

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

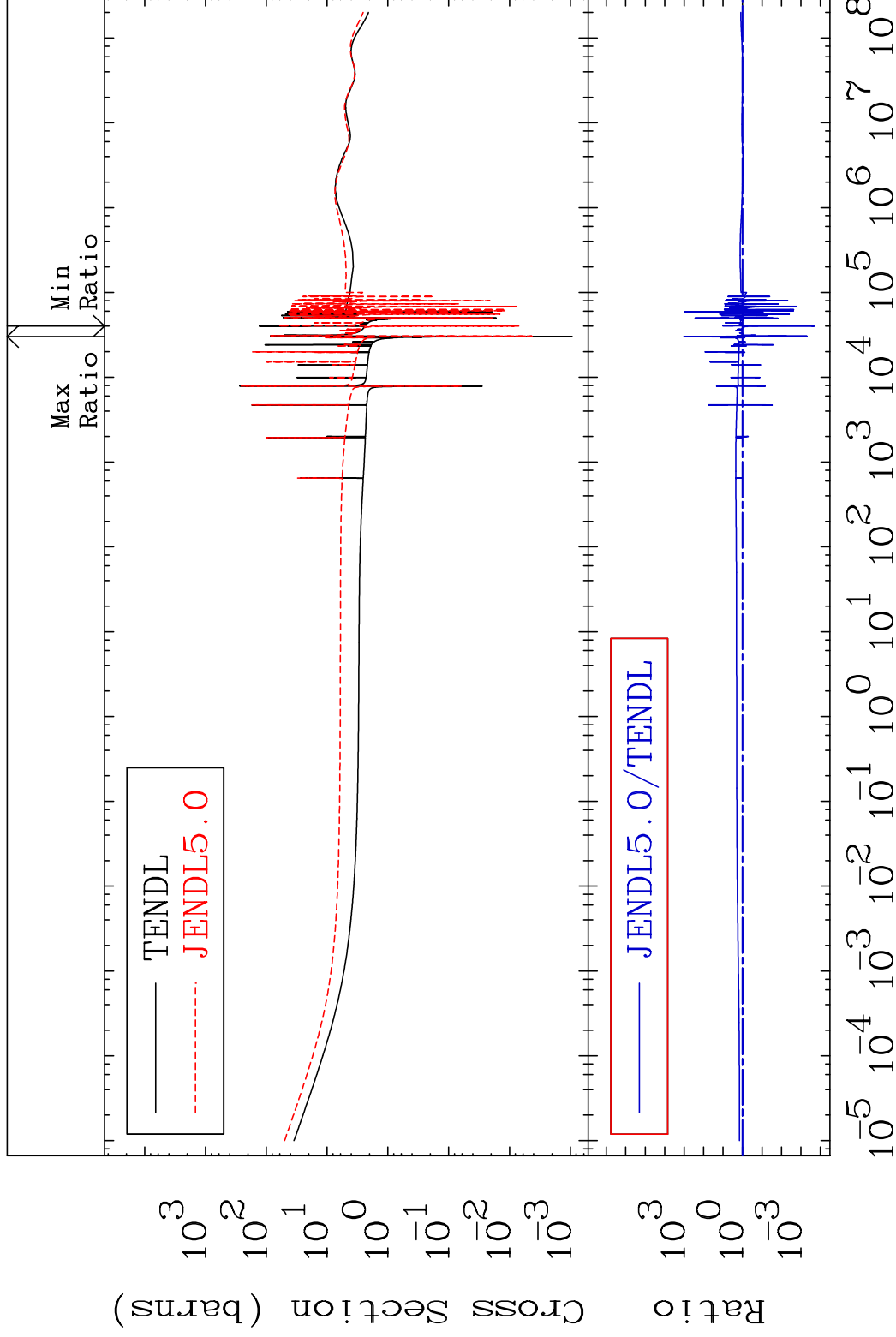
MAT 5649

Total

56-Ba-138

Cross Section

-99.98 To 9999. %



1

Incident Energy (eV)

56-Ba-138

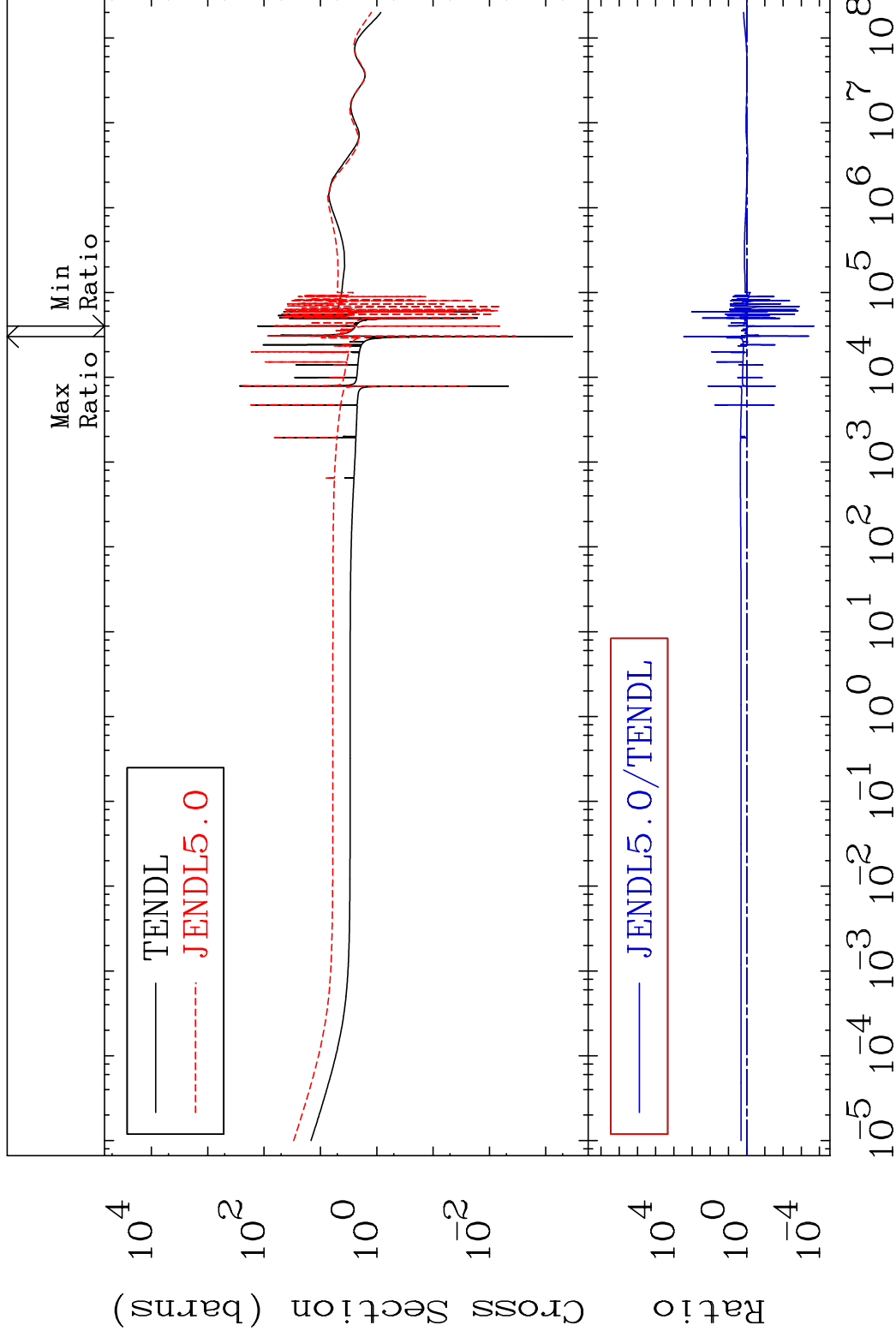
MAT 5649

Elastic

56-Ba-138

Cross Section

-99.98 To 9999. %



2

Incident Energy (eV)

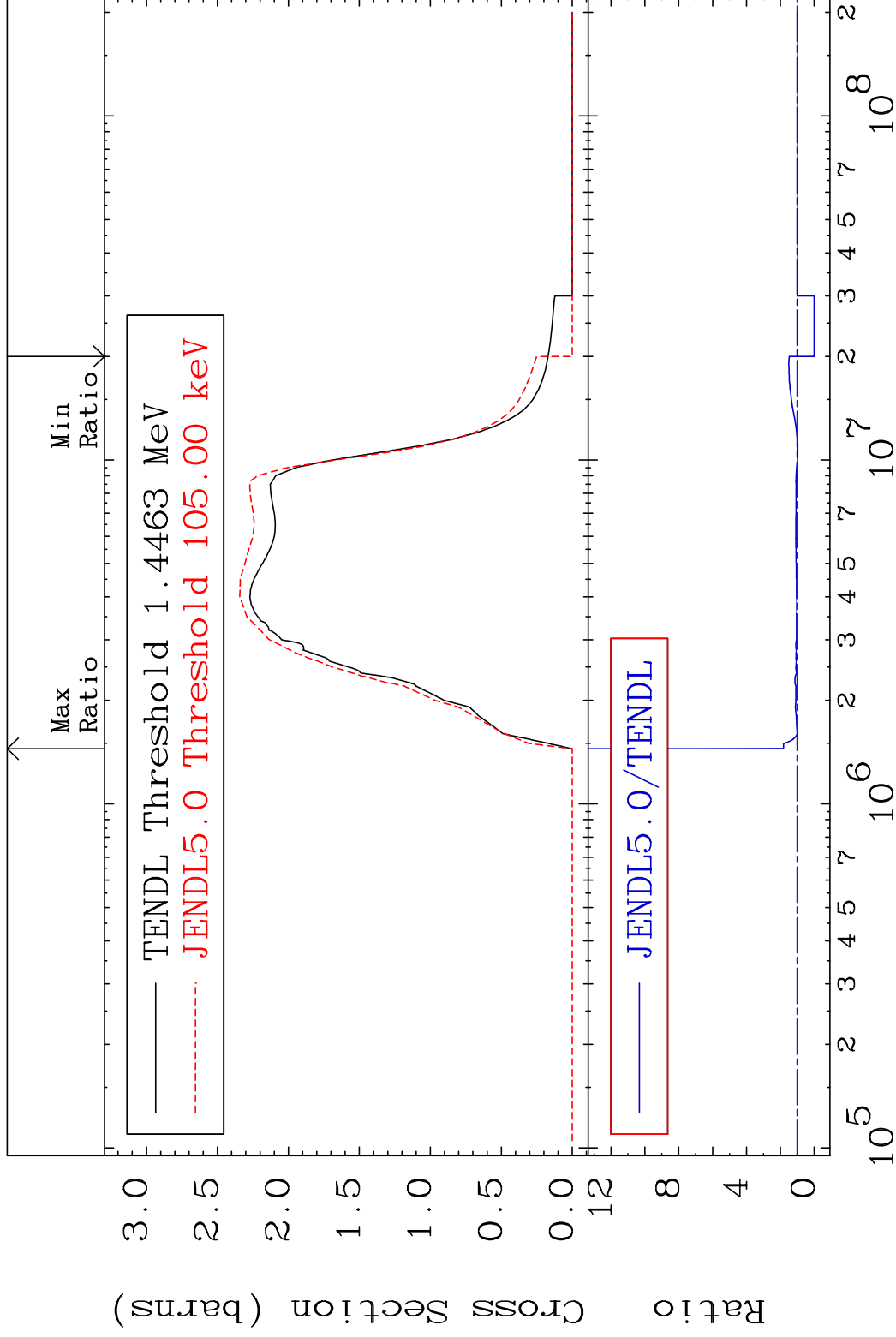
56-Ba-138

MAT 5649

Inelastic

56-Ba-138

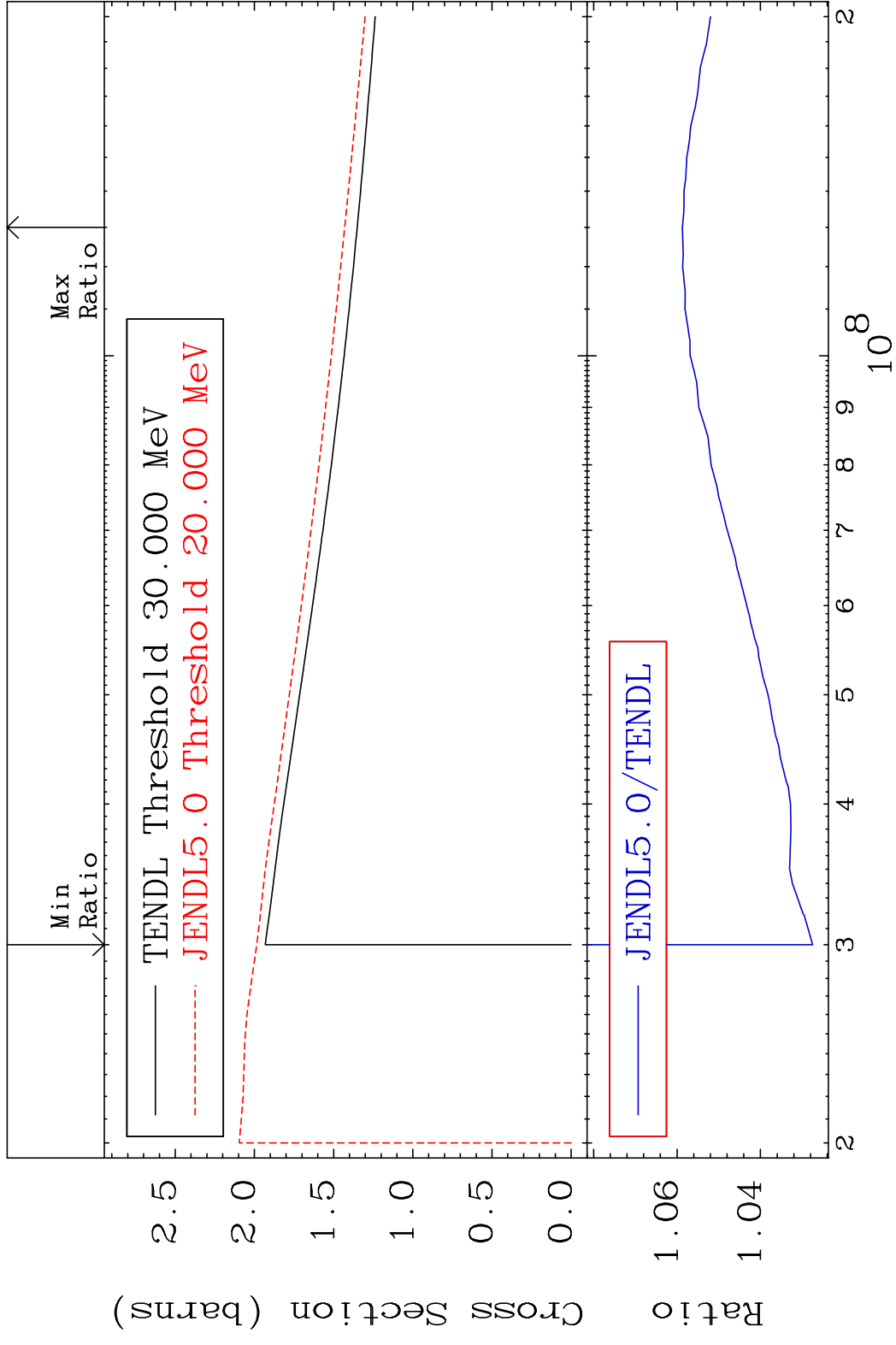
Cross Section -100.0 To 671.1 %



Incident Energy (eV)

56-Ba-138

MAT 5649 (n, remainder) 56-Ba-138  
 Cross Section 2.752 To 5.873 %



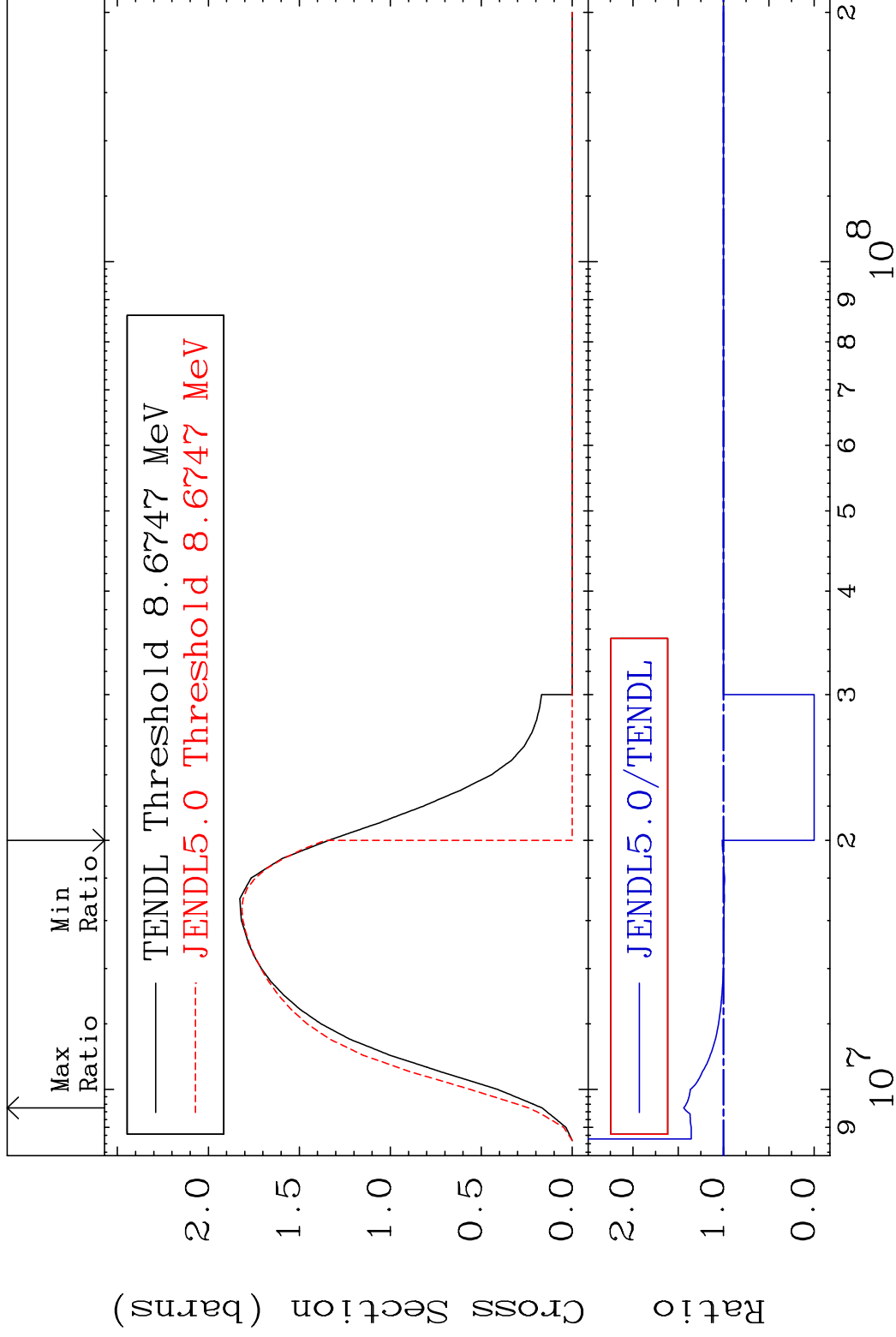
4 Incident Energy (eV) 56-Ba-138

MAT 5649

(n,2n)

56-Ba-138

Cross Section -100.0 To 44.02 %



5

Incident Energy (eV)

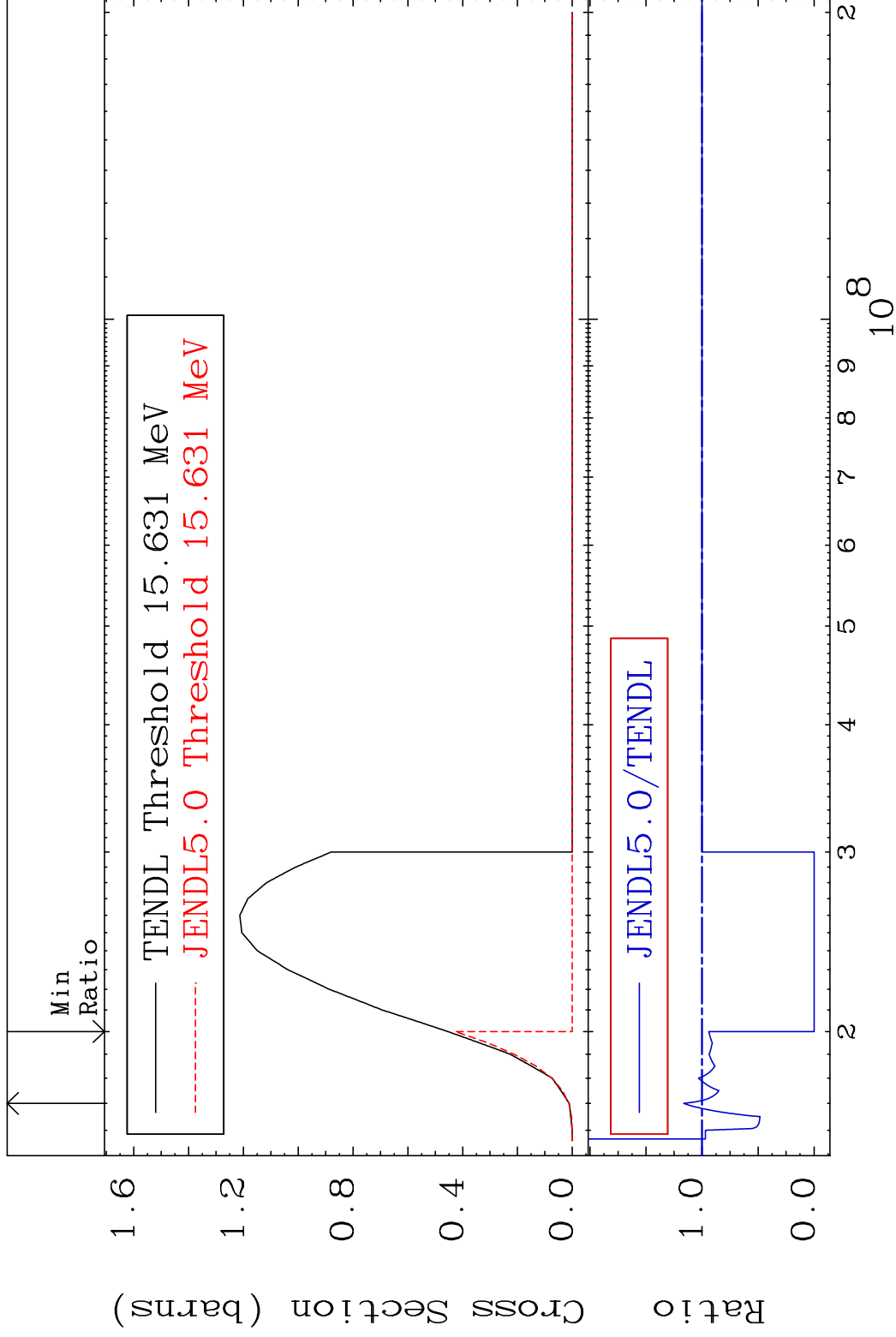
56-Ba-138

MAT 5649

(n,3n)

56-Ba-138

Cross Section -100.0 To 16.42 %

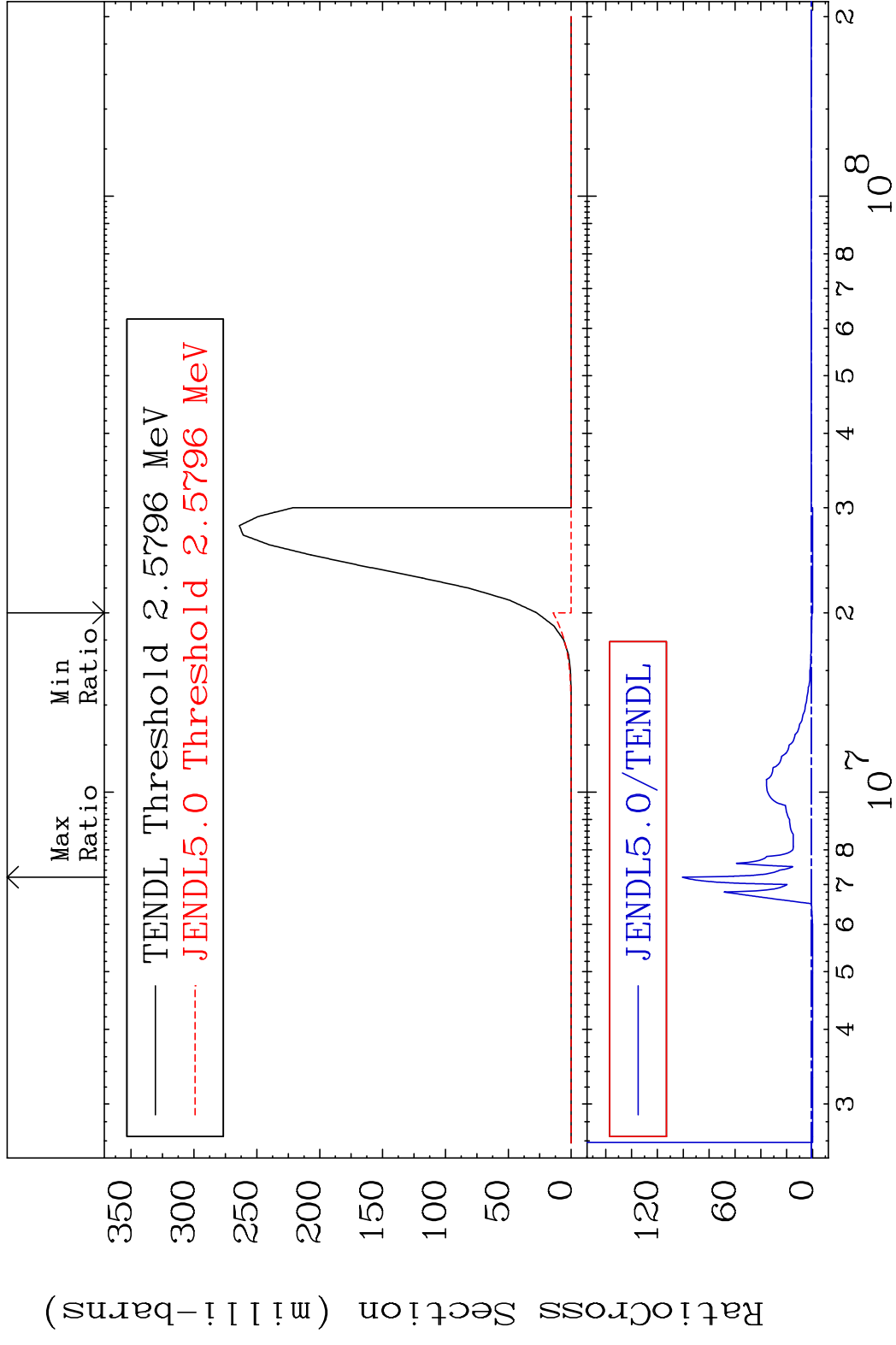


6

Incident Energy (eV)

56-Ba-138

MAT 5649 (n, n')  $\alpha$  56-Ba-138  
 Cross Section -100.0 To 9969. %



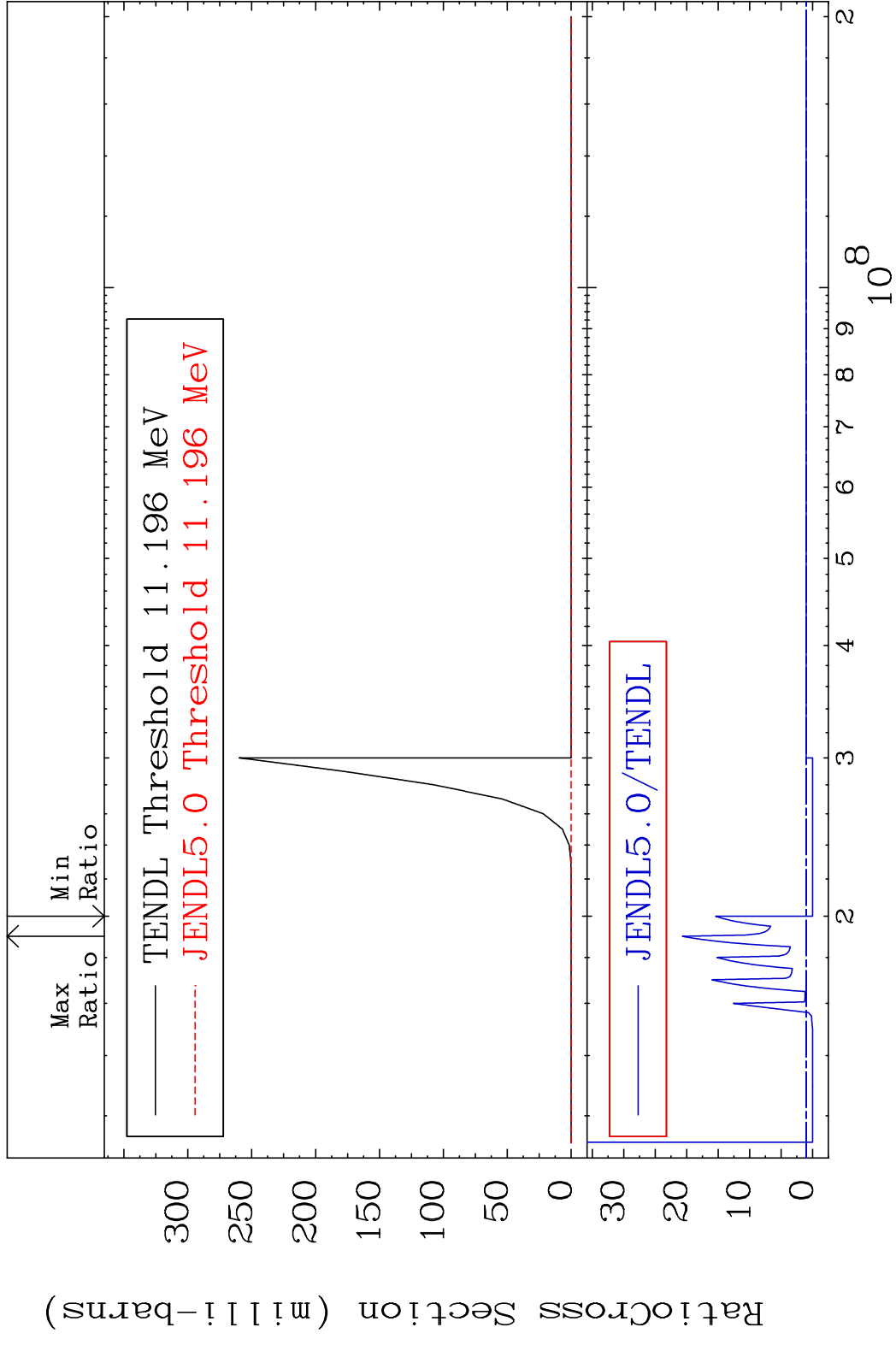
7 Incident Energy (eV) 56-Ba-138

MAT 5649

(n,2n)  $\alpha$

56-Ba-138

Cross Section -100.0 To 1969. %

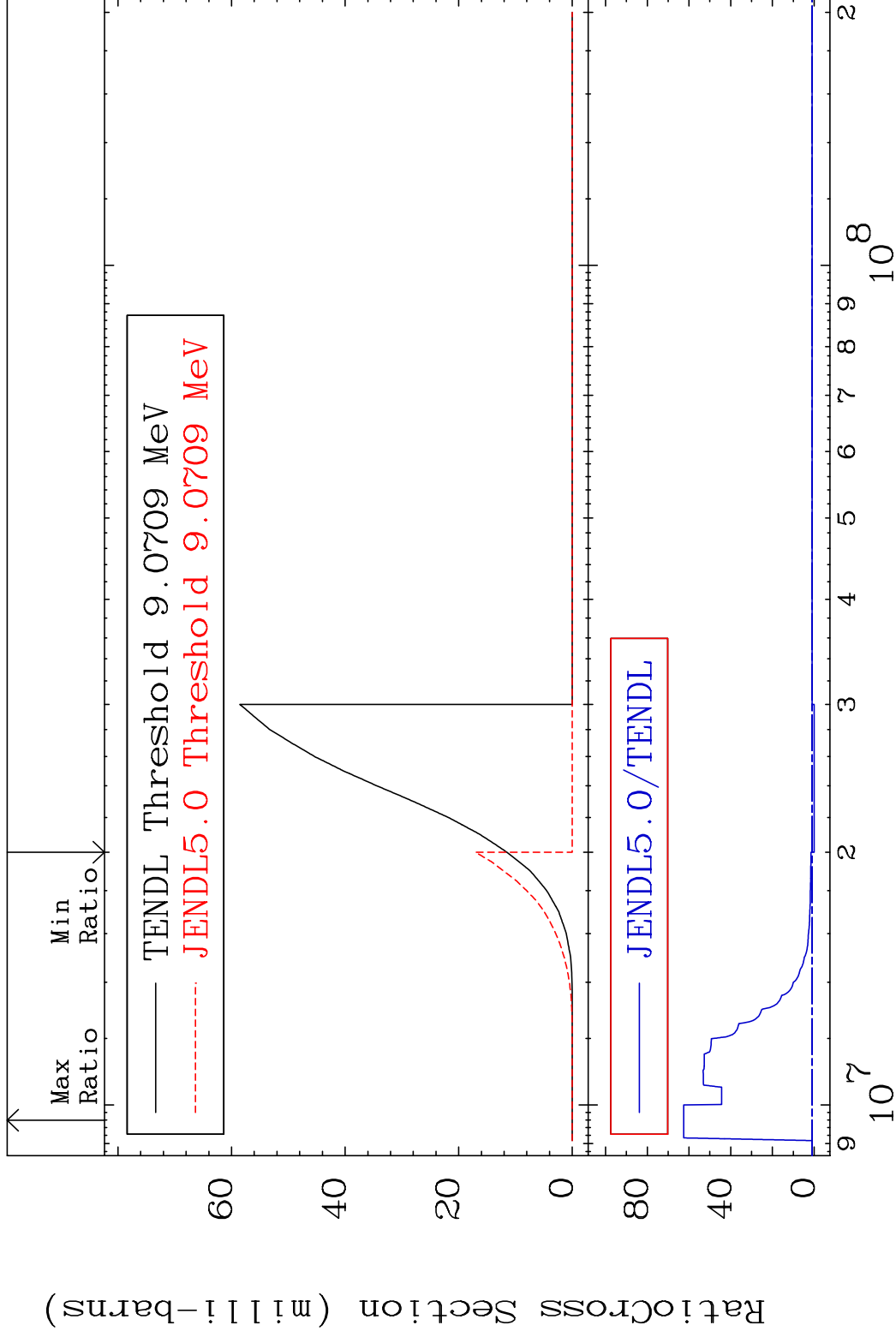


MAT 5649

(n, n') p

56-Ba-138

Cross Section -100.0 To 6156. %

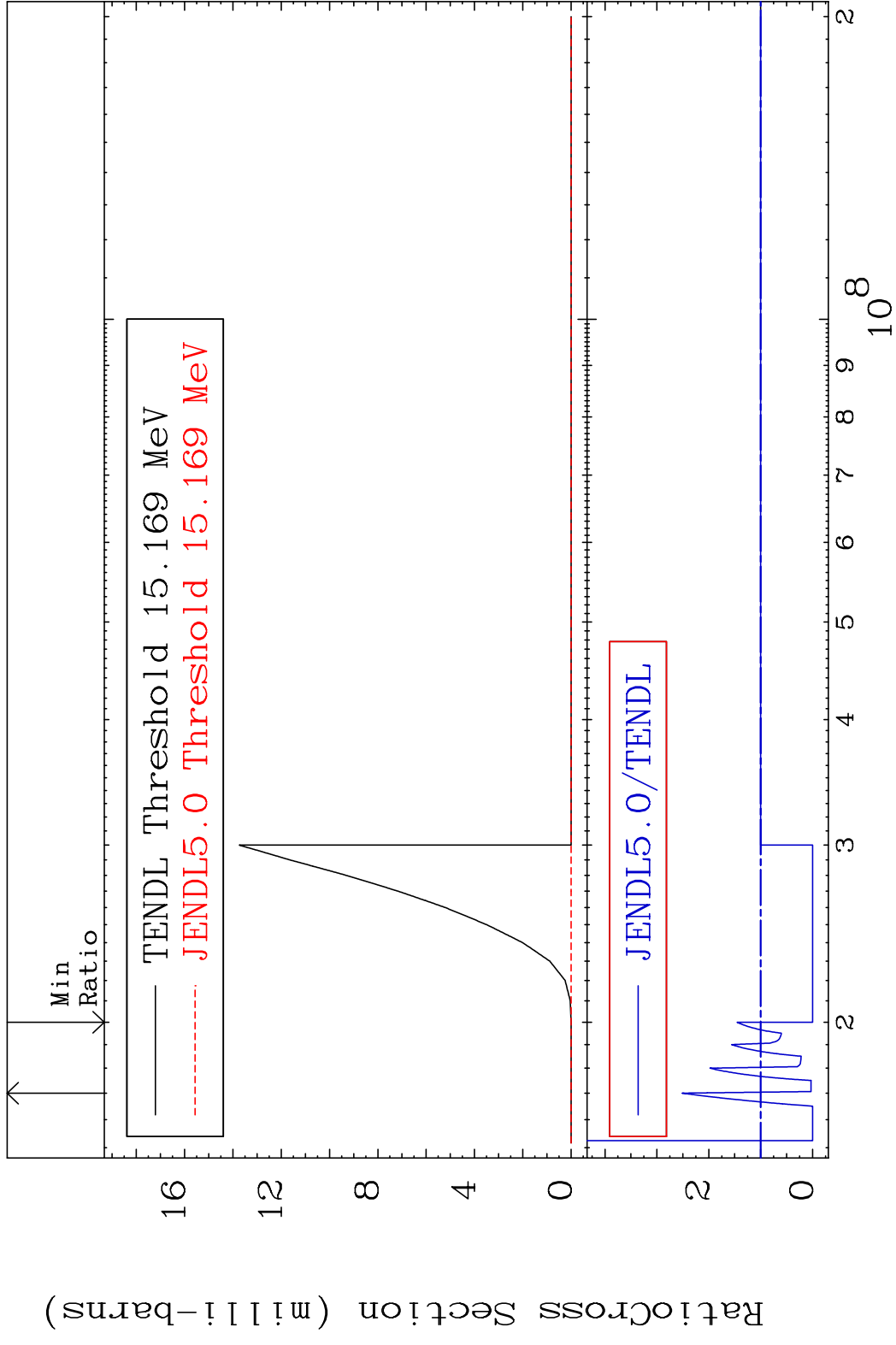


9

Incident Energy (eV)

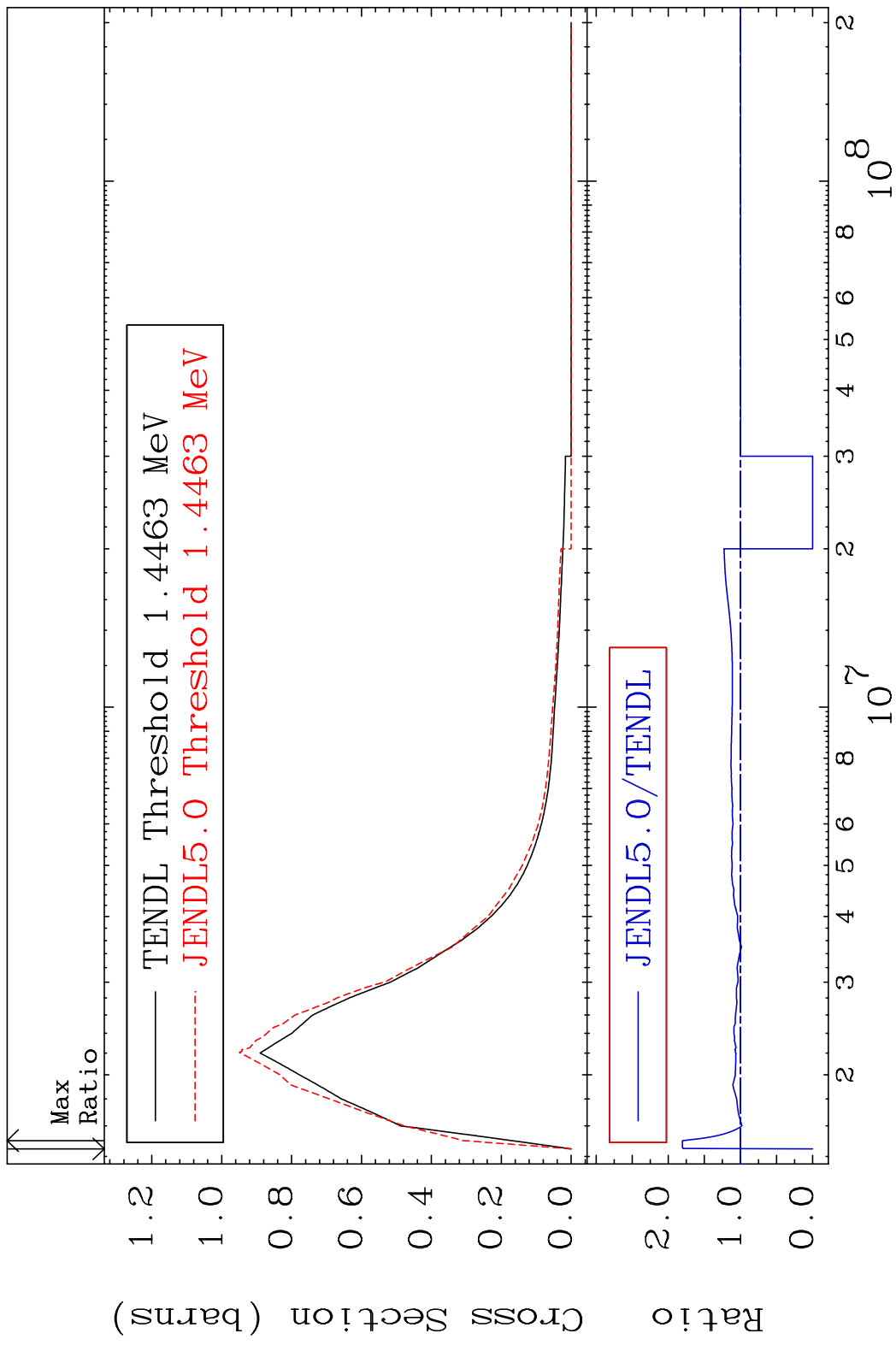
56-Ba-138

MAT 5649 (n, n') d 56-Ba-138  
 Cross Section -100.0 To 150.9 %

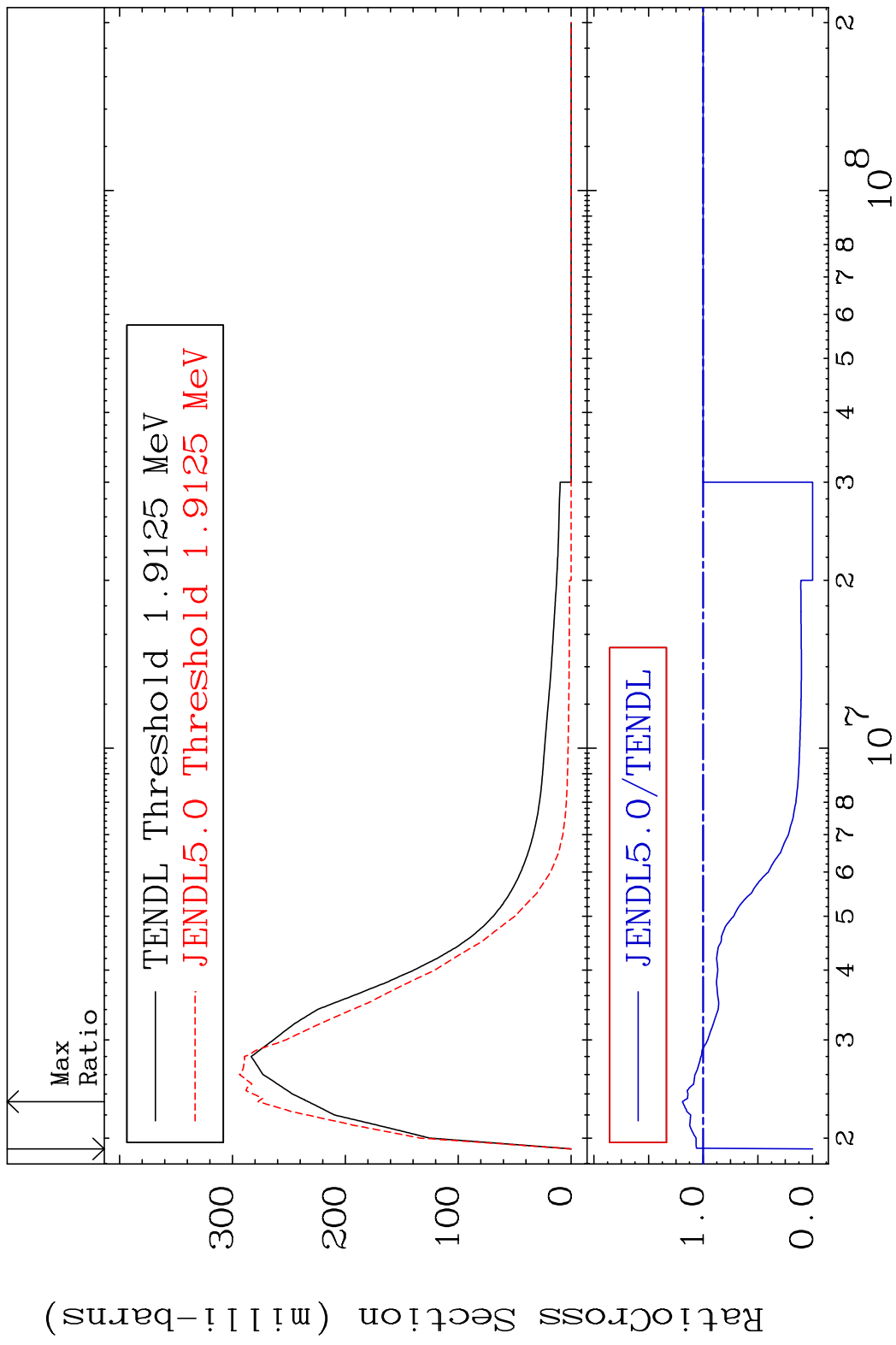


10 Incident Energy (eV) 56-Ba-138

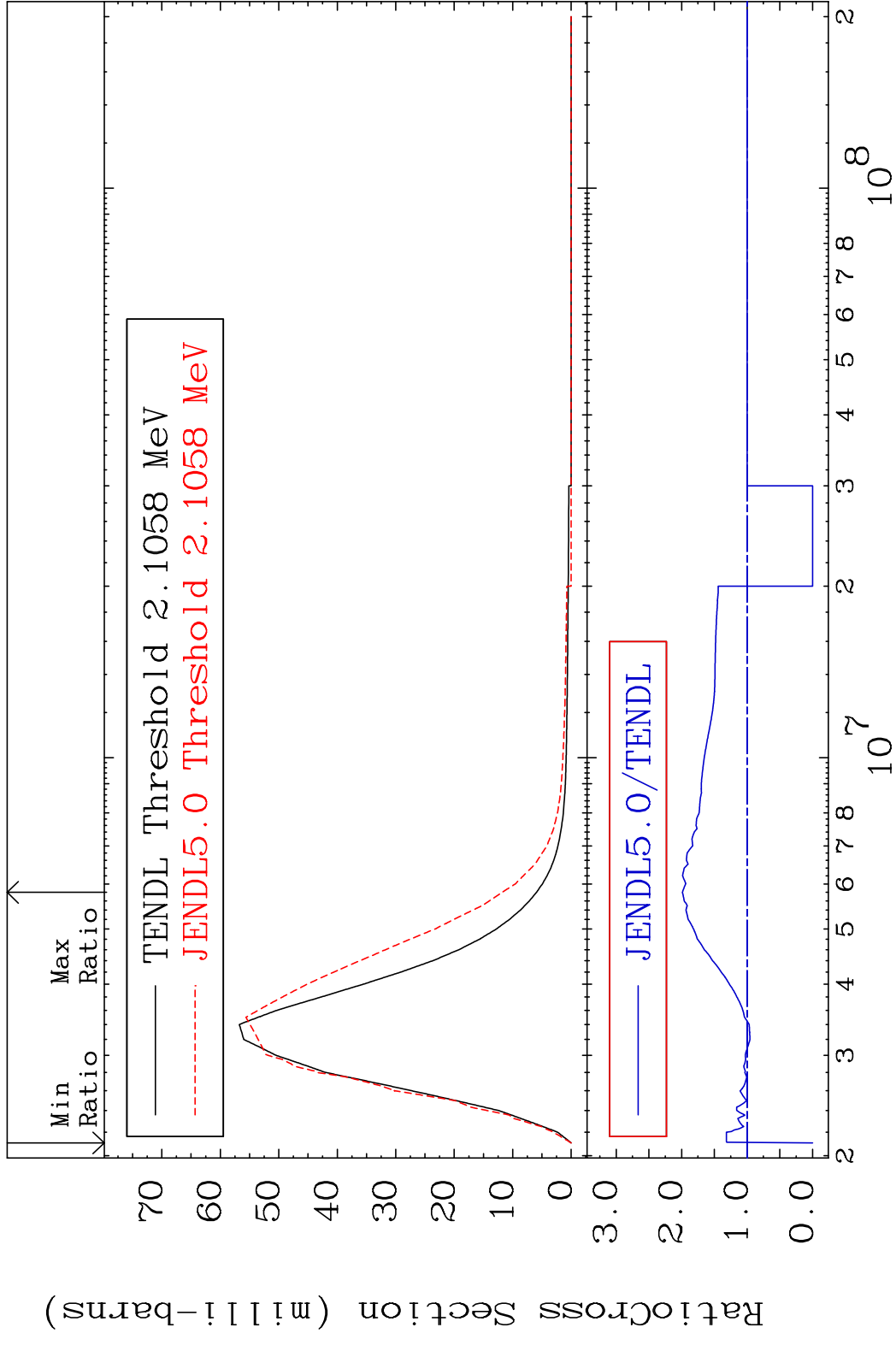
MAT 5649 MT= 51 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 80.54 %



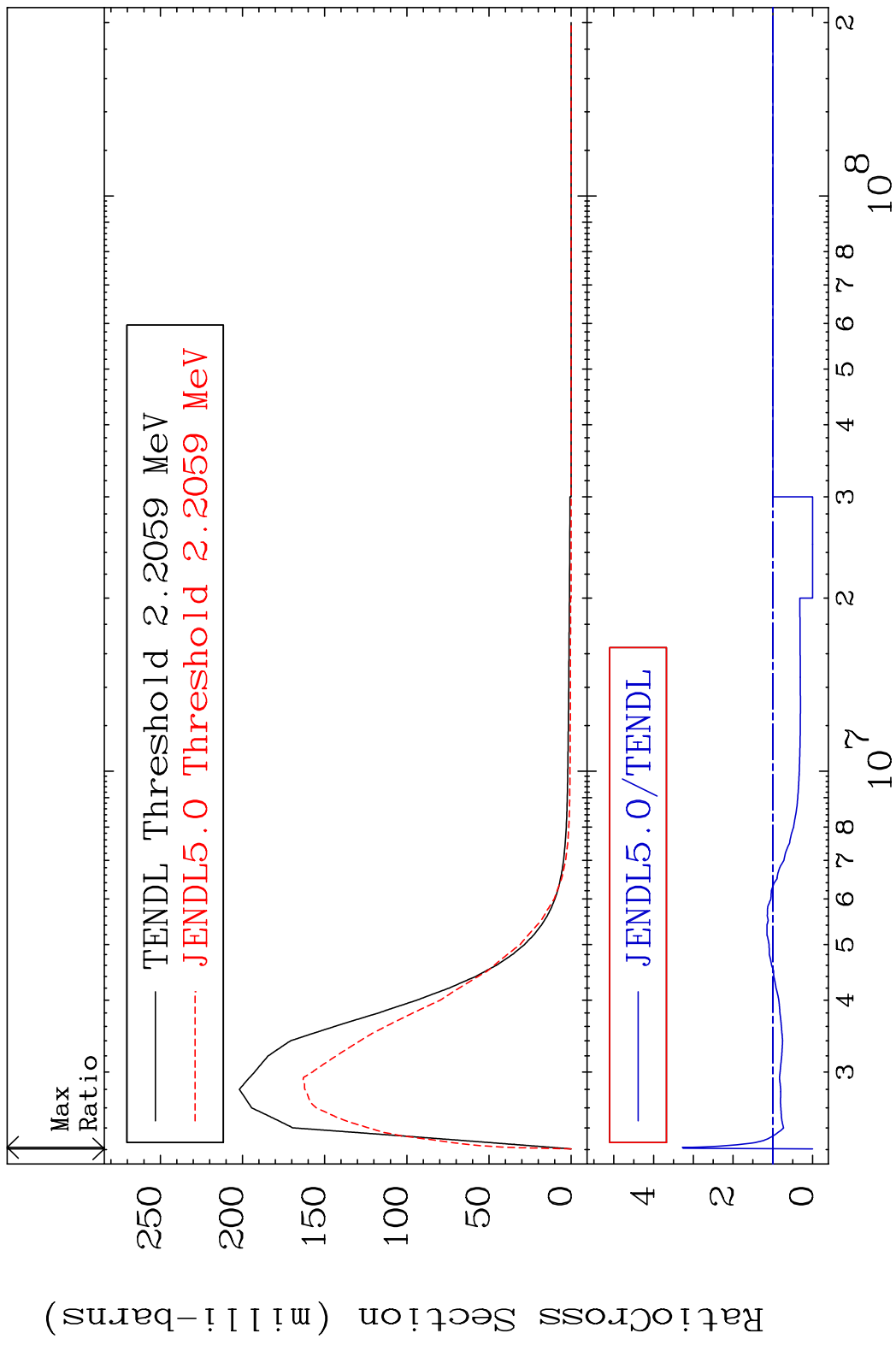
MAT 5649 MT= 52 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 19.09 %



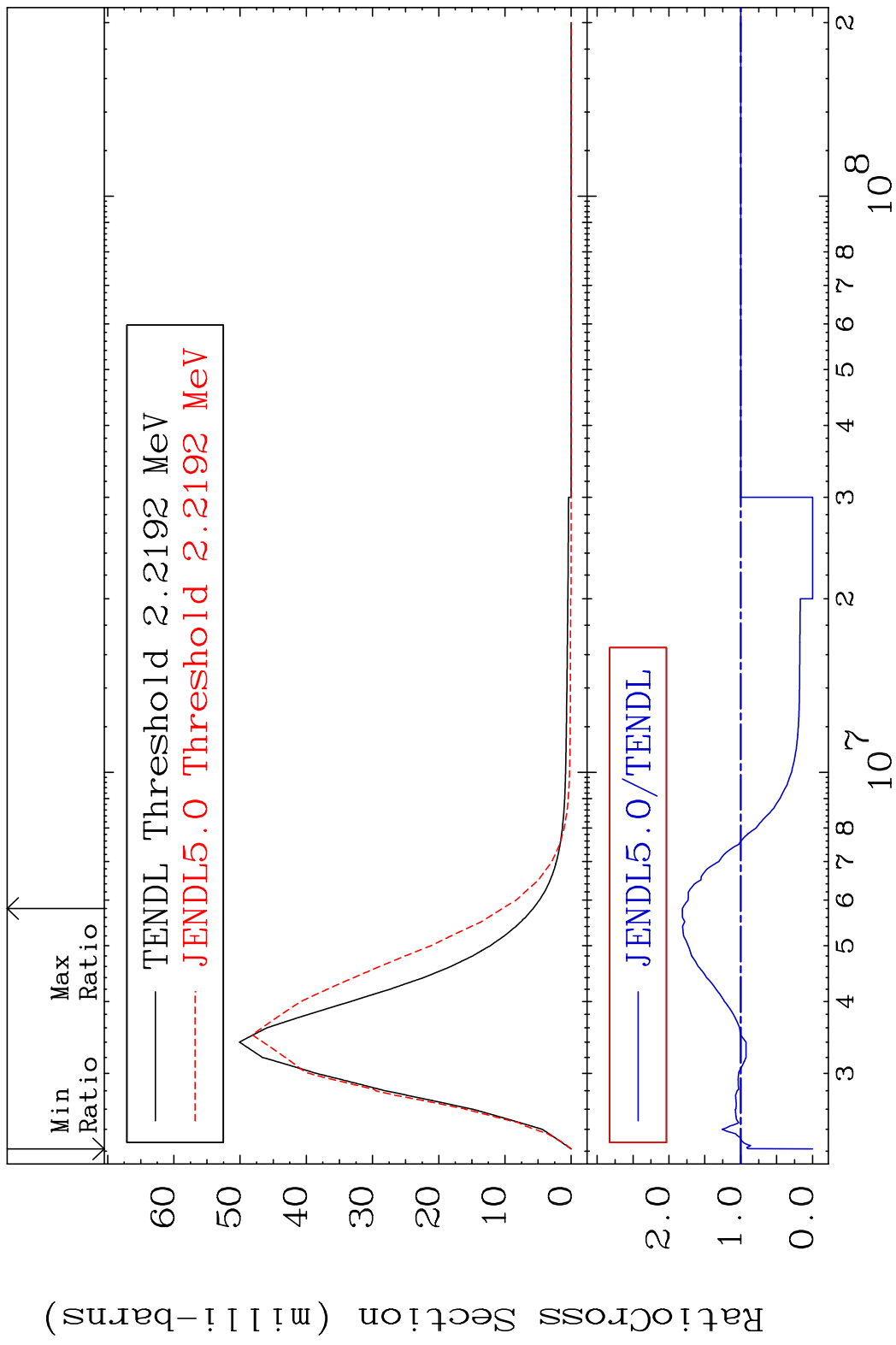
MAT 5649 MT= 53 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 98.88 %



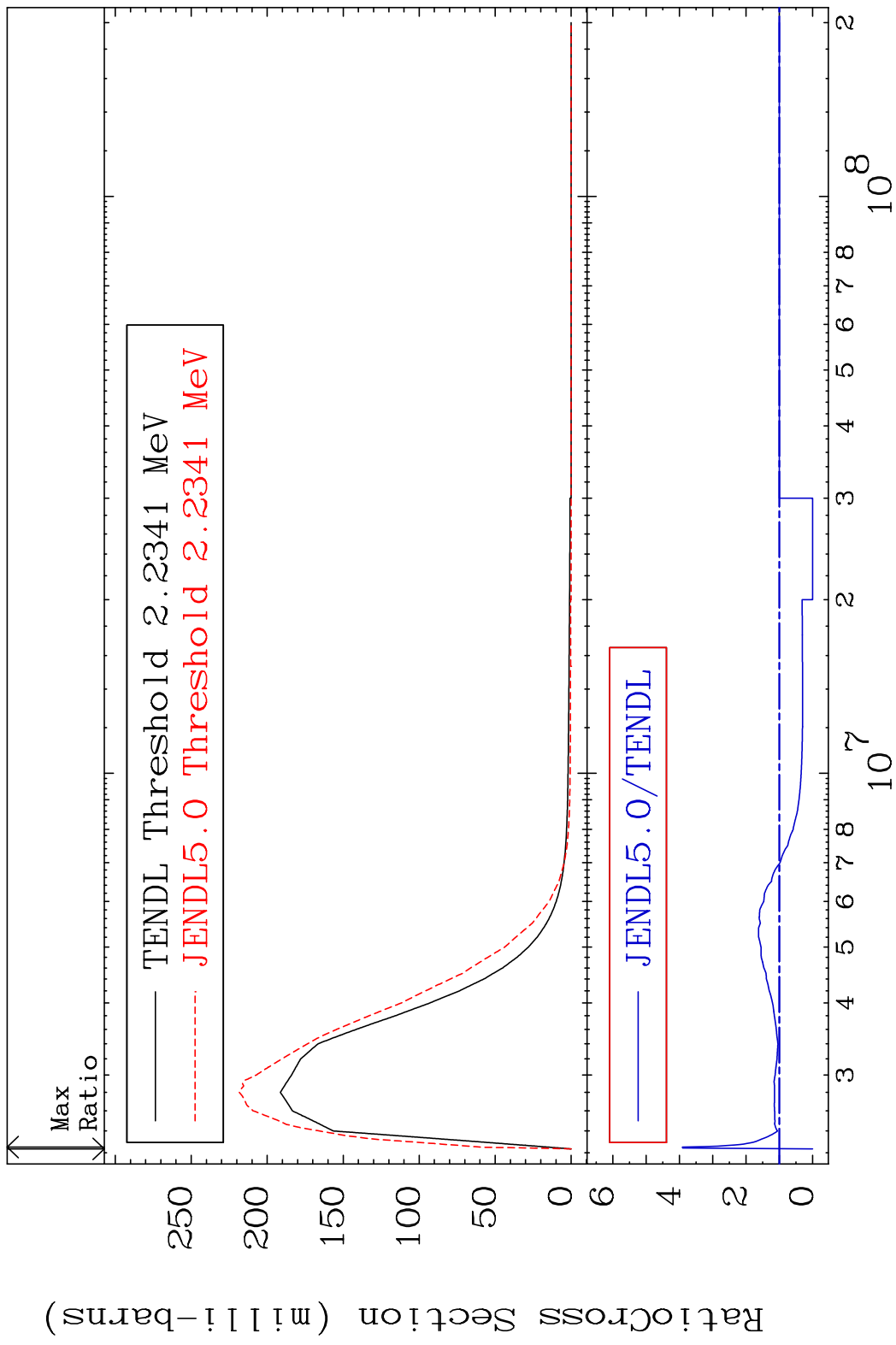
MAT 5649 MT= 54 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 227.6 %



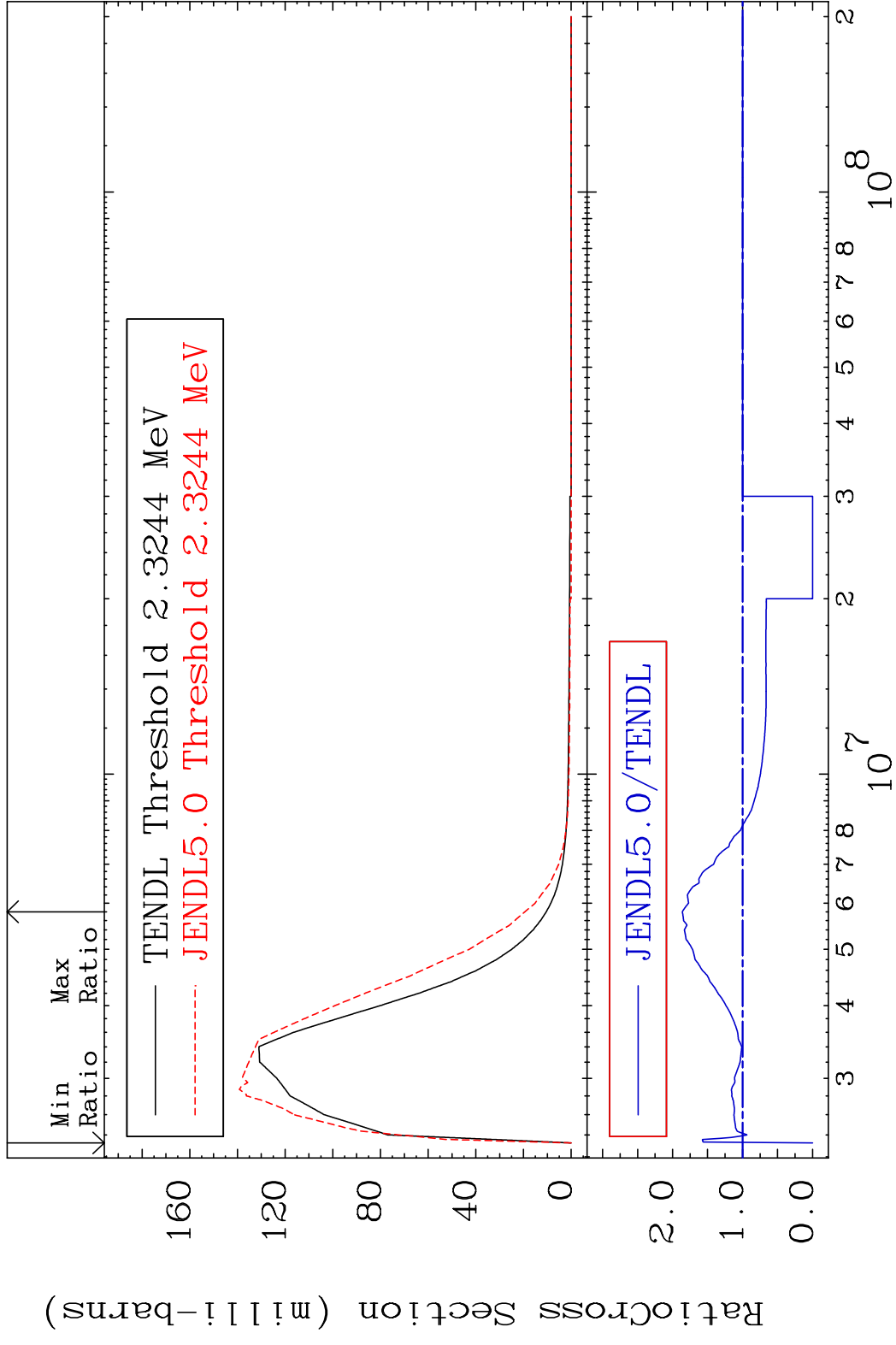
MAT 5649 MT= 55 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 81.31 %



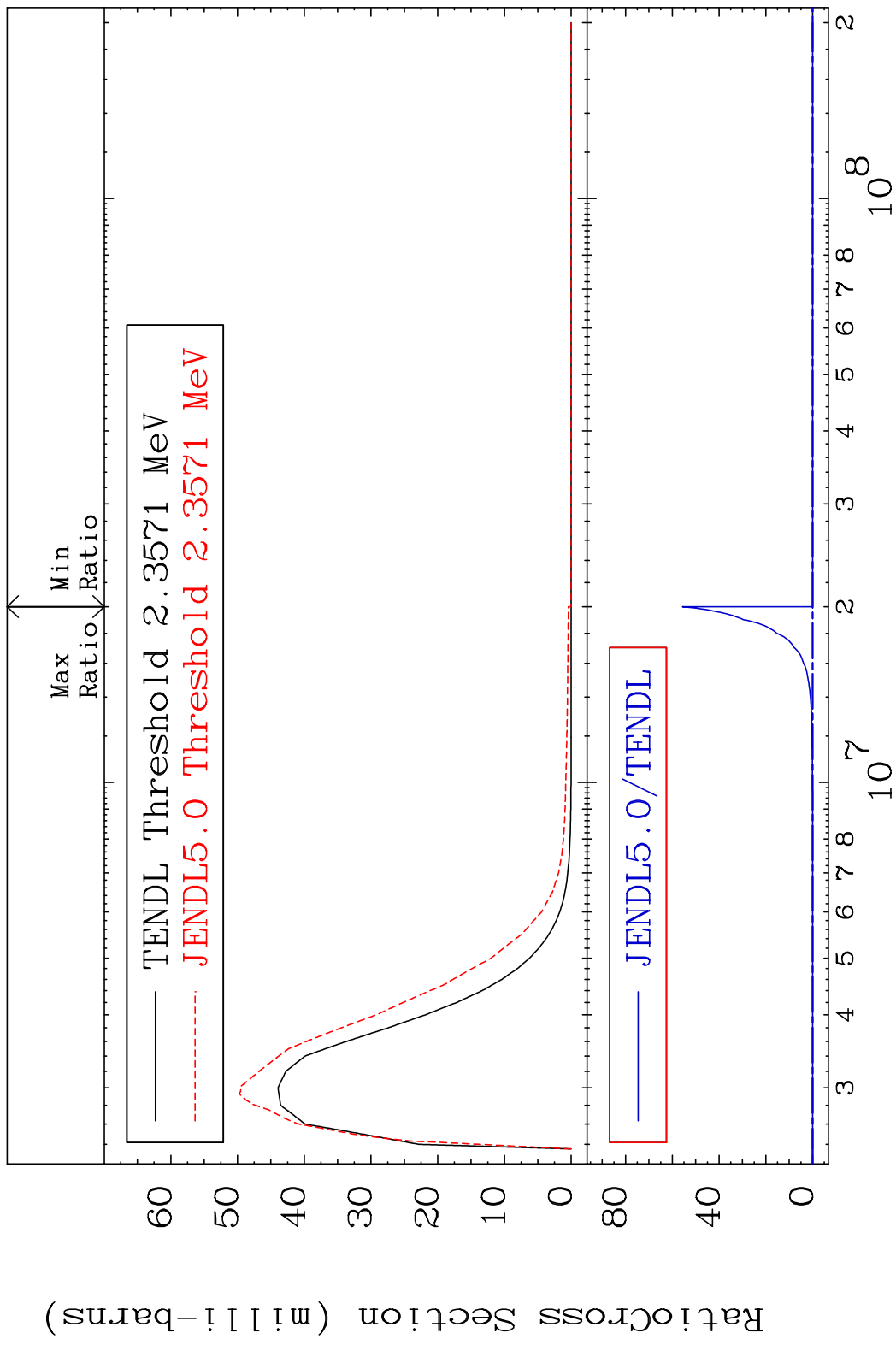
MAT 5649 MT= 56 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 291.3 %



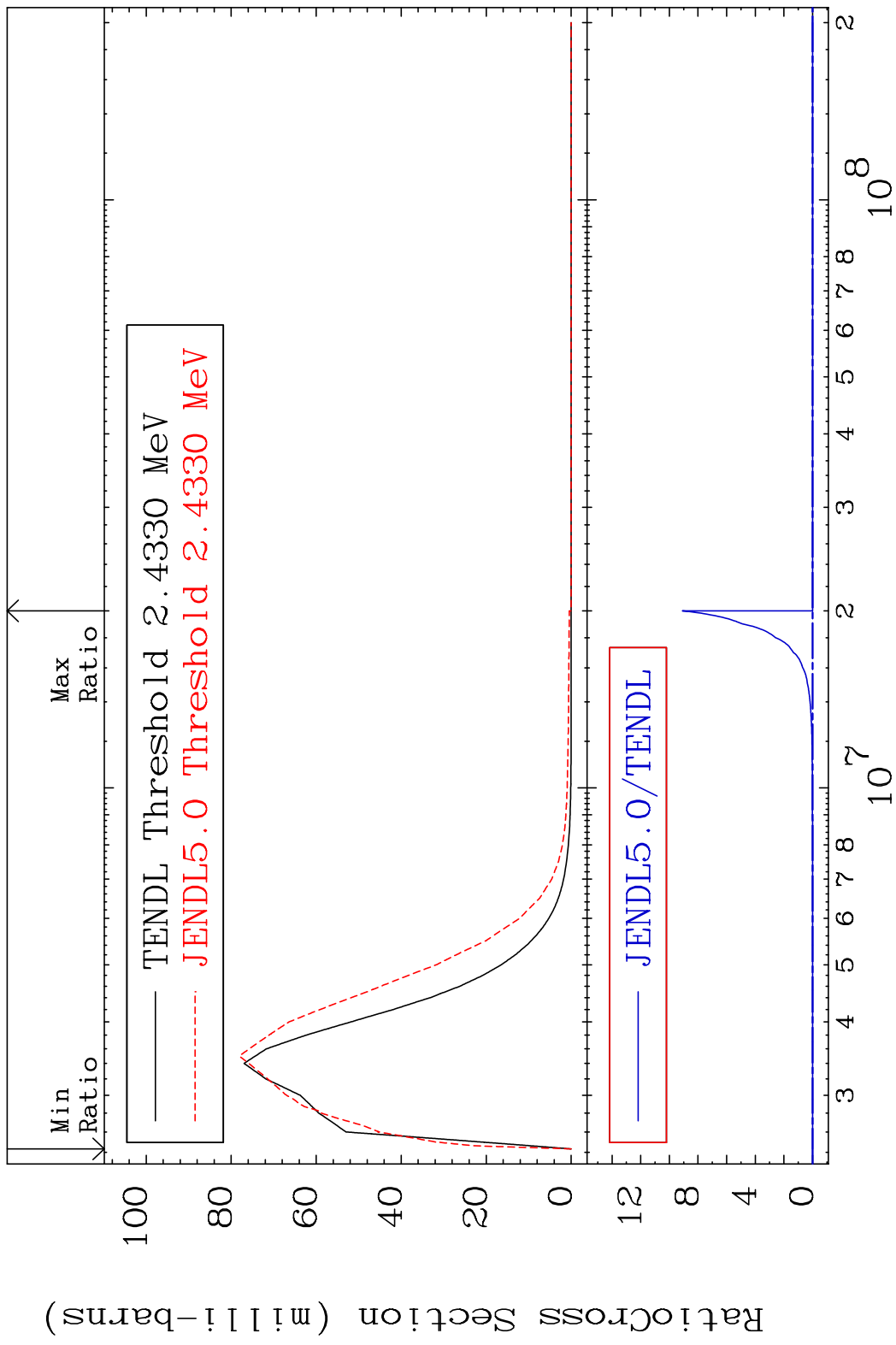
MAT 5649 MT= 57 (n,n') Level 56-Ba-138  
 Cross Section -100.0 To 86.05 %



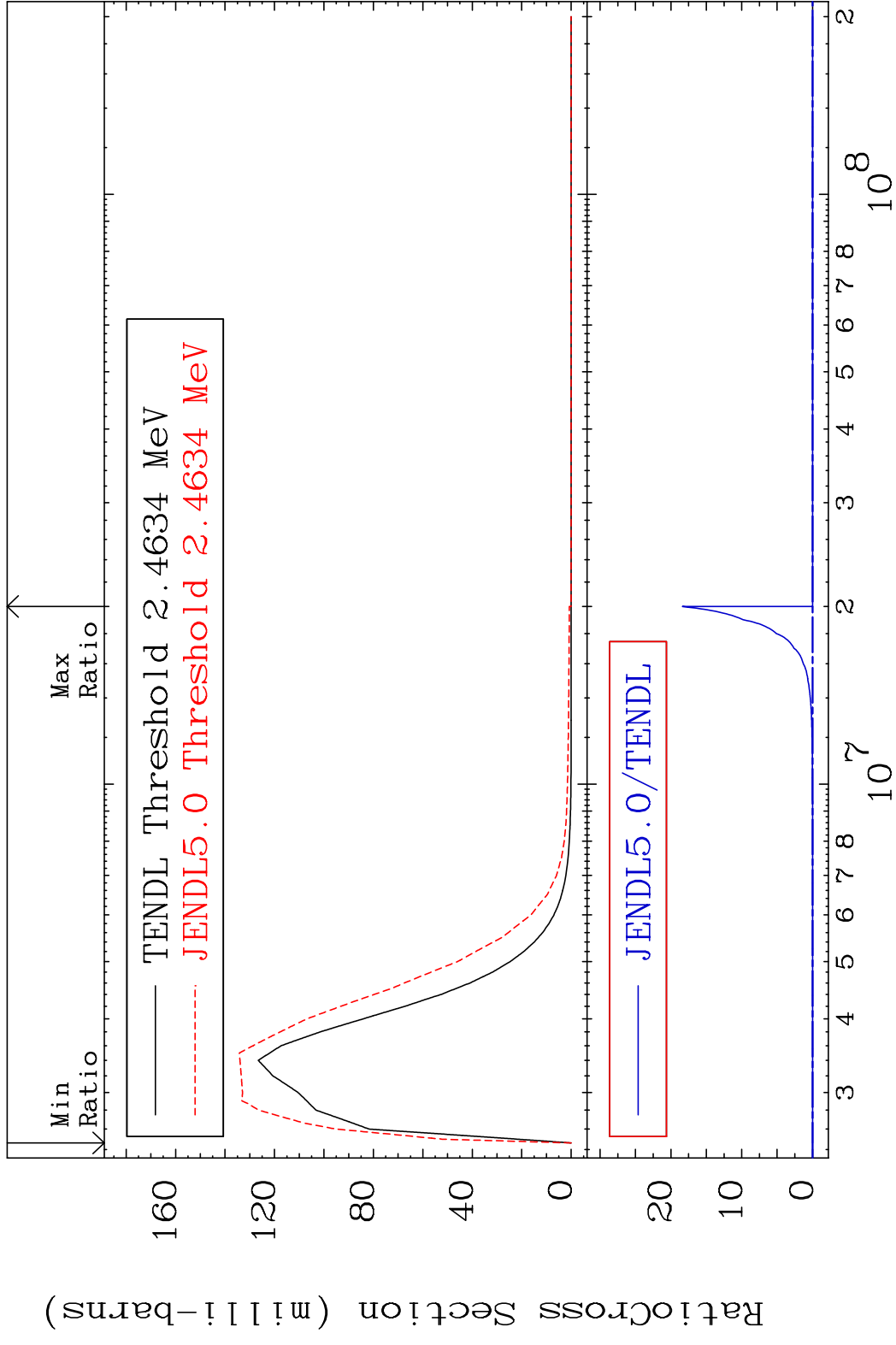
MAT 5649 MT= 58 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 9999. %



MAT 5649 MT= 59 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 9999. %

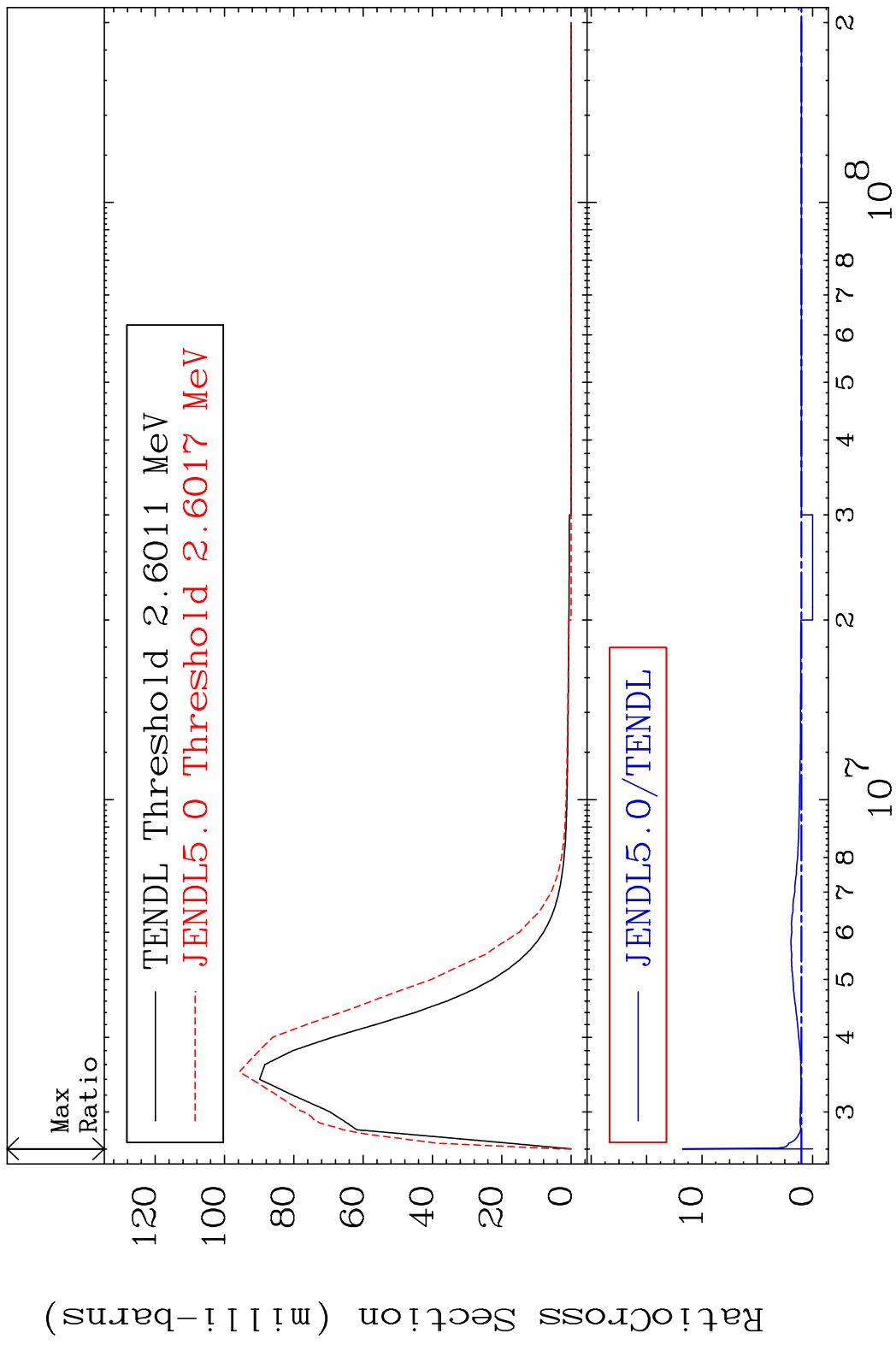


MAT 5649 MT= 60 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 9999. %

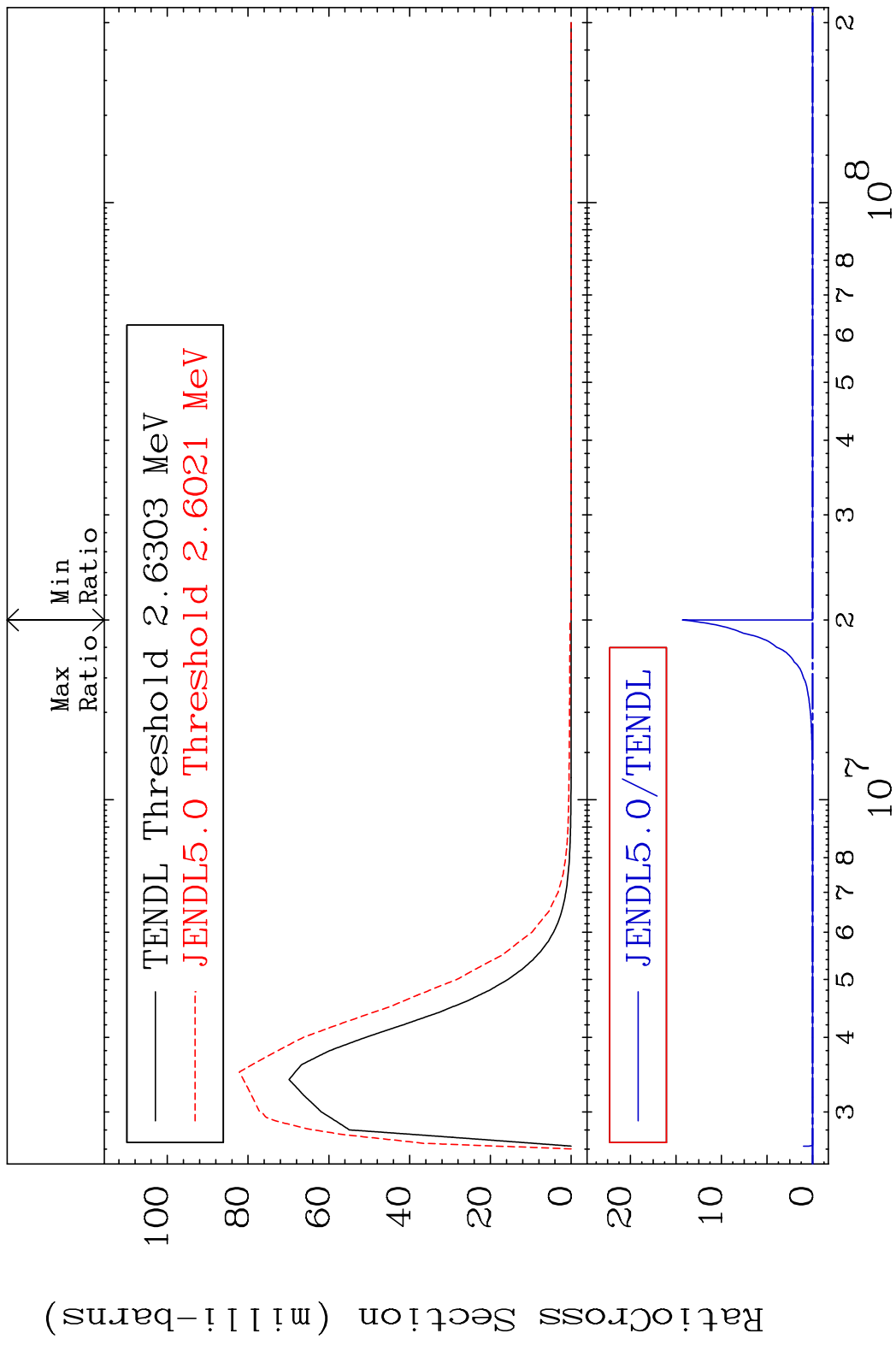


20 Incident Energy (eV) 56-Ba-138

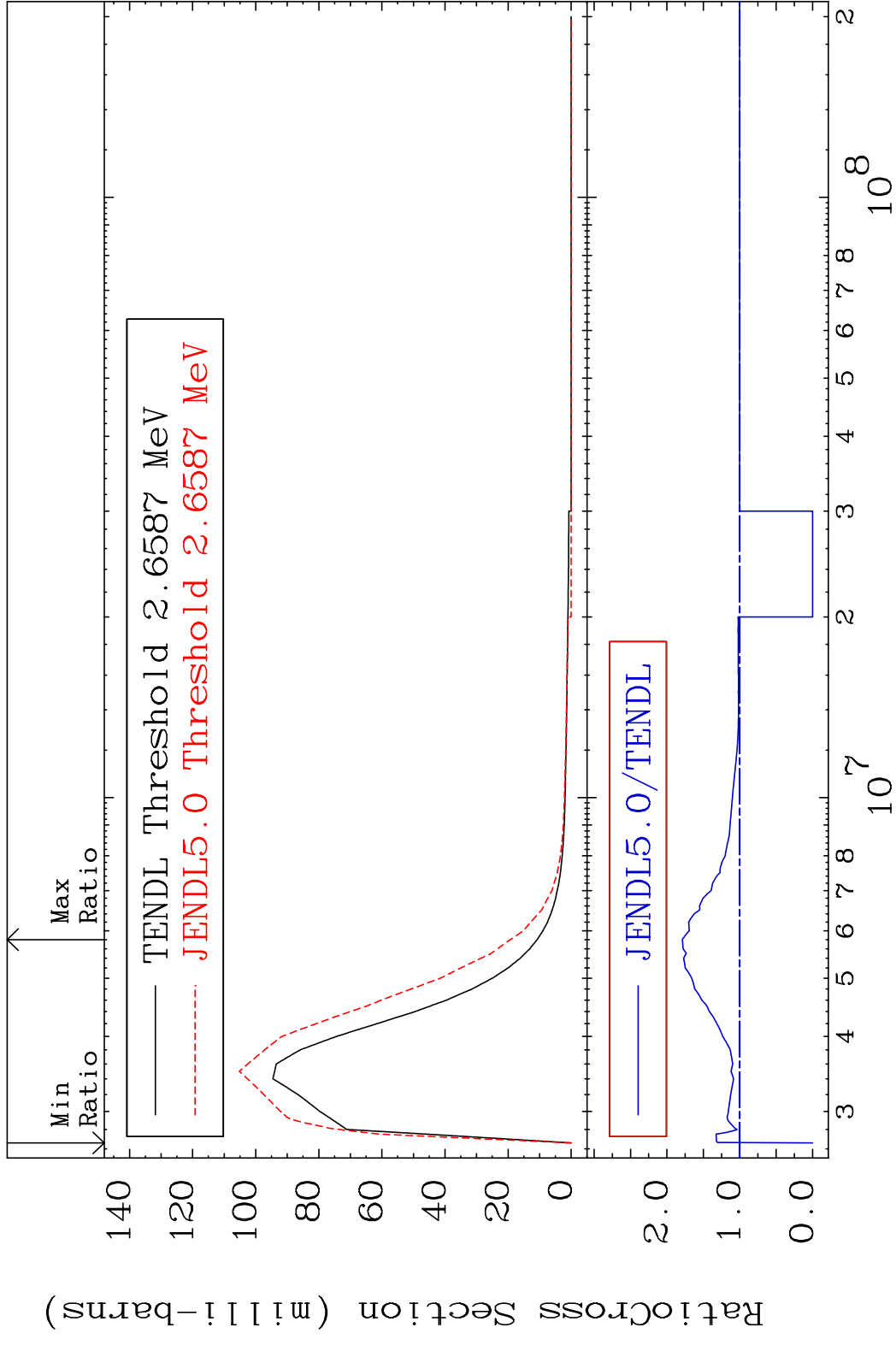
MAT 5649 MT= 61 (n,n') Level 56-Ba-138  
 Cross Section -100.0 To 1077. %



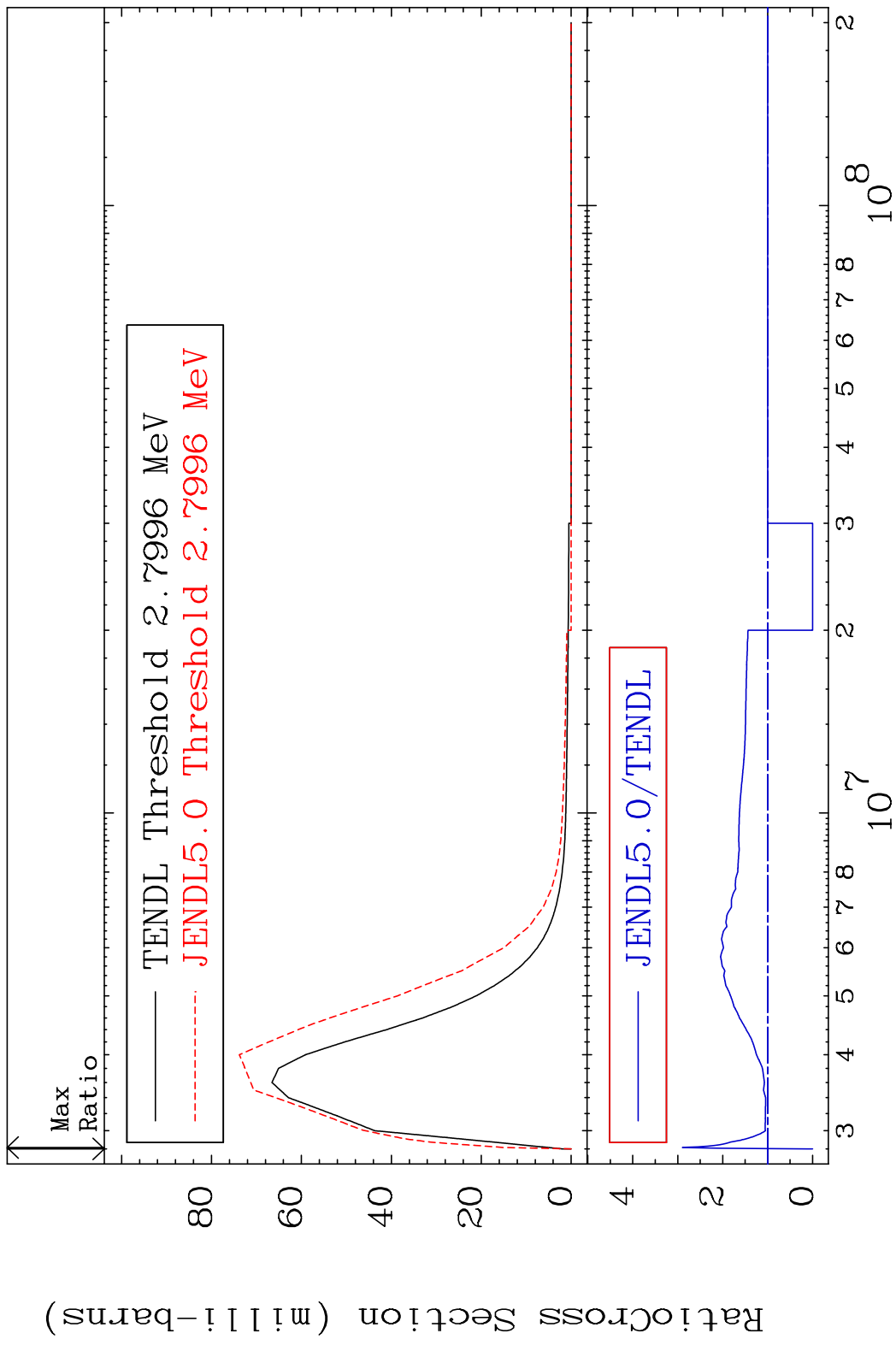
MAT 5649 MT= 62 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 9999. %



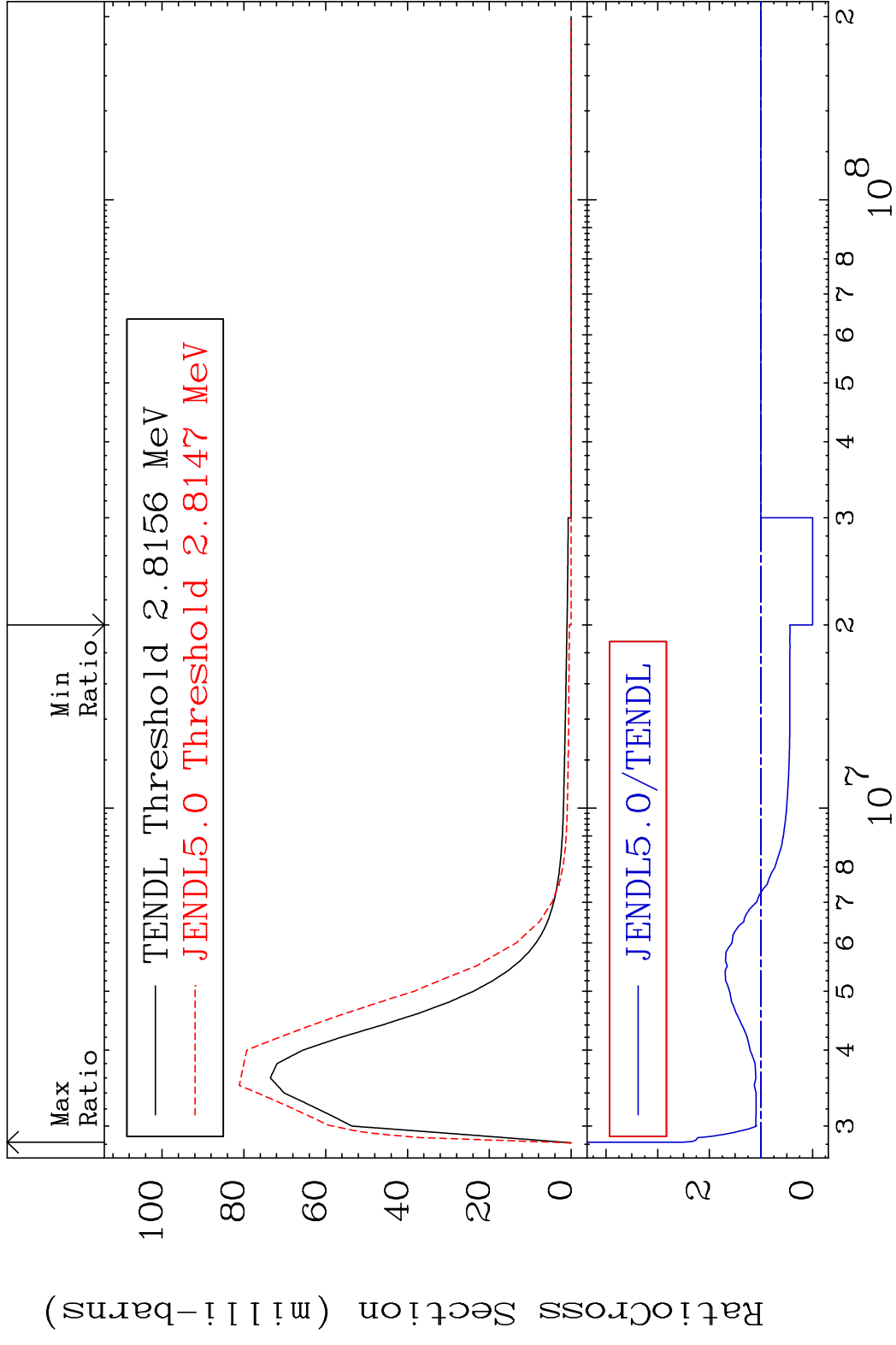
MAT 5649 MT= 63 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 78.80 %



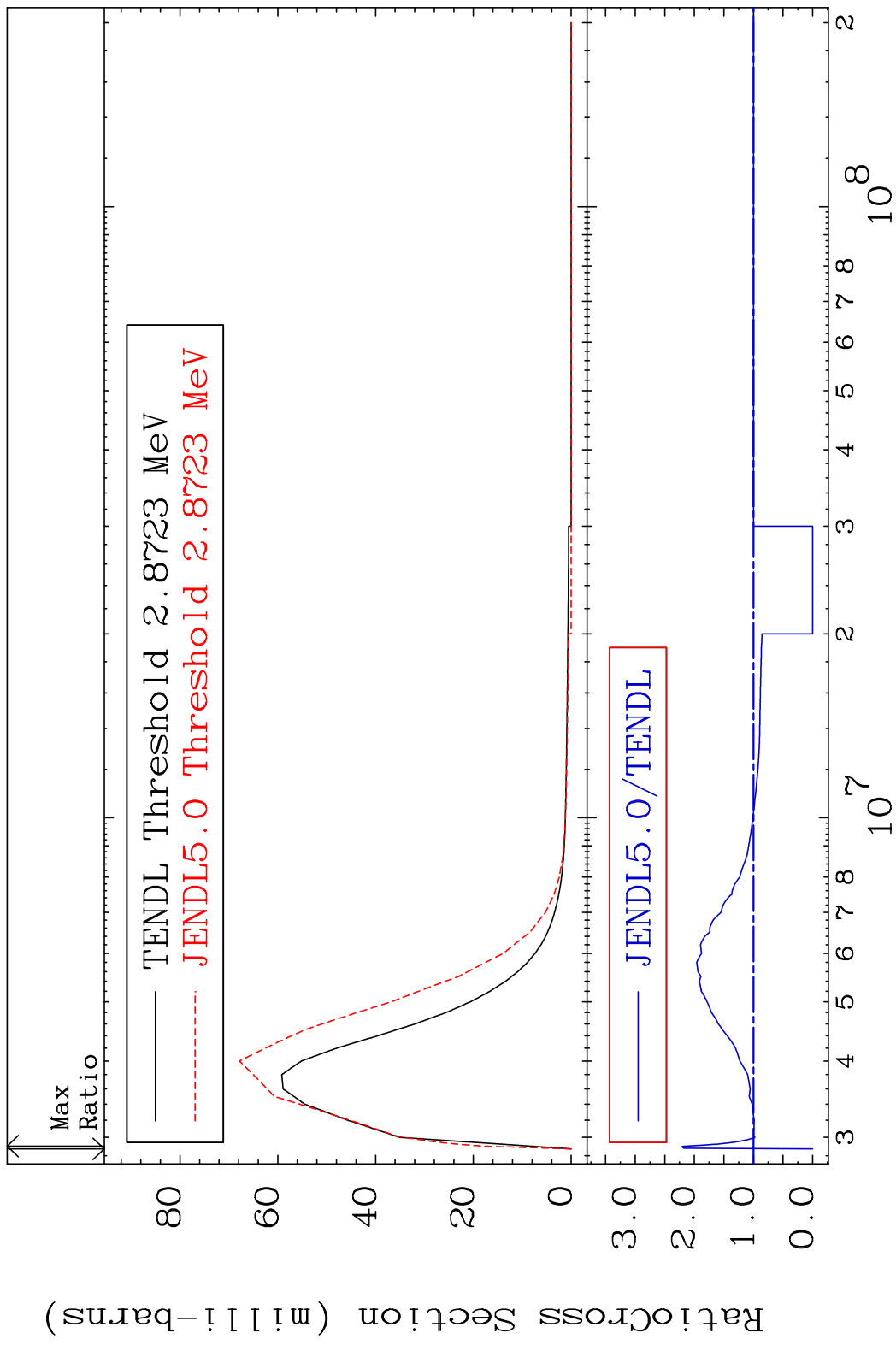
MAT 5649 MT= 64 (n,n') Level 56-Ba-138  
 Cross Section -100.0 To 189.7 %



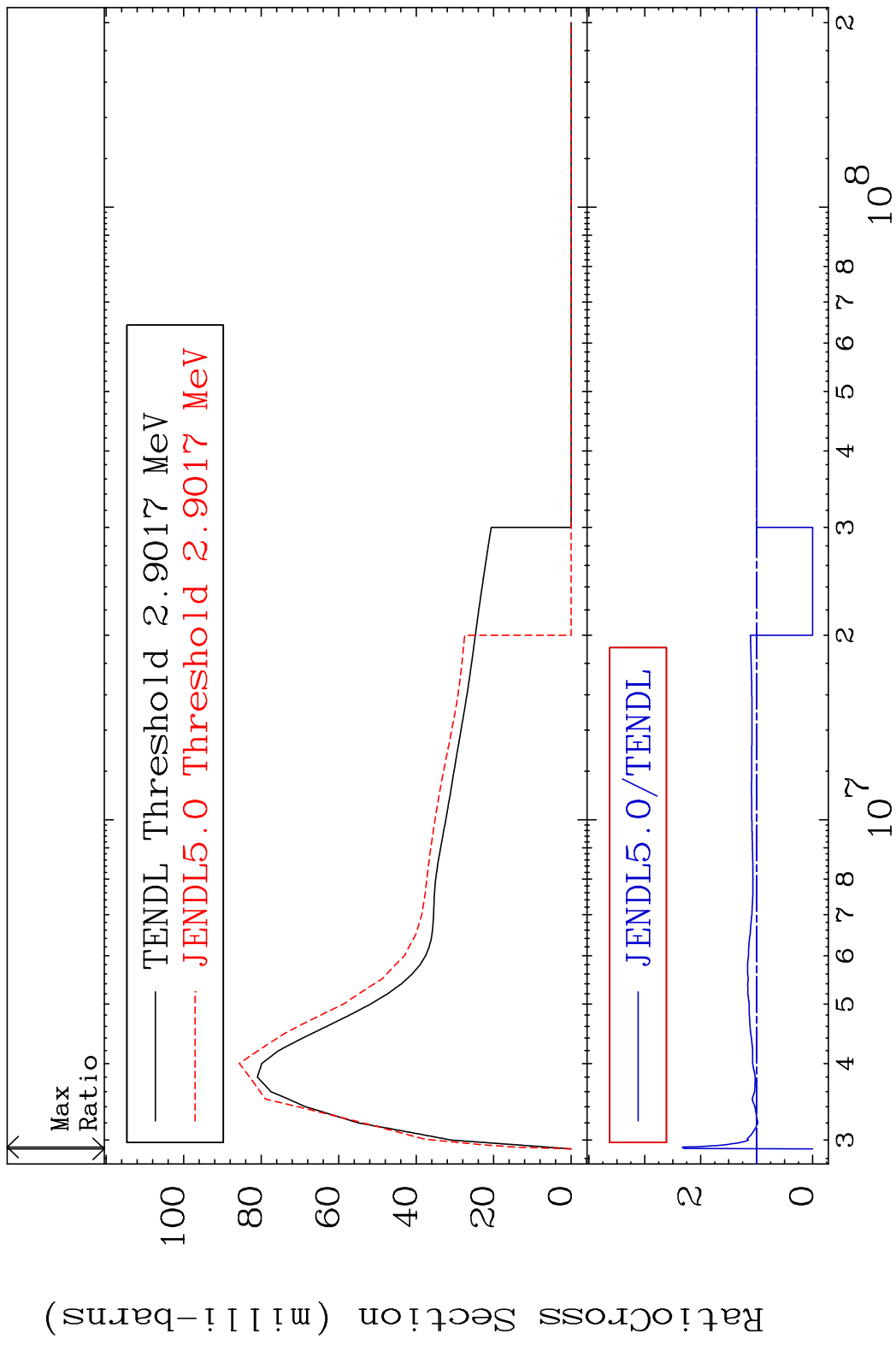
MAT 5649 MT= 65 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 152.2 %



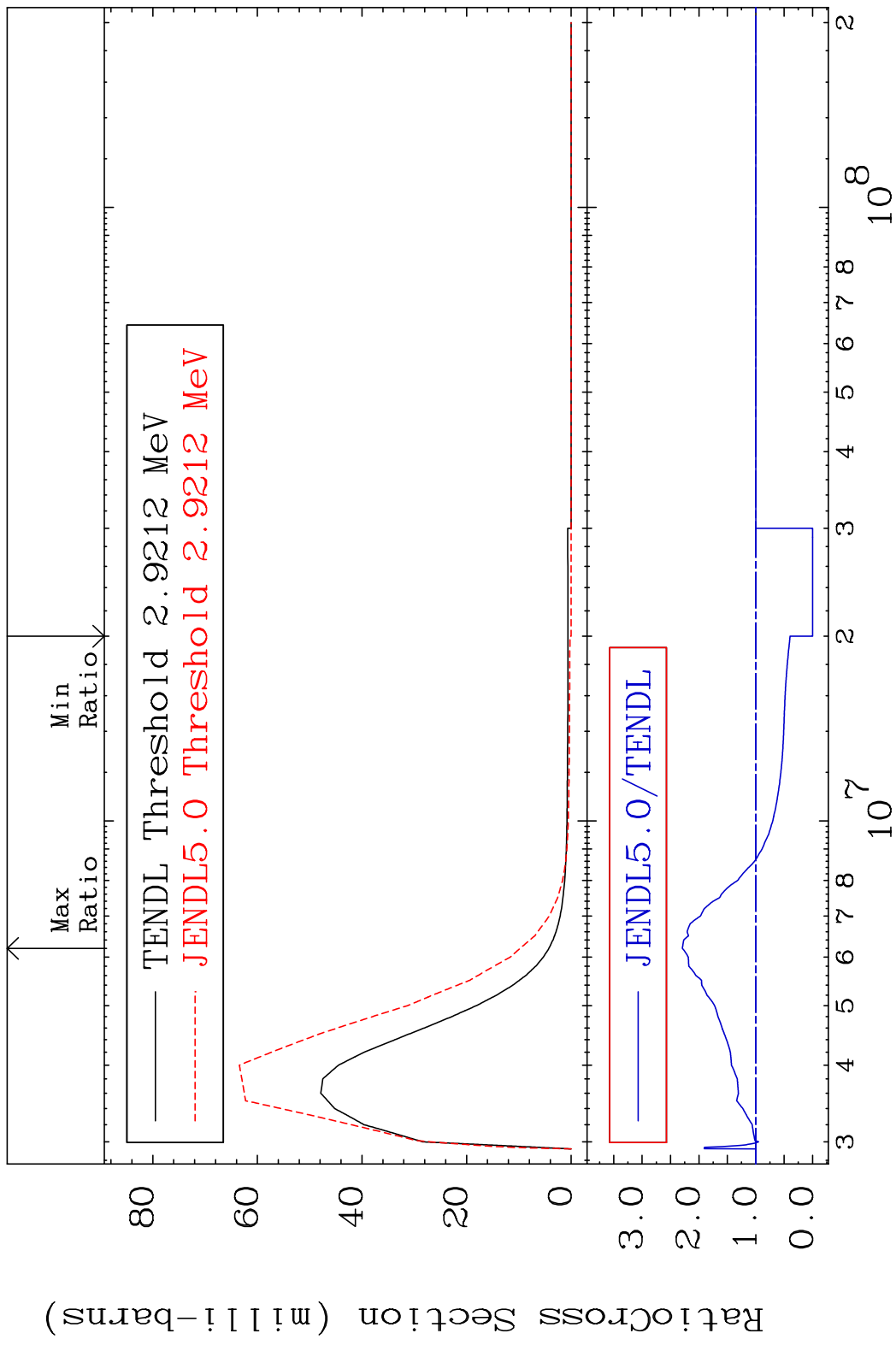
MAT 5649 MT= 66 (n,n') Level 56-Ba-138  
 Cross Section -100.0 To 120.2 %



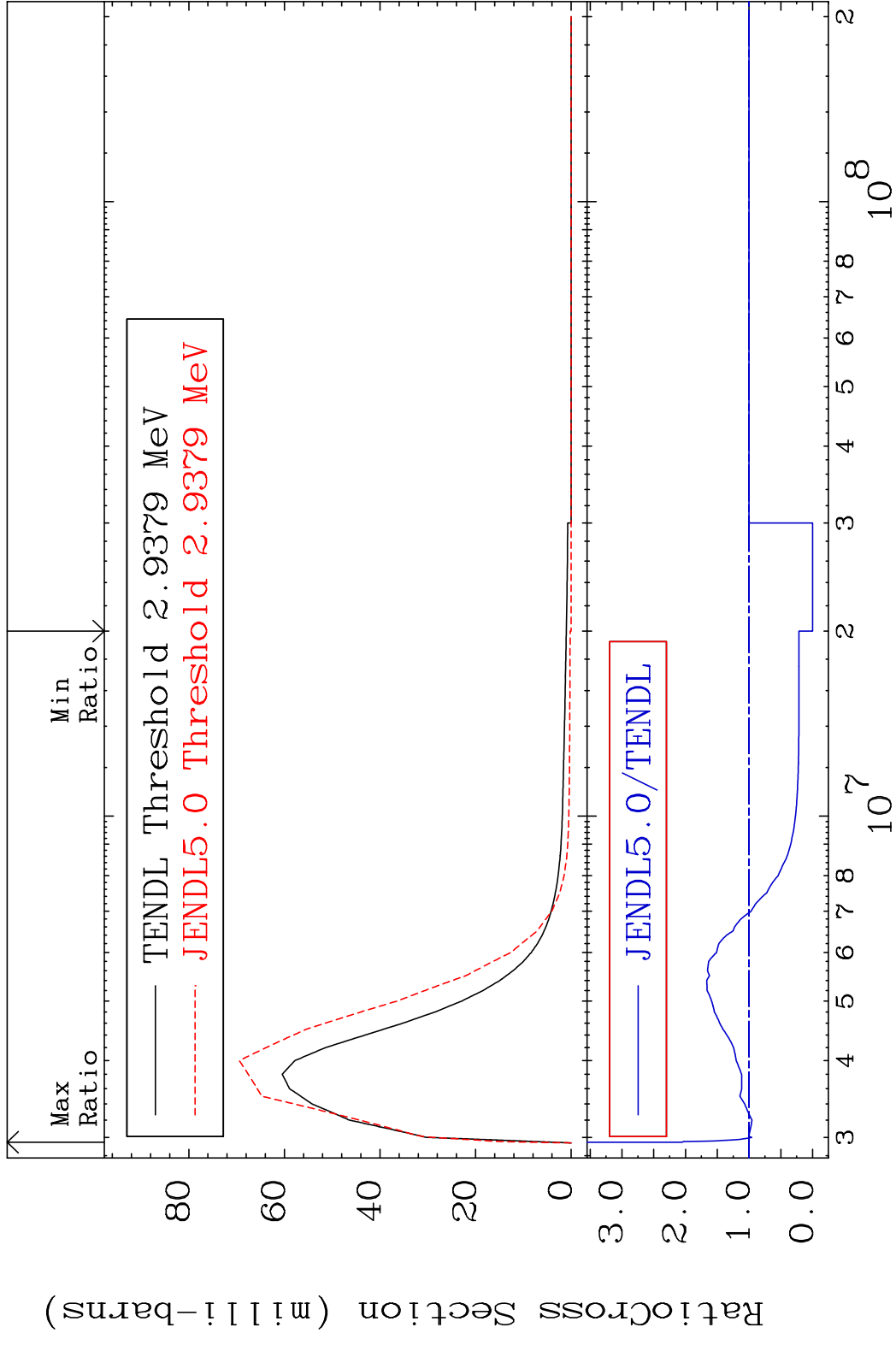
MAT 5649 MT= 67 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 132.8 %



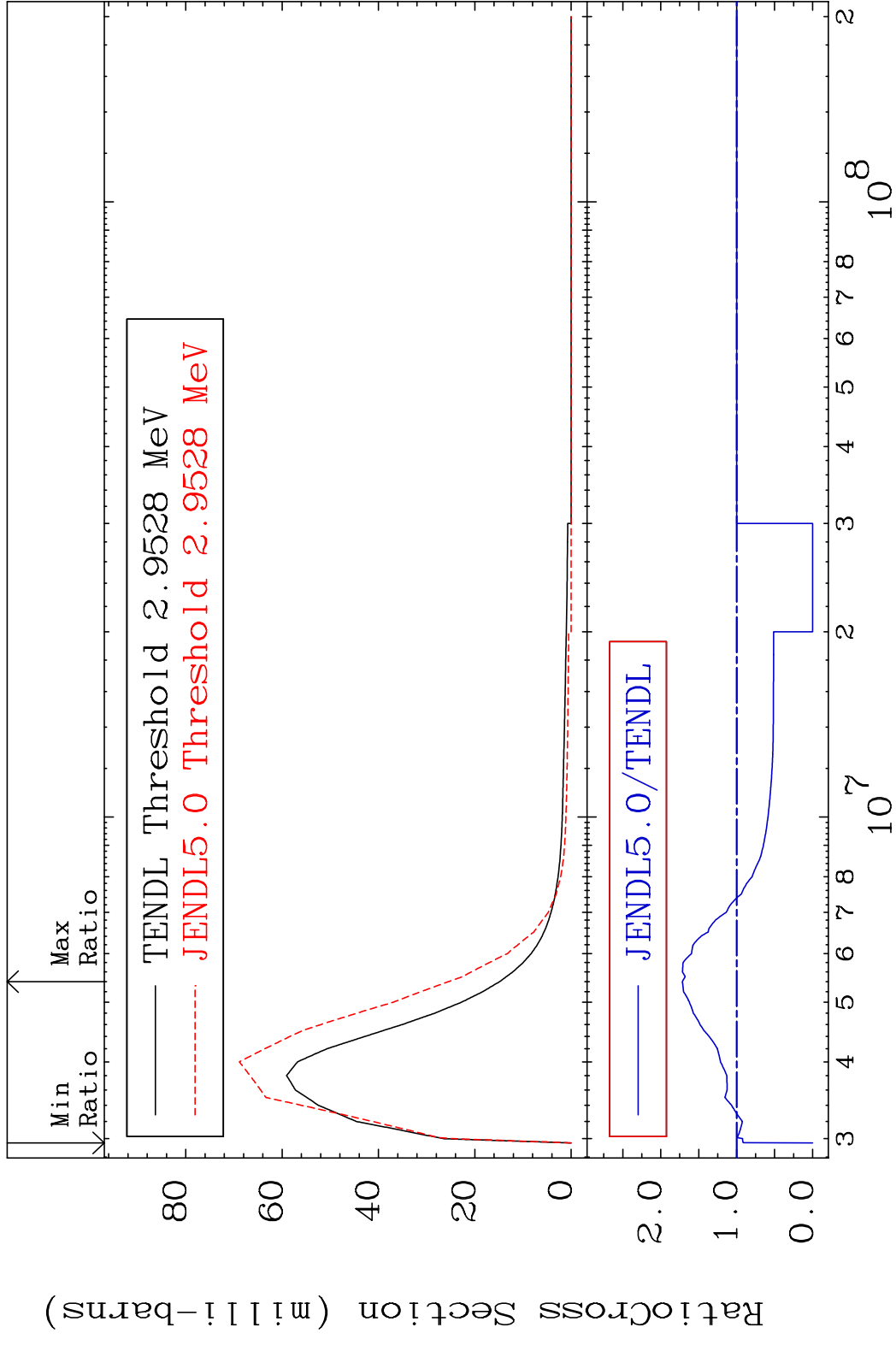
MAT 5649 MT= 68 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 129.2 %



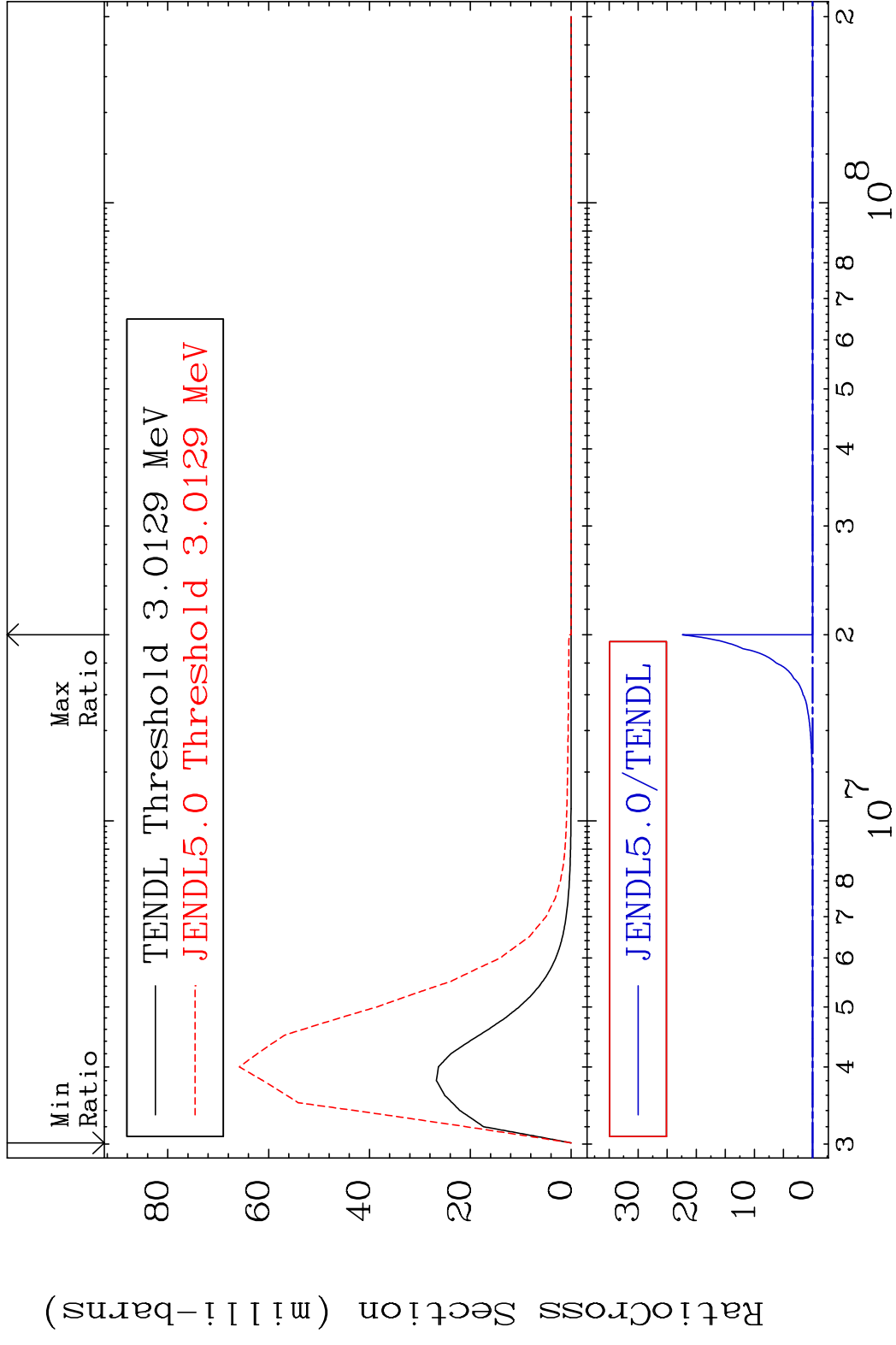
MAT 5649 MT= 69 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 105.0 %



MAT 5649 MT= 70 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 71.53 %



MAT 5649 MT= 71 (n, n') Level 56-Ba-138  
 Cross Section -100.0 To 9999. %

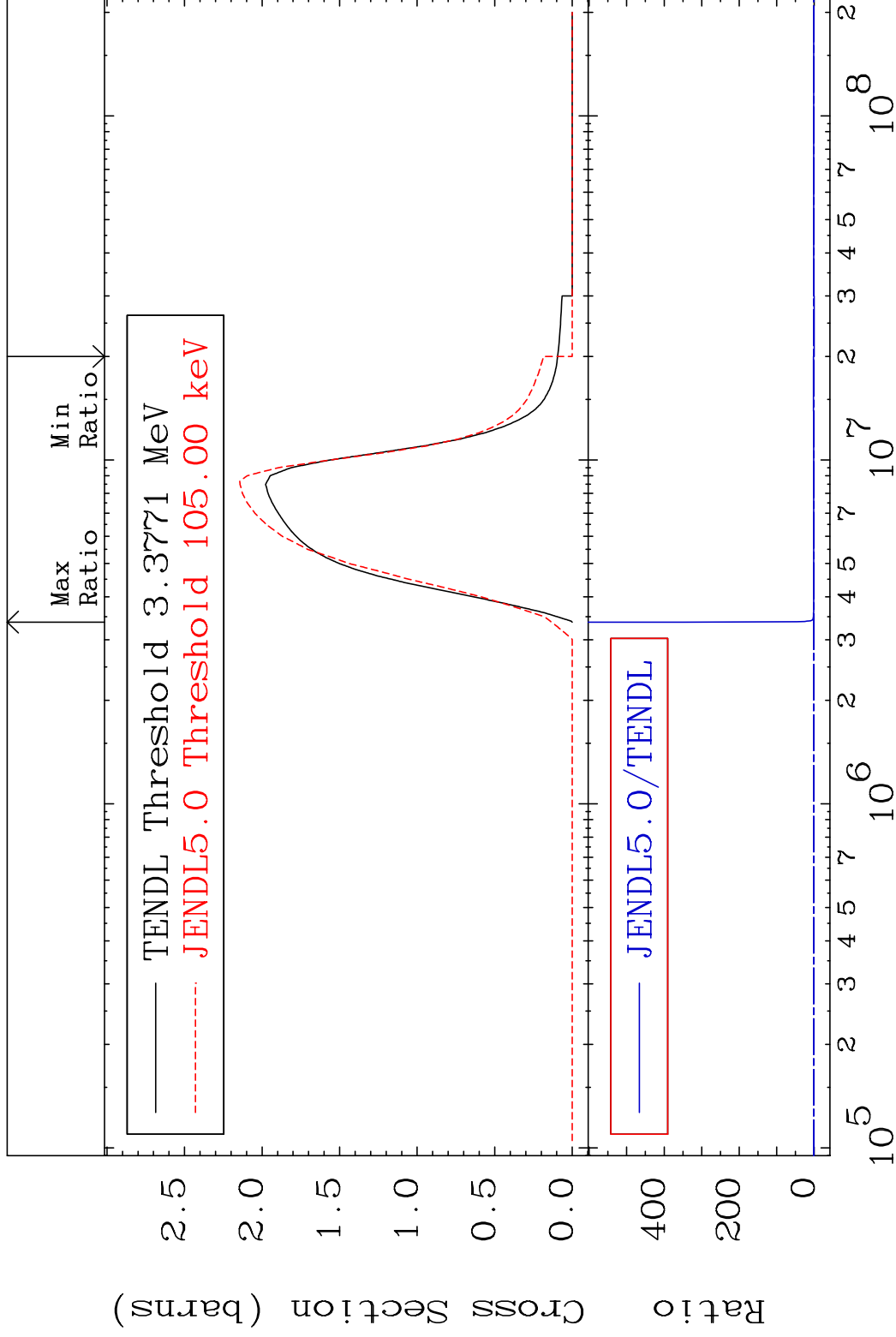


MAT 5649

(n,n') Continuum

56-Ba-138

Cross Section -100.0 To 9999. %



32

Incident Energy (eV)

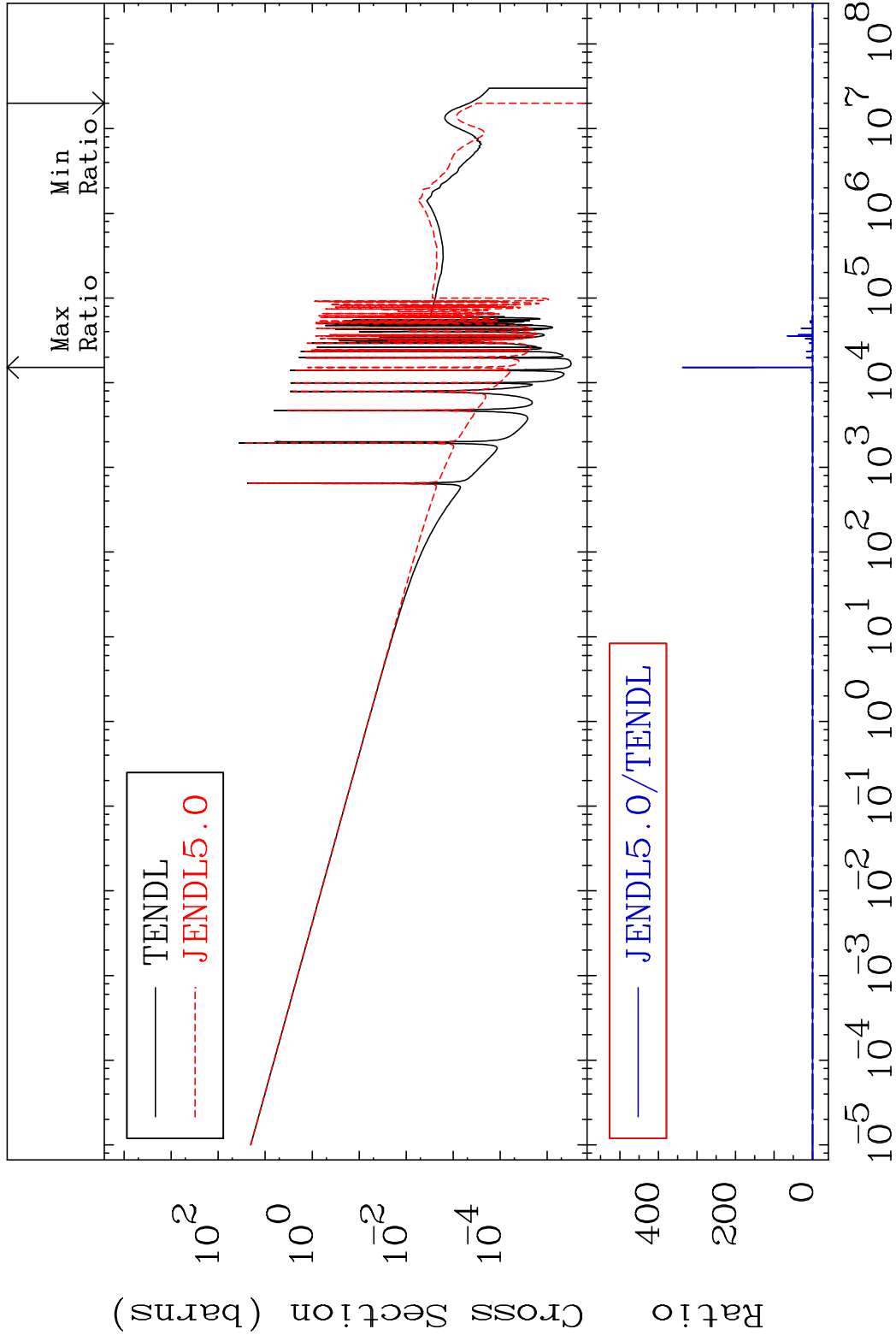
56-Ba-138

MAT 5649

(n,  $\gamma$ )

56-Ba-138

Cross Section -100.0 To 9999. %



33

Incident Energy (eV)

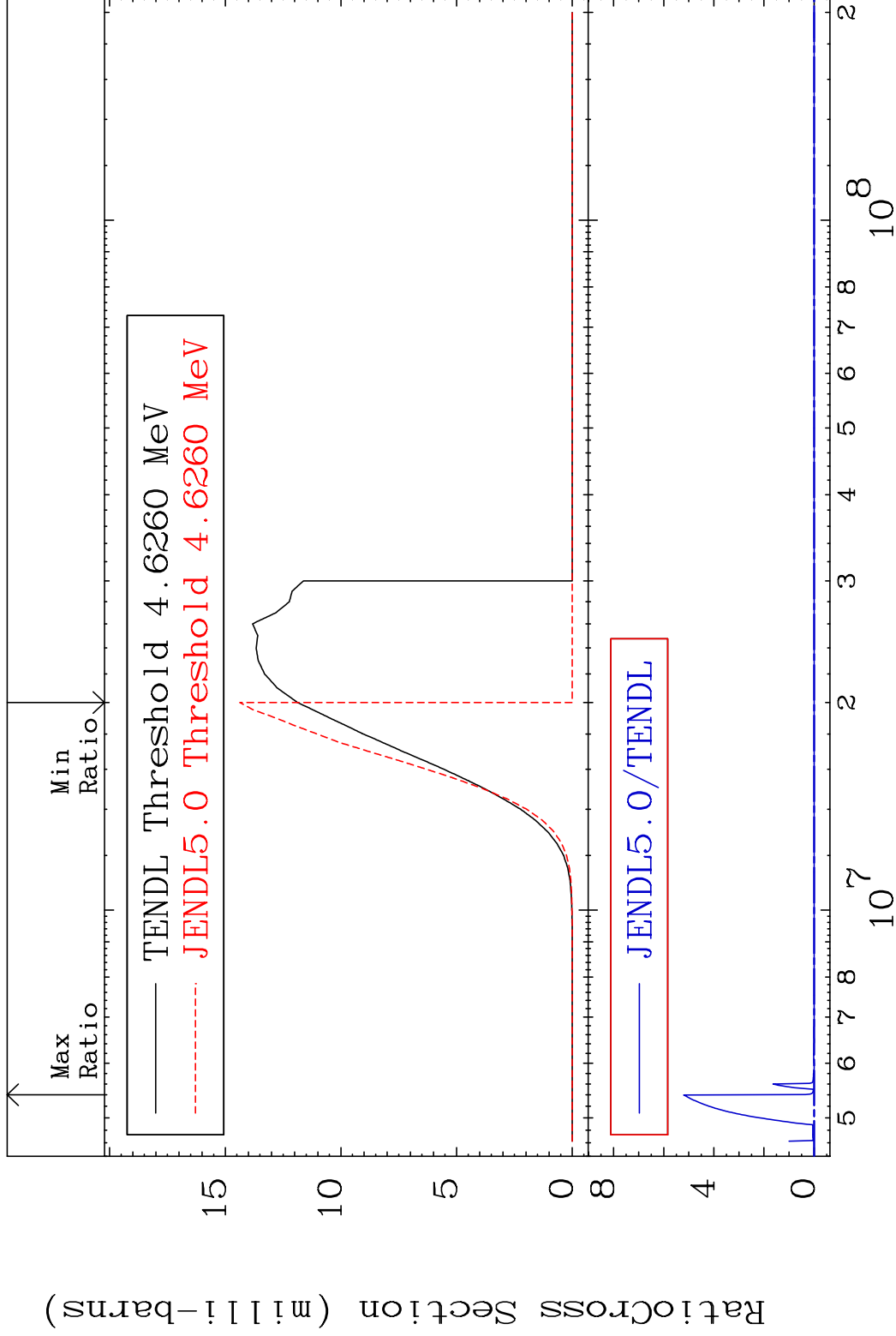
56-Ba-138

MAT 5649

(n, p)

56-Ba-138

Cross Section -100.0 To 9999. %



34

Incident Energy (eV)

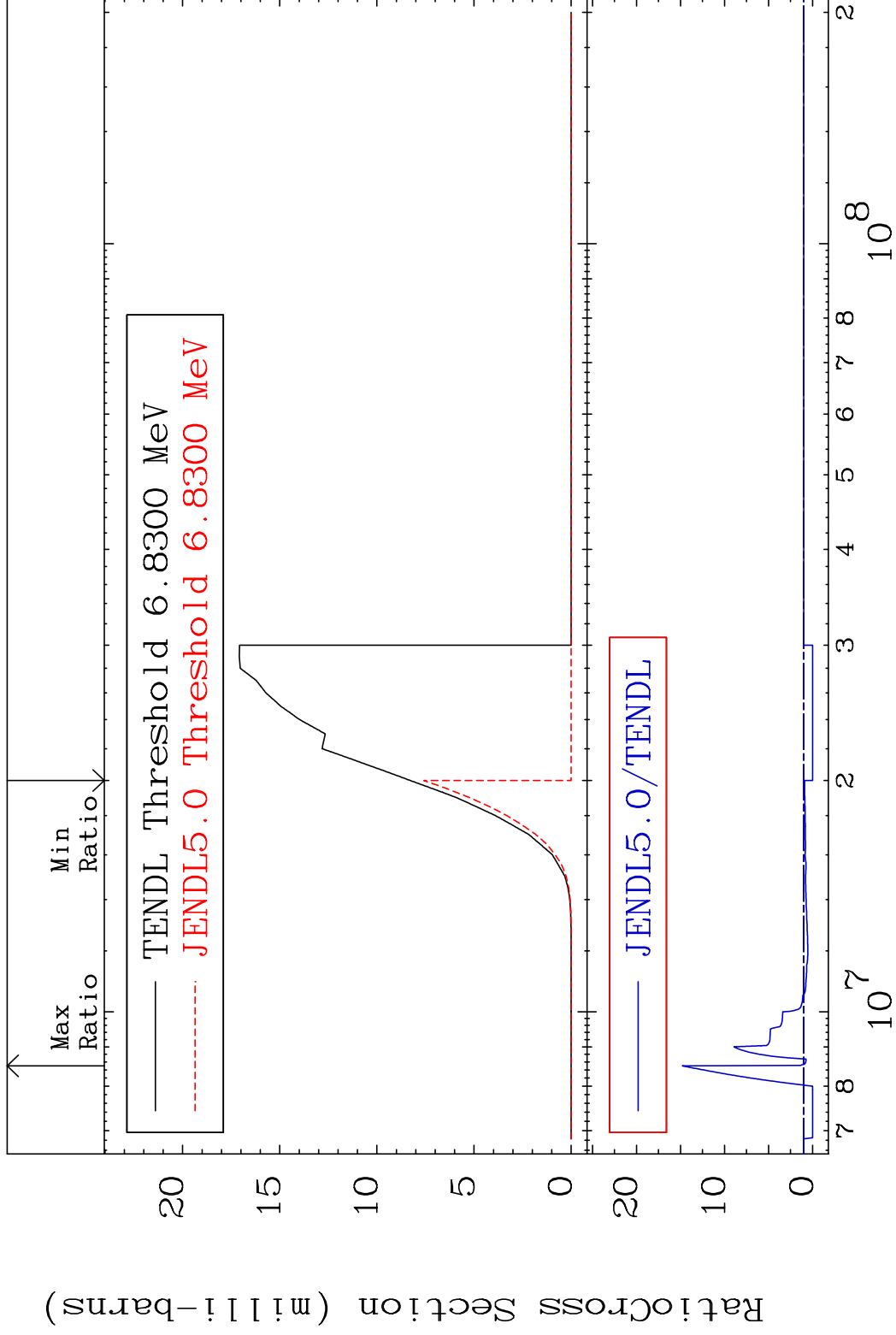
56-Ba-138

MAT 5649

(n, d)

56-Ba-138

Cross Section -100.0 To 1379. %



35

Incident Energy (eV)

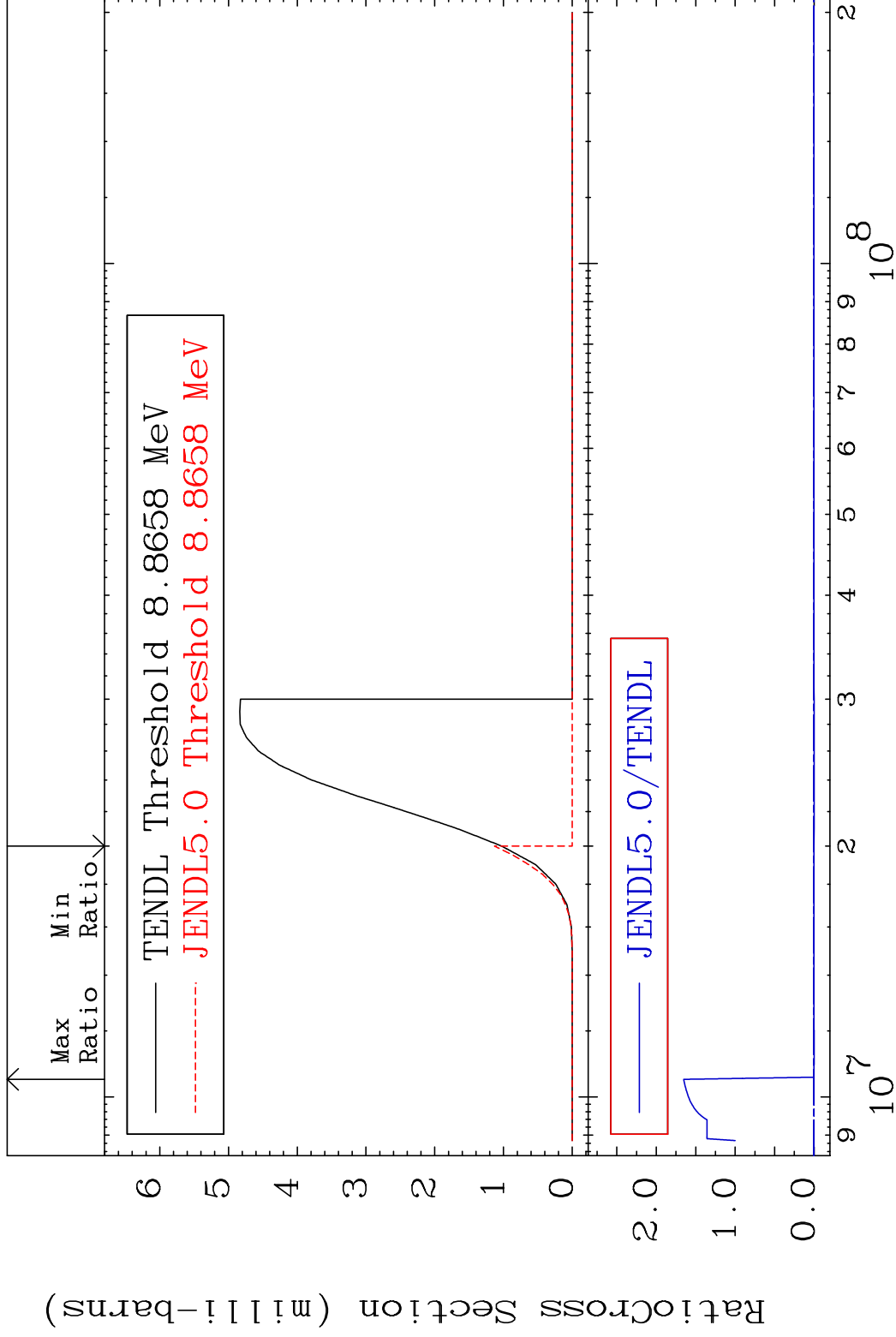
56-Ba-138

MAT 5649

(n, t)

56-Ba-138

Cross Section -100.0 To 9999. %



36

Incident Energy (eV)

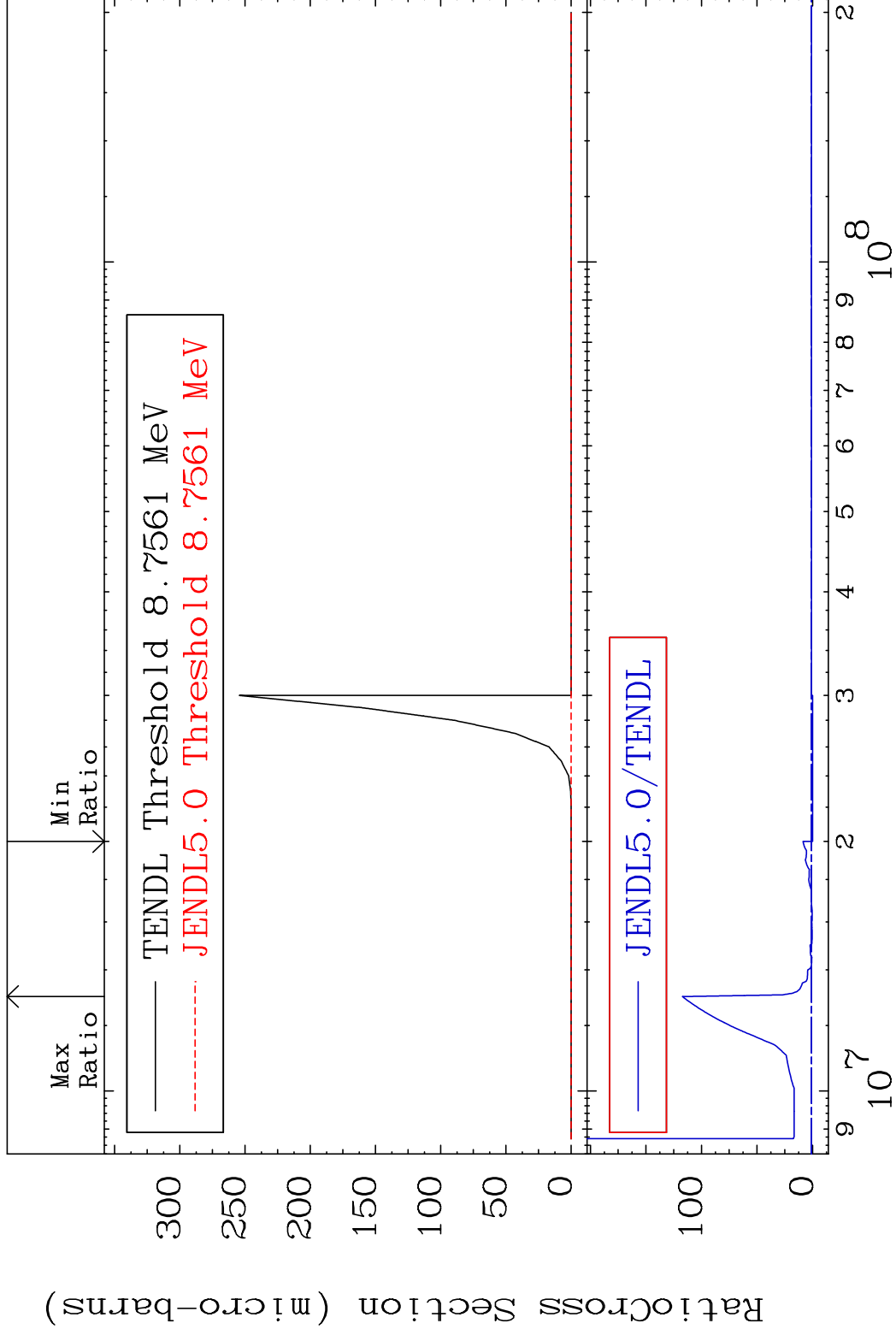
56-Ba-138

MAT 5649

(n, He-3)

56-Ba-138

Cross Section -100.0 To 9999. %



37

Incident Energy (eV)

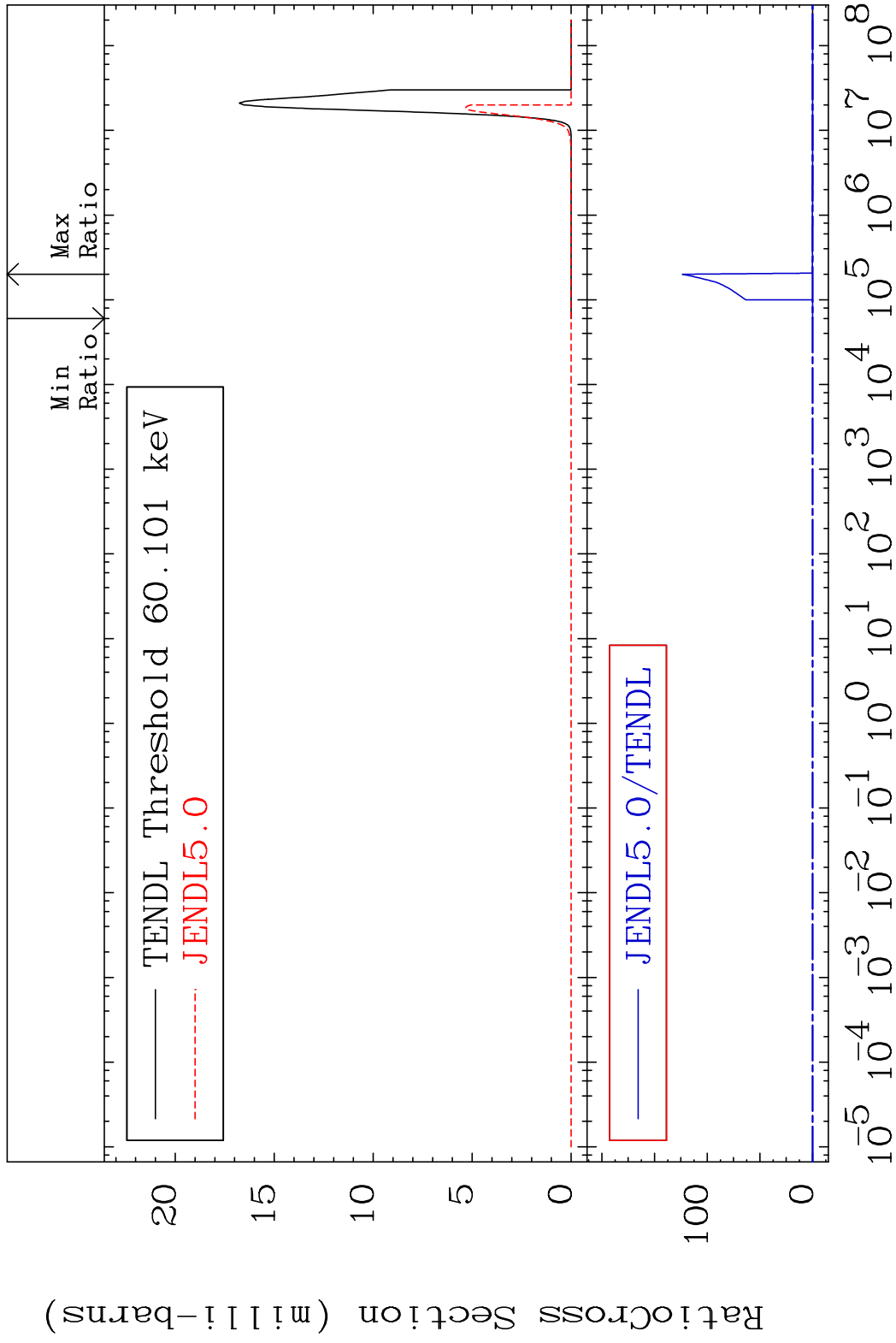
56-Ba-138

MAT 5649

(n,  $\alpha$ )

56-Ba-138

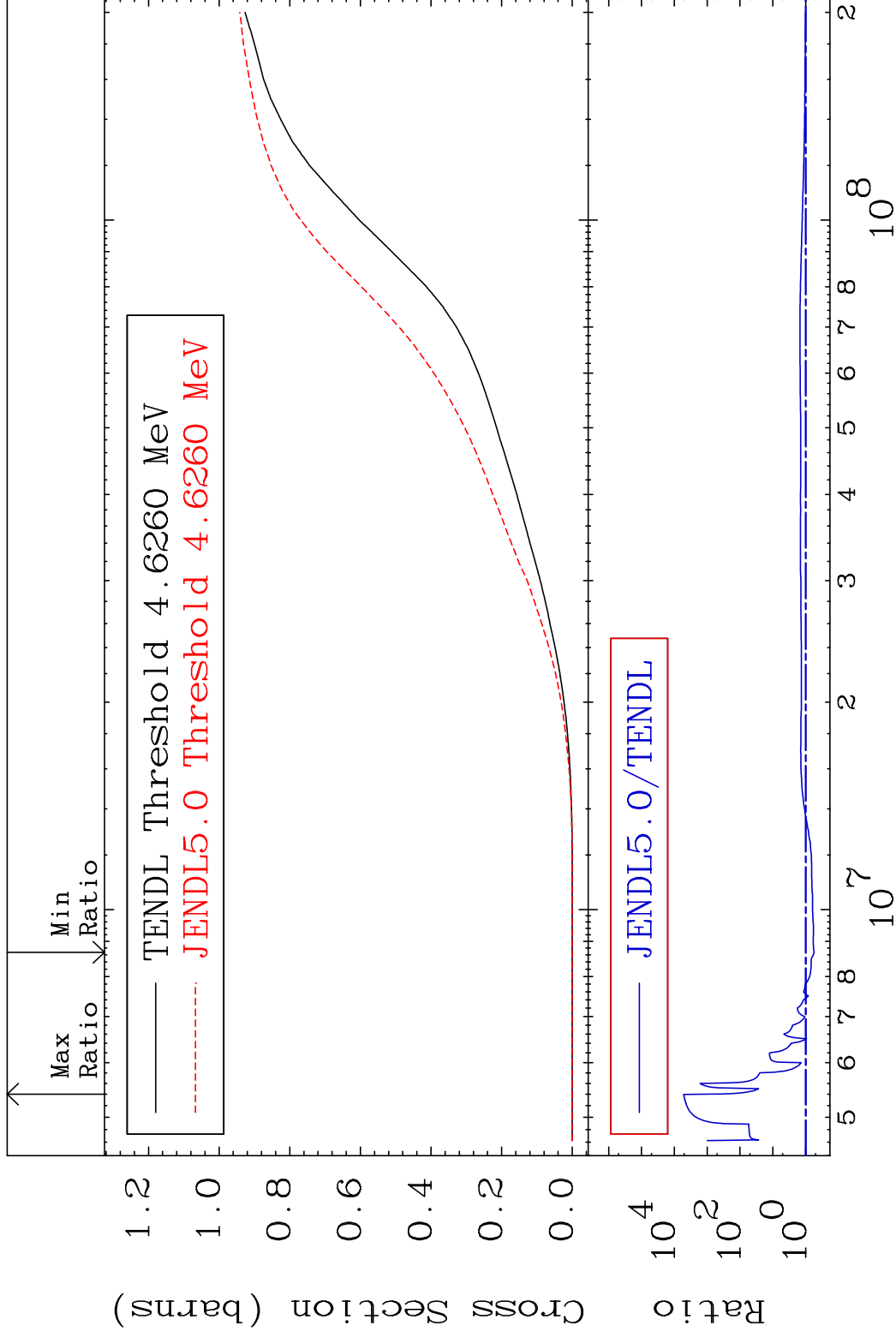
Cross Section -100.0 To 9999. %



38

Incident Energy (eV)

56-Ba-138

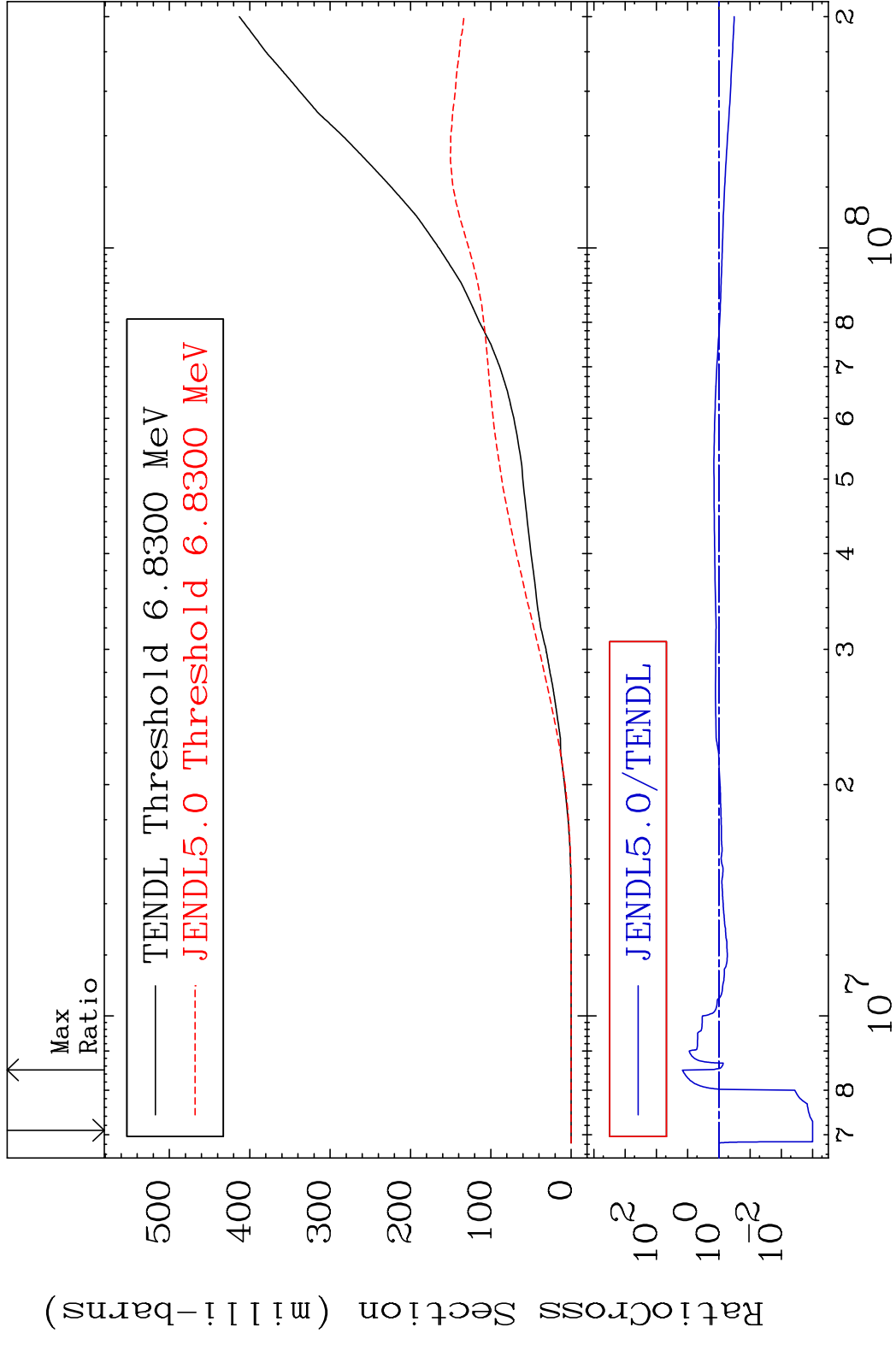


MAT 5649

Deuterium Production

56-Ba-138

Cross Section -99.90 To 1379. %

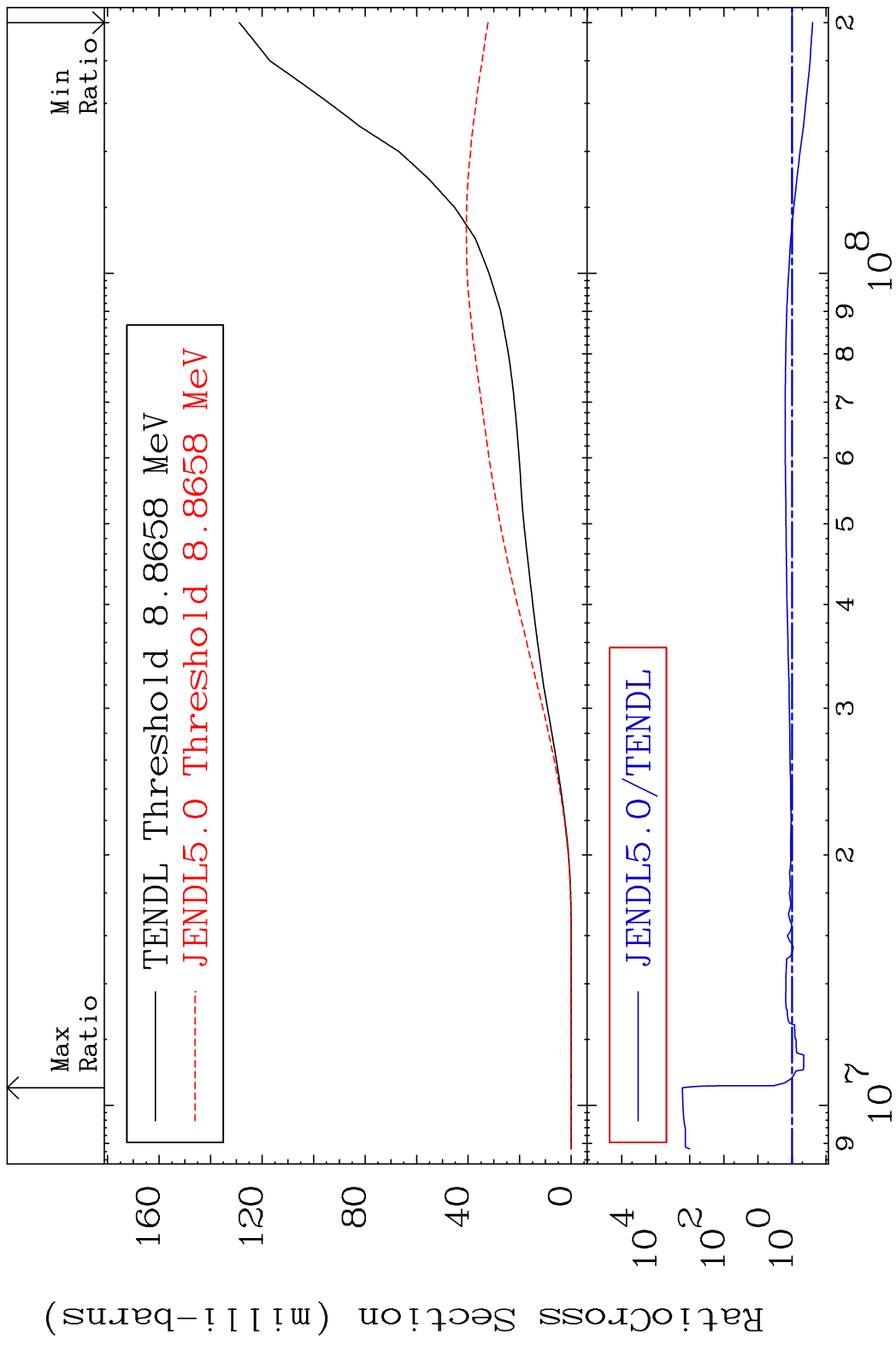


40

Incident Energy (eV)

56-Ba-138

MAT 5649 Tritium Production 56-Ba-138  
 Cross Section -74.95 To 9999. %



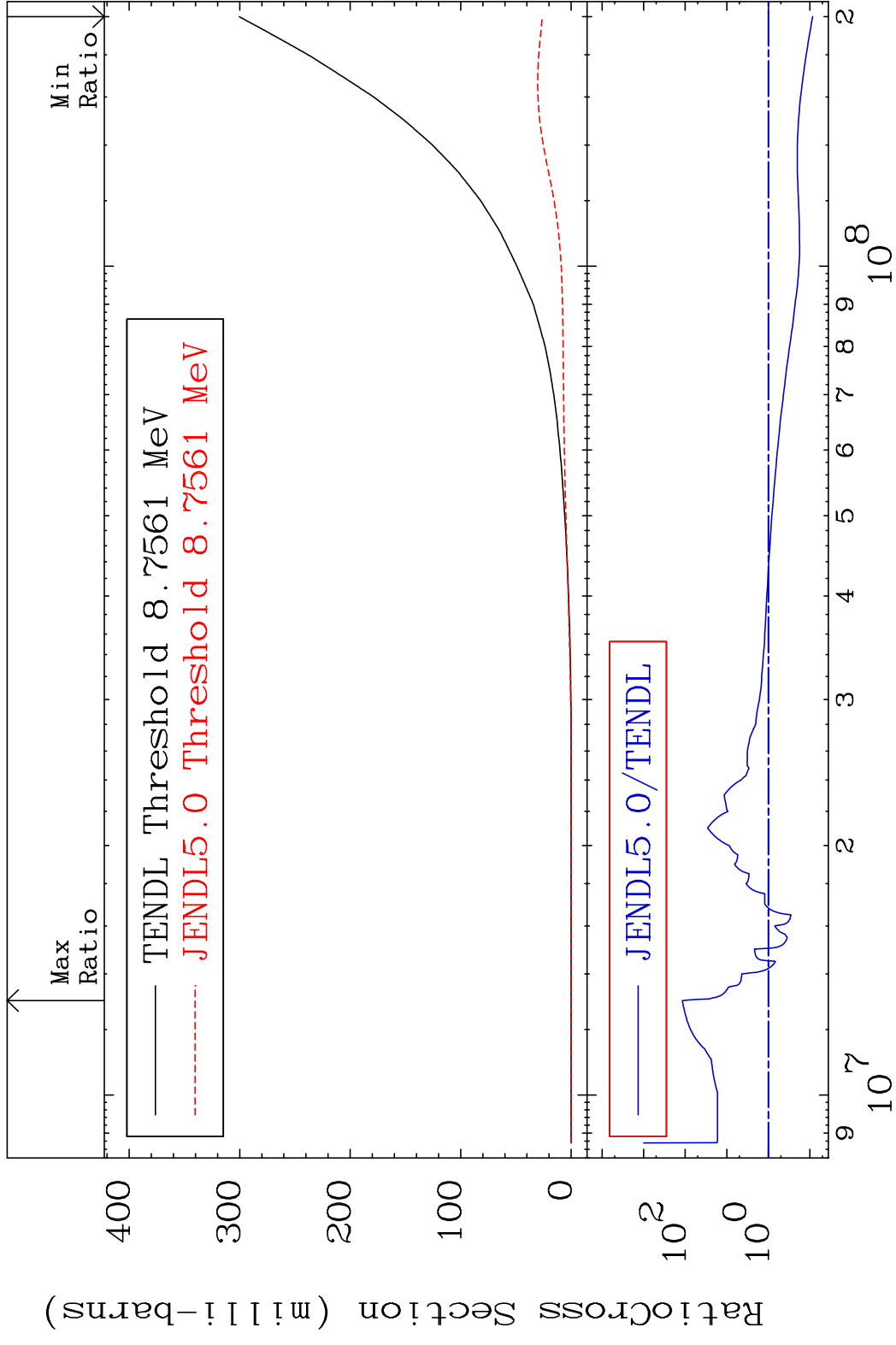
41 Incident Energy (eV) 56-Ba-138

MAT 5649

He-3 Production

56-Ba-138

Cross Section -91.35 To 9999. %



42

Incident Energy (eV)

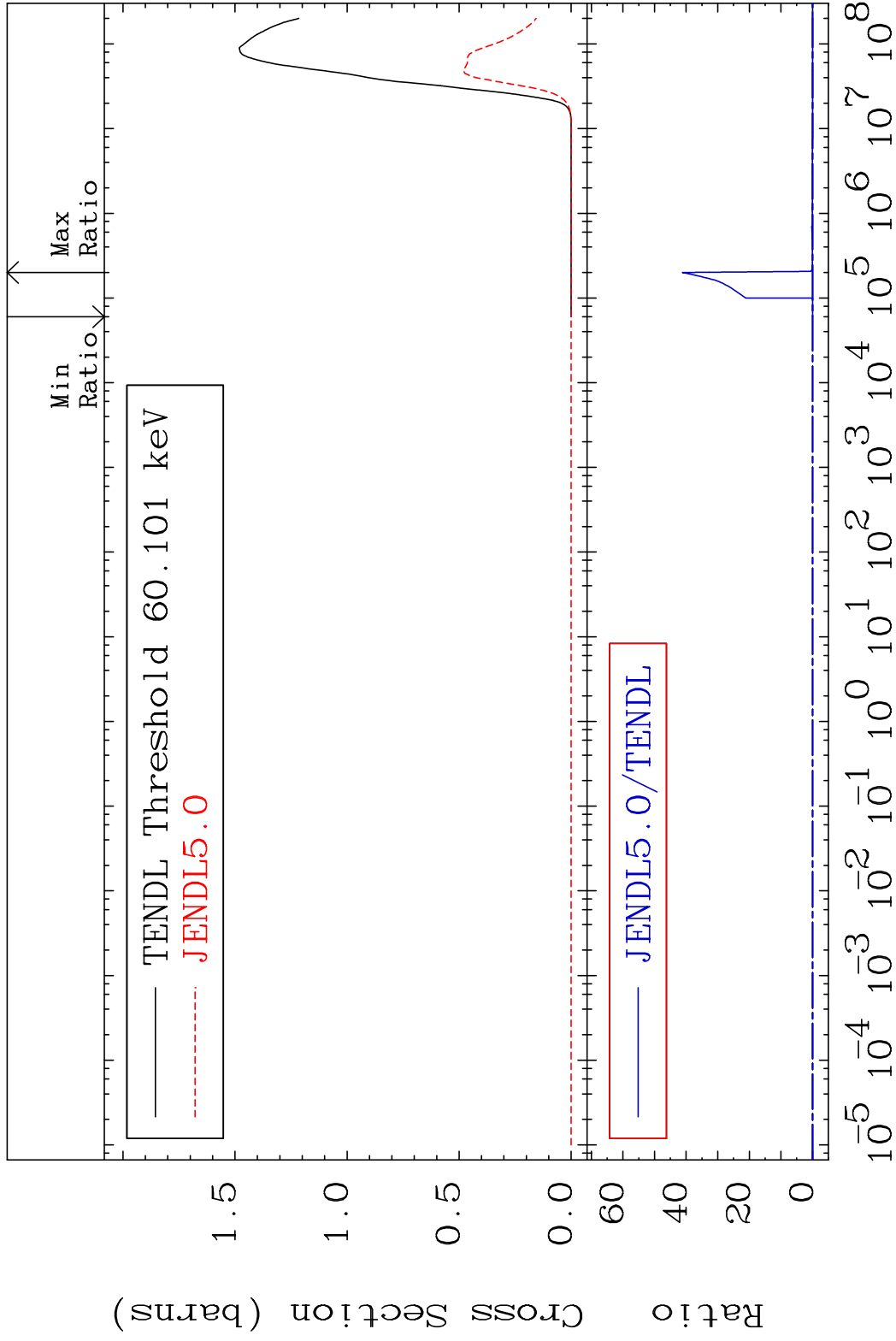
56-Ba-138

MAT 5649

He-4 Production

56-Ba-138

Cross Section -100.0 To 9999. %

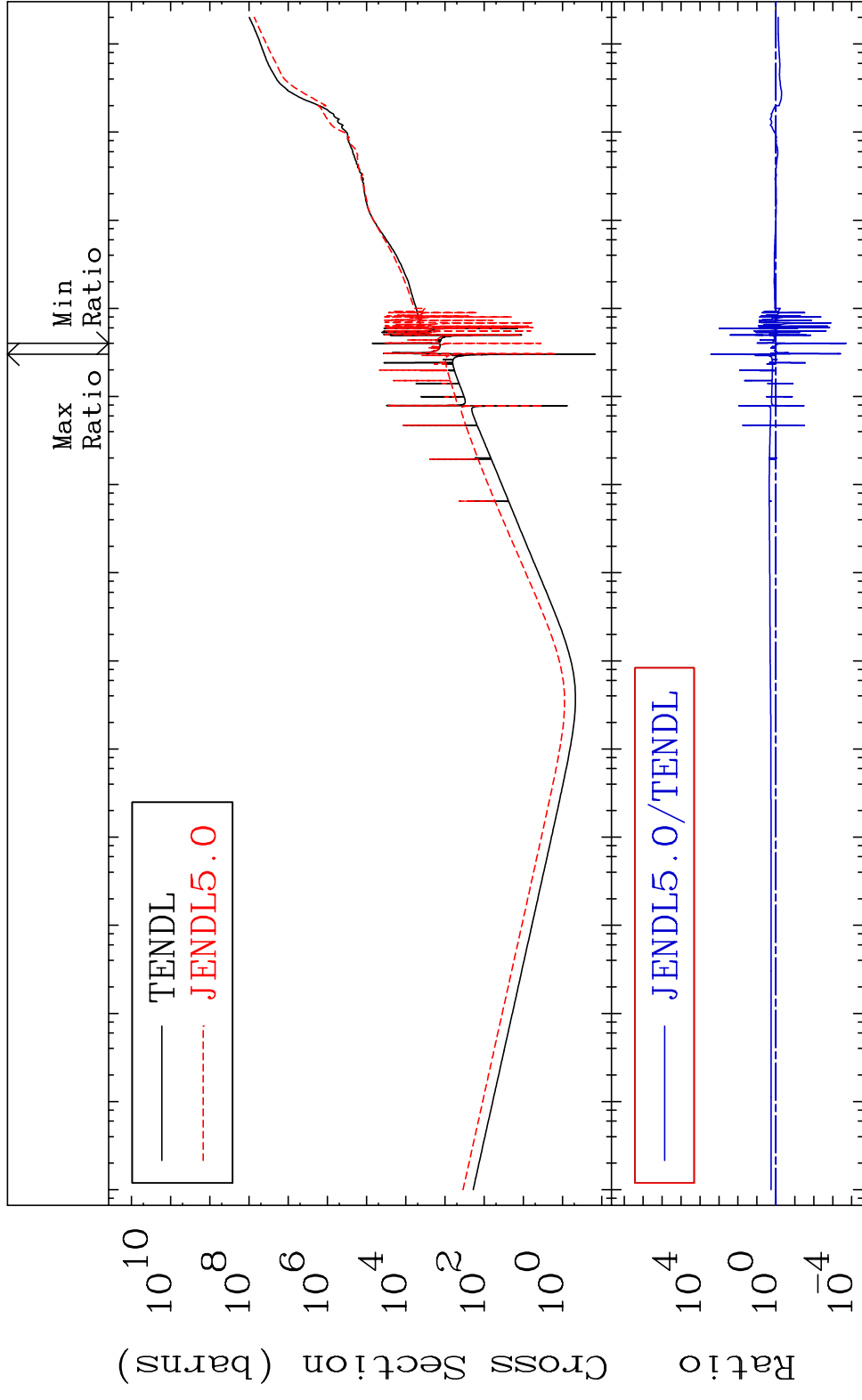


43

Incident Energy (eV)

56-Ba-138

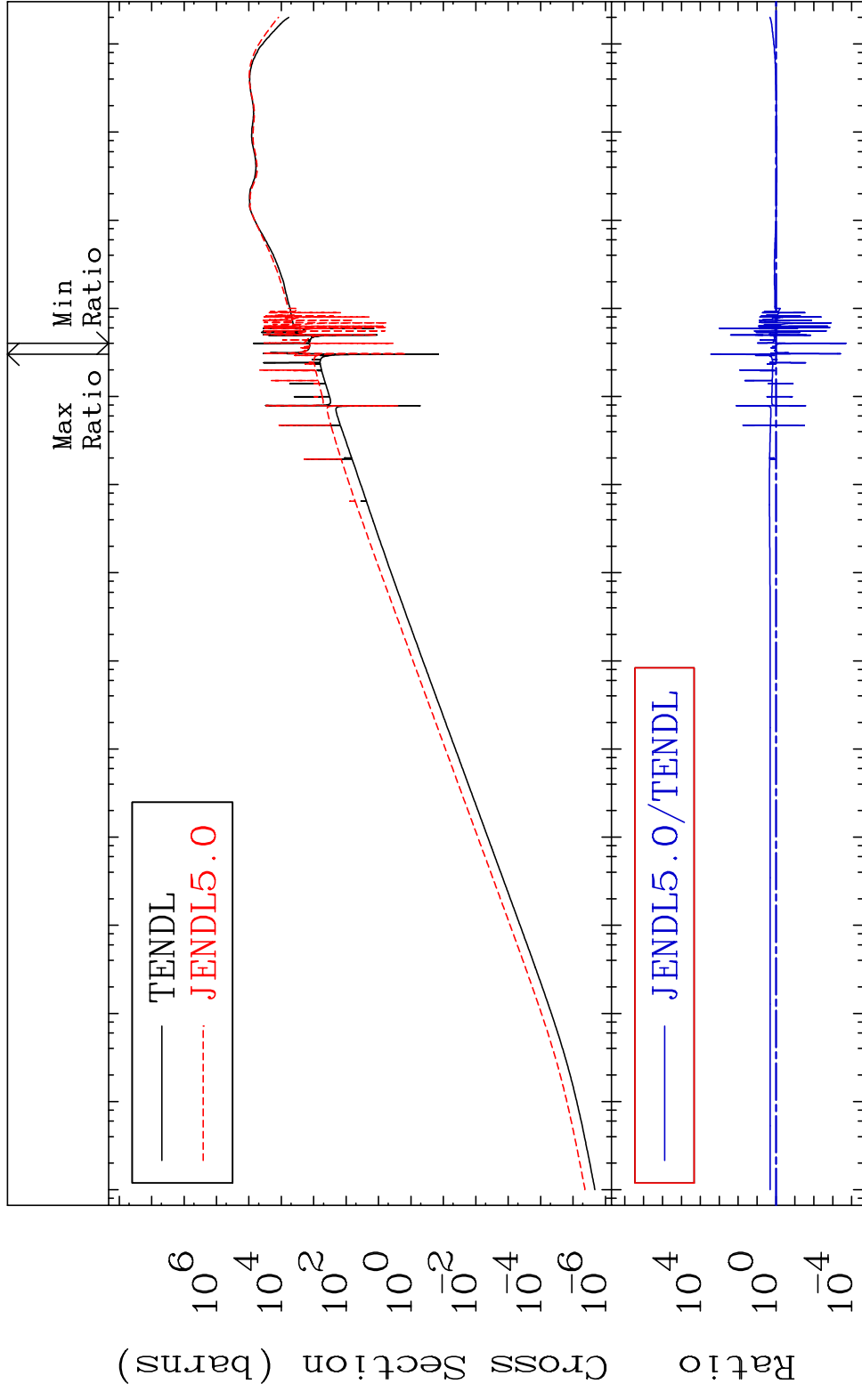
MAT 5649 Kerma total (eV-barns) 56-Ba-138  
 Cross Section -99.98 To 9999. %



MAT 5649

Kerma elastic  
Cross Section

56-Ba-138  
-99.98 To 9999. %

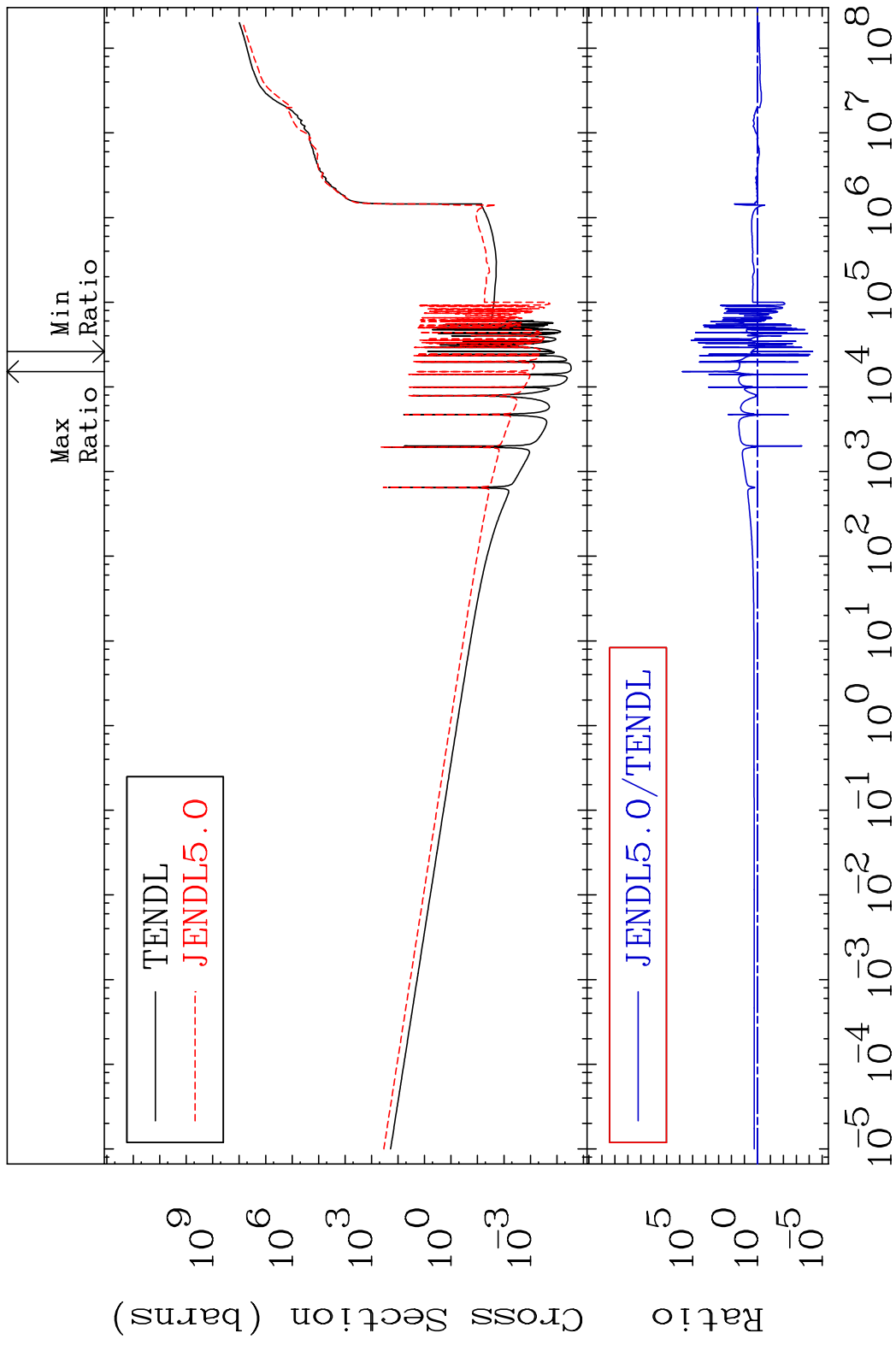


45

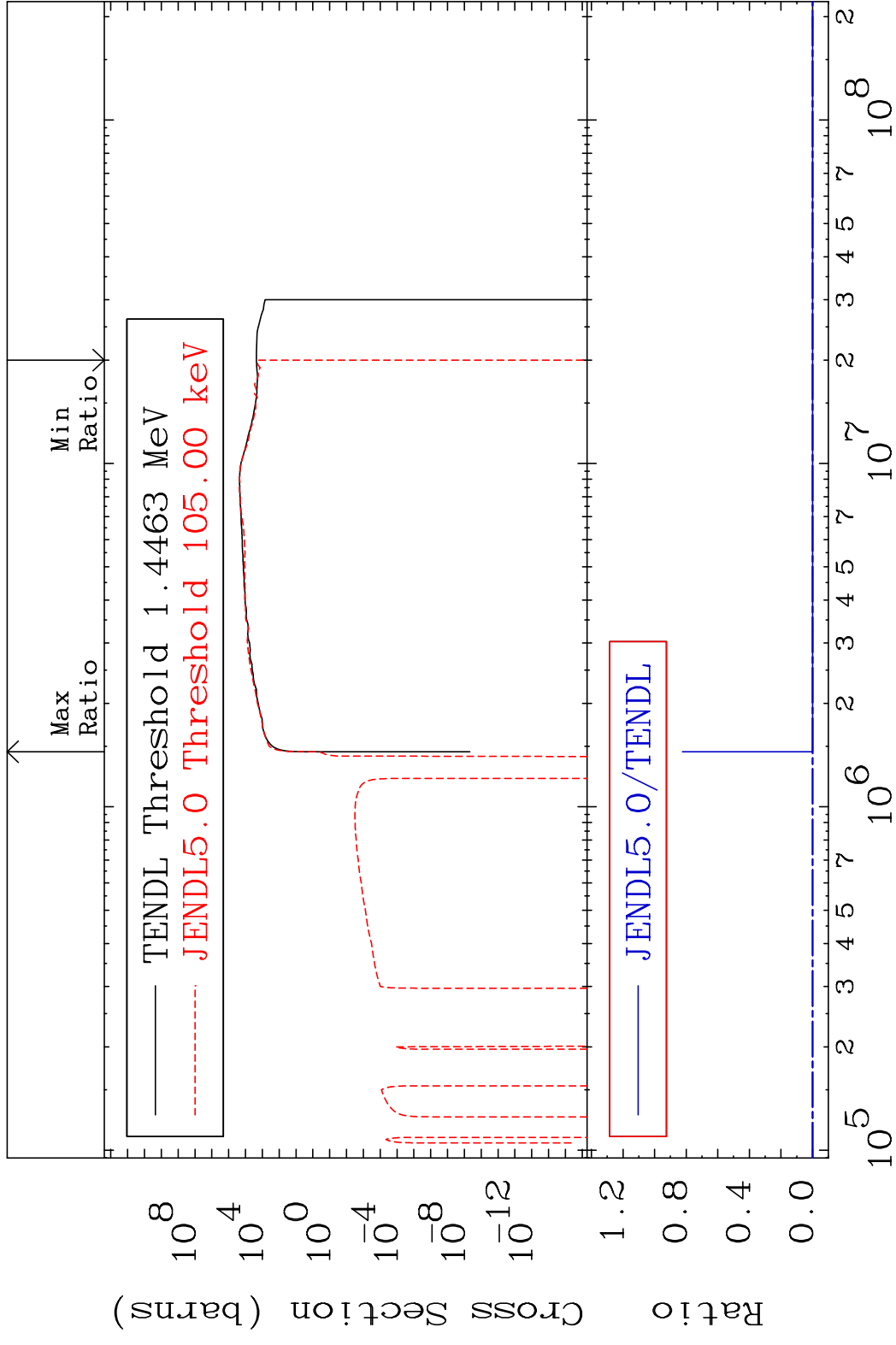
Incident Energy (eV)

56-Ba-138

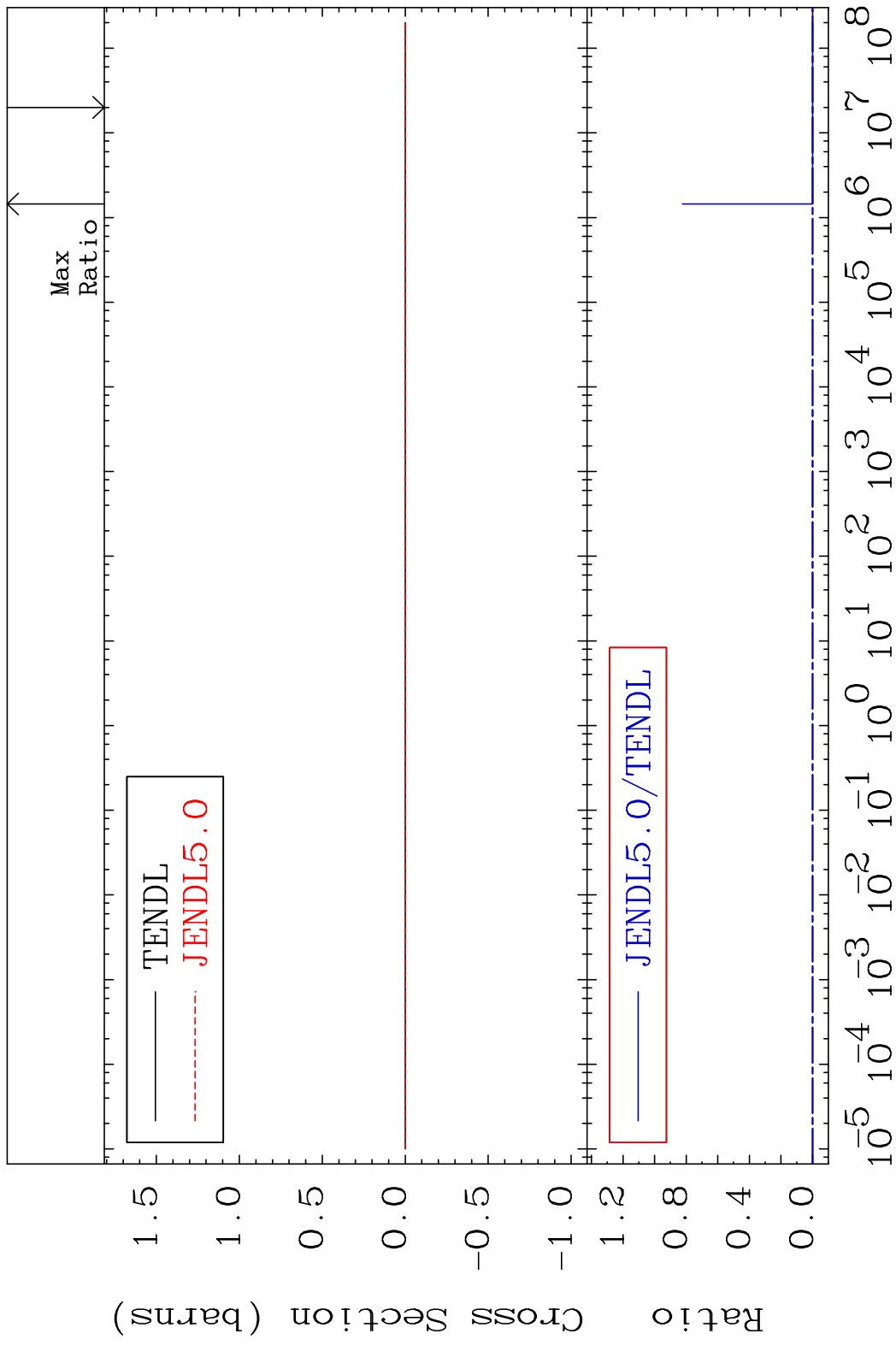
MAT 5649 Kerma non-elastic (all but mt2) 56-Ba-138  
 Cross Section -99.99 To 9999. %



MAT 5649 Kerma inelastic (mt51-91) 56-Ba-138  
 Cross Section -100.0 To 9999. %

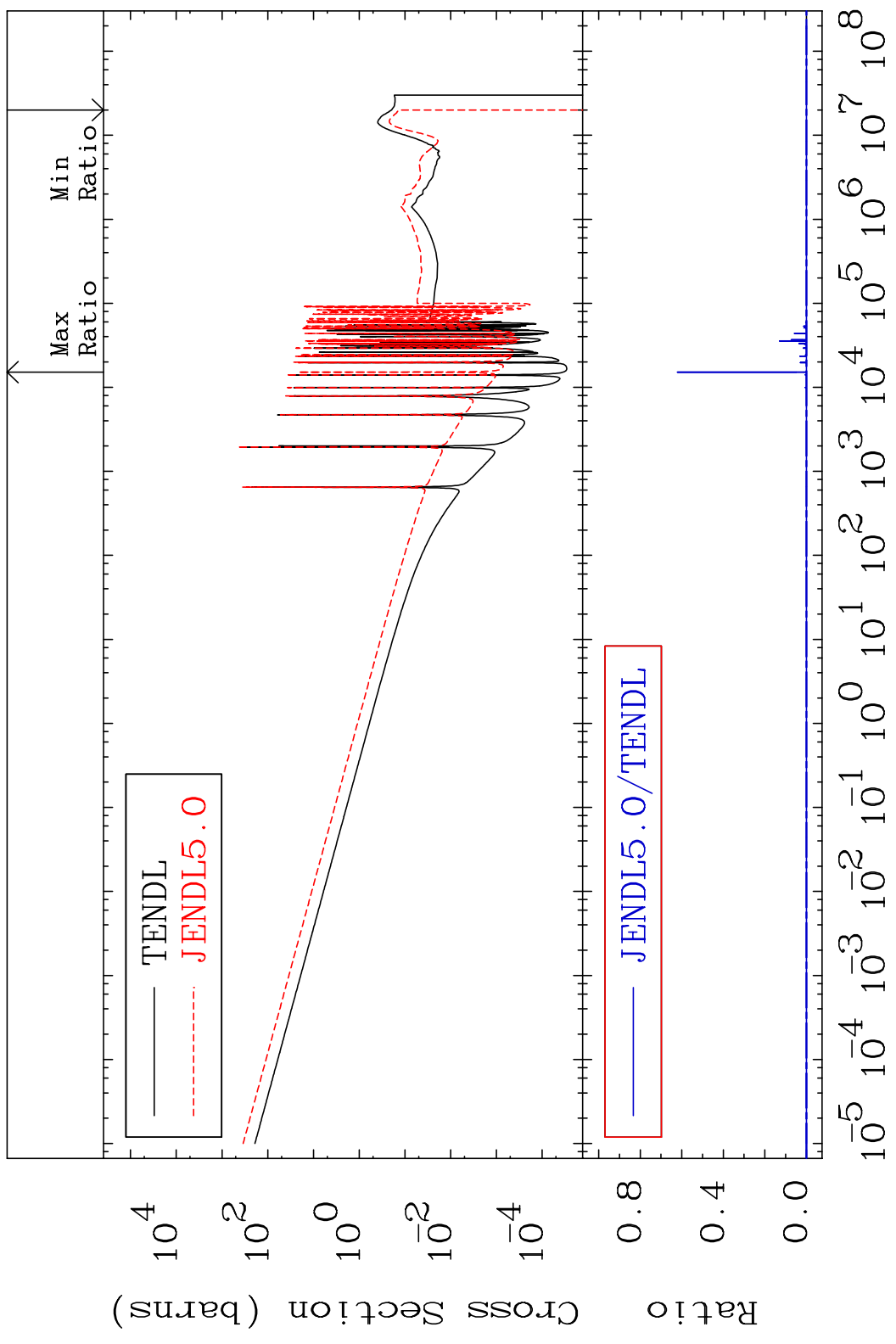


MAT 5649 Kerma fission (mt18 or mt19-20-21-38) 56-Ba-138  
 Cross Section -100.0 To 9999. %



MAT 5649

Kerma capture (mt102) 56-Ba-138  
Cross Section -100.0 To 9999. %

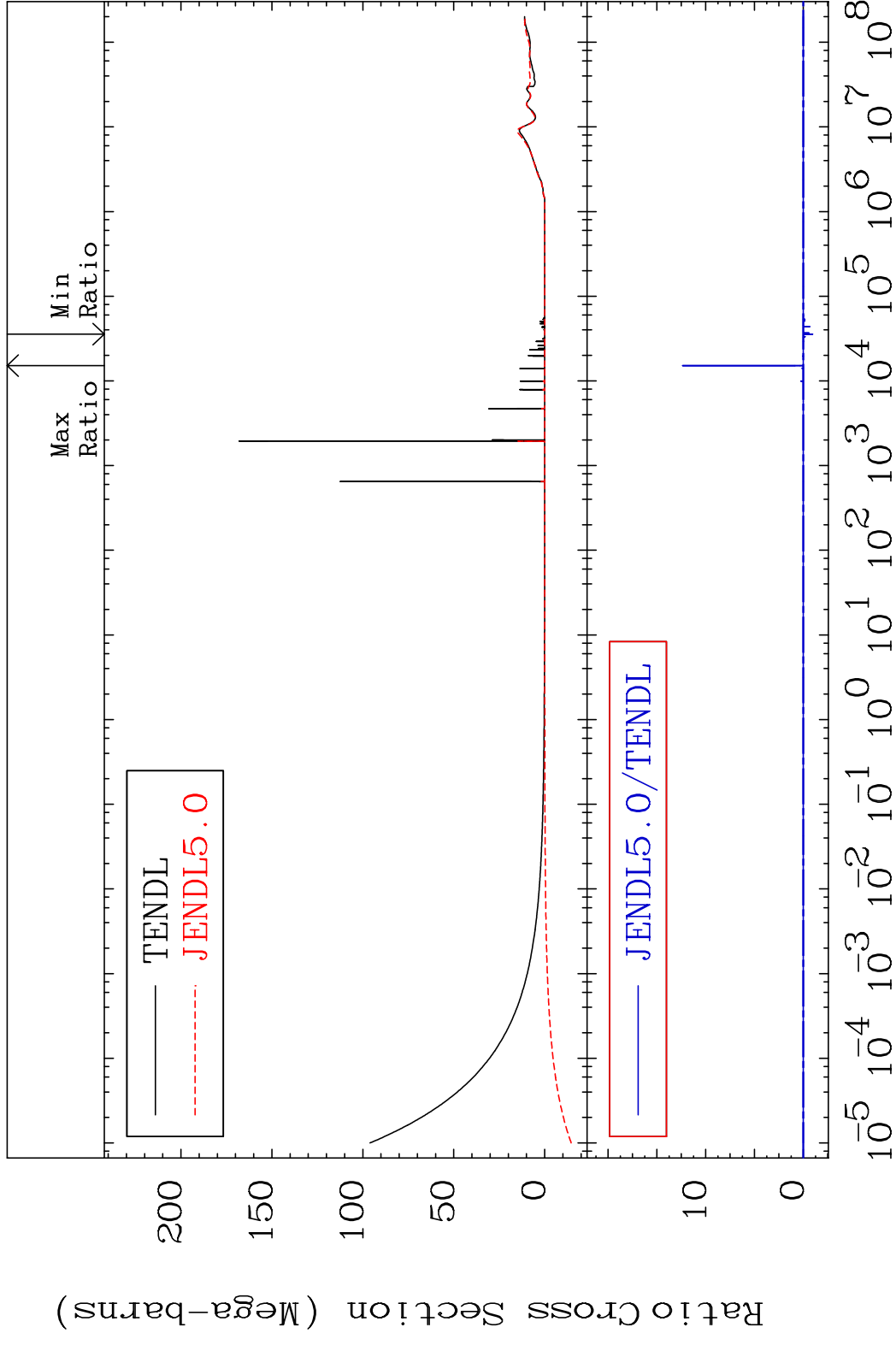


49

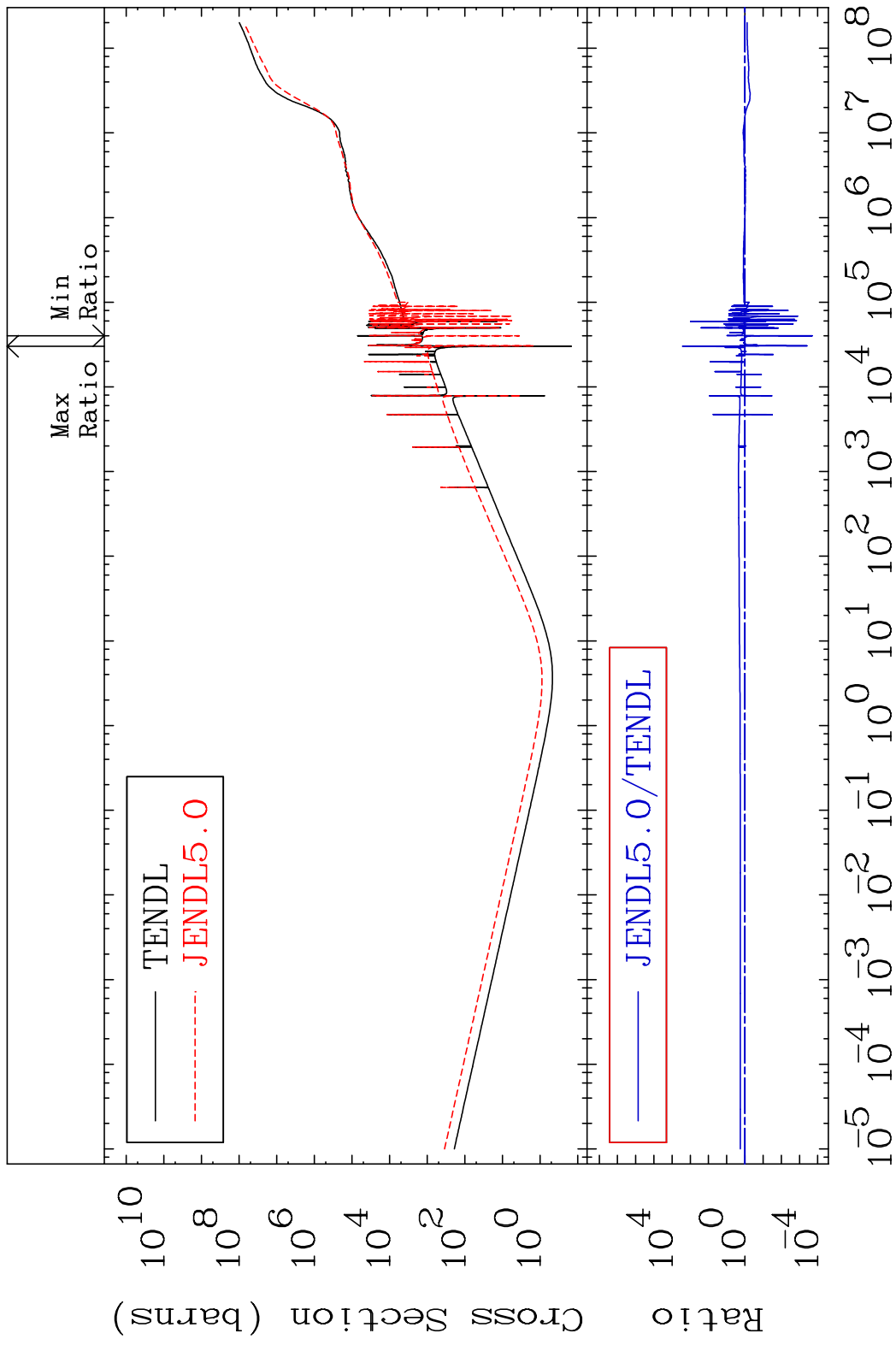
Incident Energy (eV)

56-Ba-138

MAT 5649 Total photon (eV-barns) 56-Ba-138  
Cross Section -9999. To 9999. %



MAT 5649 Total kinematic kerma (high limit) 56-Ba-138  
 Cross Section -99.98 To 9999. %

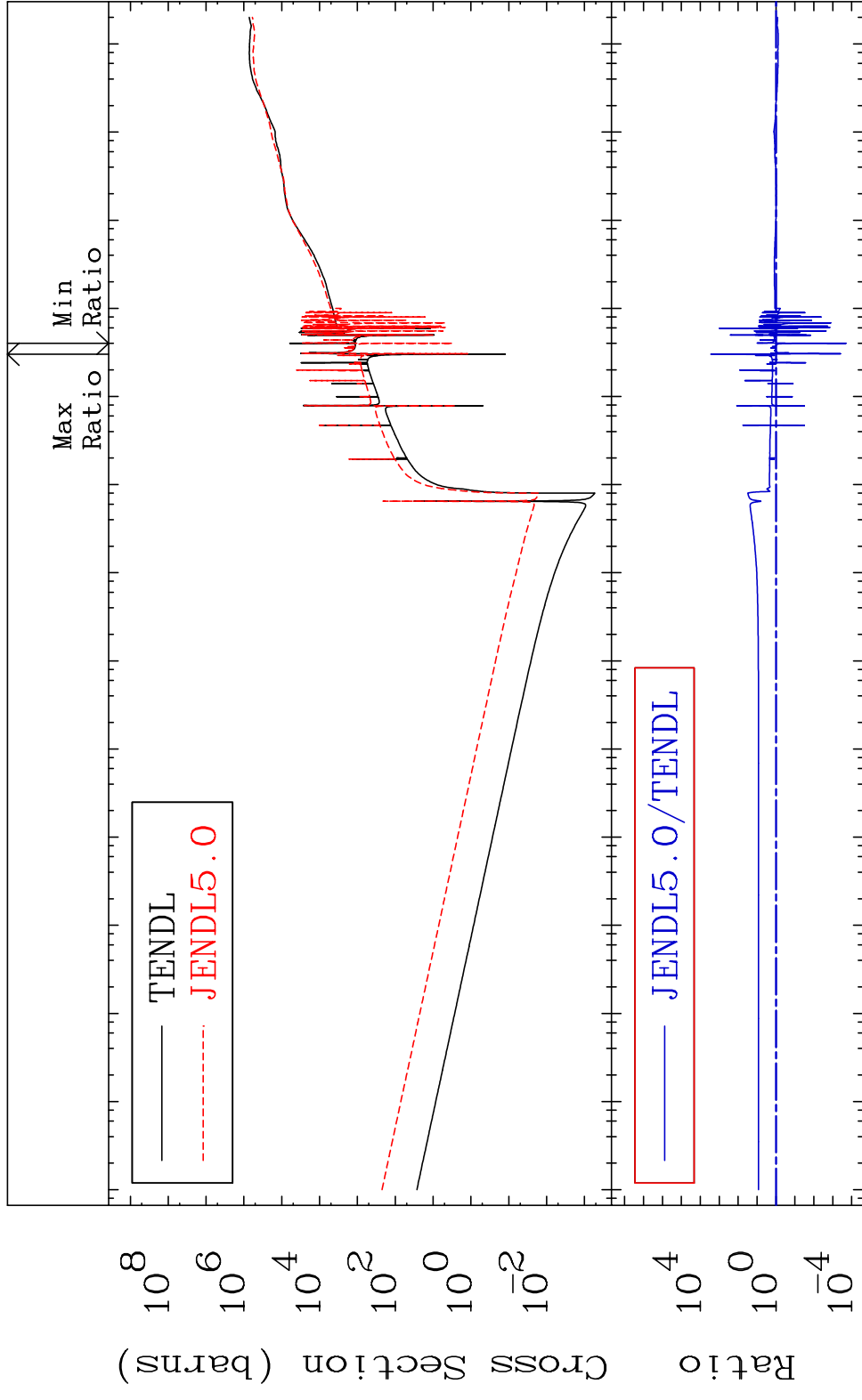


MAT 5649

Dpa total (eV-barns)

56-Ba-138

Cross Section -99.98 To 9999. %

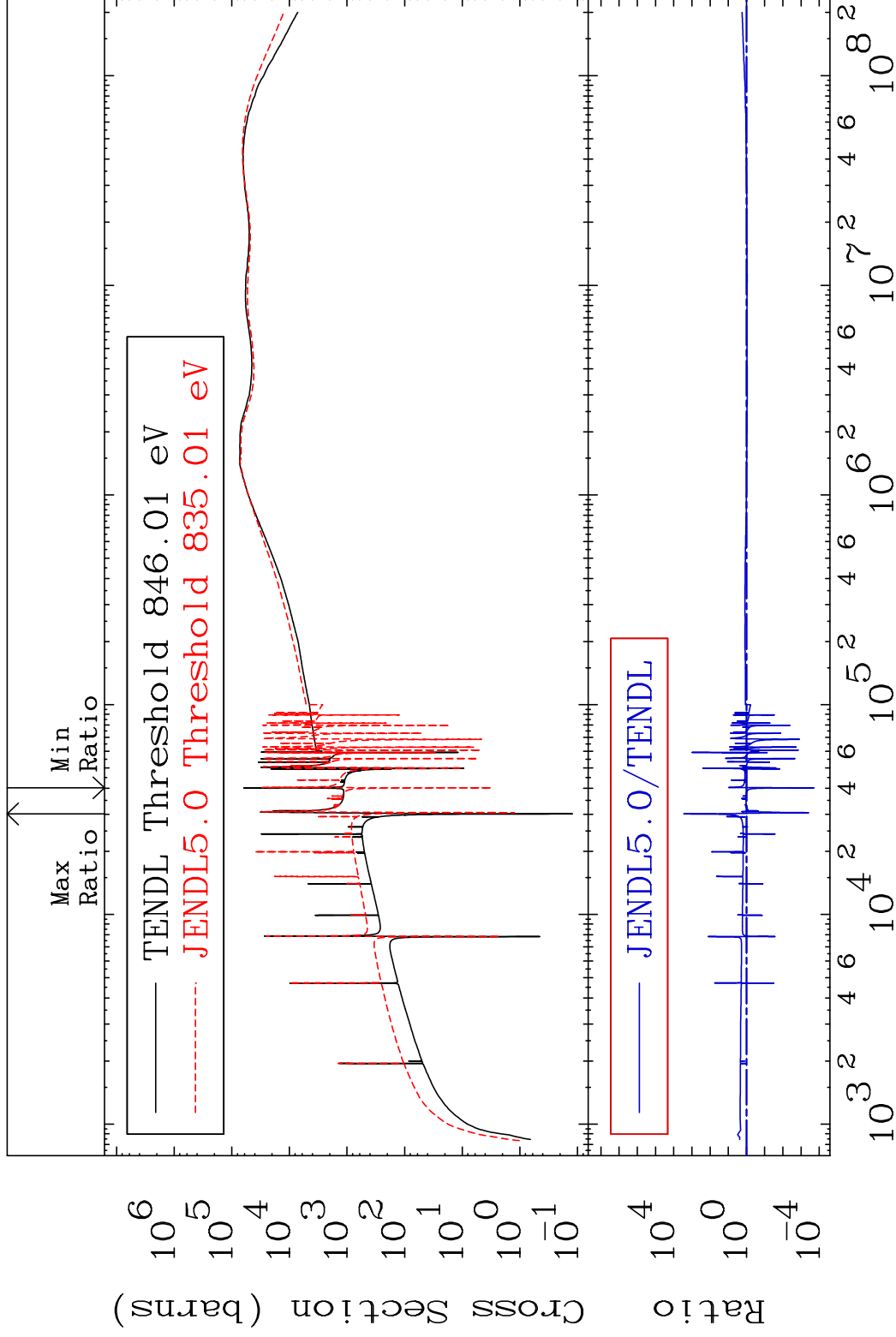


MAT 5649

Dpa elastic (mt2)

56-Ba-138

Cross Section -99.98 To 9999. %

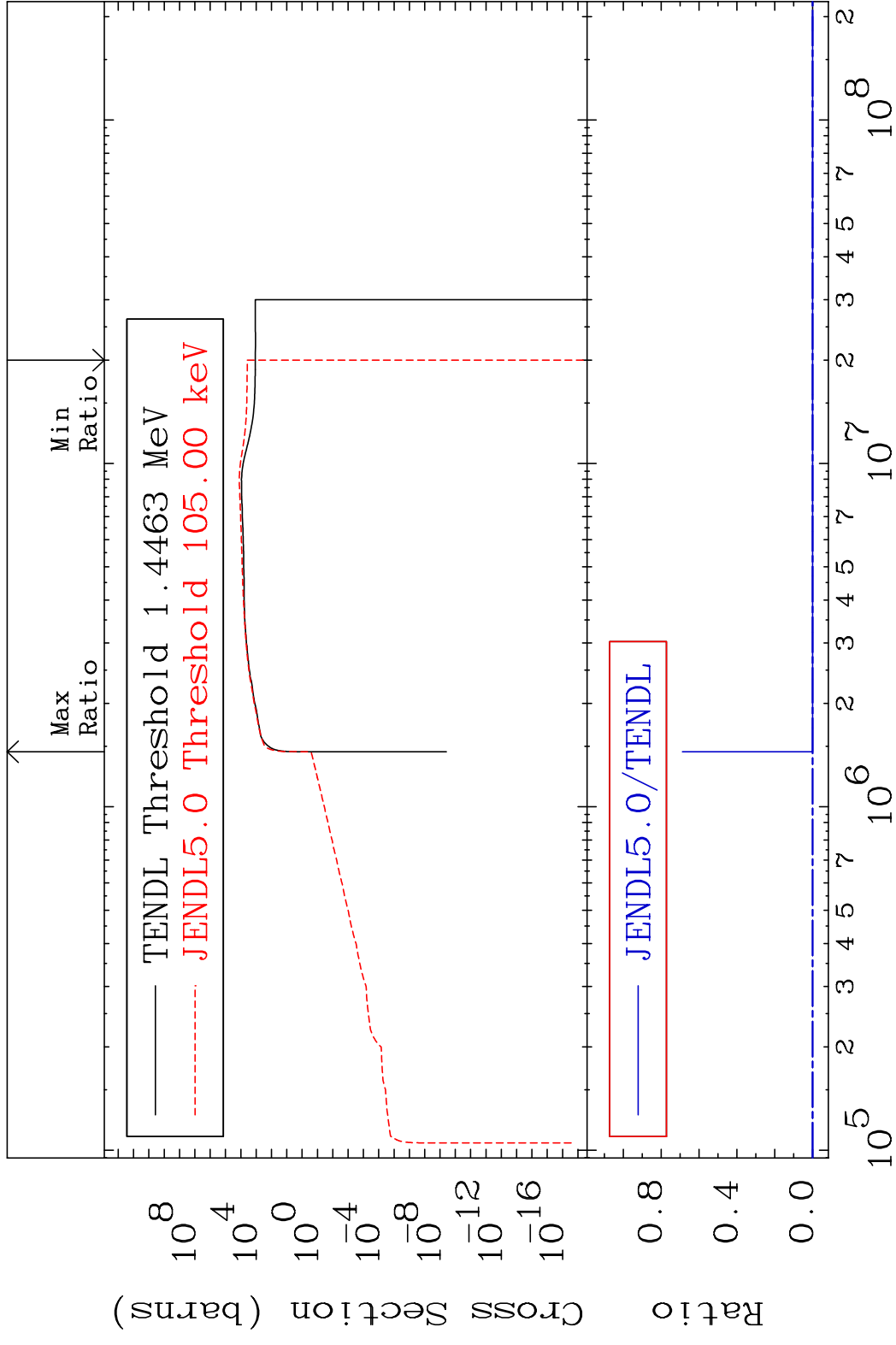


53

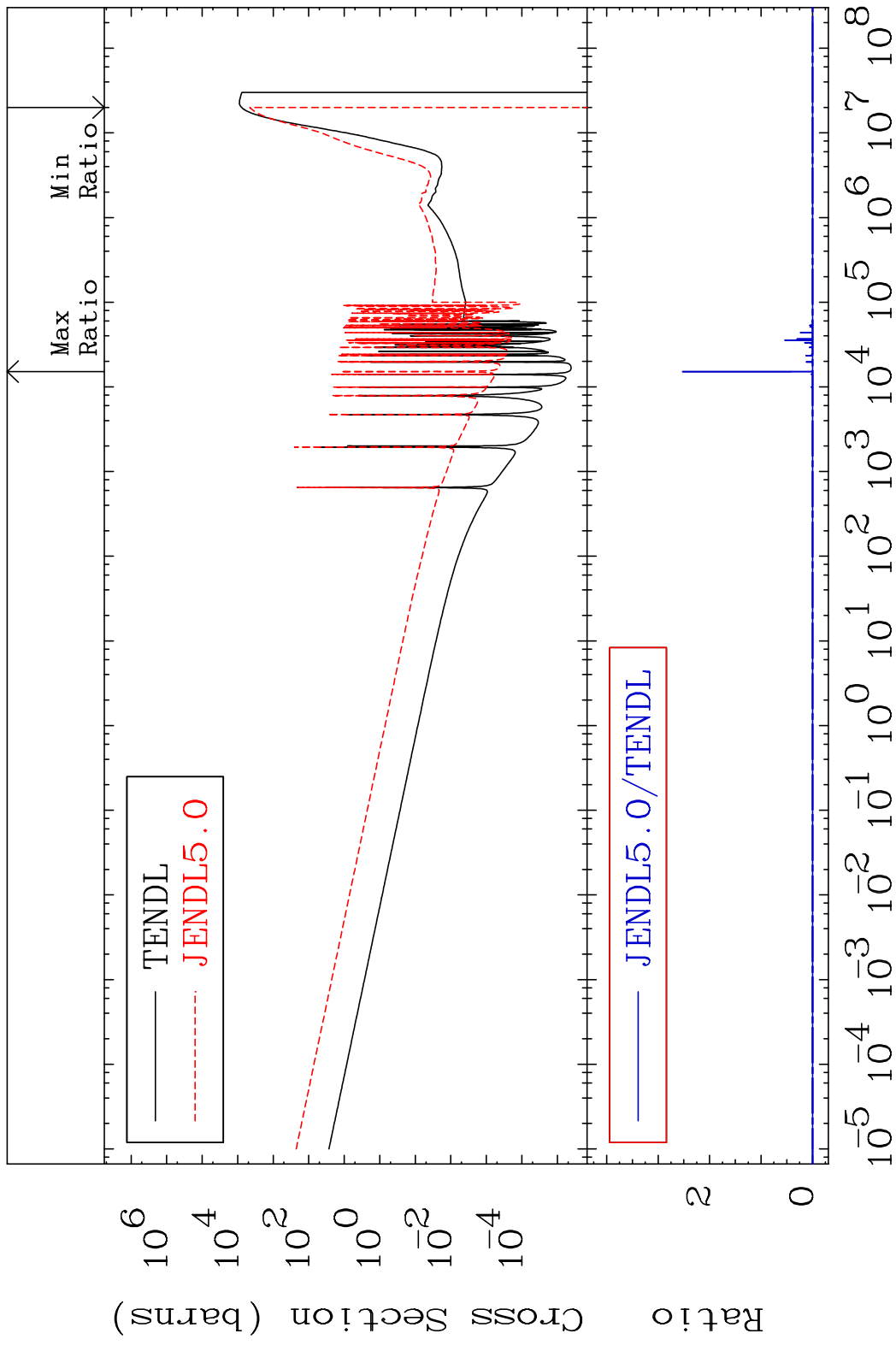
Incident Energy (eV)

56-Ba-138

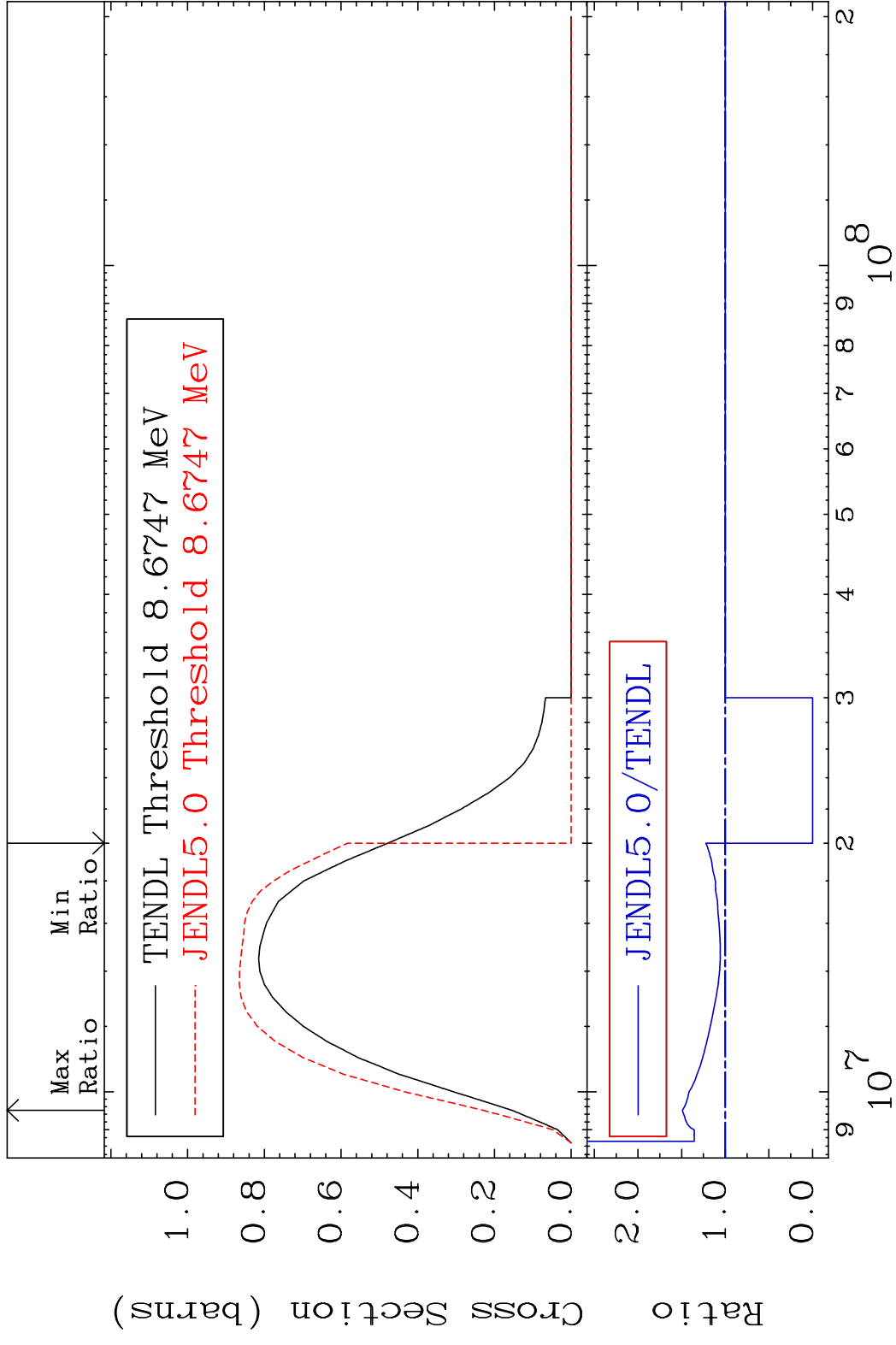
MAT 5649 Dpa inelastic (mt51-91) 56-Ba-138  
 Cross Section -100.0 To 9999. %

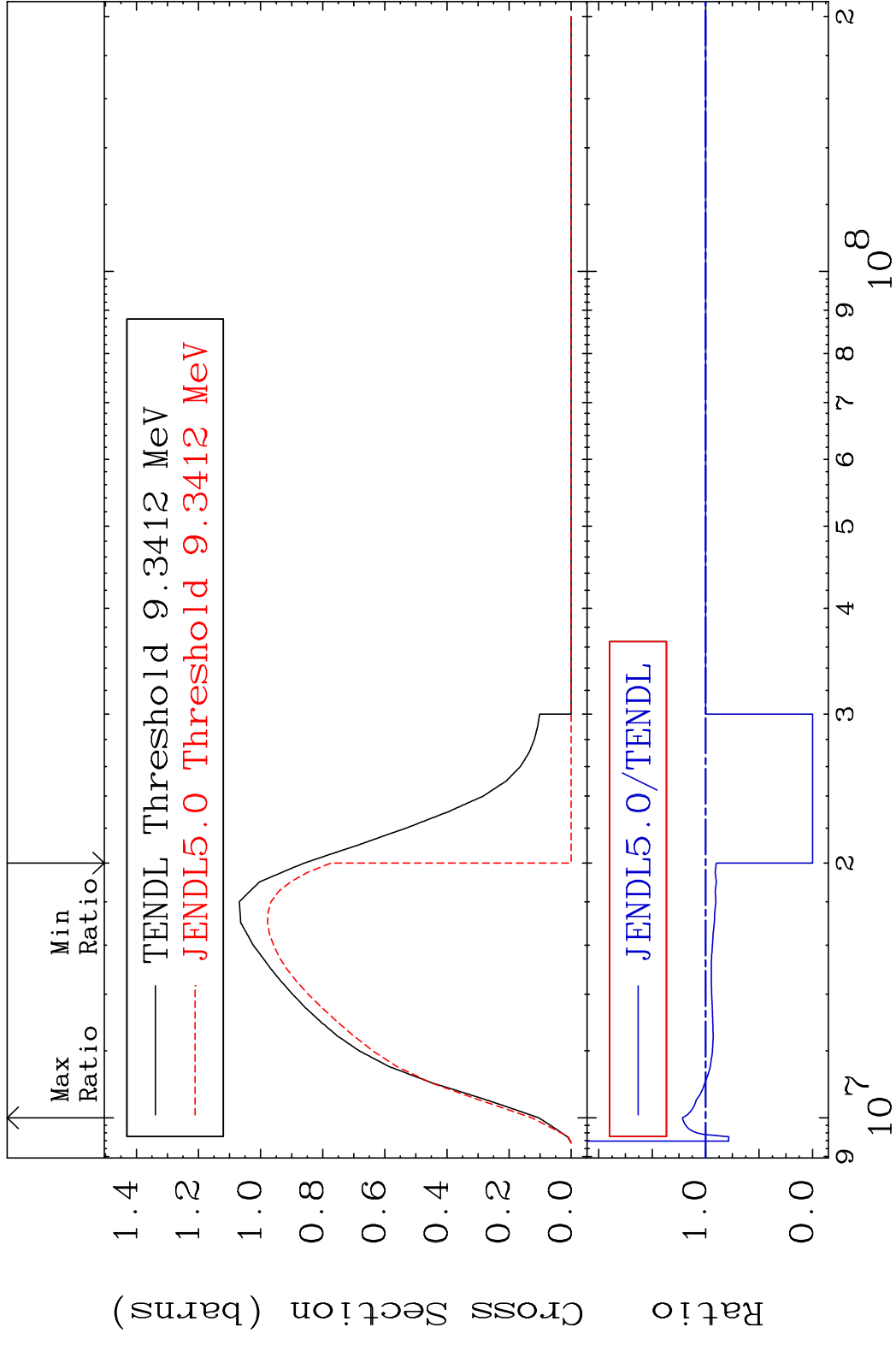


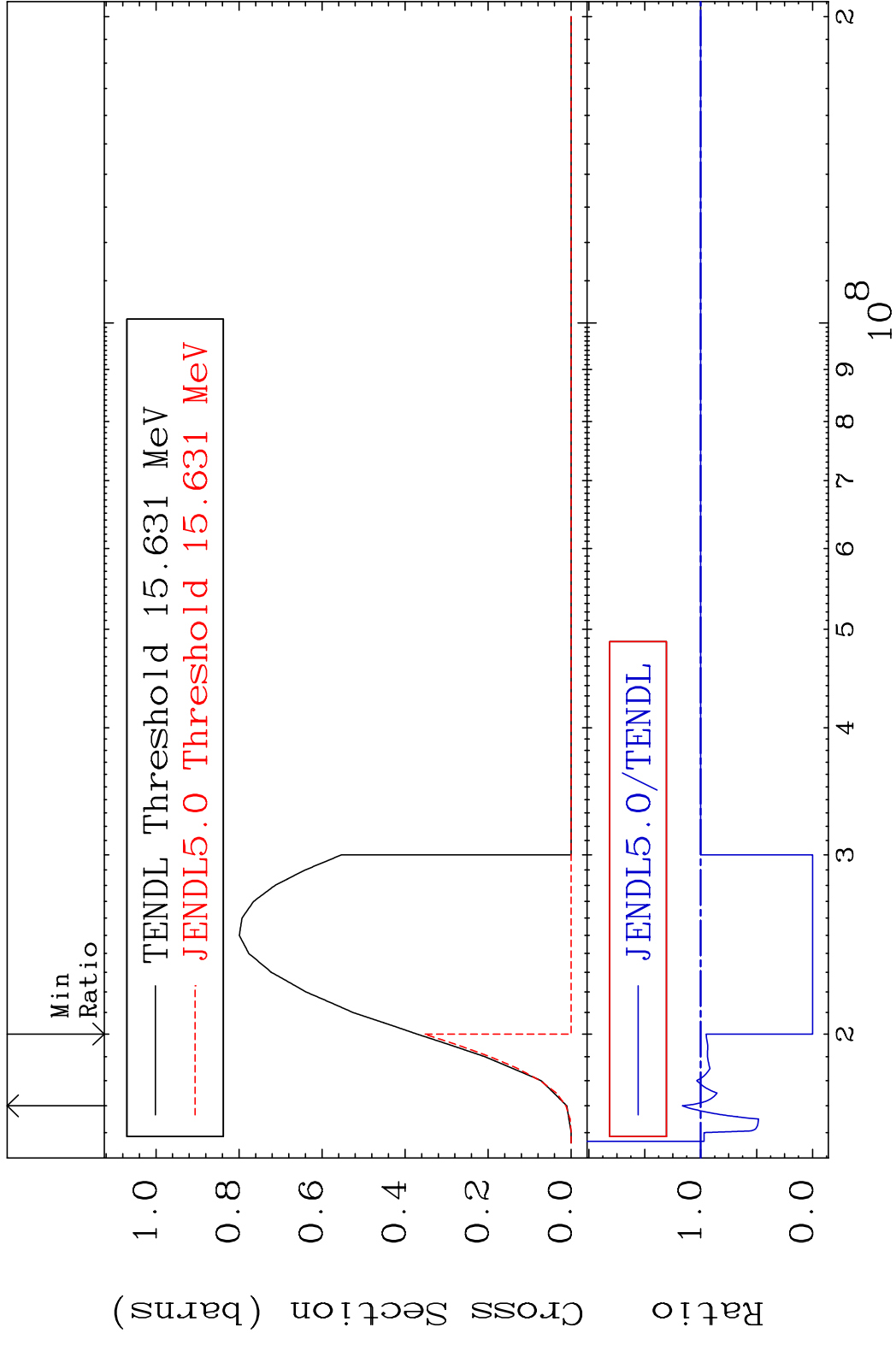
MAT 5649 Dpa disappearance (mt102 -120) 56-Ba-138  
 Cross Section -100.0 To 9999. %



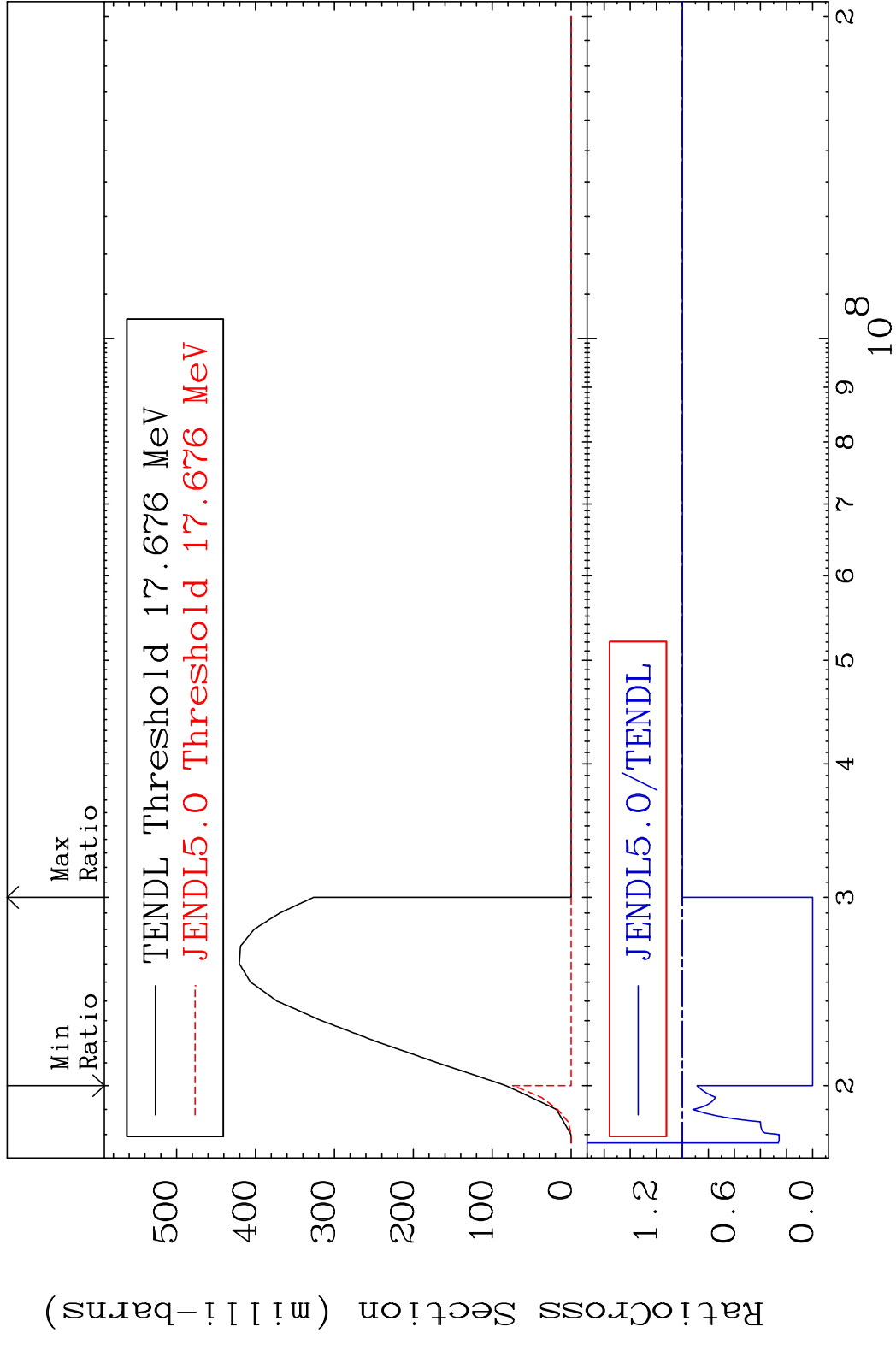
MAT 5649 (n,2n):56-Ba-137g 56-Ba-138  
 Radionuclide Production Cross Section 180.01 dth 49.16 %



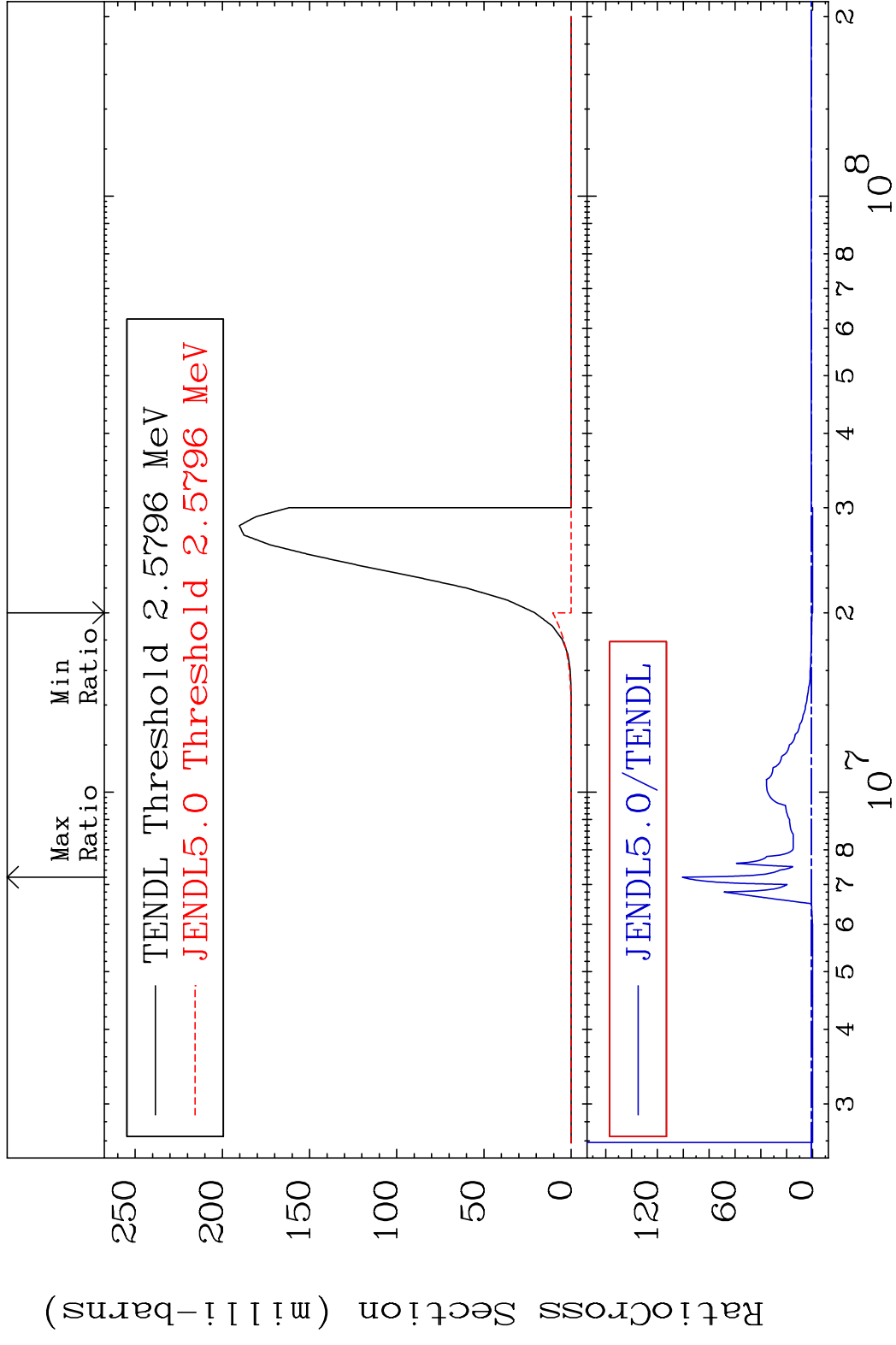




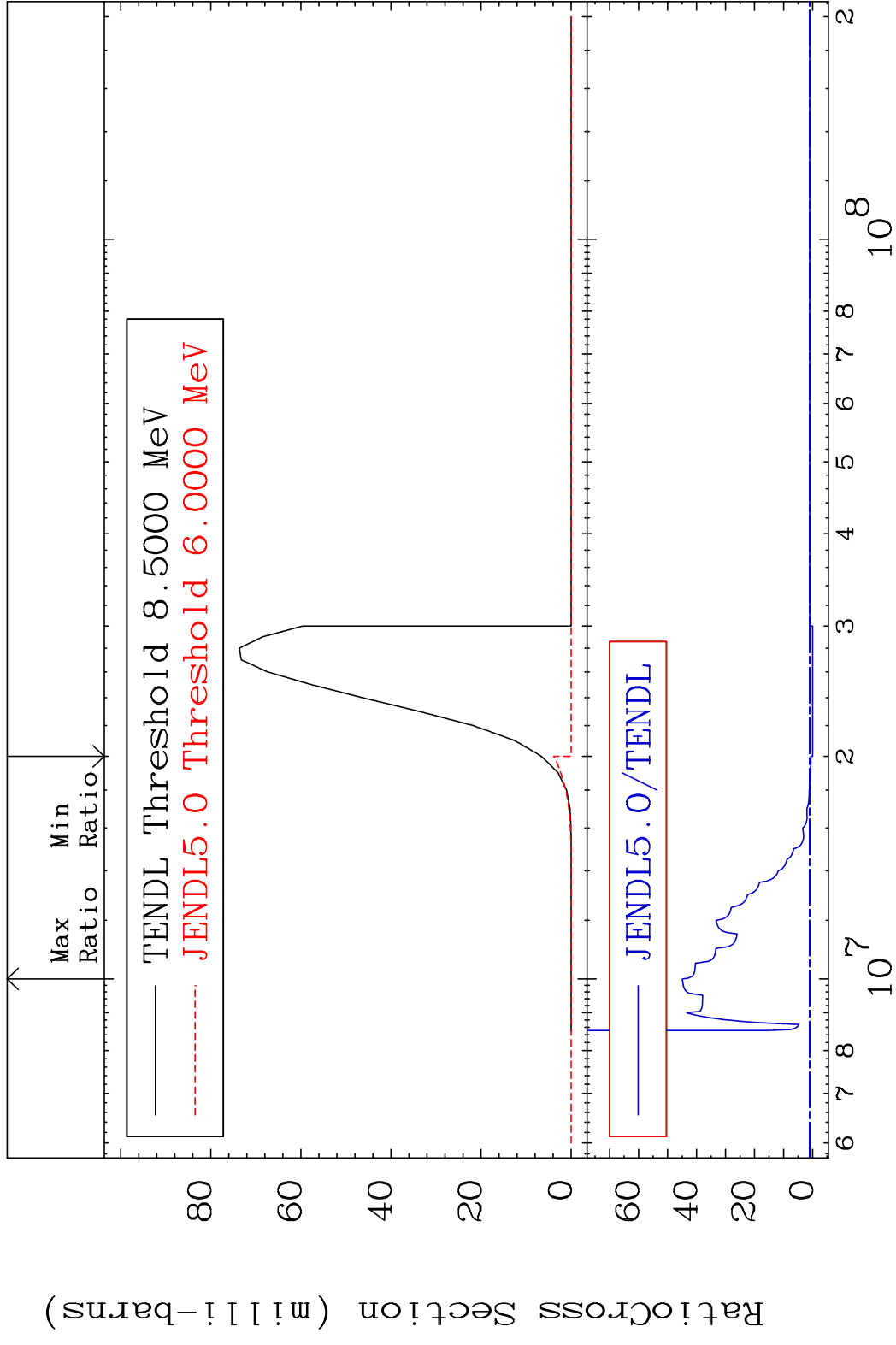
MAT 5649 (n, 3n):56-Ba-136m5 56-Ba-138  
 Radionuclide Production Cross Section 180.01 dth 0.000 %

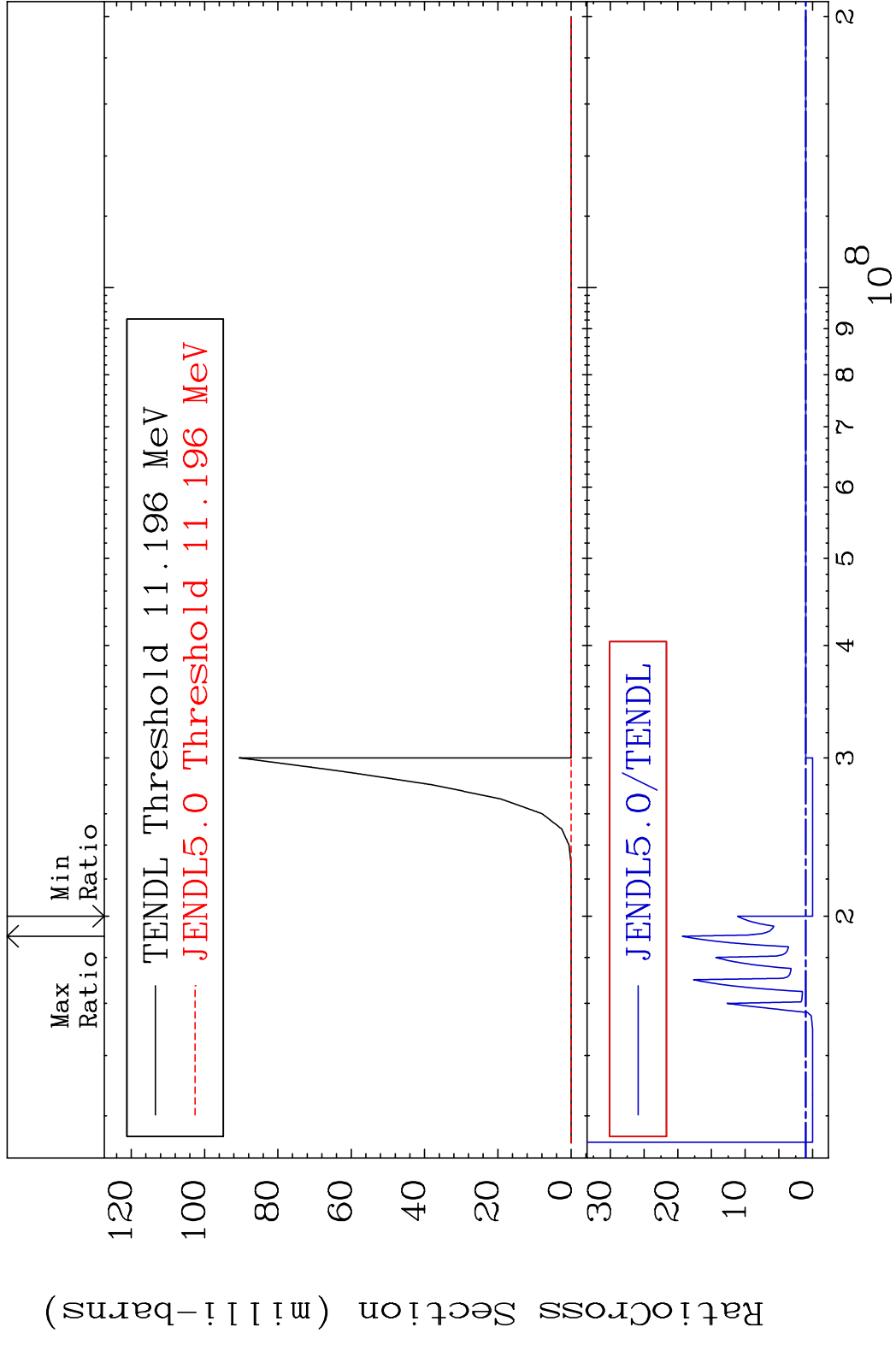


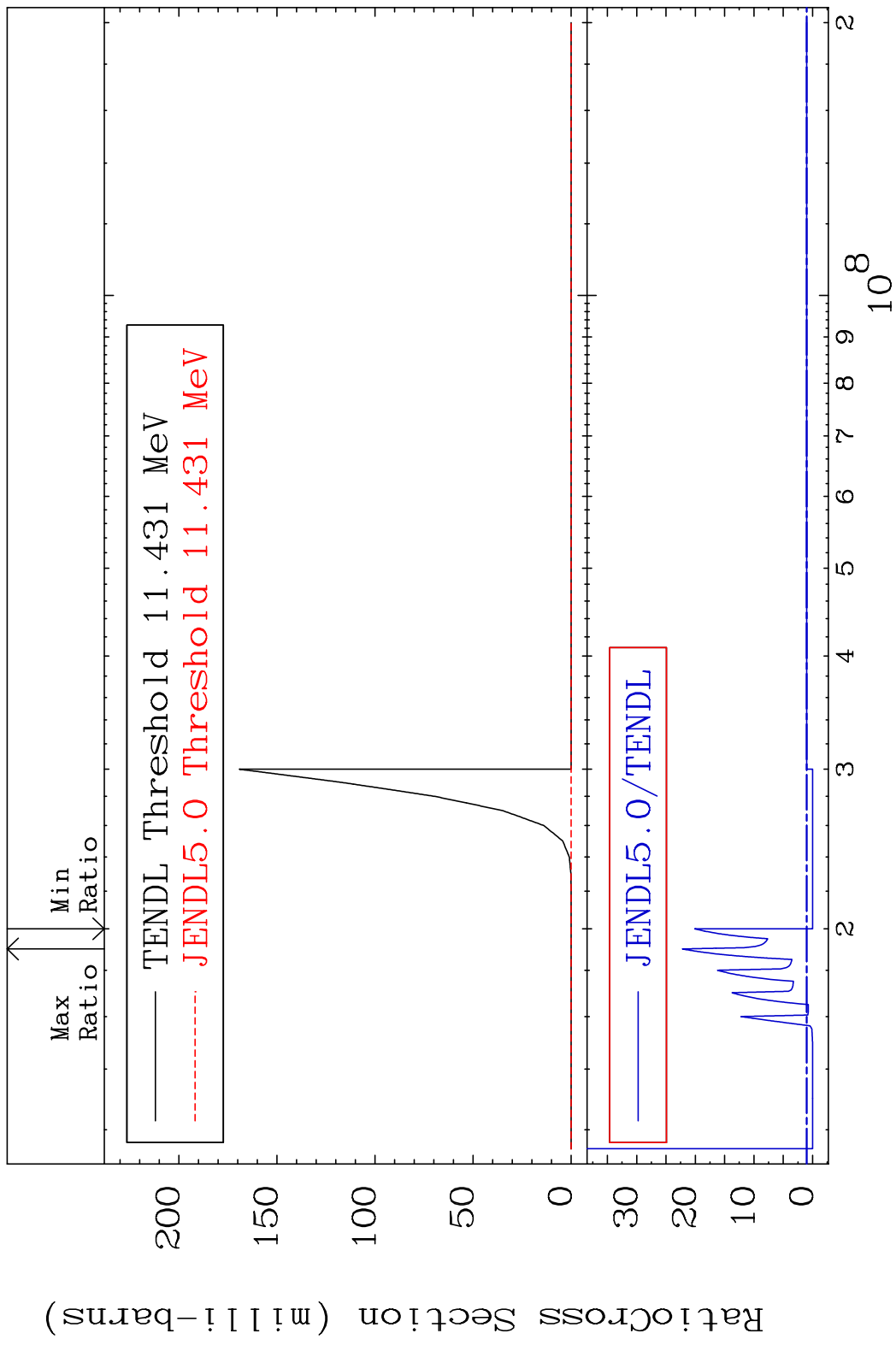
MAT 5649 (n, n')  $\alpha$ :54-Xe-134g 56-Ba-138  
 Radionuclide Production Cross Section Ratio 9969. %



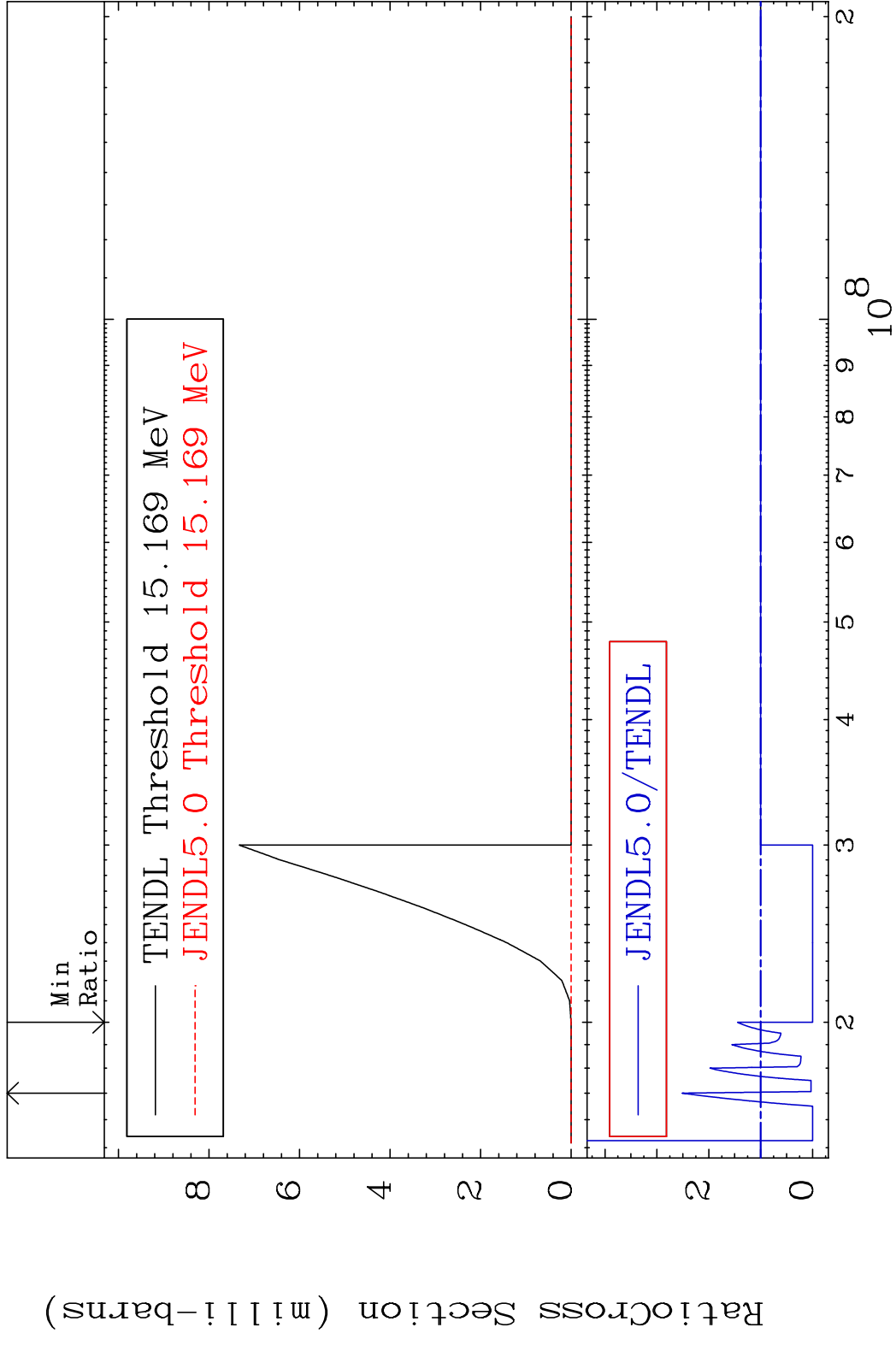
MAT 5649 (n, n')  $\alpha$ :54-Xe-134m7 56-Ba-138  
 Radionuclide Production Cross Section Ratio 4390. %



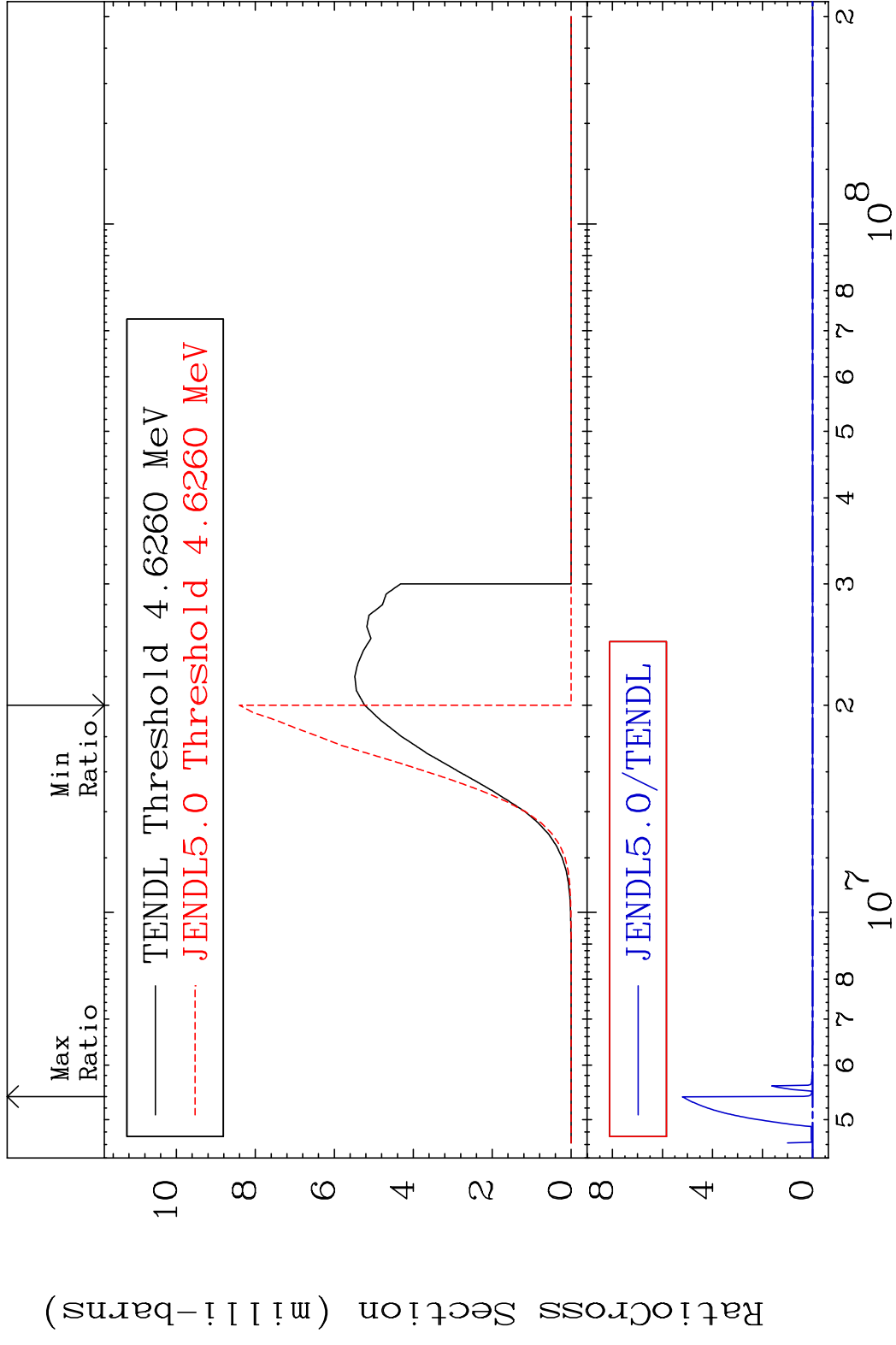


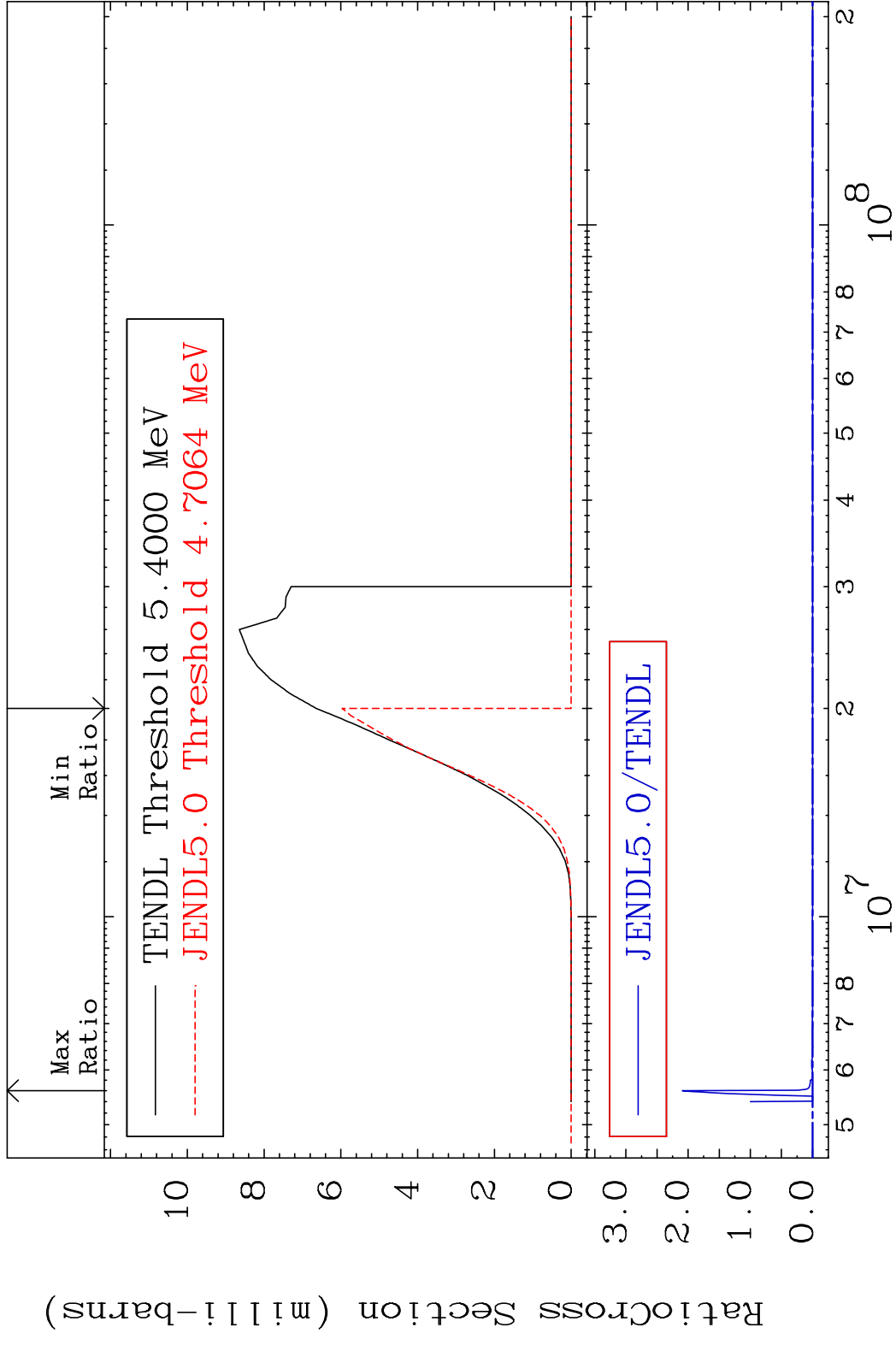


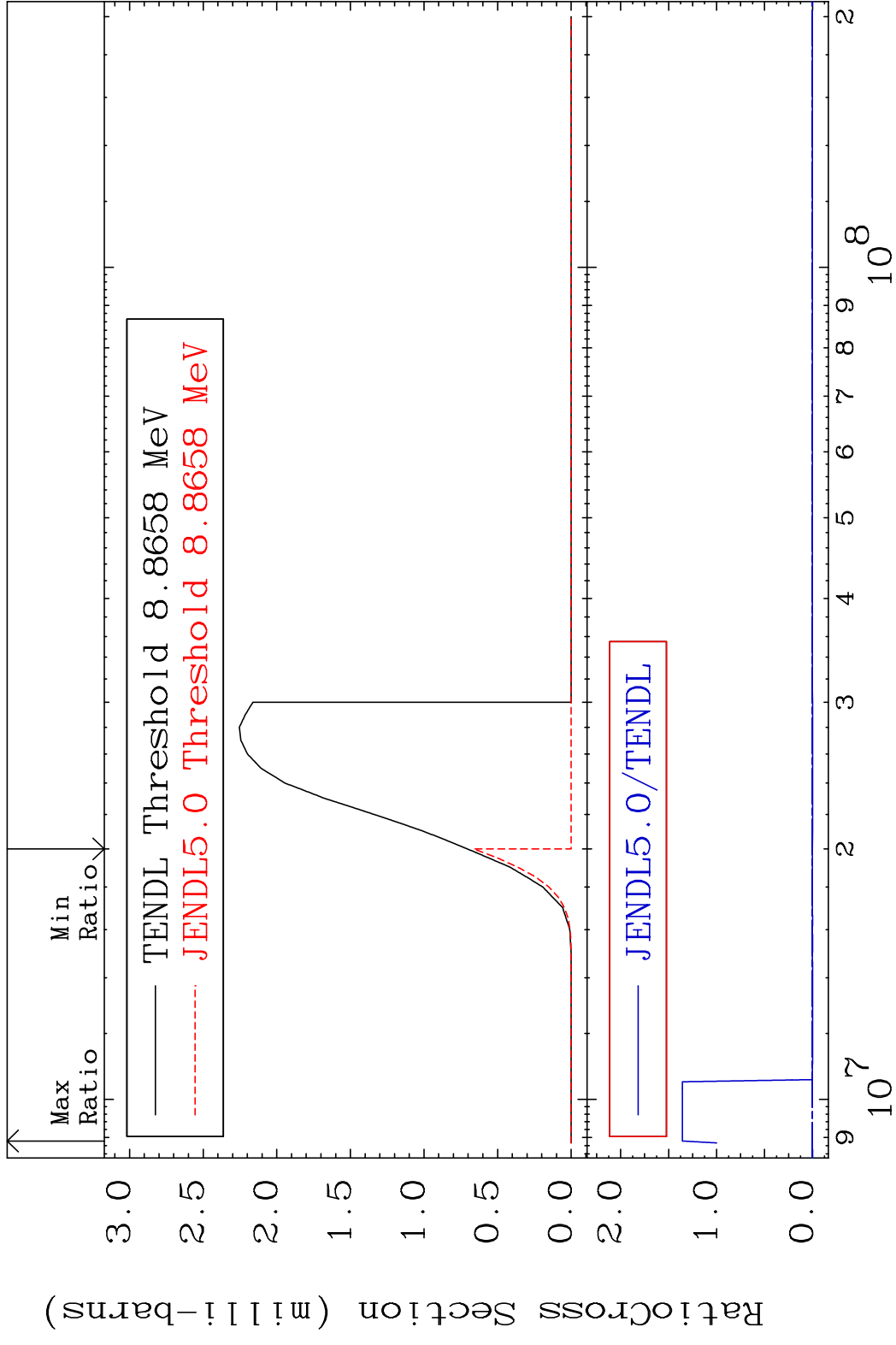
MAT 5649 (n, n') d:55-Cs-136g 56-Ba-138  
 Radionuclide Production Cross Section 150.9 %



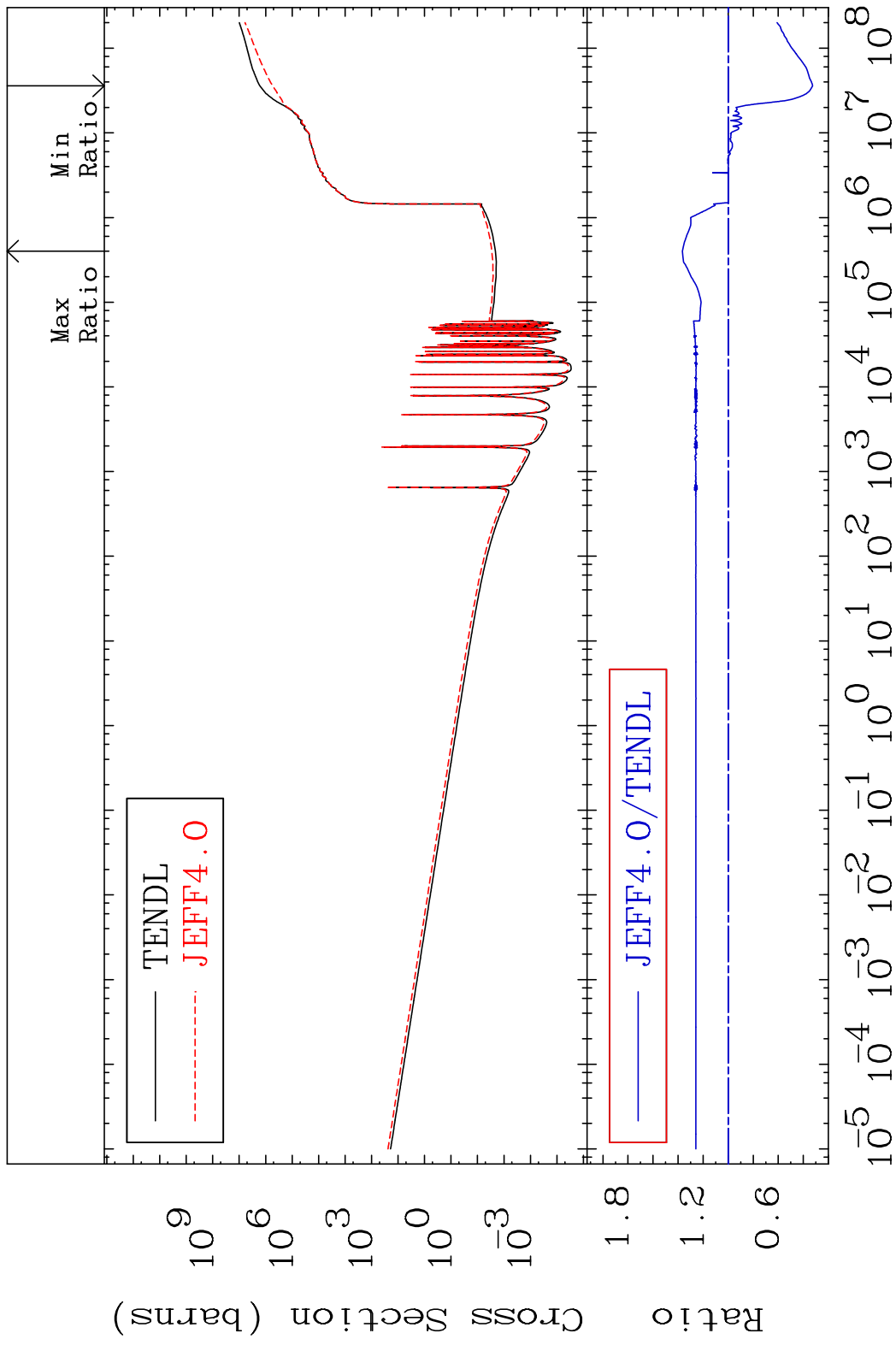
MAT 5649 (n,p):55-Cs-138 56-Ba-138  
 Radionuclide Production Cross Section Ratio



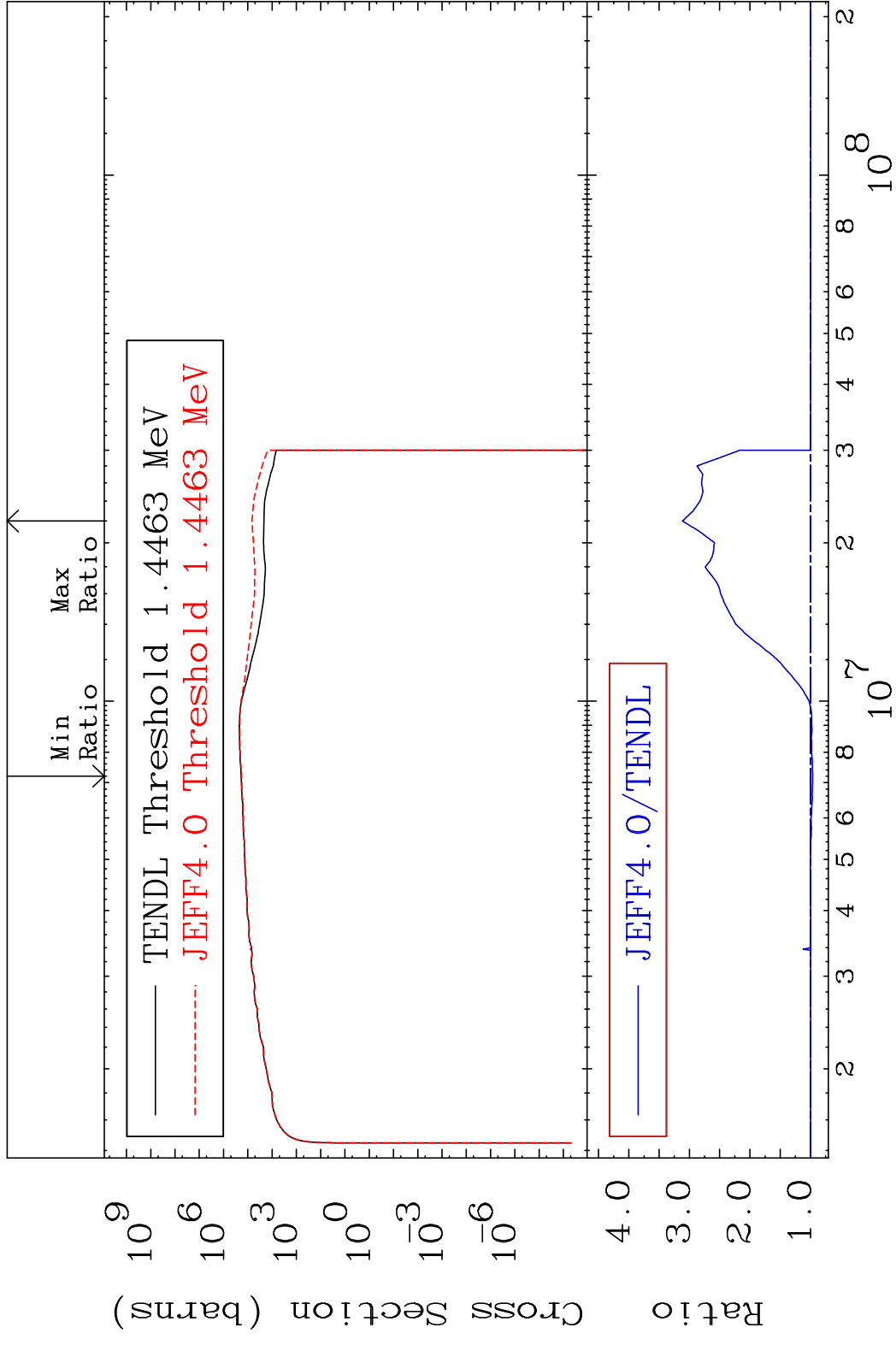




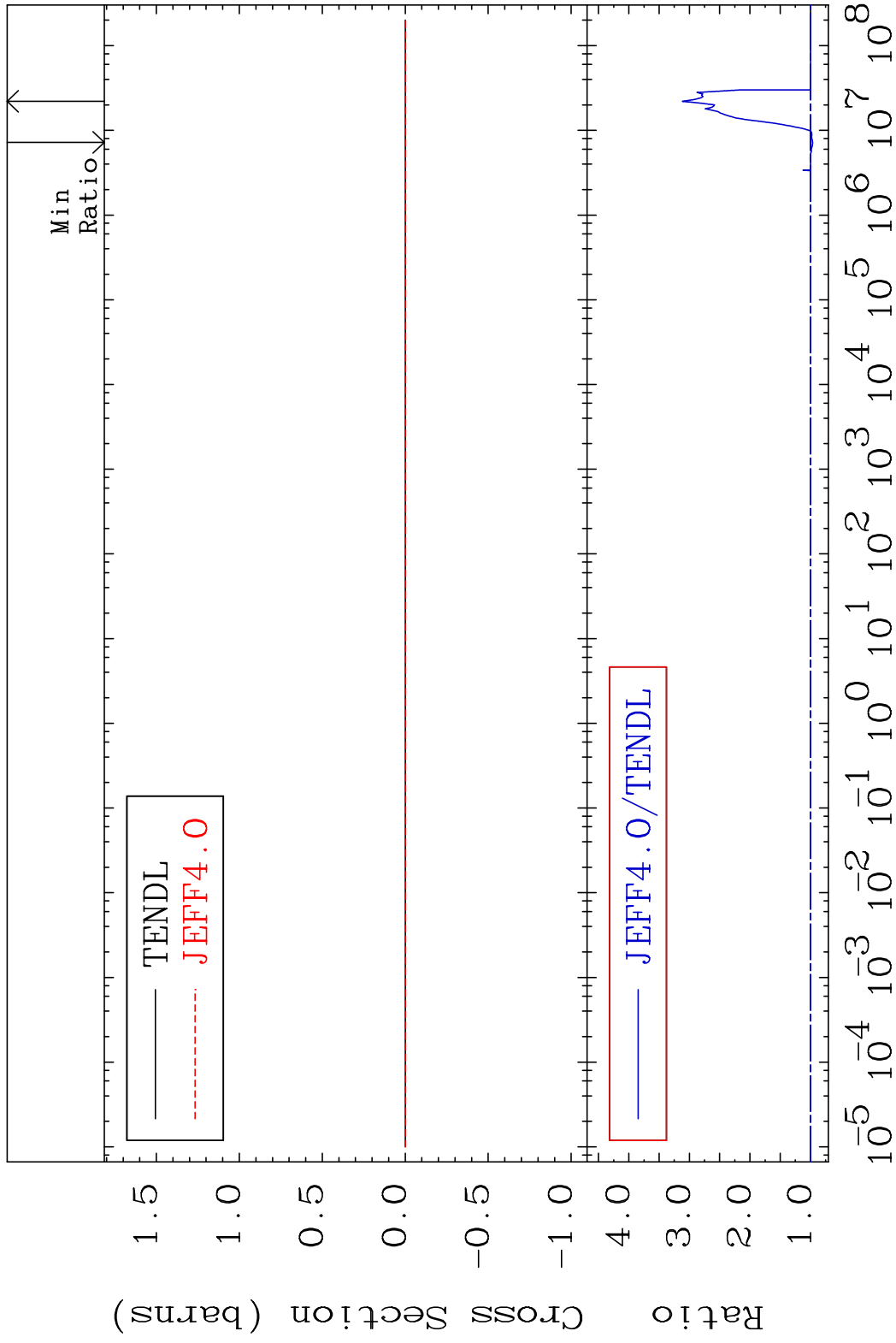
MAT 5649 Kerma non-elastic (all but mt2) 56-Ba-138  
 Cross Section -67.38 To 36.59 %



MAT 5649 Kerma inelastic (mt51-91) 56-Ba-138  
 Cross Section -3.424 To 211.6 %



MAT 5649 Kerma fission (mt18 or mt19-20-21-38) 56-Ba-138  
 Cross Section -3.424 To 211.6 %



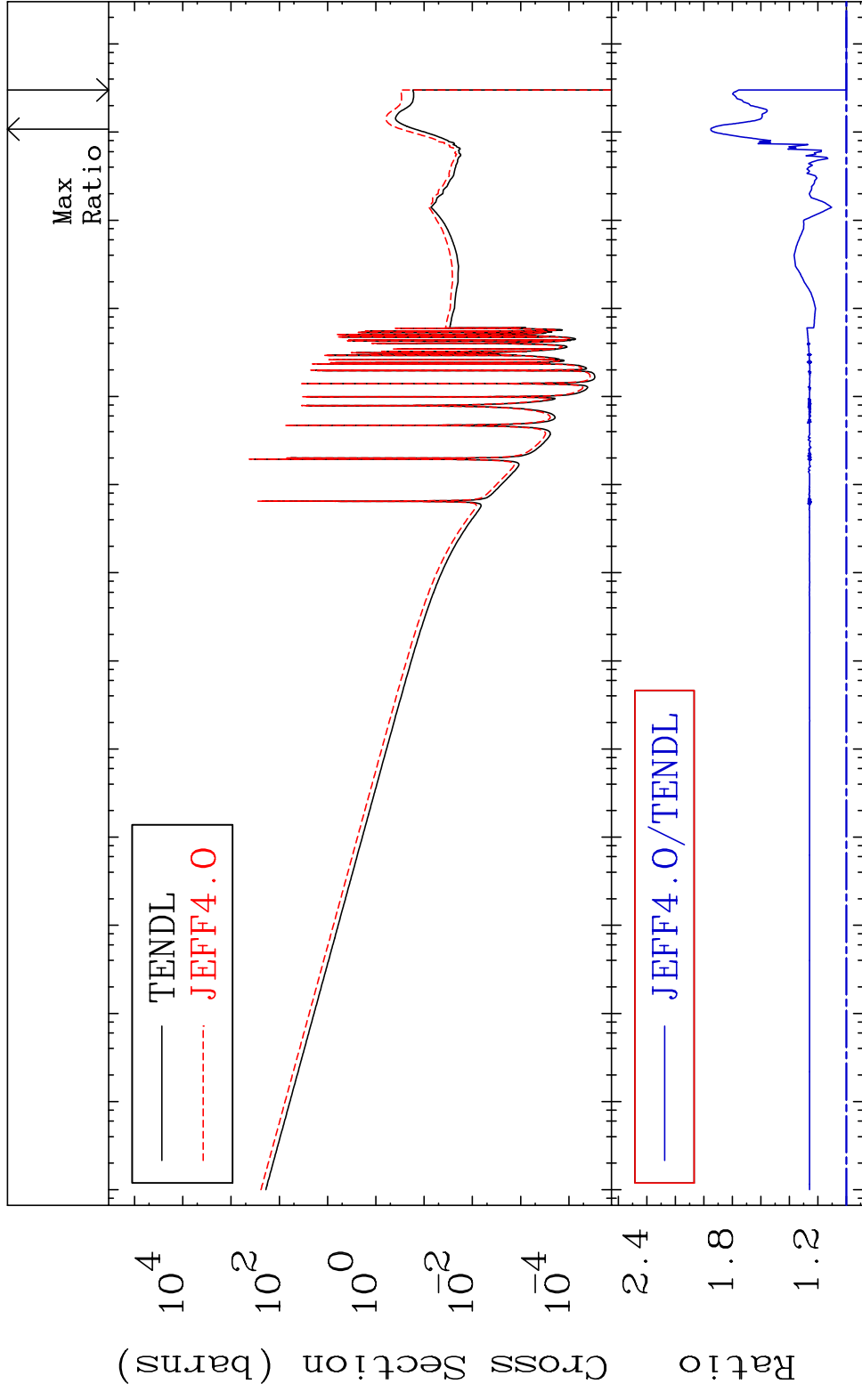
MAT 5649

Kerma capture (mt102)

56-Ba-138

Cross Section 0.000

To 95.16 %



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>

71

Incident Energy (eV)

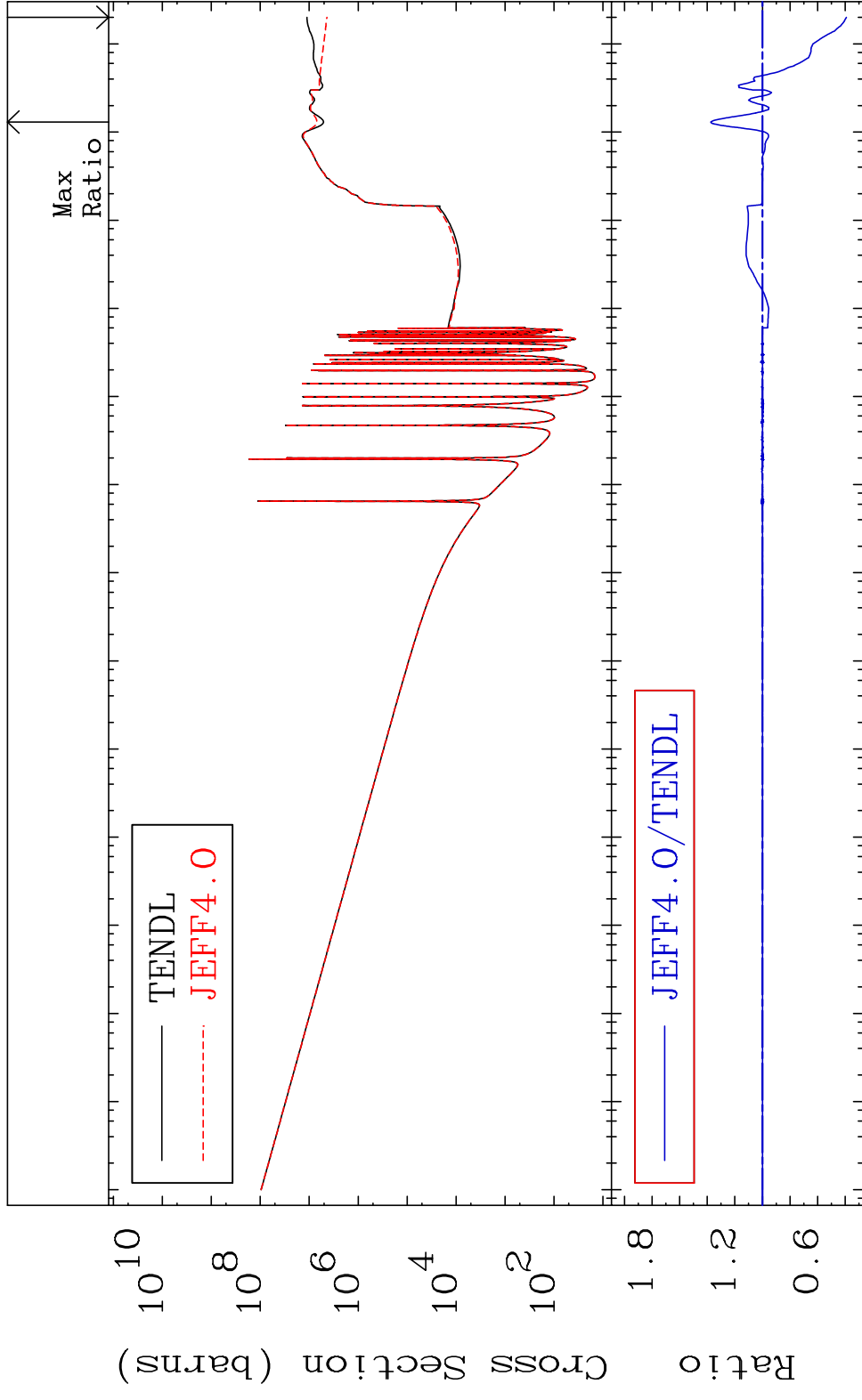
56-Ba-138

MAT 5649

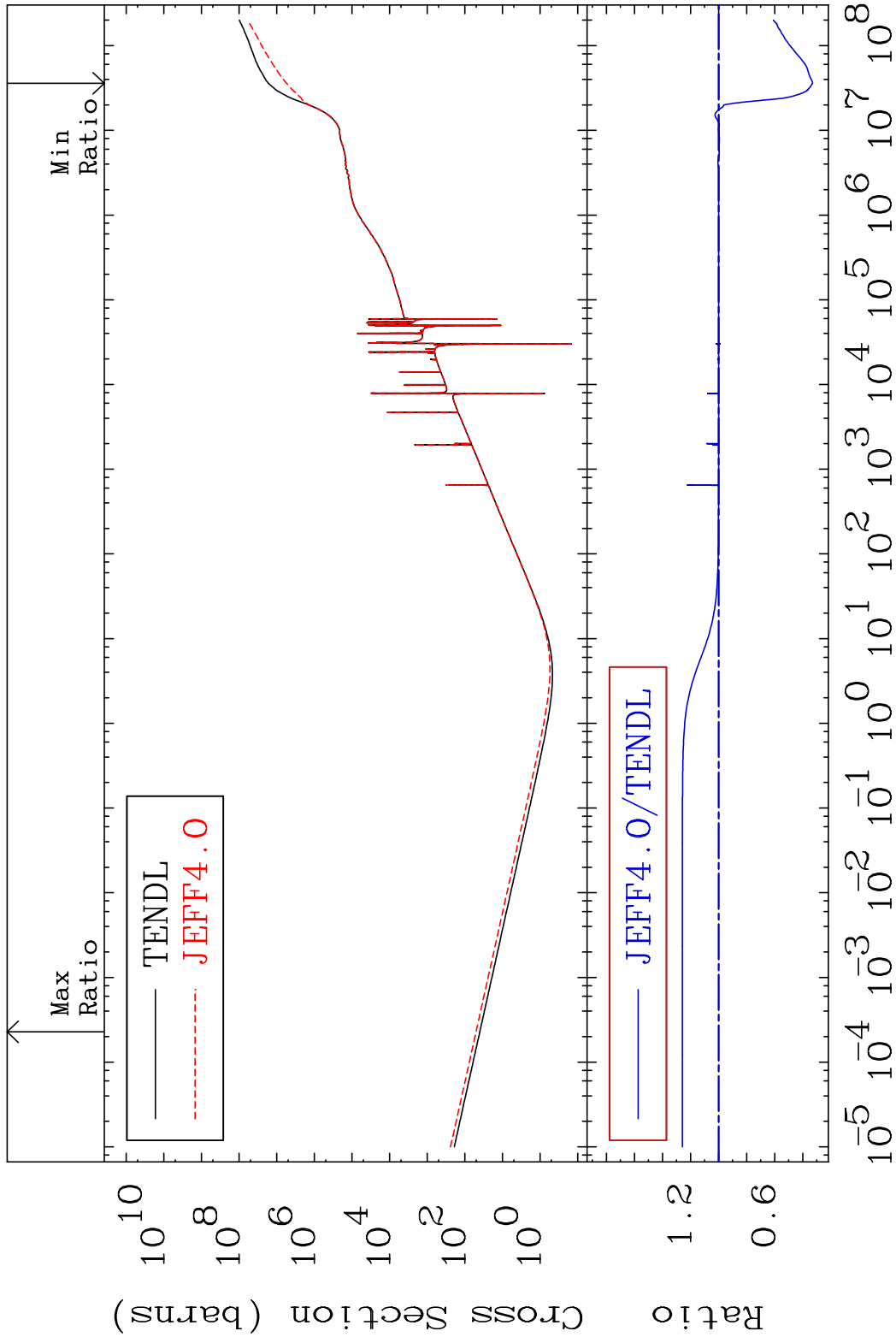
Total photon (eV-barns)

56-Ba-138

Cross Section -60.82 To 37.49 %



MAT 5649 Total kinematic kerma (high limit) 56-Ba-138  
 Cross Section -67.00 To 25.83 %

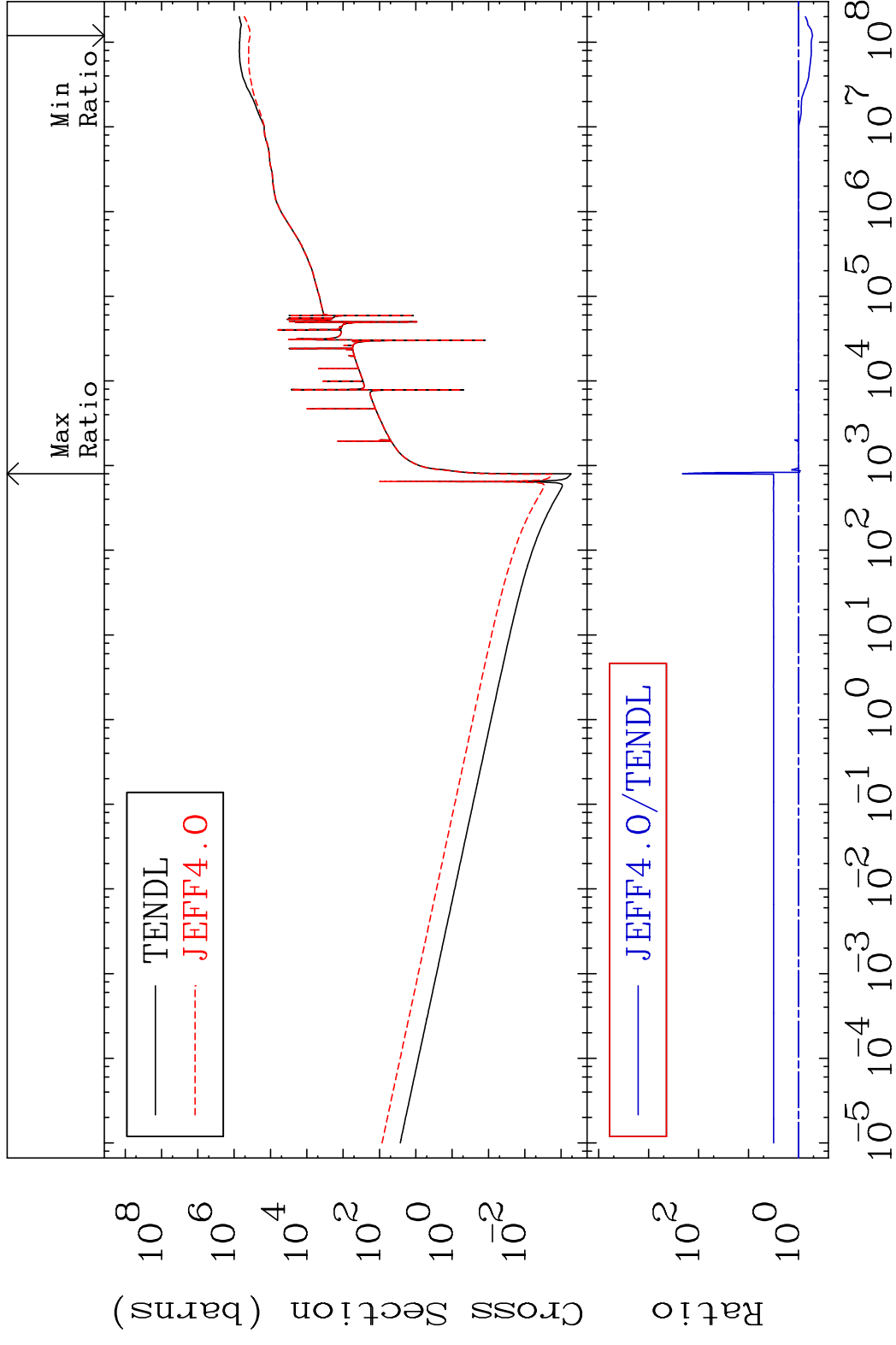


MAT 5649

Dpa total (eV-barns)

56-Ba-138

Cross Section -47.66 To 9999. %



74

Incident Energy (eV)

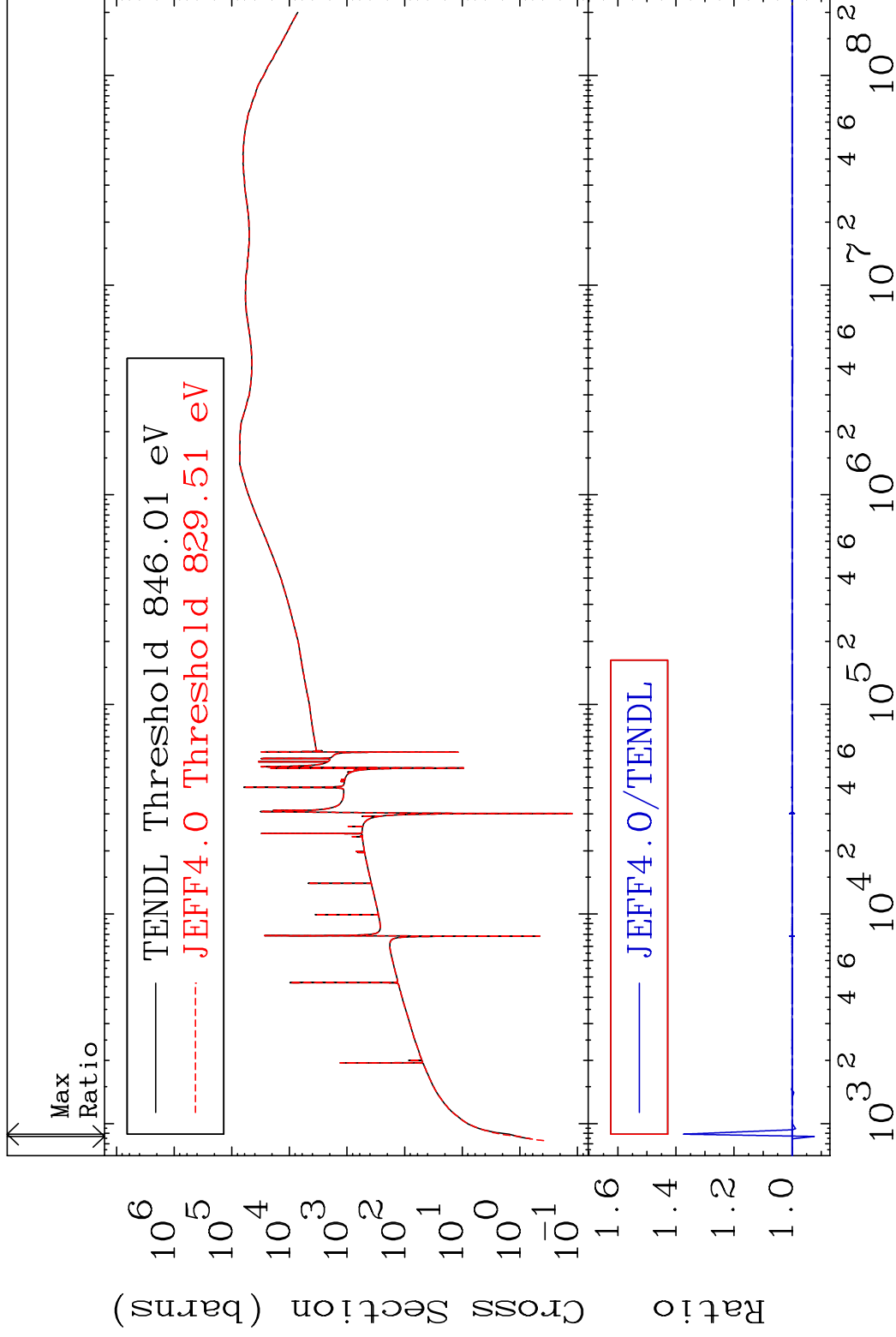
56-Ba-138

MAT 5649

Dpa elastic (mt2)

56-Ba-138

Cross Section -7.568 To 37.36 %



75

Incident Energy (eV)

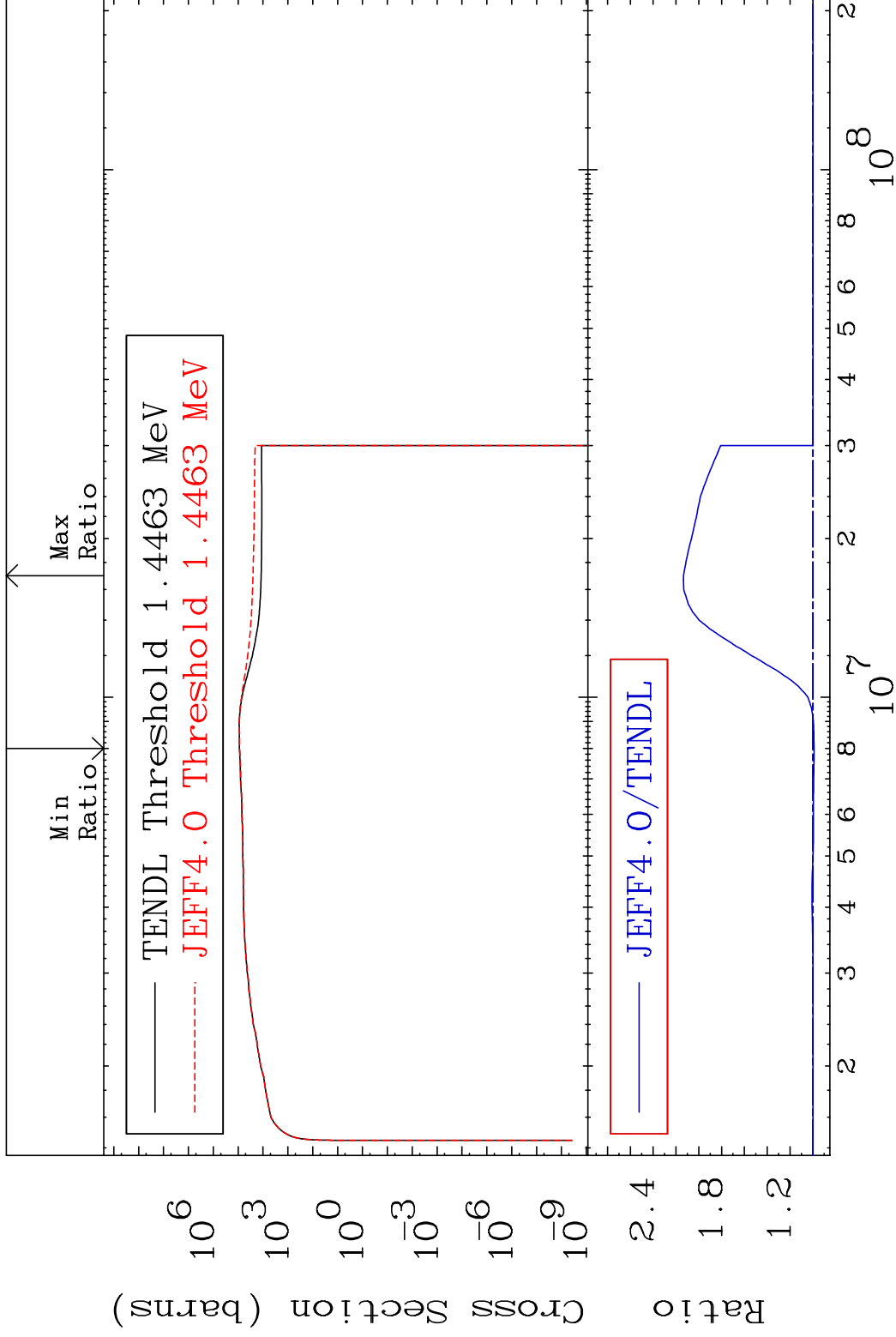
56-Ba-138

MAT 5649

Dpa inelastic (mt51-91)

56-Ba-138

Cross Section -1.038 To 113.4 %

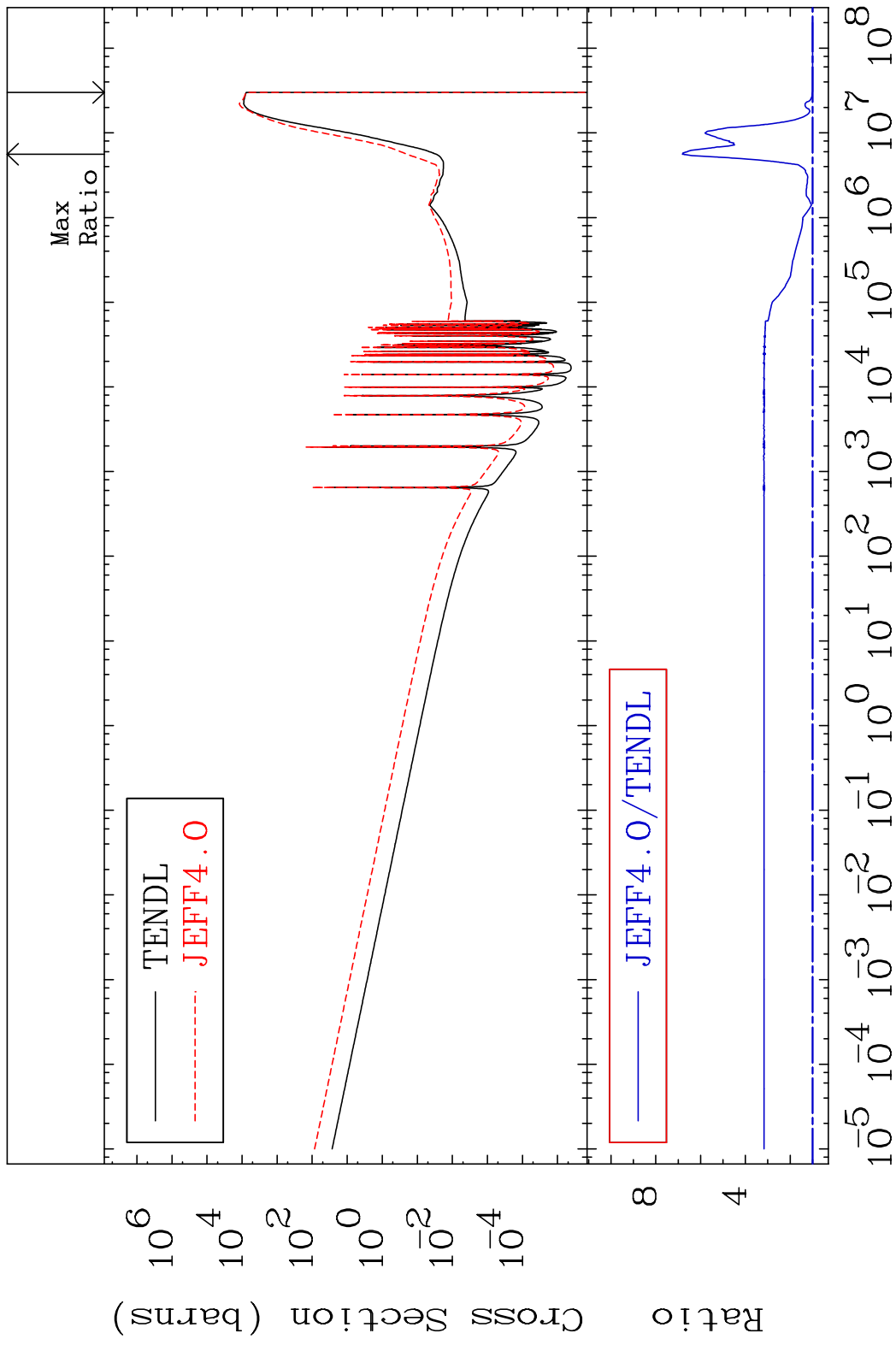


76

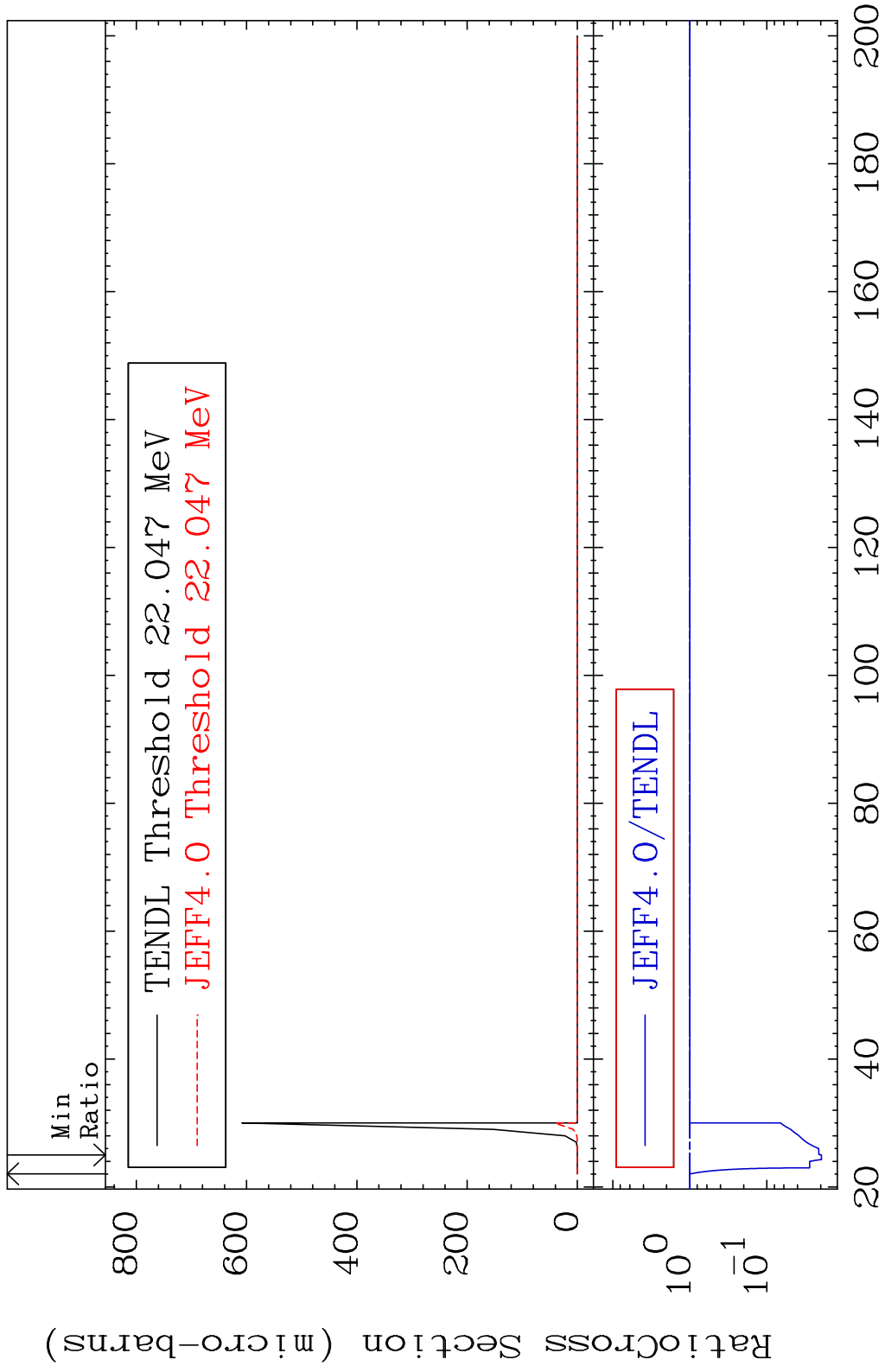
Incident Energy (eV)

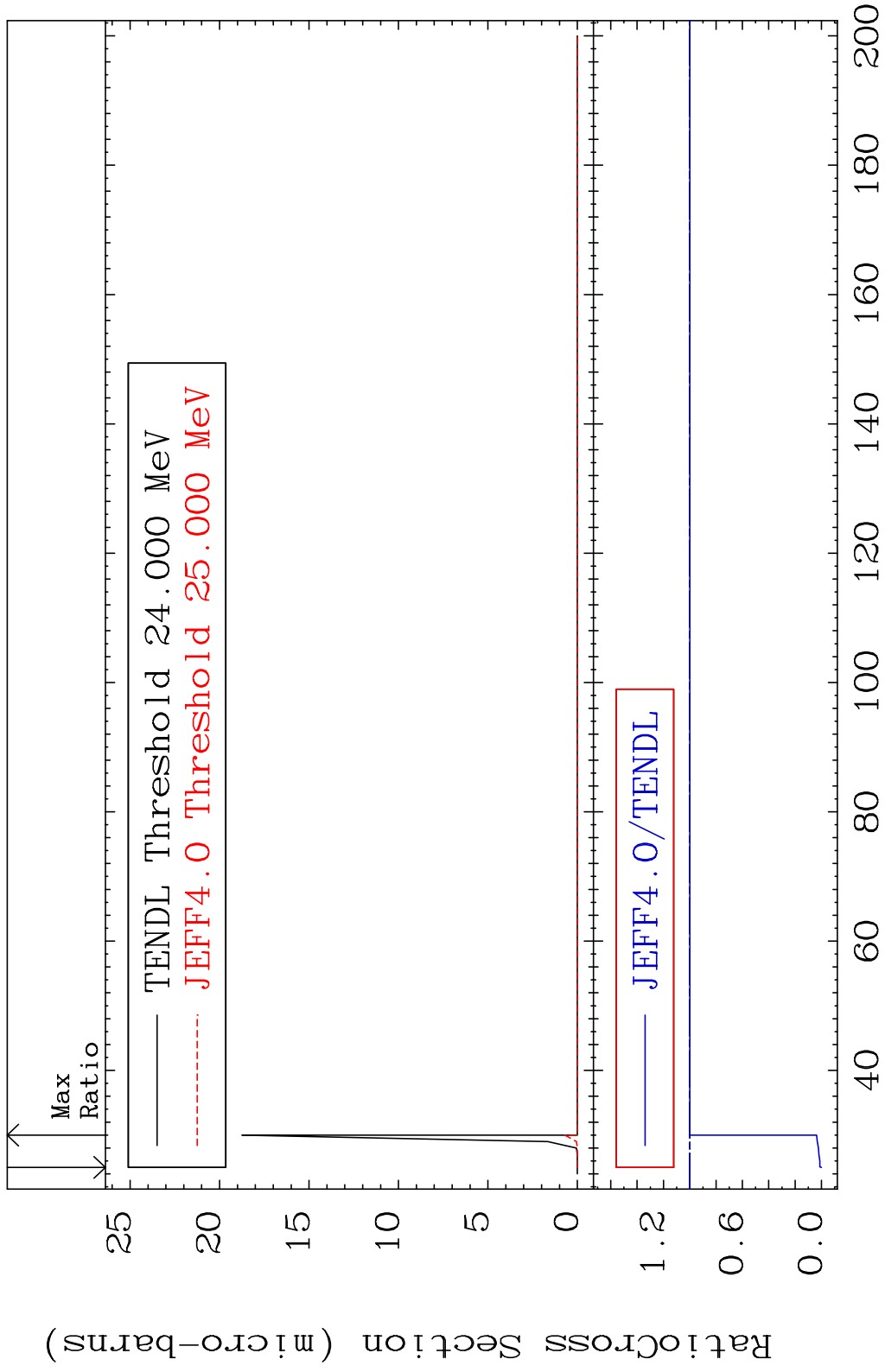
56-Ba-138

MAT 5649    Dpa disappearance (mt102 -120)    56-Ba-138  
 Cross Section    0.000    To 581.4 %

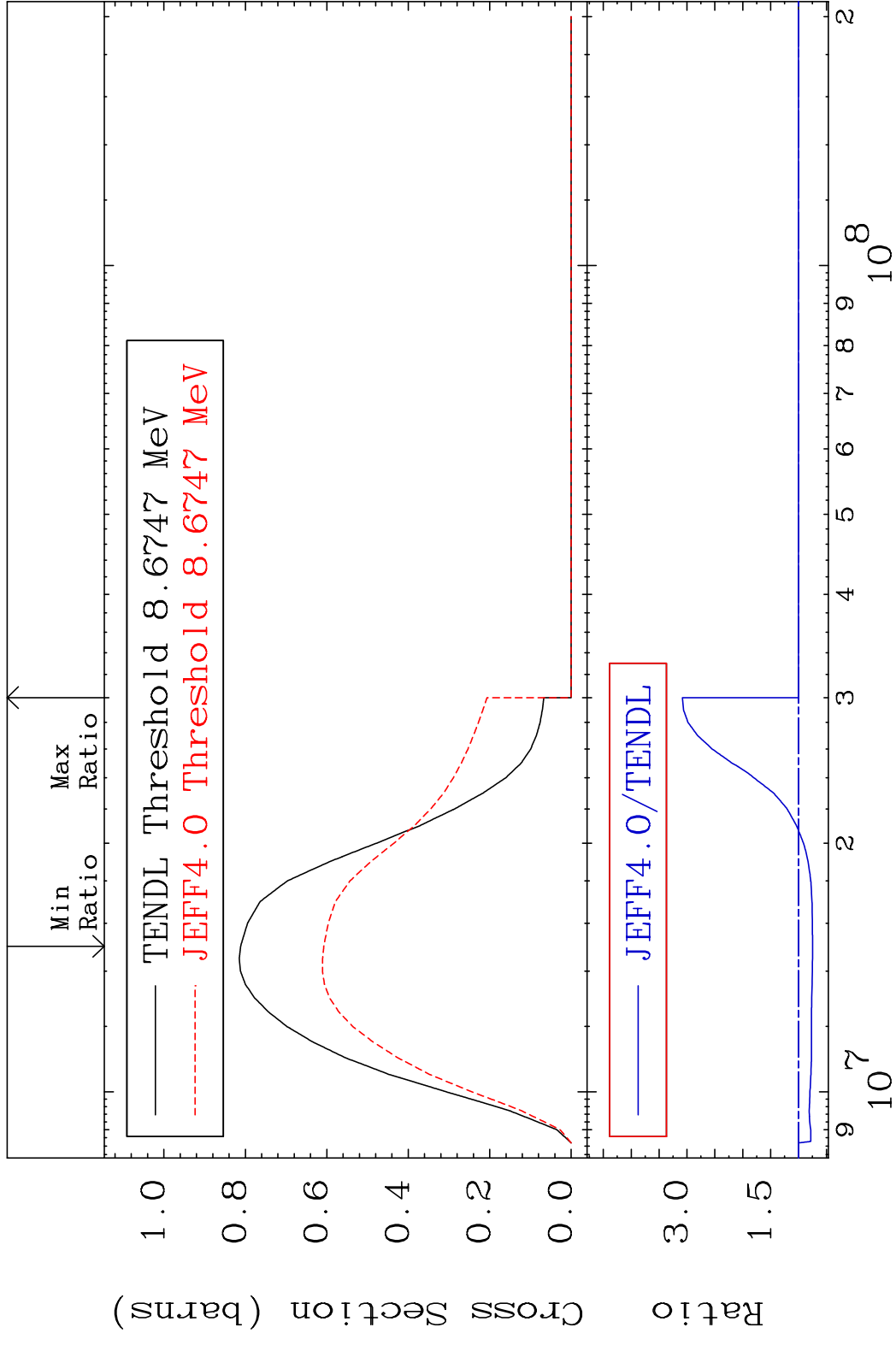


MAT 5649 (n,2n) d:55-Cs-135g 56-Ba-138  
 Radionuclide Production Cross Section 98e04id10 0.000 %



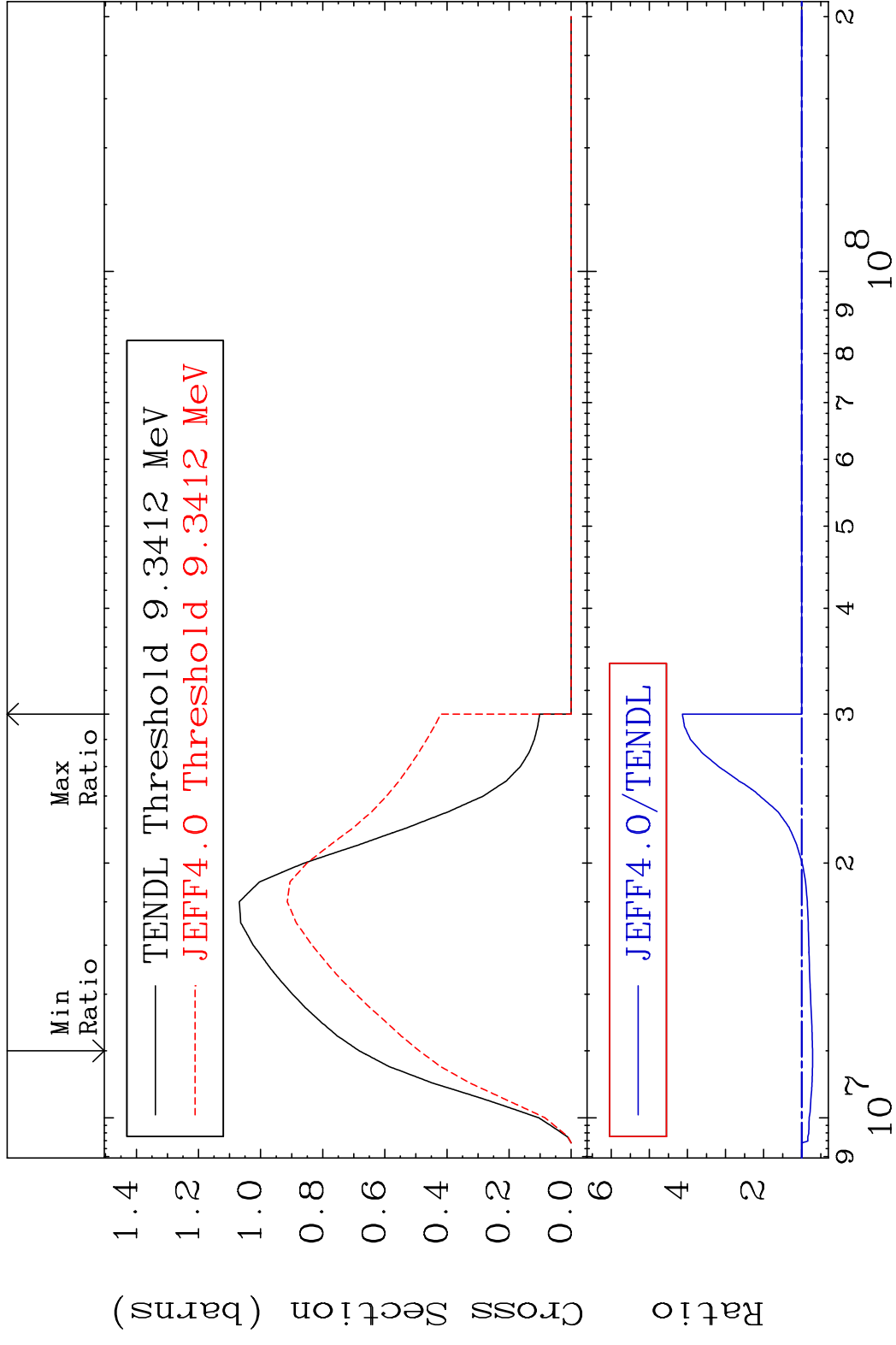


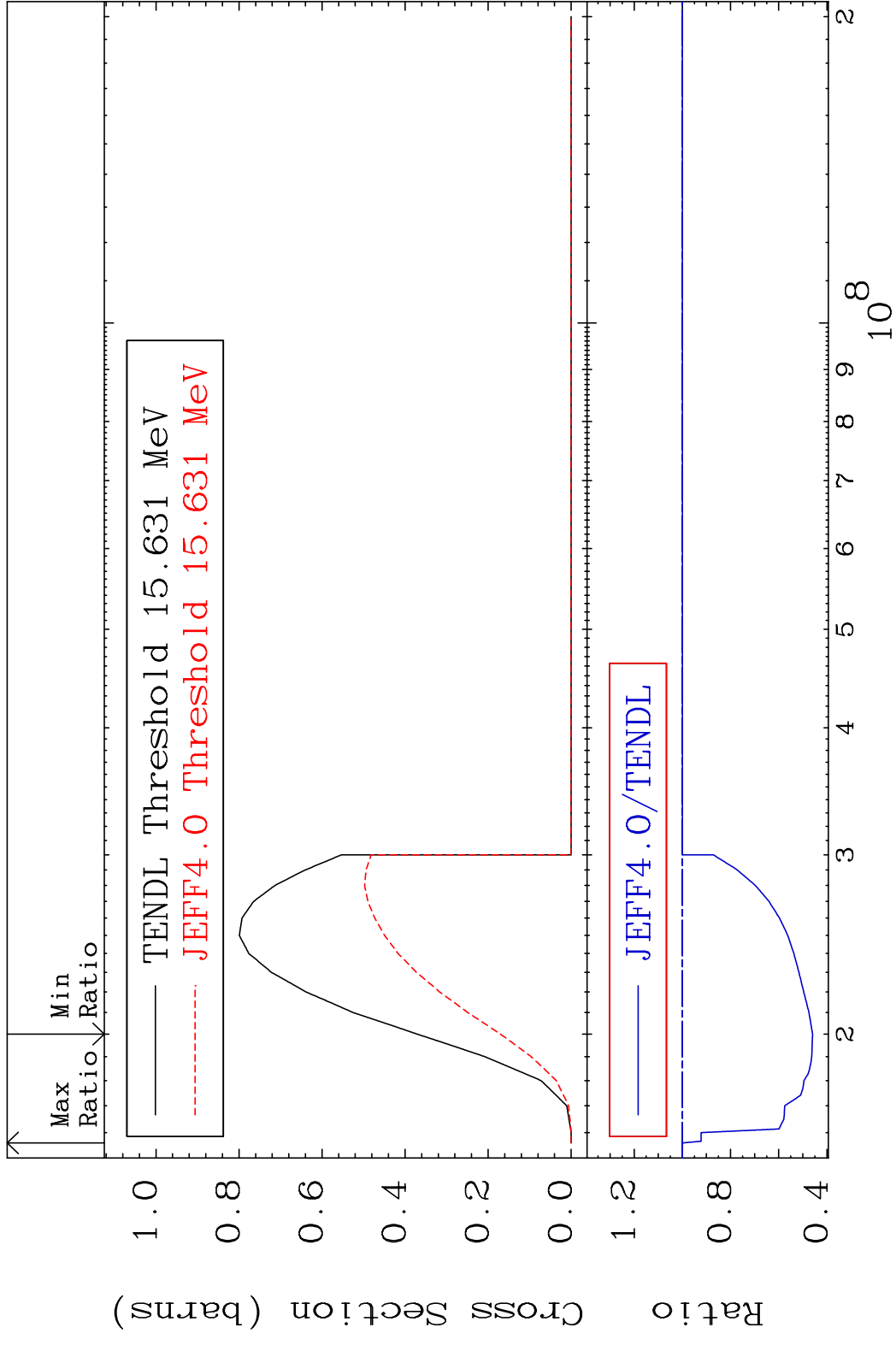
MAT 5649 (n,2n):56-Ba-137g 56-Ba-138  
 Radionuclide Production Cross Section 208.3 %



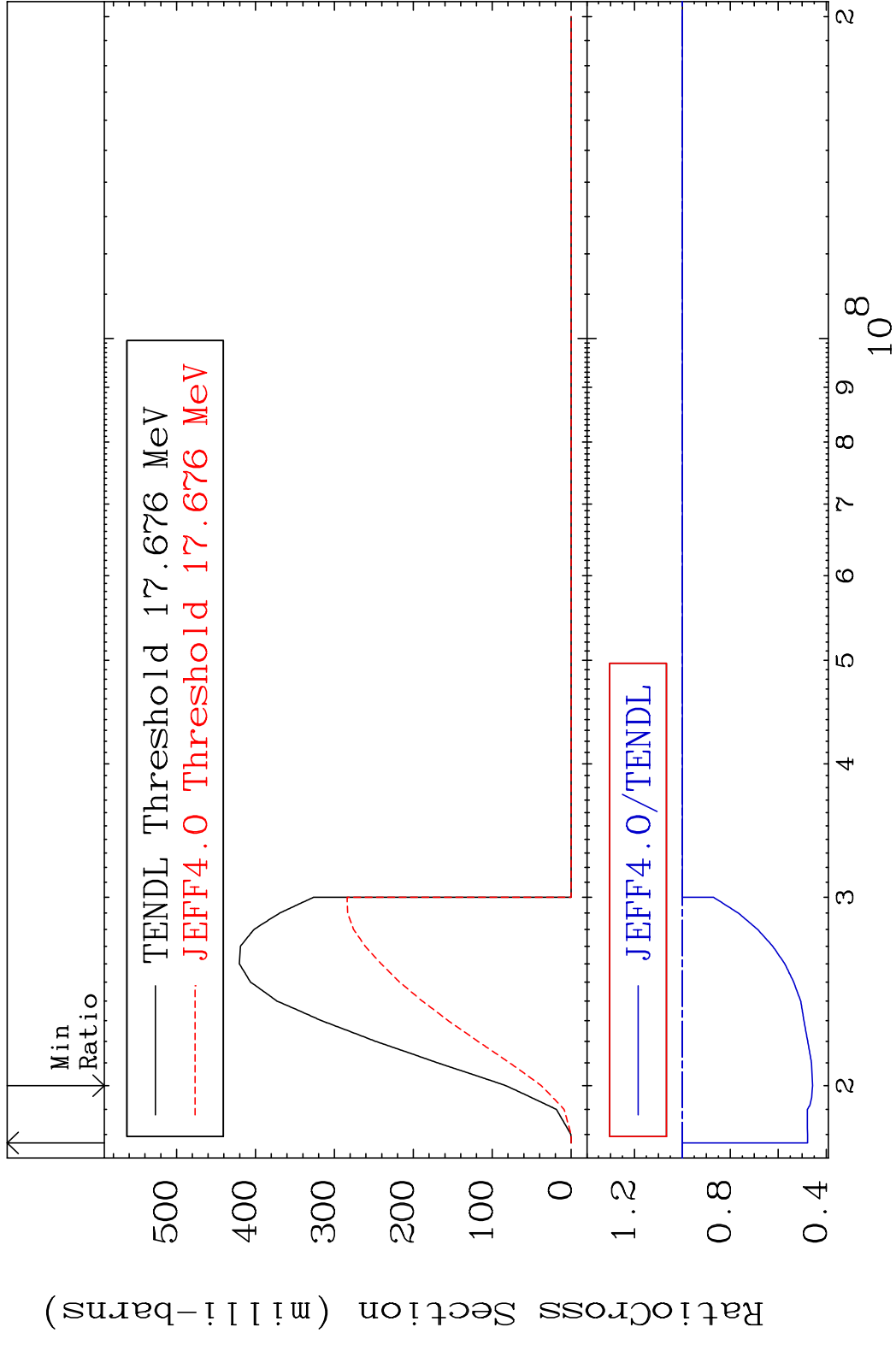
80 56-Ba-138

MAT 5649 (n, 2n):56-Ba-137m2 56-Ba-138  
 Radionuclide Production Cross Section 38.321 dth 313.5 %

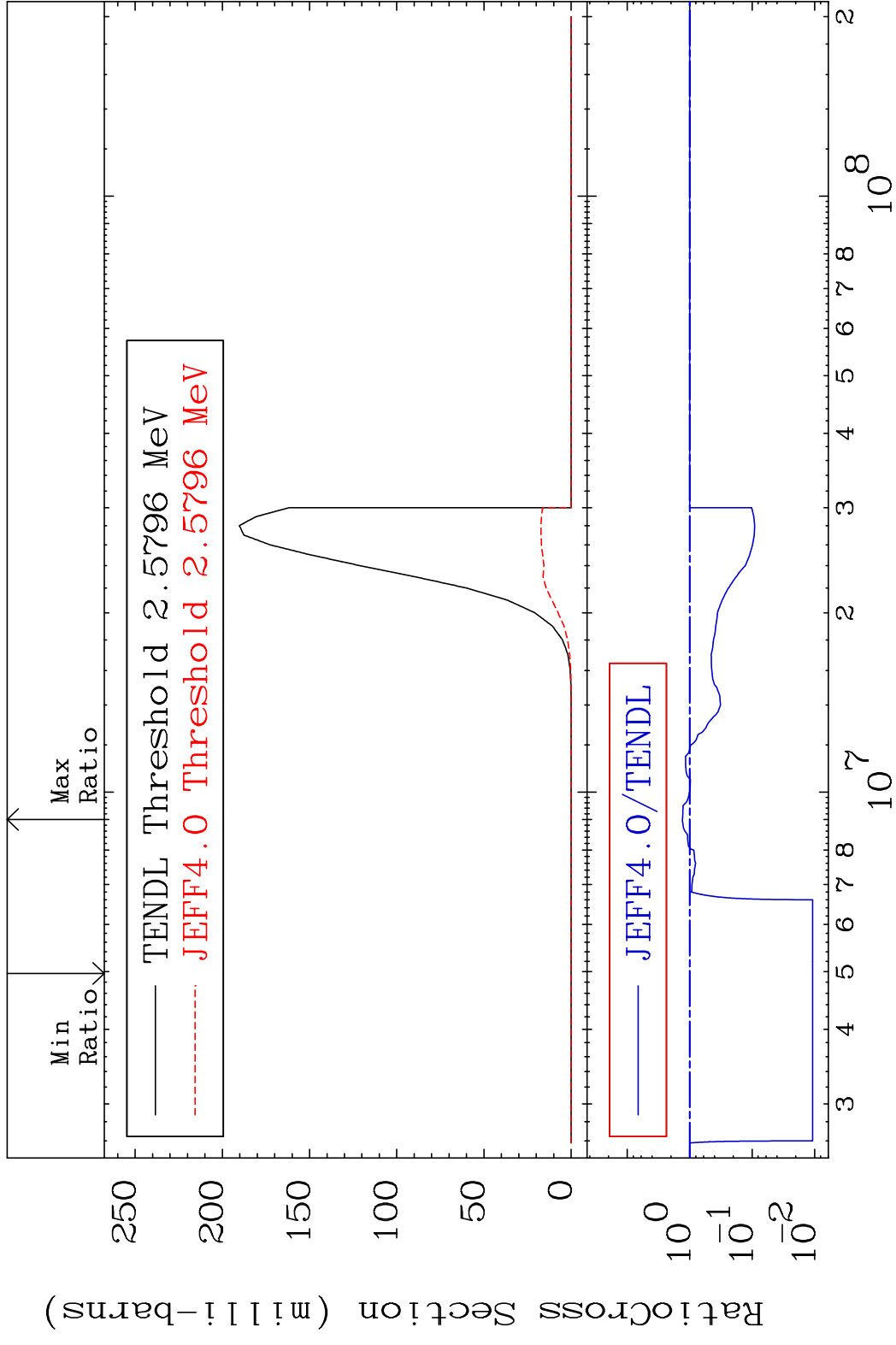




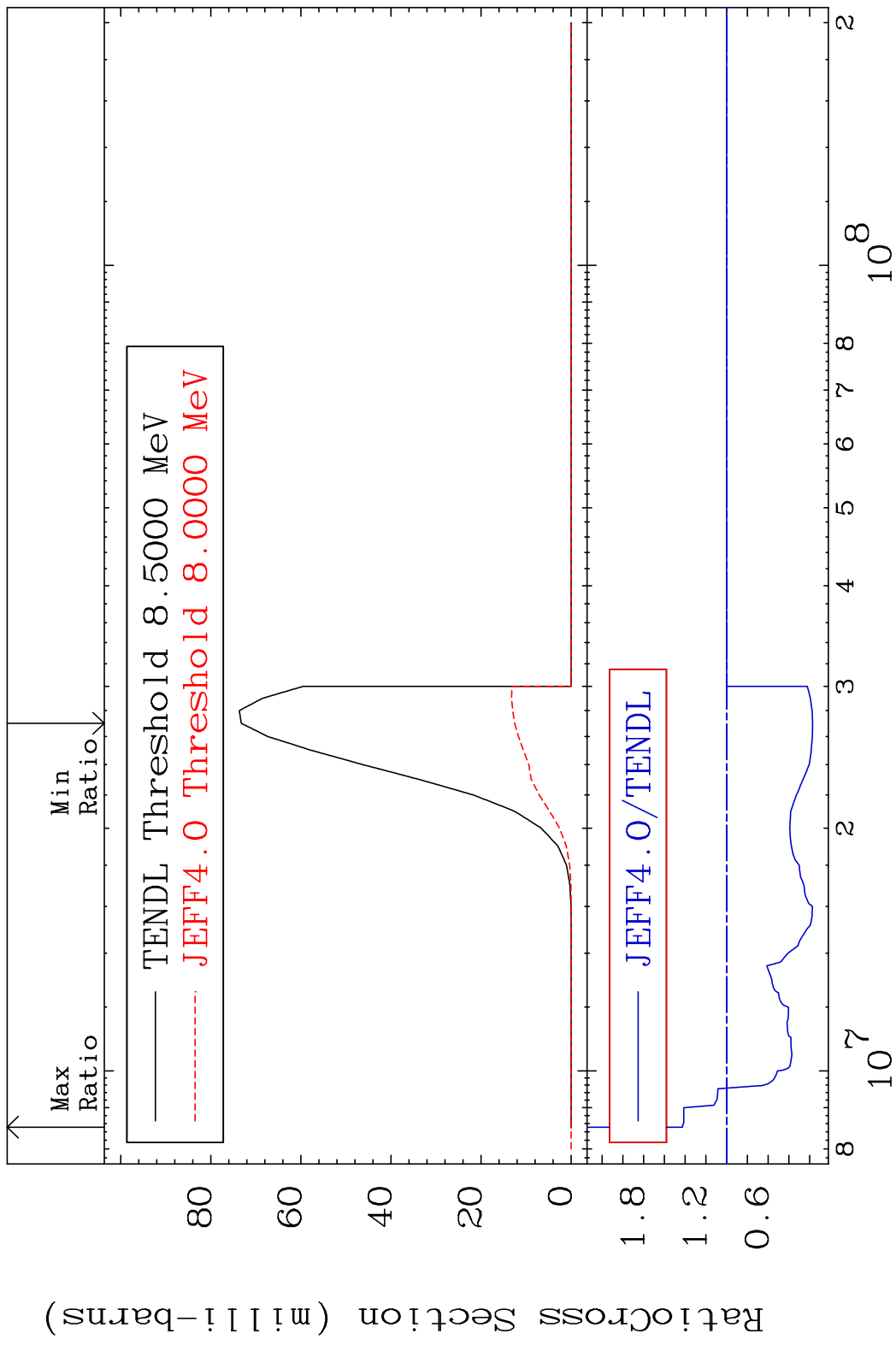
MAT 5649 (n, 3n):56-Ba-136m5 56-Ba-138  
 Radionuclide Production Cross Section 5649 0.000 %

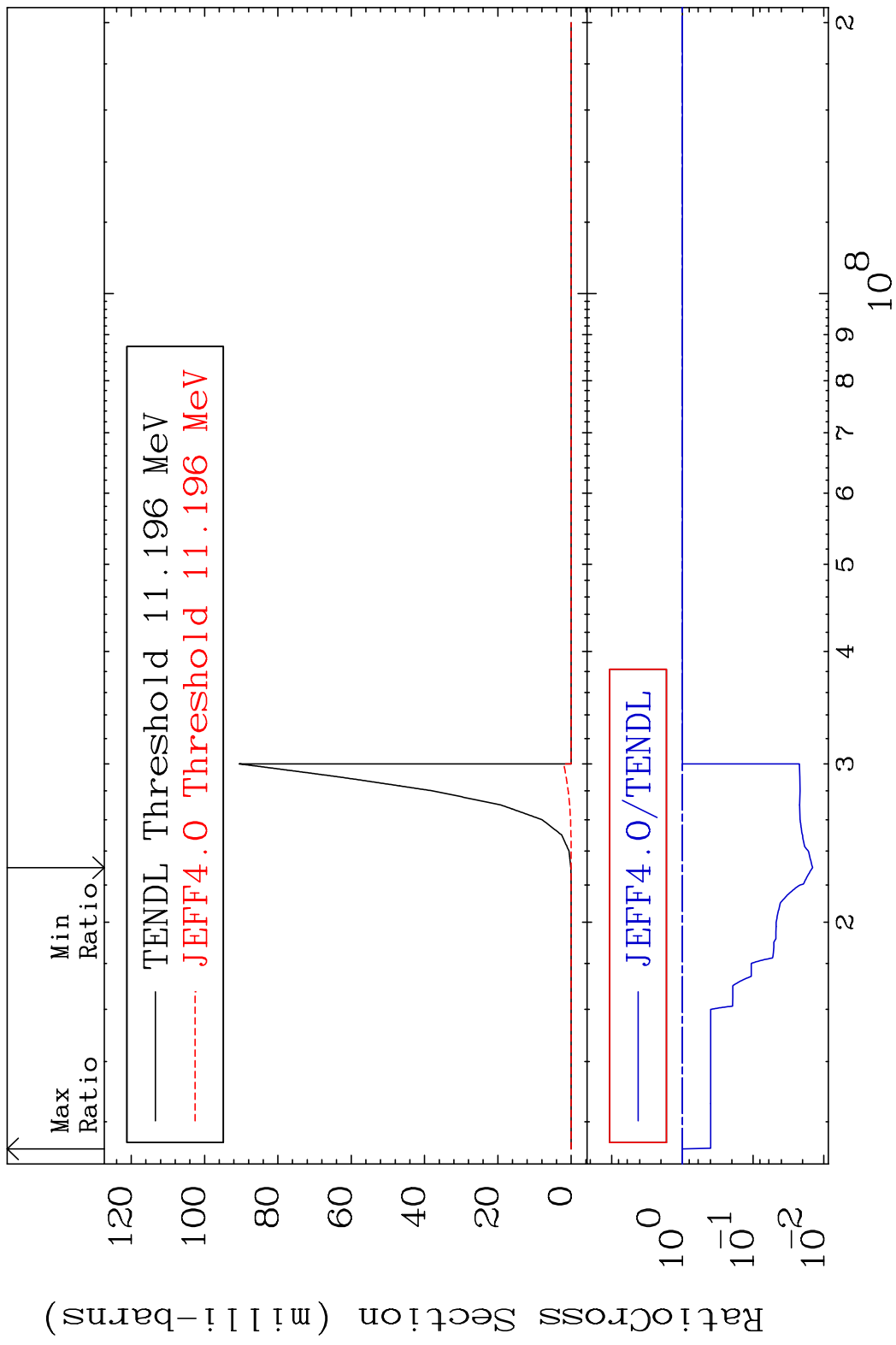


MAT 5649 (n, n')  $\alpha$ :54-Xe-134g 56-Ba-138  
 Radionuclide Production Cross Section 31.19 %

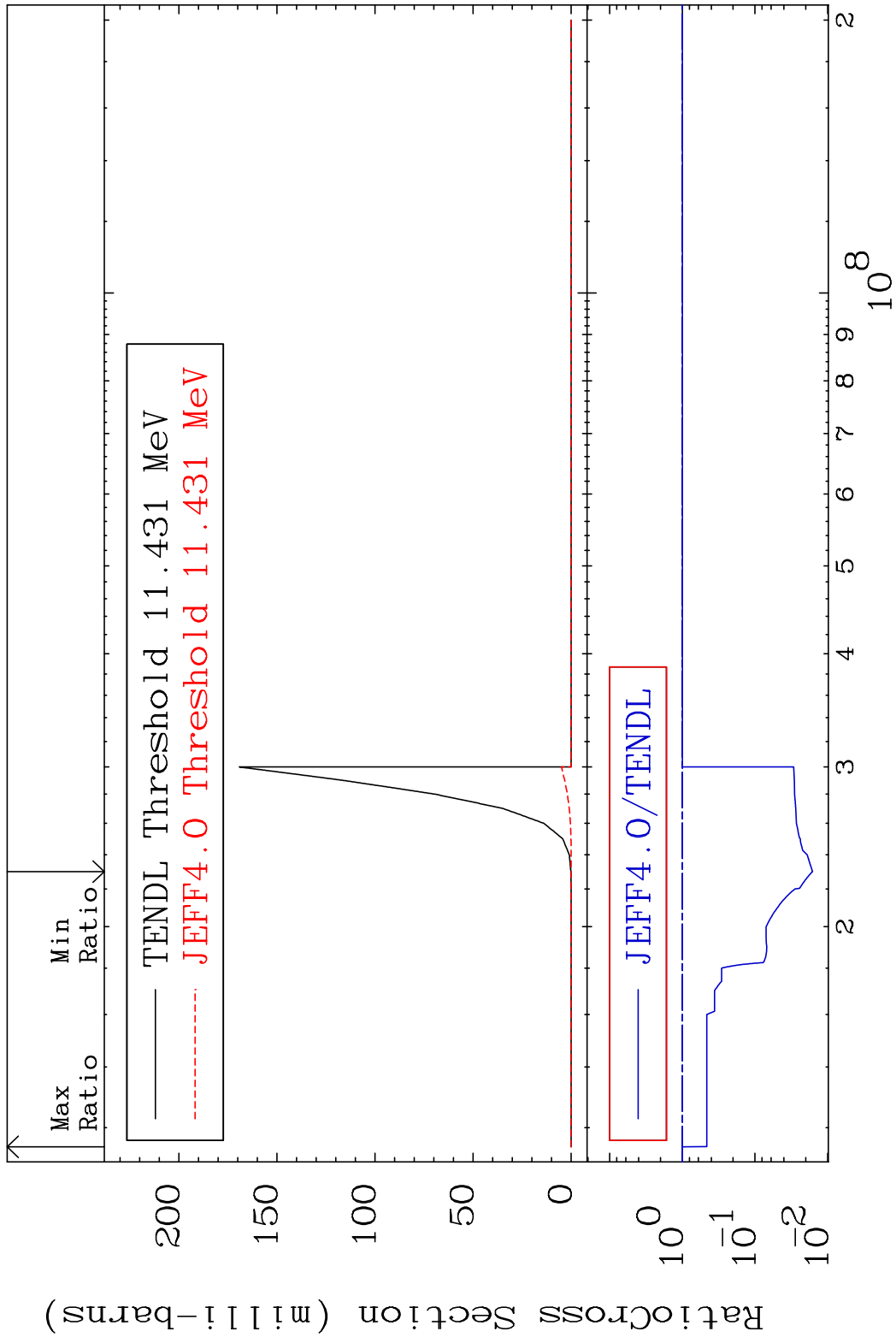


MAT 5649 (n, n')  $\alpha$ :54-Xe-134m7 56-Ba-138  
 Radionuclide Production Cross Section Efficiency 42.58 %

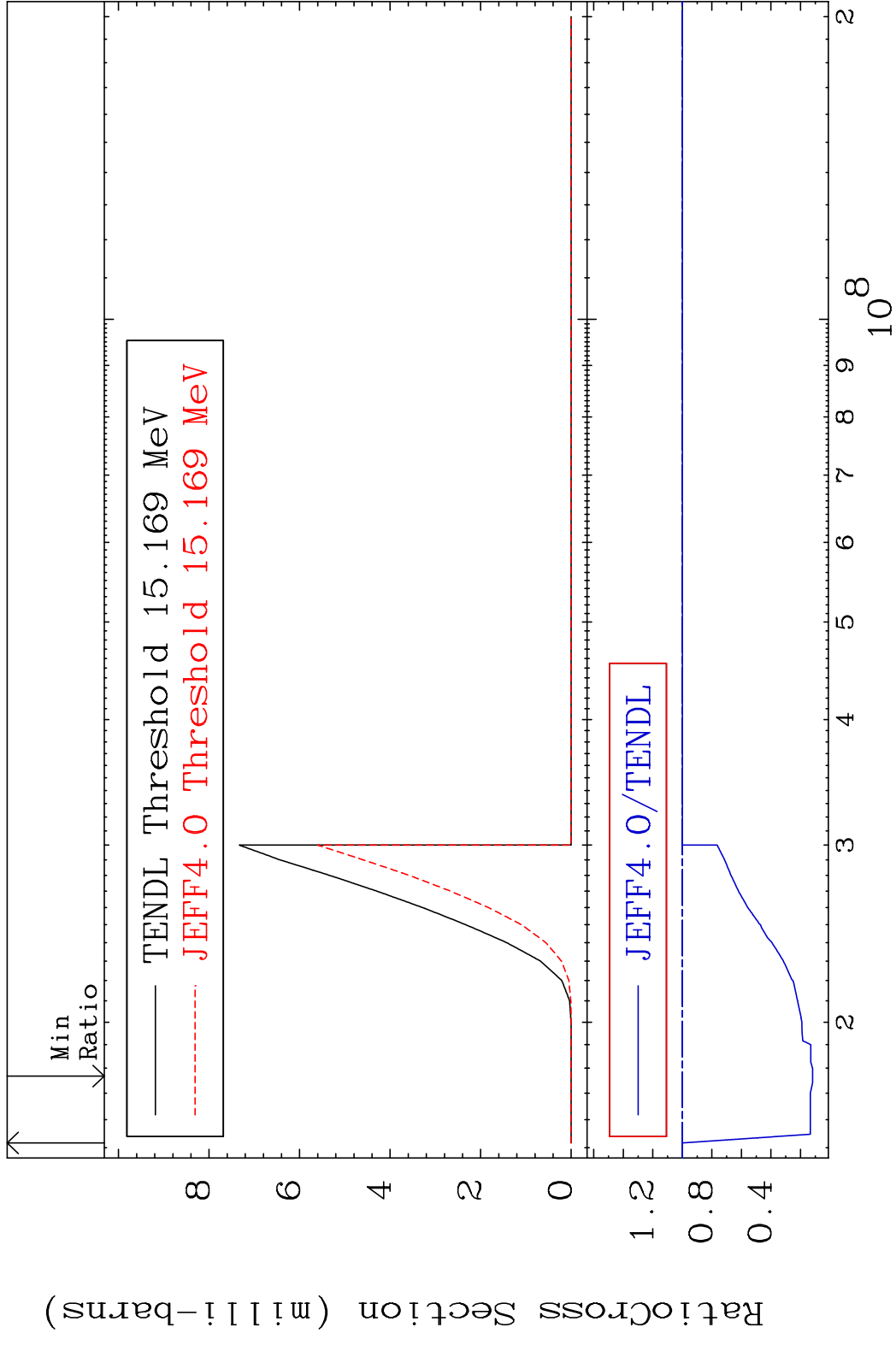




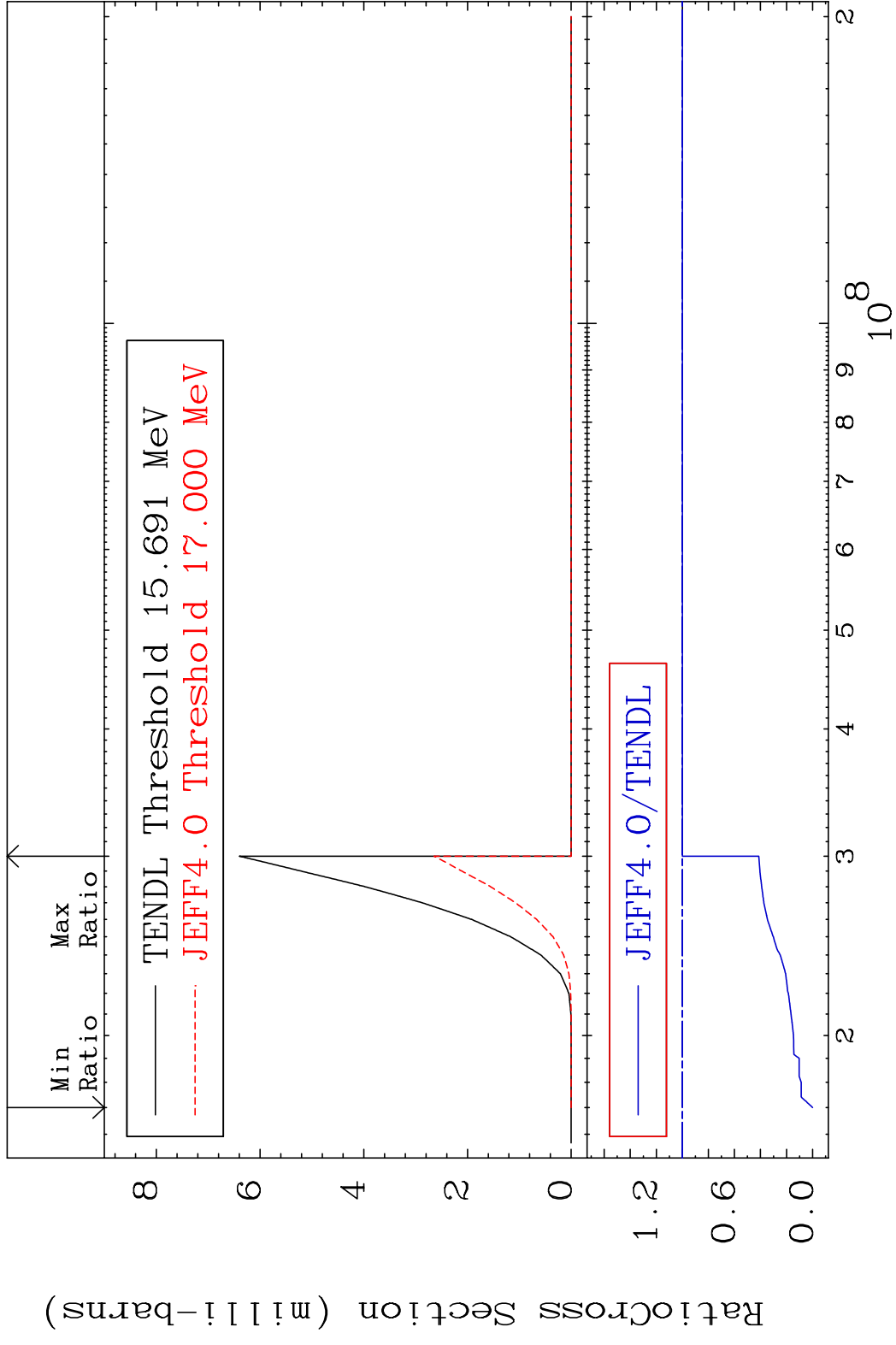
MAT 5649 (n,2n)  $\alpha$ :54-Xe-133m1 56-Ba-138  
 Radionuclide Production Cross Section 98e39idto 0.000 %



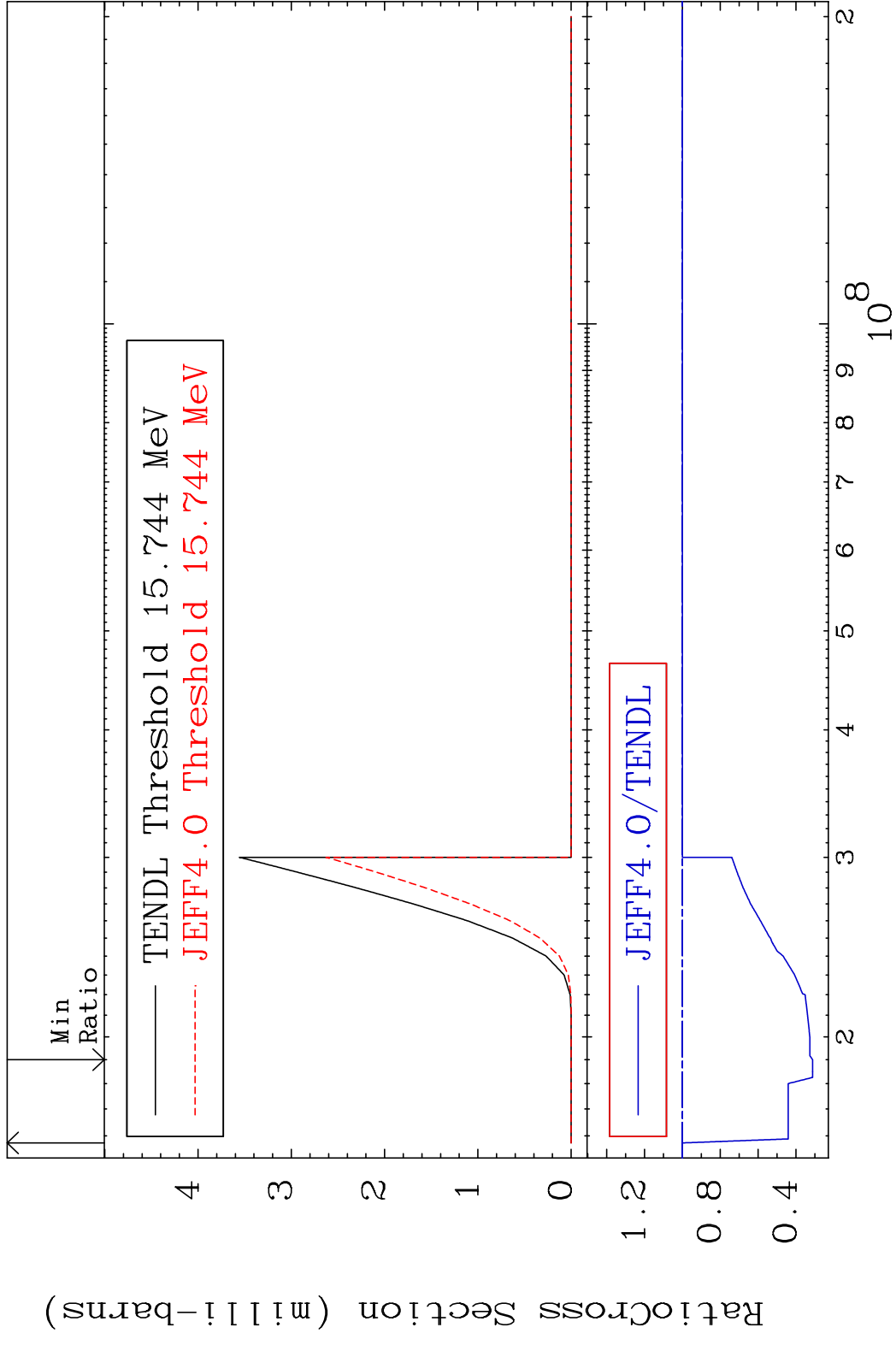
MAT 5649 (n, n') d:55-Cs-136g 56-Ba-138  
 Radionuclide Production Cross Section Ratio 0.000 %



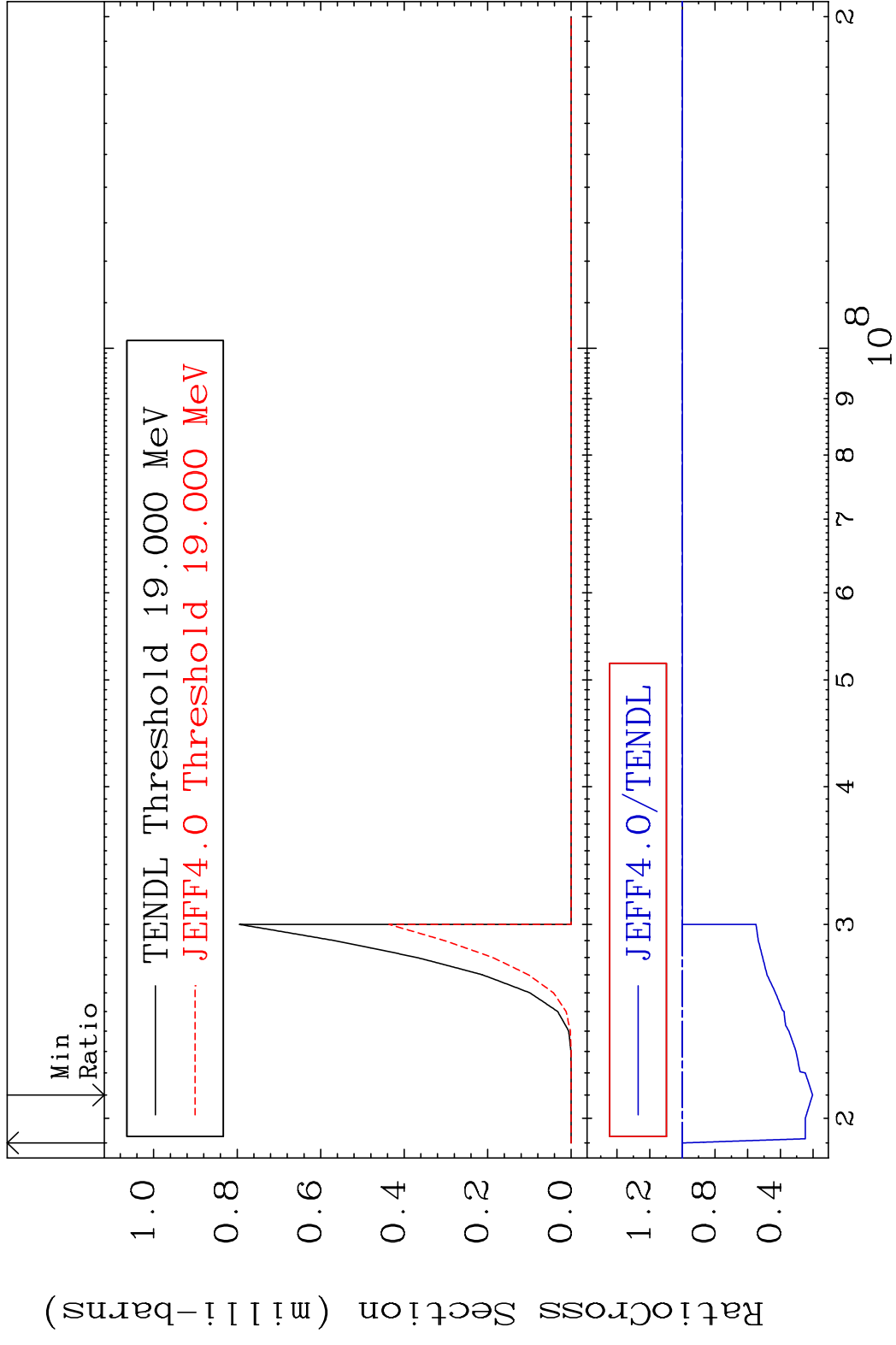
MAT 5649 (n, n') d:55-Cs-136m2 56-Ba-138  
 Radionuclide Production Cross Section 180.0 mb 0.000 %

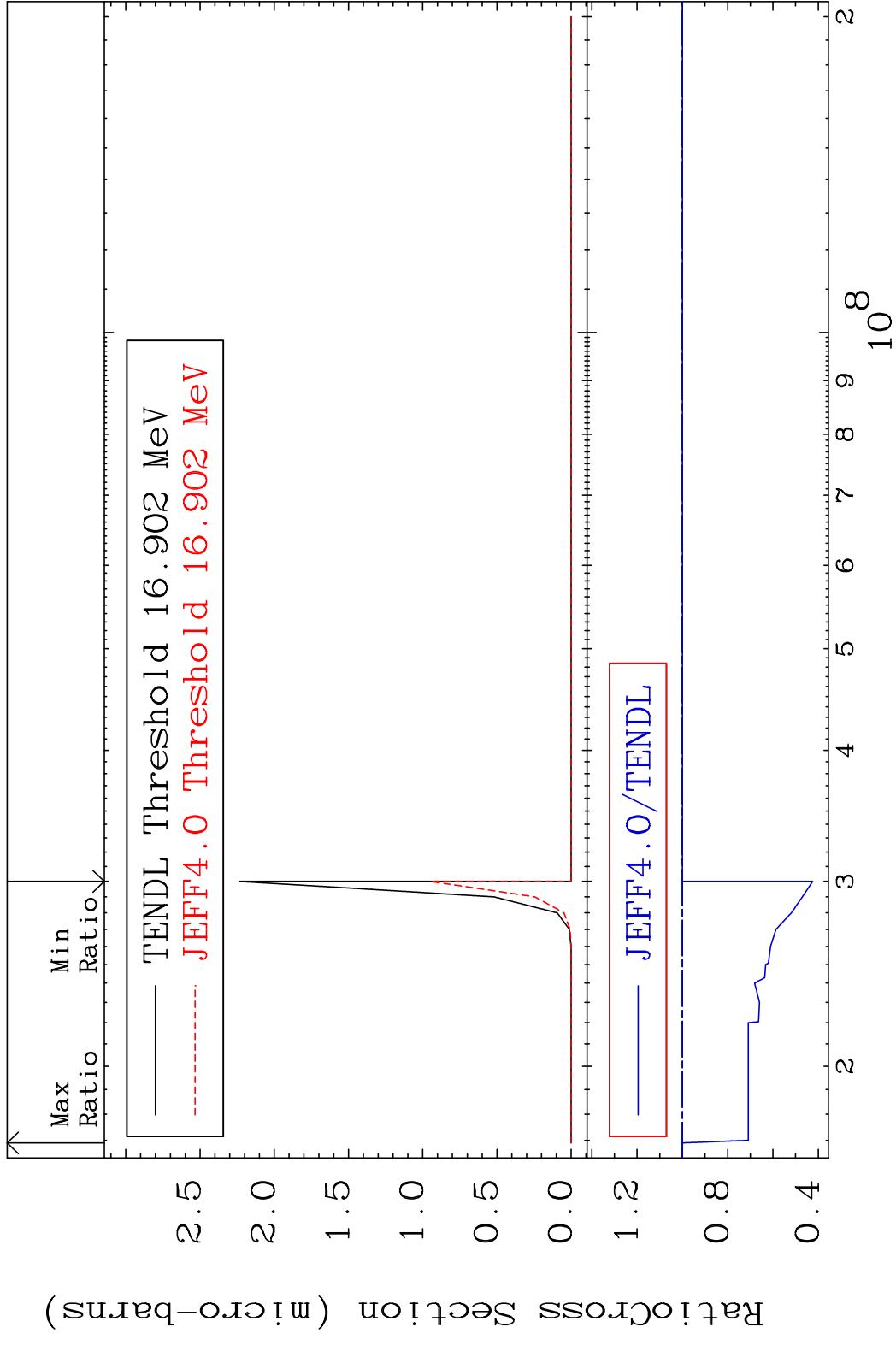


MAT 5649 (n, n') t:55-Cs-135g 56-Ba-138  
 Radionuclide Production Cross Section 68e-01 b 0.000 %

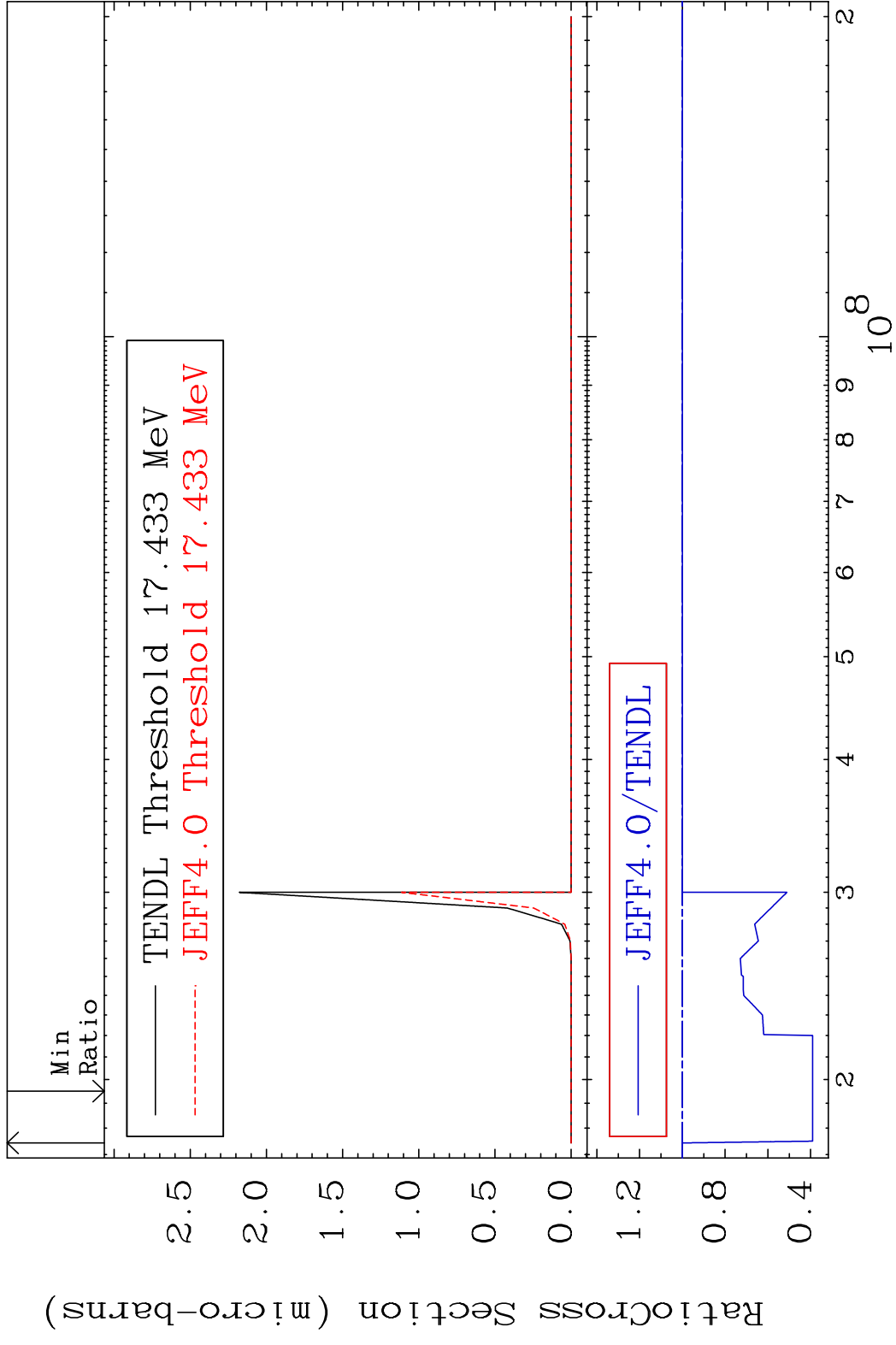


MAT 5649 (n, n') t:55-Cs-135m10 56-Ba-138  
 Radionuclide Production Cross Section 78.701 dth 0.000 %

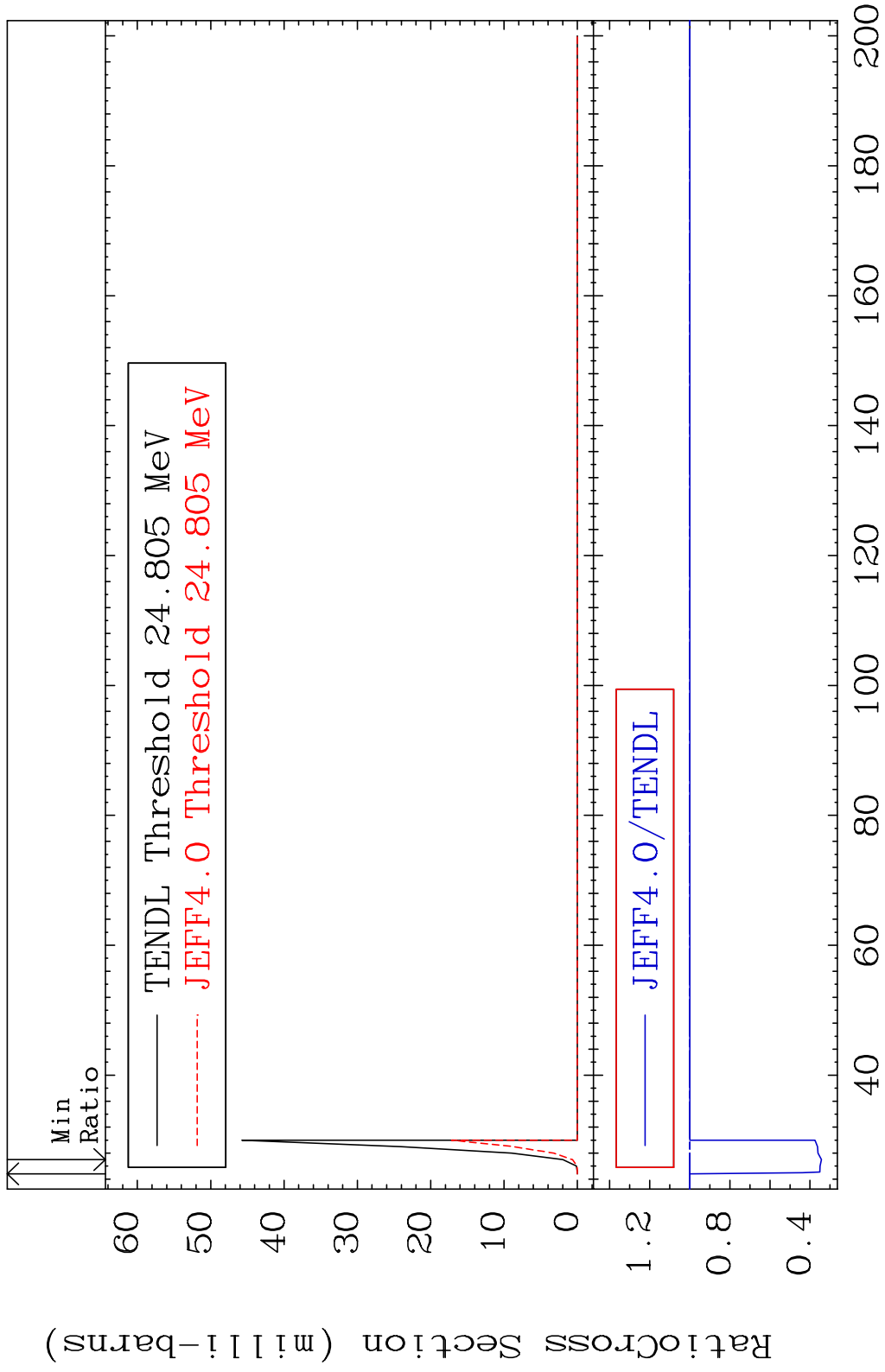


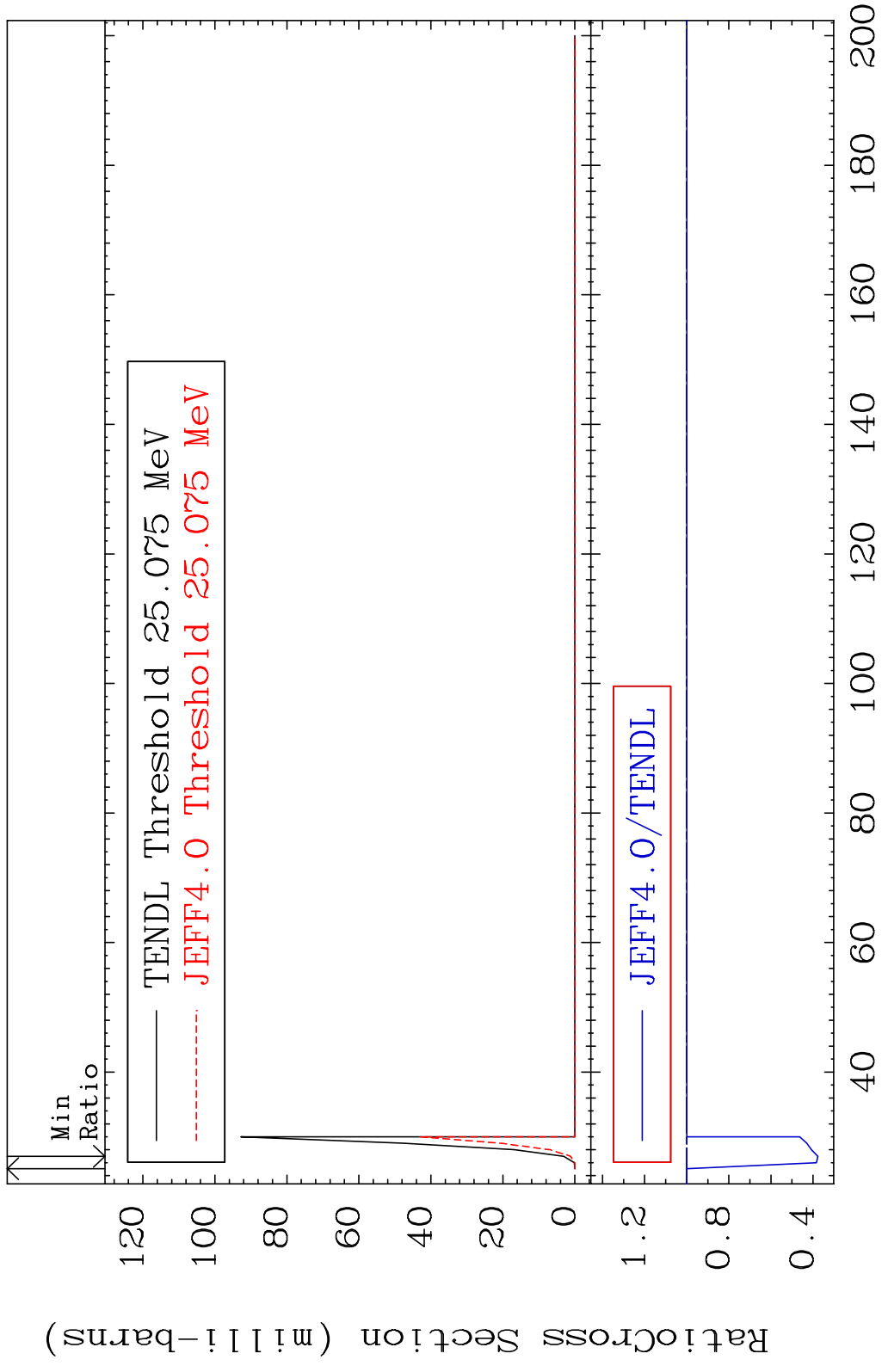


MAT 5649 (n, n') He-3:54-Xe-135m2 56-Ba-138  
 Radionuclide Production Cross Section to 0.000 %

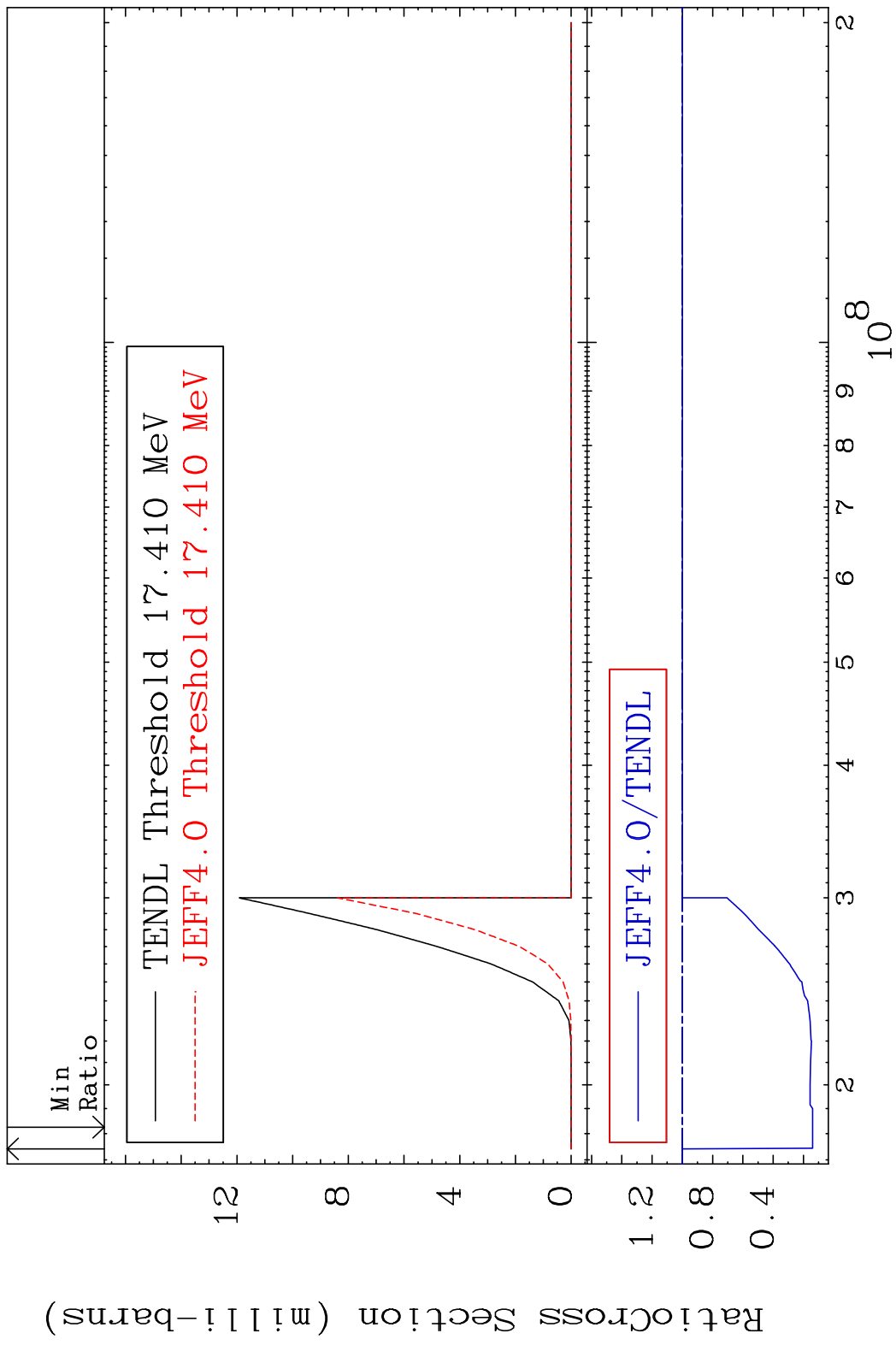


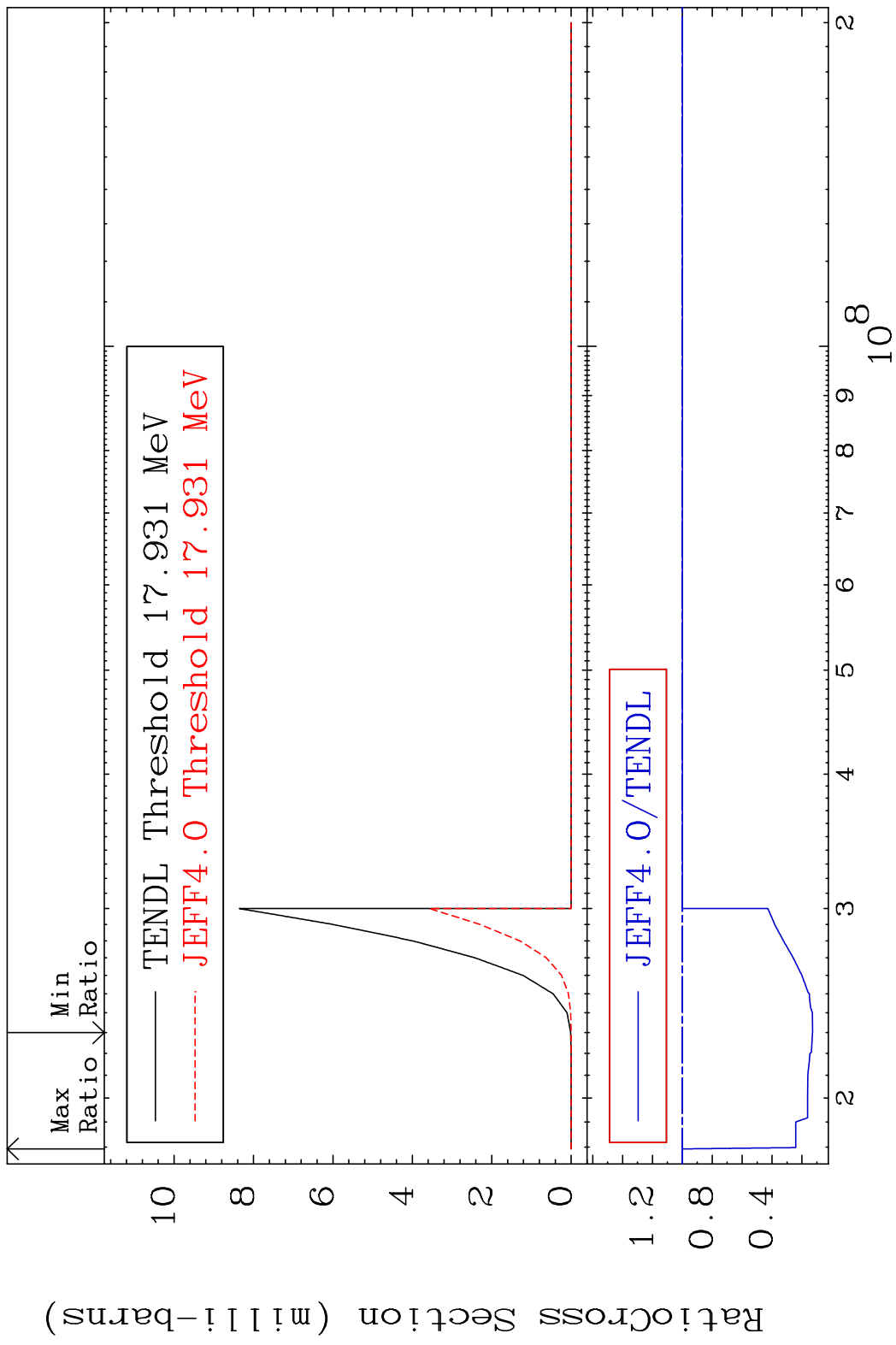
MAT 5649 (n,4n):56-Ba-135g 56-Ba-138  
 Radionuclide Production Cross Section 0.000 %



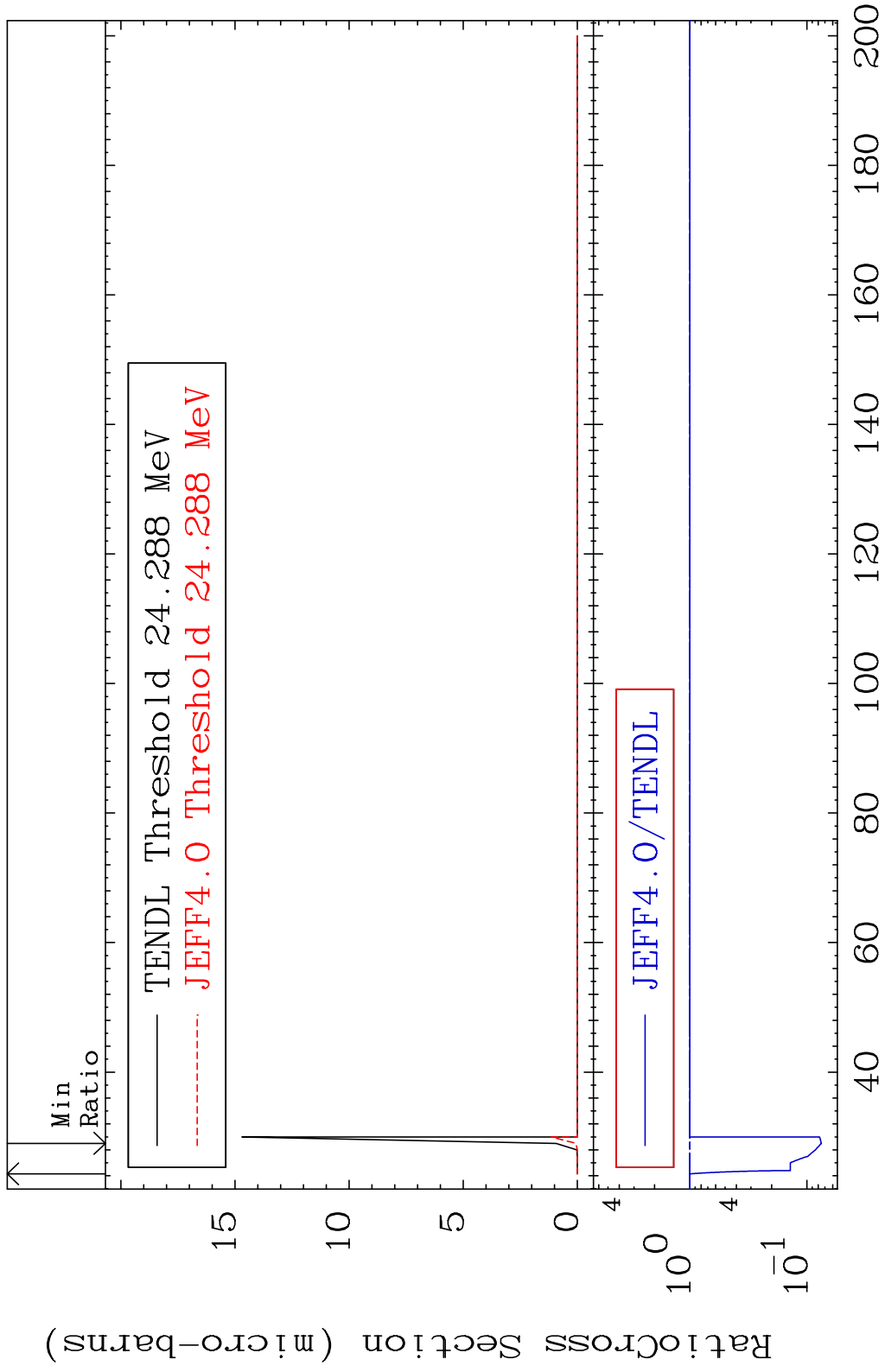


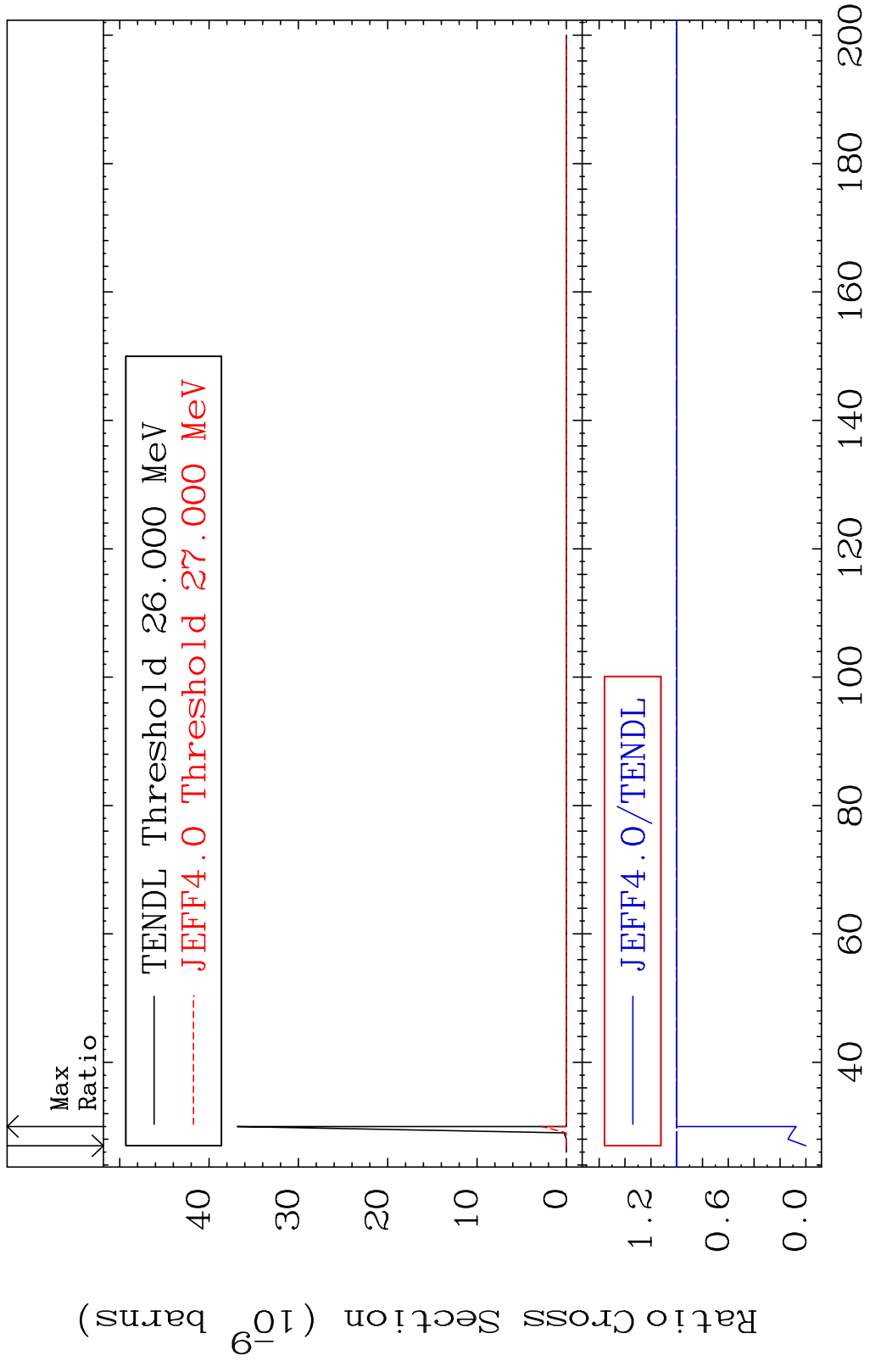
MAT 5649 (n,2n) p:55-Cs-136g 56-Ba-138  
 Radionuclide Production Cross Section 0.000 %



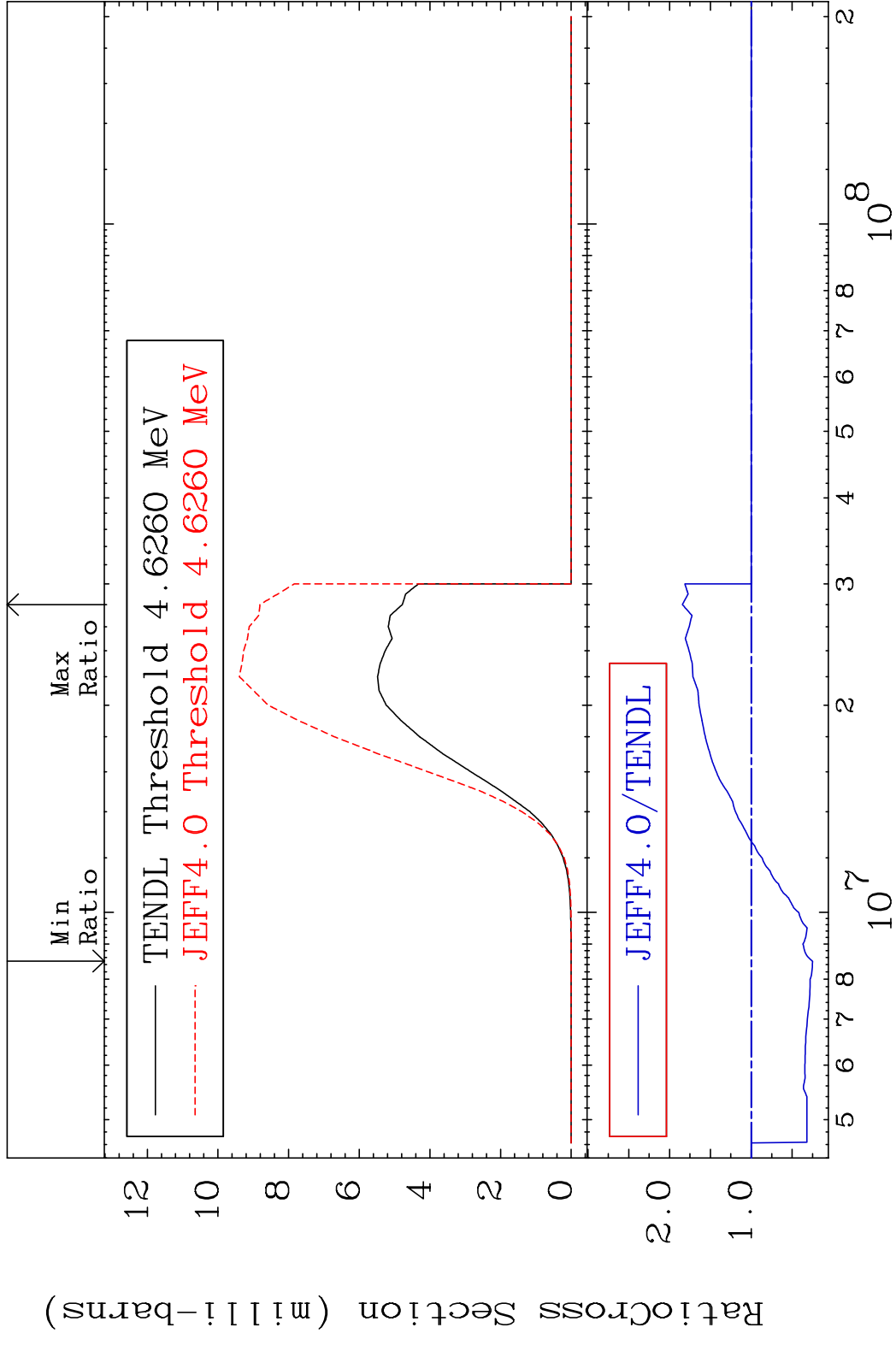


MAT 5649 (n,3n) p:55-Cs-135g 56-Ba-138  
 Radionuclide Production Cross Section 92.491 d/o 0.000 %

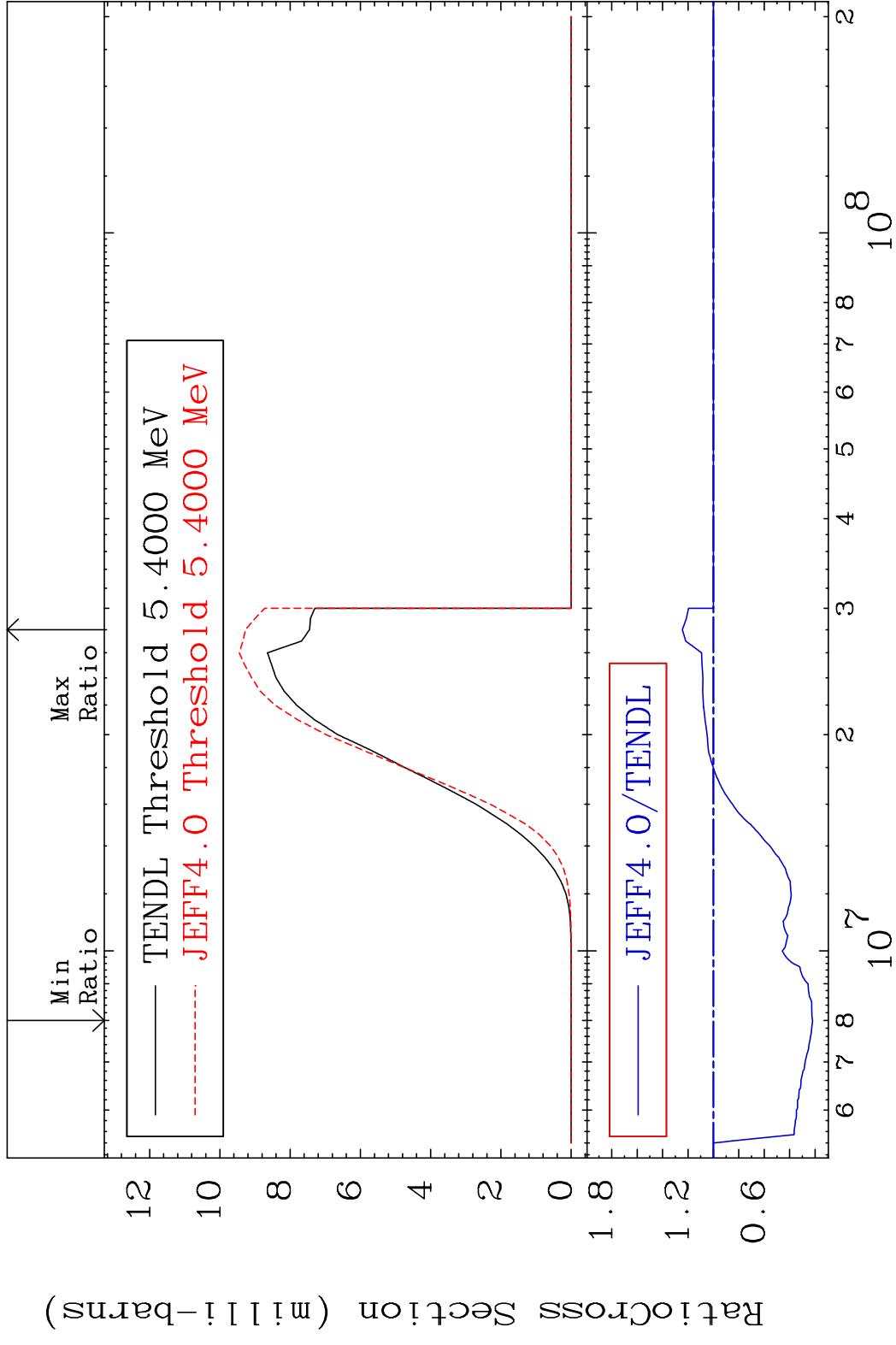




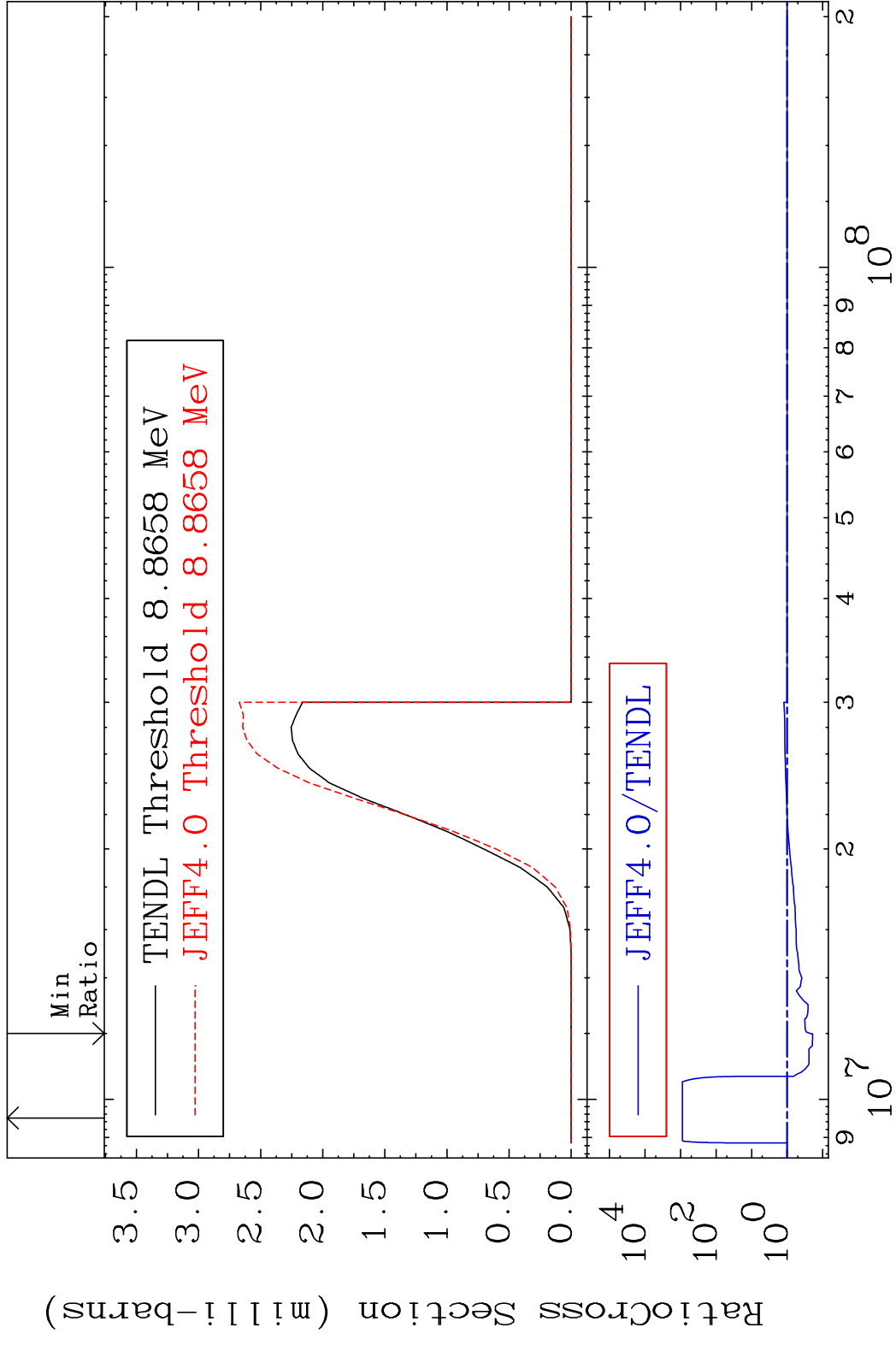
MAT 5649 (n,p):55-Cs-138 56-Ba-138  
 Radionuclide Production Cross Section 84.35 %



100 56-Ba-138

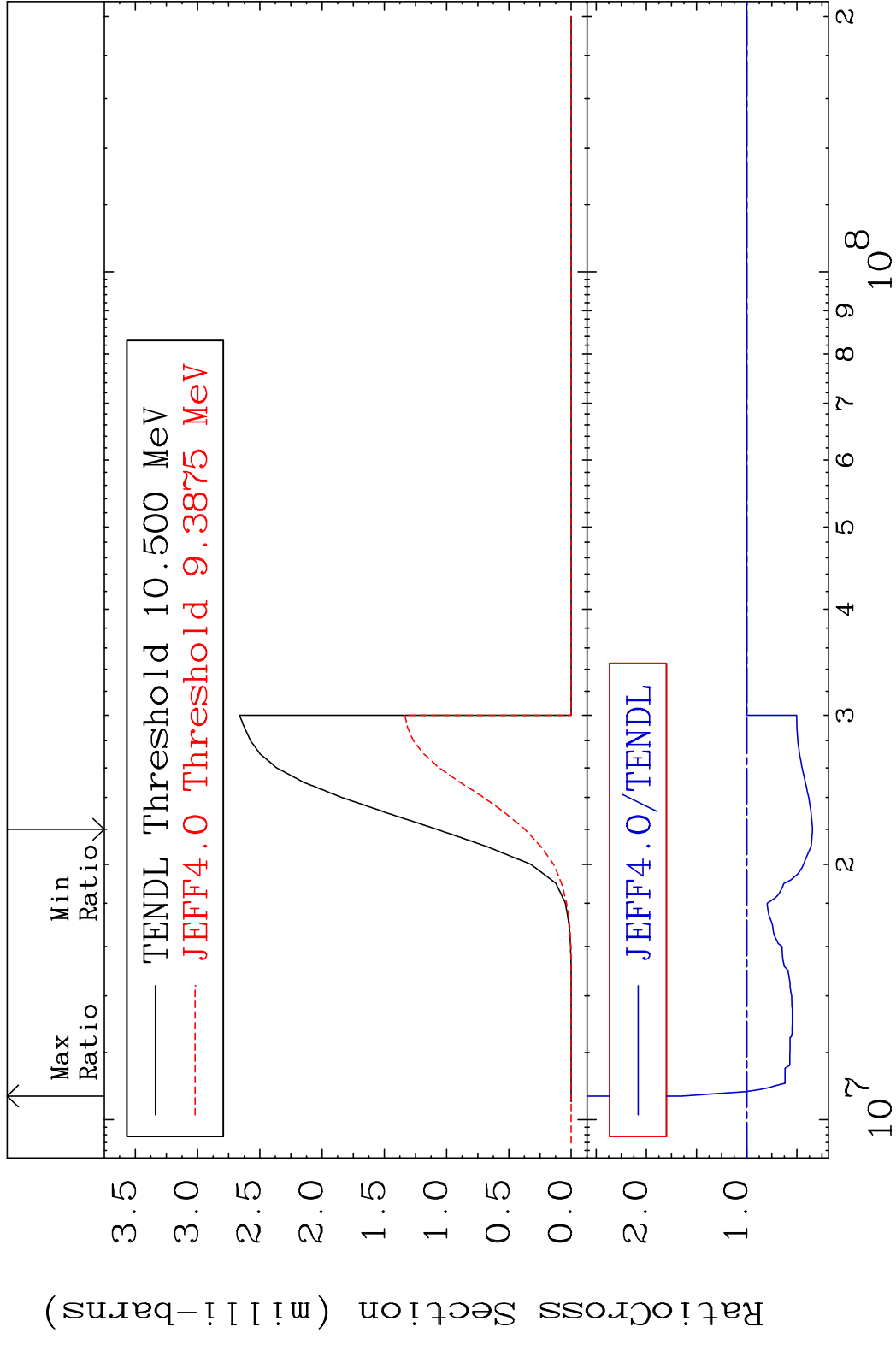


MAT 5649 (n,t):55-Cs-136g 56-Ba-138  
 Radionuclide Production Cross Section to 9999. %



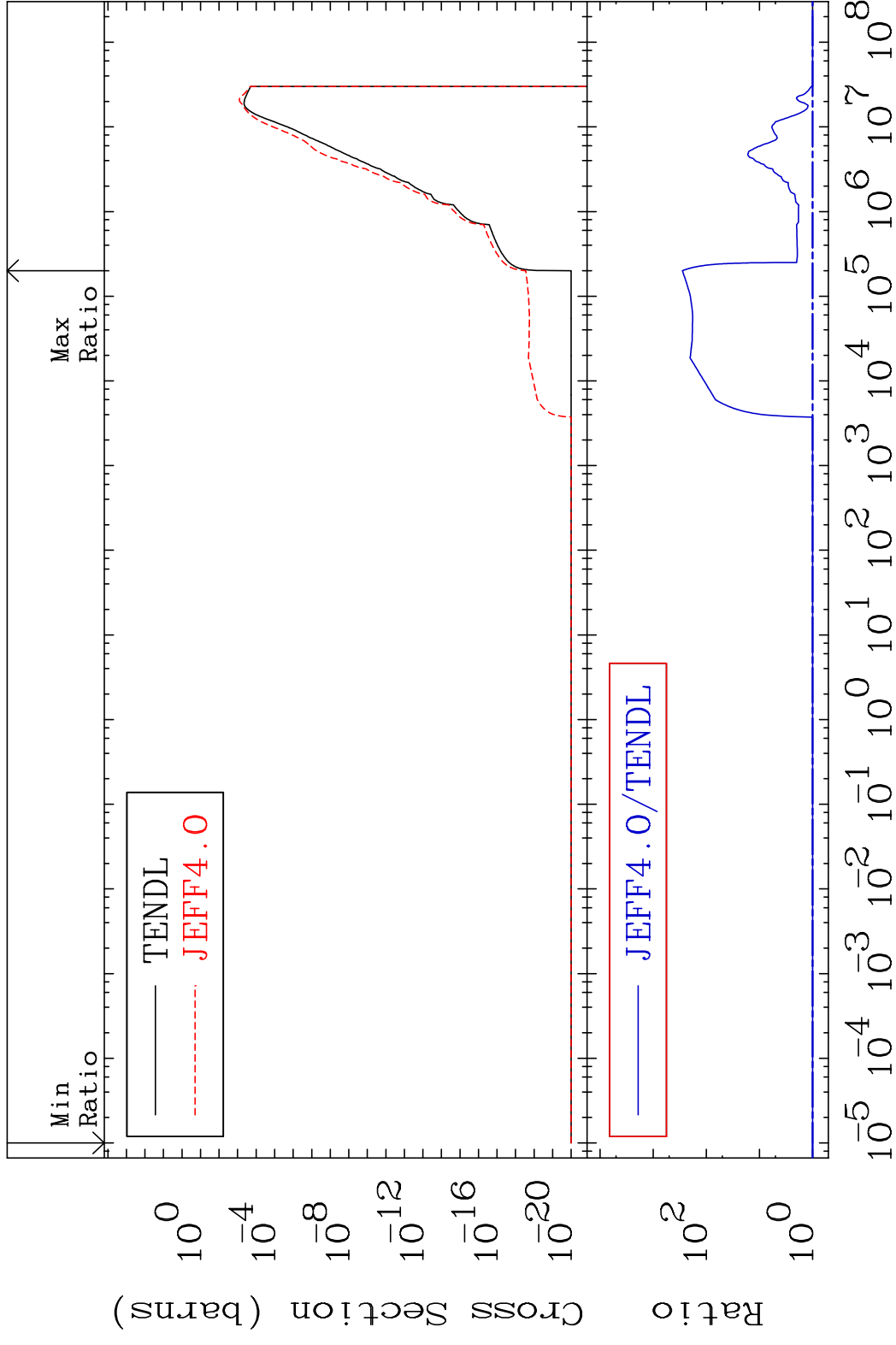
102 Incident Energy (eV) 56-Ba-138

MAT 5649 (n, t):55-Cs-136m2 56-Ba-138  
 Radionuclide Production Cross Section 65.61 dth 64.14 %



103 Incident Energy (eV) 56-Ba-138

MAT 5649 (n,α):54-Xe-135g 56-Ba-138  
 Radionuclide Production Cross Section 9999. %



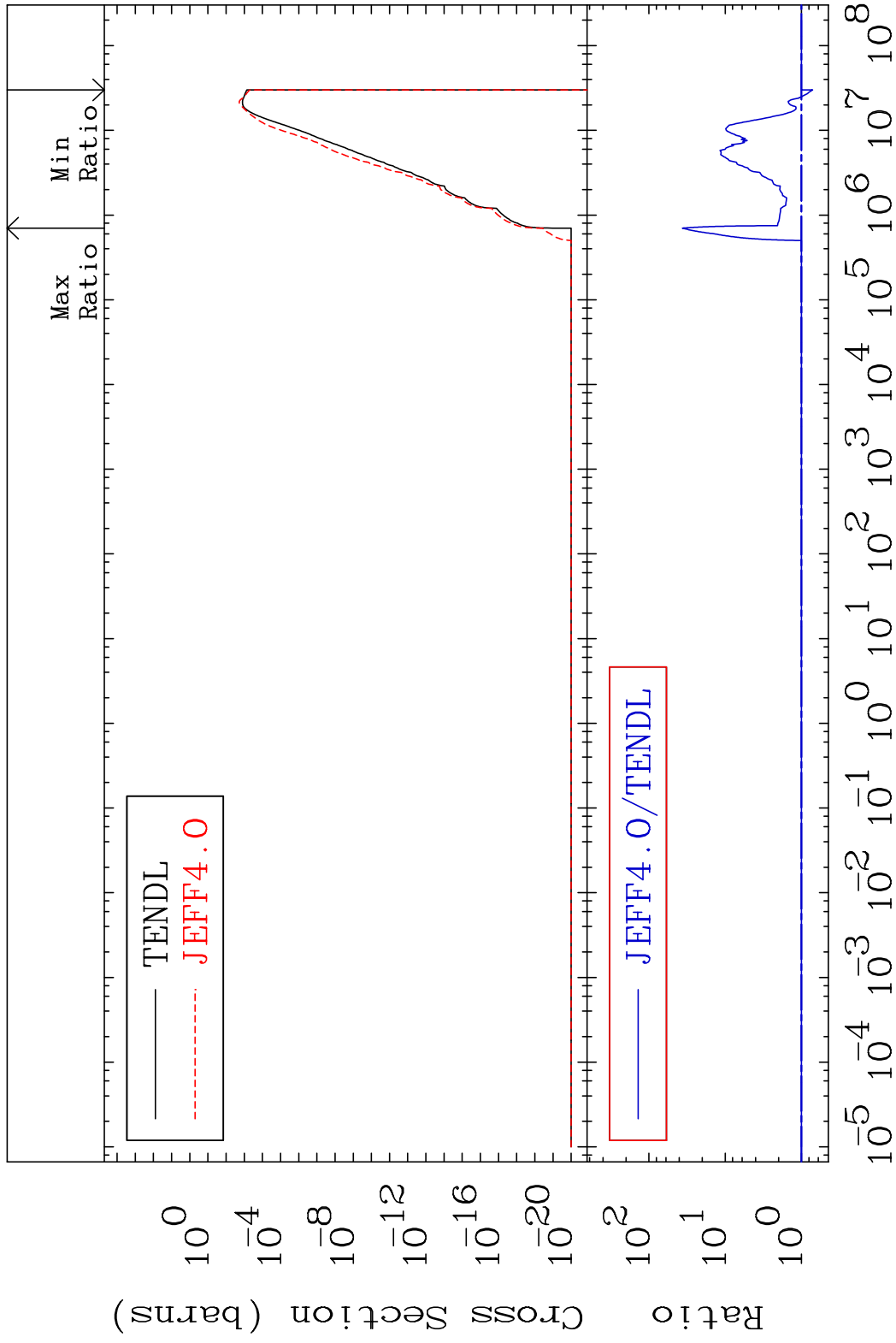
104 Incident Energy (eV) 56-Ba-138

MAT 5649

(n,  $\alpha$ ):54-Xe-135m2

56-Ba-138

Radionuclide Production Cross Section Ratio 3547. %

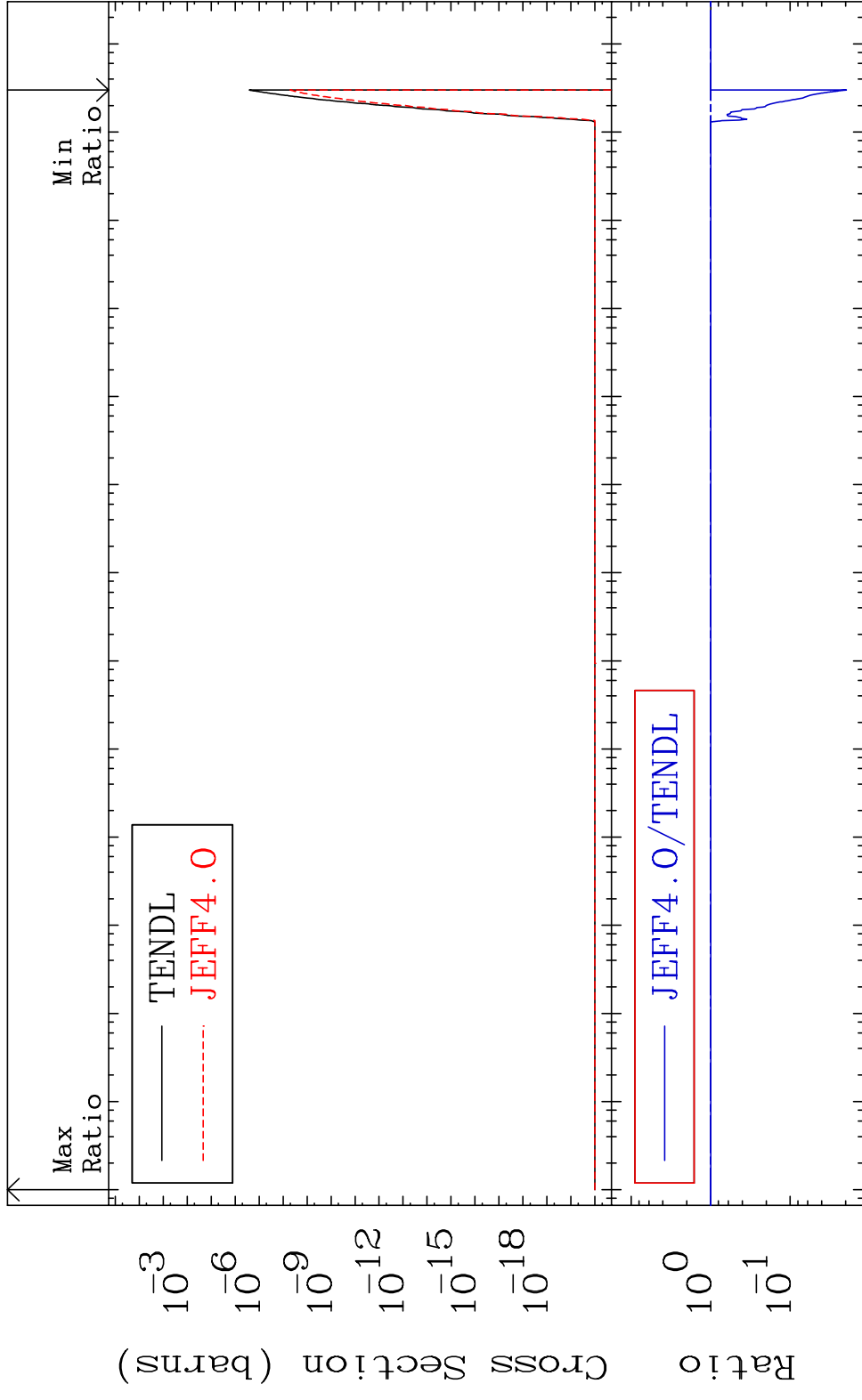


105

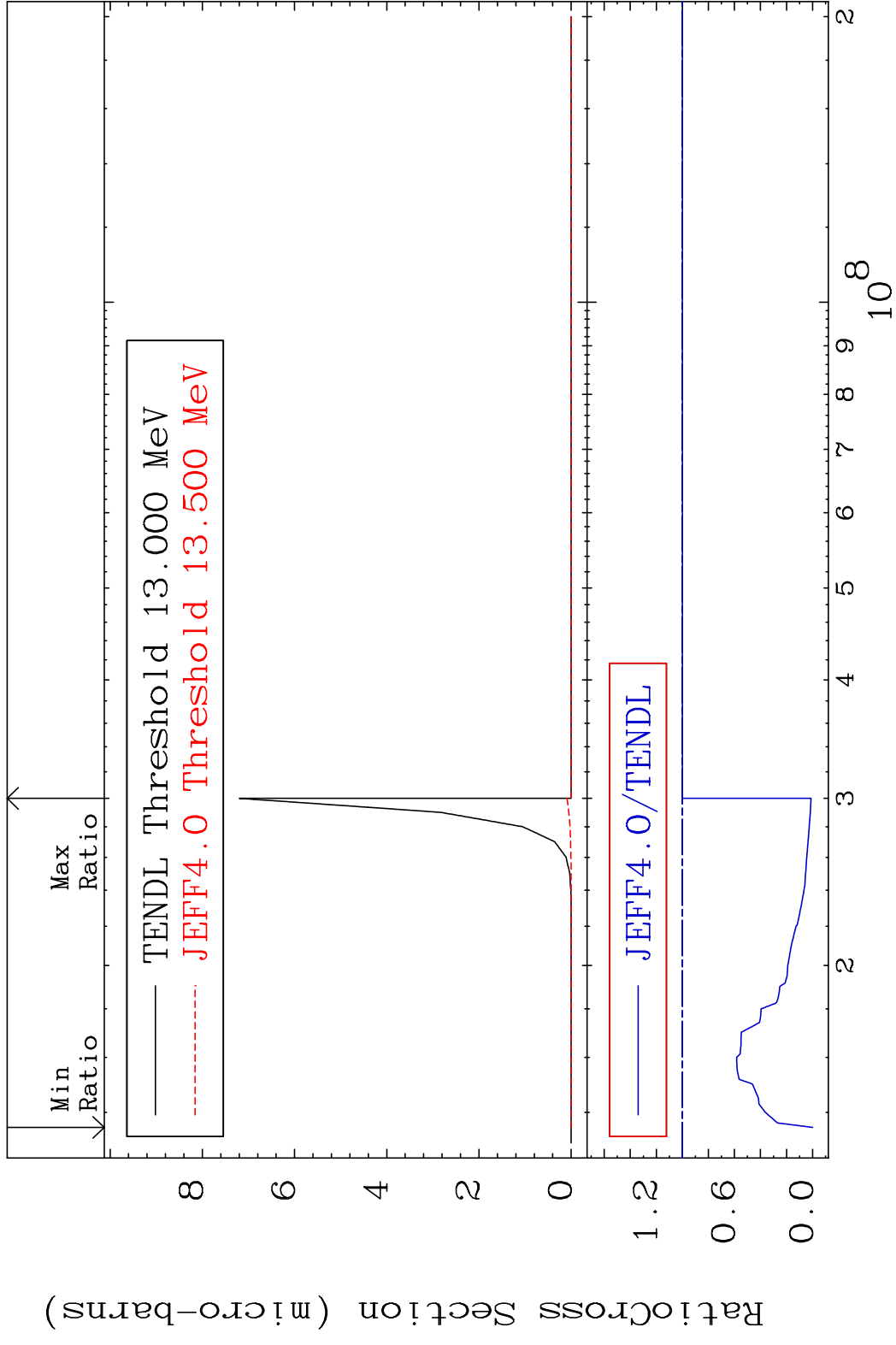
Incident Energy (eV)

56-Ba-138

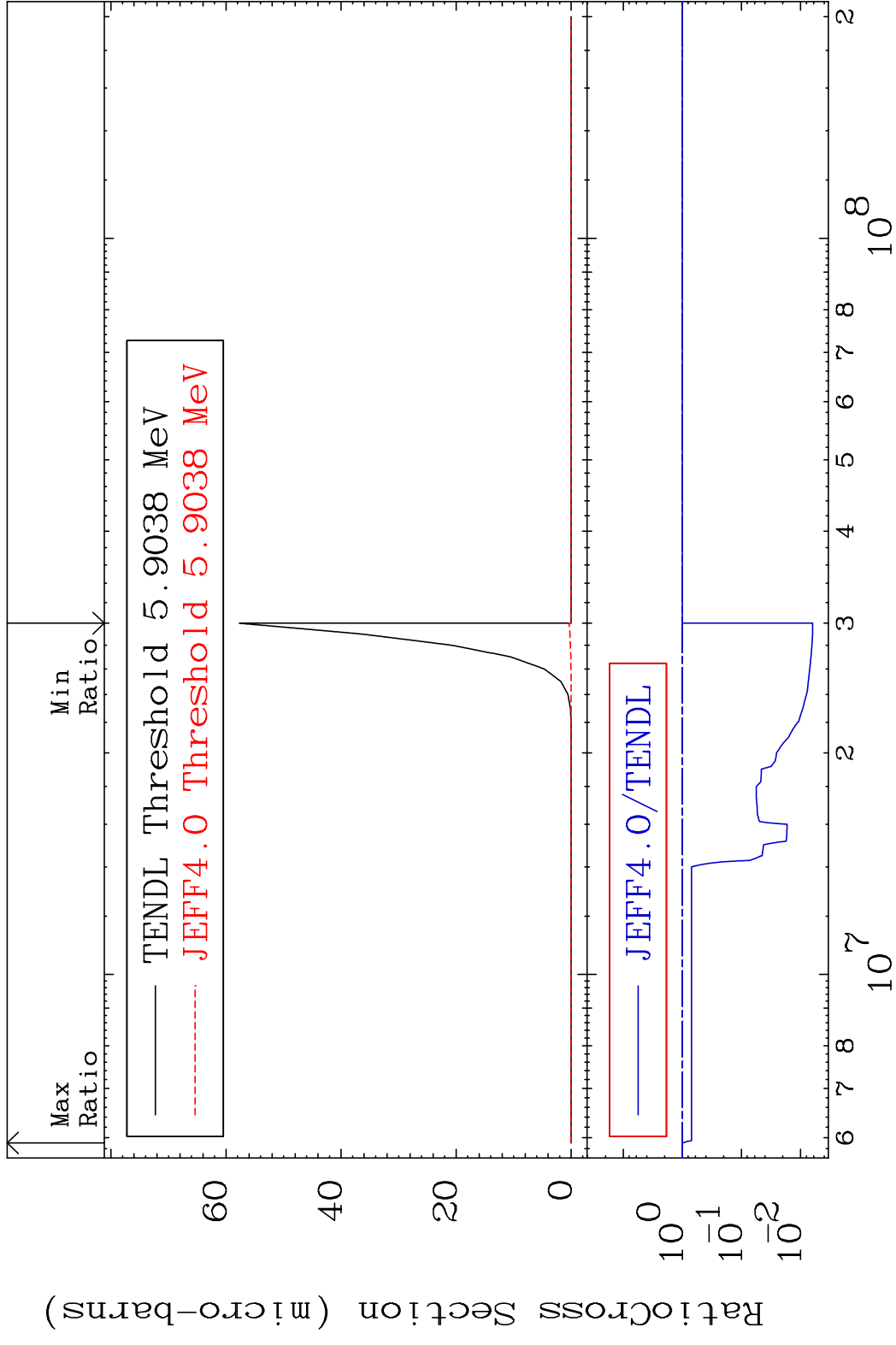
MAT 5649 (n,2α):52-Te-131g 56-Ba-138  
 Radionuclide Production Cross Section 98.041 dth 0.000 %



106 Incident Energy (eV) 56-Ba-138



MAT 5649 (n,p)  $\alpha$ :53-I -134g 56-Ba-138  
 Radionuclide Production Cross Section 98.37 d to 0.000 %



108 Incident Energy (eV) 56-Ba-138

