

Program Complot  
(Version 2021-1)

by

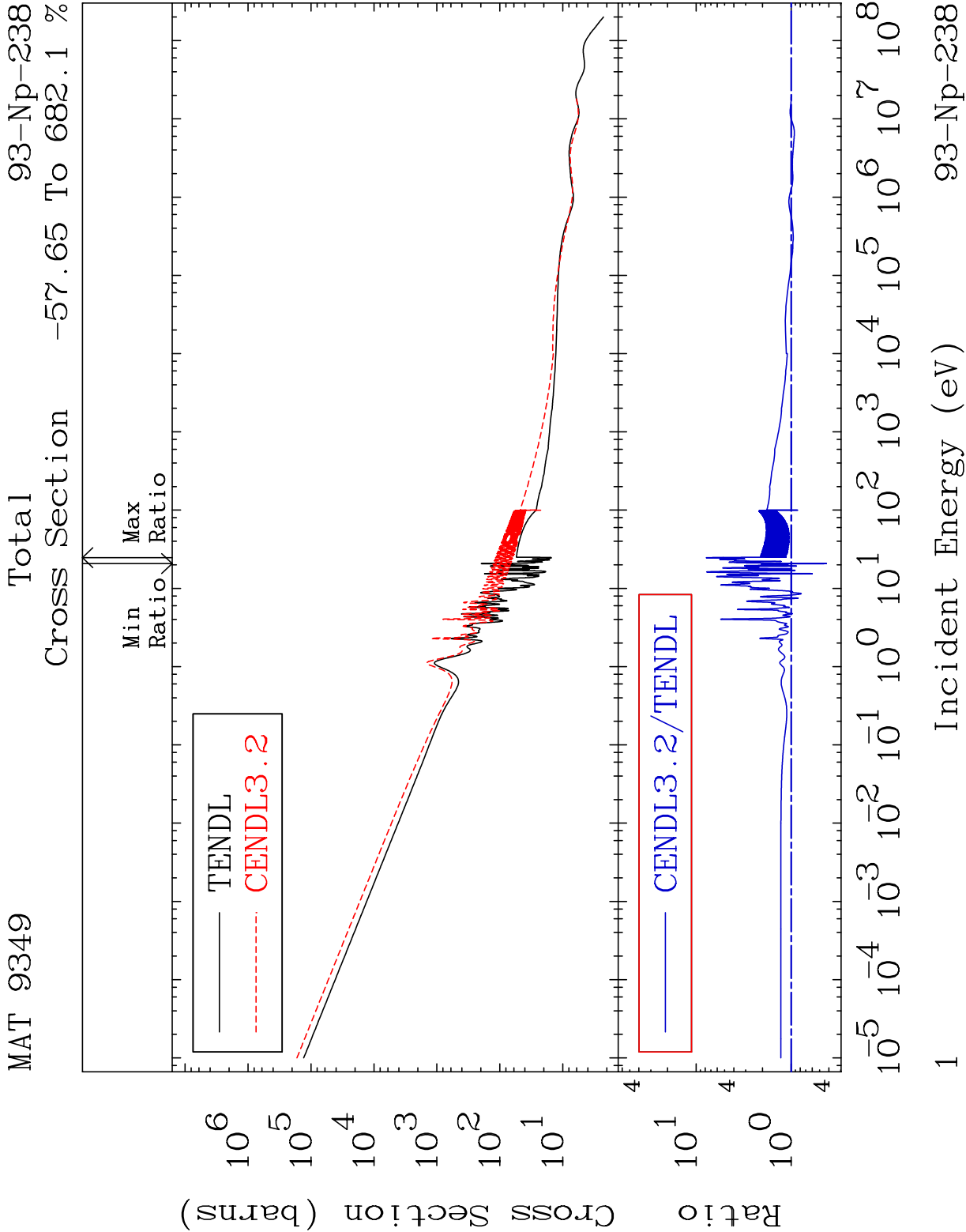
Dermott E. Cullen  
(Present Contact Information)

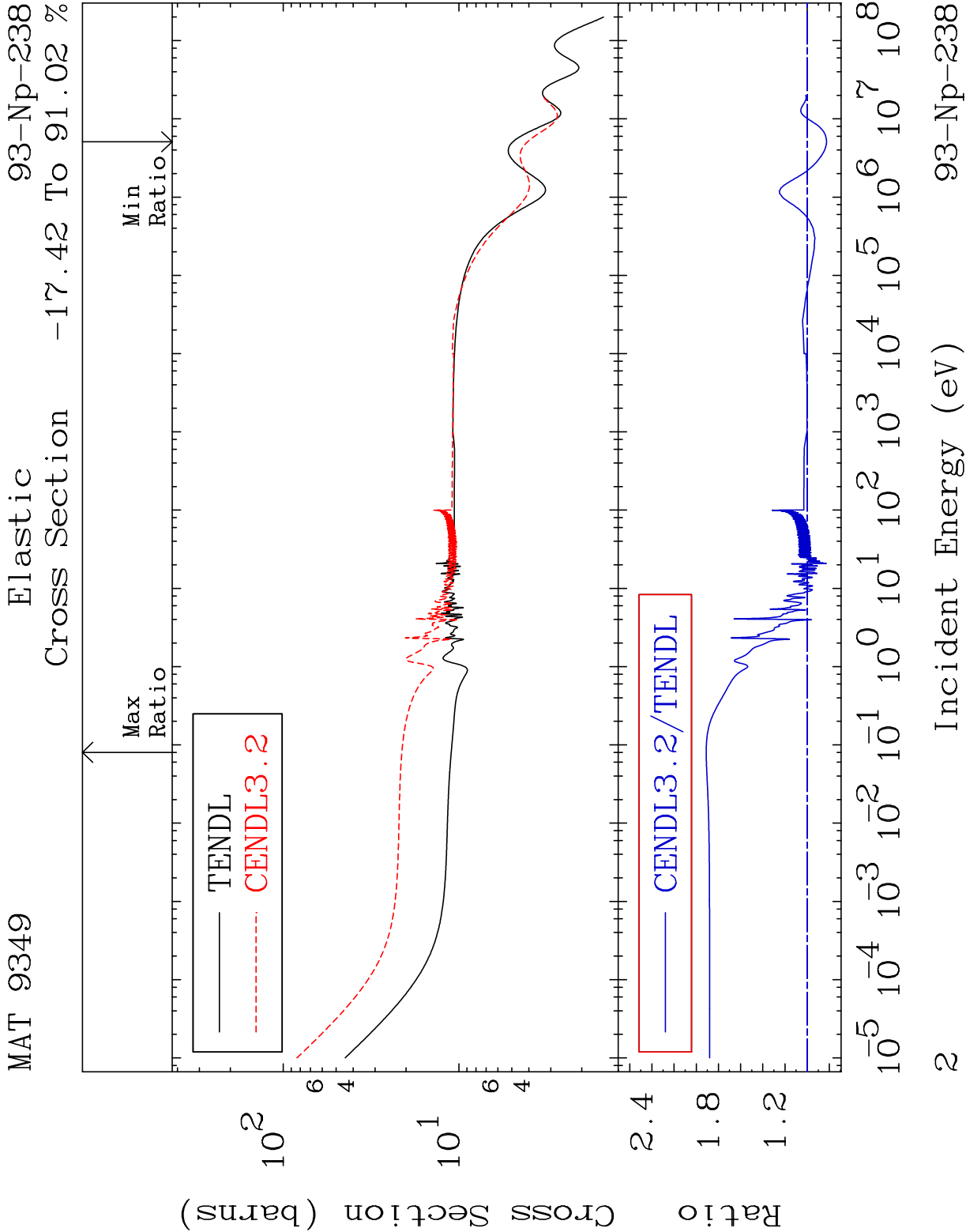
Dermott E. Cullen  
1466 Hudson Way  
Livermore, CA 94550  
U.S.A.

Tele: 925-443-1911

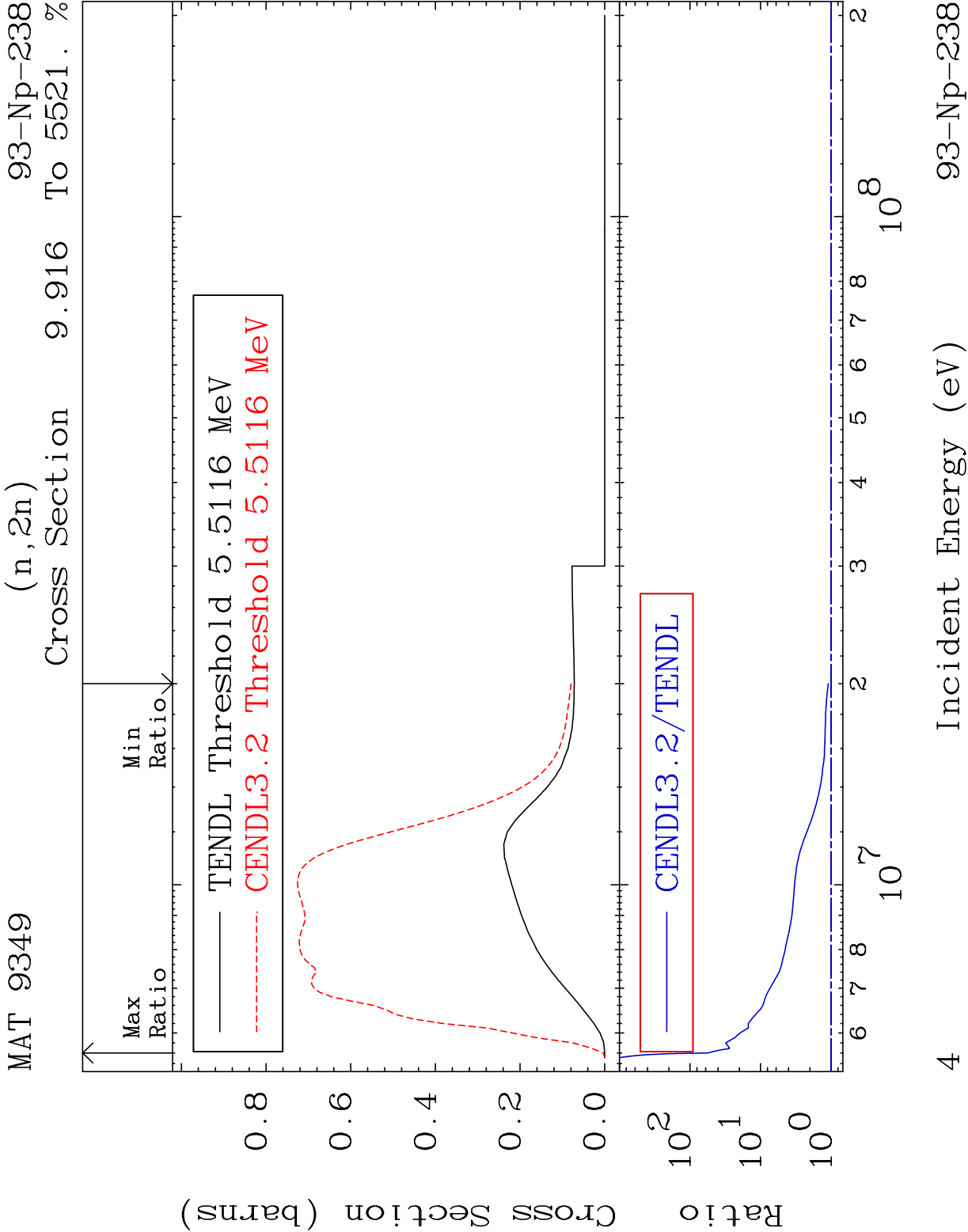
E.Mail: [redcullen1@comcast.net](mailto:redcullen1@comcast.net)  
Web: [redcullen1.net/HOMEPAGE.NEW](http://redcullen1.net/HOMEPAGE.NEW)

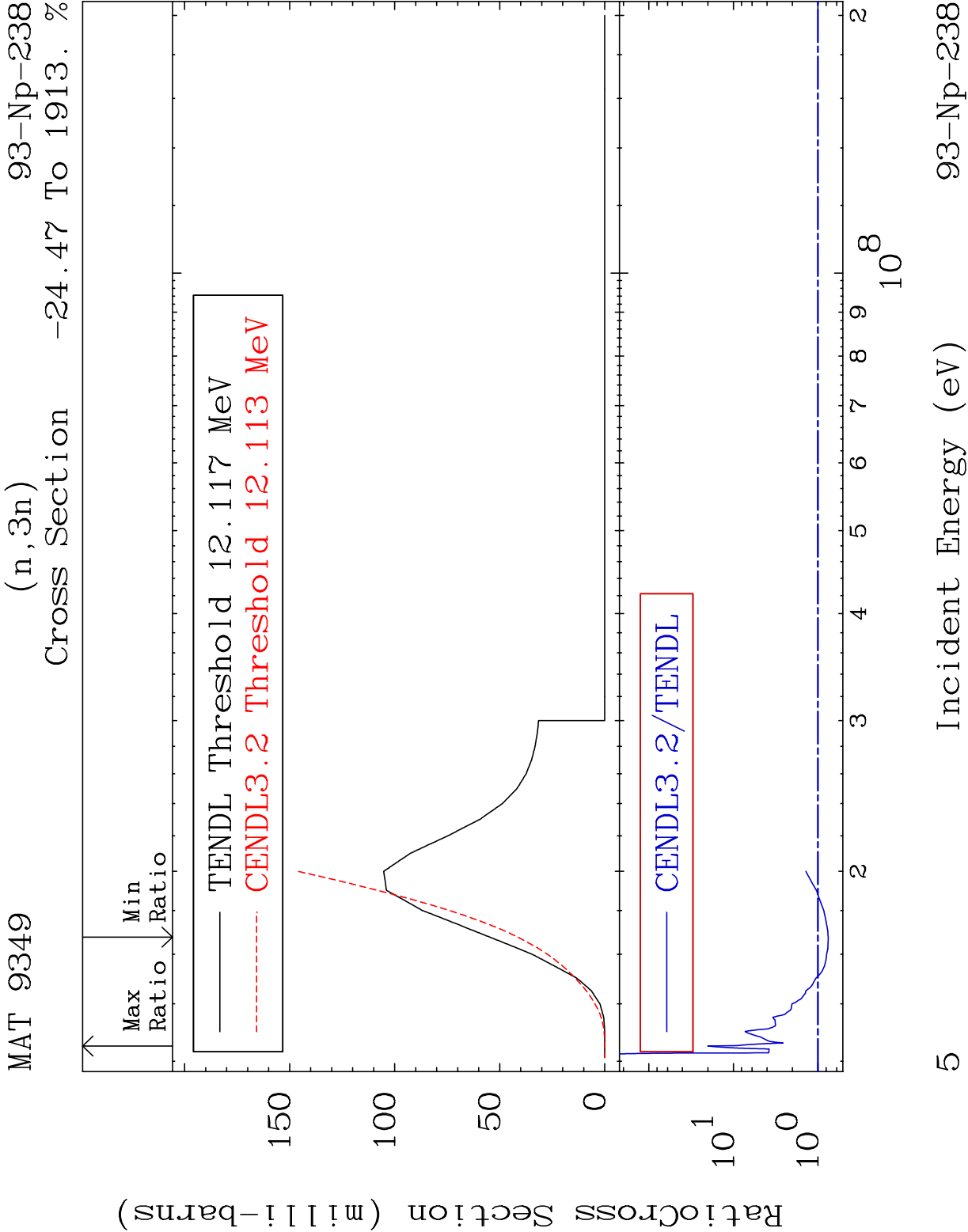
Press Mouse Button to Start









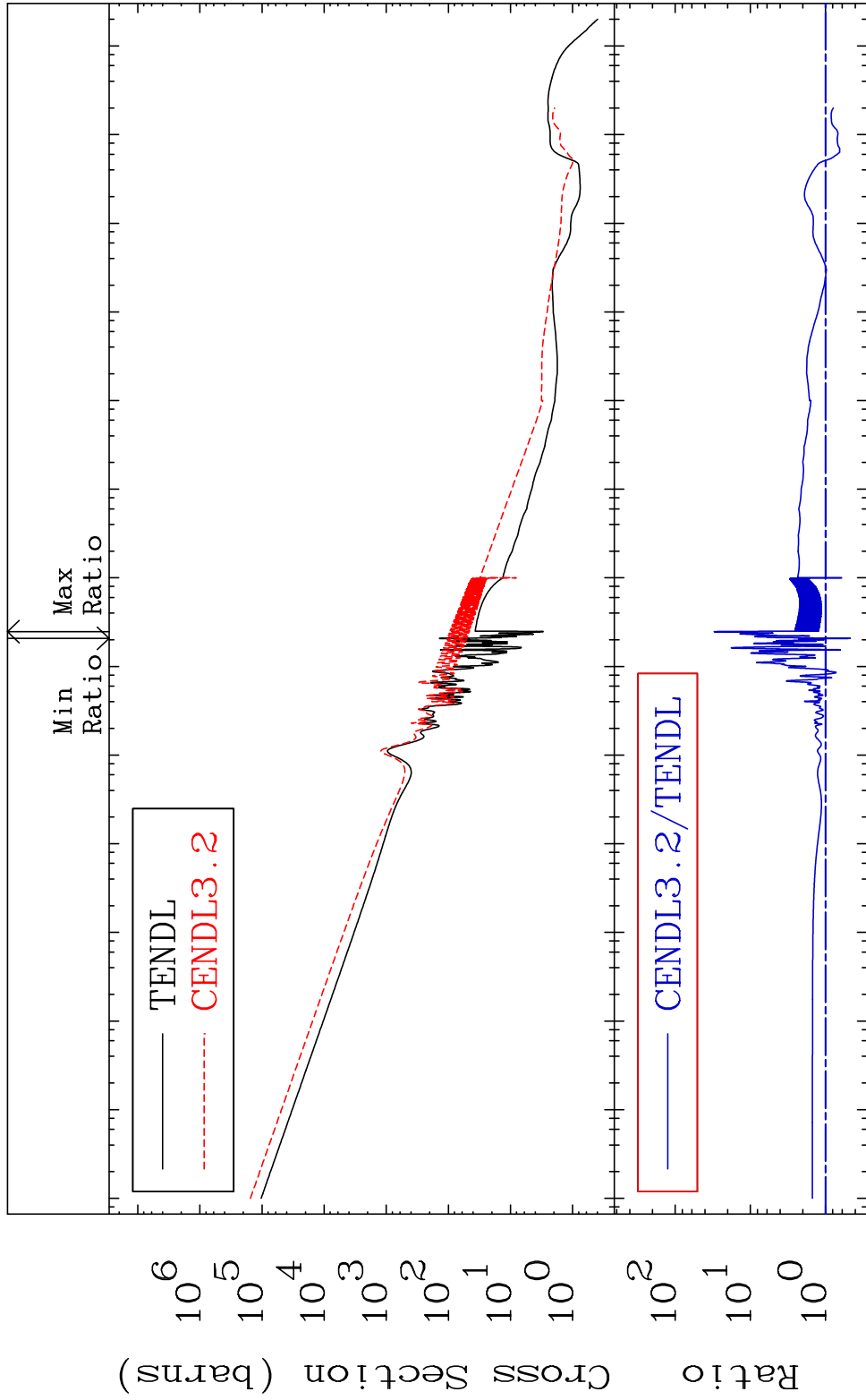


MAT 9349

Fission

93-Np-238

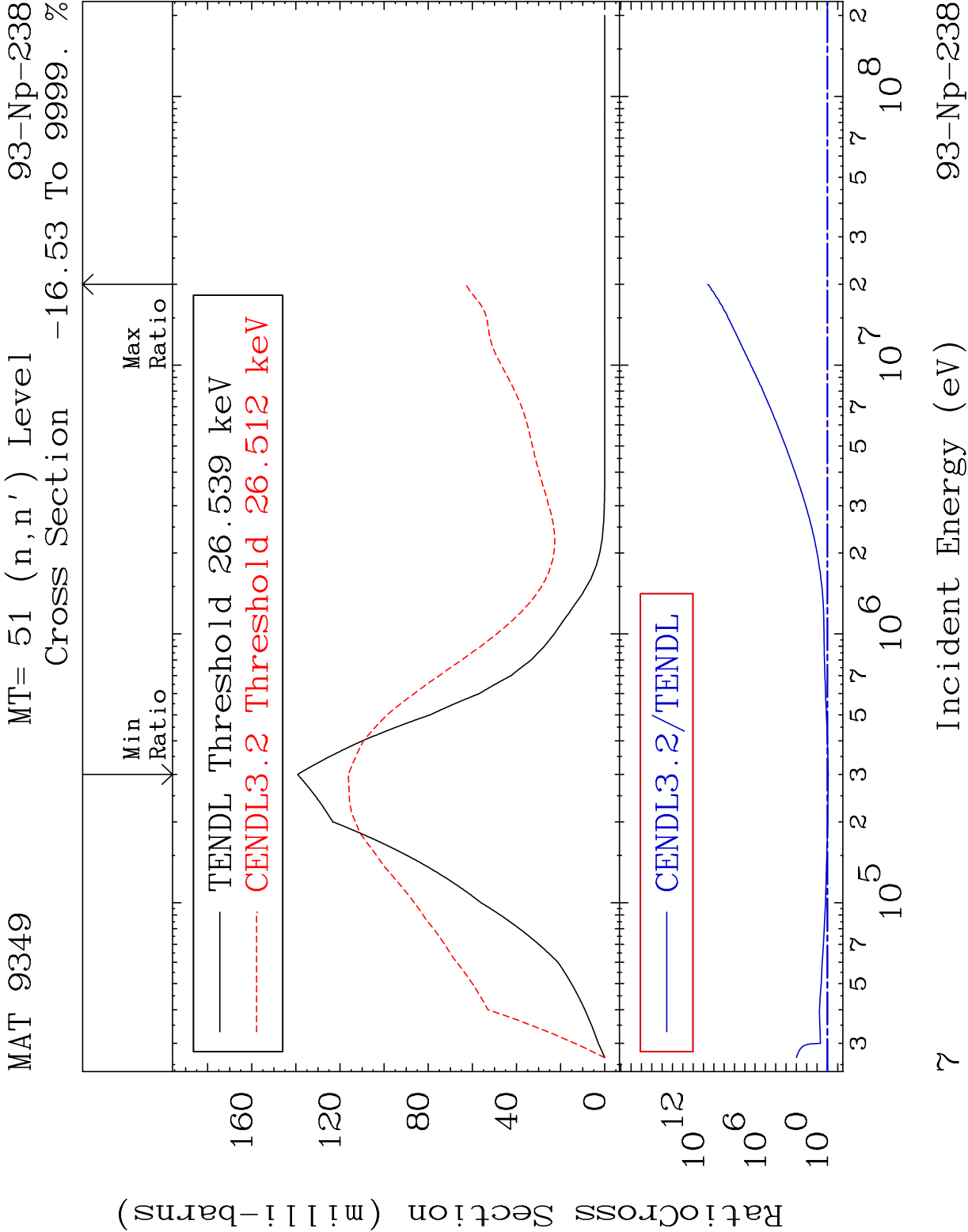
Cross Section -53.27 To 2938. %

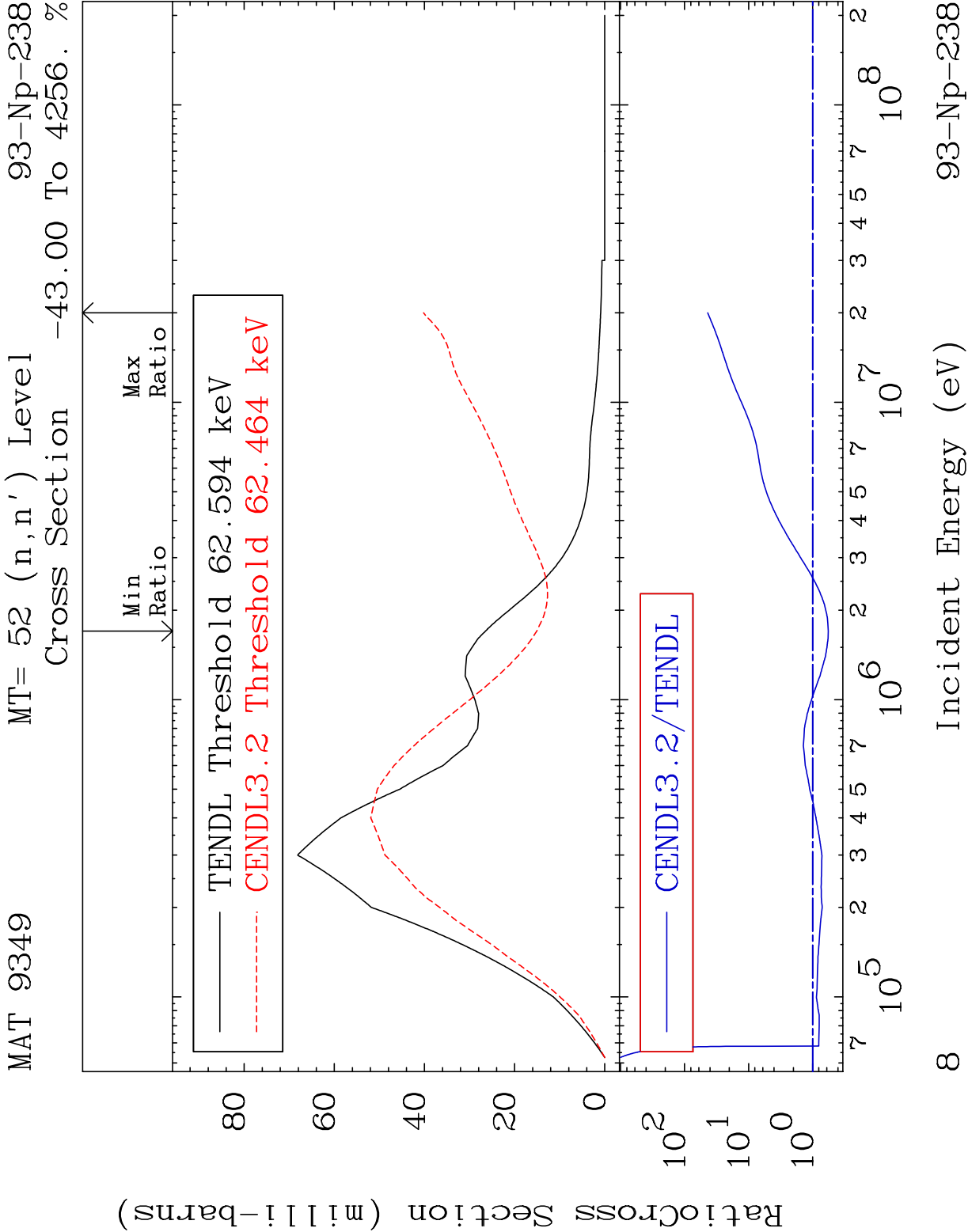


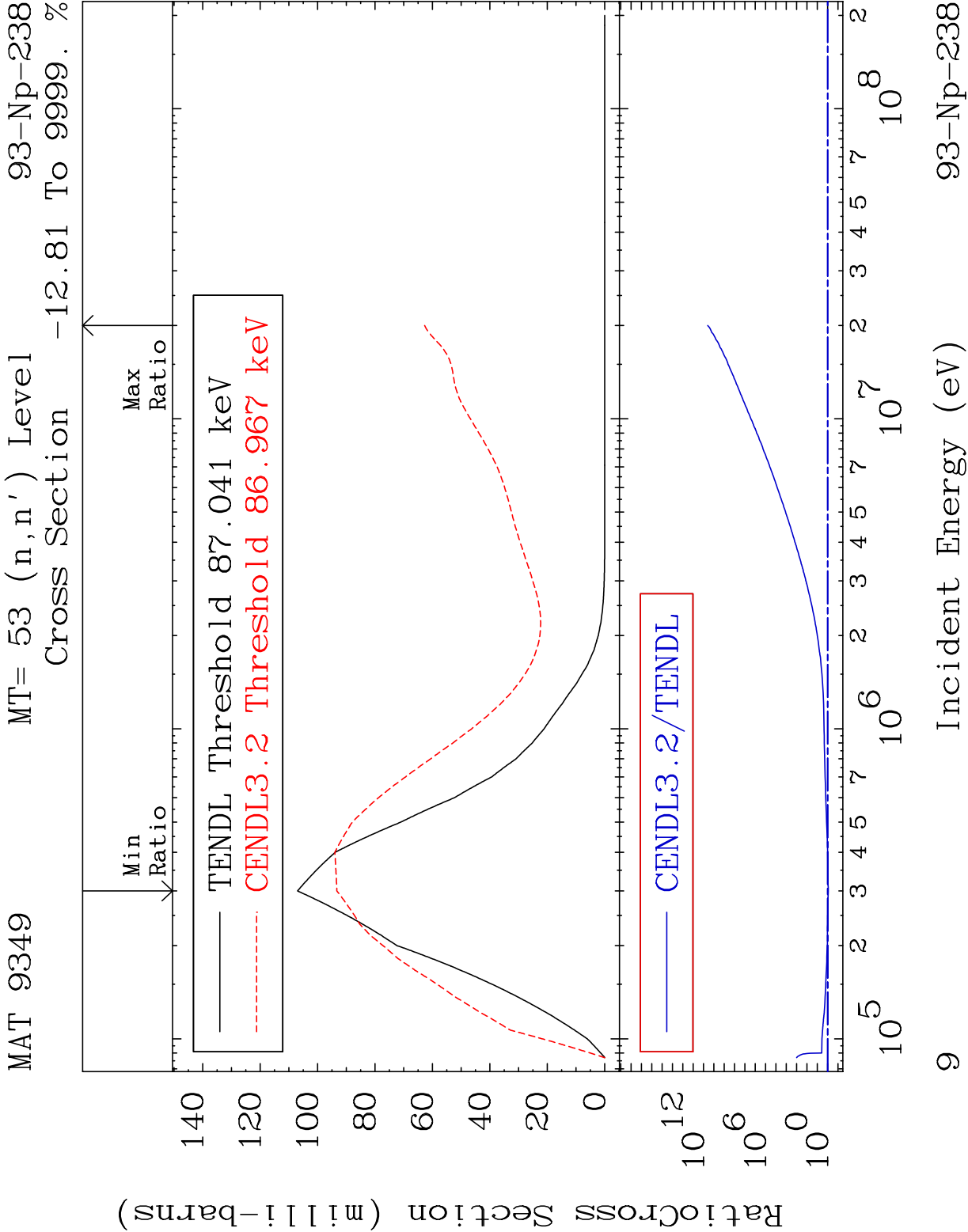
6

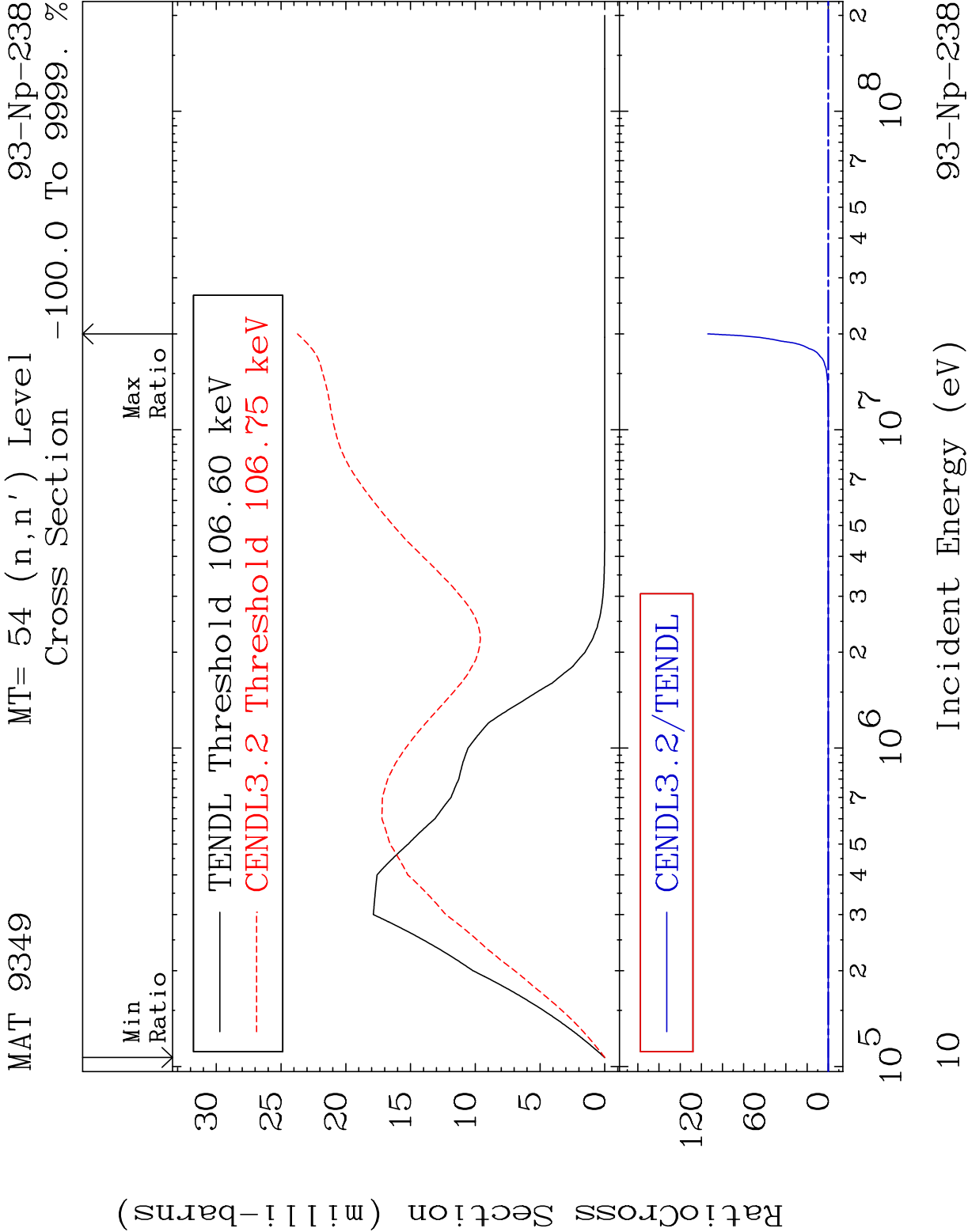
Incident Energy (eV)

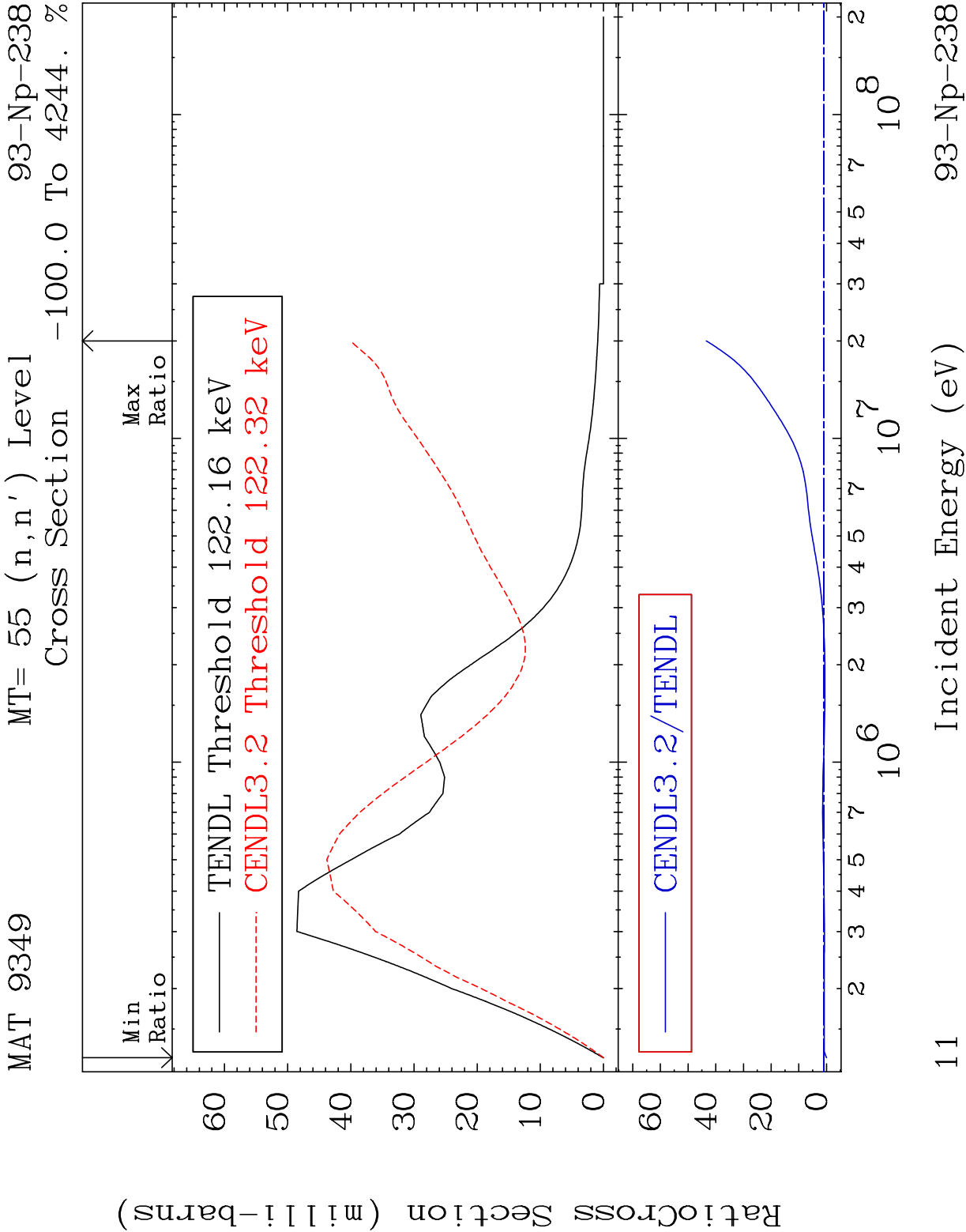
93-Np-238











MAT 9349

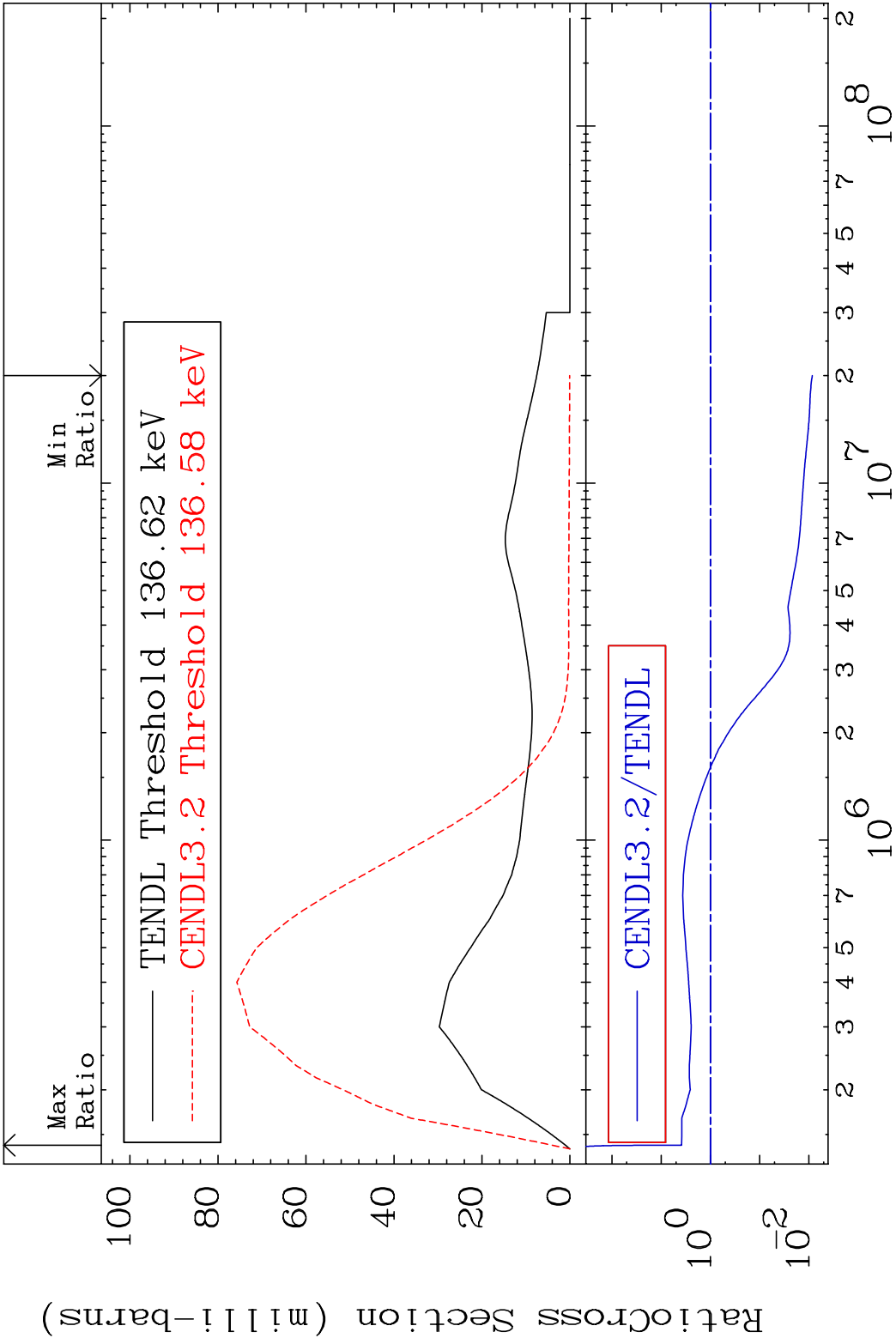
MT= 56 (n,n')

Level

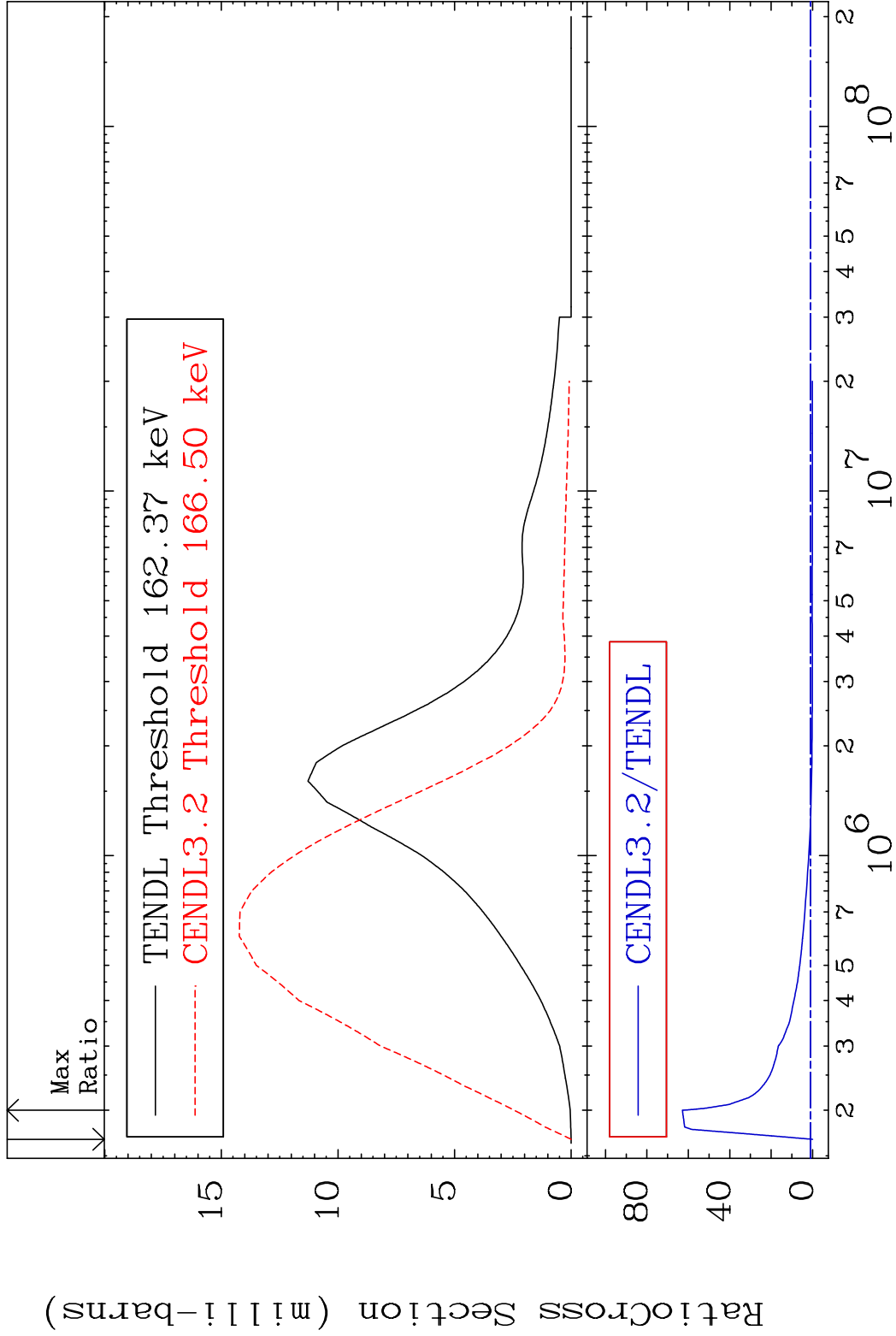
93-Np-238

Cross Section

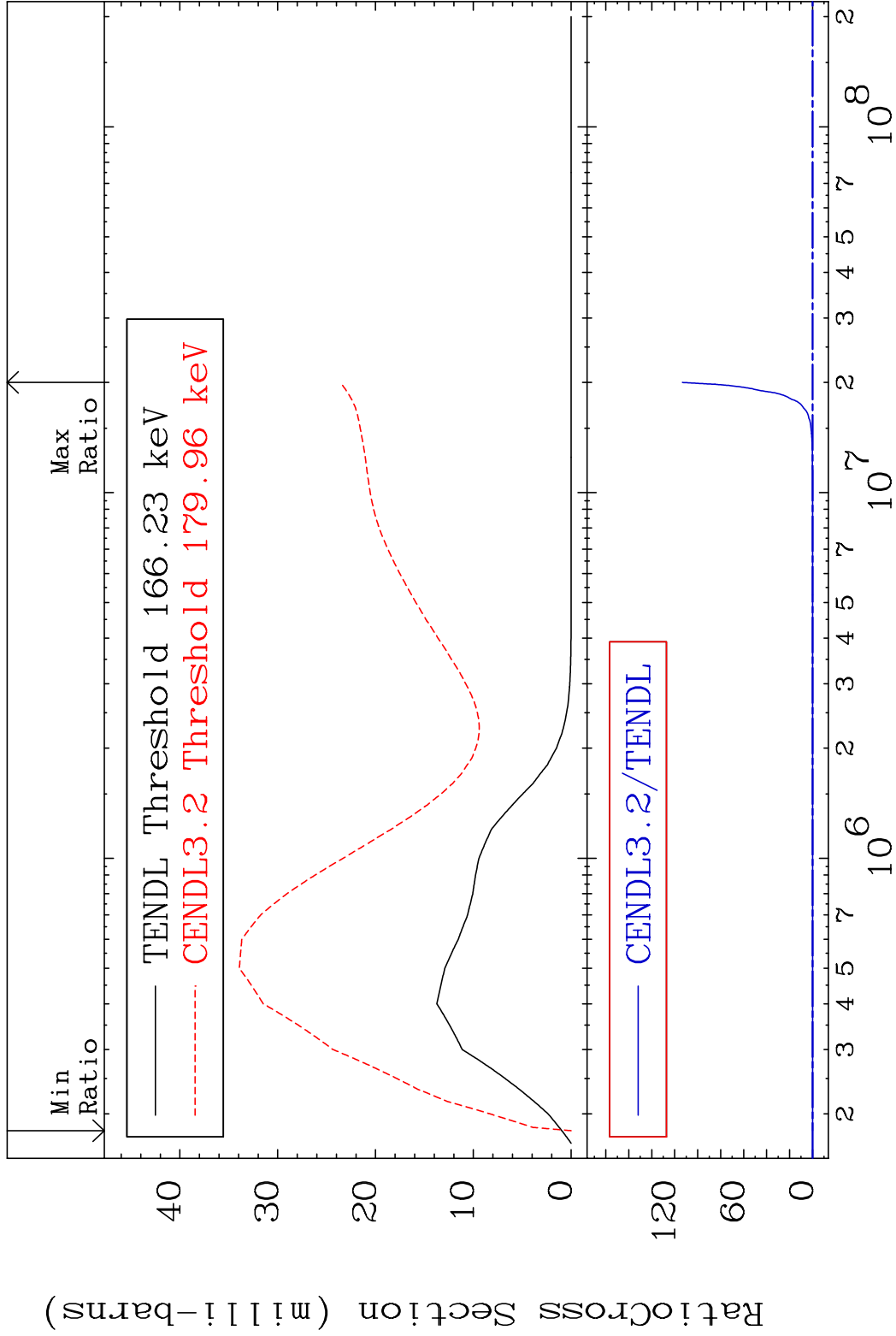
-99.15 To 285.3 %

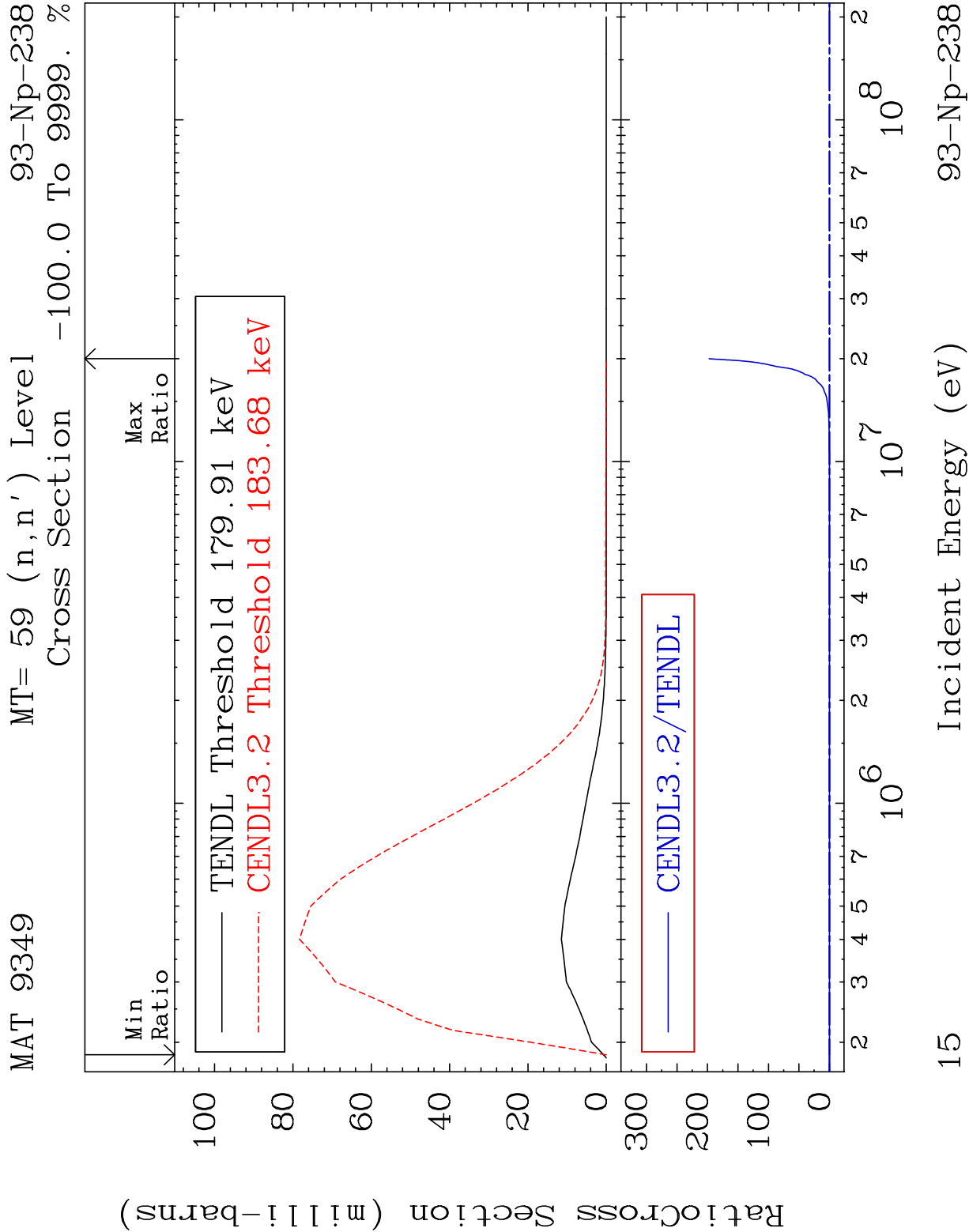


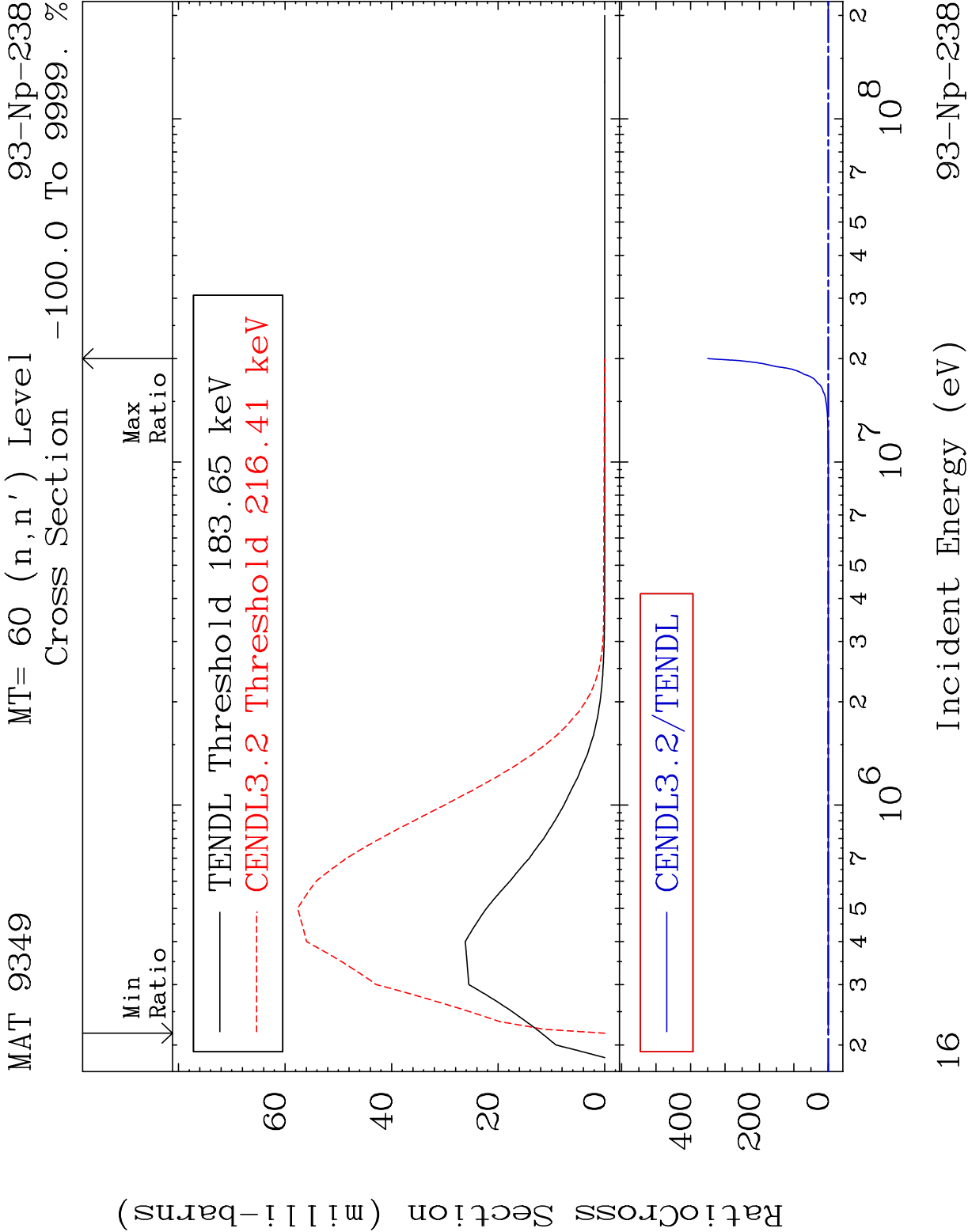
MAT 9349      MT= 57 (n,n') Level      93-Np-238  
Cross Section    -100.0 To 6188. %

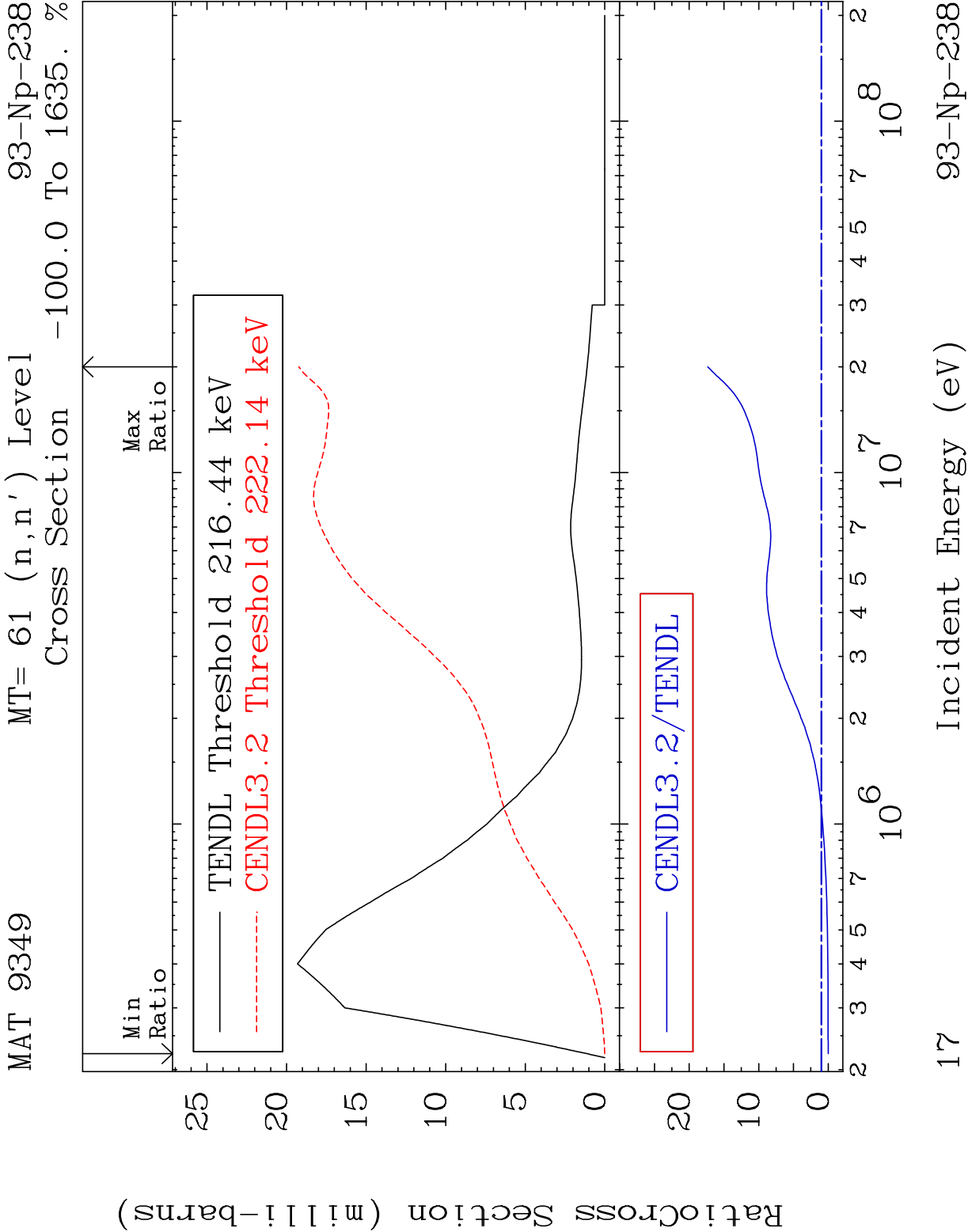


MAT 9349      MT= 58 (n,n') Level      93-Np-238  
Cross Section    -100.0 To 9999. %

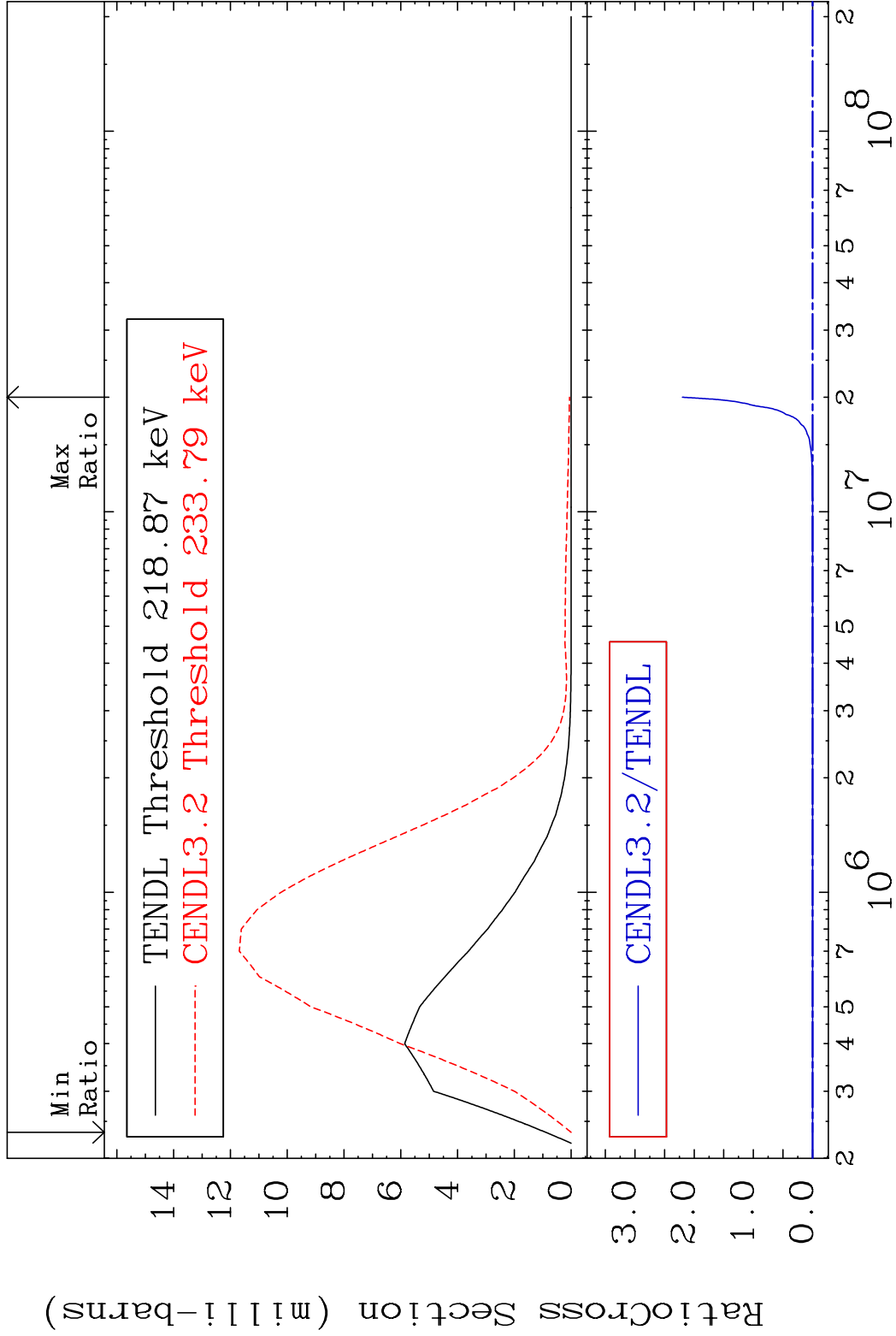


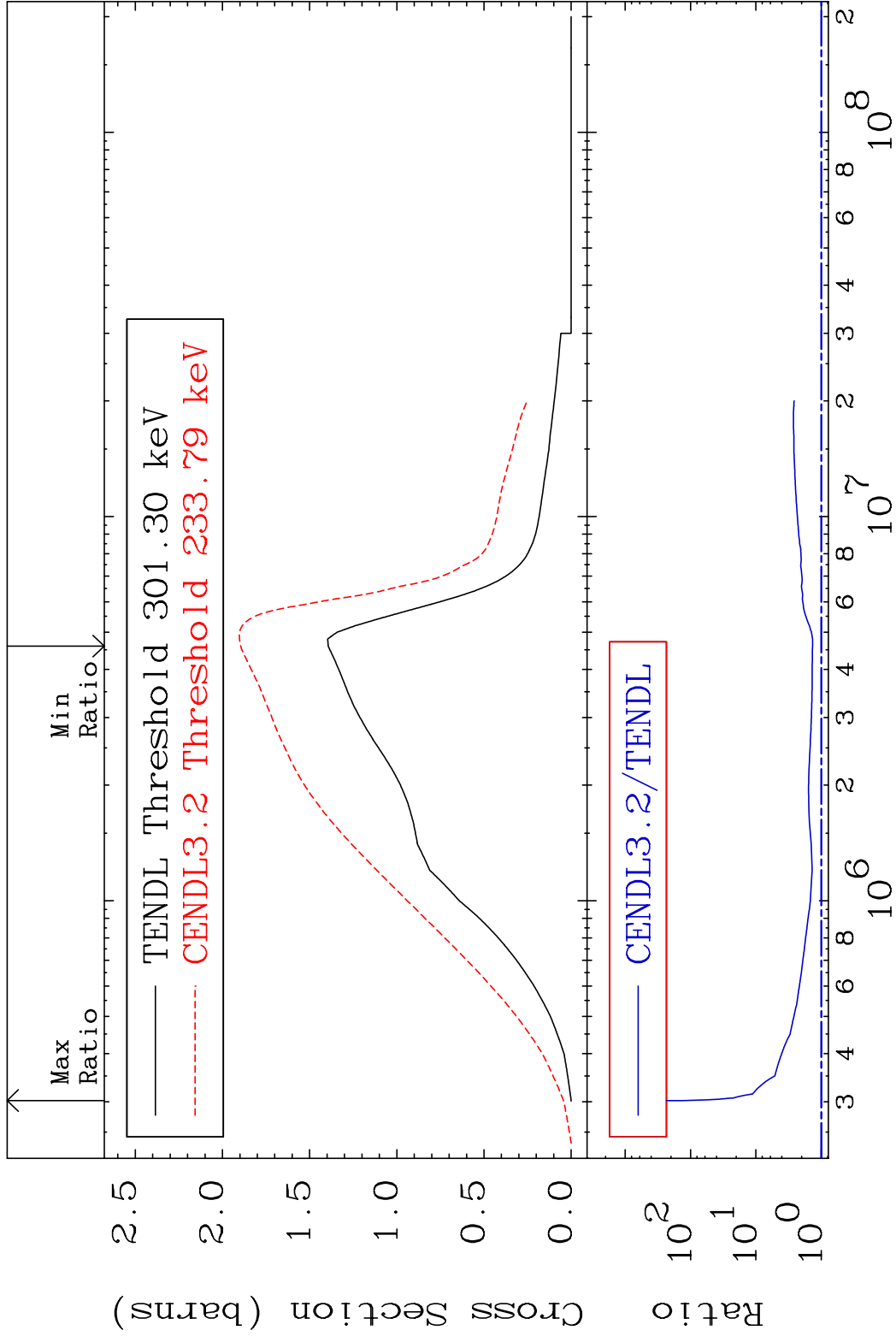






MAT 9349      MT= 62 (n,n') Level      93-Np-238  
Cross Section    -100.0 To 9999. %



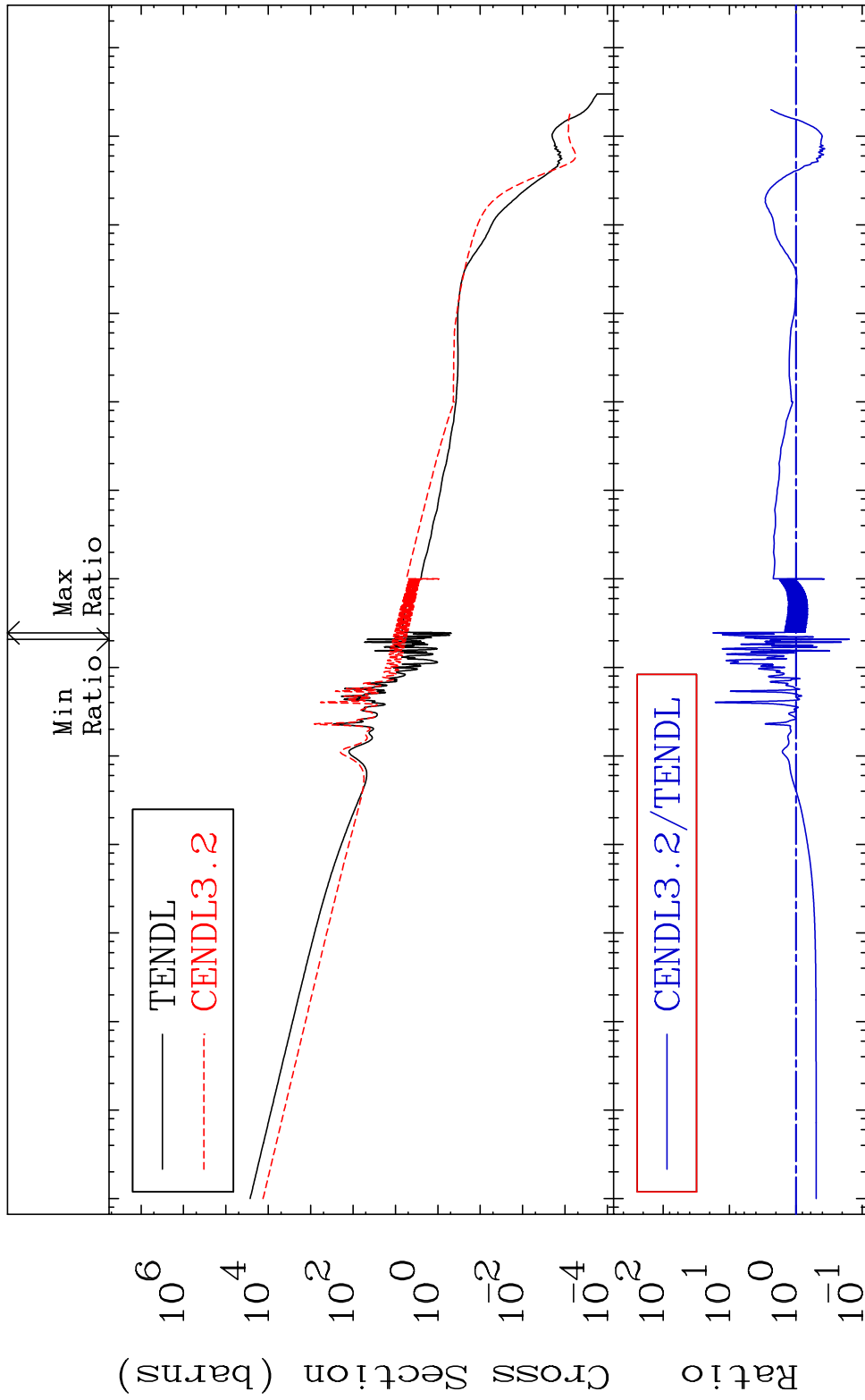


MAT 9349

(n,  $\gamma$ )

93-Np-238

Cross Section      -84.33    To 1664. %

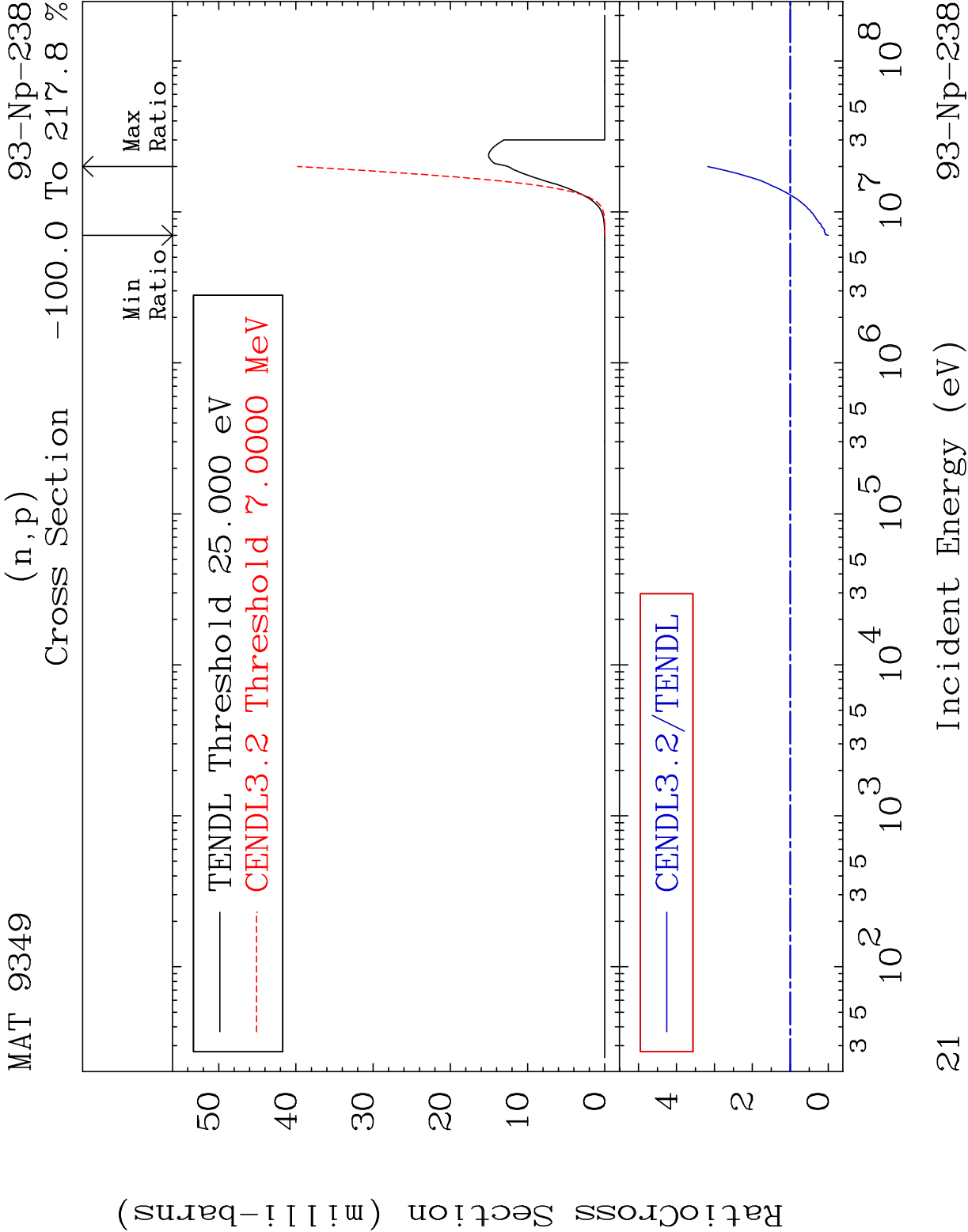


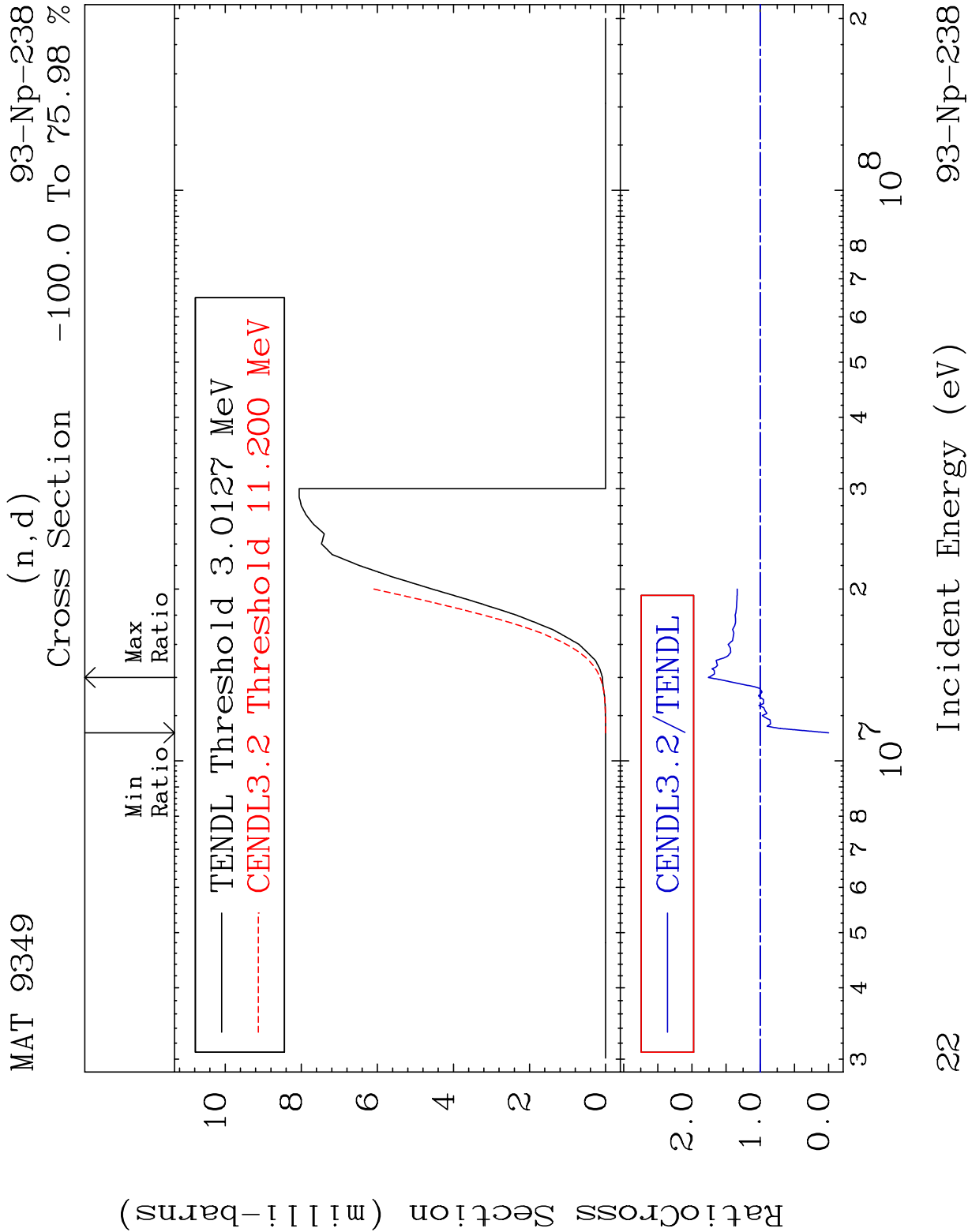
10<sup>-5</sup> 10<sup>-4</sup> 10<sup>-3</sup> 10<sup>-2</sup> 10<sup>-1</sup> 10<sup>0</sup> 10<sup>1</sup> 10<sup>2</sup> 10<sup>3</sup> 10<sup>4</sup> 10<sup>5</sup> 10<sup>6</sup> 10<sup>7</sup> 10<sup>8</sup>

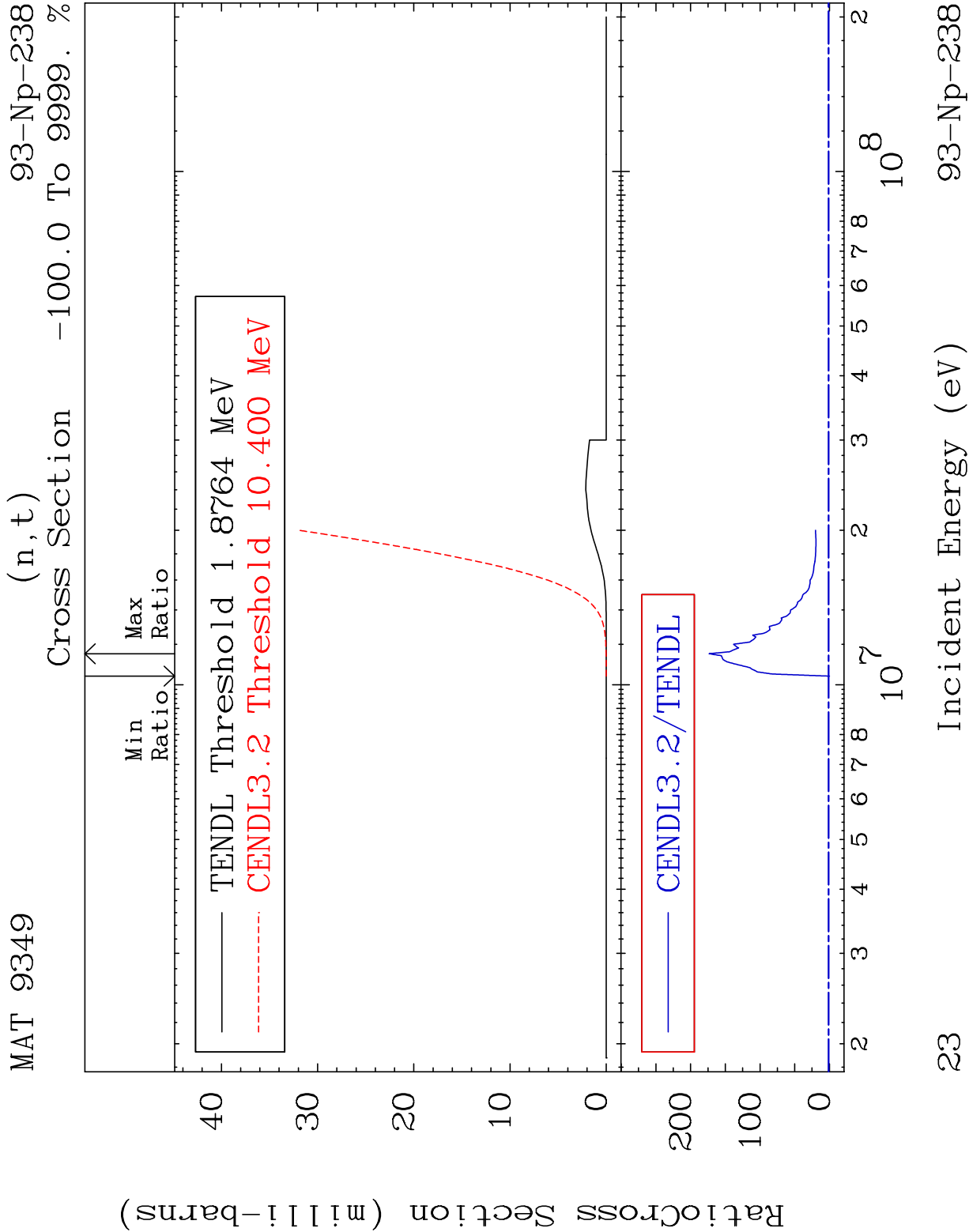
20

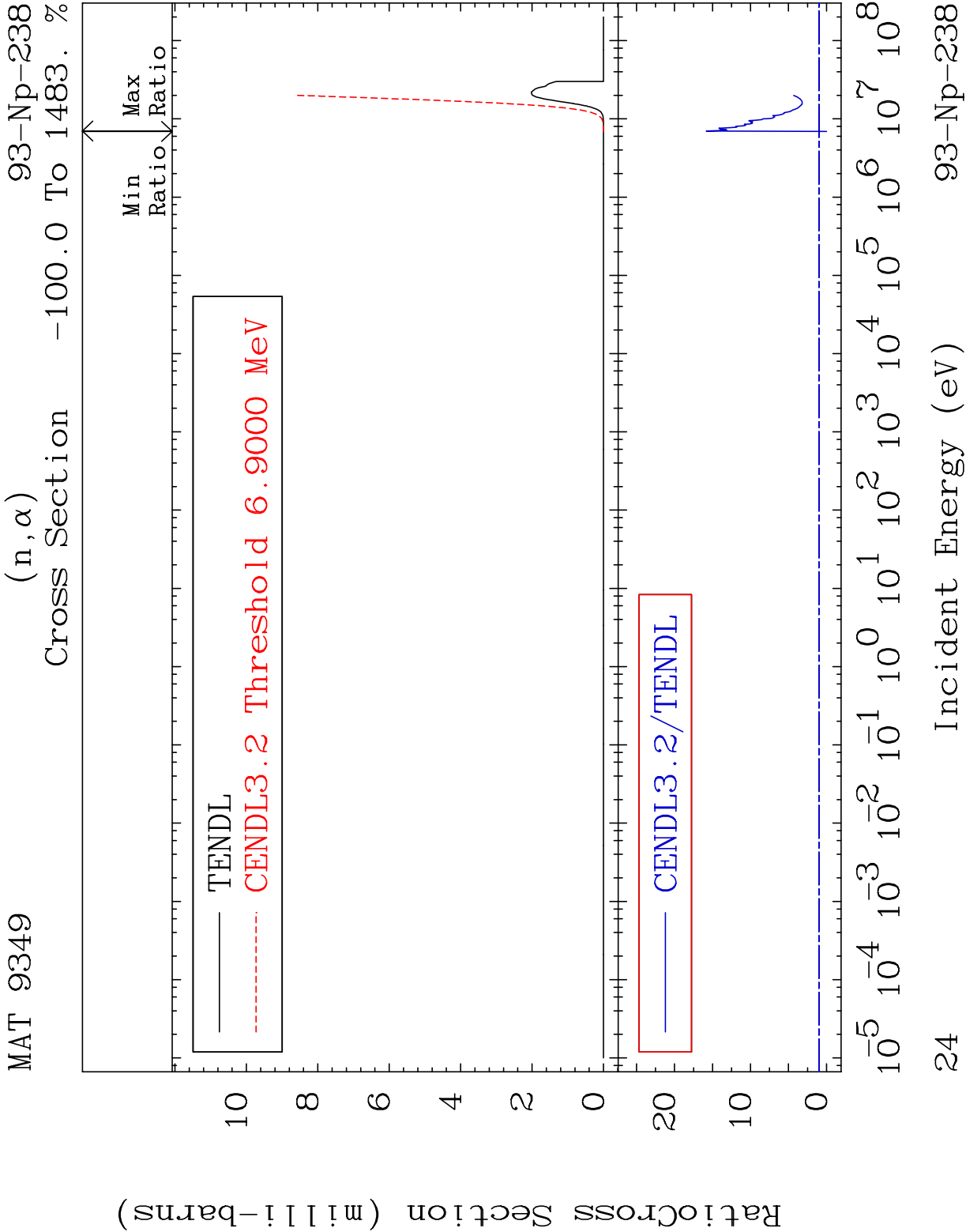
Incident Energy (eV)

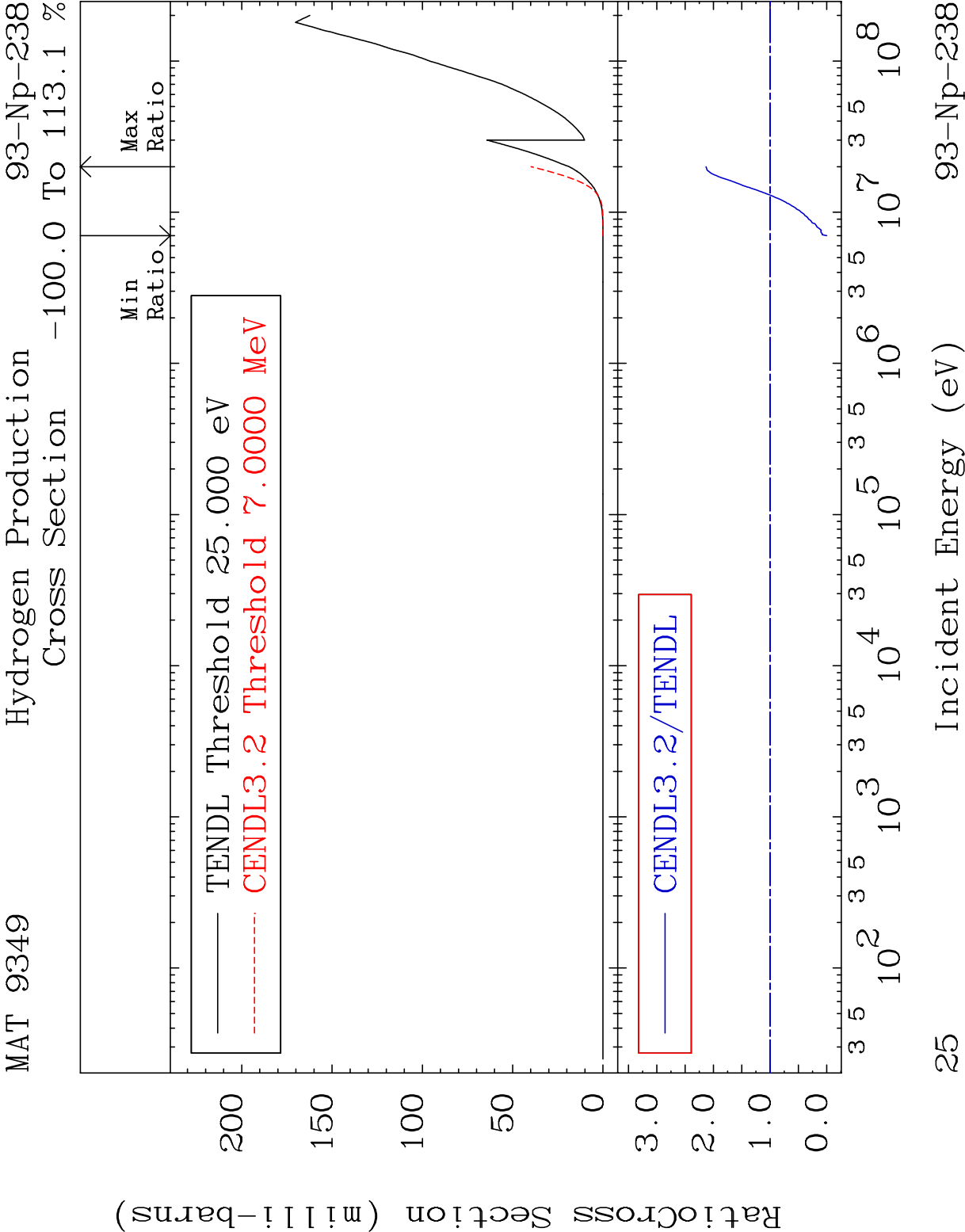
93-Np-238

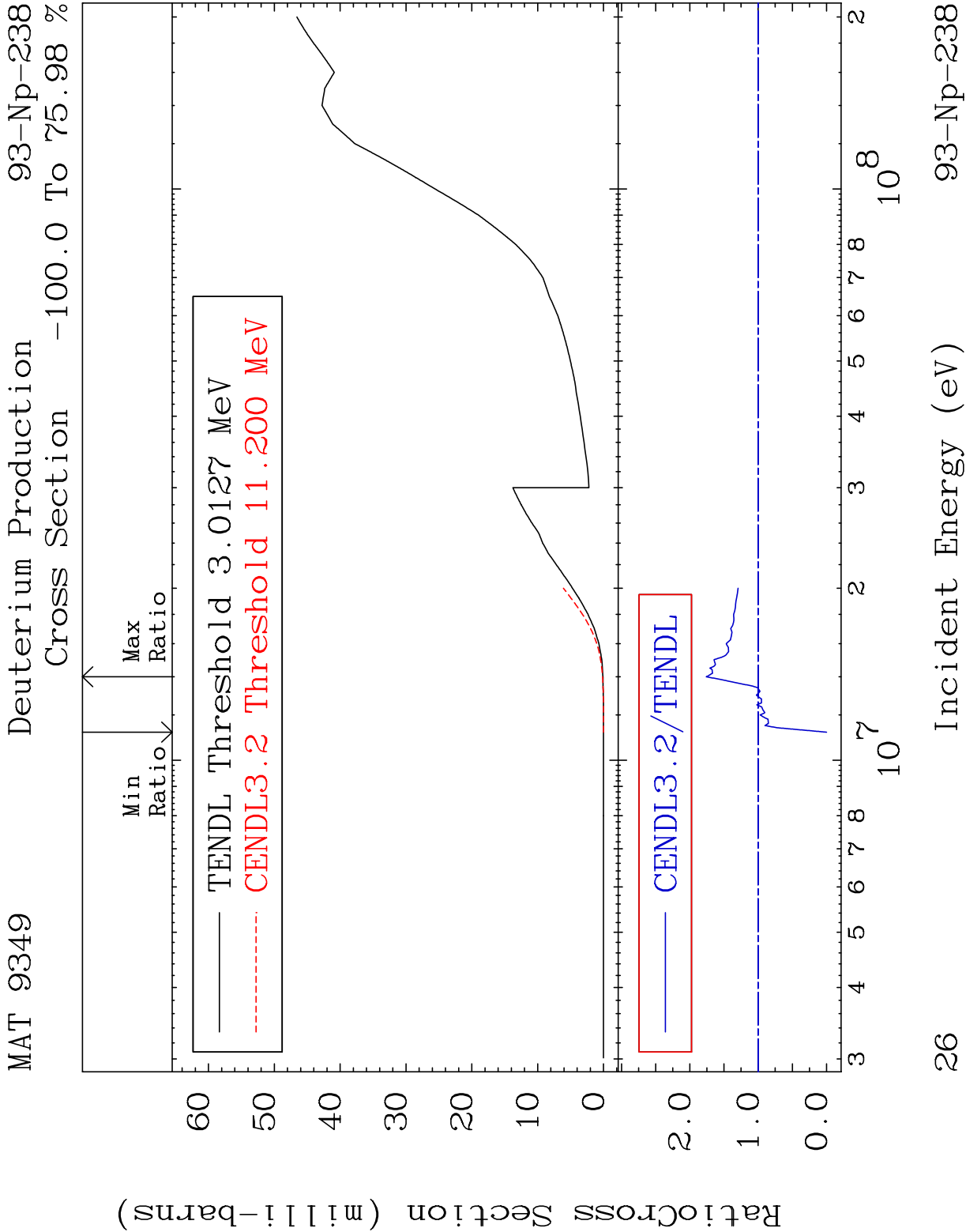




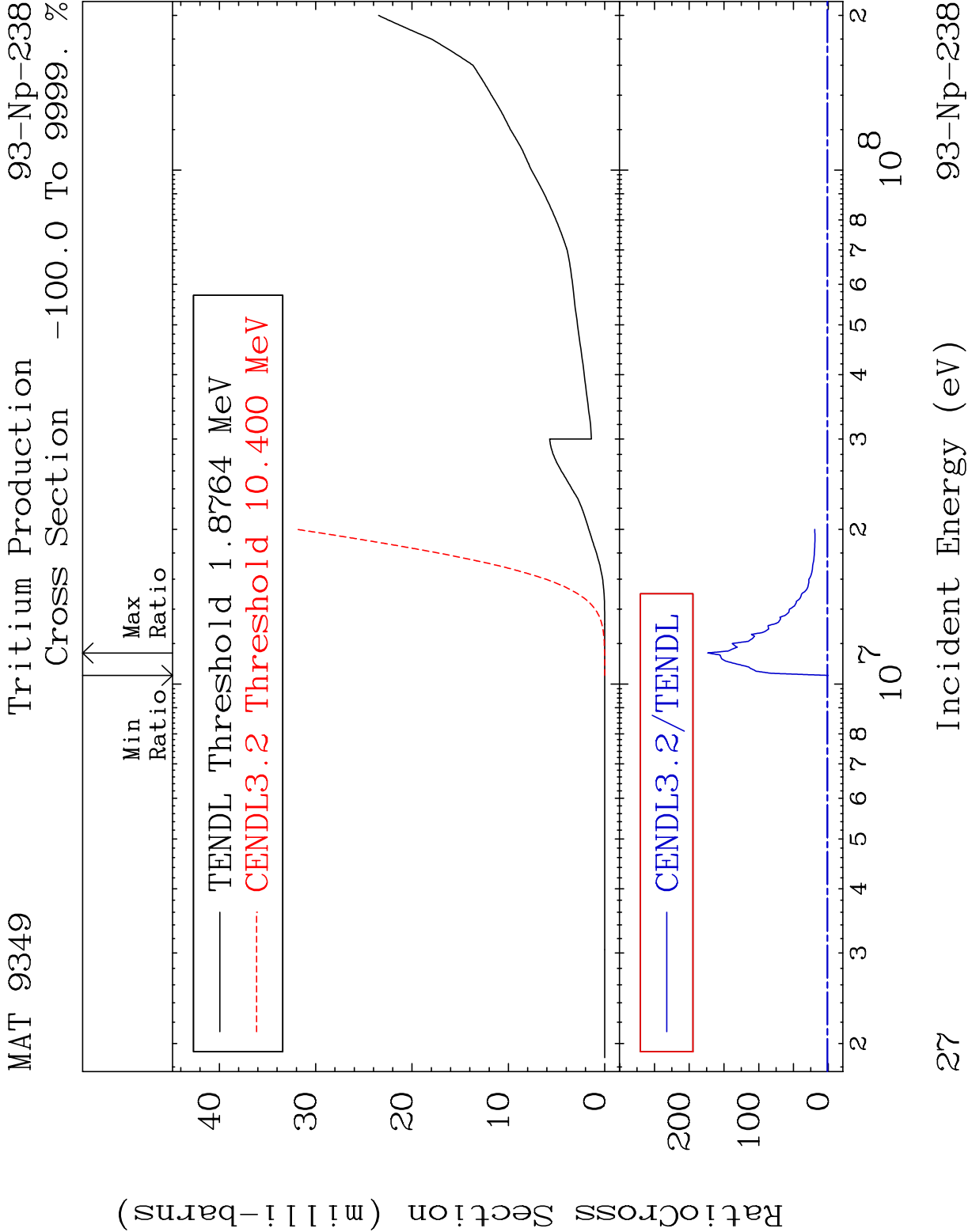


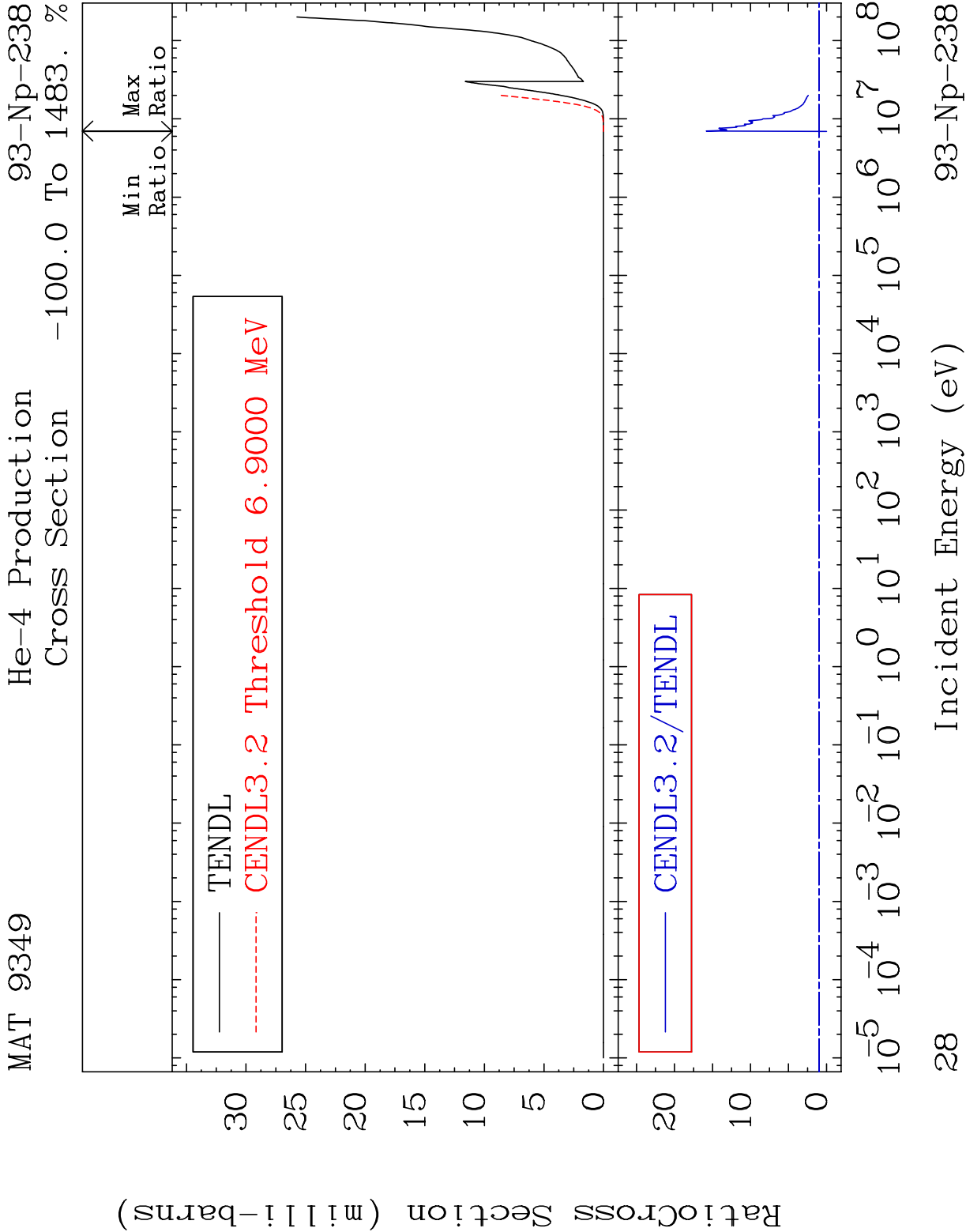






26





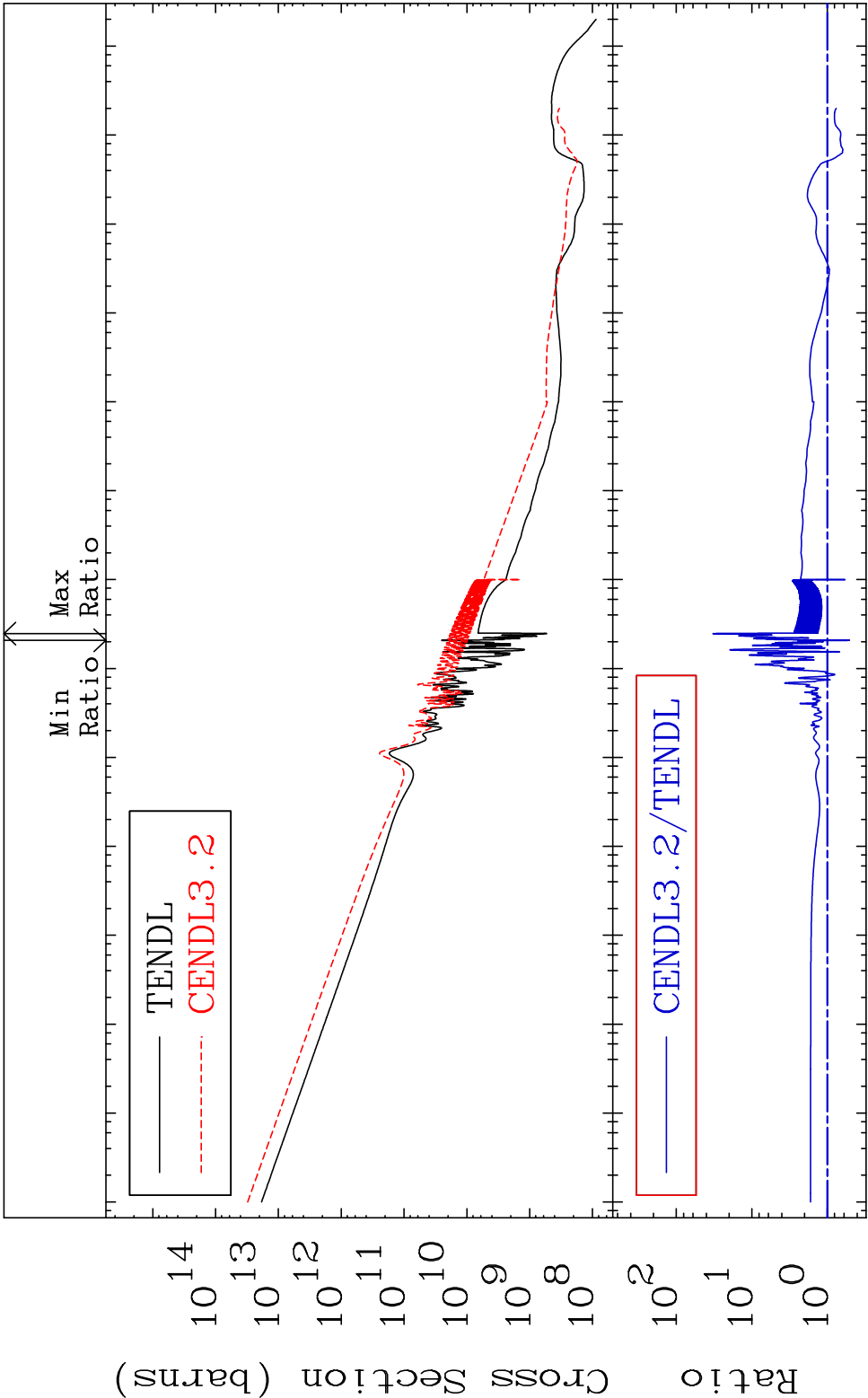
MAT 9349

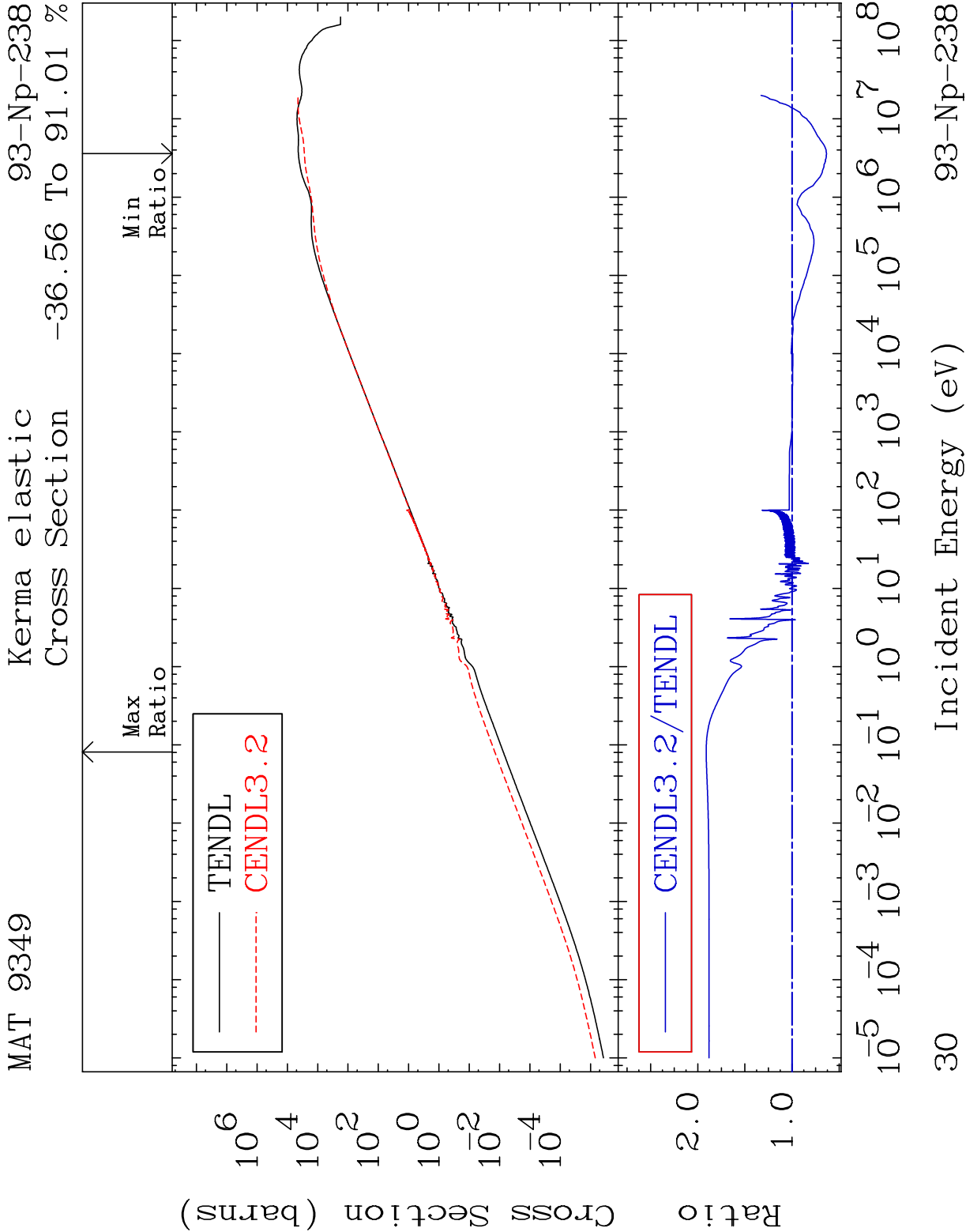
Kerma total (eV-barns)

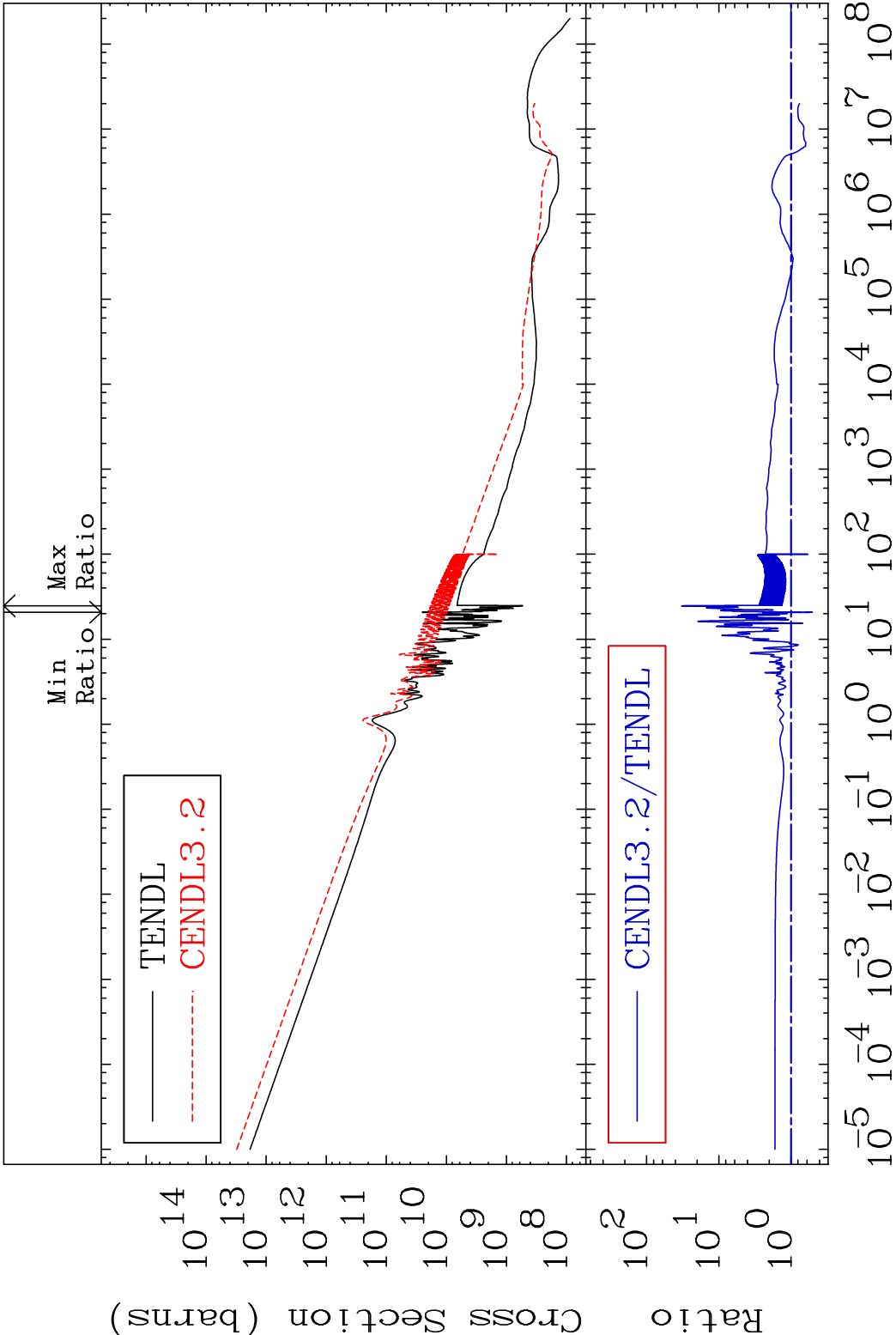
93-Np-238

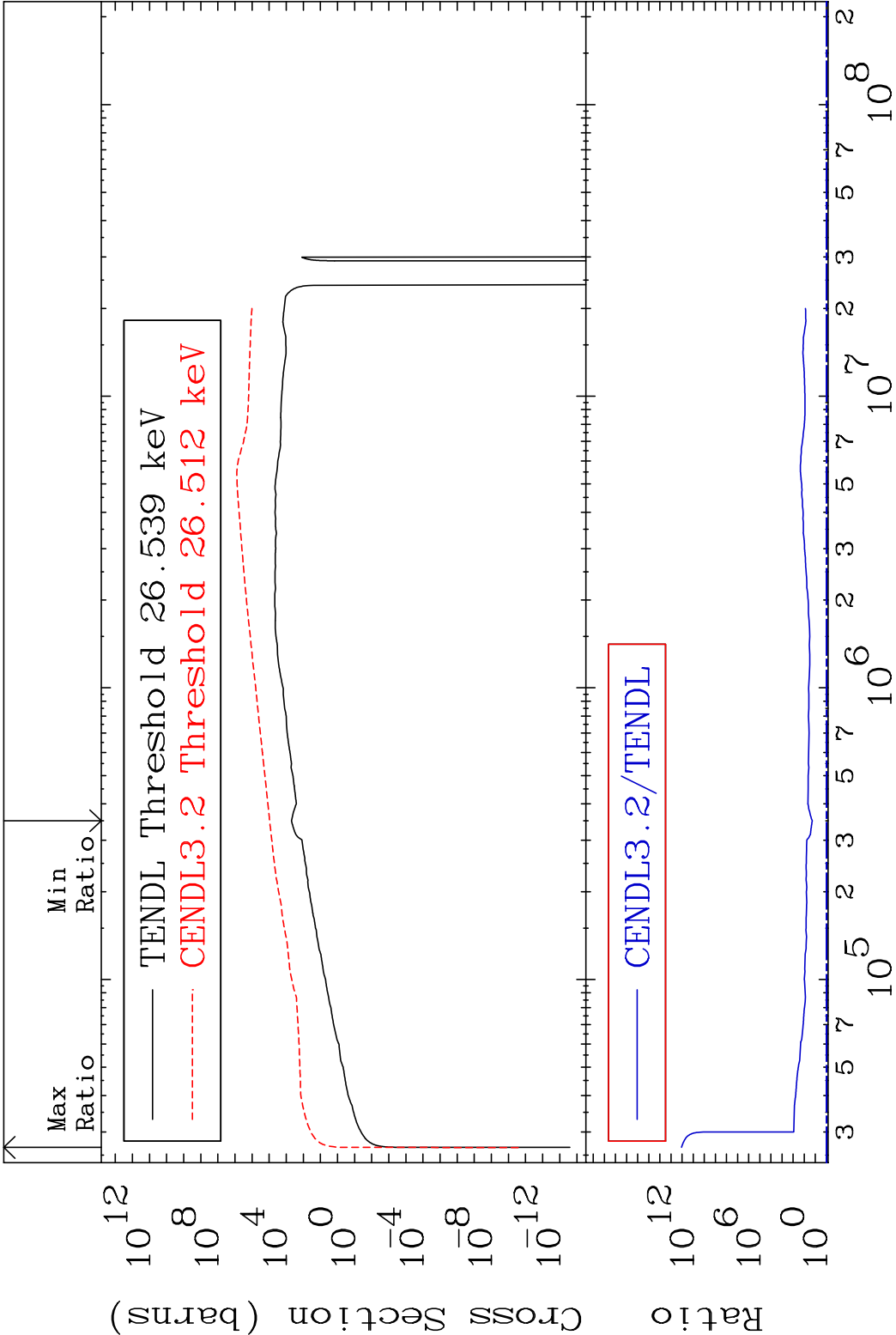
Cross Section

-49.26 To 3180. %



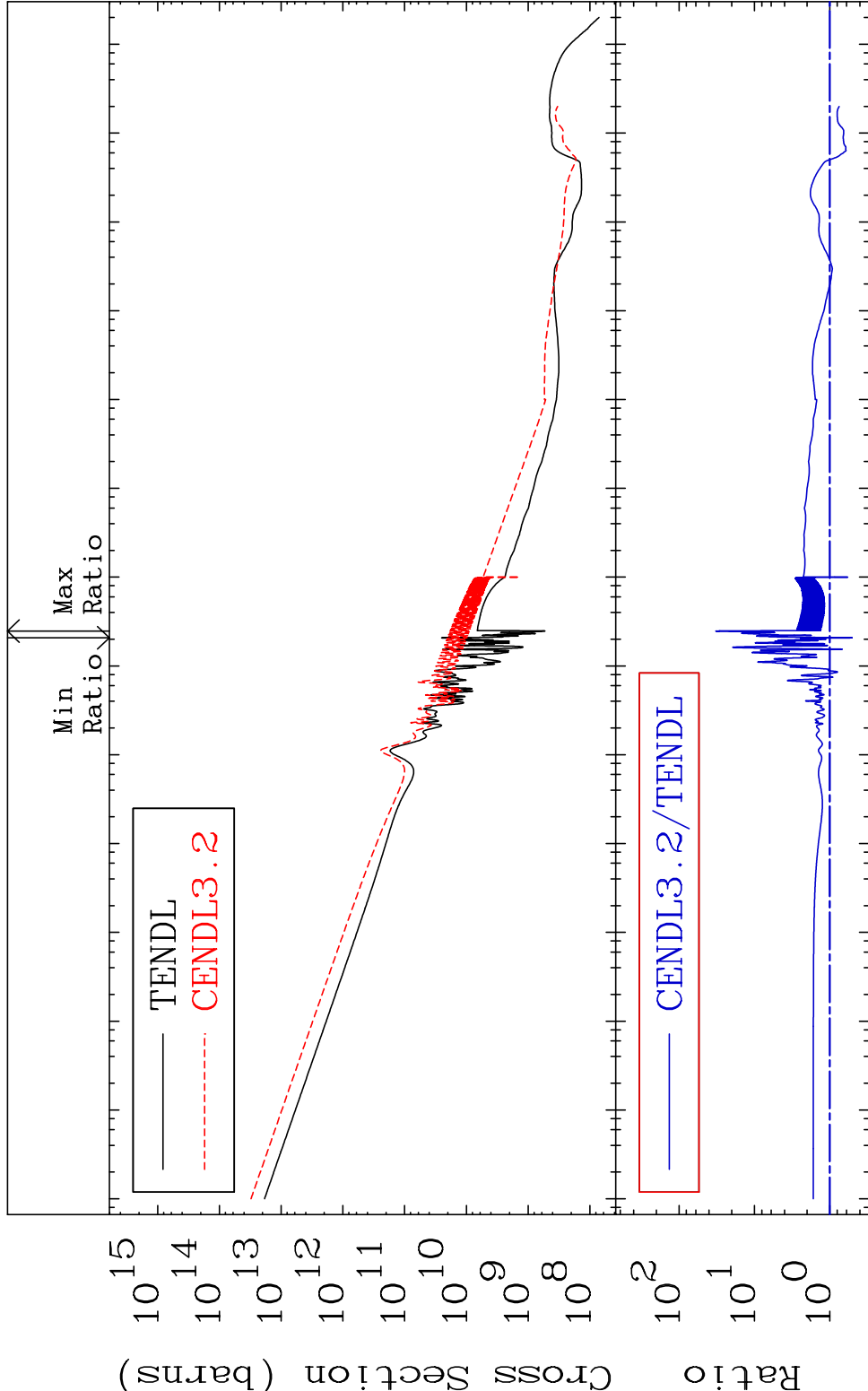






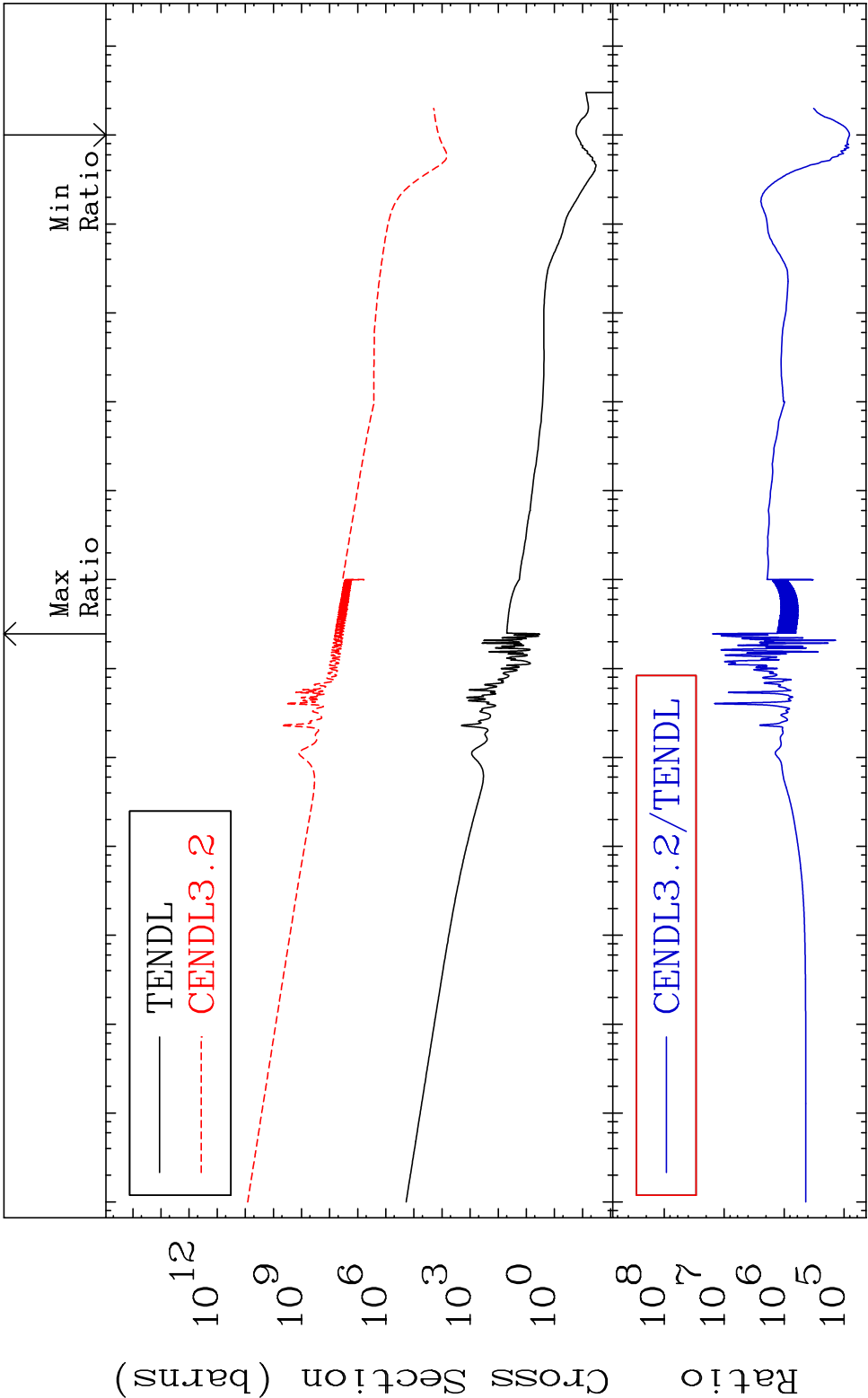
MAT 9349Kerma fission (mt18 or mt19-20-21-38)93-Np-238

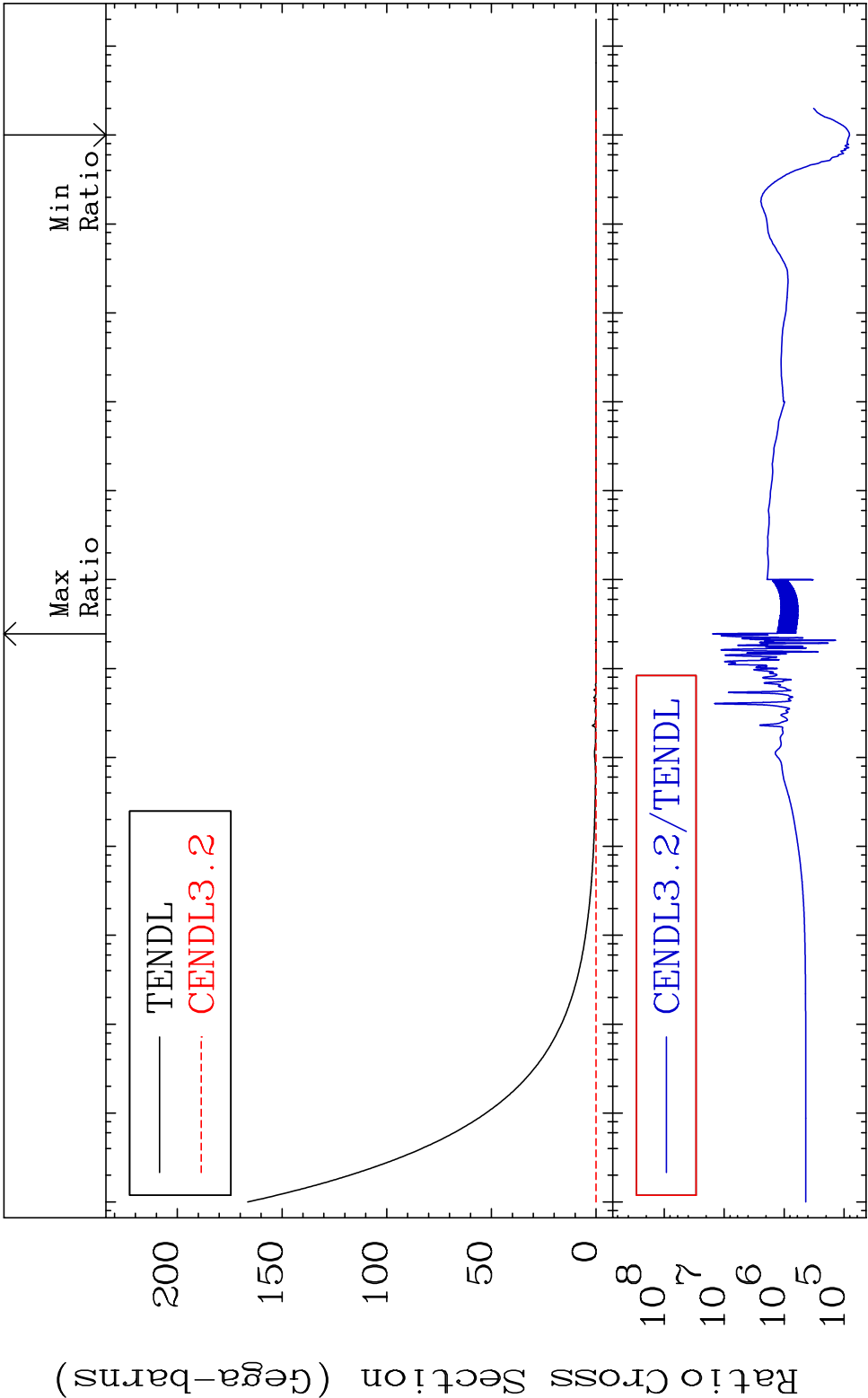
Cross Section -49.44 To 3168. %



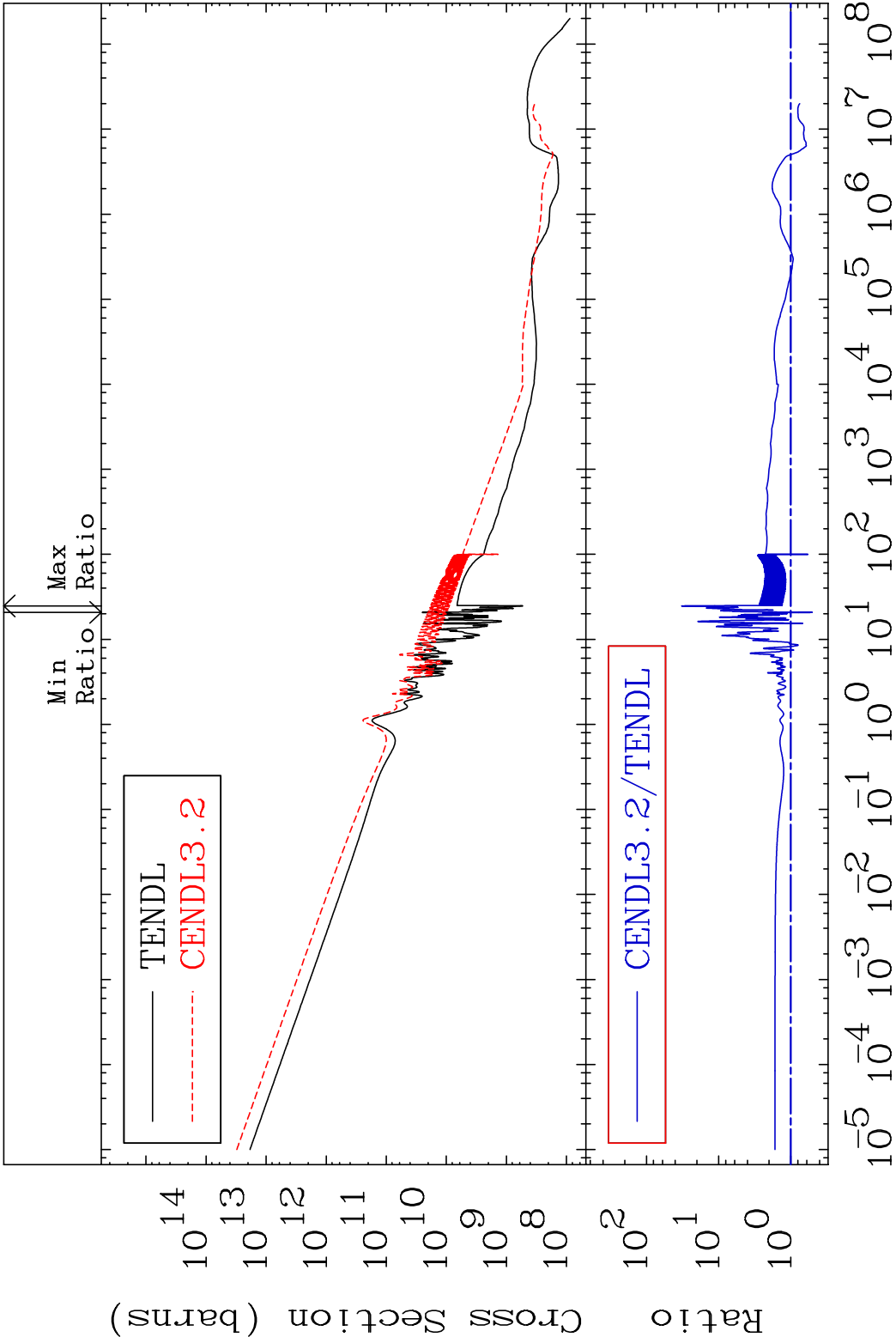
Incident Energy (eV)

33 93-Np-238



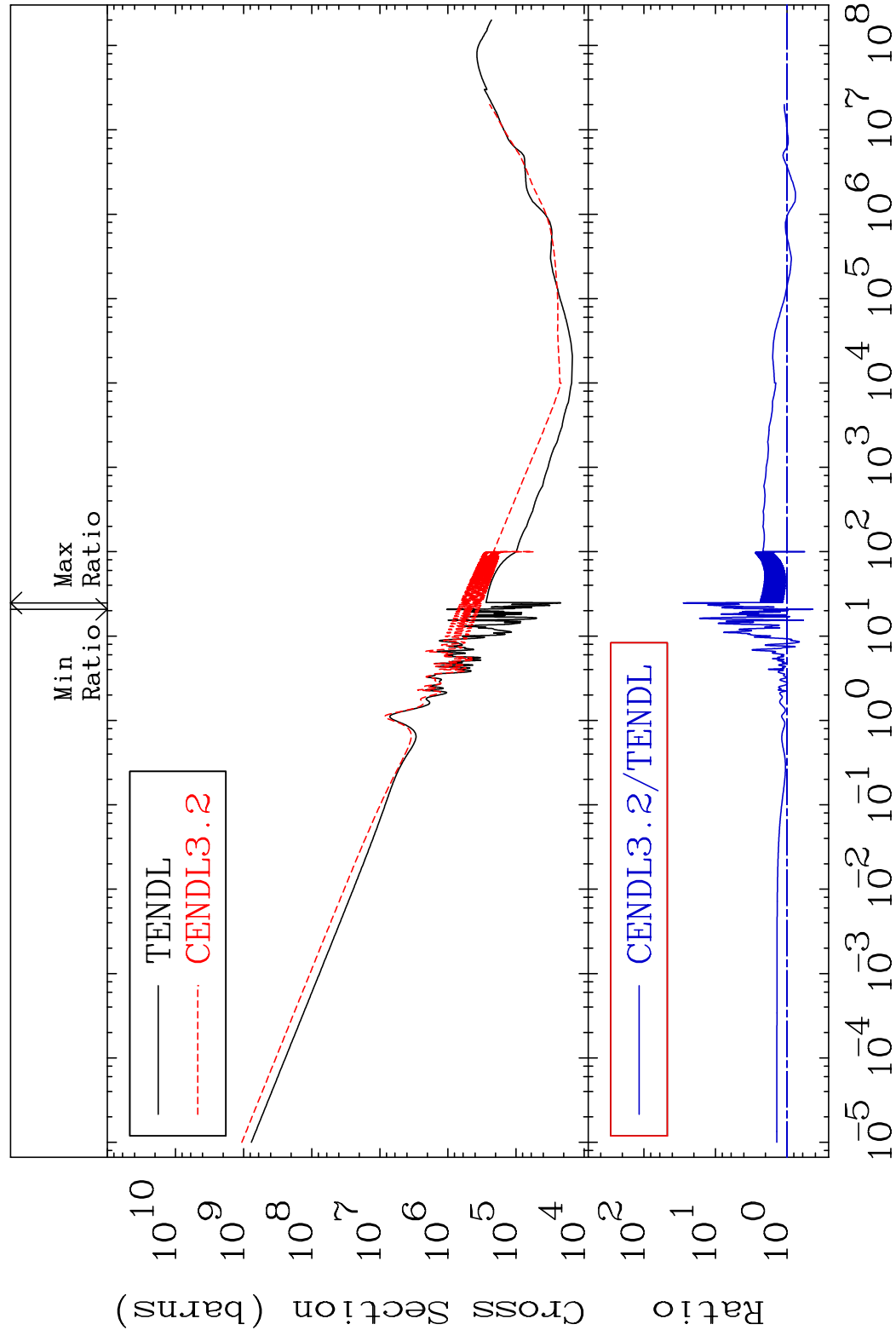


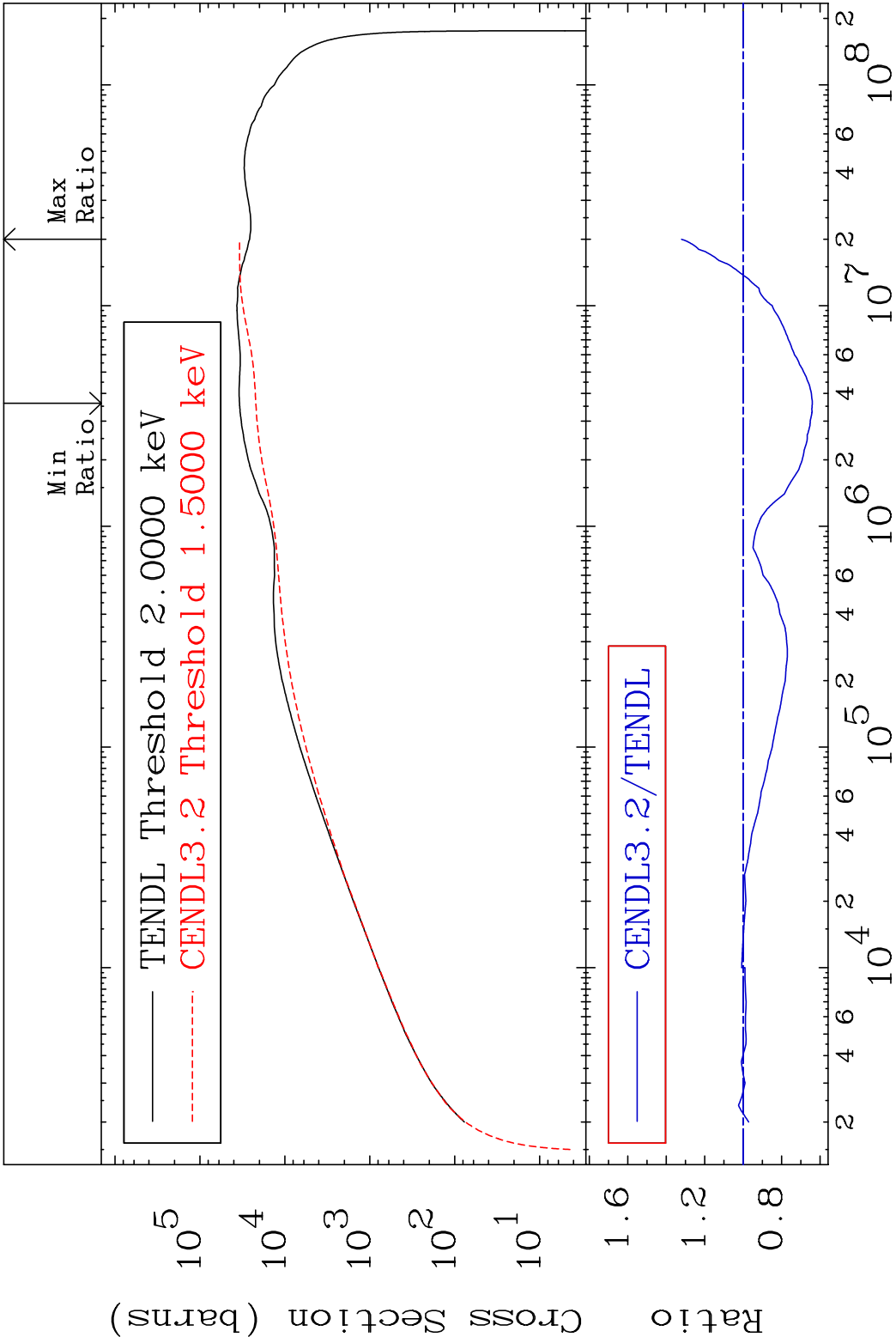
MAT 9349 Total kinematic kerma (high limit) 93-Np-238  
 Cross Section -49.44 To 3168. %

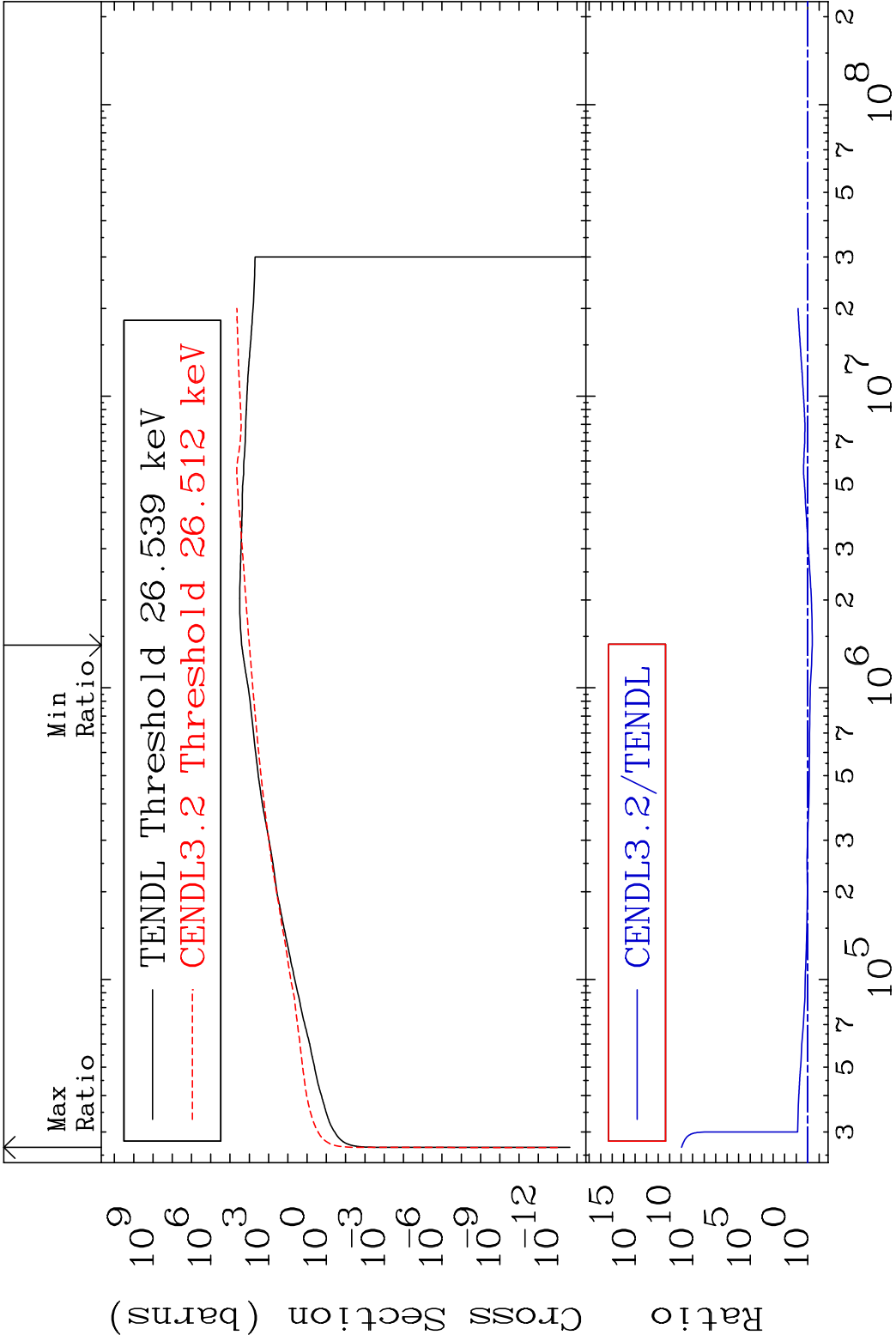


36 Incident Energy (eV) 93-Np-238

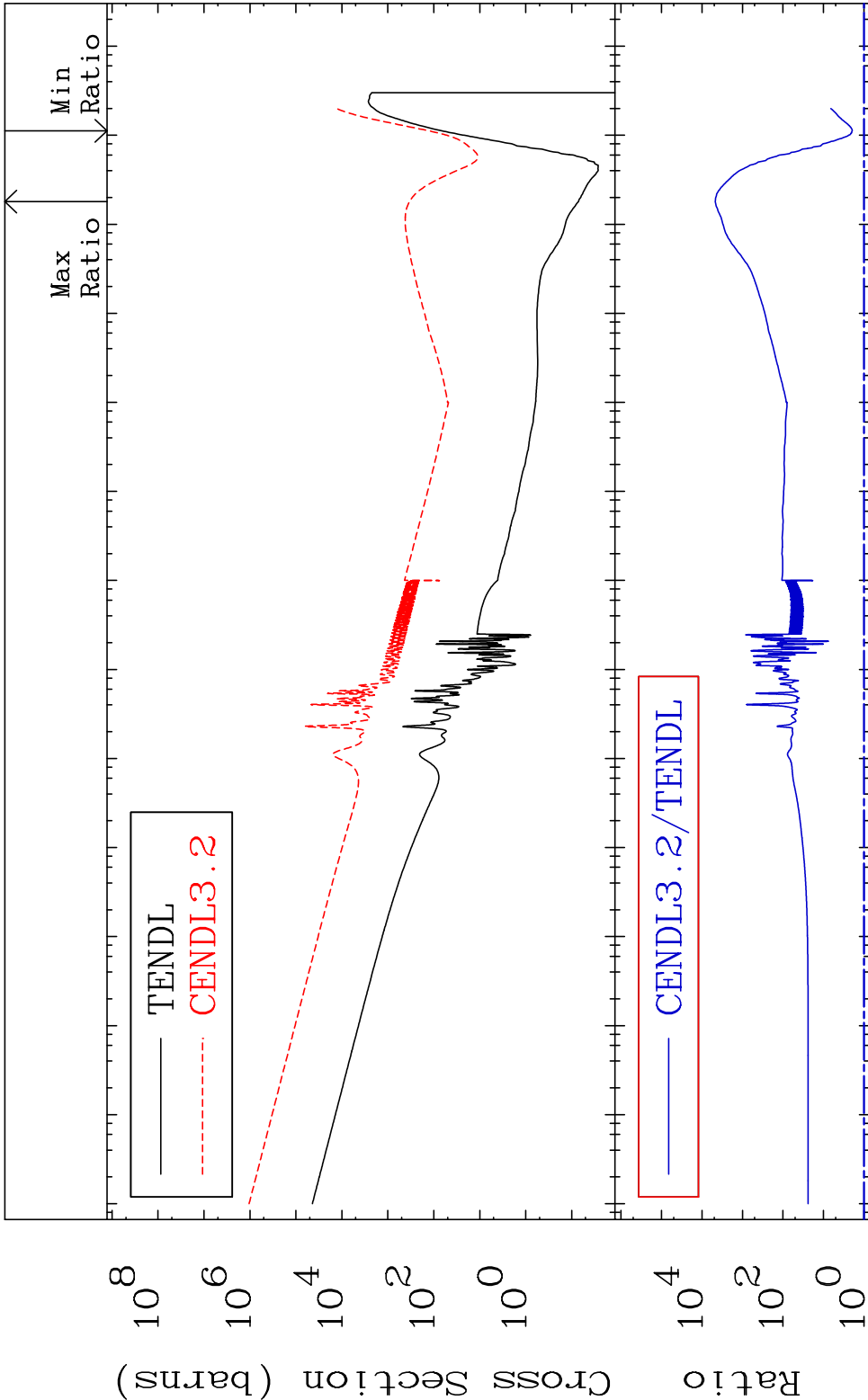
|          |                      |                   |
|----------|----------------------|-------------------|
| MAT 9349 | Dpa total (eV-barns) | 93-Np-238         |
|          | Cross Section        | -56.63 To 2719. % |





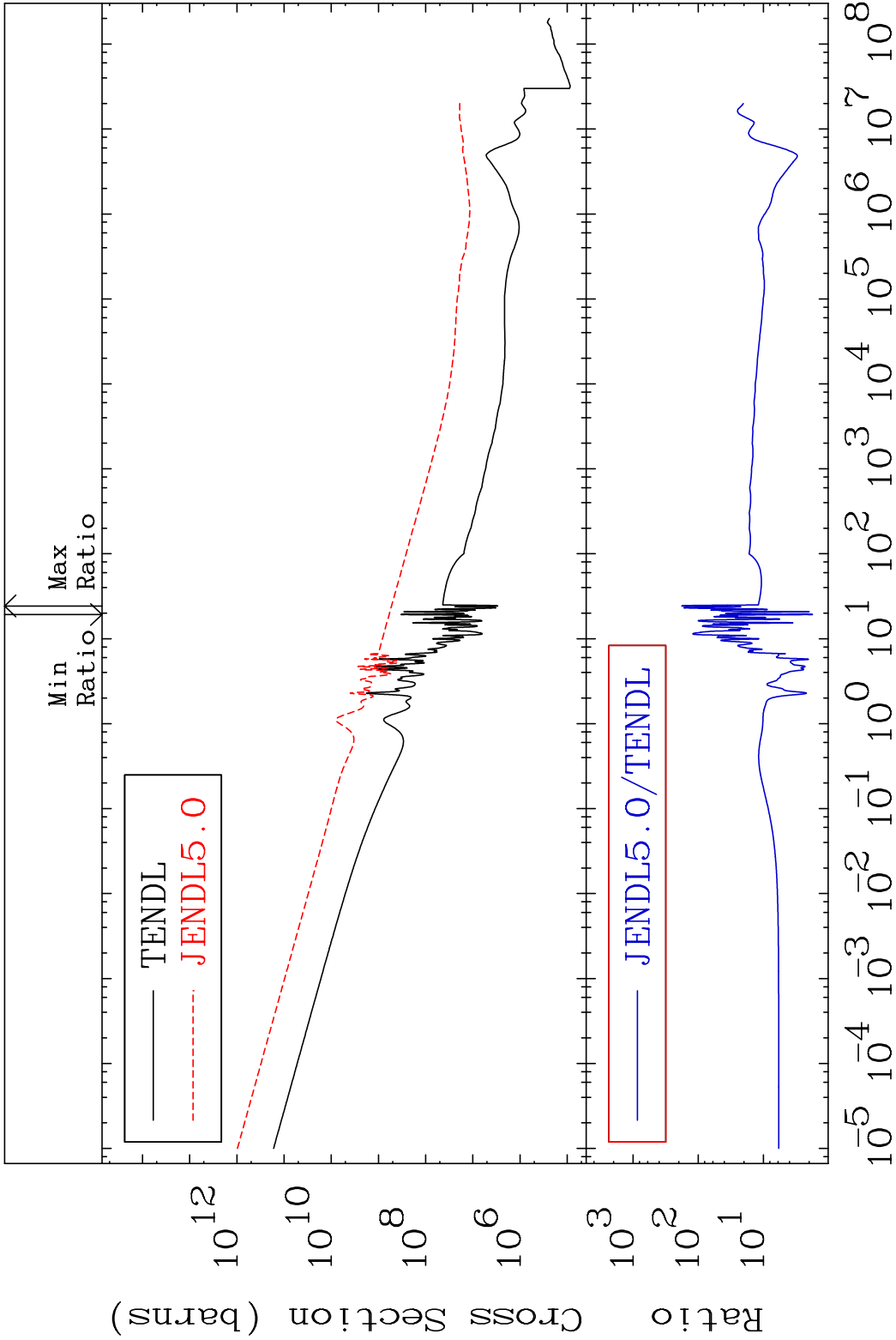


MAT 9349    Dpa disappearance (mt102 -120)    93-Np-238  
Cross Section    95.09    To 9999. %



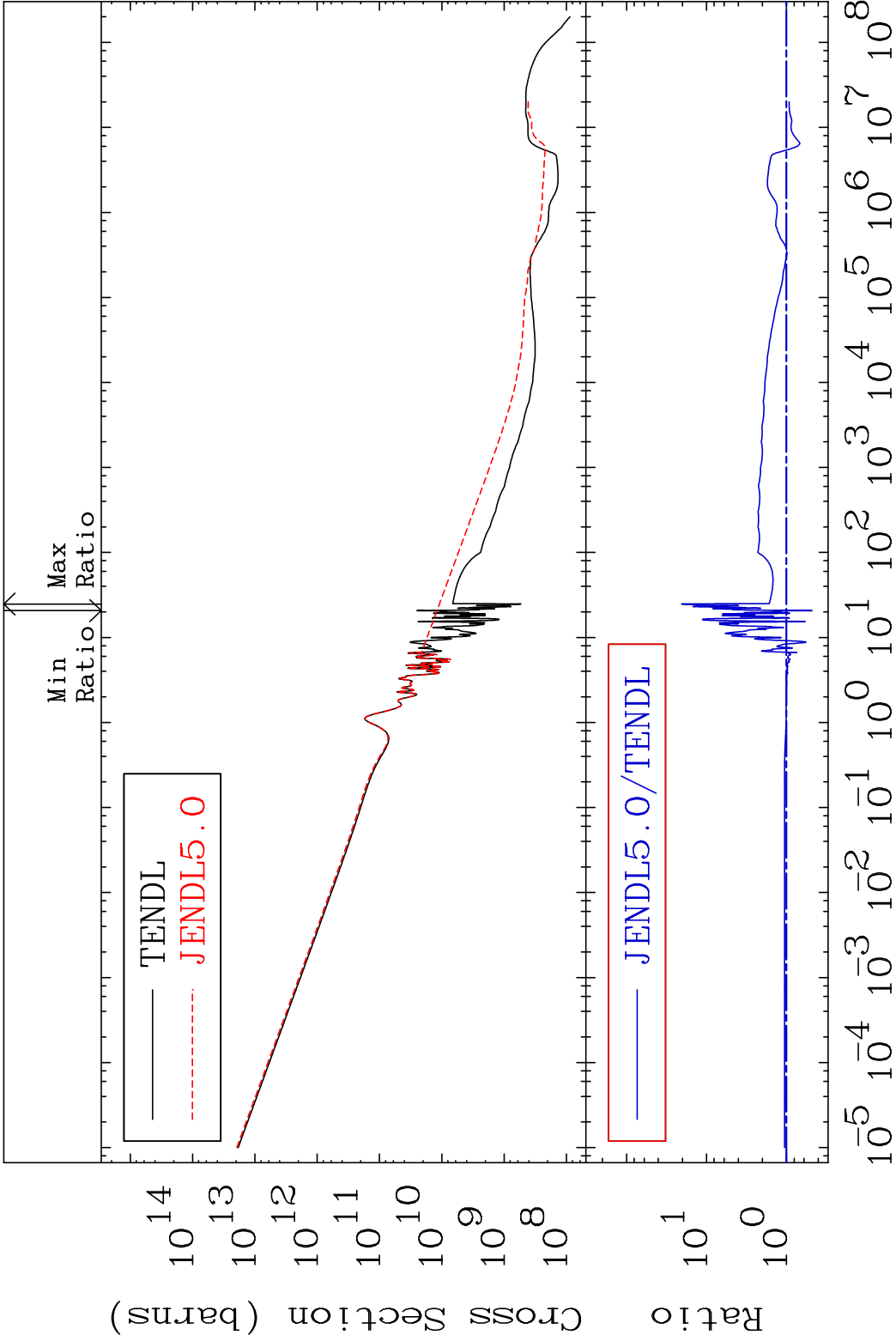
40    Incident Energy (eV)    93-Np-238

MAT 9349      Total photon (eV-barns)      93-Np-238  
Cross Section      78.31      To 9999. %



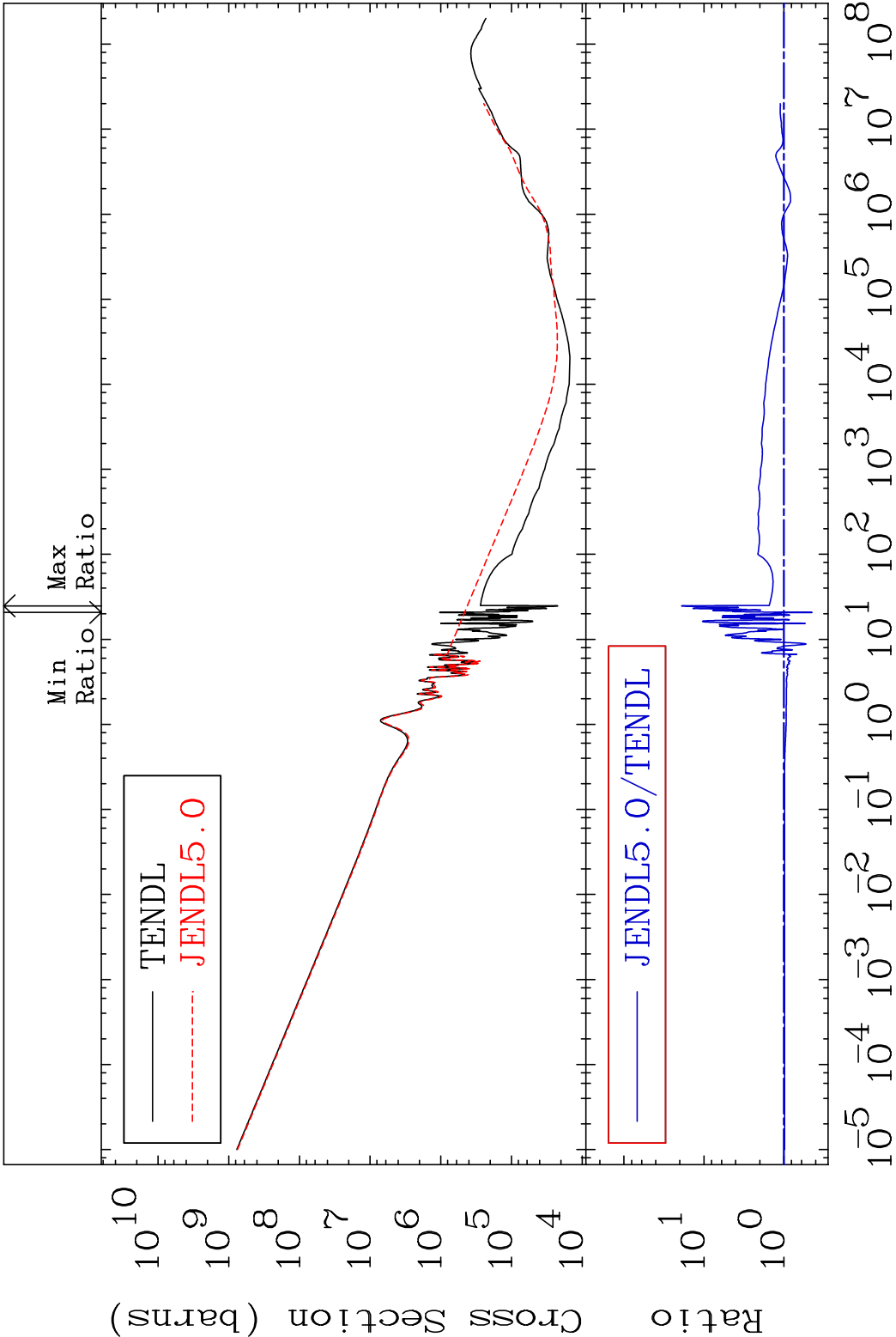
41      Incident Energy (eV)      93-Np-238

MAT 9349 Total kinematic kerma (high limit) 93-Np-238  
Cross Section -52.56 To 1950. %

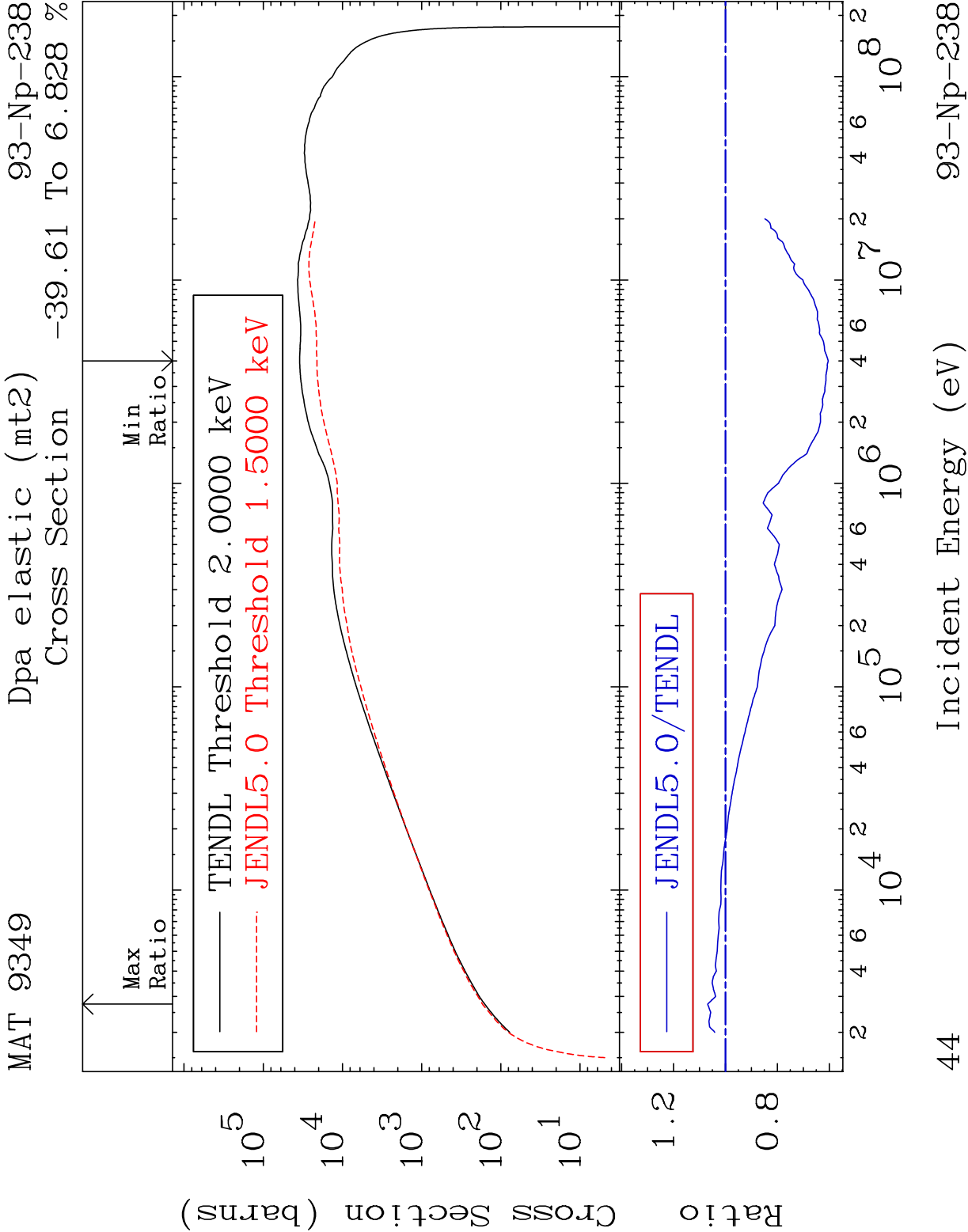


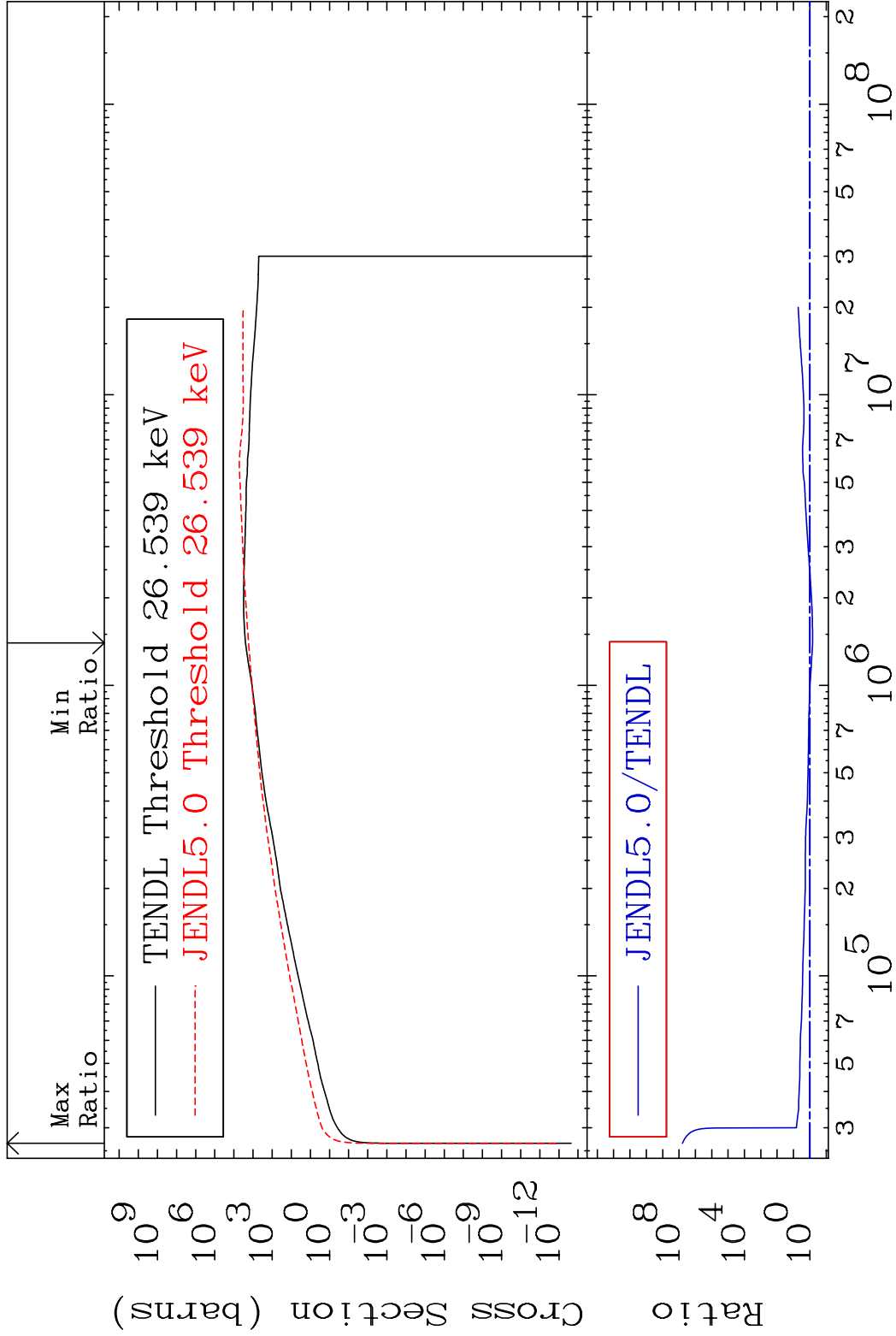
42 Incident Energy (eV) 93-Np-238

MAT 9349      Dpa total (eV-barns)      93-Np-238  
Cross Section      -55.92 To 1804. %

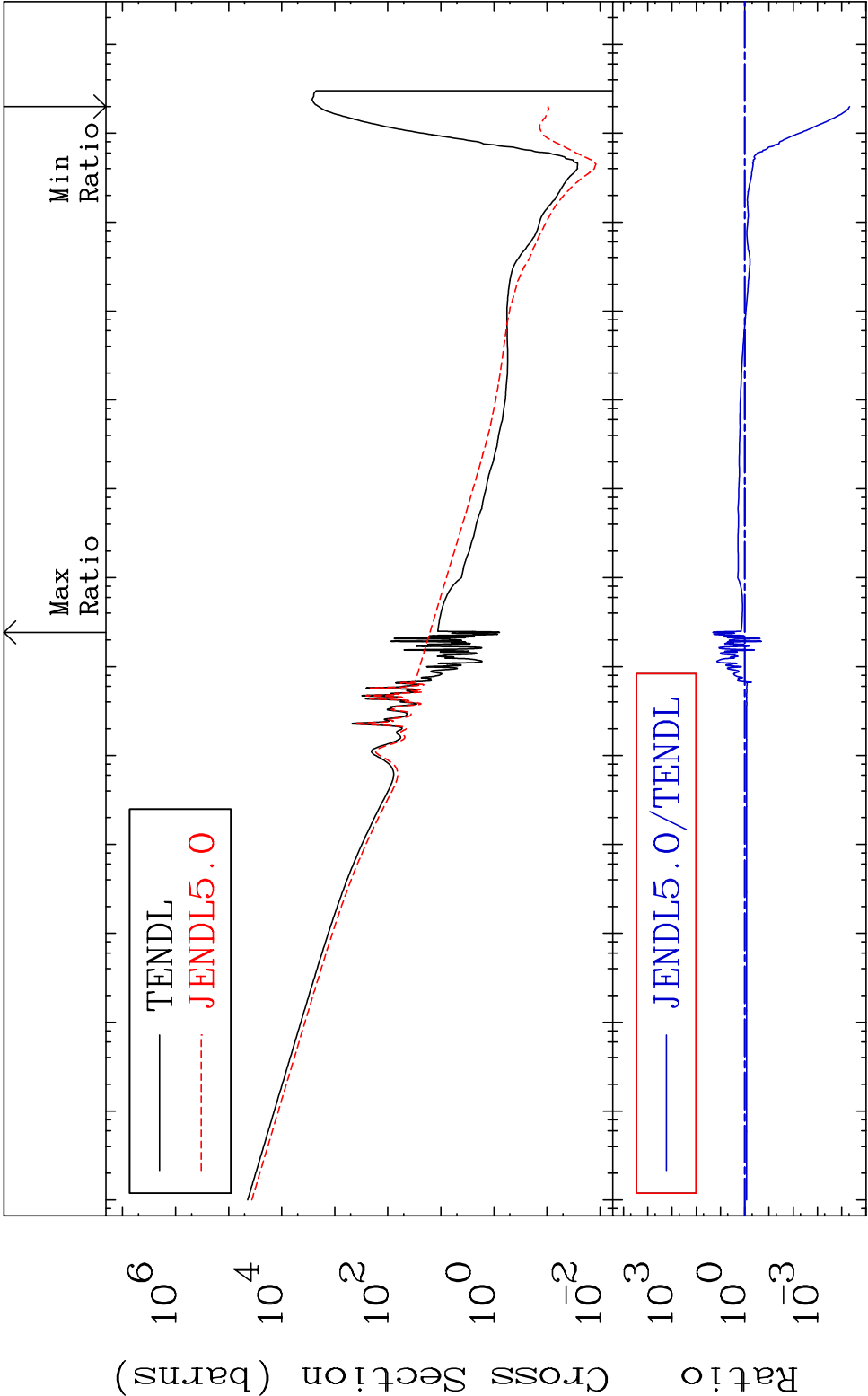


43      Incident Energy (eV)      93-Np-238



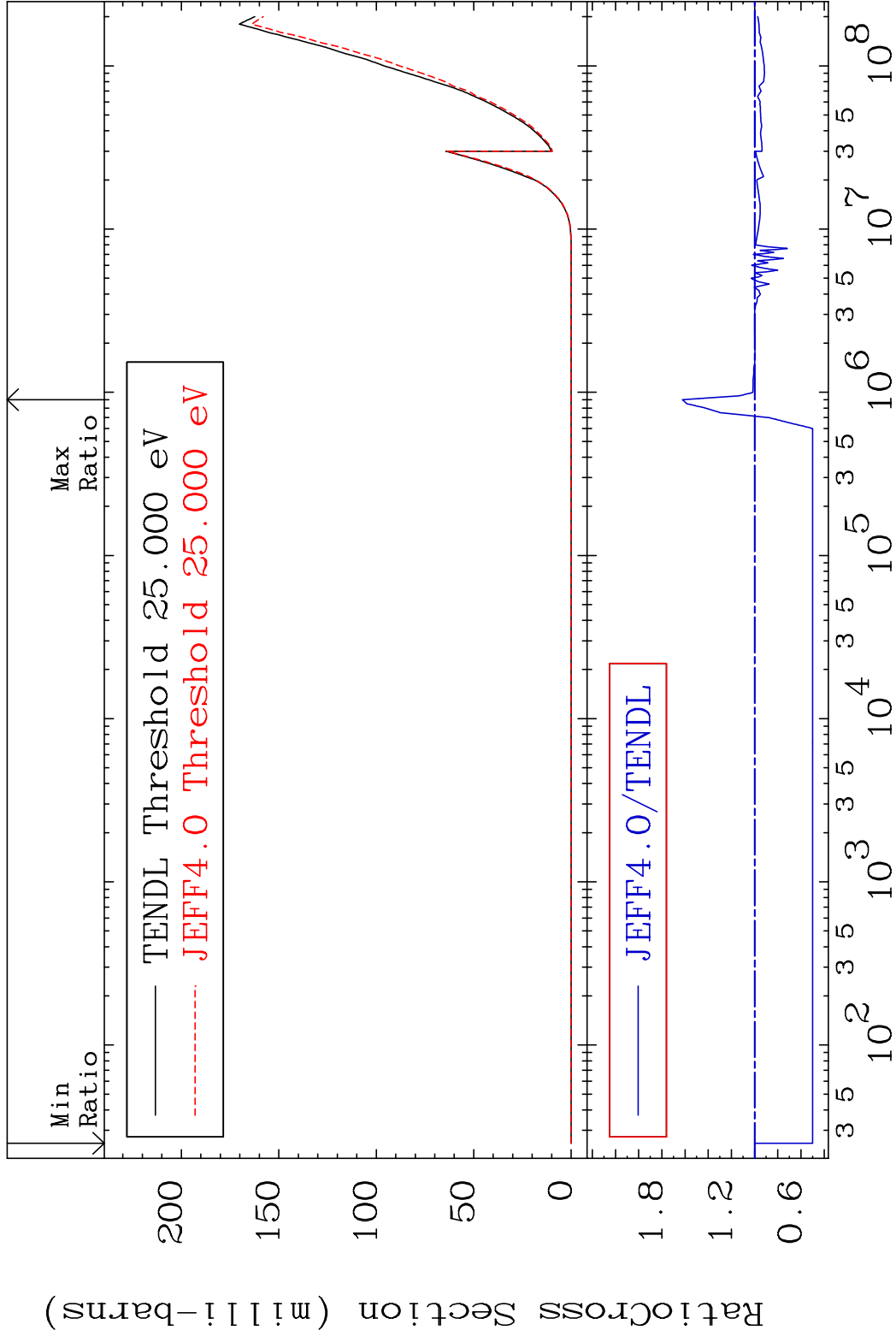


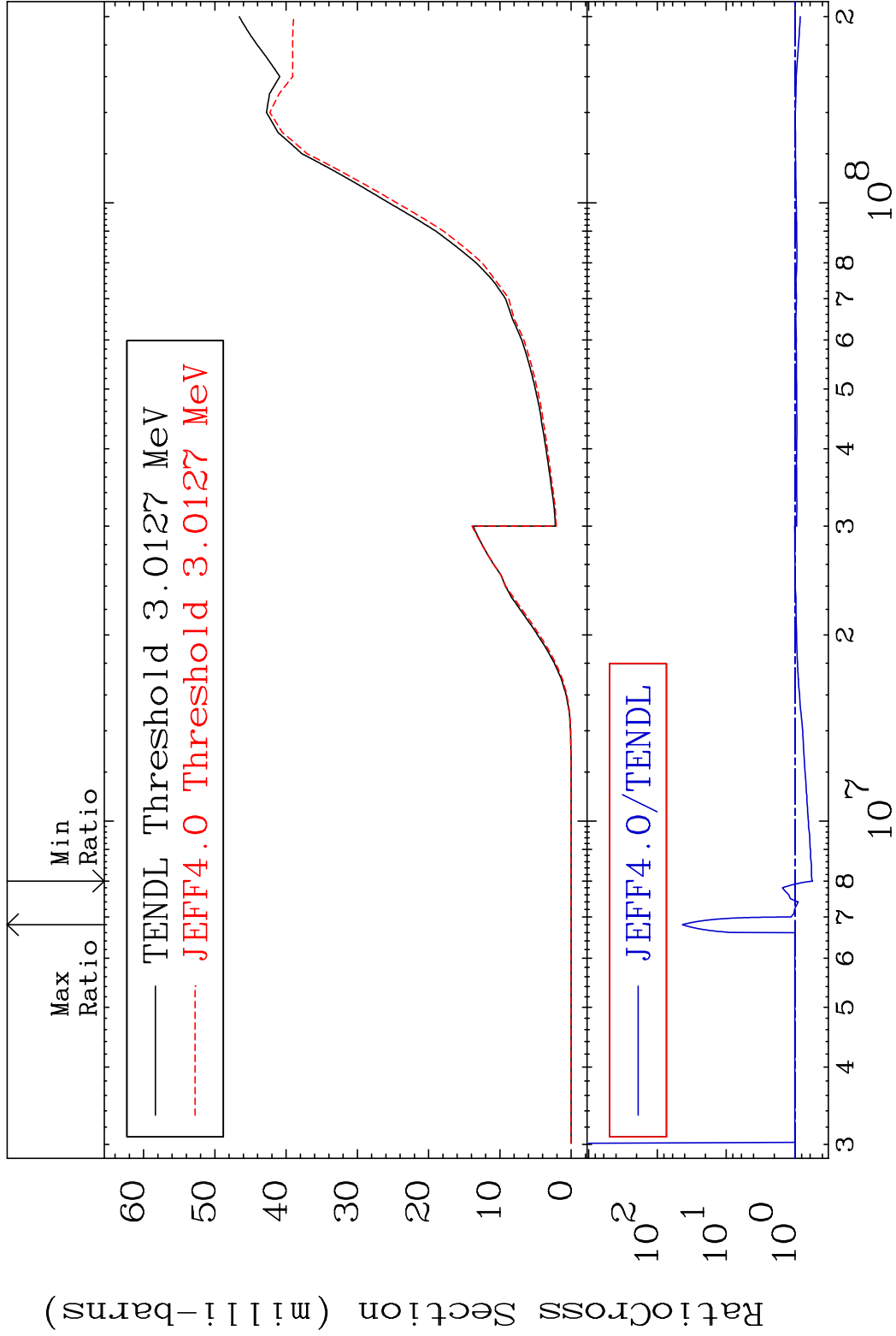
MAT 9349    Dpa disappearance (mt102 -120)    93-Np-238  
Cross Section    -100.0 To 1976. %



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>

46    Incident Energy (eV)    93-Np-238





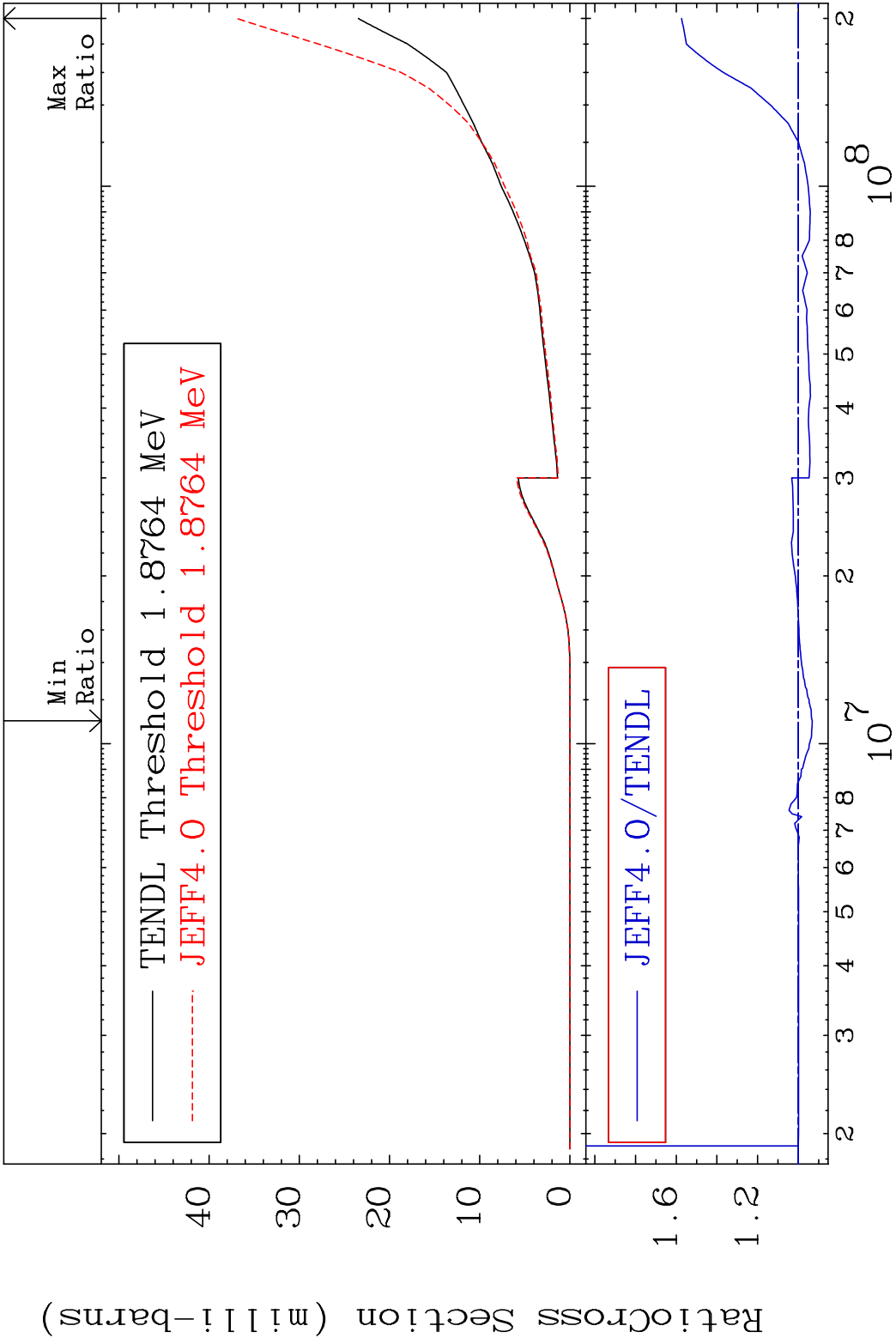
MAT 9349

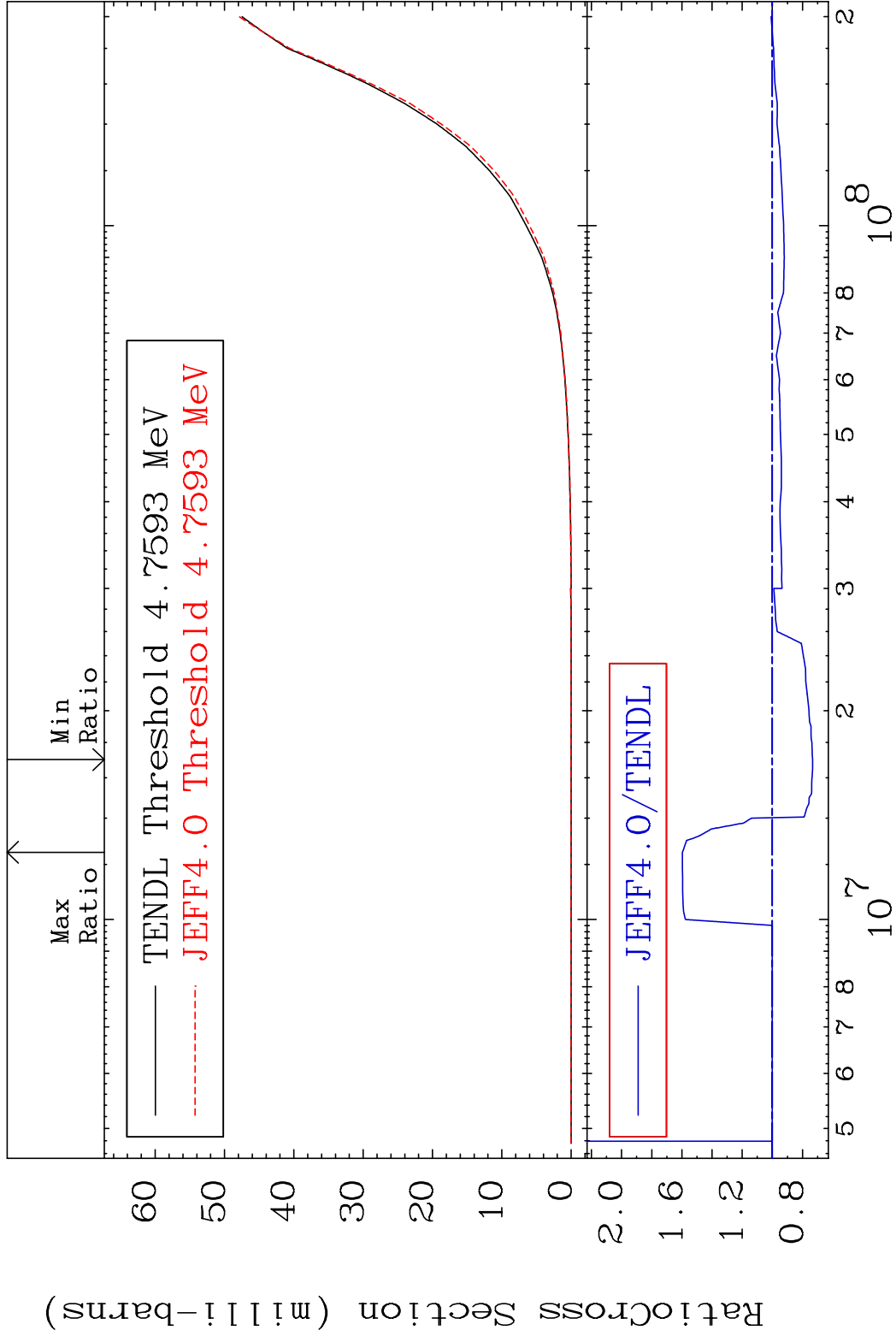
Tritium Production

Cross Section

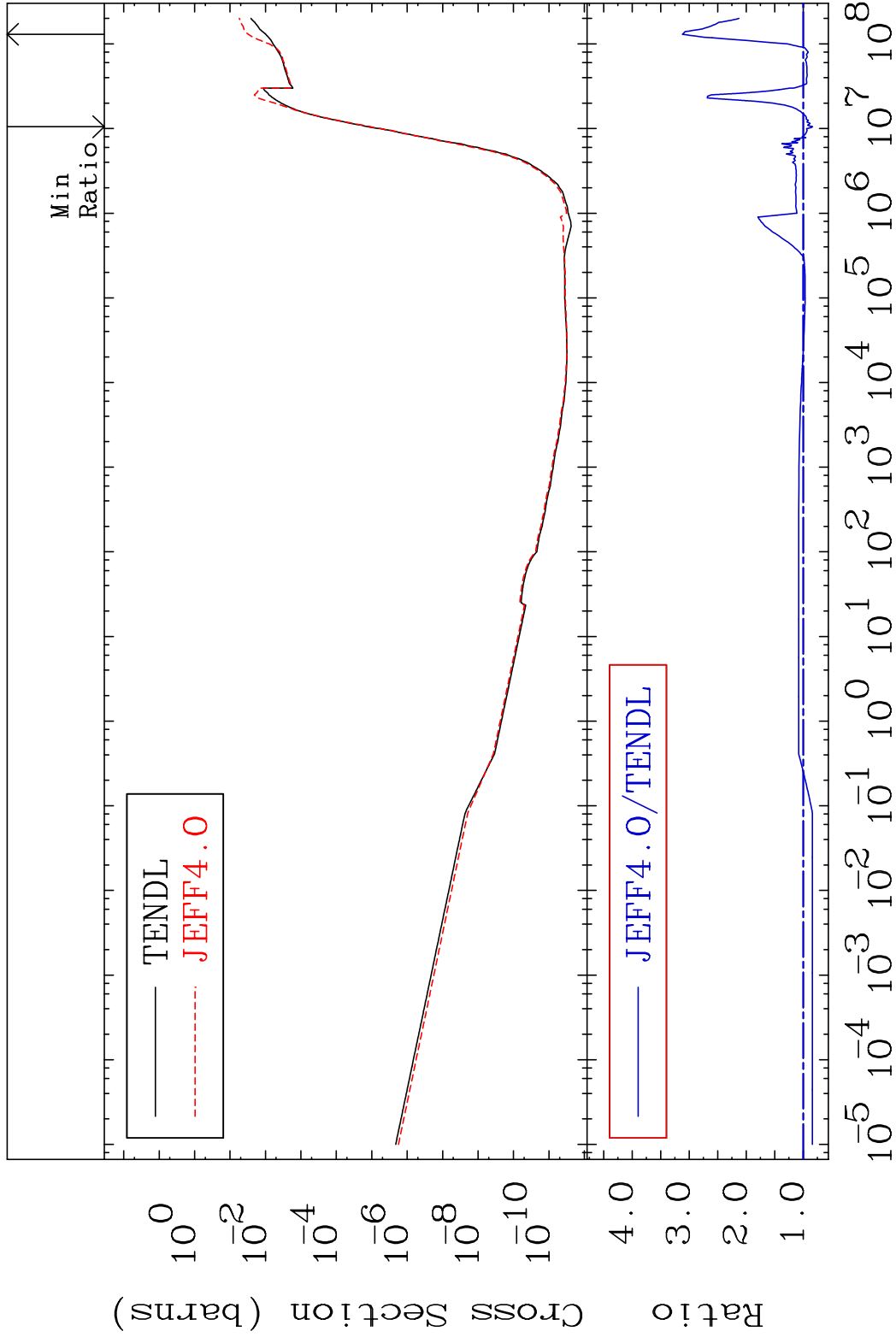
-6.842 To 57.39 %

93-Np-238





MAT 9349      He-4 Production      93-Np-238  
Cross Section      -16.40 To 211.9 %



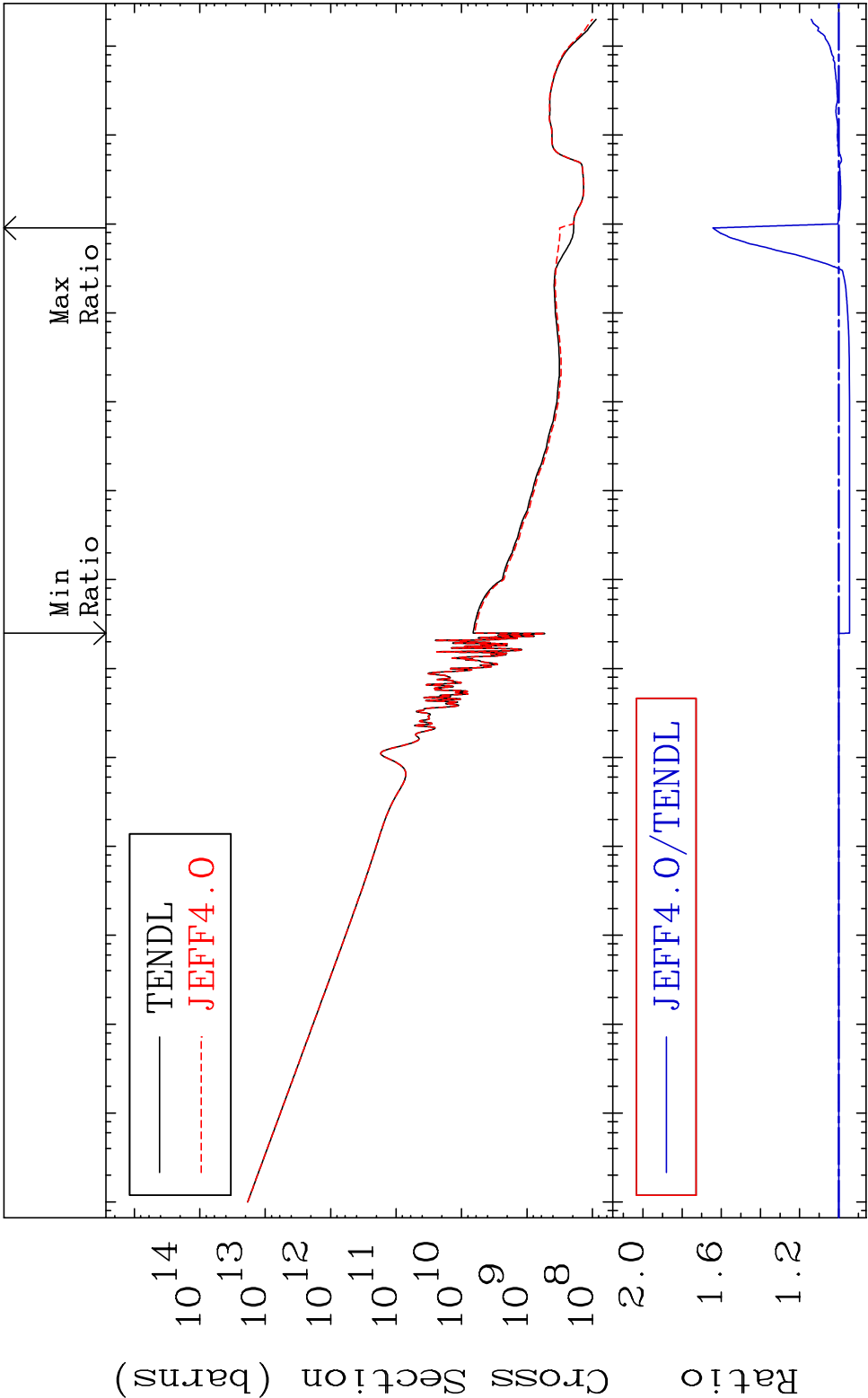
MAT 9349

Kerma total (eV-barns)

93-Np-238

Cross Section

-5.482 To 64.32 %

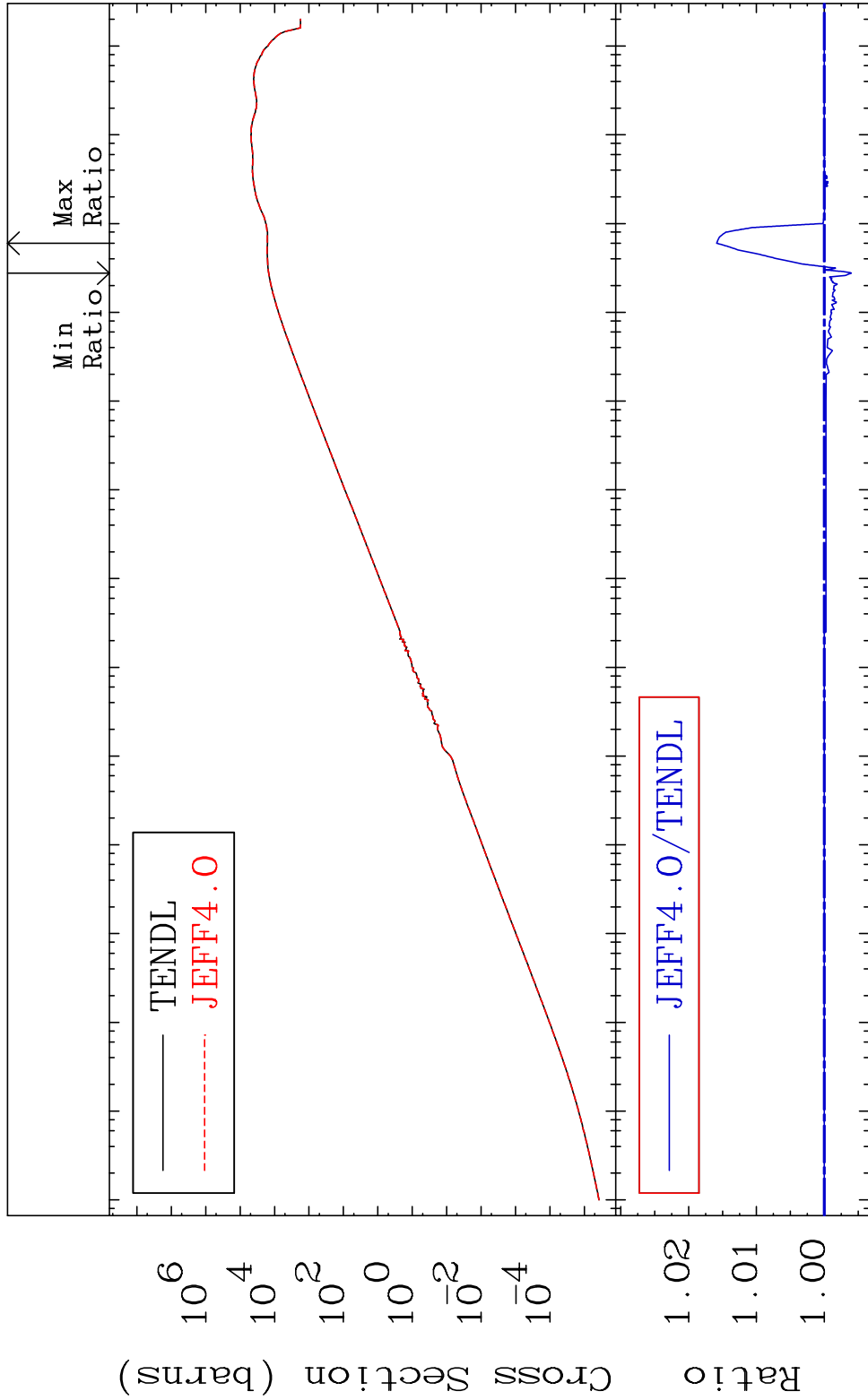


MAT 9349

Kerma elastic  
Cross Section

93-Np-238

-0.396 To 1.587 %

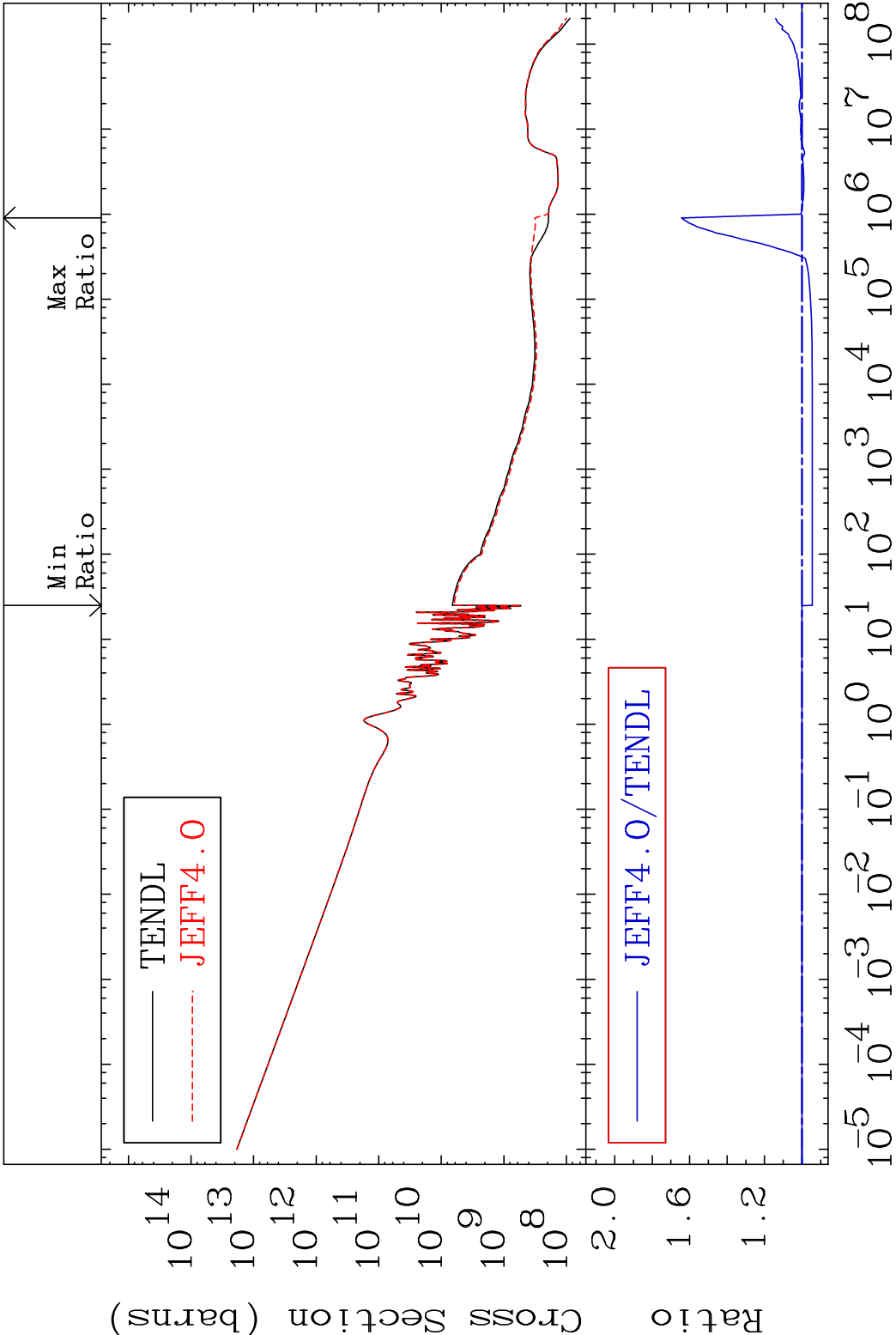


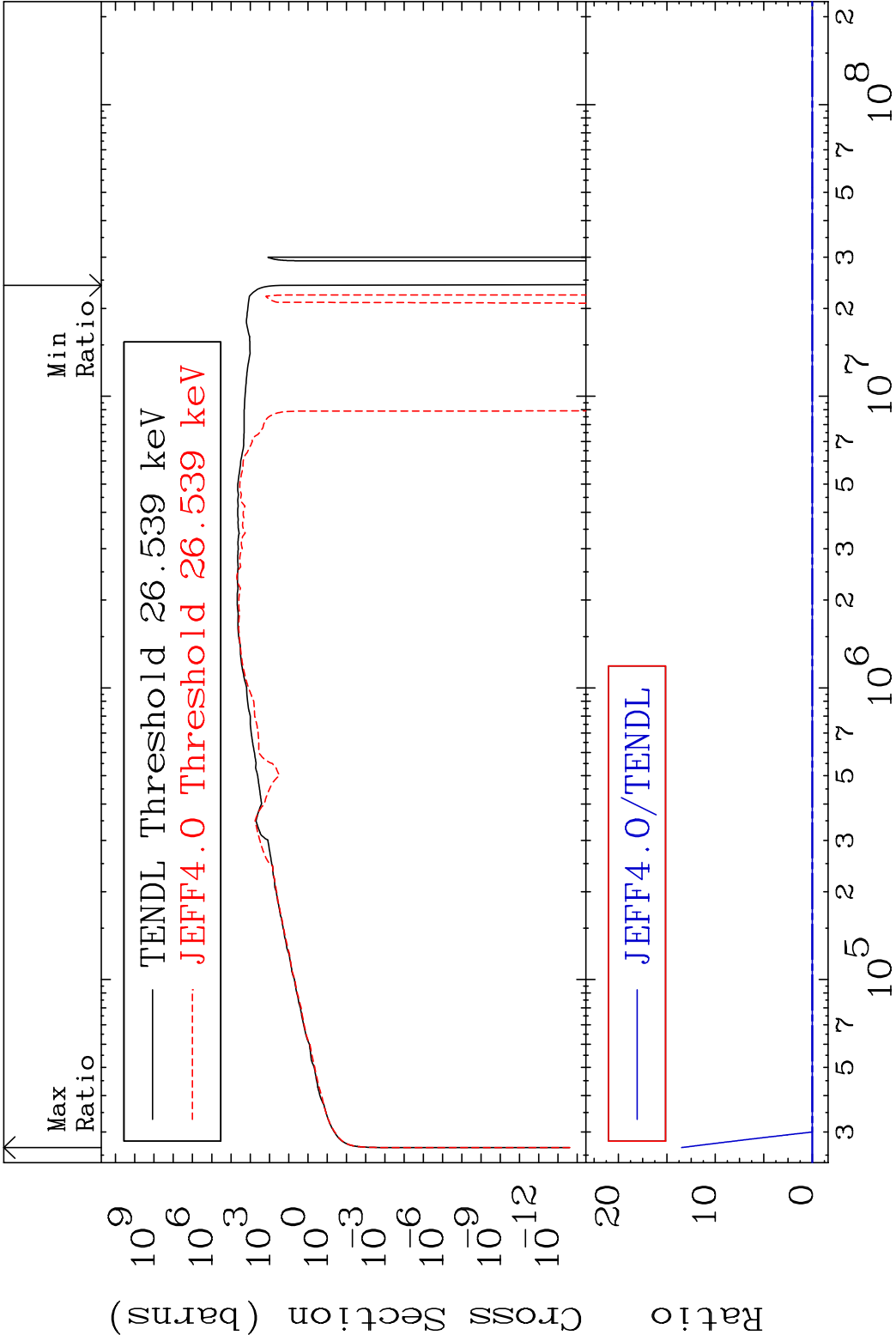
53

Incident Energy (eV)

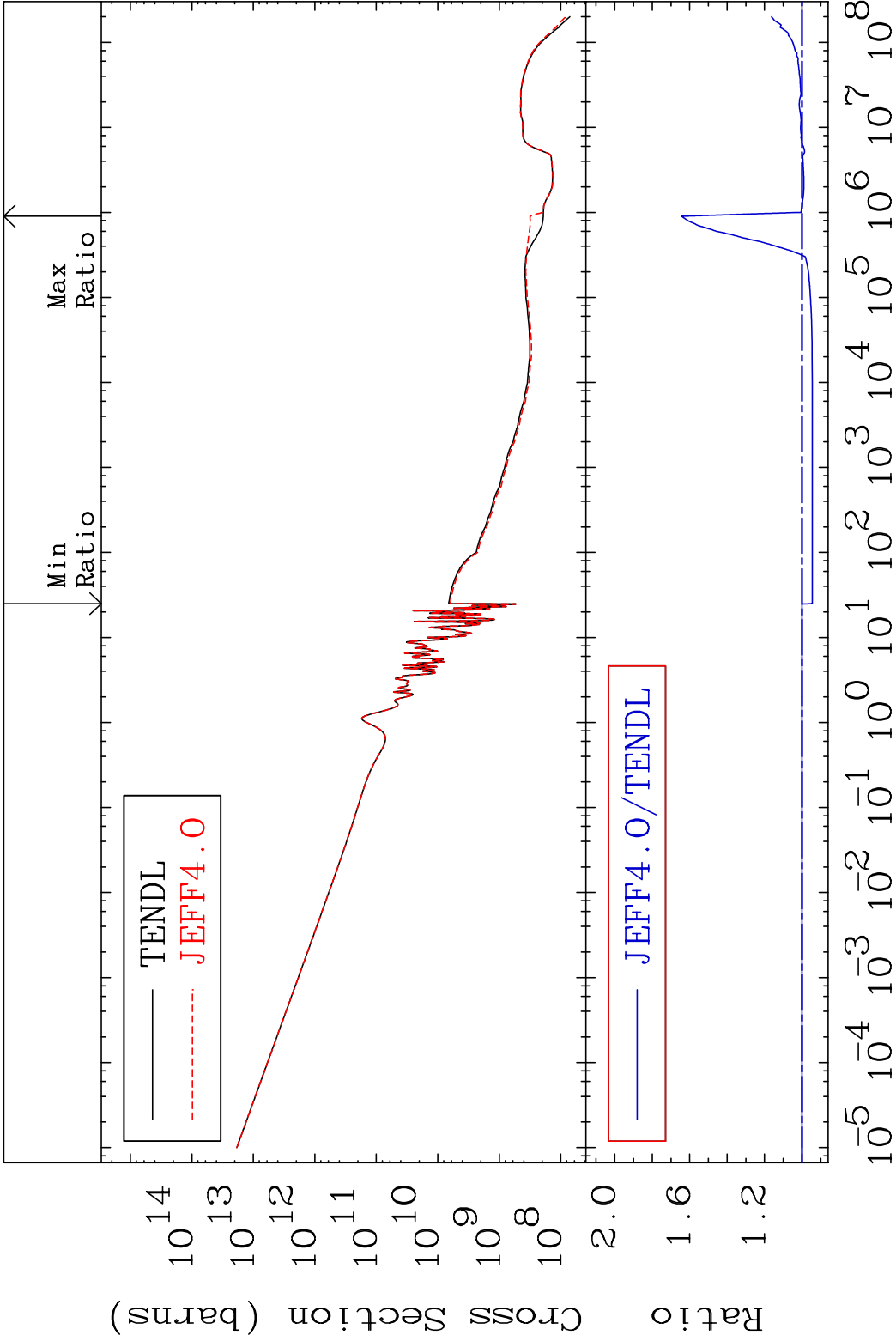
93-Np-238

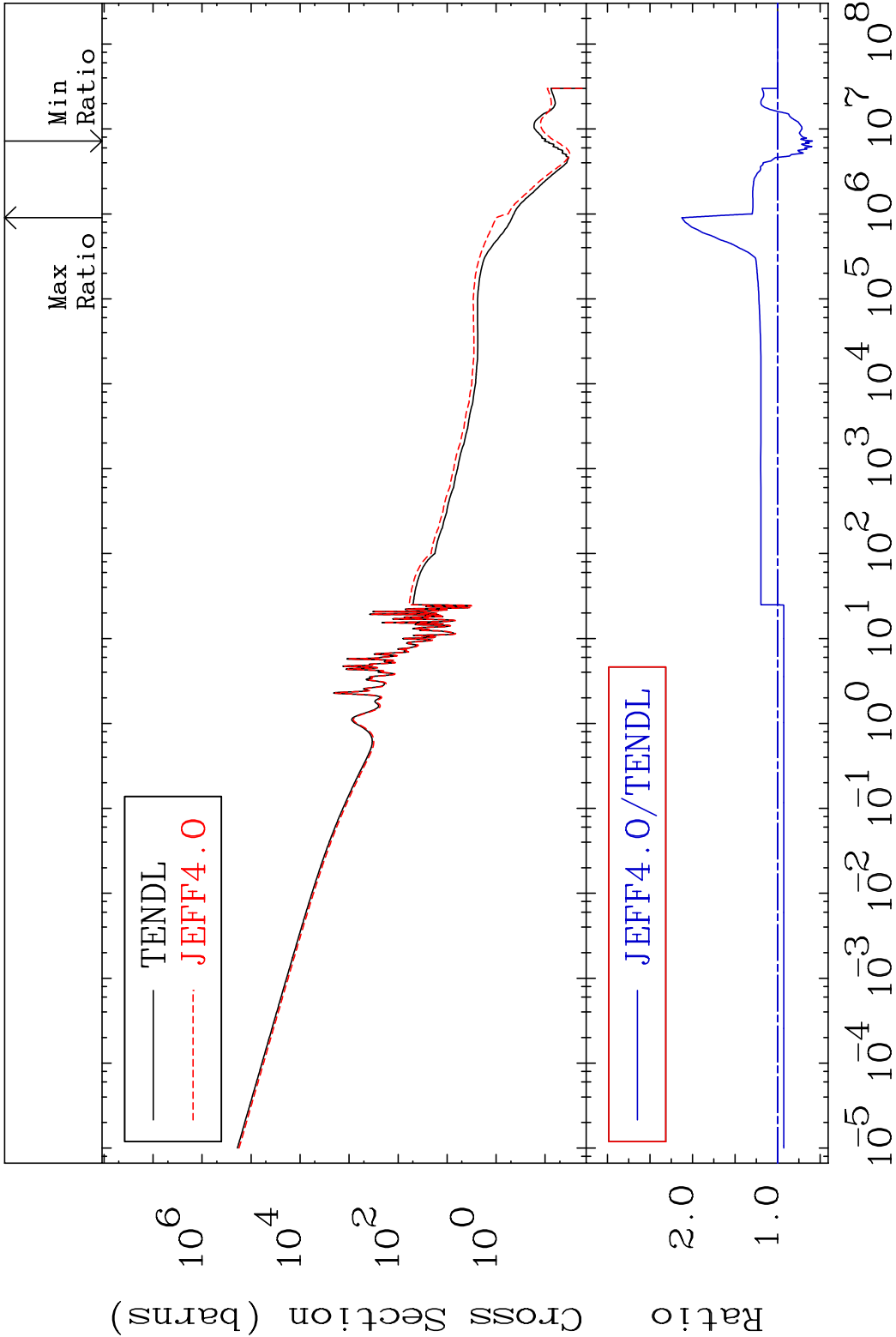
MAT 9349    Kerma non-elastic (all but mt2)    93-Np-238  
 Cross Section    -5.482 To 64.33 %



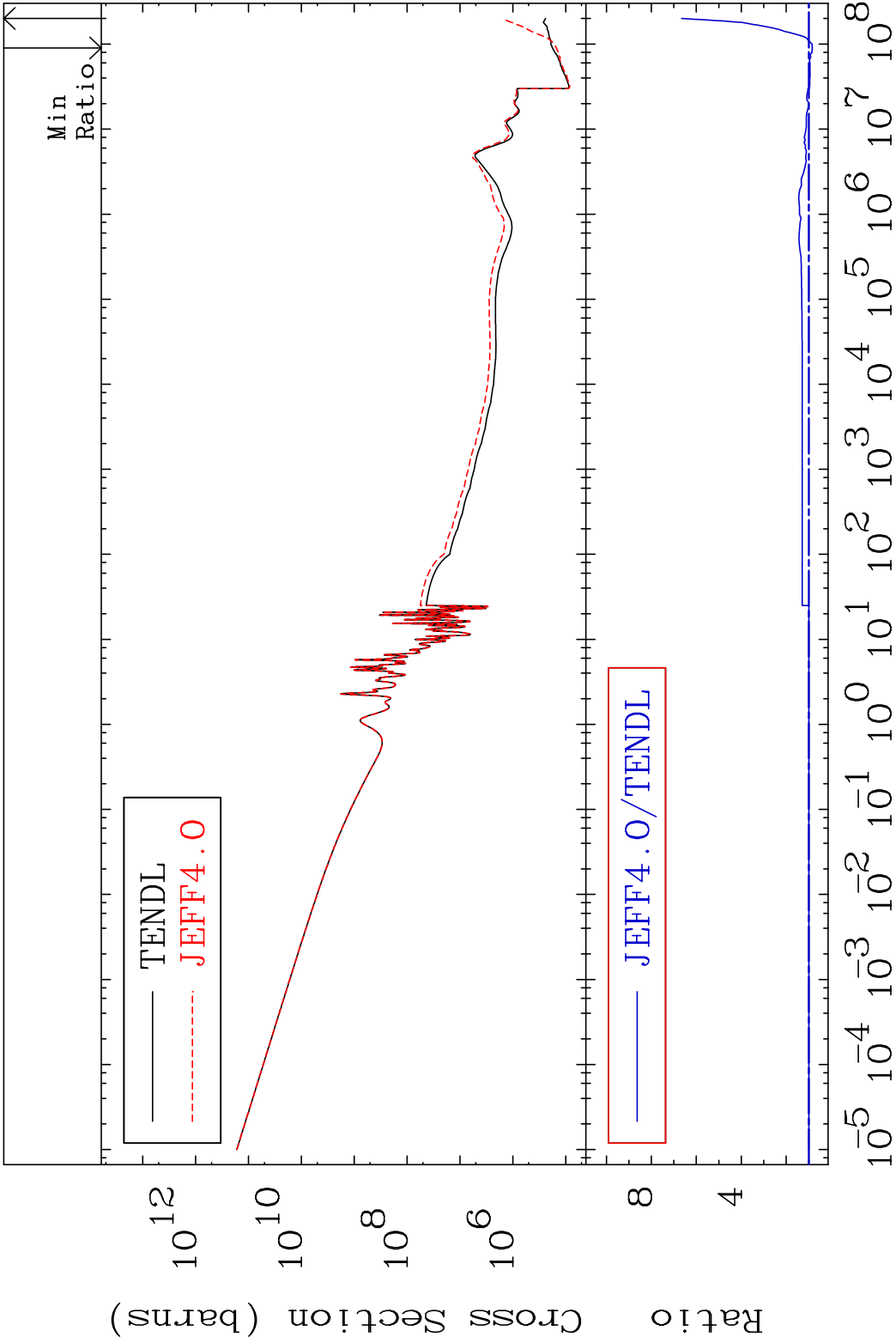


MAT 9349Kerma fission (mt18 or mt19-20-21-38)93-Np-238  
 Cross Section -5.482 To 64.34 %



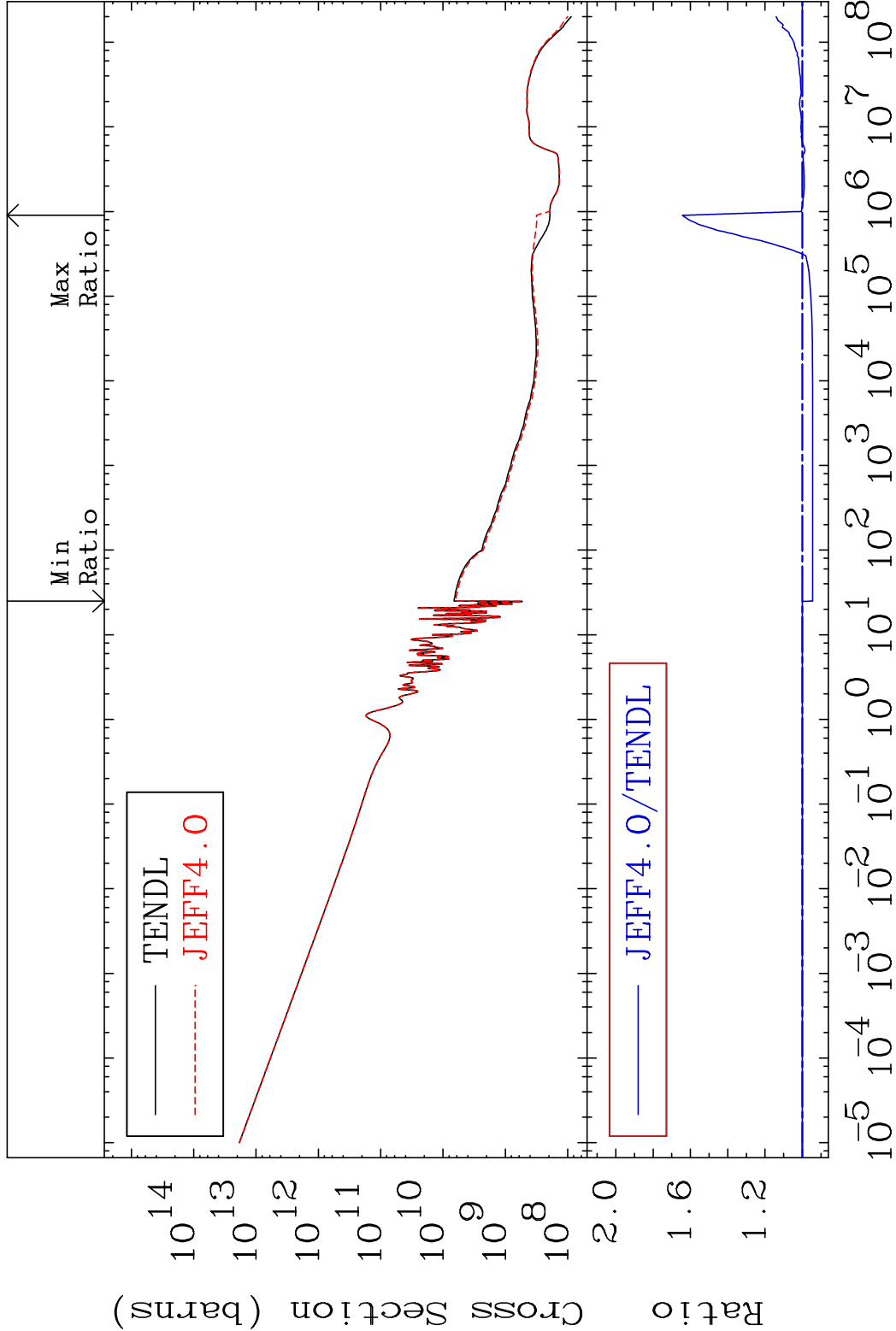


MAT 9349      Total photon (eV-barns)      93-Np-238  
Cross Section    -15.44    To 565.8 %



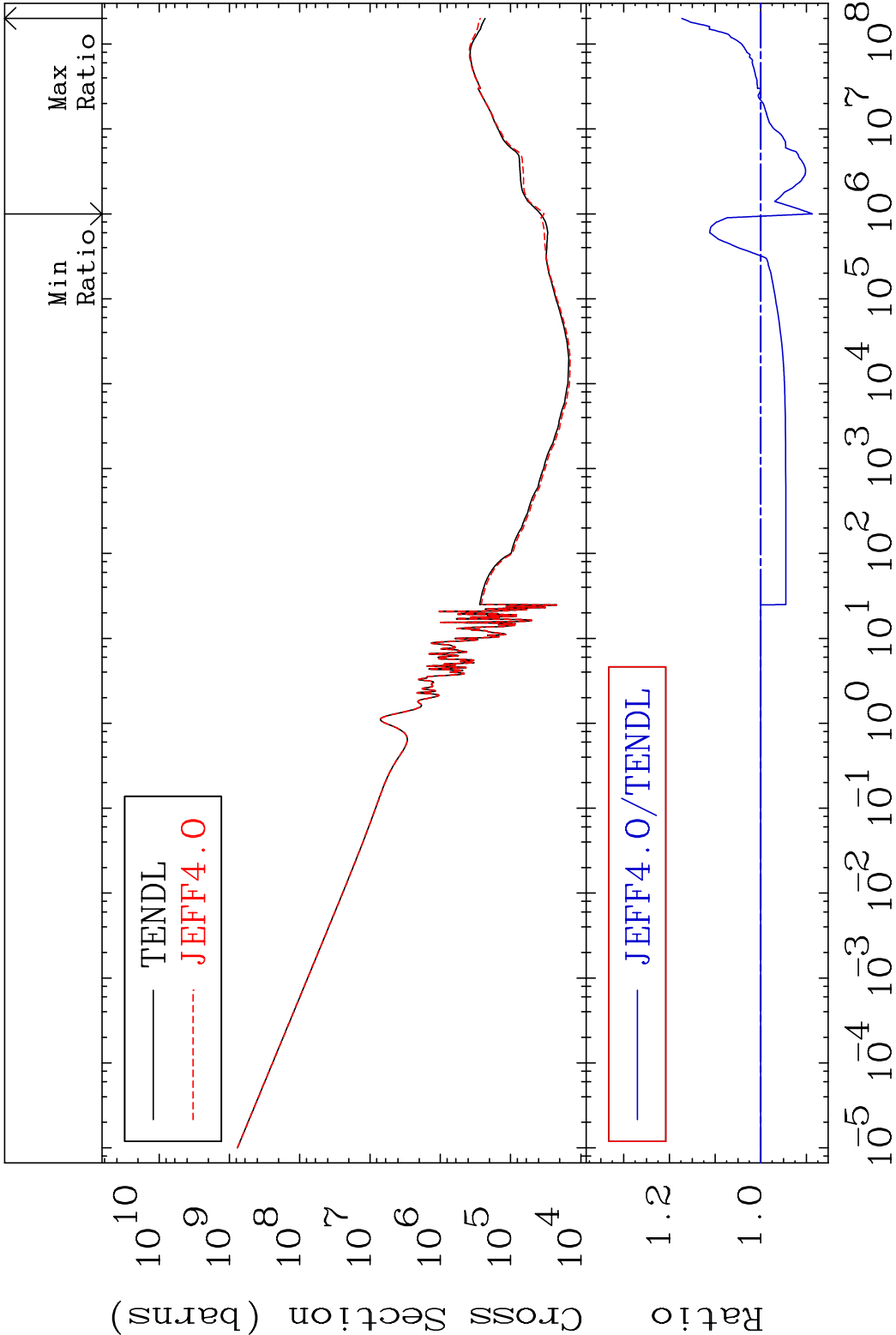
58      Incident Energy (eV)      93-Np-238

MAT 9349 Total kinematic kerma (high limit) 93-Np-238  
Cross Section -5.482 To 64.32 %

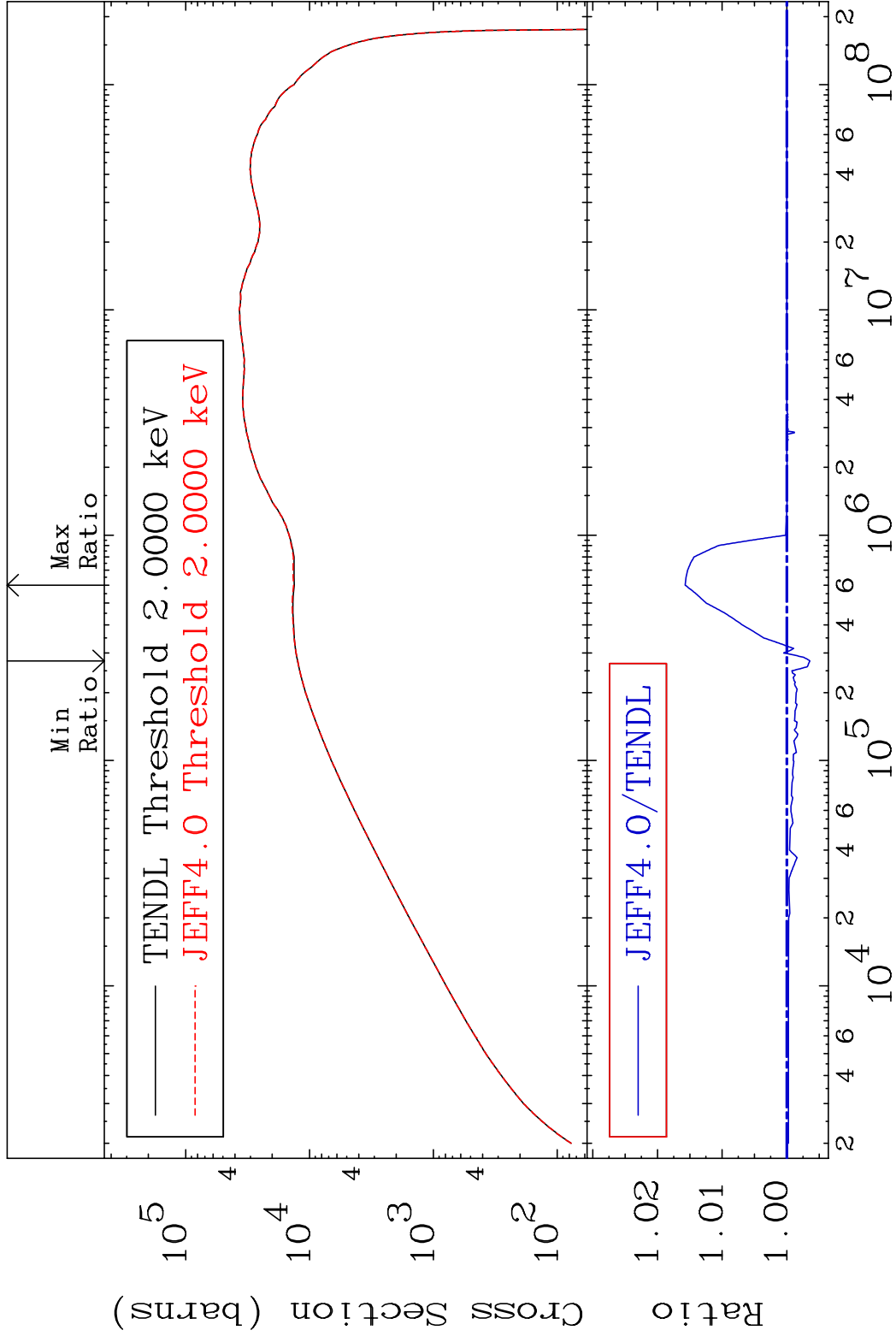


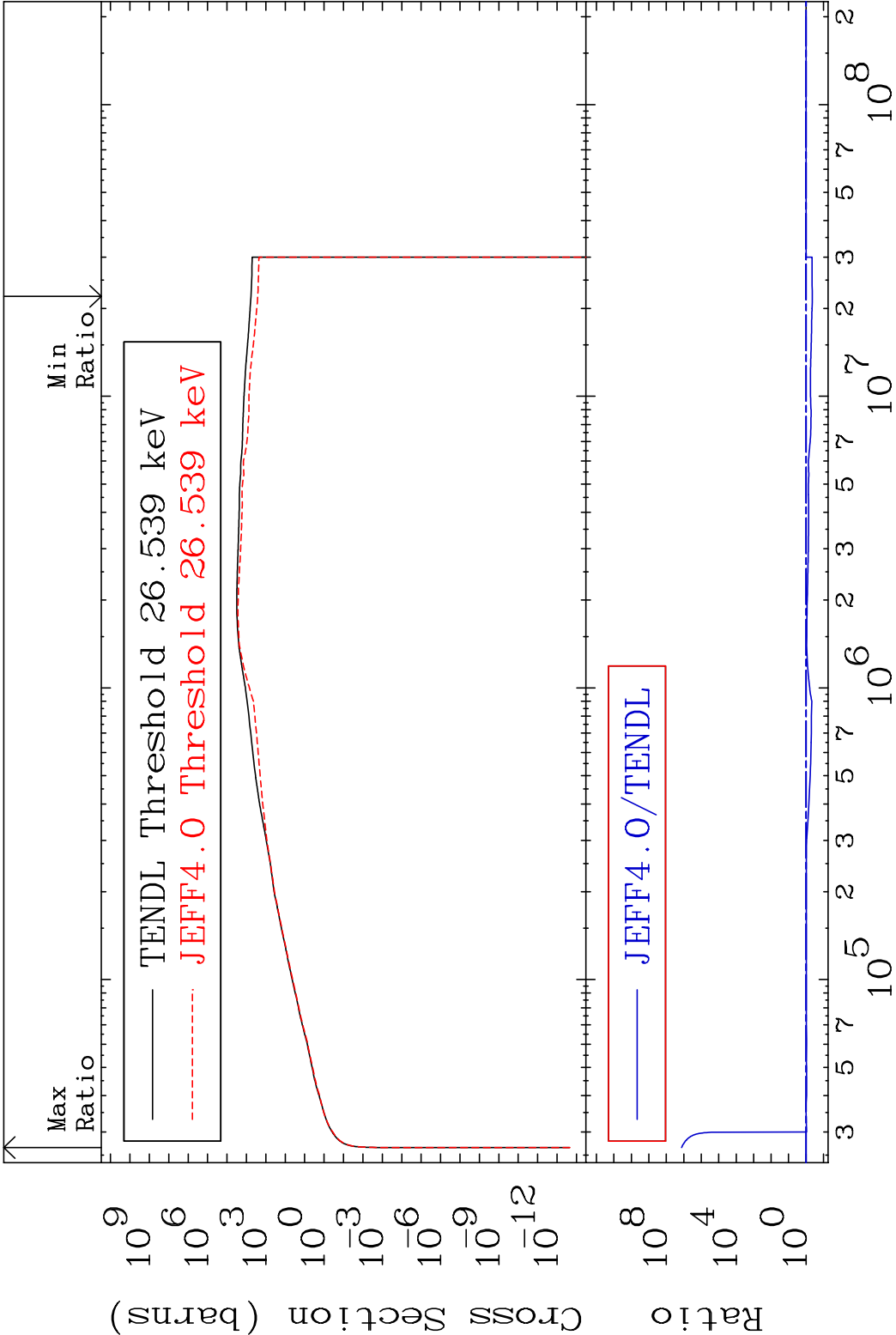
59 Incident Energy (eV) 93-Np-238

MAT 9349      Dpa total (eV-barns)      93-Np-238  
Cross Section      -11.28 To 17.30 %

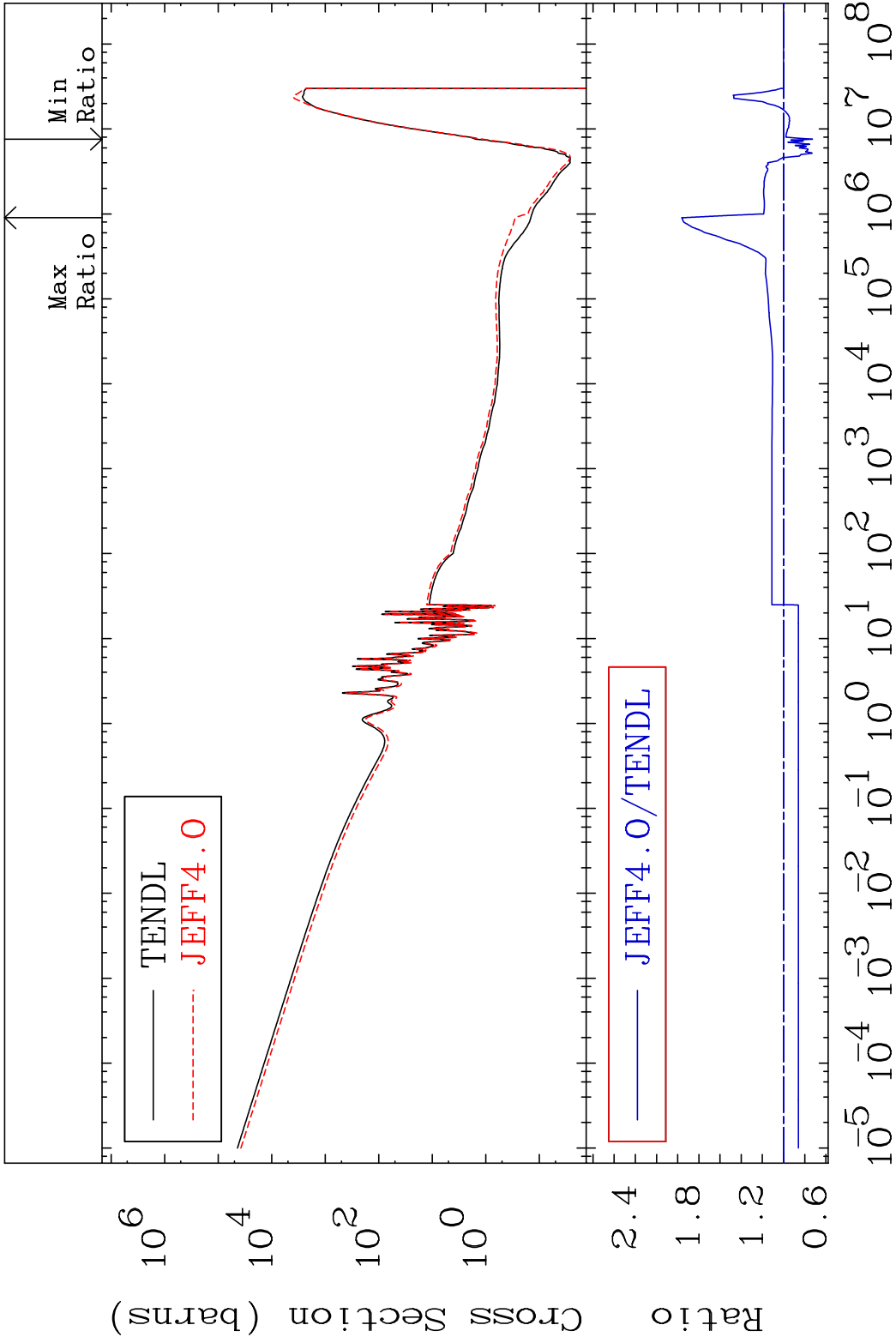


60      Incident Energy (eV)      93-Np-238

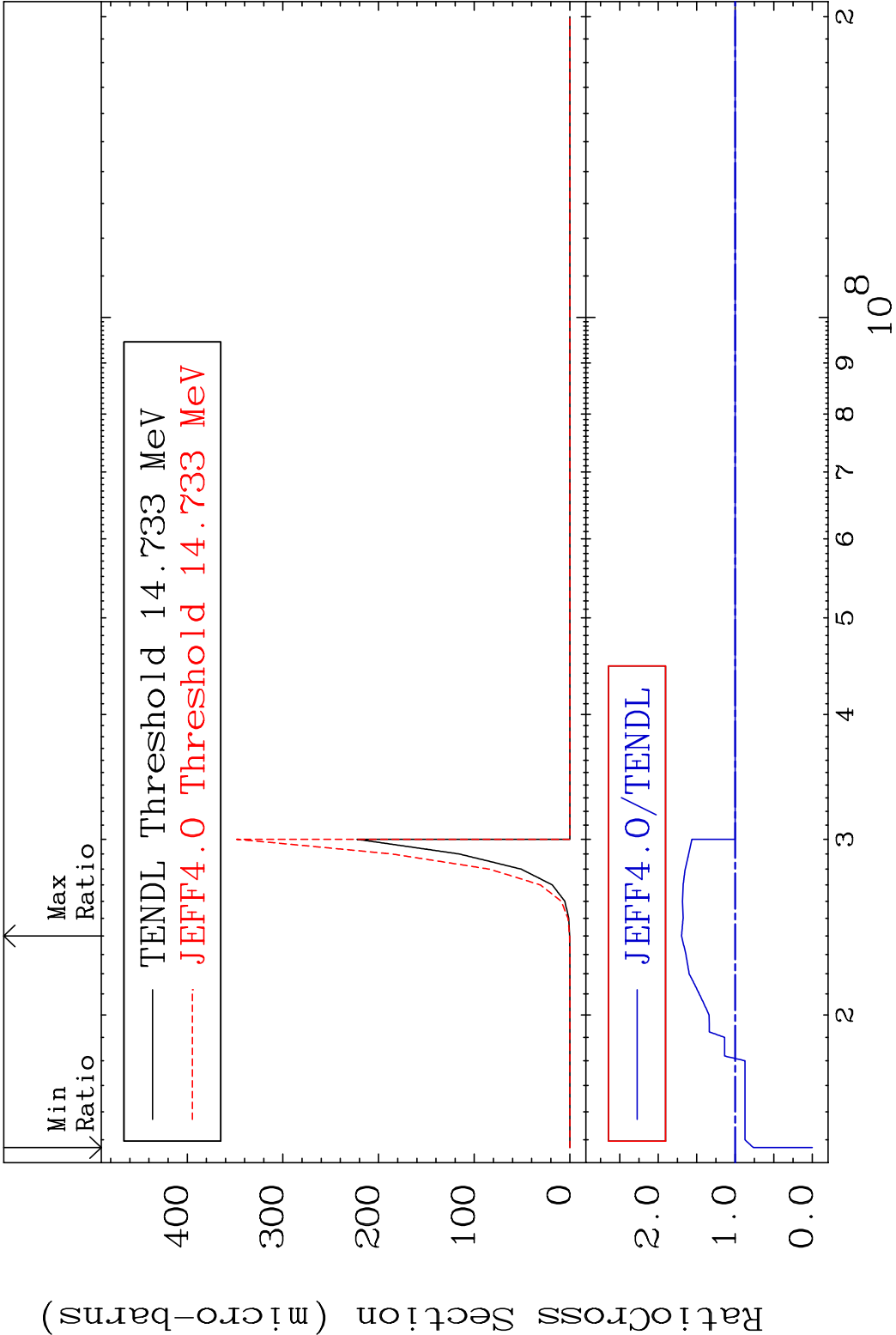


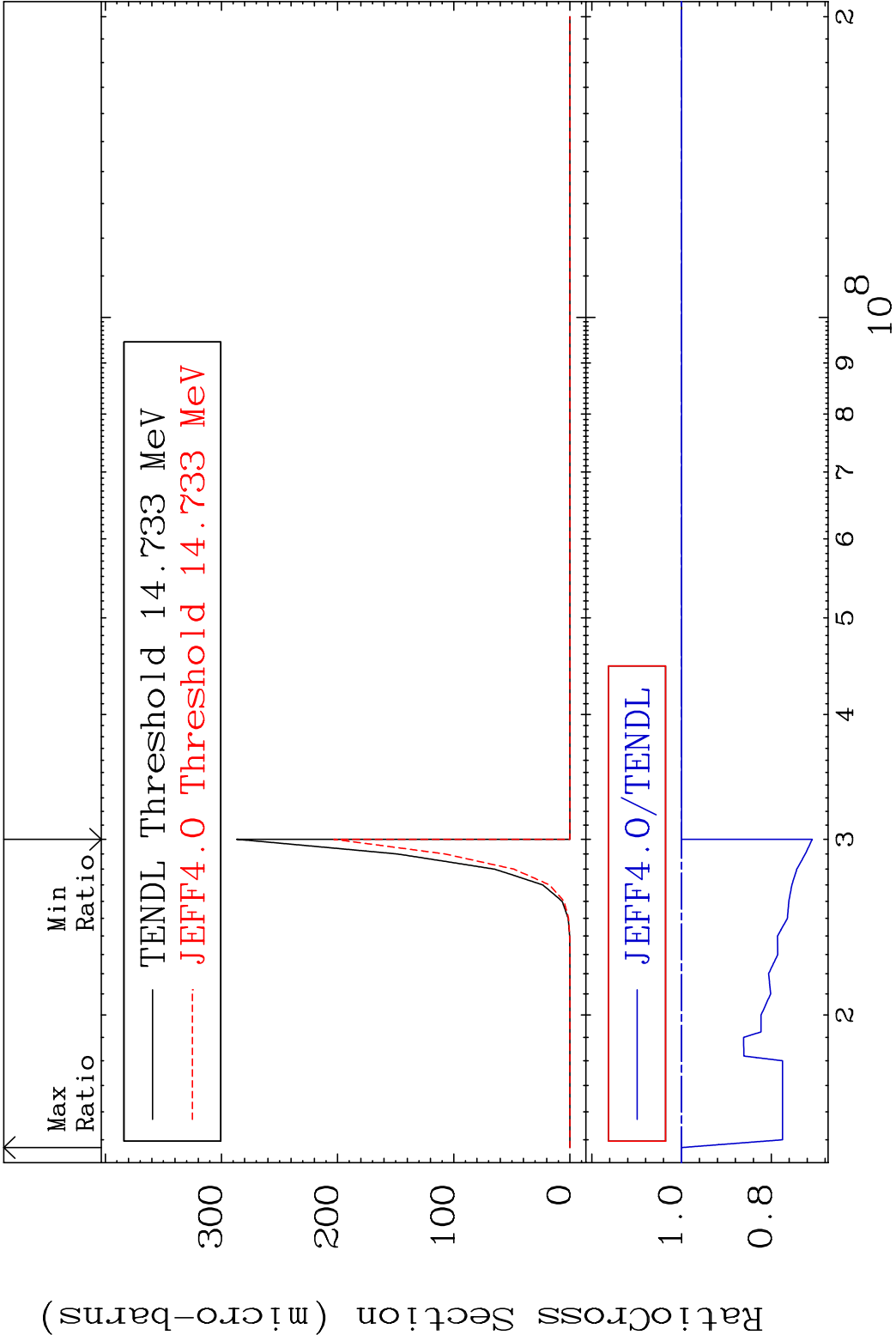


MAT 9349    Dpa disappearance (mt102 -120)    93-Np-238  
Cross Section    -27.18 To 96.16 %

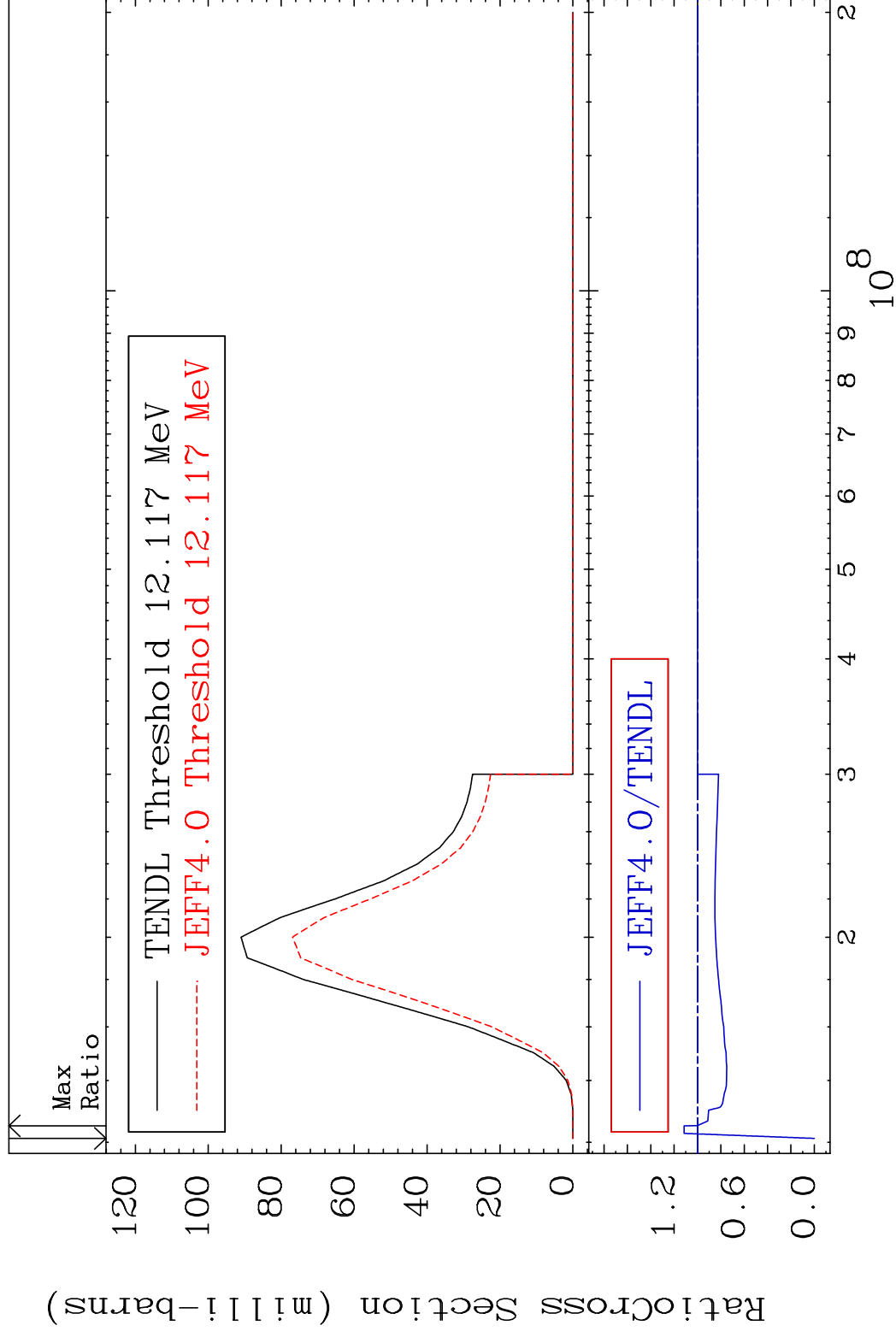


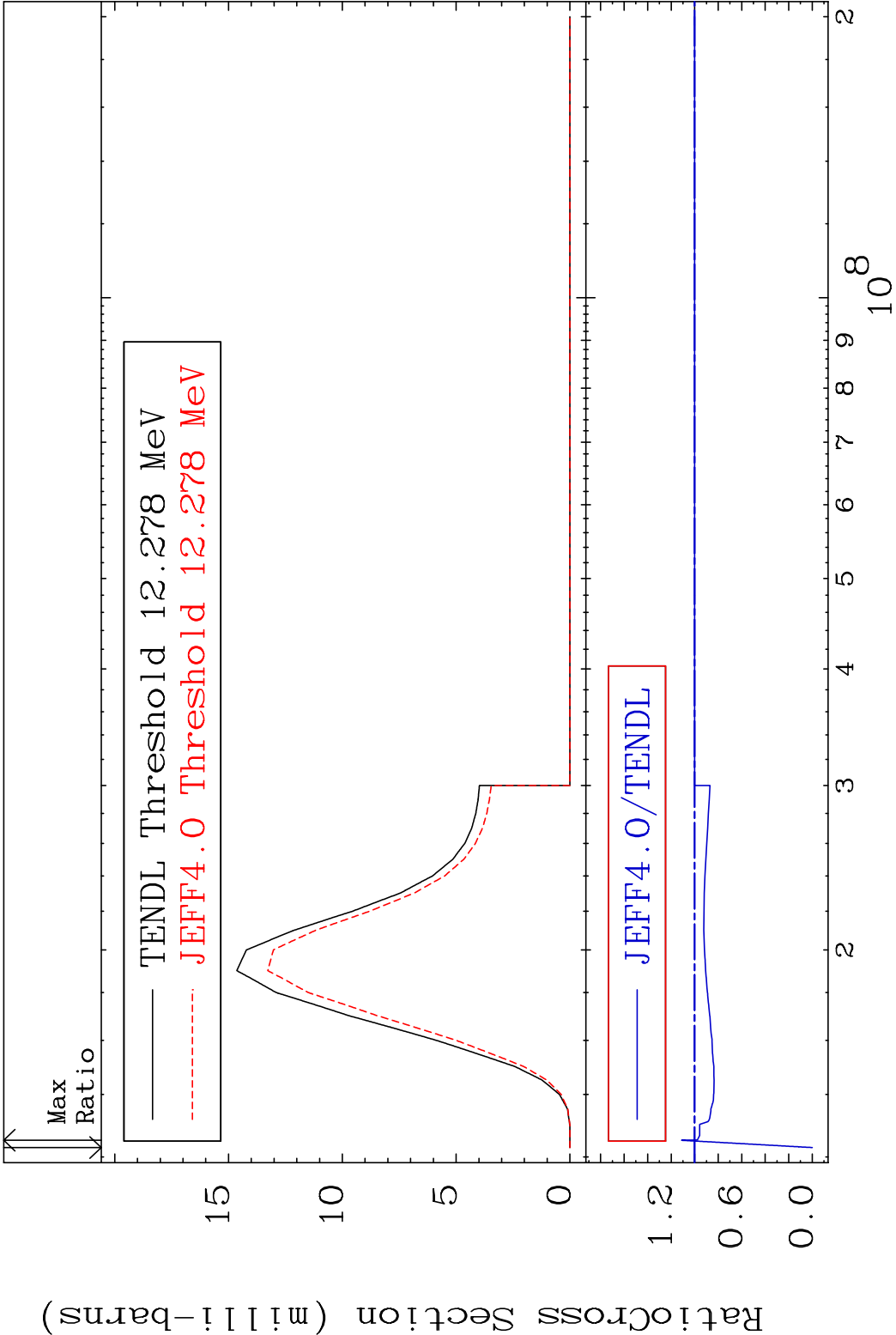
63    Incident Energy (eV)    93-Np-238

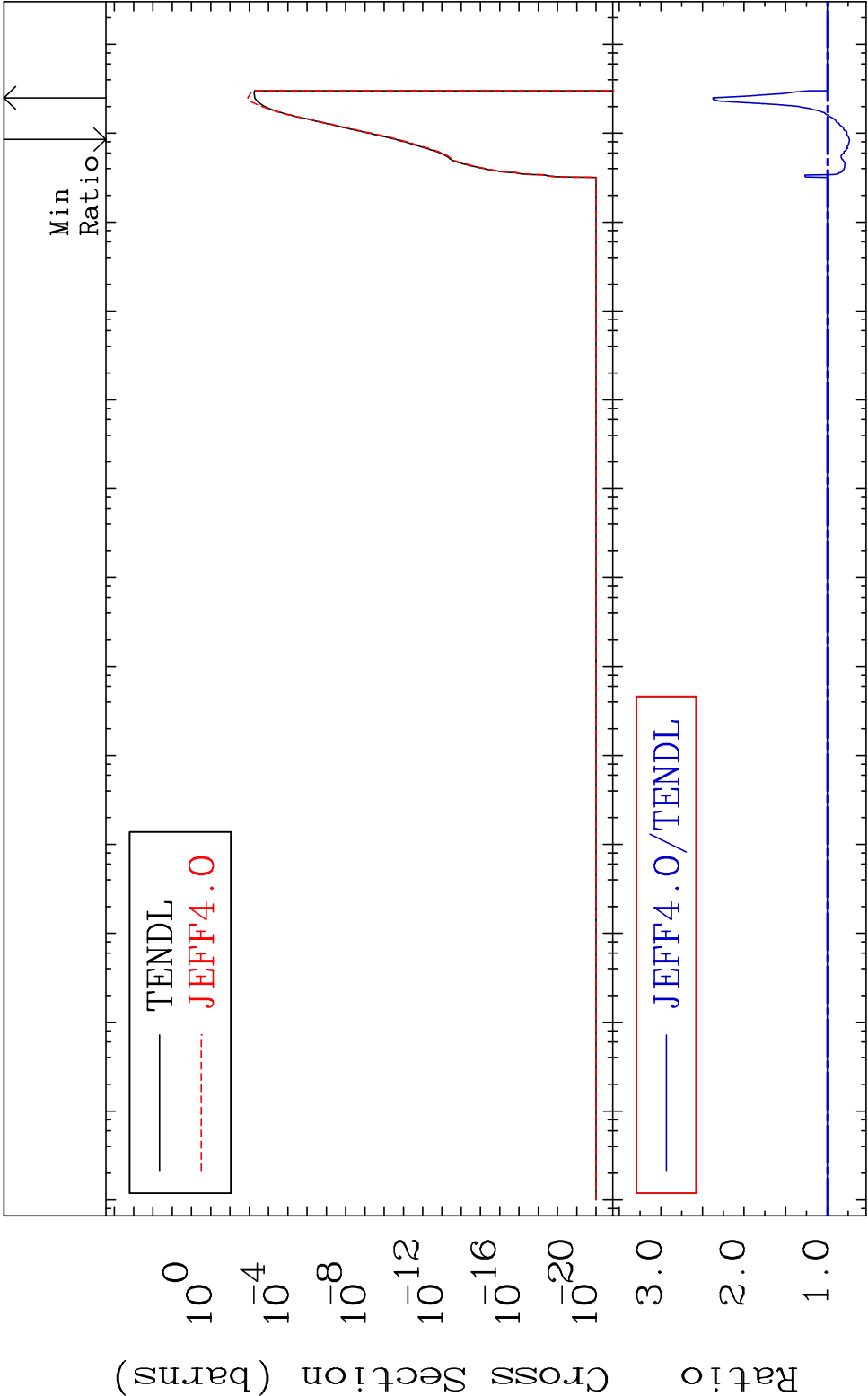




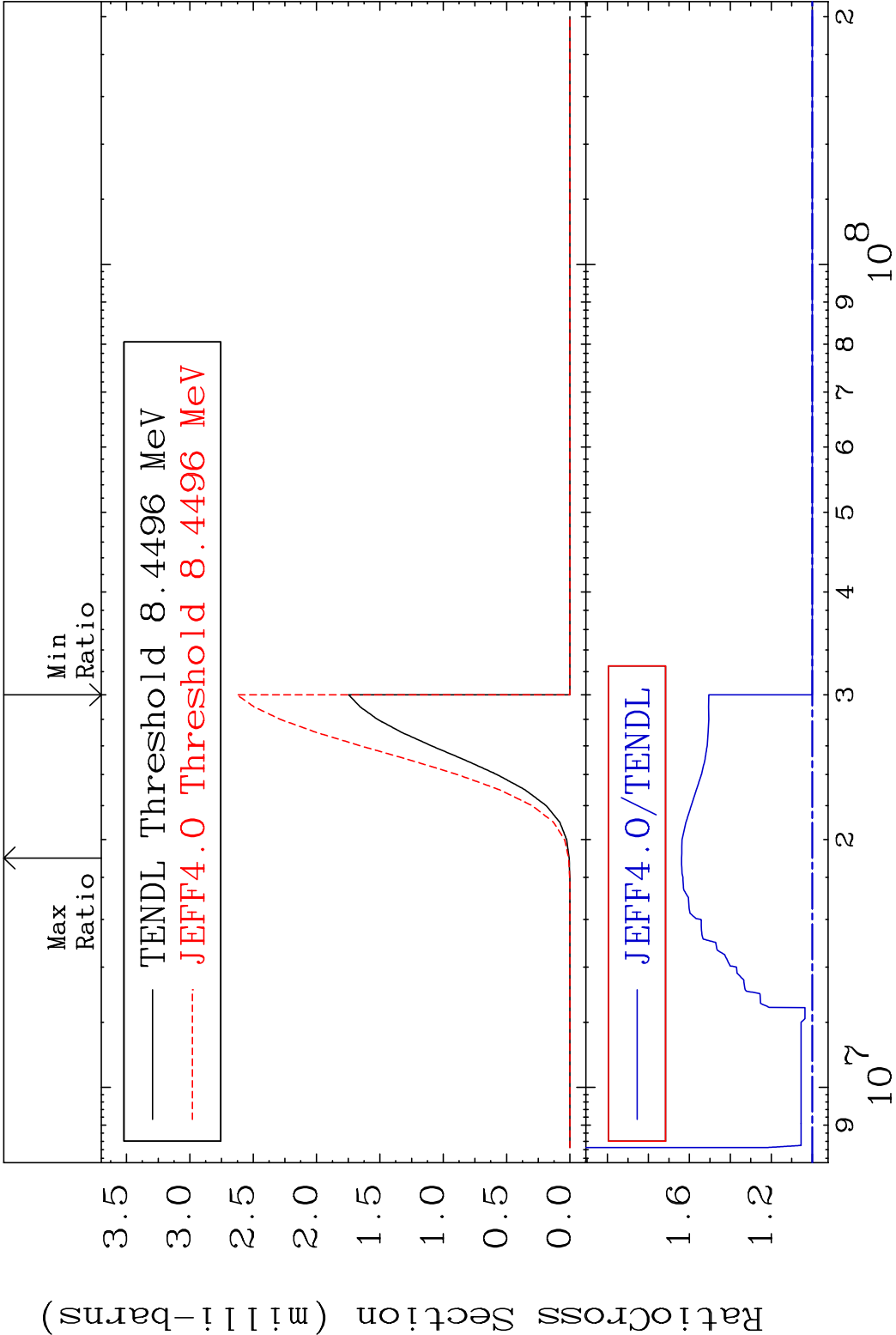
| Radionuclide      | Production Cross Section | Decay     | Half-life |
|-------------------|--------------------------|-----------|-----------|
| $^{137}\text{Cs}$ | 11.49 %                  | $\beta^-$ | 30.17 y   |

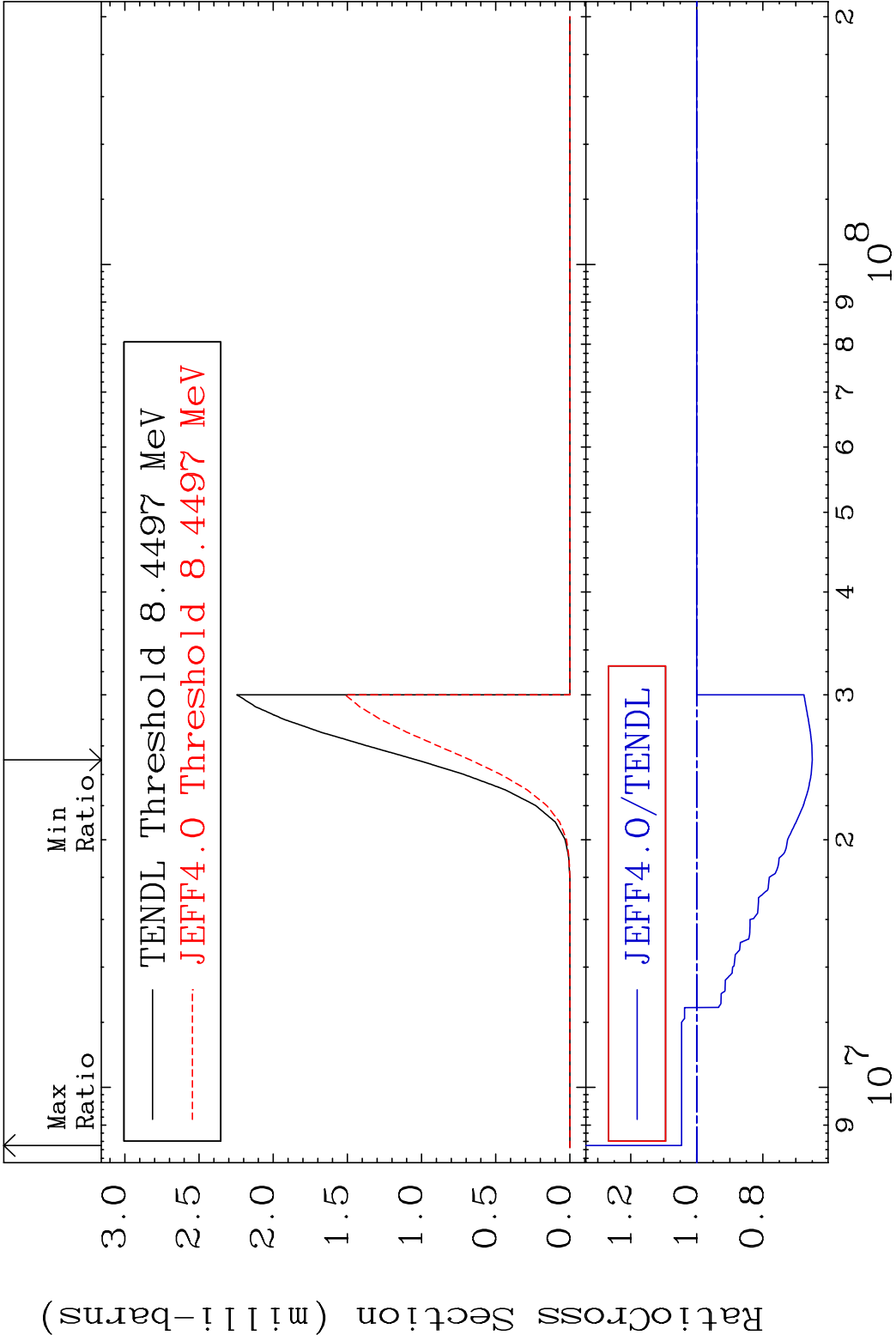


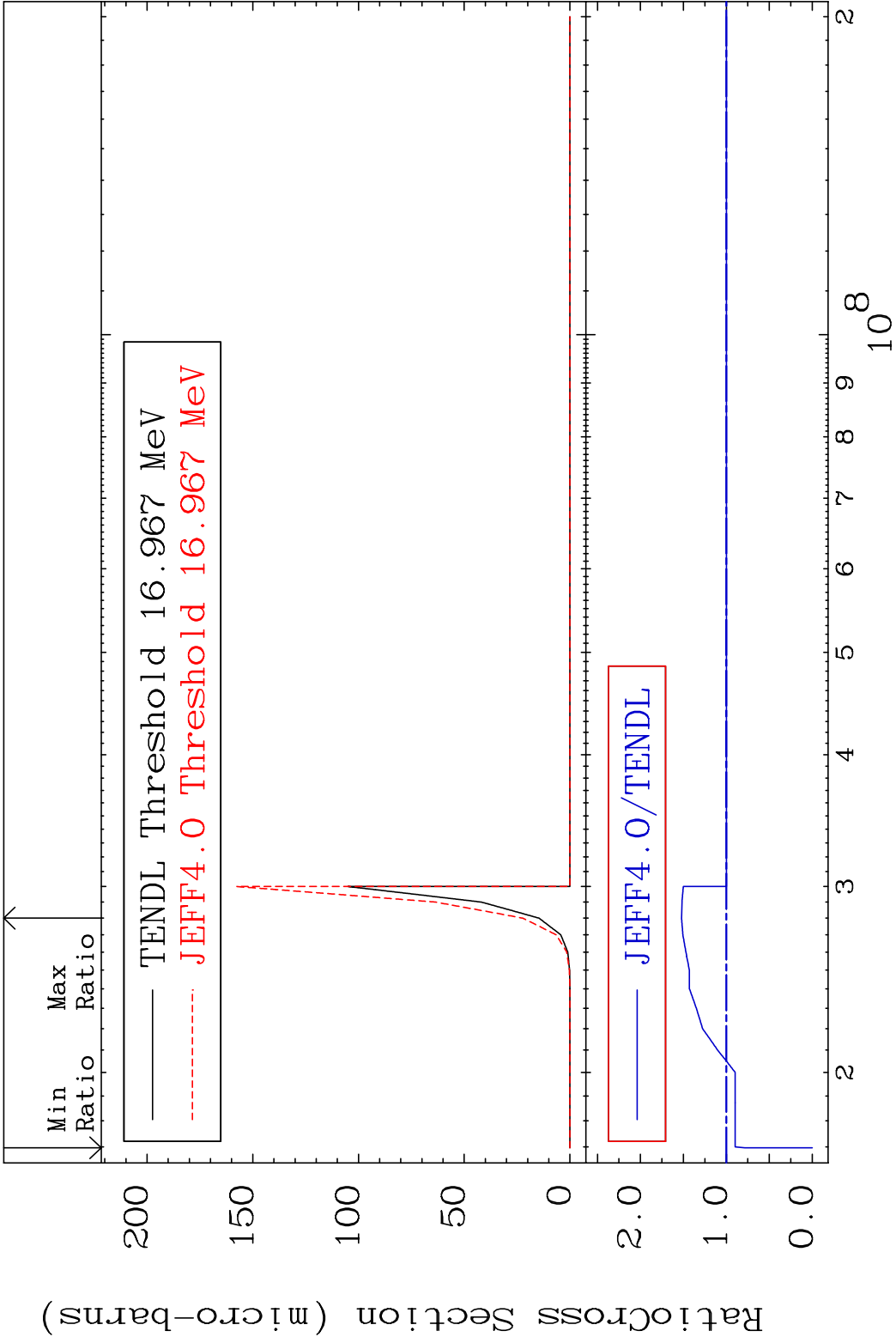












Radionuclide Production Cross Section (micro-barns)

