

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

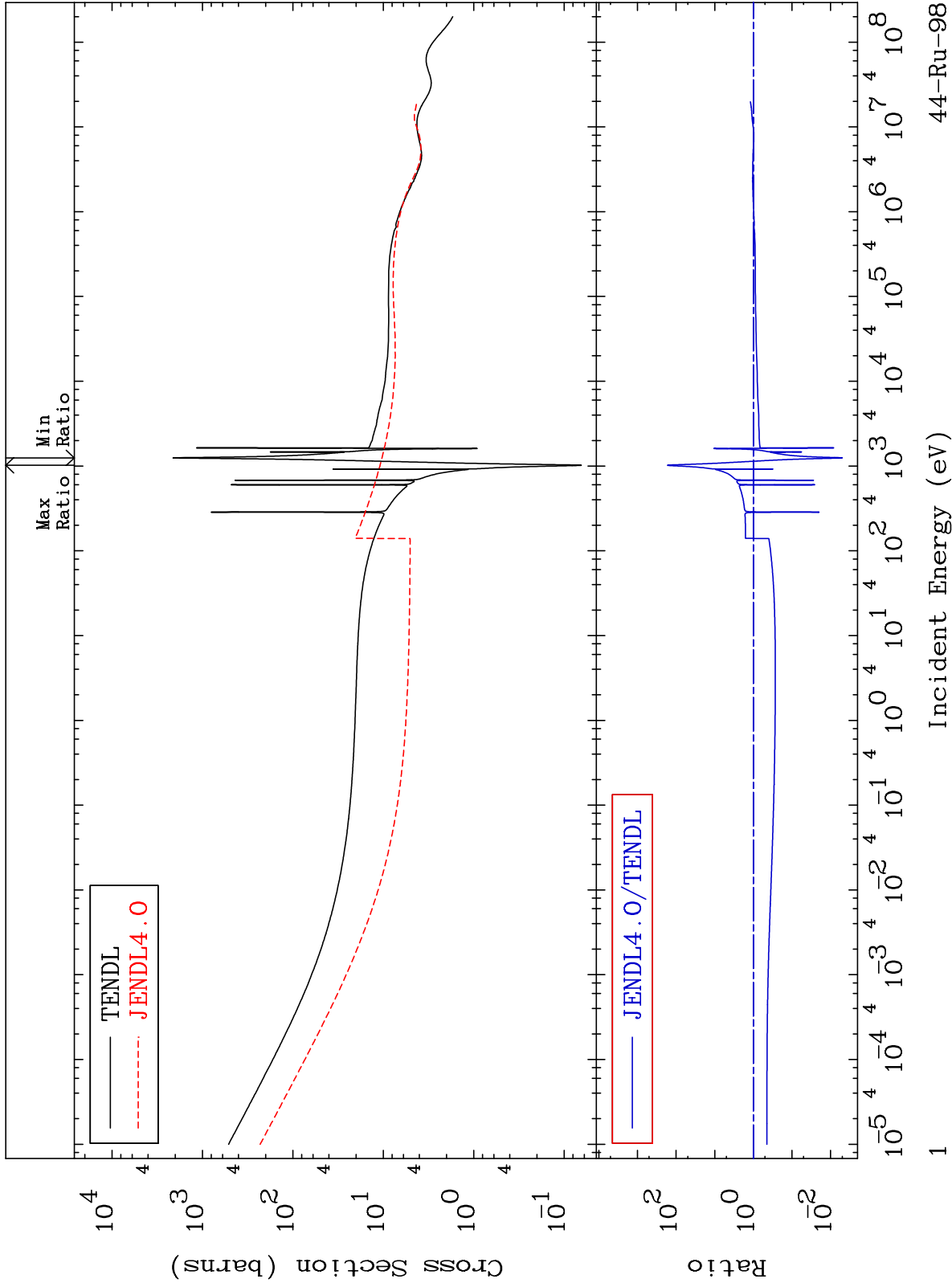
MAT 4431

Total

44-Ru-98

-99.51 To 9999. %

Cross Section



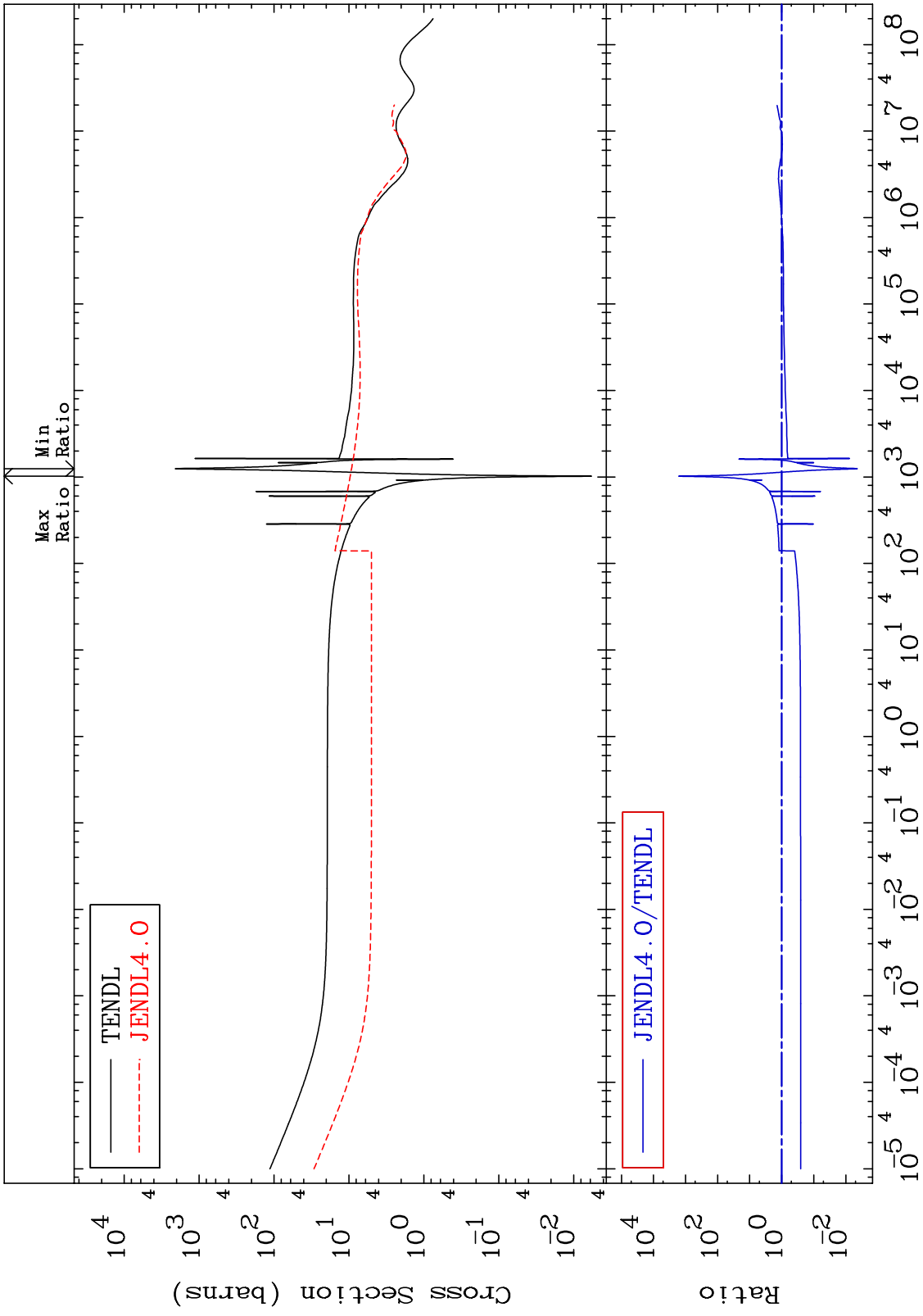
MAT 4431

Elastic

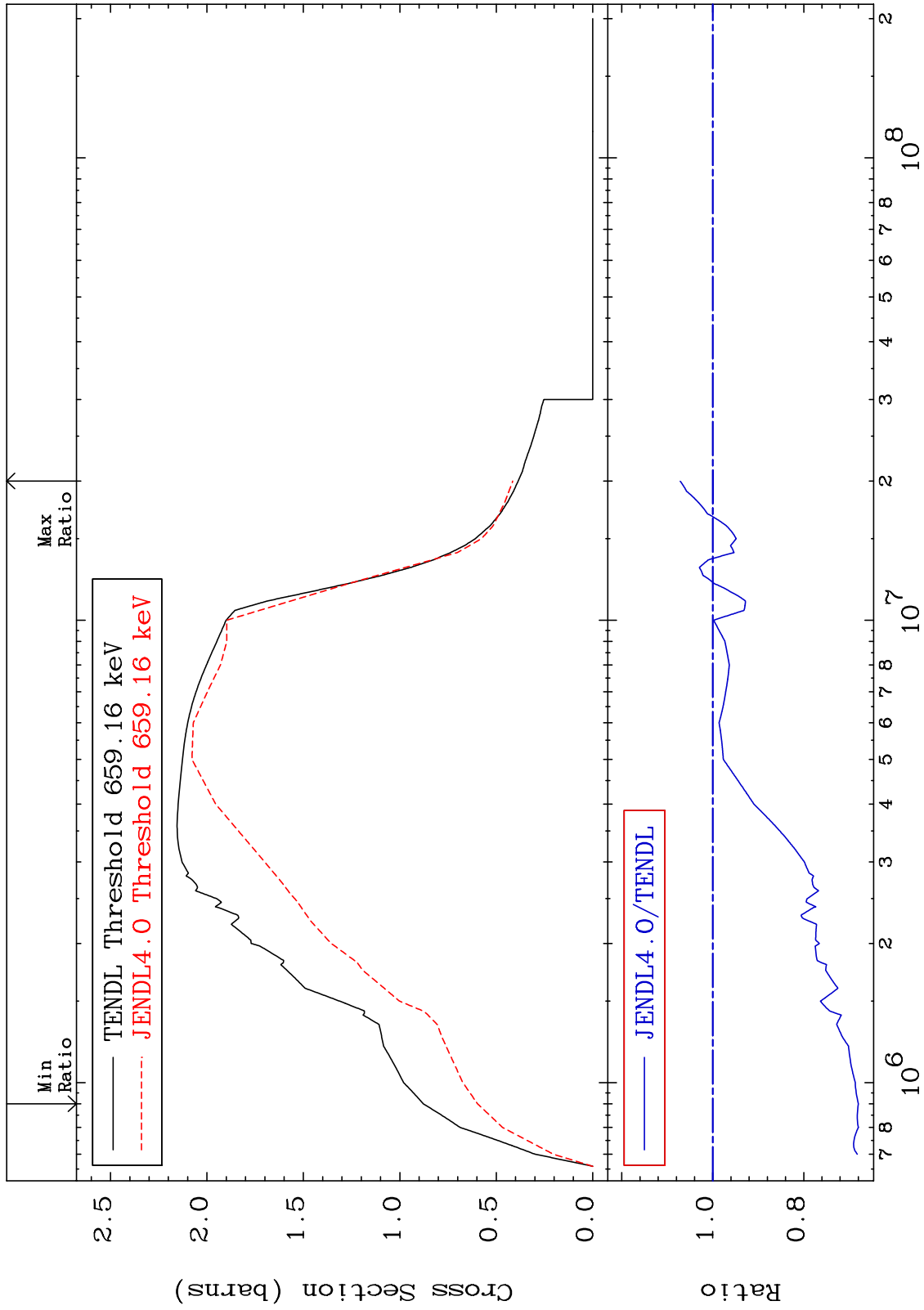
44-Ru-98

Cross Section

-99.56 To 9999. %



MAT 4431 Inelastic Cross Section 44-Ru-98 -32.02 To 7.200 %



3 44-Ru-98

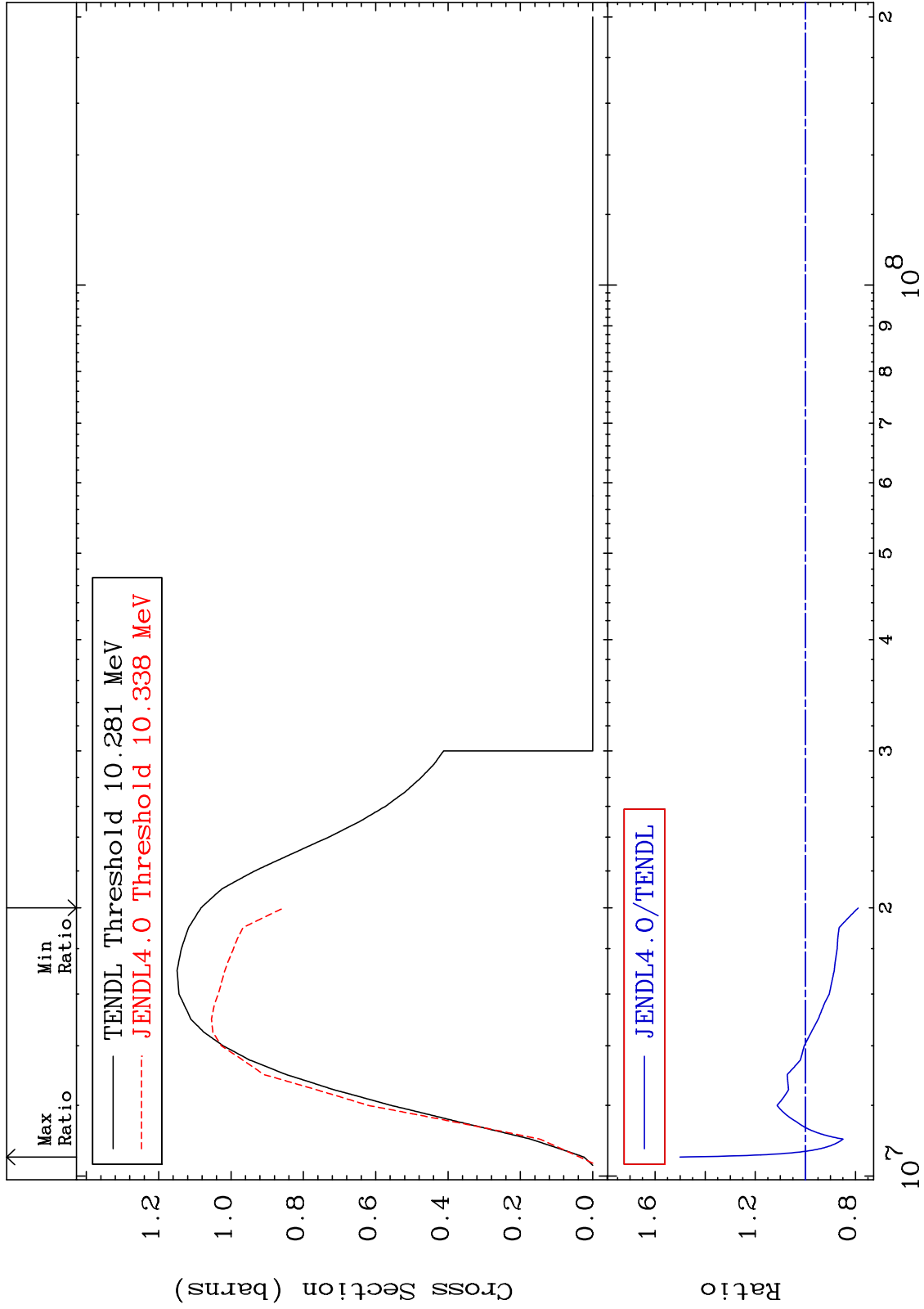
MAT 4431

(n,2n)

44-Ru-98

Cross Section

-21.16 To 50.04 %



44-Ru-98

44-Ru-98

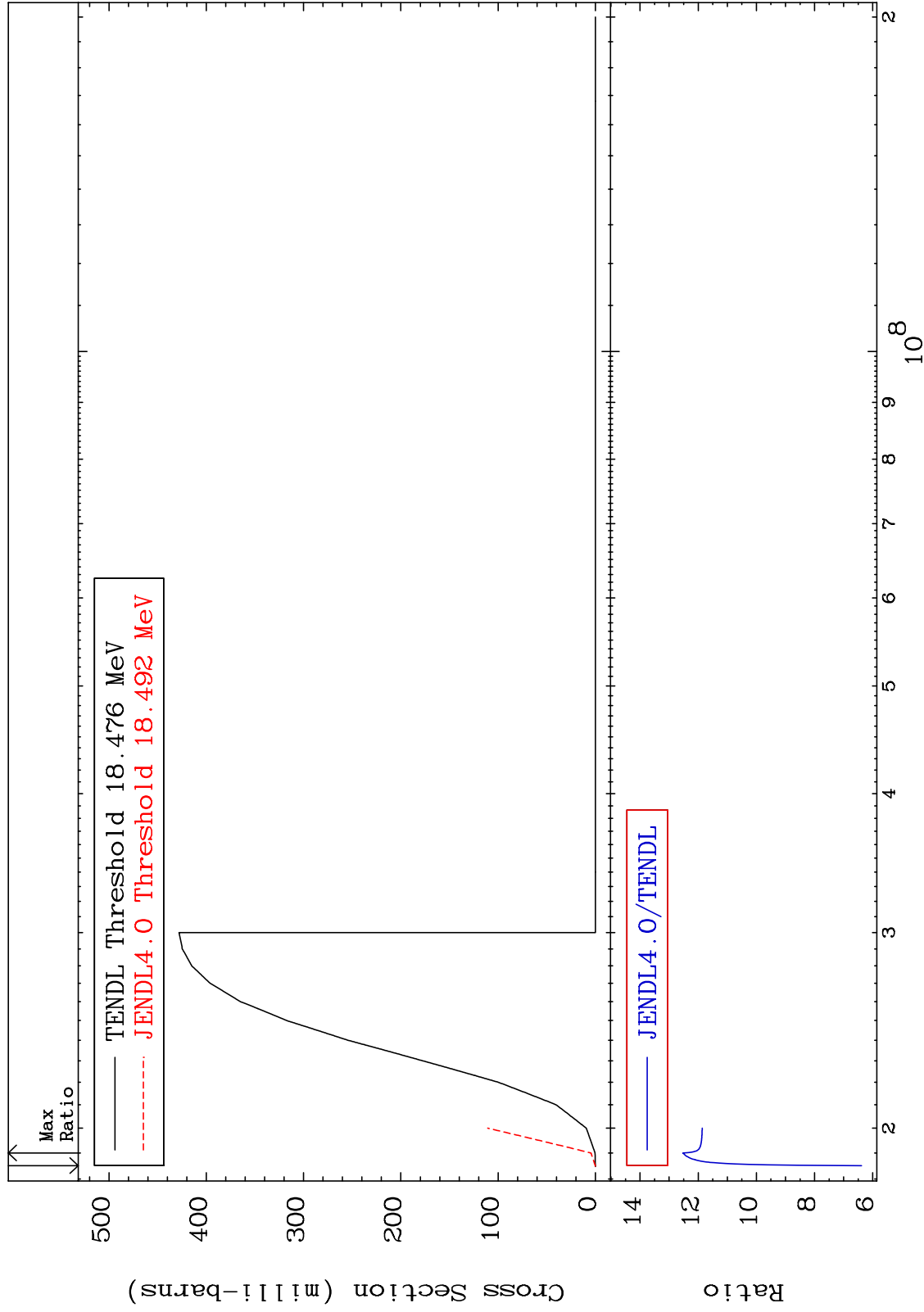
MAT 4431

(n,3n)

44-Ru-98

Cross Section

538.4 To 1153. %



5

Incident Energy (eV)

44-Ru-98

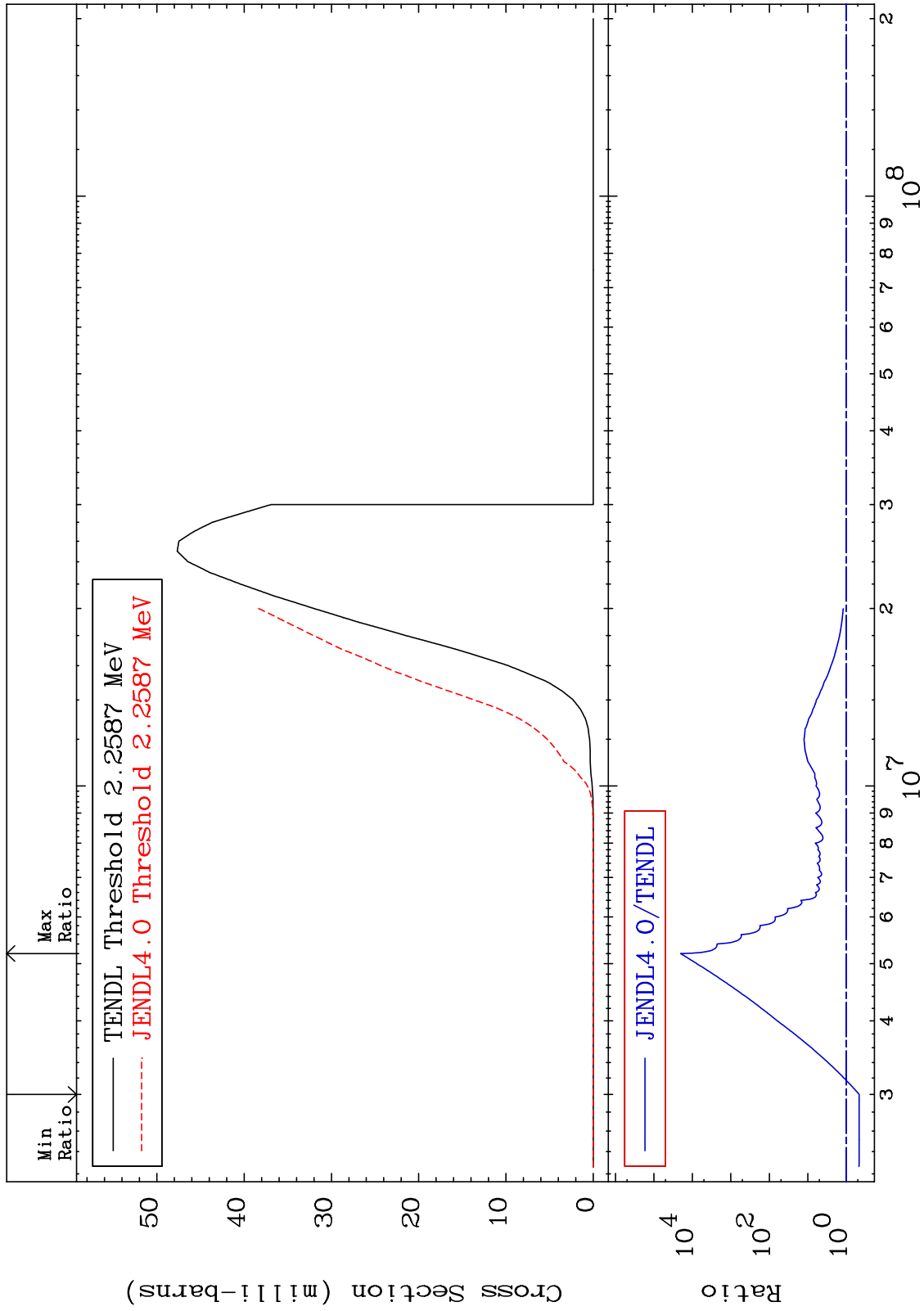
MAT 4431

(n,n')  $\alpha$

44-Ru-98

Cross Section

-53.83 To 9999. %



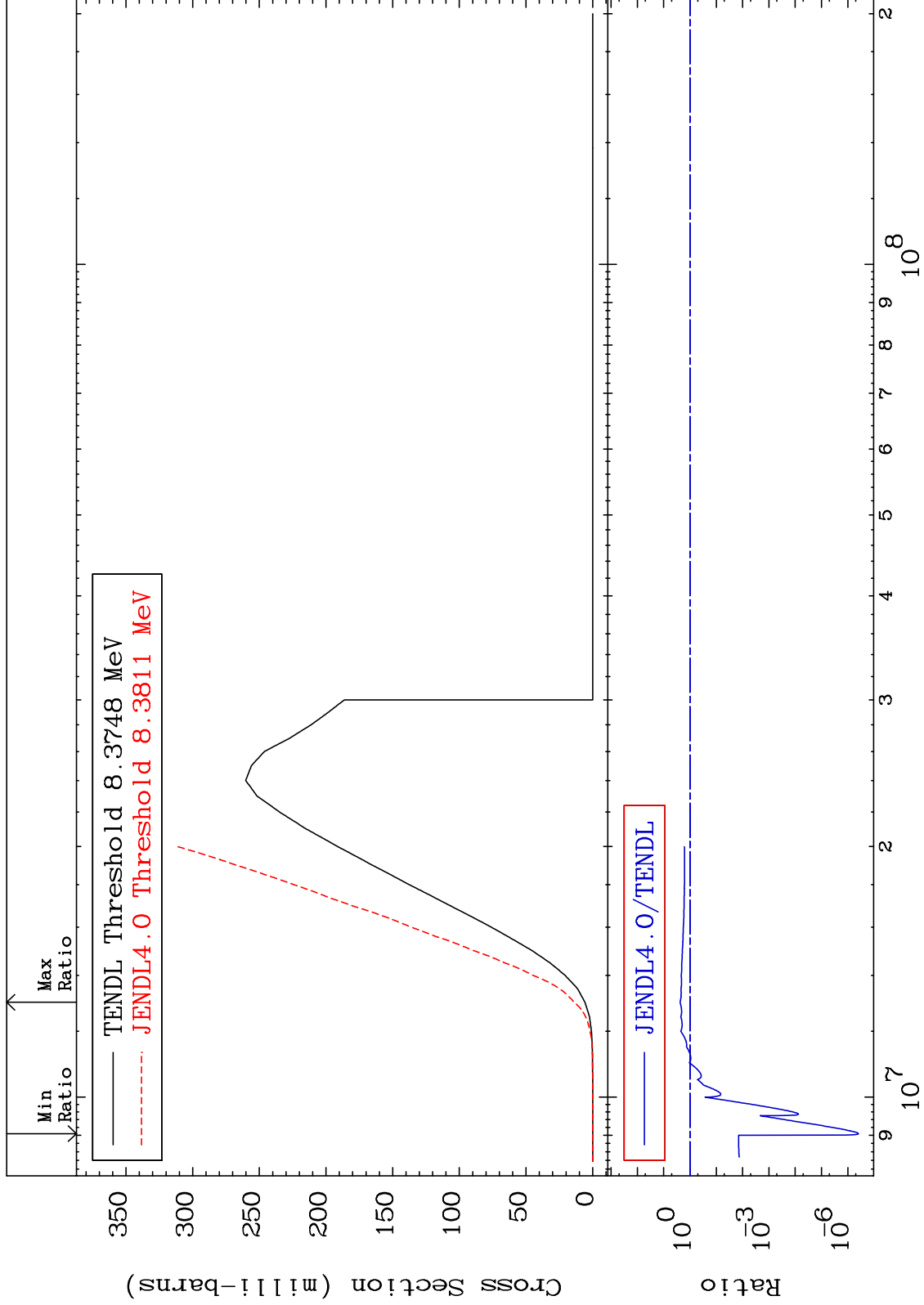
MAT 4431

(n,n') p

44-Ru-98

Cross Section

-100.0 To 139.3 %



7

Incident Energy (eV)

44-Ru-98



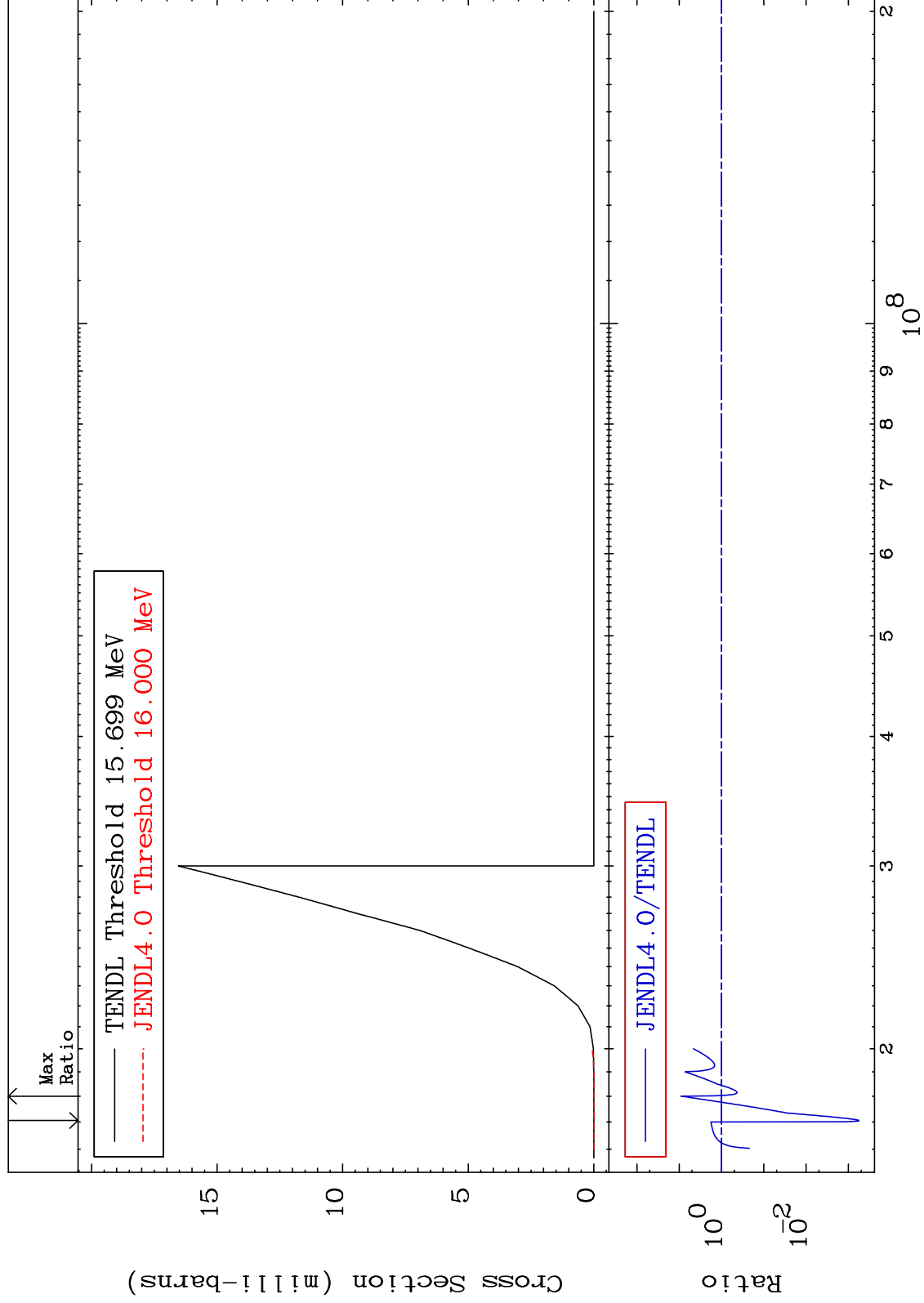
MAT 4431

(n, n') d

44-Ru-98

Cross Section

-99.94 To 805.8 %

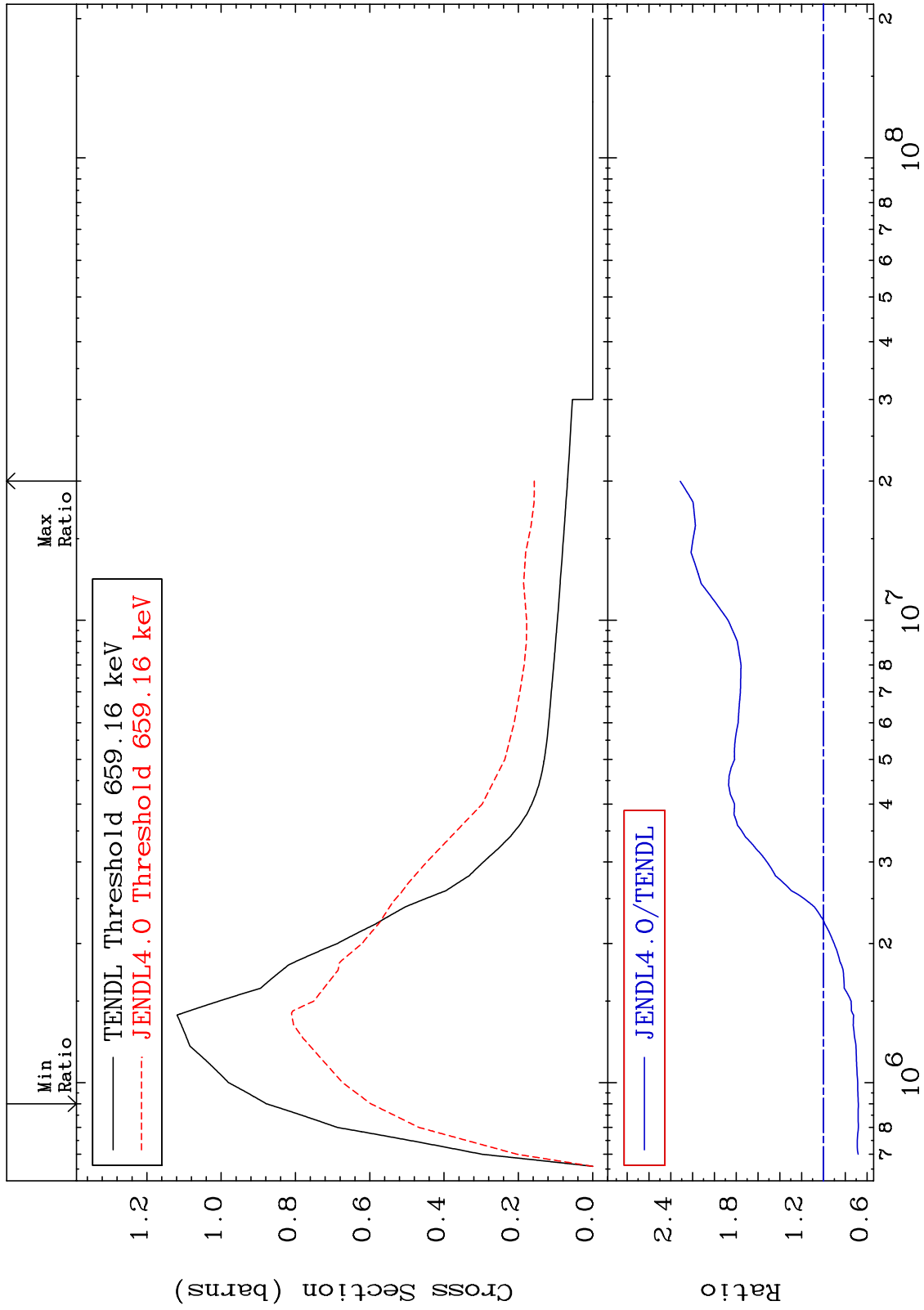


8

Incident Energy (eV)

44-Ru-98

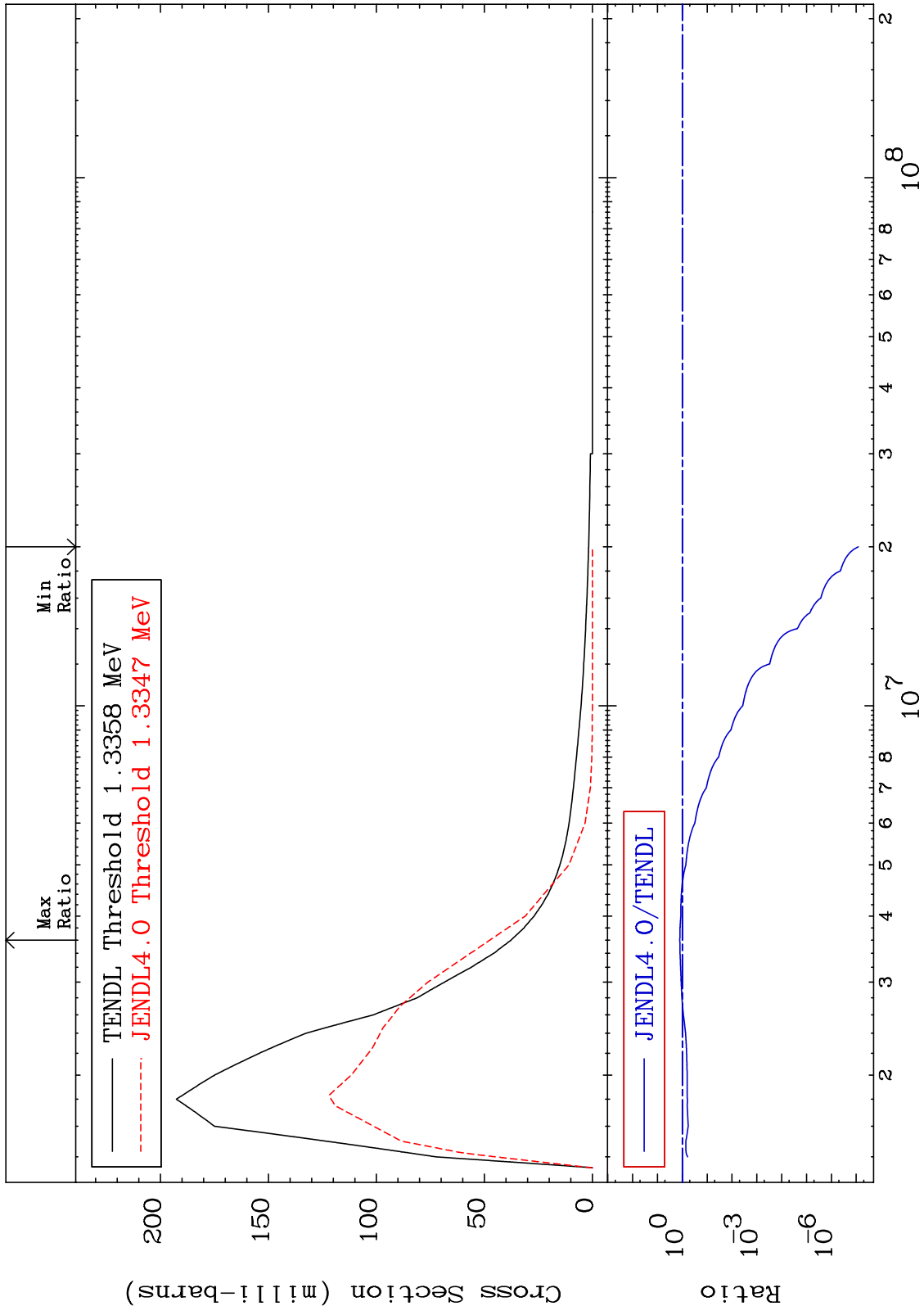
MAT 4431 MT= 51 (n,n') Level Cross Section 44-Ru-98  
-32.02 To 131.6 %



MAT 4431

MT= 52 (n, n') Level  
Cross Section

44-Ru-98  
-100.0 To 26.16 %



10

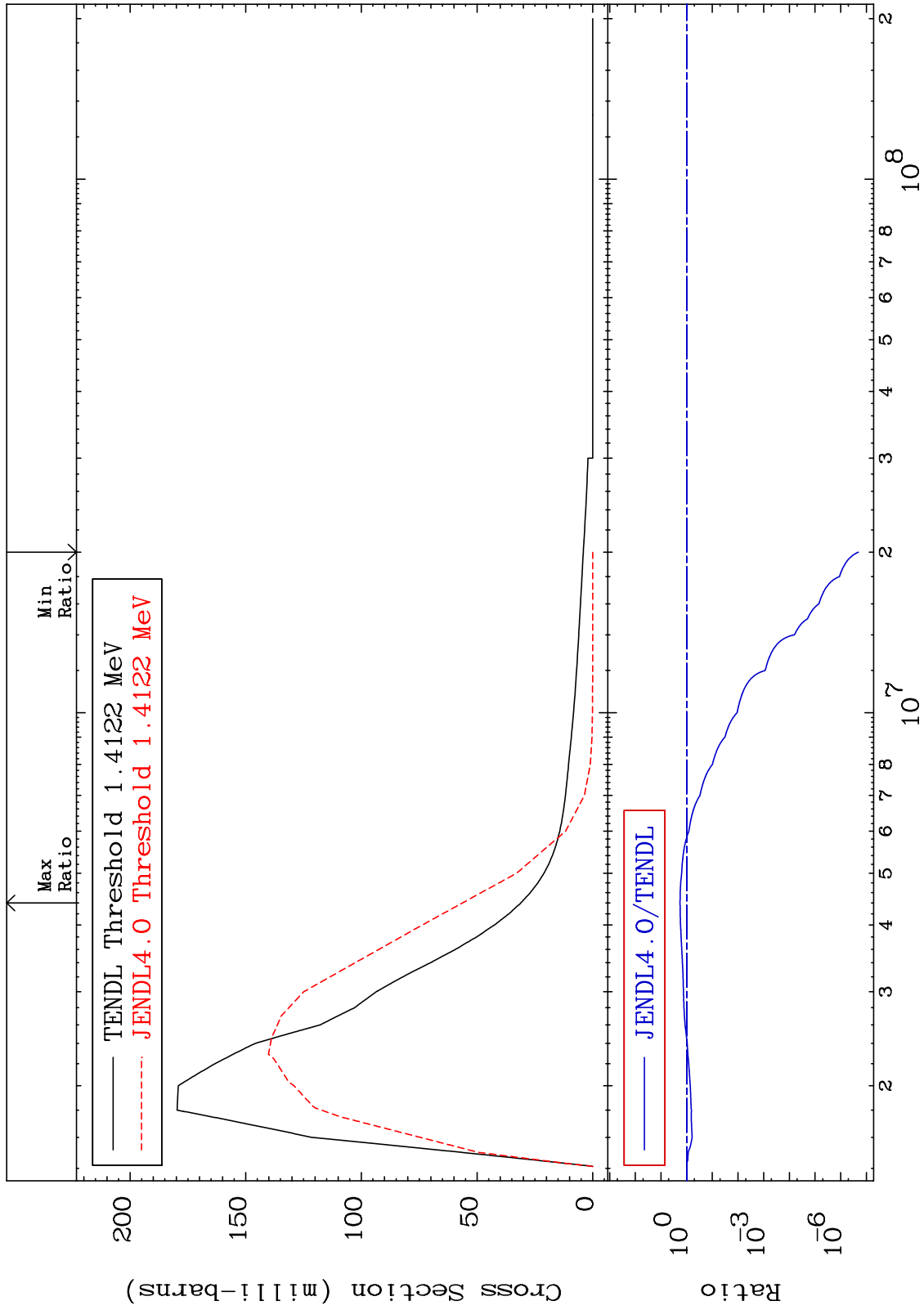
Incident Energy (eV)

44-Ru-98

MAT 4431

MT= 53 (n,n') Level  
Cross Section

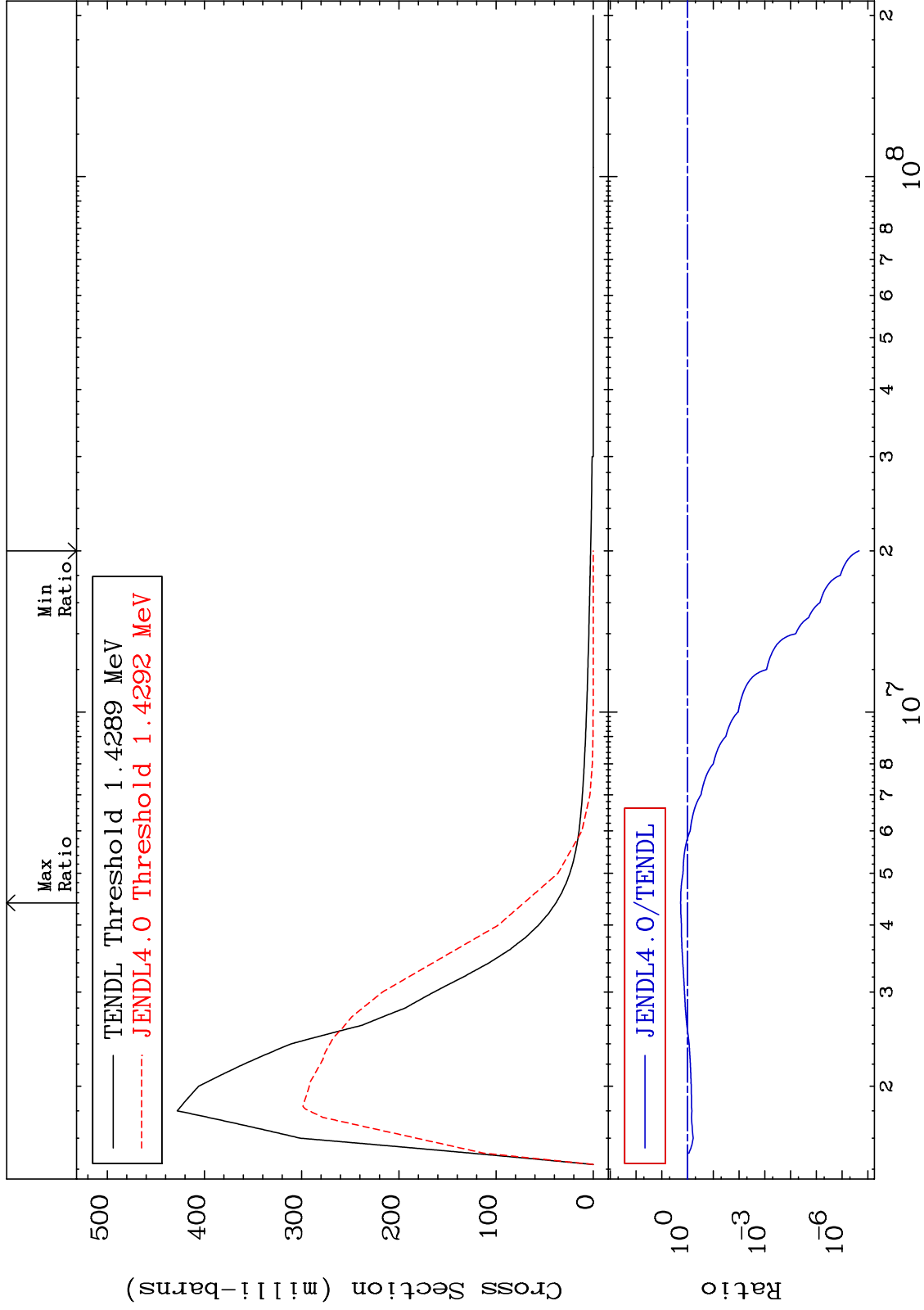
44-Ru-98  
-100.0 To 81.39 %



MAT 4431

MT= 54 (n,n') Level  
Cross Section

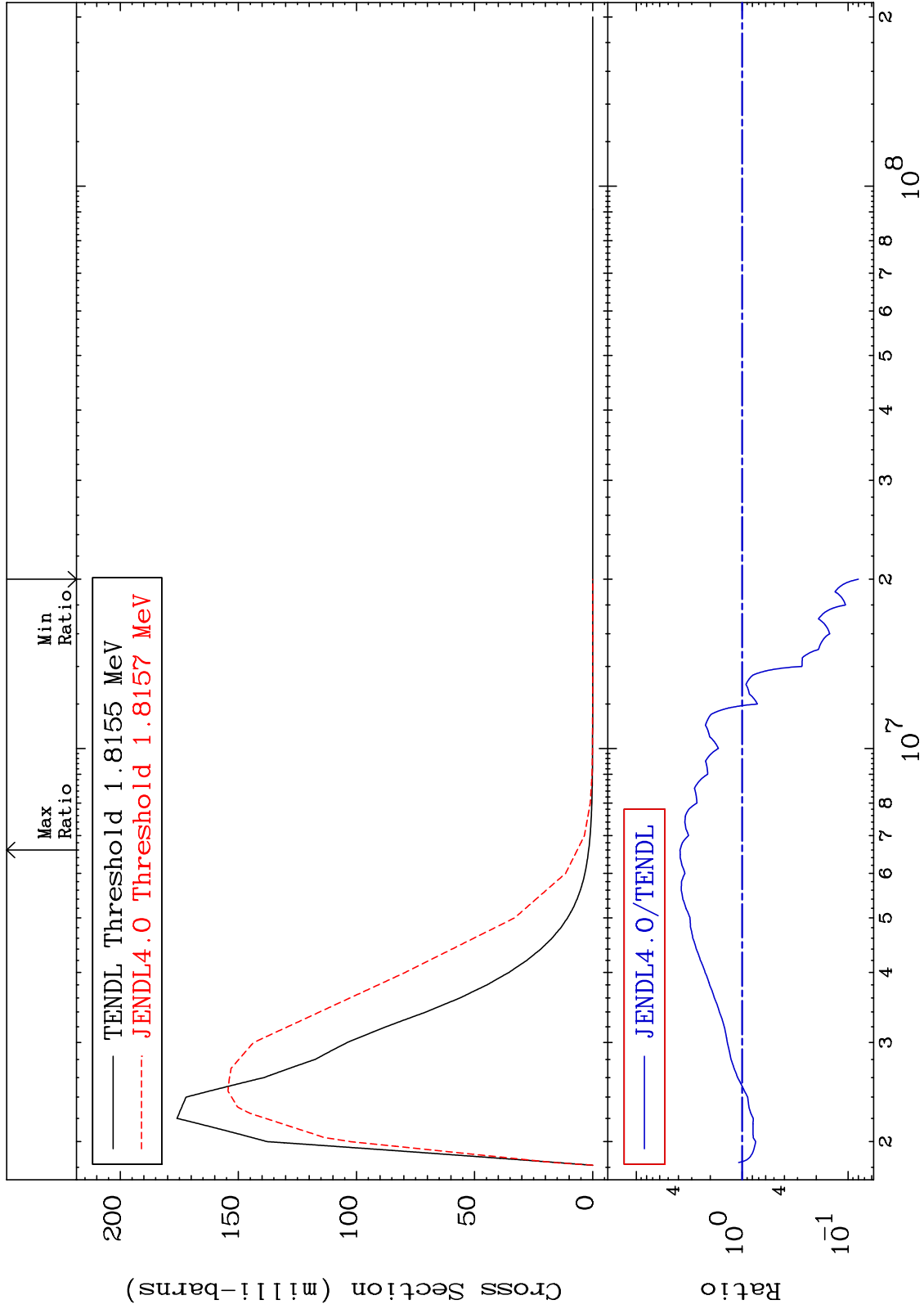
44-Ru-98  
-100.0 To 86.28 %



MAT 4431

MT= 55 (n,n') Level  
Cross Section

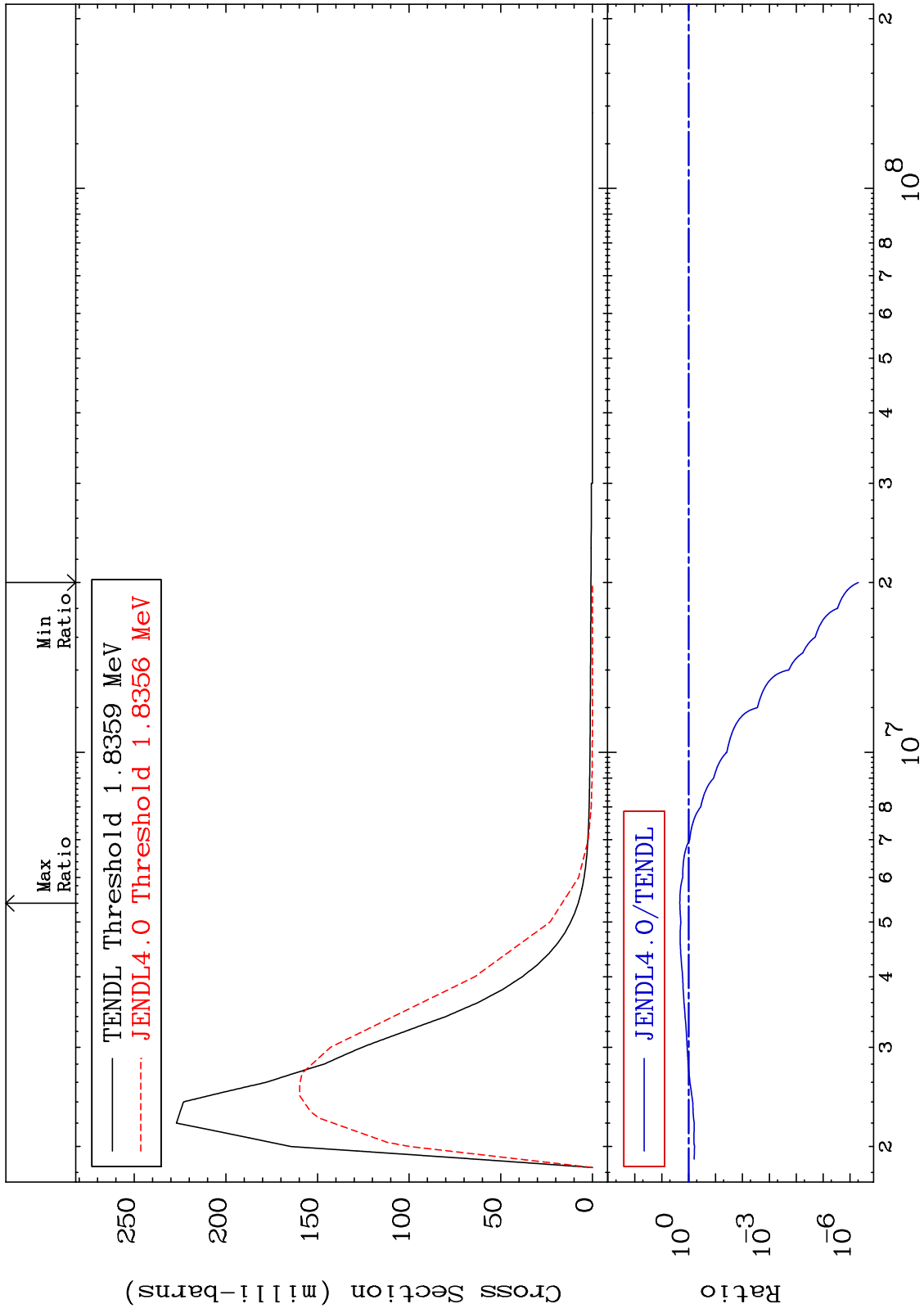
44-Ru-98  
-92.01 To 286.3 %



MAT 4431

MT= 56 (n,n') Level  
Cross Section

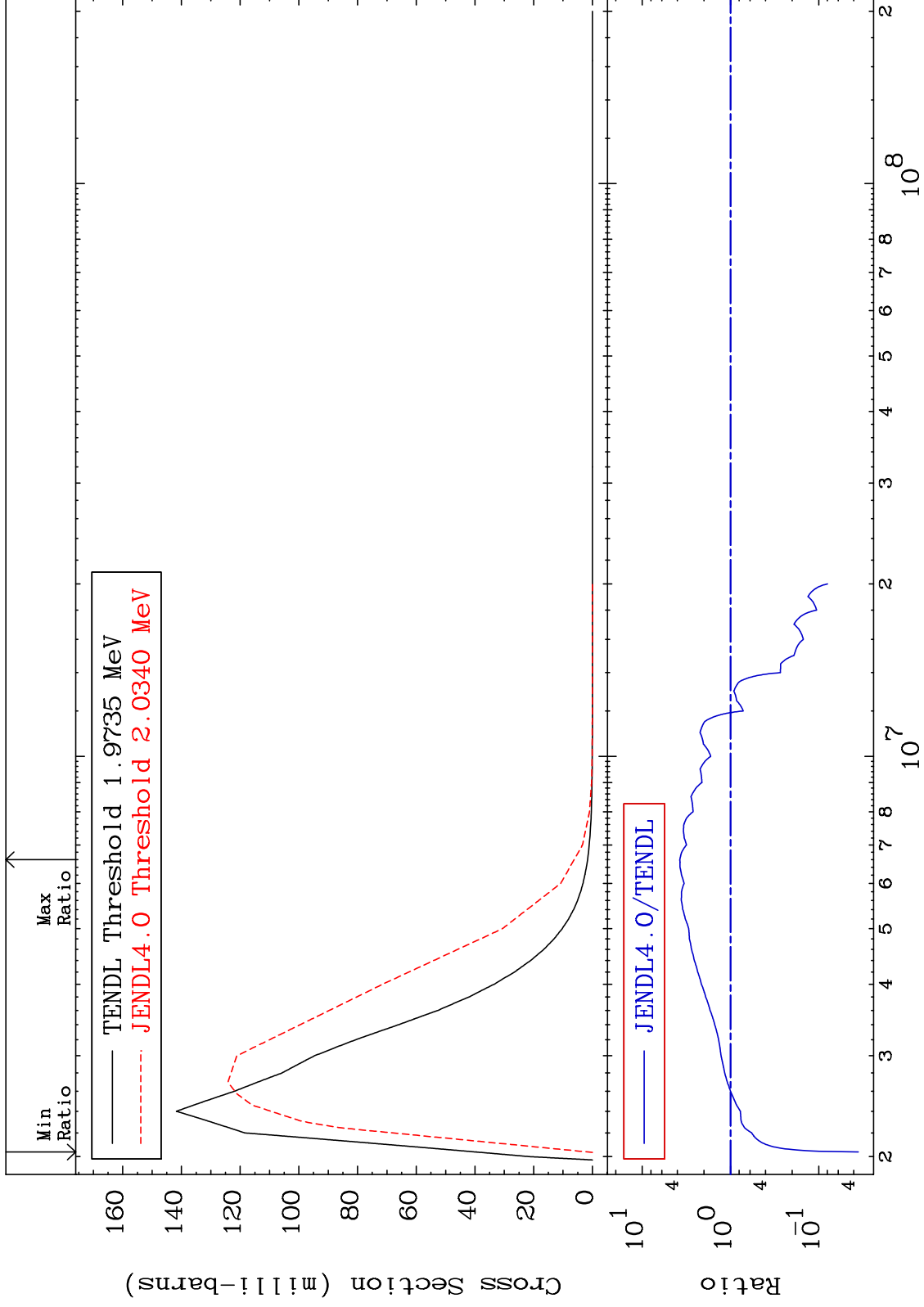
44-Ru-98  
-100.0 To 113.0 %



MAT 4431

MT= 57 (n,n') Level  
Cross Section

44-Ru-98  
-96.45 To 275.5 %

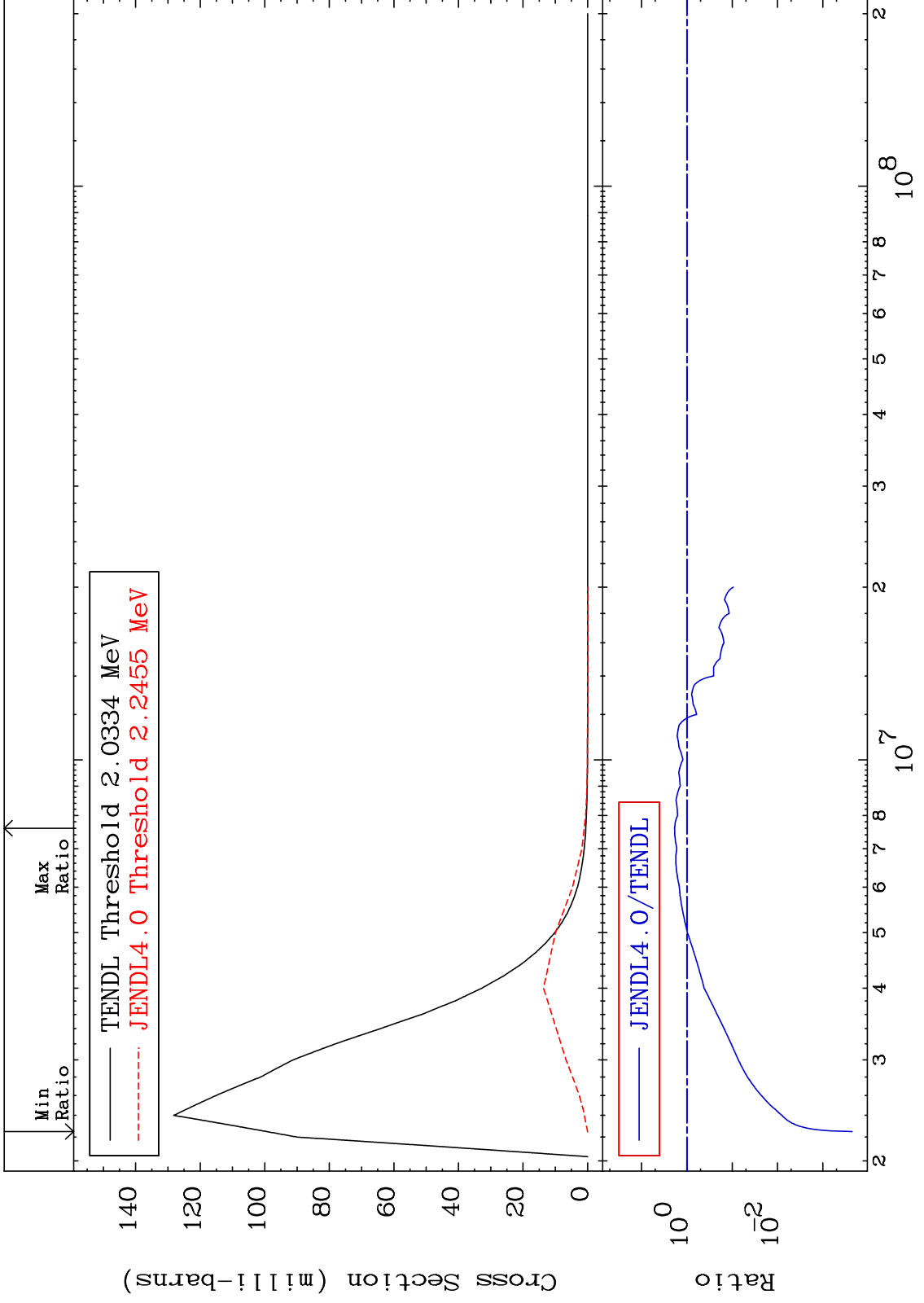




MAT 4431

MT= 58 (n,n') Level  
Cross Section

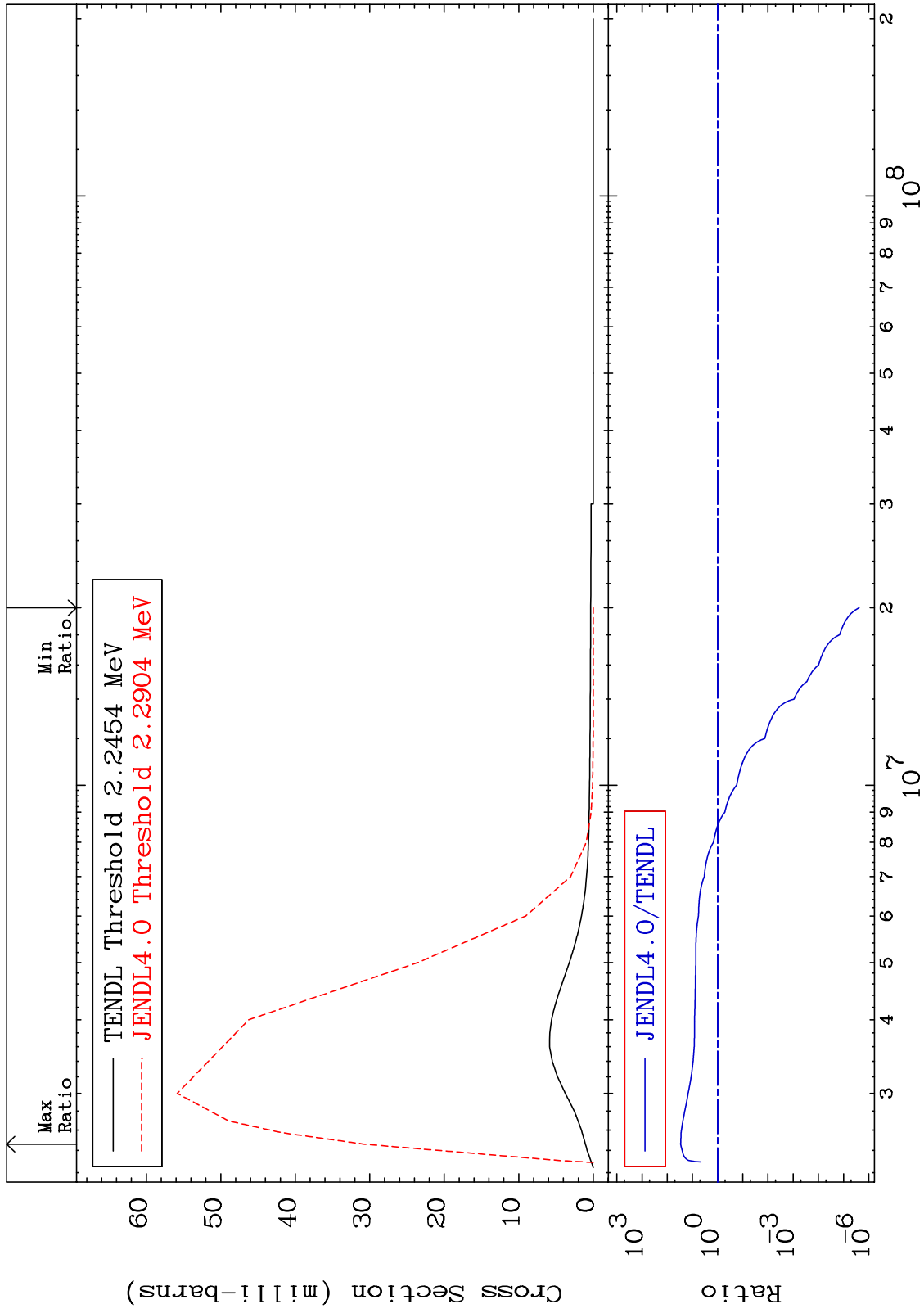
44-Ru-98  
-99.98 To 86.90 %



MAT 4431

MT= 59 (n,n') Level  
Cross Section

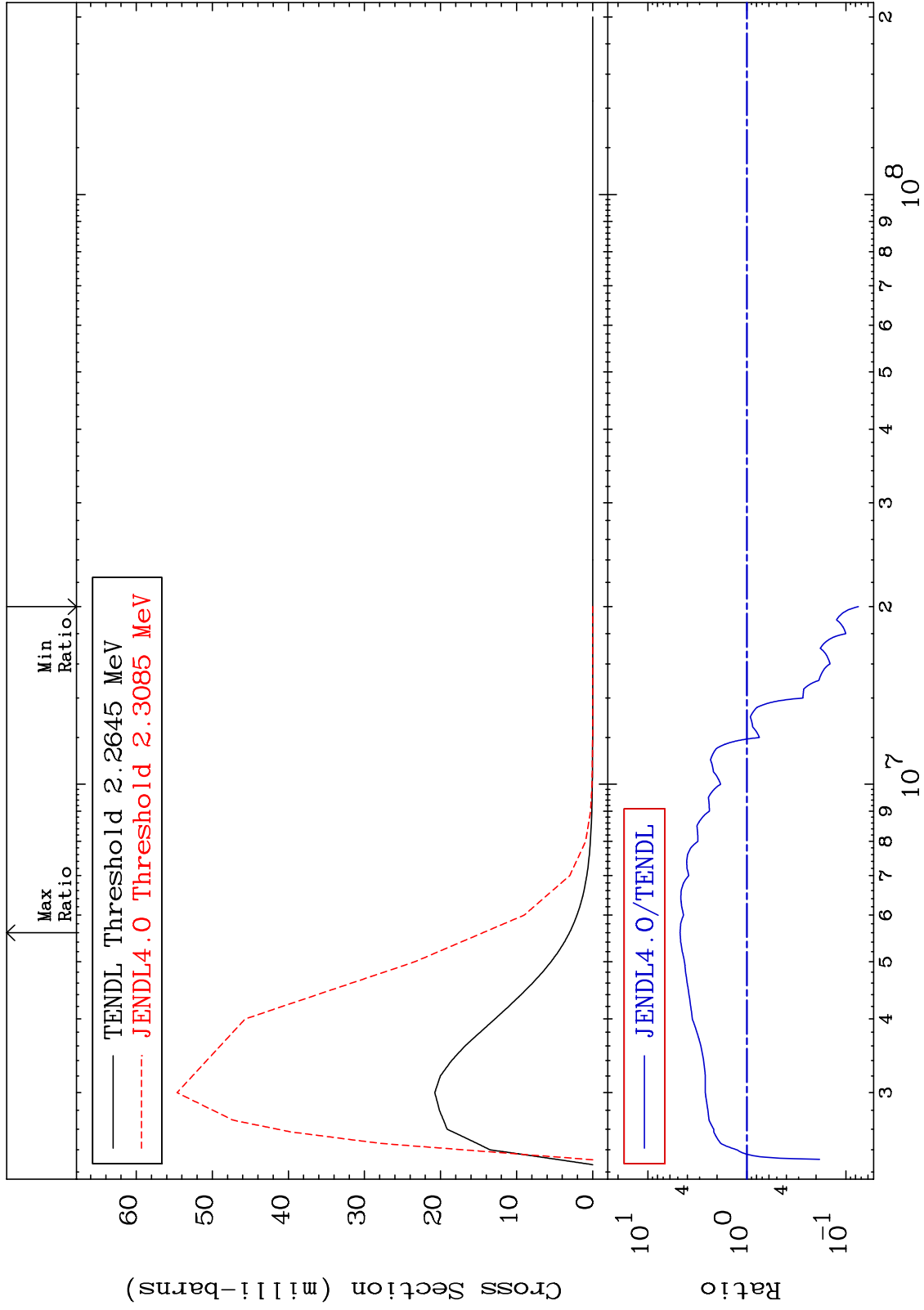
44-Ru-98  
-100.0 To 2840. %



MAT 4431

MT= 60 (n,n') Level  
Cross Section

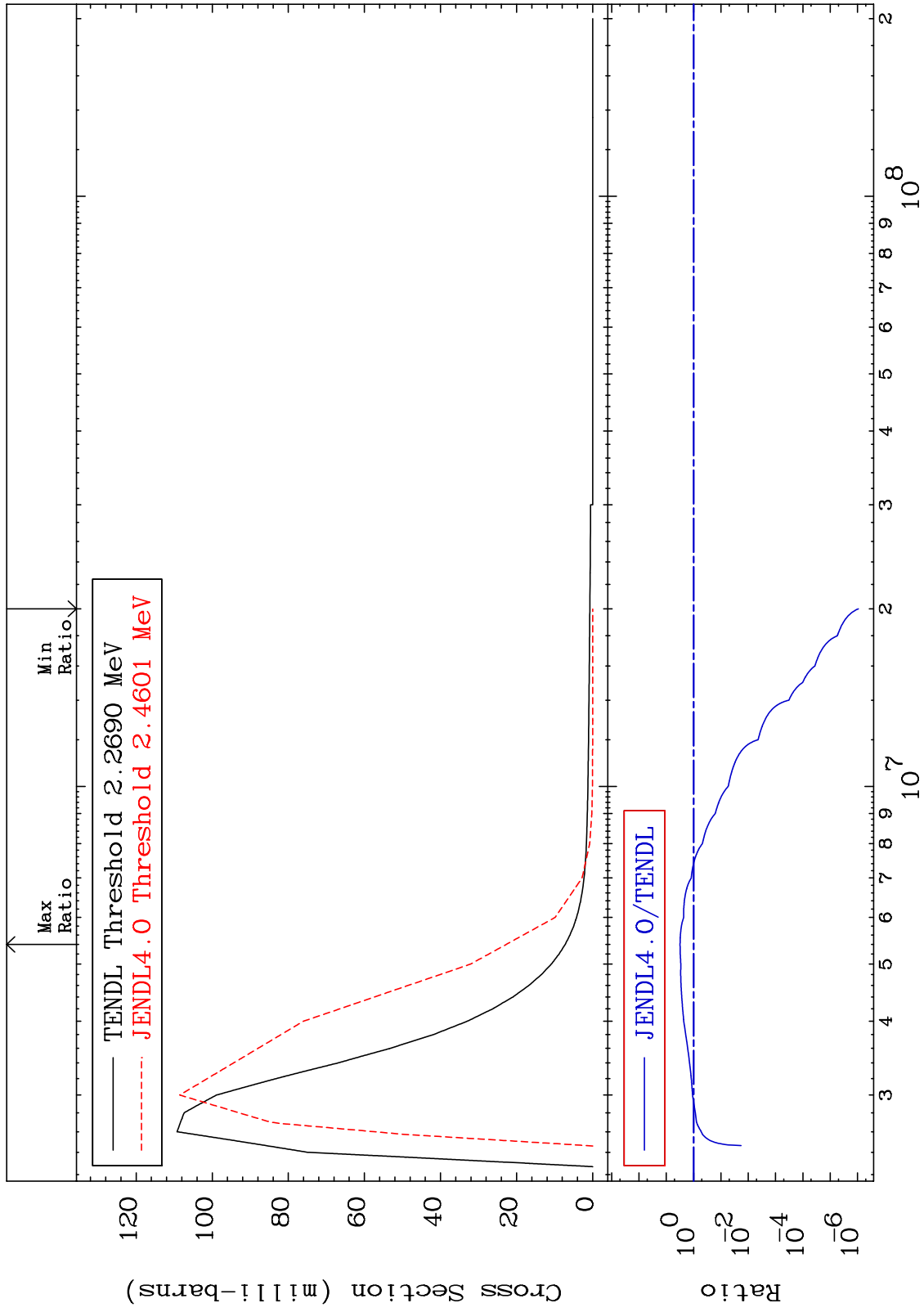
44-Ru-98  
-92.52 To 373.4 %



MAT 4431

MT= 61 (n,n') Level  
Cross Section

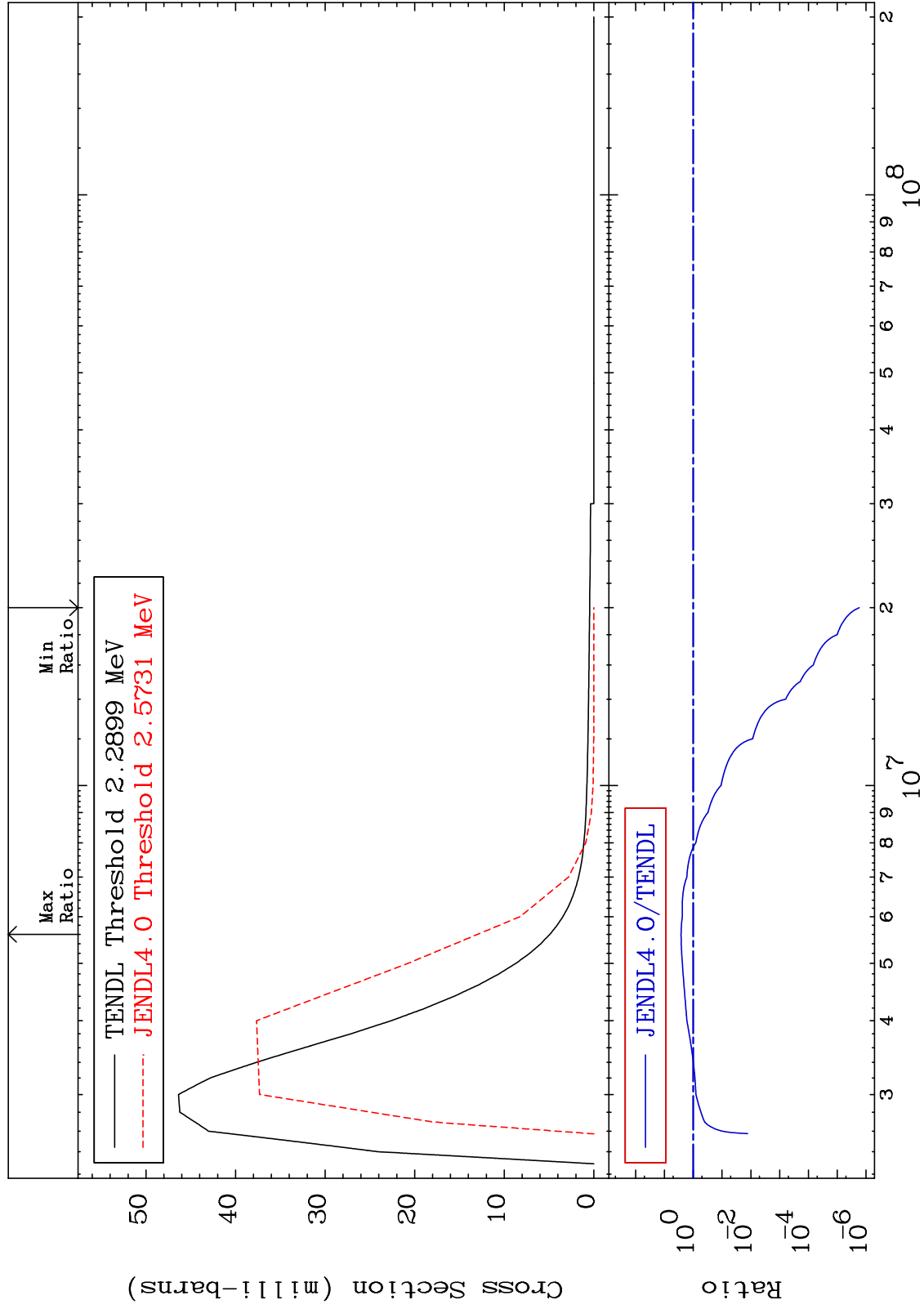
44-Ru-98  
-100.0 To 214.3 %



MAT 4431

MT= 62 (n,n') Level  
Cross Section

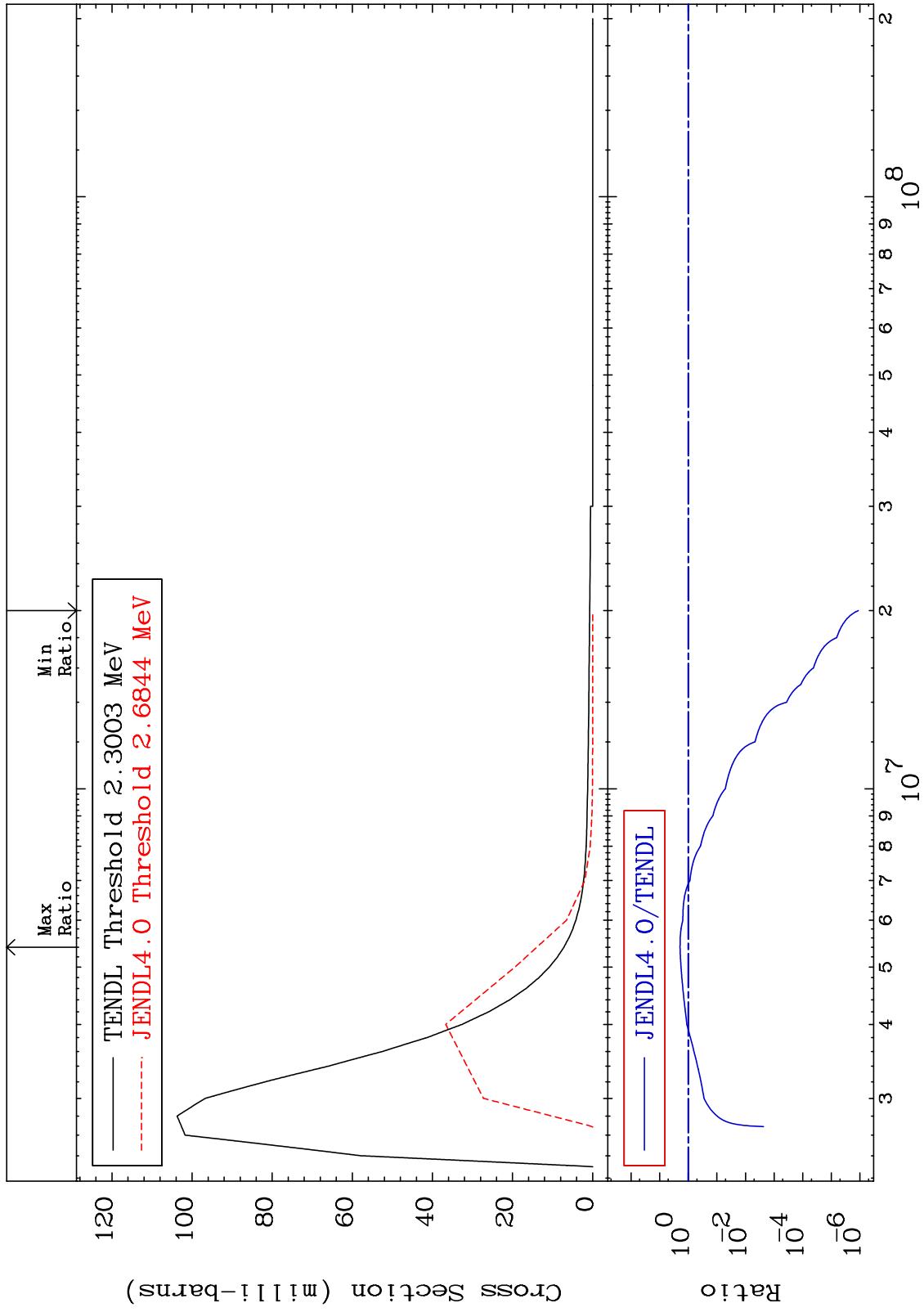
44-Ru-98  
-100.0 To 164.4 %



MAT 4431

MT= 63 (n,n') Level  
Cross Section

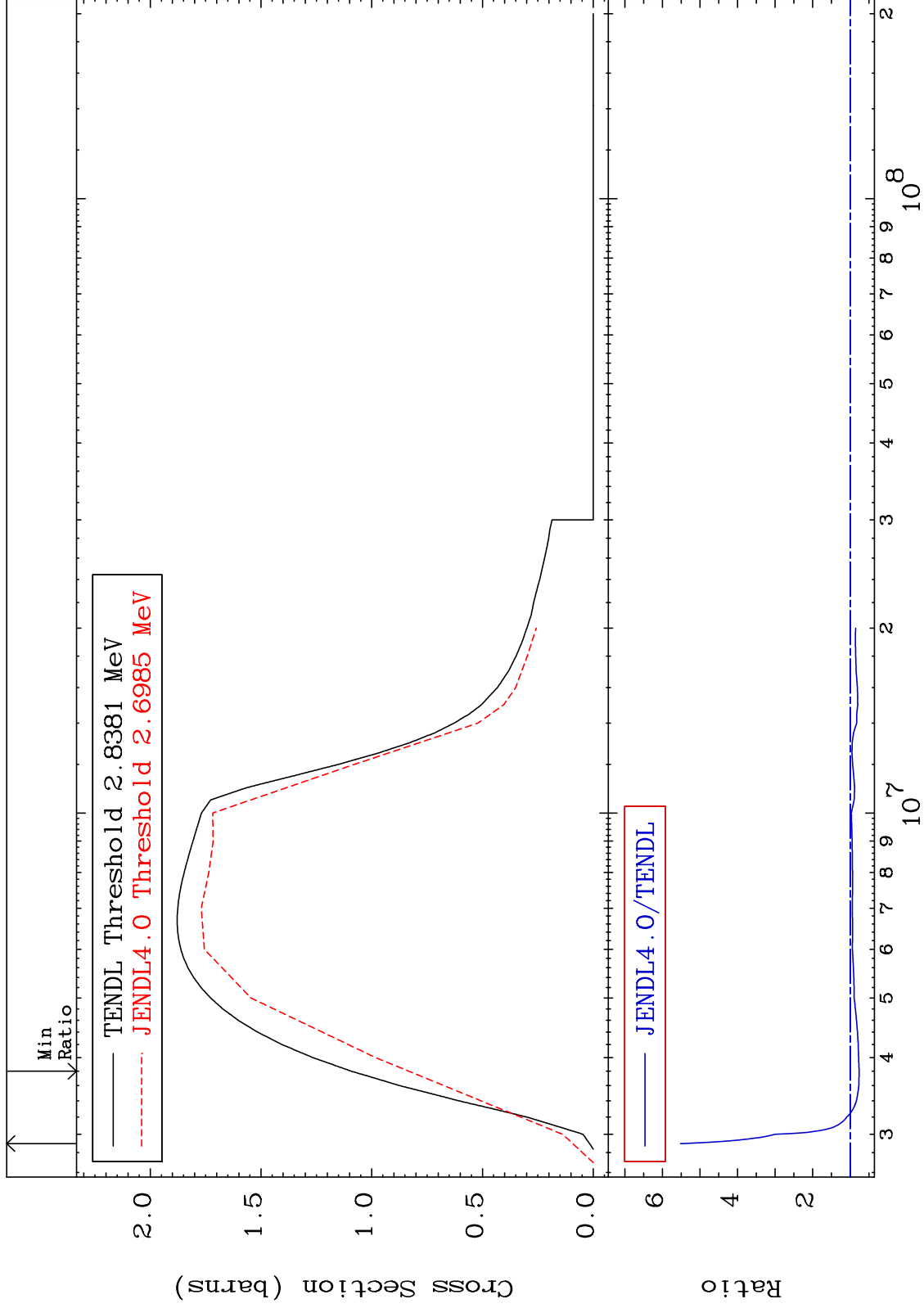
44-Ru-98  
-100.0 To 94.09 %



MAT 4431

(n, n') Continuum  
Cross Section

44-Ru-98  
-23.80 To 451.6 %



22

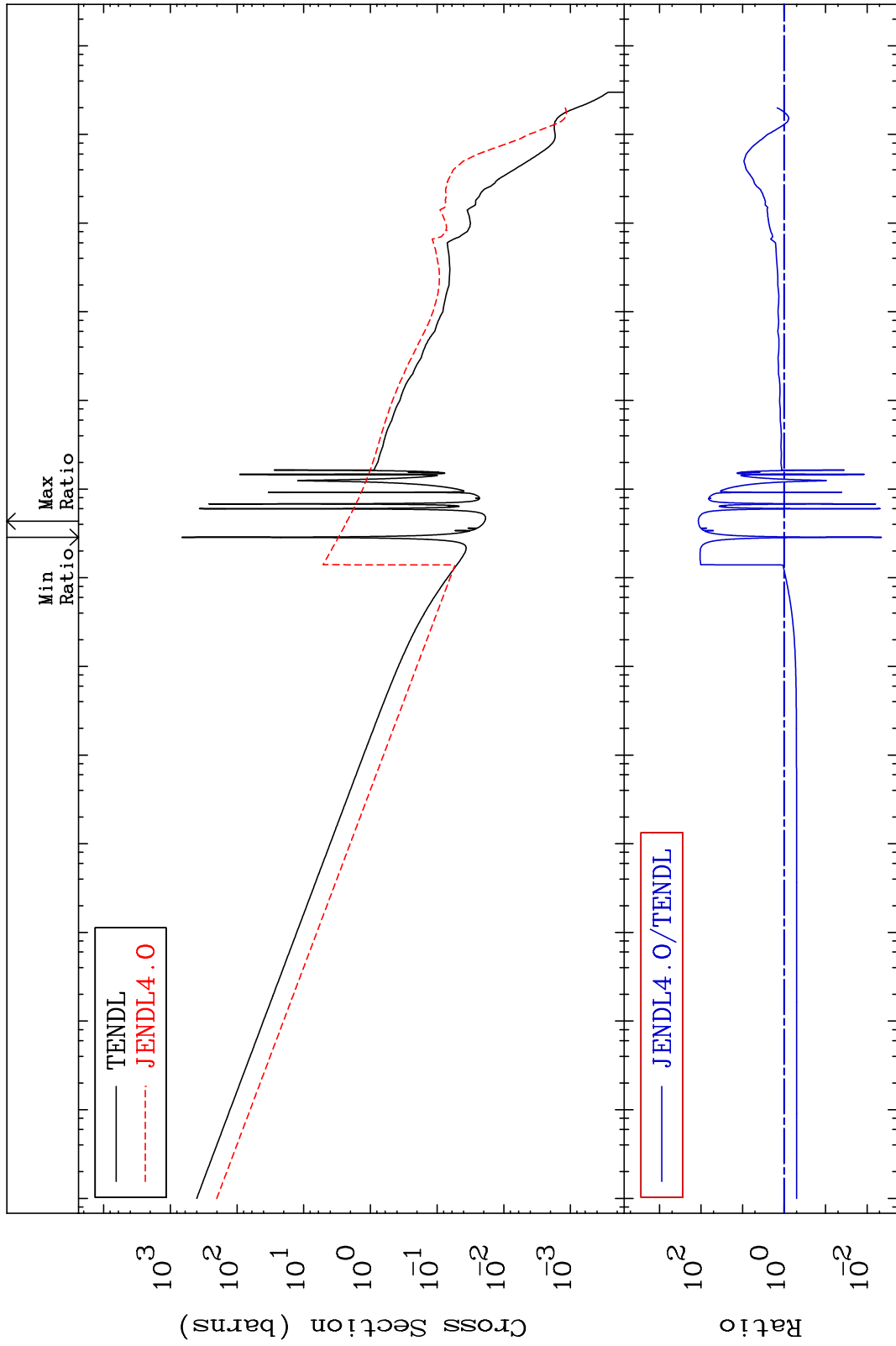
44-Ru-98

MAT 4431

44-Ru-98

-99.55 To 9999. %

(n,  $\gamma$ )  
Cross Section



Ratio  
JENDL4.0/TENDL  
Incident Energy (eV)  
44-Ru-98



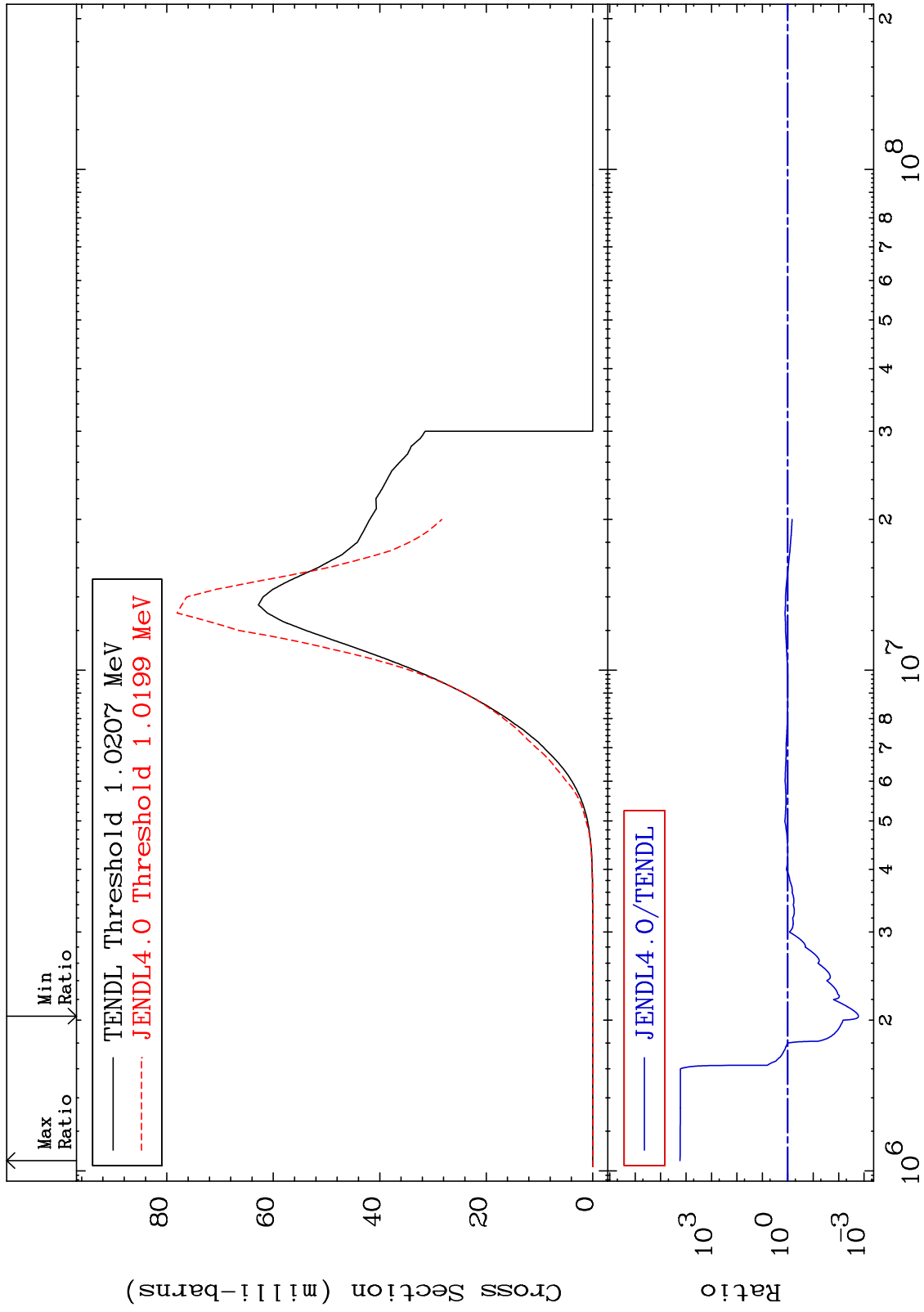
MAT 4431

(n,p)

44-Ru-98

Cross Section

-99.83 To 9999. %



24

Incident Energy (eV)

44-Ru-98

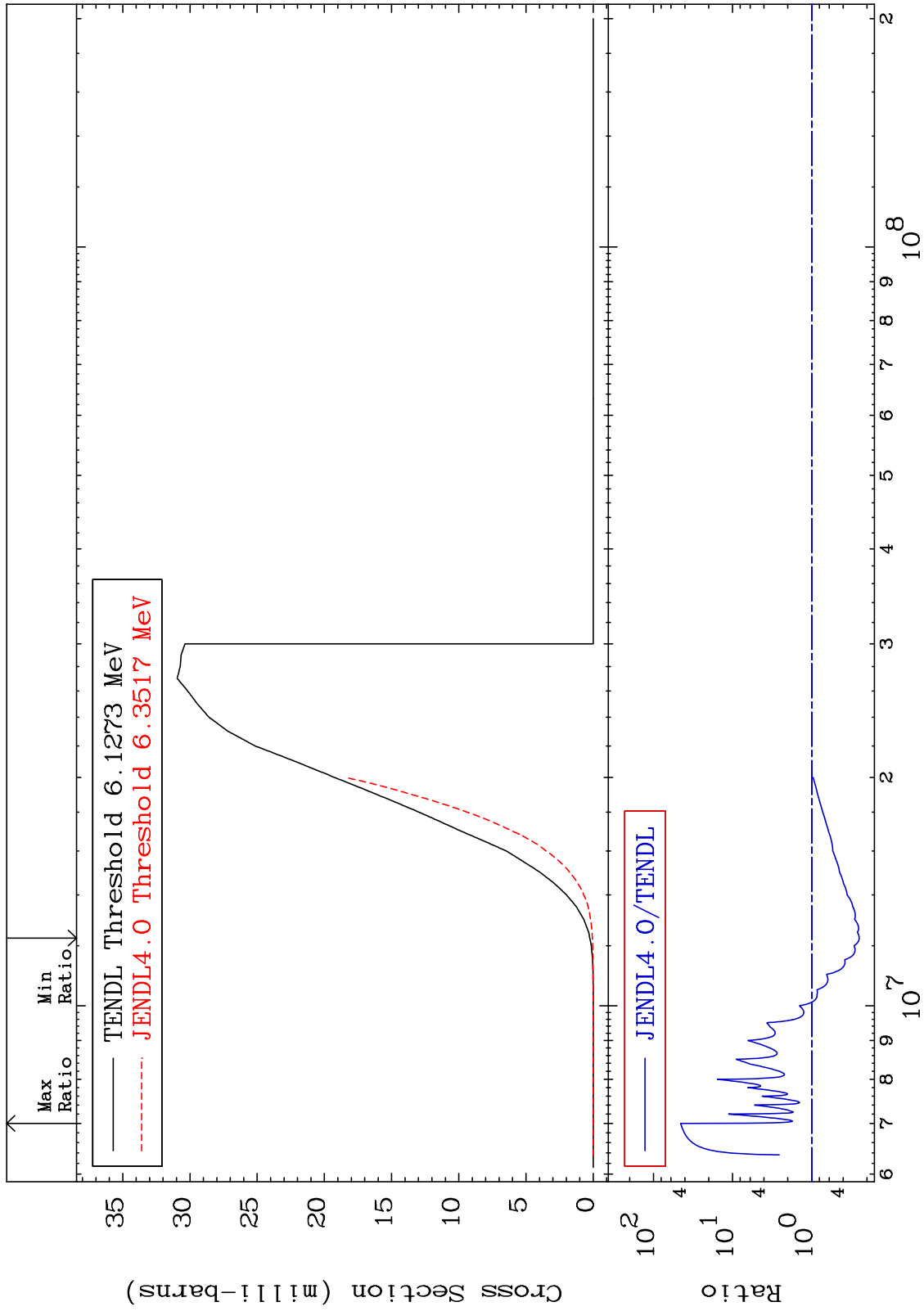
MAT 4431

(n, d)

44-Ru-98

Cross Section

-74.93 To 4433. %



25

Incident Energy (eV)

44-Ru-98

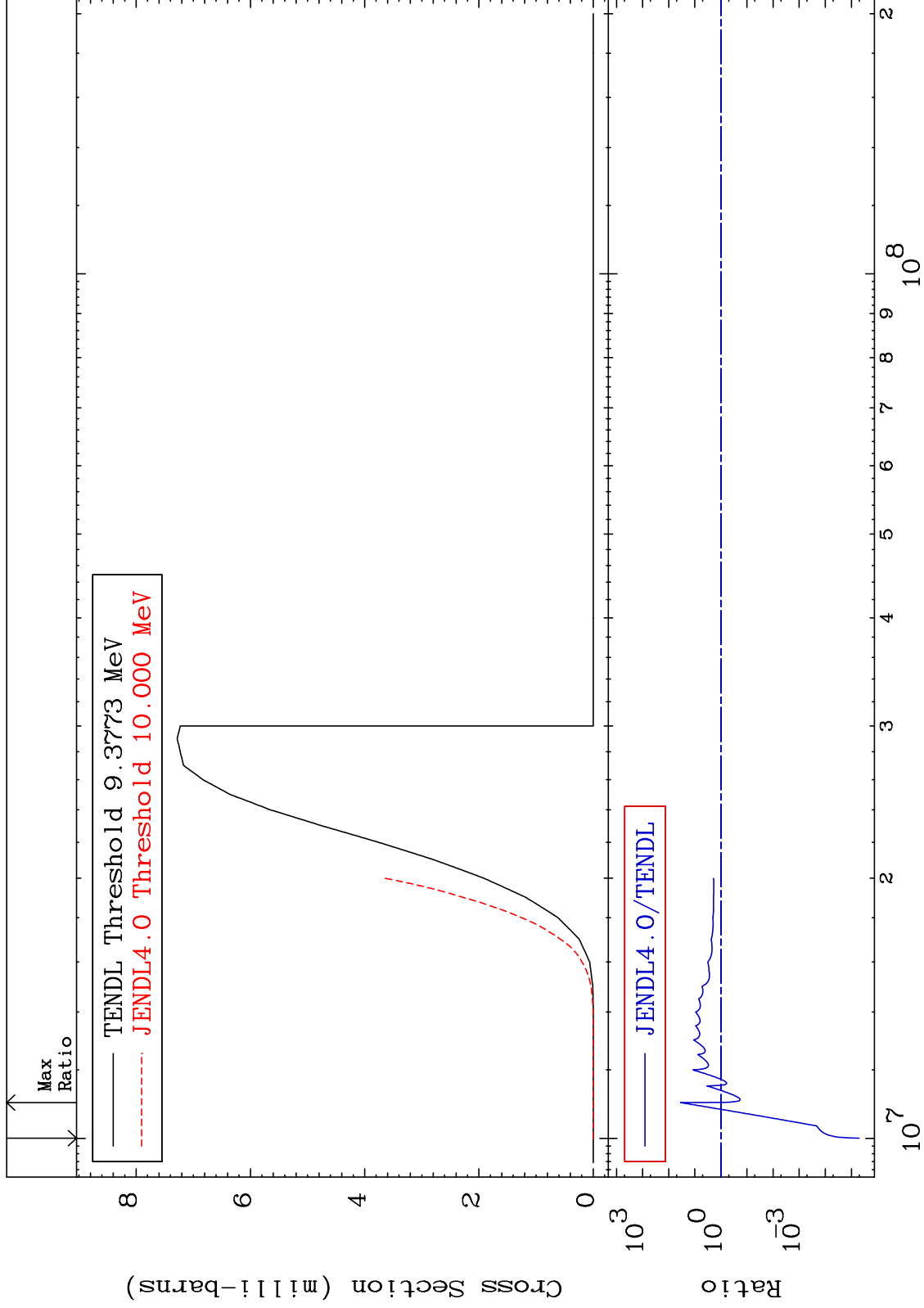
MAT 4431

(n, t)

44-Ru-98

Cross Section

-100.0 To 3391. %



26

Incident Energy (eV)

44-Ru-98

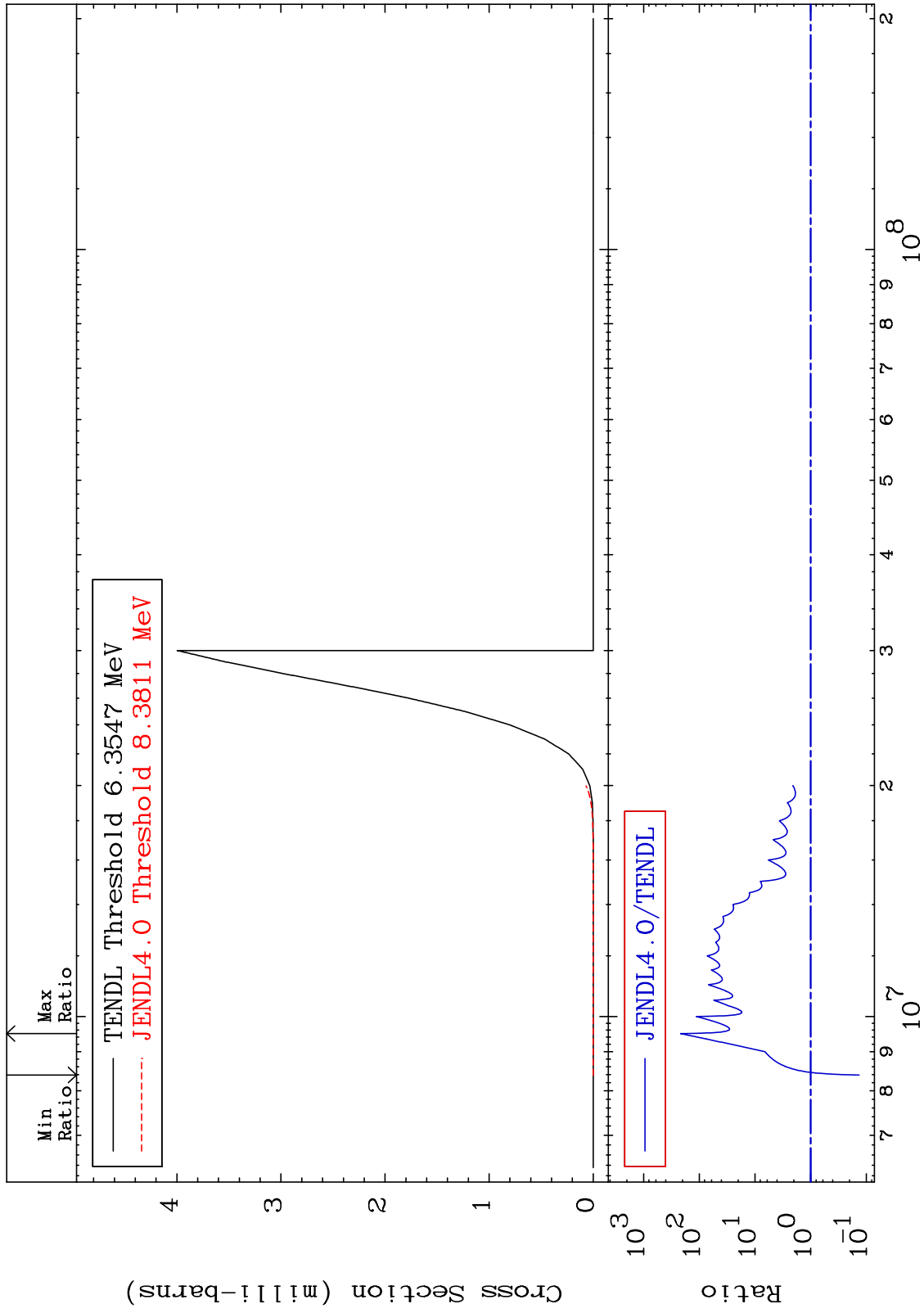
MAT 4431

(n, He-3)

44-Ru-98

Cross Section

-86.57 To 9999. %



27

44-Ru-98

44-Ru-98

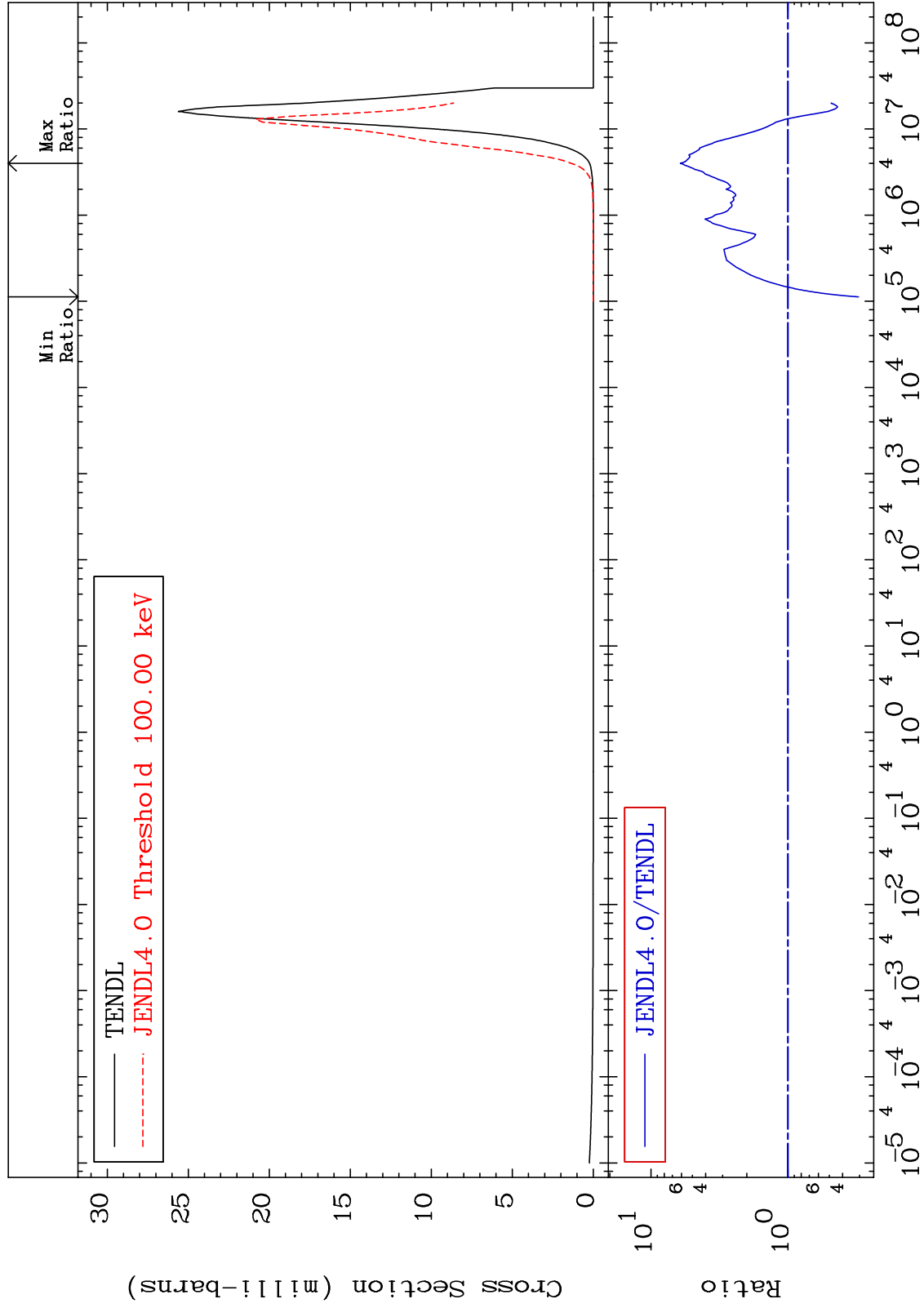
MAT 4431

(n,  $\alpha$ )

44-Ru-98

Cross Section

-69.43 To 510.0 %



28

Incident Energy (eV)

44-Ru-98

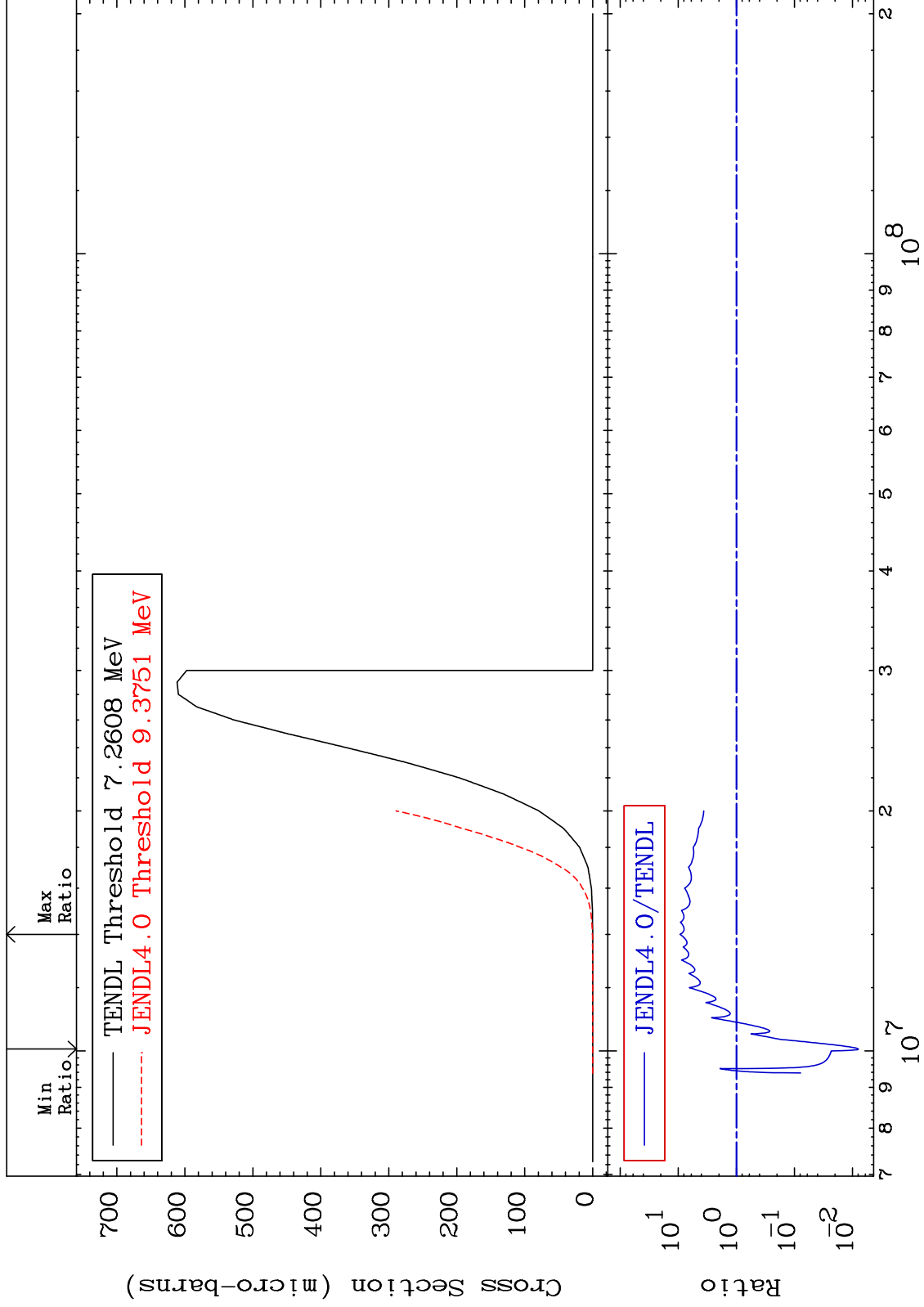
MAT 4431

(n,2p)

44-Ru-98

Cross Section

-99.21 To 834.3 %



29

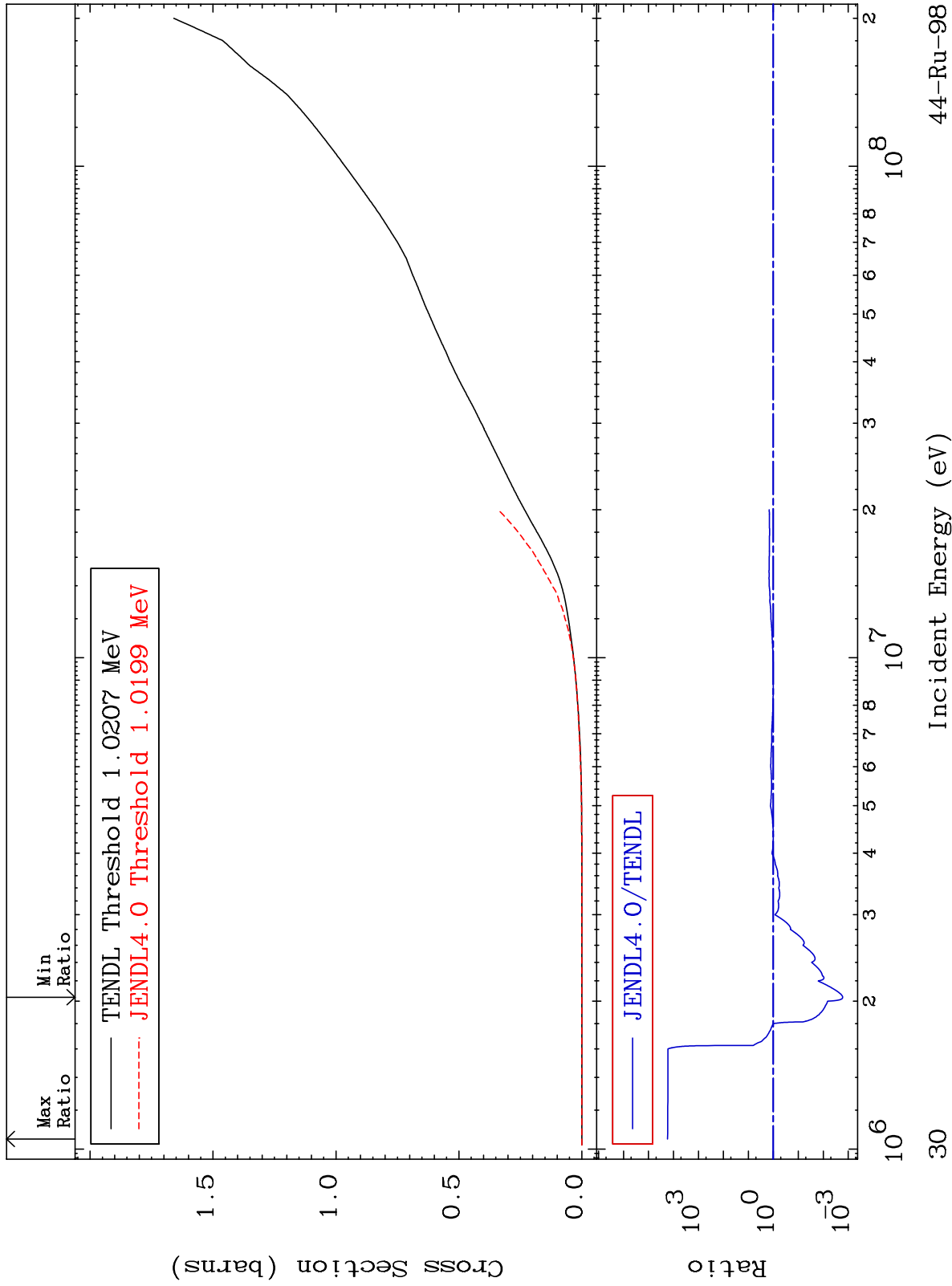
Incident Energy (eV)

44-Ru-98

MAT 4431

Hydrogen Production  
Cross Section

44-Ru-98  
-99.83 To 9999. %



44-Ru-98

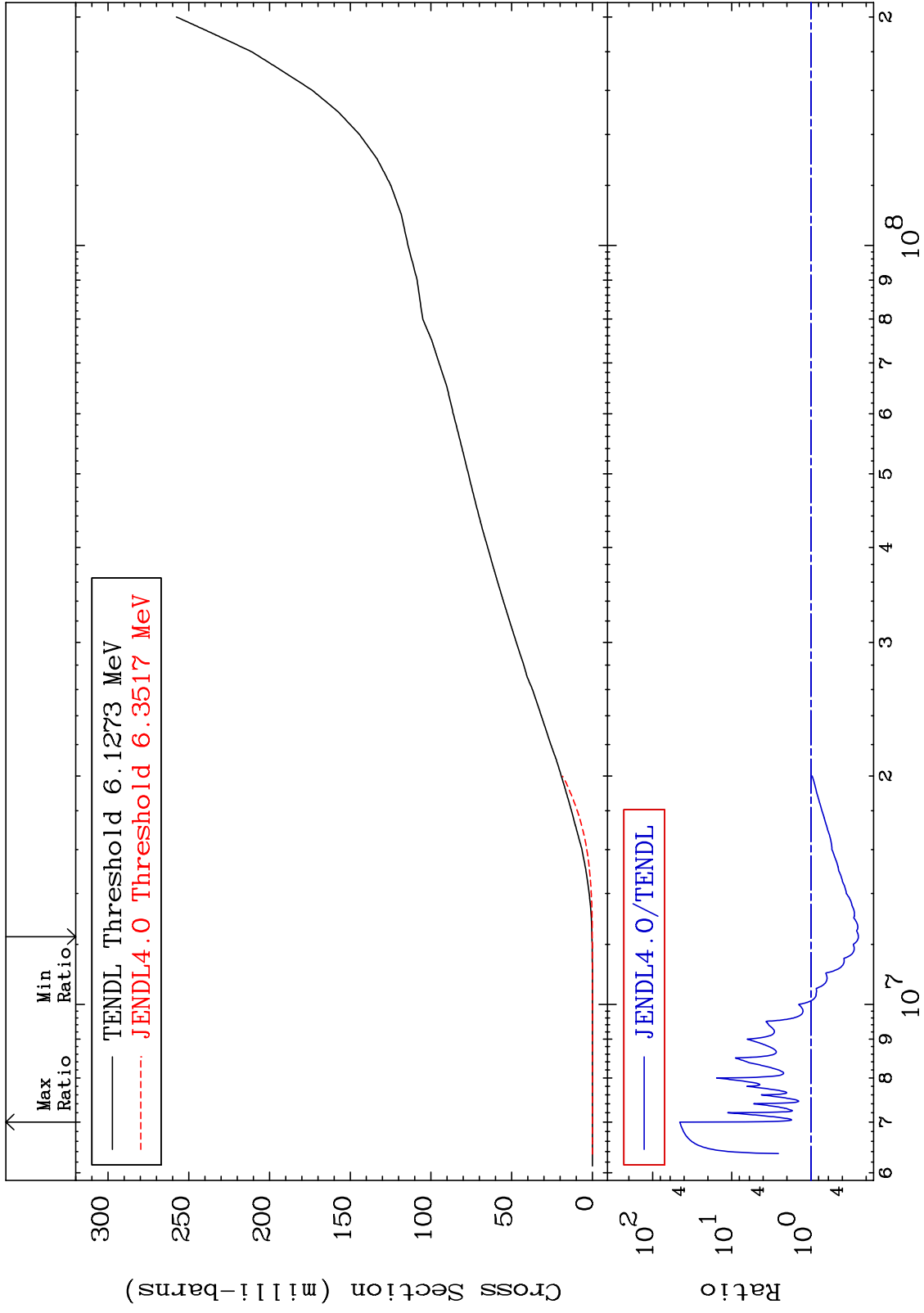
Incident Energy (eV)

30

MAT 4431

Deuterium Production  
Cross Section

44-Ru-98  
-74.93 To 4433. %

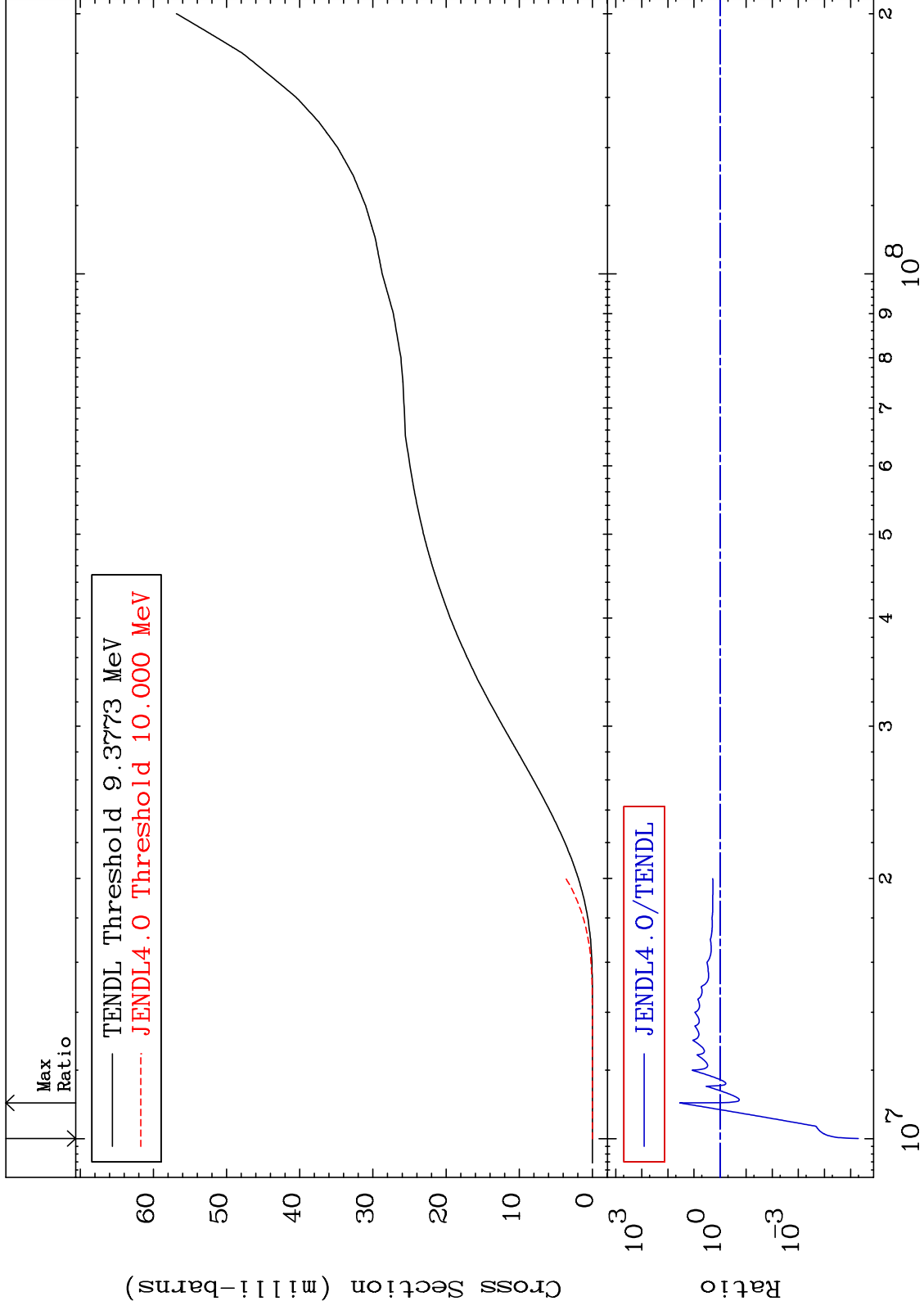




MAT 4431

Tritium Production  
Cross Section

44-Ru-98  
-100.0 To 3391. %



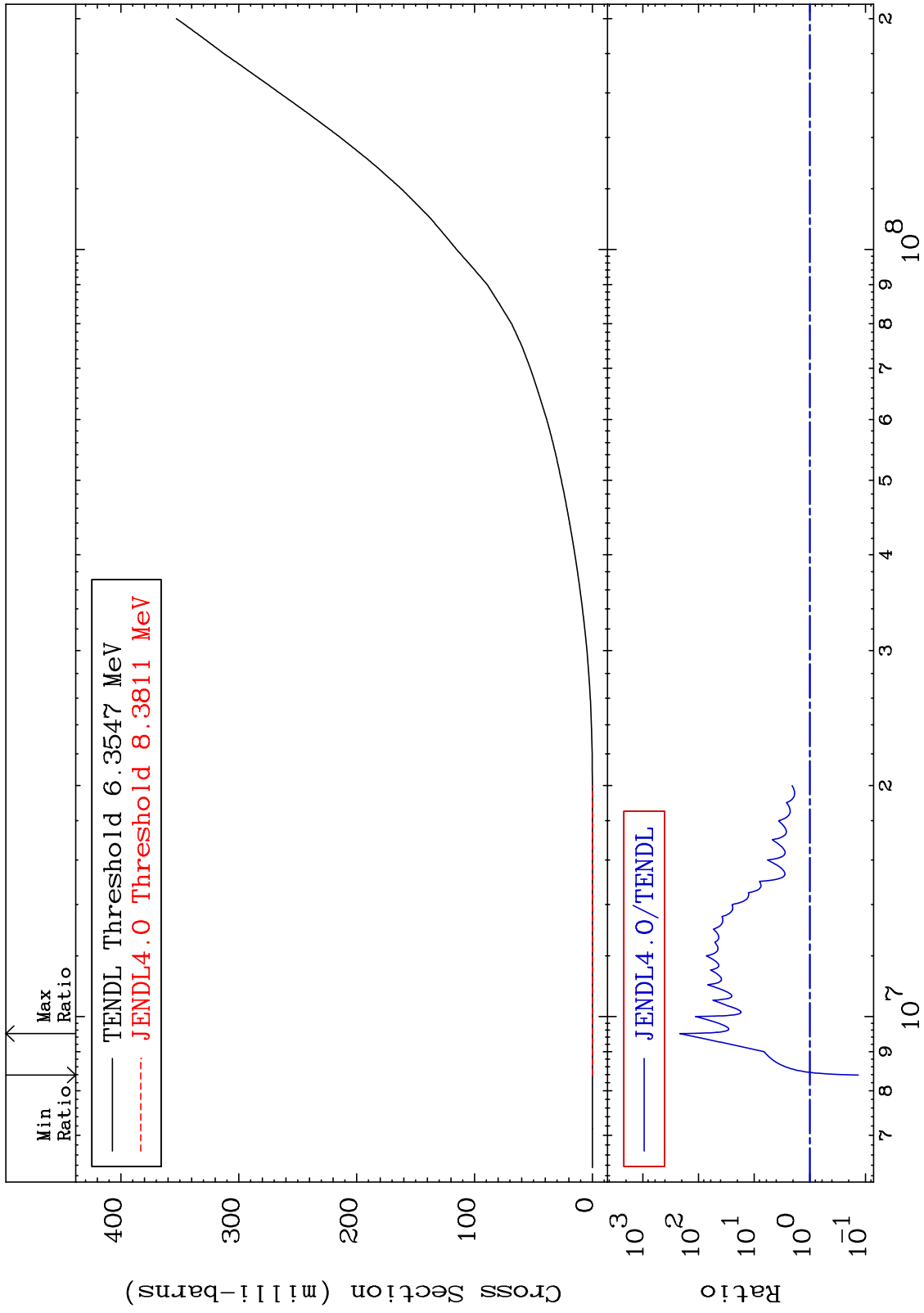
32

44-Ru-98

MAT 4431

He-3 Production  
Cross Section

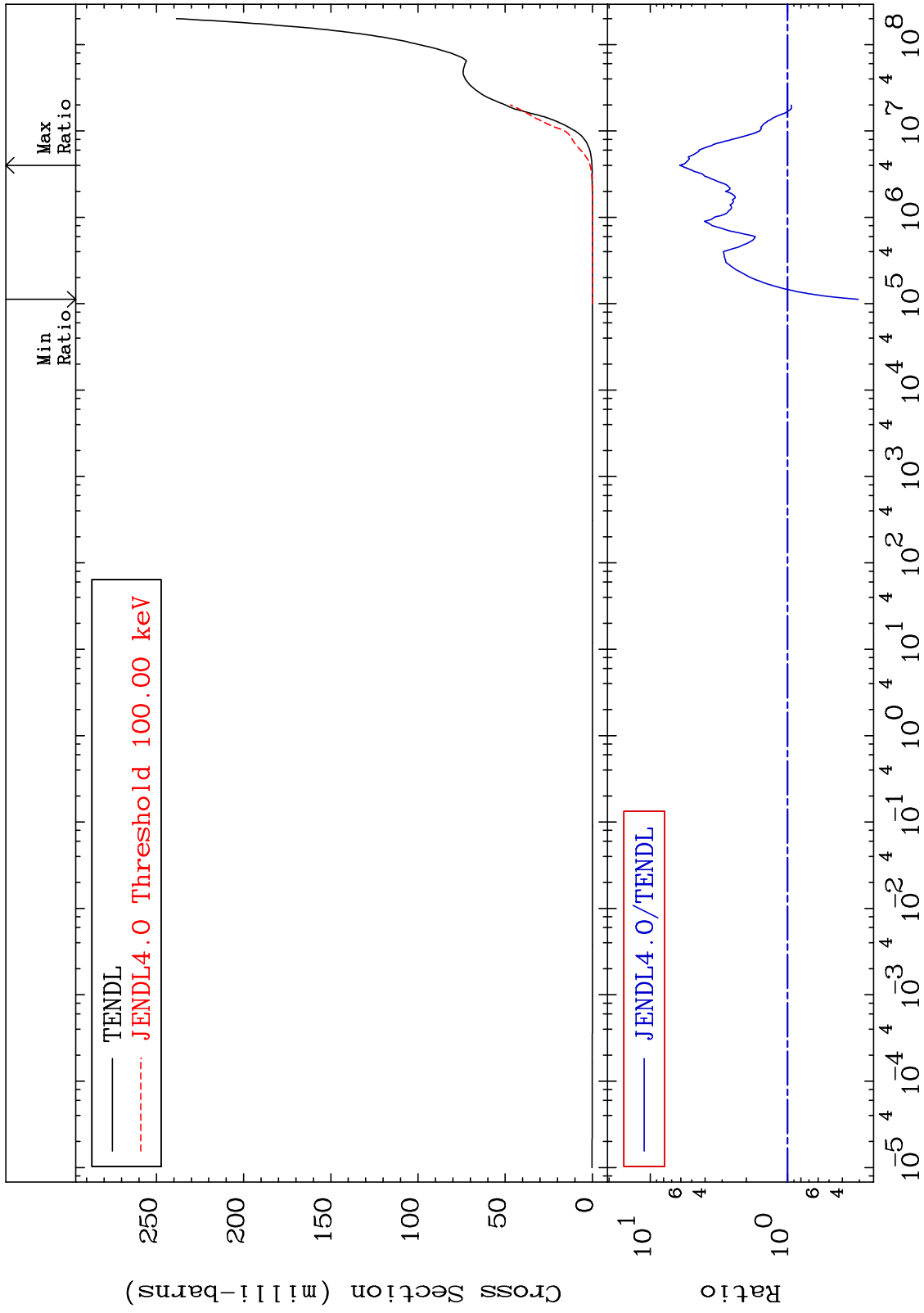
44-Ru-98  
-86.57 To 9999. %



MAT 4431

He-4 Production  
Cross Section

44-Ru-98  
-69.43 To 510.0 %



34

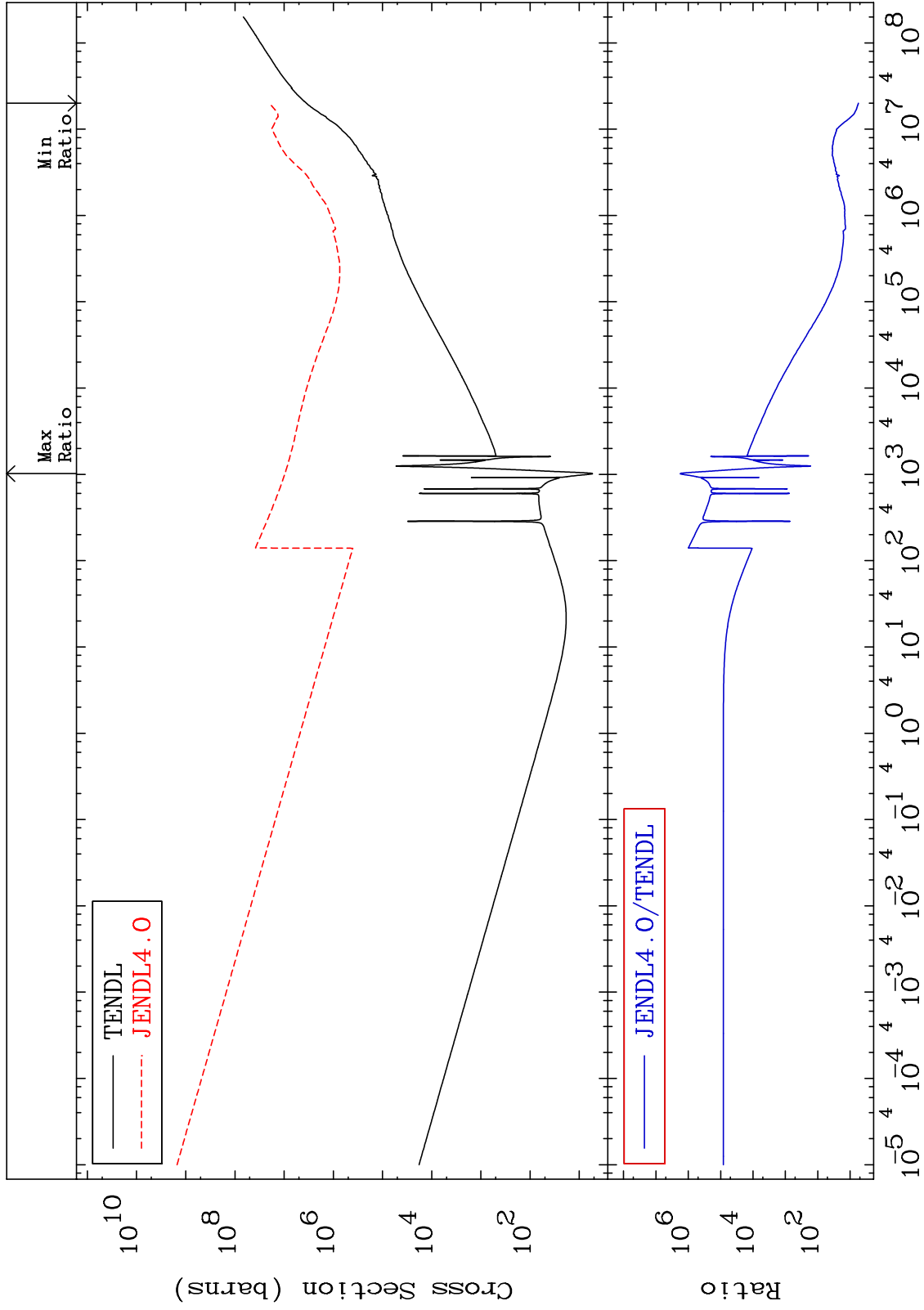
Incident Energy (eV)

44-Ru-98

MAT 4431

Kerma total (eV-barns)  
Cross Section

44-Ru-98  
452.2 To 9999. %



35

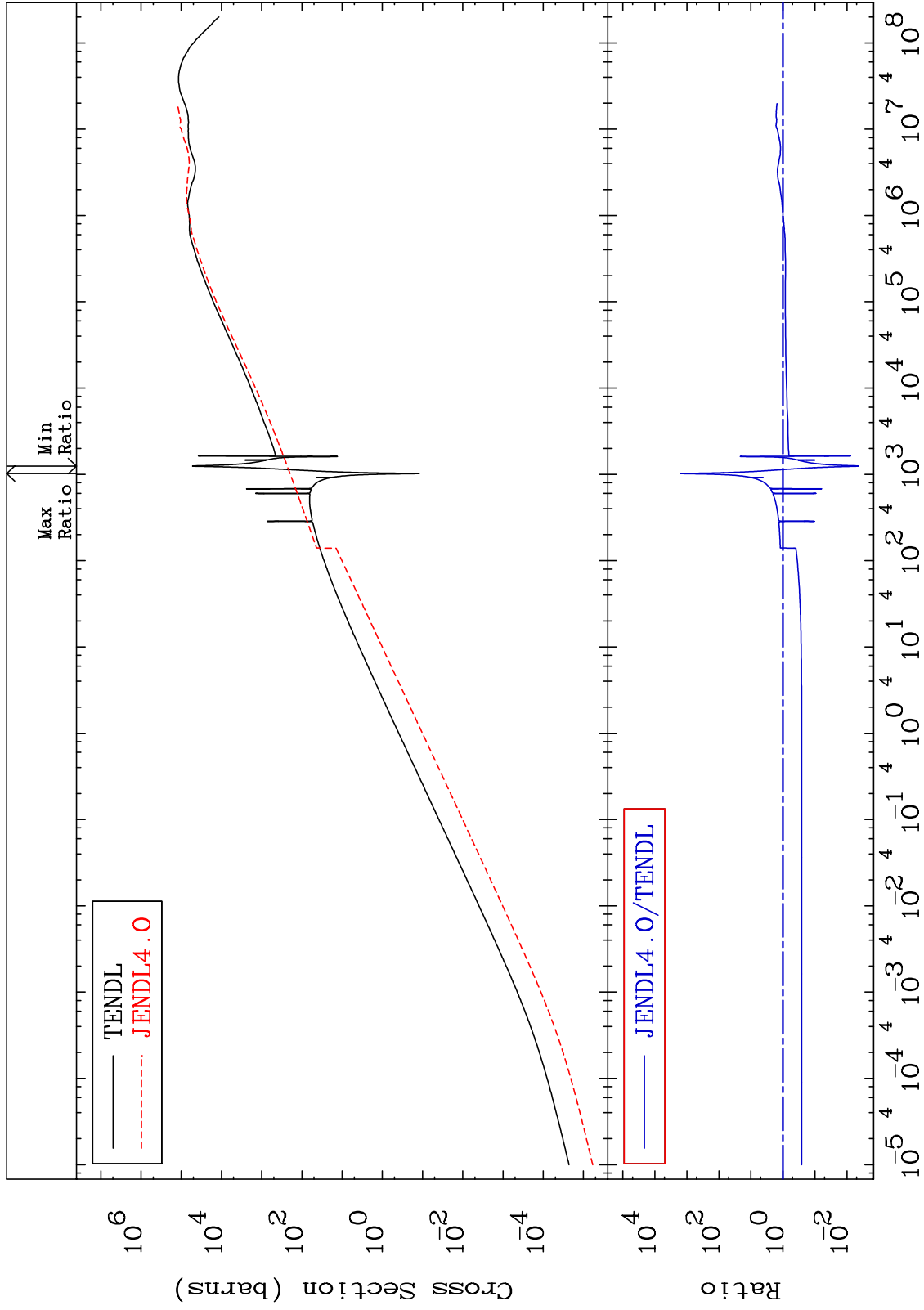
Incident Energy (eV)

44-Ru-98

MAT 4431

Kerma elastic  
Cross Section

44-Ru-98  
-99.56 To 9999. %



36

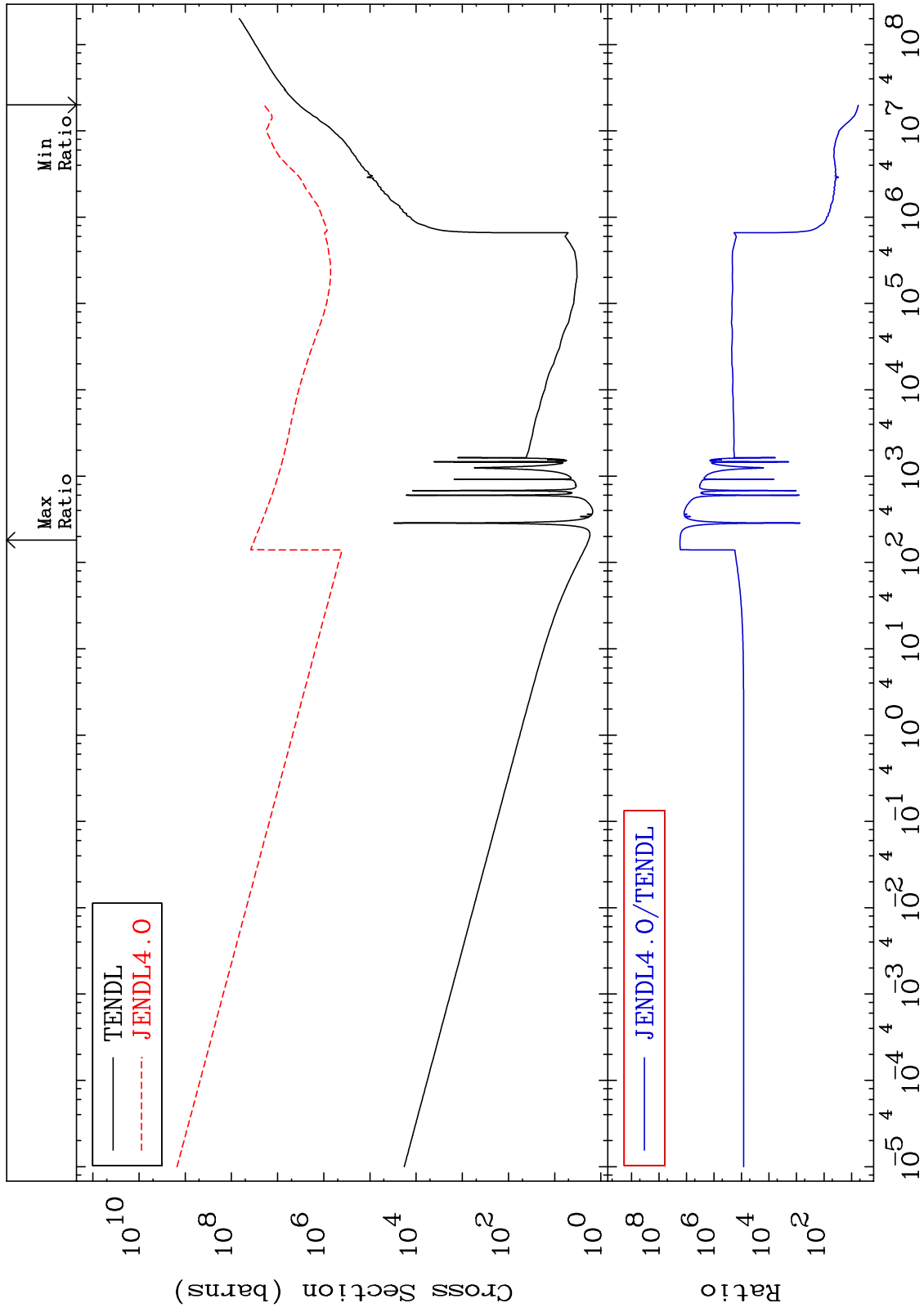
Incident Energy (eV)

44-Ru-98

MAT 4431

Kerma non-elastic (all but mt2)  
Cross Section

44-Ru-98  
461.9 To 9999. %



37

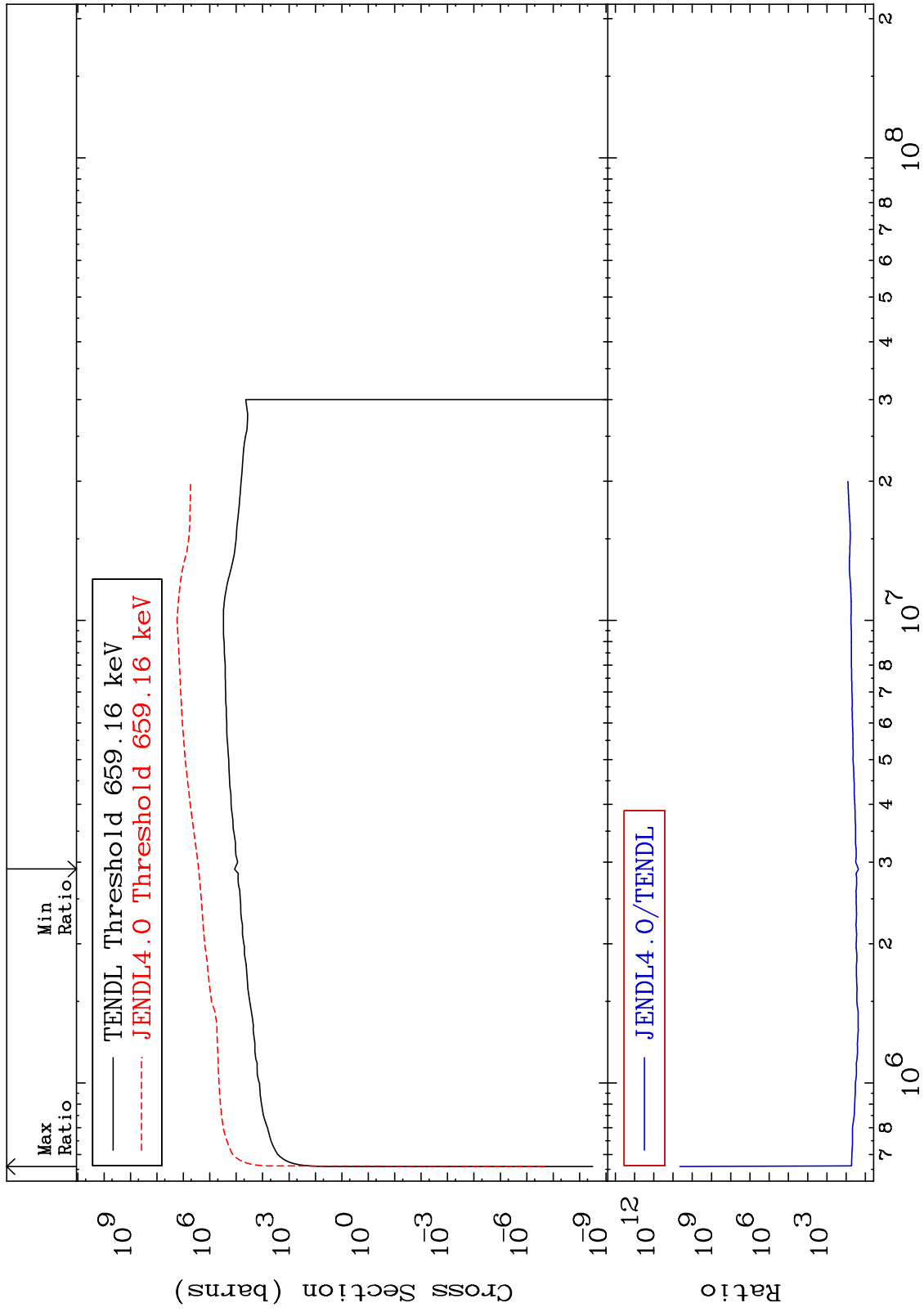
Incident Energy (eV)

44-Ru-98

MAT 4431

Kerma inelastic (mt51-91)  
Cross Section

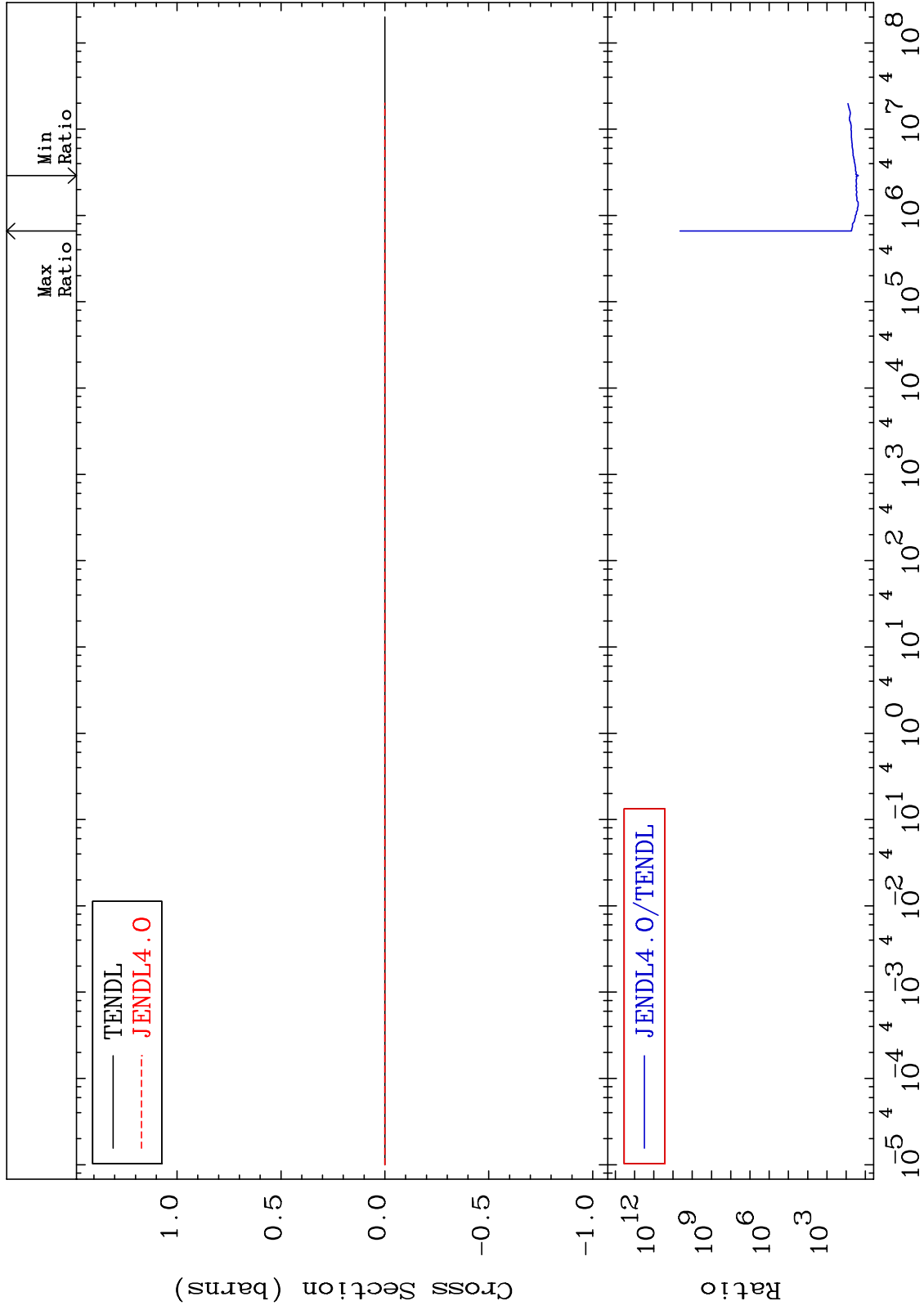
44-Ru-98  
2212. To 9999. %



MAT 4431

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

44-Ru-98  
2212. To 9999. %

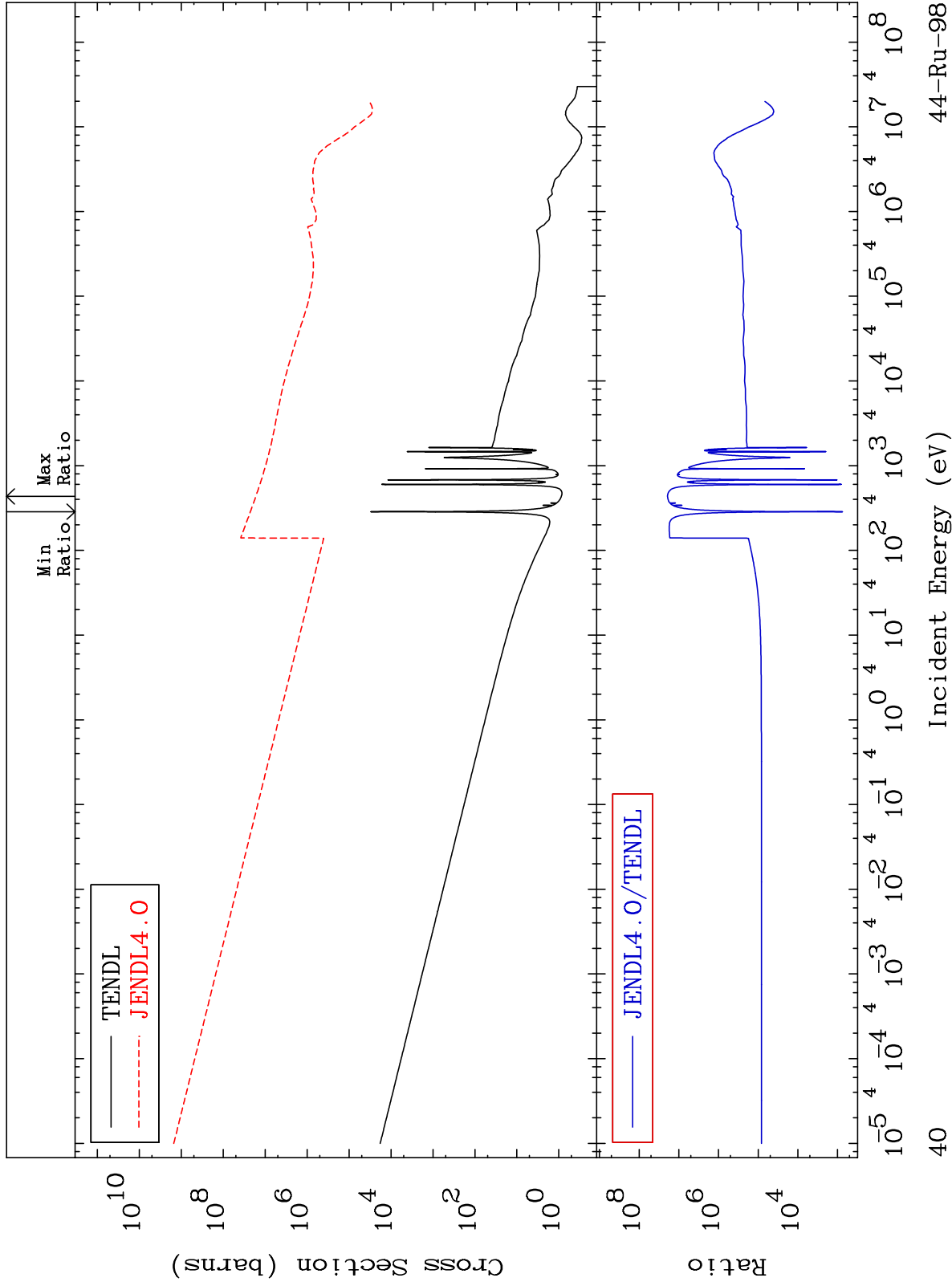




MAT 4431

Kerma capture (mt102)  
Cross Section

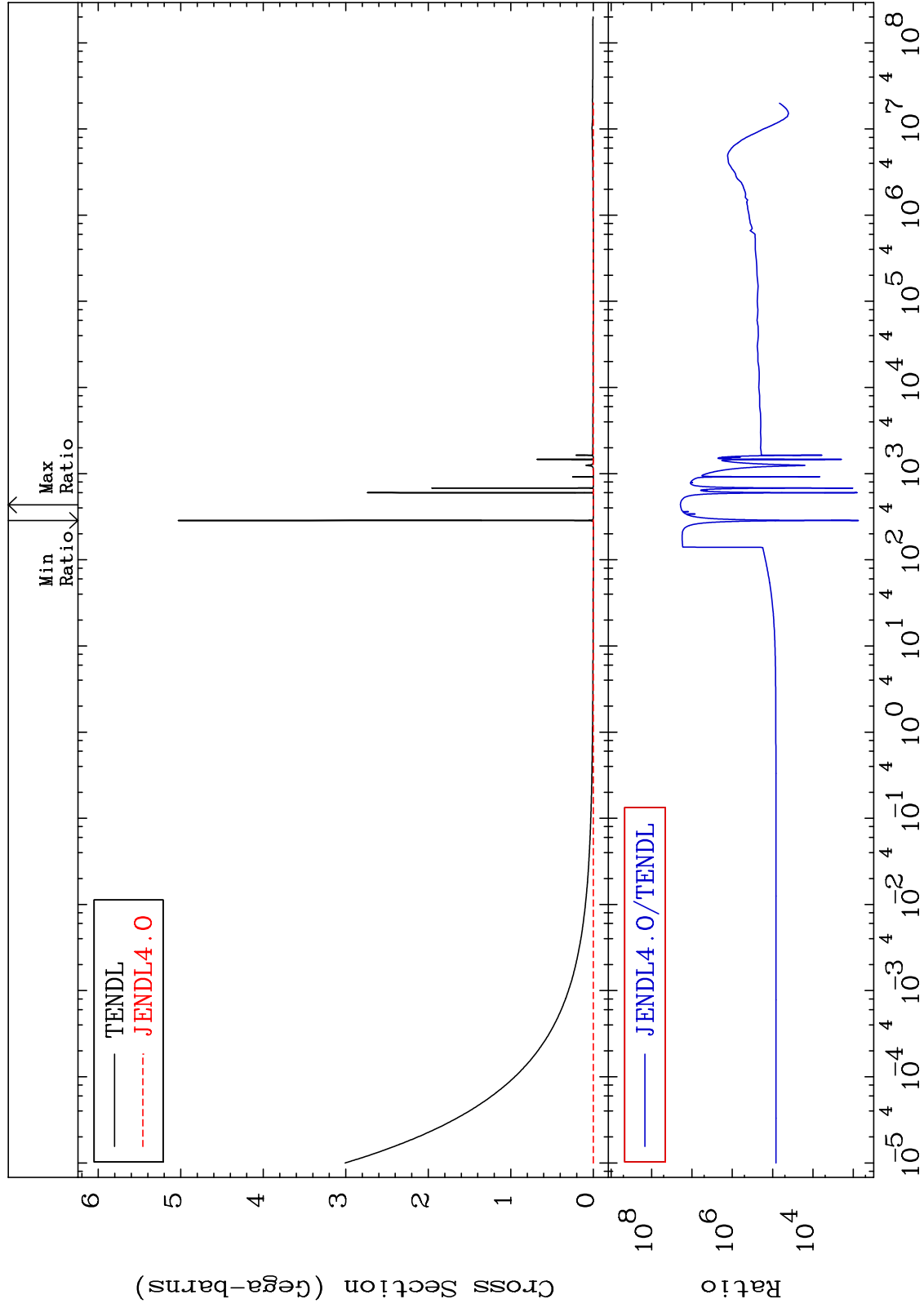
44-Ru-98  
9999. To 9999. %



MAT 4431

Total photon (eV-barns)  
Cross Section

44-Ru-98  
9999. To 9999. %



41

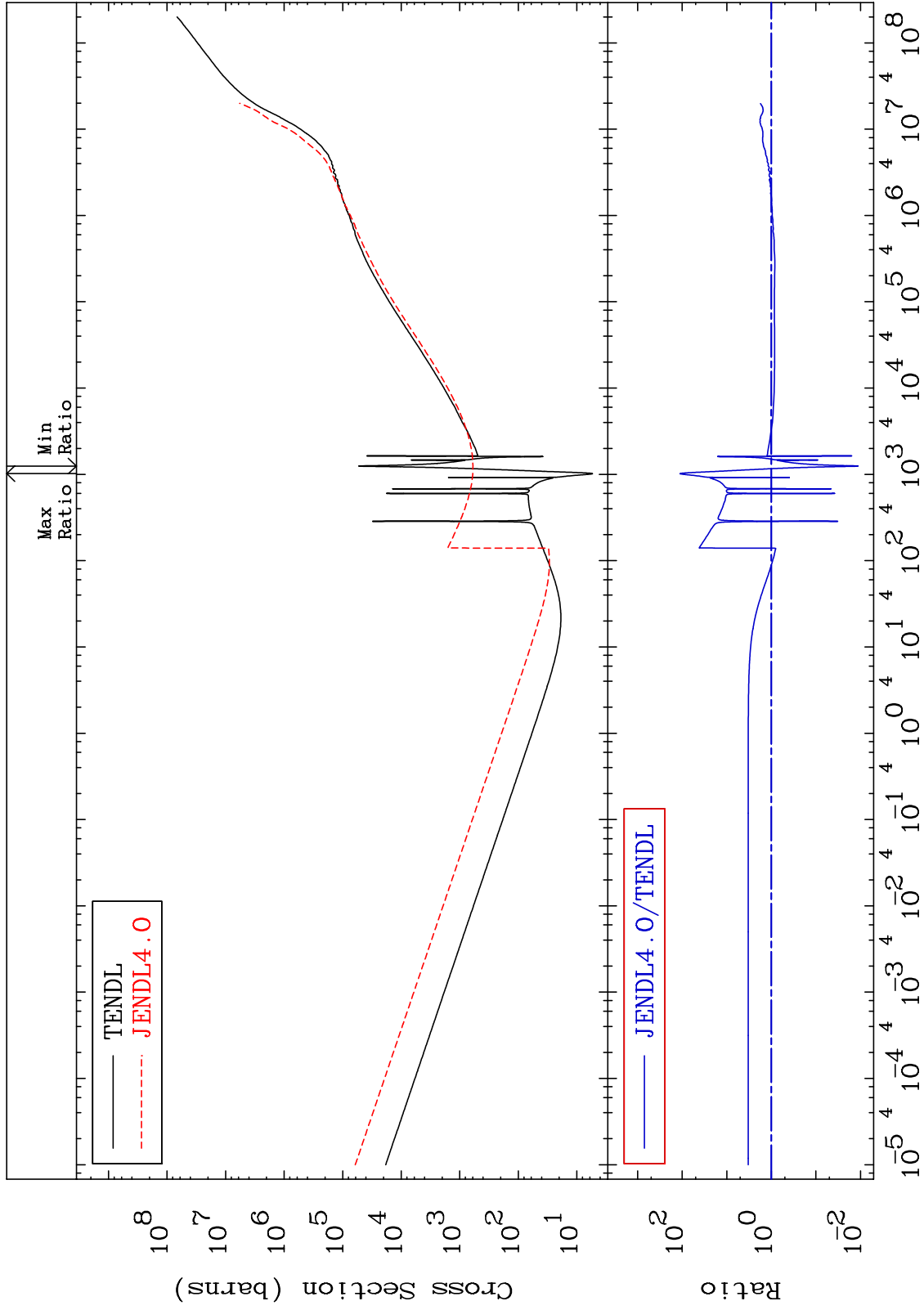
Incident Energy (eV)

44-Ru-98

MAT 4431

Total kinematic kerma (high limit)  
Cross Section

44-Ru-98  
-98.89 To 9999. %



42

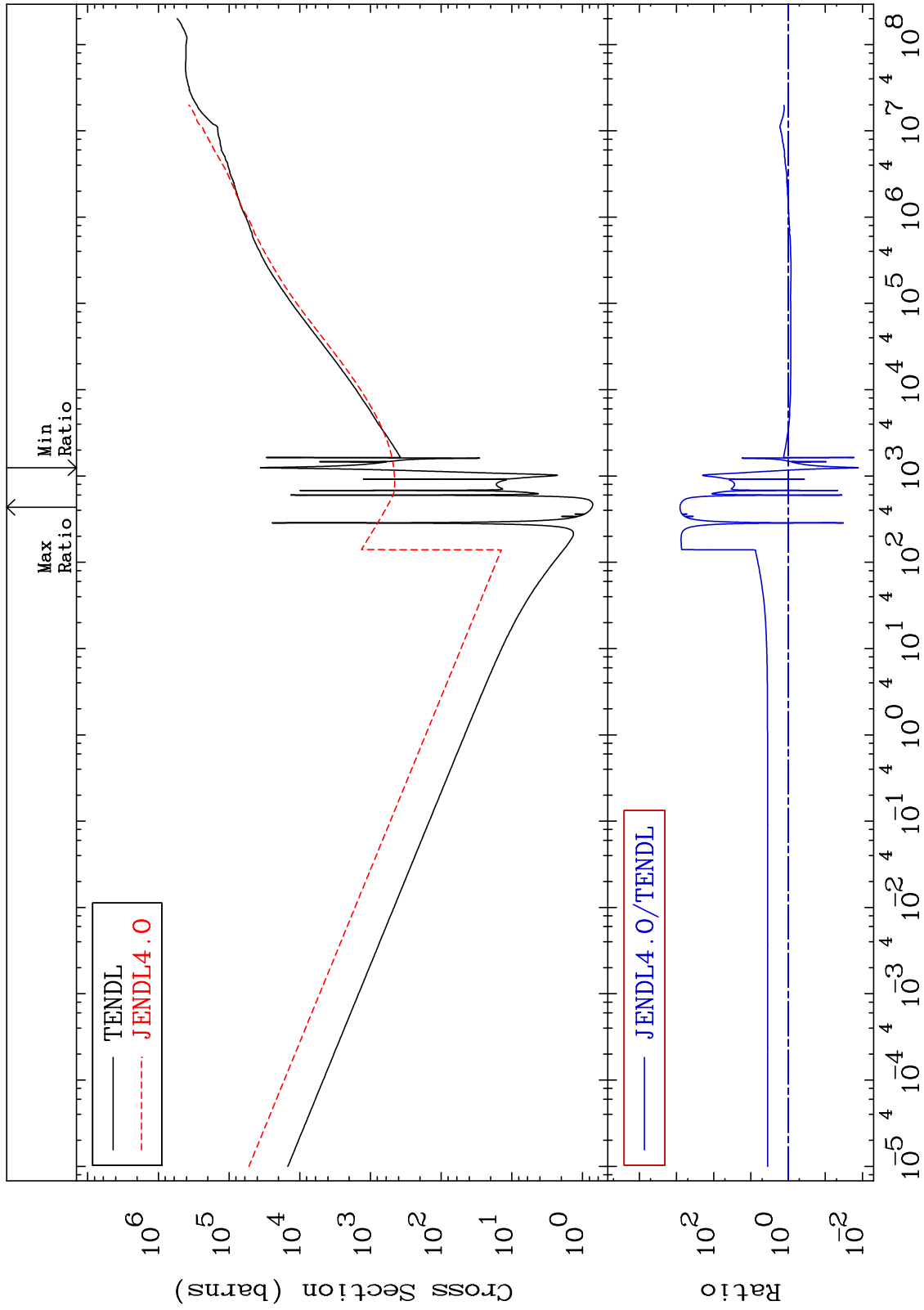
Incident Energy (eV)

44-Ru-98

MAT 4431

Dpa total (eV-barns)  
Cross Section

44-Ru-98  
-98.72 To 9999. %



43

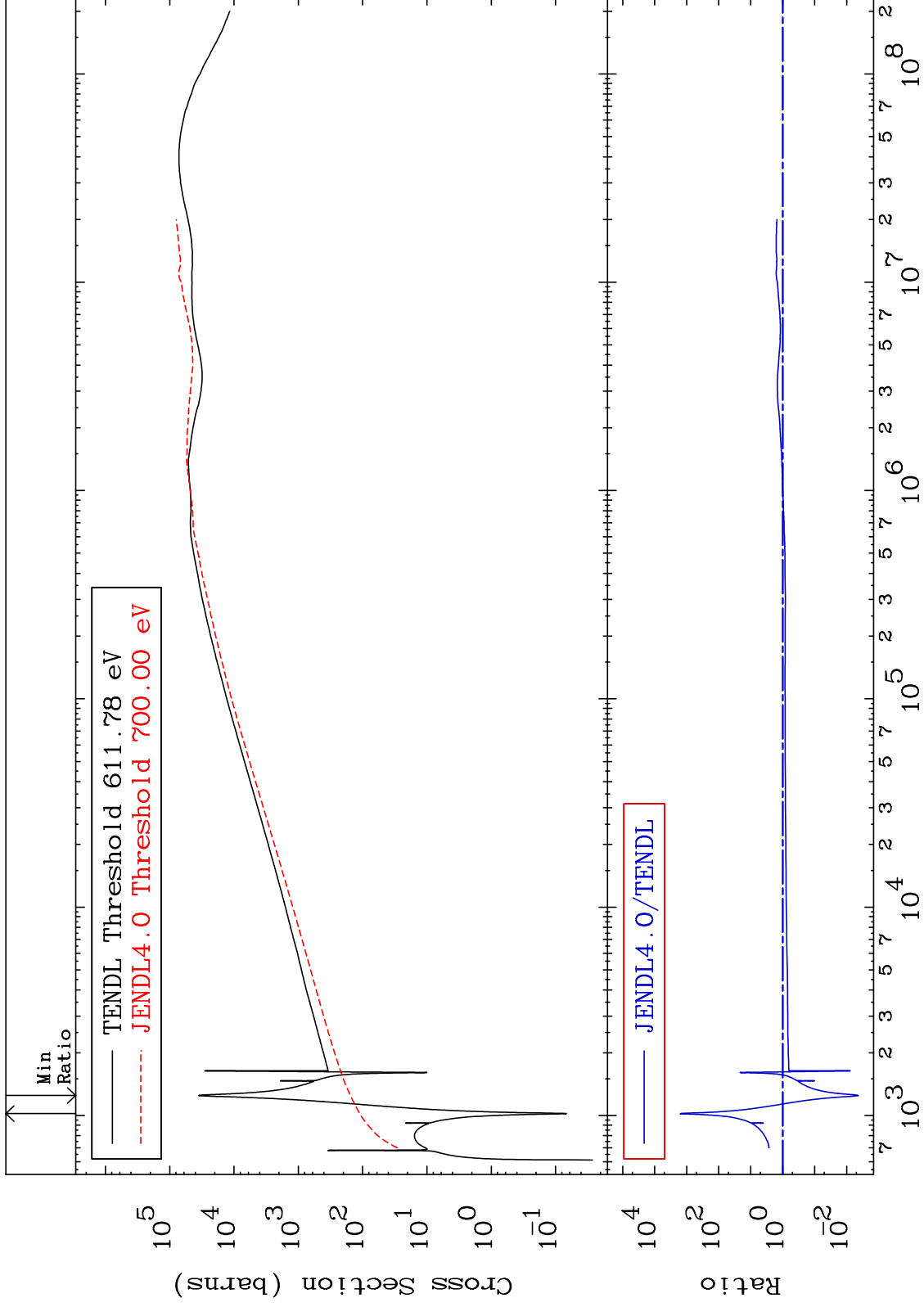
Incident Energy (eV)

44-Ru-98

MAT 4431

Dpa elastic (mt2)  
Cross Section

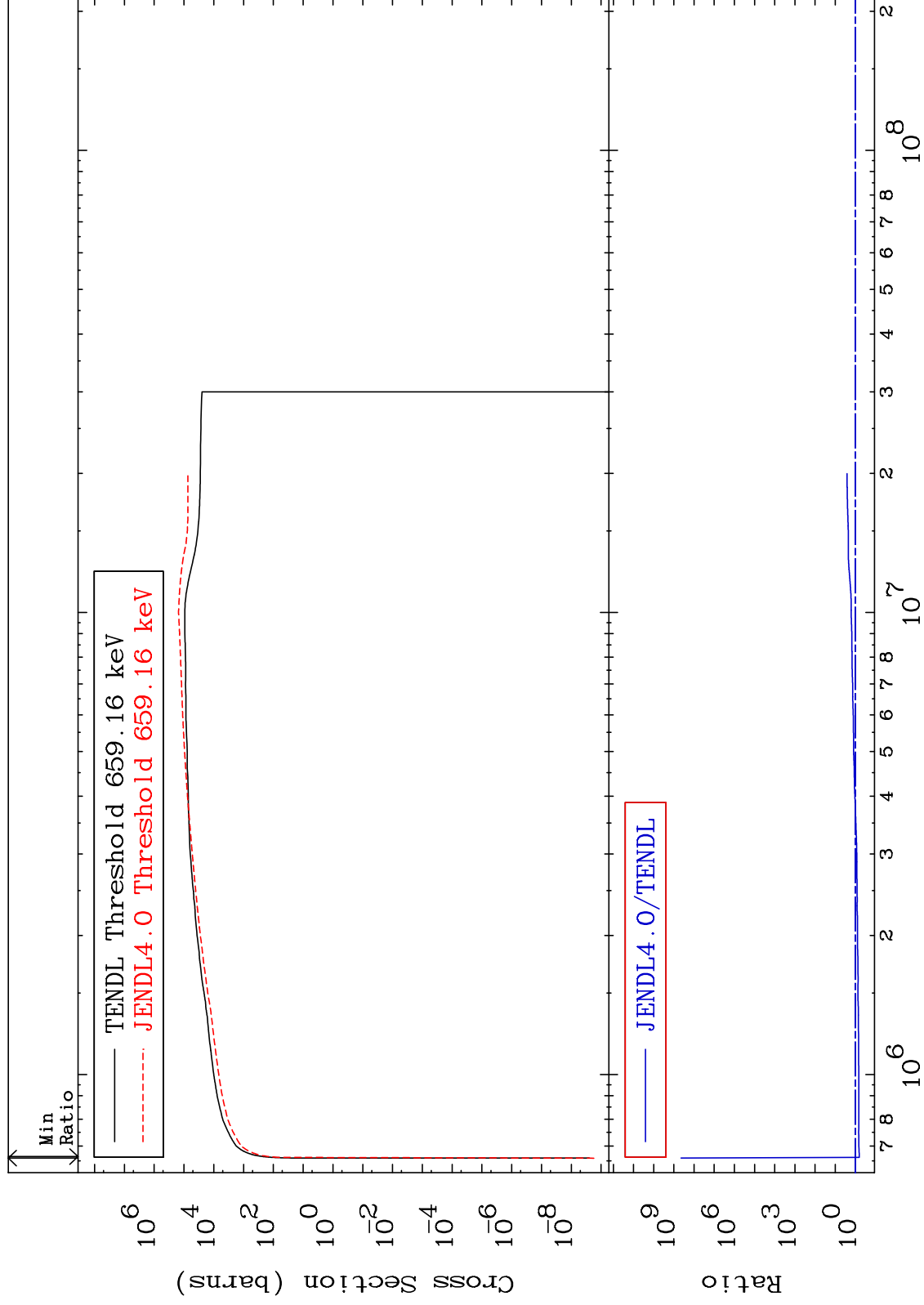
44-Ru-98  
-99.57 To 9999. %



MAT 4431

Dpa inelastic (mt51-91)  
Cross Section

44-Ru-98  
-35.92 To 9999. %



45

Incident Energy (eV)

44-Ru-98

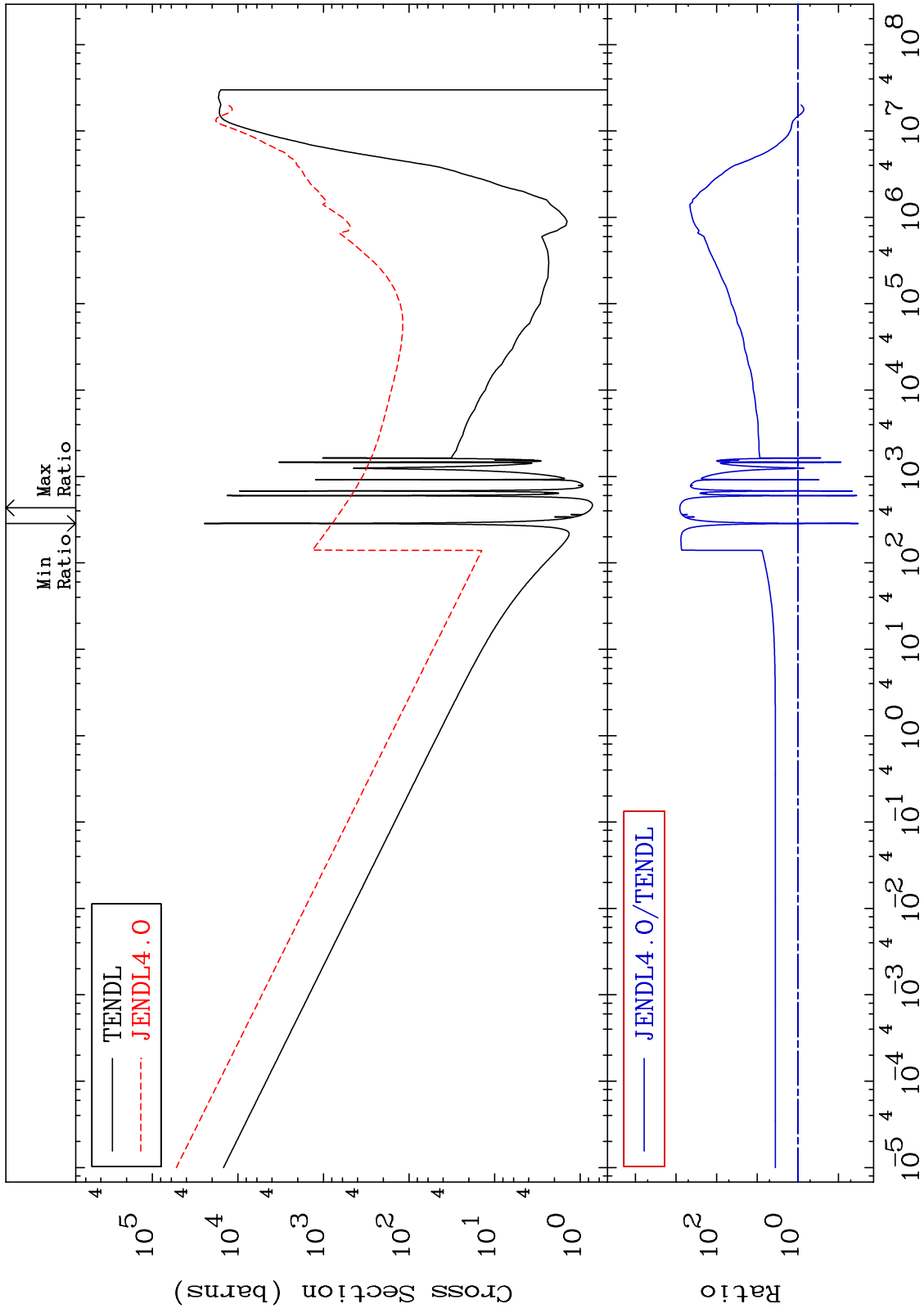
MAT 4431

Dpa disappearance (mt102 -120)

44-Ru-98

-96.78 To 9999. %

Cross Section



46

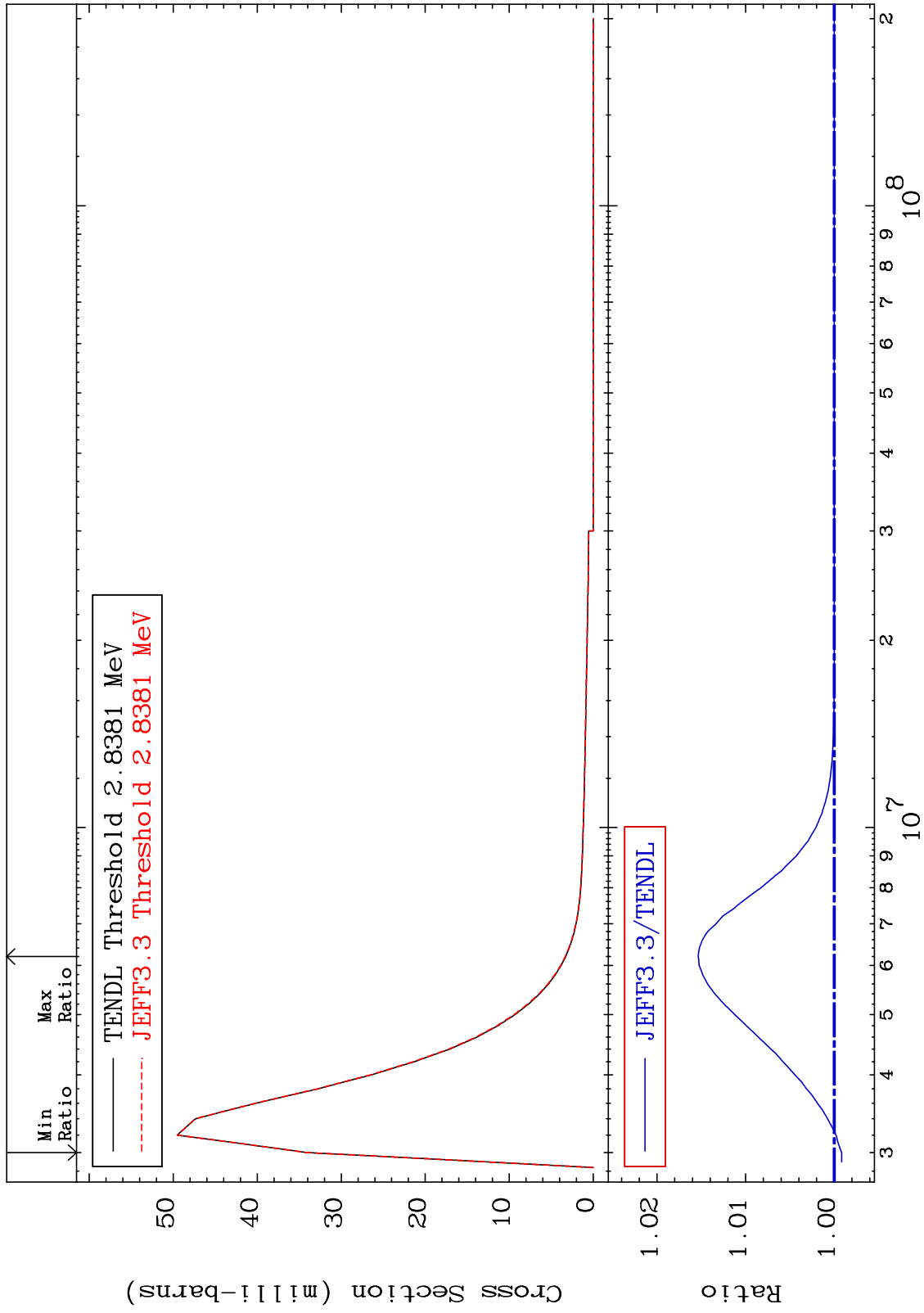
Incident Energy (eV)

44-Ru-98

MAT 4431

MT= 79 (n,n') Level  
Cross Section

44-Ru-98  
-0.082 To 1.536 %



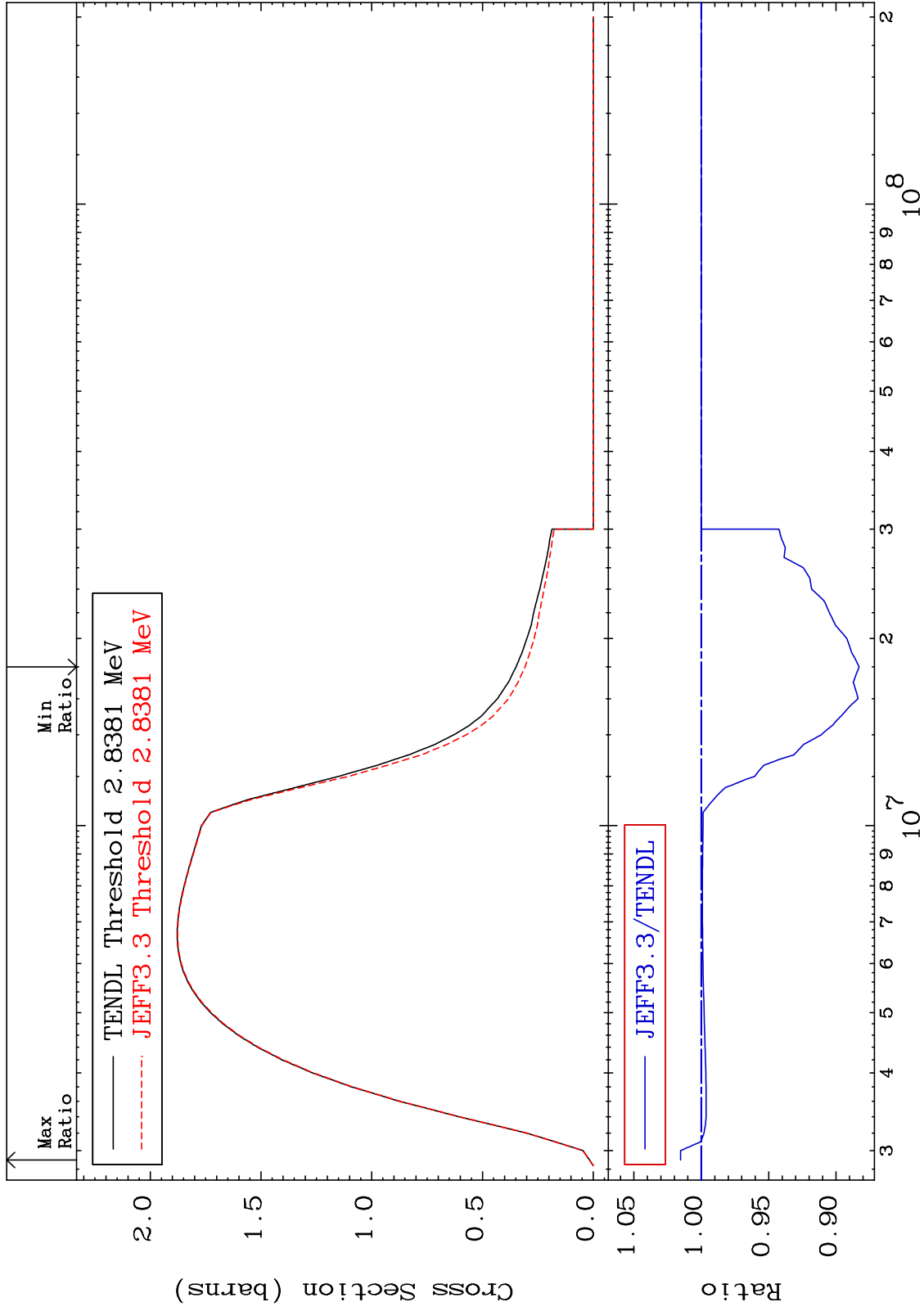
47



MAT 4431

(n,n') Continuum  
Cross Section

44-Ru-98  
-11.71 To 1.534 %



48

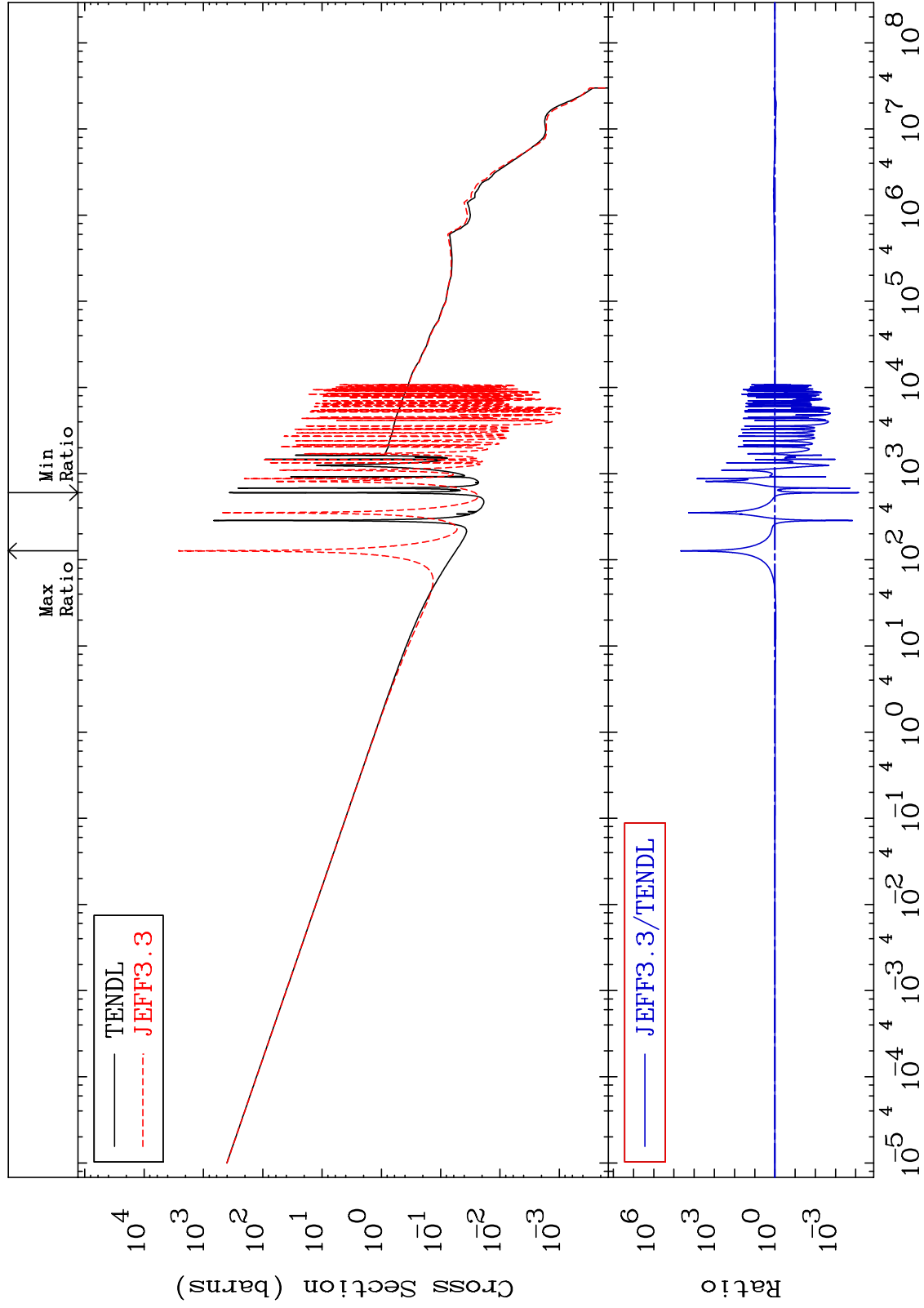
Incident Energy (eV)

44-Ru-98

MAT 4431

(n,  $\gamma$ )  
Cross Section

44-Ru-98  
-99.99 To 9999. %



49

Incident Energy (eV)

44-Ru-98

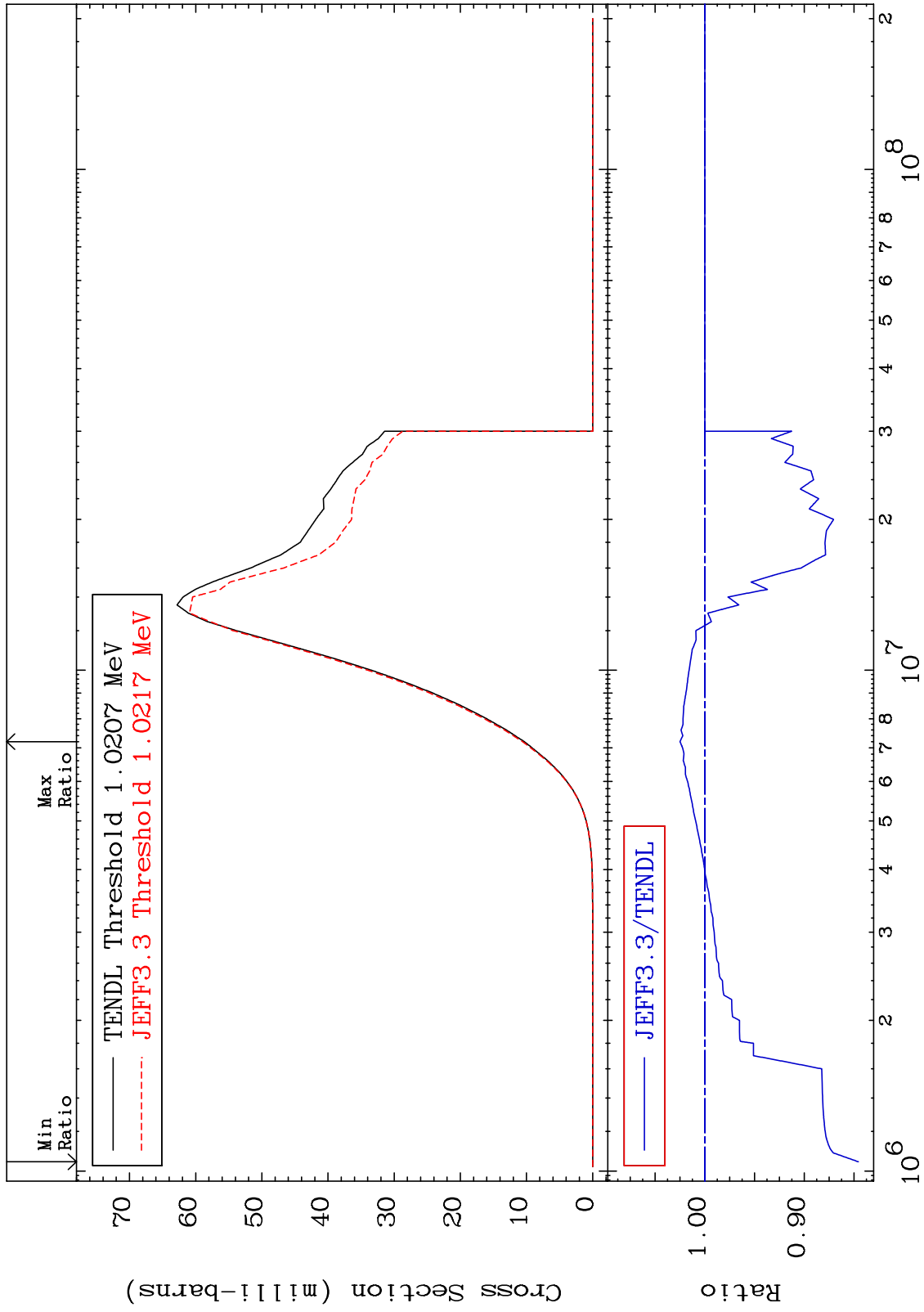
MAT 4431

(n, p)

44-Ru-98

Cross Section

-15.45 To 2.500 %



Incident Energy (eV)

44-Ru-98

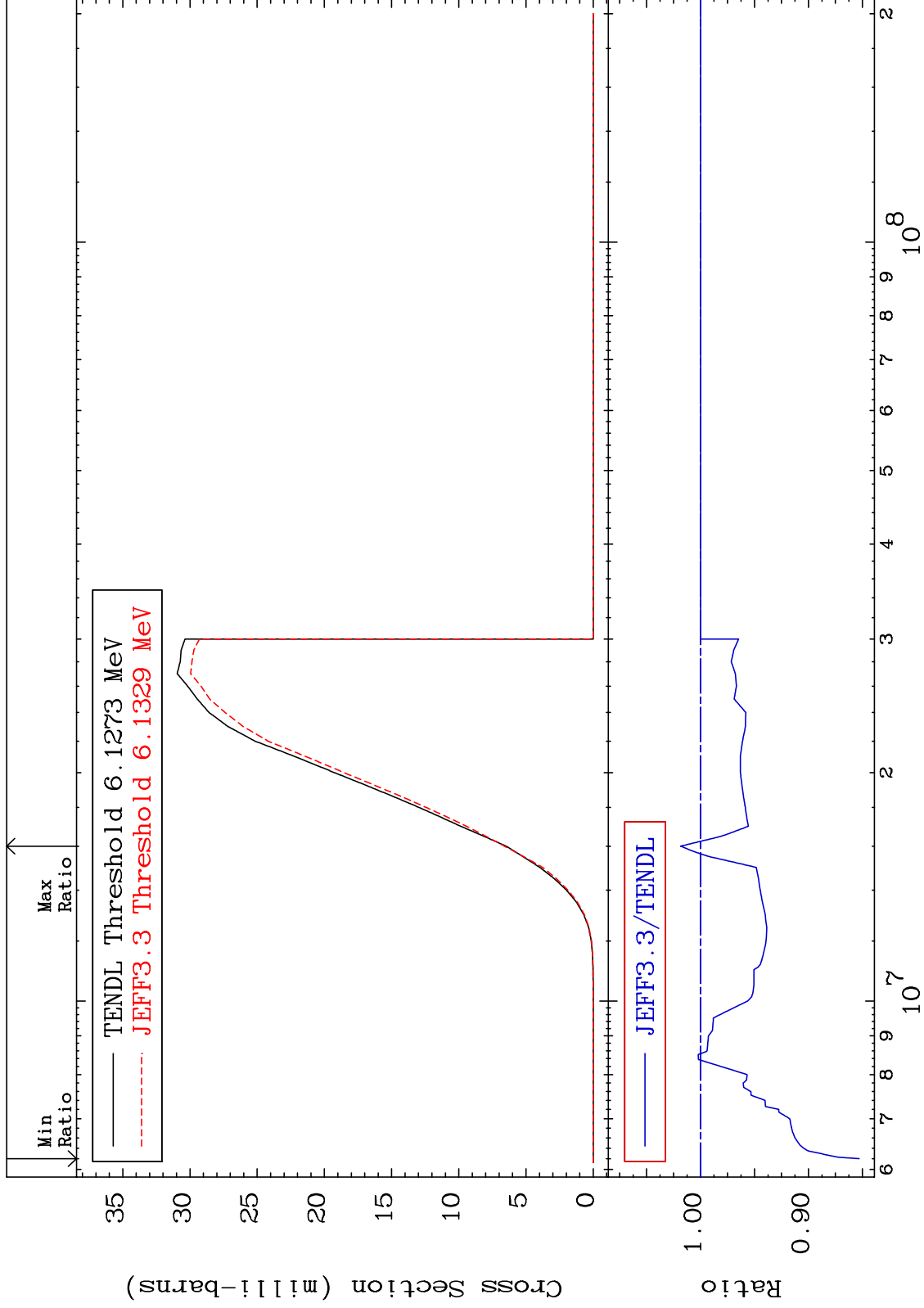
MAT 4431

(n, d)

44-Ru-98

Cross Section

-14.70 To 1.847 %



51

Incident Energy (eV)

44-Ru-98

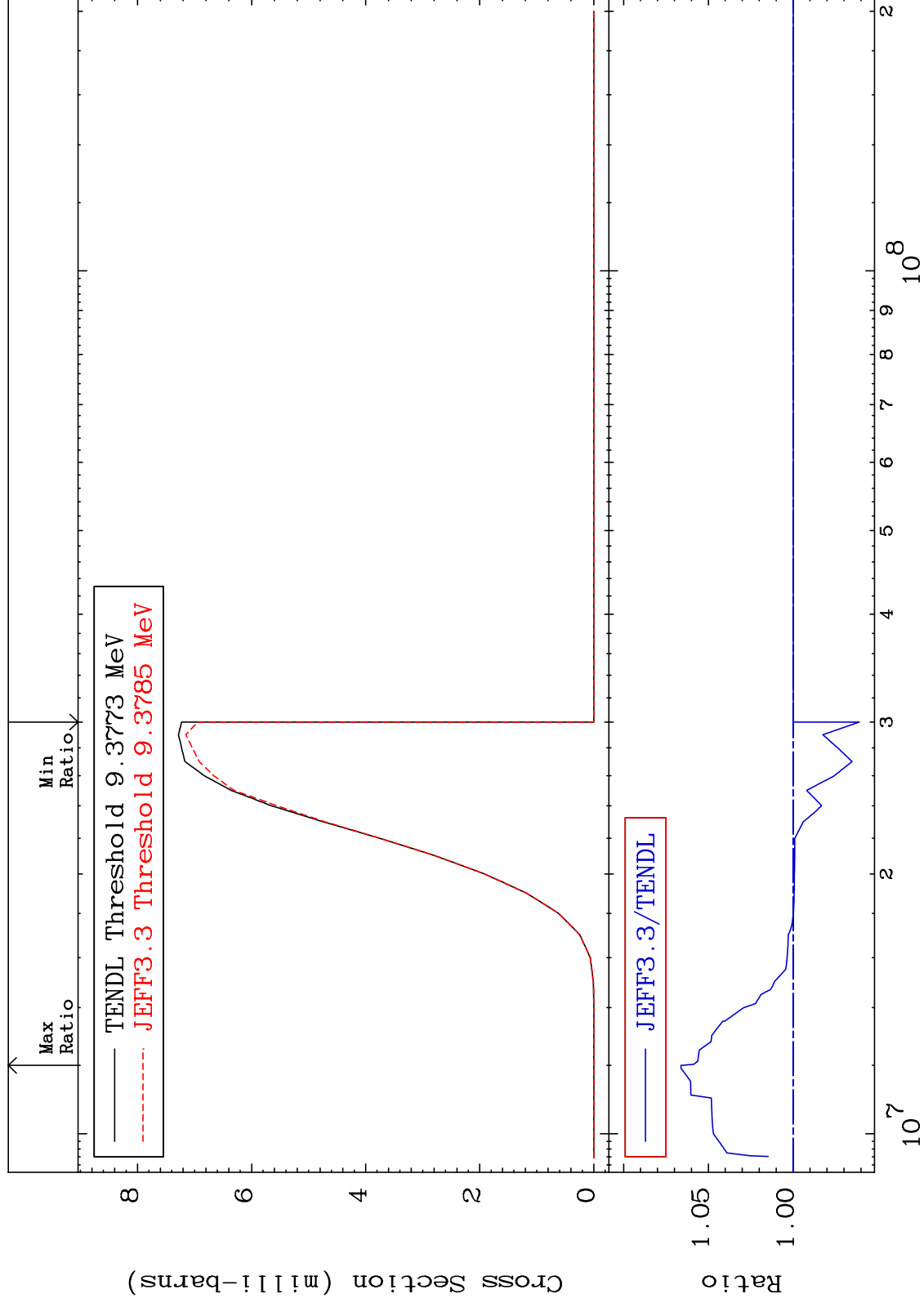
MAT 4431

(n, t)

44-Ru-98

Cross Section

-3.903 To 6.610 %



52

Incident Energy (eV)

44-Ru-98

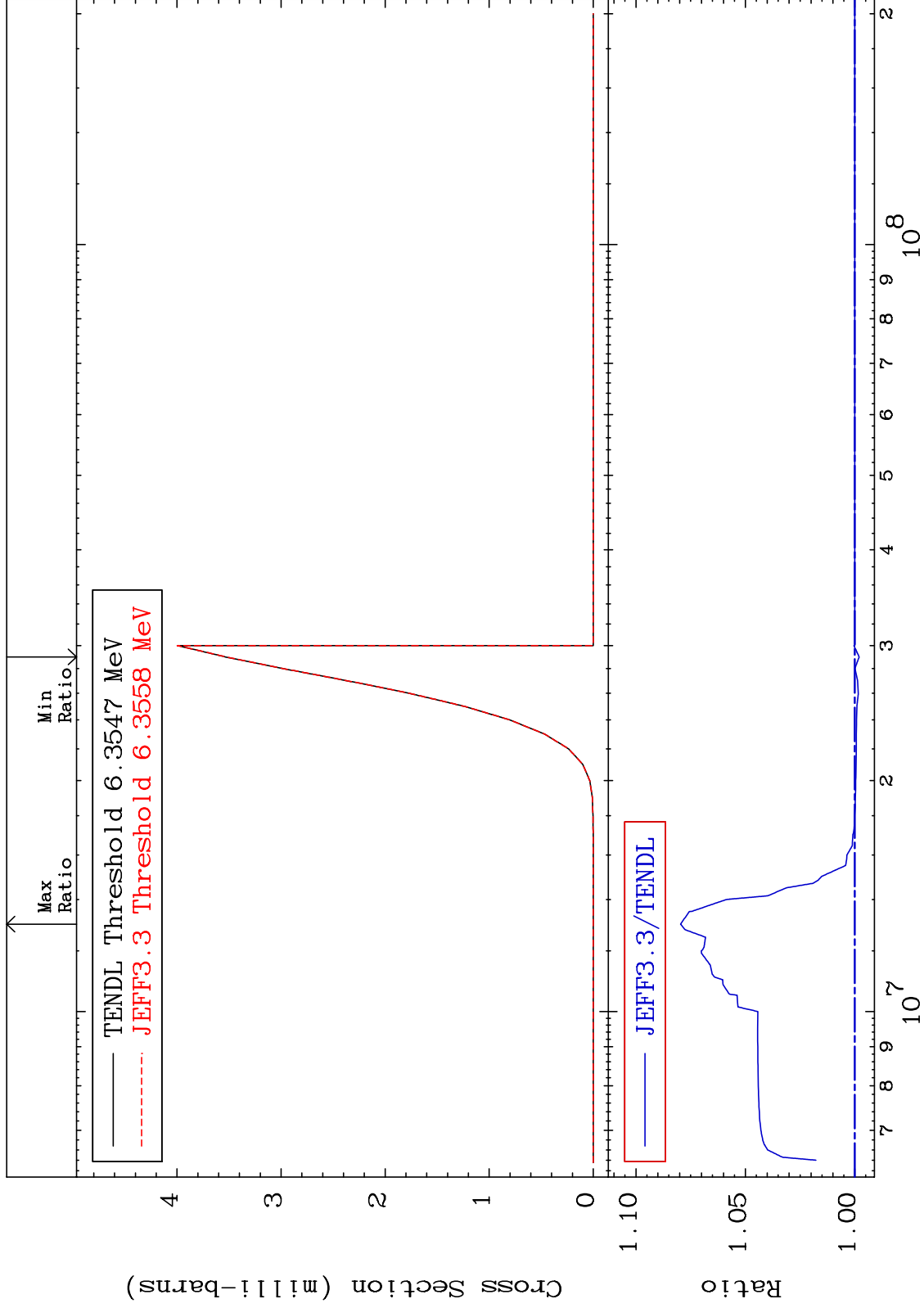
MAT 4431

(n, He-3)

44-Ru-98

Cross Section

-0.200 To 7.958 %



53

Incident Energy (eV)

44-Ru-98

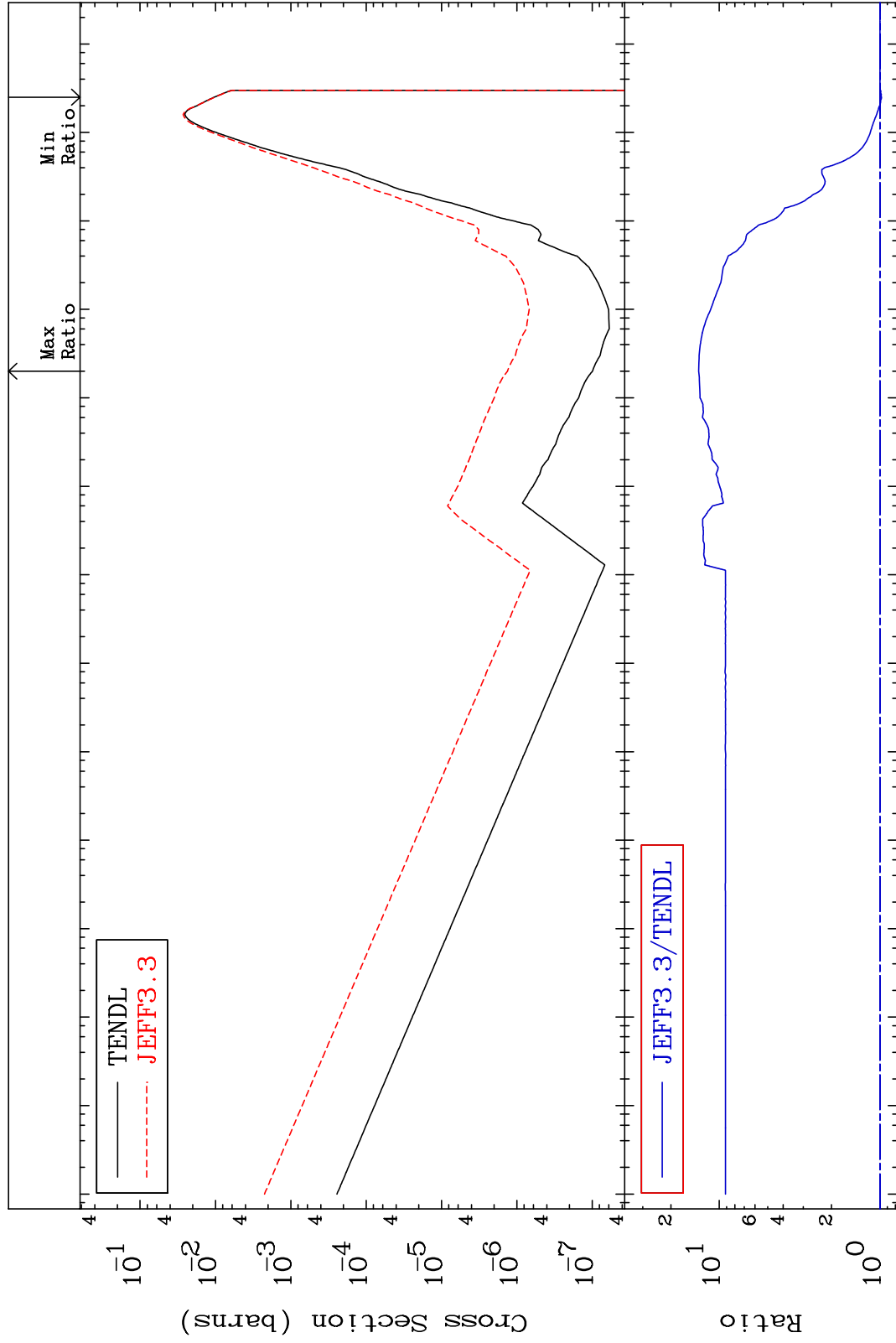
MAT 4431

(n,  $\alpha$ )

44-Ru-98

Cross Section

-2.388 To 1244. %



54

Incident Energy (eV)

44-Ru-98

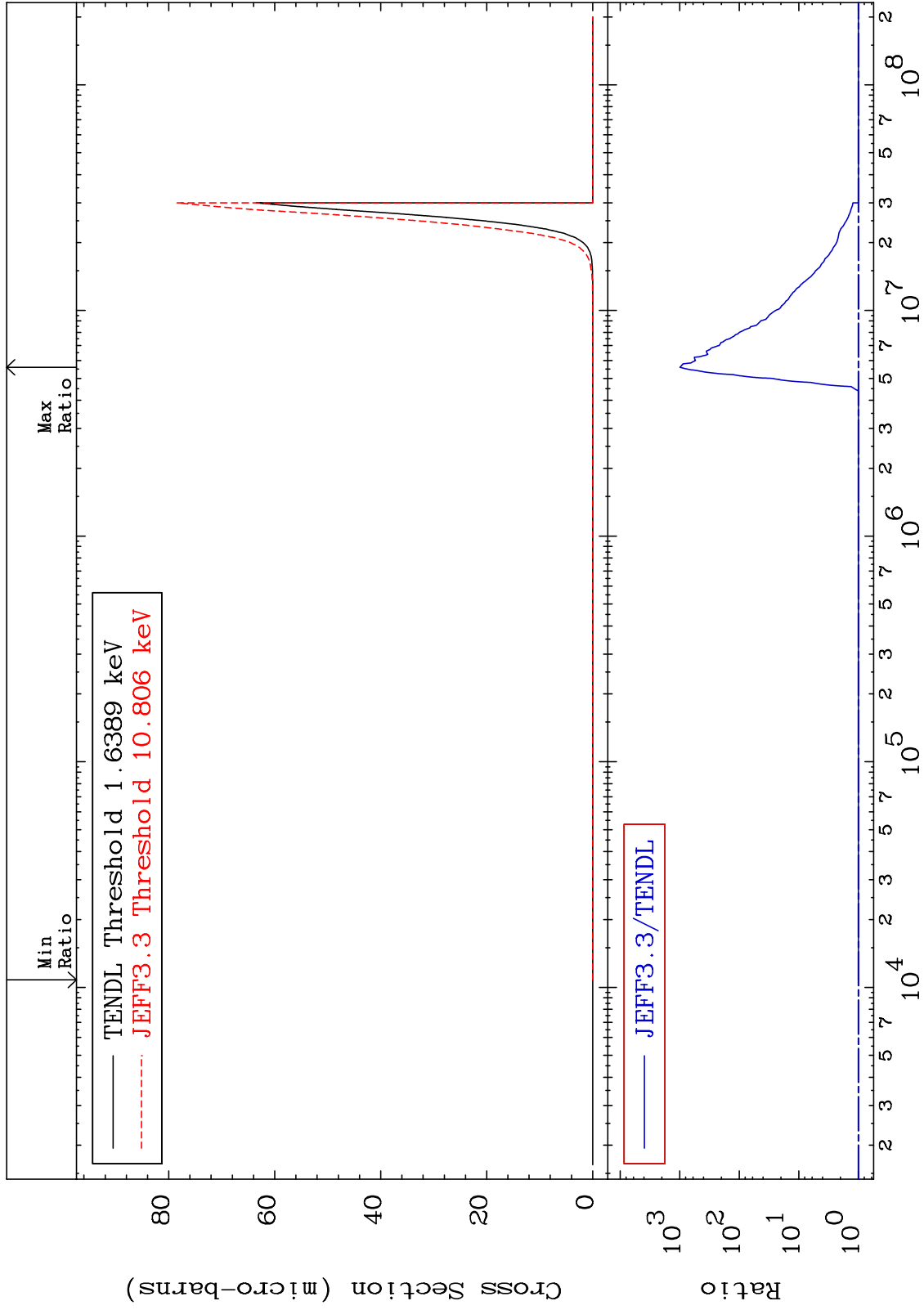
MAT 4431

(n,2α)

44-Ru-98

Cross Section

0.000 To 9999. %



55

Incident Energy (eV)

44-Ru-98



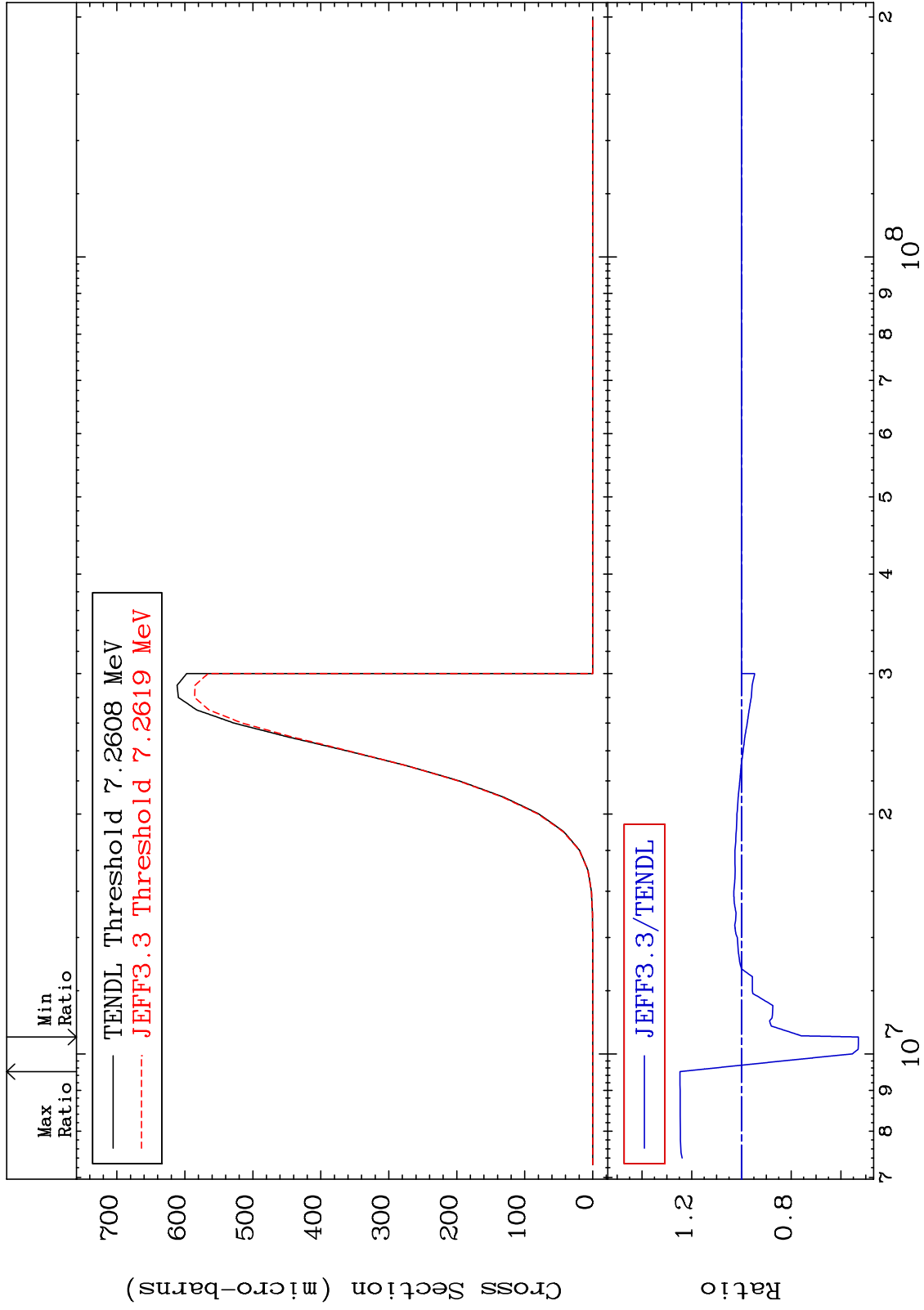
MAT 4431

(n,2p)

44-Ru-98

Cross Section

-47.02 To 24.73 %



56

Incident Energy (eV)

44-Ru-98

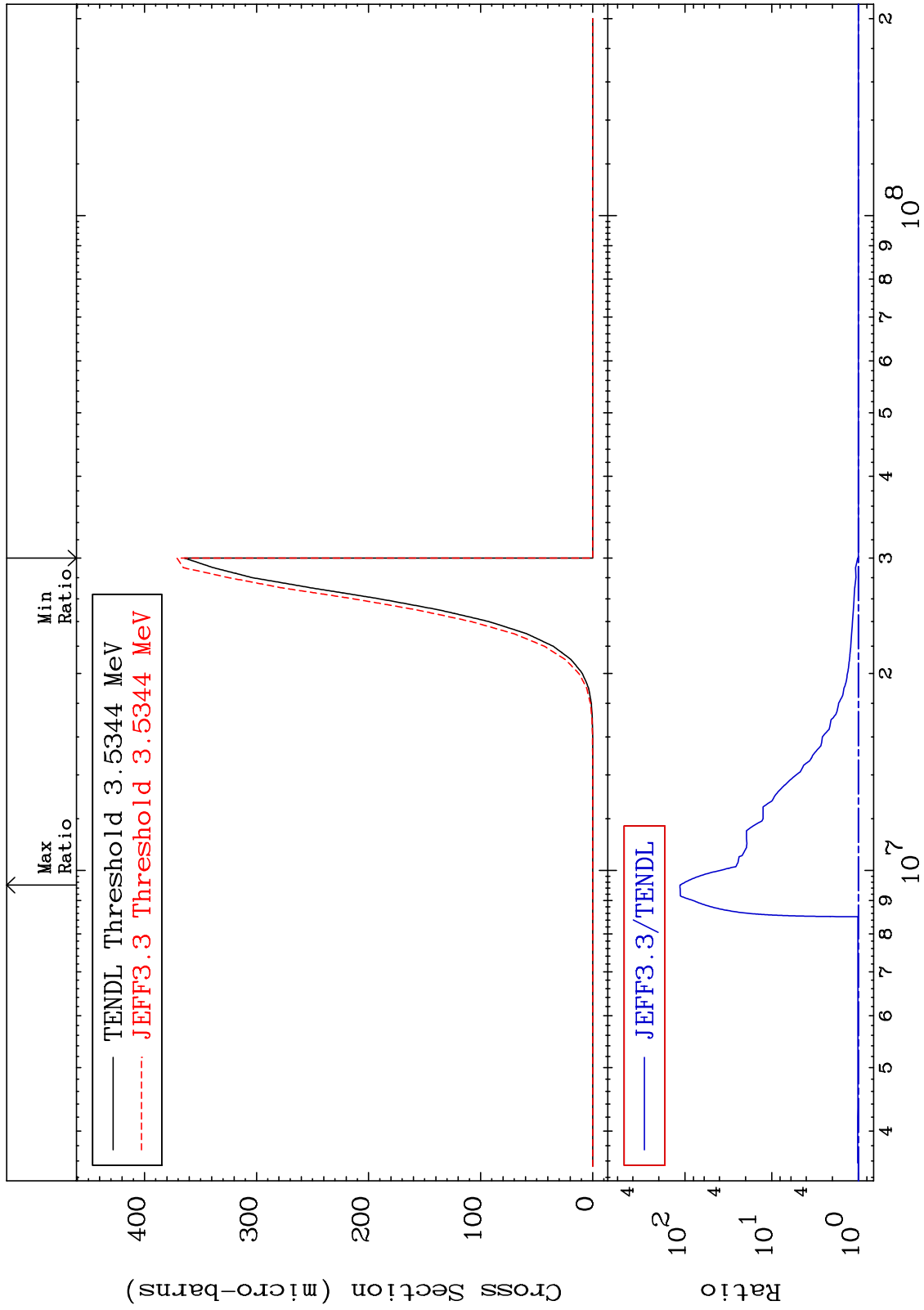
MAT 4431

(n,p)  $\alpha$

44-Ru-98

0.000 To 9999. %

Cross Section



57

Incident Energy (eV)

44-Ru-98

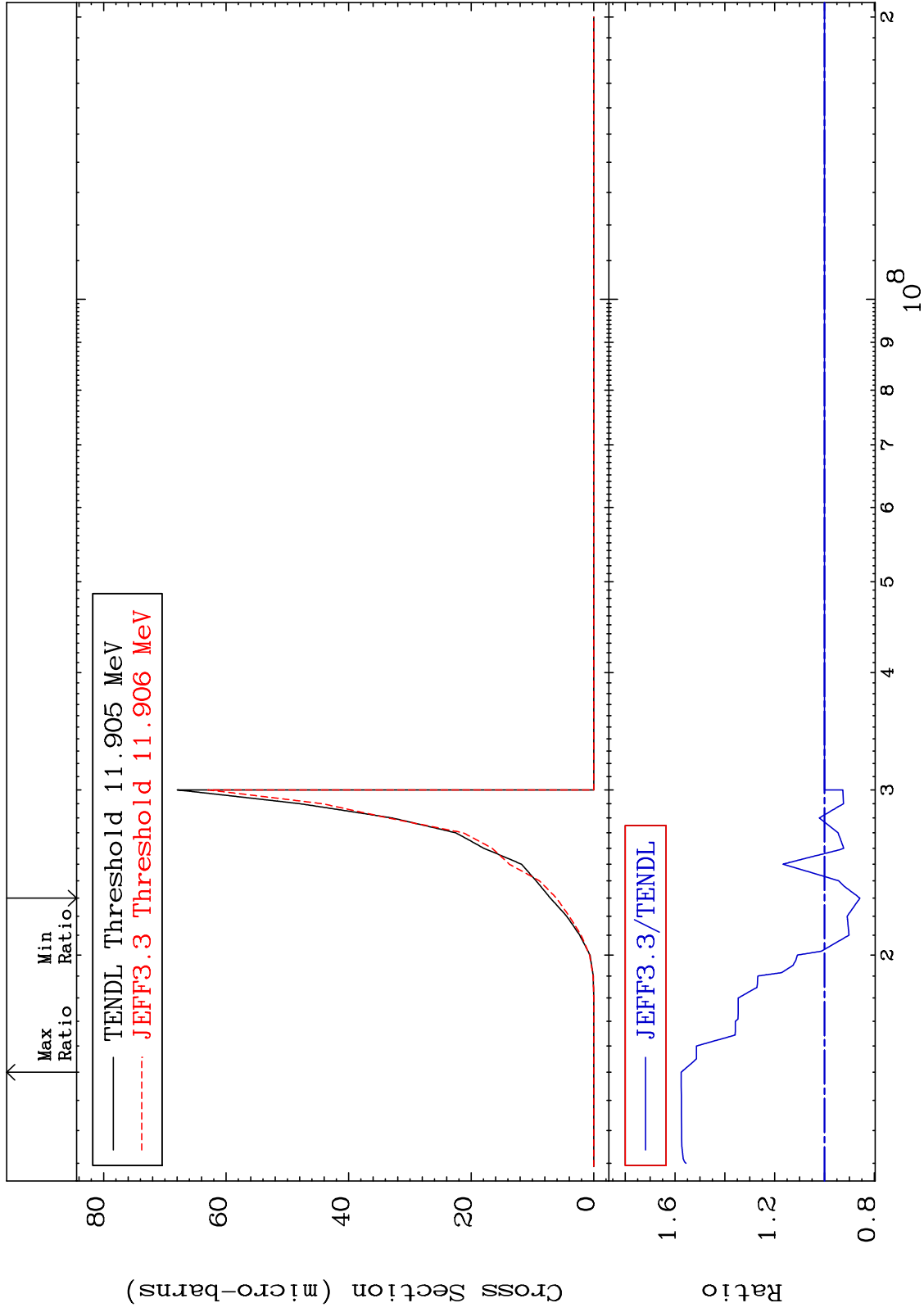
MAT 4431

(n,p) d

44-Ru-98

Cross Section

-14.20 To 57.53 %



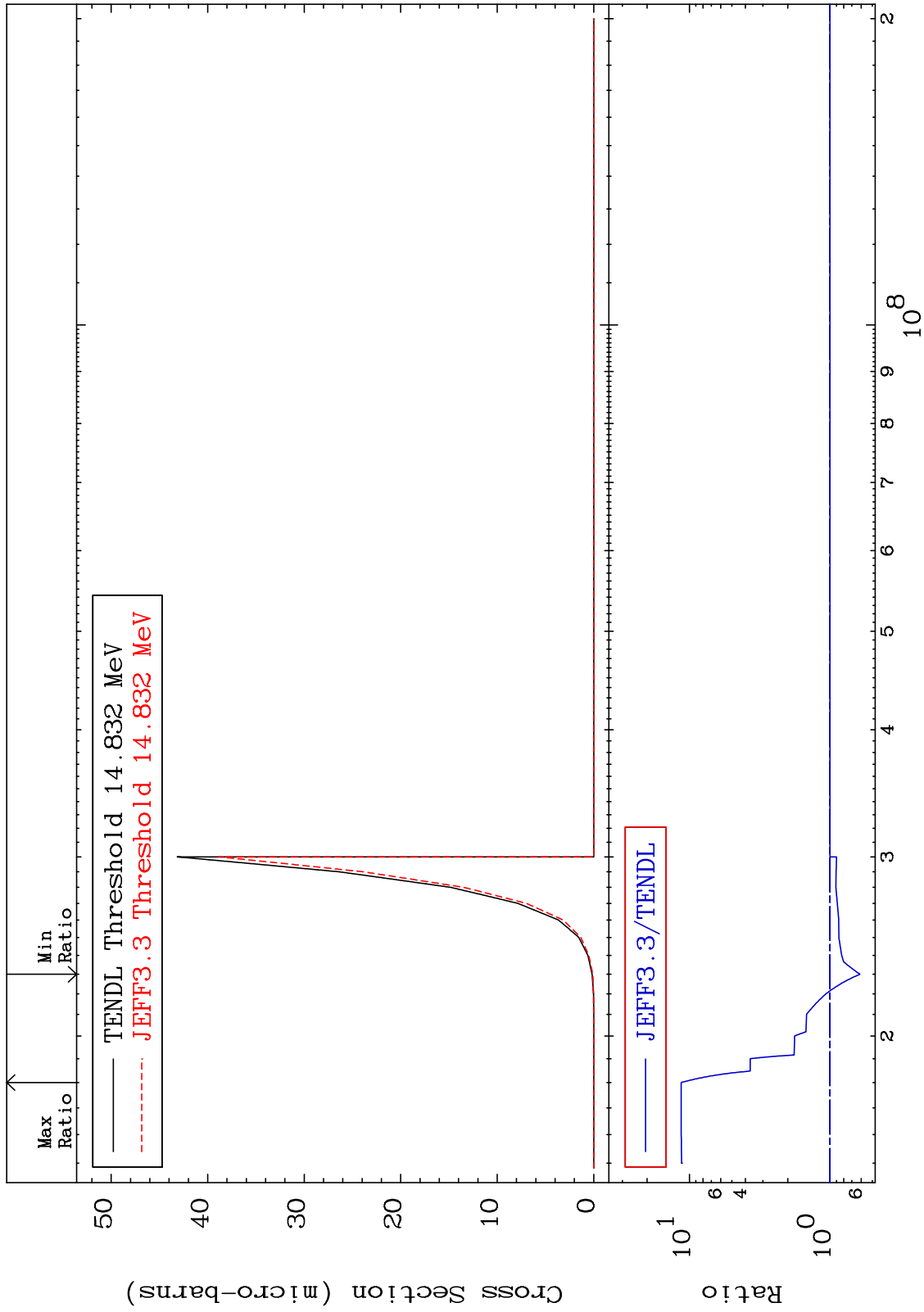
MAT 4431

(n,p) t

44-Ru-98

Cross Section

-38.73 To 1044. %



59

44-Ru-98

44-Ru-98

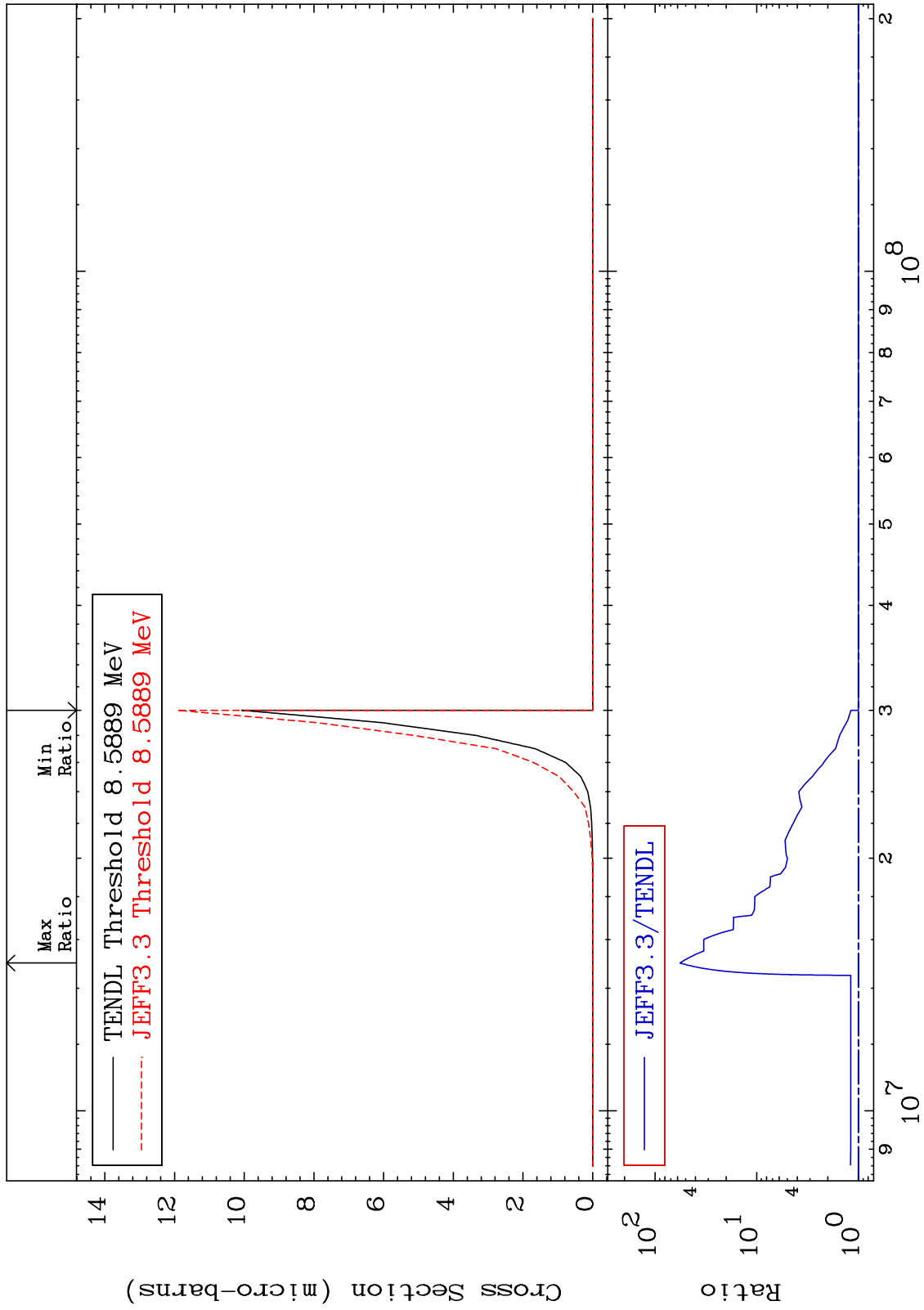
MAT 4431

(n,d)  $\alpha$

44-Ru-98

Cross Section

0.000 To 5583. %



60

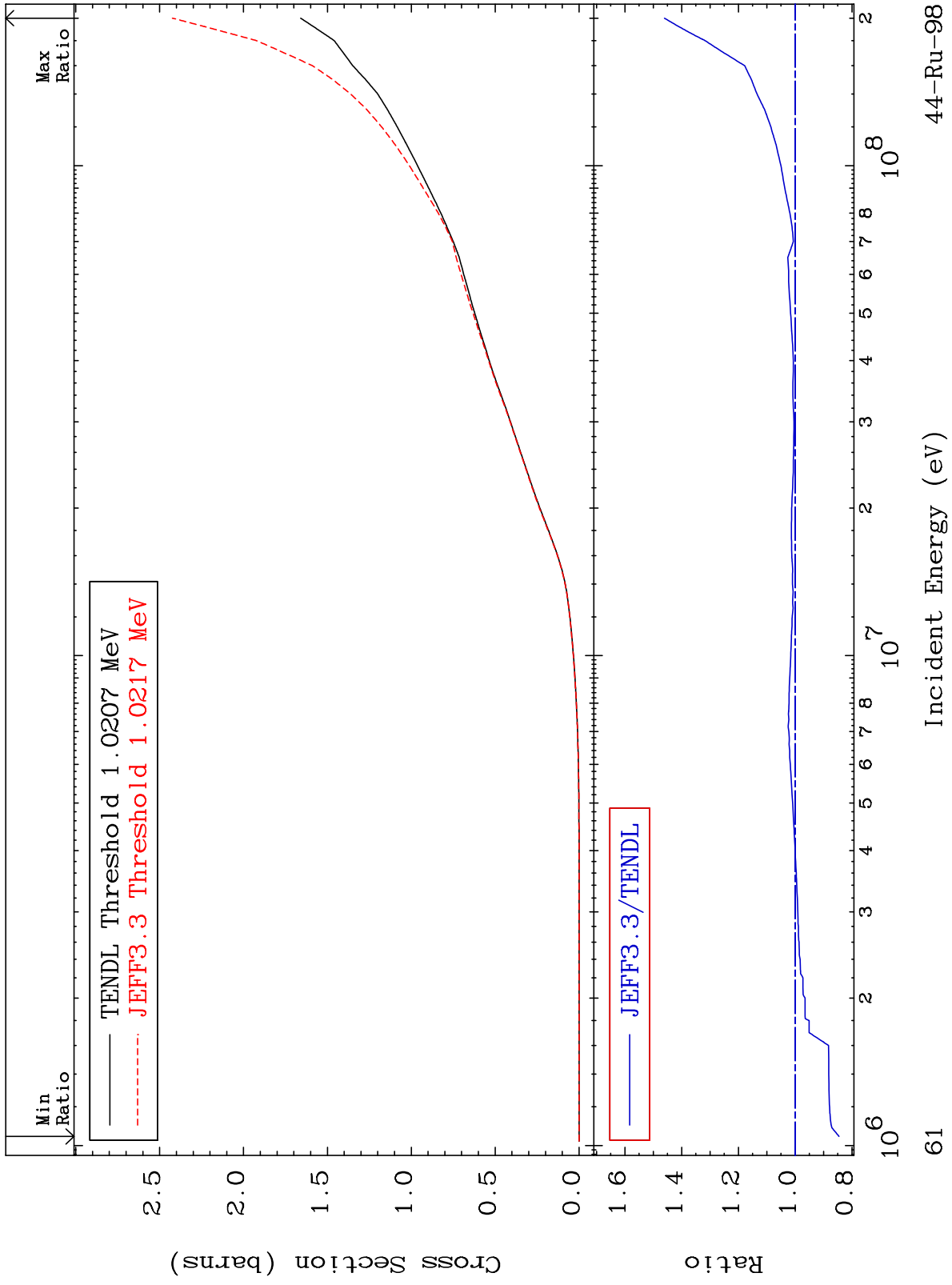
Incident Energy (eV)

44-Ru-98

MAT 4431

Hydrogen Production  
Cross Section

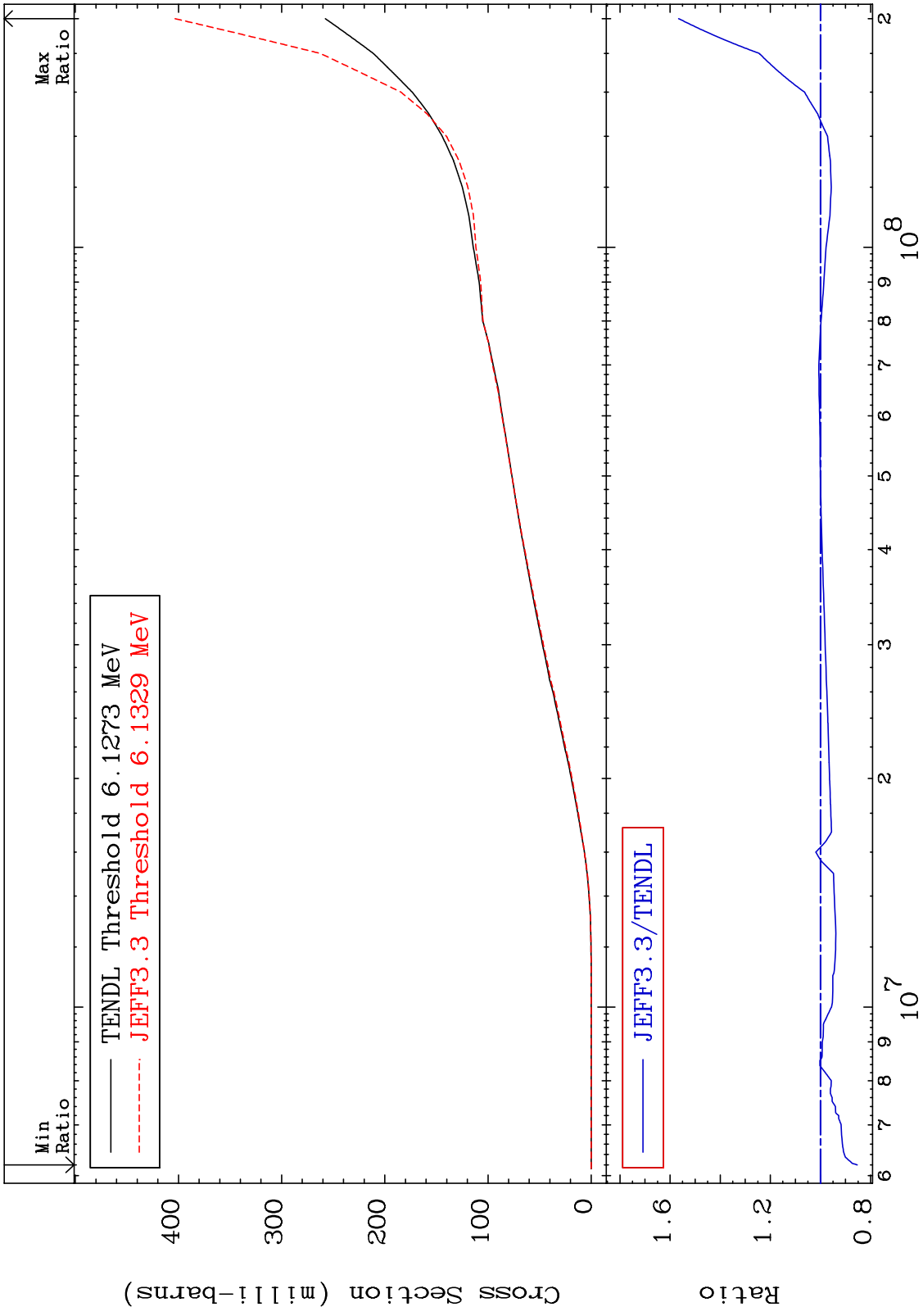
44-Ru-98  
-15.45 To 46.05 %



MAT 4431

Deuterium Production  
Cross Section

44-Ru-98  
-14.70 To 56.58 %



62

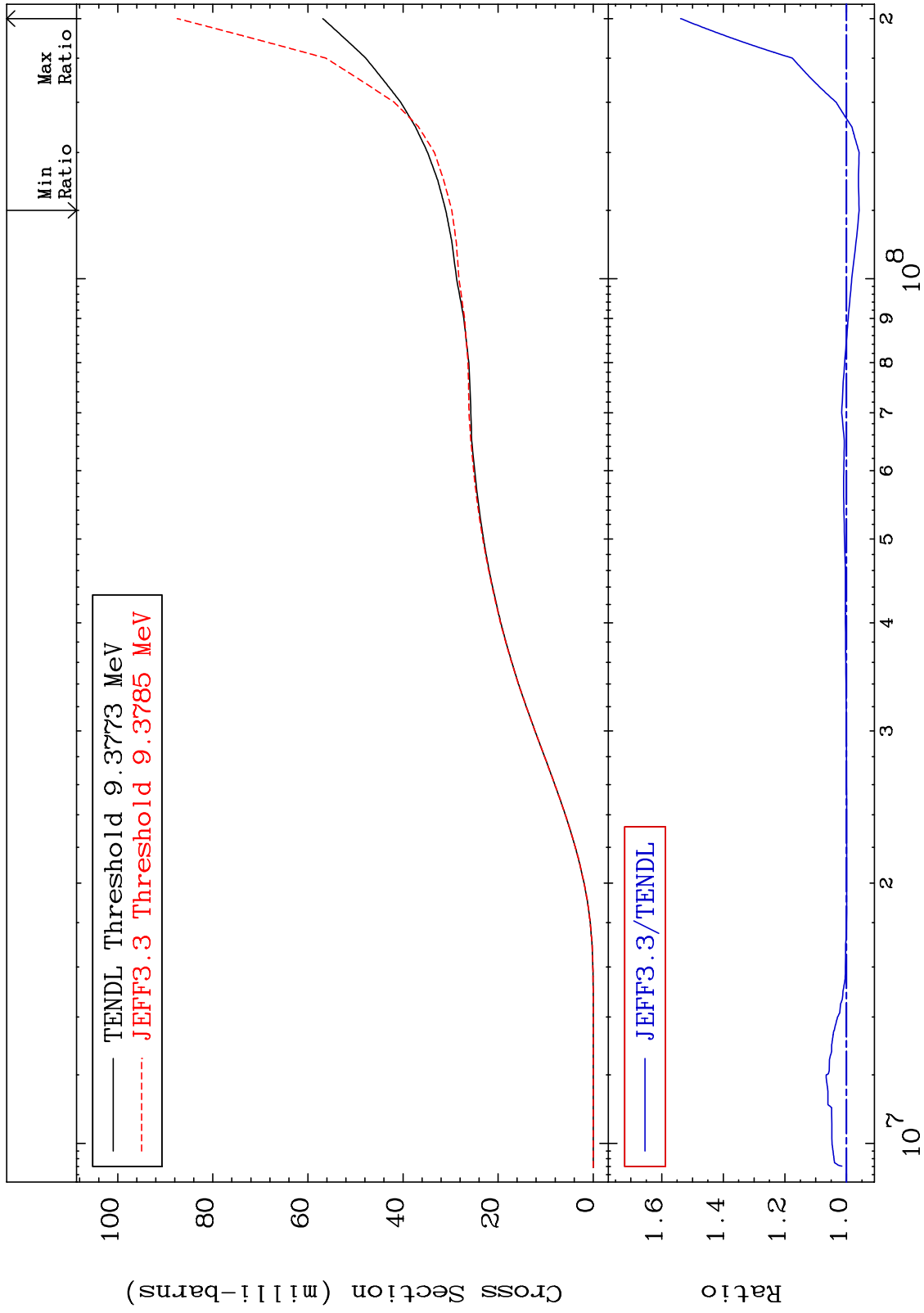
Incident Energy (eV)

44-Ru-98

MAT 4431

Tritium Production  
Cross Section

44-Ru-98  
-4.111 To 53.85 %



63

Incident Energy (eV)

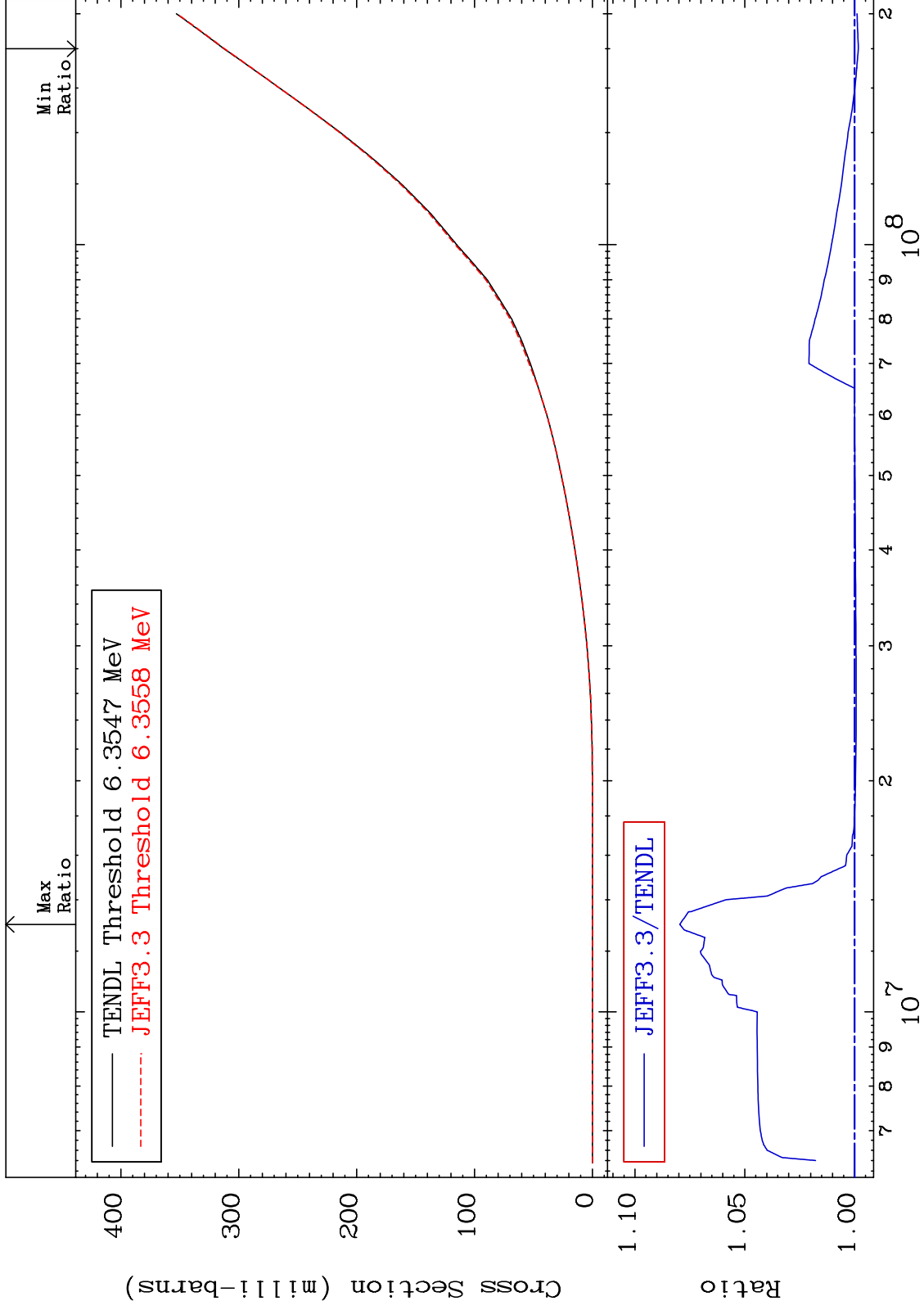
44-Ru-98



MAT 4431

He-3 Production  
Cross Section

44-Ru-98  
-0.172 To 7.958 %



64

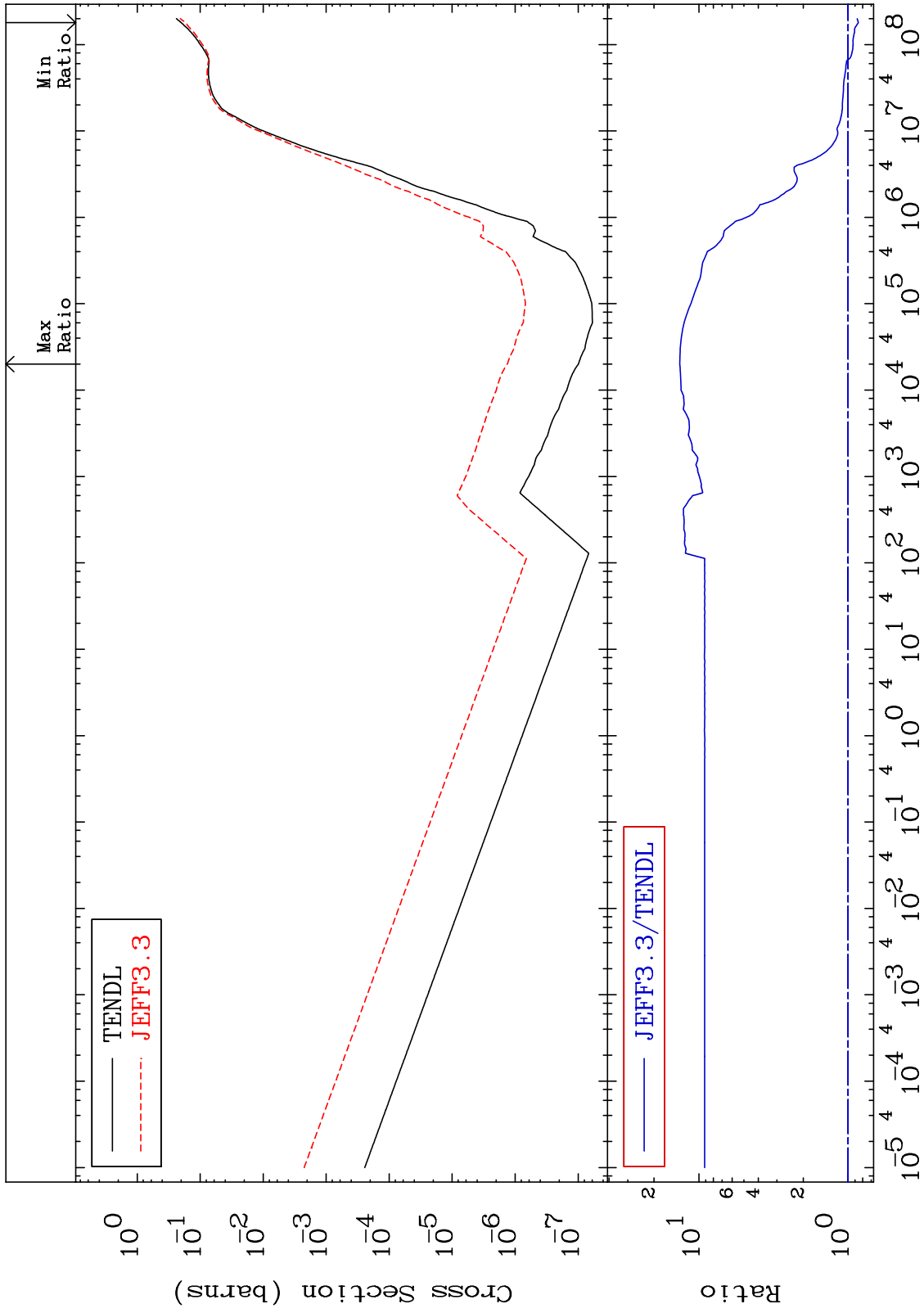
Incident Energy (eV)

44-Ru-98

MAT 4431

He-4 Production  
Cross Section

44-Ru-98  
-14.58 To 1244. %



65

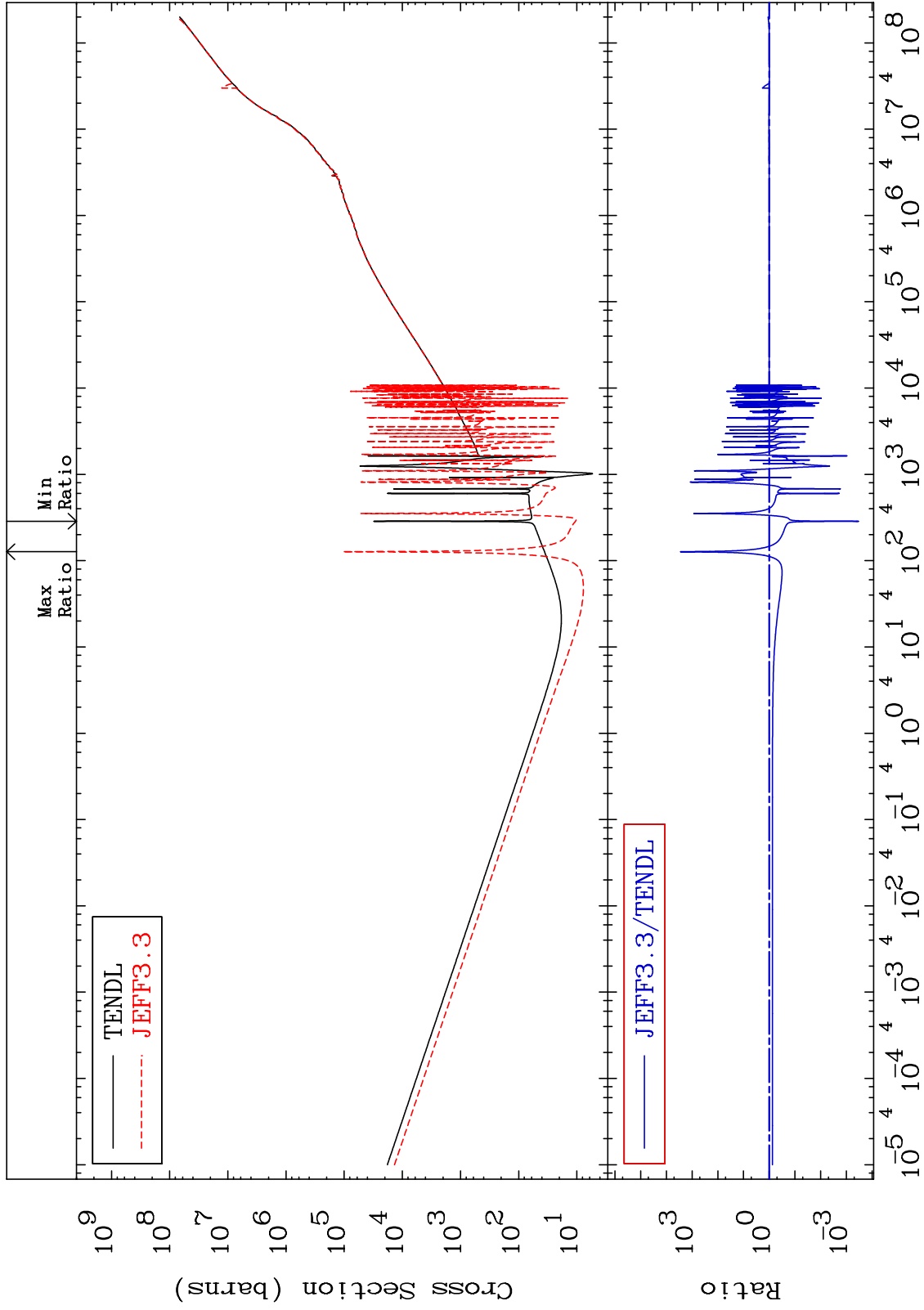
Incident Energy (eV)

44-Ru-98

MAT 4431

Kerma total (eV-barns)  
Cross Section

44-Ru-98  
-99.97 To 9999. %



66

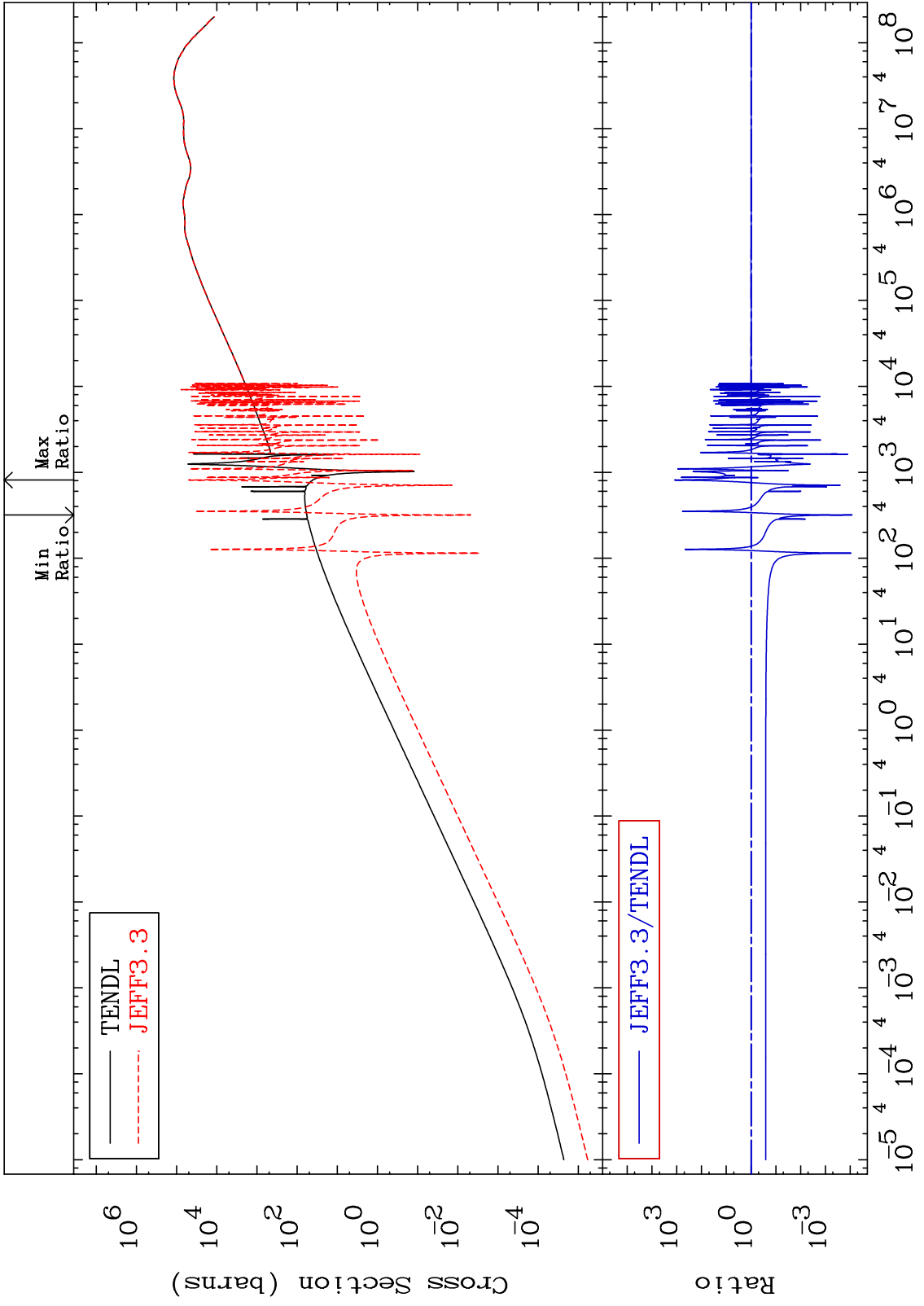
Incident Energy (eV)

44-Ru-98

MAT 4431

Kerma elastic  
Cross Section

44-Ru-98  
-99.99 To 9999. %



67

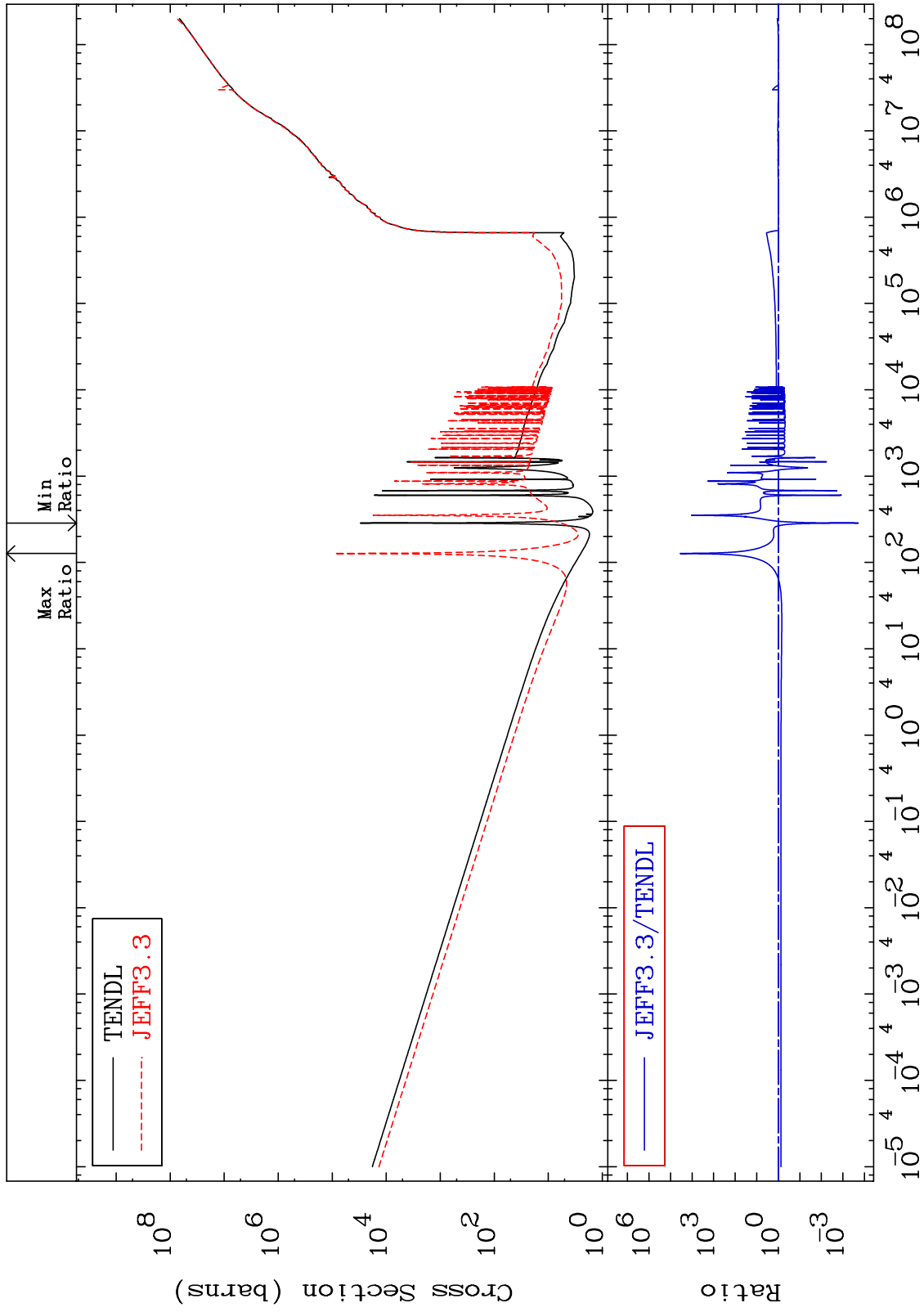
Incident Energy (eV)

44-Ru-98

MAT 4431

Kerma non-elastic (all but mt2)  
Cross Section

44-Ru-98  
-99.98 To 9999. %



68

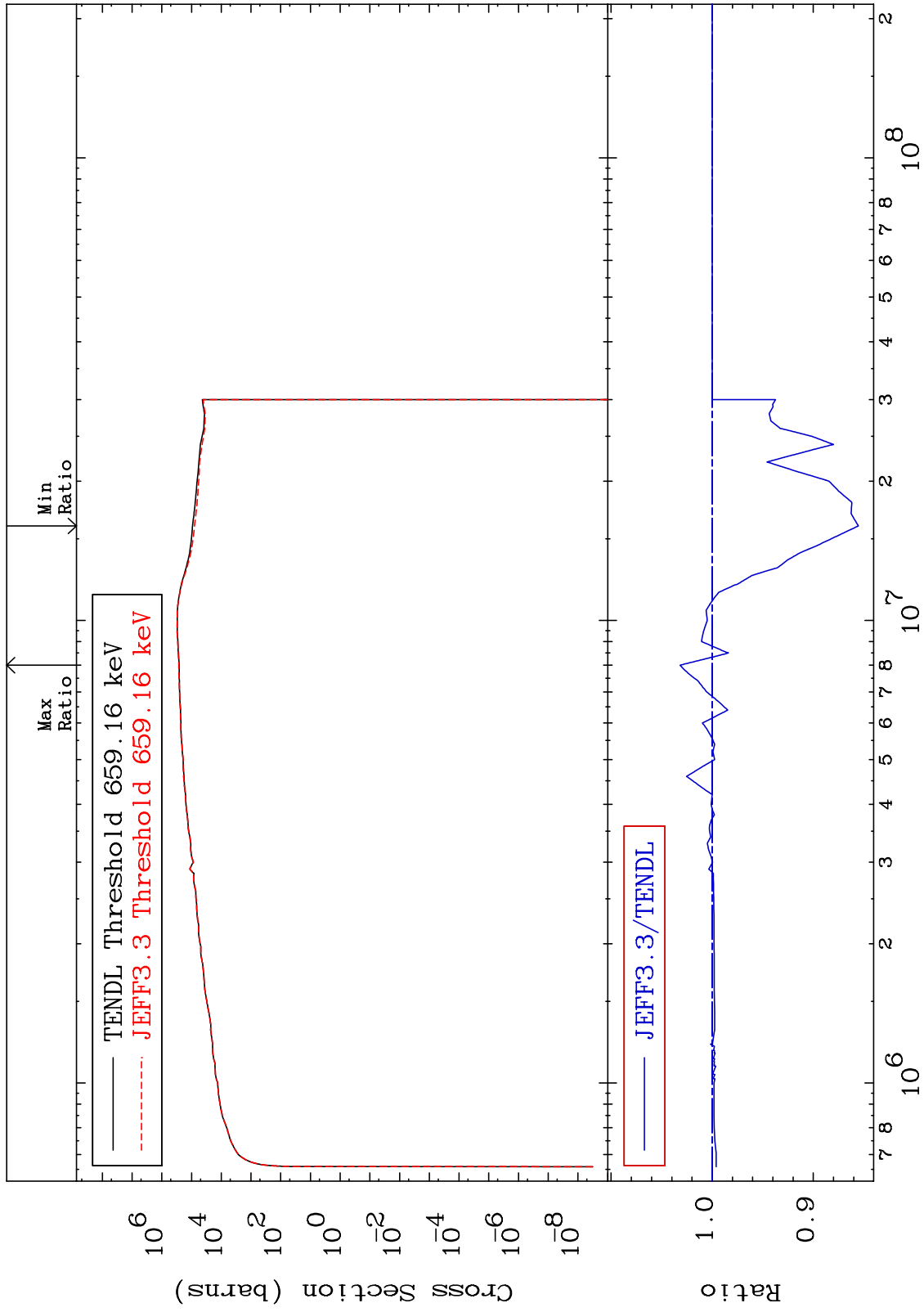
Incident Energy (eV)

44-Ru-98

MAT 4431

Kerma inelastic (mt51-91)  
Cross Section

44-Ru-98  
-14.46 To 3.185 %



69

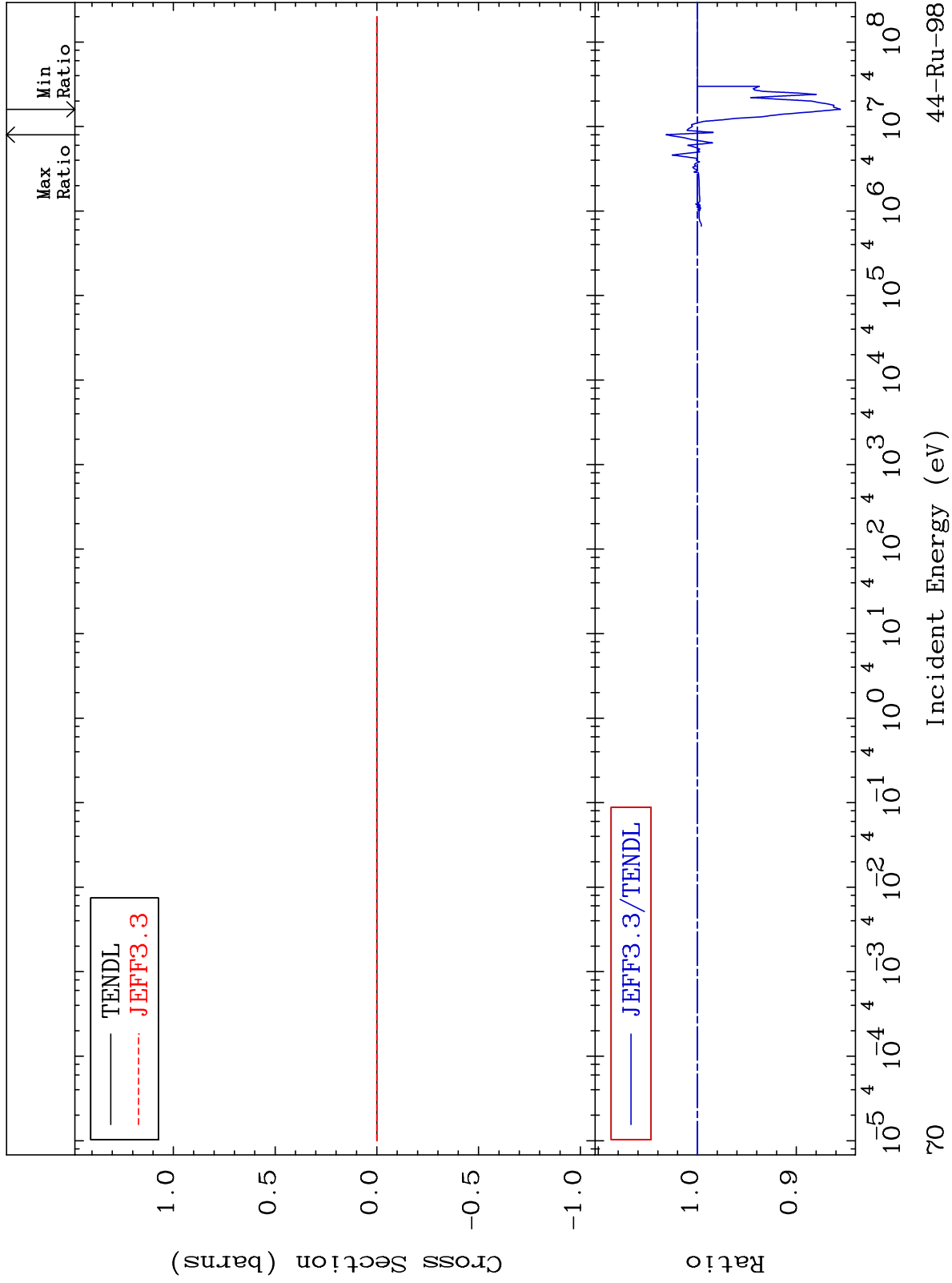
Incident Energy (eV)

44-Ru-98

MAT 4431

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

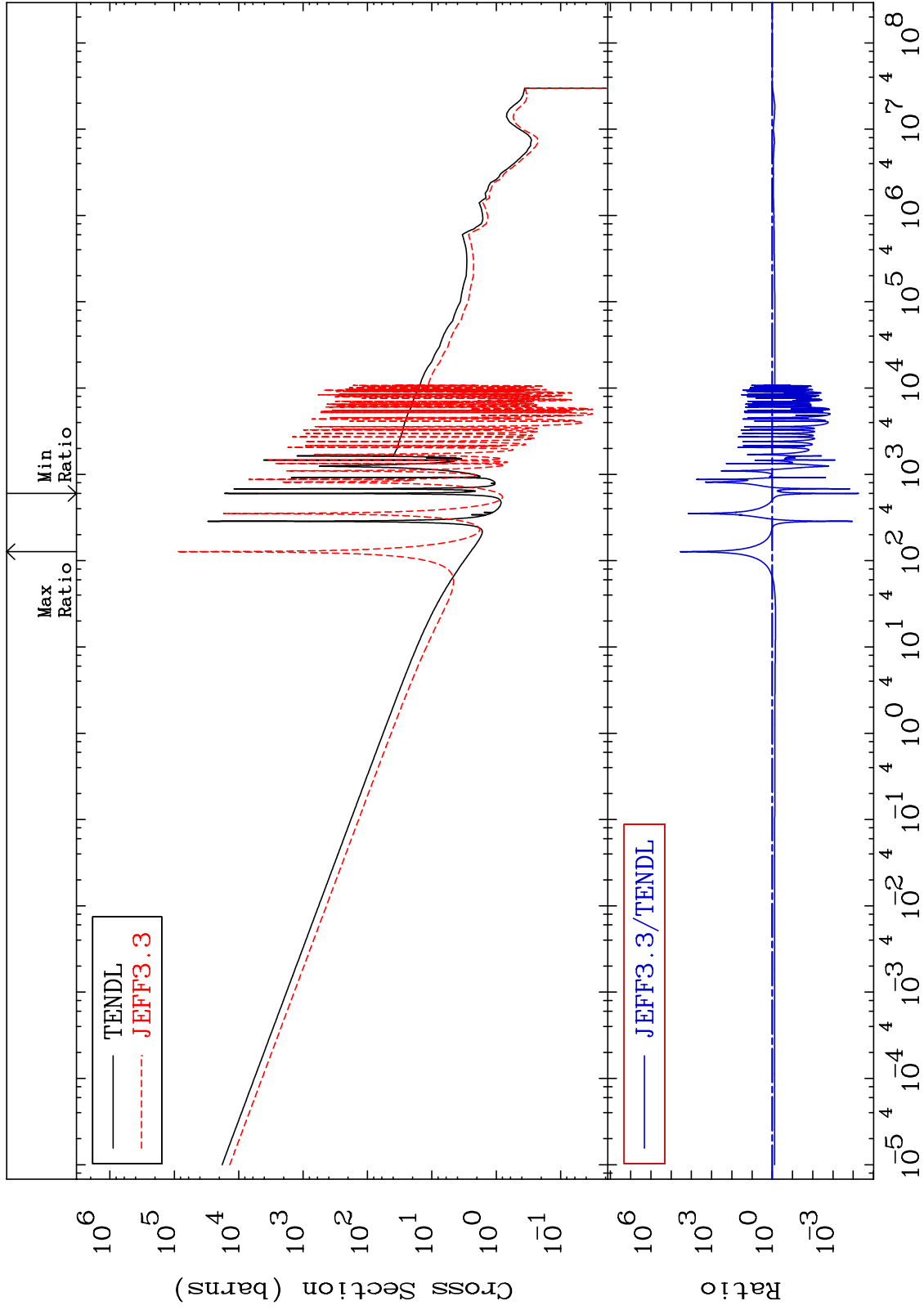
44-Ru-98  
-14.46 To 3.185 %



MAT 4431

Kerma capture (mt102)  
Cross Section

44-Ru-98  
-99.99 To 9999. %



71

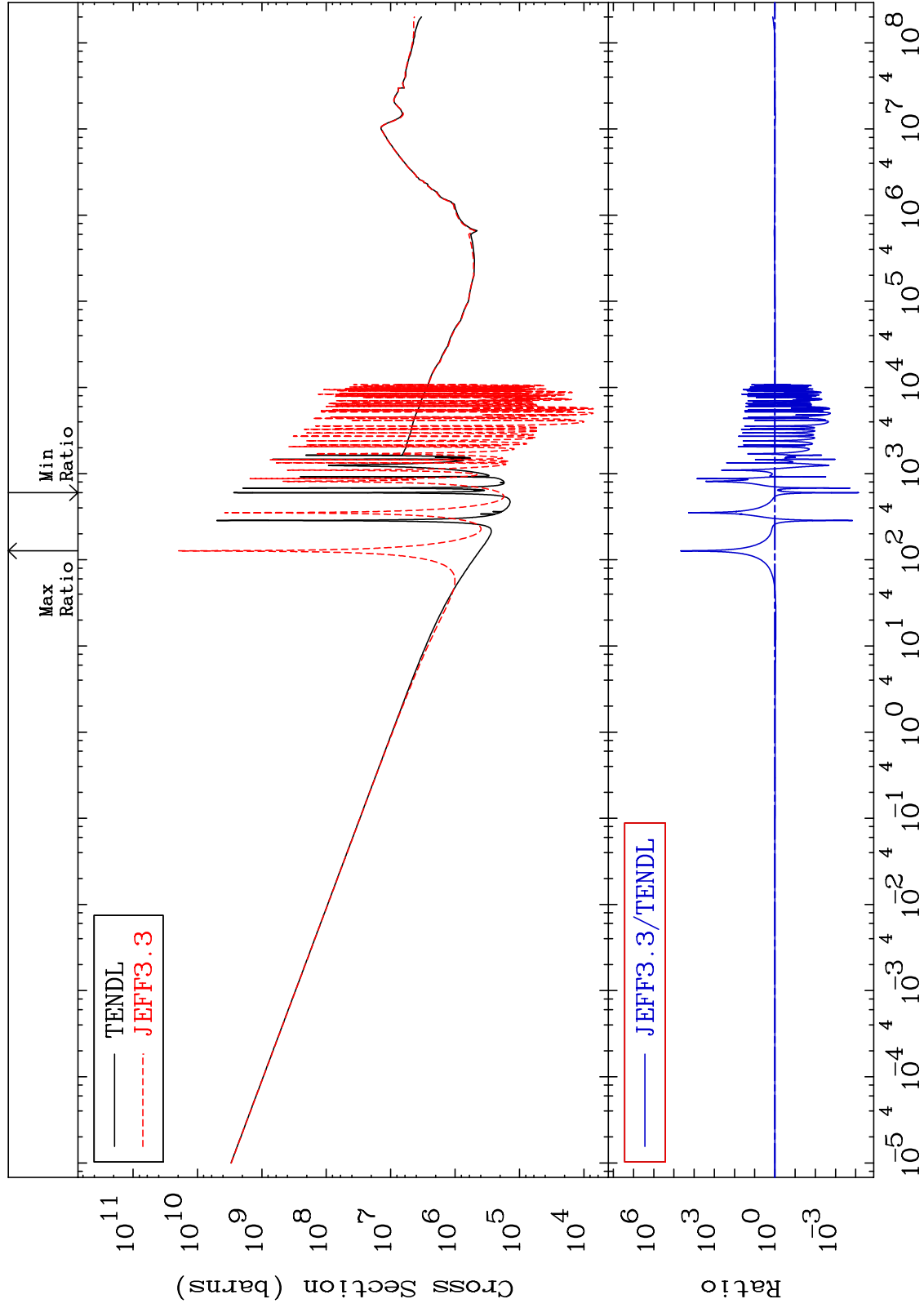
44-Ru-98



MAT 4431

Total photon (eV-barns)  
Cross Section

44-Ru-98  
-99.99 To 9999. %



72

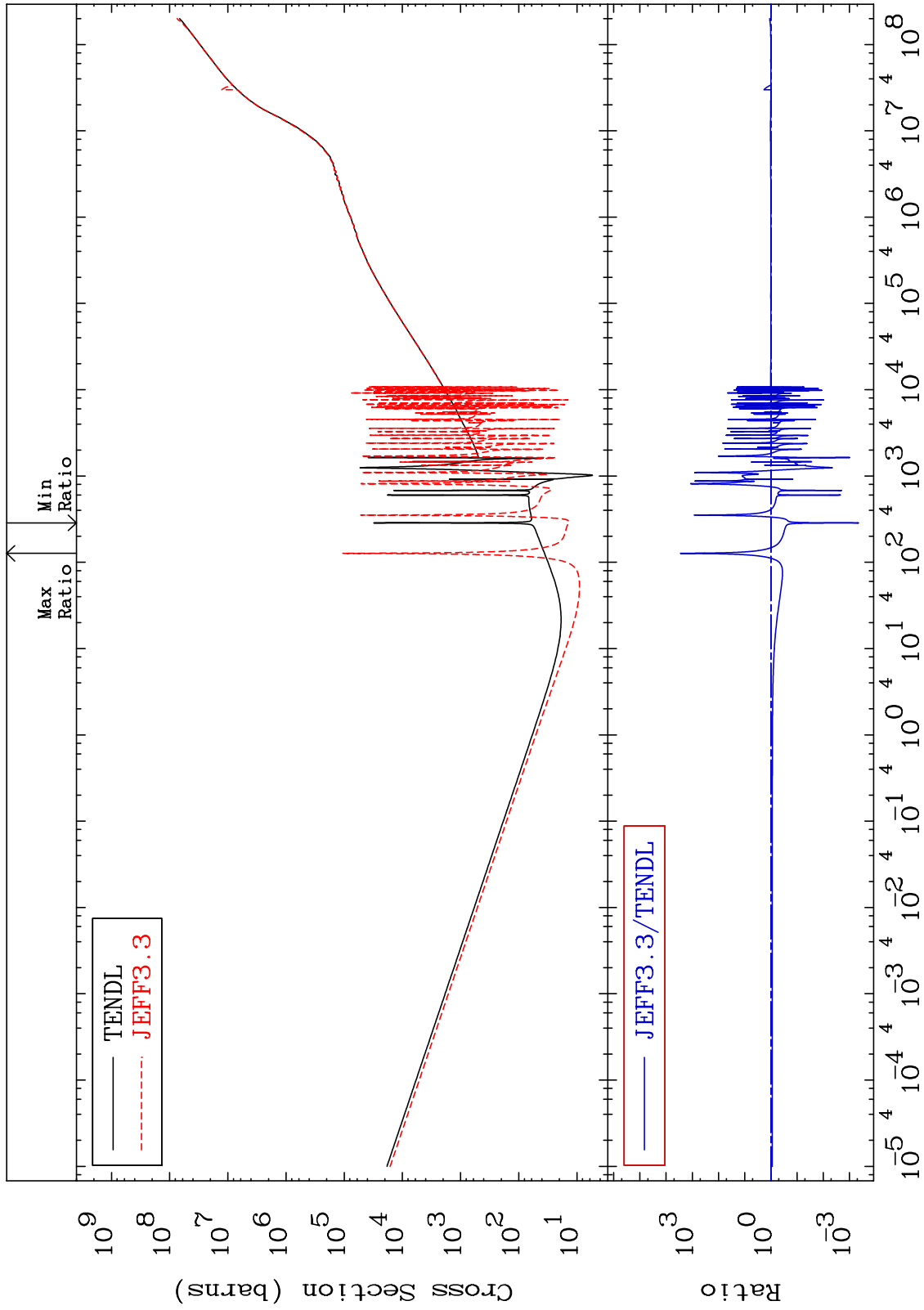
Incident Energy (eV)

44-Ru-98

MAT 4431

Total kinematic kerma (high limit)  
Cross Section

44-Ru-98  
-99.95 To 9999. %



73

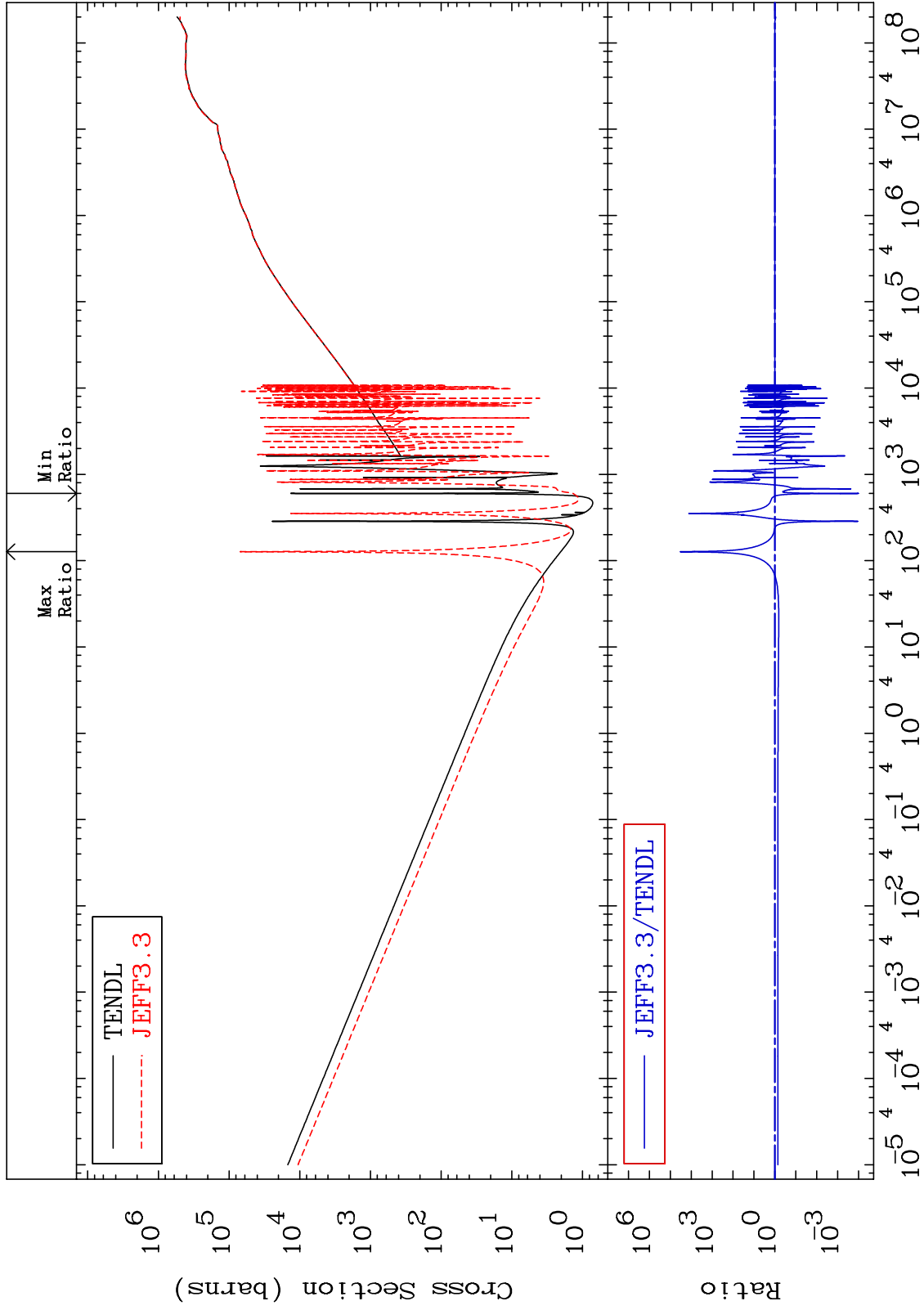
Incident Energy (eV)

44-Ru-98

MAT 4431

Dpa total (eV-barns)  
Cross Section

44-Ru-98  
-99.99 To 9999. %



74

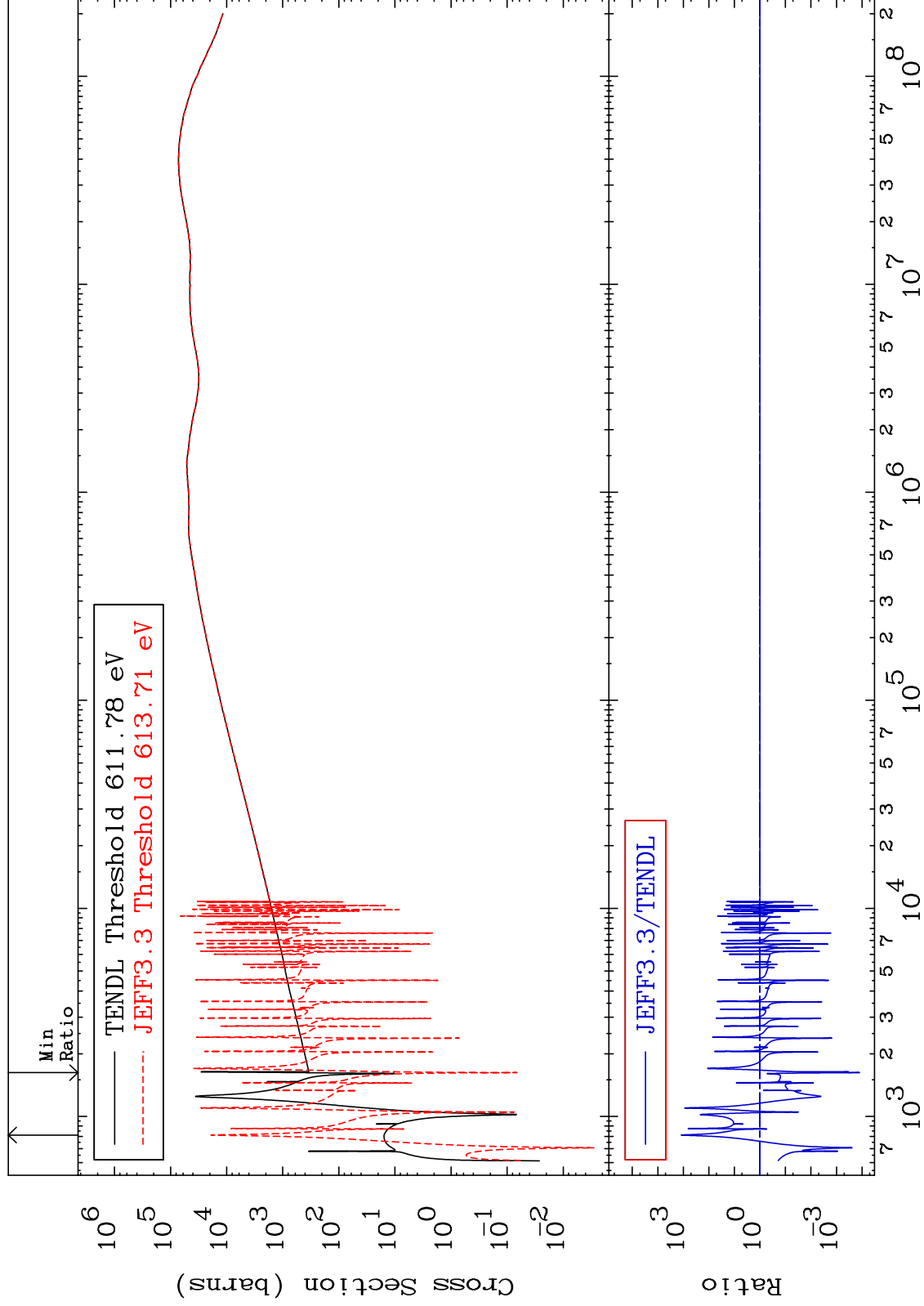
Incident Energy (eV)

44-Ru-98

MAT 4431

Dpa elastic (mt2)  
Cross Section

44-Ru-98  
-99.99 To 9999. %



75

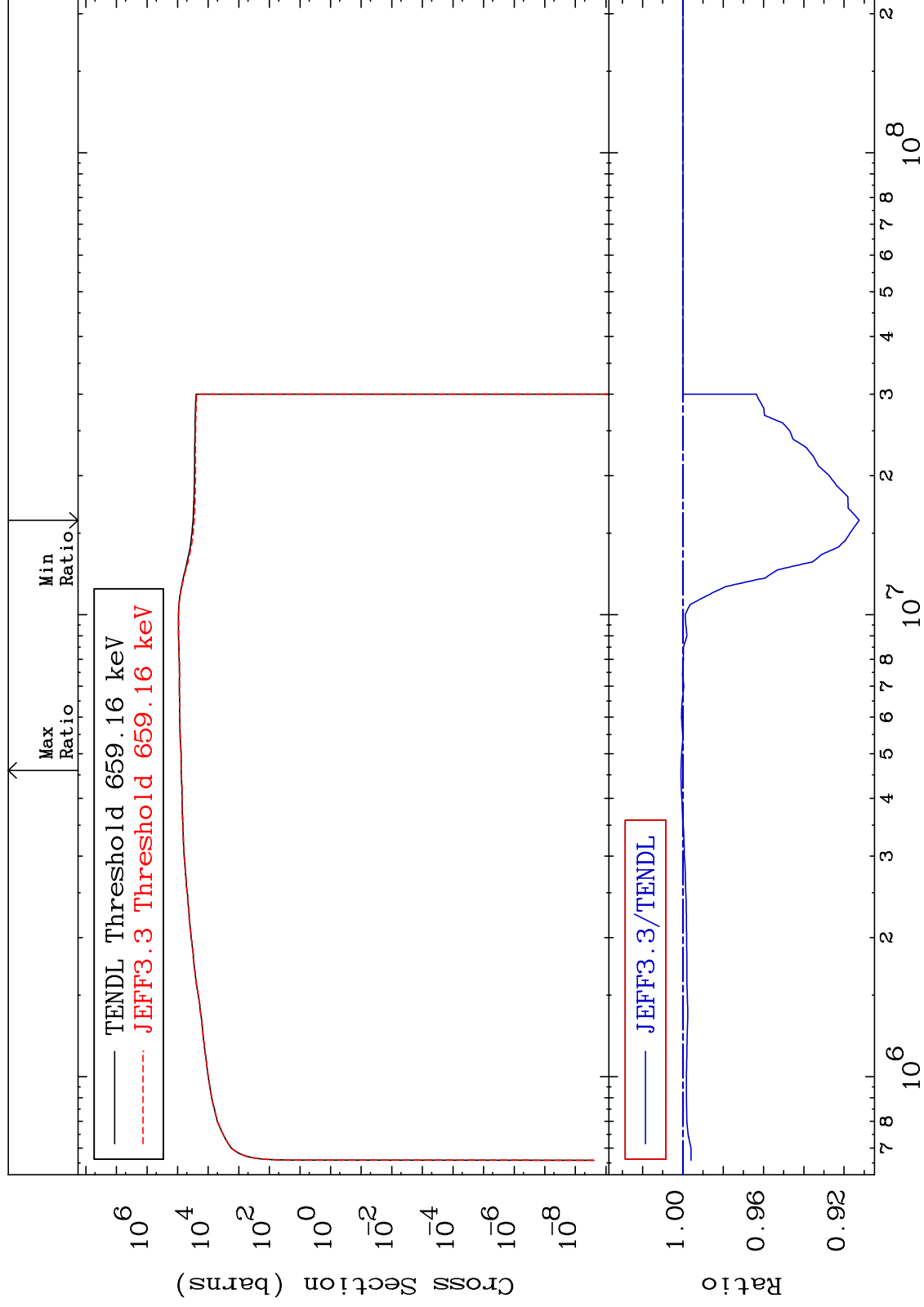
Incident Energy (eV)

44-Ru-98

MAT 4431

Dpa inelastic (mt51-91)  
Cross Section

44-Ru-98  
-8.754 To 0.091 %



76

Incident Energy (eV)

44-Ru-98

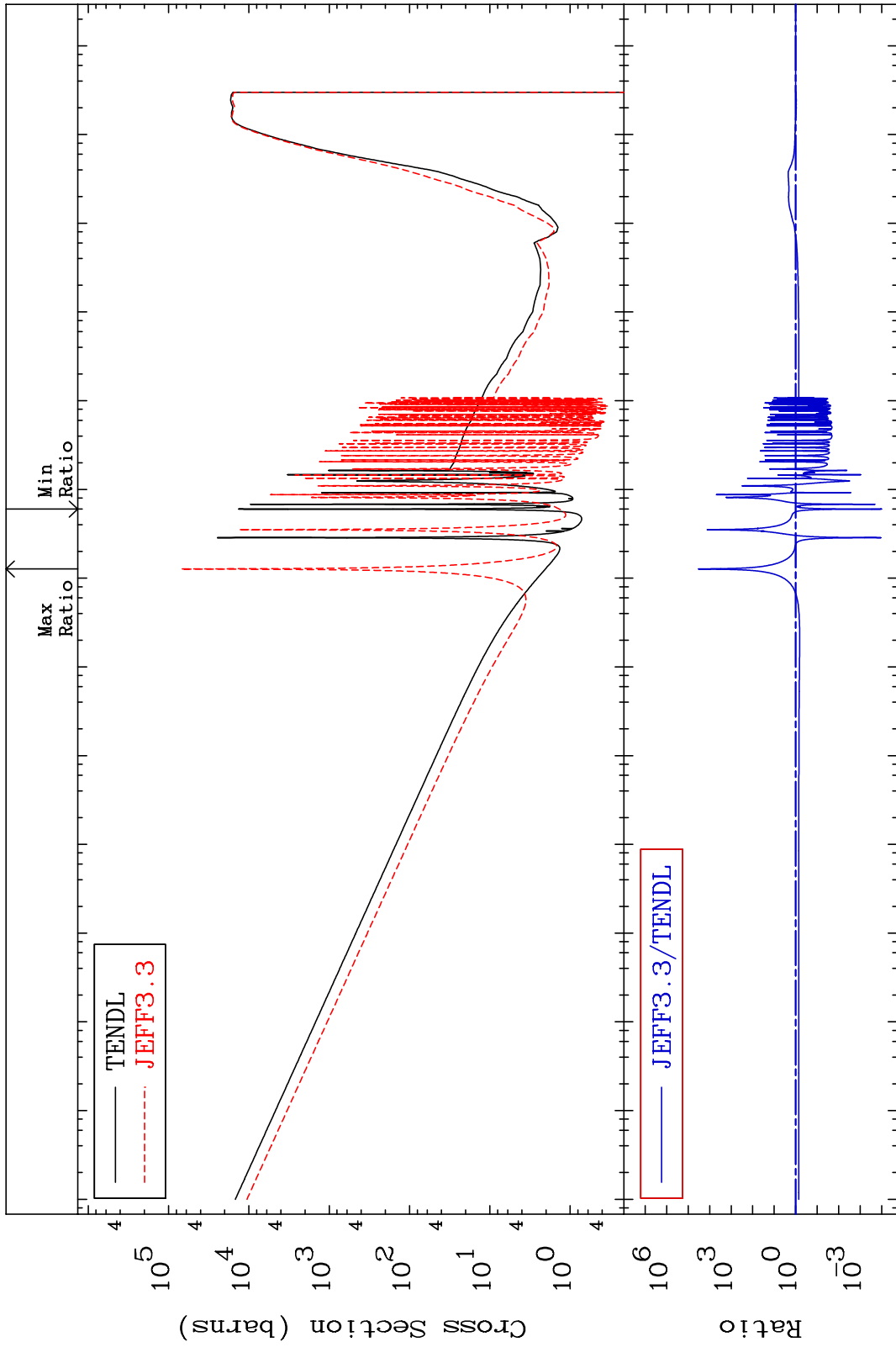
MAT 4431

Dpa disappearance (mt102 -120)

44-Ru-98

-99.99 To 9999. %

Cross Section



77

Incident Energy (eV)

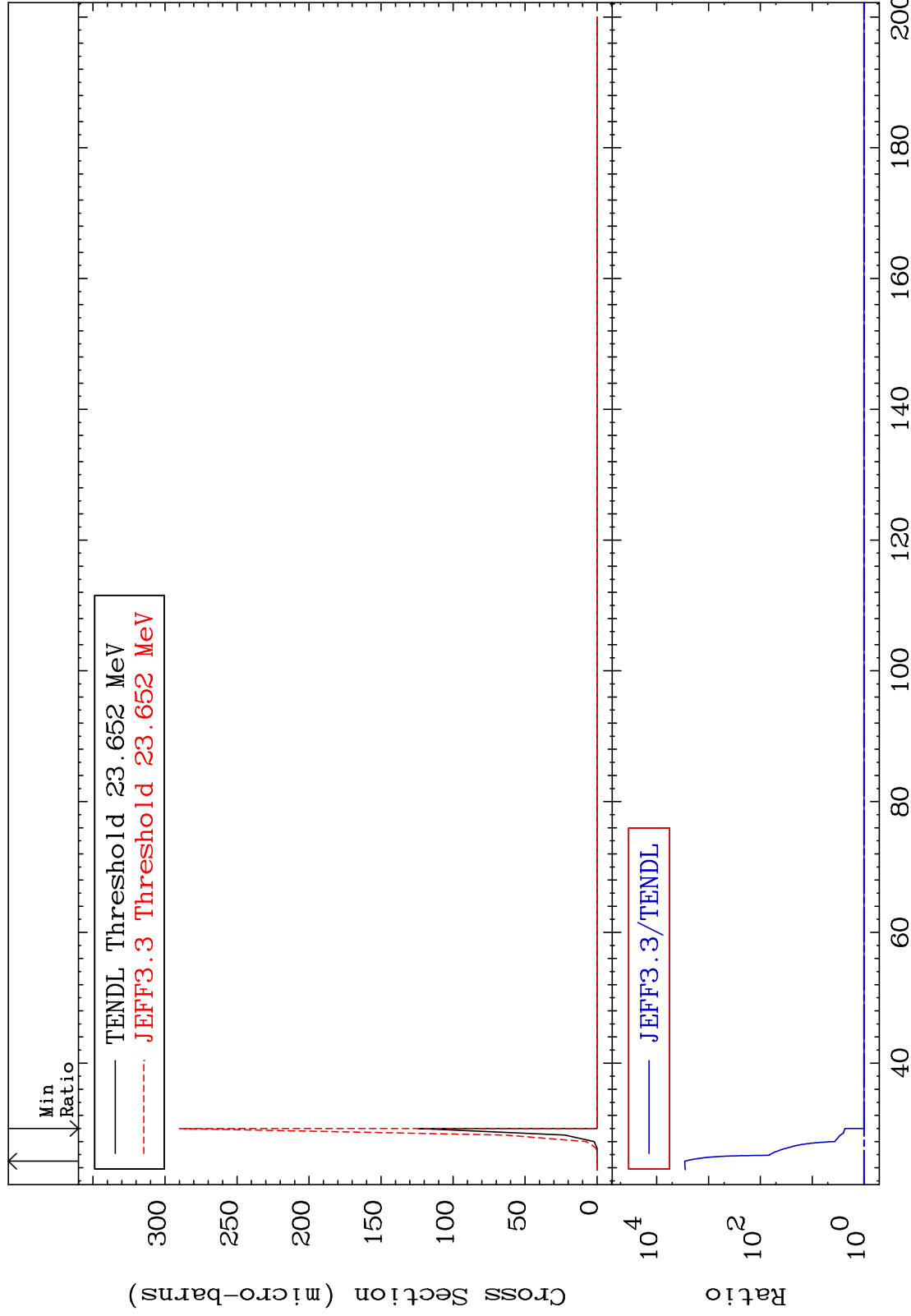
44-Ru-98

MAT 4431

(n,2n) d: 43-Tc-95g

44-Ru-98

Radionuclide Production Cross Section 0.000 To 9999. %



78

Incident Energy (MeV)

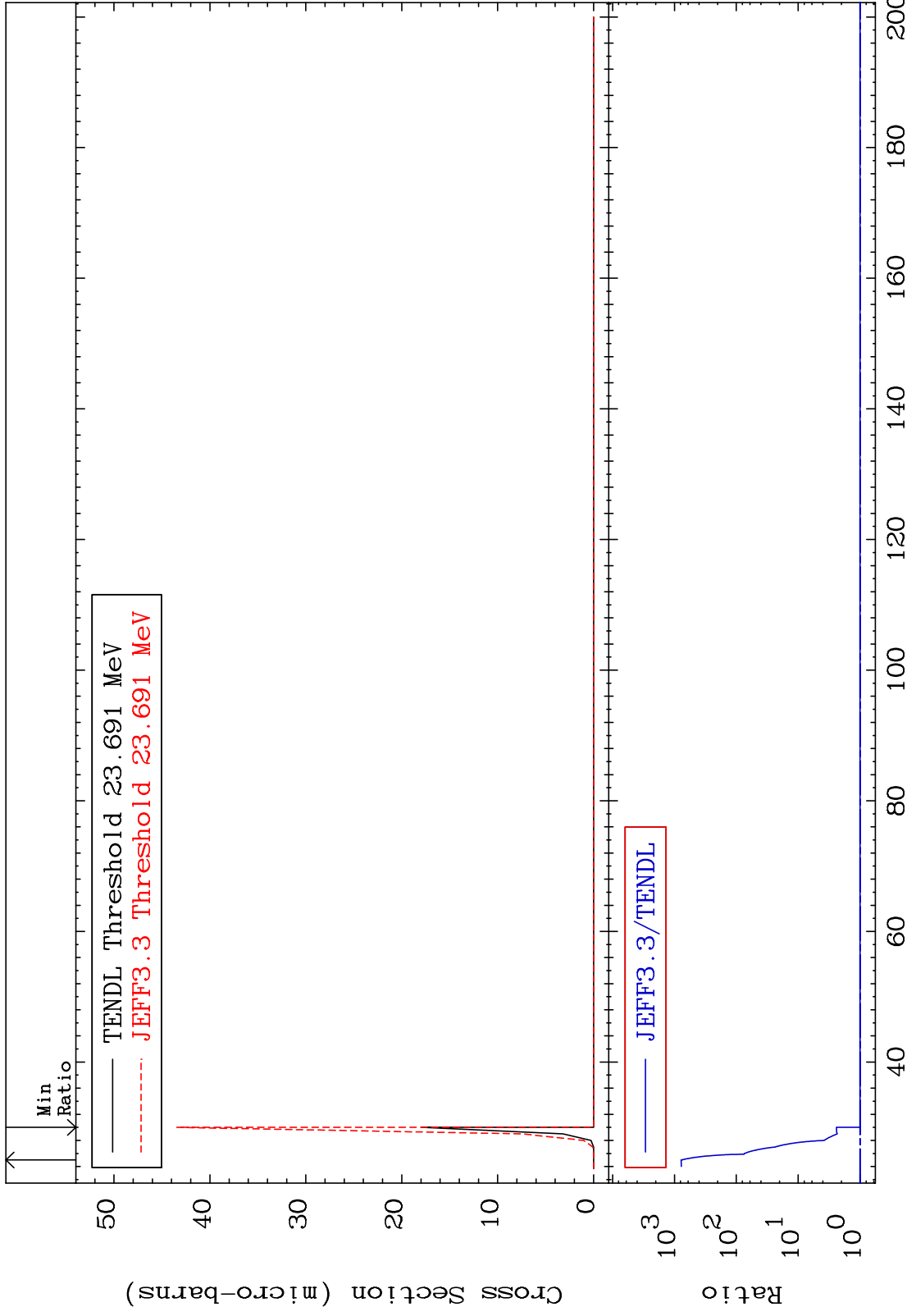
44-Ru-98

MAT 4431

(n,2n) d:43-Tc-95m1

44-Ru-98

Radionuclide Production Cross Section 0.000 To 9999. %



79

Incident Energy (MeV)

44-Ru-98

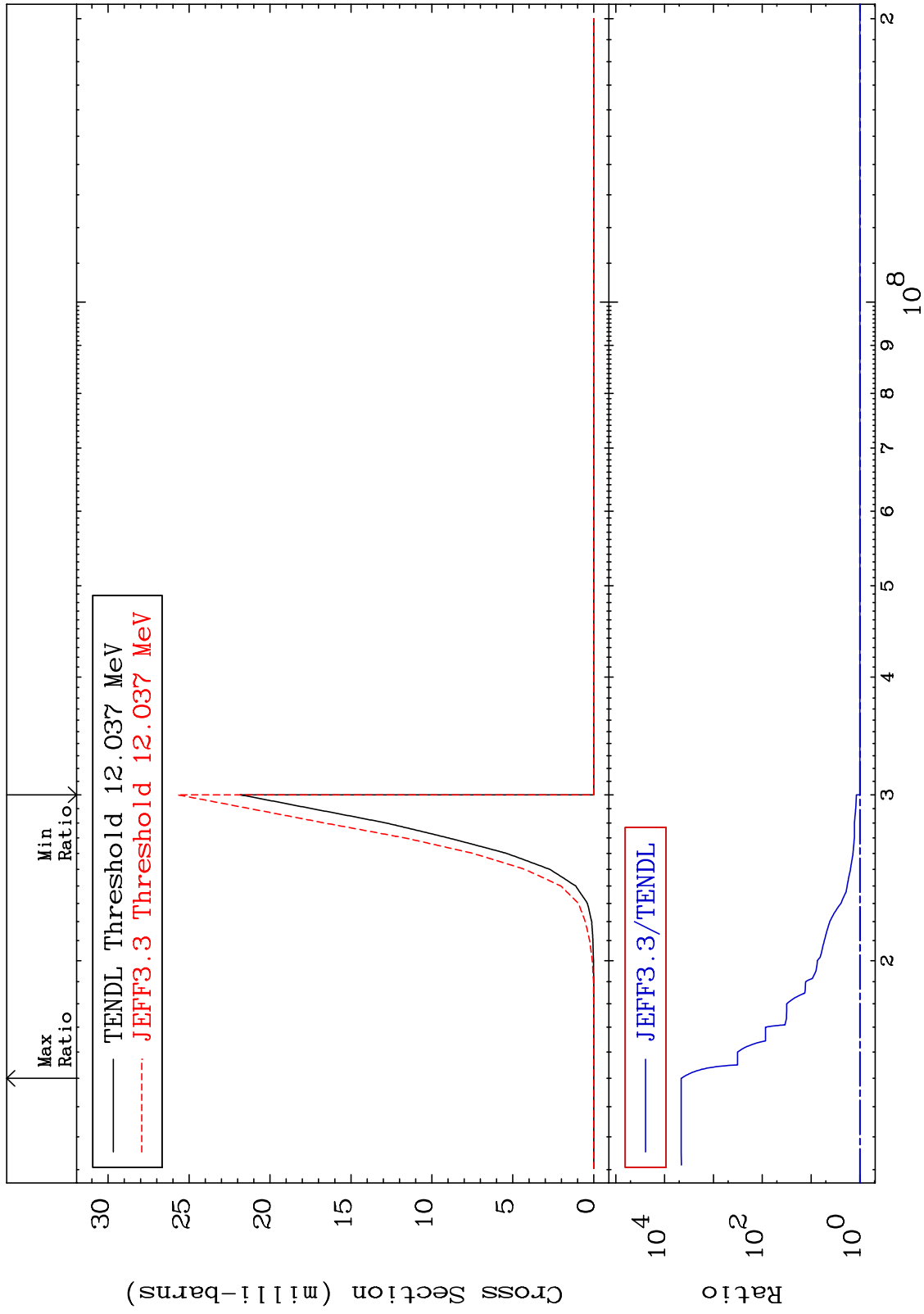


MAT 4431

(n,2n)  $\alpha$ : 42-Mo-93g

44-Ru-98

Radionuclide Production Cross Section 0.000 To 9999. %

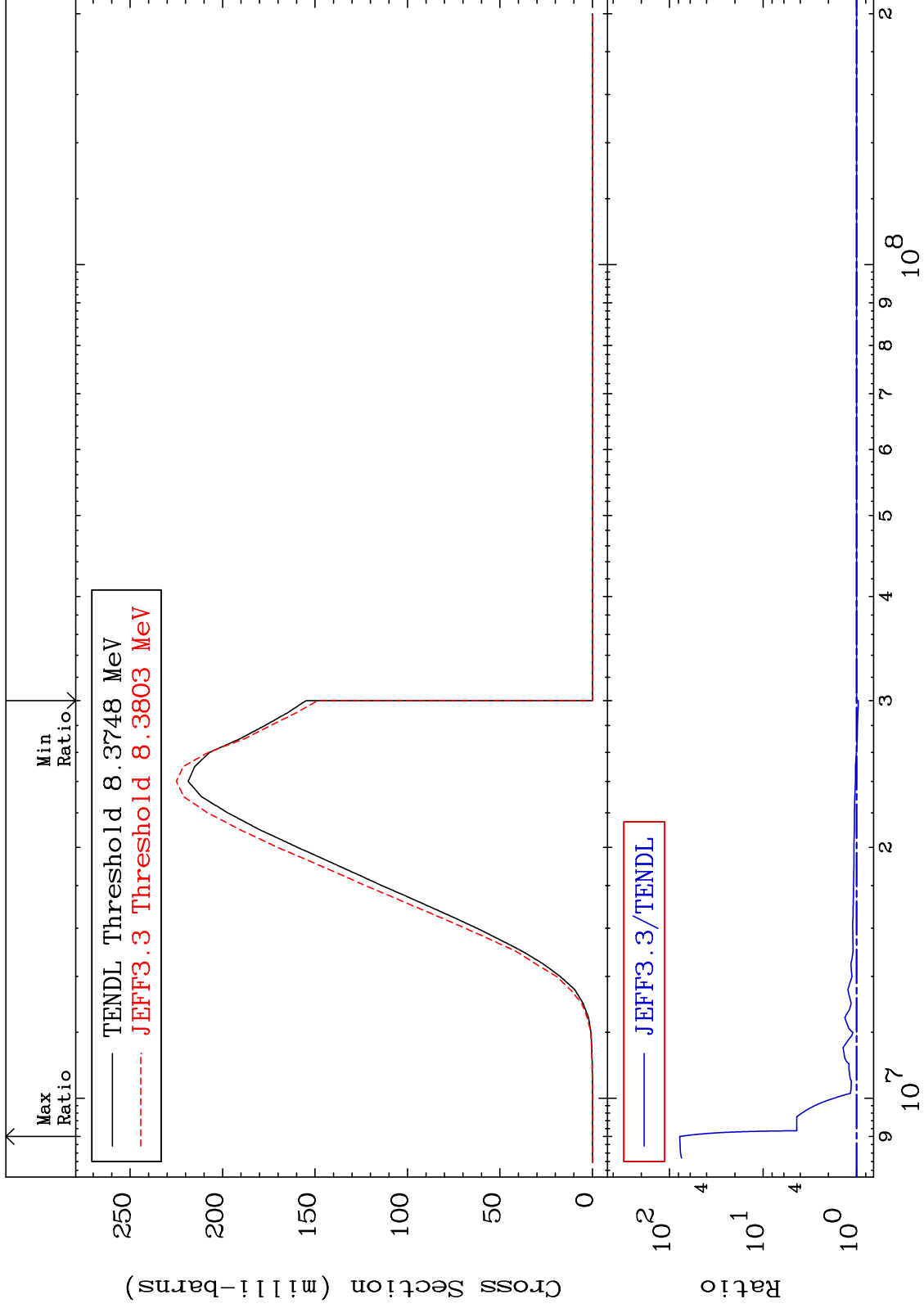


MAT 4431

(n, n') p: 43-Tc-97g

44-Ru-98

Radionuclide Production Cross Section -4.094 To 7647. %



81

Incident Energy (eV)

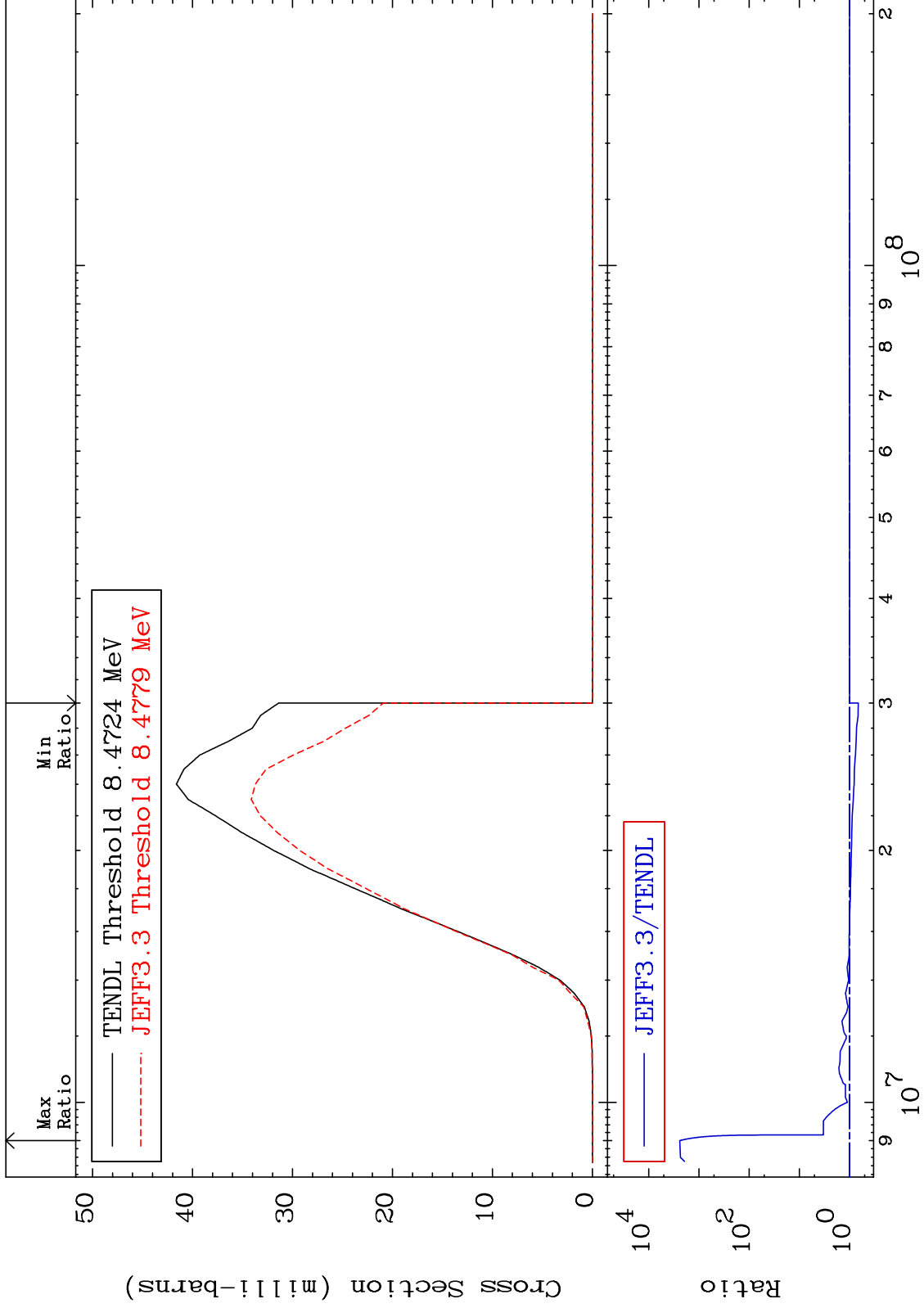
44-Ru-98

MAT 4431

(n, n') p:43-Tc-97m1

44-Ru-98

Radionuclide Production Cross Section -33.36 To 9999. %



82

44-Ru-98

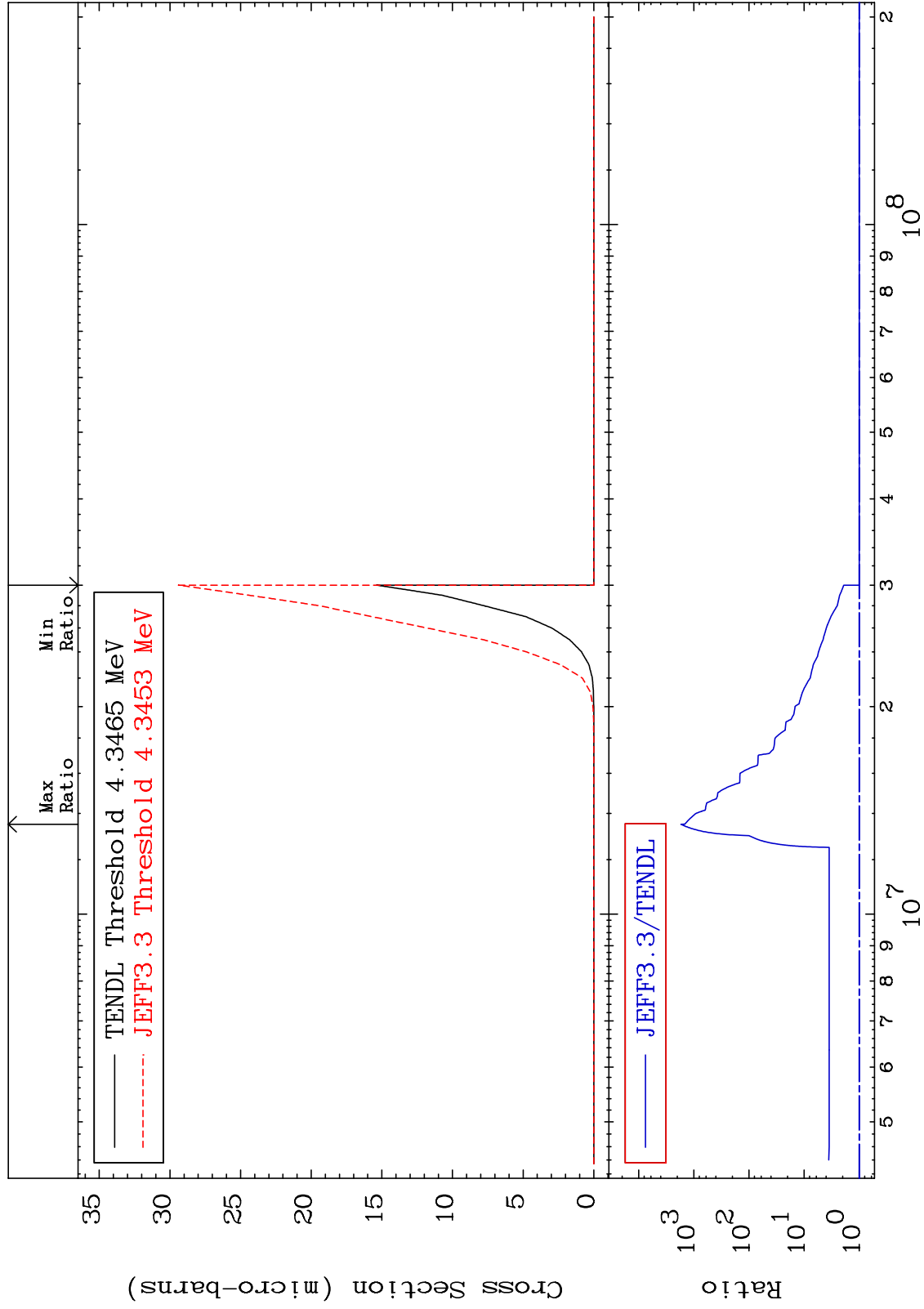
44-Ru-98

MAT 4431

44-Ru-98

(n, n') 2α: 40-Zr-90g

Radionuclide Production Cross Section 0.000 To 9999. %

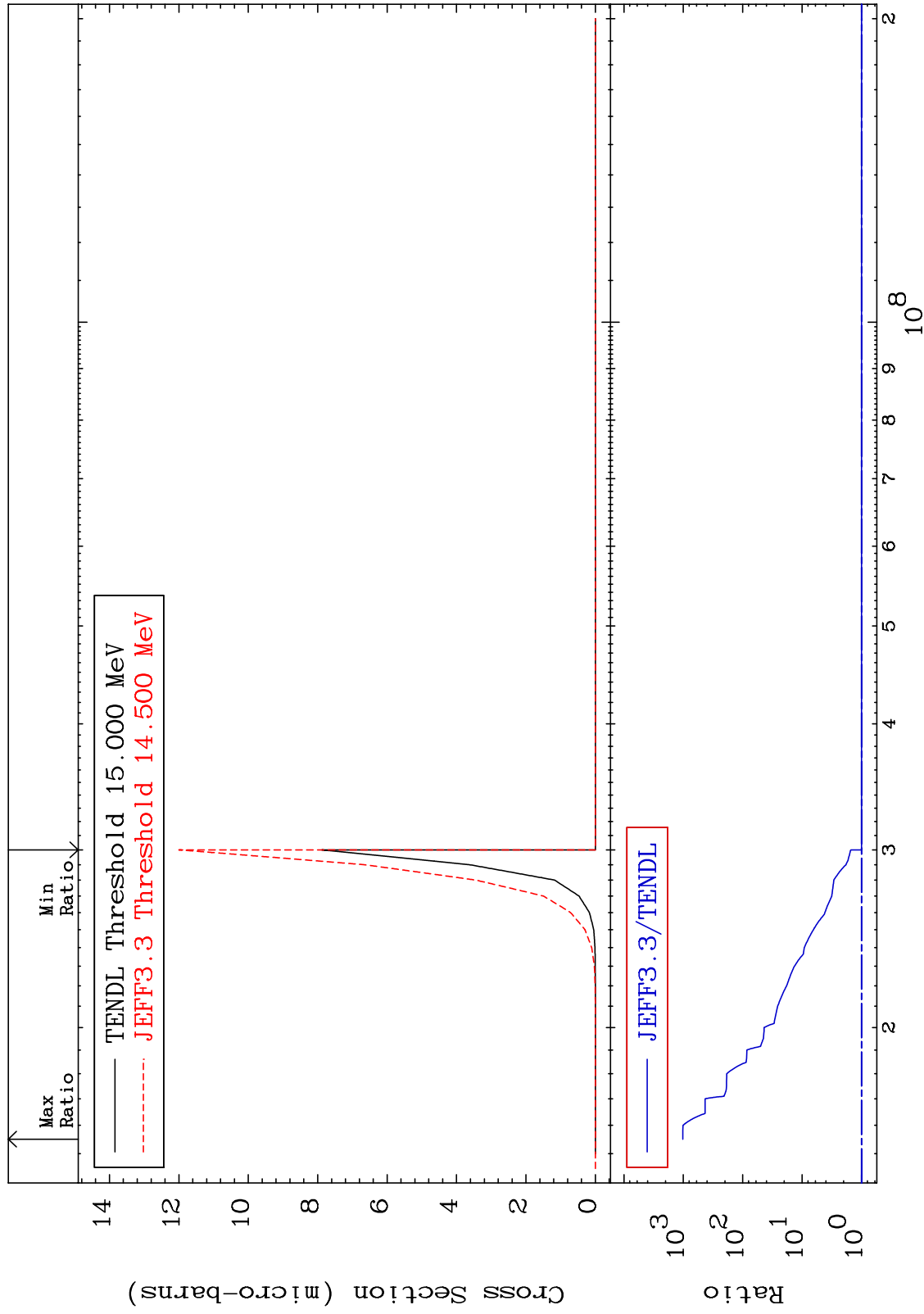


MAT 4431

(n, n') 2α: 40-Zr-90m3

44-Ru-98

Radionuclide Production Cross Section 0.000 To 9999. %

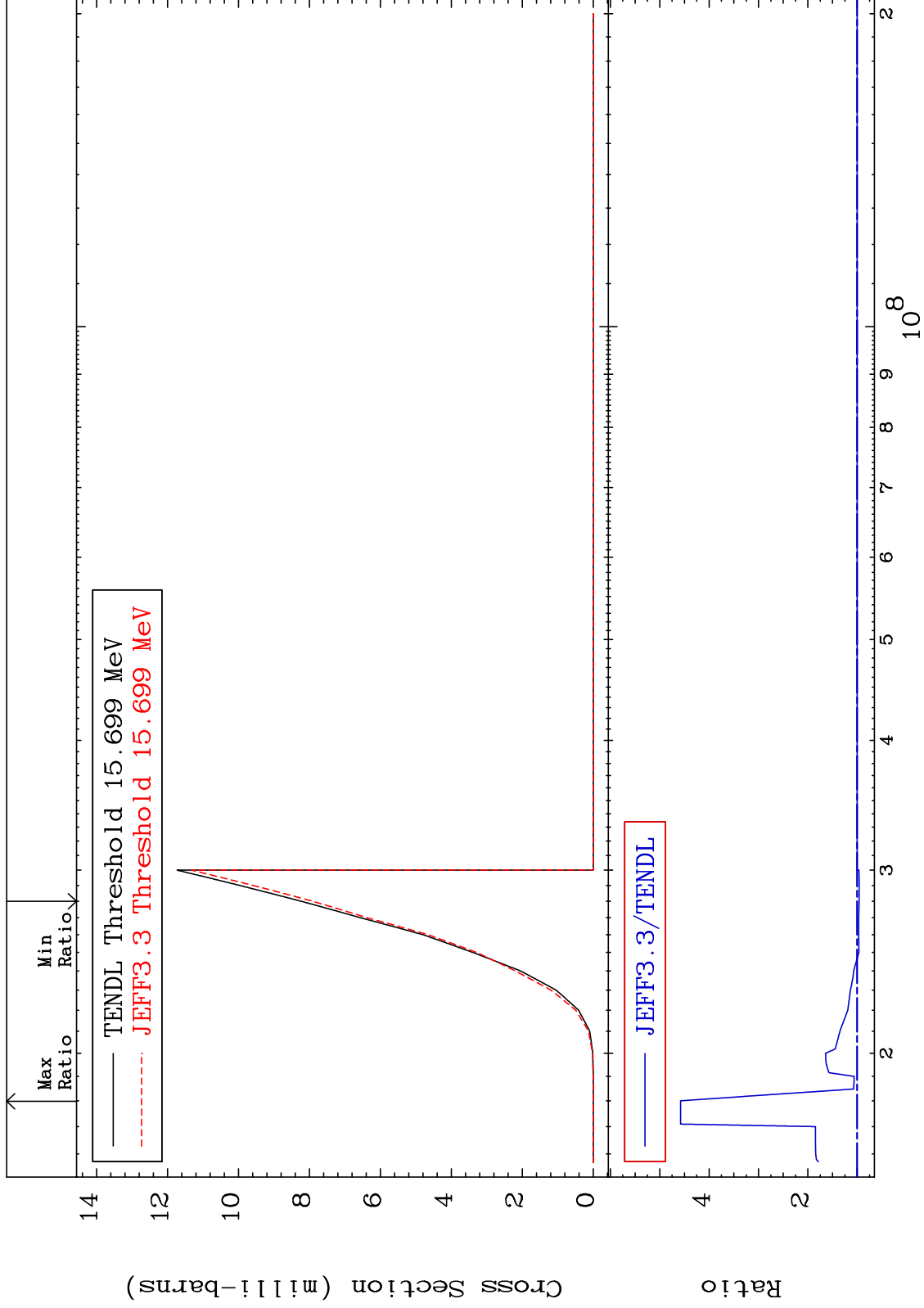


MAT 4431

44-Ru-98

(n, n') d: 43-Tc-96g

Radionuclide Production Cross Section -3.951 To 357.8 %



85

Incident Energy (eV)

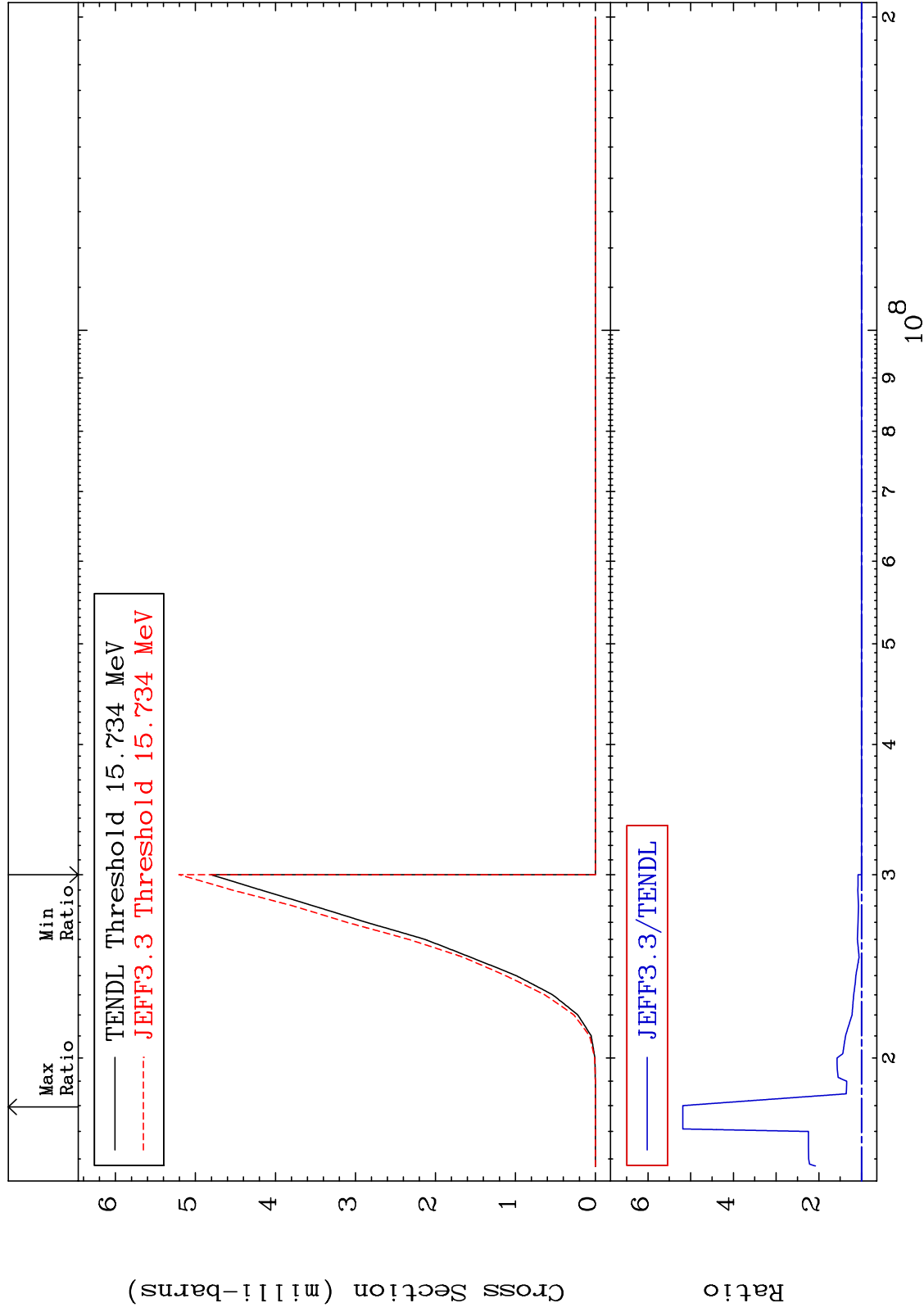
44-Ru-98

MAT 4431

(n, n') d:43-Tc-96m1

44-Ru-98

Radionuclide Production Cross Section 0.000 To 418.3 %

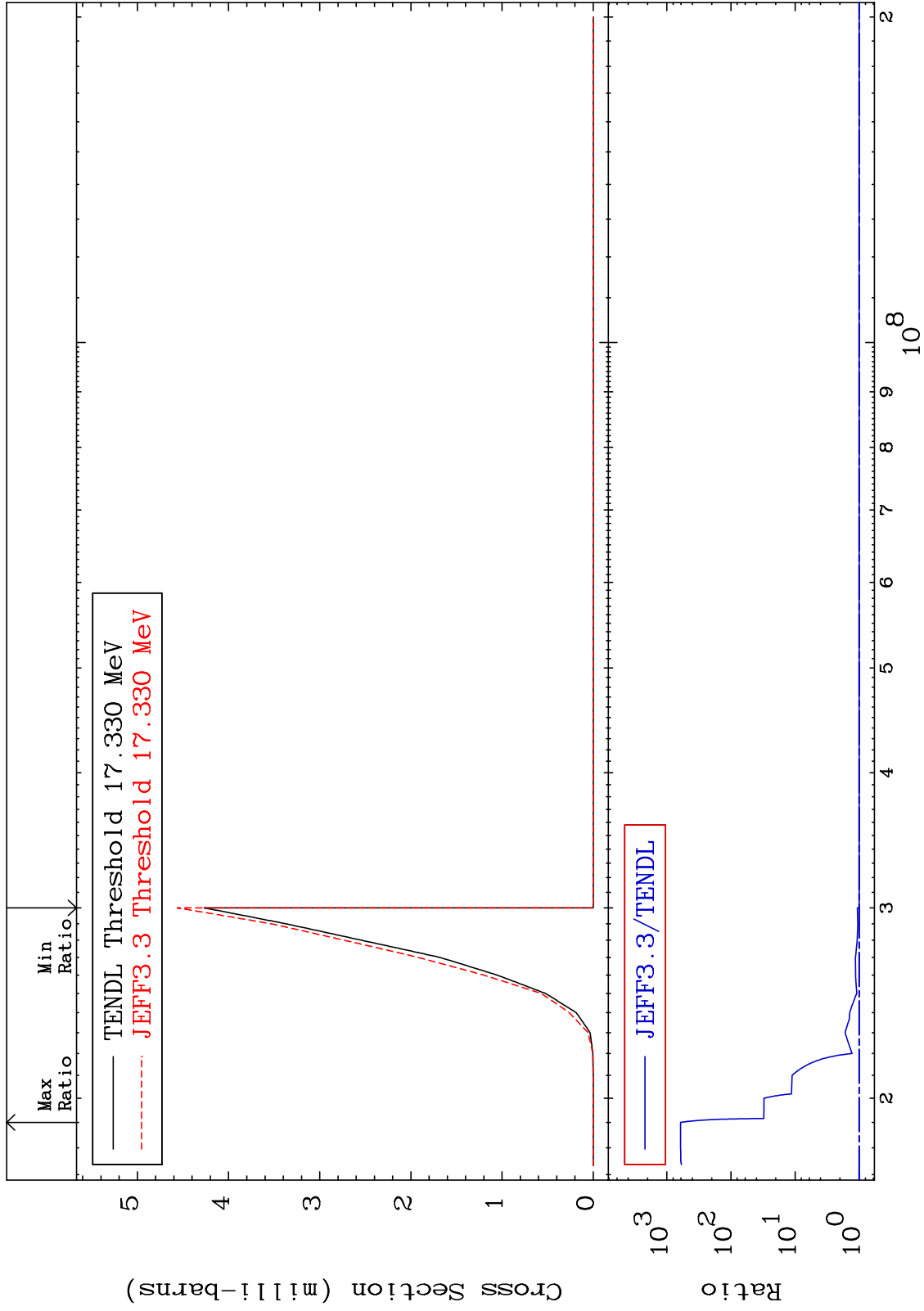


MAT 4431

(n, n') t: 43-Tc-95g

44-Ru-98

Radionuclide Production Cross Section 0.000 To 9999. %



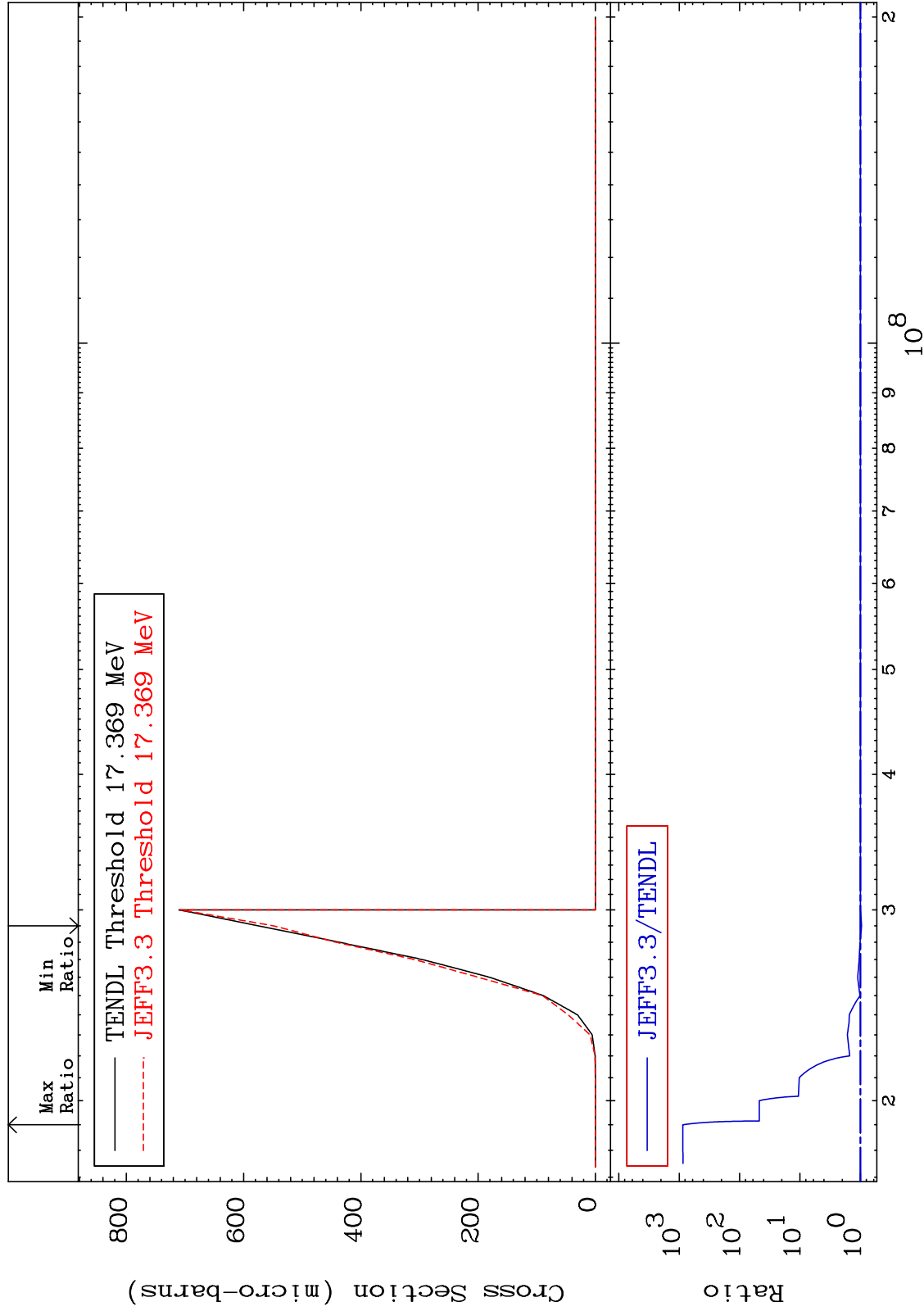


MAT 4431

(n, n') t:43-Tc-95m1

44-Ru-98

Radionuclide Production Cross Section -4.458 To 9999. %

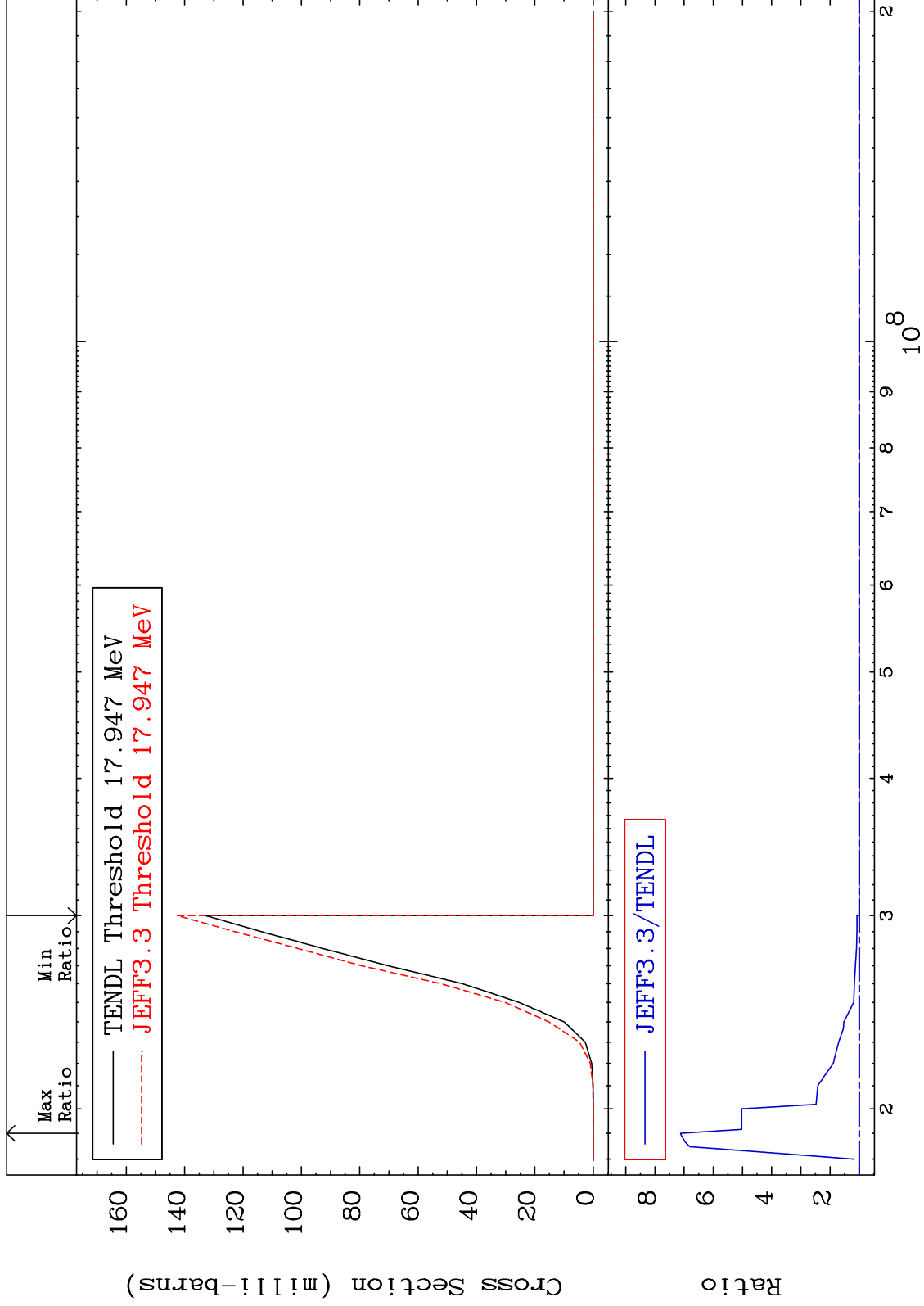


MAT 4431

(n,2n) p: 43-Tc-96g

44-Ru-98

Radionuclide Production Cross Section 0.000 To 612.0 %



89

Incident Energy (eV)

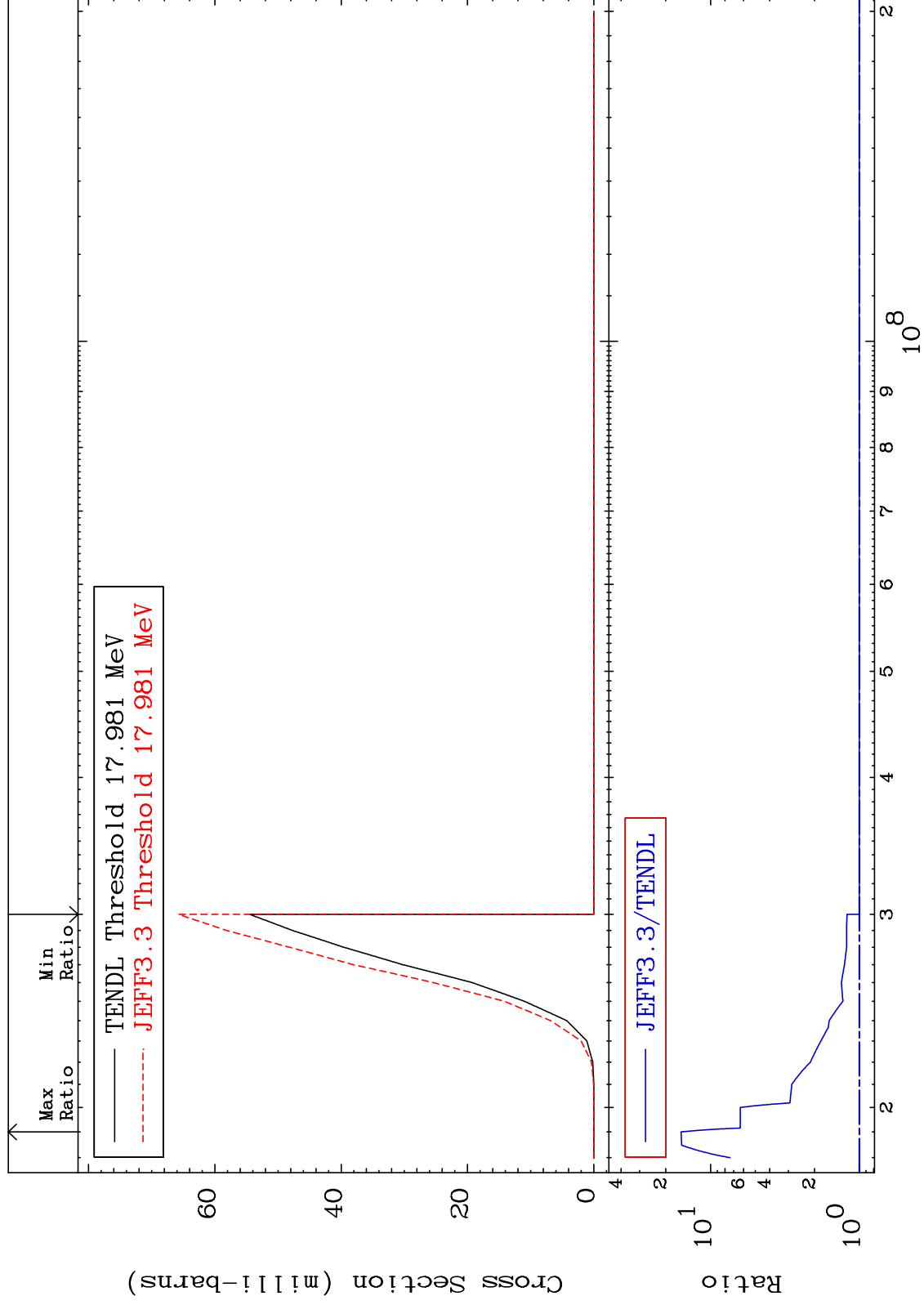
44-Ru-98

MAT 4431

(n,2n) p:43-Tc-96m1

44-Ru-98

Radionuclide Production Cross Section 0.000 To 1480. %



90

Incident Energy (eV)

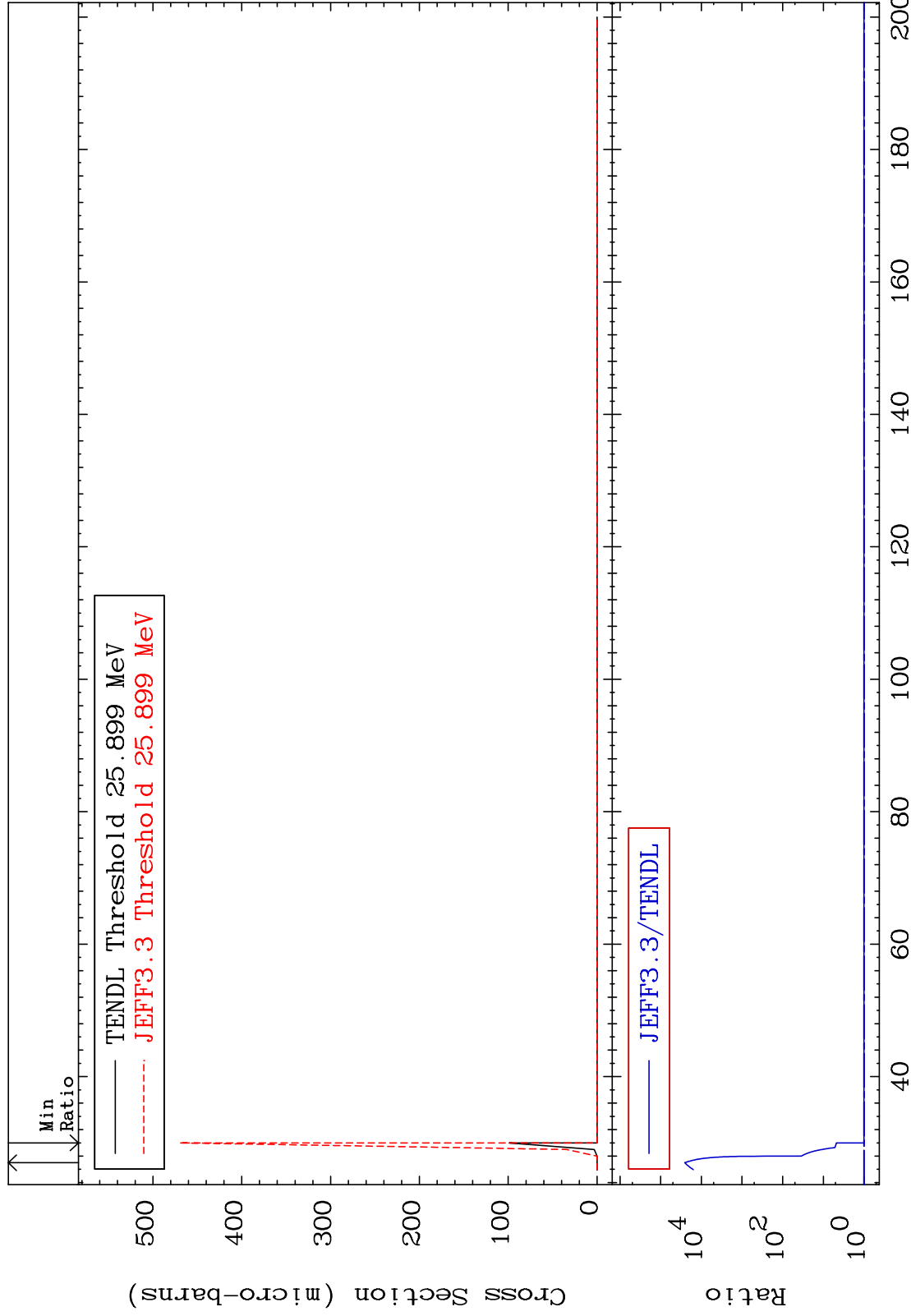
44-Ru-98

MAT 4431

(n,3n) p: 43-Tc-95g

44-Ru-98

Radionuclide Production Cross Section 0.000 To 9999. %

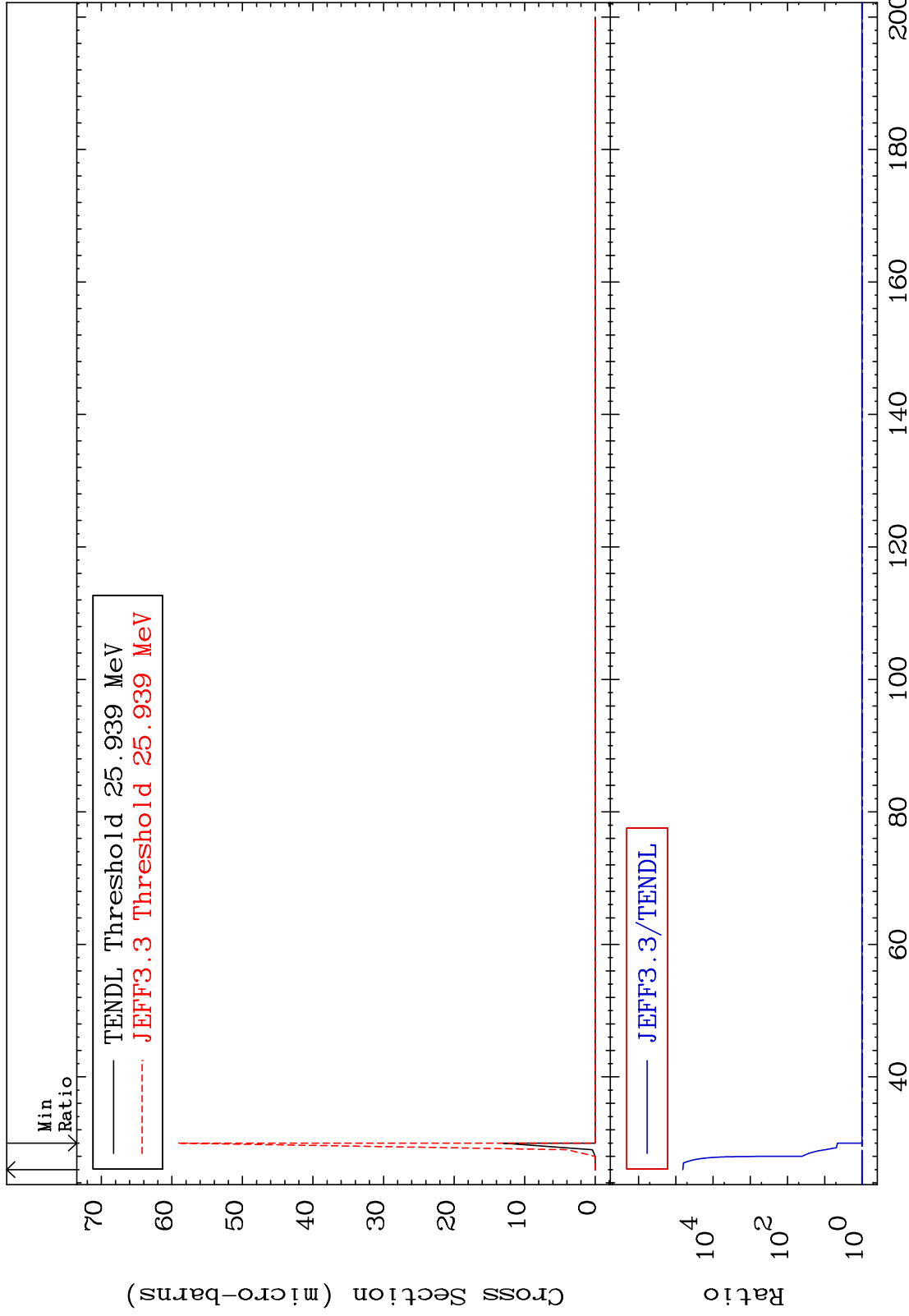


MAT 4431

(n,3n) p:43-Tc-95m1

44-Ru-98

Radionuclide Production Cross Section 0.000 To 9999. %



92

Incident Energy (MeV)

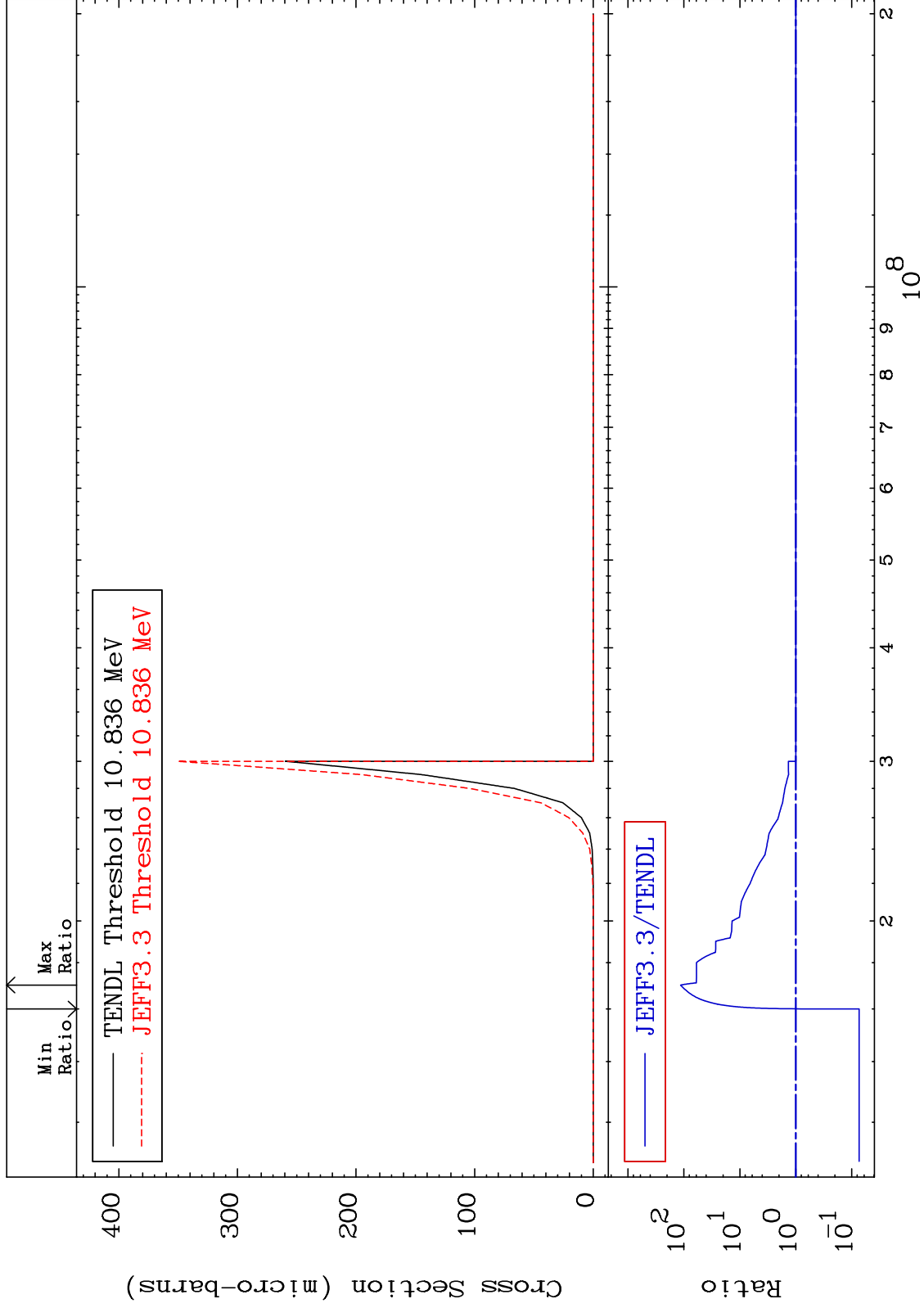
44-Ru-98

MAT 4431

(n, n') p  $\alpha$ : 41-Nb-93g

44-Ru-98

Radionuclide Production Cross Section -92.65 To 9999. %



93

Incident Energy (eV)

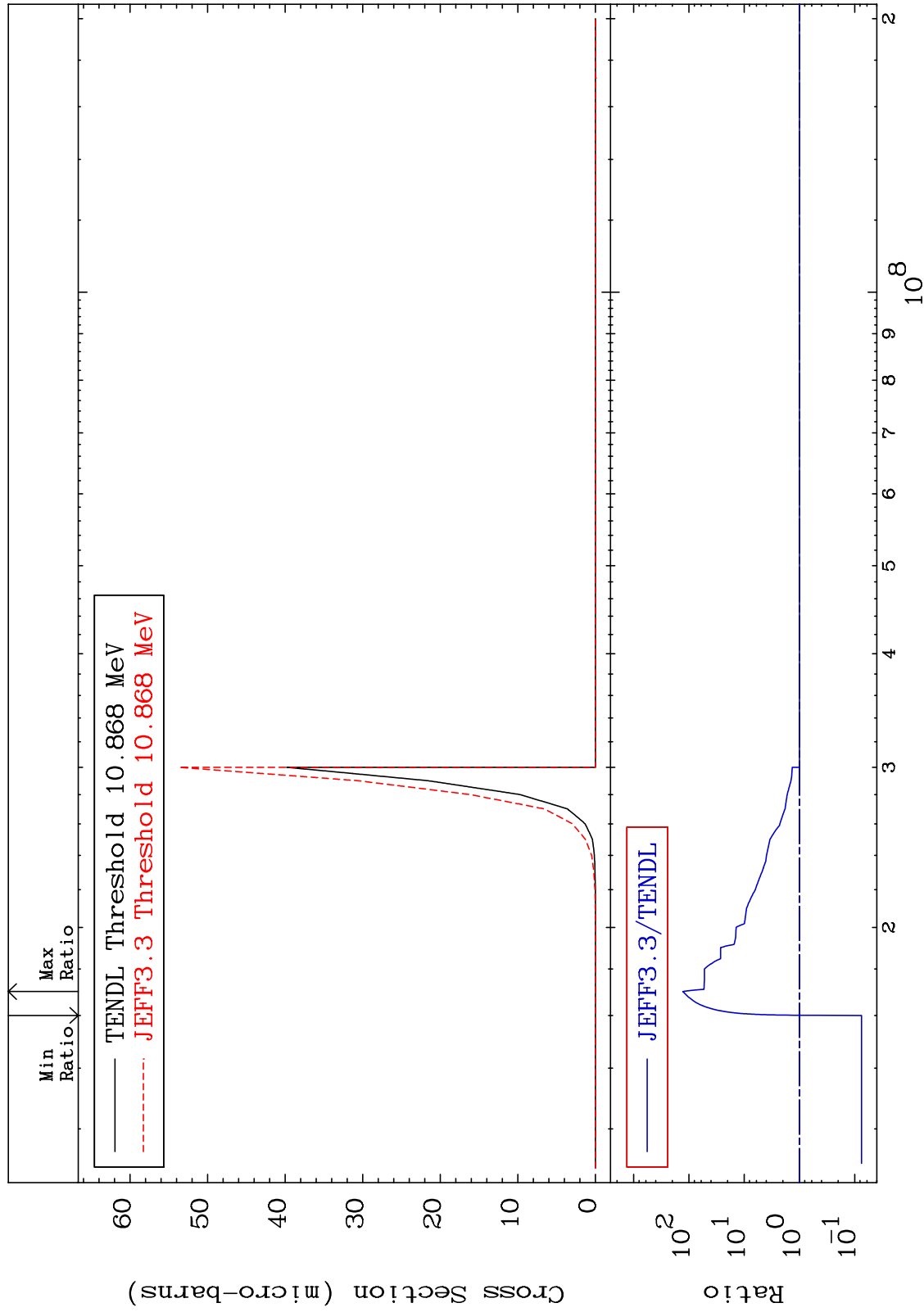
44-Ru-98

MAT 4431

(n, n') p  $\alpha$ : 41-Nb-93m1

44-Ru-98

Radionuclide Production Cross Section -92.48 To 9999. %

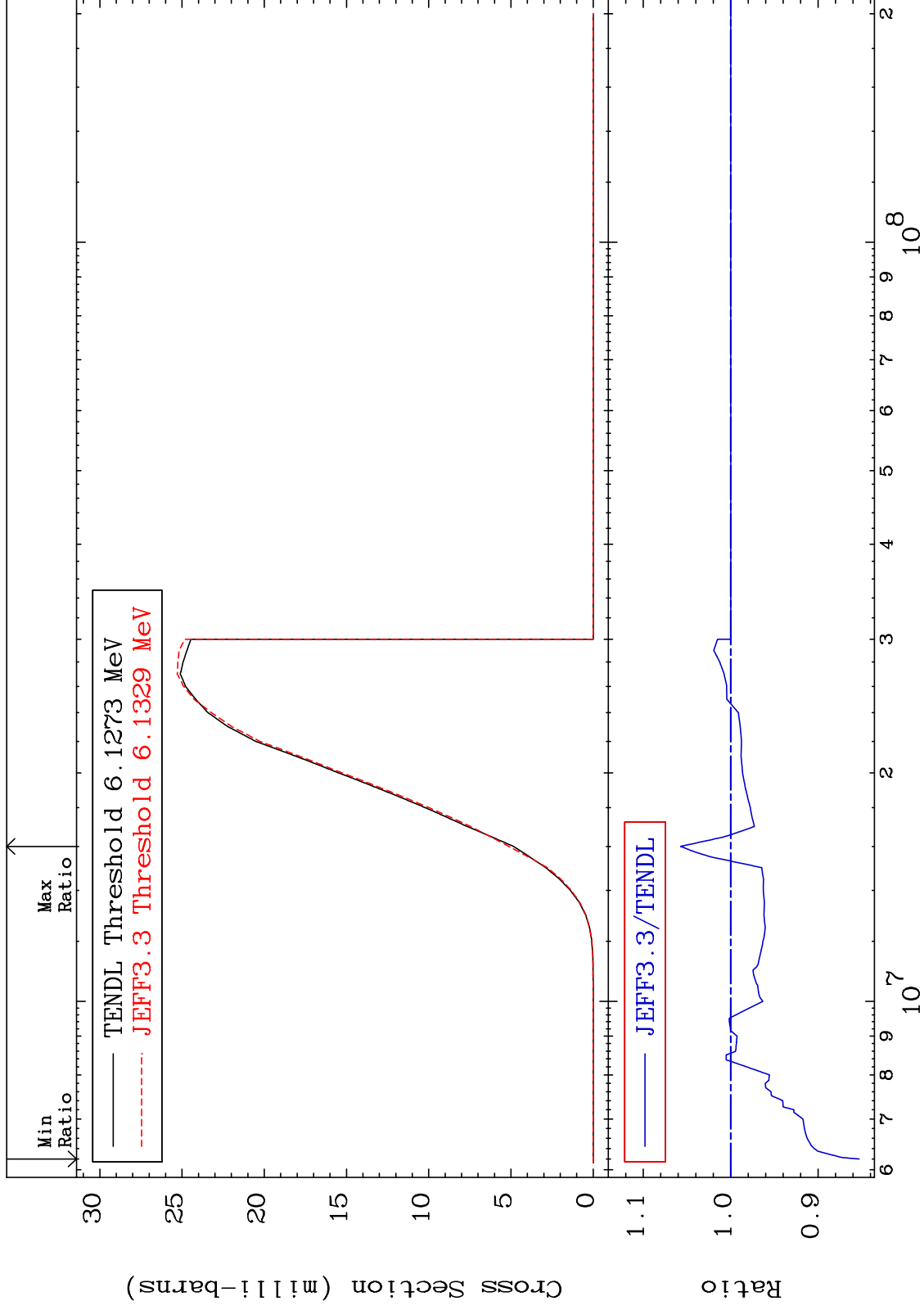


MAT 4431

44-Ru-98

(n, d) : 43-Tc-97g

Radionuclide Production Cross Section -14.70 To 5.730 %



95

Incident Energy (eV)

44-Ru-98

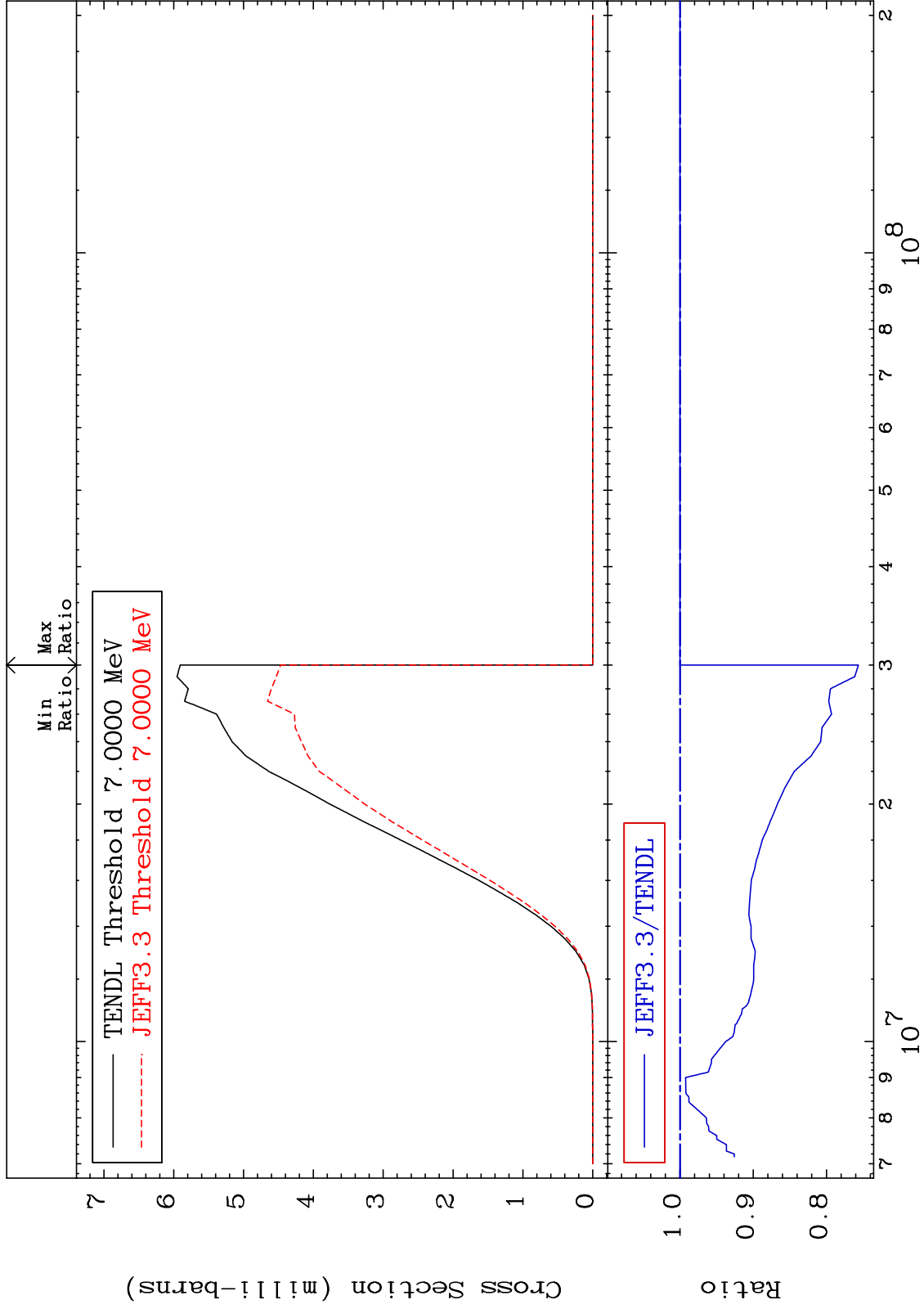


MAT 4431

(n,d): 43-Tc-97m1

44-Ru-98

Radionuclide Production Cross Section -24.37 To 0.000 %



96

Incident Energy (eV)

44-Ru-98

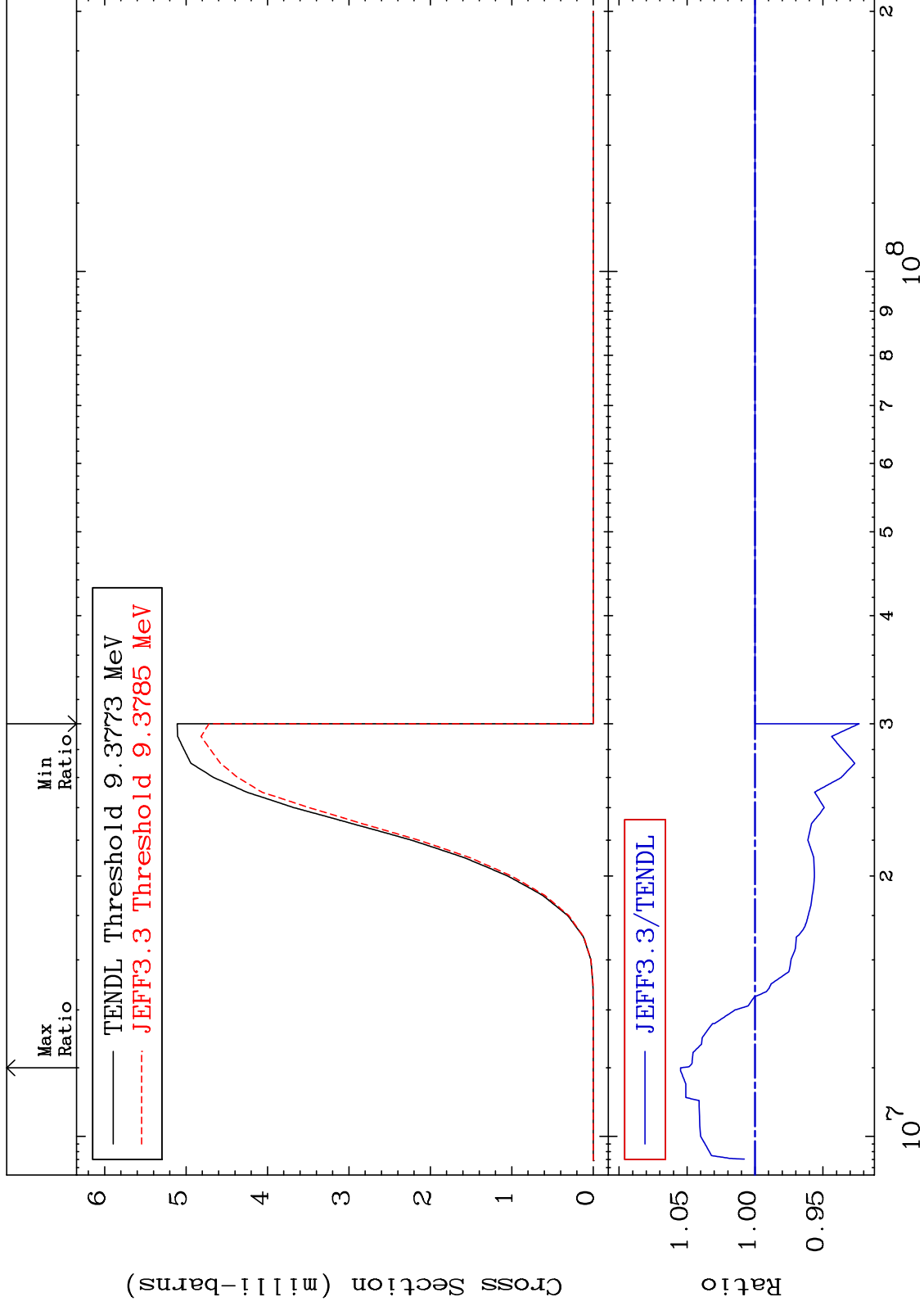
MAT 4431

(n, t) : 43-Tc-96g

44-Ru-98

Radionuclide Production Cross Section

-7.663 To 5.474 %



97

Incident Energy (eV)

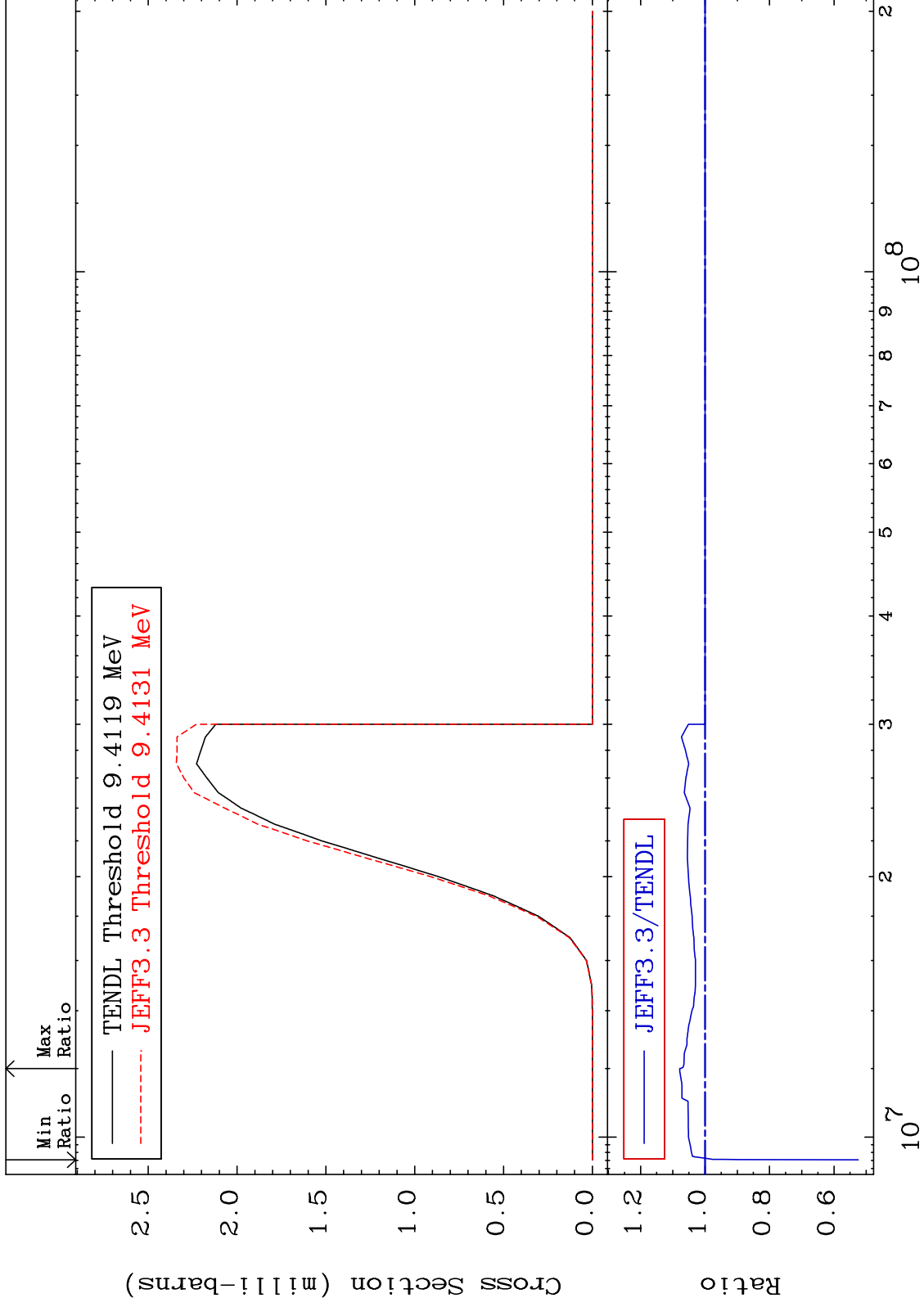
44-Ru-98

MAT 4431

(n, t): 43-Tc-96m1

44-Ru-98

Radionuclide Production Cross Section -47.56 To 7.830 %



98

Incident Energy (eV)

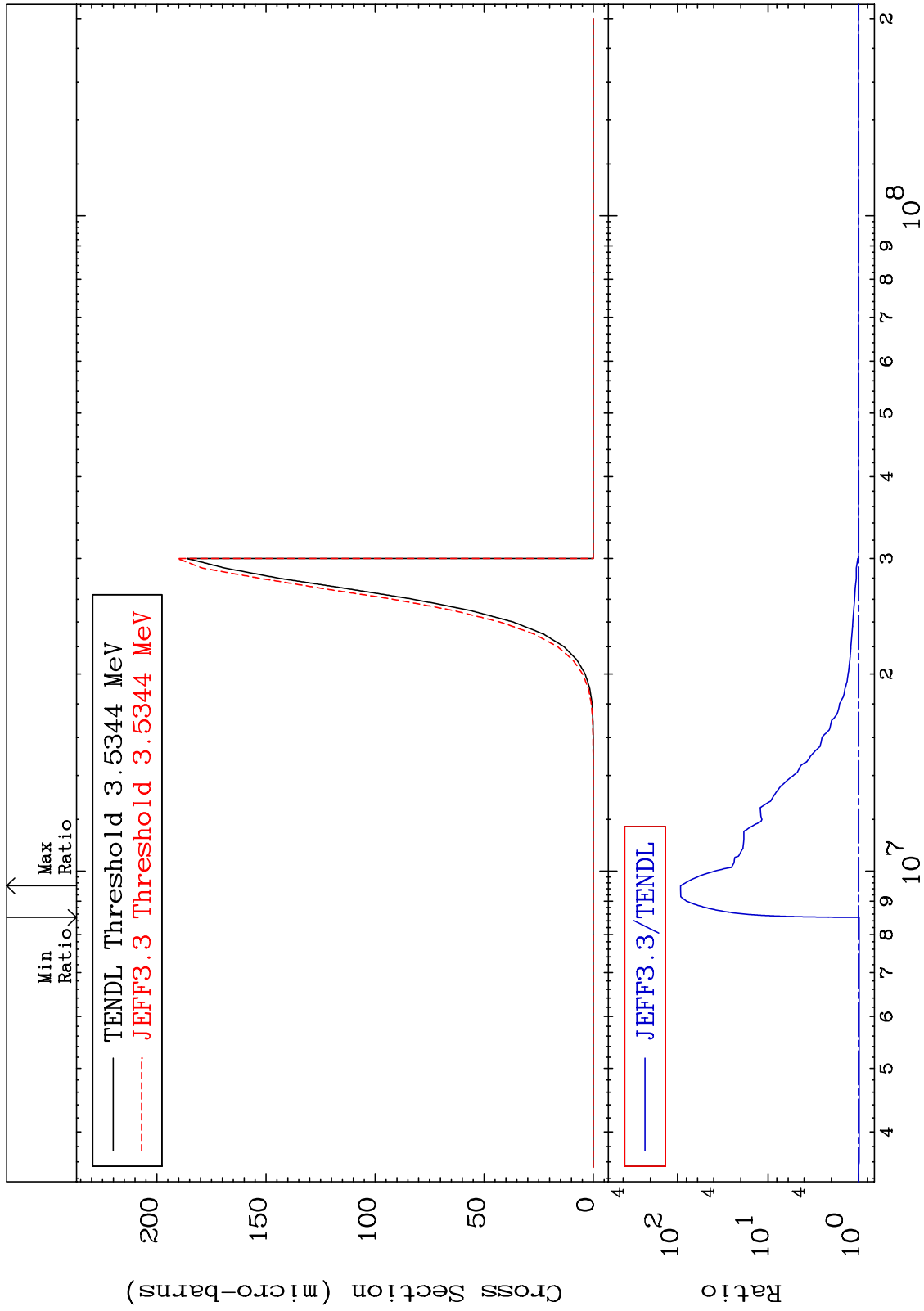
44-Ru-98

MAT 4431

(n, p)  $\alpha$ :41-Nb-94g

44-Ru-98

Radionuclide Production Cross Section -1.187 To 9160. %



99

Incident Energy (eV)

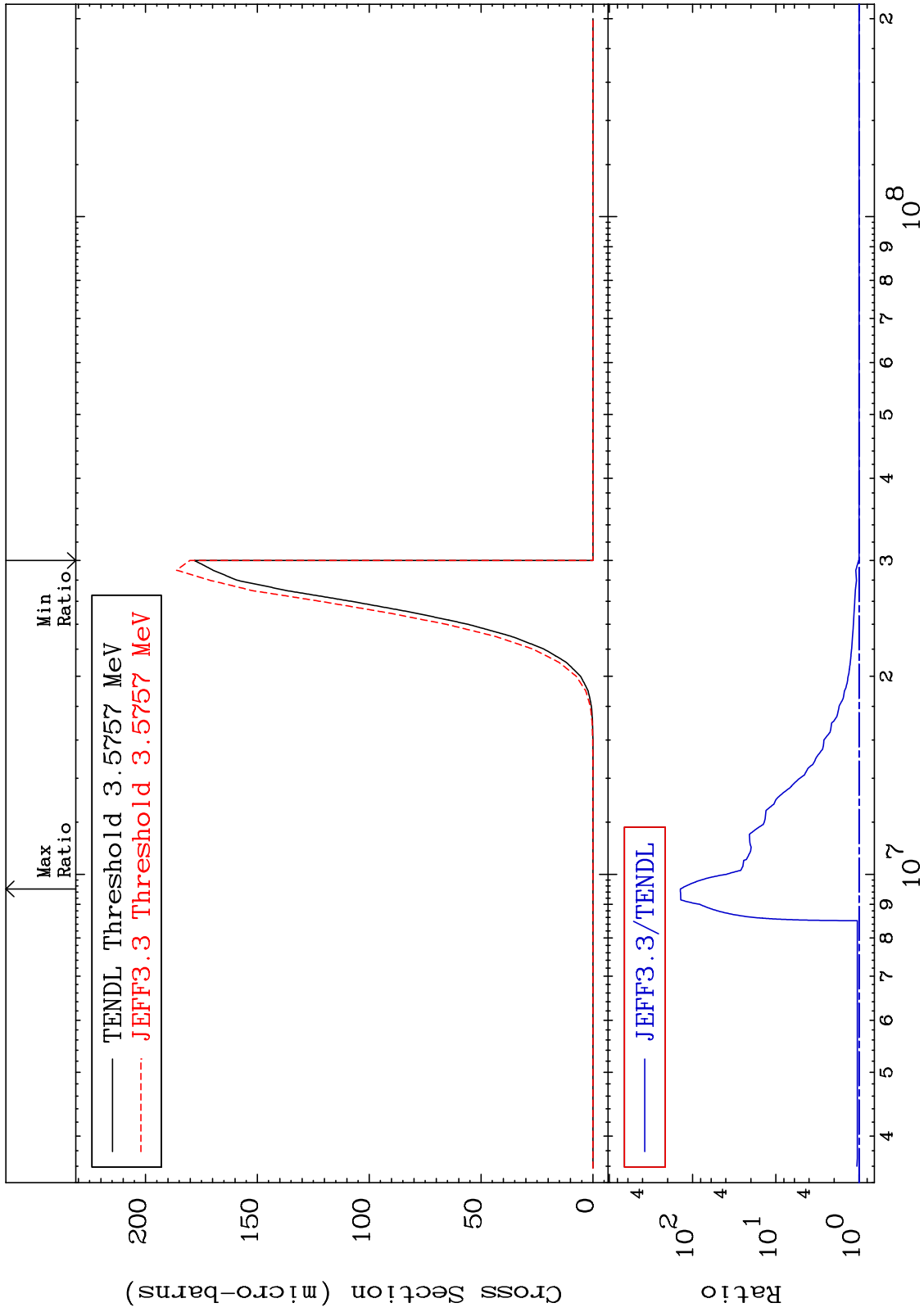
44-Ru-98

MAT 4431

(n, p)  $\alpha$ : 41-Nb-94m1

44-Ru-98

Radionuclide Production Cross Section 0.000 To 9999. %



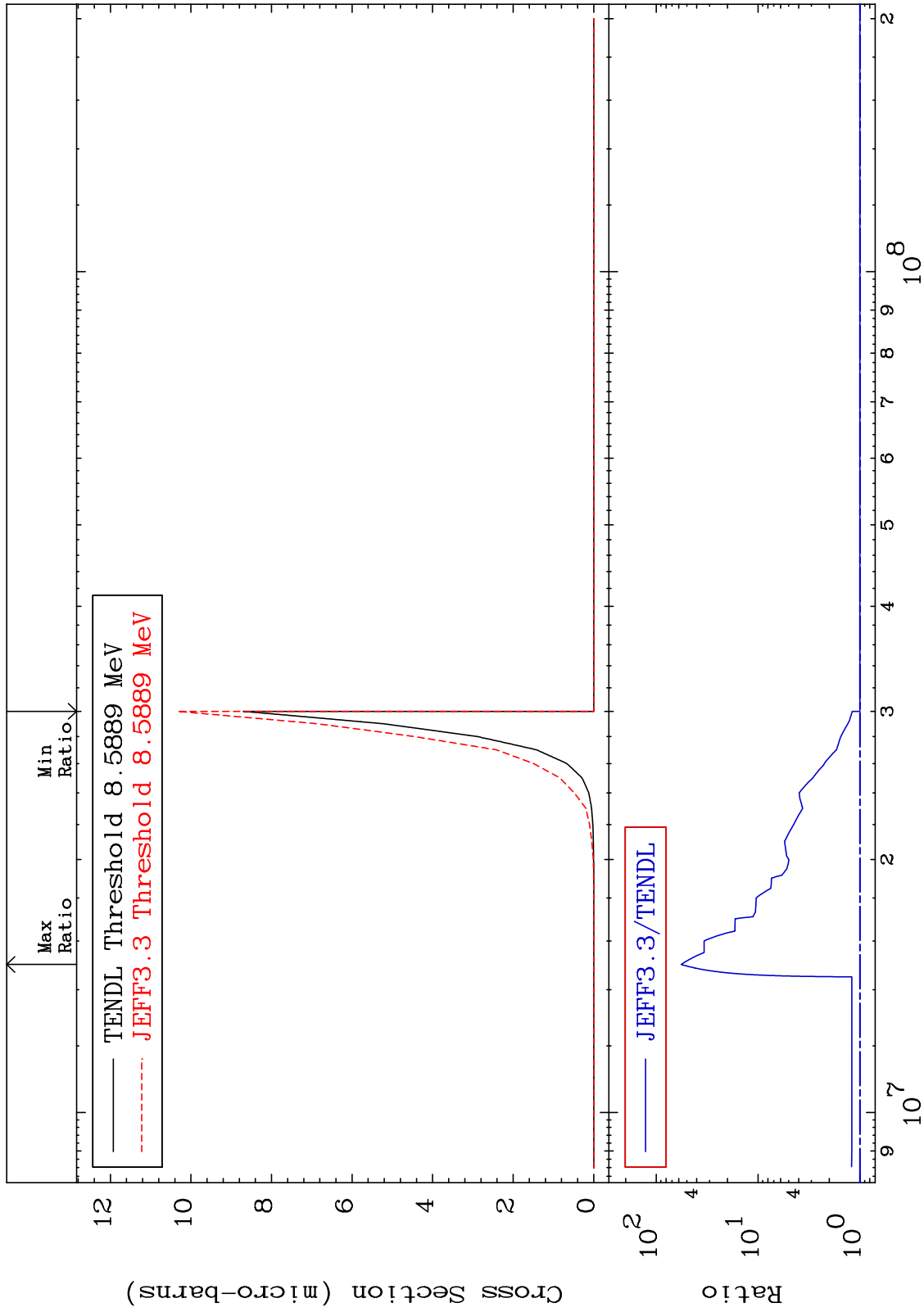
100

Incident Energy (eV)

44-Ru-98

MAT 4431

(n,d)  $\alpha$ :41-Nb-93g 44-Ru-98  
Radionuclide Production Cross Section 0.000 To 5583. %



101

Incident Energy (eV)

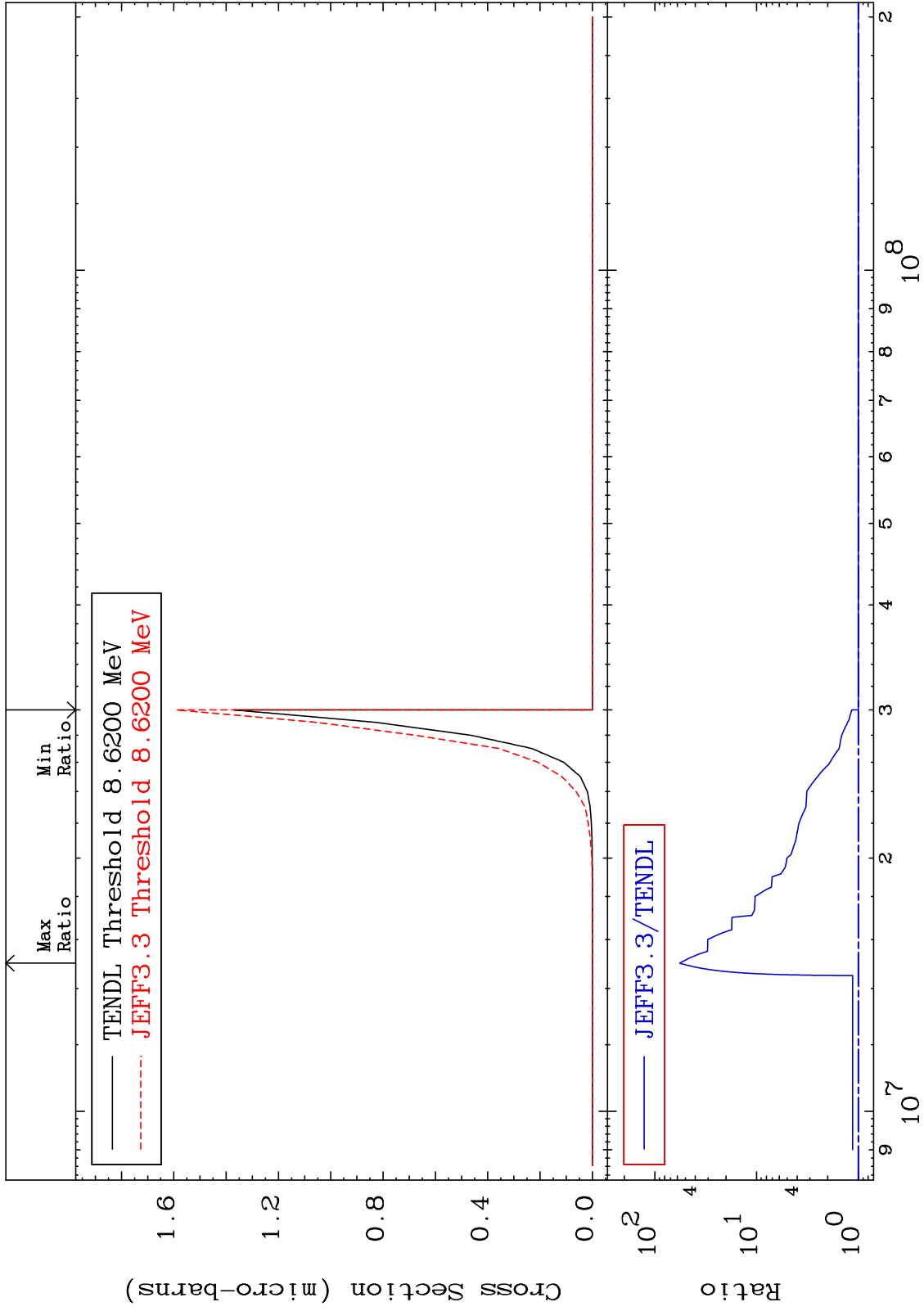
44-Ru-98

MAT 4431

(n, d)  $\alpha$ : 41-Nb-93m1

44-Ru-98

Radionuclide Production Cross Section 0.000 To 5585. %



102

Incident Energy (eV)

44-Ru-98