

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
Web: redcullen1.net/HOMEPAGE.NEW

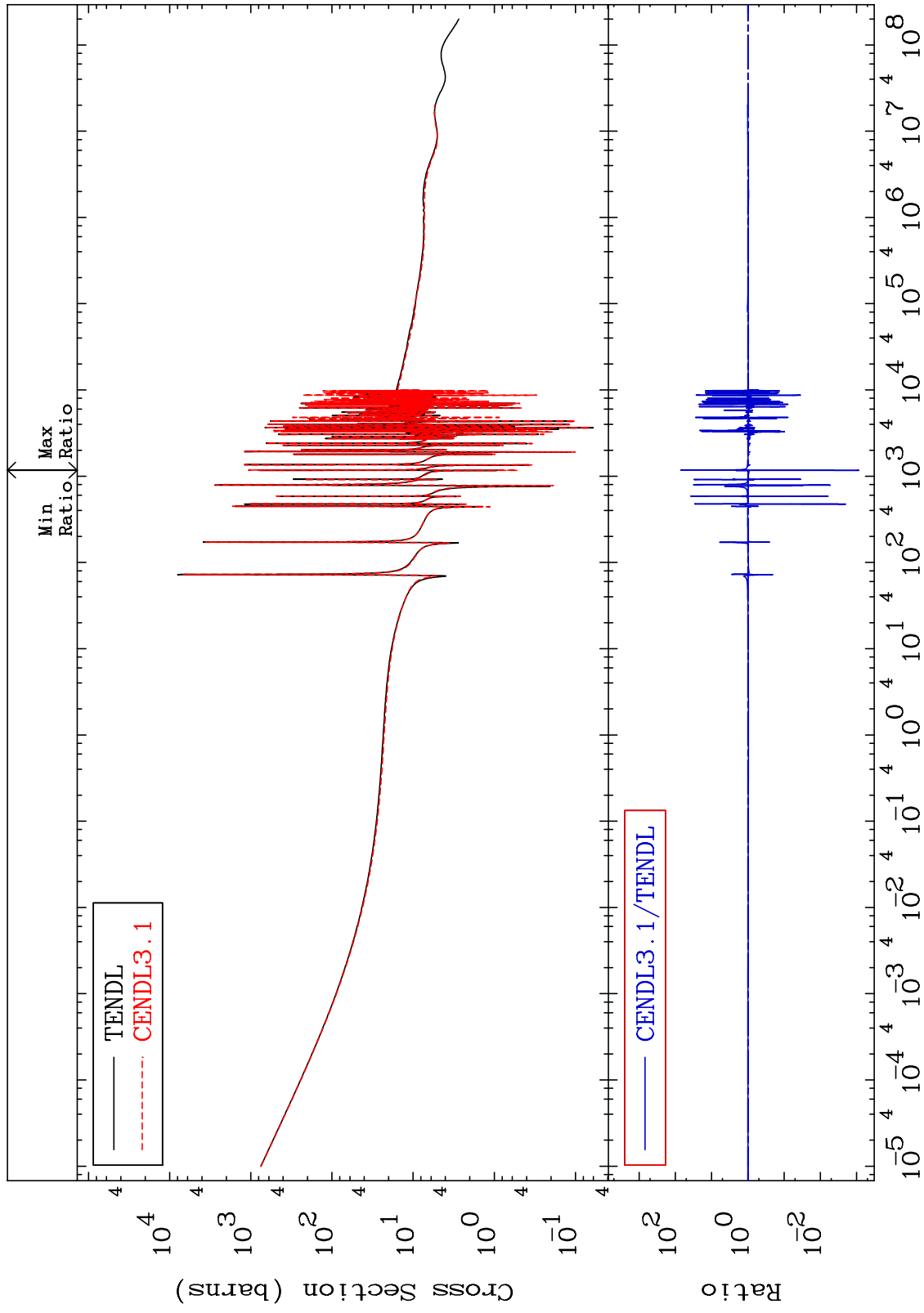
Press Mouse Button to Start

MAT 7243

Total
Cross Section

72-Hf-180

-99.91 To 7077. %

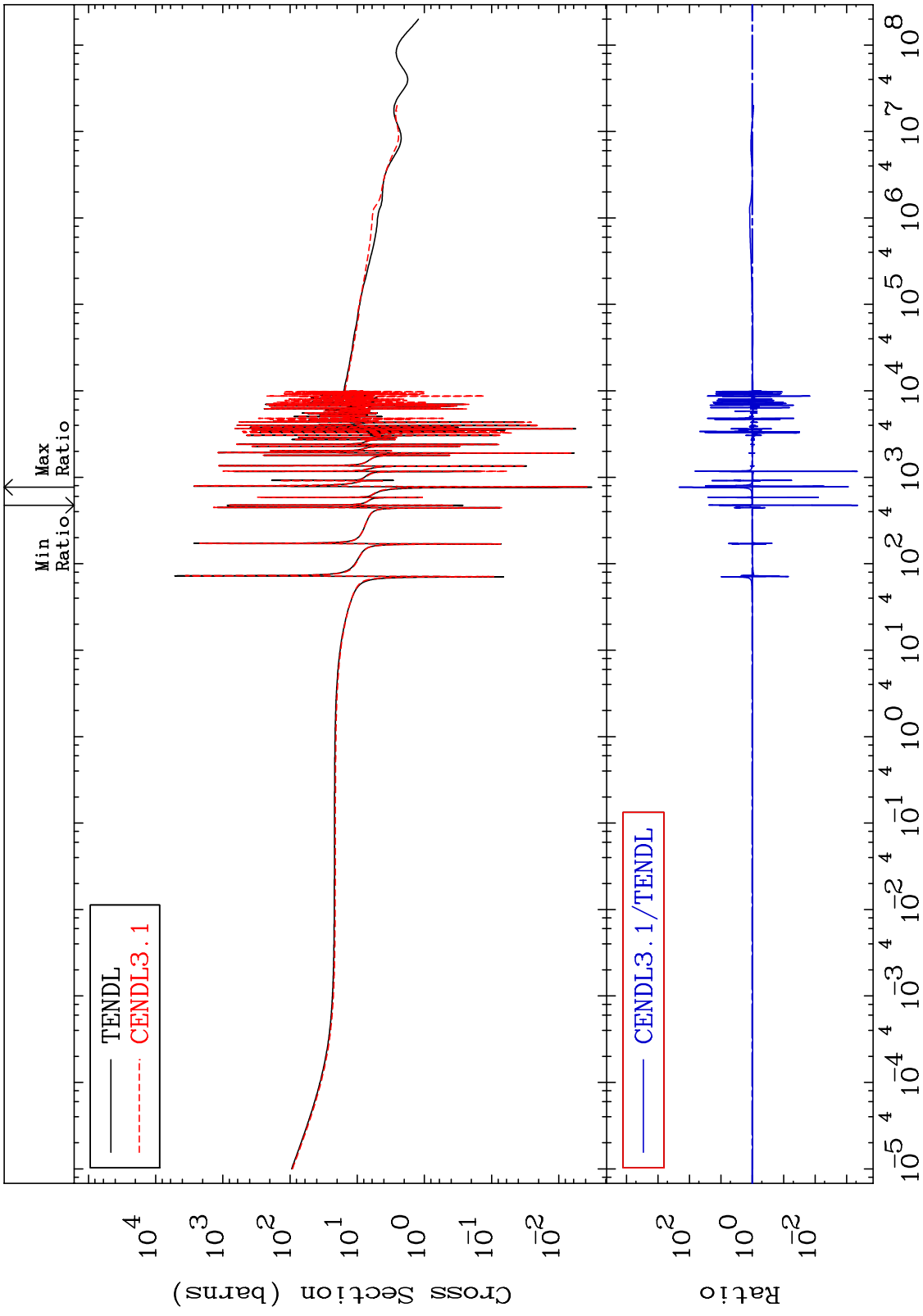


Incident Energy (eV)

72-Hf-180

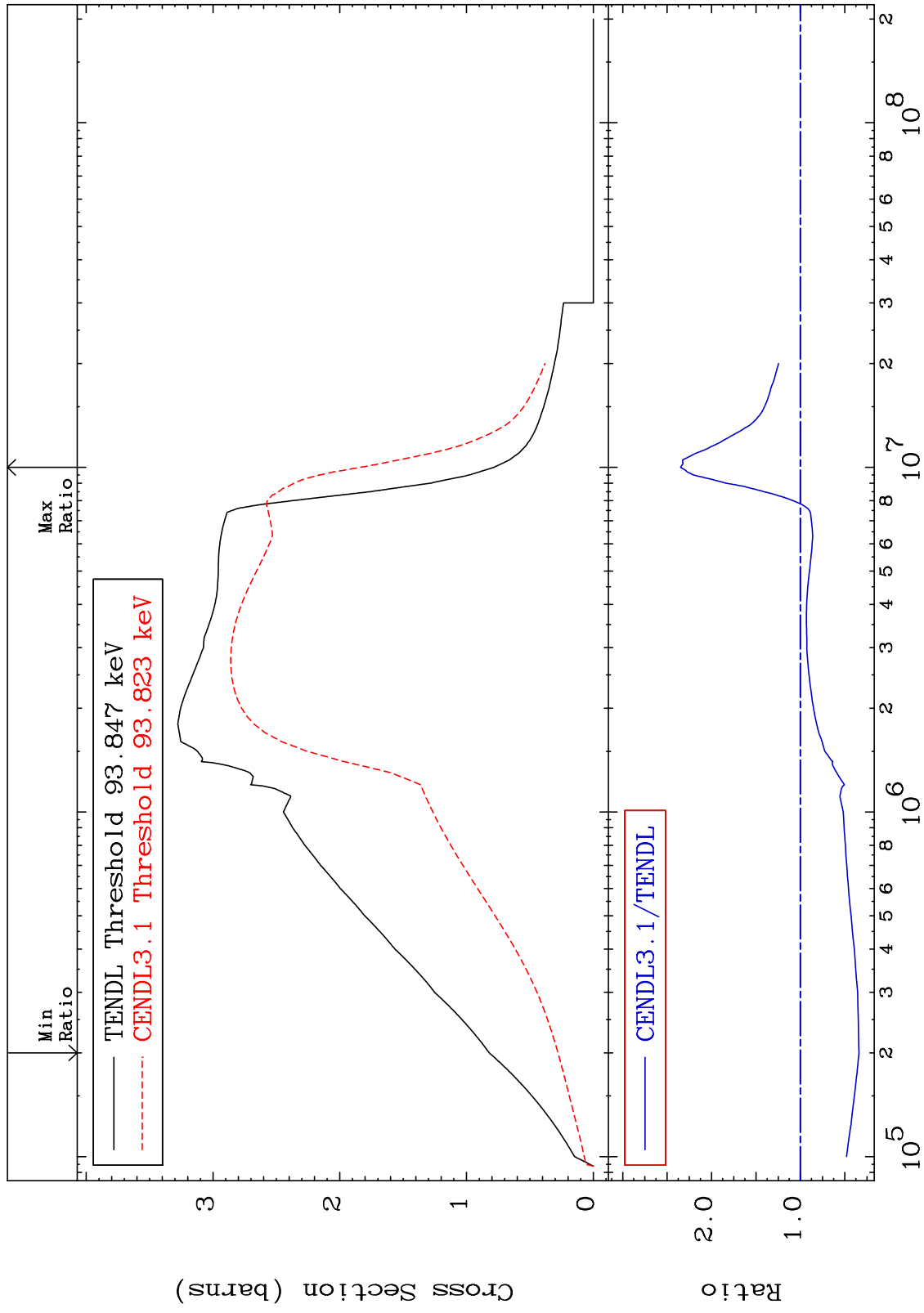
1

MAT 7243 Elastic Cross Section 72-Hf-180 -99.96 To 9999. %



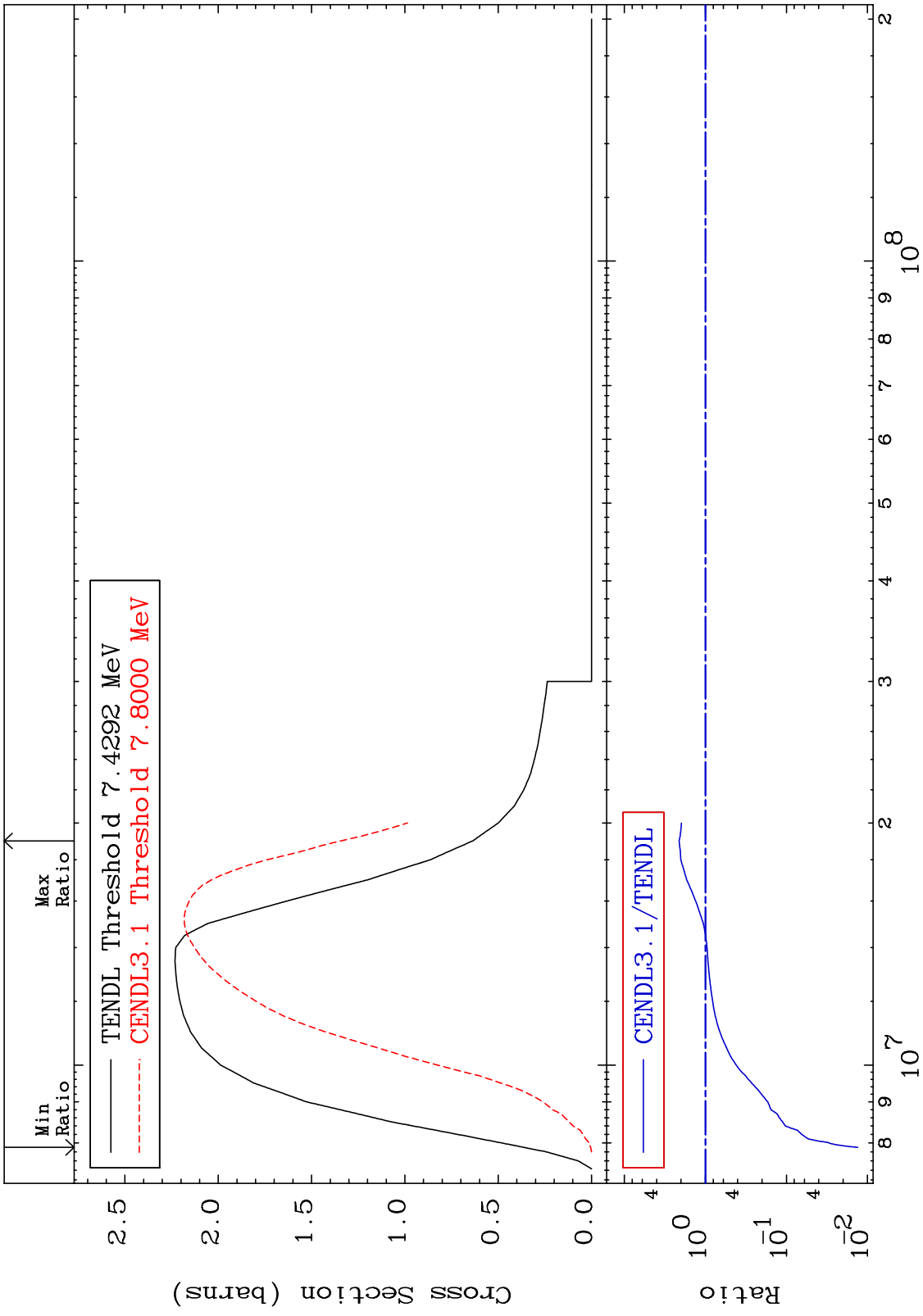
2 72-Hf-180

MAT 7243 Inelastic Cross Section 72-Hf-180 -65.97 To 134.8 %

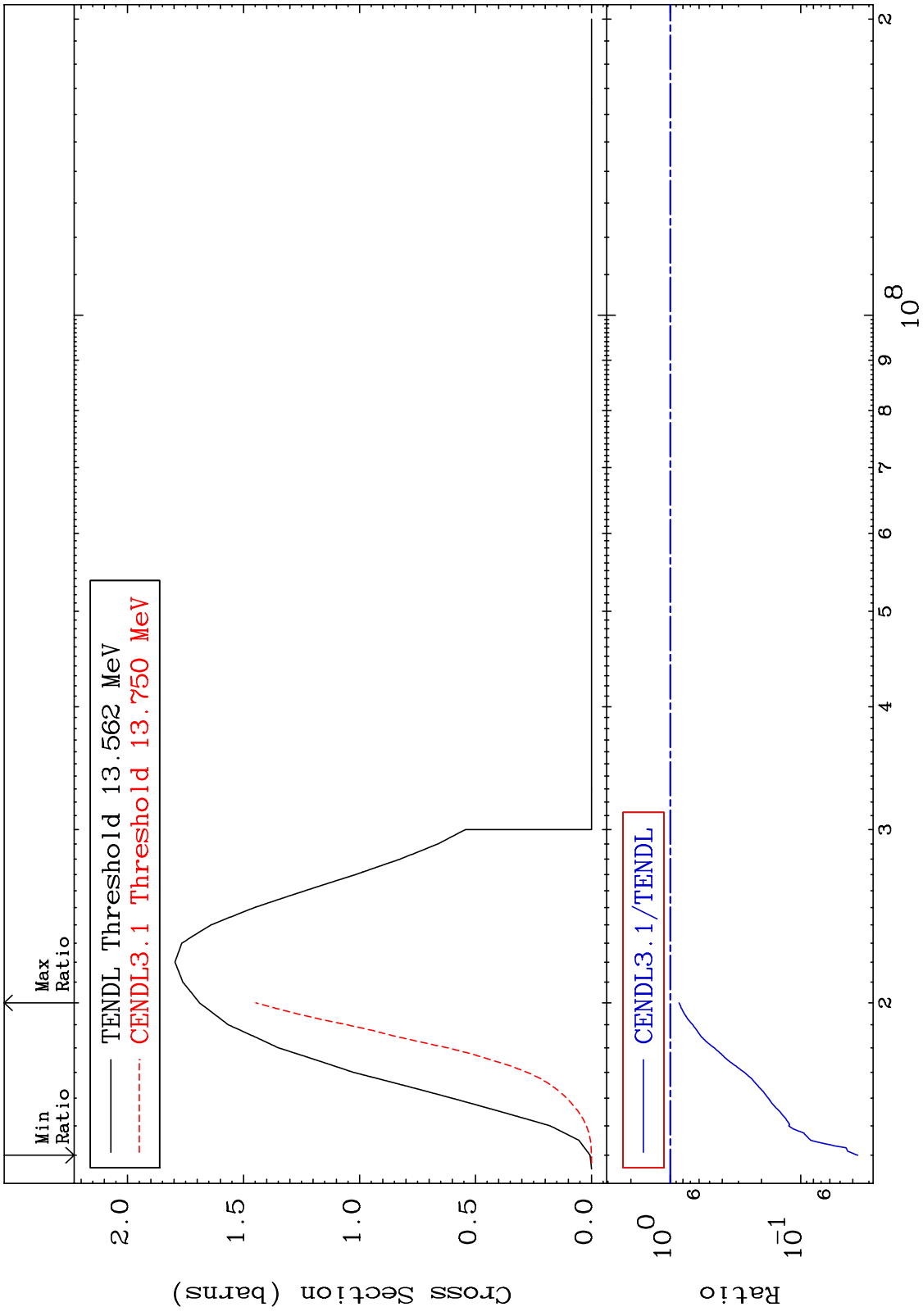


72-Hf-180

MAT 7243 72-Hf-180
-98.69 To 111.4 %
 (n,2n)
 Cross Section



MAT 7243 (n,3n) 72-Hf-180
 Cross Section -96.35 To -14.40%



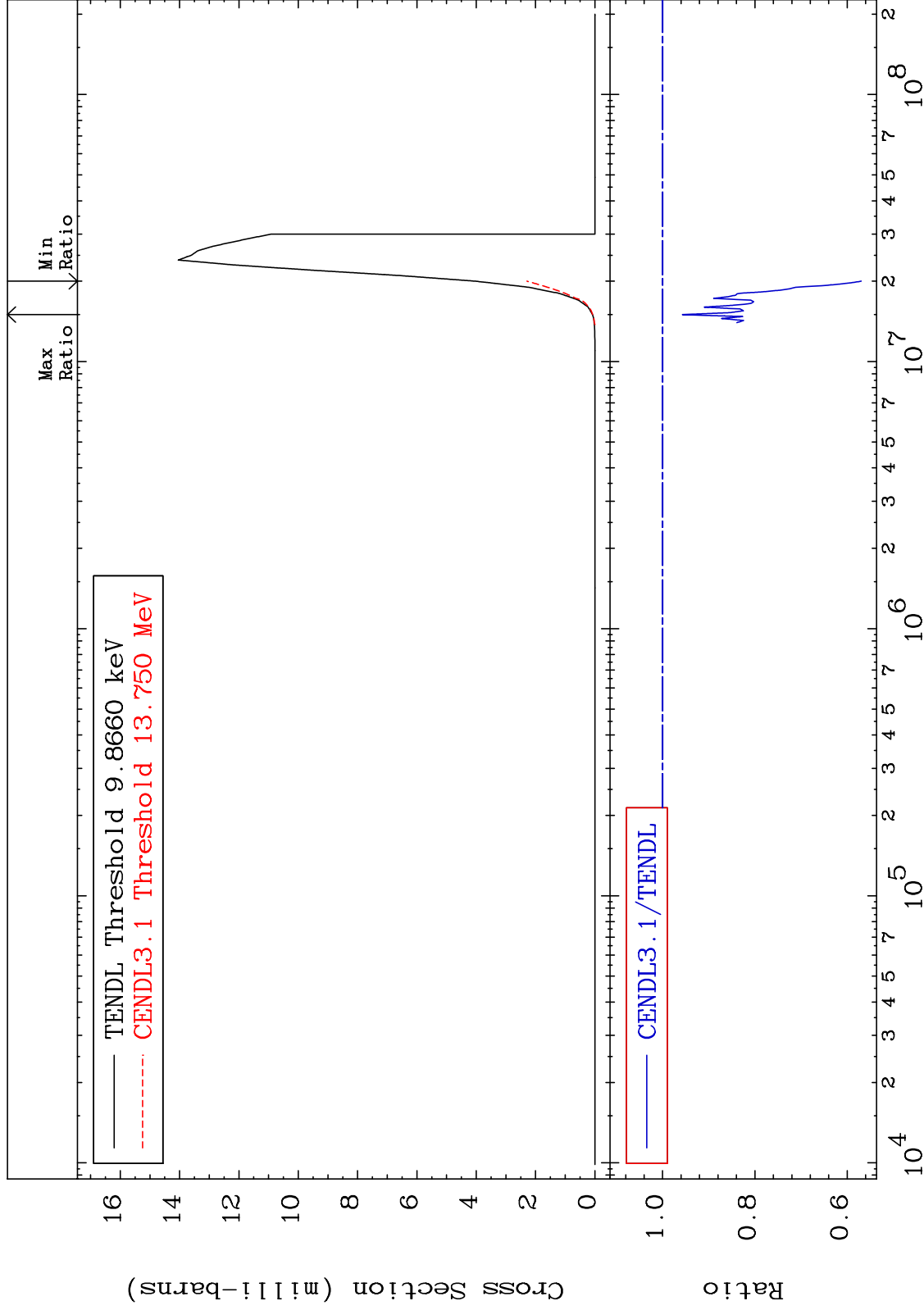
MAT 7243

(n, n') α

72-Hf-180

Cross Section

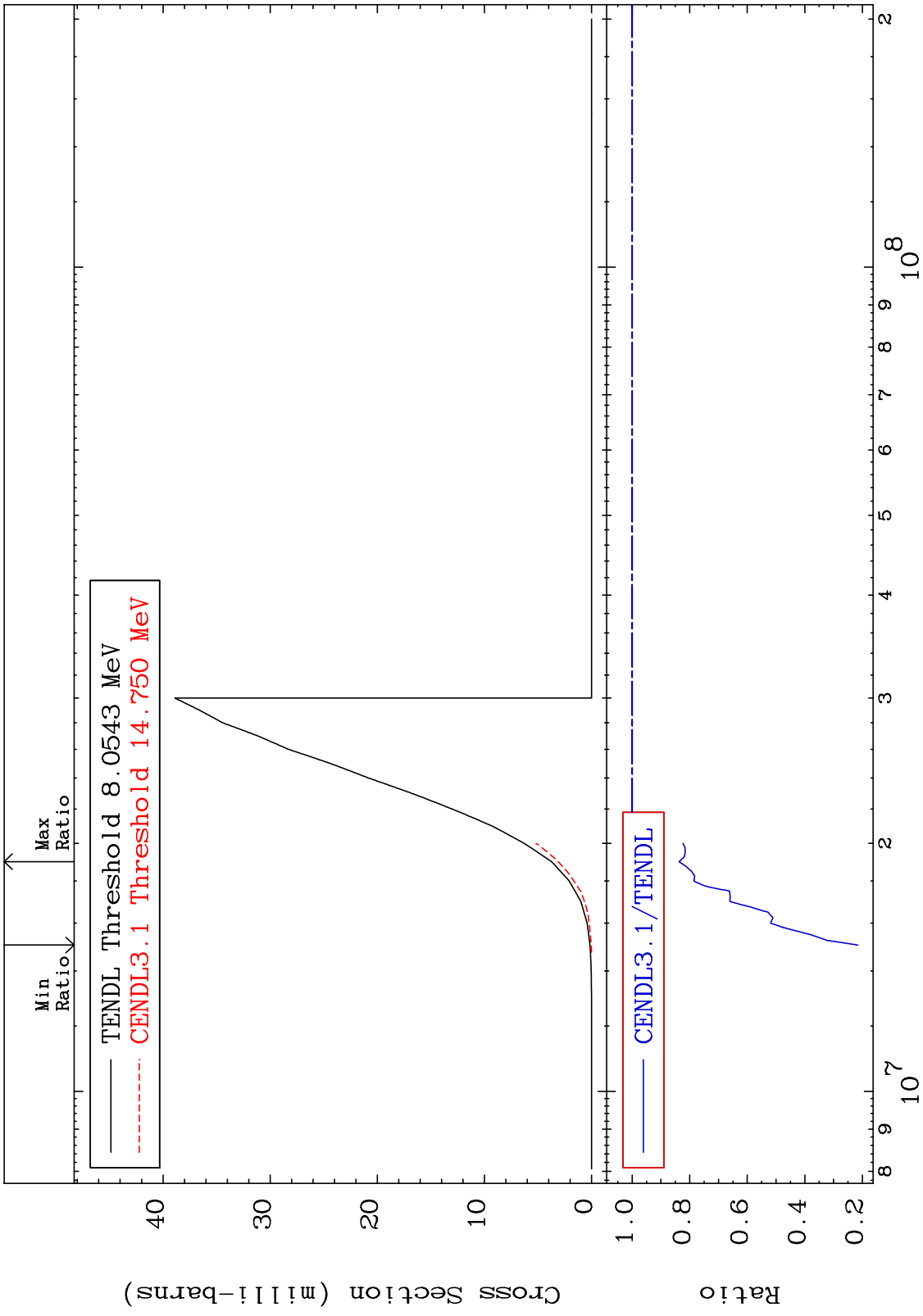
-43.05 To -4.305%



Incident Energy (eV)

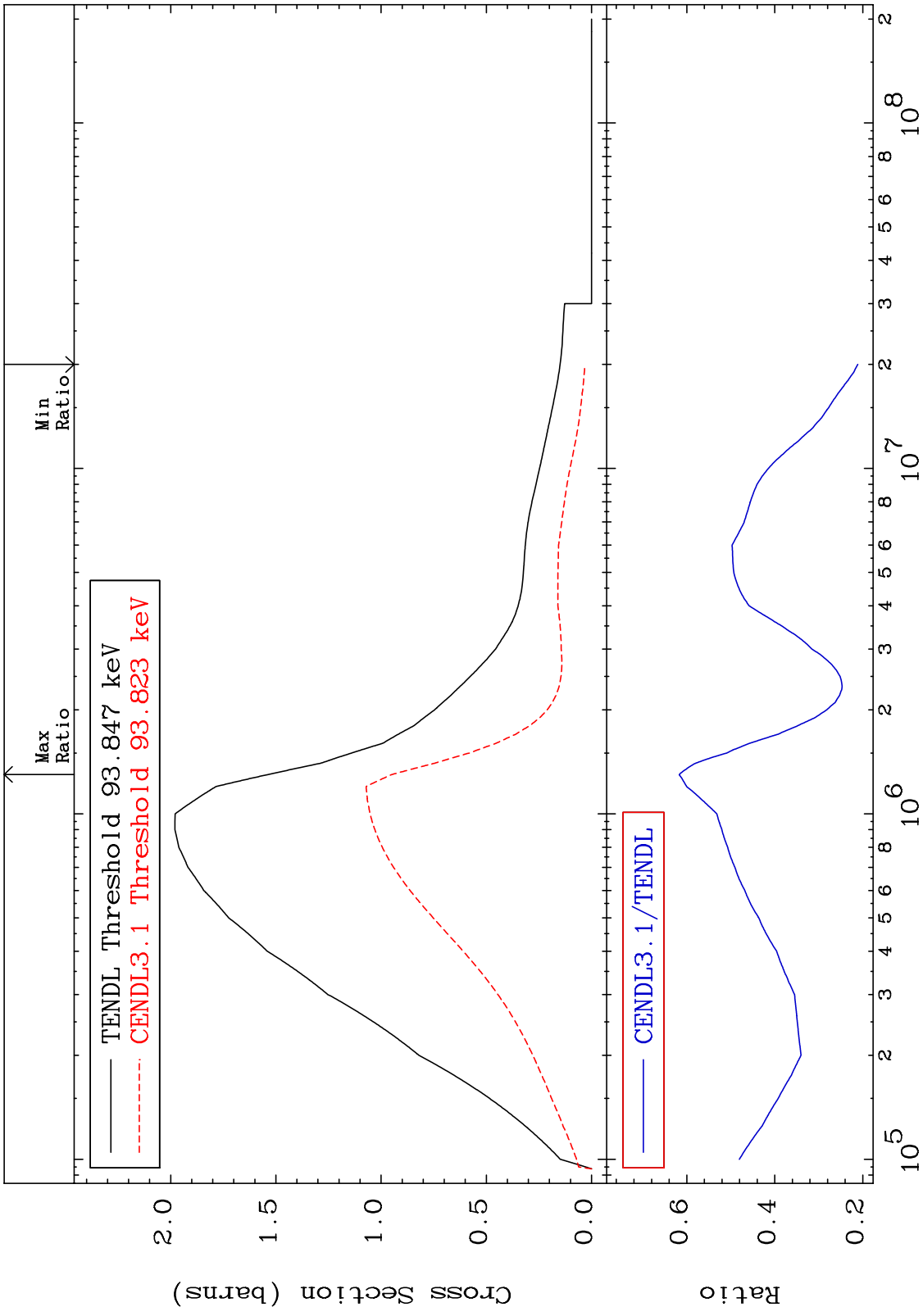
72-Hf-180

MAT 7243 (n, n') p $^{72}\text{Hf}-180$
 Cross Section -78.43 To -16.29%



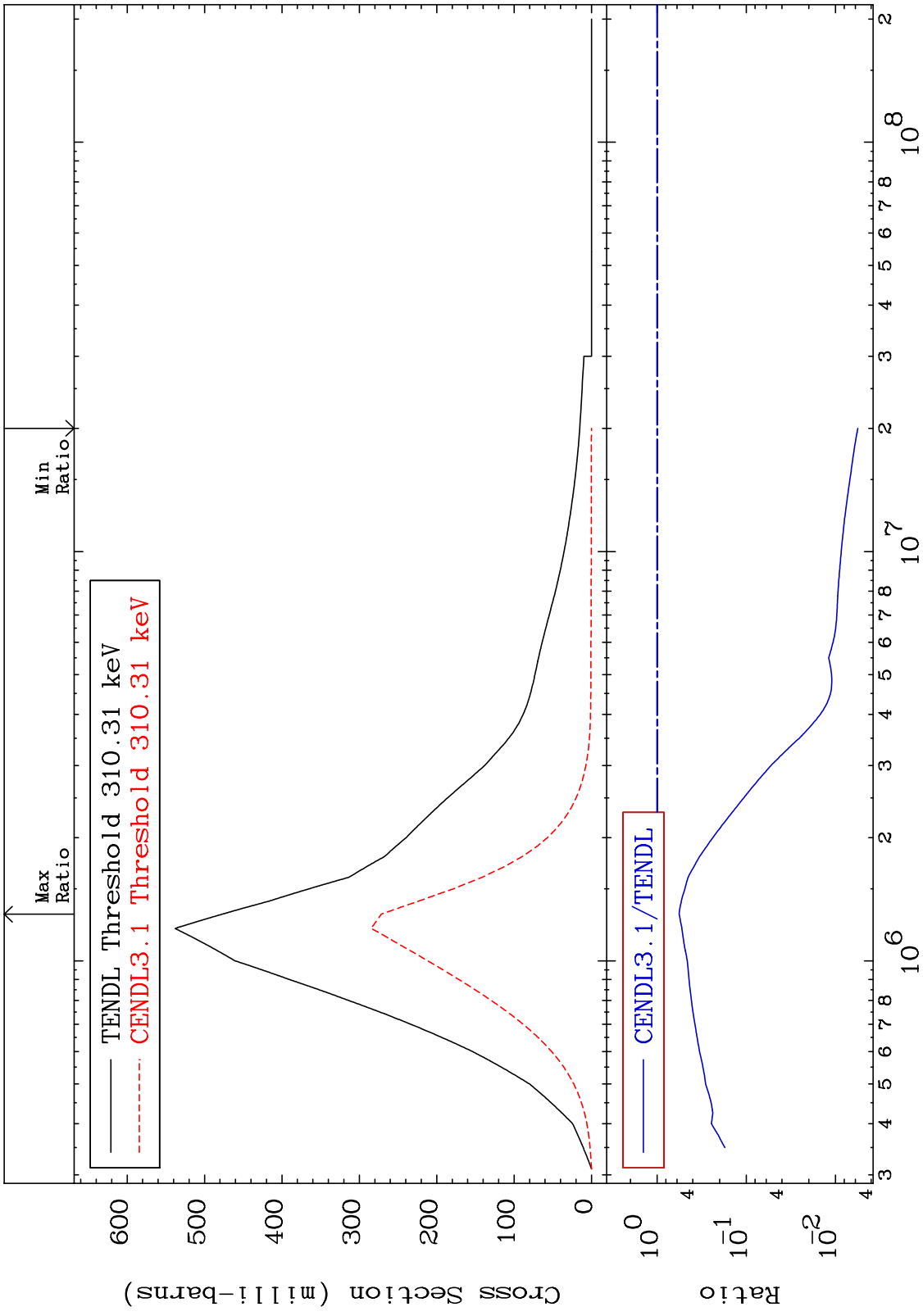
$^{72}\text{Hf}-180$
 Incident Energy (eV)

MAT 7243 MT= 51 (n,n') Level Cross Section 72-Hf-180
 -78.89 To -38.25%

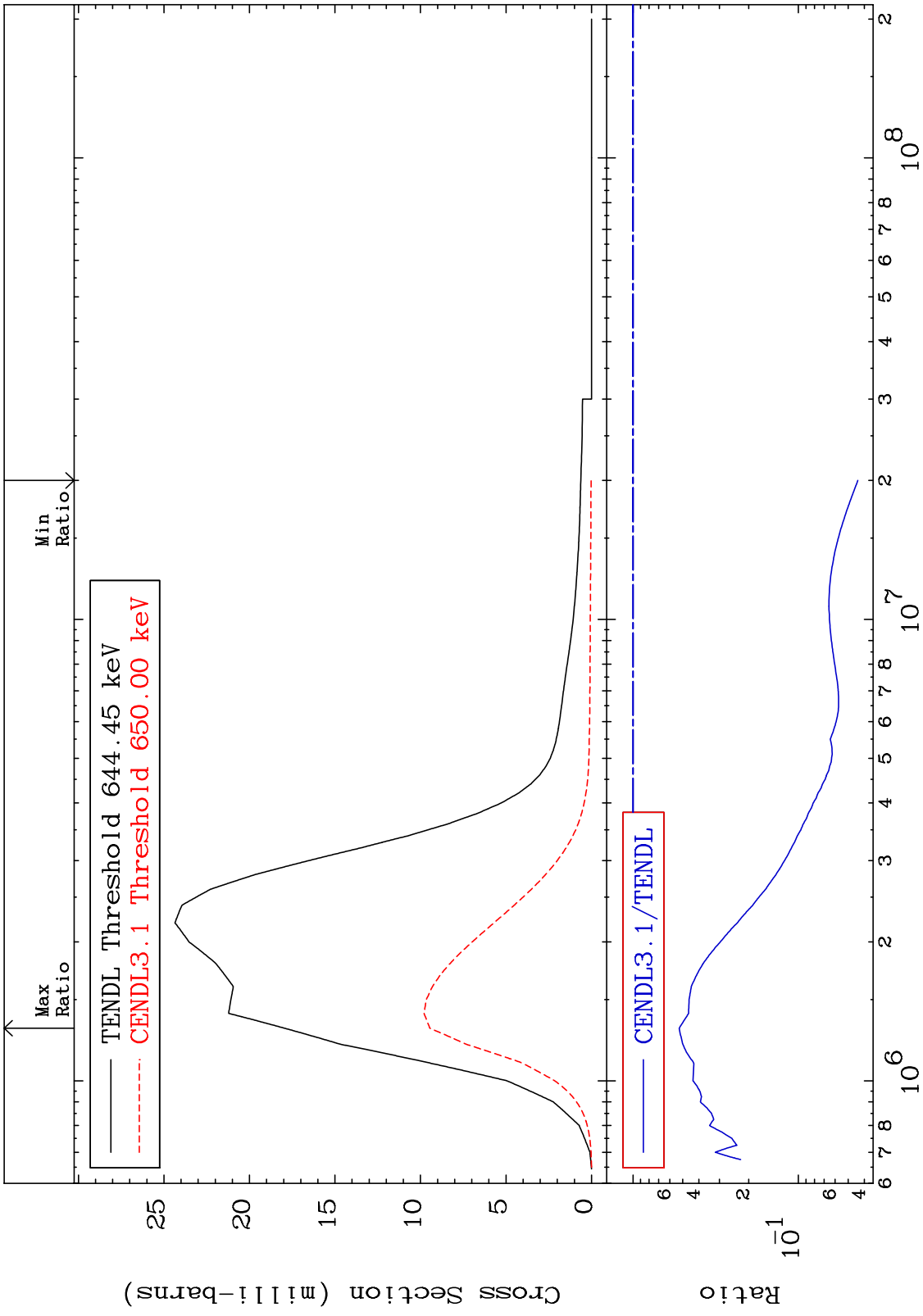


8 Incident Energy (eV) 72-Hf-180

MAT 7243 MT= 52 (n,n') Level Cross Section 72-Hf-180 -99.44 To -43.10%

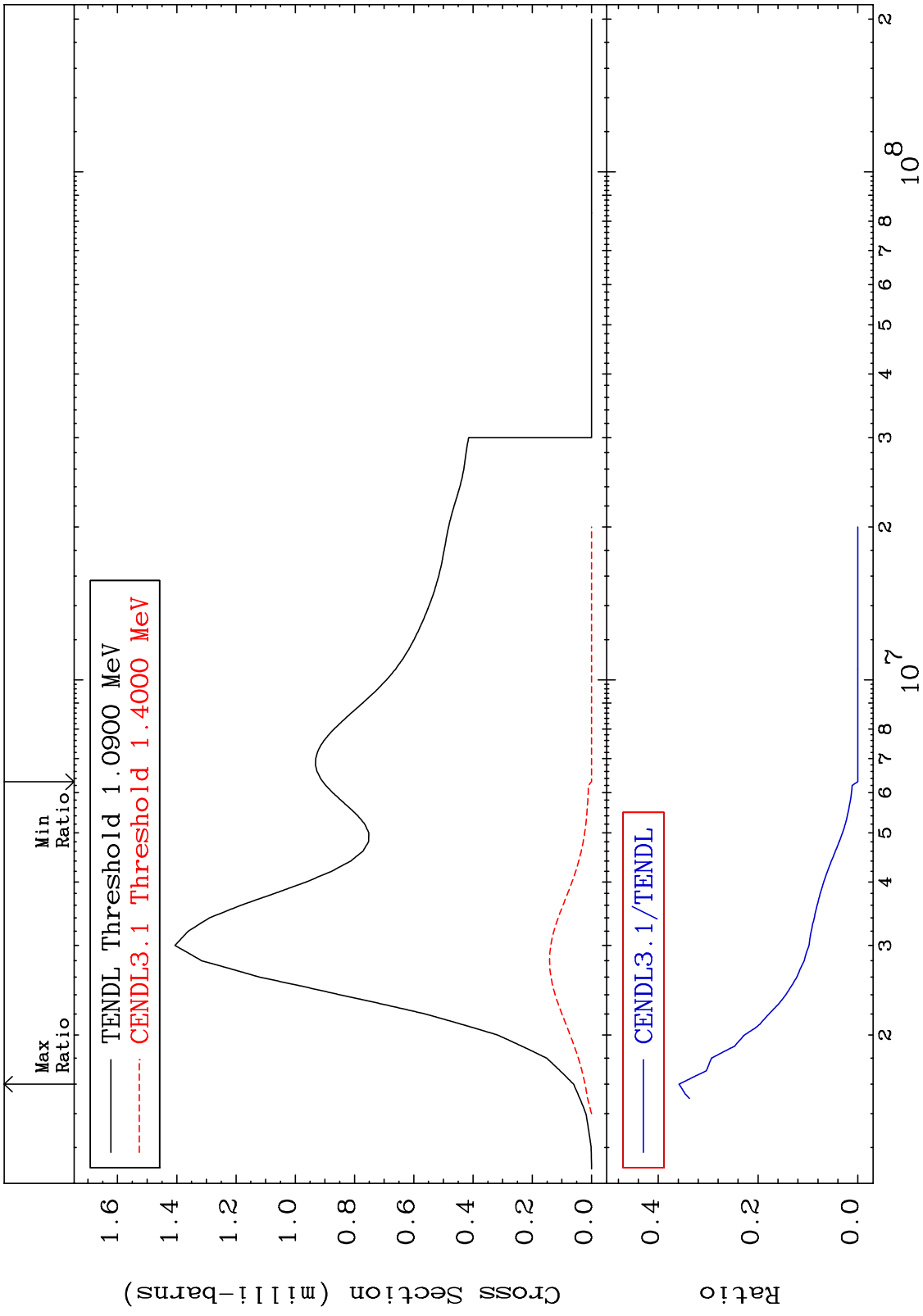


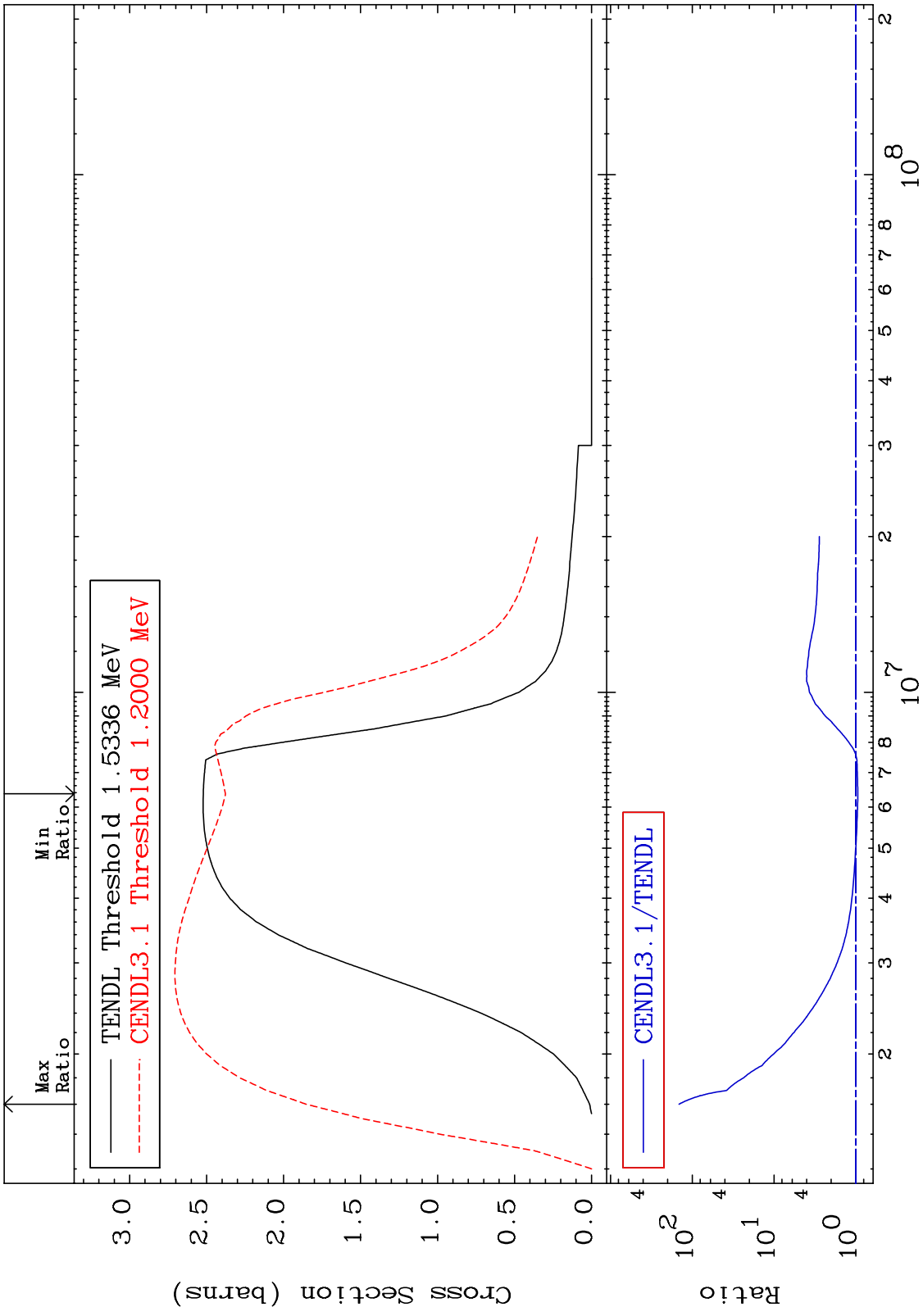
MAT 7243 MT= 53 (n,n') Level Cross Section 72-Hf-180
 -95.63 To -47.32%



10 Incident Energy (eV) 72-Hf-180

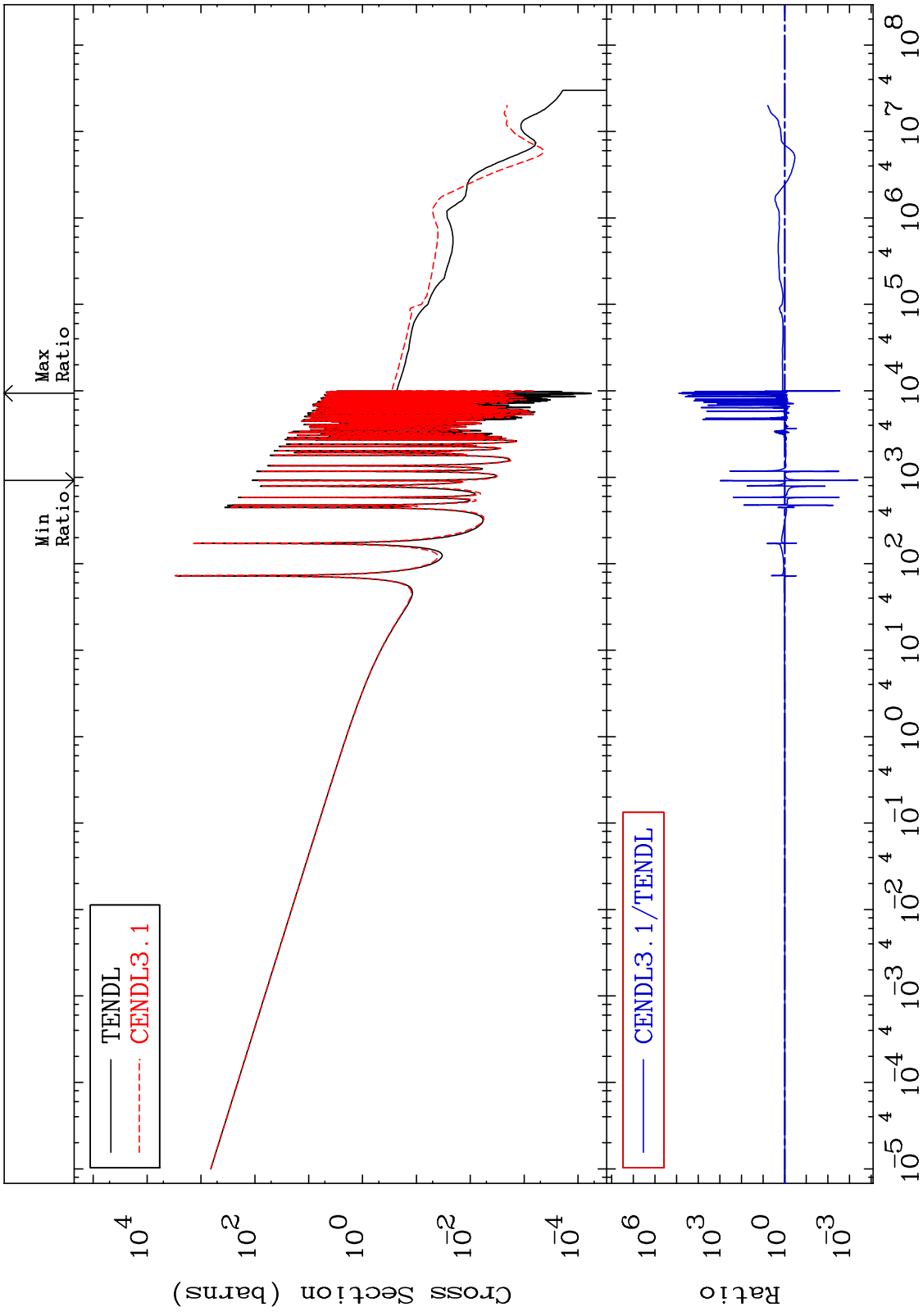
MAT 7243 MT= 54 (n,n') Level Cross Section 72-Hf-180
 -100.0 To -64.17%





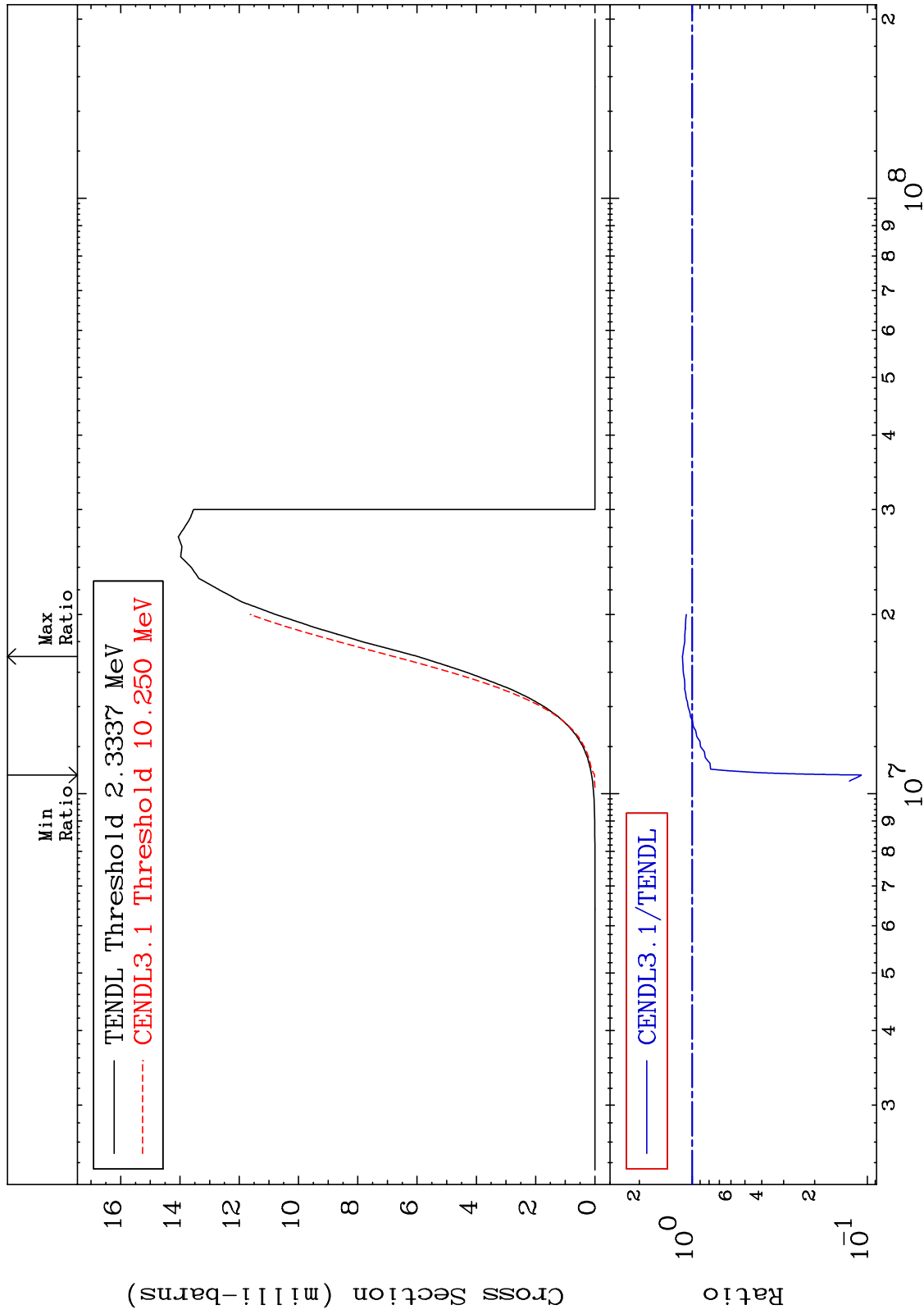
MAT 7243 72-Hf-180
-99.96 To 9999. %

(n, γ)
 Cross Section



MAT 7243

(n,p) Cross Section
72-Hf-180
-89.18 To 13.56 %



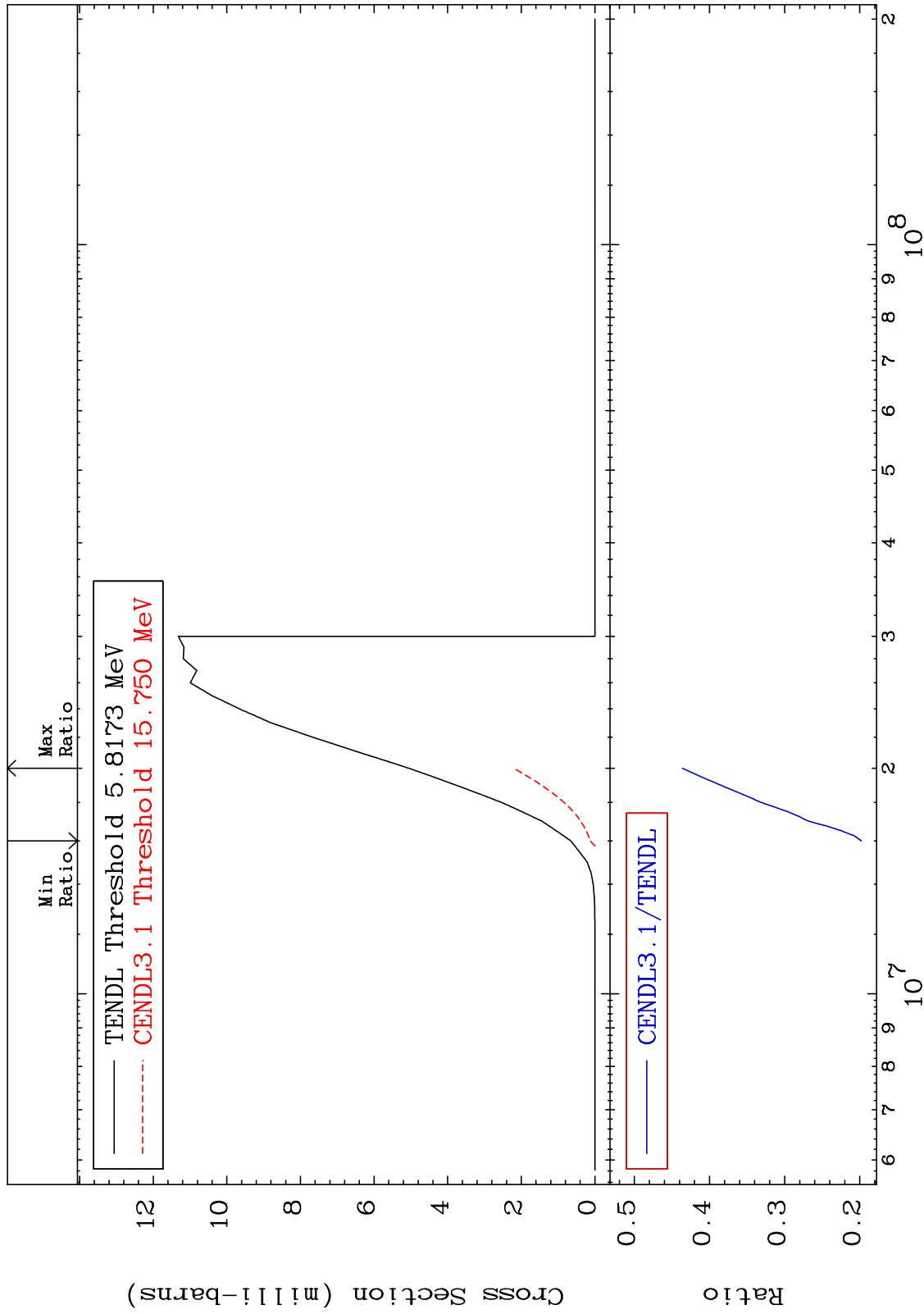
MAT 7243

(n,d)

72-Hf-180

-80.20 To -56.40%

Cross Section

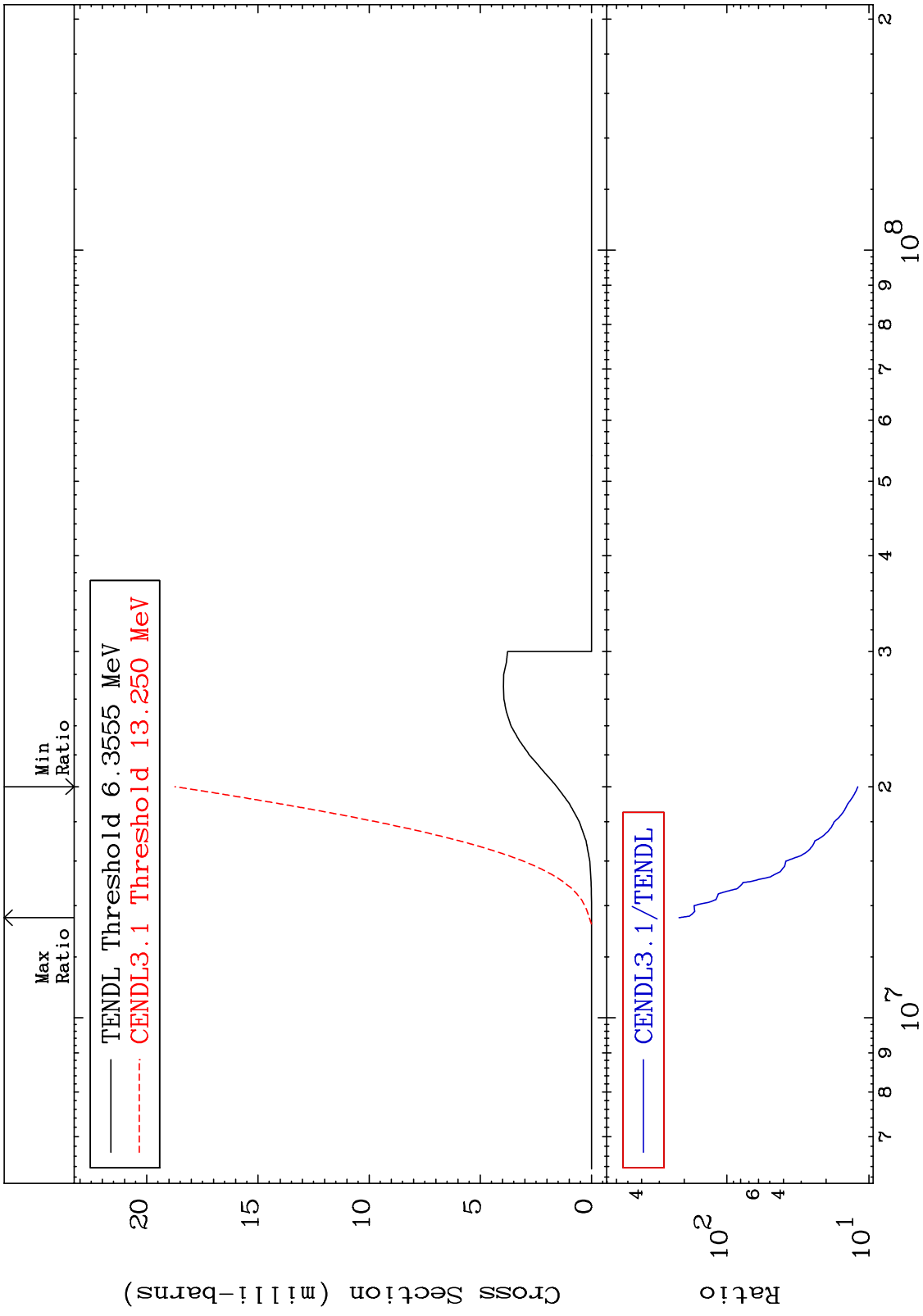


15

Incident Energy (eV)

72-Hf-180

MAT 7243 (n,t) Cross Section 72-Hf-180 1097. To 9999. %



Max Ratio ←

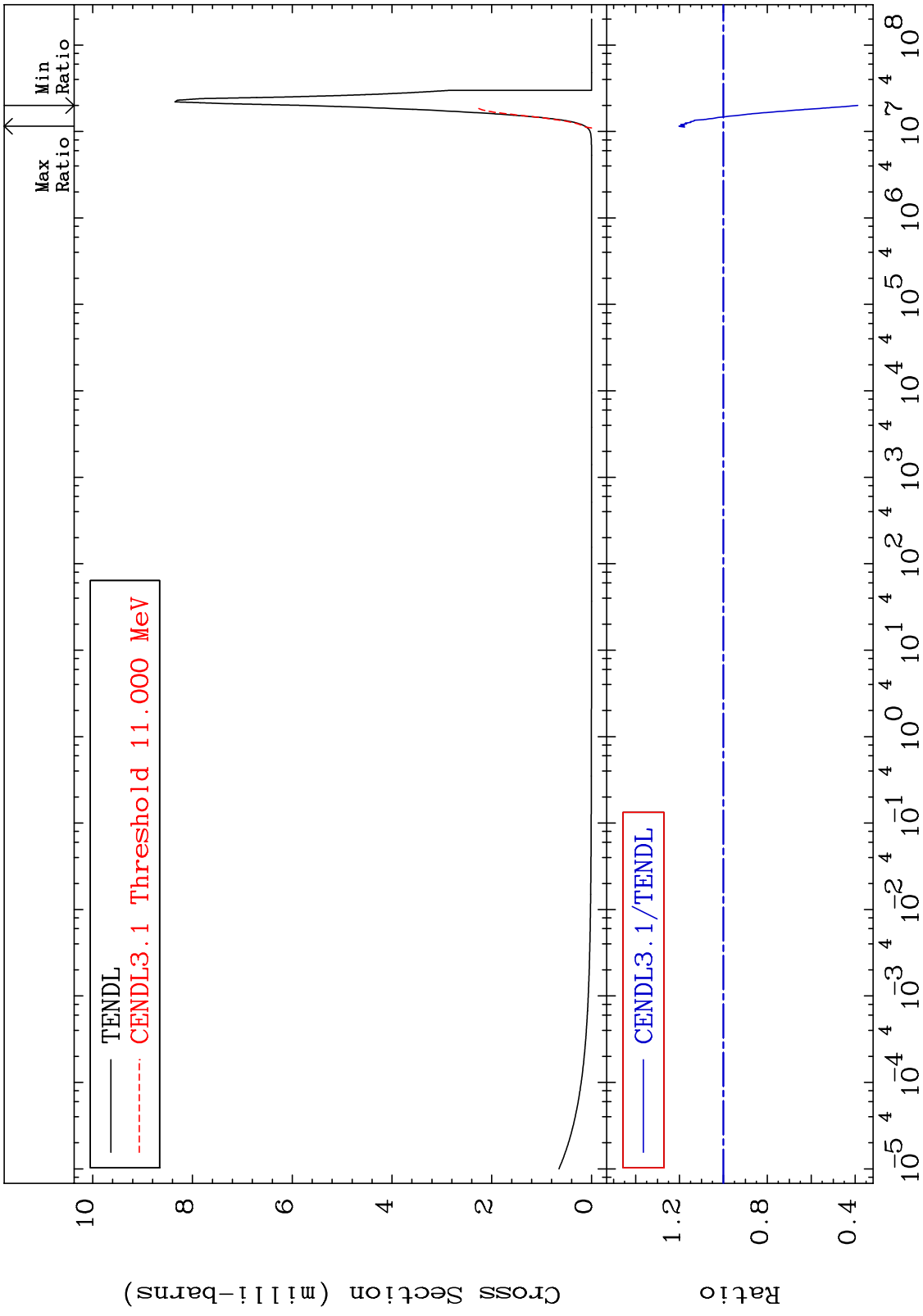
Min Ratio →

— TENDL Threshold 6.3555 MeV

- - - CENDL3.1 Threshold 13.250 MeV

— CENDL3.1/TENDL

MAT 7243 (n,α) Cross Section 72-Hf-180
 -61.22 To 20.22 %

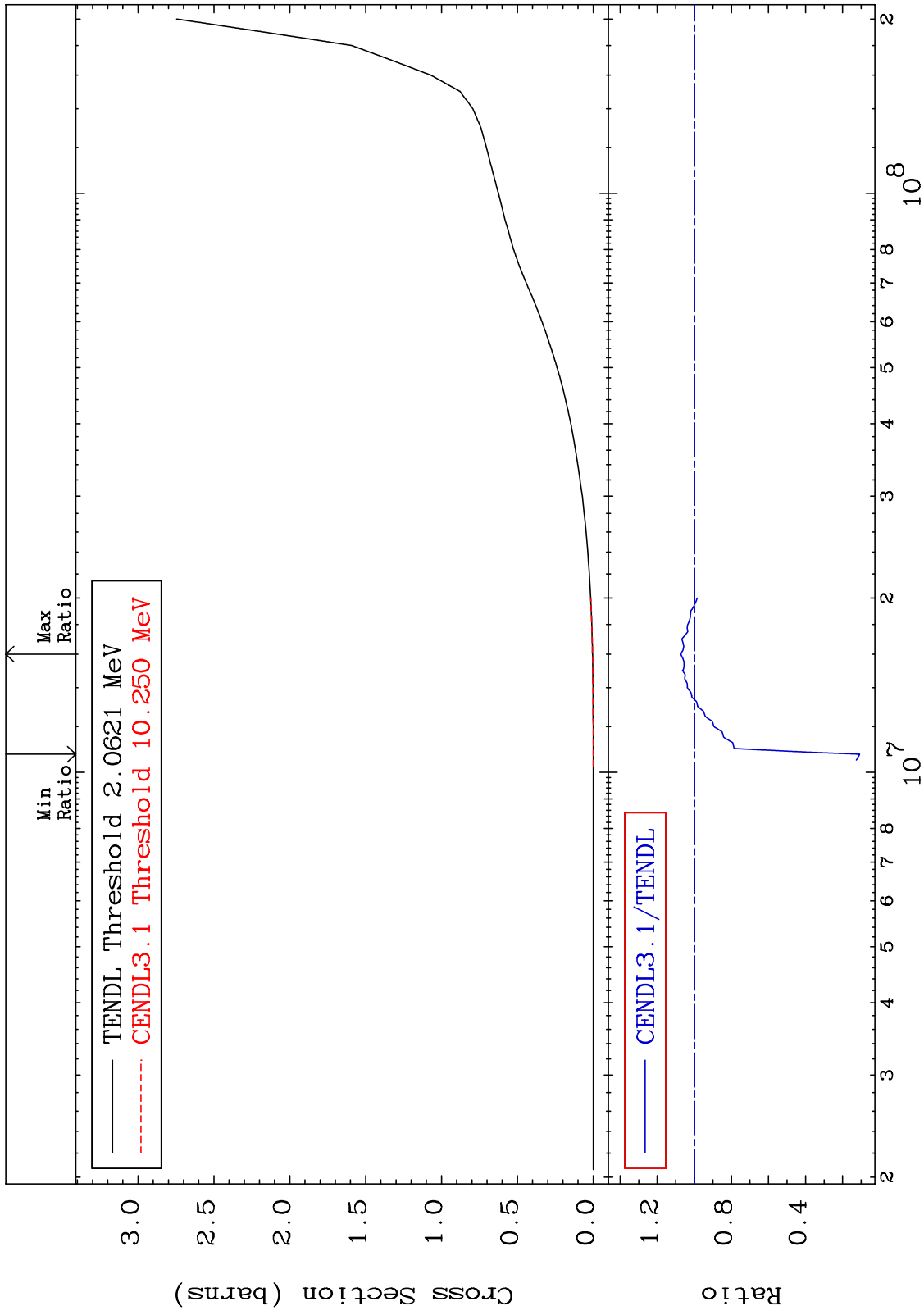


17 72-Hf-180

MAT 7243

Hydrogen Production
Cross Section

72-Hf-180
-89.18 To 7.276 %



18

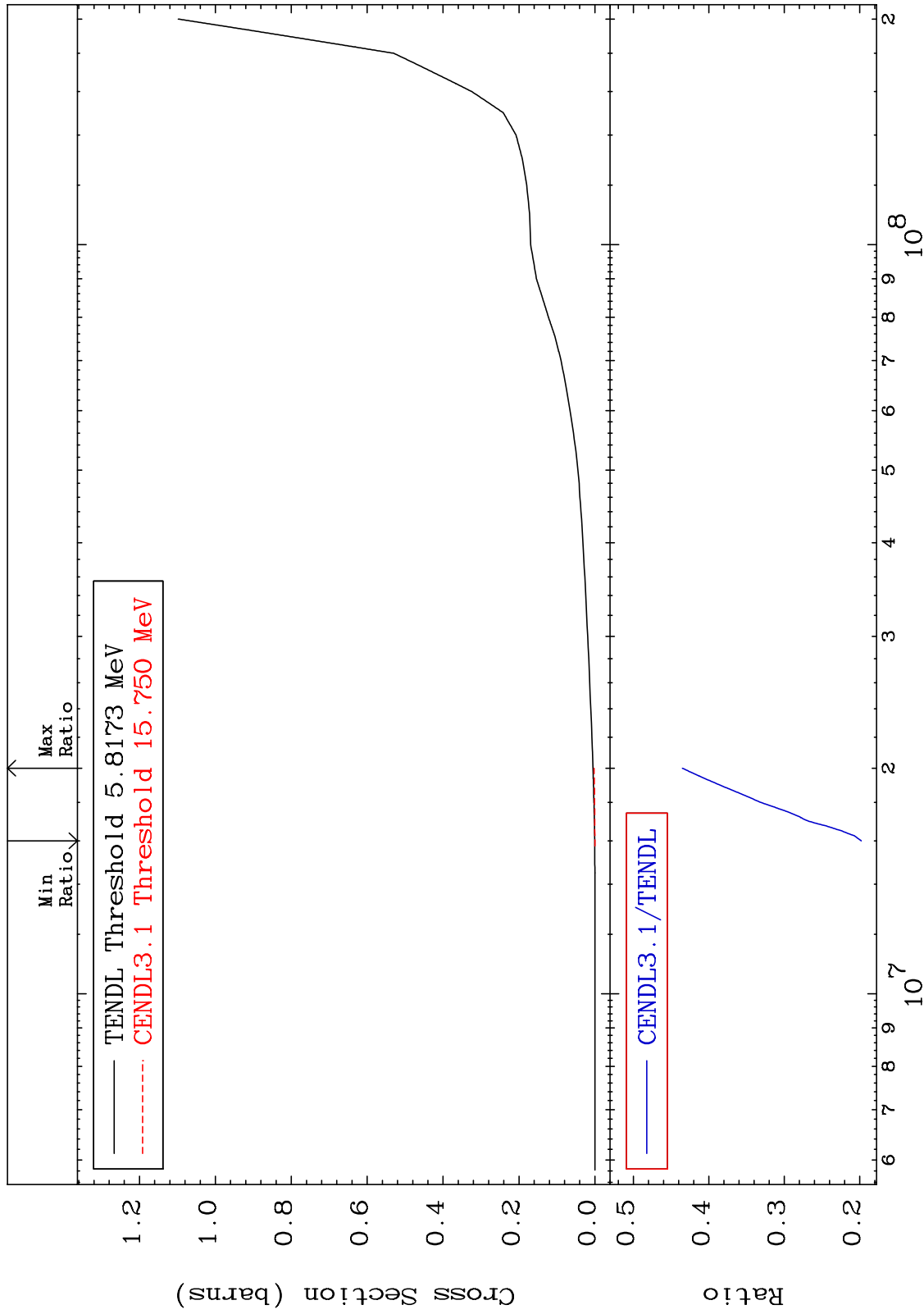
Incident Energy (eV)

72-Hf-180

MAT 7243

Deuterium Production
Cross Section

72-Hf-180
-80.20 To -56.50%



19

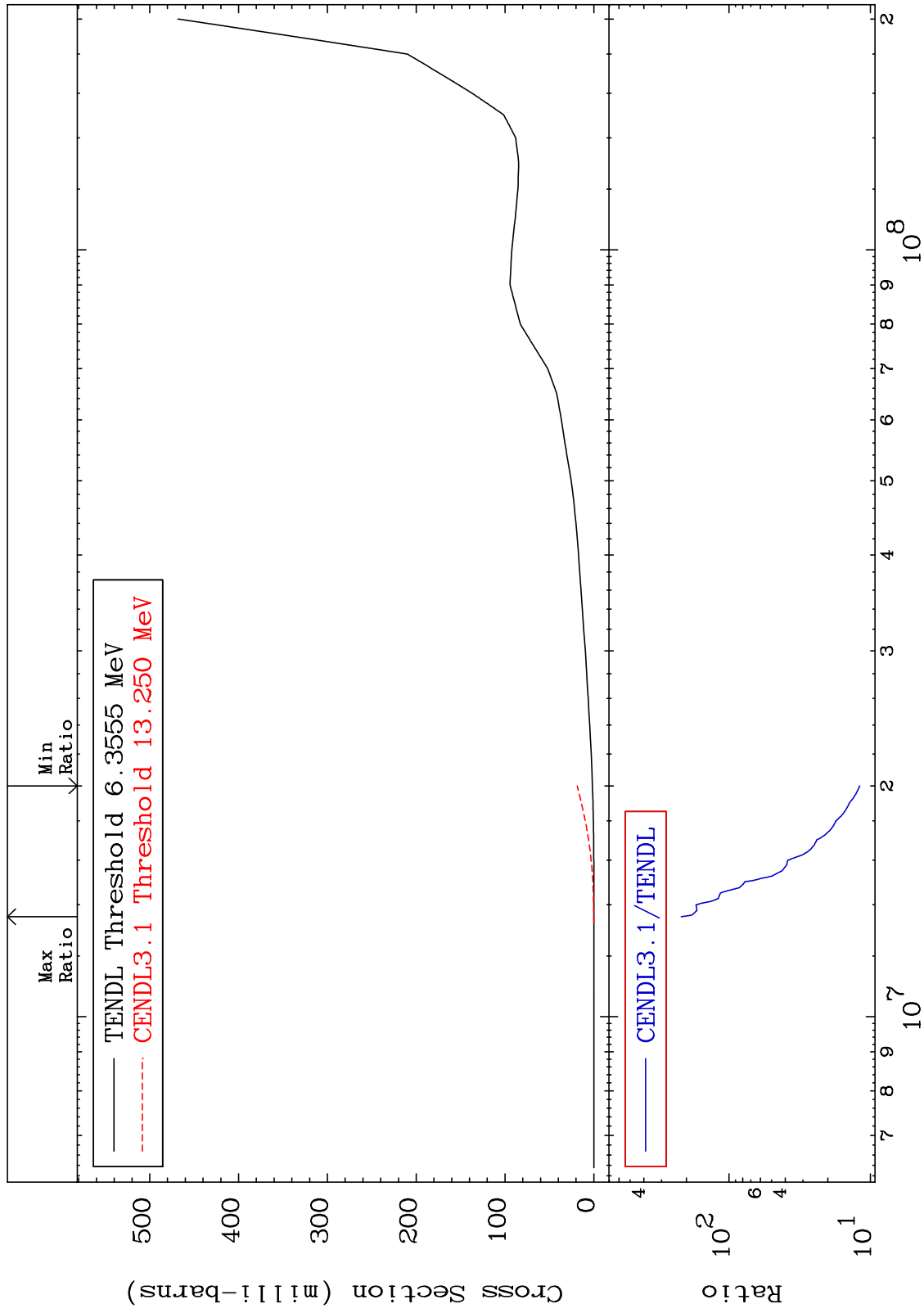
Incident Energy (eV)

72-Hf-180

MAT 7243

Tritium Production
Cross Section

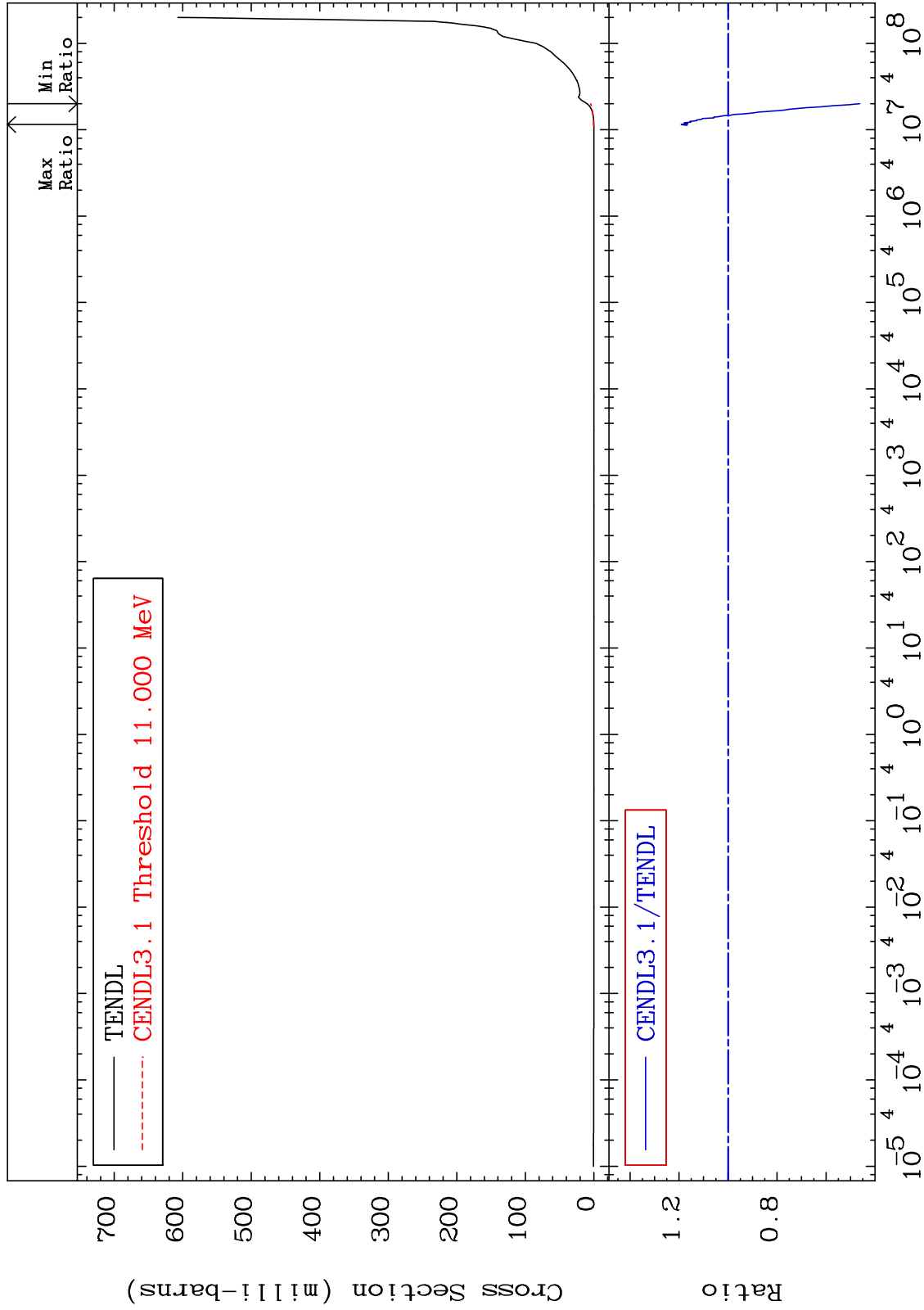
72-Hf-180
1090. To 9999. %



MAT 7243

He-4 Production
Cross Section

72-Hf-180
-53.77 To 19.10 %

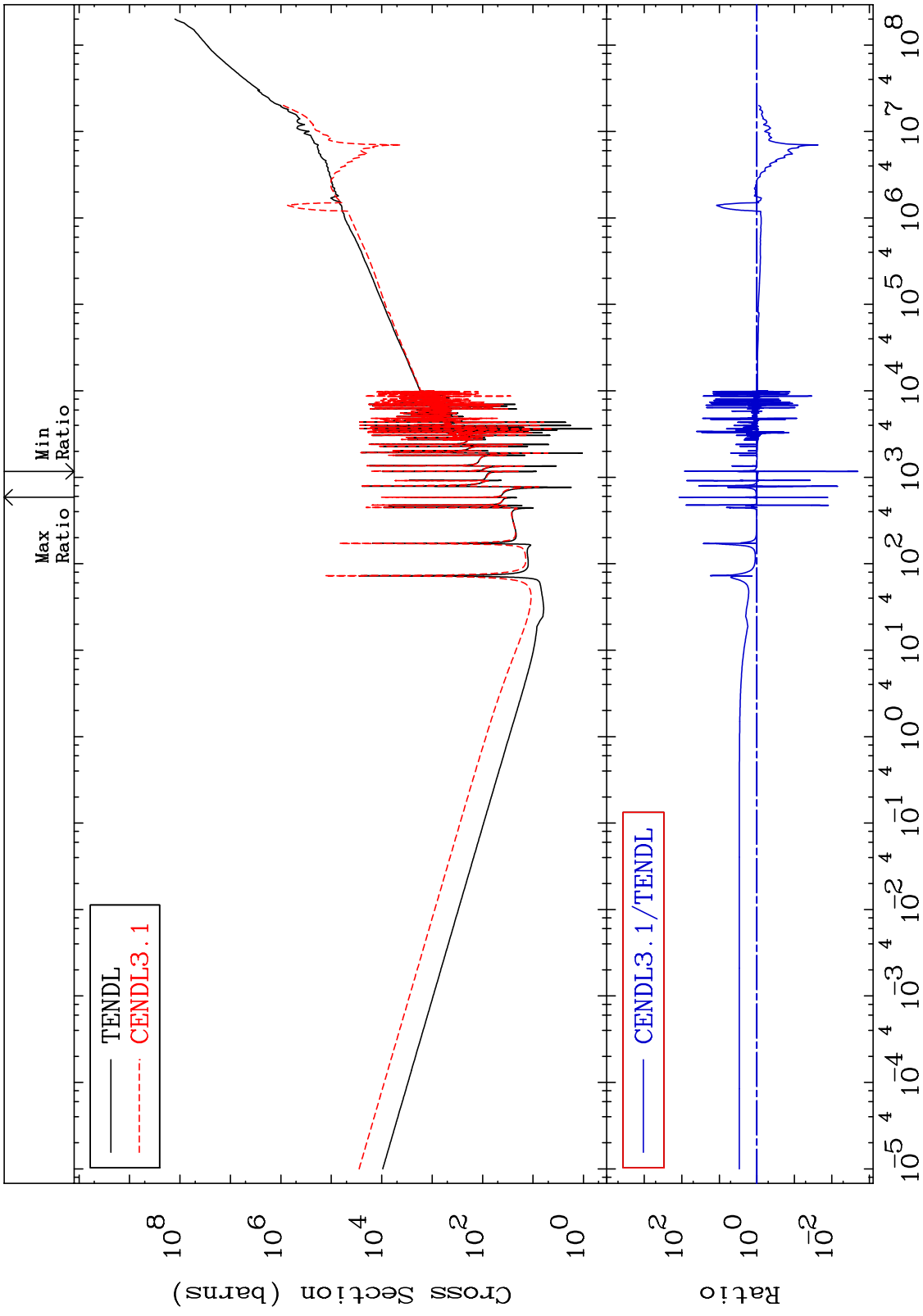


21

Incident Energy (eV)

72-Hf-180

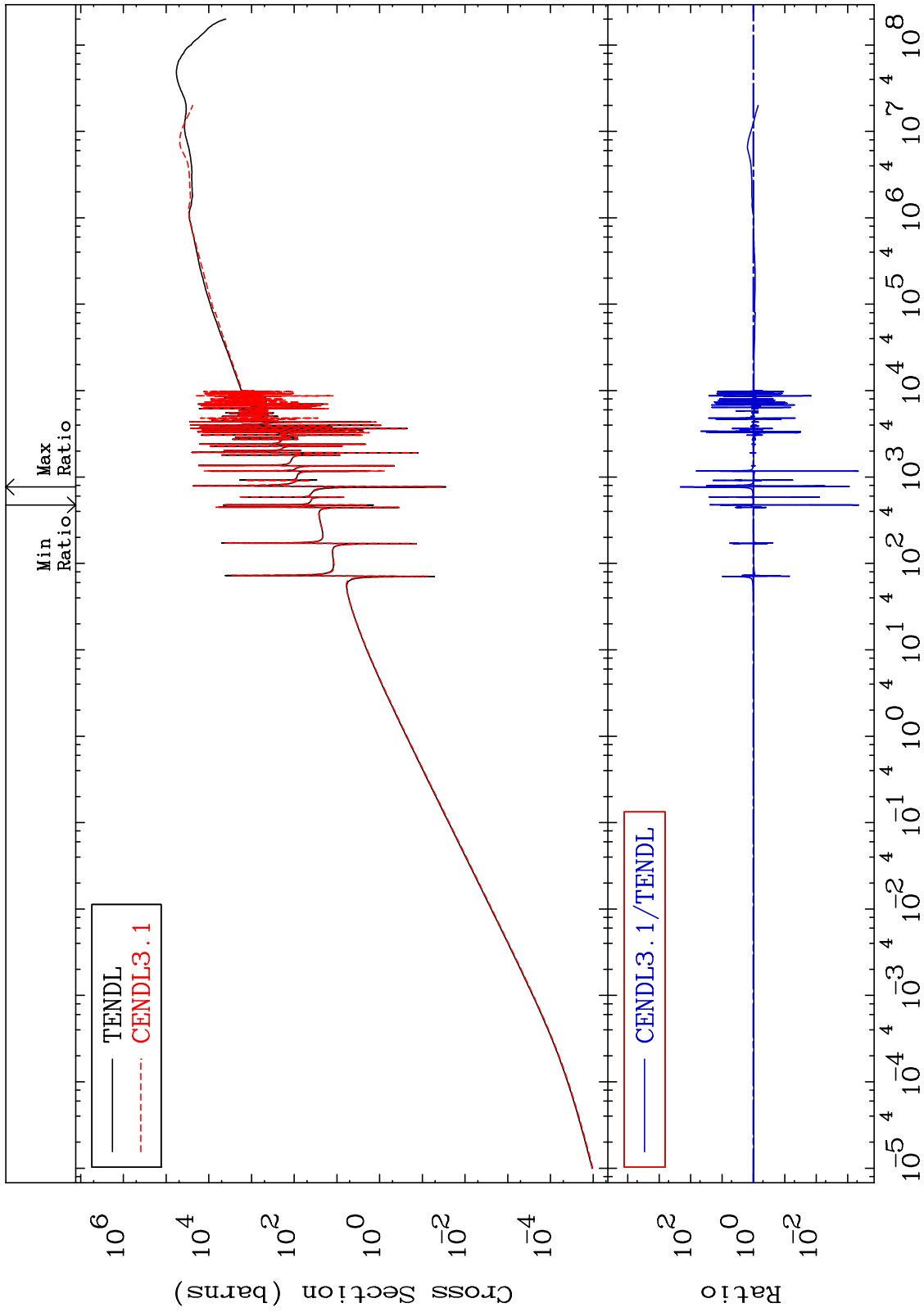
MAT 7243 Kerma total (eV-barns) 72-Hf-180
 Cross Section -99.80 To 9999. %



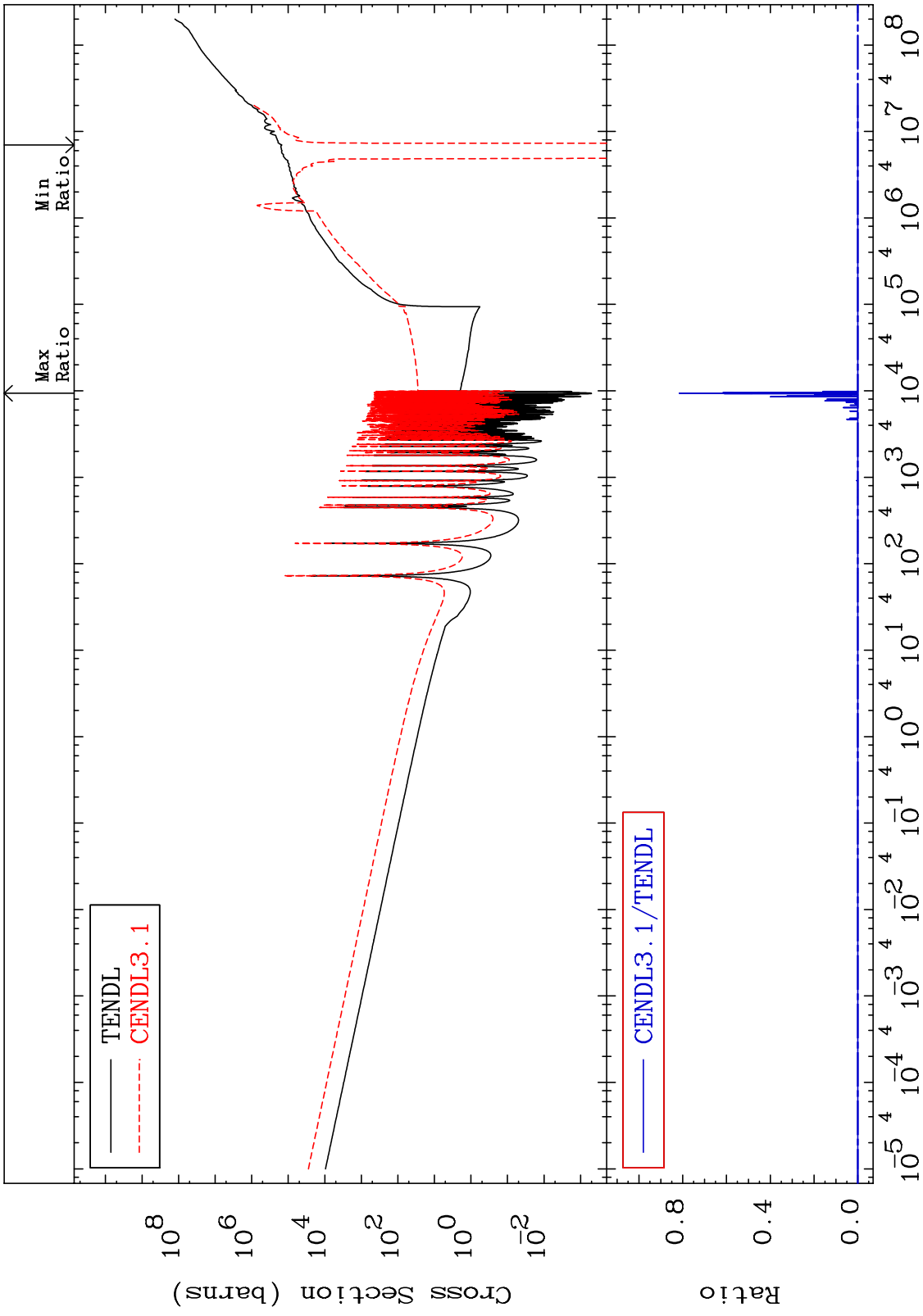
MAT 7243

Kerma elastic
Cross Section

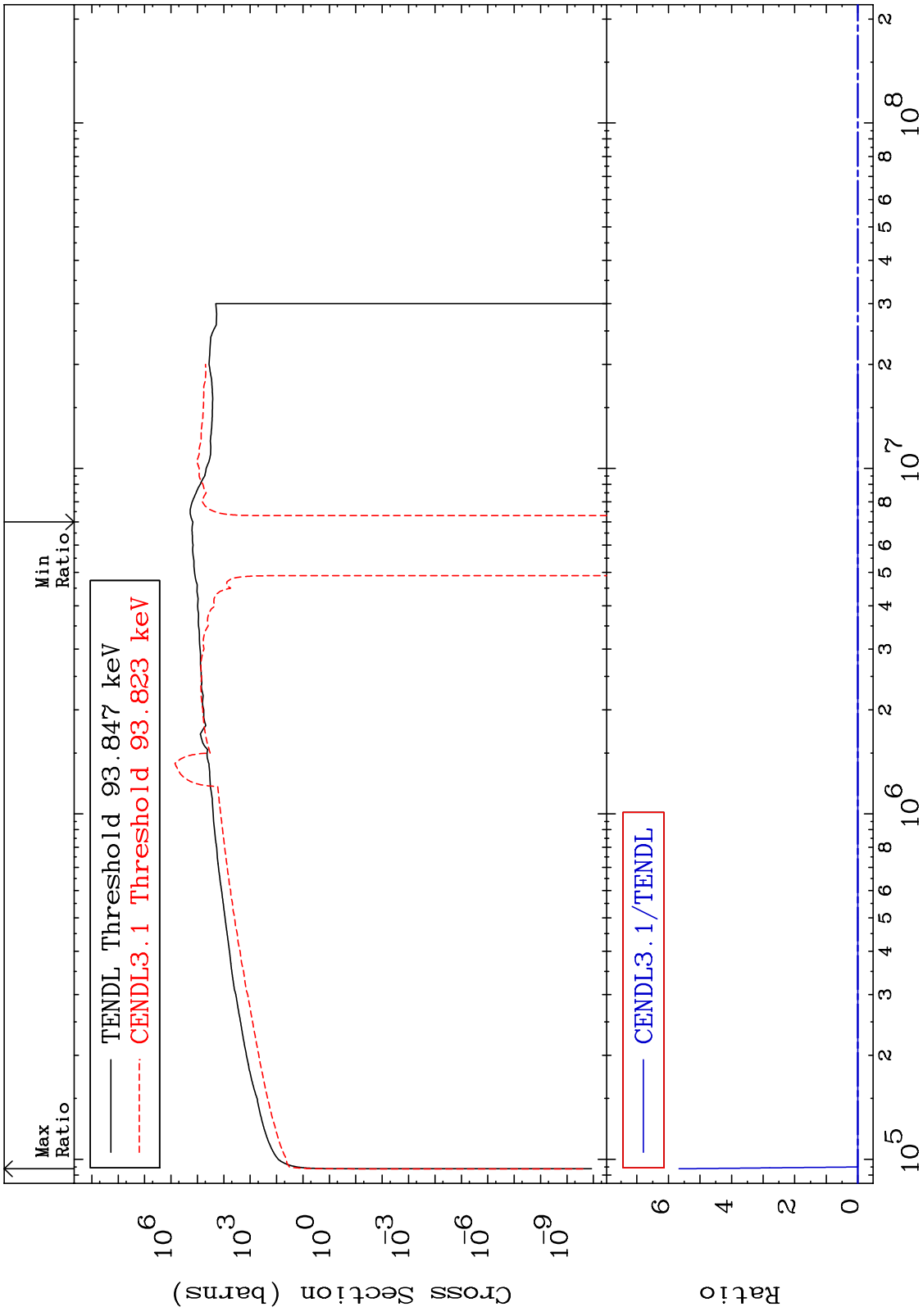
72-Hf-180
-99.96 To 9999. %



MAT 7243 Kerma non-elastic (all but mt2) 72-Hf-180
 Cross Section -128.7 To 9999. %



MAT 7243 Kerma inelastic (mt51-91) 72-Hf-180
-128.7 To 9999. %
Cross Section

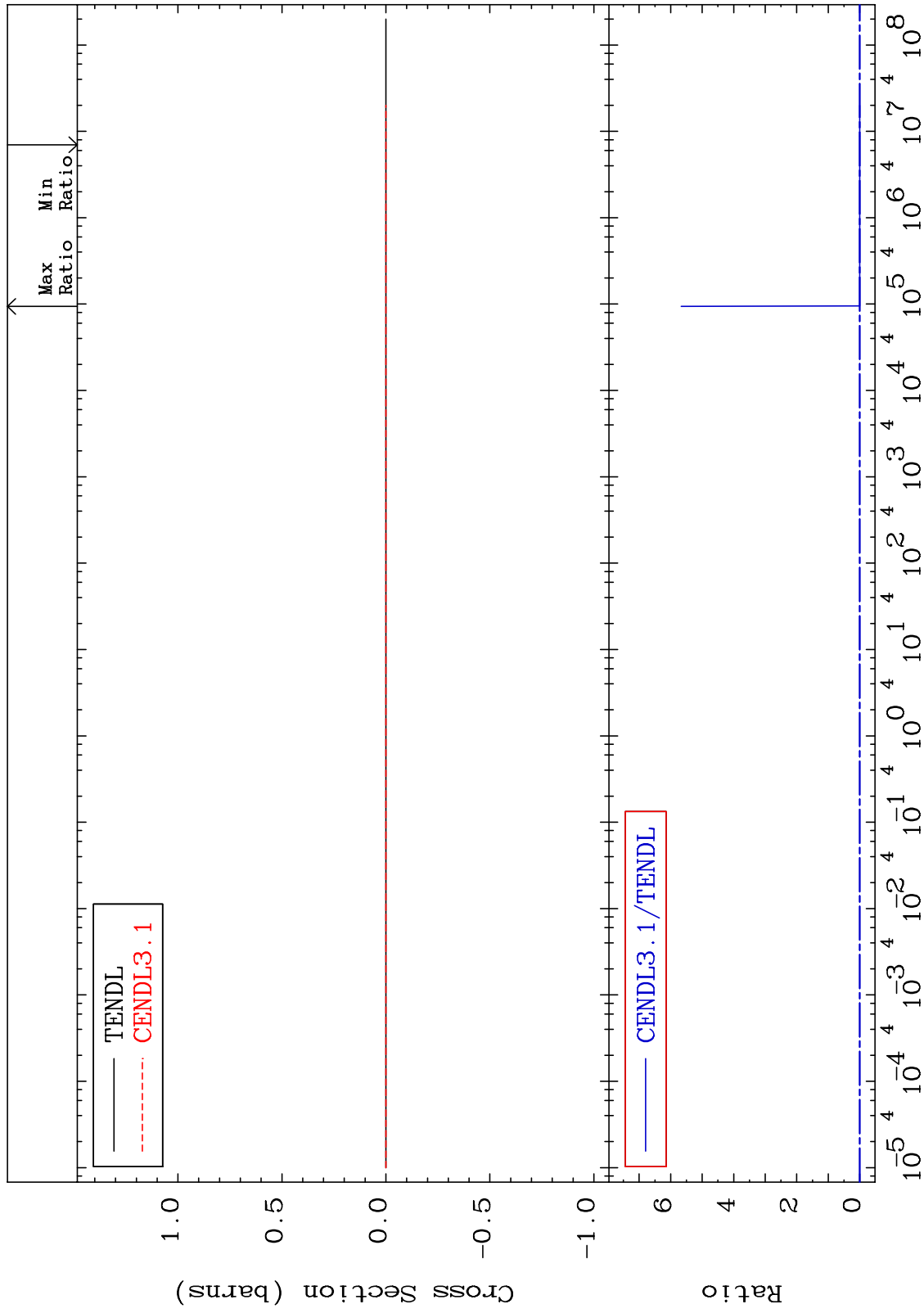


25 72-Hf-180

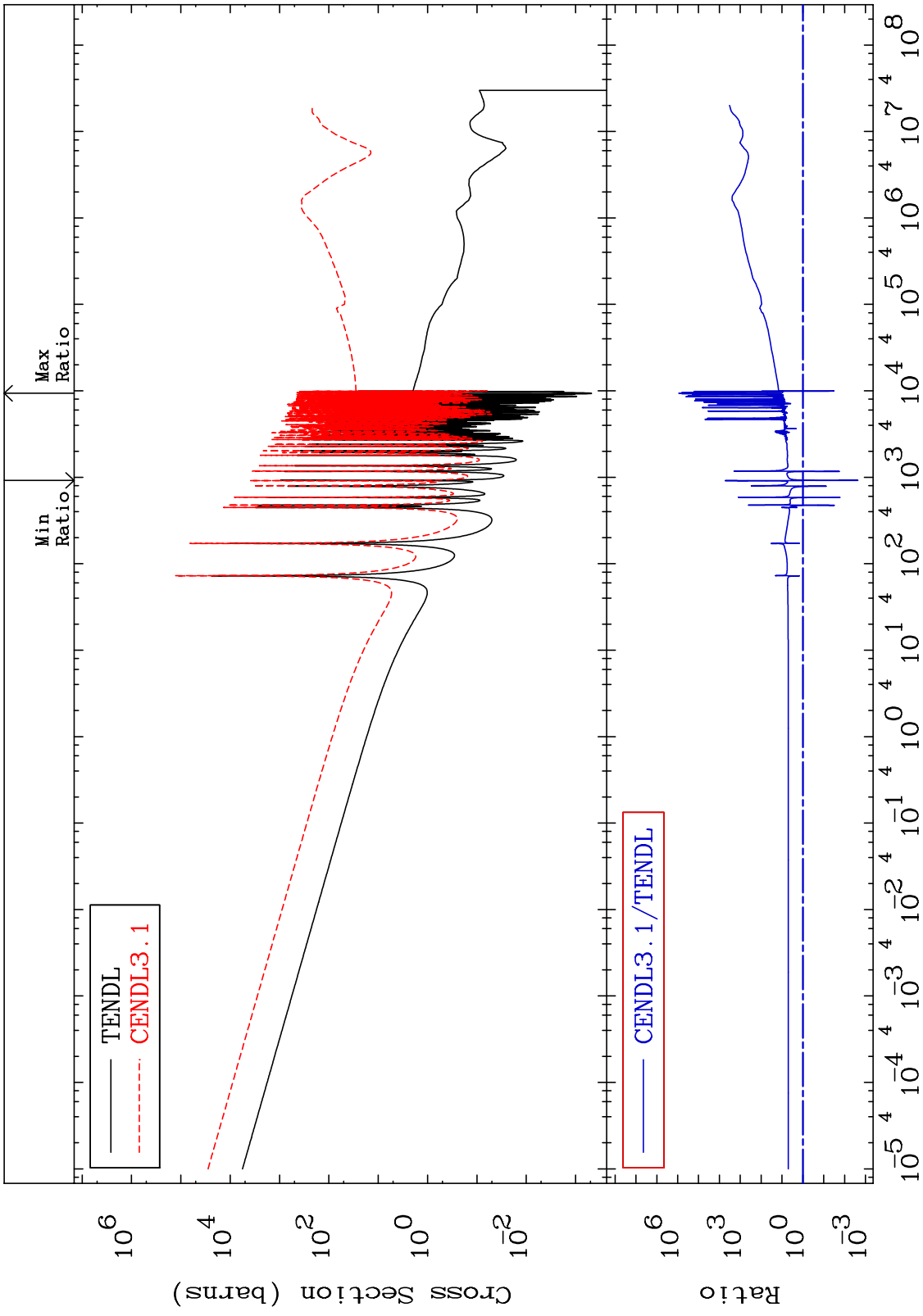
MAT 7243

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

72-Hf-180
-128.7 To 9999. %

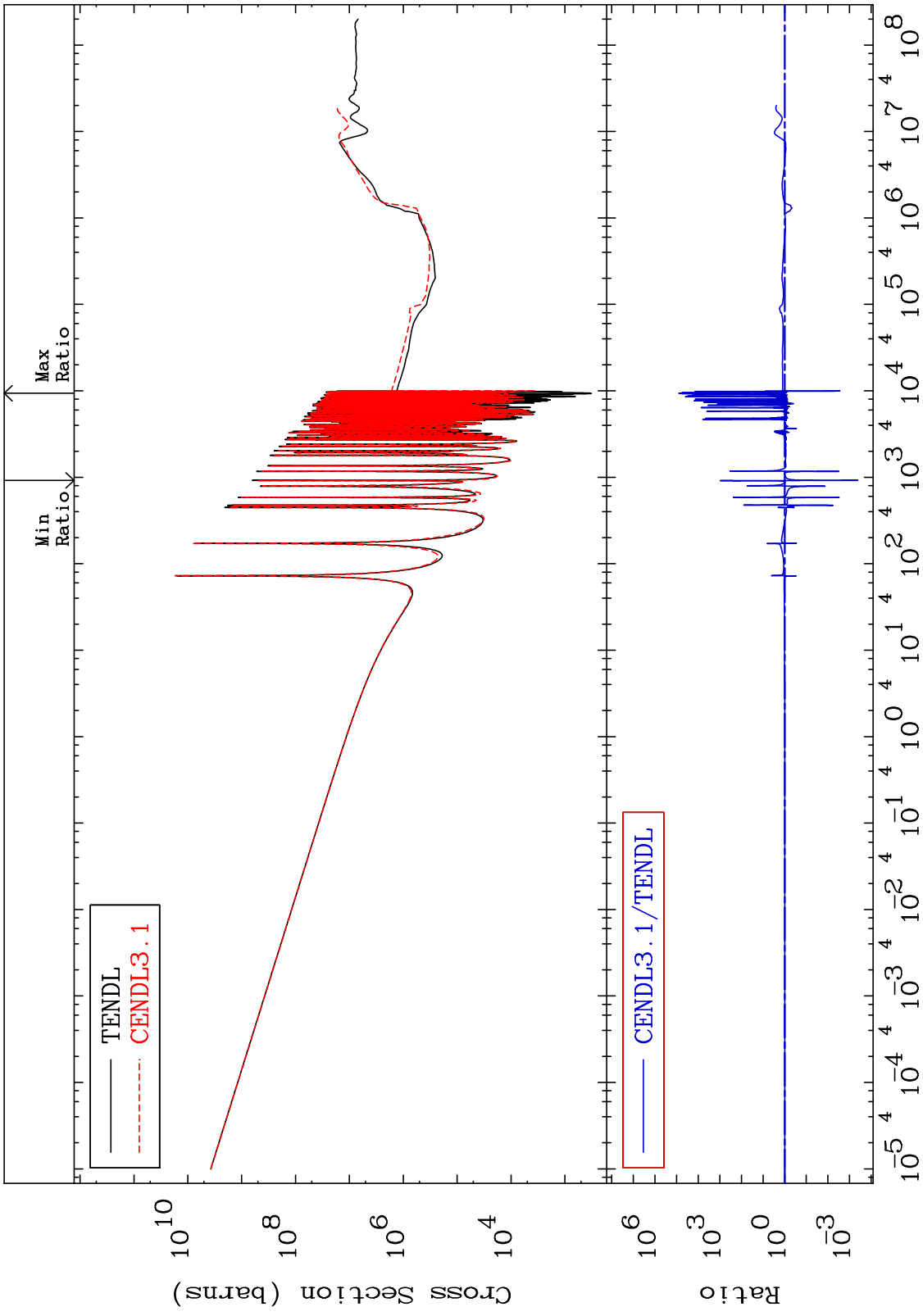


MAT 7243 Kerma capture (mt102) 72-Hf-180
 Cross Section -99.77 To 9999. %

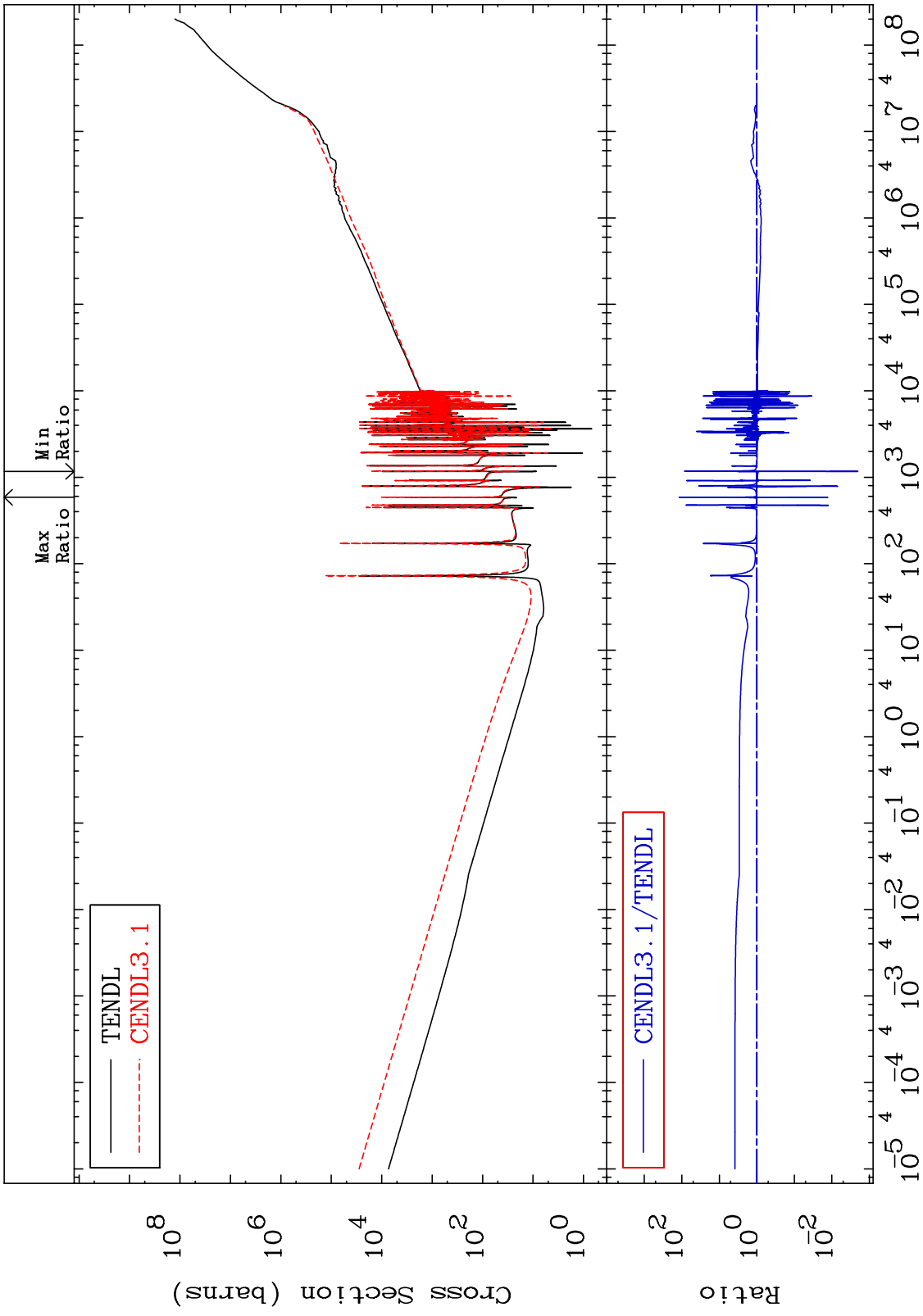


27 Incident Energy (eV) 72-Hf-180

MAT 7243 72-Hf-180
-99.96 To 9999. %
 Total photon (eV-barns)
 Cross Section

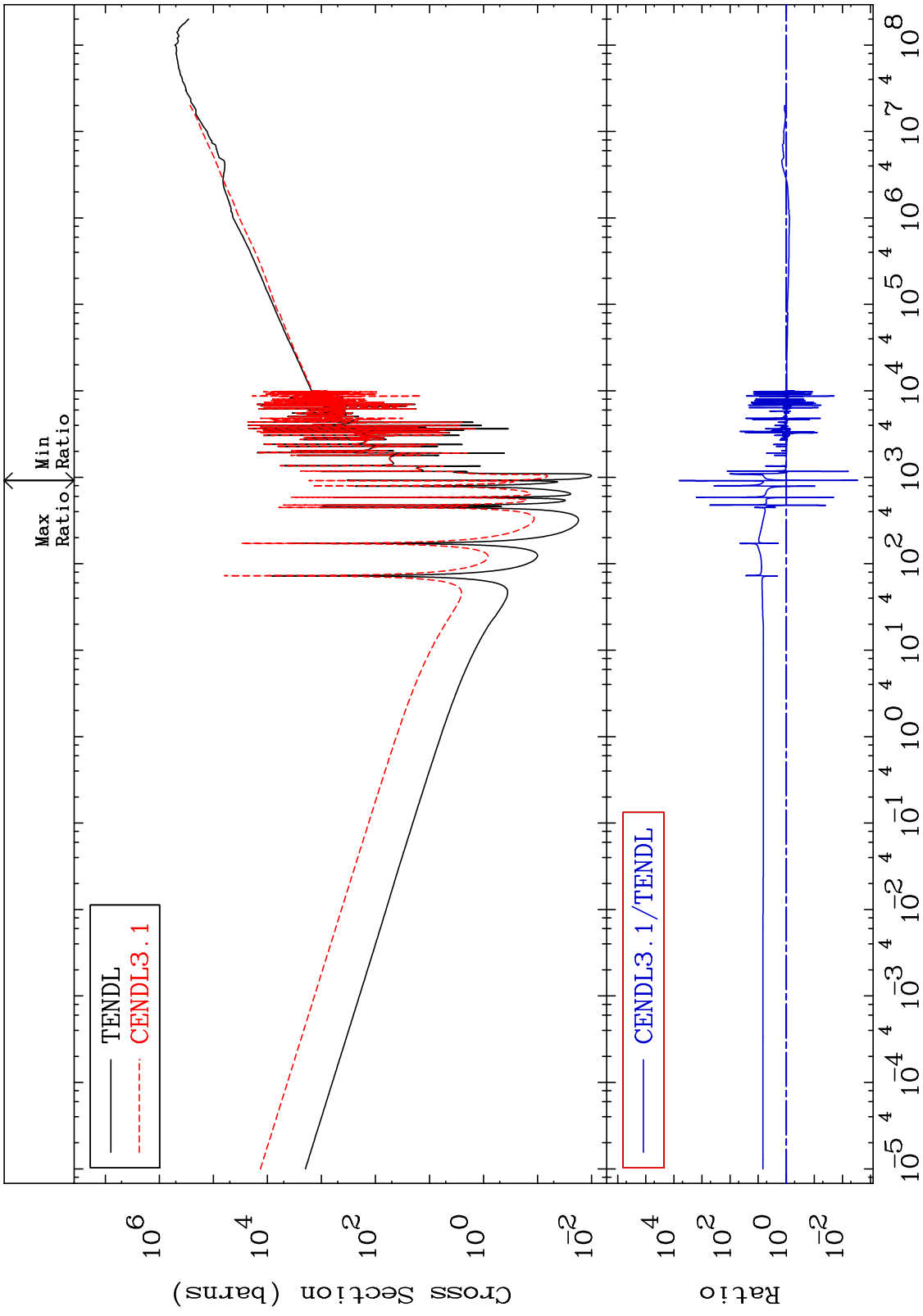


MAT 7243 Total kinematic kerma (high limit) 72-Hf-180
 Cross Section -99.80 To 9999. %

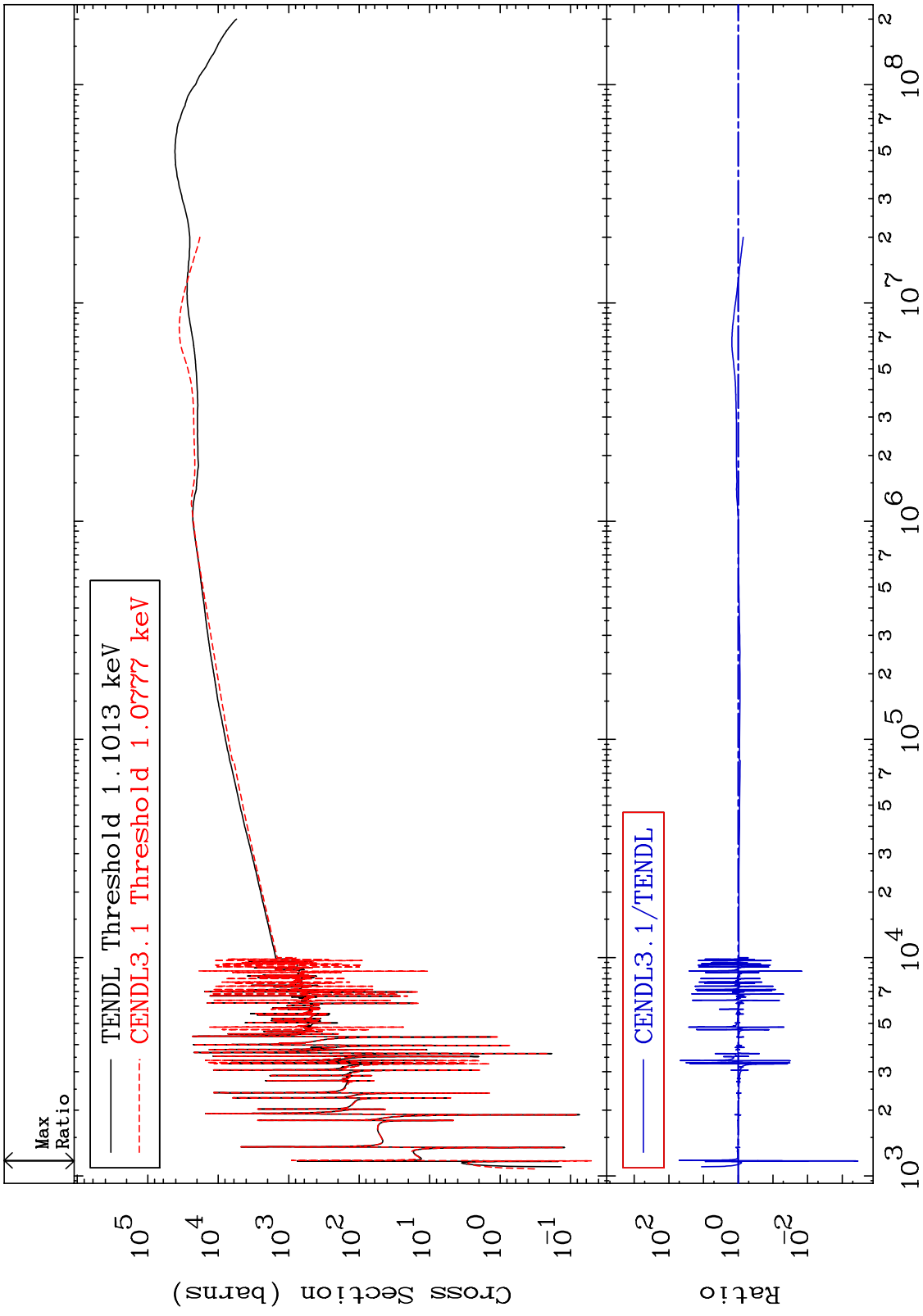


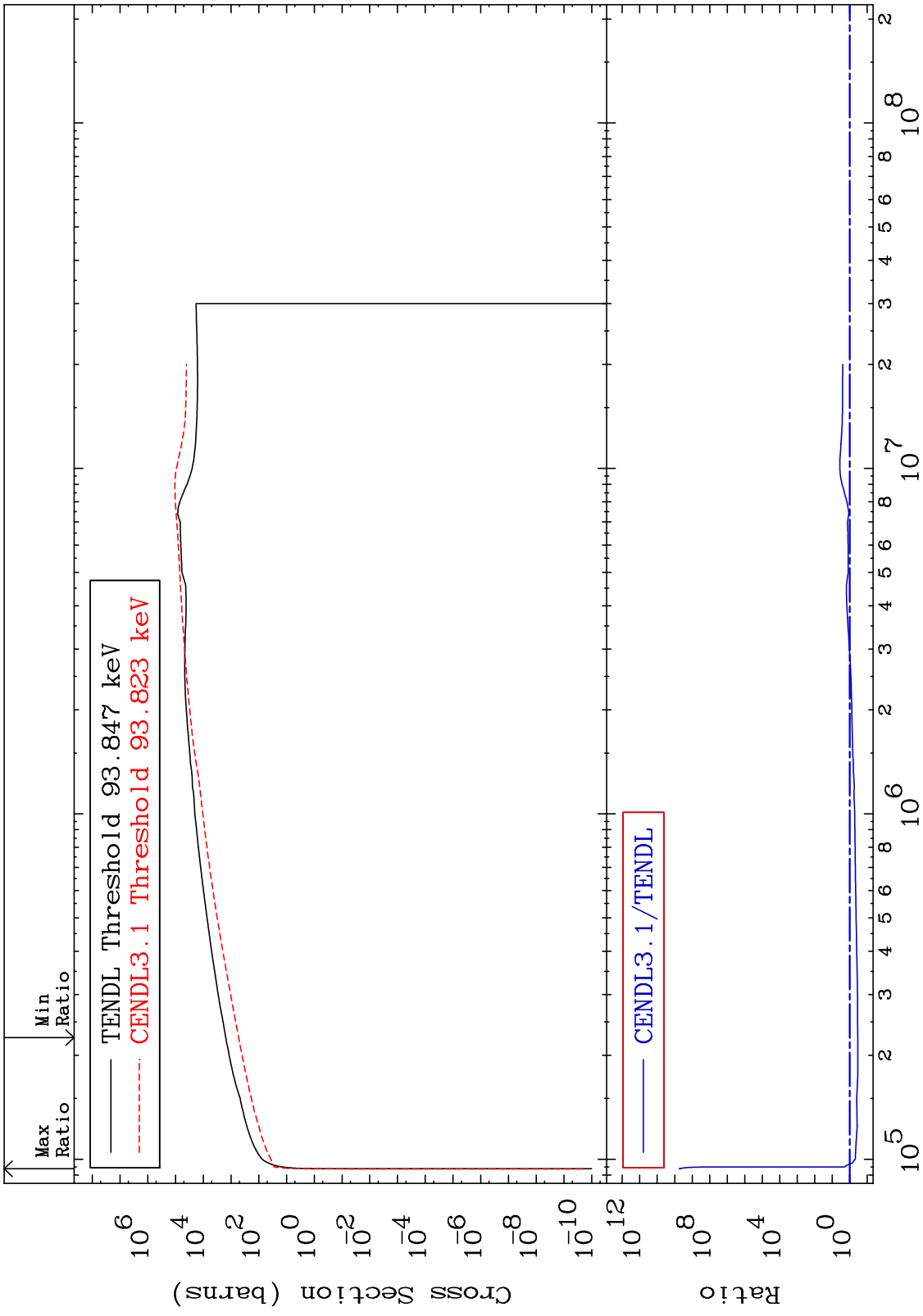
Incident Energy (eV) 72-Hf-180

MAT 7243 Dpa total (eV-barns) 72-Hf-180
 Cross Section -99.72 To 9999. %

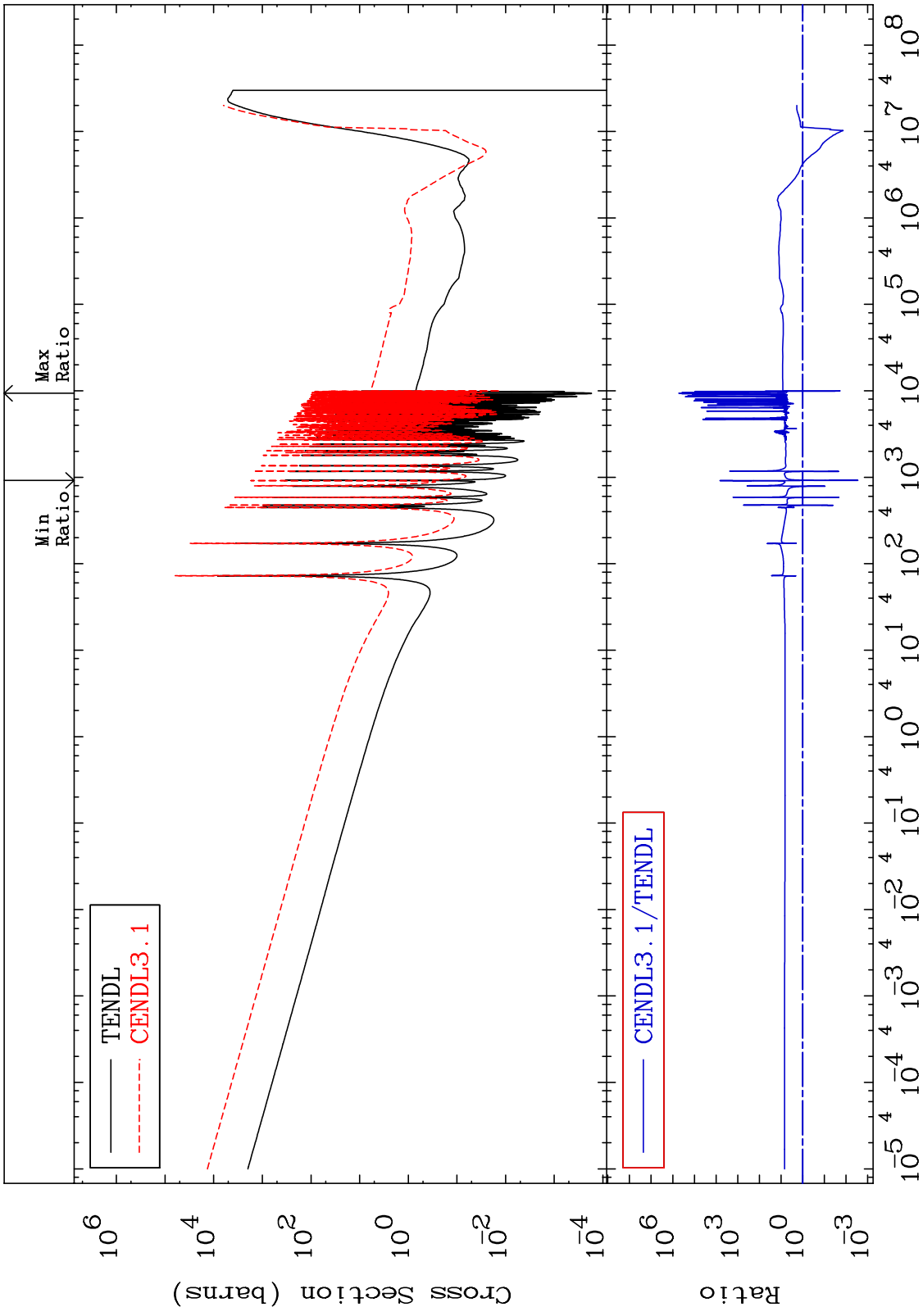


MAT 7243 Dpa elastic (mt2) 72-Hf-180
 Cross Section -99.96 To 4970. %

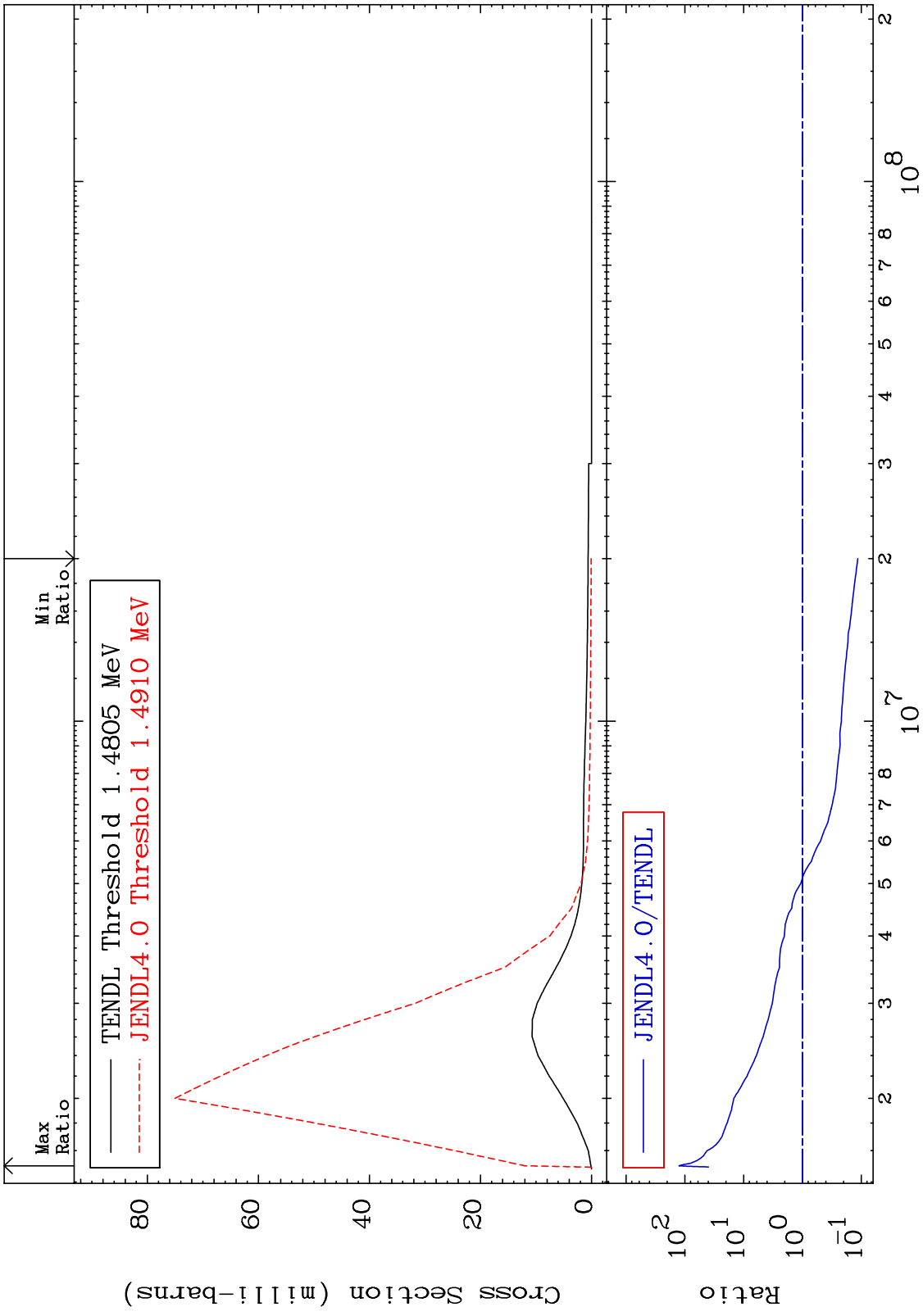




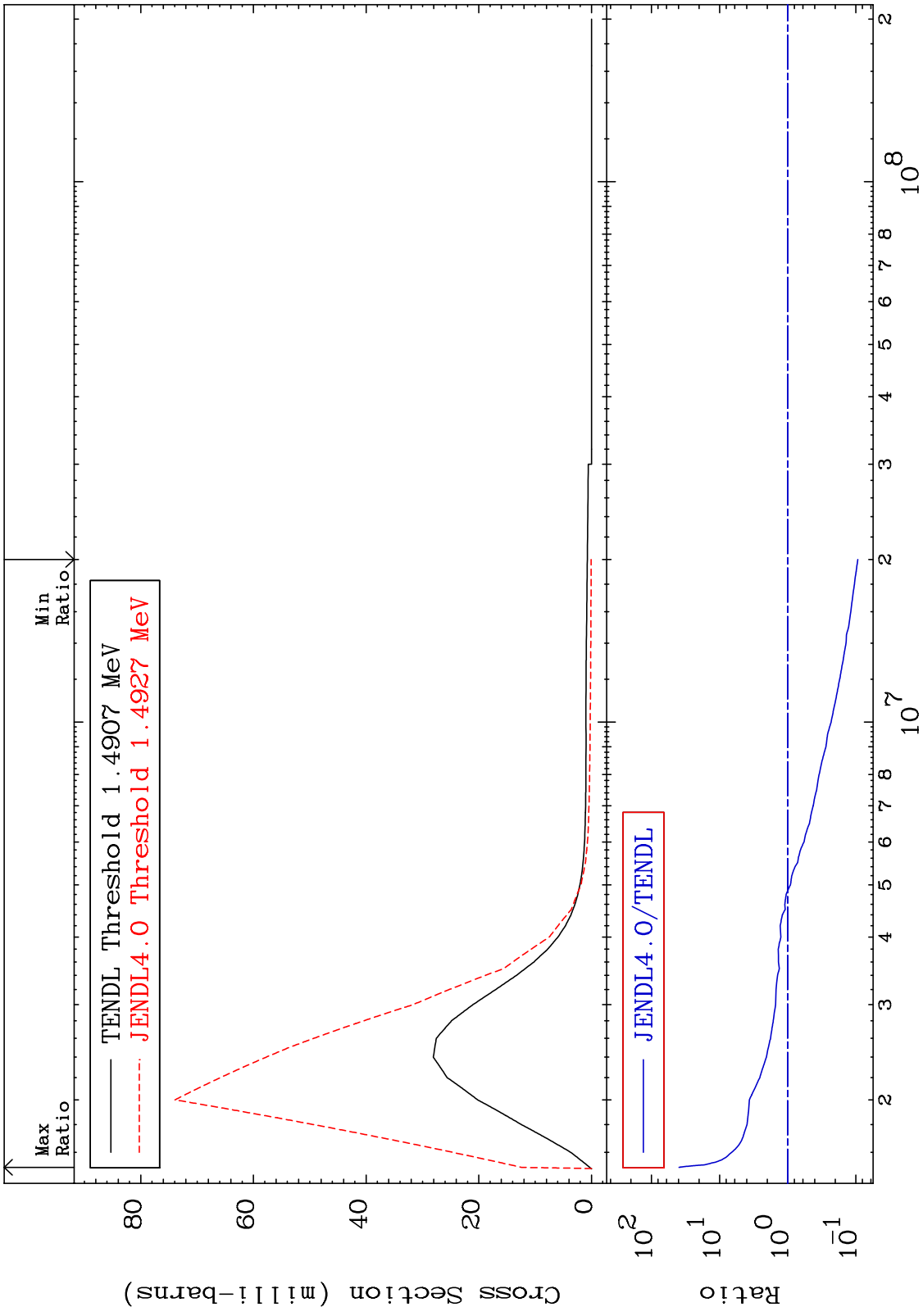
MAT 7243 Dpa disappearance (mt102 -120) 72-Hf-180
 Cross Section -99.72 To 9999. %



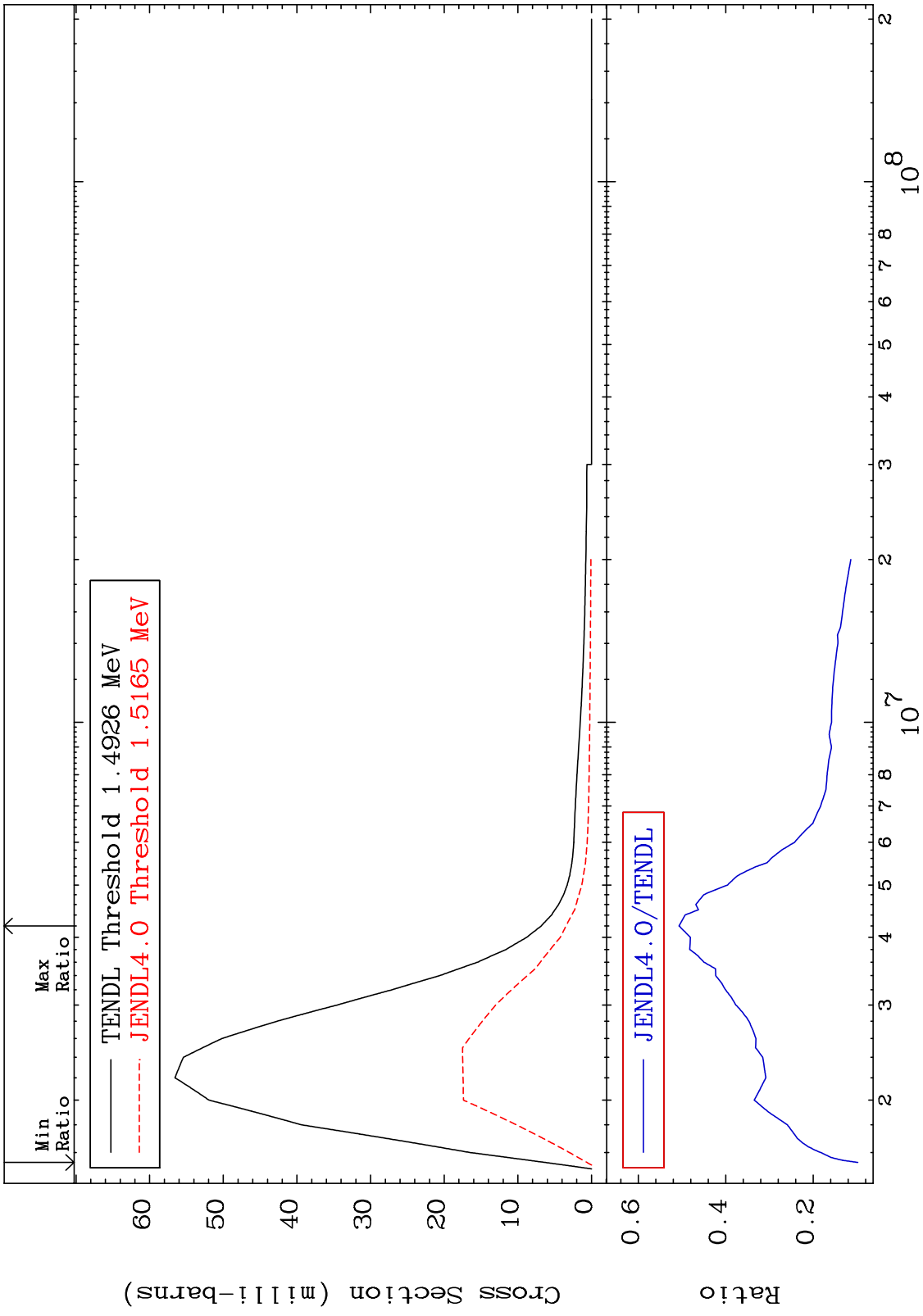
MAT 7243 MT= 76 (n,n') Level Cross Section 72-Hf-180 -88.58 To 9999. %



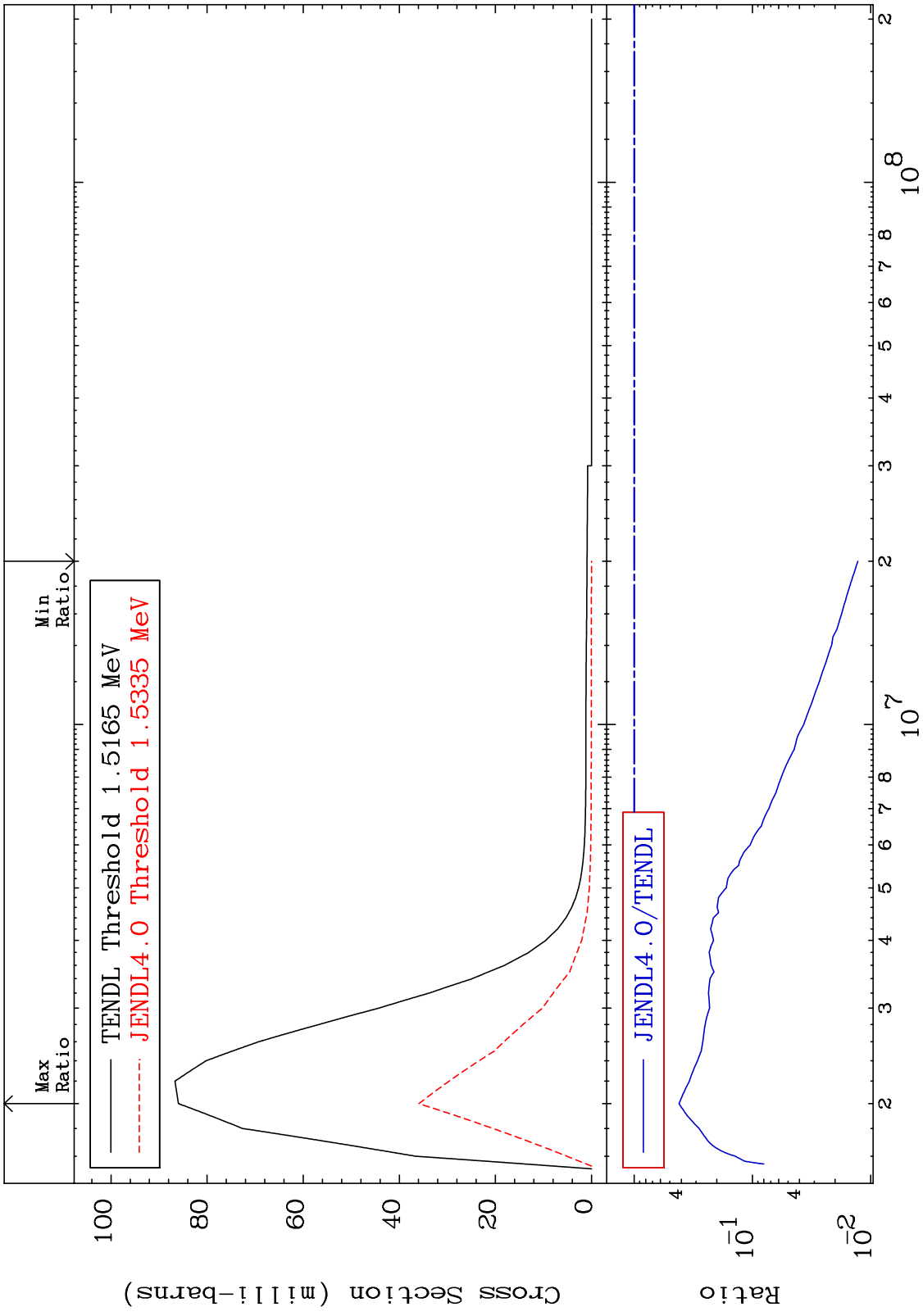
MAT 7243 MT= 77 (n,n') Level 72-Hf-180
 Cross Section -90.65 To 3838. %



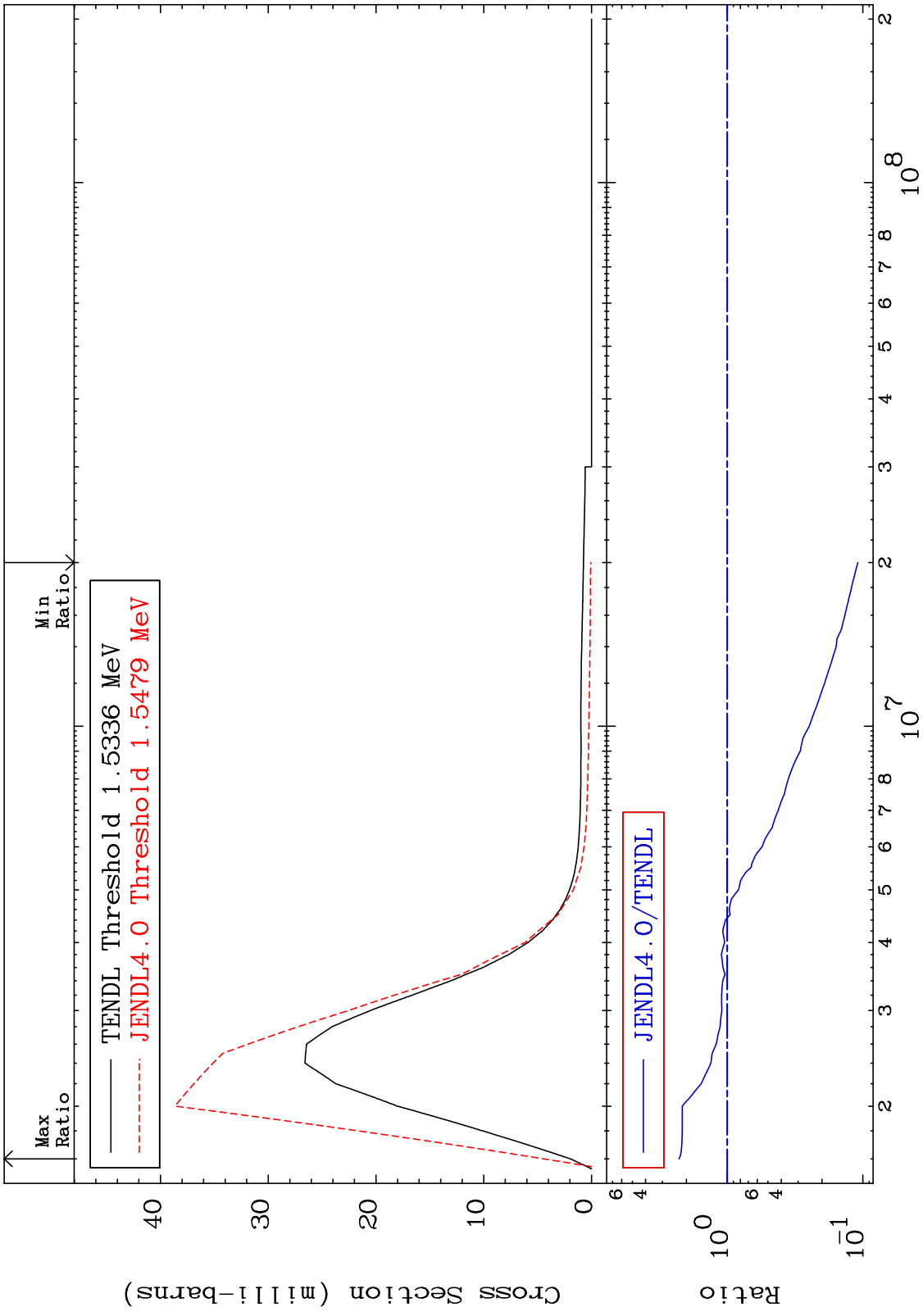
MAT 7243 MT= 78 (n,n') Level Cross Section 72-Hf-180 -90.23 To -49.30%



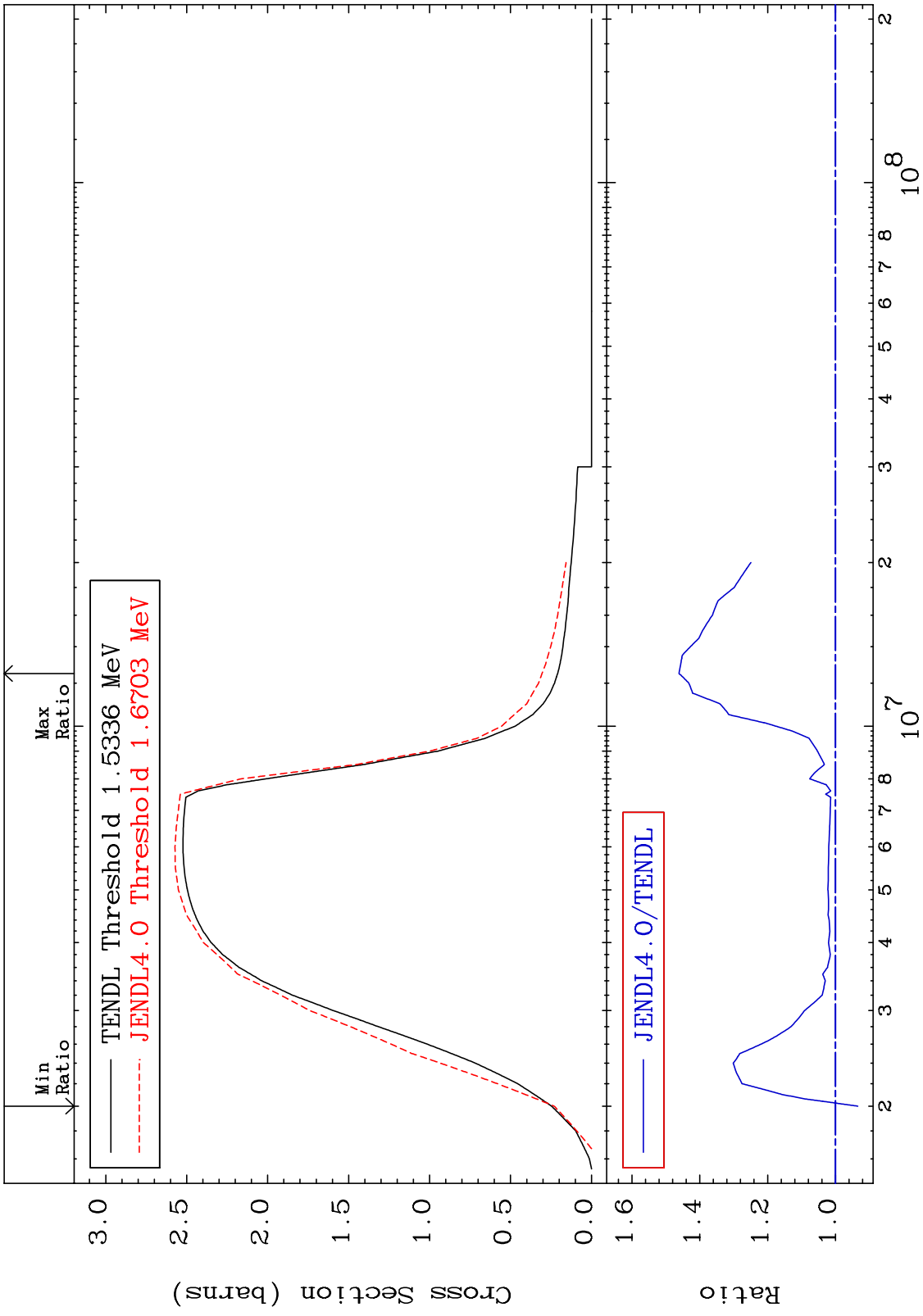
MAT 7243 MT= 79 (n,n') Level Cross Section 72-Hf-180 -98.72 To -58.22%



MAT 7243 MT= 80 (n,n') Level Cross Section 72-Hf-180
 -89.11 To 126.4 %



MAT 7243 (n, n') Continuum Cross Section 72-Hf-180
 -6.598 To 46.12 %



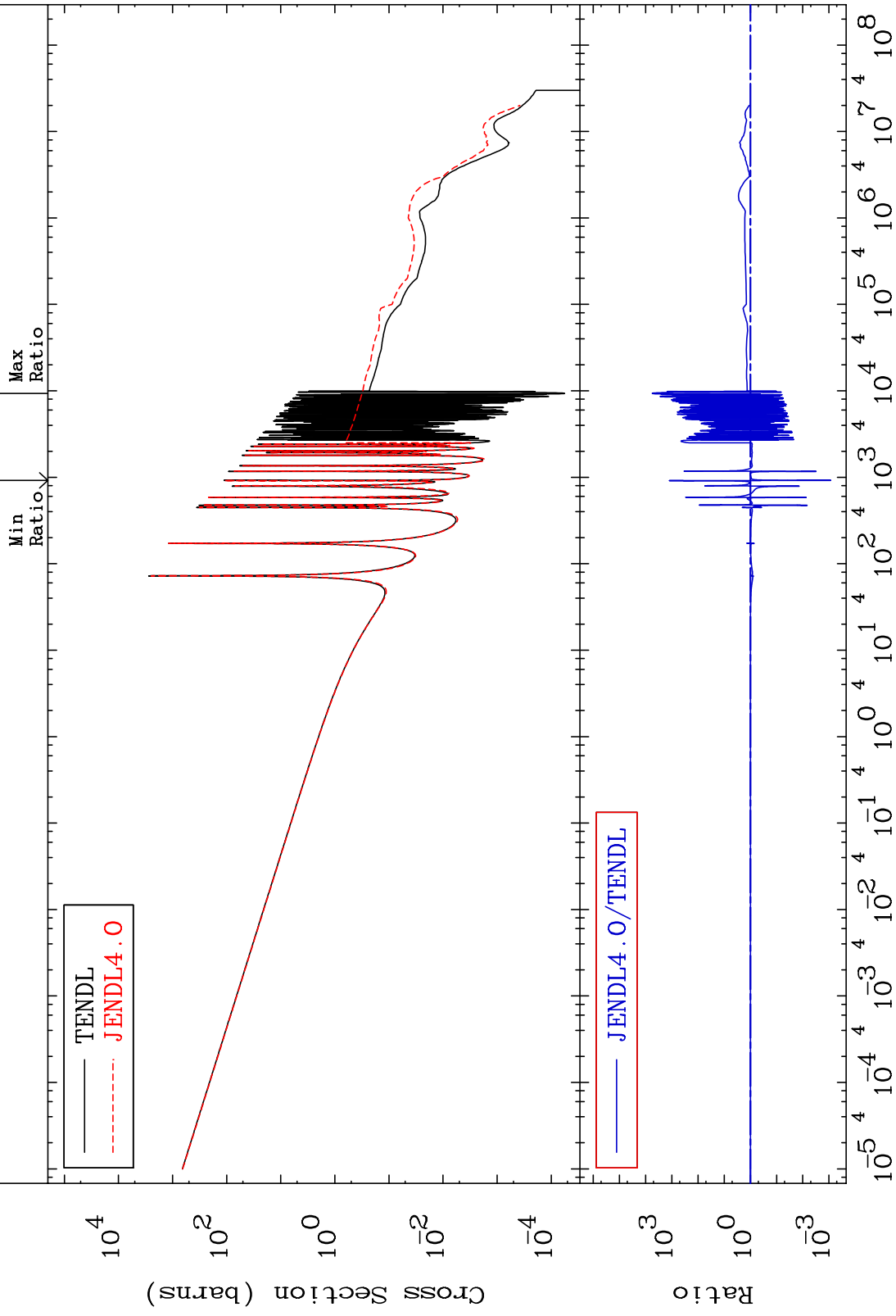
MAT 7243

(n, γ)

72-Hf-180

-99.92 To 9999. %

Cross Section

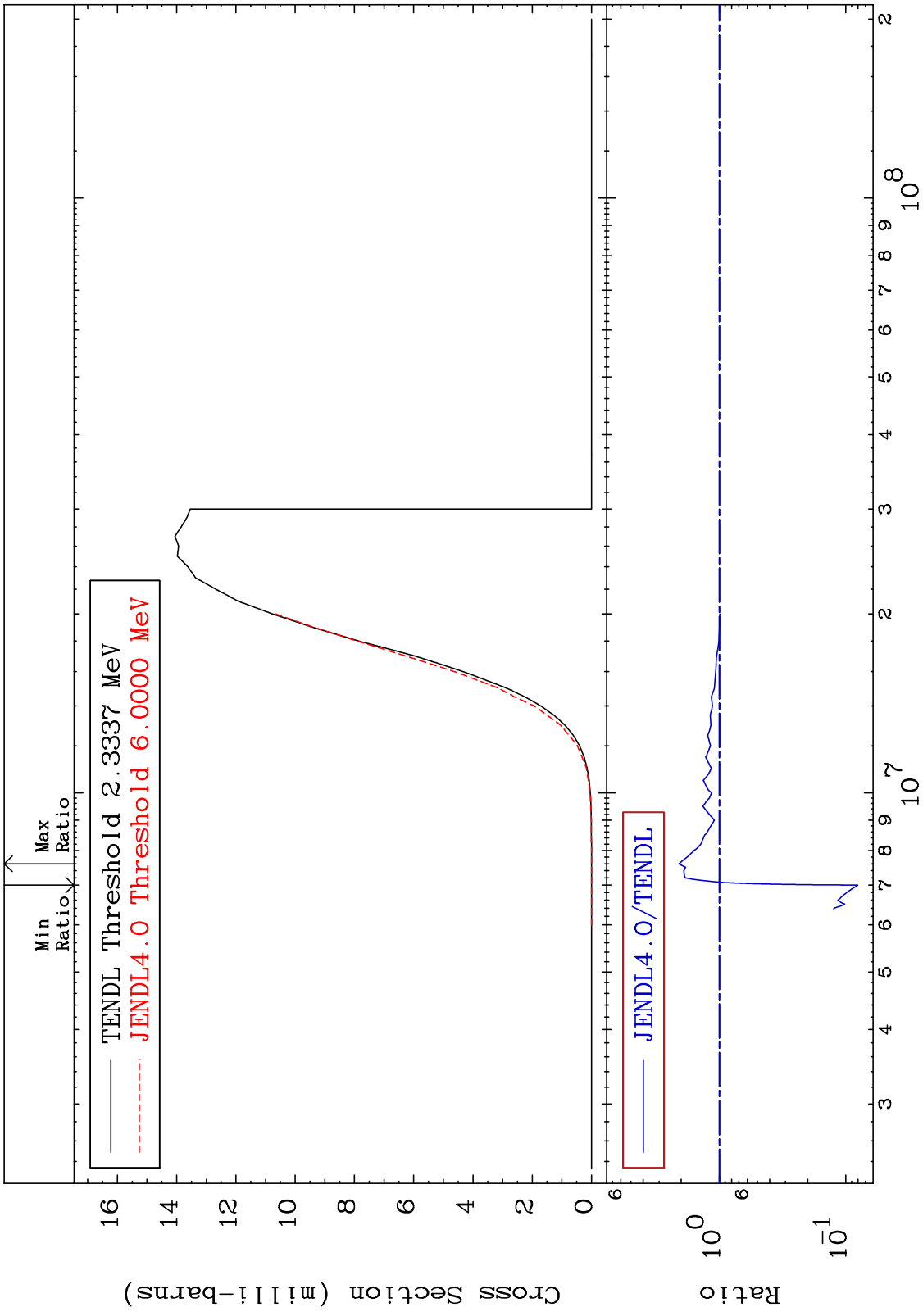


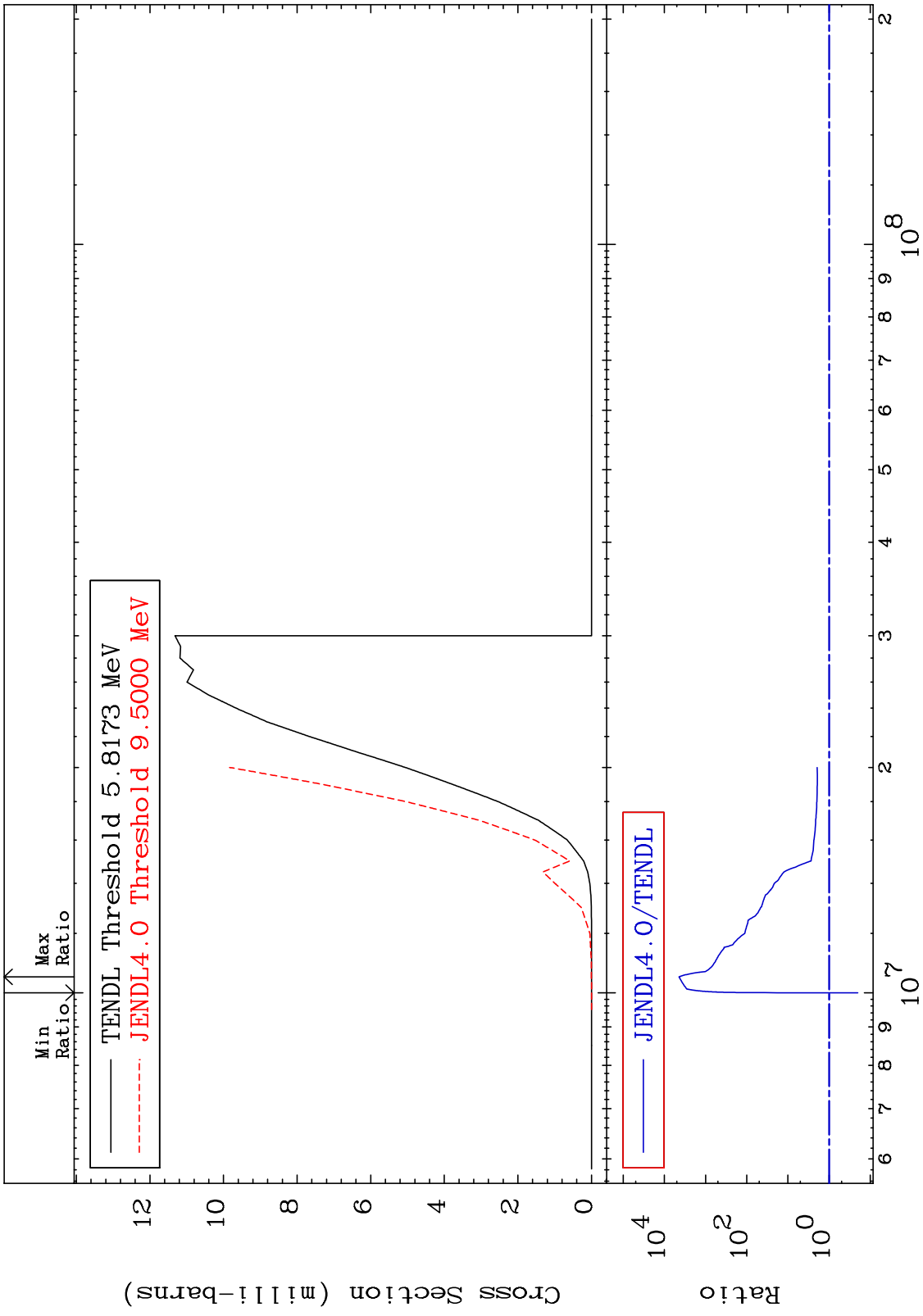
40

Incident Energy (eV)

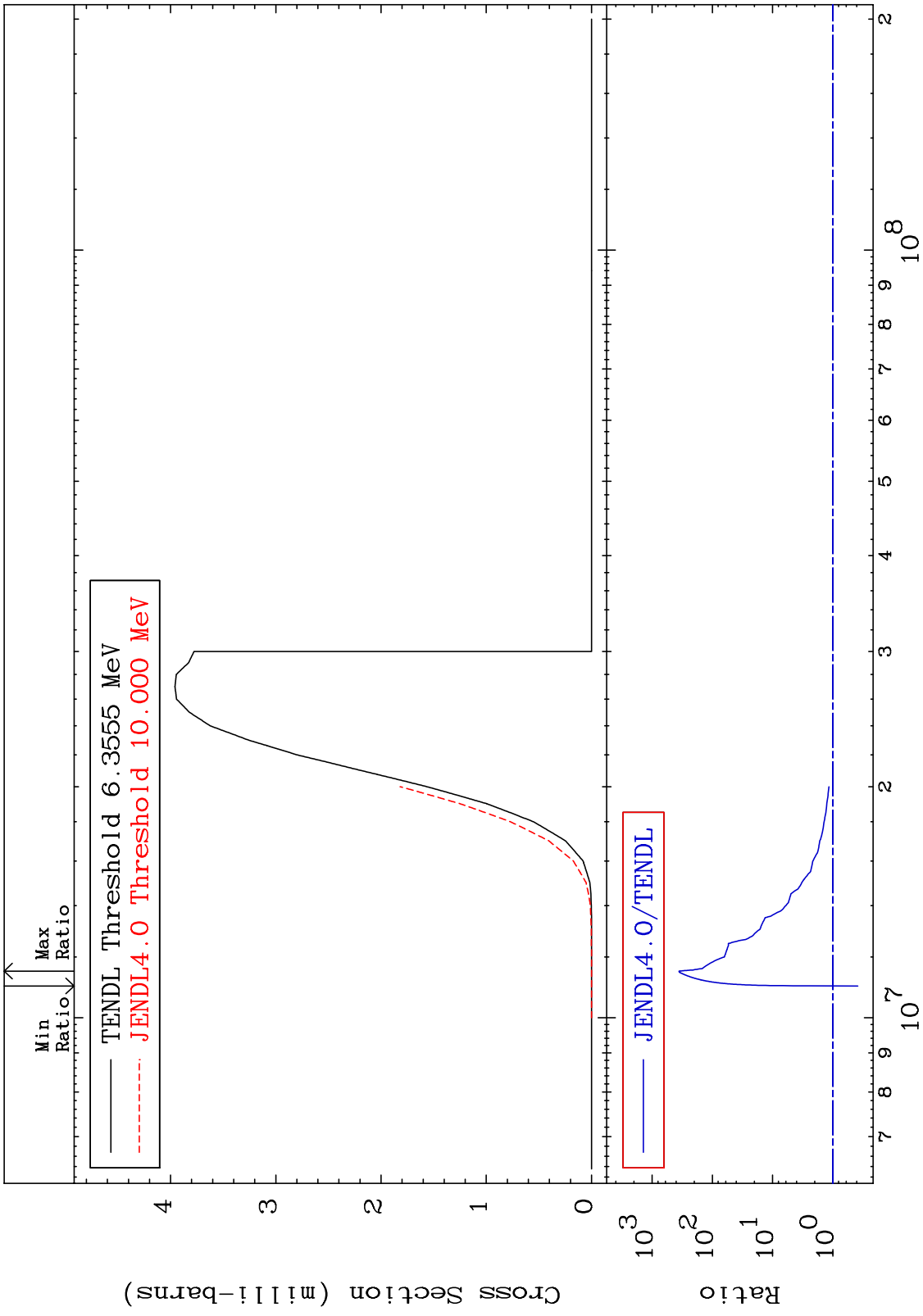
72-Hf-180

MAT 7243 (n,p) Cross Section 72-Hf-180
 -91.96 To 108.2 %

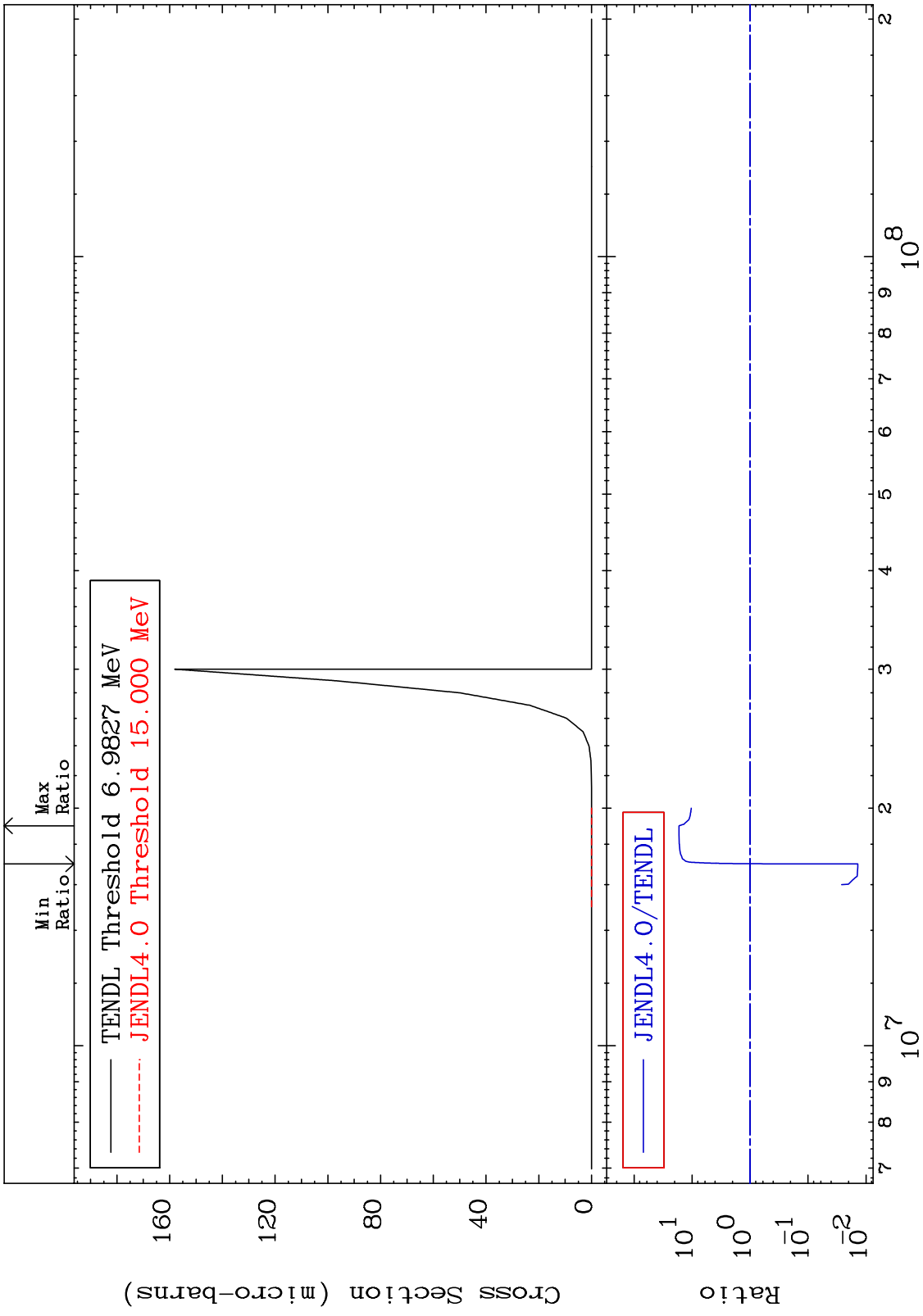




MAT 7243 (n,t) 72-Hf-180
 Cross Section -61.64 To 9999. %

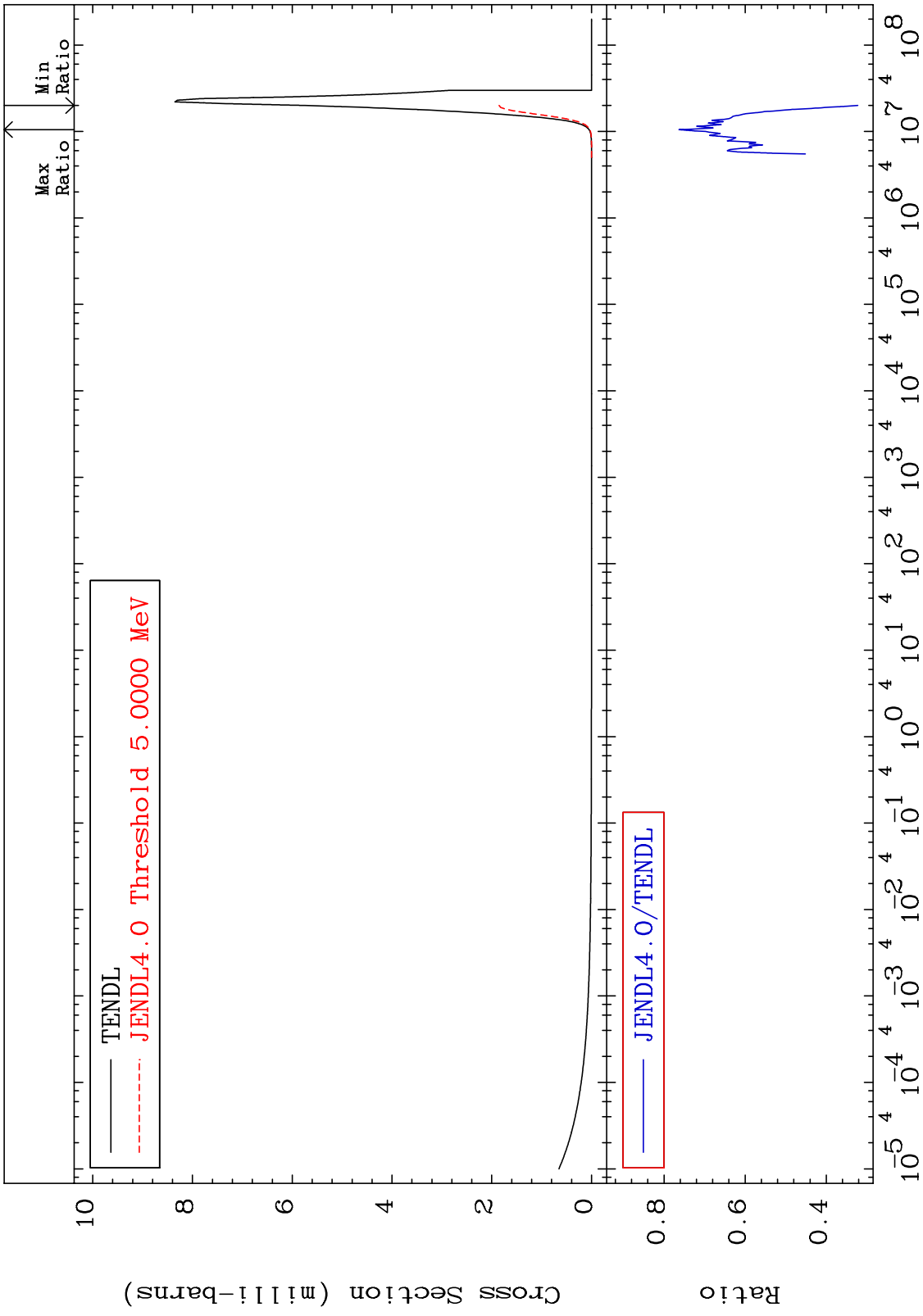


MAT 7243 (n, He-3) 72-Hf-180
 Cross Section -98.62 To 1576. %

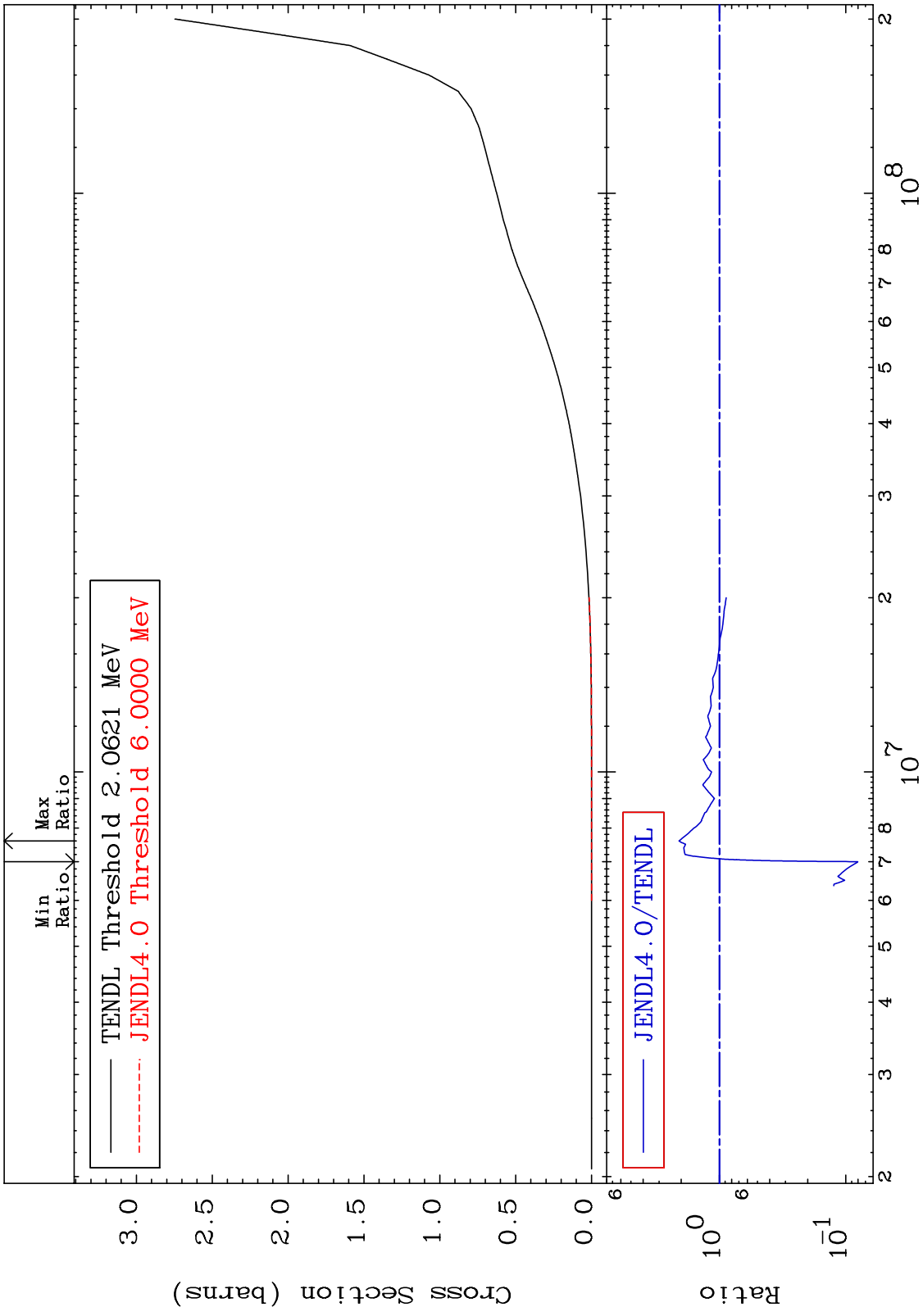


44 72-Hf-180

MAT 7243 (n,α) Cross Section 72-Hf-180
-67.79 To -23.70%



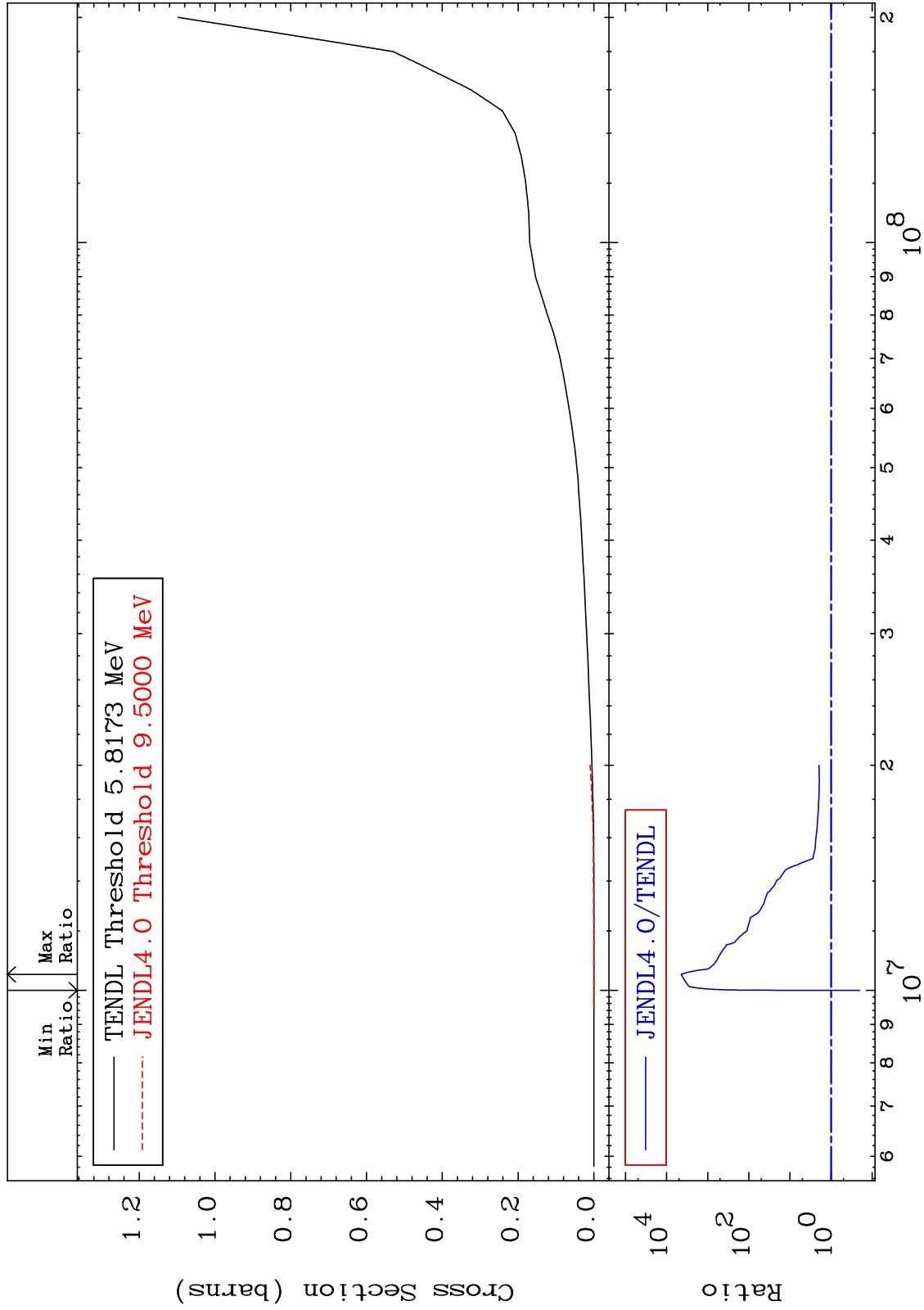
MAT 7243 Hydrogen Production Cross Section 72-Hf-180
 -91.96 To 108.2 %



MAT 7243

Deuterium Production
Cross Section

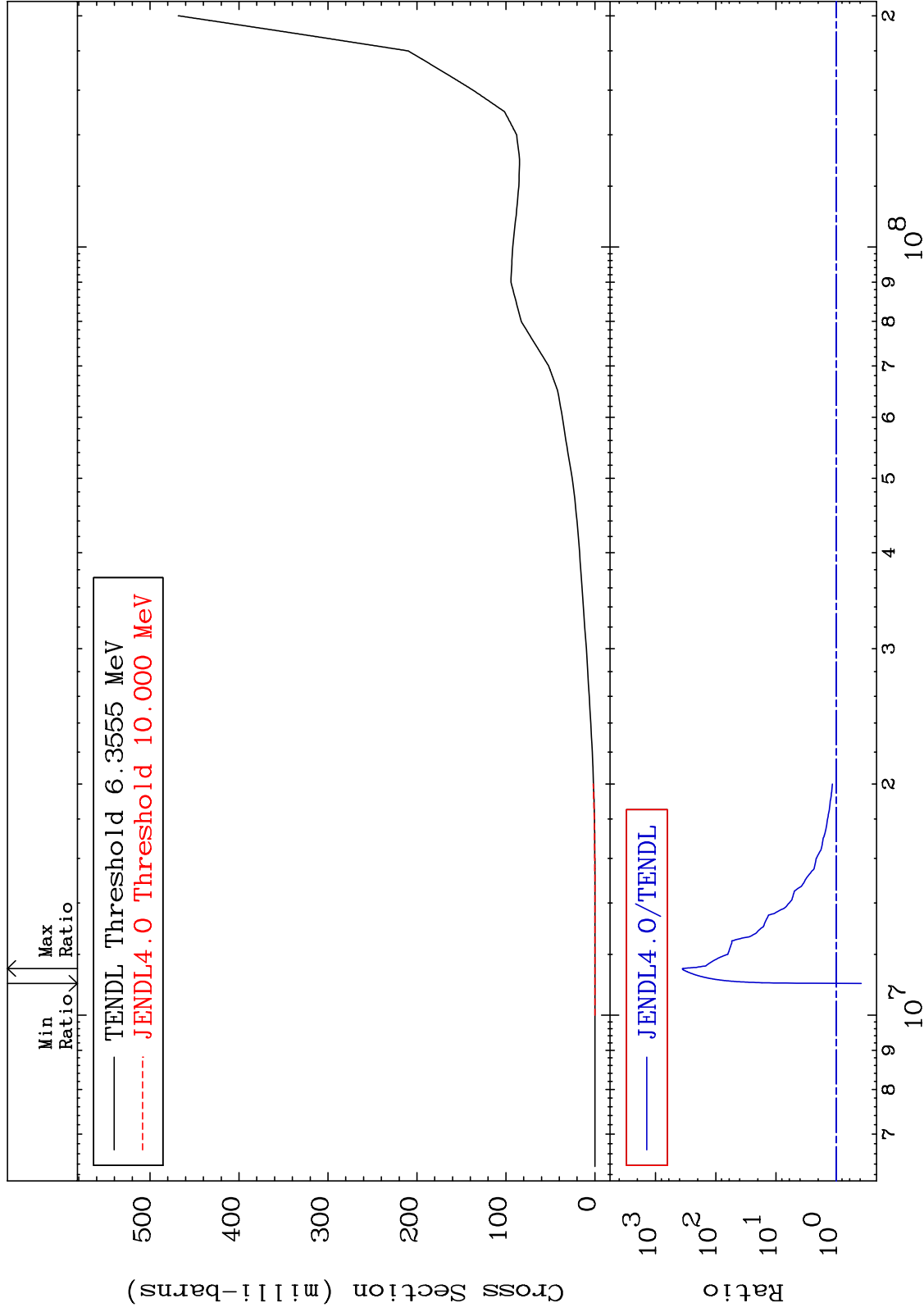
72-Hf-180
-79.93 To 9999. %



MAT 7243

Tritium Production
Cross Section

72-Hf-180
-61.64 To 9999. %



48

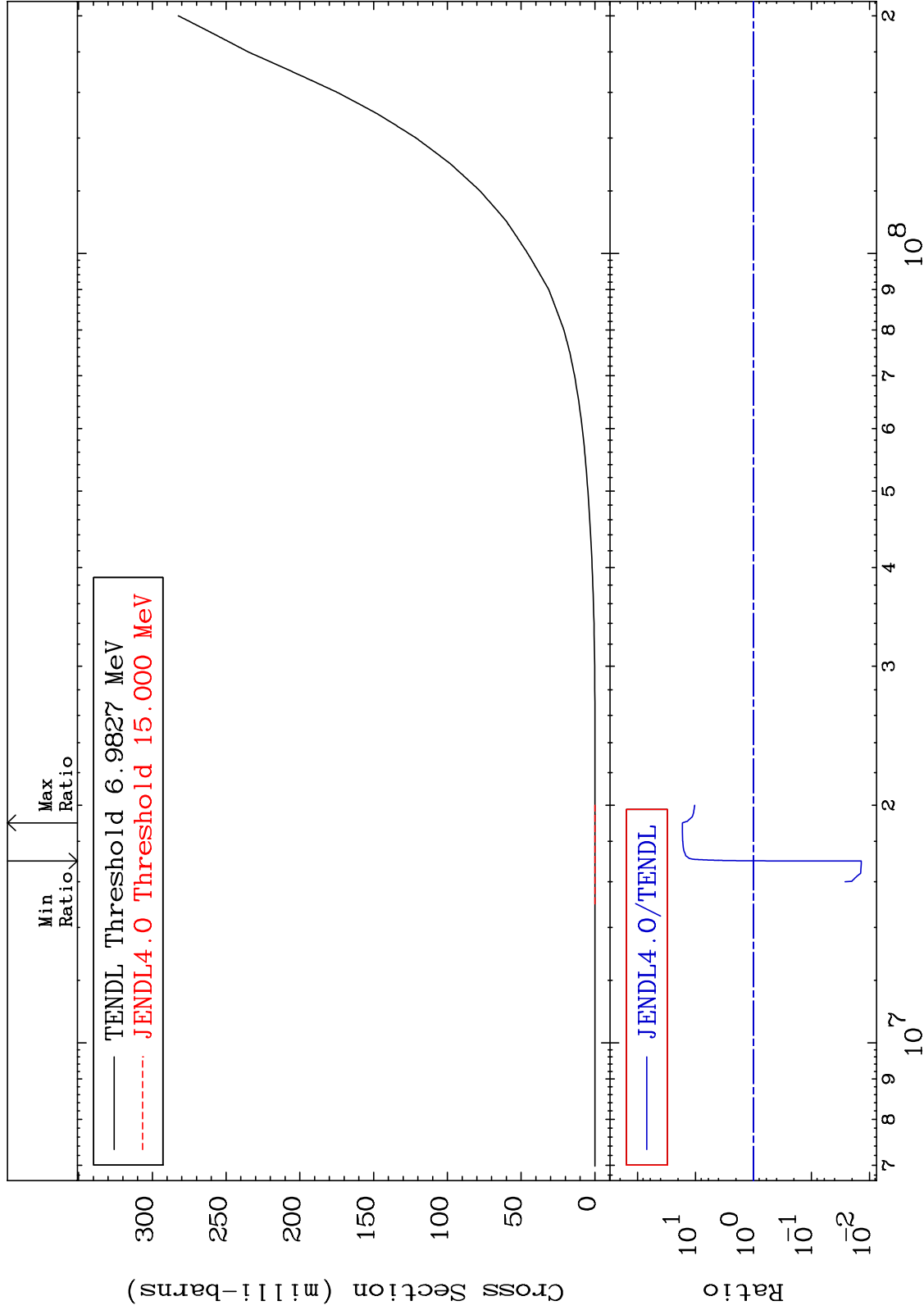
Incident Energy (eV)

72-Hf-180

MAT 7243

He-3 Production
Cross Section

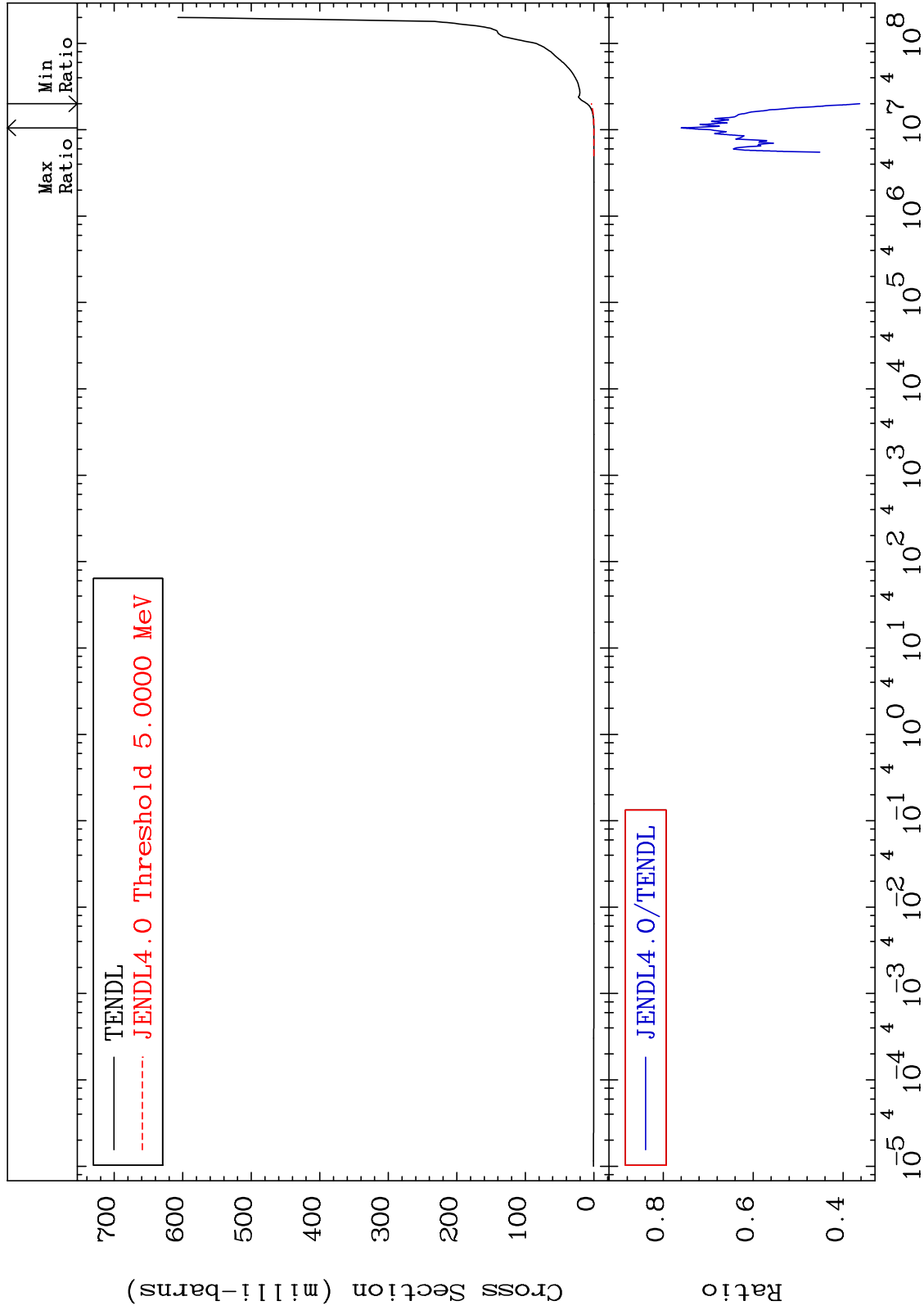
72-Hf-180
-98.62 To 1576. %



MAT 7243

He-4 Production
Cross Section

72-Hf-180
-63.71 To -24.01%

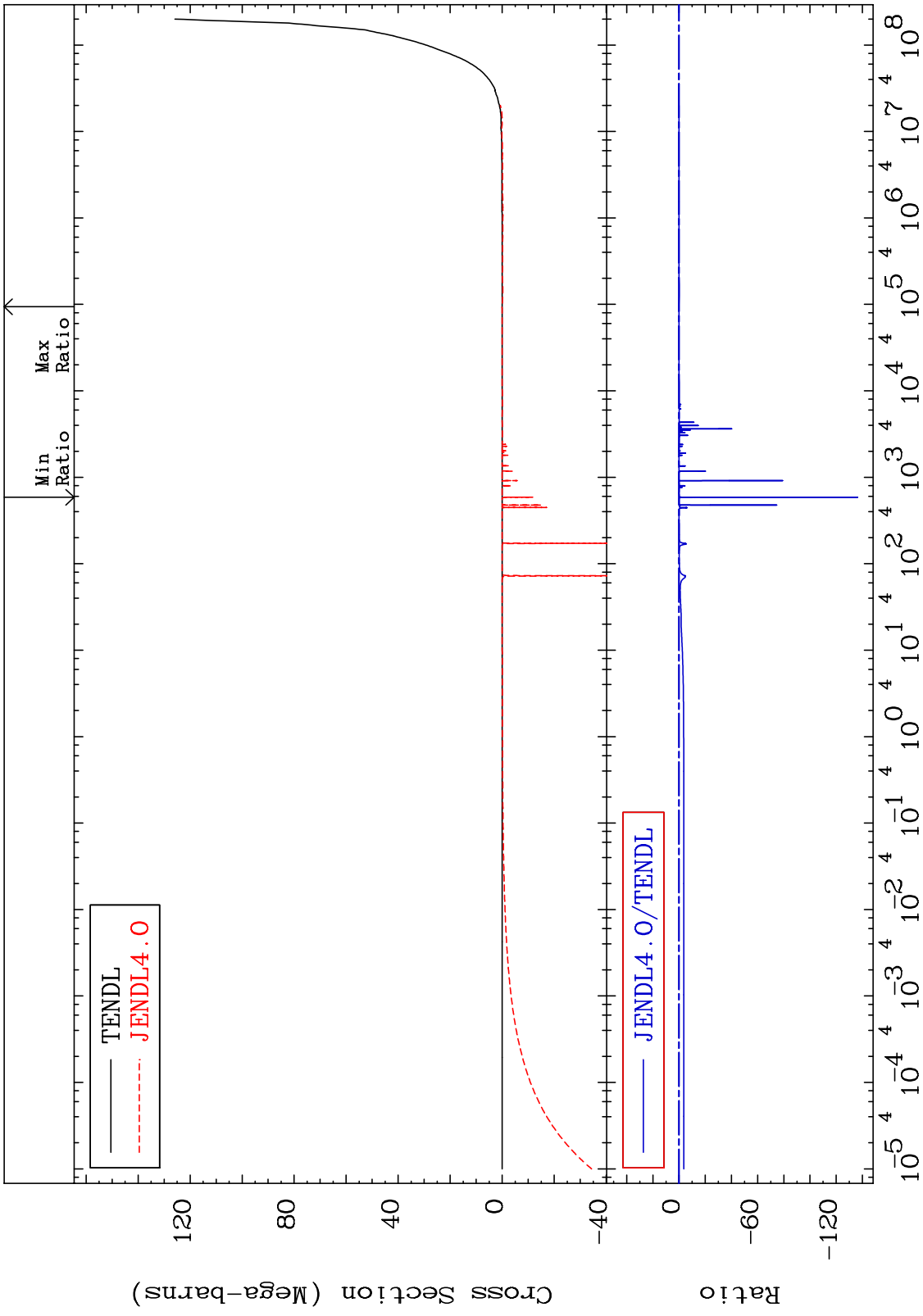


50

Incident Energy (eV)

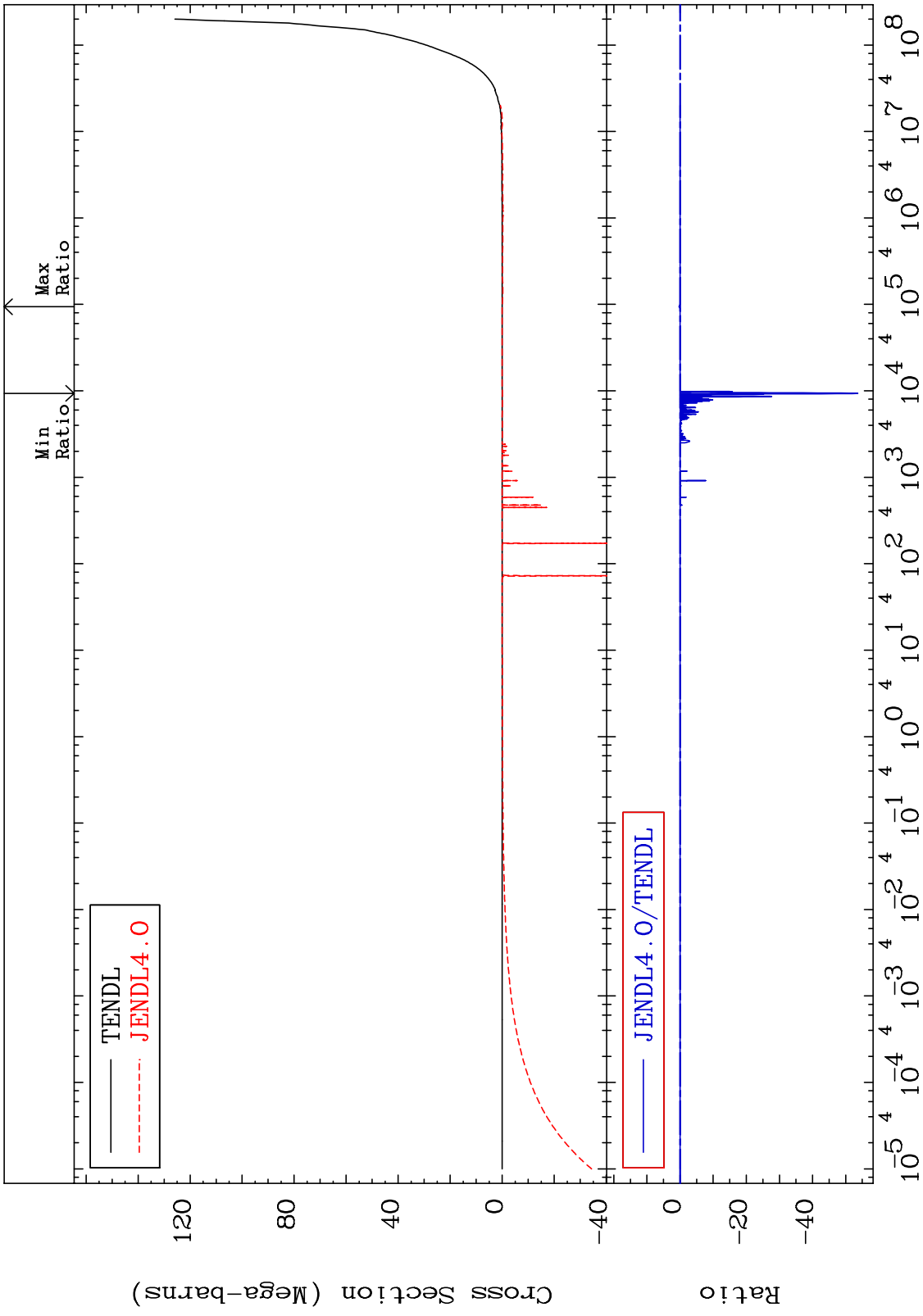
72-Hf-180

MAT 7243 Kerma total (eV-barns) 72-Hf-180
 Cross Section -9999. To 1924. %

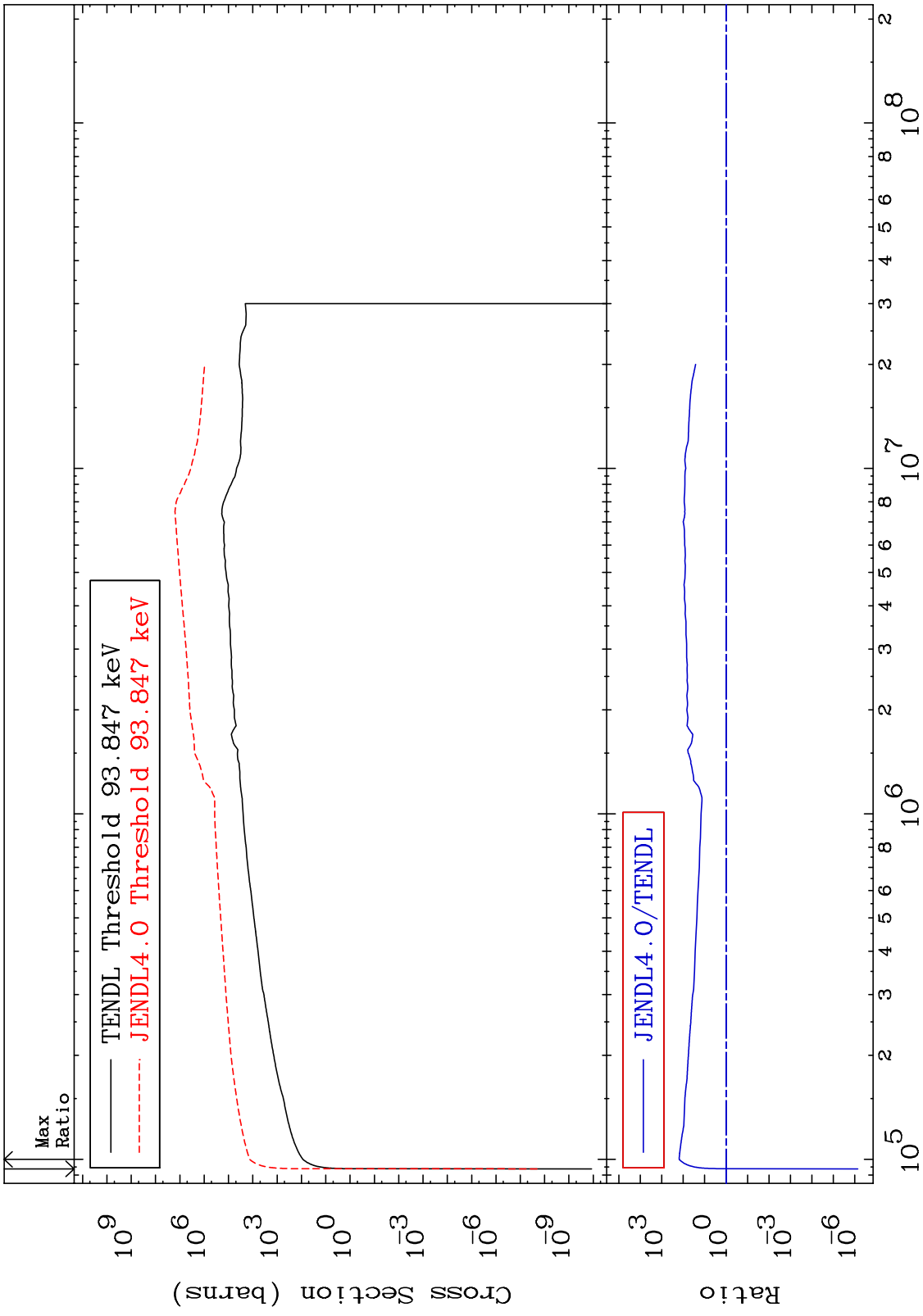


51 Incident Energy (eV) 72-Hf-180

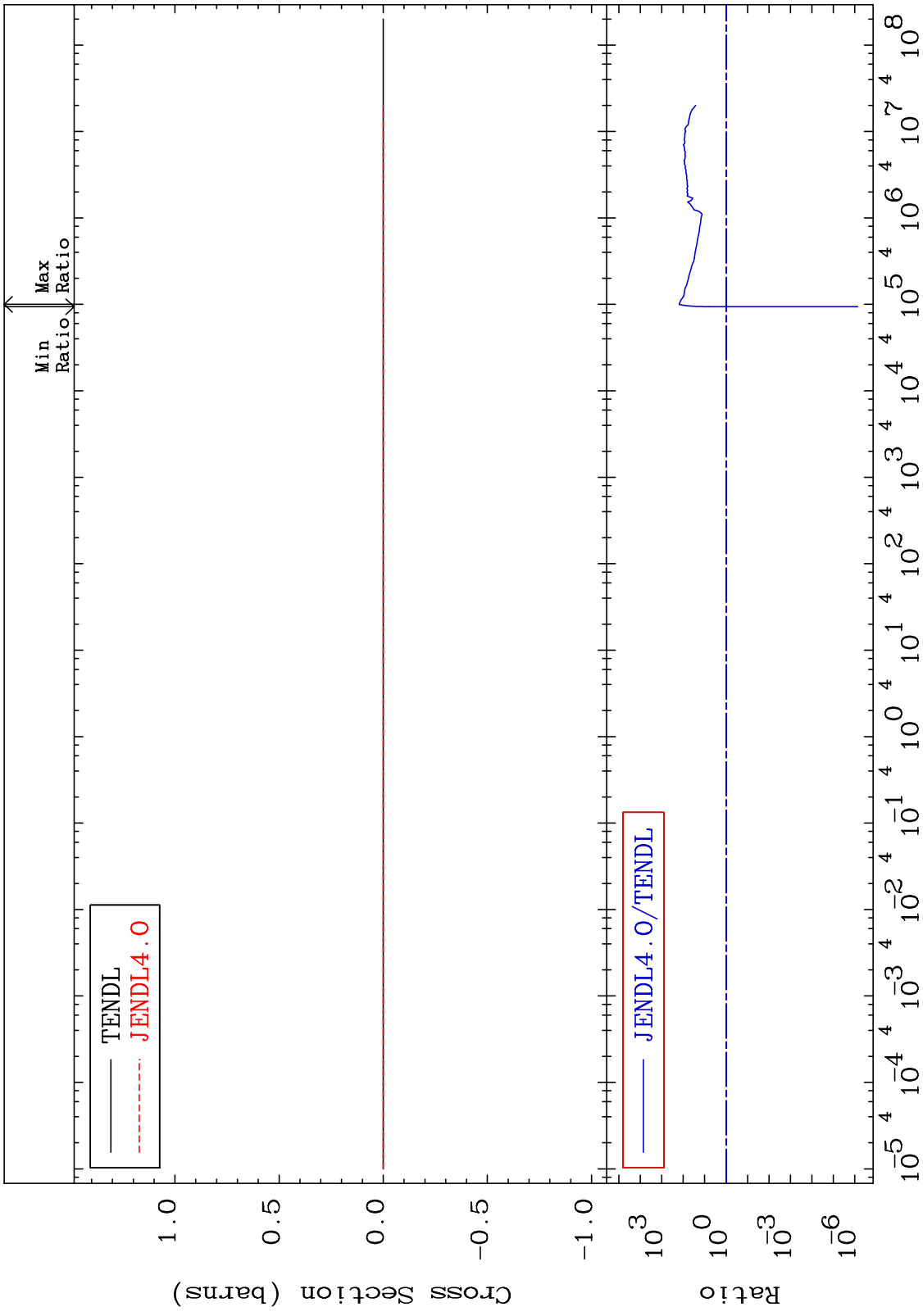
MAT 7243 Kerma non-elastic (all but mt2) 72-Hf-180
 Cross Section -9999. To 9999. %



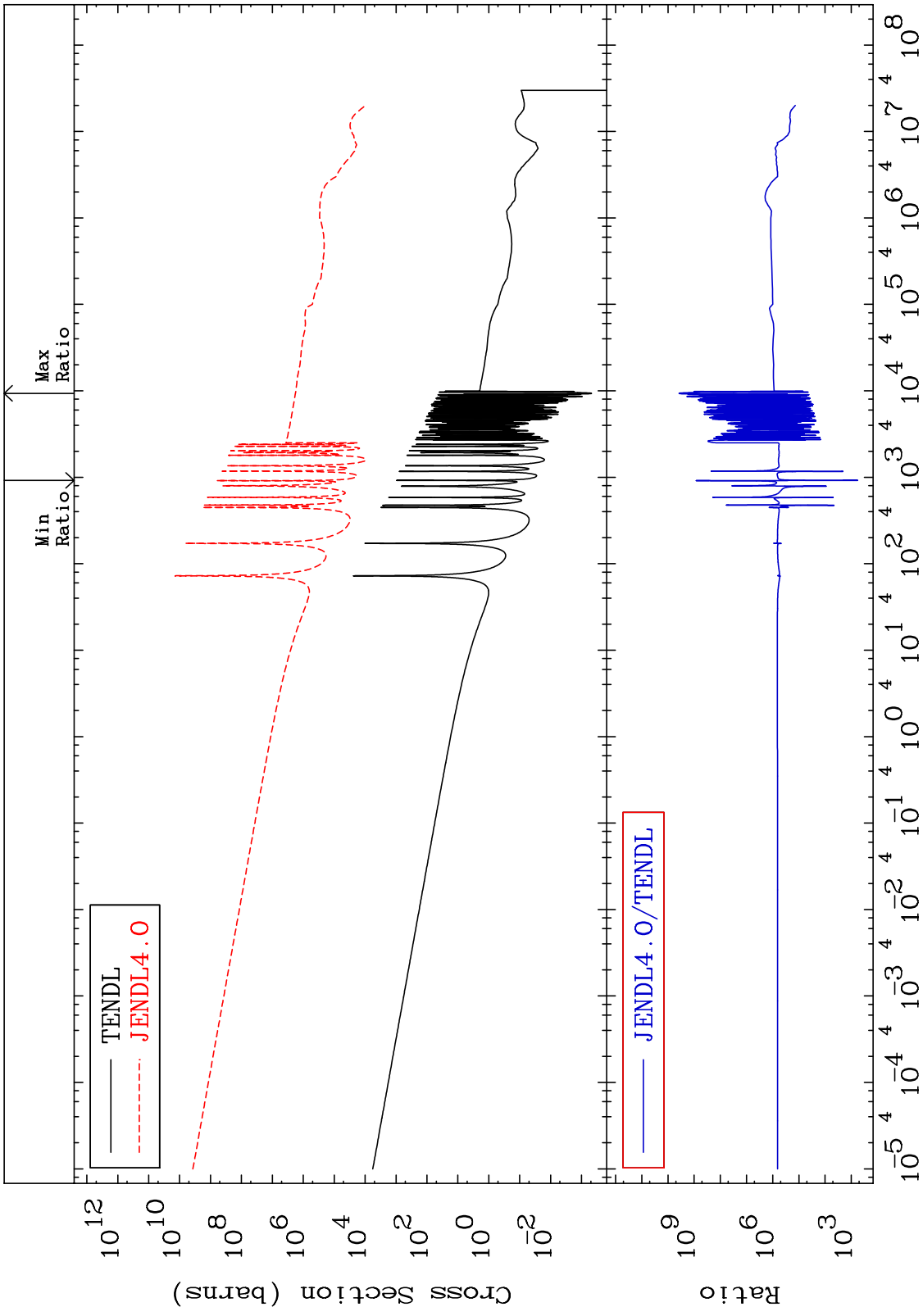
MAT 7243 Kerma inelastic (mt51-91) 72-Hf-180
Cross Section -100.0 To 9999. %



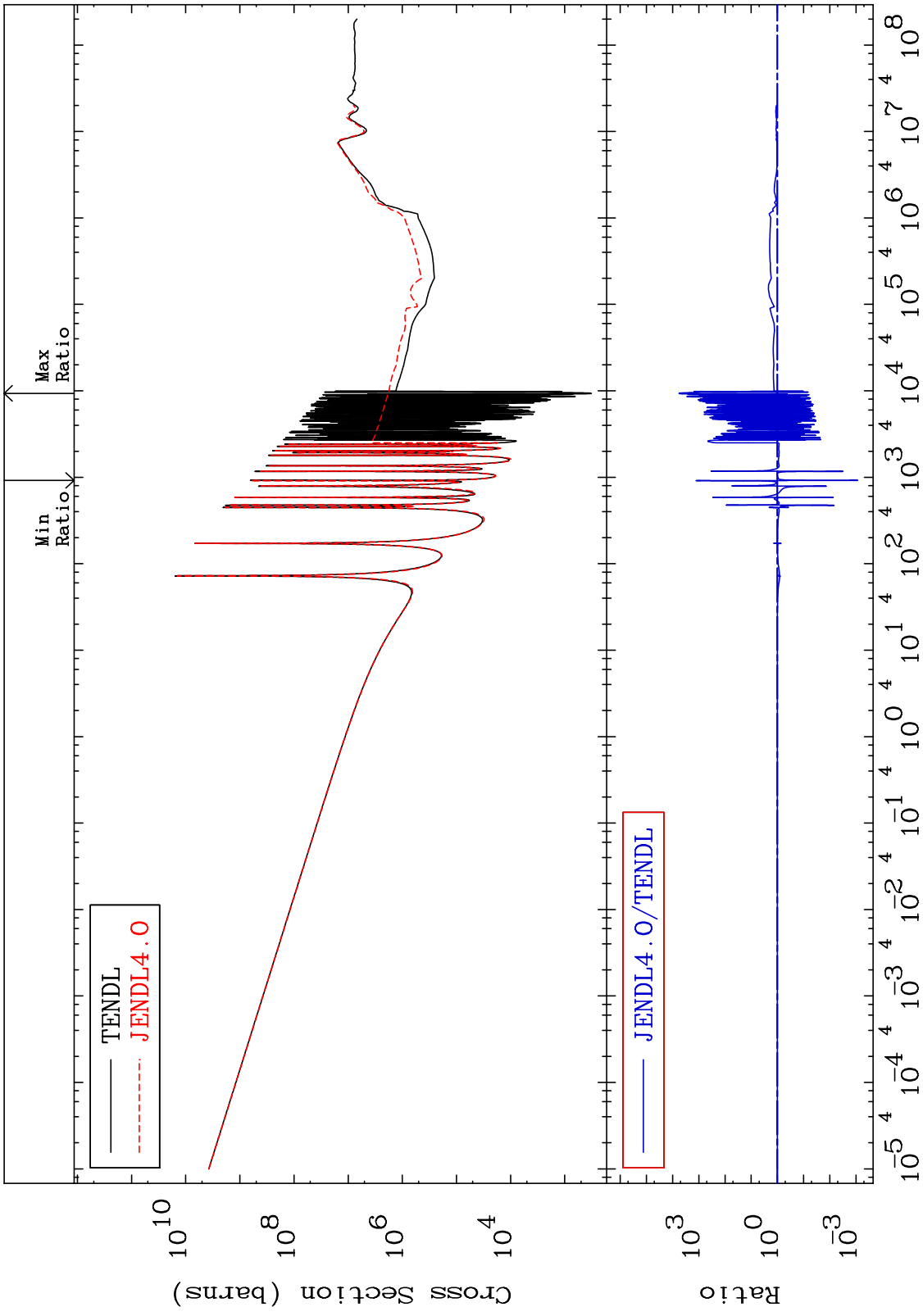
MAT 7243 Kerma fission (mt18 or mt19-20-21-38) 72-Hf-180
 Cross Section -100.0 To 9999. %



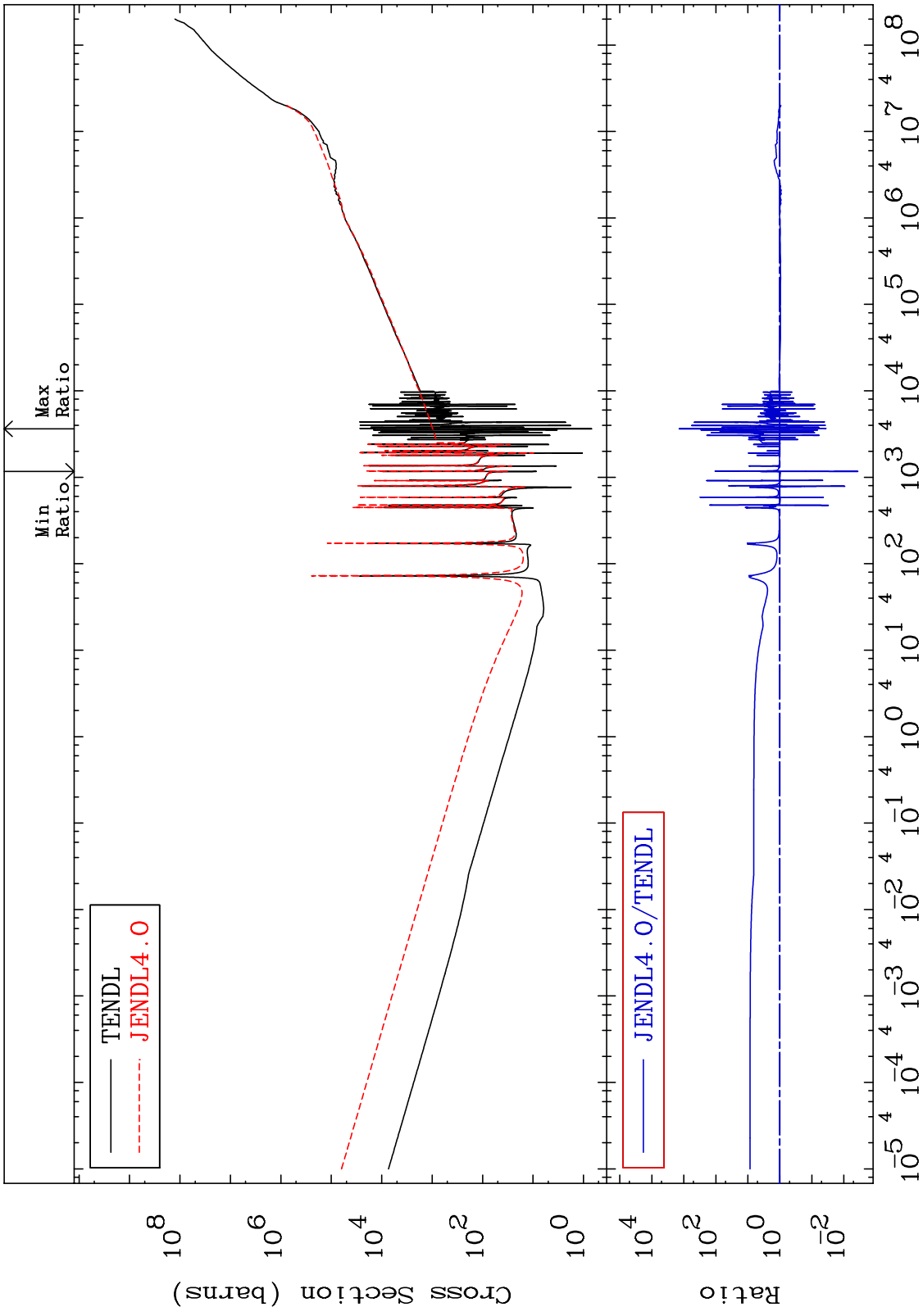
MAT 7243 Kerma capture (mt102) 72-Hf-180
 Cross Section 9999. To 9999. %



MAT 7243 72-Hf-180
Total photon (eV-barns) -99.91 To 9999. %
Cross Section

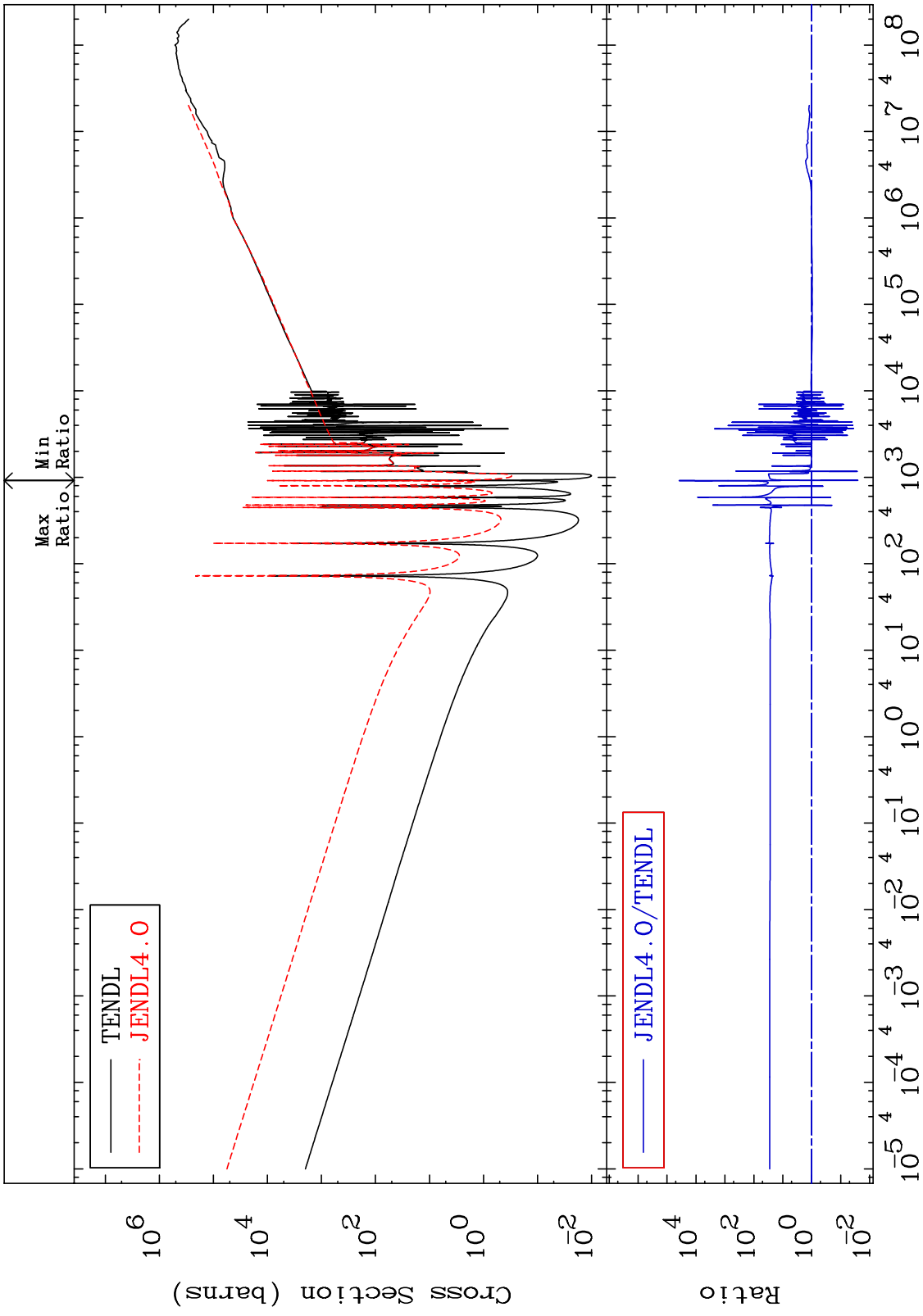


MAT 7243 Total kinematic kerma (high limit) 72-Hf-180
 Cross Section -99.63 To 9999. %



58 Incident Energy (eV) 72-Hf-180

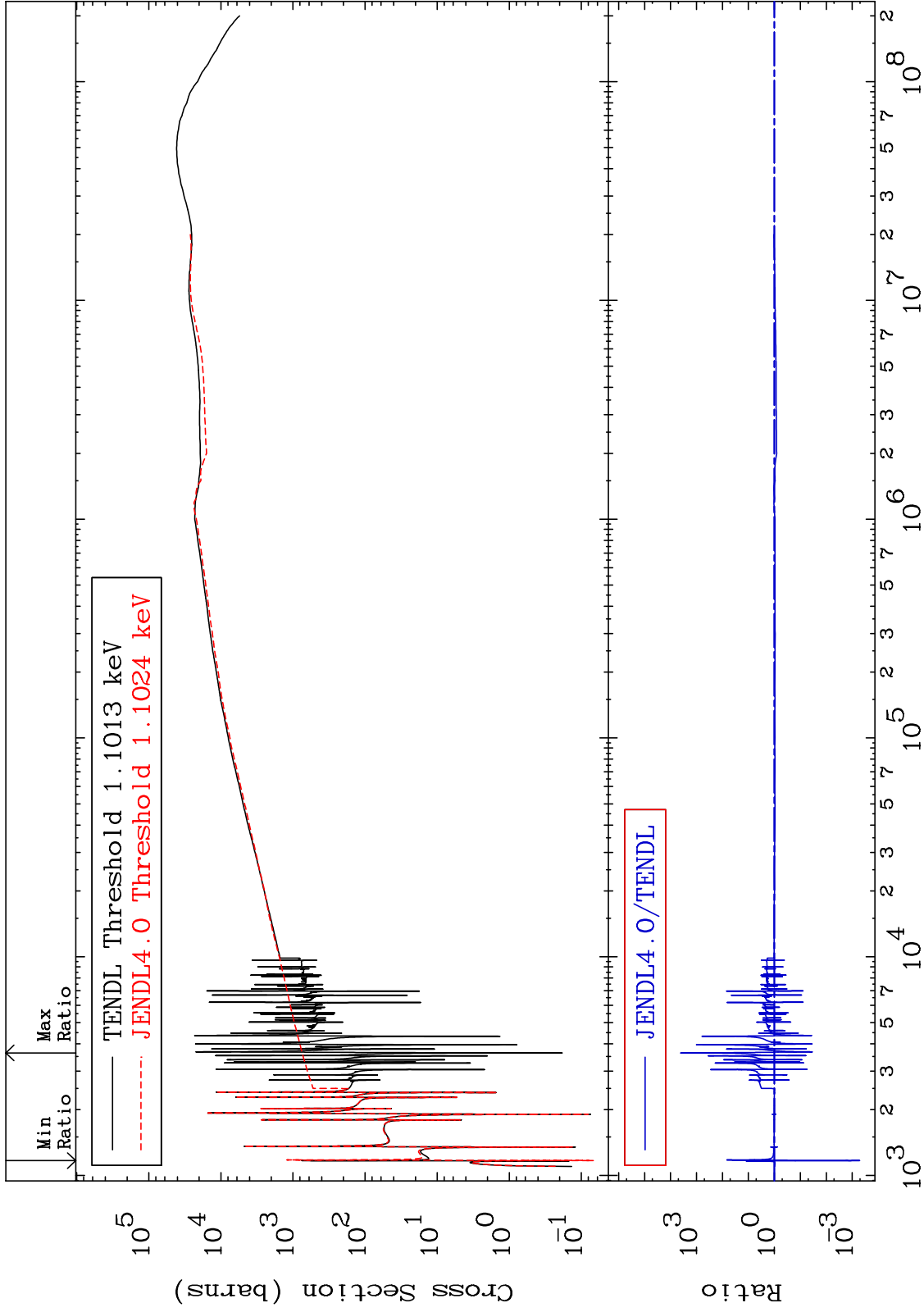
MAT 7243 Dpa total (eV-barns) 72-Hf-180
 Cross Section -97.45 To 9999. %



MAT 7243

Dpa elastic (mt2)
Cross Section

72-Hf-180
-99.95 To 9999. %

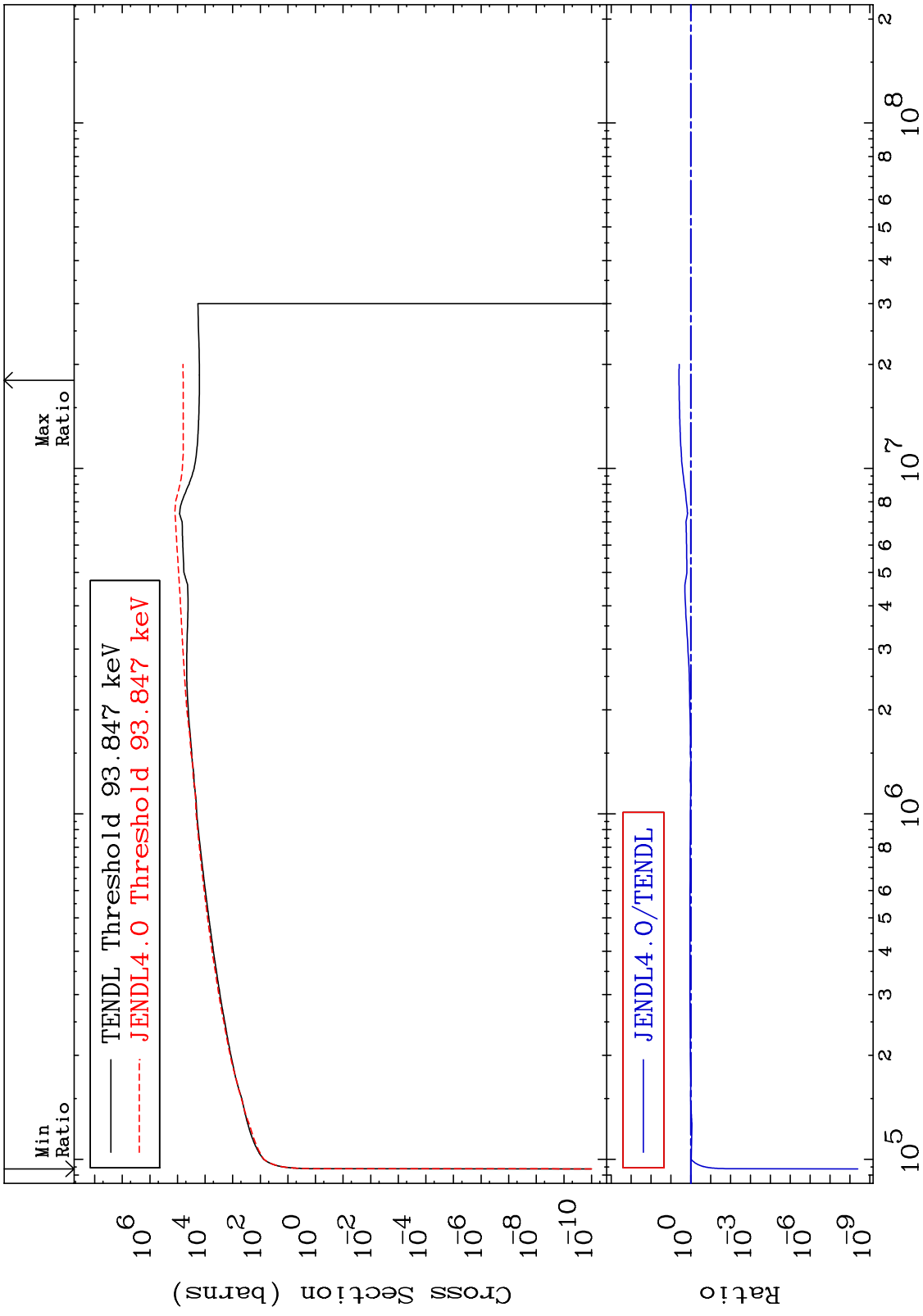


60

Incident Energy (eV)

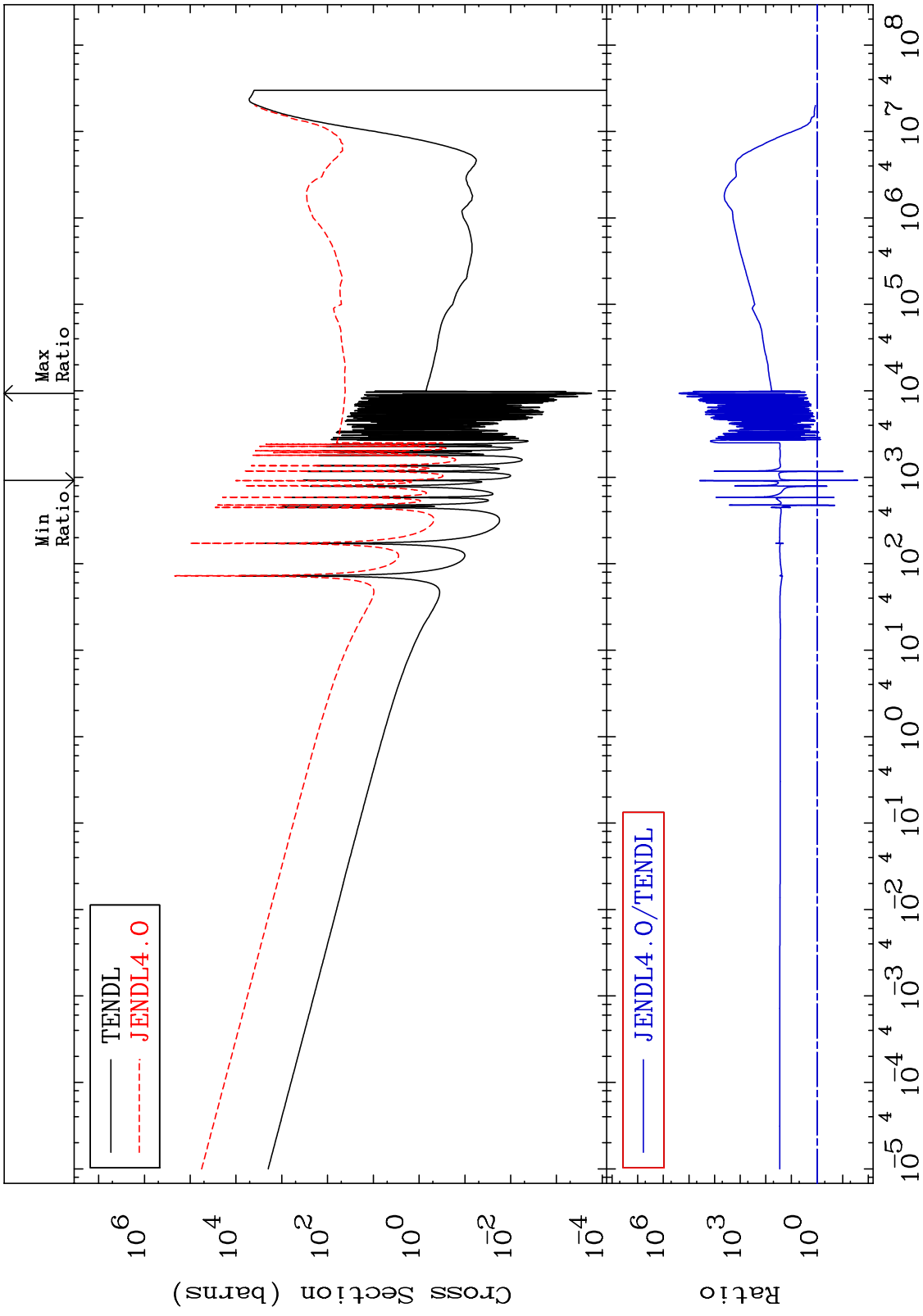
72-Hf-180

MAT 7243 Dpa inelastic (mt51-91) 72-Hf-180
 Cross Section -100.0 To 290.4 %

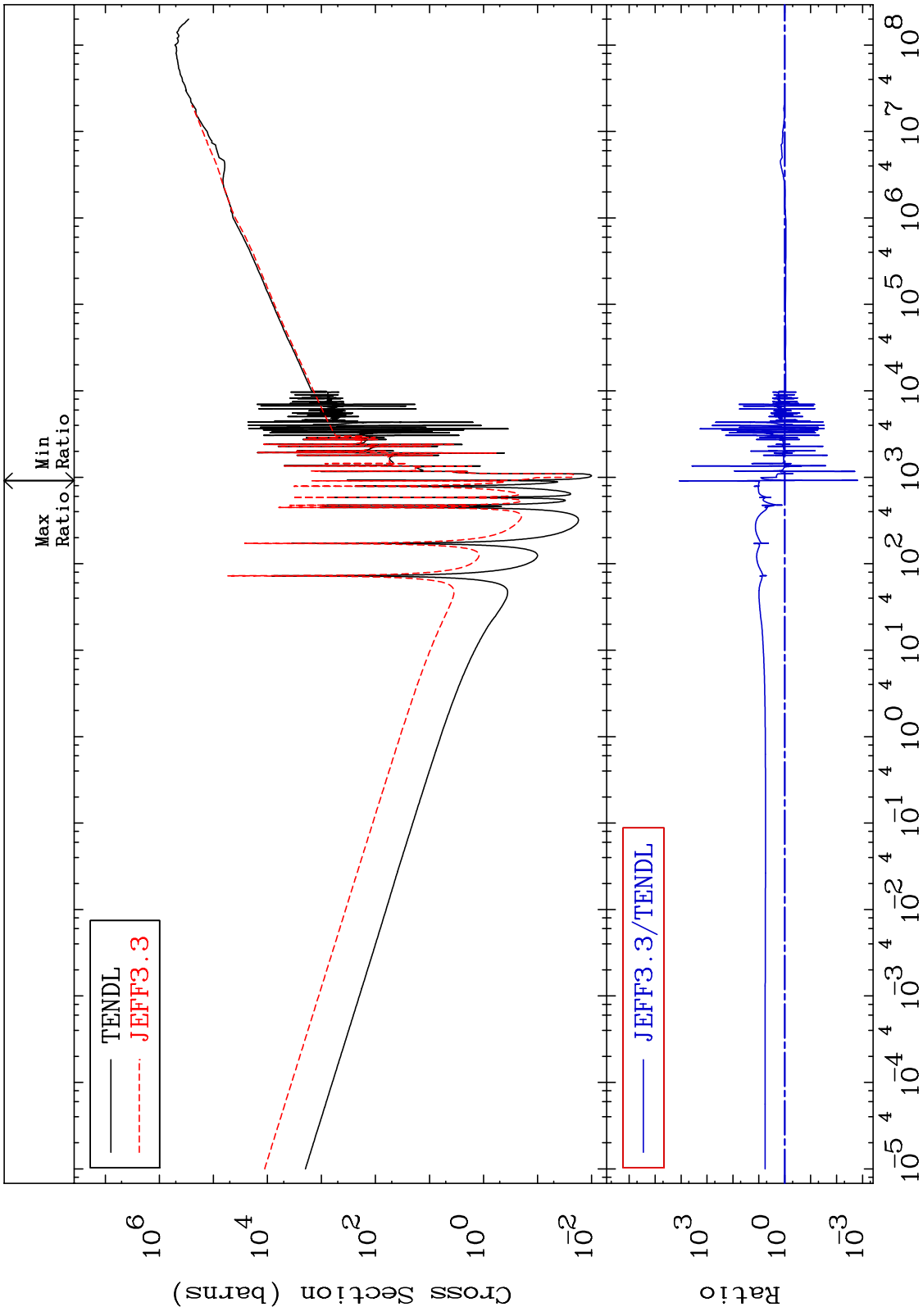


61 Incident Energy (eV) 72-Hf-180

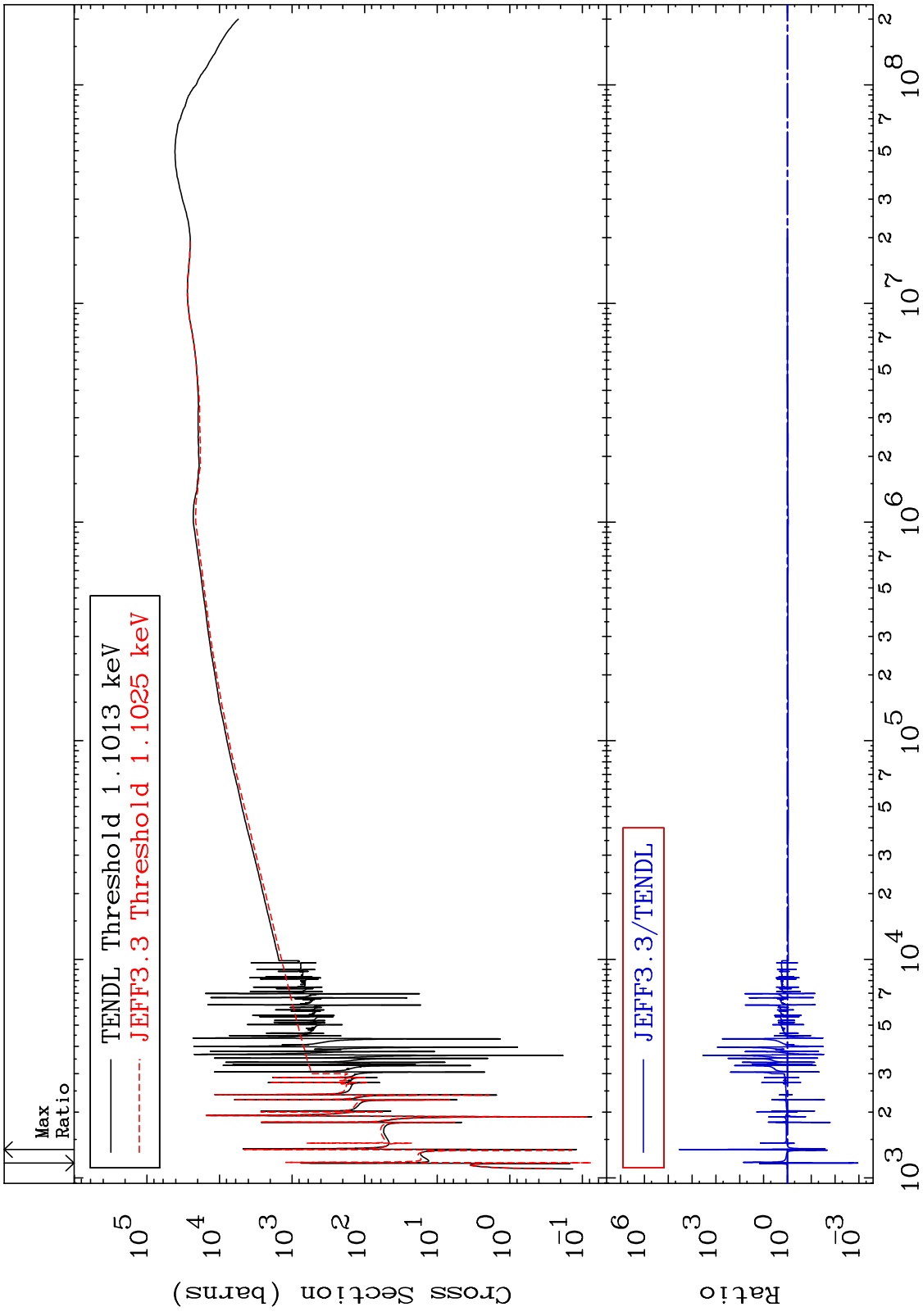
MAT 7243 Dpa disappearance (mt102 -120) 72-Hf-180
 Cross Section -97.45 To 9999. %



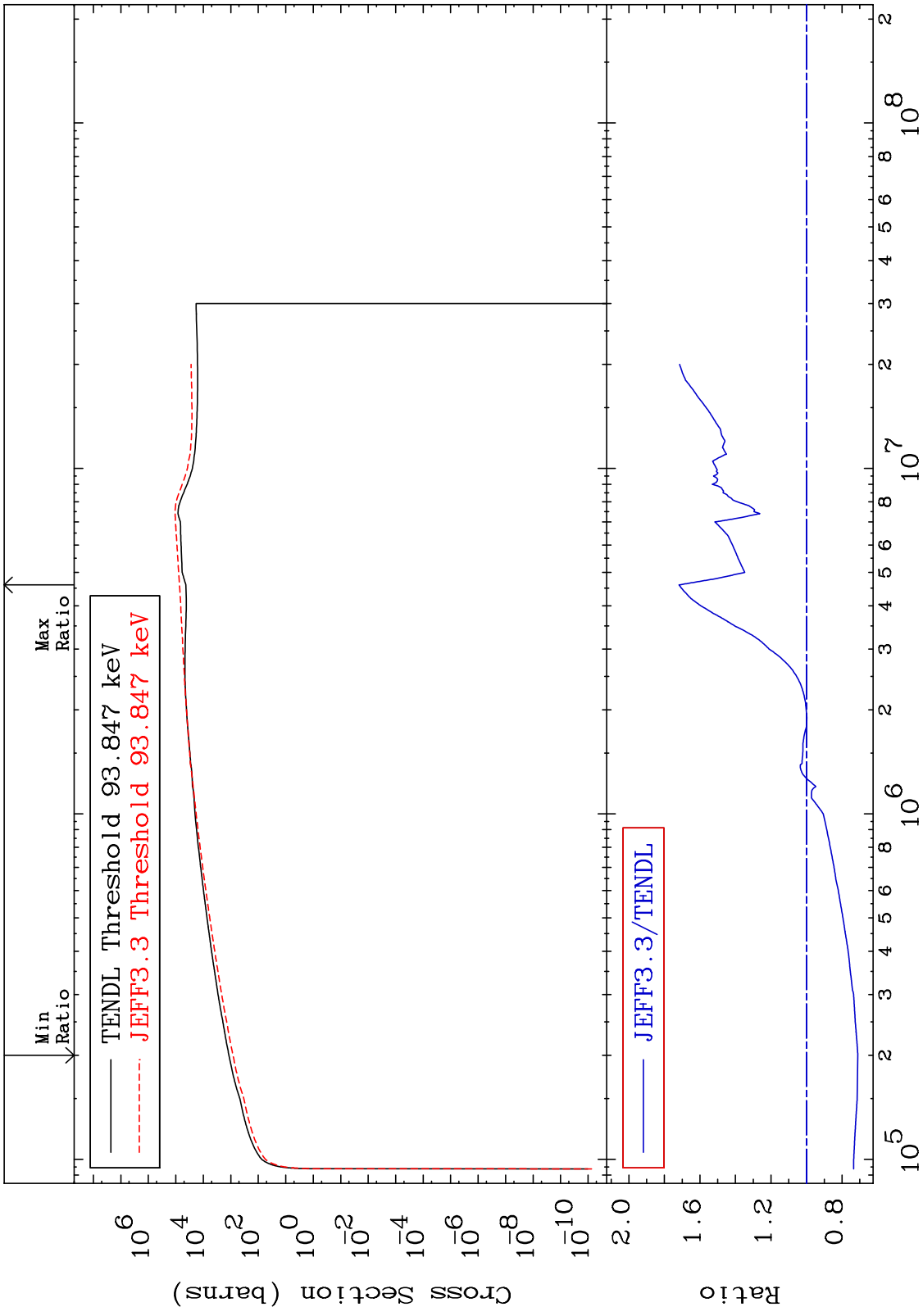
MAT 7243 Dpa total (eV-barns) 72-Hf-180
 Cross Section -99.85 To 9999. %



MAT 7243 Dpa elastic (mt2) 72-Hf-180
 Cross Section -99.89 To 9999. %

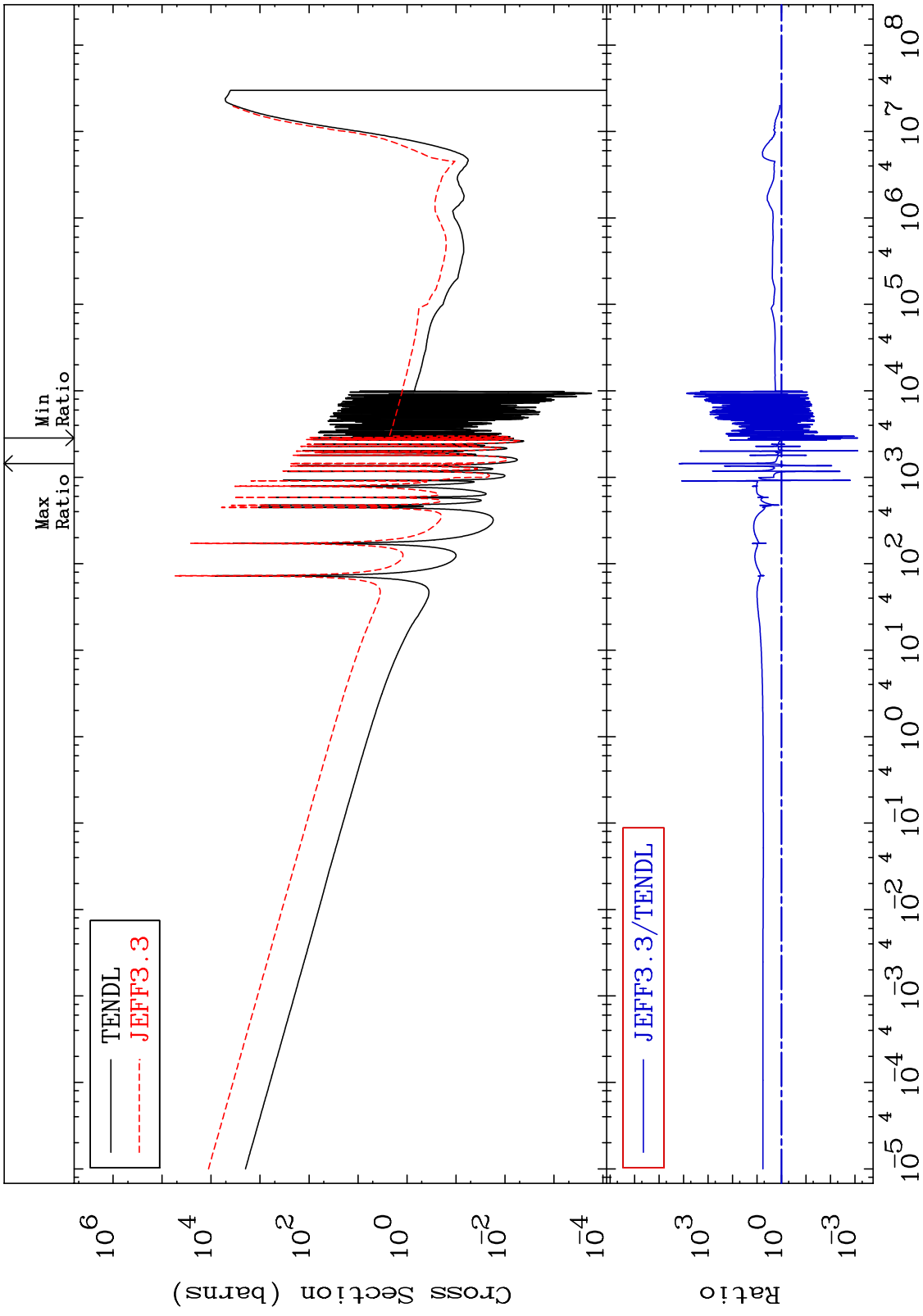


MAT 7243 Dpa inelastic (mt51-91) 72-Hf-180
 Cross Section -28.89 To 71.76 %



65 Incident Energy (eV) 72-Hf-180

MAT 7243 Dpa disappearance (mt102 -120) 72-Hf-180
 Cross Section -99.92 To 9999. %



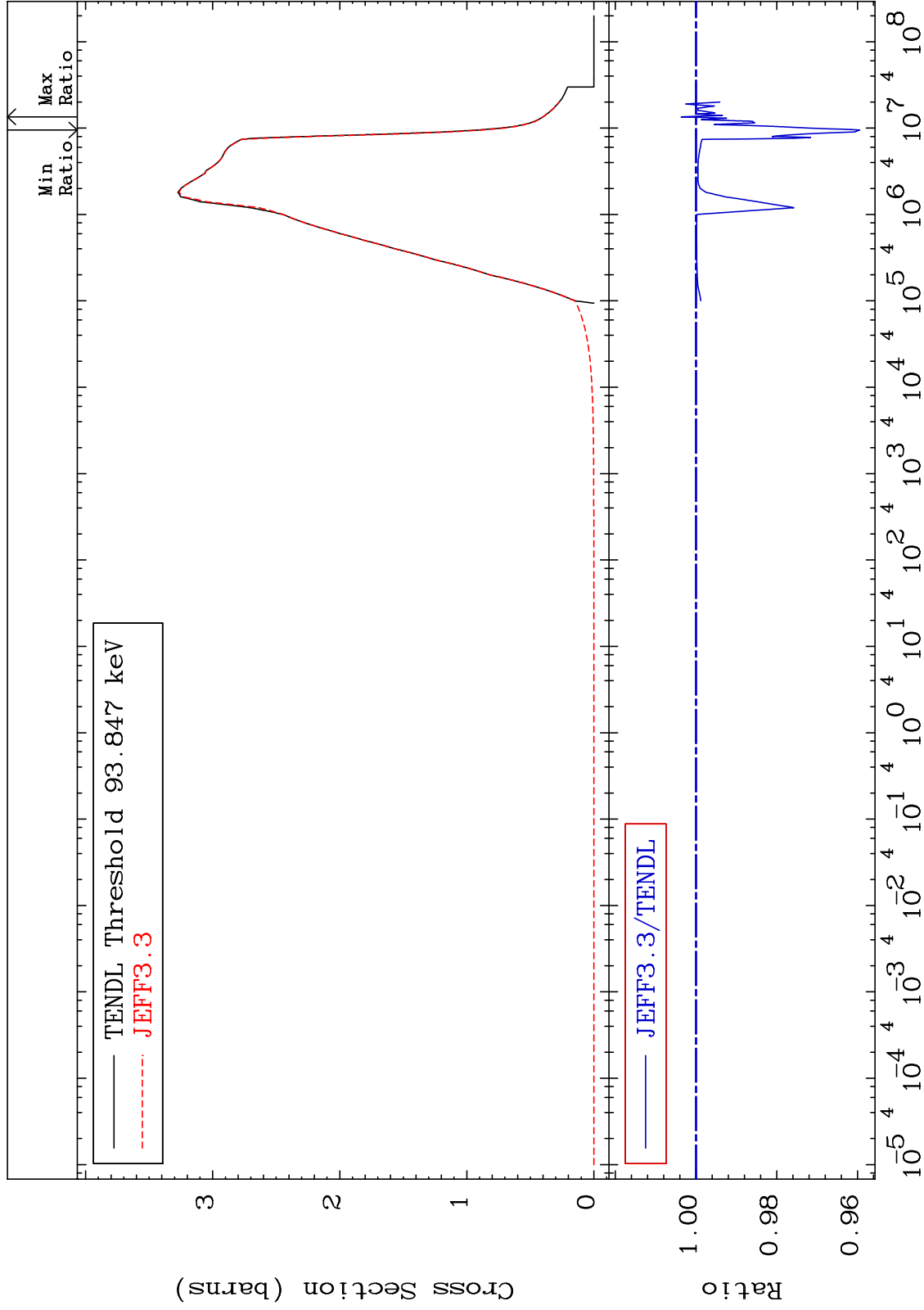
66 Incident Energy (eV) 72-Hf-180

MAT 7243

Inelastic: 72-Hf-180

72-Hf-180

Radionuclide Production Cross Section -4.058 To 0.367 %

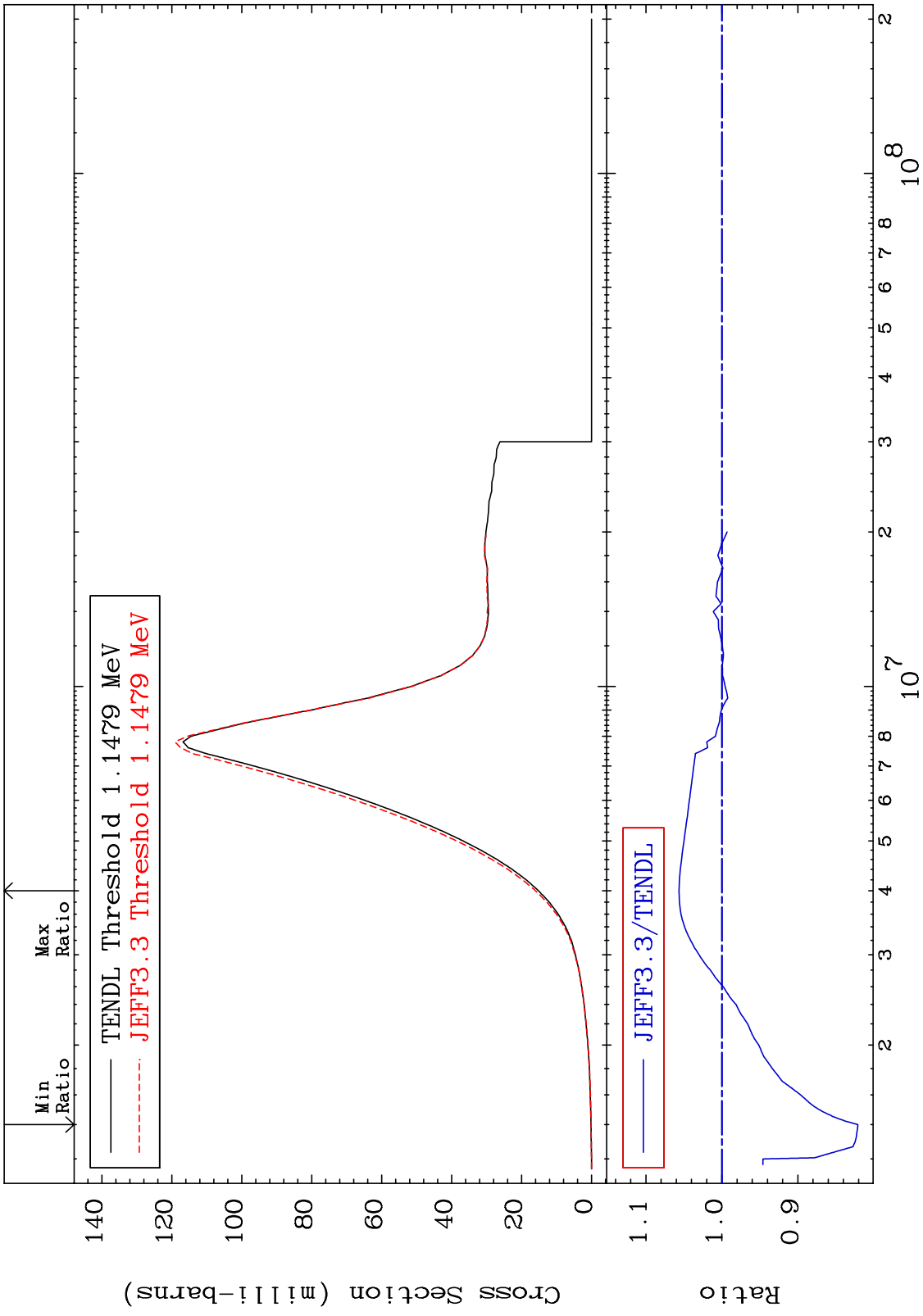


67

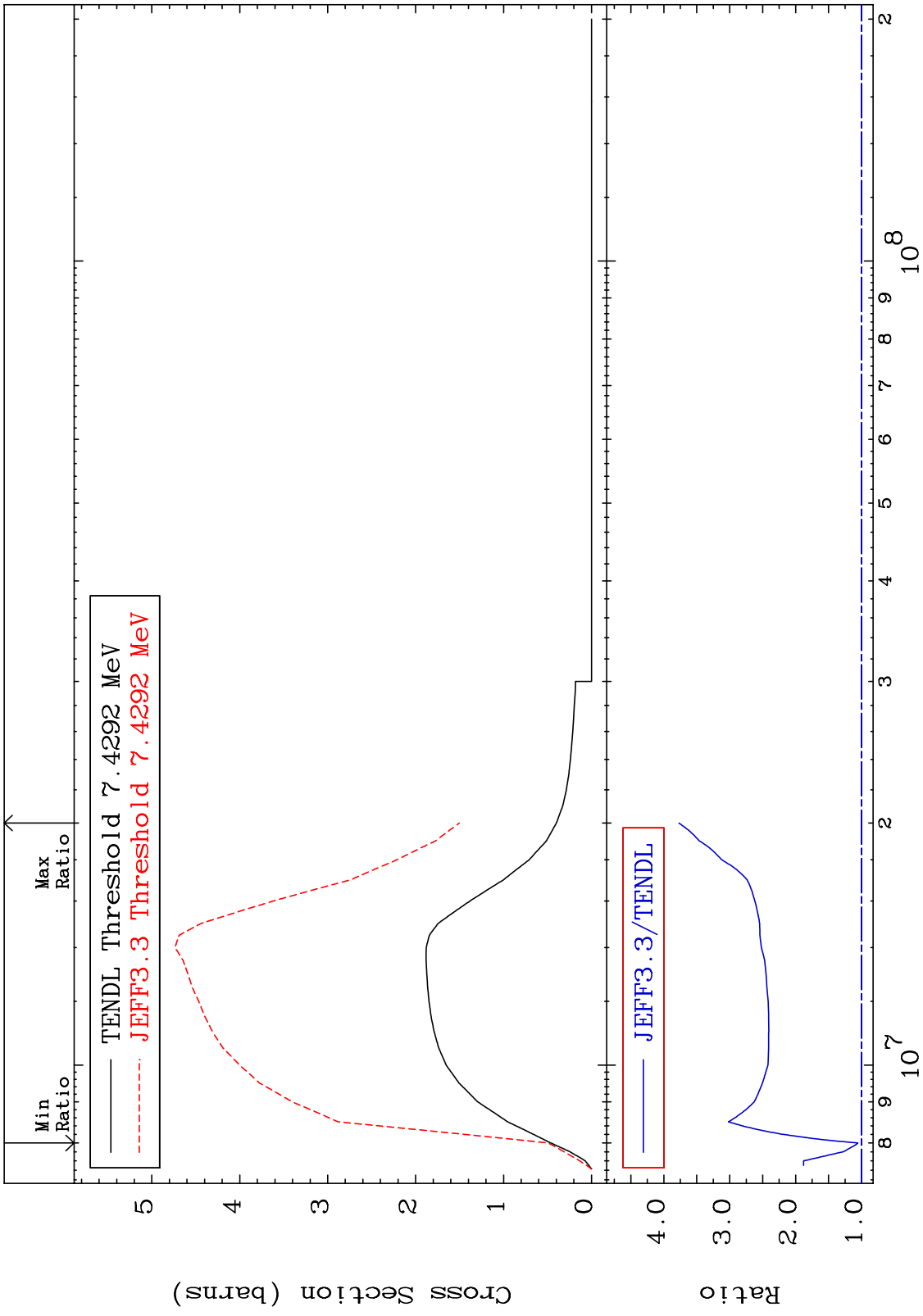
Incident Energy (eV)

72-Hf-180

MAT 7243 Inelastic: 72-Hf-180m7 72-Hf-180
 Radionuclide Production Cross Section -17.90 To 5.640 %

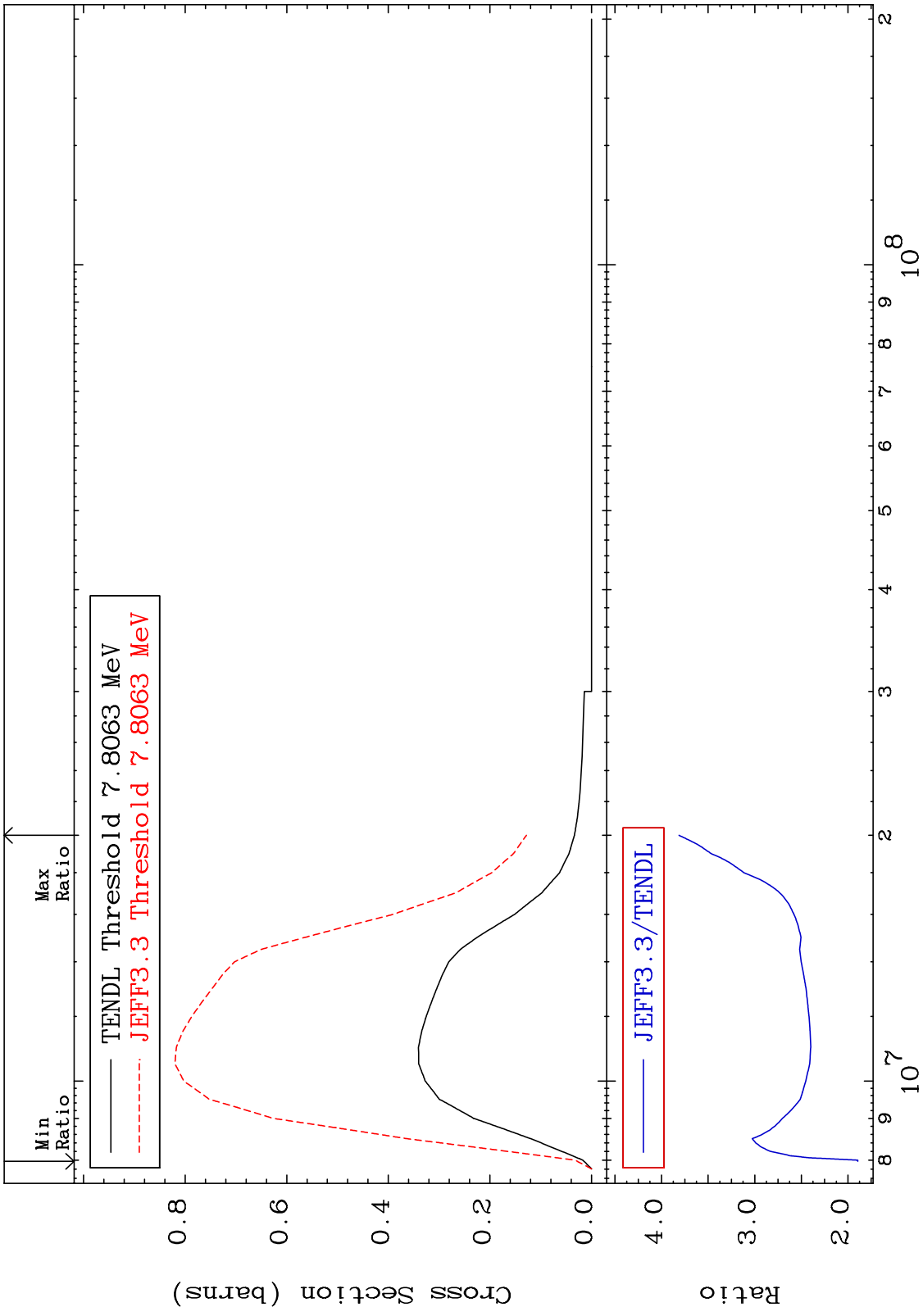


MAT 7243 (n,2n):72-Hf-179g 72-Hf-180
 Radionuclide Production Cross Section 5.648 To 276.9 %



69 Incident Energy (eV) 72-Hf-180

MAT 7243 (n,2n):72-Hf-179m5 72-Hf-180
 Radionuclide Production Cross Section 89.35 To 281.2 %



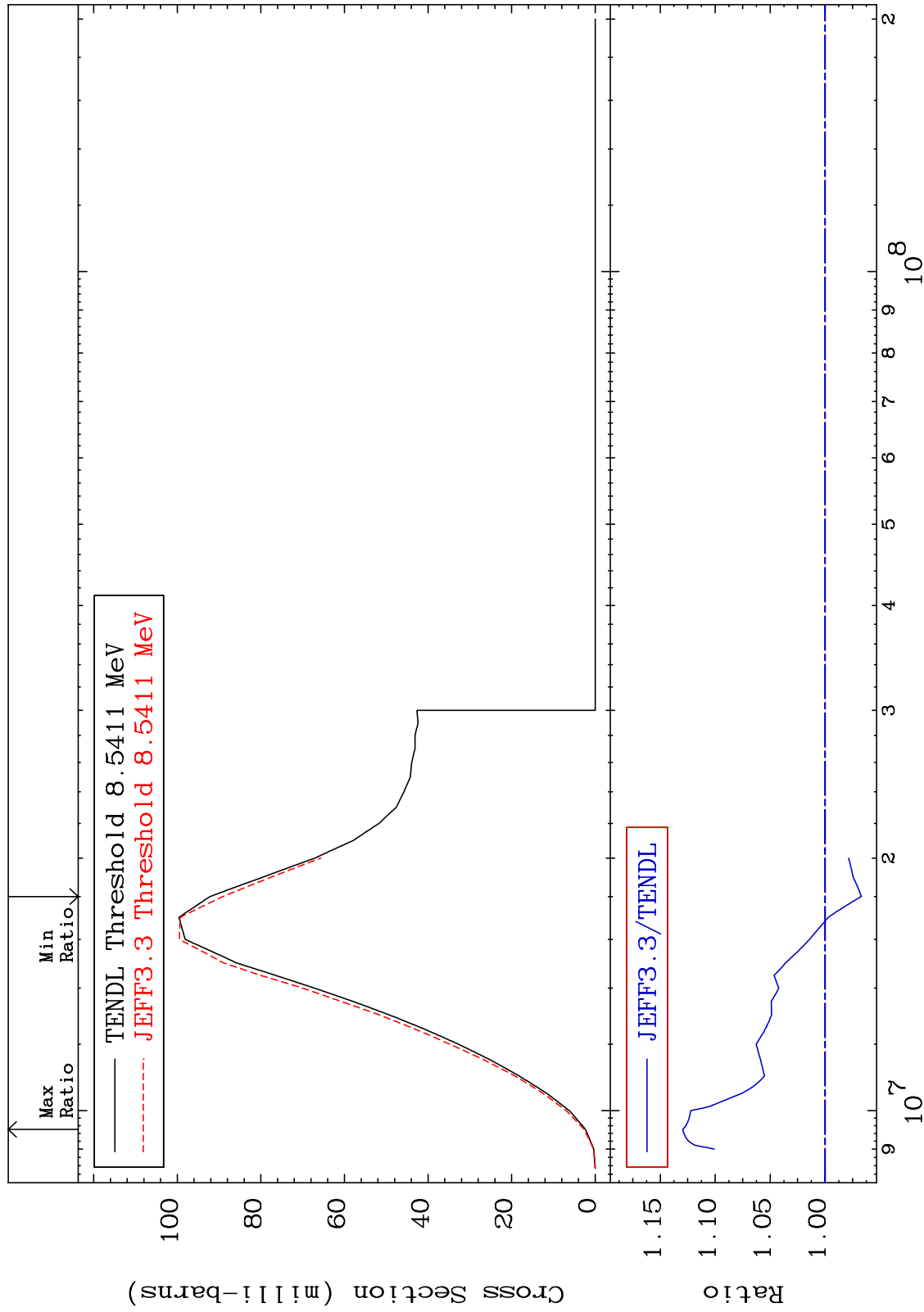
70 72-Hf-180

MAT 7243

(n,2n) : 72-Hf-179m10

72-Hf-180

Radionuclide Production Cross Section -3.298 To 12.96 %



71

Incident Energy (eV)

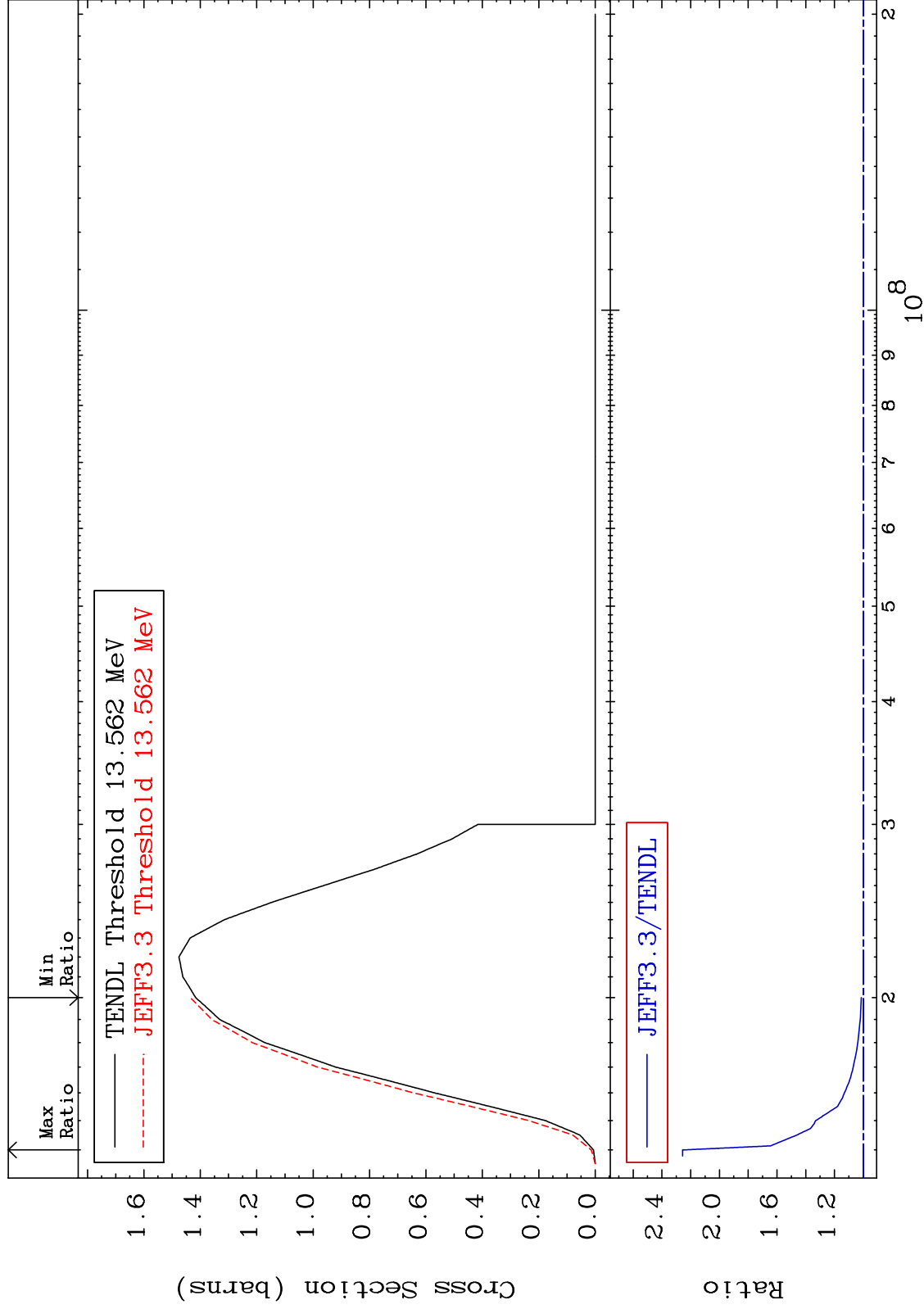
72-Hf-180

MAT 7243

(n, 3n): 72-Hf-178g

72-Hf-180

Radionuclide Production Cross Section 1.335 To 125.6 %



72

Incident Energy (eV)

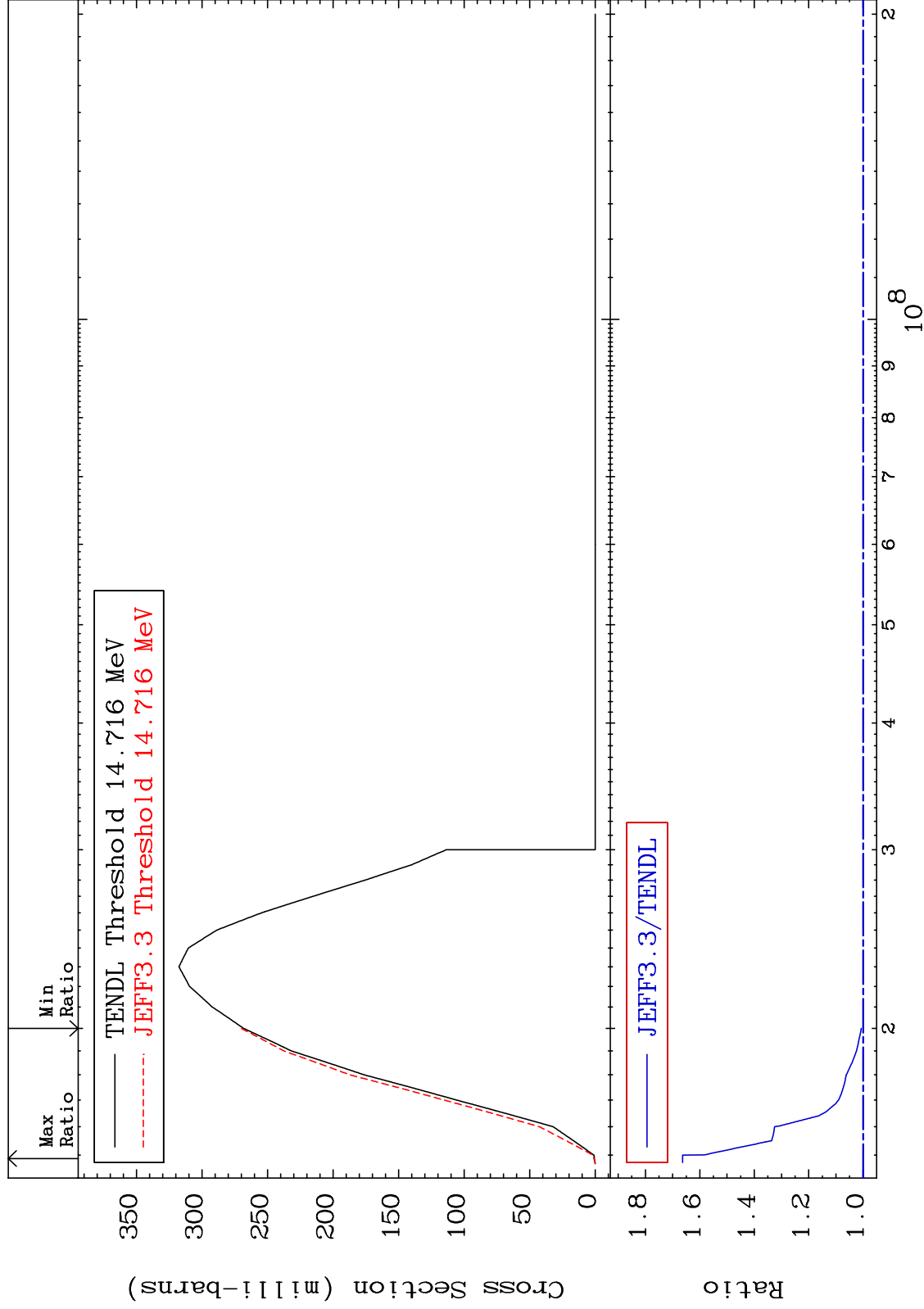
72-Hf-180

MAT 7243

(n, 3n) : 72-Hf-178m5

72-Hf-180

Radionuclide Production Cross Section 0.663 To 66.30 %

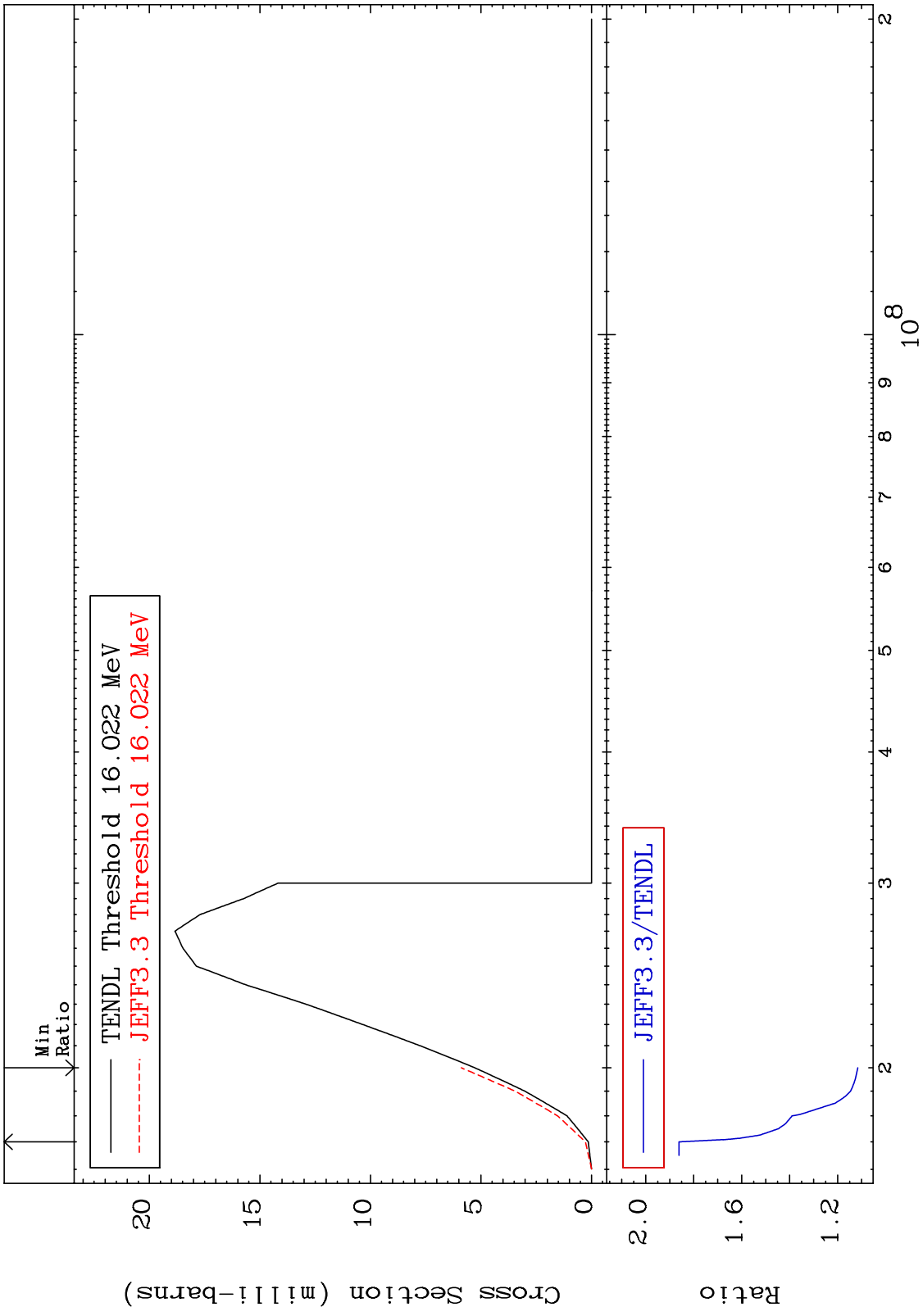


73

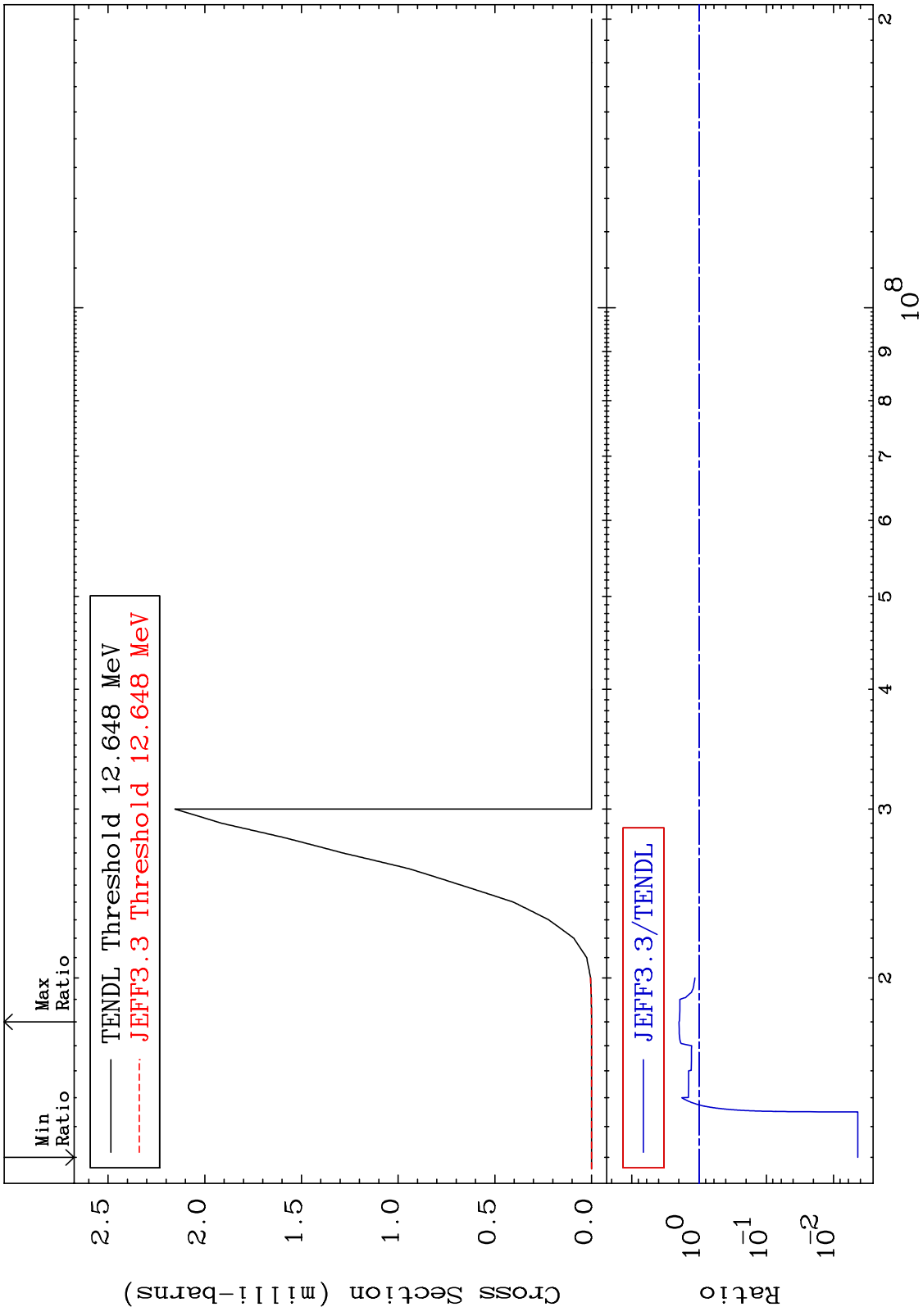
Incident Energy (eV)

72-Hf-180

MAT 7243 (n,3n): 72-Hf-178m10 72-Hf-180
 Radionuclide Production Cross Section 11.57 To 86.11 %

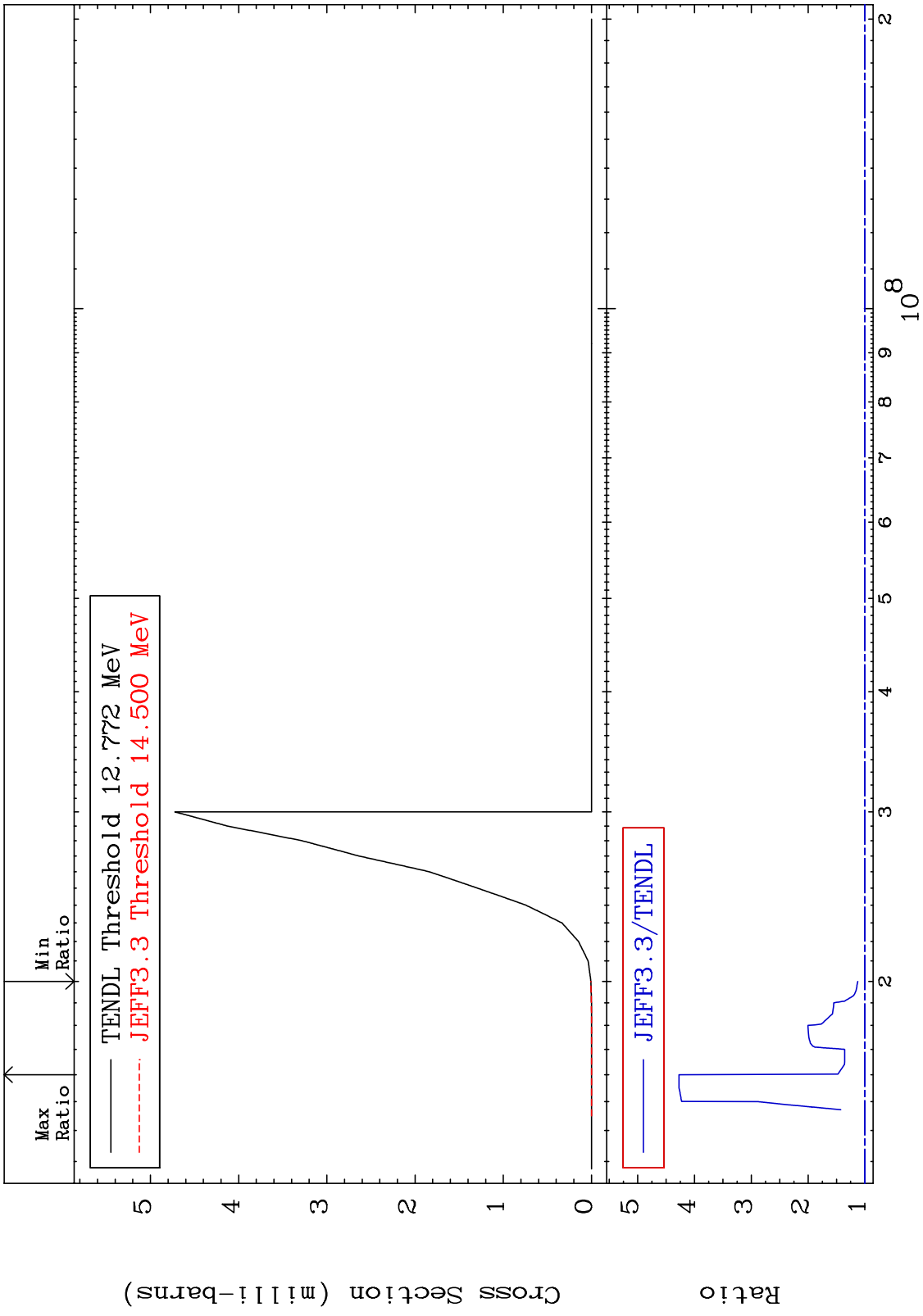


MAT 7243 (n, n') d:71-Lu-178g 72-Hf-180
 Radionuclide Production Cross Section -99.56 To 98.43 %

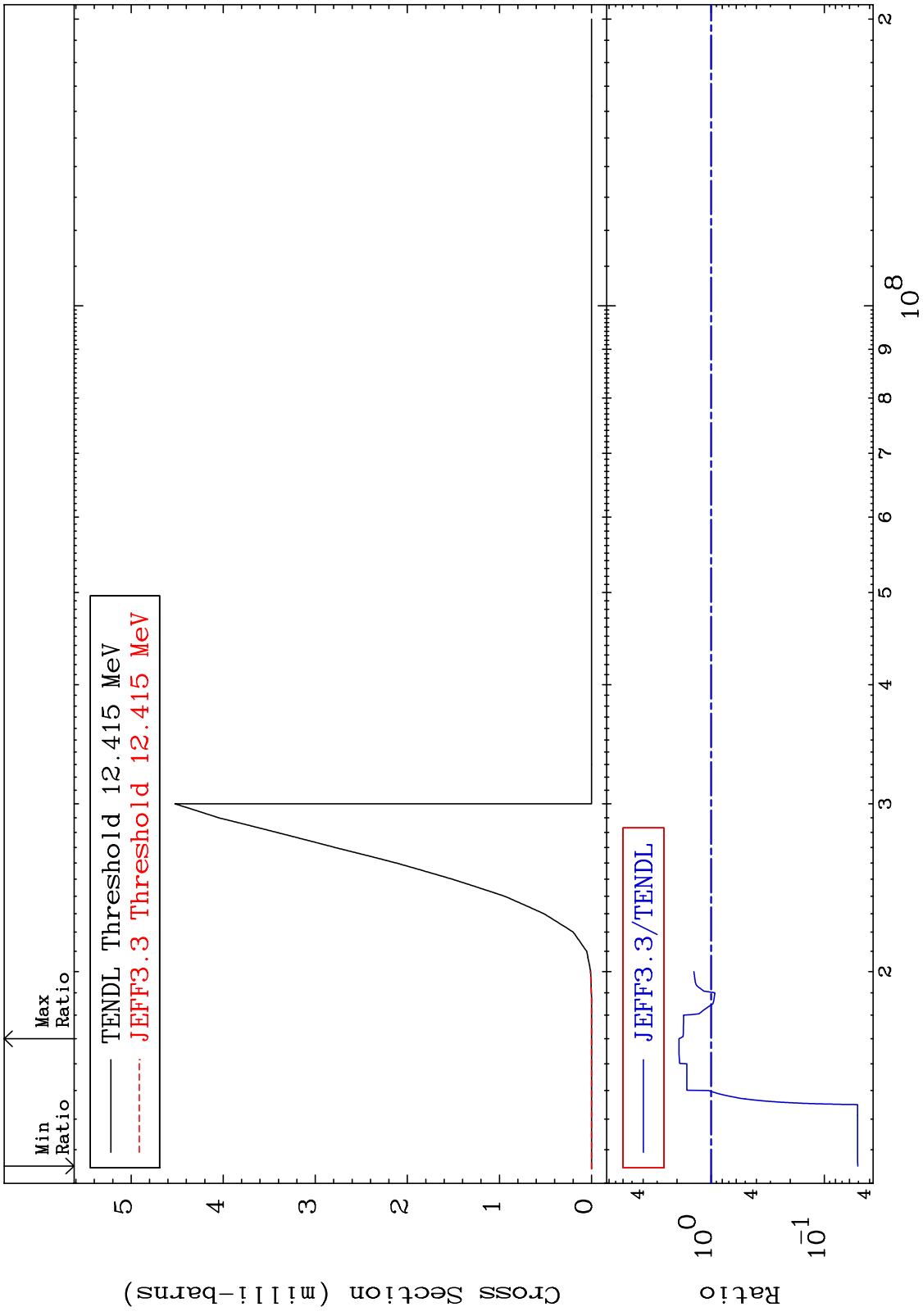


75 Incident Energy (eV) 72-Hf-180

MAT 7243 (n,n') d:71-Lu-178m3 72-Hf-180
 Radionuclide Production Cross Section 12.41 To 327.1 %



MAT 7243 (n, n') t:71-Lu-177g 72-Hf-180
 Radionuclide Production Cross Section -94.93 To 92.31 %

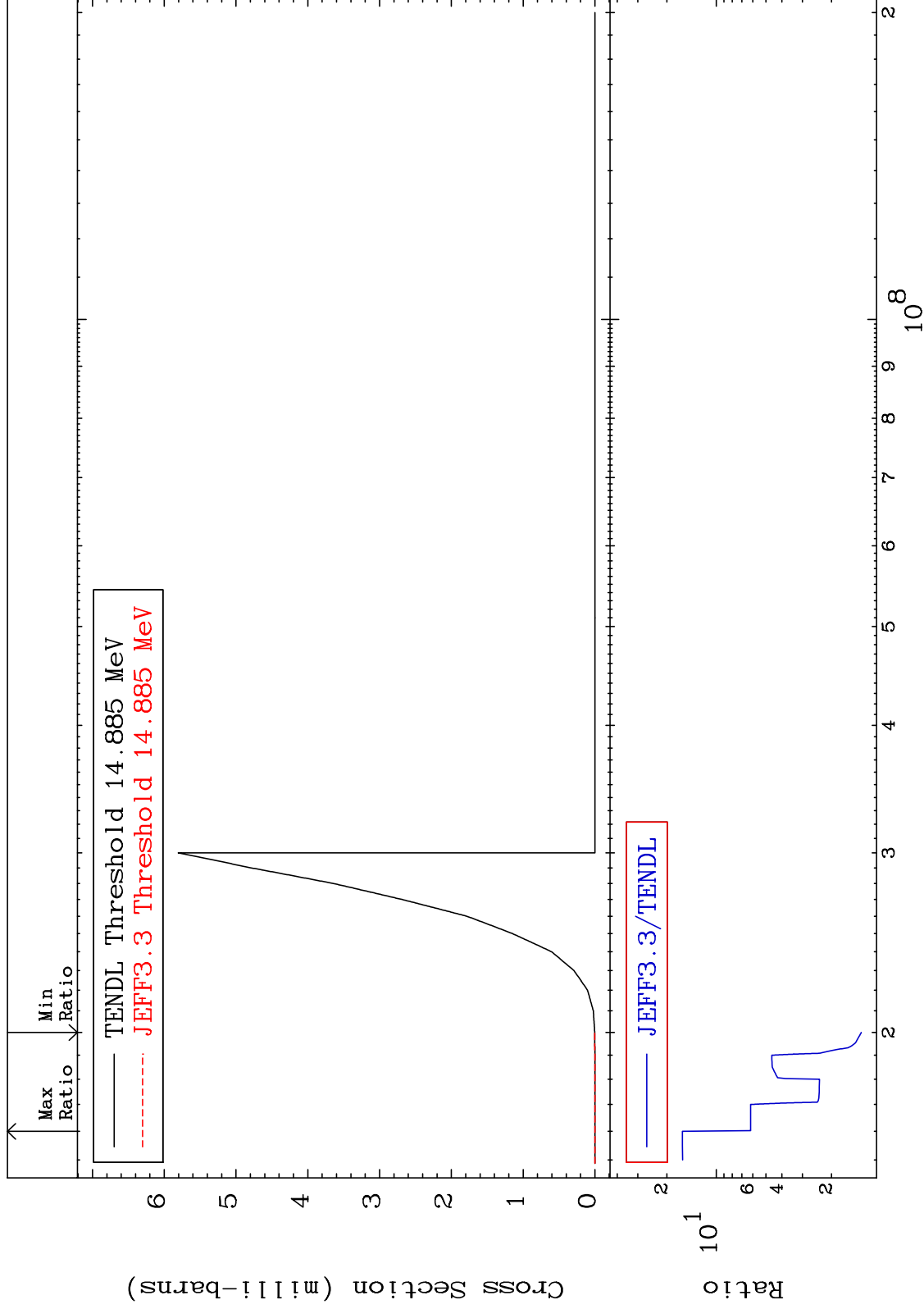


MAT 7243

(n,2n) p:71-Lu-178g

72-Hf-180

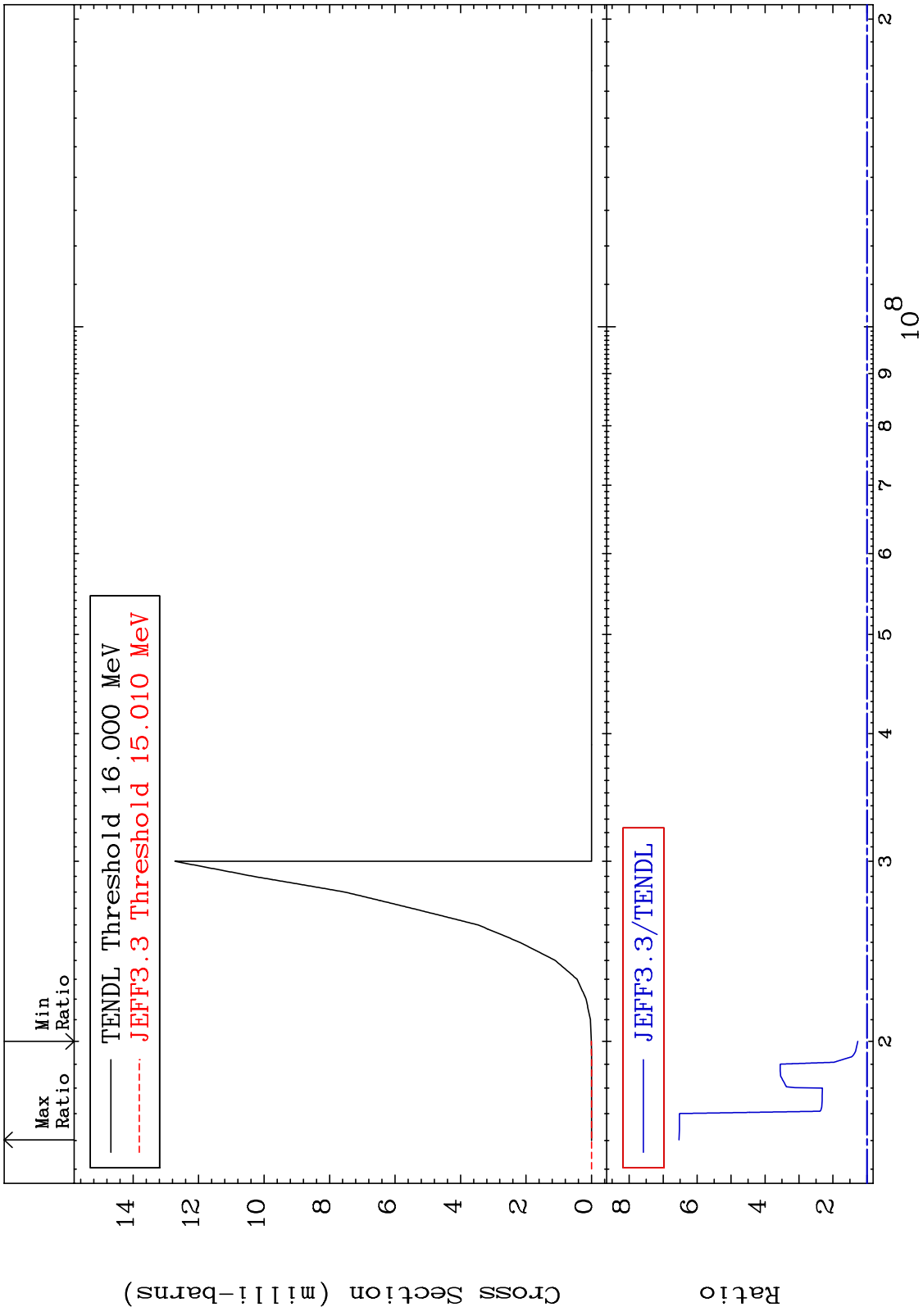
Radionuclide Production Cross Section 31.64 To 1507. %



78

Incident Energy (eV)

72-Hf-180

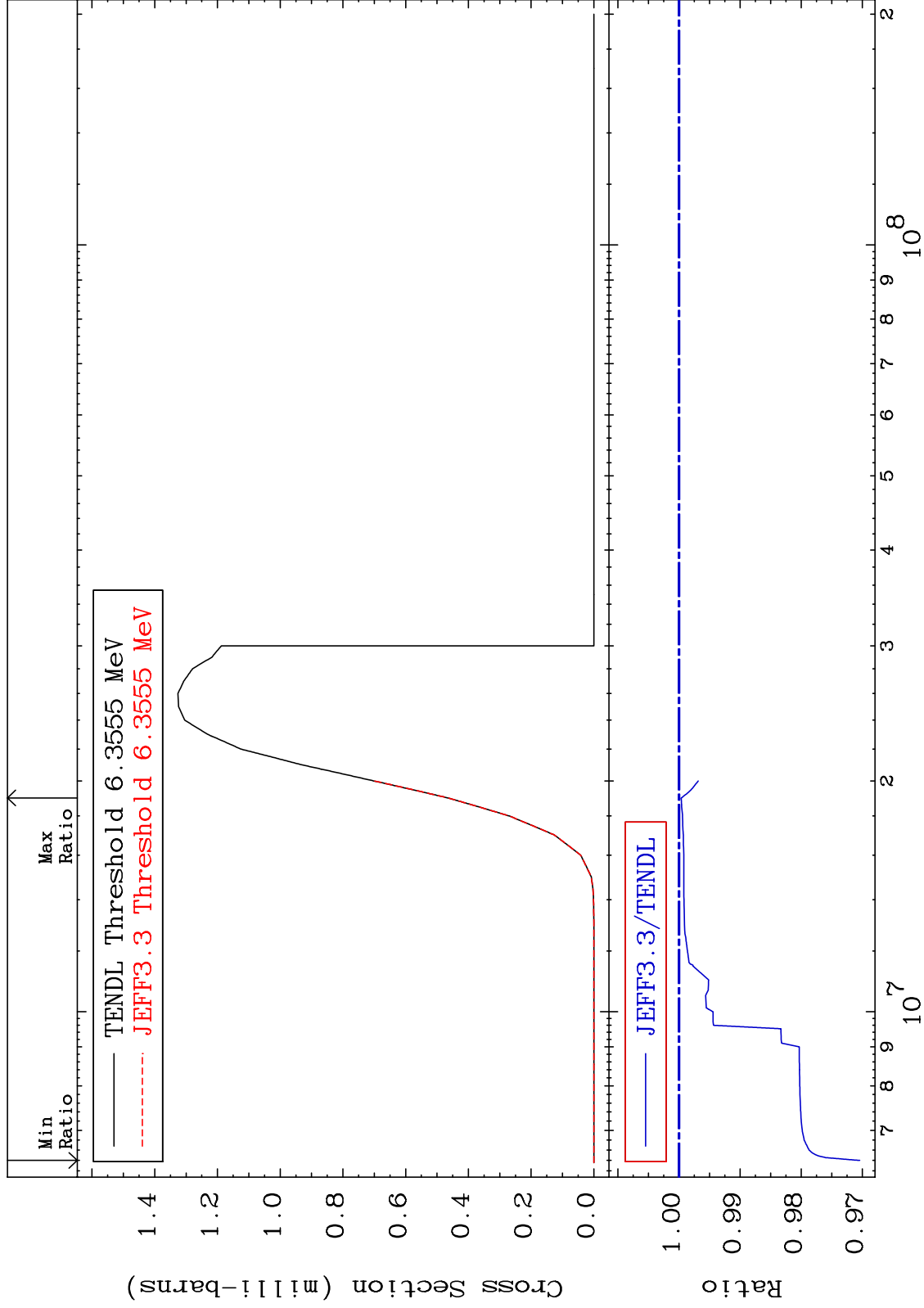


MAT 7243

(n,t):71-Lu-178g

72-Hf-180

Radionuclide Production Cross Section -2.959 To -0.036%

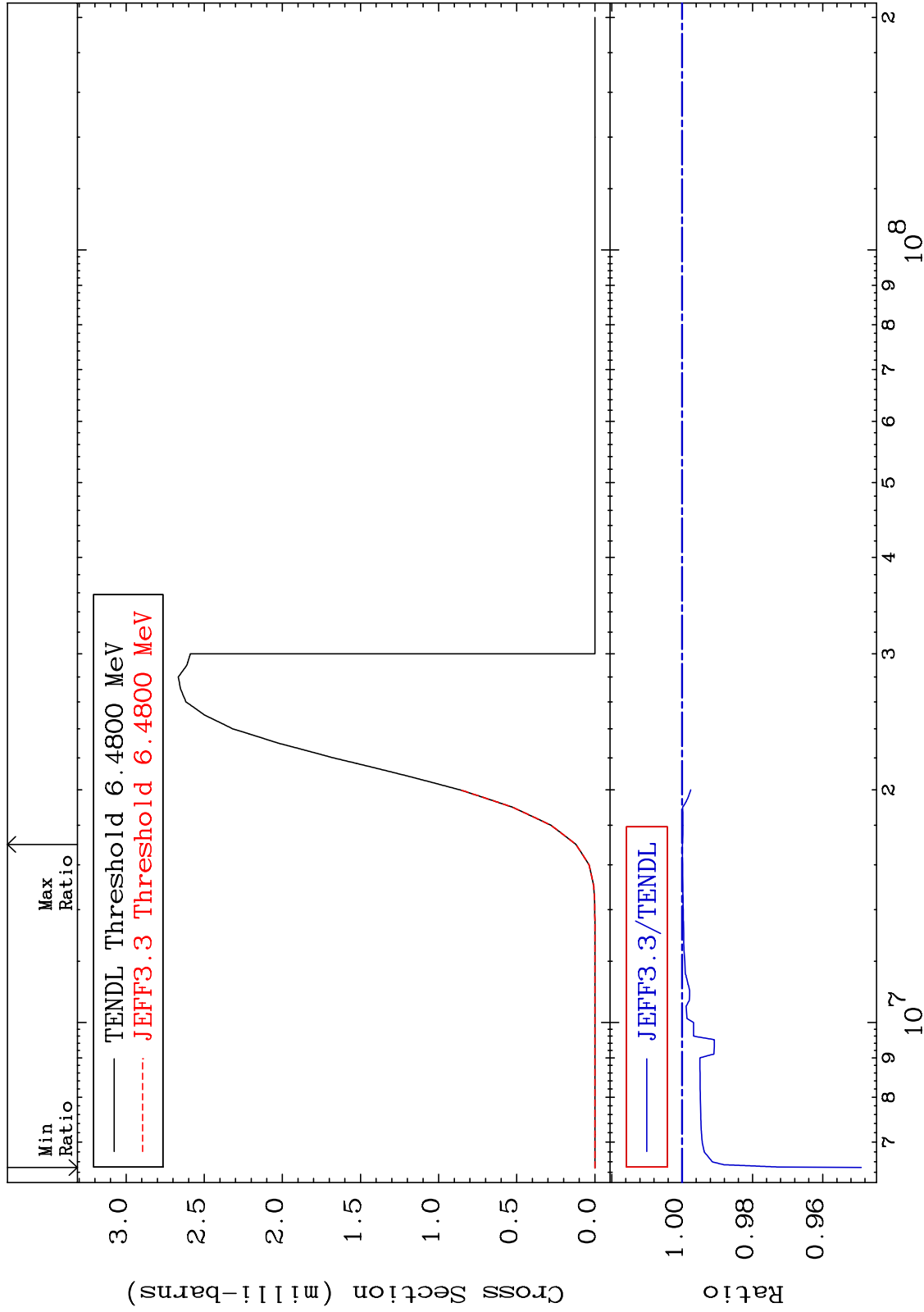


MAT 7243

(n, t): 71-Lu-178m3

72-Hf-180

Radionuclide Production Cross Section -5.094 To -0.009%



81

Incident Energy (eV)

72-Hf-180