

Program Complot  
(Version 2018-1)

by

Dermott E. Cullen  
(Present Contact Information)

Dermott E. Cullen  
1466 Hudson Way  
Livermore, CA 94550

U.S.A.

Tele: 925-443-1911

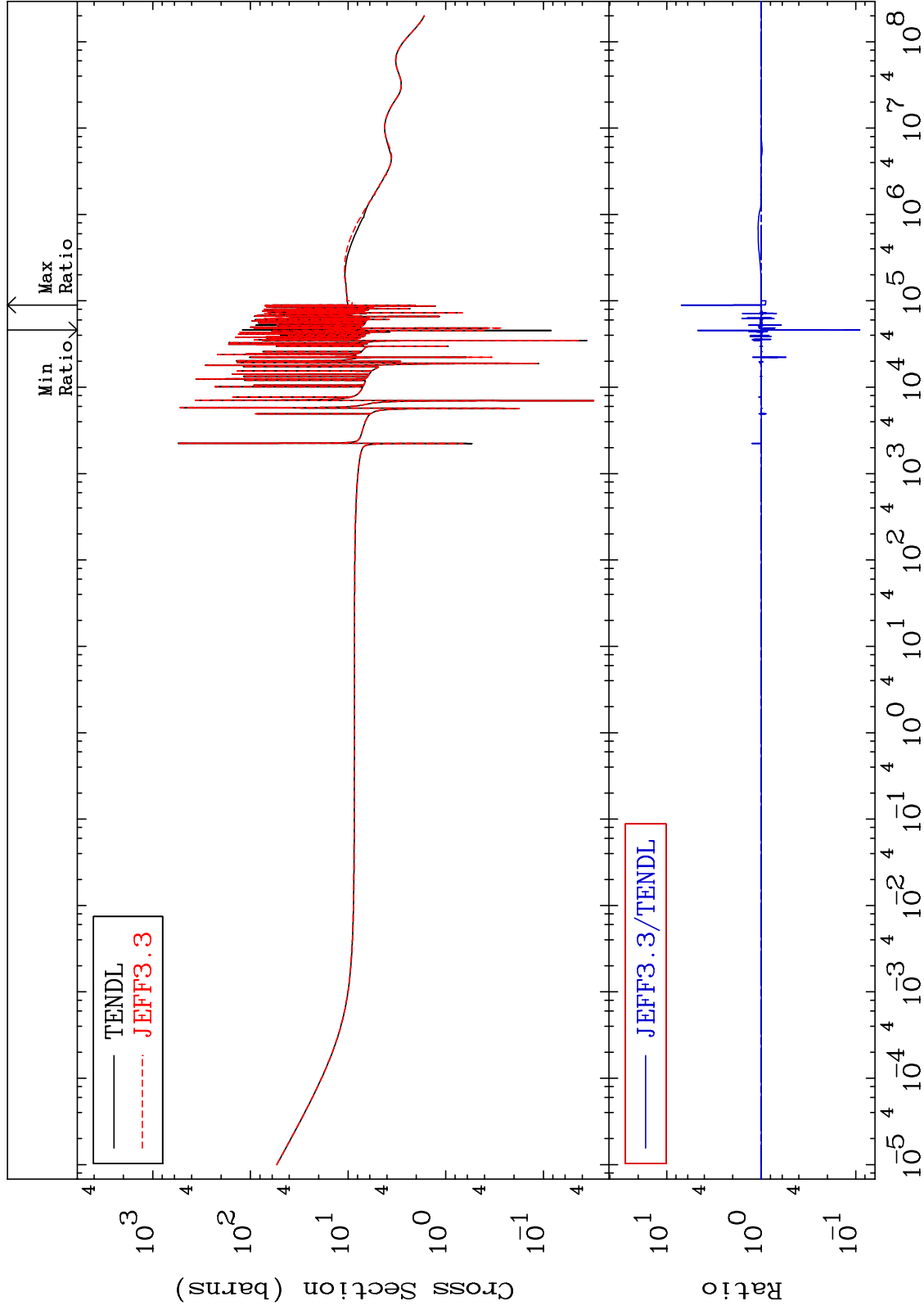
E.Mail: [redcullen1@comcast.net](mailto:redcullen1@comcast.net)  
Web: [redcullen1.net/HOMEPAGE.NEW](http://redcullen1.net/HOMEPAGE.NEW)

Press Mouse Button to Start

MAT 4037

Total  
Cross Section

40-Zr-94  
-90.91 To 601.3 %



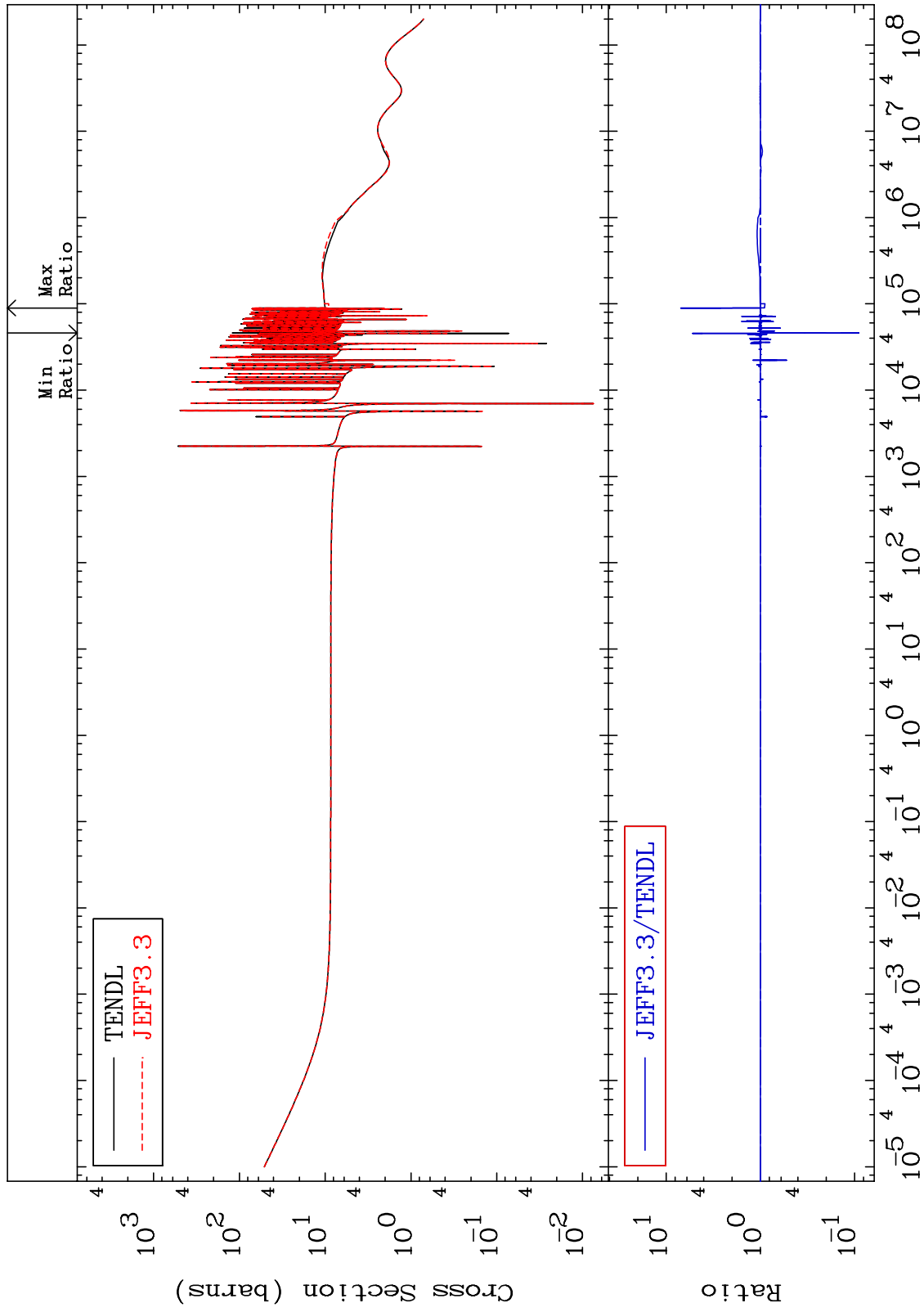
Incident Energy (eV)

40-Zr-94

MAT 4037

Elastic  
Cross Section

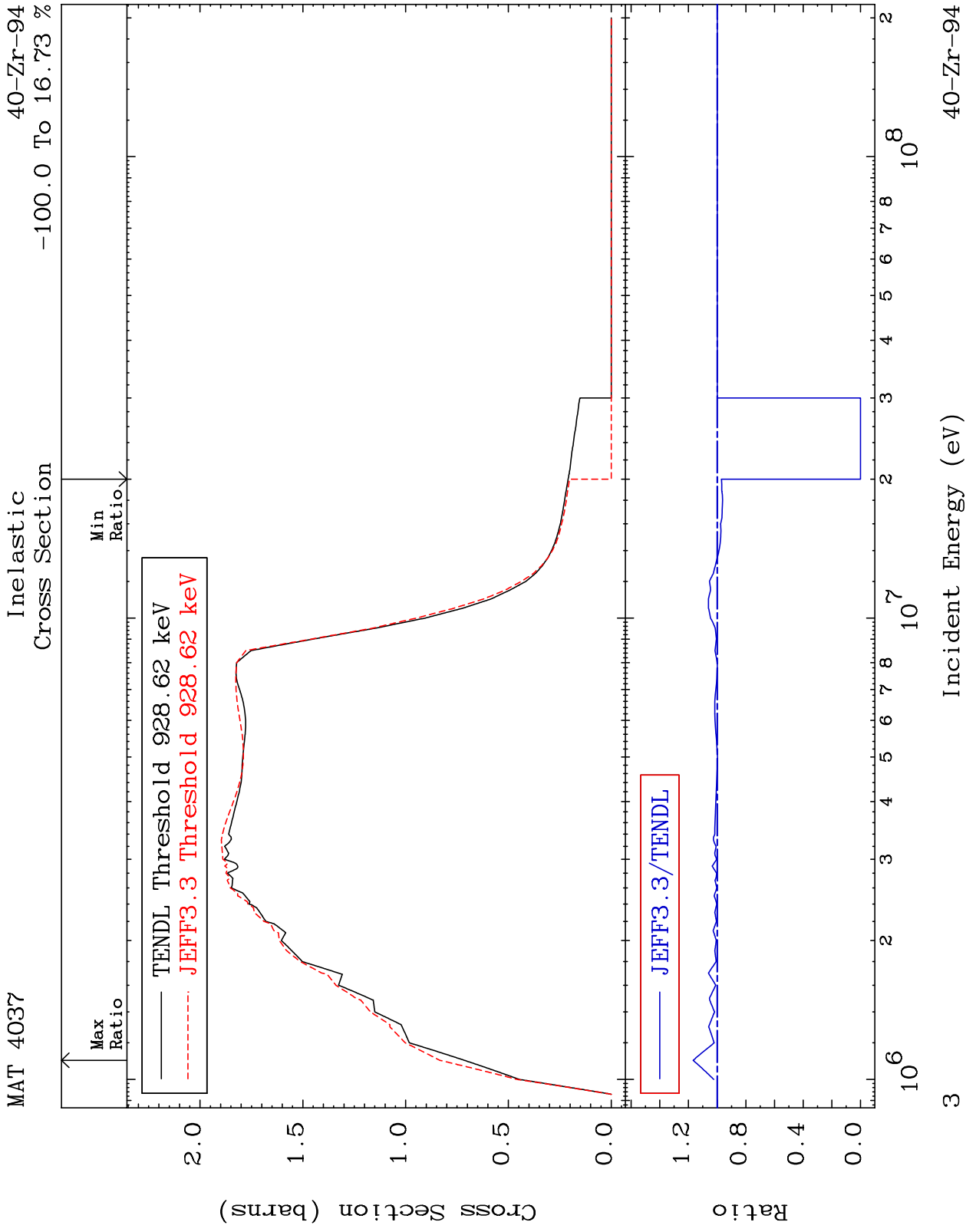
40-Zr-94  
-91.04 To 600.8 %



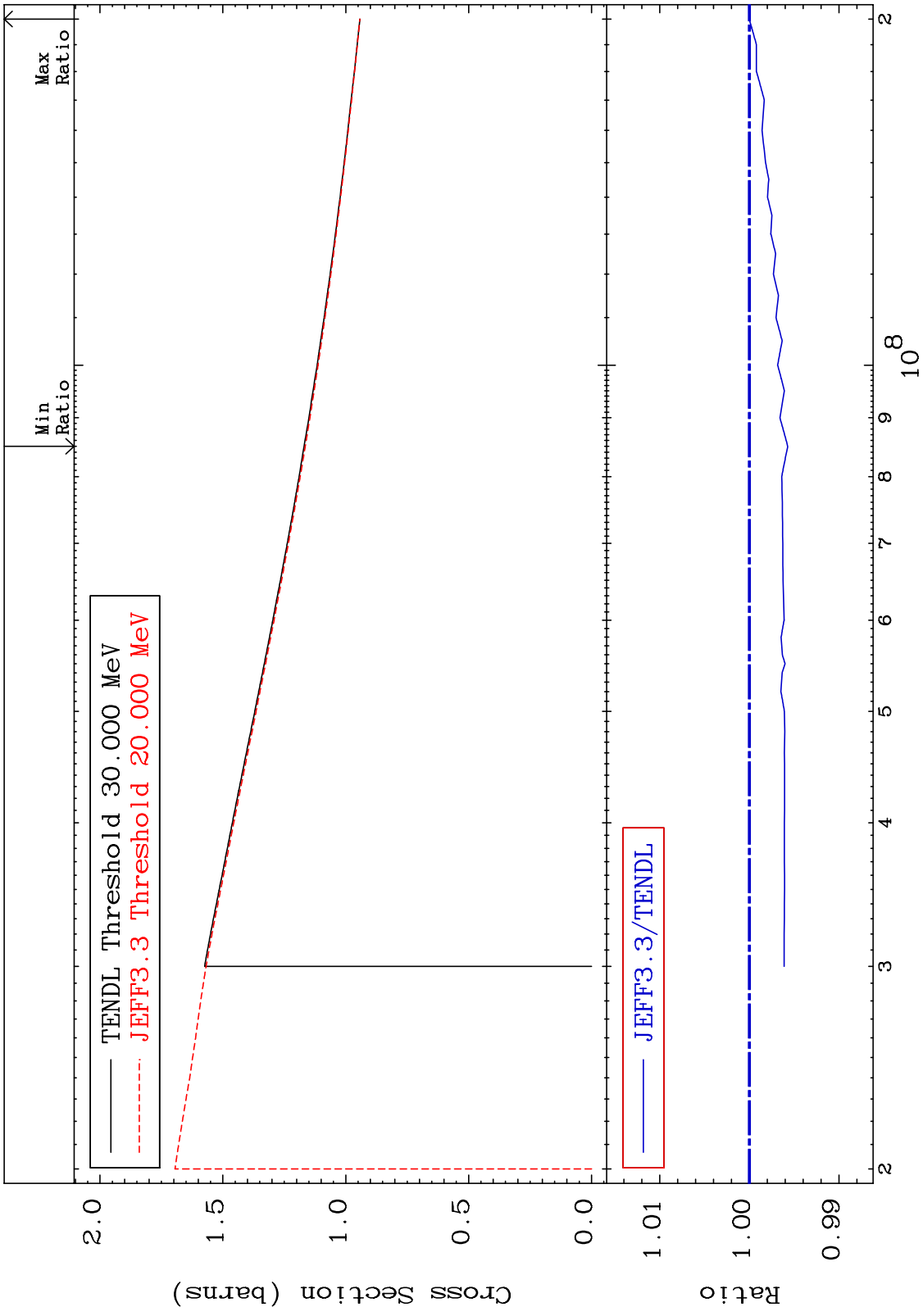
2

Incident Energy (eV)

40-Zr-94



MAT 4037 (n, remainder) Cross Section 40-Zr-94 -0.428 To 0.002 %



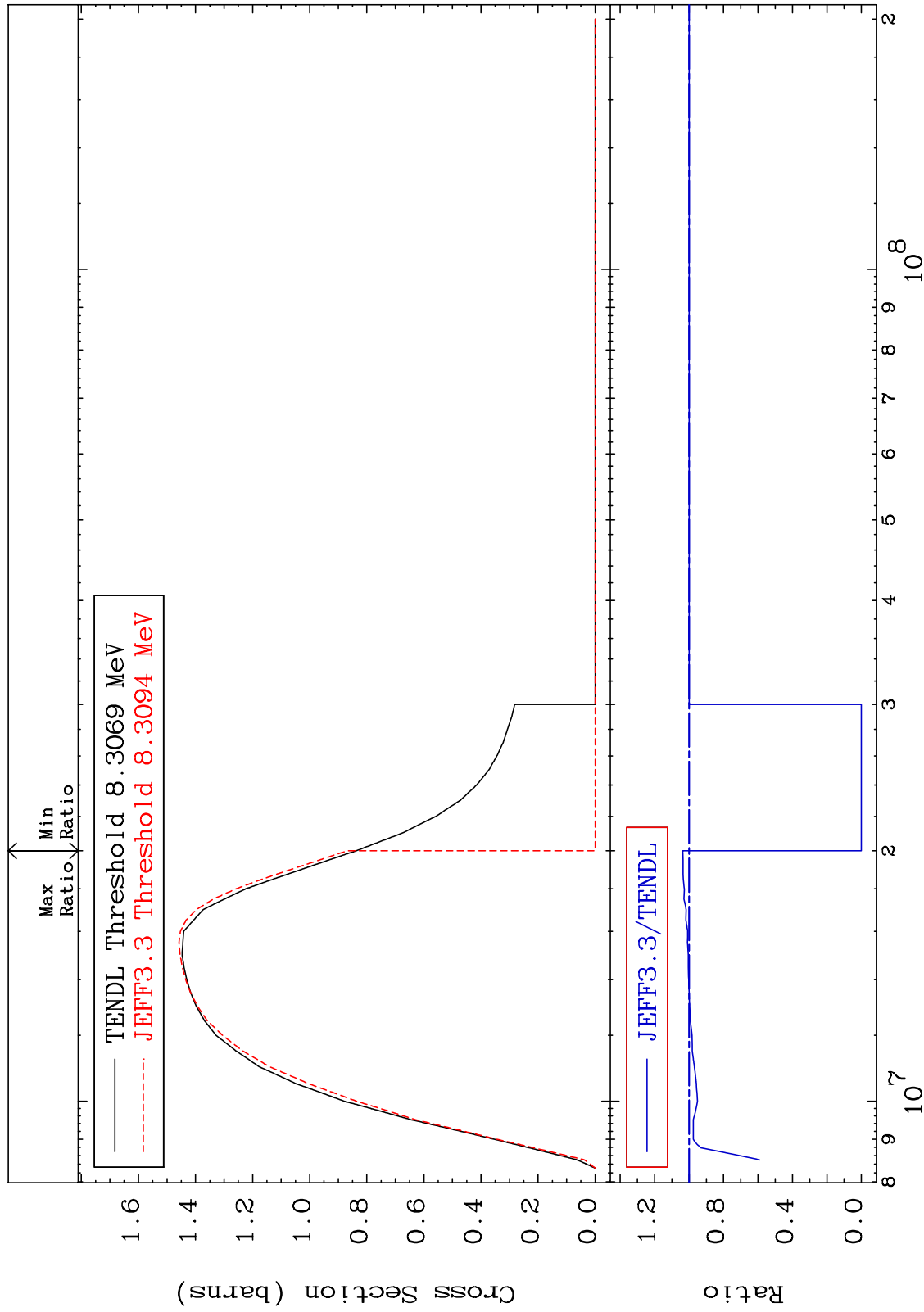
MAT 4037

(n,2n)

40-Zr-94

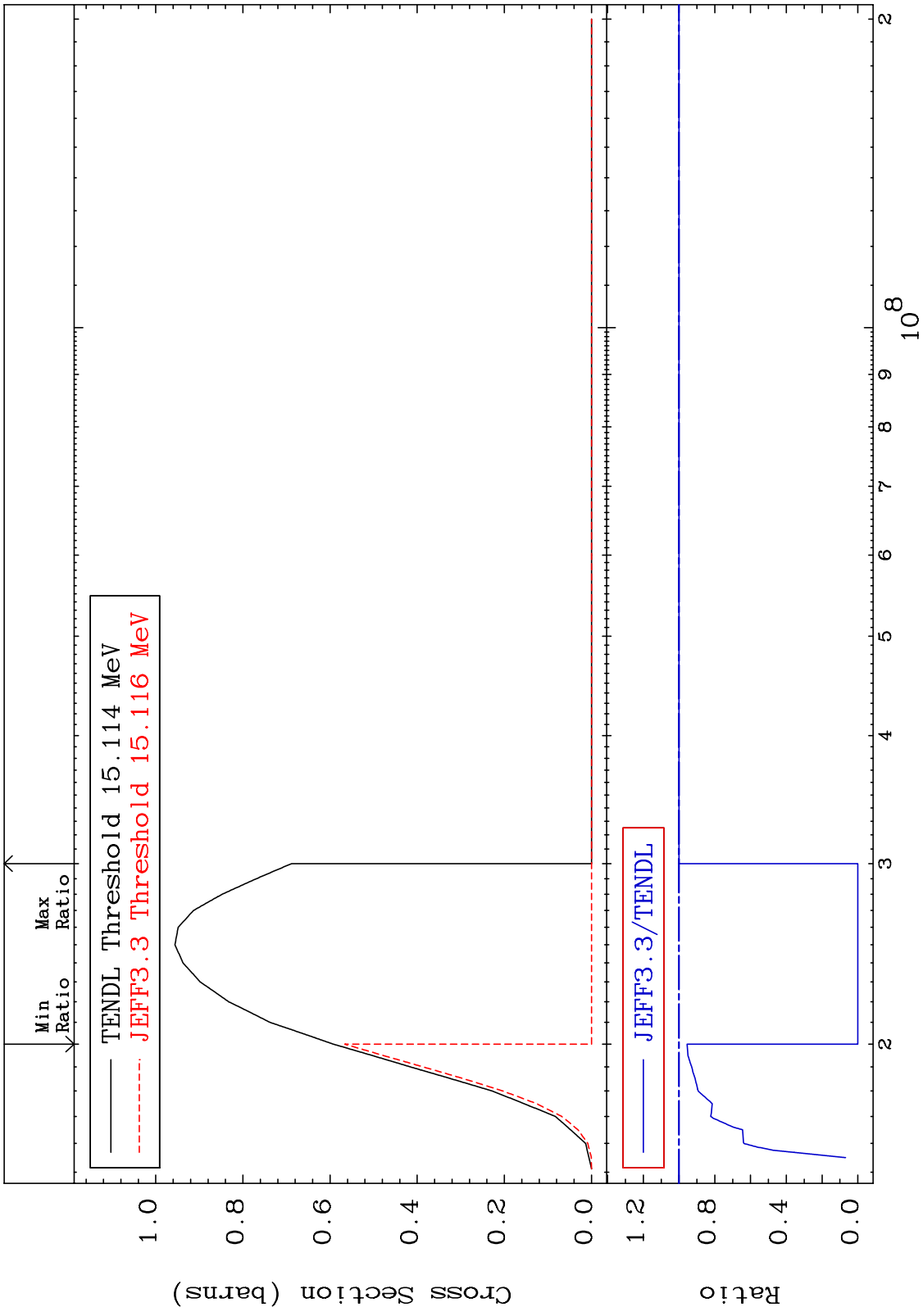
Cross Section

-100.0 To 3.725 %



5

MAT 4037 (n,3n) 40-Zr-94  
 Cross Section -100.0 To 0.000 %



MAT 4037

(n, n')  $\alpha$

40-Zr-94

-100.0 To 960.3 %

Cross Section

Max Ratio

Min Ratio

TENDL Threshold 3.7863 MeV  
JEFF3.3 Threshold 7.6000 MeV

Cross Section (milli-barns)

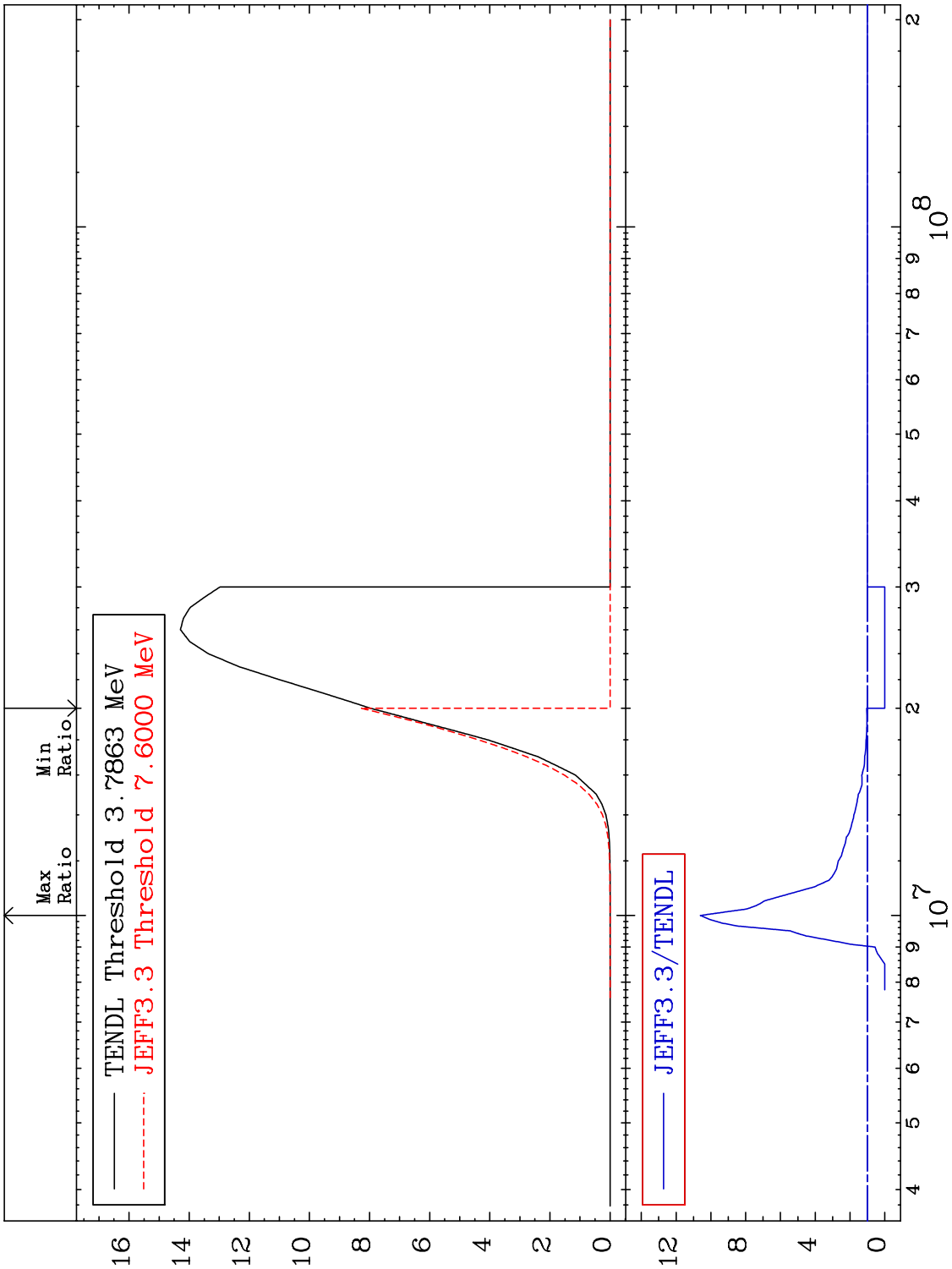
JEFF3.3/TENDL

Ratio

7

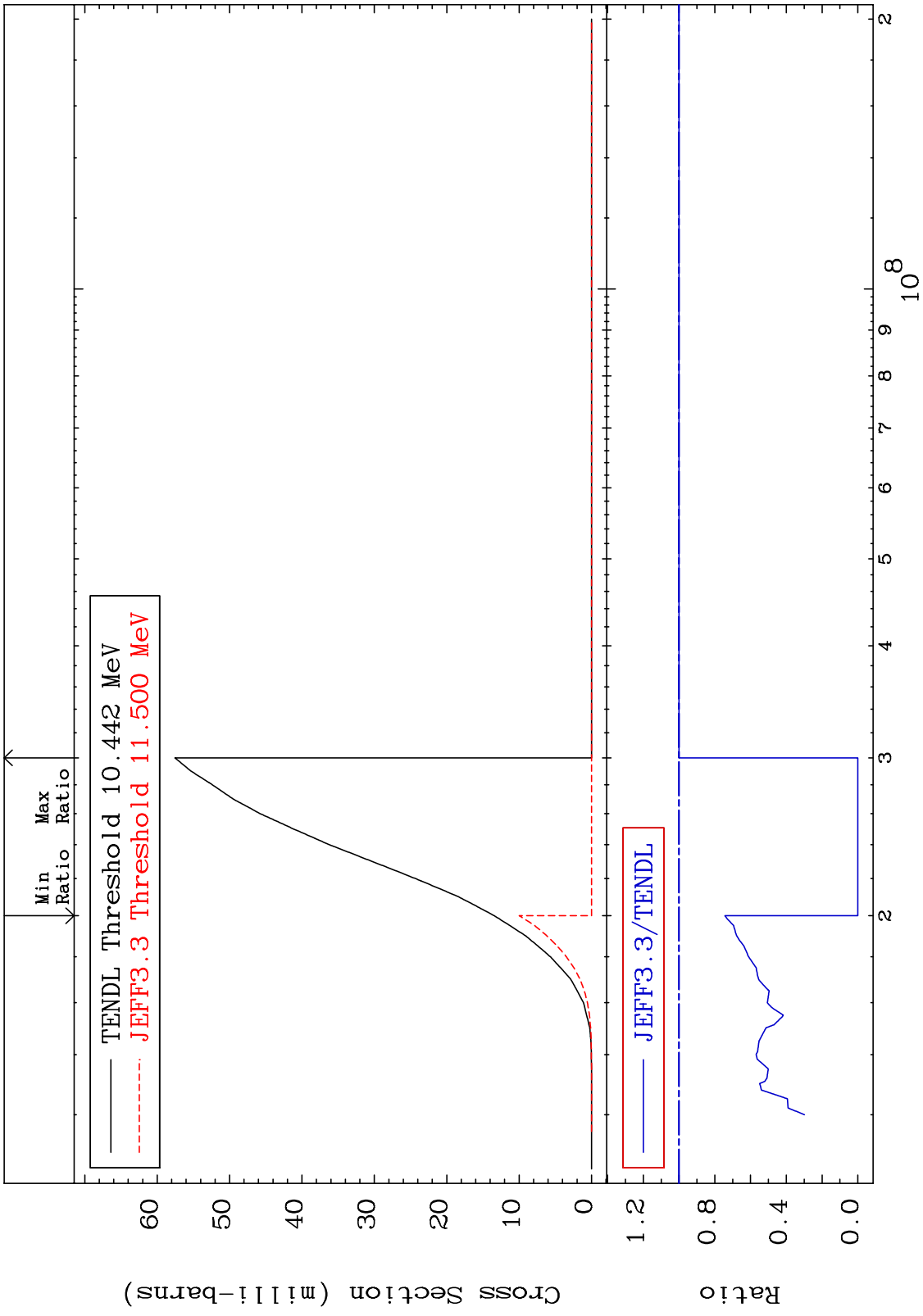
Incident Energy (eV)

40-Zr-94

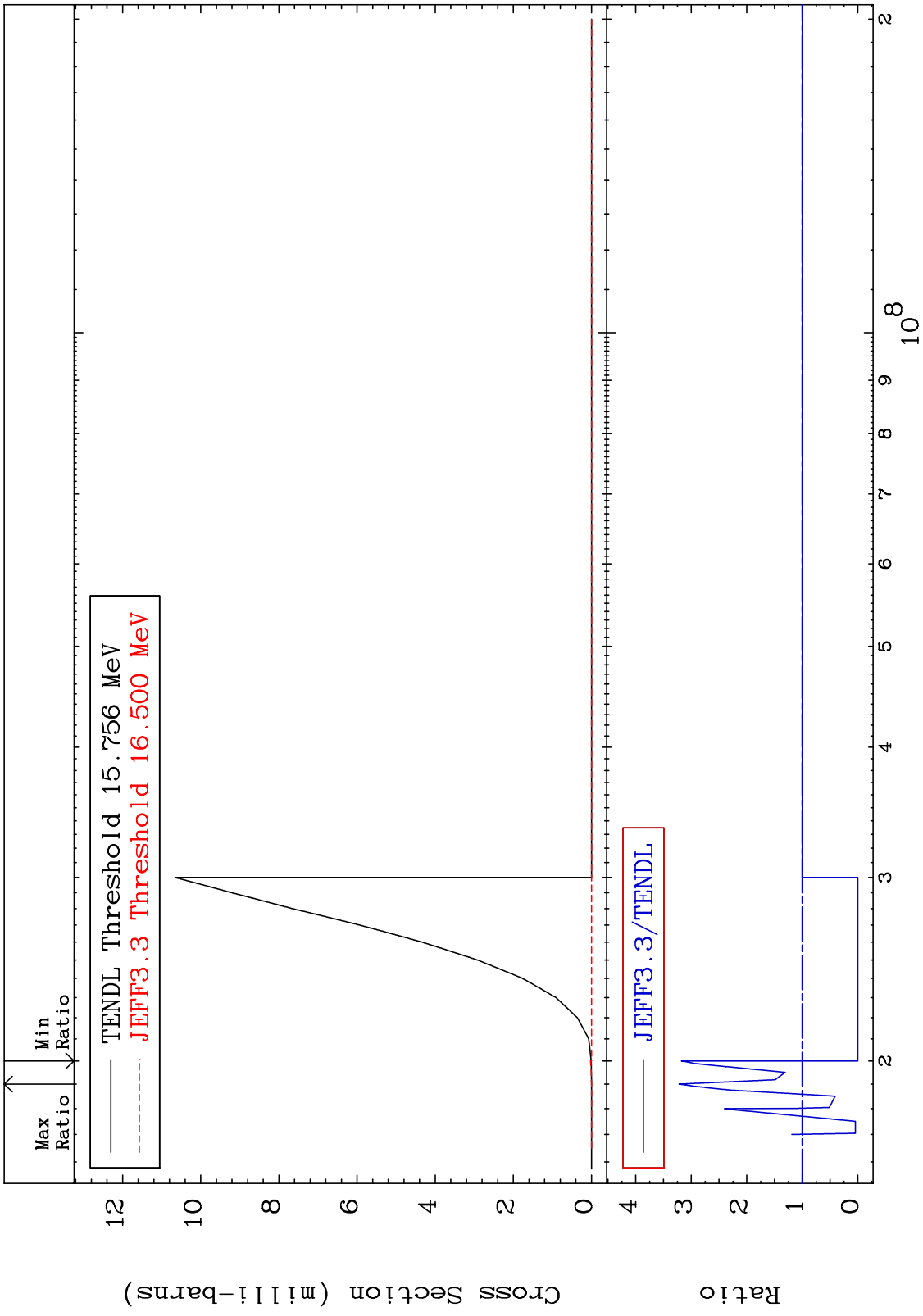




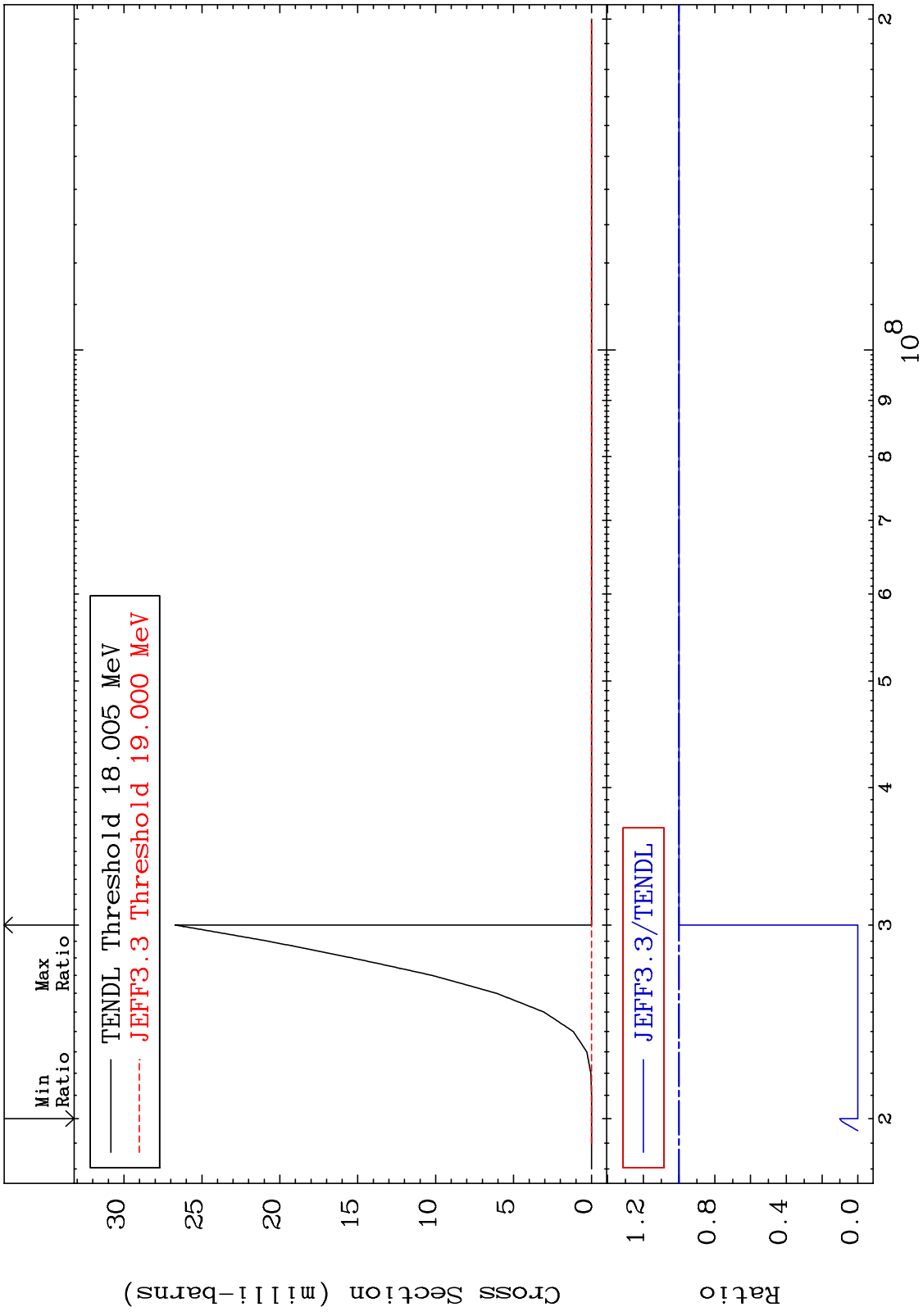
MAT 4037  $(n, n')$  p 40-Zr-94  
 Cross Section -100.0 To 0.000 %



MAT 4037 (n, n') d 40-Zr-94  
 Cross Section -100.0 To 222.0 %

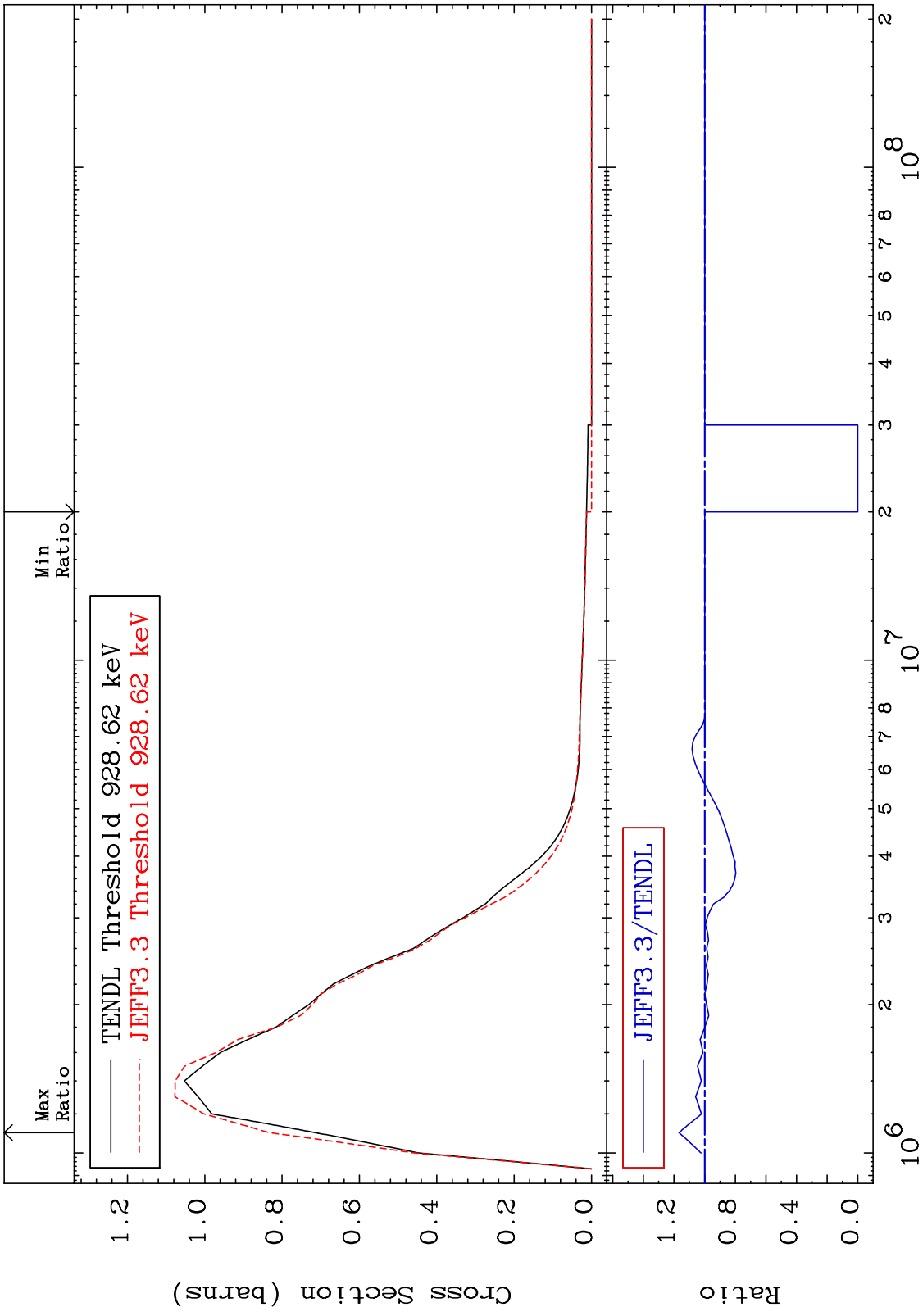


MAT 4037 (n,2n) p 40-Zr-94  
 Cross Section -100.0 To 0.000 %

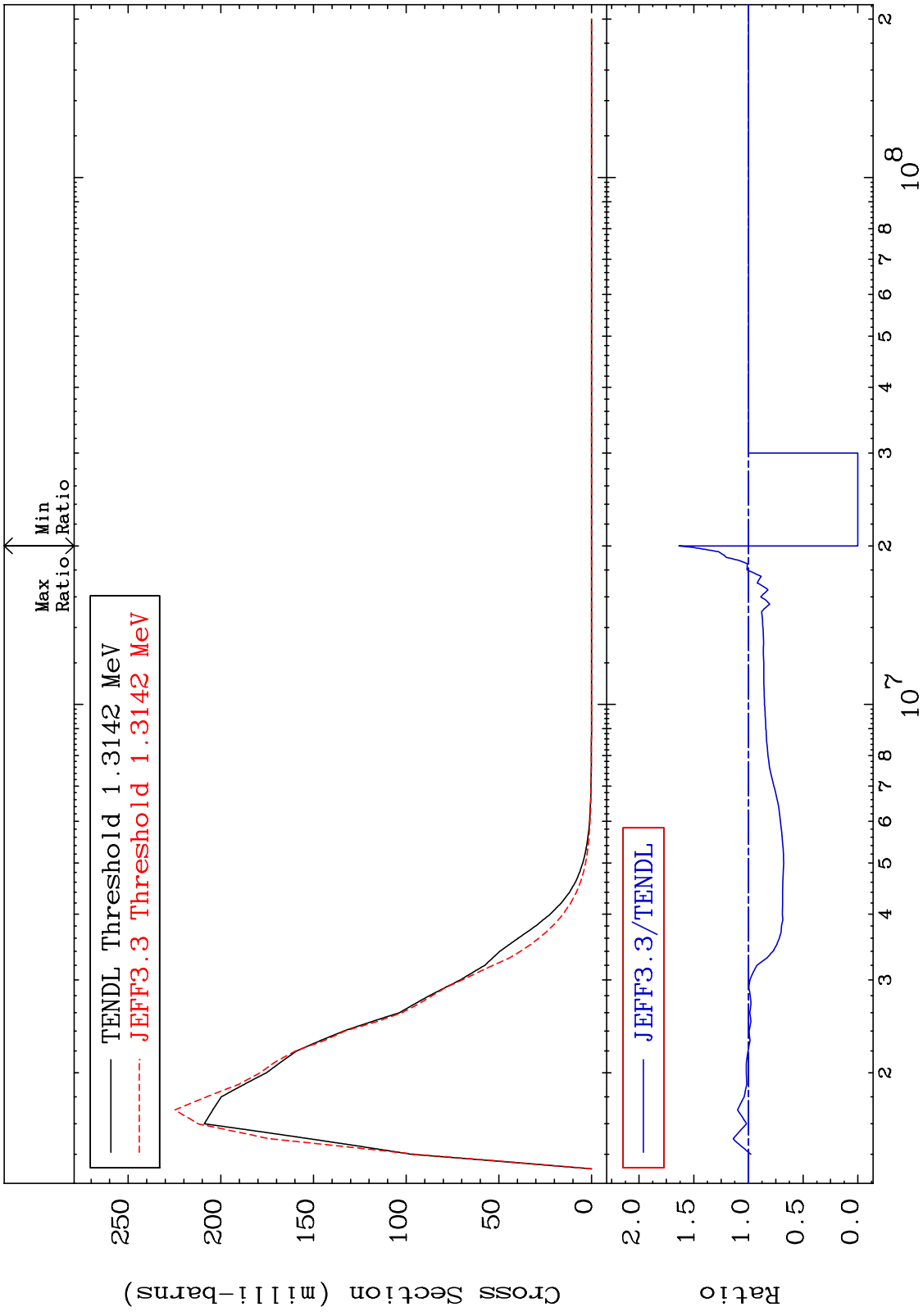


Incident Energy (eV) 10<sup>8</sup> 40-Zr-94

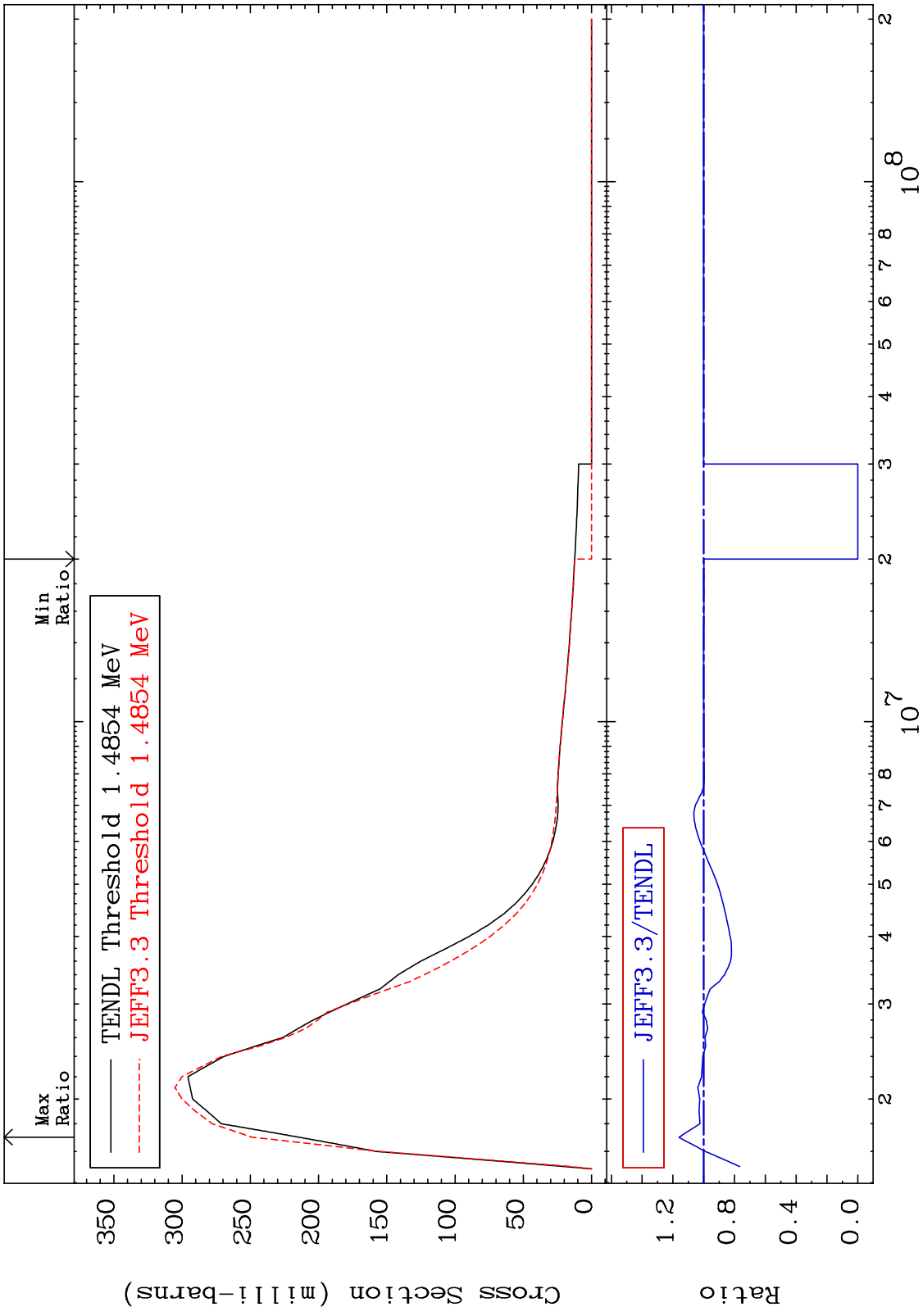
MAT 4037 MT= 51 (n,n') Level Cross Section -100.0 To 16.73 % 40-Zr-94



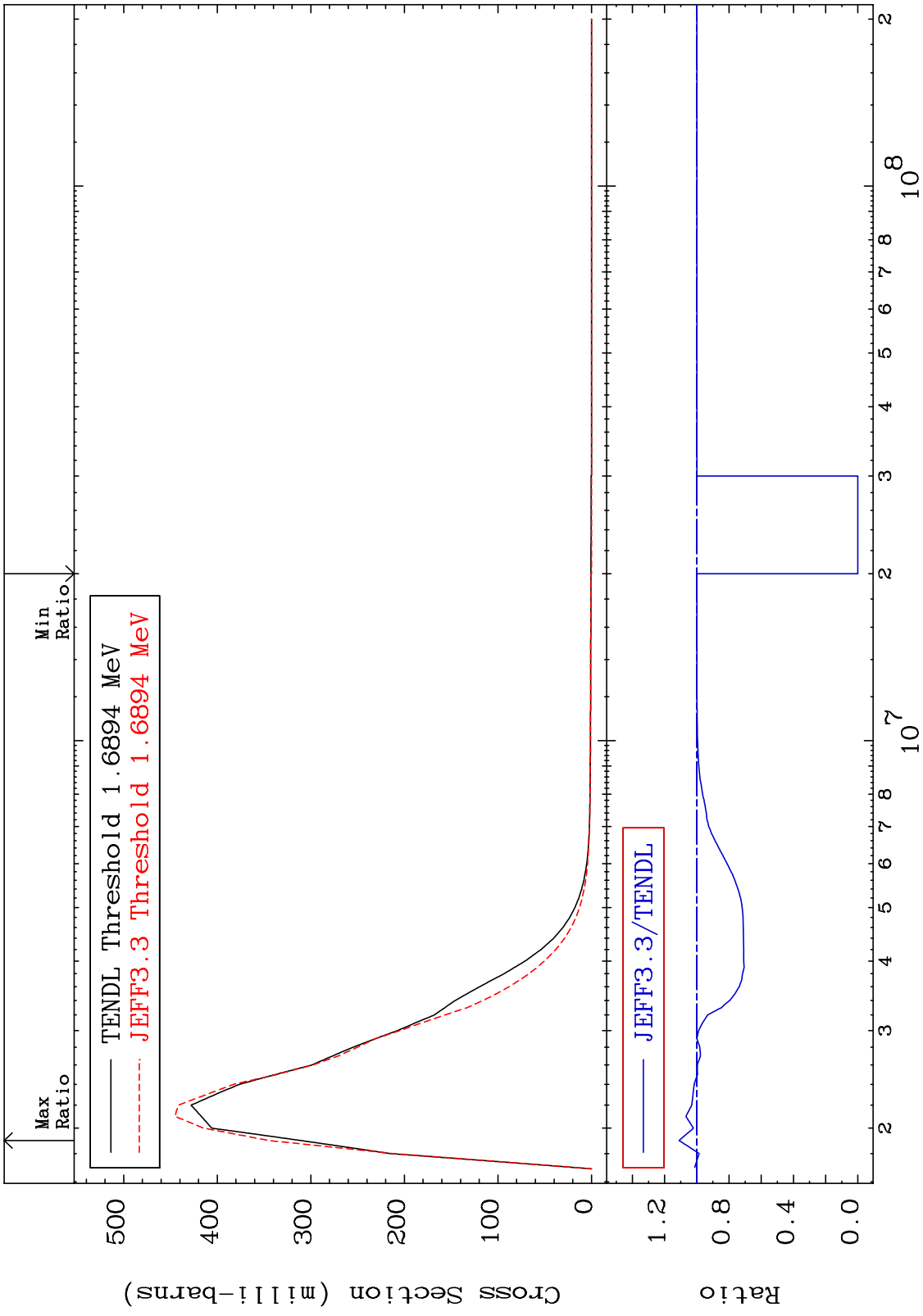
MAT 4037 MT= 52 (n,n') Level Cross Section -100.0 To 63.43 % 40-Zr-94



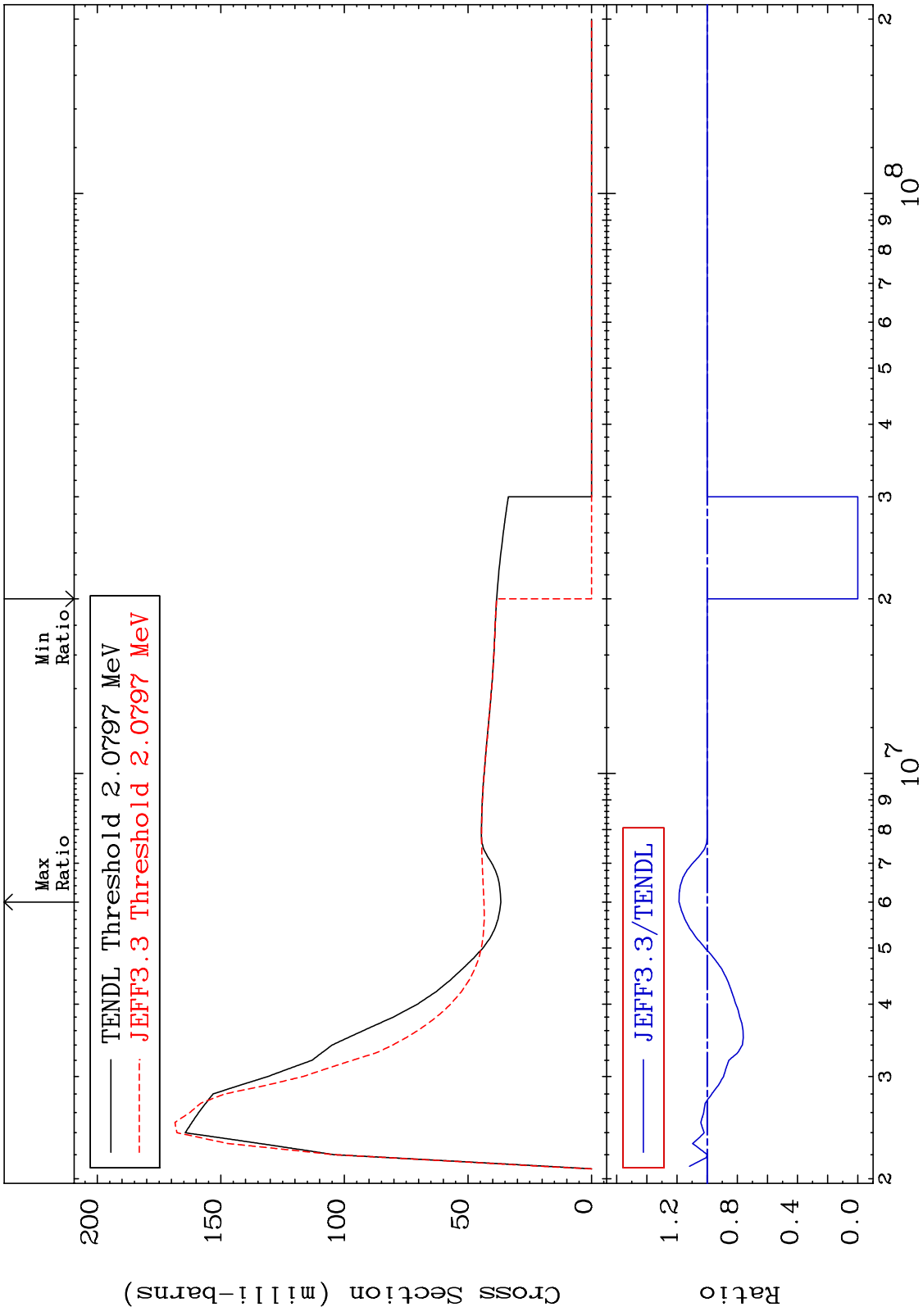
MAT 4037 MT= 53 (n,n') Level Cross Section -100.0 To 16.05 % 40-Zr-94



MAT 4037 MT= 54 (n,n') Level Cross Section 40-Zr-94  
 -100.0 To 11.04 %

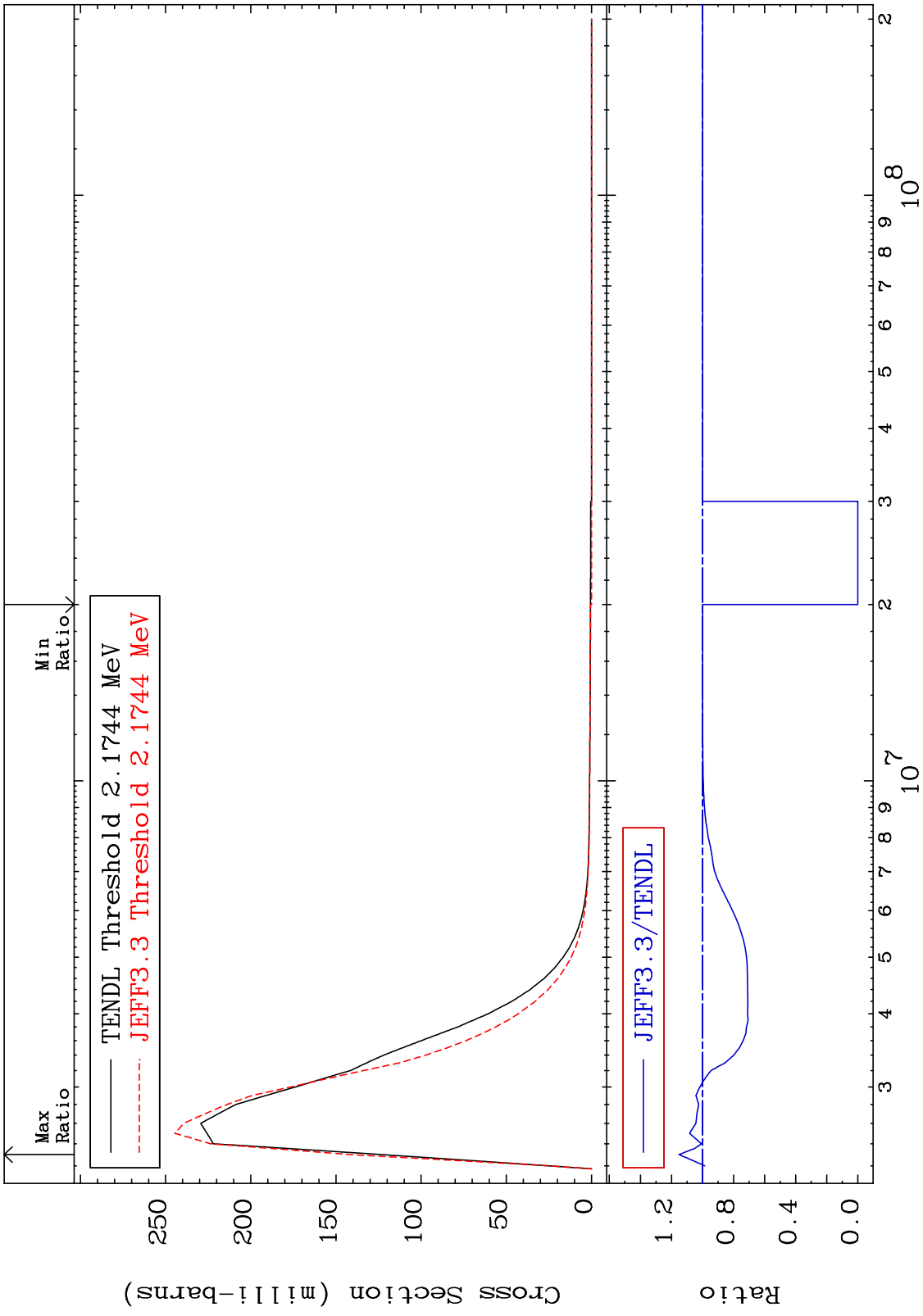


MAT 4037 MT= 55 (n,n') Level Cross Section -100.0 To 18.65 % 40-Zr-94

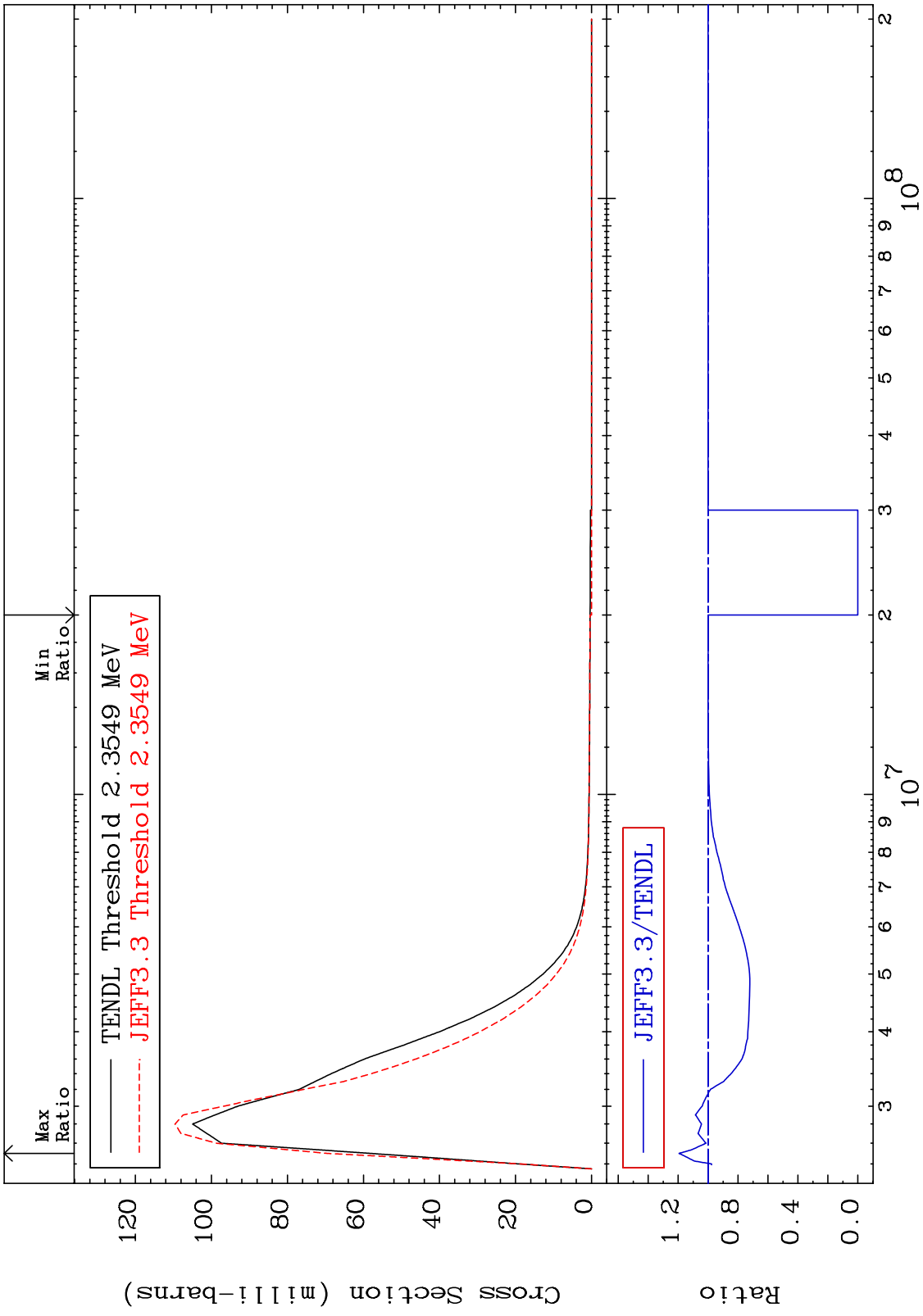




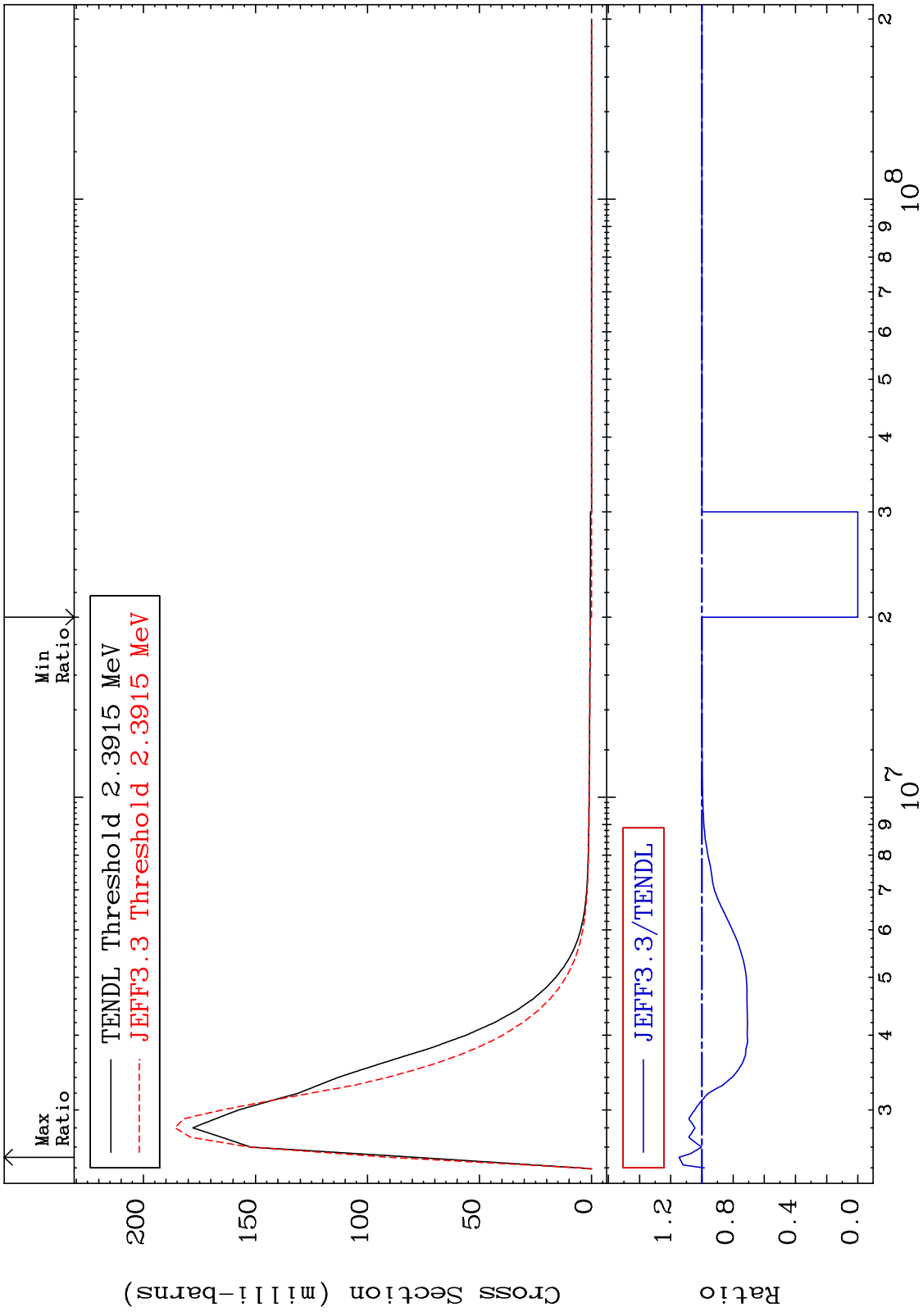
MAT 4037 MT= 56 (n,n') Level Cross Section -100.0 To 15.12 % 40-Zr-94



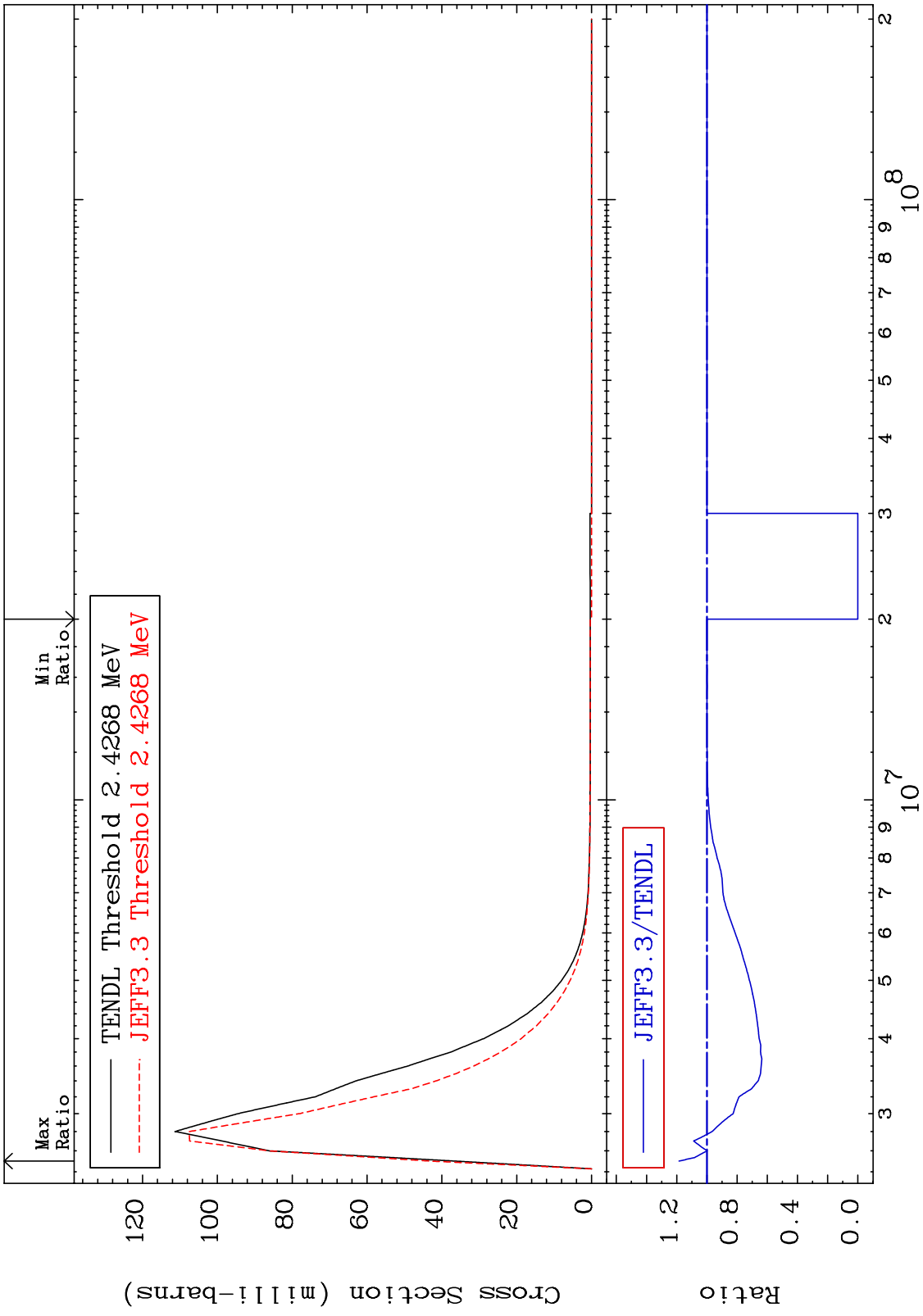
MAT 4037 MT= 57 (n,n') Level Cross Section -100.0 To 19.38 % 40-Zr-94



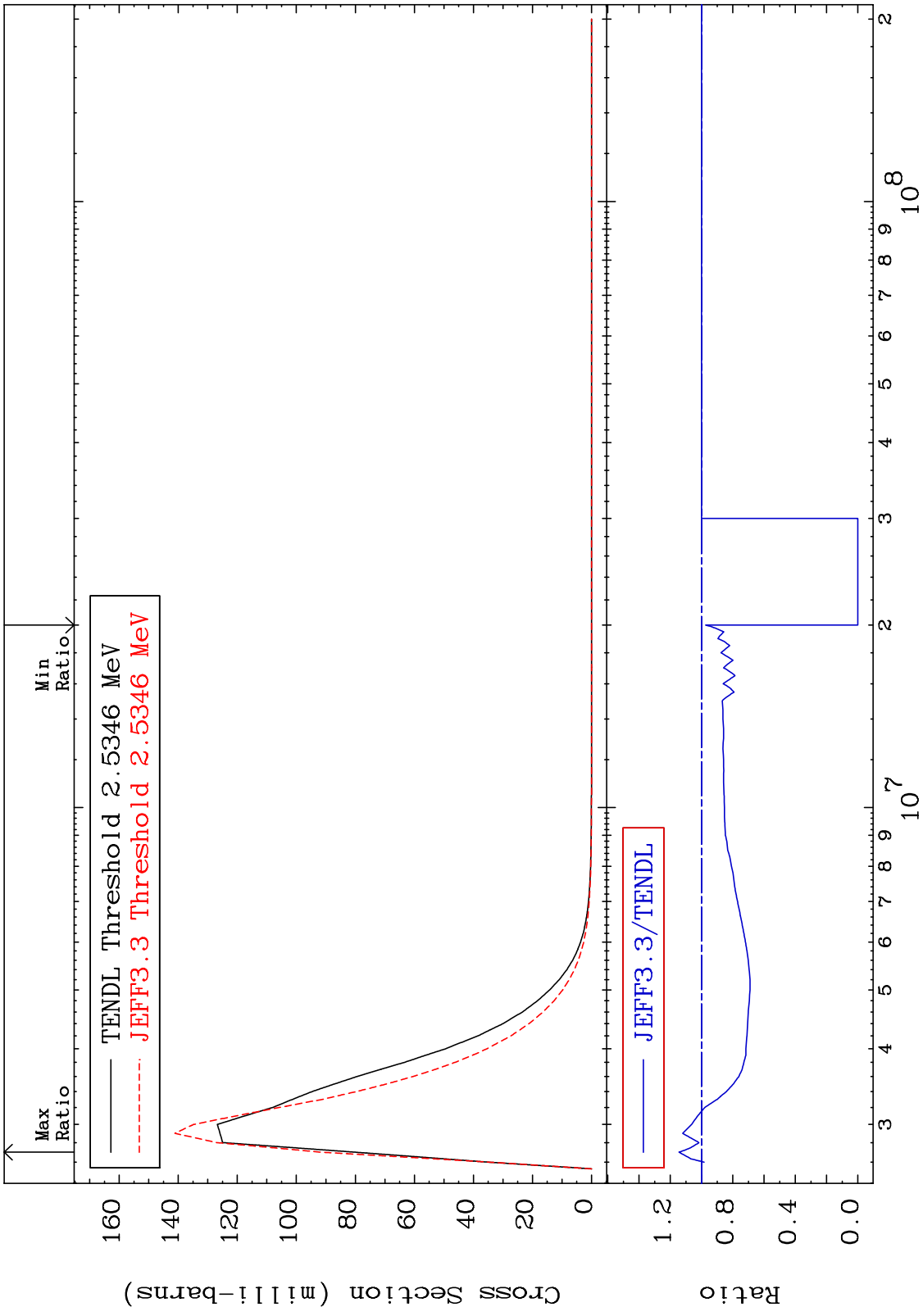
MAT 4037 MT= 58 (n,n') Level Cross Section -100.0 To 14.67 % 40-Zr-94



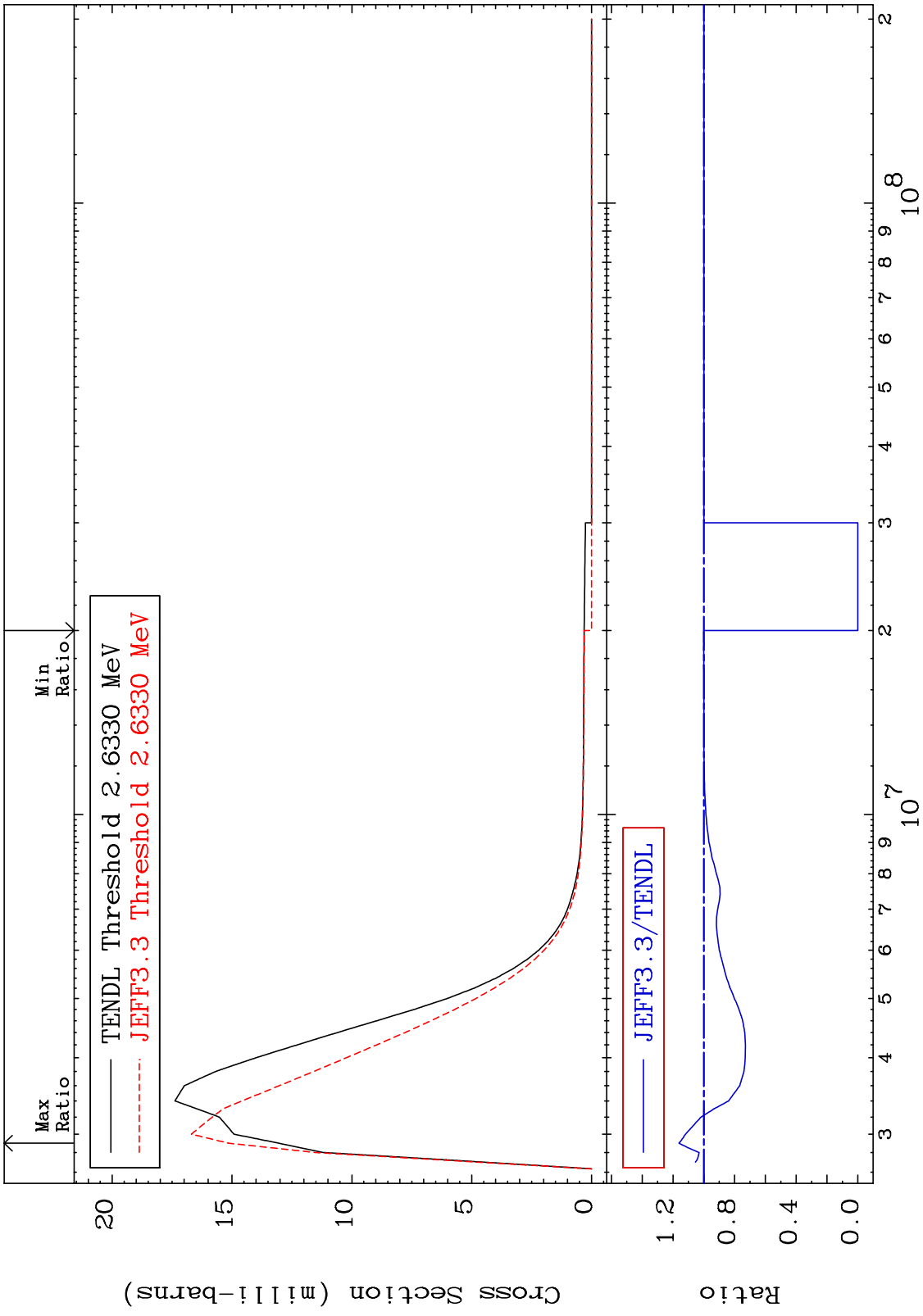
MAT 4037 MT= 59 (n,n') Level Cross Section -100.0 To 18.45 % 40-Zr-94



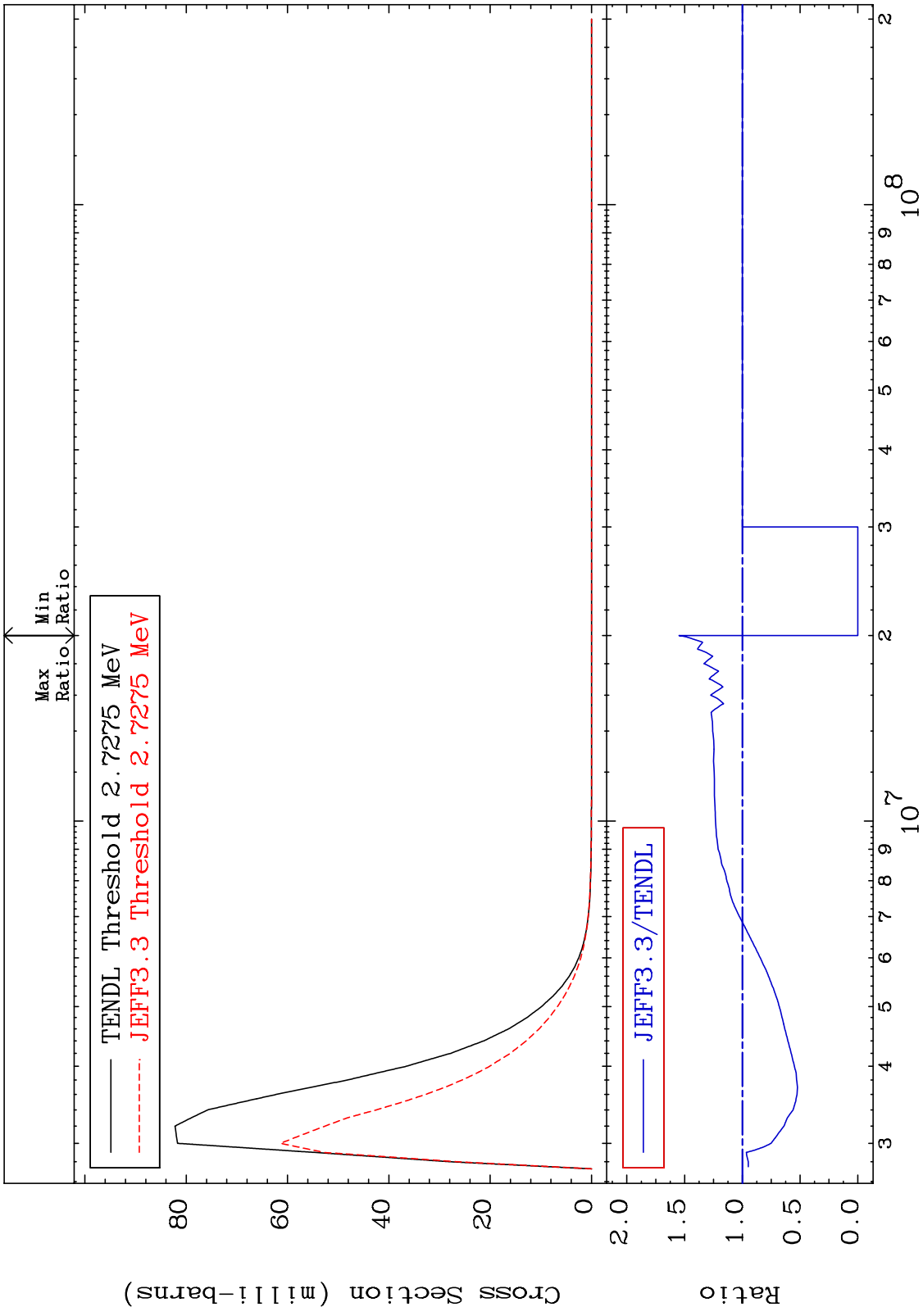
MAT 4037 MT= 60 (n,n') Level Cross Section -100.0 To 14.41 % 40-Zr-94



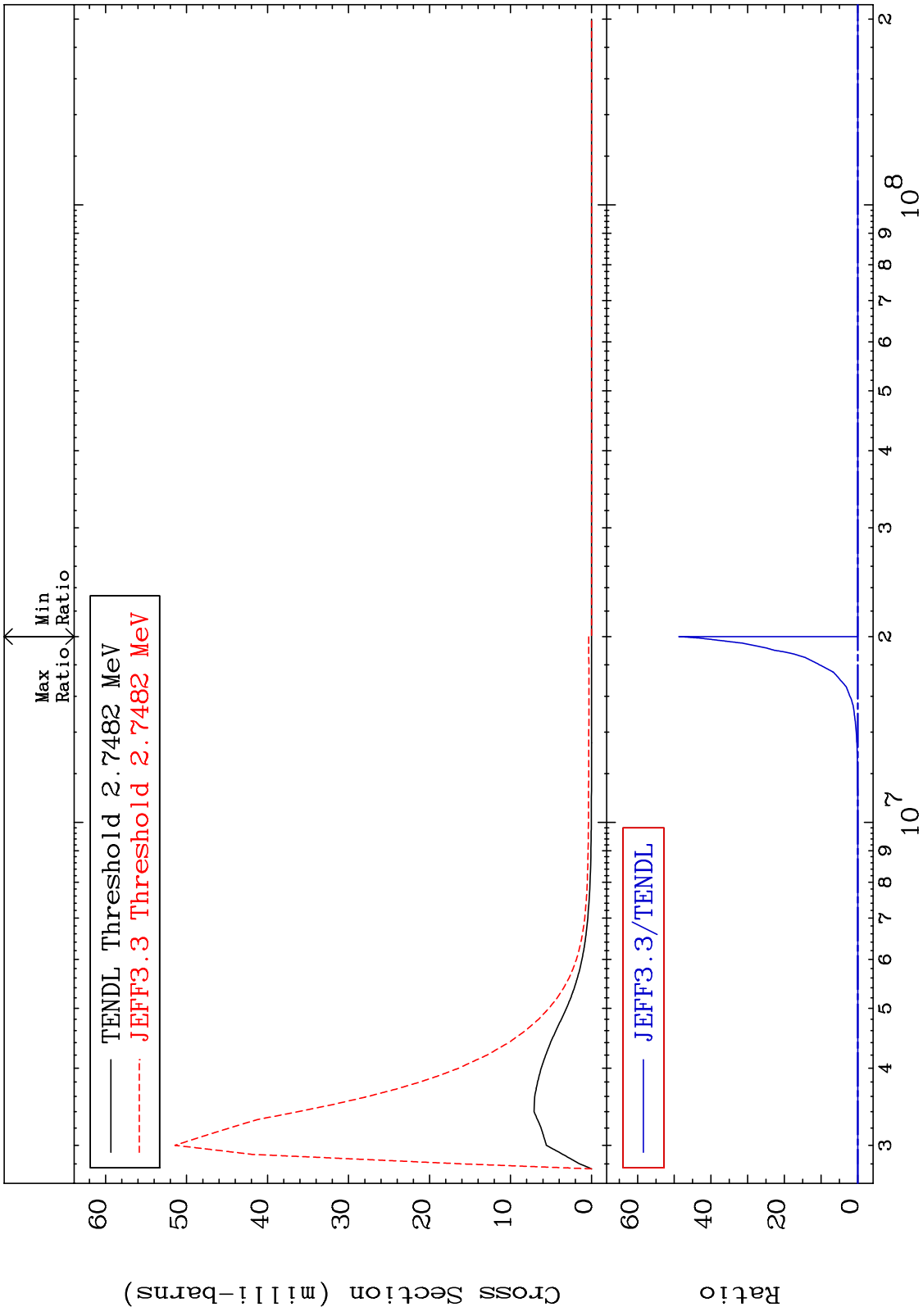
MAT 4037 MT= 61 (n,n') Level Cross Section -100.0 To 16.07 % 40-Zr-94



MAT 4037 MT= 62 (n,n') Level Cross Section -100.0 To 54.80 % 40-Zr-94

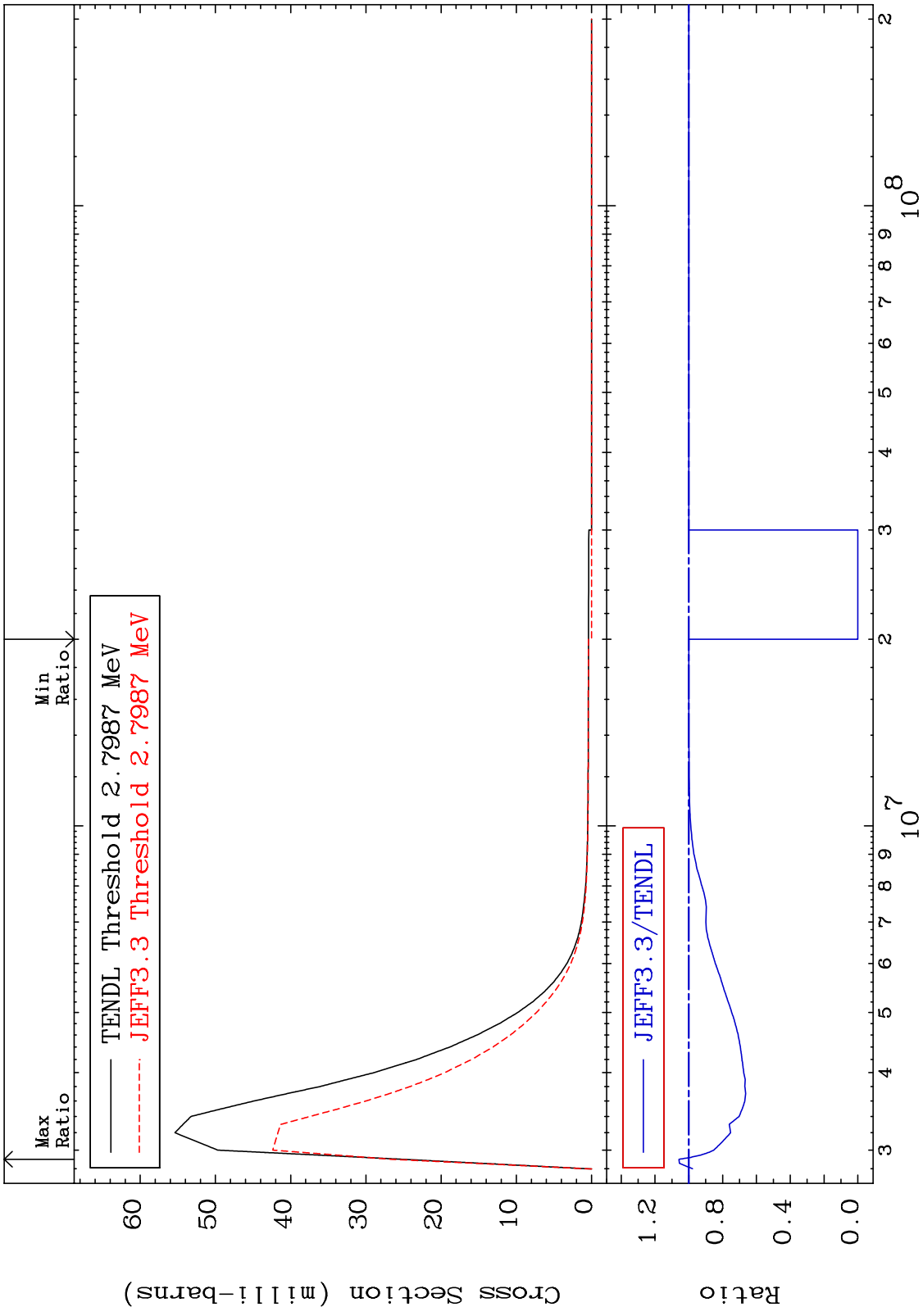


MAT 4037 MT= 63 (n,n') Level Cross Section -100.0 To 9999. % 40-Zr-94

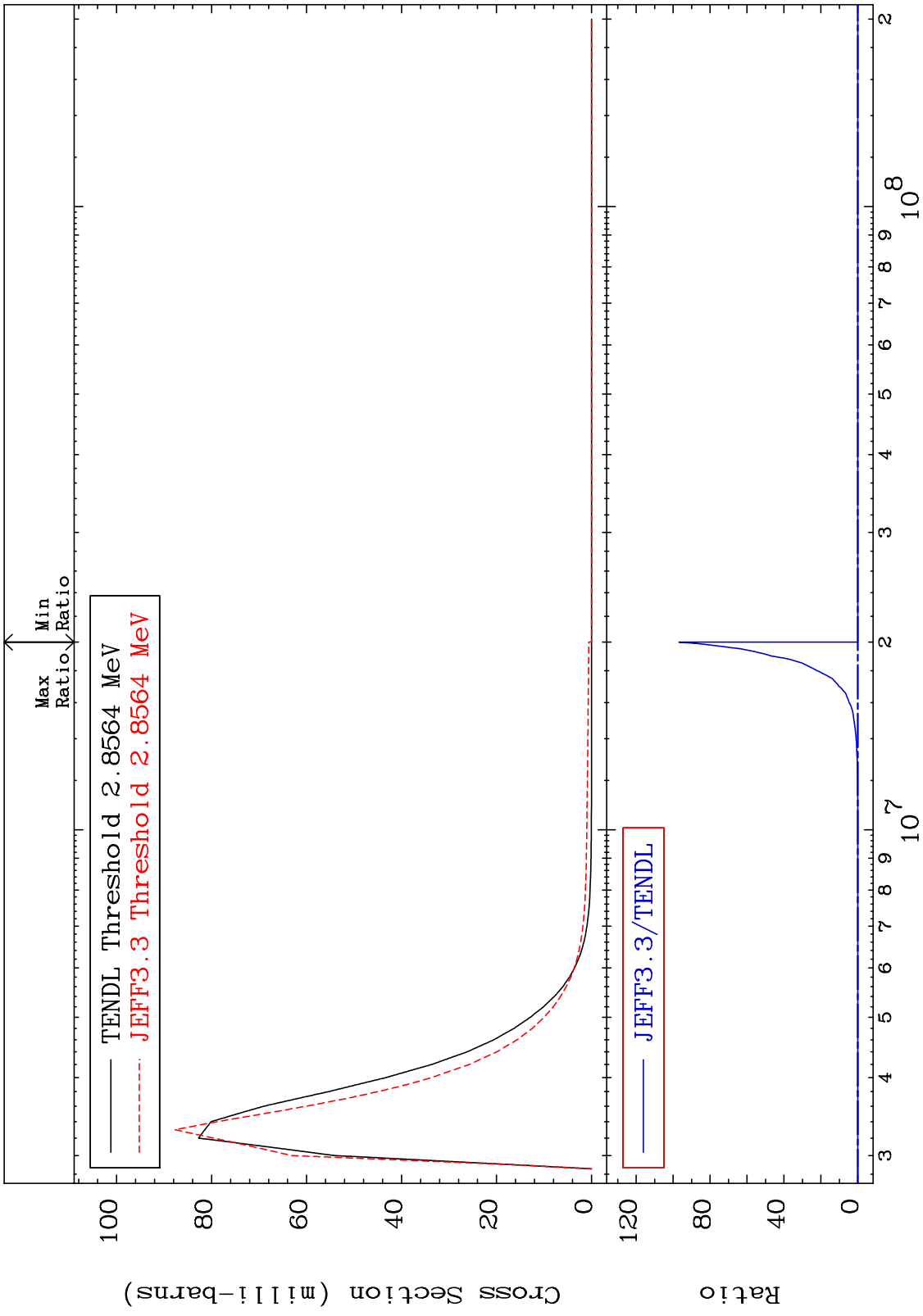




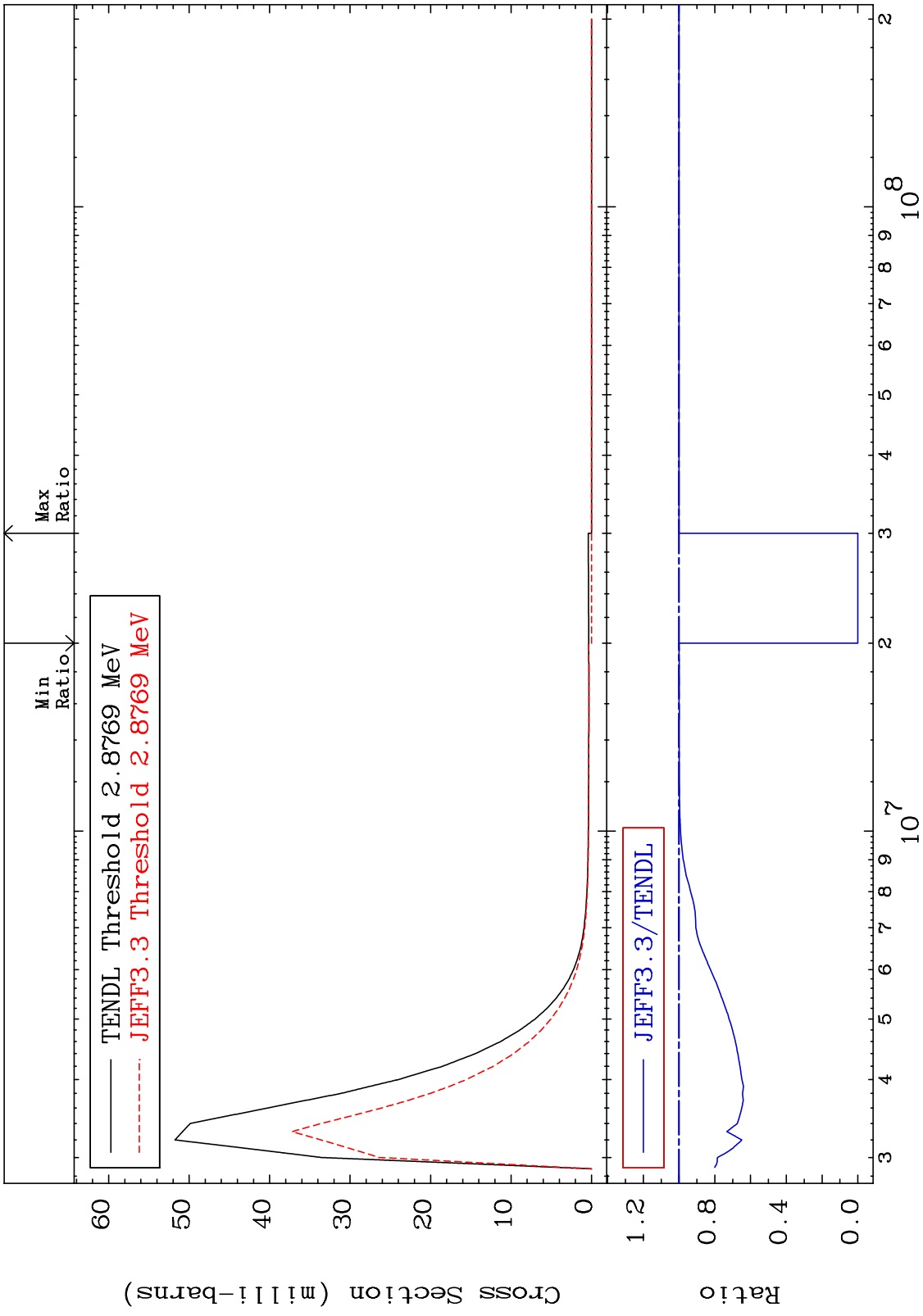
MAT 4037 MT= 64 (n,n') Level Cross Section -100.0 To 5.791 % 40-Zr-94



MAT 4037 MT= 65 (n,n') Level Cross Section -100.0 To 9999. % 40-Zr-94

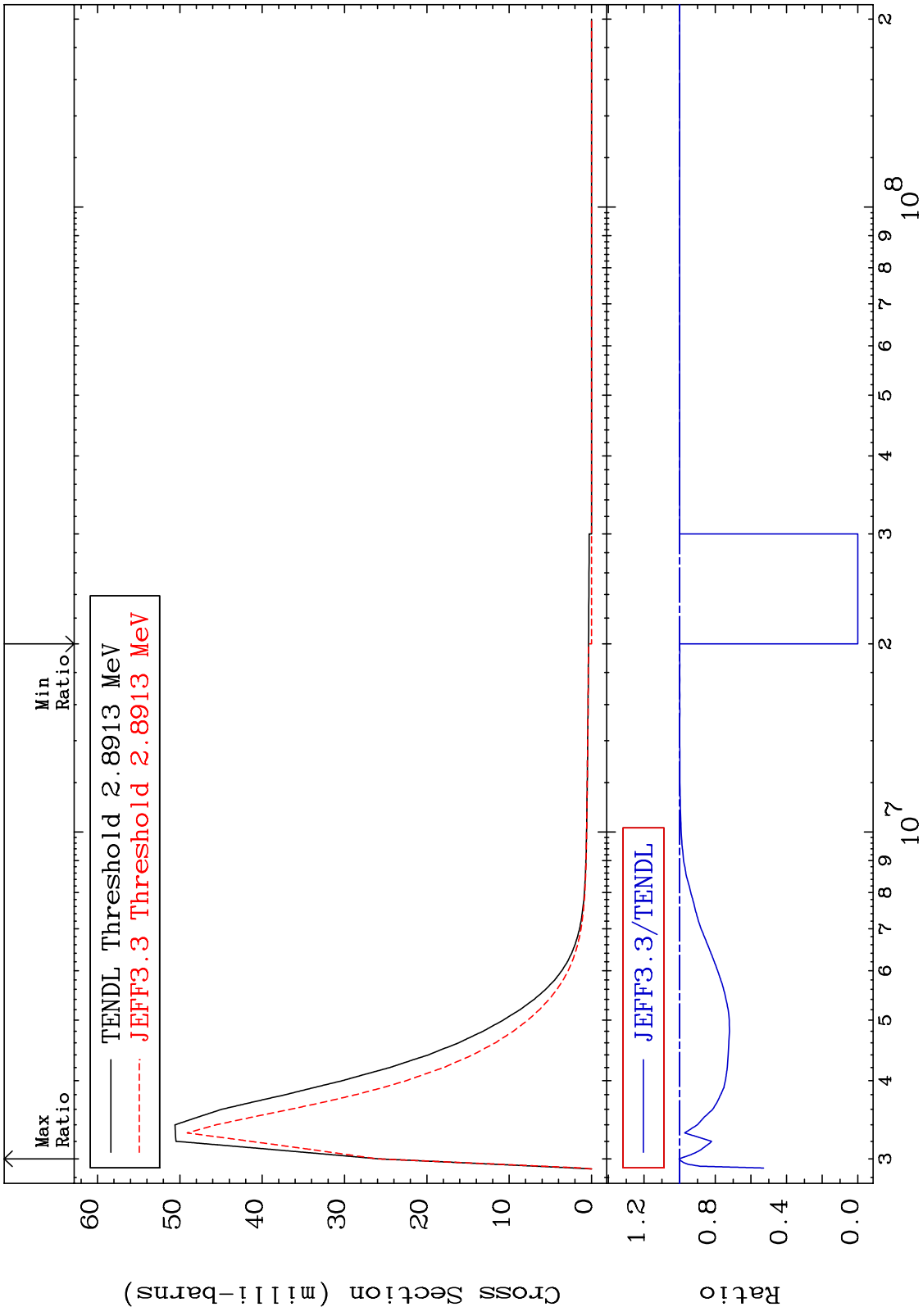


MAT 4037 MT= 66 (n,n') Level Cross Section -100.0 To 0.000 % 40-Zr-94

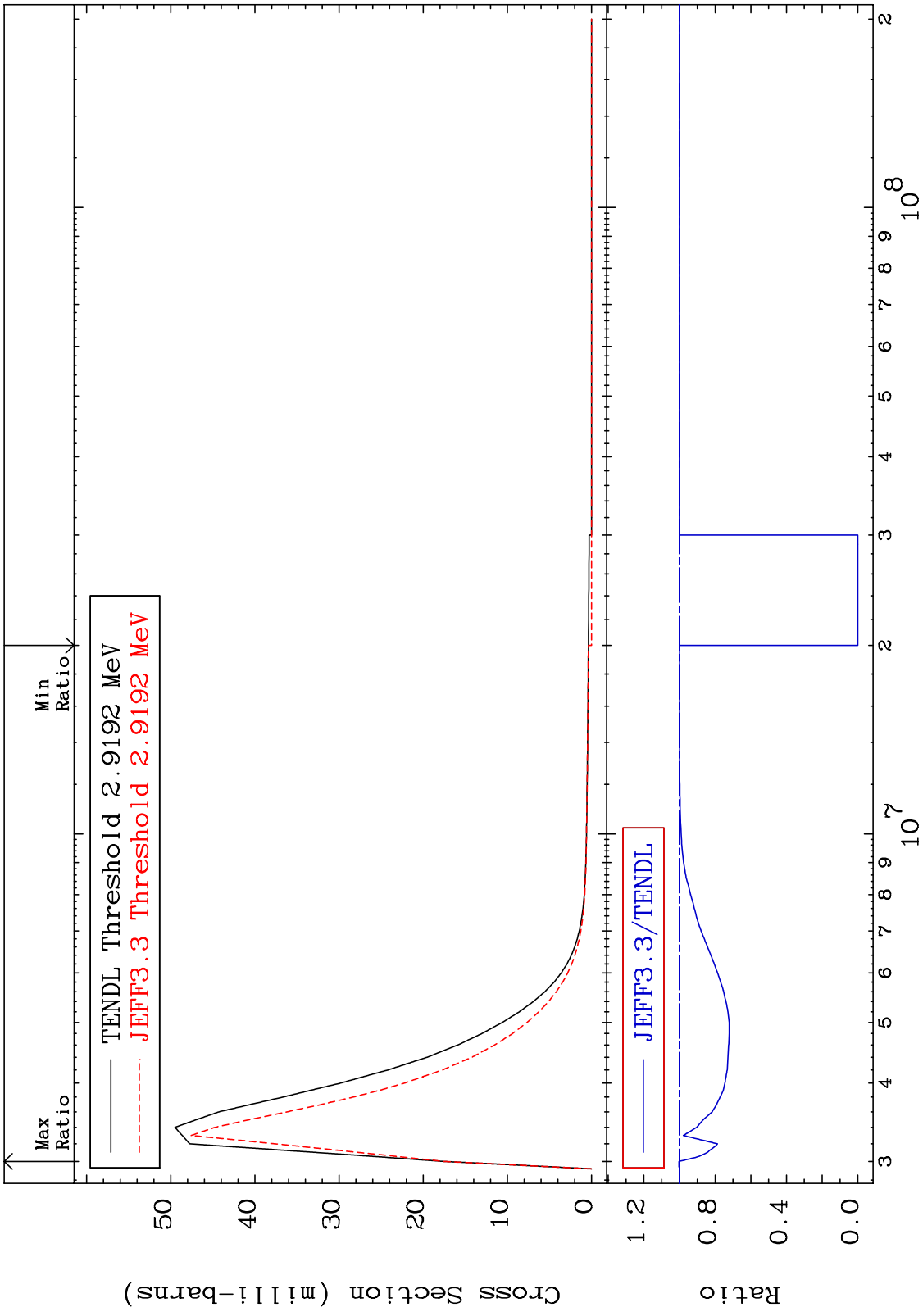


26 Incident Energy (eV) 40-Zr-94

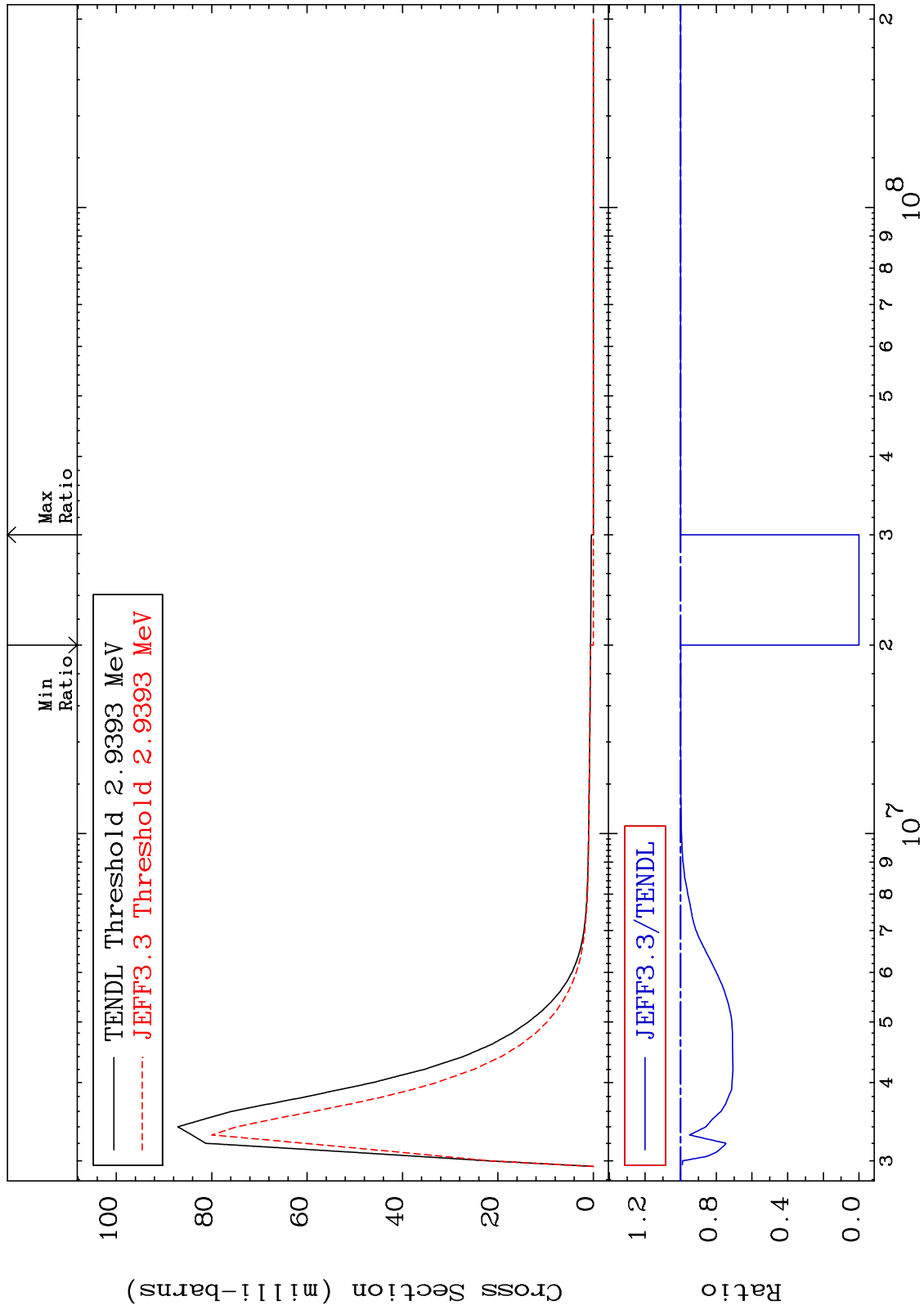
MAT 4037 MT= 67 (n,n') Level Cross Section -100.0 To 0.352 % 40-Zr-94



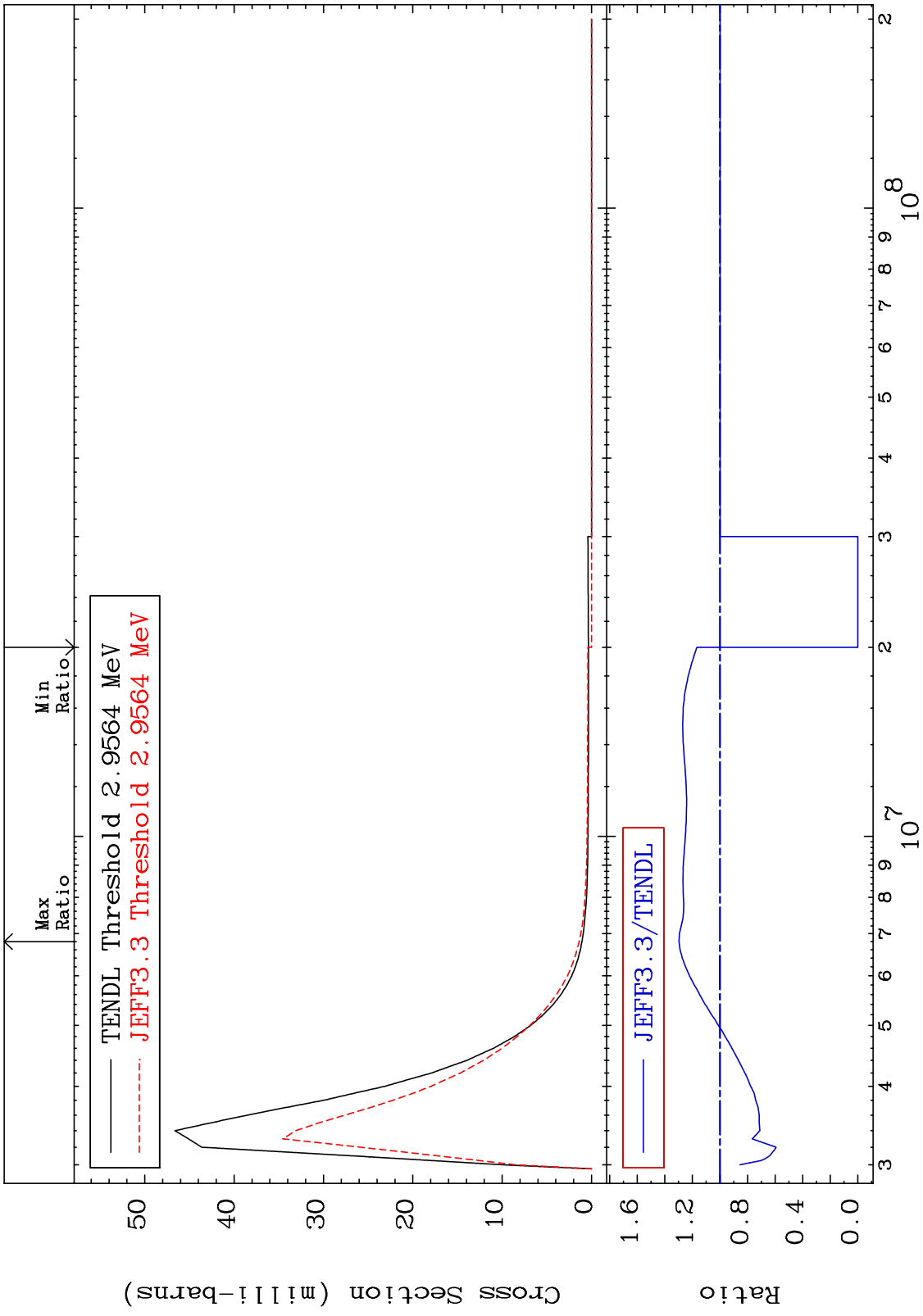
MAT 4037 MT= 68 (n,n') Level Cross Section -100.0 To 0.261 % 40-Zr-94



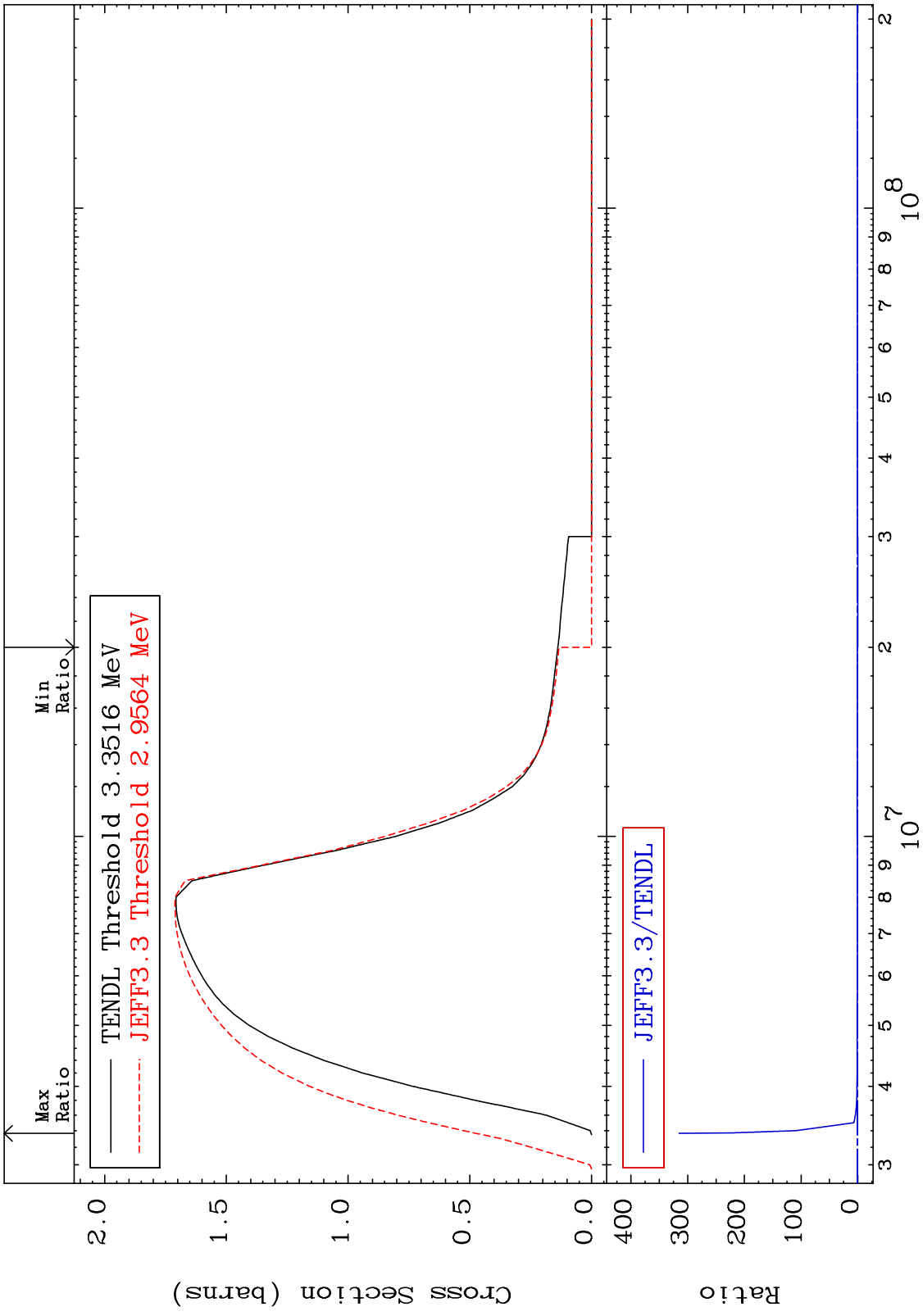
MAT 4037 MT= 69 (n,n') Level Cross Section -100.0 To 0.000 % 40-Zr-94



MAT 4037 MT= 70 (n,n') Level Cross Section 40-Zr-94  
 -100.0 To 29.68 %



MAT 4037 (n,n') Continuum Cross Section -100.0 To 9999. % 40-Zr-94





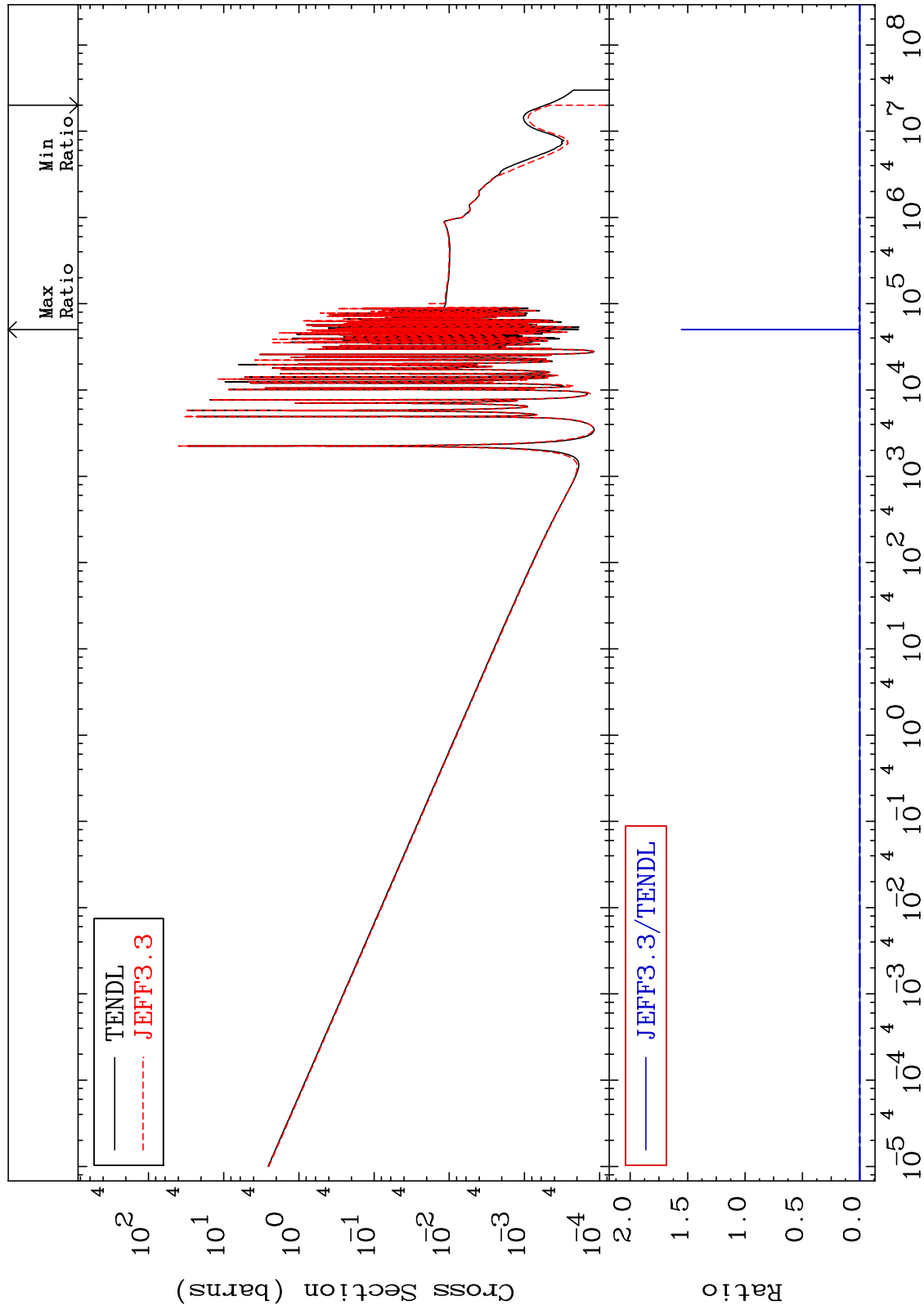
MAT 4037

(n,  $\gamma$ )

40-Zr-94

Cross Section

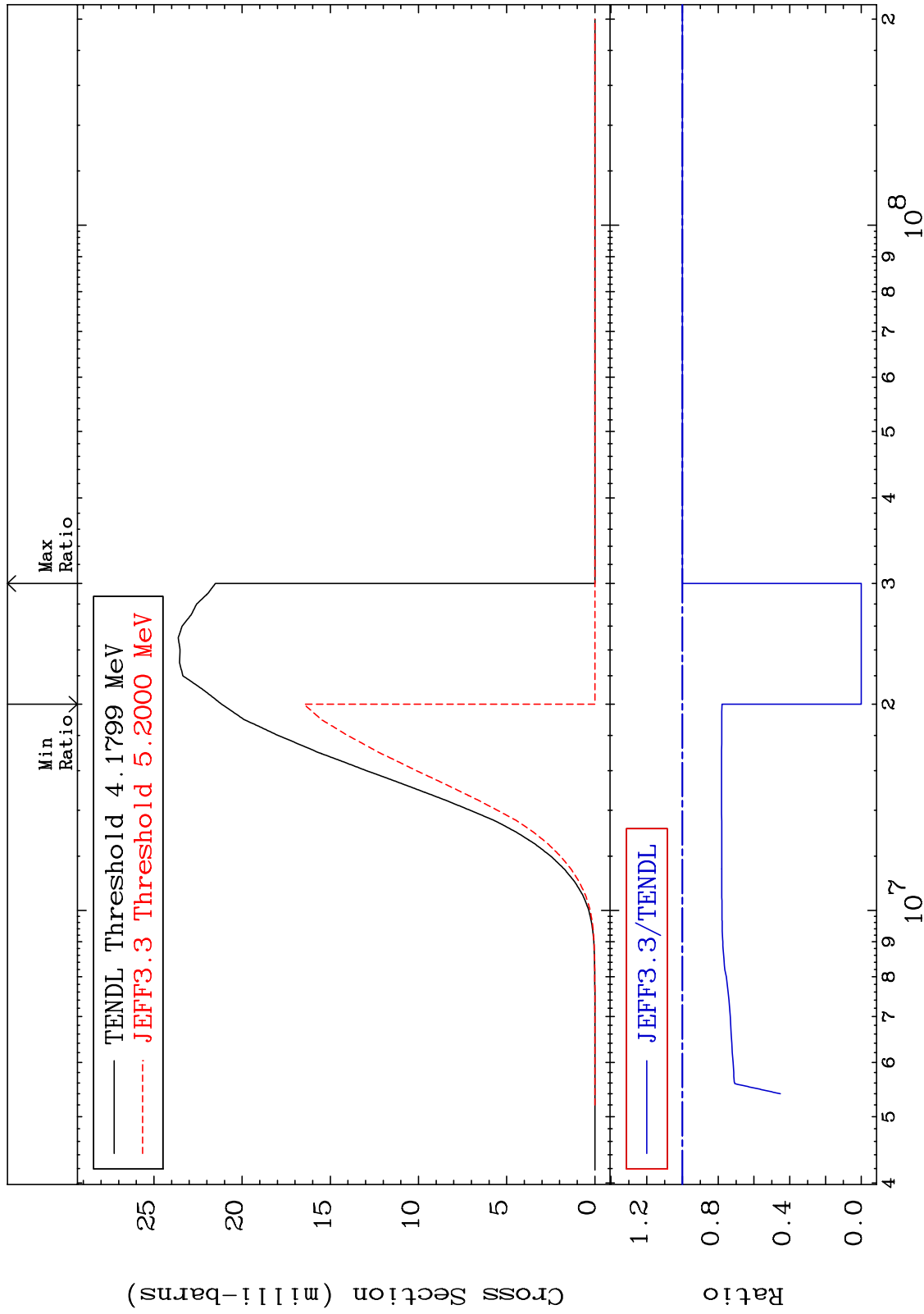
-100.0 To 9999. %



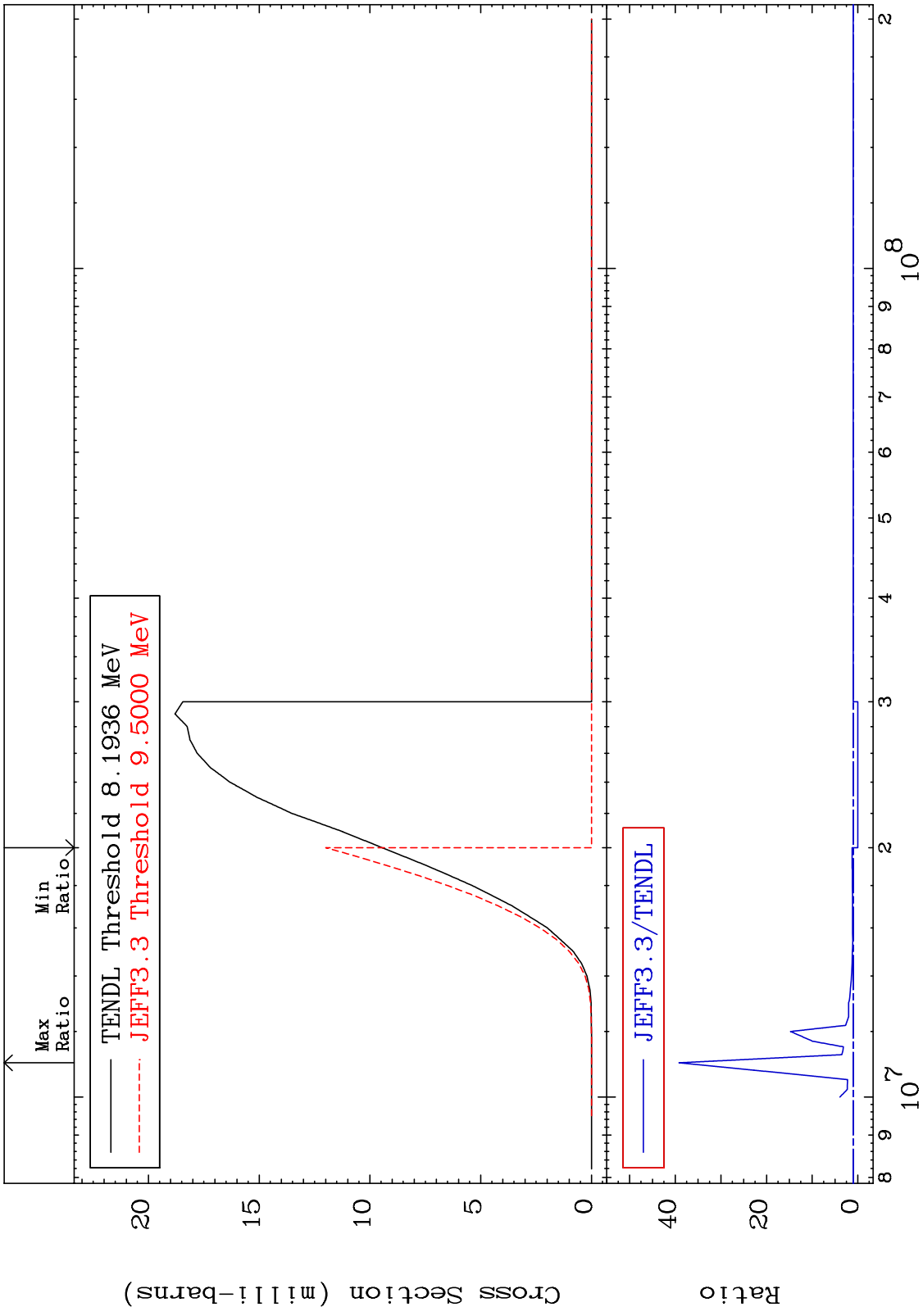
MAT 4037

40-Zr-94

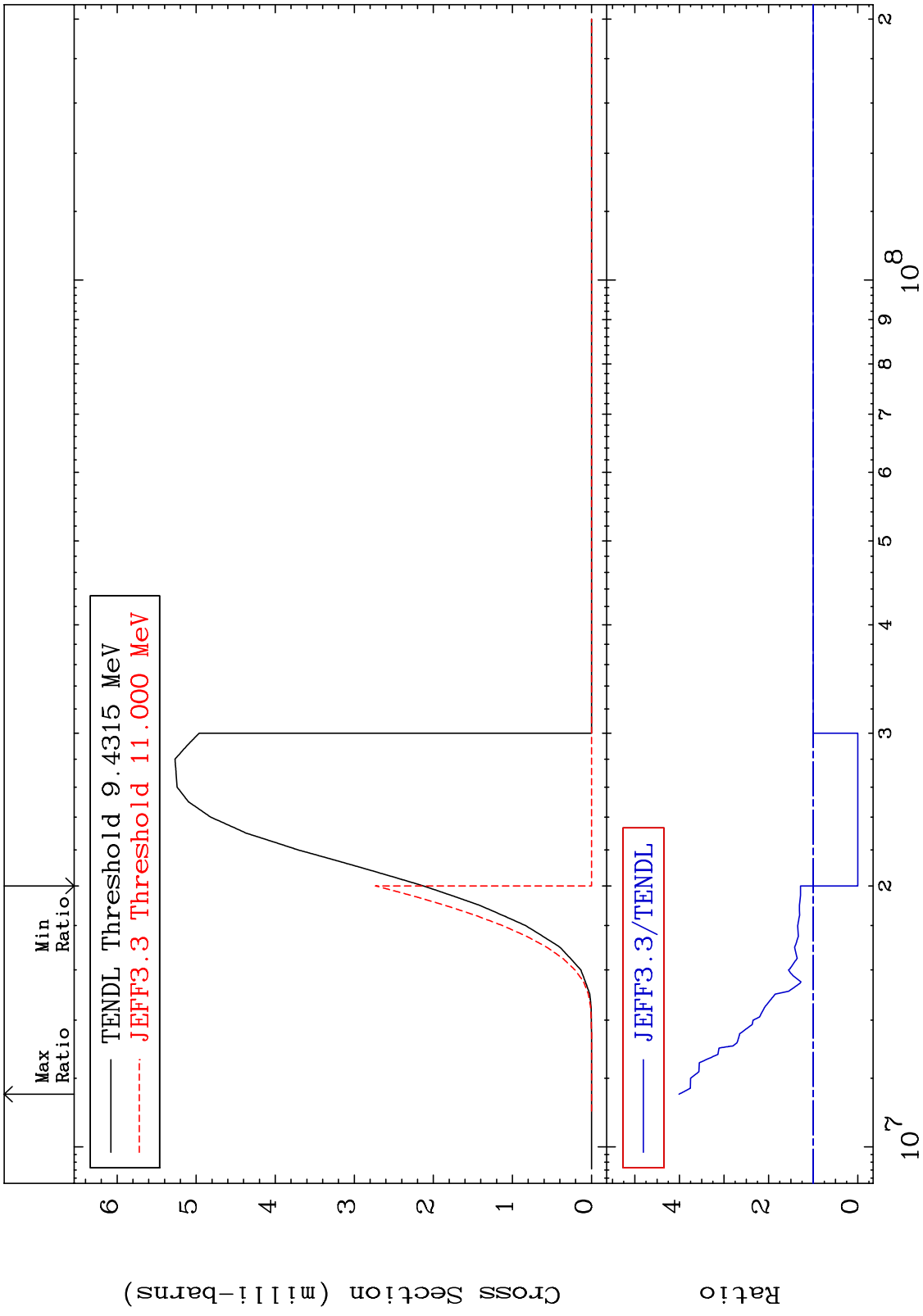
(n,p)  
Cross Section  
-100.0 To 0.000 %



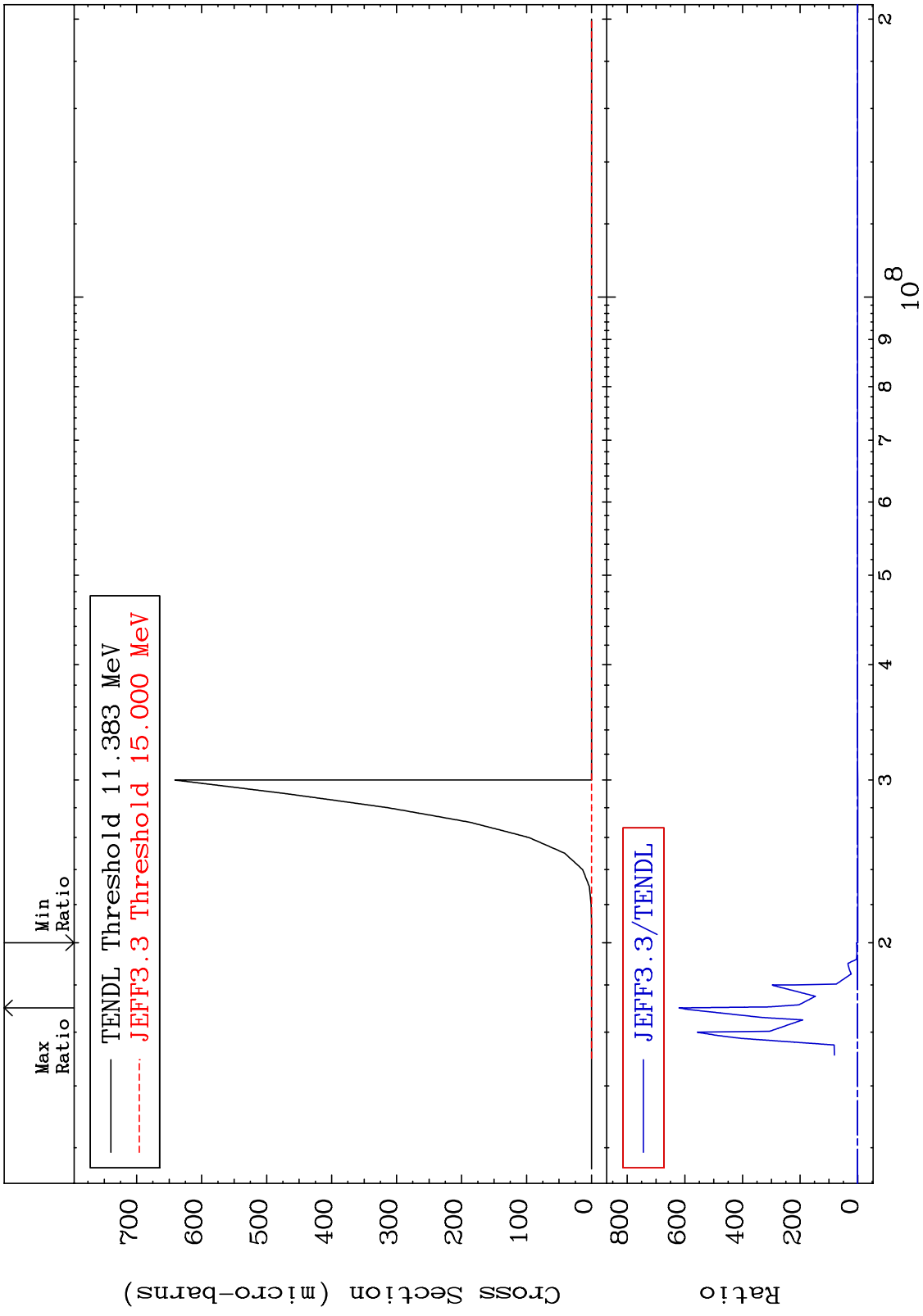
MAT 4037 (n,d) Cross Section 40-Zr-94 -100.0 To 3817. %



MAT 4037 (n,t) Cross Section 40-Zr-94 -100.0 To 300.7 %



35 Incident Energy (eV) 40-Zr-94



MAT 4037

40-Zr-94

-100.0 To 682.0 %

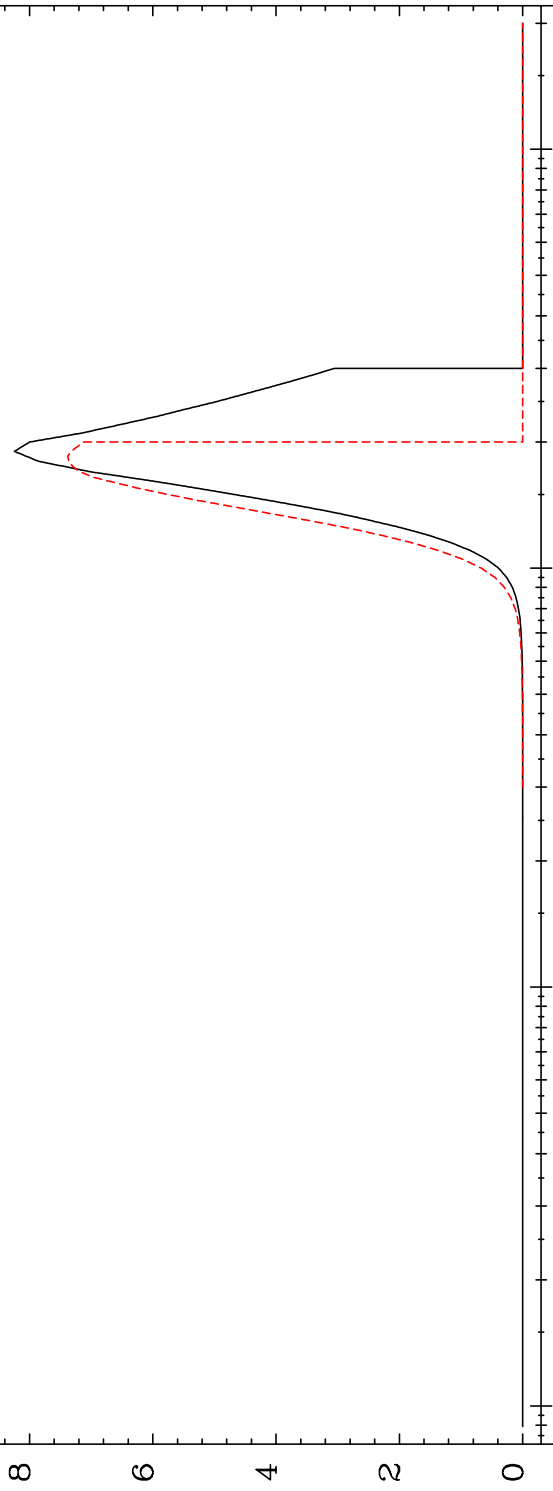
(n,  $\alpha$ )

Cross Section

Max Ratio      Min Ratio

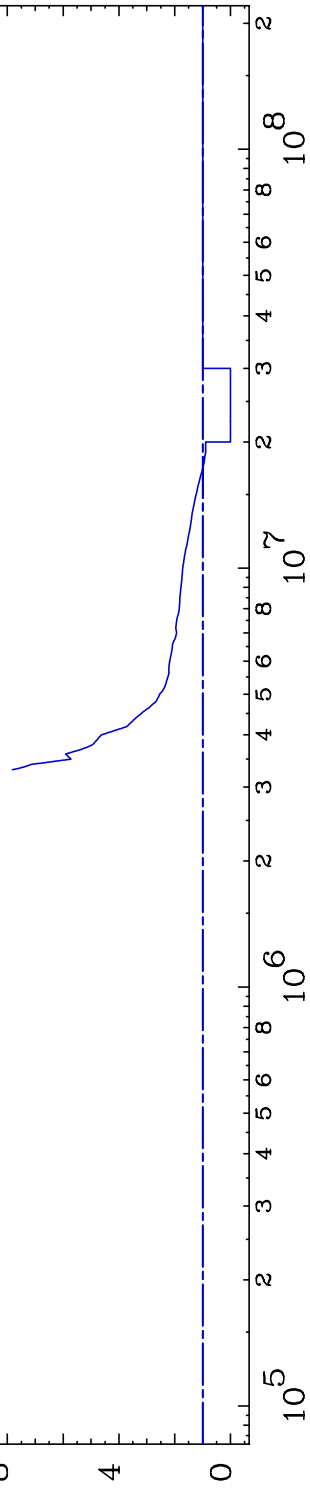
— TENDL Threshold 89.350 keV  
- - - JEFF3.3 Threshold 3.0000 MeV

Cross Section (milli-barns)



— JEFF3.3/TENDL

Ratio

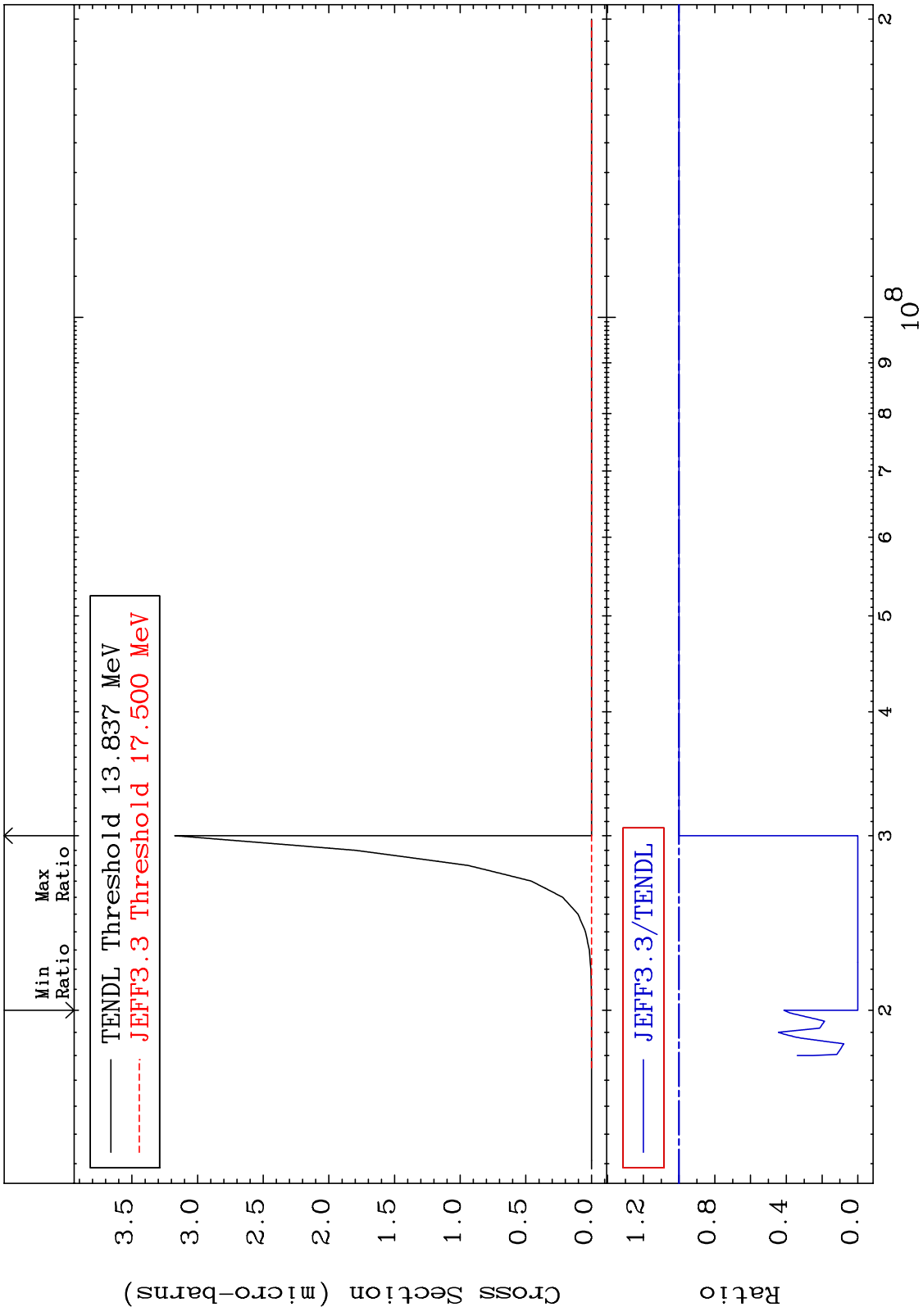


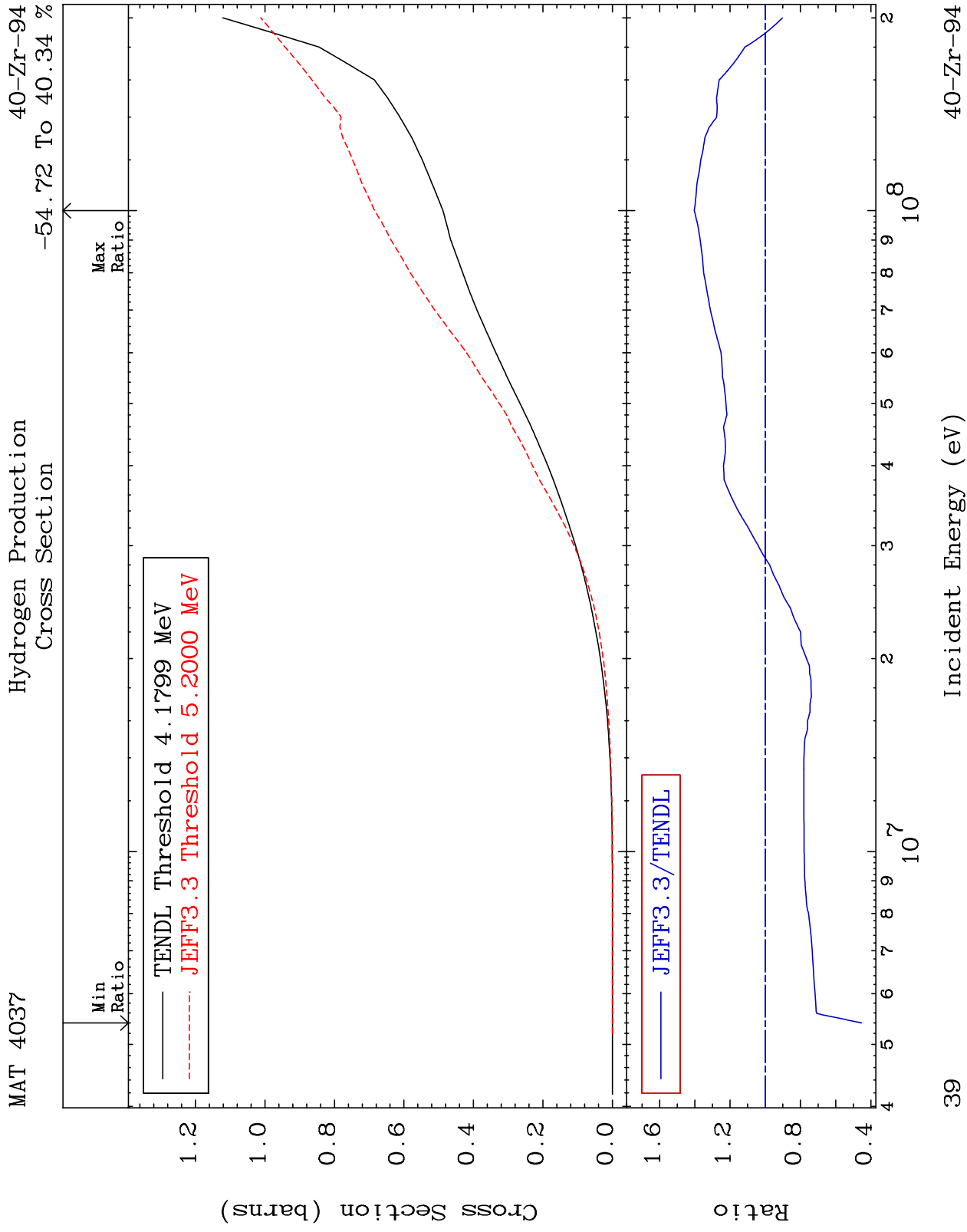
37

Incident Energy (eV)

40-Zr-94

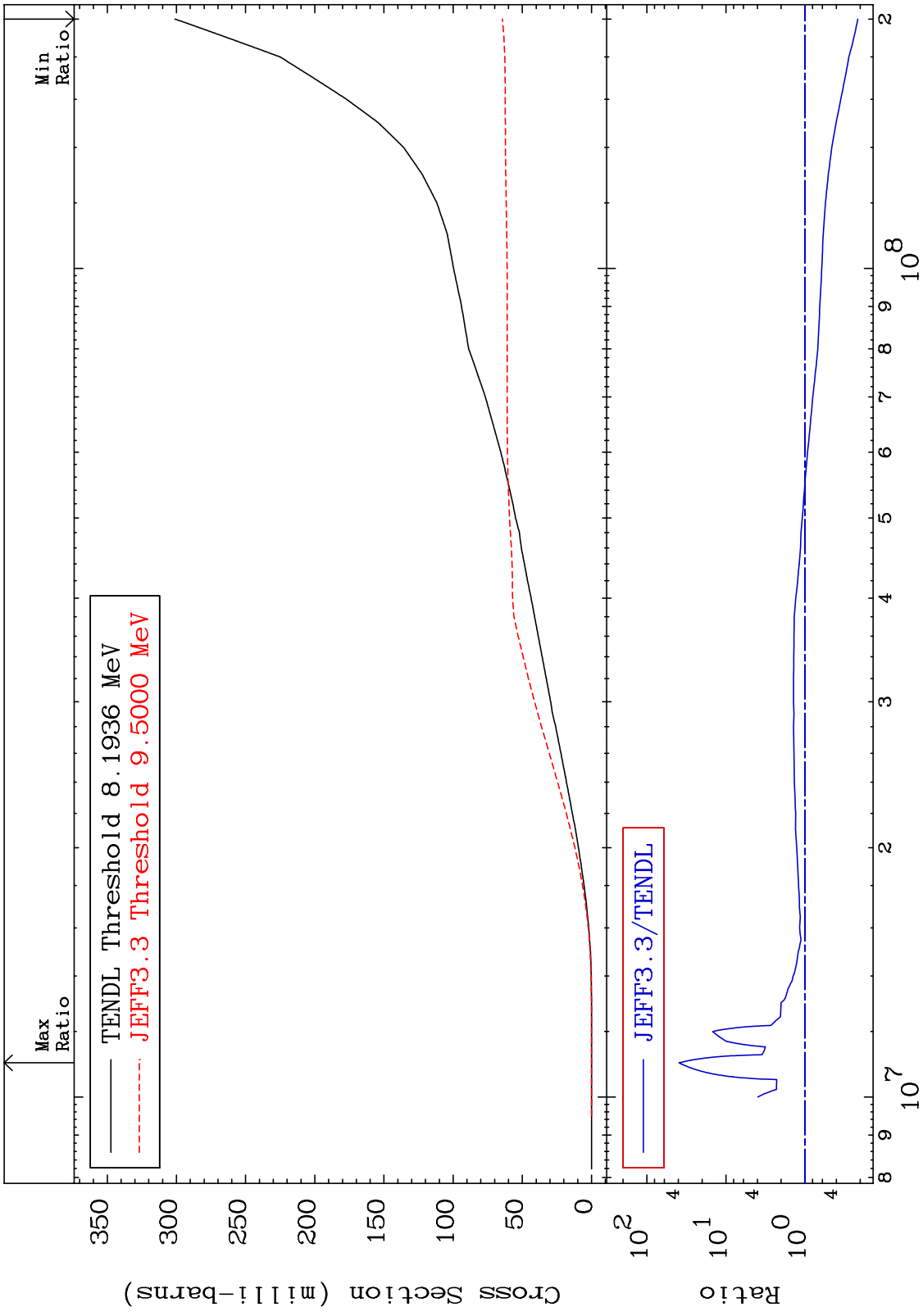
MAT 4037 (n,2p) Cross Section 40-Zr-94 -100.0 To 0.000 %



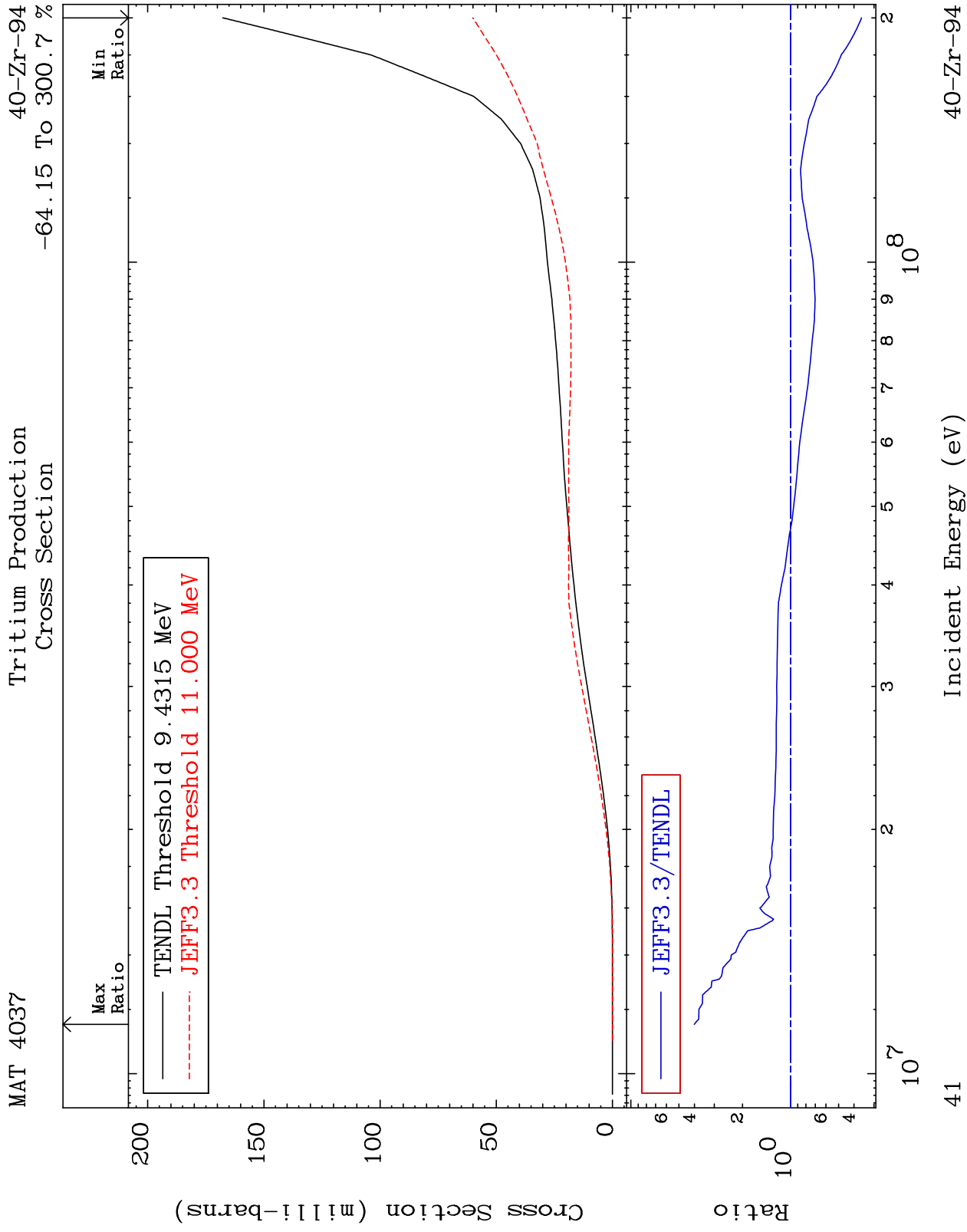


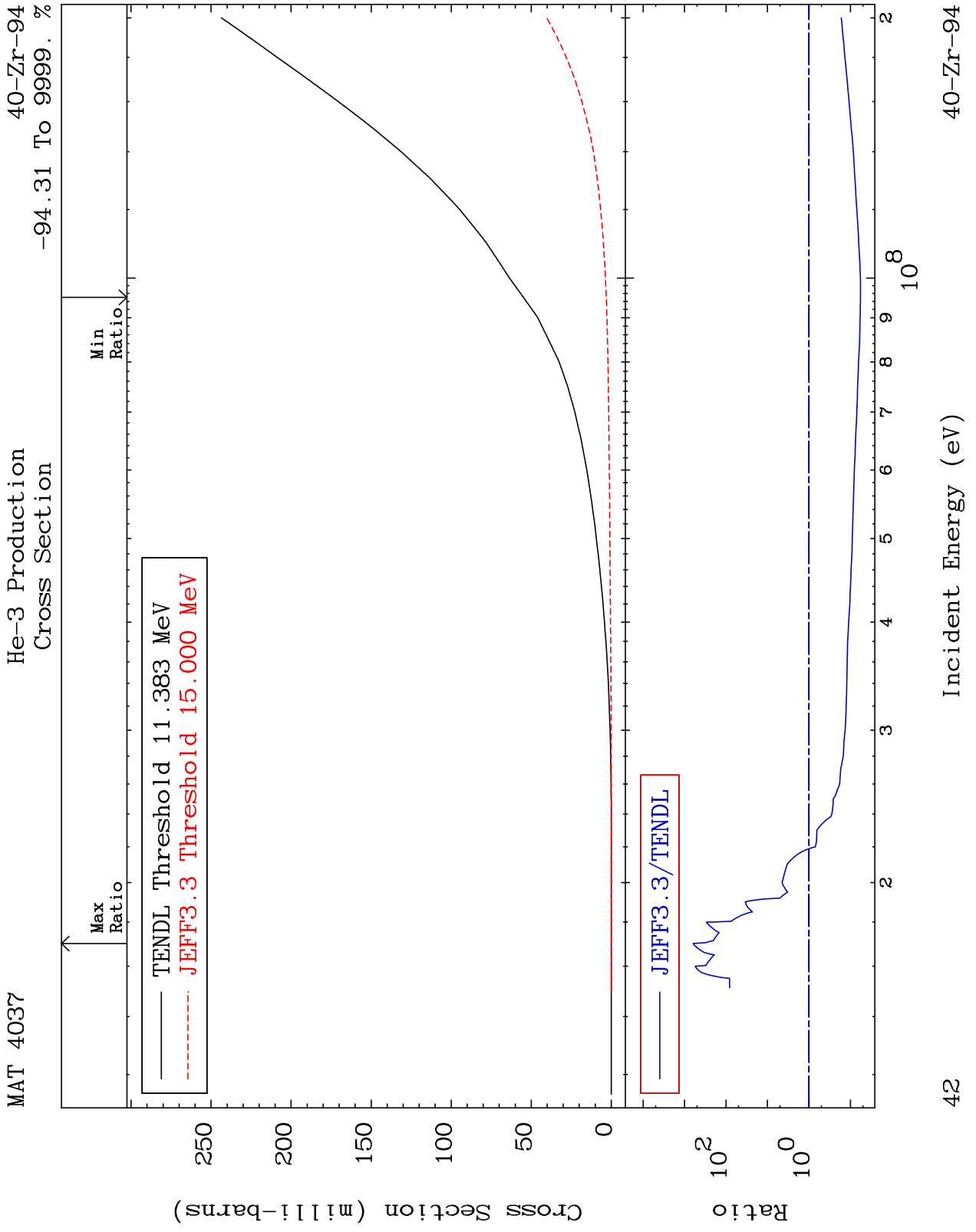


MAT 4037 Deuterium Production Cross Section 40-Zr-94 -78.58 To 3817. %



40

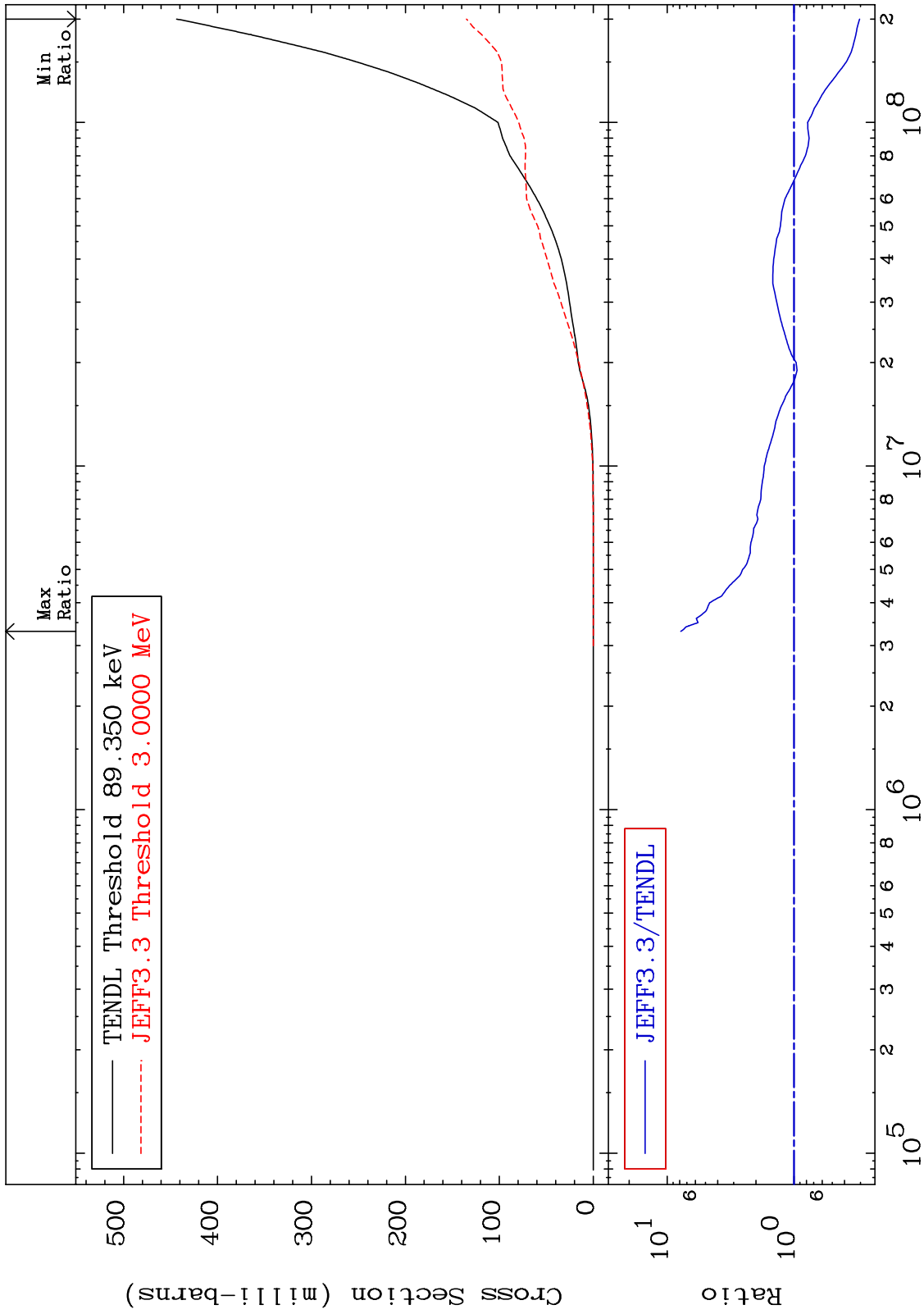




MAT 4037

He-4 Production  
Cross Section

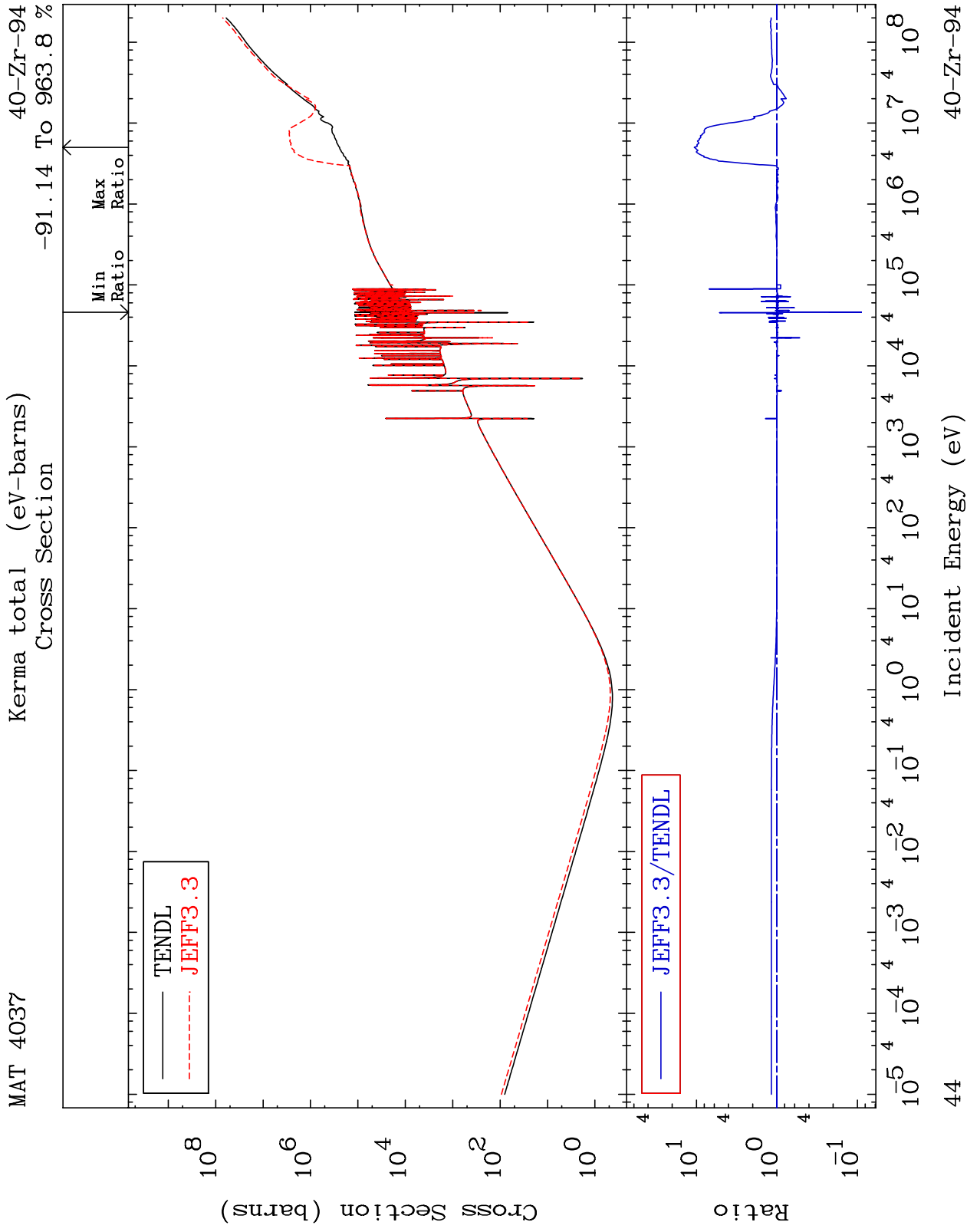
40-Zr-94  
-69.57 To 682.0 %



43

Incident Energy (eV)

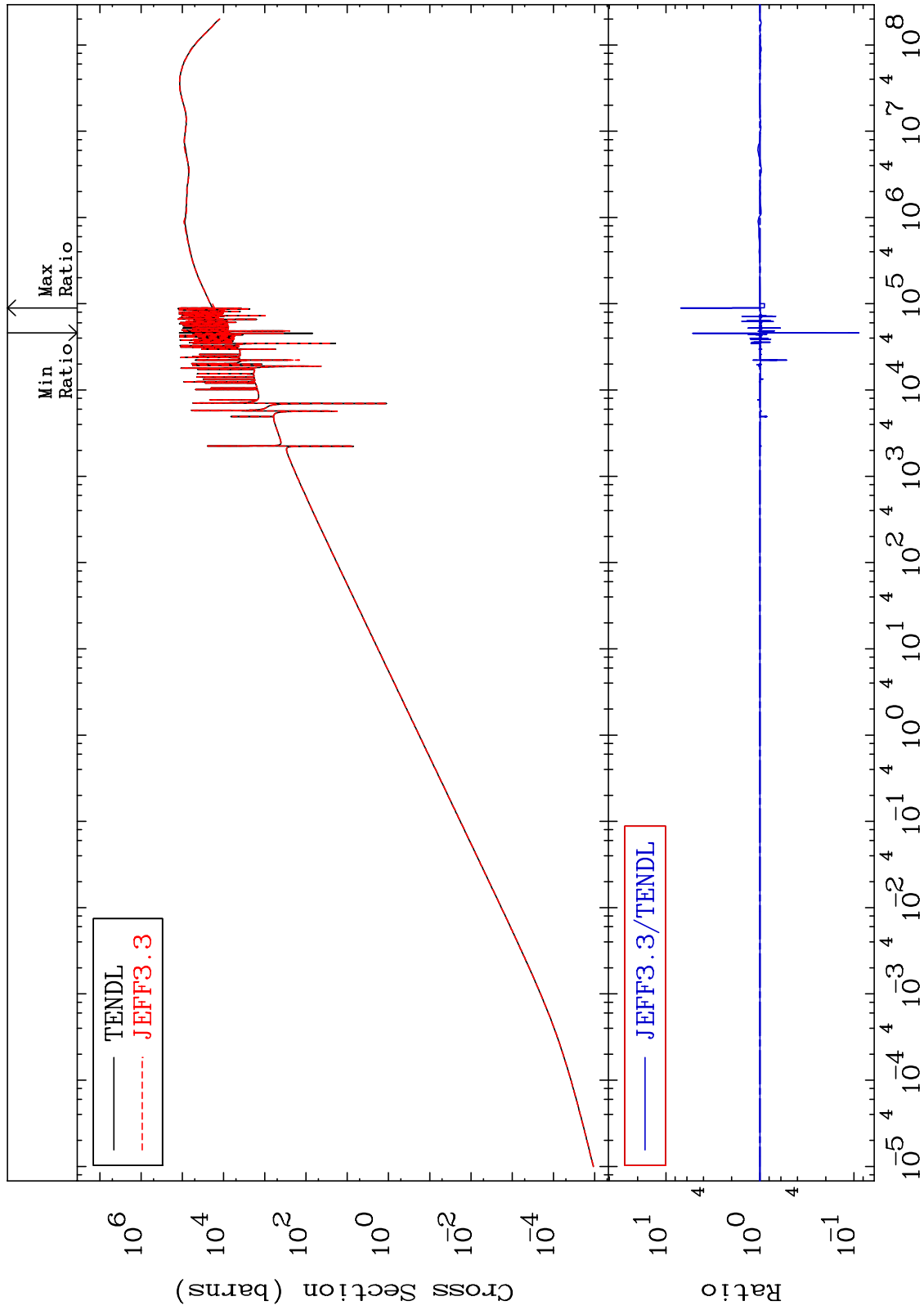
40-Zr-94



MAT 4037

Kerma elastic  
Cross Section

40-Zr-94  
-91.15 To 598.3 %

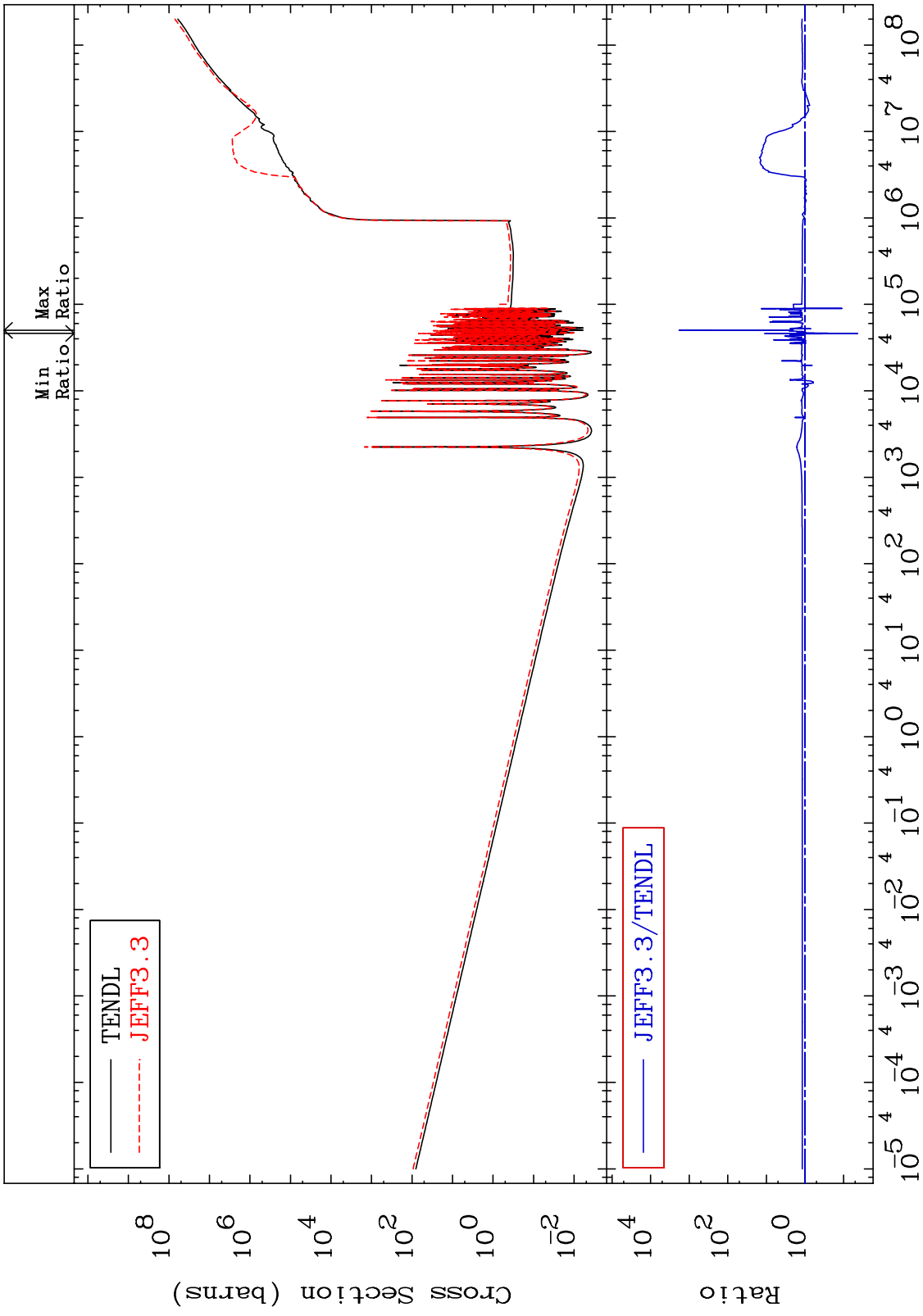


45

Incident Energy (eV)

40-Zr-94

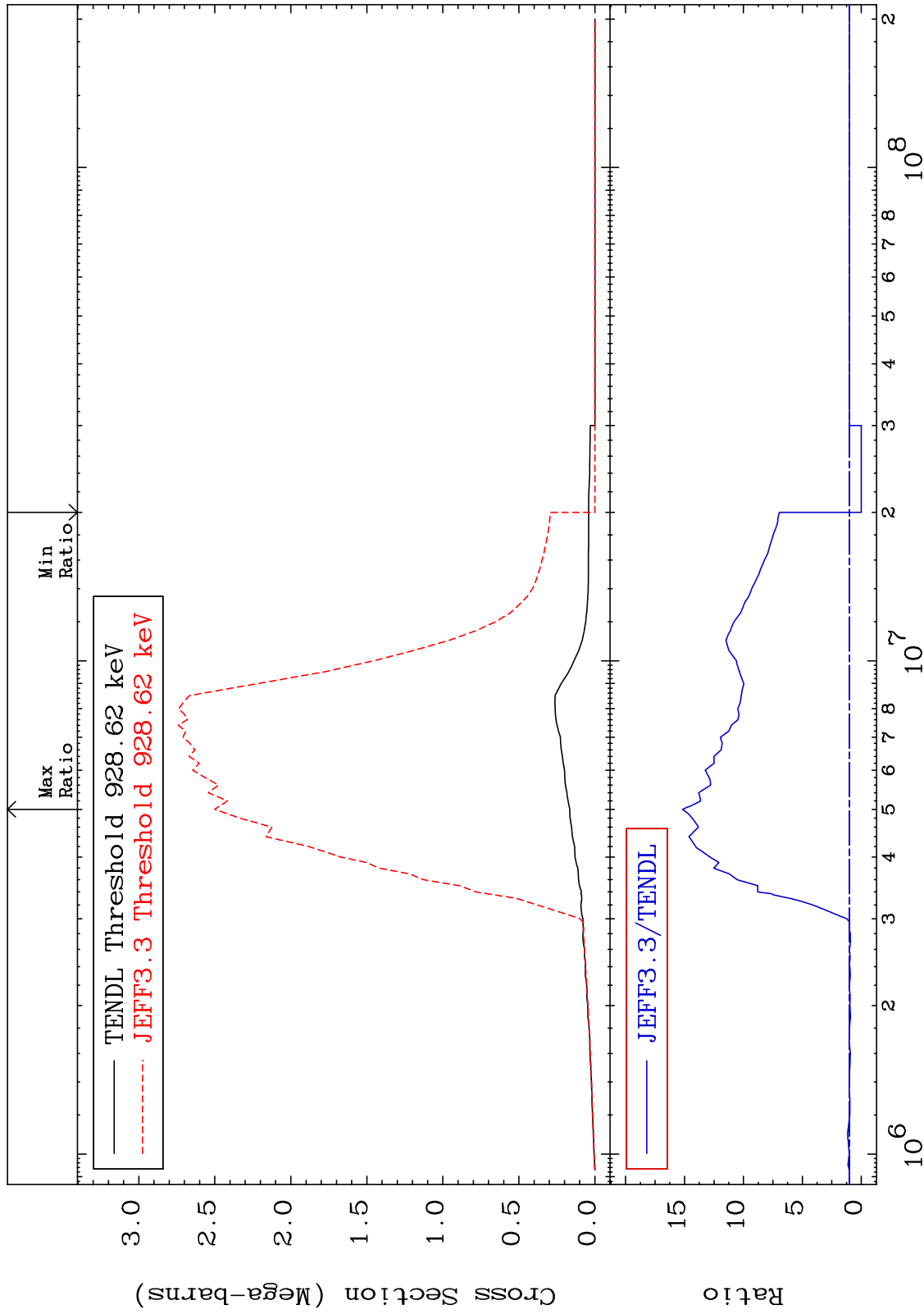
MAT 4037 Kerma non-elastic (all but mt2) 40-Zr-94  
Cross Section -95.76 To 9999. %



MAT 4037

Kerma inelastic (mt51-91)  
Cross Section

40-Zr-94  
-100.0 To 1418. %

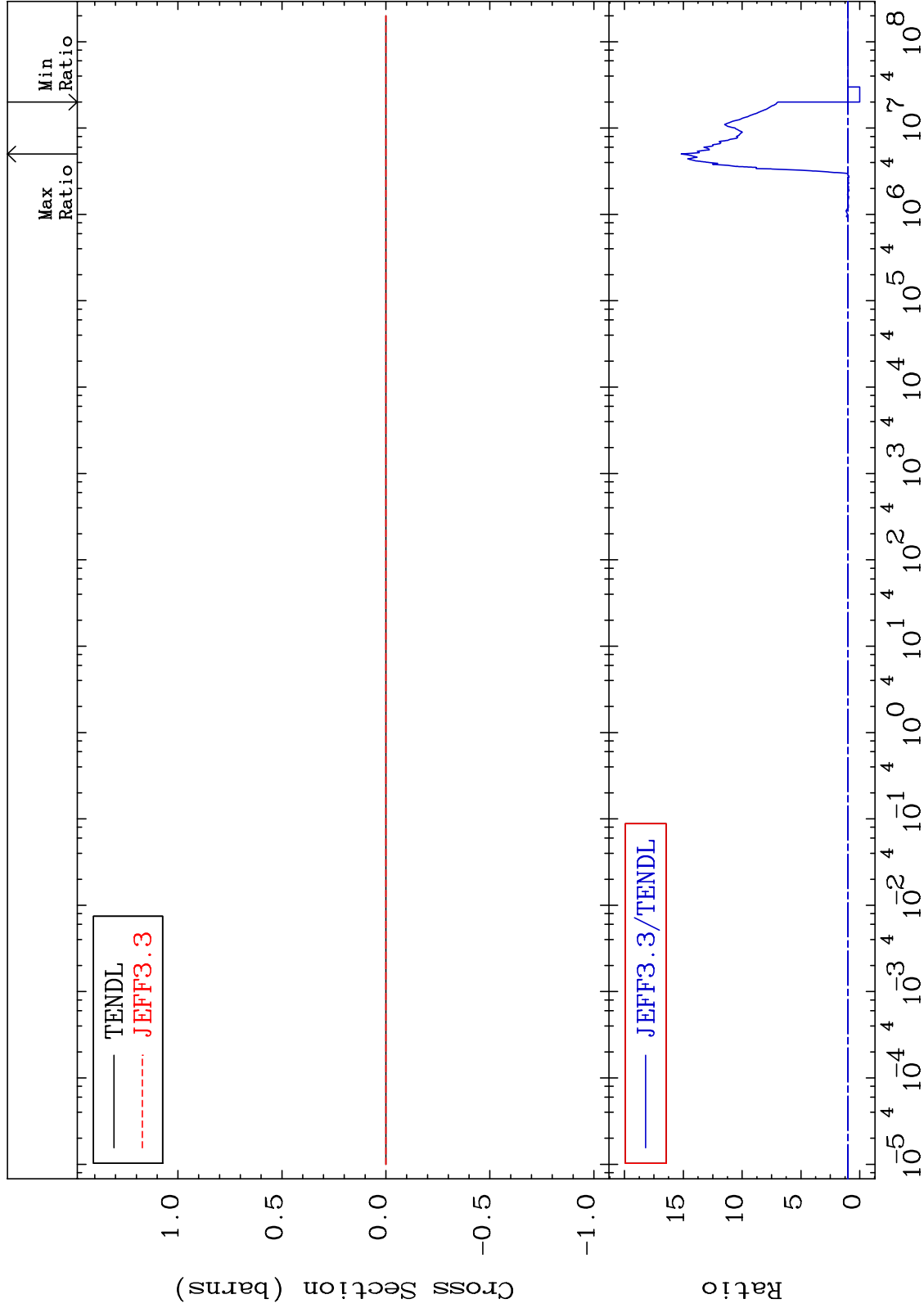




MAT 4037

Kerma fission (mt18 or mt19-20-21-38)  
Cross Section

40-Zr-94  
-100.0 To 1418. %

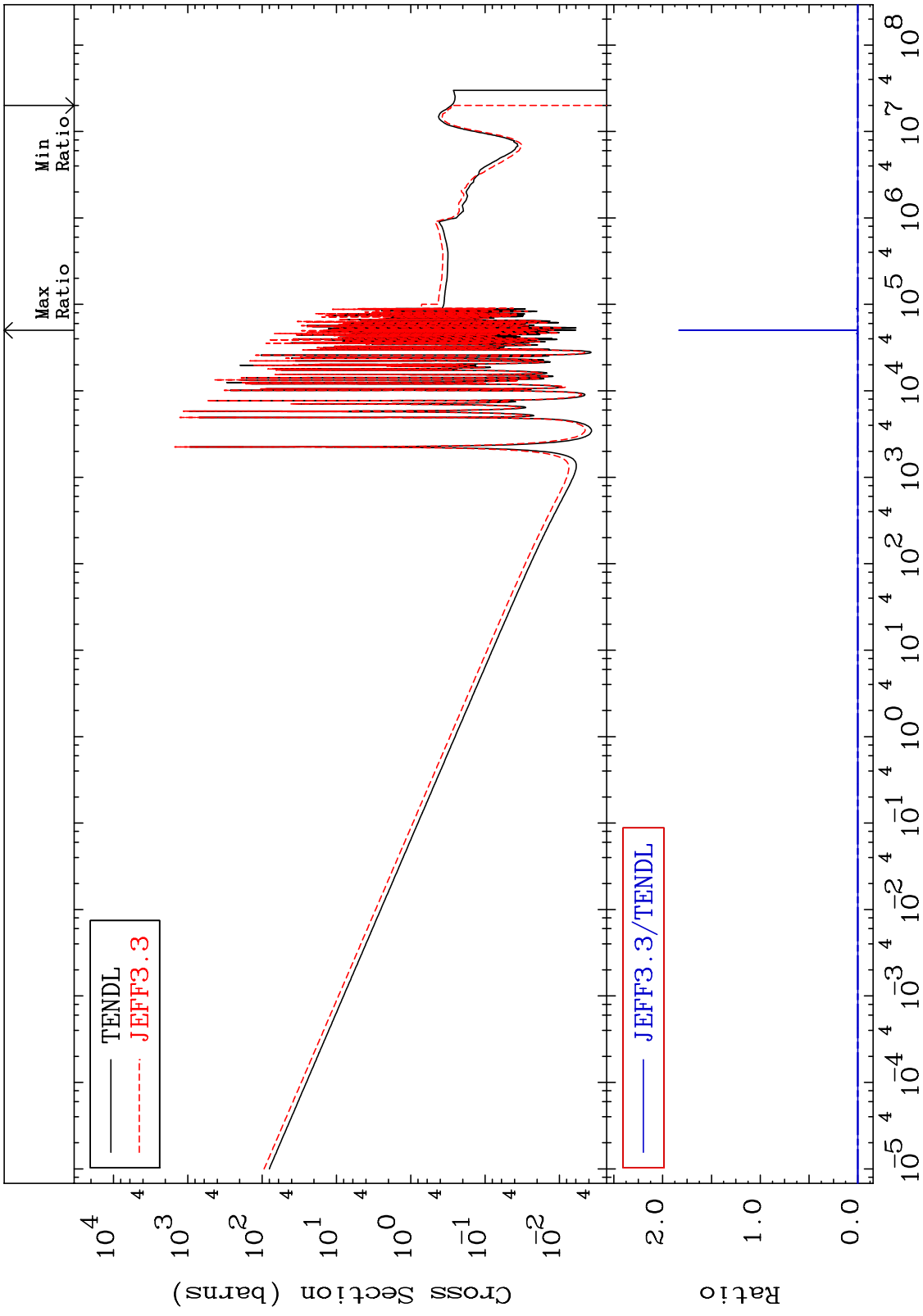


48

Incident Energy (eV)

40-Zr-94

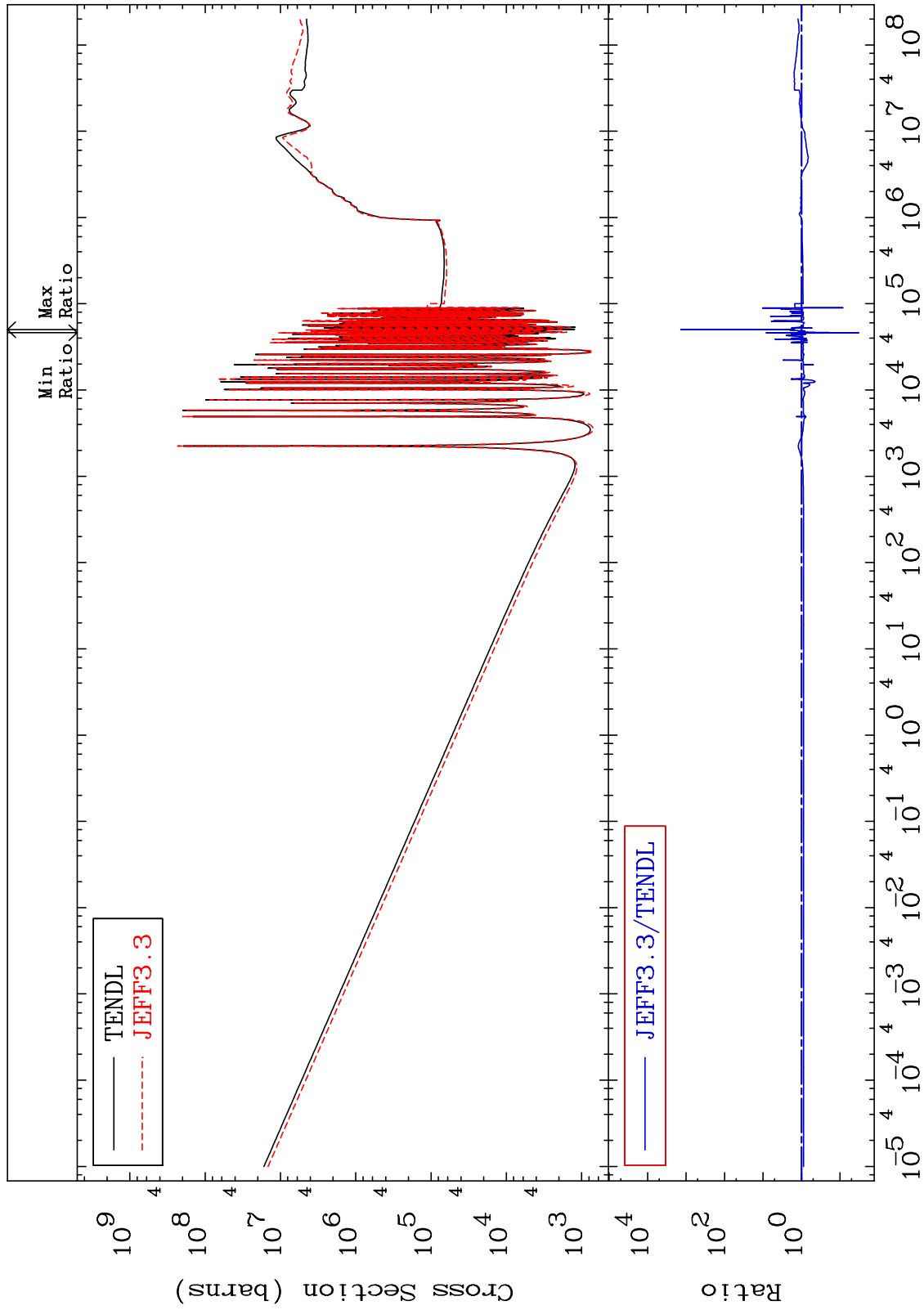
MAT 4037      Kerma capture (mt102)      40-Zr-94  
 Cross Section      -100.0 To 9999. %



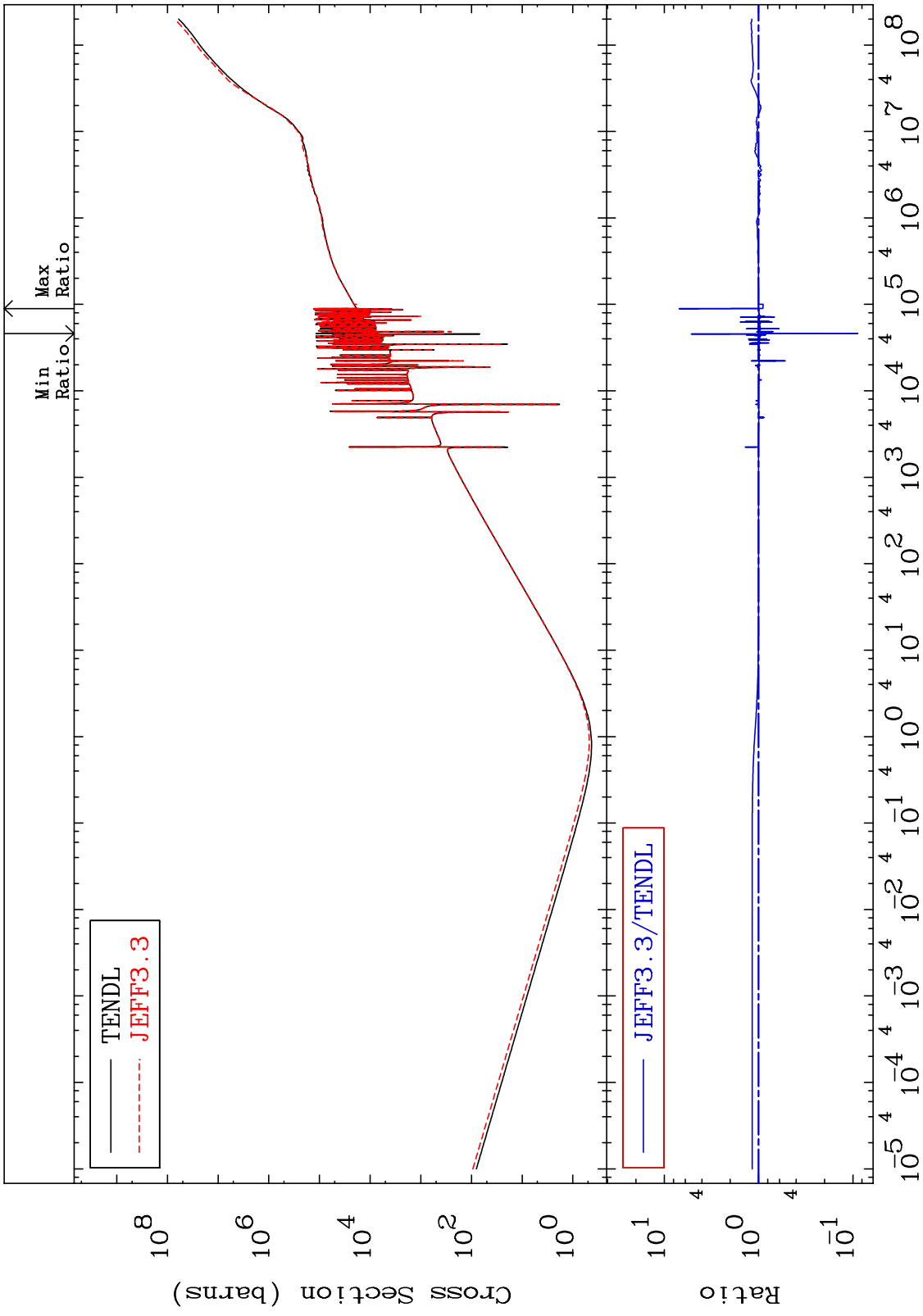
MAT 4037

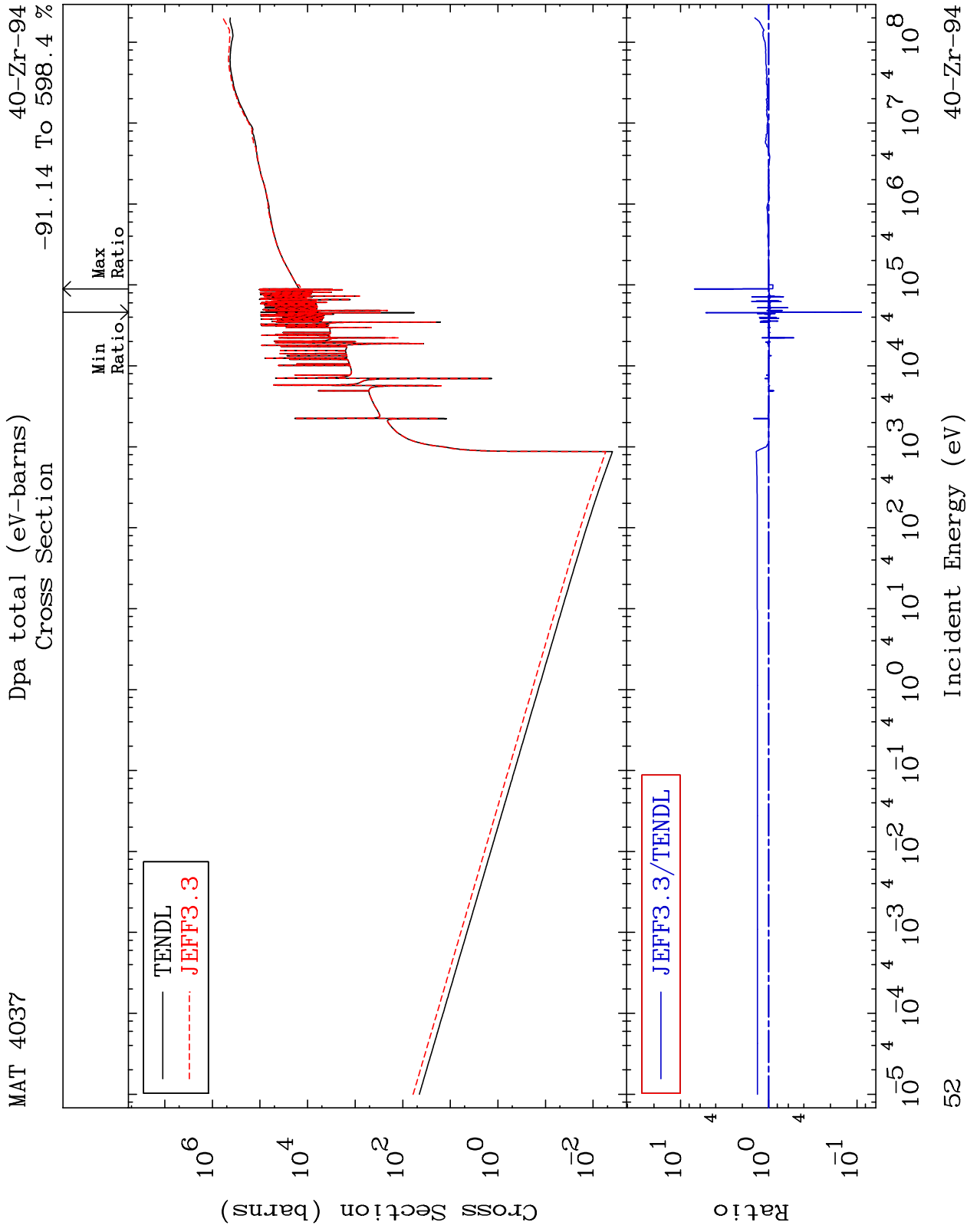
Total photon (eV-barns)  
Cross Section

40-Zr-94  
-96.79 To 9999. %



MAT 4037 Total kinematic kerma (high limit) Cross Section 40-Zr-94 -91.14 To 598.3 %

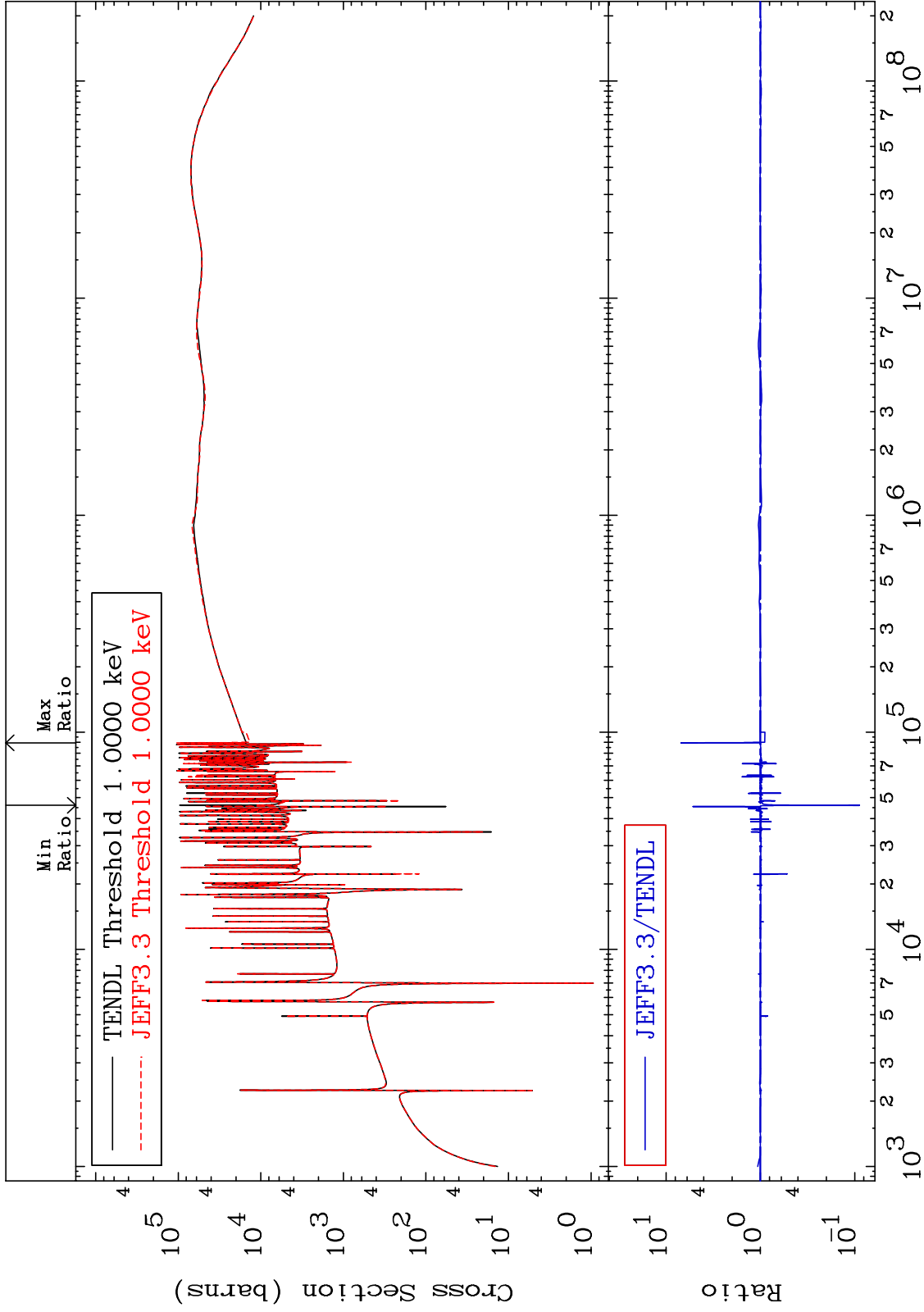




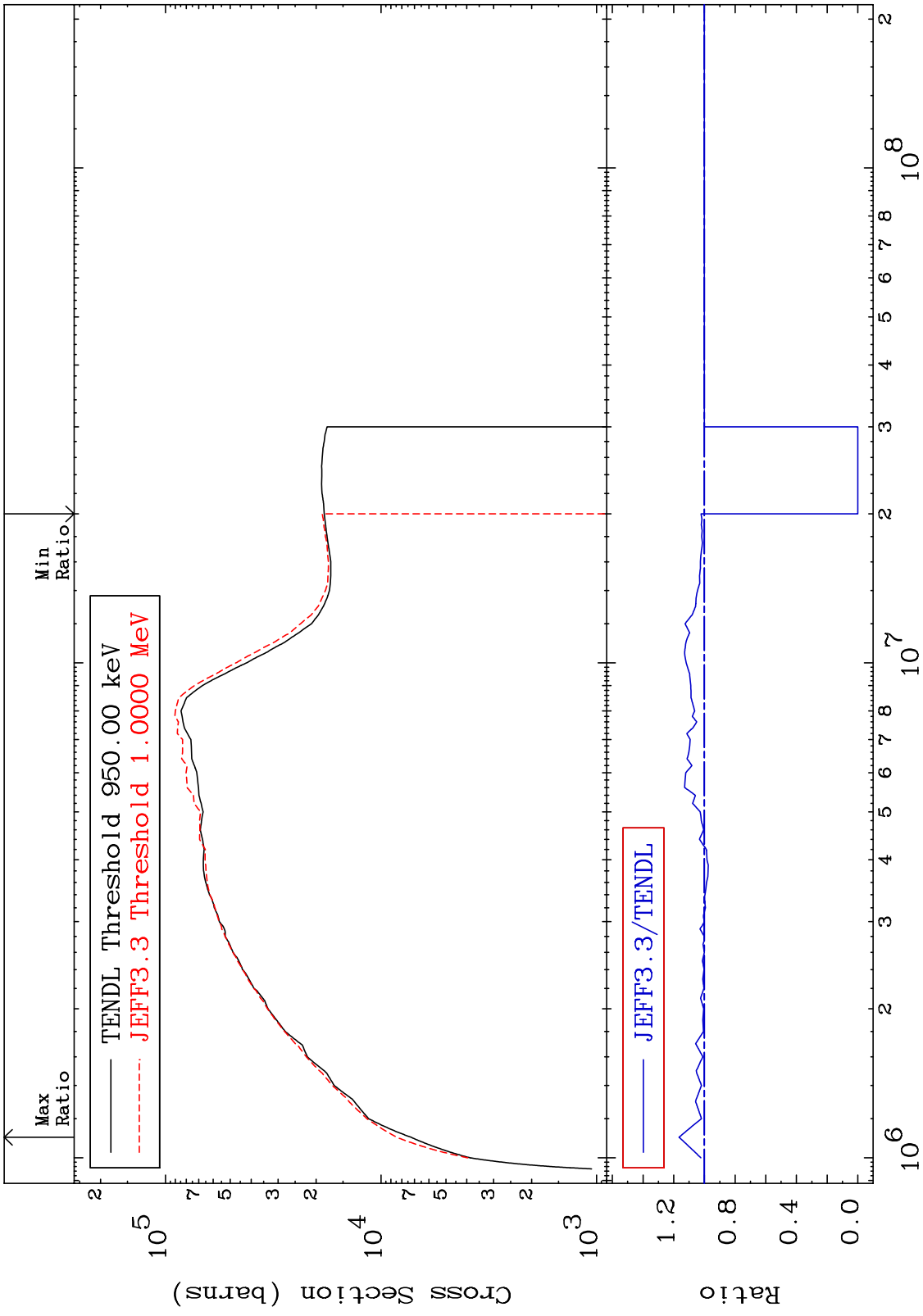
MAT 4037

Dpa elastic (mt2)  
Cross Section

40-Zr-94  
-91.14 To 598.4 %



MAT 4037      Dpa inelastic (mt51-91)      40-Zr-94  
 Cross Section      -100.0 To 16.54 %



MAT 4037

Dpa disappearance (mt102 -120)  
Cross Section

40-Zr-94  
-100.0 To 9999. %

