

Program Complot  
(Version 2021-1)

by

Dermott E. Cullen  
(Present Contact Information)

Dermott E. Cullen  
1466 Hudson Way  
Livermore, CA 94550

U.S.A.

Tele: 925-443-1911

E.Mail:redcullen1@comcast.net  
Web:redcullen1.net/HOMEPAGE.NEW

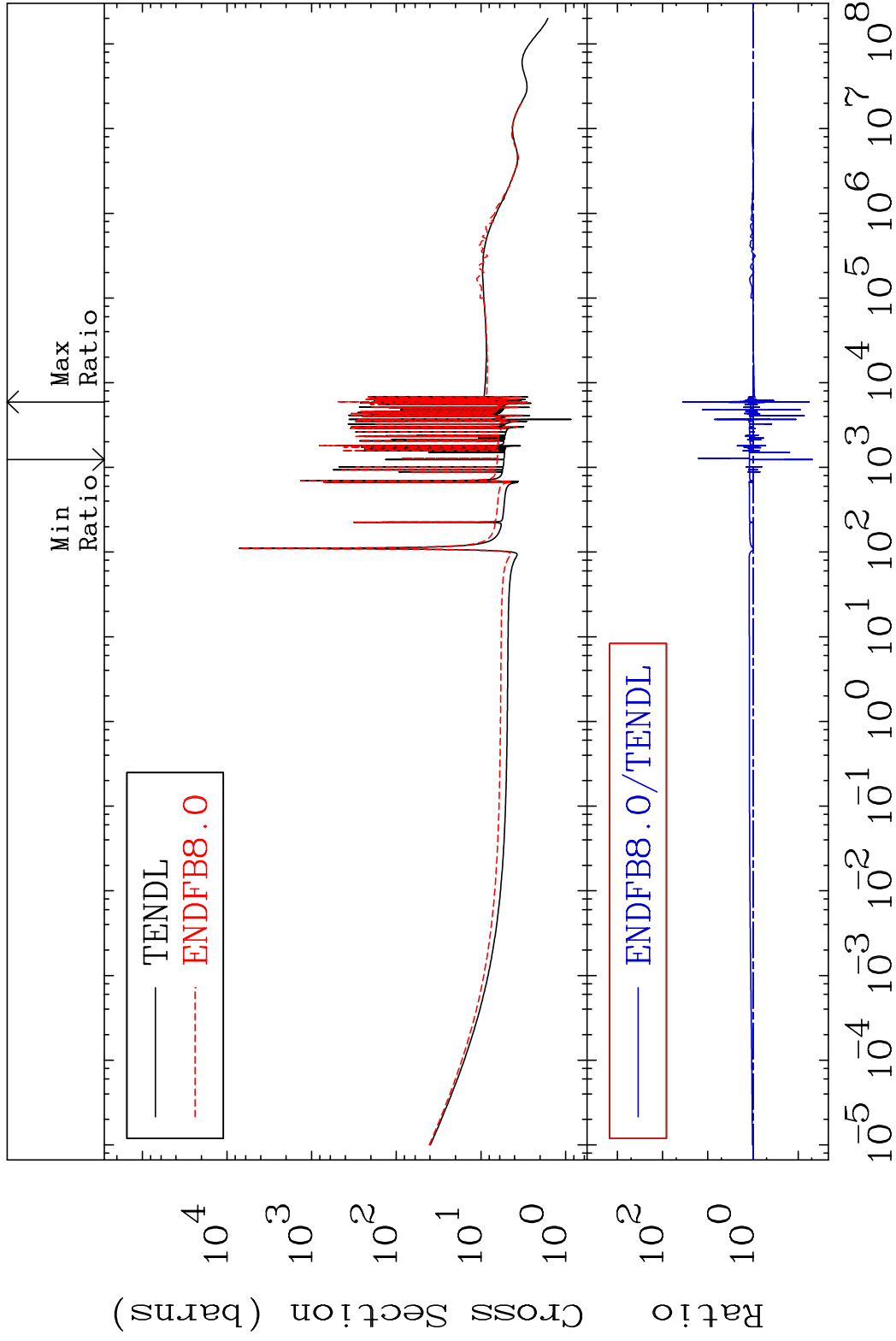
Press Mouse Button to Start

MAT 4034

Total

40-Zr-93

Cross Section -95.20 To 3559. %



1

Incident Energy (eV)

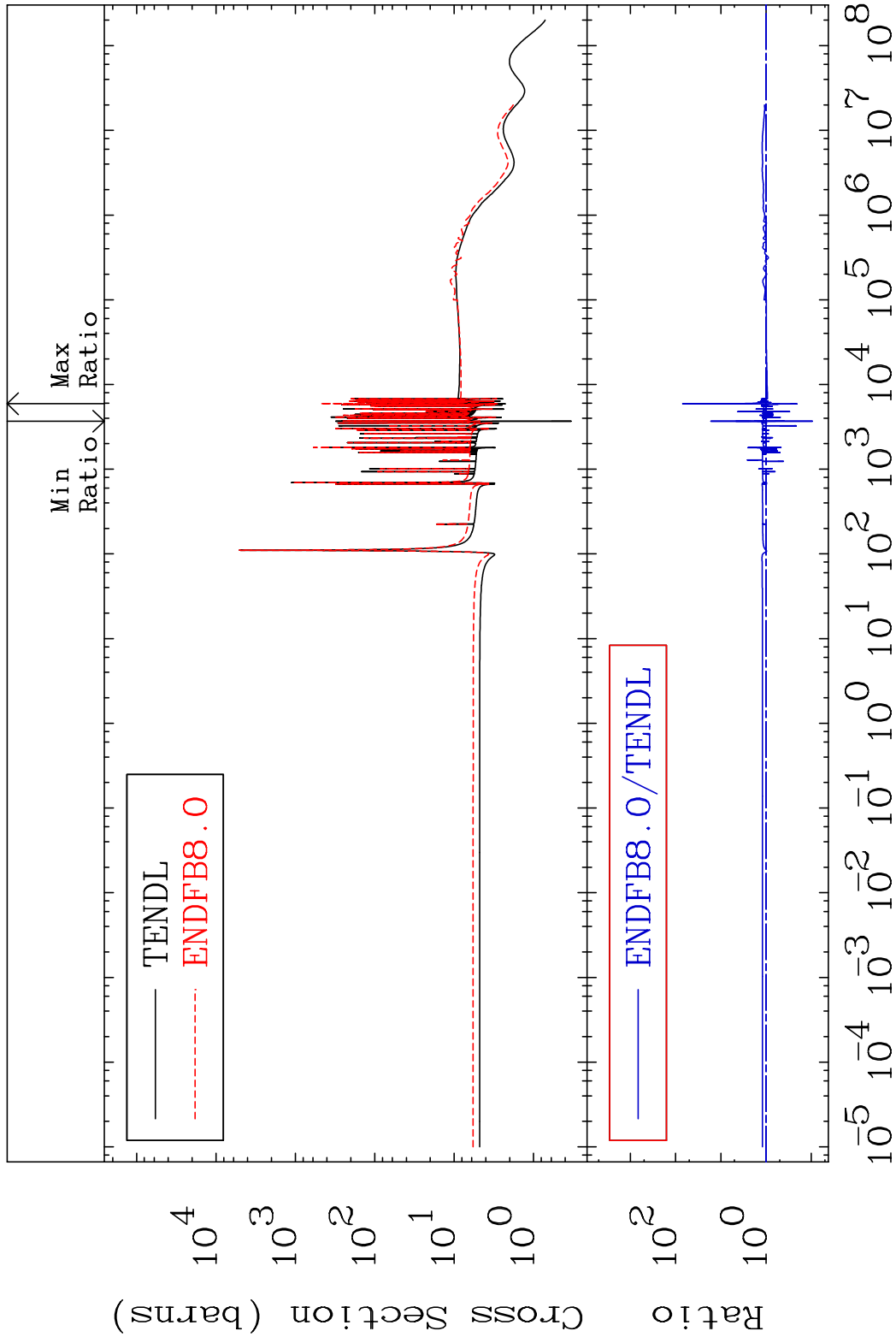
40-Zr-93

MAT 4034

Elastic

40-Zr-93

Cross Section -90.62 To 7002. %

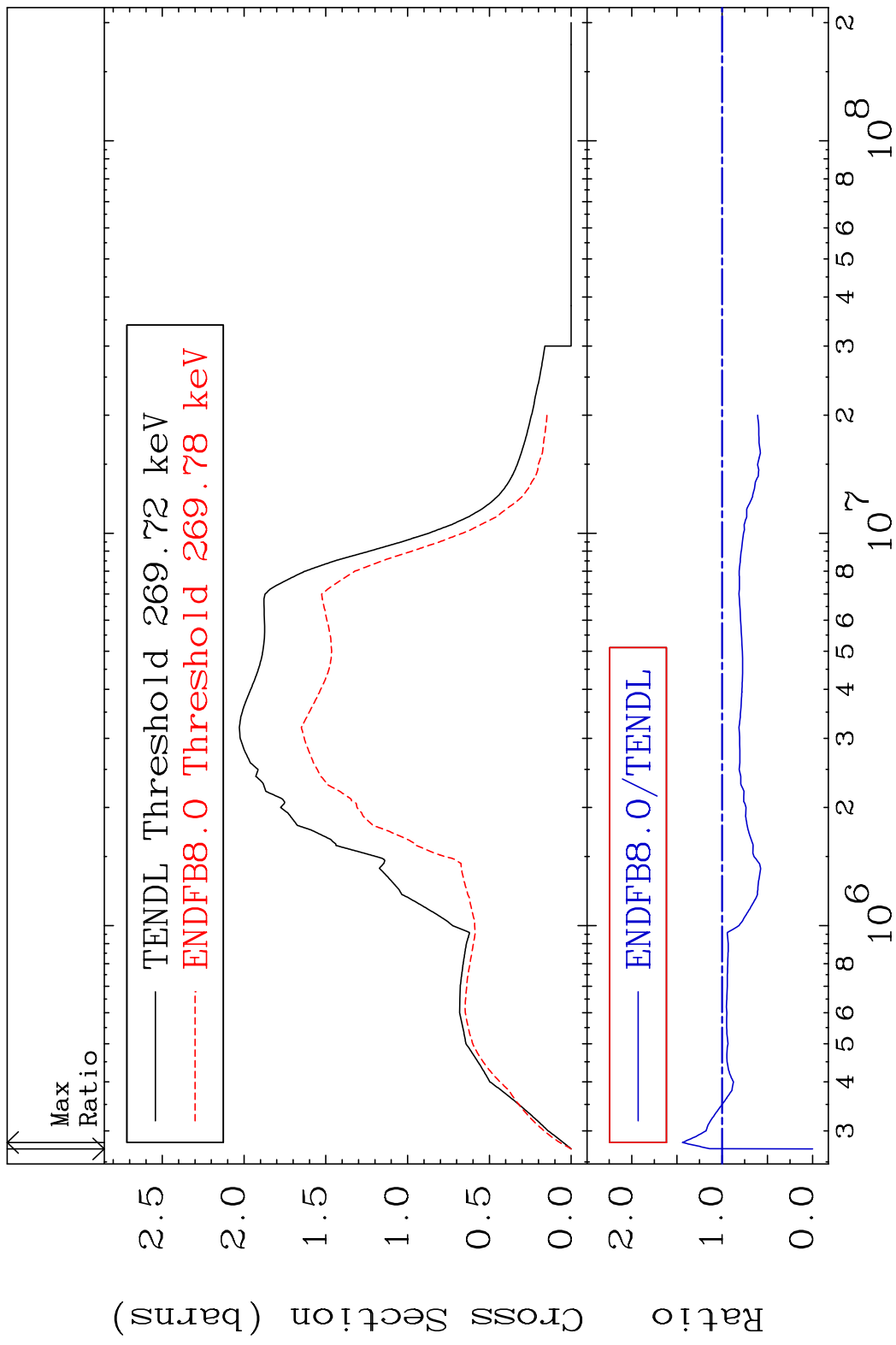


2

Incident Energy (eV)

40-Zr-93

MAT 4034 Inelastic 40-Zr-93  
 Cross Section -100.0 To 44.03 %



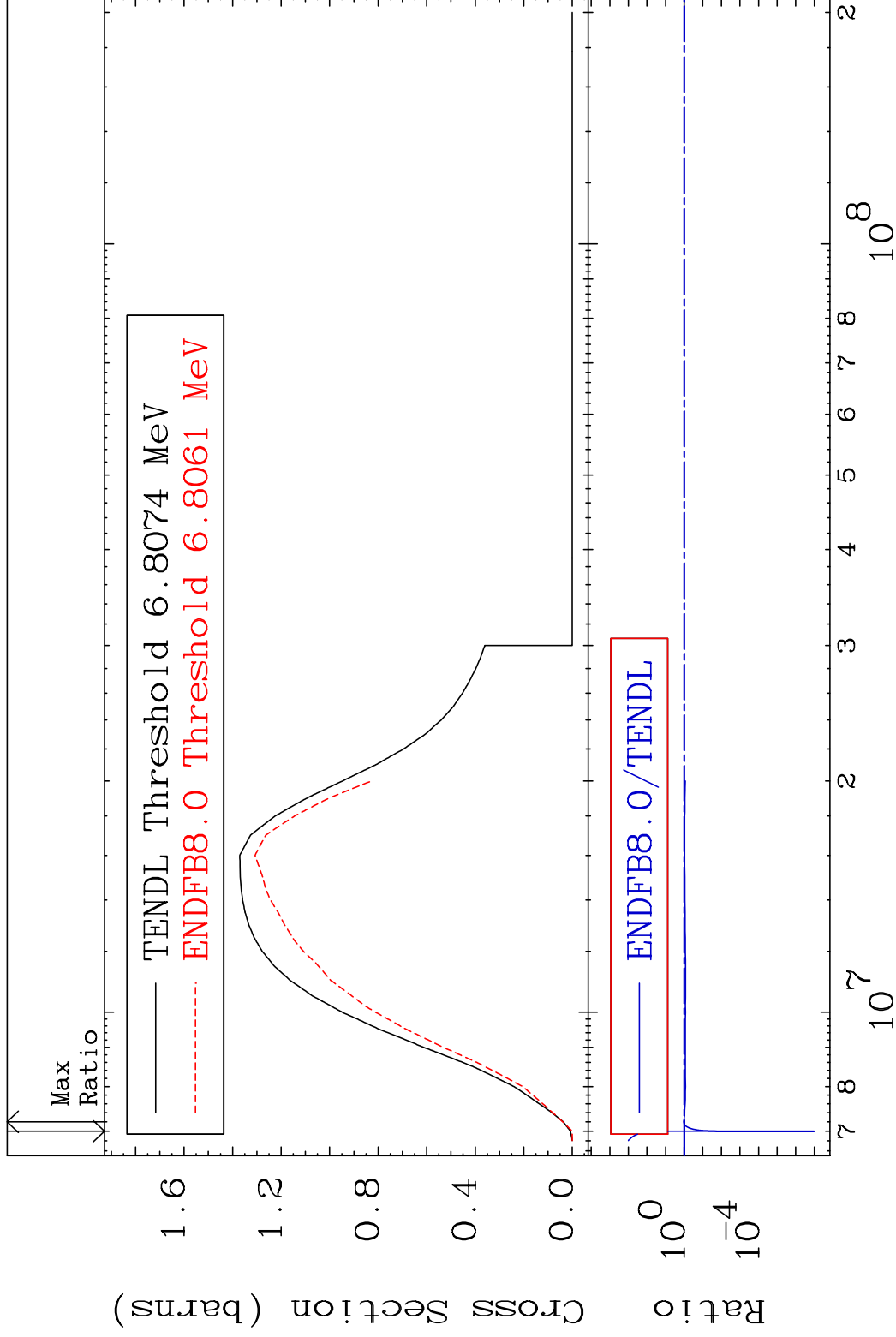
3 3 Incident Energy (eV) 40-Zr-93

MAT 4034

(n,2n)

40-Zr-93

Cross Section -100.0 To 6.452 %



4

Incident Energy (eV)

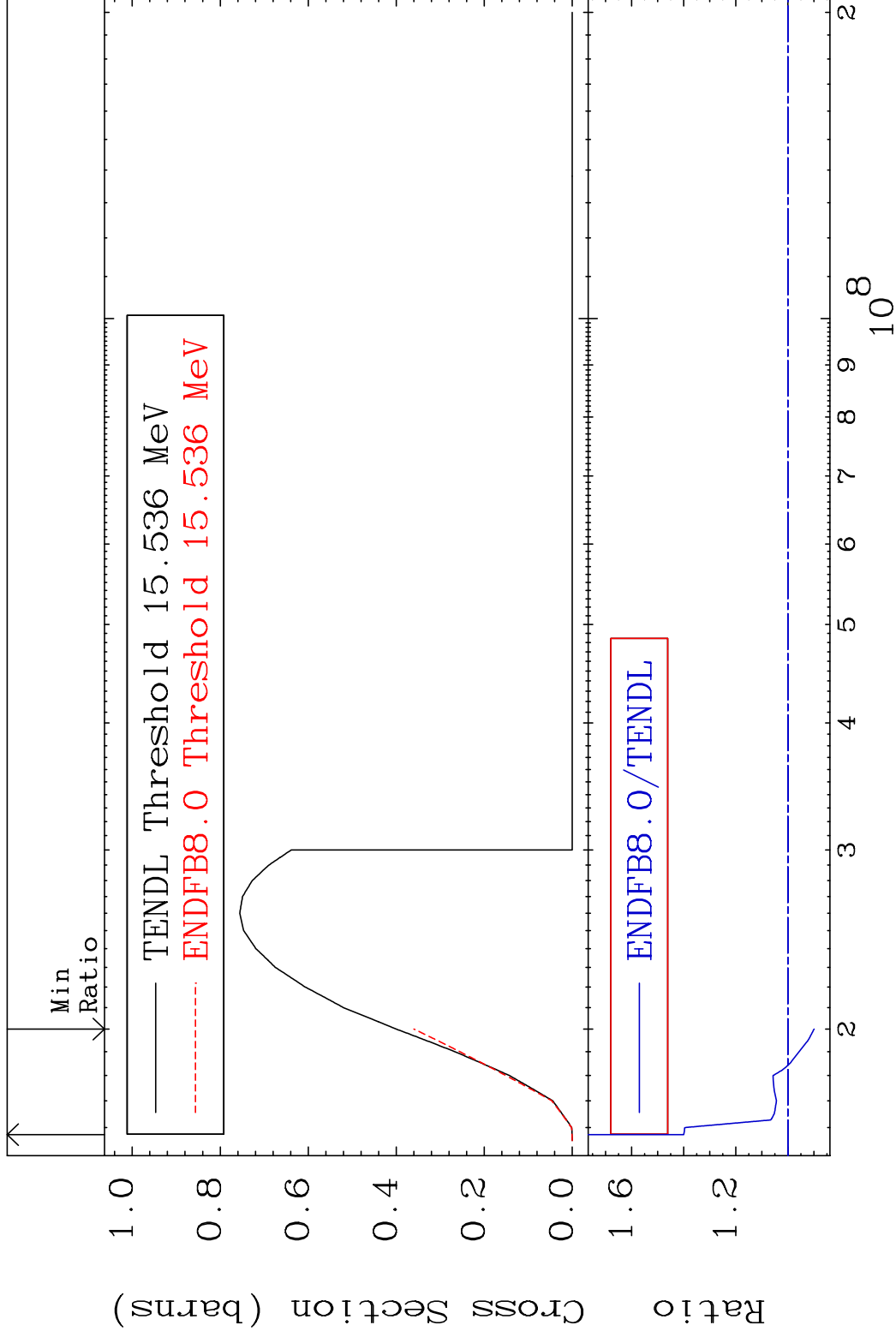
40-Zr-93

MAT 4034

(n,3n)

40-Zr-93

Cross Section -10.05 To 40.03 %



5

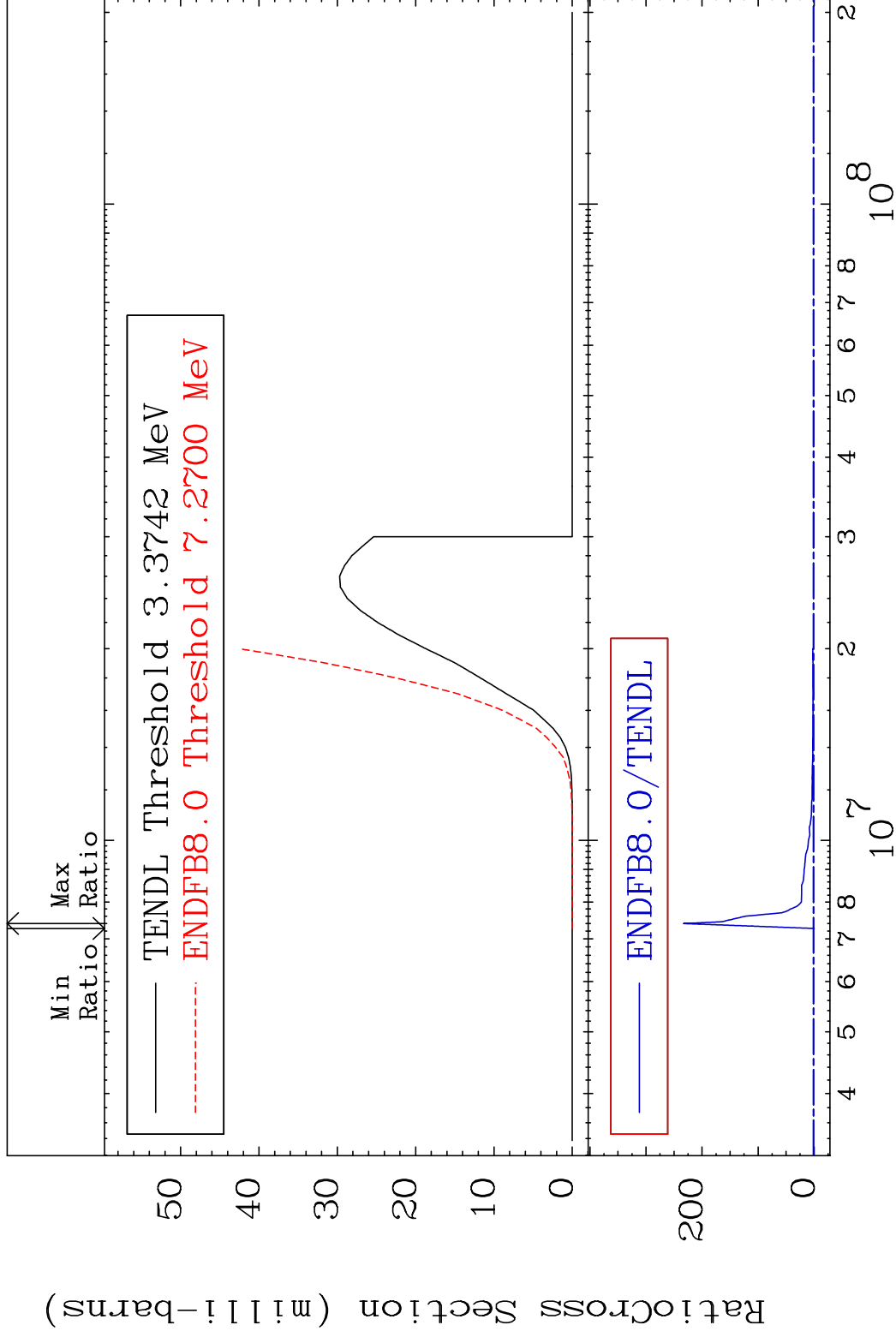
Incident Energy (eV)

40-Zr-93

MAT 4034

(n, n')  $\alpha$  40-Zr-93

Cross Section -100.0 To 9999. %



6

Incident Energy (eV)

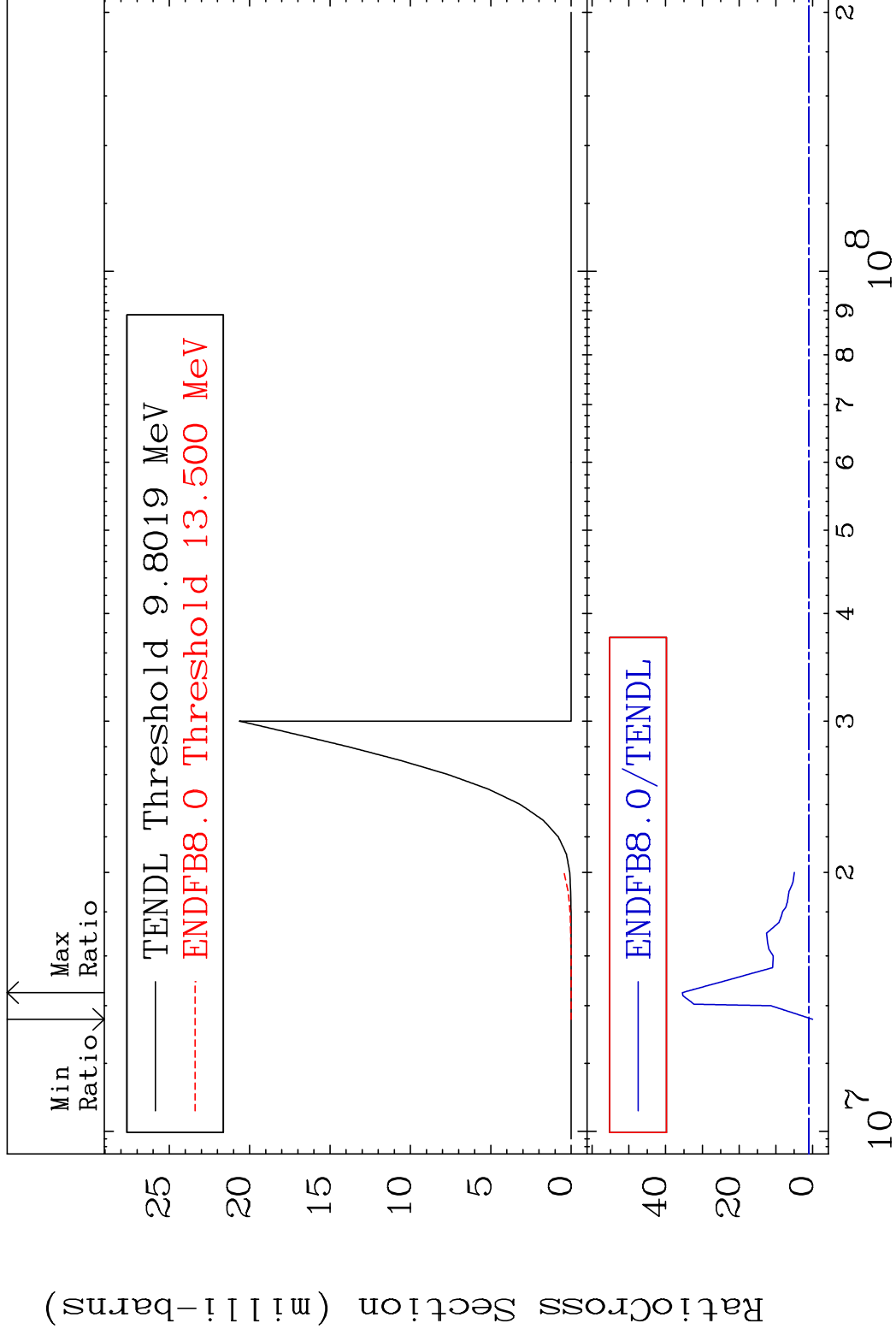
40-Zr-93

MAT 4034

(n,2n)  $\alpha$

40-Zr-93

Cross Section -100.0 To 3444. %



7

Incident Energy (eV)

40-Zr-93

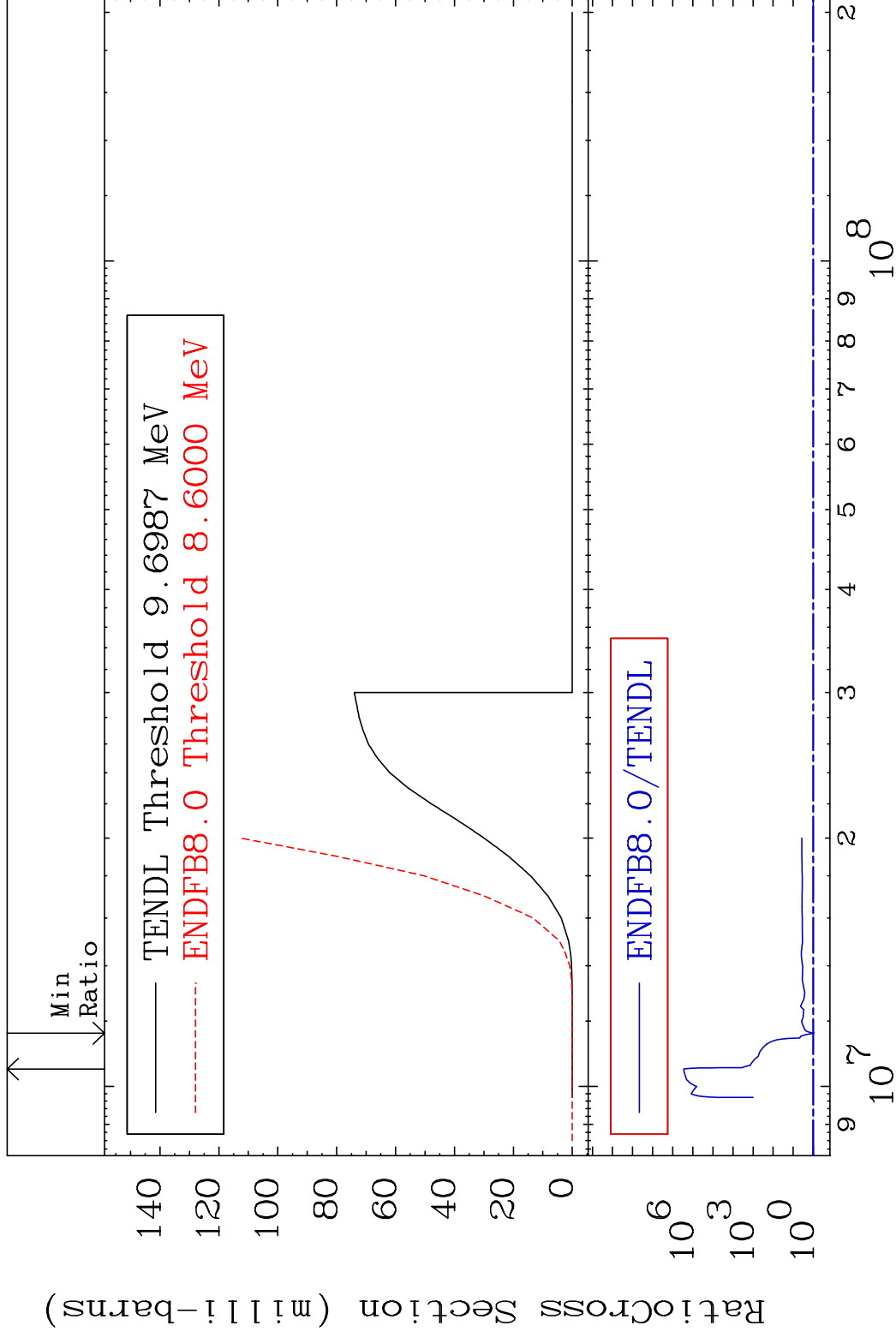


MAT 4034

(n, n') p

40-Zr-93

Cross Section -8.986 To 9999. %



8

Incident Energy (eV)

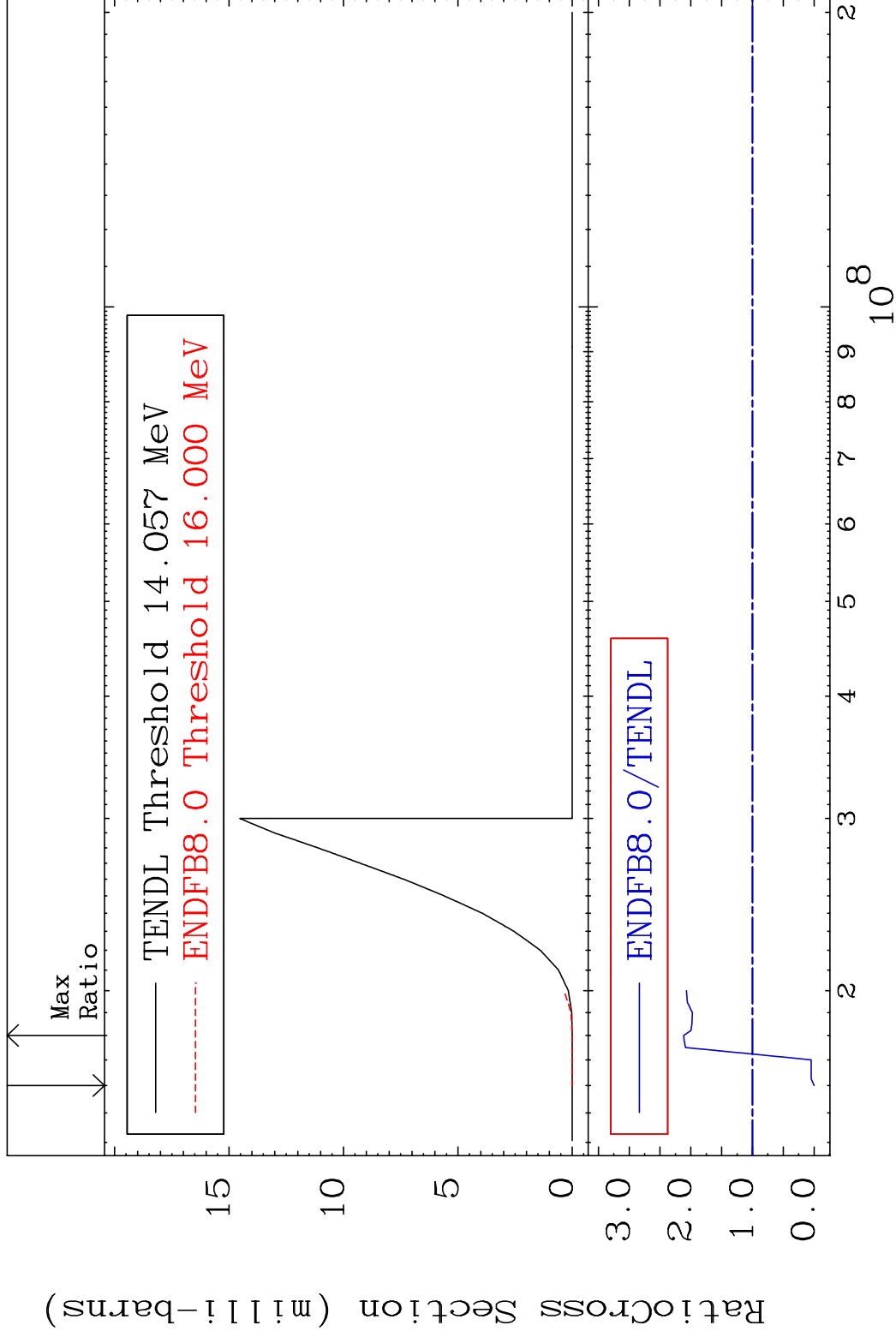
40-Zr-93

MAT 4034

(n, n') d

40-Zr-93

Cross Section -100.0 To 111.6 %

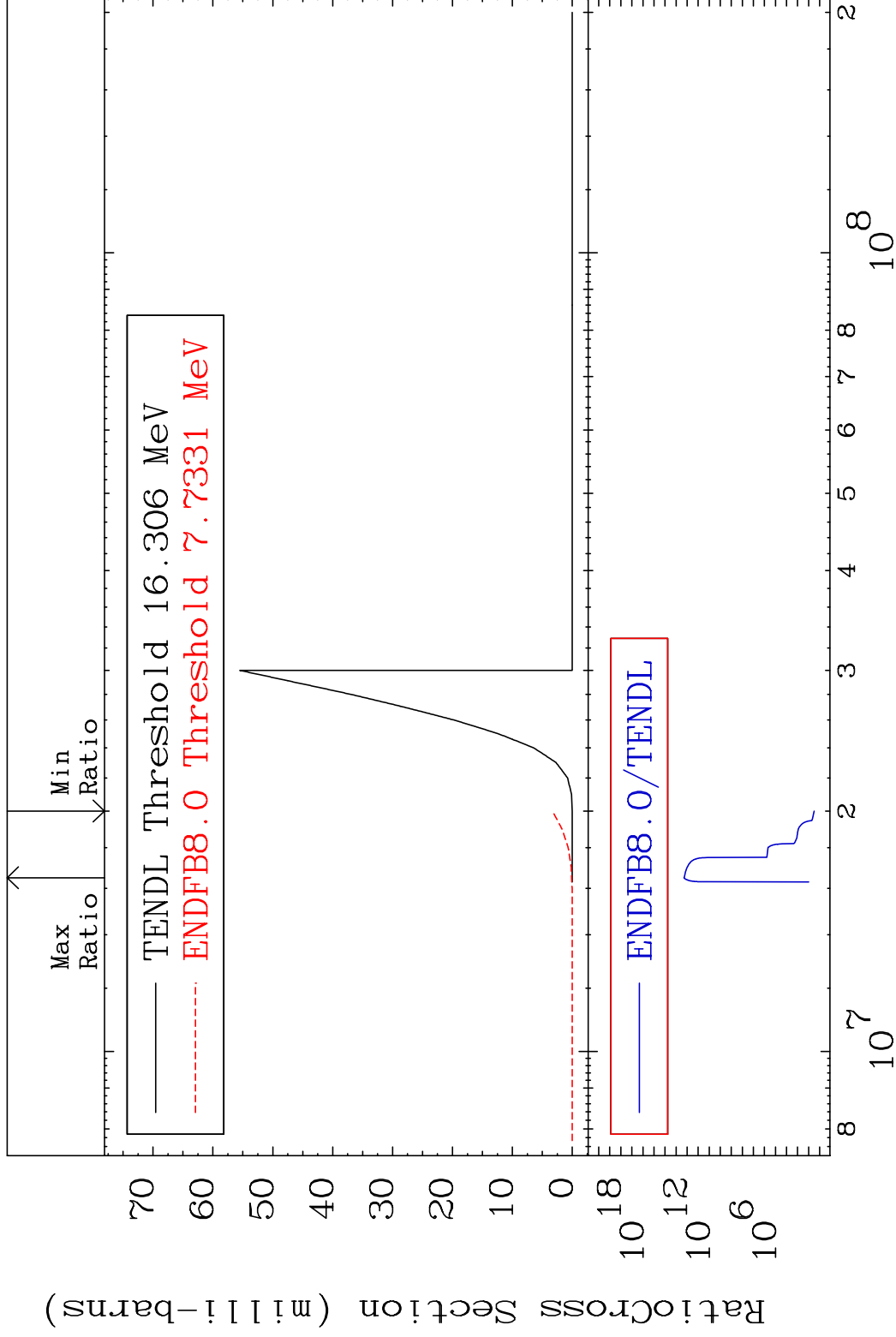


MAT 4034

(n,2n) p

40-Zr-93

Cross Section 9999. To 9999. %

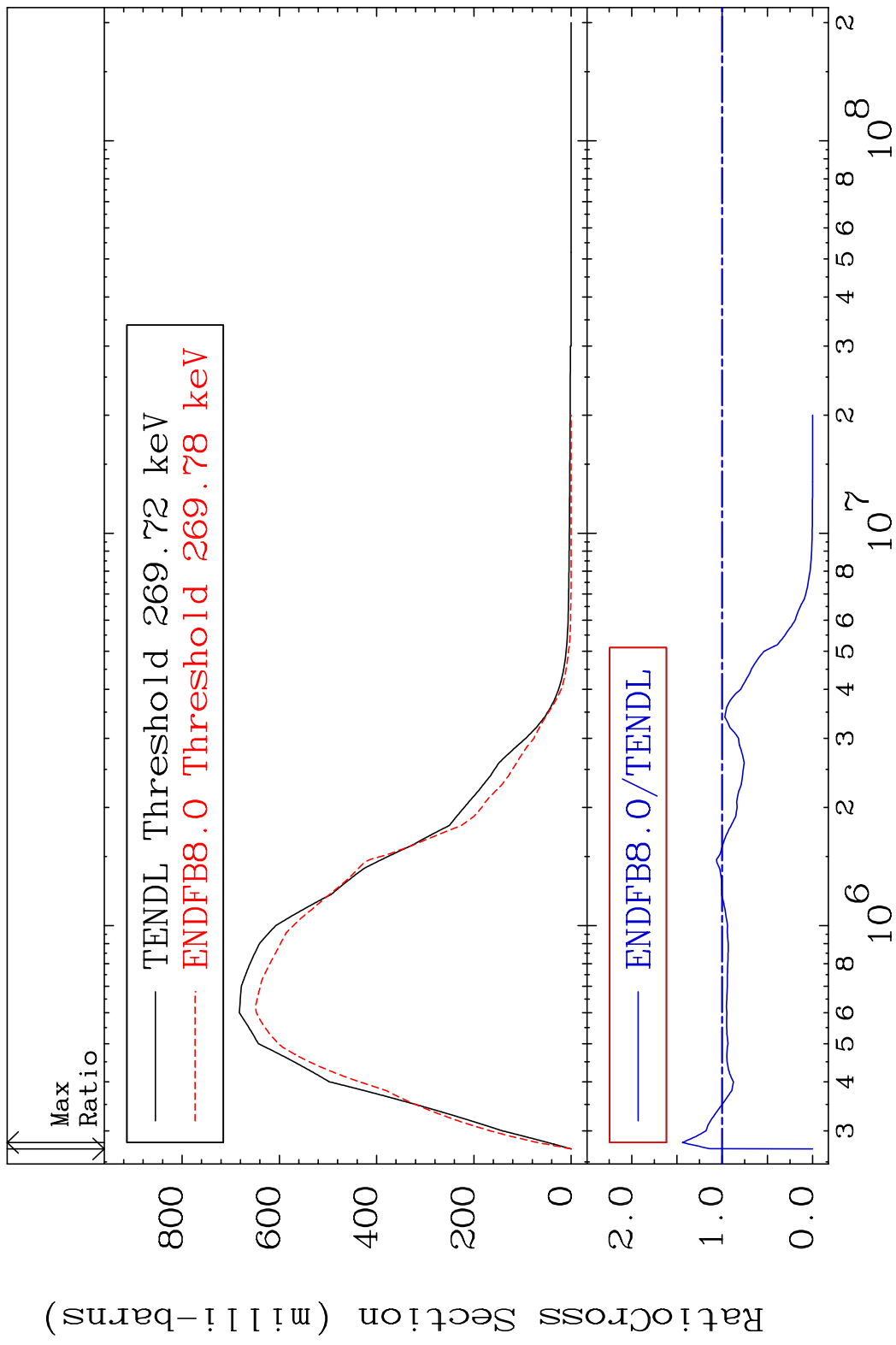


10

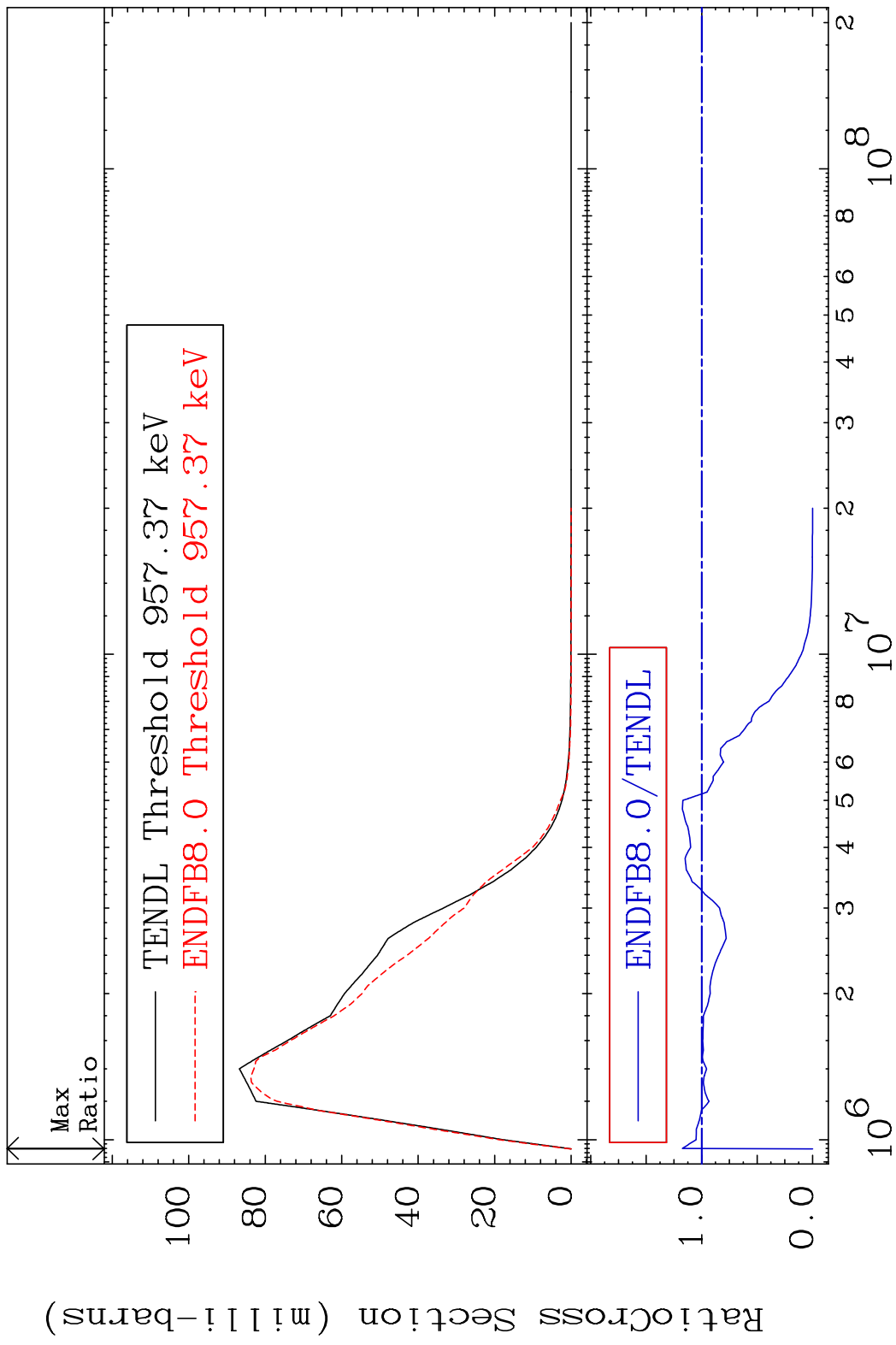
Incident Energy (eV)

40-Zr-93

MAT 4034 MT= 51 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To 44.03 %



MAT 4034 MT= 52 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To 17.41 %



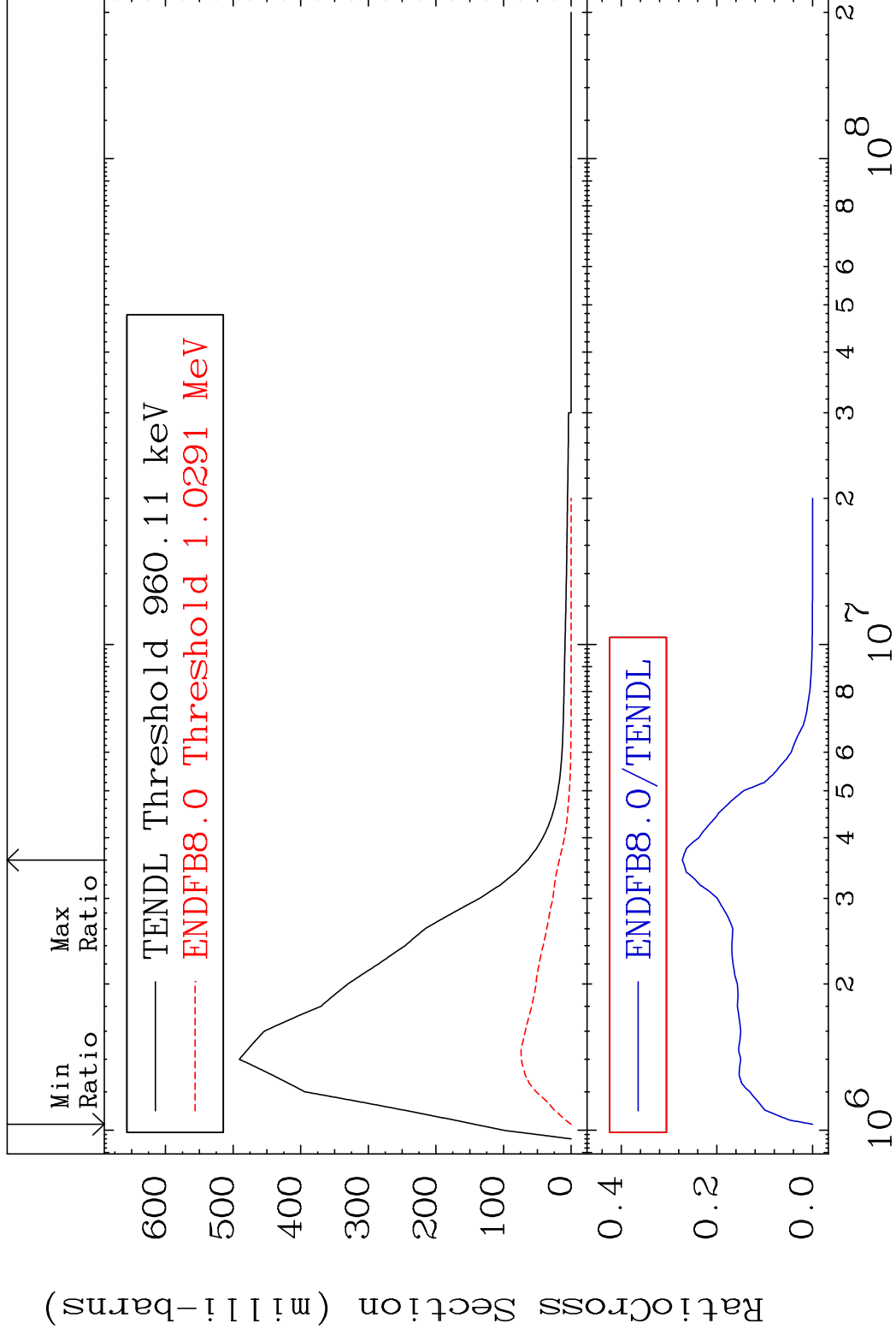
12 40-Zr-93

MAT 4034

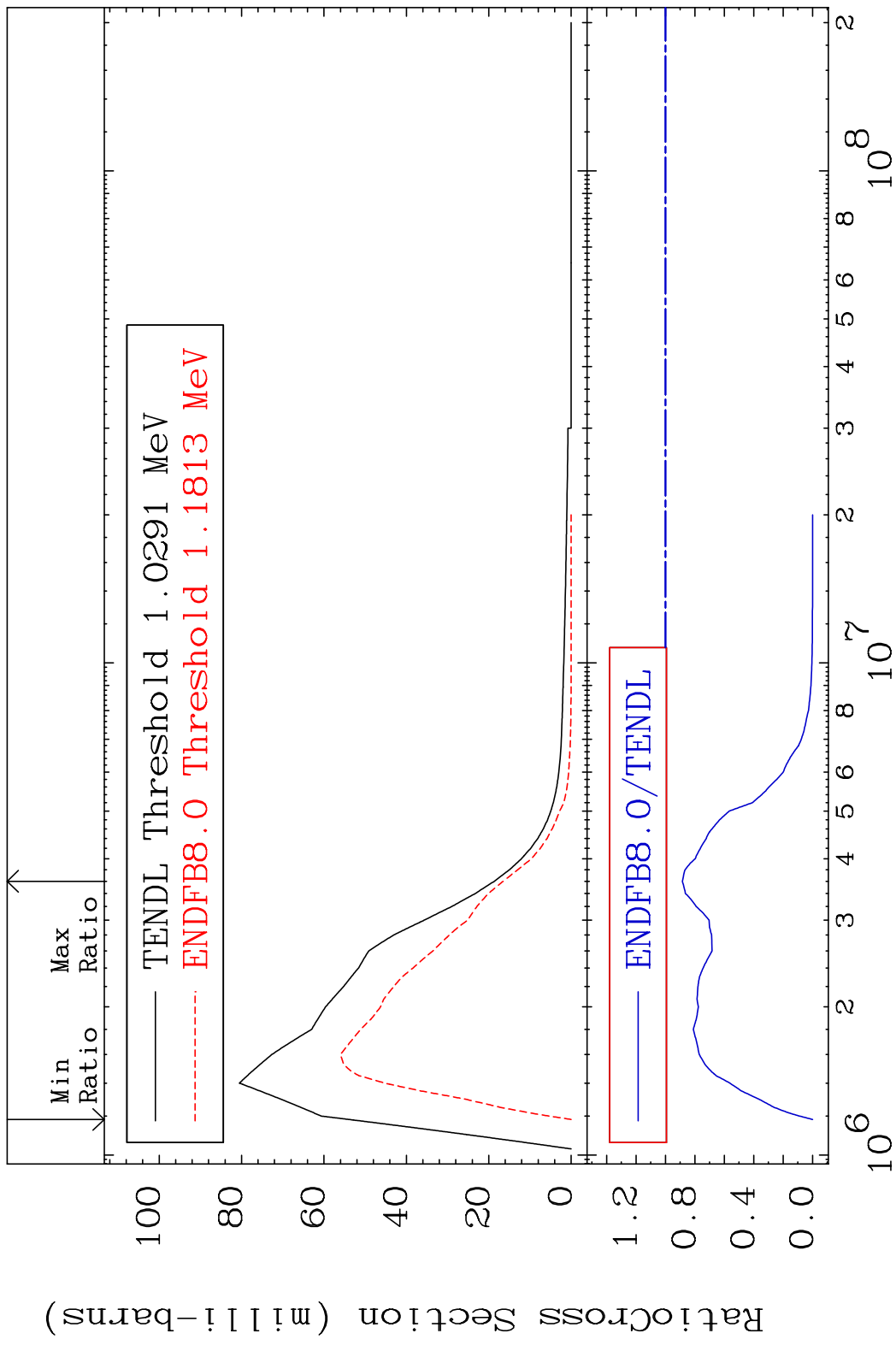
MT= 53 (n, n') Level

40-Zr-93

Cross Section -100.0 To -72.77%

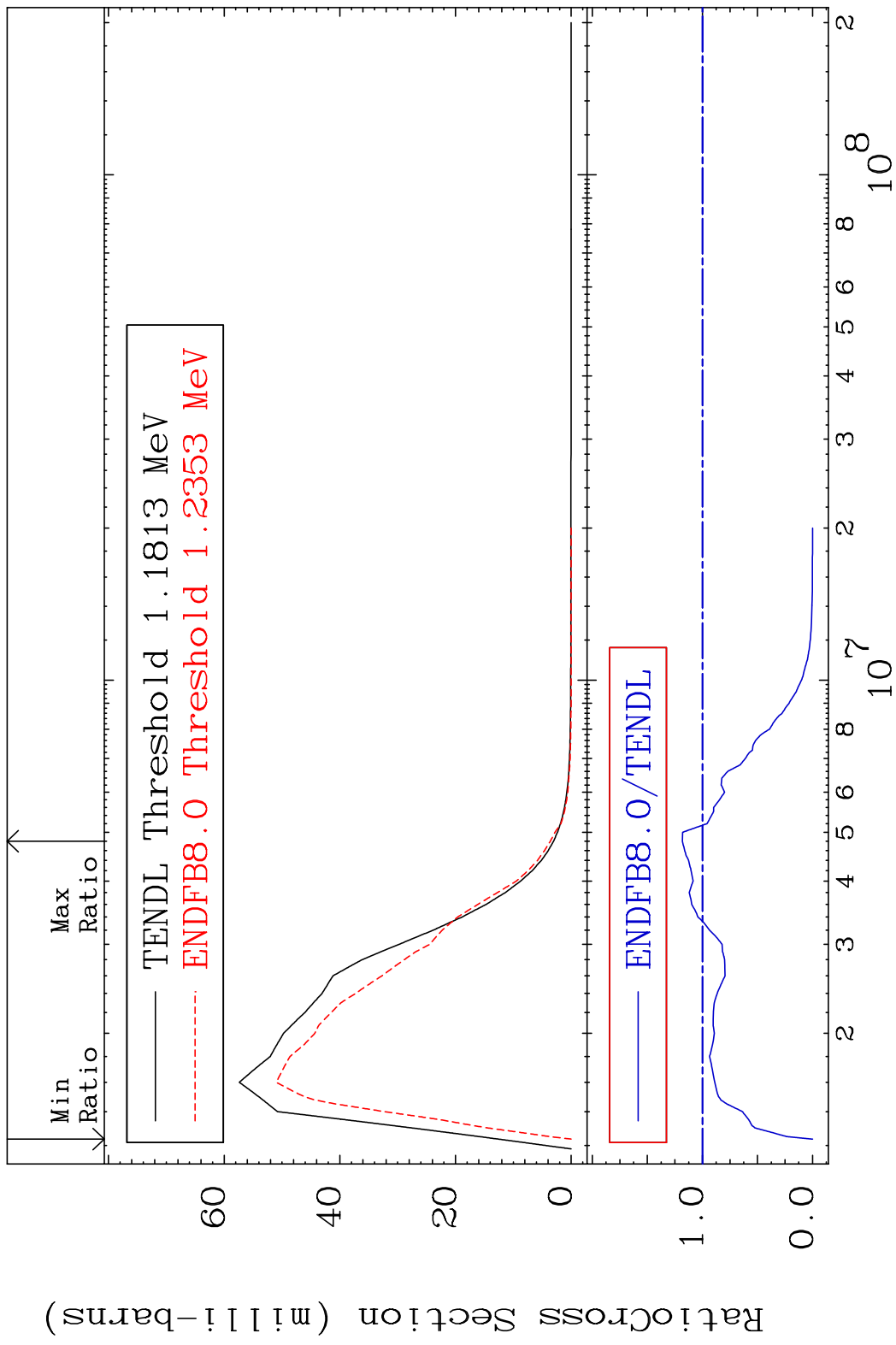


MAT 4034 MT= 54 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To -11.51%



14 14 Incident Energy (eV) 40-Zr-93

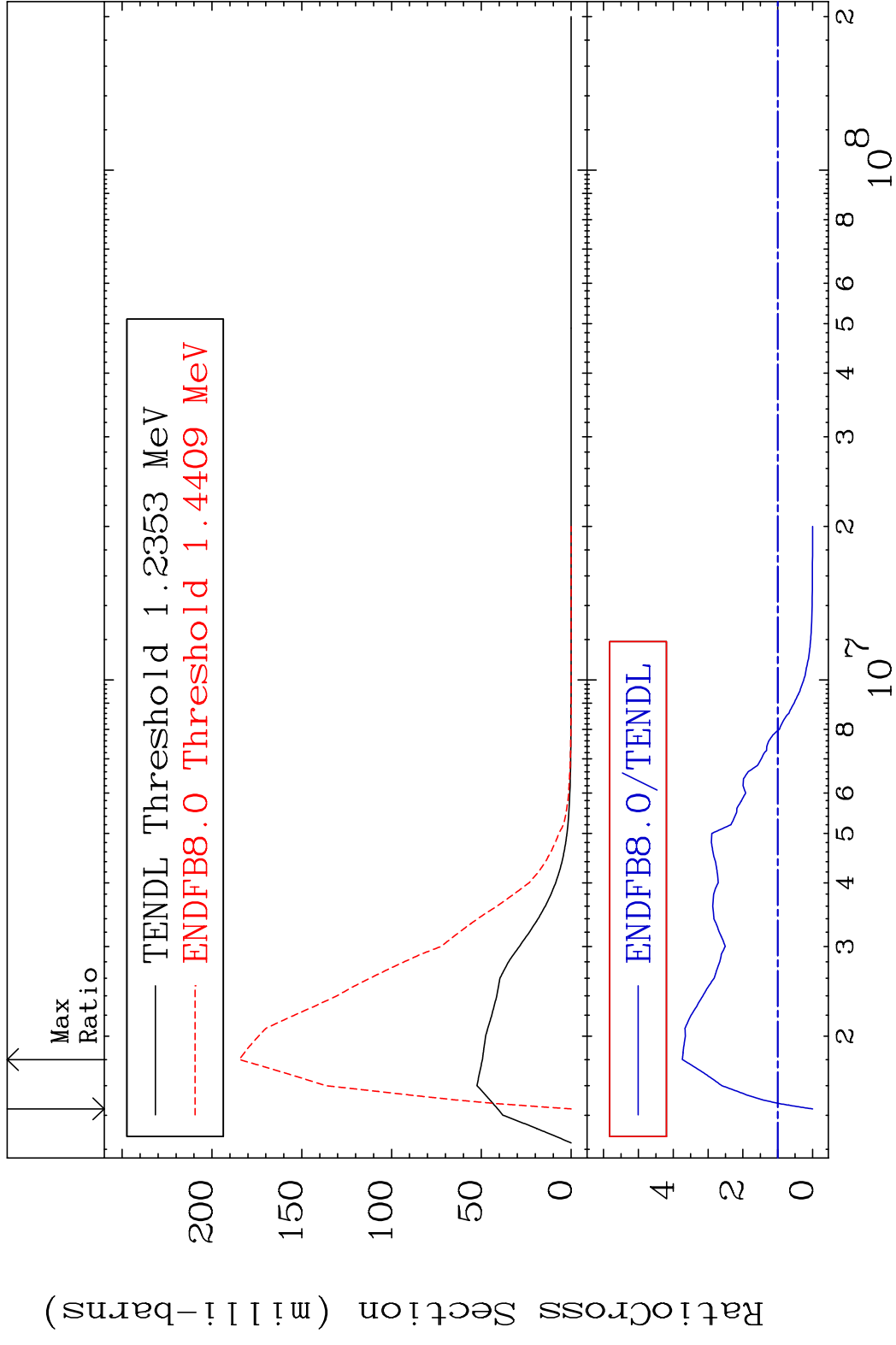
MAT 4034 MT= 55 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To 18.23 %



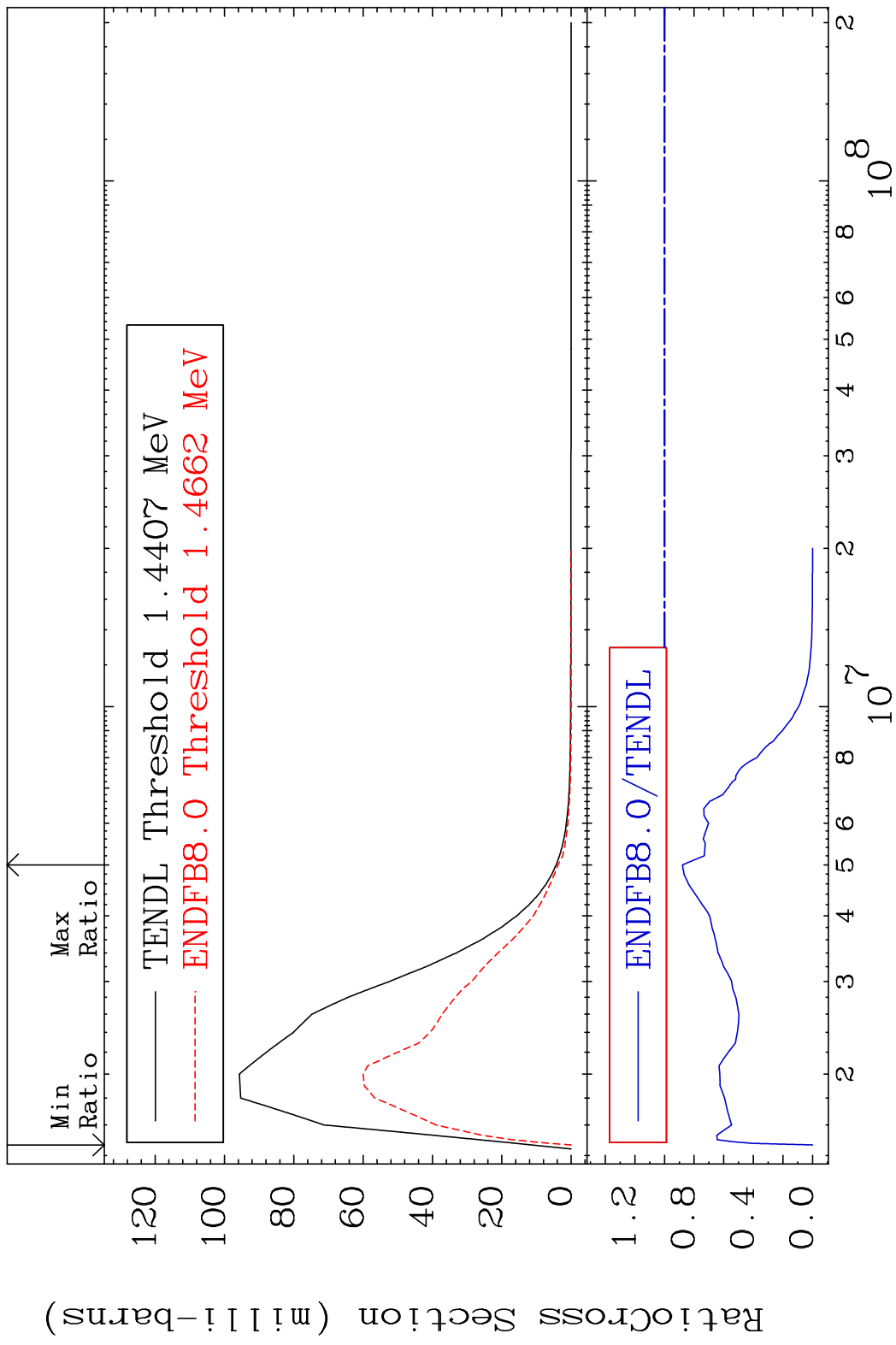
15 Incident Energy (eV) 40-Zr-93



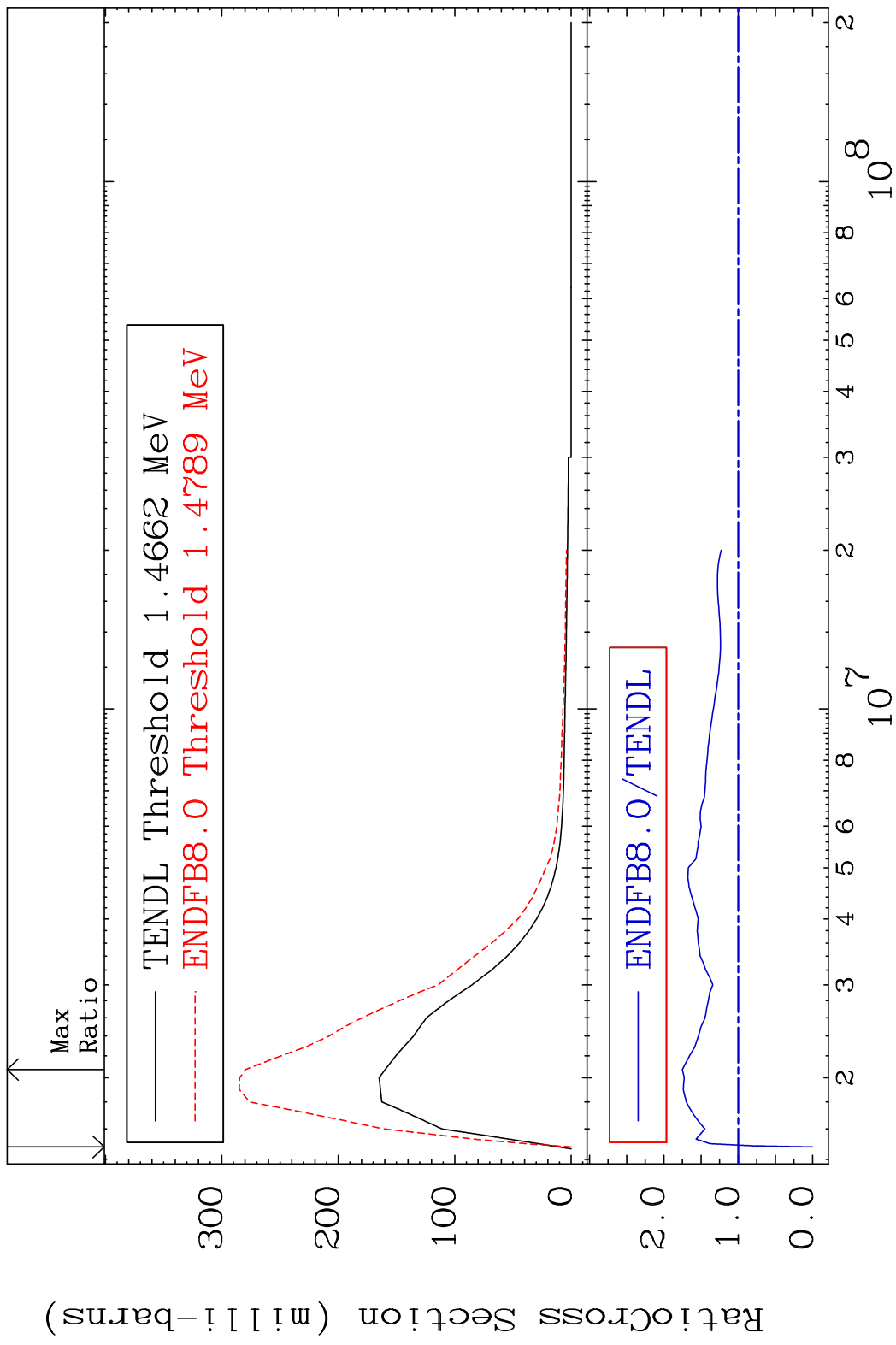
MAT 4034 MT= 56 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To 273.8 %



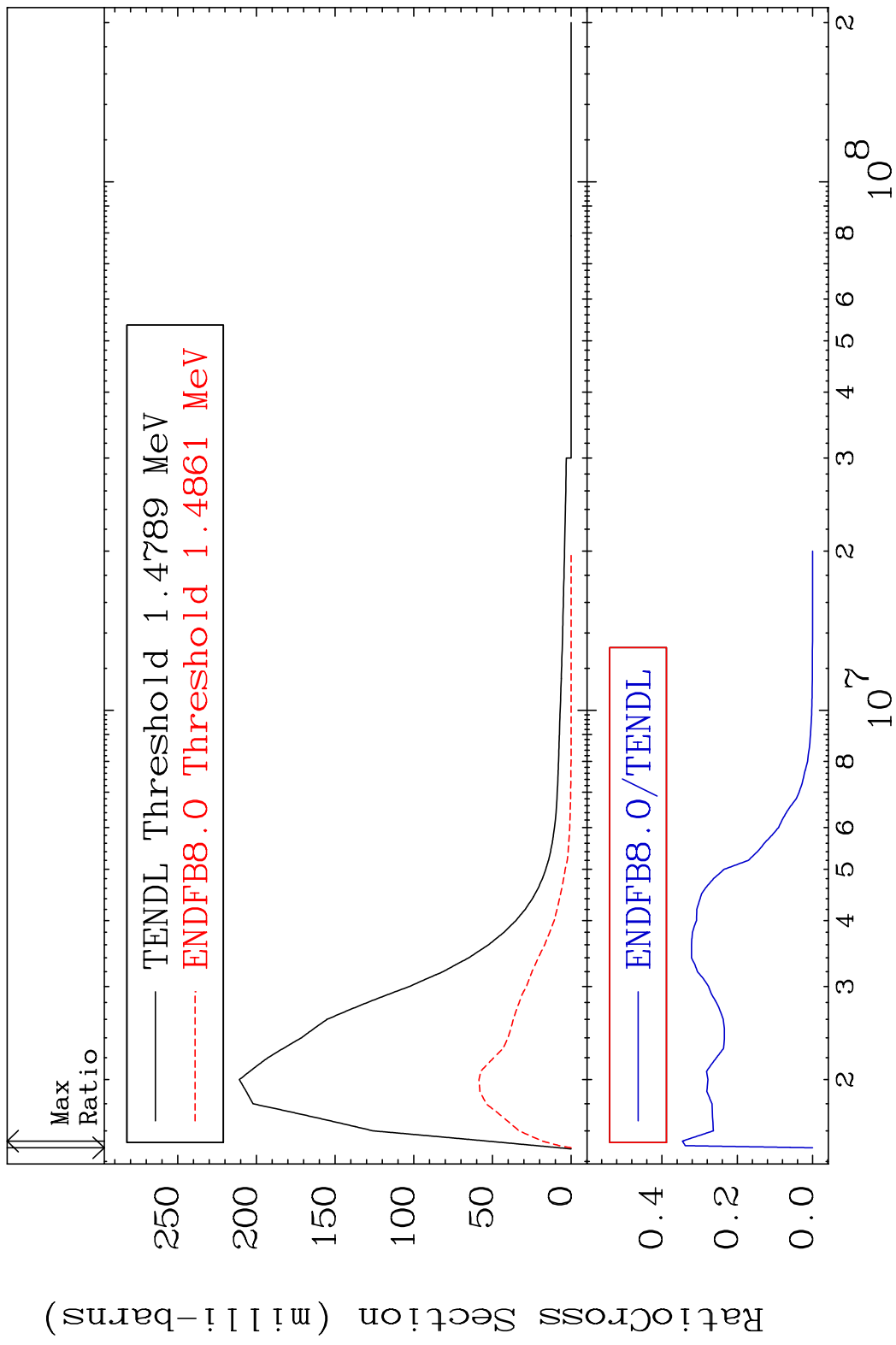
MAT 4034 MT= 57 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To -12.05%



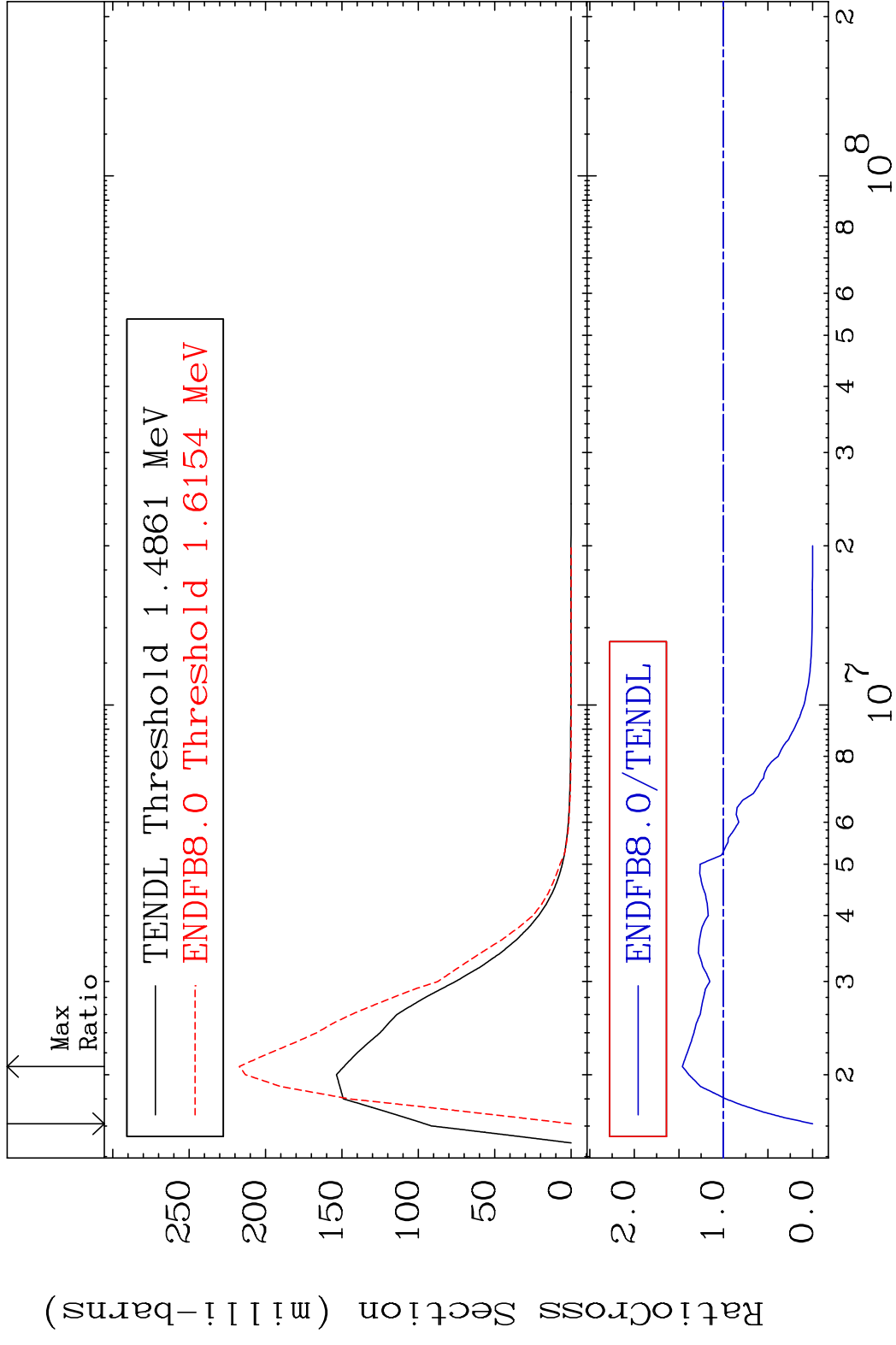
MAT 4034 MT= 58 (n, n') Level 40-Zr-93  
 Cross Section -100.0 To 75.13 %



MAT 4034 MT= 59 (n, n') Level 40-Zr-93  
 Cross Section -100.0 To -65.41%

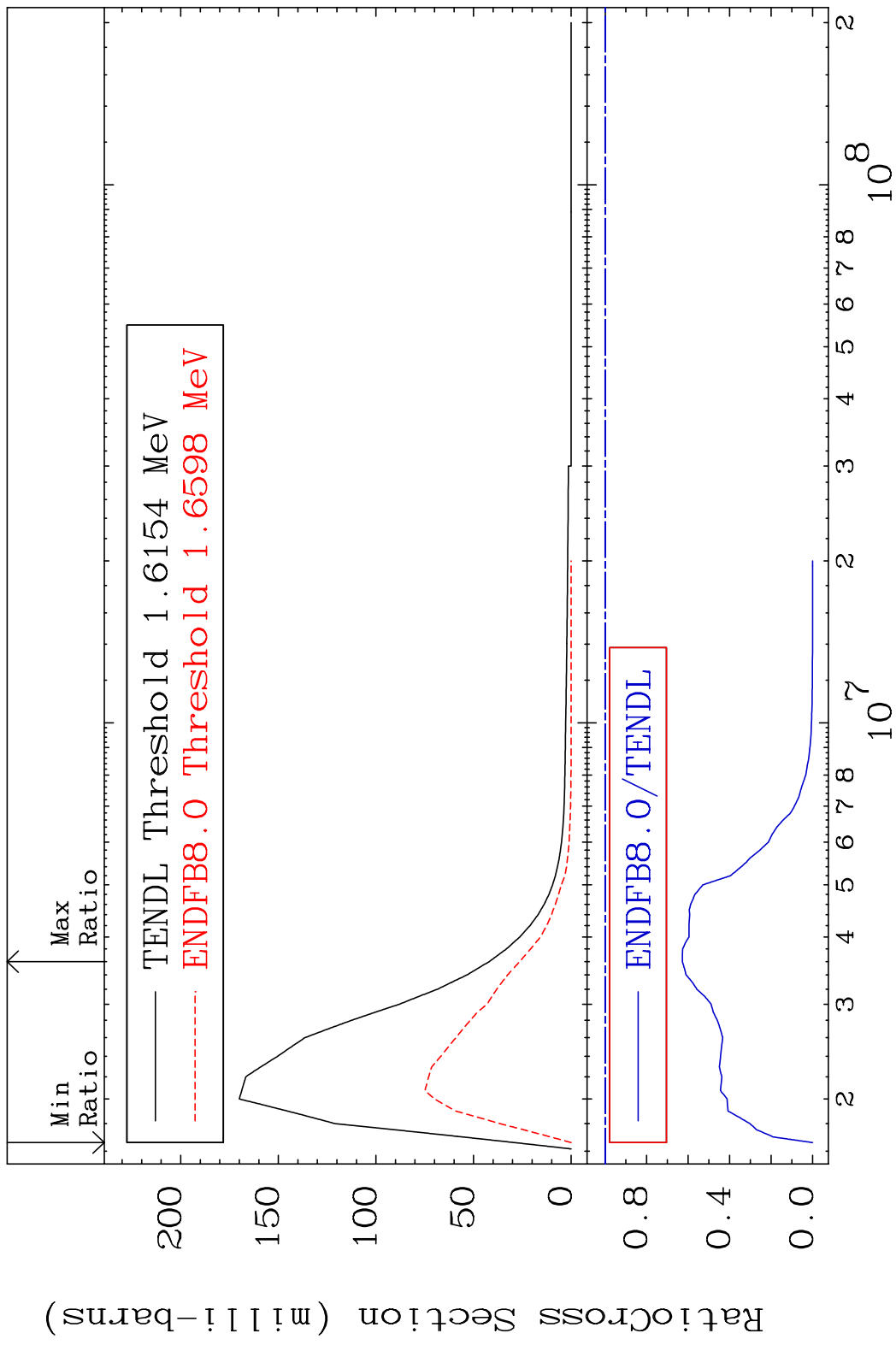


MAT 4034 MT= 60 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To 46.10 %

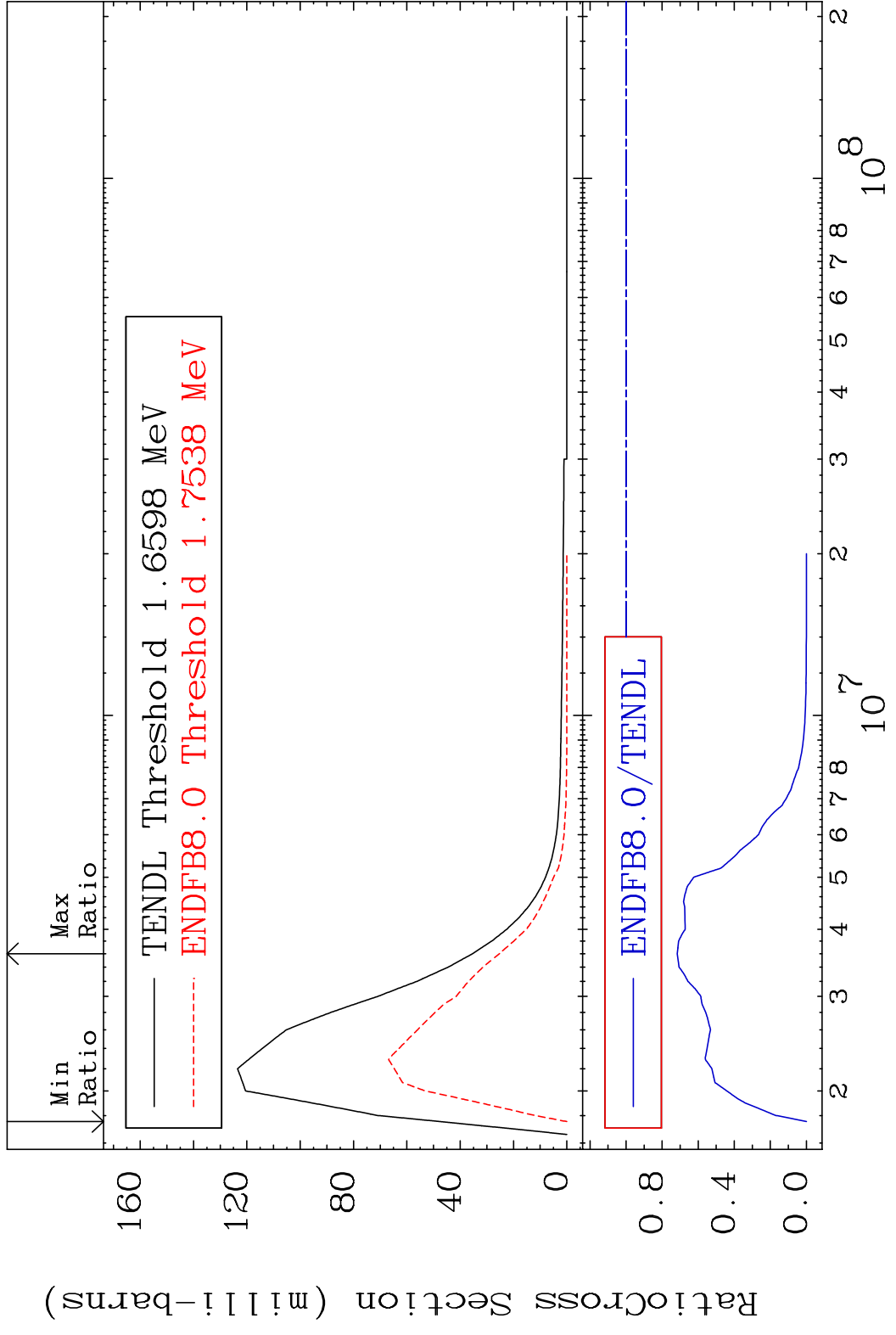


20 Incident Energy (eV) 40-Zr-93

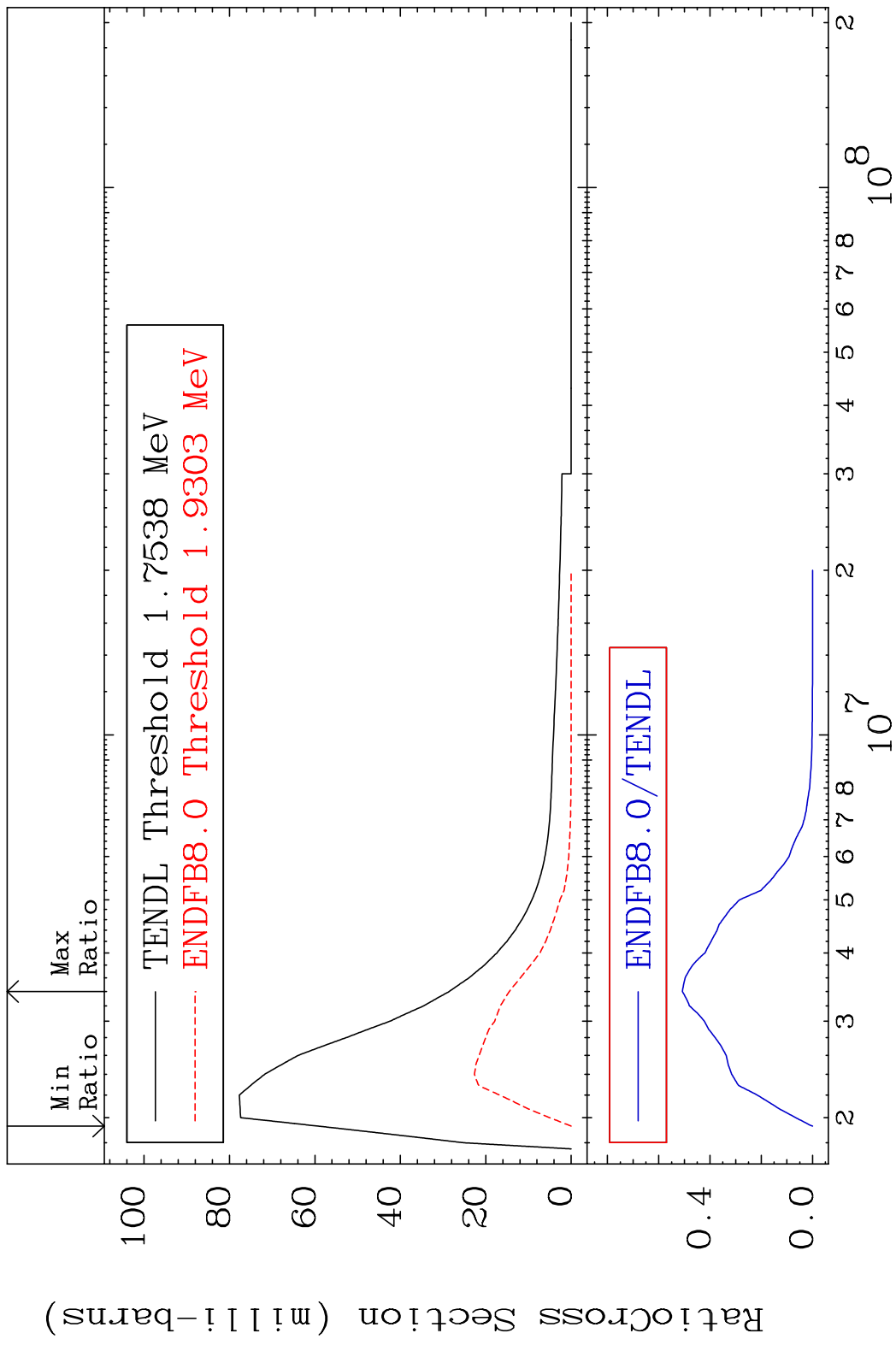
MAT 4034 MT= 61 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To -37.21%



MAT 4034 MT= 62 (n, n') Level 40-Zr-93  
 Cross Section -100.0 To -28.35%

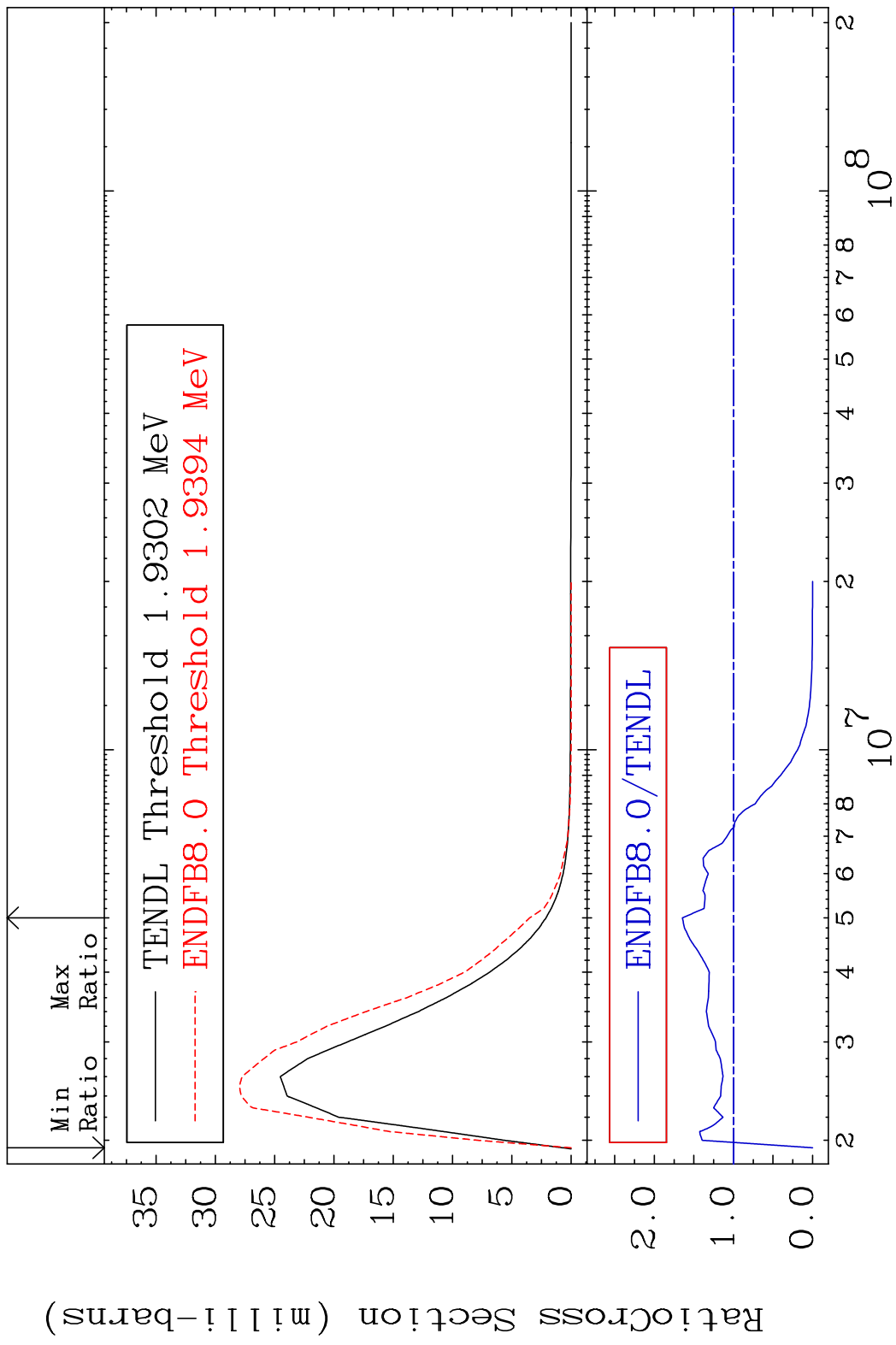


MAT 4034 MT= 63 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To -49.21%

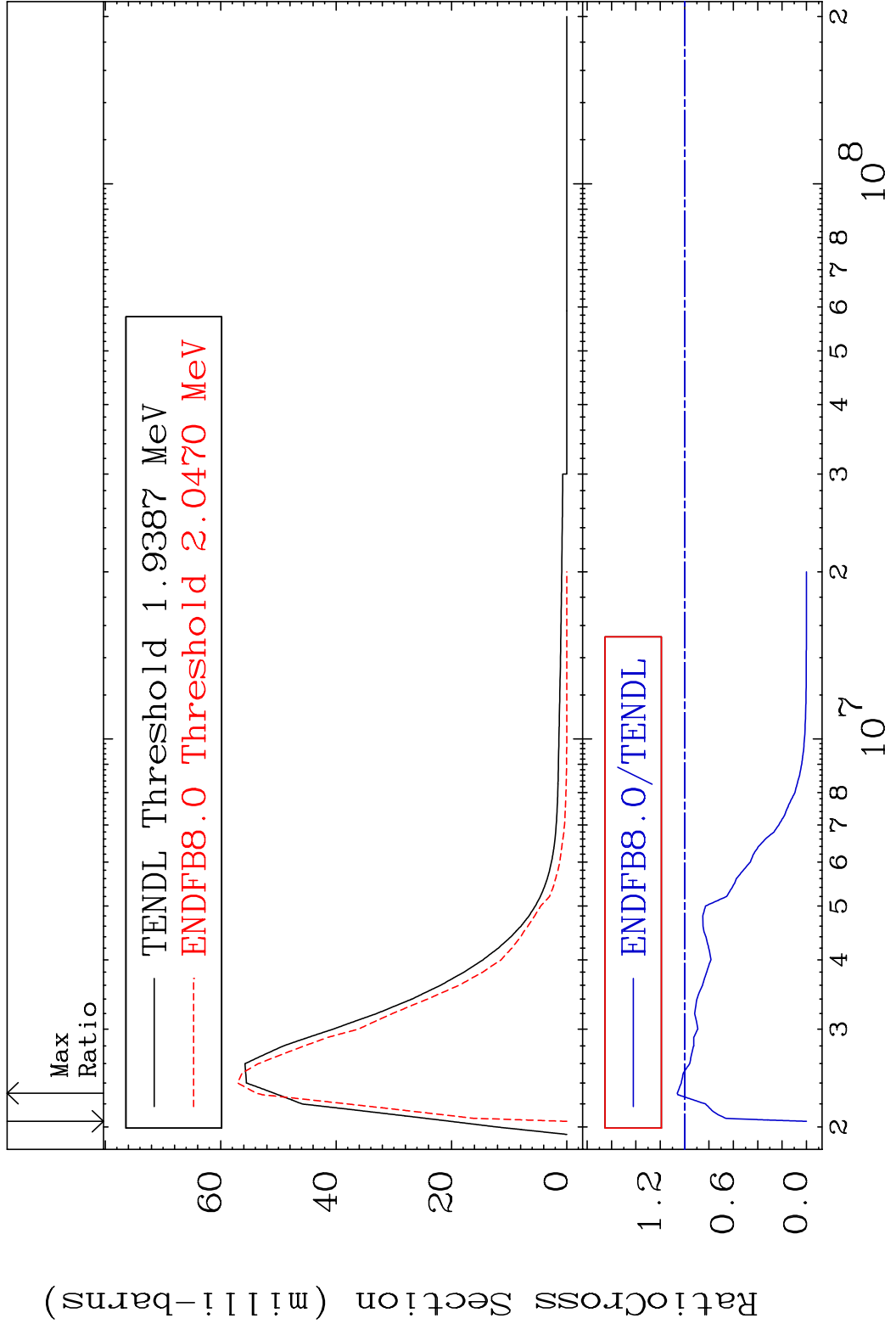




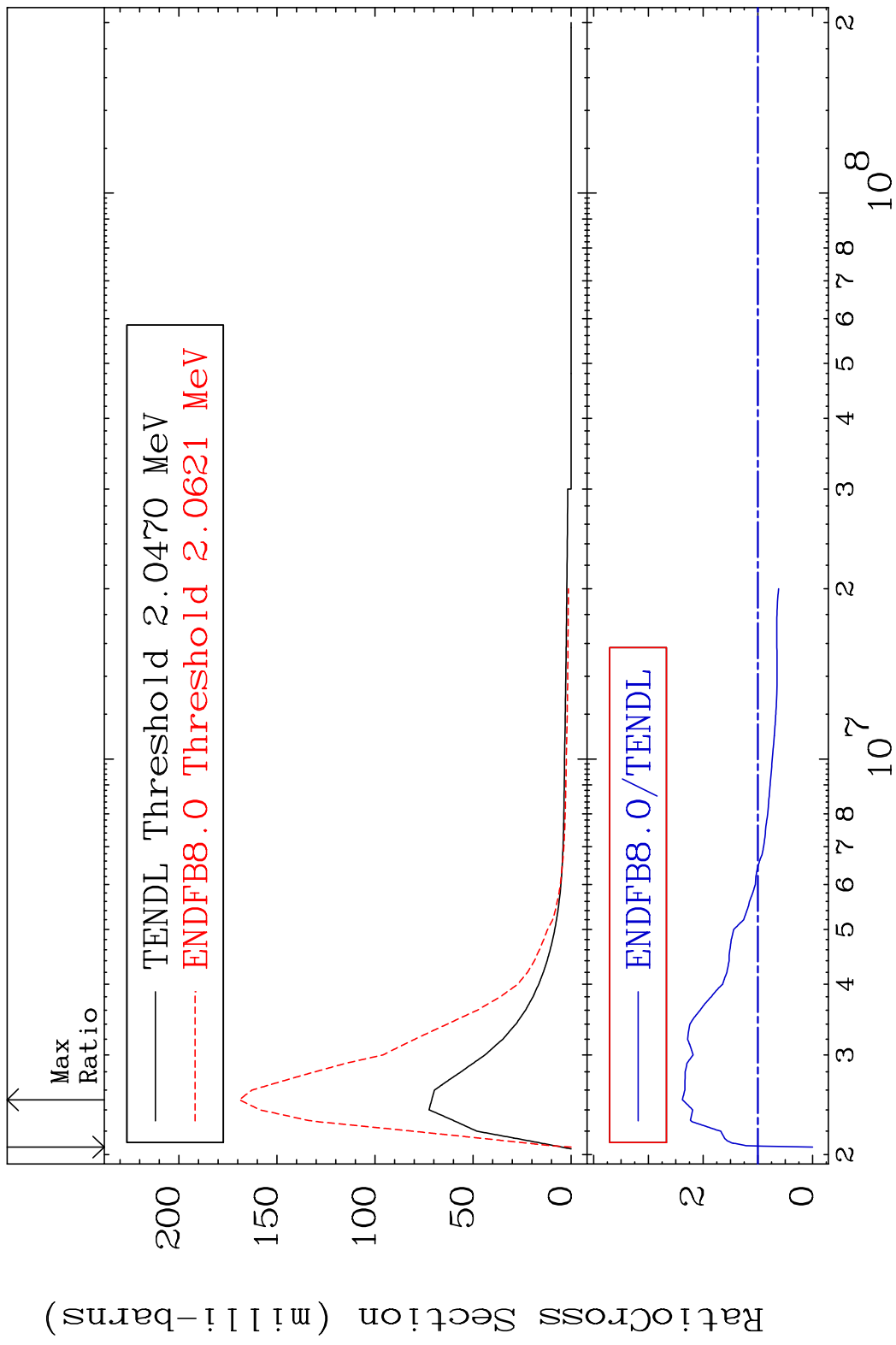
MAT 4034 MT= 64 (n, n') Level 40-Zr-93  
 Cross Section -100.0 To 64.54 %



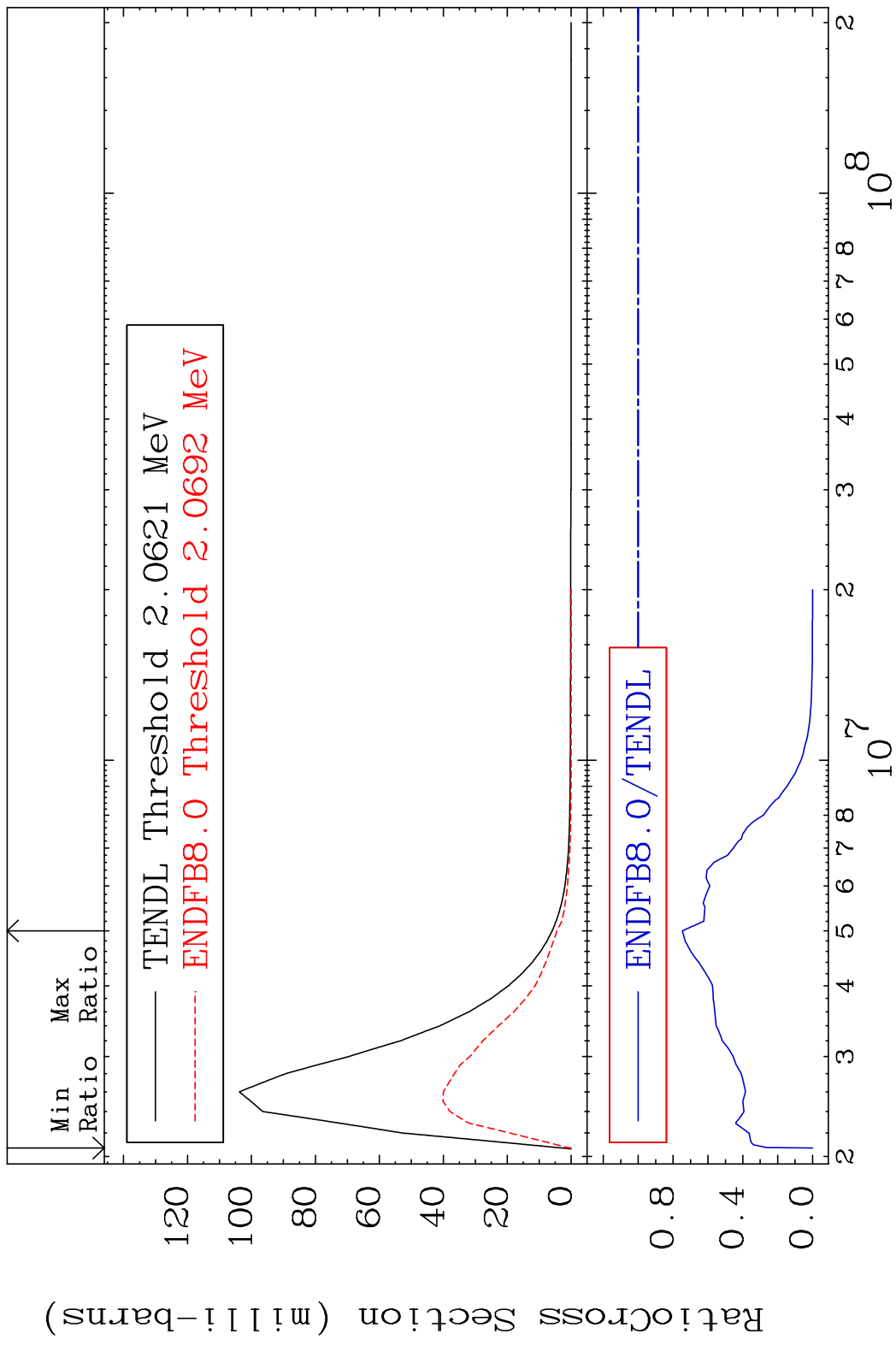
MAT 4034 MT= 65 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To 6.107 %



MAT 4034 MT= 66 (n, n') Level 40-Zr-93  
 Cross Section -100.0 To 138.0 %

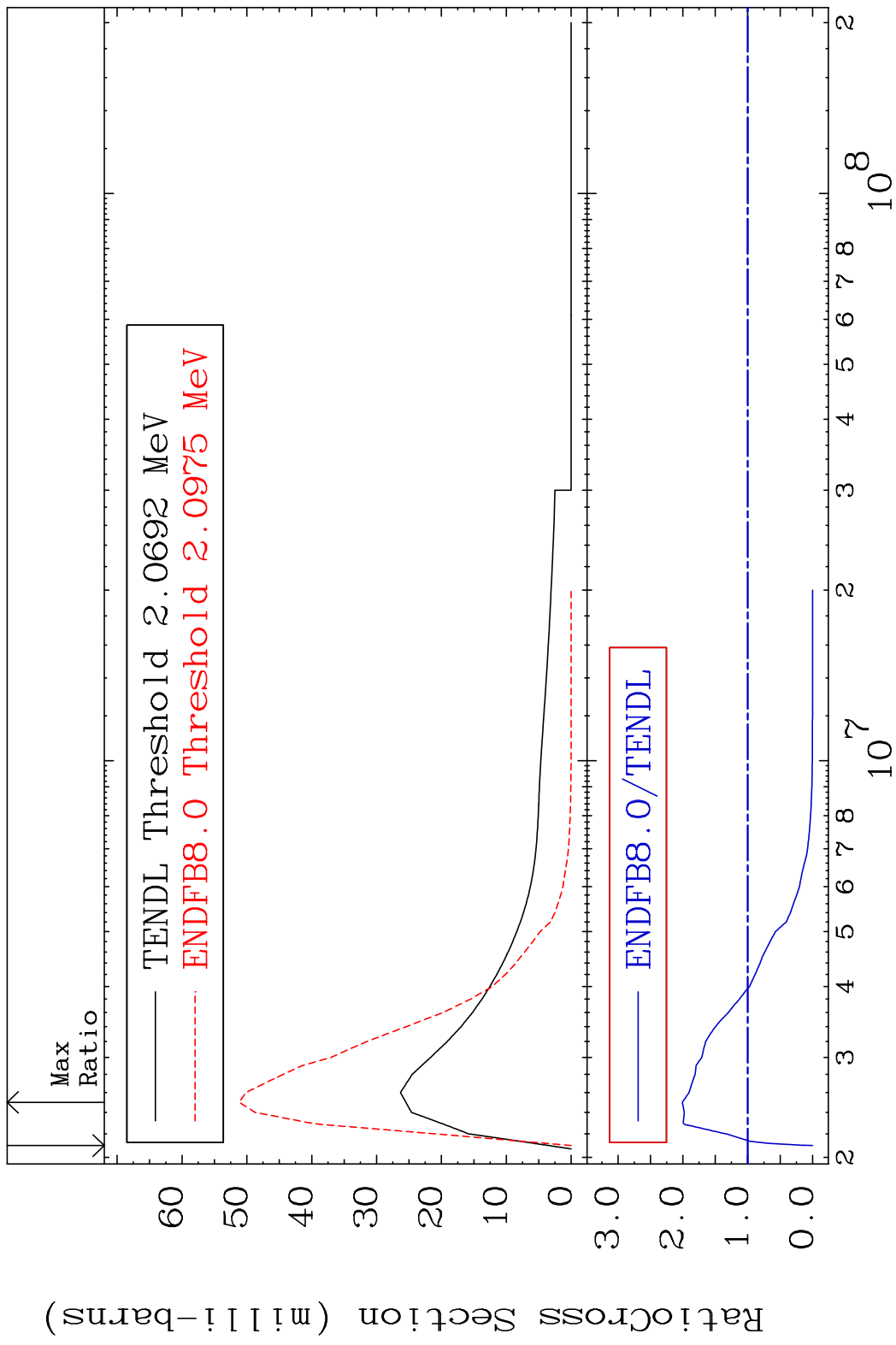


MAT 4034 MT= 67 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To -25.32%

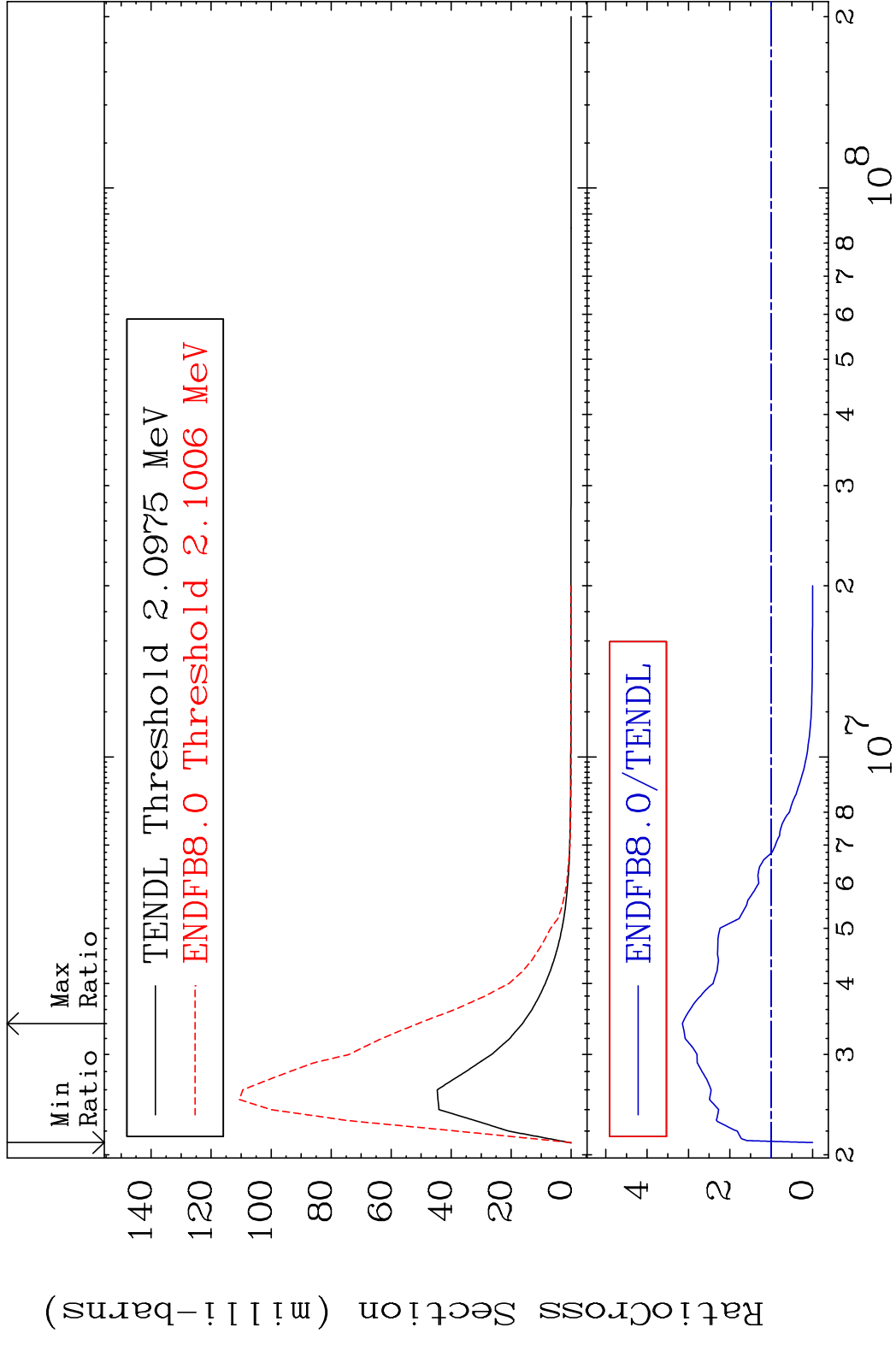


27 Incident Energy (eV) 40-Zr-93

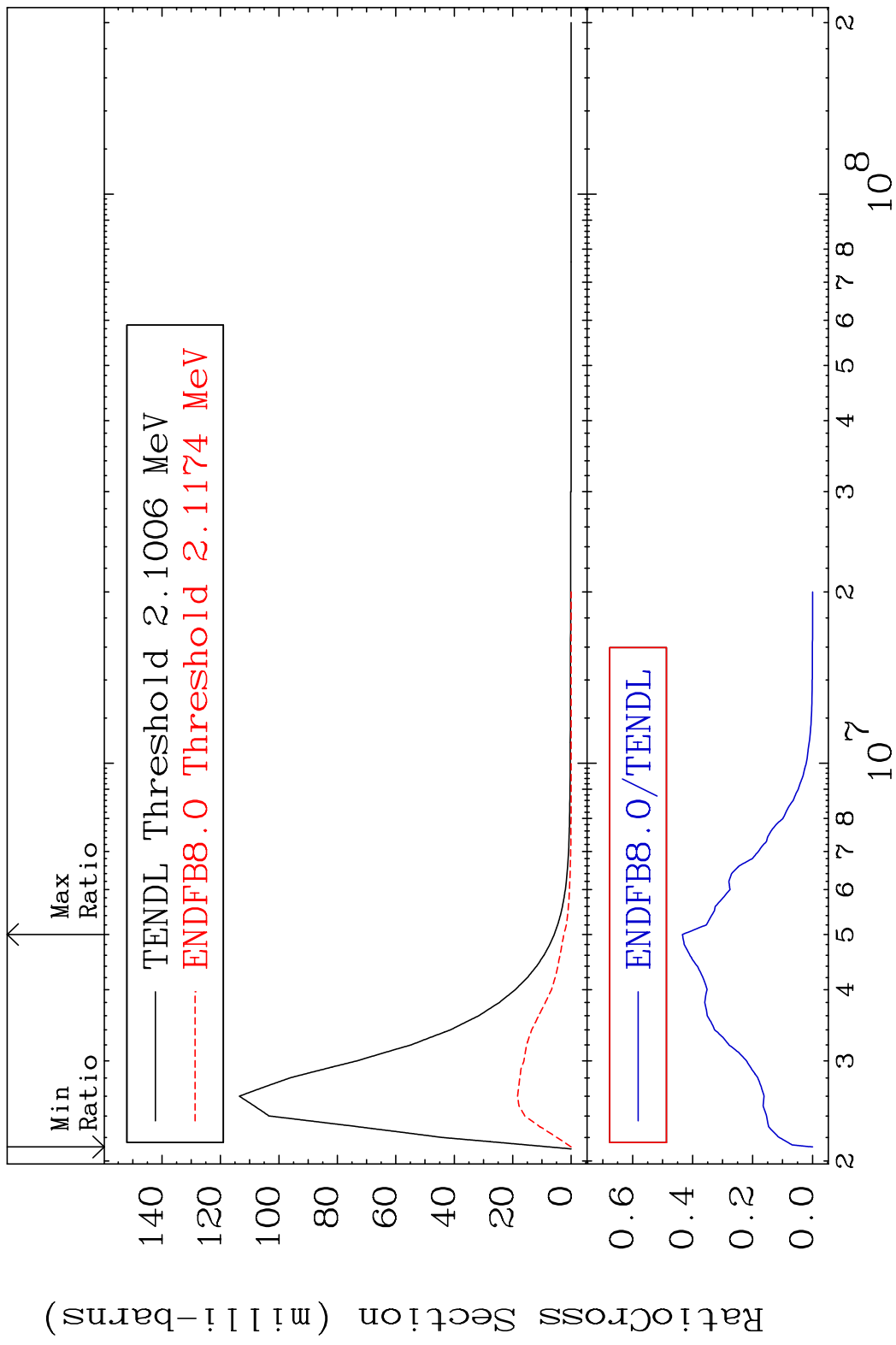
MAT 4034 MT= 68 (n, n') Level 40-Zr-93  
 Cross Section -100.0 To 100.8 %



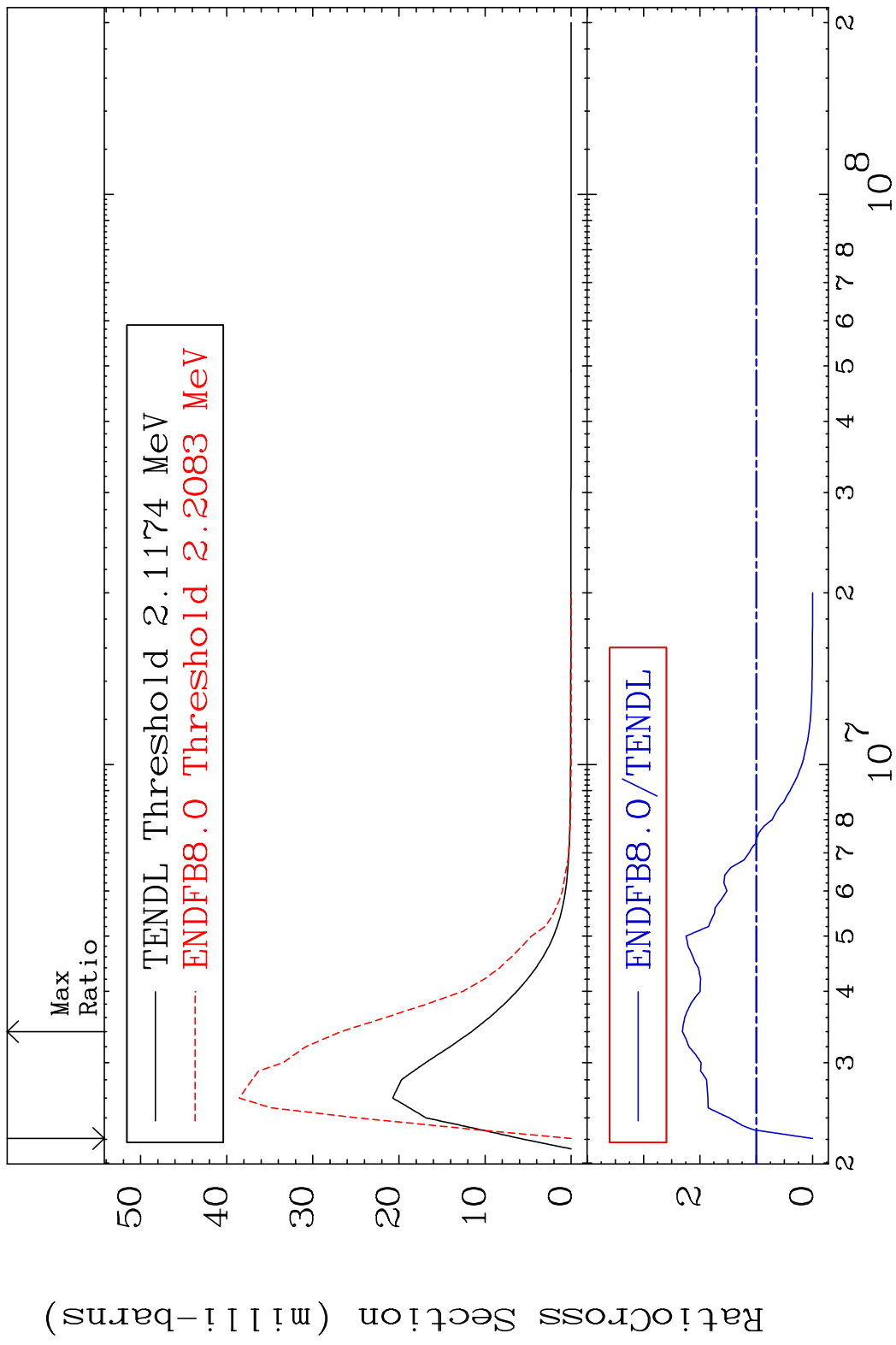
MAT 4034 MT= 69 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To 214.9 %



MAT 4034 MT= 70 (n, n') Level 40-Zr-93  
 Cross Section -100.0 To -56.57%

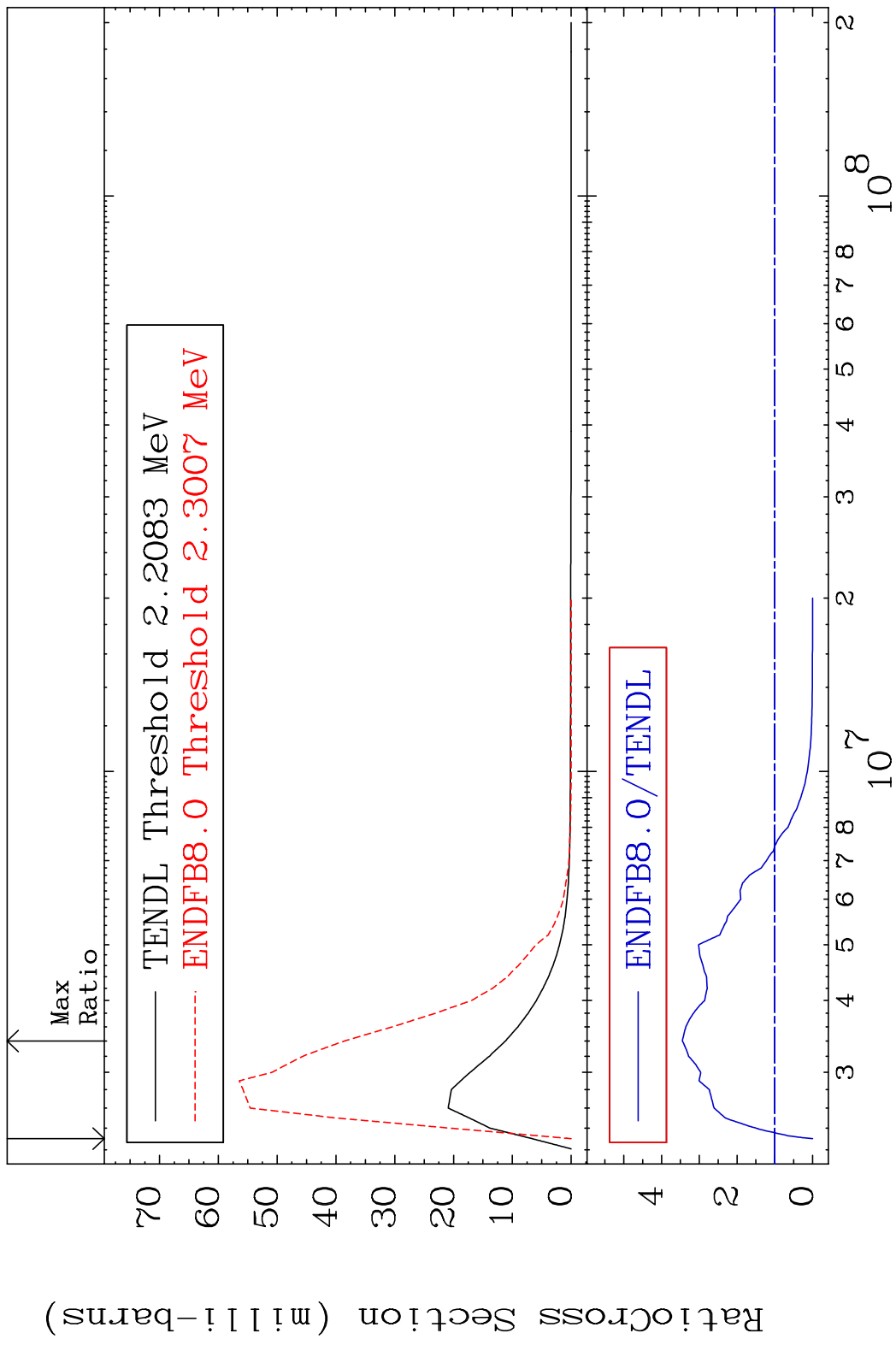


MAT 4034 MT= 71 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To 131.1 %

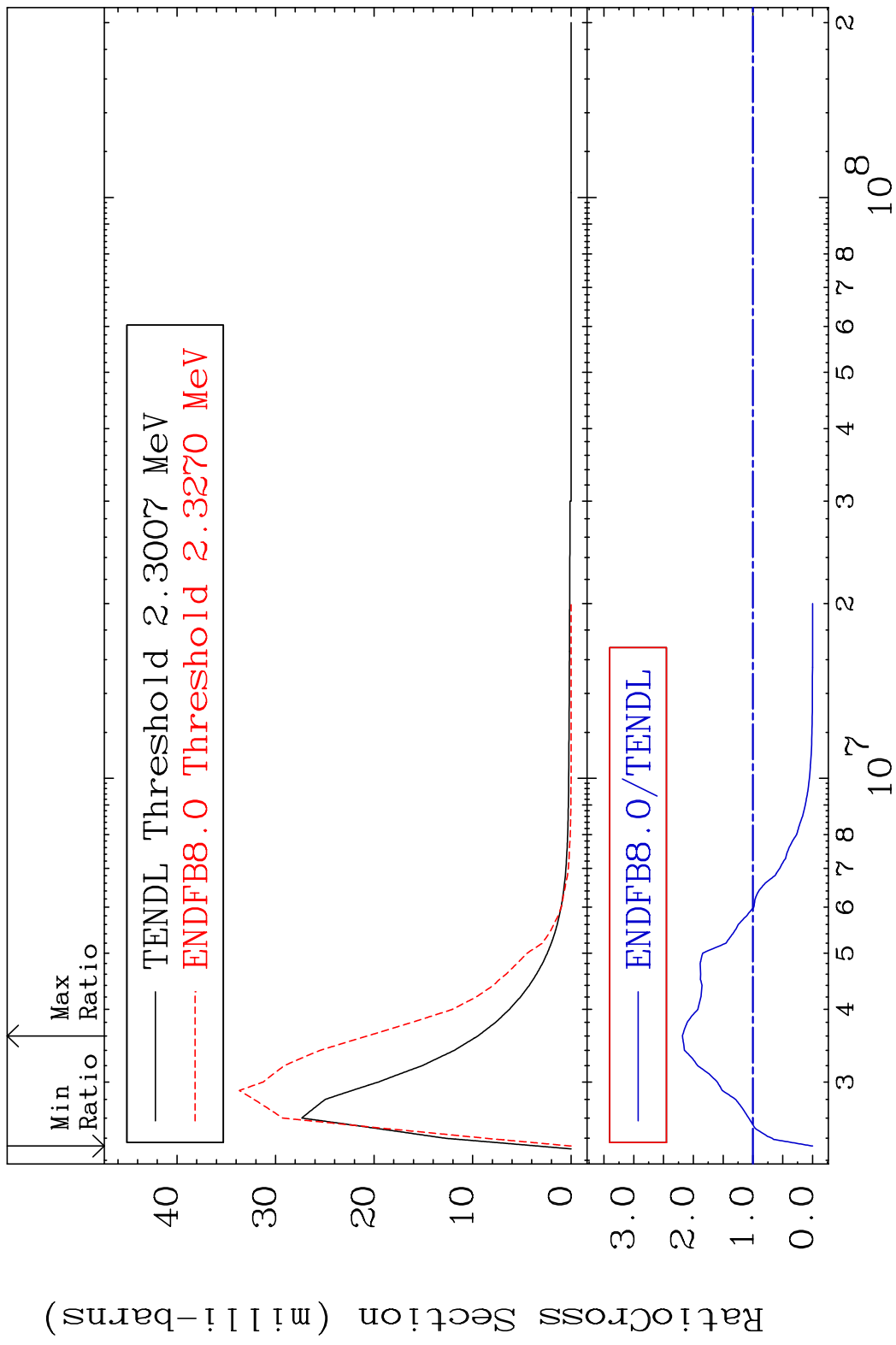




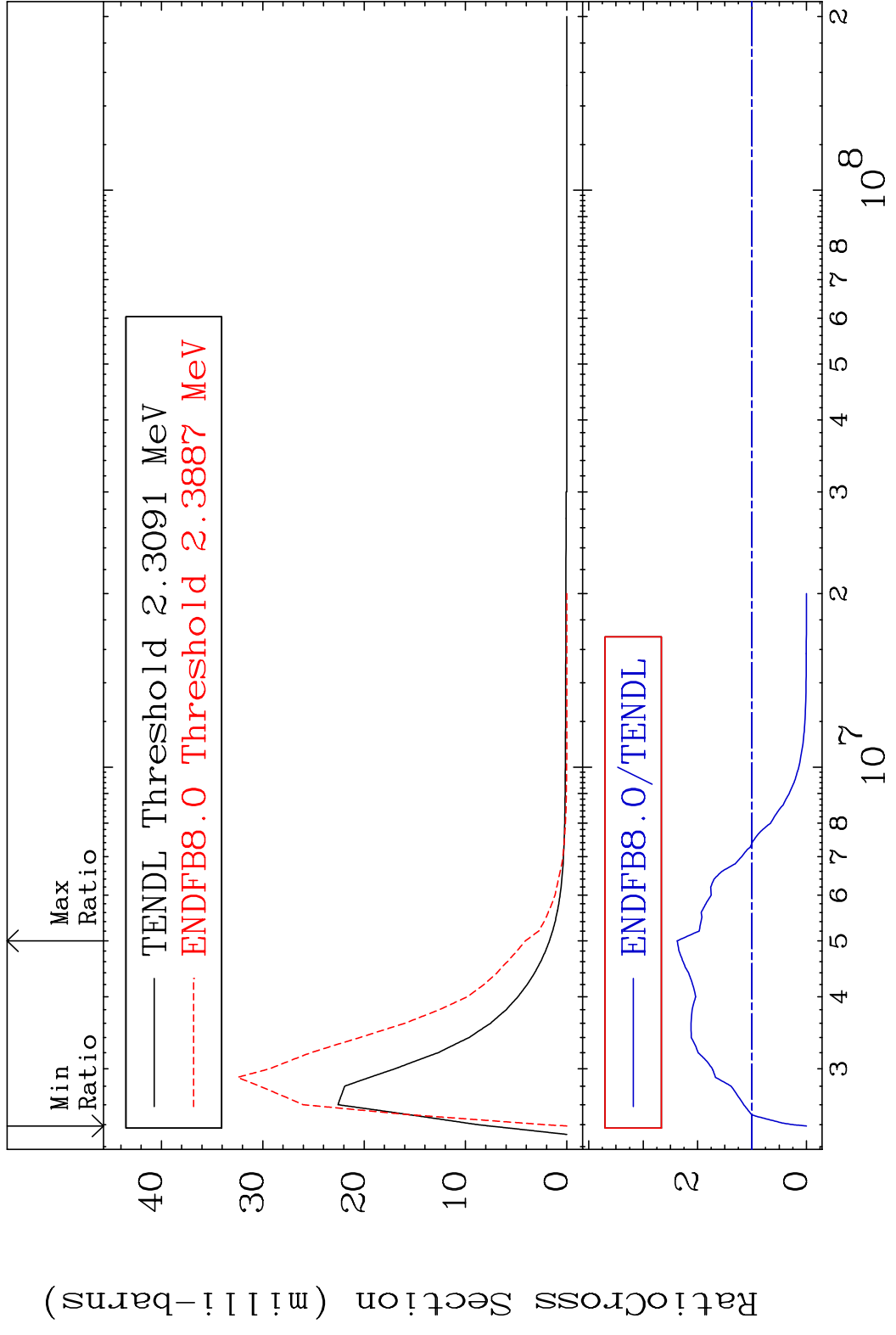
MAT 4034 MT= 72 (n, n') Level 40-Zr-93  
 Cross Section -100.0 To 244.9 %



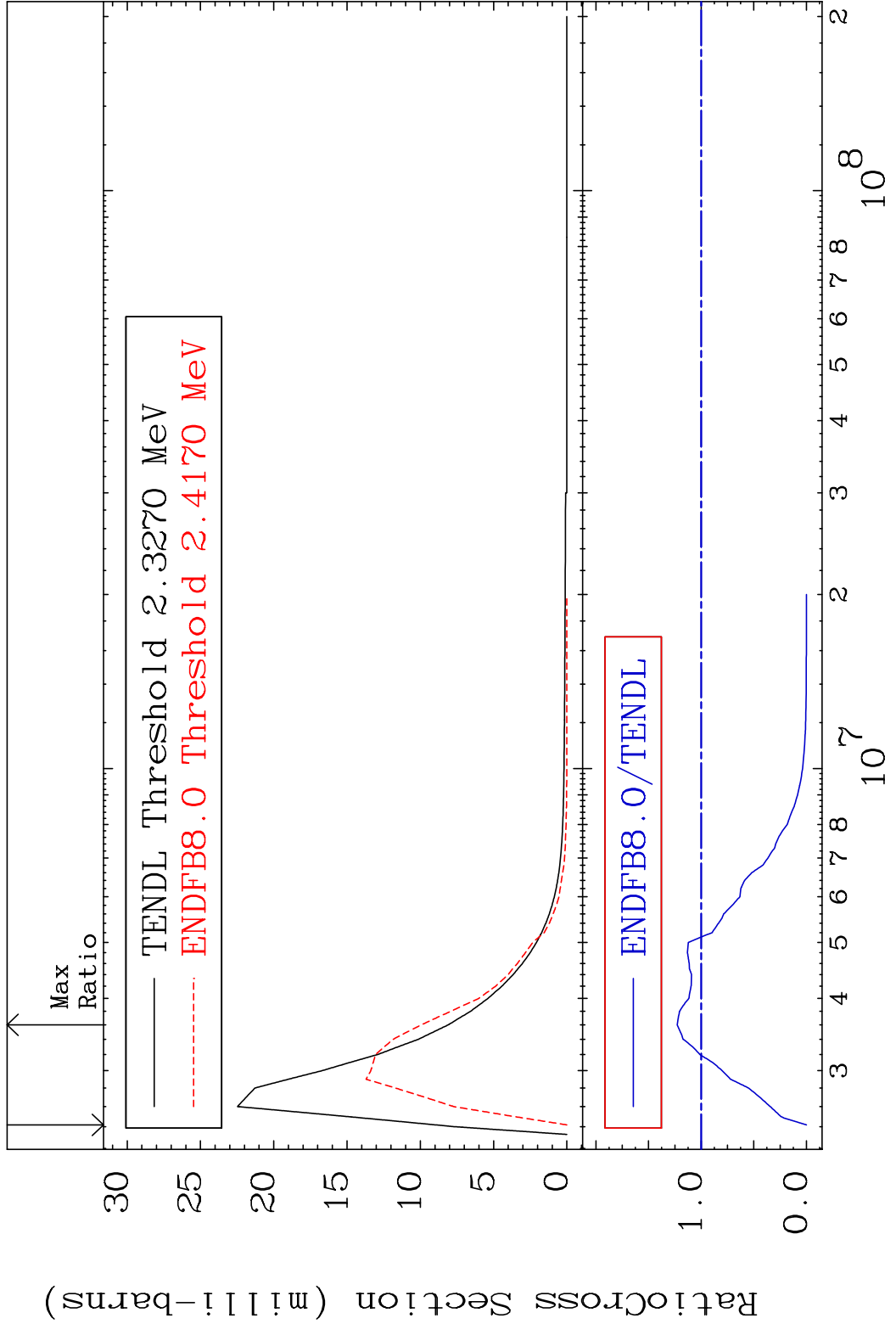
MAT 4034 MT= 73 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To 118.5 %



MAT 4034 MT= 74 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To 137.5 %

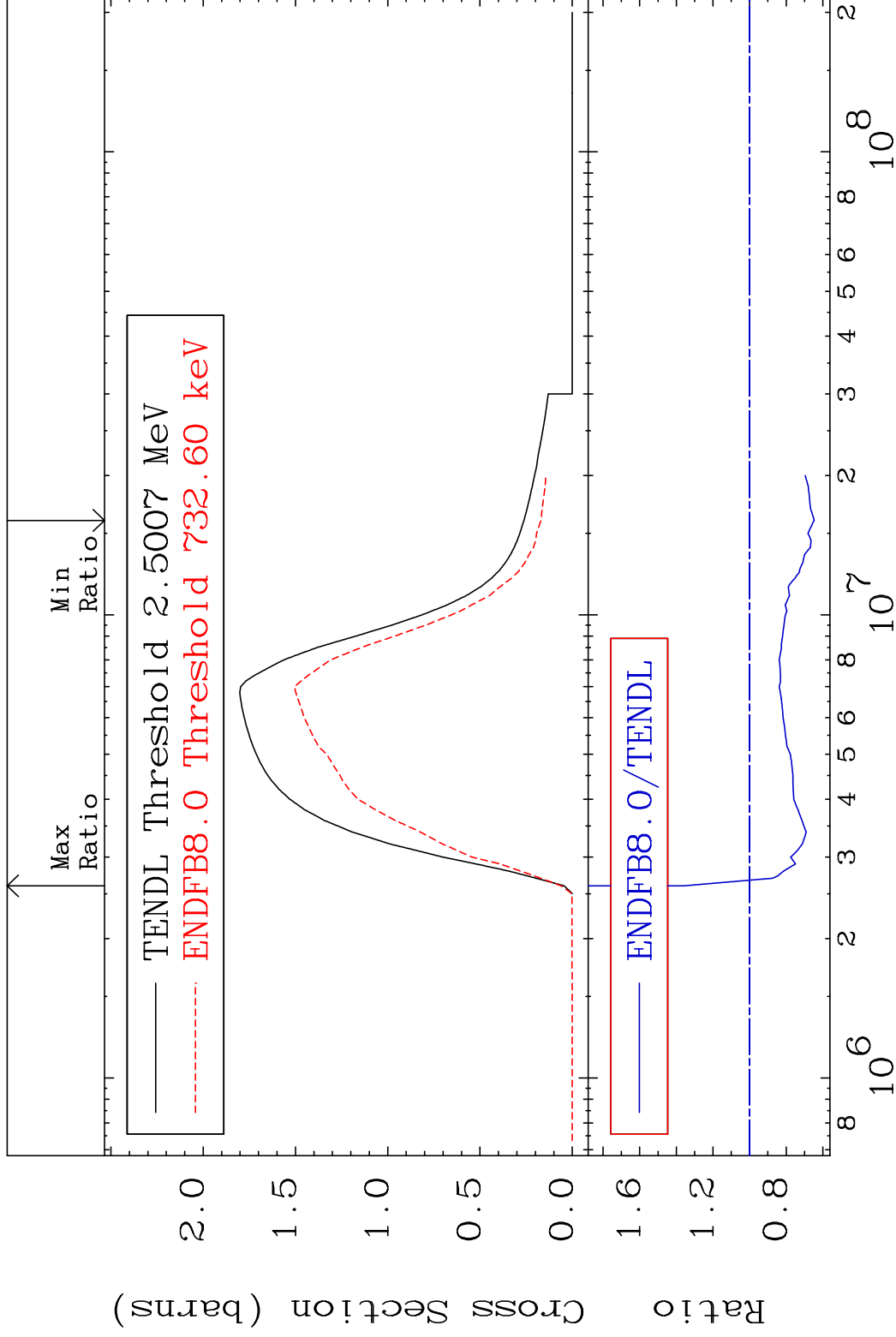


MAT 4034 MT= 75 (n,n') Level 40-Zr-93  
 Cross Section -100.0 To 22.78 %



MAT 4034

(n,n') Continuum 40-Zr-93  
Cross Section -35.24 To 35.99 %



36

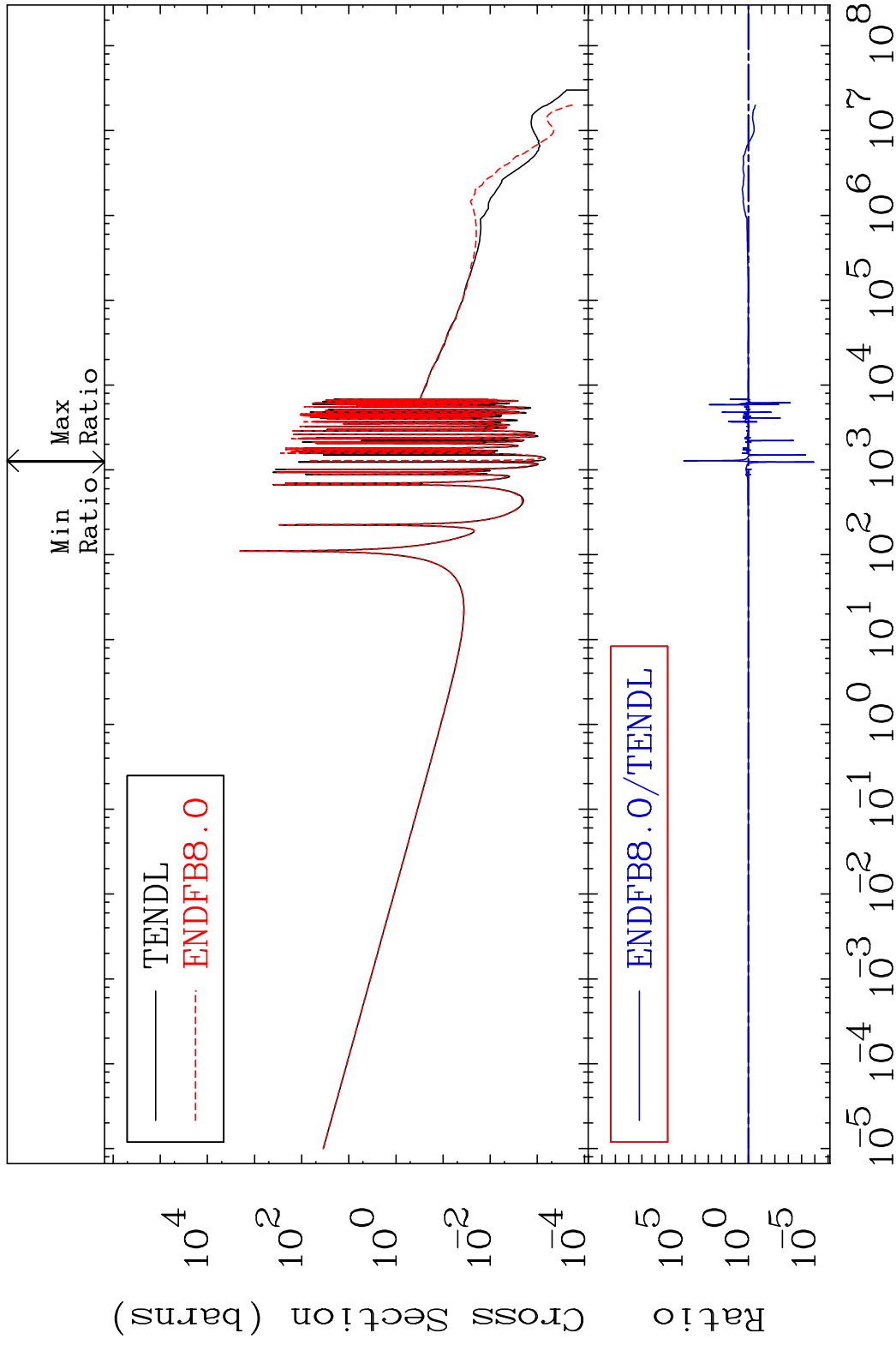
Incident Energy (eV) 40-Zr-93

MAT 4034

(n,  $\gamma$ )

40-Zr-93

Cross Section -100.0 To 9999. %

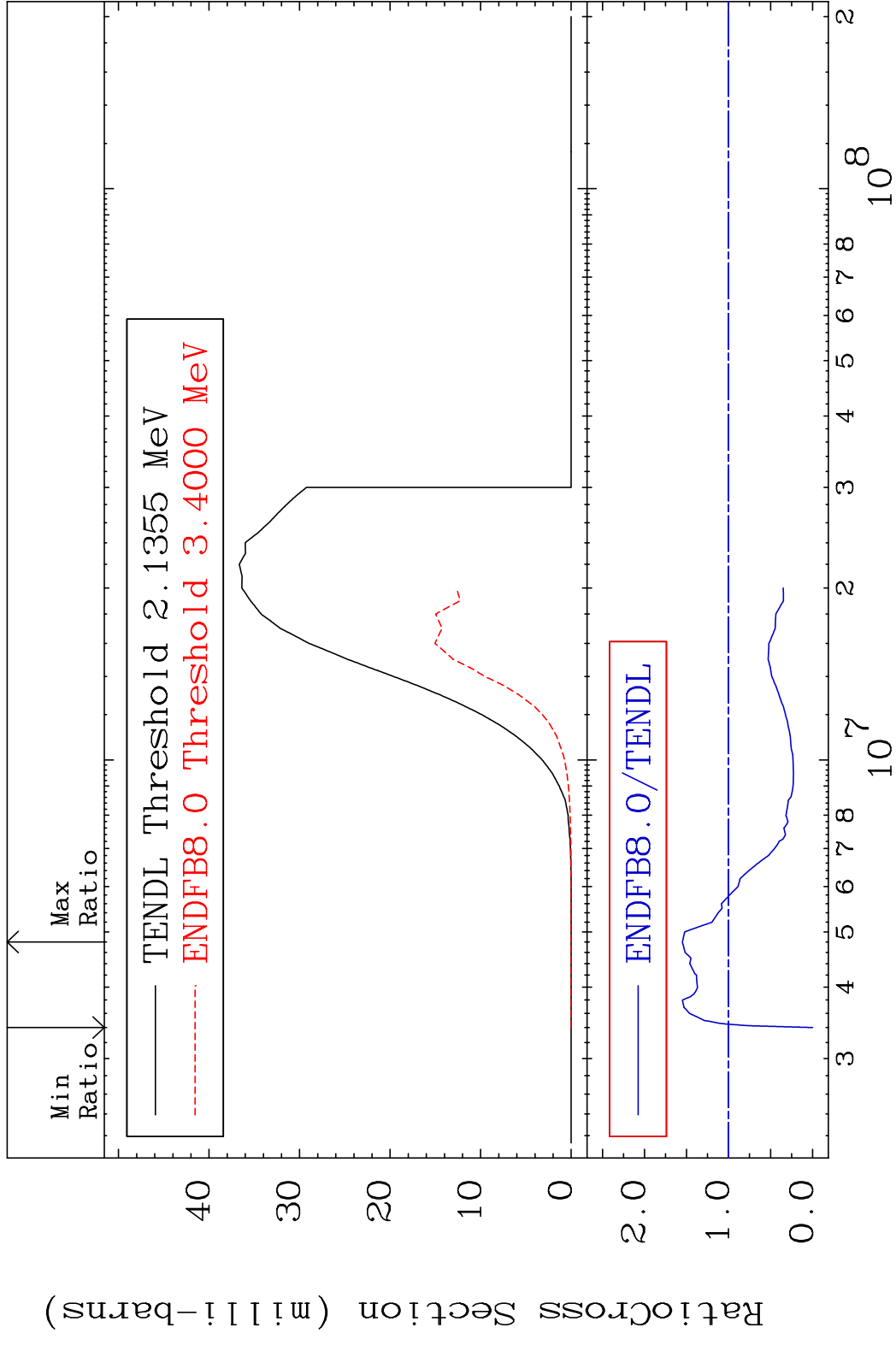


37

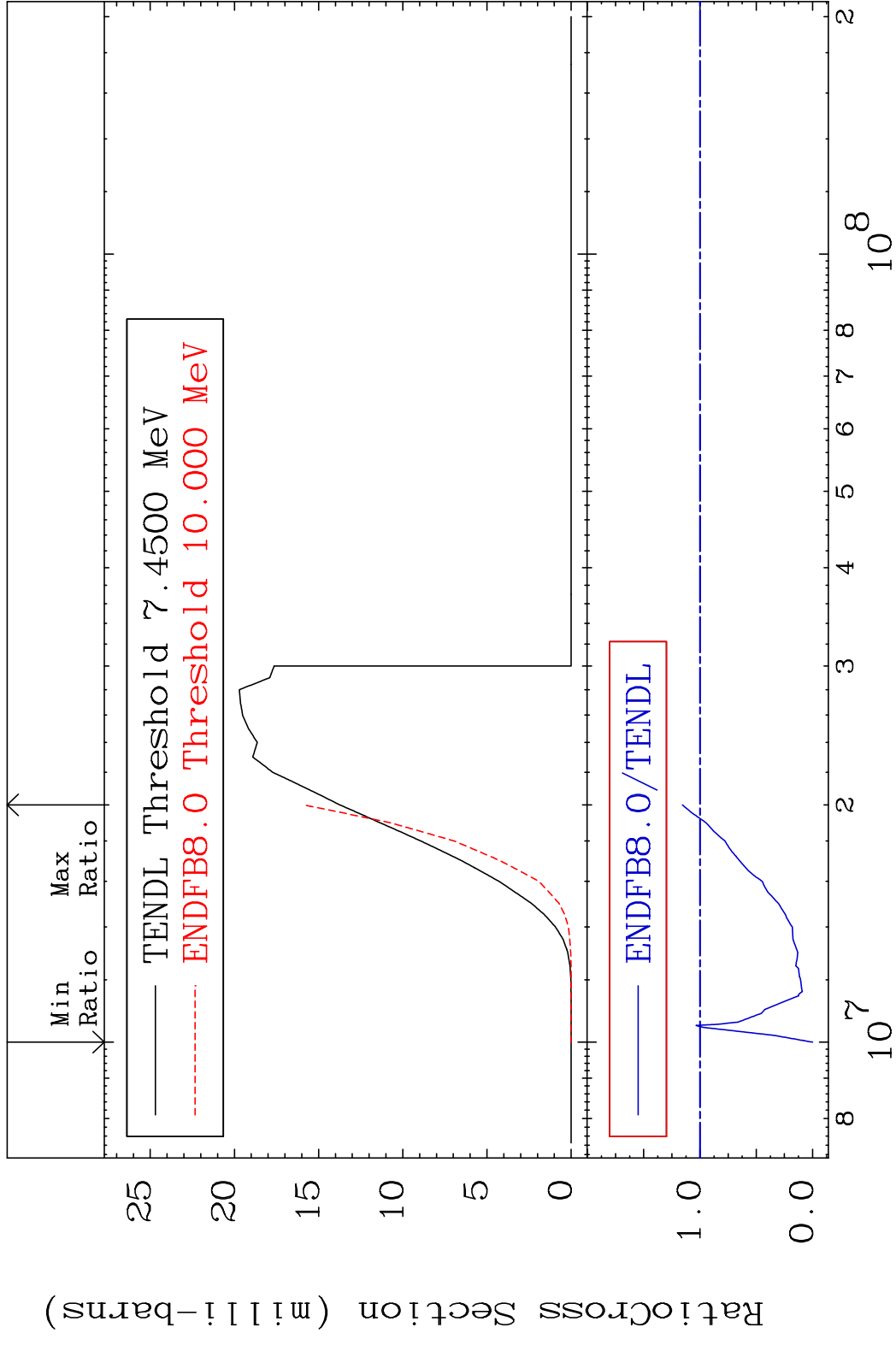
Incident Energy (eV)

40-Zr-93

MAT 4034 (n,p) 40-Zr-93  
 Cross Section -100.0 To 54.93 %



MAT 4034 (n,d) 40-Zr-93  
 Cross Section -100.0 To 15.68 %



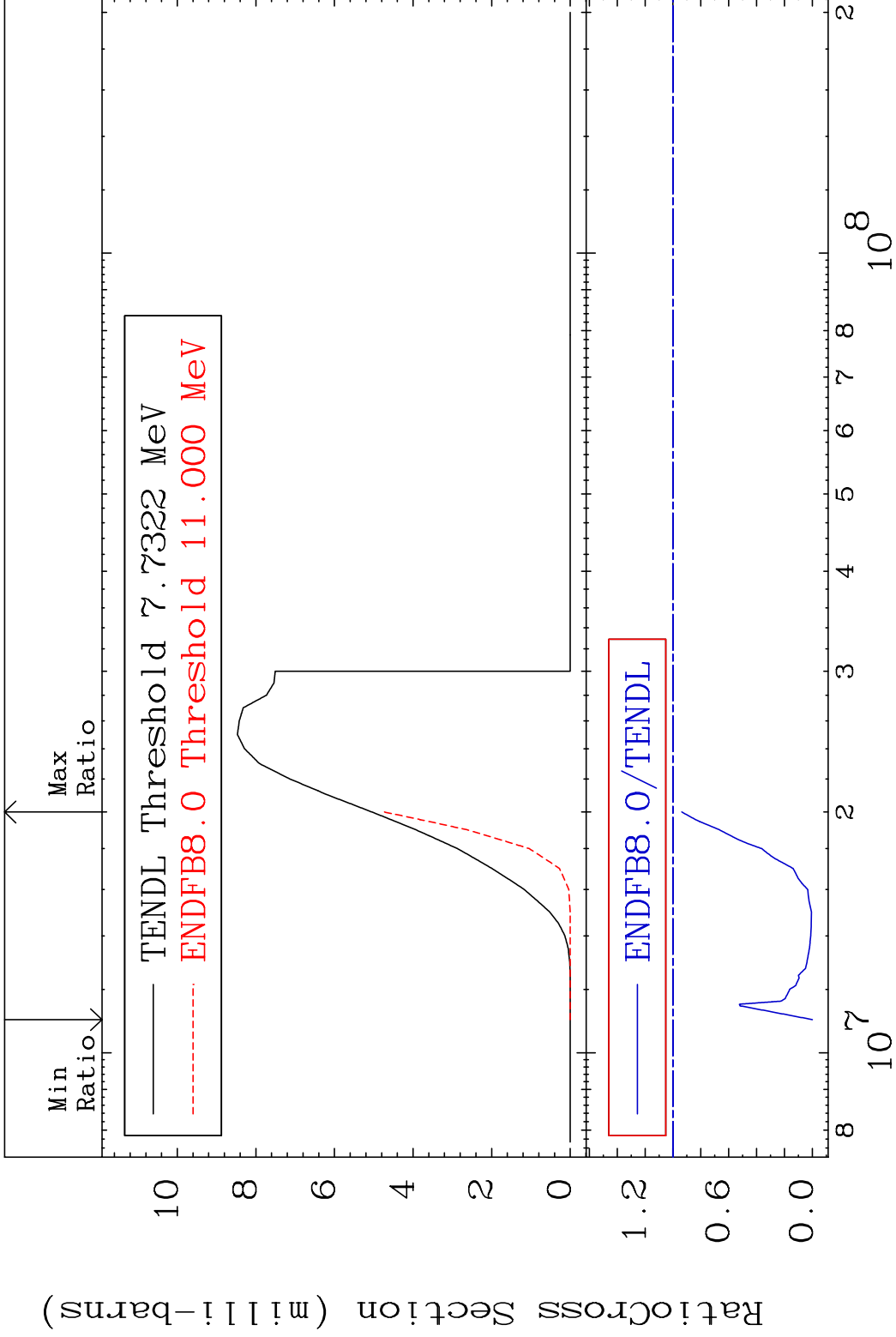


MAT 4034

(n, t)

40-Zr-93

Cross Section -100.0 To -6.298%



40

Incident Energy (eV)

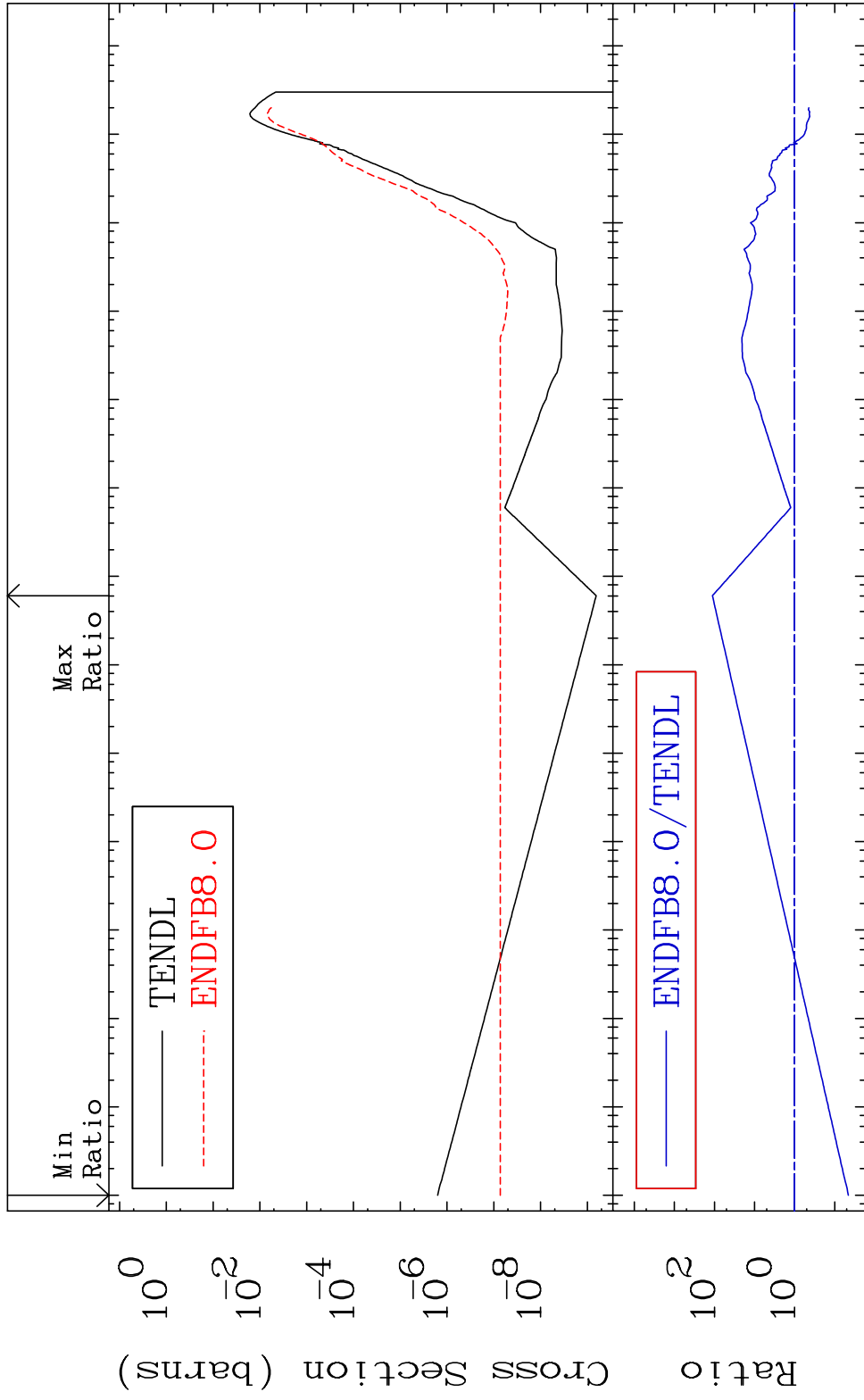
40-Zr-93

MAT 4034

(n,  $\alpha$ )

40-Zr-93

Cross Section -95.42 To 9999. %



10<sup>-5</sup> 10<sup>-4</sup> 10<sup>-3</sup> 10<sup>-2</sup> 10<sup>-1</sup> 10<sup>0</sup> 10<sup>1</sup> 10<sup>2</sup> 10<sup>3</sup> 10<sup>4</sup> 10<sup>5</sup> 10<sup>6</sup> 10<sup>7</sup> 10<sup>8</sup>

41

Incident Energy (eV)

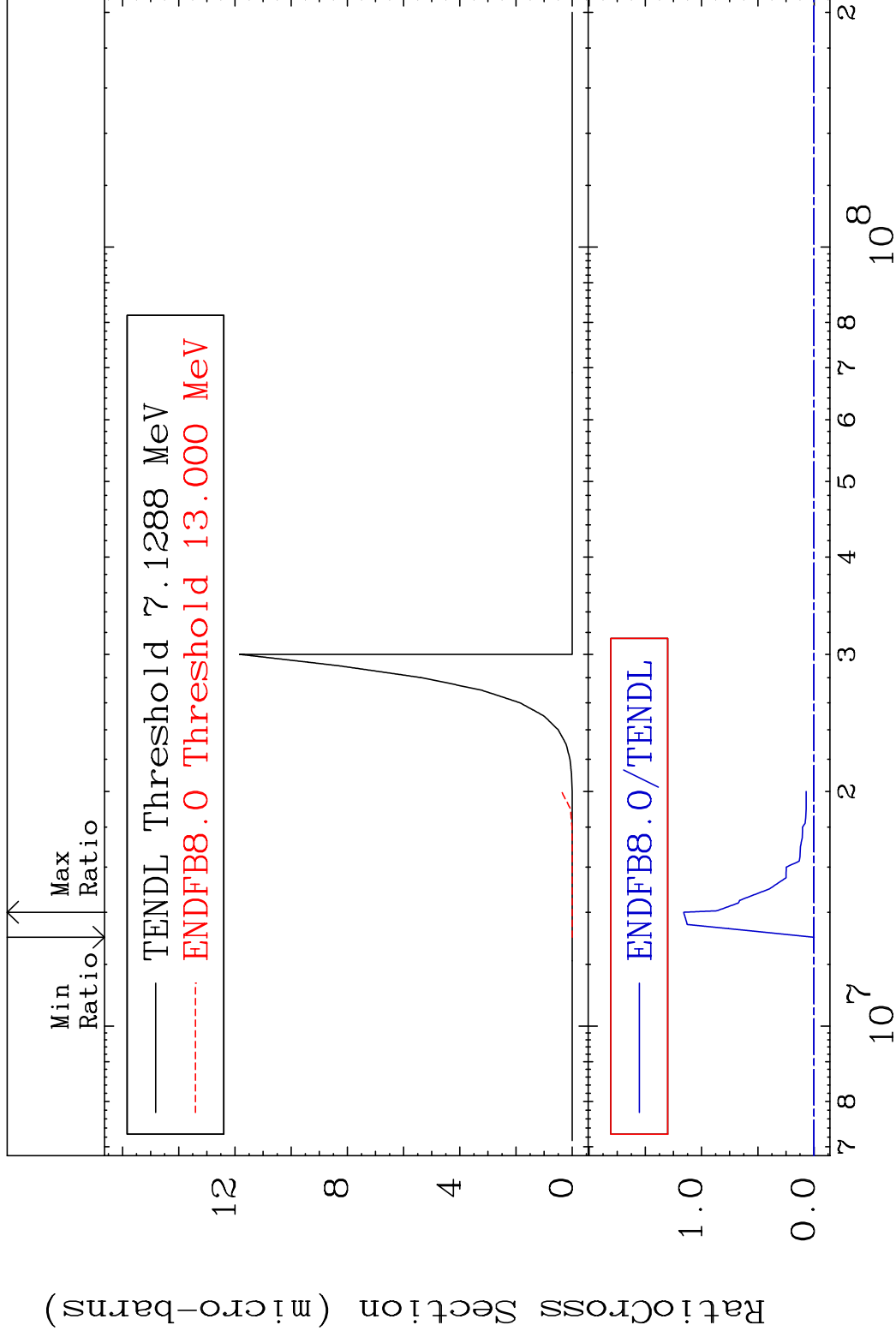
40-Zr-93

MAT 4034

(n,p)  $\alpha$

40-Zr-93

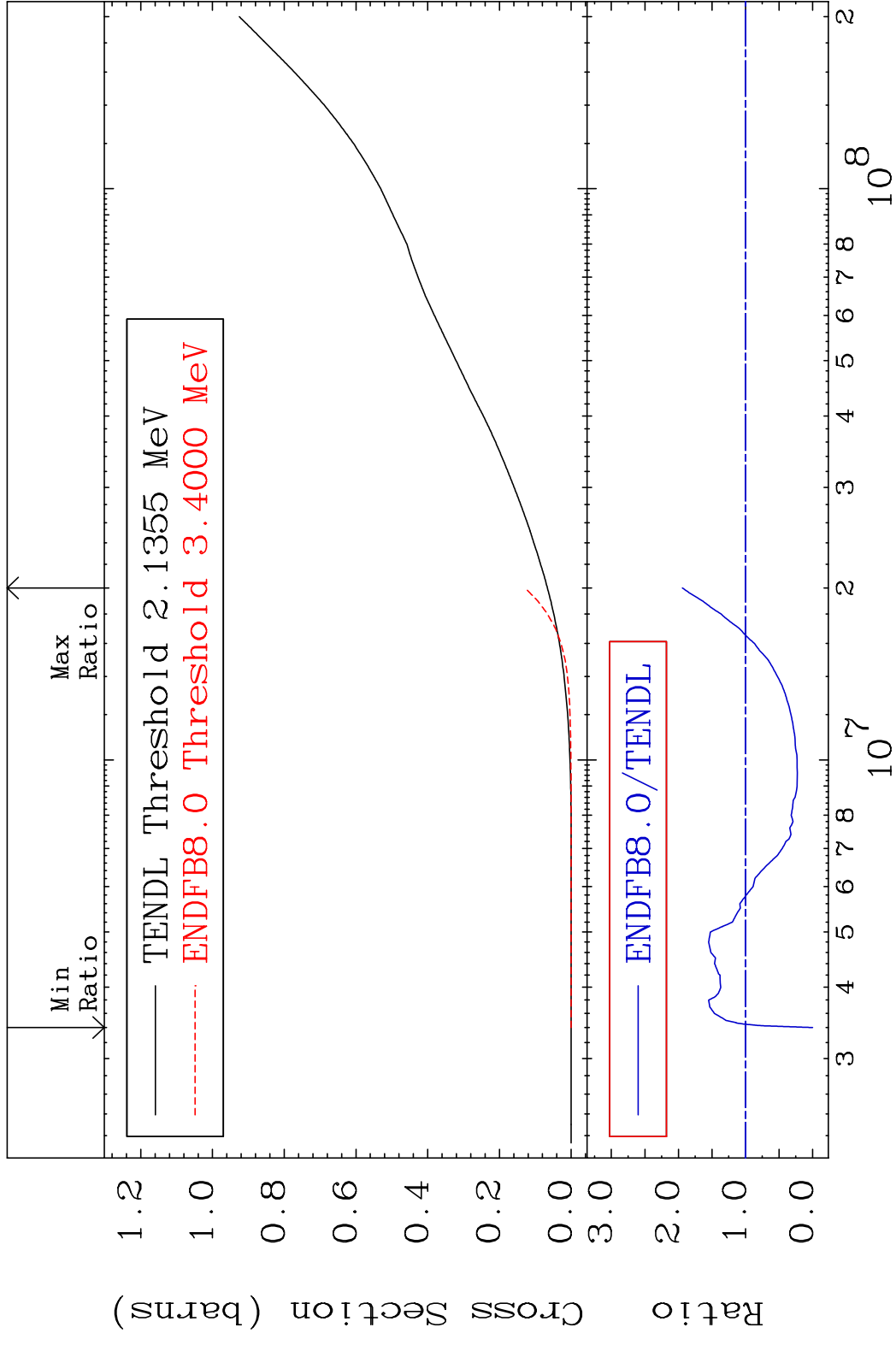
Cross Section -100.0 To 9999. %



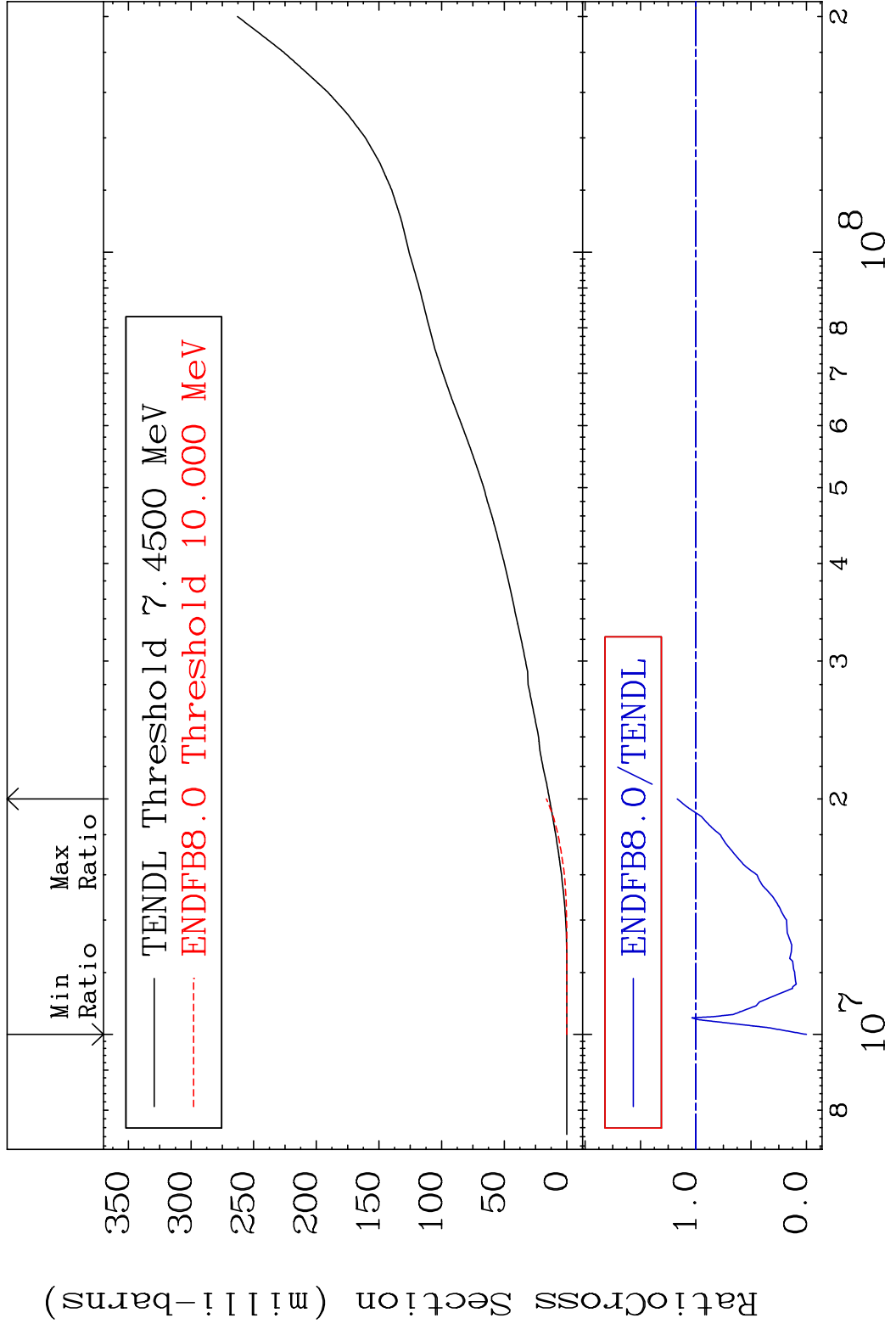
42

Incident Energy (eV)

40-Zr-93



MAT 4034 Deuterium Production 40-Zr-93  
 Cross Section -100.0 To 16.81 %

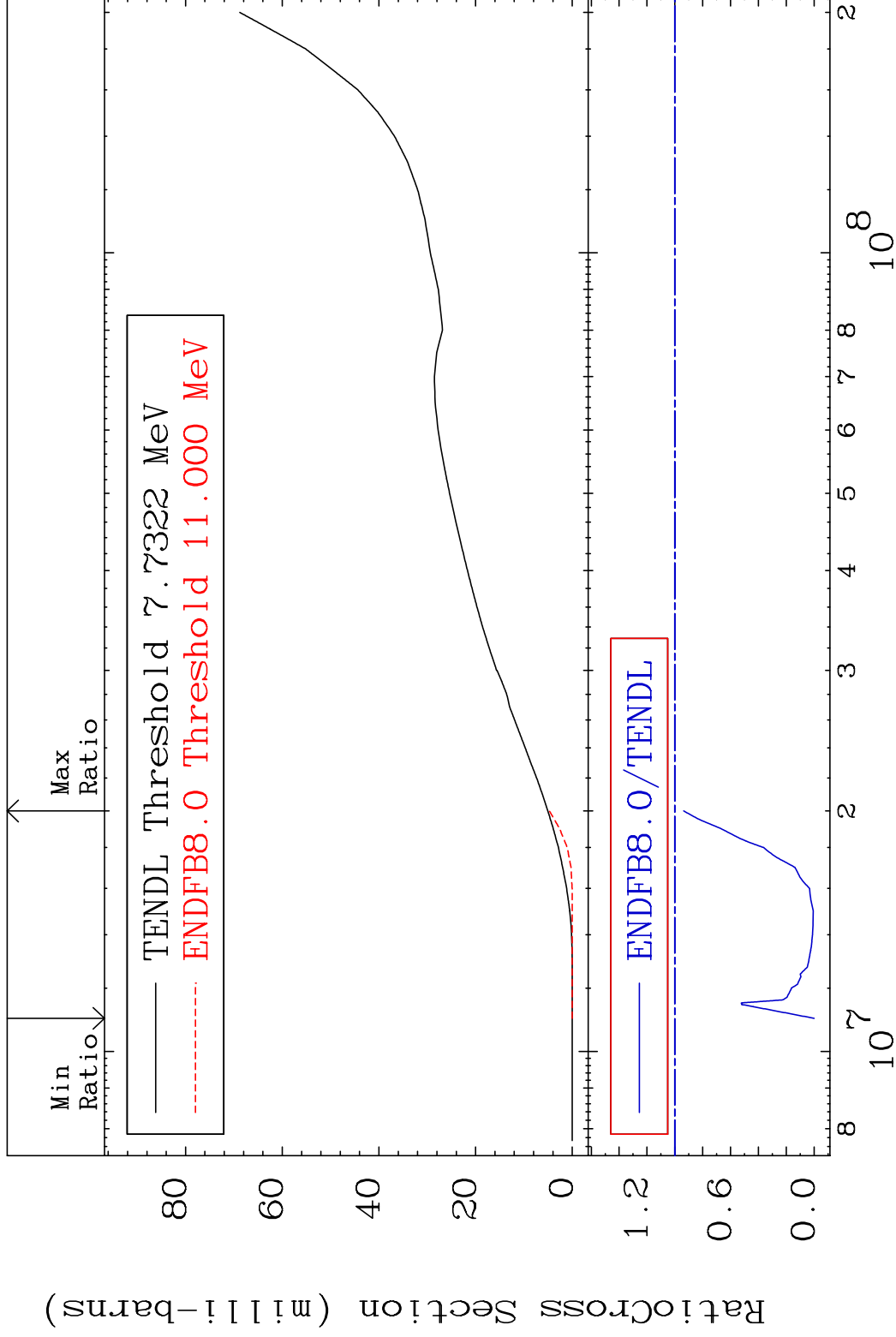


44 40-Zr-93

MAT 4034

Tritium Production 40-Zr-93

Cross Section -100.0 To -6.328%



45

Incident Energy (eV)

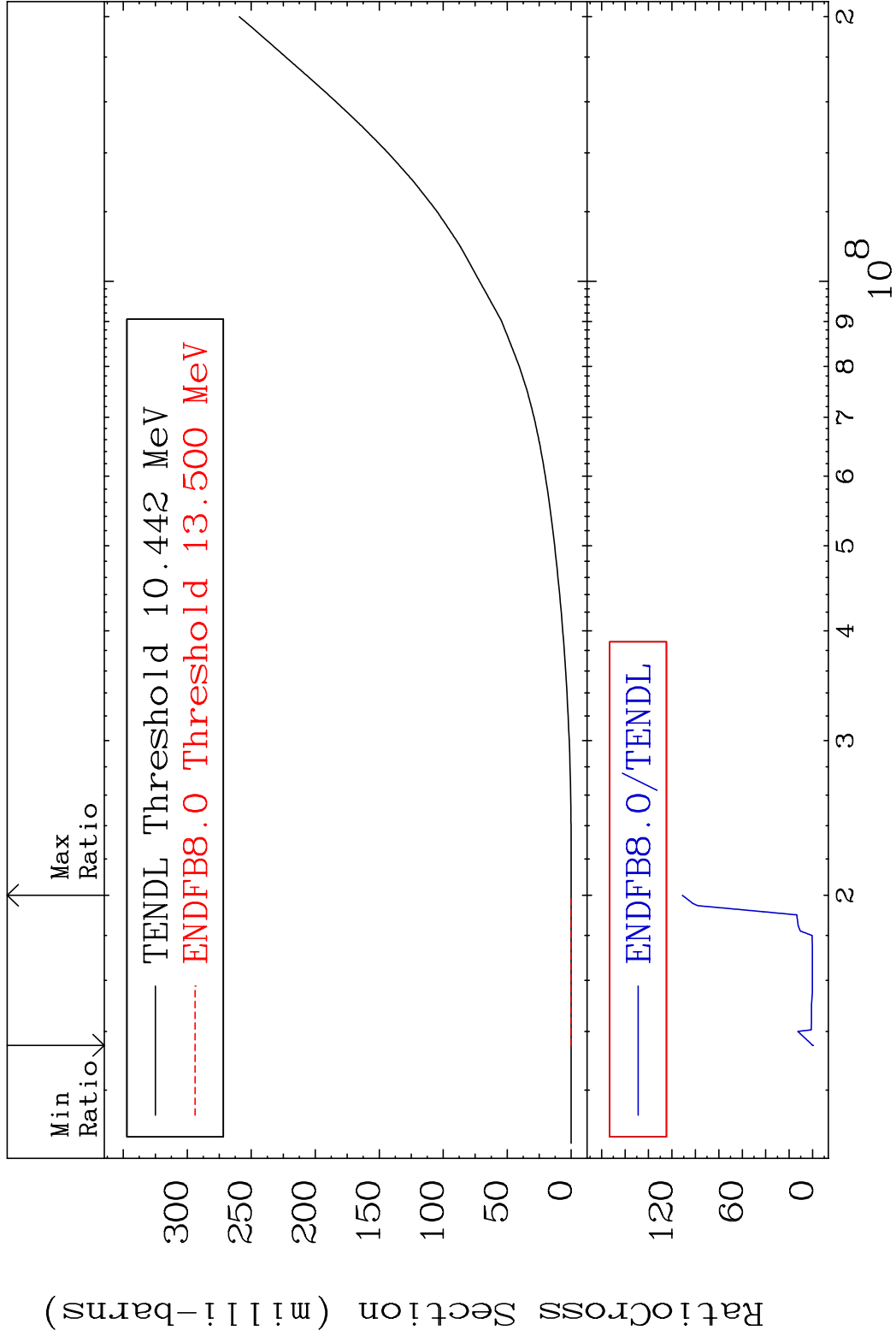
40-Zr-93

MAT 4034

He-3 Production

40-Zr-93

Cross Section -100.0 To -99.99%

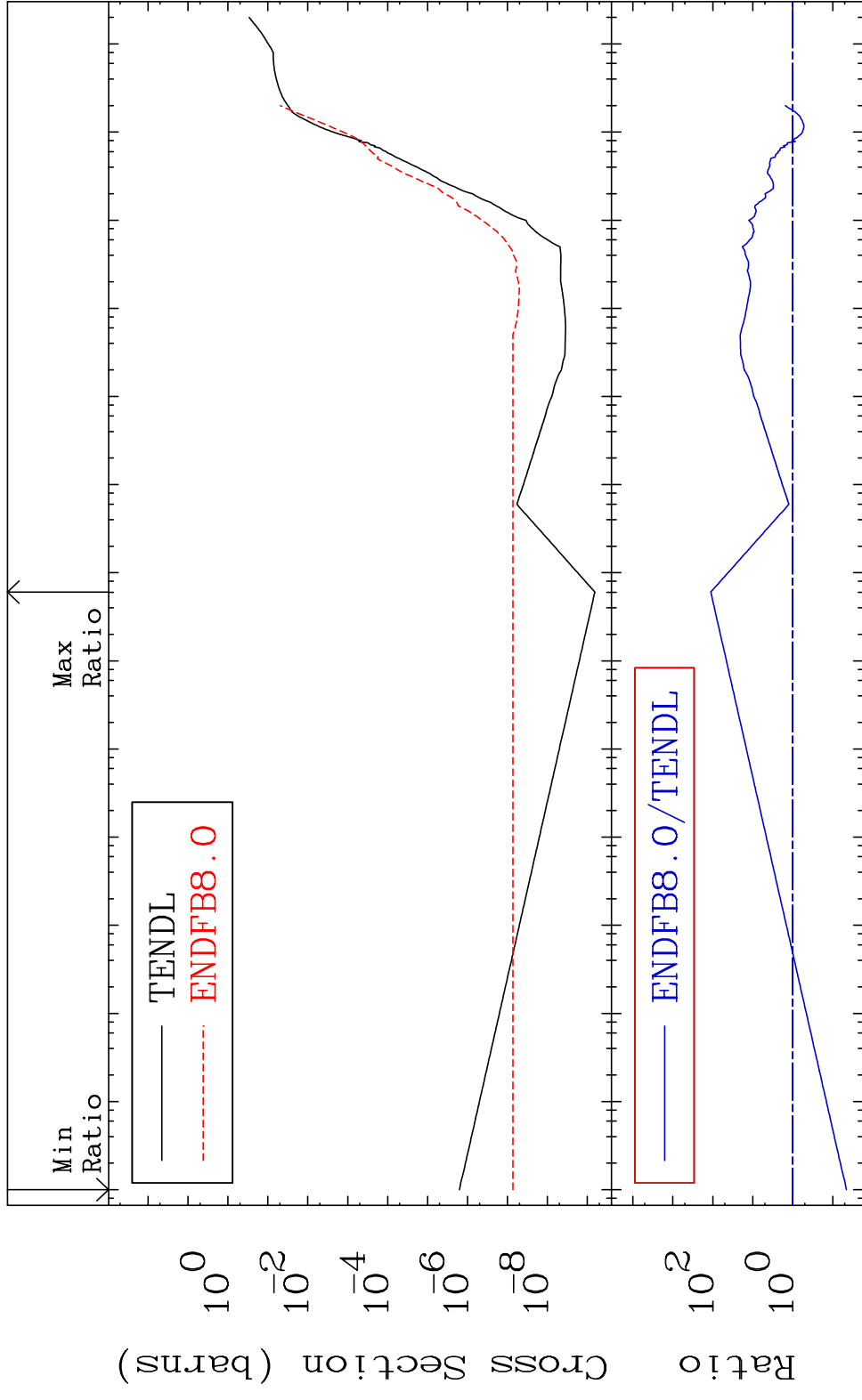


46

Incident Energy (eV)

40-Zr-93

MAT 4034 He-4 Production 40-Zr-93  
 Cross Section -95.42 To 9999. %



Ratio

10<sup>0</sup>  
 10<sup>-2</sup>  
 10<sup>-4</sup>  
 10<sup>-6</sup>  
 10<sup>-8</sup>

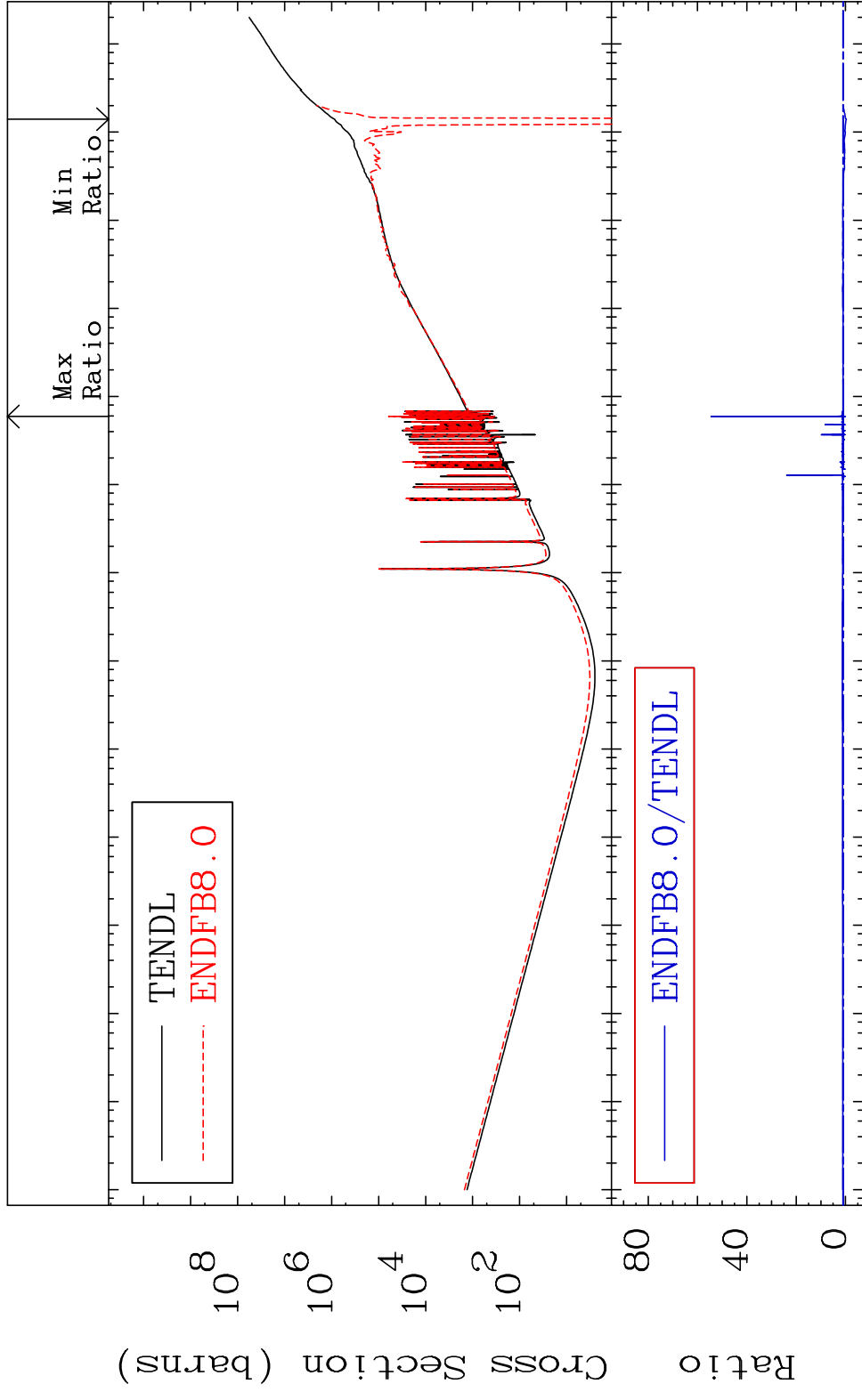
10<sup>2</sup>  
 10<sup>0</sup>

10<sup>-5</sup> 10<sup>-4</sup> 10<sup>-3</sup> 10<sup>-2</sup> 10<sup>-1</sup> 10<sup>0</sup> 10<sup>1</sup> 10<sup>2</sup> 10<sup>3</sup> 10<sup>4</sup> 10<sup>5</sup> 10<sup>6</sup> 10<sup>7</sup> 10<sup>8</sup>

47 Incident Energy (eV) 40-Zr-93



MAT 4034 Kerma total (eV-barns) 40-Zr-93  
 Cross Section -132.7 To 5365. %



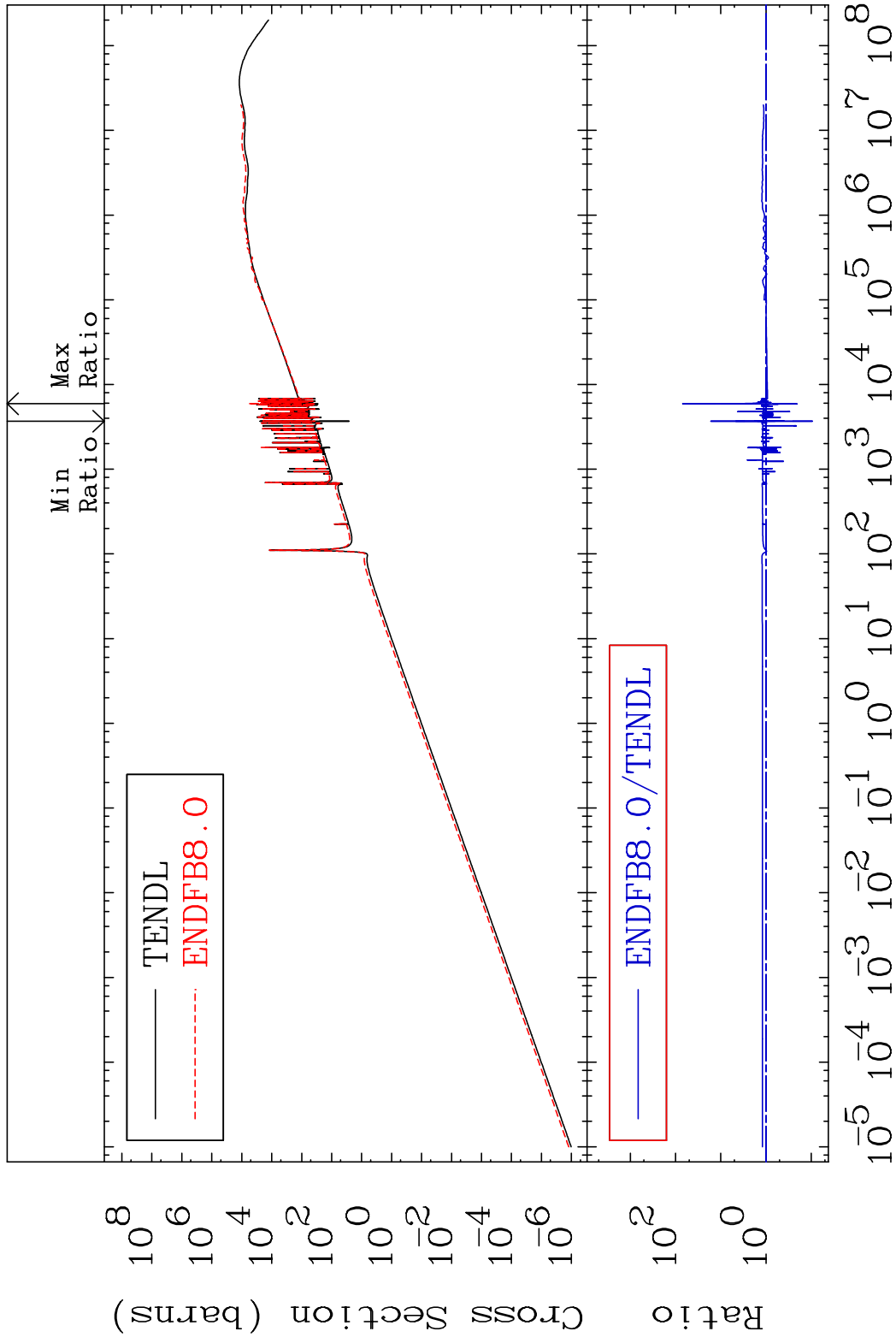
48 Incident Energy (eV) 40-Zr-93

MAT 4034

Kerma elastic  
Cross Section

40-Zr-93

-90.64 To 6977. %

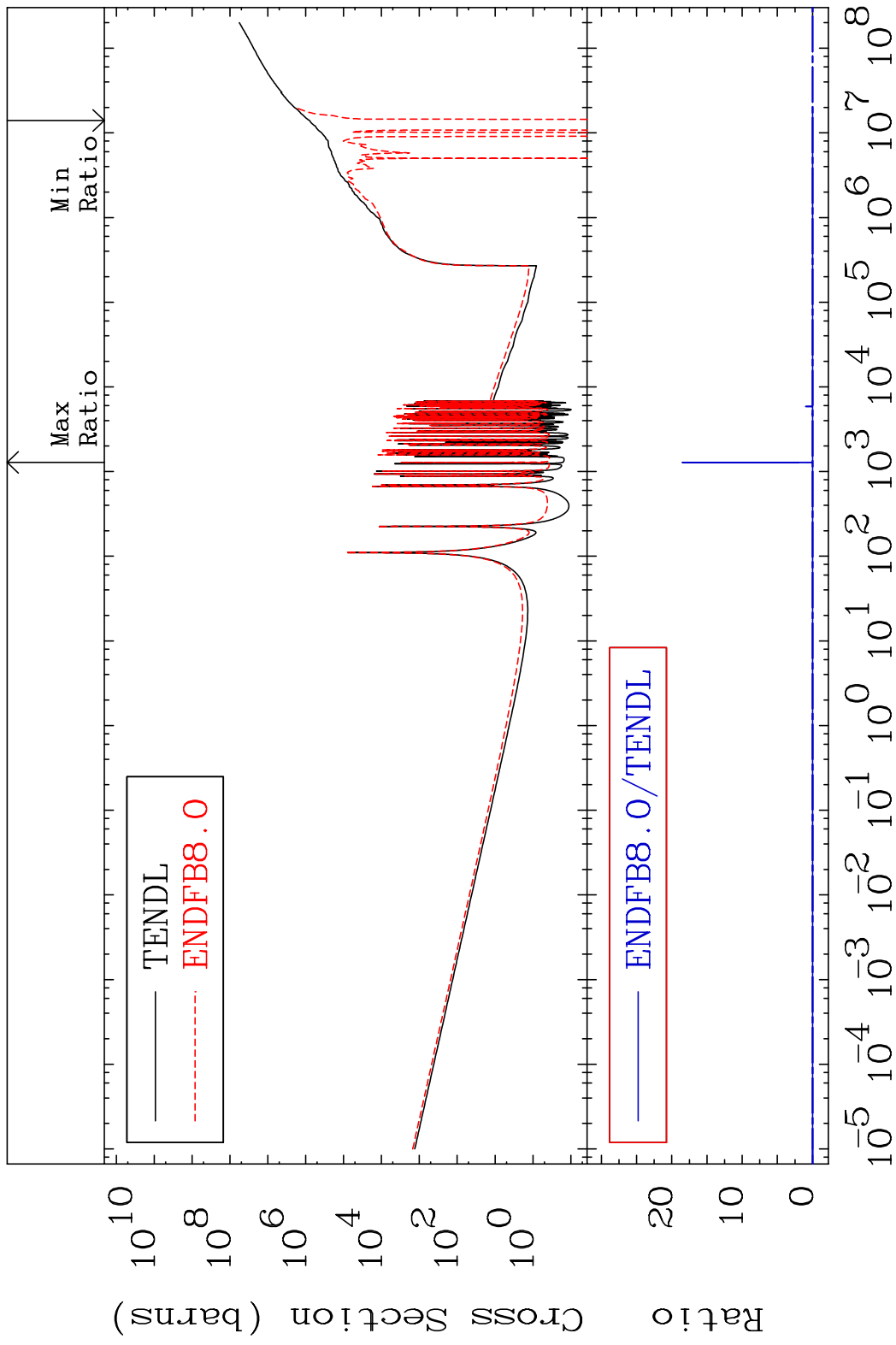


49

Incident Energy (eV)

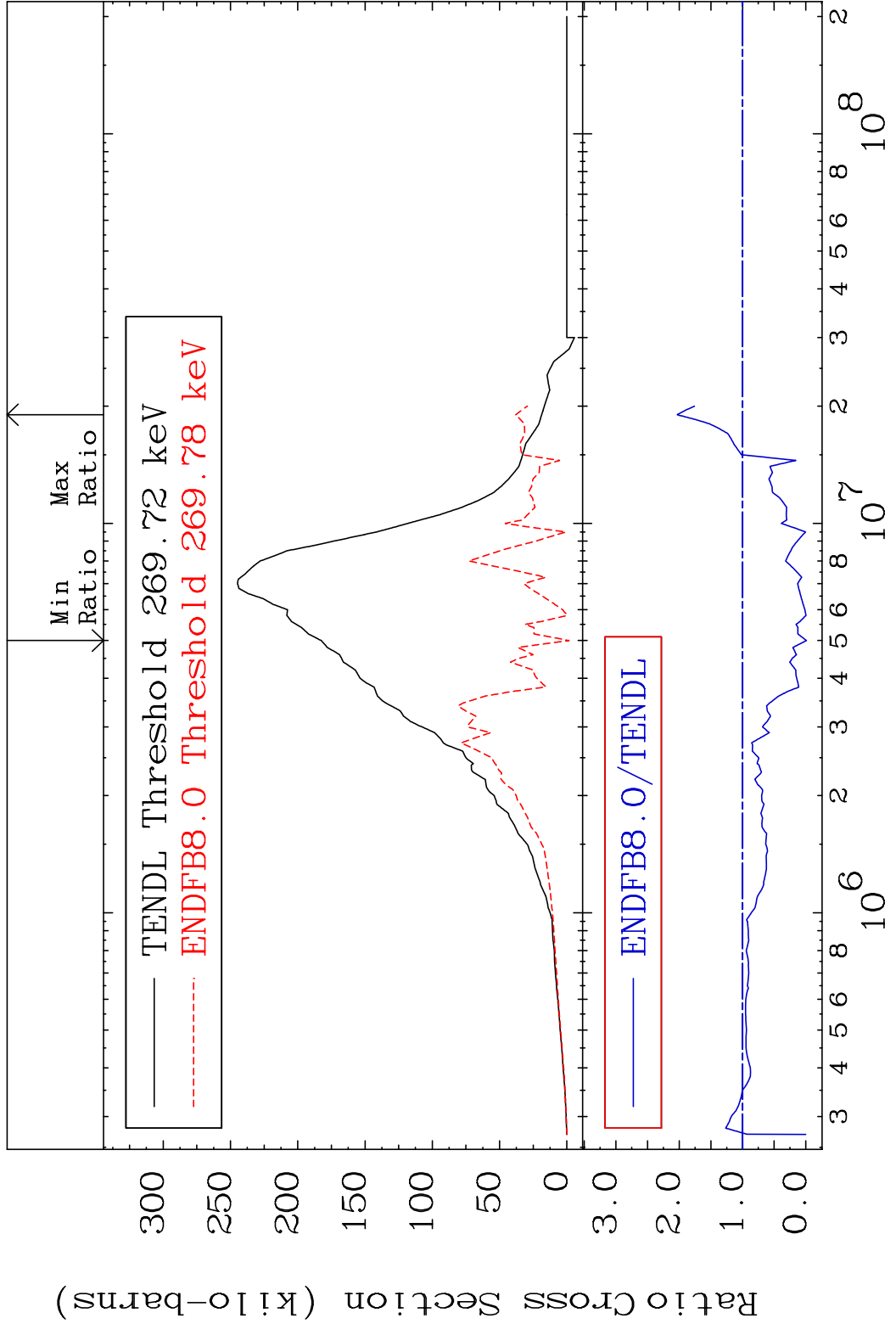
40-Zr-93

MAT 4034 Kerma non-elastic (all but mt2) 40-Zr-93  
 Cross Section -147.0 To 9999. %

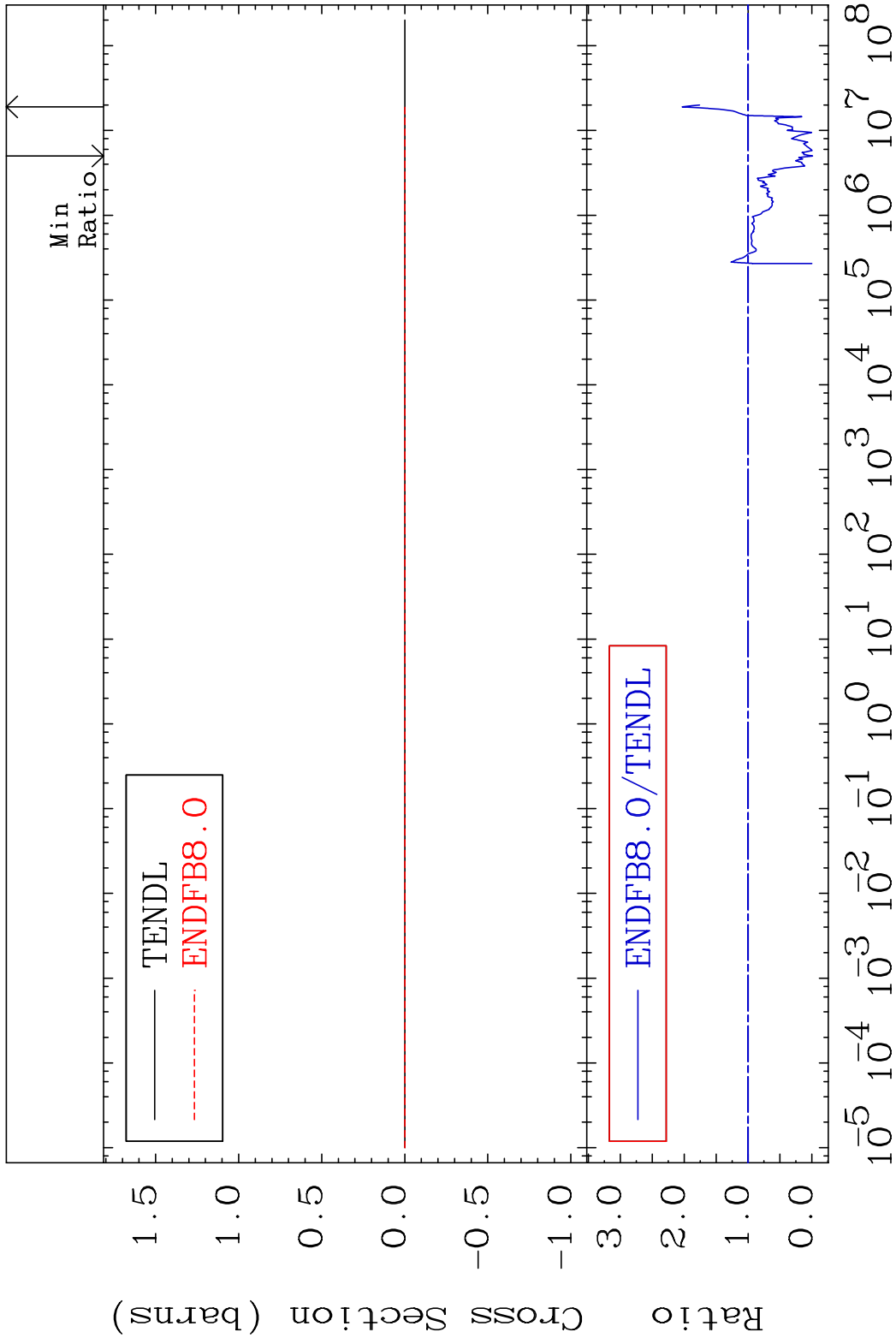


50 Incident Energy (eV) 40-Zr-93

MAT 4034 Kerma inelastic (mt51-91) 40-Zr-93  
 Cross Section -100.9 To 103.2 %



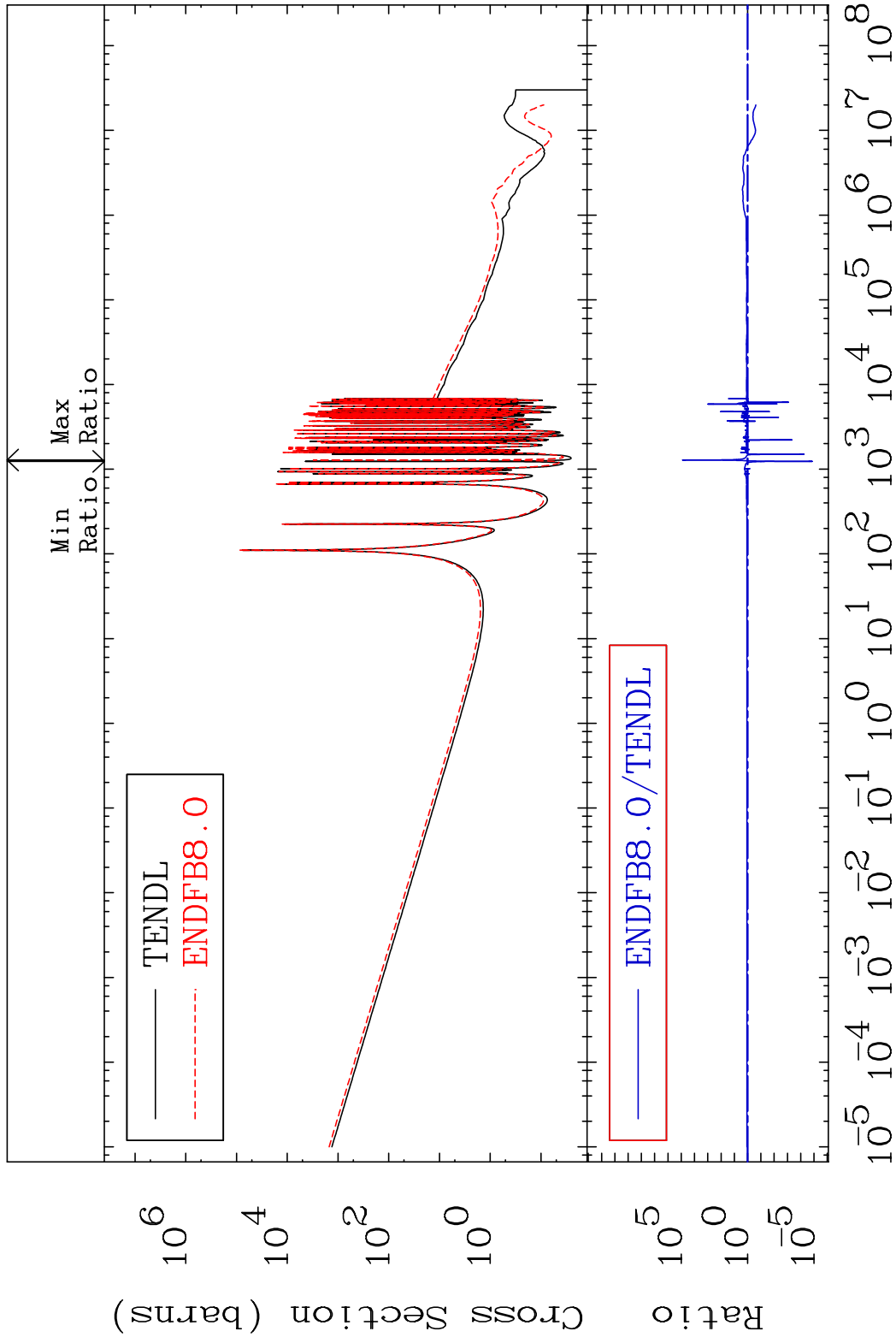
MAT 4034 Kerma fission (mt18 or mt19-20-21-38) 40-Zr-93  
 Cross Section -100.9 To 103.2 %



MAT 4034

Kerma capture (mt102) 40-Zr-93

Cross Section -100.0 To 9999. %

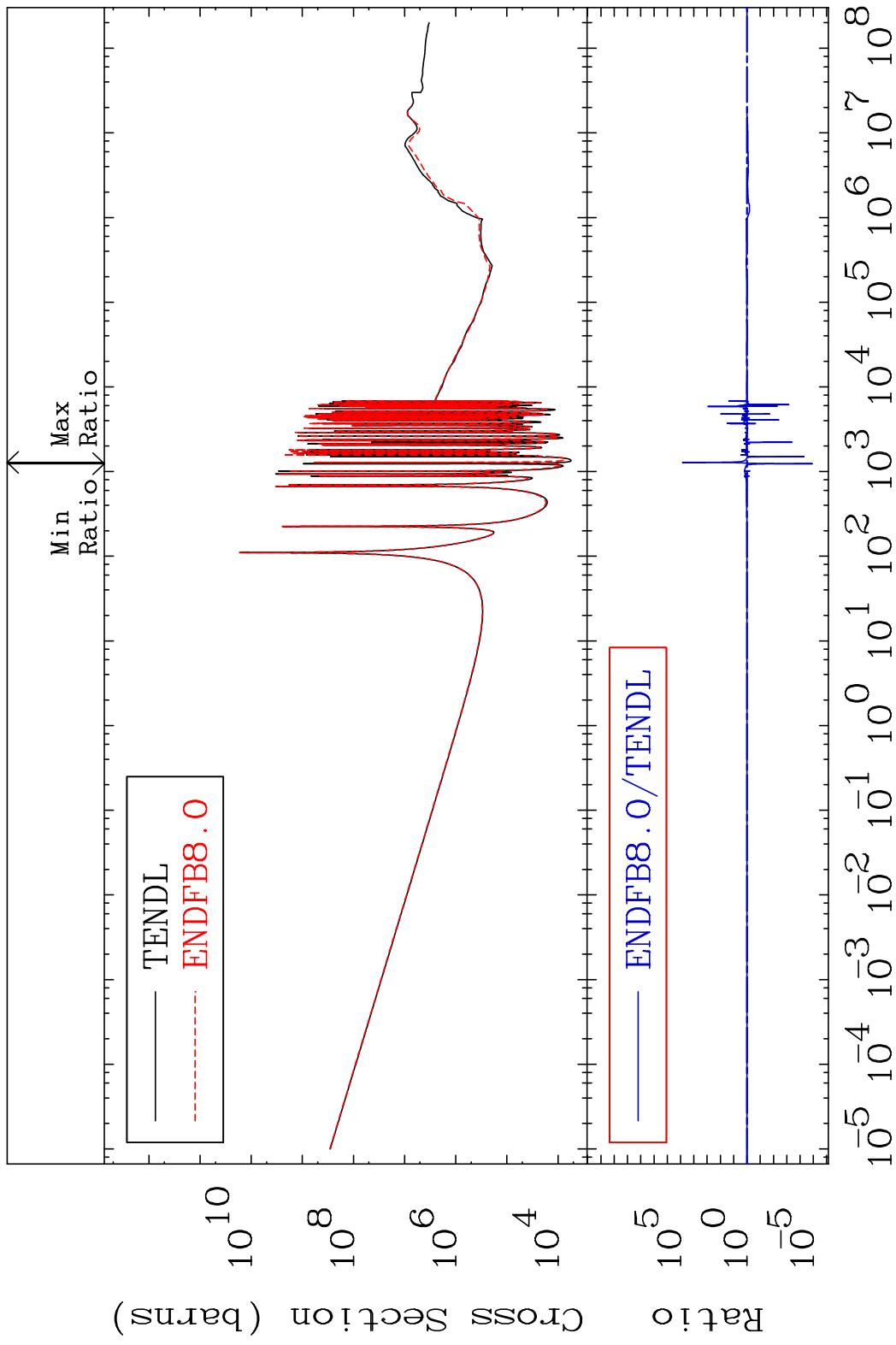


53

Incident Energy (eV)

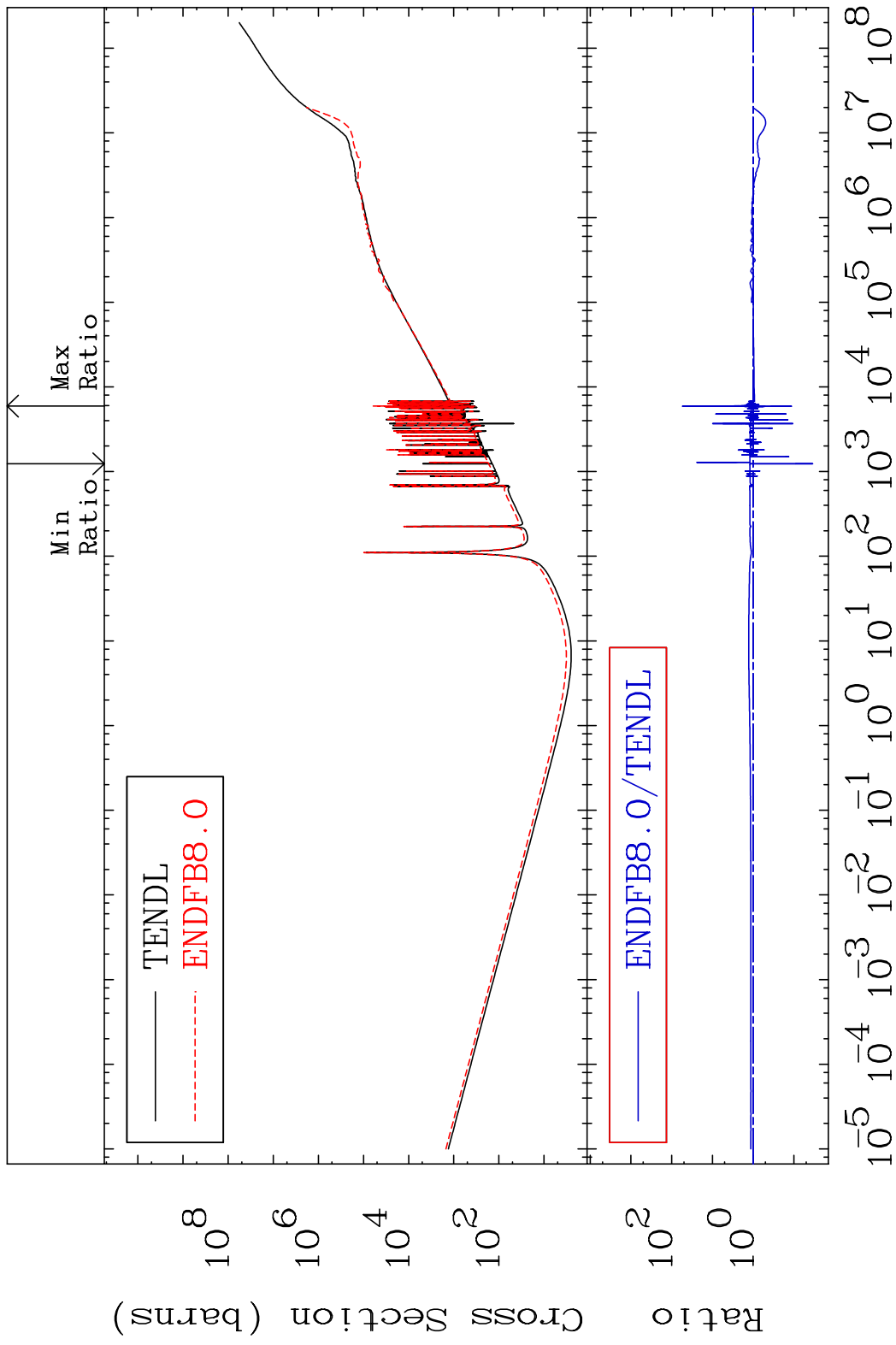
40-Zr-93

MAT 4034 Total photon (eV-barns) 40-Zr-93  
 Cross Section -100.0 To 9999. %



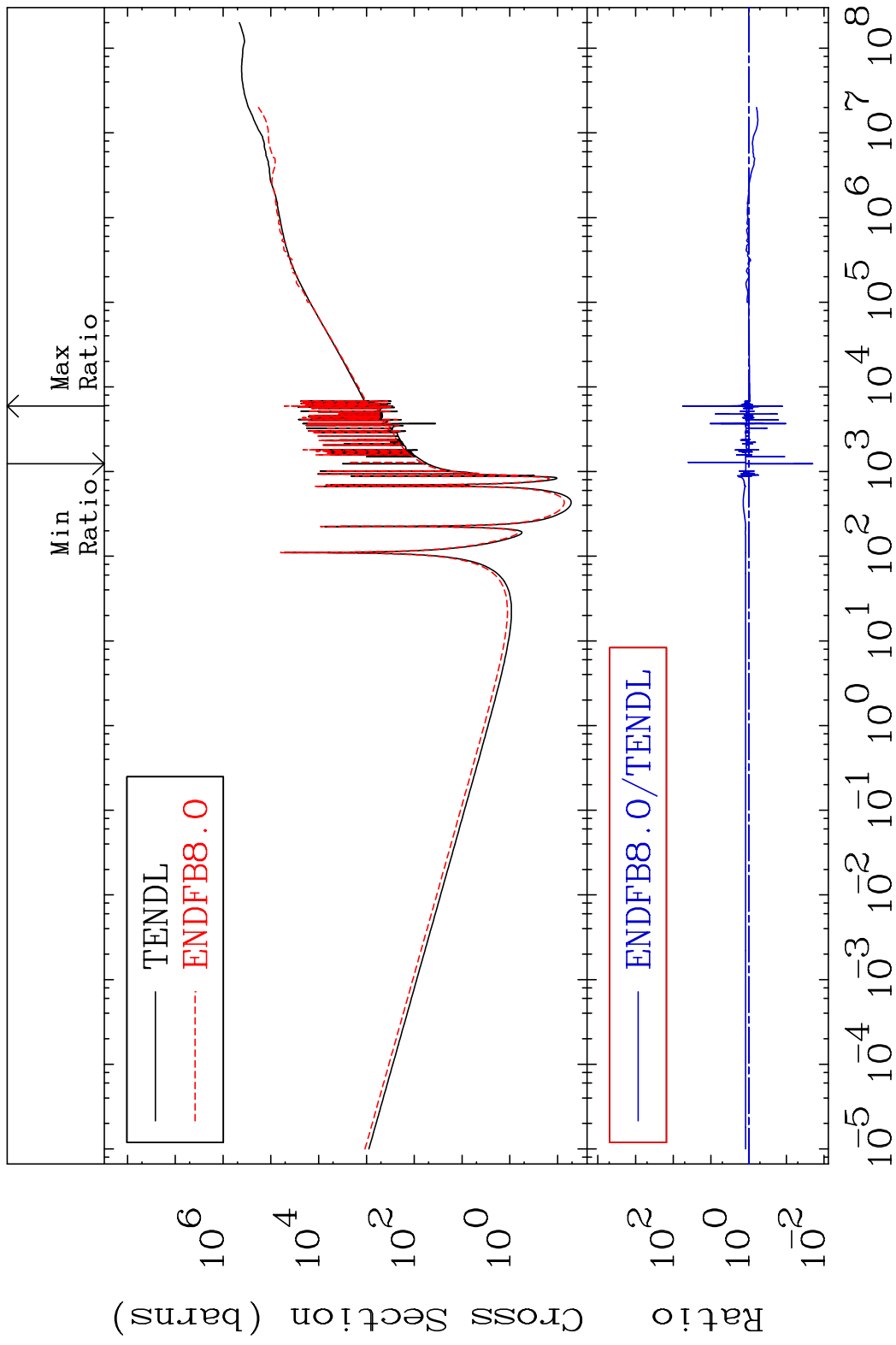
54 Incident Energy (eV) 40-Zr-93

MAT 4034 Total kinematic kerma (high limit) 40-Zr-93  
 Cross Section -96.52 To 5365. %





MAT 4034      Dpa total (eV-barns)      40-Zr-93  
 Cross Section      -97.98 To 5645. %



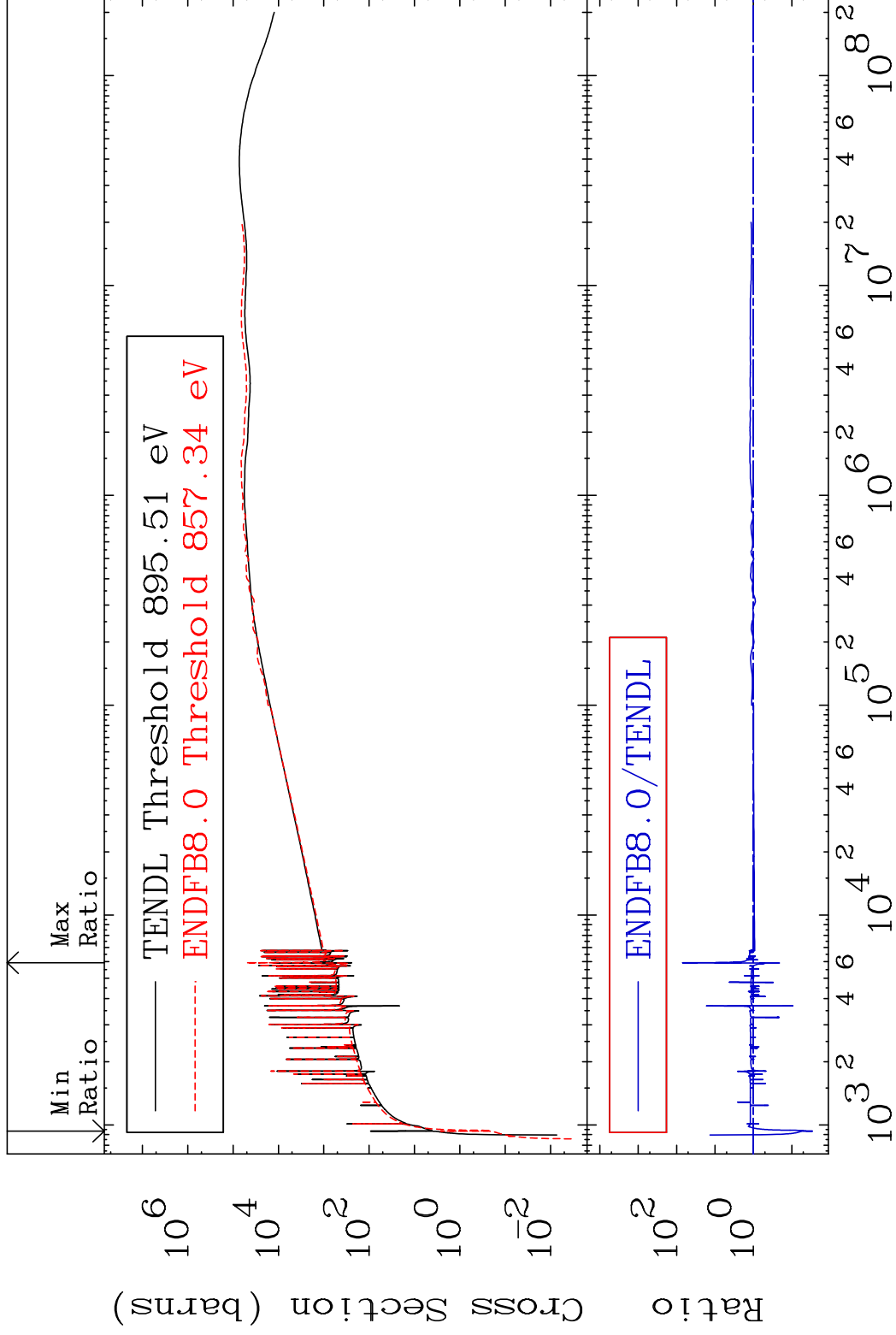
56      Incident Energy (eV)      40-Zr-93

MAT 4034

Dpa elastic (mt2)

40-Zr-93

Cross Section -97.13 To 6977. %

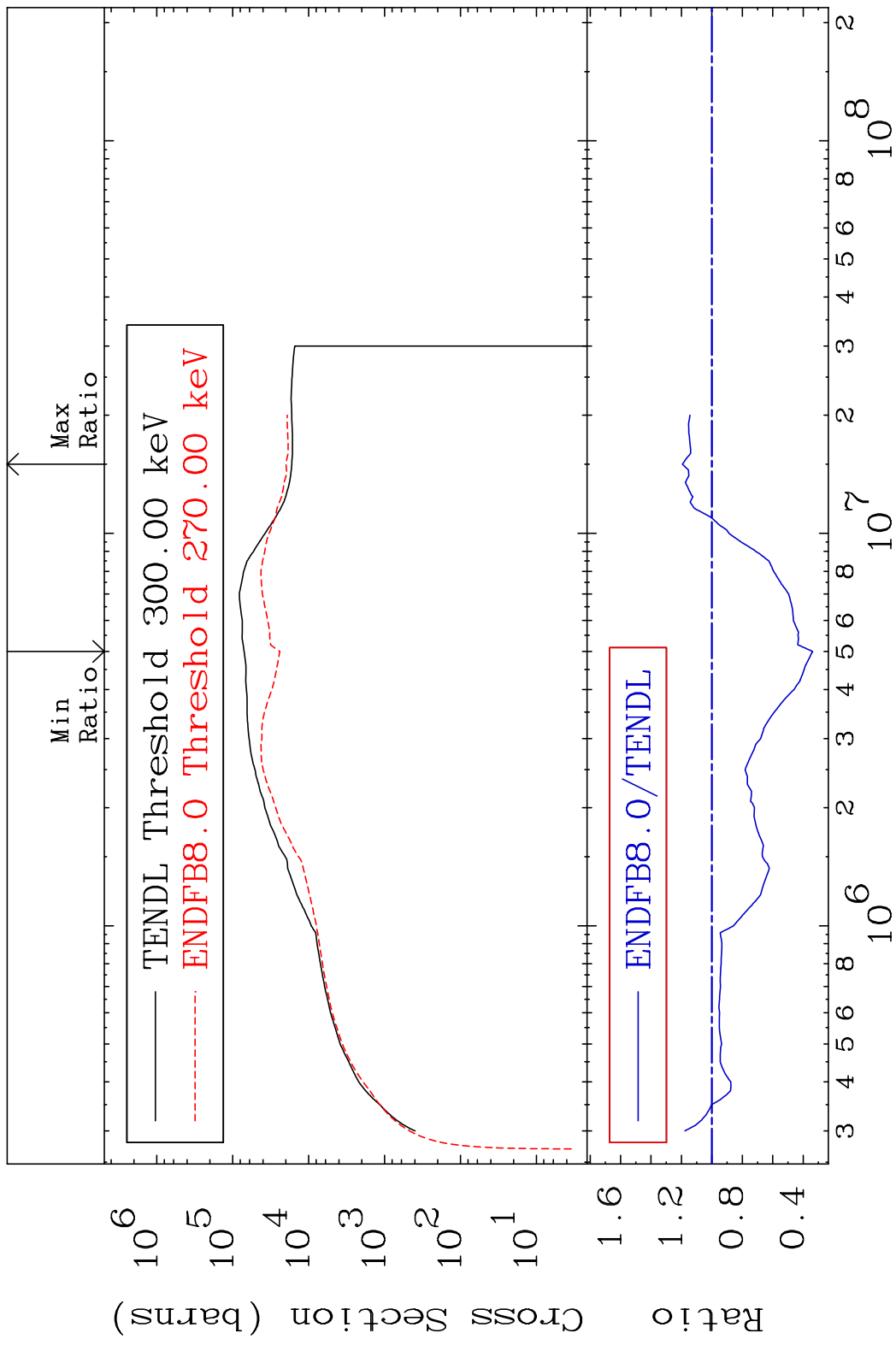


57

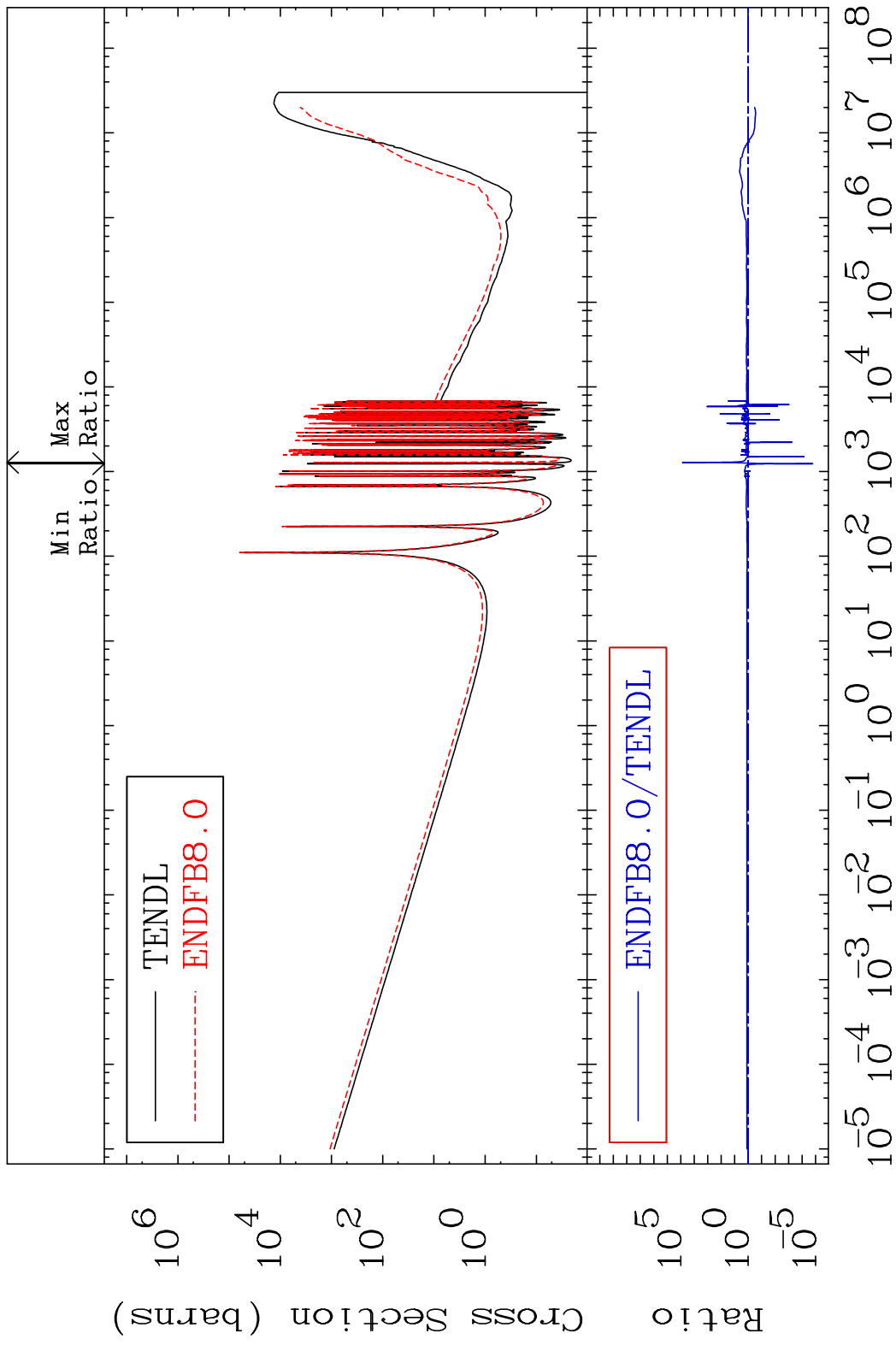
Incident Energy (eV)

40-Zr-93

MAT 4034 Dpa inelastic (mt51-91) 40-Zr-93  
 Cross Section -66.15 To 19.42 %



MAT 4034 Dpa disappearance (mt102 -120) 40-Zr-93  
Cross Section -100.0 To 9999. %



59 Incident Energy (eV) 40-Zr-93