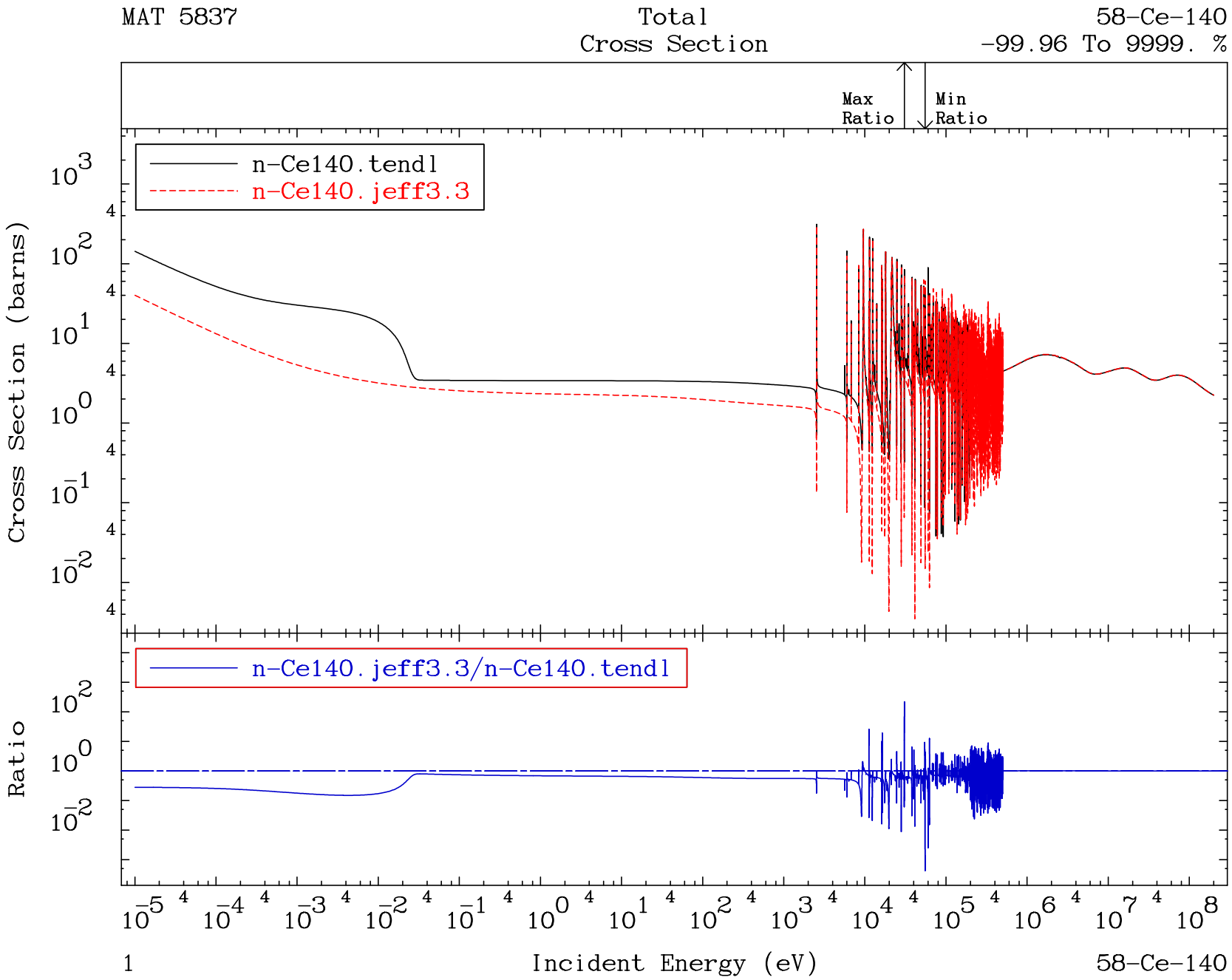
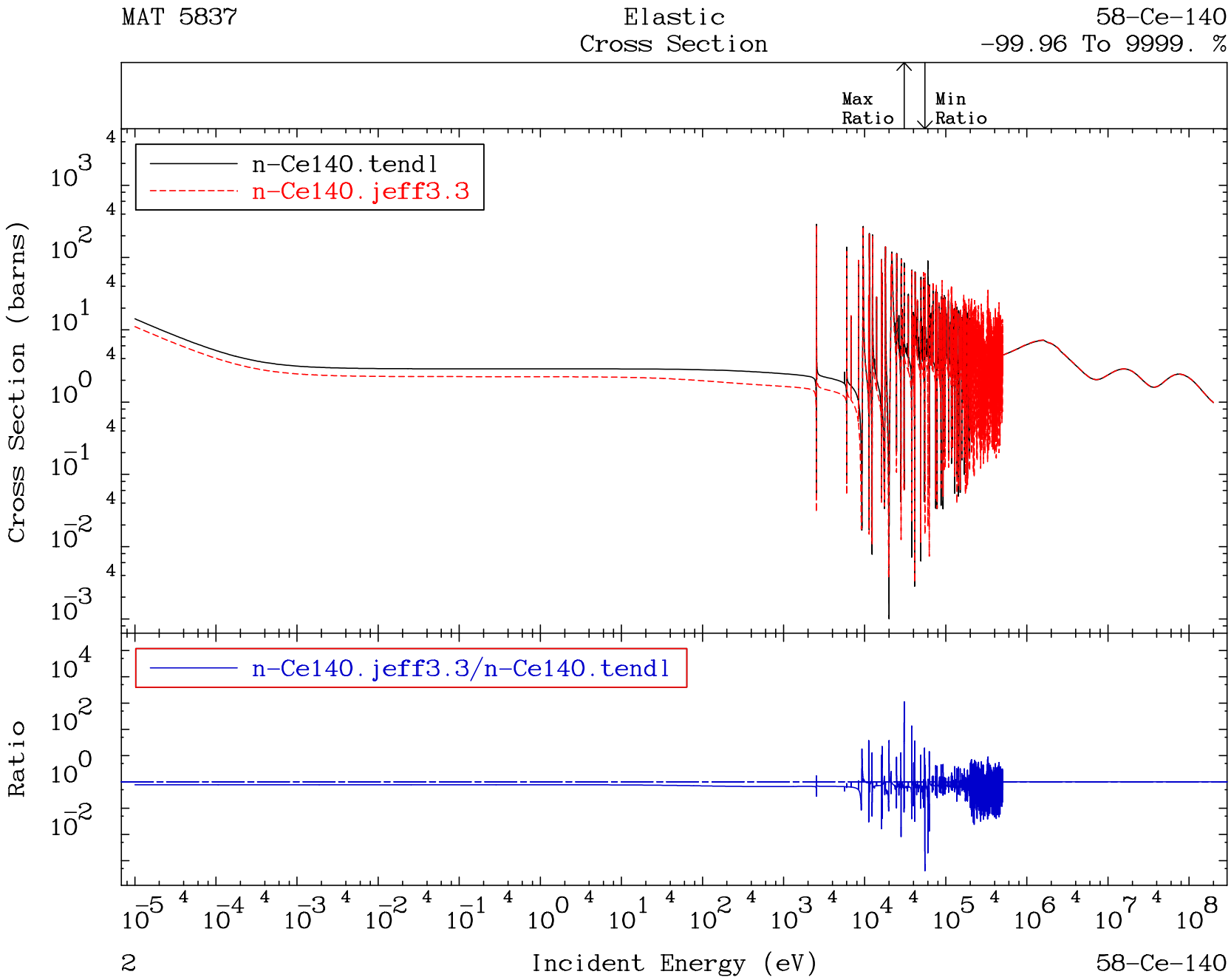
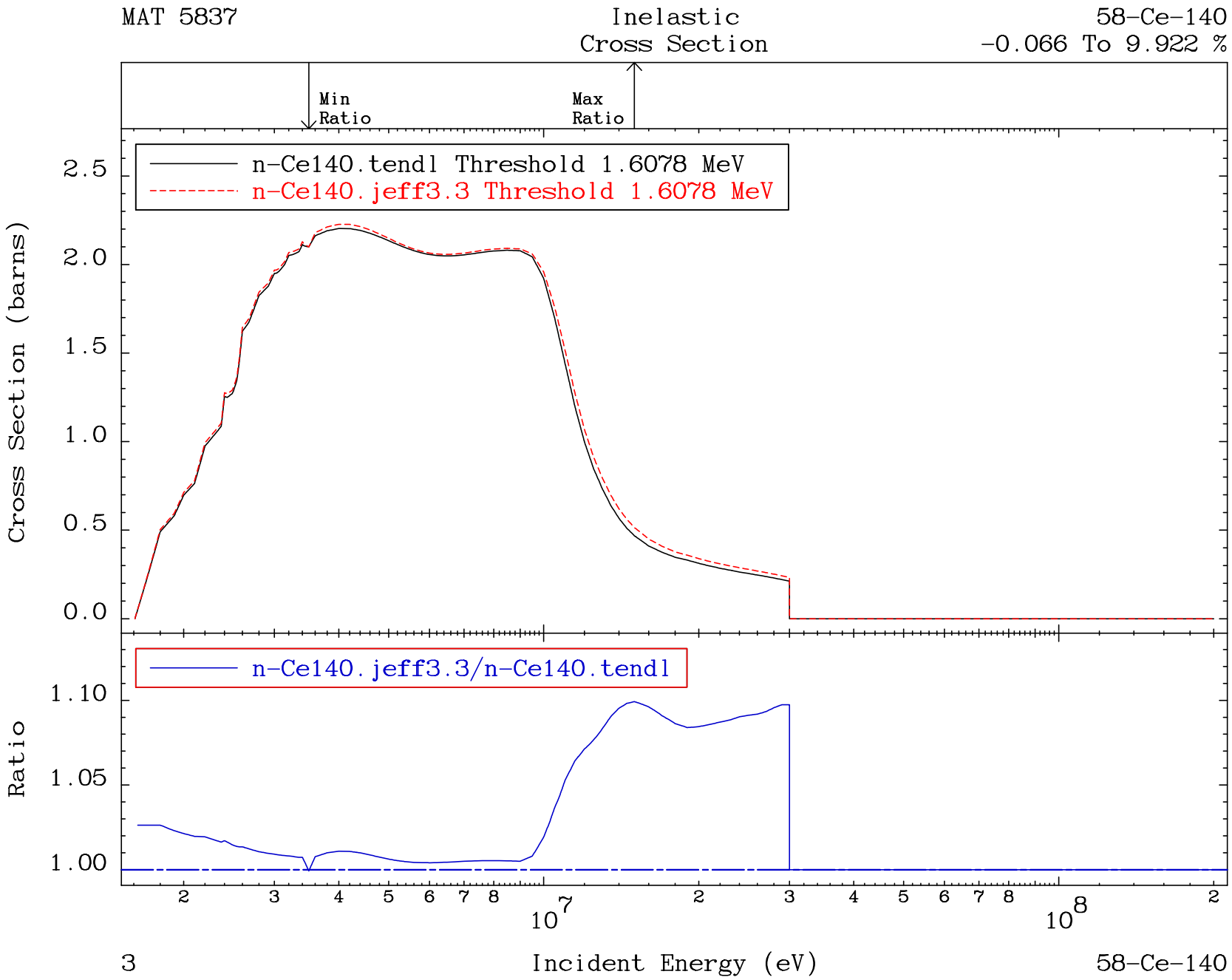
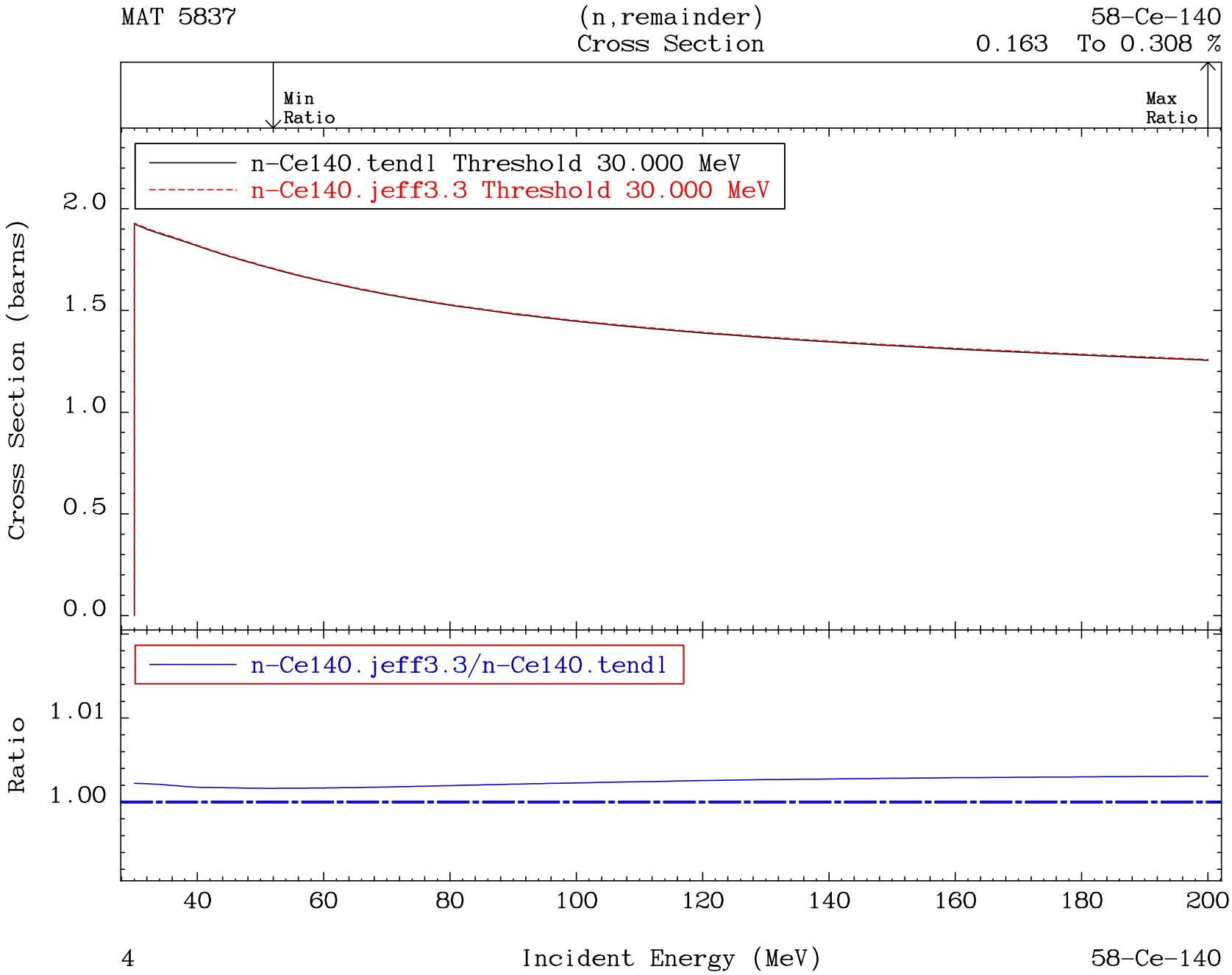
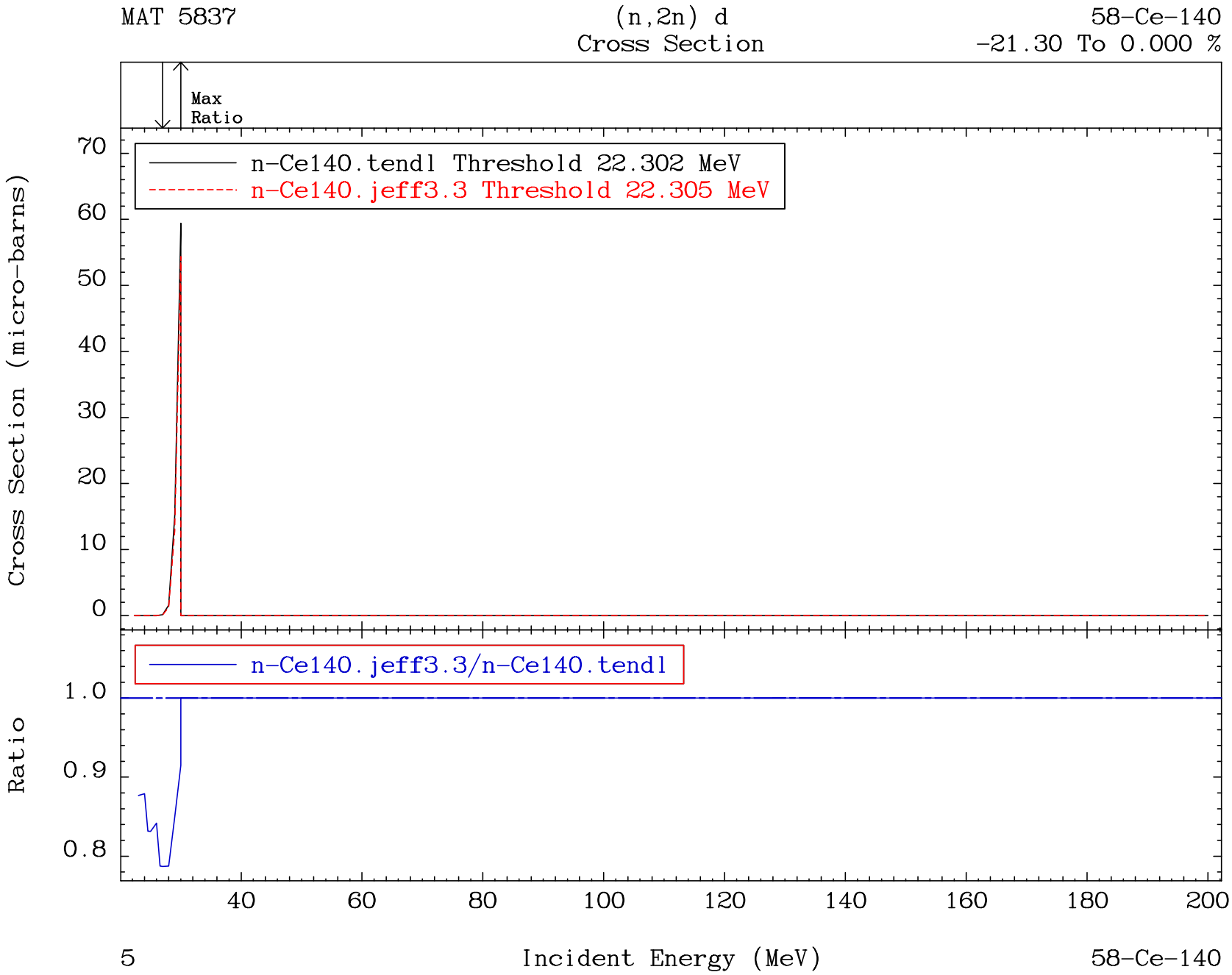
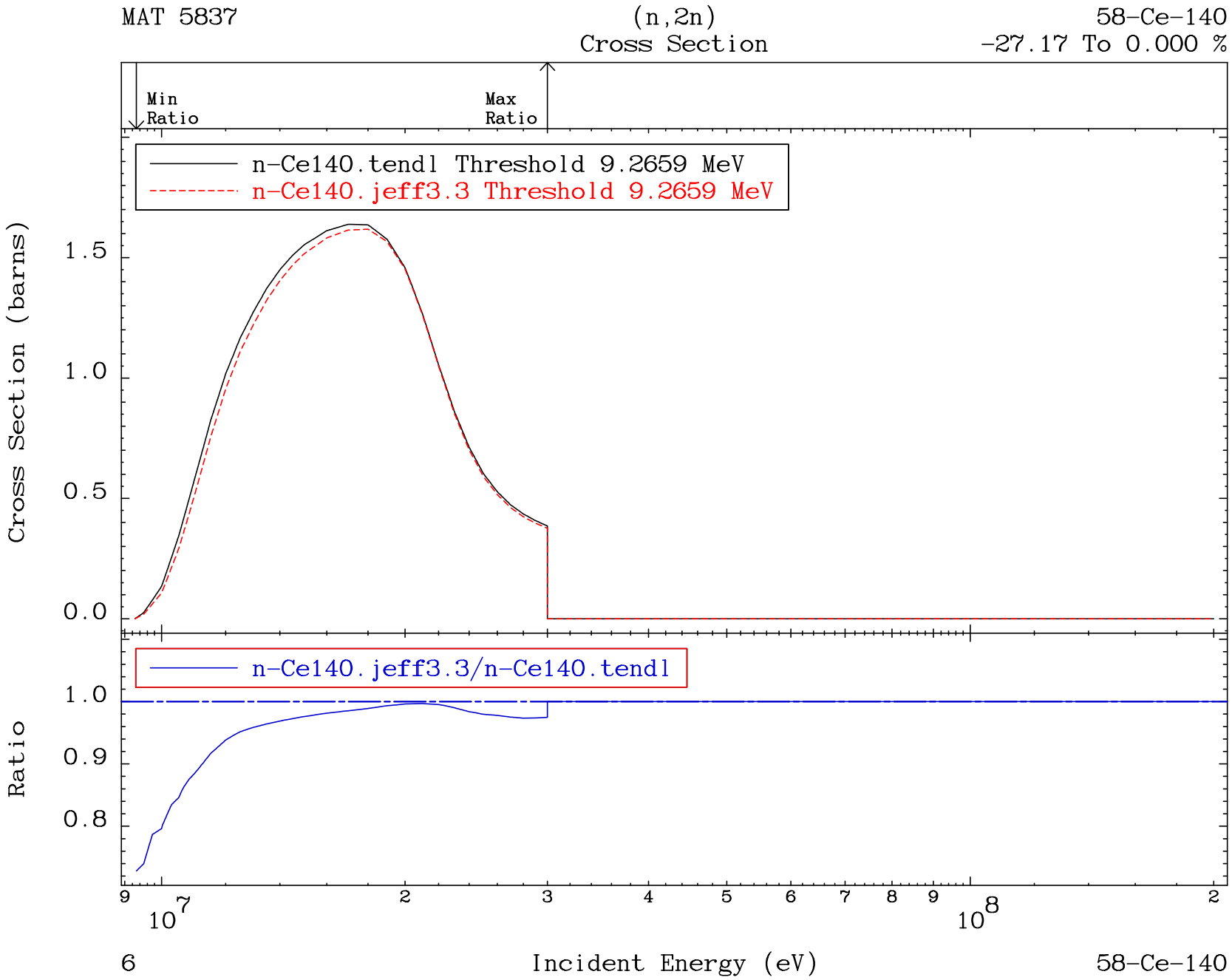

MAT 5837
Total
Cross Section
58-Ce-140
-99.96 To 9999. %
Max
Ratio
Min
Ratio
n-Ce140.tendl
n-Ce140.jeff3.3
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
1
58-Ce-140

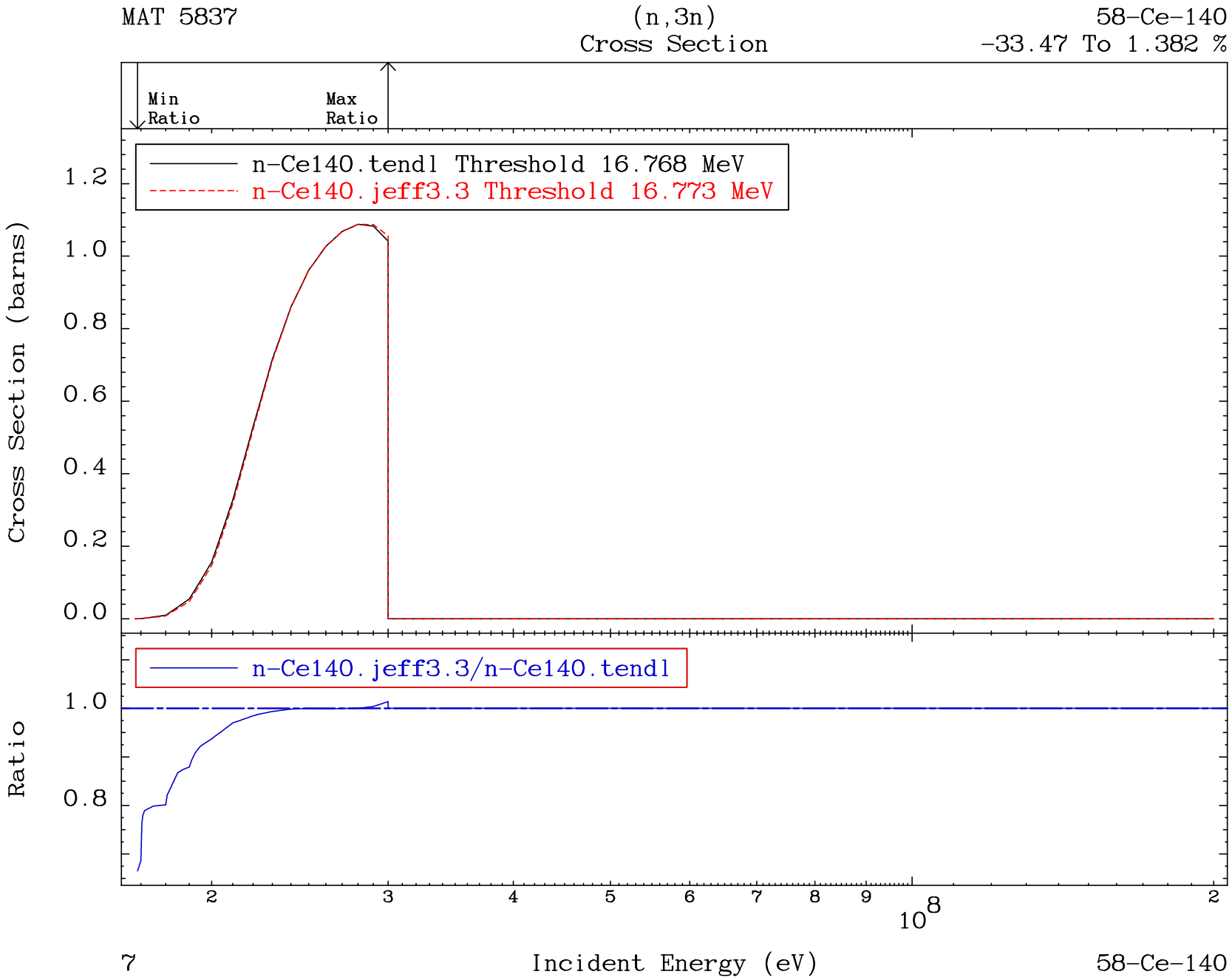

MAT 5837
Elastic
Cross Section
58-Ce-140
-99.96 To 9999. %
Max
Ratio
Min
Ratio
n-Ce140.tendl
n-Ce140.jeff3.3
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
2
58-Ce-140

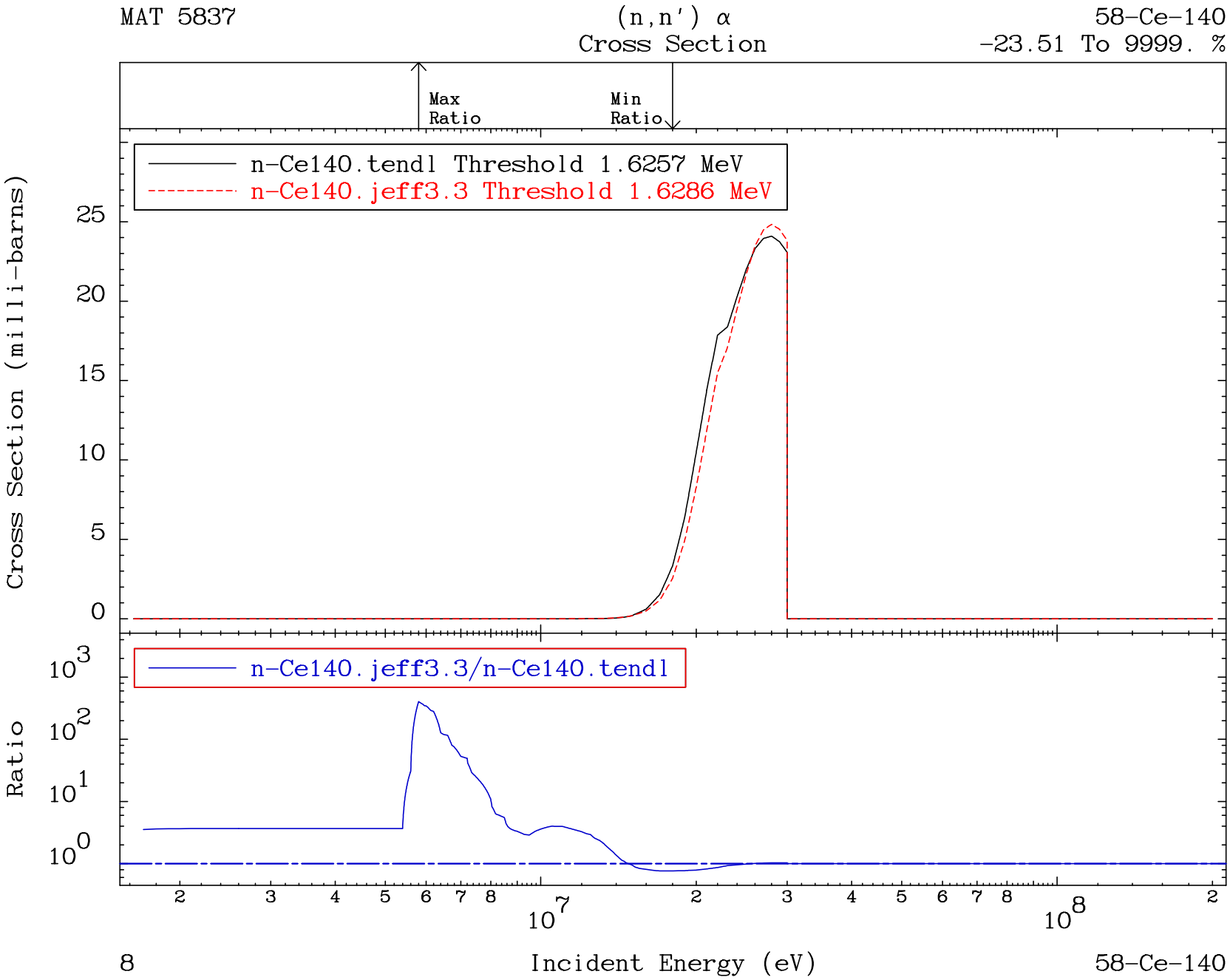

MAT 5837
Inelastic
Cross Section
58-Ce-140
-0.066 To 9.922 %
Min
Ratio
Max
Ratio
n-Ce140.tendl Threshold 1.6078 MeV
n-Ce140.jeff3.3 Threshold 1.6078 MeV
Cross Section (barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.10
1.05
1.00
2
3
4
5
6
7
8
10^7
2
3
4
5
6
7
8
10^8
2
3
Incident Energy (eV)
58-Ce-140

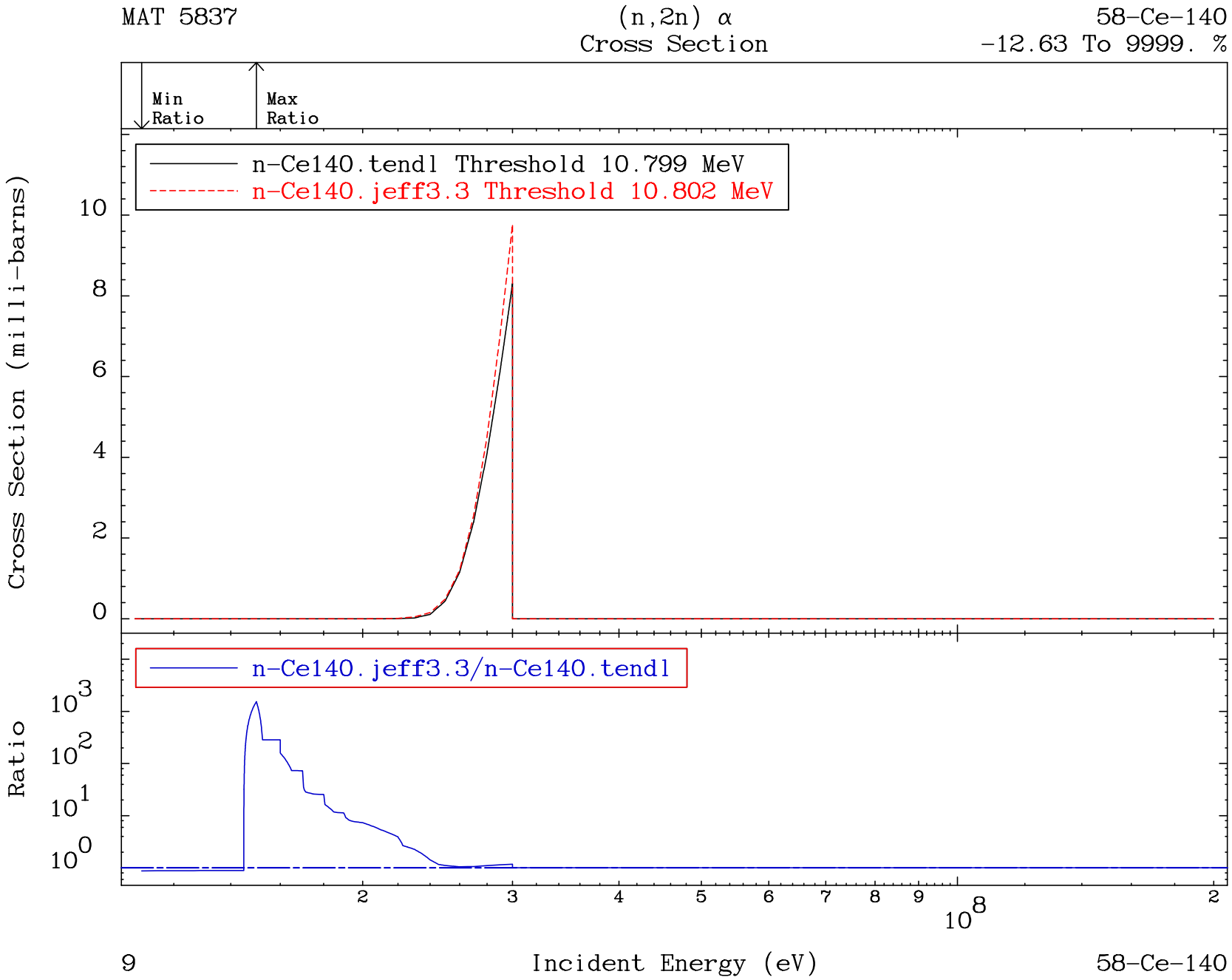

MAT 5837
(n,remainder)
Cross Section
58-Ce-140
0.163 To 0.308 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 30.000 MeV
n-Ce140.jeff3.3 Threshold 30.000 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.01
1.00
40
60
80
100
120
140
160
180
200
4
Incident Energy (MeV)
58-Ce-140

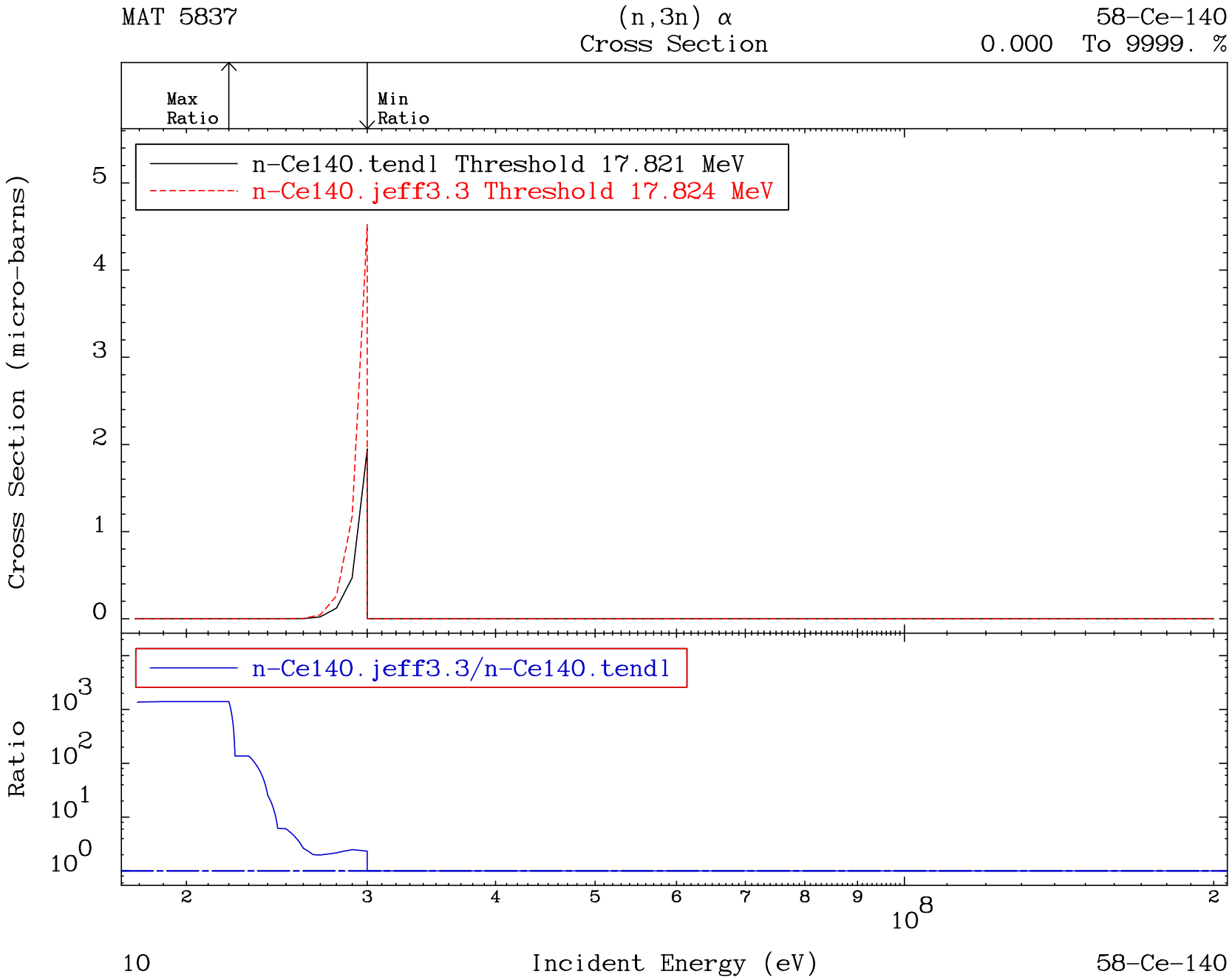

MAT 5837
(n,2n) d
Cross Section
58-Ce-140
-21.30 To 0.000 %
Max
Ratio
n-Ce140.tendl Threshold 22.302 MeV
n-Ce140.jeff3.3 Threshold 22.305 MeV
Cross Section (micro-barns)
70
60
50
40
30
20
10
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.9
0.8
40
60
80
100
120
140
160
180
200
5
Incident Energy (MeV)
58-Ce-140

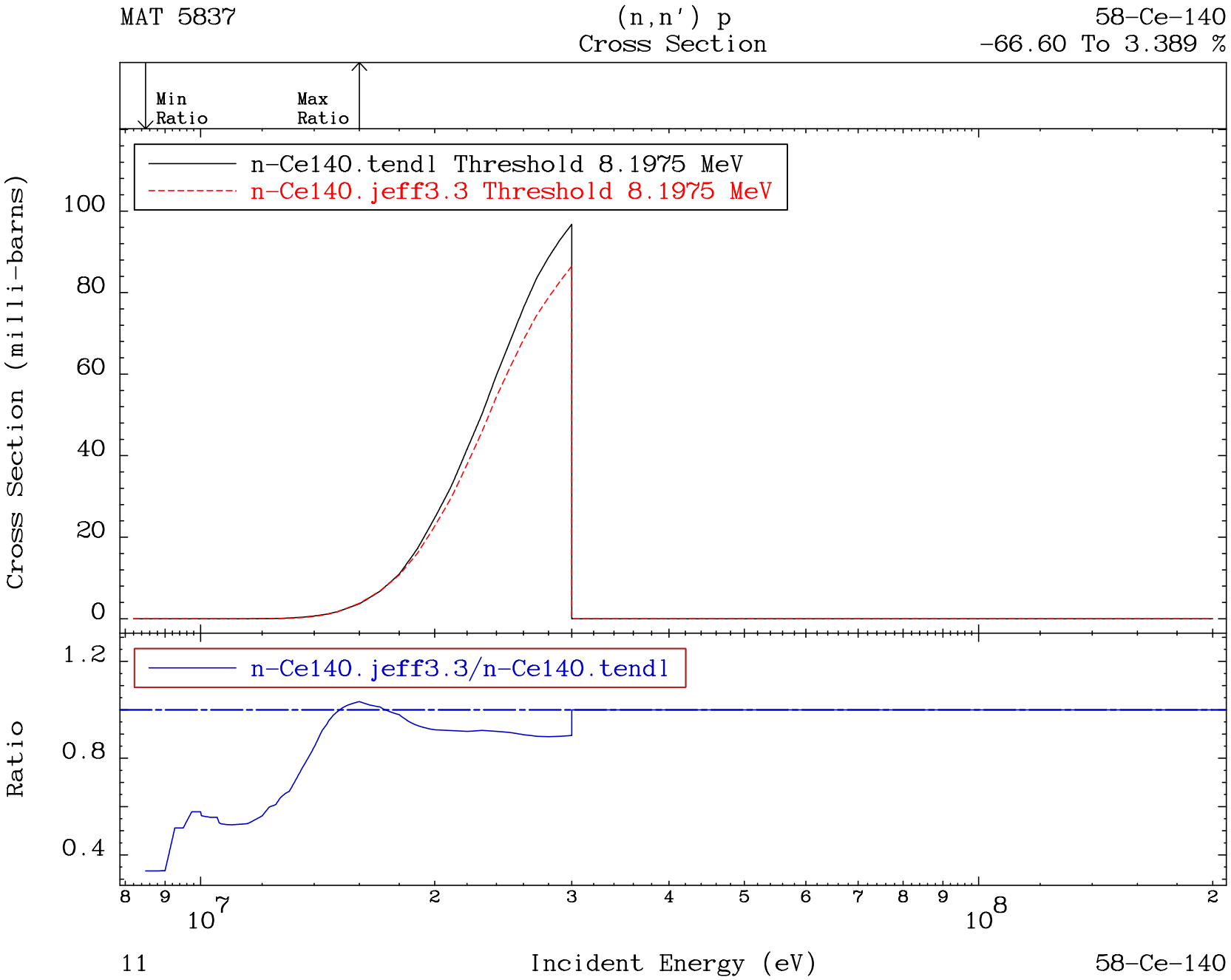

MAT 5837
(n,2n)
Cross Section
58-Ce-140
-27.17 To 0.000 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 9.2659 MeV
n-Ce140.jeff3.3 Threshold 9.2659 MeV
Cross Section (barns)
1.5
1.0
0.5
0.0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.9
0.8
9
10^7
2
3
4
5
6
7
8
9
10^8
2
6
Incident Energy (eV)
58-Ce-140

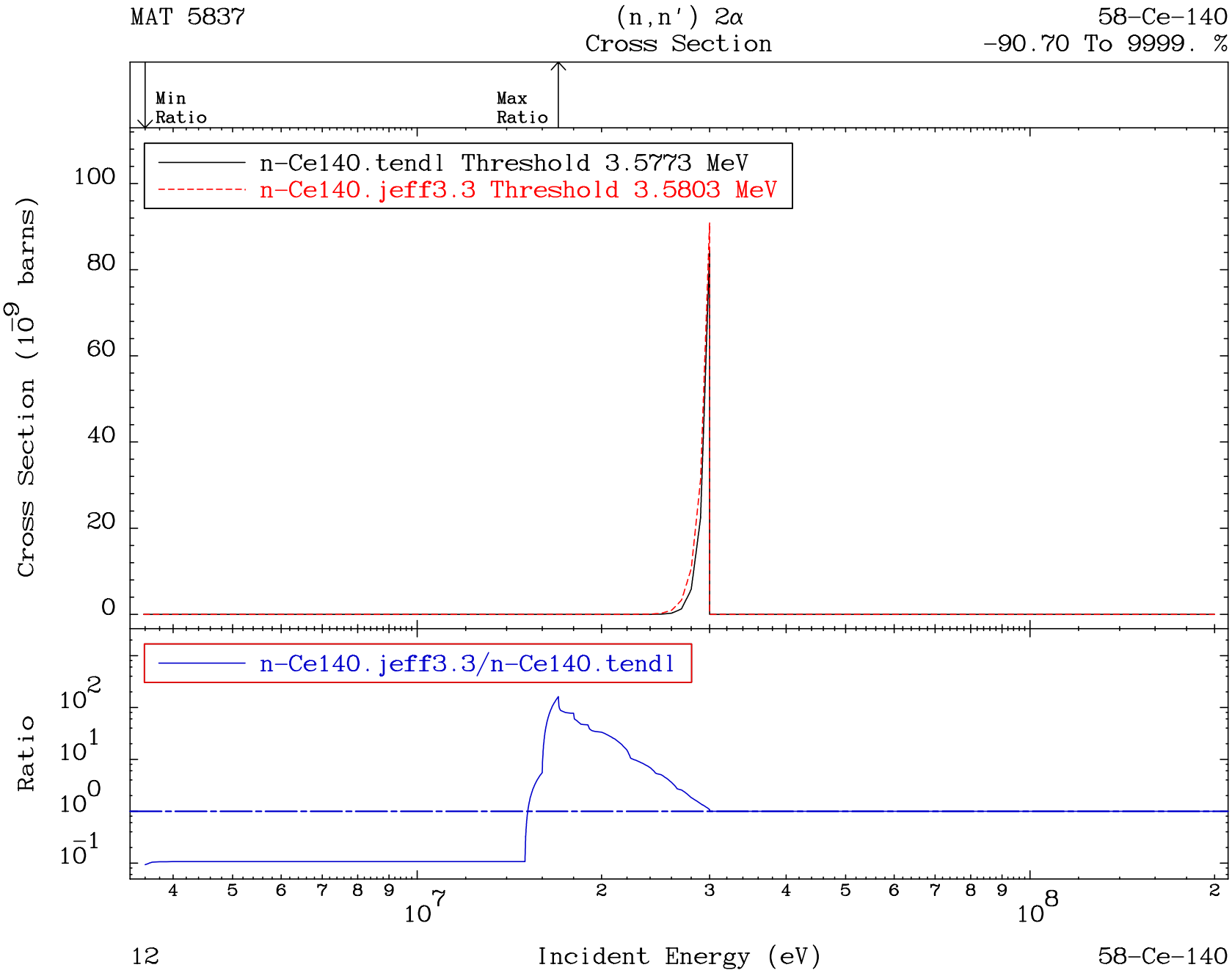

MAT 5837
(n,3n)
Cross Section
58-Ce-140
-33.47 To 1.382 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 16.768 MeV
n-Ce140.jeff3.3 Threshold 16.773 MeV
Cross Section (barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.8
2
3
4
5
6
7
8
9
10^8
2
7
Incident Energy (eV)
58-Ce-140

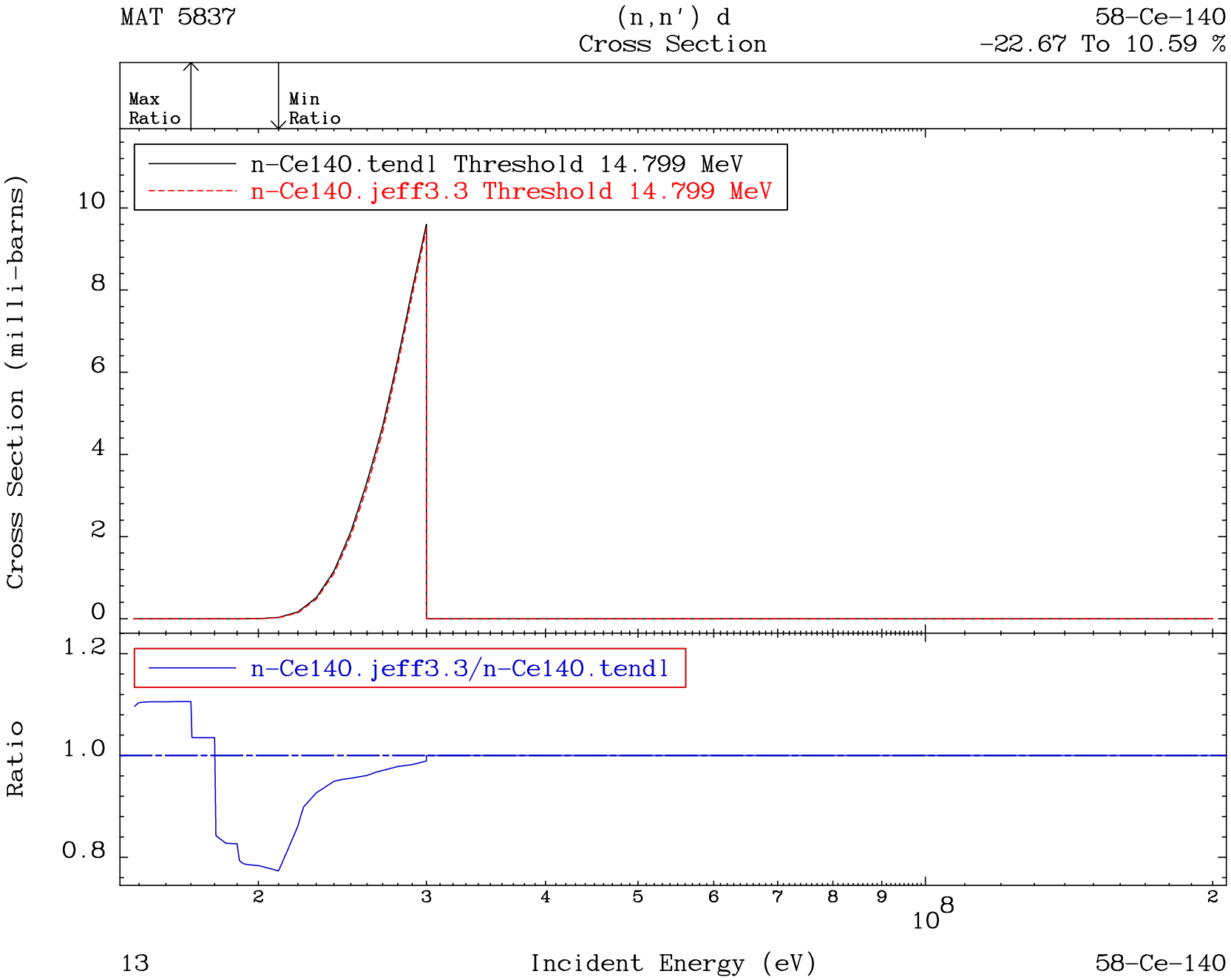

MAT 5837
(n,n') α
Cross Section
58-Ce-140
-23.51 To 9999. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 1.6257 MeV
n-Ce140.jeff3.3 Threshold 1.6286 MeV
Cross Section (milli-barns)
0
5
10
15
20
25
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^0
10^1
10^2
10^3
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
8
Incident Energy (eV)
58-Ce-140

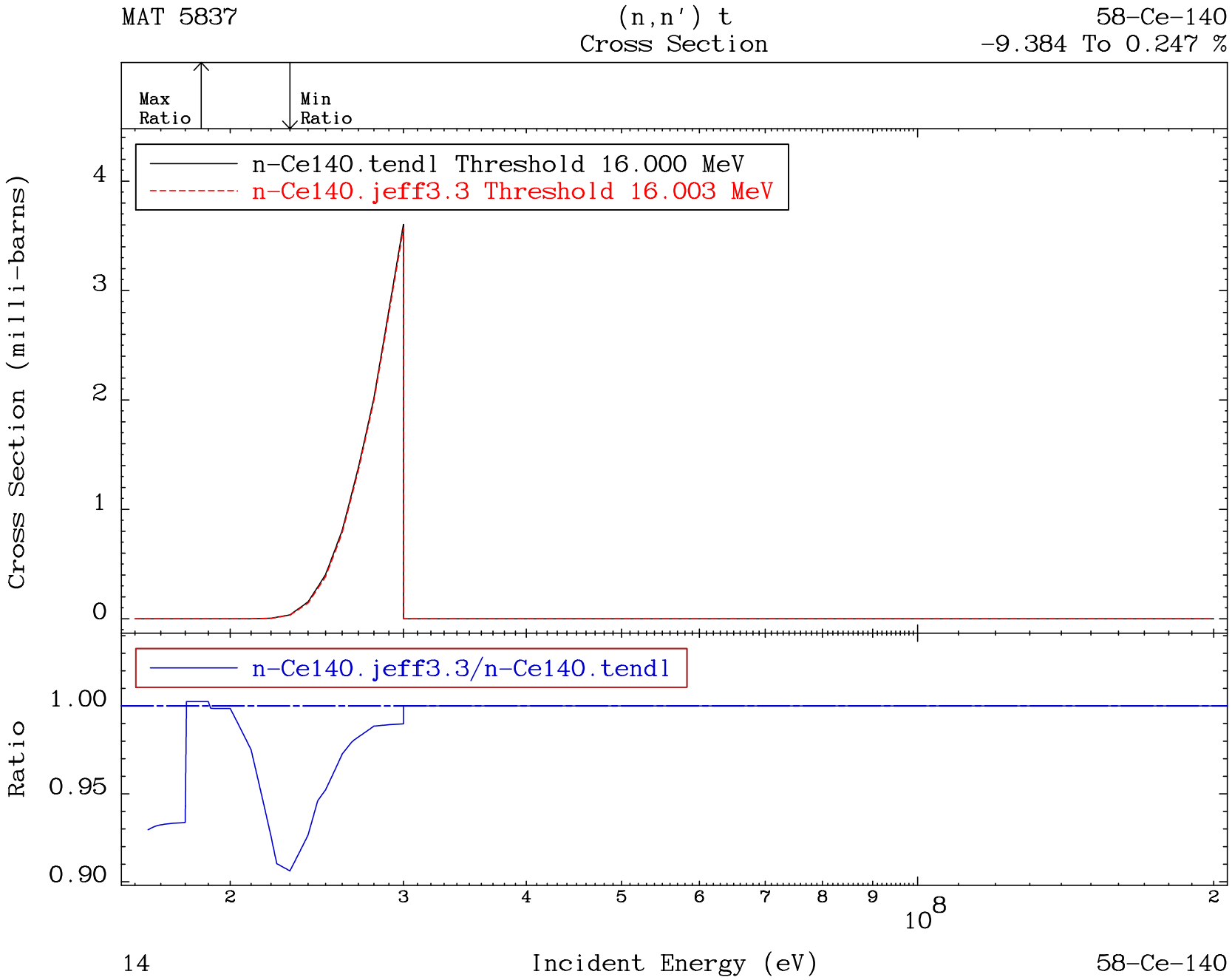

MAT 5837
(n,2n) α
Cross Section
58-Ce-140
-12.63 To 9999. %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 10.799 MeV
n-Ce140.jeff3.3 Threshold 10.802 MeV
Cross Section (milli-barns)
10
8
6
4
2
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^3
10^2
10^1
10^0
2
3
4
5
6
7
8
9
10^8
2
9
Incident Energy (eV)
58-Ce-140

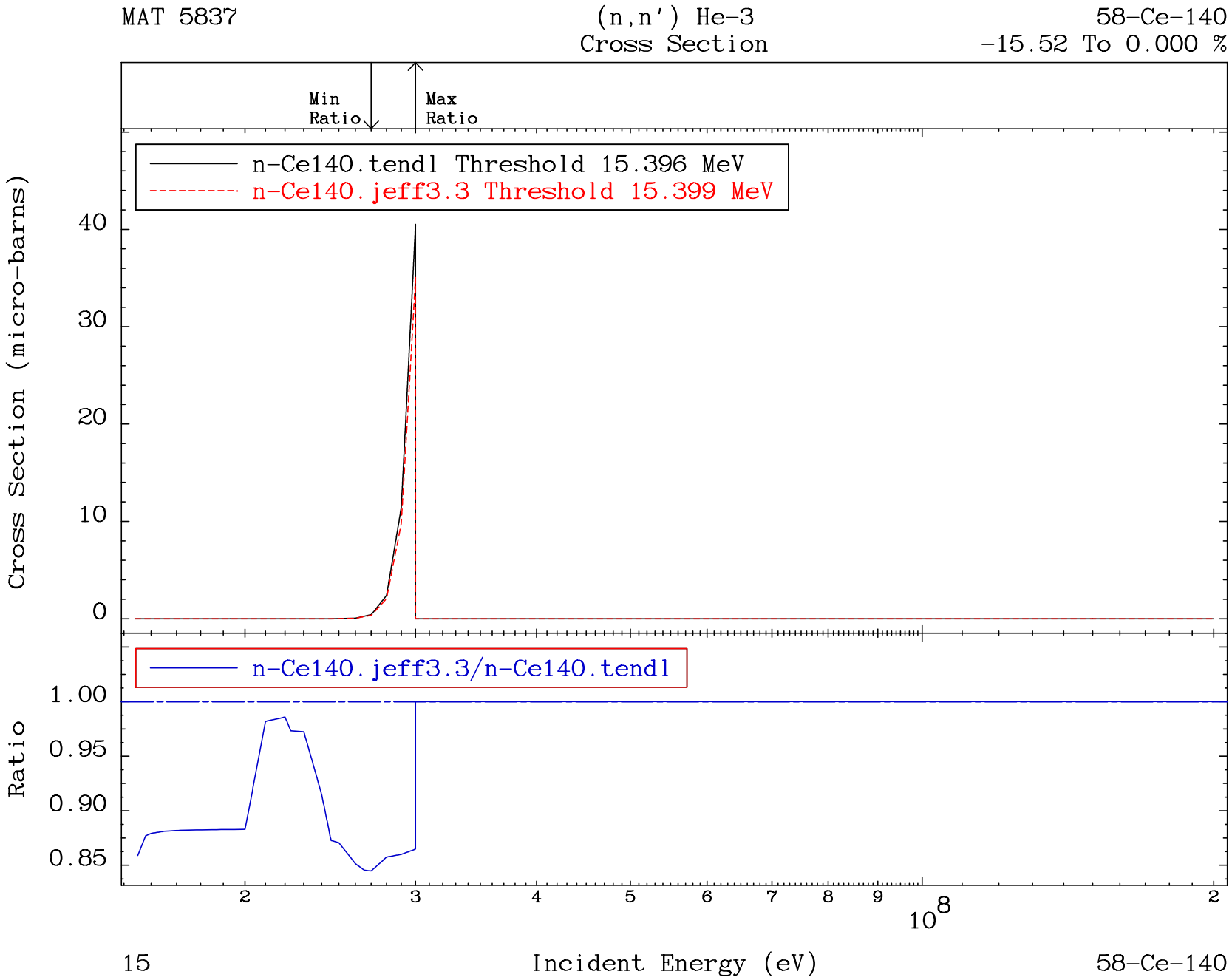

MAT 5837
(n,3n) α
Cross Section
58-Ce-140
0.000 To 9999. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 17.821 MeV
n-Ce140.jeff3.3 Threshold 17.824 MeV
Cross Section (micro-barns)
0
1
2
3
4
5
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^3
10^2
10^1
10^0
2
3
4
5
6
7
8
9
10^8
2
10
Incident Energy (eV)
58-Ce-140

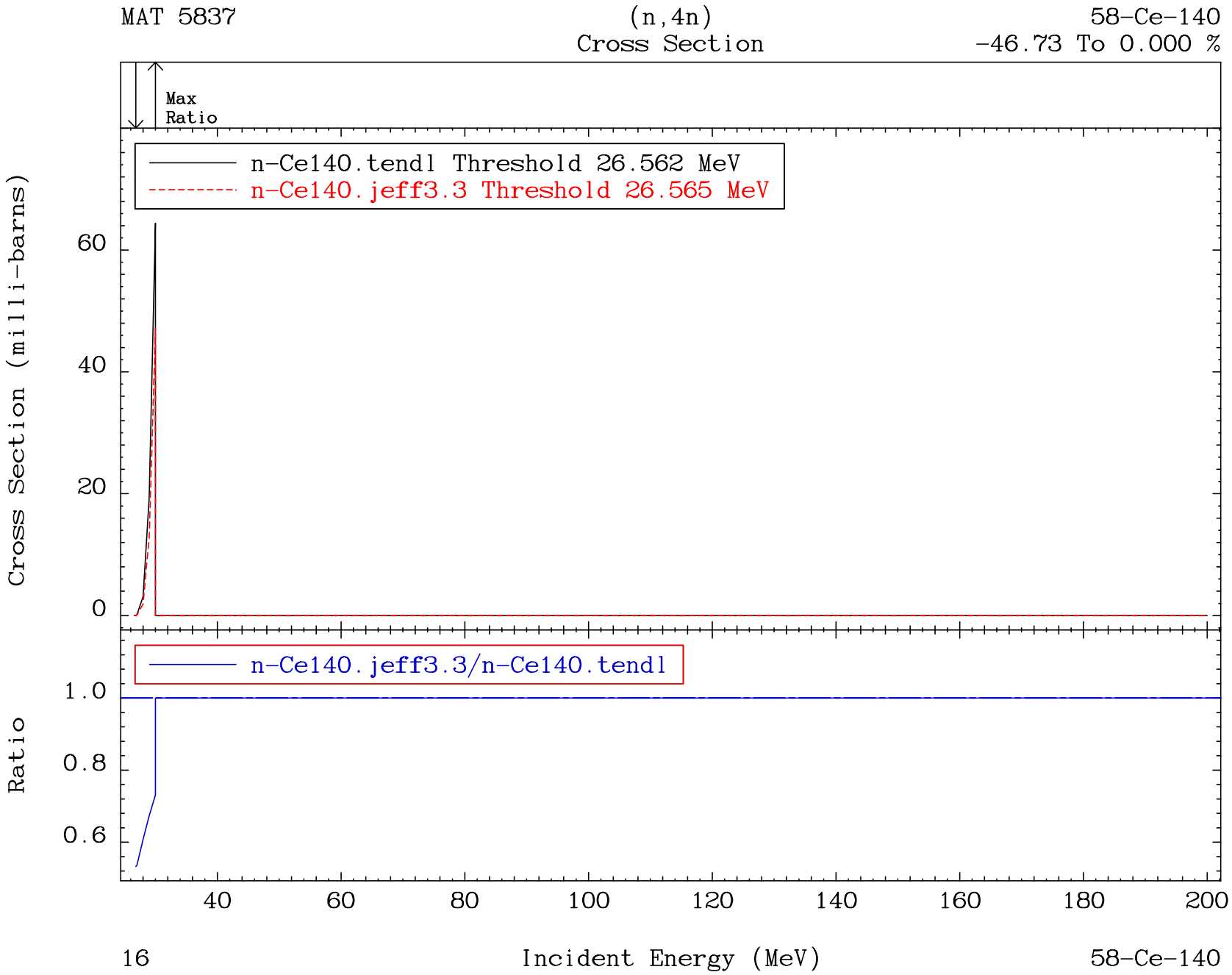

MAT 5837
(n,n') p
Cross Section
58-Ce-140
-66.60 To 3.389 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 8.1975 MeV
n-Ce140.jeff3.3 Threshold 8.1975 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.2
0.8
0.4
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
11
Incident Energy (eV)
58-Ce-140

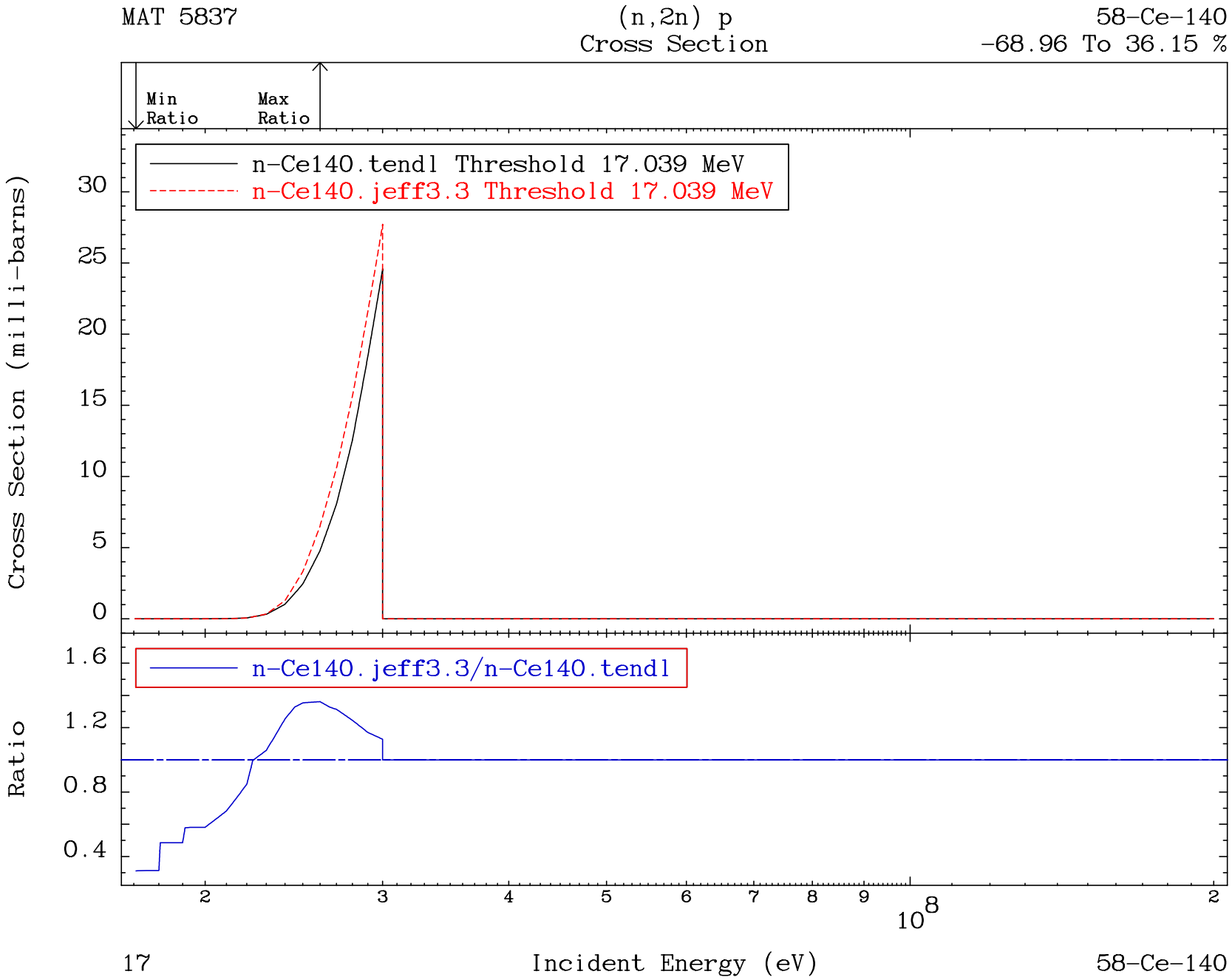

MAT 5837
(n,n') 2α
Cross Section
58-Ce-140
-90.70 To 9999. %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 3.5773 MeV
n-Ce140.jeff3.3 Threshold 3.5803 MeV
Cross Section (10^{-9} barns)
100
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^{2}
10^{1}
10^{0}
10^{-1}
4 5 6 7 8 9 10^{7} 2 3 4 5 6 7 8 9 10^{8} 2
12
Incident Energy (eV)
58-Ce-140

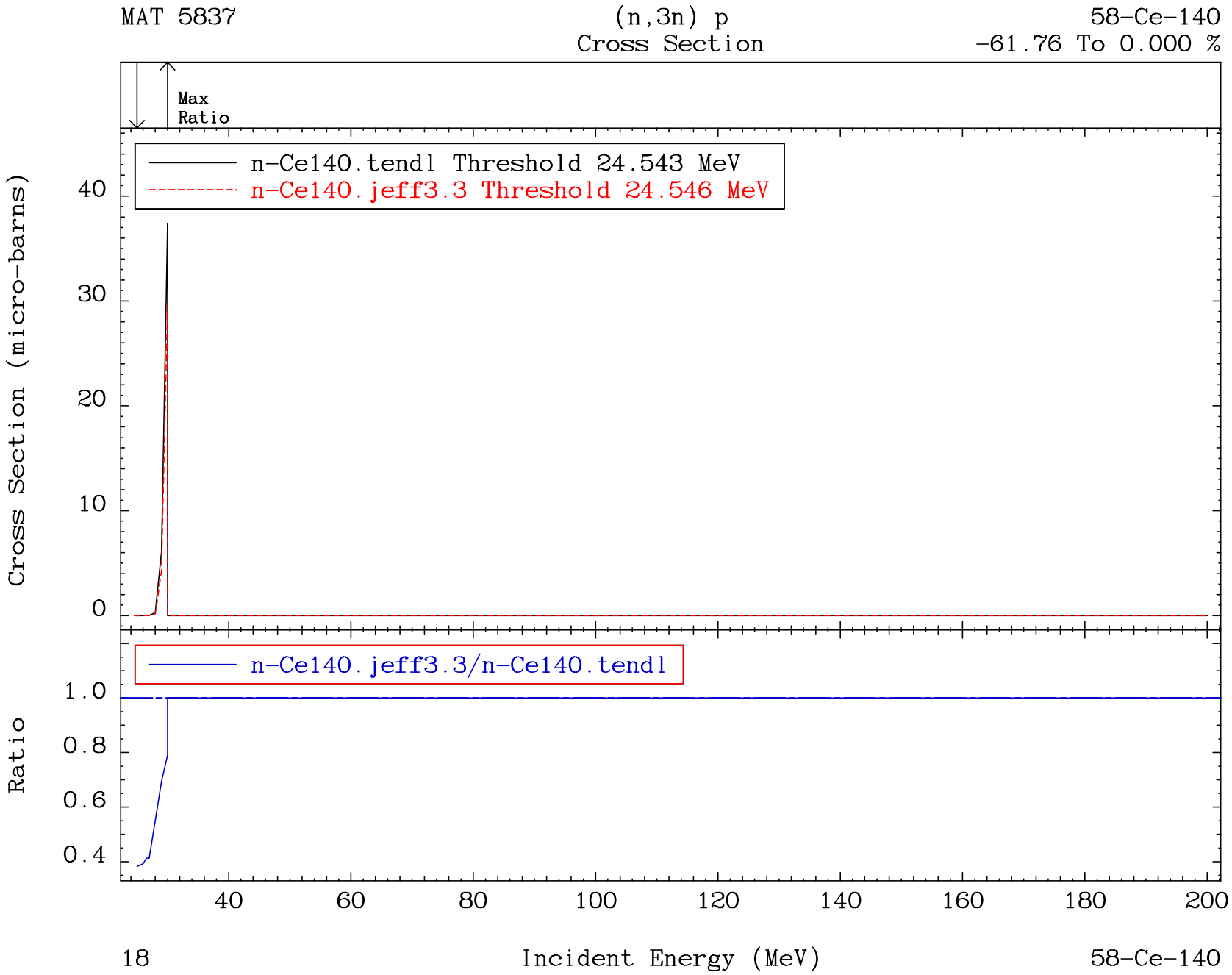

MAT 5837
(n,n') d
Cross Section
58-Ce-140
-22.67 To 10.59 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 14.799 MeV
n-Ce140.jeff3.3 Threshold 14.799 MeV
Cross Section (milli-barns)
10
8
6
4
2
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.2
1.0
0.8
2
3
4
5
6
7
8
9
10^8
2
13
Incident Energy (eV)
58-Ce-140

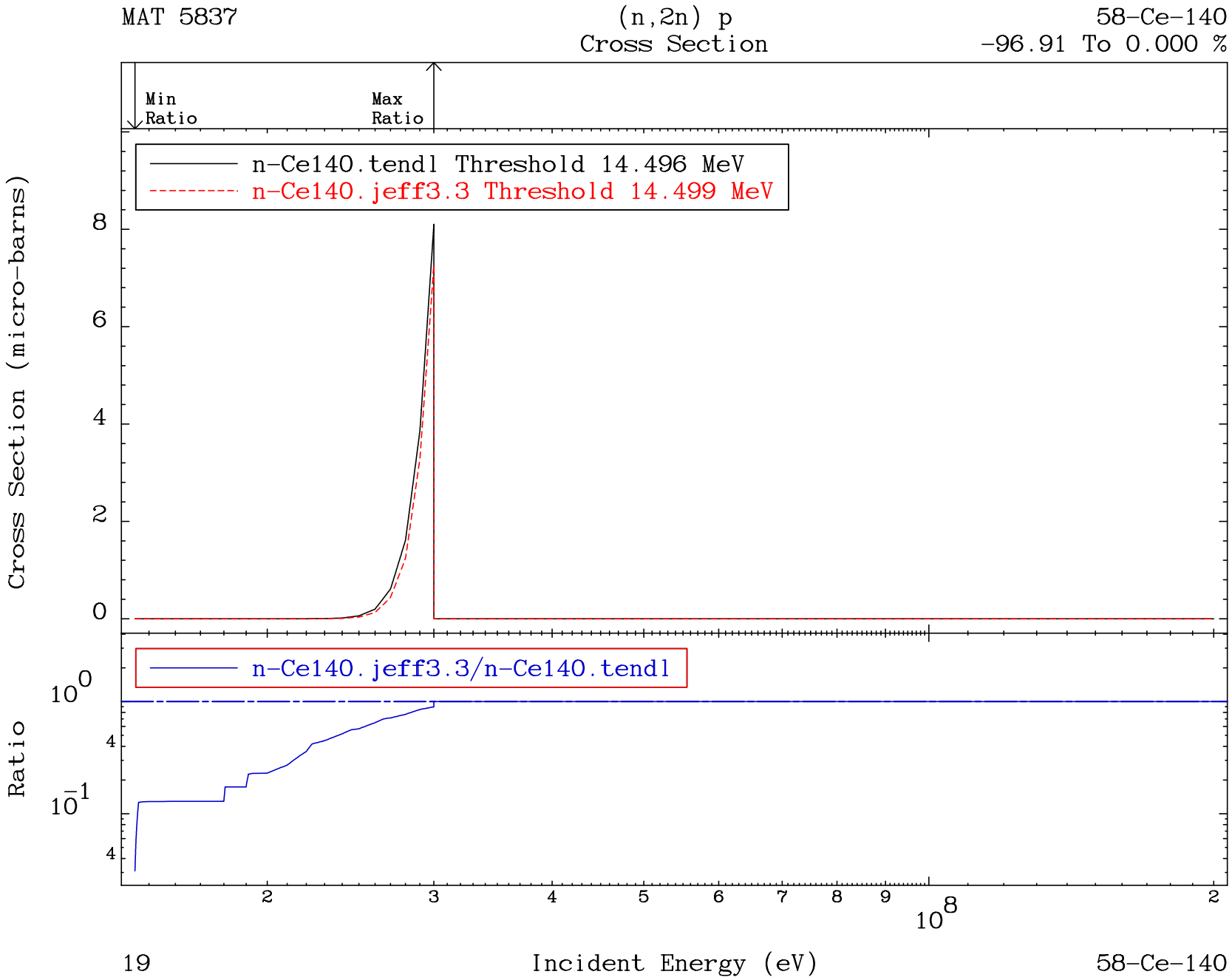

MAT 5837
(n,n') t
Cross Section
58-Ce-140
-9.384 To 0.247 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 16.000 MeV
n-Ce140.jeff3.3 Threshold 16.003 MeV
Cross Section (milli-barns)
0
1
2
3
4
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.00
0.95
0.90
2
3
4
5
6
7
8
9
10^8
2
14
Incident Energy (eV)
58-Ce-140

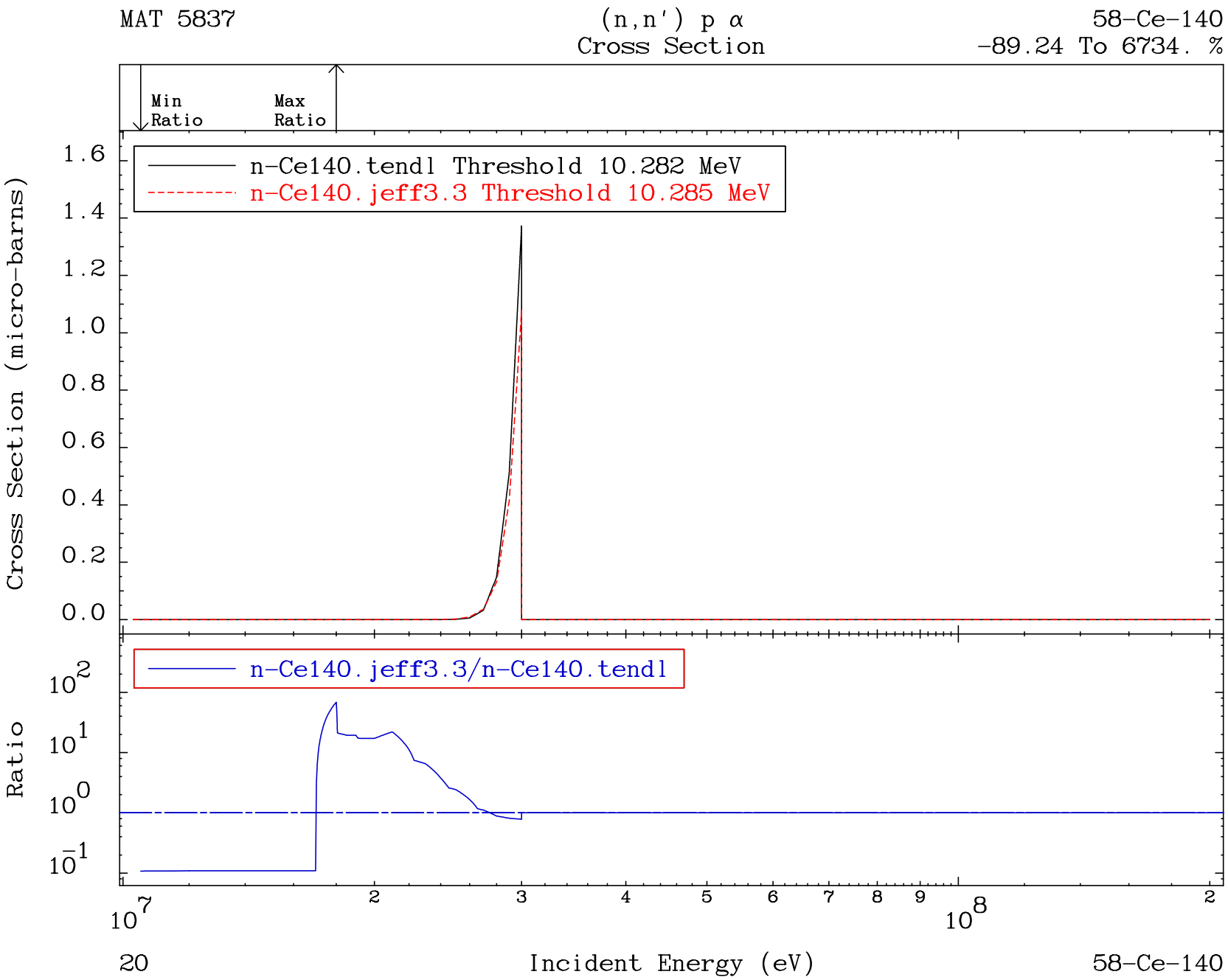

MAT 5837
(n,n') He-3
Cross Section
58-Ce-140
-15.52 To 0.000 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 15.396 MeV
n-Ce140.jeff3.3 Threshold 15.399 MeV
Cross Section (micro-barns)
40
30
20
10
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.00
0.95
0.90
0.85
2
3
4
5
6
7
8
9
10^8
2
15
Incident Energy (eV)
58-Ce-140

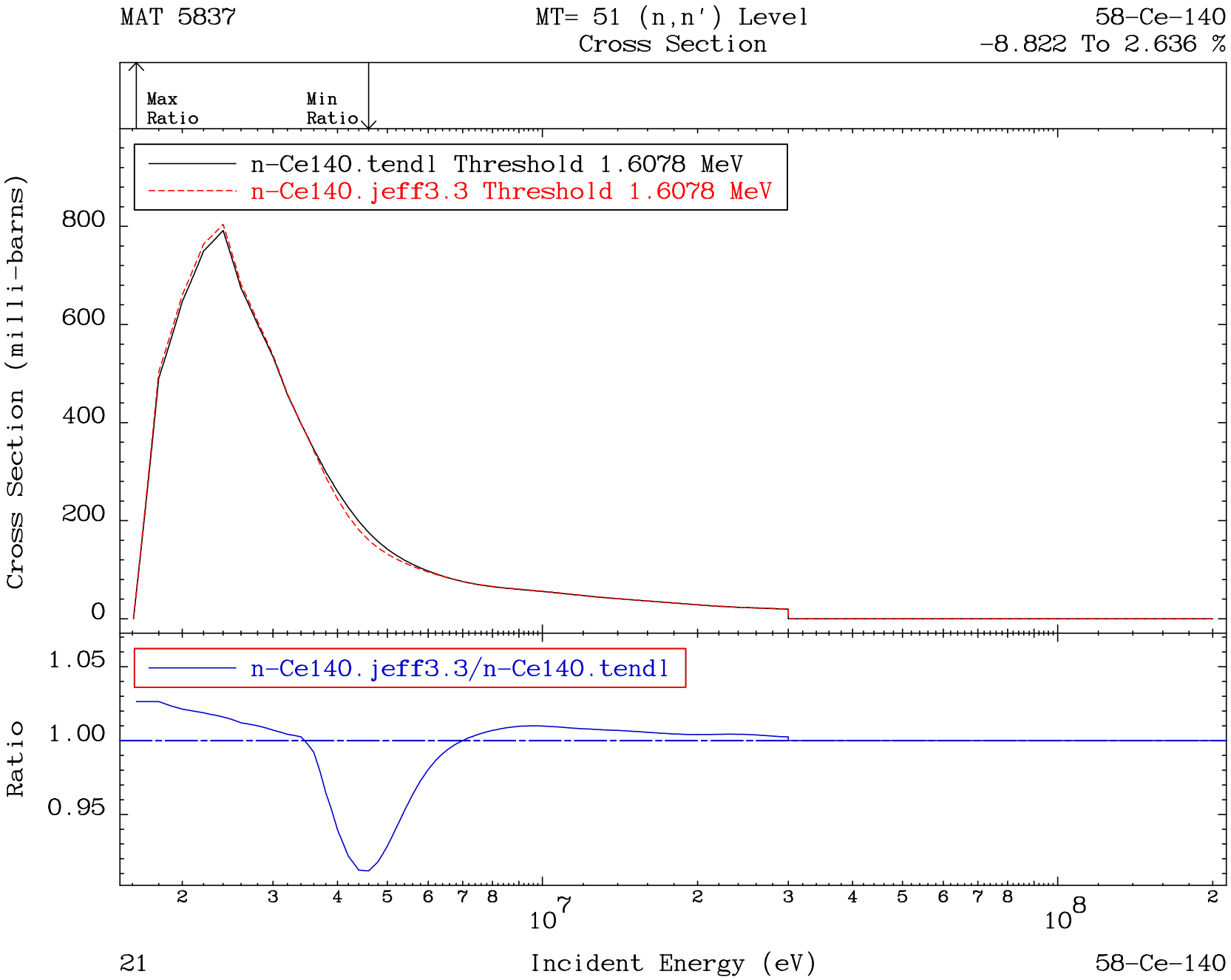

MAT 5837
(n,4n)
Cross Section
58-Ce-140
-46.73 To 0.000 %
Max
Ratio
n-Ce140.tendl Threshold 26.562 MeV
n-Ce140.jeff3.3 Threshold 26.565 MeV
Cross Section (milli-barns)
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.8
0.6
40
60
80
100
120
140
160
180
200
16
Incident Energy (MeV)
58-Ce-140

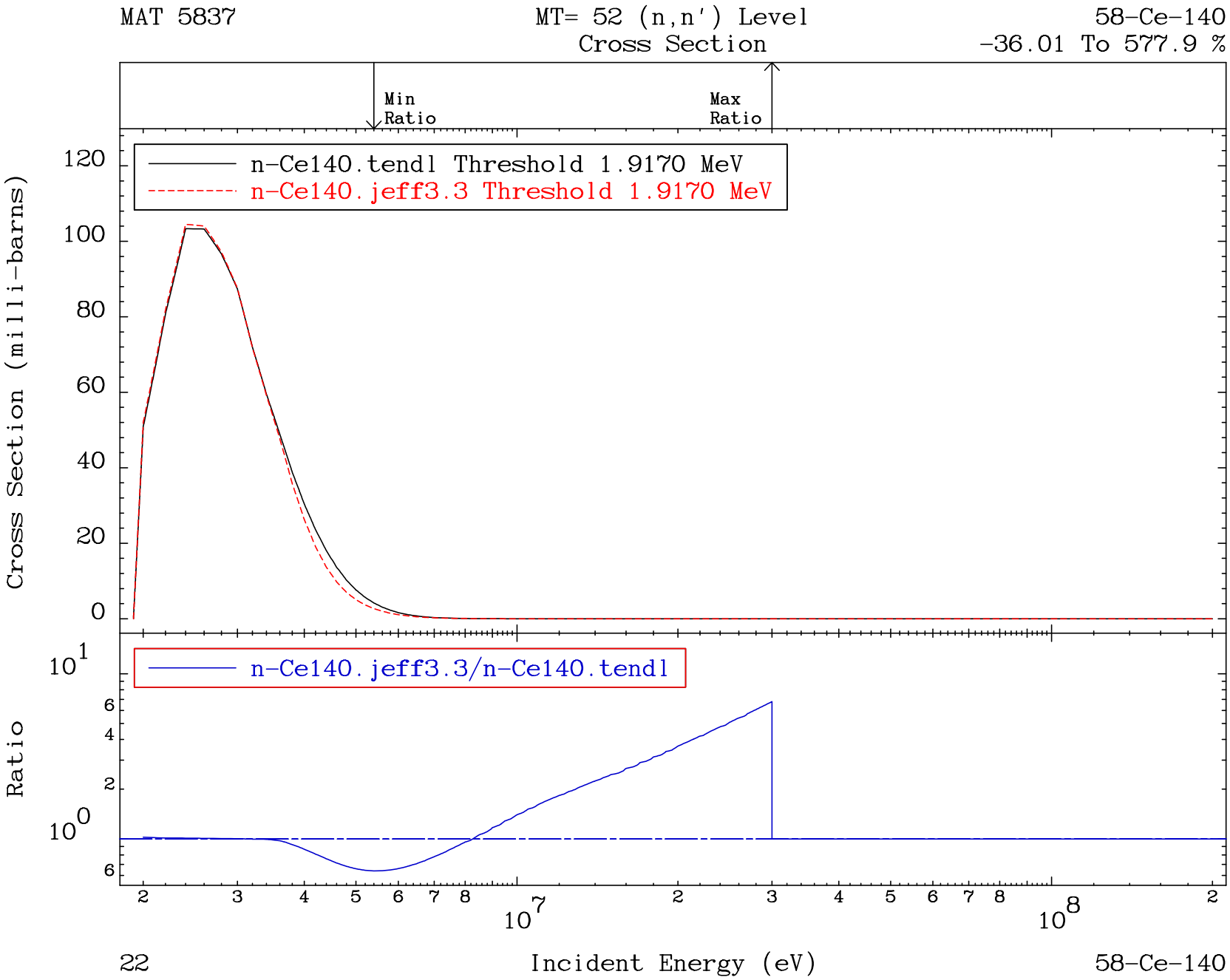

MAT 5837
(n,2n) p
Cross Section
58-Ce-140
-68.96 To 36.15 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 17.039 MeV
n-Ce140.jeff3.3 Threshold 17.039 MeV
Cross Section (milli-barns)
30
25
20
15
10
5
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.6
1.2
0.8
0.4
2
3
4
5
6
7
8
9
10^8
2
17
Incident Energy (eV)
58-Ce-140

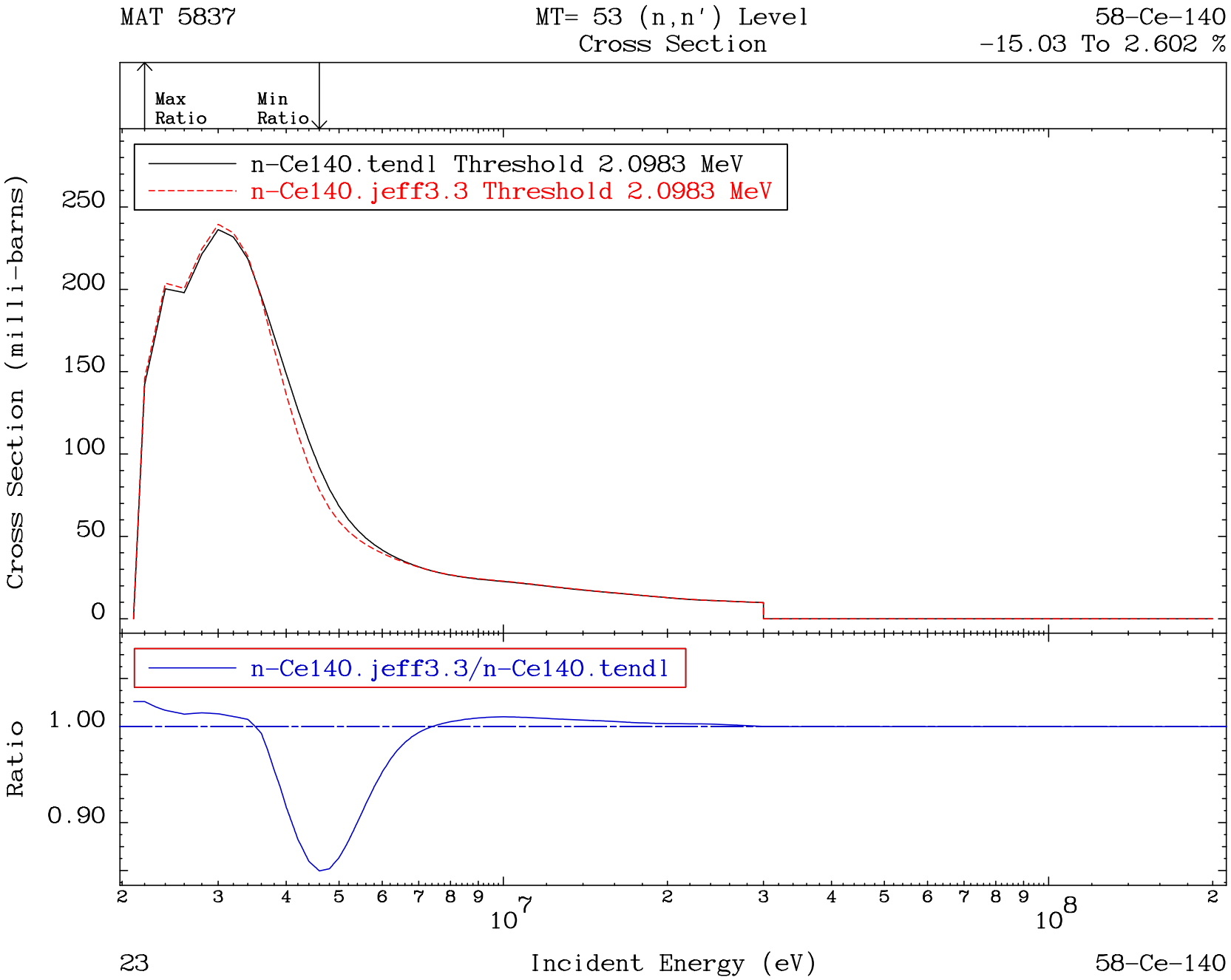

MAT 5837
(n,3n) p
Cross Section
58-Ce-140
-61.76 To 0.000 %
Max
Ratio
n-Ce140.tendl Threshold 24.543 MeV
n-Ce140.jeff3.3 Threshold 24.546 MeV
Cross Section (micro-barns)
40
30
20
10
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.8
0.6
0.4
40
60
80
100
120
140
160
180
200
18
Incident Energy (MeV)
58-Ce-140

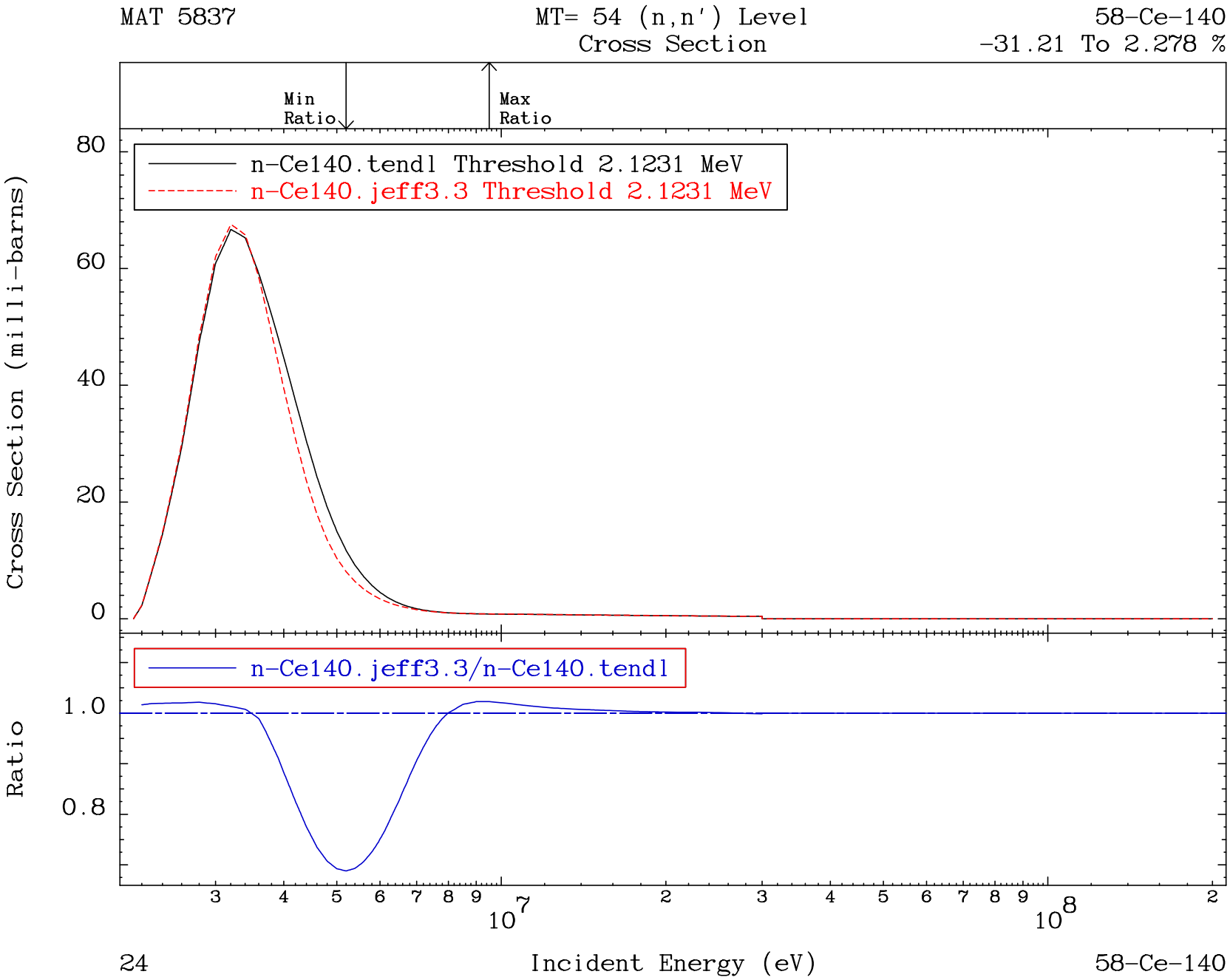

MAT 5837
(n,2n) p
Cross Section
58-Ce-140
-96.91 To 0.000 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 14.496 MeV
n-Ce140.jeff3.3 Threshold 14.499 MeV
Cross Section (micro-barns)
0
2
4
6
8
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^0
10^-1
2
3
4
5
6
7
8
9
10^8
19
Incident Energy (eV)
58-Ce-140

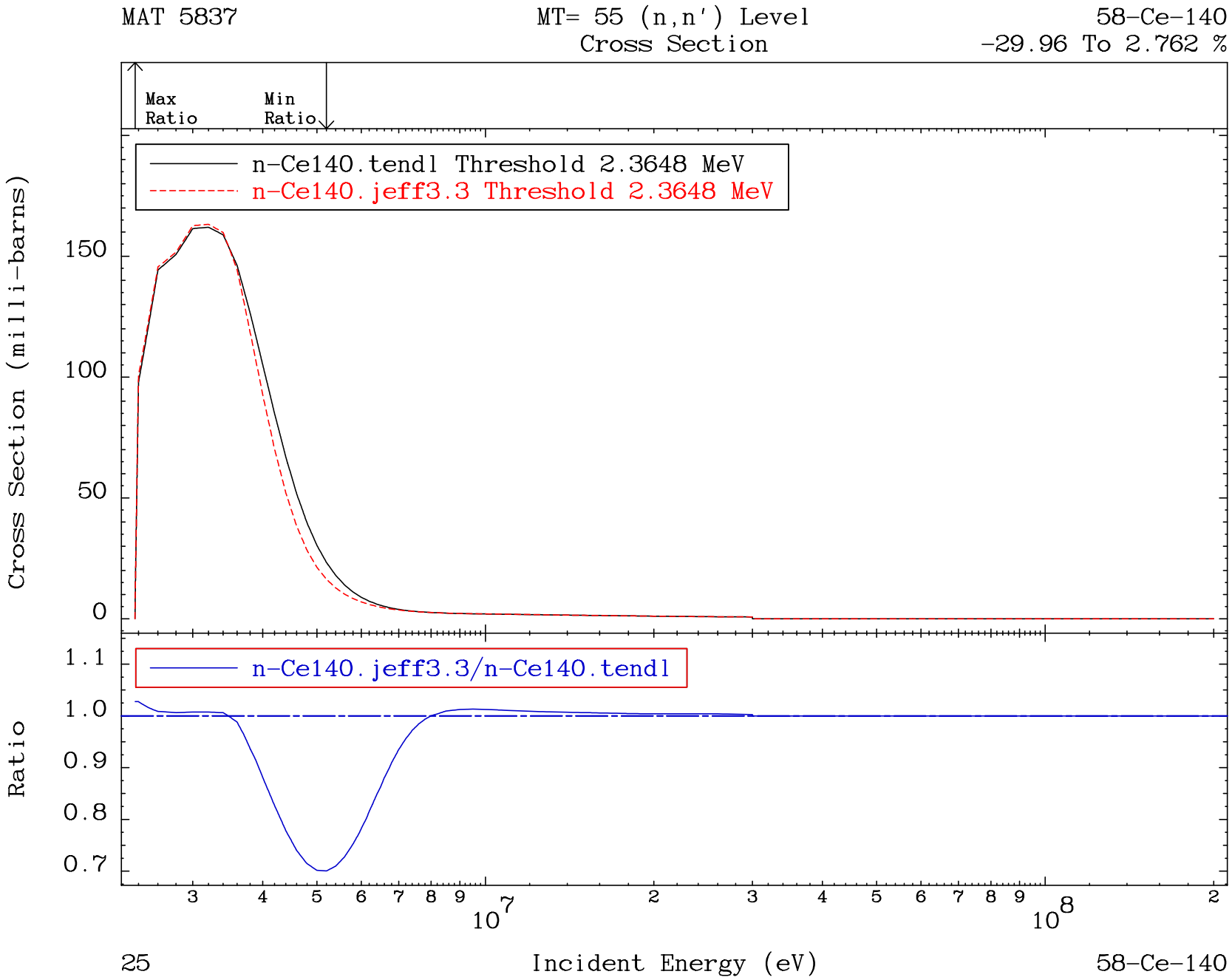

MAT 5837
(n,n') p α
Cross Section
58-Ce-140
-89.24 To 6734. %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 10.282 MeV
n-Ce140.jeff3.3 Threshold 10.285 MeV
Cross Section (micro-barns)
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^2
10^1
10^0
10^-1
10^7
2
3
4
5
6
7
8
9
10^8
2
20
Incident Energy (eV)
58-Ce-140

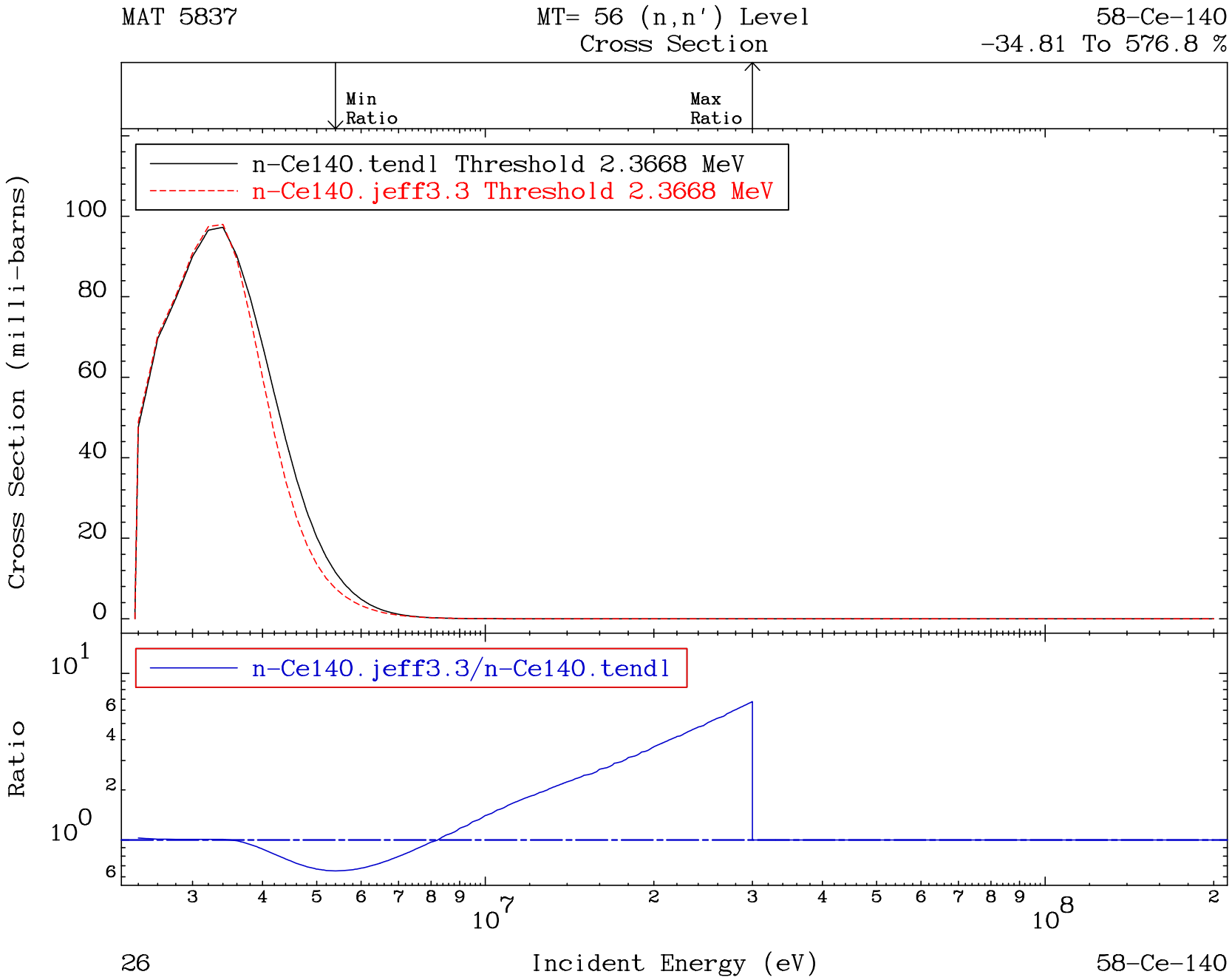

MAT 5837
MT= 51 (n,n') Level
Cross Section
58-Ce-140
-8.822 To 2.636 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 1.6078 MeV
n-Ce140.jeff3.3 Threshold 1.6078 MeV
Cross Section (milli-barns)
800
600
400
200
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.05
1.00
0.95
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
21
Incident Energy (eV)
58-Ce-140

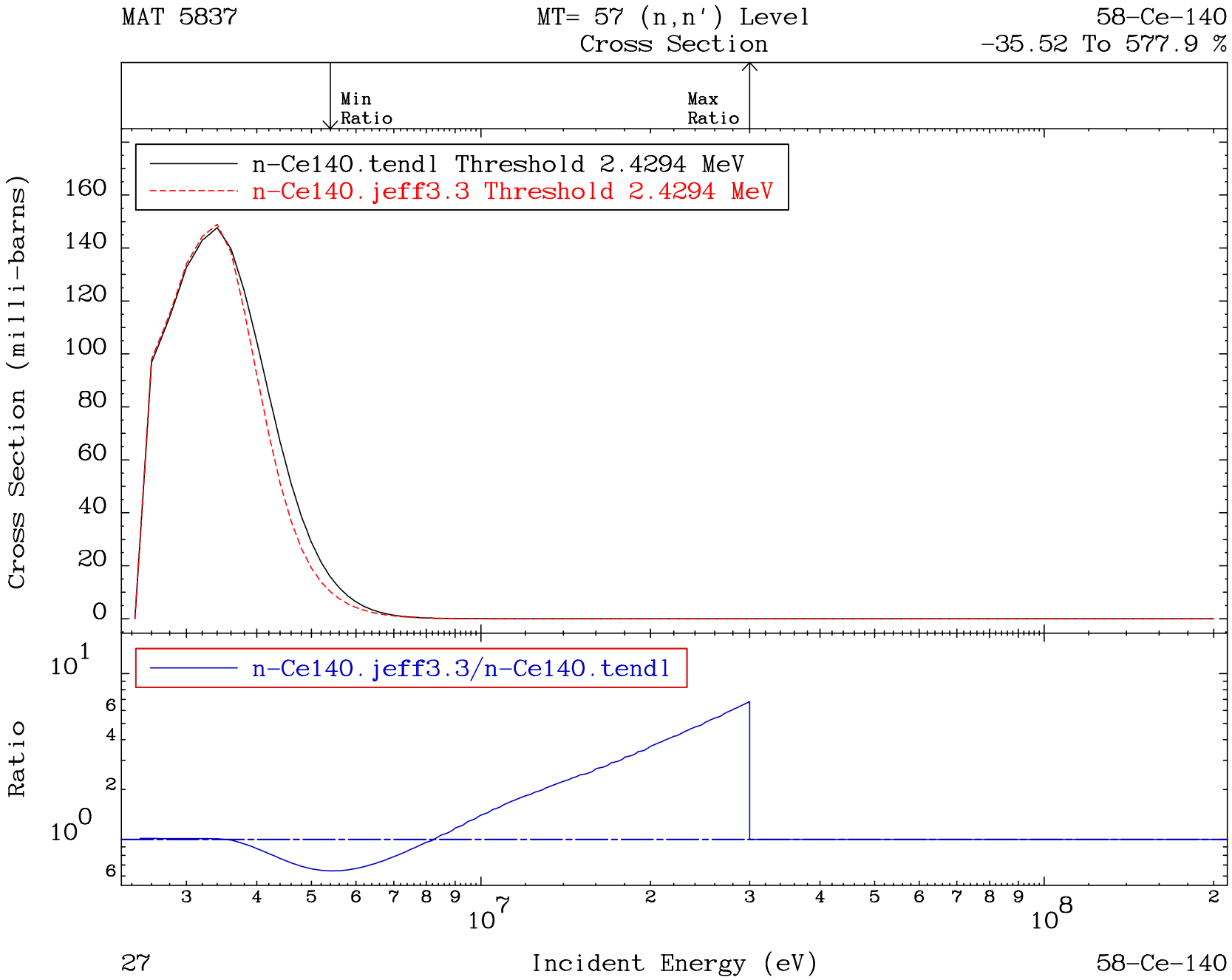

MAT 5837
MT= 52 (n,n') Level
Cross Section
58-Ce-140
-36.01 To 577.9 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 1.9170 MeV
n-Ce140.jeff3.3 Threshold 1.9170 MeV
Cross Section (milli-barns)
120
100
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^1
10^0
6
4
2
6
2 3 4 5 6 7 8
10^7
2 3 4 5 6 7 8
10^8
2
22
Incident Energy (eV)
58-Ce-140

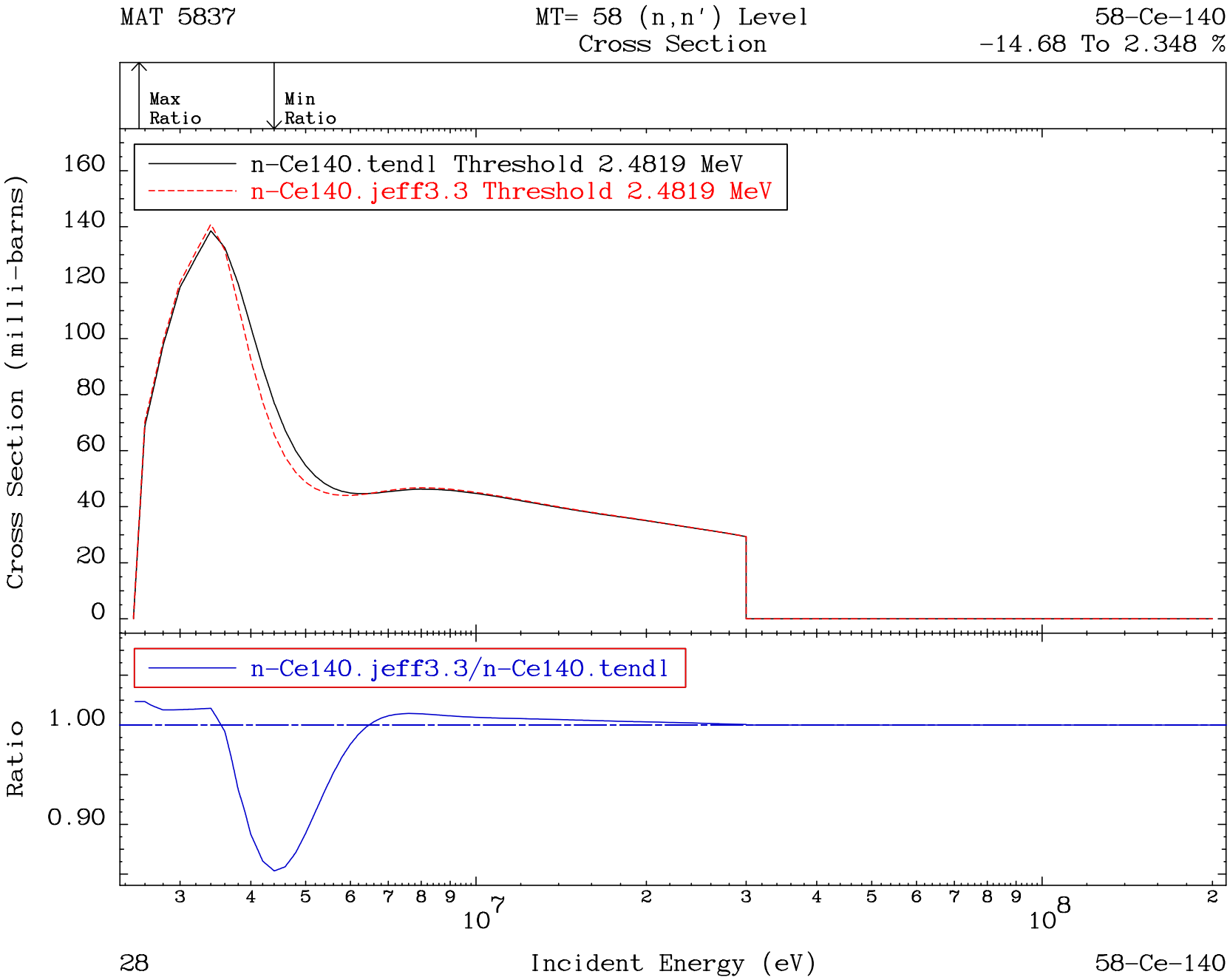

MAT 5837
MT= 53 (n,n') Level
Cross Section
58-Ce-140
-15.03 To 2.602 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 2.0983 MeV
n-Ce140.jeff3.3 Threshold 2.0983 MeV
Cross Section (milli-barns)
250
200
150
100
50
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.00
0.90
2 3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
23
Incident Energy (eV)
58-Ce-140

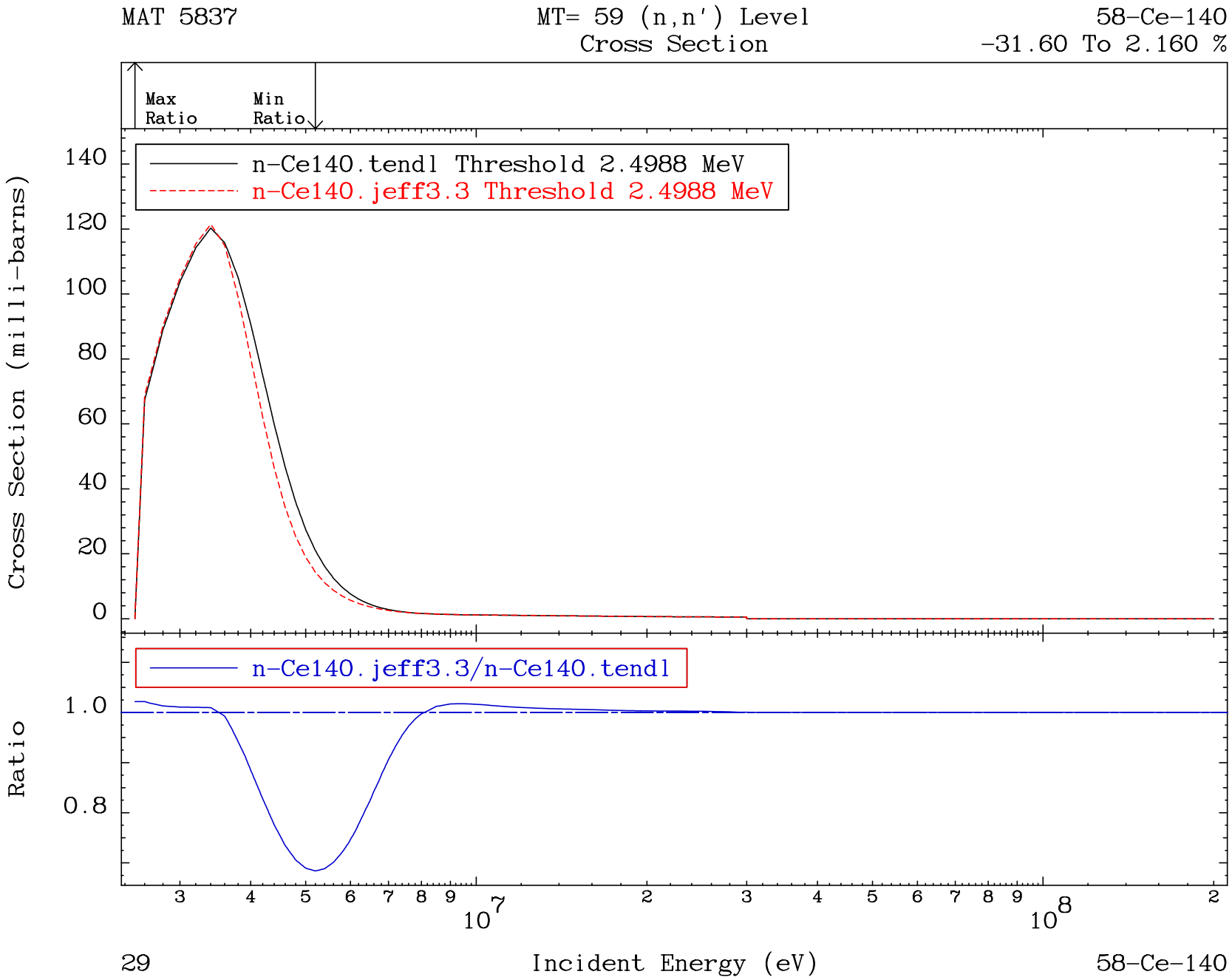

MAT 5837
MT= 54 (n,n') Level
Cross Section
58-Ce-140
-31.21 To 2.278 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 2.1231 MeV
n-Ce140.jeff3.3 Threshold 2.1231 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.8
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
24
Incident Energy (eV)
58-Ce-140

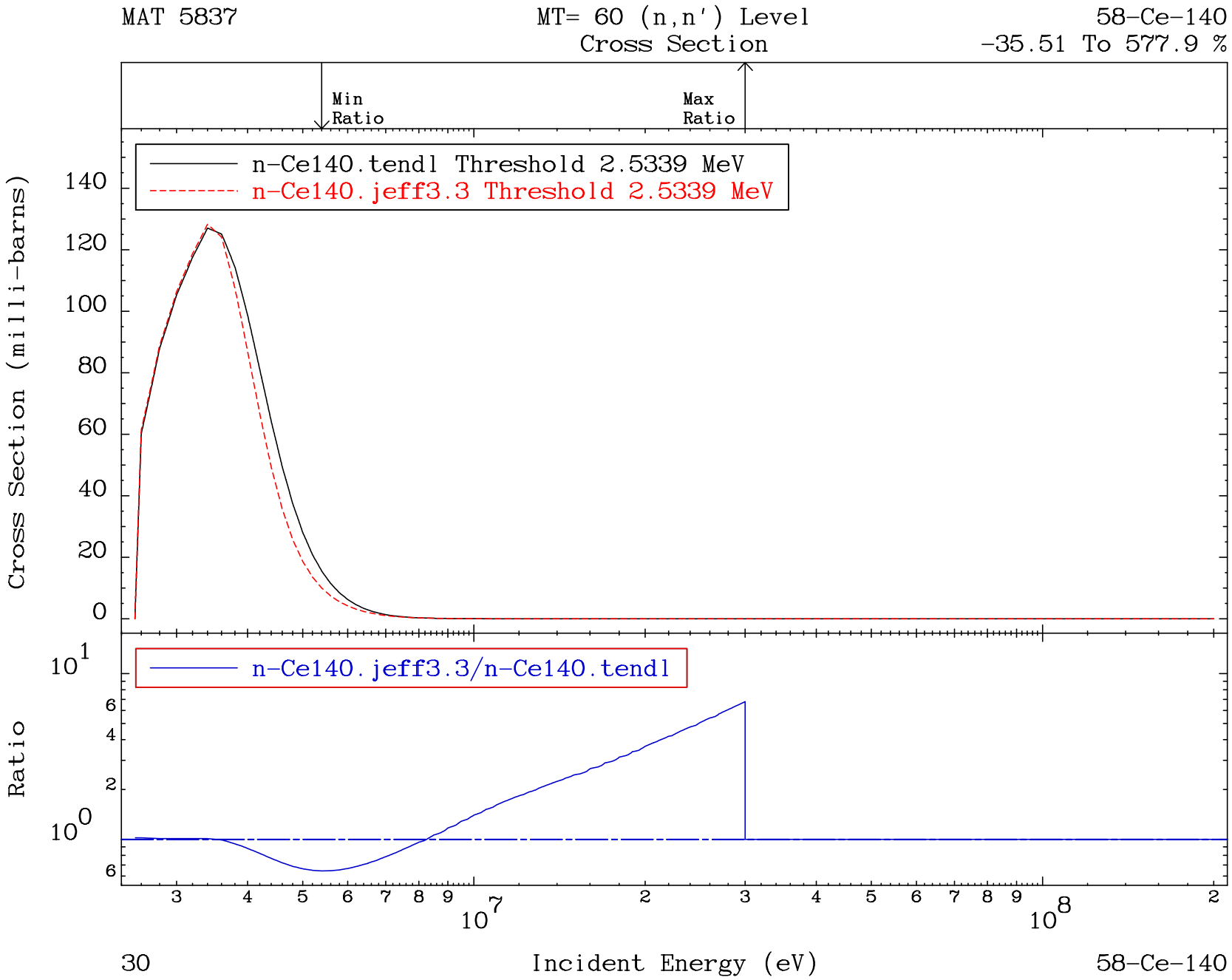

MAT 5837
MT= 55 (n,n') Level
Cross Section
58-Ce-140
-29.96 To 2.762 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 2.3648 MeV
n-Ce140.jeff3.3 Threshold 2.3648 MeV
Cross Section (milli-barns)
150
100
50
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.1
1.0
0.9
0.8
0.7
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
25
Incident Energy (eV)
58-Ce-140

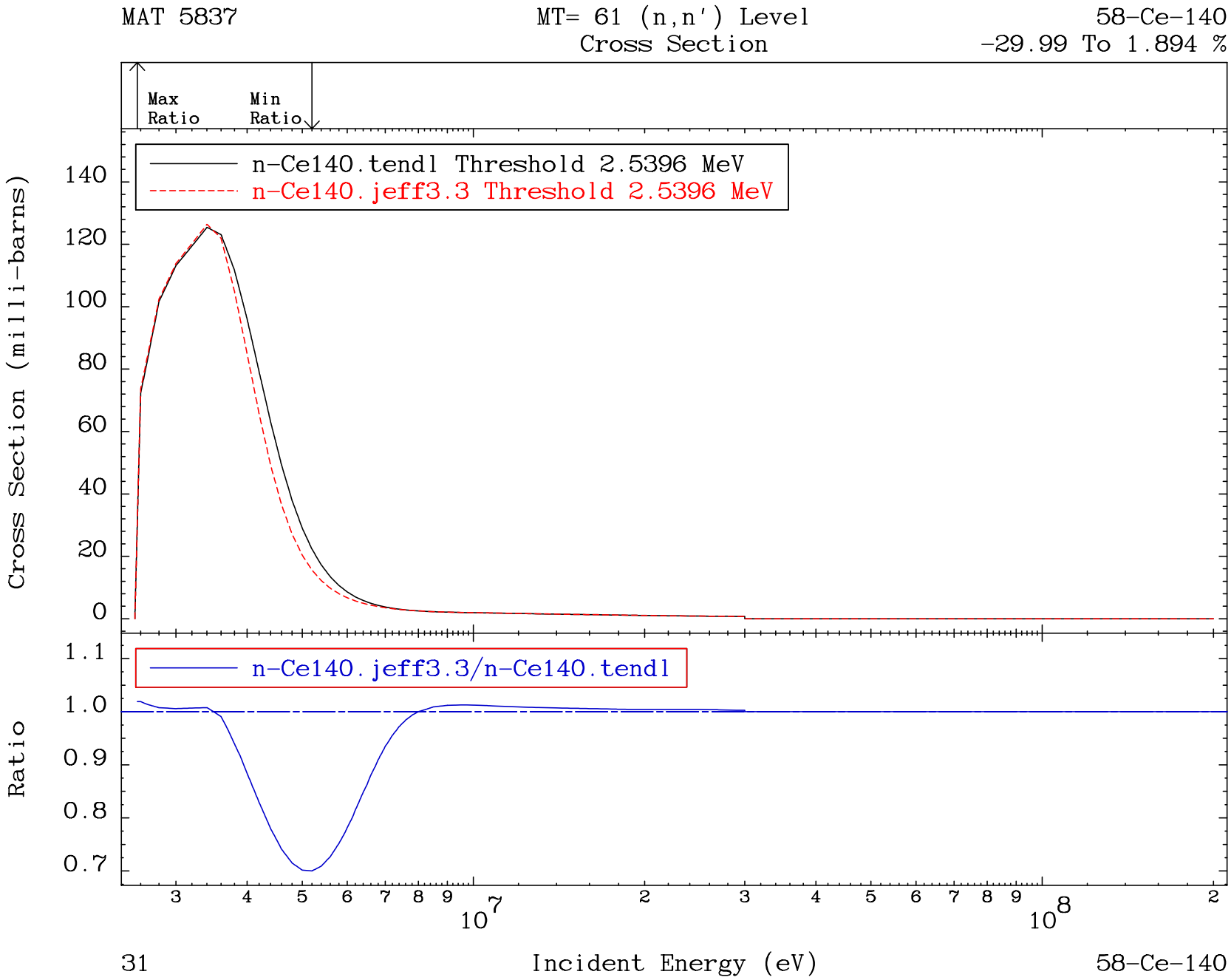

MAT 5837
MT= 56 (n,n') Level
Cross Section
58-Ce-140
-34.81 To 576.8 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 2.3668 MeV
n-Ce140.jeff3.3 Threshold 2.3668 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^1
6
4
2
10^0
6
3 4 5 6 7 8 9
10^7
2 3 4 5 6 7 8 9
10^8
2
26
Incident Energy (eV)
58-Ce-140

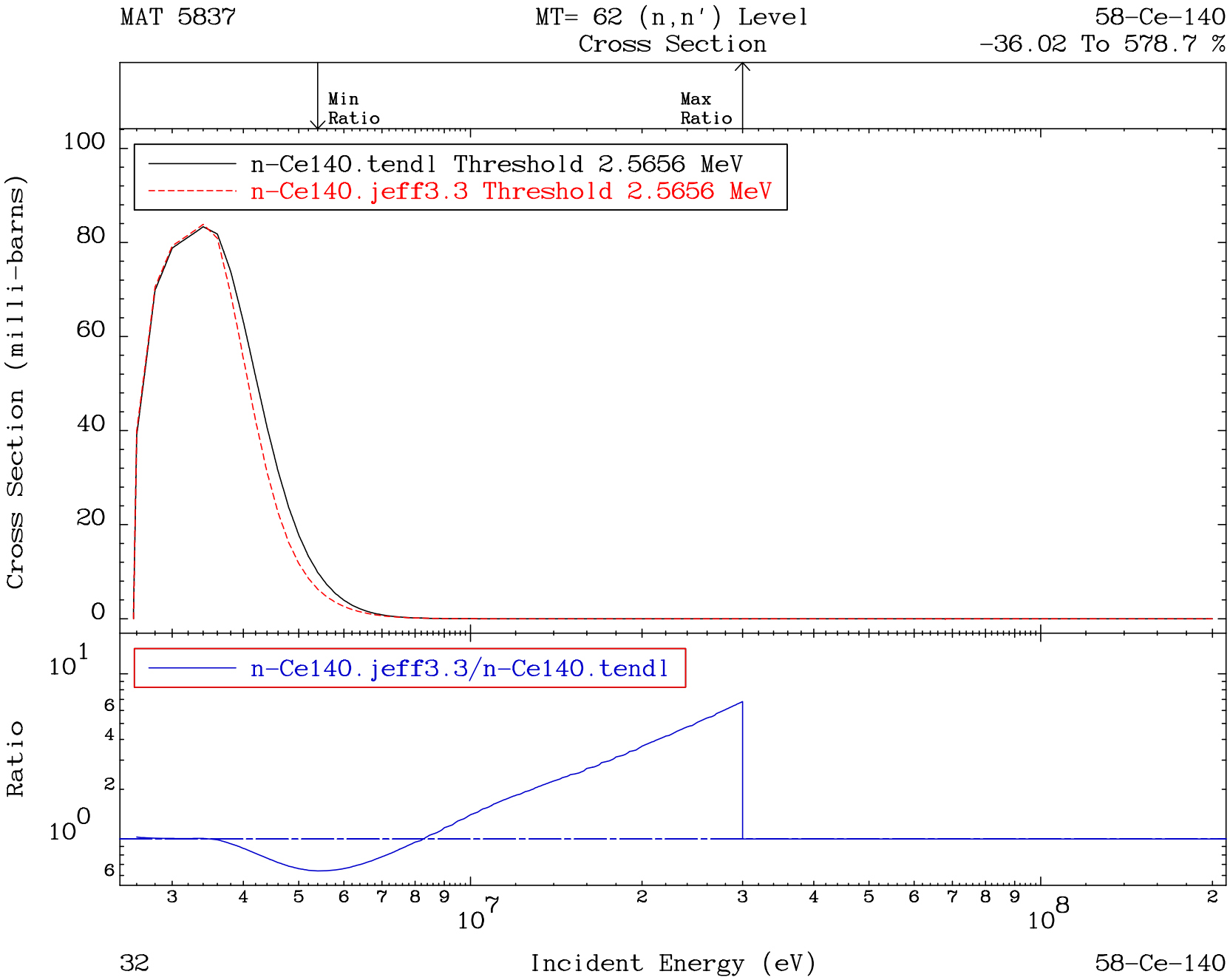

MAT 5837
MT= 57 (n,n') Level
Cross Section
58-Ce-140
-35.52 To 577.9 %
Min
Ratio
Max
Ratio
n-Ce140.tendl Threshold 2.4294 MeV
n-Ce140.jeff3.3 Threshold 2.4294 MeV
Cross Section (milli-barns)
160
140
120
100
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^1
6
4
2
10^0
6
3
4
5
6
7
8
9
10^7
2
3
4
5
6
7
8
9
10^8
2
27
Incident Energy (eV)
58-Ce-140

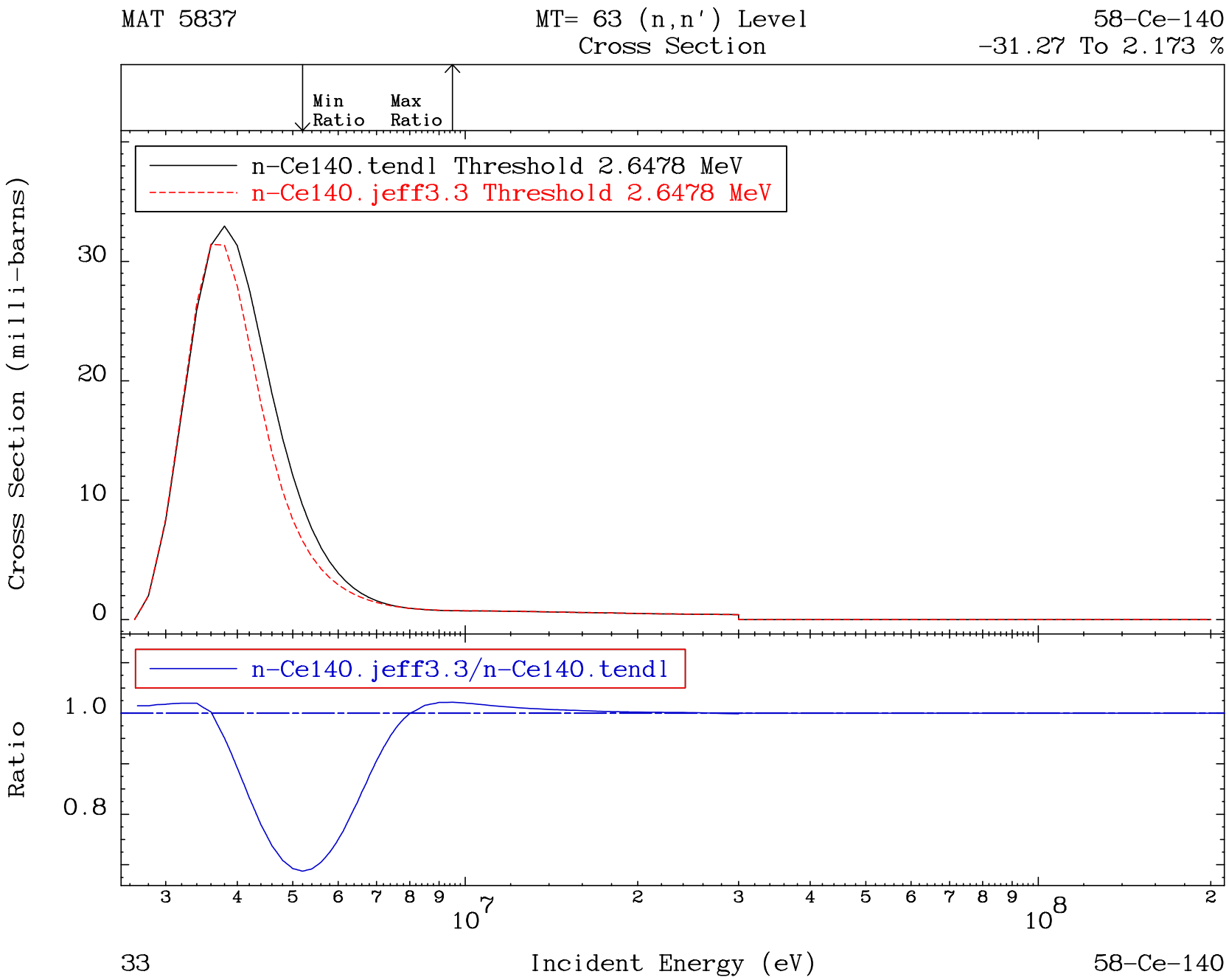

MAT 5837
MT= 58 (n,n') Level
Cross Section
58-Ce-140
-14.68 To 2.348 %
Max
Ratio
Min
Ratio
n-Ce140.tendl Threshold 2.4819 MeV
n-Ce140.jeff3.3 Threshold 2.4819 MeV
Cross Section (milli-barns)
160
140
120
100
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.00
0.90
3 4 5 6 7 8 9
10^7
2 3 4 5 6 7 8 9
10^8
2
28
Incident Energy (eV)
58-Ce-140

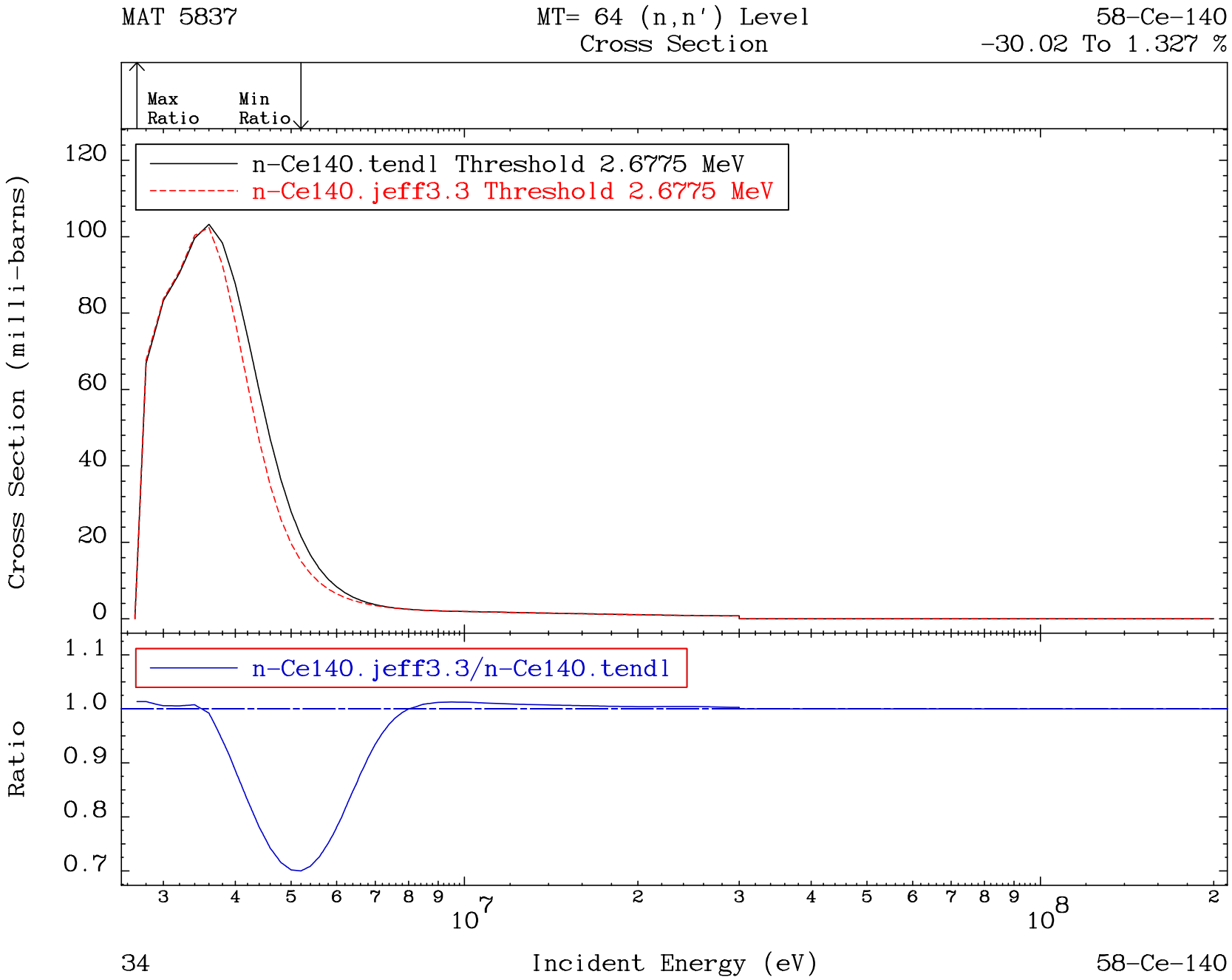

MAT 5837
MT= 59 (n,n') Level
Cross Section
58-Ce-140
-31.60 To 2.160 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 2.4988 MeV
n-Ce140.jeff3.3 Threshold 2.4988 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.8
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
29
Incident Energy (eV)
58-Ce-140

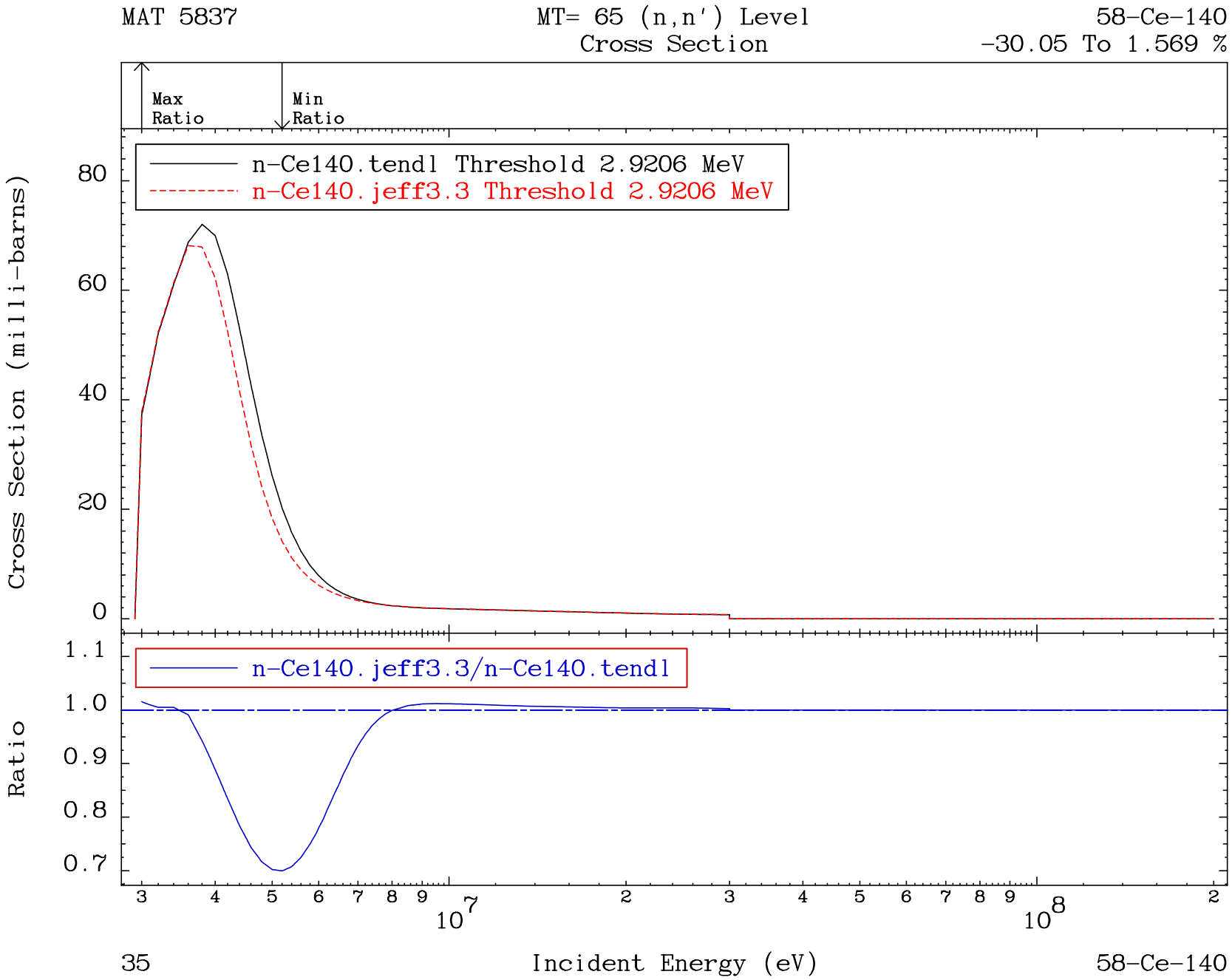

MAT 5837
MT= 60 (n,n') Level
Cross Section
58-Ce-140
-35.51 To 577.9 %
Min
Ratio
Max
Ratio
n-Ce140.tendl Threshold 2.5339 MeV
n-Ce140.jeff3.3 Threshold 2.5339 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^1
6
4
2
10^0
6
3
4
5
6
7
8
9
10^7
2
3
4
5
6
7
8
9
10^8
2
30
Incident Energy (eV)
58-Ce-140

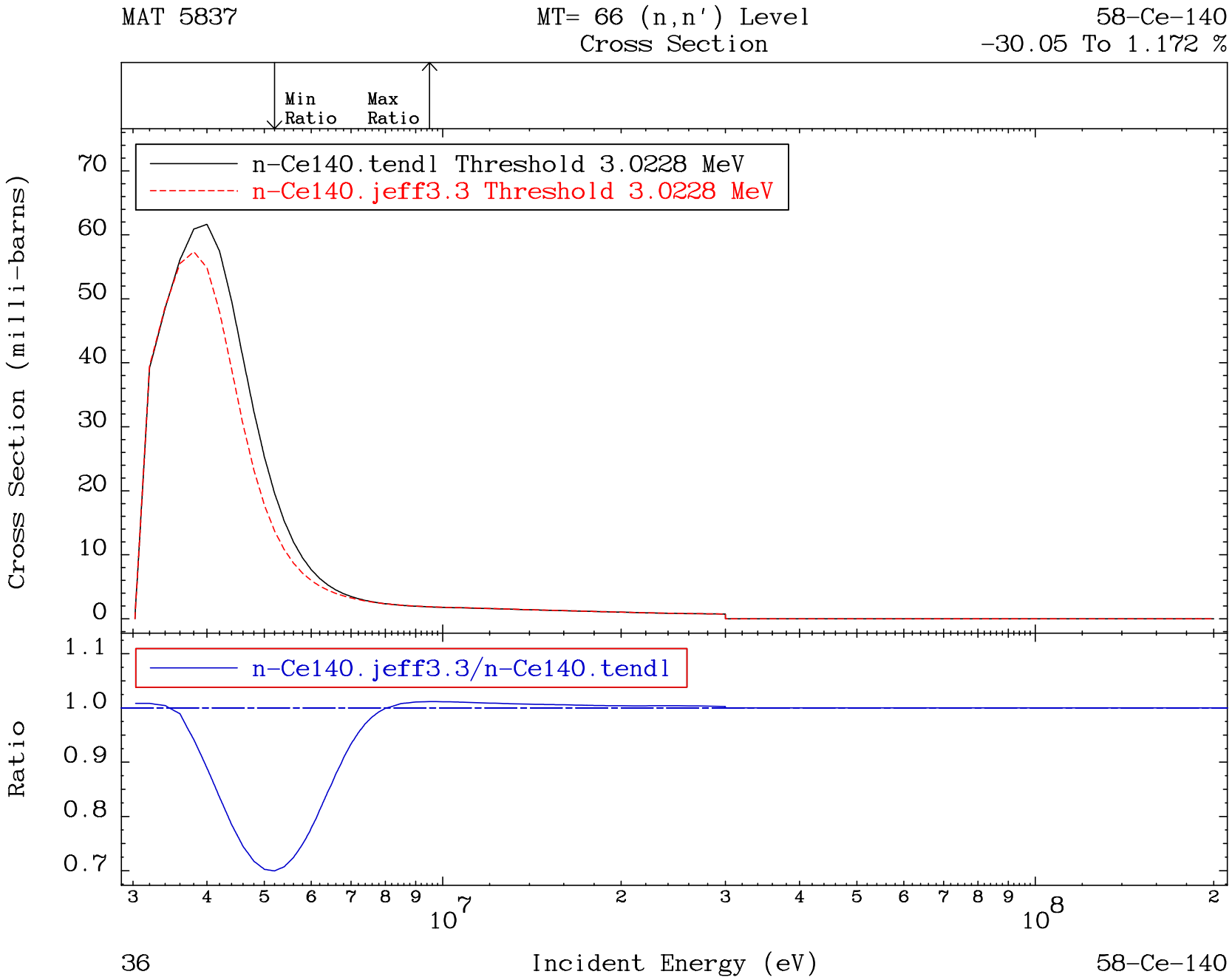

MAT 5837
MT= 61 (n,n') Level
Cross Section
58-Ce-140
-29.99 To 1.894 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 2.5396 MeV
n-Ce140.jeff3.3 Threshold 2.5396 MeV
Cross Section (milli-barns)
140
120
100
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.1
1.0
0.9
0.8
0.7
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
31
Incident Energy (eV)
58-Ce-140

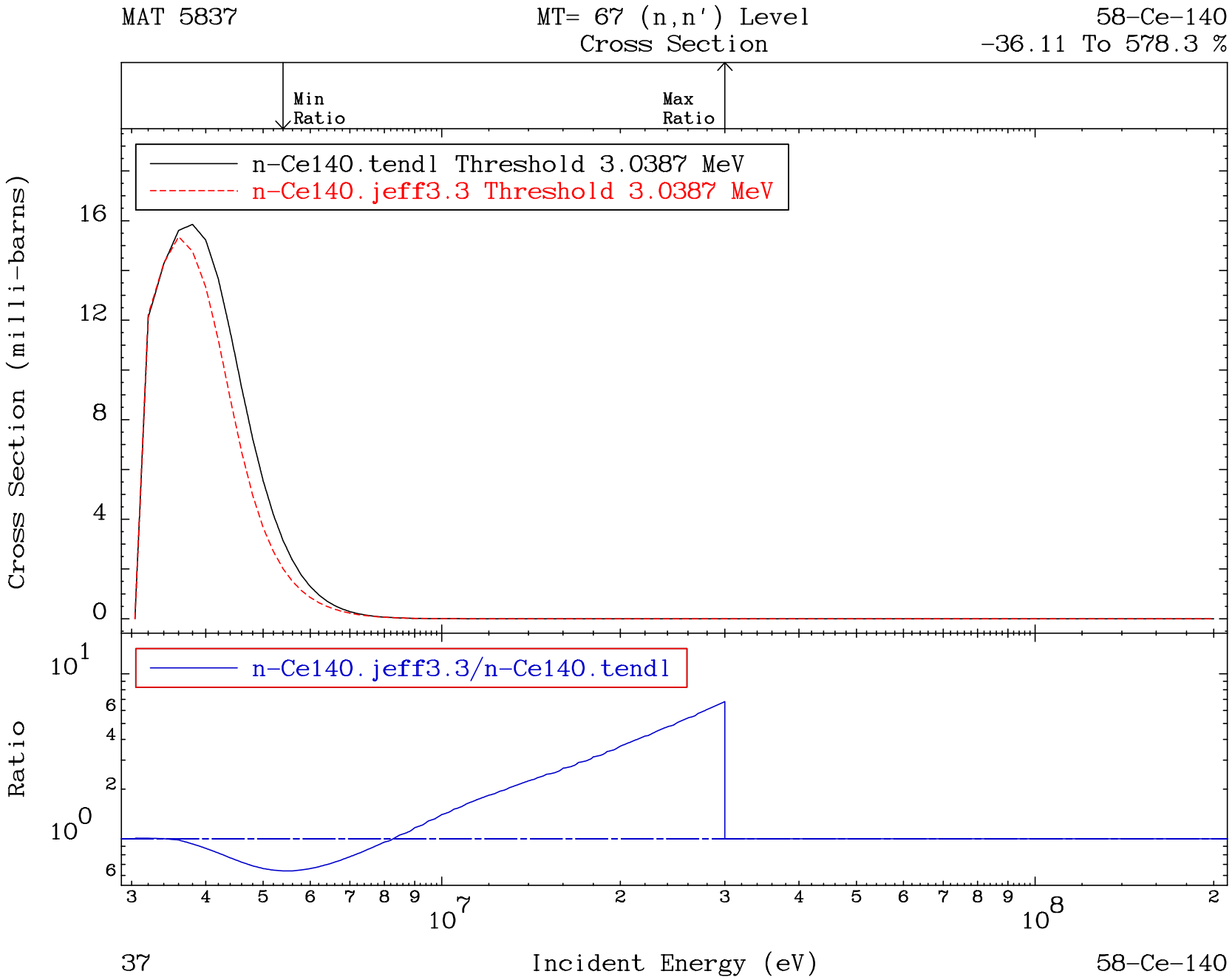

MAT 5837
MT= 62 (n,n') Level
Cross Section
58-Ce-140
-36.02 To 578.7 %
Min
Ratio
Max
Ratio
n-Ce140.tendl Threshold 2.5656 MeV
n-Ce140.jeff3.3 Threshold 2.5656 MeV
Cross Section (milli-barns)
100
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^1
10^0
6
4
2
6
3 4 5 6 7 8 9
10^7
2 3 4 5 6 7 8 9
10^8
2
32
Incident Energy (eV)
58-Ce-140

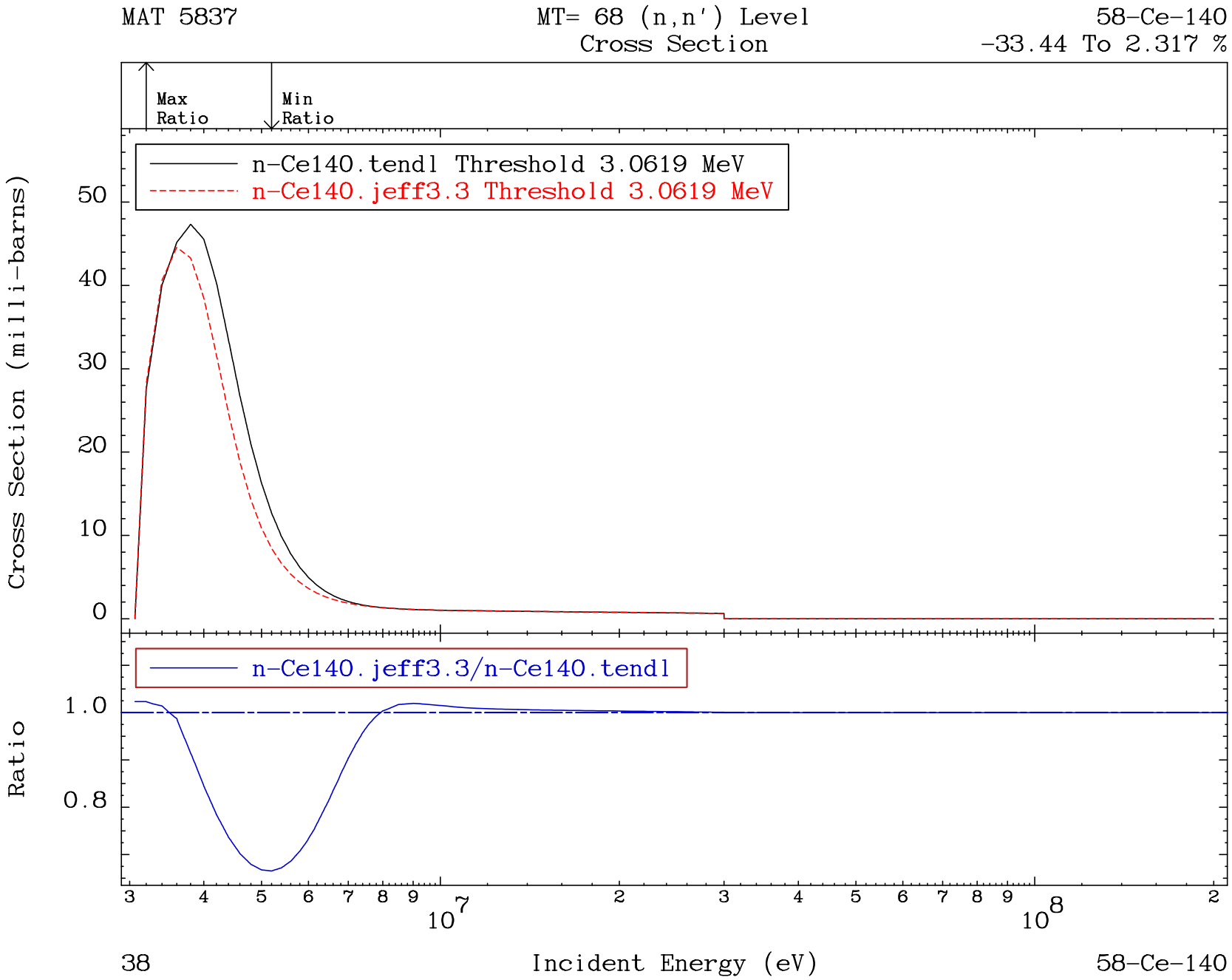

MAT 5837
MT= 63 (n,n') Level
Cross Section
58-Ce-140
-31.27 To 2.173 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 2.6478 MeV
n-Ce140.jeff3.3 Threshold 2.6478 MeV
Cross Section (milli-barns)
30
20
10
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.8
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
33
Incident Energy (eV)
58-Ce-140

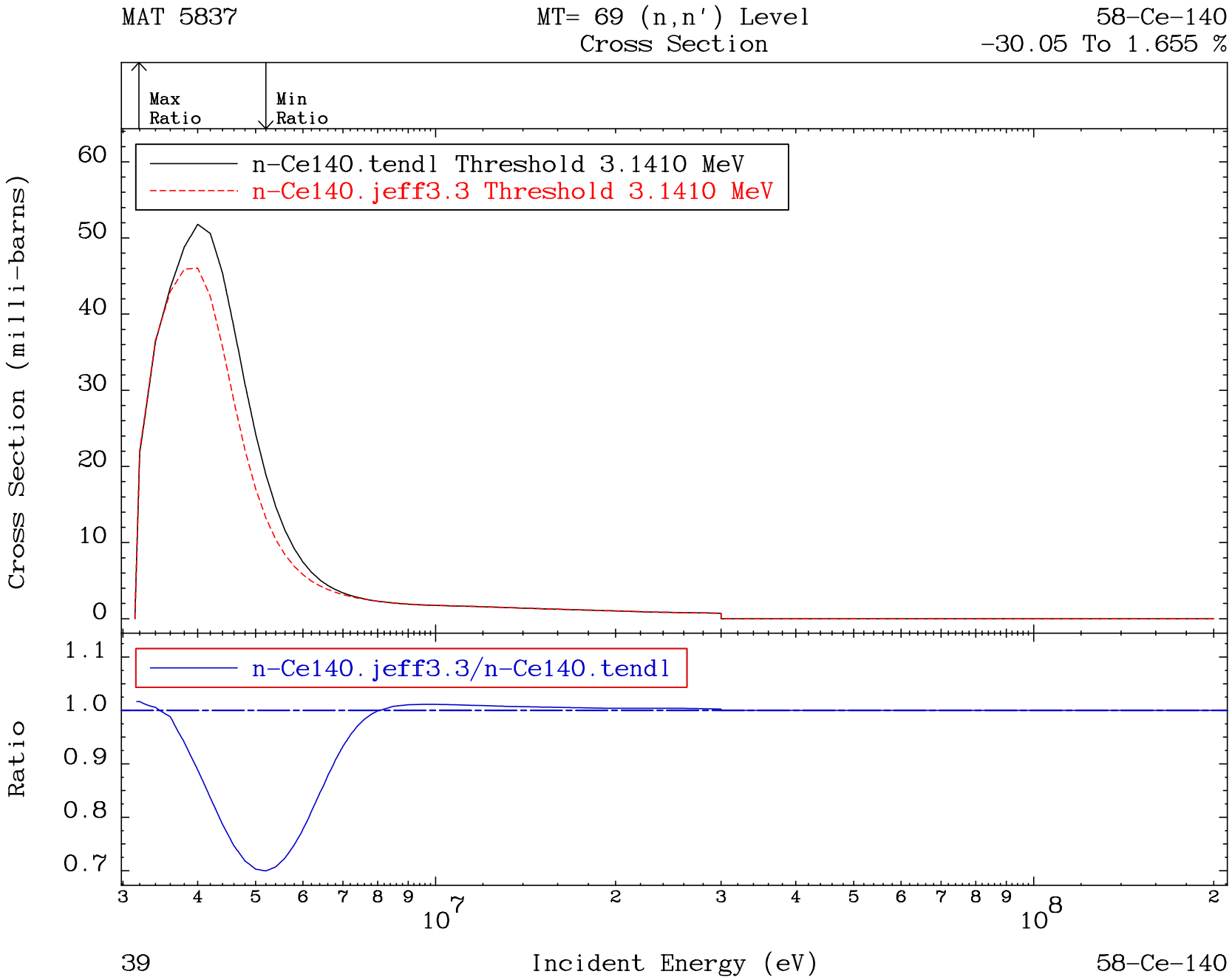

MAT 5837
MT= 64 (n,n') Level
Cross Section
58-Ce-140
-30.02 To 1.327 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 2.6775 MeV
n-Ce140.jeff3.3 Threshold 2.6775 MeV
Cross Section (milli-barns)
120
100
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.1
1.0
0.9
0.8
0.7
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
34
Incident Energy (eV)
58-Ce-140

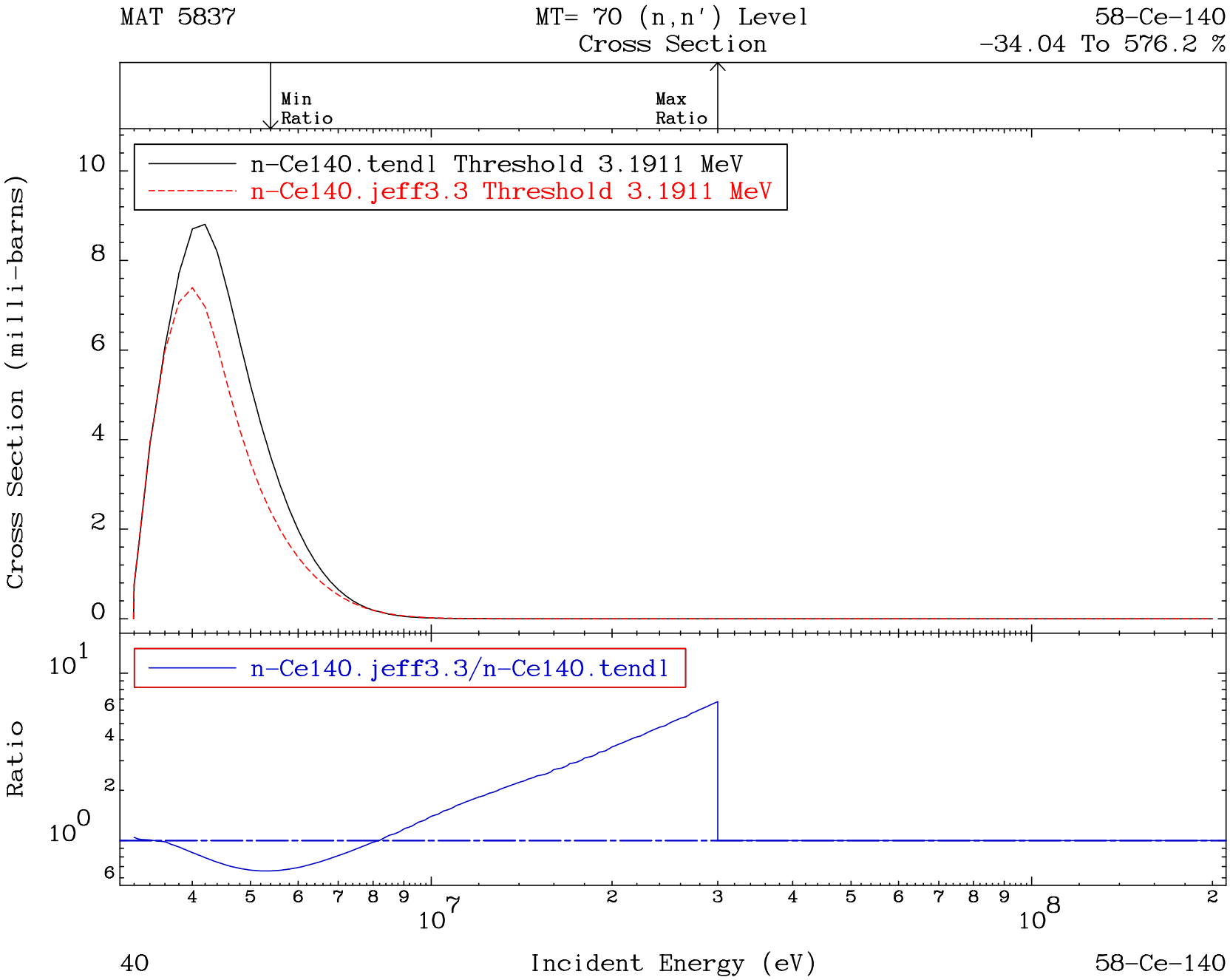

MAT 5837
MT= 65 (n,n') Level
Cross Section
58-Ce-140
-30.05 To 1.569 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 2.9206 MeV
n-Ce140.jeff3.3 Threshold 2.9206 MeV
Cross Section (milli-barns)
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.1
1.0
0.9
0.8
0.7
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
35
Incident Energy (eV)
58-Ce-140

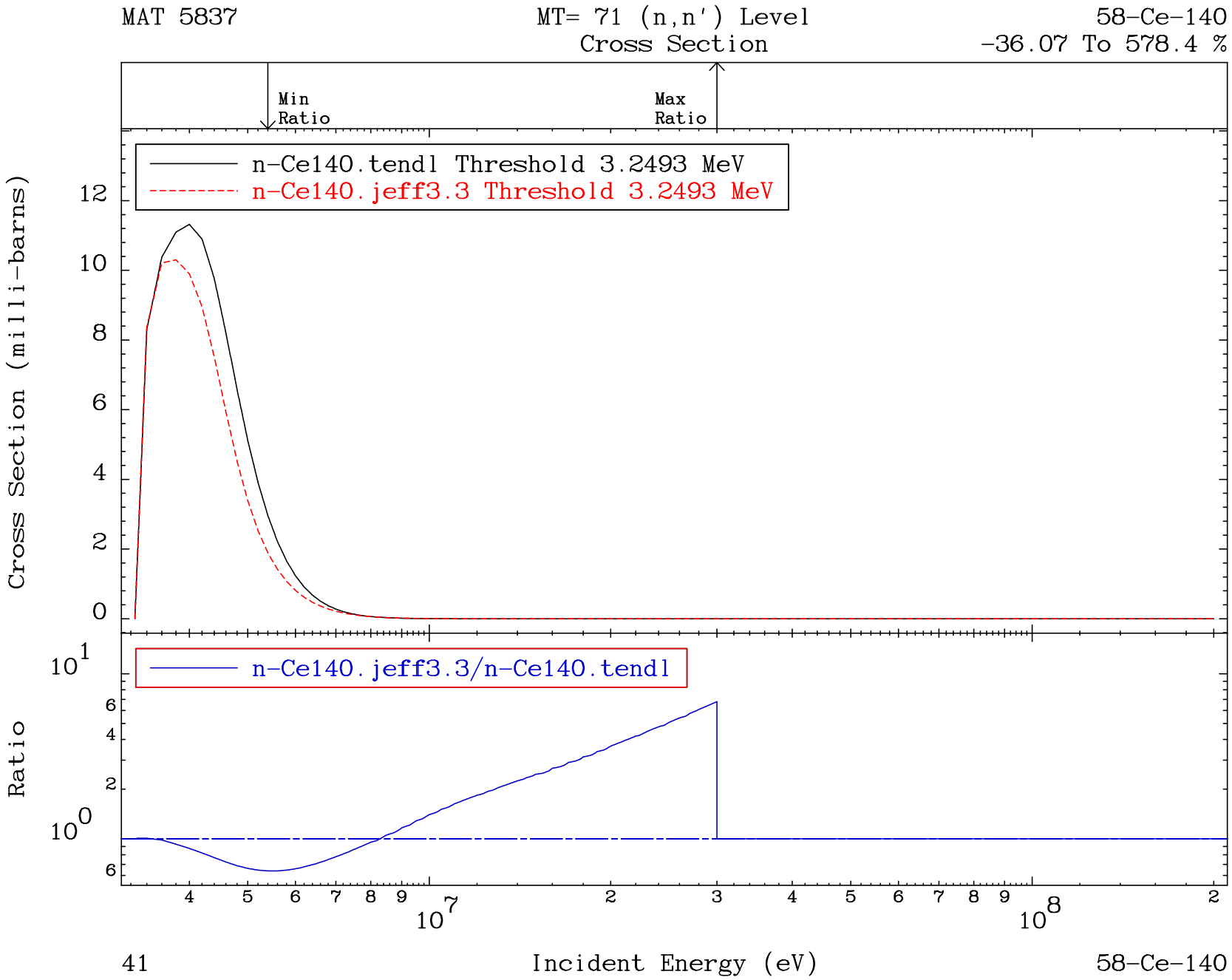

MAT 5837
MT= 66 (n,n') Level
Cross Section
58-Ce-140
-30.05 To 1.172 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 3.0228 MeV
n-Ce140.jeff3.3 Threshold 3.0228 MeV
Cross Section (milli-barns)
70
60
50
40
30
20
10
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.1
1.0
0.9
0.8
0.7
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
36
Incident Energy (eV)
58-Ce-140

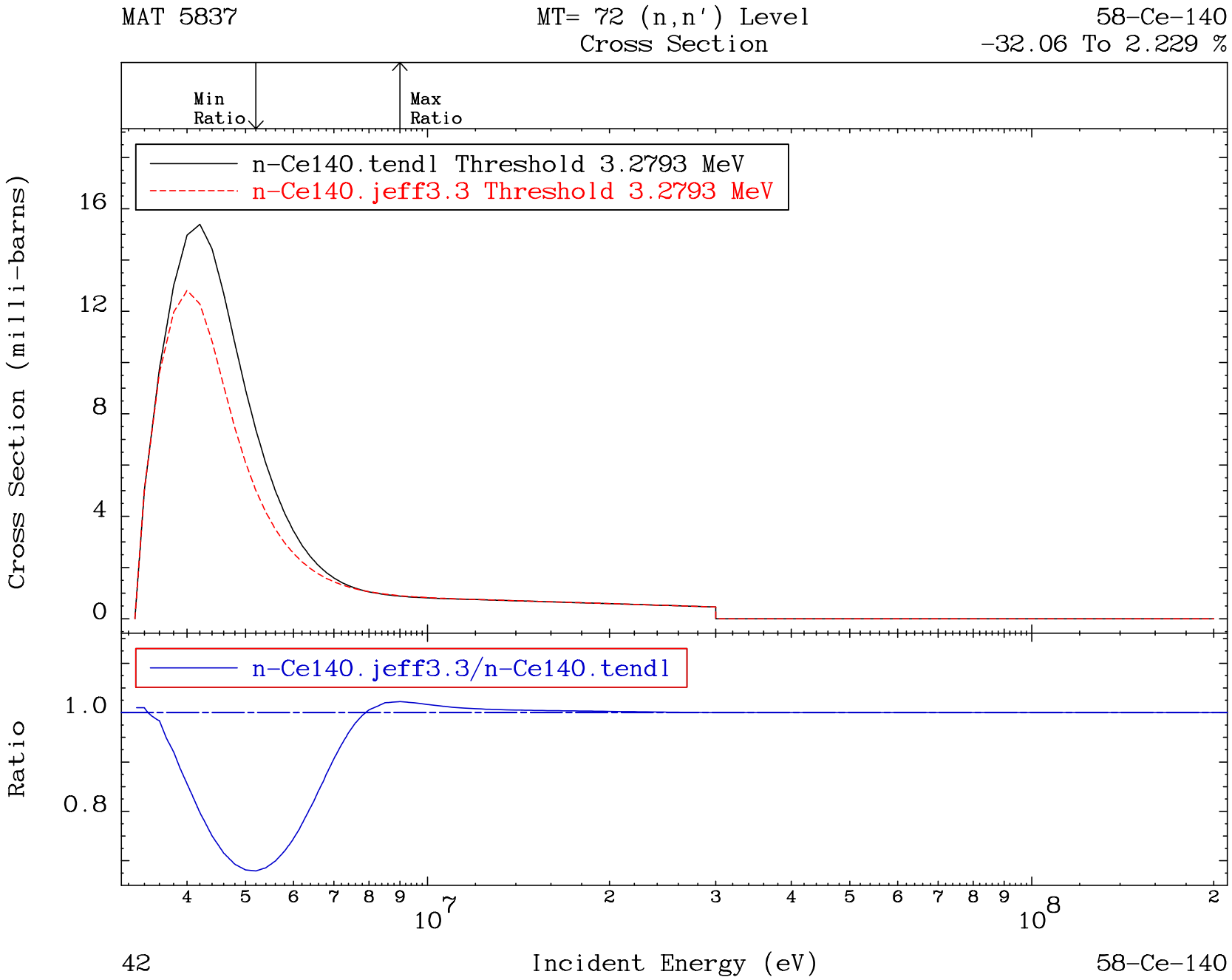

MAT 5837
MT= 67 (n,n') Level
Cross Section
58-Ce-140
-36.11 To 578.3 %
Min
Ratio
Max
Ratio
n-Ce140.tendl Threshold 3.0387 MeV
n-Ce140.jeff3.3 Threshold 3.0387 MeV
Cross Section (milli-barns)
16
12
8
4
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^1
10^0
6
4
2
6
3 4 5 6 7 8 9
10^7
2 3 4 5 6 7 8 9
10^8
2
37
Incident Energy (eV)
58-Ce-140

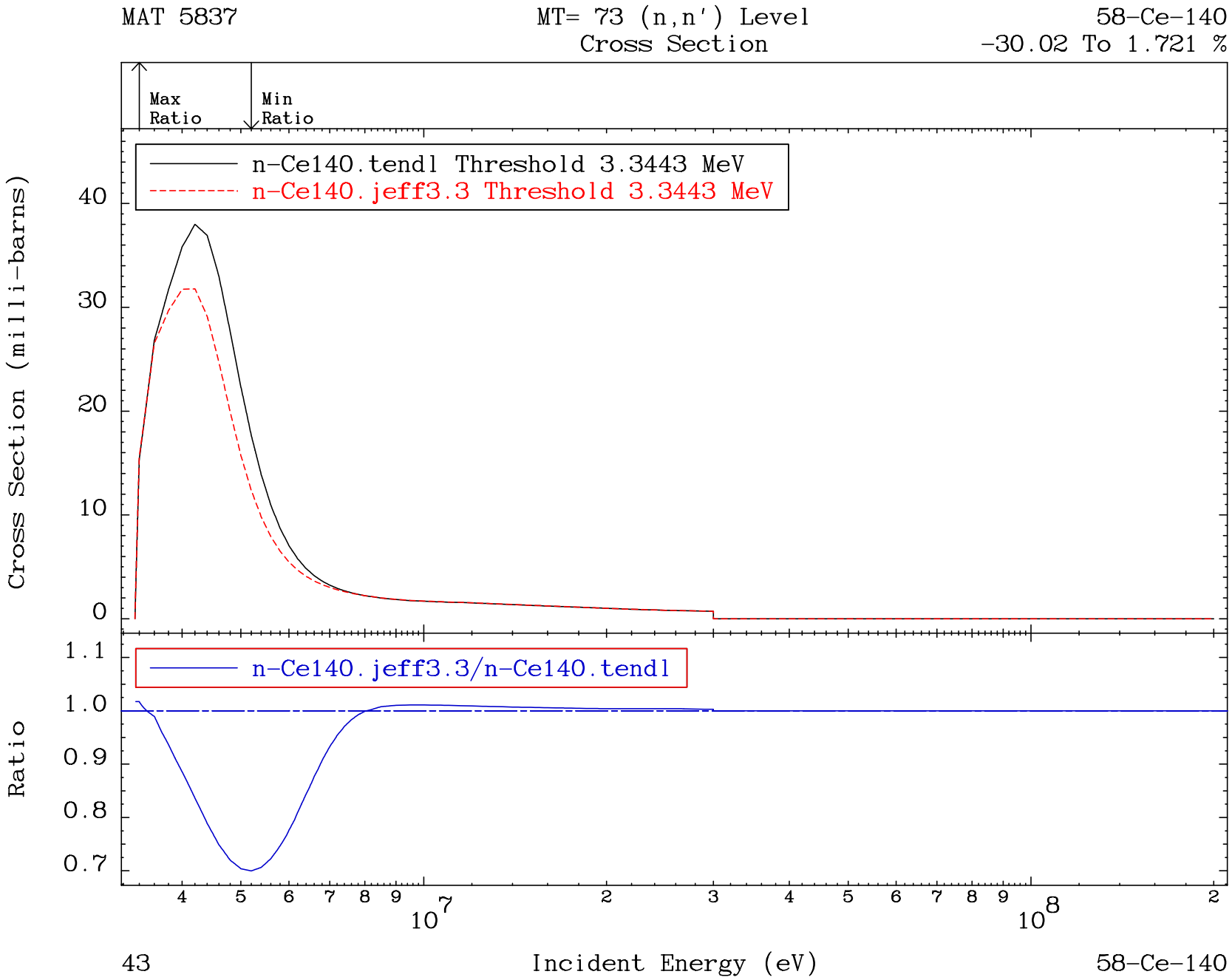

MAT 5837
MT= 68 (n,n') Level
Cross Section
58-Ce-140
-33.44 To 2.317 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 3.0619 MeV
n-Ce140.jeff3.3 Threshold 3.0619 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.8
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
38
Incident Energy (eV)
58-Ce-140

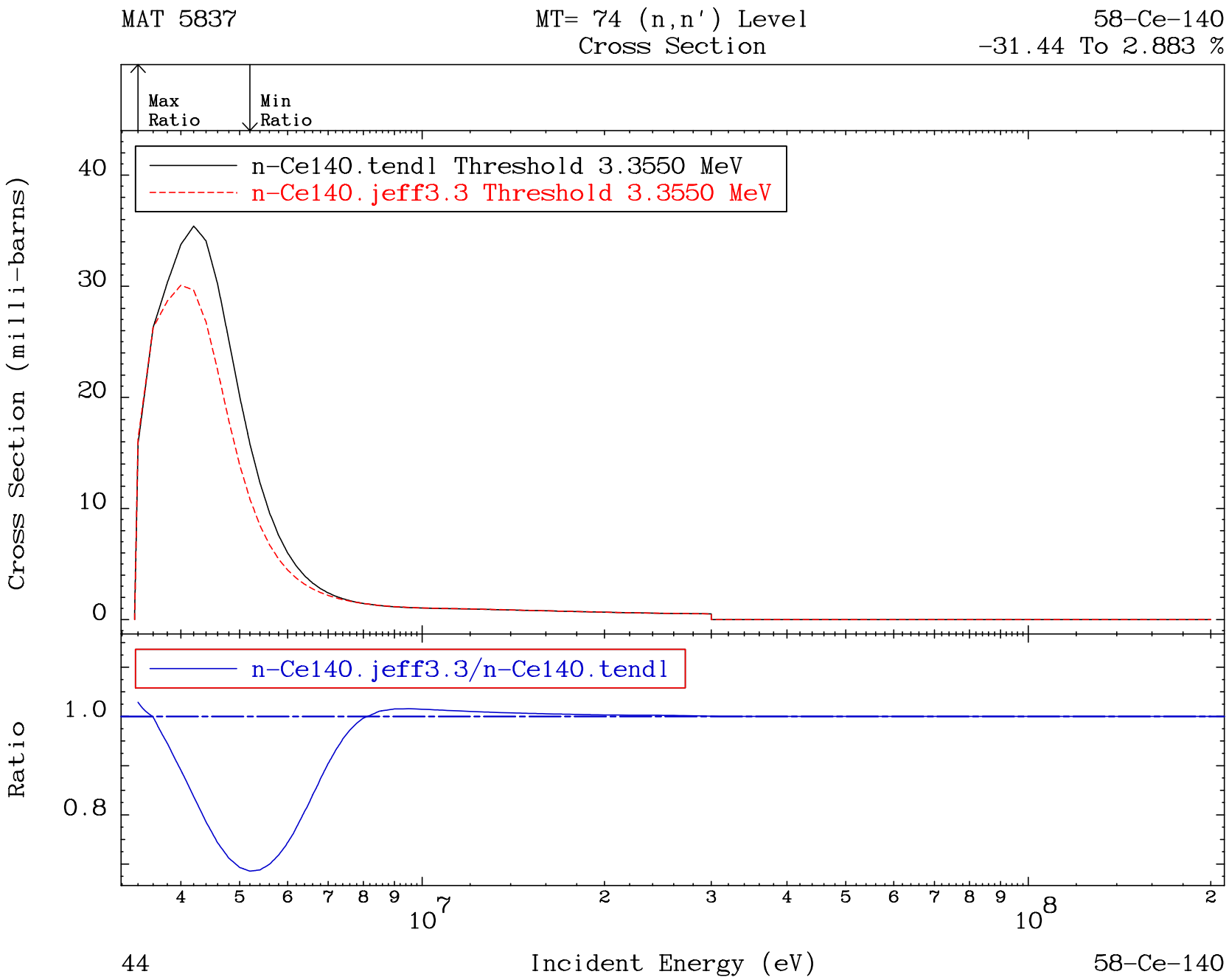

MAT 5837
MT= 69 (n,n') Level
Cross Section
58-Ce-140
-30.05 To 1.655 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 3.1410 MeV
n-Ce140.jeff3.3 Threshold 3.1410 MeV
Cross Section (milli-barns)
60
50
40
30
20
10
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.1
1.0
0.9
0.8
0.7
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
39
Incident Energy (eV)
58-Ce-140

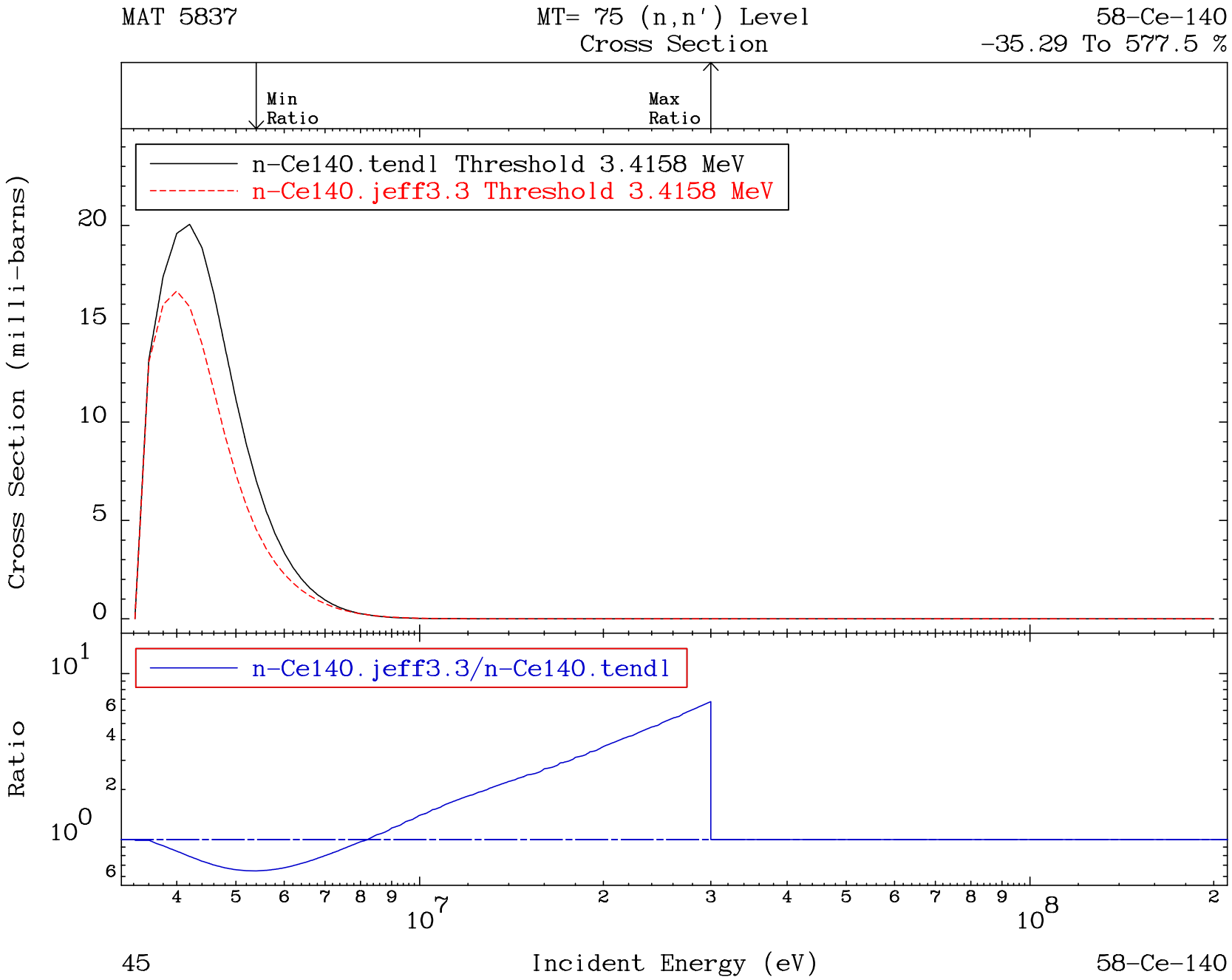

MAT 5837
MT= 70 (n,n') Level
Cross Section
58-Ce-140
-34.04 To 576.2 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 3.1911 MeV
n-Ce140.jeff3.3 Threshold 3.1911 MeV
Cross Section (milli-barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
40
58-Ce-140

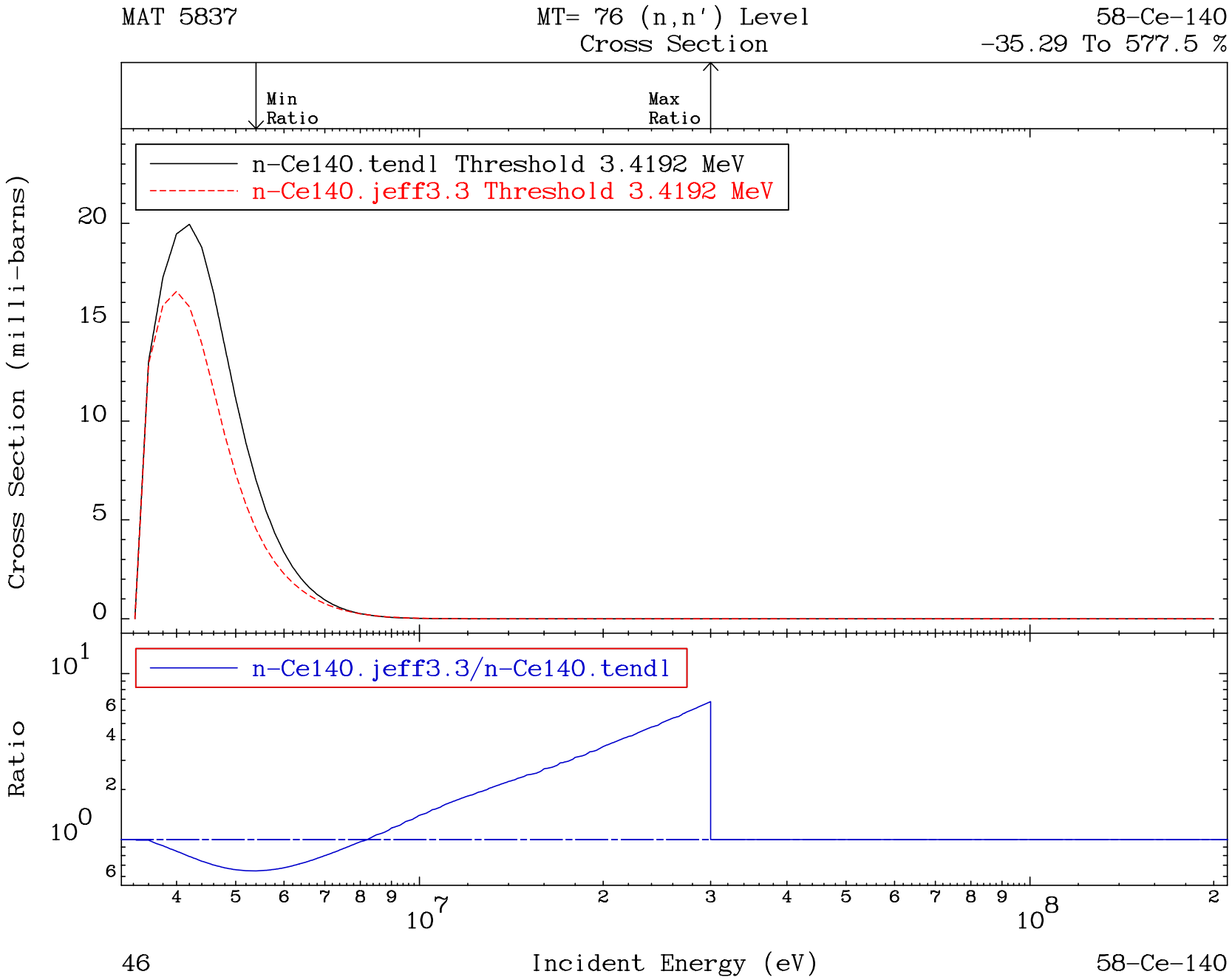

MAT 5837
MT= 71 (n,n') Level
Cross Section
58-Ce-140
-36.07 To 578.4 %
Min
Ratio
Max
Ratio
n-Ce140.tendl Threshold 3.2493 MeV
n-Ce140.jeff3.3 Threshold 3.2493 MeV
Cross Section (milli-barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
41
58-Ce-140

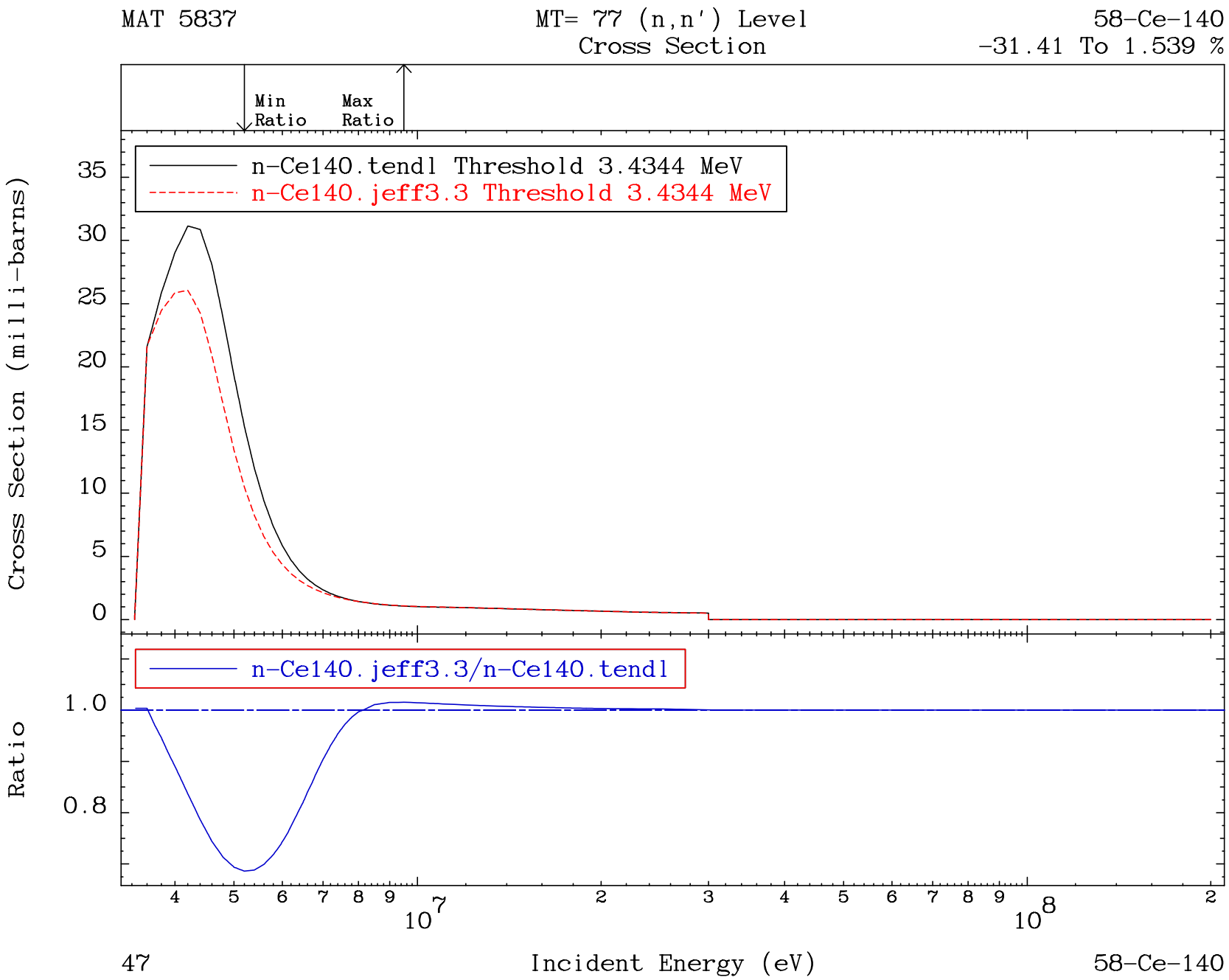

MAT 5837
MT= 72 (n,n') Level
Cross Section
58-Ce-140
-32.06 To 2.229 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 3.2793 MeV
n-Ce140.jeff3.3 Threshold 3.2793 MeV
Cross Section (milli-barns)
16
12
8
4
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.8
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
42
Incident Energy (eV)
58-Ce-140

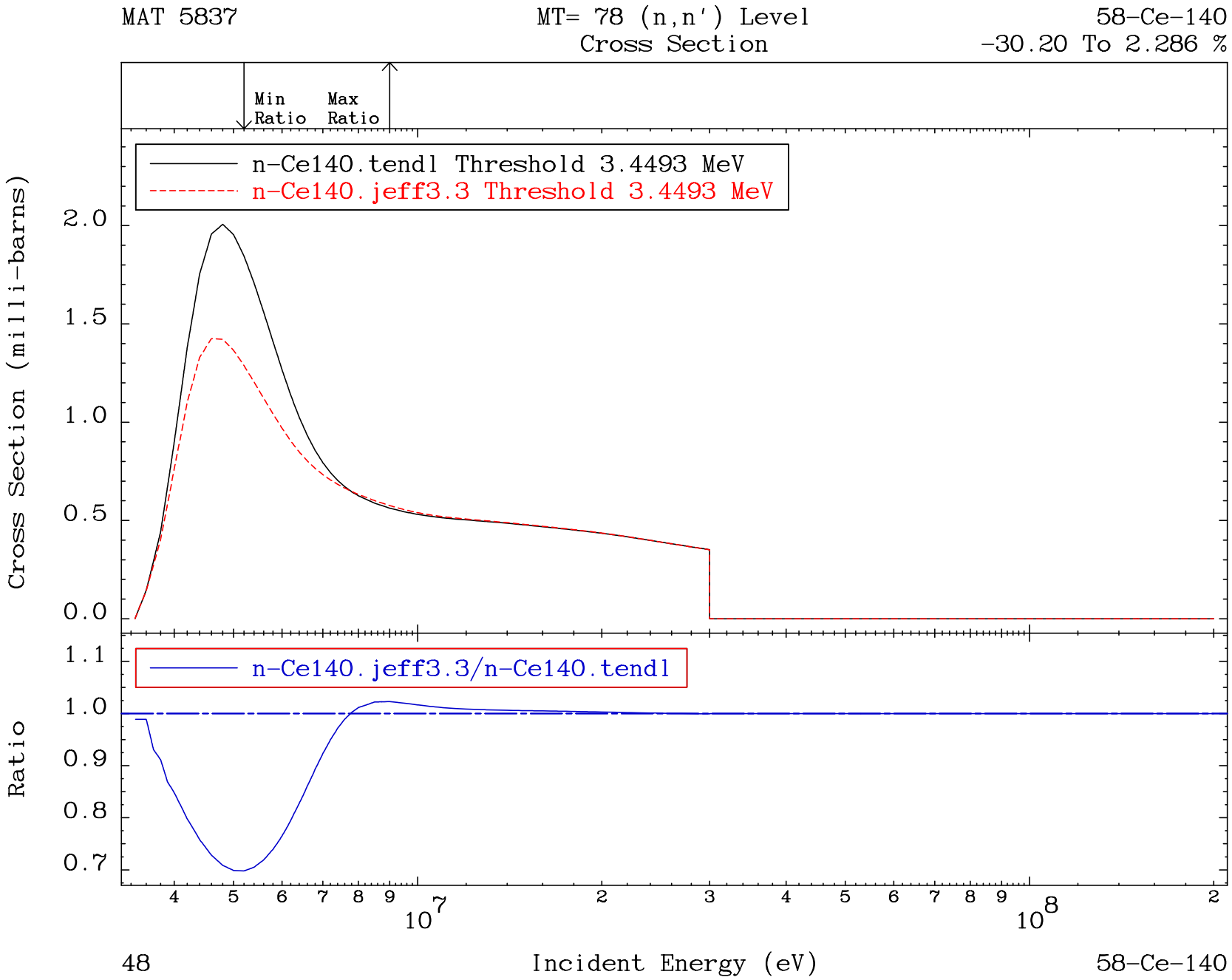

MAT 5837
MT= 73 (n,n') Level
Cross Section
58-Ce-140
-30.02 To 1.721 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 3.3443 MeV
n-Ce140.jeff3.3 Threshold 3.3443 MeV
Cross Section (milli-barns)
40
30
20
10
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.1
1.0
0.9
0.8
0.7
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
43
Incident Energy (eV)
58-Ce-140

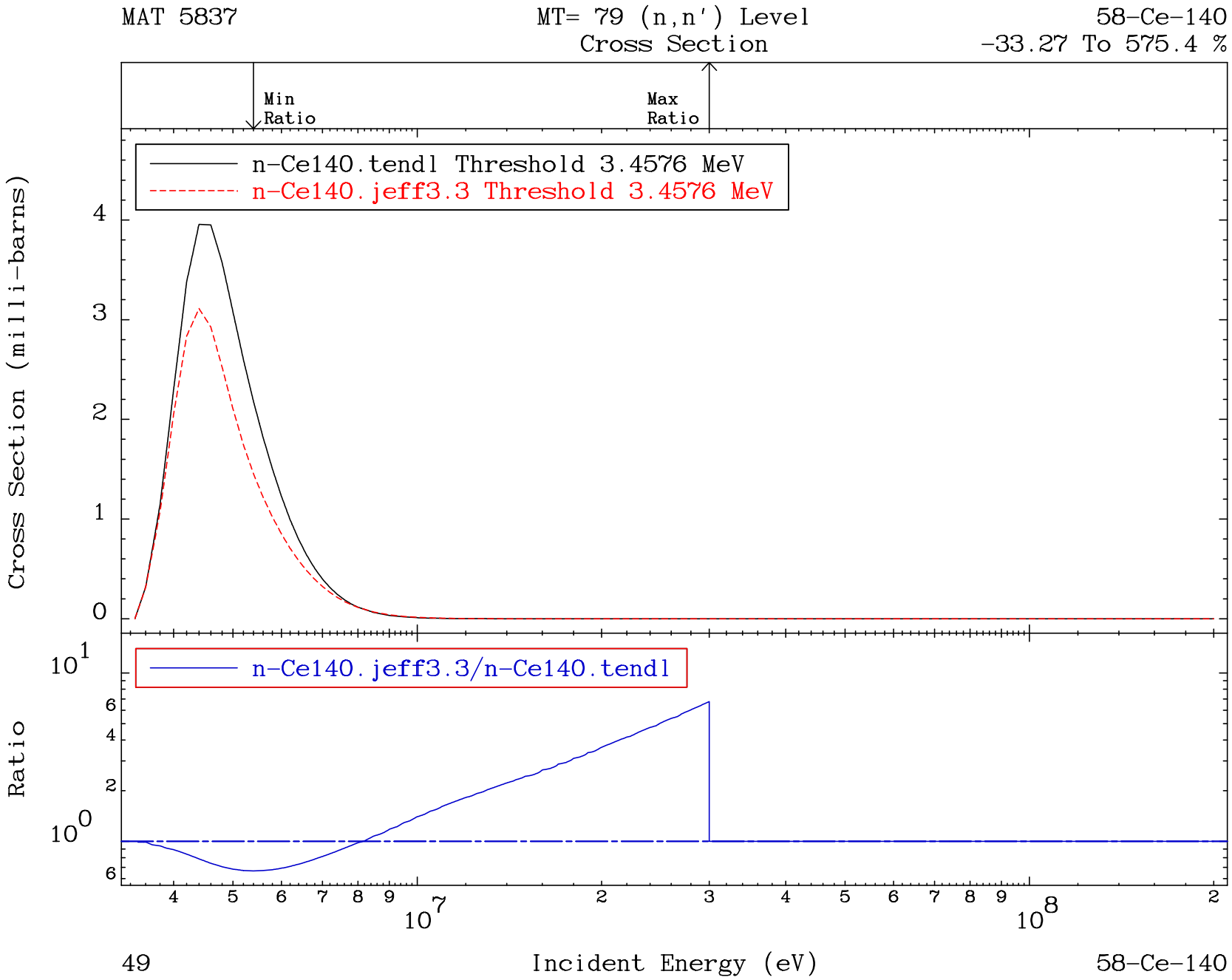

MAT 5837
MT= 74 (n,n') Level
Cross Section
58-Ce-140
-31.44 To 2.883 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 3.3550 MeV
n-Ce140.jeff3.3 Threshold 3.3550 MeV
Cross Section (milli-barns)
40
30
20
10
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.8
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
Incident Energy (eV)
44
58-Ce-140

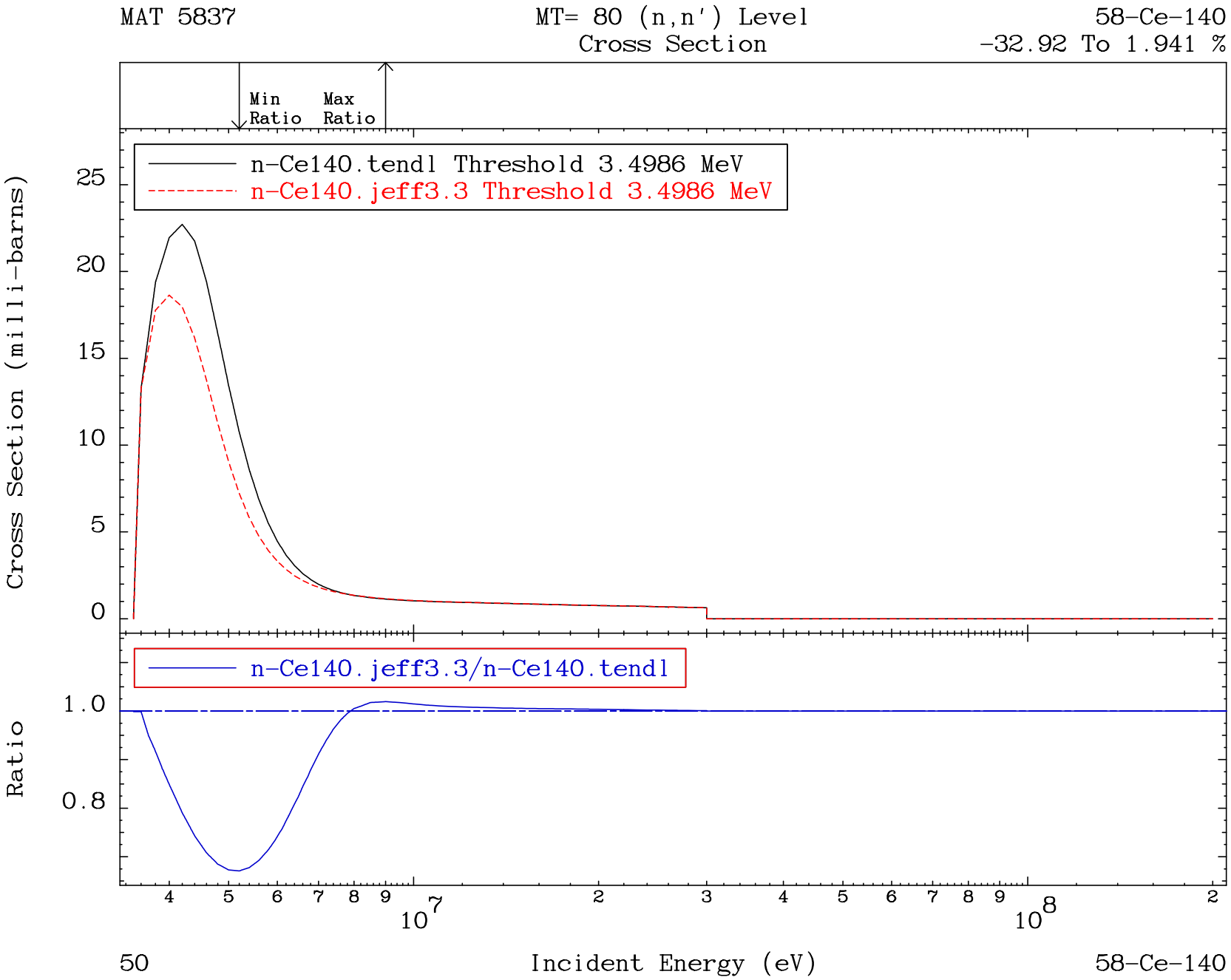

MAT 5837
MT= 75 (n,n') Level
Cross Section
58-Ce-140
-35.29 To 577.5 %
Min
Ratio
Max
Ratio
n-Ce140.tendl Threshold 3.4158 MeV
n-Ce140.jeff3.3 Threshold 3.4158 MeV
Cross Section (milli-barns)
20
15
10
5
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^1
6
4
2
10^0
6
4 5 6 7 8 9
10^7
2 3 4 5 6 7 8 9
10^8
2
45
Incident Energy (eV)
58-Ce-140

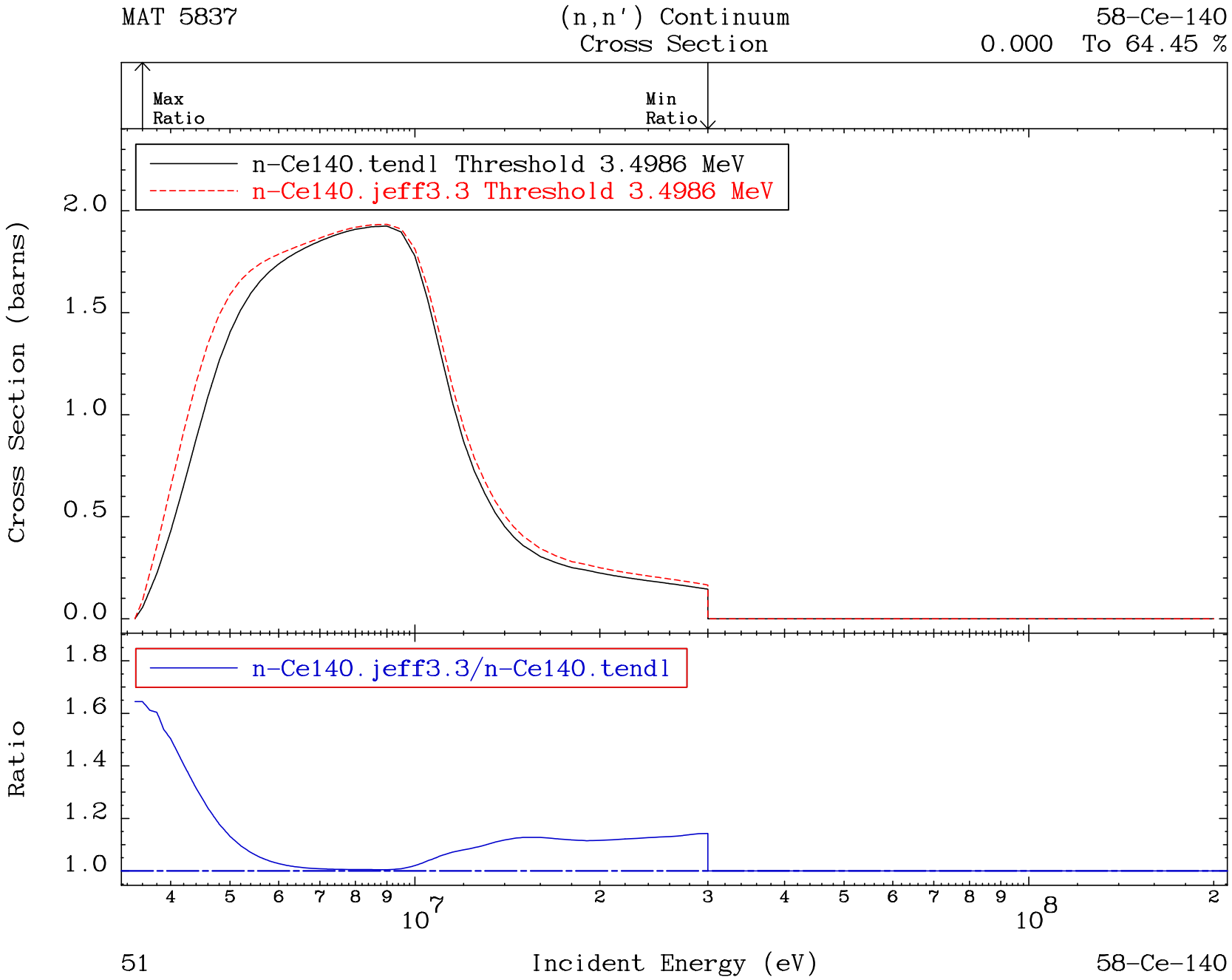

MAT 5837
MT= 76 (n,n') Level
Cross Section
58-Ce-140
-35.29 To 577.5 %
Min
Ratio
Max
Ratio
n-Ce140.tendl Threshold 3.4192 MeV
n-Ce140.jeff3.3 Threshold 3.4192 MeV
Cross Section (milli-barns)
20
15
10
5
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^1
6
4
2
10^0
6
4 5 6 7 8 9
10^7
2 3 4 5 6 7 8 9
10^8
2
46
Incident Energy (eV)
58-Ce-140

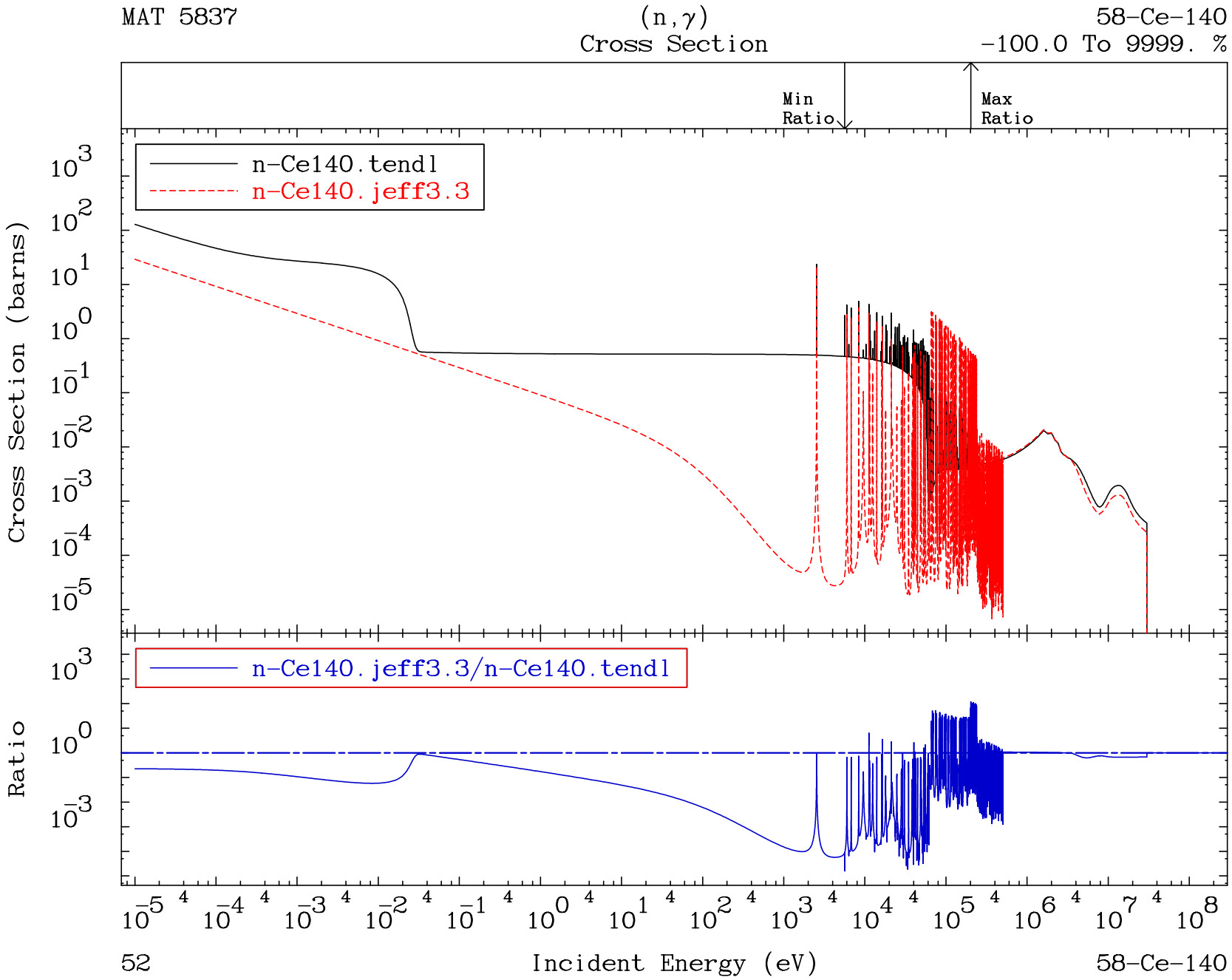

MAT 5837
MT= 77 (n,n') Level
Cross Section
58-Ce-140
-31.41 To 1.539 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 3.4344 MeV
n-Ce140.jeff3.3 Threshold 3.4344 MeV
Cross Section (milli-barns)
35
30
25
20
15
10
5
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.8
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
47
Incident Energy (eV)
58-Ce-140

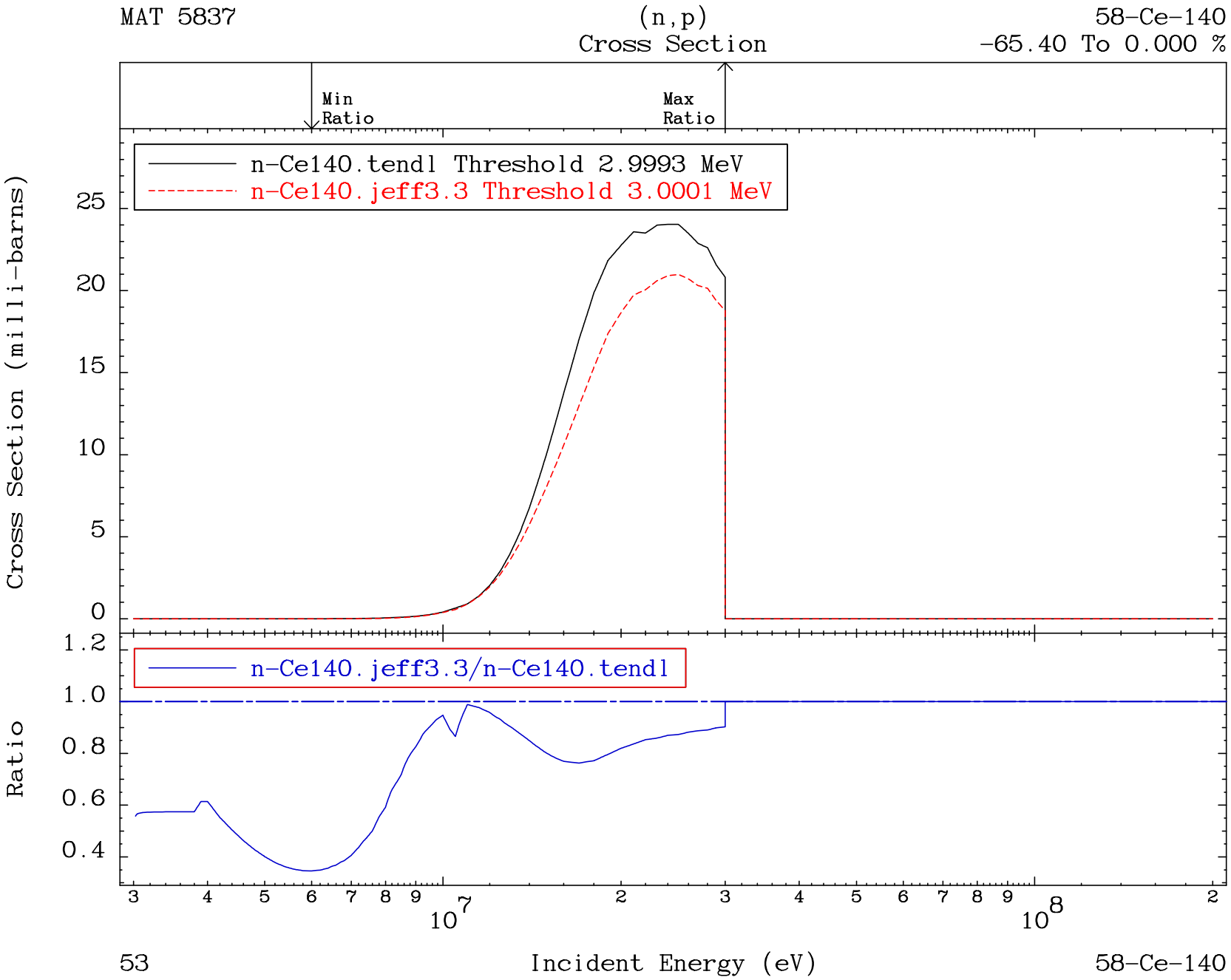

MAT 5837
MT= 78 (n,n') Level
Cross Section
58-Ce-140
-30.20 To 2.286 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 3.4493 MeV
n-Ce140.jeff3.3 Threshold 3.4493 MeV
Cross Section (milli-barns)
2.0
1.5
1.0
0.5
0.0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.1
1.0
0.9
0.8
0.7
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
48
Incident Energy (eV)
58-Ce-140

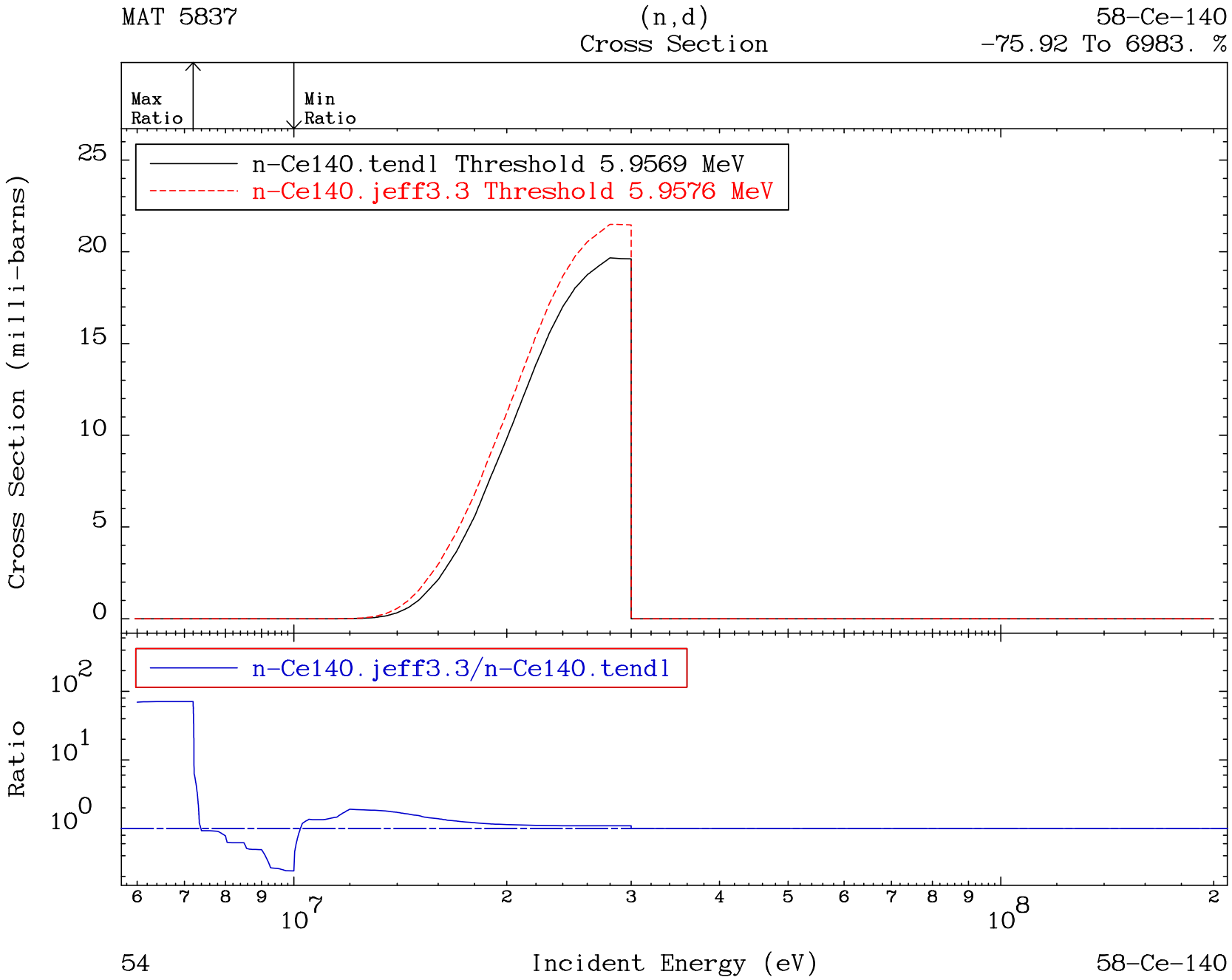

MAT 5837
MT= 79 (n,n') Level
Cross Section
58-Ce-140
-33.27 To 575.4 %
Min
Ratio
Max
Ratio
n-Ce140.tendl Threshold 3.4576 MeV
n-Ce140.jeff3.3 Threshold 3.4576 MeV
Cross Section (milli-barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
49
58-Ce-140

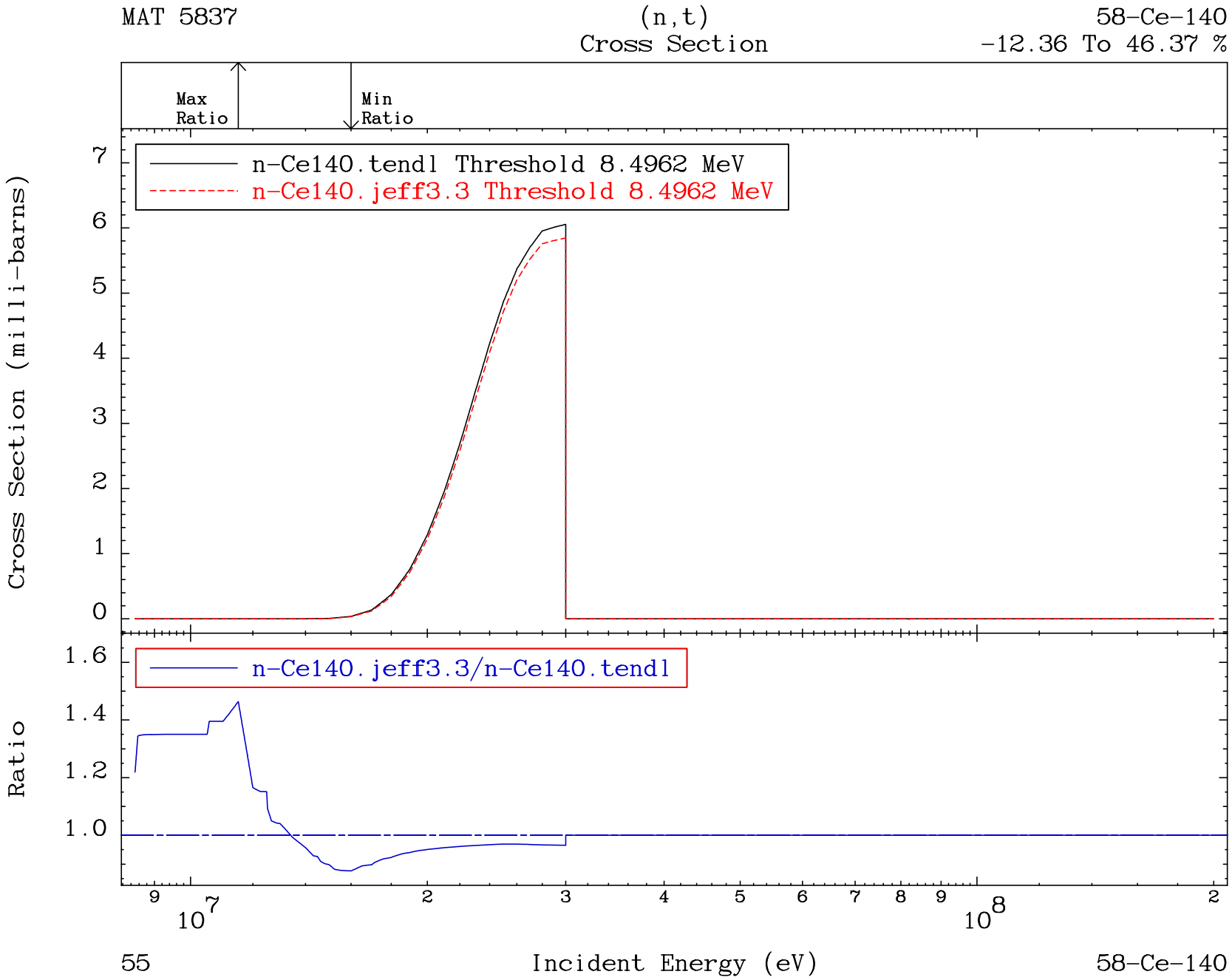

MAT 5837
MT= 80 (n,n') Level
Cross Section
58-Ce-140
-32.92 To 1.941 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 3.4986 MeV
n-Ce140.jeff3.3 Threshold 3.4986 MeV
Cross Section (milli-barns)
25
20
15
10
5
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.8
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
50
Incident Energy (eV)
58-Ce-140

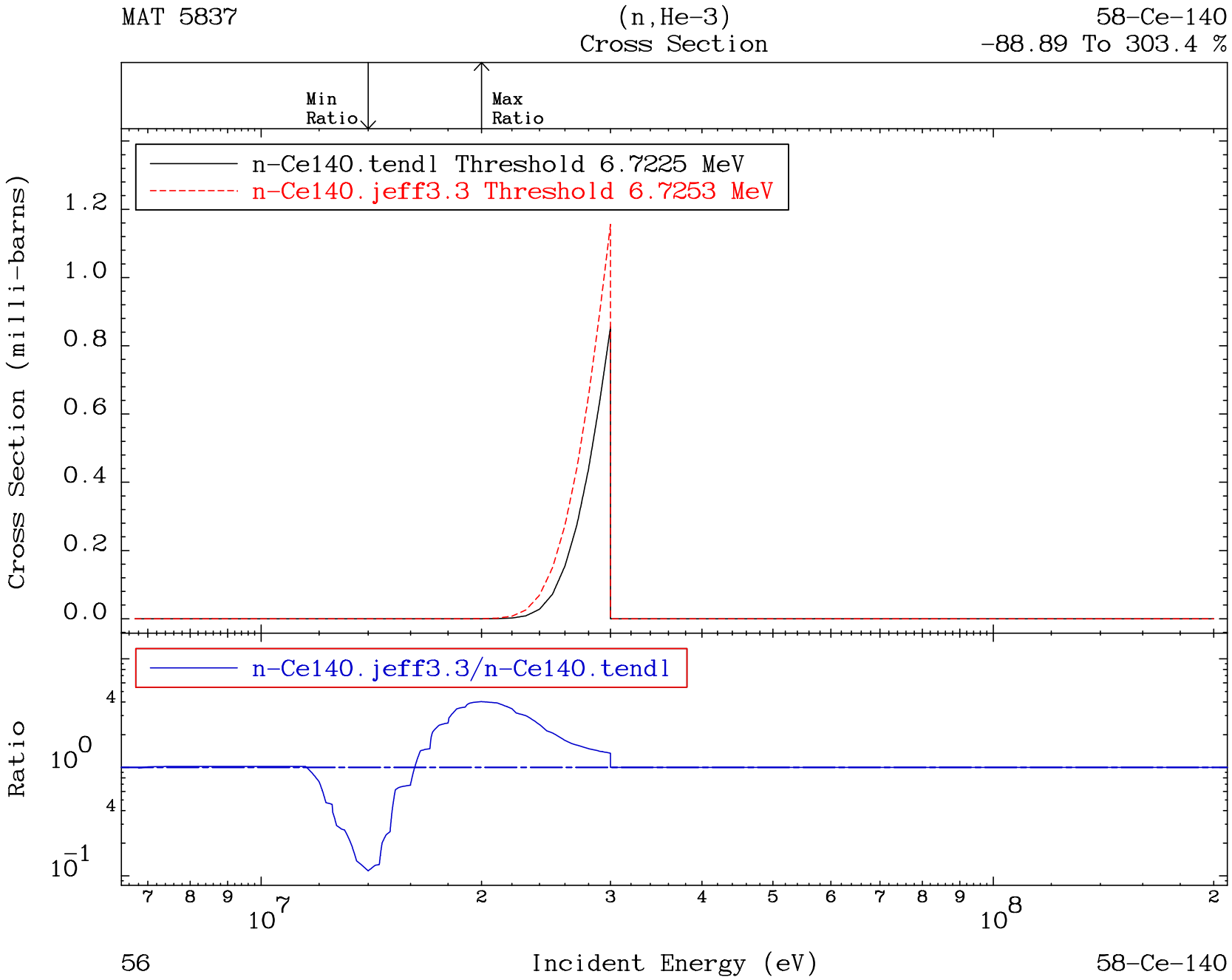

MAT 5837
(n,n') Continuum
Cross Section
58-Ce-140
0.000 To 64.45 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 3.4986 MeV
n-Ce140.jeff3.3 Threshold 3.4986 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.8
1.6
1.4
1.2
1.0
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
51
Incident Energy (eV)
58-Ce-140

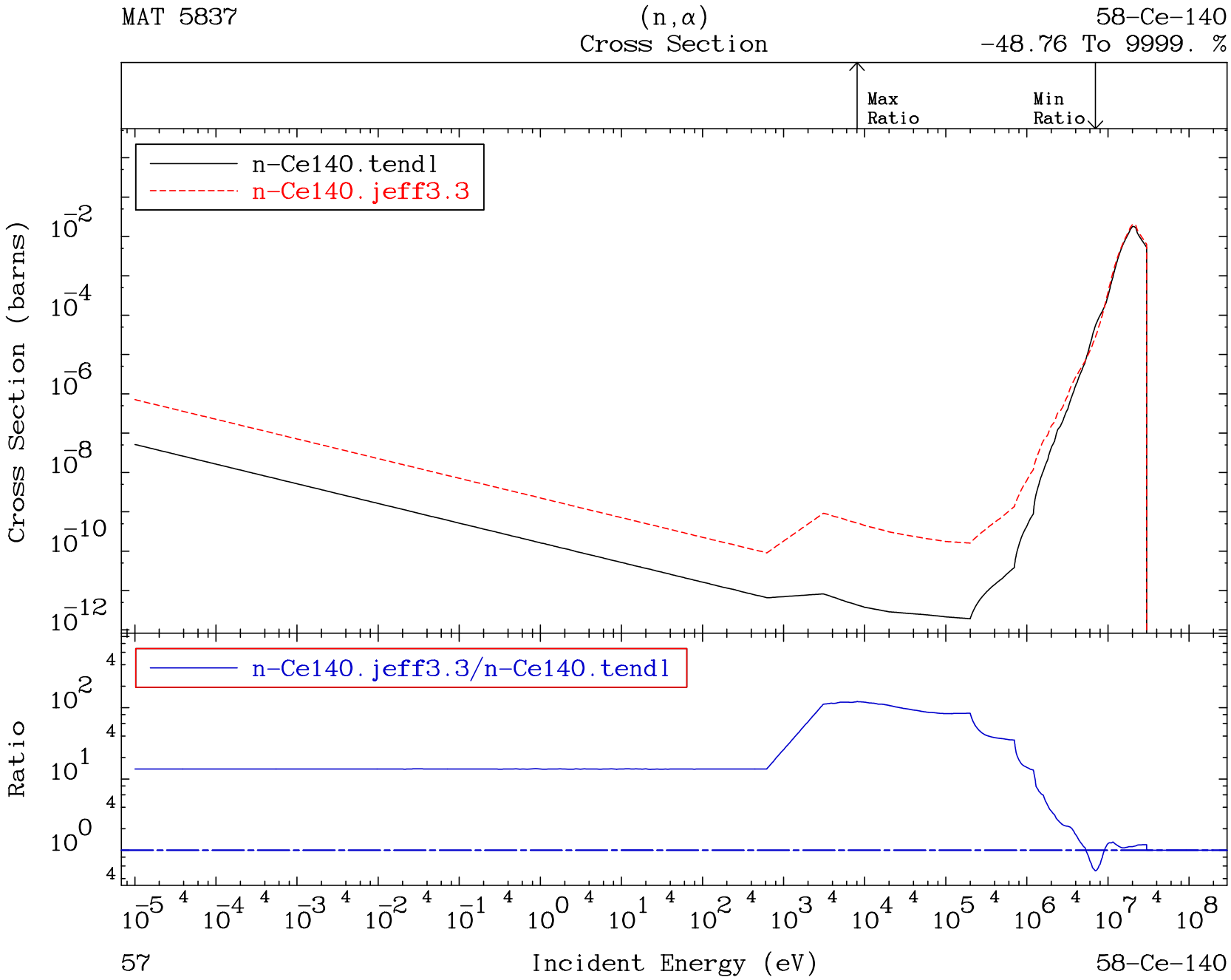

MAT 5837
(n,γ)
Cross Section
58-Ce-140
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.jeff3.3
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
52
58-Ce-140

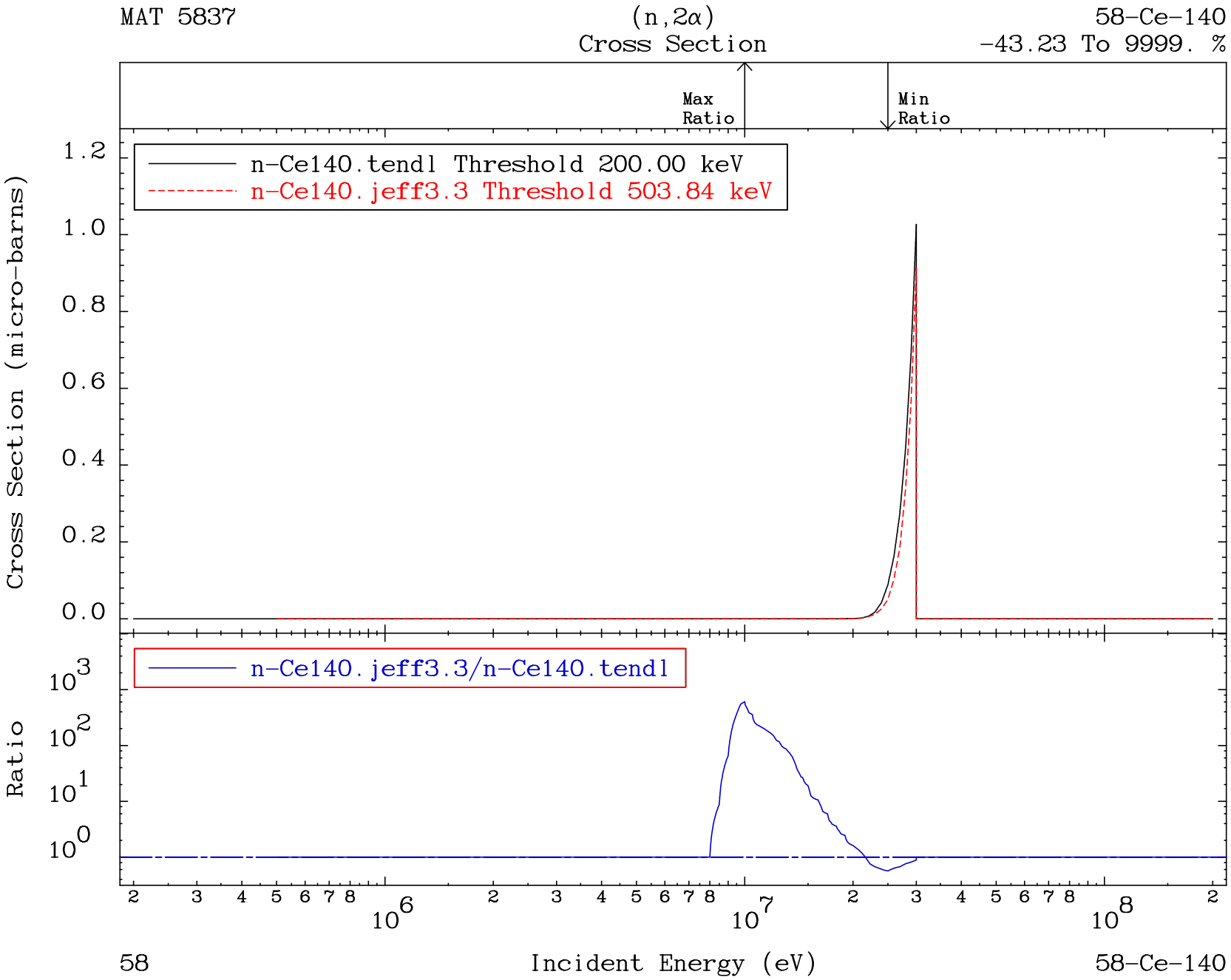

MAT 5837
(n,p)
Cross Section
58-Ce-140
-65.40 To 0.000 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 2.9993 MeV
n-Ce140.jeff3.3 Threshold 3.0001 MeV
Cross Section (milli-barns)
25
20
15
10
5
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.2
1.0
0.8
0.6
0.4
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
53
Incident Energy (eV)
58-Ce-140

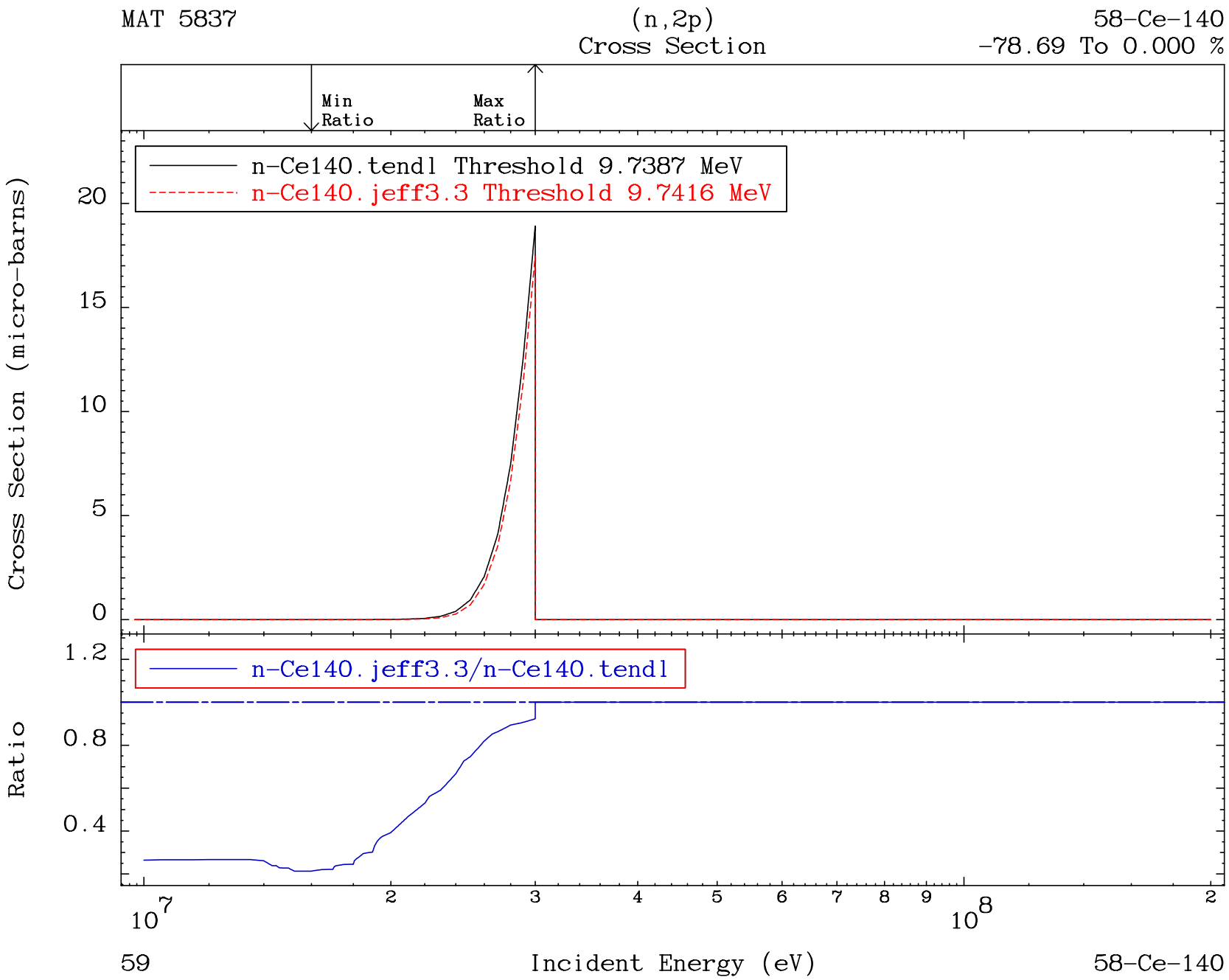

MAT 5837
(n,d)
Cross Section
58-Ce-140
-75.92 To 6983. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 5.9569 MeV
n-Ce140.jeff3.3 Threshold 5.9576 MeV
Cross Section (milli-barns)
25
20
15
10
5
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^2
10^1
10^0
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
54
Incident Energy (eV)
58-Ce-140

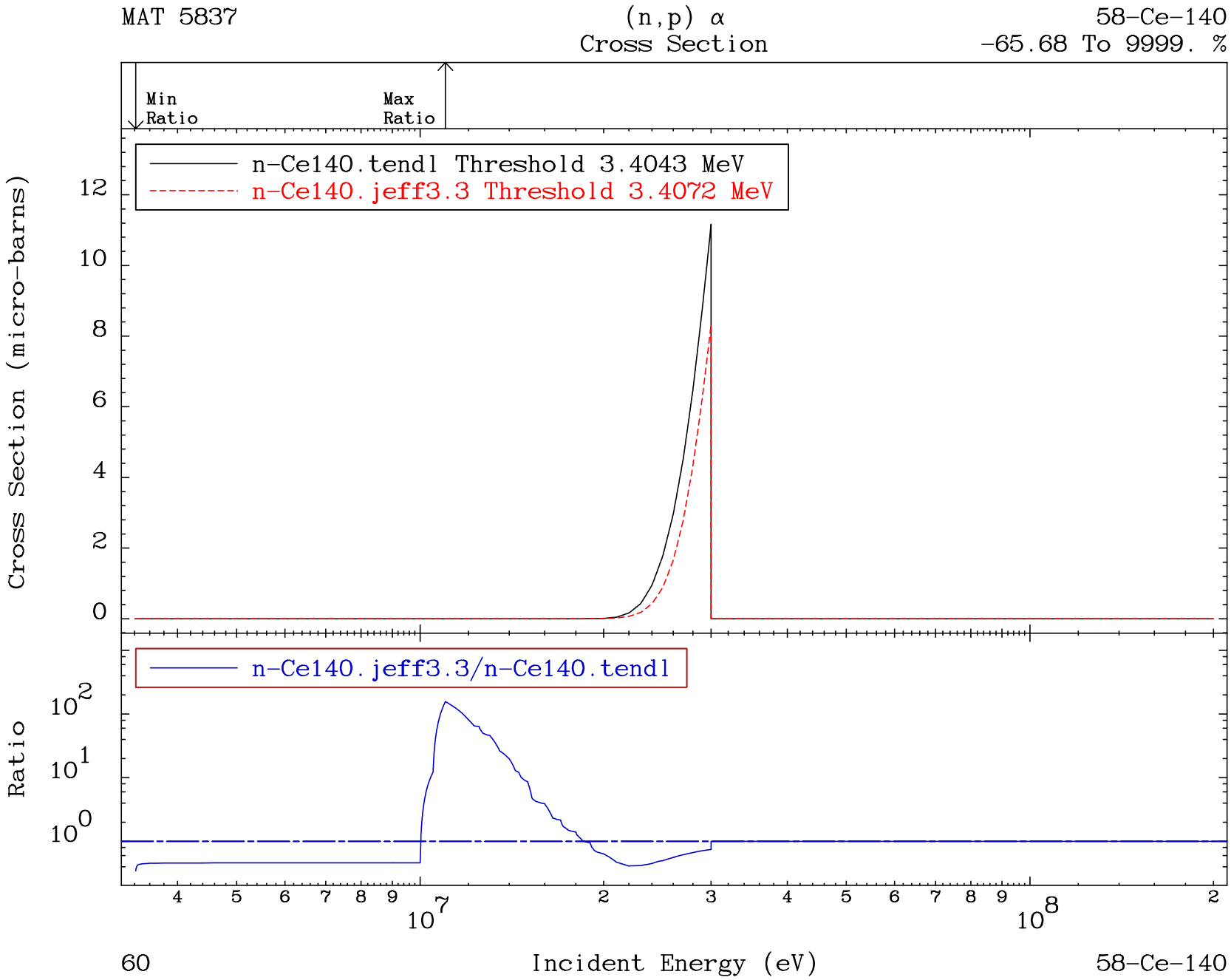

MAT 5837
(n,t)
Cross Section
58-Ce-140
-12.36 To 46.37 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 8.4962 MeV
n-Ce140.jeff3.3 Threshold 8.4962 MeV
Cross Section (milli-barns)
0
1
2
3
4
5
6
7
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
1.2
1.4
1.6
9
10^7
2
3
4
5
6
7
8
9
10^8
2
55
Incident Energy (eV)
58-Ce-140

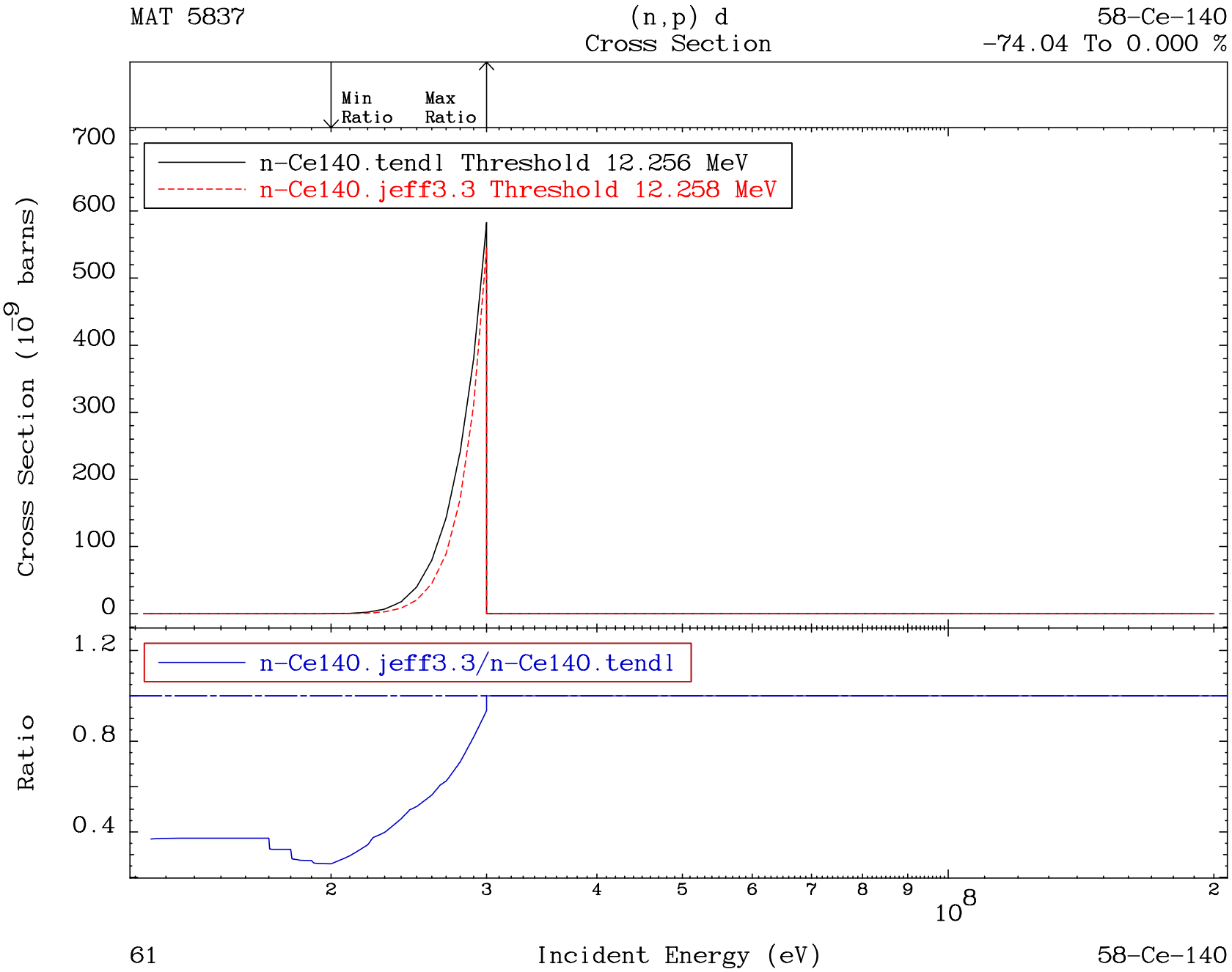

MAT 5837
(n,He-3)
Cross Section
58-Ce-140
-88.89 To 303.4 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 6.7225 MeV
n-Ce140.jeff3.3 Threshold 6.7253 MeV
Cross Section (milli-barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
4
10^{0}
4
10^{-1}
7 8 9 10^{7} 2 3 4 5 6 7 8 9 10^{8} 2
56
Incident Energy (eV)
58-Ce-140

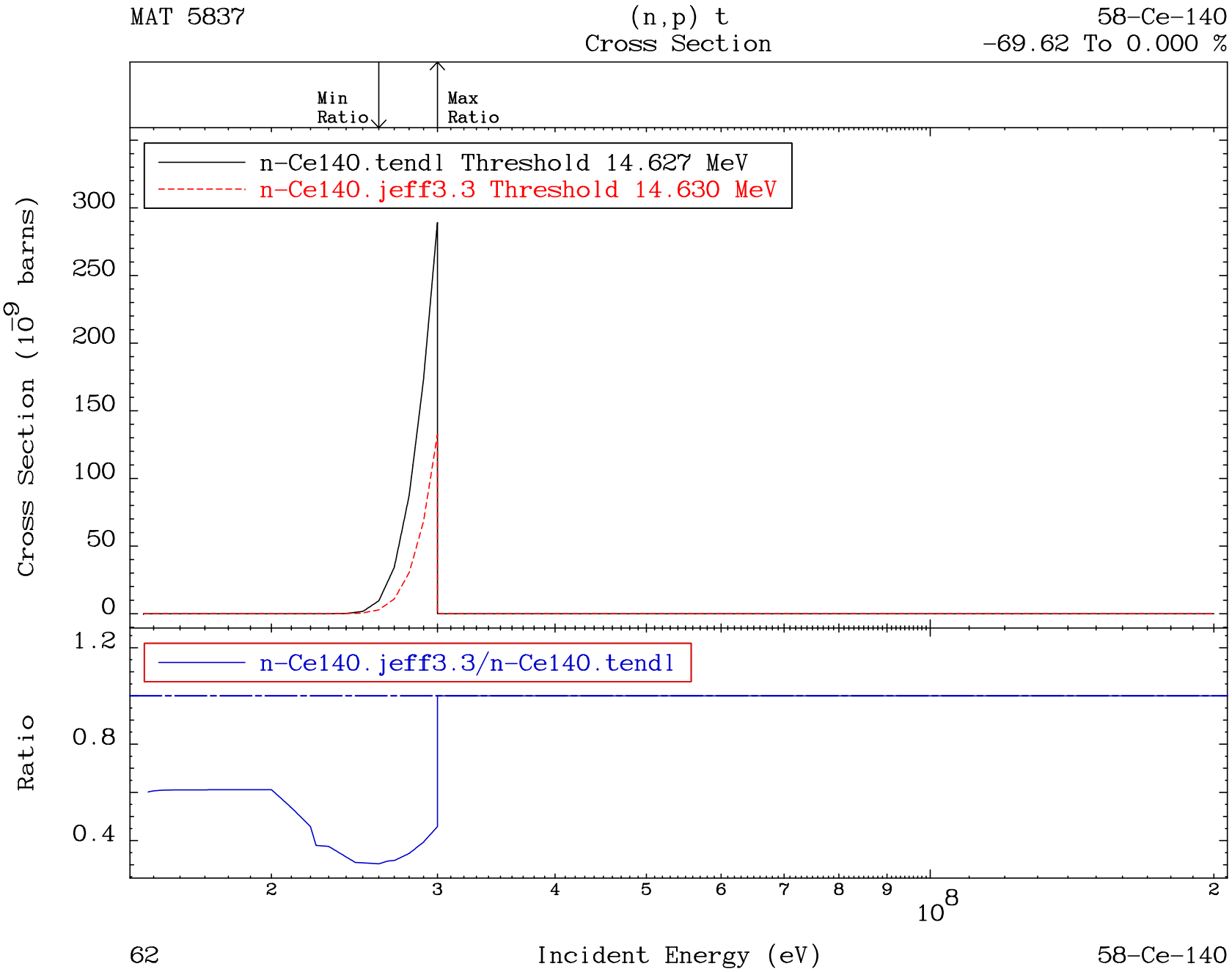

MAT 5837
(n,α)
Cross Section
58-Ce-140
-48.76 To 9999. %
Max Ratio
Min Ratio
n-Ce140.tendl
n-Ce140.jeff3.3
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
57
Incident Energy (eV)
58-Ce-140

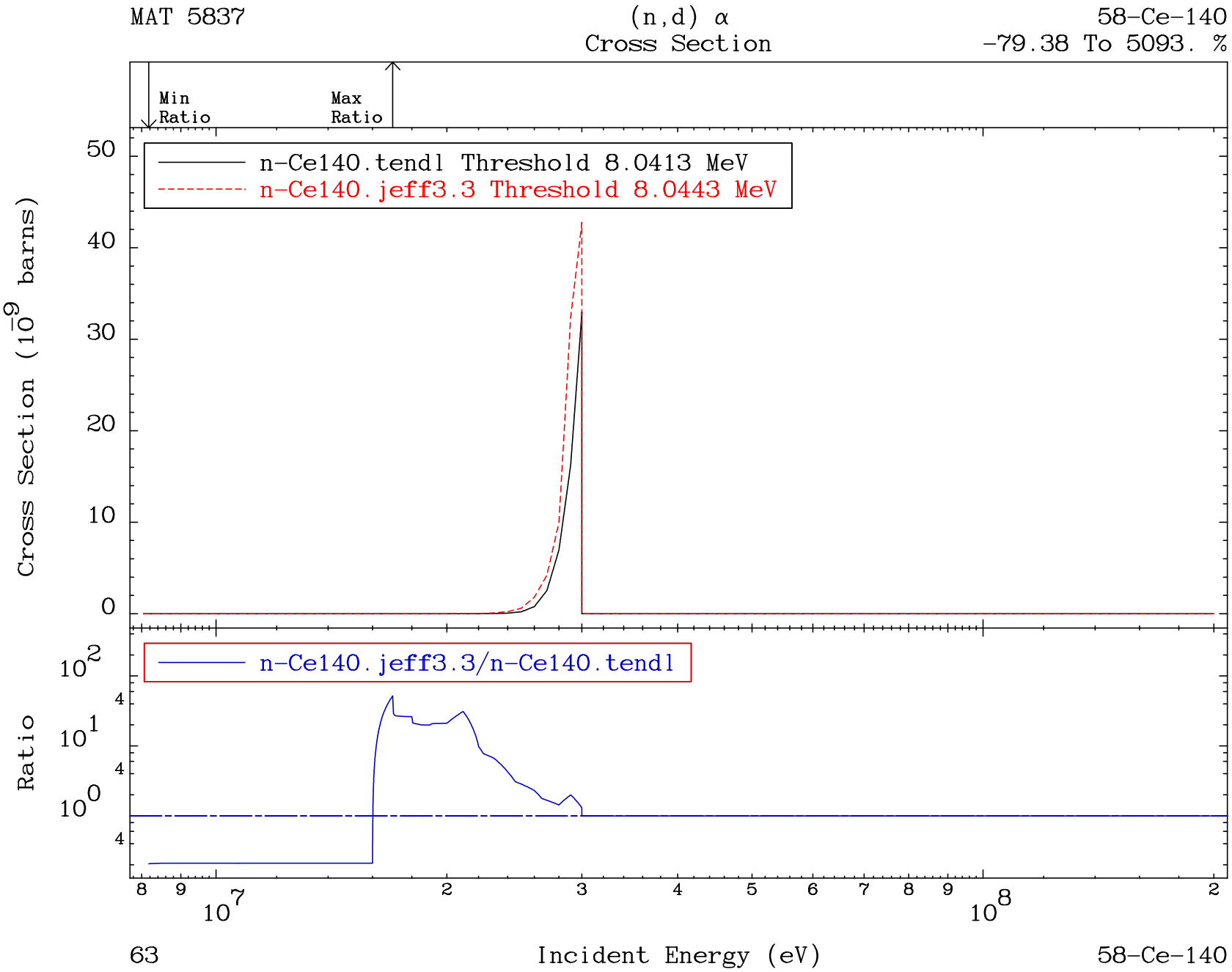

MAT 5837
(n,2α)
Cross Section
58-Ce-140
-43.23 To 9999. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 200.00 keV
n-Ce140.jeff3.3 Threshold 503.84 keV
Cross Section (micro-barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^3
10^2
10^1
10^0
2 3 4 5 6 7 8 10^6 2 3 4 5 6 7 8 10^7 2 3 4 5 6 7 8 10^8 2
58
Incident Energy (eV)
58-Ce-140

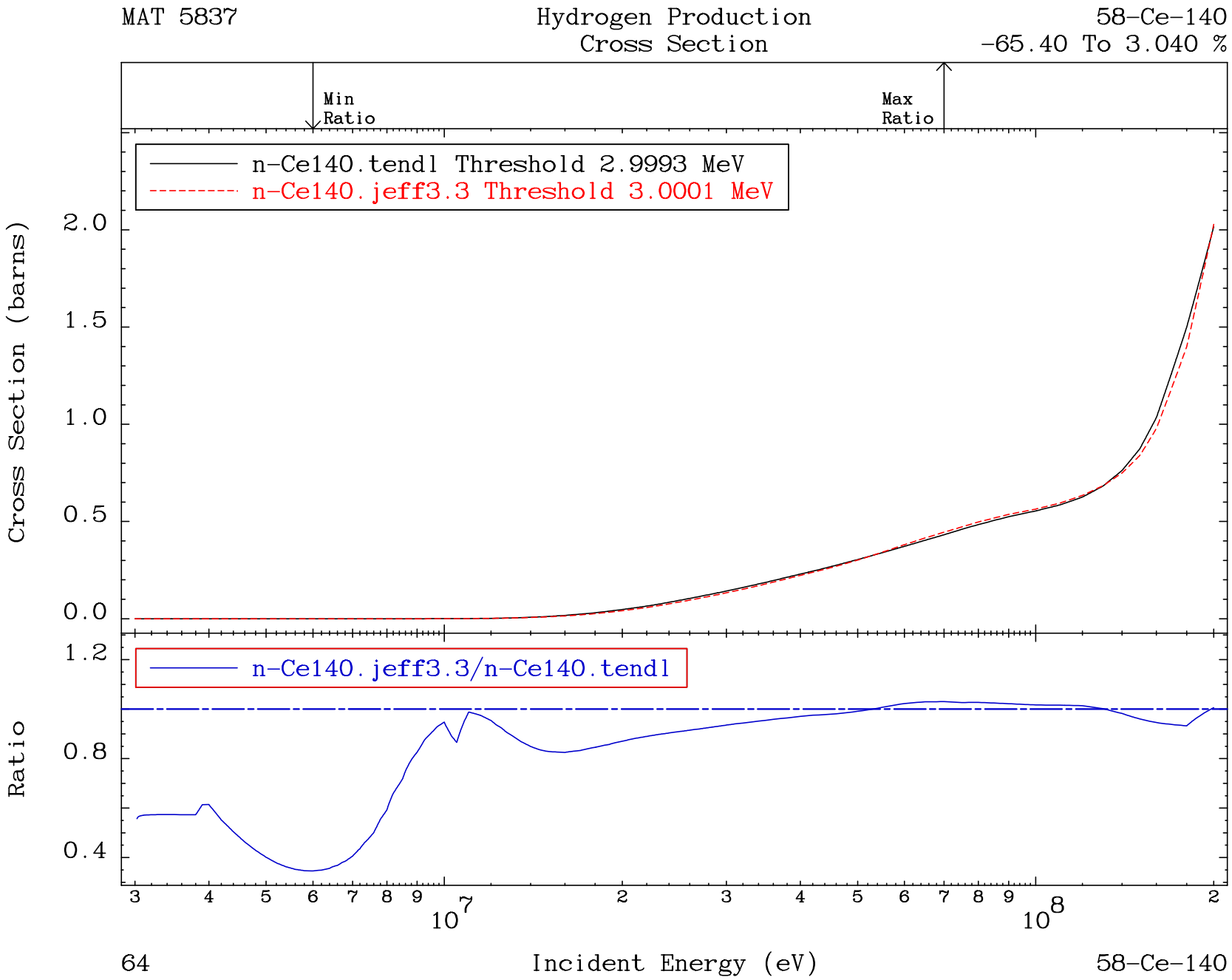

MAT 5837
(n,2p)
Cross Section
58-Ce-140
-78.69 To 0.000 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 9.7387 MeV
n-Ce140.jeff3.3 Threshold 9.7416 MeV
Cross Section (micro-barns)
20
15
10
5
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.2
0.8
0.4
10^7
2
3
4
5
6
7
8
9
10^8
2
59
Incident Energy (eV)
58-Ce-140

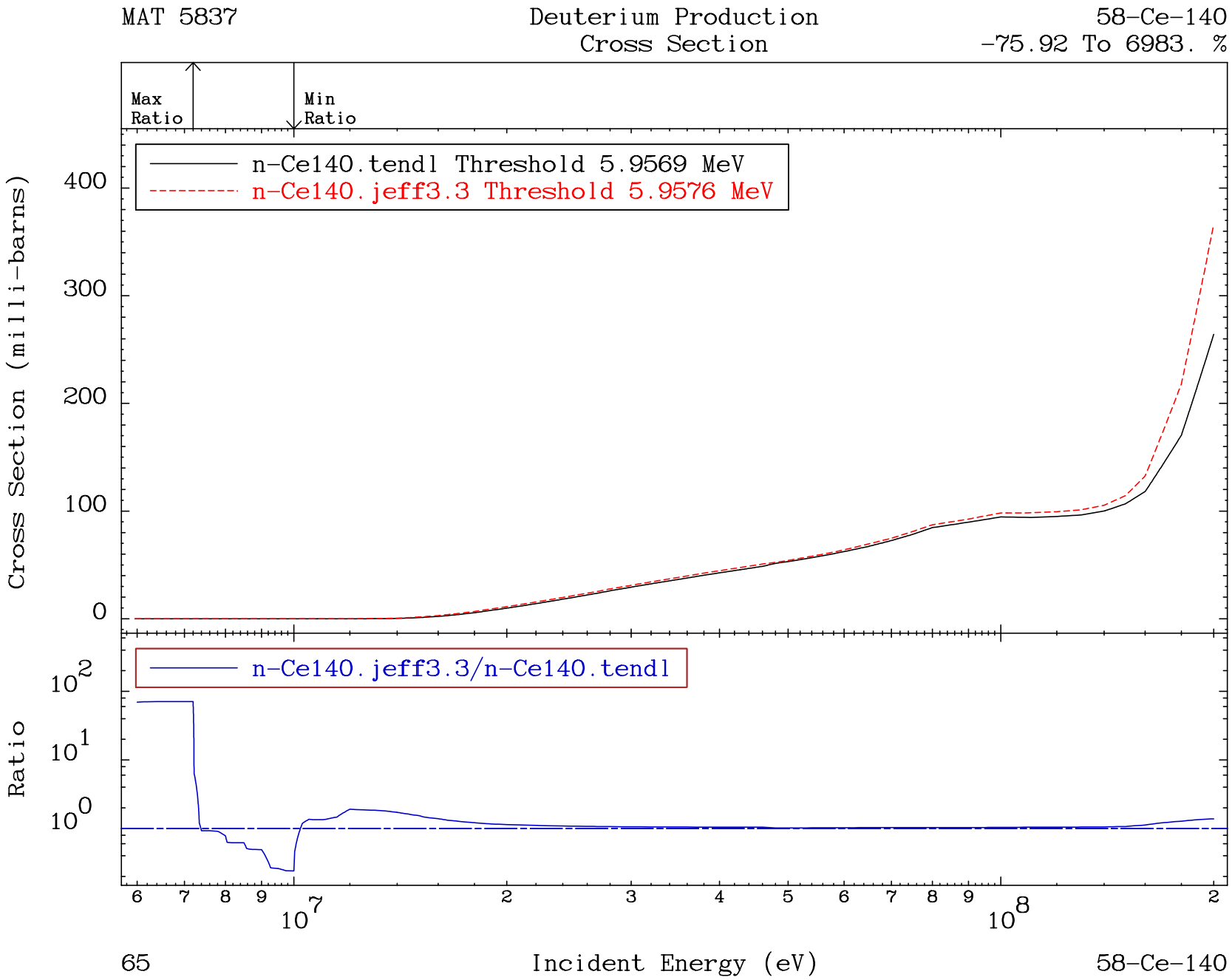

MAT 5837
(n,p) α
Cross Section
58-Ce-140
-65.68 To 9999. %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 3.4043 MeV
n-Ce140.jeff3.3 Threshold 3.4072 MeV
Cross Section (micro-barns)
0
2
4
6
8
10
12
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^0
10^1
10^2
4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
60
Incident Energy (eV)
58-Ce-140

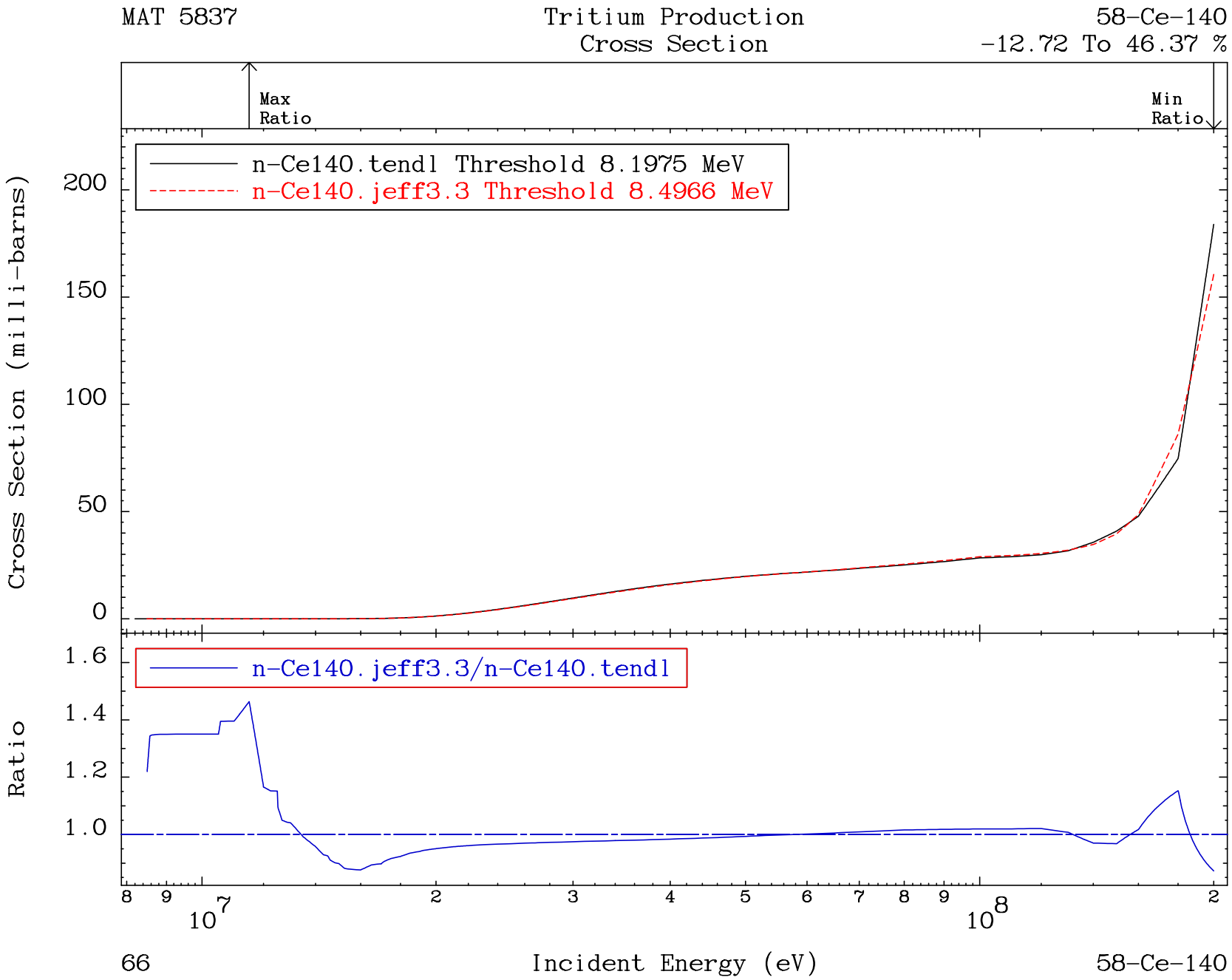

MAT 5837
(n,p) d
Cross Section
58-Ce-140
-74.04 To 0.000 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 12.256 MeV
n-Ce140.jeff3.3 Threshold 12.258 MeV
Cross Section (10^-9 barns)
700
600
500
400
300
200
100
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.2
0.8
0.4
2
3
4
5
6
7
8
9
10^8
2
61
Incident Energy (eV)
58-Ce-140

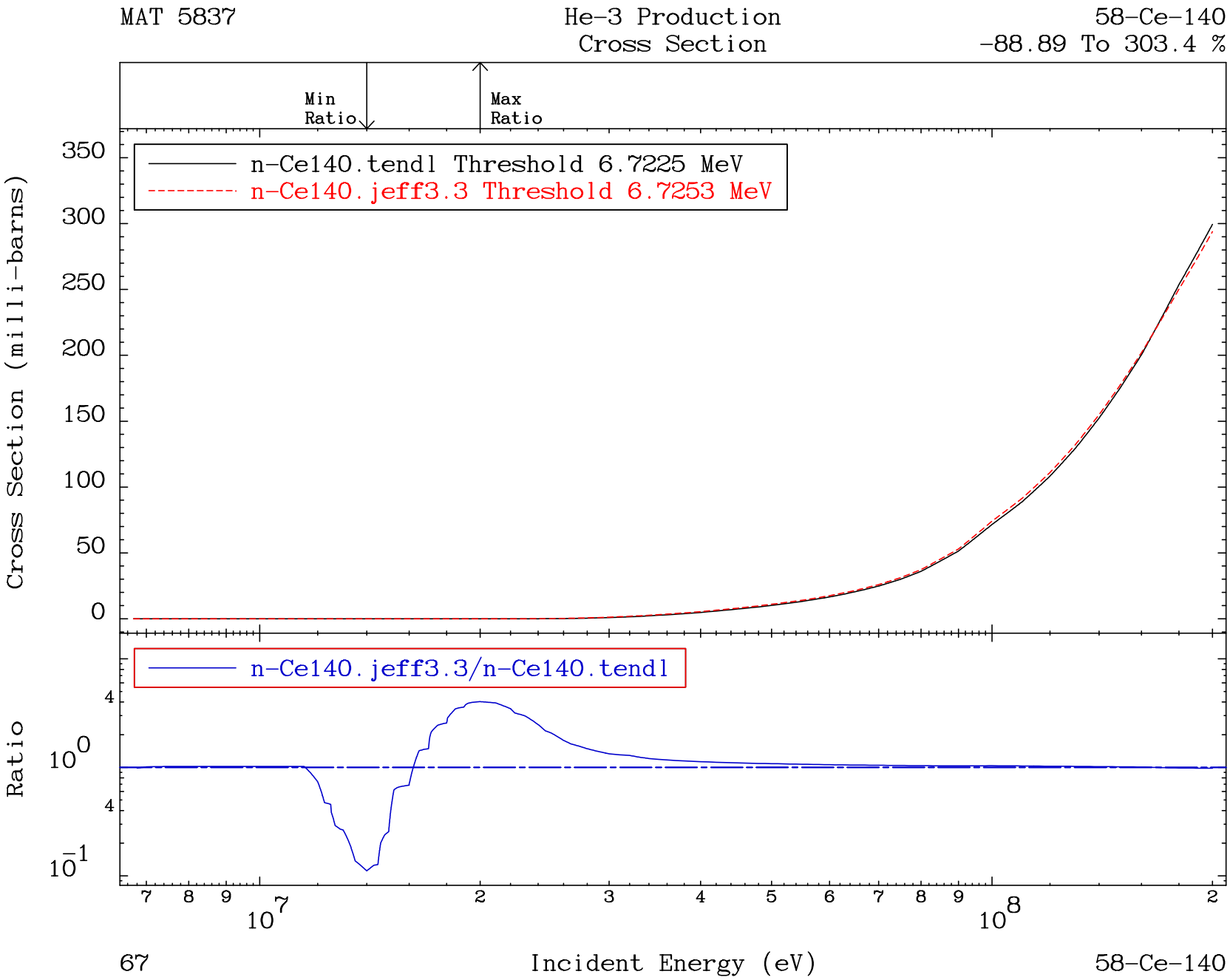

MAT 5837
(n,p) t
Cross Section
58-Ce-140
-69.62 To 0.000 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 14.627 MeV
n-Ce140.jeff3.3 Threshold 14.630 MeV
Cross Section (10^-9 barns)
300
250
200
150
100
50
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.2
0.8
0.4
2
3
4
5
6
7
8
9
10^8
2
62
Incident Energy (eV)
58-Ce-140

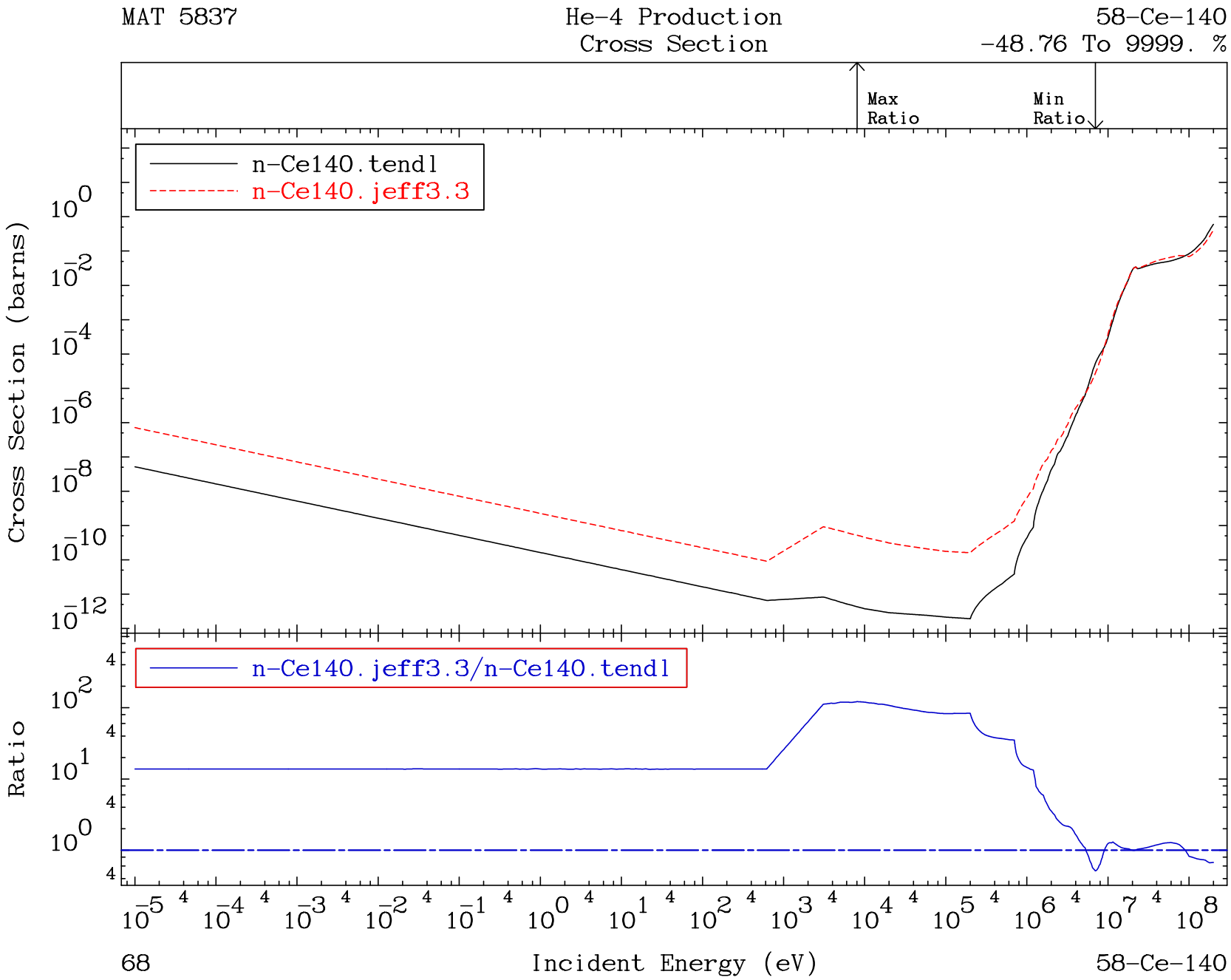

MAT 5837
(n,d) α
Cross Section
58-Ce-140
-79.38 To 5093. %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 8.0413 MeV
n-Ce140.jeff3.3 Threshold 8.0443 MeV
Cross Section (10^{-9} barns)
50
40
30
20
10
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^{2}
10^{1}
10^{0}
8 9 10^{7} 2 3 4 5 6 7 8 9 10^{8} 2
63
Incident Energy (eV)
58-Ce-140

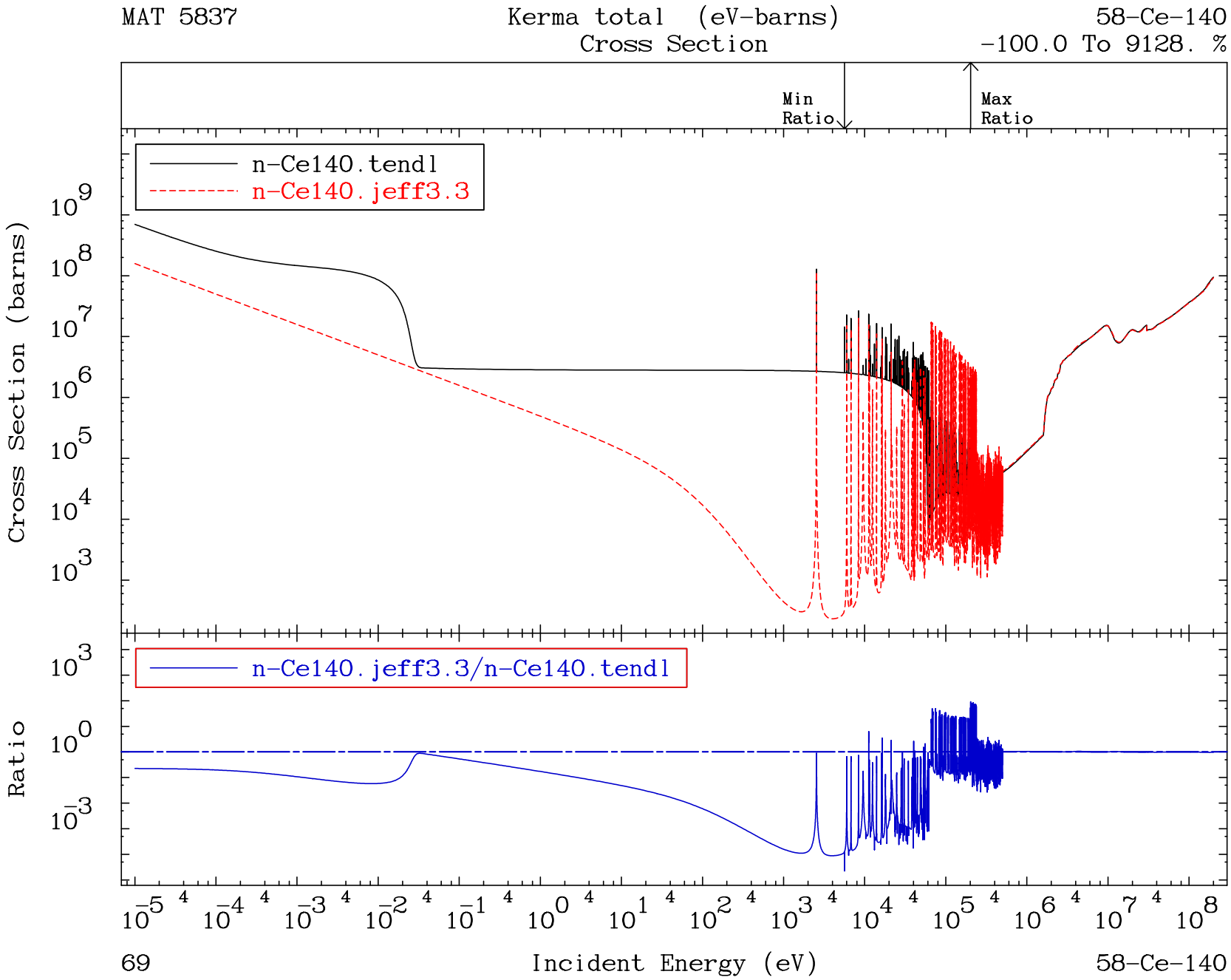

MAT 5837
Hydrogen Production
Cross Section
58-Ce-140
-65.40 To 3.040 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 2.9993 MeV
n-Ce140.jeff3.3 Threshold 3.0001 MeV
Cross Section (barns)
2.0
1.5
1.0
0.5
0.0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.2
0.8
0.4
3 4 5 6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
64
Incident Energy (eV)
58-Ce-140

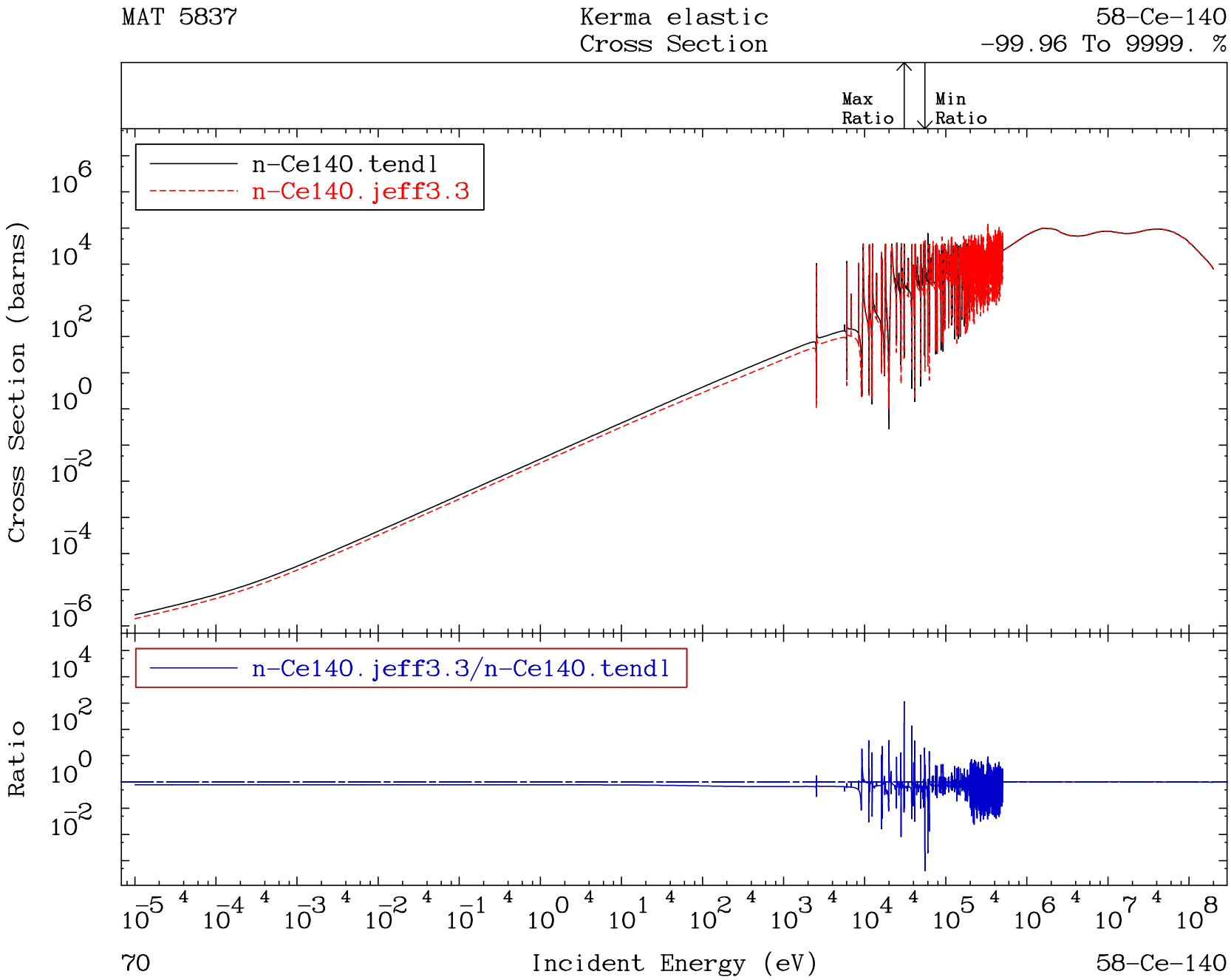

MAT 5837
Deuterium Production
Cross Section
58-Ce-140
-75.92 To 6983. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 5.9569 MeV
n-Ce140.jeff3.3 Threshold 5.9576 MeV
Cross Section (milli-barns)
400
300
200
100
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^2
10^1
10^0
6 7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
65
Incident Energy (eV)
58-Ce-140

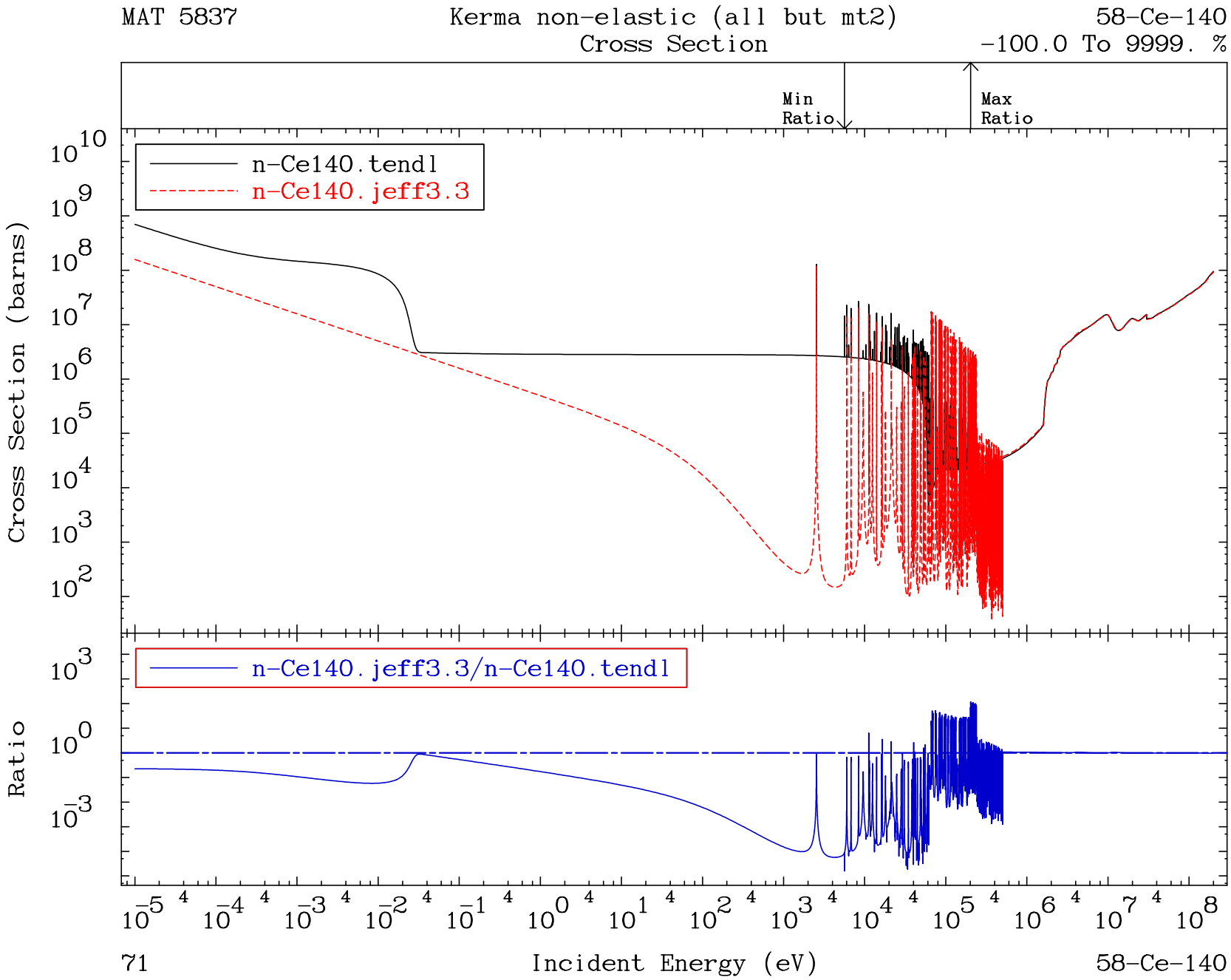

MAT 5837
Tritium Production
Cross Section
58-Ce-140
-12.72 To 46.37 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 8.1975 MeV
n-Ce140.jeff3.3 Threshold 8.4966 MeV
Cross Section (milli-barns)
200
150
100
50
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.6
1.4
1.2
1.0
8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
66
Incident Energy (eV)
58-Ce-140

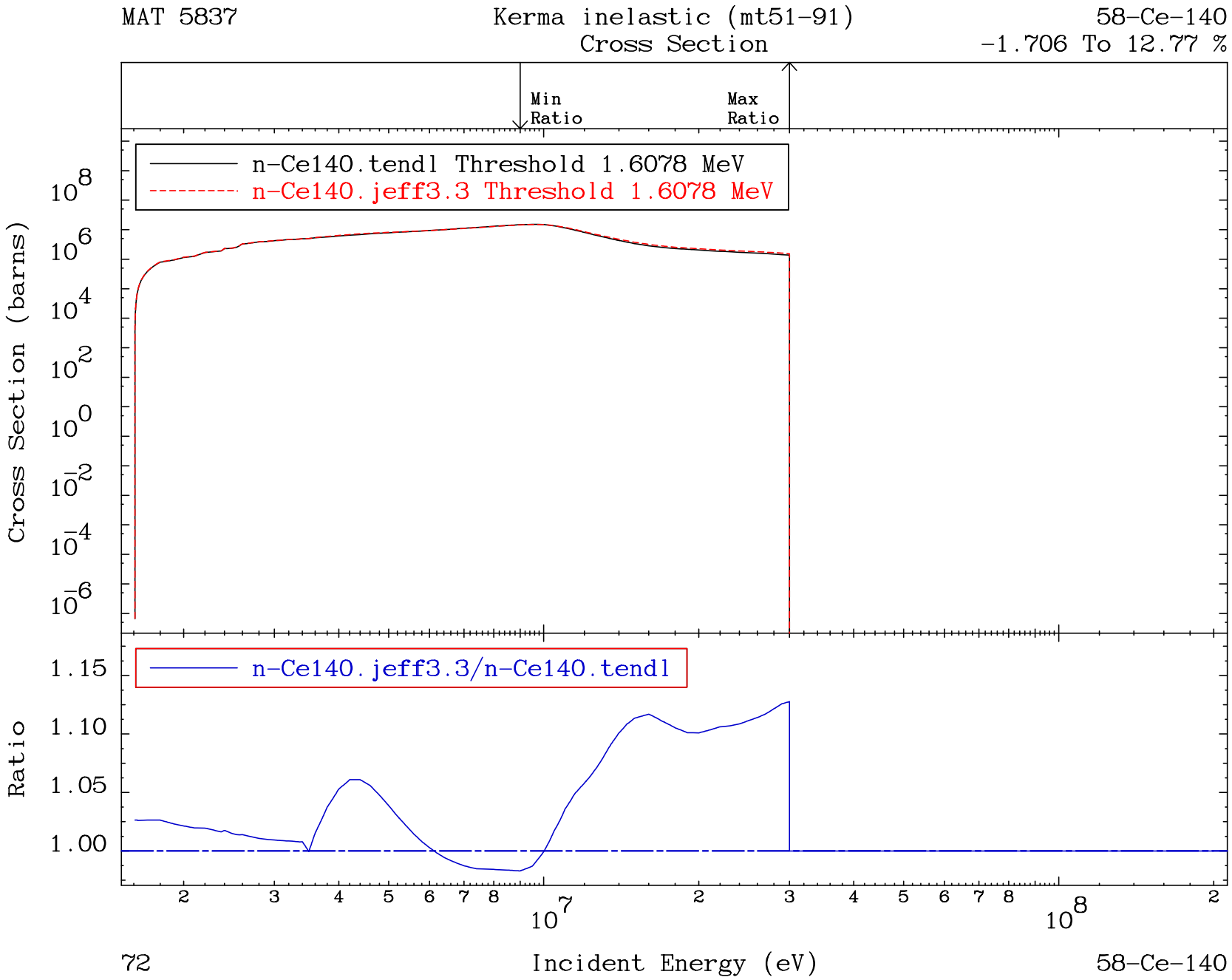

MAT 5837
He-3 Production
Cross Section
58-Ce-140
-88.89 To 303.4 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 6.7225 MeV
n-Ce140.jeff3.3 Threshold 6.7253 MeV
Cross Section (milli-barns)
350
300
250
200
150
100
50
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
4
10^{0}
4
10^{-1}
7 8 9 10^{7} 2 3 4 5 6 7 8 9 10^{8} 2
67
Incident Energy (eV)
58-Ce-140

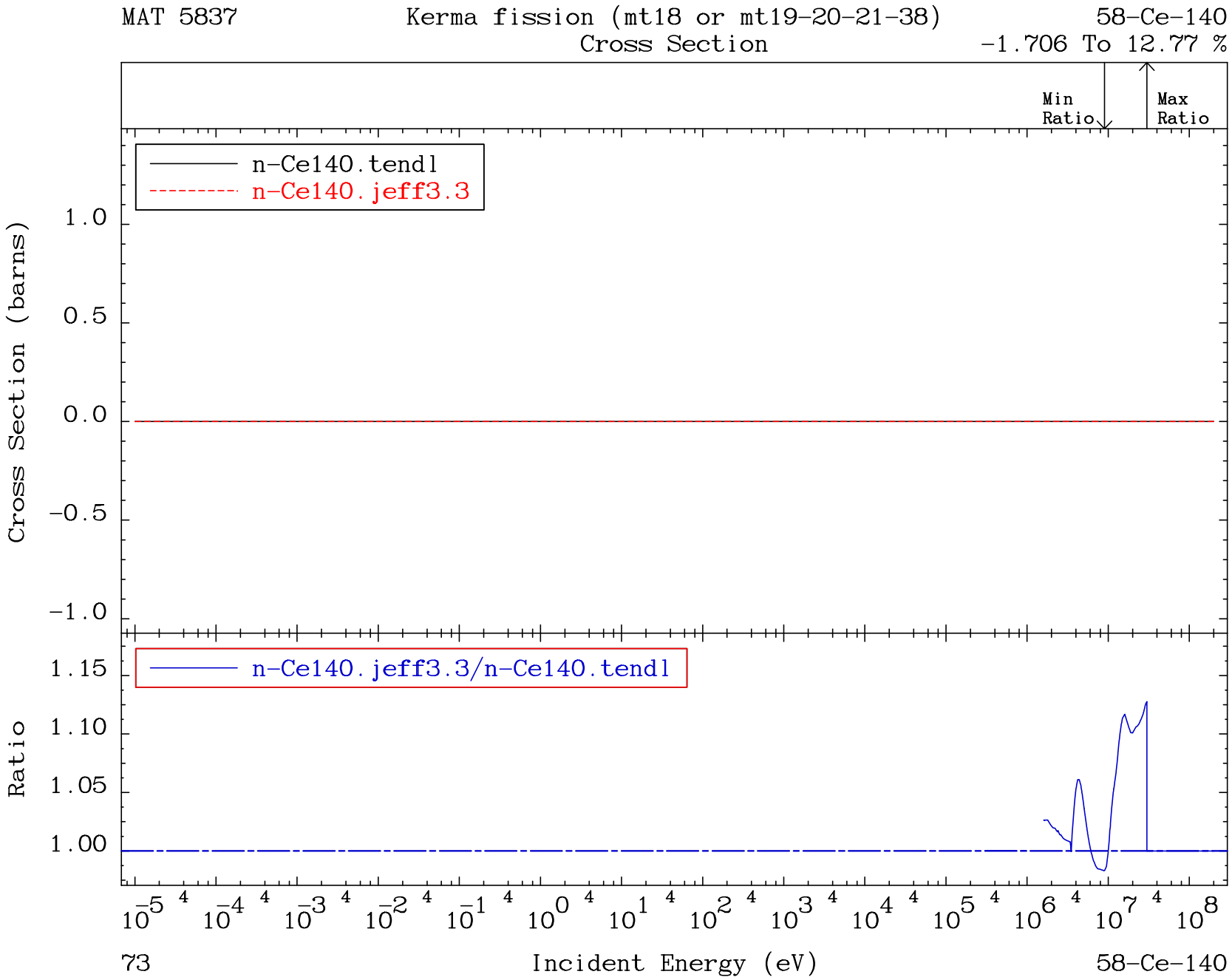

MAT 5837
He-4 Production
Cross Section
58-Ce-140
-48.76 To 9999. %
Max Ratio
Min Ratio
n-Ce140.tendl
n-Ce140.jeff3.3
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
68
58-Ce-140

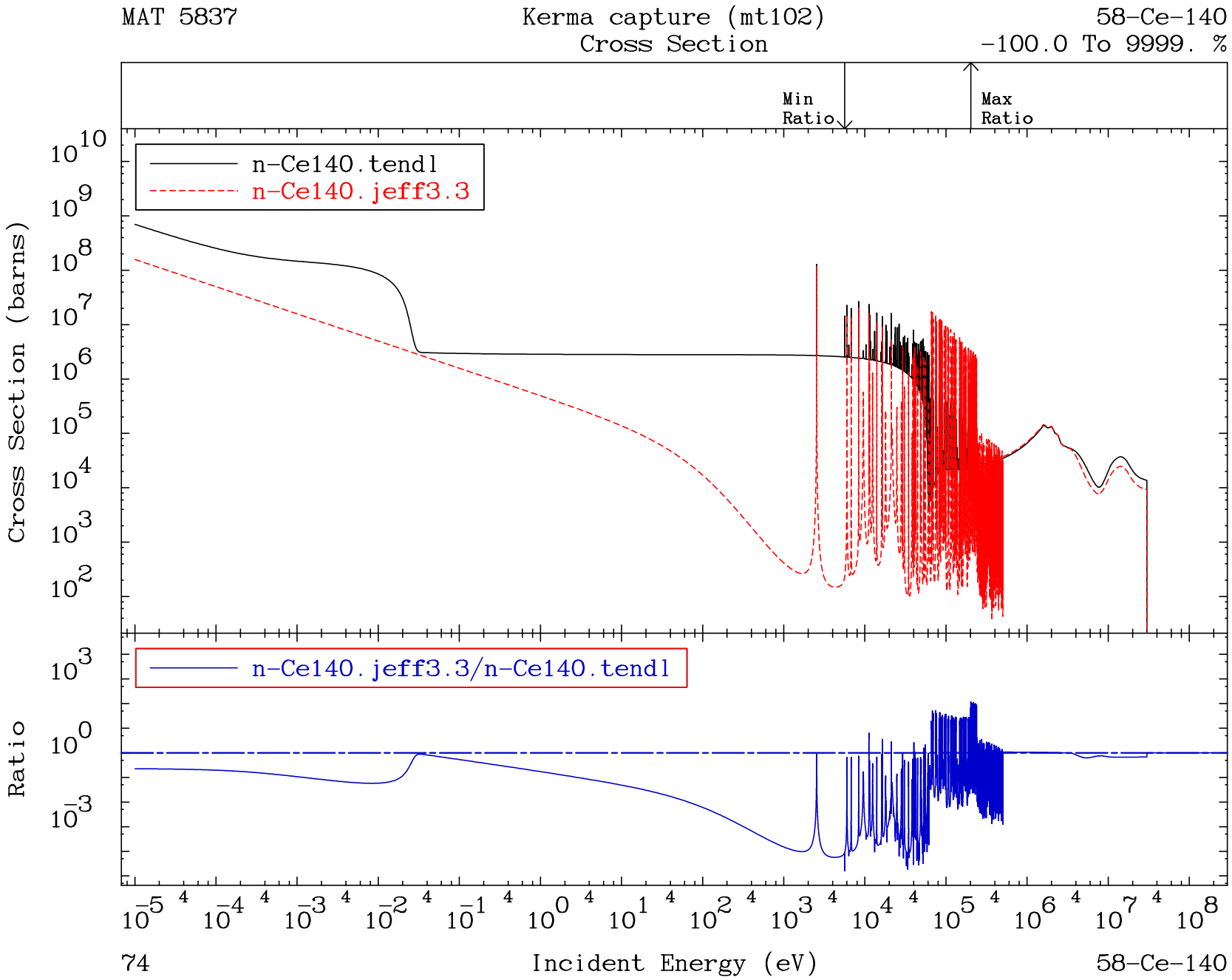

MAT 5837
Kerma total (eV-barns)
Cross Section
58-Ce-140
-100.0 To 9128. %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.jeff3.3
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
69
58-Ce-140

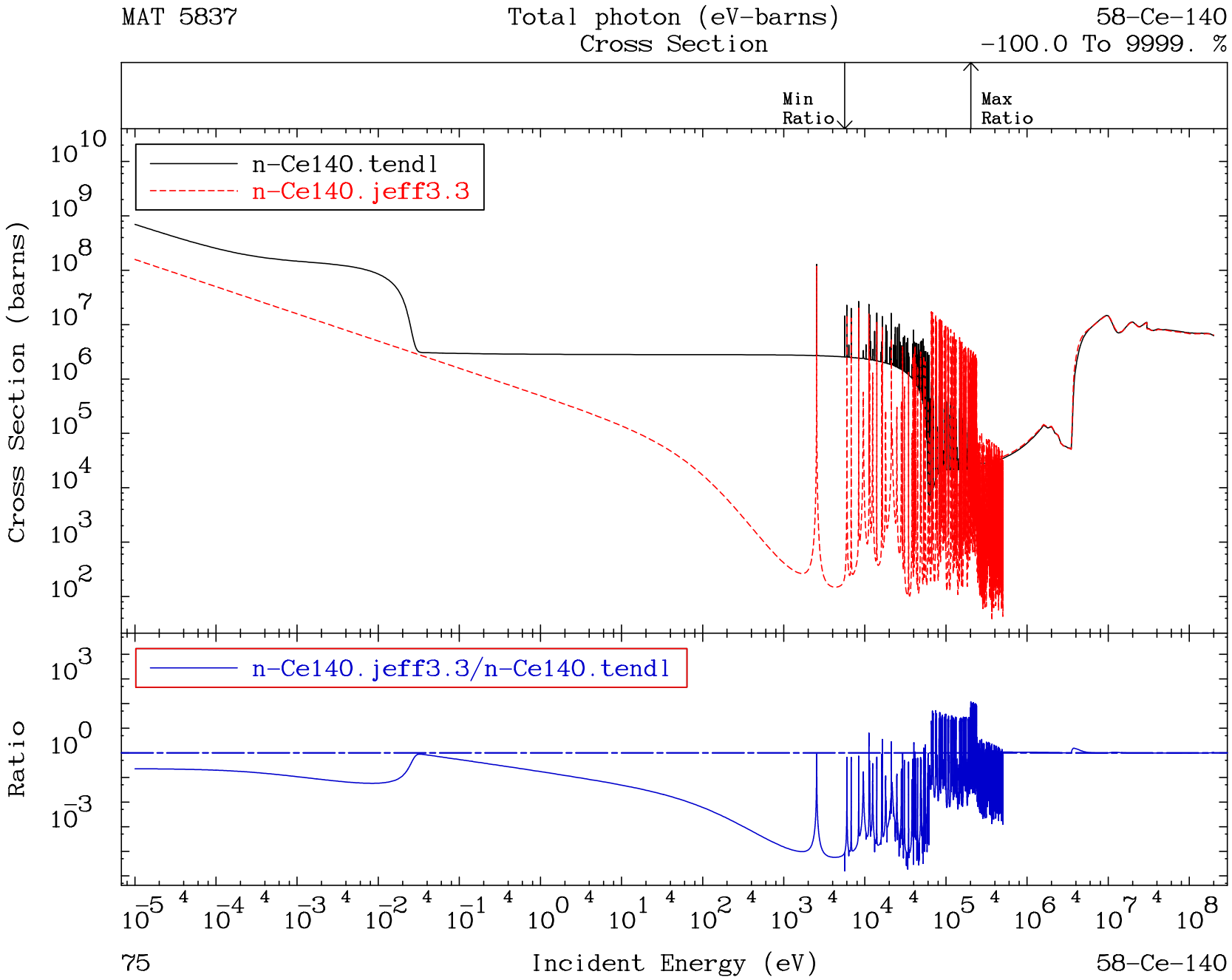

MAT 5837
Kerma elastic
Cross Section
58-Ce-140
-99.96 To 9999. %
Max
Ratio
Min
Ratio
n-Ce140.tendl
n-Ce140.jeff3.3
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
70
58-Ce-140

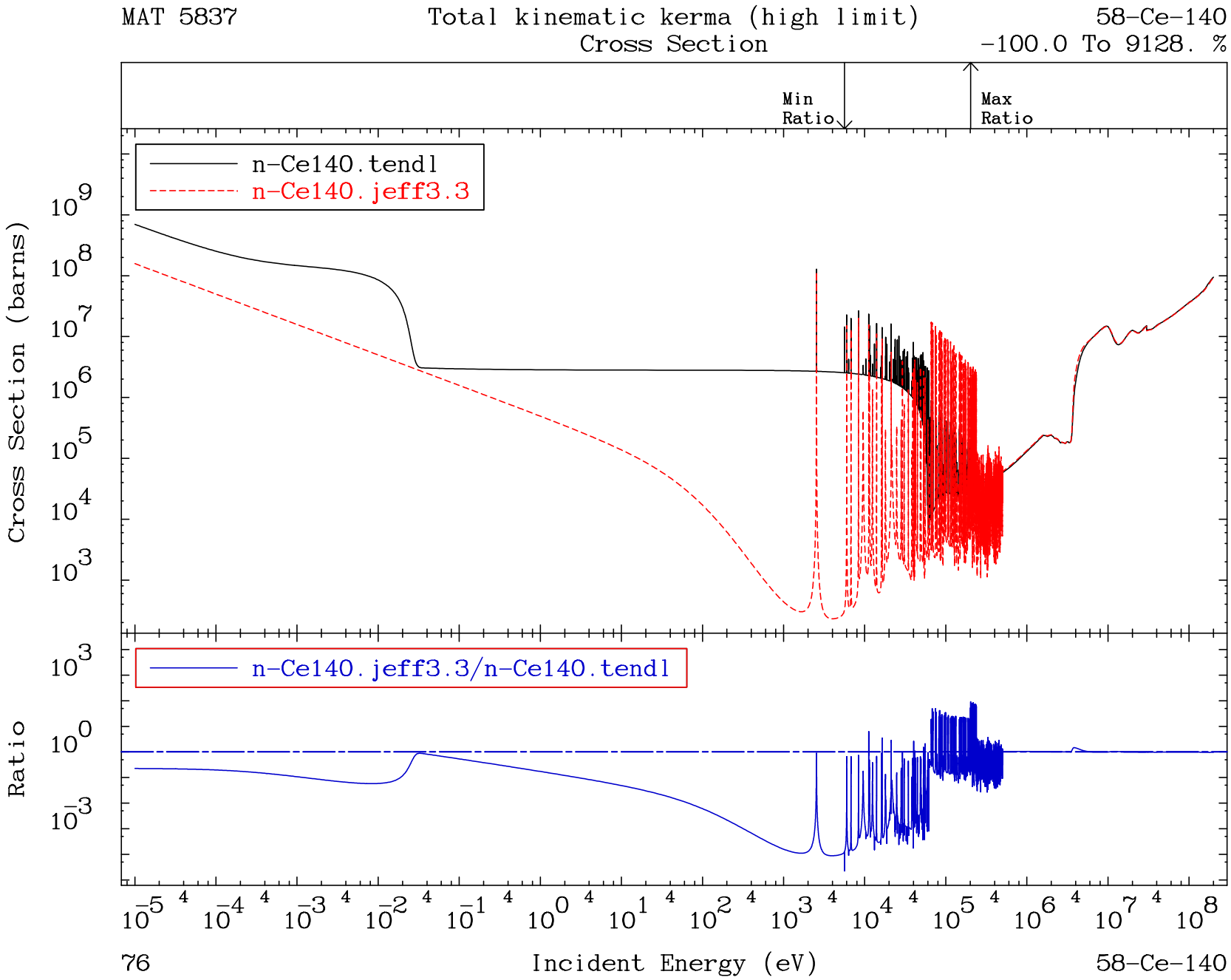

MAT 5837
Kerma non-elastic (all but mt2)
Cross Section
58-Ce-140
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.jeff3.3
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
71
58-Ce-140

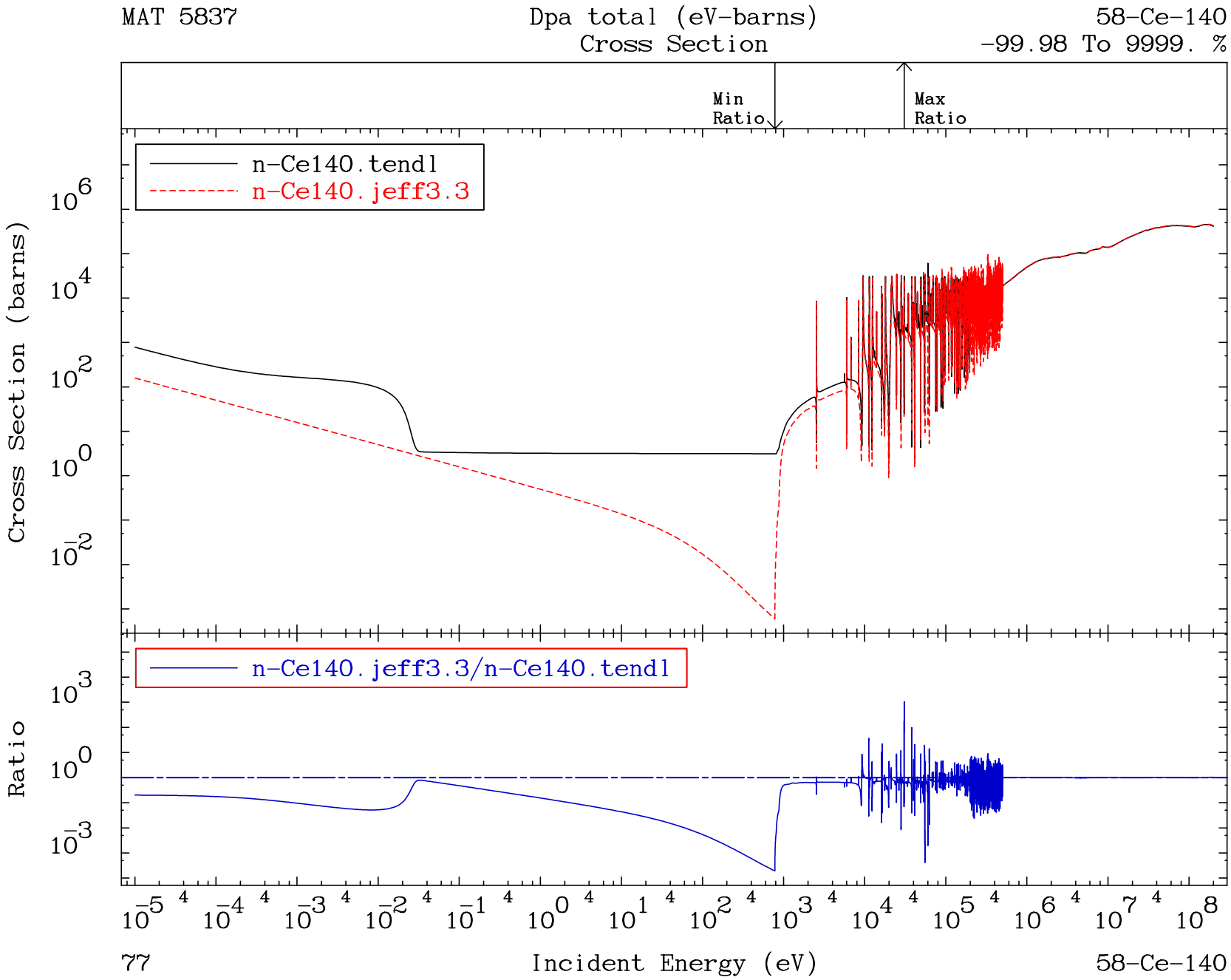

MAT 5837
Kerma inelastic (mt51-91)
Cross Section
58-Ce-140
-1.706 To 12.77 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 1.6078 MeV
n-Ce140.jeff3.3 Threshold 1.6078 MeV
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
72
58-Ce-140

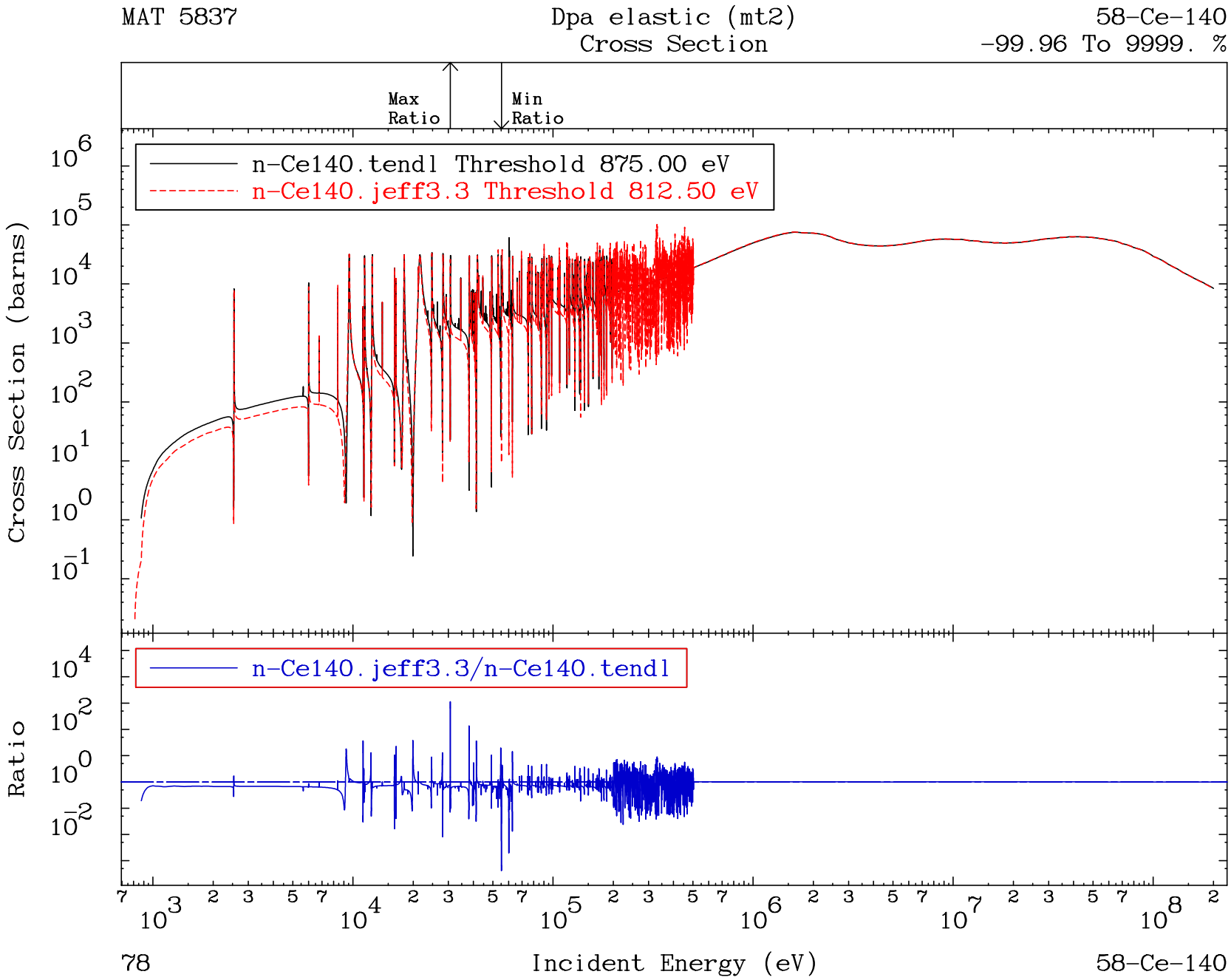

MAT 5837
Kerma fission (mt18 or mt19-20-21-38)
Cross Section
58-Ce-140
-1.706 To 12.77 %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.jeff3.3
Cross Section (barns)
1.0
0.5
0.0
-0.5
-1.0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.15
1.10
1.05
1.00
10^-5 10^-4 10^-3 10^-2 10^-1 10^0 10^1 10^2 10^3 10^4 10^5 10^6 10^7 10^8
73
Incident Energy (eV)
58-Ce-140

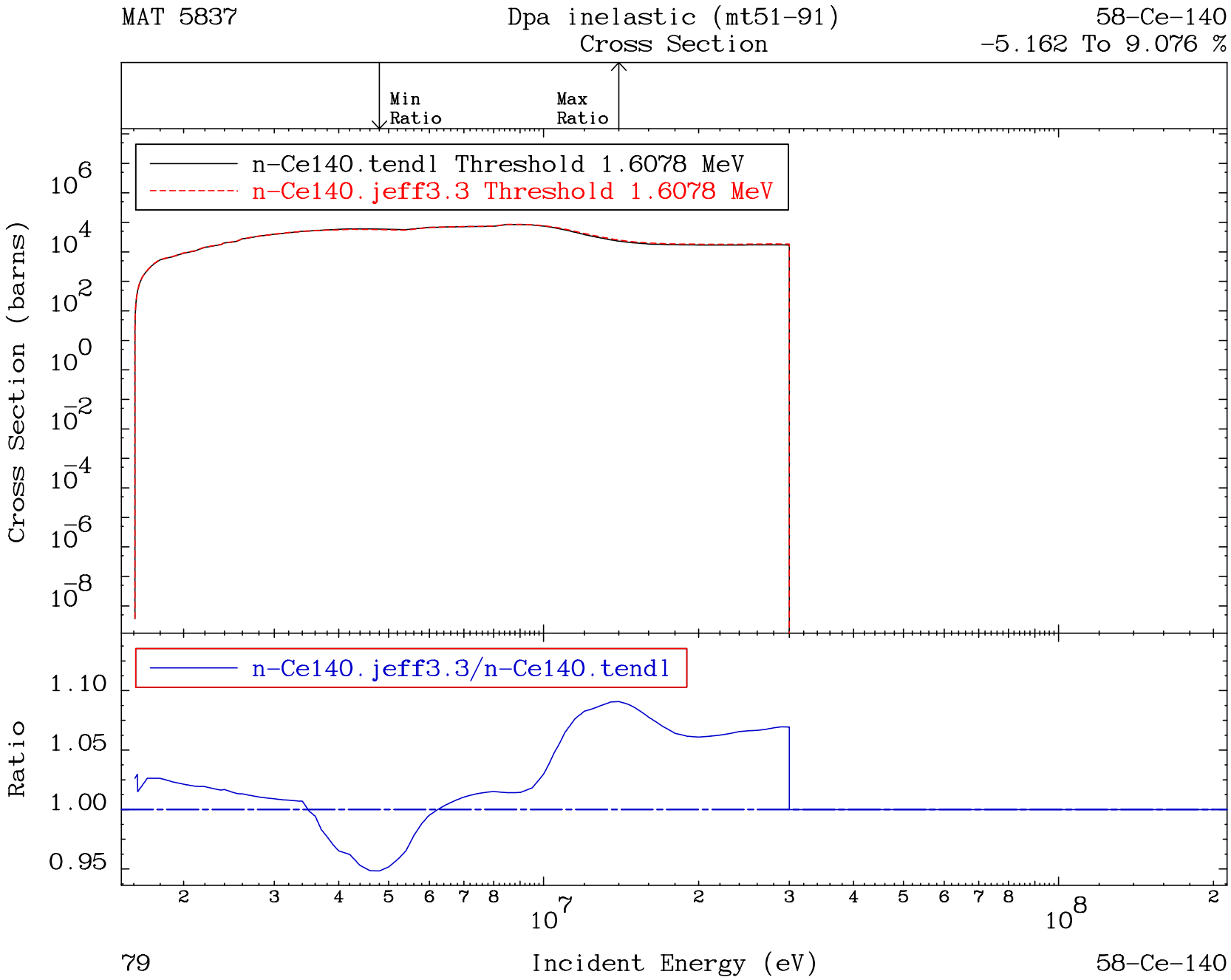

MAT 5837
Kerma capture (mt102)
Cross Section
58-Ce-140
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.jeff3.3
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
74
58-Ce-140

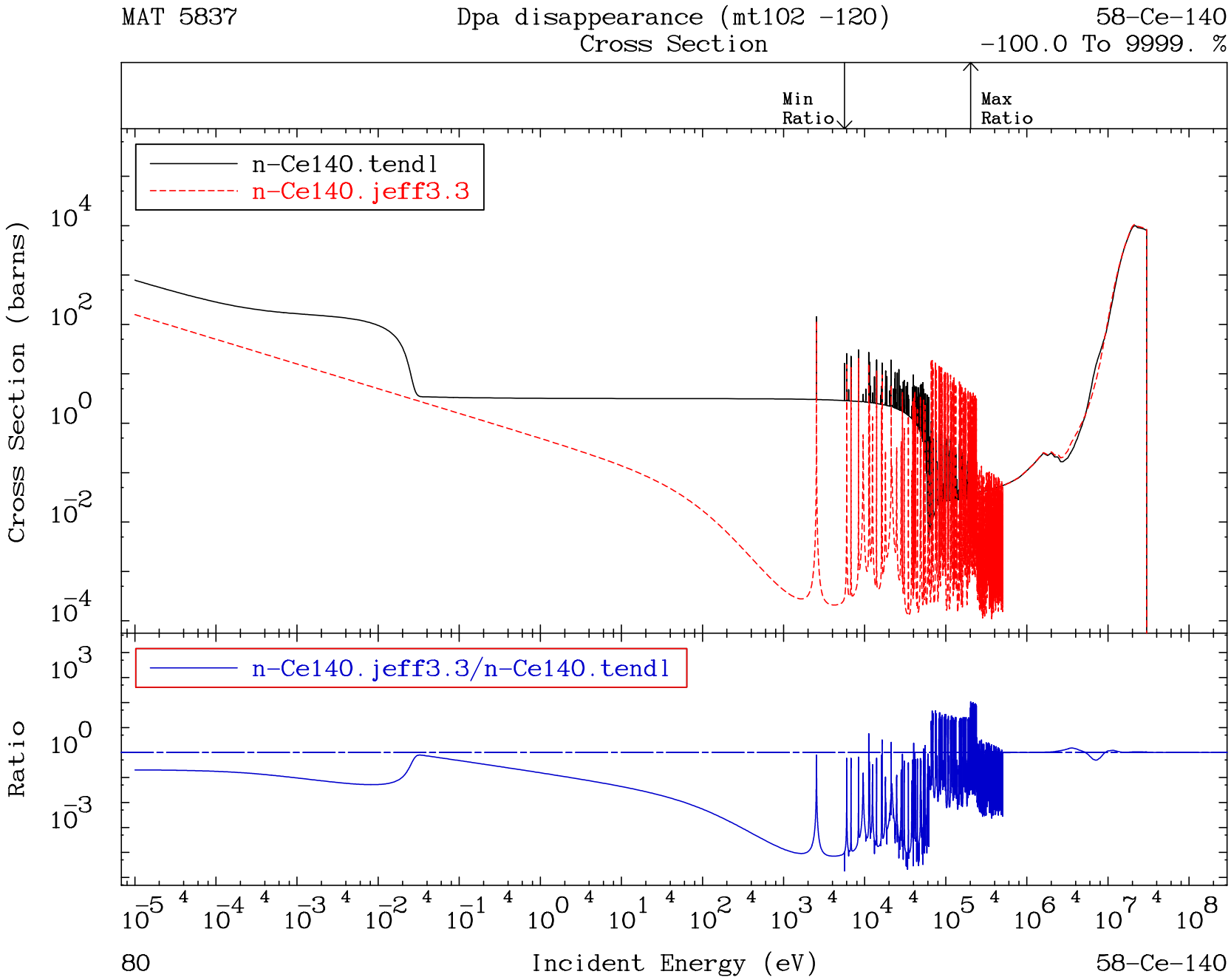

MAT 5837
Total photon (eV-barns)
Cross Section
58-Ce-140
-100.0 To 9999. %
Min
Ratio
Max
Ratio
n-Ce140.tendl
n-Ce140.jeff3.3
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
75
58-Ce-140

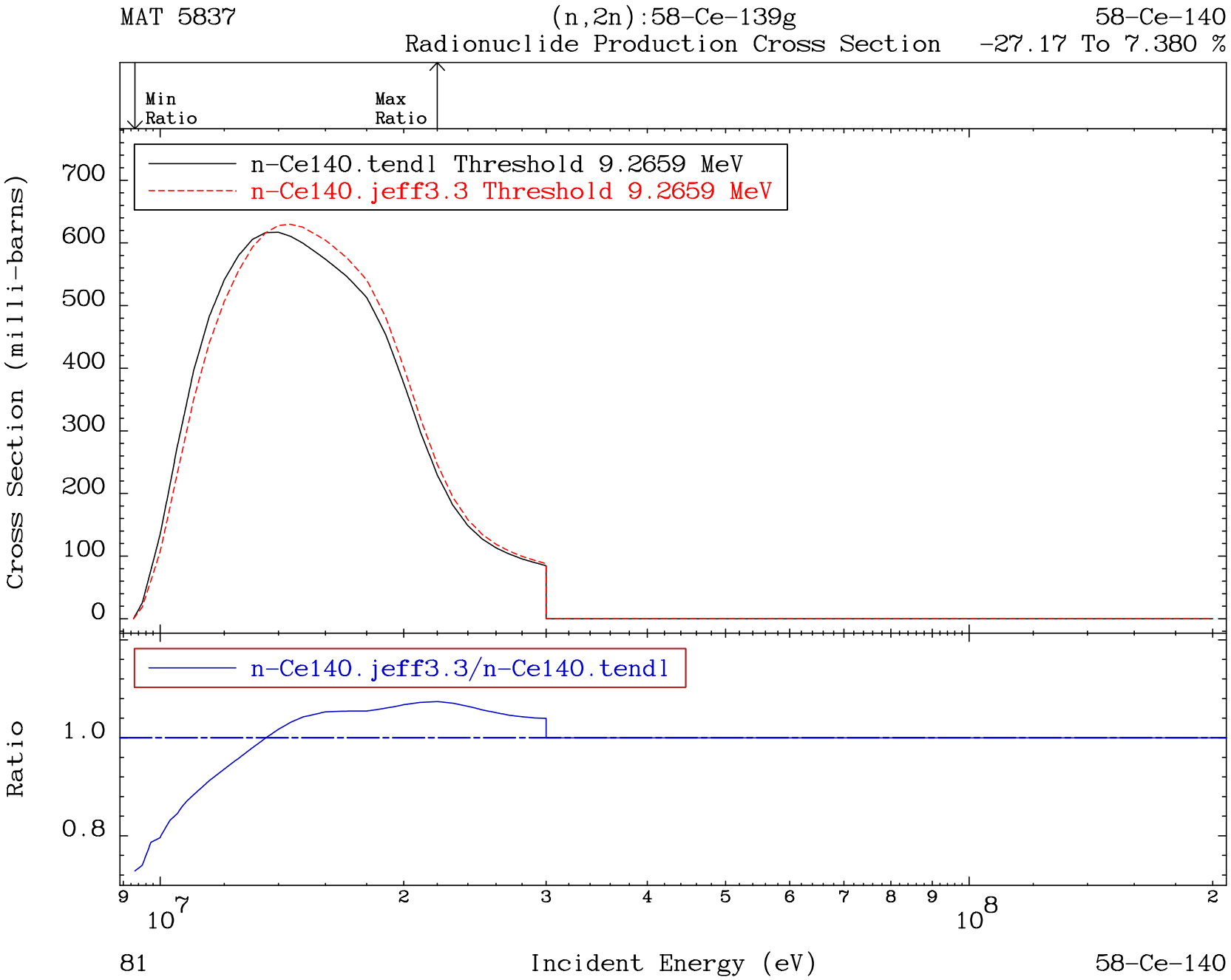

MAT 5837
Total kinematic kerma (high limit)
Cross Section
58-Ce-140
-100.0 To 9128. %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.jeff3.3
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
76
58-Ce-140

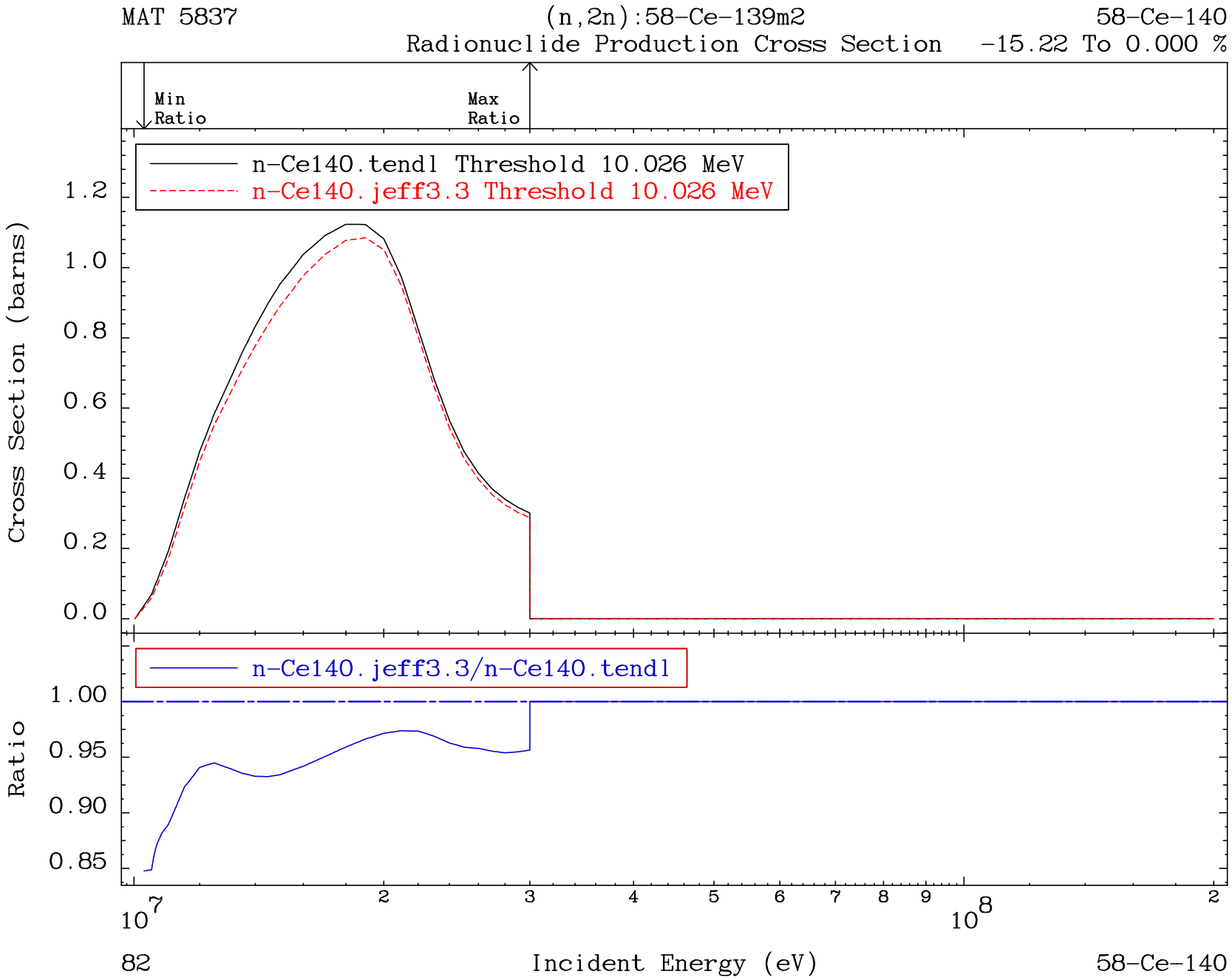

MAT 5837
Dpa total (eV-barns)
Cross Section
58-Ce-140
-99.98 To 9999. %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.jeff3.3
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
77
58-Ce-140

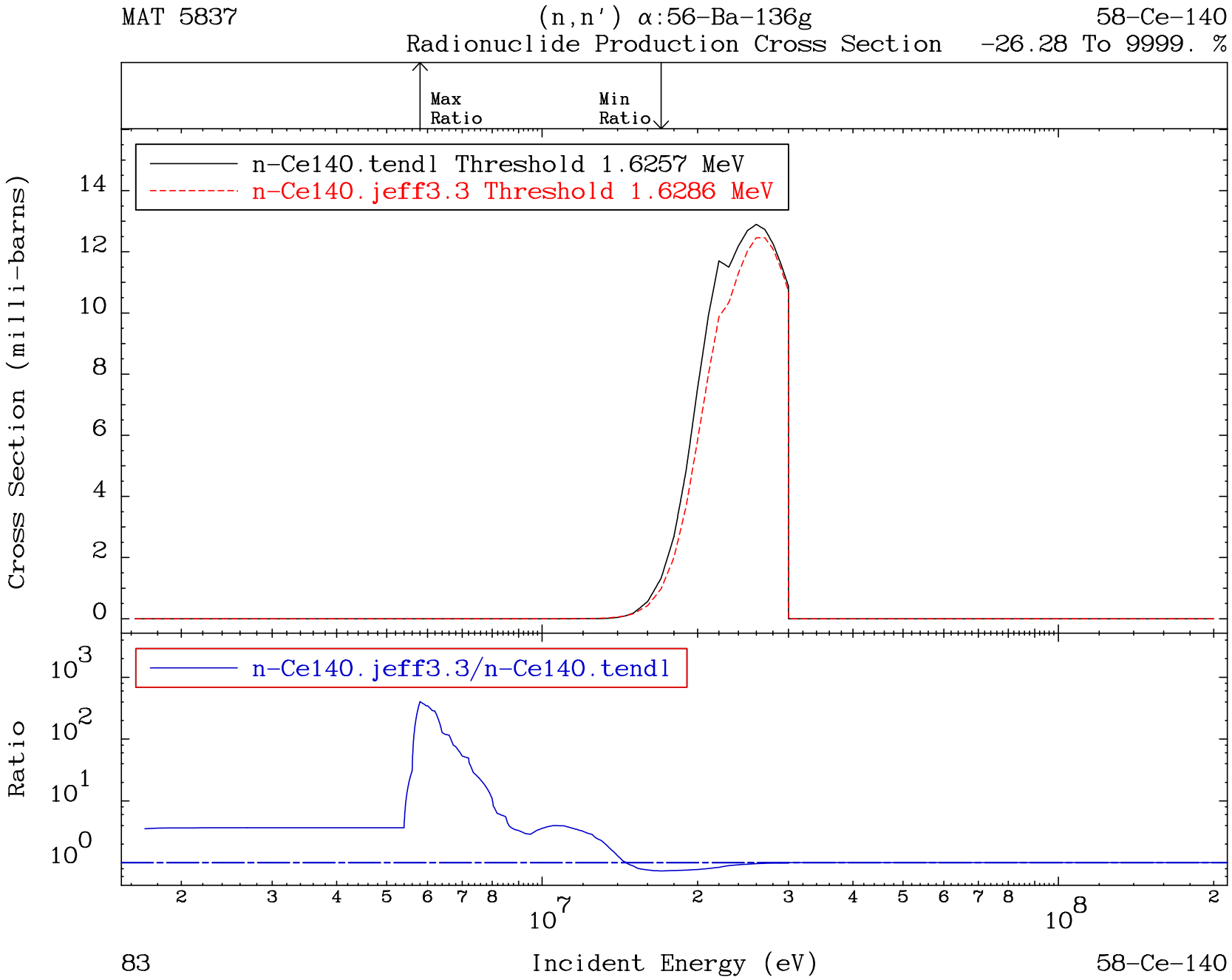

MAT 5837
Dpa elastic (mt2)
Cross Section
58-Ce-140
-99.96 To 9999. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 875.00 eV
n-Ce140.jeff3.3 Threshold 812.50 eV
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
78
58-Ce-140

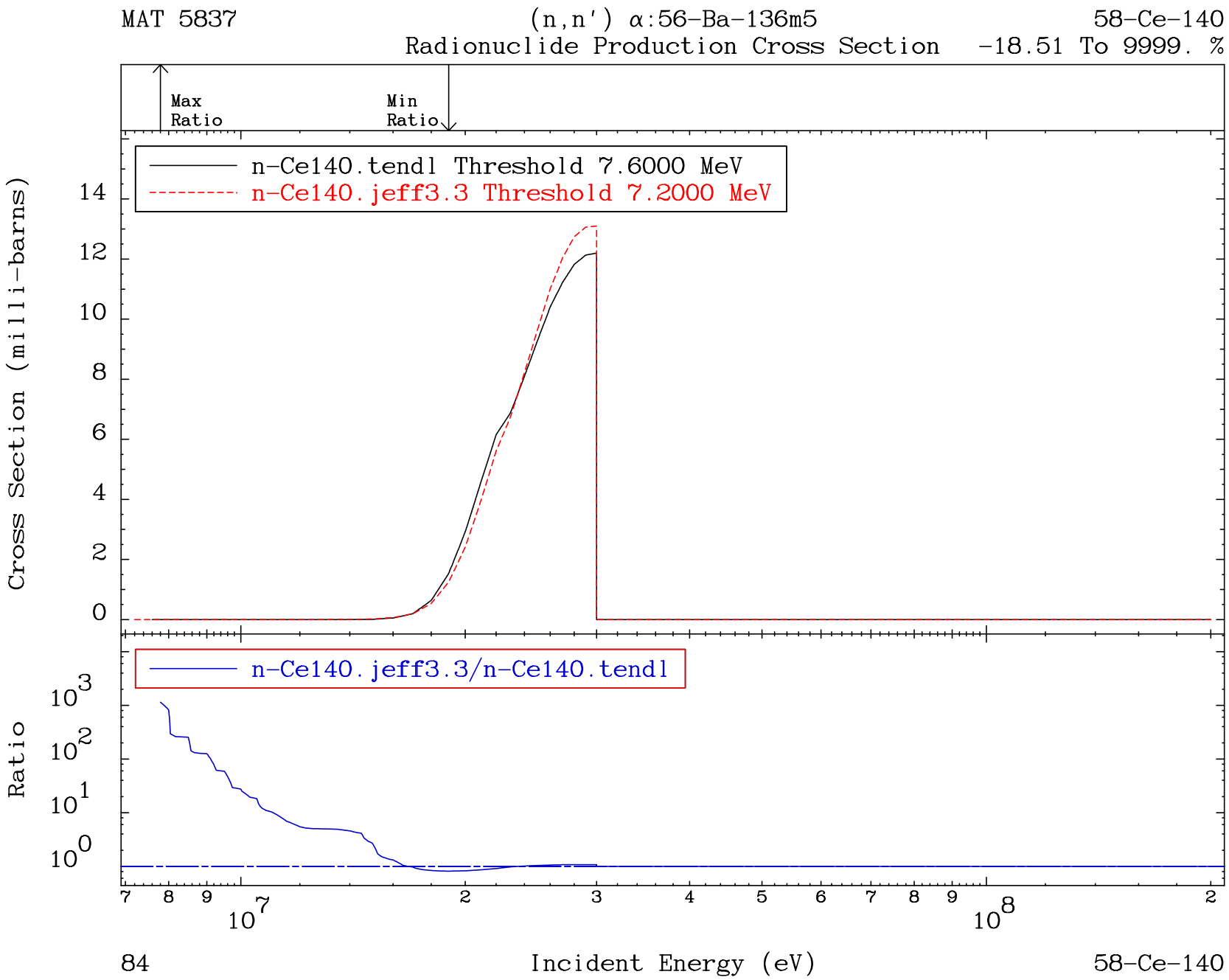

MAT 5837
Dpa inelastic (mt51-91)
Cross Section
58-Ce-140
-5.162 To 9.076 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 1.6078 MeV
n-Ce140.jeff3.3 Threshold 1.6078 MeV
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
79
58-Ce-140

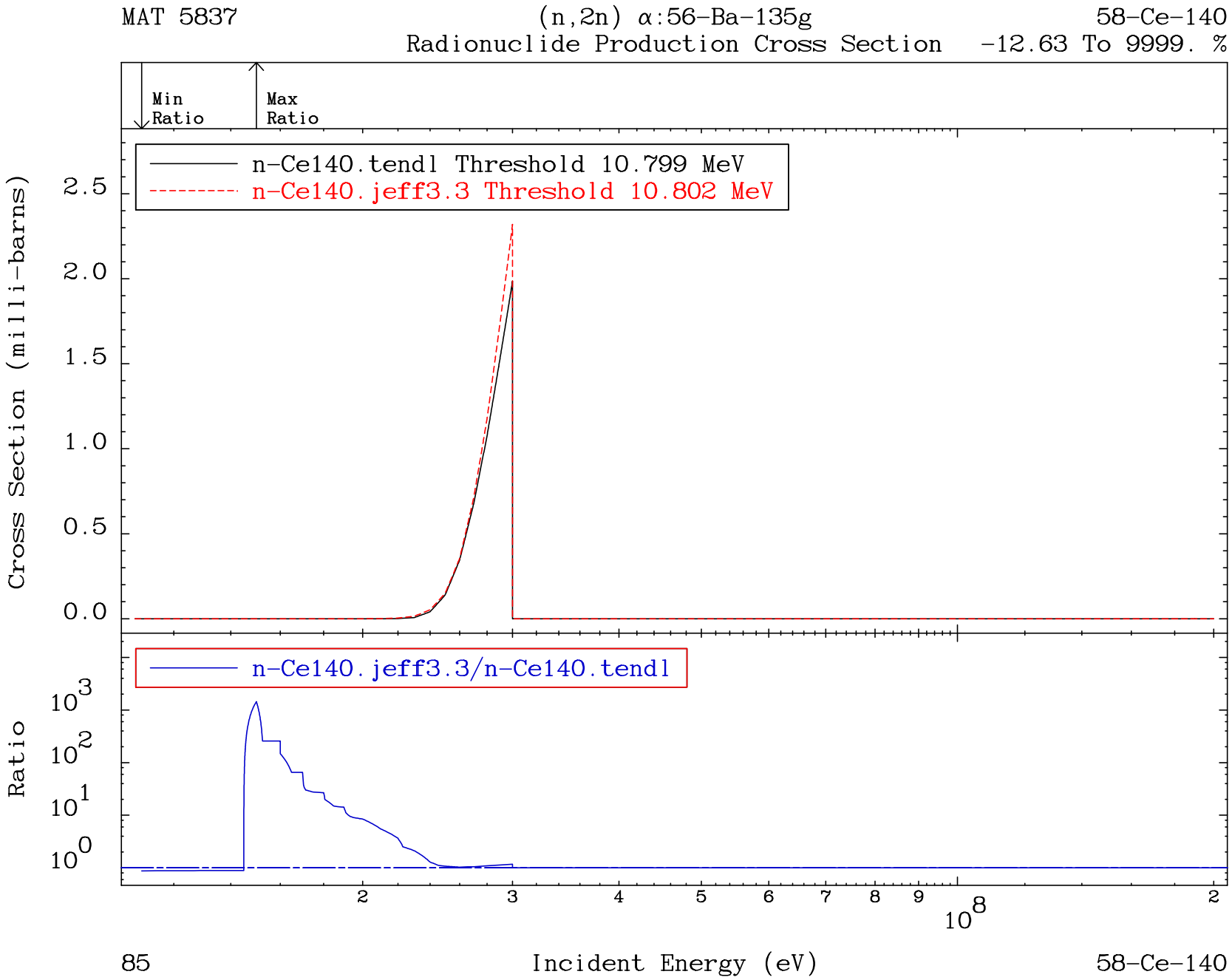

MAT 5837
Dpa disappearance (mt102 -120)
Cross Section
58-Ce-140
-100.0 To 9999. %
Min Ratio
Max Ratio
n-Ce140.tendl
n-Ce140.jeff3.3
Cross Section (barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
80
58-Ce-140

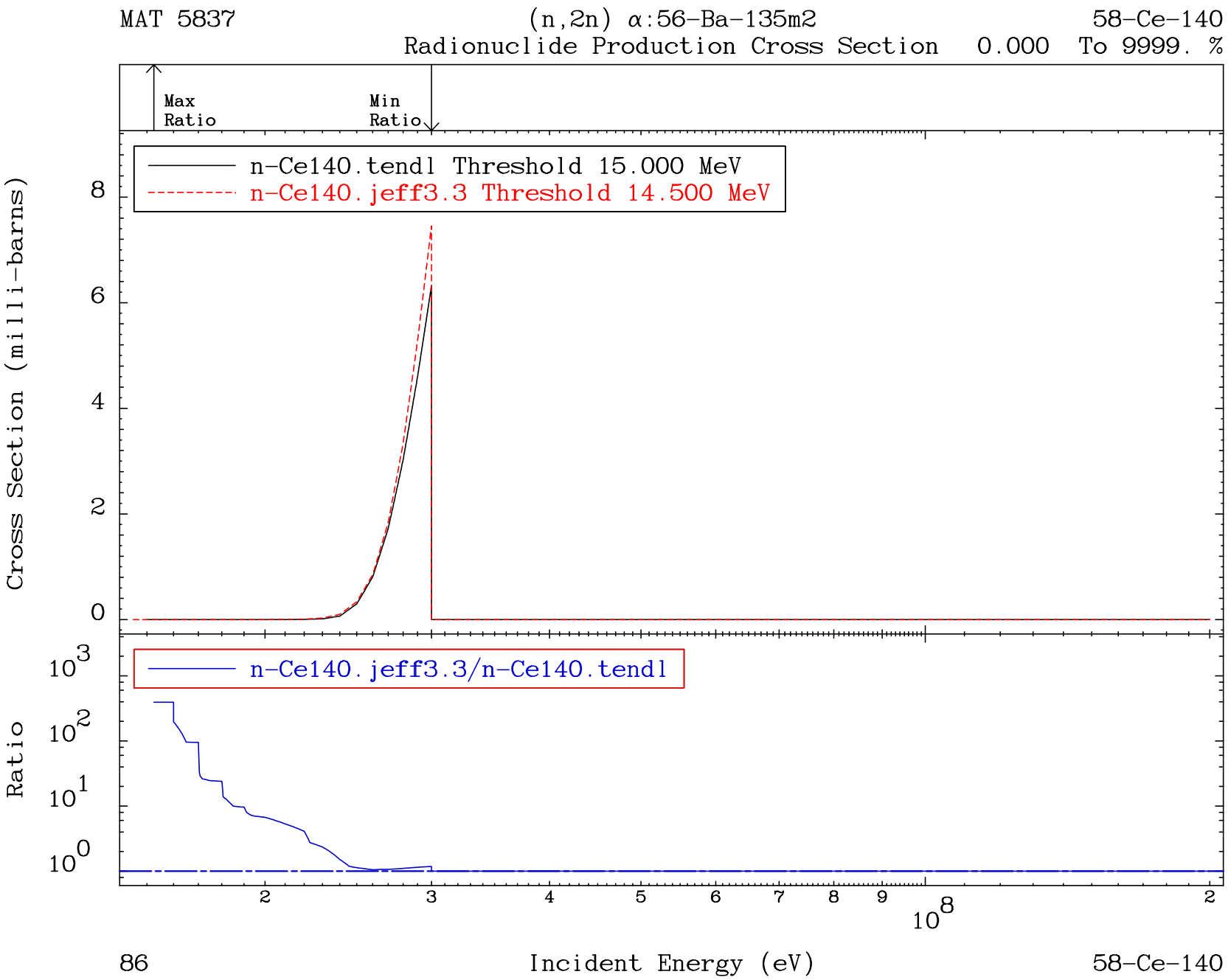

MAT 5837
(n,2n):58-Ce-139g
58-Ce-140
Radionuclide Production Cross Section -27.17 To 7.380 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 9.2659 MeV
n-Ce140.jeff3.3 Threshold 9.2659 MeV
Cross Section (milli-barns)
700
600
500
400
300
200
100
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.8
9
10^7
2
3
4
5
6
7
8
9
10^8
2
81
Incident Energy (eV)
58-Ce-140

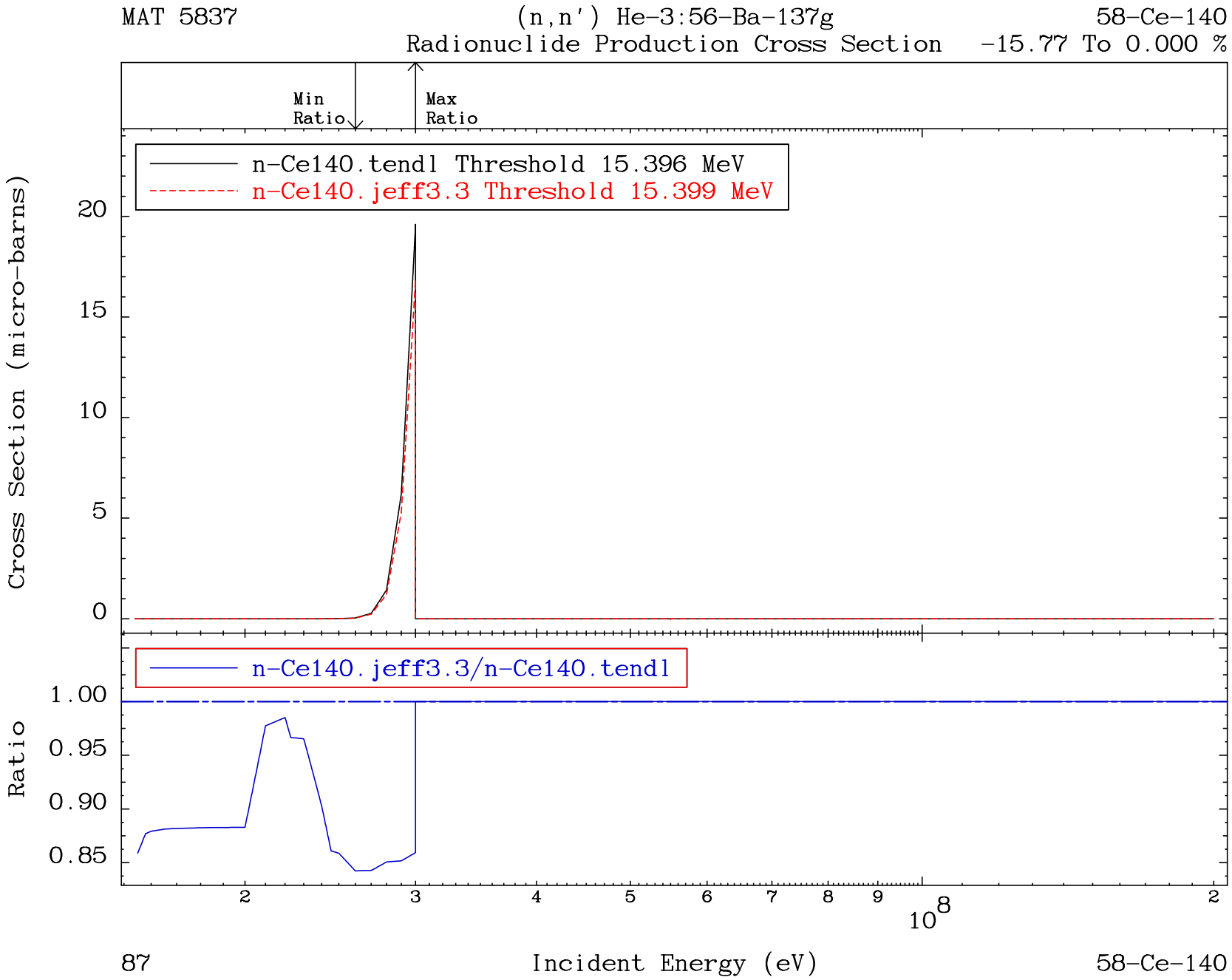

MAT 5837
(n,2n):58-Ce-139m2
58-Ce-140
Radionuclide Production Cross Section -15.22 To 0.000 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 10.026 MeV
n-Ce140.jeff3.3 Threshold 10.026 MeV
Cross Section (barns)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.00
0.95
0.90
0.85
10^7
2
3
4
5
6
7
8
9
10^8
2
82
Incident Energy (eV)
58-Ce-140

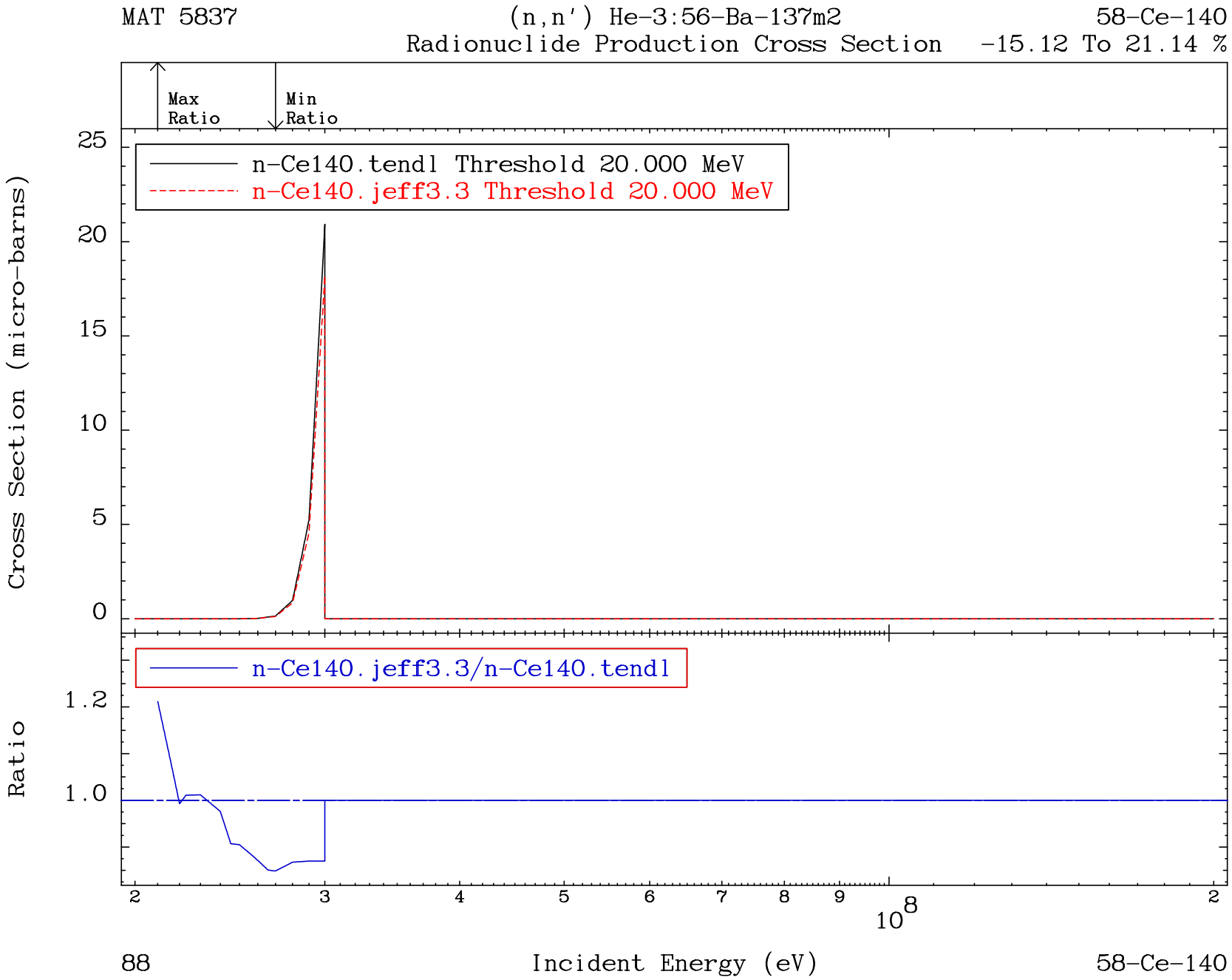

MAT 5837
(n,n') α:56-Ba-136g
58-Ce-140
Radionuclide Production Cross Section -26.28 To 9999. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 1.6257 MeV
n-Ce140.jeff3.3 Threshold 1.6286 MeV
Cross Section (milli-barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
83
58-Ce-140

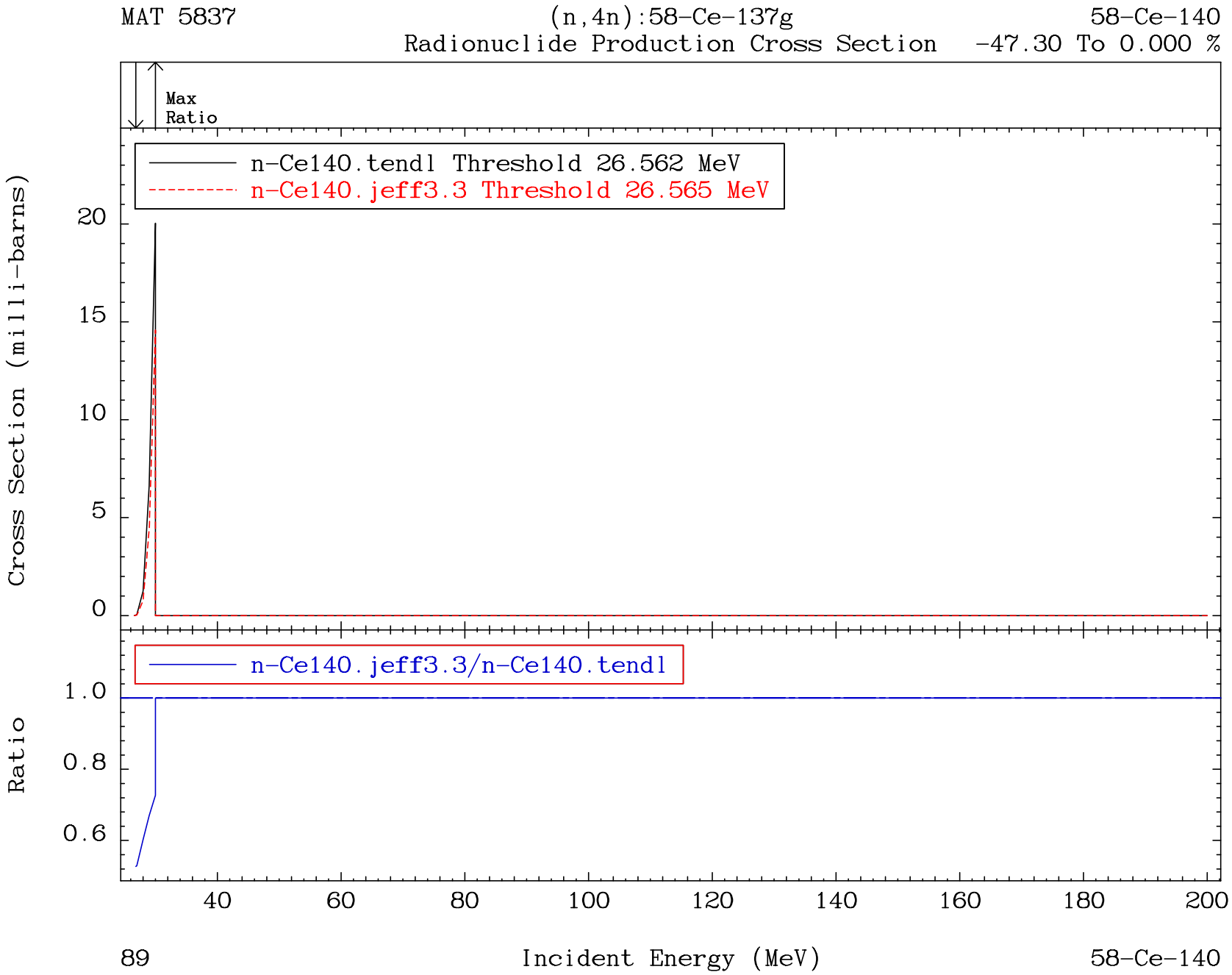

MAT 5837
(n,n') α:56-Ba-136m5
58-Ce-140
Radionuclide Production Cross Section -18.51 To 9999. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 7.6000 MeV
n-Ce140.jeff3.3 Threshold 7.2000 MeV
Cross Section (milli-barns)
0
2
4
6
8
10
12
14
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^0
10^1
10^2
10^3
7 8 9 10^7 2 3 4 5 6 7 8 9 10^8 2
84
Incident Energy (eV)
58-Ce-140

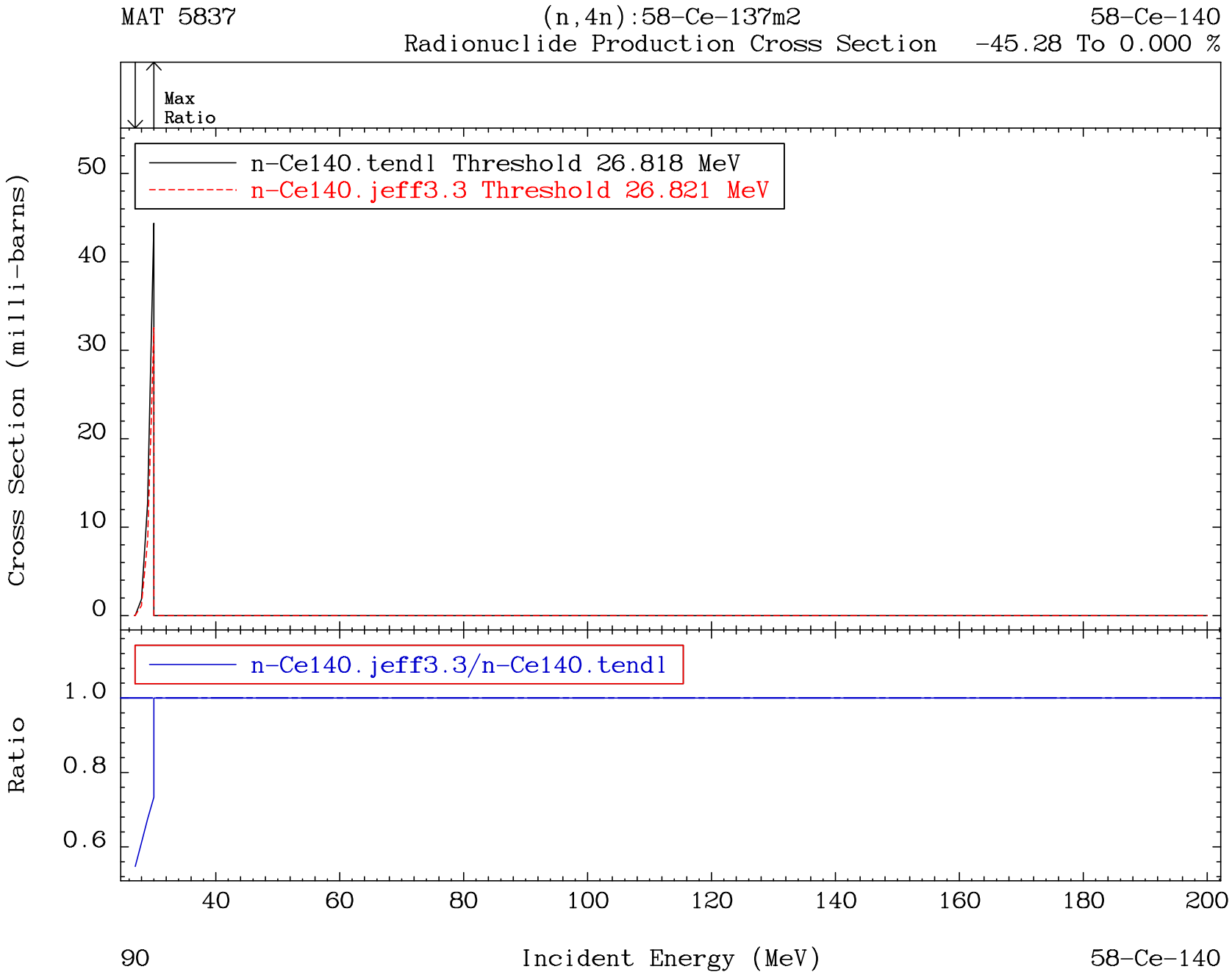

MAT 5837
(n,2n) α:56-Ba-135g
58-Ce-140
Radionuclide Production Cross Section -12.63 To 9999. %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 10.799 MeV
n-Ce140.jeff3.3 Threshold 10.802 MeV
Cross Section (milli-barns)
2.5
2.0
1.5
1.0
0.5
0.0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^3
10^2
10^1
10^0
2
3
4
5
6
7
8
9
10^8
2
85
Incident Energy (eV)
58-Ce-140

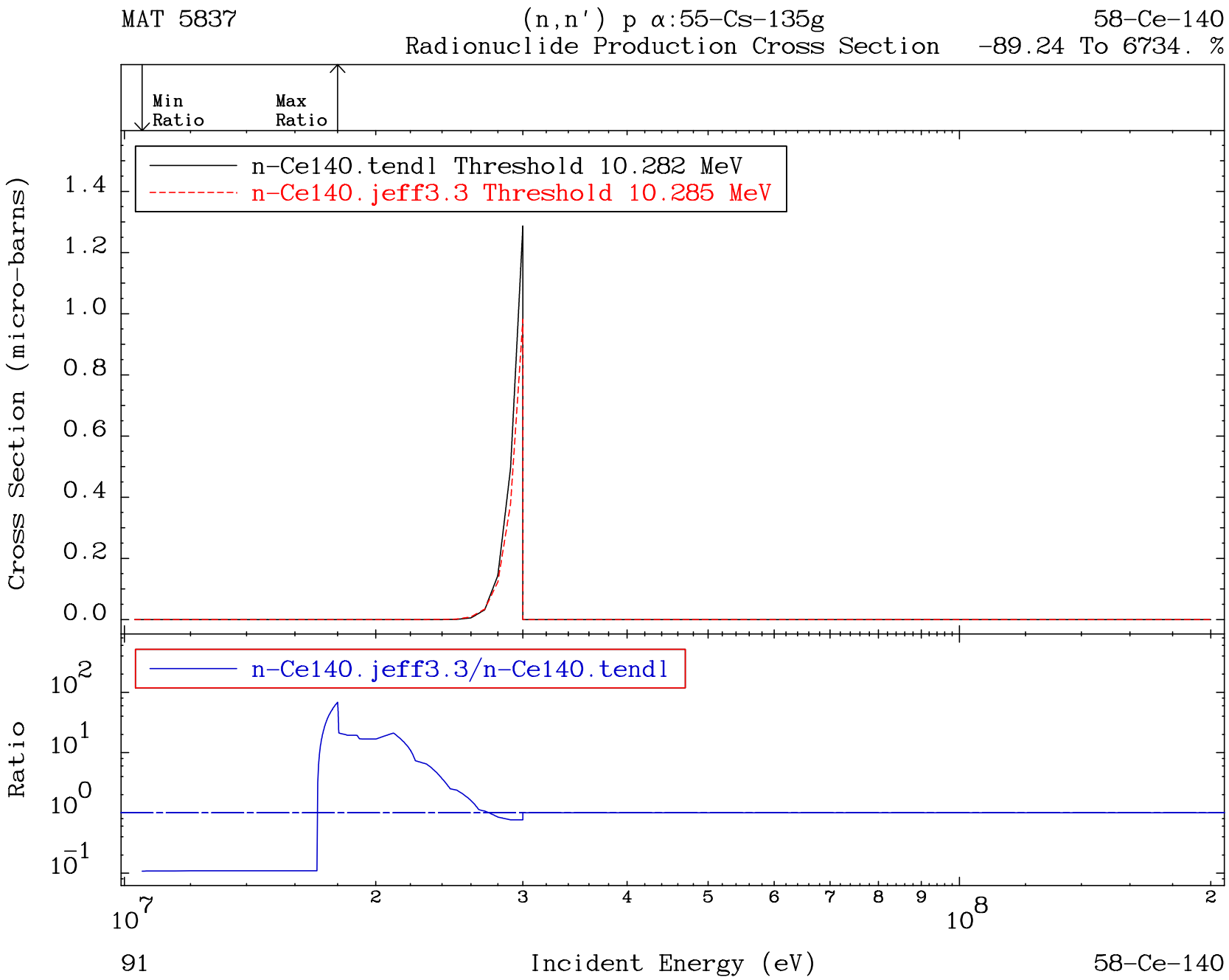

MAT 5837
(n,2n) α:56-Ba-135m2
58-Ce-140
Radionuclide Production Cross Section 0.000 To 9999. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 15.000 MeV
n-Ce140.jeff3.3 Threshold 14.500 MeV
Cross Section (milli-barns)
0
2
4
6
8
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^0
10^1
10^2
10^3
2
3
4
5
6
7
8
9
10^8
2
86
Incident Energy (eV)
58-Ce-140

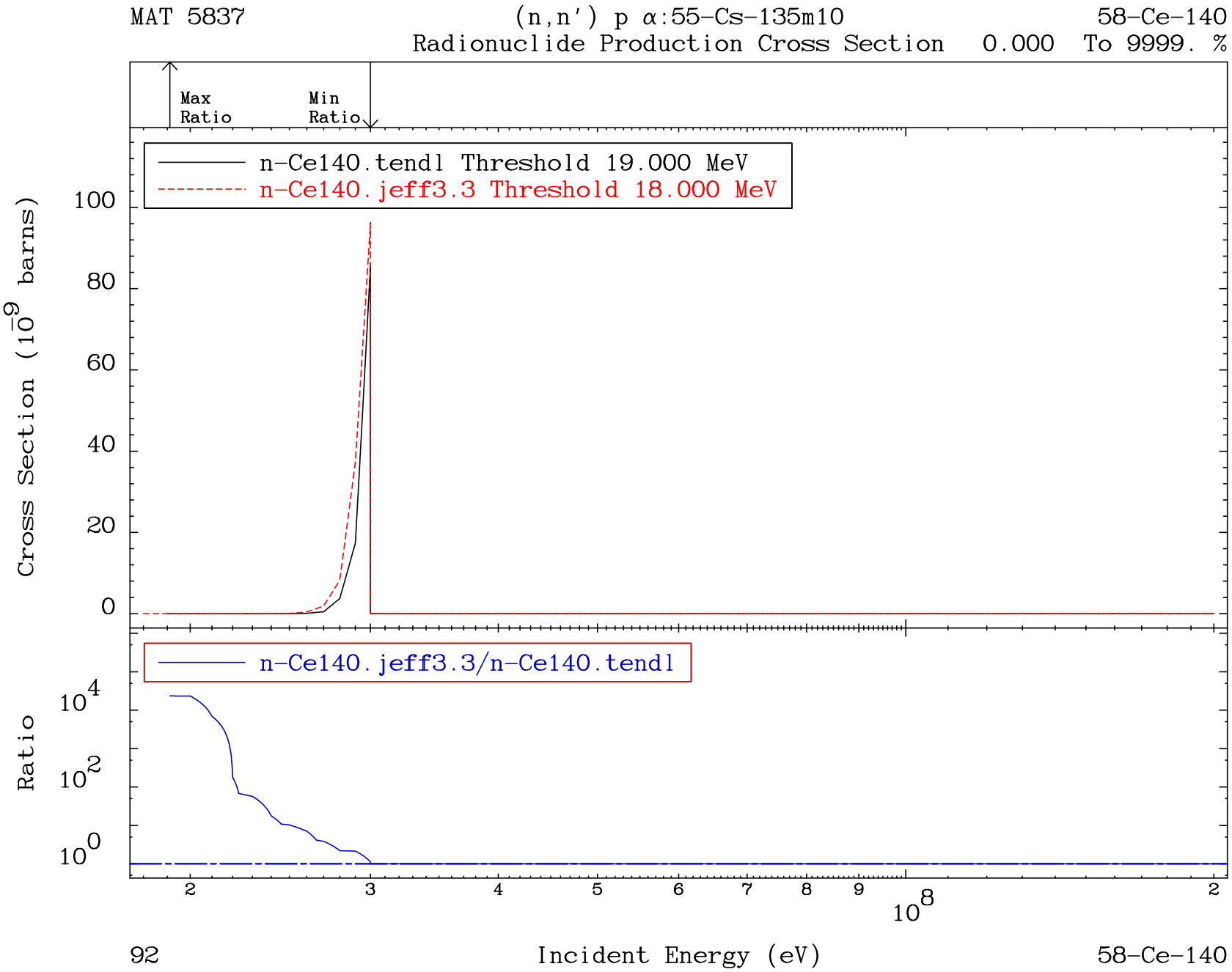

MAT 5837
(n,n') He-3:56-Ba-137g
58-Ce-140
Radionuclide Production Cross Section
-15.77 To 0.000 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 15.396 MeV
n-Ce140.jeff3.3 Threshold 15.399 MeV
Cross Section (micro-barns)
20
15
10
5
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.00
0.95
0.90
0.85
2
3
4
5
6
7
8
9
10^8
2
87
Incident Energy (eV)
58-Ce-140

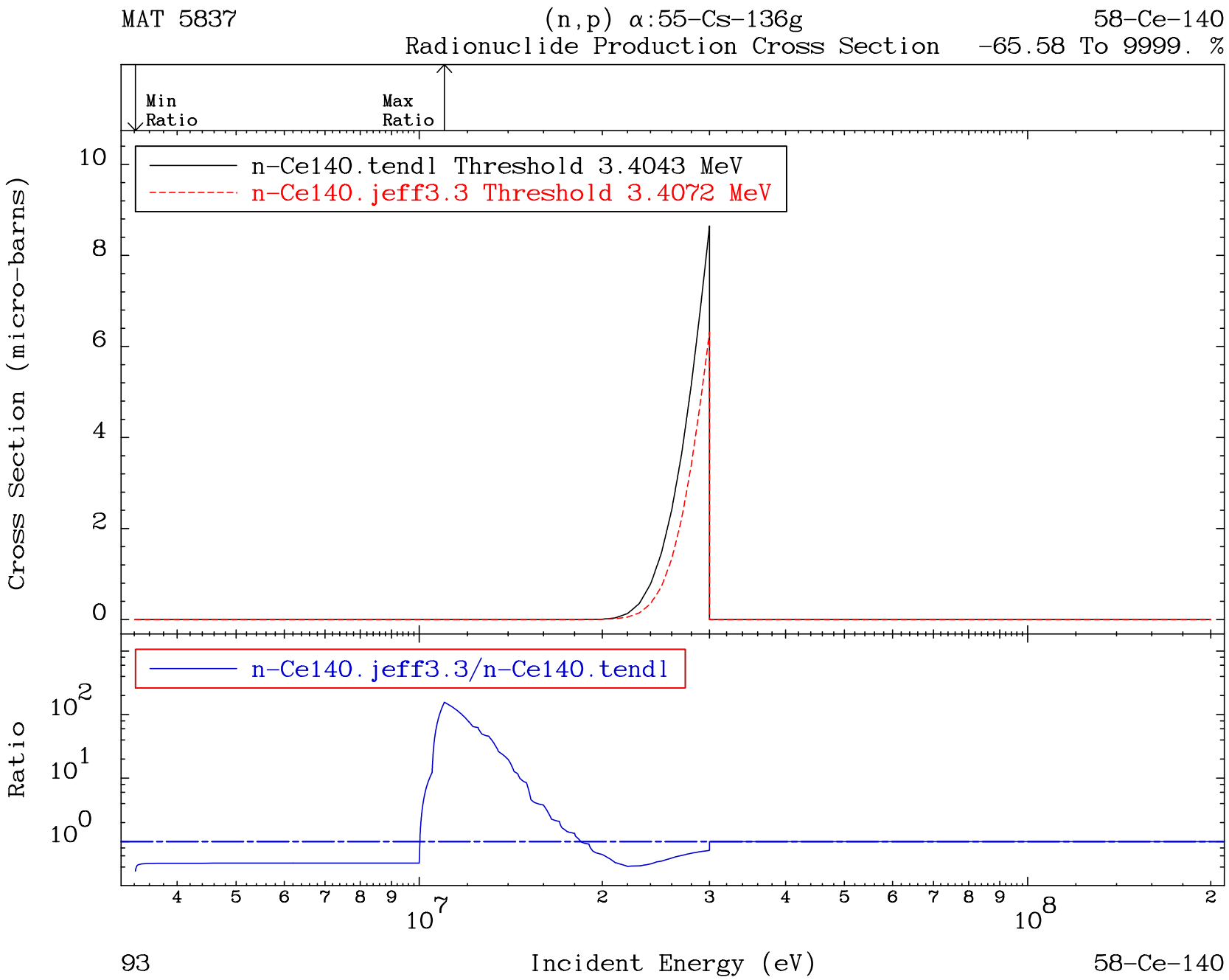

MAT 5837
(n,n') He-3:56-Ba-137m2
58-Ce-140
Radionuclide Production Cross Section -15.12 To 21.14 %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 20.000 MeV
n-Ce140.jeff3.3 Threshold 20.000 MeV
Cross Section (micro-barns)
25
20
15
10
5
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.2
1.0
2
3
4
5
6
7
8
9
10^8
2
88
Incident Energy (eV)
58-Ce-140

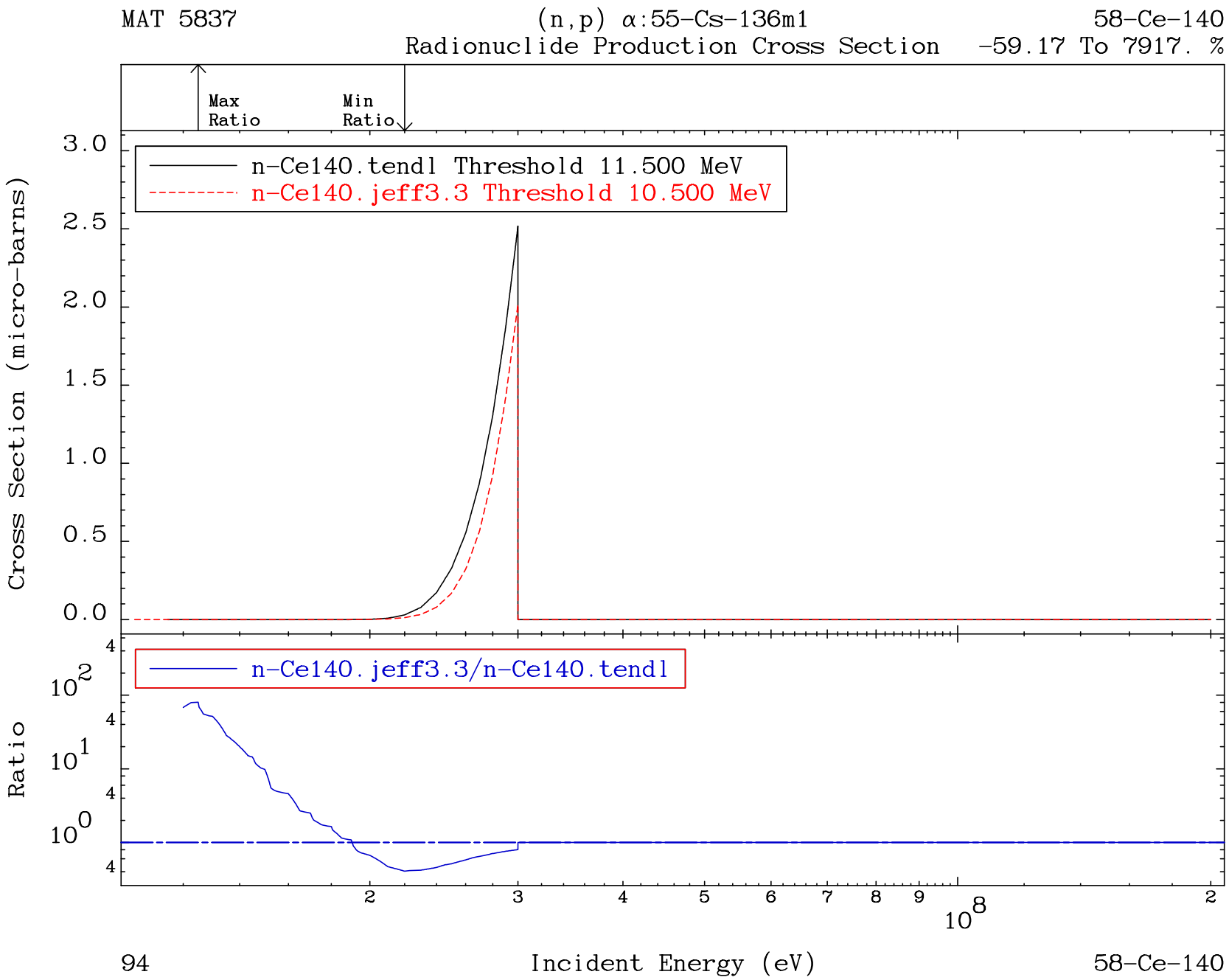

MAT 5837
(n,4n):58-Ce-137g
58-Ce-140
Radionuclide Production Cross Section -47.30 To 0.000 %
Max
Ratio
n-Ce140.tendl Threshold 26.562 MeV
n-Ce140.jeff3.3 Threshold 26.565 MeV
Cross Section (milli-barns)
20
15
10
5
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.8
0.6
40
60
80
100
120
140
160
180
200
89
Incident Energy (MeV)
58-Ce-140

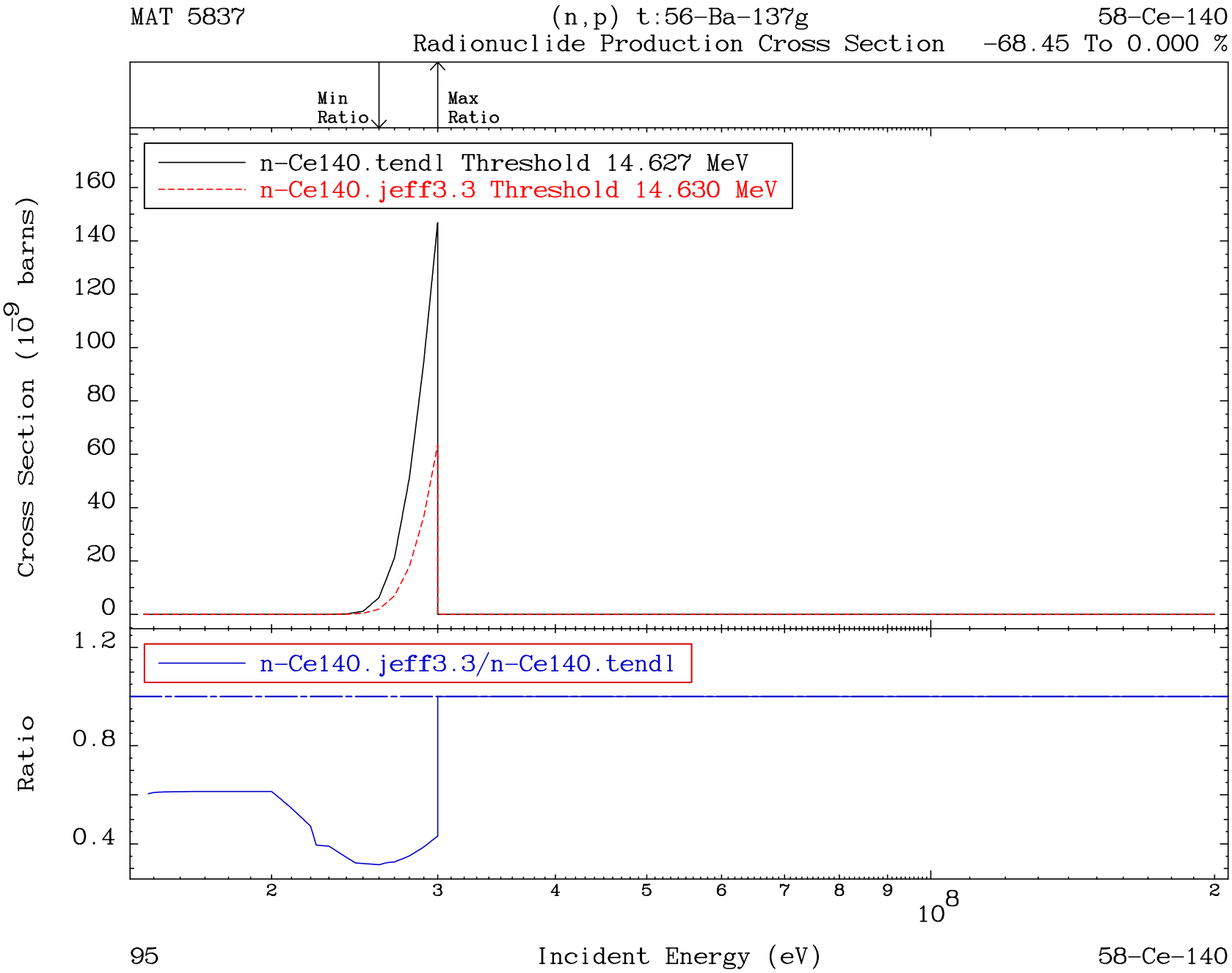

MAT 5837
(n,4n):58-Ce-137m2
58-Ce-140
Radionuclide Production Cross Section -45.28 To 0.000 %
Max
Ratio
n-Ce140.tendl Threshold 26.818 MeV
n-Ce140.jeff3.3 Threshold 26.821 MeV
Cross Section (milli-barns)
50
40
30
20
10
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.0
0.8
0.6
40
60
80
100
120
140
160
180
200
90
Incident Energy (MeV)
58-Ce-140

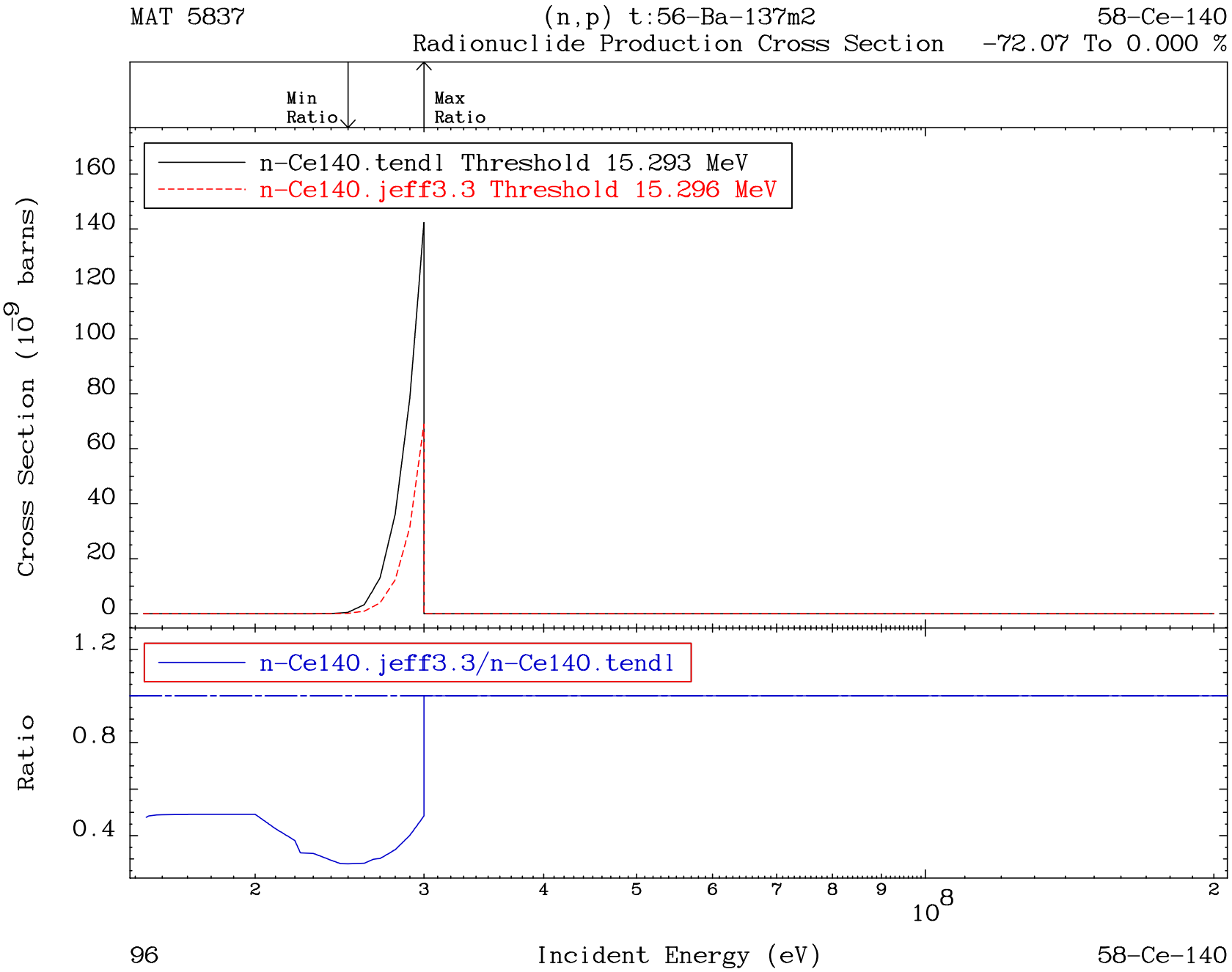

MAT 5837
(n,n') p α:55-Cs-135g
58-Ce-140
Radionuclide Production Cross Section -89.24 To 6734. %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 10.282 MeV
n-Ce140.jeff3.3 Threshold 10.285 MeV
Cross Section (micro-barns)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^2
10^1
10^0
10^-1
10^7
2
3
4
5
6
7
8
9
10^8
2
91
Incident Energy (eV)
58-Ce-140

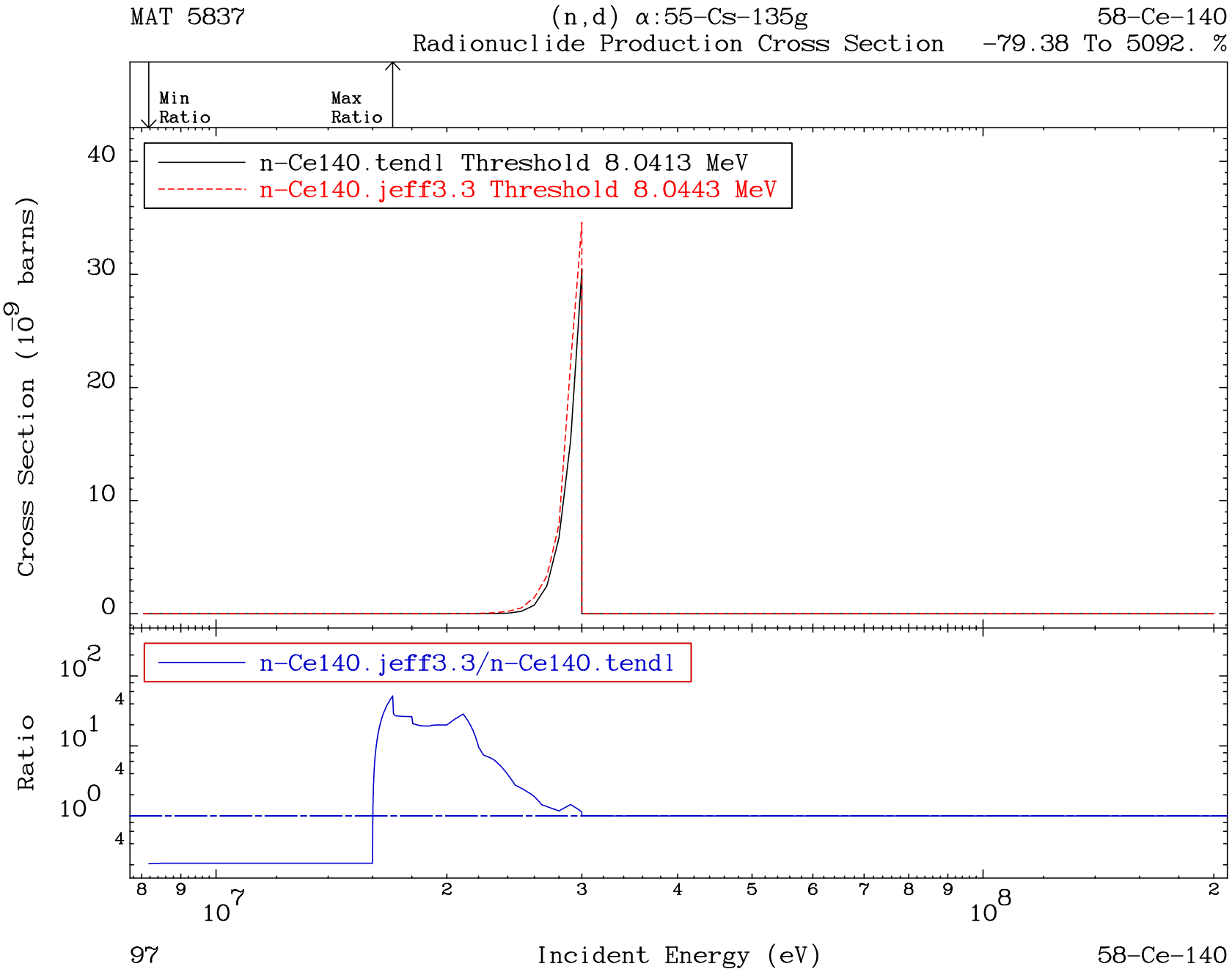

MAT 5837
(n,n') p α:55-Cs-135m10
58-Ce-140
Radionuclide Production Cross Section 0.000 To 9999. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 19.000 MeV
n-Ce140.jeff3.3 Threshold 18.000 MeV
Cross Section (10^{-9} barns)
100
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^4
10^2
10^0
2
3
4
5
6
7
8
9
10^8
2
92
Incident Energy (eV)
58-Ce-140

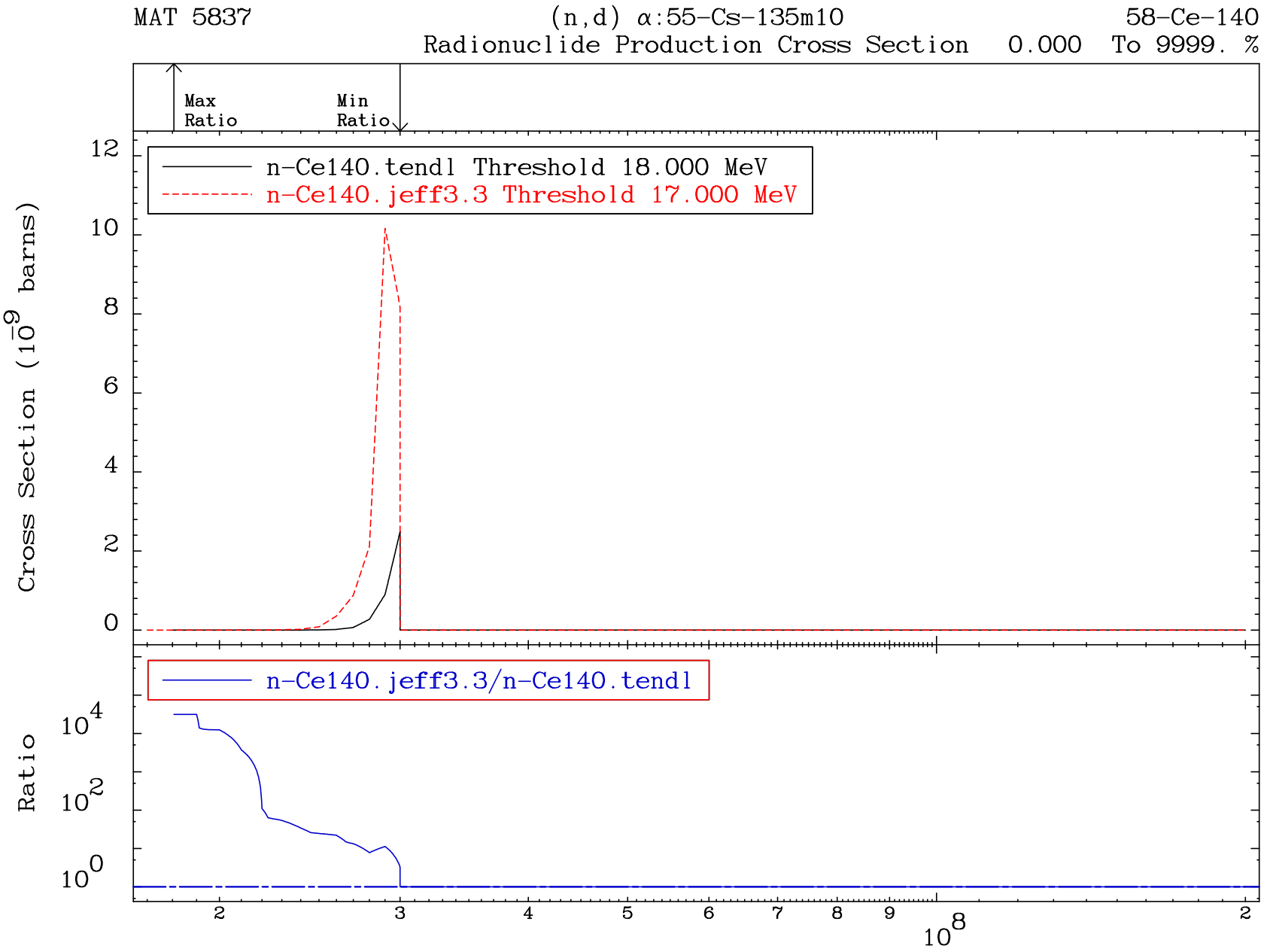

MAT 5837
(n,p) α:55-Cs-136g
58-Ce-140
Radionuclide Production Cross Section -65.58 To 9999. %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 3.4043 MeV
n-Ce140.jeff3.3 Threshold 3.4072 MeV
Cross Section (micro-barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
93
58-Ce-140


MAT 5837
(n,p) α:55-Cs-136m1
58-Ce-140
Radionuclide Production Cross Section -59.17 To 7917. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 11.500 MeV
n-Ce140.jeff3.3 Threshold 10.500 MeV
Cross Section (micro-barns)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^2
10^1
10^0
2
3
4
5
6
7
8
9
10^8
2
94
Incident Energy (eV)
58-Ce-140


MAT 5837
(n,p) t:56-Ba-137g
58-Ce-140
Radionuclide Production Cross Section
-68.45 To 0.000 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 14.627 MeV
n-Ce140.jeff3.3 Threshold 14.630 MeV
Cross Section (10^{-9} barns)
160
140
120
100
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.2
0.8
0.4
2
3
4
5
6
7
8
9
10^8
2
95
Incident Energy (eV)
58-Ce-140


MAT 5837
(n,p) t:56-Ba-137m2
58-Ce-140
Radionuclide Production Cross Section -72.07 To 0.000 %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 15.293 MeV
n-Ce140.jeff3.3 Threshold 15.296 MeV
Cross Section (10^{-9} barns)
160
140
120
100
80
60
40
20
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
1.2
0.8
0.4
2
3
4
5
6
7
8
9
10^8
2
96
Incident Energy (eV)
58-Ce-140


MAT 5837
(n,d) α:55-Cs-135g
58-Ce-140
Radionuclide Production Cross Section -79.38 To 5092. %
Min Ratio
Max Ratio
n-Ce140.tendl Threshold 8.0413 MeV
n-Ce140.jeff3.3 Threshold 8.0443 MeV
Cross Section (10^{-9} barns)
40
30
20
10
0
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
10^{2}
10^{1}
10^{0}
8 9 10^{7} 2 3 4 5 6 7 8 9 10^{8} 2
97
Incident Energy (eV)
58-Ce-140


MAT 5837
(n,d) α:55-Cs-135m10
58-Ce-140
Radionuclide Production Cross Section 0.000 To 9999. %
Max Ratio
Min Ratio
n-Ce140.tendl Threshold 18.000 MeV
n-Ce140.jeff3.3 Threshold 17.000 MeV
Cross Section (10^{-9} barns)
n-Ce140.jeff3.3/n-Ce140.tendl
Ratio
Incident Energy (eV)
98
58-Ce-140