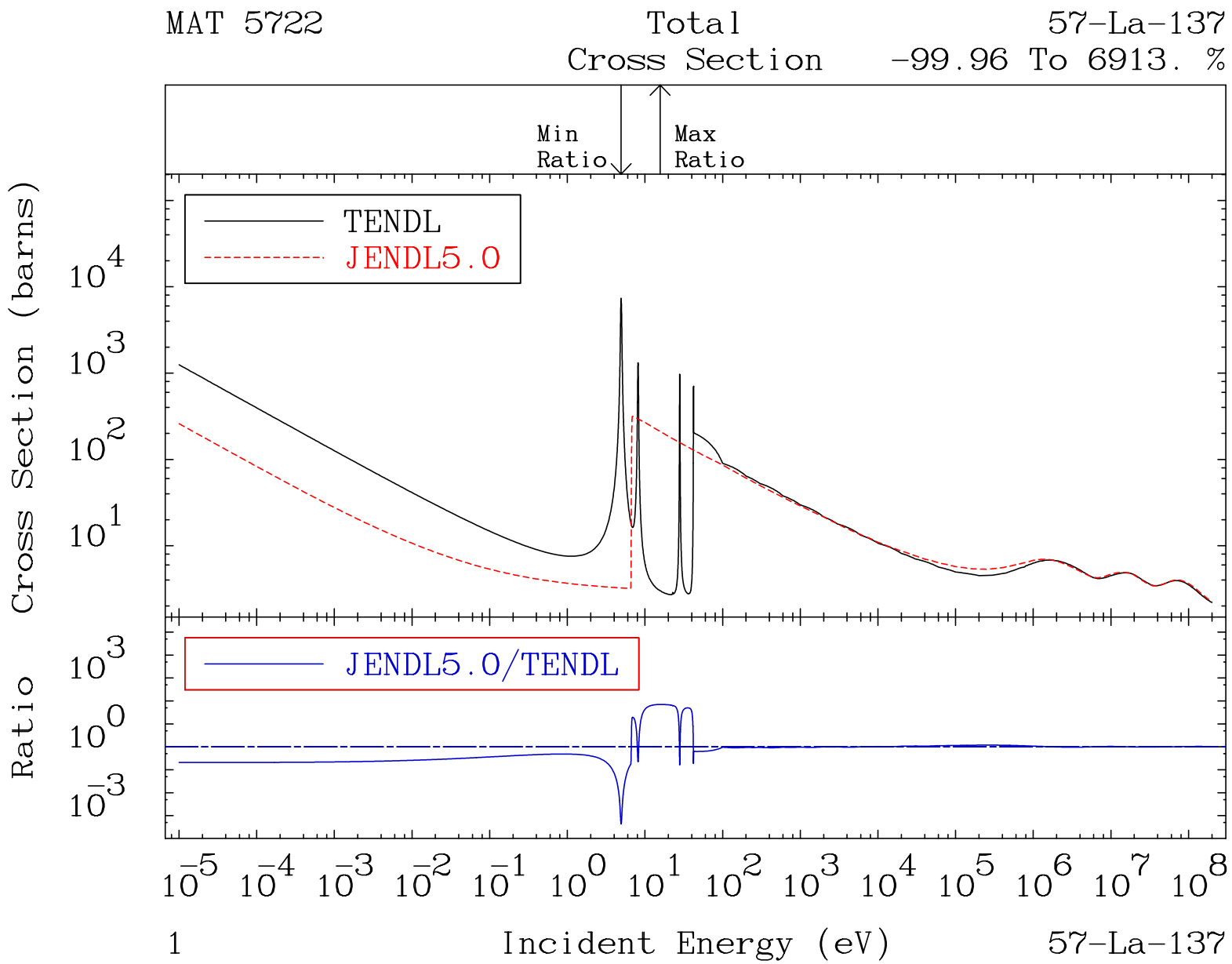
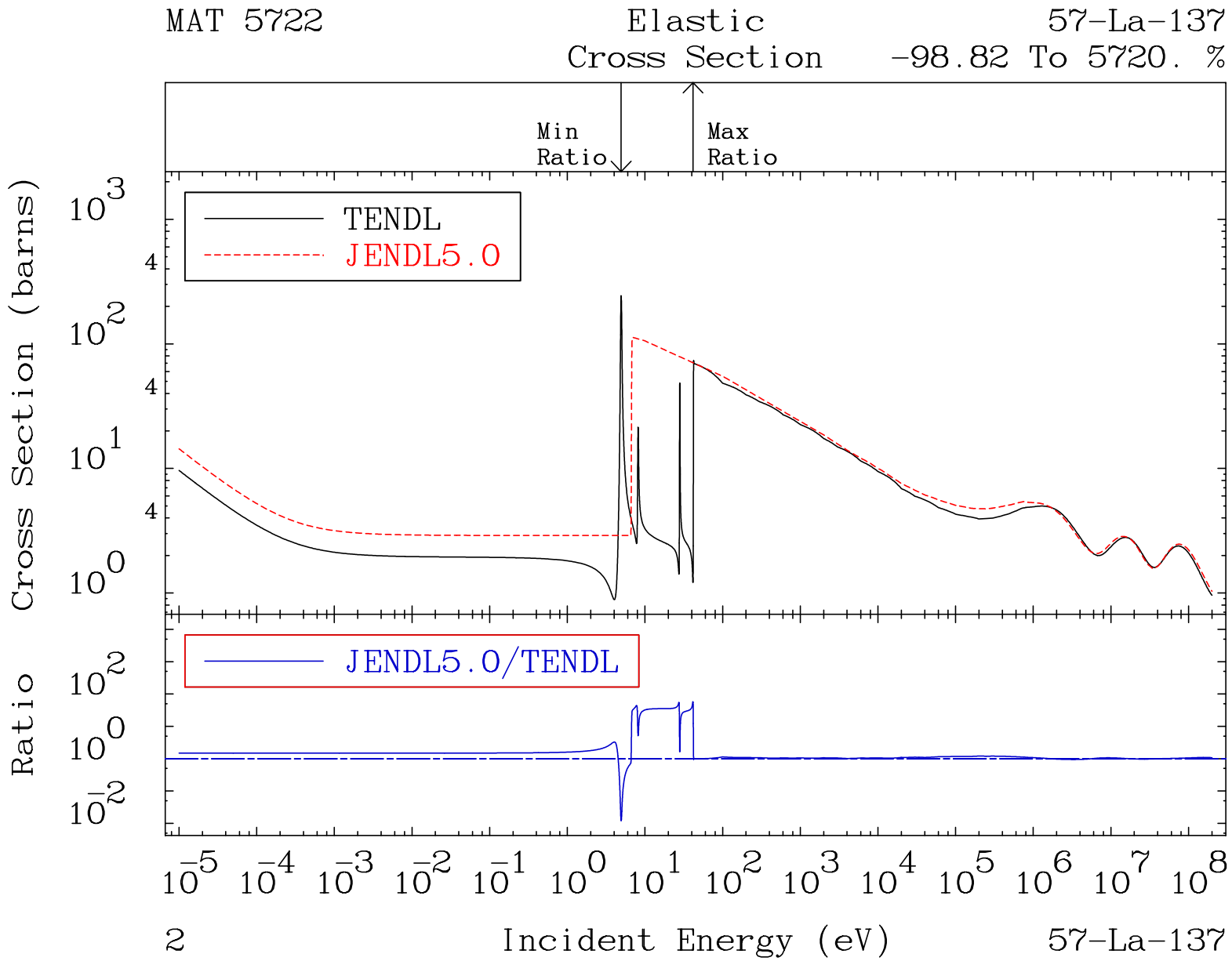
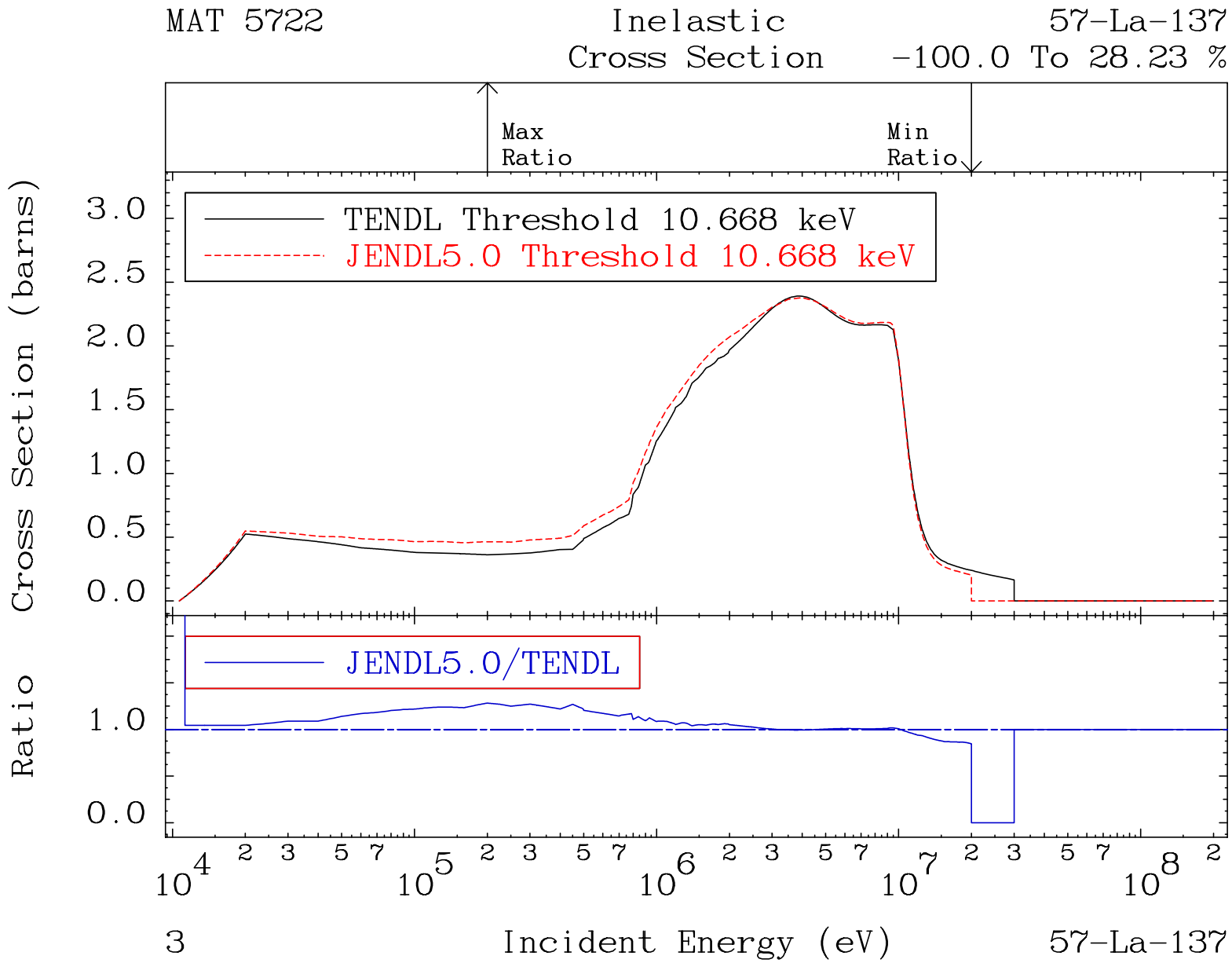
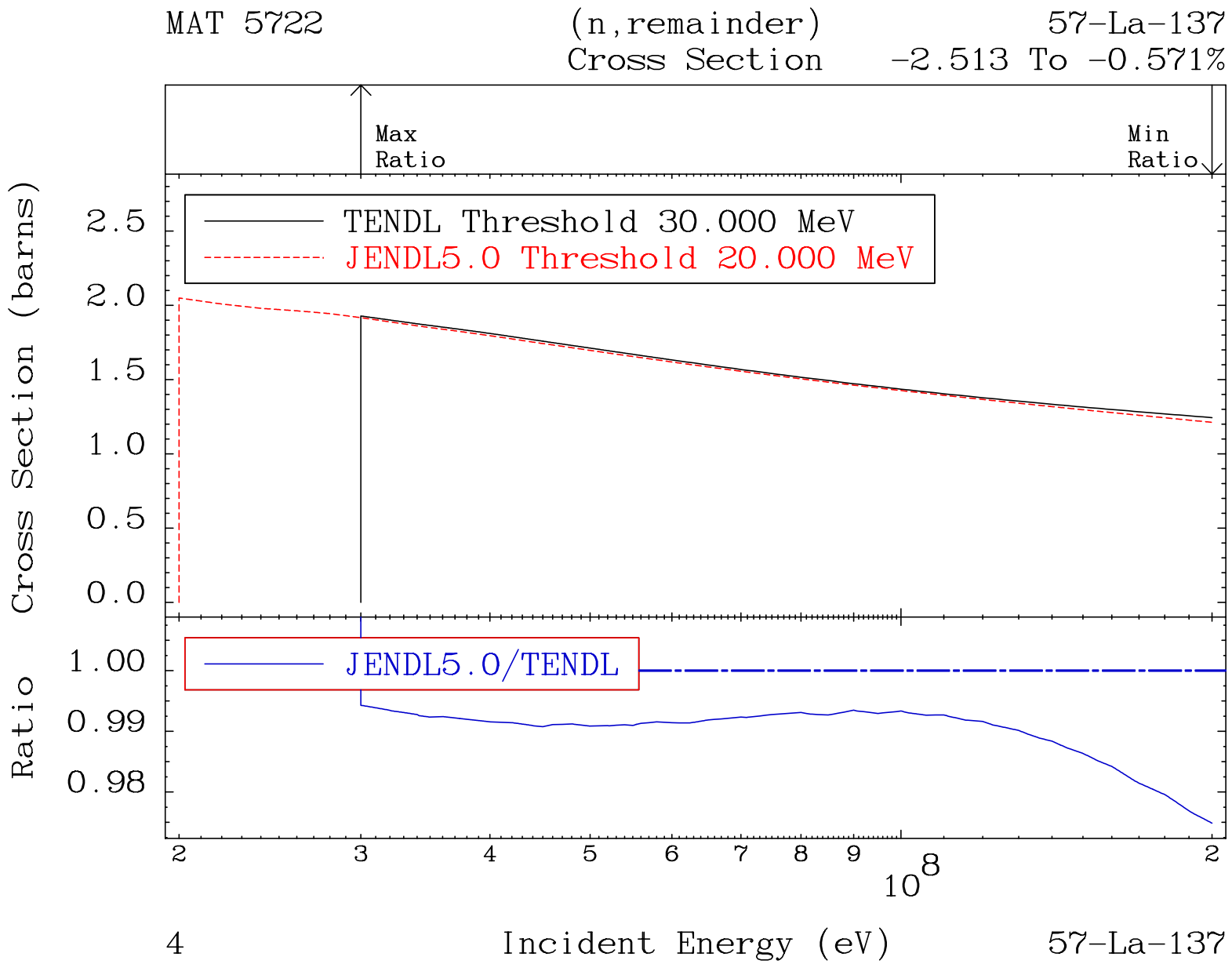
Program Complot
(Version 2021-1)
by
Dermott E. Cullen
(Present Contact Information)
Dermott E. Cullen
1466 Hudson Way
Livermore, CA 94550
U.S.A.
Tele: 925-443-1911
E.Mail:redcullen1@comcast.net
Web:redcullen1.net/HOMEPAGE.NEW

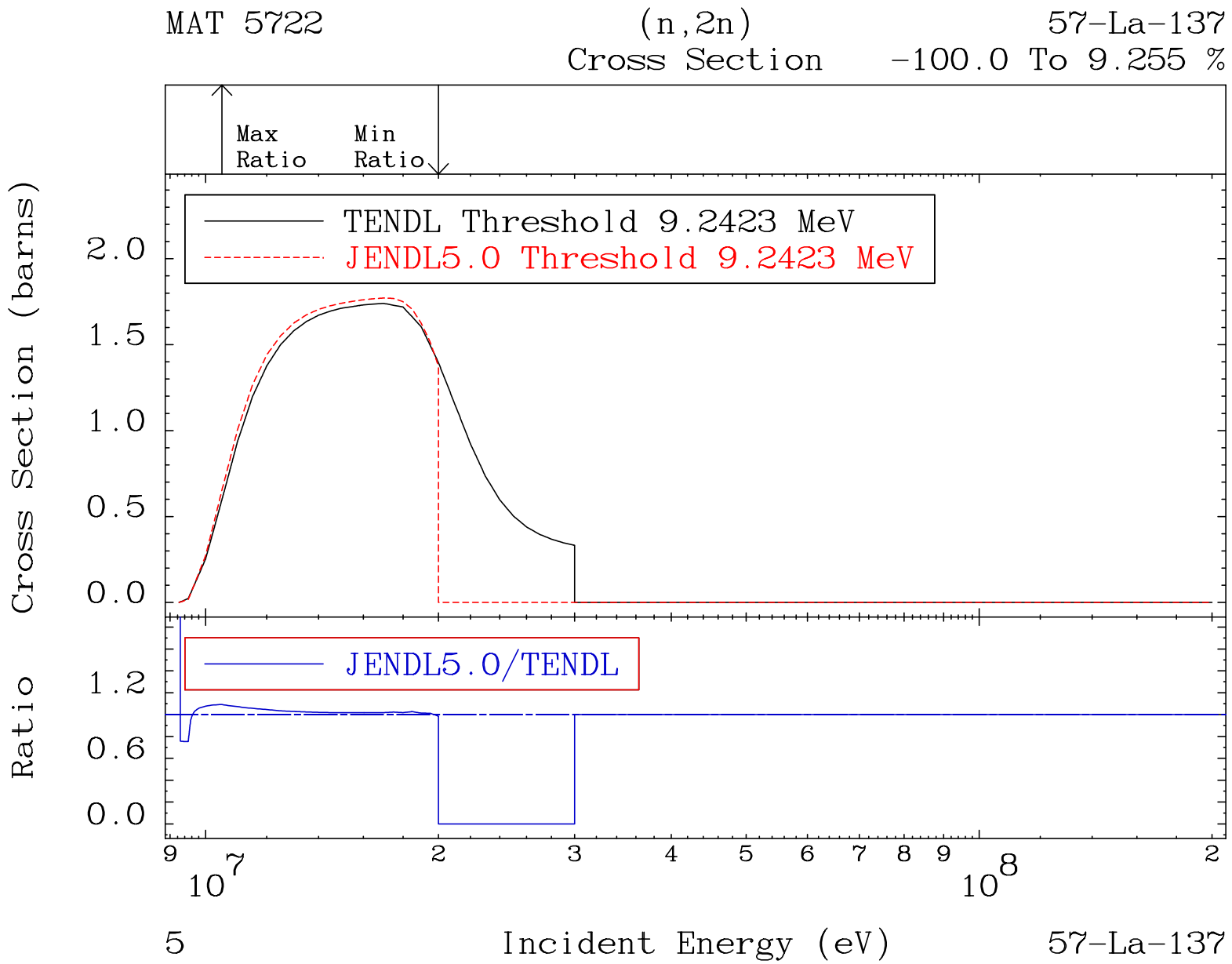
Press Mouse Button to Start

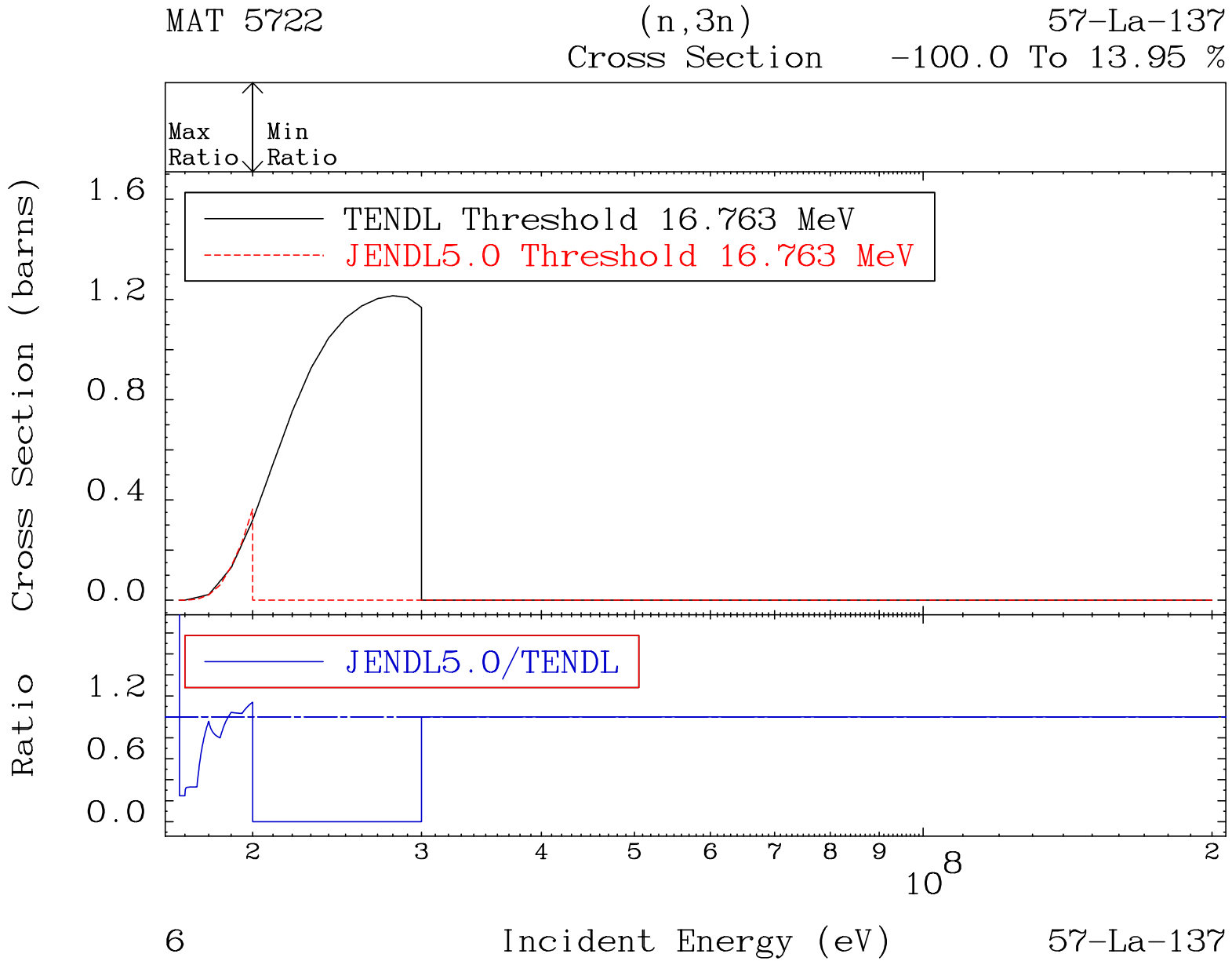

MAT 5722
Total
Cross Section
57-La-137
-99.96 To 6913. %
Min
Ratio
Max
Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
1
57-La-137

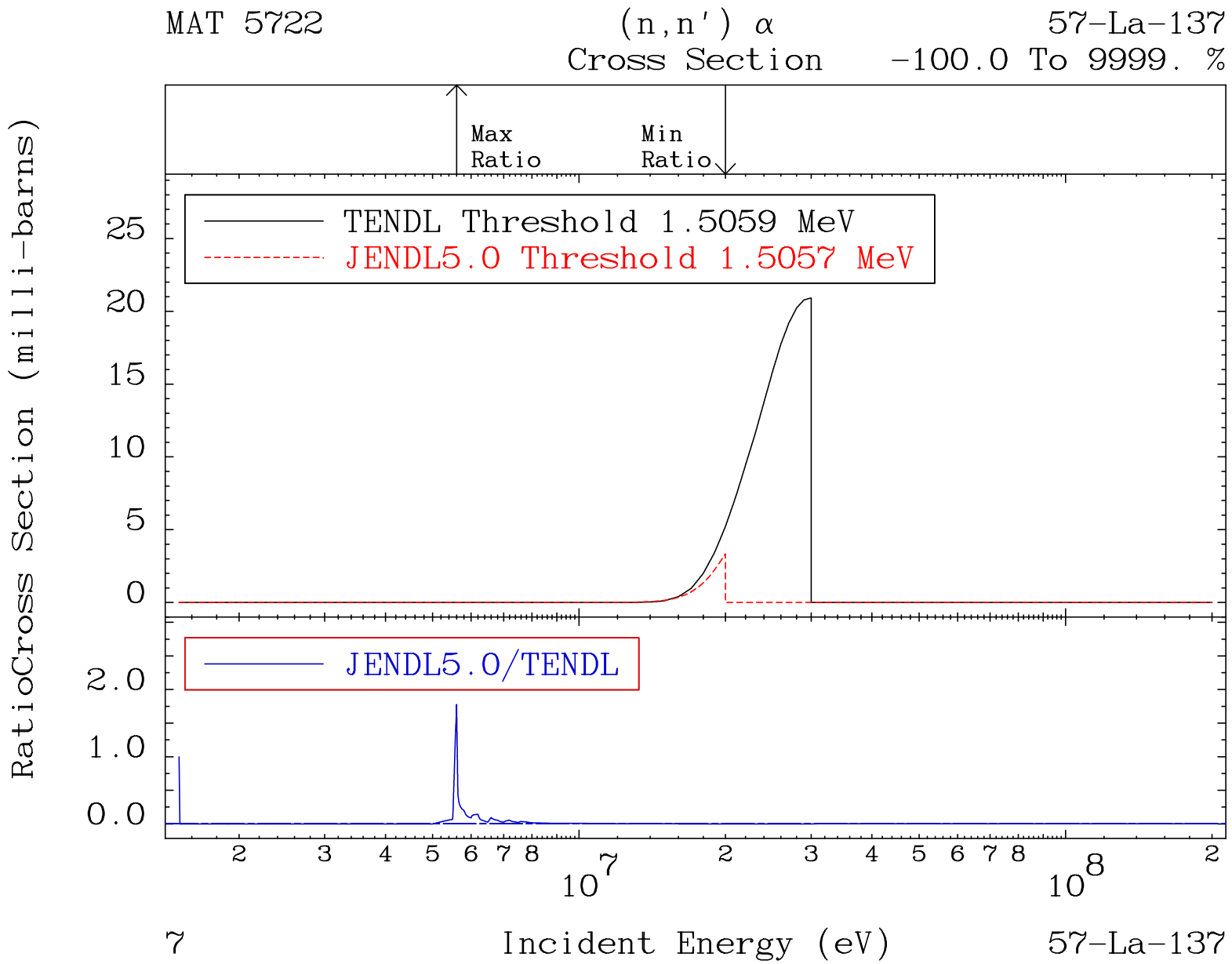

MAT 5722
Elastic
Cross Section
57-La-137
-98.82 To 5720. %
Min Ratio
Max Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
2
57-La-137

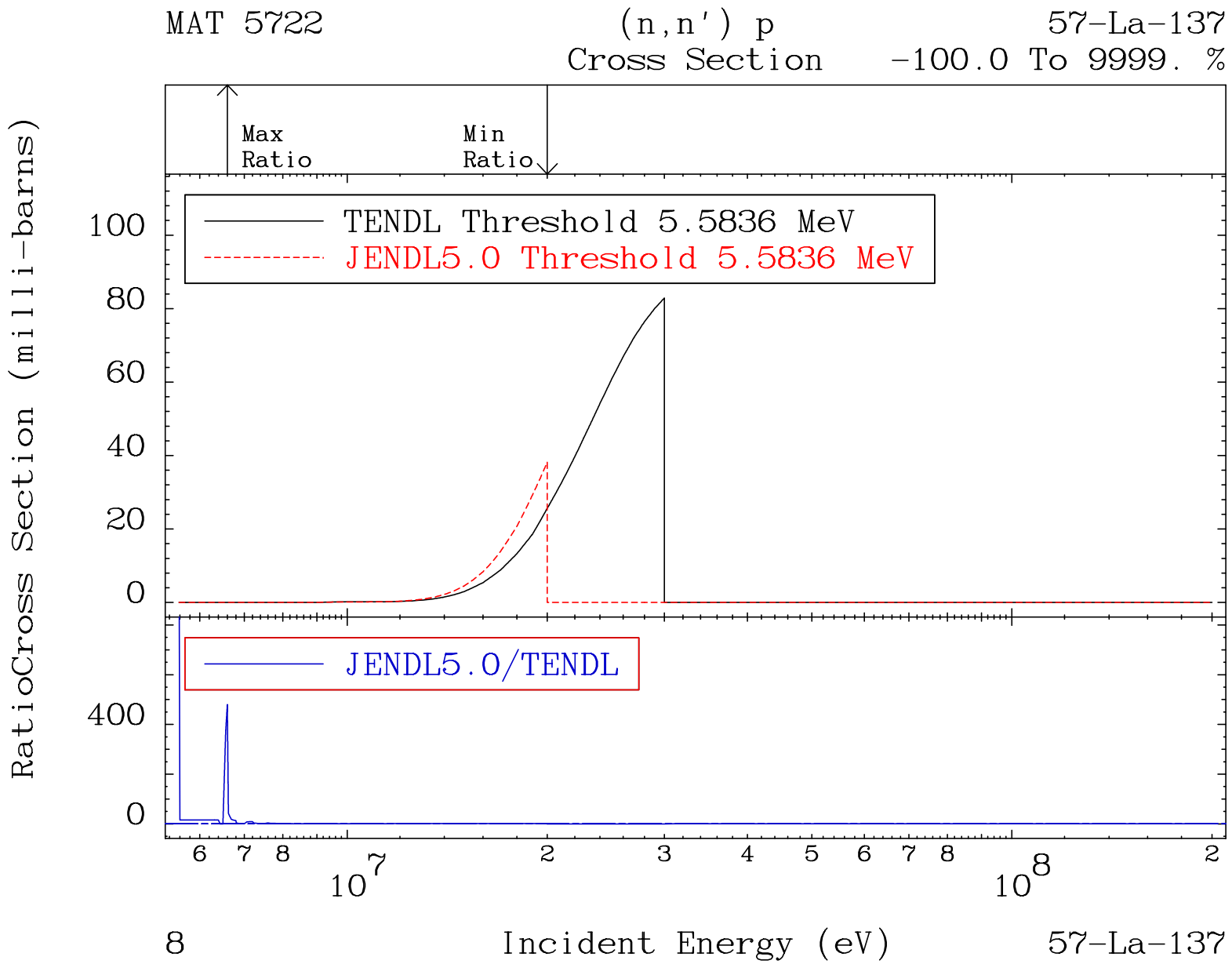

MAT 5722
Inelastic
Cross Section
57-La-137
-100.0 To 28.23 %
Max
Ratio
Min
Ratio
TENDL Threshold 10.668 keV
JENDL5.0 Threshold 10.668 keV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1.0
0.0
10^4
10^5
10^6
10^7
10^8
Incident Energy (eV)
3
57-La-137

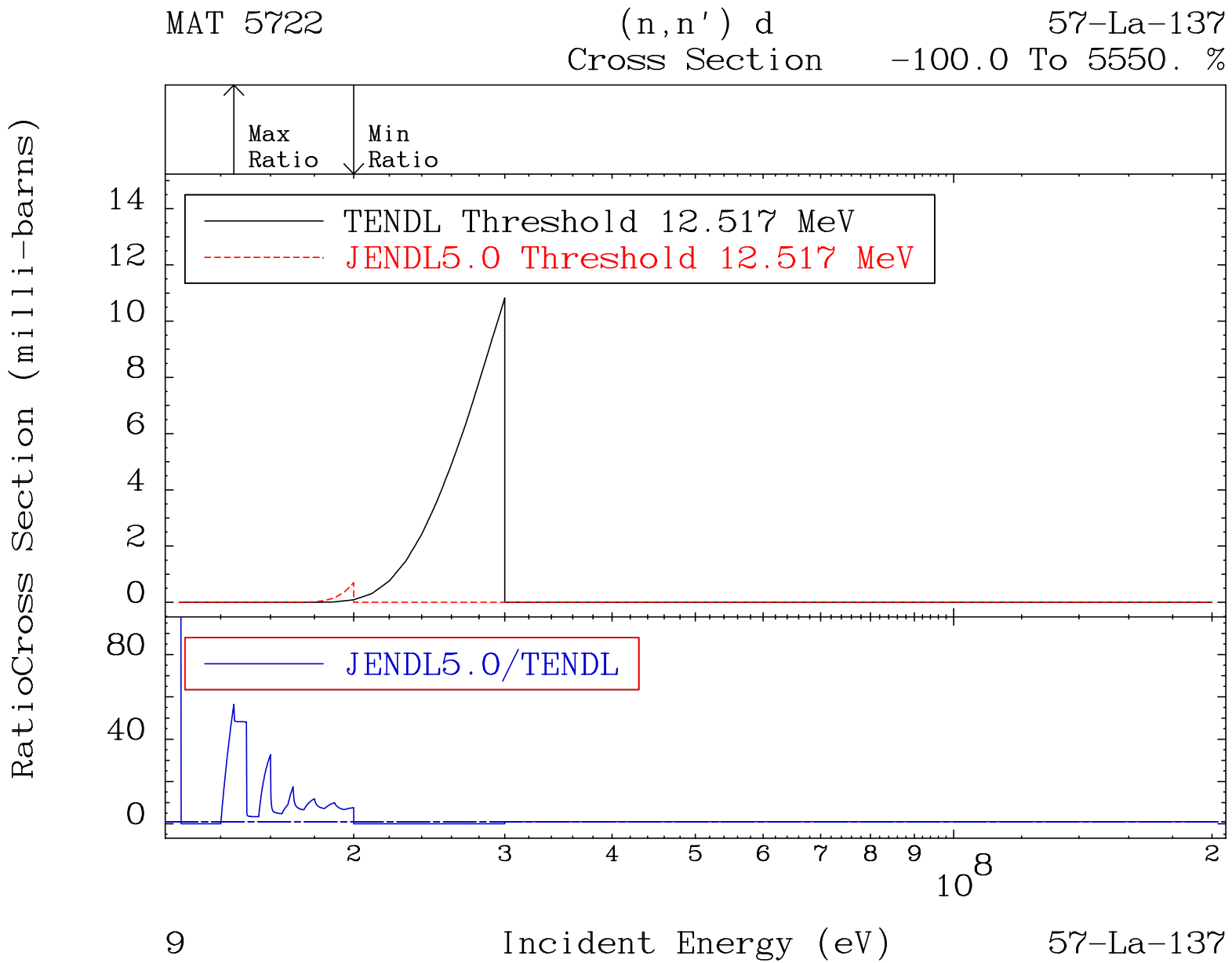

MAT 5722
(n,remainder)
Cross Section
57-La-137
-2.513 To -0.571%
Max
Ratio
Min
Ratio
TENDL Threshold 30.000 MeV
JENDL5.0 Threshold 20.000 MeV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
2.5
2.0
1.5
1.0
0.5
0.0
1.00
0.99
0.98
2
3
4
5
6
7
8
9
2
10^8
4
Incident Energy (eV)
57-La-137

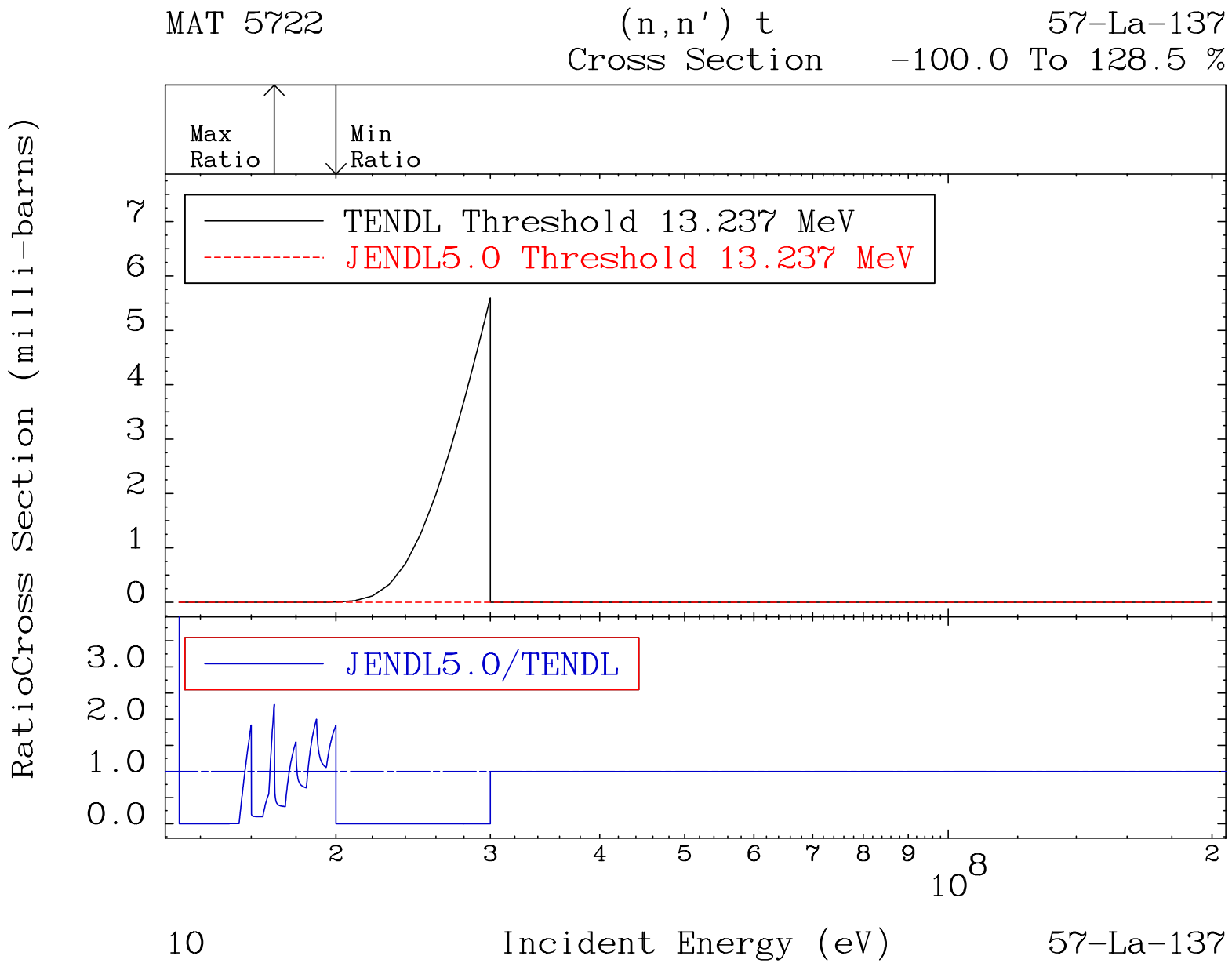

MAT 5722
(n,2n)
Cross Section
57-La-137
-100.0 To 9.255 %
Max Ratio
Min Ratio
TENDL Threshold 9.2423 MeV
JENDL5.0 Threshold 9.2423 MeV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
2.0
1.5
1.0
0.5
0.0
1.2
0.6
0.0
9
10^7
2
3
4
5
6
7
8
9
10^8
2
5
Incident Energy (eV)
57-La-137

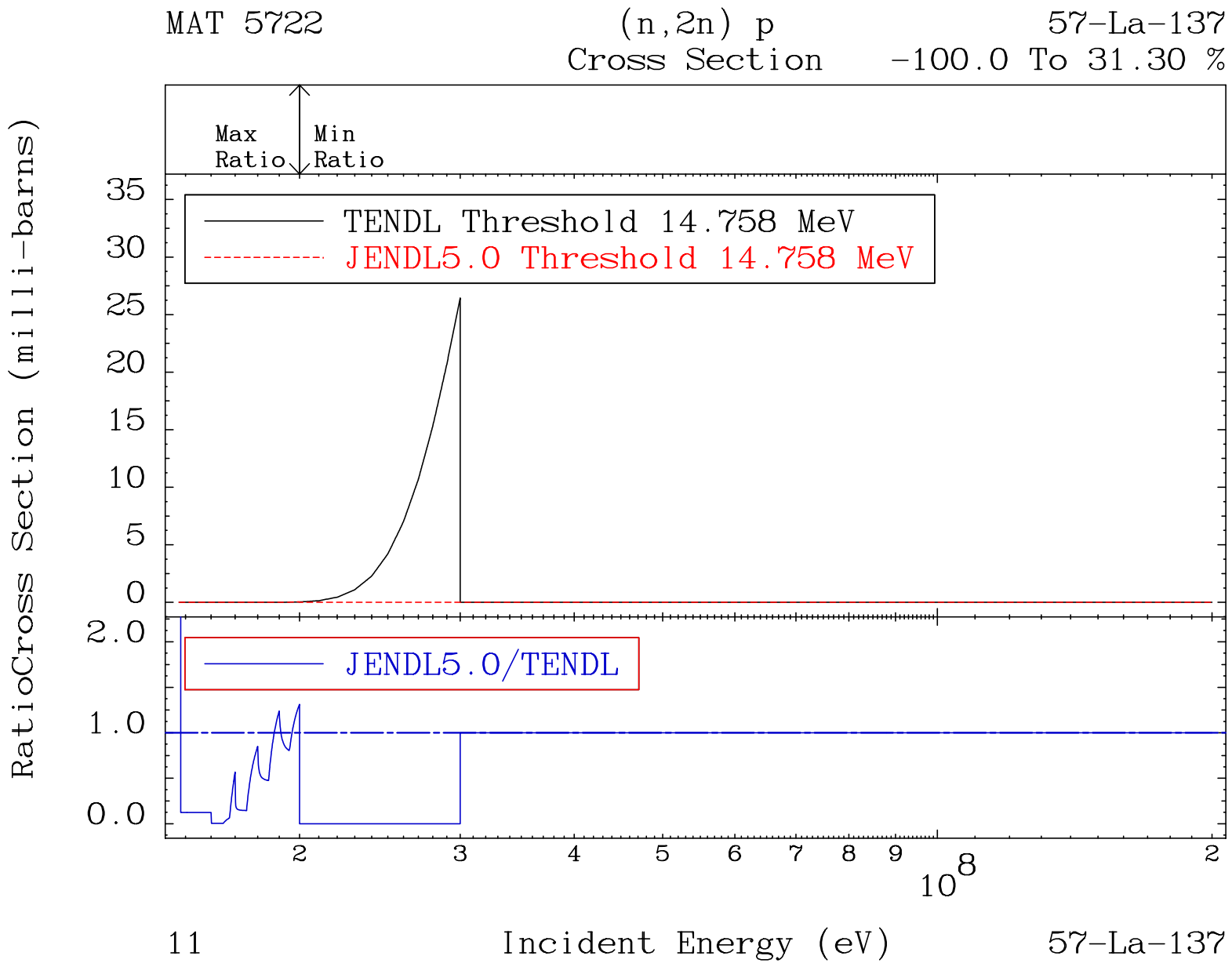

MAT 5722
(n,3n)
Cross Section
57-La-137
-100.0 To 13.95 %
Max Ratio
Min Ratio
TENDL Threshold 16.763 MeV
JENDL5.0 Threshold 16.763 MeV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
1.6
1.2
0.8
0.4
0.0
1.2
0.6
0.0
2
3
4
5
6
7
8
9
10^8
2
Incident Energy (eV)
6
57-La-137

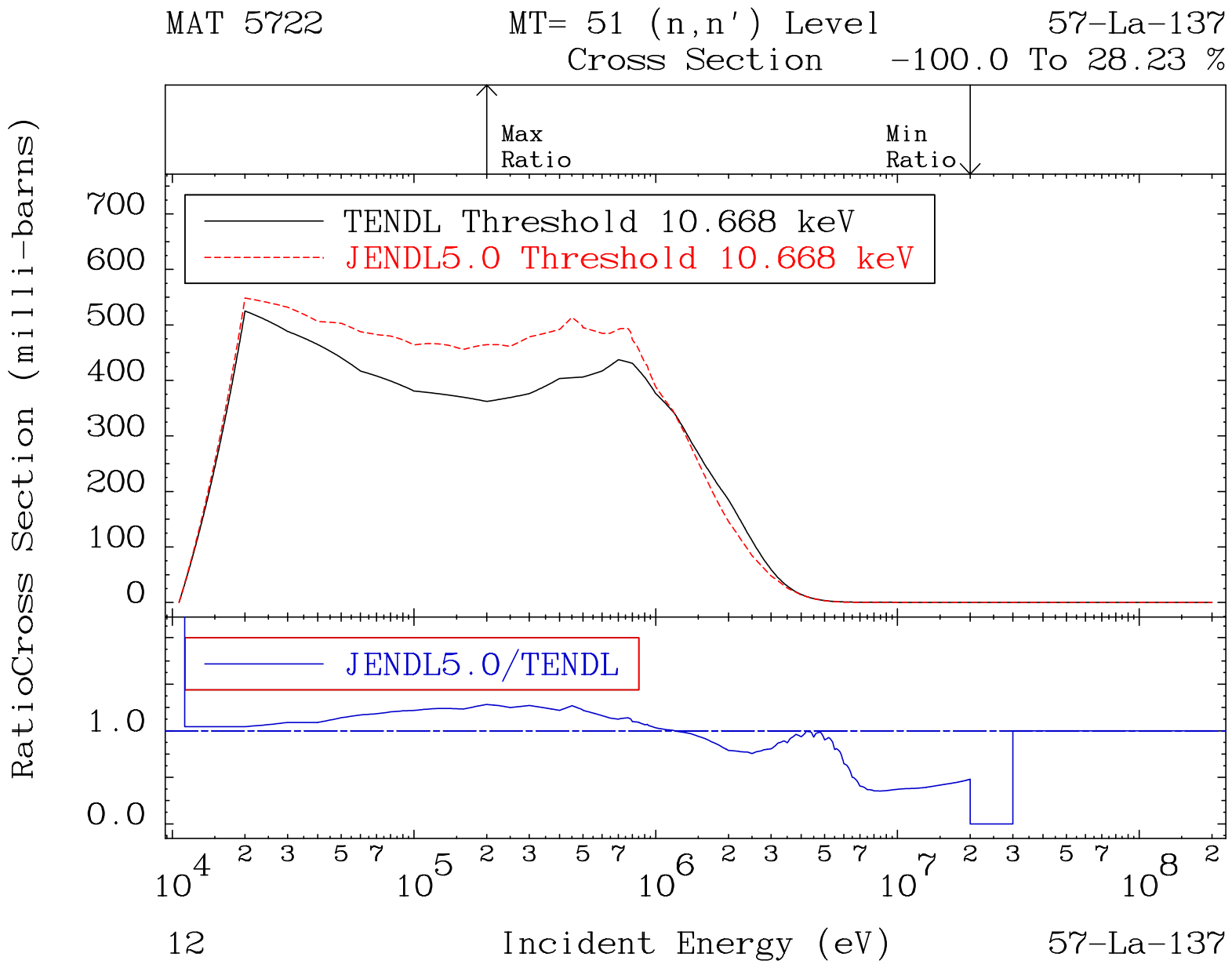

MAT 5722
(n,n') α
Cross Section
57-La-137
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 1.5059 MeV
JENDL5.0 Threshold 1.5057 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
57-La-137

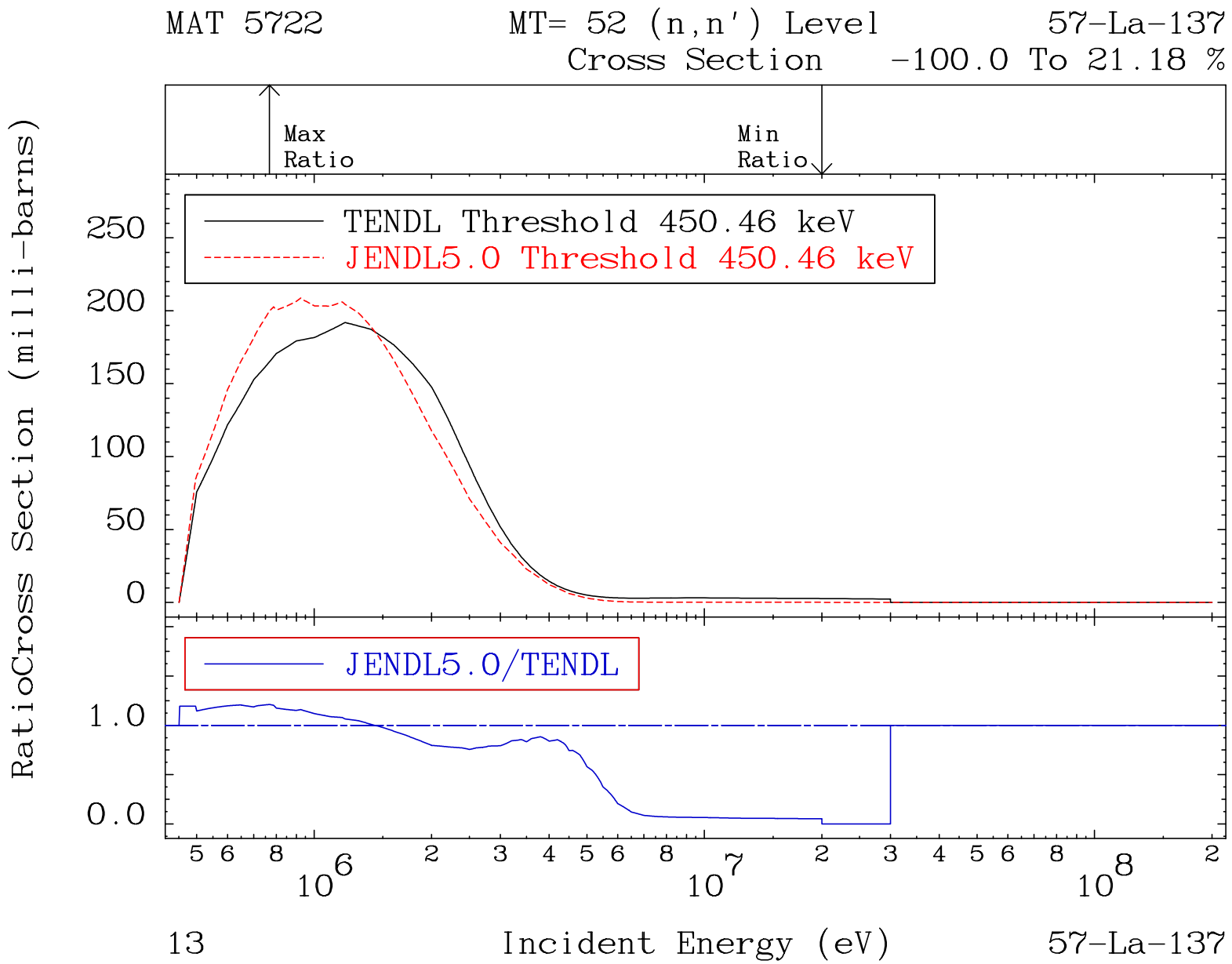

MAT 5722
(n,n') p
Cross Section
57-La-137
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 5.5836 MeV
JENDL5.0 Threshold 5.5836 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
100
80
60
40
20
0
400
0
6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
8
Incident Energy (eV)
57-La-137

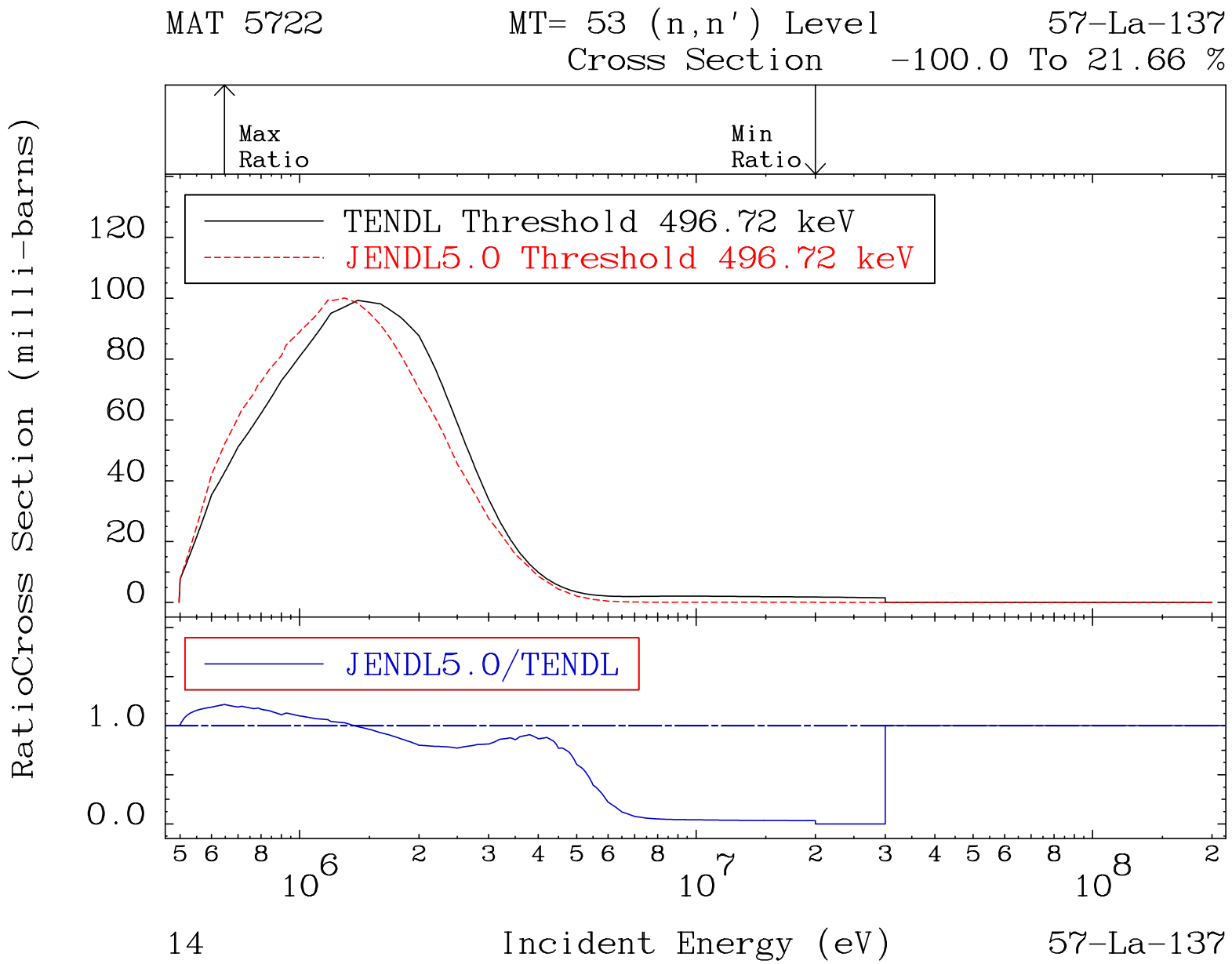

MAT 5722
(n,n') d
Cross Section
57-La-137
-100.0 To 5550. %
Max Ratio
Min Ratio
TENDL Threshold 12.517 MeV
JENDL5.0 Threshold 12.517 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
14
12
10
8
6
4
2
0
80
40
0
2
3
4
5
6
7
8
9
10^8
2
9
Incident Energy (eV)
57-La-137

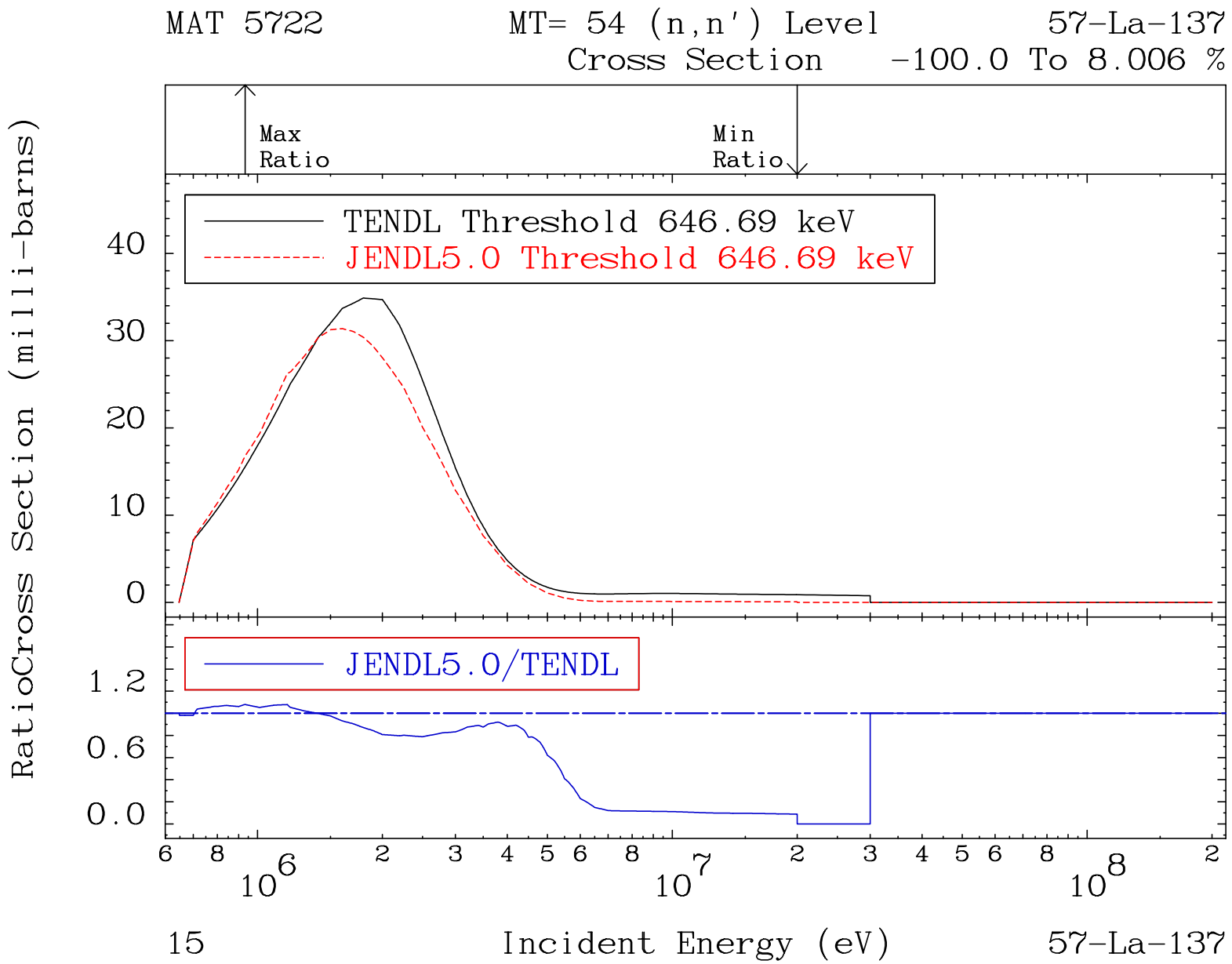

MAT 5722
(n,n') t
Cross Section
57-La-137
-100.0 To 128.5 %
Max Ratio
Min Ratio
TENDL Threshold 13.237 MeV
JENDL5.0 Threshold 13.237 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
0
1
2
3
4
5
6
7
3.0
2.0
1.0
0.0
2
3
4
5
6
7
8
9
2
10^8
10
Incident Energy (eV)
57-La-137

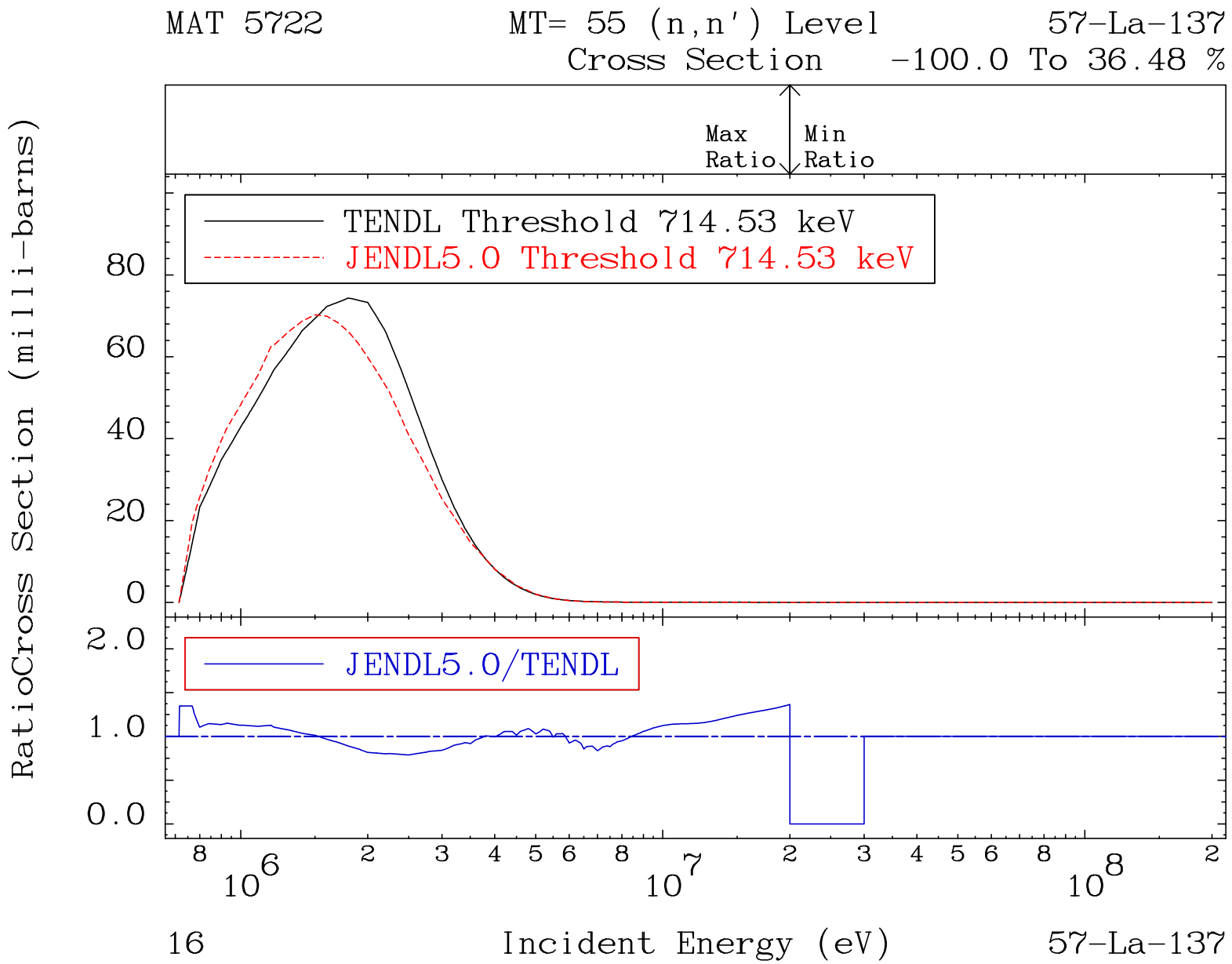

MAT 5722
(n,2n) p
Cross Section
57-La-137
-100.0 To 31.30 %
Max Ratio
Min Ratio
TENDL Threshold 14.758 MeV
JENDL5.0 Threshold 14.758 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
35
30
25
20
15
10
5
0
2.0
1.0
0.0
2
3
4
5
6
7
8
9
10^8
2
11
Incident Energy (eV)
57-La-137

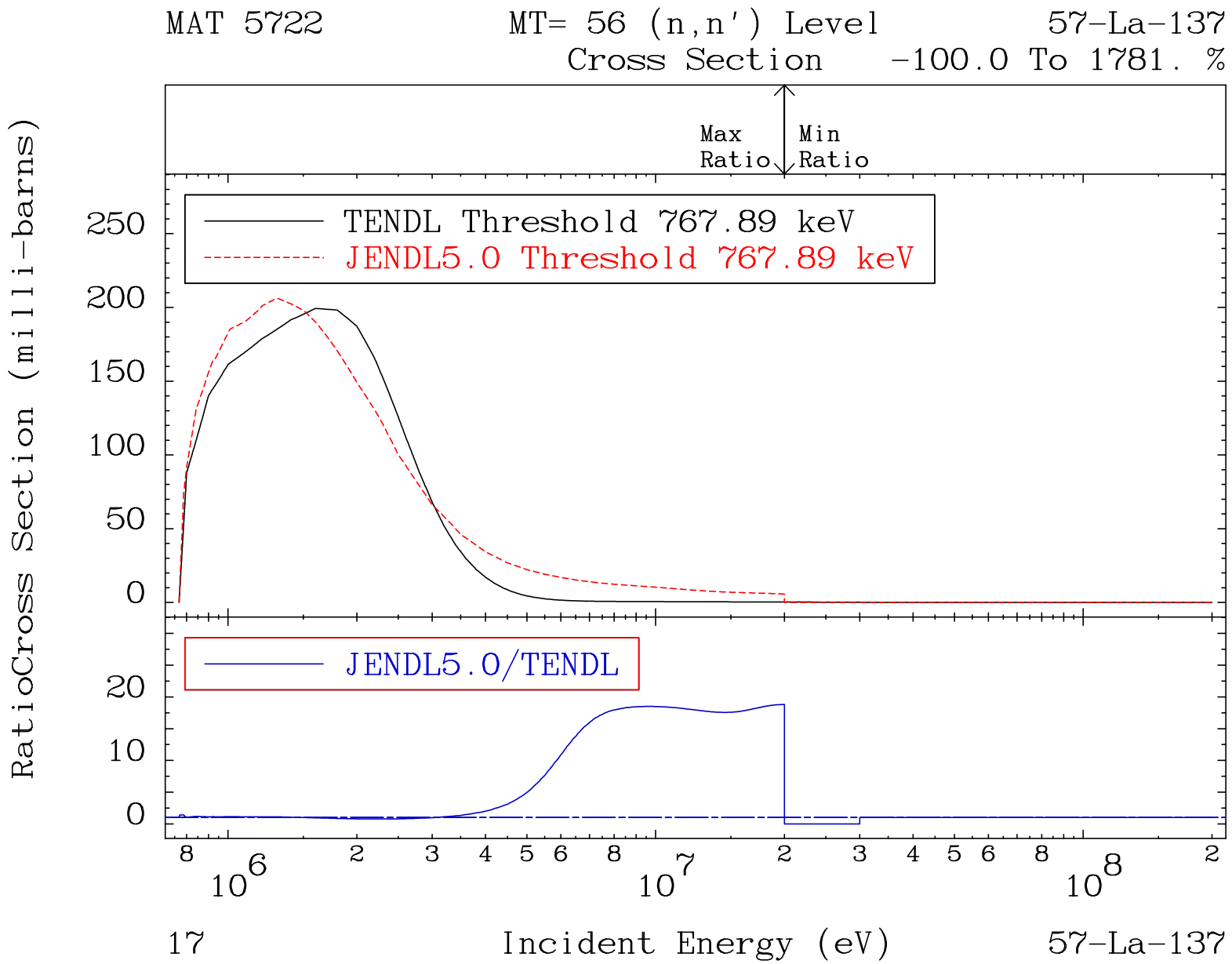

MAT 5722
MT= 51 (n,n') Level
57-La-137
Cross Section
-100.0 To 28.23 %
Max Ratio
Min Ratio
TENDL Threshold 10.668 keV
JENDL5.0 Threshold 10.668 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
700
600
500
400
300
200
100
0
1.0
0.0
10^4
10^5
10^6
10^7
10^8
12
Incident Energy (eV)
57-La-137

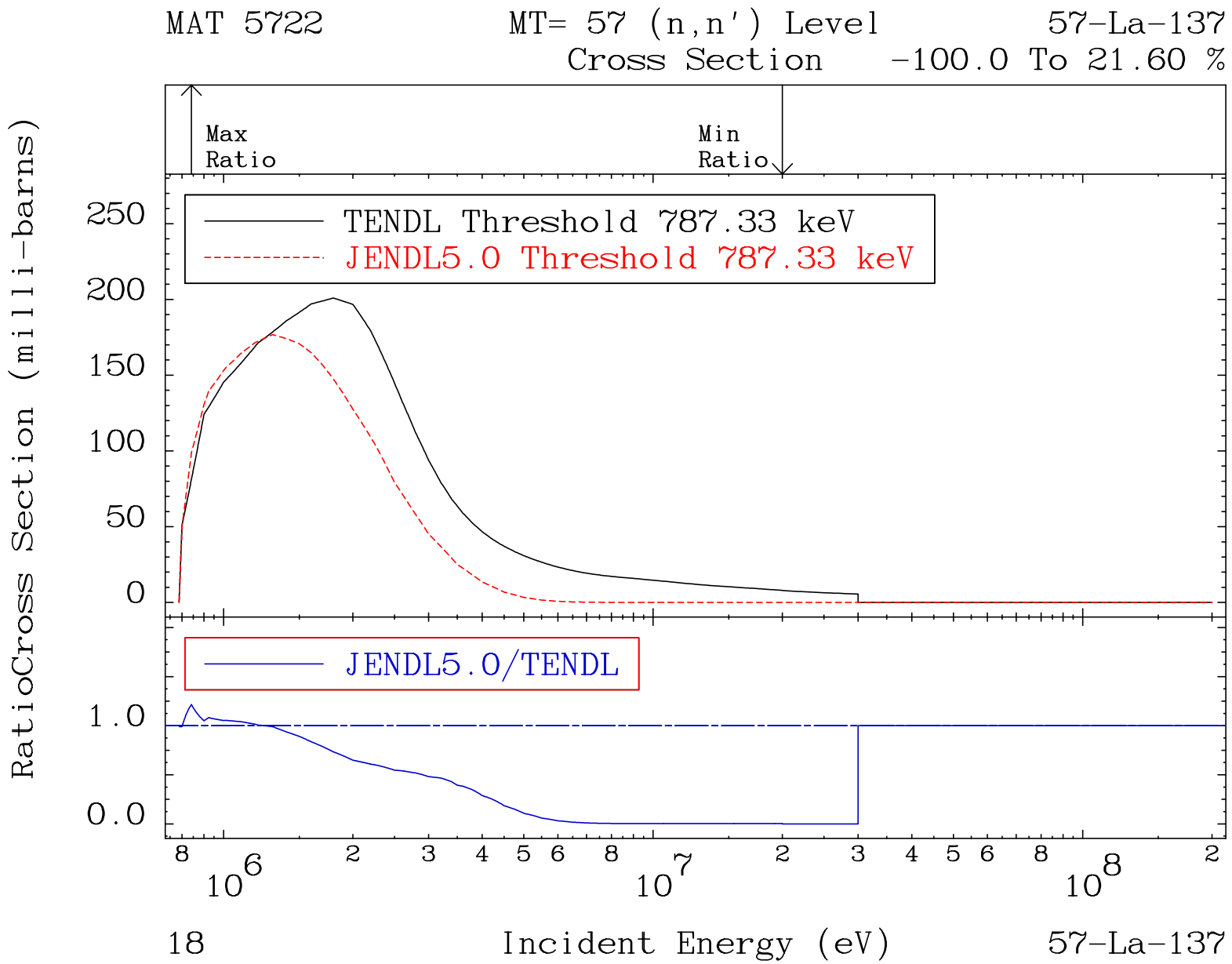

MAT 5722
MT= 52 (n,n') Level
57-La-137
Cross Section
-100.0 To 21.18 %
Max Ratio
Min Ratio
TENDL Threshold 450.46 keV
JENDL5.0 Threshold 450.46 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
1.0
0.0
5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
13
Incident Energy (eV)
57-La-137

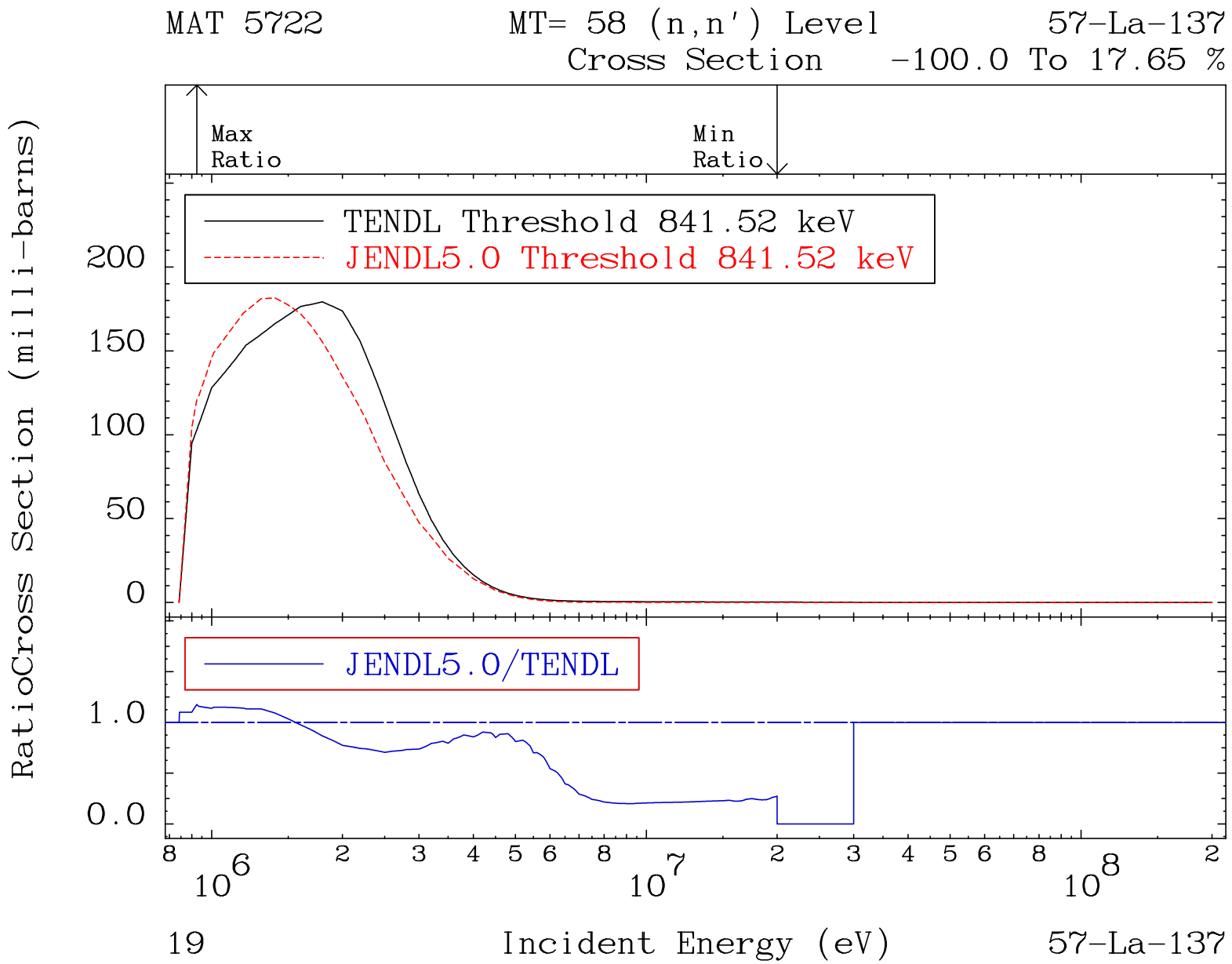

MAT 5722
MT= 53 (n,n') Level
57-La-137
Cross Section
-100.0 To 21.66 %
Max Ratio
Min Ratio
TENDL Threshold 496.72 keV
JENDL5.0 Threshold 496.72 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
120
100
80
60
40
20
0
1.0
0.0
5 6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
14
Incident Energy (eV)
57-La-137

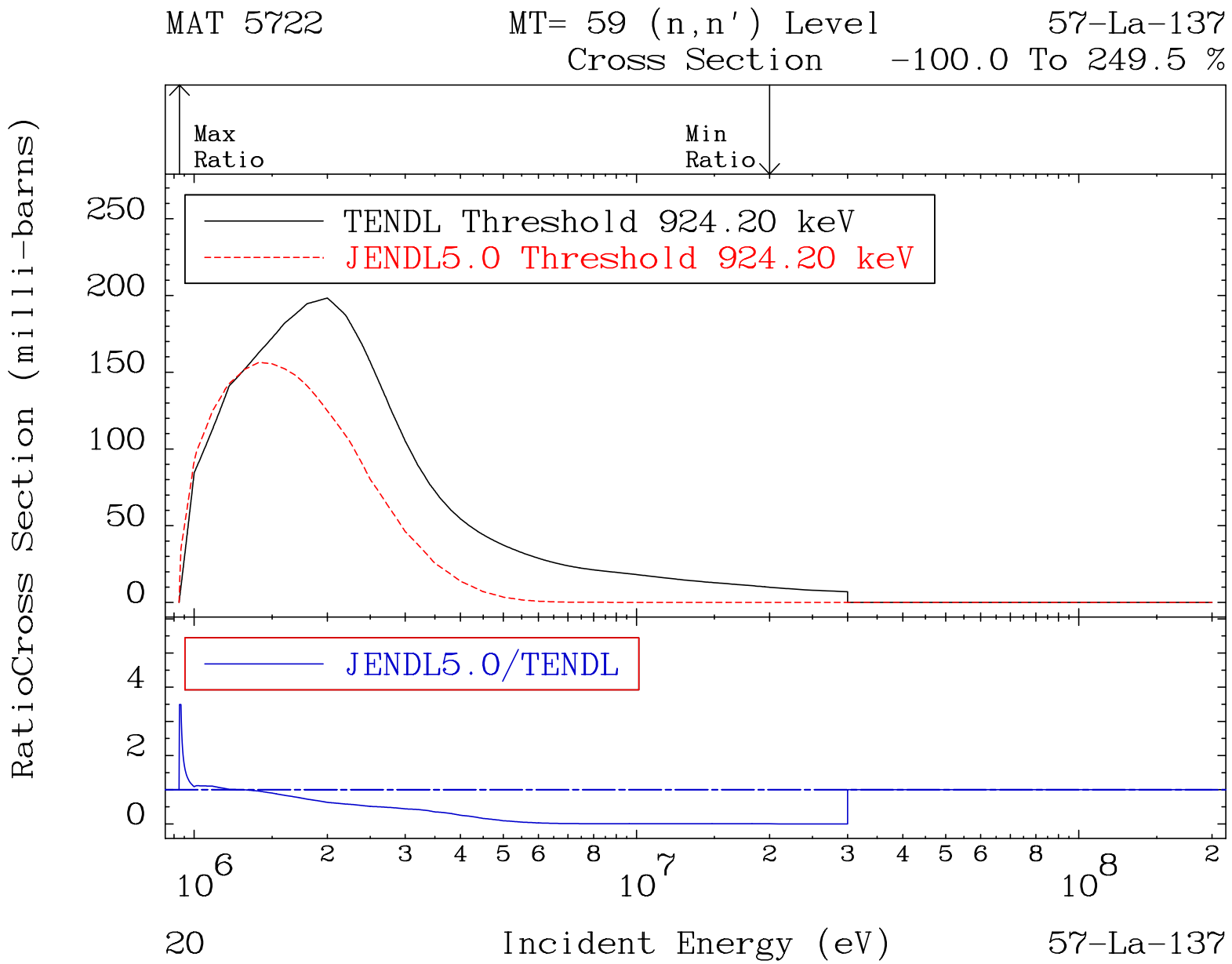

MAT 5722
MT= 54 (n,n') Level
57-La-137
Cross Section
-100.0 To 8.006 %
Max Ratio
Min Ratio
TENDL Threshold 646.69 keV
JENDL5.0 Threshold 646.69 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
1.2
0.6
0.0
6 8 10^6 2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
15
Incident Energy (eV)
57-La-137

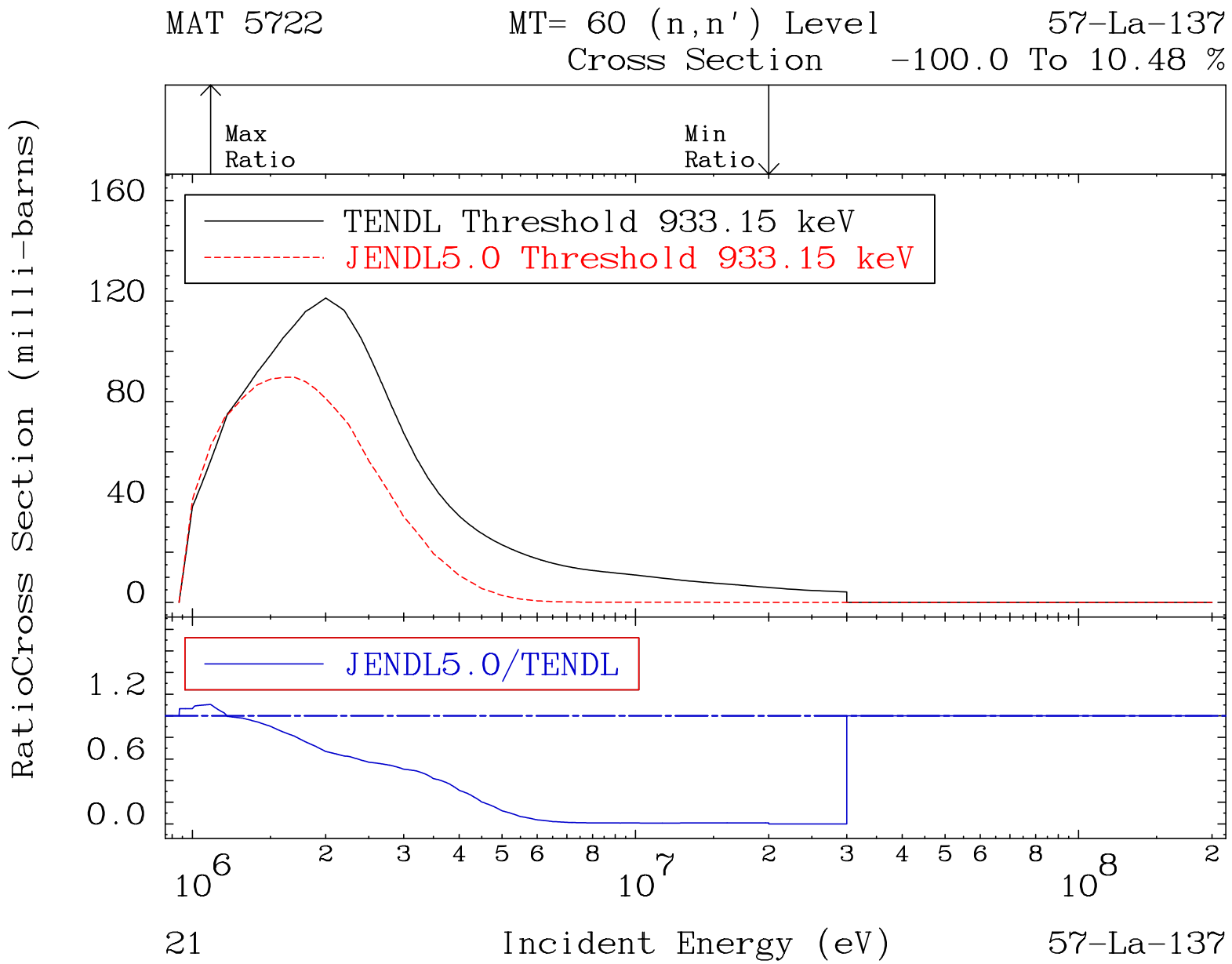

MAT 5722
MT= 55 (n,n') Level
57-La-137
Cross Section
-100.0 To 36.48 %
Max Ratio
Min Ratio
TENDL Threshold 714.53 keV
JENDL5.0 Threshold 714.53 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
80
60
40
20
0
2.0
1.0
0.0
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
16
Incident Energy (eV)
57-La-137

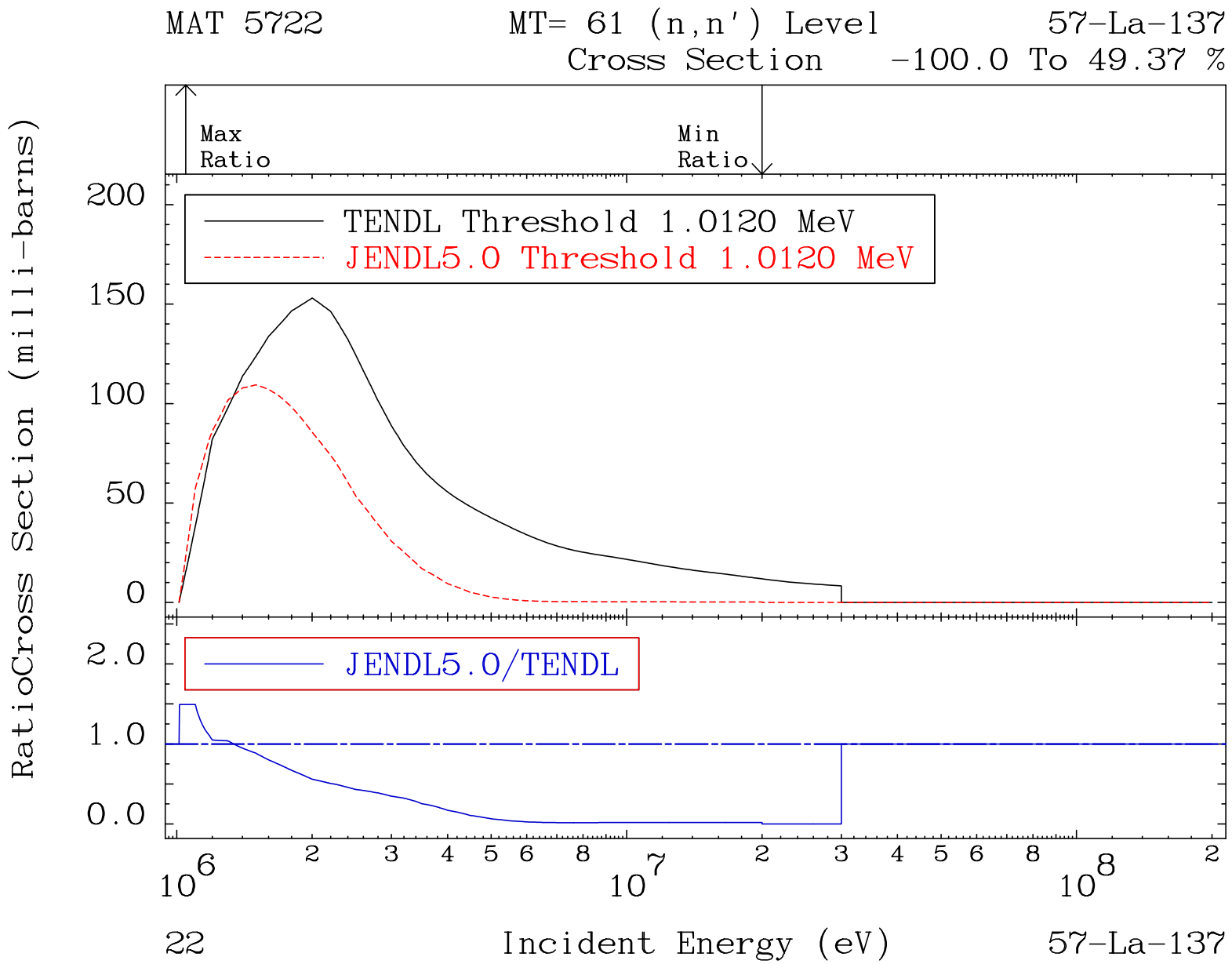

MAT 5722
MT= 56 (n,n') Level
57-La-137
Cross Section
-100.0 To 1781. %
Max Ratio
Min Ratio
TENDL Threshold 767.89 keV
JENDL5.0 Threshold 767.89 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
20
10
0
8
2
3
4
5
6
8
10^6
10^7
10^8
17
Incident Energy (eV)
57-La-137

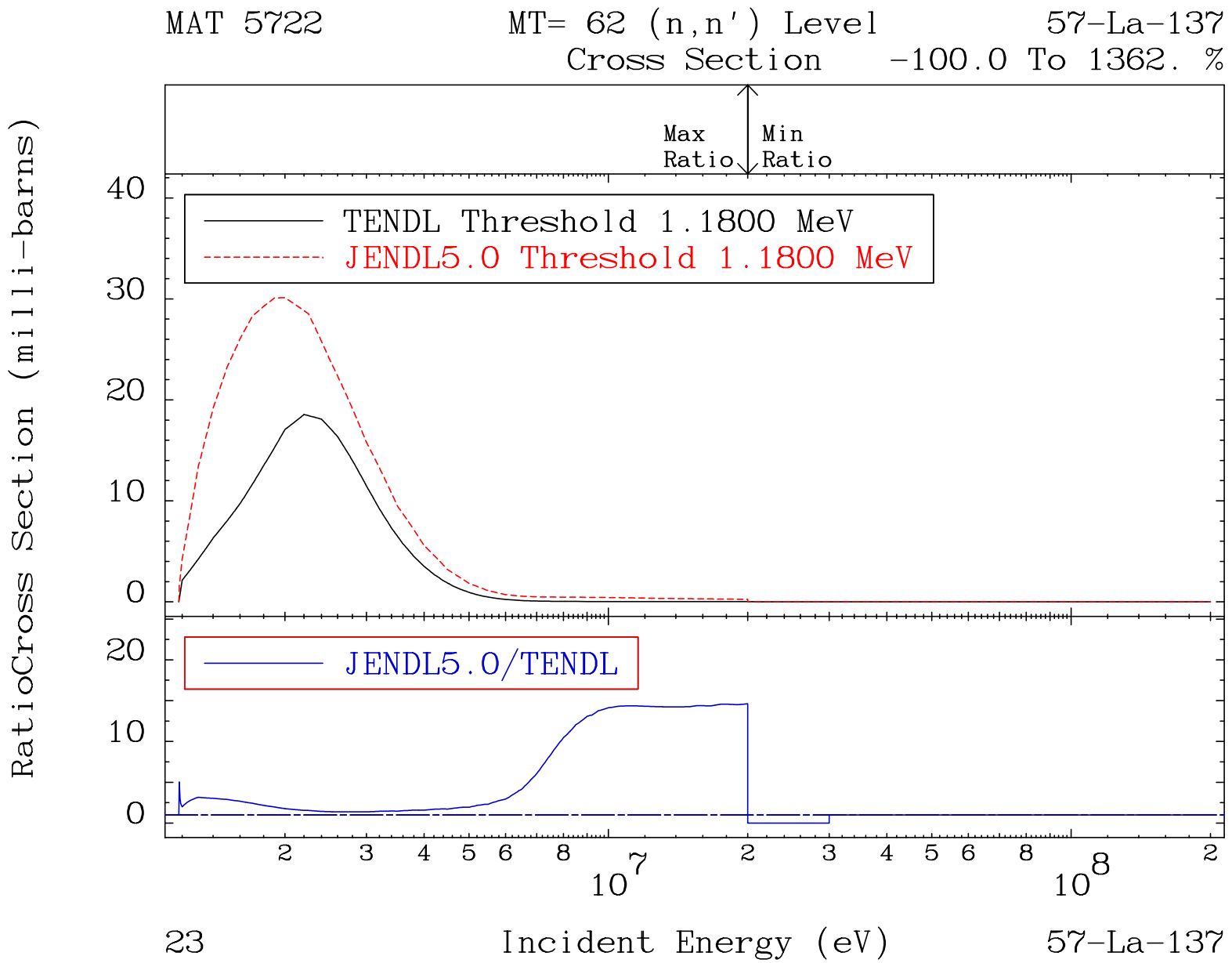

MAT 5722
MT= 57 (n,n') Level
57-La-137
Cross Section
-100.0 To 21.60 %
Max Ratio
Min Ratio
TENDL Threshold 787.33 keV
JENDL5.0 Threshold 787.33 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
1.0
0.0
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
18
Incident Energy (eV)
57-La-137

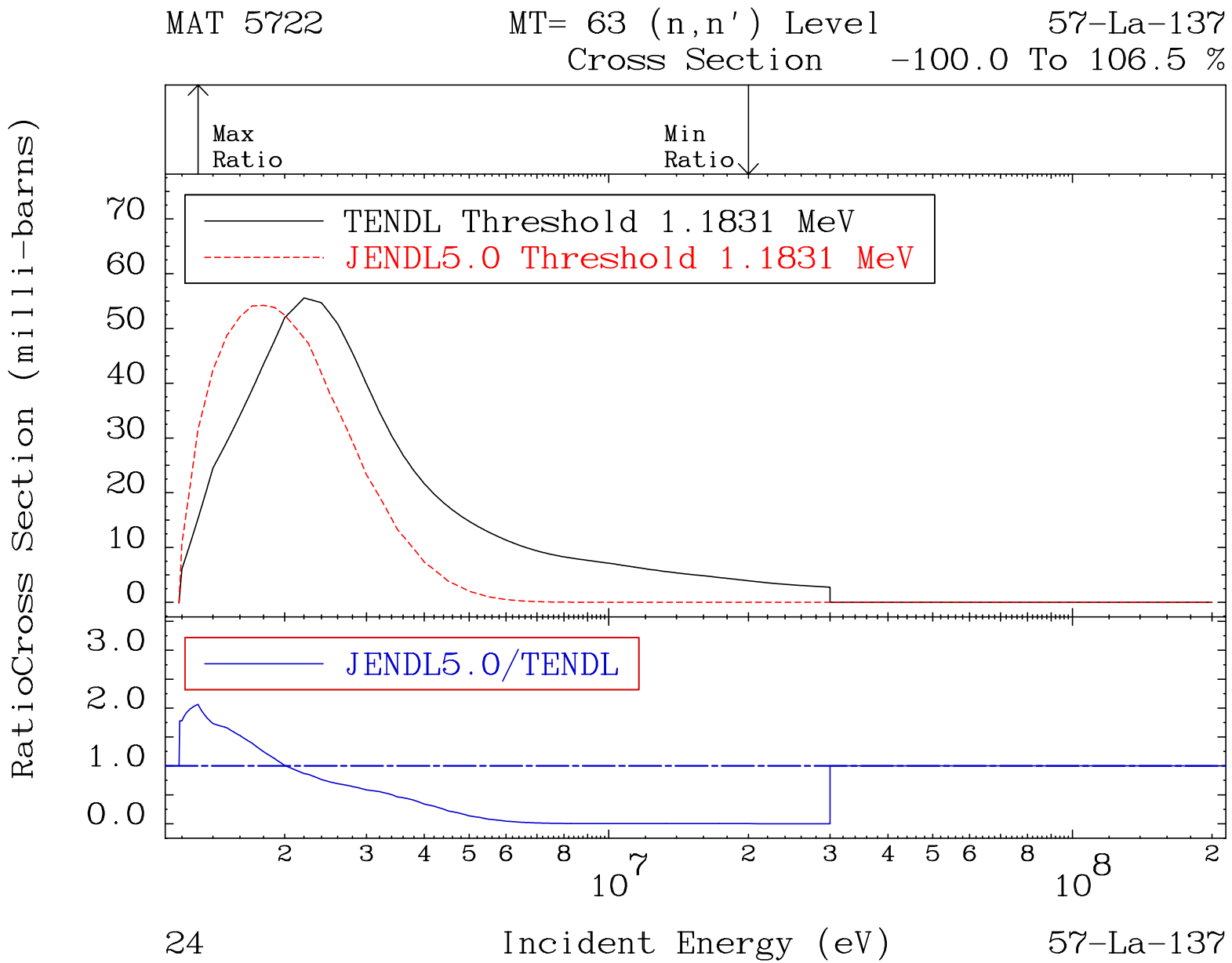

MAT 5722
MT= 58 (n,n') Level
57-La-137
Cross Section
-100.0 To 17.65 %
Max Ratio
Min Ratio
TENDL Threshold 841.52 keV
JENDL5.0 Threshold 841.52 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
200
150
100
50
0
1.0
0.0
8
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
19
Incident Energy (eV)
57-La-137

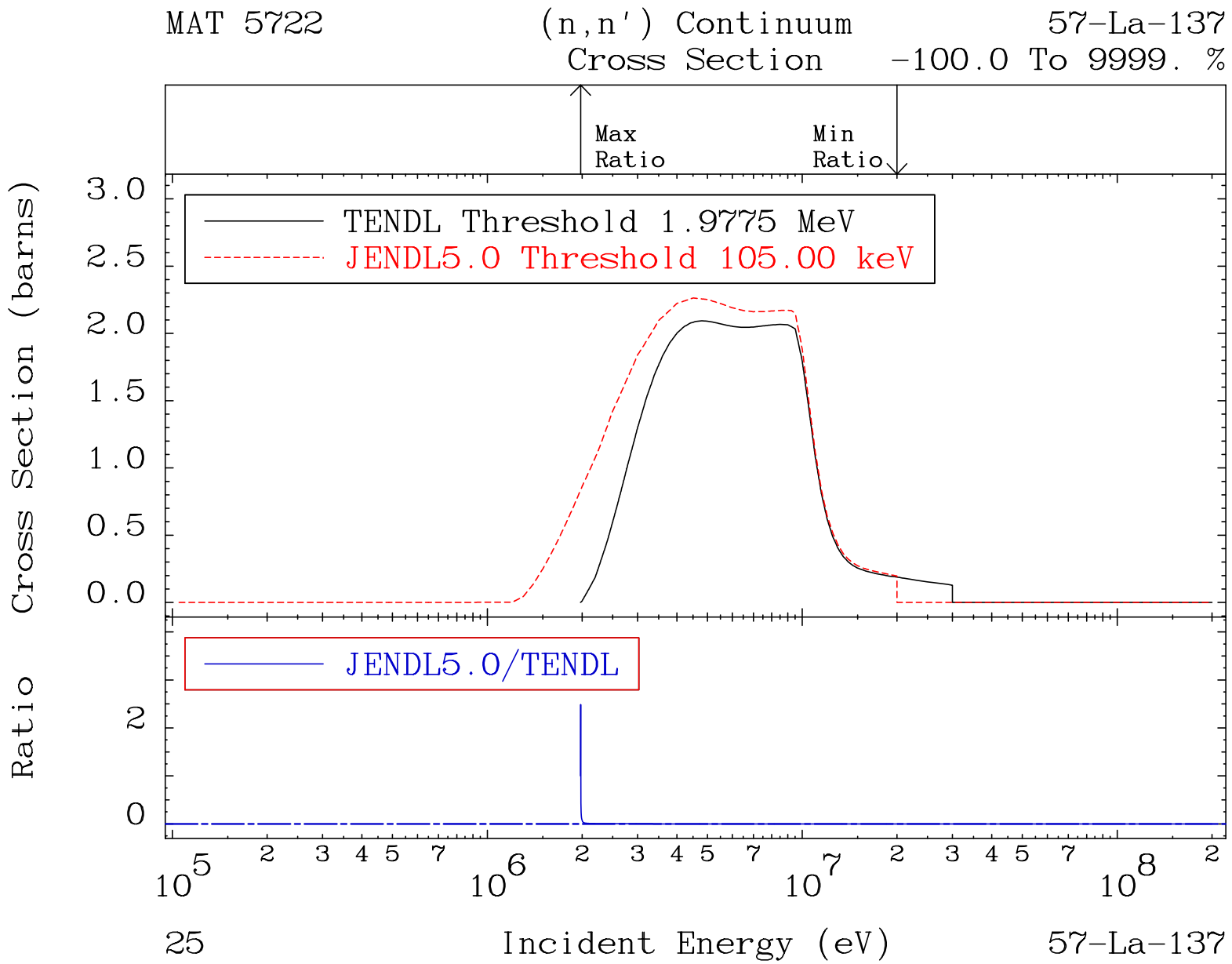

MAT 5722
MT= 59 (n,n') Level
57-La-137
Cross Section
-100.0 To 249.5 %
Max Ratio
Min Ratio
TENDL Threshold 924.20 keV
JENDL5.0 Threshold 924.20 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
4
2
0
10^6
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
20
Incident Energy (eV)
57-La-137

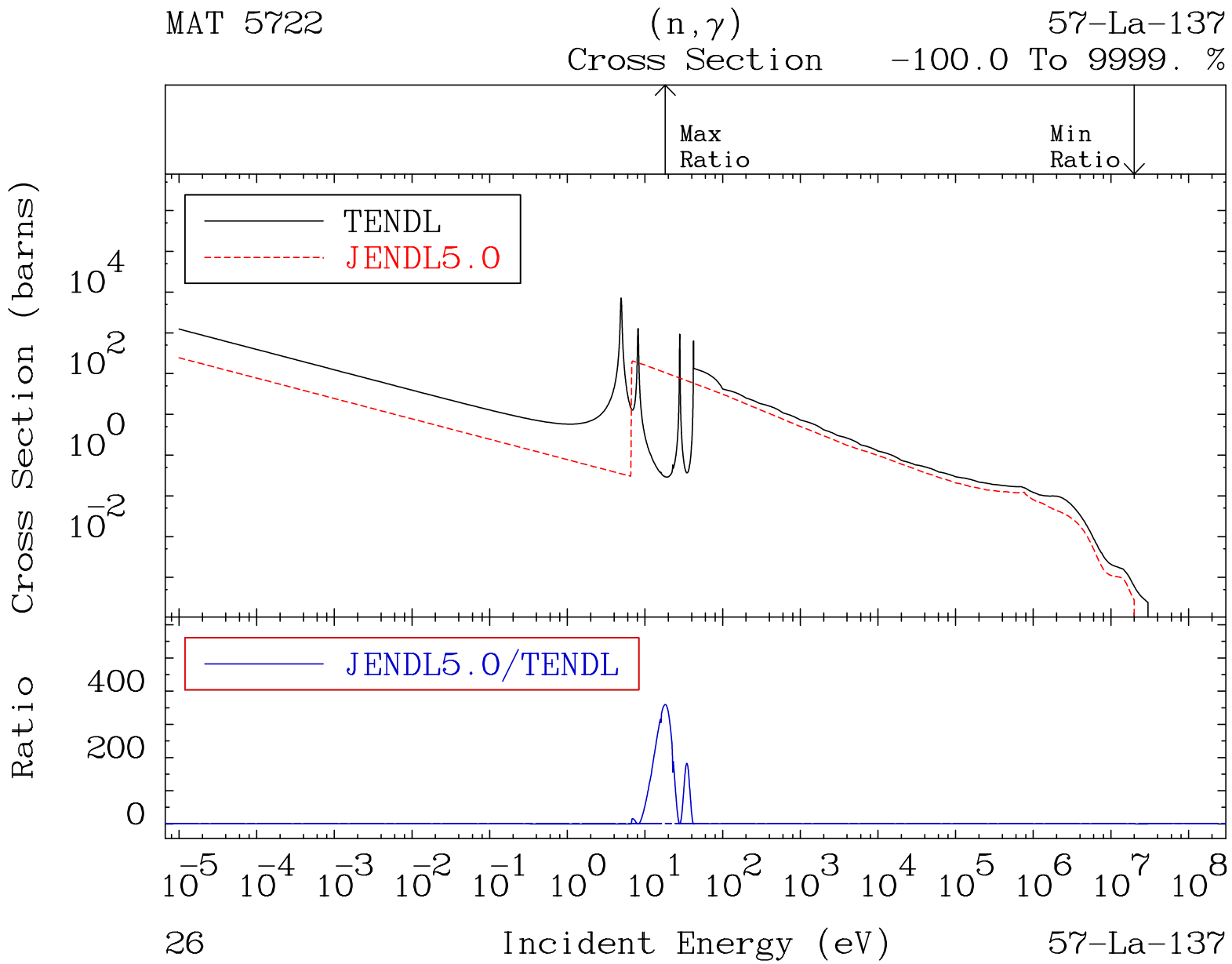

MAT 5722
MT= 60 (n,n') Level
57-La-137
Cross Section
-100.0 To 10.48 %
Max Ratio
Min Ratio
TENDL Threshold 933.15 keV
JENDL5.0 Threshold 933.15 keV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
1.2
0.6
0.0
10^6
10^7
10^8
21
Incident Energy (eV)
57-La-137

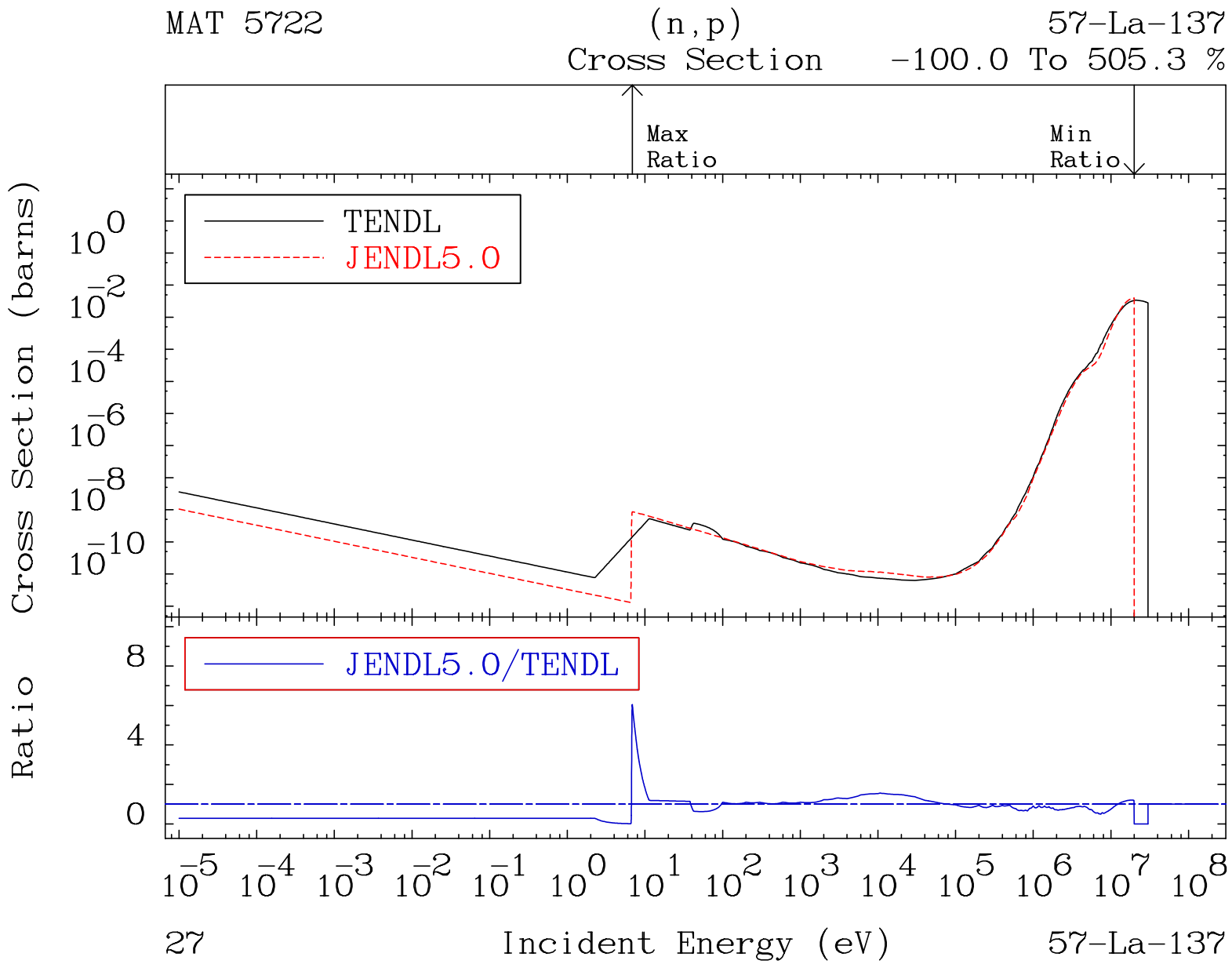

MAT 5722
MT= 61 (n,n') Level
57-La-137
Cross Section -100.0 To 49.37 %
Max Ratio
Min Ratio
TENDL Threshold 1.0120 MeV
JENDL5.0 Threshold 1.0120 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
200
150
100
50
0
2.0
1.0
0.0
10^6
10^7
10^8
Incident Energy (eV)
22
57-La-137

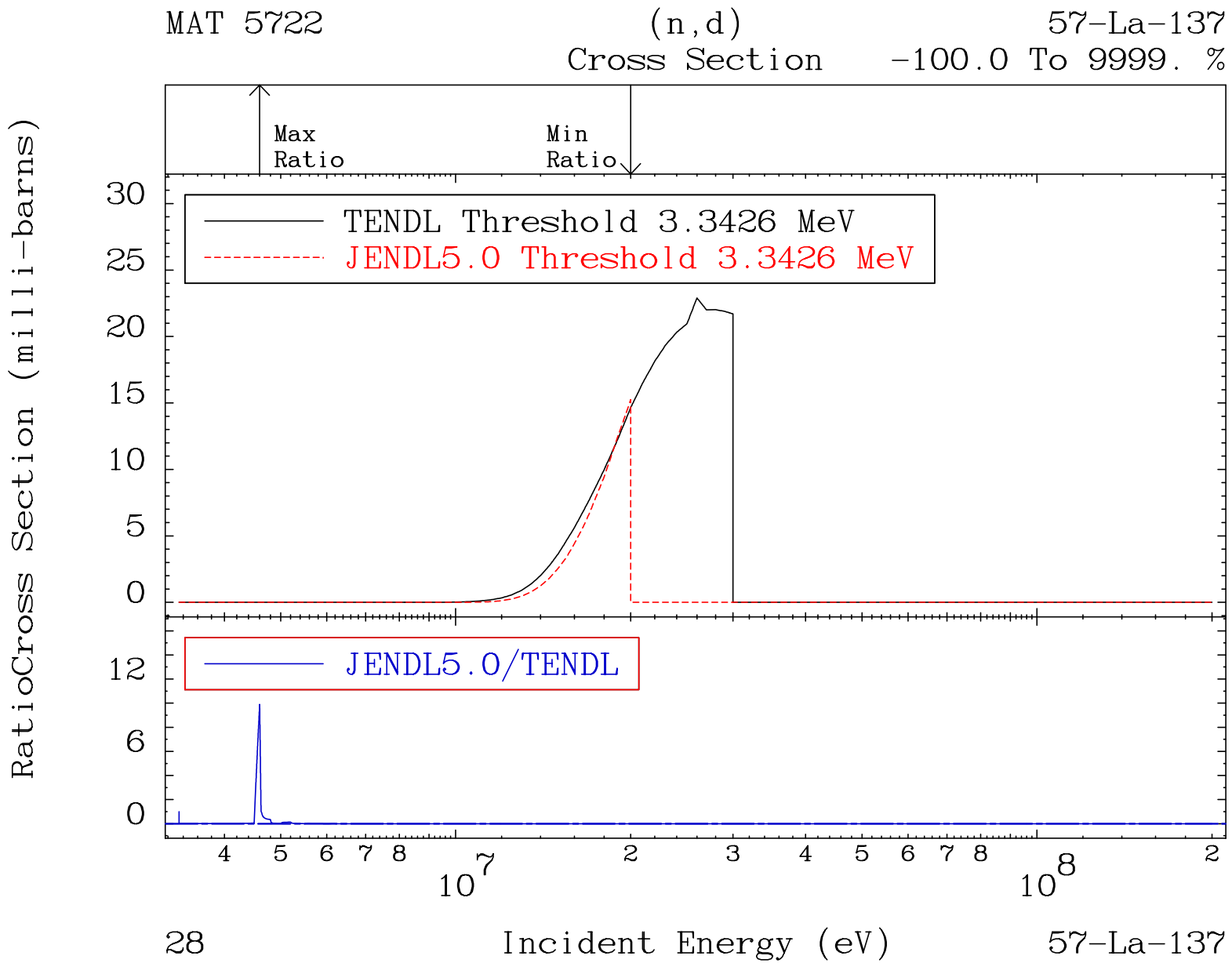

MAT 5722
MT= 62 (n,n') Level
57-La-137
Cross Section -100.0 To 1362. %
Max Ratio
Min Ratio
TENDL Threshold 1.1800 MeV
JENDL5.0 Threshold 1.1800 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
20
10
0
2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
23
Incident Energy (eV)
57-La-137

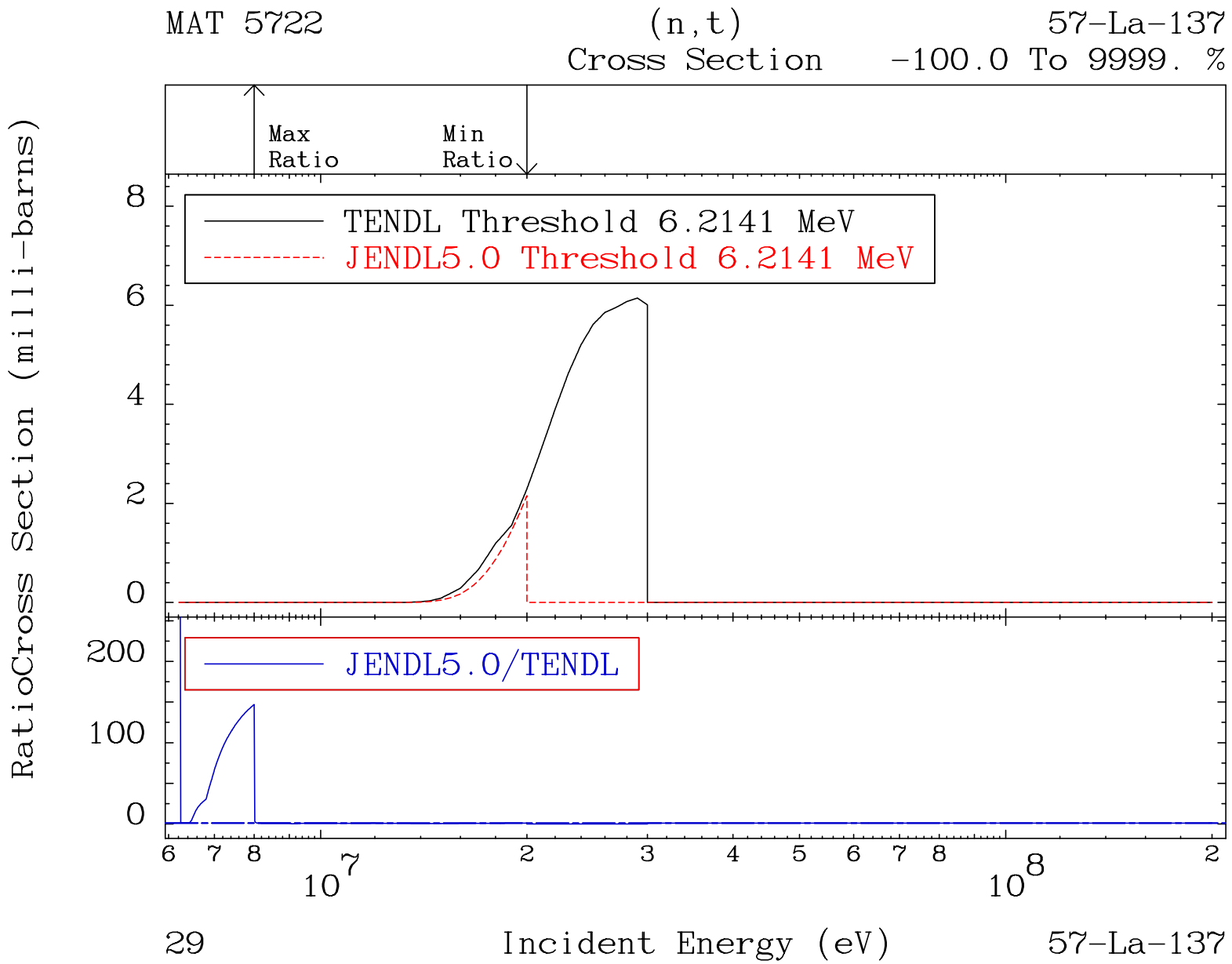

MAT 5722
MT= 63 (n,n') Level
57-La-137
Cross Section
-100.0 To 106.5 %
Max Ratio
Min Ratio
TENDL Threshold 1.1831 MeV
JENDL5.0 Threshold 1.1831 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
70
60
50
40
30
20
10
0
3.0
2.0
1.0
0.0
2
3
4
5
6
8
10^7
2
3
4
5
6
8
10^8
2
24
Incident Energy (eV)
57-La-137

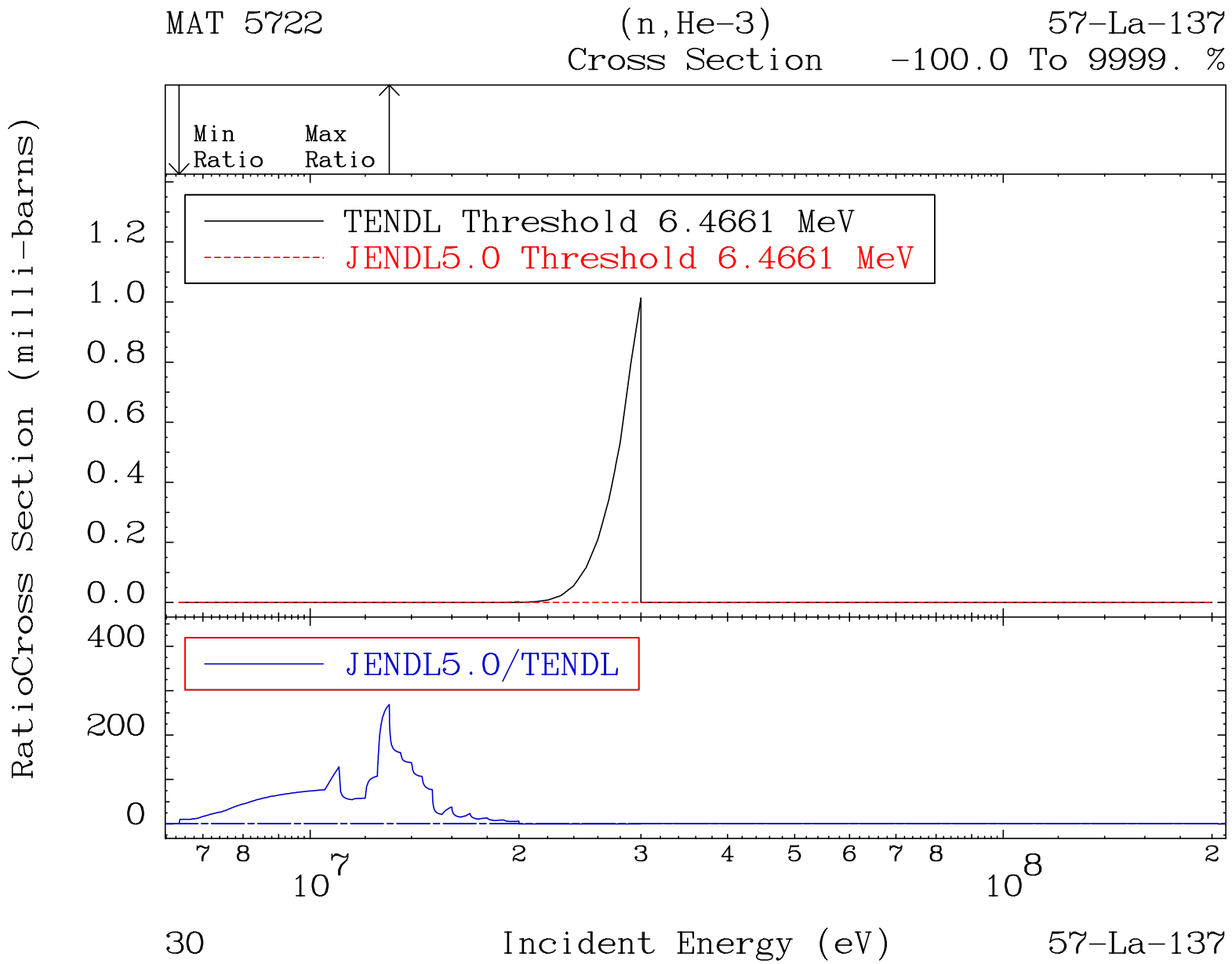

MAT 5722
(n,n') Continuum
Cross Section
57-La-137
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 1.9775 MeV
JENDL5.0 Threshold 105.00 keV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
25
57-La-137

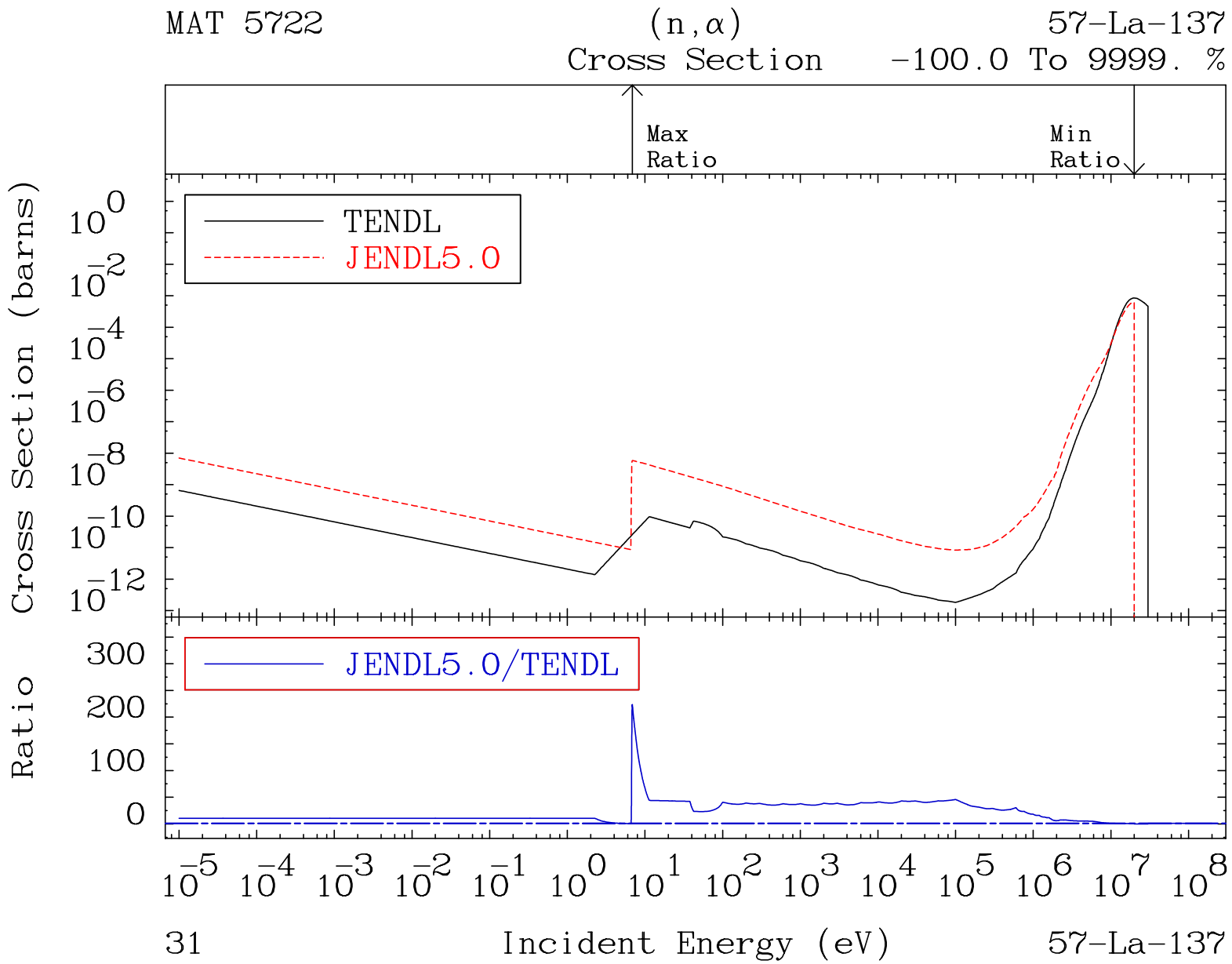

MAT 5722
(n,γ)
Cross Section
57-La-137
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
10^4
10^2
10^0
10^-2
JENDL5.0/TENDL
Ratio
400
200
0
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
26
Incident Energy (eV)
57-La-137

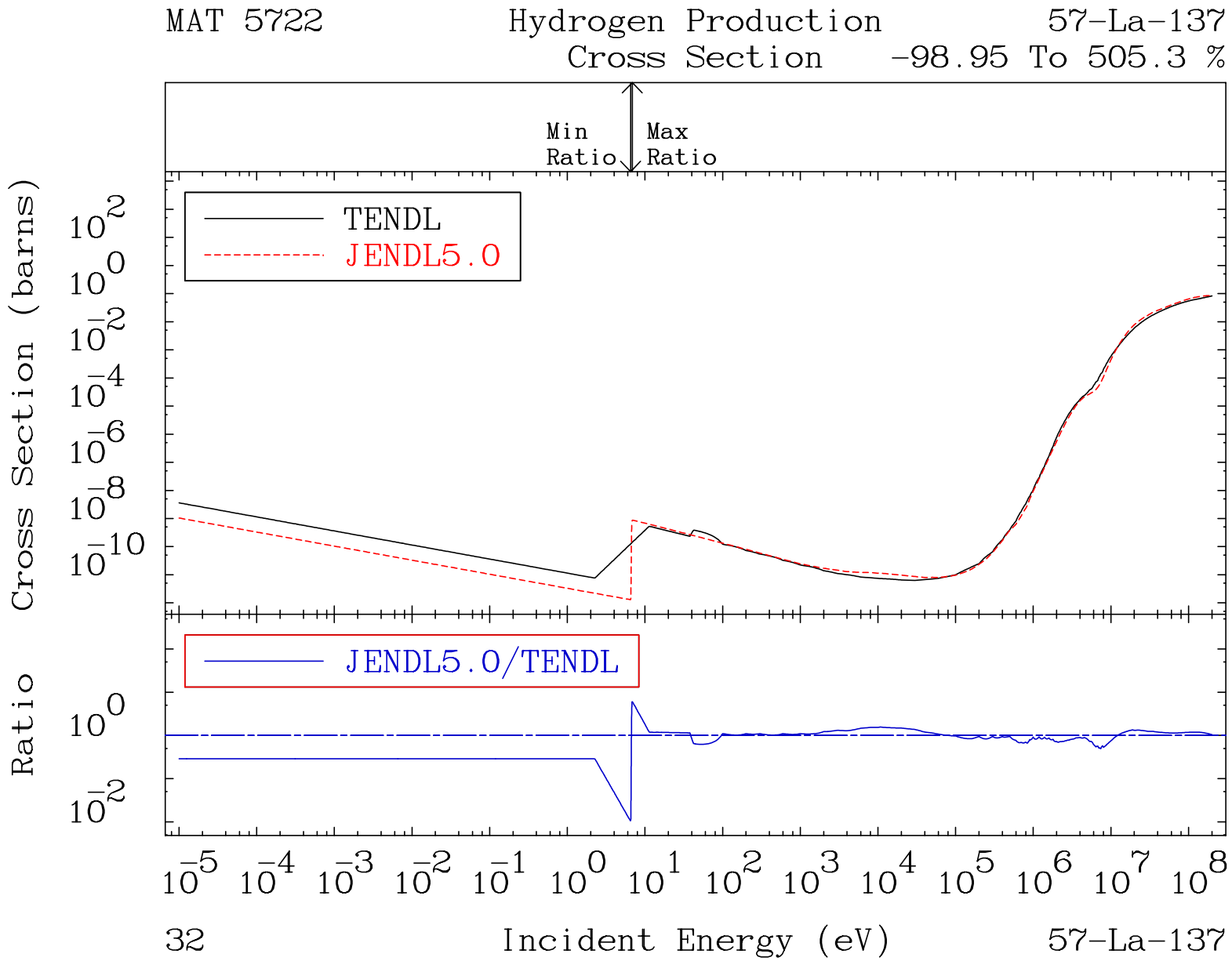

MAT 5722
(n,p)
Cross Section
57-La-137
-100.0 To 505.3 %
Max
Ratio
Min
Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
27
57-La-137

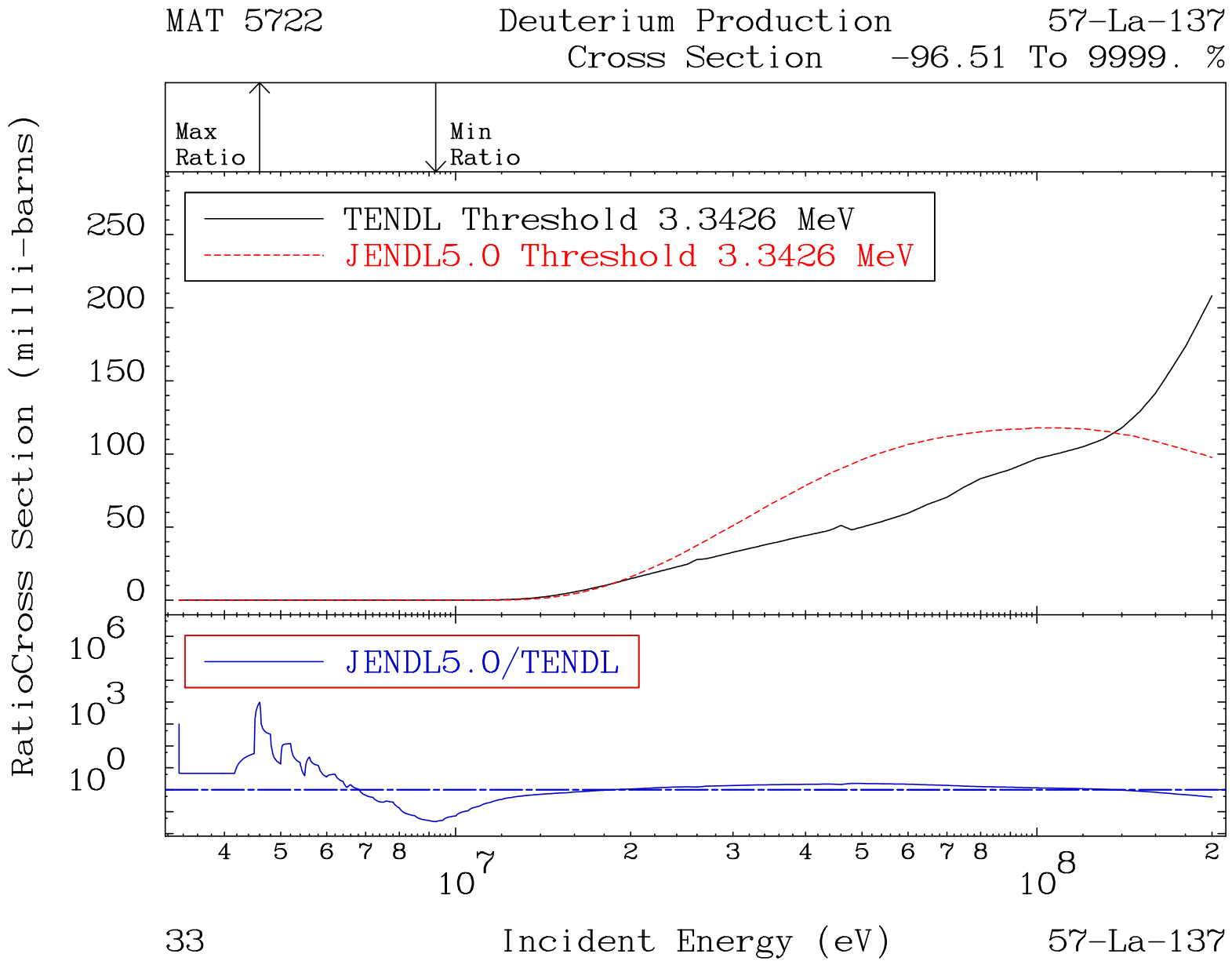

MAT 5722
(n,d)
Cross Section
57-La-137
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 3.3426 MeV
JENDL5.0 Threshold 3.3426 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
30
25
20
15
10
5
0
12
6
0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
28
Incident Energy (eV)
57-La-137

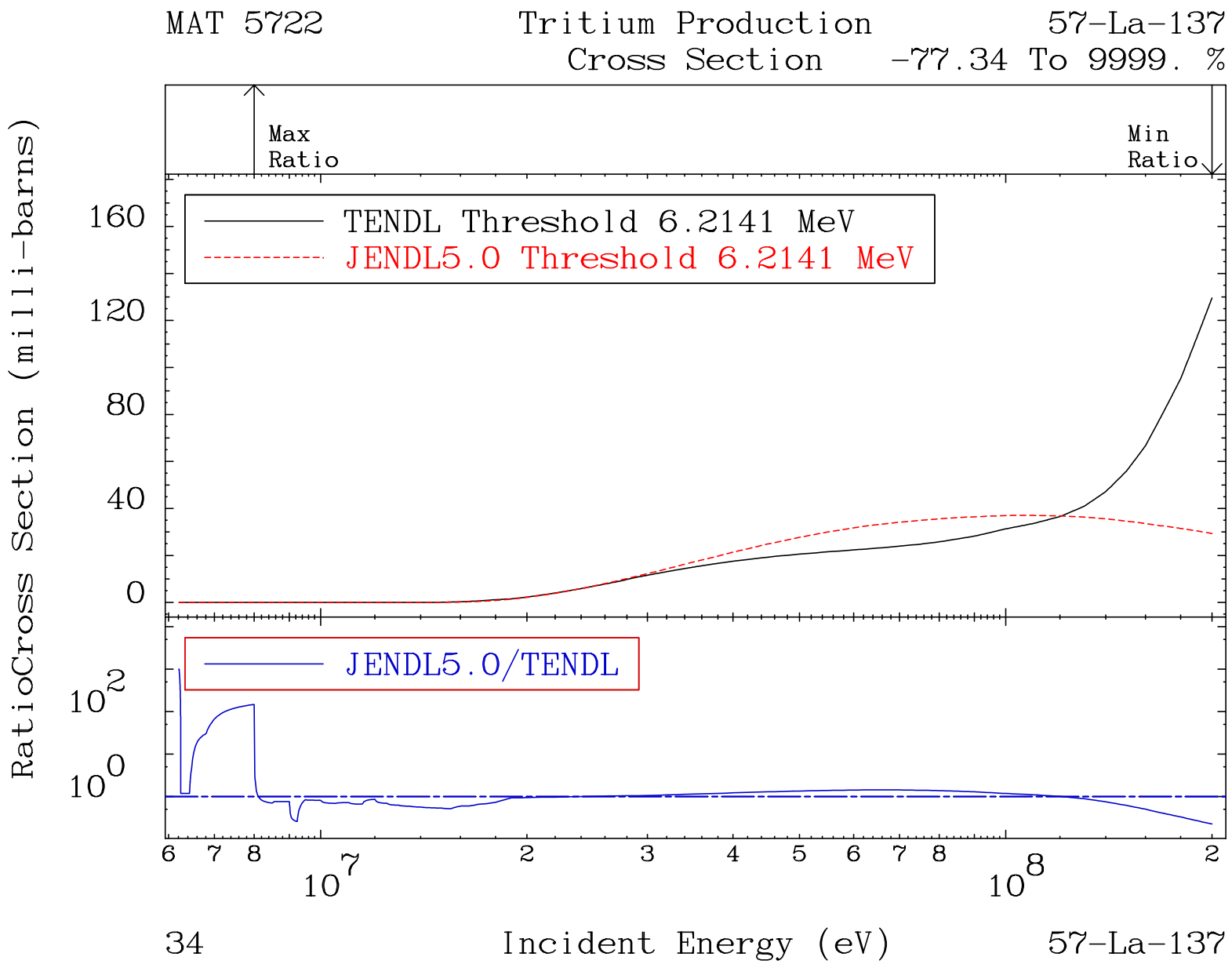

MAT 5722
(n,t)
Cross Section
57-La-137
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 6.2141 MeV
JENDL5.0 Threshold 6.2141 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
8
6
4
2
0
200
100
0
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
29
Incident Energy (eV)
57-La-137

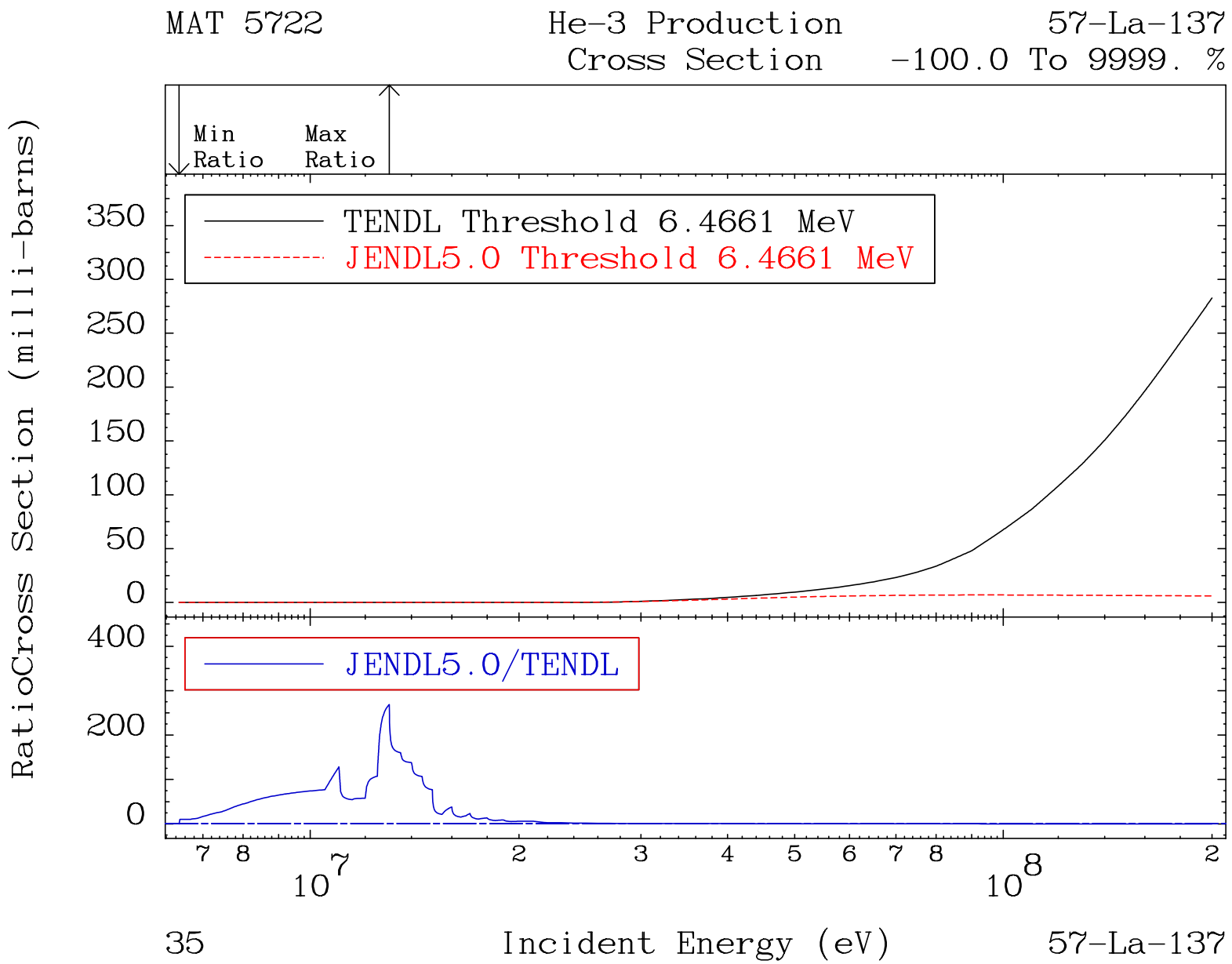

MAT 5722
(n,He-3)
Cross Section
57-La-137
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 6.4661 MeV
JENDL5.0 Threshold 6.4661 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
400
200
0
7 8 10^7 2 3 4 5 6 7 8 10^8 2
30
Incident Energy (eV)
57-La-137

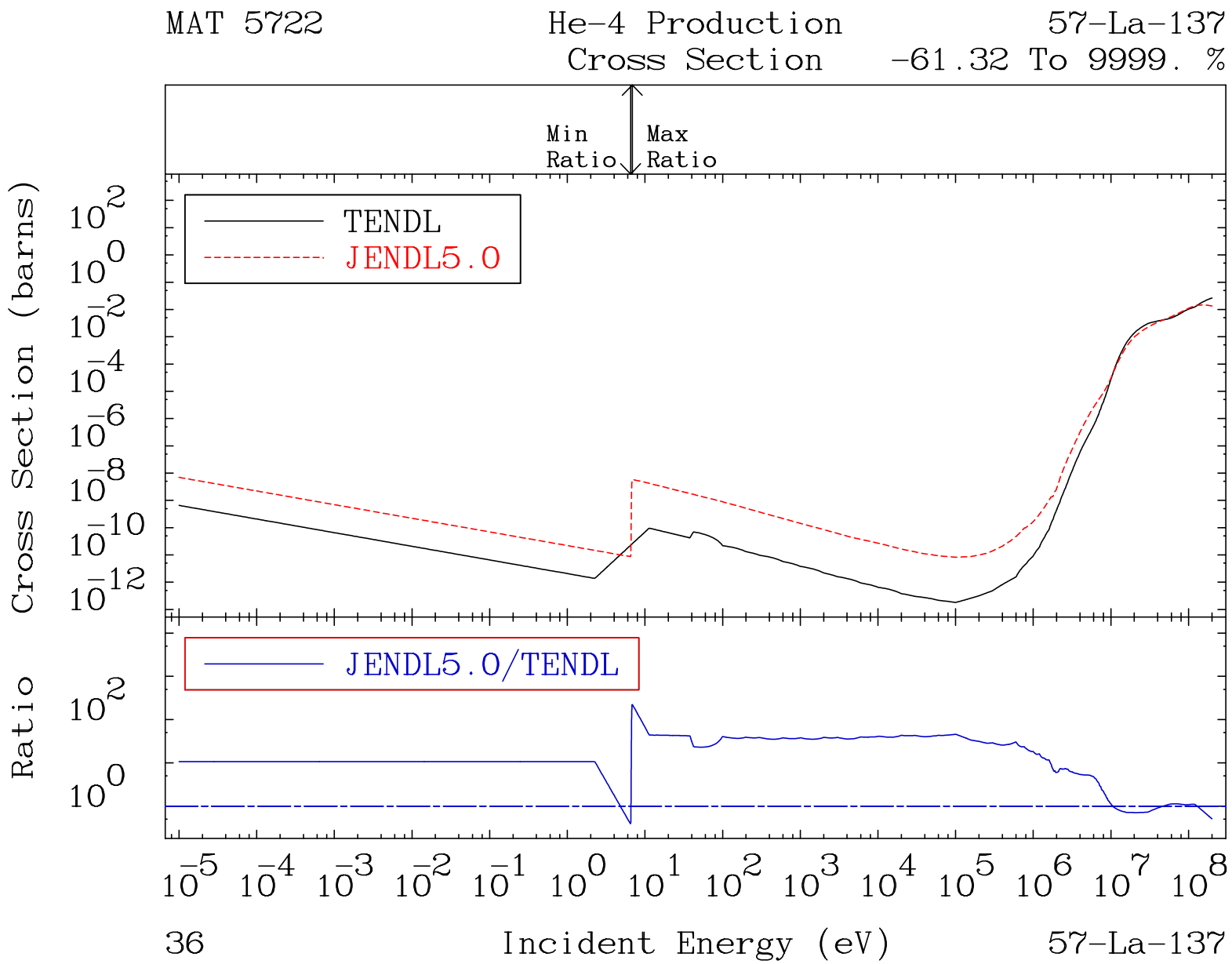

MAT 5722
(n,α)
Cross Section
57-La-137
-100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
31
57-La-137

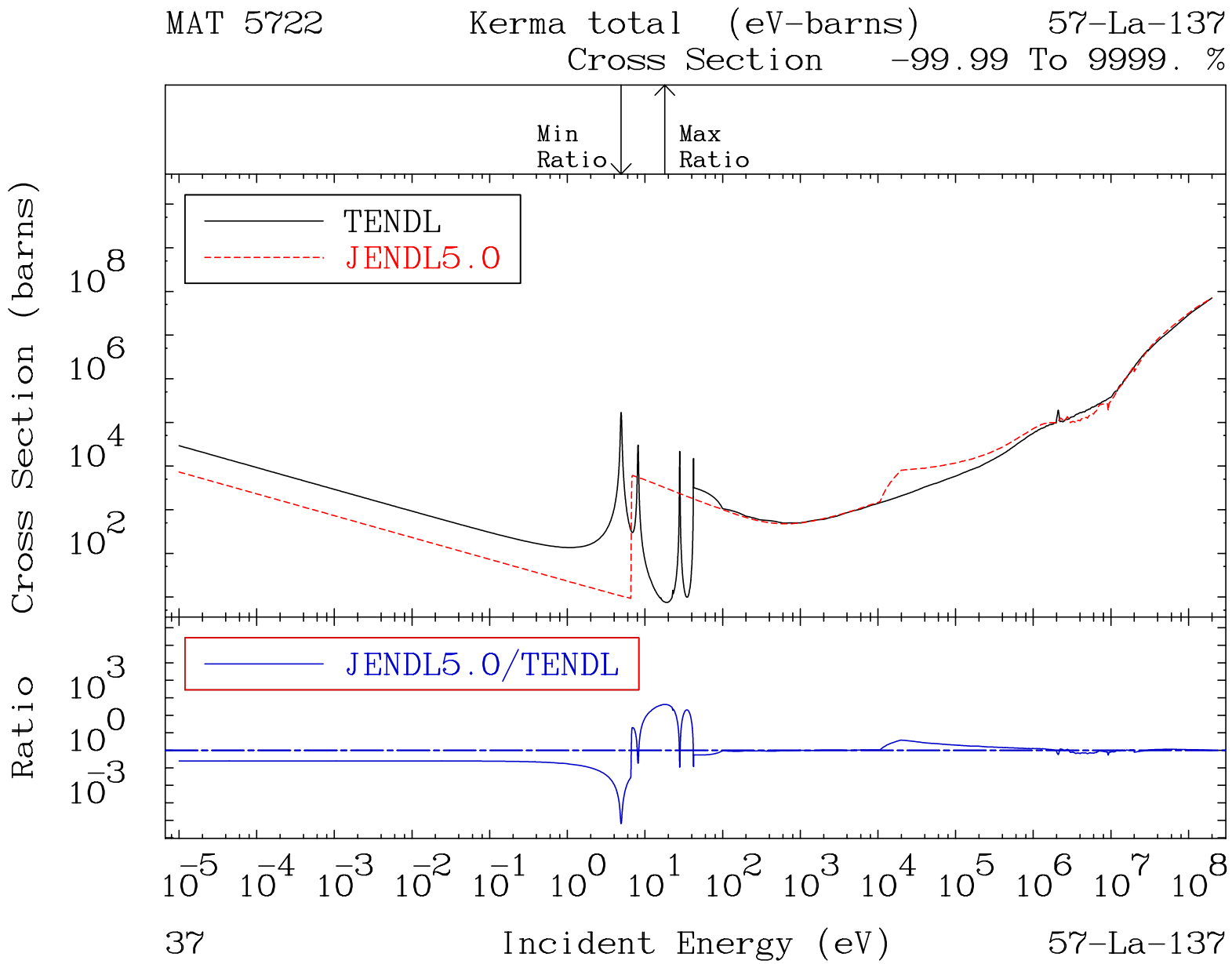

MAT 5722
Hydrogen Production
57-La-137
Cross Section
-98.95 To 505.3 %
Min Ratio
Max Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
32
57-La-137

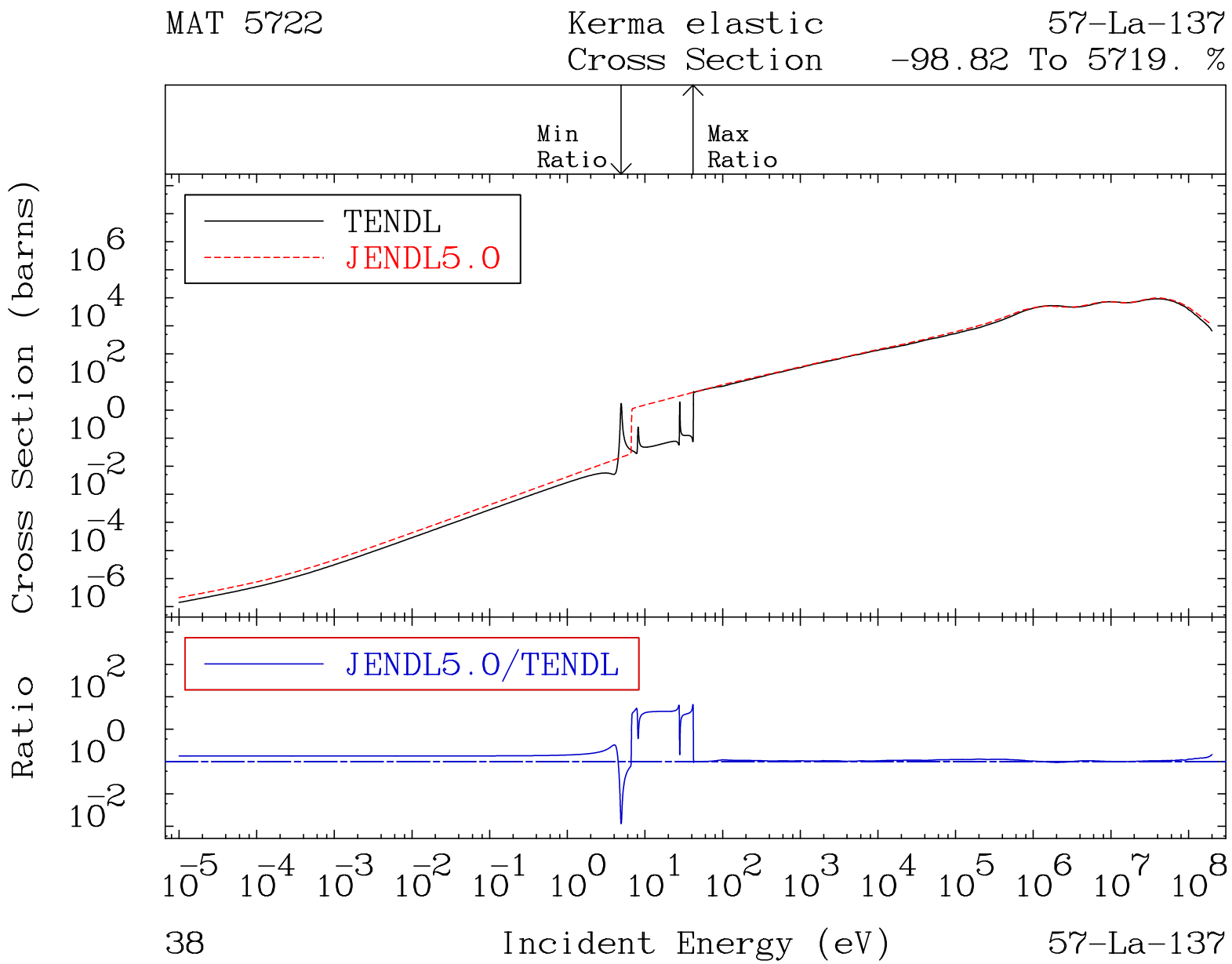

MAT 5722
Deuterium Production
57-La-137
Cross Section
-96.51 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 3.3426 MeV
JENDL5.0 Threshold 3.3426 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
10^6
10^3
10^0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
33
Incident Energy (eV)
57-La-137

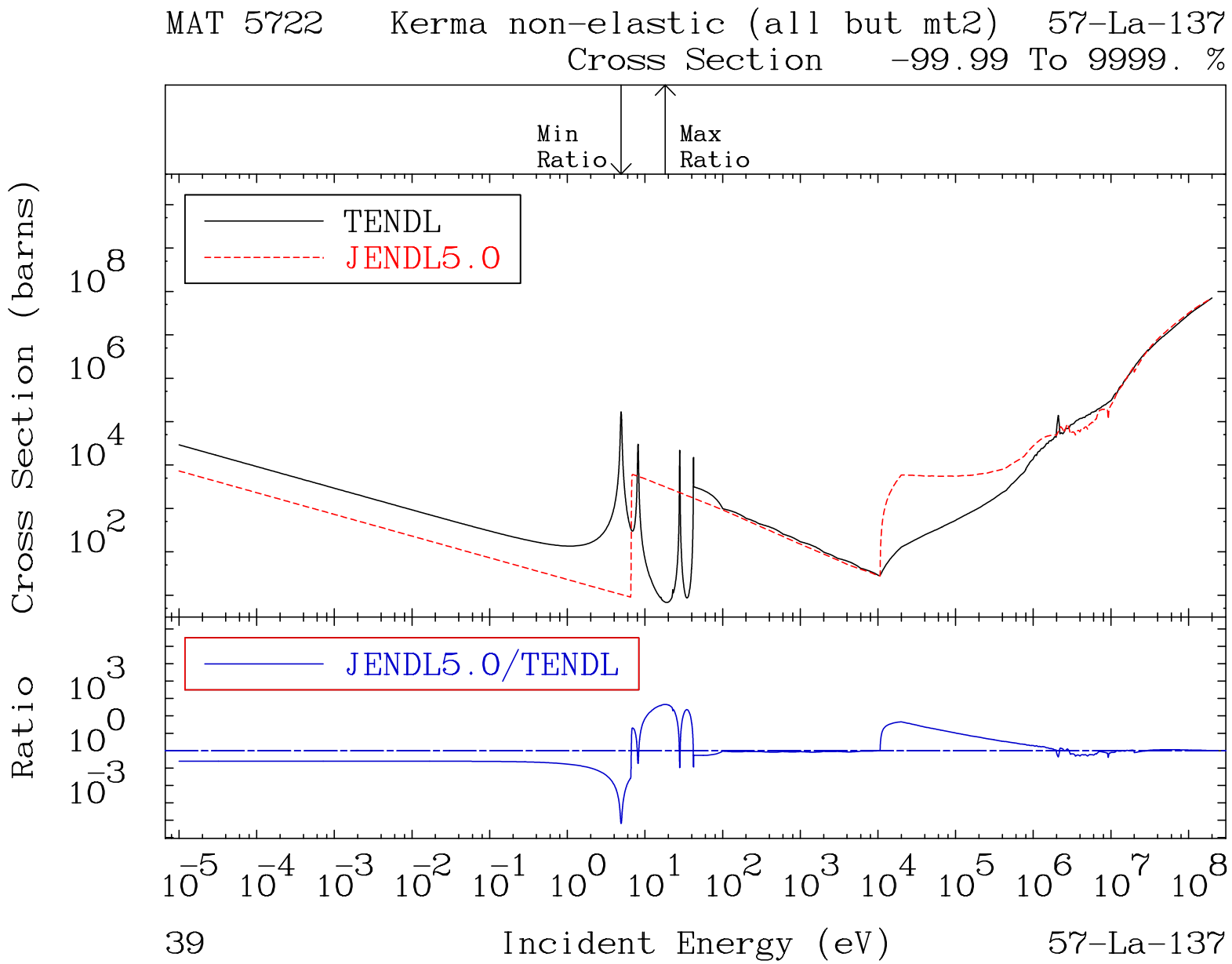

MAT 5722
Tritium Production
57-La-137
Cross Section
-77.34 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 6.2141 MeV
JENDL5.0 Threshold 6.2141 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
10^2
10^0
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
34
Incident Energy (eV)
57-La-137

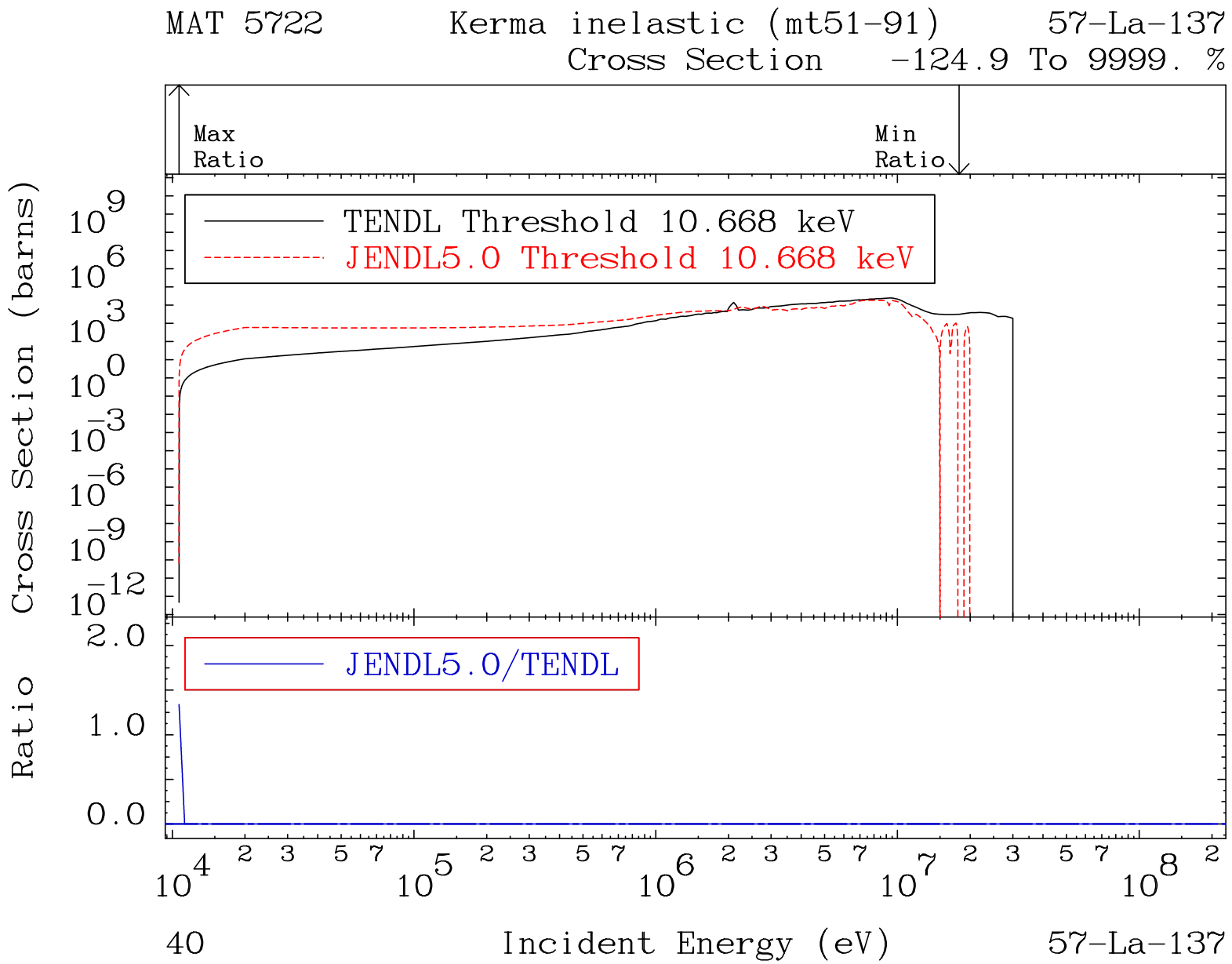

MAT 5722
He-3 Production
Cross Section
57-La-137
-100.0 To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 6.4661 MeV
JENDL5.0 Threshold 6.4661 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
350
300
250
200
150
100
50
0
400
200
0
7 8 10^7 2 3 4 5 6 7 8 10^8 2
35
Incident Energy (eV)
57-La-137

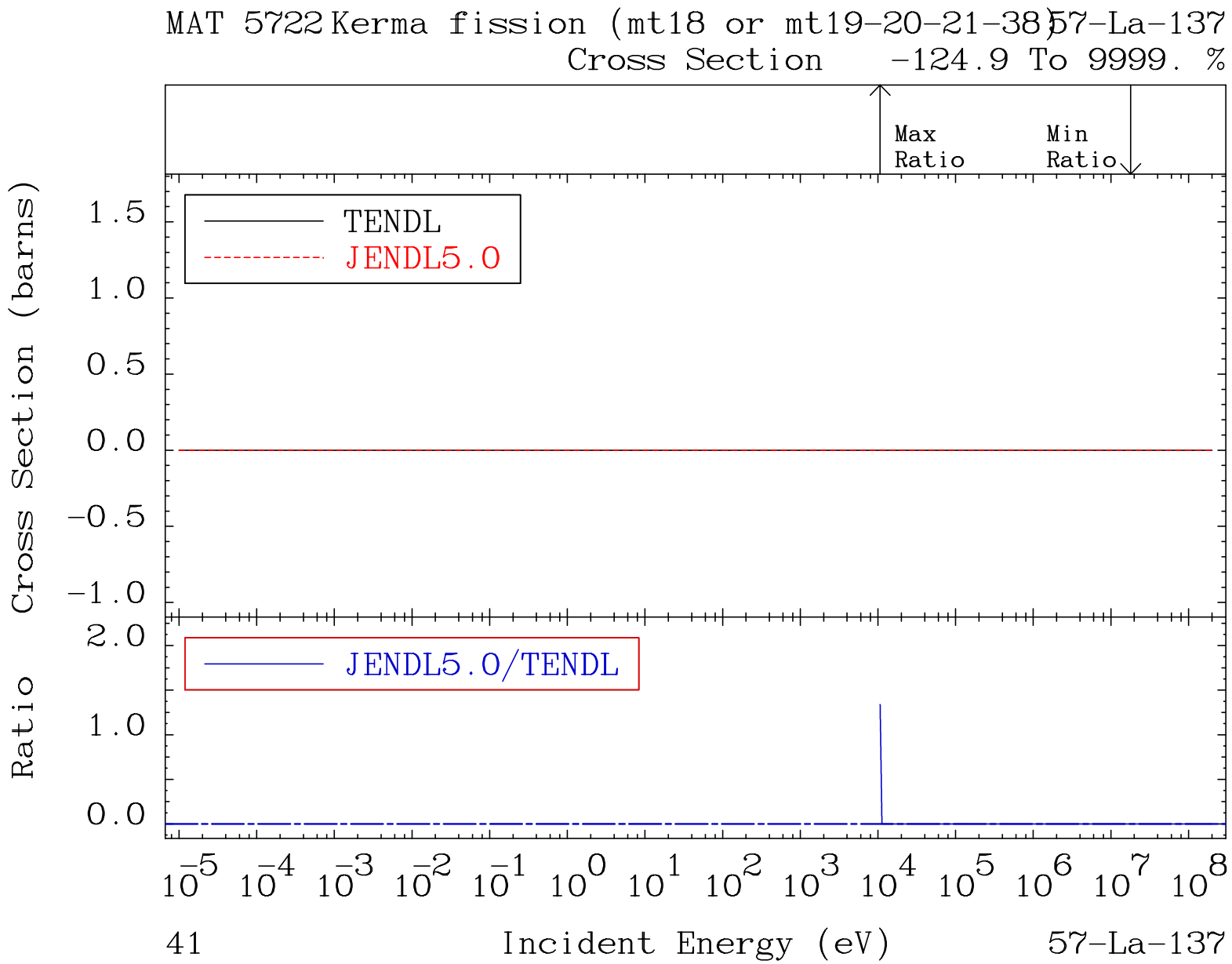

MAT 5722
He-4 Production
Cross Section
57-La-137
-61.32 To 9999. %
Min Ratio
Max Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
36
57-La-137

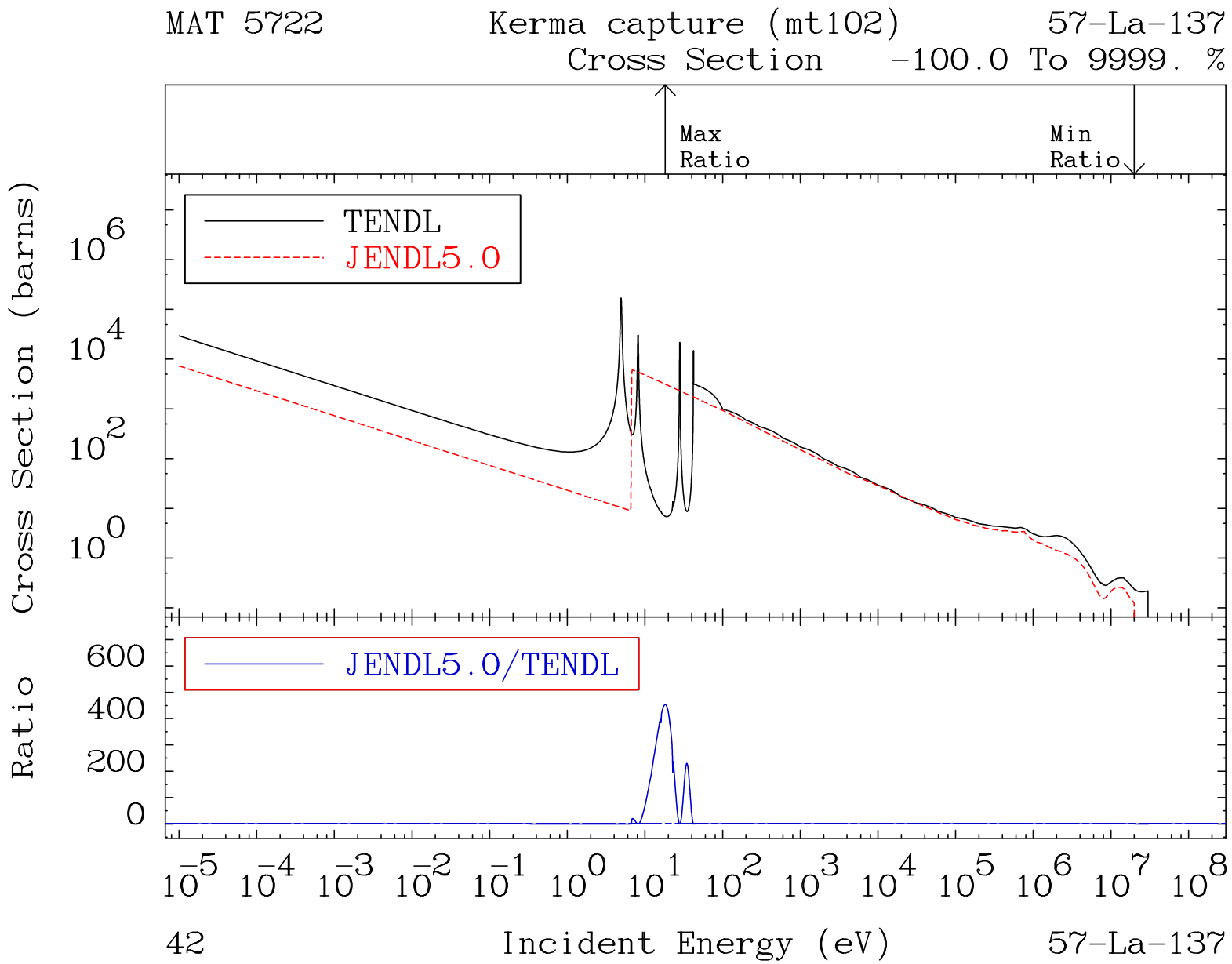

MAT 5722
Kerma total (eV-barns)
57-La-137
Cross Section -99.99 To 9999. %
Min Ratio
Max Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
37
57-La-137

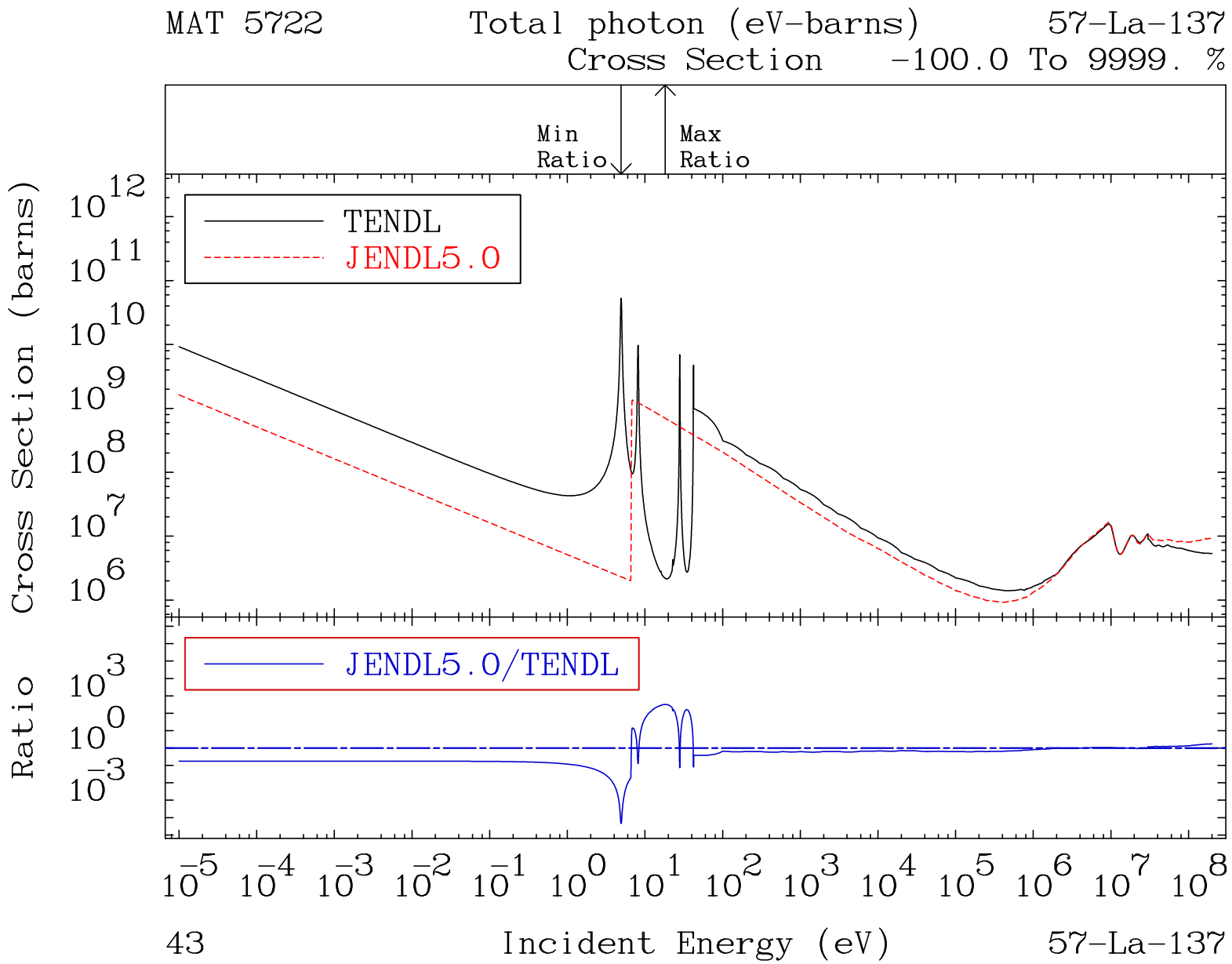

MAT 5722
Kerma elastic
Cross Section
57-La-137
-98.82 To 5719. %
Min
Ratio
Max
Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
38
Incident Energy (eV)
57-La-137

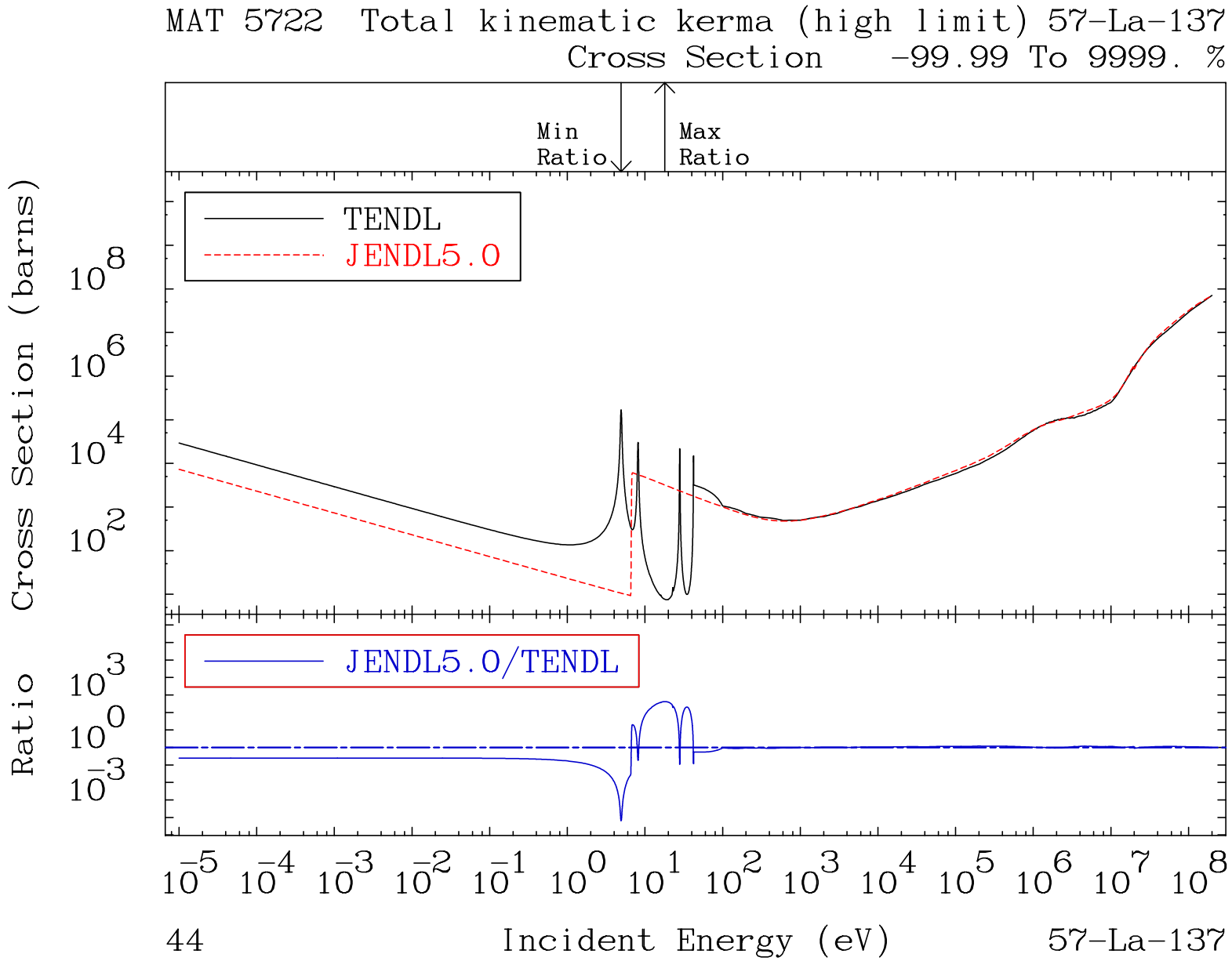

MAT 5722 Kerma non-elastic (all but mt2) 57-La-137
Cross Section -99.99 To 9999. %
Min Ratio
Max Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
39
57-La-137

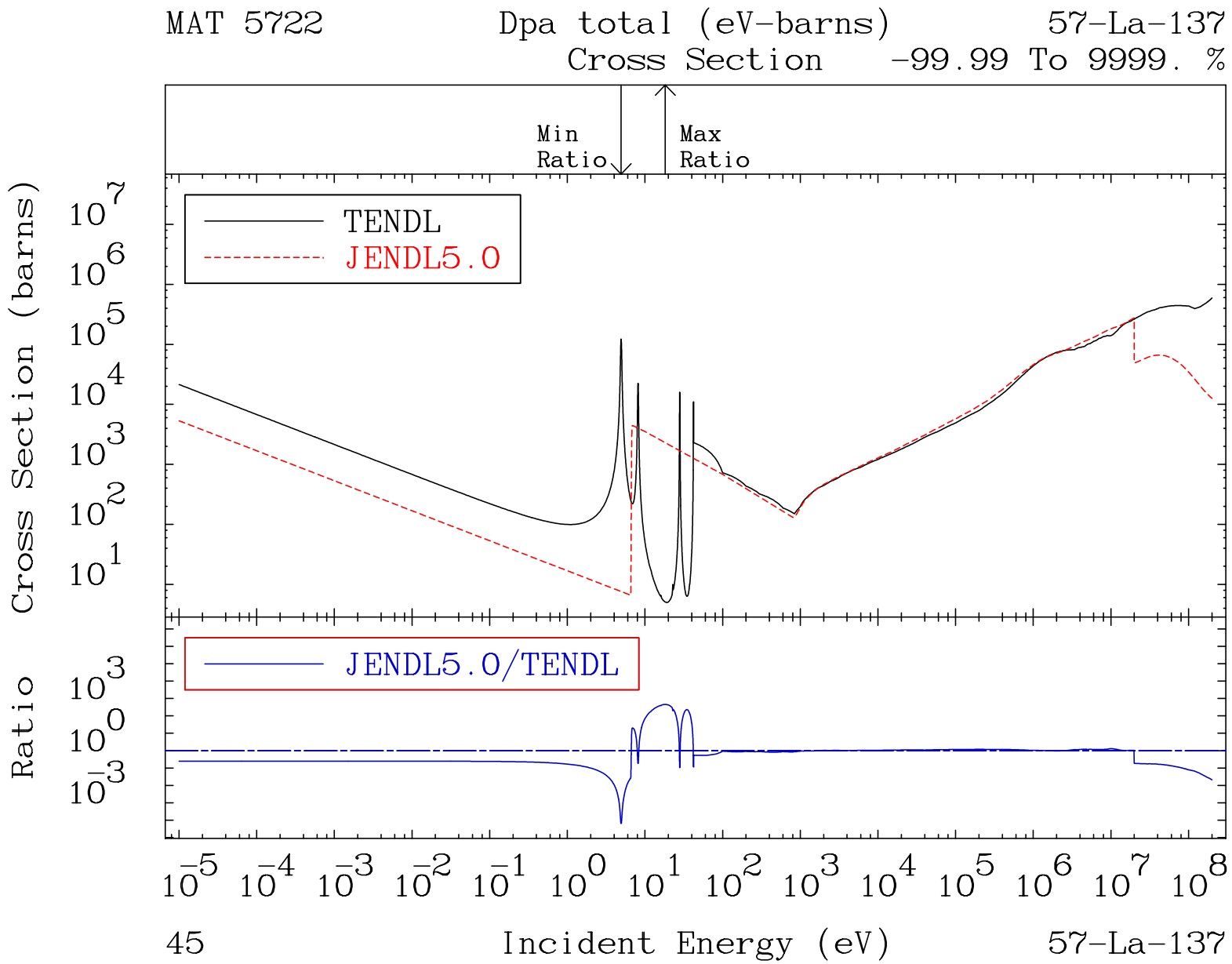

MAT 5722
Kerma inelastic (mt51-91)
57-La-137
Cross Section -124.9 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 10.668 keV
JENDL5.0 Threshold 10.668 keV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
40
57-La-137

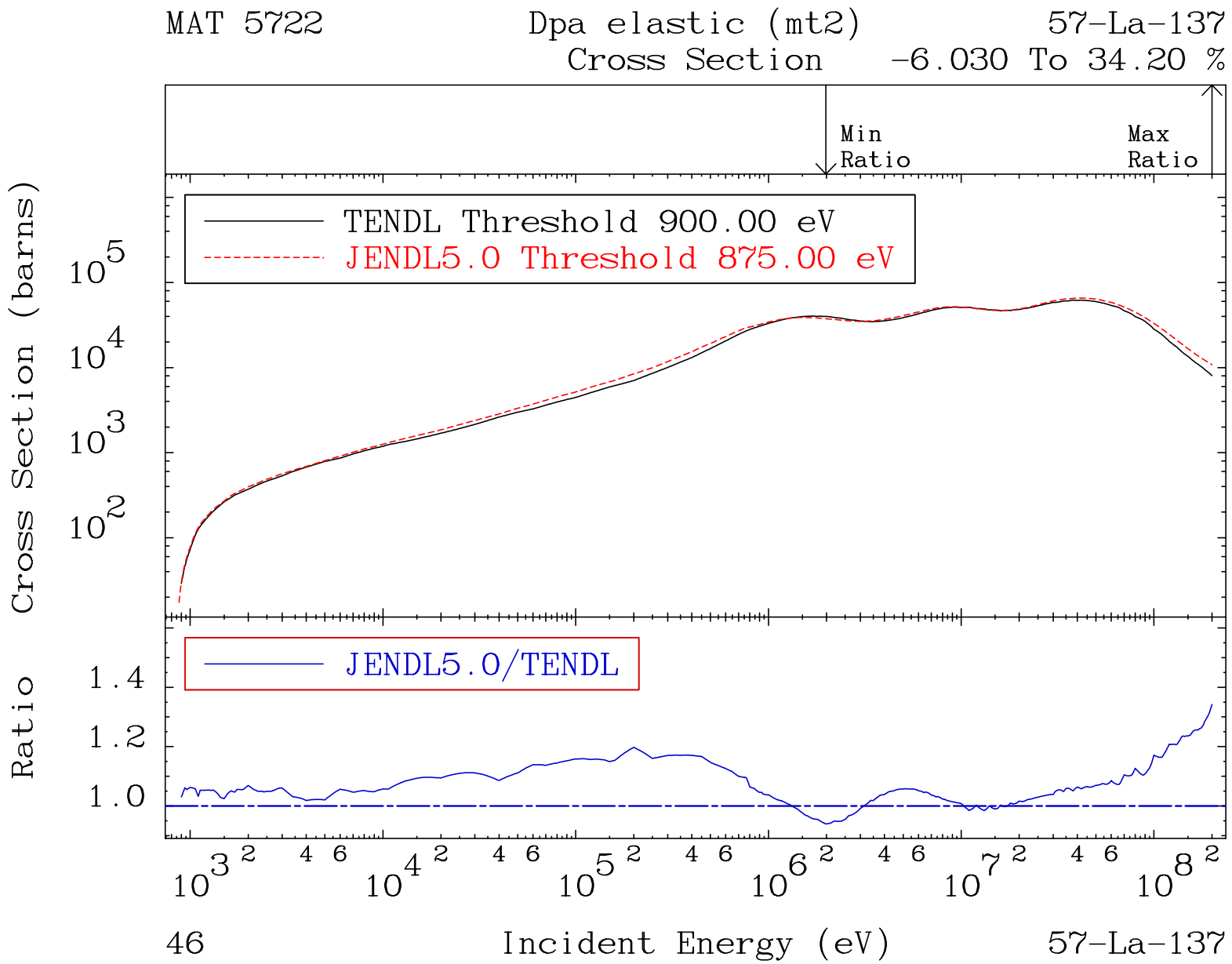

MAT 5722 Kerma fission (mt18 or mt19-20-21-38) 57-La-137
Cross Section -124.9 To 9999. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
2.0
1.0
0.0
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
41
Incident Energy (eV)
57-La-137

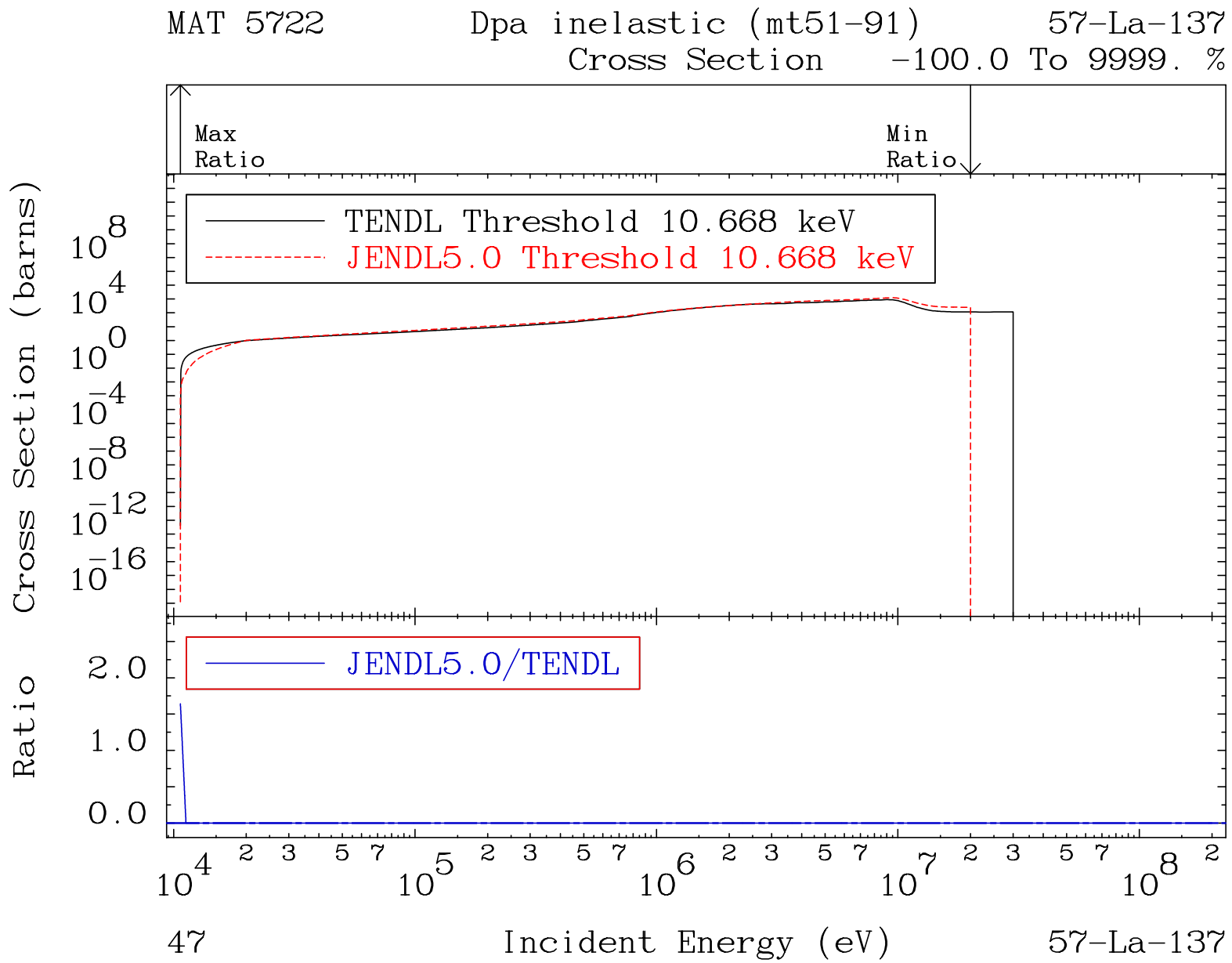

MAT 5722
Kerma capture (mt102)
57-La-137
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
10^6
10^4
10^2
10^0
JENDL5.0/TENDL
Ratio
600
400
200
0
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
42
Incident Energy (eV)
57-La-137

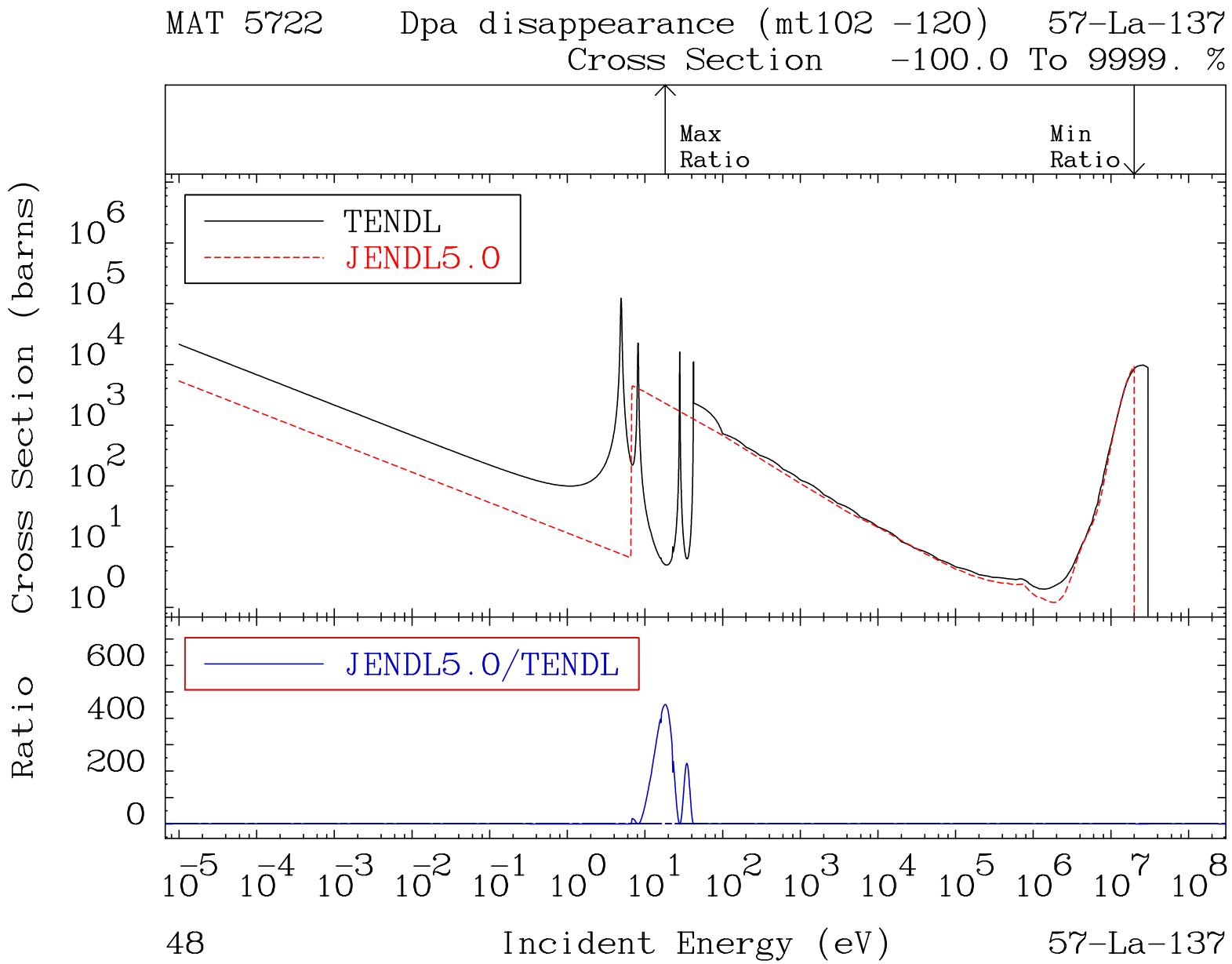

MAT 5722
Total photon (eV-barns)
57-La-137
Cross Section -100.0 To 9999. %
Min Ratio
Max Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
43
57-La-137

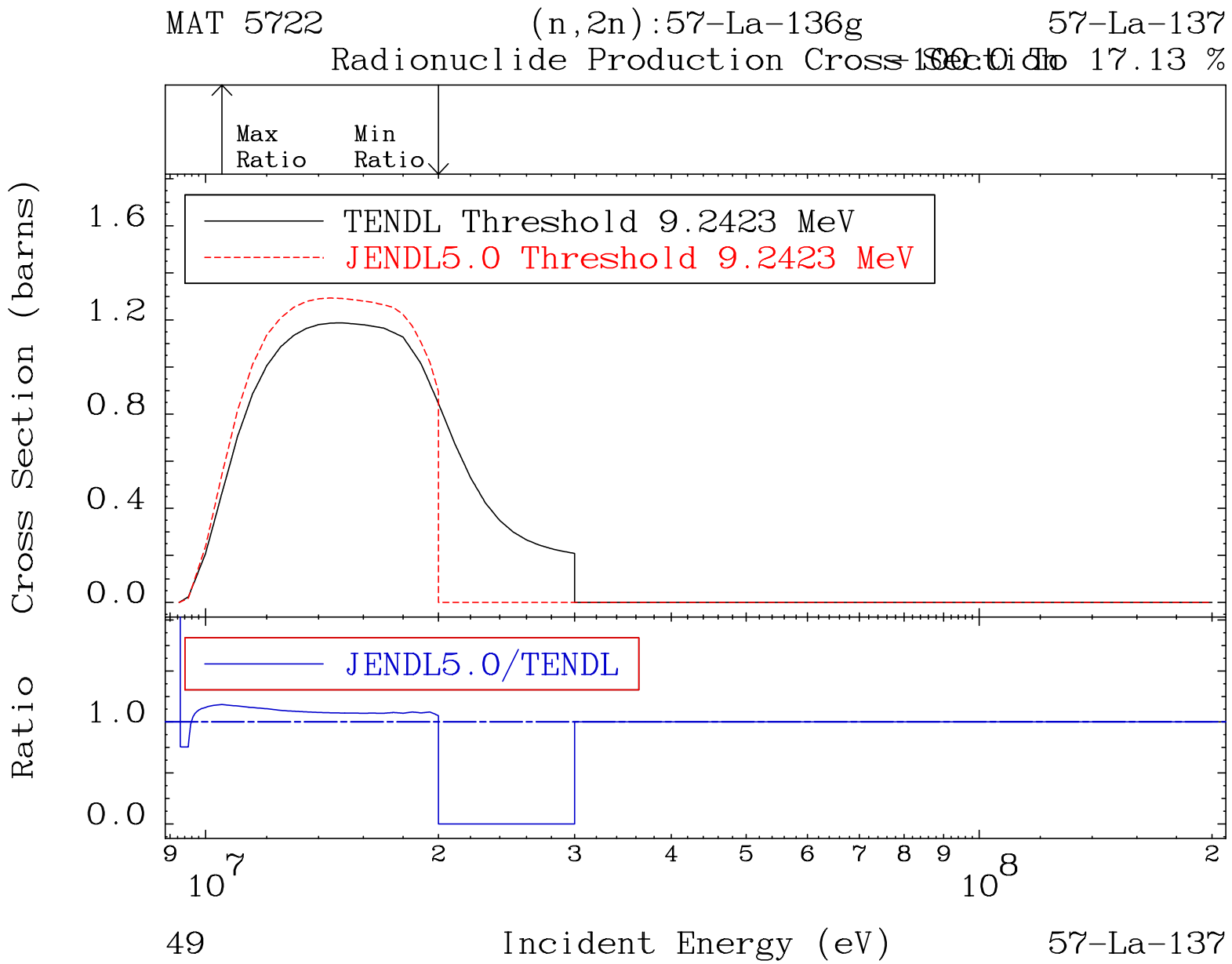

MAT 5722 Total kinematic kerma (high limit) 57-La-137
Cross Section -99.99 To 9999. %
Min Ratio
Max Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
44
57-La-137

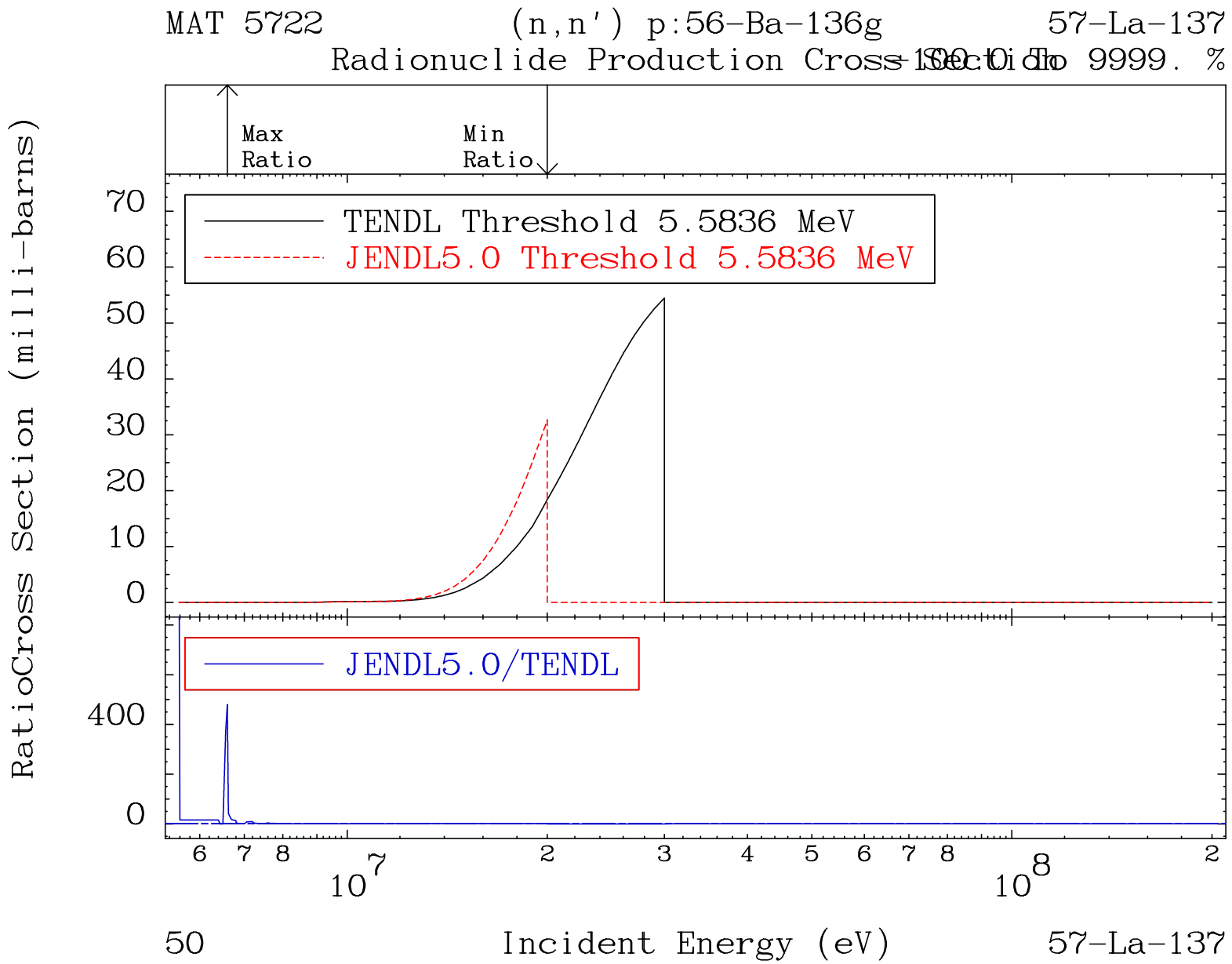

MAT 5722
Dpa total (eV-barns)
57-La-137
Cross Section
-99.99 To 9999. %
Min Ratio
Max Ratio
TENDL
JENDL5.0
JENDL5.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
45
57-La-137

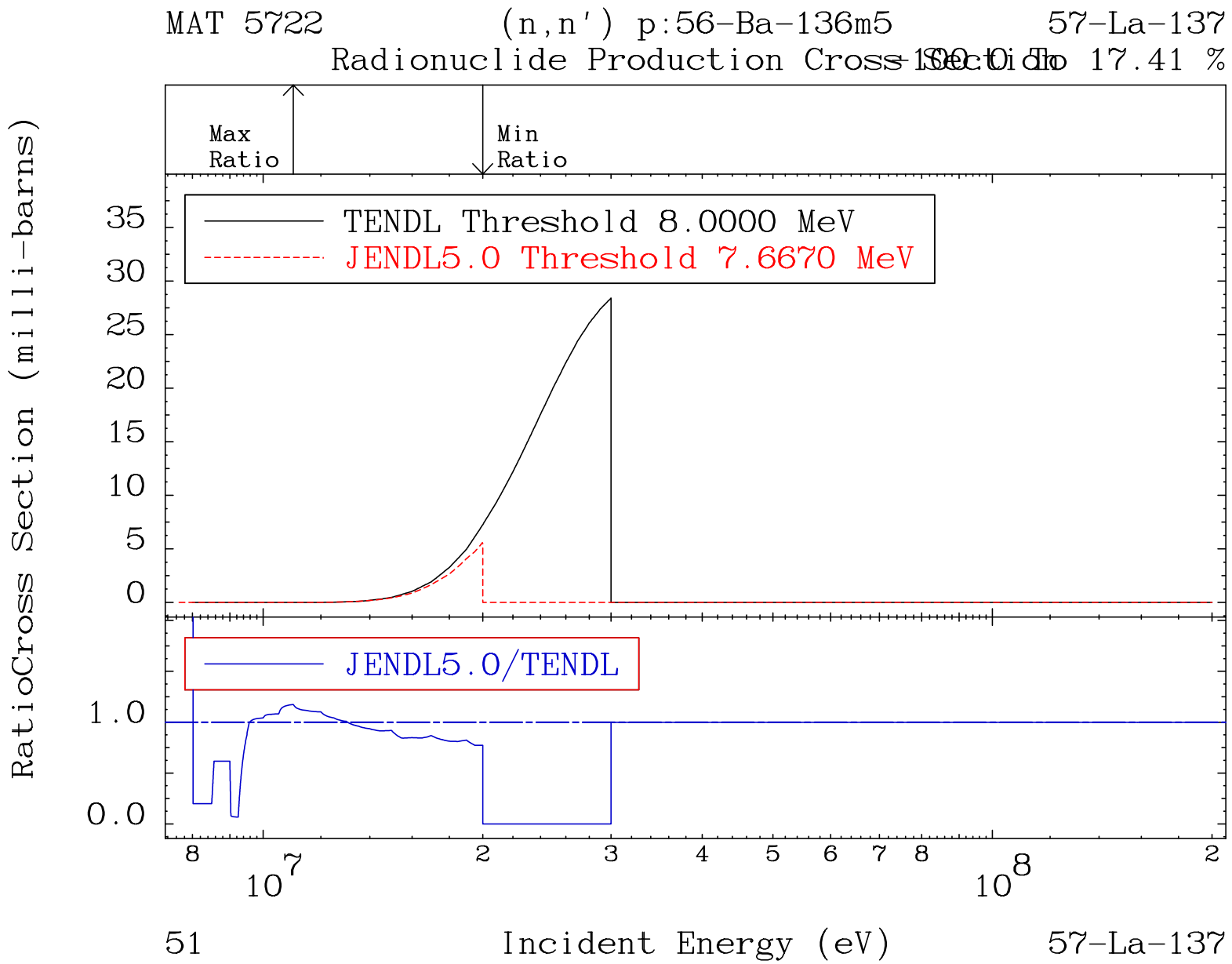

MAT 5722
Dpa elastic (mt2)
Cross Section
57-La-137
-6.030 To 34.20 %
Min
Ratio
Max
Ratio
TENDL Threshold 900.00 eV
JENDL5.0 Threshold 875.00 eV
Cross Section (barns)
10^5
10^4
10^3
10^2
JENDL5.0/TENDL
Ratio
1.4
1.2
1.0
10^3 2 4 6 10^4 2 4 6 10^5 2 4 6 10^6 2 4 6 10^7 2 4 6 10^8 2
46
Incident Energy (eV)
57-La-137

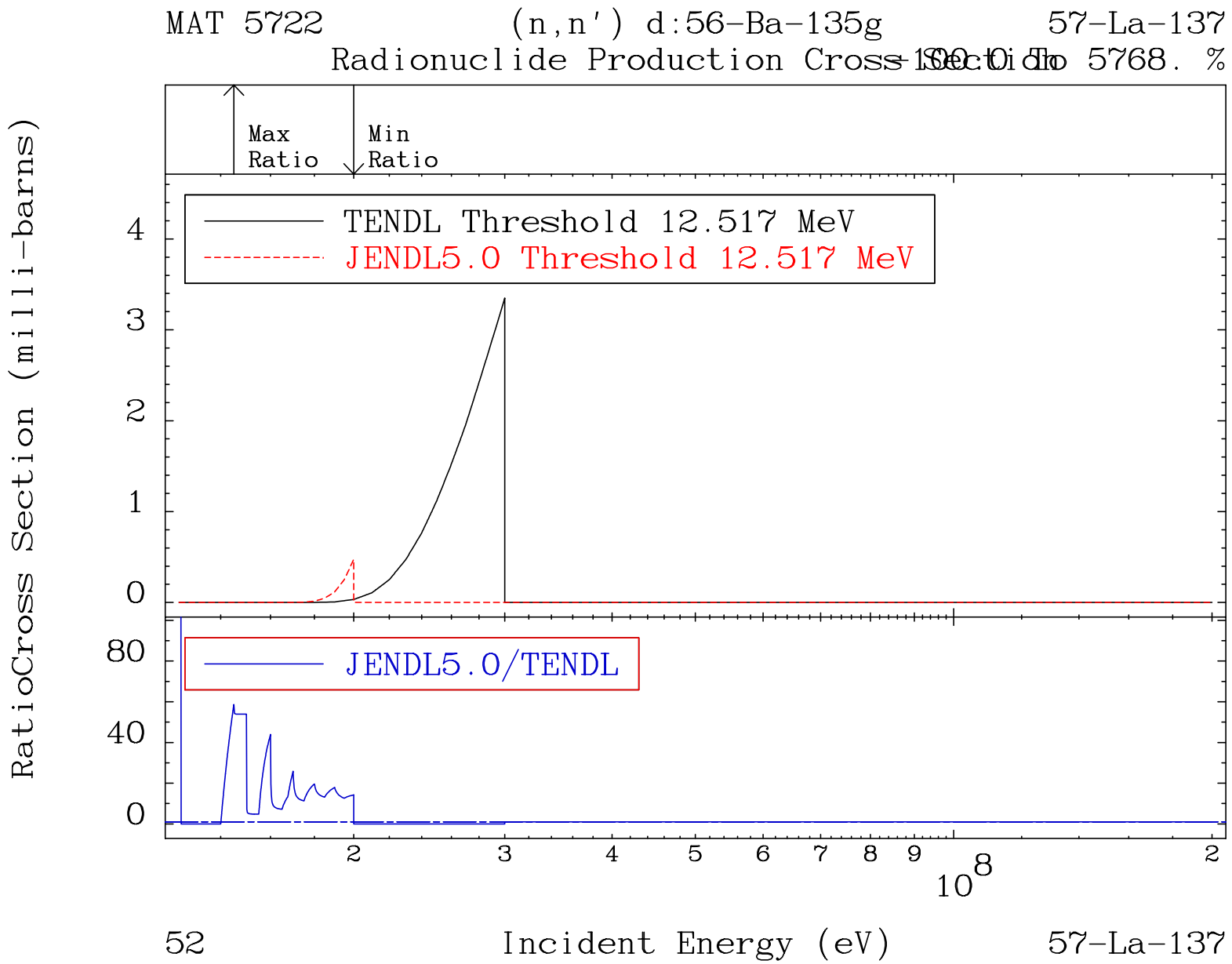

MAT 5722
Dpa inelastic (mt51-91)
57-La-137
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 10.668 keV
JENDL5.0 Threshold 10.668 keV
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
47
57-La-137

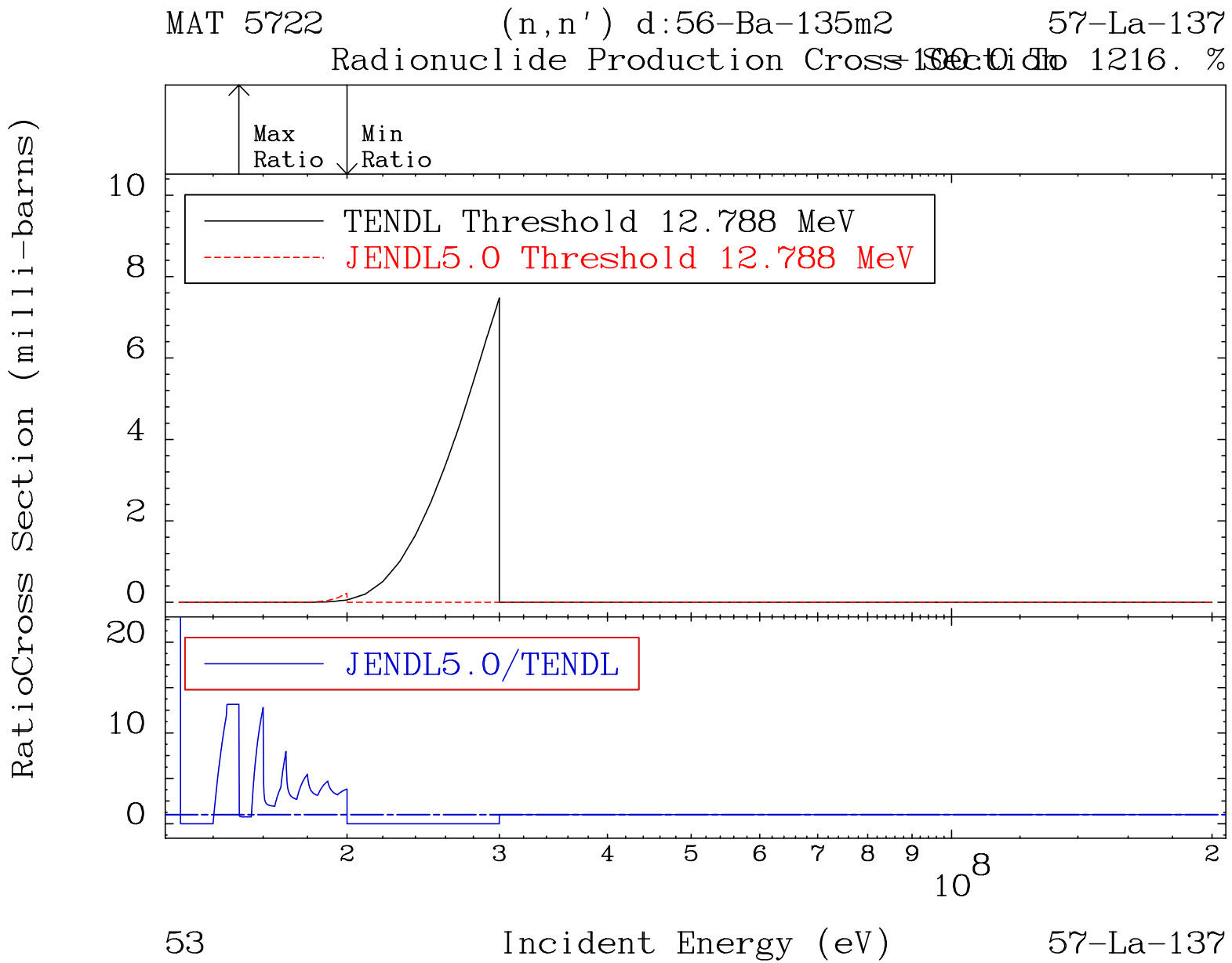

MAT 5722 Dpa disappearance (mt102 -120) 57-La-137
Cross Section -100.0 To 9999. %
Max Ratio
Min Ratio
TENDL
JENDL5.0
Cross Section (barns)
JENDL5.0/TENDL
Ratio
Incident Energy (eV)
48
57-La-137

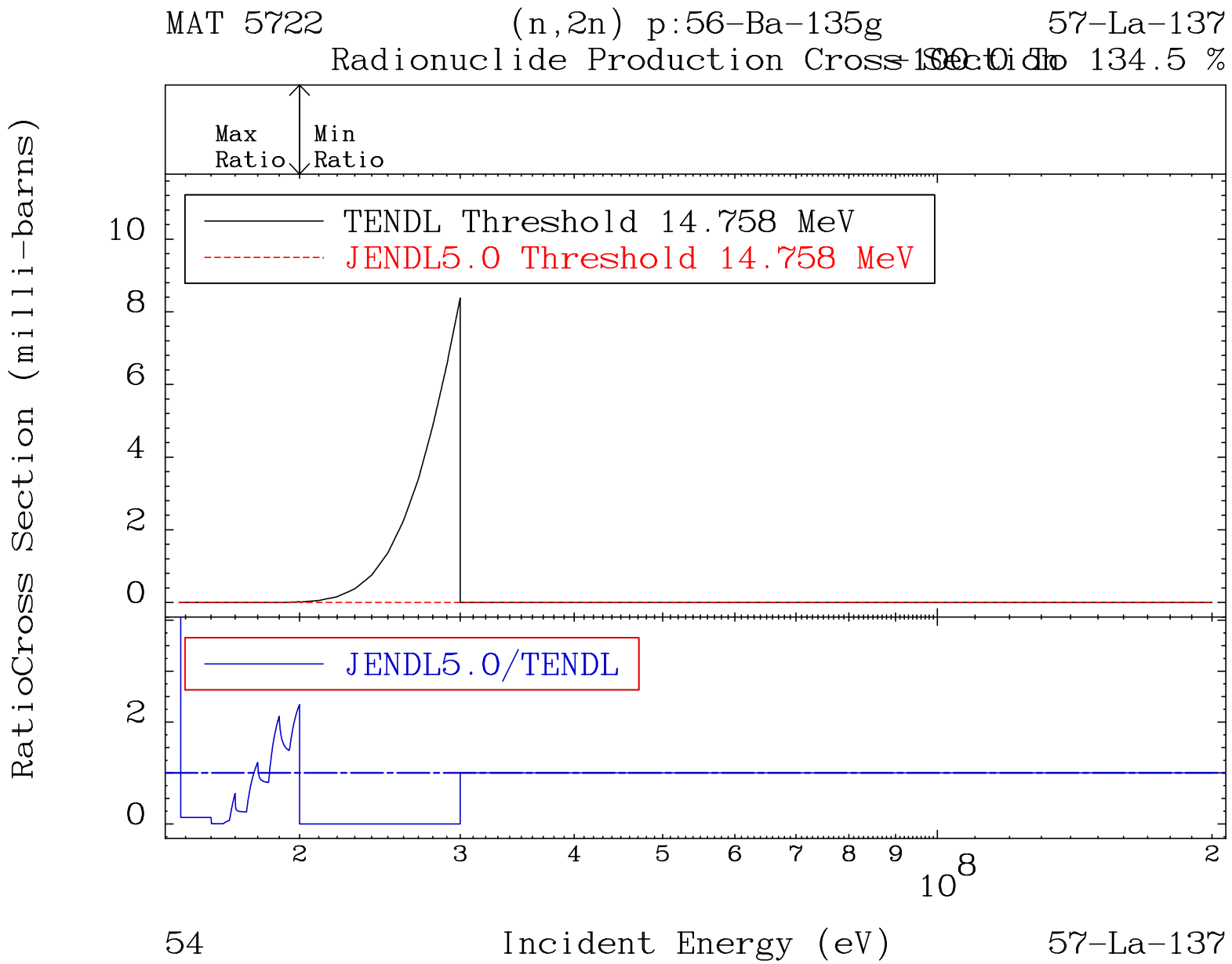

MAT 5722
(n,2n):57-La-136g
57-La-137
Radionuclide Production Cross Section To 17.13 %
Max Ratio
Min Ratio
TENDL Threshold 9.2423 MeV
JENDL5.0 Threshold 9.2423 MeV
JENDL5.0/TENDL
Cross Section (barns)
Ratio
1.6
1.2
0.8
0.4
0.0
1.0
0.0
9
10^7
2
3
4
5
6
7
8
9
10^8
2
49
Incident Energy (eV)
57-La-137

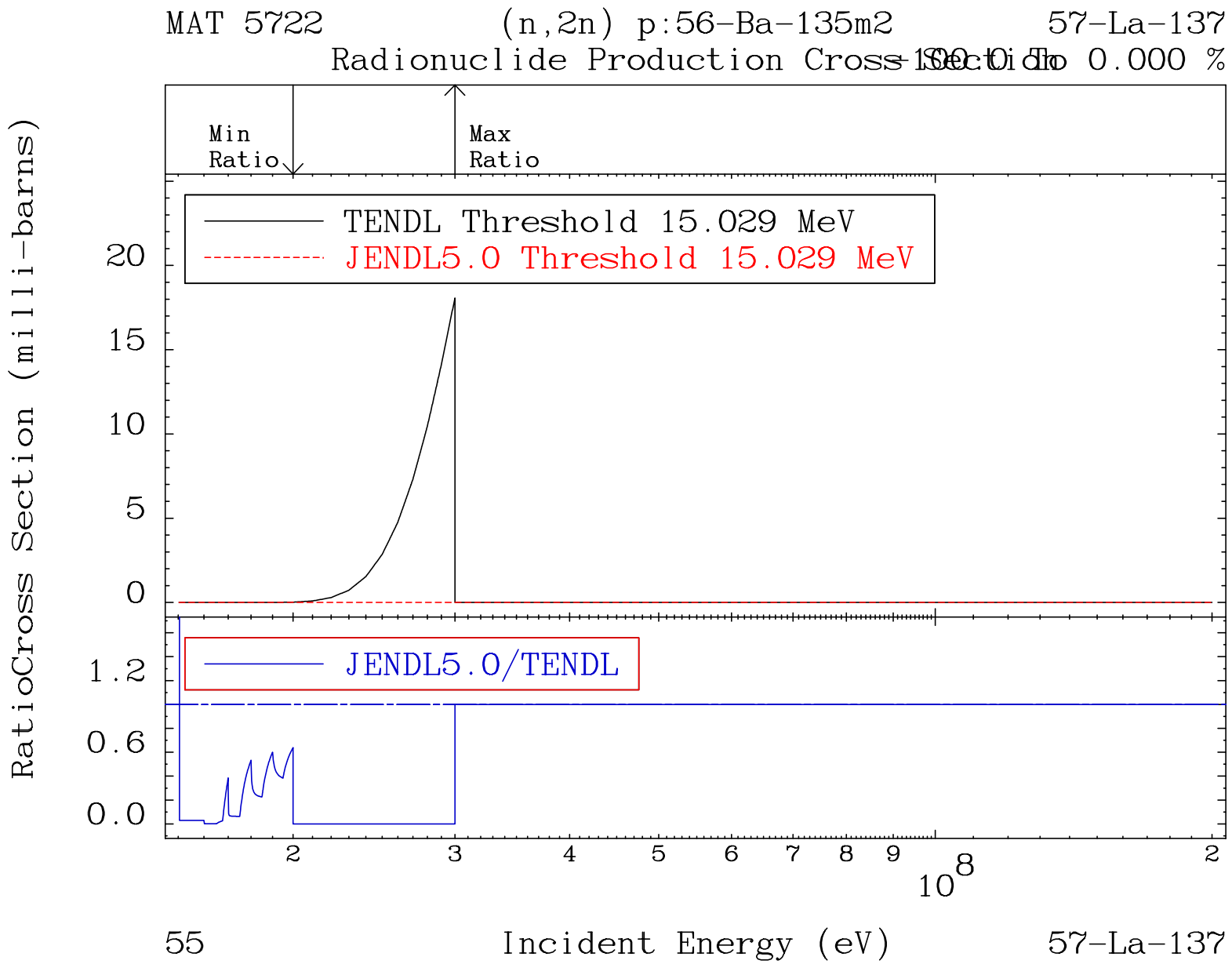

MAT 5722
(n,n') p:56-Ba-136g
57-La-137
Radionuclide Production Cross Section
190.0 To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 5.5836 MeV
JENDL5.0 Threshold 5.5836 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
70
60
50
40
30
20
10
0
400
0
6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
50
Incident Energy (eV)
57-La-137

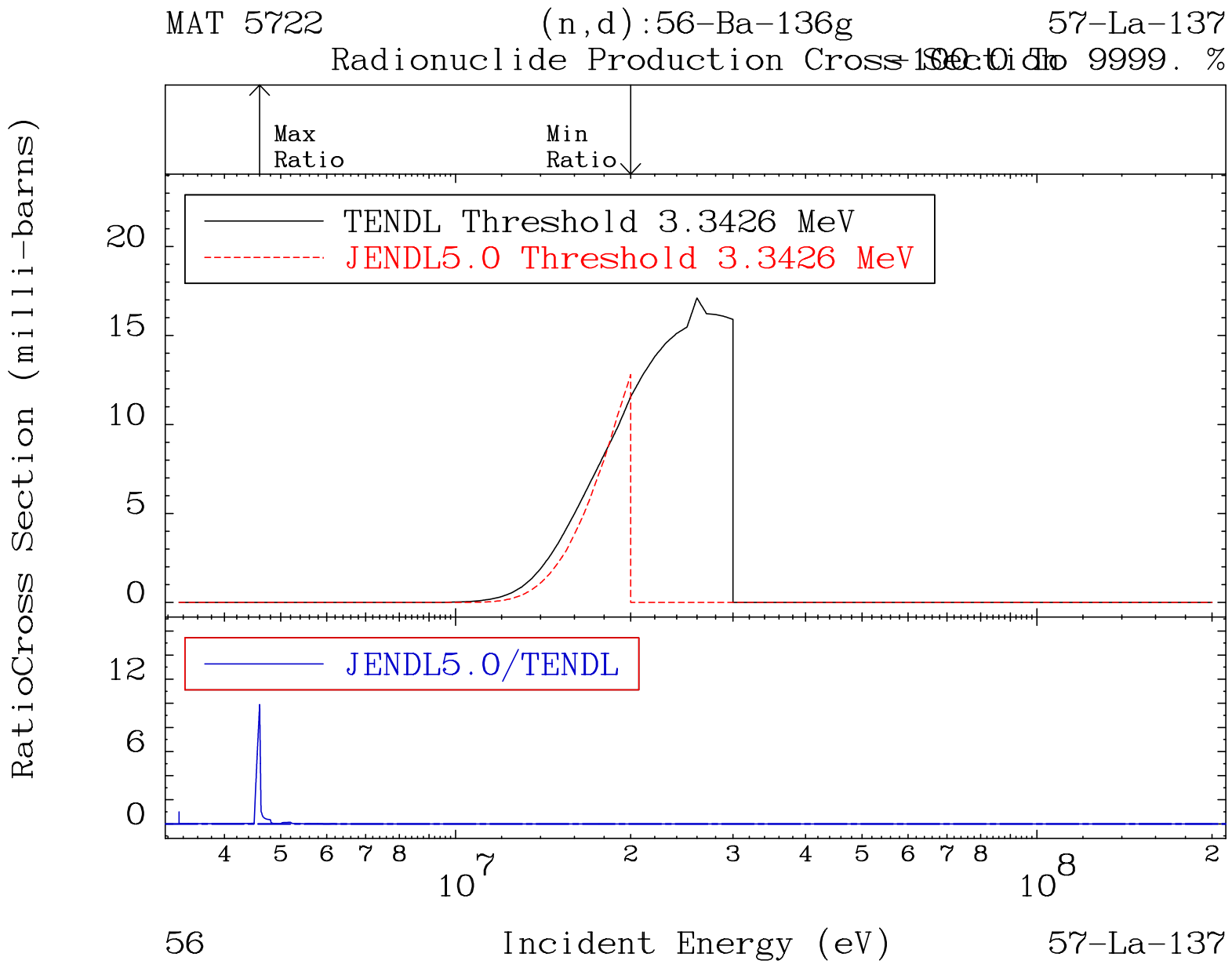

MAT 5722
(n,n') p:56-Ba-136m5
57-La-137
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 8.0000 MeV
JENDL5.0 Threshold 7.6670 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
51
57-La-137

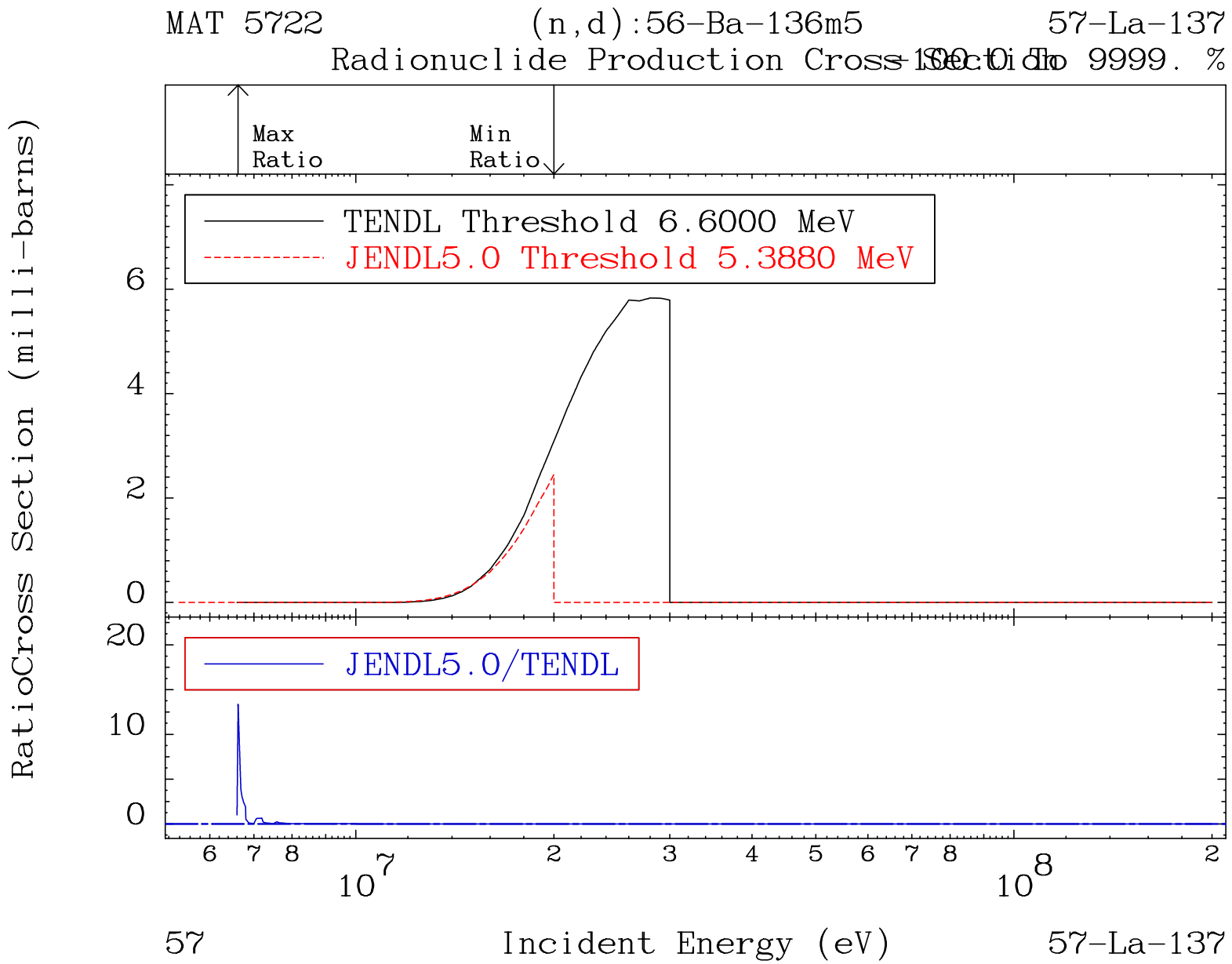

MAT 5722
(n,n') d:56-Ba-135g
57-La-137
Radionuclide Production Cross Section To 5768. %
Max Ratio
Min Ratio
TENDL Threshold 12.517 MeV
JENDL5.0 Threshold 12.517 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
4
3
2
1
0
80
40
0
2
3
4
5
6
7
8
9
2
10^8
52
Incident Energy (eV)
57-La-137

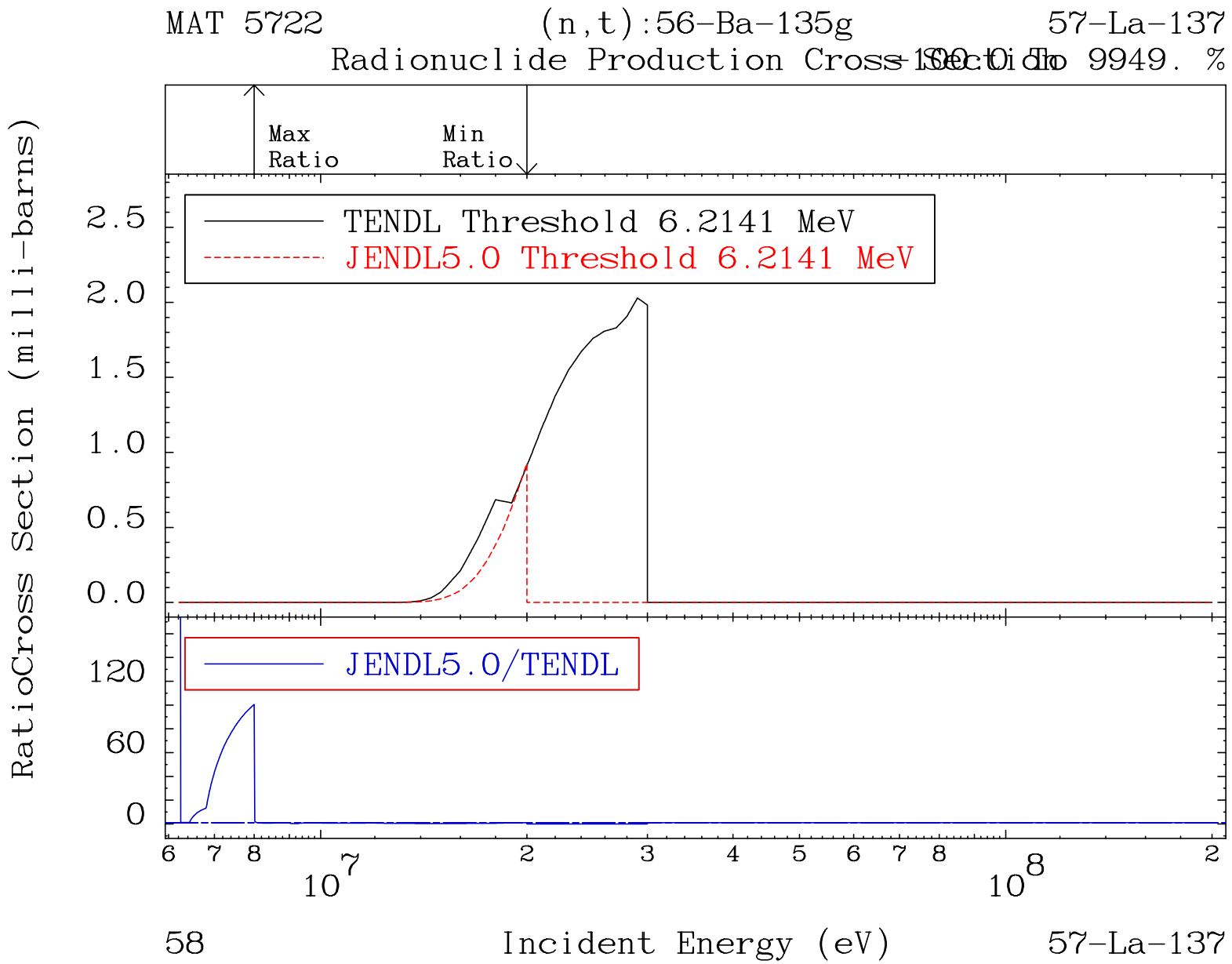

MAT 5722
(n,n') d:56-Ba-135m2
57-La-137
Radionuclide Production Cross Section To 1216. %
Max Ratio
Min Ratio
TENDL Threshold 12.788 MeV
JENDL5.0 Threshold 12.788 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
53
57-La-137

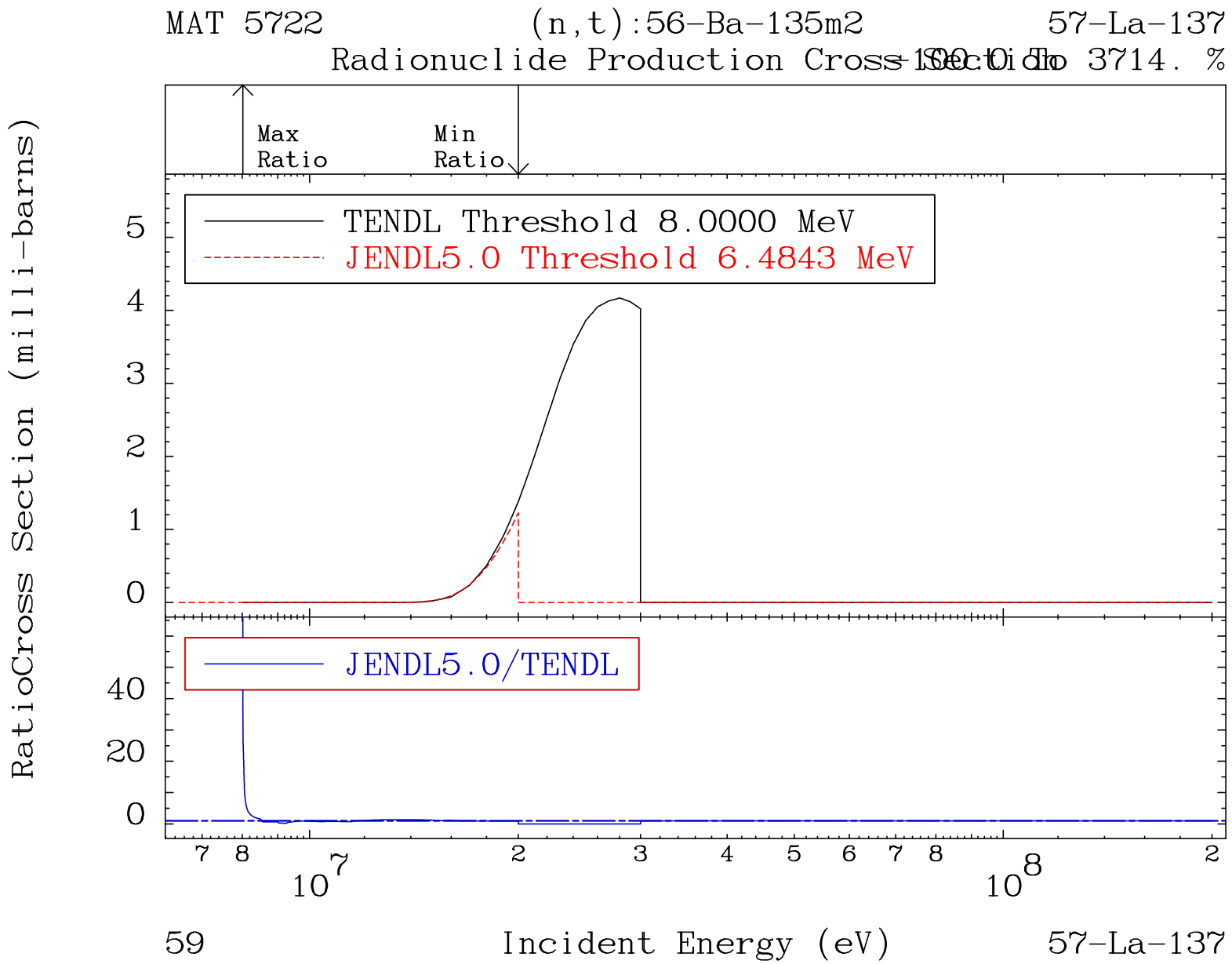

MAT 5722
(n,2n) p:56-Ba-135g
57-La-137
Radionuclide Production Cross Section To 134.5 %
Max Ratio
Min Ratio
TENDL Threshold 14.758 MeV
JENDL5.0 Threshold 14.758 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
10
8
6
4
2
0
2
0
2
3
4
5
6
7
8
9
10^8
2
54
Incident Energy (eV)
57-La-137

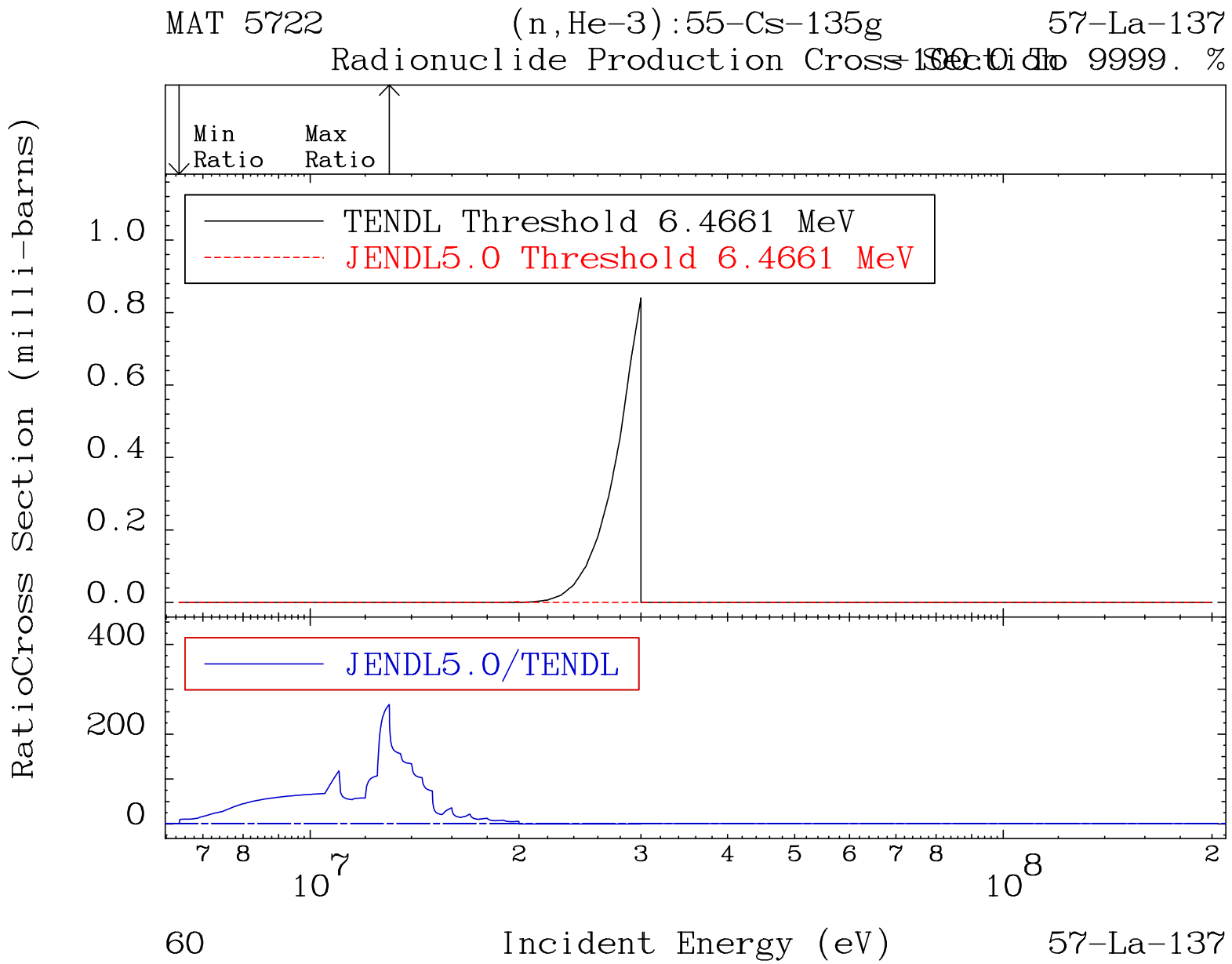

MAT 5722
(n,2n) p:56-Ba-135m2
57-La-137
Radionuclide Production Cross Section
Uncertainty 0.000 %
Min Ratio
Max Ratio
TENDL Threshold 15.029 MeV
JENDL5.0 Threshold 15.029 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
20
15
10
5
0
1.2
0.6
0.0
2
3
4
5
6
7
8
9
10^8
2
55
Incident Energy (eV)
57-La-137

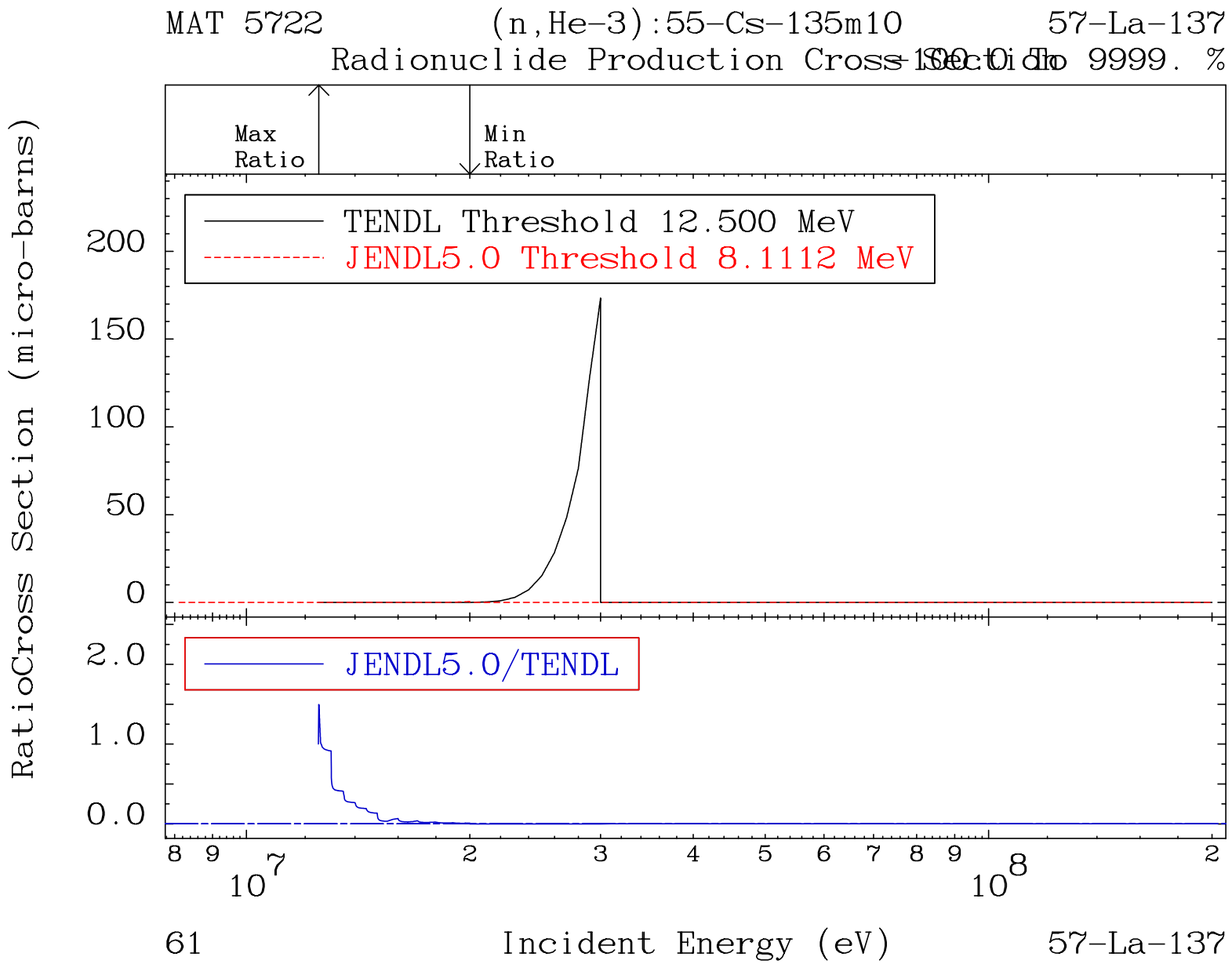

MAT 5722
(n,d):56-Ba-136g
57-La-137
Radionuclide Production Cross Section To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 3.3426 MeV
JENDL5.0 Threshold 3.3426 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
20
15
10
5
0
12
6
0
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
56
Incident Energy (eV)
57-La-137

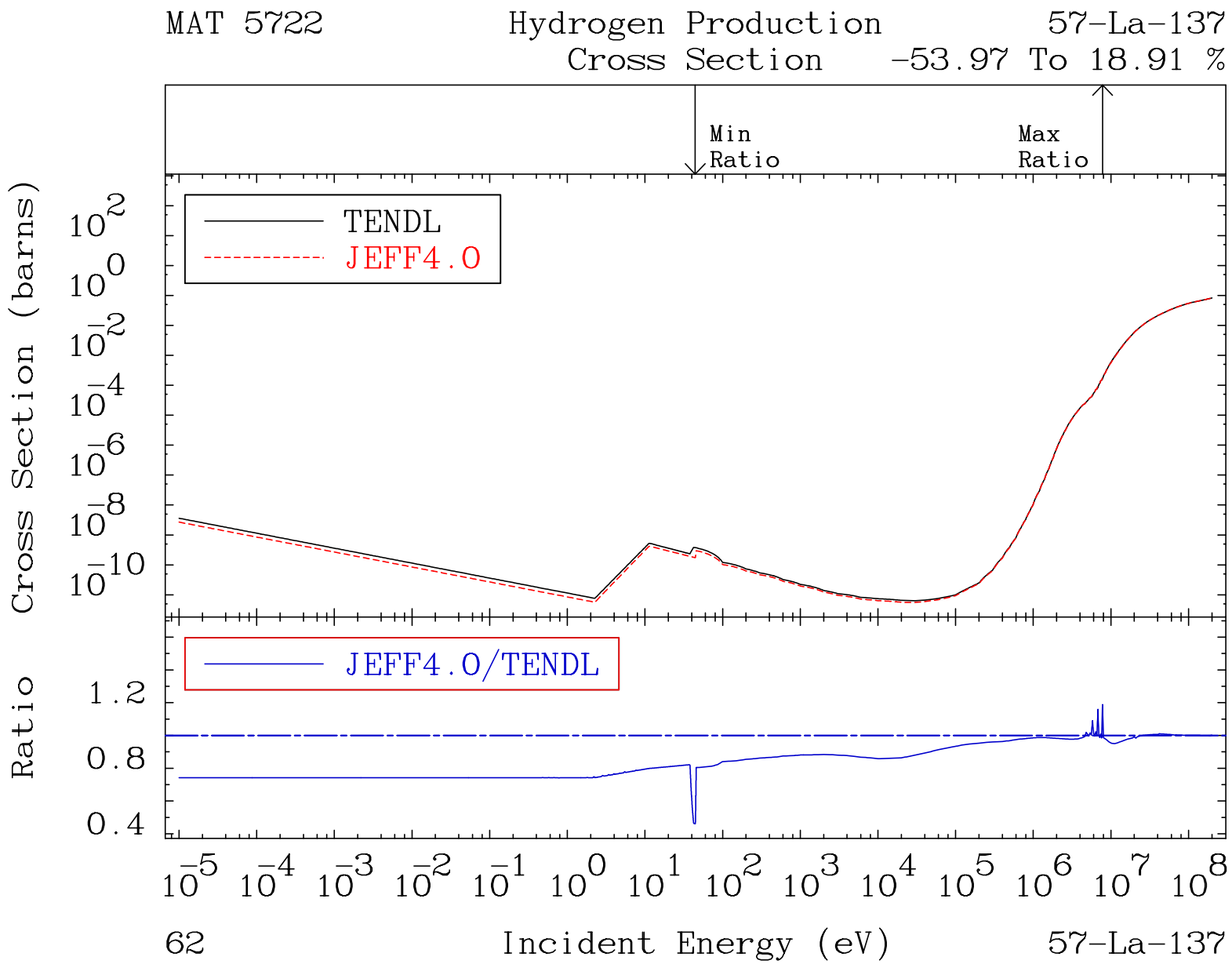

MAT 5722
(n,d):56-Ba-136m5
57-La-137
Radionuclide Production Cross Section To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 6.6000 MeV
JENDL5.0 Threshold 5.3880 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
57
57-La-137

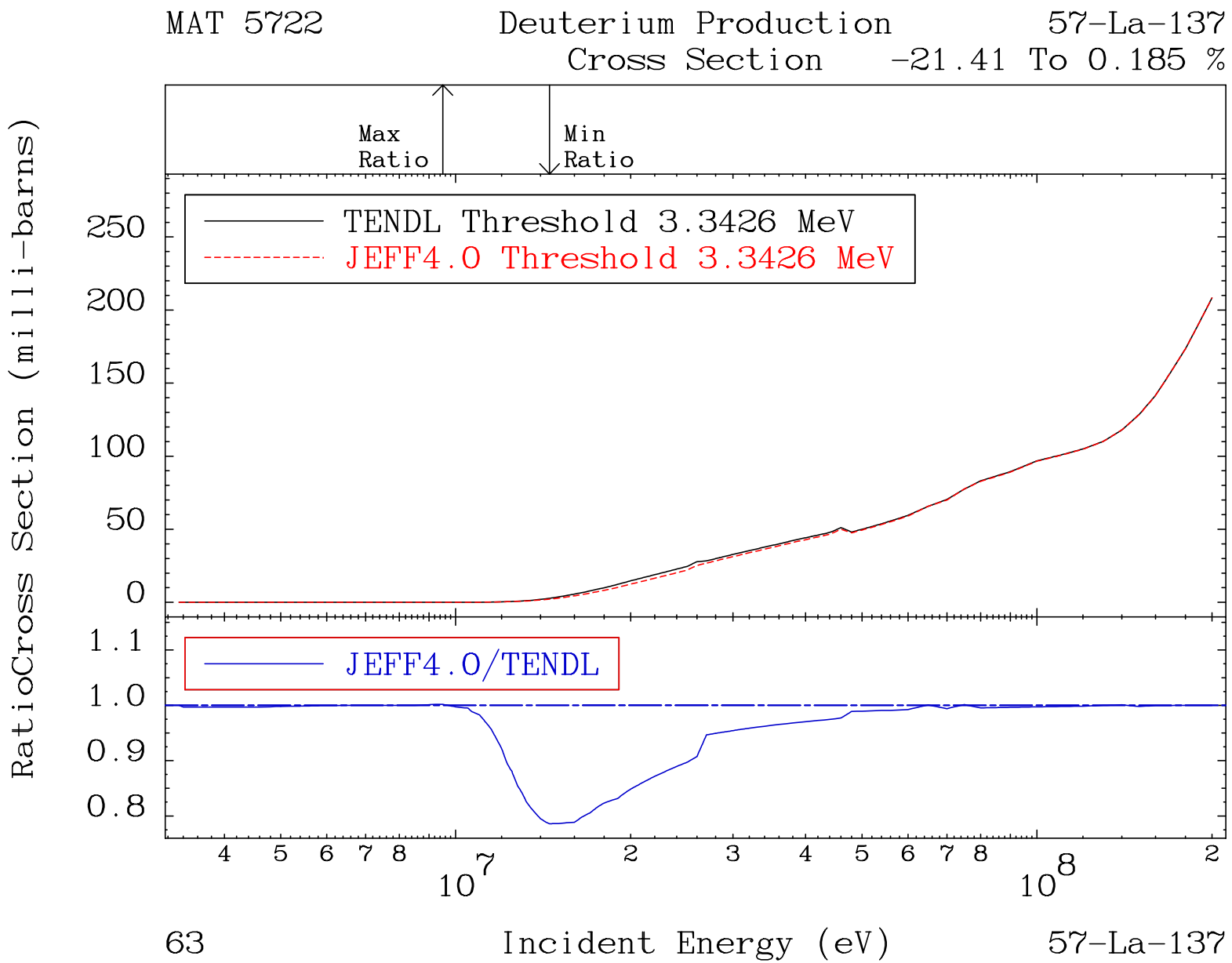

MAT 5722
(n,t):56-Ba-135g
57-La-137
Radionuclide Production Cross Section To 9949. %
Max Ratio
Min Ratio
TENDL Threshold 6.2141 MeV
JENDL5.0 Threshold 6.2141 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
2.5
2.0
1.5
1.0
0.5
0.0
120
60
0
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
58
Incident Energy (eV)
57-La-137

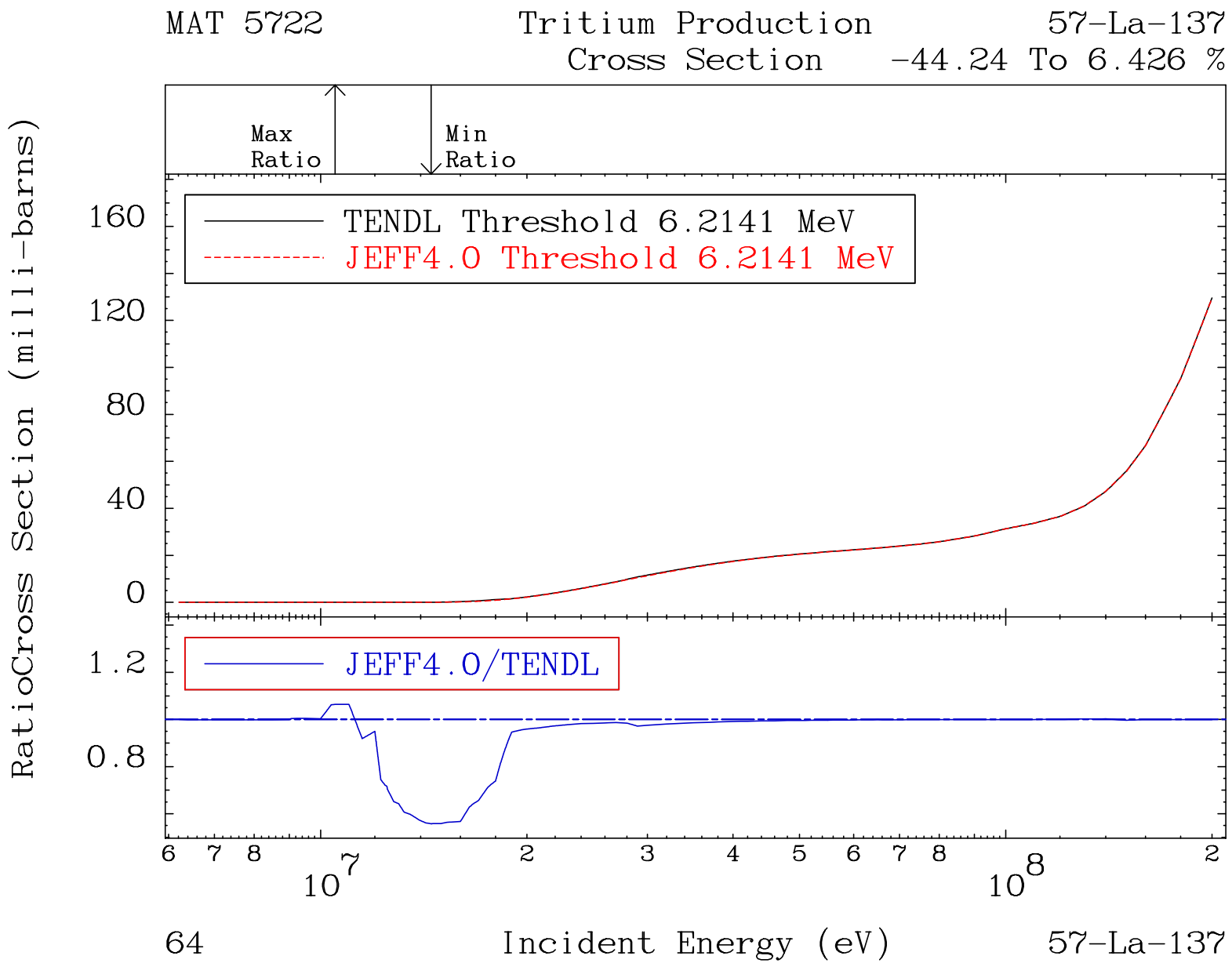

MAT 5722
(n,t):56-Ba-135m2
57-La-137
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 8.0000 MeV
JENDL5.0 Threshold 6.4843 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
59
57-La-137

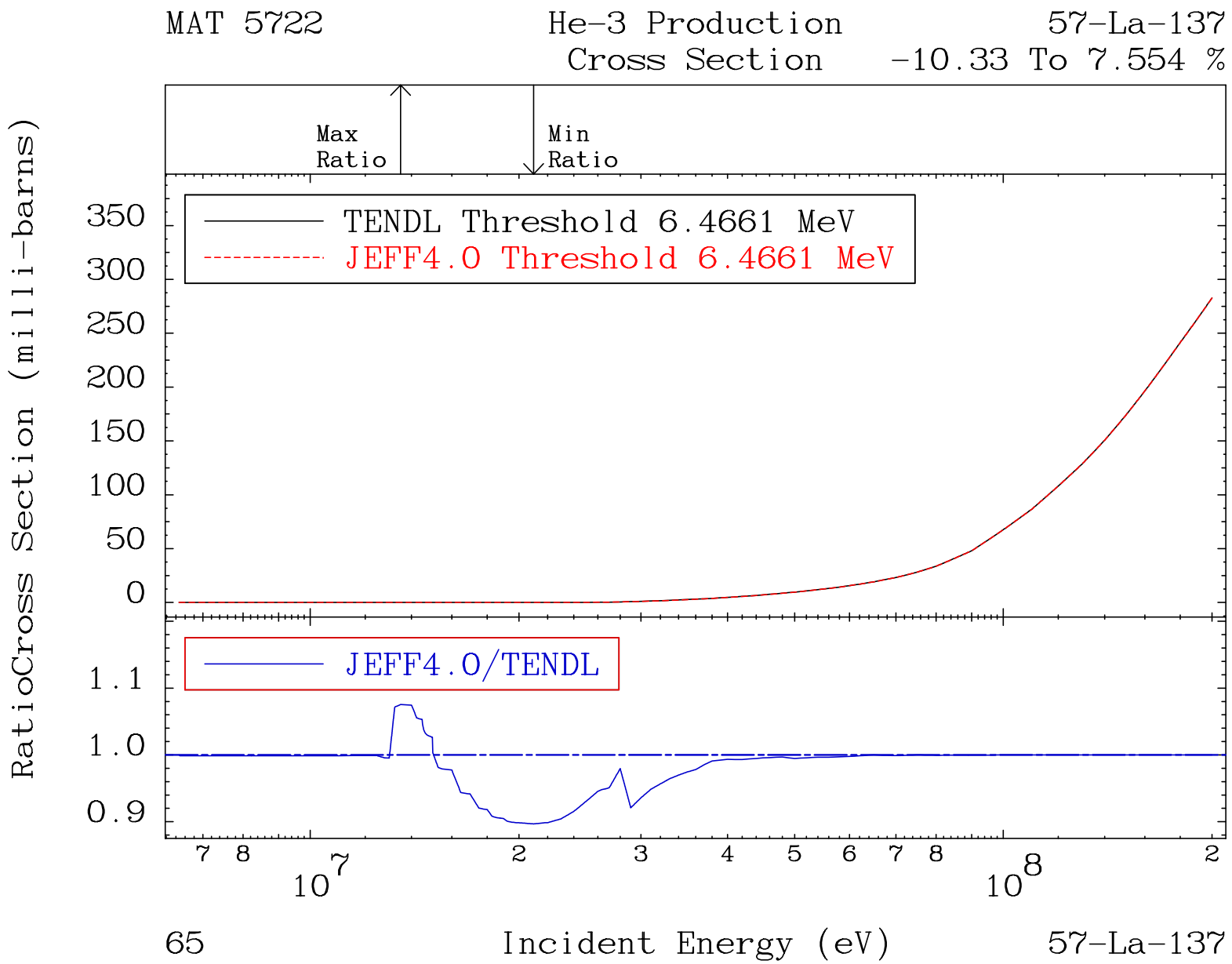

MAT 5722
(n,He-3):55-Cs-135g
57-La-137
Radionuclide Production Cross Section To 9999. %
Min Ratio
Max Ratio
TENDL Threshold 6.4661 MeV
JENDL5.0 Threshold 6.4661 MeV
JENDL5.0/TENDL
RatioCross Section (milli-barns)
1.0
0.8
0.6
0.4
0.2
0.0
400
200
0
7 8 10^7 2 3 4 5 6 7 8 10^8 2
60
Incident Energy (eV)
57-La-137

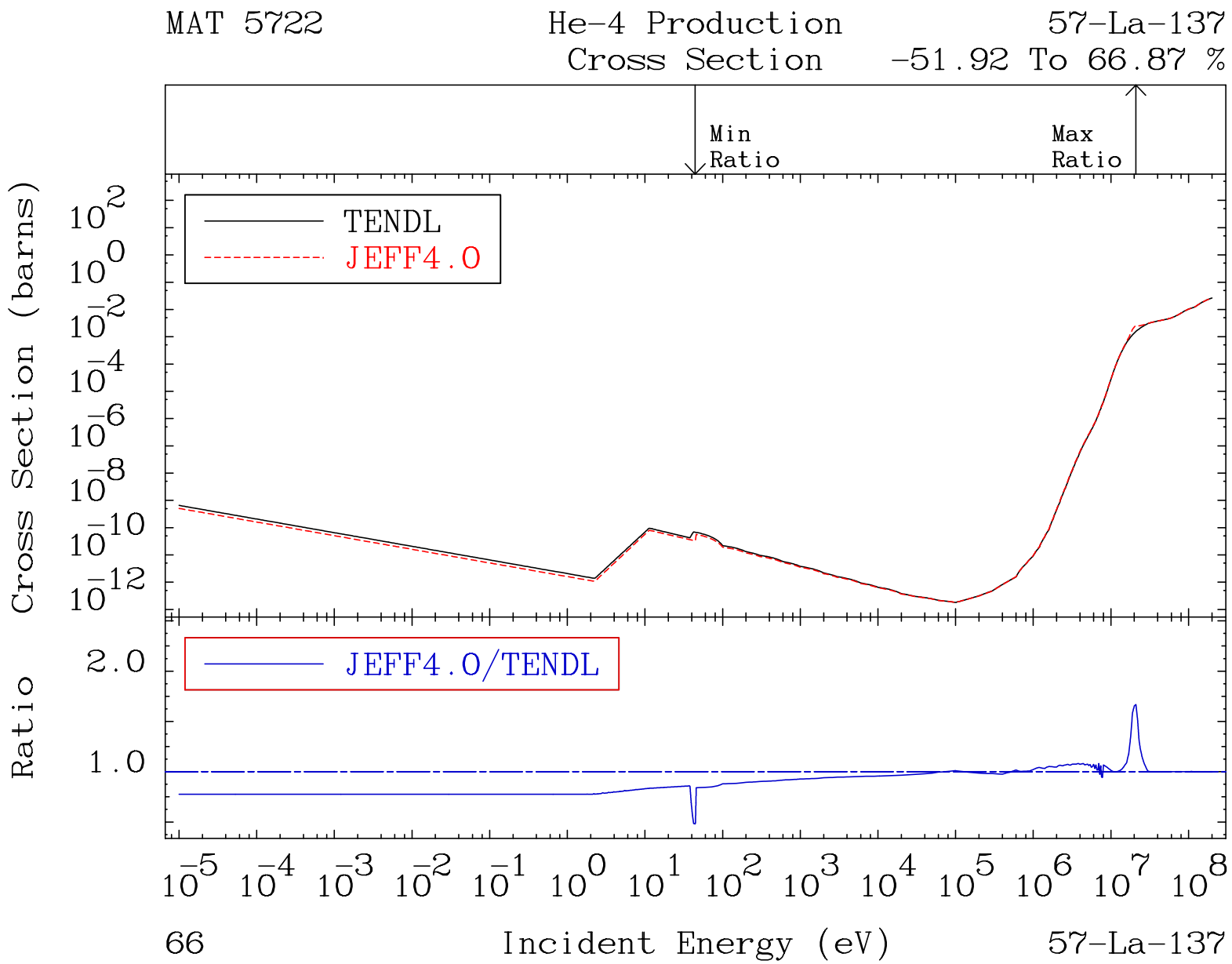

MAT 5722
(n,He-3):55-Cs-135m10
57-La-137
Radionuclide Production Cross Section To 9999. %
Max Ratio
Min Ratio
TENDL Threshold 12.500 MeV
JENDL5.0 Threshold 8.1112 MeV
JENDL5.0/TENDL
RatioCross Section (micro-barns)
200
150
100
50
0
2.0
1.0
0.0
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
61
Incident Energy (eV)
57-La-137

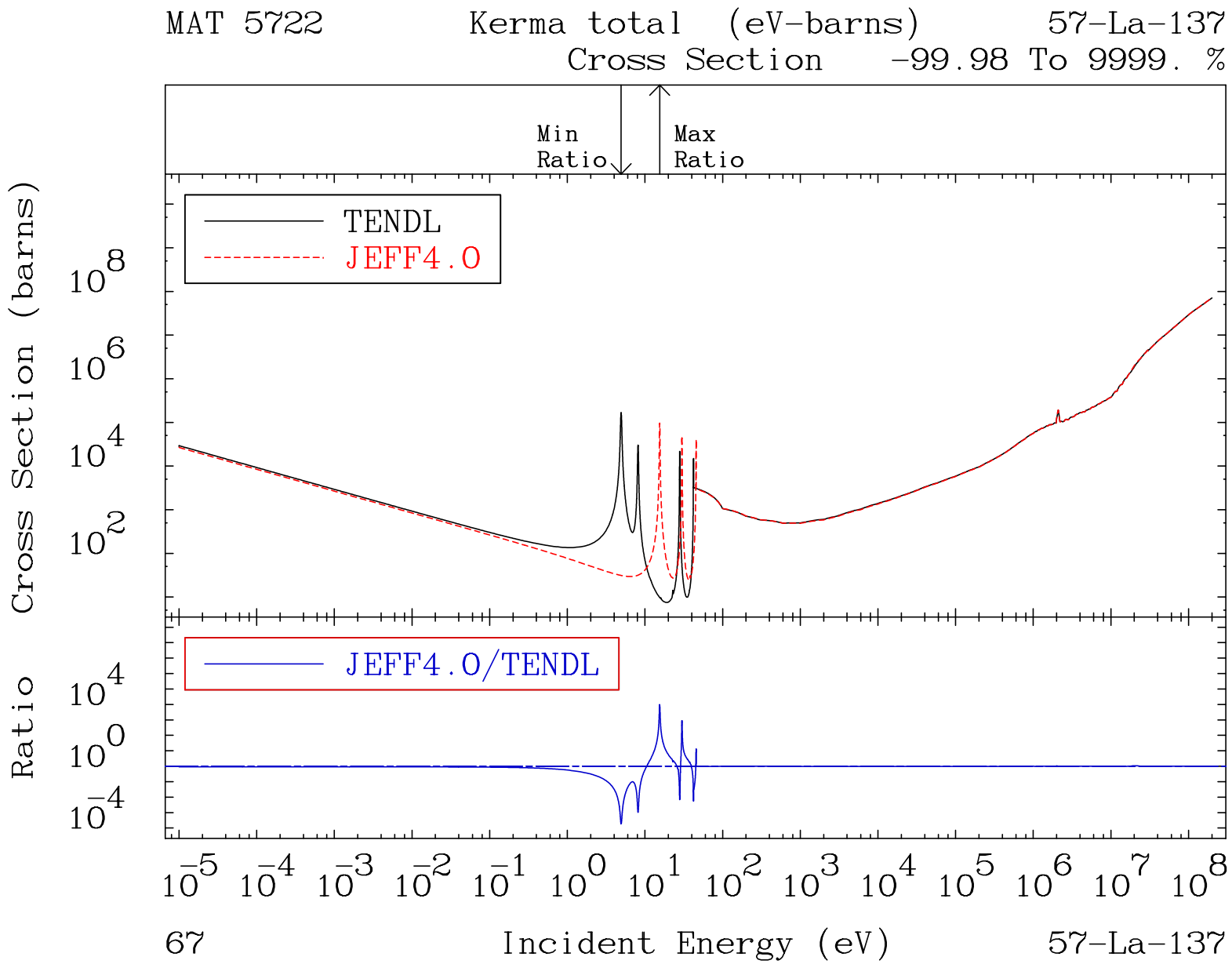

MAT 5722
Hydrogen Production
57-La-137
Cross Section
-53.97 To 18.91 %
Min
Ratio
Max
Ratio
TENDL
JEFF4.0
Cross Section (barns)
JEFF4.0/TENDL
Ratio
Incident Energy (eV)
62
57-La-137

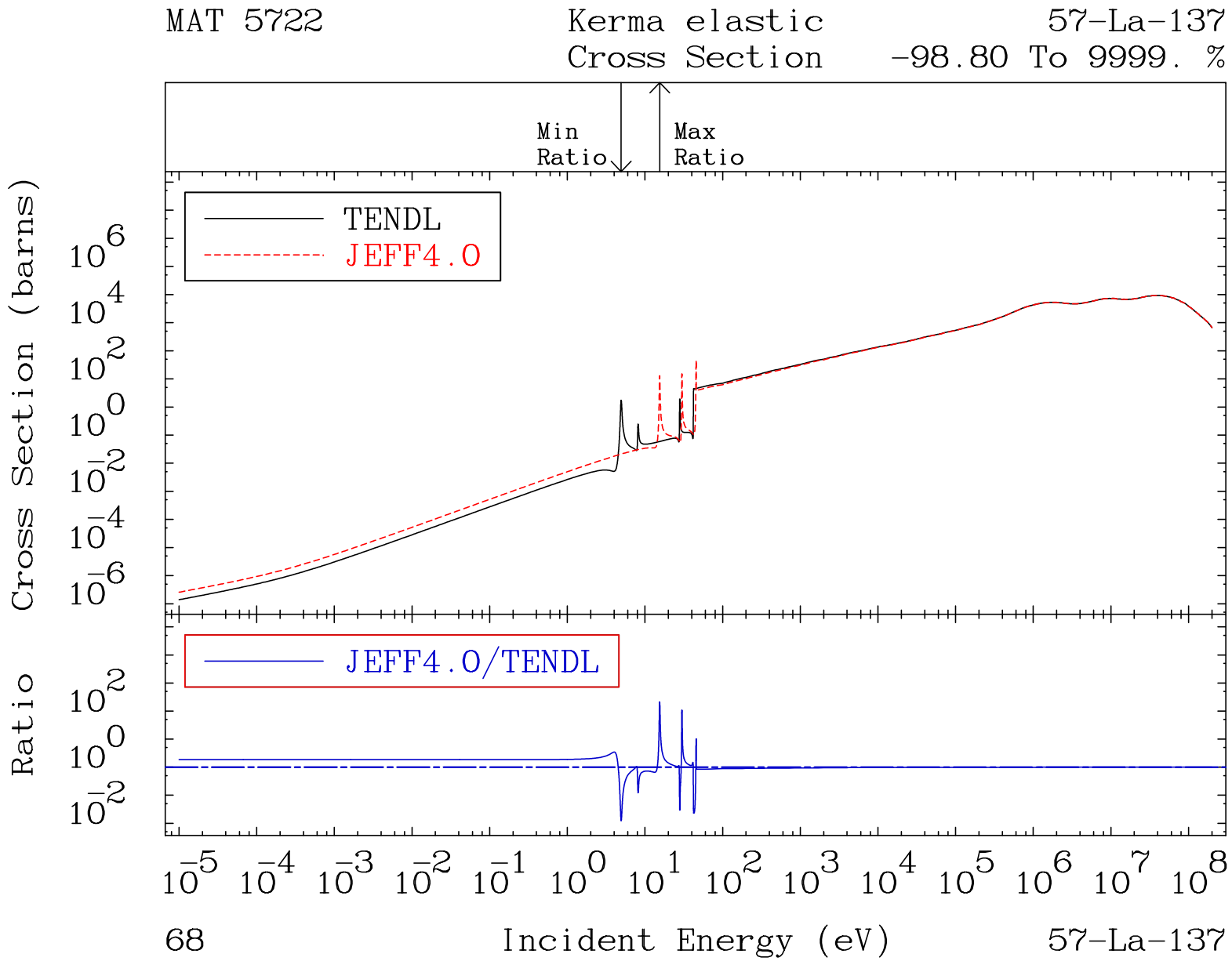

MAT 5722
Deuterium Production
57-La-137
Cross Section
-21.41 To 0.185 %
Max Ratio
Min Ratio
TENDL Threshold 3.3426 MeV
JEFF4.0 Threshold 3.3426 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
250
200
150
100
50
0
1.1
1.0
0.9
0.8
4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
63
Incident Energy (eV)
57-La-137

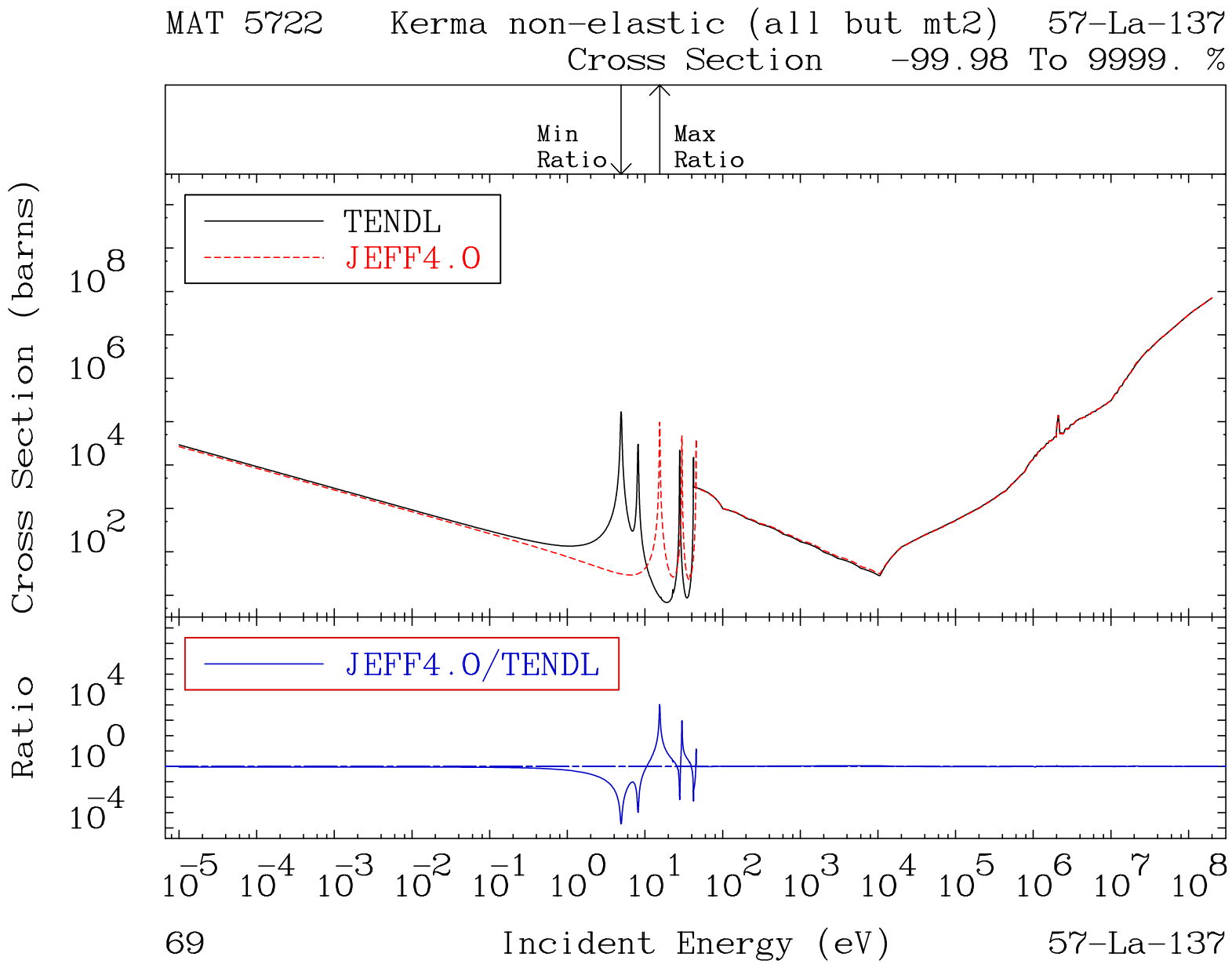

MAT 5722
Tritium Production
57-La-137
Cross Section
-44.24 To 6.426 %
Max Ratio
Min Ratio
TENDL Threshold 6.2141 MeV
JEFF4.0 Threshold 6.2141 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
160
120
80
40
0
1.2
0.8
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
64
Incident Energy (eV)
57-La-137

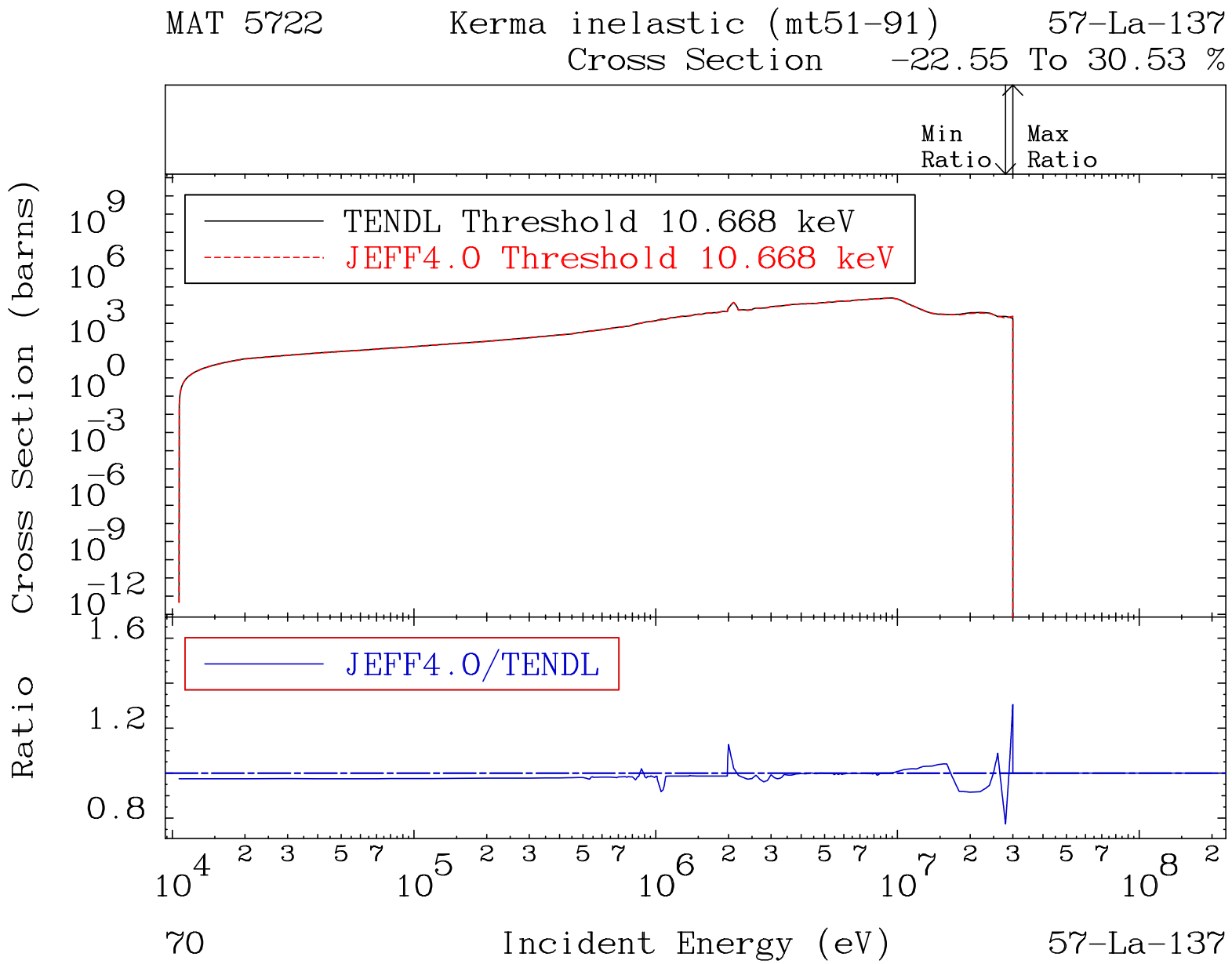

MAT 5722
He-3 Production
Cross Section
57-La-137
-10.33 To 7.554 %
Max Ratio
Min Ratio
TENDL Threshold 6.4661 MeV
JEFF4.0 Threshold 6.4661 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
350
300
250
200
150
100
50
0
1.1
1.0
0.9
7 8 10^7 2 3 4 5 6 7 8 10^8 2
65
Incident Energy (eV)
57-La-137

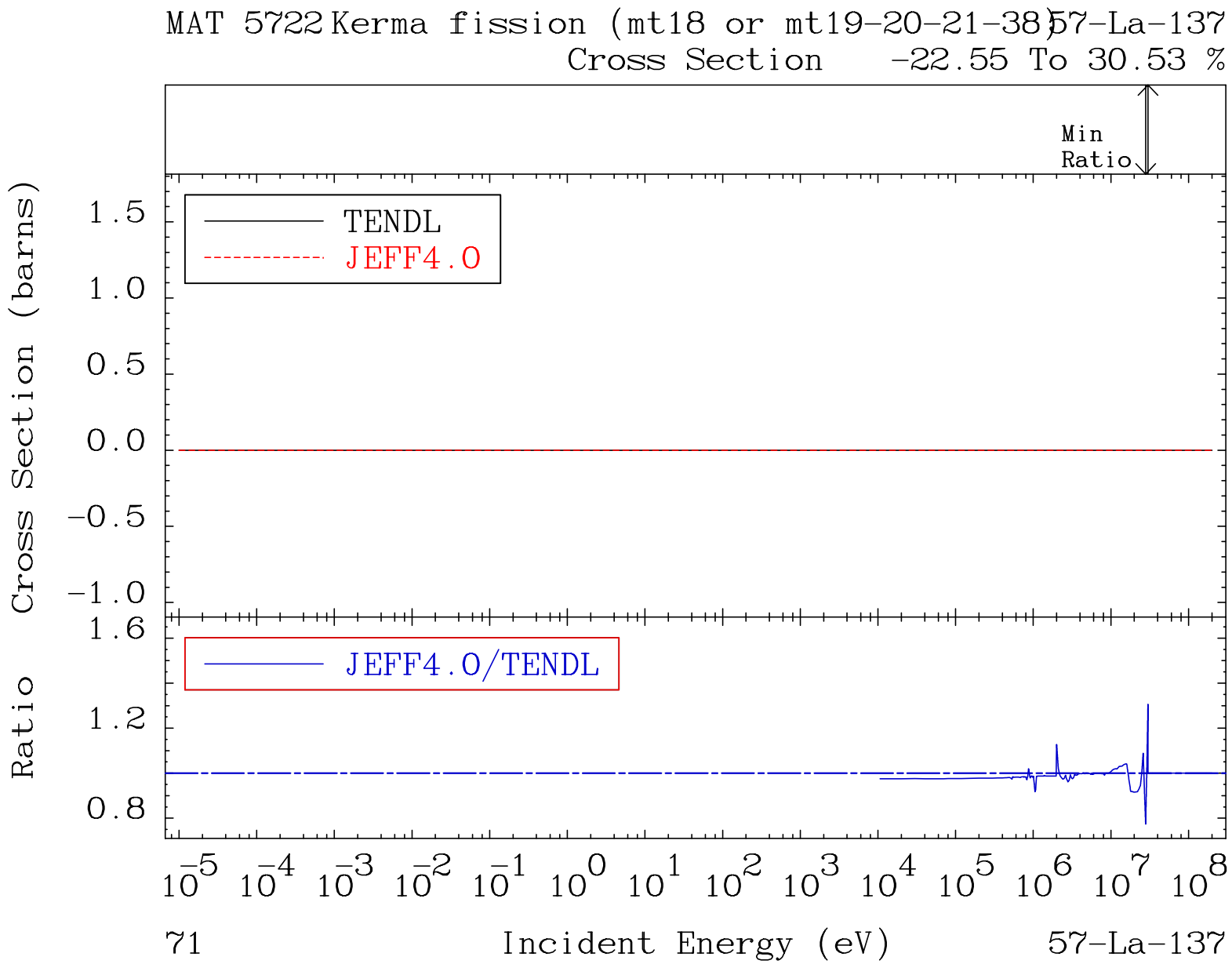

MAT 5722
He-4 Production
Cross Section
57-La-137
-51.92 To 66.87 %
Min
Ratio
Max
Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
66
57-La-137

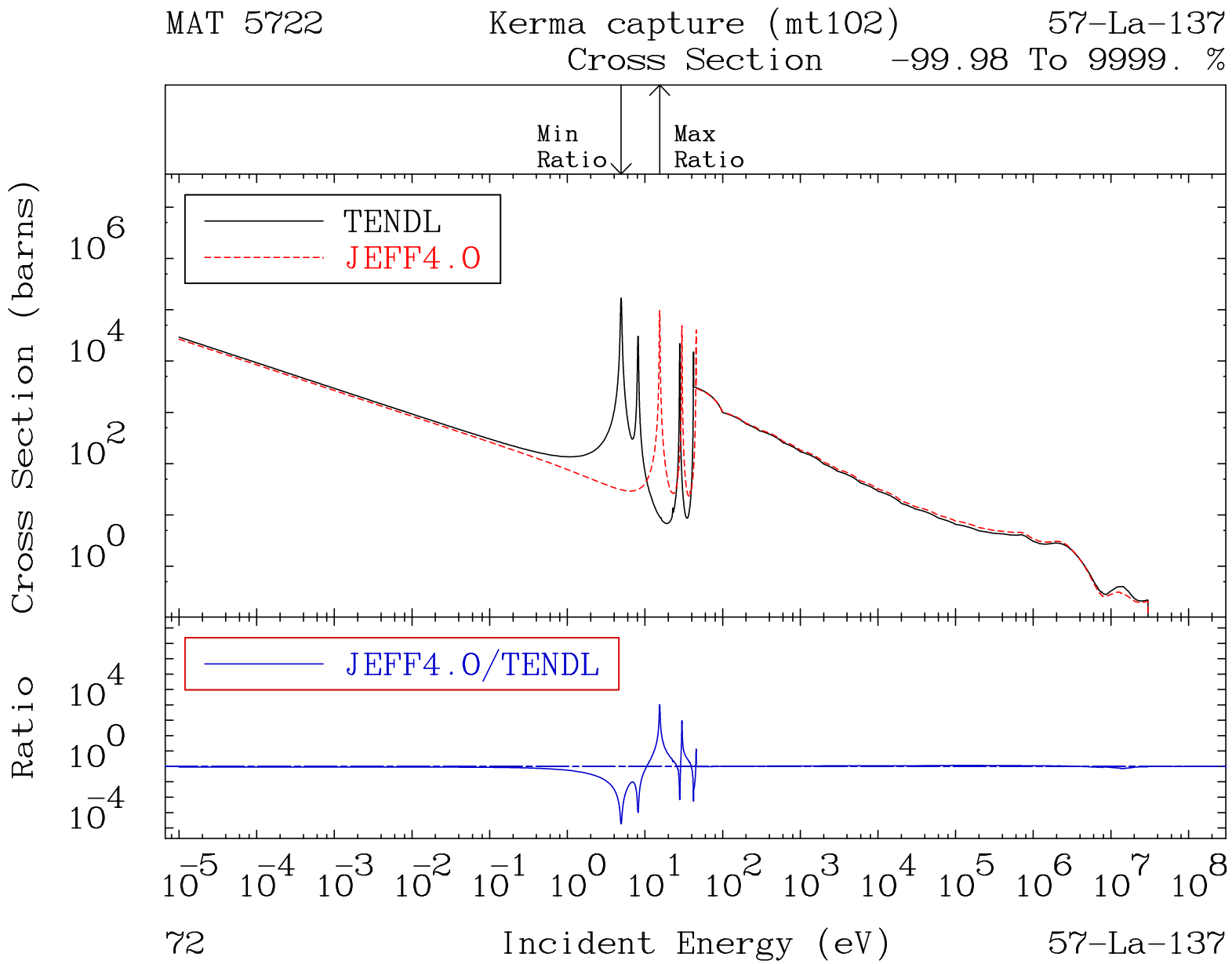

MAT 5722
Kerma total (eV-barns)
57-La-137
Cross Section -99.98 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
67
57-La-137

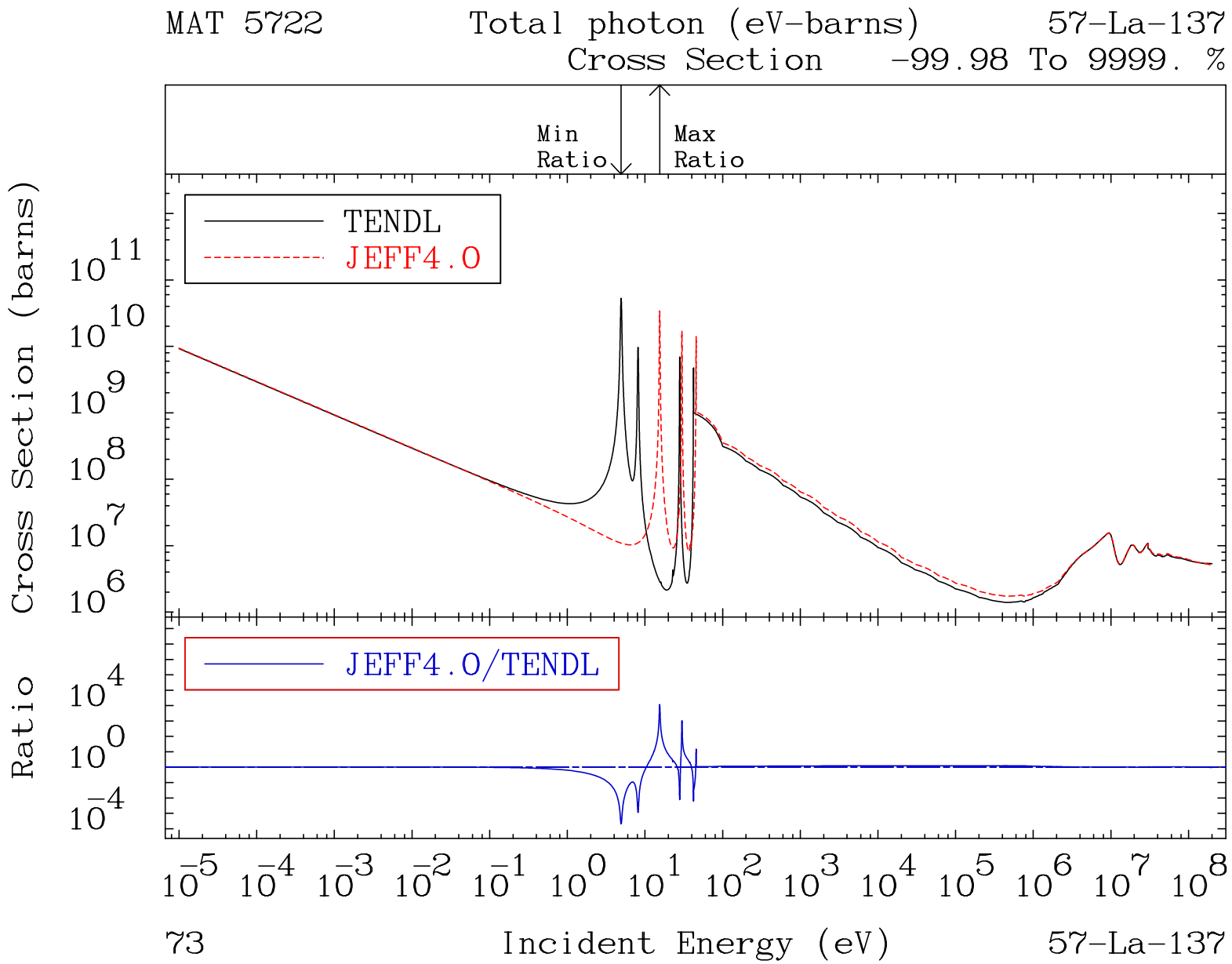

MAT 5722
Kerma elastic
Cross Section
57-La-137
-98.80 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
68
57-La-137

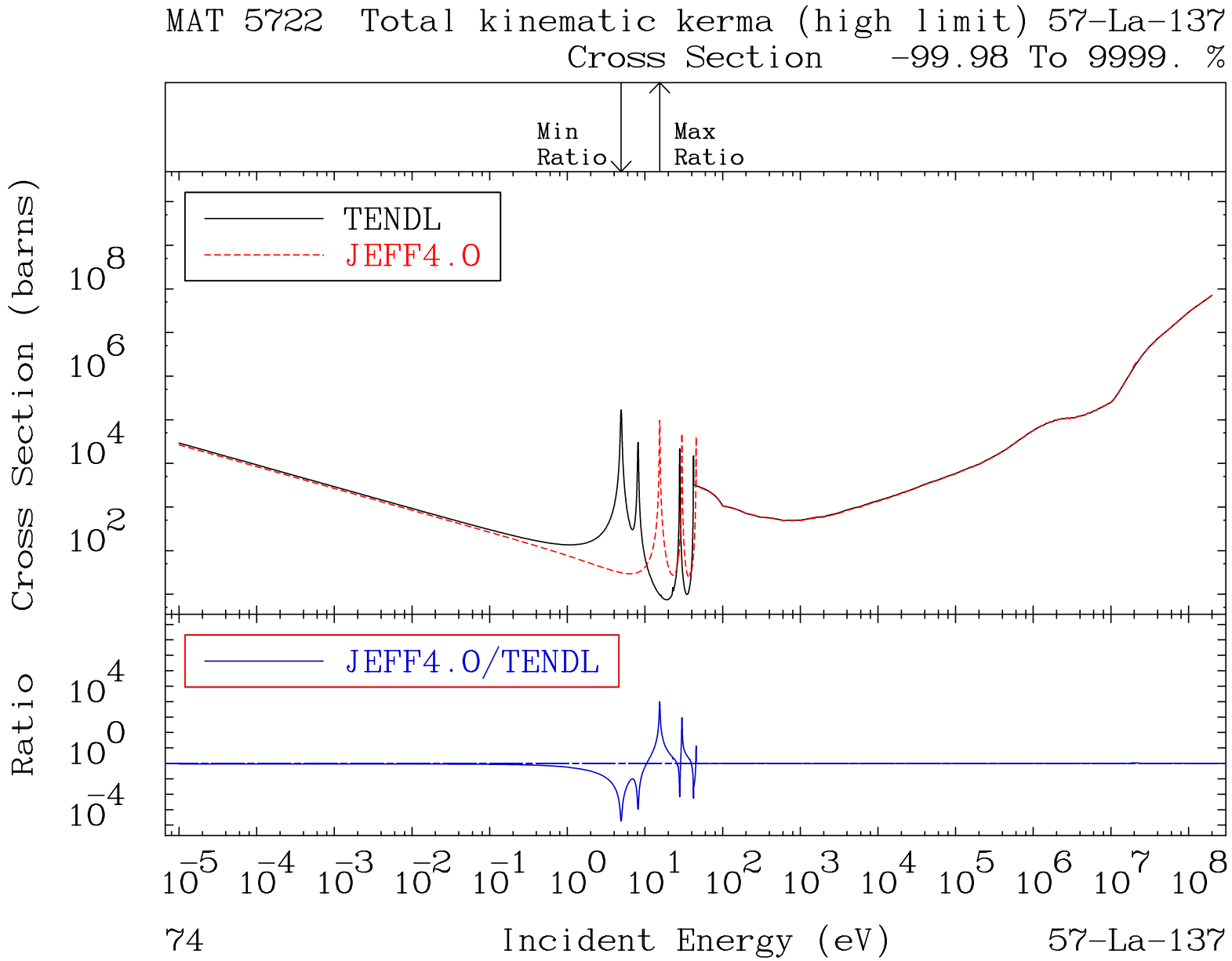

MAT 5722 Kerma non-elastic (all but mt2) 57-La-137
Cross Section -99.98 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
69
57-La-137

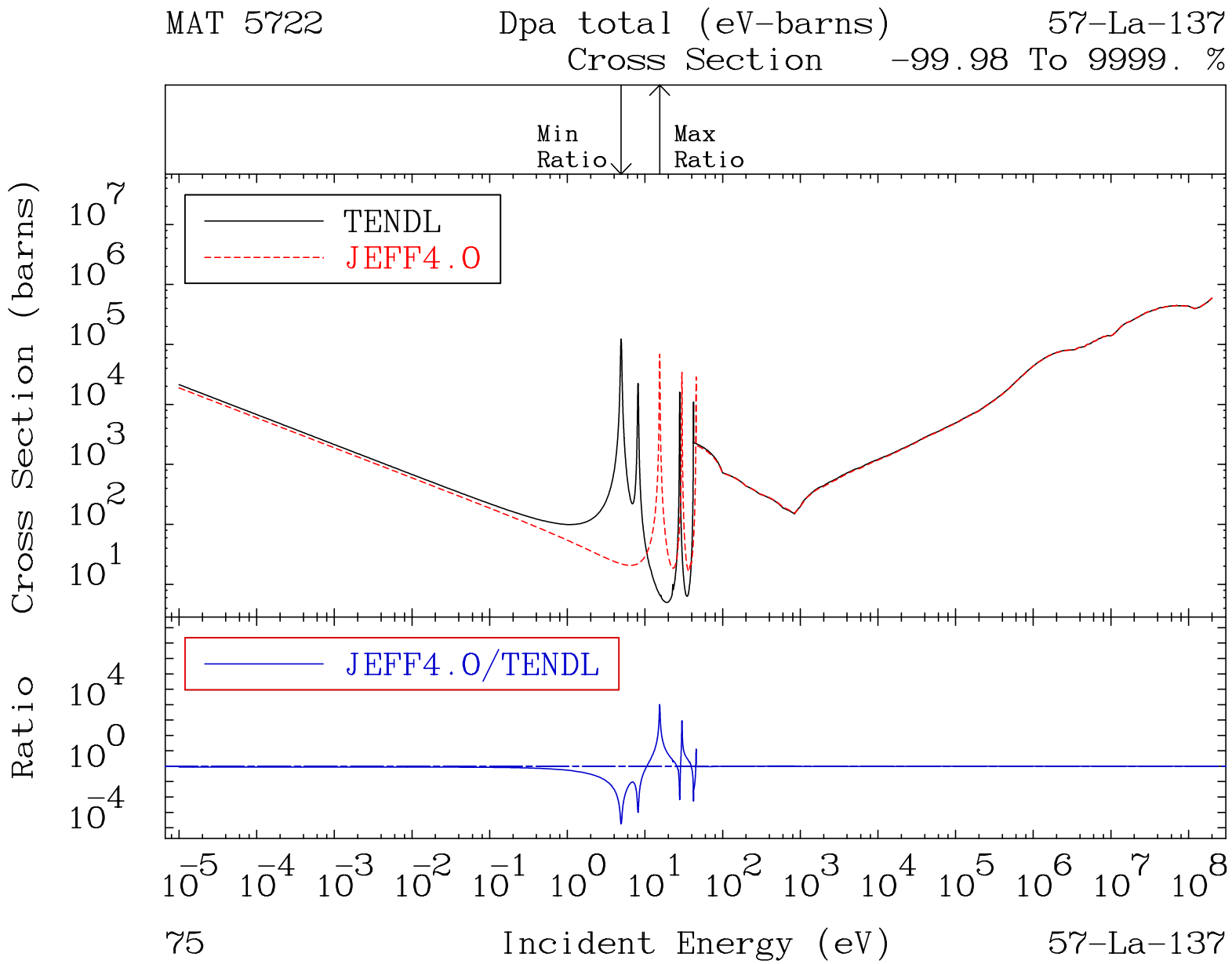

MAT 5722
Kerma inelastic (mt51-91)
57-La-137
Cross Section
-22.55 To 30.53 %
Min Ratio
Max Ratio
TENDL Threshold 10.668 keV
JEFF4.0 Threshold 10.668 keV
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
70
57-La-137

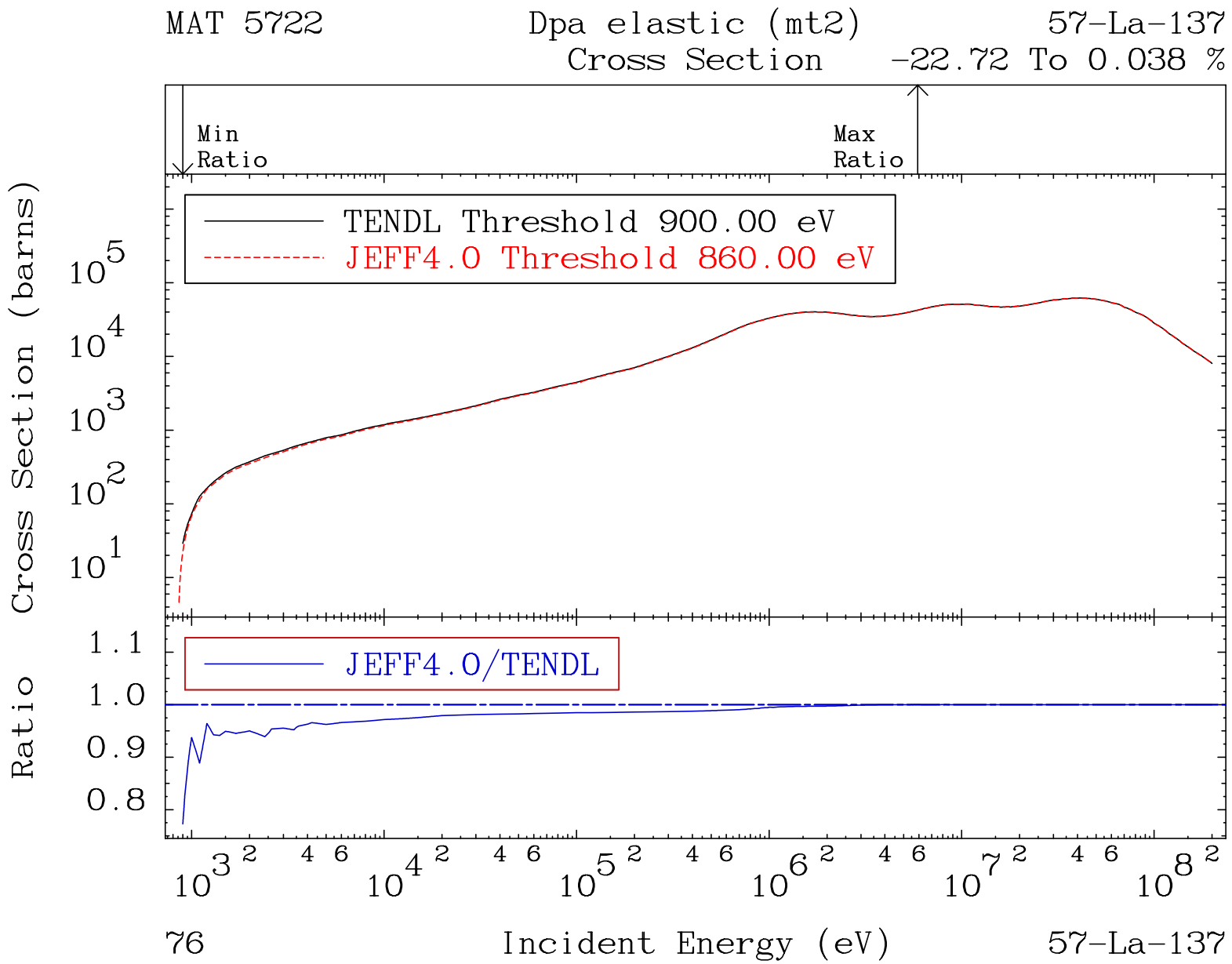

MAT 5722 Kerma fission (mt18 or mt19-20-21-38) 57-La-137
Cross Section -22.55 To 30.53 %
Min
Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
1.5
1.0
0.5
0.0
-0.5
-1.0
1.6
1.2
0.8
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
71
Incident Energy (eV)
57-La-137

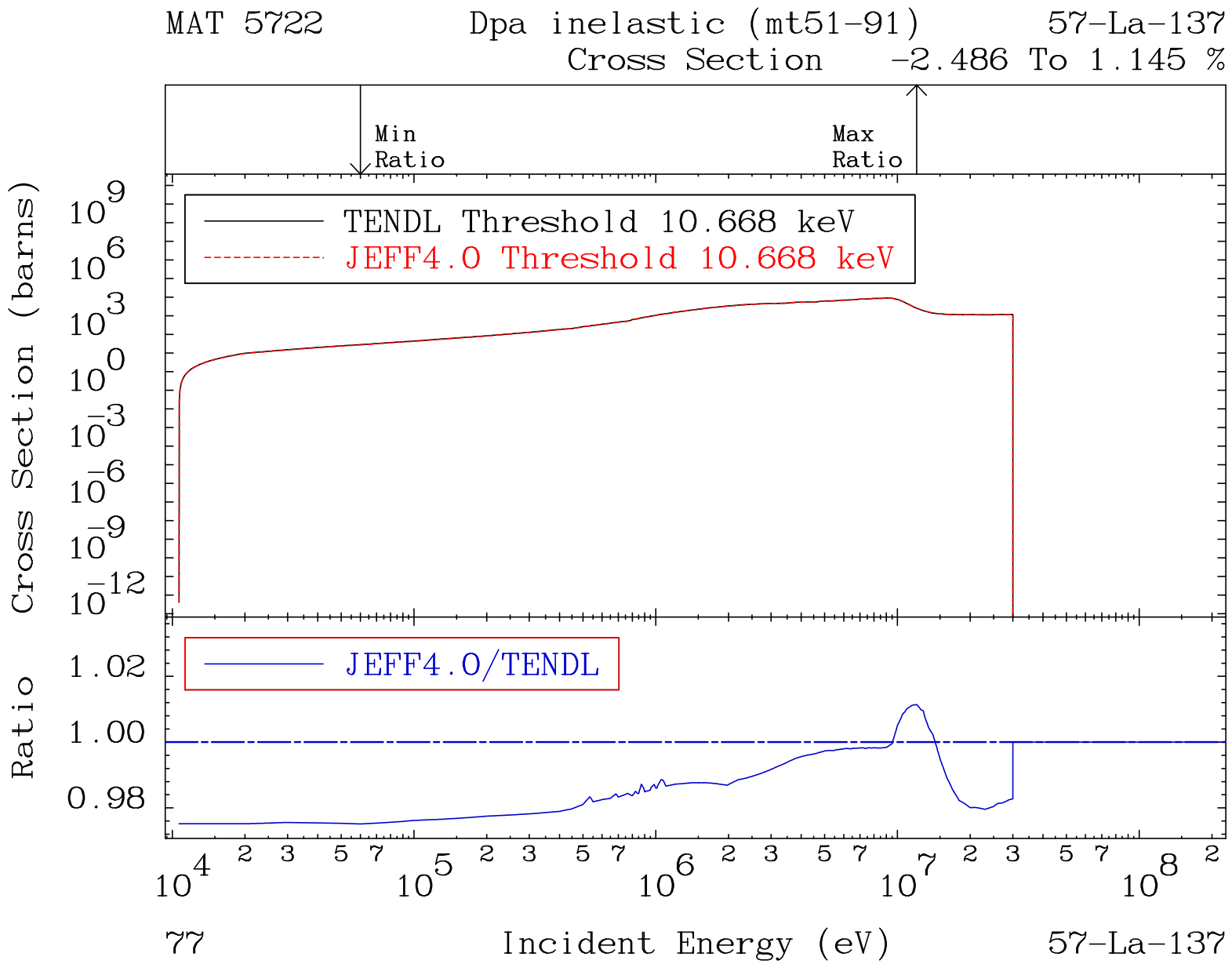

MAT 5722
Kerma capture (mt102)
57-La-137
Cross Section -99.98 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
72
57-La-137

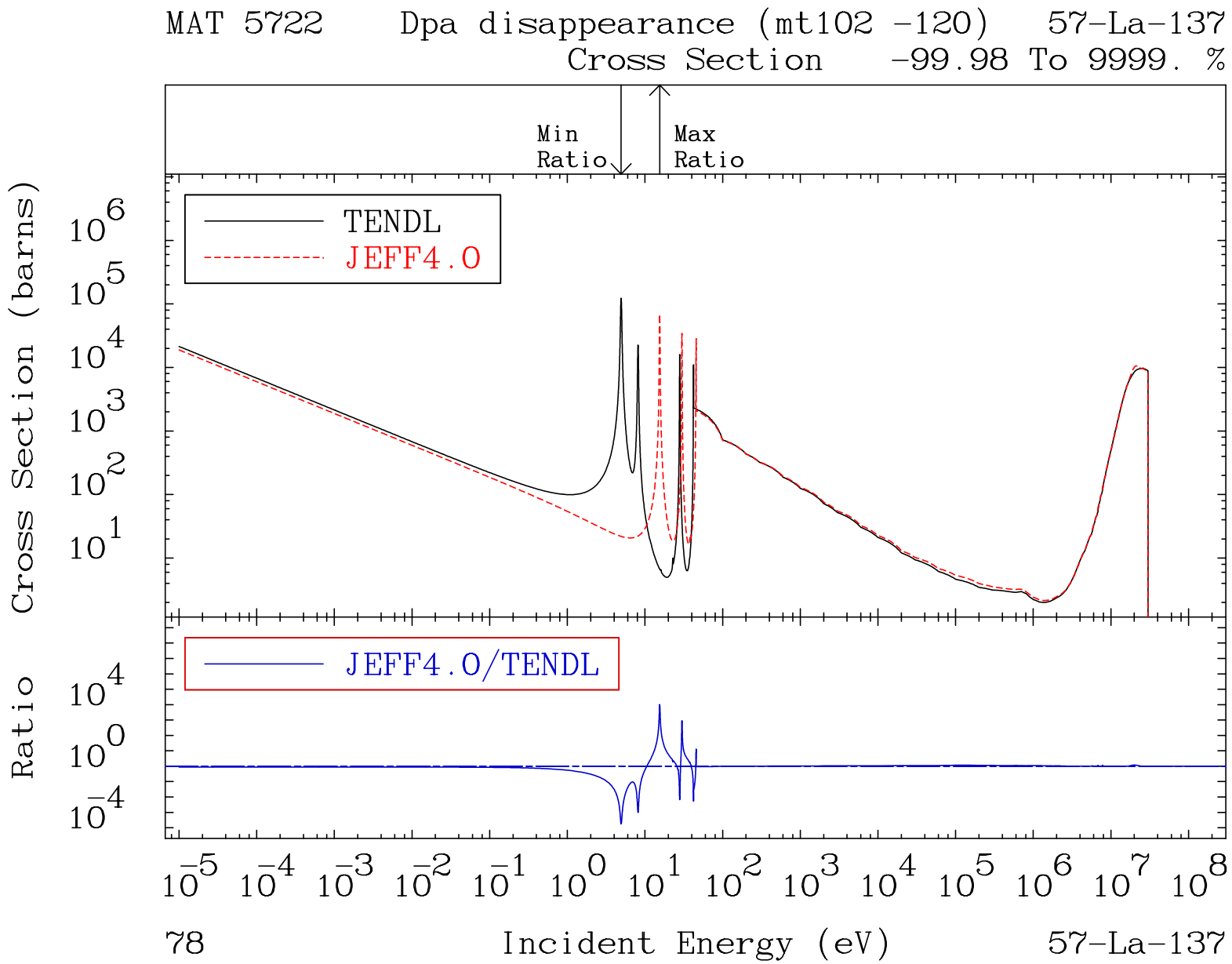

MAT 5722
Total photon (eV-barns)
57-La-137
Cross Section -99.98 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
73
57-La-137

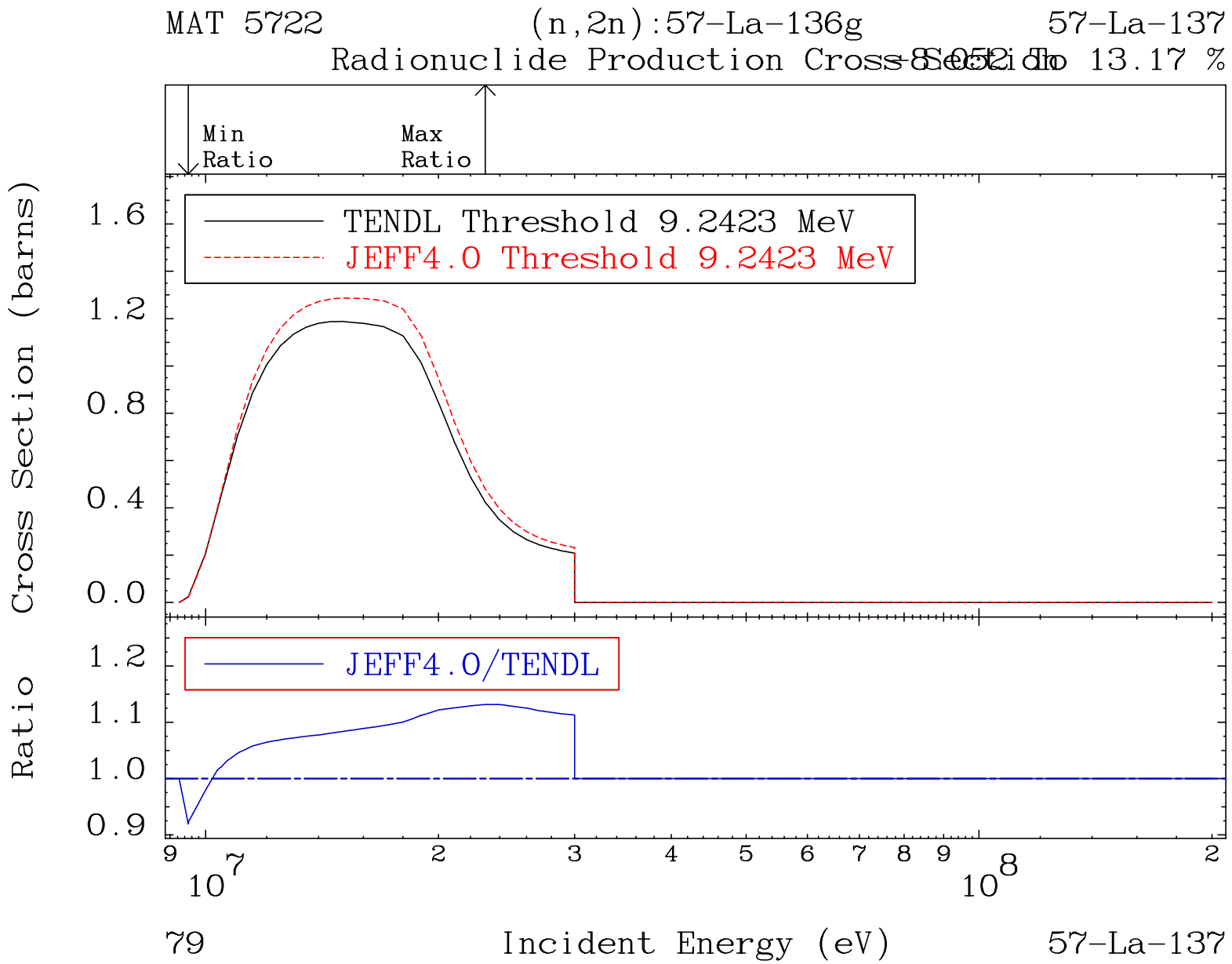

MAT 5722 Total kinematic kerma (high limit) 57-La-137
Cross Section -99.98 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF4.0
Cross Section (barns)
JEFF4.0/TENDL
Ratio
Incident Energy (eV)
74
57-La-137

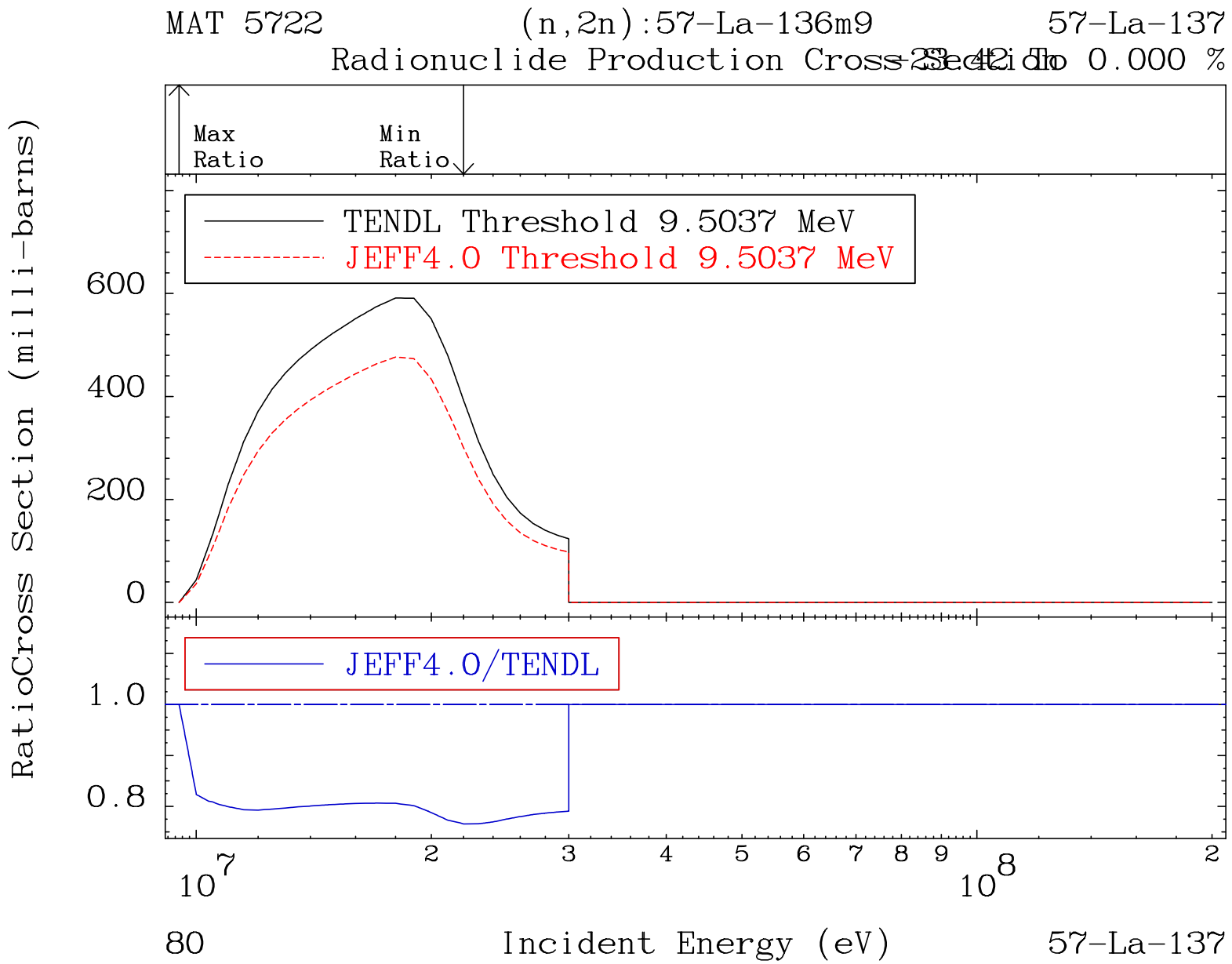

MAT 5722
Dpa total (eV-barns)
57-La-137
Cross Section
-99.98 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
75
57-La-137

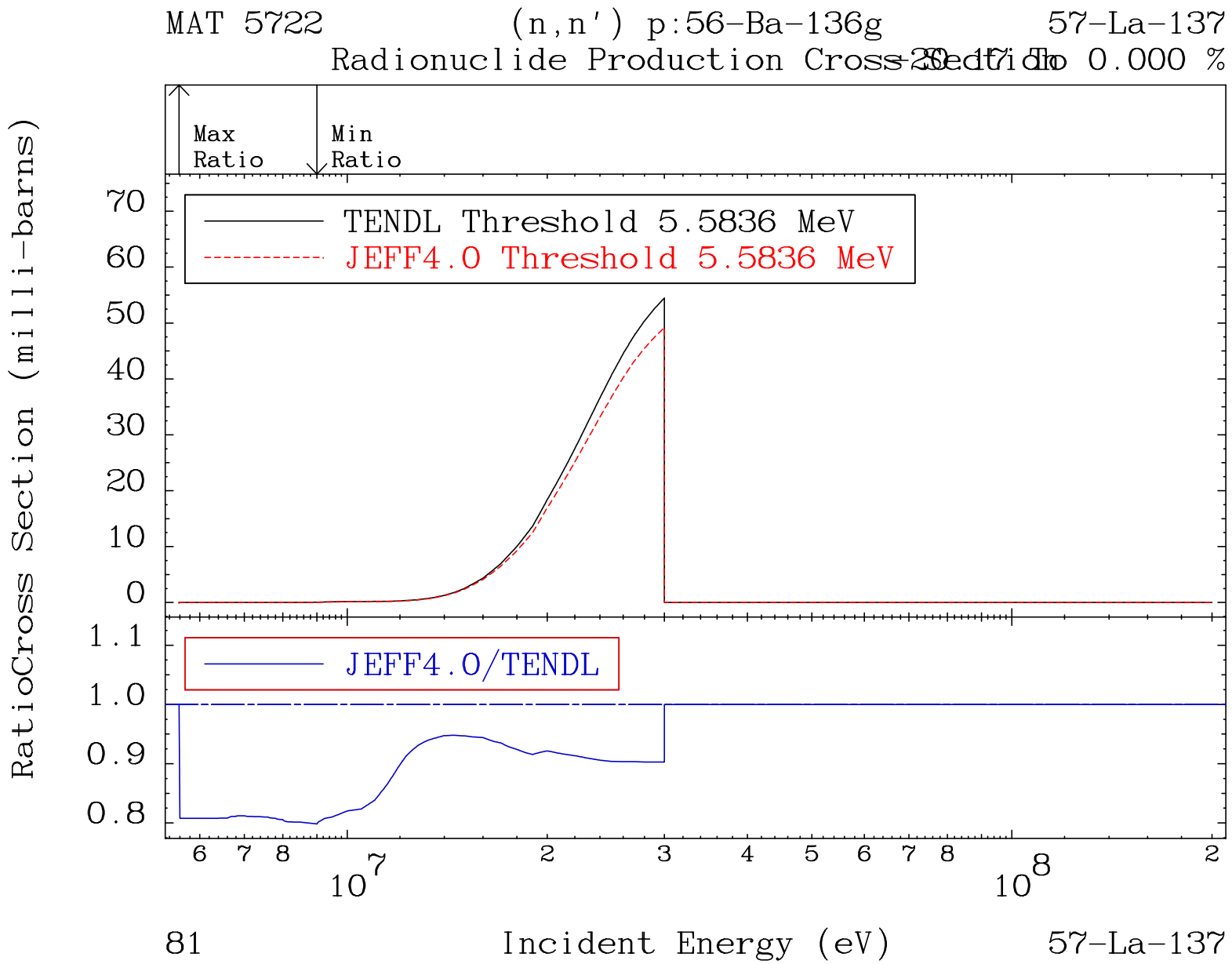

MAT 5722
Dpa elastic (mt2)
Cross Section
57-La-137
-22.72 To 0.038 %
Min
Ratio
Max
Ratio
TENDL Threshold 900.00 eV
JEFF4.0 Threshold 860.00 eV
Cross Section (barns)
JEFF4.0/TENDL
Ratio
Incident Energy (eV)
76
57-La-137

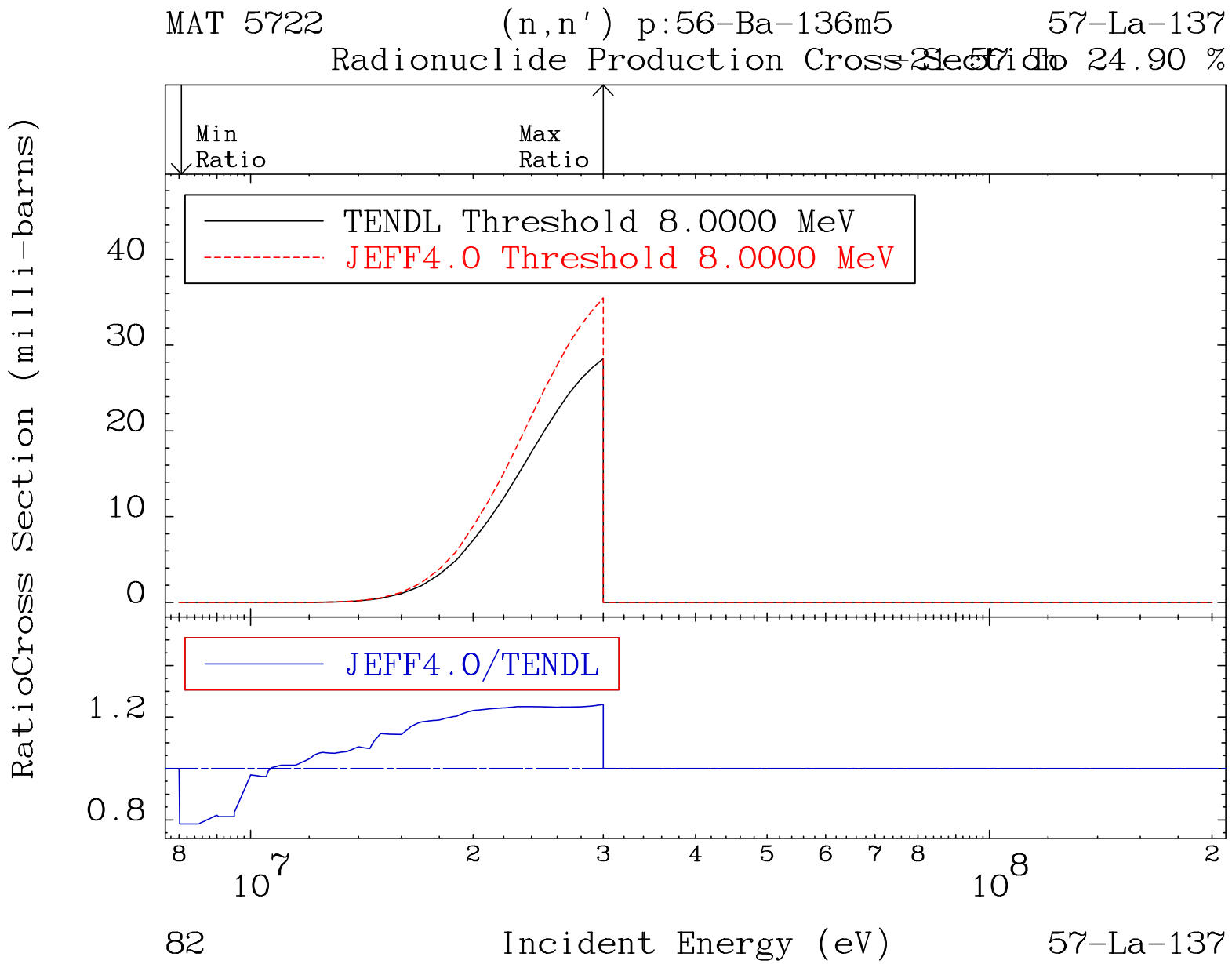

MAT 5722
Dpa inelastic (mt51-91)
57-La-137
Cross Section
-2.486 To 1.145 %
Min Ratio
Max Ratio
TENDL Threshold 10.668 keV
JEFF4.0 Threshold 10.668 keV
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
77
57-La-137

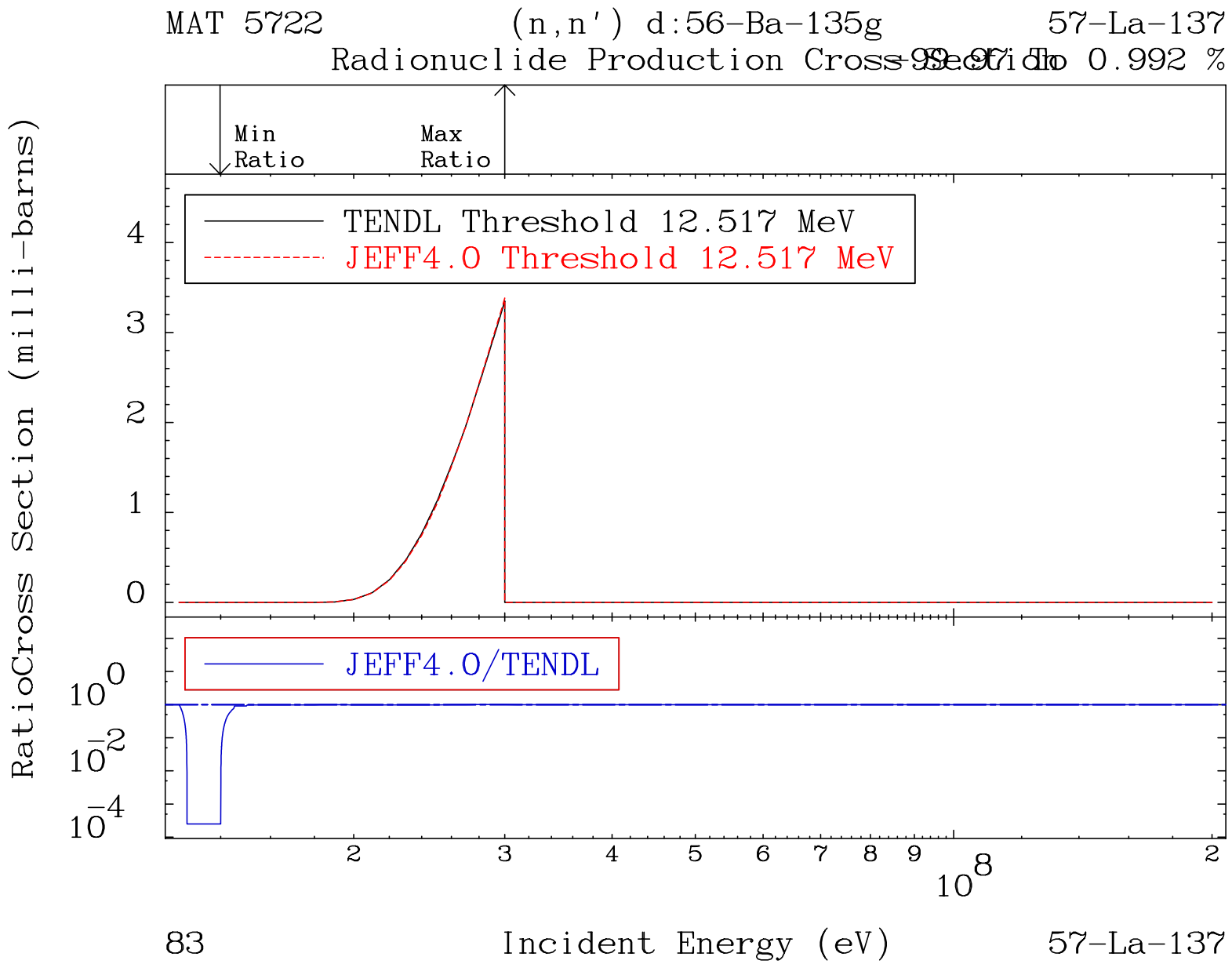

MAT 5722 Dpa disappearance (mt102 -120) 57-La-137
Cross Section -99.98 To 9999. %
Min Ratio
Max Ratio
TENDL
JEFF4.0
Cross Section (barns)
JEFF4.0/TENDL
Ratio
Incident Energy (eV)
78
57-La-137

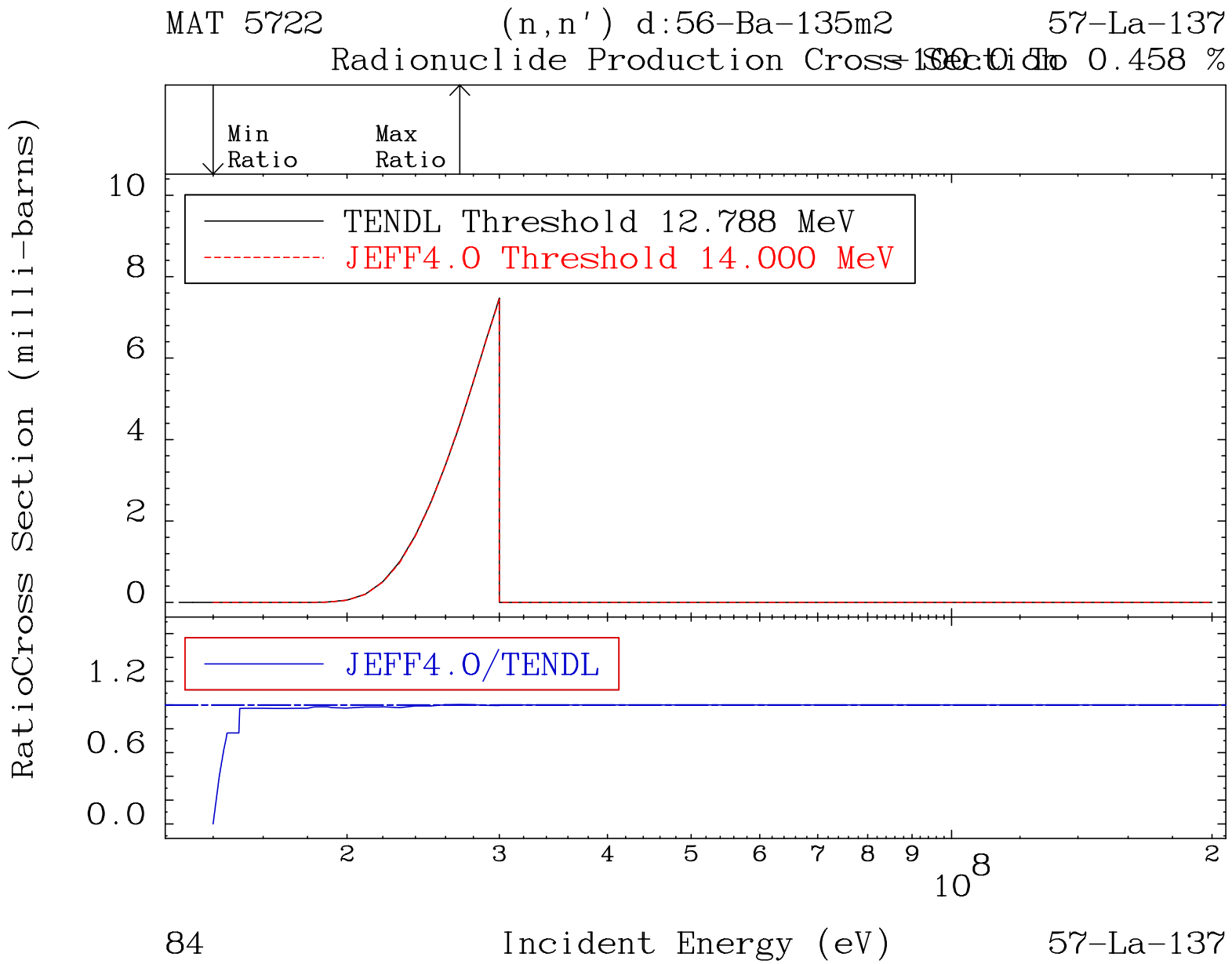

MAT 5722
(n,2n):57-La-136g
57-La-137
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL Threshold 9.2423 MeV
JEFF4.0 Threshold 9.2423 MeV
JEFF4.0/TENDL
Cross Section (barns)
Ratio
1.6
1.2
0.8
0.4
0.0
1.2
1.1
1.0
0.9
9
10^7
2
3
4
5
6
7
8
9
10^8
2
79
Incident Energy (eV)
57-La-137

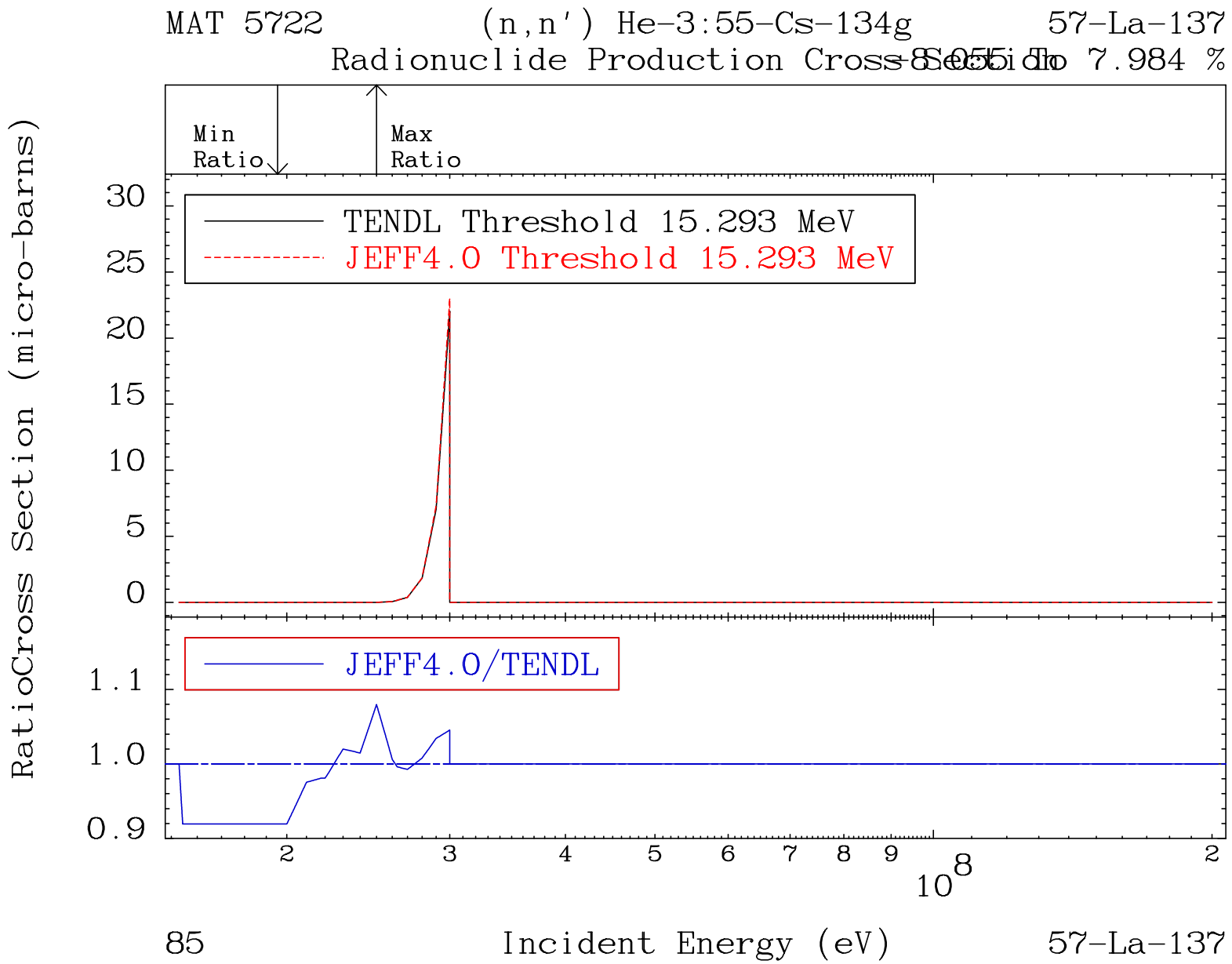

MAT 5722
(n,2n):57-La-136m9
57-La-137
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 9.5037 MeV
JEFF4.0 Threshold 9.5037 MeV
600
400
200
0
JEFF4.0/TENDL
1.0
0.8
RatioCross Section (milli-barns)
10^7
2
3
4
5
6
7
8
9
10^8
2
80
Incident Energy (eV)
57-La-137

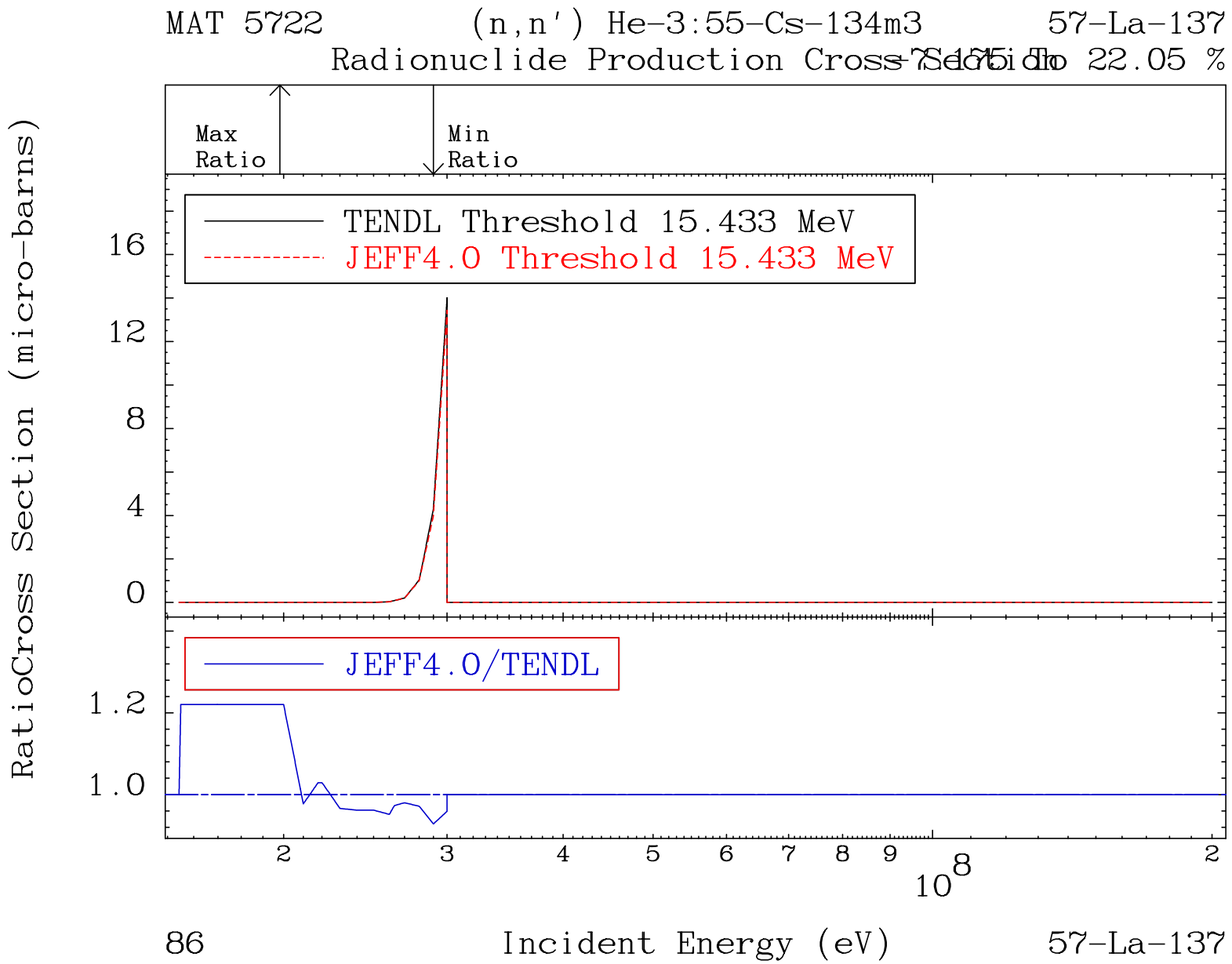

MAT 5722
(n,n') p:56-Ba-136g
57-La-137
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 5.5836 MeV
JEFF4.0 Threshold 5.5836 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
81
57-La-137

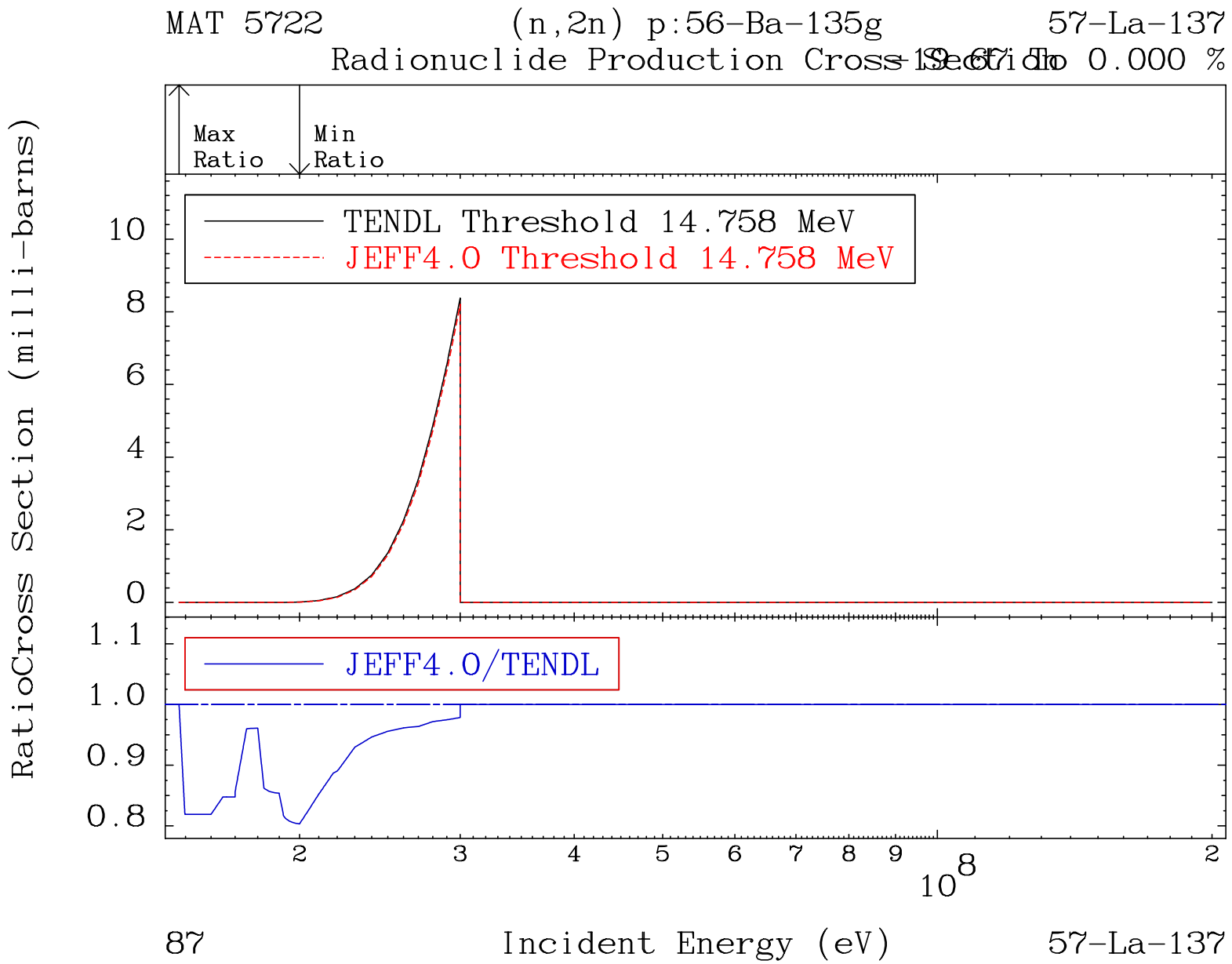

MAT 5722 (n,n') p:56-Ba-136m5 57-La-137
Radionuclide Production Cross-Section To 24.90 %
Min Ratio
Max Ratio
TENDL Threshold 8.0000 MeV
JEFF4.0 Threshold 8.0000 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
40
30
20
10
0
1.2
0.8
8
10^7
2
3
4
5
6
7
8
10^8
2
82
Incident Energy (eV)
57-La-137

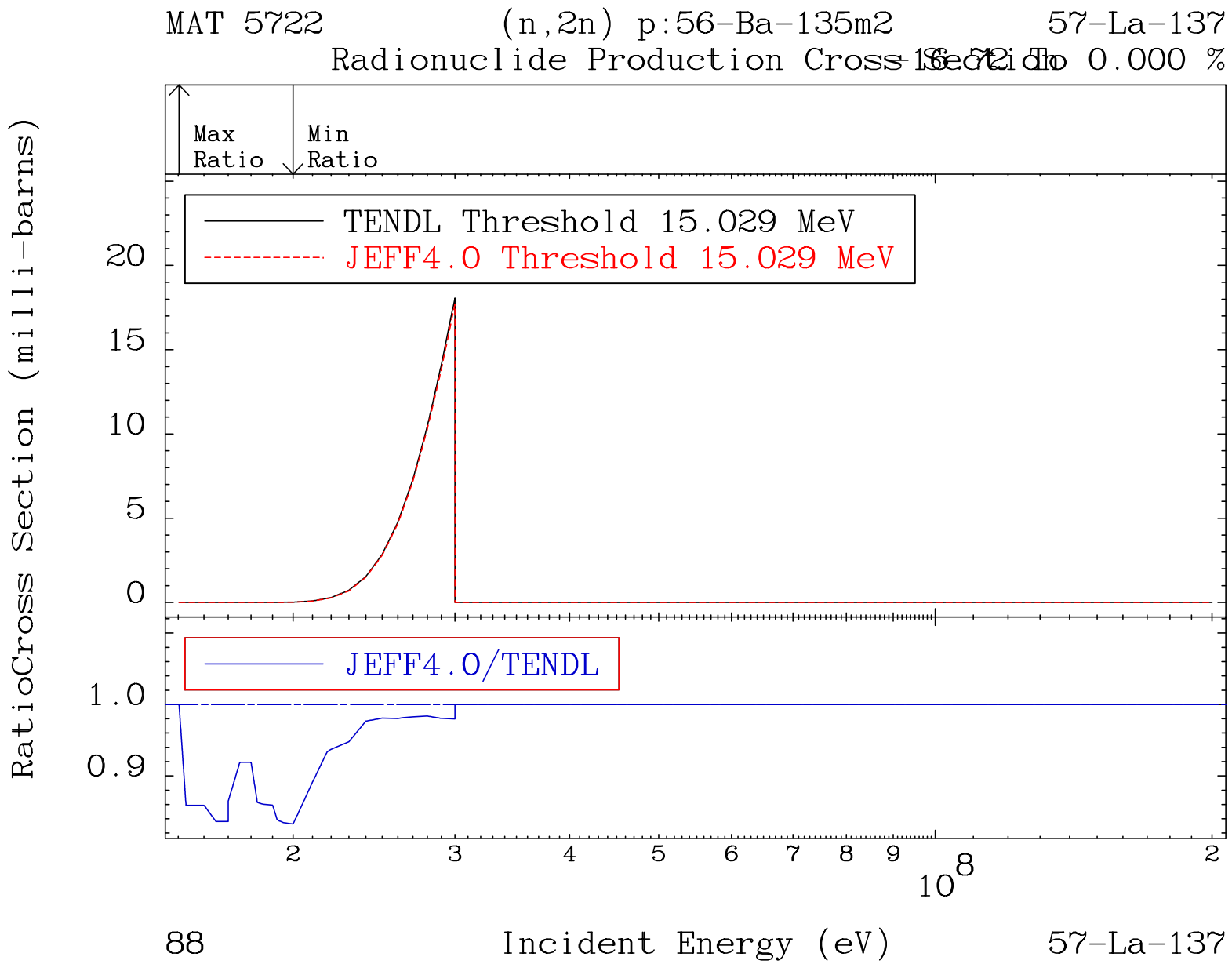

MAT 5722
(n,n') d:56-Ba-135g
57-La-137
Radionuclide Production Cross Section To 0.992 %
Min Ratio
Max Ratio
TENDL Threshold 12.517 MeV
JEFF4.0 Threshold 12.517 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
83
57-La-137

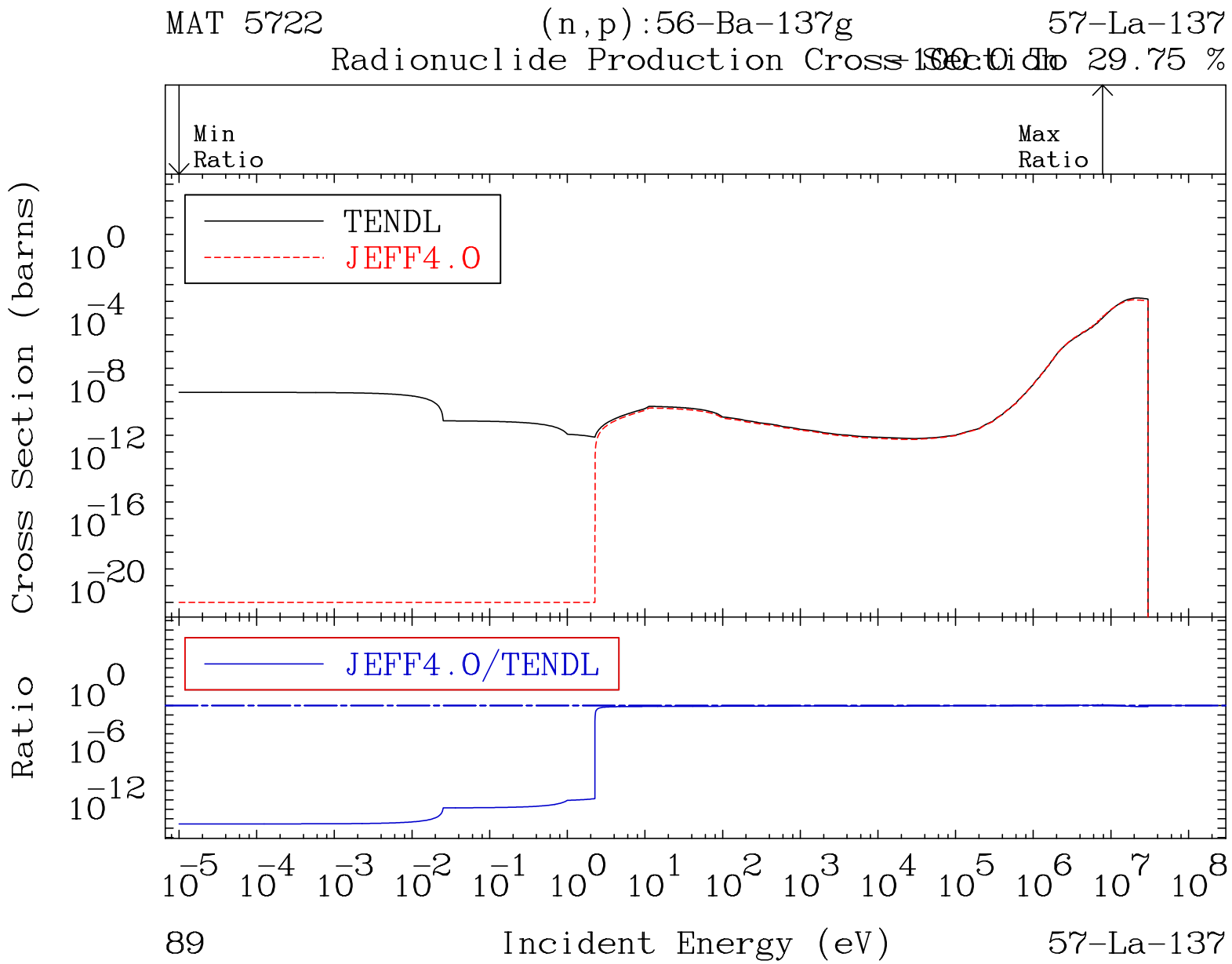

MAT 5722
(n,n') d:56-Ba-135m2
57-La-137
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL Threshold 12.788 MeV
JEFF4.0 Threshold 14.000 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
84
57-La-137

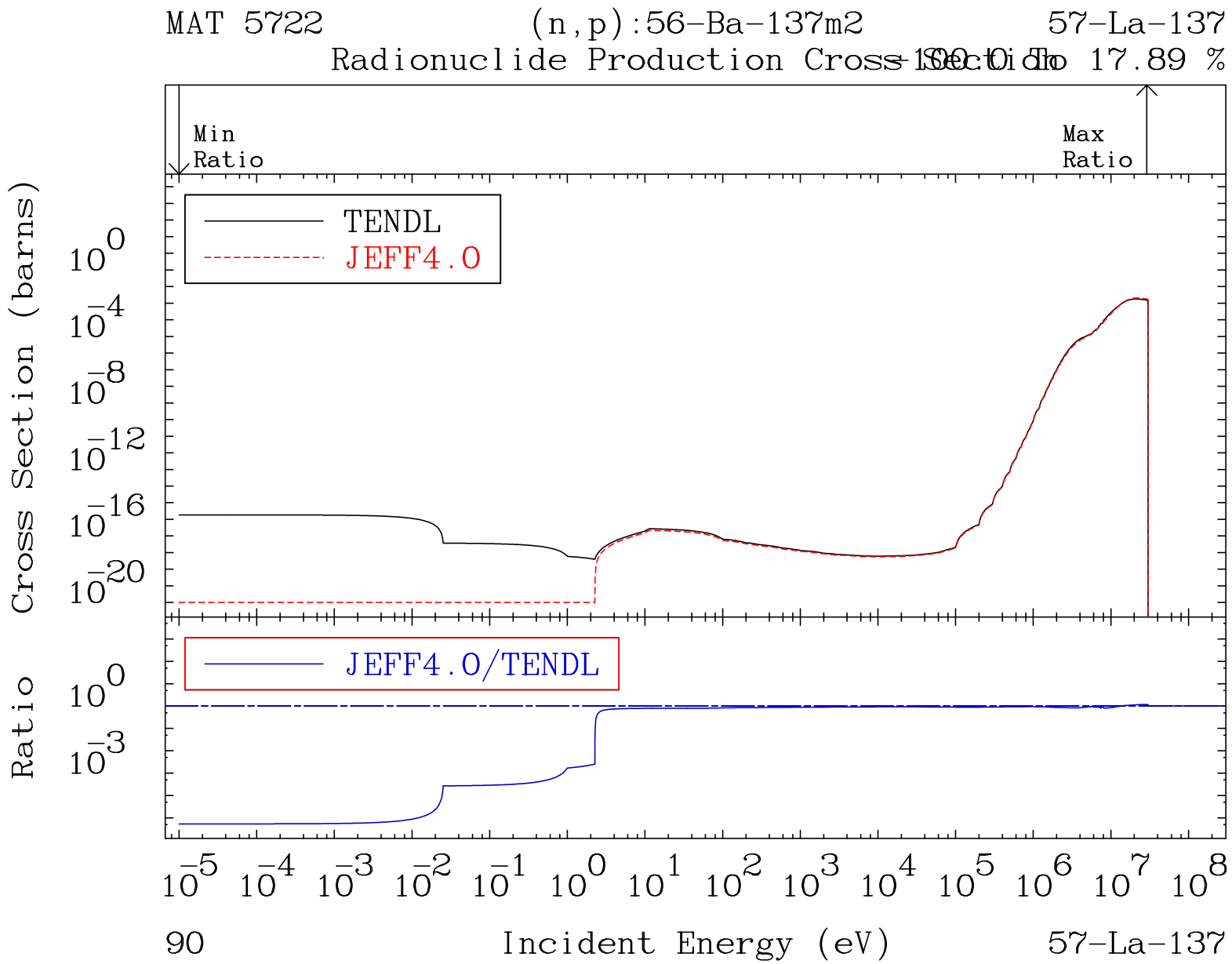

MAT 5722
(n,n') He-3:55-Cs-134g
57-La-137
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL Threshold 15.293 MeV
JEFF4.0 Threshold 15.293 MeV
JEFF4.0/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
85
57-La-137

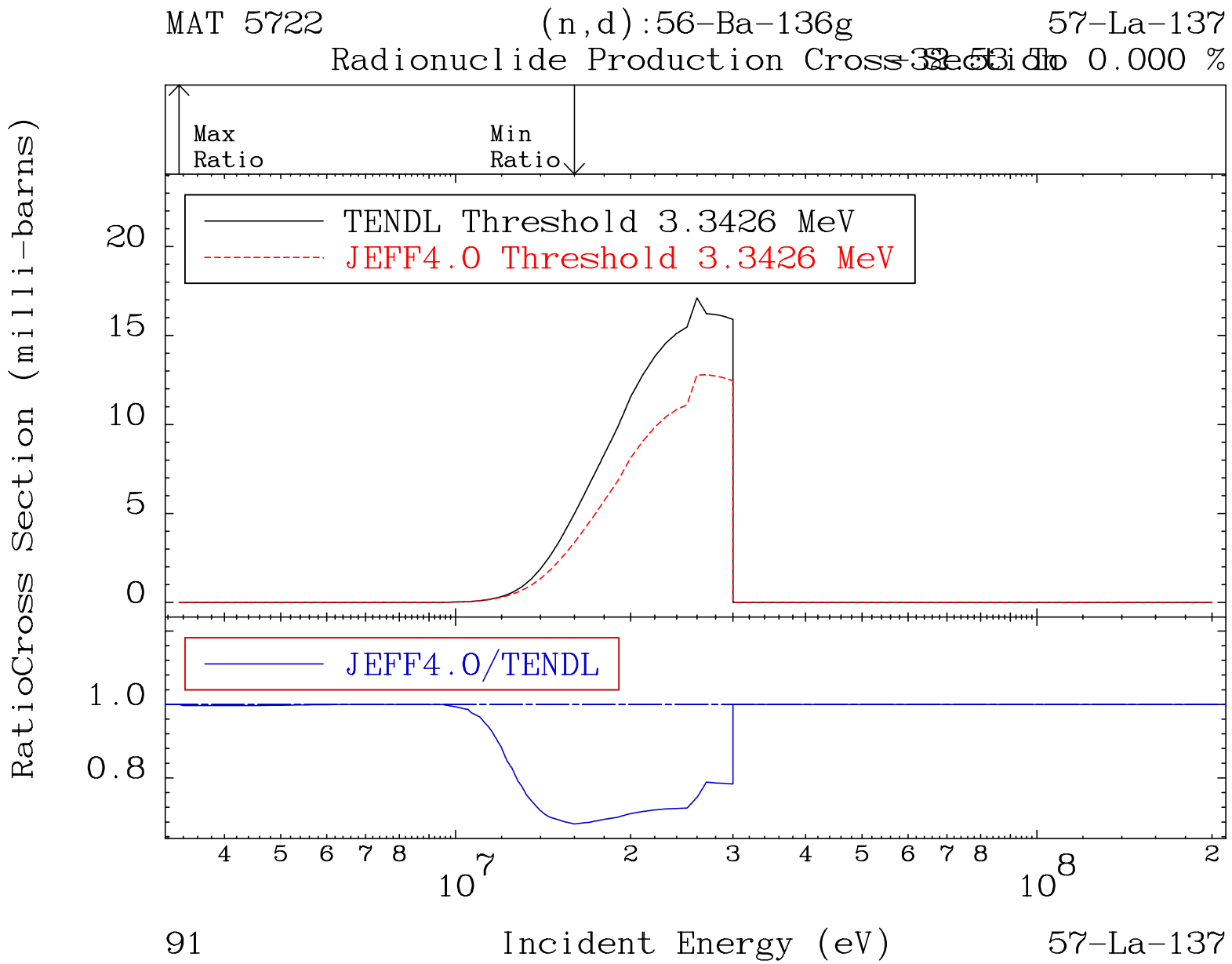

MAT 5722
(n,n') He-3:55-Cs-134m3
57-La-137
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 15.433 MeV
JEFF4.0 Threshold 15.433 MeV
JEFF4.0/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
86
57-La-137

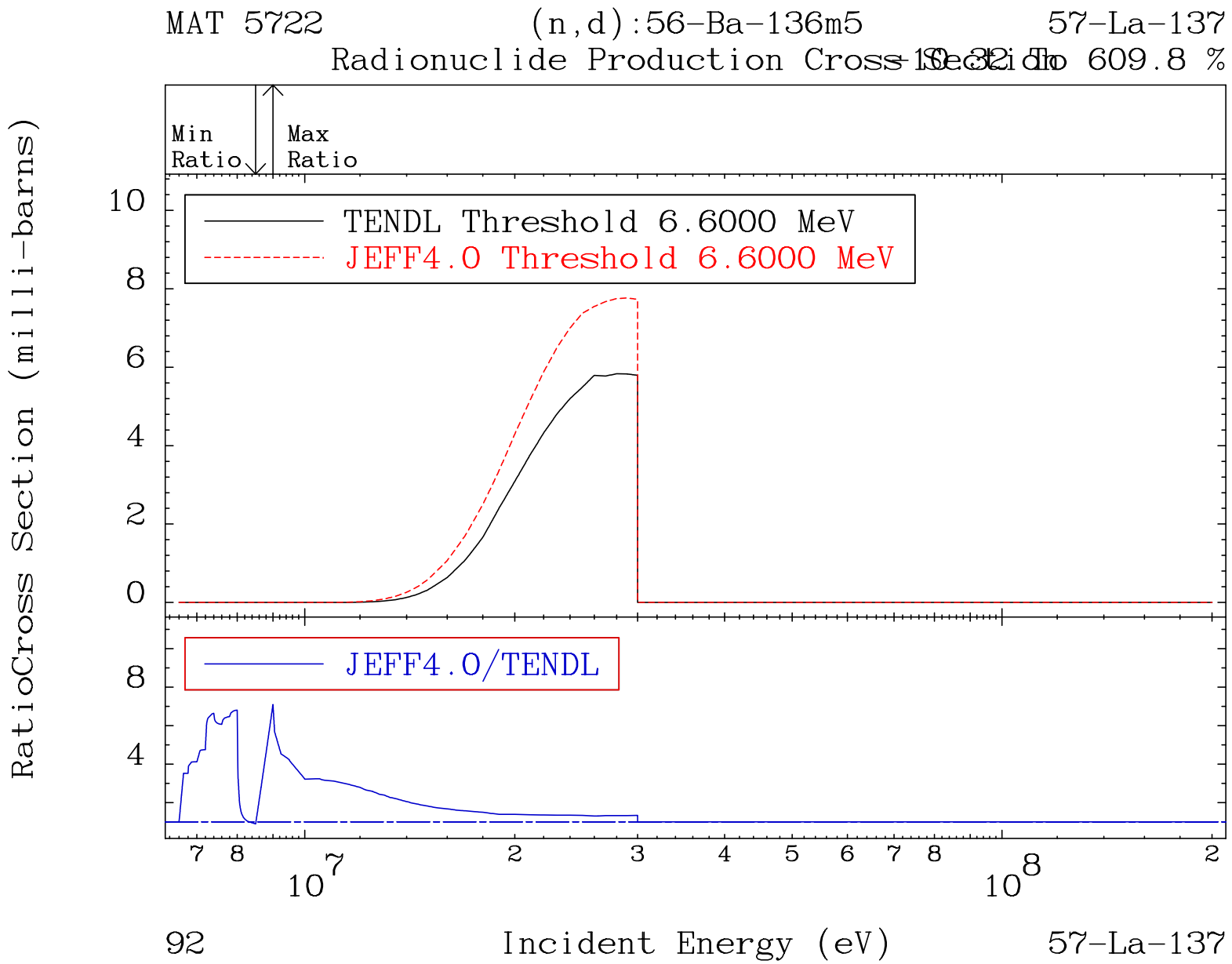

MAT 5722
(n,2n) p:56-Ba-135g
57-La-137
Radionuclide Production Cross Section
Uncertainty 0.000 %
Max Ratio
Min Ratio
TENDL Threshold 14.758 MeV
JEFF4.0 Threshold 14.758 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
10
8
6
4
2
0
1.1
1.0
0.9
0.8
2
3
4
5
6
7
8
9
10^8
2
87
Incident Energy (eV)
57-La-137

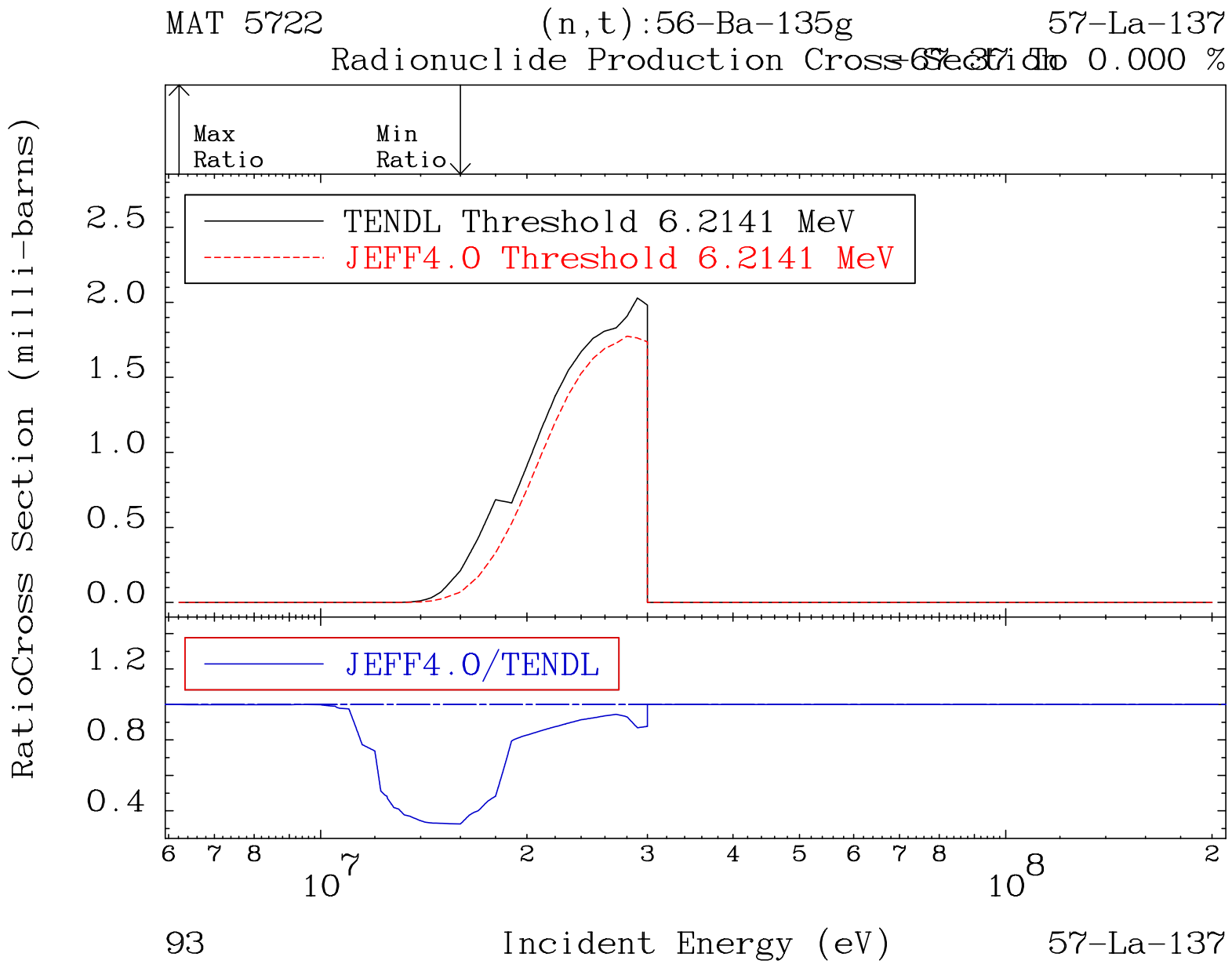

MAT 5722
(n,2n) p:56-Ba-135m2
57-La-137
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 15.029 MeV
JEFF4.0 Threshold 15.029 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
88
57-La-137

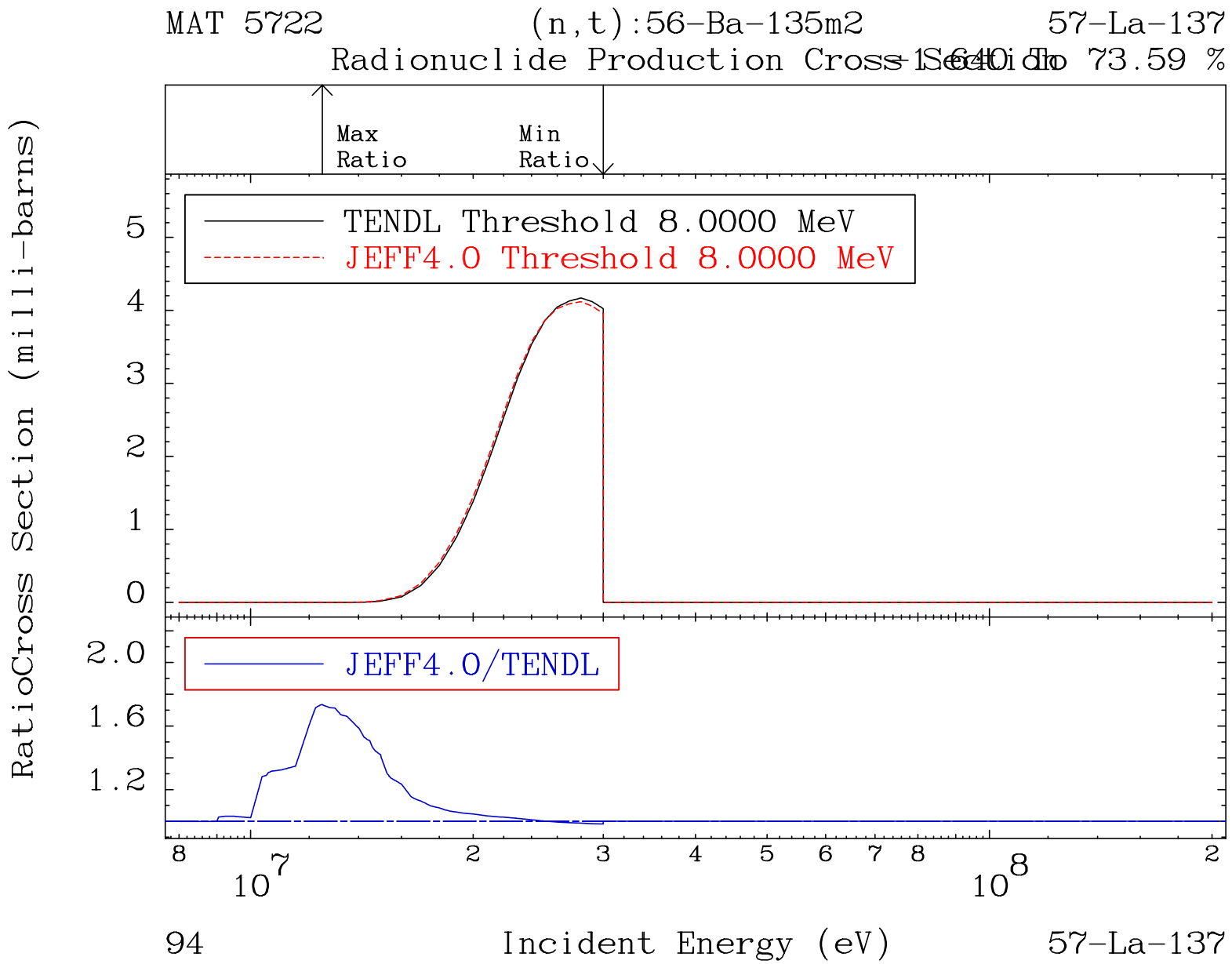

MAT 5722
(n,p):56-Ba-137g
57-La-137
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
89
57-La-137

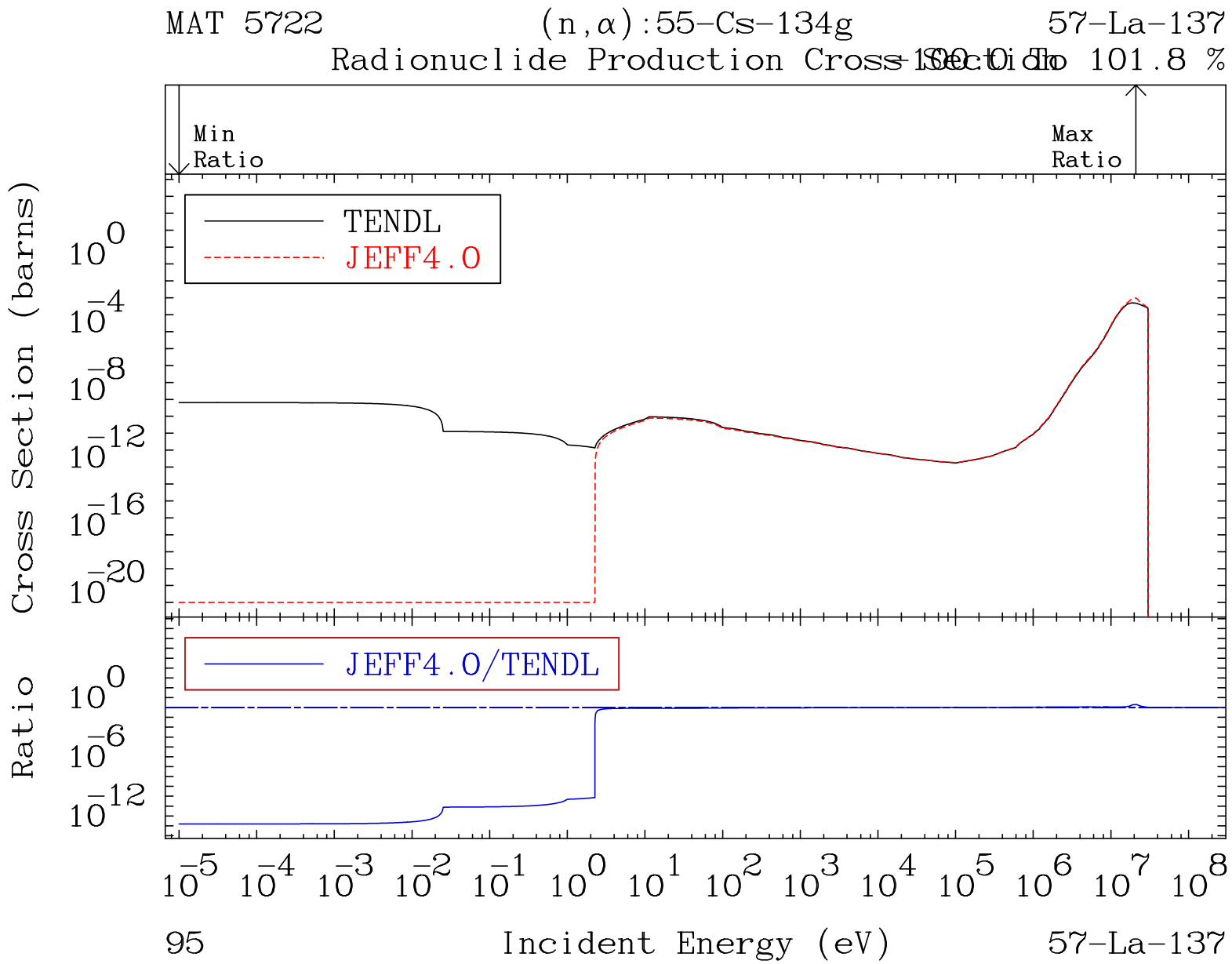

MAT 5722
(n,p):56-Ba-137m2
57-La-137
Radionuclide Production Cross Section To 17.89 %
Min Ratio
Max Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
90
57-La-137

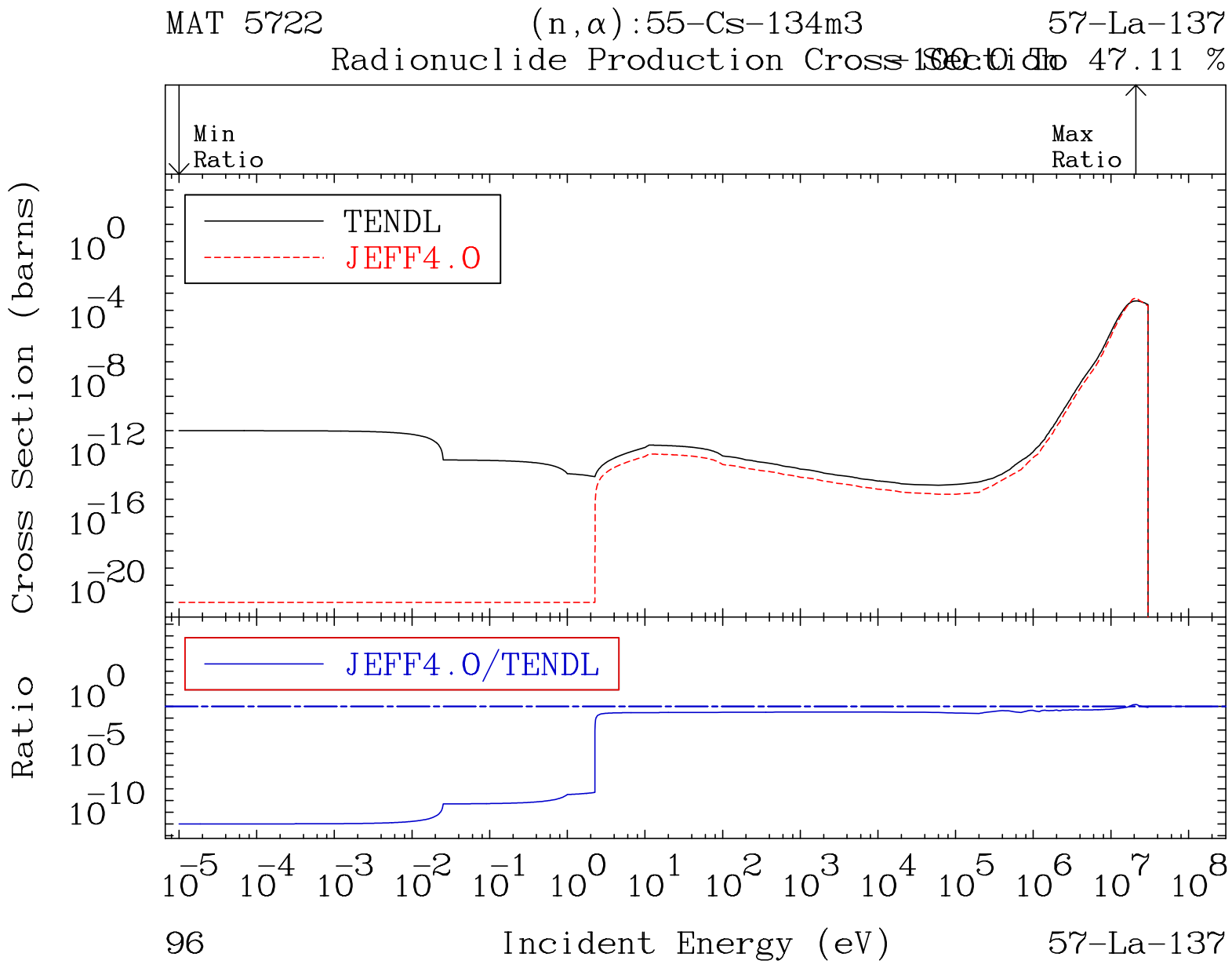

MAT 5722
(n,d):56-Ba-136g
57-La-137
Radionuclide Production Cross Section
Max Ratio
Min Ratio
TENDL Threshold 3.3426 MeV
JEFF4.0 Threshold 3.3426 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
91
57-La-137

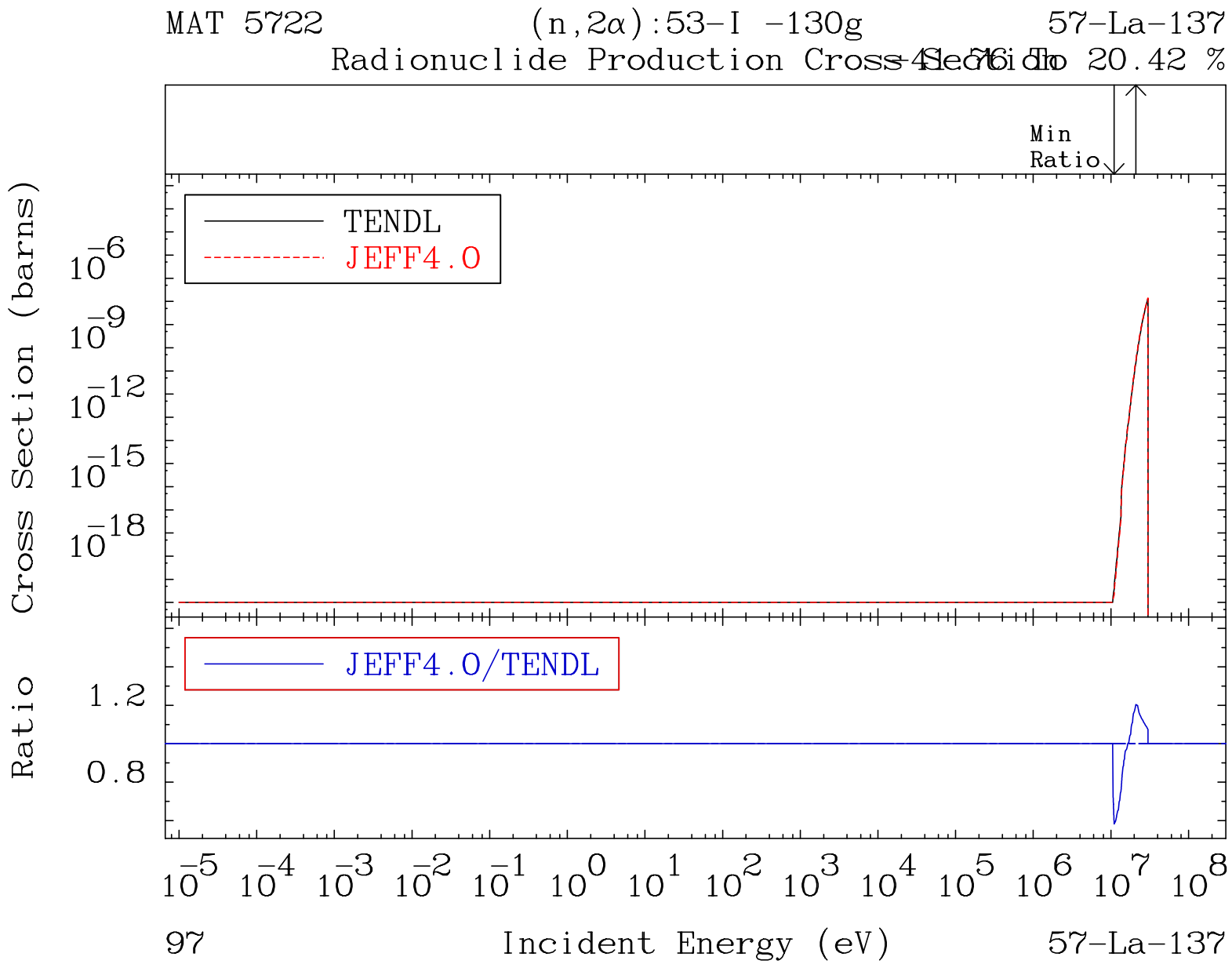

MAT 5722
(n,d):56-Ba-136m5
57-La-137
Radionuclide Production Cross Section To 609.8 %
Min Ratio
Max Ratio
TENDL Threshold 6.6000 MeV
JEFF4.0 Threshold 6.6000 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
92
57-La-137

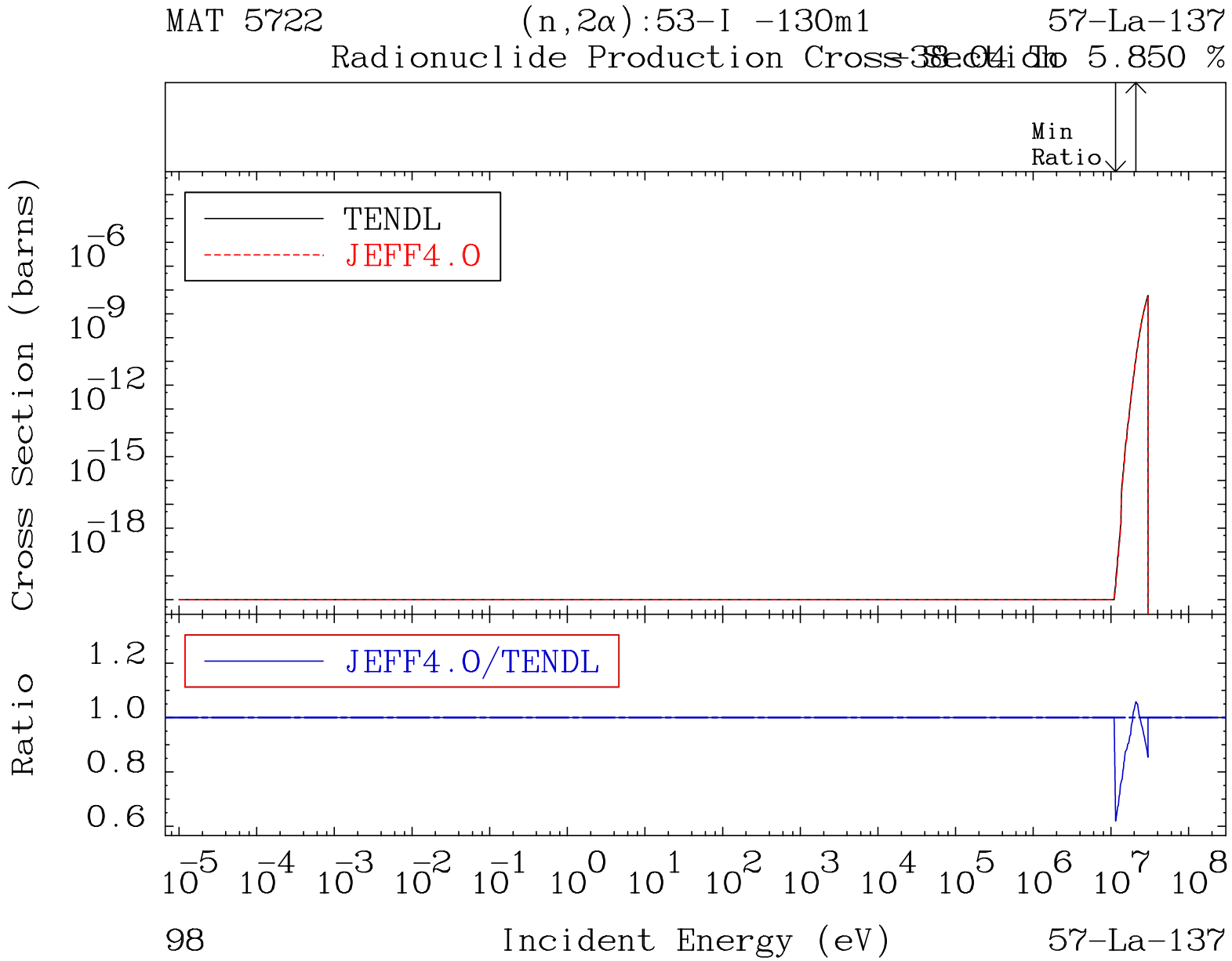

MAT 5722
(n,t):56-Ba-135g
57-La-137
Radionuclide Production Cross Section To 0.000 %
Max Ratio
Min Ratio
TENDL Threshold 6.2141 MeV
JEFF4.0 Threshold 6.2141 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
2.5
2.0
1.5
1.0
0.5
0.0
1.2
0.8
0.4
6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
93
Incident Energy (eV)
57-La-137

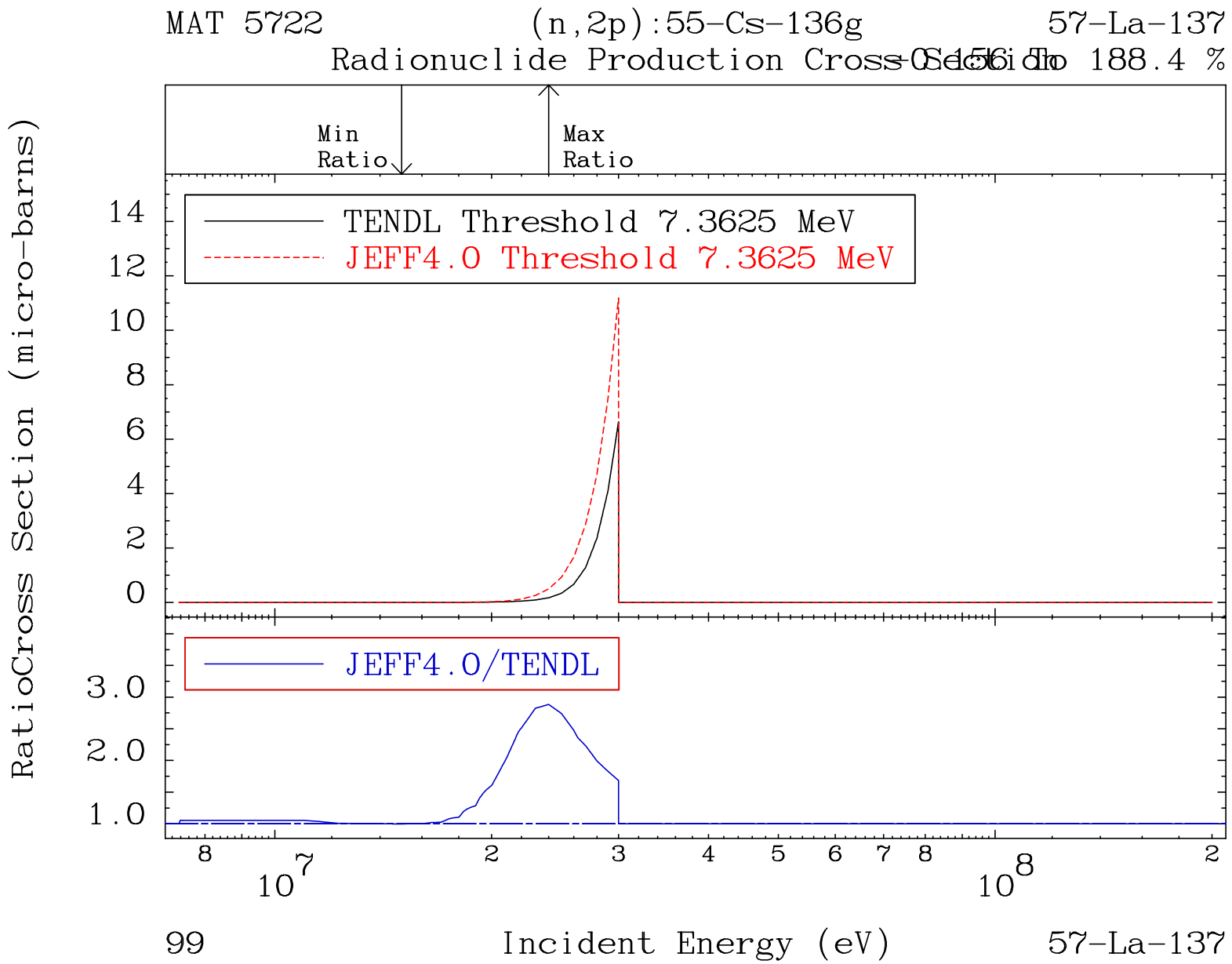

MAT 5722
(n,t):56-Ba-135m2
57-La-137
Radionuclide Production Cross Section
1.640 to 73.59 %
Max Ratio
Min Ratio
TENDL Threshold 8.0000 MeV
JEFF4.0 Threshold 8.0000 MeV
JEFF4.0/TENDL
RatioCross Section (milli-barns)
Incident Energy (eV)
94
57-La-137

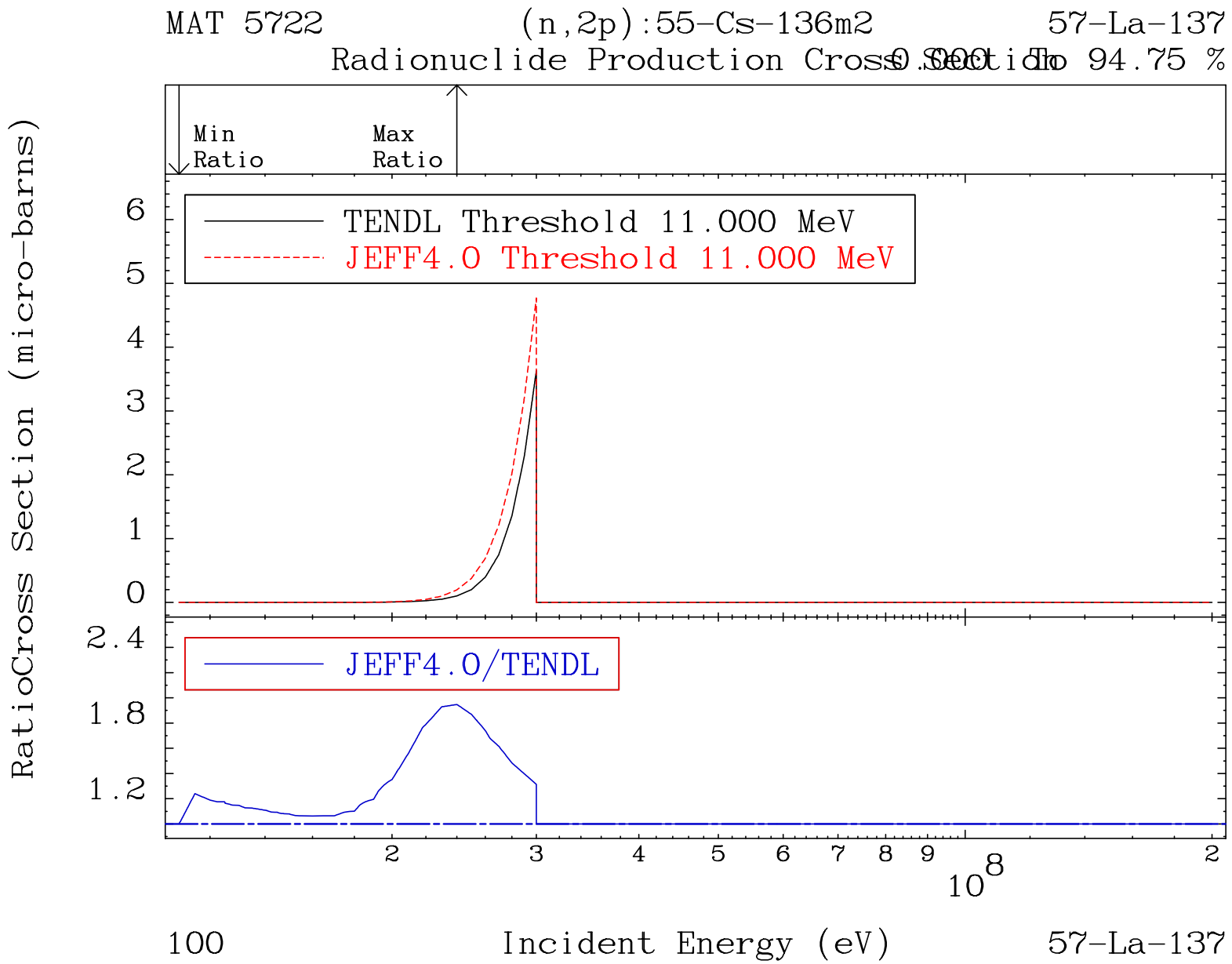

MAT 5722
(n,α):55-Cs-134g
57-La-137
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
95
57-La-137

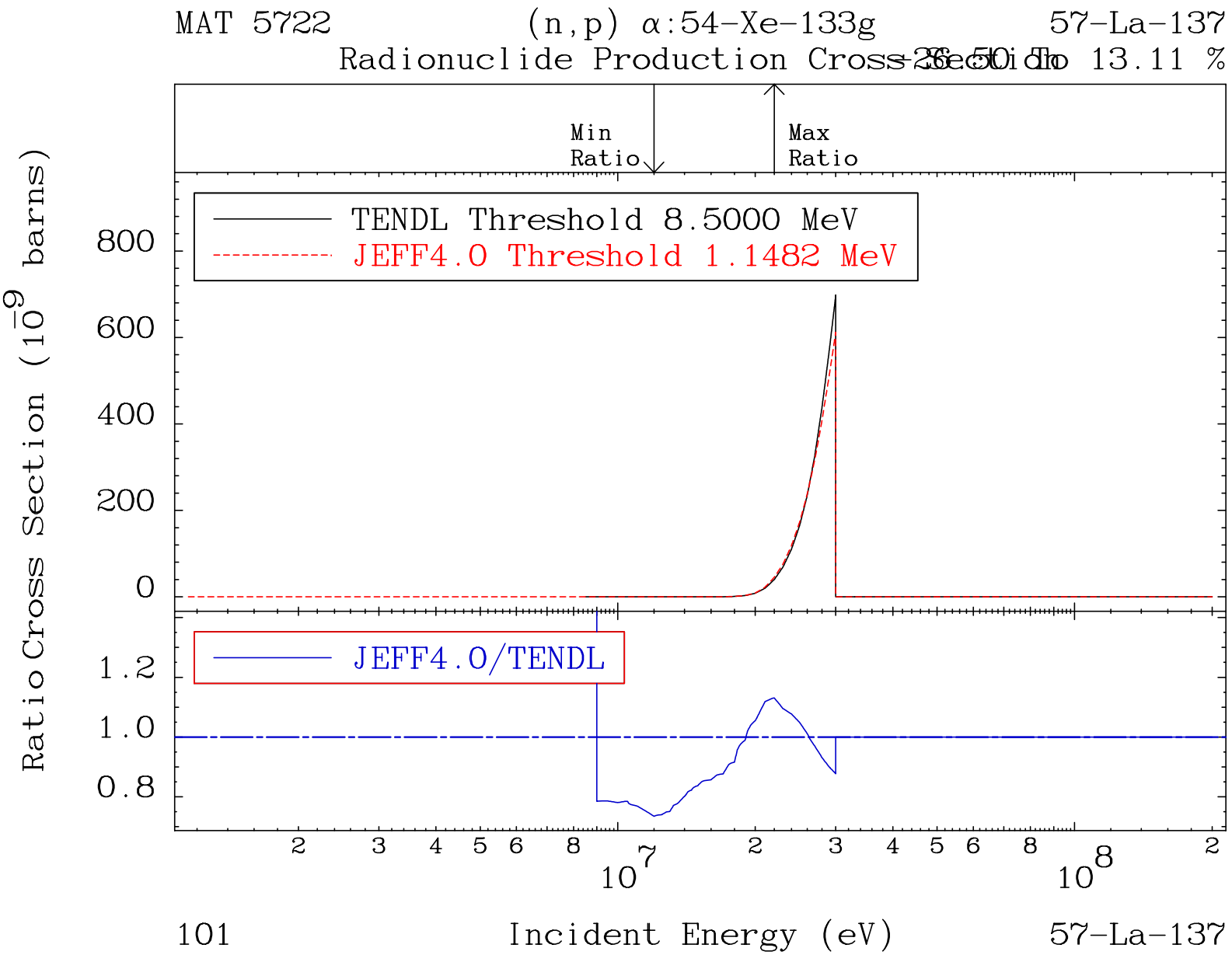

MAT 5722
(n,α):55-Cs-134m3
57-La-137
Radionuclide Production Cross Section To 47.11 %
Min Ratio
Max Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
96
57-La-137

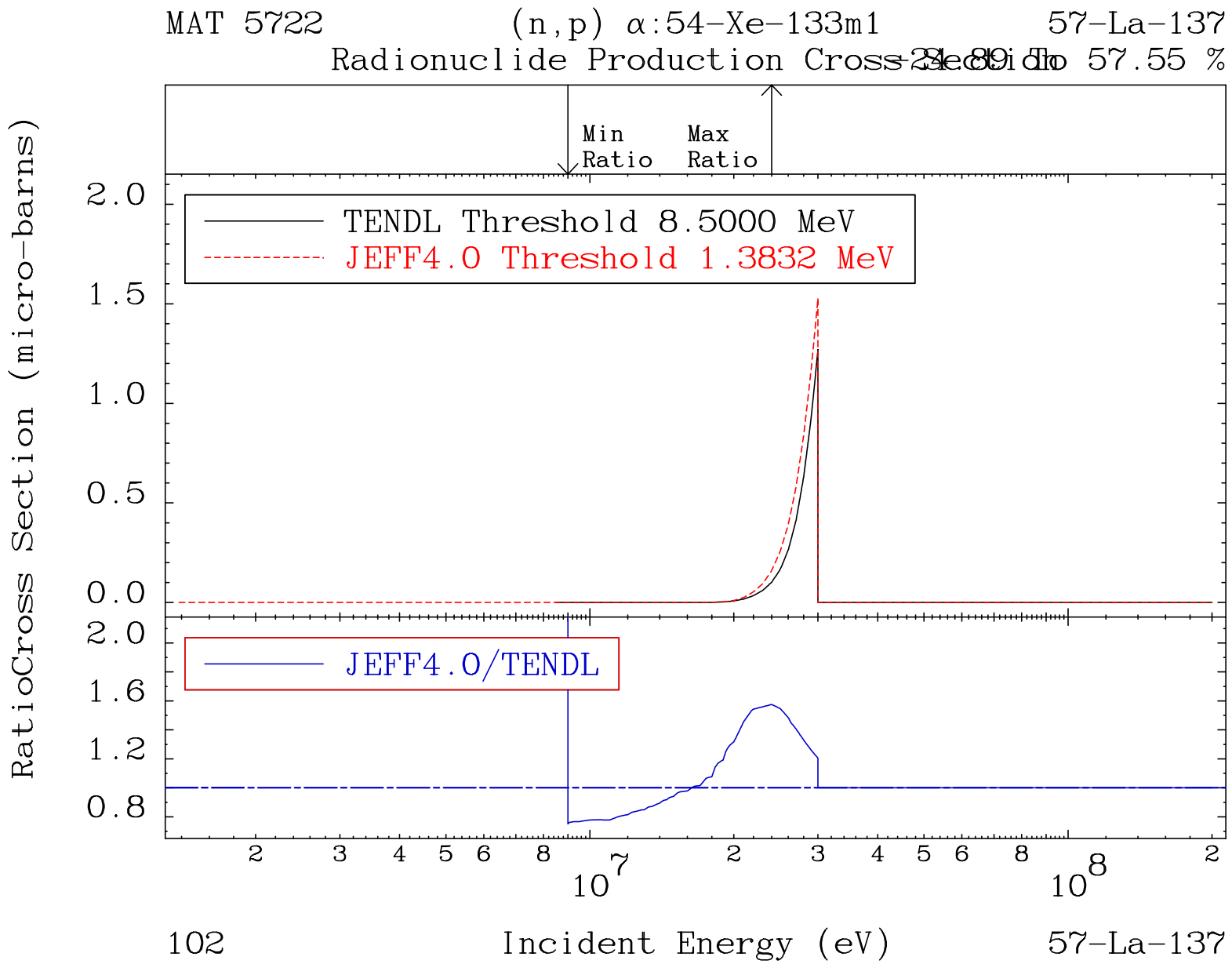

MAT 5722
(n,2α):53-I -130g
57-La-137
Radionuclide Production Cross-Section
Min Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
97
57-La-137

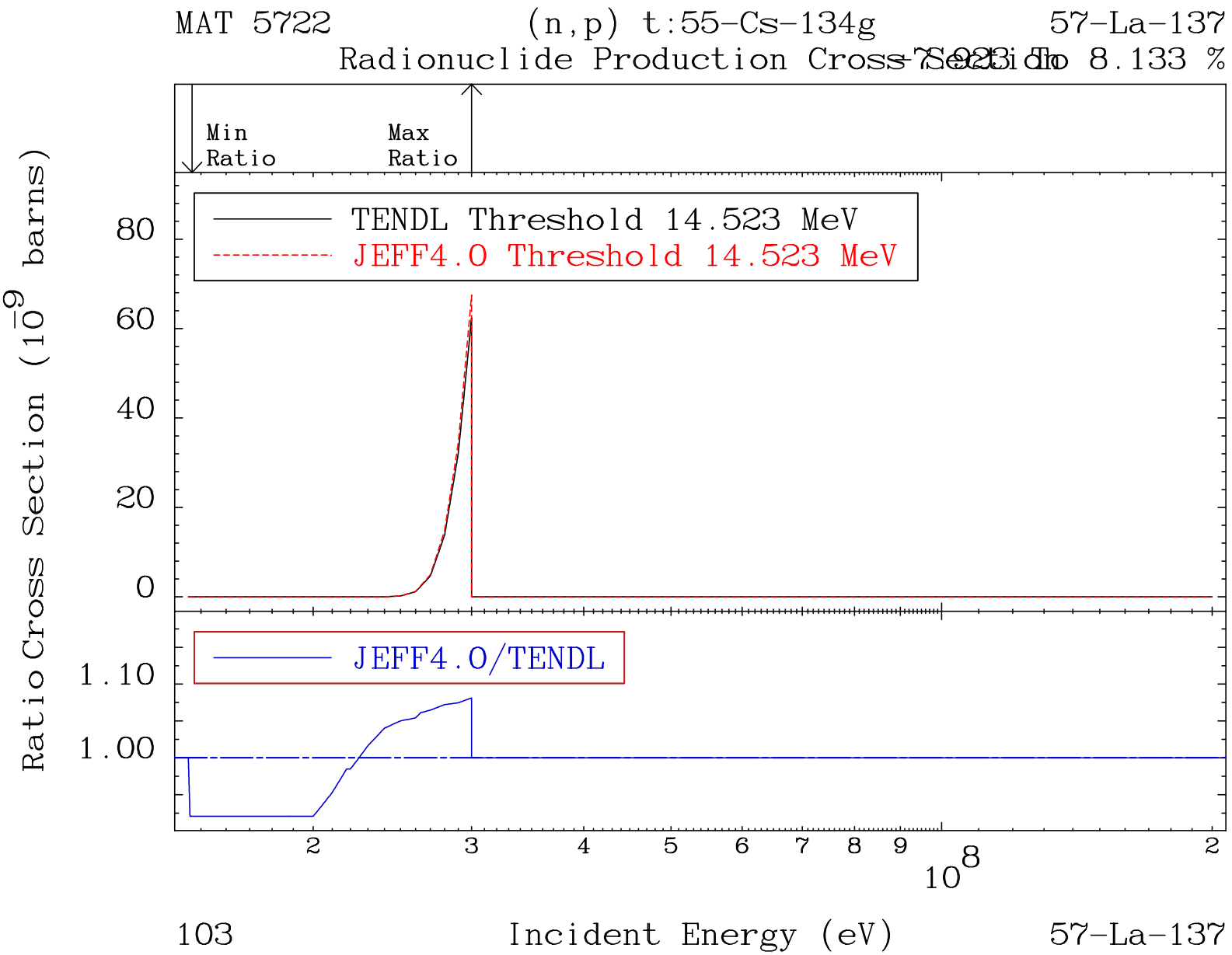

MAT 5722
(n,2α):53-I -130m1
57-La-137
Radionuclide Production Cross Section
Min Ratio
TENDL
JEFF4.0
JEFF4.0/TENDL
Cross Section (barns)
Ratio
Incident Energy (eV)
98
57-La-137

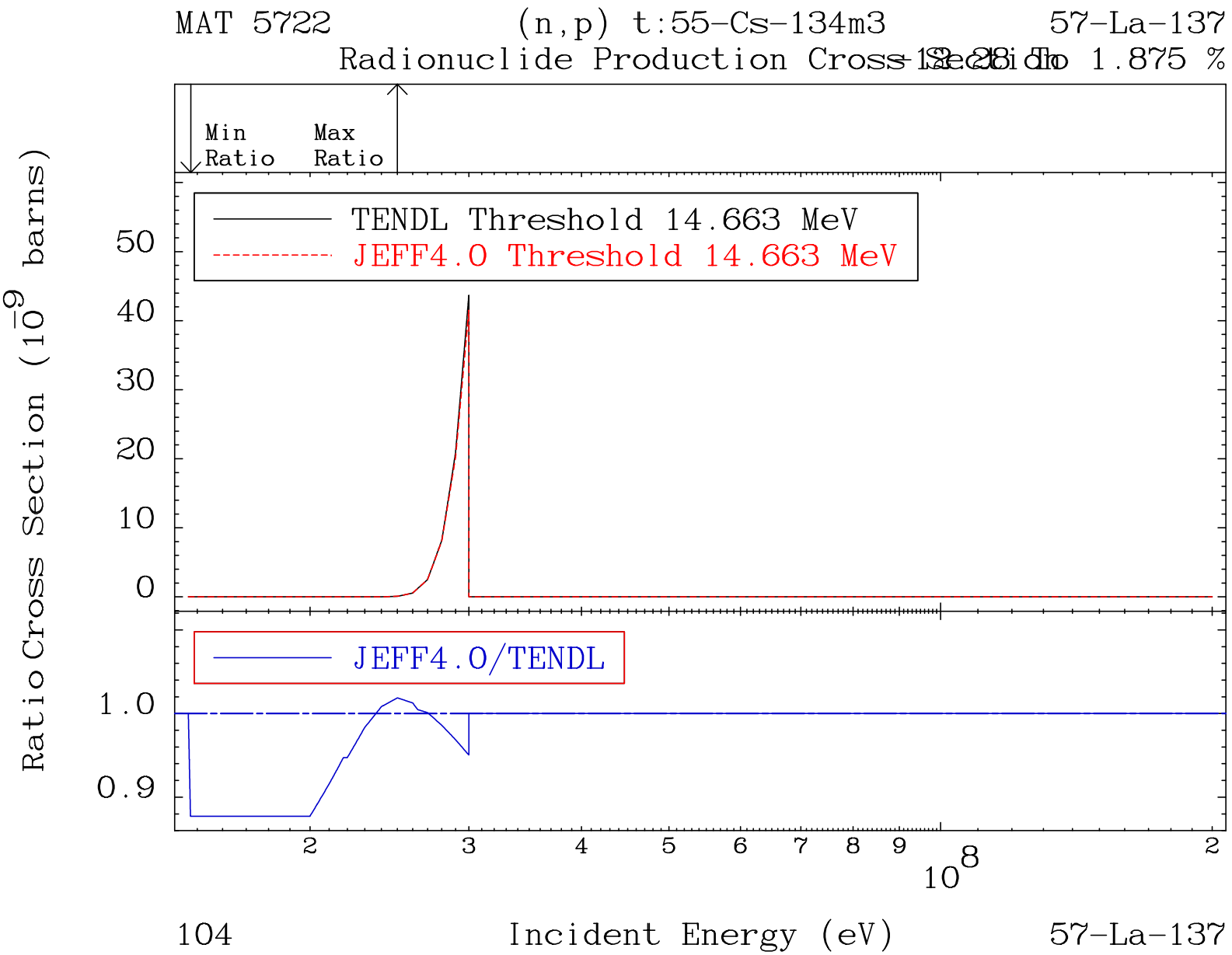

MAT 5722
(n,2p):55-Cs-136g
57-La-137
Radionuclide Production Cross Section To 188.4 %
Min Ratio
Max Ratio
TENDL Threshold 7.3625 MeV
JEFF4.0 Threshold 7.3625 MeV
JEFF4.0/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
99
57-La-137


MAT 5722
(n,2p):55-Cs-136m2
57-La-137
Radionuclide Production Cross Section
0.000 To 94.75 %
Min Ratio
Max Ratio
TENDL Threshold 11.000 MeV
JEFF4.0 Threshold 11.000 MeV
JEFF4.0/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
100
57-La-137


MAT 5722
(n,p) α:54-Xe-133g
57-La-137
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL Threshold 8.5000 MeV
JEFF4.0 Threshold 1.1482 MeV
JEFF4.0/TENDL
Ratio Cross Section (10^-9 barns)
800
600
400
200
0
1.2
1.0
0.8
2 3 4 5 6 8 10^7 2 3 4 5 6 8 10^8 2
101
Incident Energy (eV)
57-La-137


MAT 5722
(n,p) α:54-Xe-133m1
57-La-137
Radionuclide Production Cross-Section To 57.55 %
Min Ratio
Max Ratio
TENDL Threshold 8.5000 MeV
JEFF4.0 Threshold 1.3832 MeV
JEFF4.0/TENDL
RatioCross Section (micro-barns)
Incident Energy (eV)
102
57-La-137


MAT 5722
(n,p) t:55-Cs-134g
57-La-137
Radionuclide Production Cross Section
Min Ratio
Max Ratio
TENDL Threshold 14.523 MeV
JEFF4.0 Threshold 14.523 MeV
JEFF4.0/TENDL
Ratio Cross Section (10^{-9} barns)
80
60
40
20
0
1.10
1.00
2
3
4
5
6
7
8
9
10^8
2
103
Incident Energy (eV)
57-La-137


MAT 5722
(n,p) t:55-Cs-134m3
57-La-137
Radionuclide Production Cross Section To 1.875 %
Min Ratio
Max Ratio
TENDL Threshold 14.663 MeV
JEFF4.0 Threshold 14.663 MeV
JEFF4.0/TENDL
Ratio Cross Section (10^{-9} barns)
50
40
30
20
10
0
1.0
0.9
2
3
4
5
6
7
8
9
10^8
2
104
Incident Energy (eV)
57-La-137