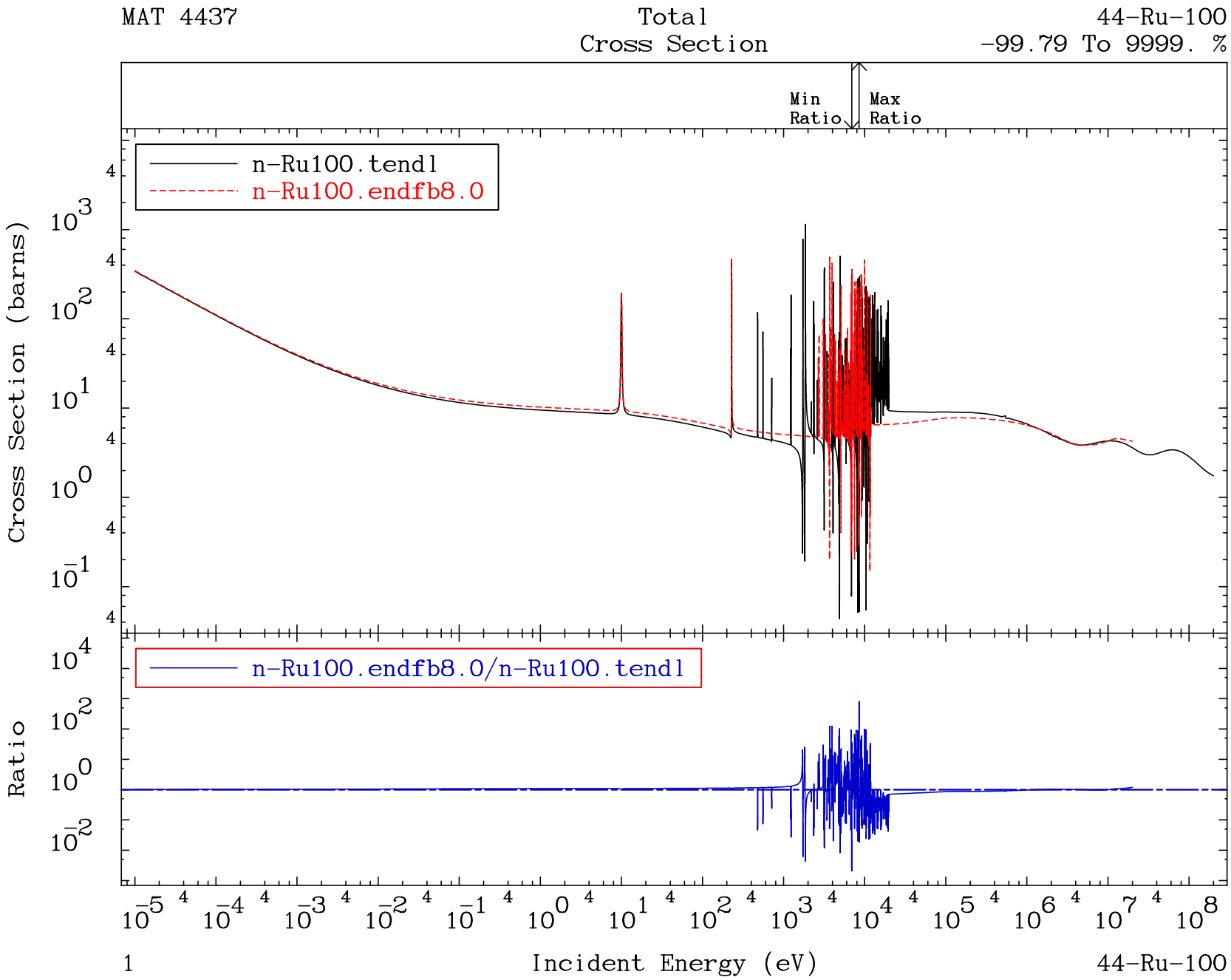
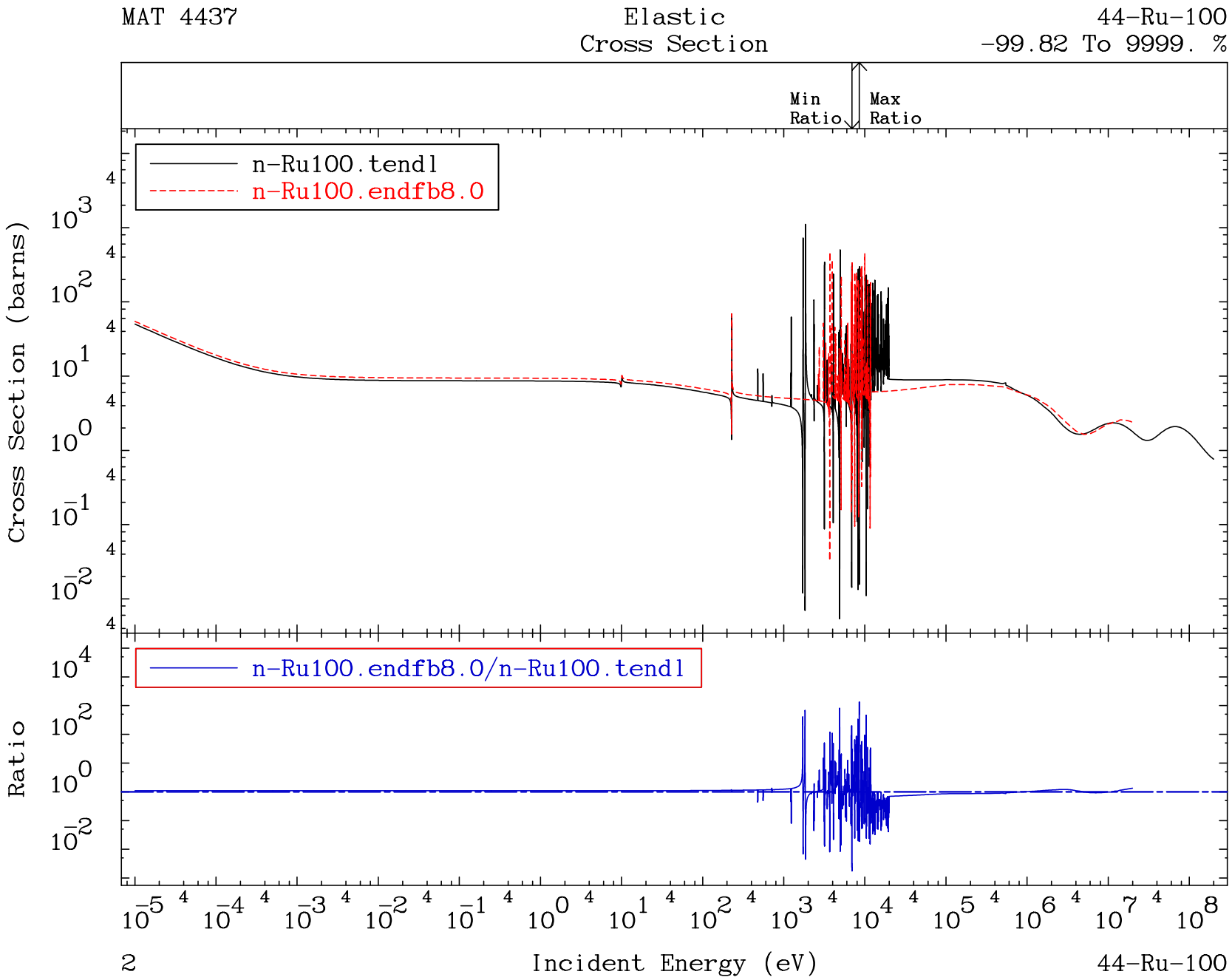
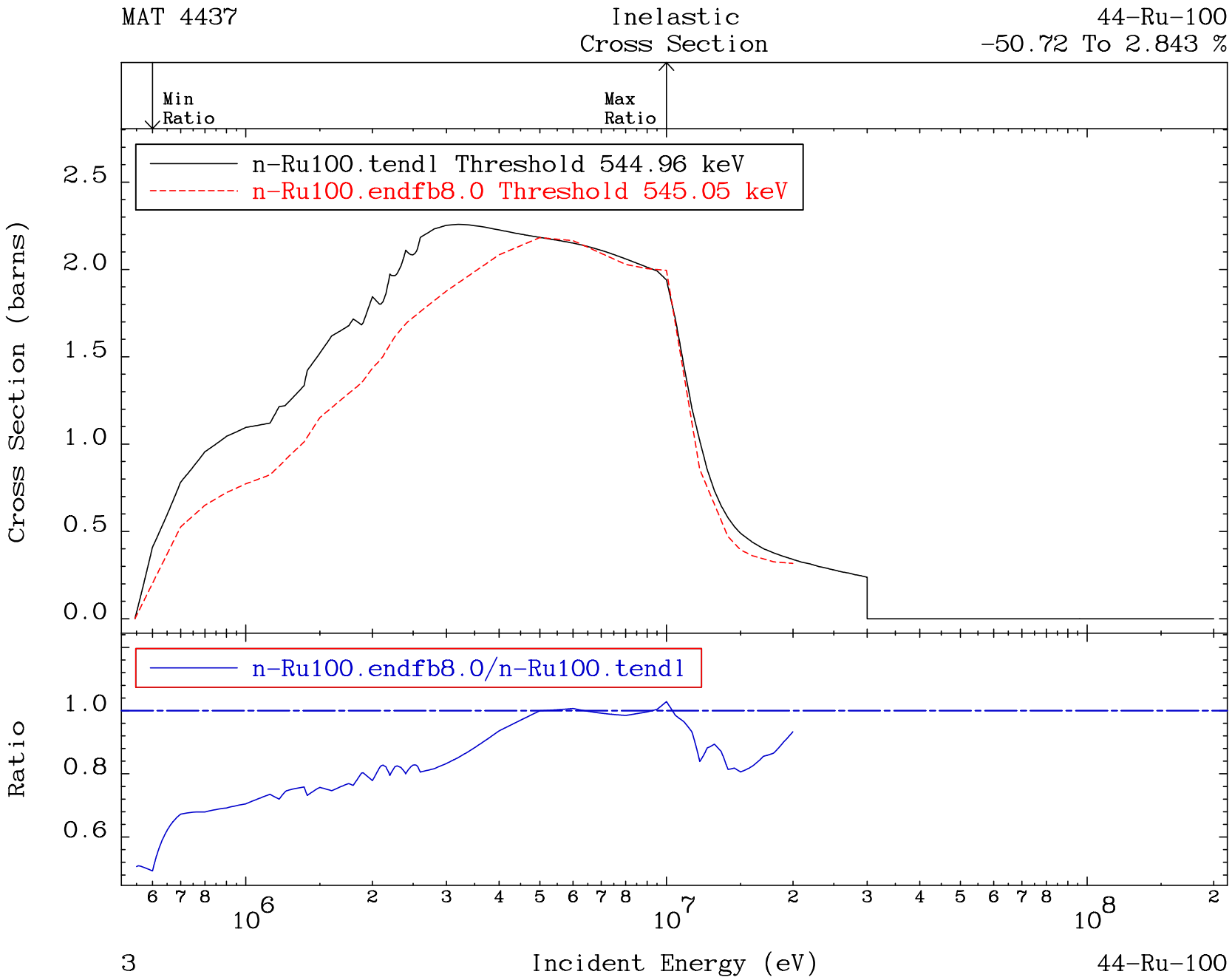
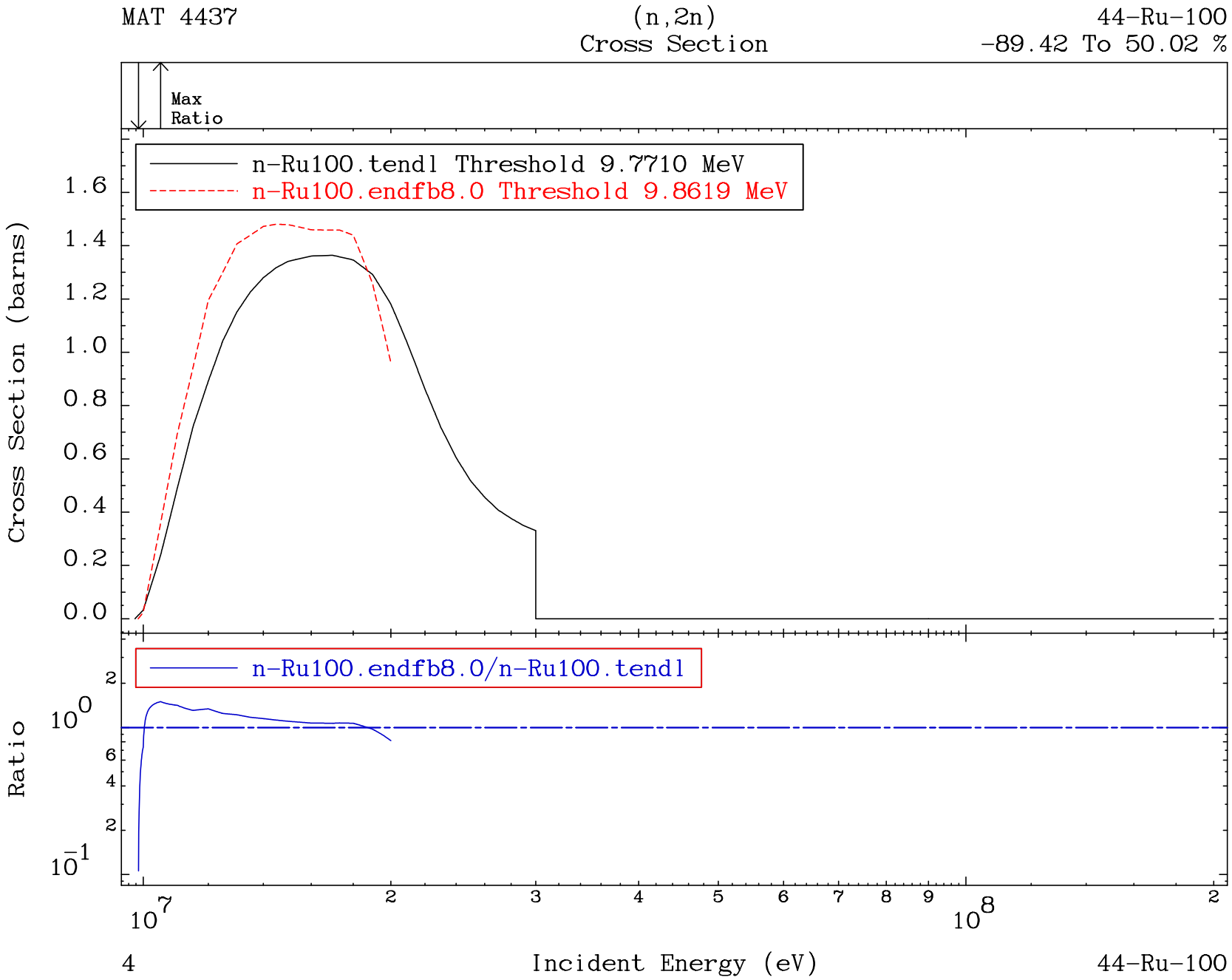
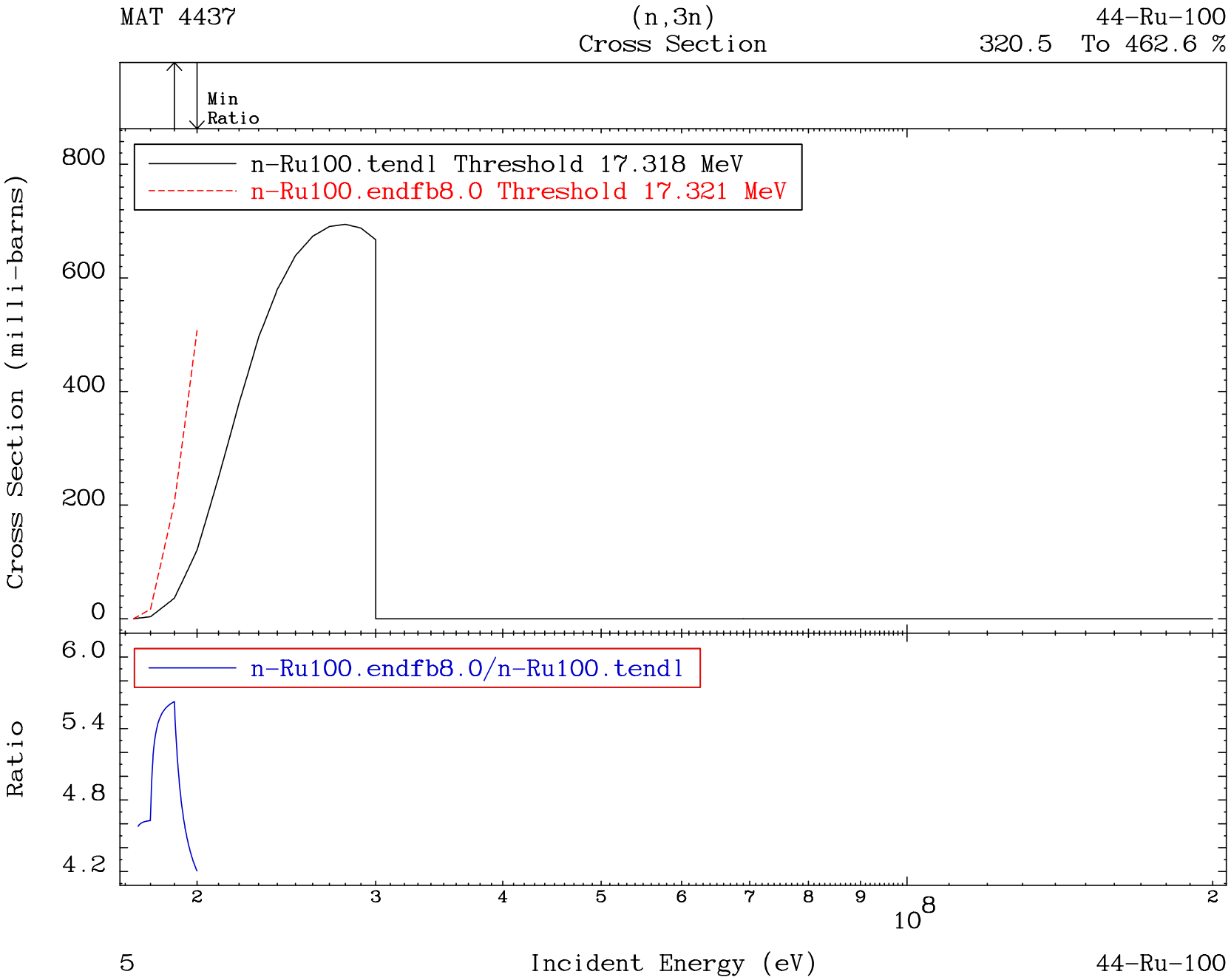
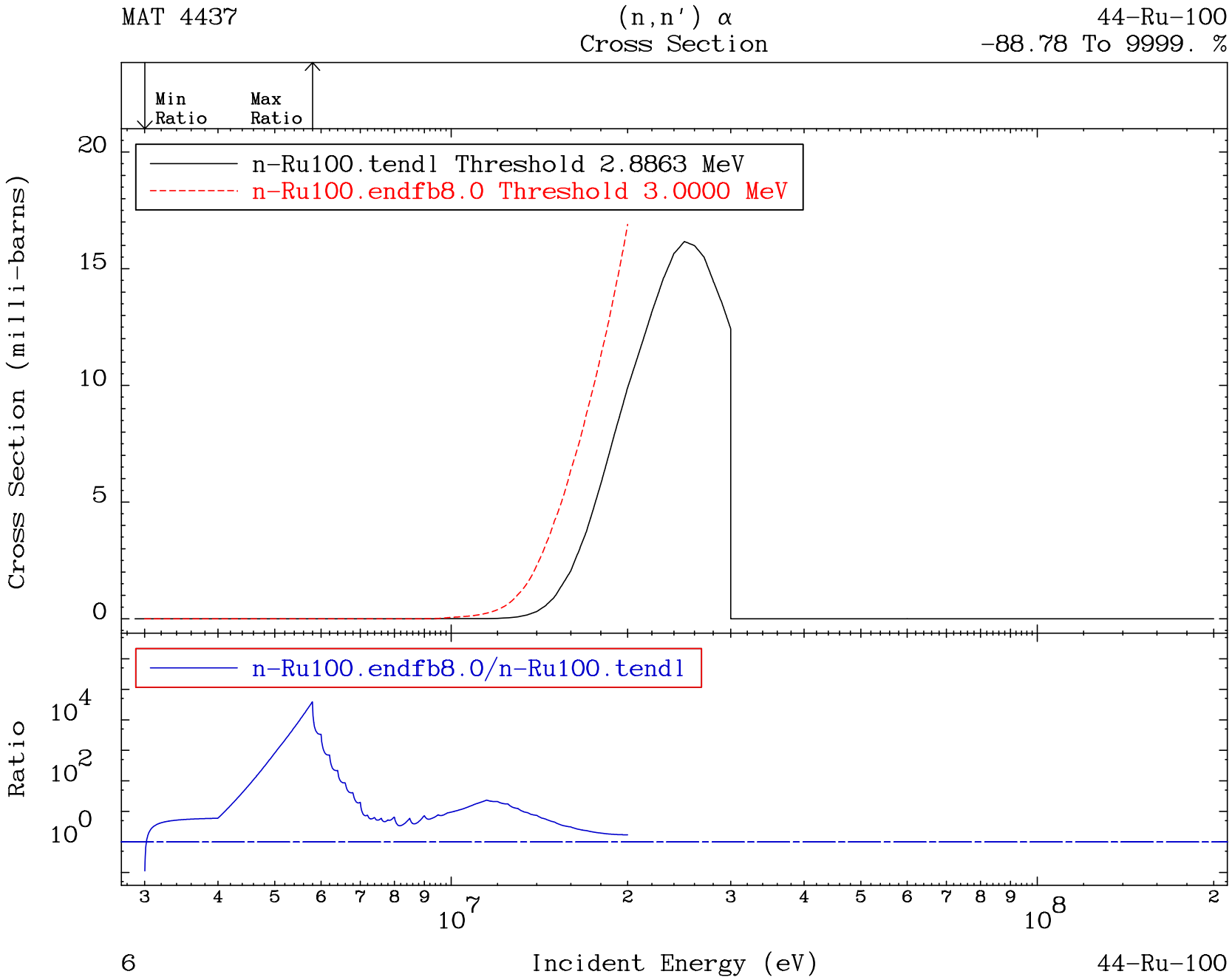

MAT 4437
Total
Cross Section
44-Ru-100
-99.79 To 9999. %
Min
Ratio
Max
Ratio
n-Ru100.tendl
n-Ru100.endfb8.0
Cross Section (barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
Incident Energy (eV)
1
44-Ru-100

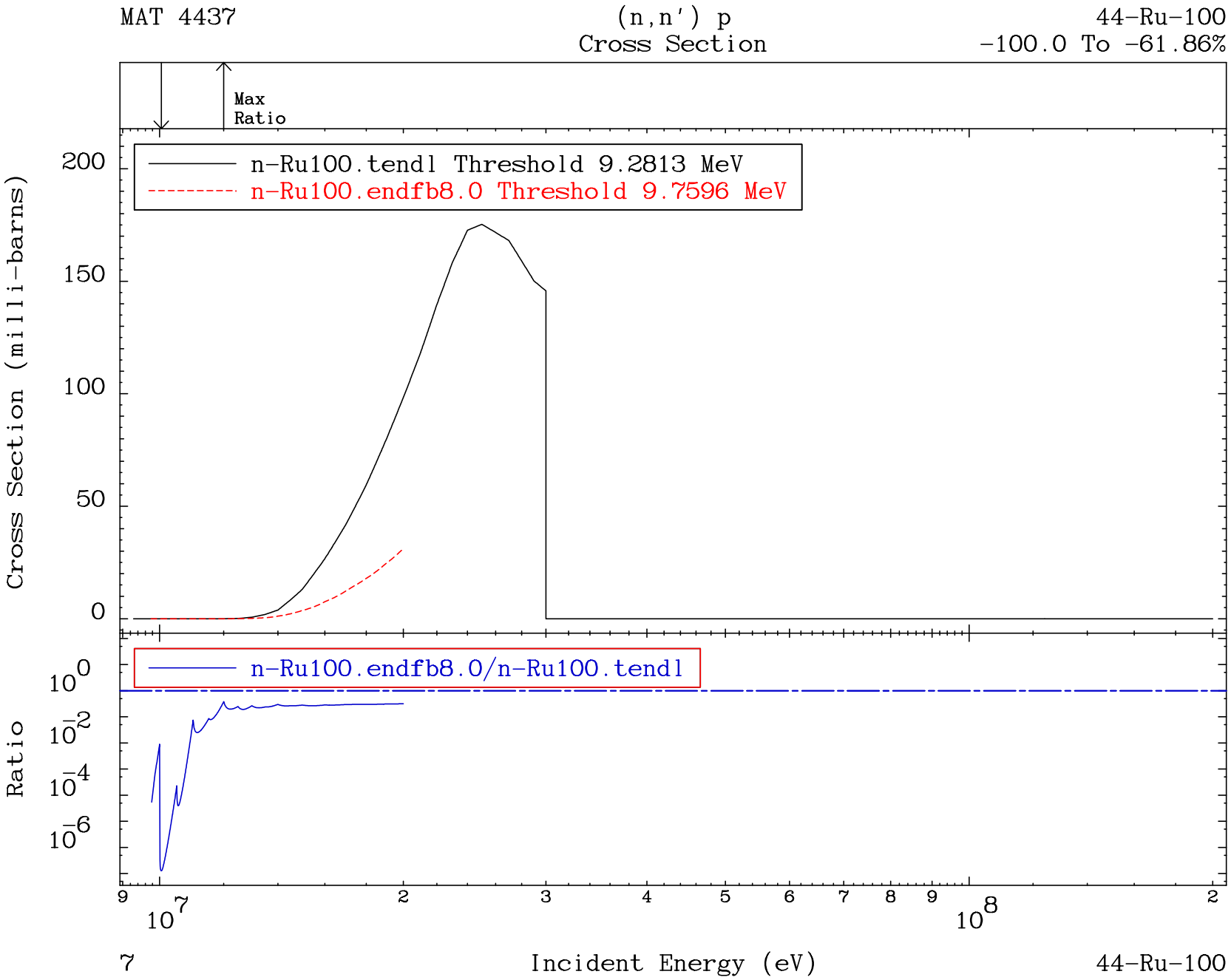

MAT 4437
Elastic
Cross Section
44-Ru-100
-99.82 To 9999. %
Min
Ratio
Max
Ratio
n-Ru100.tendl
n-Ru100.endfb8.0
Cross Section (barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
Incident Energy (eV)
2
44-Ru-100

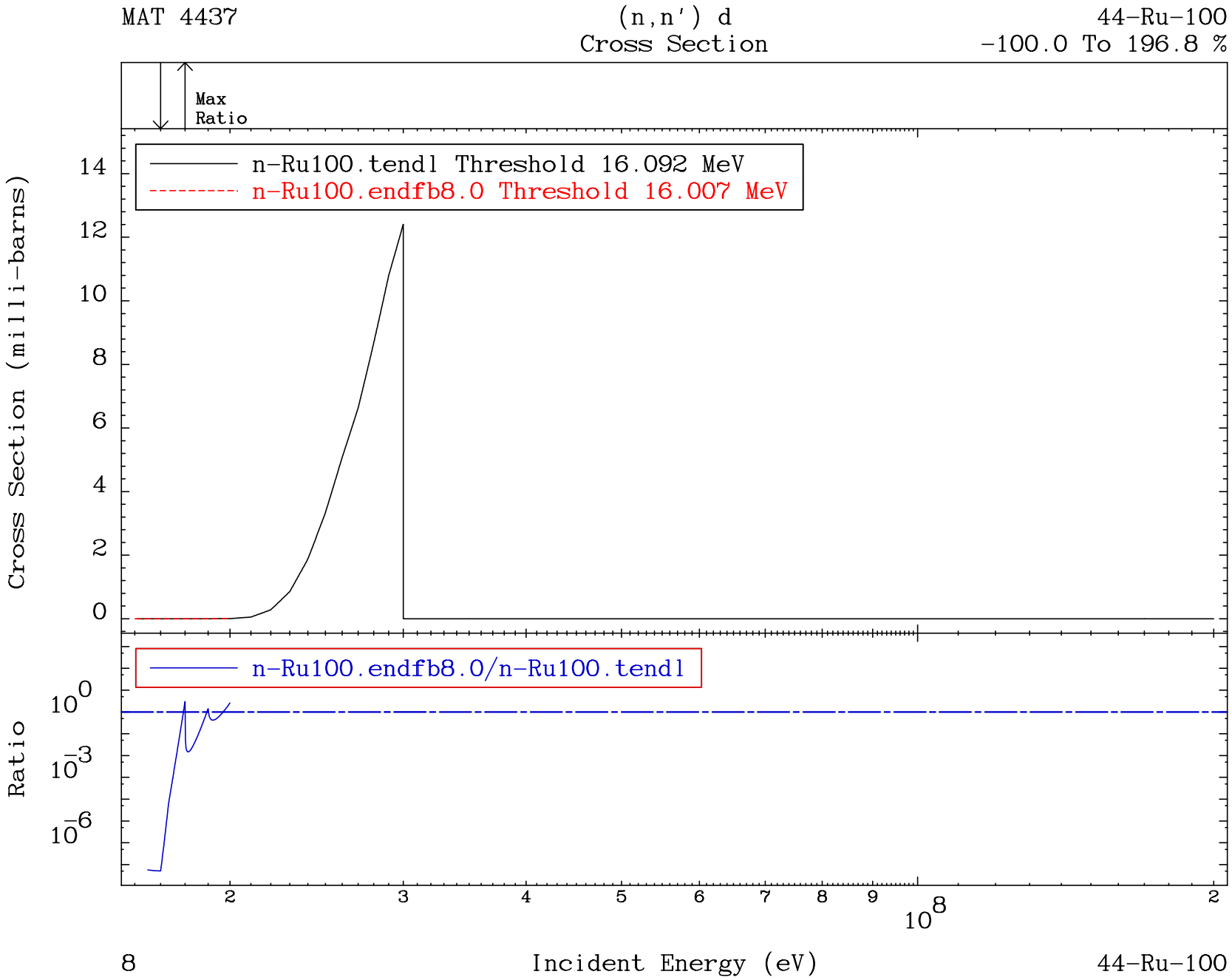

MAT 4437
Inelastic
Cross Section
44-Ru-100
-50.72 To 2.843 %
Min
Ratio
Max
Ratio
n-Ru100.tendl Threshold 544.96 keV
n-Ru100.endfb8.0 Threshold 545.05 keV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
1.0
0.8
0.6
6 7 8
10^6
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
3
Incident Energy (eV)
44-Ru-100

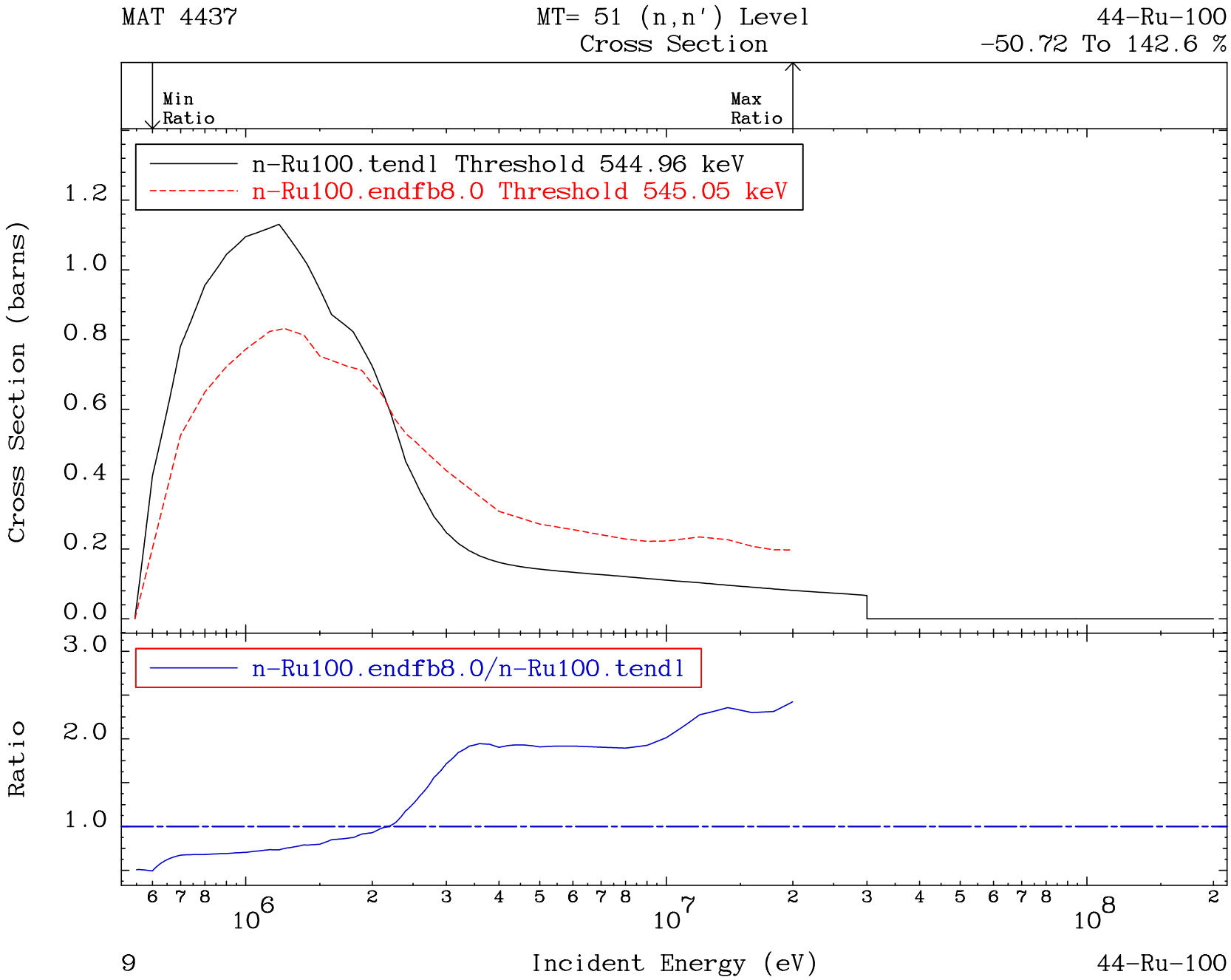

MAT 4437
(n,2n)
Cross Section
44-Ru-100
-89.42 To 50.02 %
Max
Ratio
n-Ru100.tendl Threshold 9.7710 MeV
n-Ru100.endfb8.0 Threshold 9.8619 MeV
Cross Section (barns)
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
2
10^0
6
4
2
10^-1
10^7
2
3
4
5
6
7
8
9
10^8
2
4
Incident Energy (eV)
44-Ru-100

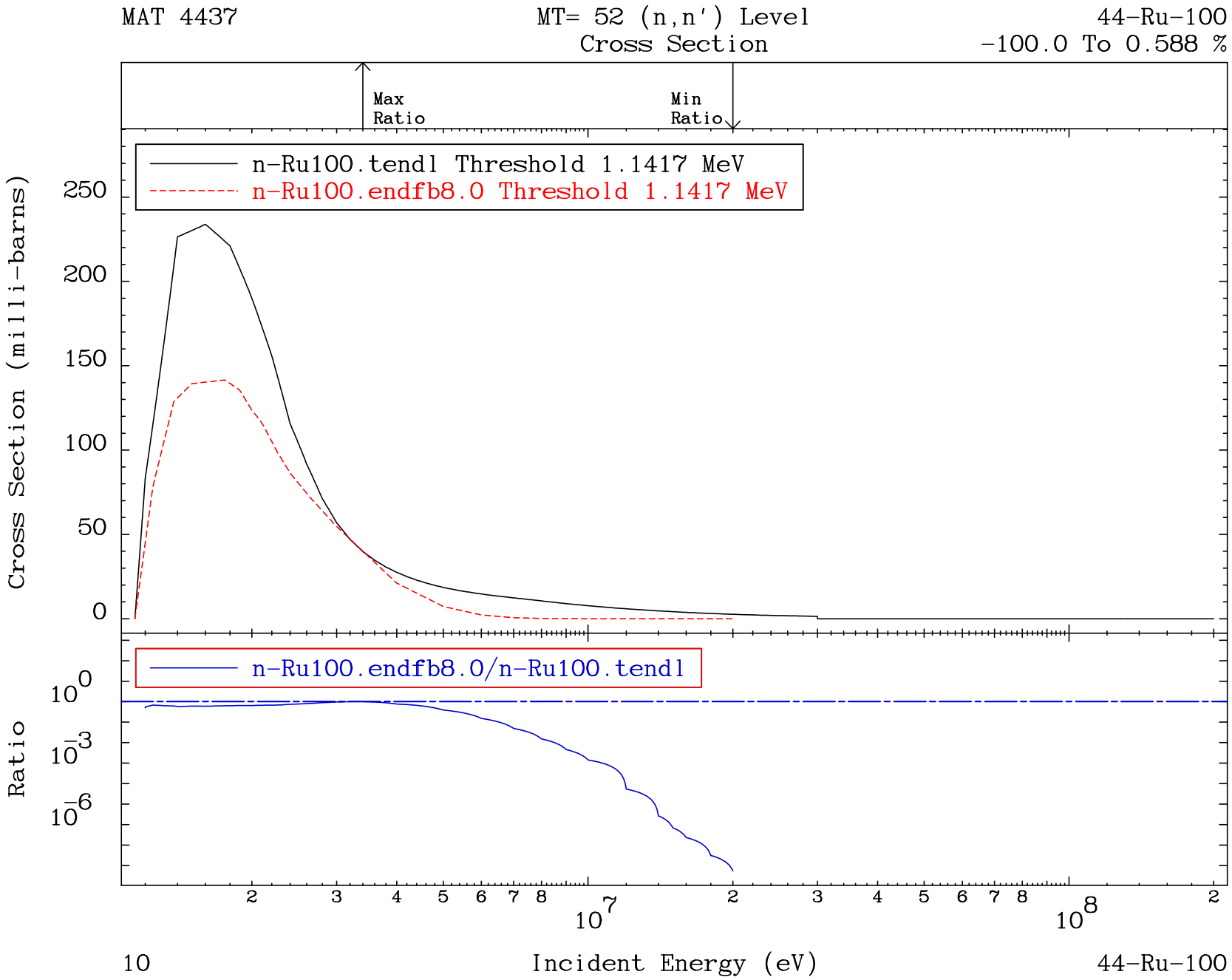

MAT 4437
(n,3n)
Cross Section
44-Ru-100
320.5 To 462.6 %
Min
Ratio
n-Ru100.tendl Threshold 17.318 MeV
n-Ru100.endfb8.0 Threshold 17.321 MeV
Cross Section (milli-barns)
800
600
400
200
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
6.0
5.4
4.8
4.2
2
3
4
5
6
7
8
9
10^8
2
5
Incident Energy (eV)
44-Ru-100

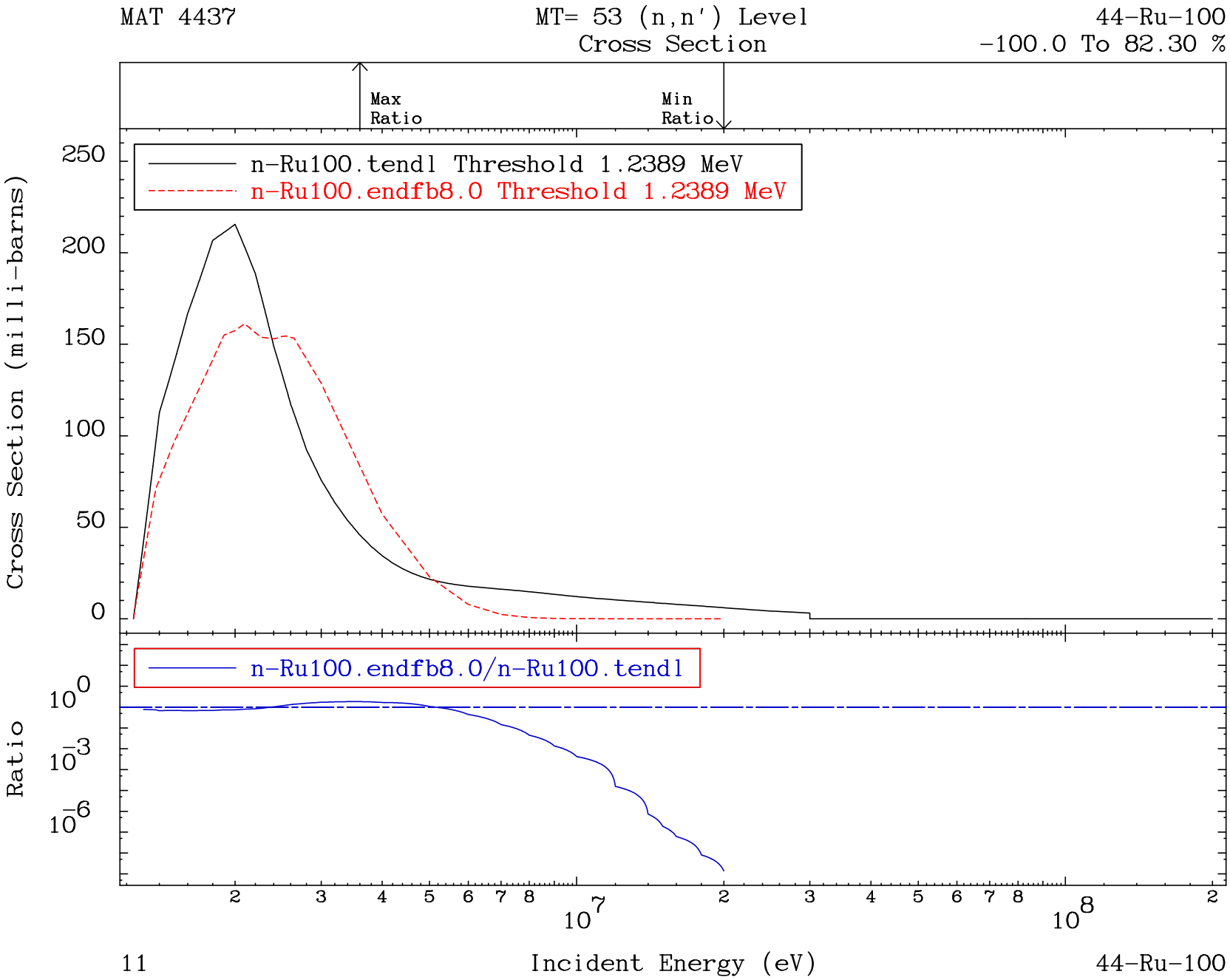

MAT 4437
(n,n') α
Cross Section
44-Ru-100
-88.78 To 9999. %
Min Ratio
Max Ratio
n-Ru100.tendl Threshold 2.8863 MeV
n-Ru100.endfb8.0 Threshold 3.0000 MeV
Cross Section (milli-barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
Incident Energy (eV)
6
44-Ru-100

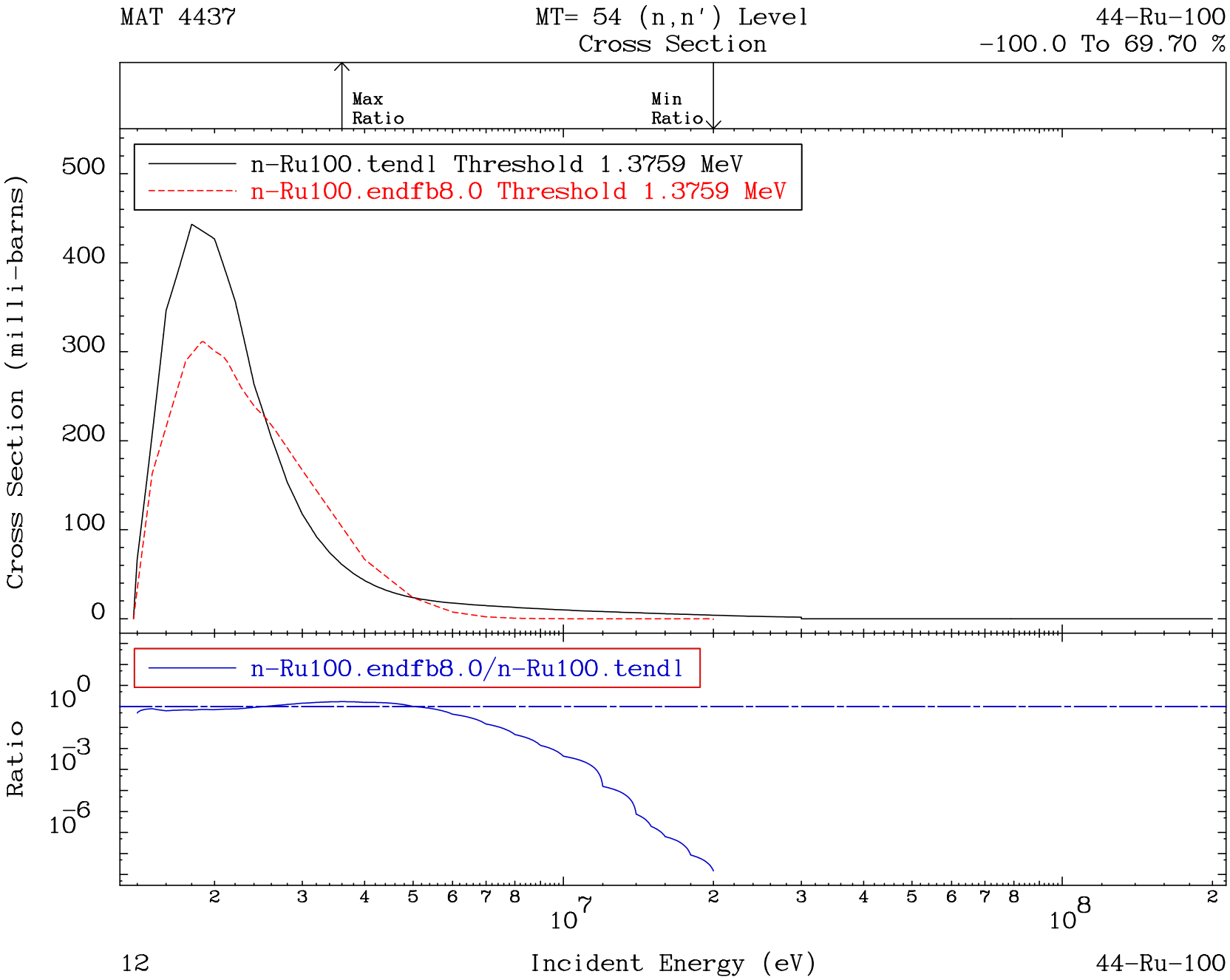

MAT 4437
(n,n') p
Cross Section
44-Ru-100
-100.0 To -61.86%
Max
Ratio
n-Ru100.tendl Threshold 9.2813 MeV
n-Ru100.endfb8.0 Threshold 9.7596 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^0
10^-2
10^-4
10^-6
9
10^7
2
3
4
5
6
7
8
9
10^8
2
7
Incident Energy (eV)
44-Ru-100

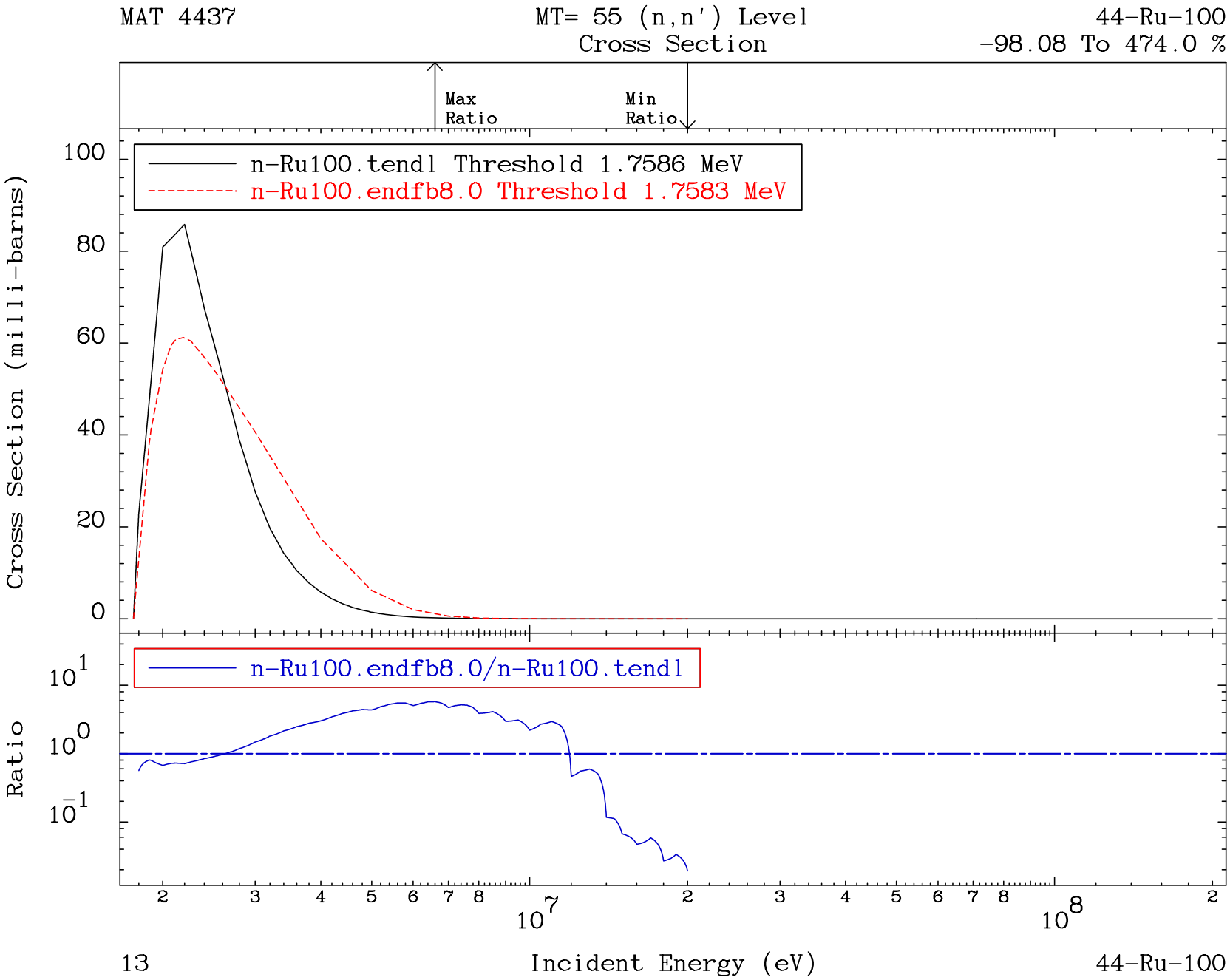

MAT 4437
(n,n') d
Cross Section
44-Ru-100
-100.0 To 196.8 %
Max
Ratio
n-Ru100.tendl Threshold 16.092 MeV
n-Ru100.endfb8.0 Threshold 16.007 MeV
Cross Section (milli-barns)
14
12
10
8
6
4
2
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^0
10^-3
10^-6
2
3
4
5
6
7
8
9
10^8
2
8
Incident Energy (eV)
44-Ru-100

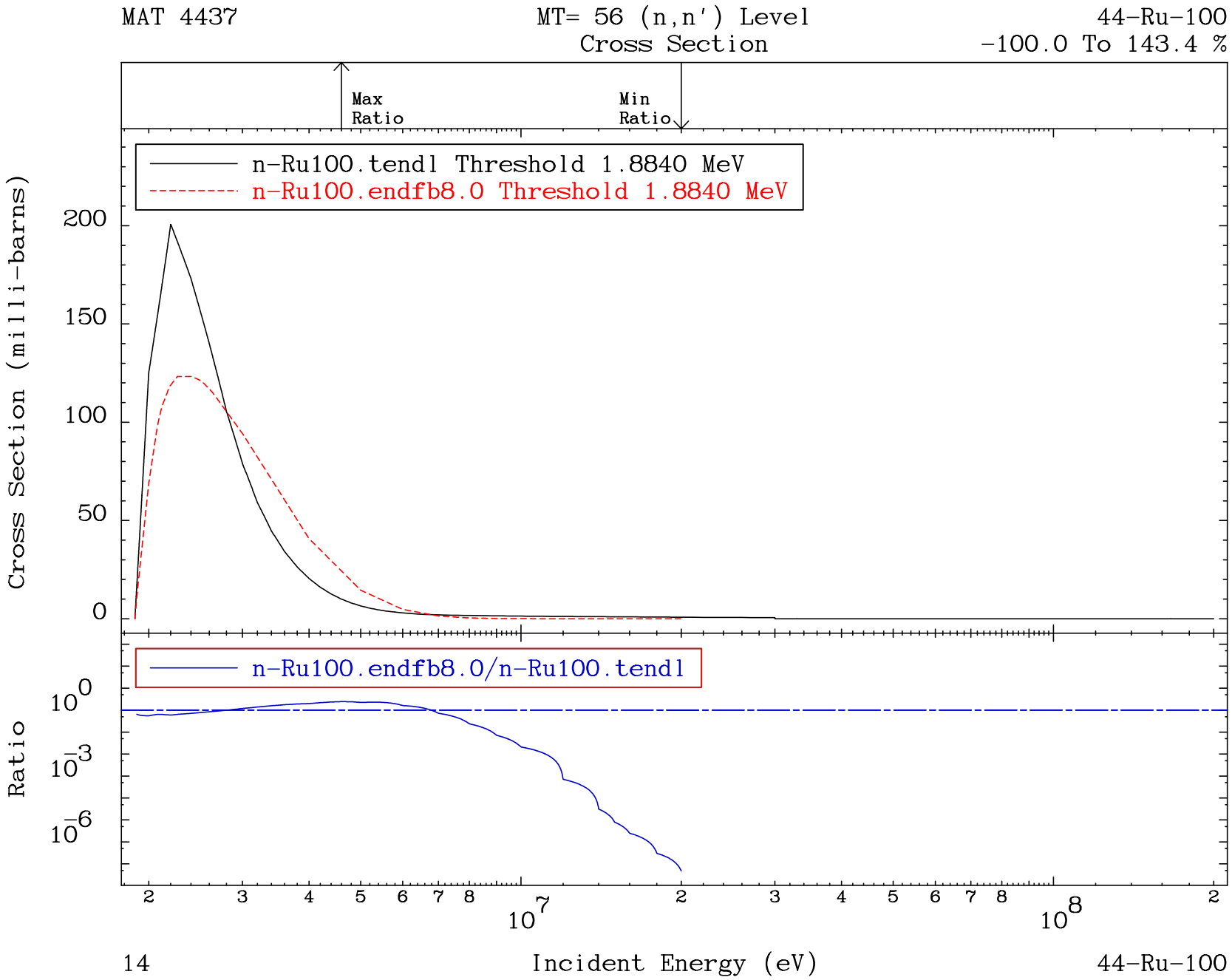

MAT 4437
MT= 51 (n,n') Level
Cross Section
44-Ru-100
-50.72 To 142.6 %
Min
Ratio
Max
Ratio
n-Ru100.tendl Threshold 544.96 keV
n-Ru100.endfb8.0 Threshold 545.05 keV
Cross Section (barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
3.0
2.0
1.0
6 7 8
10^6
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
9
Incident Energy (eV)
44-Ru-100

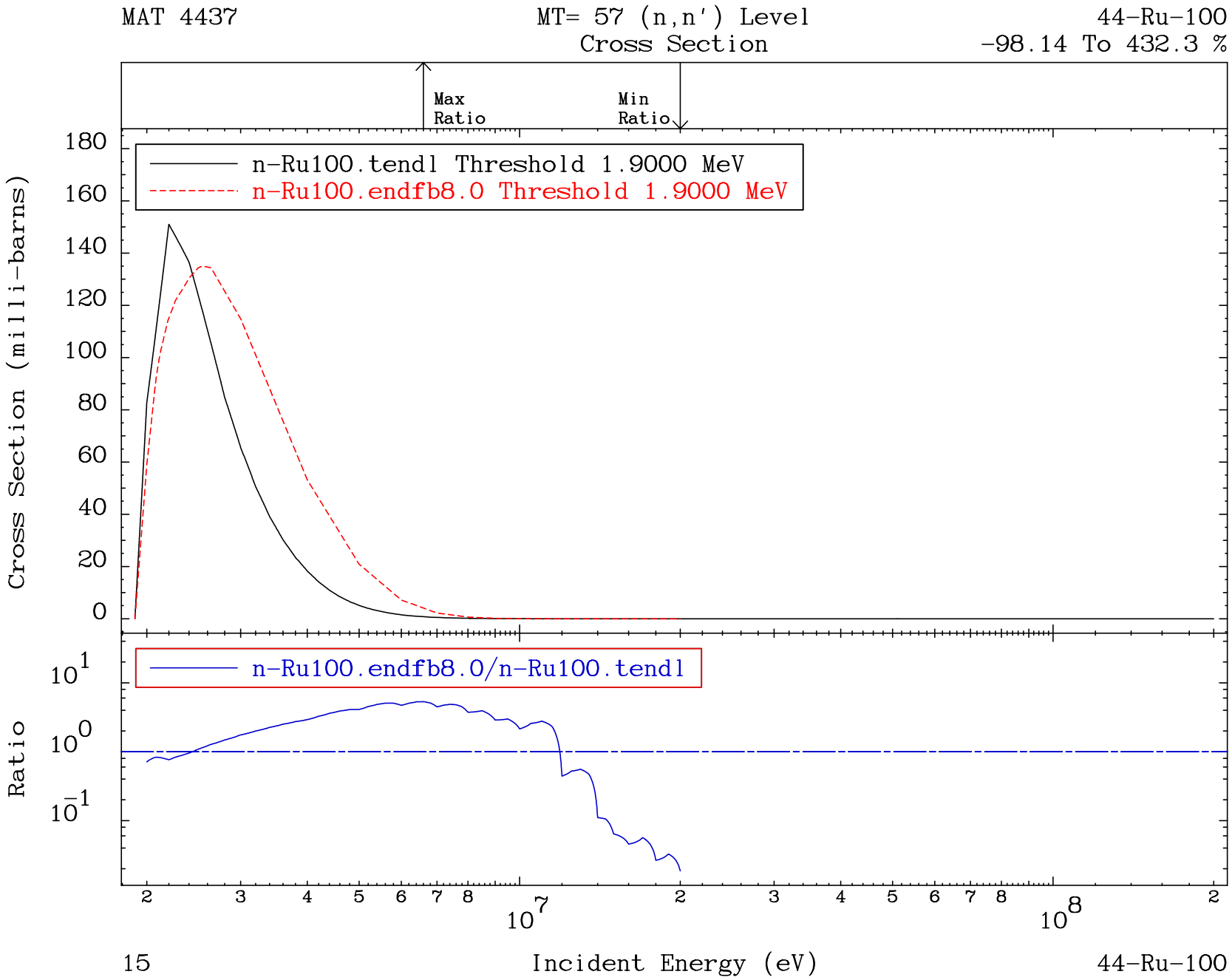

MAT 4437
MT= 52 (n,n') Level
Cross Section
44-Ru-100
-100.0 To 0.588 %
Max
Ratio
Min
Ratio
n-Ru100.tendl Threshold 1.1417 MeV
n-Ru100.endfb8.0 Threshold 1.1417 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^0
10^-3
10^-6
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
10
Incident Energy (eV)
44-Ru-100

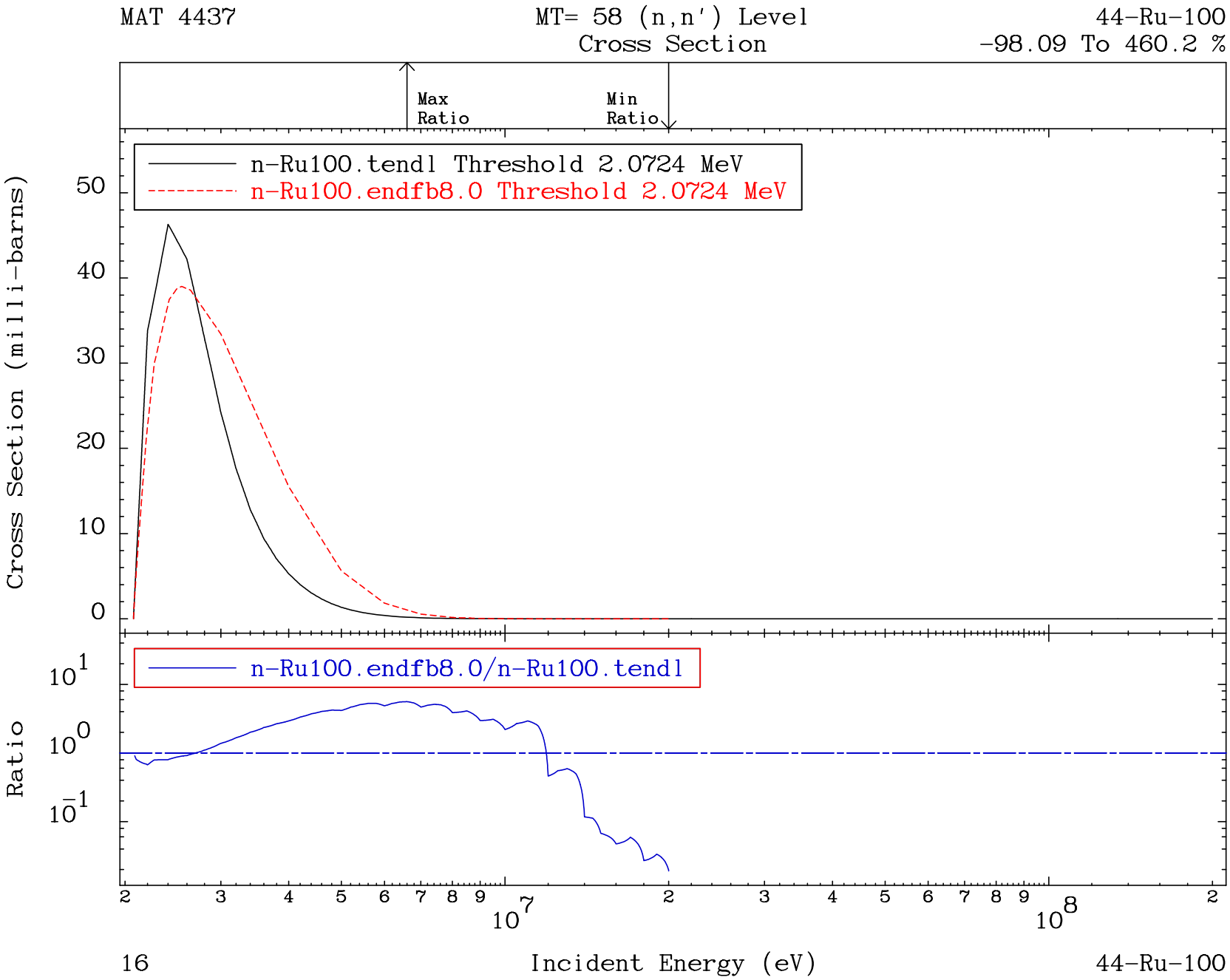

MAT 4437
MT= 53 (n,n') Level
Cross Section
44-Ru-100
-100.0 To 82.30 %
Max
Ratio
Min
Ratio
n-Ru100.tendl Threshold 1.2389 MeV
n-Ru100.endfb8.0 Threshold 1.2389 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^0
10^-3
10^-6
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
11
Incident Energy (eV)
44-Ru-100

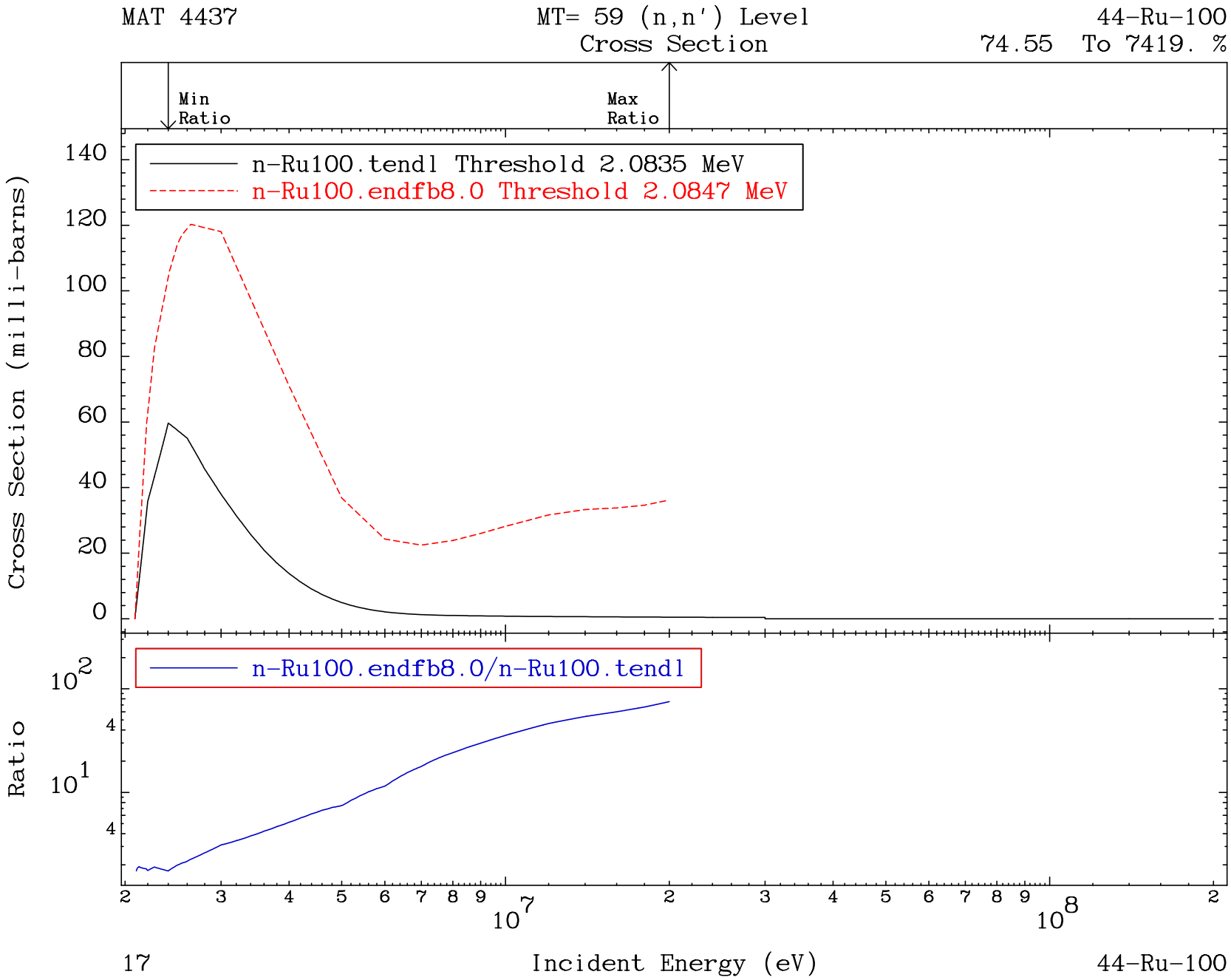

MAT 4437
MT= 54 (n,n') Level
Cross Section
44-Ru-100
-100.0 To 69.70 %
Max
Ratio
Min
Ratio
n-Ru100.tendl Threshold 1.3759 MeV
n-Ru100.endfb8.0 Threshold 1.3759 MeV
Cross Section (milli-barns)
500
400
300
200
100
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^0
10^-3
10^-6
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
12
Incident Energy (eV)
44-Ru-100

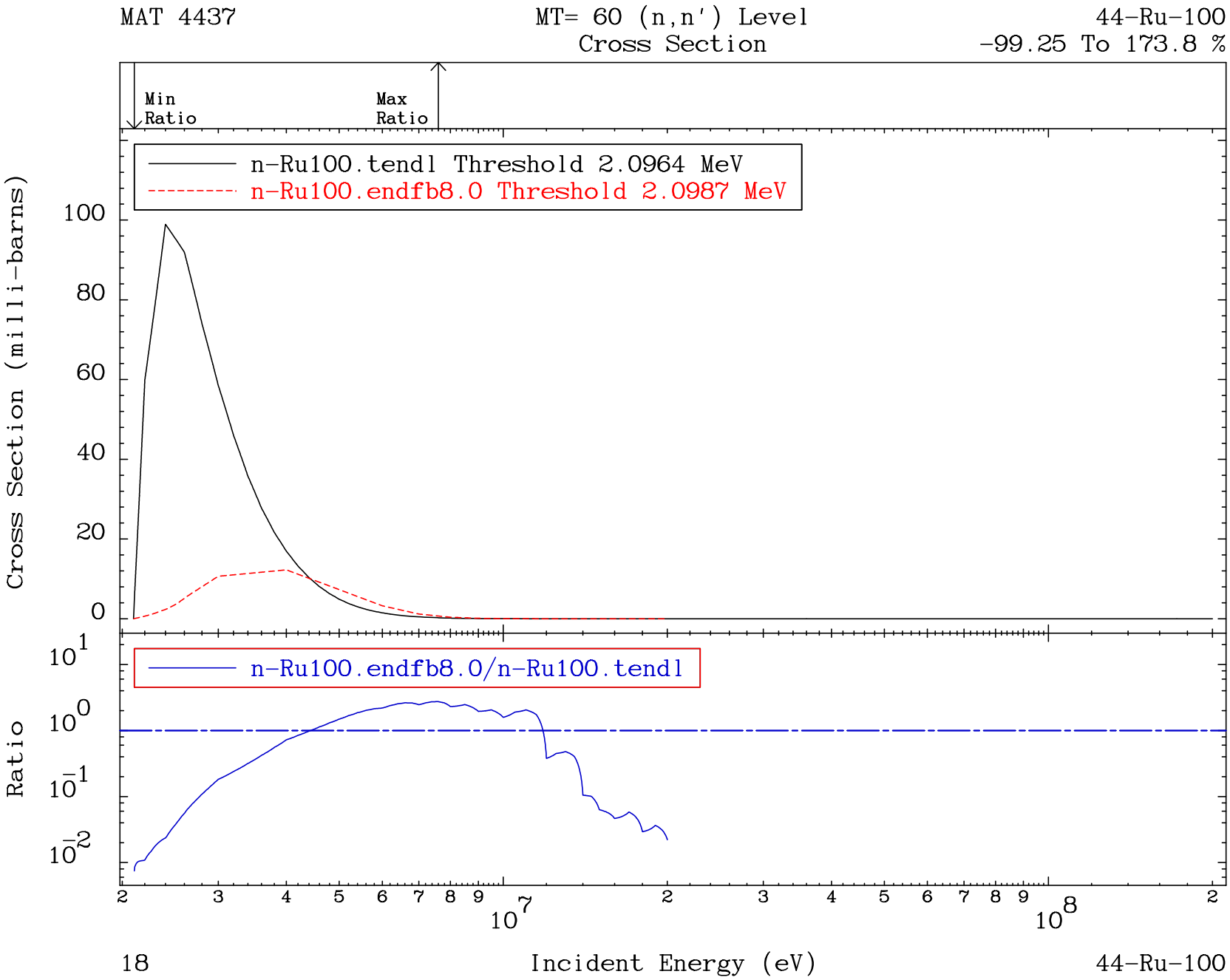

MAT 4437
MT= 55 (n,n') Level
Cross Section
44-Ru-100
-98.08 To 474.0 %
Max Ratio
Min Ratio
n-Ru100.tendl Threshold 1.7586 MeV
n-Ru100.endfb8.0 Threshold 1.7583 MeV
Cross Section (milli-barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
Incident Energy (eV)
13
44-Ru-100

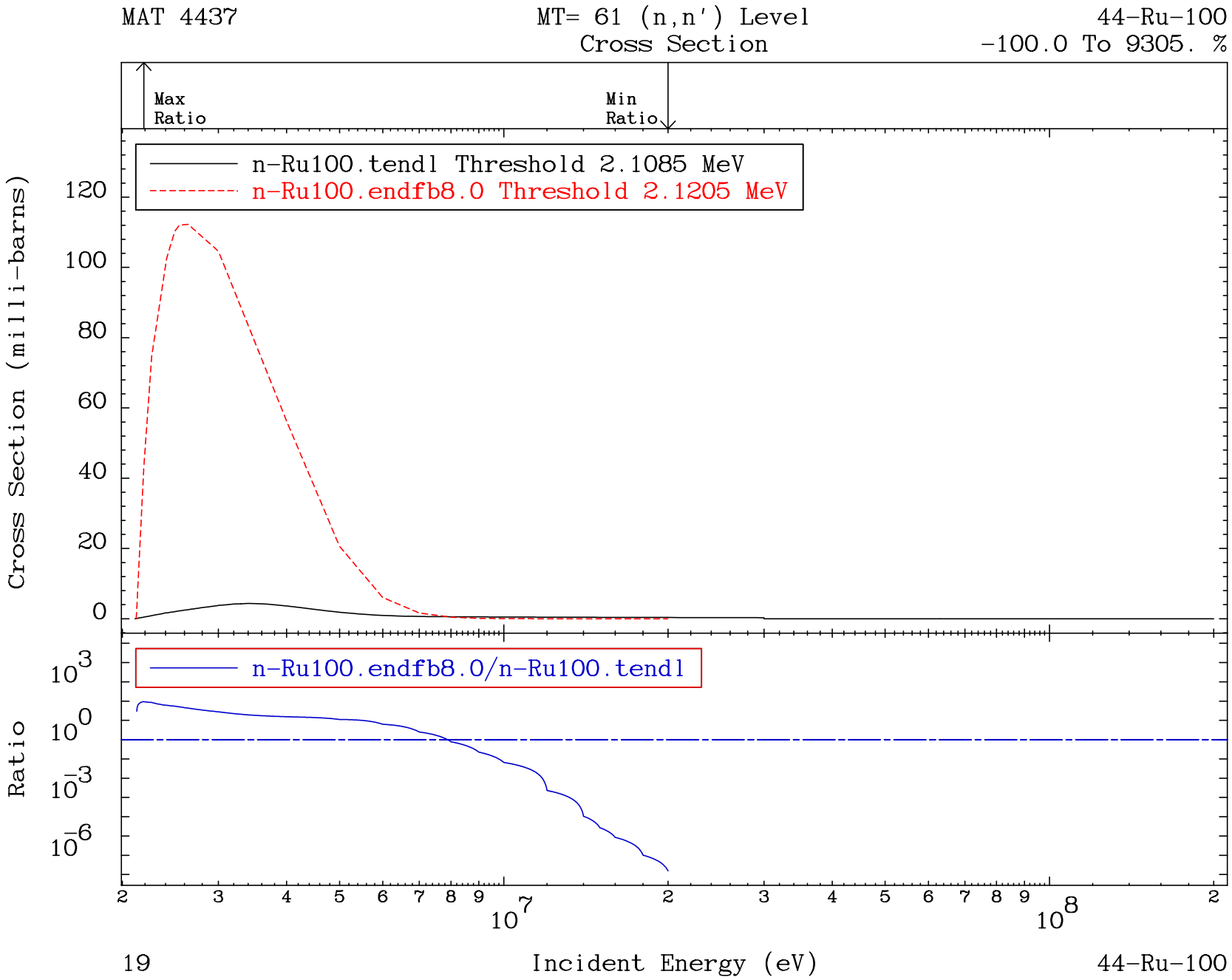

MAT 4437
MT= 56 (n,n') Level
Cross Section
44-Ru-100
-100.0 To 143.4 %
Max
Ratio
Min
Ratio
n-Ru100.tendl Threshold 1.8840 MeV
n-Ru100.endfb8.0 Threshold 1.8840 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^0
10^-3
10^-6
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
14
Incident Energy (eV)
44-Ru-100

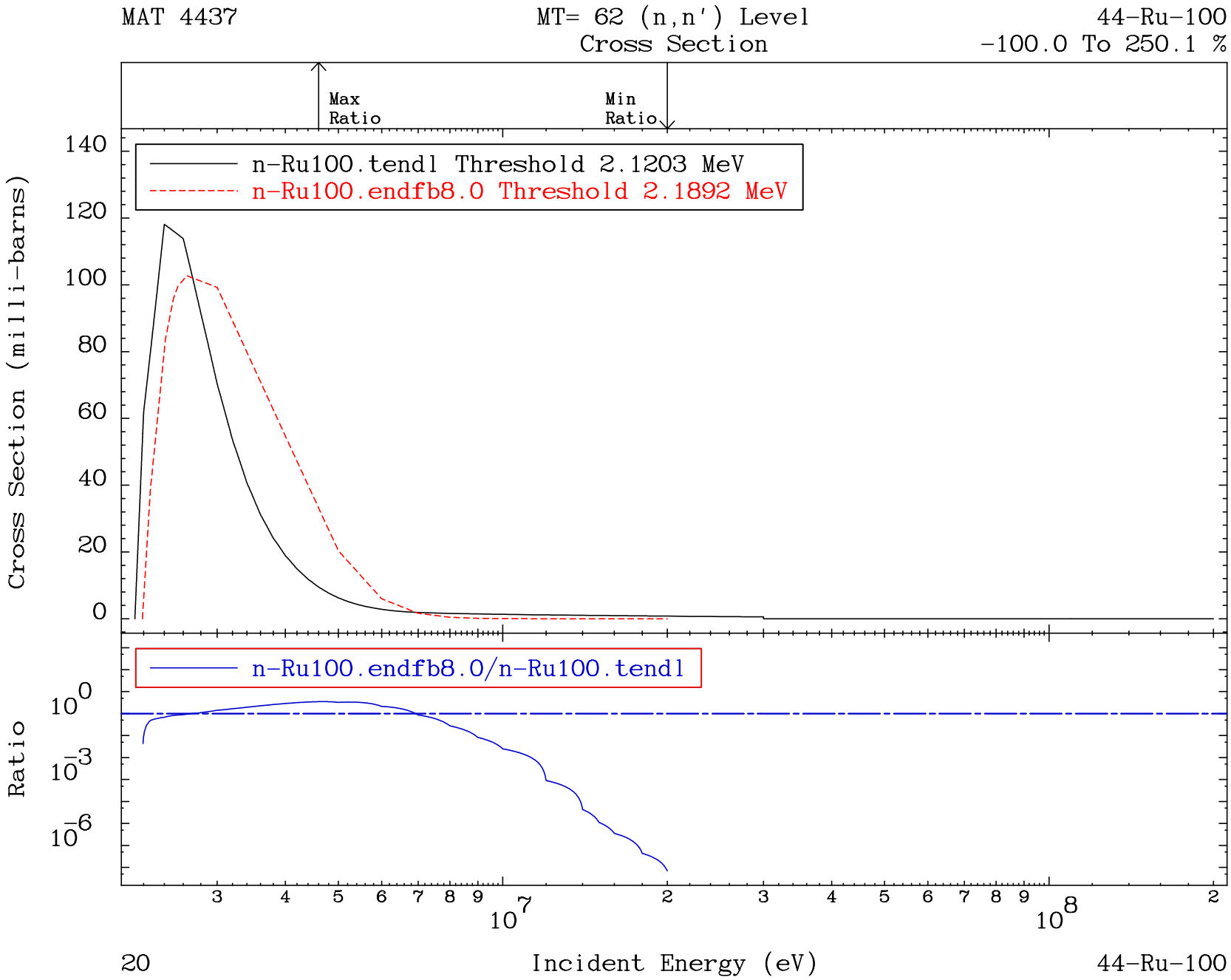

MAT 4437
MT= 57 (n,n') Level
Cross Section
44-Ru-100
-98.14 To 432.3 %
Max Ratio
Min Ratio
n-Ru100.tendl Threshold 1.9000 MeV
n-Ru100.endfb8.0 Threshold 1.9000 MeV
Cross Section (milli-barns)
180
160
140
120
100
80
60
40
20
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^1
10^0
10^-1
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
15
Incident Energy (eV)
44-Ru-100

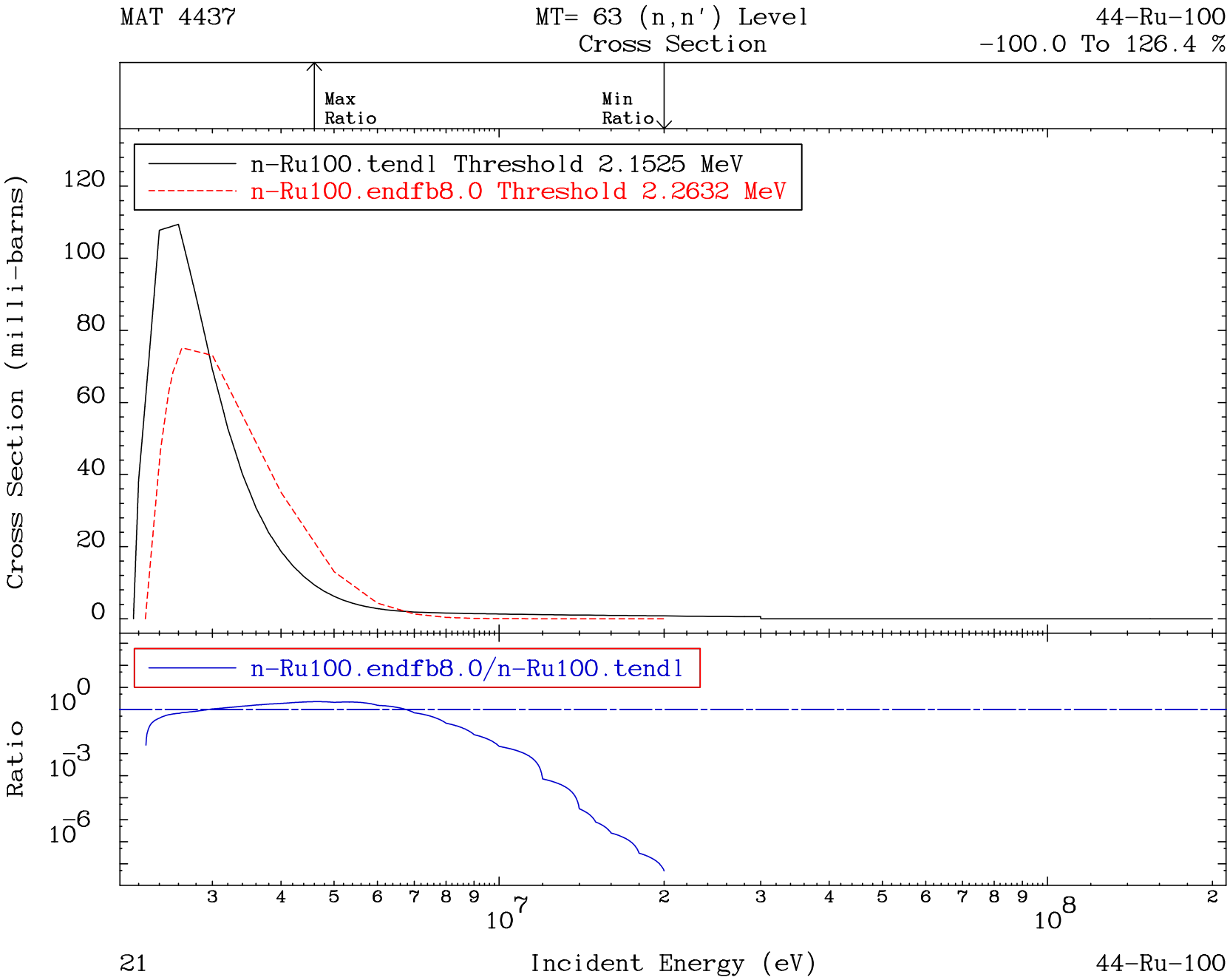

MAT 4437
MT= 58 (n,n') Level
Cross Section
44-Ru-100
-98.09 To 460.2 %
Max Ratio
Min Ratio
n-Ru100.tendl Threshold 2.0724 MeV
n-Ru100.endfb8.0 Threshold 2.0724 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^1
10^0
10^-1
2 3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
16
Incident Energy (eV)
44-Ru-100

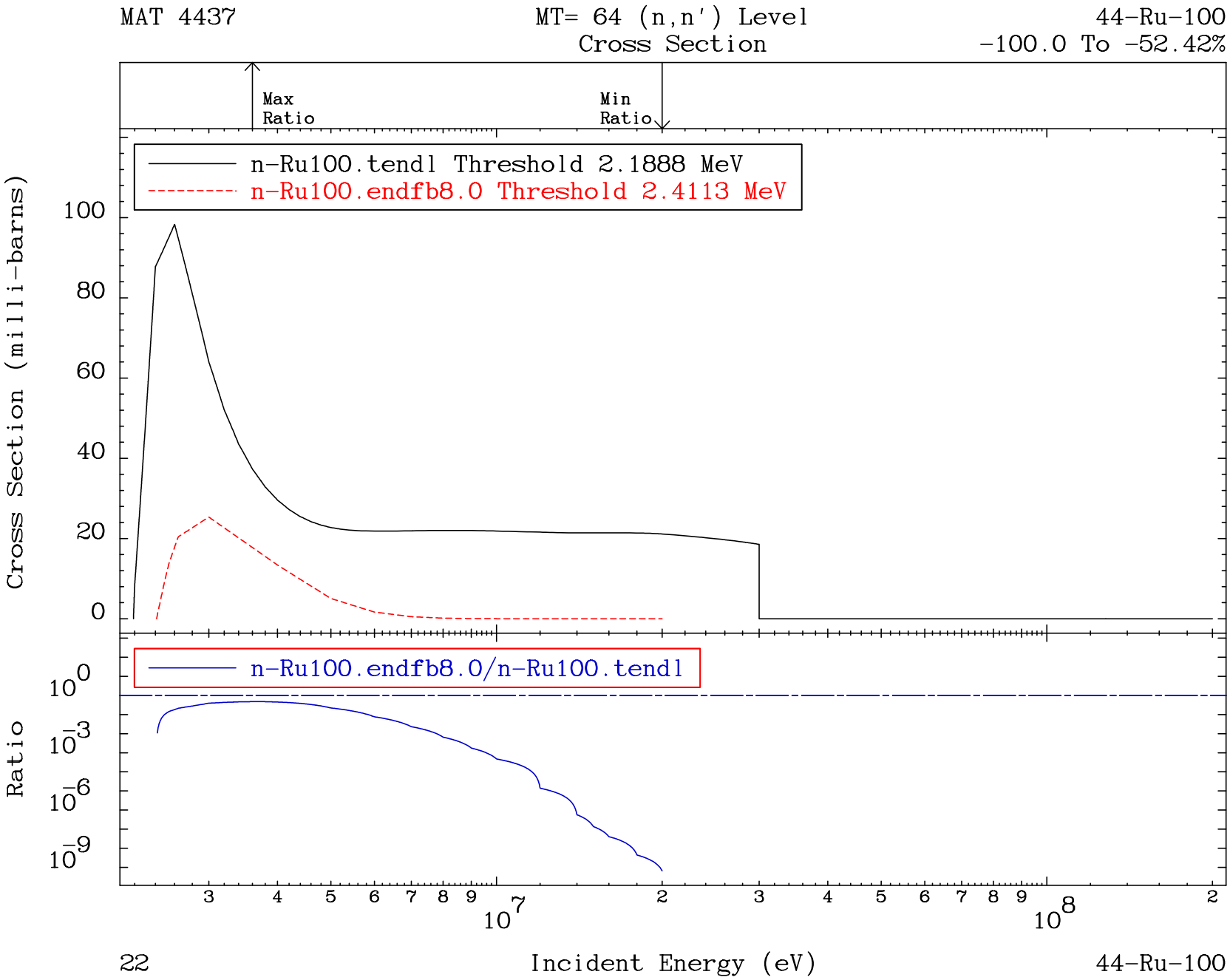

MAT 4437
MT= 59 (n,n') Level
Cross Section
44-Ru-100
74.55 To 7419. %
Min Ratio
Max Ratio
n-Ru100.tendl Threshold 2.0835 MeV
n-Ru100.endfb8.0 Threshold 2.0847 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^2
10^1
2 3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
17
Incident Energy (eV)
44-Ru-100

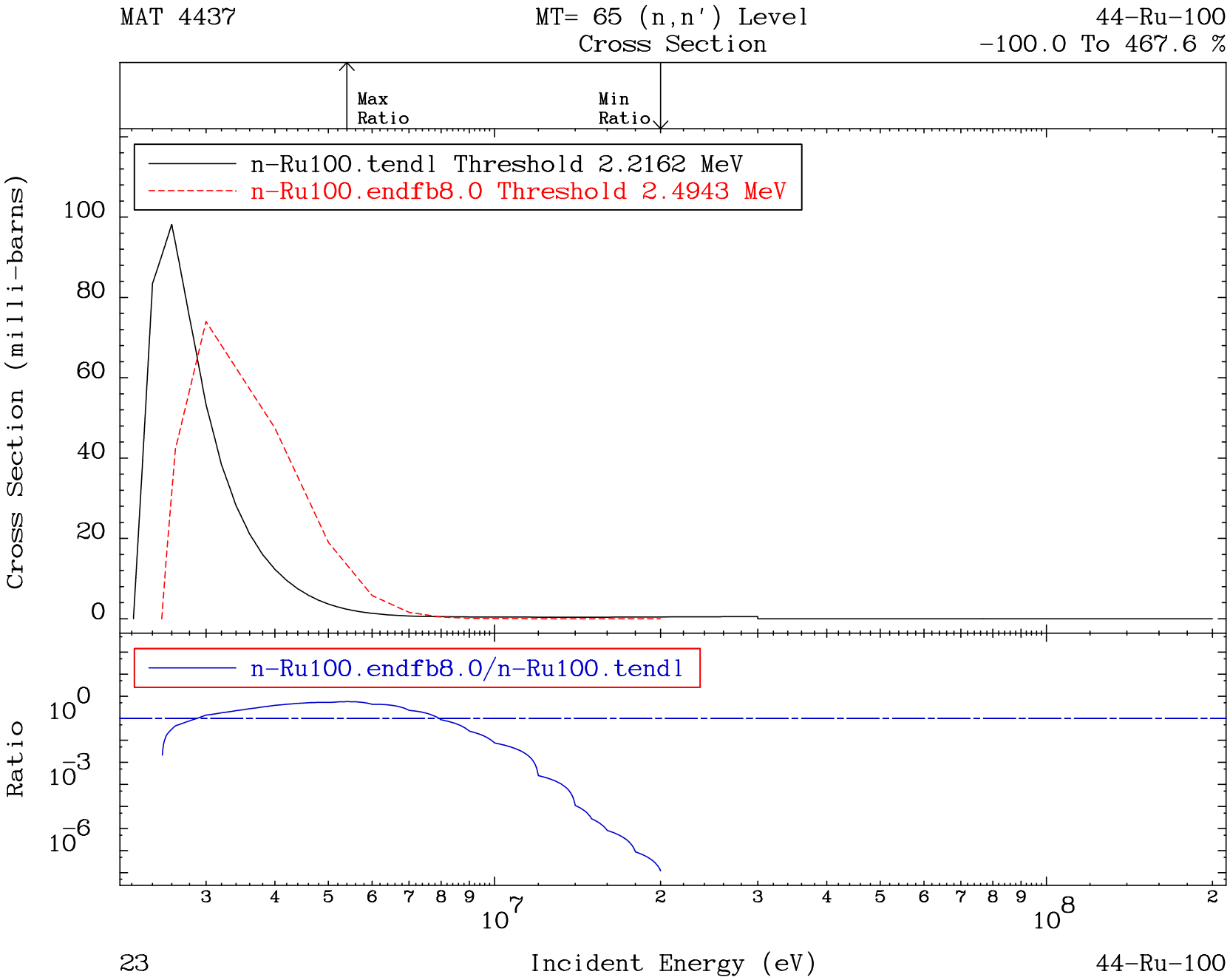

MAT 4437
MT= 60 (n,n') Level
Cross Section
44-Ru-100
-99.25 To 173.8 %
Min Ratio
Max Ratio
n-Ru100.tendl Threshold 2.0964 MeV
n-Ru100.endfb8.0 Threshold 2.0987 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^1
10^0
10^-1
10^-2
2 3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
18
Incident Energy (eV)
44-Ru-100

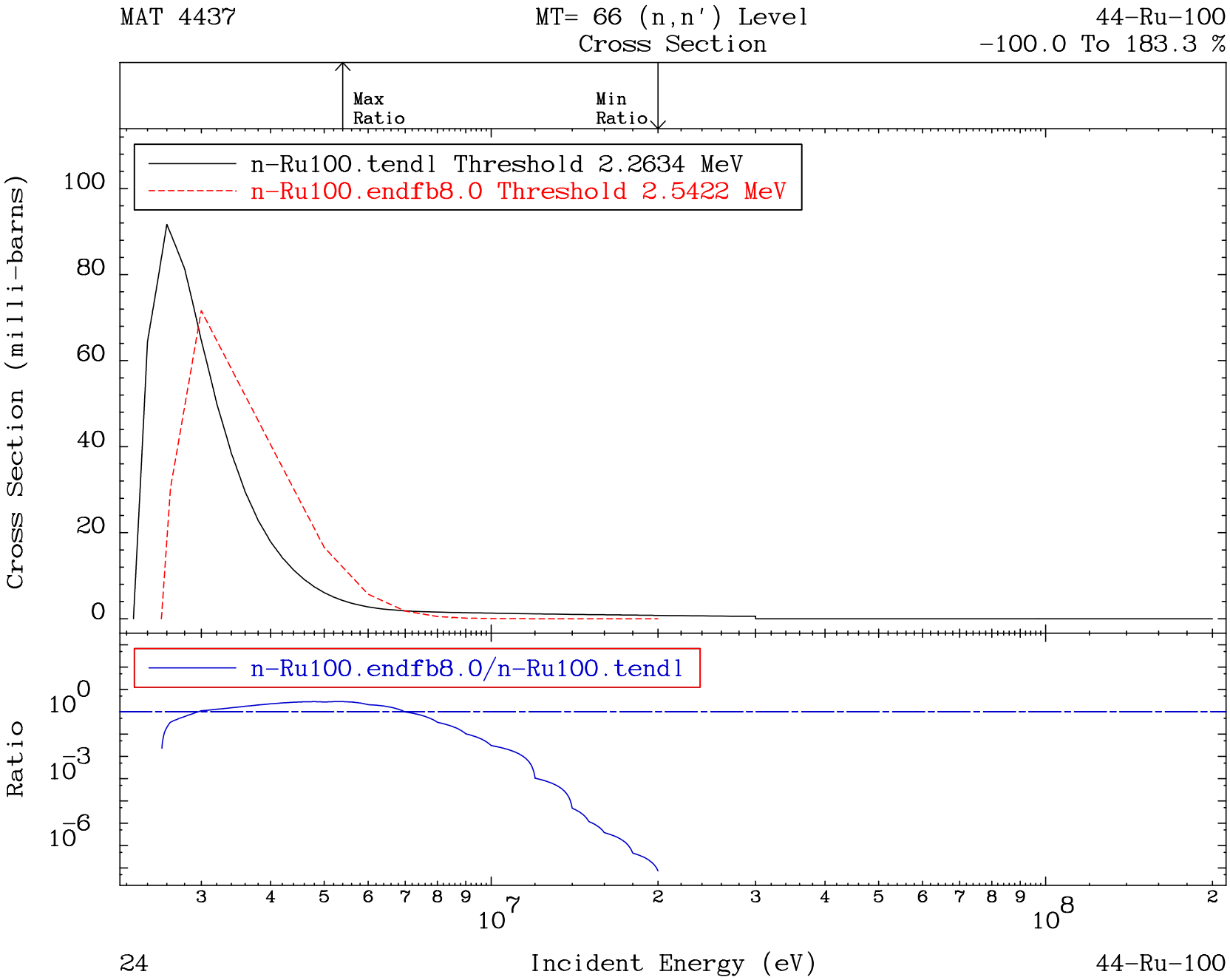

MAT 4437
MT= 61 (n,n') Level
Cross Section
44-Ru-100
-100.0 To 9305. %
Max
Ratio
Min
Ratio
n-Ru100.tendl Threshold 2.1085 MeV
n-Ru100.endfb8.0 Threshold 2.1205 MeV
Cross Section (milli-barns)
120
100
80
60
40
20
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^3
10^0
10^-3
10^-6
2
3
4
5
6
7
8
9
10^7
2
3
4
5
6
7
8
9
10^8
2
19
Incident Energy (eV)
44-Ru-100

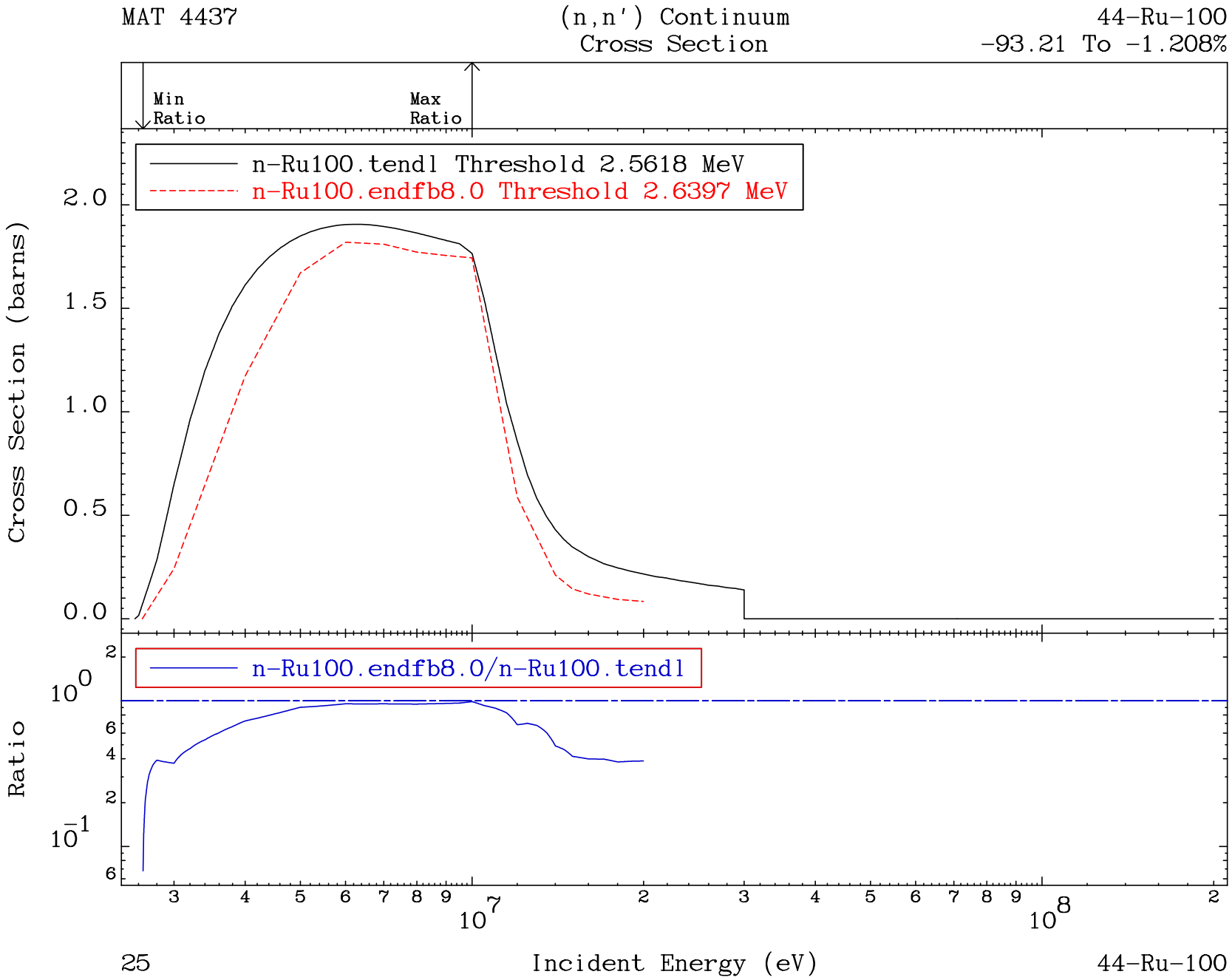

MAT 4437
MT= 62 (n,n') Level
Cross Section
44-Ru-100
-100.0 To 250.1 %
Max
Ratio
Min
Ratio
n-Ru100.tendl Threshold 2.1203 MeV
n-Ru100.endfb8.0 Threshold 2.1892 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^0
10^-3
10^-6
3 4 5 6 7 8 9
10^7
2 3 4 5 6 7 8 9
10^8
2
20
Incident Energy (eV)
44-Ru-100

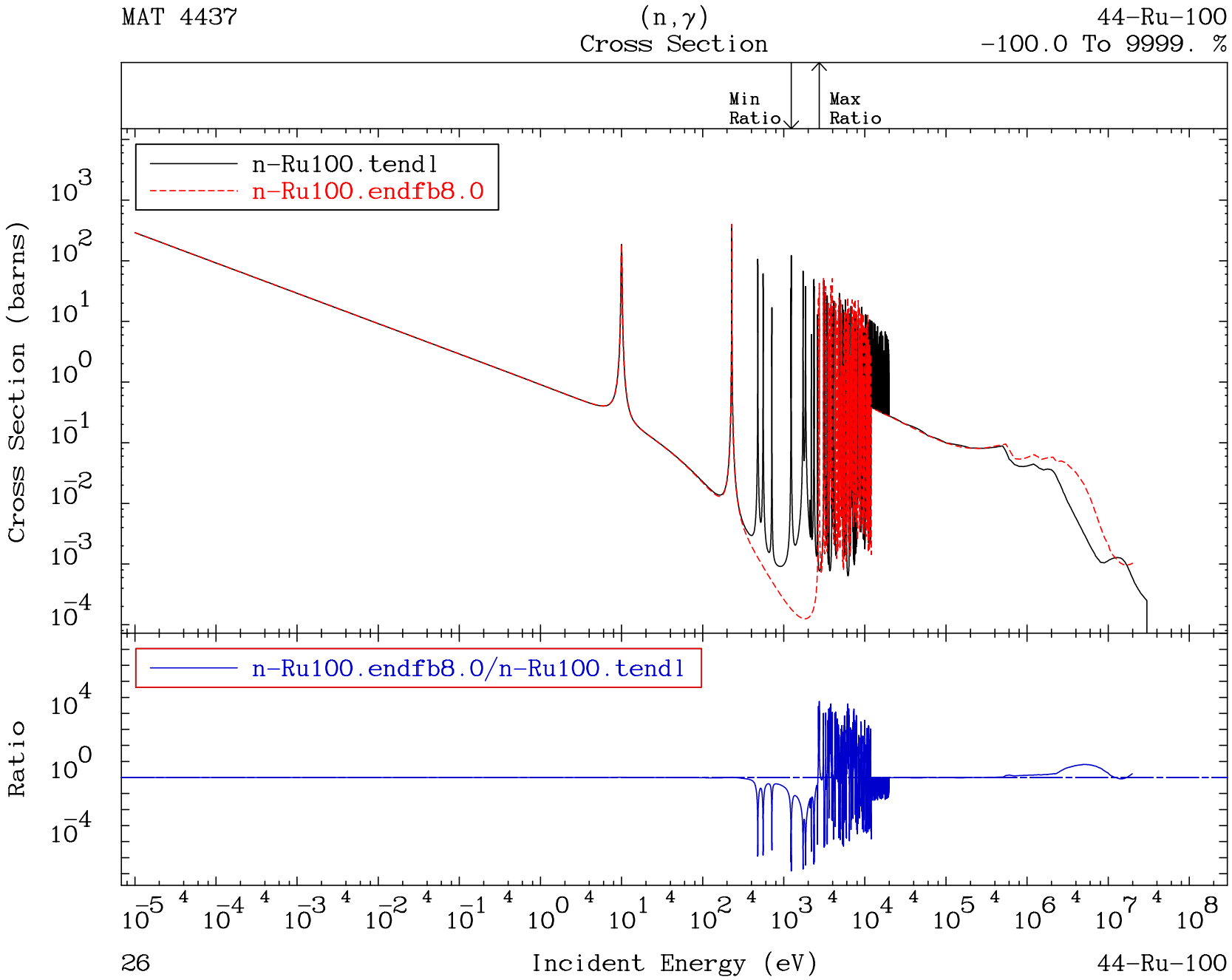

MAT 4437
MT= 63 (n,n') Level
Cross Section
44-Ru-100
-100.0 To 126.4 %
Max Ratio
Min Ratio
n-Ru100.tendl Threshold 2.1525 MeV
n-Ru100.endfb8.0 Threshold 2.2632 MeV
Cross Section (milli-barns)
120
100
80
60
40
20
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^0
10^-3
10^-6
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
21
Incident Energy (eV)
44-Ru-100

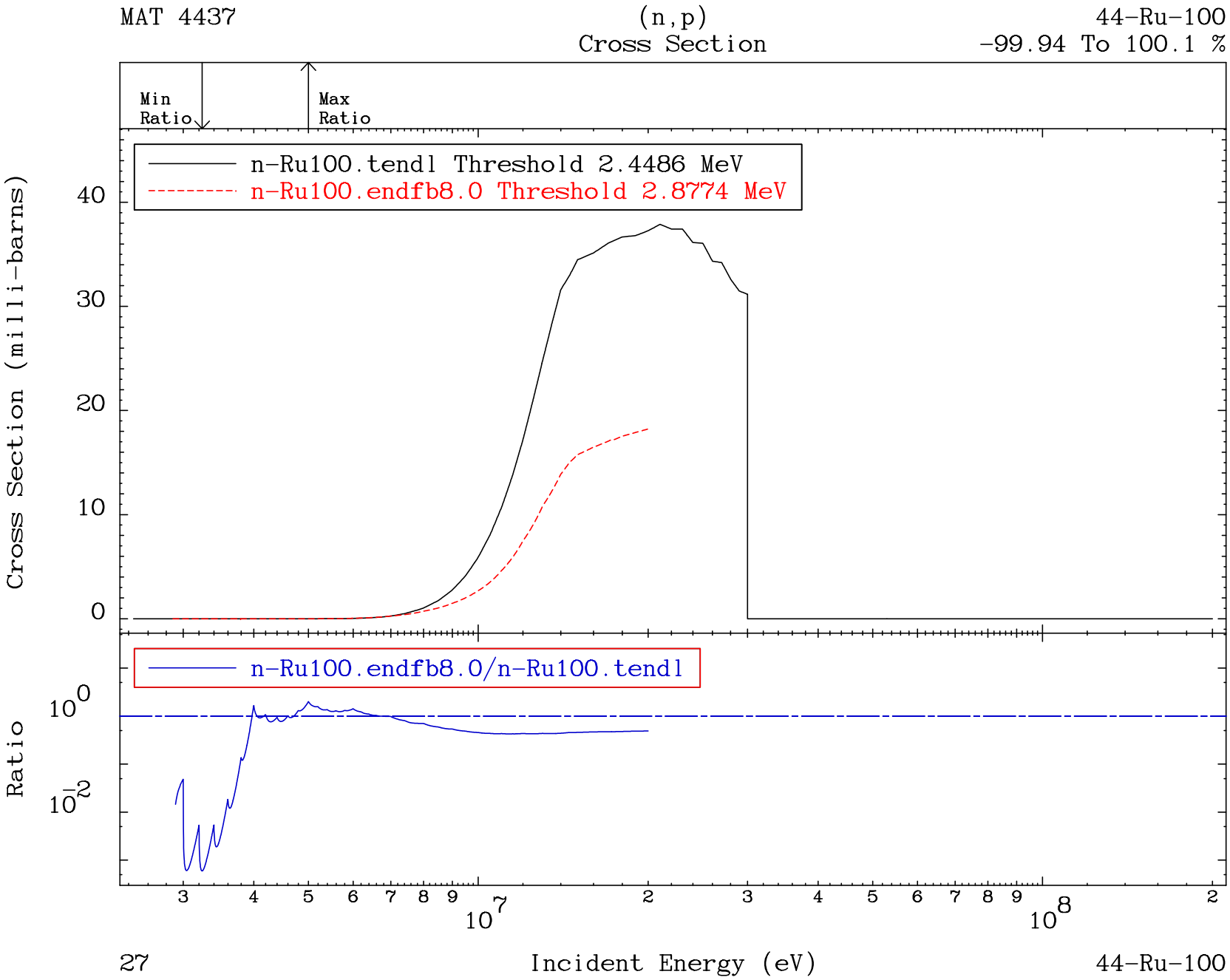

MAT 4437
MT= 64 (n,n') Level
Cross Section
44-Ru-100
-100.0 To -52.42%
Max
Ratio
Min
Ratio
n-Ru100.tendl Threshold 2.1888 MeV
n-Ru100.endfb8.0 Threshold 2.4113 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^0
10^-3
10^-6
10^-9
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
22
Incident Energy (eV)
44-Ru-100

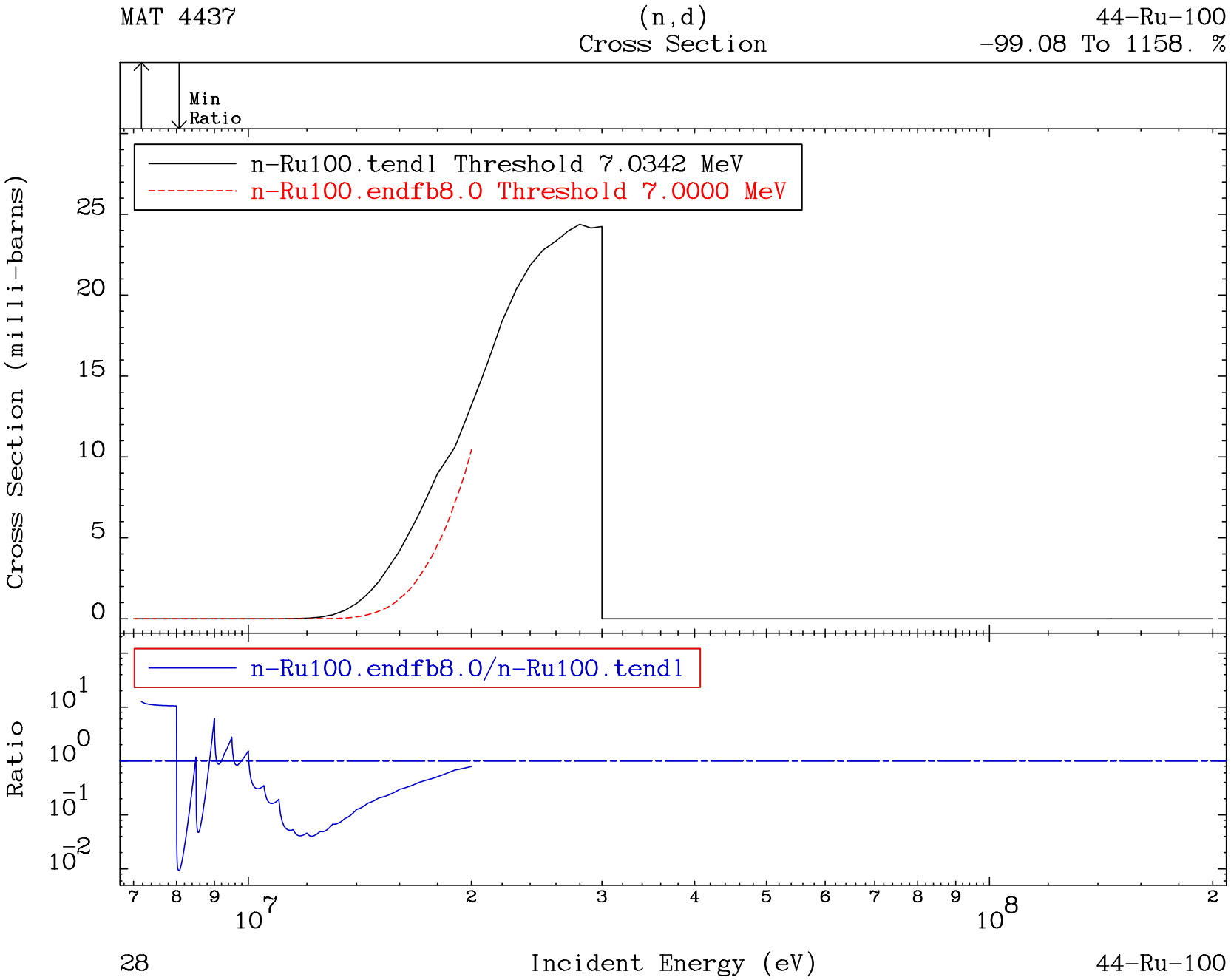

MAT 4437
MT= 65 (n,n') Level
Cross Section
44-Ru-100
-100.0 To 467.6 %
Max
Ratio
Min
Ratio
n-Ru100.tendl Threshold 2.2162 MeV
n-Ru100.endfb8.0 Threshold 2.4943 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^0
10^-3
10^-6
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
23
Incident Energy (eV)
44-Ru-100

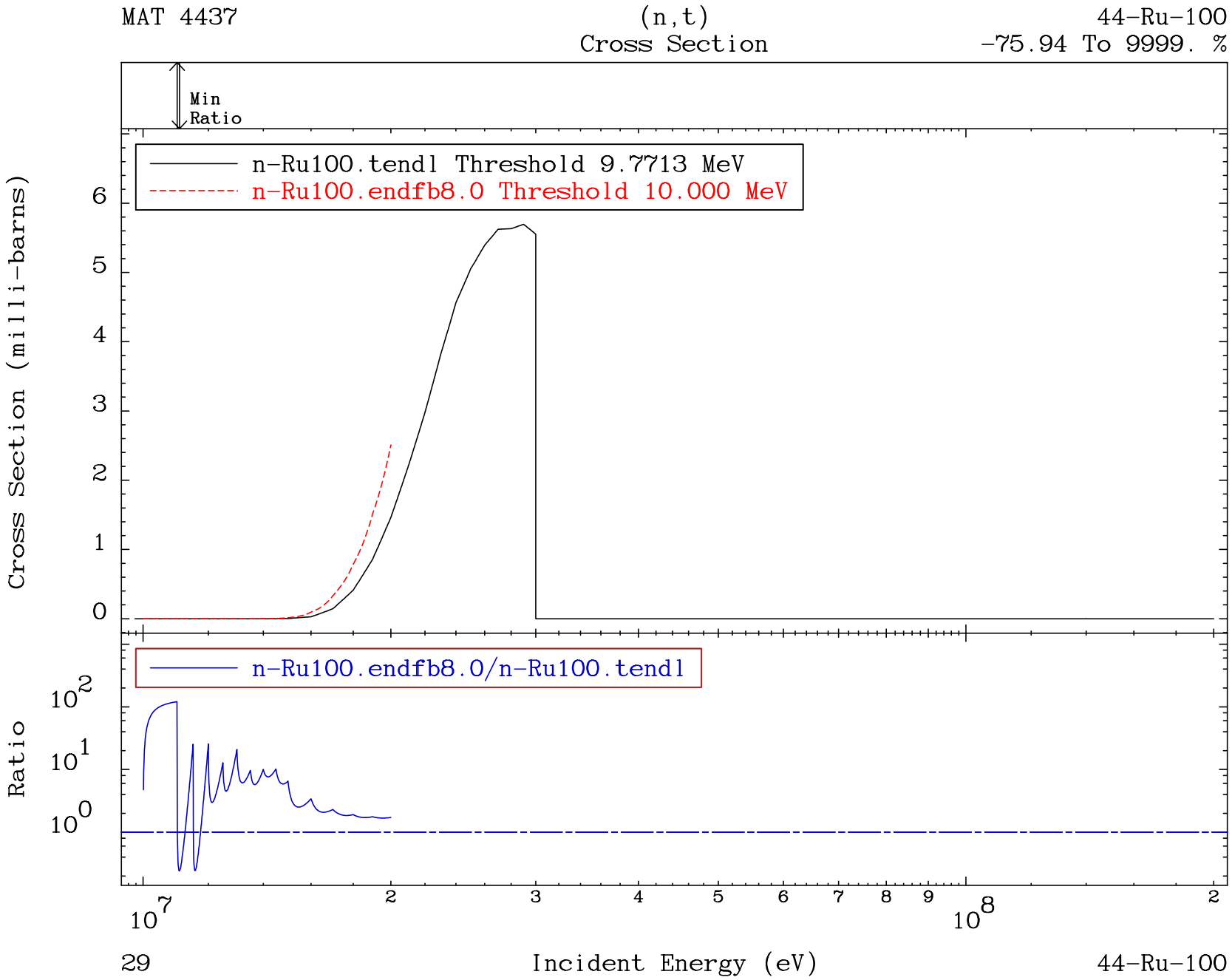

MAT 4437
MT= 66 (n,n') Level
Cross Section
44-Ru-100
-100.0 To 183.3 %
Max
Ratio
Min
Ratio
n-Ru100.tendl Threshold 2.2634 MeV
n-Ru100.endfb8.0 Threshold 2.5422 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^0
10^-3
10^-6
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
24
Incident Energy (eV)
44-Ru-100

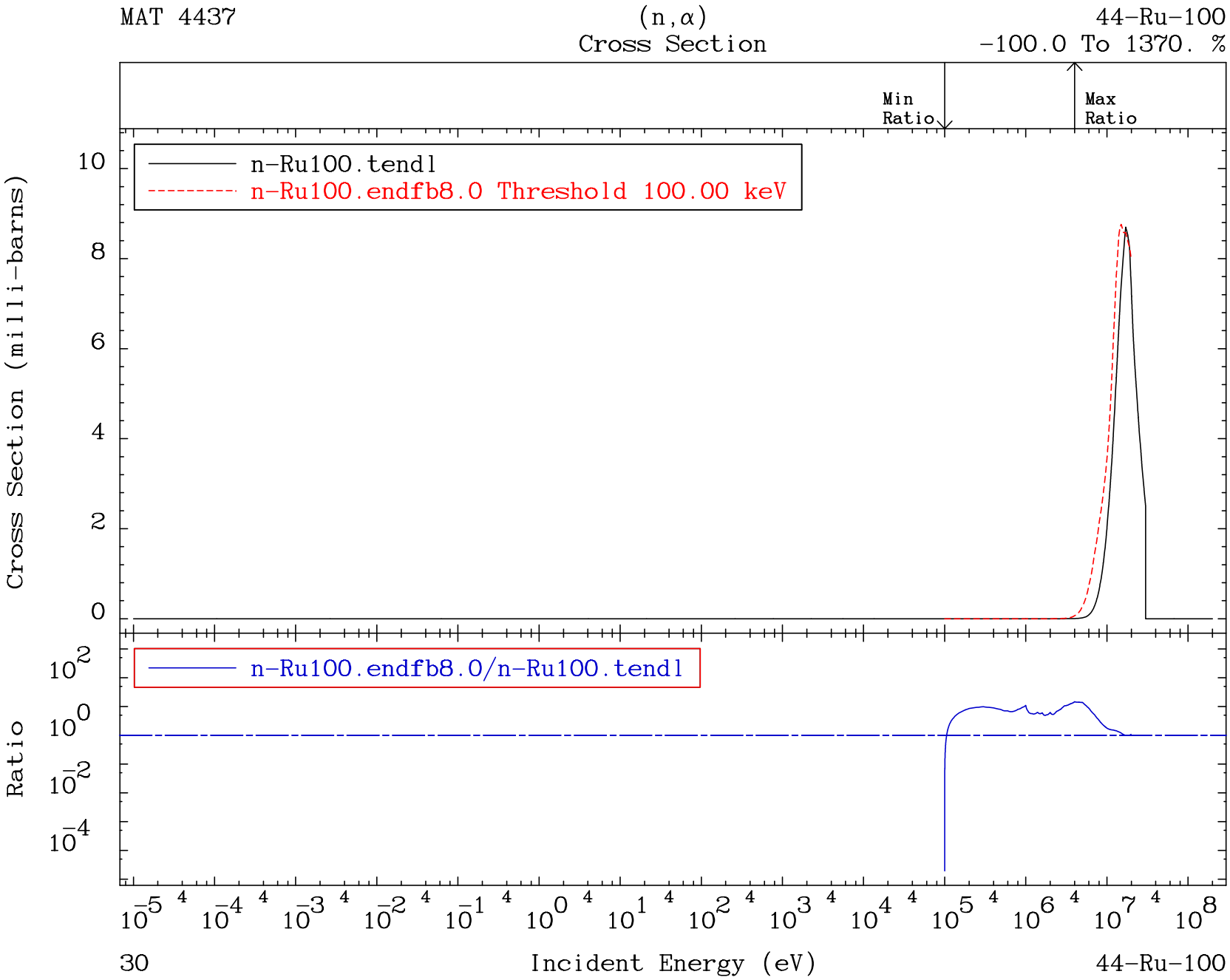

MAT 4437
(n,n') Continuum
Cross Section
44-Ru-100
-93.21 To -1.208%
Min Ratio
Max Ratio
n-Ru100.tendl Threshold 2.5618 MeV
n-Ru100.endfb8.0 Threshold 2.6397 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^0
10^-1
2
6
4
2
6
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
25
Incident Energy (eV)
44-Ru-100

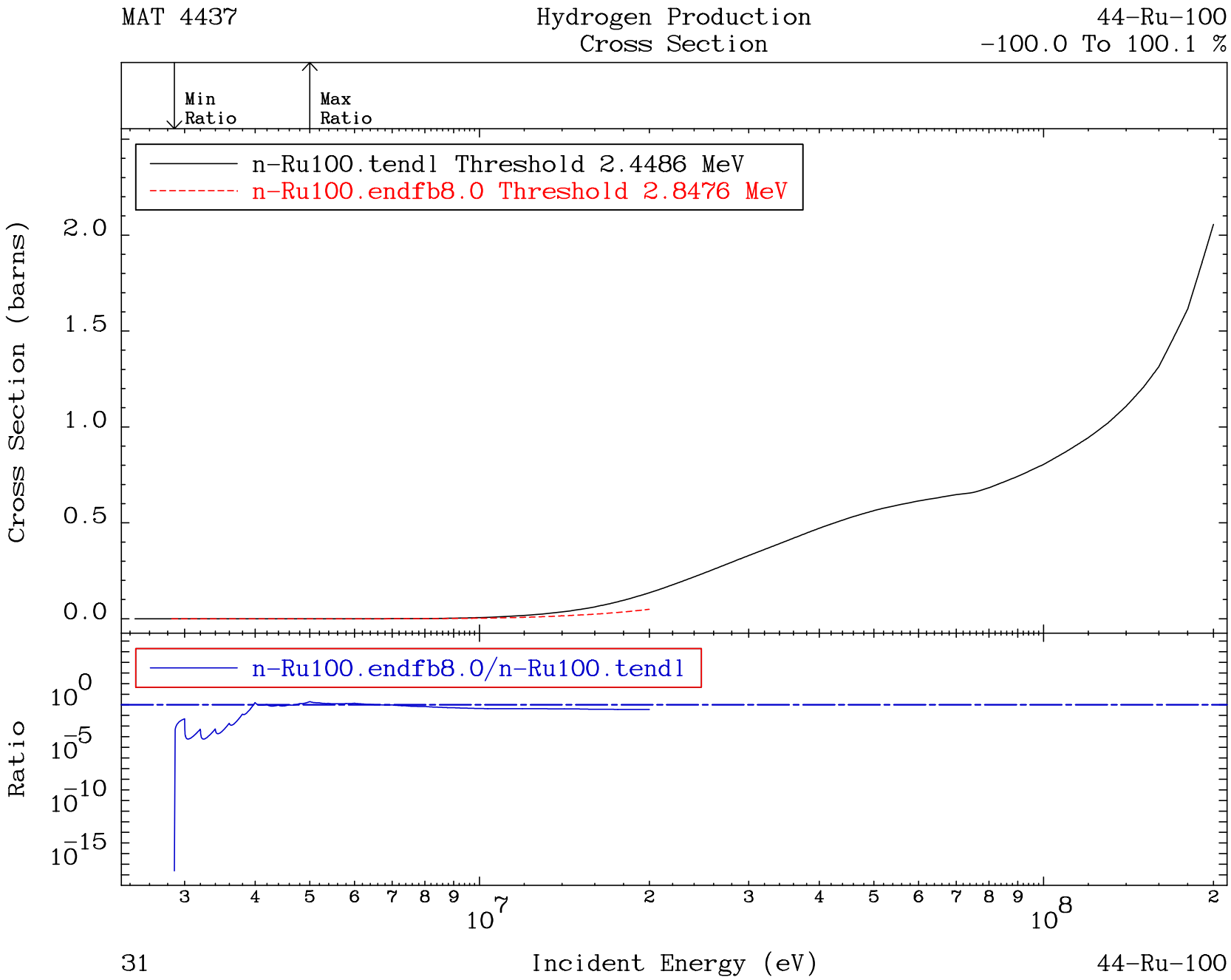

MAT 4437
(n,γ)
Cross Section
44-Ru-100
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Ru100.tendl
n-Ru100.endfb8.0
Cross Section (barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
Incident Energy (eV)
26
44-Ru-100

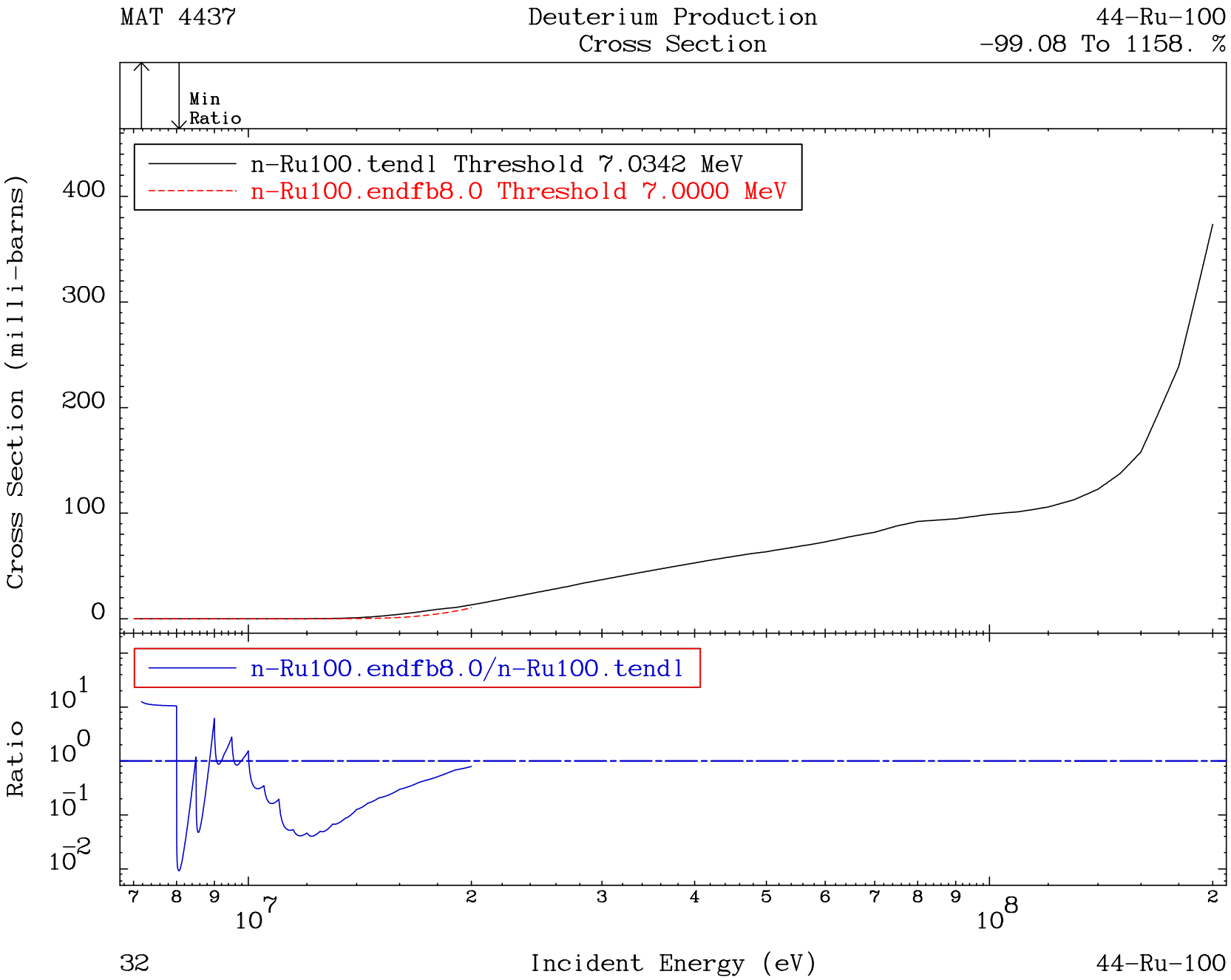

MAT 4437
(n,p)
Cross Section
44-Ru-100
-99.94 To 100.1 %
Min Ratio
Max Ratio
n-Ru100.tendl Threshold 2.4486 MeV
n-Ru100.endfb8.0 Threshold 2.8774 MeV
Cross Section (milli-barns)
0
10
20
30
40
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^0
10^-2
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
27
Incident Energy (eV)
44-Ru-100

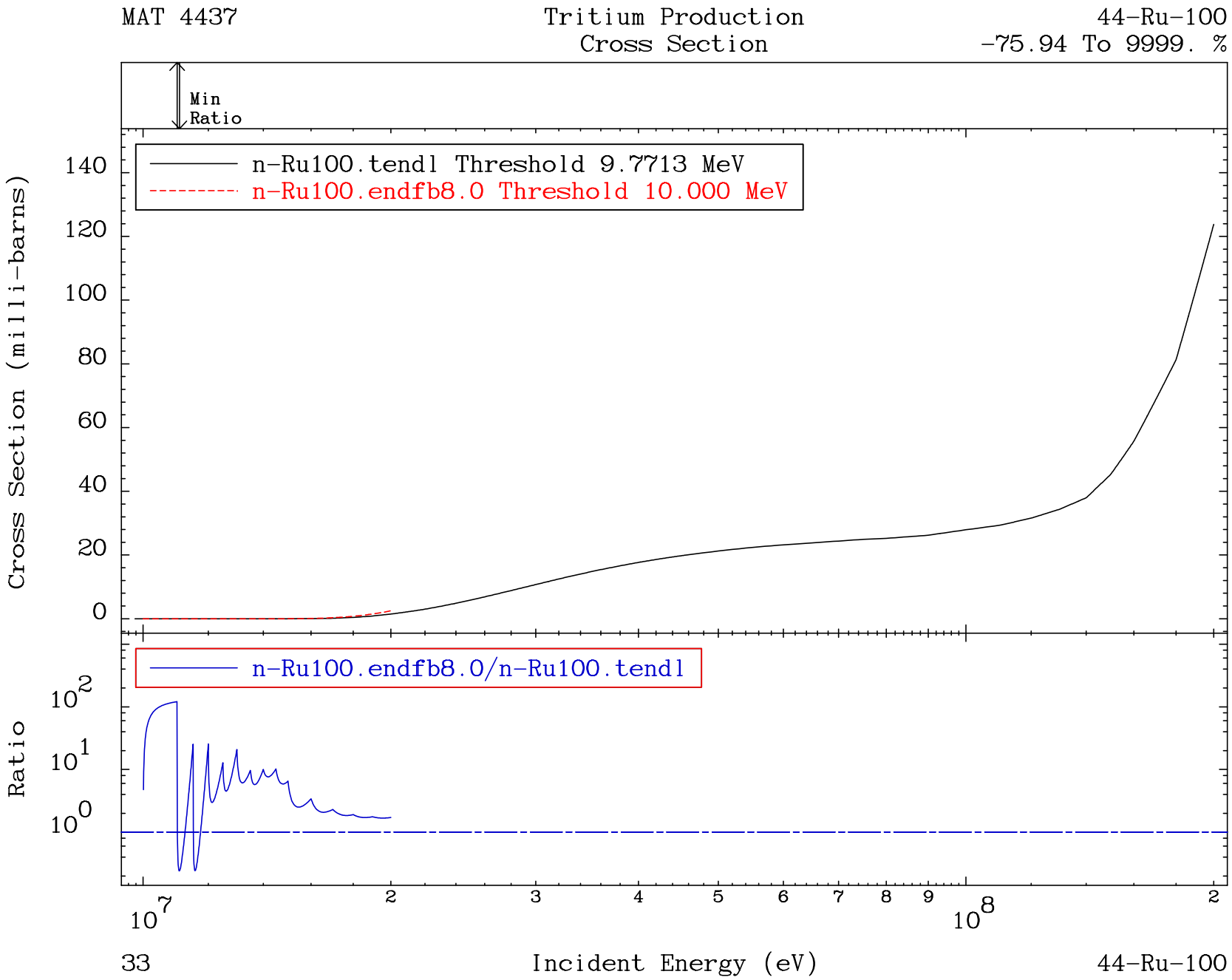

MAT 4437
(n,d)
Cross Section
44-Ru-100
-99.08 To 1158. %
Min
Ratio
n-Ru100.tendl Threshold 7.0342 MeV
n-Ru100.endfb8.0 Threshold 7.0000 MeV
Cross Section (milli-barns)
25
20
15
10
5
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^1
10^0
10^-1
10^-2
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
28
Incident Energy (eV)
44-Ru-100

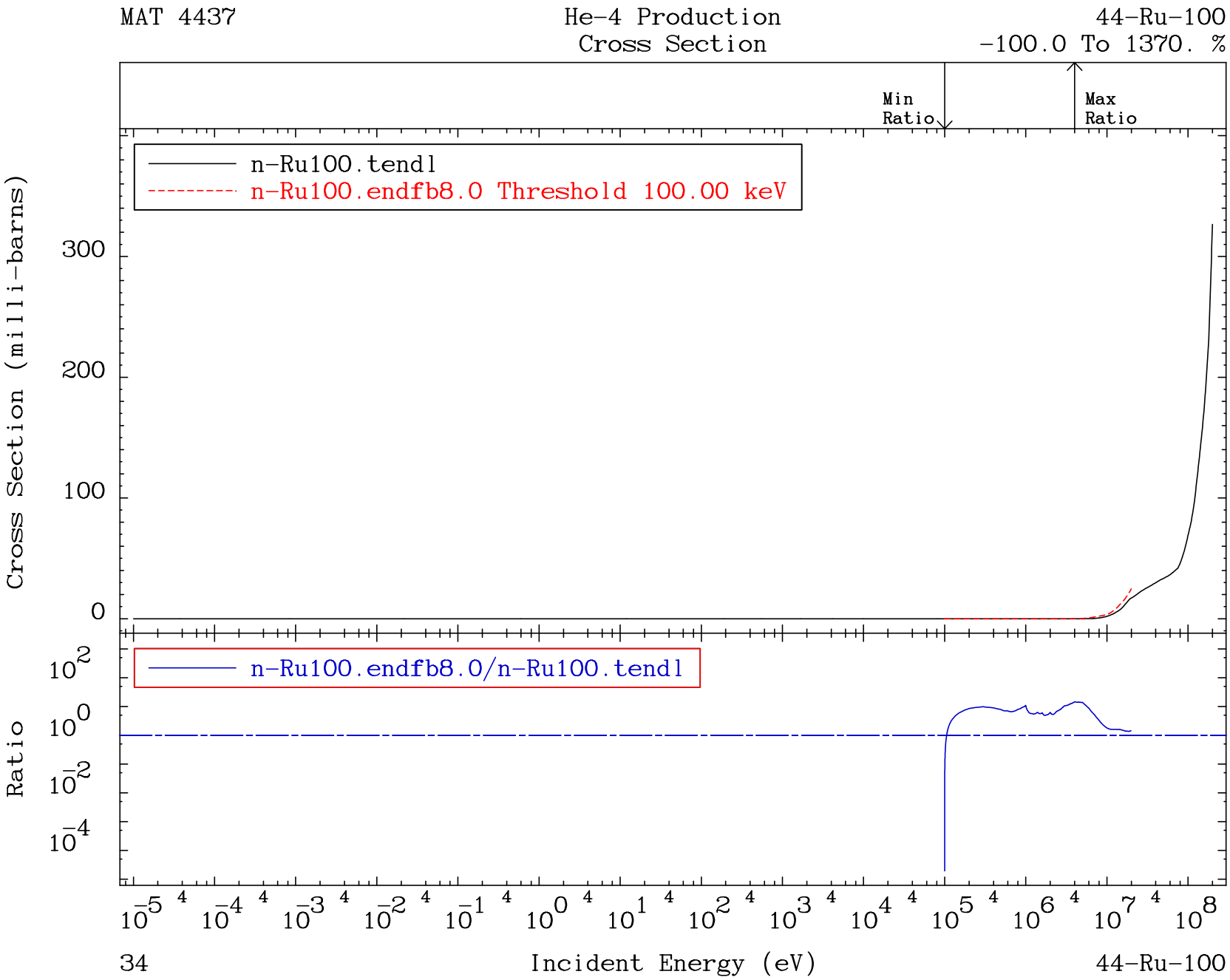

MAT 4437
(n,t)
Cross Section
44-Ru-100
-75.94 To 9999. %
Min
Ratio
n-Ru100.tendl Threshold 9.7713 MeV
n-Ru100.endfb8.0 Threshold 10.000 MeV
Cross Section (milli-barns)
0
1
2
3
4
5
6
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^2
10^1
10^0
10^7
2
3
4
5
6
7
8
9
10^8
2
29
Incident Energy (eV)
44-Ru-100

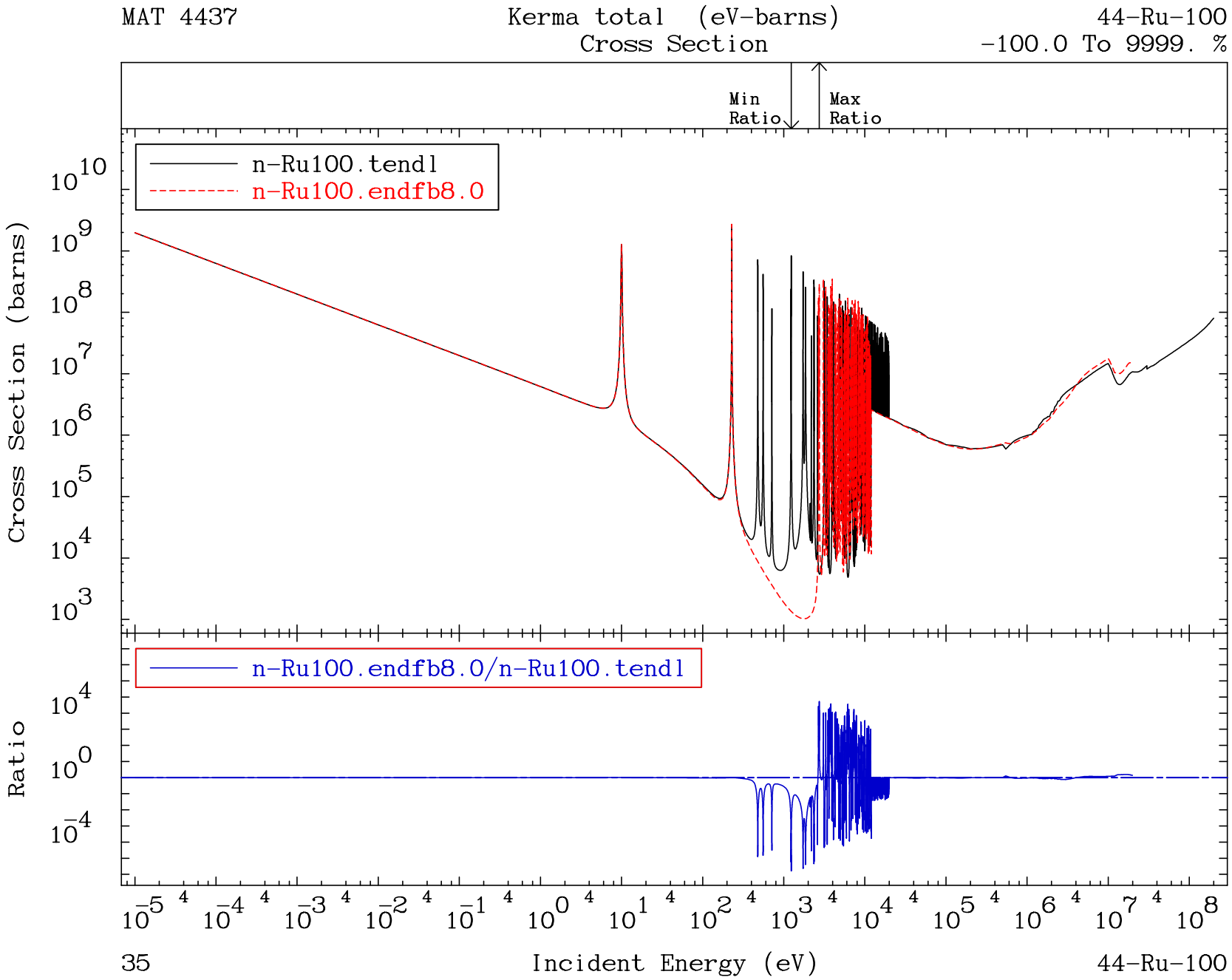

MAT 4437
(n,α)
Cross Section
44-Ru-100
-100.0 To 1370. %
Min Ratio
Max Ratio
n-Ru100.tendl
n-Ru100.endfb8.0 Threshold 100.00 keV
Cross Section (milli-barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
Incident Energy (eV)
30
44-Ru-100

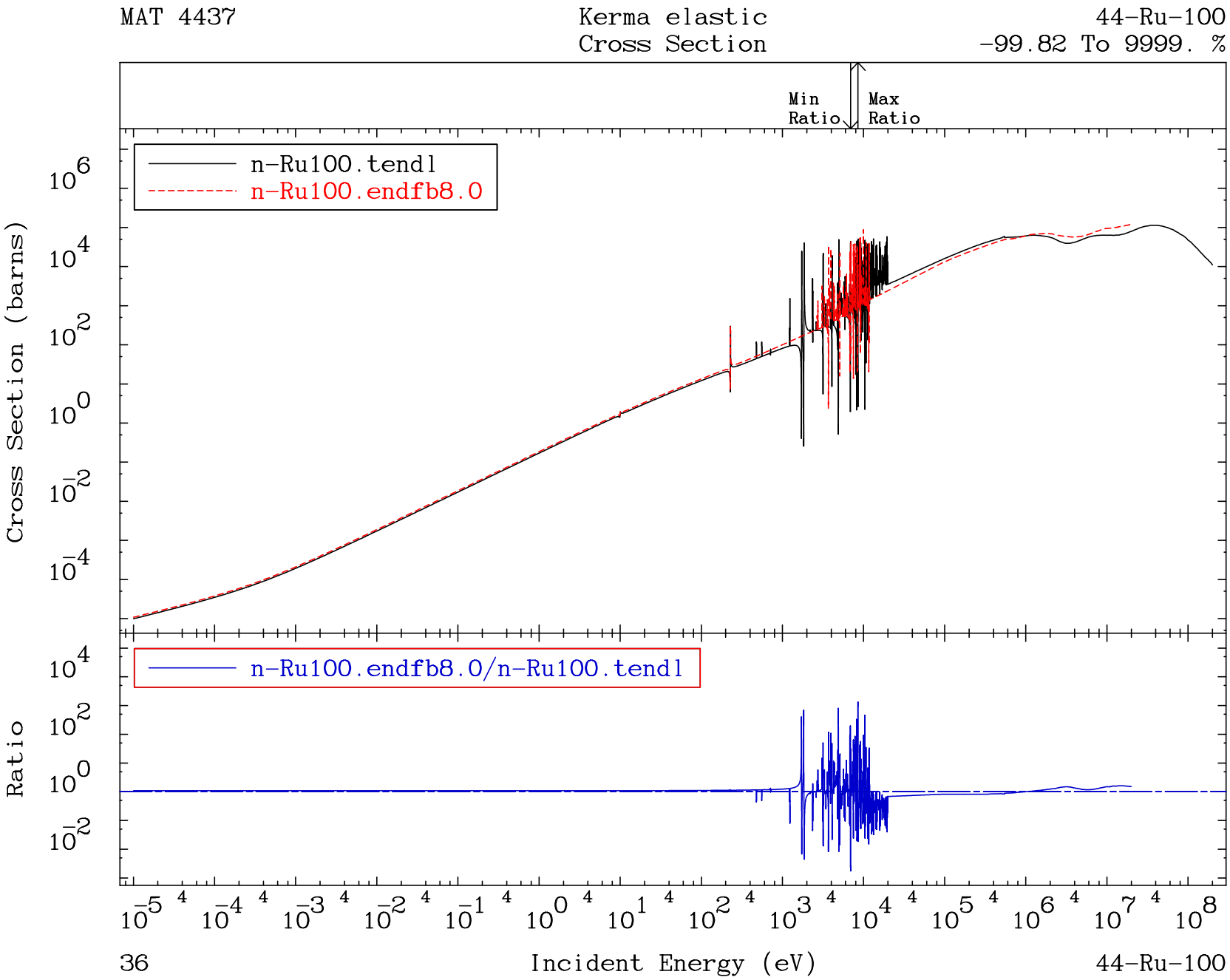

MAT 4437
Hydrogen Production
Cross Section
44-Ru-100
-100.0 To 100.1 %
Min Ratio
Max Ratio
n-Ru100.tendl Threshold 2.4486 MeV
n-Ru100.endfb8.0 Threshold 2.8476 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^0
10^-5
10^-10
10^-15
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
31
Incident Energy (eV)
44-Ru-100

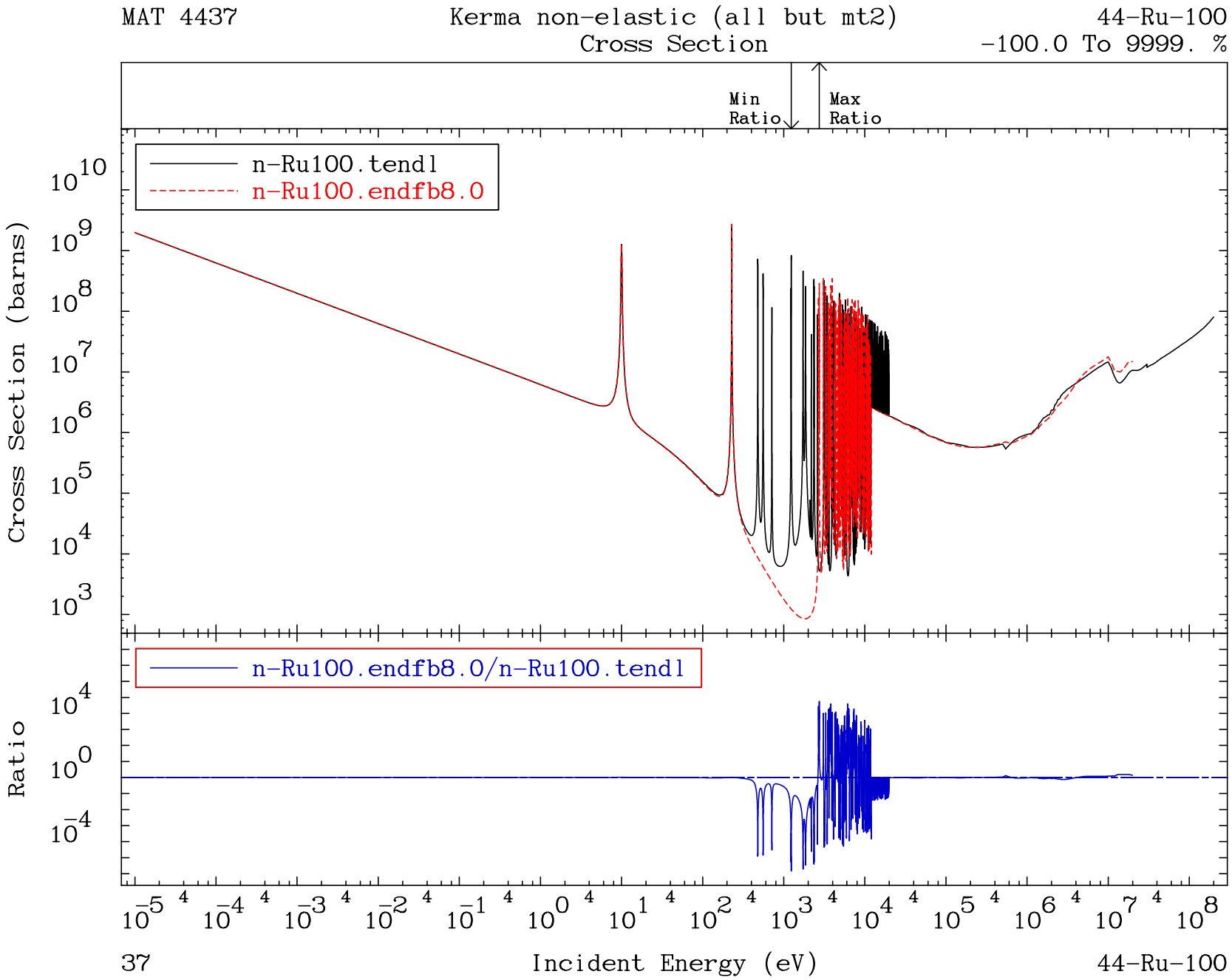

MAT 4437
Deuterium Production
Cross Section
44-Ru-100
-99.08 To 1158. %
Min
Ratio
n-Ru100.tendl Threshold 7.0342 MeV
n-Ru100.endfb8.0 Threshold 7.0000 MeV
Cross Section (milli-barns)
400
300
200
100
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^1
10^0
10^-1
10^-2
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
32
Incident Energy (eV)
44-Ru-100

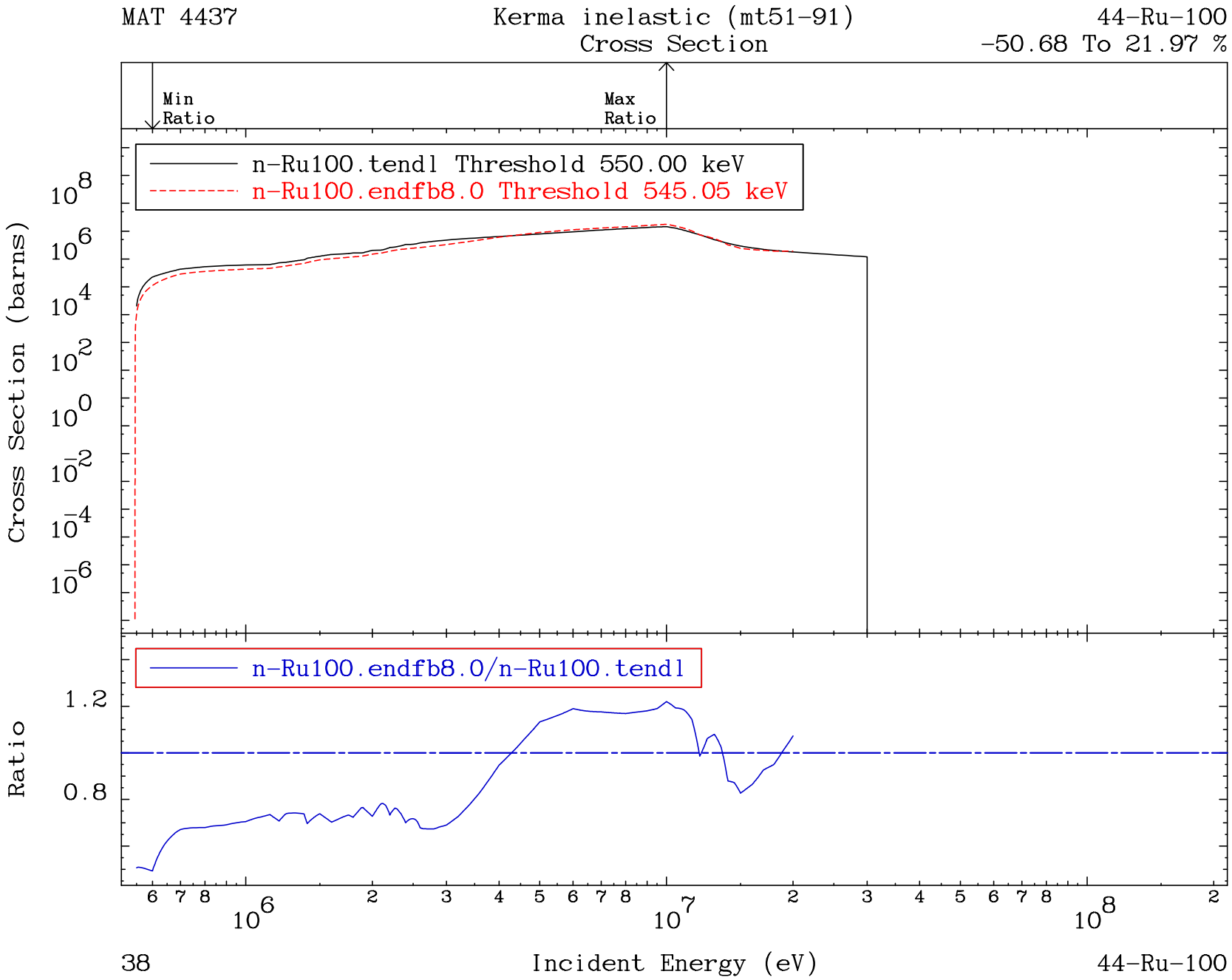

MAT 4437
Tritium Production
Cross Section
44-Ru-100
-75.94 To 9999. %
Min
Ratio
n-Ru100.tendl Threshold 9.7713 MeV
n-Ru100.endfb8.0 Threshold 10.000 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^2
10^1
10^0
10^7
2
3
4
5
6
7
8
9
10^8
2
33
Incident Energy (eV)
44-Ru-100

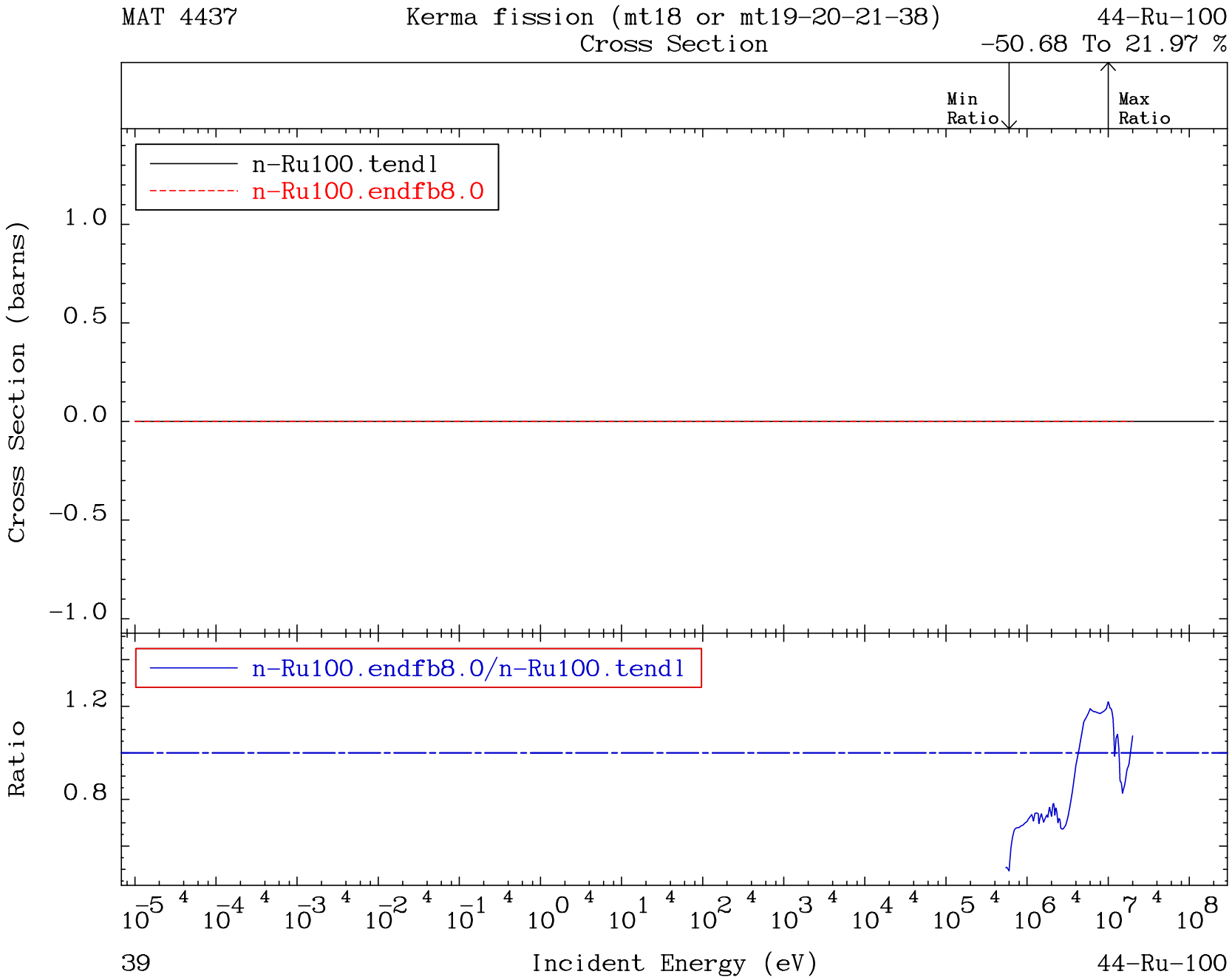

MAT 4437
He-4 Production
Cross Section
44-Ru-100
-100.0 To 1370. %
Min Ratio
Max Ratio
n-Ru100.tendl
n-Ru100.endfb8.0 Threshold 100.00 keV
Cross Section (milli-barns)
300
200
100
0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^2
10^0
10^-2
10^-4
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
34
Incident Energy (eV)
44-Ru-100

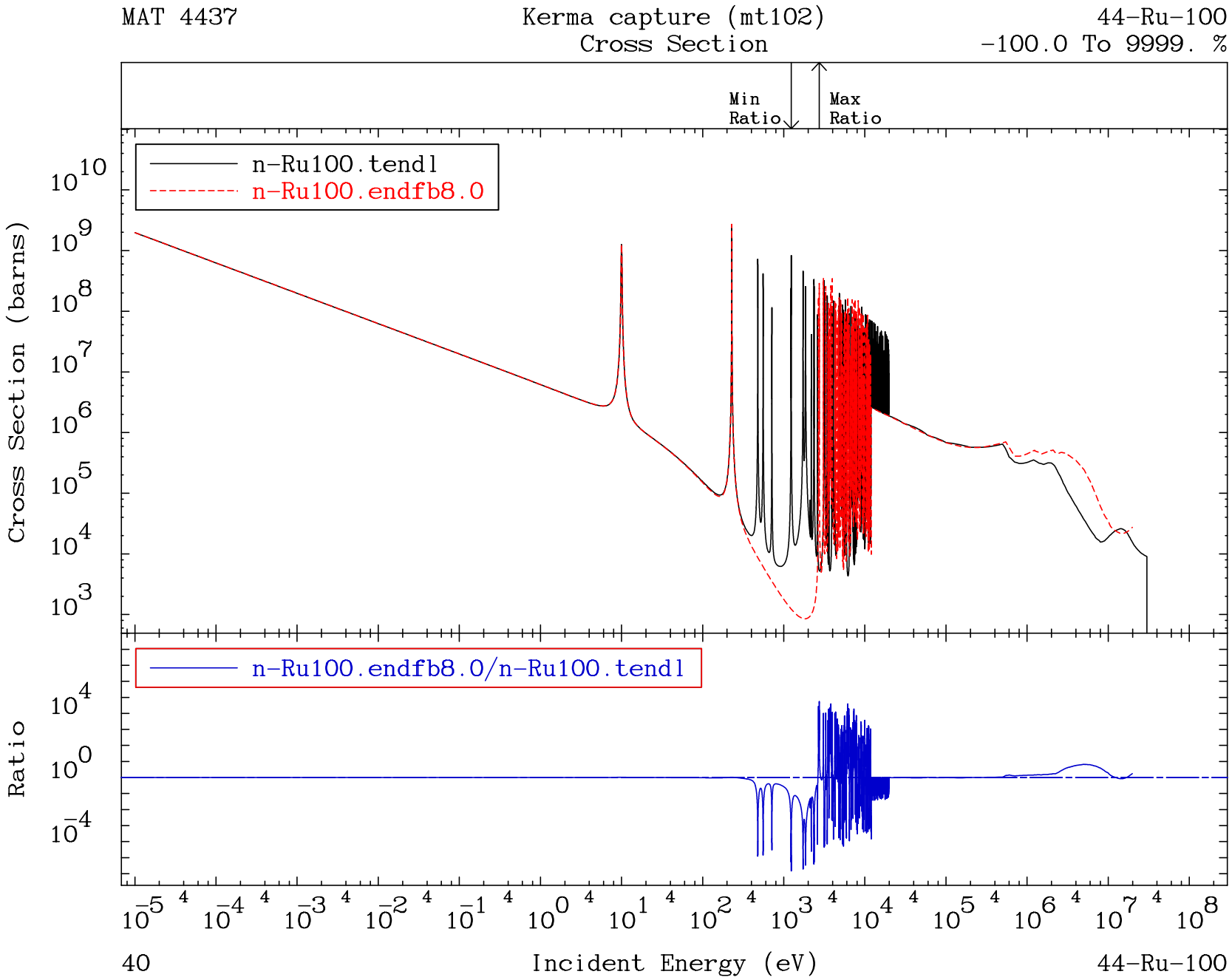

MAT 4437
Kerma total (eV-barns)
Cross Section
44-Ru-100
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Ru100.tendl
n-Ru100.endfb8.0
Cross Section (barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
Incident Energy (eV)
35
44-Ru-100

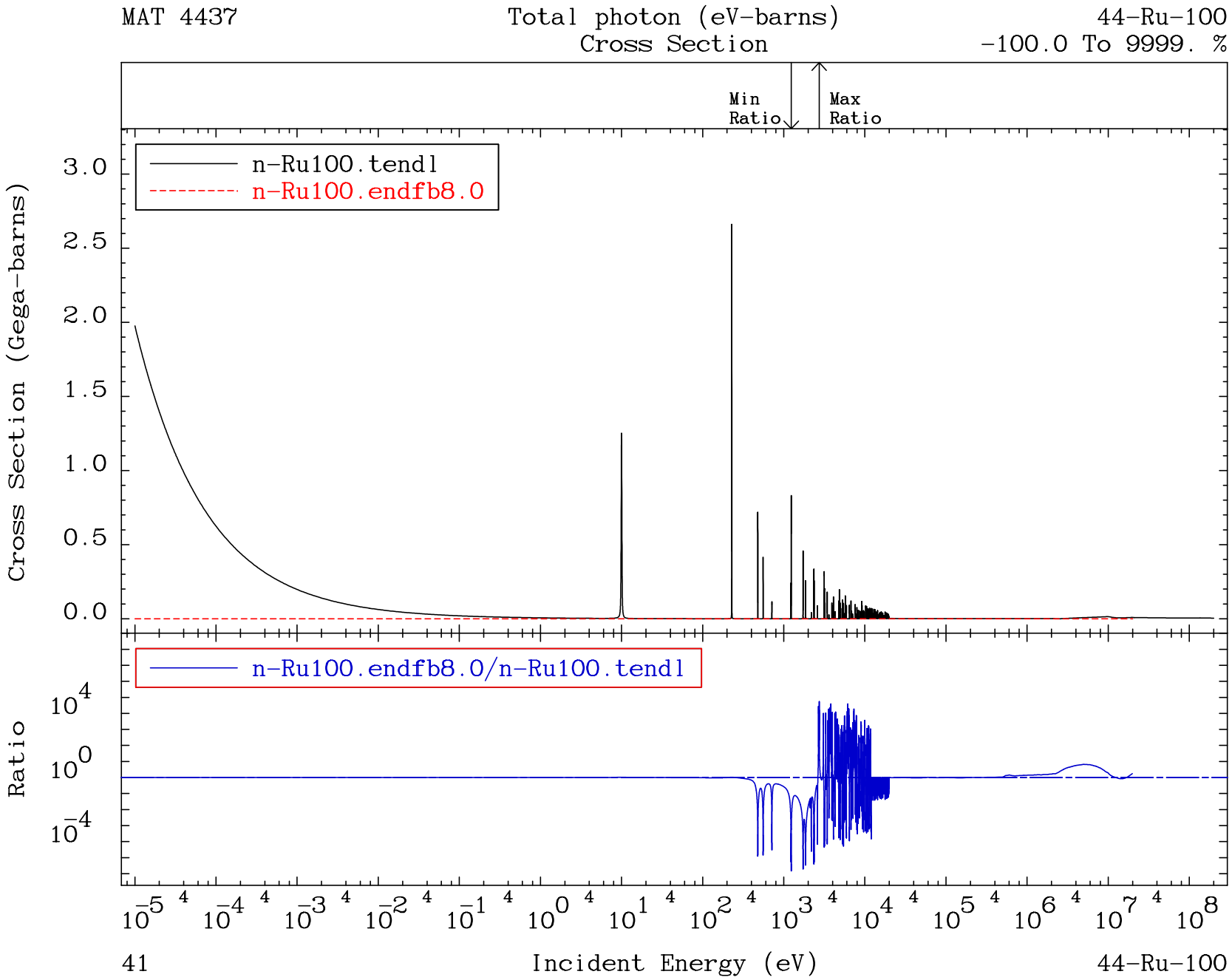

MAT 4437
Kerma elastic
Cross Section
44-Ru-100
-99.82 To 9999. %
Min Ratio
Max Ratio
n-Ru100.tendl
n-Ru100.endfb8.0
Cross Section (barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
Incident Energy (eV)
36
44-Ru-100

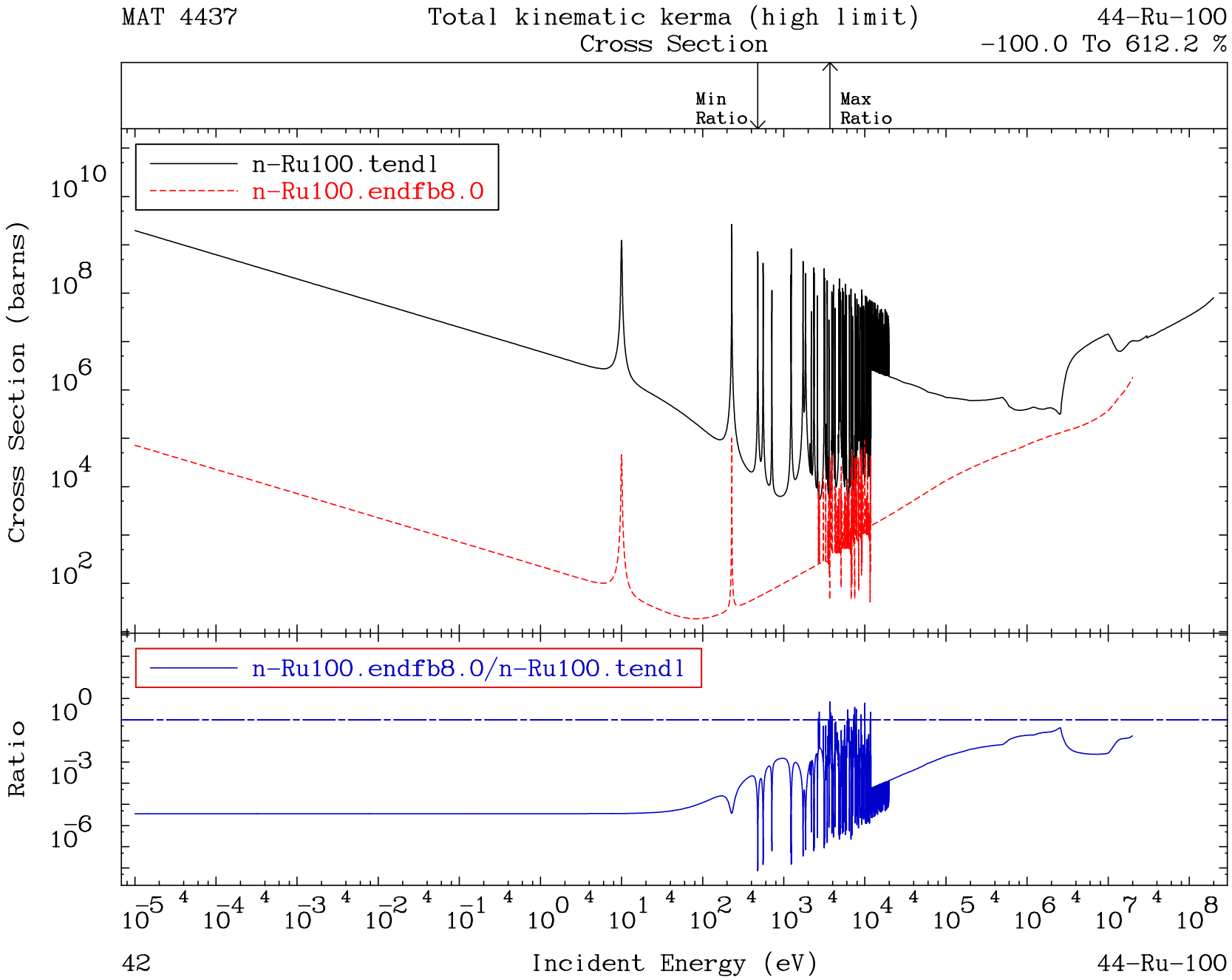

MAT 4437
Kerma non-elastic (all but mt2)
Cross Section
44-Ru-100
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Ru100.tendl
n-Ru100.endfb8.0
Cross Section (barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
Incident Energy (eV)
37
44-Ru-100

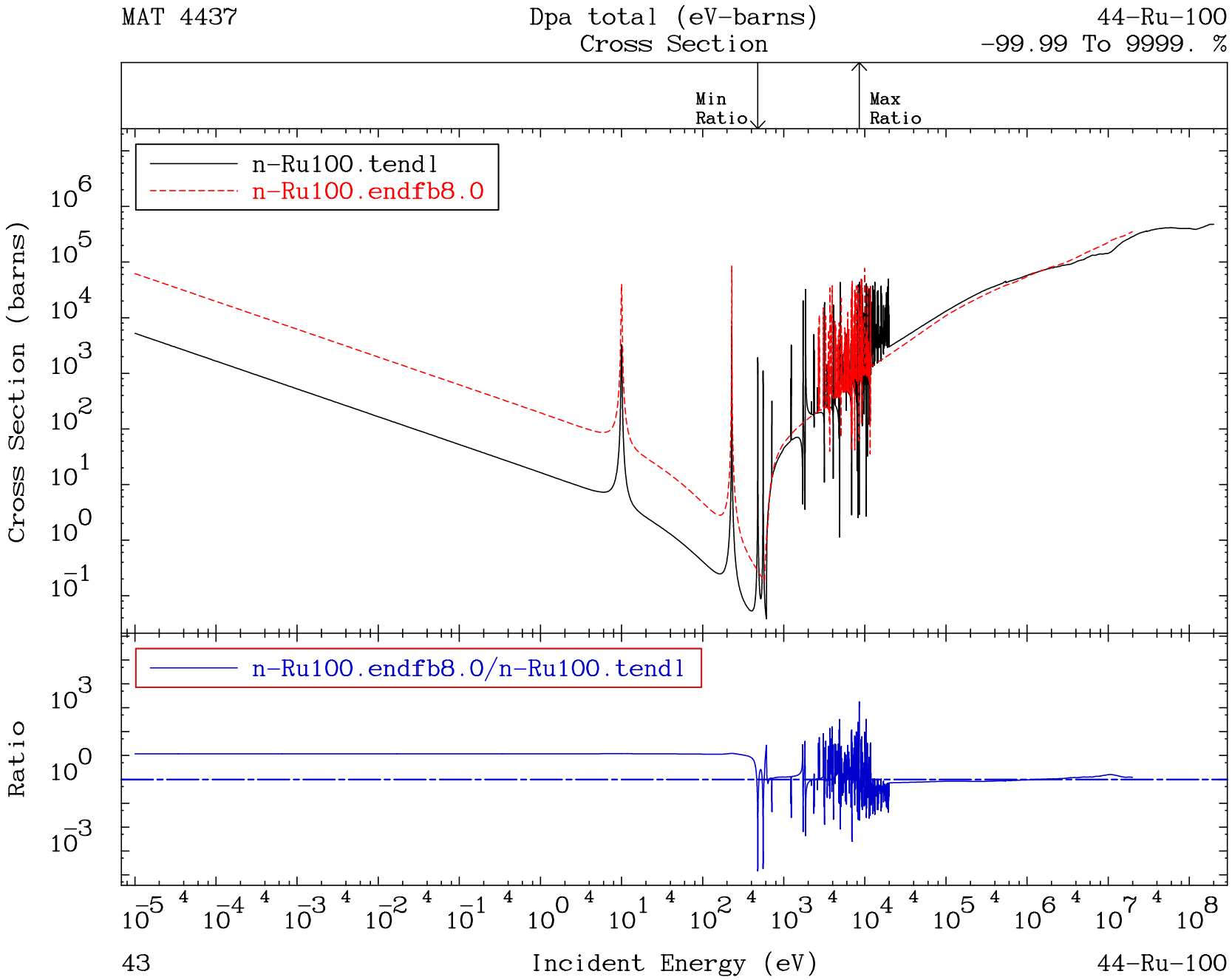

MAT 4437
Kerma inelastic (mt51-91)
Cross Section
44-Ru-100
-50.68 To 21.97 %
Min Ratio
Max Ratio
n-Ru100.tendl Threshold 550.00 keV
n-Ru100.endfb8.0 Threshold 545.05 keV
Cross Section (barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
Incident Energy (eV)
38
44-Ru-100

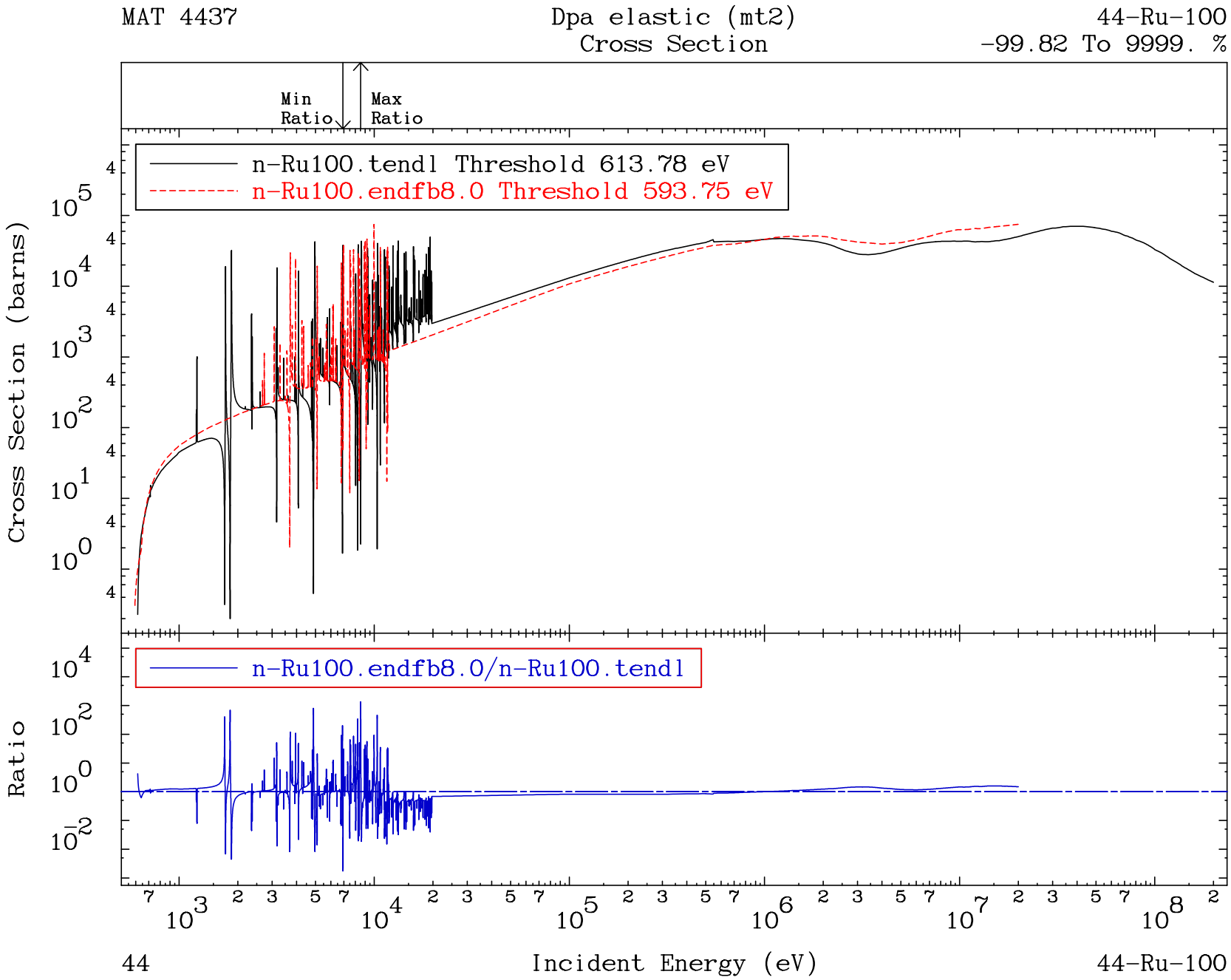

MAT 4437
Kerma fission (mt18 or mt19-20-21-38)
Cross Section
44-Ru-100
-50.68 To 21.97 %
Min Ratio
Max Ratio
n-Ru100.tendl
n-Ru100.endfb8.0
Cross Section (barns)
1.0
0.5
0.0
-0.5
-1.0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
1.2
0.8
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
39
Incident Energy (eV)
44-Ru-100

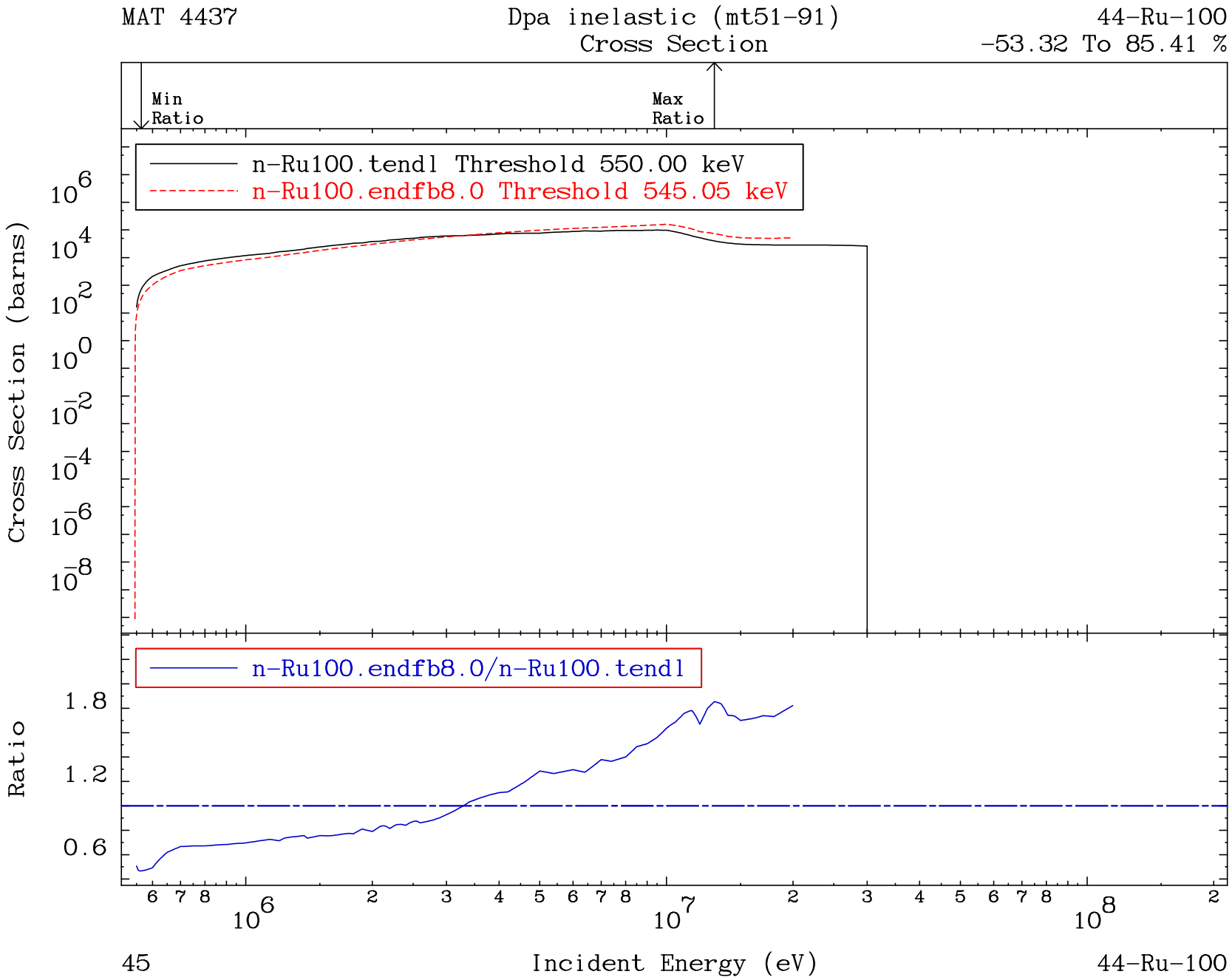

MAT 4437
Kerma capture (mt102)
Cross Section
44-Ru-100
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Ru100.tendl
n-Ru100.endfb8.0
Cross Section (barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
Incident Energy (eV)
40
44-Ru-100

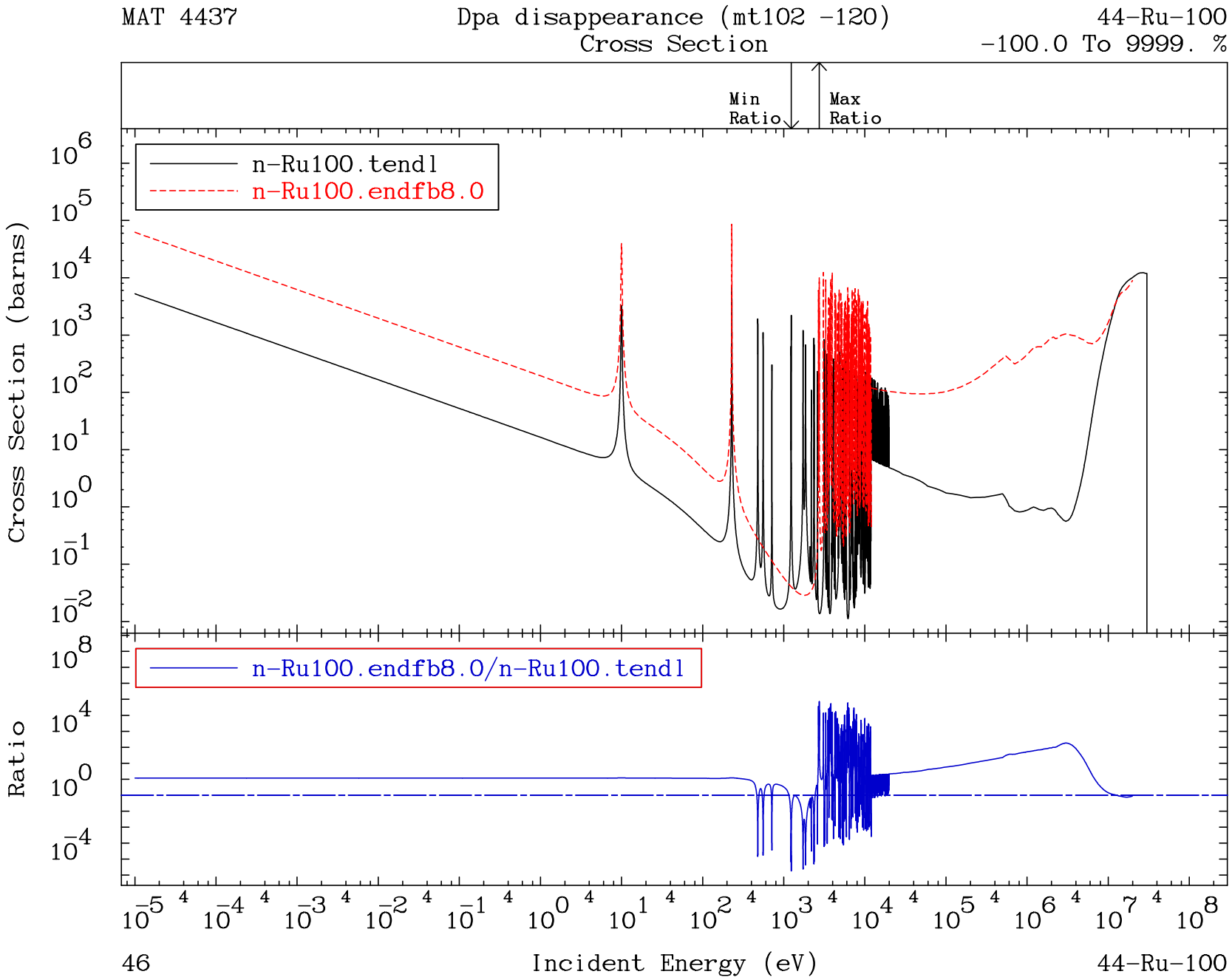

MAT 4437
Total photon (eV-barns)
Cross Section
44-Ru-100
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Ru100.tendl
n-Ru100.endfb8.0
Cross Section (Giga-barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
10^4
10^0
10^-4
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
41
Incident Energy (eV)
44-Ru-100


MAT 4437
Total kinematic kerma (high limit)
Cross Section
44-Ru-100
-100.0 To 612.2 %
Min Ratio
Max Ratio
n-Ru100.tendl
n-Ru100.endfb8.0
Cross Section (barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
Incident Energy (eV)
42
44-Ru-100


MAT 4437
Dpa total (eV-barns)
Cross Section
44-Ru-100
-99.99 To 9999. %
Min Ratio
Max Ratio
n-Ru100.tendl
n-Ru100.endfb8.0
Cross Section (barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
43
Incident Energy (eV)
44-Ru-100


MAT 4437
Dpa elastic (mt2)
Cross Section
44-Ru-100
-99.82 To 9999. %
Min Ratio
Max Ratio
n-Ru100.tendl Threshold 613.78 eV
n-Ru100.endfb8.0 Threshold 593.75 eV
Cross Section (barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
Incident Energy (eV)
44
44-Ru-100


MAT 4437
Dpa inelastic (mt51-91)
Cross Section
44-Ru-100
-53.32 To 85.41 %
Min Ratio
Max Ratio
n-Ru100.tendl Threshold 550.00 keV
n-Ru100.endfb8.0 Threshold 545.05 keV
Cross Section (barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
Incident Energy (eV)
45
44-Ru-100


MAT 4437
Dpa disappearance (mt102 -120)
Cross Section
44-Ru-100
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Ru100.tendl
n-Ru100.endfb8.0
Cross Section (barns)
n-Ru100.endfb8.0/n-Ru100.tendl
Ratio
Incident Energy (eV)
46
44-Ru-100