

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

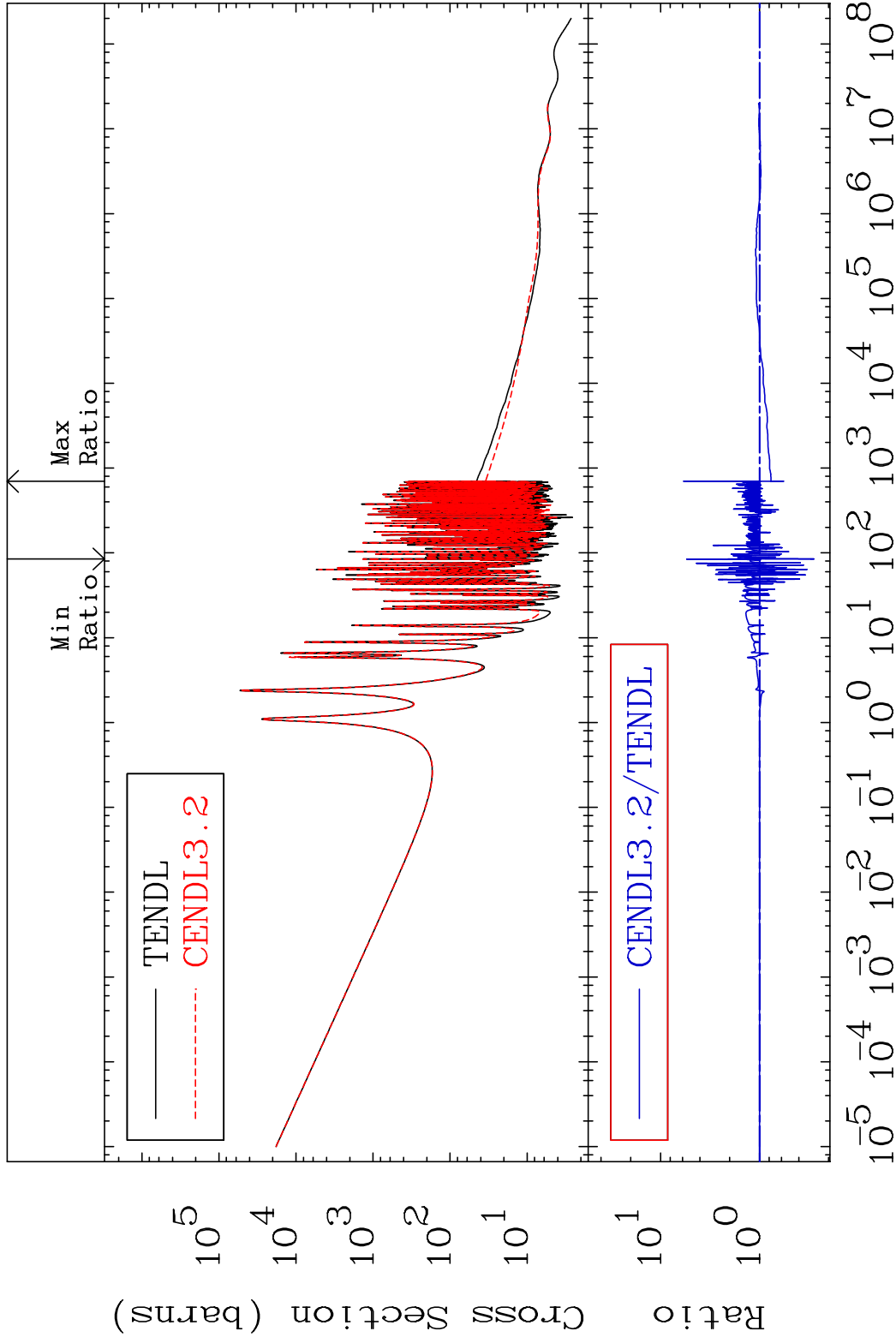
Press Mouse Button to Start

MAT 7234

Total

72-Hf-177

Cross Section -71.95 To 483.8 %



1

Incident Energy (eV)

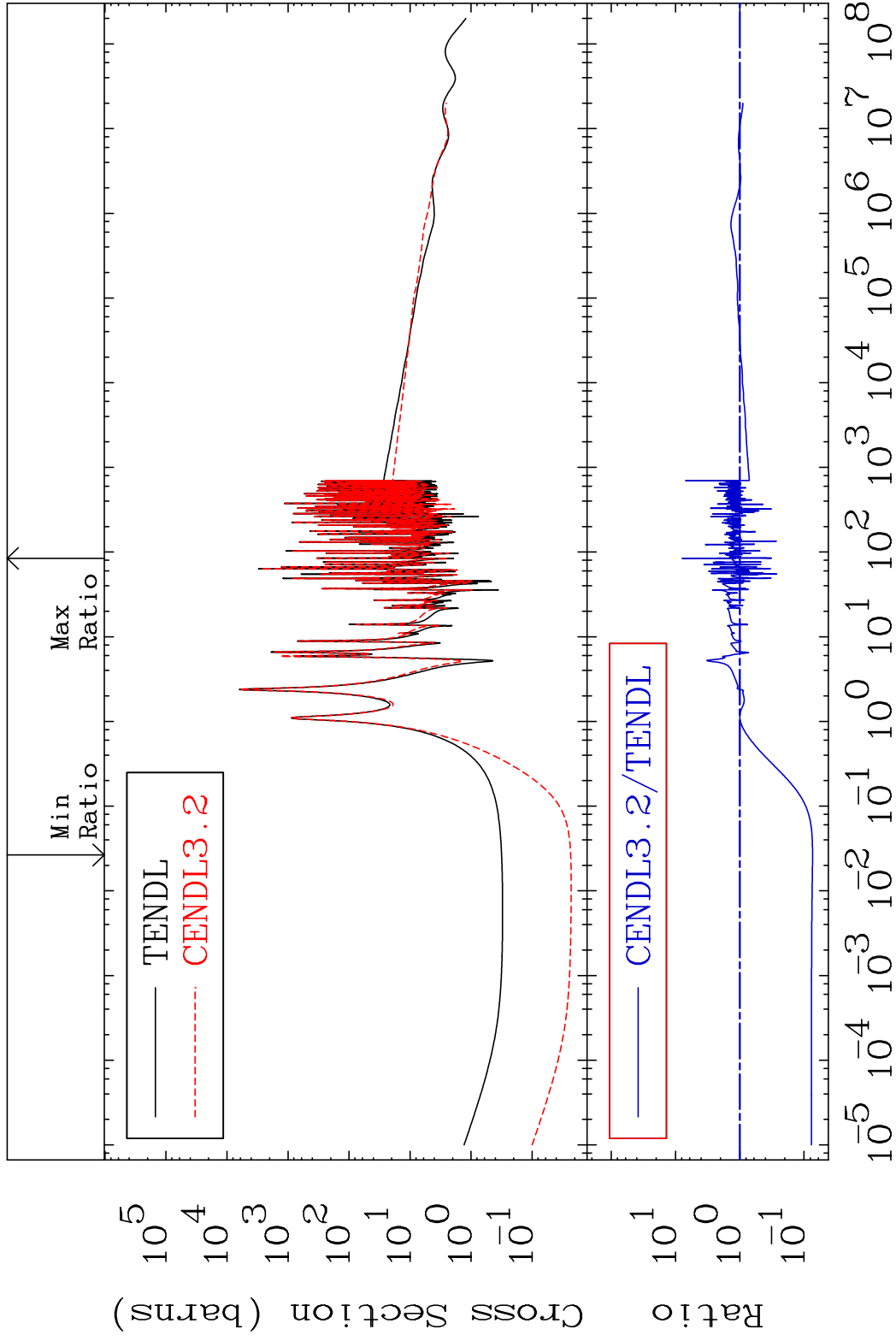
72-Hf-177

MAT 7234

Elastic

72-Hf-177

Cross Section -92.63 To 682.3 %



2

Incident Energy (eV)

72-Hf-177

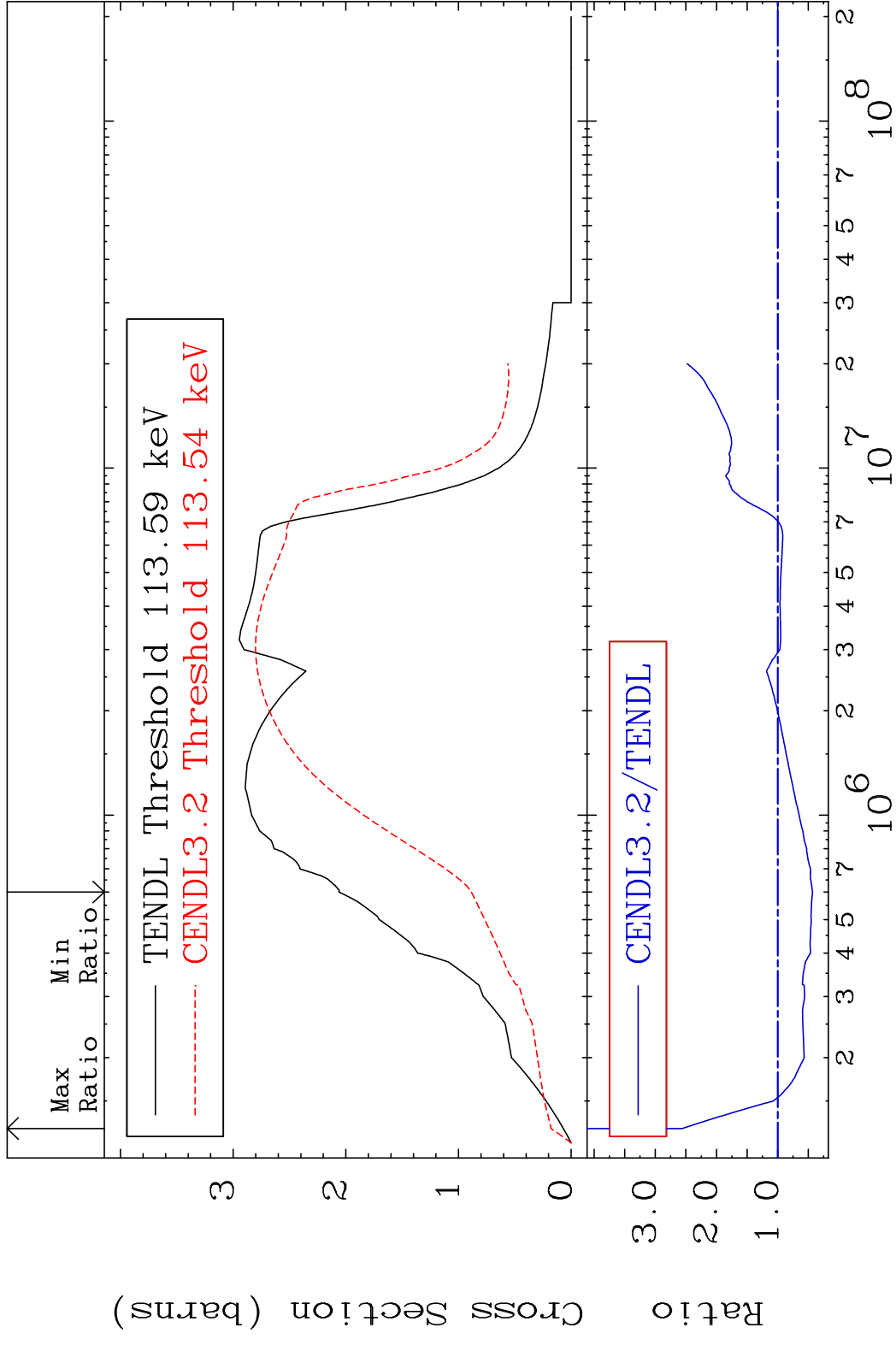
MAT 7234

Inelastic

72-Hf-177

Cross Section

-57.03 To 155.8 %

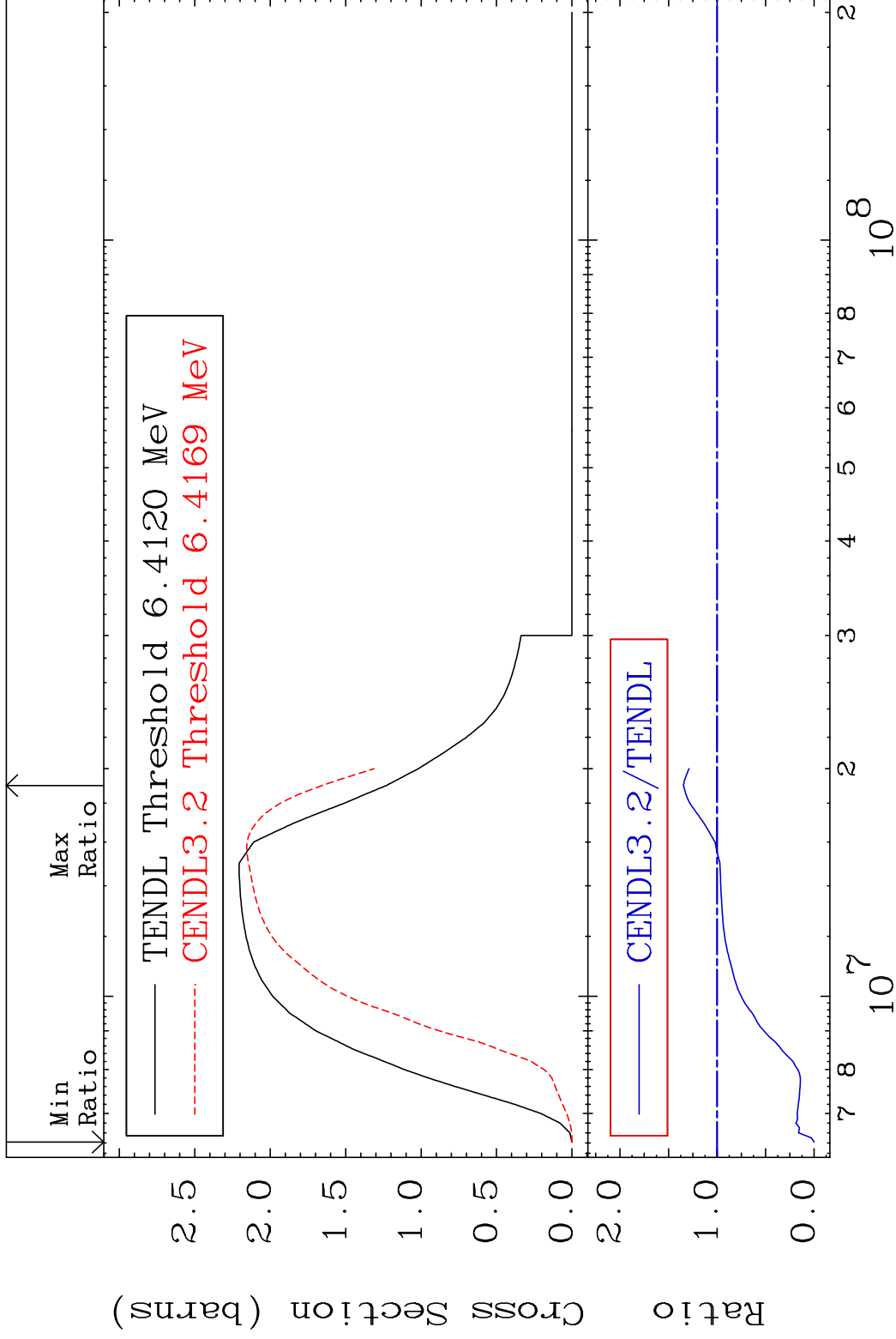


MAT 7234

(n,2n)

72-Hf-177

Cross Section -100.0 To 34.60 %



4

Incident Energy (eV)

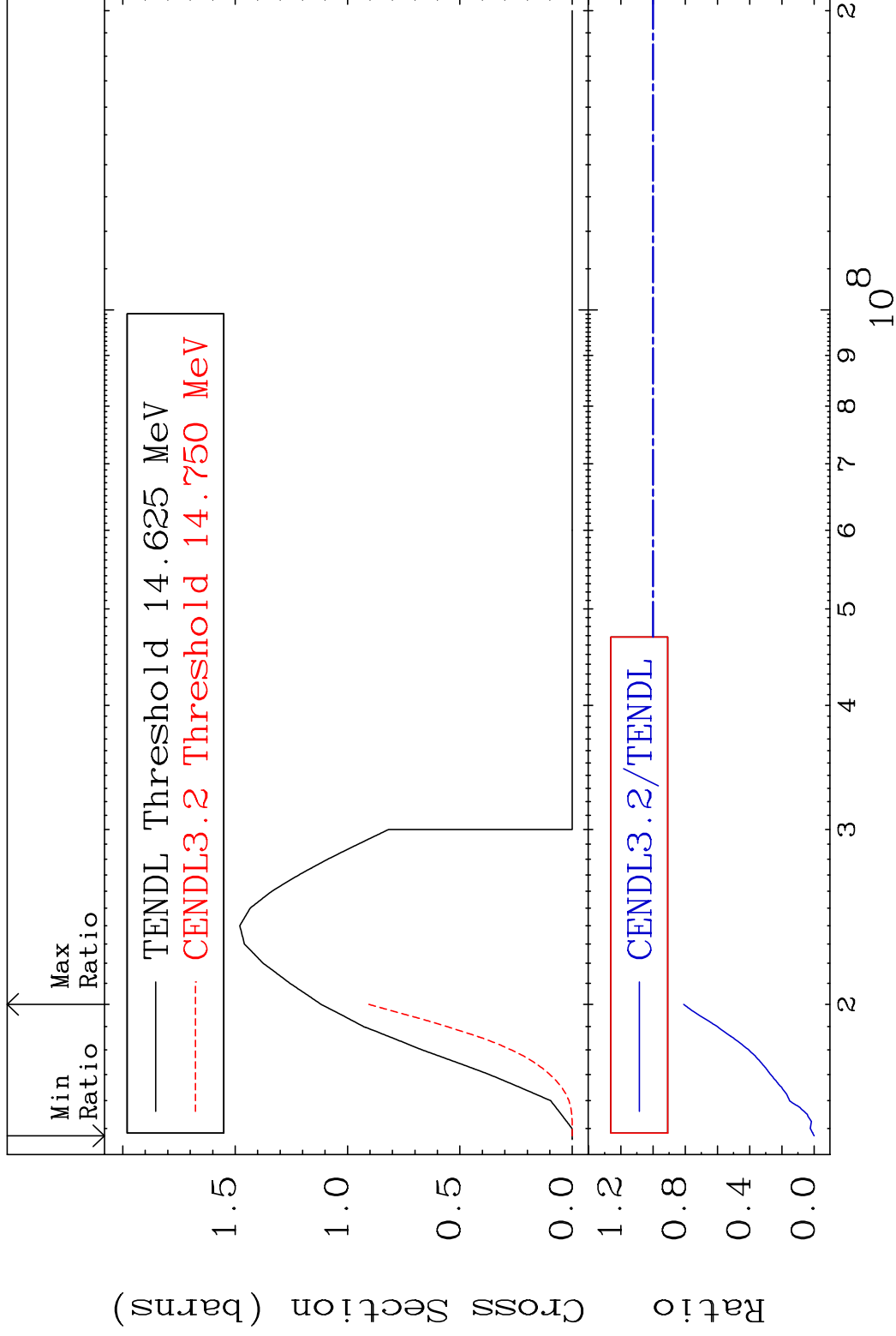
72-Hf-177

MAT 7234

(n,3n)

72-Hf-177

Cross Section -100.0 To -19.00%



5

Incident Energy (eV)

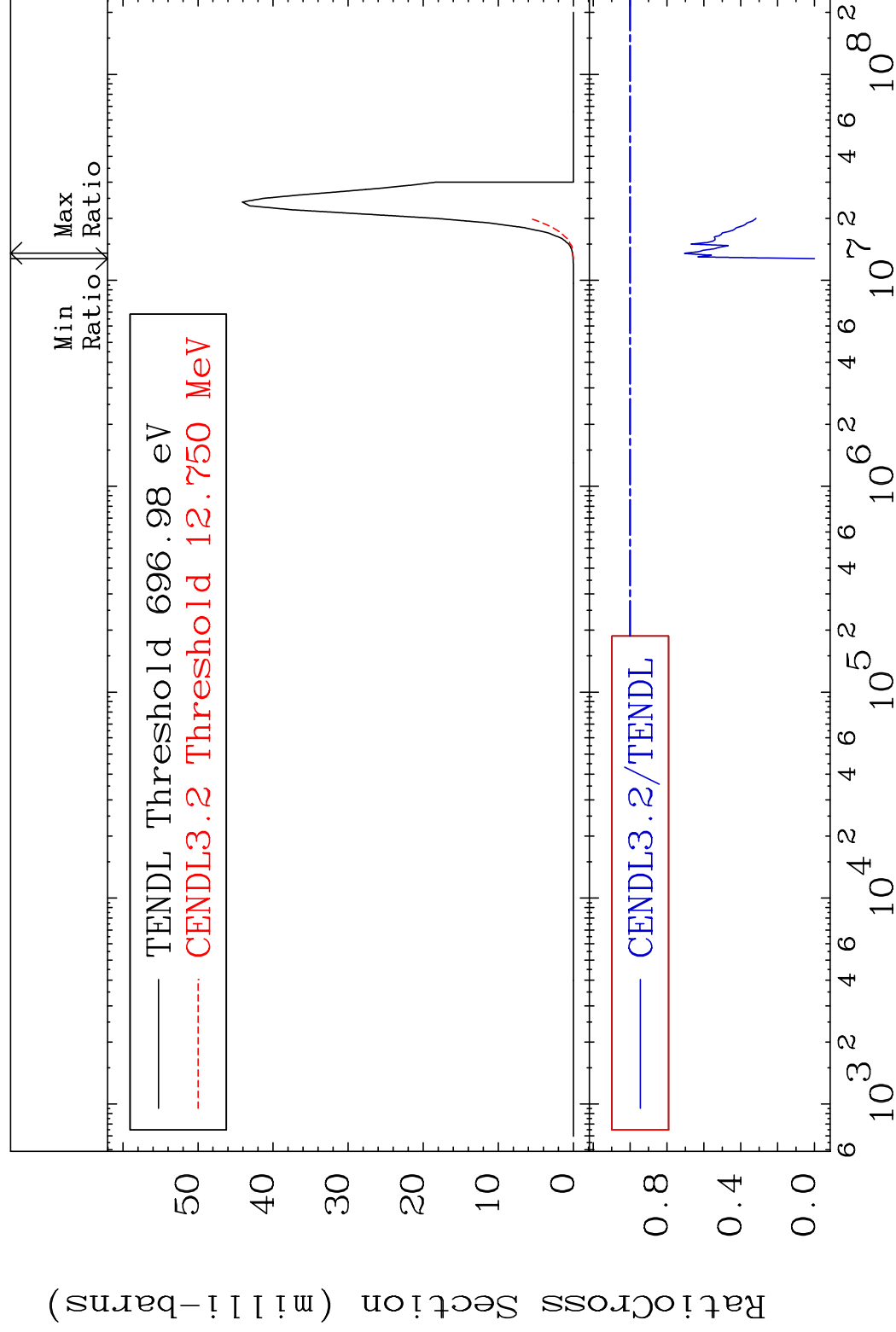
72-Hf-177

MAT 7234

(n, n')  $\alpha$

72-Hf-177

Cross Section -100.0 To -29.48%



6

Incident Energy (eV)

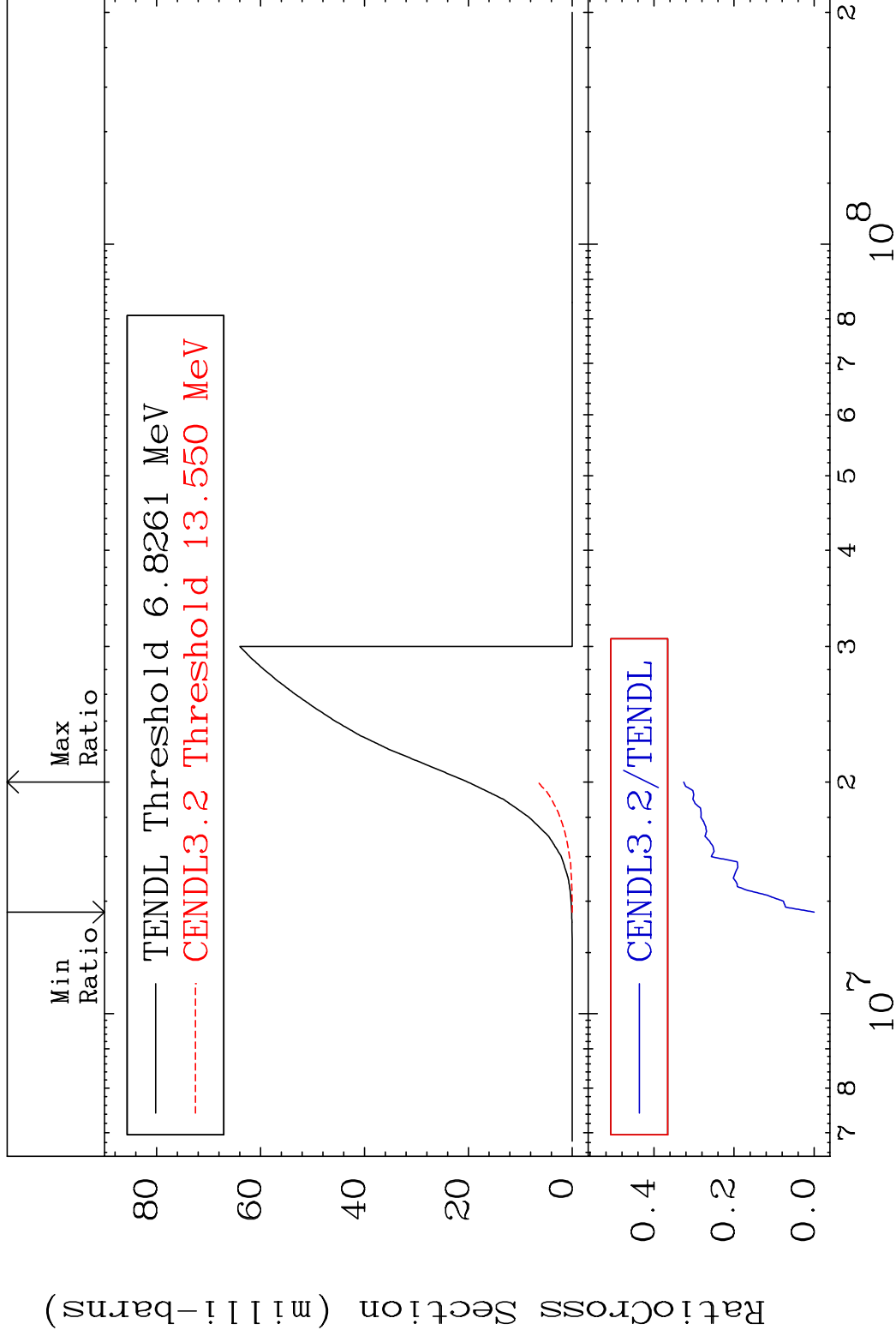
72-Hf-177

MAT 7234

(n, n') p

72-Hf-177

Cross Section -100.0 To -67.41%

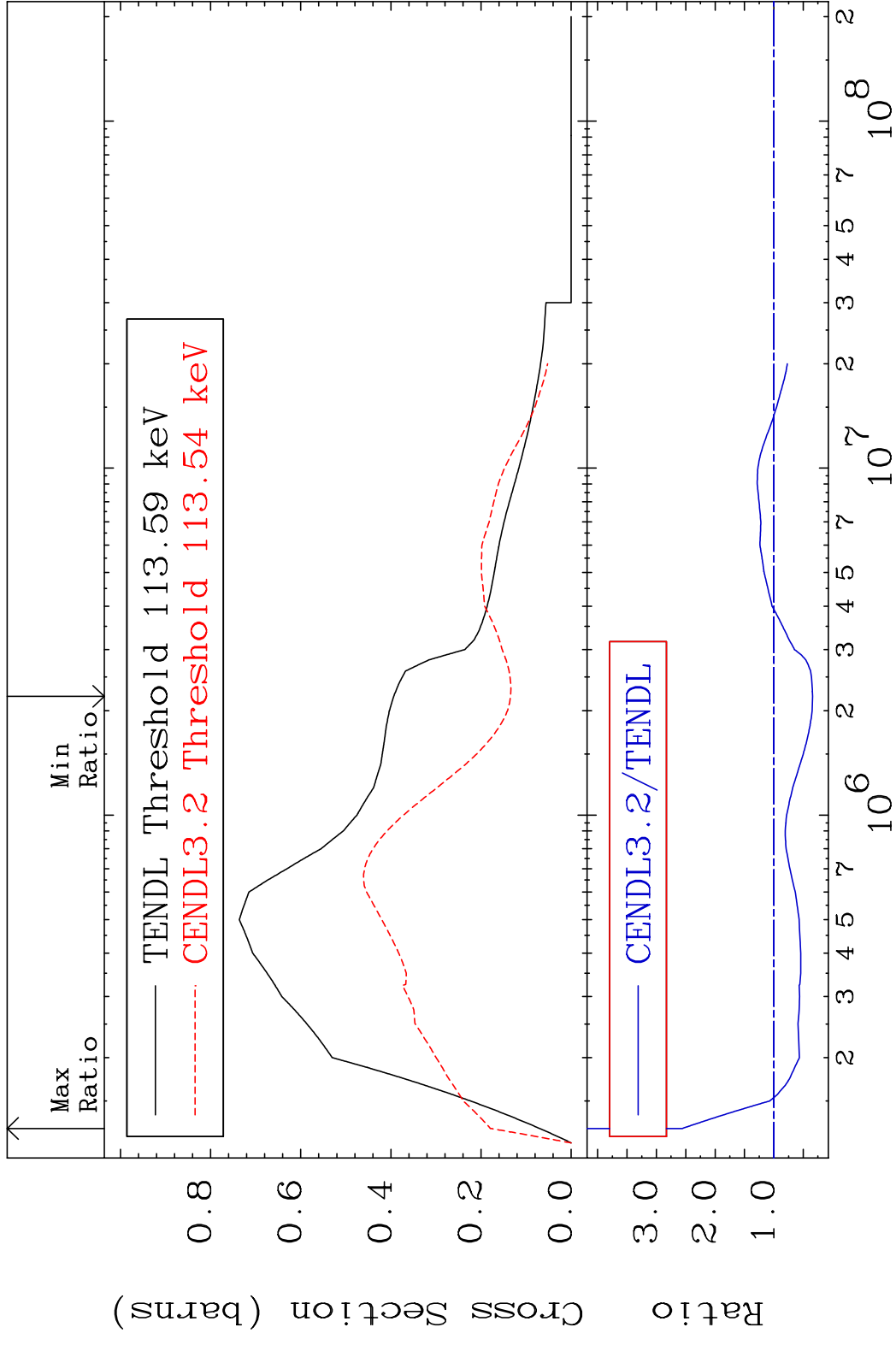


7

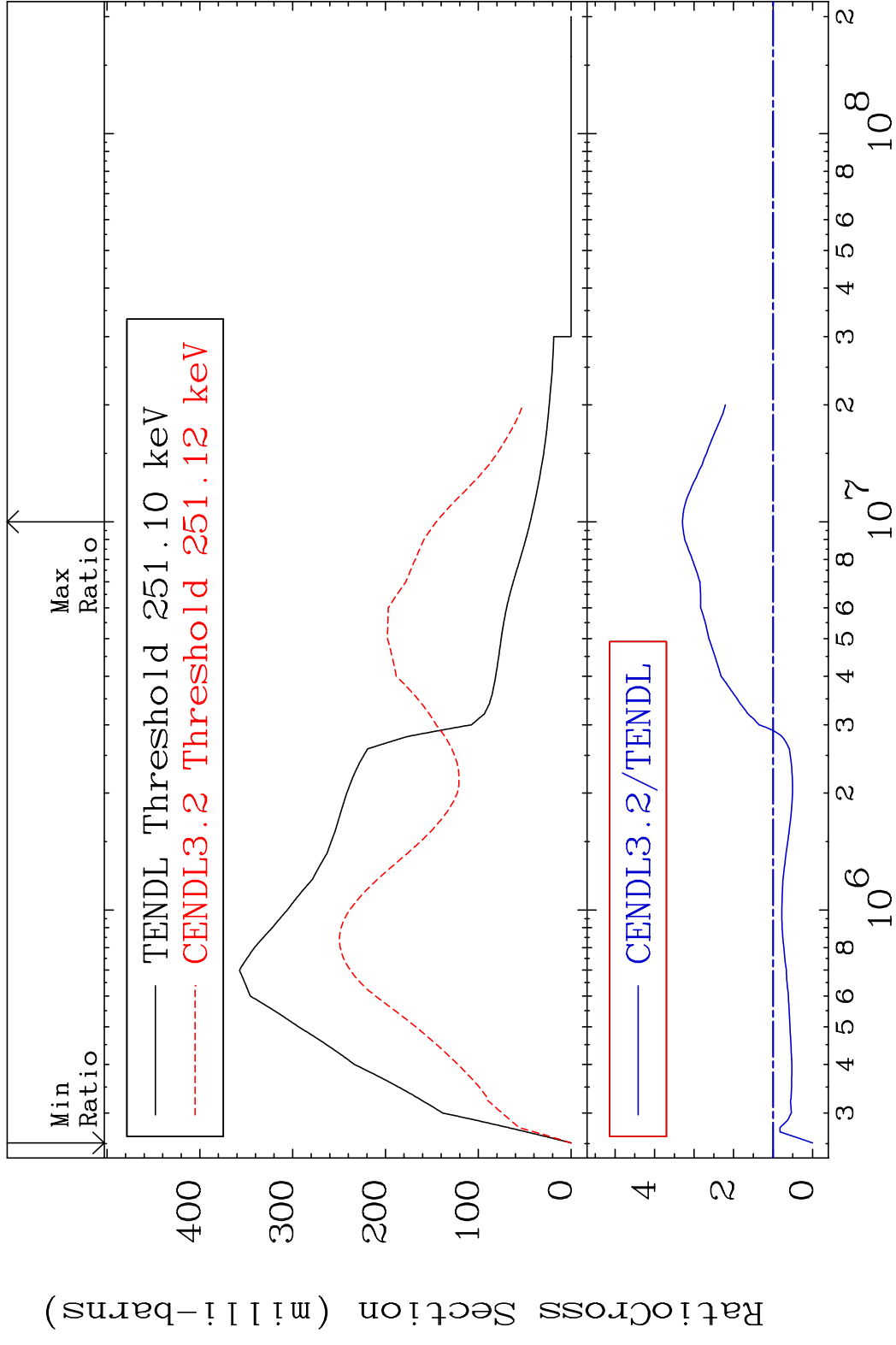
Incident Energy (eV)

72-Hf-177

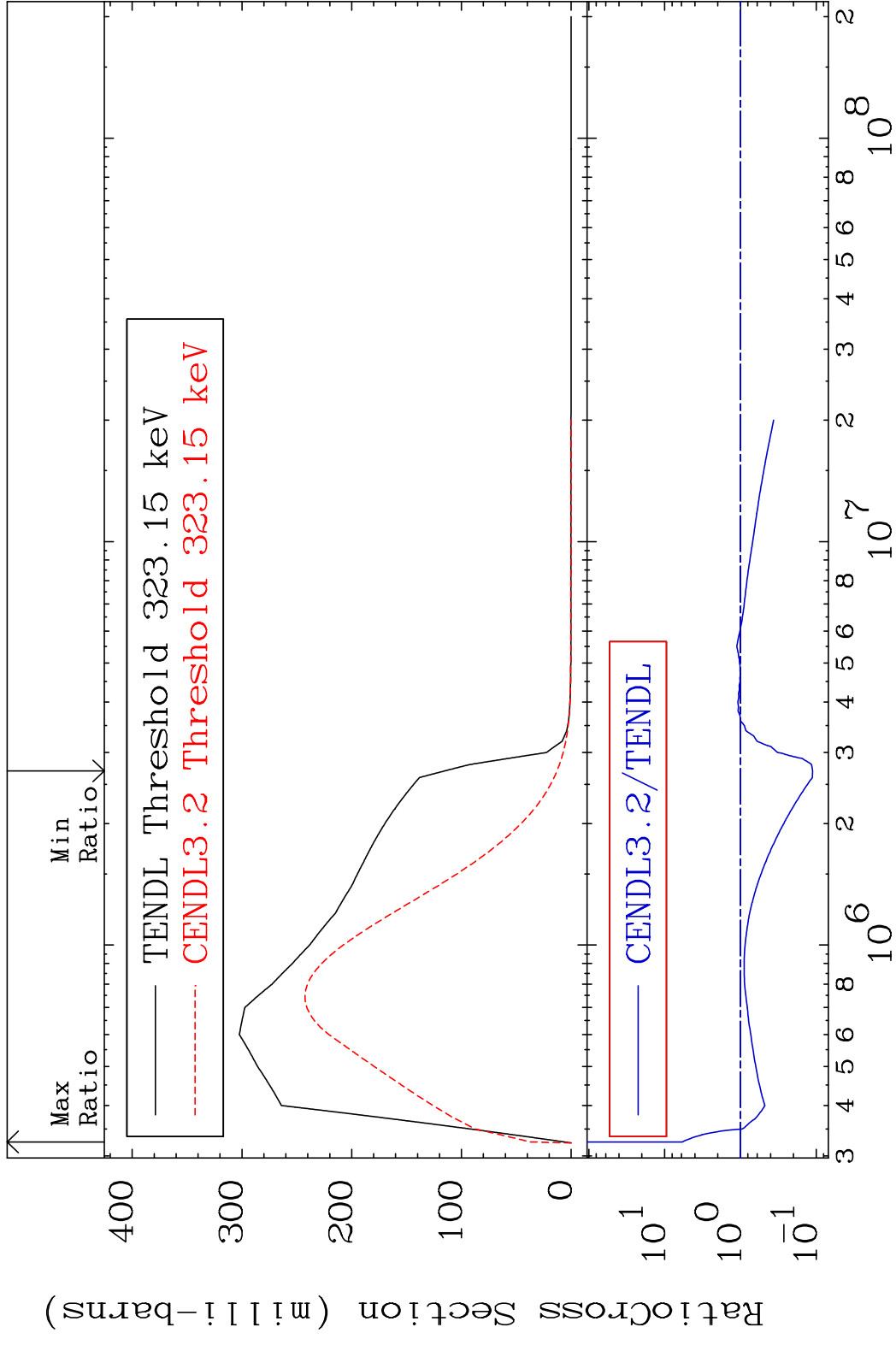
MAT 7234 MT= 51 (n,n') Level 72-Hf-177  
 Cross Section -65.83 To 155.8 %



MAT 7234 MT= 52 (n, n') Level 72-Hf-177  
 Cross Section -100.0 To 229.7 %



MAT 7234 MT= 53 (n,n') Level 72-Hf-177  
 Cross Section -88.81 To 484.8 %



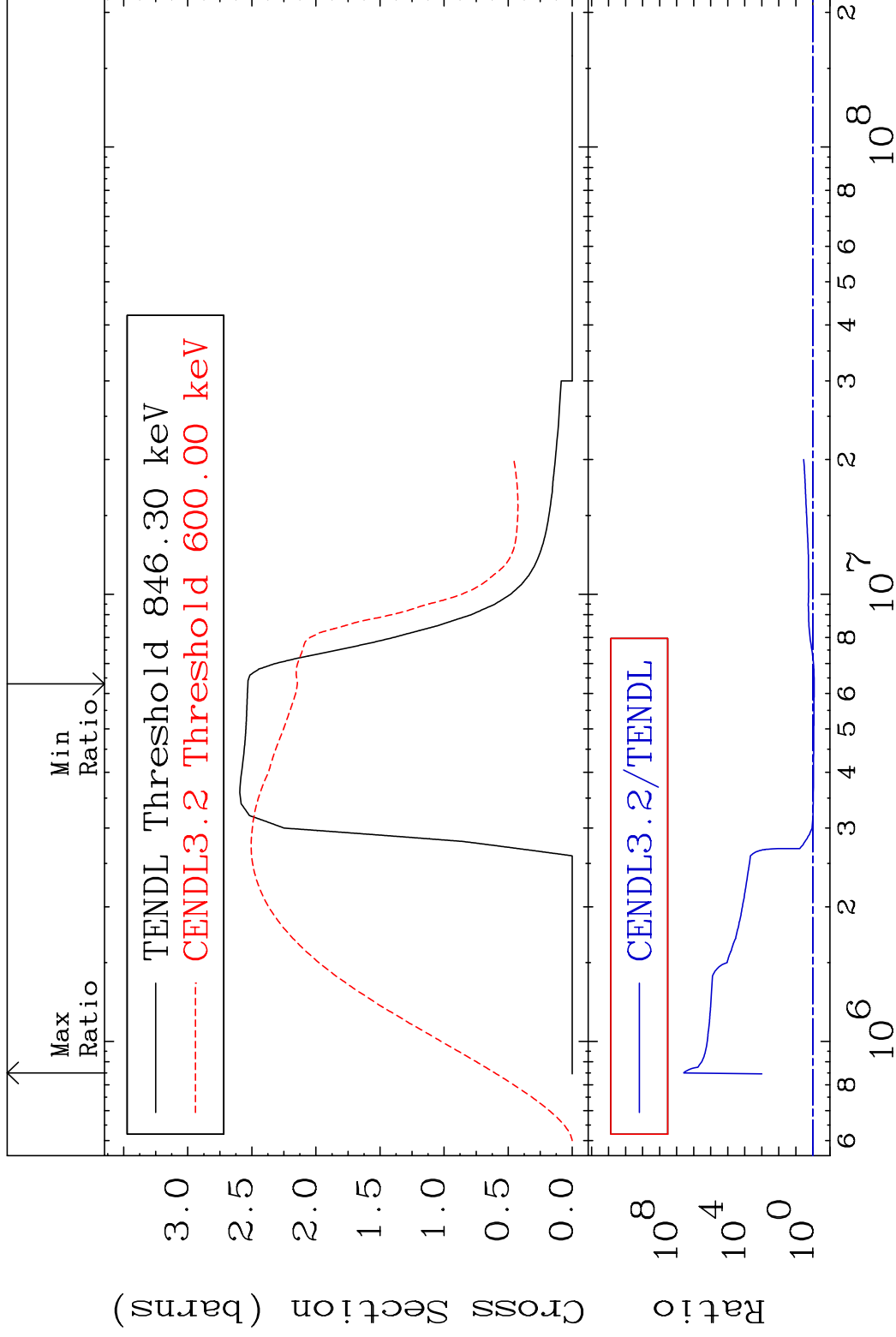
10 Incident Energy (eV) 72-Hf-177

MAT 7234

(n, n') Continuum

72-Hf-177

Cross Section -15.29 To 9999. %

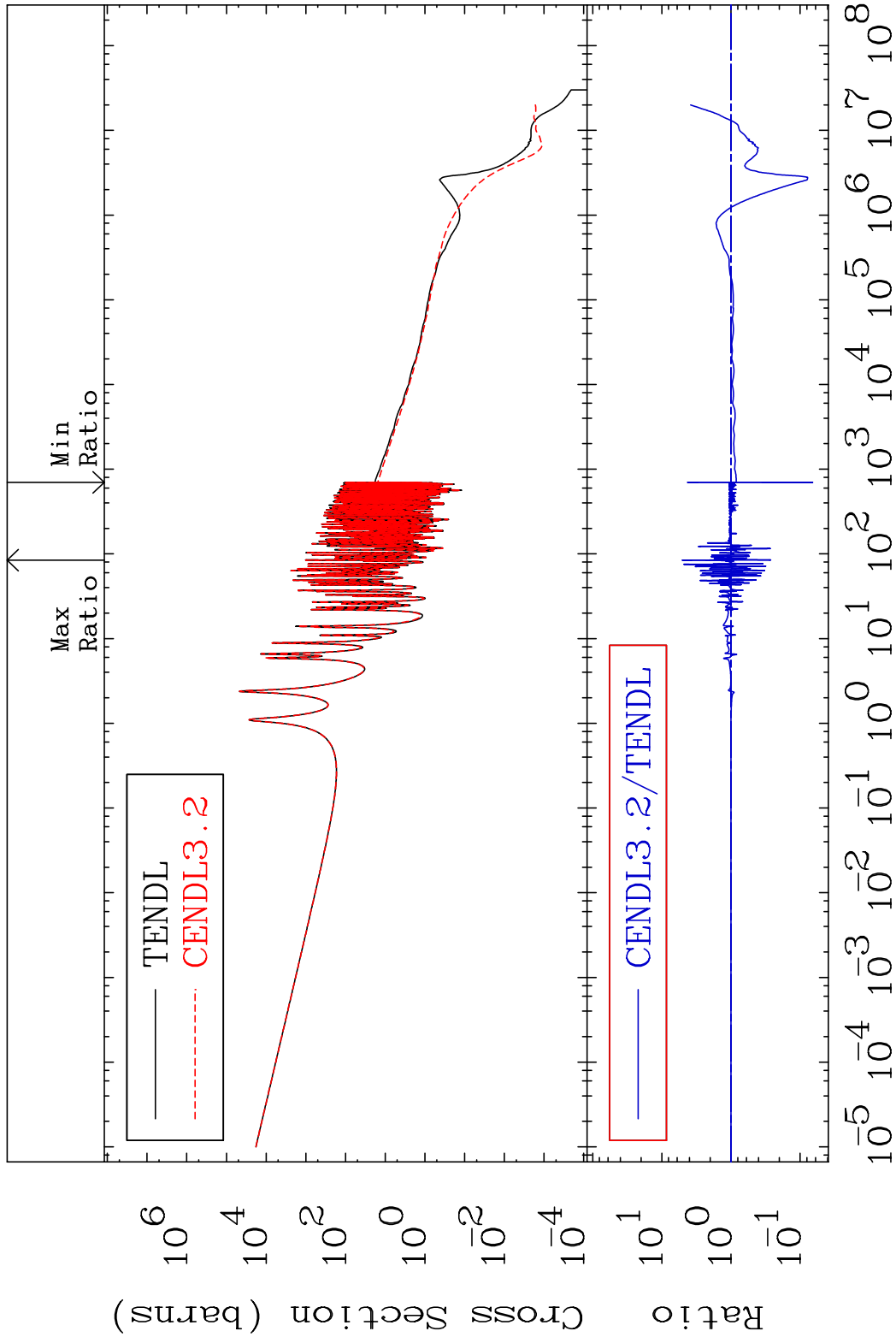


MAT 7234

(n,  $\gamma$ )

72-Hf-177

Cross Section -93.38 To 405.7 %



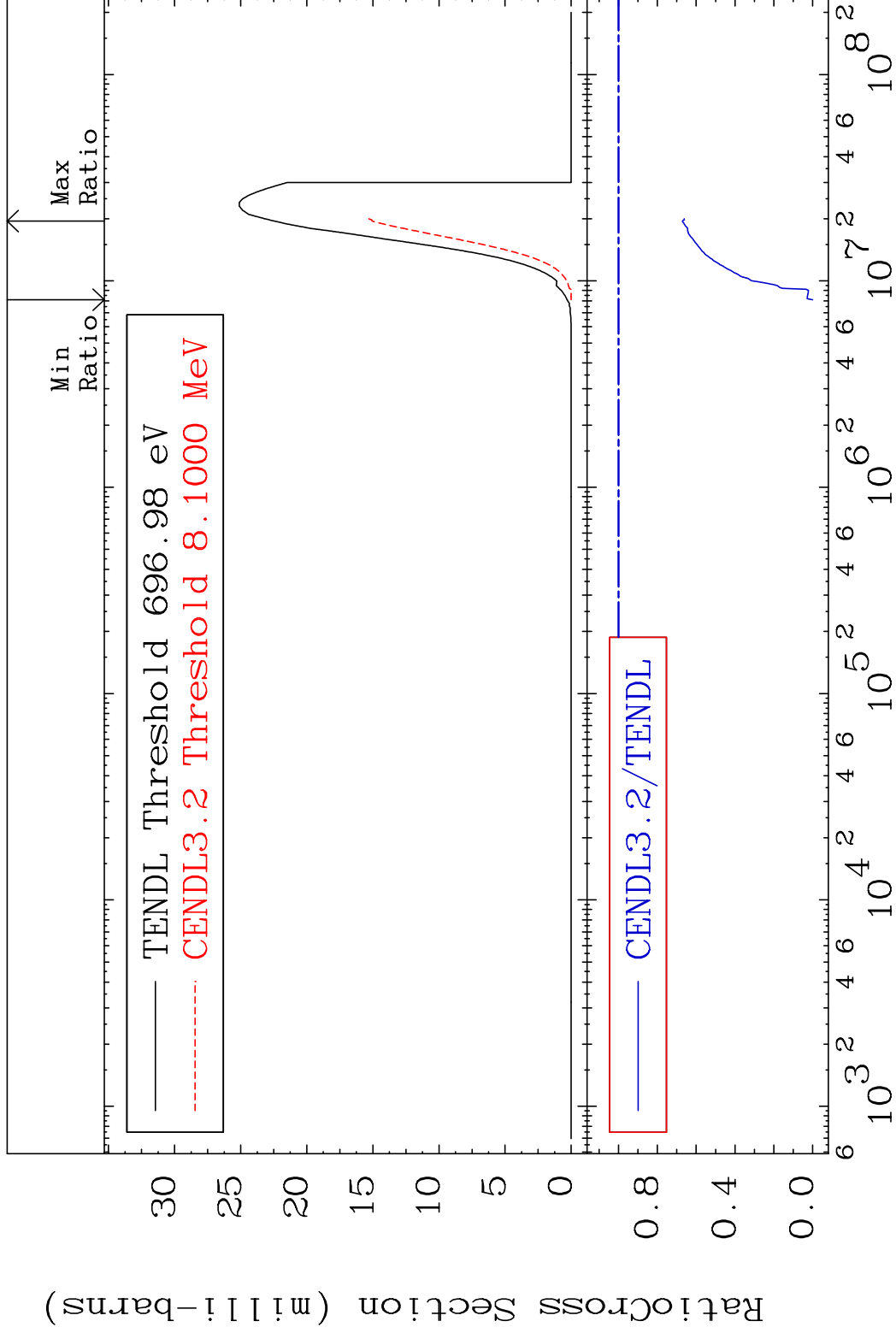
MAT 7234

(n, p)

72-Hf-177

Cross Section

-100.0 To -32.87%



13

Incident Energy (eV)

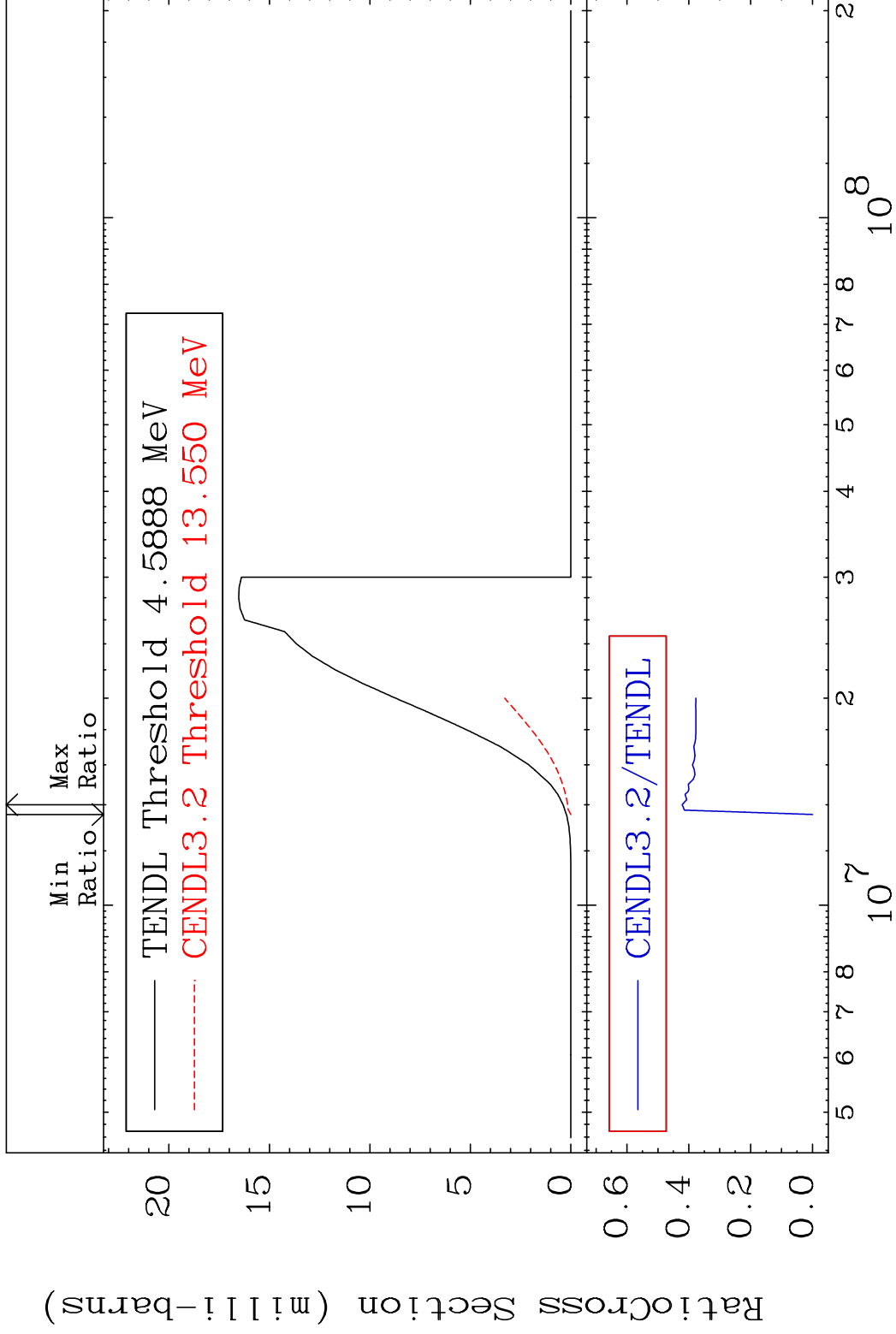
72-Hf-177

MAT 7234

(n, d)

72-Hf-177

Cross Section -100.0 To -57.84%

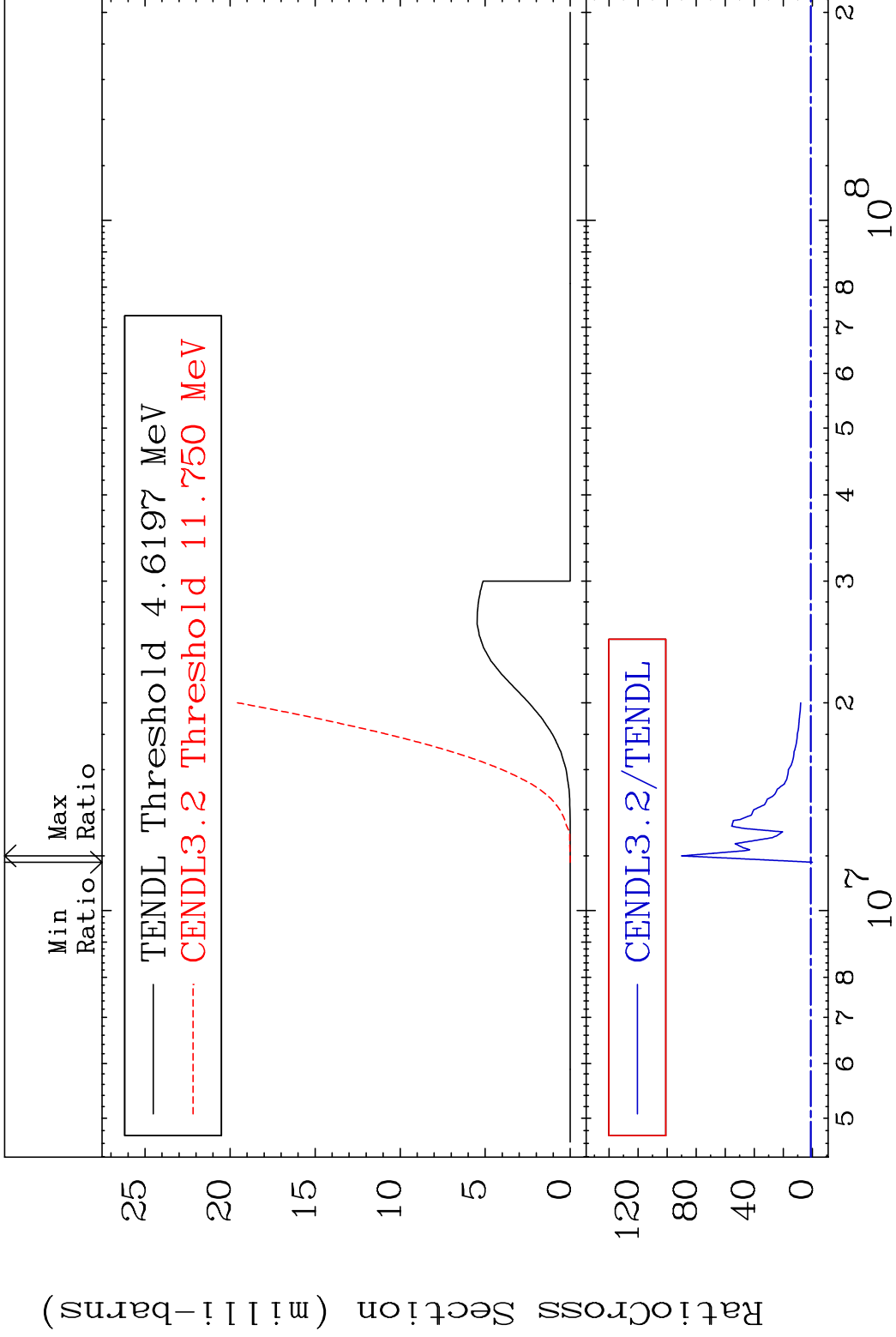


MAT 7234

(n, t)

72-Hf-177

Cross Section -100.0 To 8889. %



15

Incident Energy (eV)

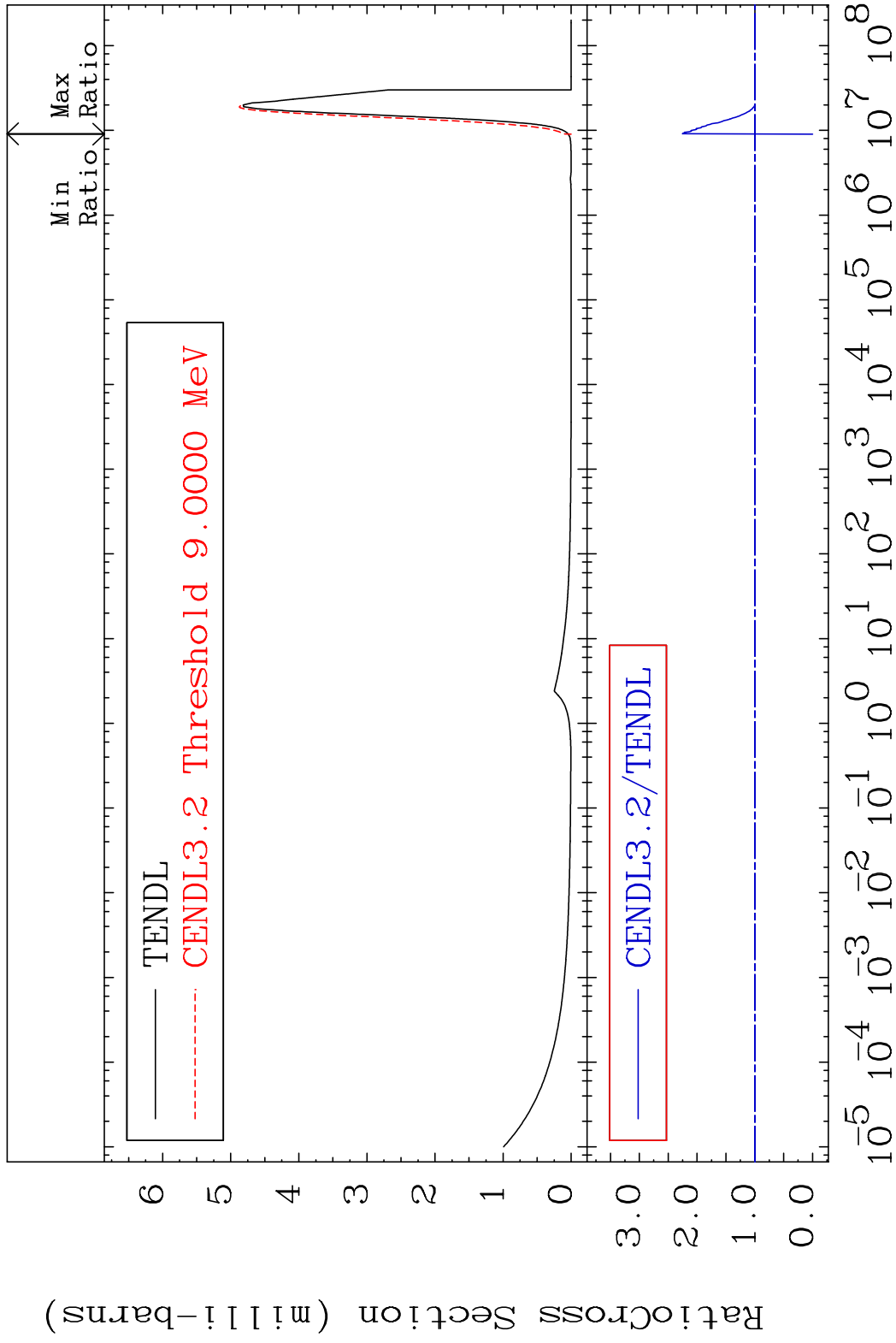
72-Hf-177

MAT 7234

(n,  $\alpha$ )

72-Hf-177

Cross Section -100.0 To 125.5 %



16

Incident Energy (eV)

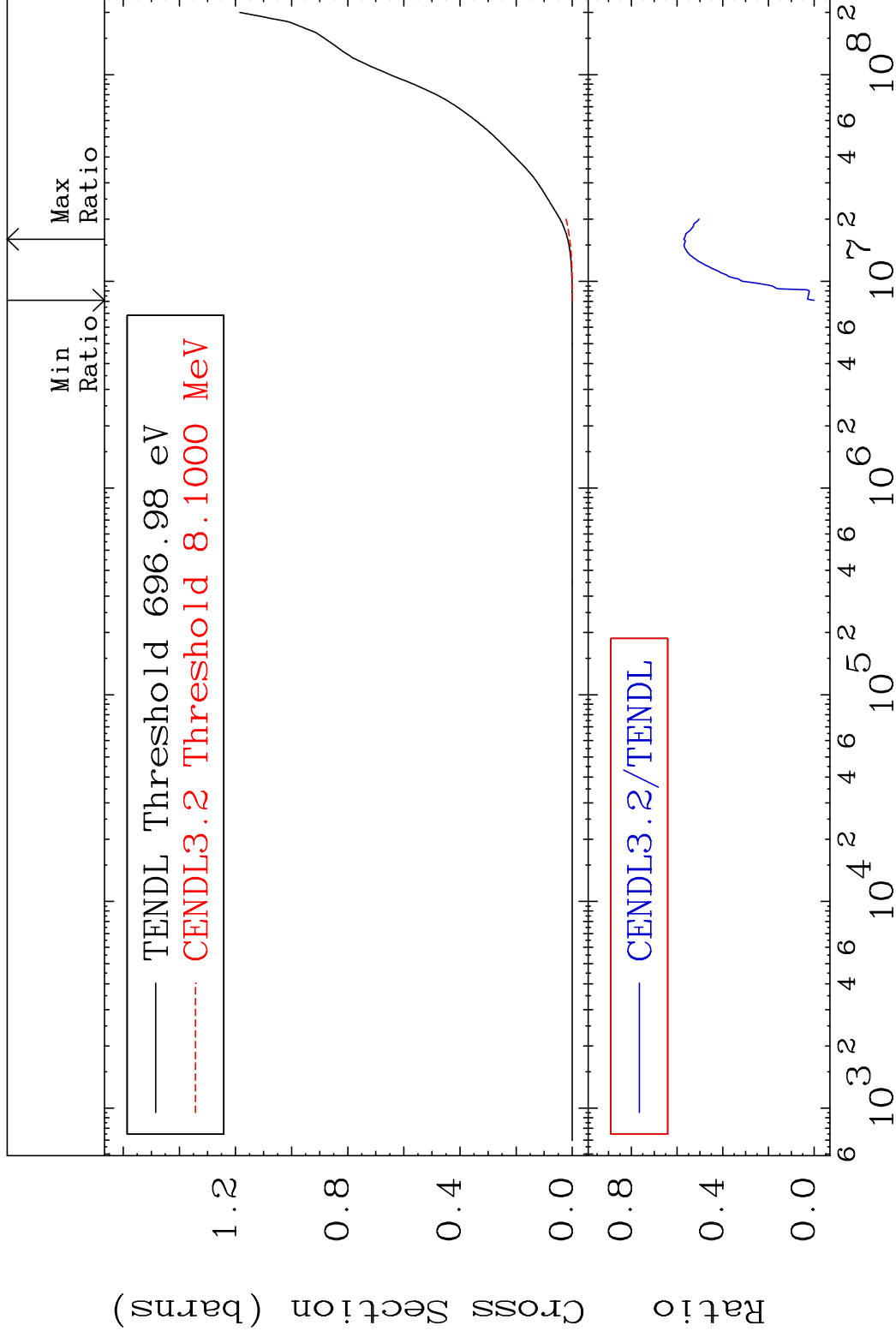
72-Hf-177

MAT 7234

Hydrogen Production

72-Hf-177

Cross Section -100.0 To -42.90%



17

Incident Energy (eV)

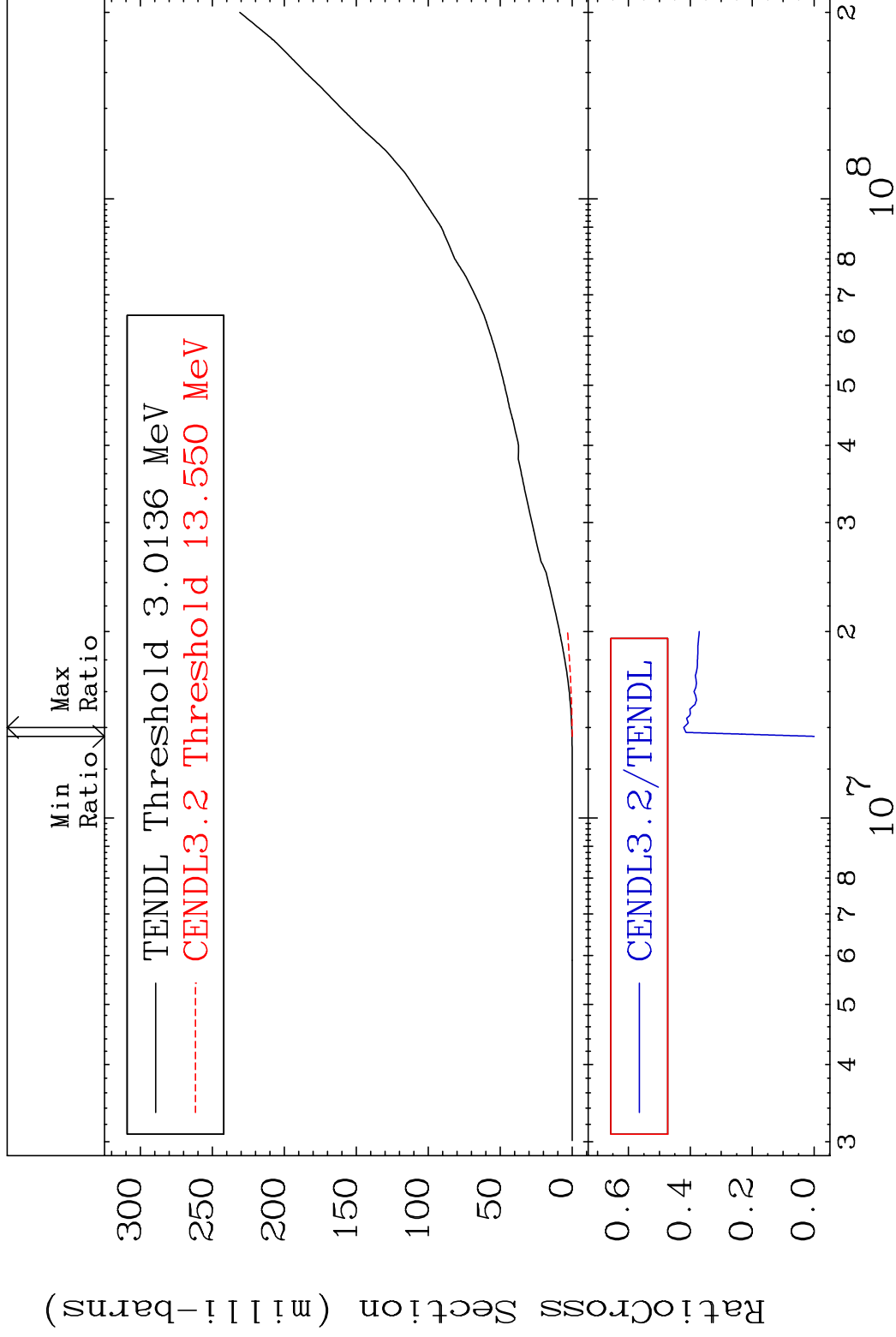
72-Hf-177

MAT 7234

Deuterium Production

72-Hf-177

Cross Section -100.0 To -57.84%



18

Incident Energy (eV)

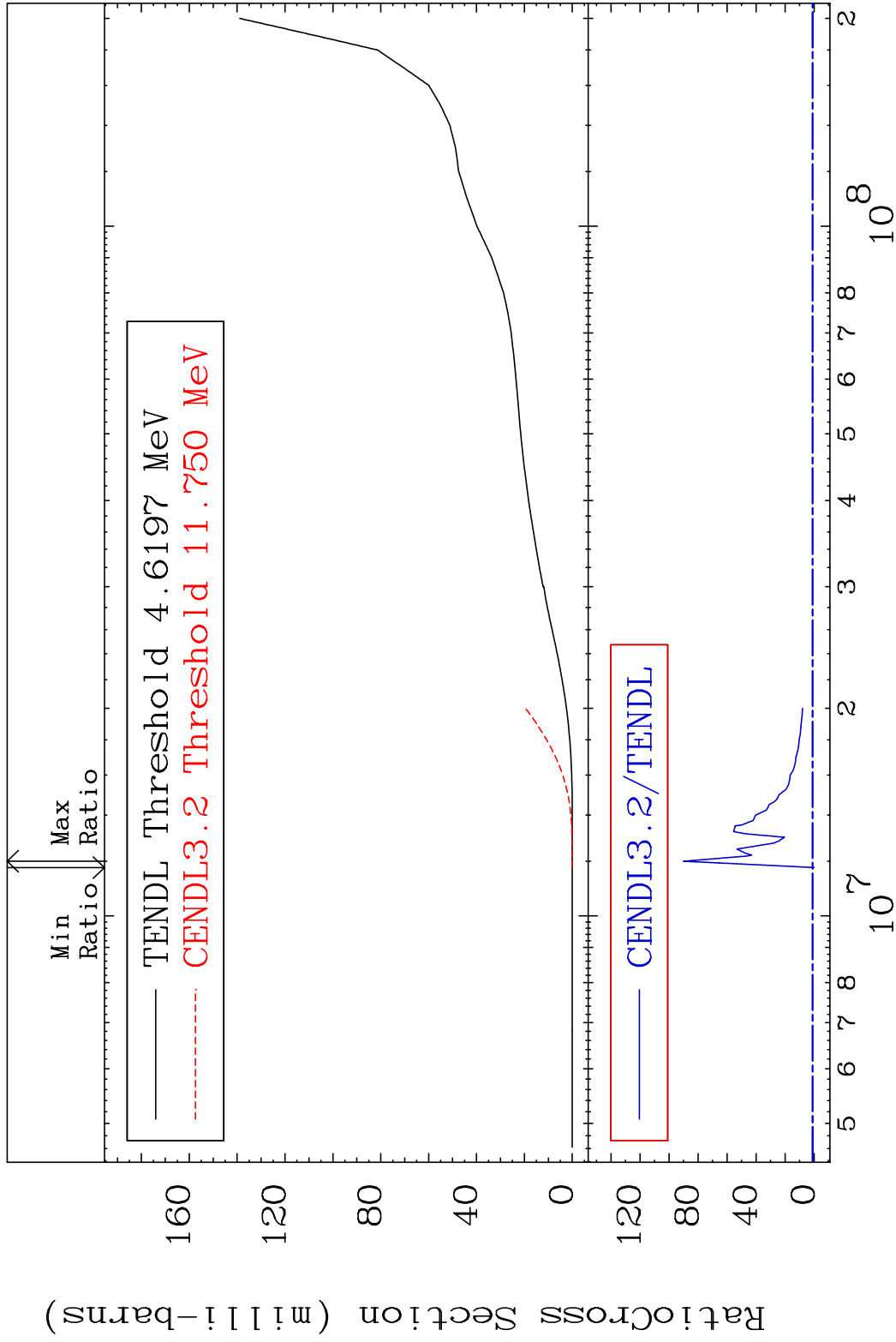
72-Hf-177

MAT 7234

Tritium Production

72-Hf-177

Cross Section -100.0 To 8889. %

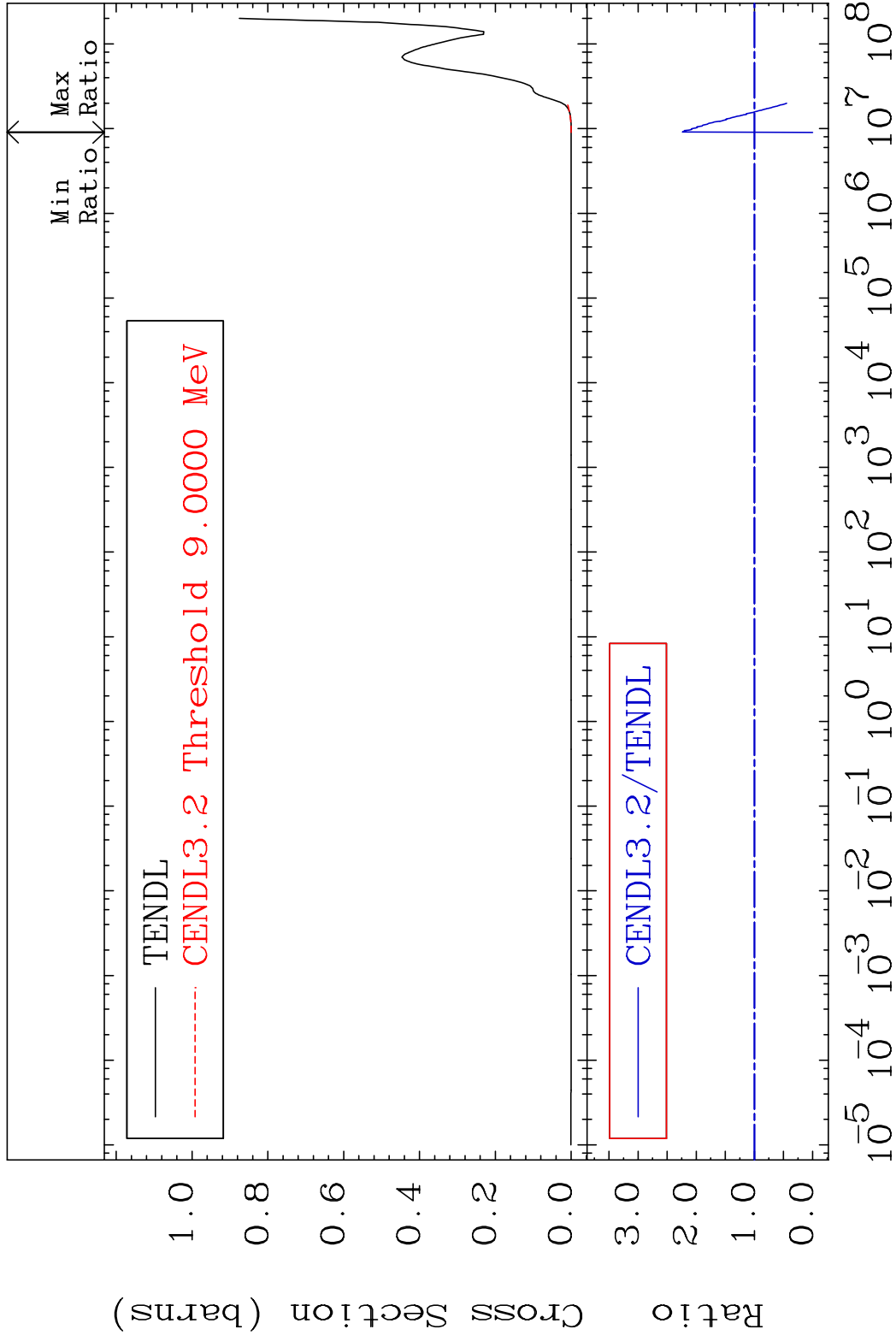


MAT 7234

He-4 Production

72-Hf-177

Cross Section -100.0 To 123.8 %

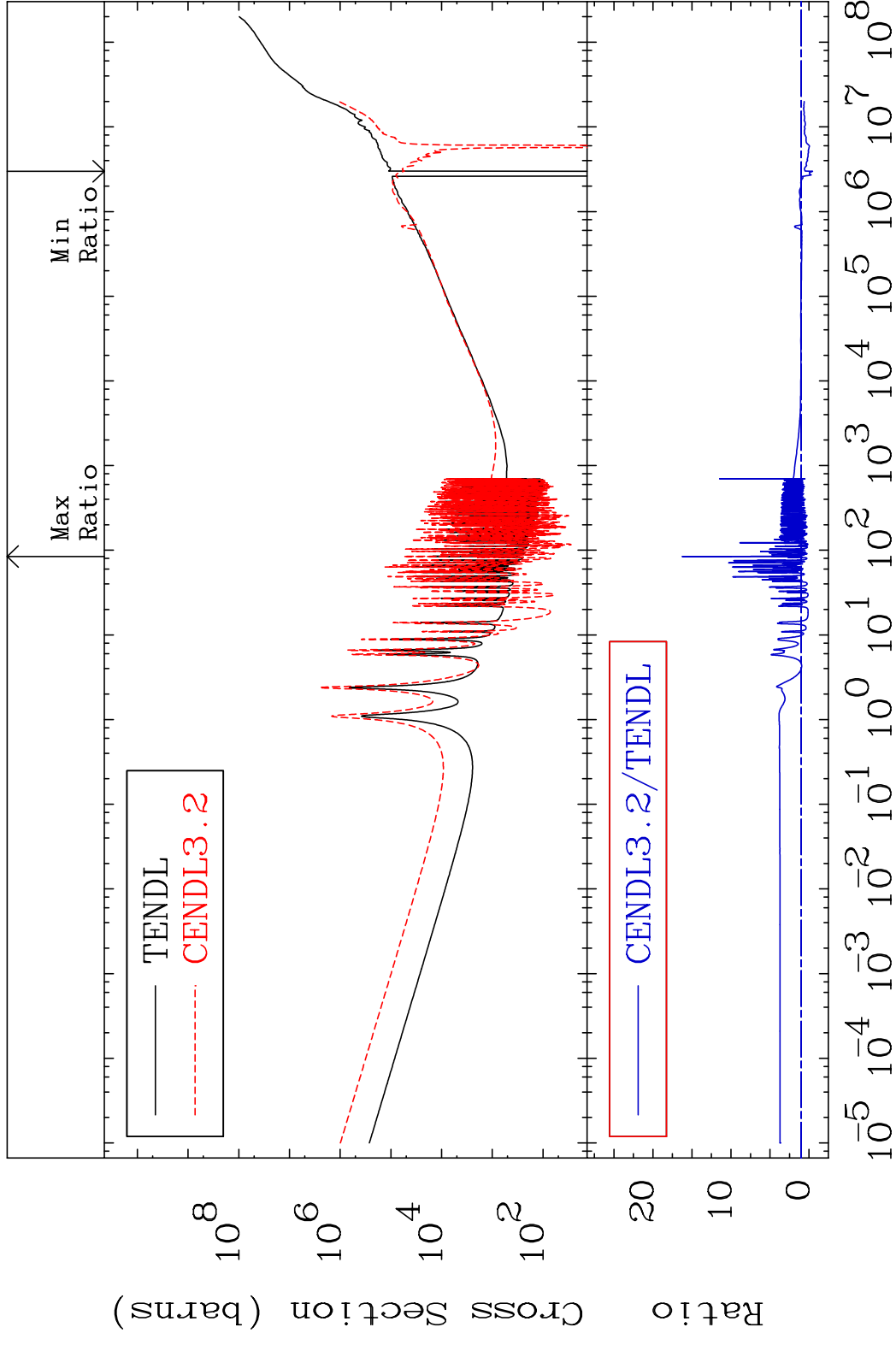


20

Incident Energy (eV)

72-Hf-177

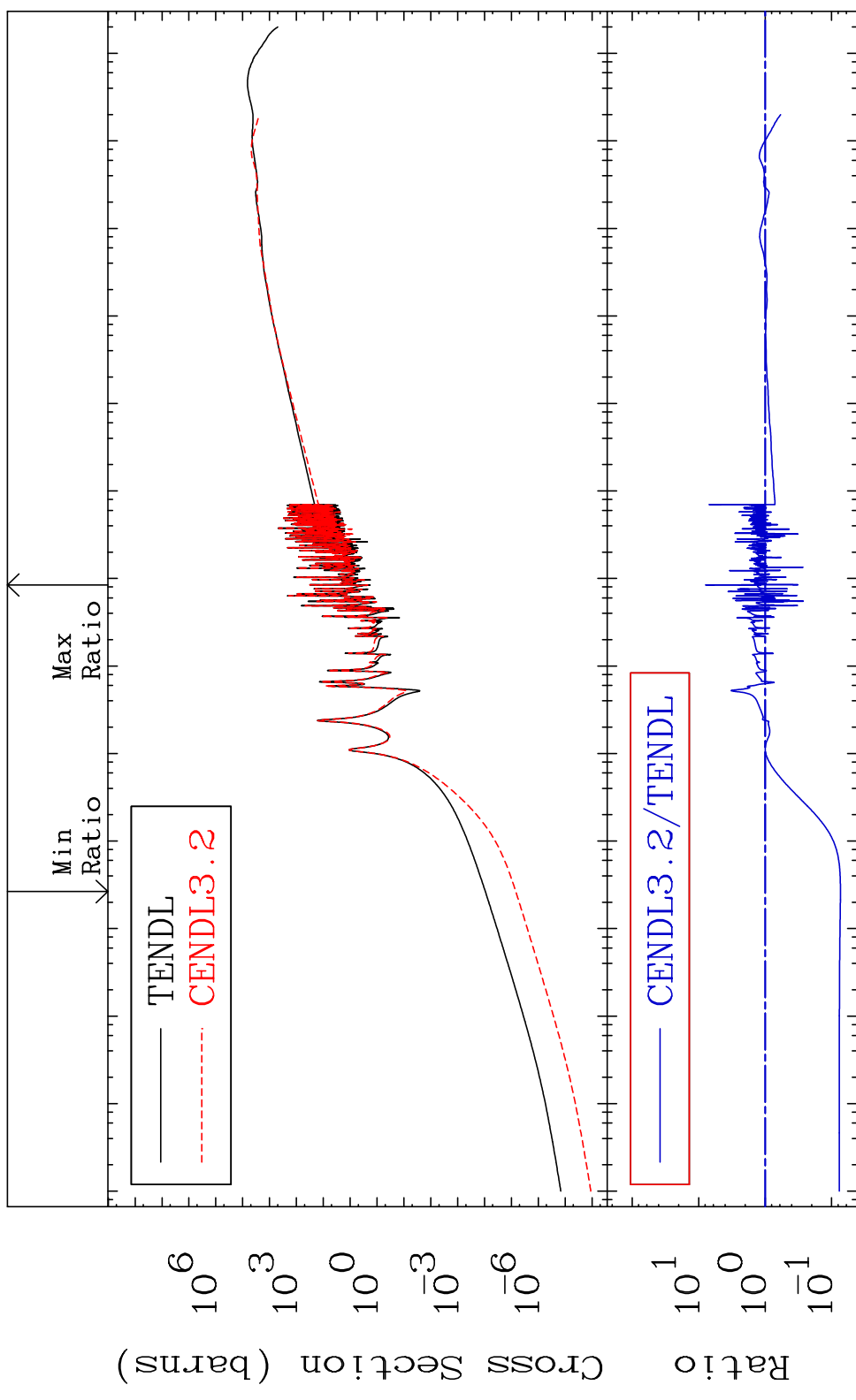
MAT 7234 Kerma total (eV-barns) 72-Hf-177  
 Cross Section -145.5 To 1523. %



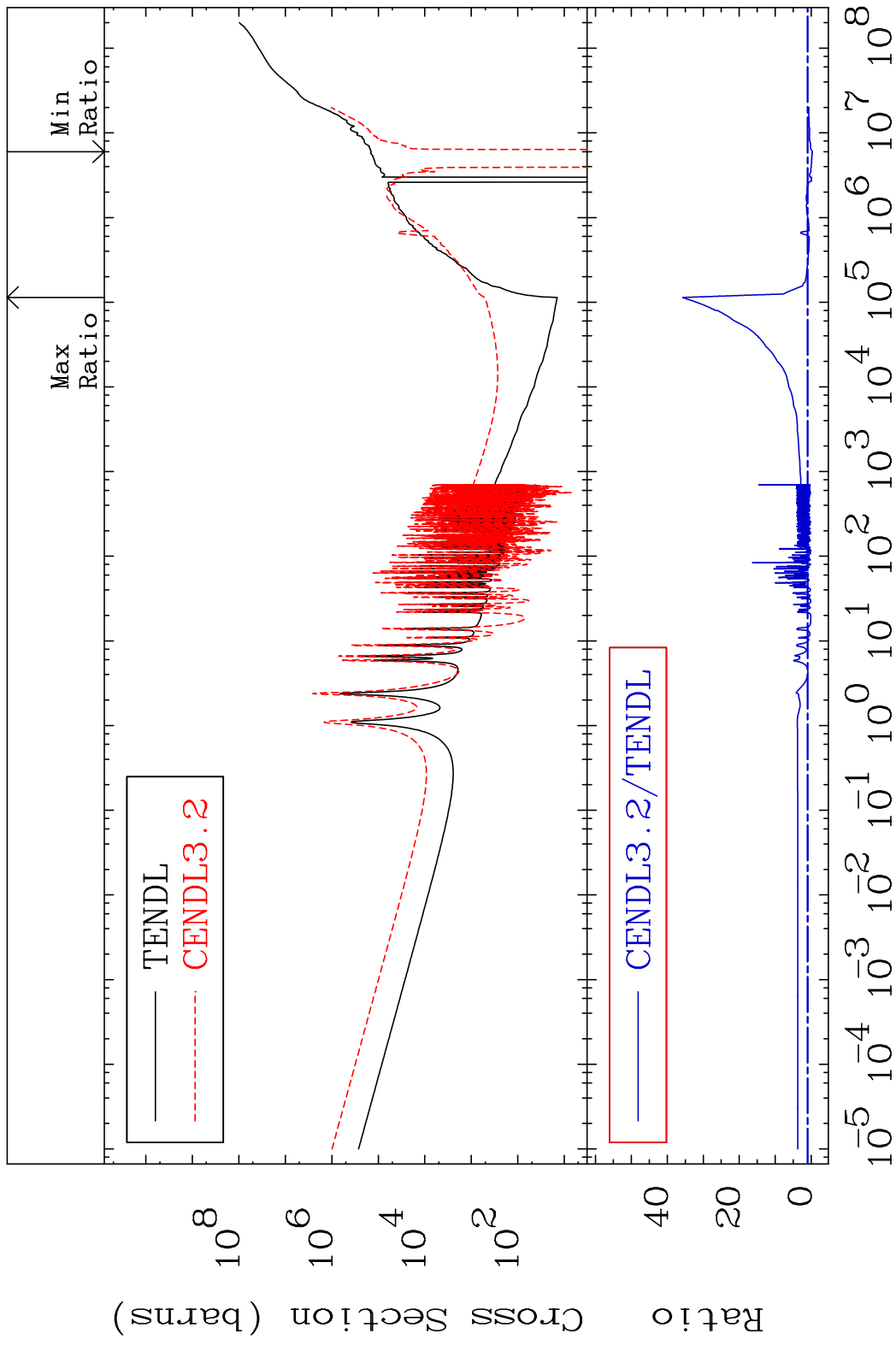
MAT 7234

Kerma elastic  
Cross Section -92.63 To 682.2 %

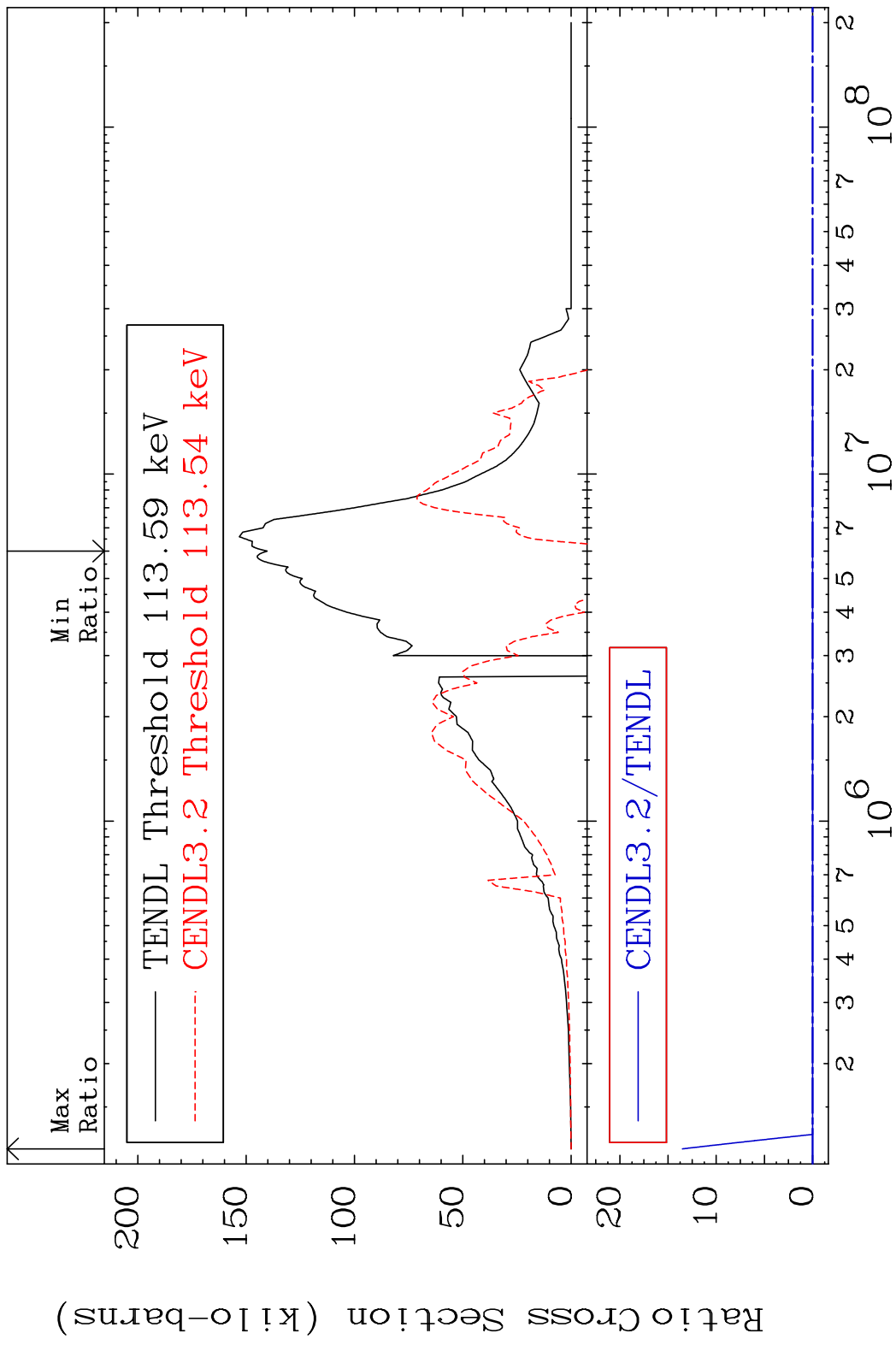
72-Hf-177



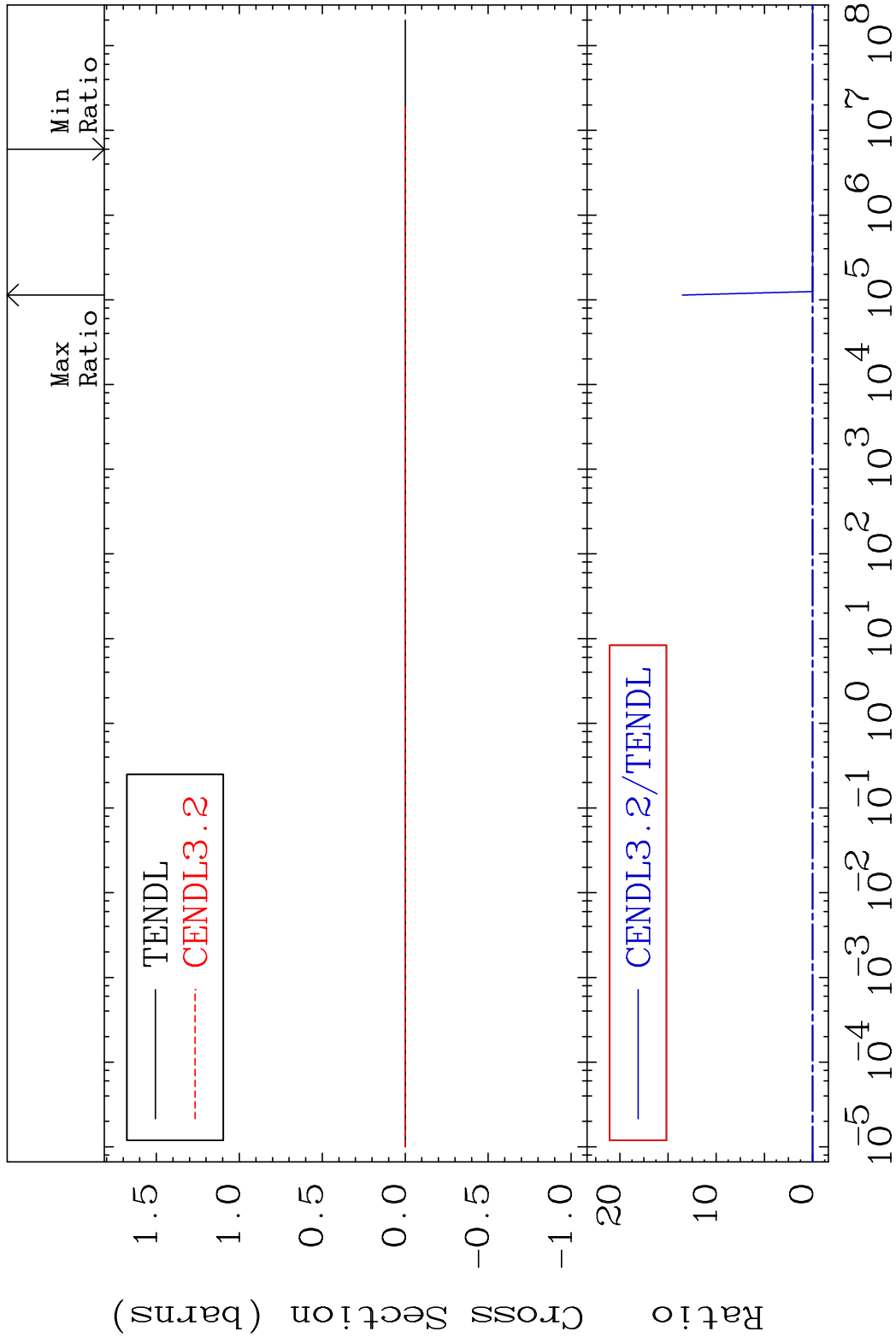
MAT 7234 Kerma non-elastic (all but mt2) 72-Hf-177  
 Cross Section -138.8 To 3482. %



MAT 7234 Kerma inelastic (mt51-91) 72-Hf-177  
 Cross Section -138.9 To 9999. %



MAT 7234 Kerma fission (mt18 or mt19-20-21-38)72-Hf-177  
 Cross Section -138.9 To 9999. %

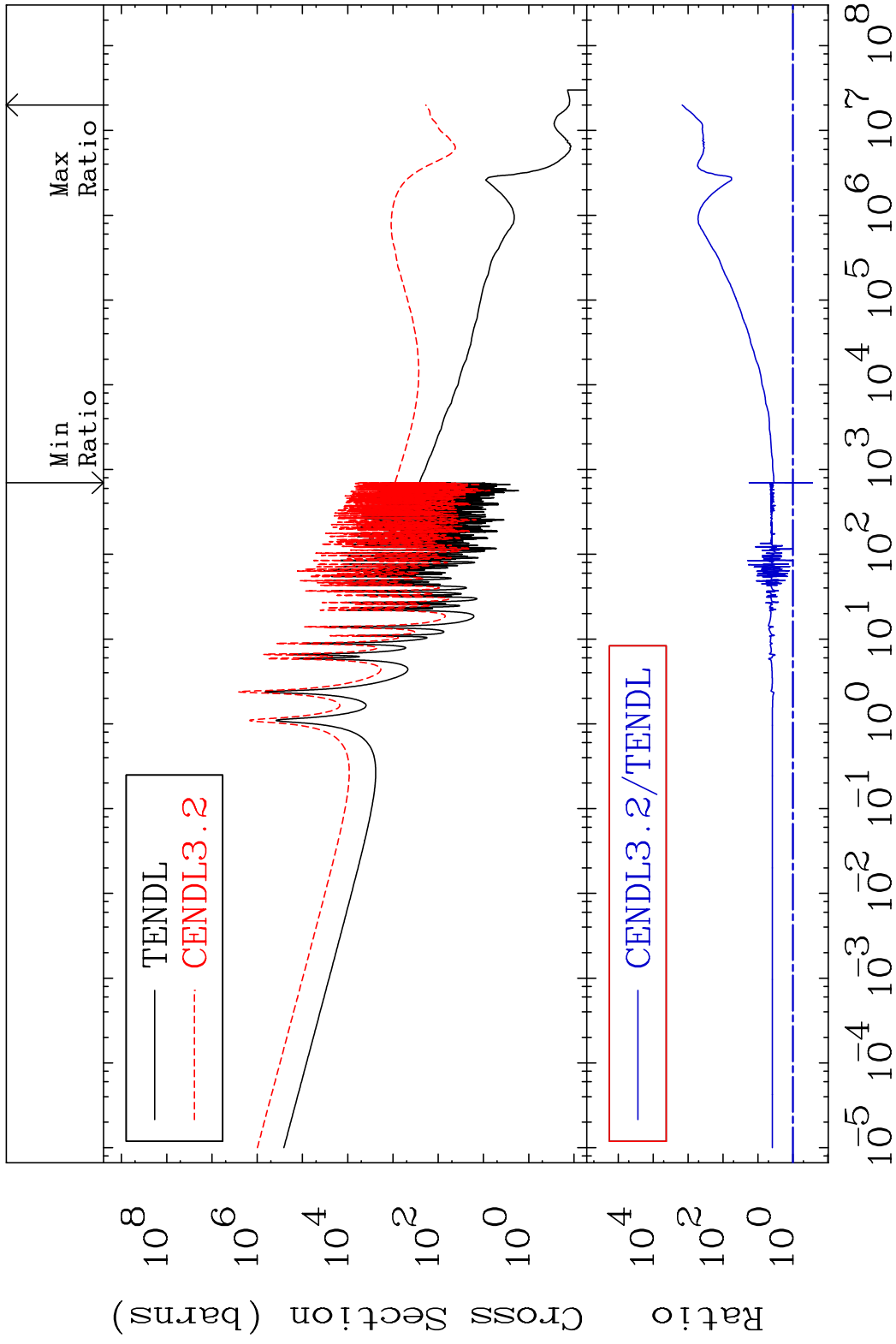


MAT 7234

Kerma capture (mt102)

72-Hf-177

Cross Section -72.69 To 9999. %

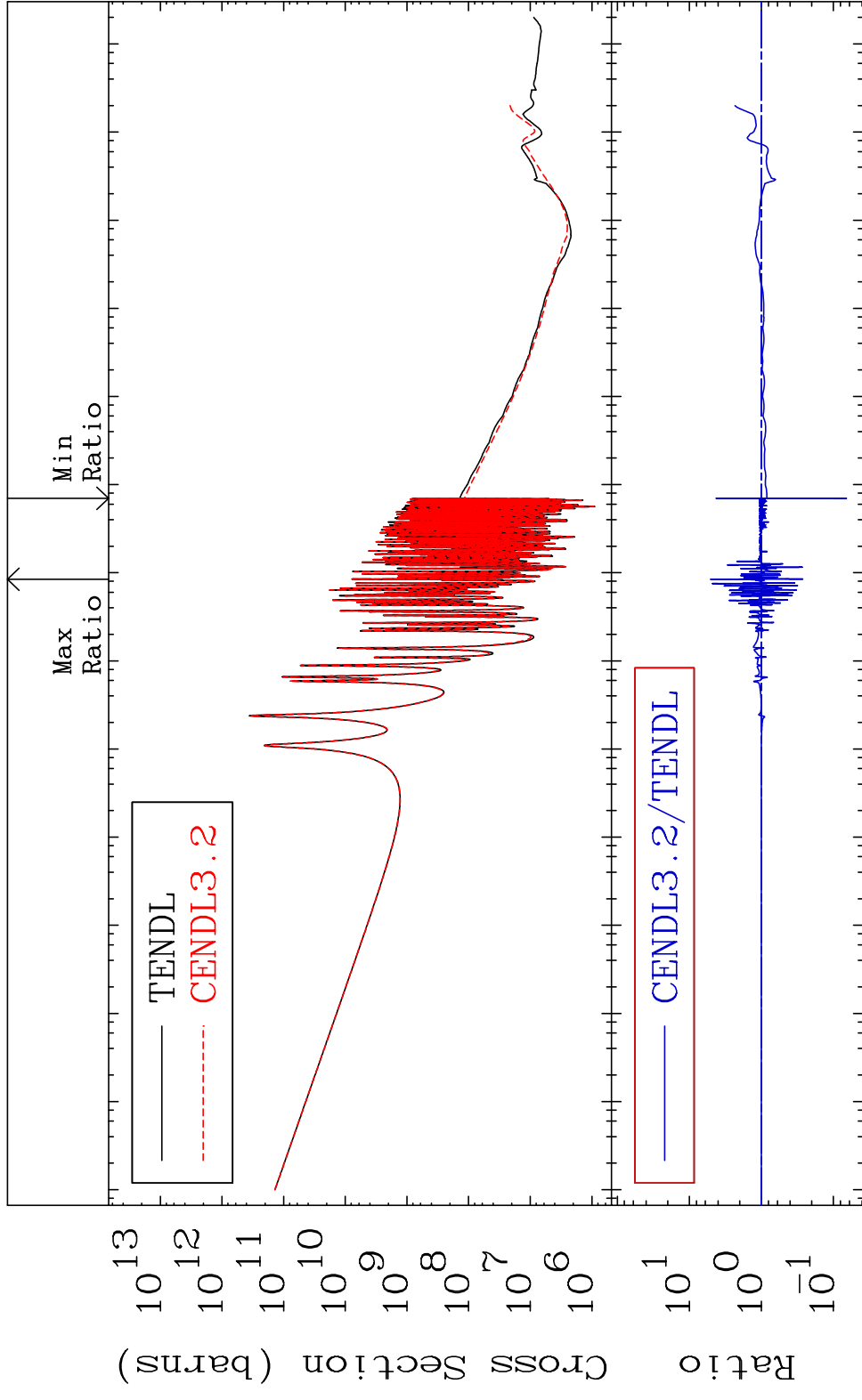


26

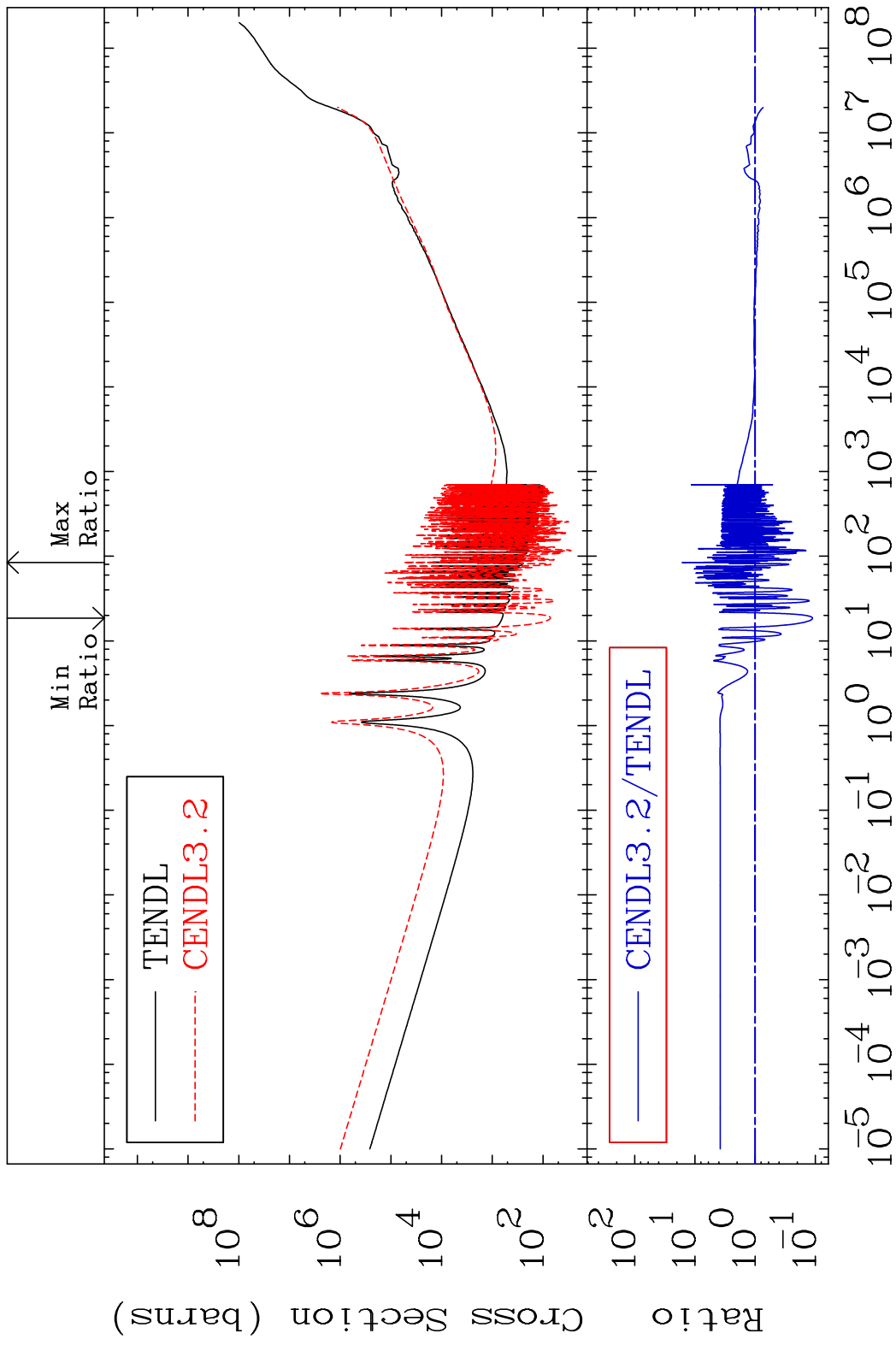
Incident Energy (eV)

72-Hf-177

MAT 7234 Total photon (eV-barns) 72-Hf-177  
 Cross Section -93.38 To 405.9 %



MAT 7234 Total kinematic kerma (high limit) 72-Hf-177  
 Cross Section -88.87 To 1521. %

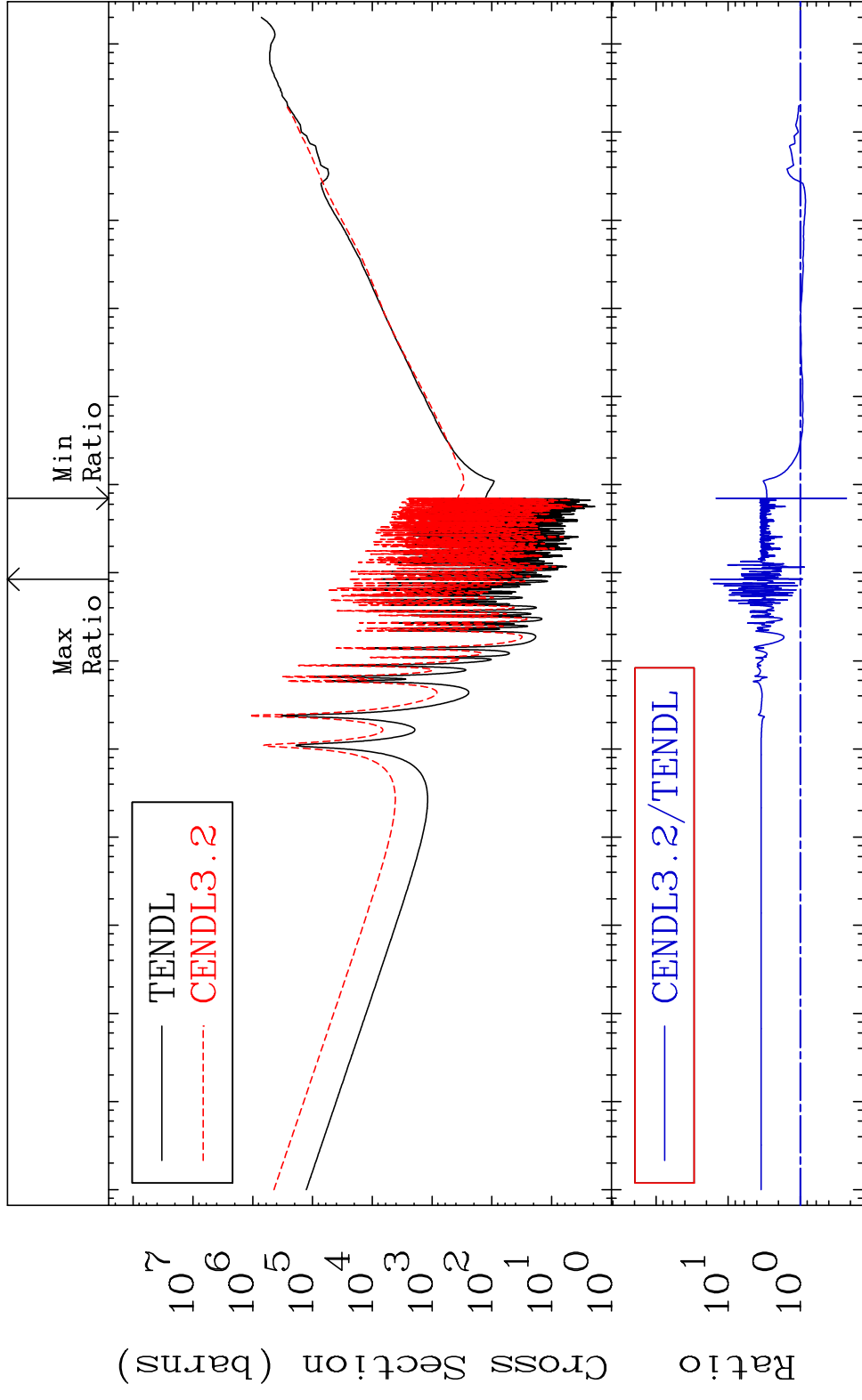


MAT 7234

Dpa total (eV-barns)

72-Hf-177

Cross Section -77.13 To 1647. %

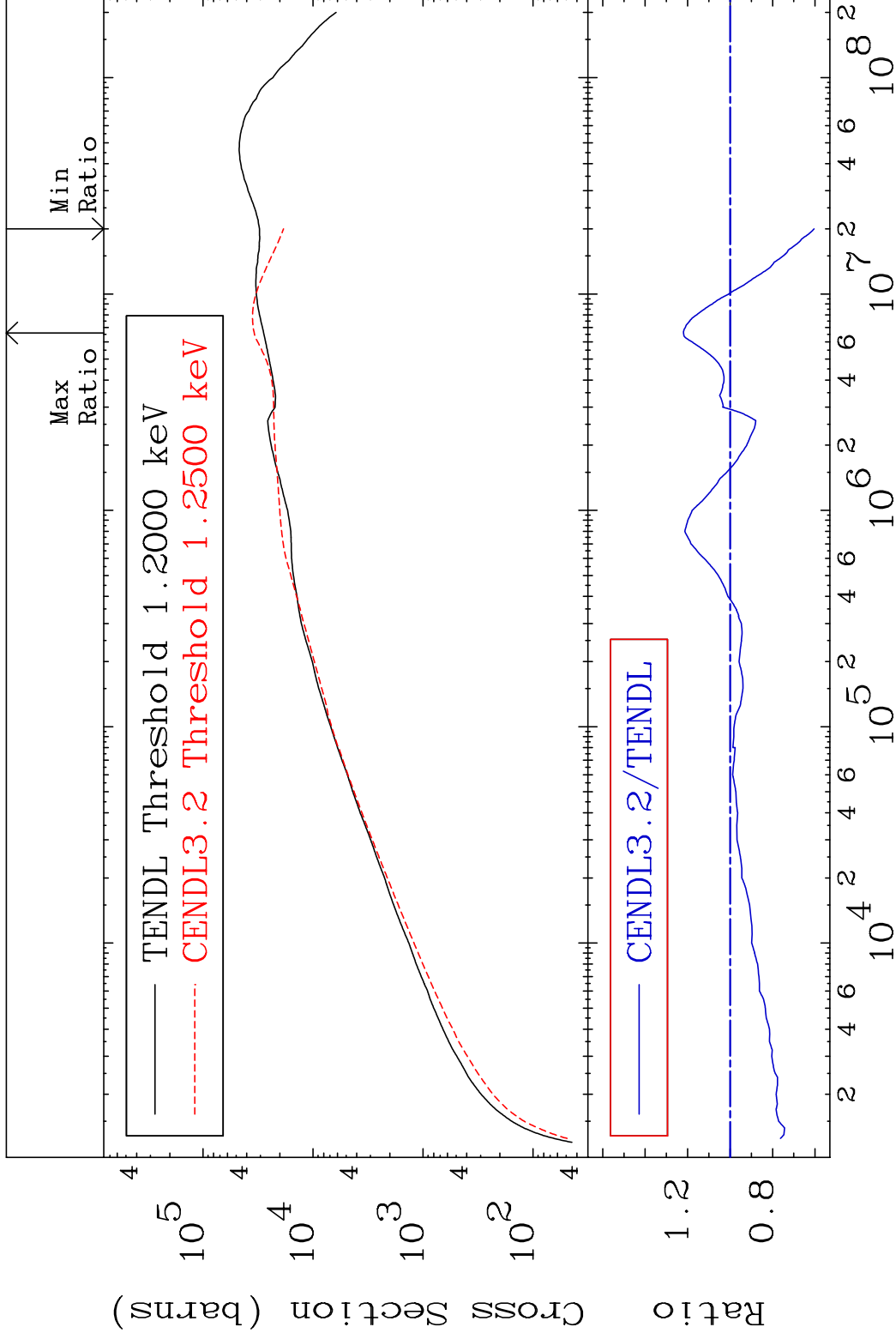


MAT 7234

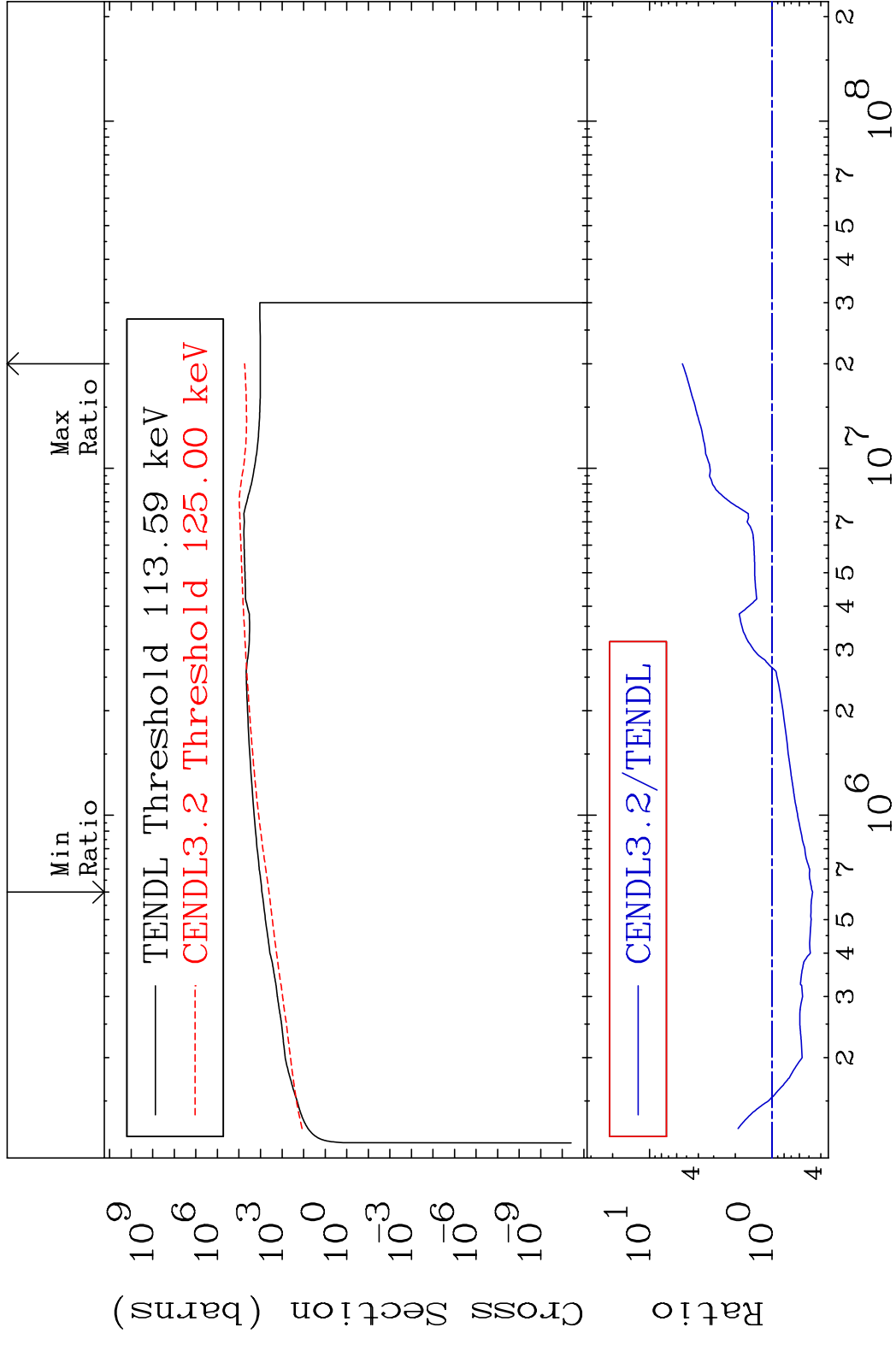
Dpa elastic (mt2)

72-Hf-177

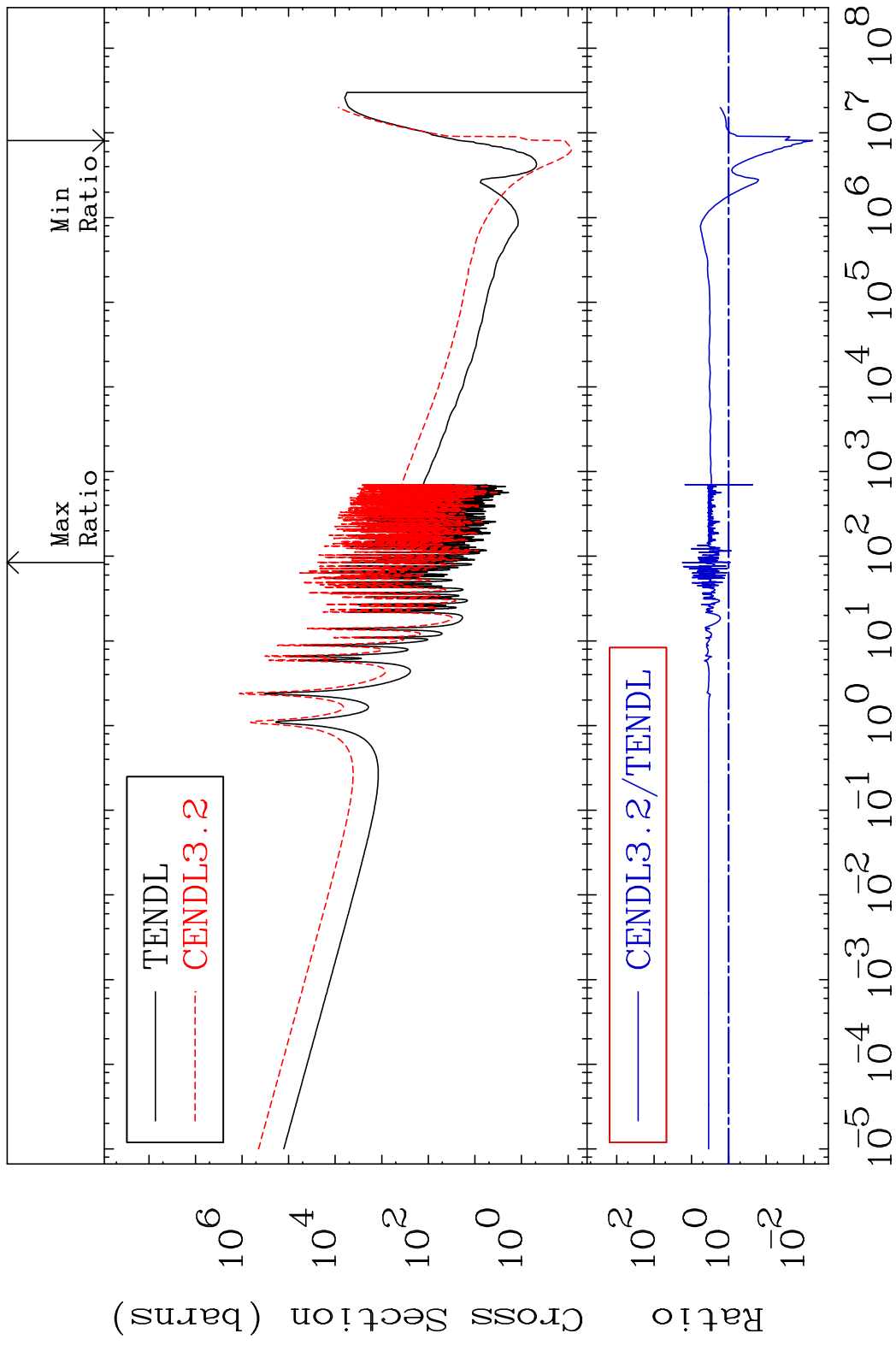
Cross Section -39.53 To 21.97 %



MAT 7234 Dpa inelastic (mt51-91) 72-Hf-177  
 Cross Section -53.20 To 439.5 %



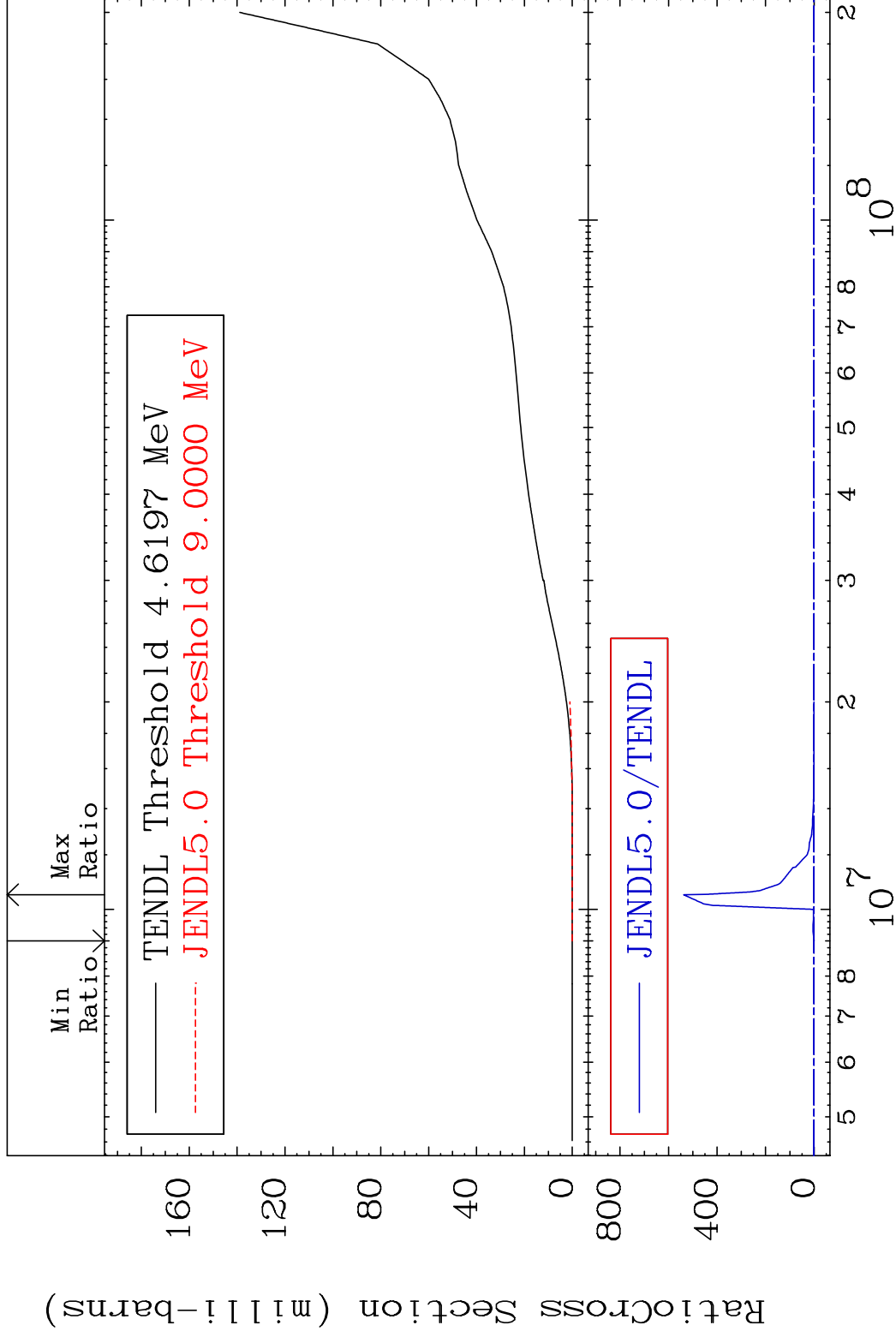
MAT 7234 Dpa disappearance (mt102 -120) 72-Hf-177  
 Cross Section -99.43 To 1647. %



MAT 7234

Tritium Production 72-Hf-177

Cross Section -100.0 To 9999. %



33

Incident Energy (eV)

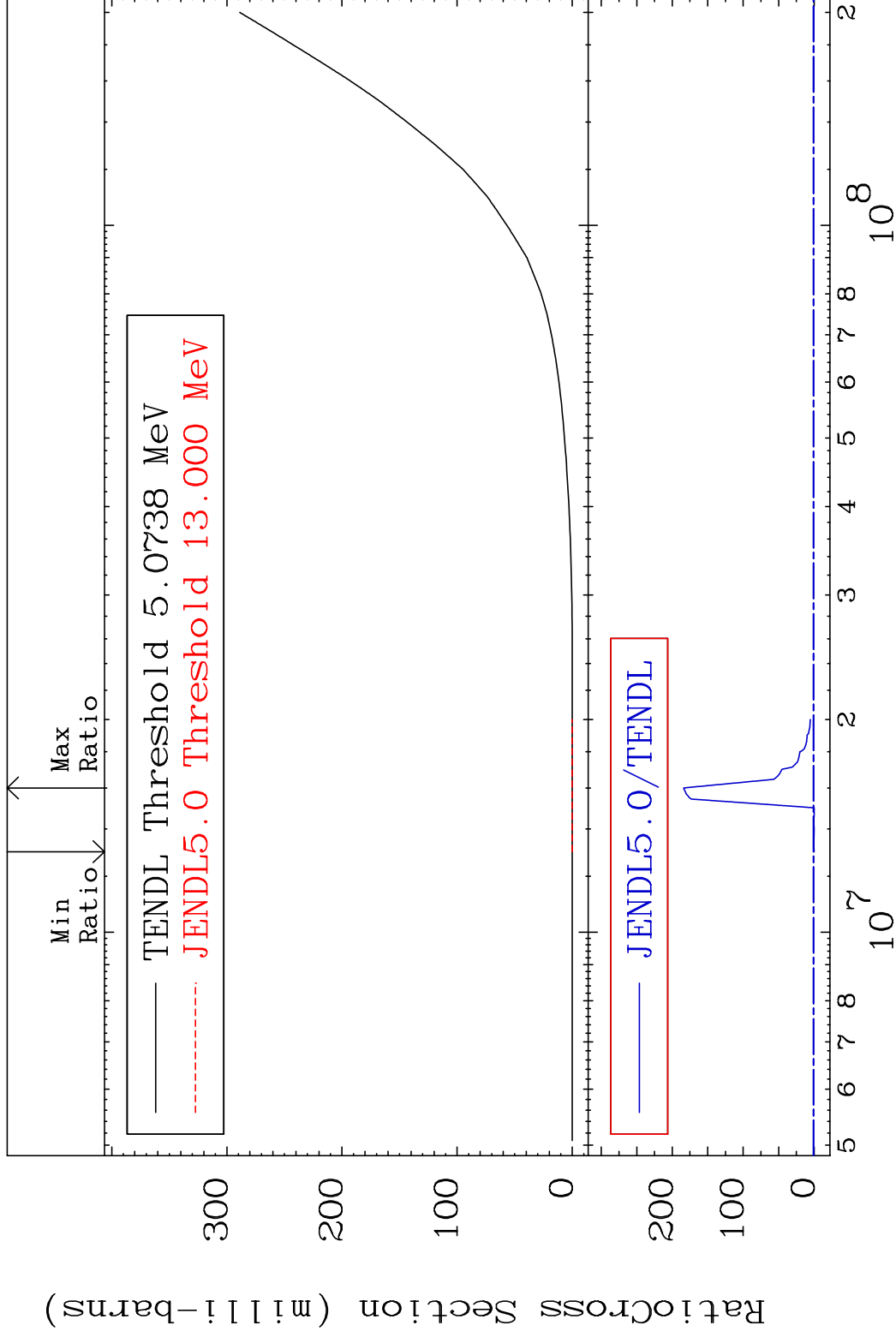
72-Hf-177

MAT 7234

He-3 Production

72-Hf-177

Cross Section -100.0 To 9999. %



34

Incident Energy (eV)

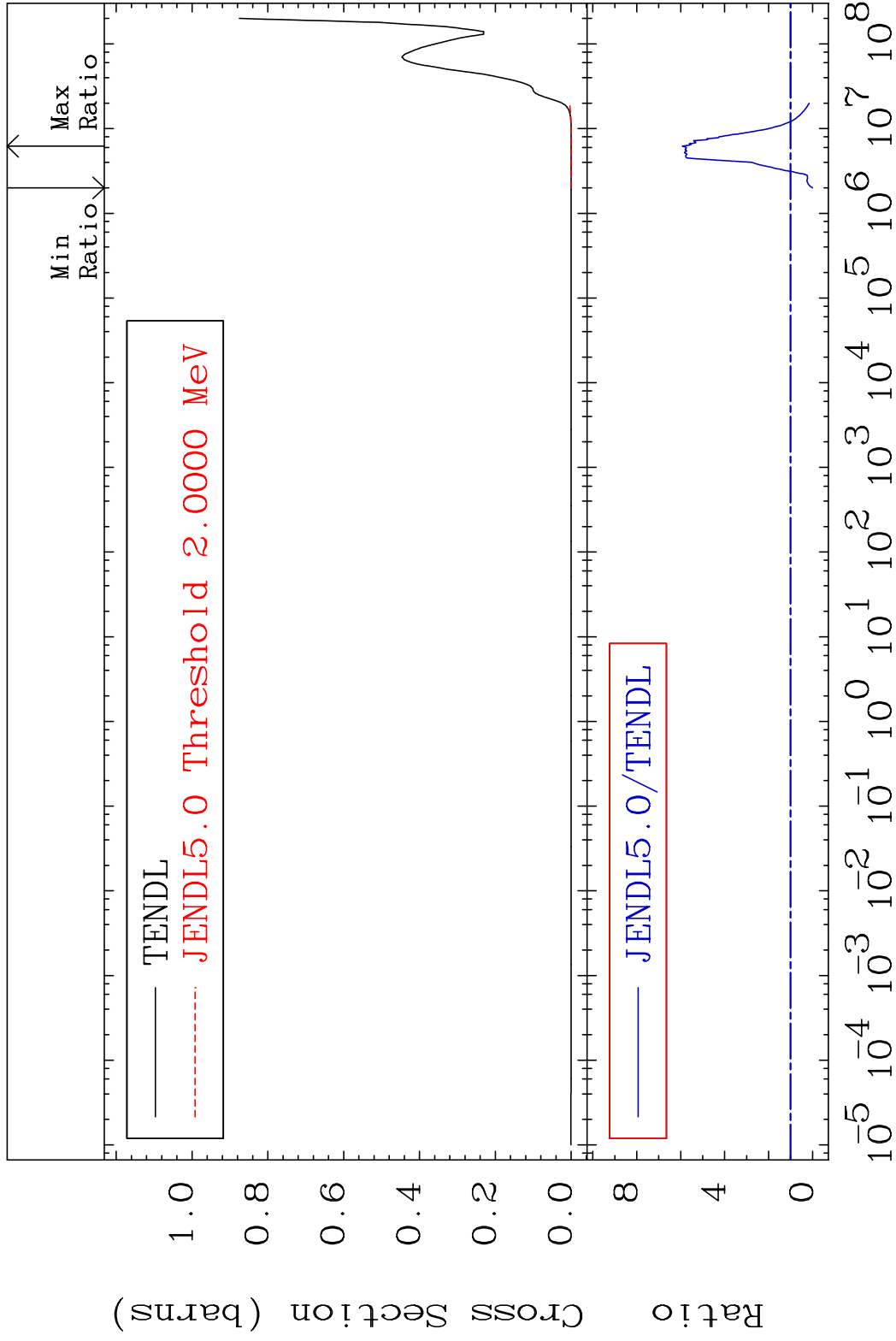
72-Hf-177

MAT 7234

He-4 Production

72-Hf-177

Cross Section -100.0 To 492.6 %

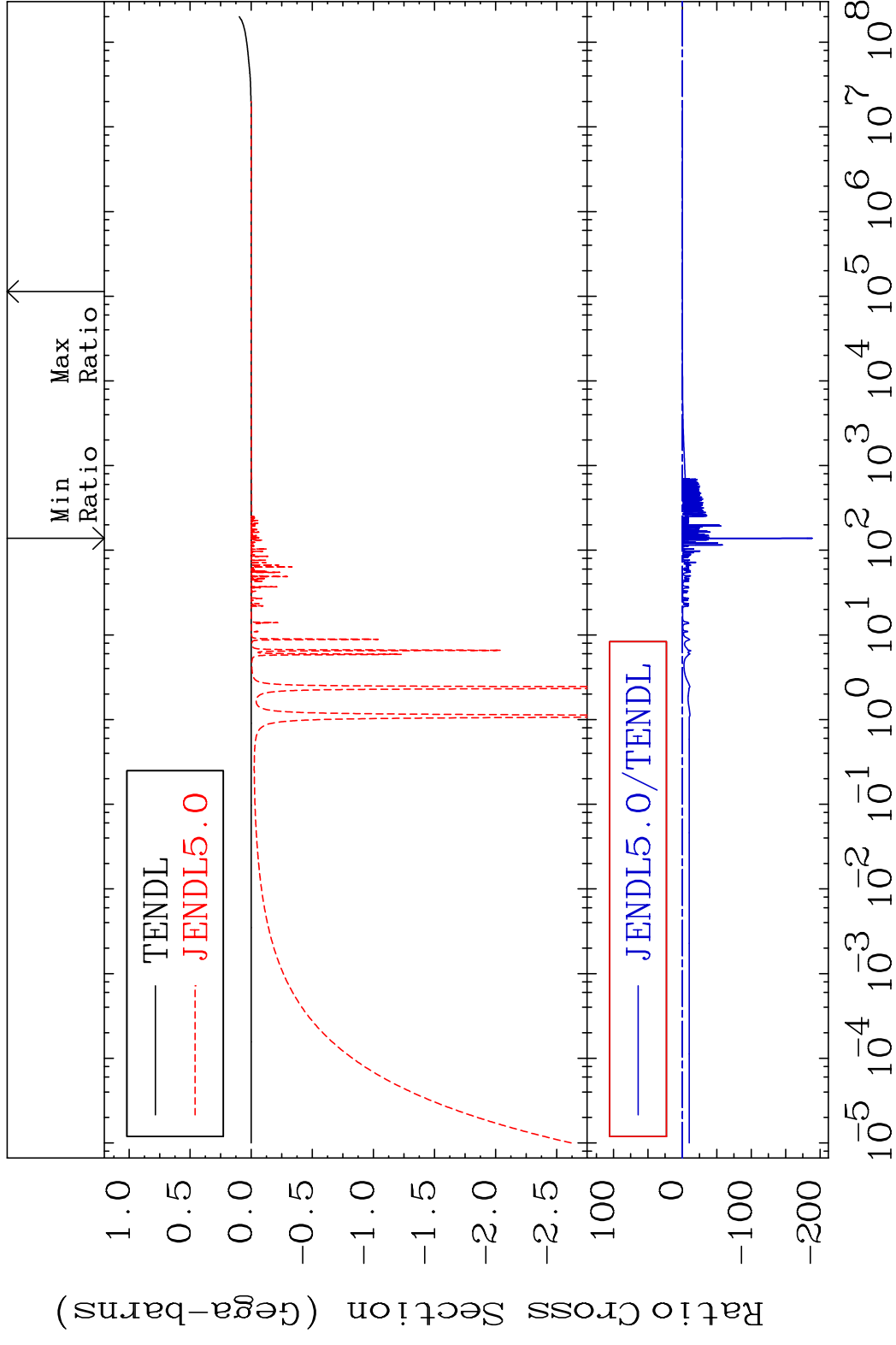


35

Incident Energy (eV)

72-Hf-177

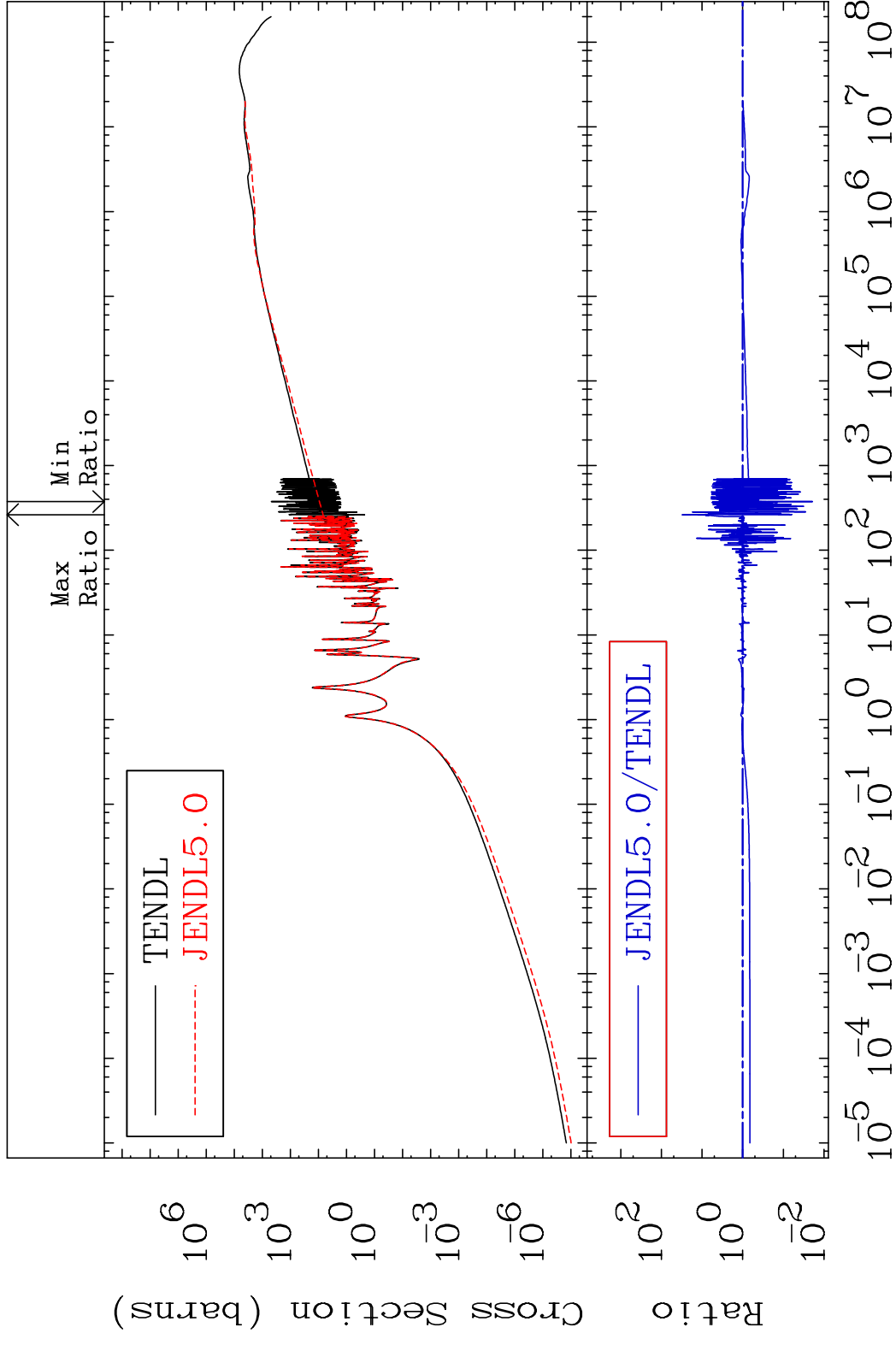
MAT 7234 Kerma total (eV-barns) 72-Hf-177  
 Cross Section -9999. To 3549. %



MAT 7234

Kerma elastic  
Cross Section

72-Hf-177  
-98.09 To 2955. %

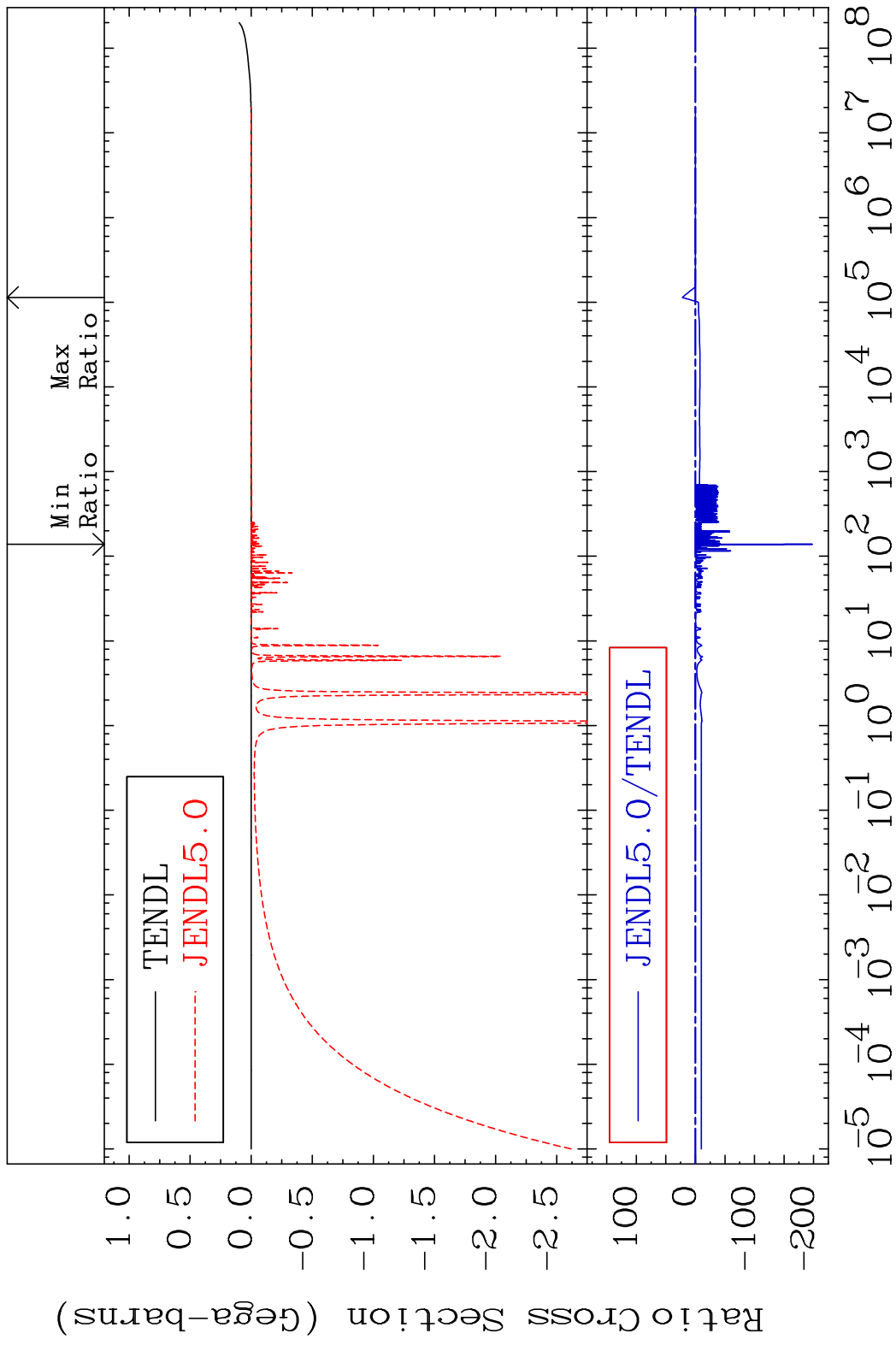


37

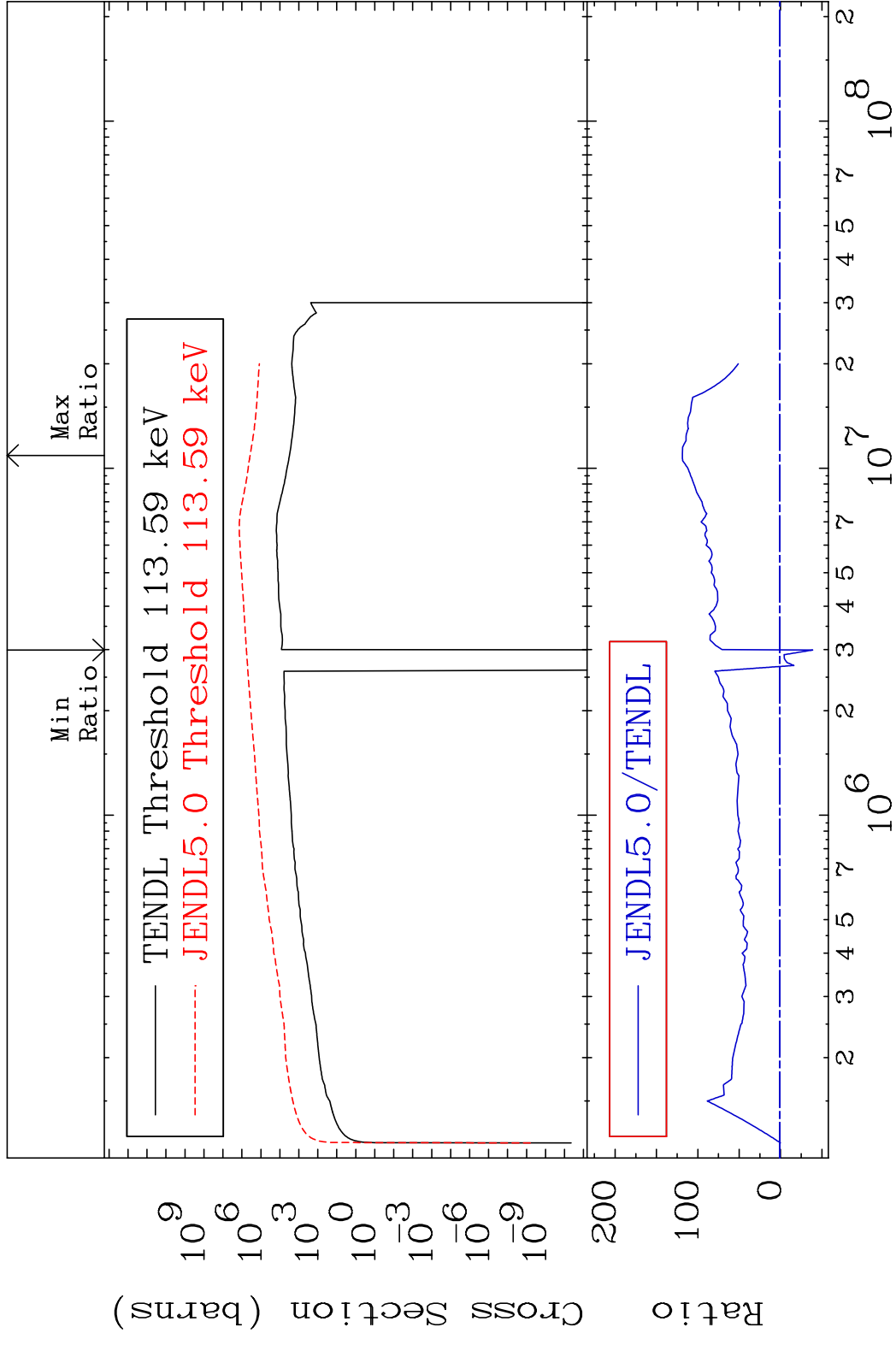
Incident Energy (eV)

72-Hf-177

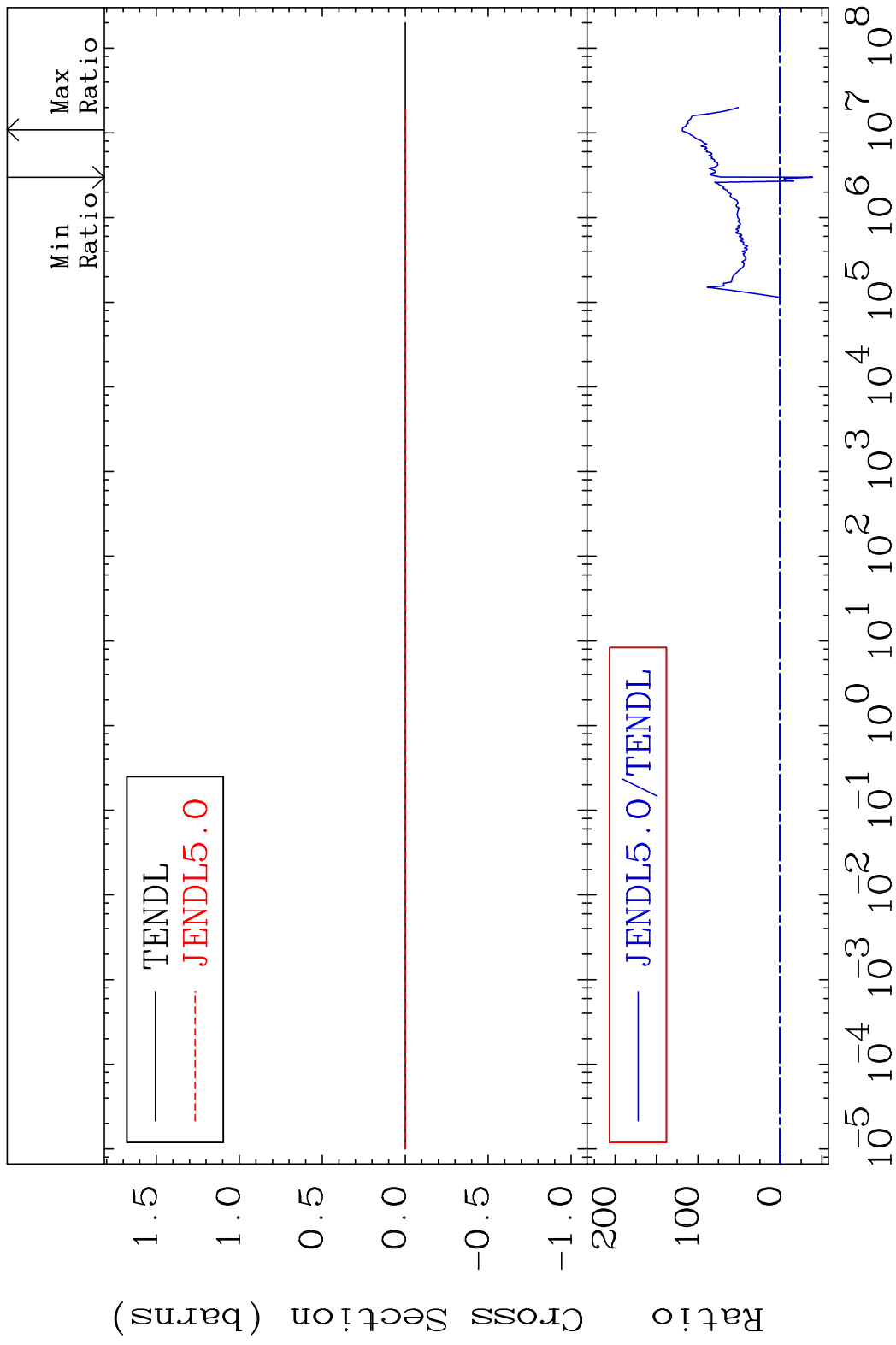
MAT 7234 Kerma non-elastic (all but mt2) 72-Hf-177  
 Cross Section -9999. To 9999. %



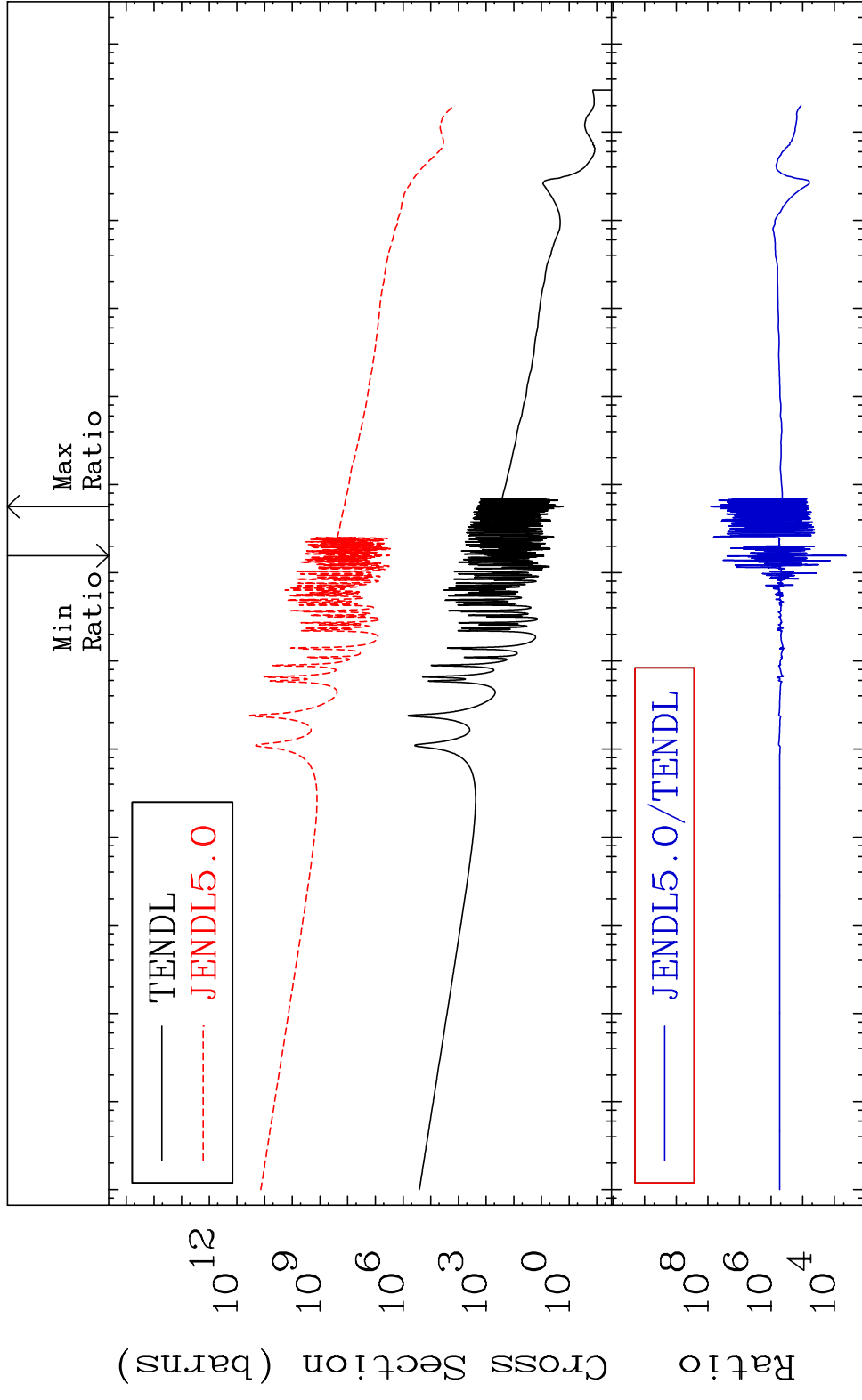
MAT 7234 Kerma inelastic (mt51-91) 72-Hf-177  
 Cross Section -3971. To 9999. %



MAT 7234 Kerma fission (mt18 or mt19-20-21-38)72-Hf-177  
 Cross Section -3971. To 9999. %



MAT 7234 Kerma capture (mt102) 72-Hf-177  
 Cross Section 9999. To 9999. %

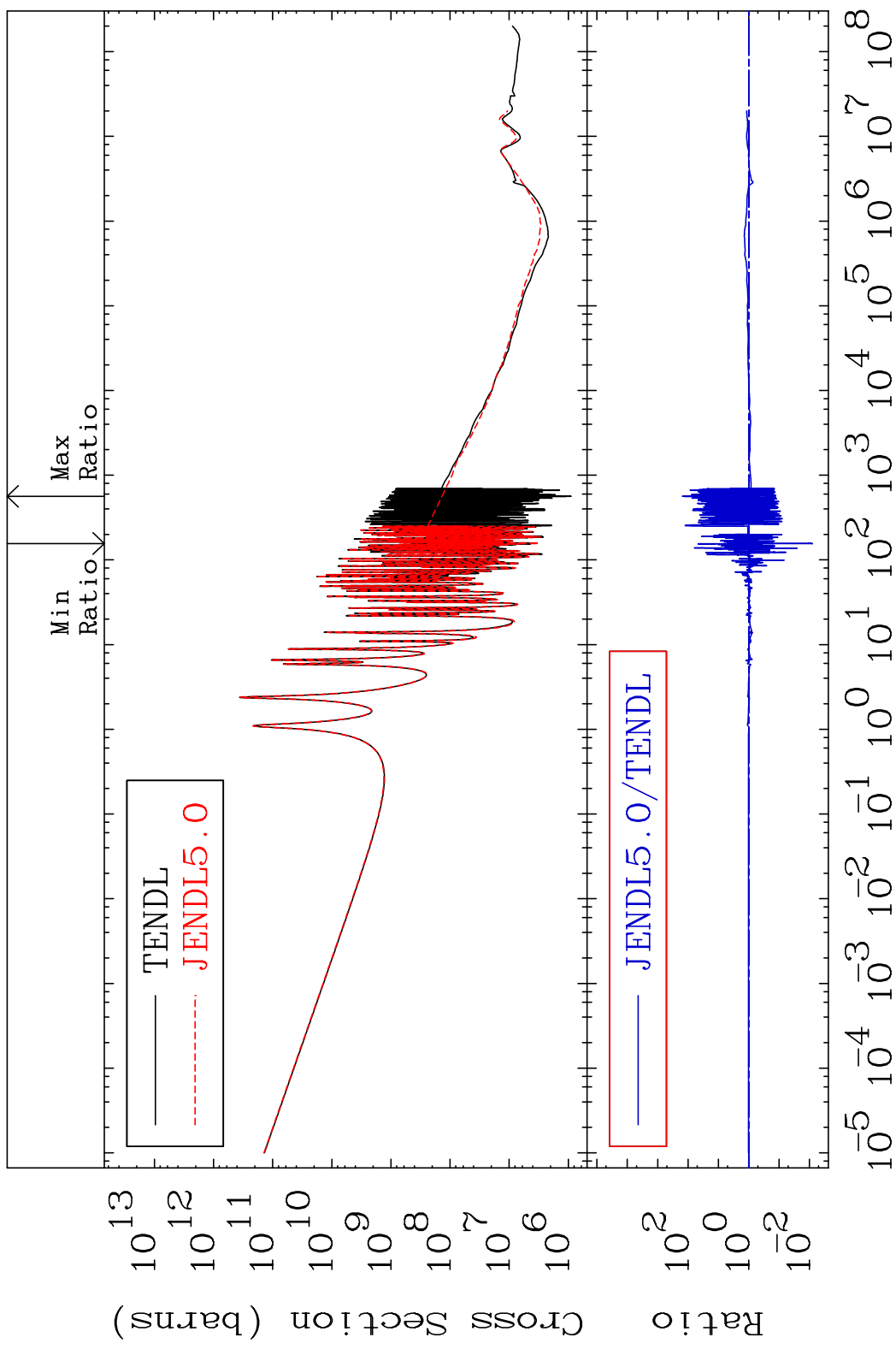


MAT 7234

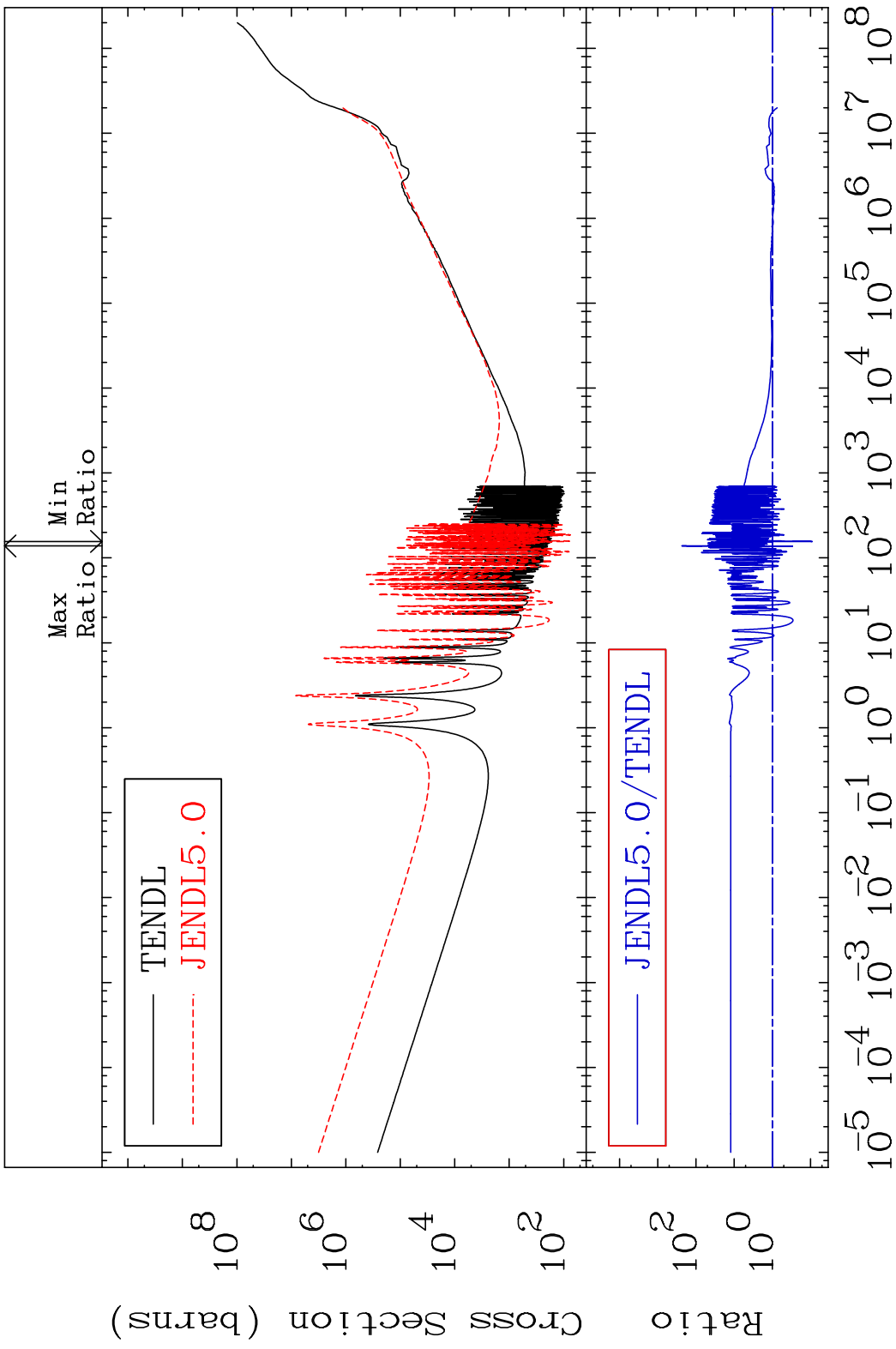
Total photon (eV-barns)

72-Hf-177

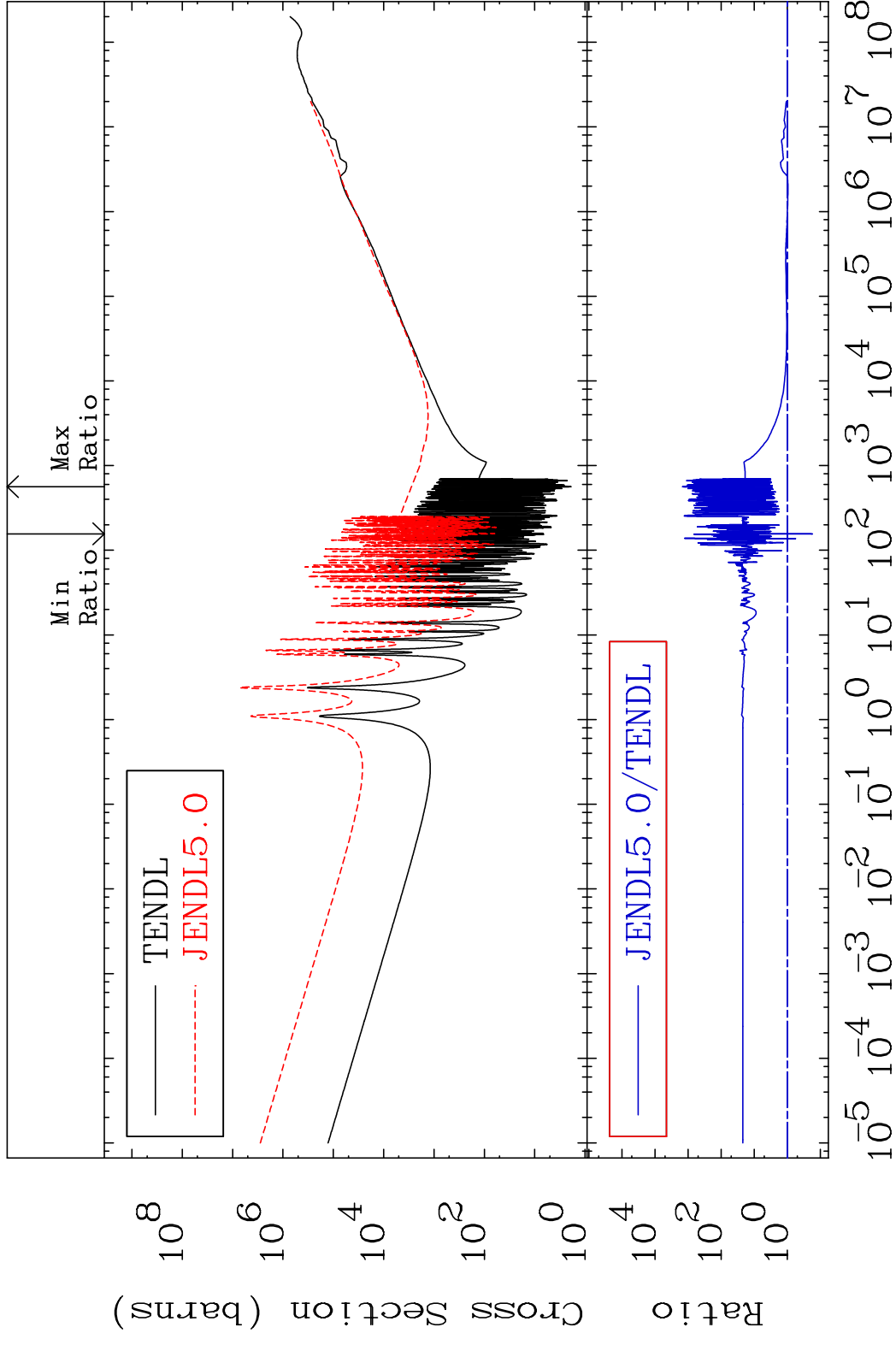
Cross Section -99.21 To 9999. %



MAT 7234 Total kinematic kerma (high limit) 72-Hf-177  
Cross Section -91.07 To 9999. %



MAT 7234      Dpa total (eV-barns)      72-Hf-177  
 Cross Section      -82.73 To 9999. %

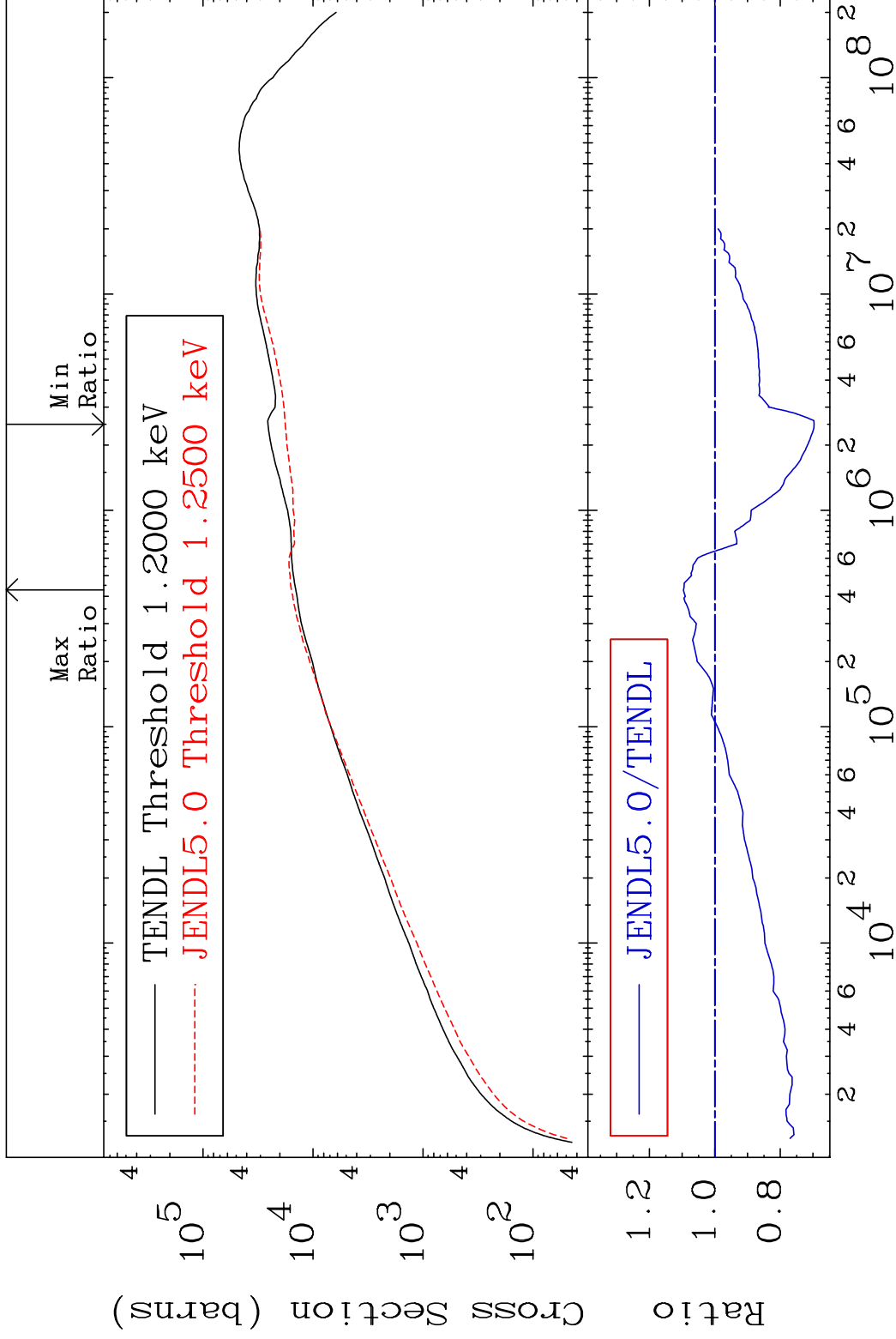


MAT 7234

Dpa elastic (mt2)

72-Hf-177

Cross Section -30.30 To 9.624 %

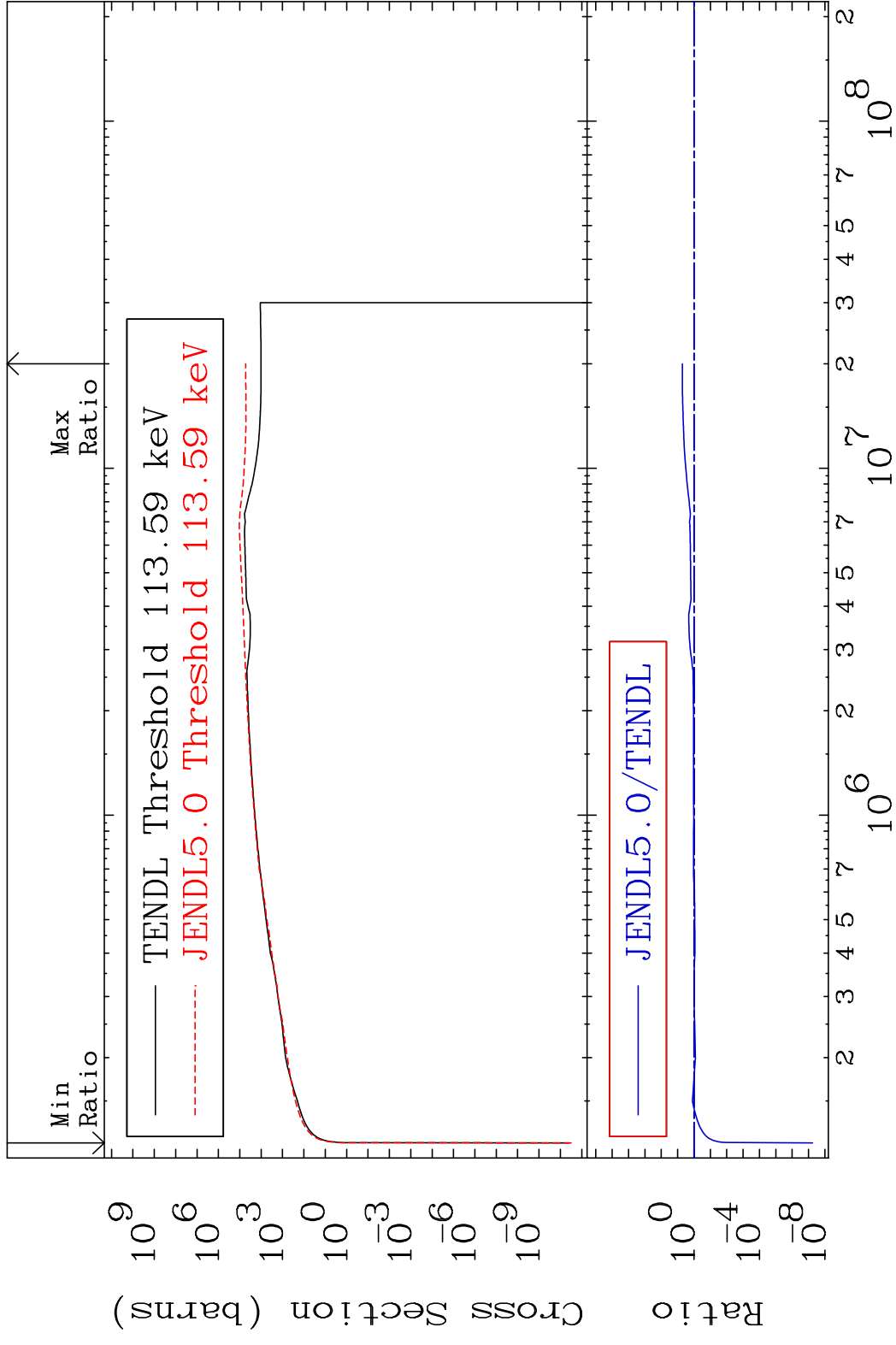


45

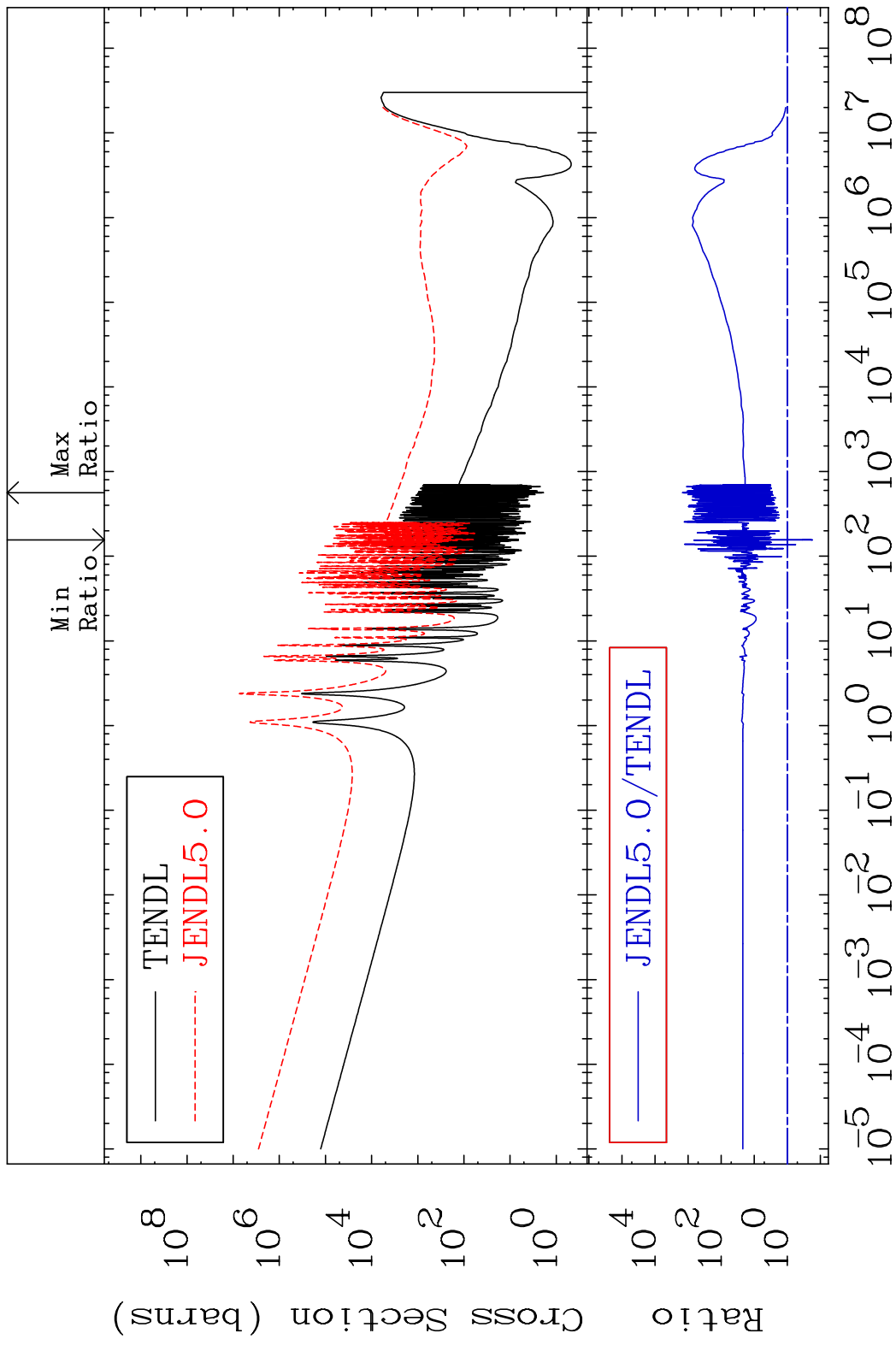
Incident Energy (eV)

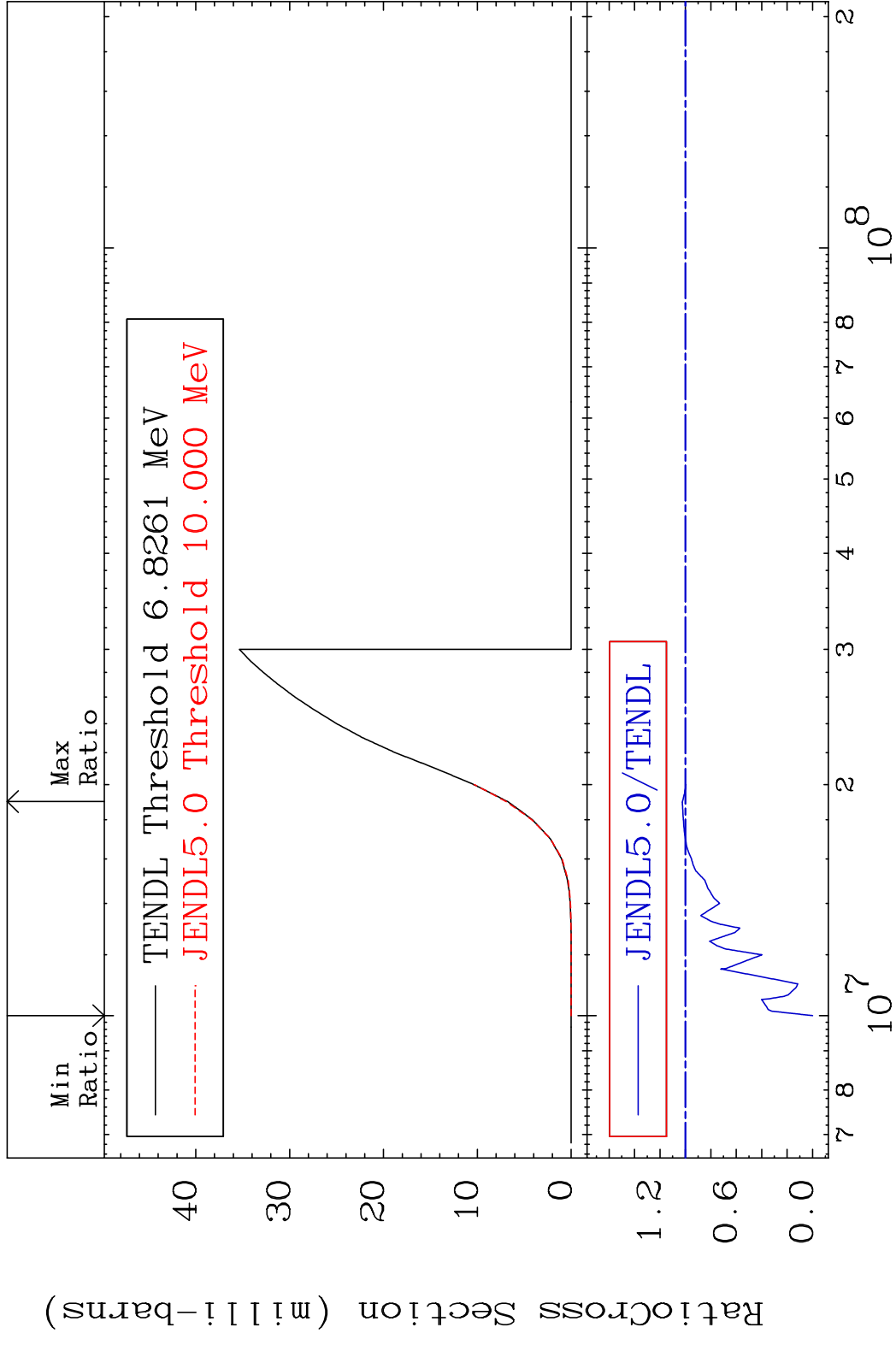
72-Hf-177

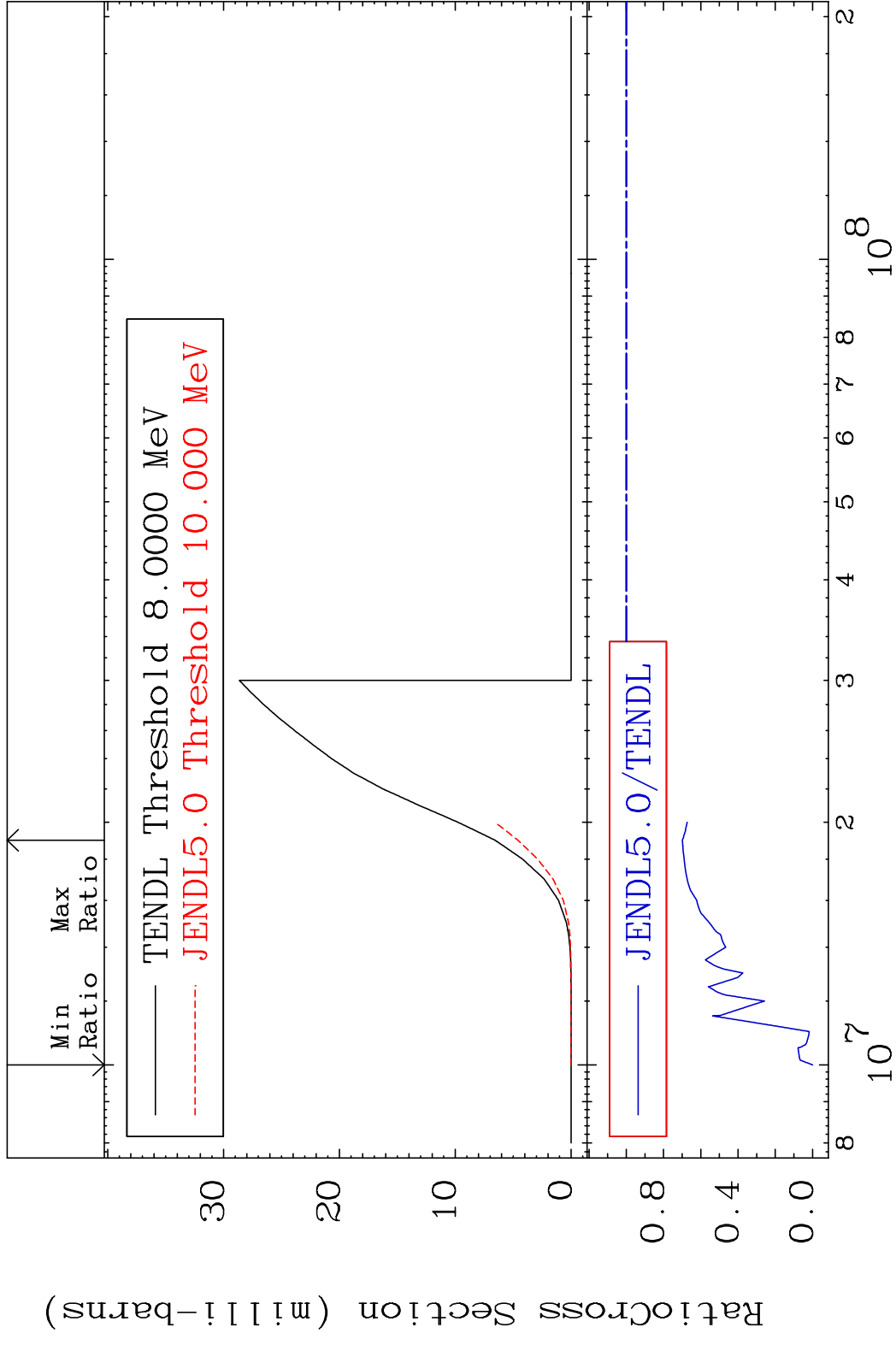
MAT 7234      Dpa inelastic (mt51-91)      72-Hf-177  
 Cross Section      -100.0 To 415.3 %



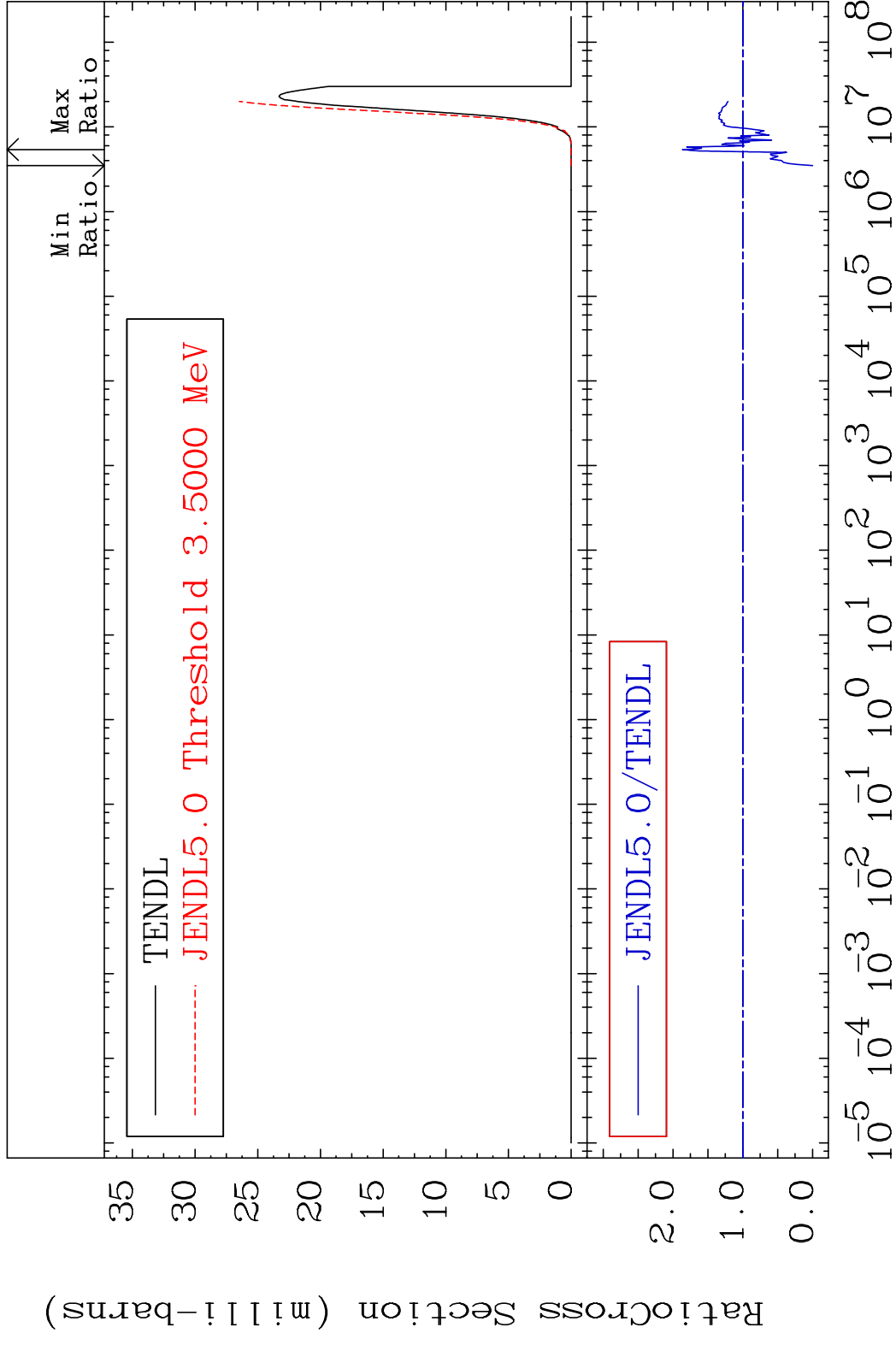
MAT 7234 Dpa disappearance (mt102 -120) 72-Hf-177  
 Cross Section -82.73 To 9999. %

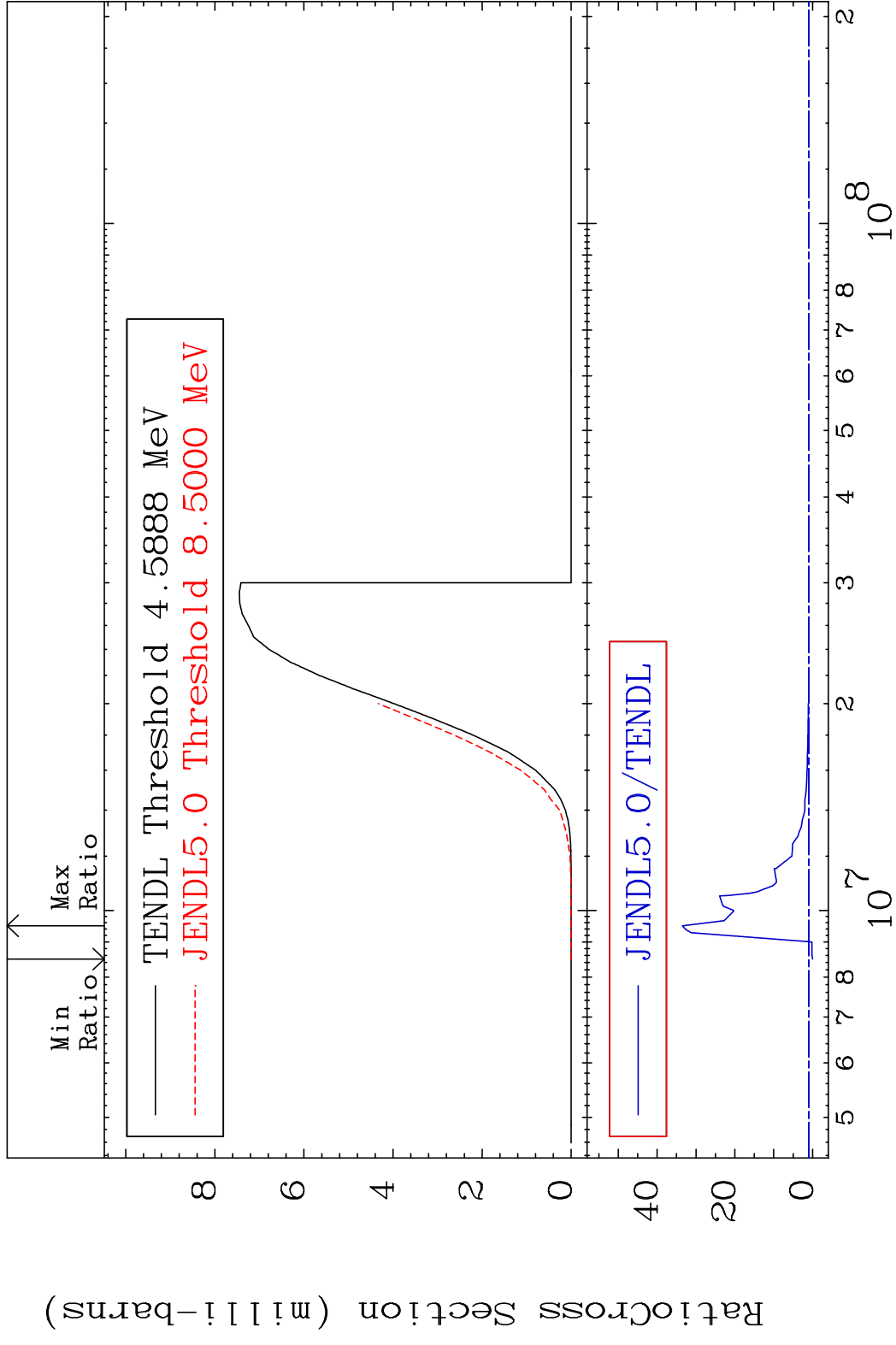


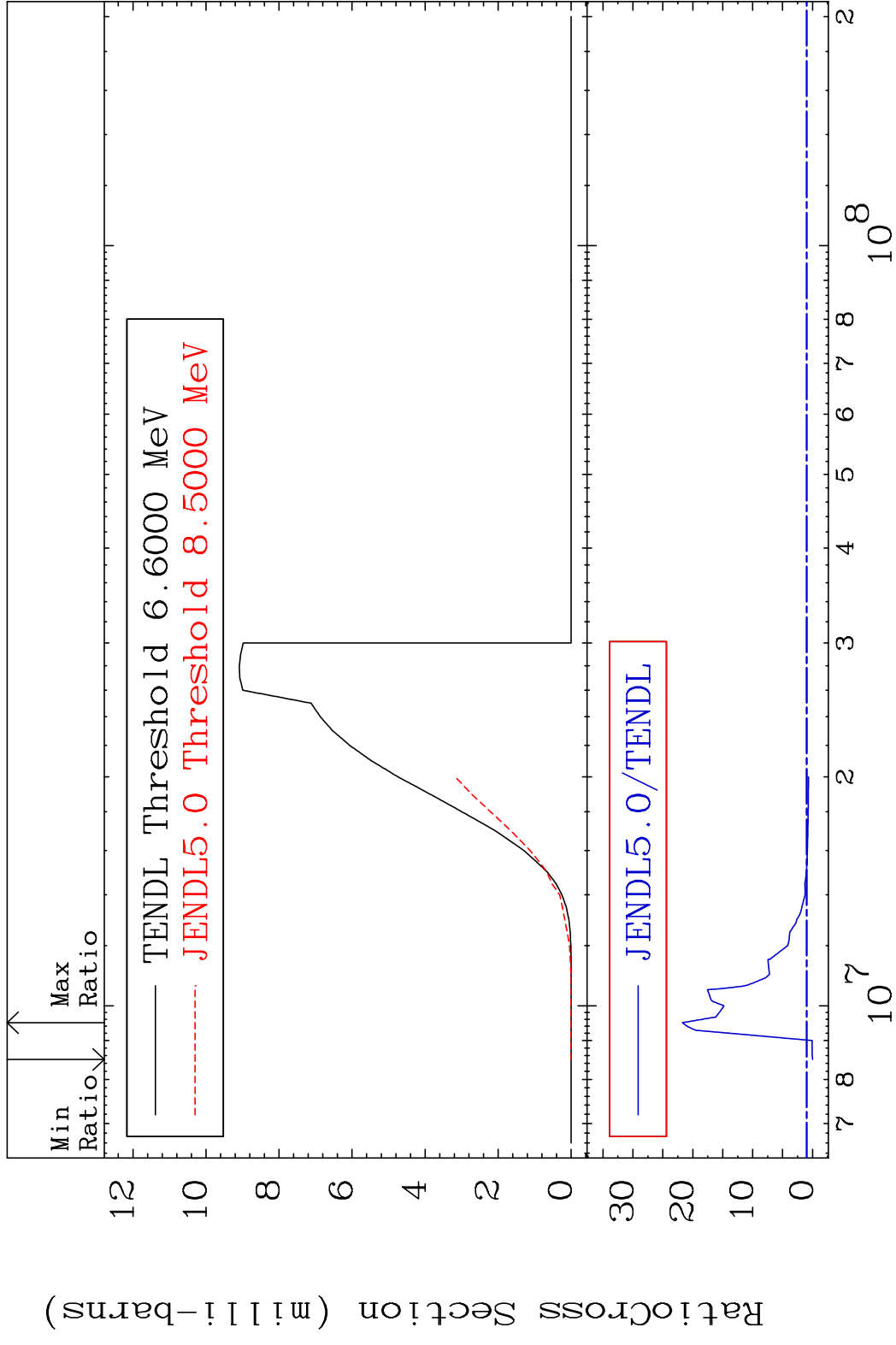




MAT 7234 (n,p):71-Lu-177g 72-Hf-177  
 Radionuclide Production Cross Section 180.01 dth 86.59 %





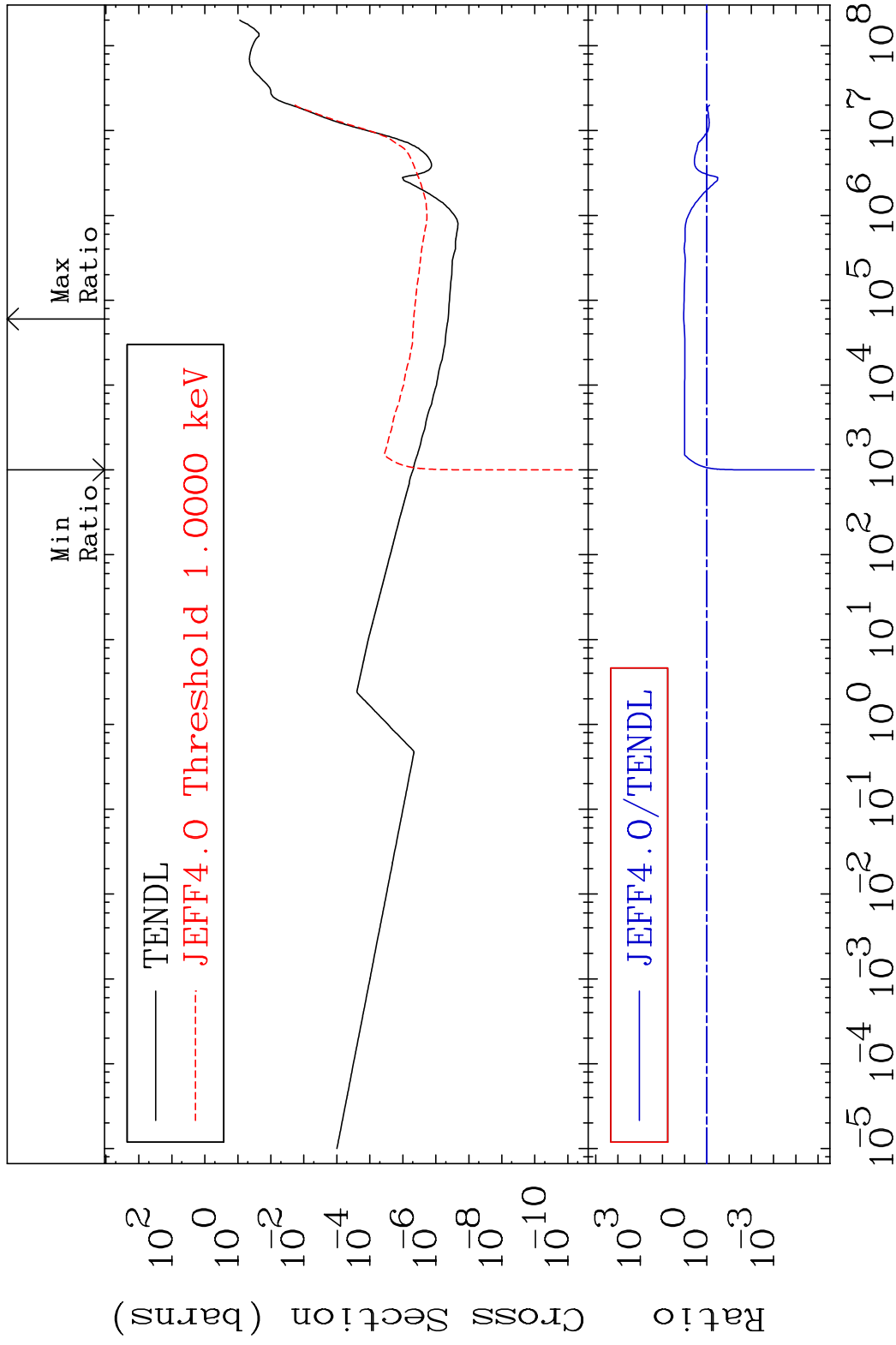


MAT 7234

He-4 Production

72-Hf-177

Cross Section -100.0 To 1007. %

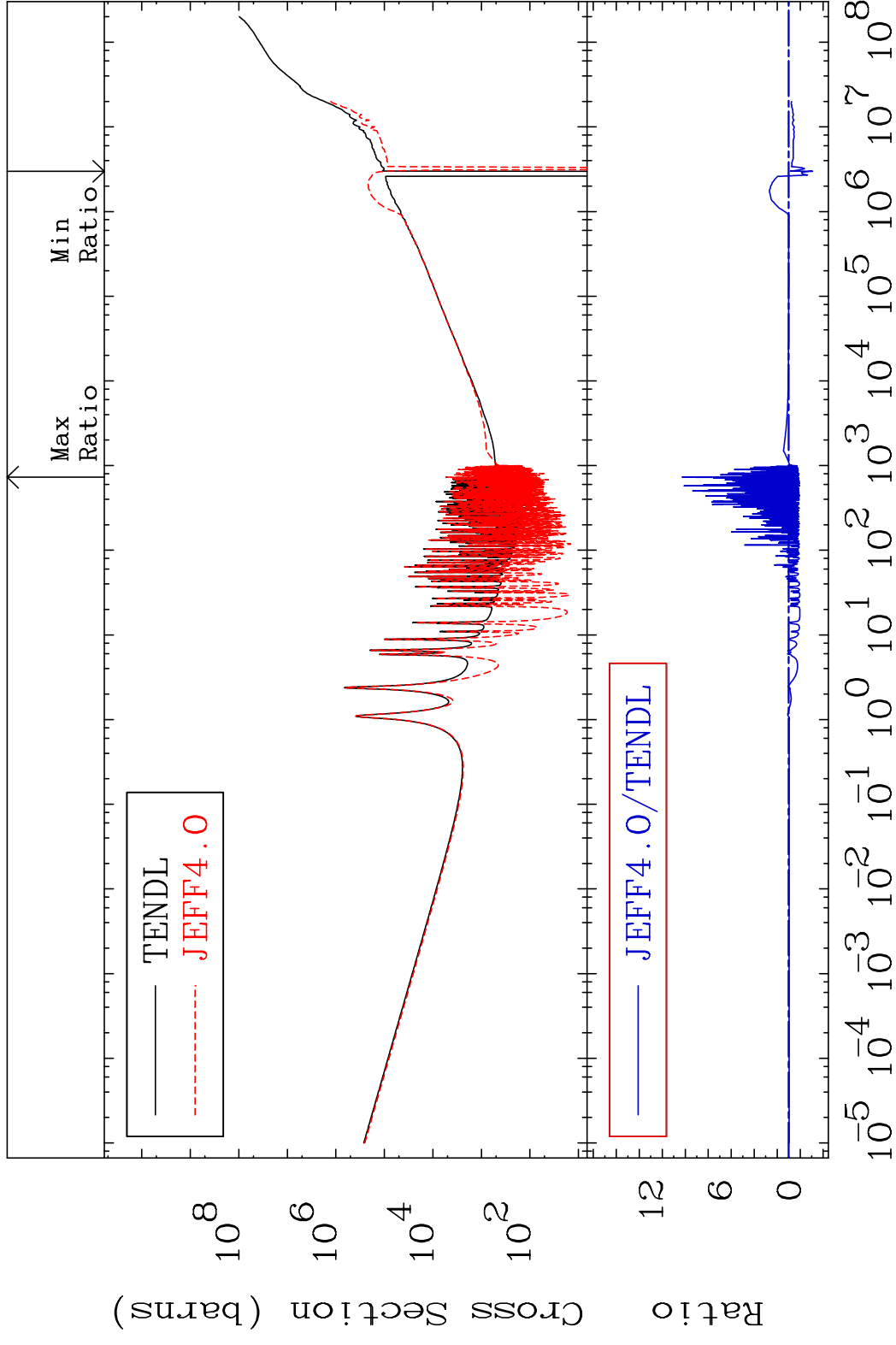


53

Incident Energy (eV)

72-Hf-177

MAT 7234 Kerma total (eV-barns) 72-Hf-177  
 Cross Section -207.5 To 925.3 %

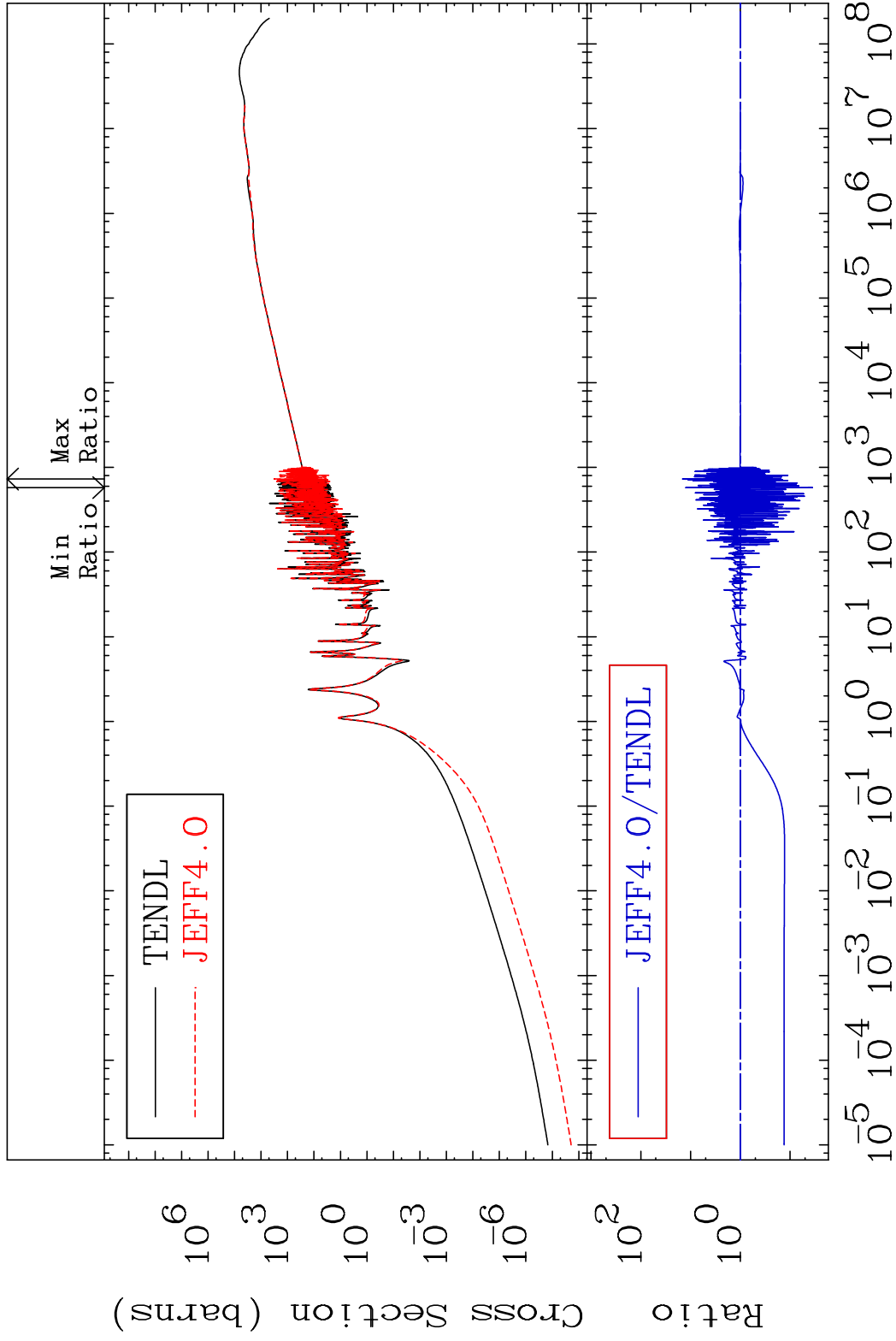


MAT 7234

Kerma elastic

72-Hf-177

Cross Section -96.46 To 1361. %

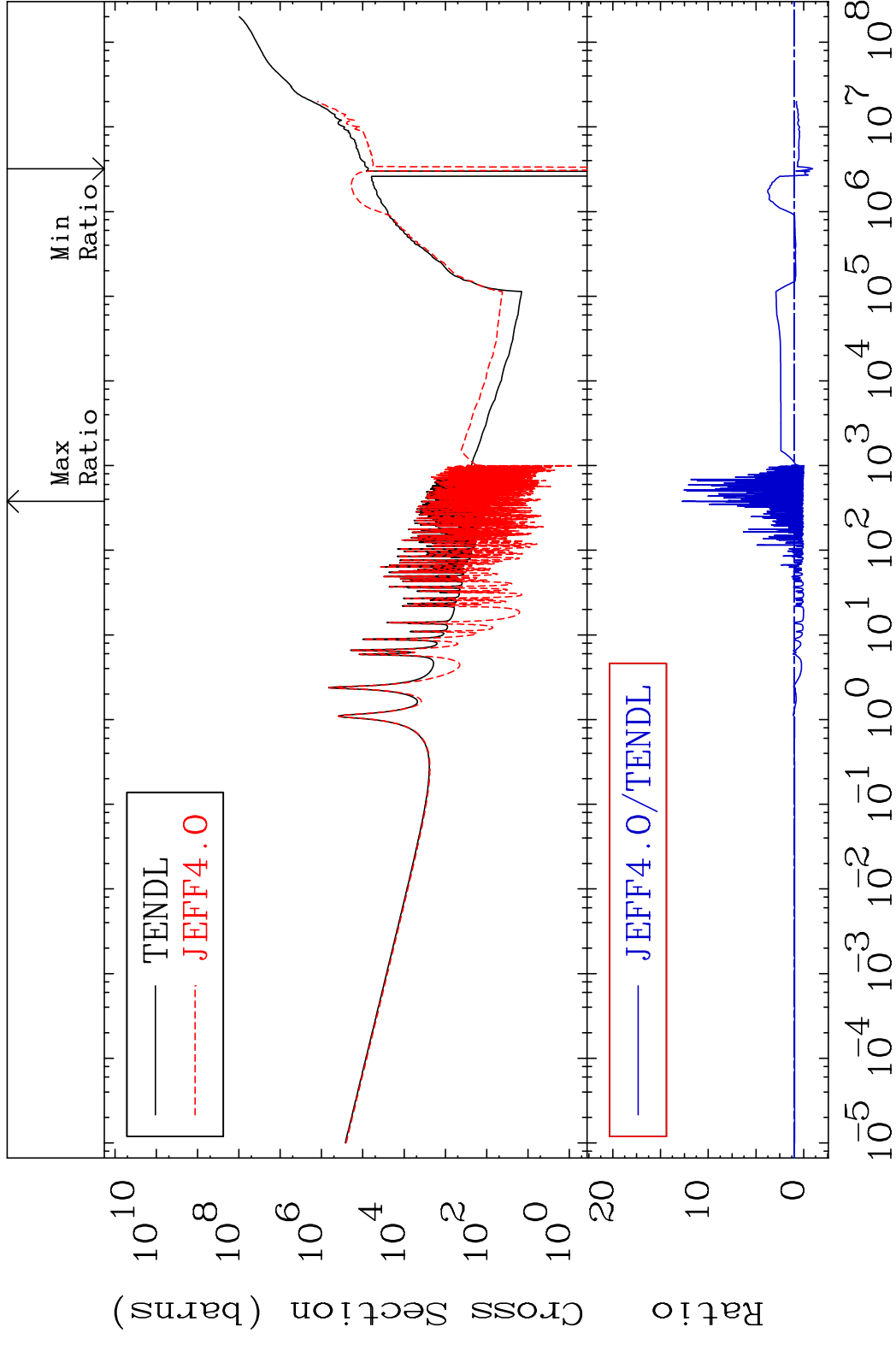


55

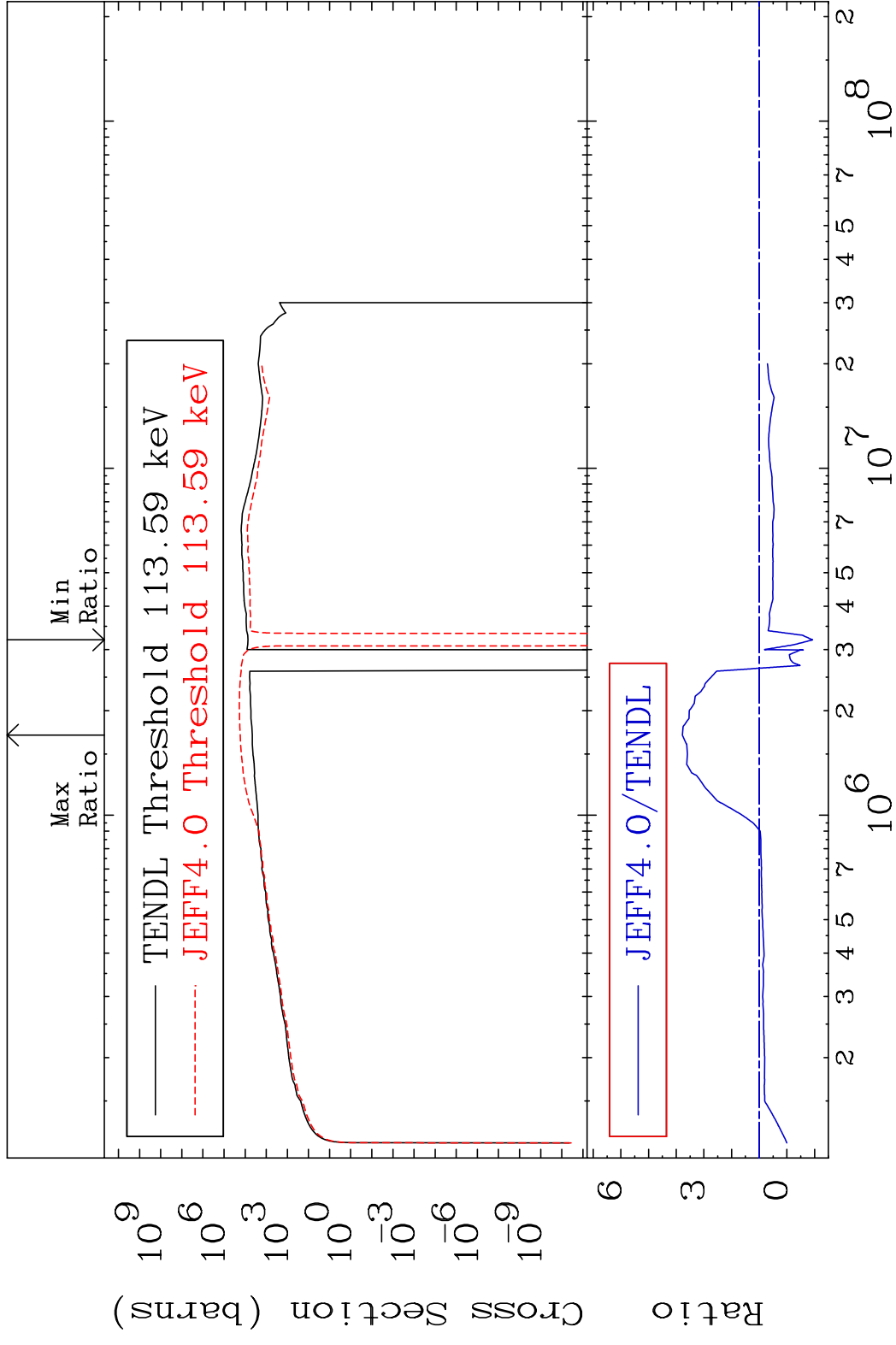
Incident Energy (eV)

72-Hf-177

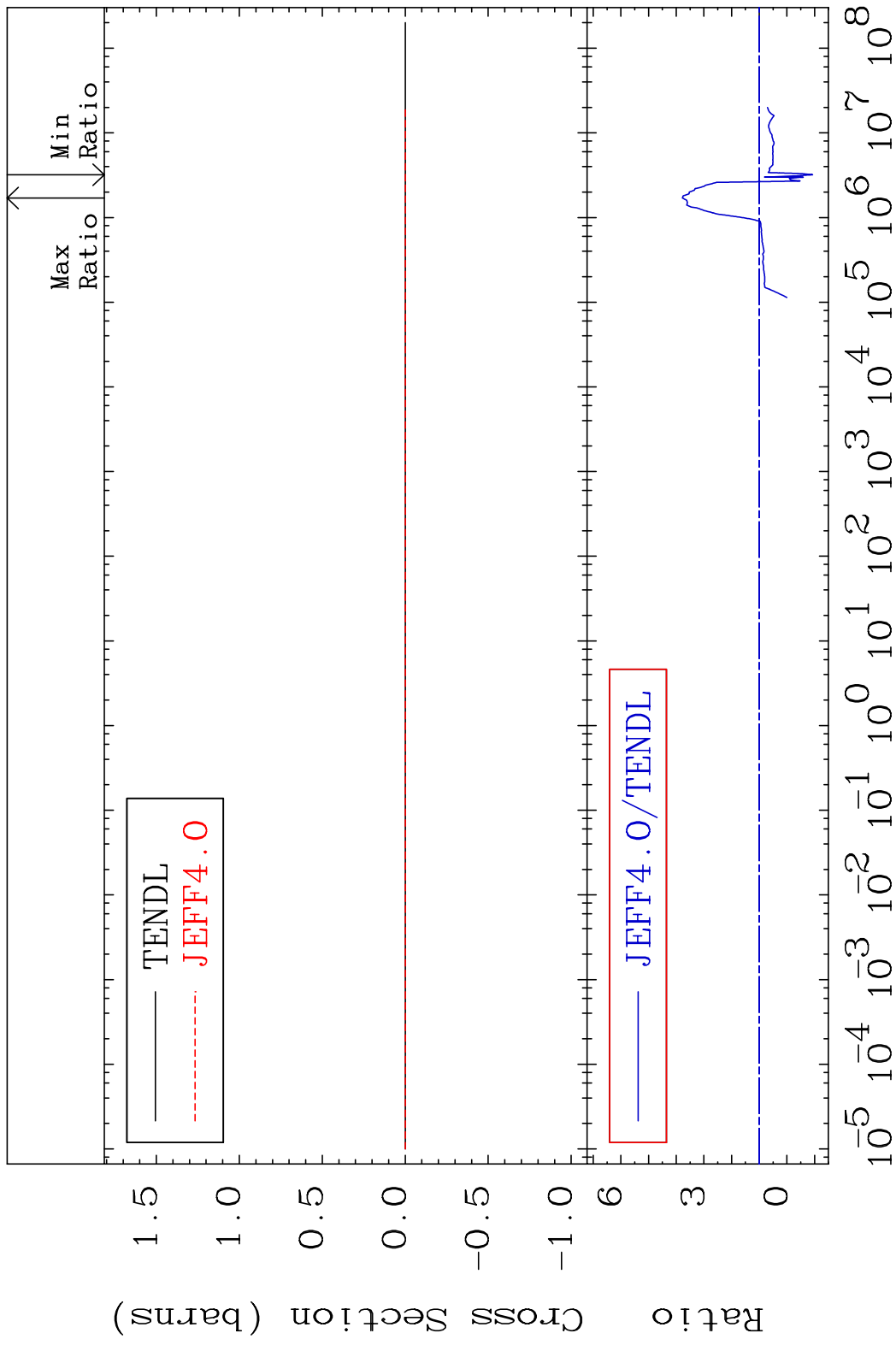
MAT 7234 Kerma non-elastic (all but mt2) 72-Hf-177  
 Cross Section -192.6 To 1171. %



MAT 7234 Kerma inelastic (mt51-91) 72-Hf-177  
 Cross Section -192.7 To 277.9 %

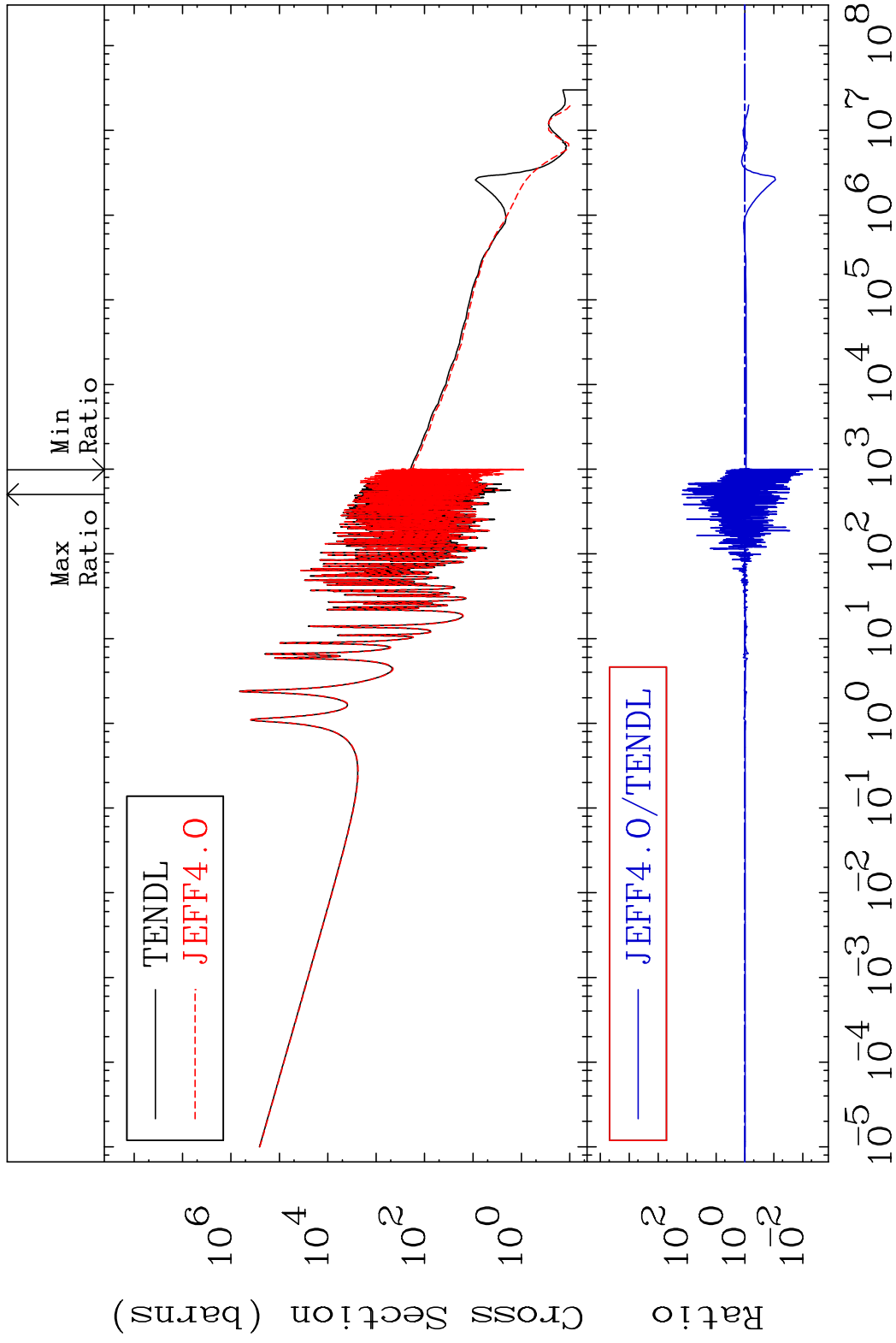


MAT 7234 Kerma fission (mt18 or mt19-20-21-38)72-Hf-177  
 Cross Section -192.7 To 277.9 %



MAT 7234

Kerma capture (mt102) 72-Hf-177  
Cross Section -99.54 To 9999. %

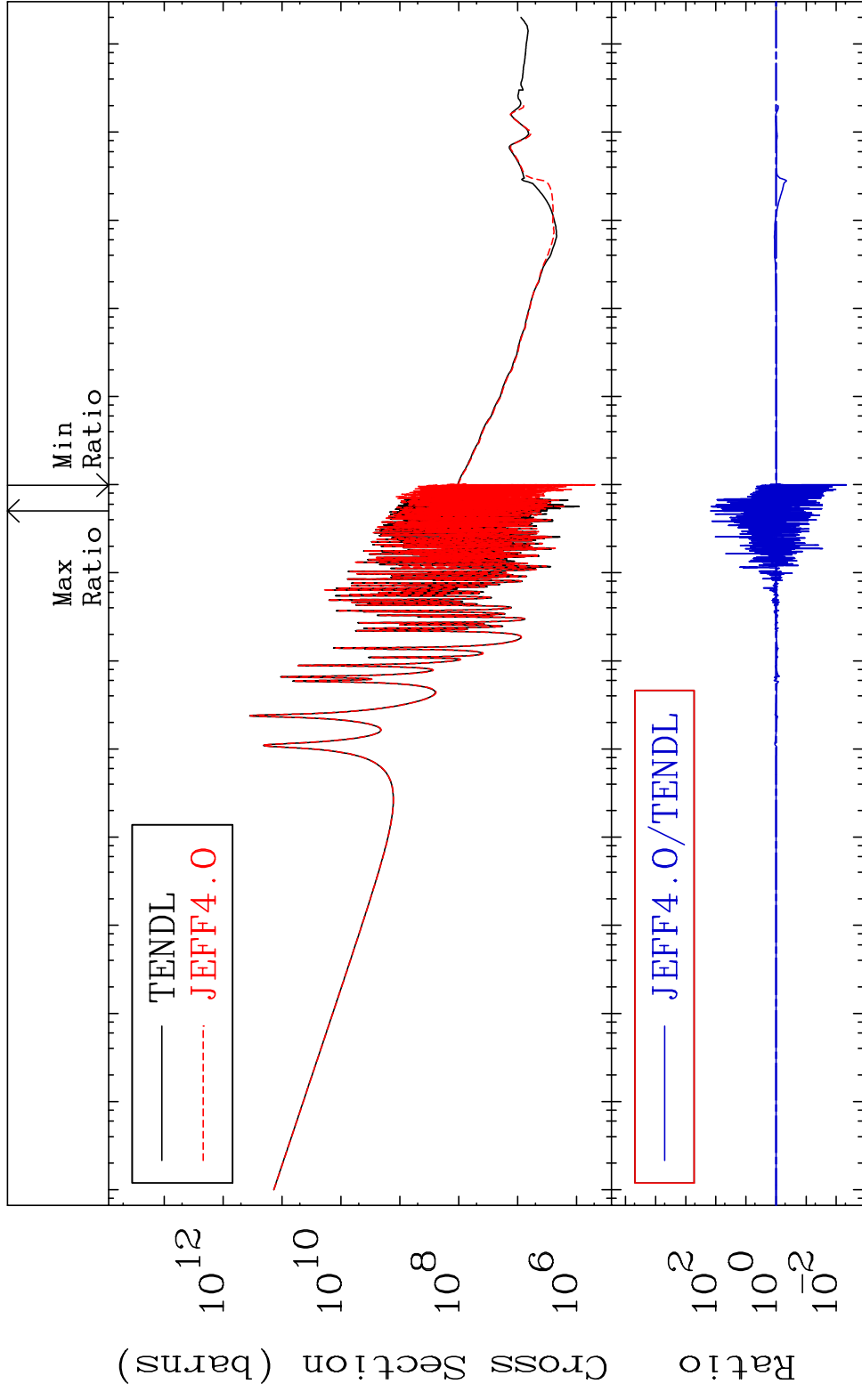


59

Incident Energy (eV)

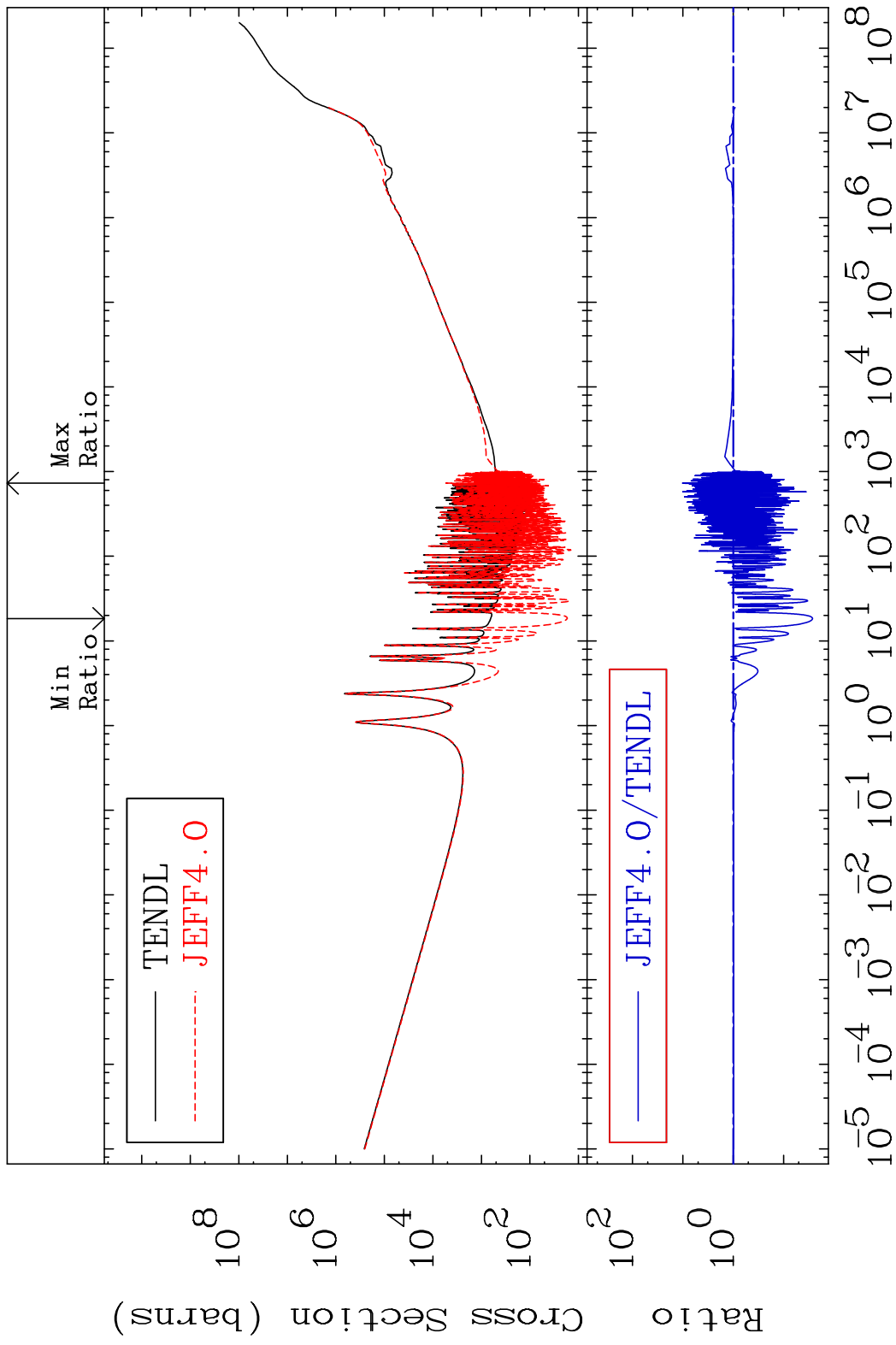
72-Hf-177

MAT 7234 Total photon (eV-barns) 72-Hf-177  
 Cross Section -99.54 To 9999. %



60 Incident Energy (eV) 72-Hf-177

MAT 7234 Total kinematic kerma (high limit) 72-Hf-177  
 Cross Section -97.35 To 924.7 %

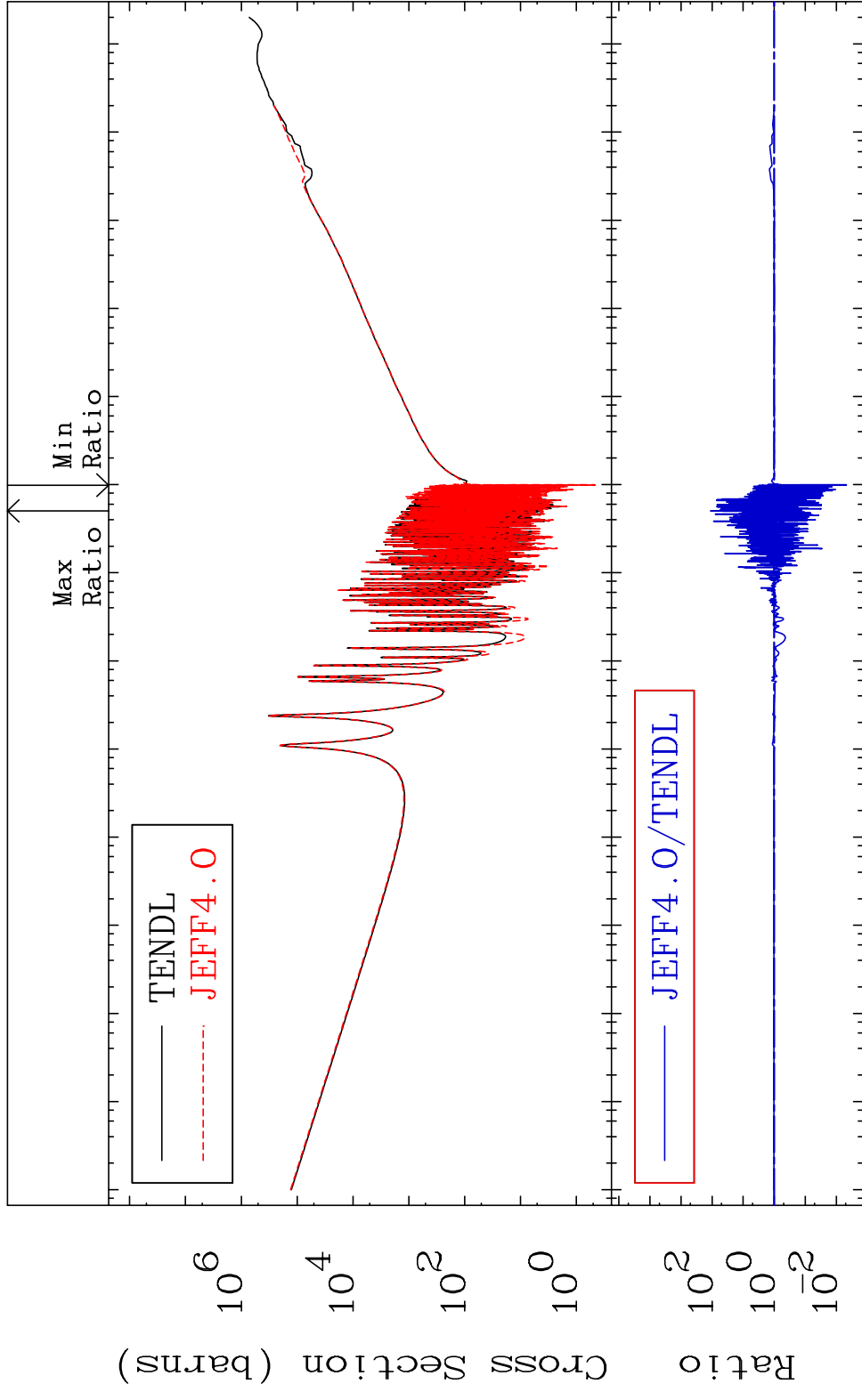


MAT 7234

Dpa total (eV-barns)

72-Hf-177

Cross Section -99.52 To 9999. %

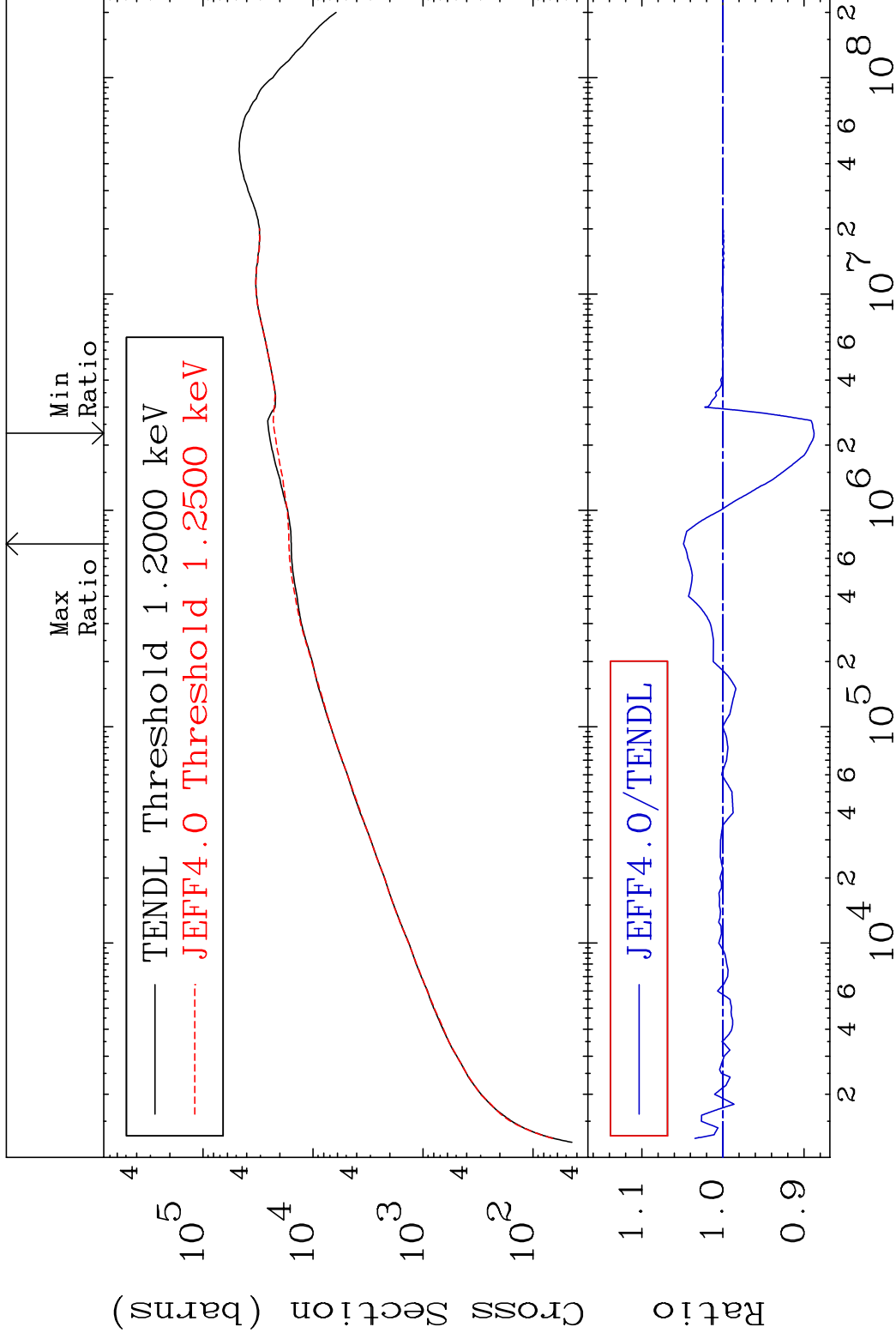


MAT 7234

Dpa elastic (mt2)

72-Hf-177

Cross Section -11.23 To 4.864 %

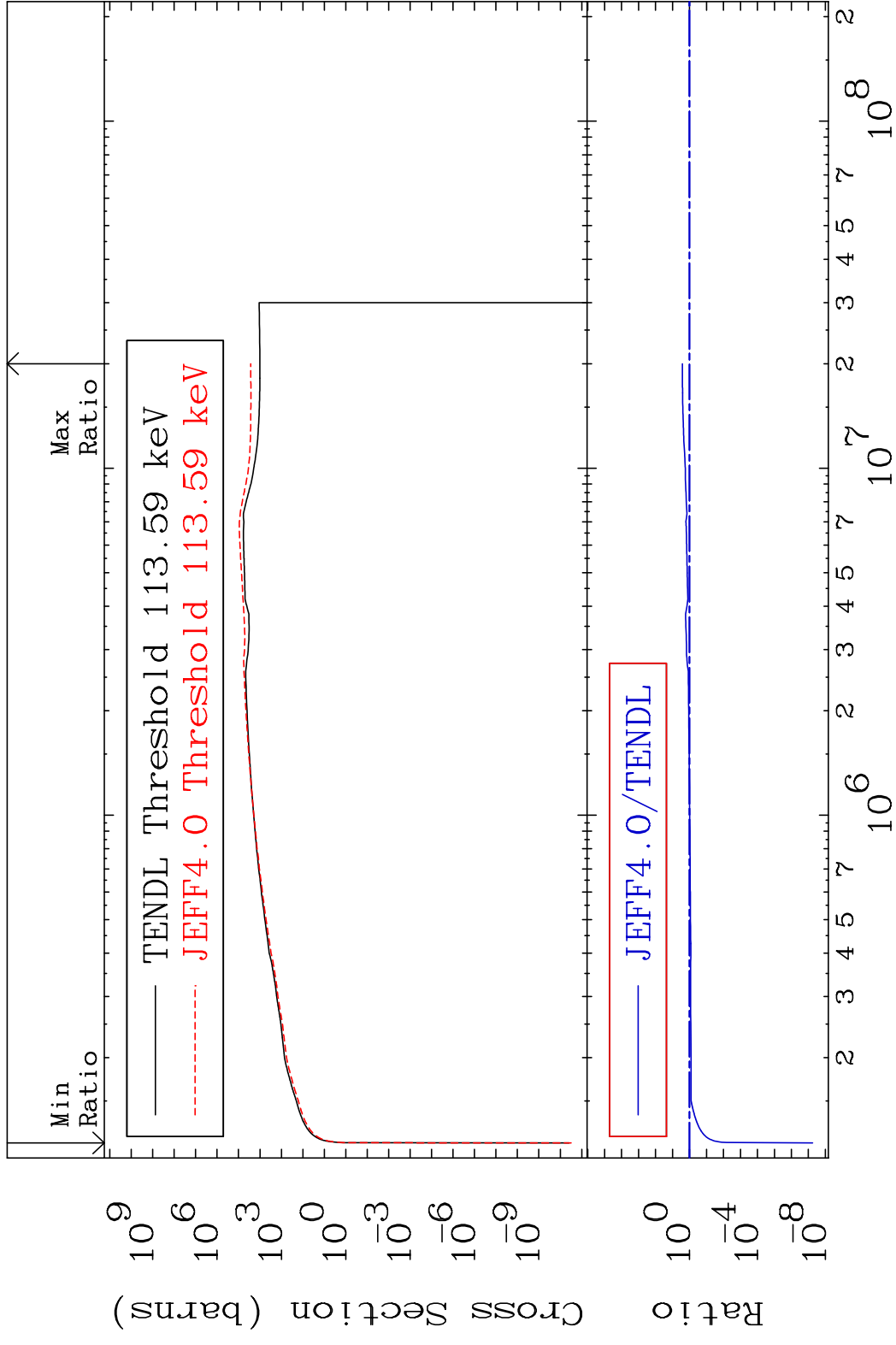


63

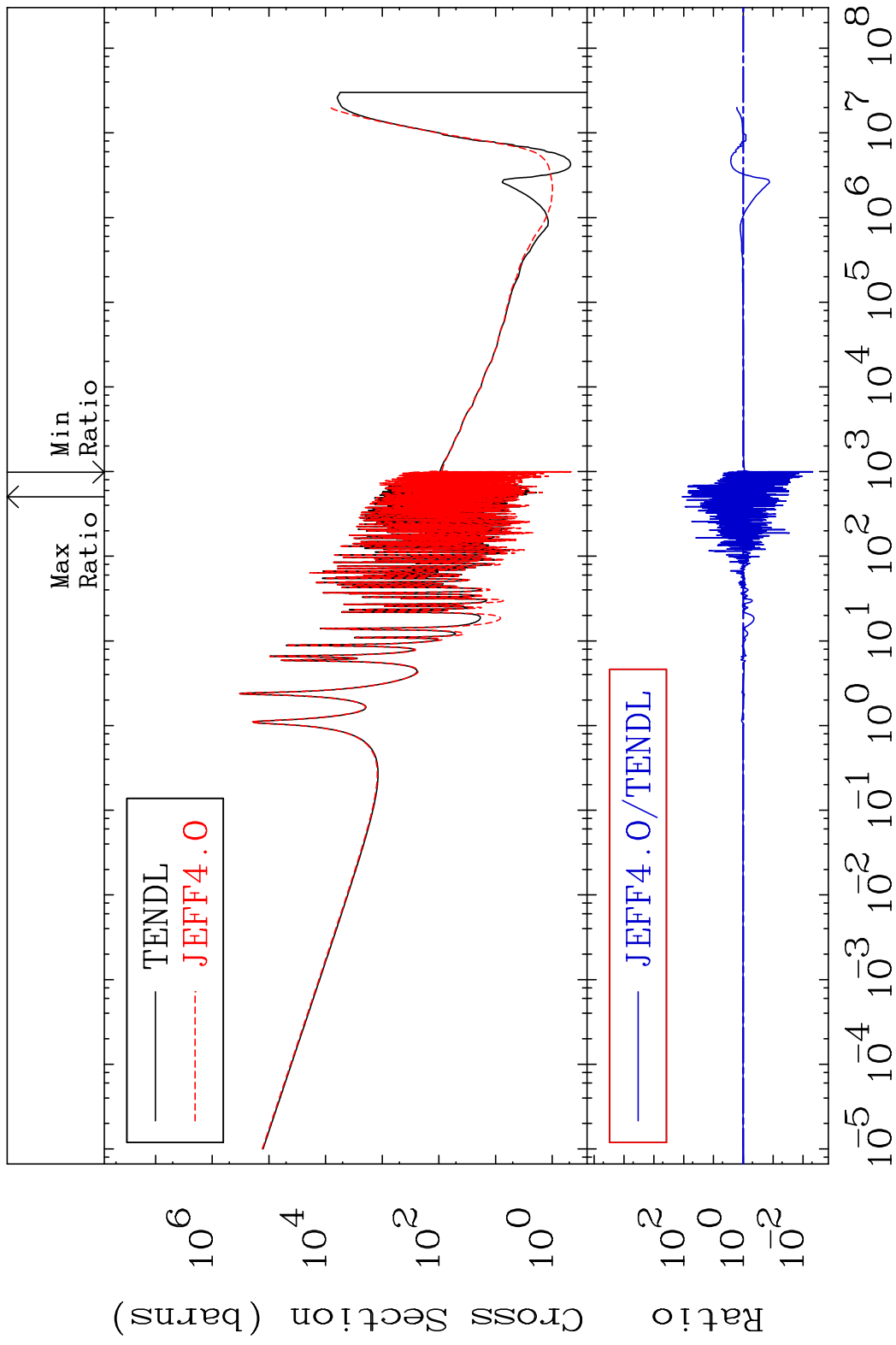
Incident Energy (eV)

72-Hf-177

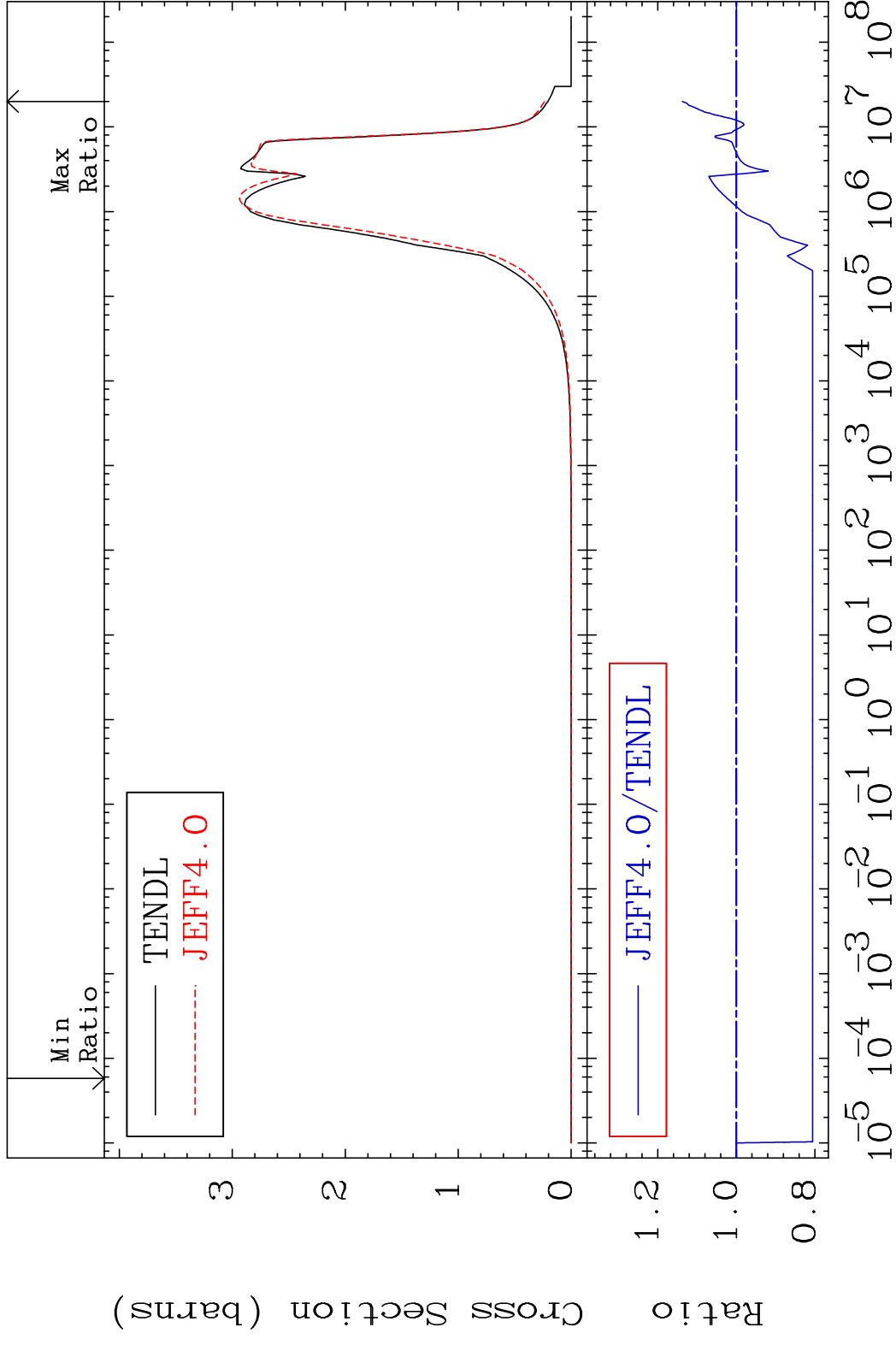
MAT 7234 Dpa inelastic (mt51-91) 72-Hf-177  
 Cross Section -100.0 To 164.5 %

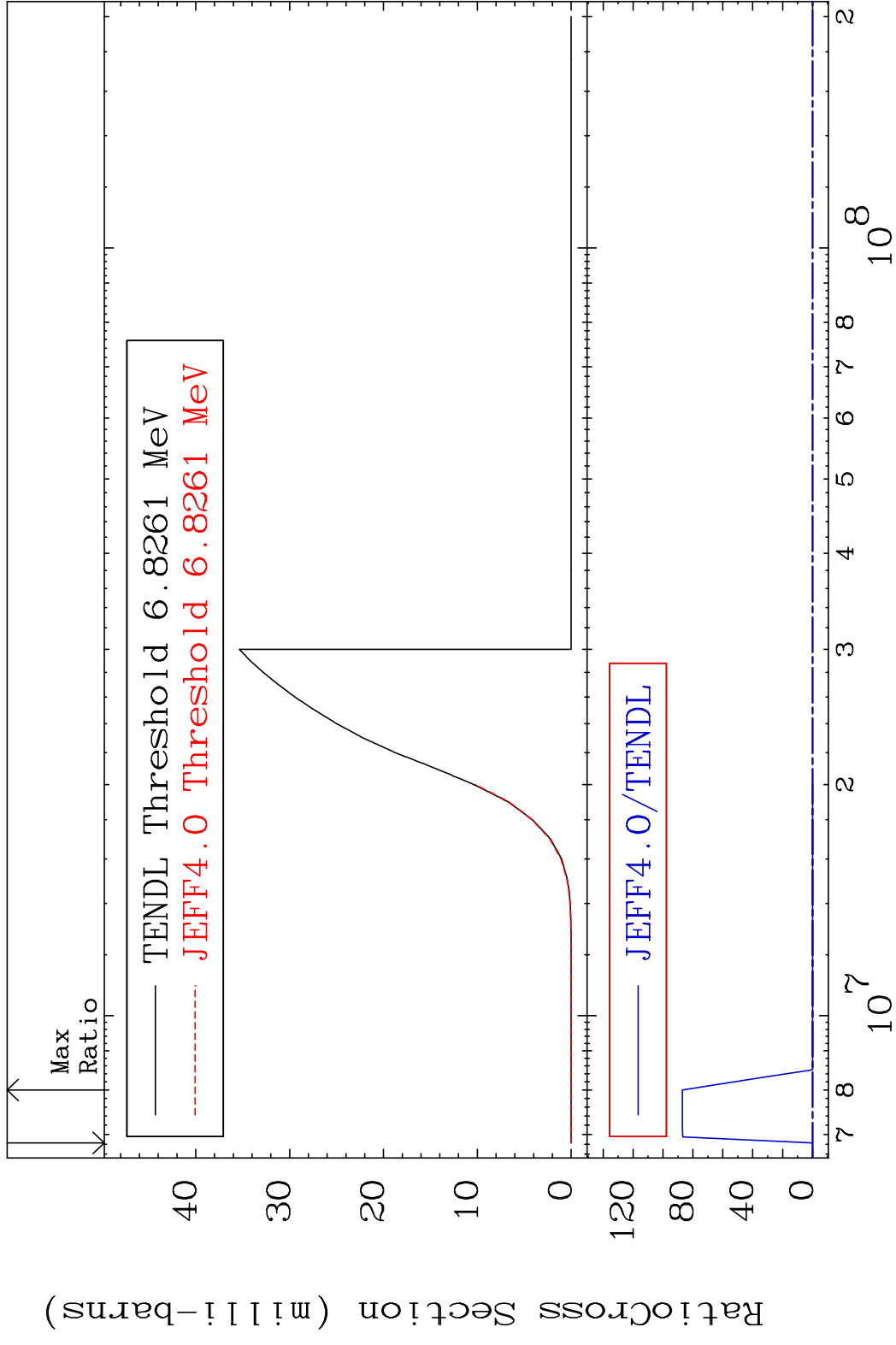


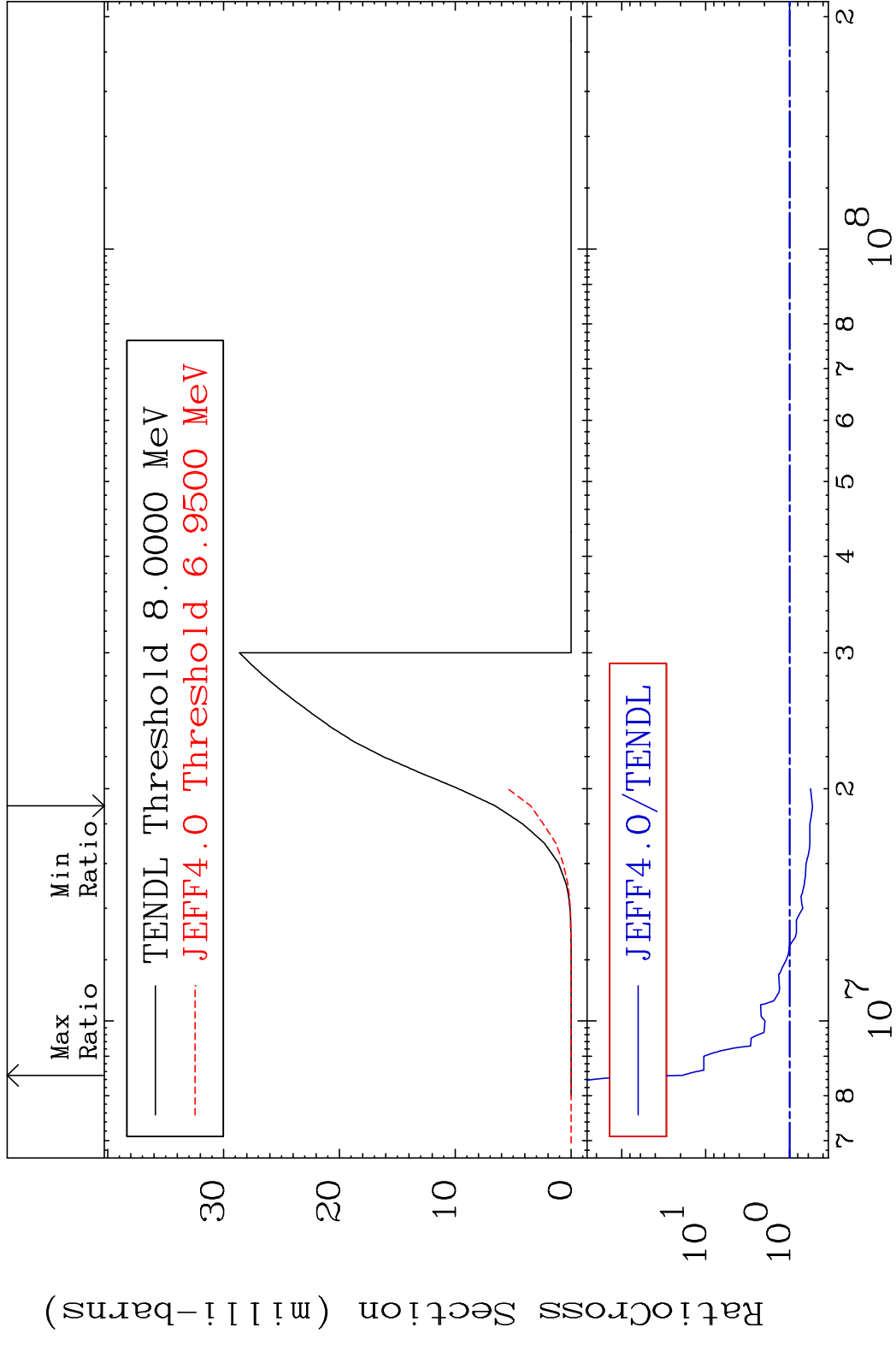
MAT 7234 Dpa disappearance (mt102 -120) 72-Hf-177  
 Cross Section -99.52 To 9999. %



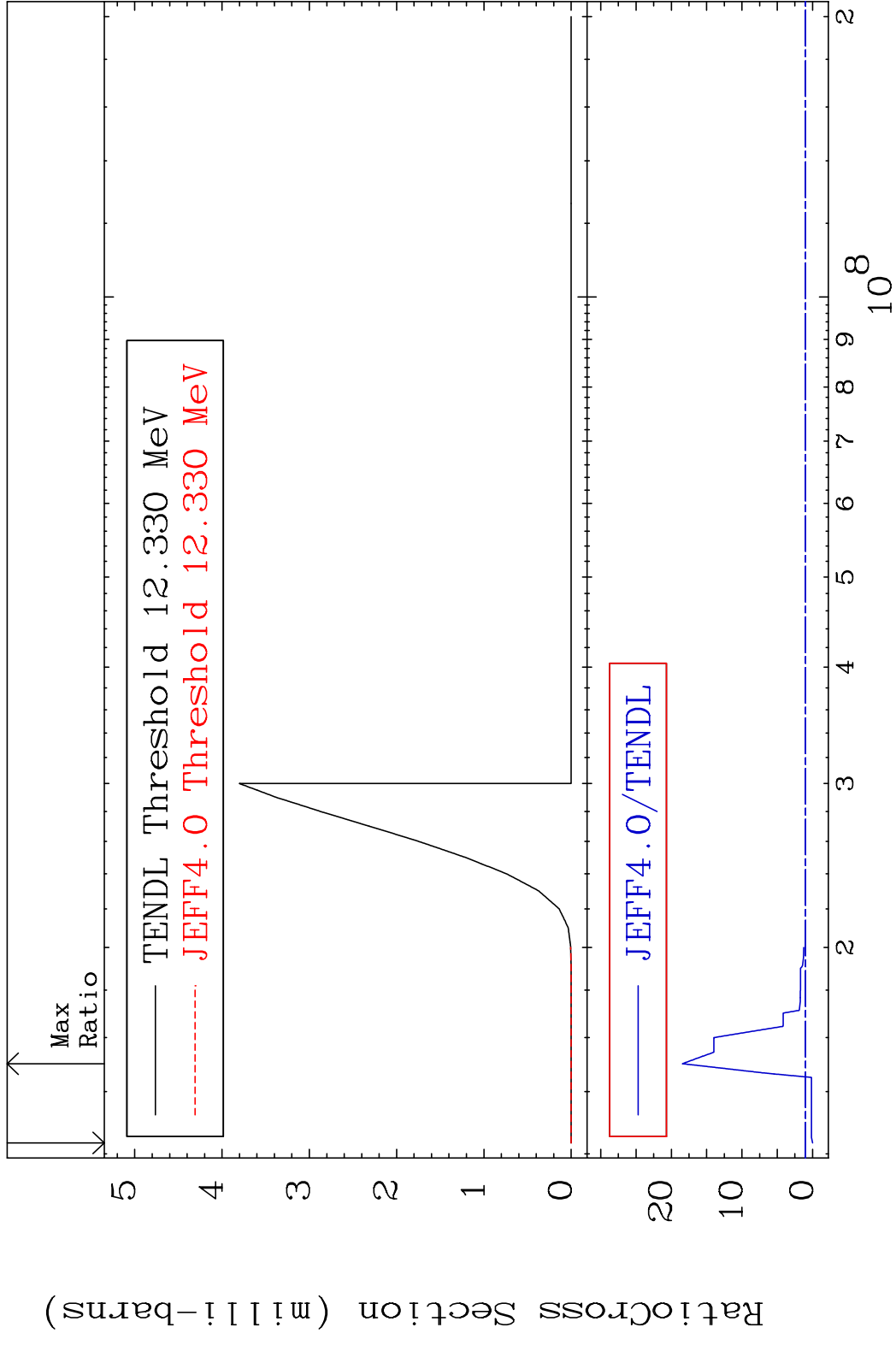
MAT 7234 Inelastic: 72-Hf-177g 72-Hf-177  
 Radionuclide Production Cross Section 13.73 %

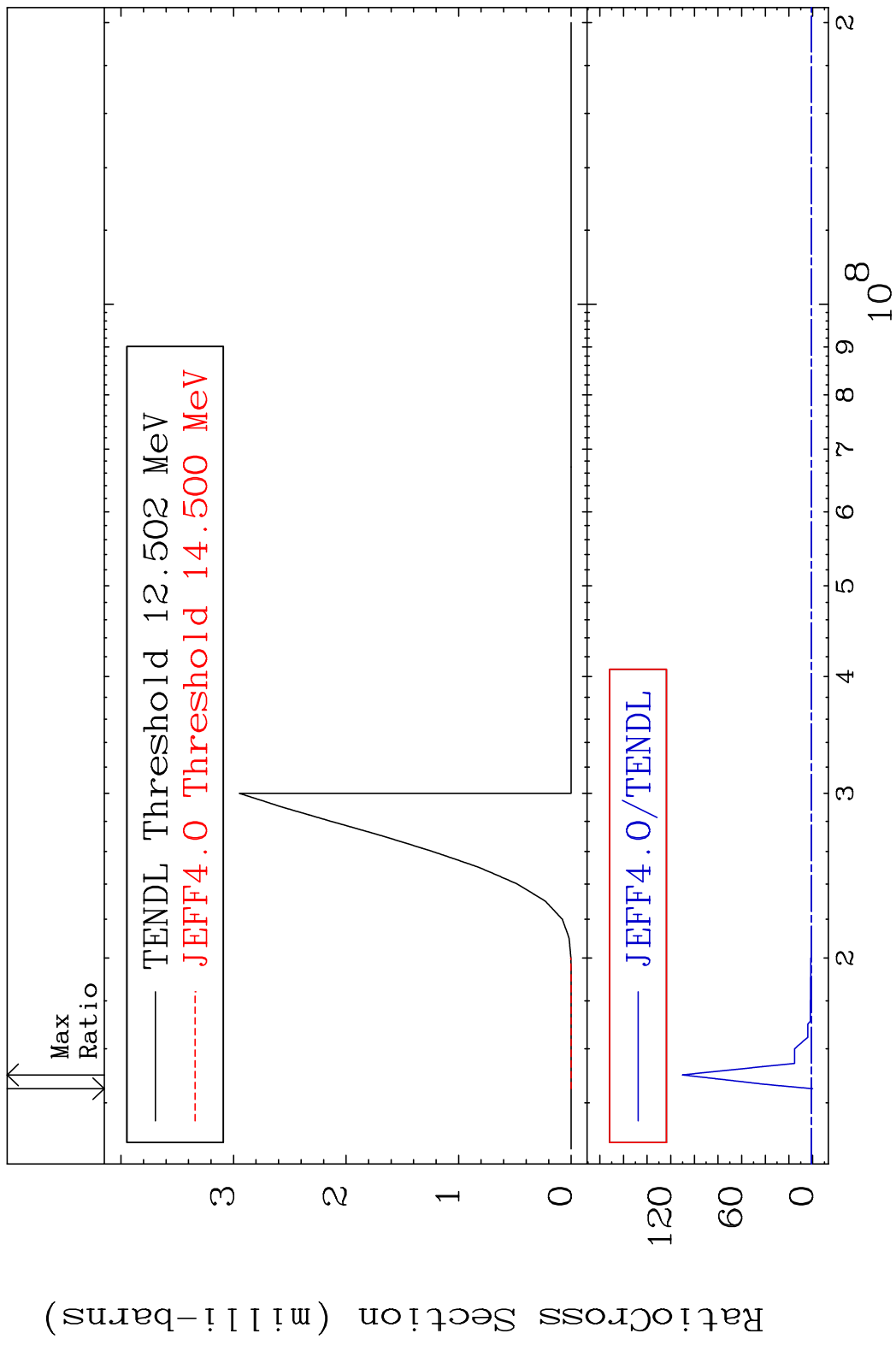




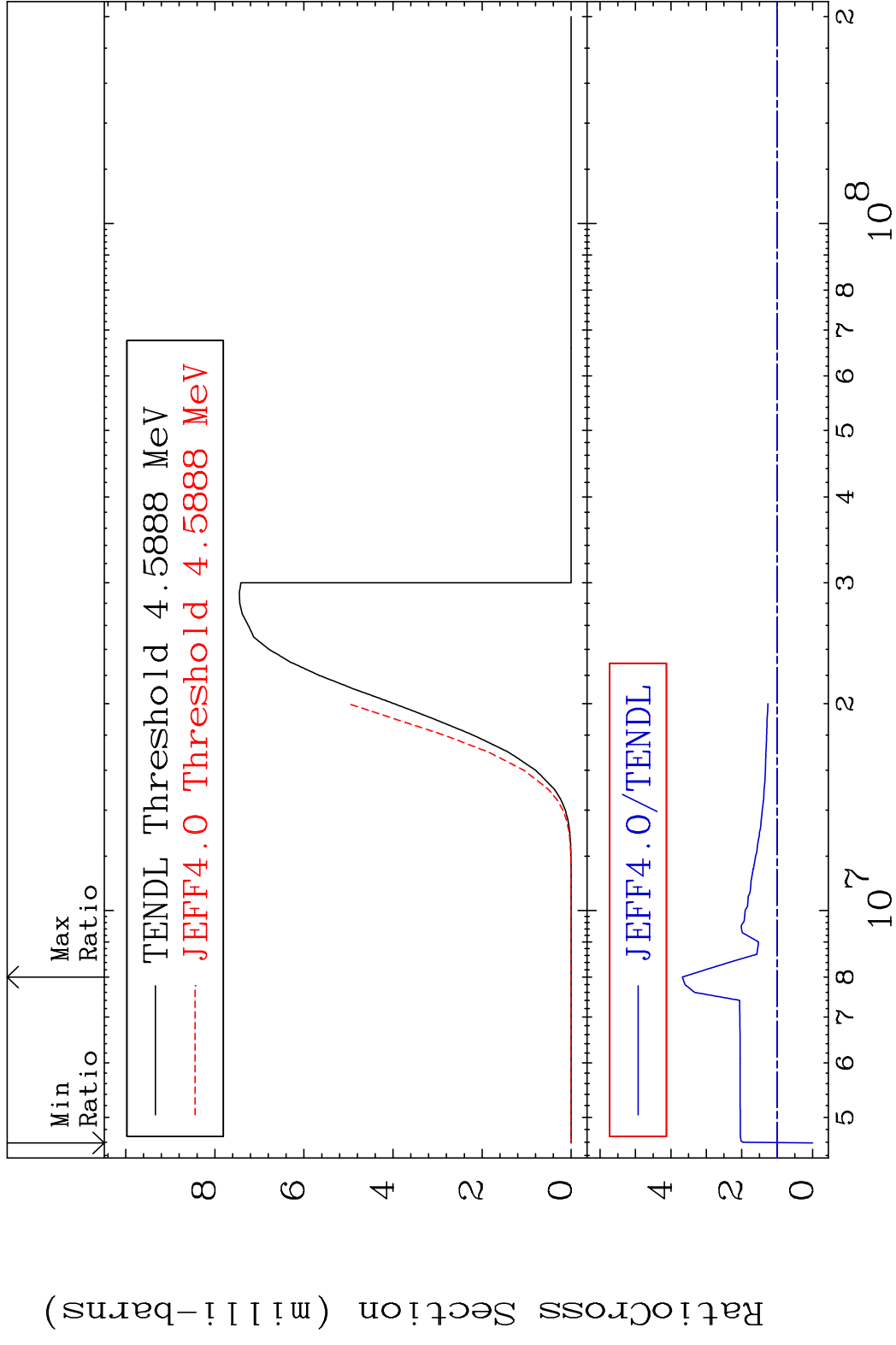


MAT 7234 (n, n') t:71-Lu-174g 72-Hf-177  
 Radionuclide Production Cross Section 180.0 mb 1744. %





MAT 7234 (n, d):71-Lu-176g 72-Hf-177  
 Radionuclide Production Cross Section 180.0 dth 267.6 %



MAT 7234 (n, d): 71-Lu-176m1 72-Hf-177  
 Radionuclide Production Cross Section 154.4 %

