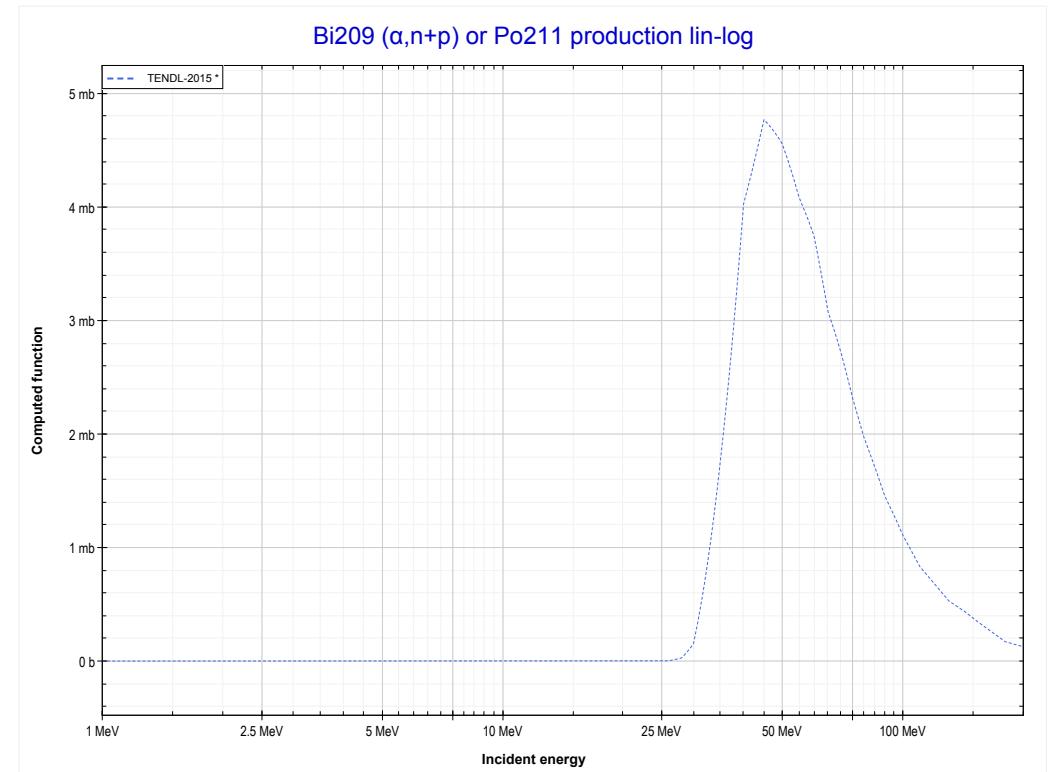
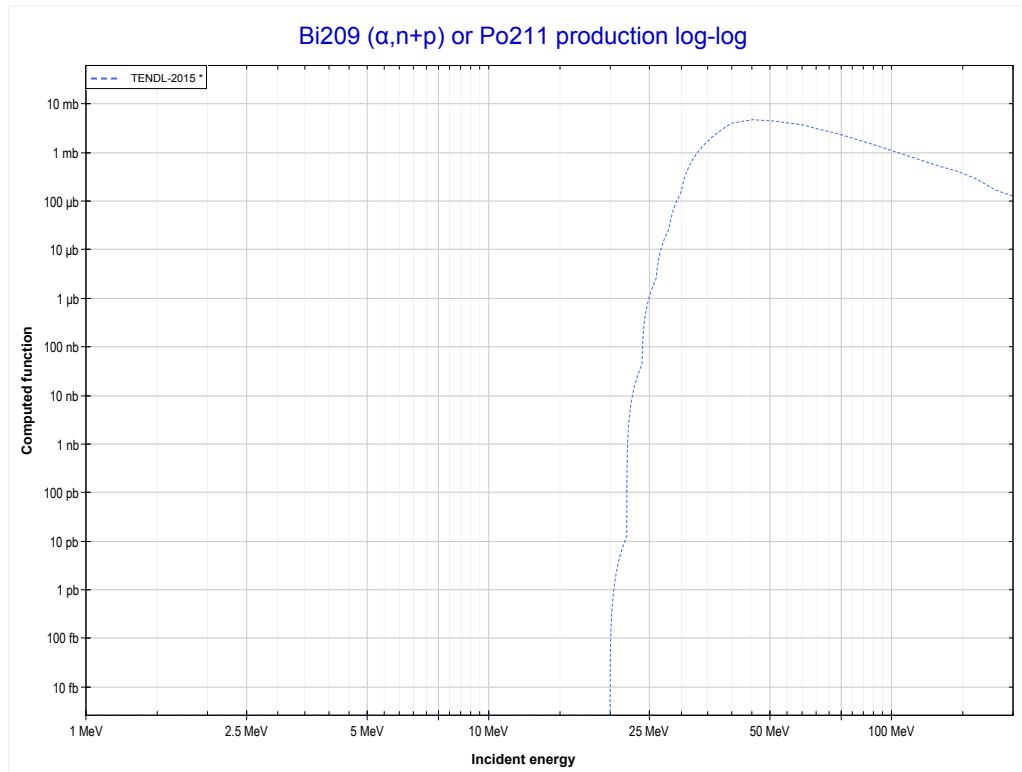


Reaction	Q-Value
Bi209( $\alpha$ ,3n)At210	-28075.24 keV

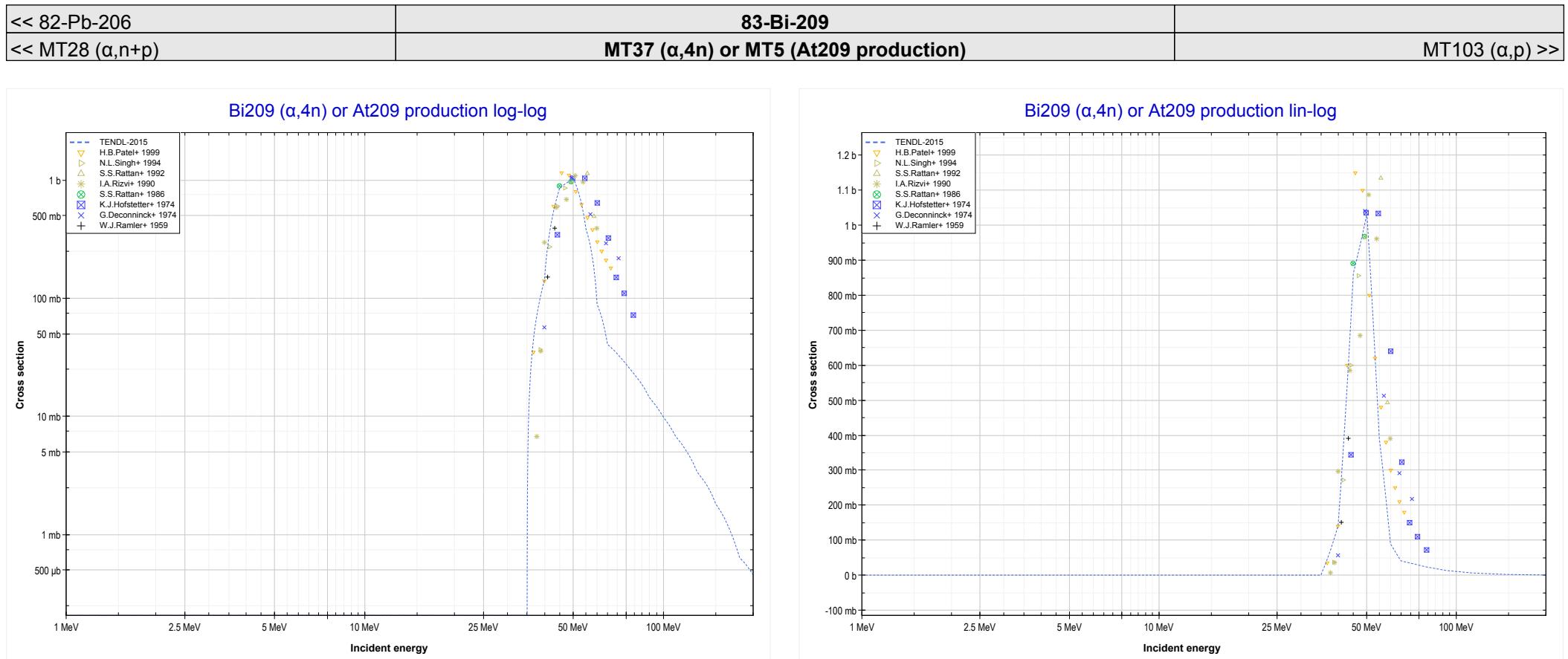
<< 82-Pb-208	<b>83-Bi-209</b> MT18 ( $\alpha$ ,fission)	88-Ra-226 >>
<< MT17 ( $\alpha$ ,3n) >>		MT28 ( $\alpha$ ,n+p) >>



<< 68-Er-166	<b>83-Bi-209</b>	
<< MT18 ( $\alpha$ ,fission)	<b>MT28 (<math>\alpha</math>,n+p) or MT5 (Po211 production)</b>	<b>MT37 (<math>\alpha</math>,4n) &gt;&gt;</b>

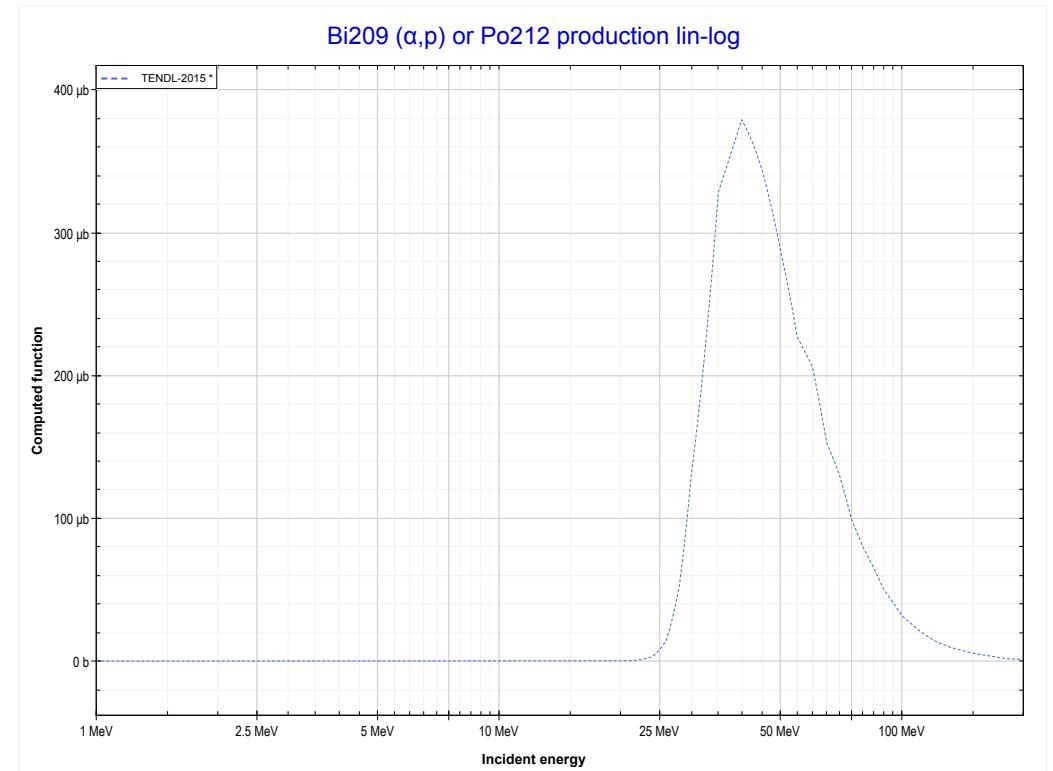
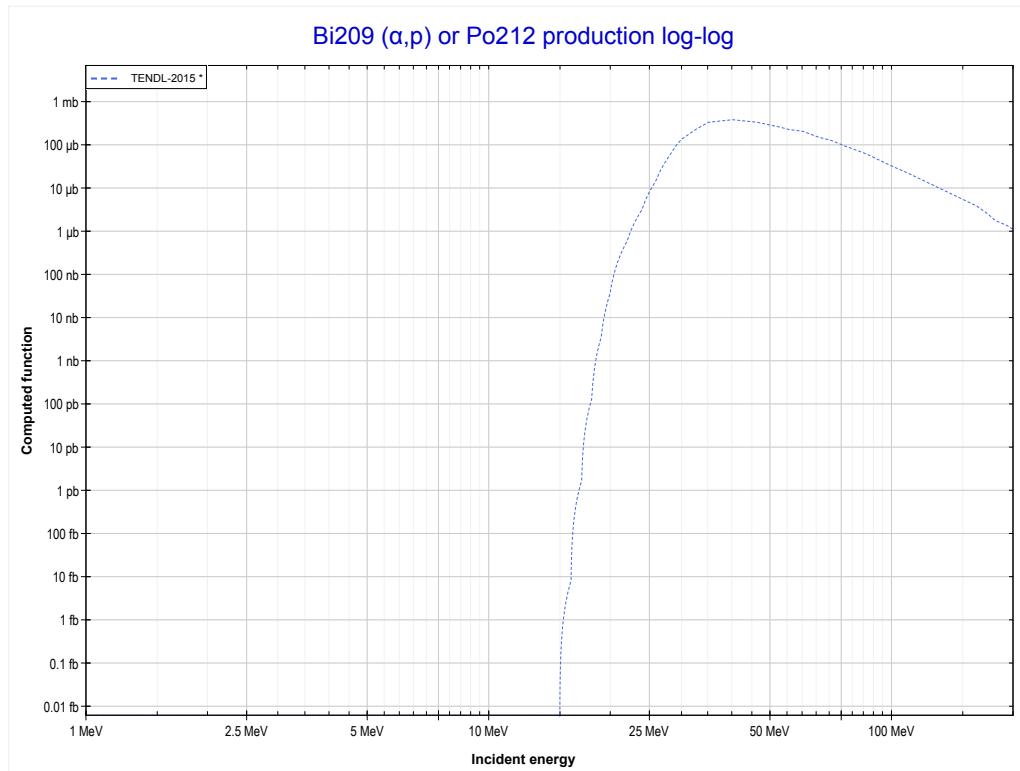


Reaction	Q-Value
Bi209( $\alpha$ ,d)Po211	-16536.91 keV
Bi209( $\alpha$ ,n+p)Po211	-18761.47 keV



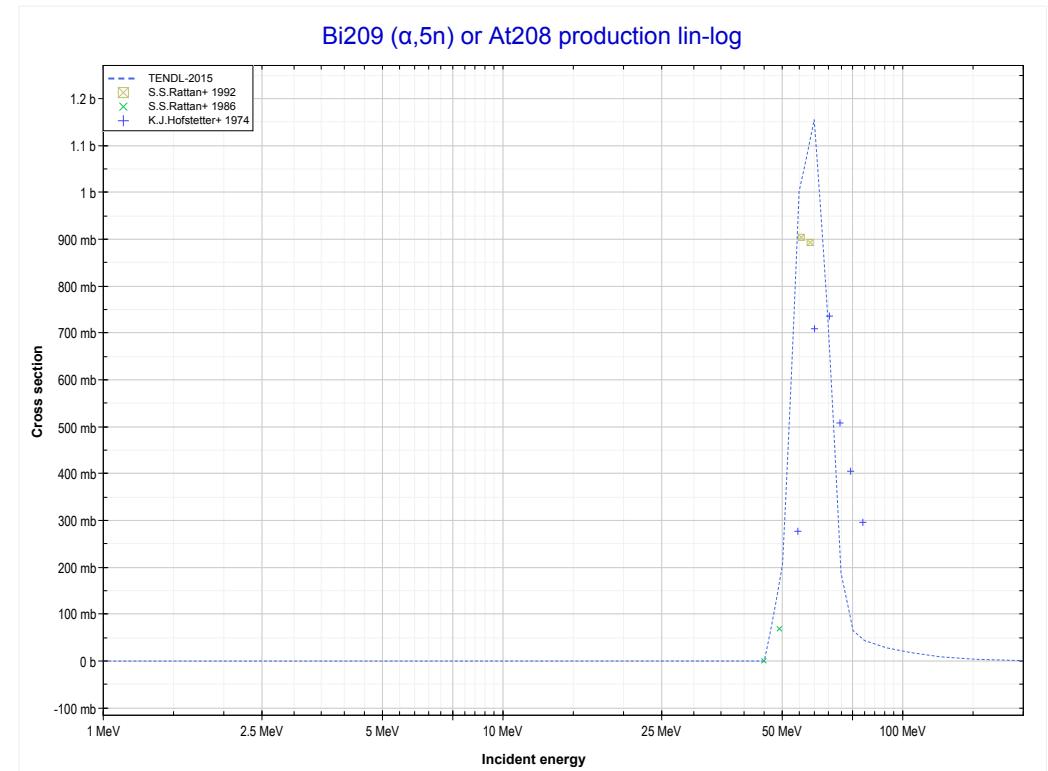
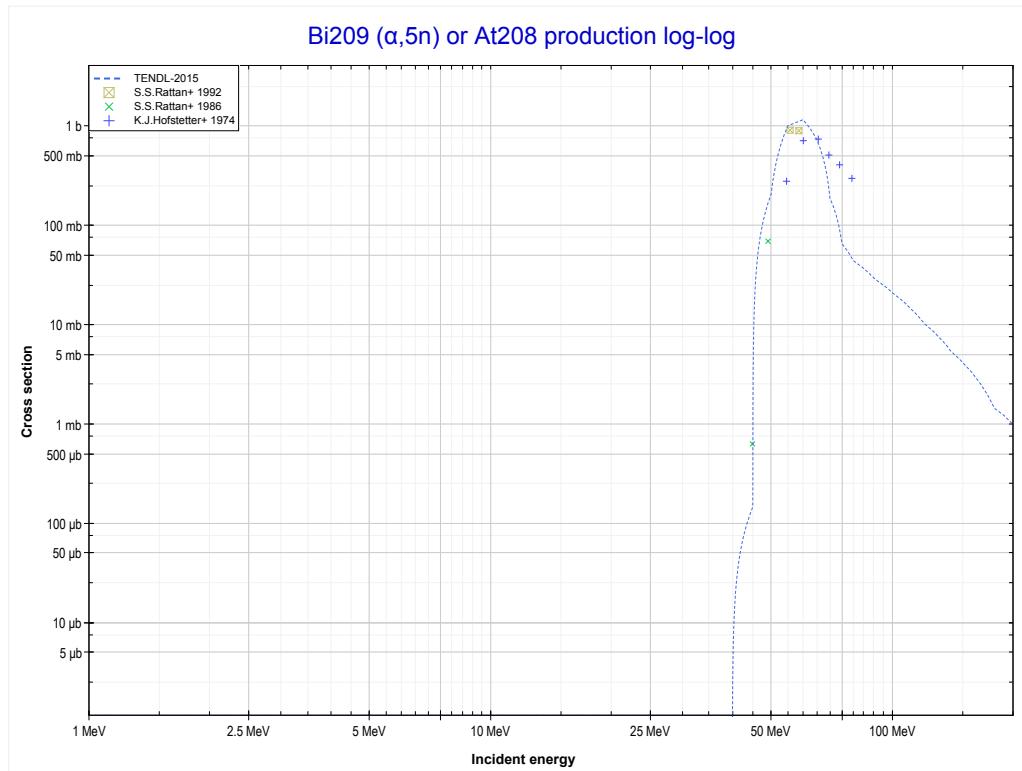
Reaction	Q-Value
Bi209( $\alpha$ ,4n)At209	-35236.55 keV

<< 74-W-186	<b>83-Bi-209</b> MT103 ( $\alpha, p$ ) or MT5 (Po212 production)	92-U-233 >>
<< MT37 ( $\alpha, 4n$ )		MT152 ( $\alpha, 5n$ ) >>



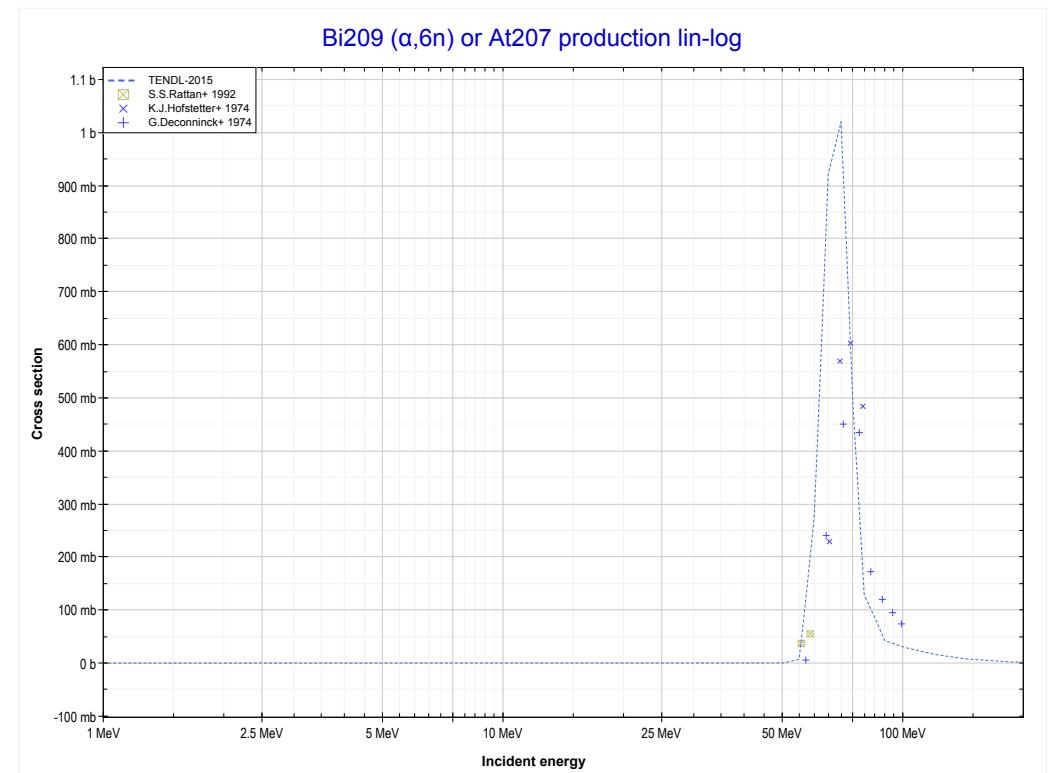
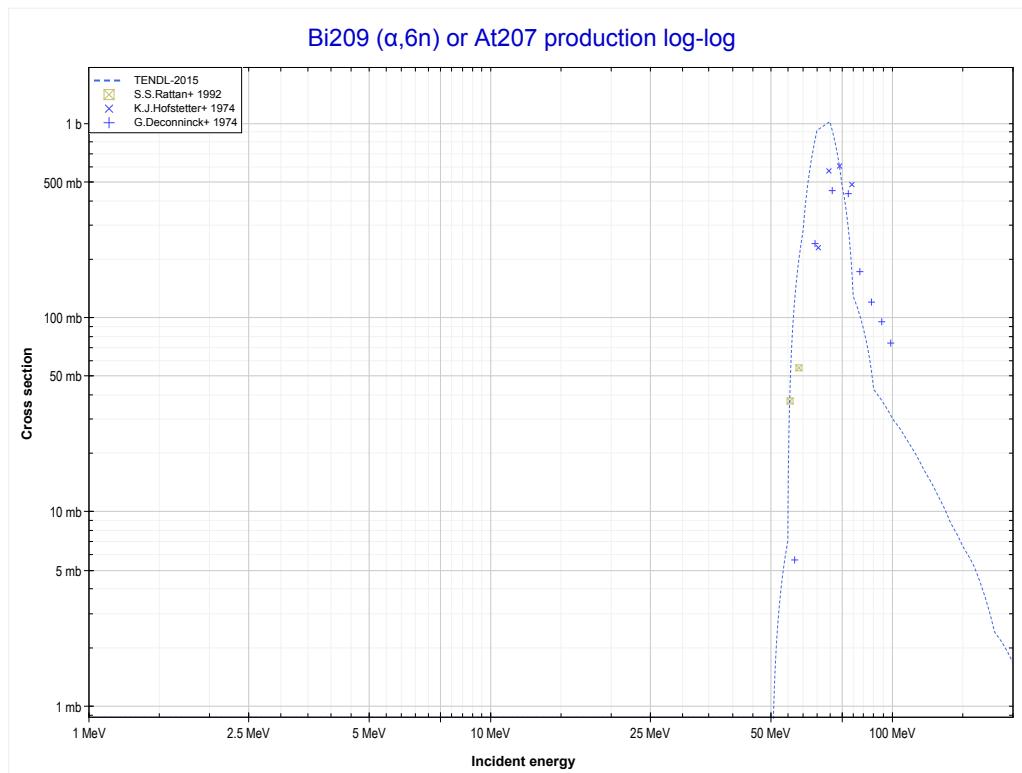
Reaction	Q-Value
Bi209( $\alpha, p$ )Po212	-12753.25 keV

<< 82-Pb-206	<b>83-Bi-209</b> <b>MT152 (<math>\alpha,5n</math>) or MT5 (At208 production)</b>	MT153 ( $\alpha,6n$ ) >>
<< MT103 ( $\alpha,p$ )		



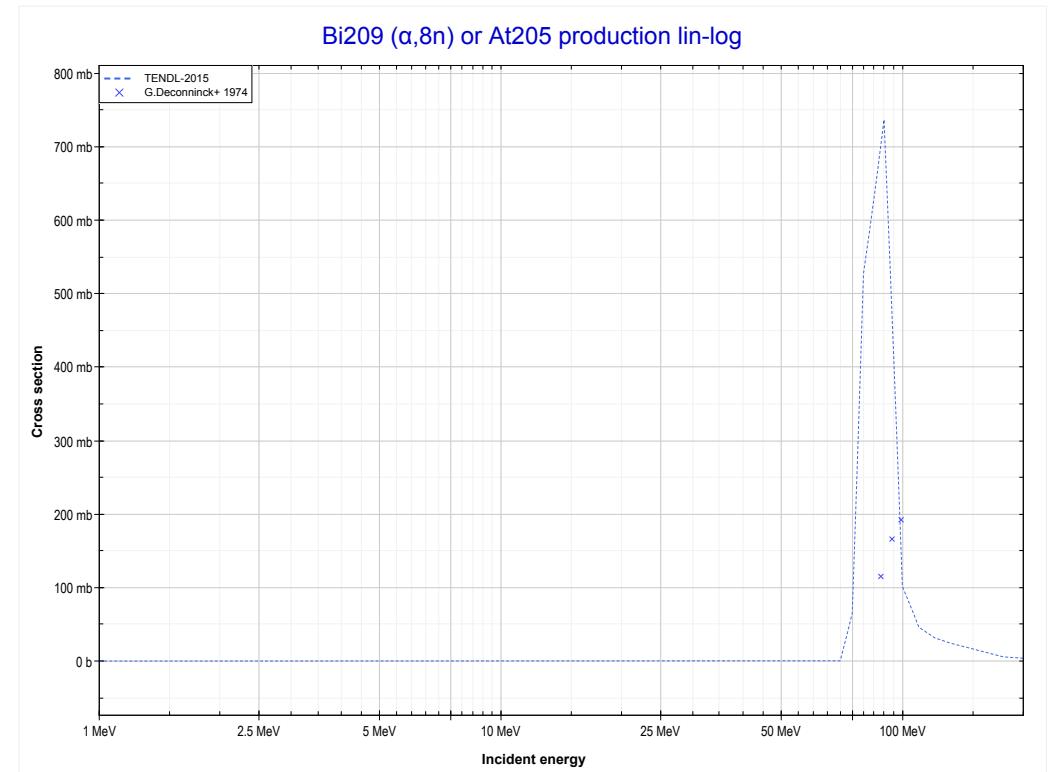
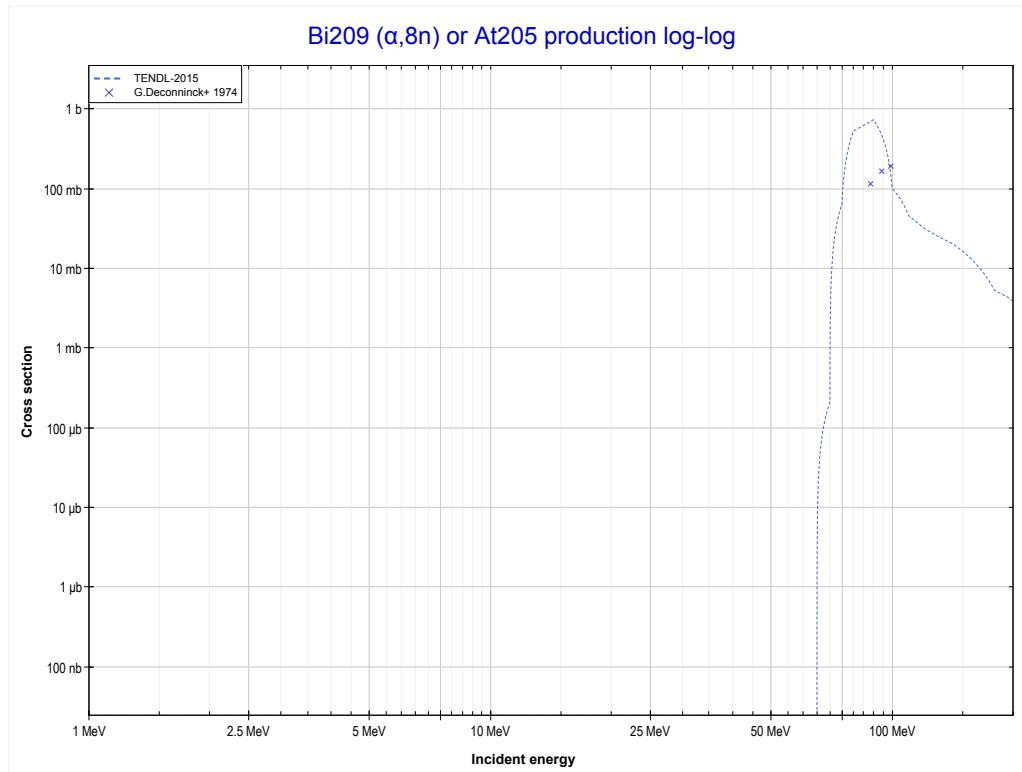
Reaction	Q-Value
Bi209( $\alpha,5n$ )At208	-43719.87 keV

<< 82-Pb-208	83-Bi-209 MT153 ( $\alpha,6n$ ) or MT5 (At207 production)	MT161 ( $\alpha,8n$ ) >>
<< MT152 ( $\alpha,5n$ )		



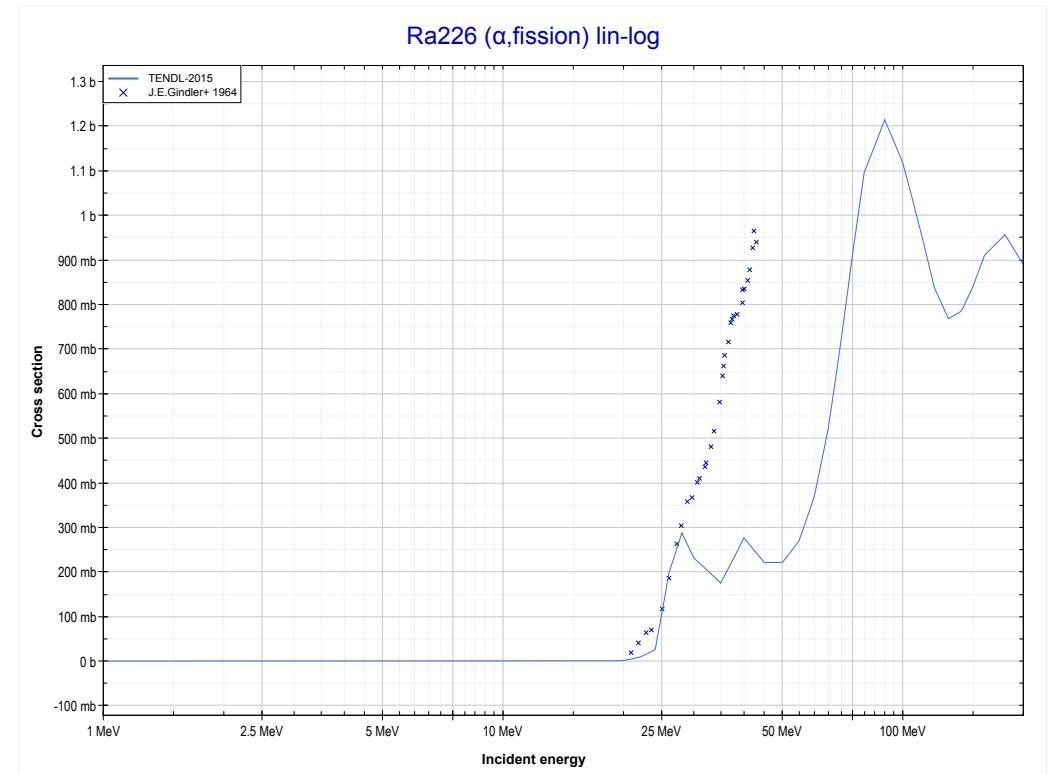
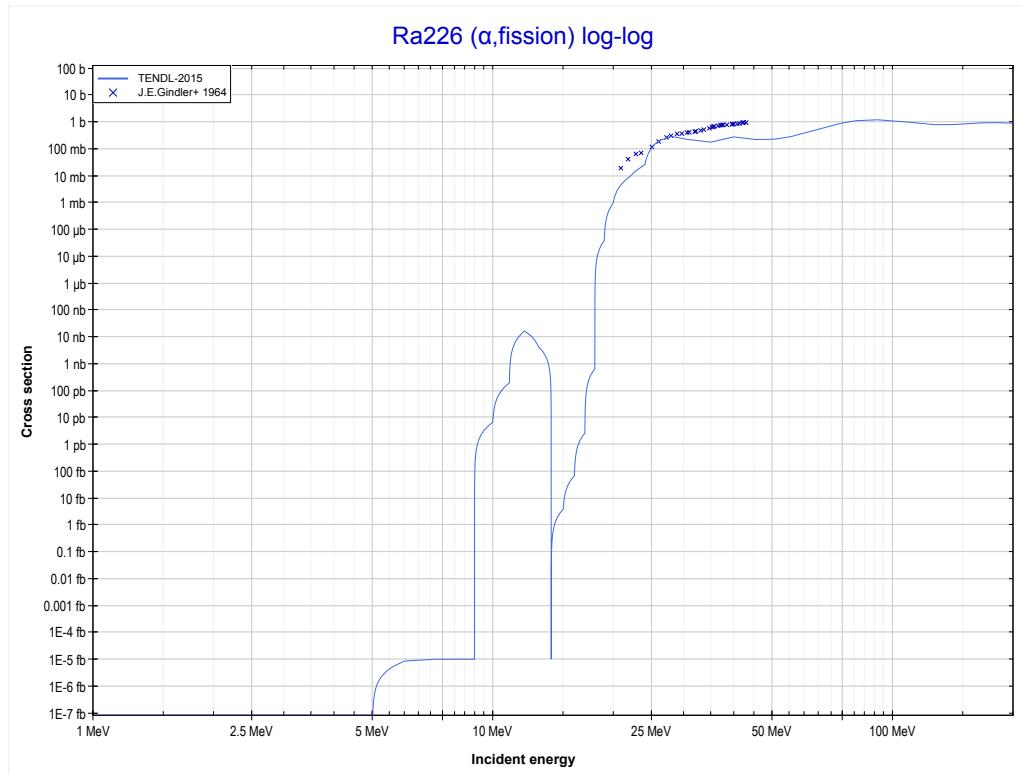
Reaction	Q-Value
Bi209( $\alpha,6n$ )At207	-51034.19 keV

<< 82-Pb-208	<b>83-Bi-209</b>	
<< MT153 ( $\alpha,6n$ )	<b>MT161 (<math>\alpha,8n</math>) or MT5 (At205 production)</b>	<b>88-Ra-226 MT18 (<math>\alpha,fission</math>) &gt;&gt;</b>

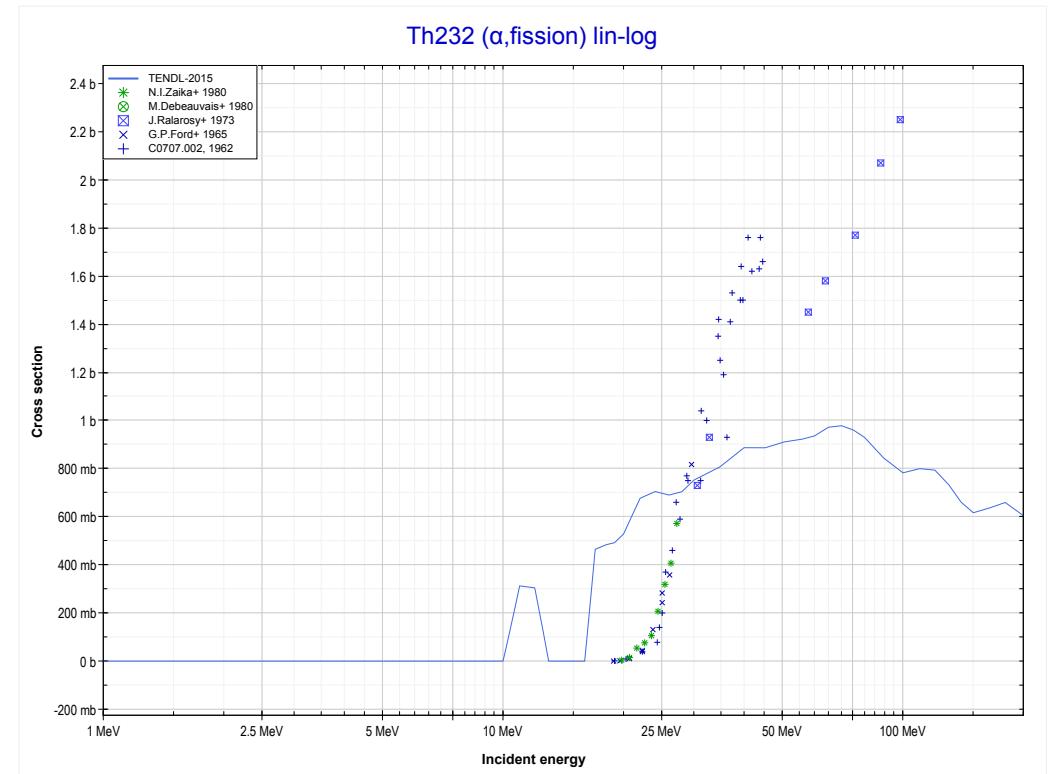
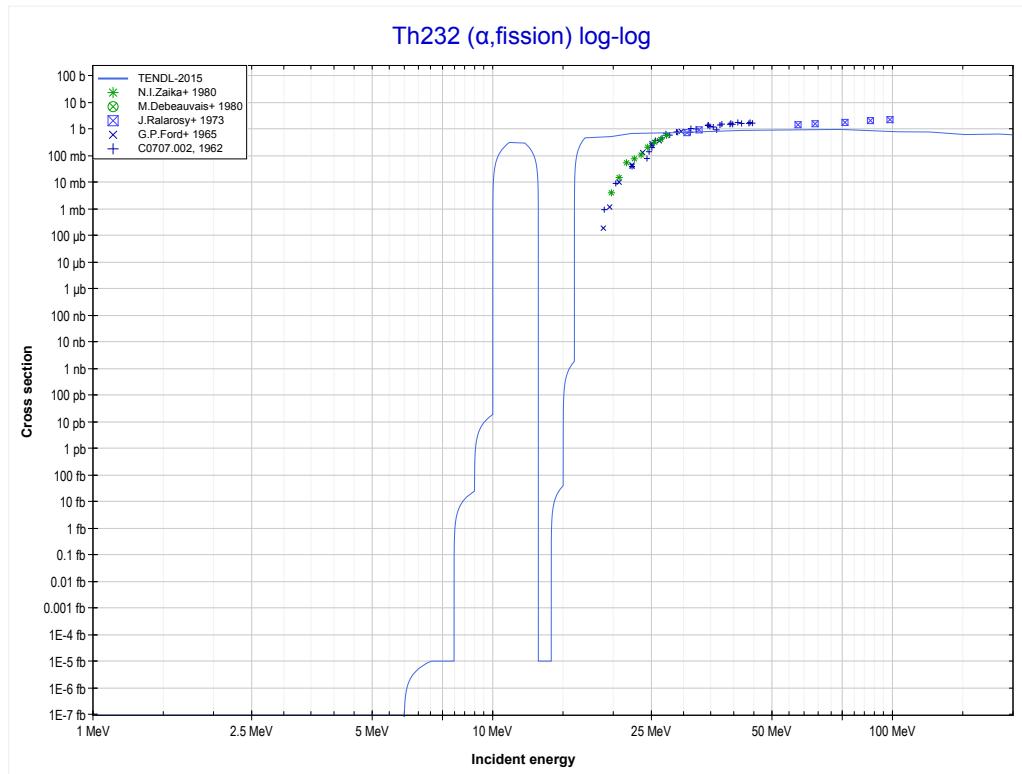


Reaction	Q-Value
Bi209( $\alpha,8n$ )At205	-67433.82 keV

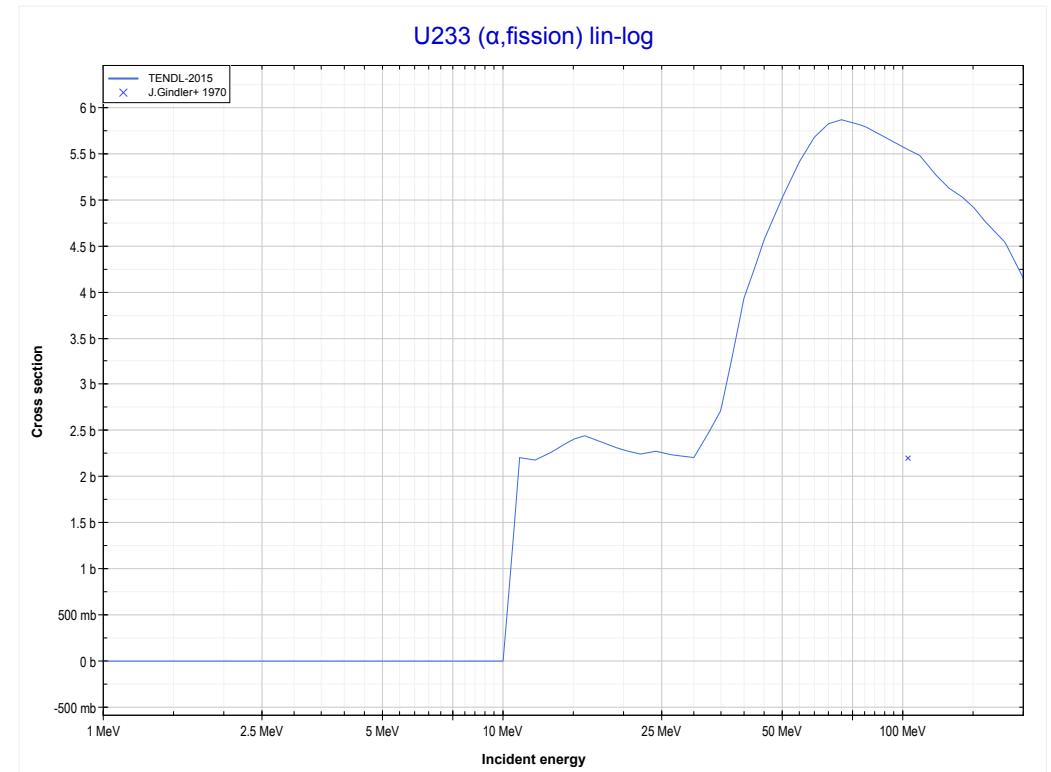
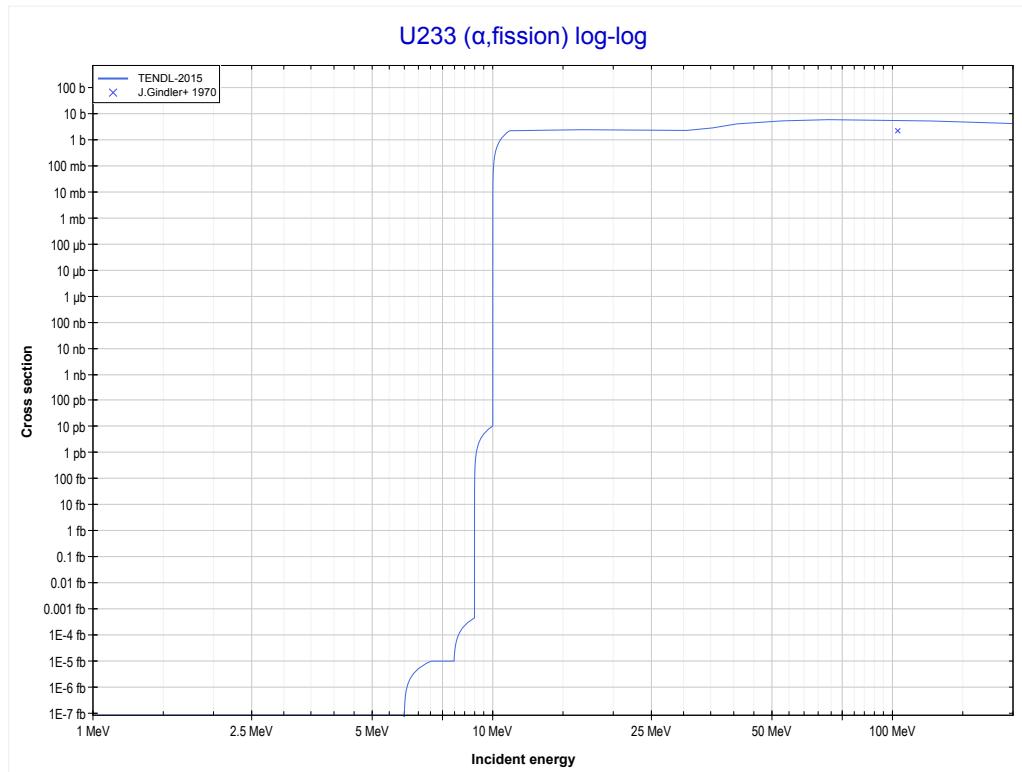
<< 83-Bi-209	<b>88-Ra-226</b> MT18 ( $\alpha$ ,fission)	90-Th-232 >>
<< 83-Bi-209 MT161 ( $\alpha$ ,8n)		90-Th-232 MT18 ( $\alpha$ ,fission) >>



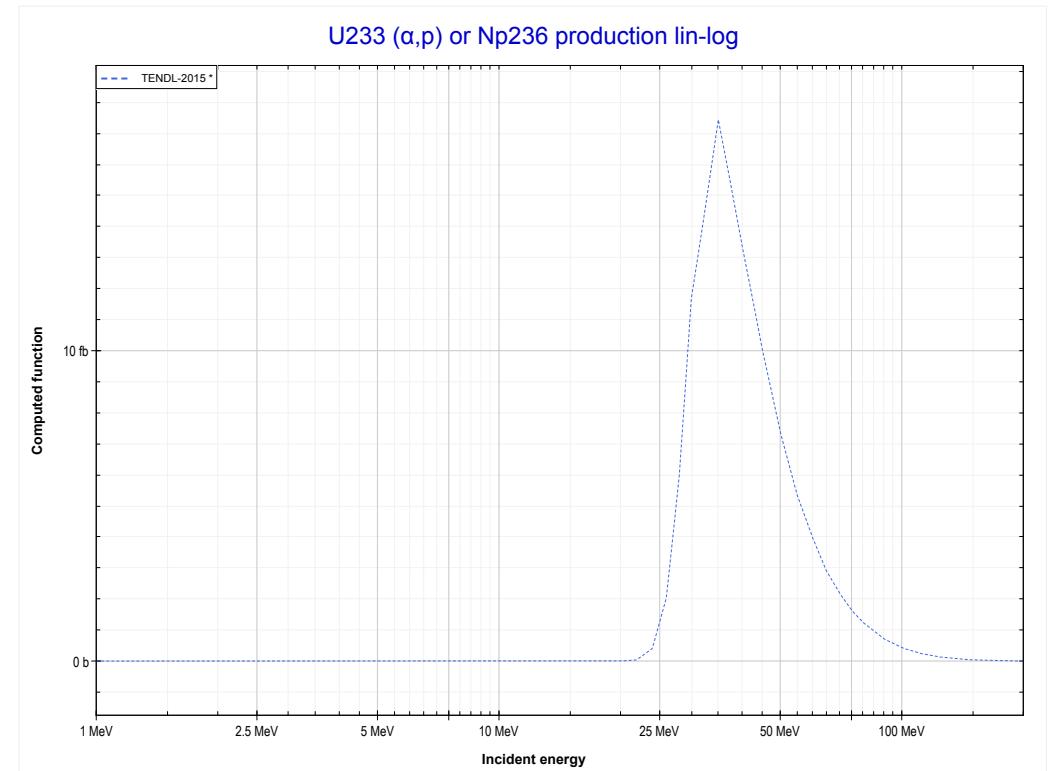
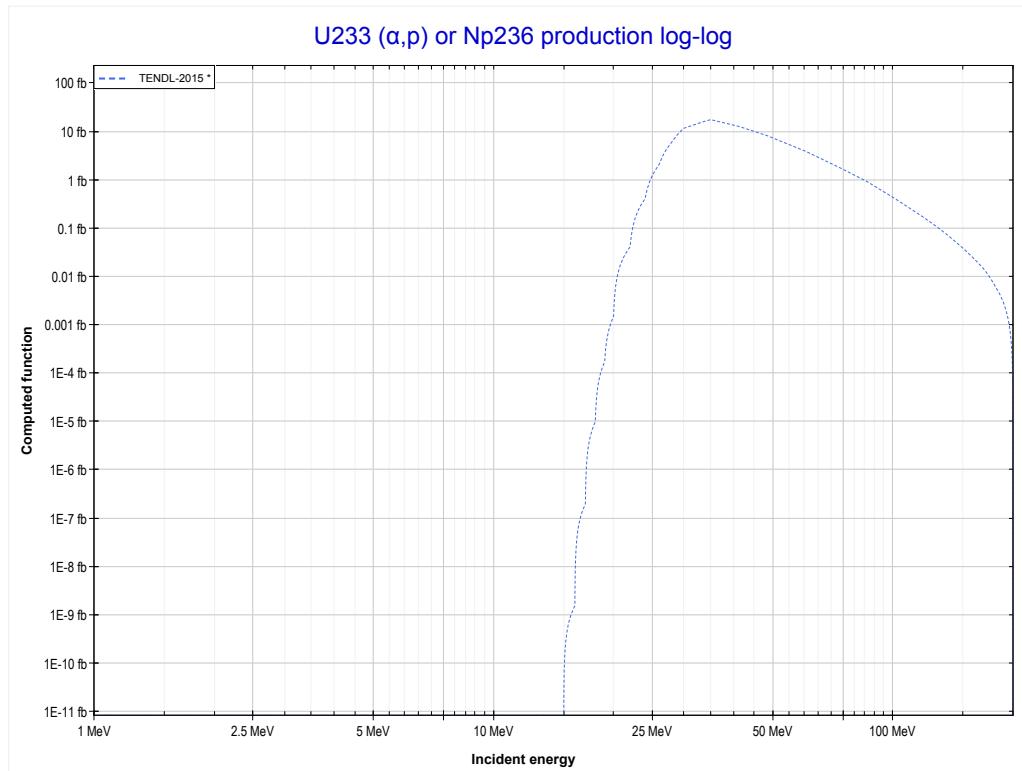
<< 88-Ra-226	90-Th-232 MT18 ( $\alpha$ ,fission)	92-U-233 >>
<< 88-Ra-226 MT18 ( $\alpha$ ,fission)		92-U-233 MT18 ( $\alpha$ ,fission) >>



<< 90-Th-232	<b>92-U-233</b>	92-U-234 >>
<< 90-Th-232 MT18 ( $\alpha$ ,fission)	<b>MT18 (<math>\alpha</math>,fission)</b>	MT103 ( $\alpha,p$ ) >>

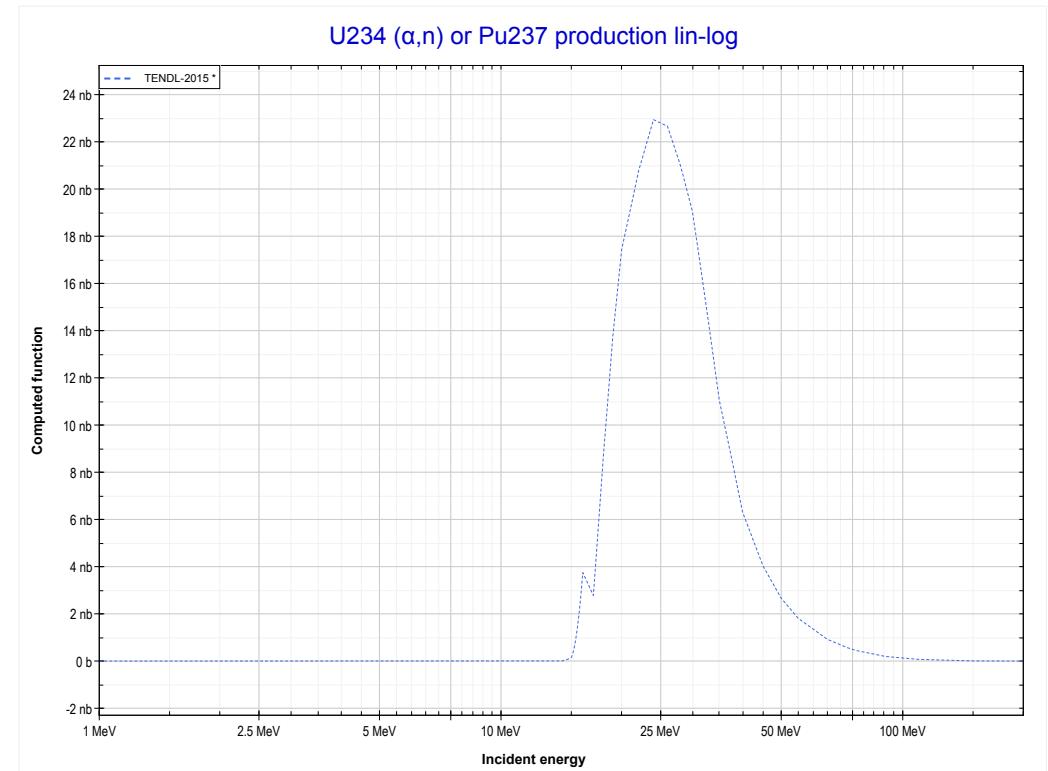
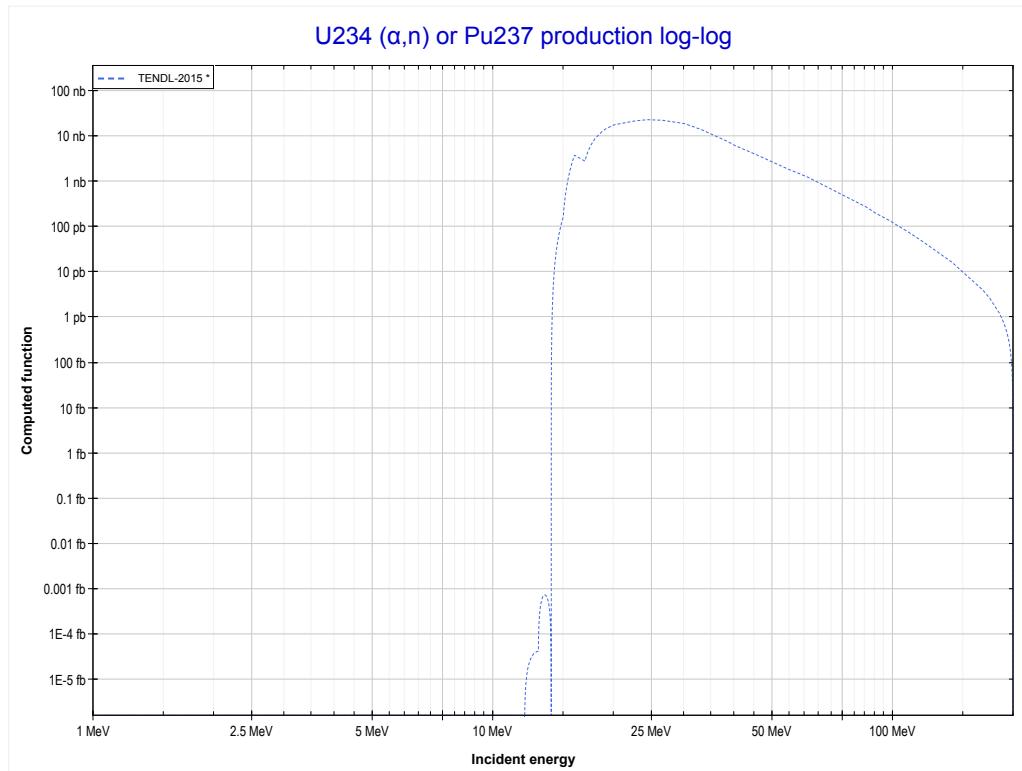


<< 83-Bi-209	<b>92-U-233</b> MT103 ( $\alpha,p$ ) or MT5 (Np236 production)	92-U-235 >>
<< MT18 ( $\alpha,fission$ )		92-U-234 MT4 ( $\alpha,n$ ) >>



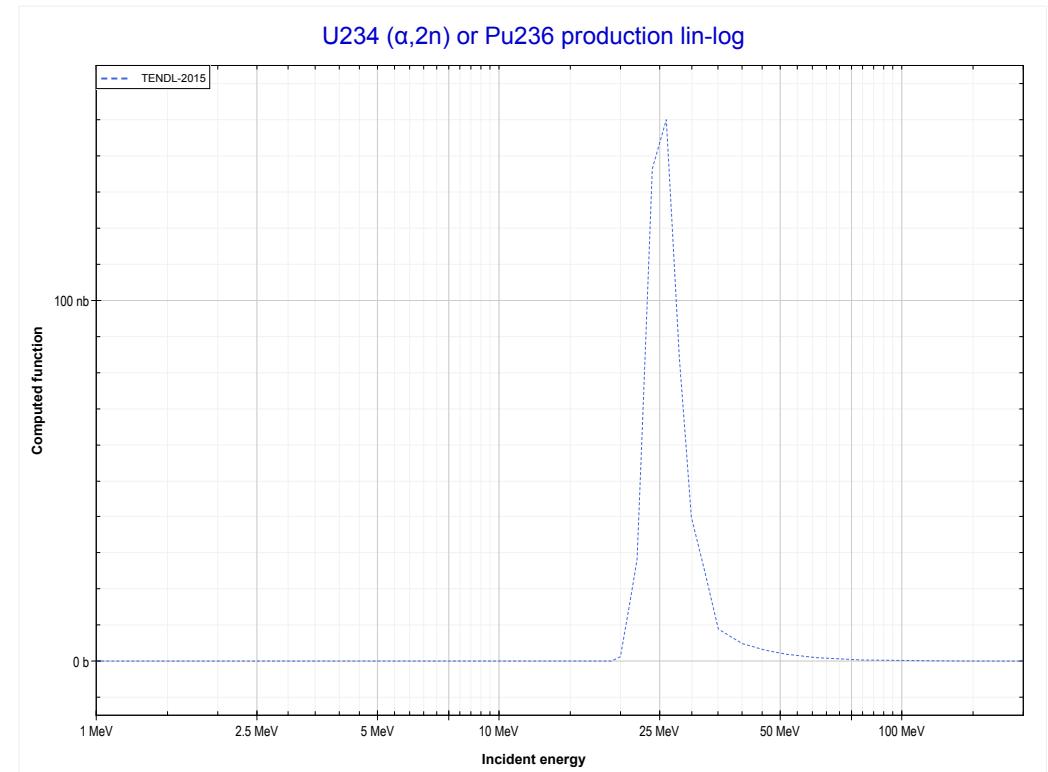
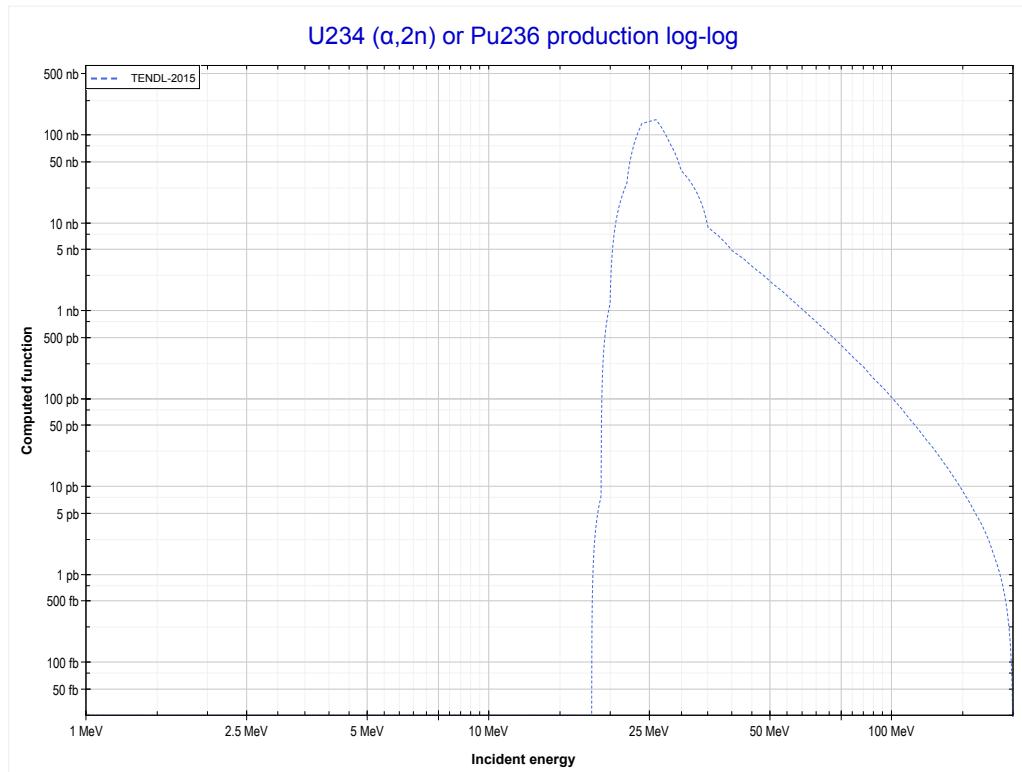
Reaction	Q-Value
U233( $\alpha,p$ )Np236	-11323.75 keV

<< 83-Bi-209	<b>92-U-234</b> MT4 ( $\alpha, n$ ) or MT5 (Pu237 production)	92-U-235 >>
<< 92-U-233 MT103 ( $\alpha, p$ )		MT16 ( $\alpha, 2n$ ) >>



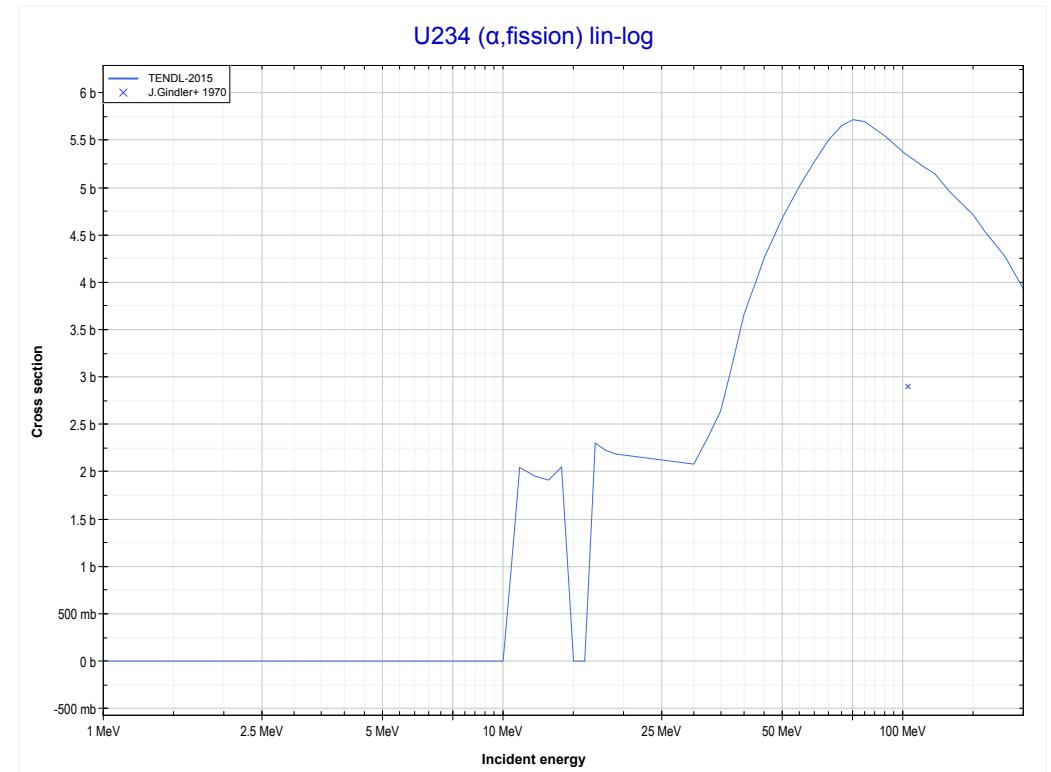
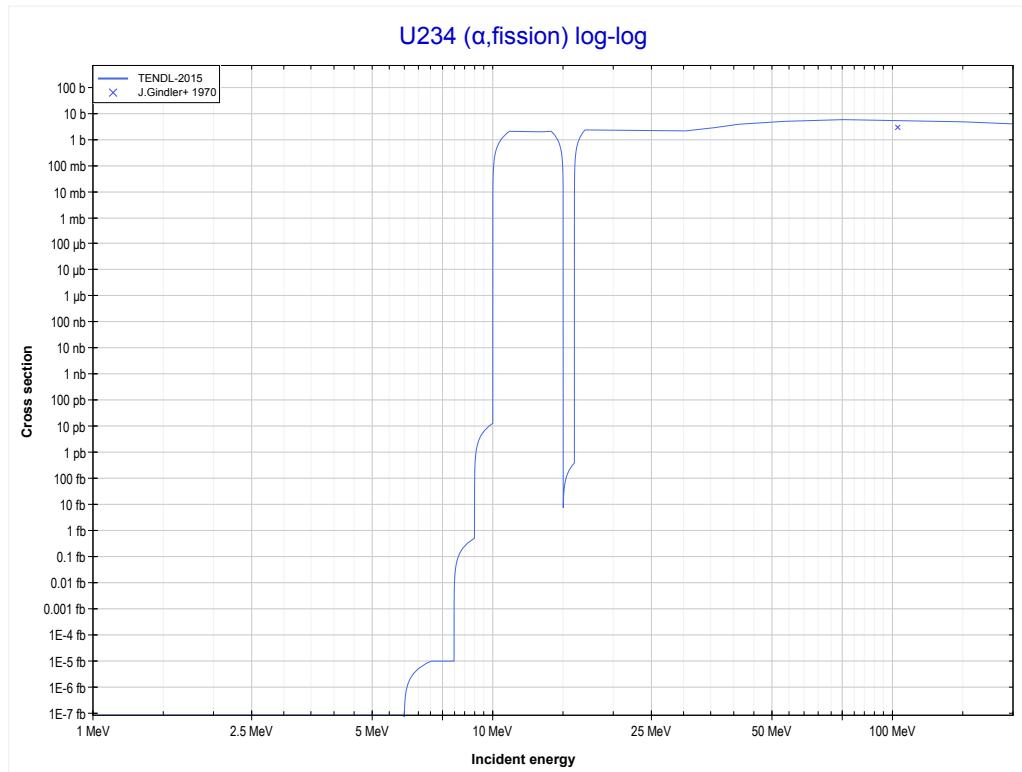
Reaction	Q-Value
U234( $\alpha, n$ )Pu237	-12593.10 keV

<< 83-Bi-209	<b>92-U-234</b> MT16 ( $\alpha,2n$ ) or MT5 (Pu236 production)	92-U-235 >>
<< MT4 ( $\alpha,n$ )		MT18 ( $\alpha,fission$ ) >>

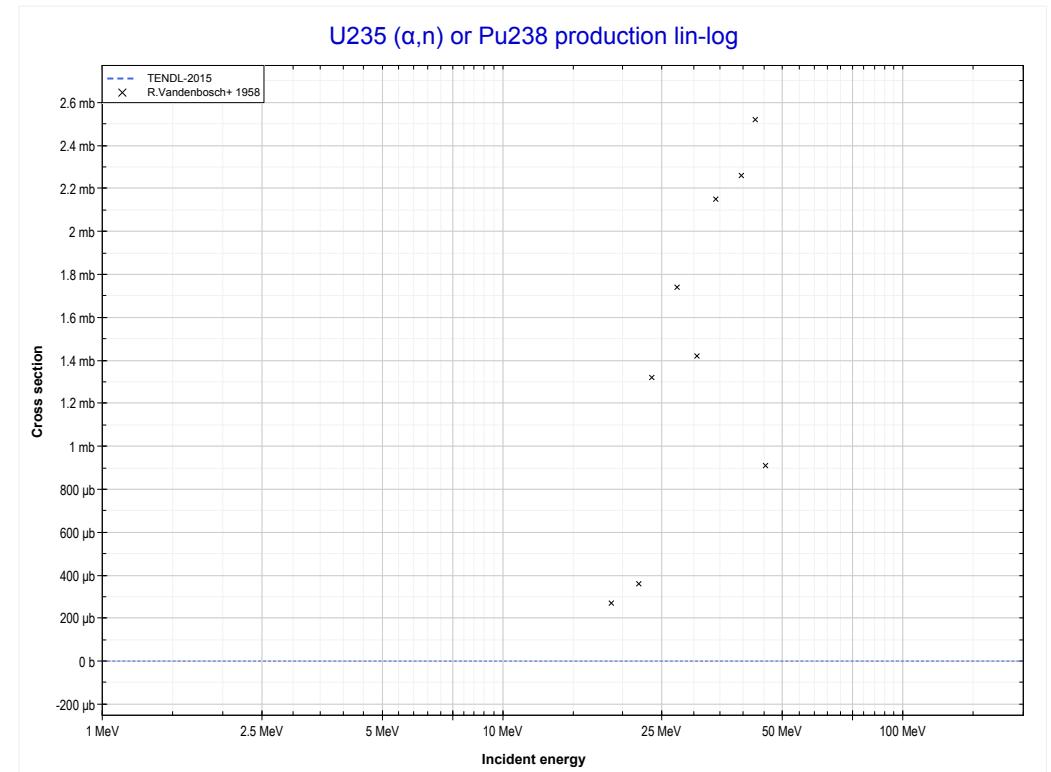
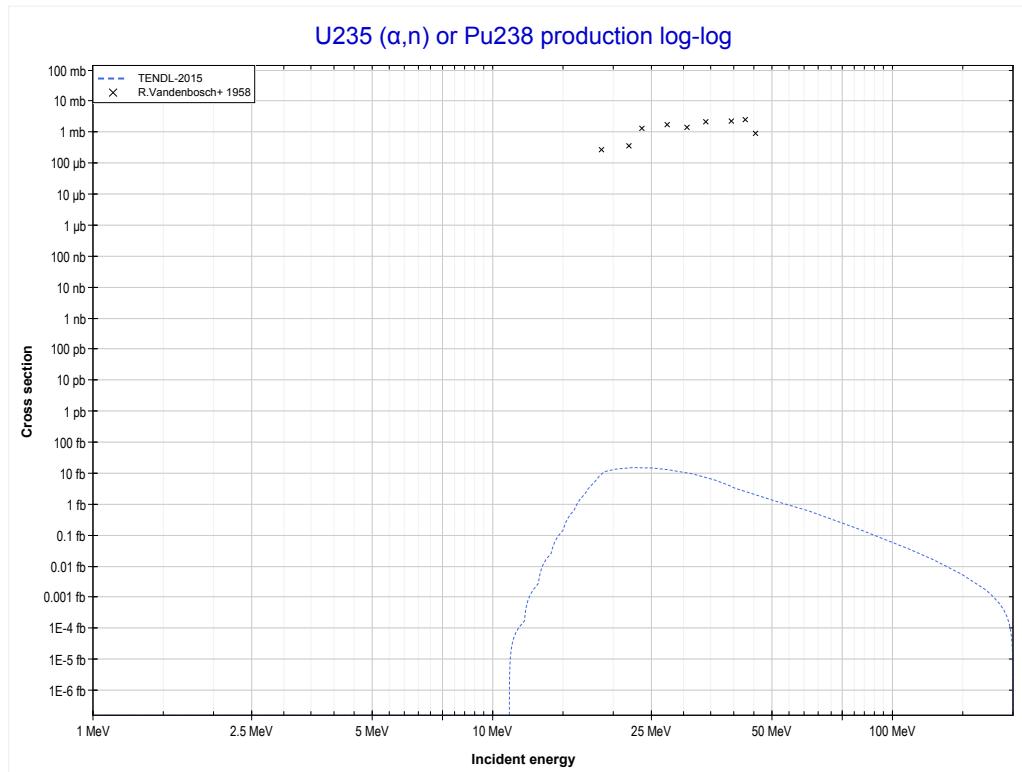


Reaction	Q-Value
U234( $\alpha,2n$ )Pu236	-18473.82 keV

<< 92-U-233	<b>92-U-234</b> MT18 ( $\alpha$ ,fission)	92-U-235 >>
<< MT16 ( $\alpha$ ,2n)		92-U-235 MT4 ( $\alpha$ ,n) >>

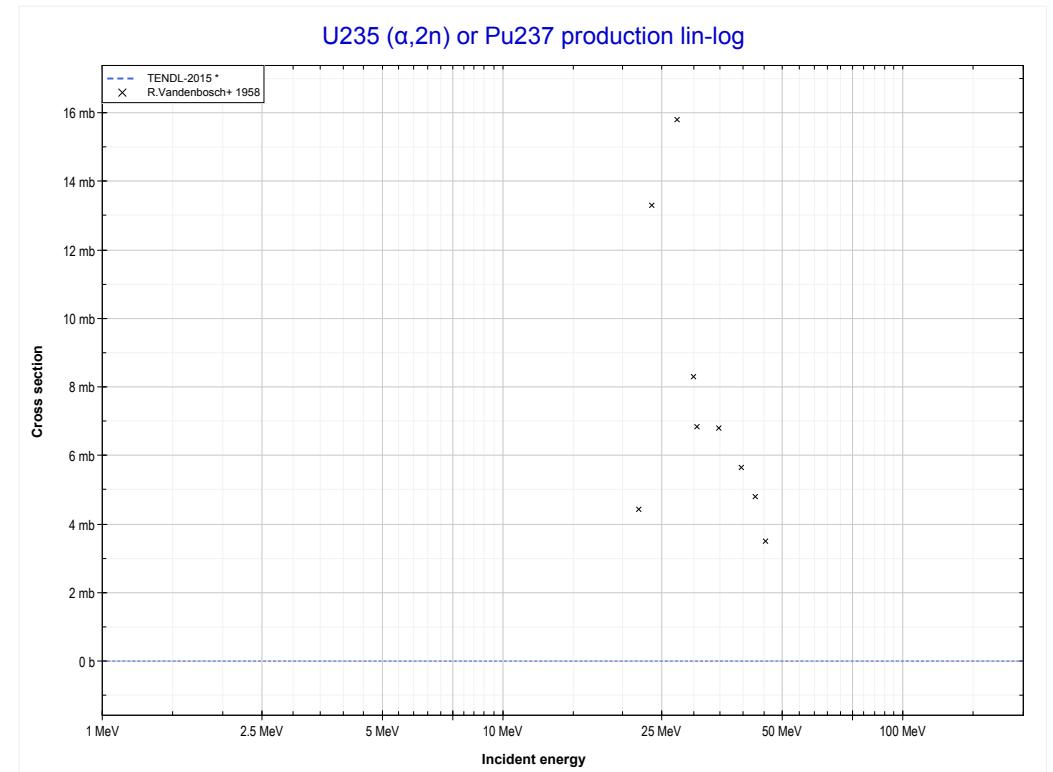
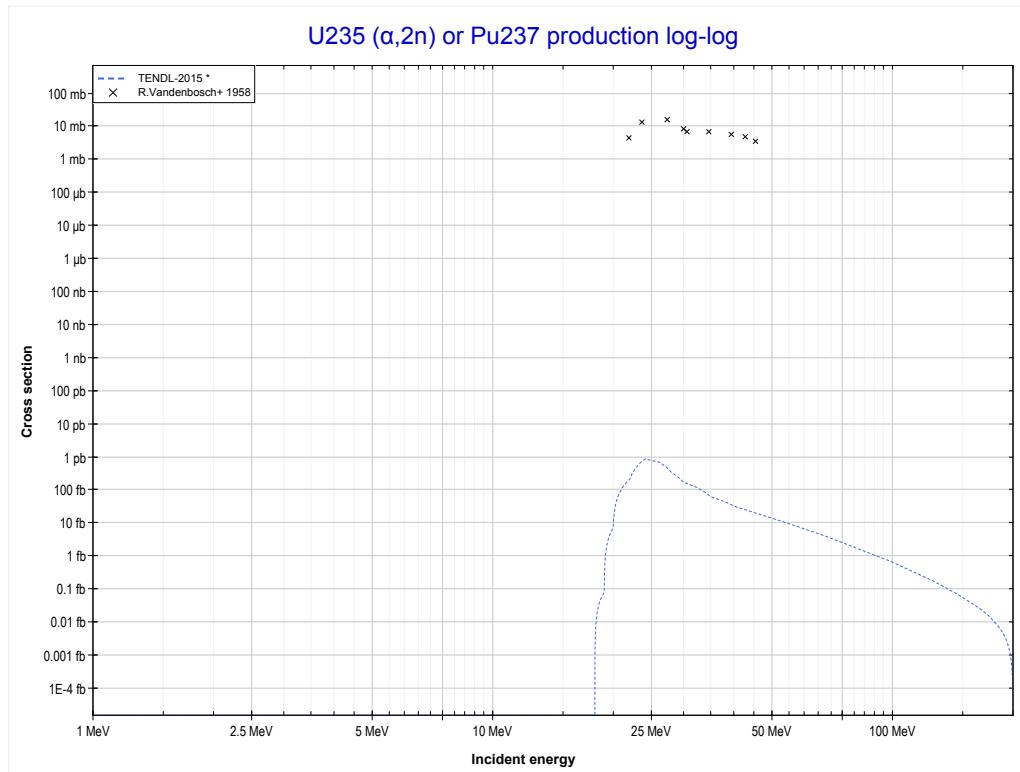


<< 92-U-234	<b>92-U-235</b>	93-Np-237 >>
<< 92-U-234 MT18 ( $\alpha$ ,fission)	<b>MT4 (<math>\alpha</math>,n) or MT5 (Pu238 production)</b>	MT16 ( $\alpha$ ,2n) >>



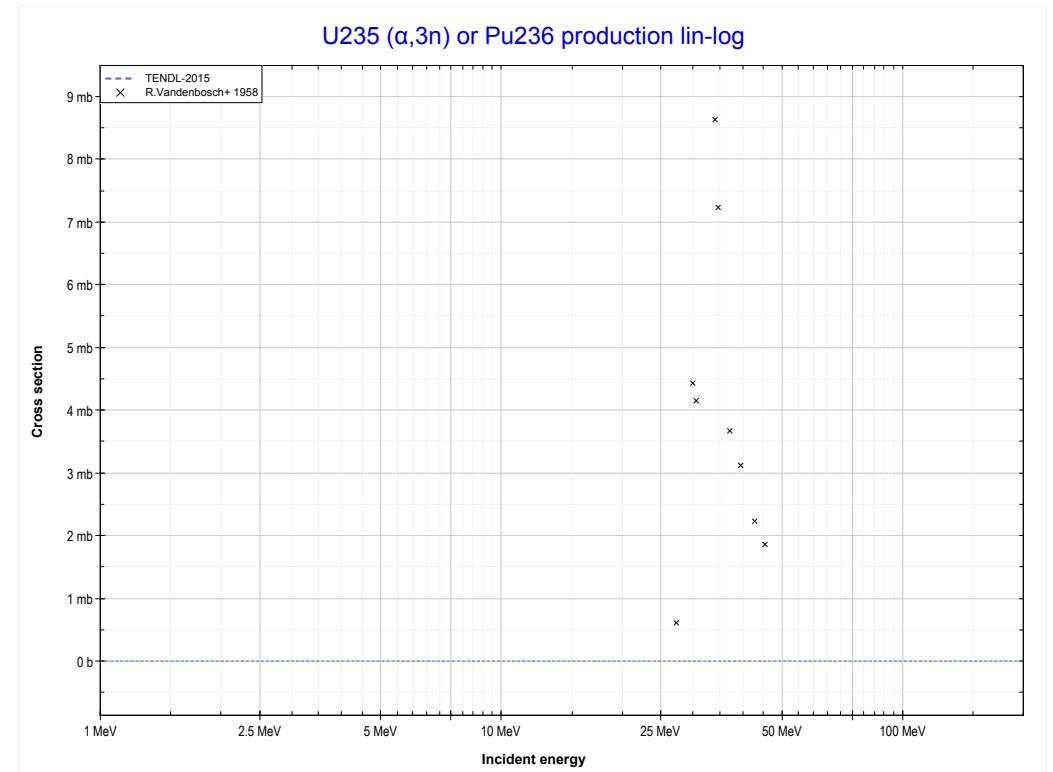
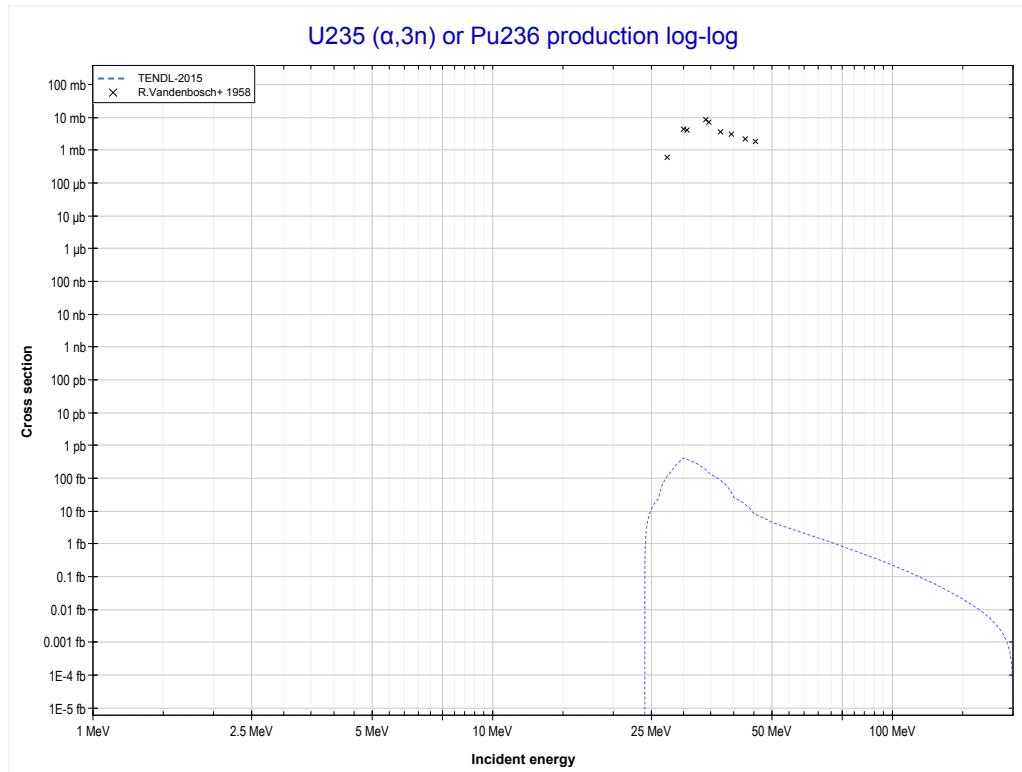
Reaction	Q-Value
U235( $\alpha$ ,n)Pu238	-10890.60 keV

<< 92-U-234	<b>92-U-235</b> MT16 ( $\alpha,2n$ ) or MT5 (Pu237 production)	92-U-238 >>
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>



Reaction	Q-Value
U235( $\alpha,2n$ )Pu237	-17890.52 keV

<< 83-Bi-209	<b>92-U-235</b> MT17 ( $\alpha,3n$ ) or MT5 (Pu236 production)	93-Np-237 >>
<< MT16 ( $\alpha,2n$ )		MT18 ( $\alpha,fission$ ) >>

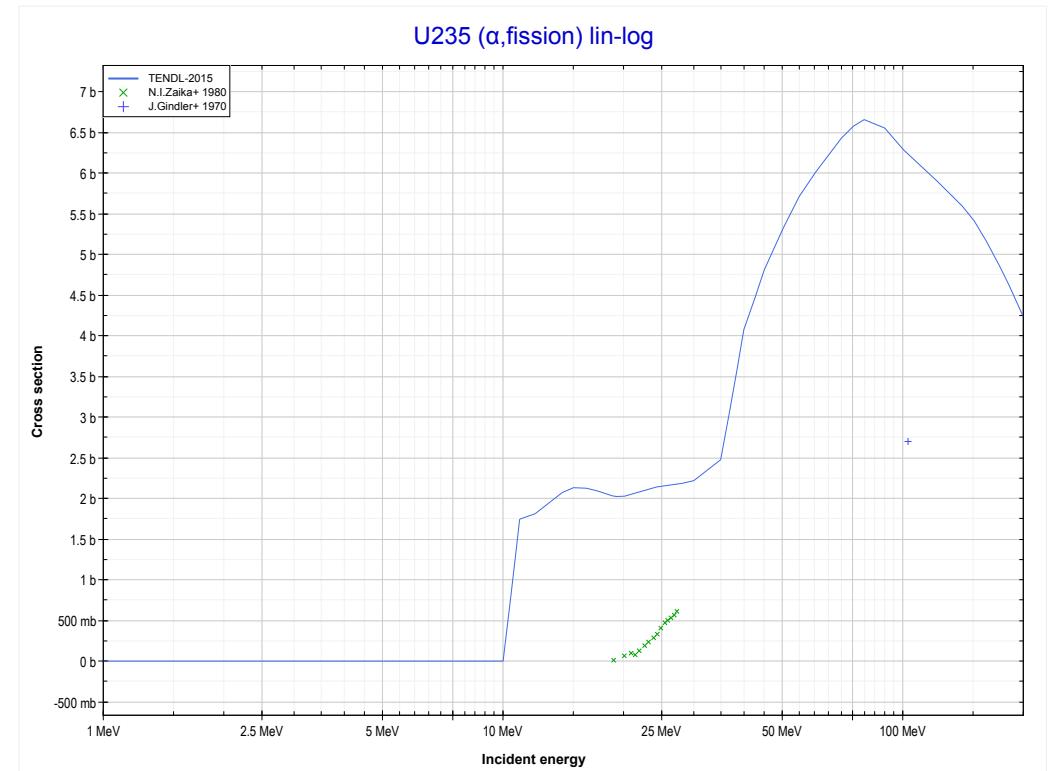
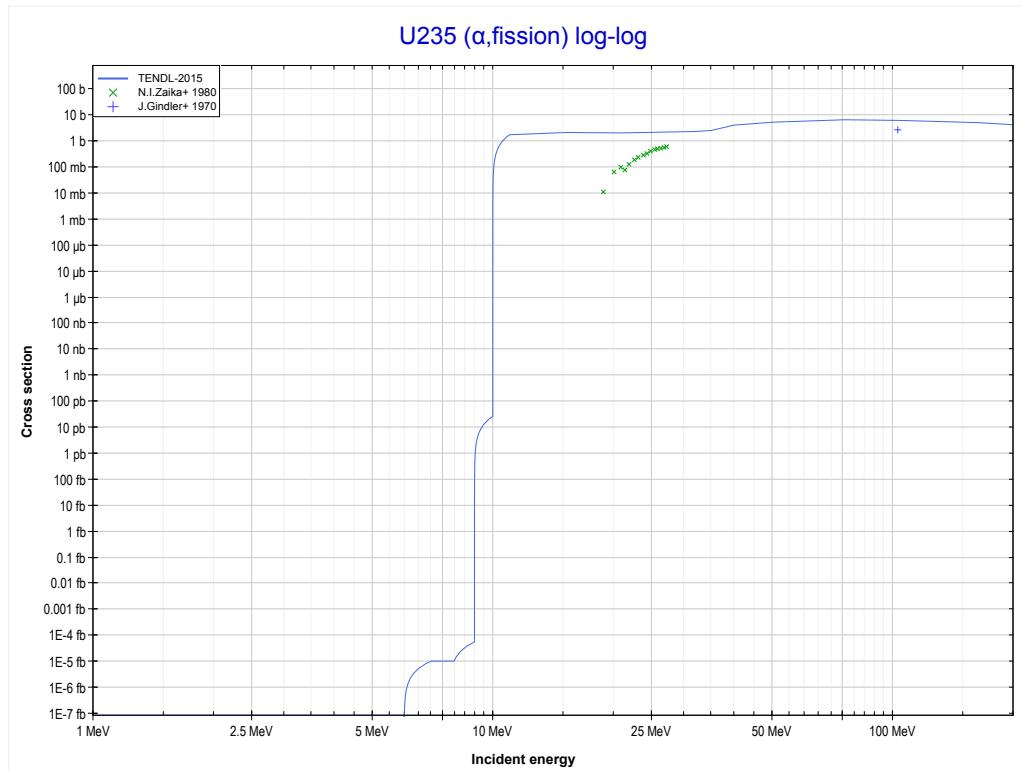


Reaction	Q-Value
U235( $\alpha,3n$ )Pu236	-23771.24 keV

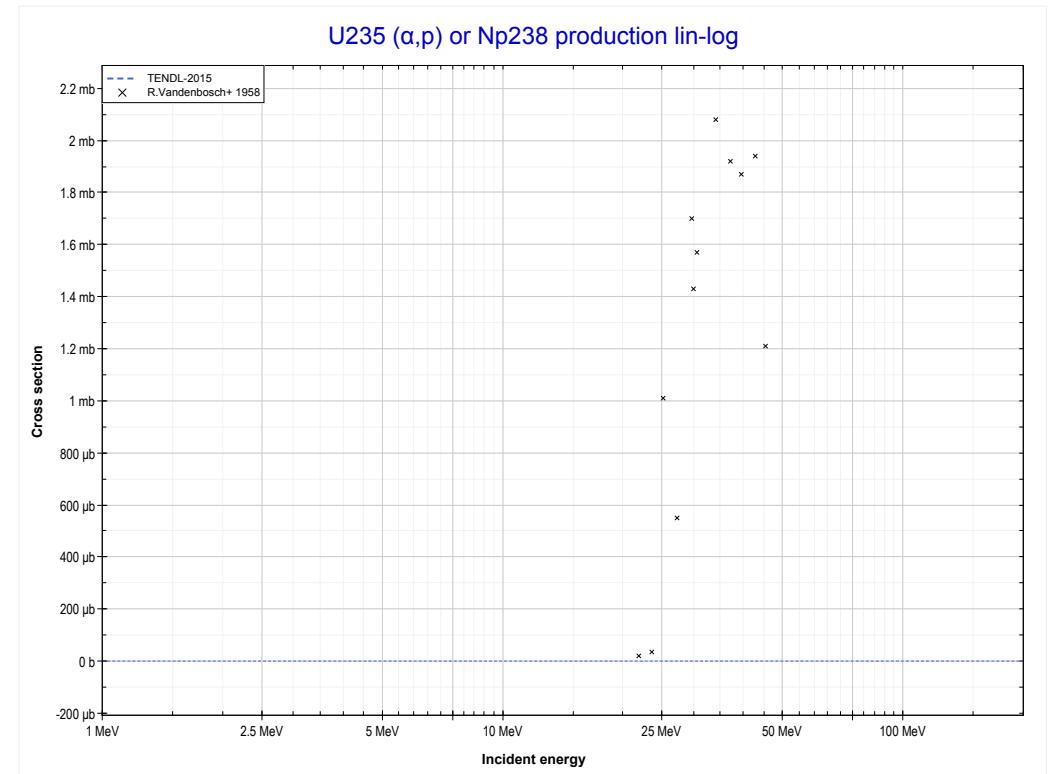
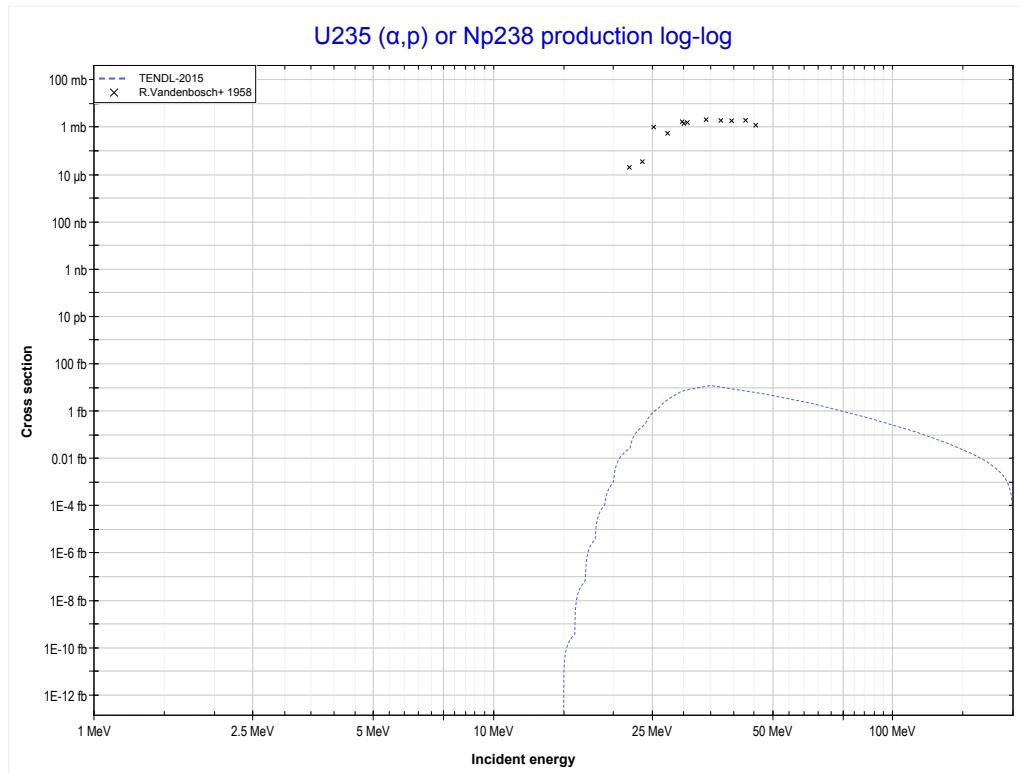
<< 92-U-234	
<< MT17 ( $\alpha$ ,3n)	

92-U-235
MT18 ( $\alpha$ ,fission)

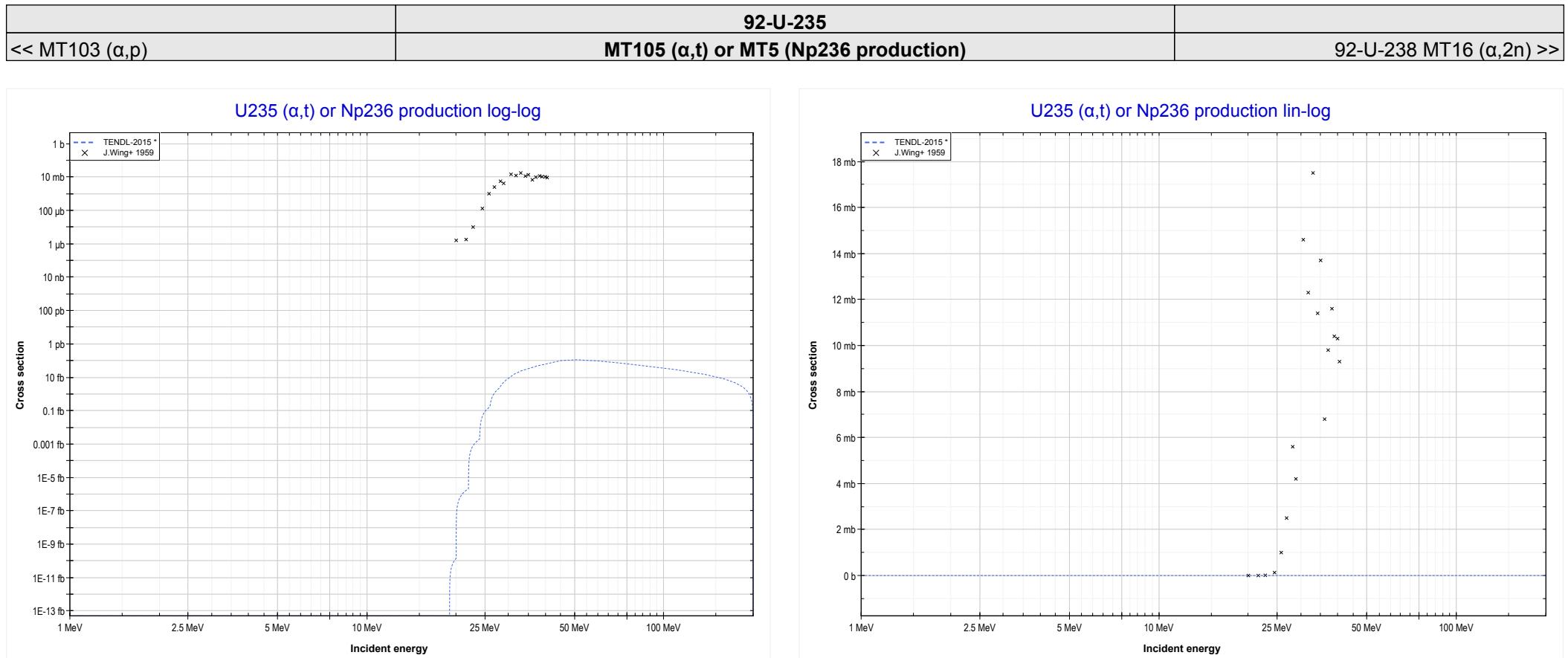
92-U-238 >>
MT103 ( $\alpha$ ,p) >>



<< 92-U-233	<b>92-U-235</b>	
<< MT18 ( $\alpha$ ,fission)	<b>MT103 (<math>\alpha,p</math>) or MT5 (Np238 production)</b>	<b>MT105 (<math>\alpha,t</math>) &gt;&gt;</b>

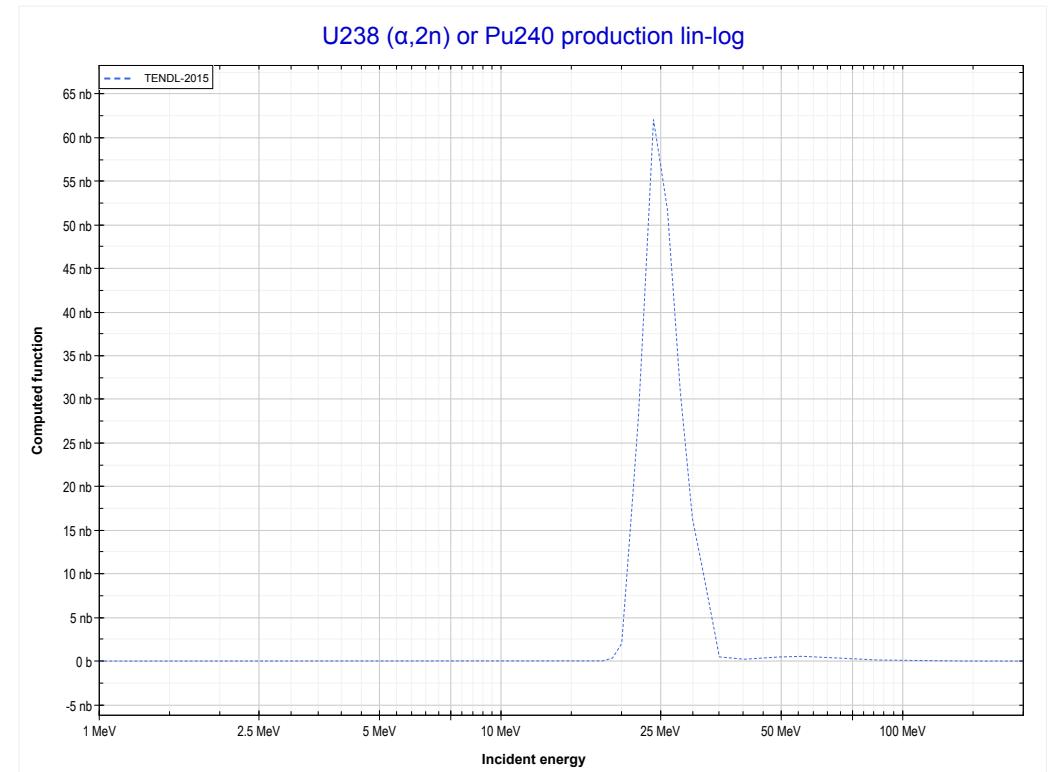
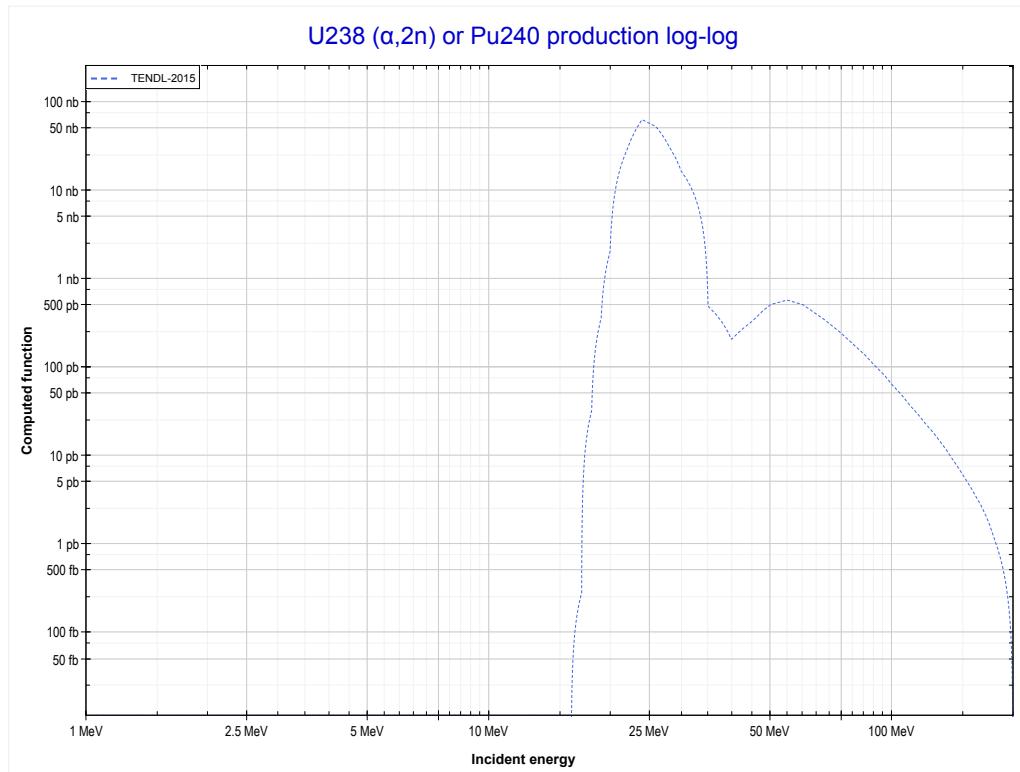


Reaction	Q-Value
U235( $\alpha,p$ )Np238	-11399.85 keV



Reaction	Q-Value
U235( $\alpha, t$ )Np236	-14984.19 keV
U235( $\alpha, n+d$ )Np236	-21241.42 keV
U235( $\alpha, 2n+p$ )Np236	-23465.99 keV

<< 92-U-235	<b>92-U-238</b> MT16 ( $\alpha,2n$ ) or MT5 (Pu240 production)	93-Np-237 >>
<< 92-U-235 MT105 ( $\alpha,t$ )		MT18 ( $\alpha,fission$ ) >>

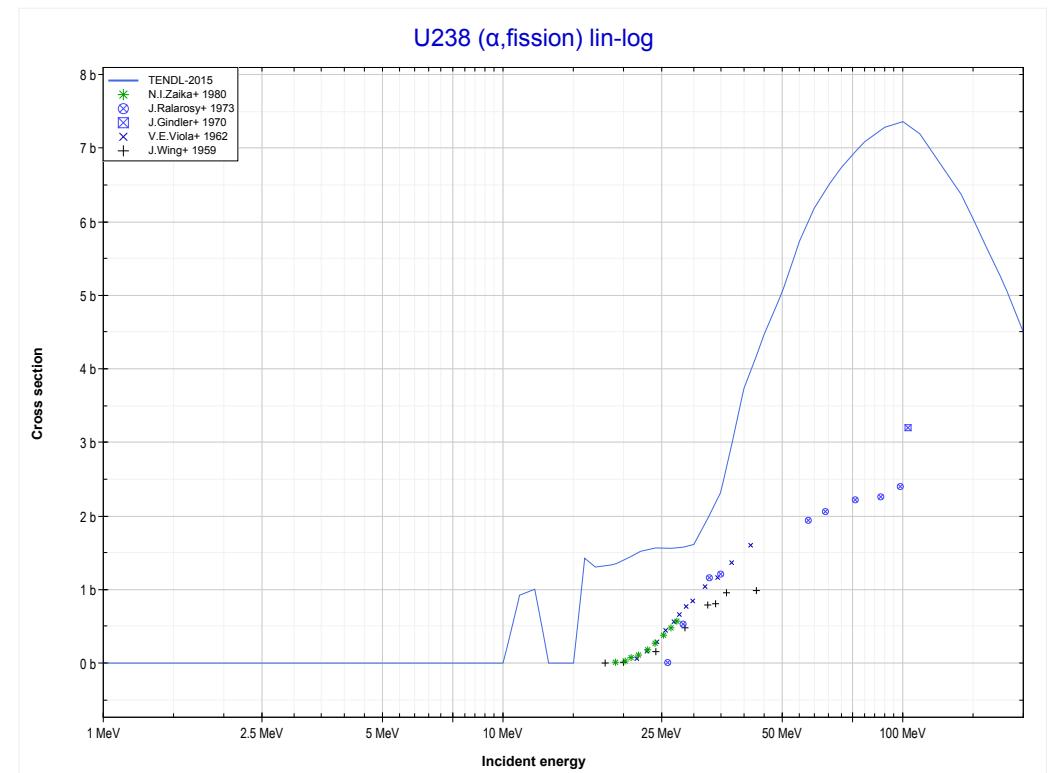
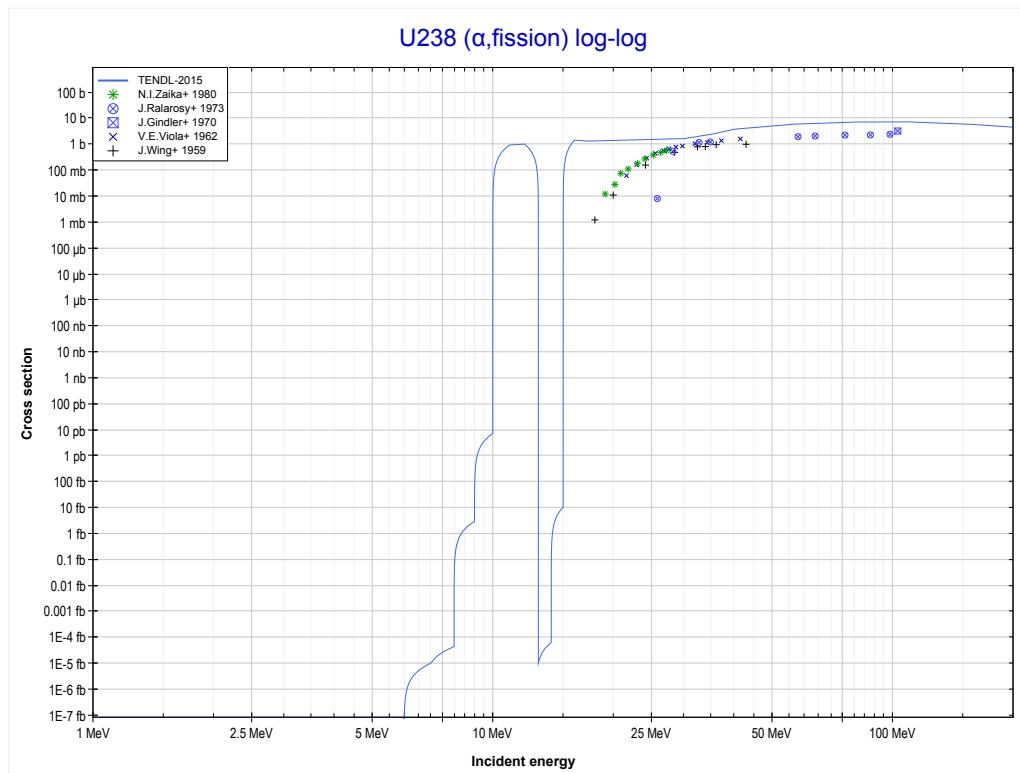


Reaction	Q-Value
U238( $\alpha,2n$ )Pu240	-16535.82 keV

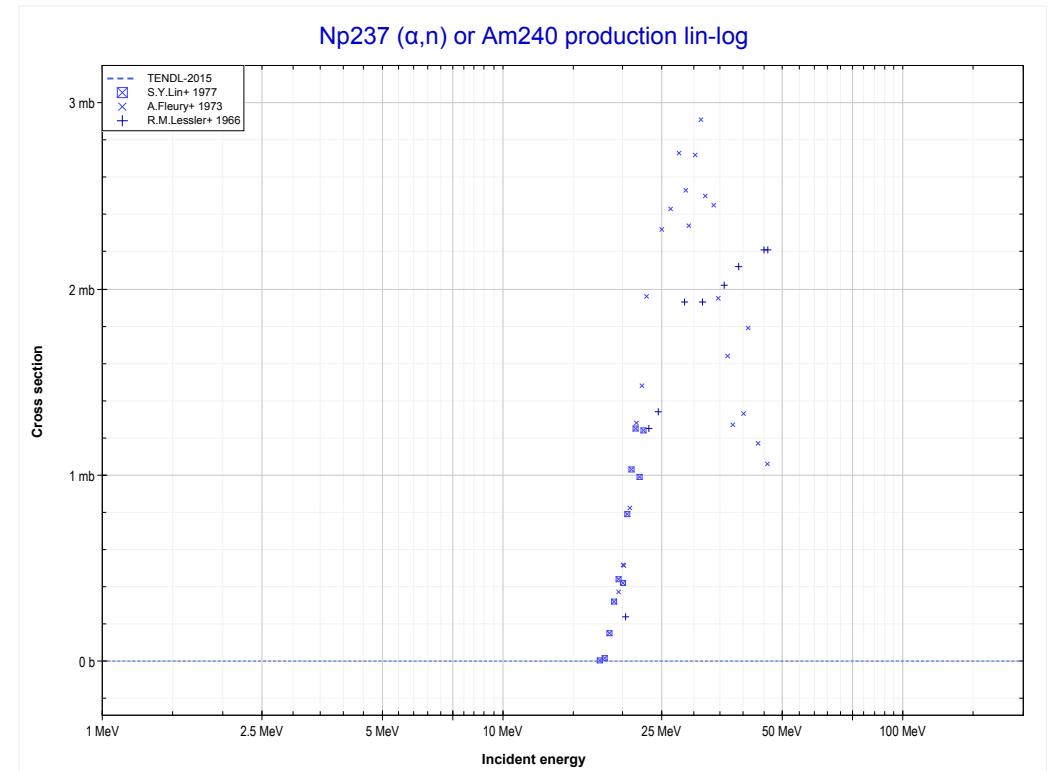
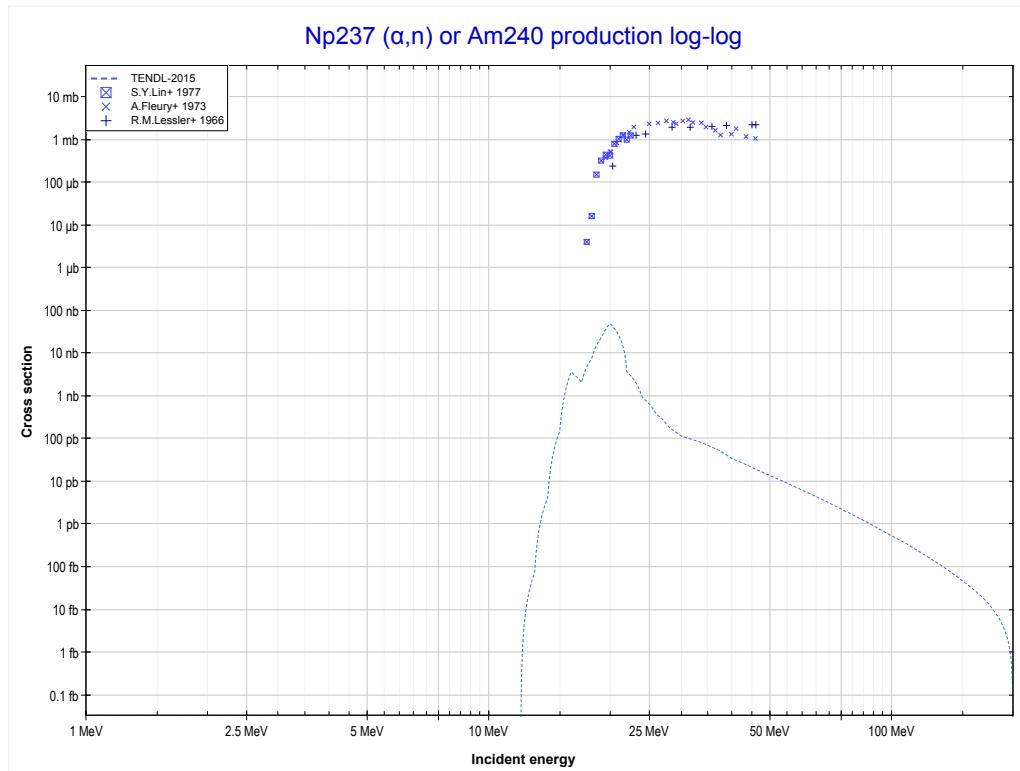
<< 92-U-235	
<< MT16 ( $\alpha$ ,2n)	

92-U-238
MT18 ( $\alpha$ ,fission)

93-Np-237 >>
93-Np-237 MT4 ( $\alpha$ ,n) >>

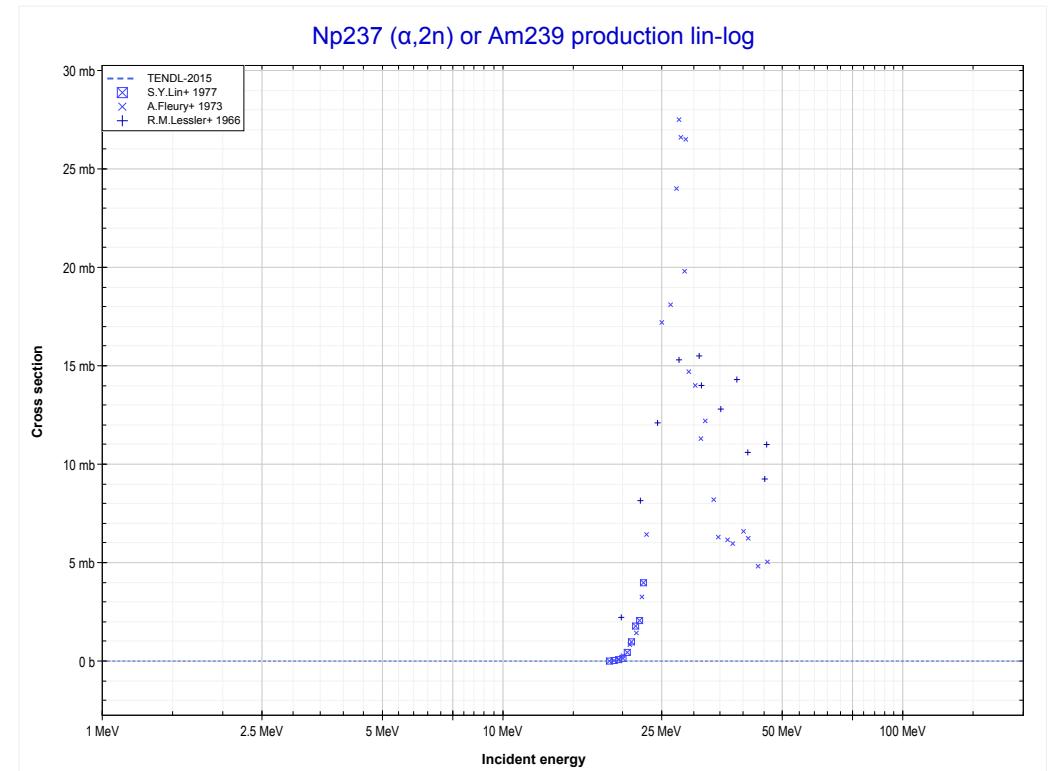
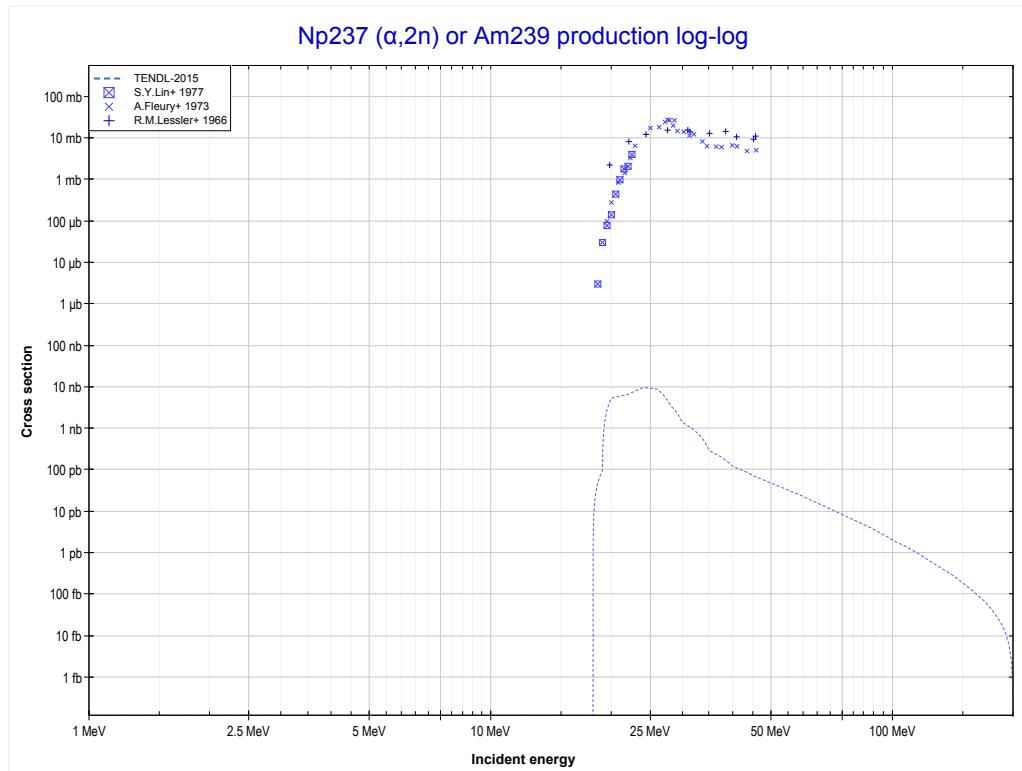


<< 92-U-235	<b>93-Np-237</b> MT4 ( $\alpha, n$ ) or MT5 (Am240 production)	94-Pu-238 >>
<< 92-U-238 MT18 ( $\alpha, \text{fission}$ )		MT16 ( $\alpha, 2n$ ) >>

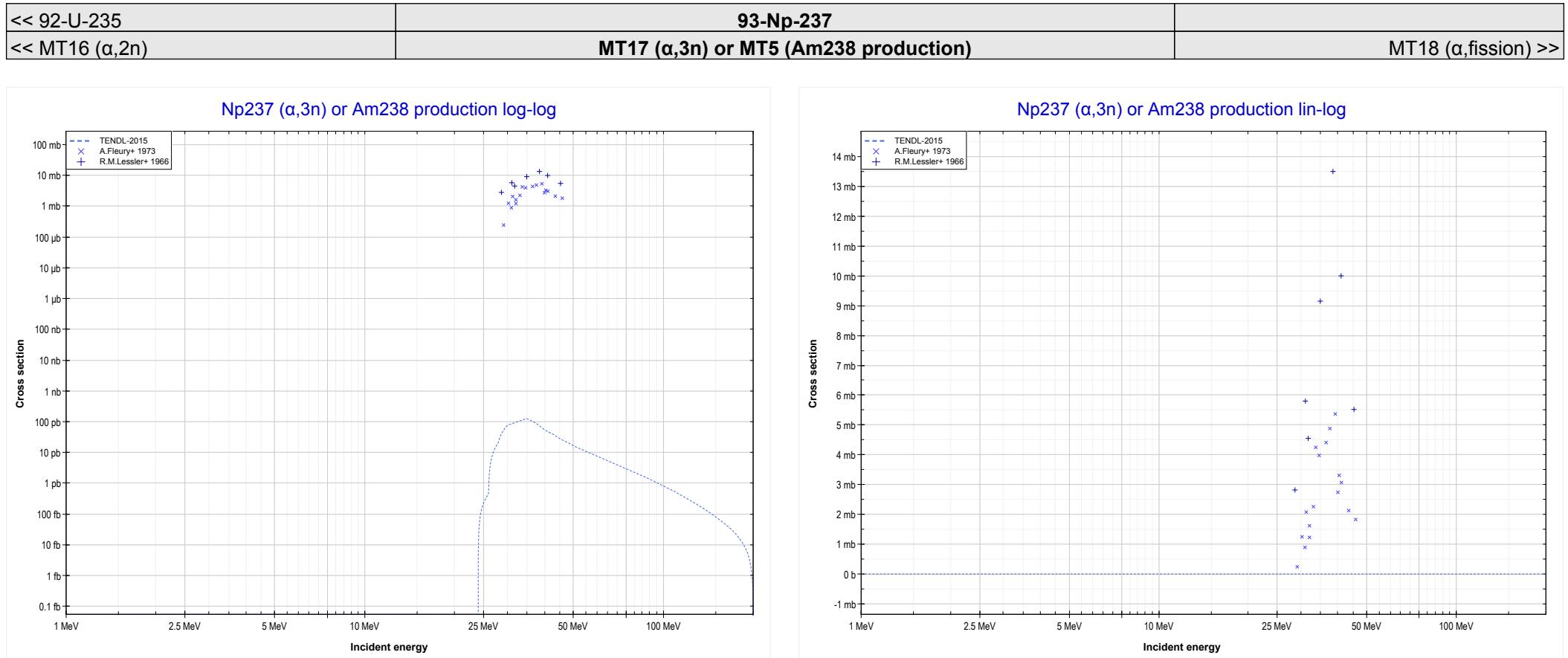


Reaction	Q-Value
Np237( $\alpha, n$ )Am240	-12284.90 keV

<< 92-U-238	<b>93-Np-237</b> MT16 ( $\alpha,2n$ ) or MT5 (Am239 production)	94-Pu-238 >>
<< MT4 ( $\alpha,n$ )		MT17 ( $\alpha,3n$ ) >>

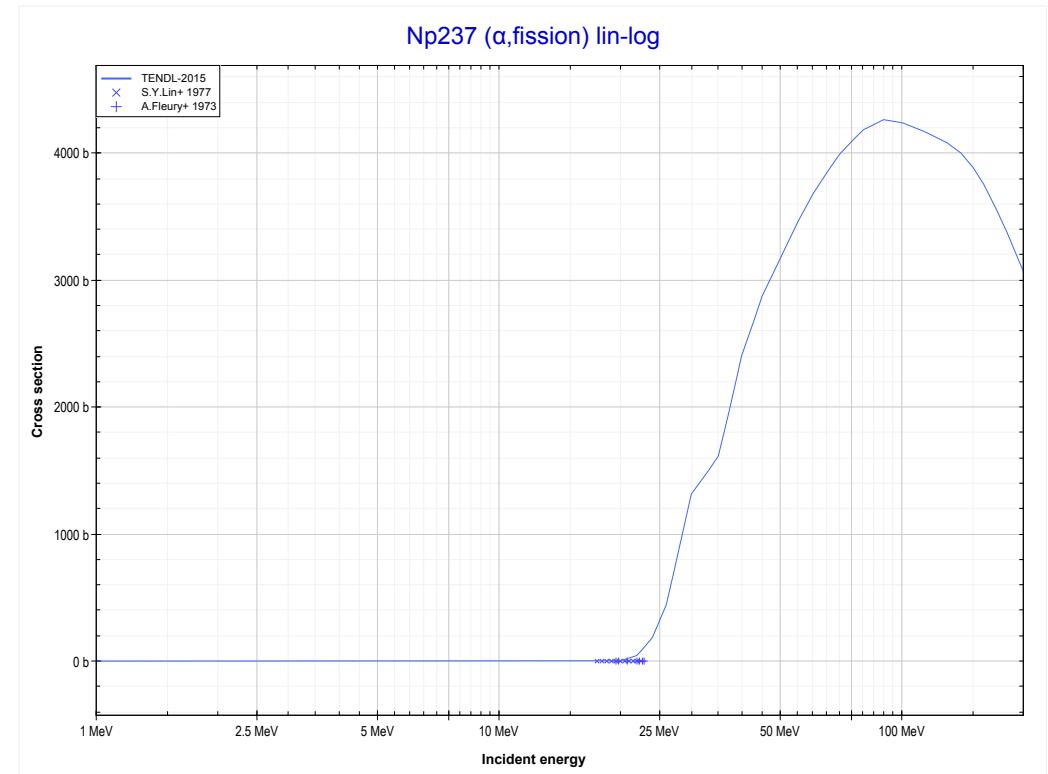
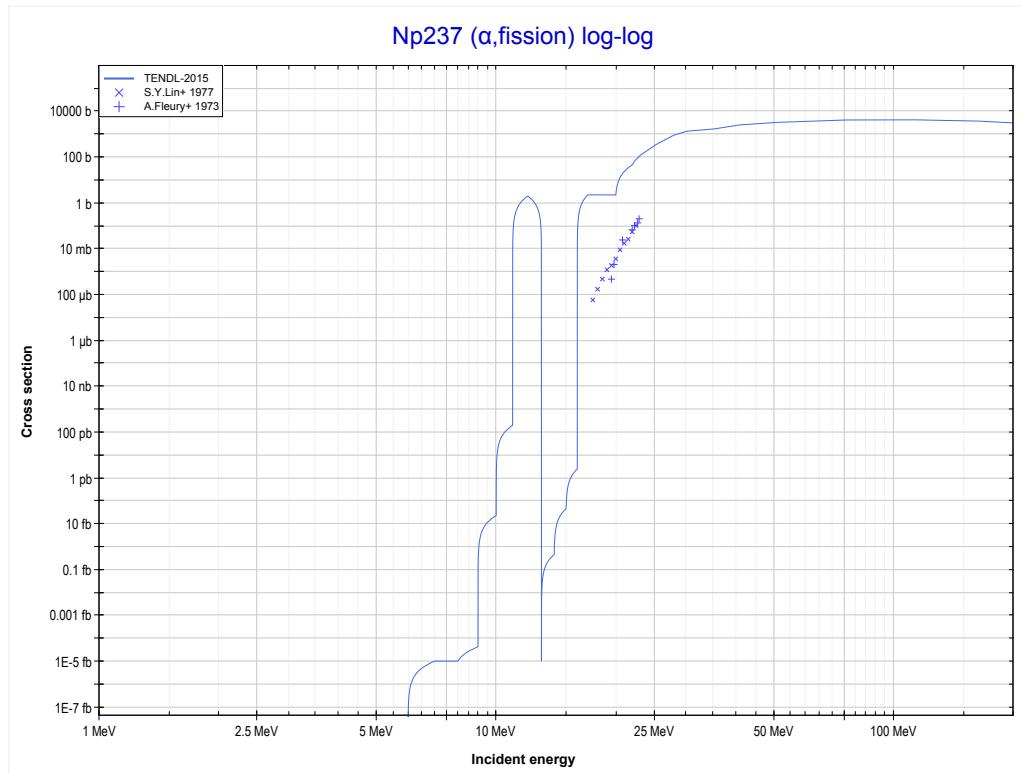


Reaction	Q-Value
Np237( $\alpha,2n$ )Am239	-18236.42 keV

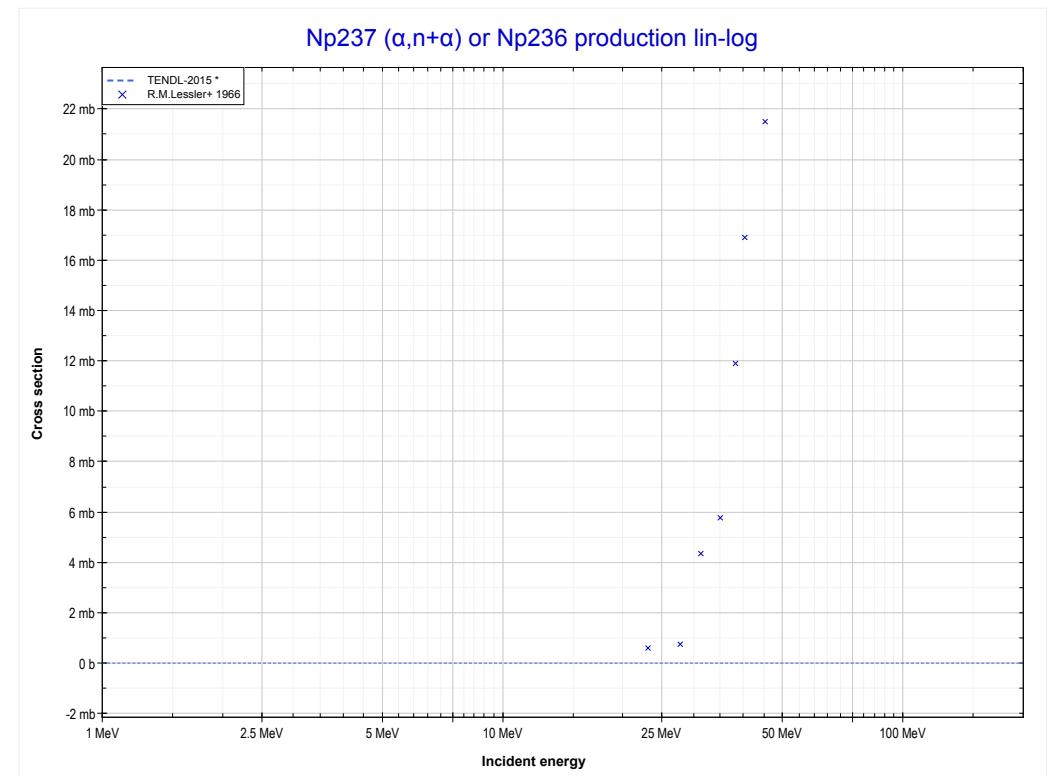
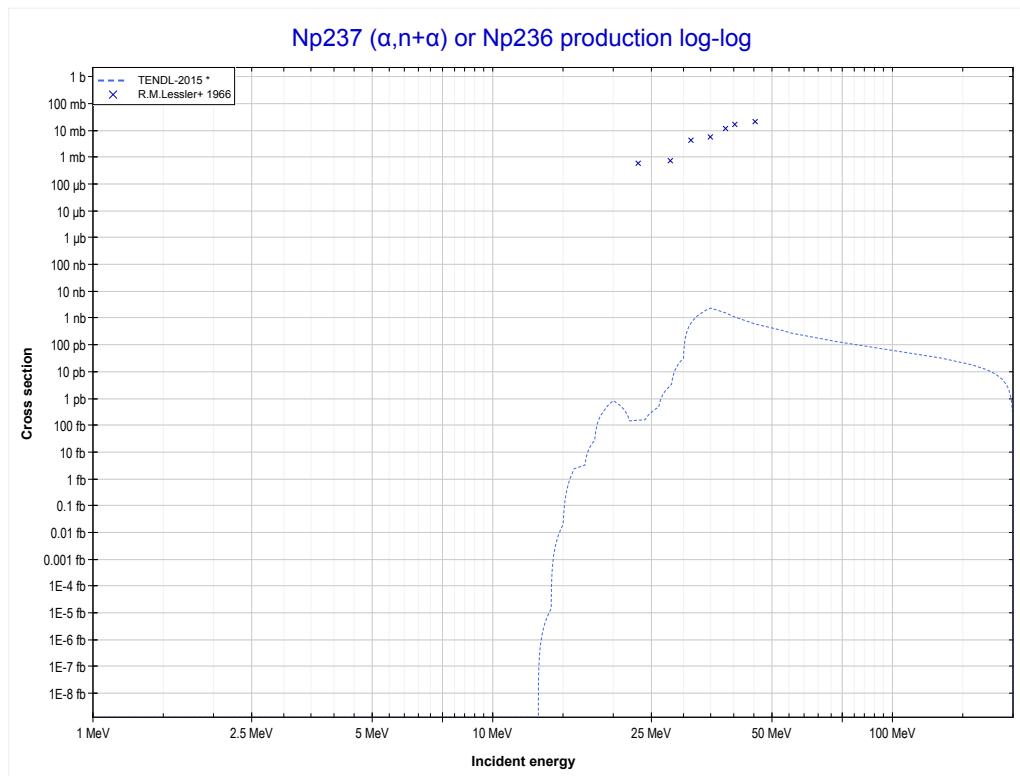


Reaction	Q-Value
Np237( $\alpha,3n$ )Am238	-25335.54 keV

<< 92-U-238	<b>93-Np-237</b> MT18 ( $\alpha$ ,fission)	>> 94-Pu-239
<< MT17 ( $\alpha$ ,3n)		>> MT22 ( $\alpha$ ,n+ $\alpha$ ) >>

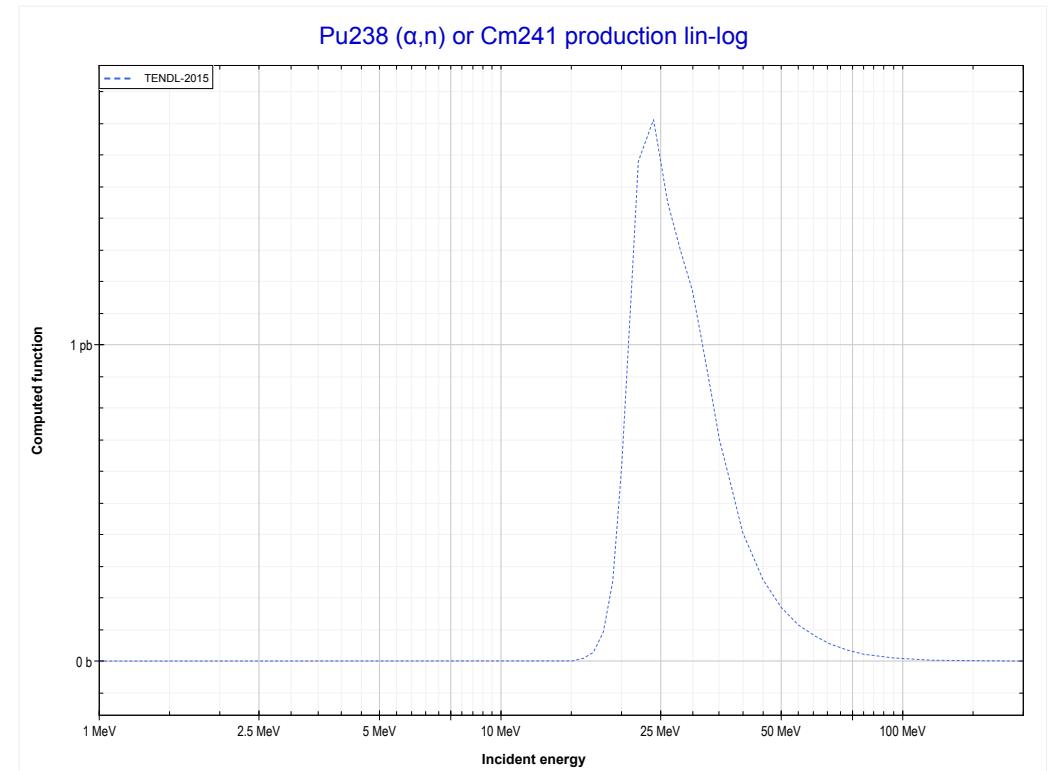
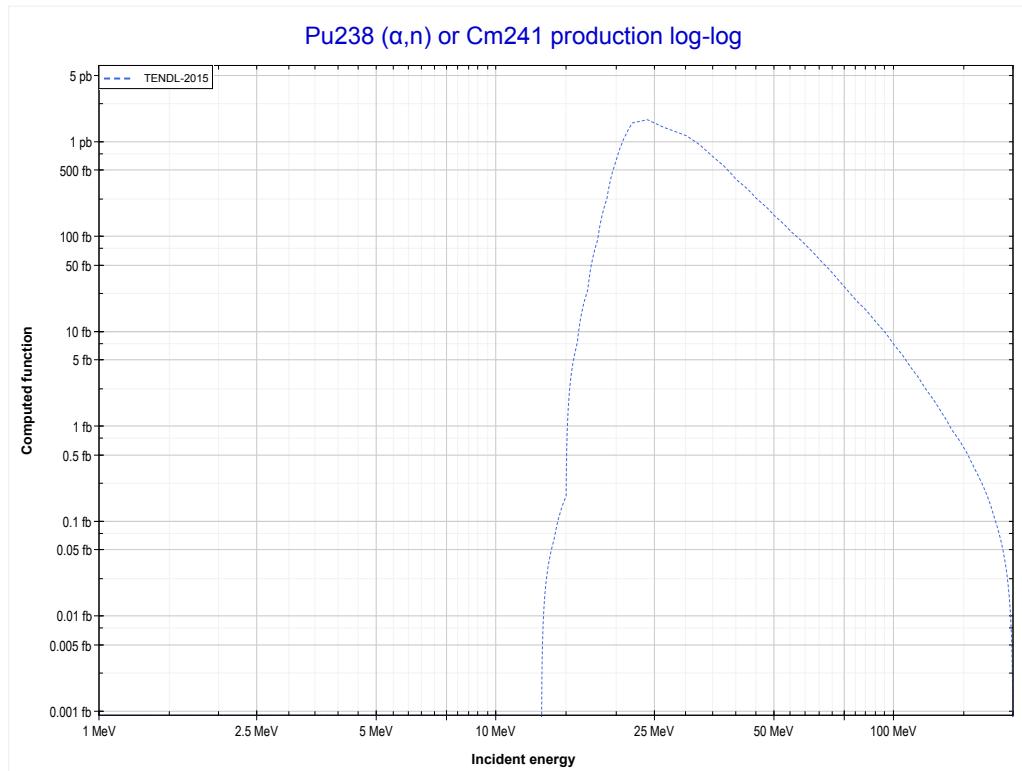


<< 79-Au-197	93-Np-237 MT22 ( $\alpha, n+\alpha$ ) or MT5 (Np236 production)	>> 94-Pu-238 MT4 ( $\alpha, n$ )
<< MT18 ( $\alpha, \text{fission}$ )		



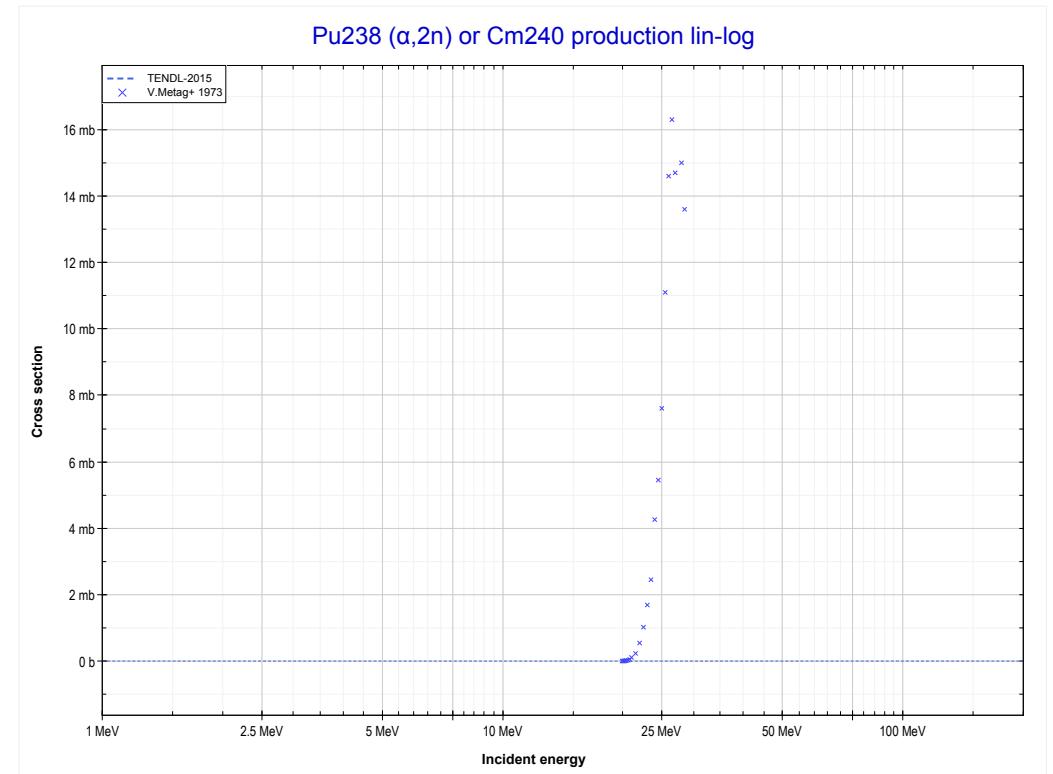
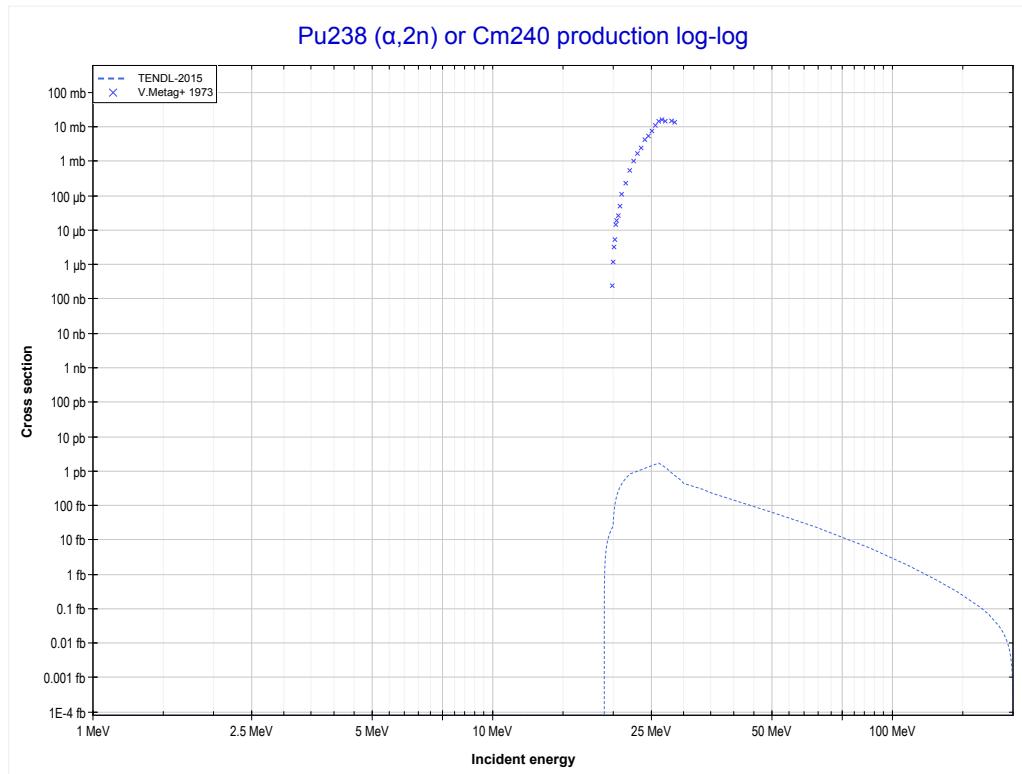
Reaction	Q-Value
Np237( $\alpha, n+\alpha$ )Np236	-6577.82 keV
Np237( $\alpha, d+t$ )Np236	-24167.11 keV
Np237( $\alpha, n+p+t$ )Np236	-26391.68 keV
Np237( $\alpha, 2n+He3$ )Np236	-27155.43 keV
Np237( $\alpha, n+2d$ )Np236	-30424.34 keV
Np237( $\alpha, 2n+p+d$ )Np236	-32648.91 keV
Np237( $\alpha, 3n+2p$ )Np236	-34873.48 keV

<< 93-Np-237	<b>94-Pu-238</b>	
<< 93-Np-237 MT22 ( $\alpha, n + \alpha$ )	<b>MT4 (<math>\alpha, n</math>) or MT5 (Cm241 production)</b>	<b>MT16 (<math>\alpha, 2n</math>) &gt;&gt;</b>



Reaction	Q-Value
Pu238( $\alpha, n$ )Cm241	-13185.10 keV

<< 93-Np-237	<b>94-Pu-238</b> <b>MT16 (<math>\alpha,2n</math>) or MT5 (Cm240 production)</b>	94-Pu-239 MT18 ( $\alpha,fission$ ) >>
<< MT4 ( $\alpha,n$ )		



Reaction	Q-Value
Pu238( $\alpha,2n$ )Cm240	-19278.42 keV

<< 93-Np-237	<b>94-Pu-239</b>	
<< 94-Pu-238 MT16 ( $\alpha$ ,2n)	<b>MT18 (<math>\alpha</math>,fission)</b>	

