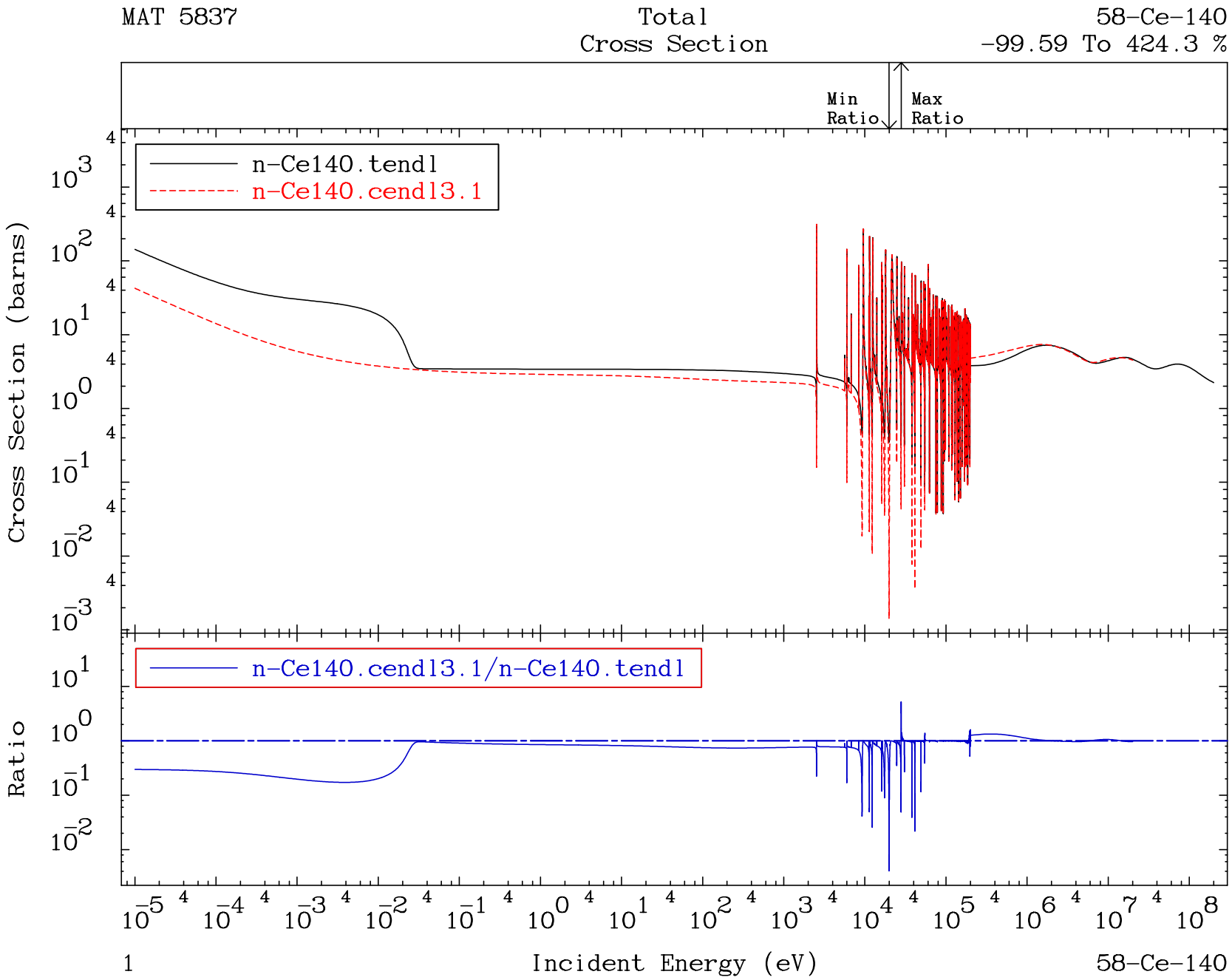
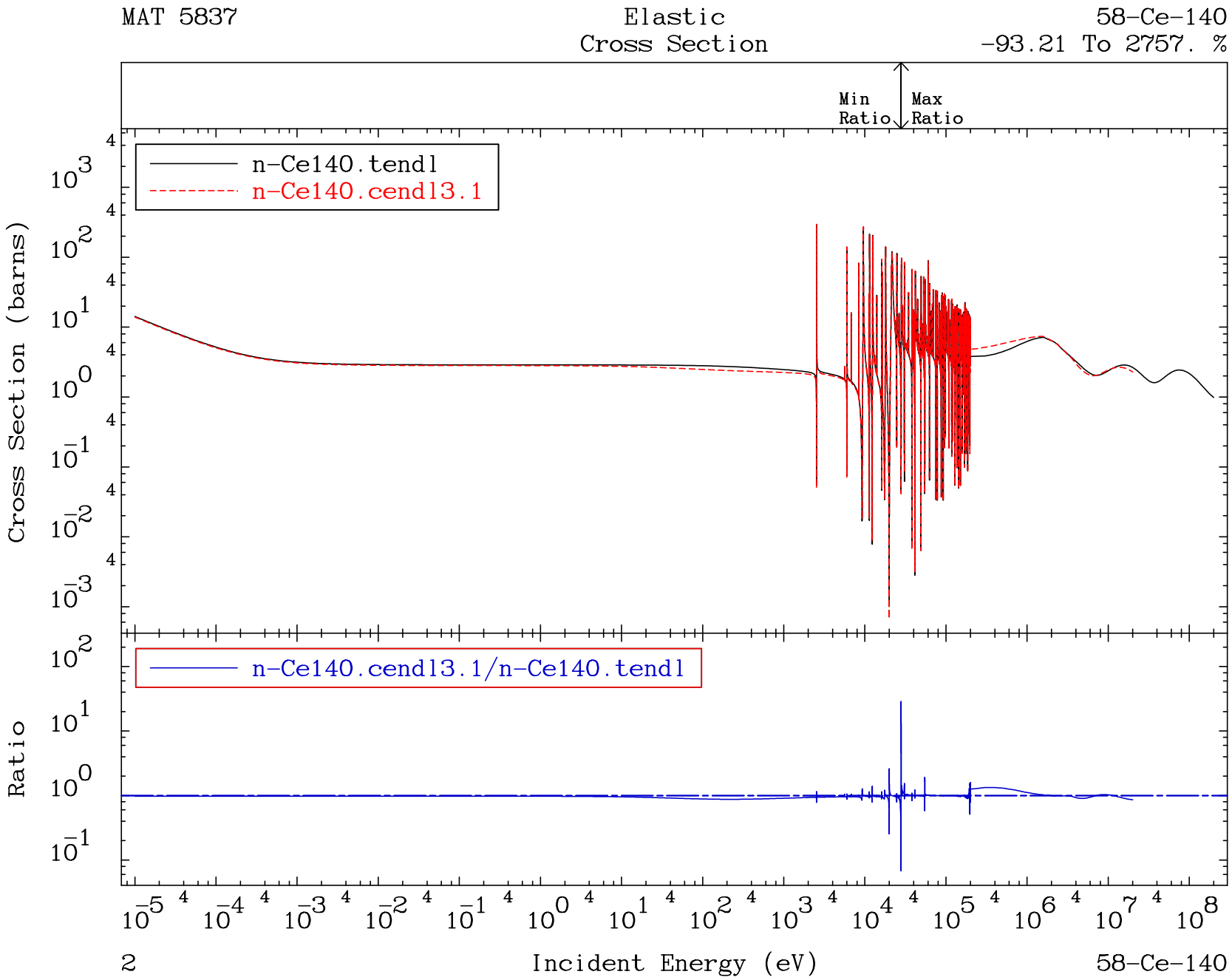
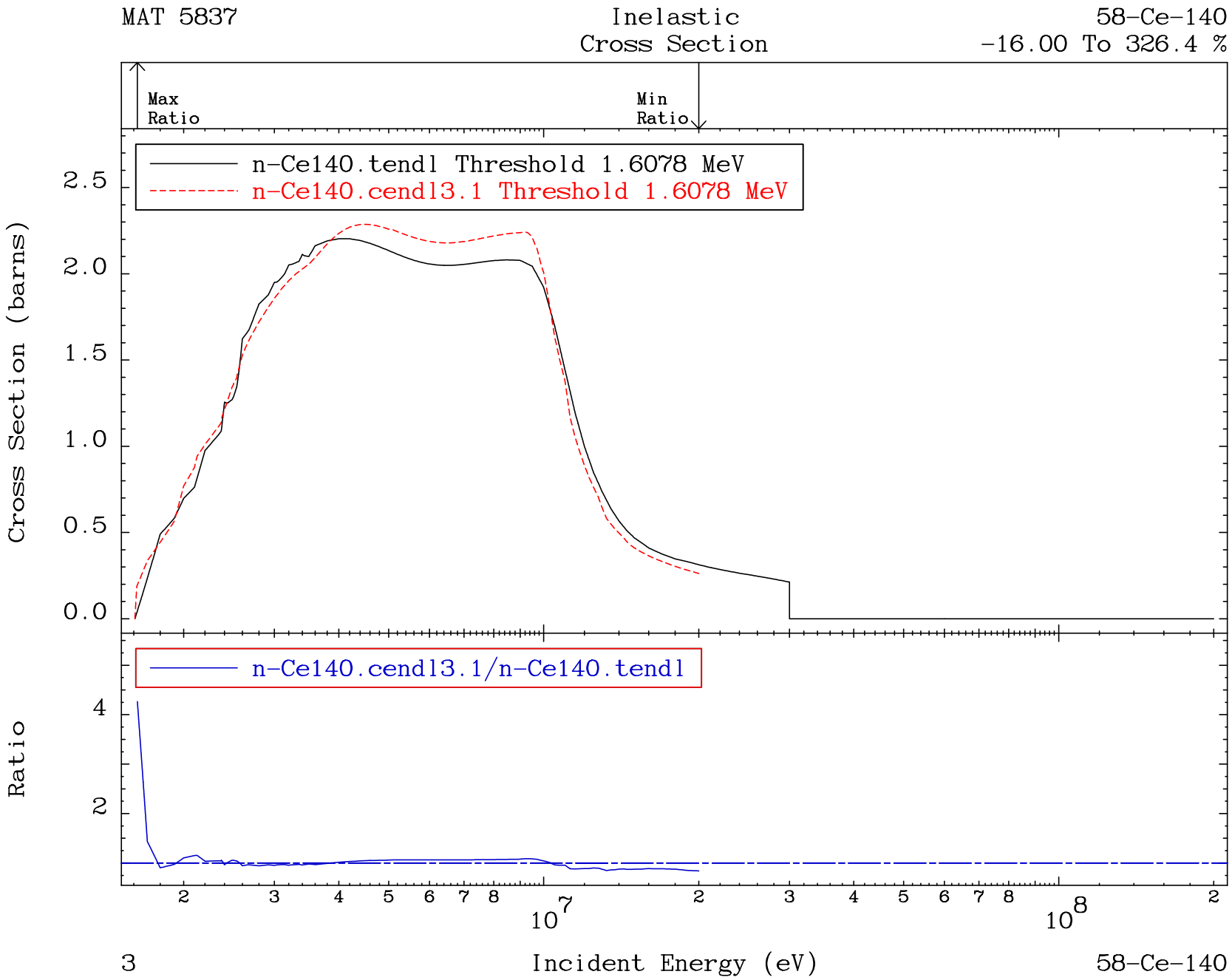
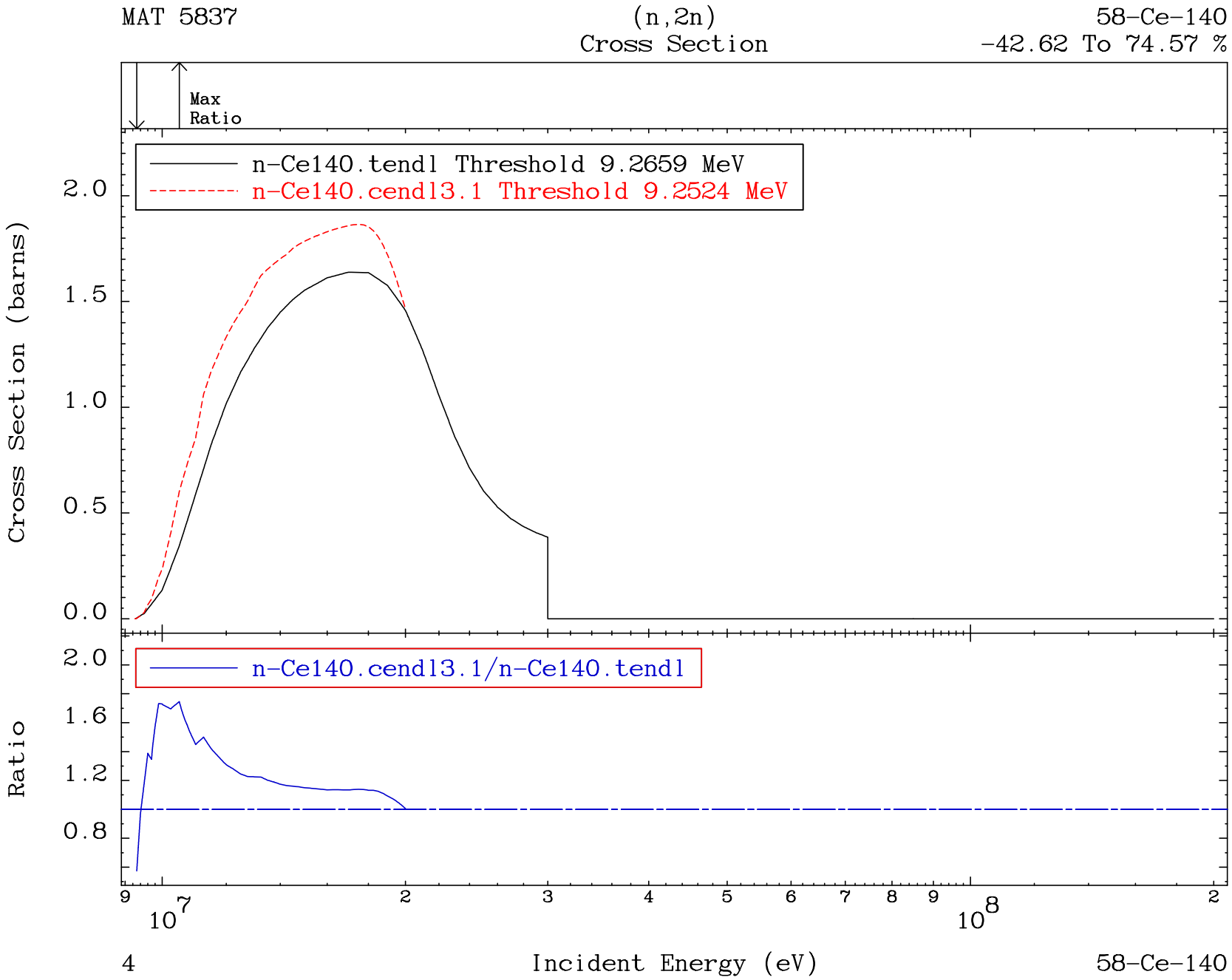
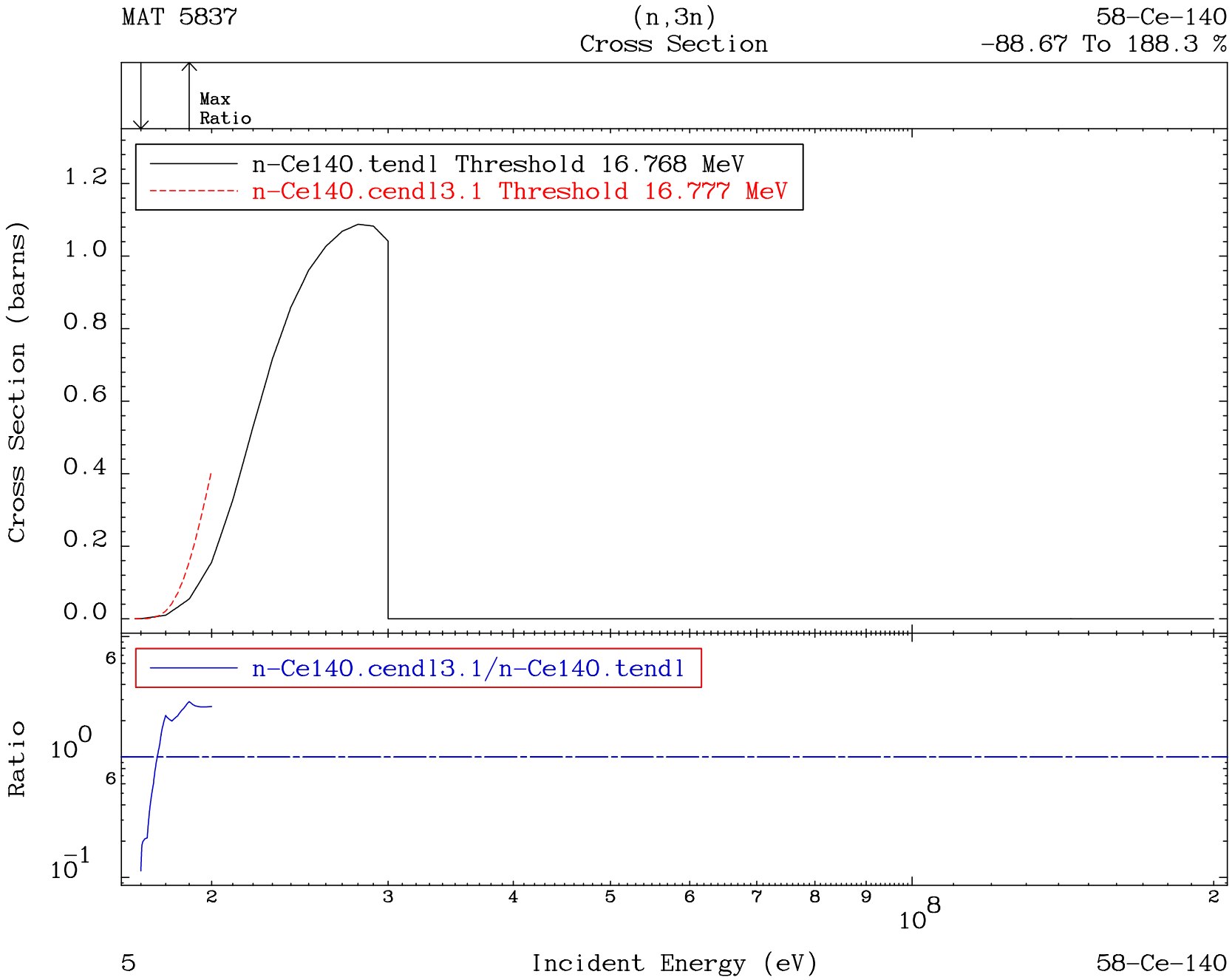
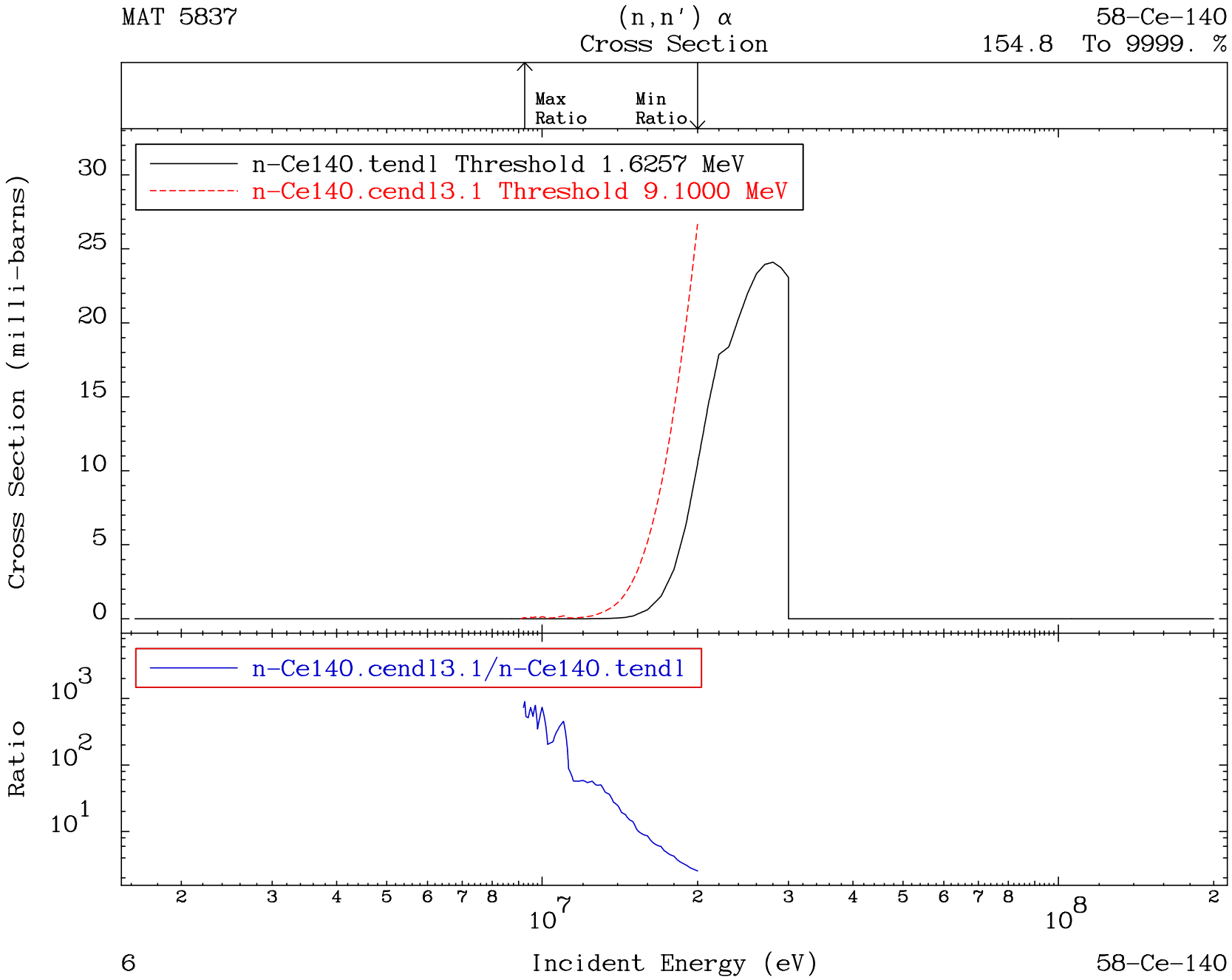

MAT 5837
Total
Cross Section
58-Ce-140
-99.59 To 424.3 %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.cendl3.1
Cross Section (barns)
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
Incident Energy (eV)
1
58-Ce-140

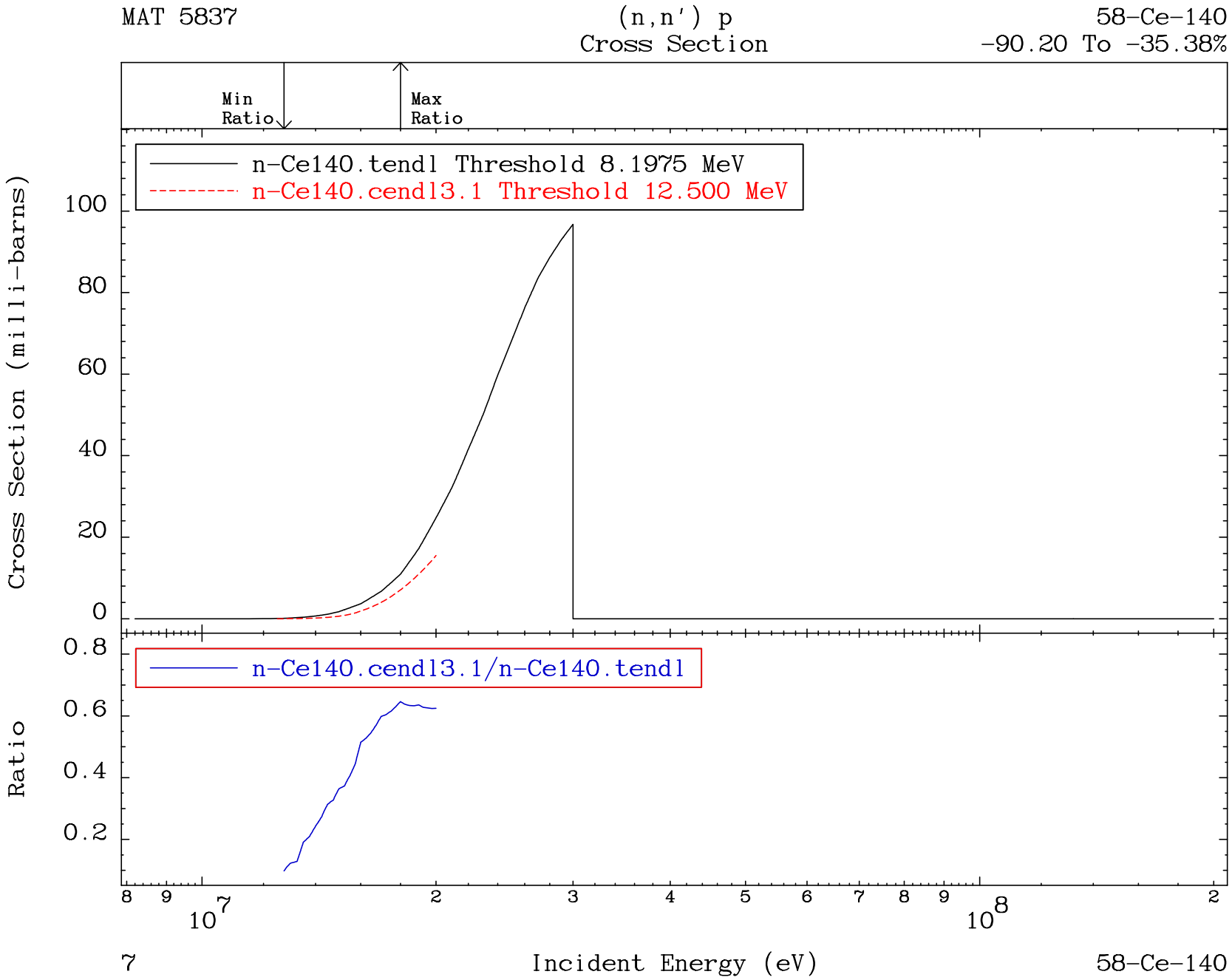

MAT 5837
Elastic
Cross Section
58-Ce-140
-93.21 To 2757. %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.cendl3.1
Cross Section (barns)
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
Incident Energy (eV)
2
58-Ce-140

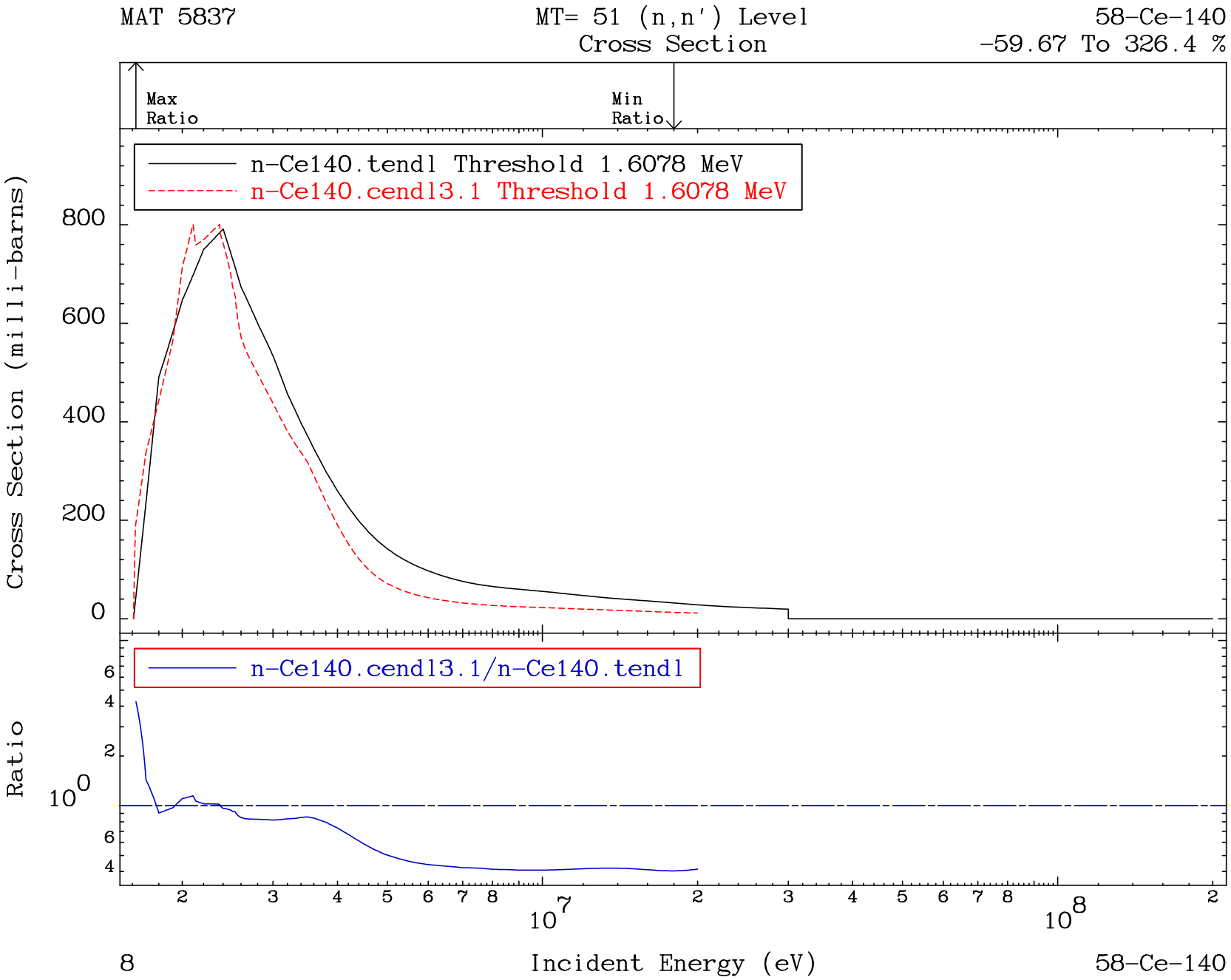

MAT 5837
Inelastic
Cross Section
58-Ce-140
-16.00 To 326.4 %
Max
Ratio
Min
Ratio
n-Ce140.tendl Threshold 1.6078 MeV
n-Ce140.cendl3.1 Threshold 1.6078 MeV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
4
2
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
3
Incident Energy (eV)
58-Ce-140

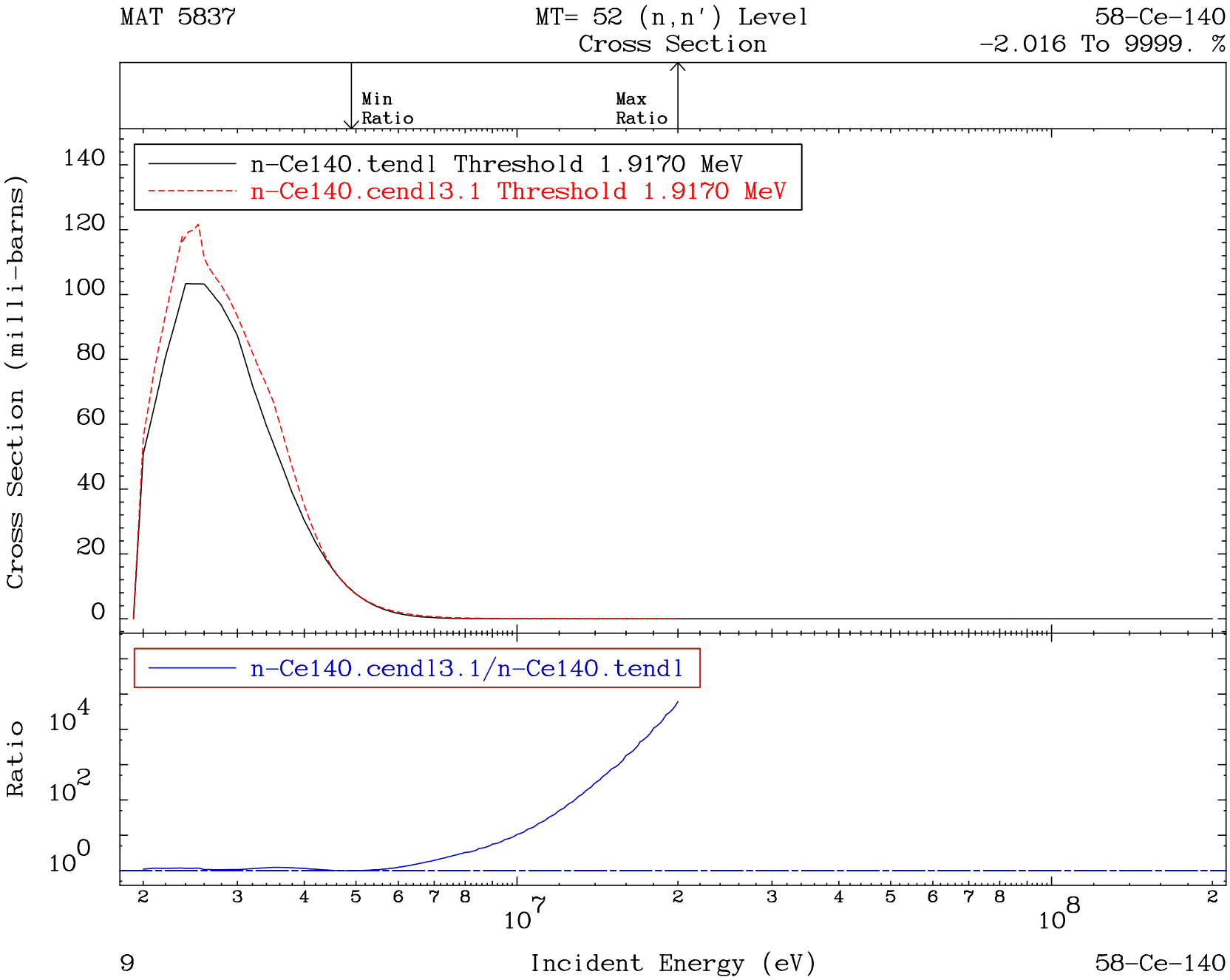

MAT 5837
(n,2n)
Cross Section
58-Ce-140
-42.62 To 74.57 %
Max
Ratio
n-Ce140.tendl Threshold 9.2659 MeV
n-Ce140.cendl3.1 Threshold 9.2524 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
2.0
1.6
1.2
0.8
9
10^7
2
3
4
5
6
7
8
9
10^8
2
4
Incident Energy (eV)
58-Ce-140

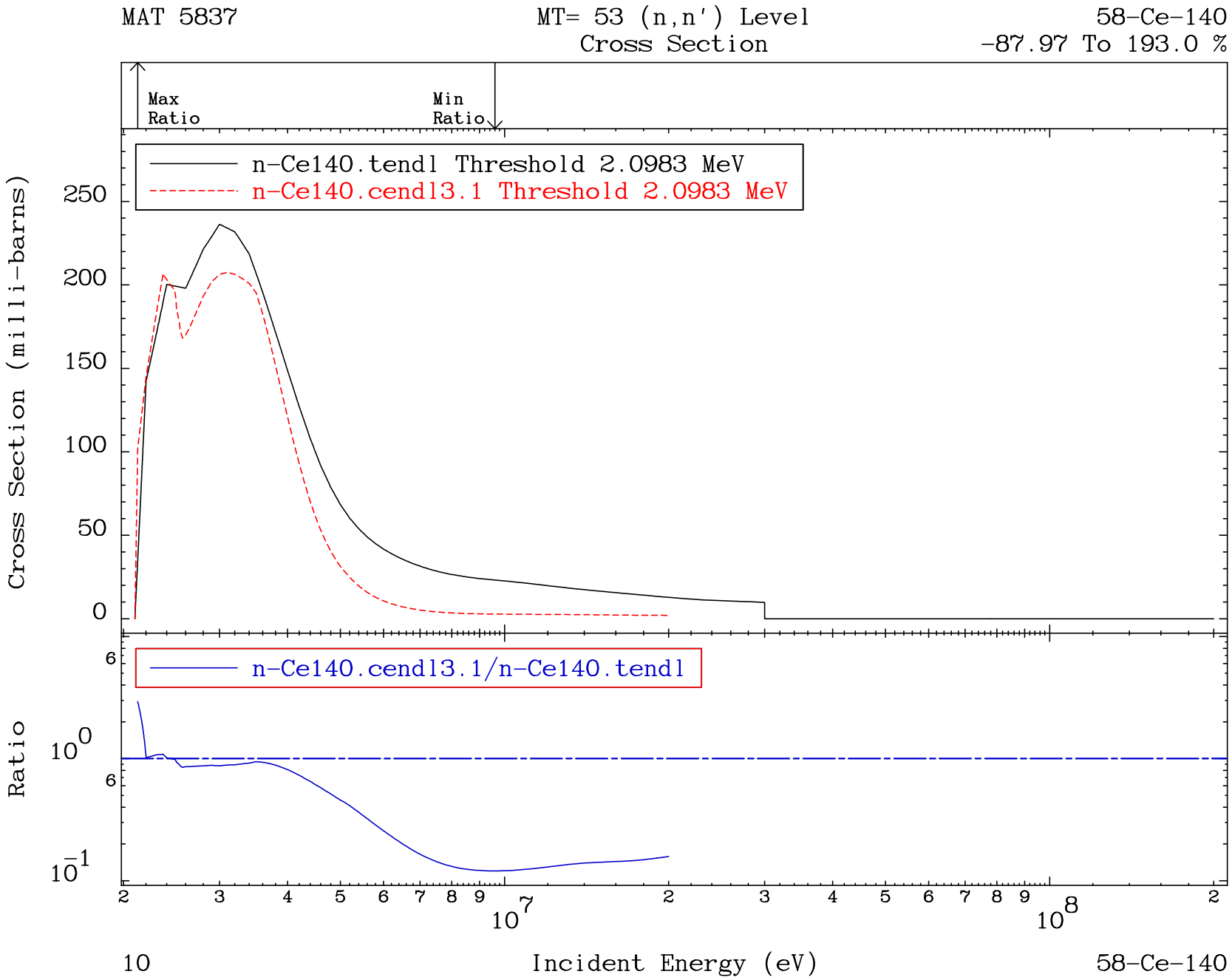

MAT 5837
(n,3n)
Cross Section
58-Ce-140
-88.67 To 188.3 %
Max
Ratio
n-Ce140.tendl Threshold 16.768 MeV
n-Ce140.cendl3.1 Threshold 16.777 MeV
Cross Section (barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
6
10^0
6
10^-1
2
3
4
5
6
7
8
9
10^8
2
5
Incident Energy (eV)
58-Ce-140

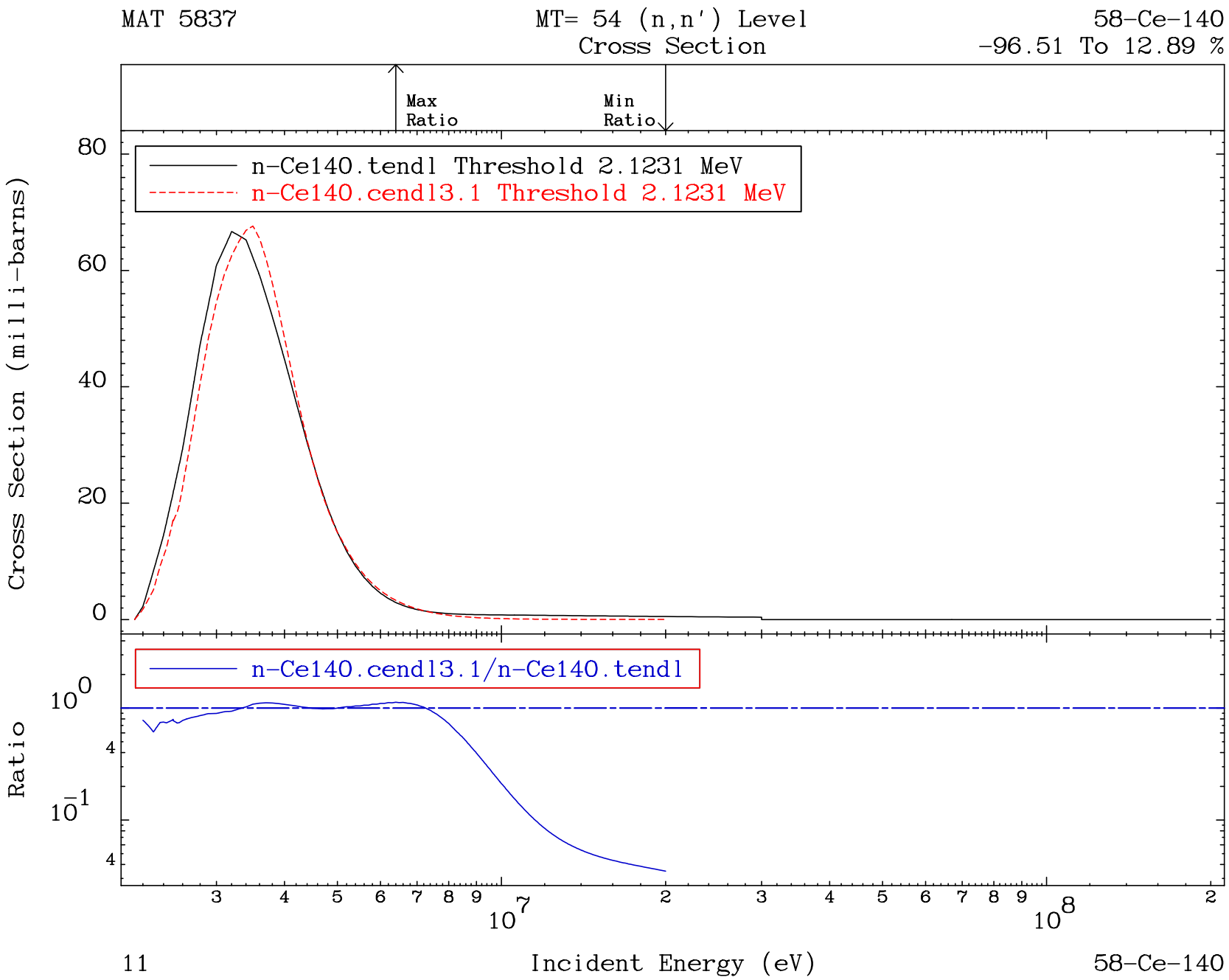

MAT 5837
(n,n') α
Cross Section
58-Ce-140
154.8 To 9999. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 1.6257 MeV
n-Ce140.cendl3.1 Threshold 9.1000 MeV
Cross Section (milli-barns)
30
25
20
15
10
5
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
10^3
10^2
10^1
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
6
Incident Energy (eV)
58-Ce-140

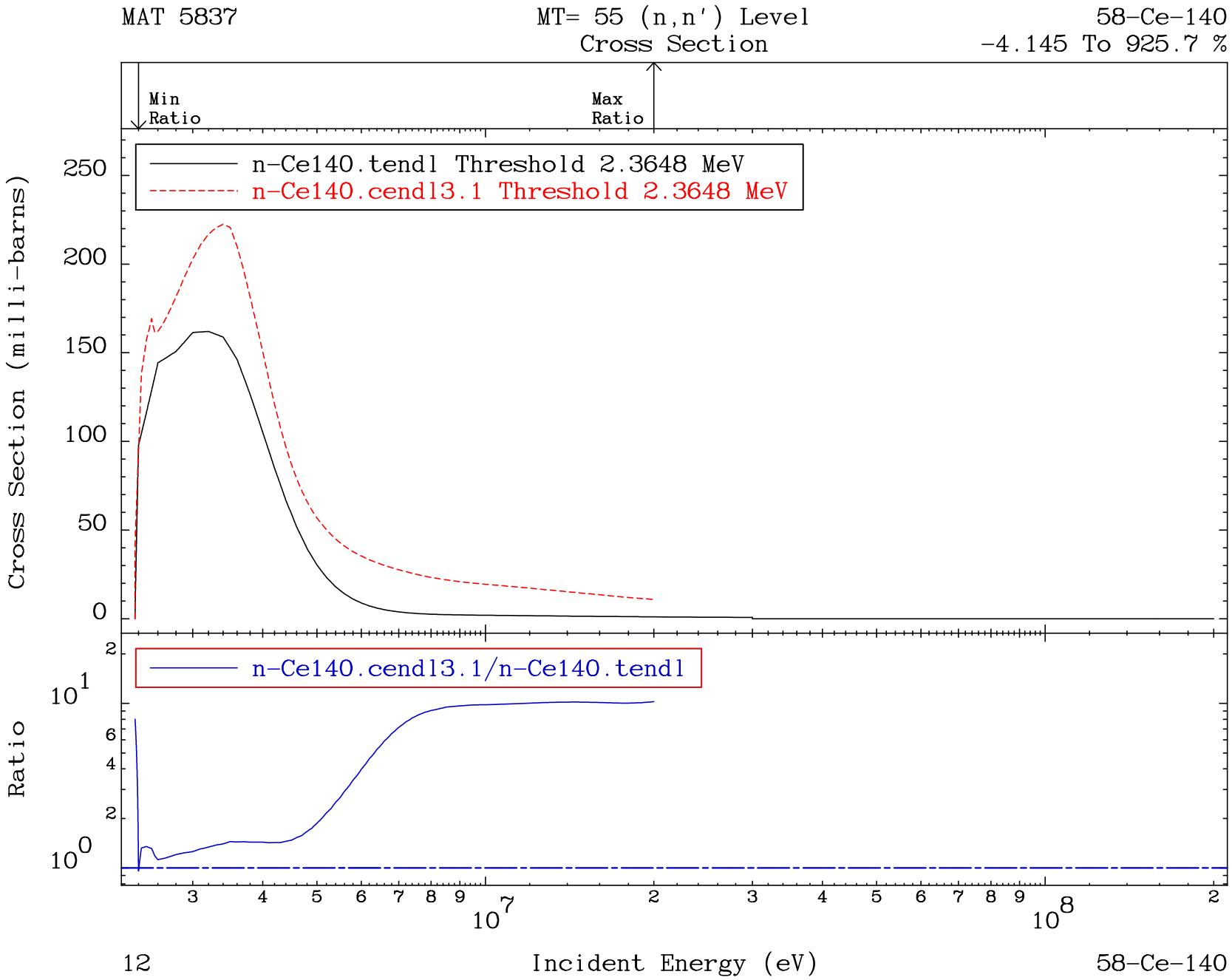

MAT 5837
(n,n') p
Cross Section
58-Ce-140
-90.20 To -35.38%
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 8.1975 MeV
n-Ce140.cendl3.1 Threshold 12.500 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
0.8
0.6
0.4
0.2
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
7
Incident Energy (eV)
58-Ce-140

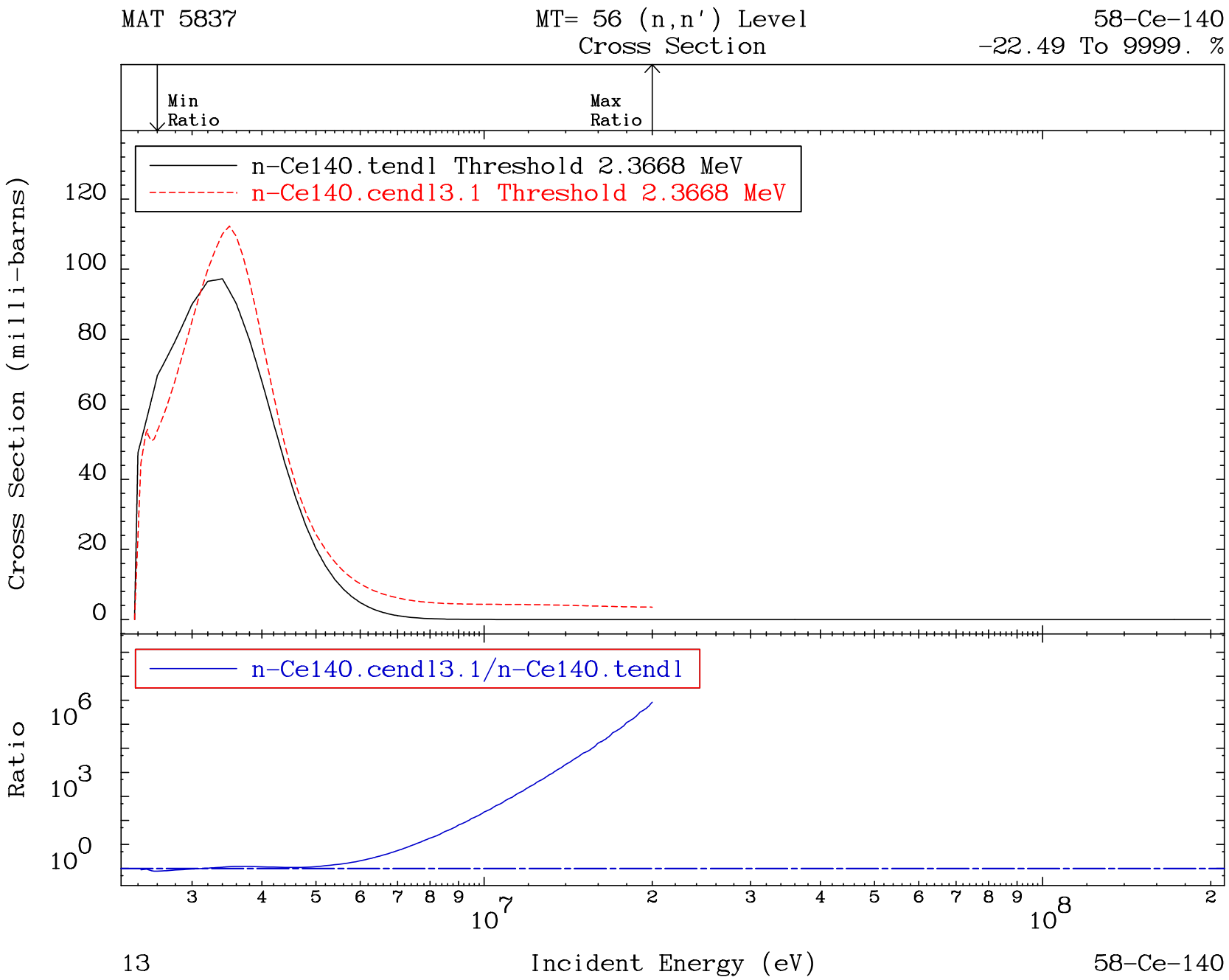

MAT 5837
MT= 51 (n,n') Level
Cross Section
58-Ce-140
-59.67 To 326.4 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 1.6078 MeV
n-Ce140.cendl3.1 Threshold 1.6078 MeV
Cross Section (milli-barns)
800
600
400
200
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
10^0
6
4
2
6
4
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
8
Incident Energy (eV)
58-Ce-140

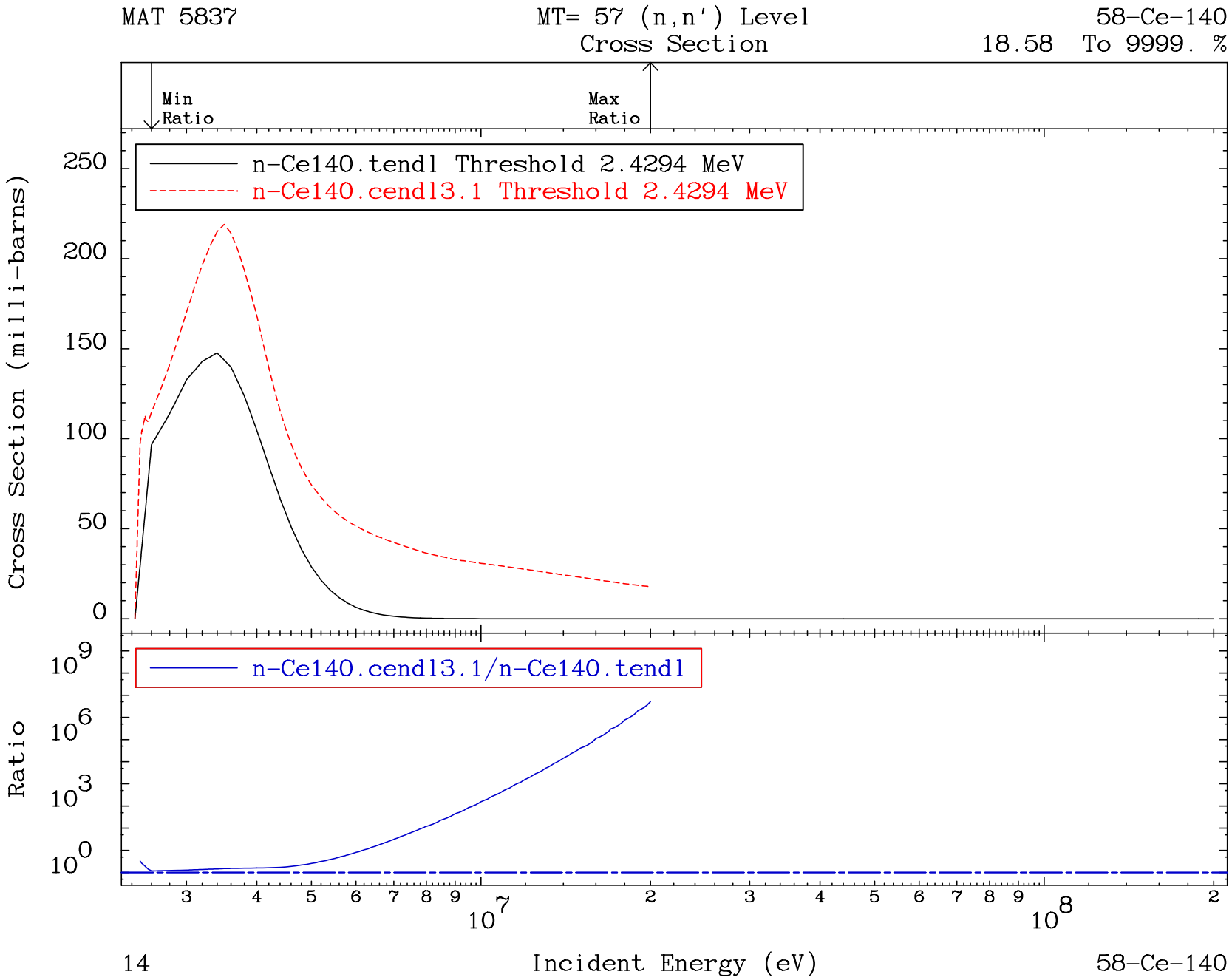

MAT 5837
MT= 52 (n,n') Level
Cross Section
58-Ce-140
-2.016 To 9999. %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 1.9170 MeV
n-Ce140.cendl3.1 Threshold 1.9170 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
10^4
10^2
10^0
2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
9
Incident Energy (eV)
58-Ce-140

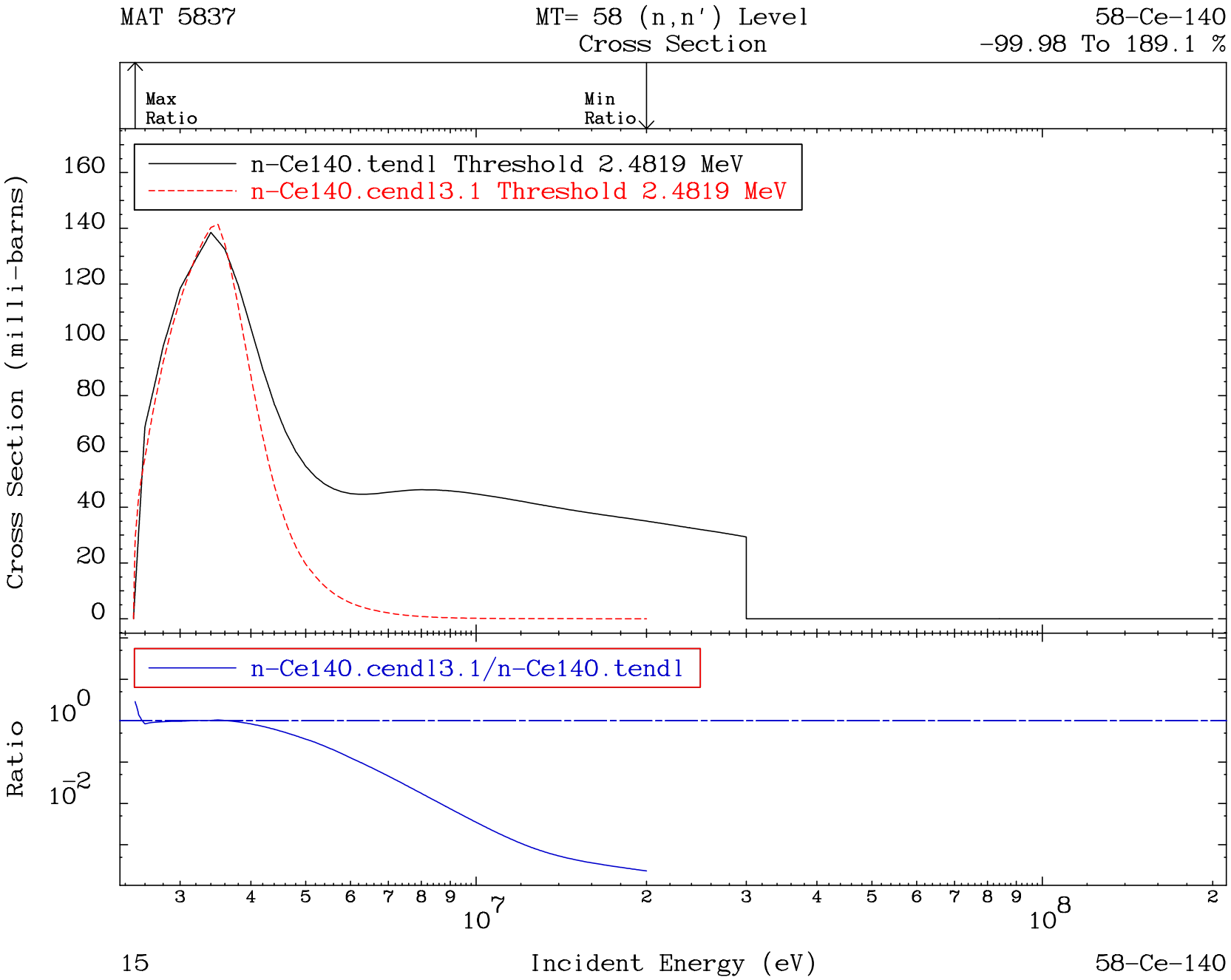

MAT 5837
MT= 53 (n,n') Level
Cross Section
58-Ce-140
-87.97 To 193.0 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 2.0983 MeV
n-Ce140.cendl3.1 Threshold 2.0983 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
6
10^0
6
10^{-1}
2 3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
10
Incident Energy (eV)
58-Ce-140

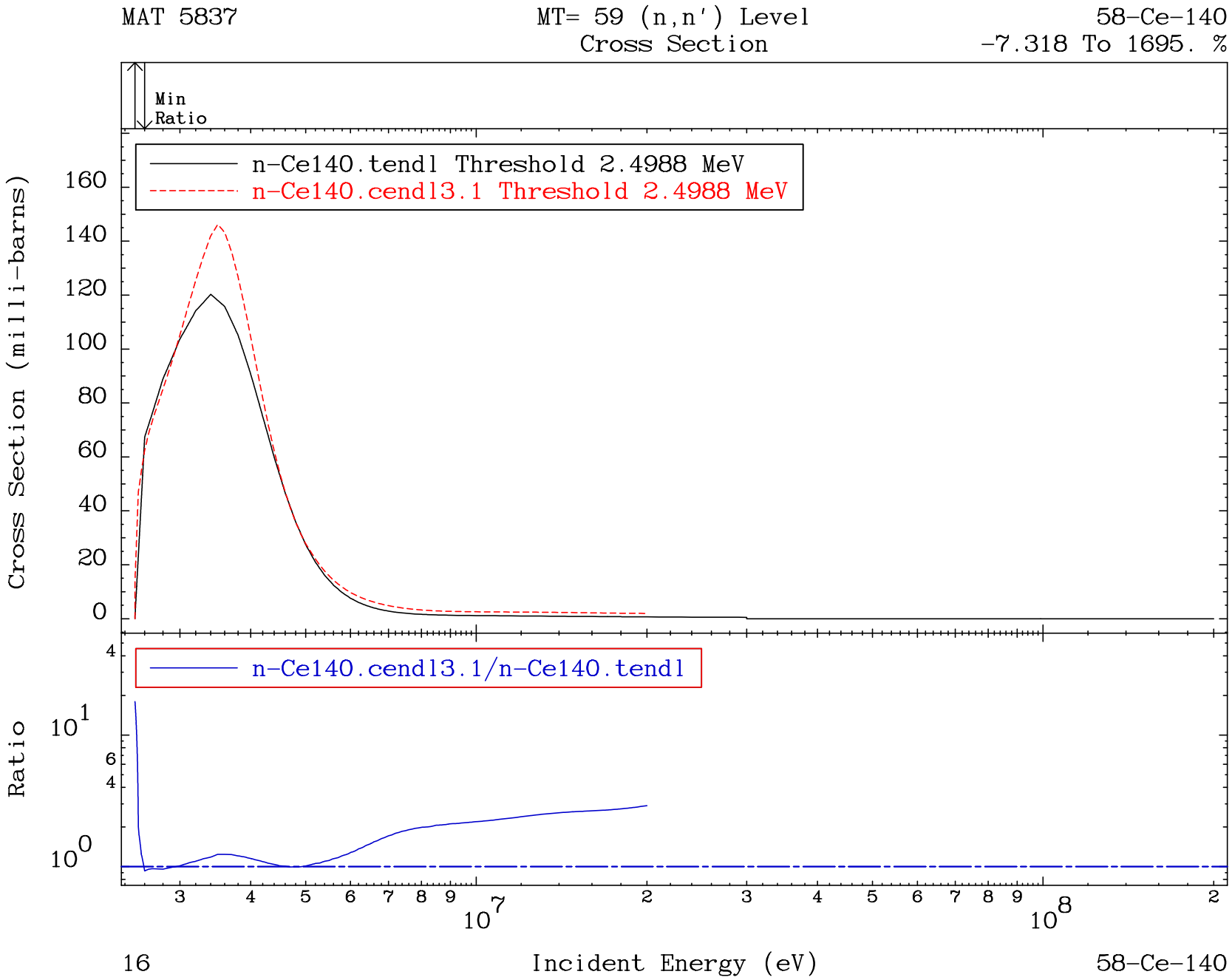

MAT 5837
MT= 54 (n,n') Level
Cross Section
58-Ce-140
-96.51 To 12.89 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 2.1231 MeV
n-Ce140.cendl3.1 Threshold 2.1231 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
10^0
4
10^-1
4
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
11
Incident Energy (eV)
58-Ce-140

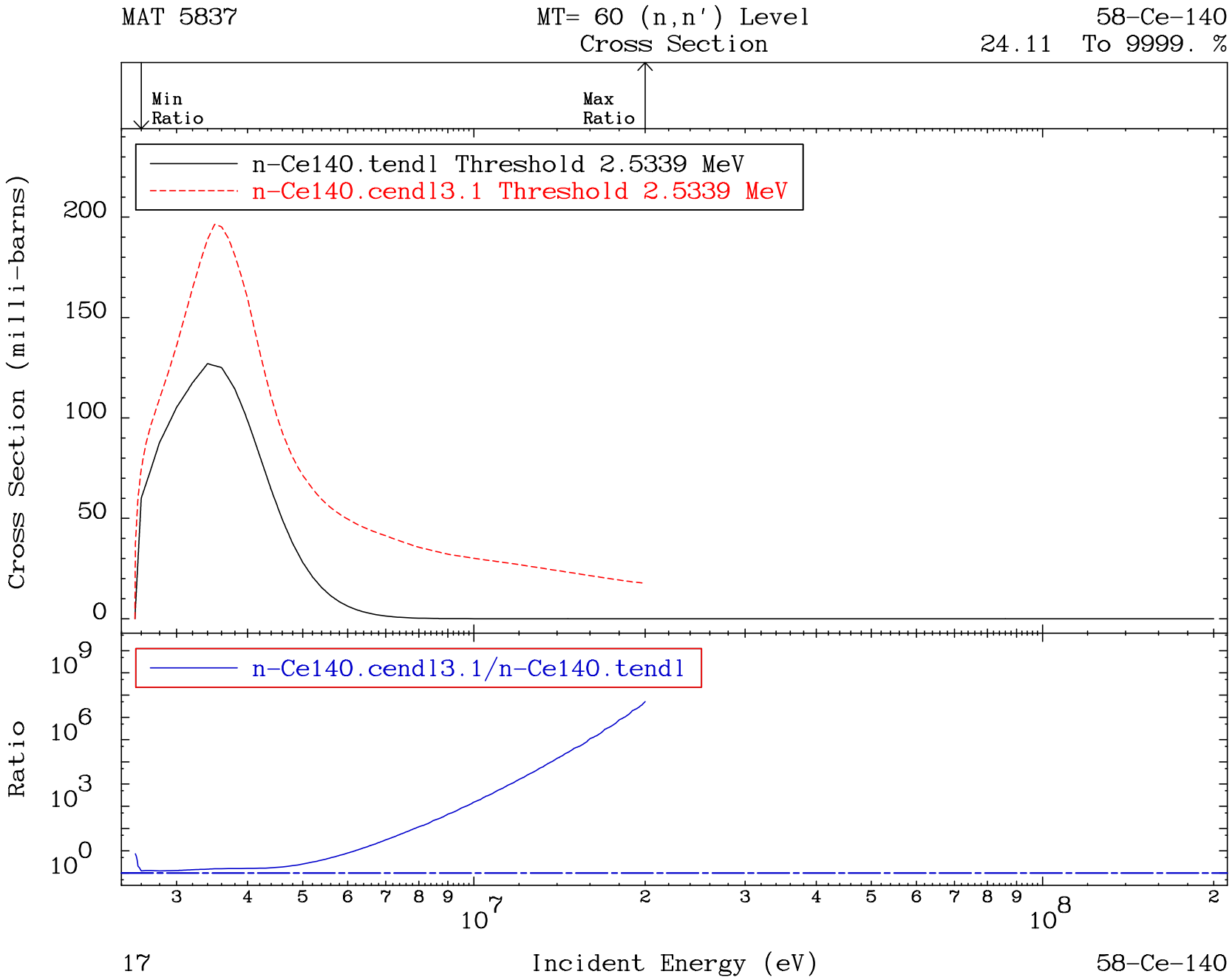

MAT 5837
MT= 55 (n,n') Level
Cross Section
58-Ce-140
-4.145 To 925.7 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 2.3648 MeV
n-Ce140.cendl3.1 Threshold 2.3648 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
2
10^1
6
4
2
10^0
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
12
Incident Energy (eV)
58-Ce-140

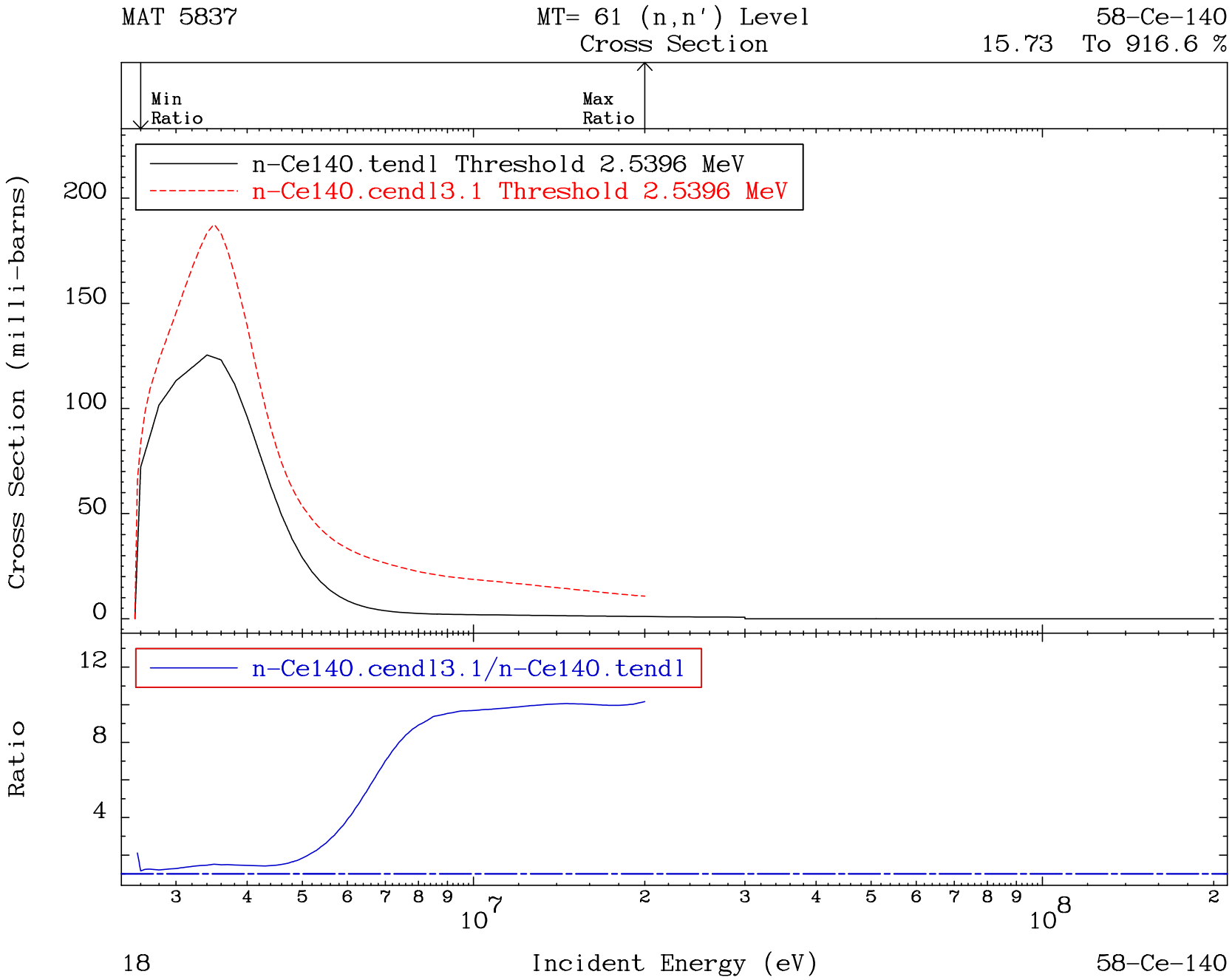

MAT 5837
MT= 56 (n,n') Level
Cross Section
58-Ce-140
-22.49 To 9999. %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 2.3668 MeV
n-Ce140.cendl3.1 Threshold 2.3668 MeV
Cross Section (milli-barns)
120
100
80
60
40
20
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
10^6
10^3
10^0
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
13
Incident Energy (eV)
58-Ce-140

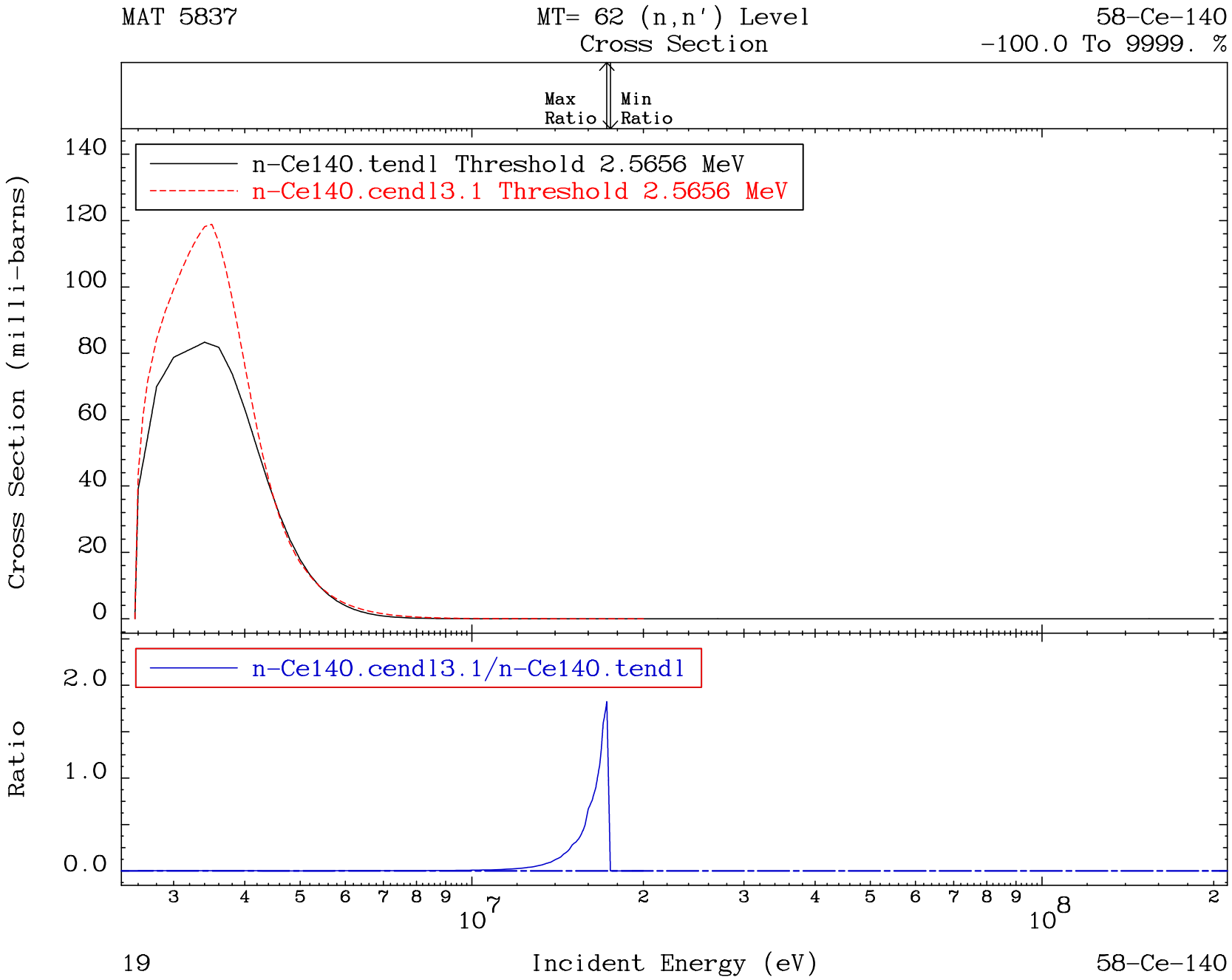

MAT 5837
MT= 57 (n,n') Level
Cross Section
58-Ce-140
18.58 To 9999. %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 2.4294 MeV
n-Ce140.cendl3.1 Threshold 2.4294 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
10^9
10^6
10^3
10^0
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
14
Incident Energy (eV)
58-Ce-140

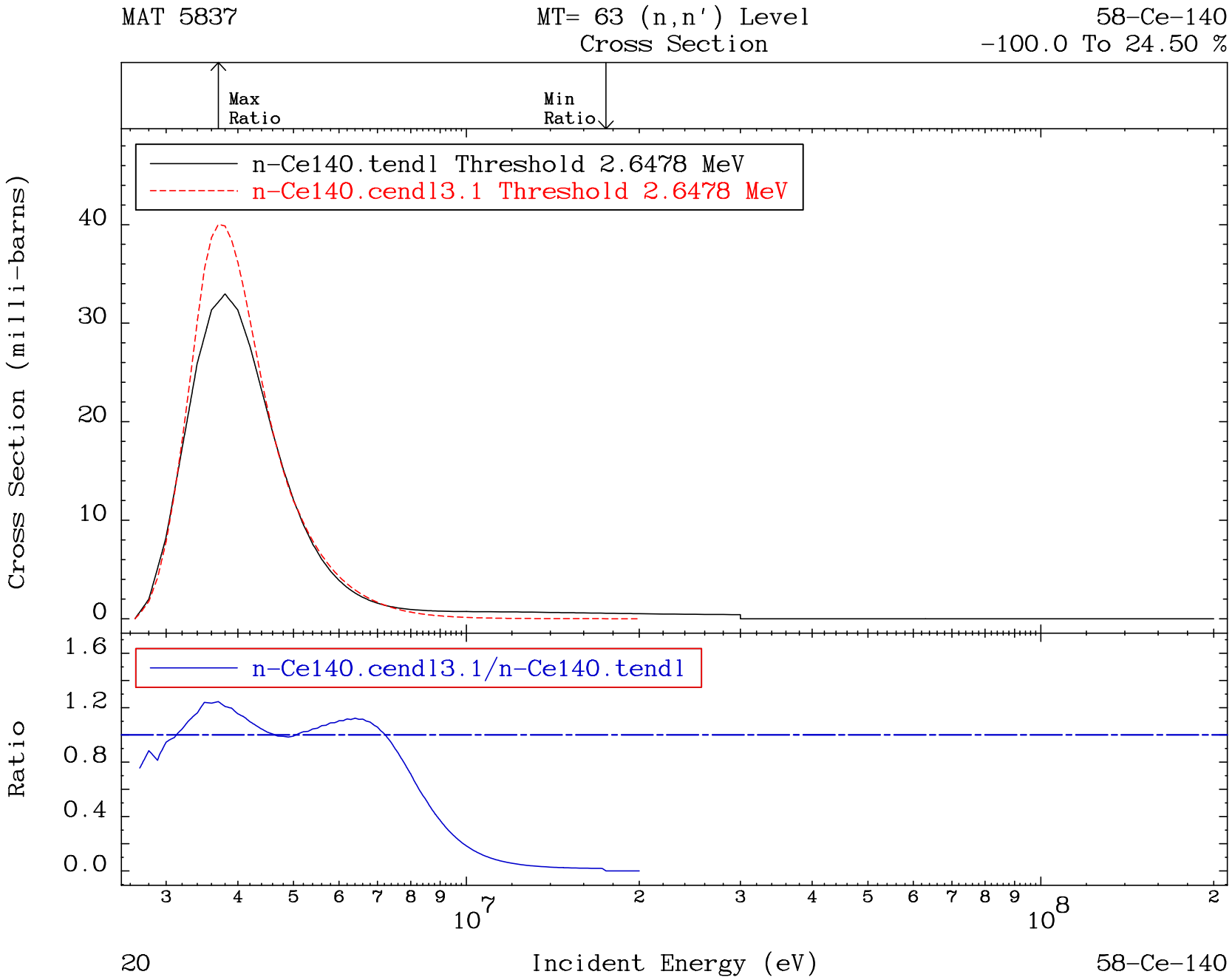

MAT 5837
MT= 58 (n,n') Level
Cross Section
58-Ce-140
-99.98 To 189.1 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 2.4819 MeV
n-Ce140.cendl3.1 Threshold 2.4819 MeV
Cross Section (milli-barns)
160
140
120
100
80
60
40
20
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
10^0
10^-2
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
15
Incident Energy (eV)
58-Ce-140

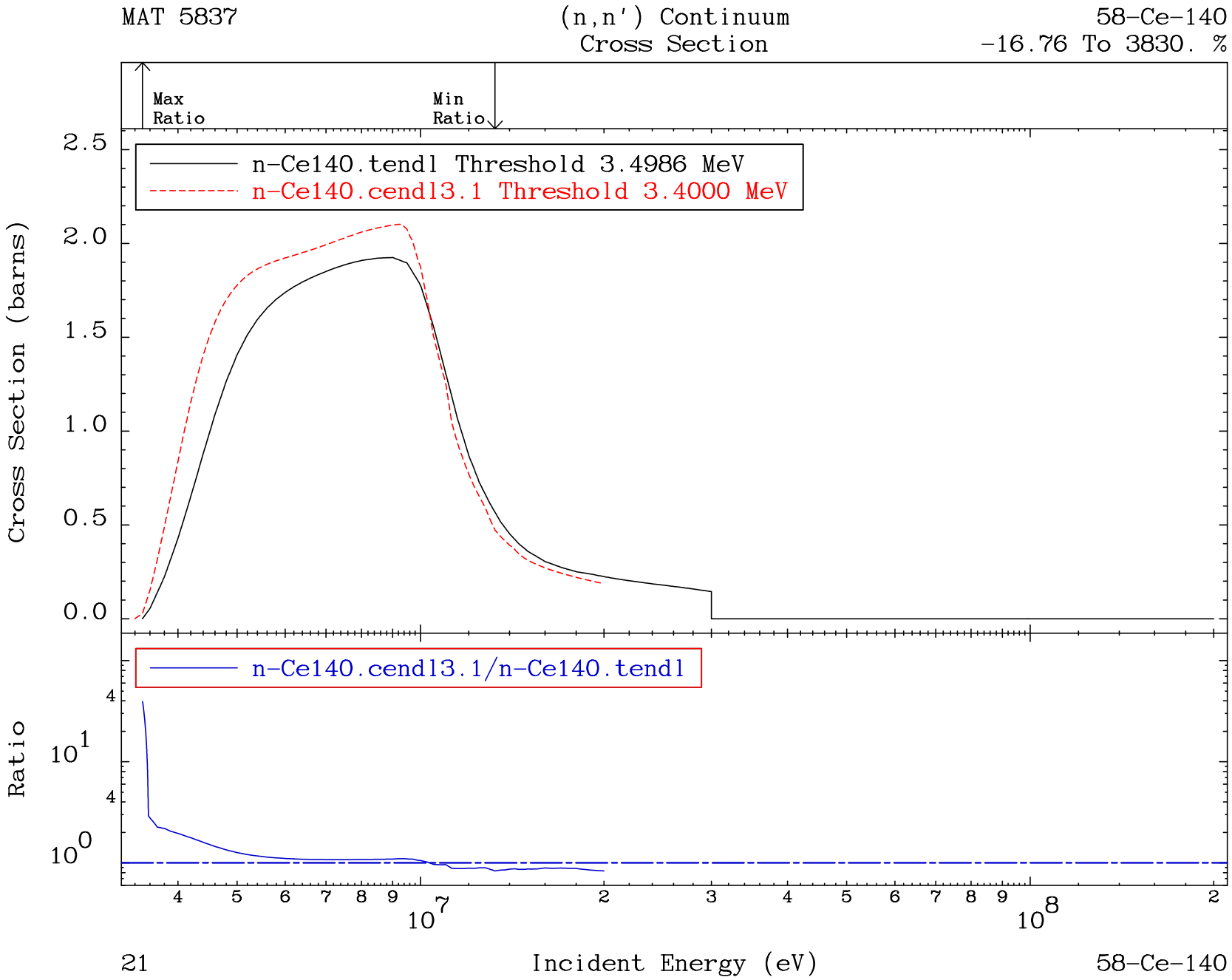

MAT 5837
MT= 59 (n,n') Level
Cross Section
58-Ce-140
-7.318 To 1695. %
Min
Ratio
n-Ce140.tendl Threshold 2.4988 MeV
n-Ce140.cendl3.1 Threshold 2.4988 MeV
Cross Section (milli-barns)
160
140
120
100
80
60
40
20
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
4
10^1
6
4
10^0
3
4
5
6
7
8
9
10^7
2
3
4
5
6
7
8
9
10^8
2
16
Incident Energy (eV)
58-Ce-140

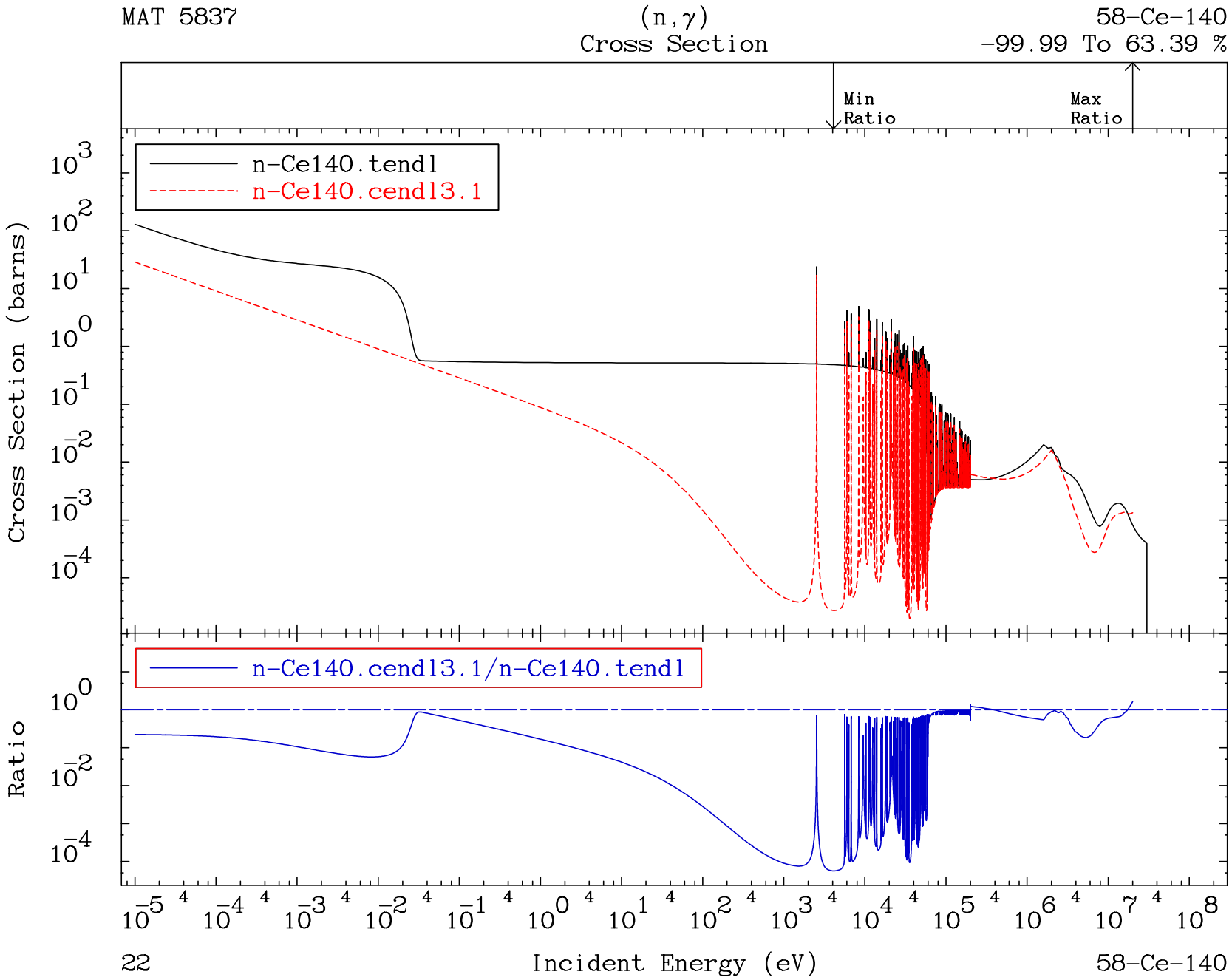

MAT 5837
MT= 60 (n,n') Level
Cross Section
58-Ce-140
24.11 To 9999. %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 2.5339 MeV
n-Ce140.cendl3.1 Threshold 2.5339 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
10^9
10^6
10^3
10^0
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
17
Incident Energy (eV)
58-Ce-140

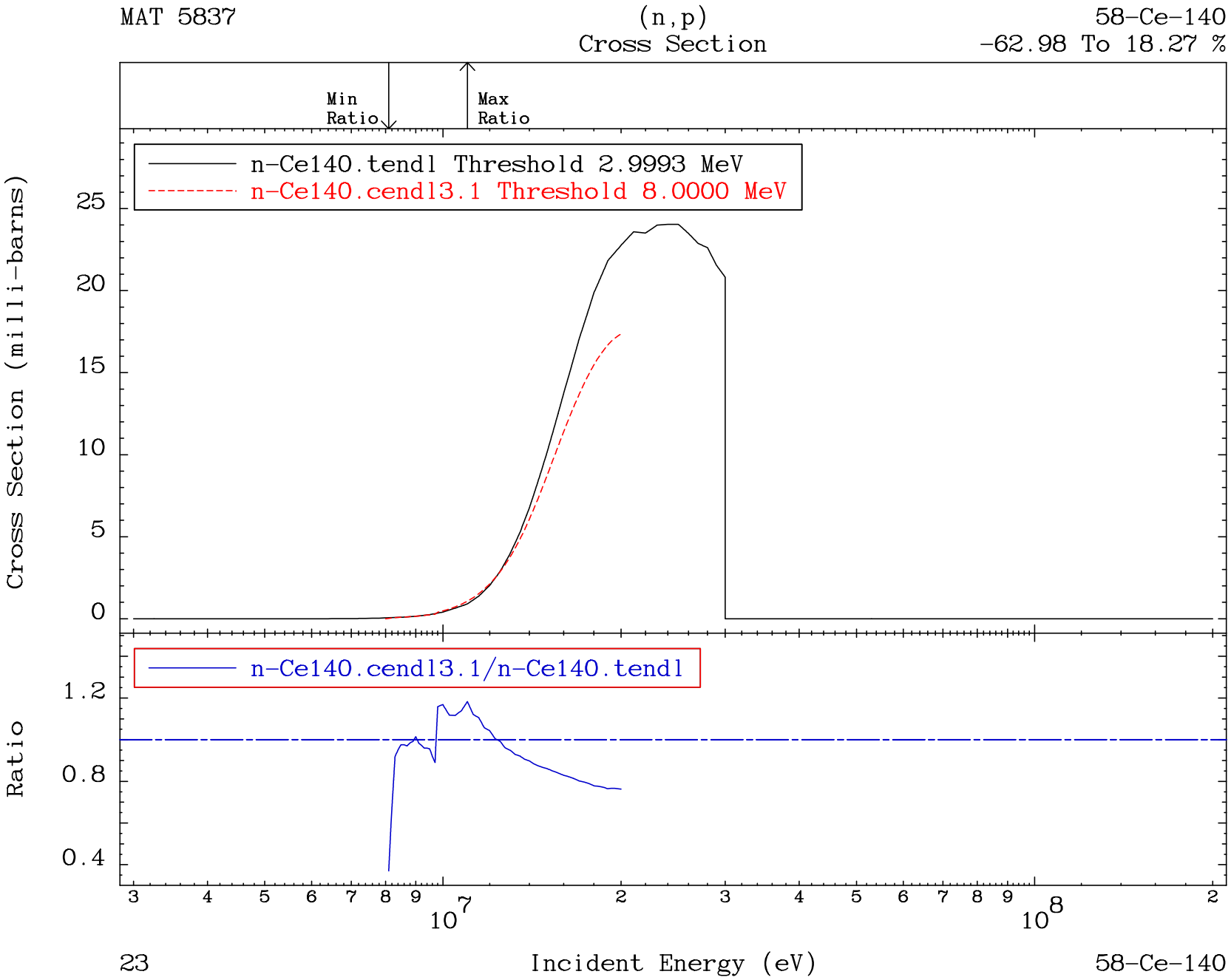

MAT 5837
MT= 61 (n,n') Level
Cross Section
58-Ce-140
15.73 To 916.6 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 2.5396 MeV
n-Ce140.cendl3.1 Threshold 2.5396 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
12
8
4
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
18
Incident Energy (eV)
58-Ce-140

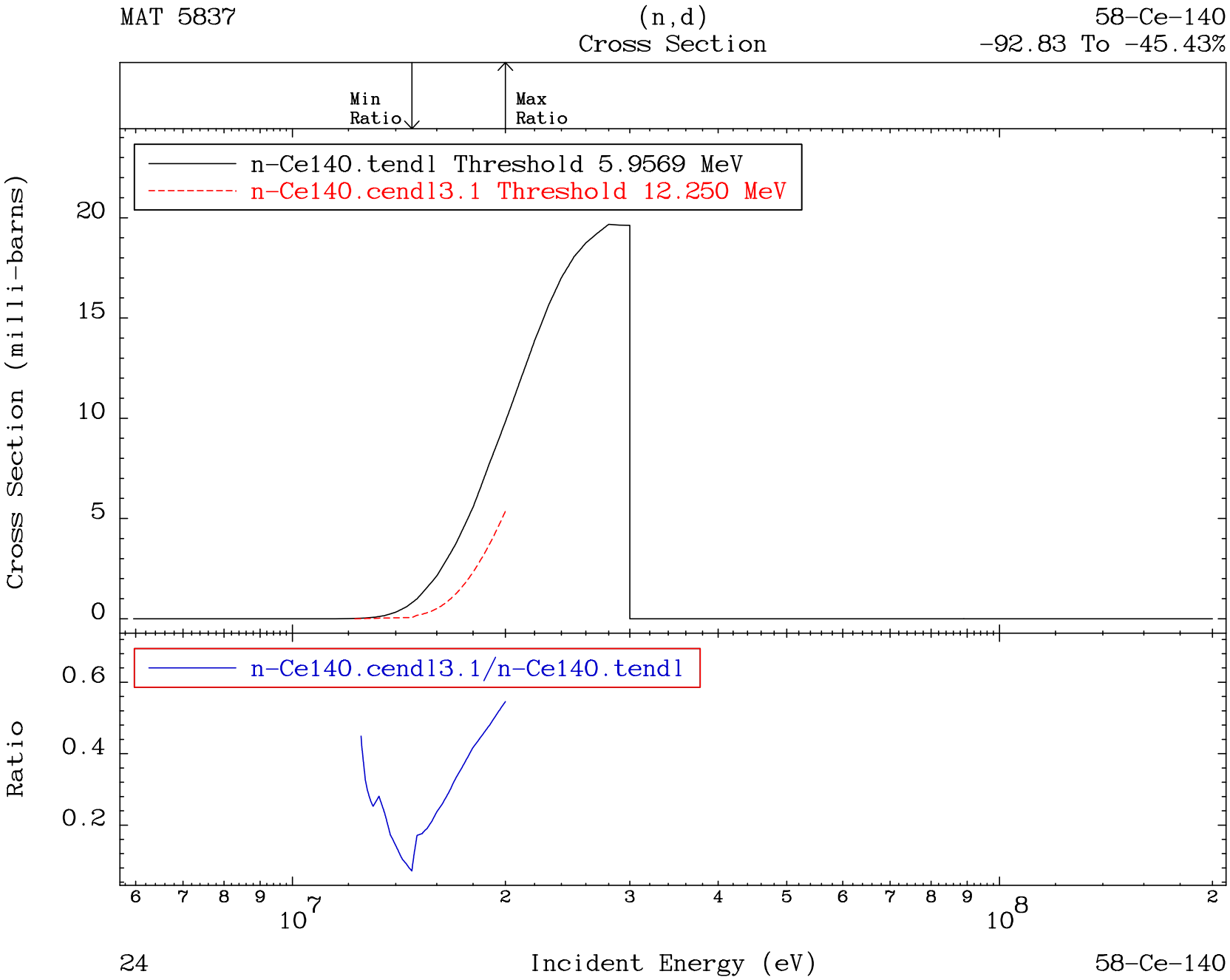

MAT 5837
MT= 62 (n,n') Level
Cross Section
58-Ce-140
-100.0 To 9999. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 2.5656 MeV
n-Ce140.cendl3.1 Threshold 2.5656 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
2.0
1.0
0.0
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
19
Incident Energy (eV)
58-Ce-140

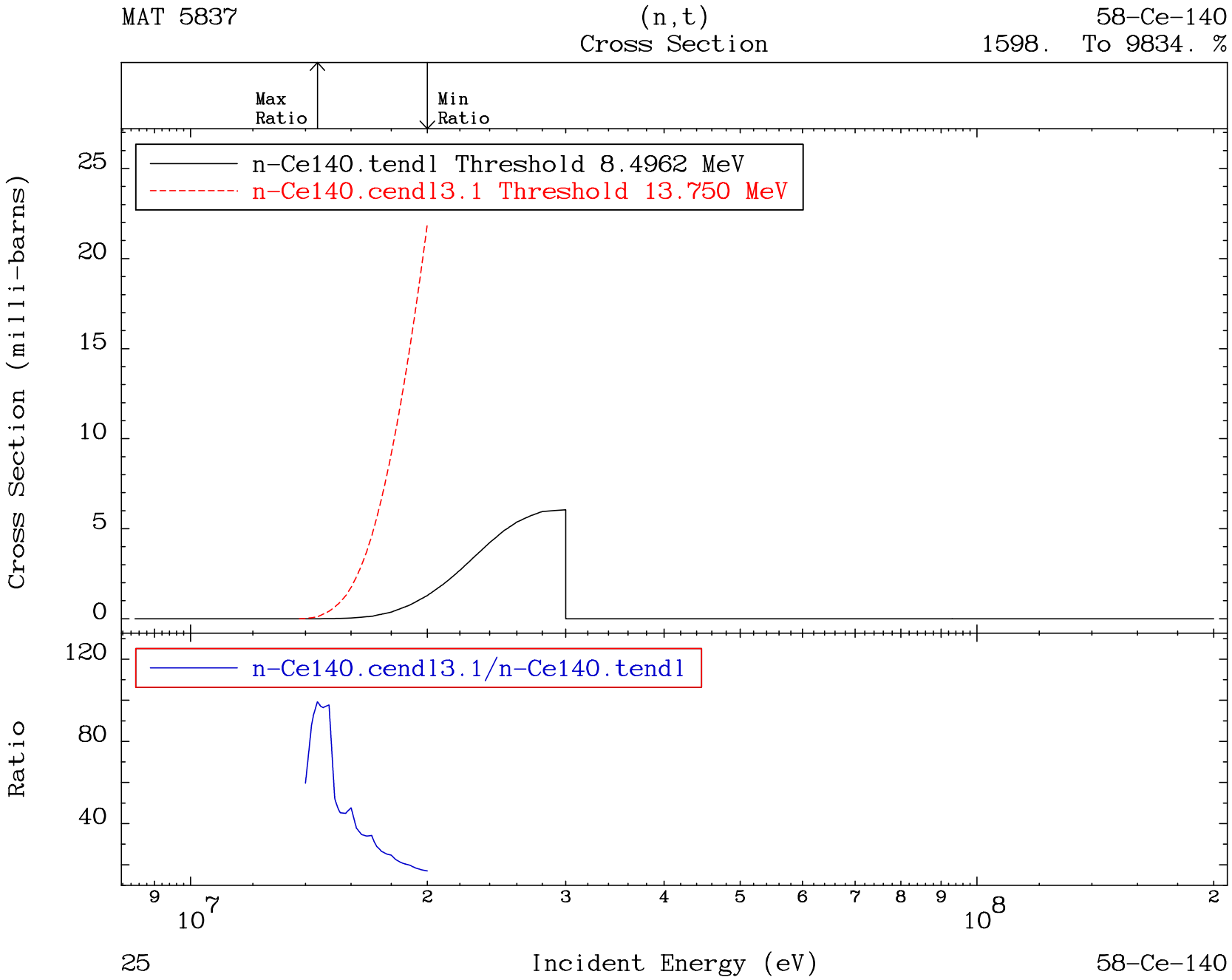

MAT 5837
MT= 63 (n,n') Level
Cross Section
58-Ce-140
-100.0 To 24.50 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 2.6478 MeV
n-Ce140.cendl3.1 Threshold 2.6478 MeV
Cross Section (milli-barns)
40
30
20
10
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
1.6
1.2
0.8
0.4
0.0
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
20
Incident Energy (eV)
58-Ce-140

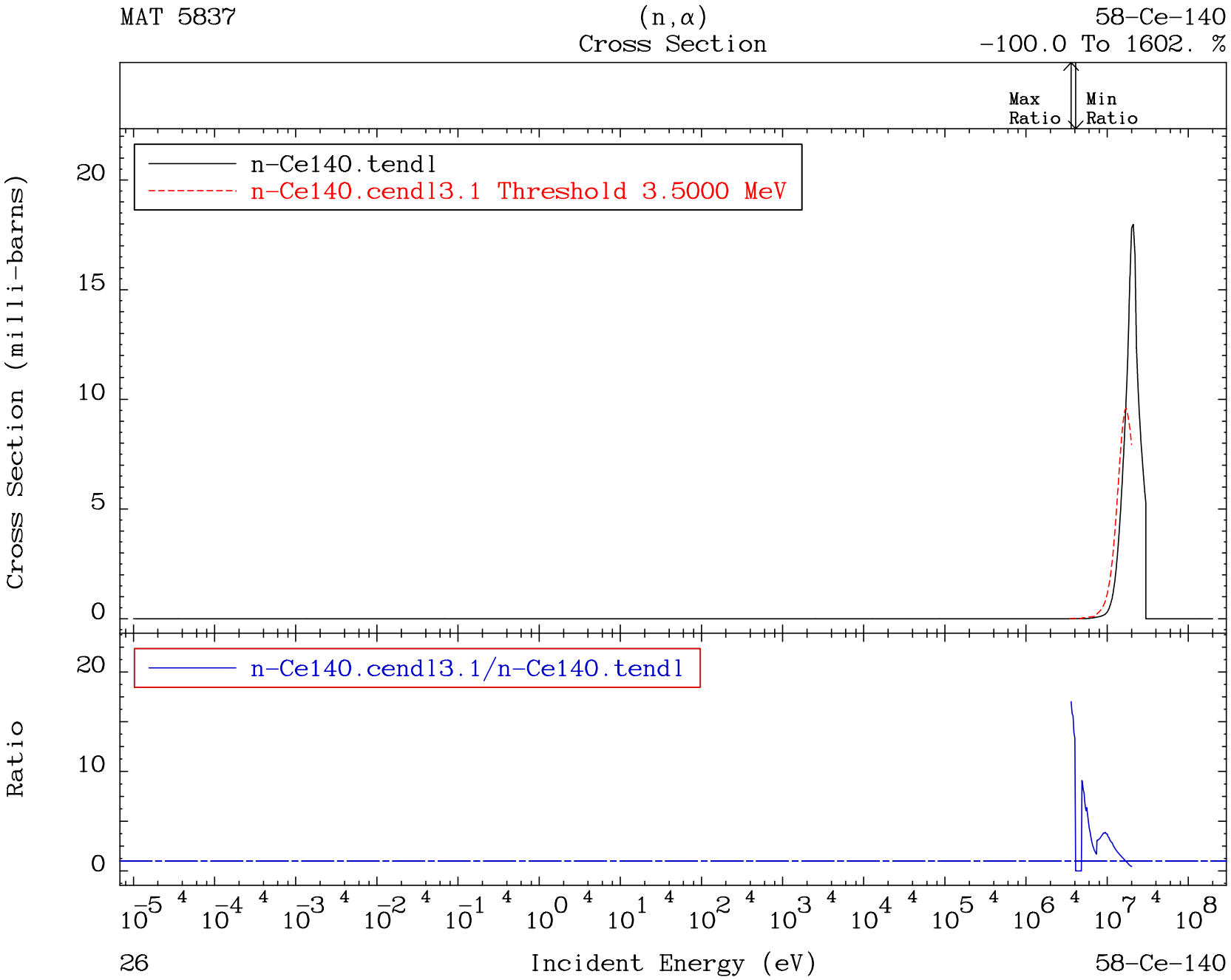

MAT 5837
(n,n') Continuum
Cross Section
58-Ce-140
-16.76 To 3830. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 3.4986 MeV
n-Ce140.cendl3.1 Threshold 3.4000 MeV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
10^1
10^0
4
4
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
21
Incident Energy (eV)
58-Ce-140

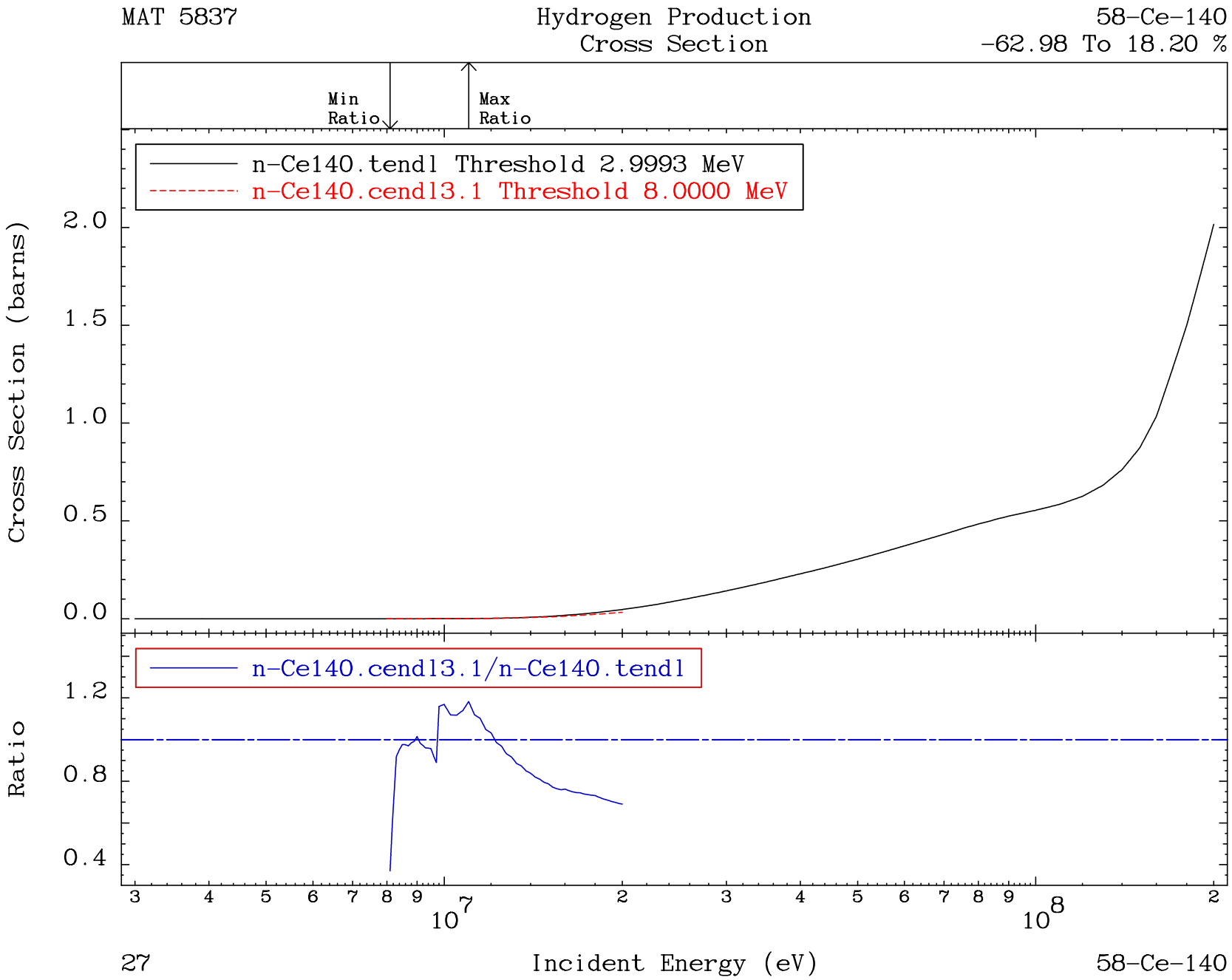

MAT 5837
(n,γ)
Cross Section
58-Ce-140
-99.99 To 63.39 %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.cendl3.1
Cross Section (barns)
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
22
Incident Energy (eV)
58-Ce-140

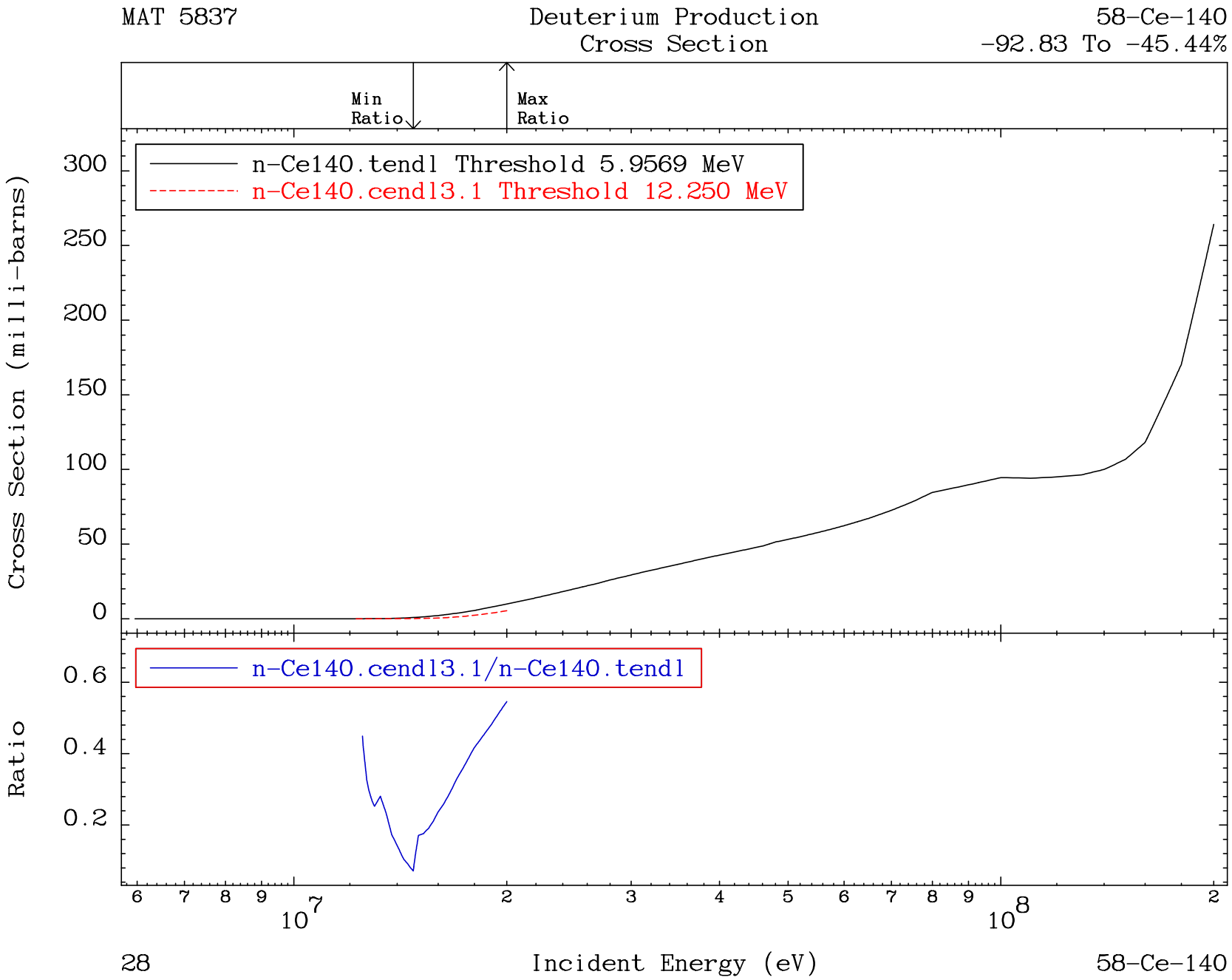

MAT 5837
(n,p)
Cross Section
58-Ce-140
-62.98 To 18.27 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 2.9993 MeV
n-Ce140.cendl3.1 Threshold 8.0000 MeV
Cross Section (milli-barns)
0
5
10
15
20
25
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
0.4
0.8
1.2
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
23
Incident Energy (eV)
58-Ce-140

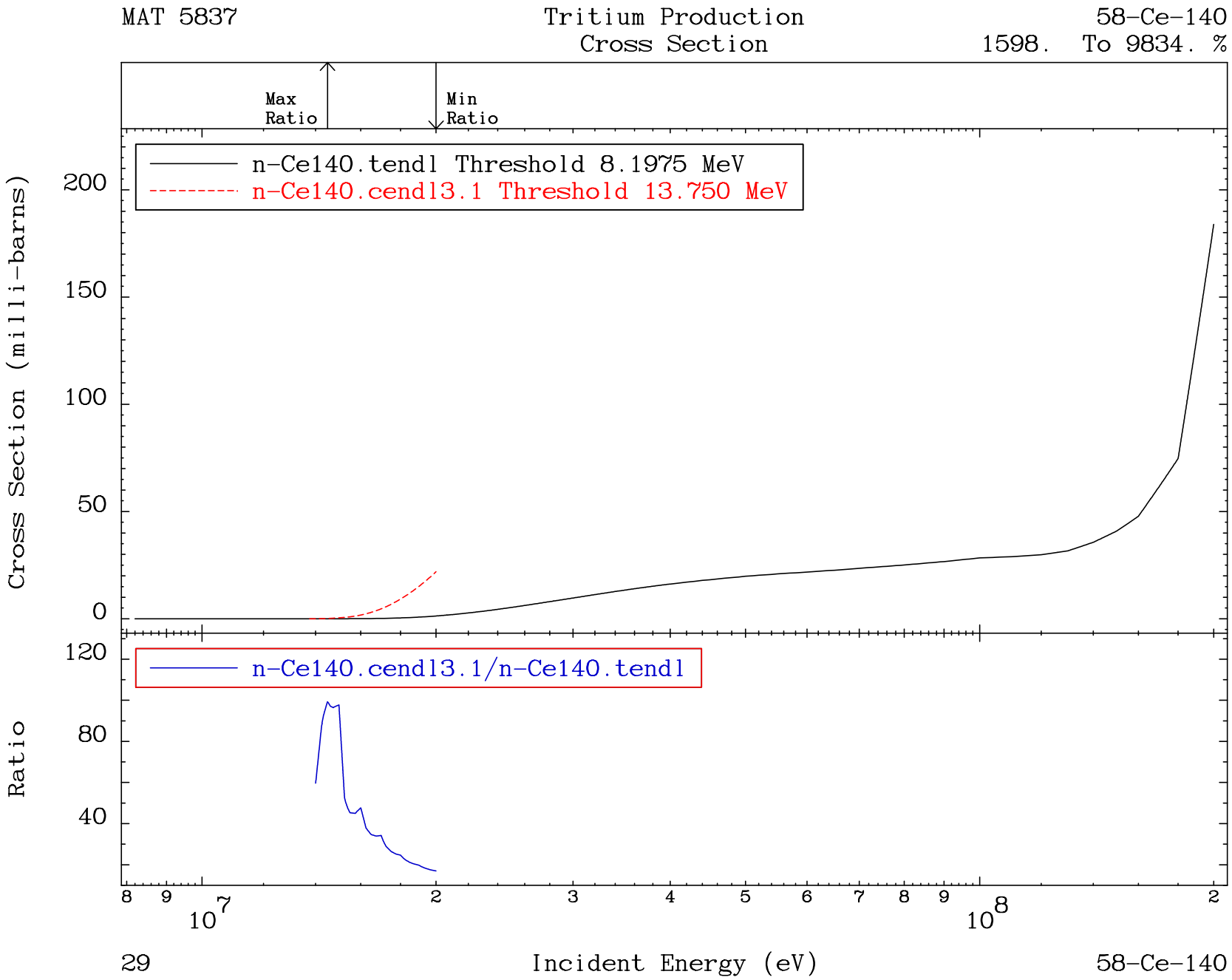

MAT 5837
(n,d)
Cross Section
58-Ce-140
-92.83 To -45.43%
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 5.9569 MeV
n-Ce140.cendl3.1 Threshold 12.250 MeV
Cross Section (milli-barns)
20
15
10
5
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
0.6
0.4
0.2
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
24
Incident Energy (eV)
58-Ce-140

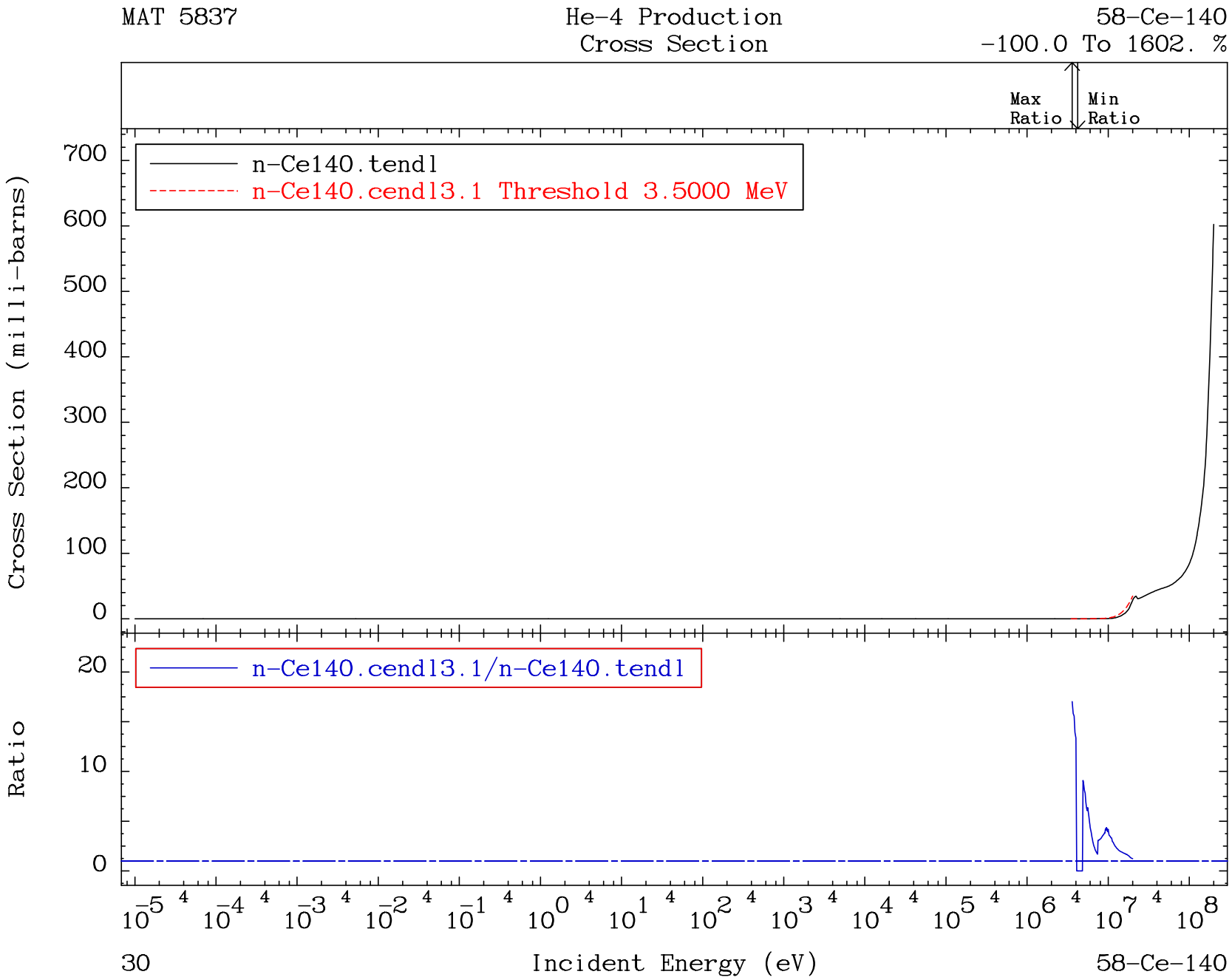

MAT 5837
(n,t)
Cross Section
58-Ce-140
1598. To 9834. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 8.4962 MeV
n-Ce140.cendl3.1 Threshold 13.750 MeV
Cross Section (milli-barns)
25
20
15
10
5
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
120
80
40
9
10^7
2
3
4
5
6
7
8
9
10^8
2
25
Incident Energy (eV)
58-Ce-140

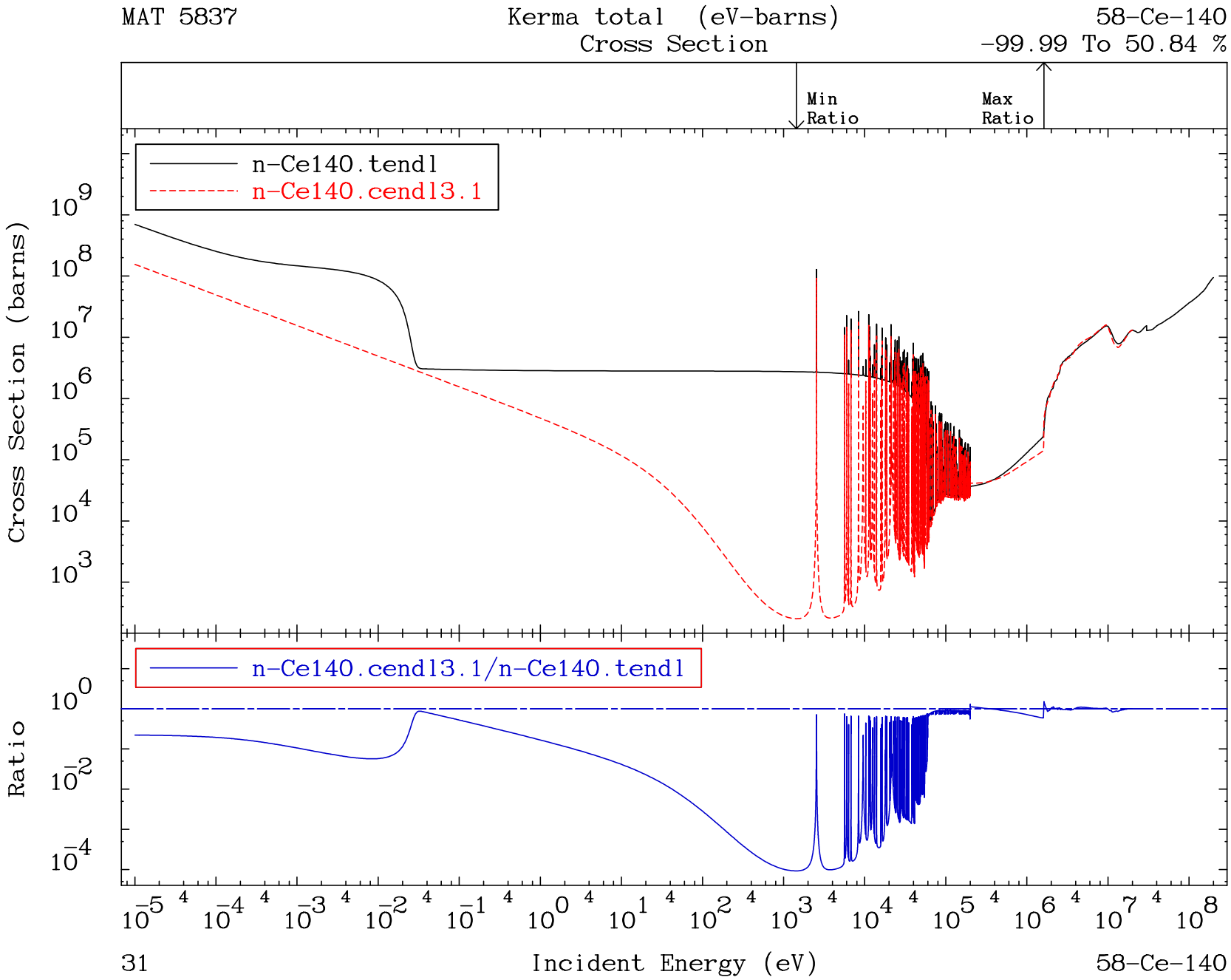

MAT 5837
(n,α)
Cross Section
58-Ce-140
-100.0 To 1602. %
Max Ratio
Min Ratio
n-Ce140.tendl
n-Ce140.cendl3.1 Threshold 3.5000 MeV
Cross Section (milli-barns)
20
15
10
5
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
20
10
0
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
26
Incident Energy (eV)
58-Ce-140

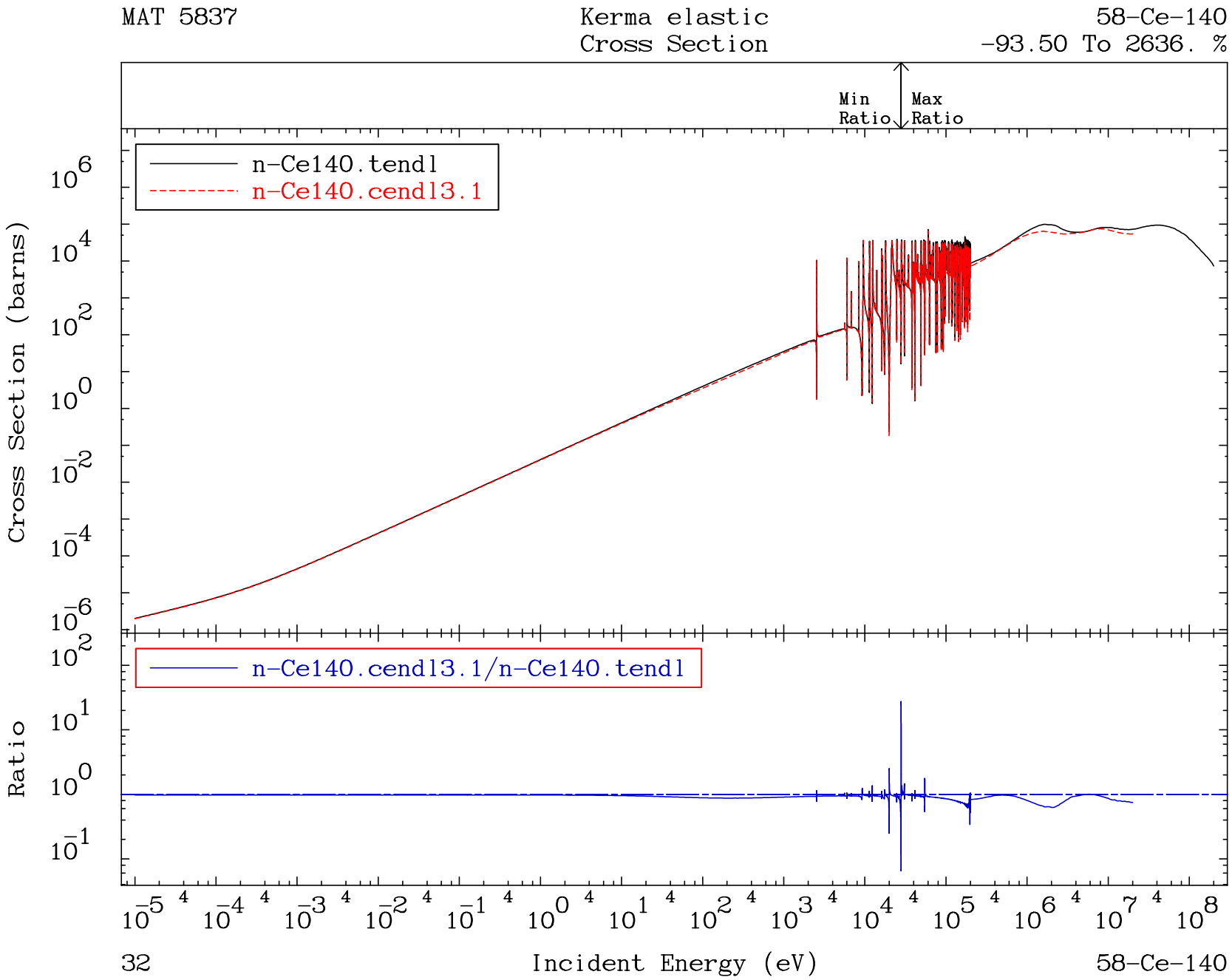

MAT 5837
Hydrogen Production
Cross Section
58-Ce-140
-62.98 To 18.20 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 2.9993 MeV
n-Ce140.cendl3.1 Threshold 8.0000 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
1.2
0.8
0.4
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
27
Incident Energy (eV)
58-Ce-140

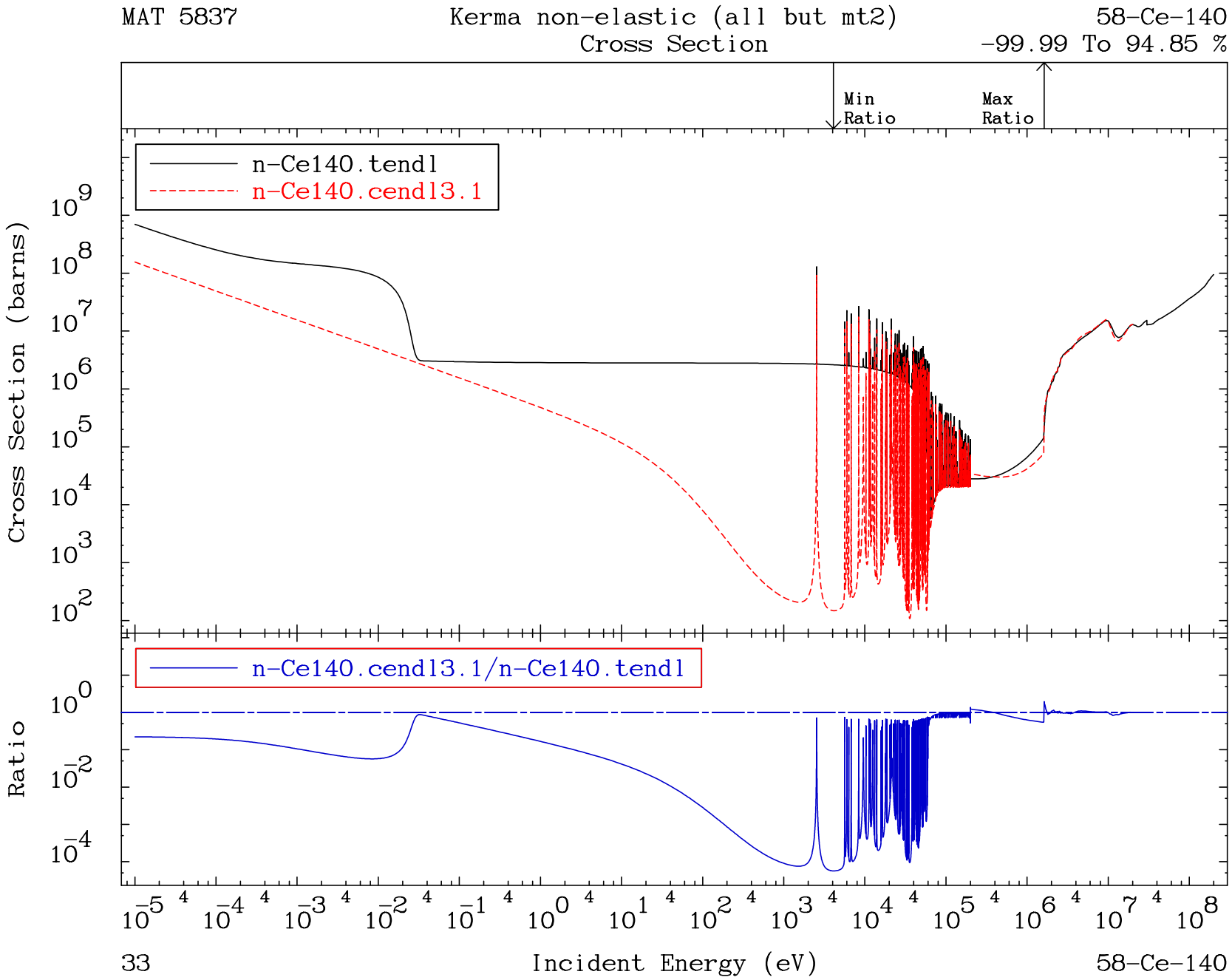

MAT 5837
Deuterium Production
Cross Section
58-Ce-140
-92.83 To -45.44%
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 5.9569 MeV
n-Ce140.cendl3.1 Threshold 12.250 MeV
Cross Section (milli-barns)
300
250
200
150
100
50
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
0.6
0.4
0.2
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
28
Incident Energy (eV)
58-Ce-140

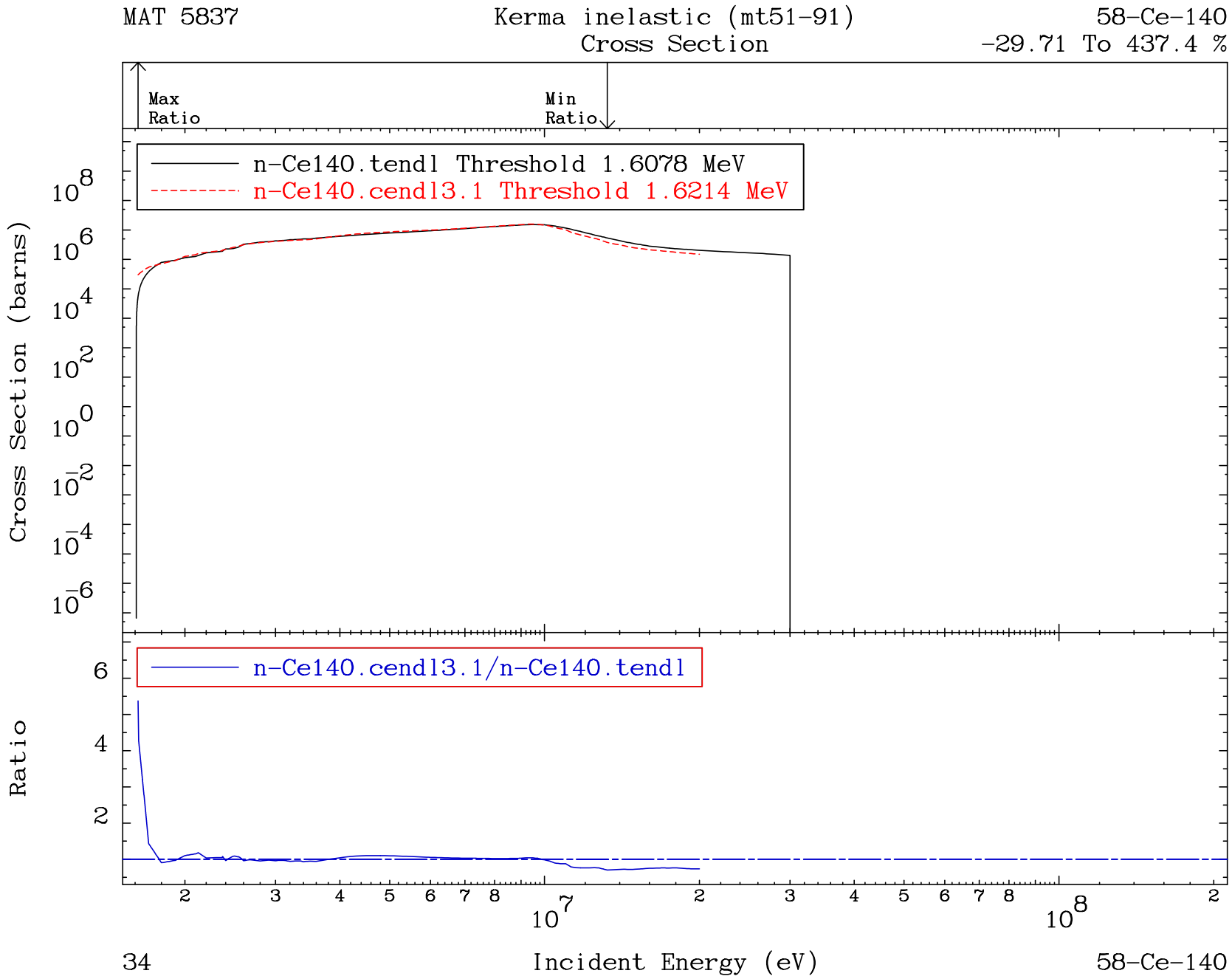

MAT 5837
Tritium Production
Cross Section
58-Ce-140
1598. To 9834. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 8.1975 MeV
n-Ce140.cendl3.1 Threshold 13.750 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
120
80
40
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
29
Incident Energy (eV)
58-Ce-140

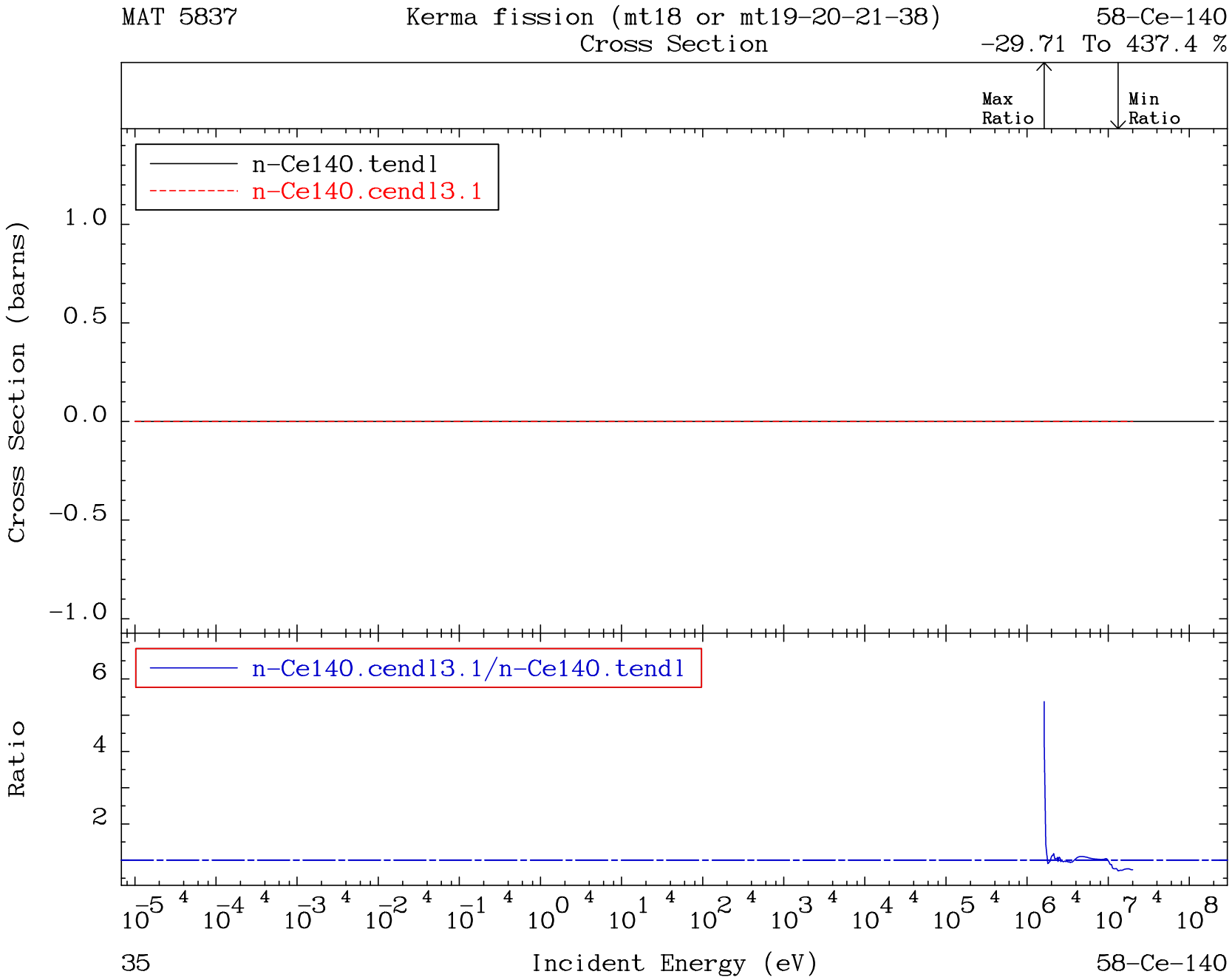

MAT 5837
He-4 Production
Cross Section
58-Ce-140
-100.0 To 1602. %
Max Ratio
Min Ratio
n-Ce140.tendl
n-Ce140.cendl3.1 Threshold 3.5000 MeV
Cross Section (milli-barns)
700
600
500
400
300
200
100
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
20
10
0
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
30
Incident Energy (eV)
58-Ce-140

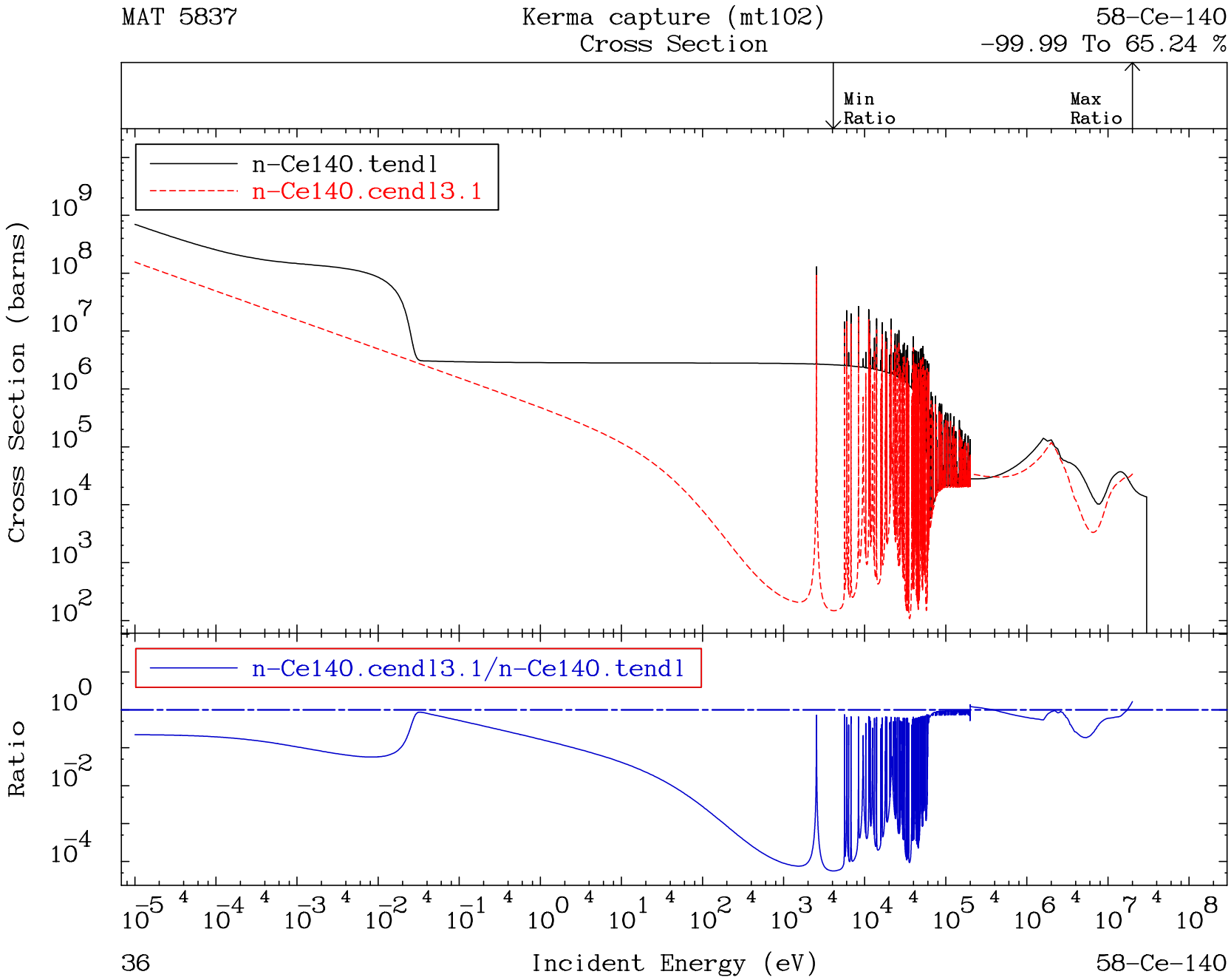

MAT 5837
Kerma total (eV-barns)
Cross Section
58-Ce-140
-99.99 To 50.84 %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.cendl3.1
Cross Section (barns)
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
Incident Energy (eV)
31
58-Ce-140

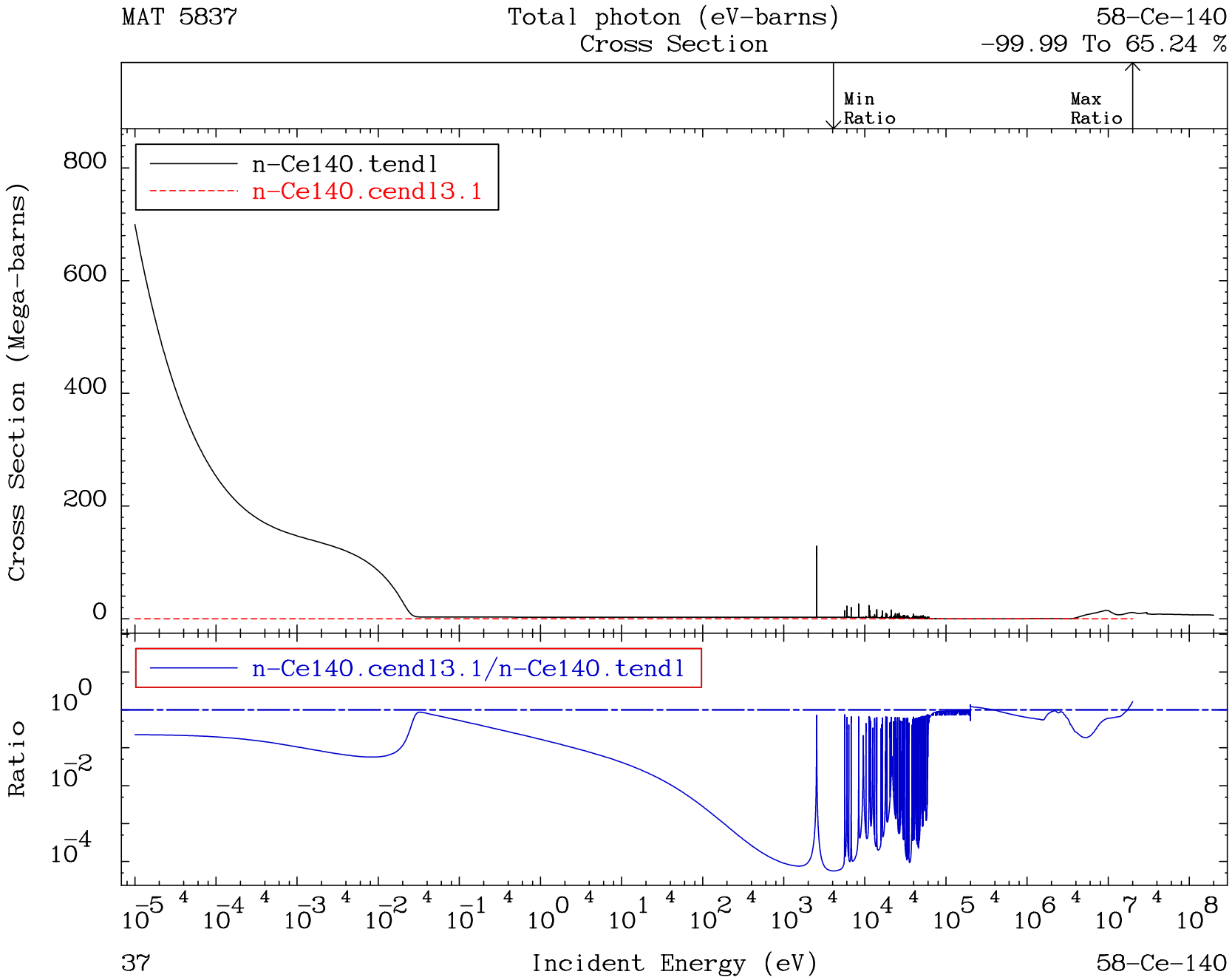

MAT 5837
Kerma elastic
Cross Section
58-Ce-140
-93.50 To 2636. %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.cendl3.1
Cross Section (barns)
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
Incident Energy (eV)
32
58-Ce-140

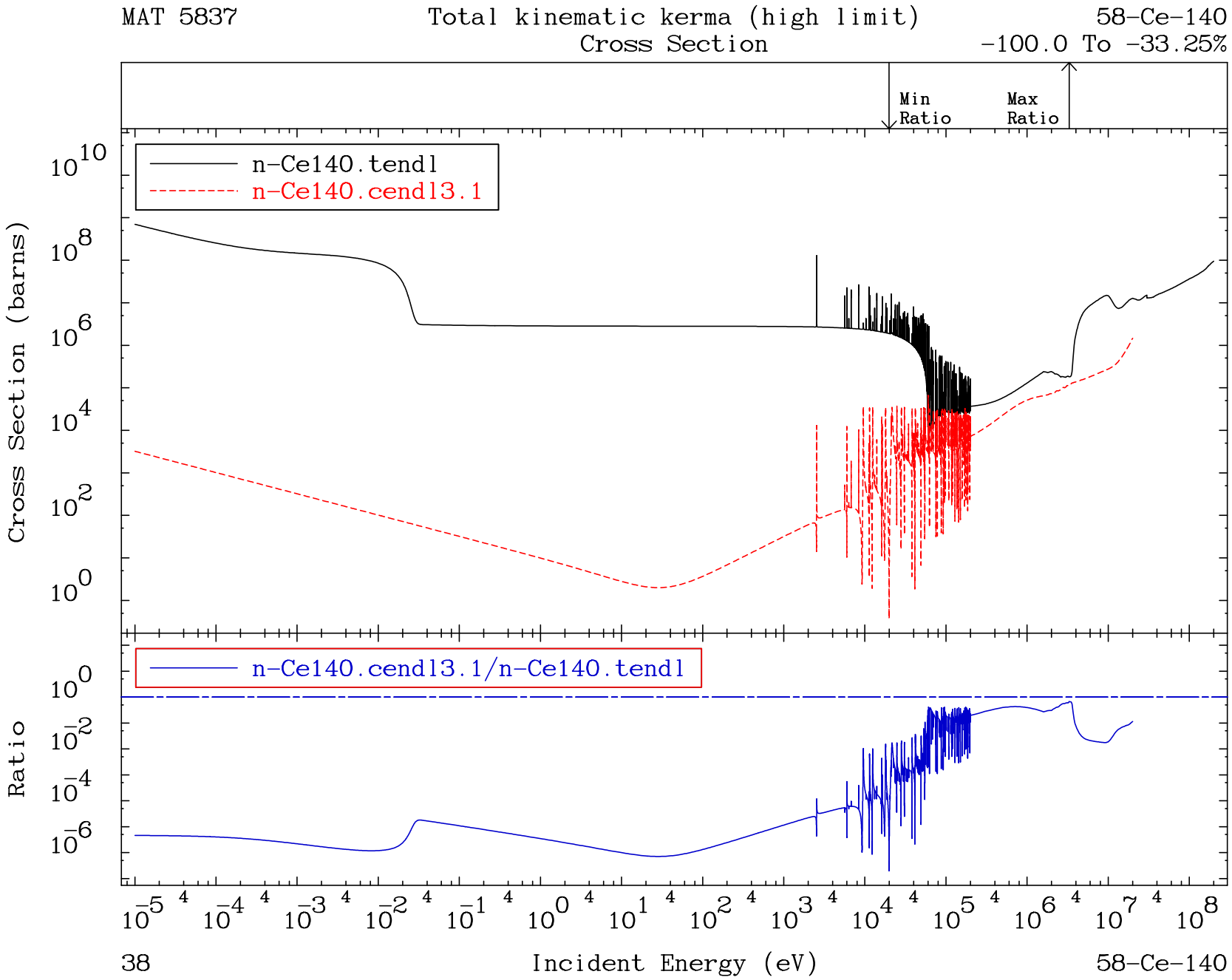

MAT 5837
Kerma non-elastic (all but mt2)
Cross Section
58-Ce-140
-99.99 To 94.85 %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.cendl3.1
Cross Section (barns)
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
Incident Energy (eV)
33
58-Ce-140

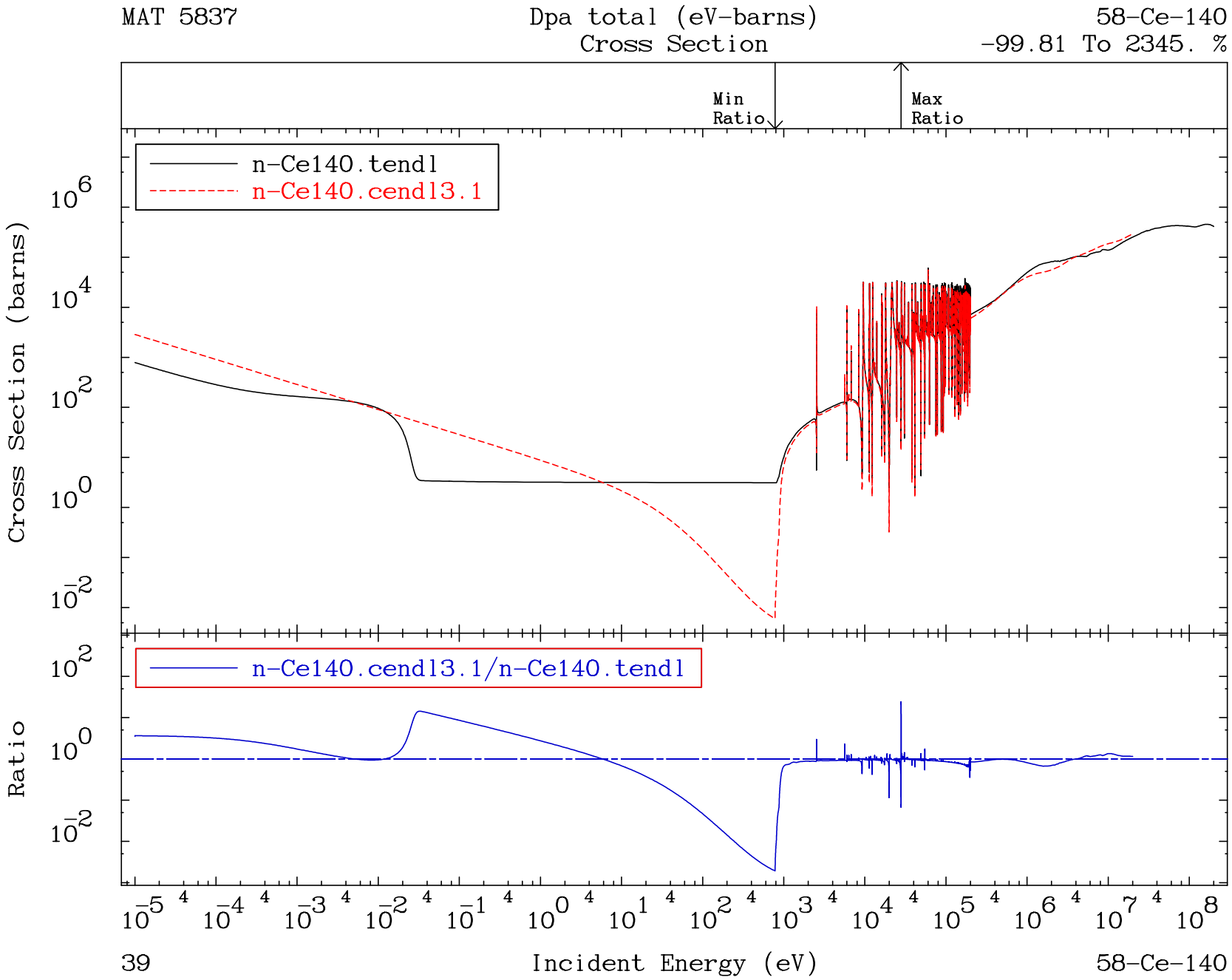

MAT 5837
Kerma inelastic (mt51-91)
Cross Section
58-Ce-140
-29.71 To 437.4 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 1.6078 MeV
n-Ce140.cendl3.1 Threshold 1.6214 MeV
Cross Section (barns)
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
Incident Energy (eV)
34
58-Ce-140

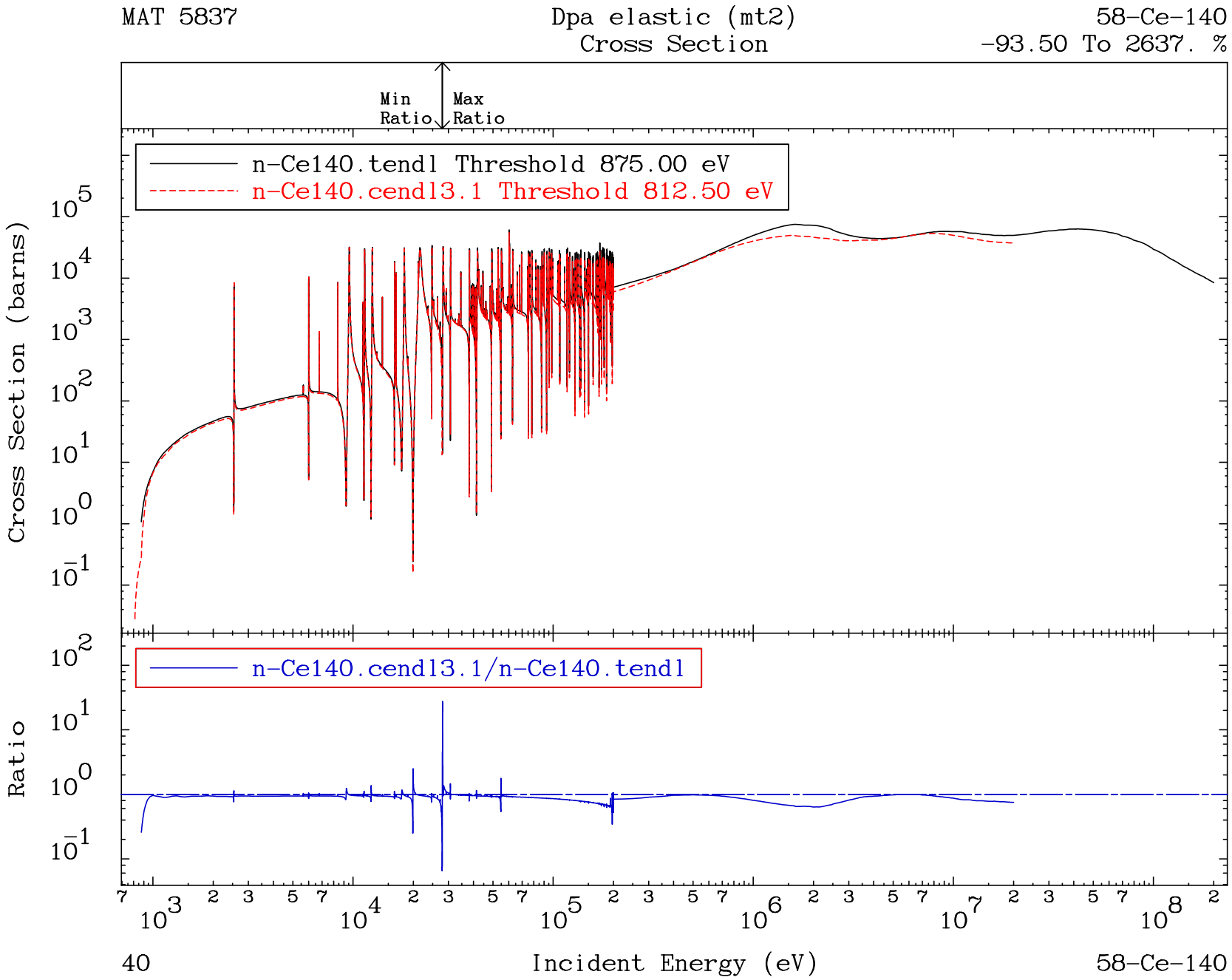

MAT 5837
Kerma fission (mt18 or mt19-20-21-38)
Cross Section
58-Ce-140
-29.71 To 437.4 %
Max Ratio
Min Ratio
n-Ce140.tendl
n-Ce140.cendl3.1
Cross Section (barns)
1.0
0.5
0.0
-0.5
-1.0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
6
4
2
10-5 10-4 10-3 10-2 10-1 100 101 102 103 104 105 106 107 108
35
Incident Energy (eV)
58-Ce-140

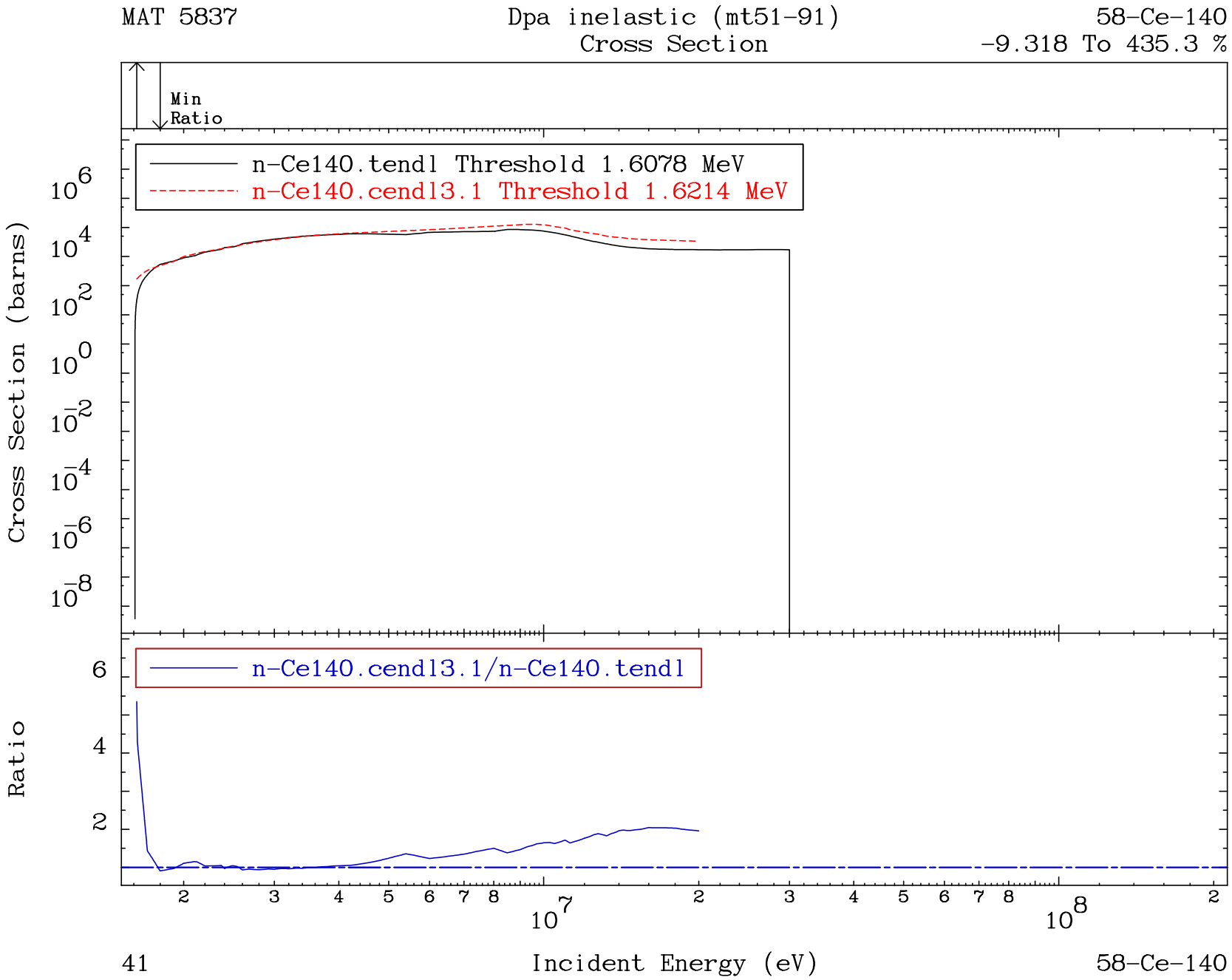

MAT 5837
Kerma capture (mt102)
Cross Section
58-Ce-140
-99.99 To 65.24 %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.cendl3.1
Cross Section (barns)
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
Incident Energy (eV)
36
58-Ce-140

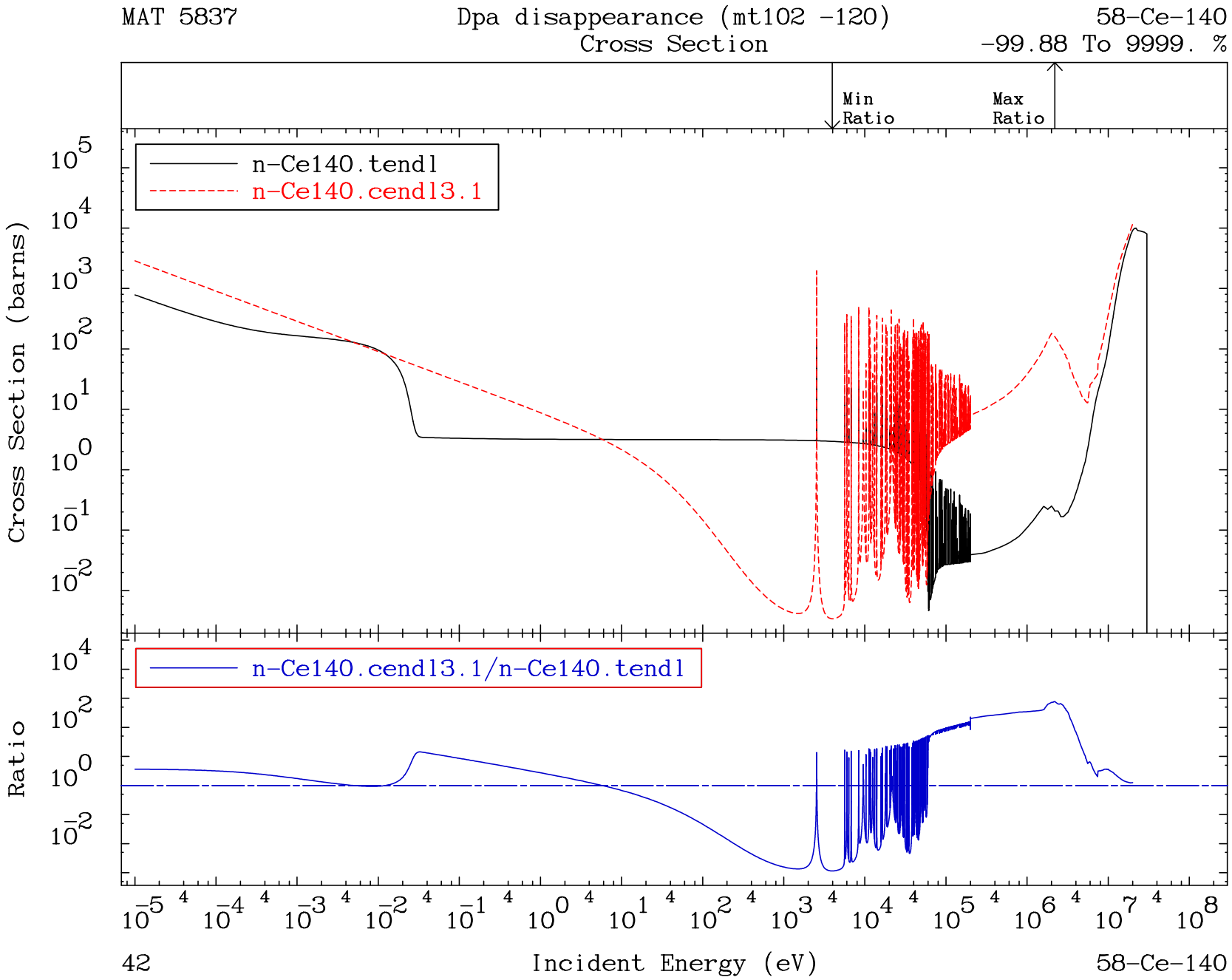

MAT 5837
Total photon (eV-barns)
Cross Section
58-Ce-140
-99.99 To 65.24 %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.cendl3.1
Cross Section (Mega-barns)
800
600
400
200
0
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
10^0
10^-2
10^-4
10^-5
10^-4
10^-3
10^-2
10^-1
10^0
10^1
10^2
10^3
10^4
10^5
10^6
10^7
10^8
37
Incident Energy (eV)
58-Ce-140


MAT 5837
Total kinematic kerma (high limit)
Cross Section
58-Ce-140
-100.0 To -33.25%
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.cendl3.1
Cross Section (barns)
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
Incident Energy (eV)
38
58-Ce-140


MAT 5837
Dpa total (eV-barns)
Cross Section
58-Ce-140
-99.81 To 2345. %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.cendl3.1
Cross Section (barns)
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
Incident Energy (eV)
39
58-Ce-140


MAT 5837
Dpa elastic (mt2)
Cross Section
58-Ce-140
-93.50 To 2637. %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 875.00 eV
n-Ce140.cendl3.1 Threshold 812.50 eV
Cross Section (barns)
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
Incident Energy (eV)
40
58-Ce-140


MAT 5837
Dpa inelastic (mt51-91)
Cross Section
58-Ce-140
-9.318 To 435.3 %
Min
Ratio
n-Ce140.tendl Threshold 1.6078 MeV
n-Ce140.cendl3.1 Threshold 1.6214 MeV
Cross Section (barns)
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
Incident Energy (eV)
41
58-Ce-140


MAT 5837
Dpa disappearance (mt102 -120)
Cross Section
58-Ce-140
-99.88 To 9999. %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.cendl3.1
Cross Section (barns)
n-Ce140.cendl3.1/n-Ce140.tendl
Ratio
Incident Energy (eV)
42
58-Ce-140