

Program Complot
(Version 2018-1)

by

Dermott E. Cullen
(Present Contact Information)

Dermott E. Cullen
1466 Hudson Way
Livermore, CA 94550

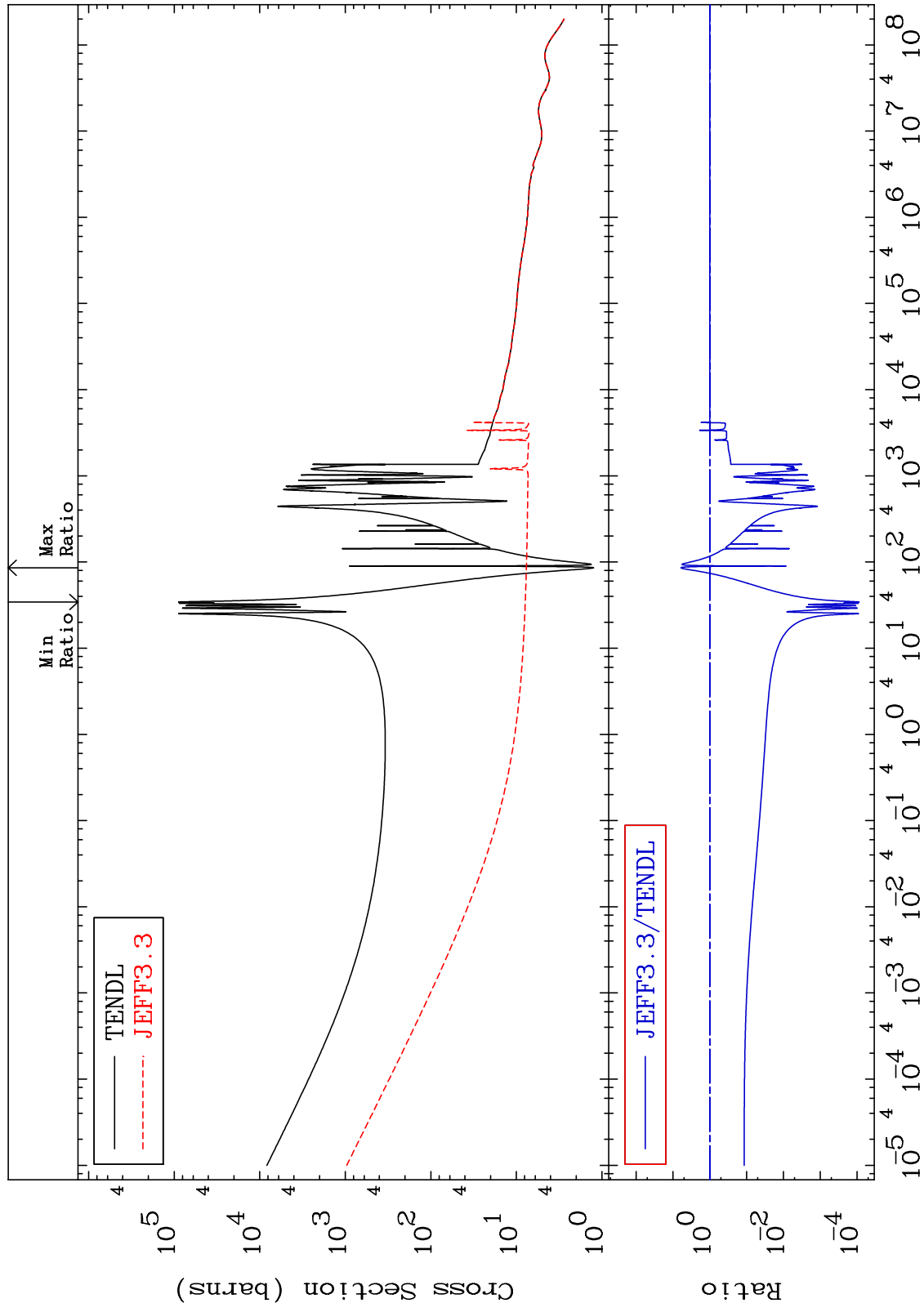
U.S.A.

Tele: 925-443-1911

E.Mail: redcullen1@comcast.net
Web: redcullen1.net/HOMEPAGE.NEW

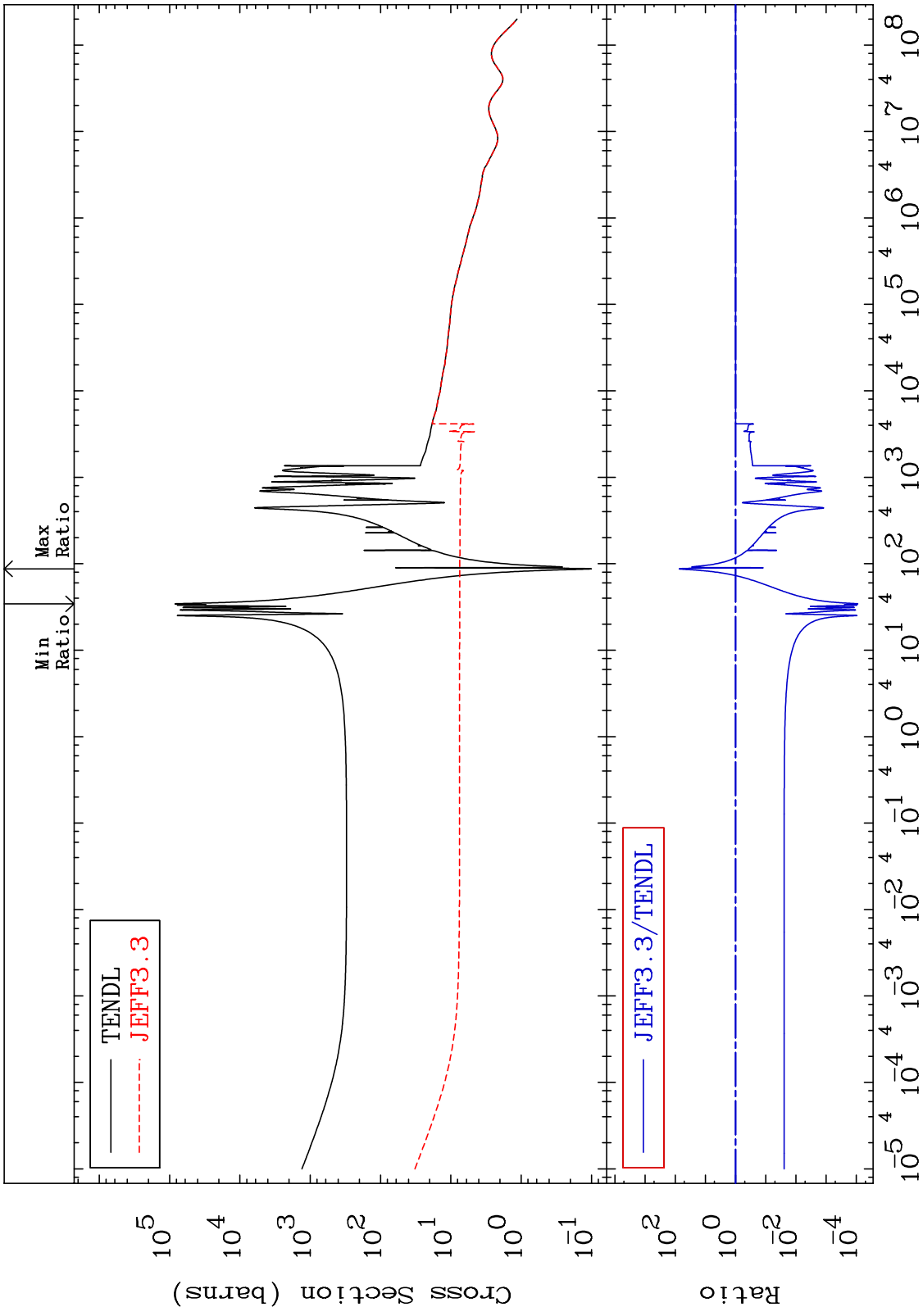
Press Mouse Button to Start

MAT 7249 Total Cross Section 72-Hf-182
-99.99 To 511.0 %



1 Incident Energy (eV) 72-Hf-182

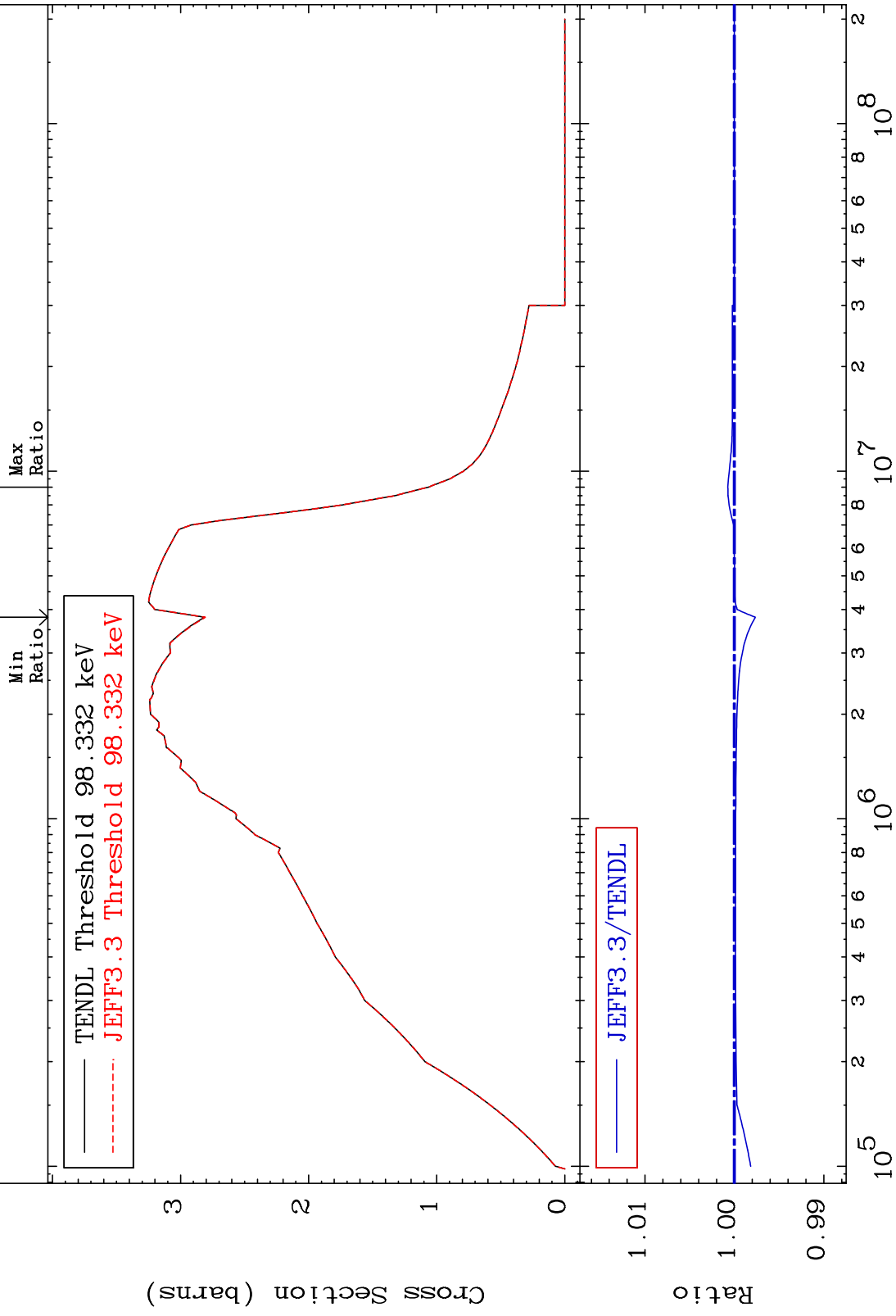
MAT 7249 Elastic Cross Section 72-Hf-182 -99.99 To 7373. %



2 Incident Energy (eV) 72-Hf-182

MAT 7249 72-Hf-182 -0.234 To 0.073 %

Inelastic Cross Section

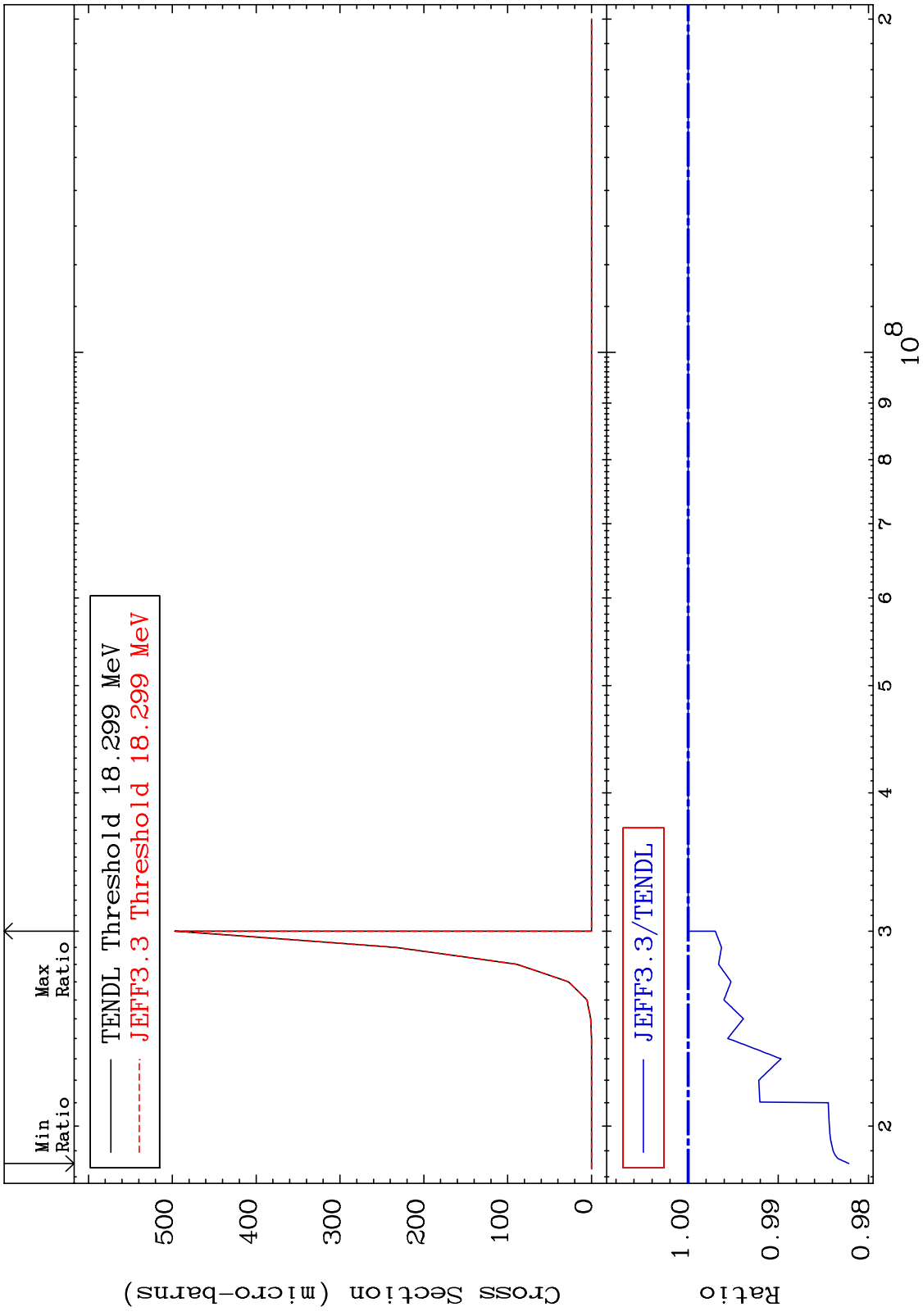


72-Hf-182

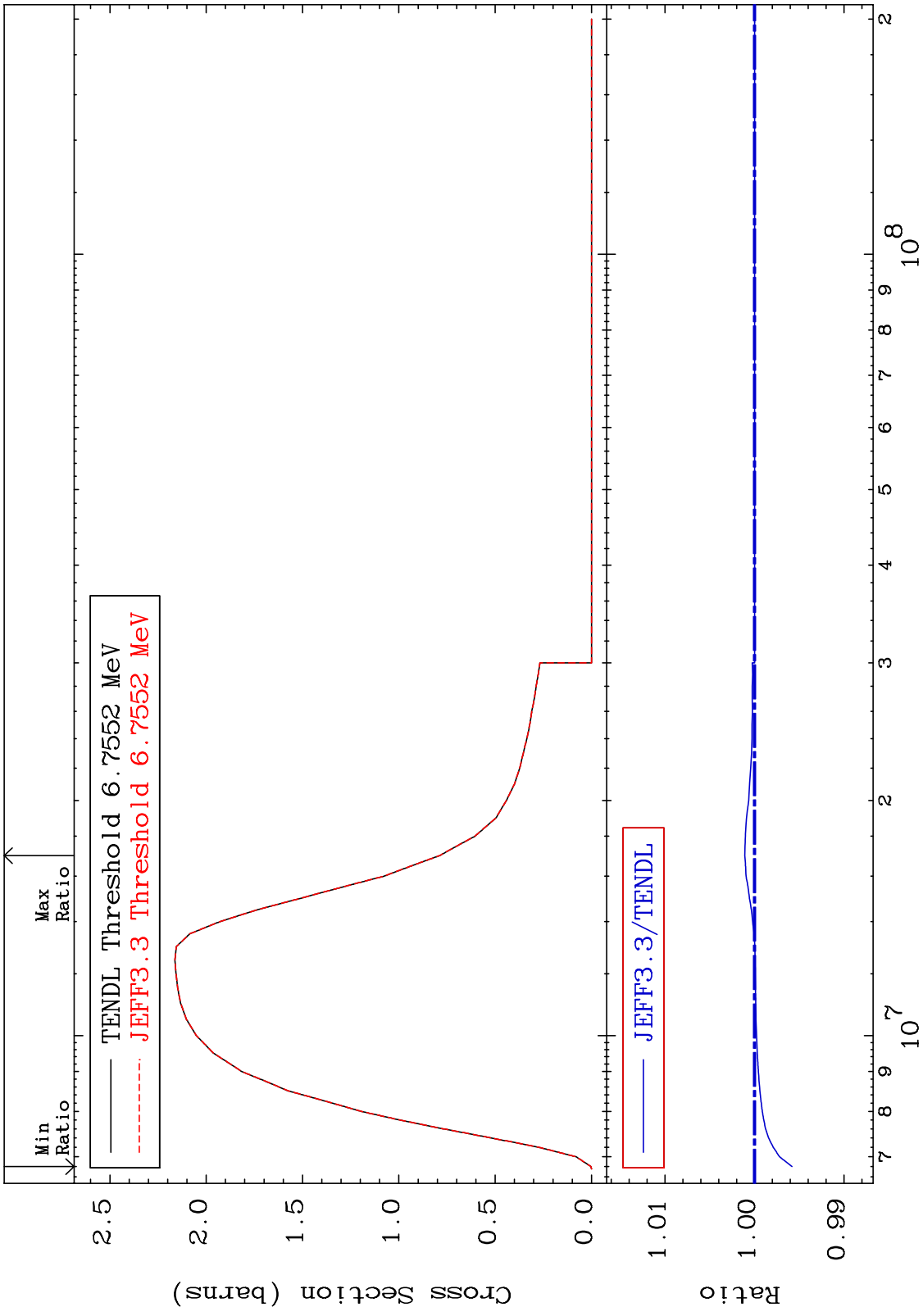
Incident Energy (eV)

3

MAT 7249 (n,2n) d 72-Hf-182
 Cross Section -1.781 To 0.000 %

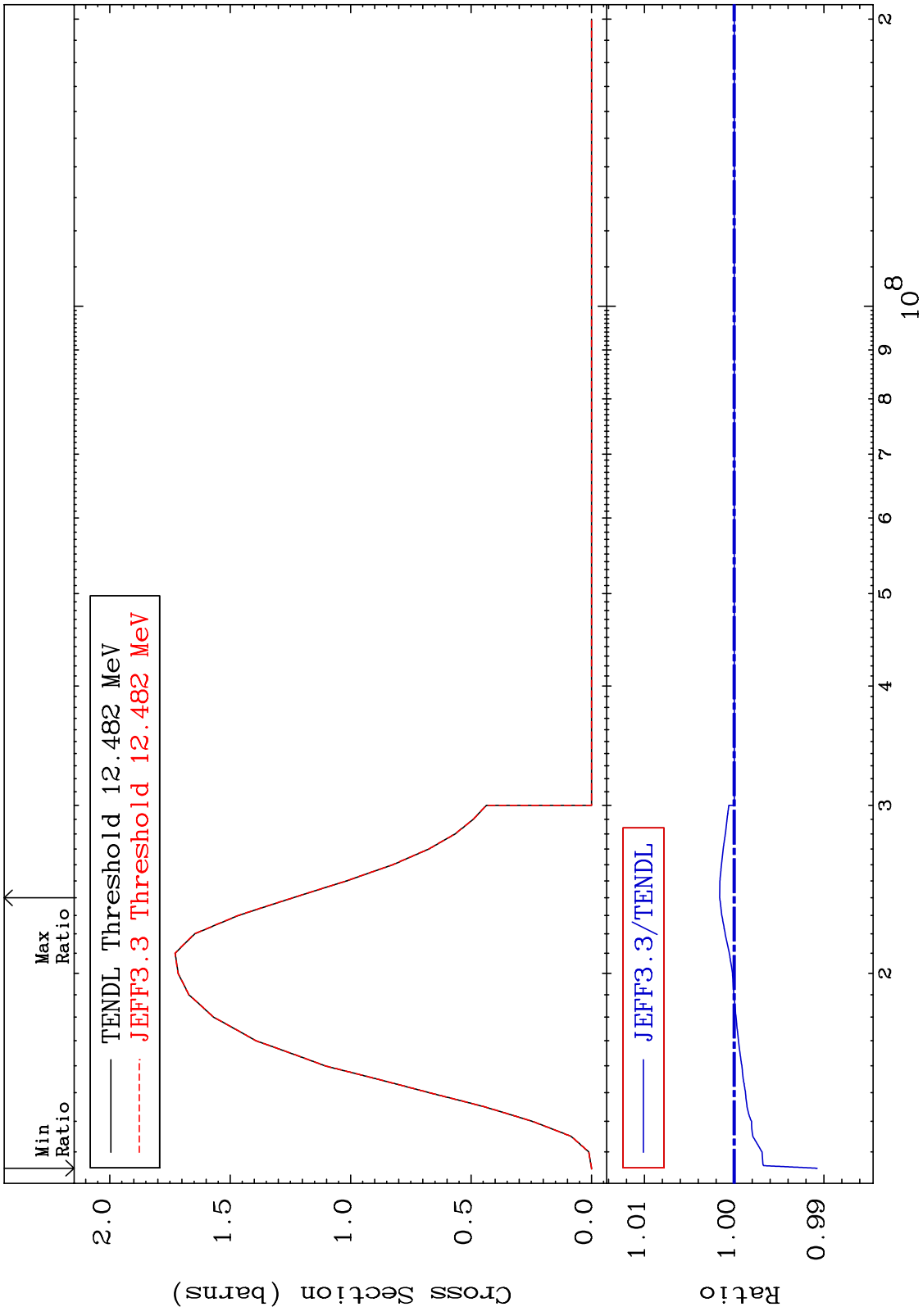


MAT 7249 (n,2n) 72-Hf-182
Cross Section -0.419 To 0.108 %



5 Incident Energy (eV) 72-Hf-182

MAT 7249 (n,3n) 72-Hf-182
 Cross Section -0.925 To 0.161 %



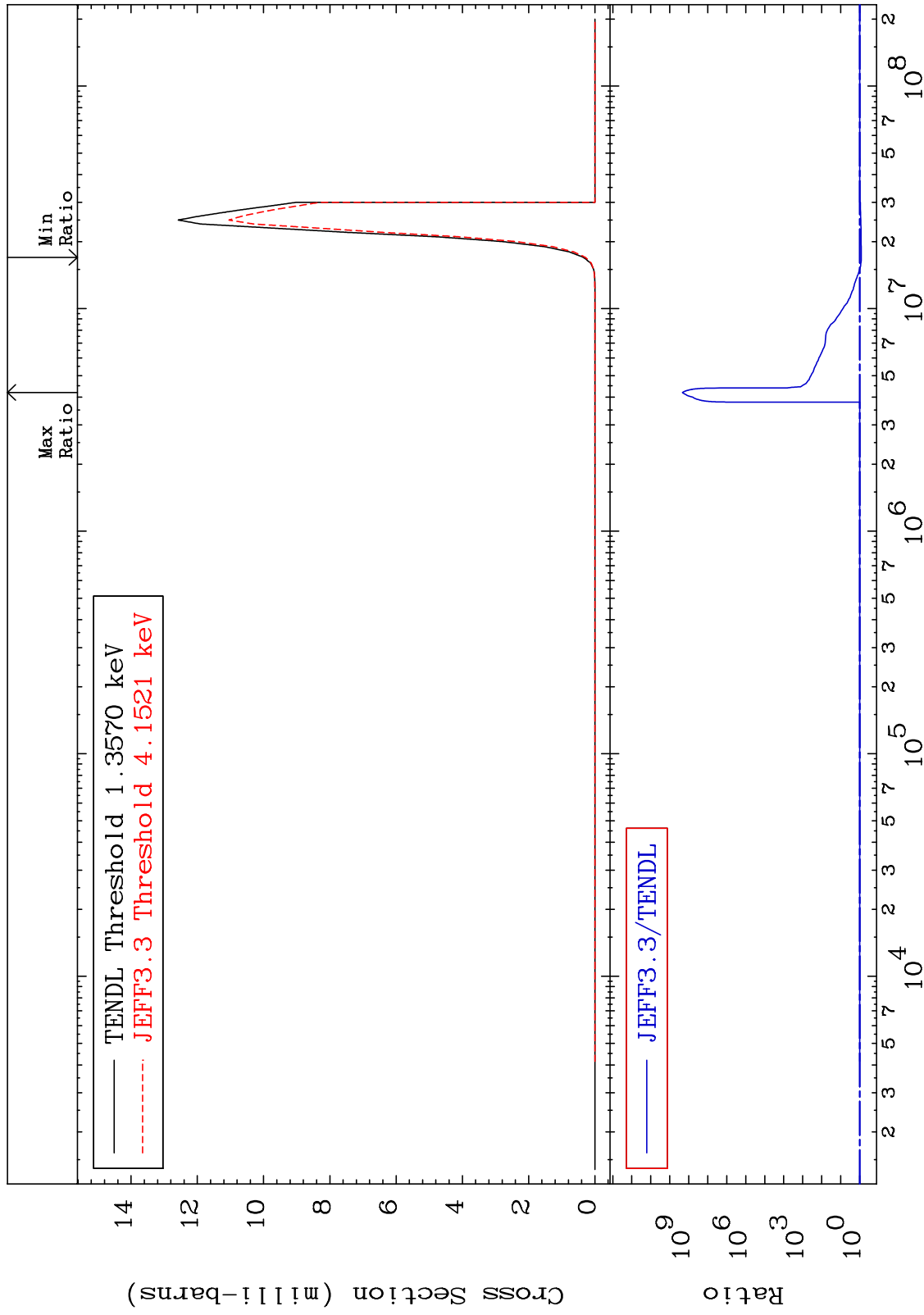
MAT 7249

(n, n') α

72-Hf-182

Cross Section

-17.63 To 9999. %



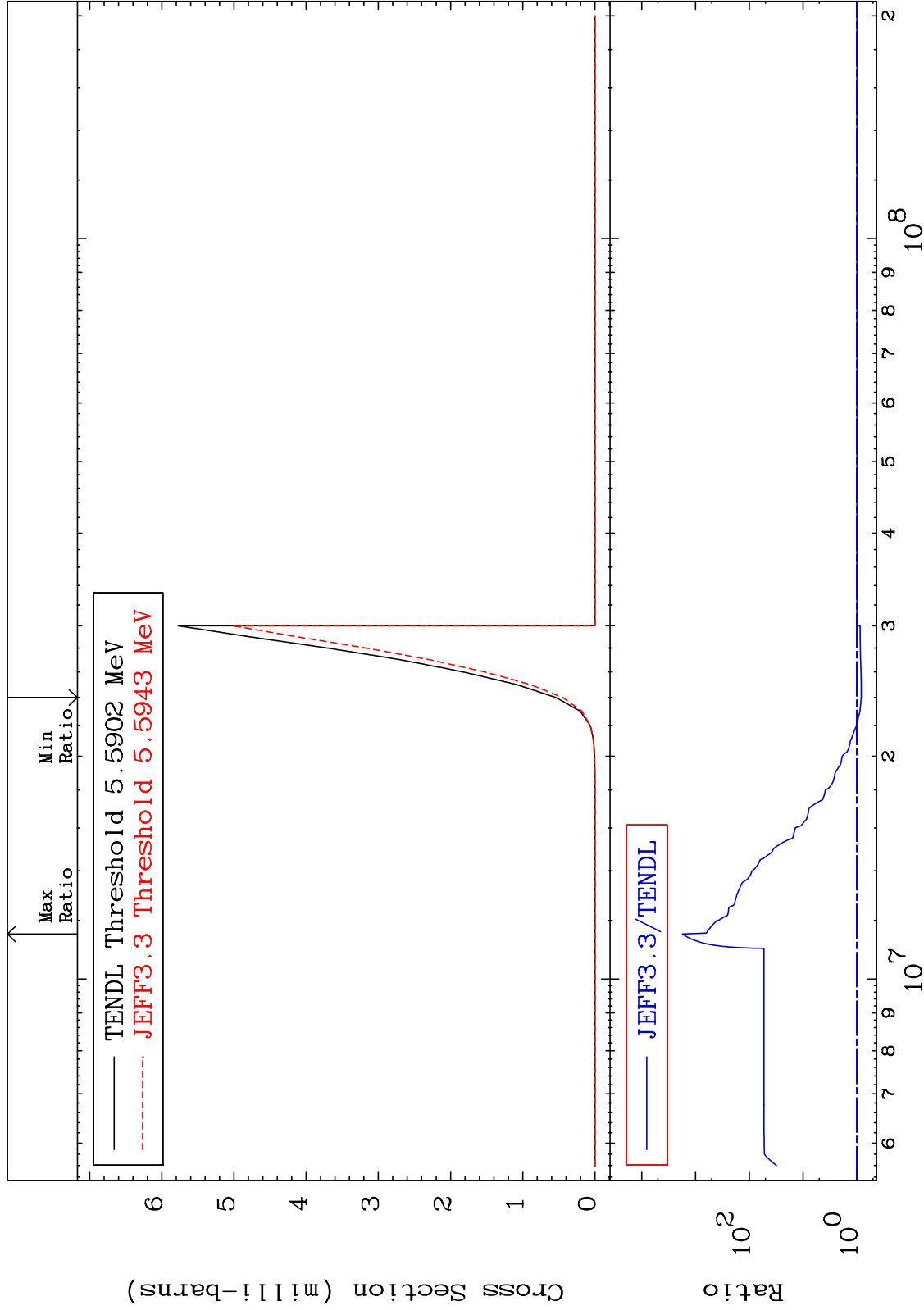
MAT 7249

(n,2n) α

72-Hf-182

-17.50 To 9999. %

Cross Section

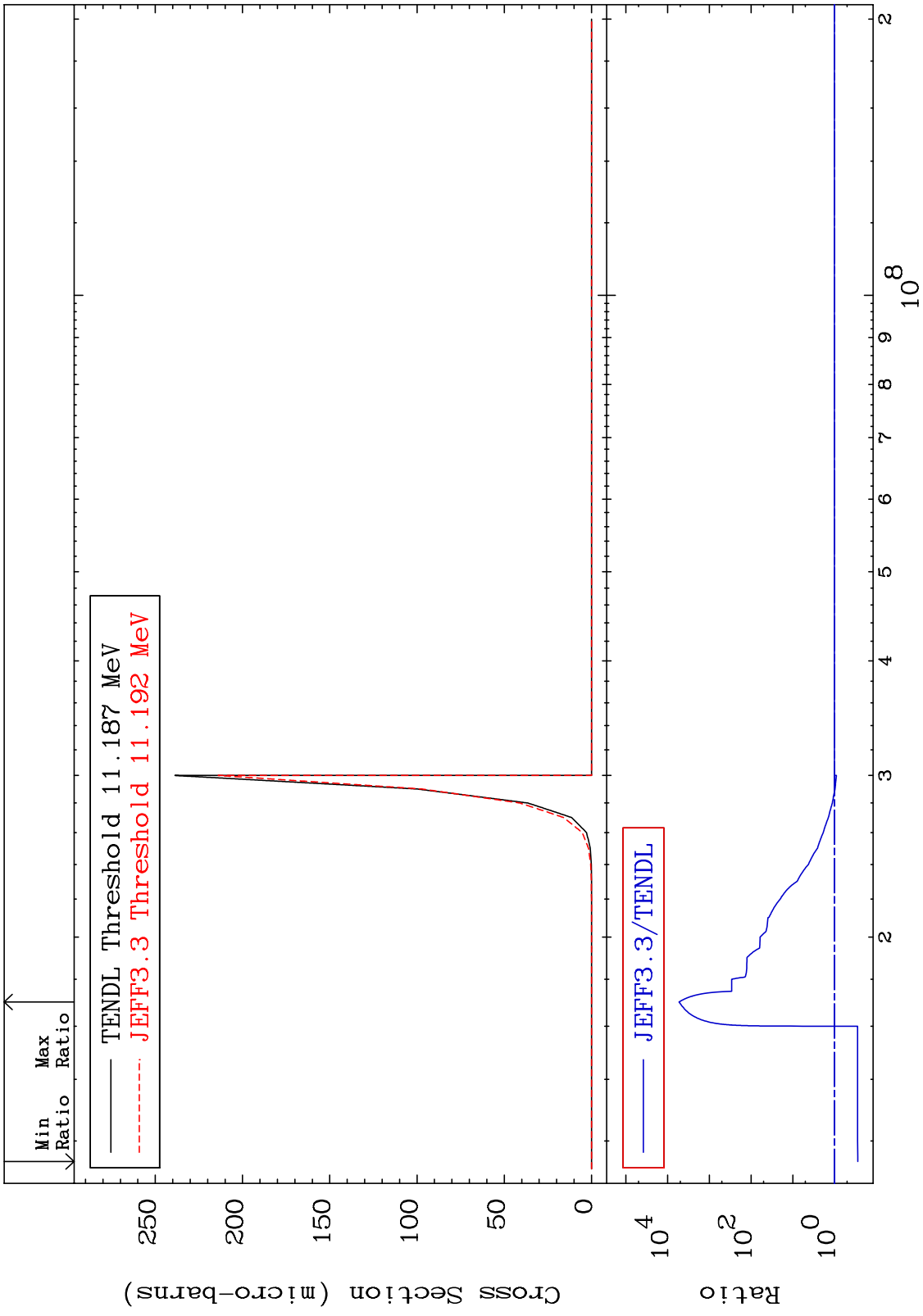


8

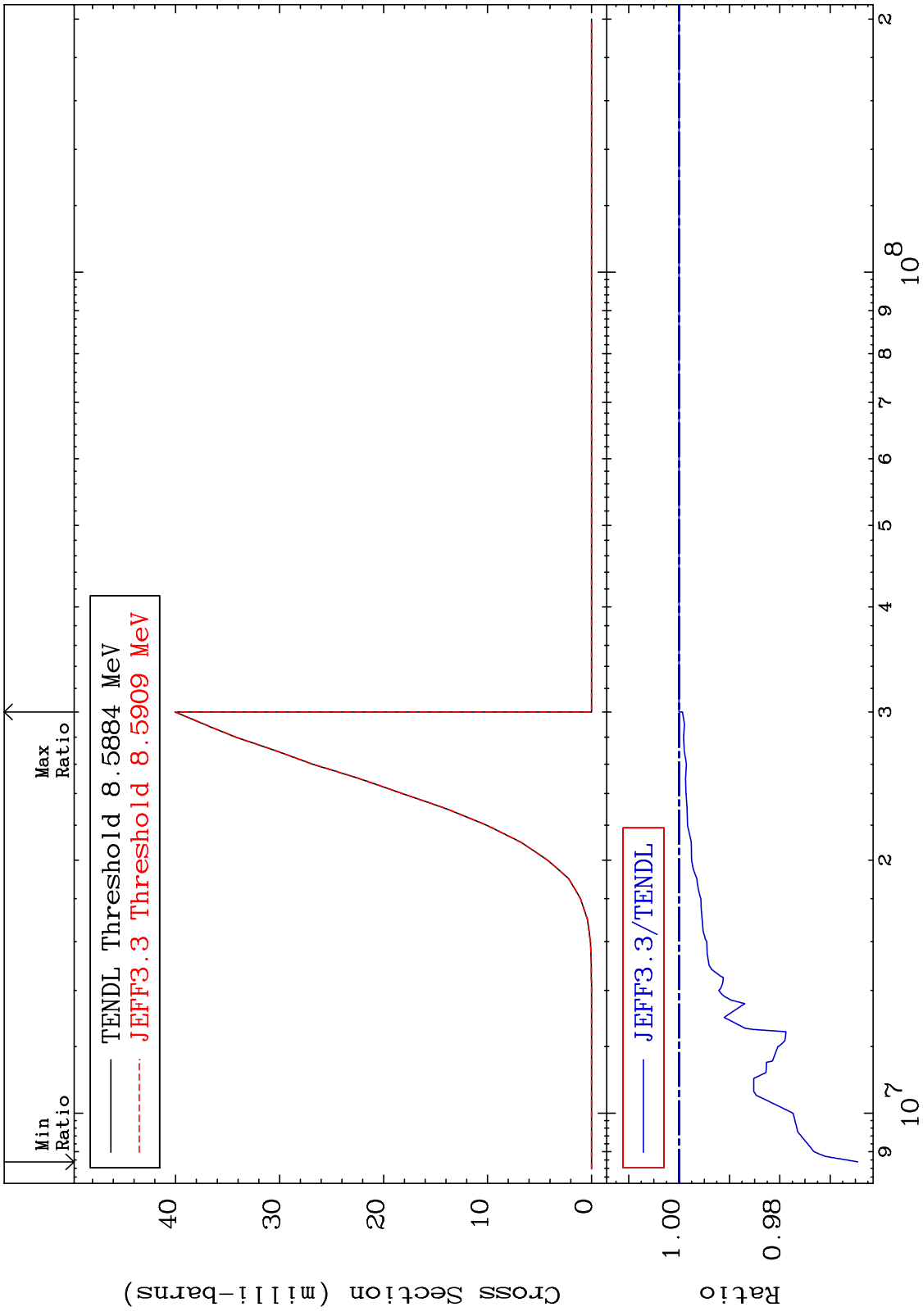
Incident Energy (eV)

72-Hf-182

MAT 7249 (n,3n) α 72-Hf-182
 Cross Section -72.44 To 9999. %

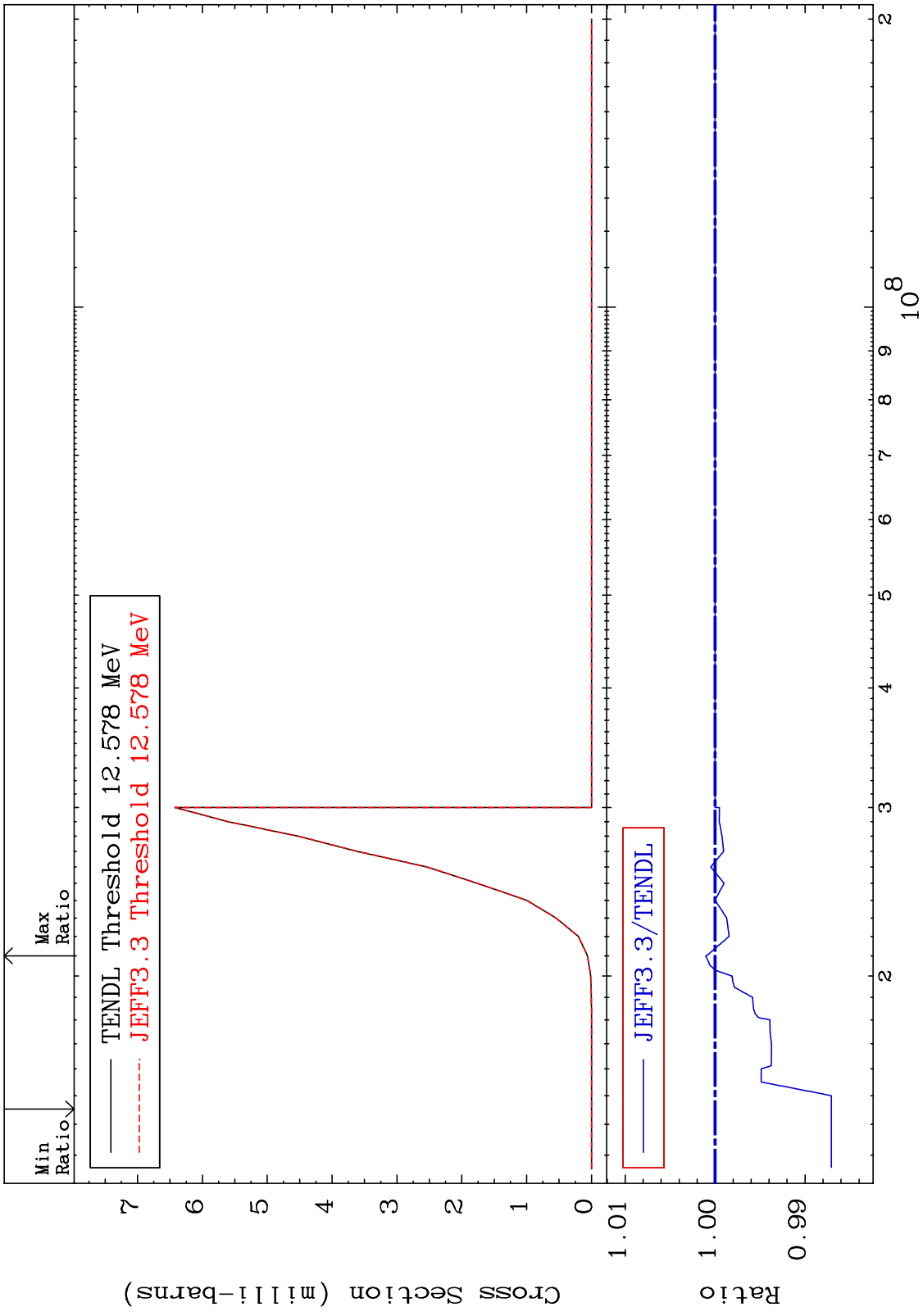


MAT 7249 (n, n') p Cross Section 72-Hf-182 -3.550 To 0.000 %

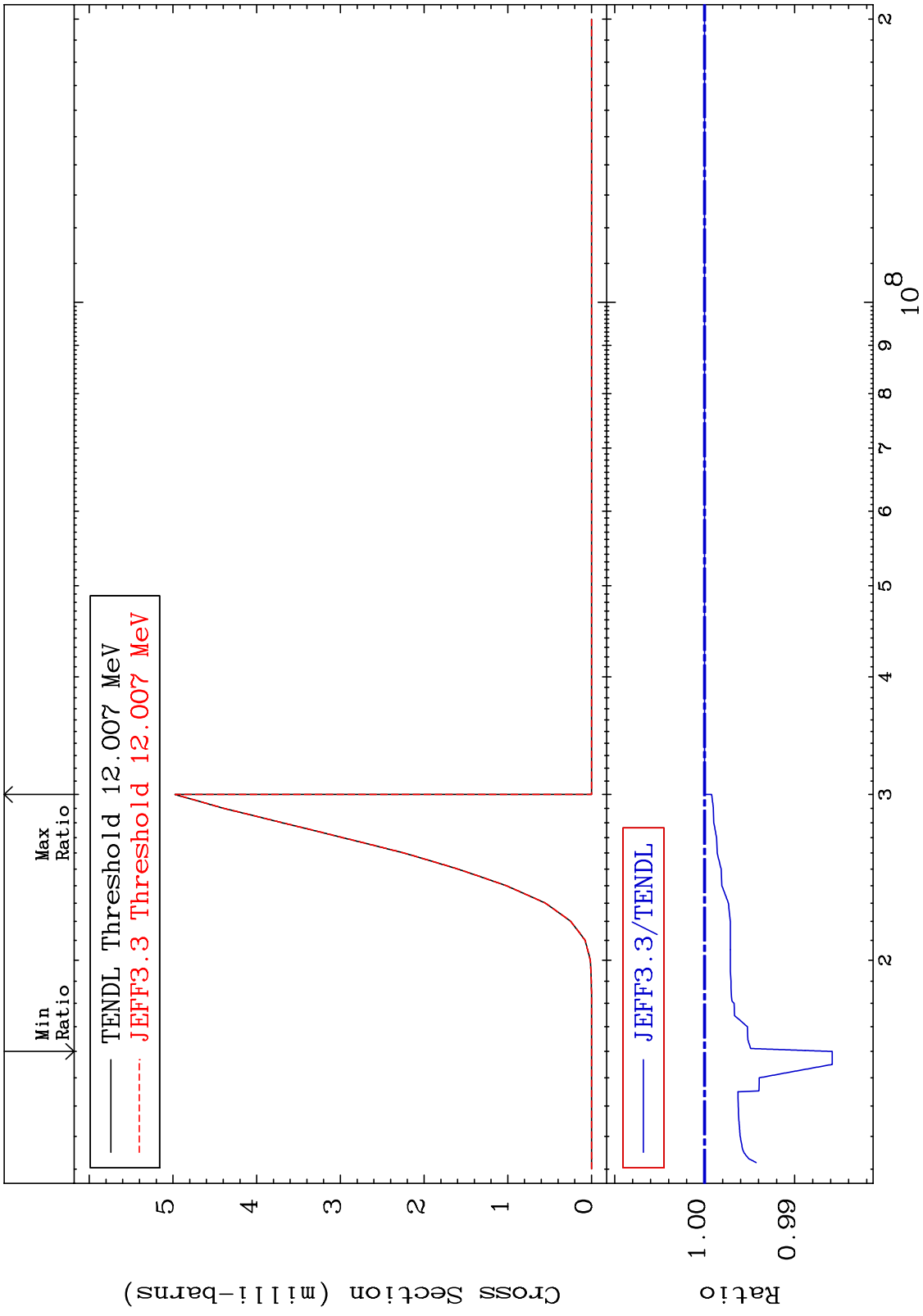


72-Hf-182

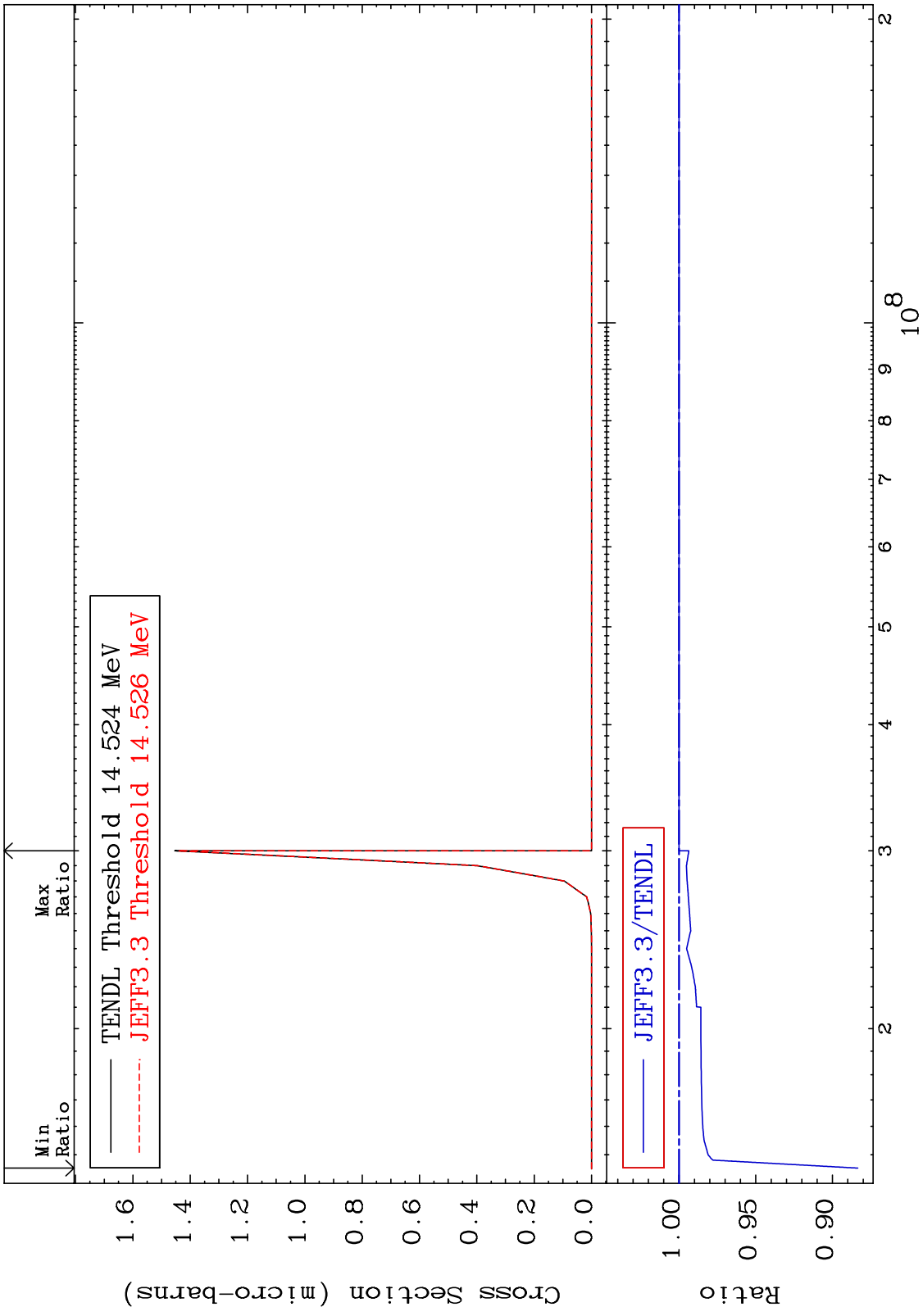
MAT 7249 (n,n') d 72-Hf-182
 Cross Section -1.292 To 0.106 %



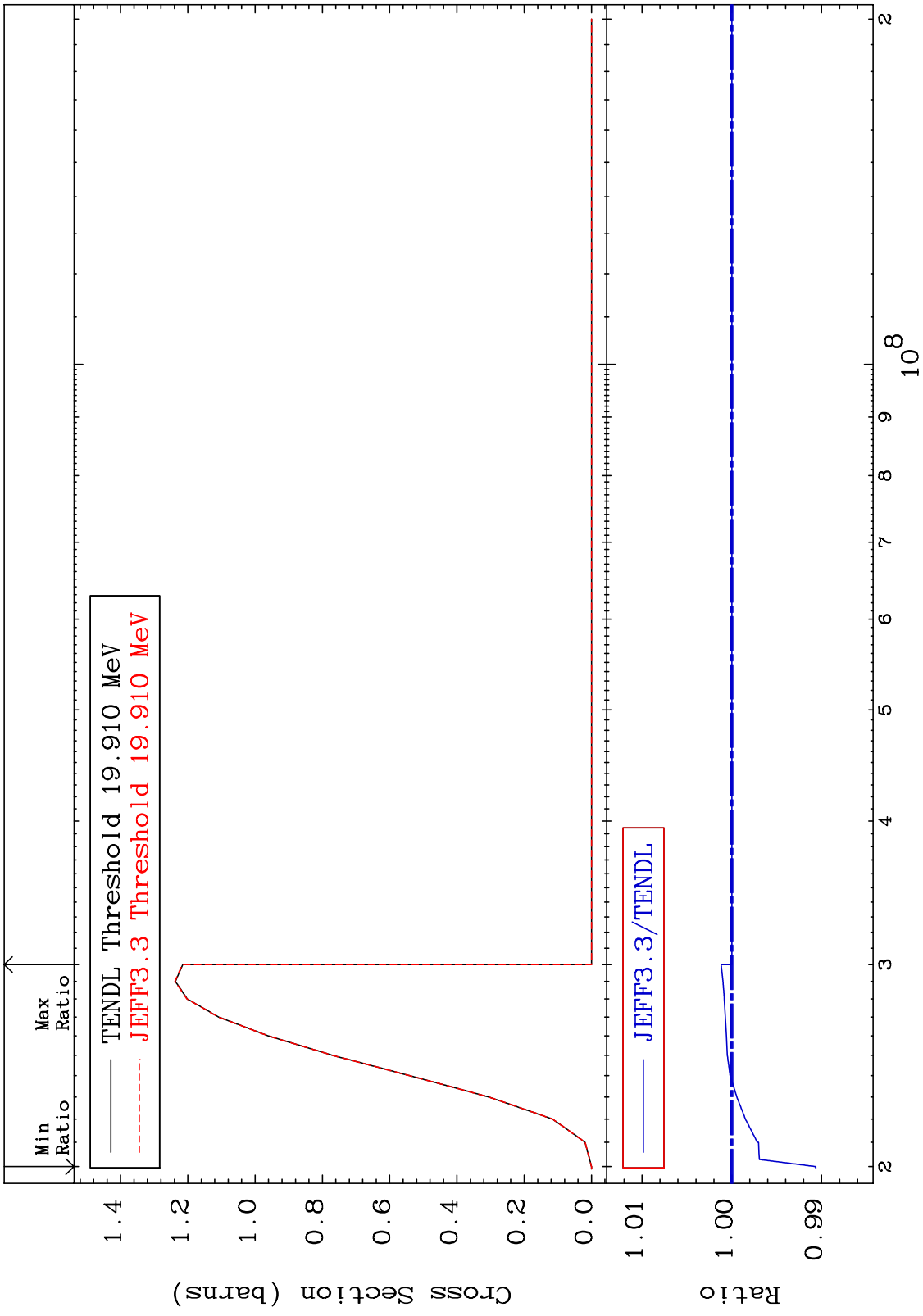
MAT 7249 (n,n') t 72-Hf-182
 Cross Section -1.417 To 0.000 %



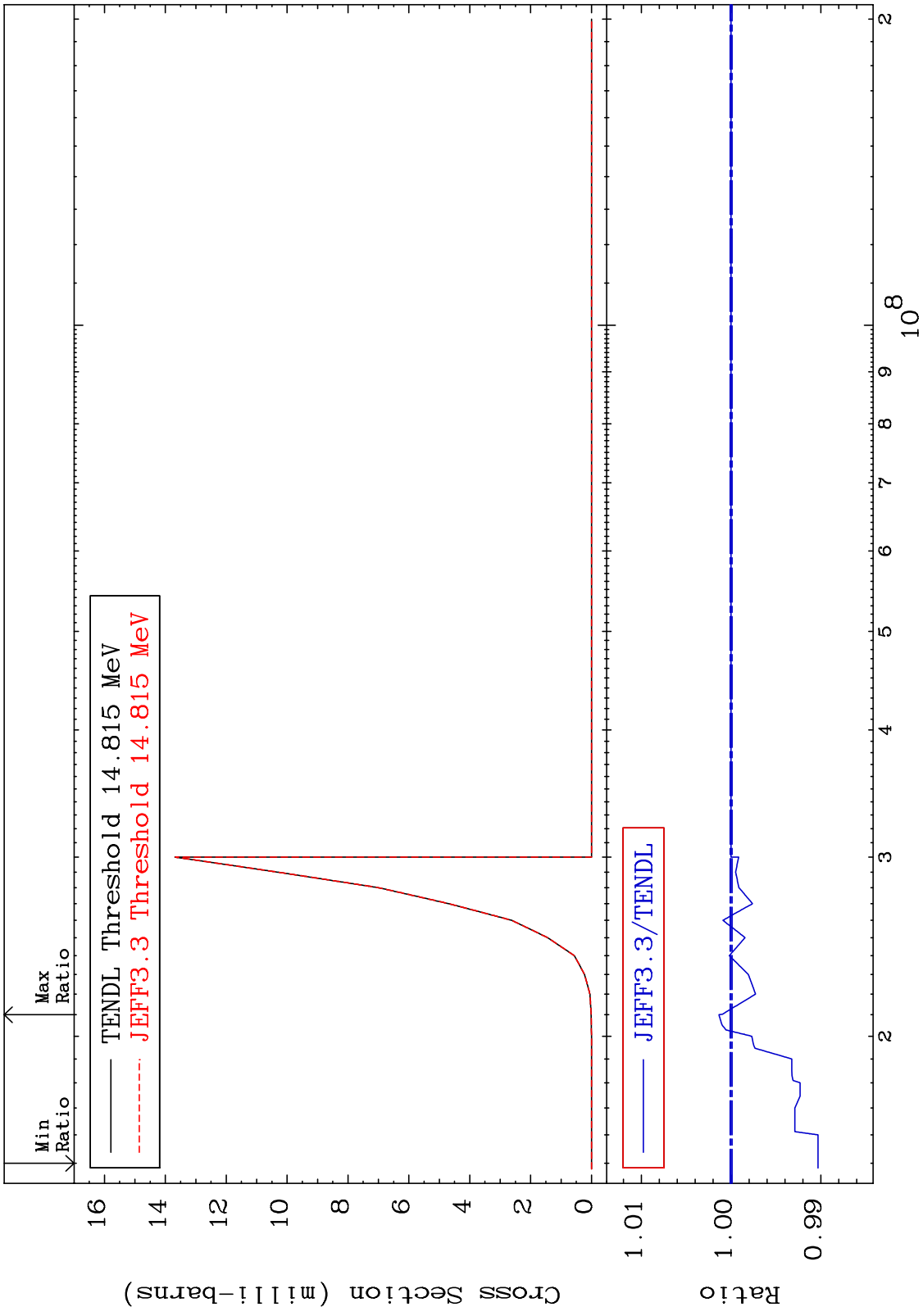
MAT 7249 (n, n') He-3 72-Hf-182
 Cross Section -11.65 To 0.000 %



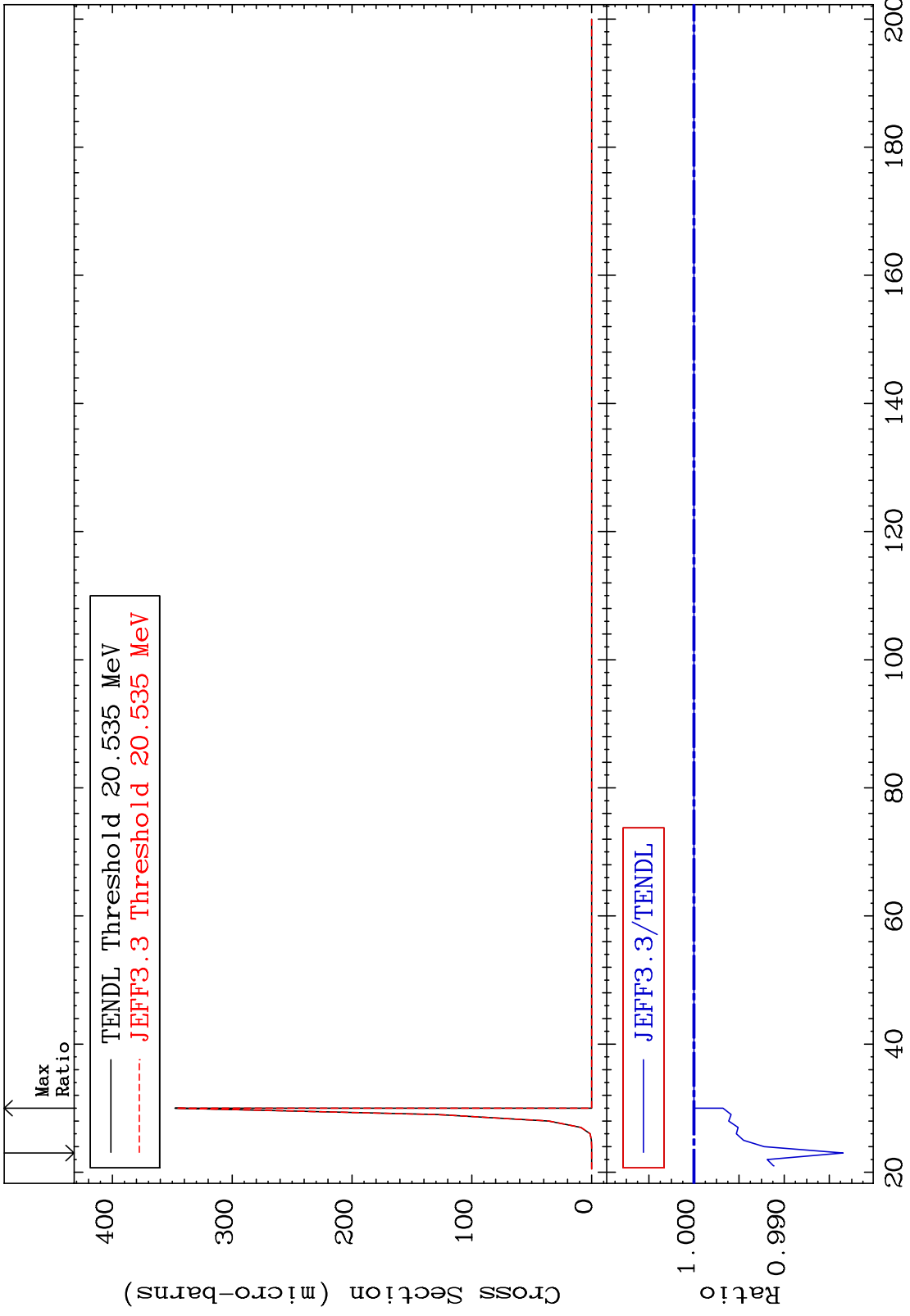
MAT 7249 $(n,4n)$ Cross Section 72-Hf-182
 -0.935 To 0.119 %



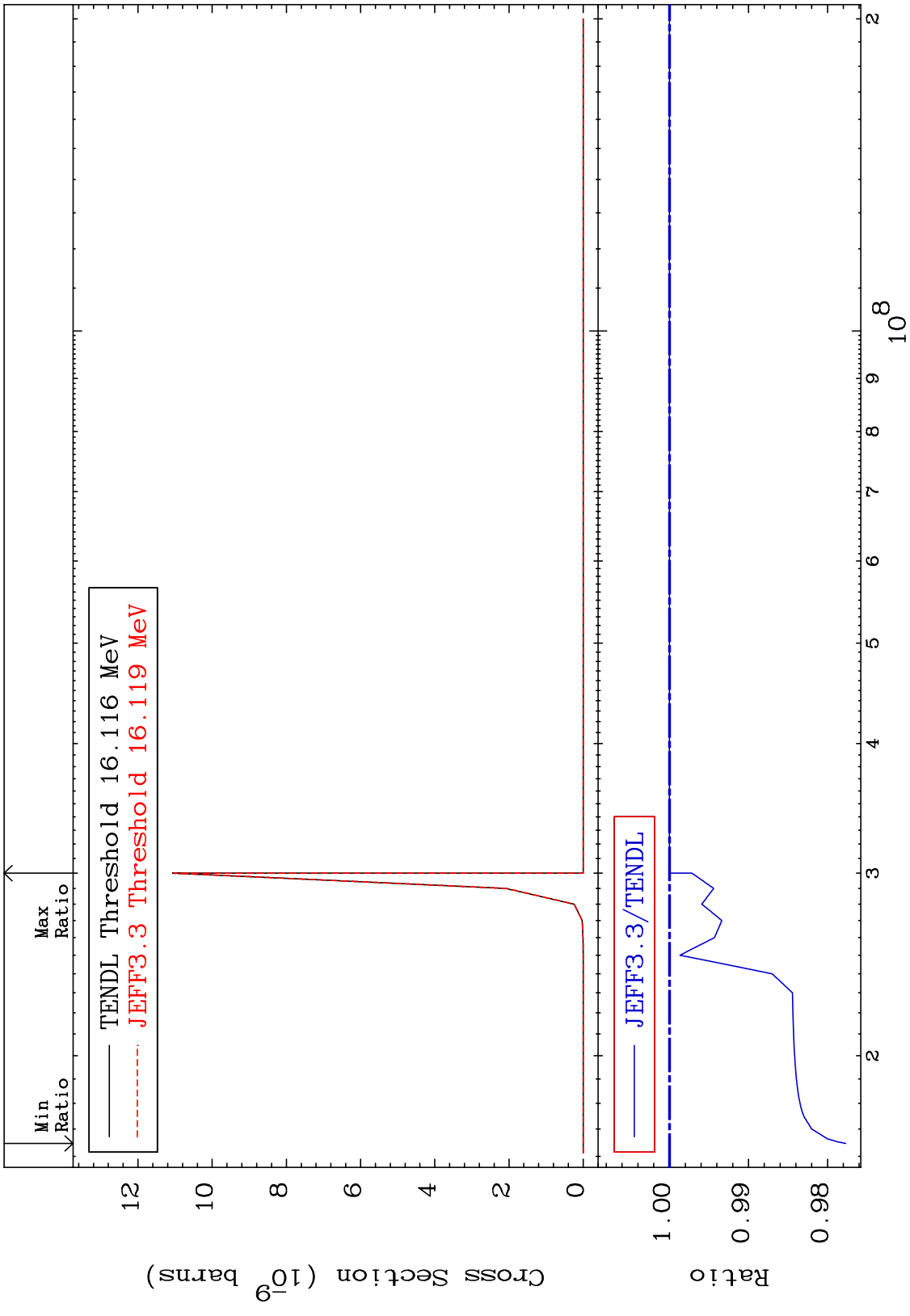
MAT 7249 (n,2n) p 72-Hf-182
 Cross Section -0.968 To 0.136 %



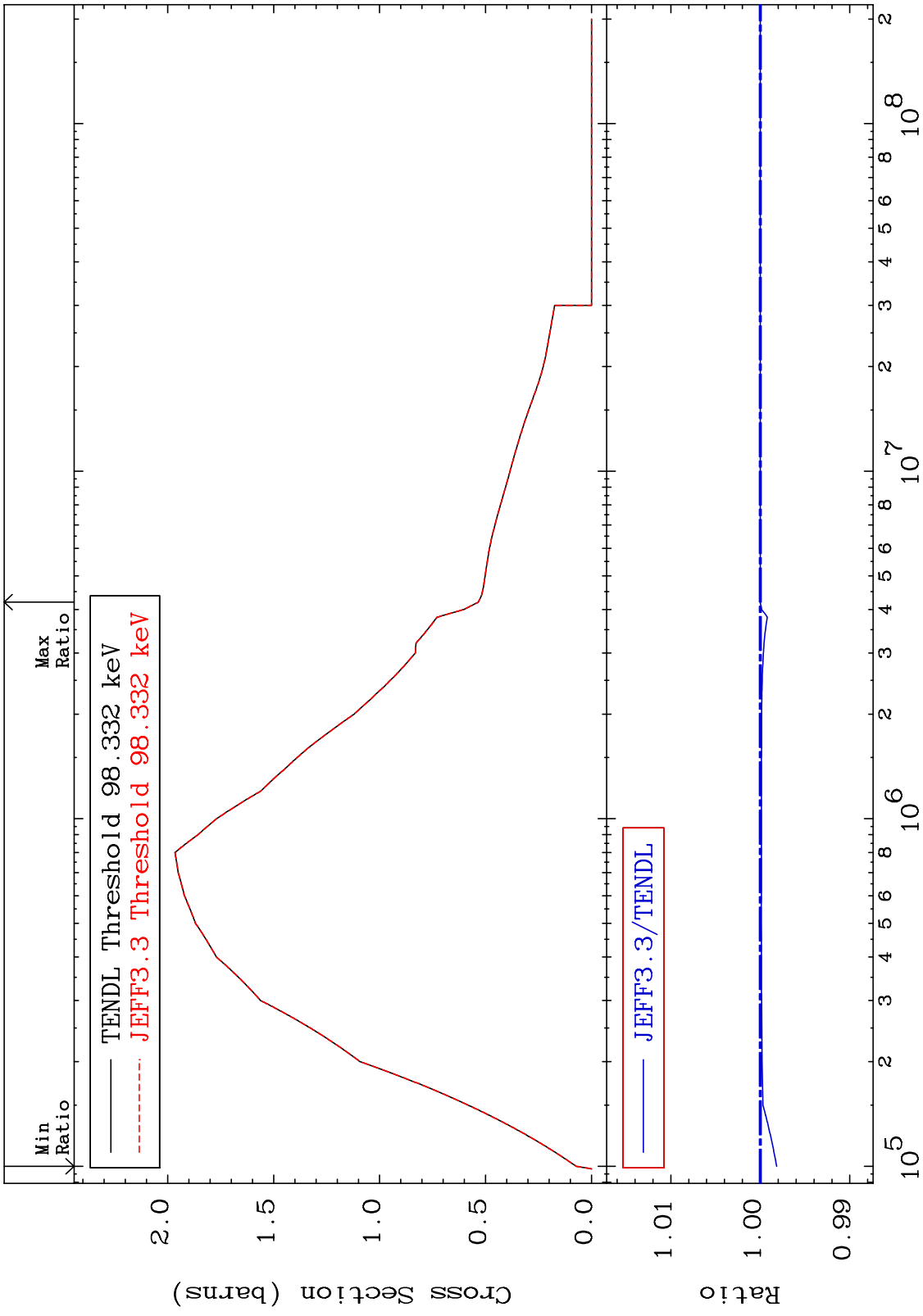
MAT 7249 (n,3n) p 72-Hf-182
Cross Section -1.654 To 0.000 %



MAT 7249 (n,2n) p 72-Hf-182
 Cross Section -2.230 To 0.000 %

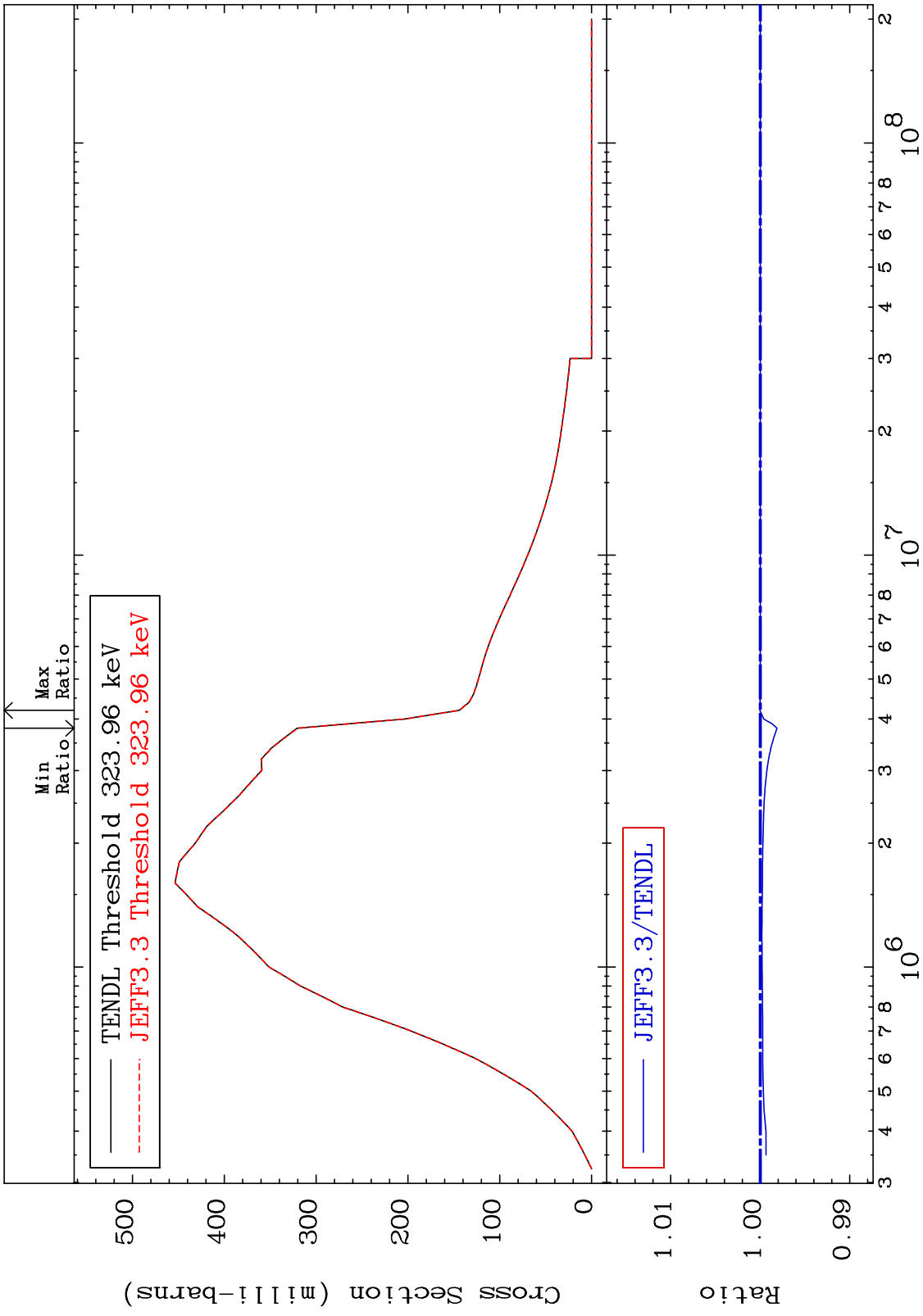


MAT 7249 MT= 51 (n,n') Level 72-Hf-182
 Cross Section -0.183 To 0.000 %

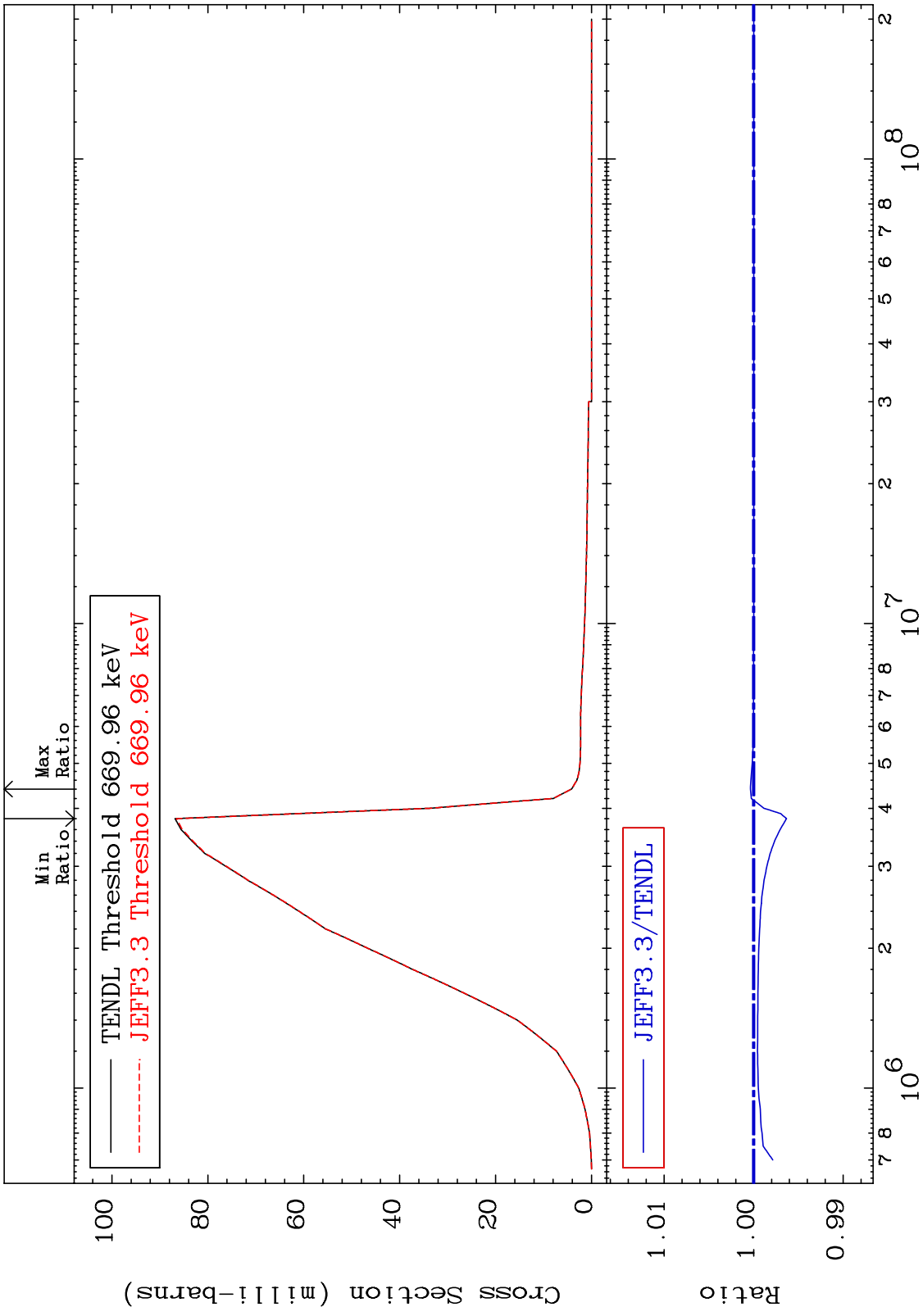


18 72-Hf-182

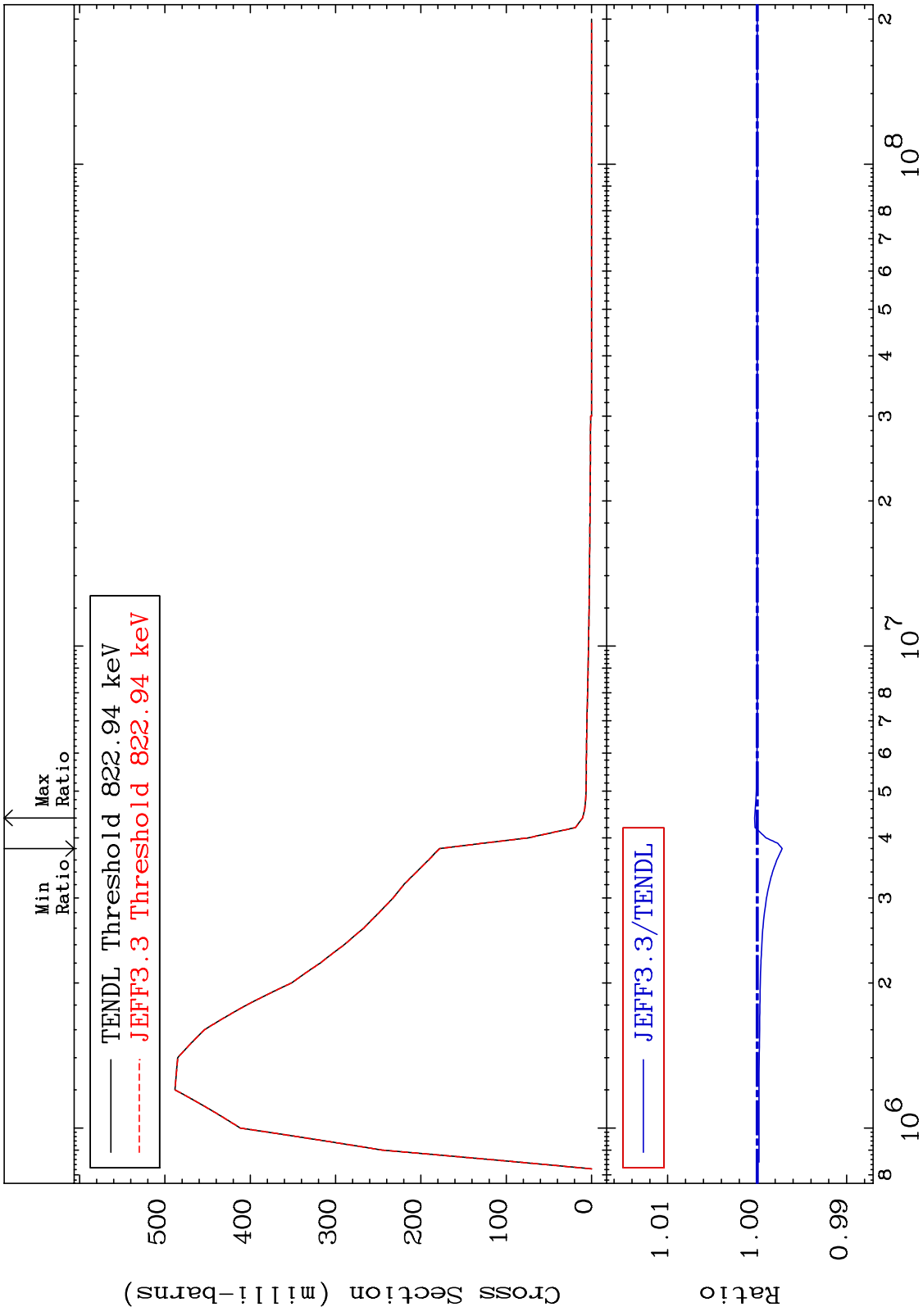
MAT 7249 MT= 52 (n,n') Level 72-Hf-182
 Cross Section -0.187 To 0.003 %



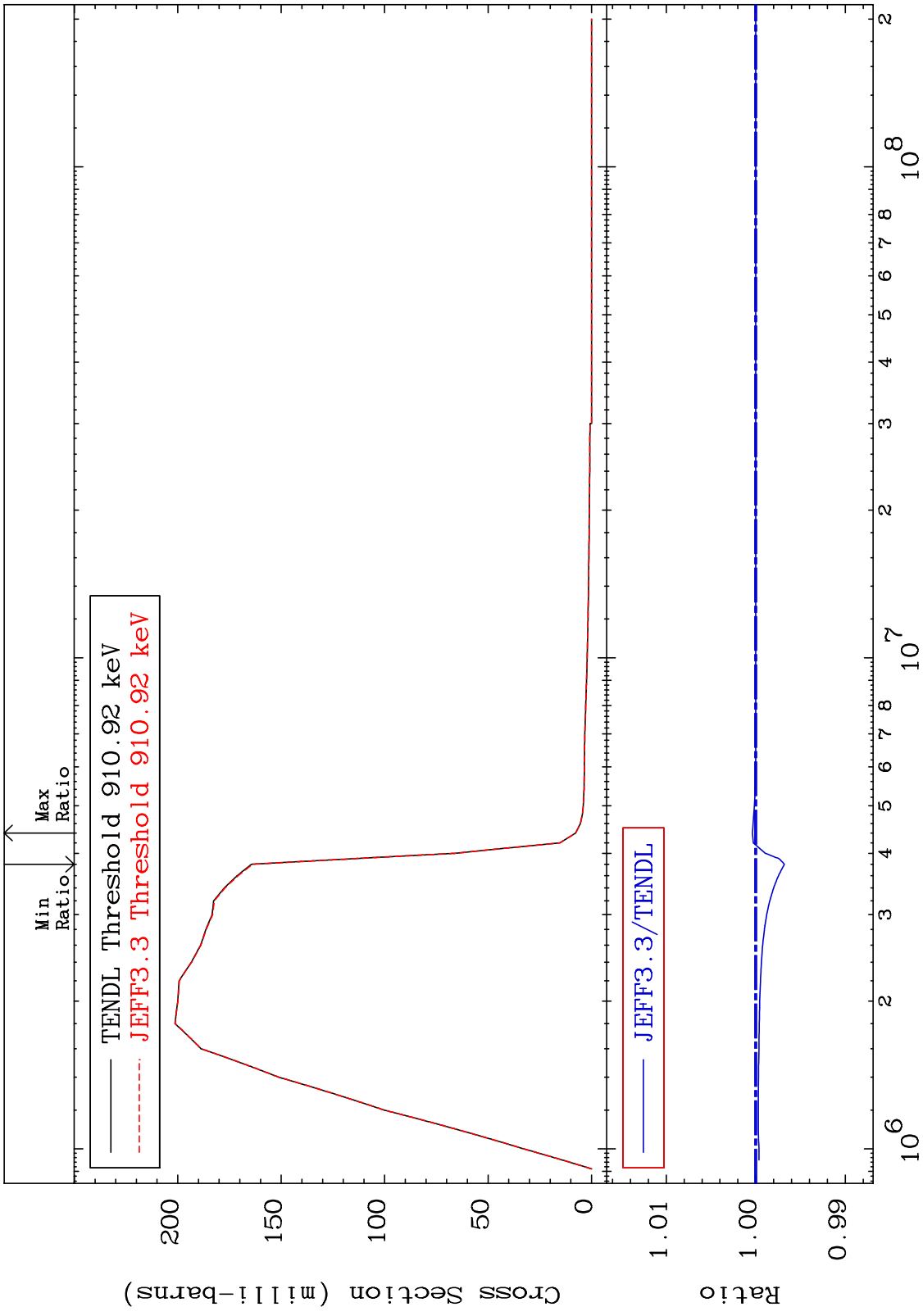
MAT 7249 MT= 53 (n,n') Level Cross Section 72-Hf-182
-0.367 To 0.037 %



MAT 7249 MT= 54 (n,n') Level Cross Section 72-Hf-182
 -0.280 To 0.029 %

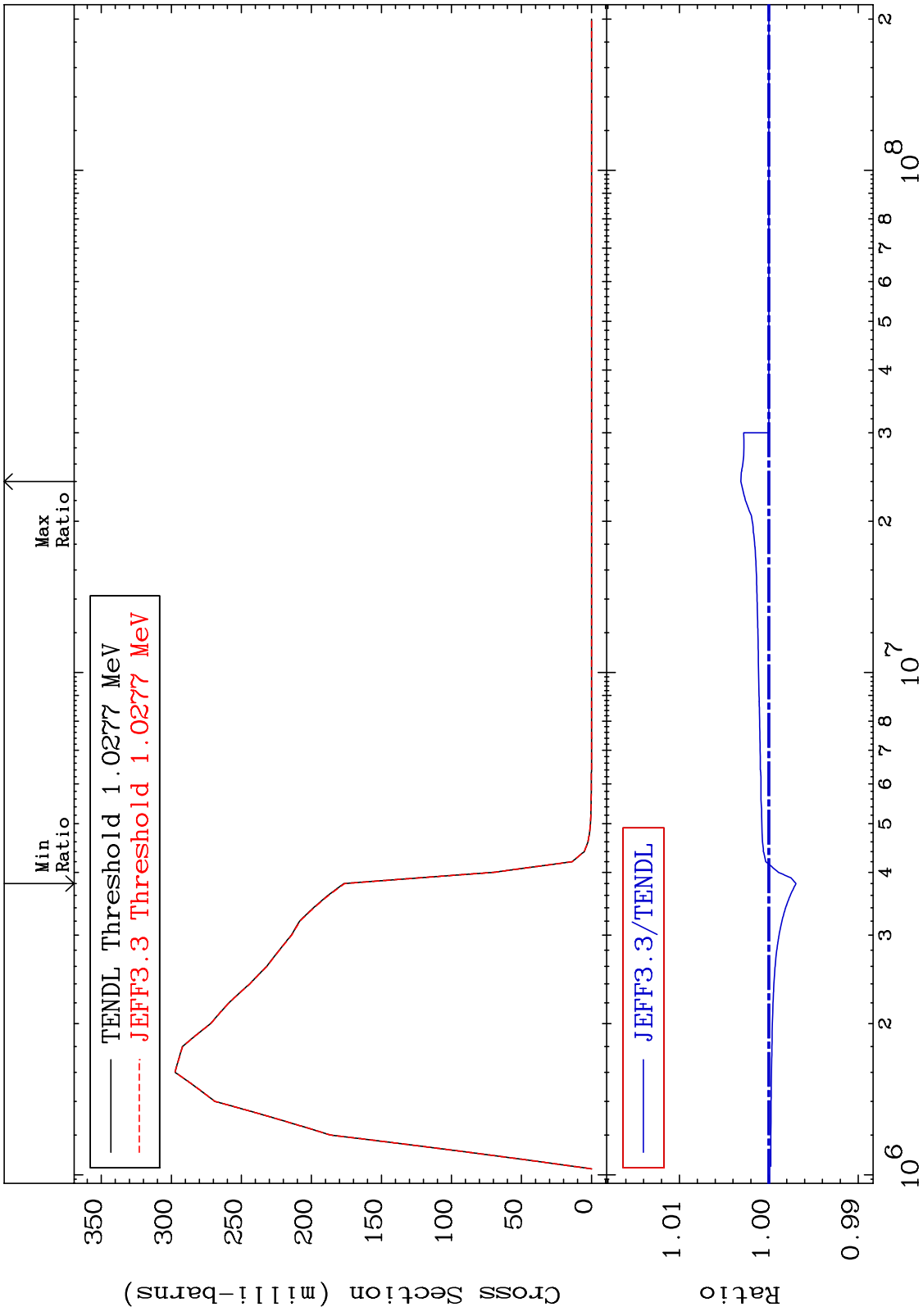


MAT 7249 MT= 55 (n,n') Level Cross Section 72-Hf-182 -0.320 To 0.037 %

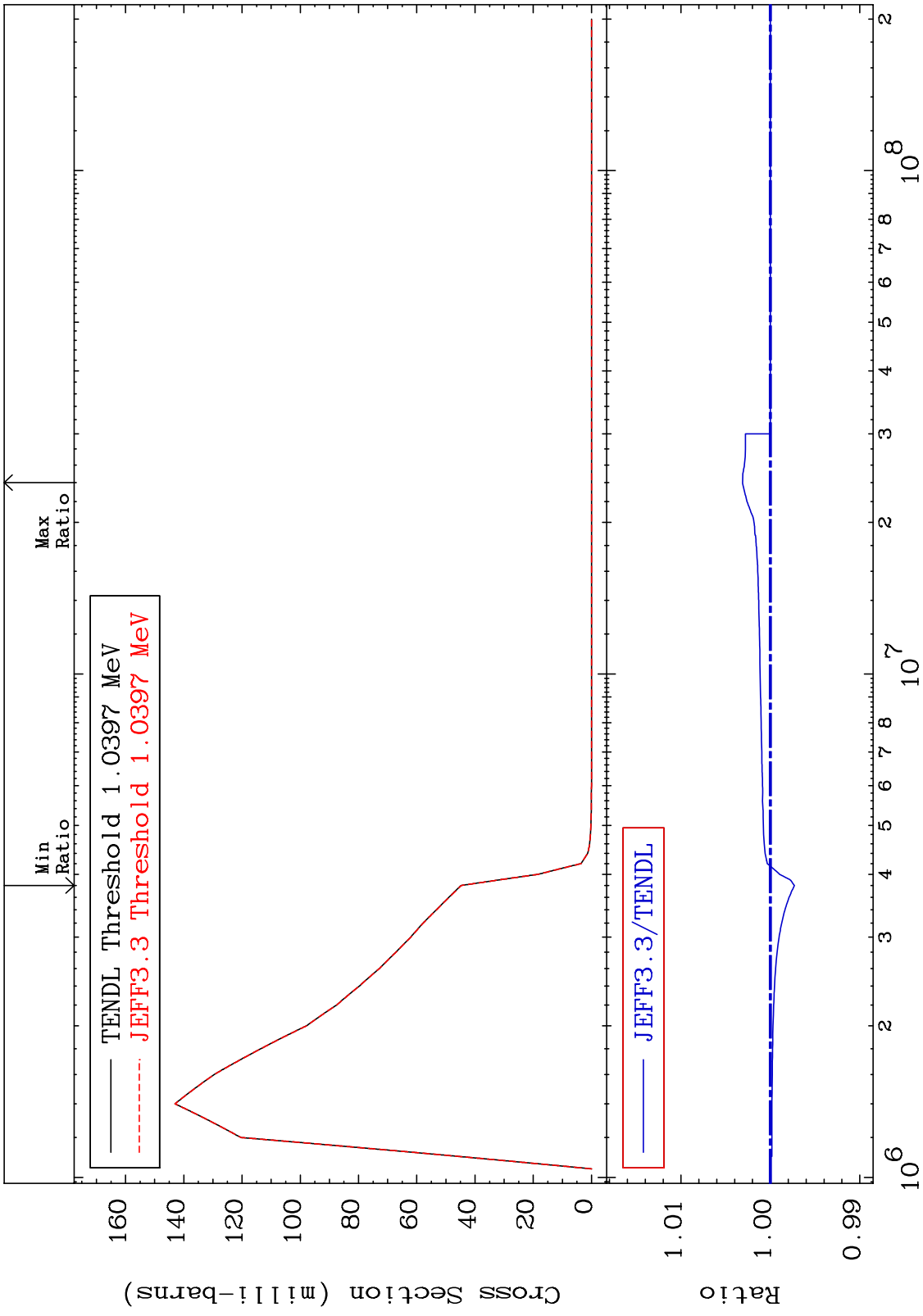


22 Incident Energy (eV) 72-Hf-182

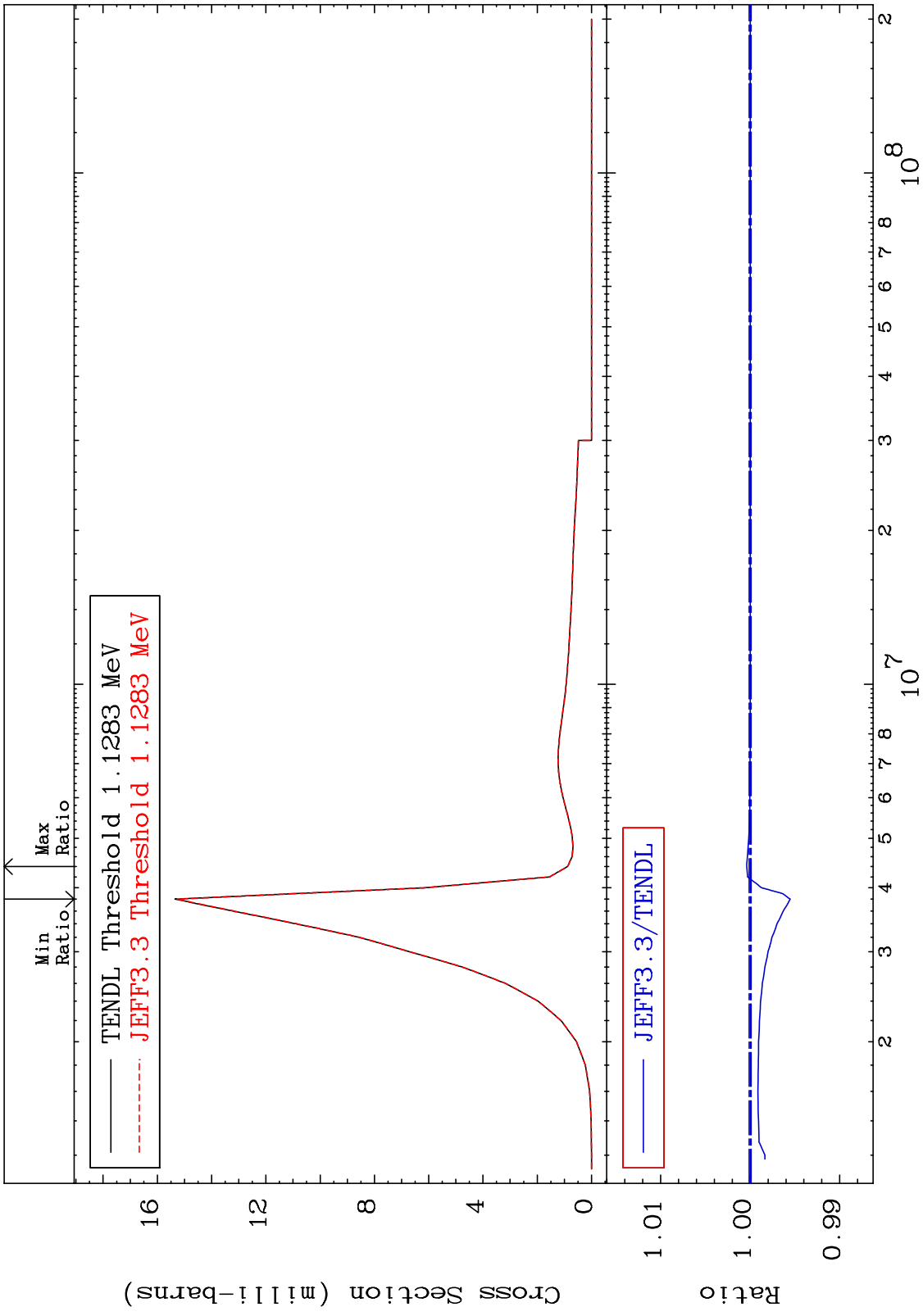
MAT 7249 MT= 56 (n,n') Level Cross Section 72-Hf-182
 -0.304 To 0.312 %



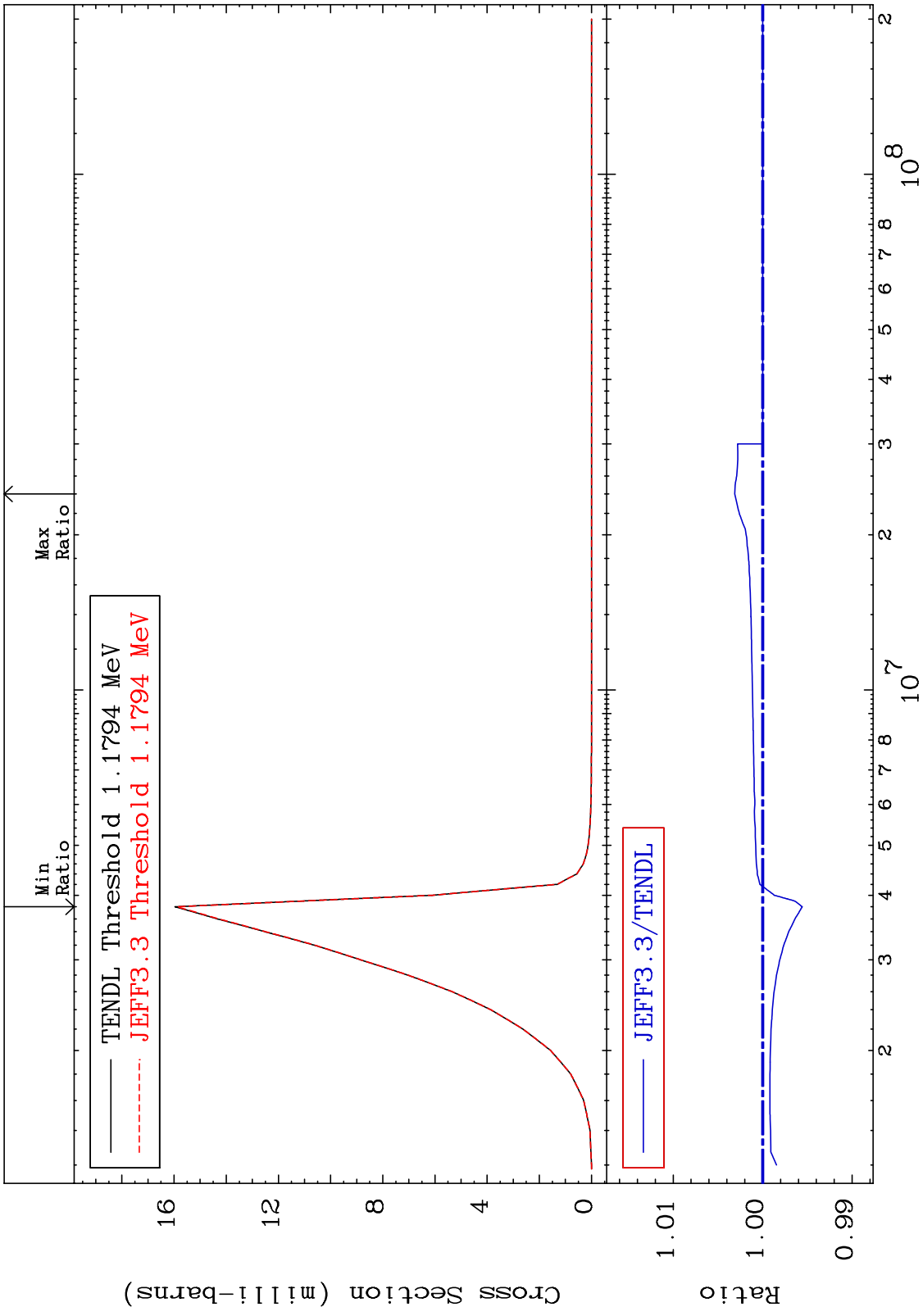
MAT 7249 MT= 57 (n,n') Level Cross Section 72-Hf-182
 -0.269 To 0.312 %



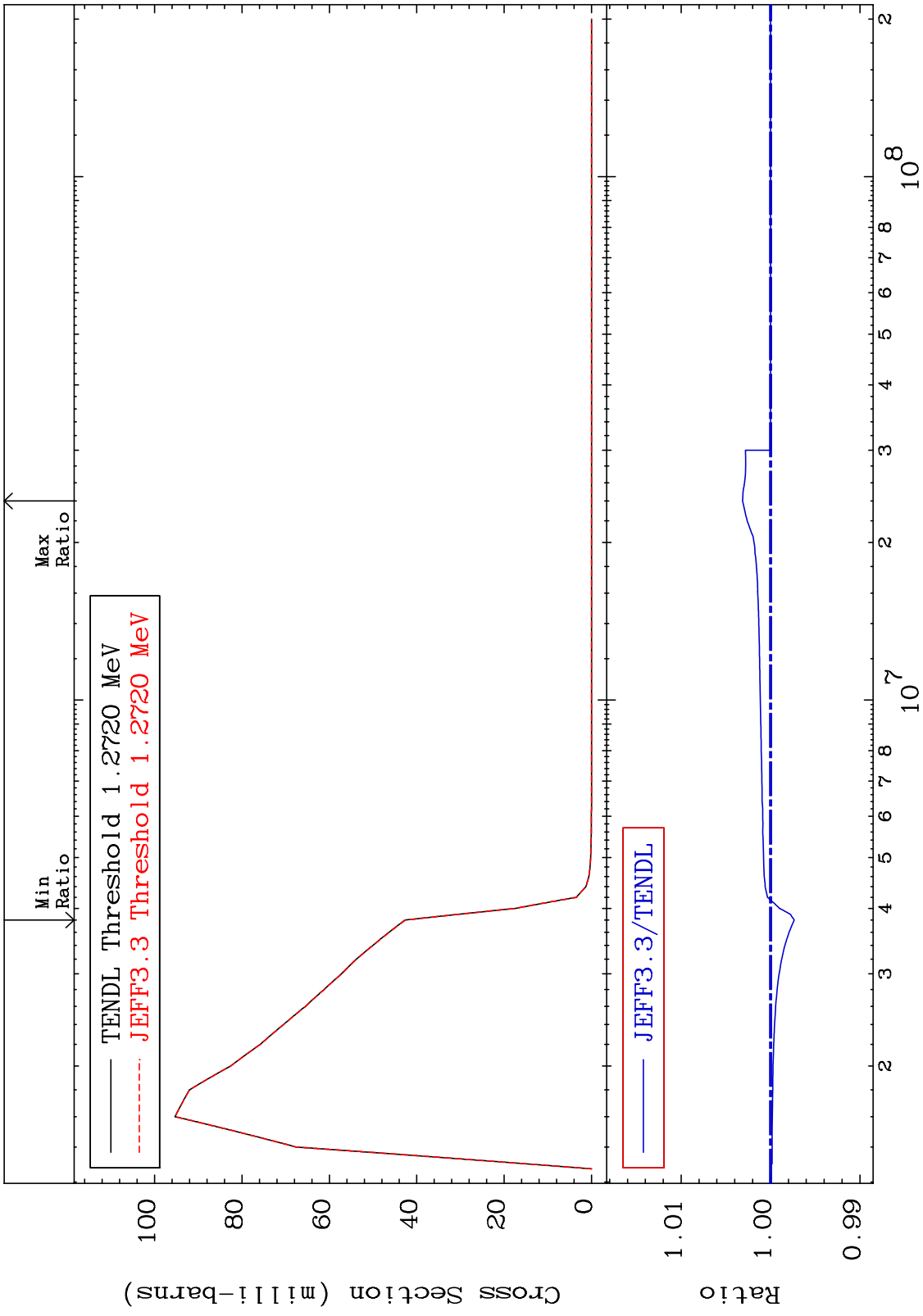
MAT 7249 MT= 58 (n,n') Level Cross Section 72-Hf-182
 -0.447 To 0.038 %



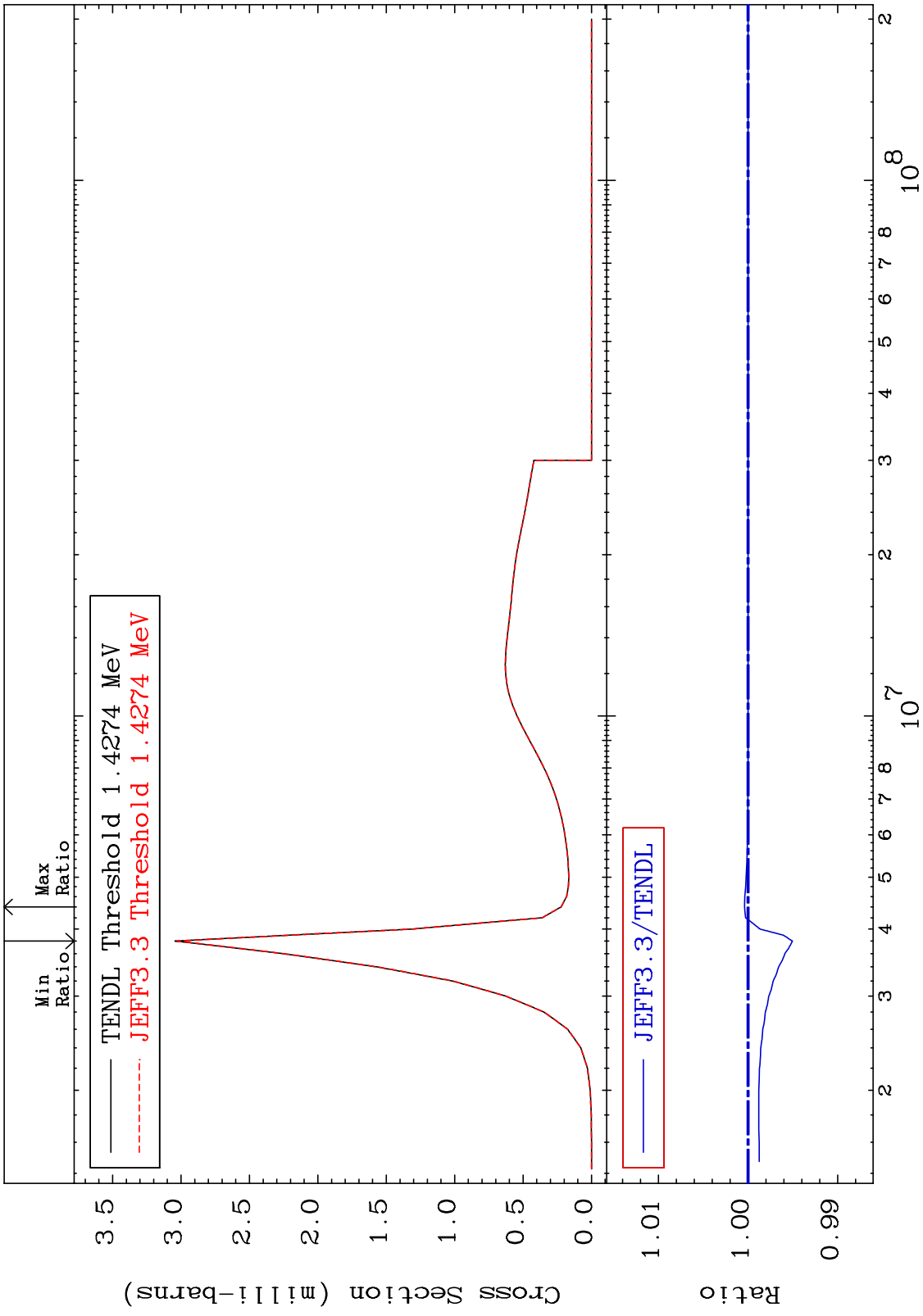
MAT 7249 MT= 59 (n,n') Level Cross Section 72-Hf-182
 -0.442 To 0.313 %



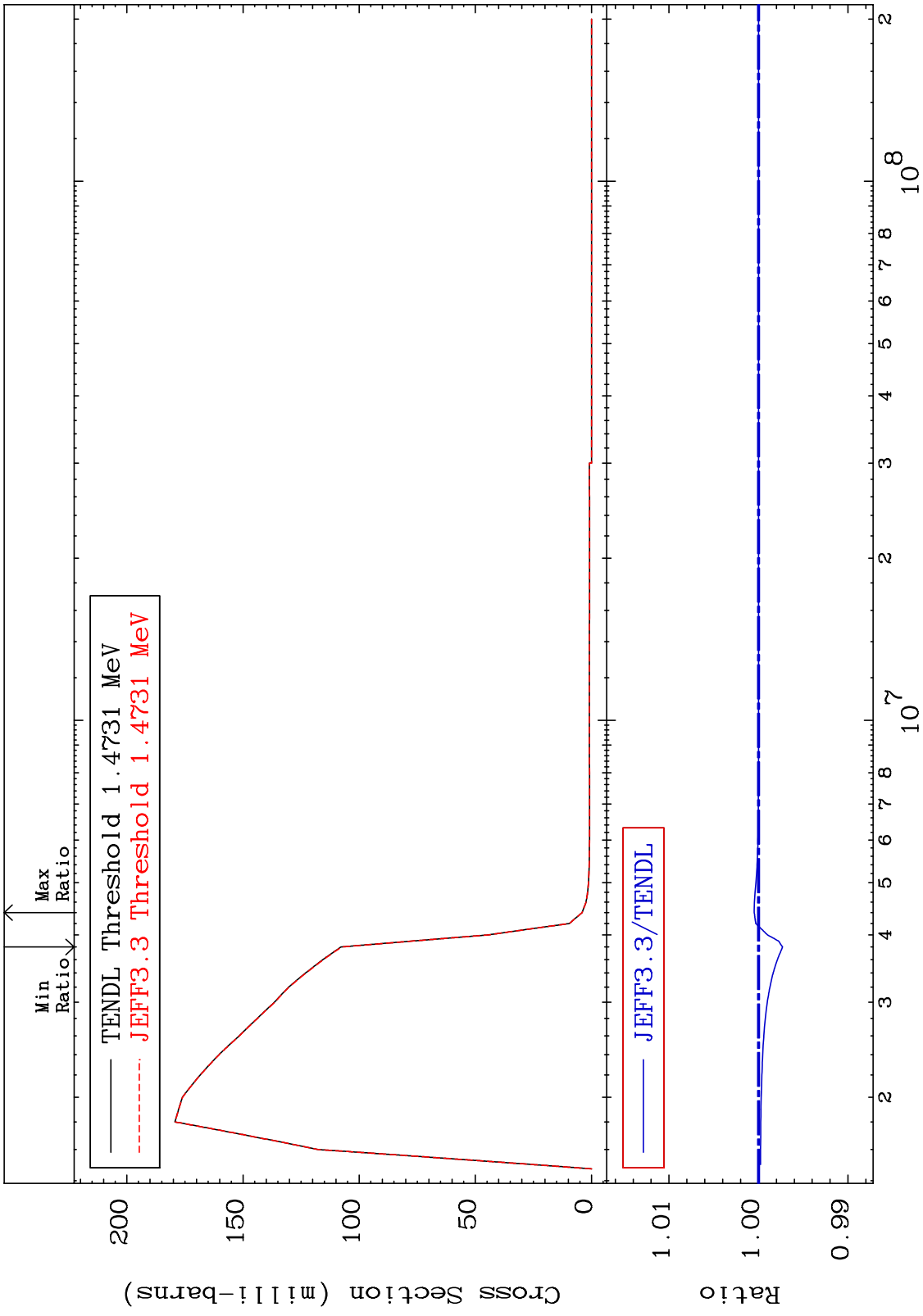
MAT 7249 MT= 60 (n,n') Level Cross Section 72-Hf-182
 -0.266 To 0.312 %



MAT 7249 MT= 61 (n,n') Level Cross Section 72-Hf-182
 -0.495 To 0.040 %



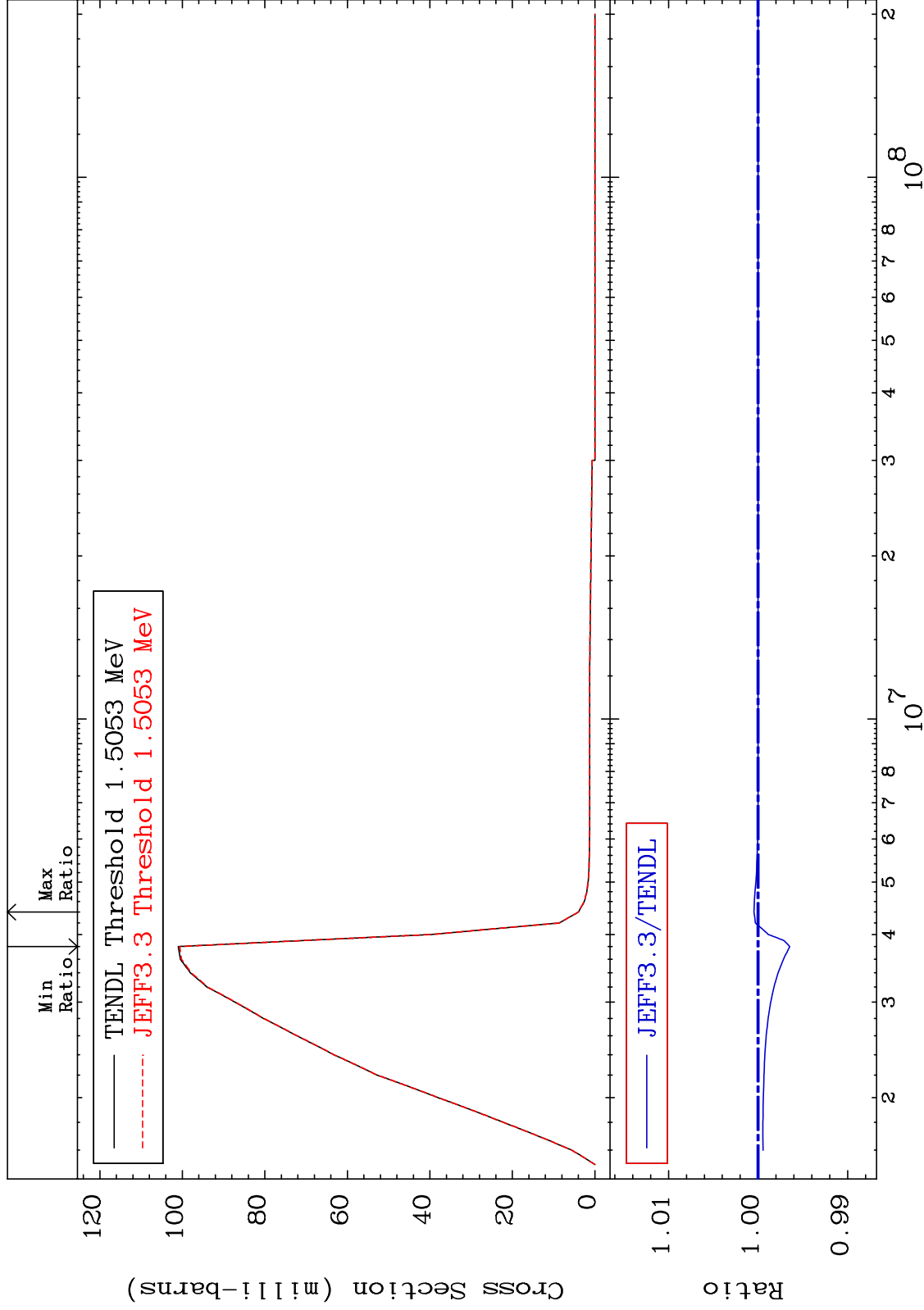
MAT 7249 MT= 62 (n,n') Level Cross Section 72-Hf-182 -0.270 To 0.048 %



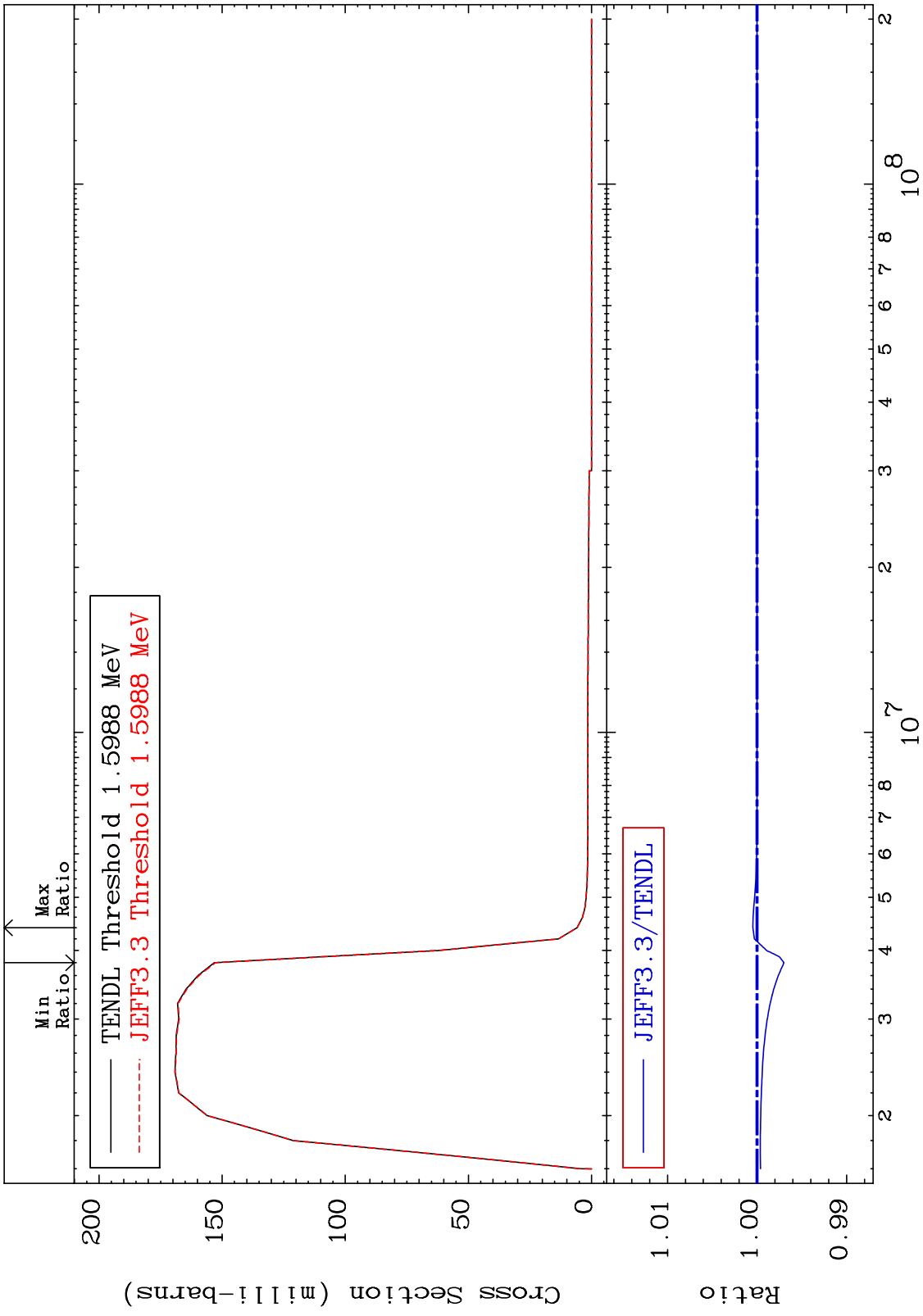
MAT 7249

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

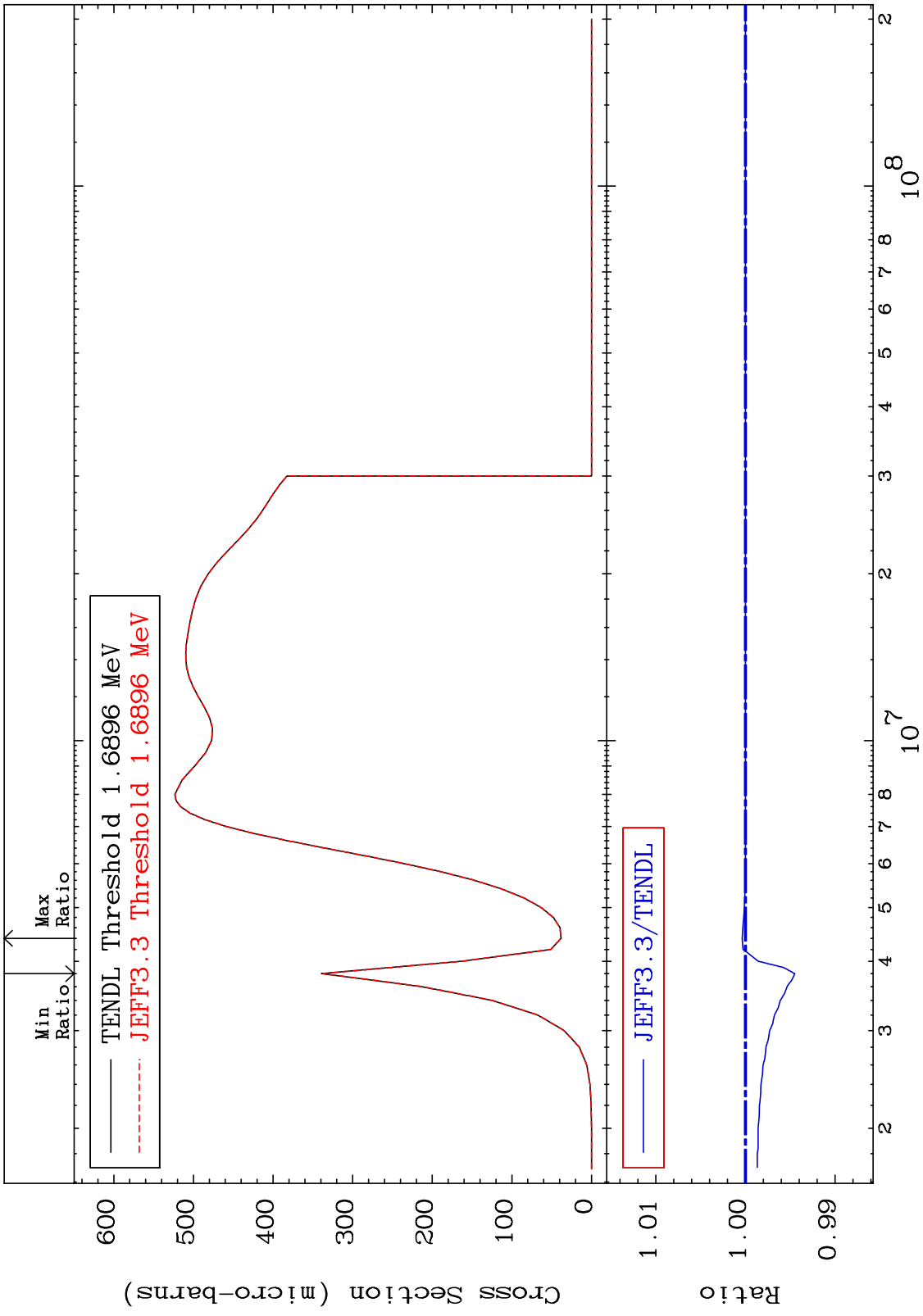
72-Hf-182
-0.353 To 0.046 %



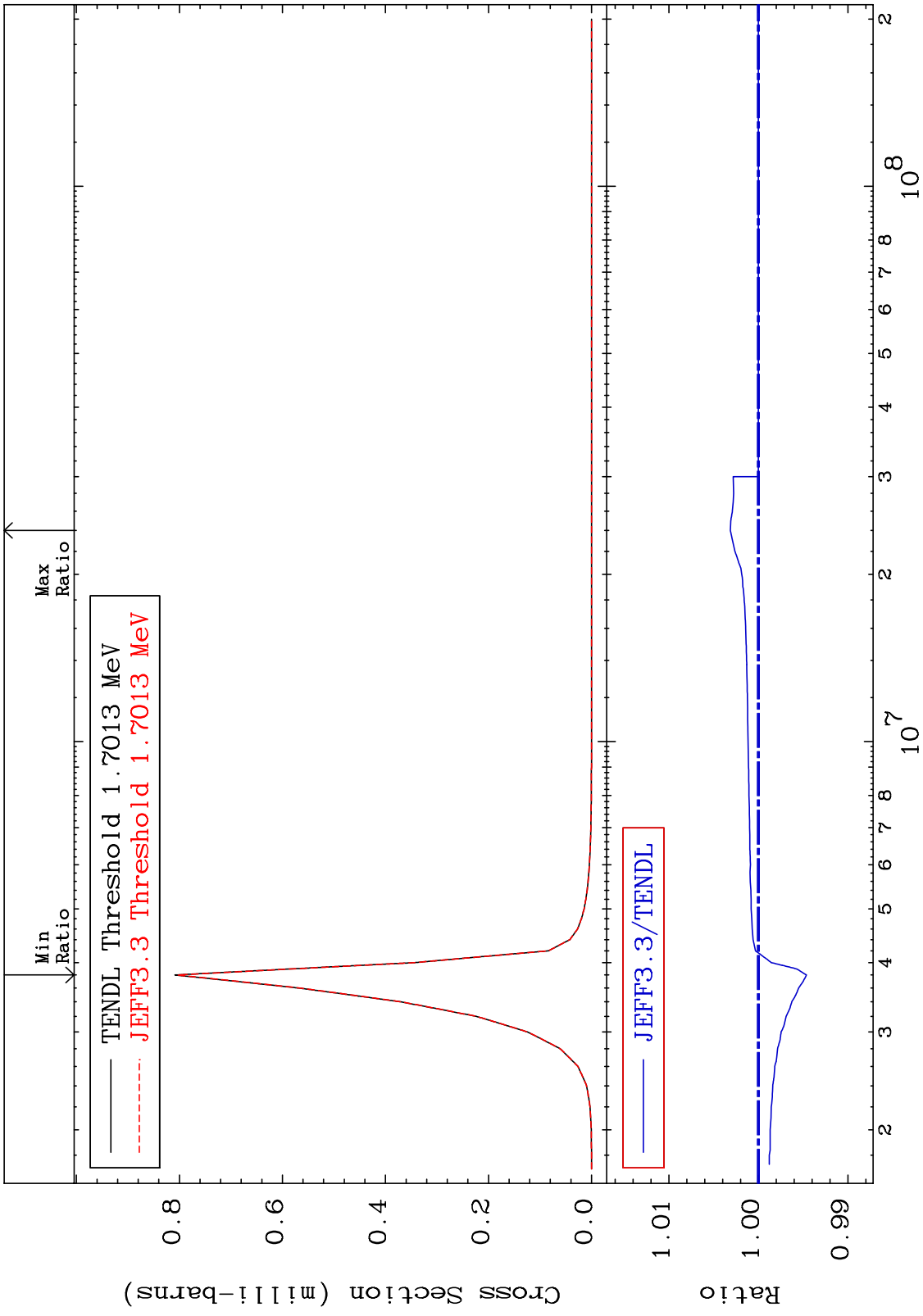
MAT 7249 MT= 64 (n,n') Level Cross Section 72-Hf-182
 -0.301 To 0.046 %



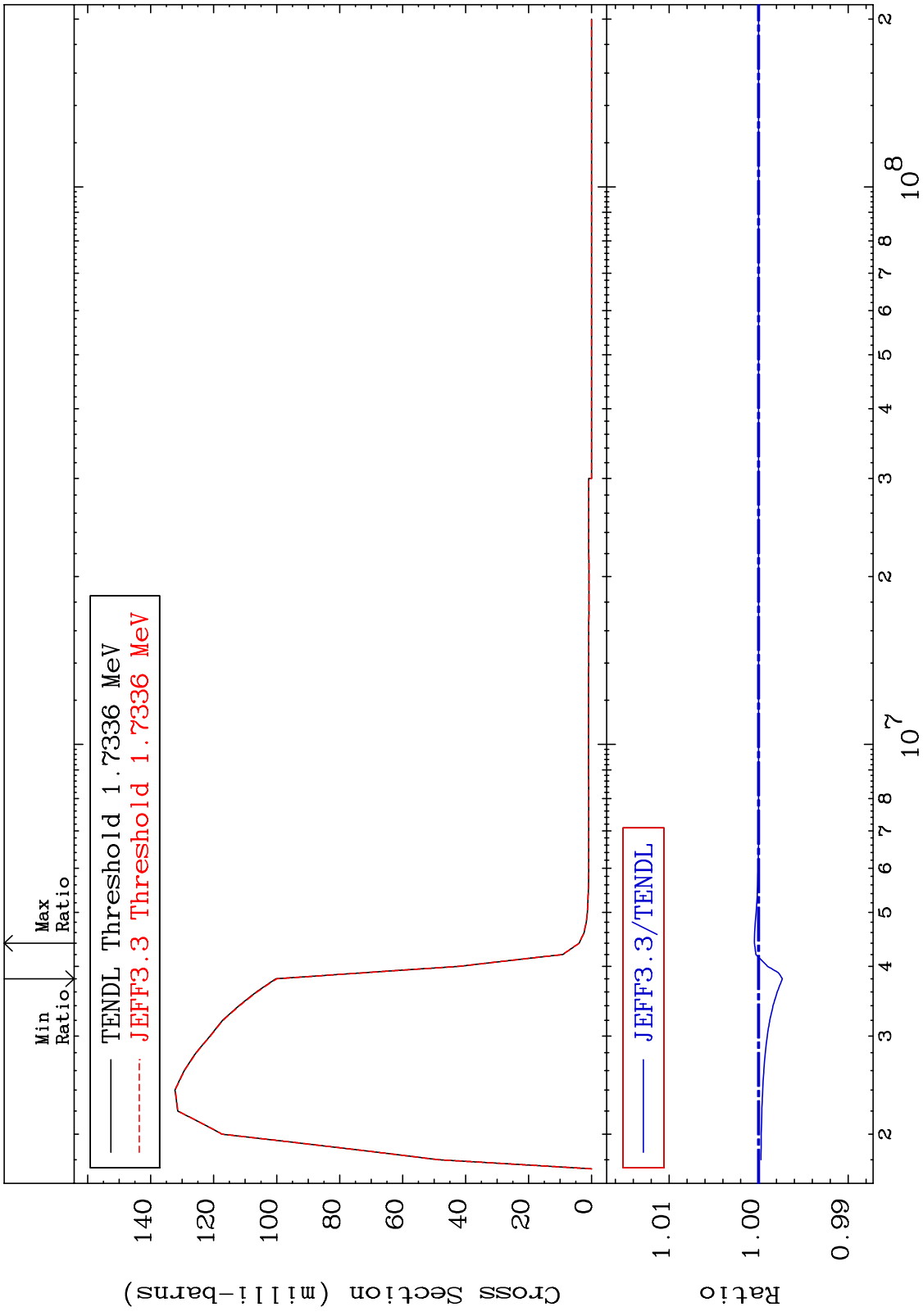
MAT 7249 MT= 65 (n,n') Level Cross Section 72-Hf-182 -0.549 To 0.038 %



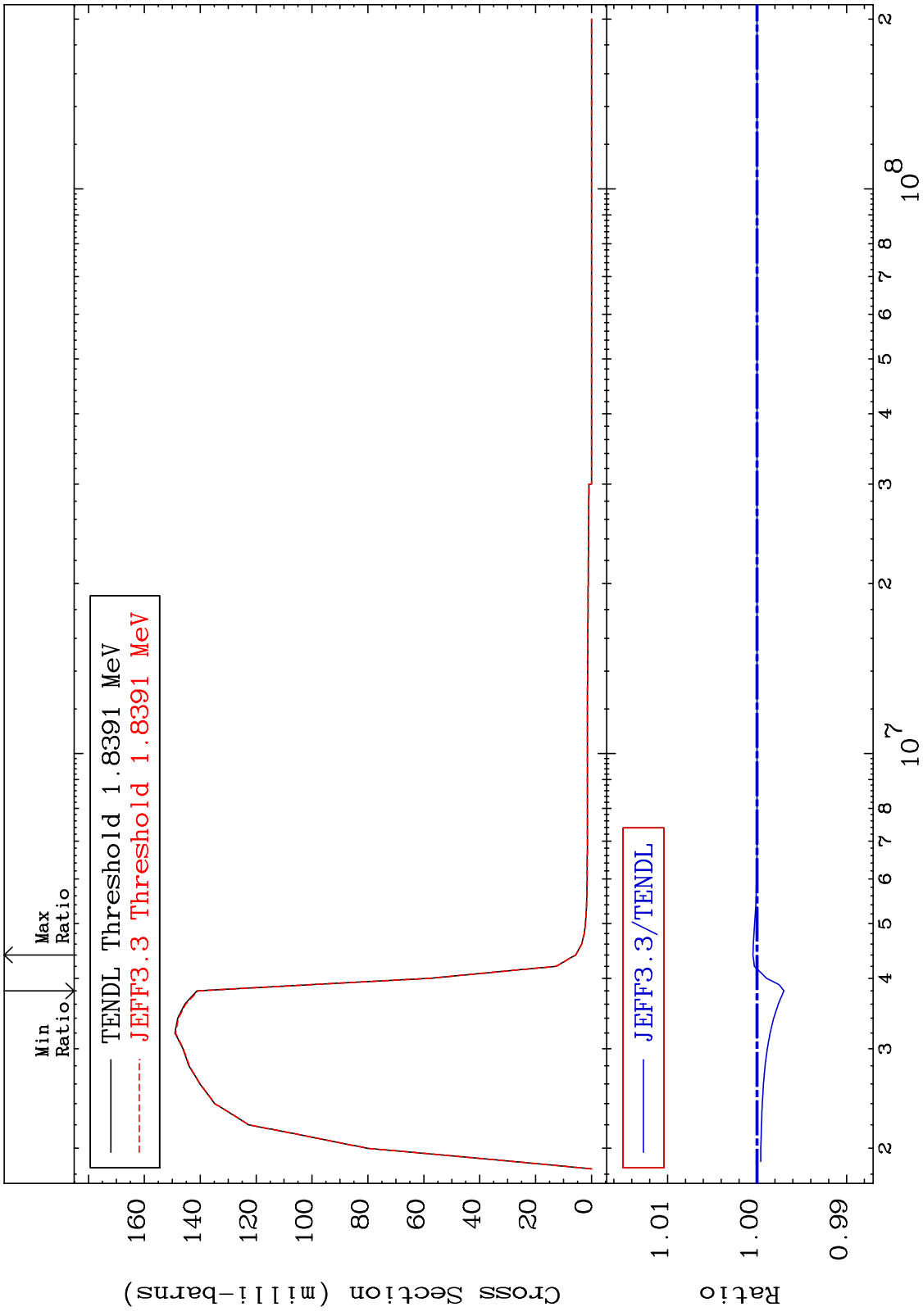
MAT 7249 MT= 66 (n,n') Level Cross Section 72-Hf-182
 -0.537 To 0.313 %



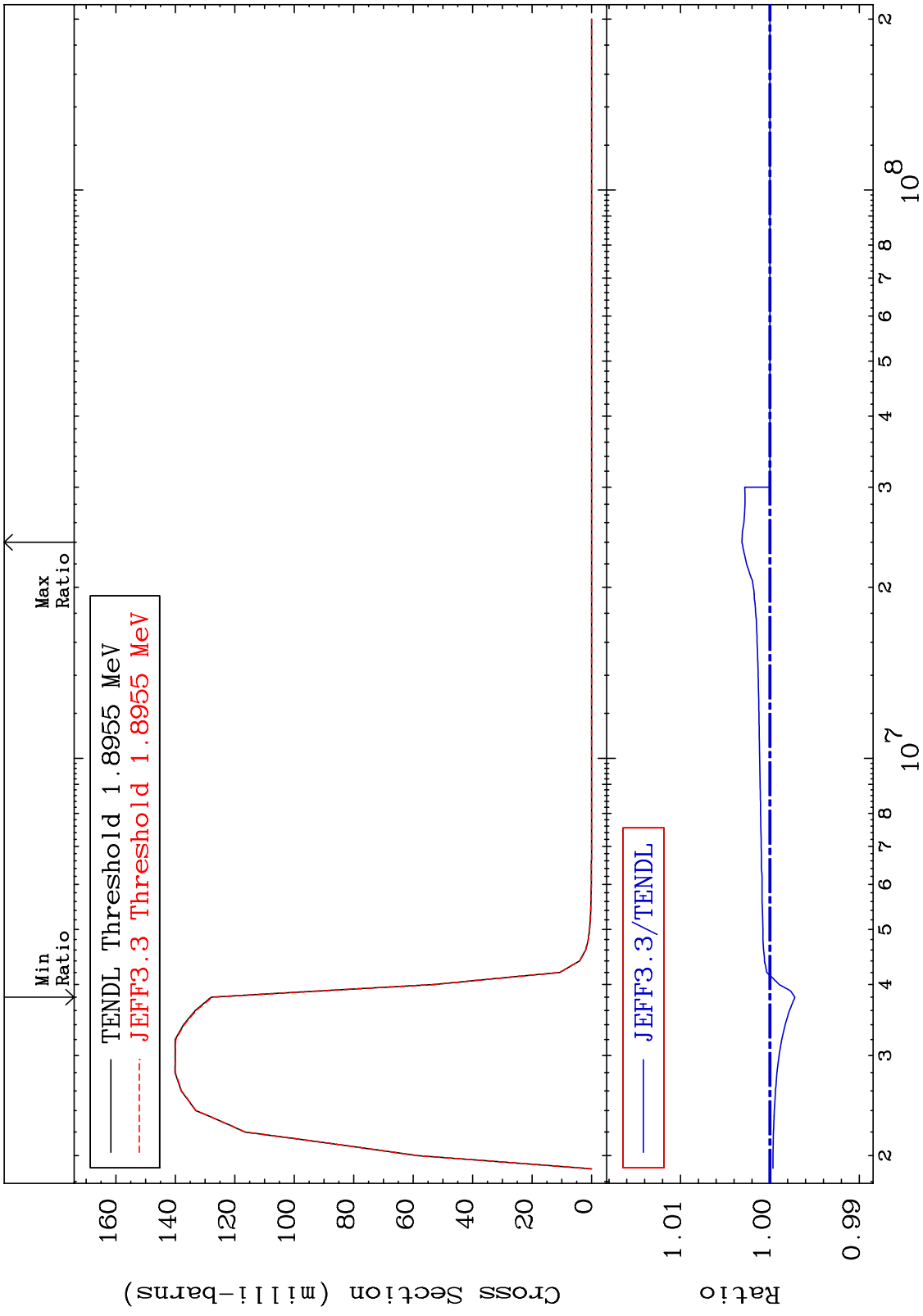
MAT 7249 MT= 67 (n,n') Level Cross Section 72-Hf-182 -0.266 To 0.046 %



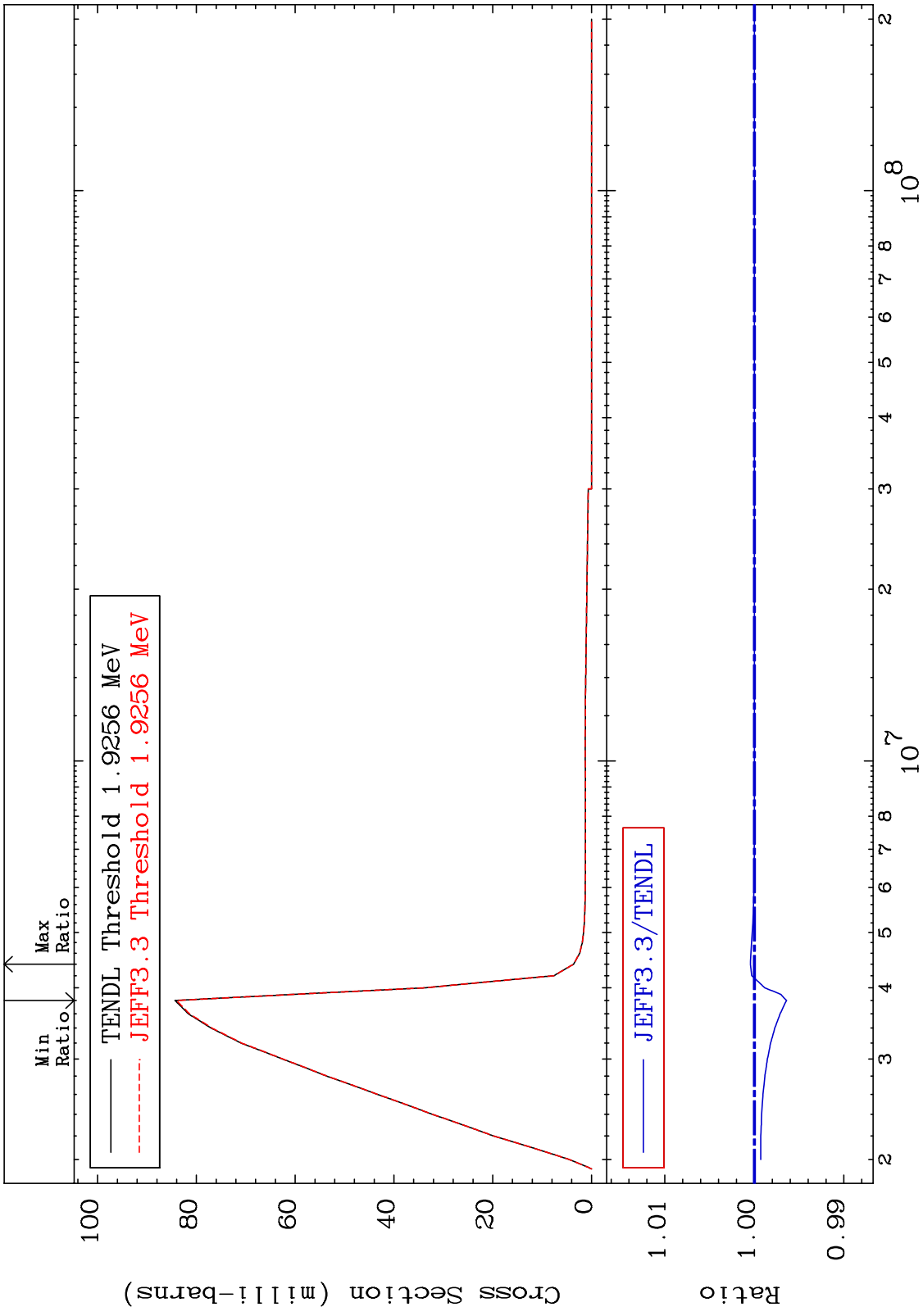
MAT 7249 MT= 68 (n,n') Level Cross Section 72-Hf-182
 -0.300 To 0.046 %



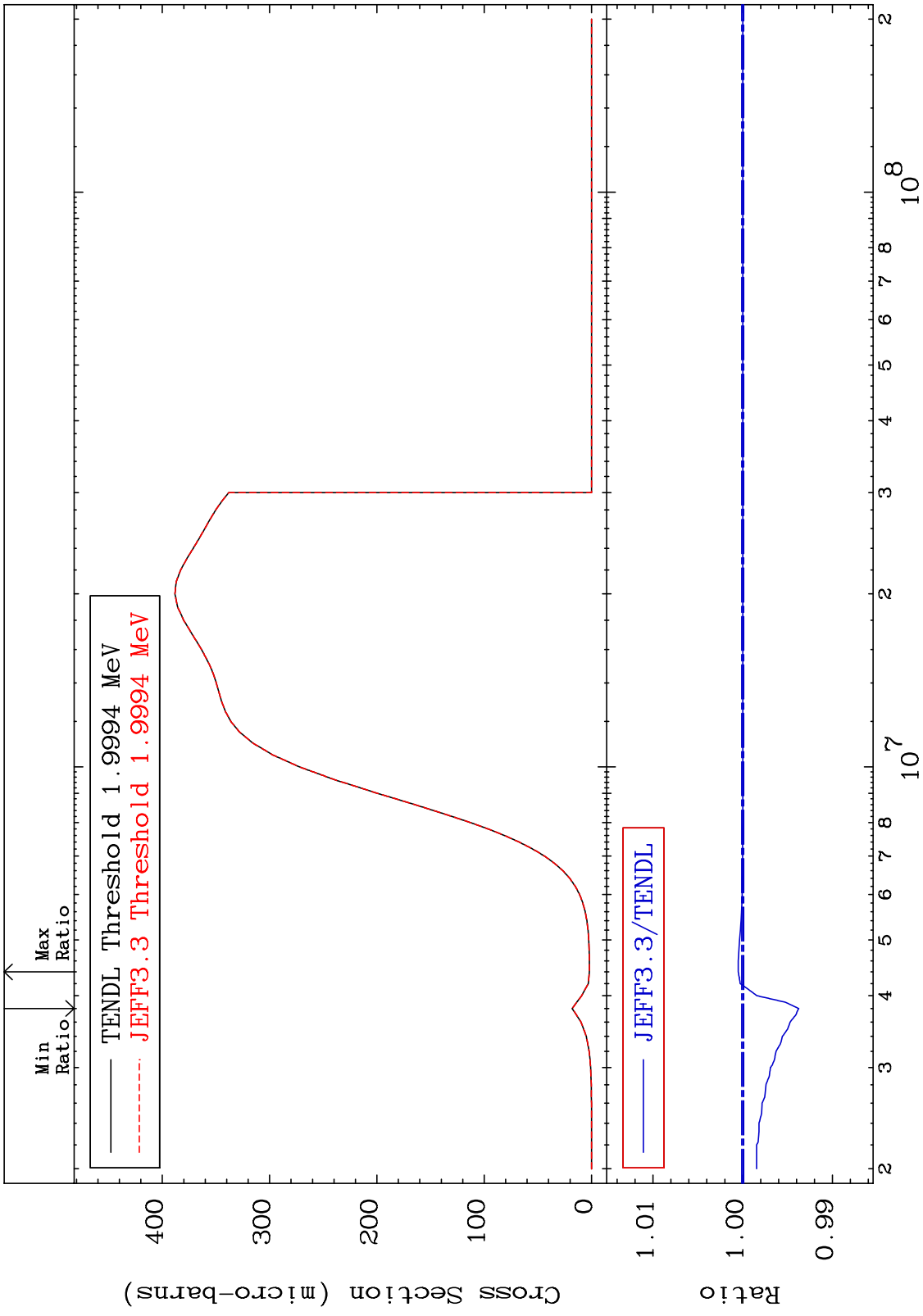
MAT 7249 MT= 69 (n,n') Level Cross Section 72-Hf-182
 -0.281 To 0.312 %



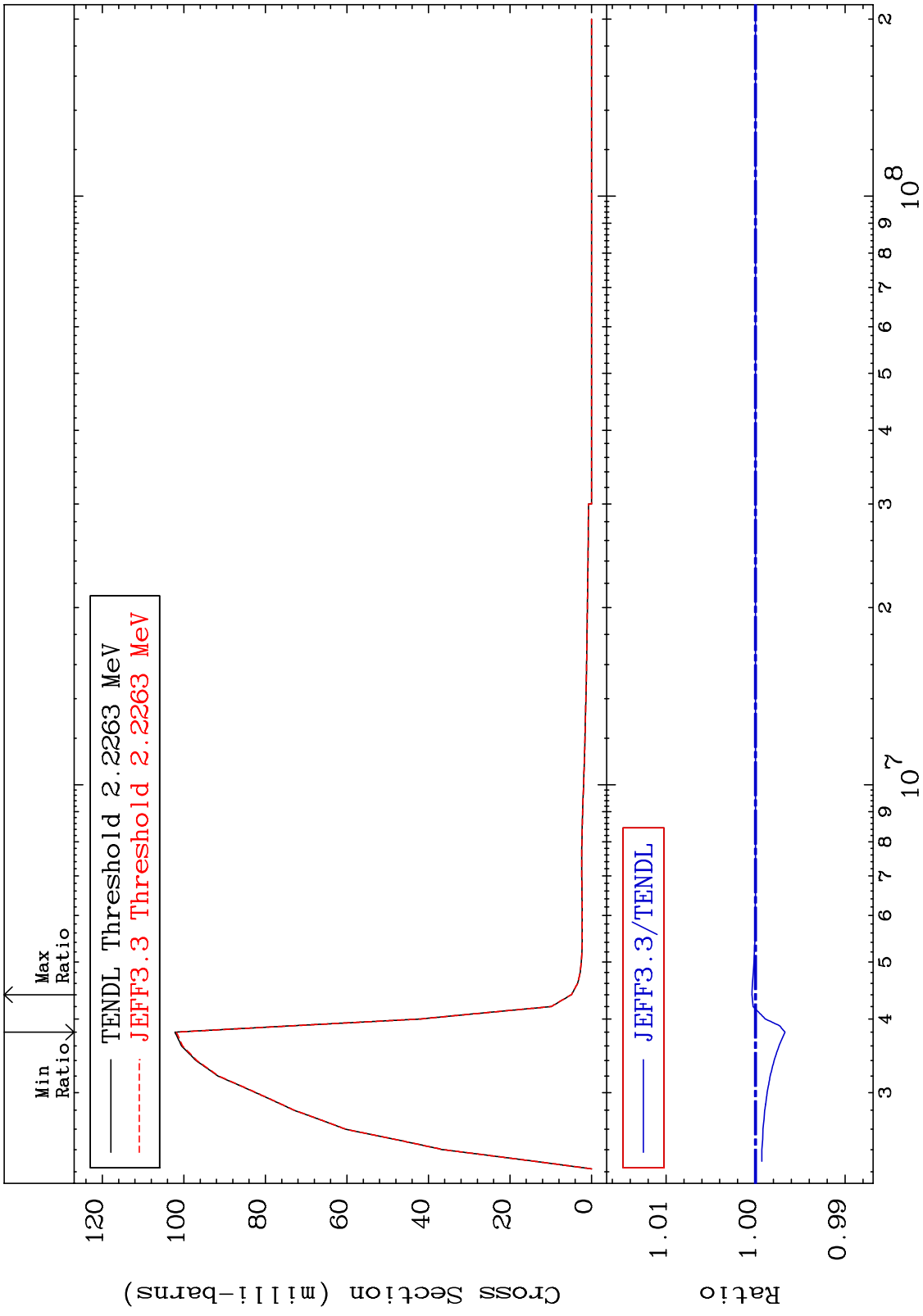
MAT 7249 MT= 70 (n,n') Level Cross Section 72-Hf-182
 -0.358 To 0.044 %



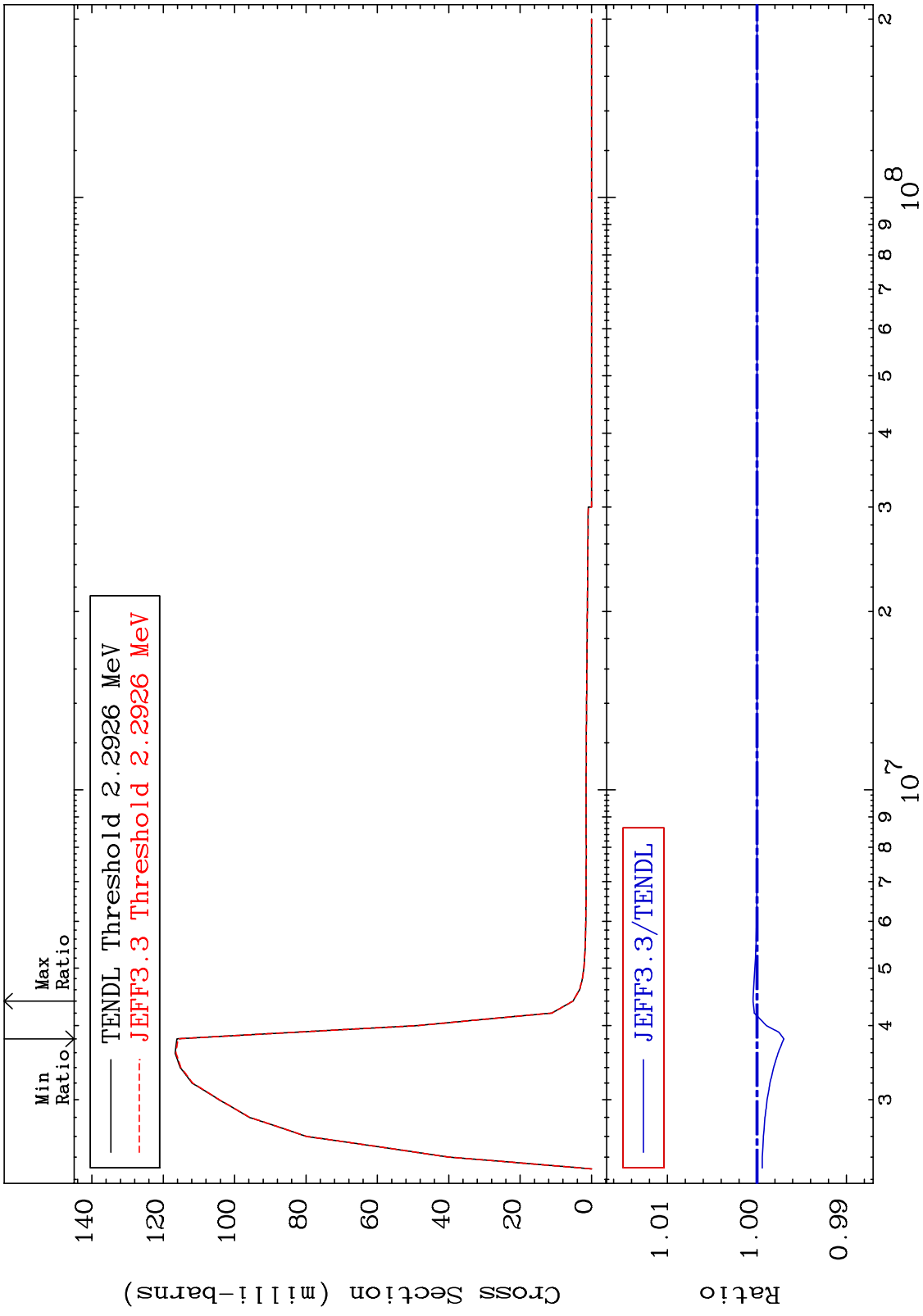
MAT 7249 MT= 71 (n,n') Level Cross Section 72-Hf-182
 -0.624 To 0.050 %

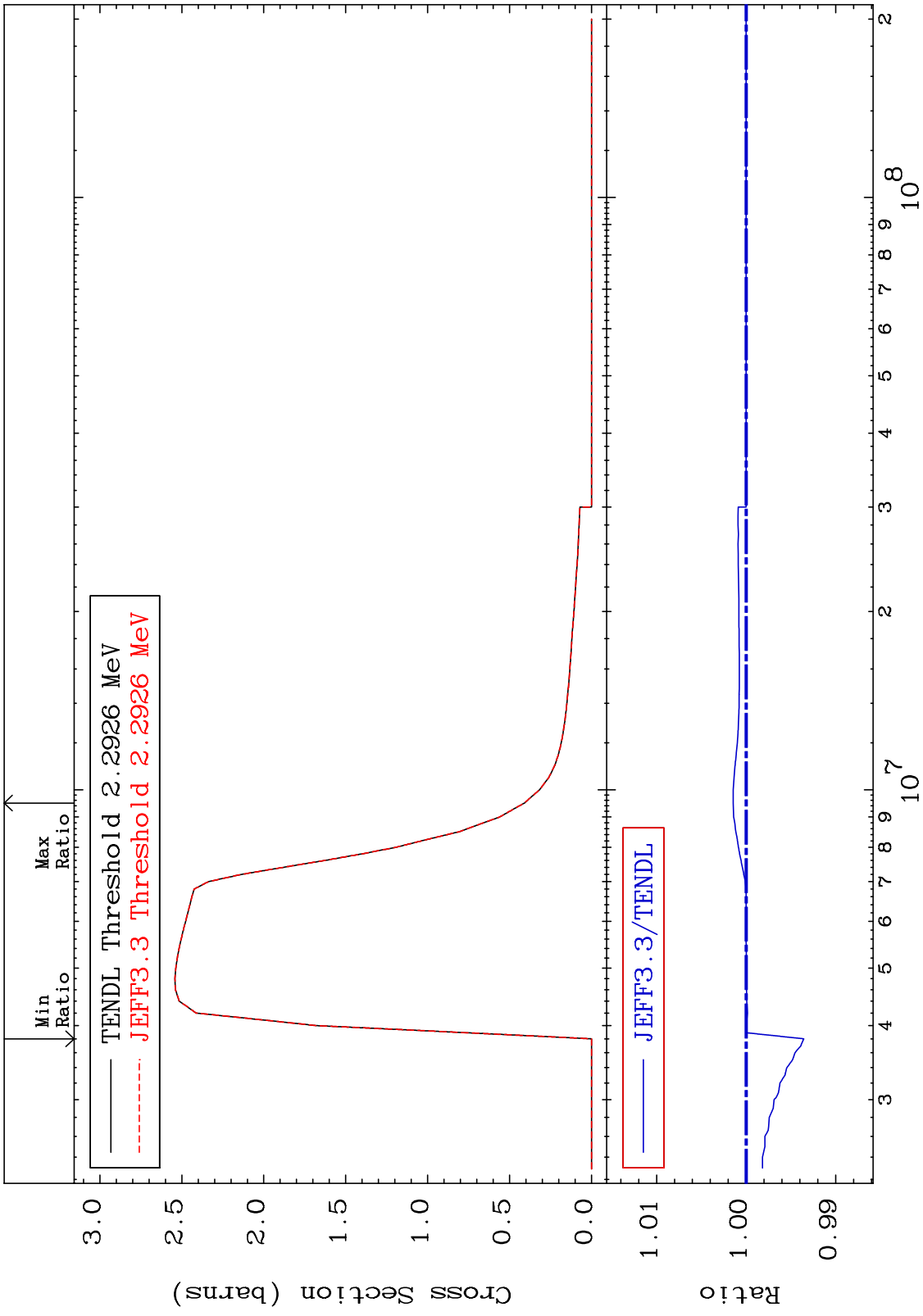


MAT 7249 MT= 72 (n,n') Level Cross Section 72-Hf-182
 -0.328 To 0.040 %



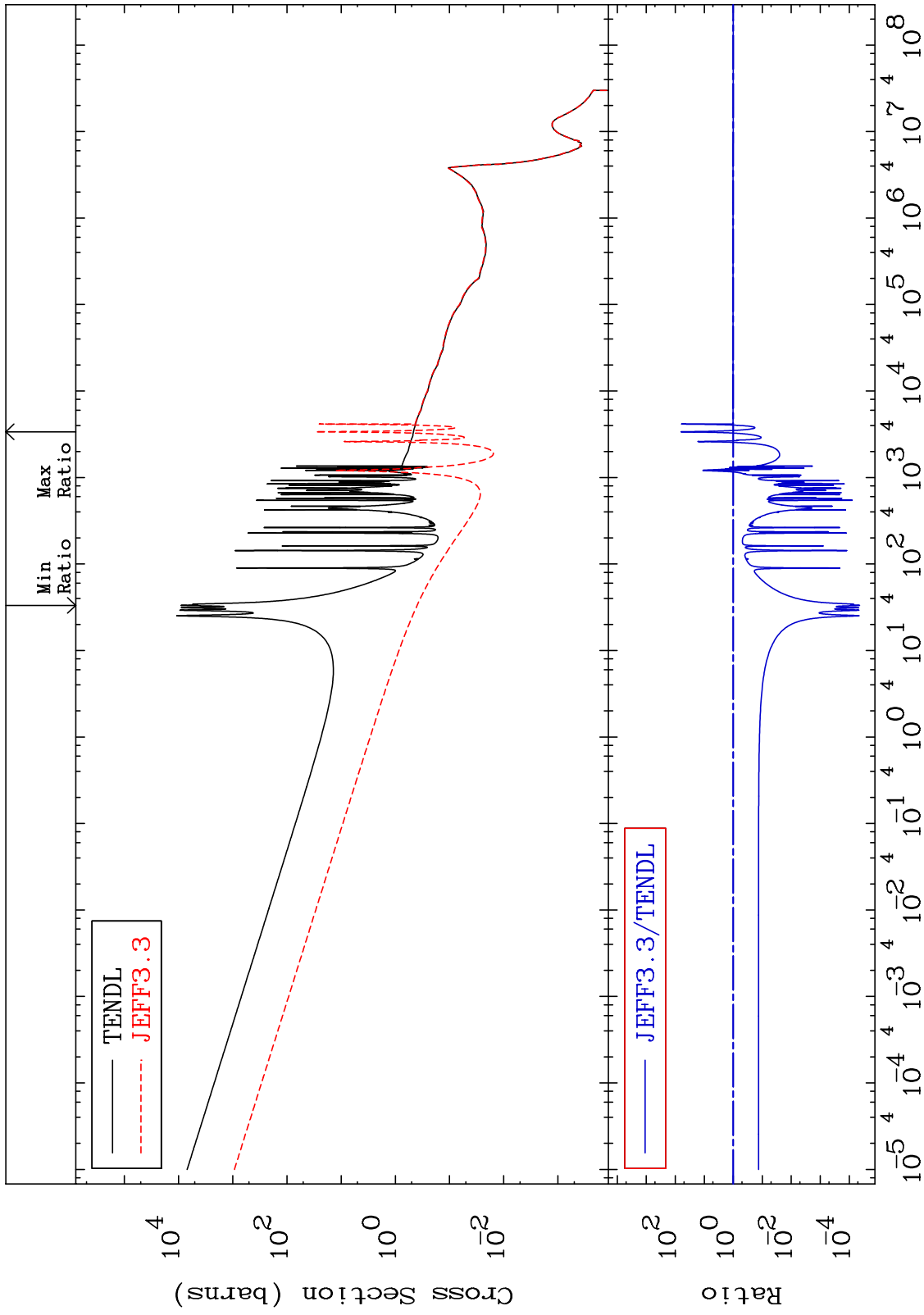
MAT 7249 MT= 73 (n,n') Level Cross Section 72-Hf-182
 -0.300 To 0.043 %



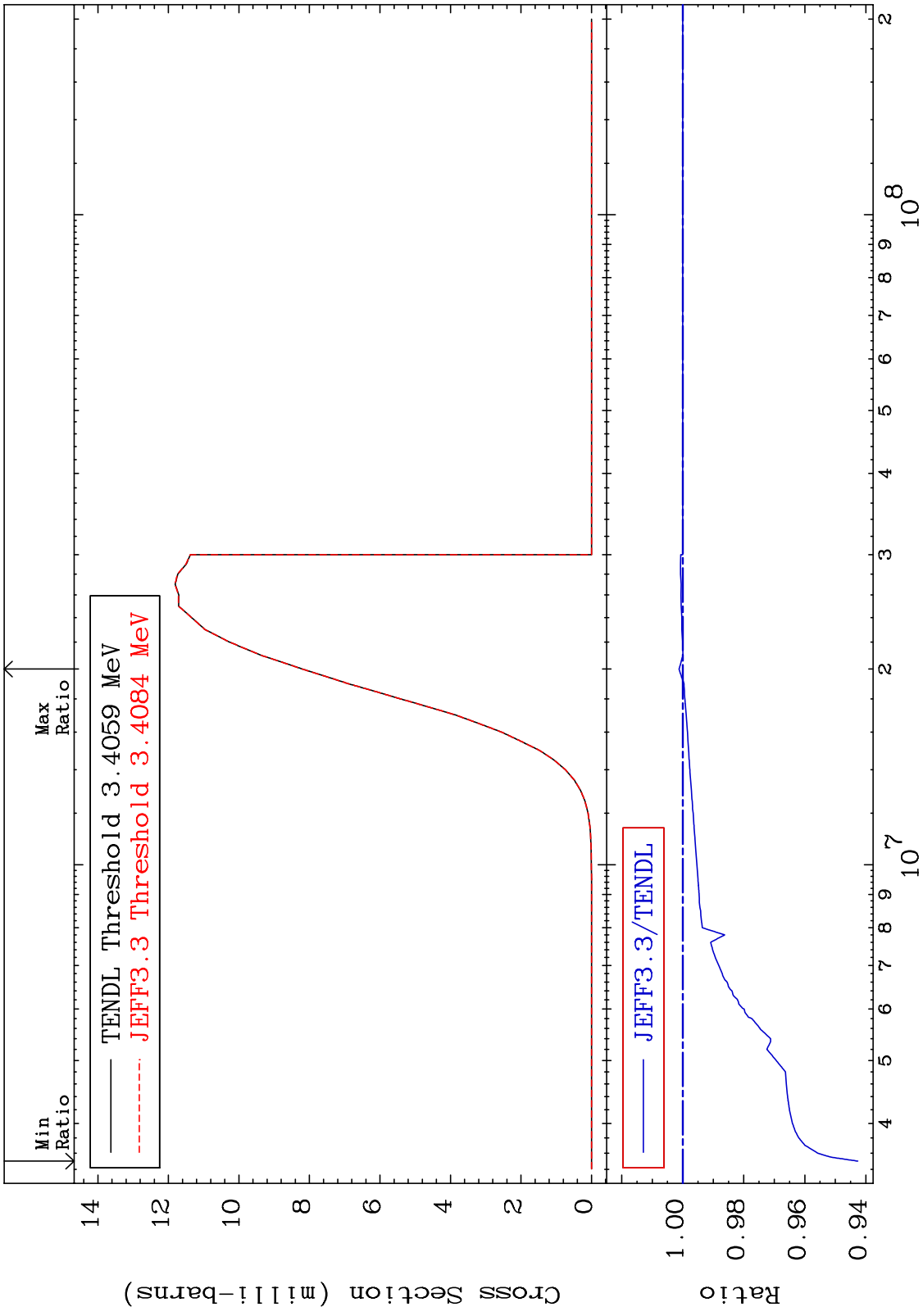


MAT 7249

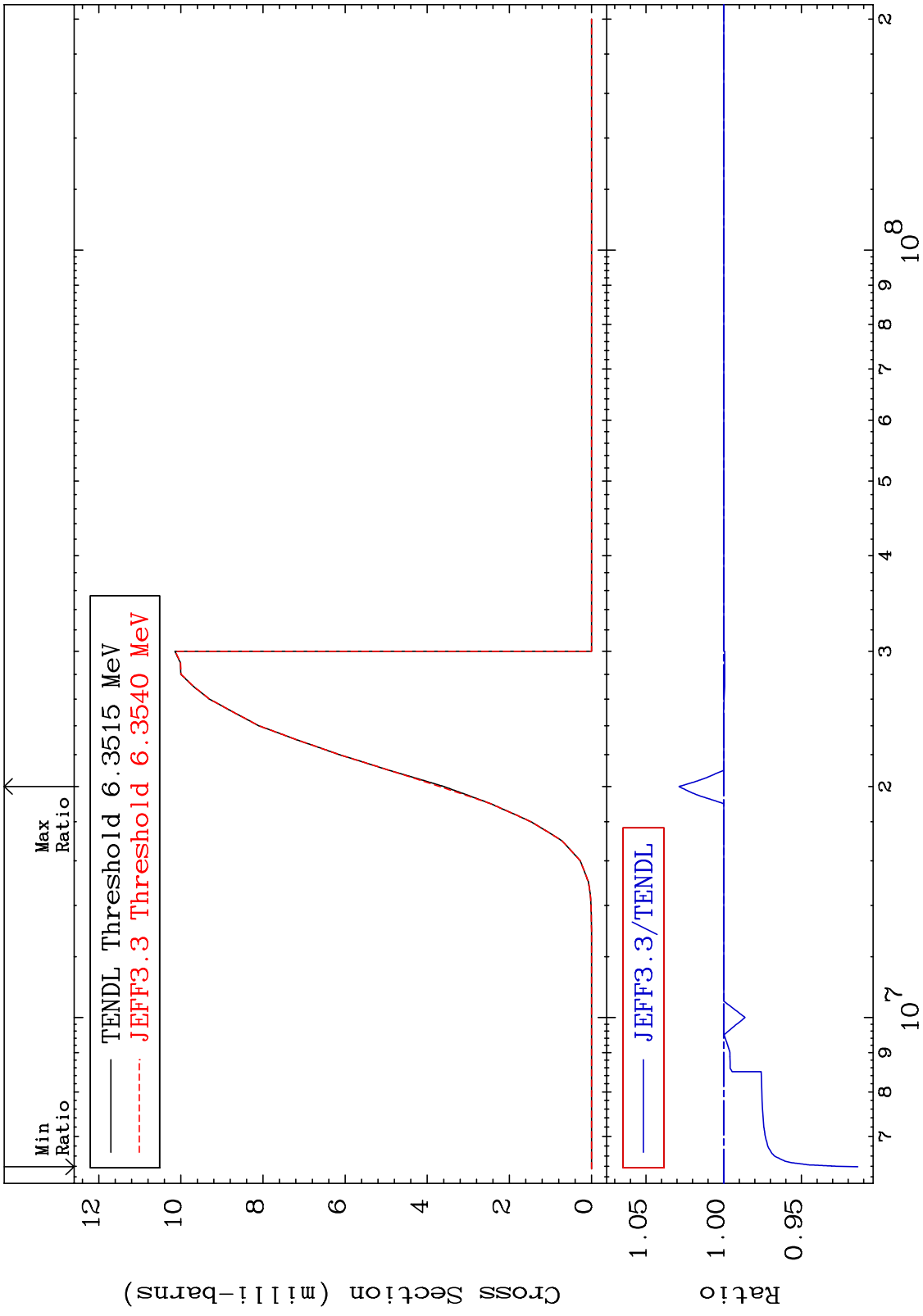
(n, γ) Cross Section
72-Hf-182
-100.0 To 6341. %



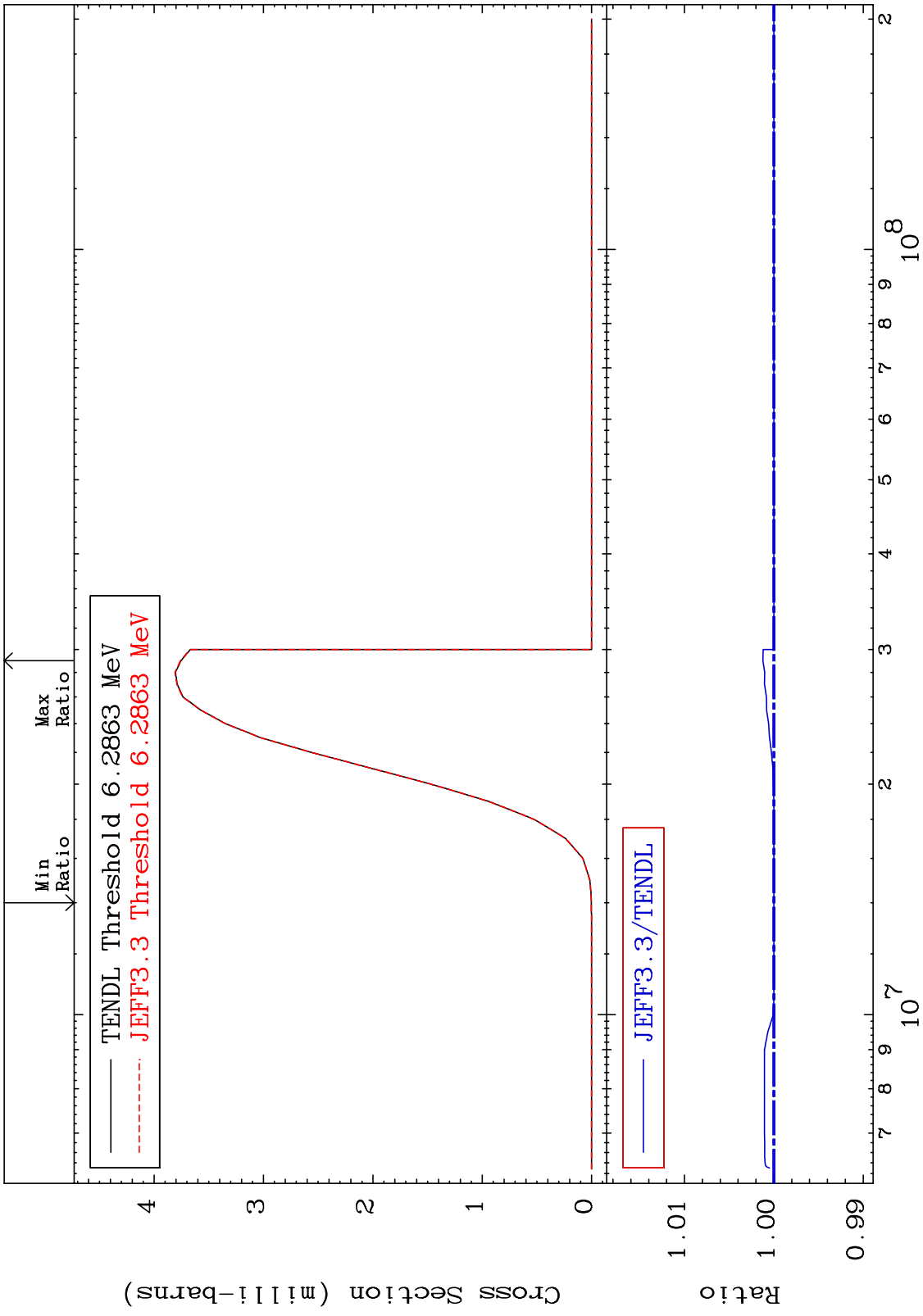
MAT 7249 (n,p) Cross Section 72-Hf-182
 -5.739 To 0.121 %



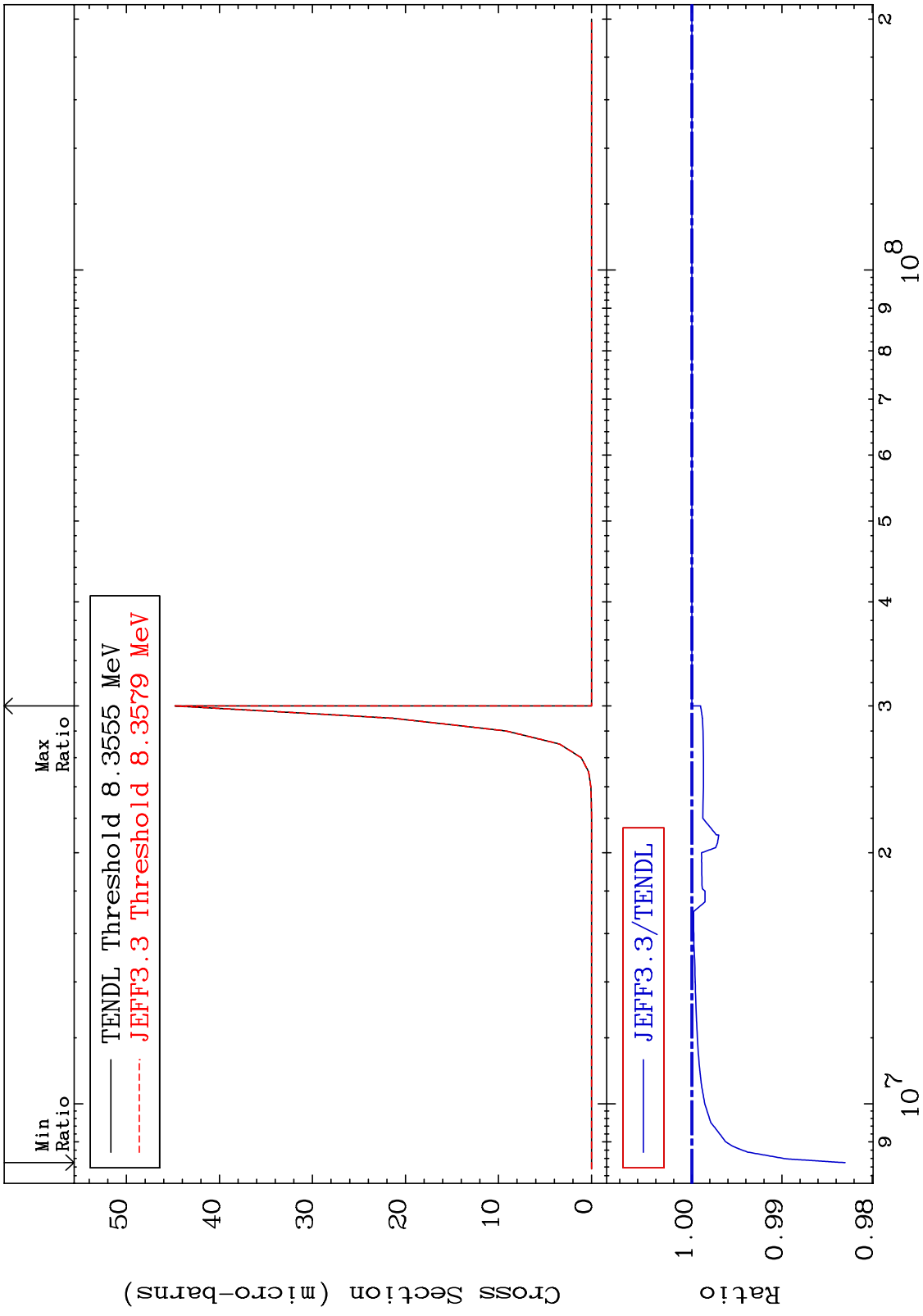
MAT 7249 (n,d) Cross Section 72-Hf-182
 -8.621 To 2.870 %



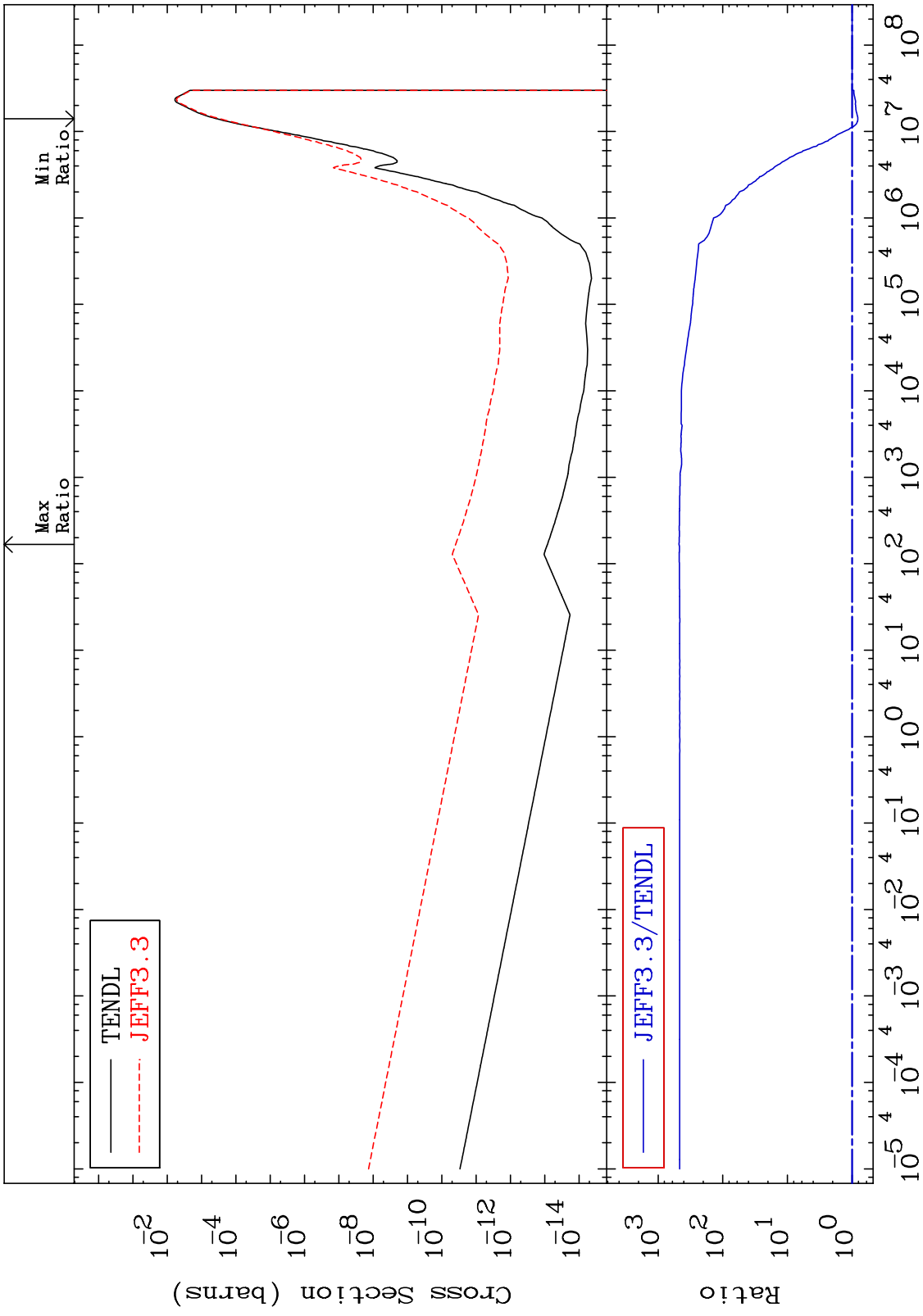
MAT 7249 (n,t) Cross Section 72-Hf-182 To 0.122 %



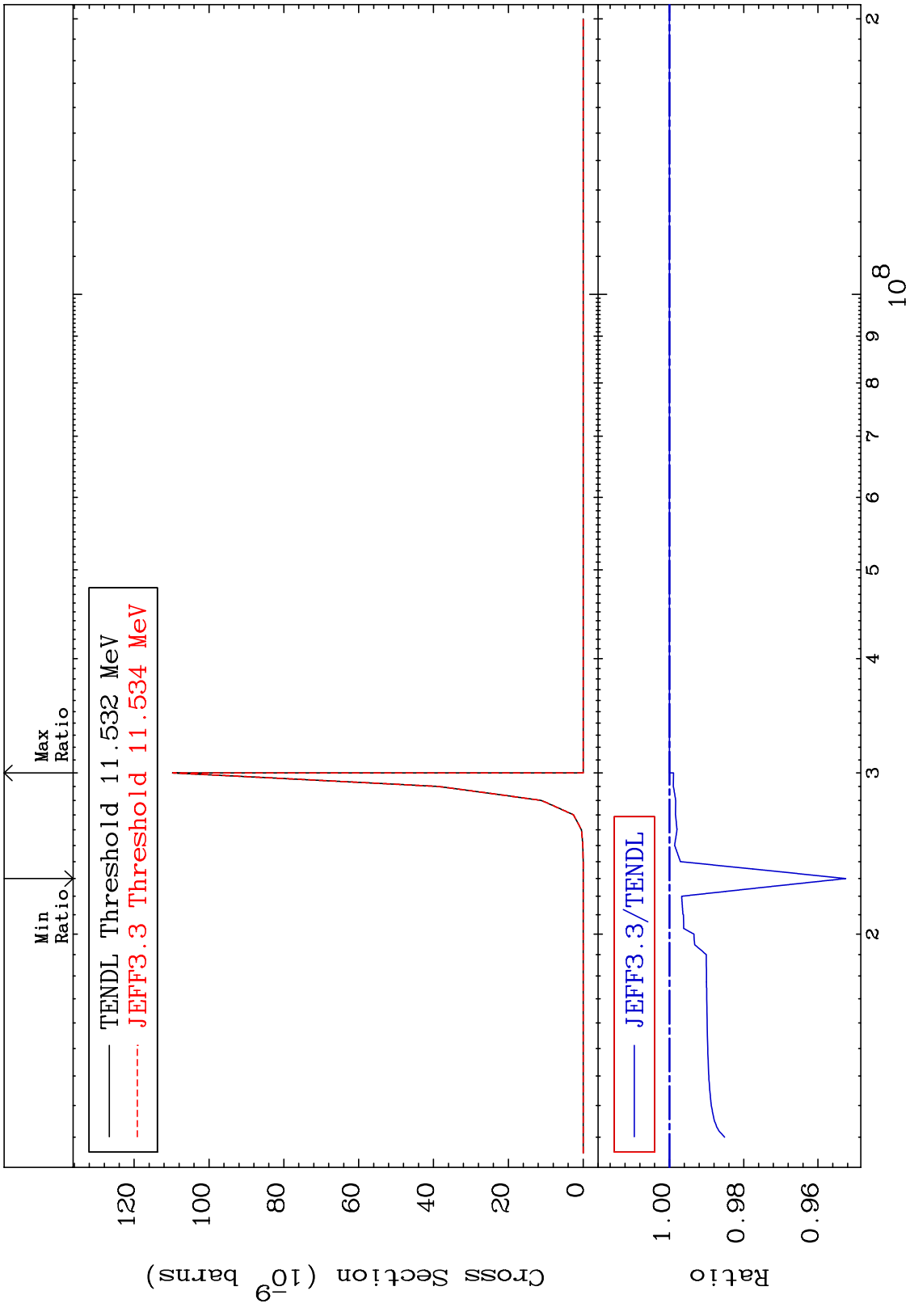
MAT 7249 (n, He-3) Cross Section 72-Hf-182
 -1.699 To 0.000 %



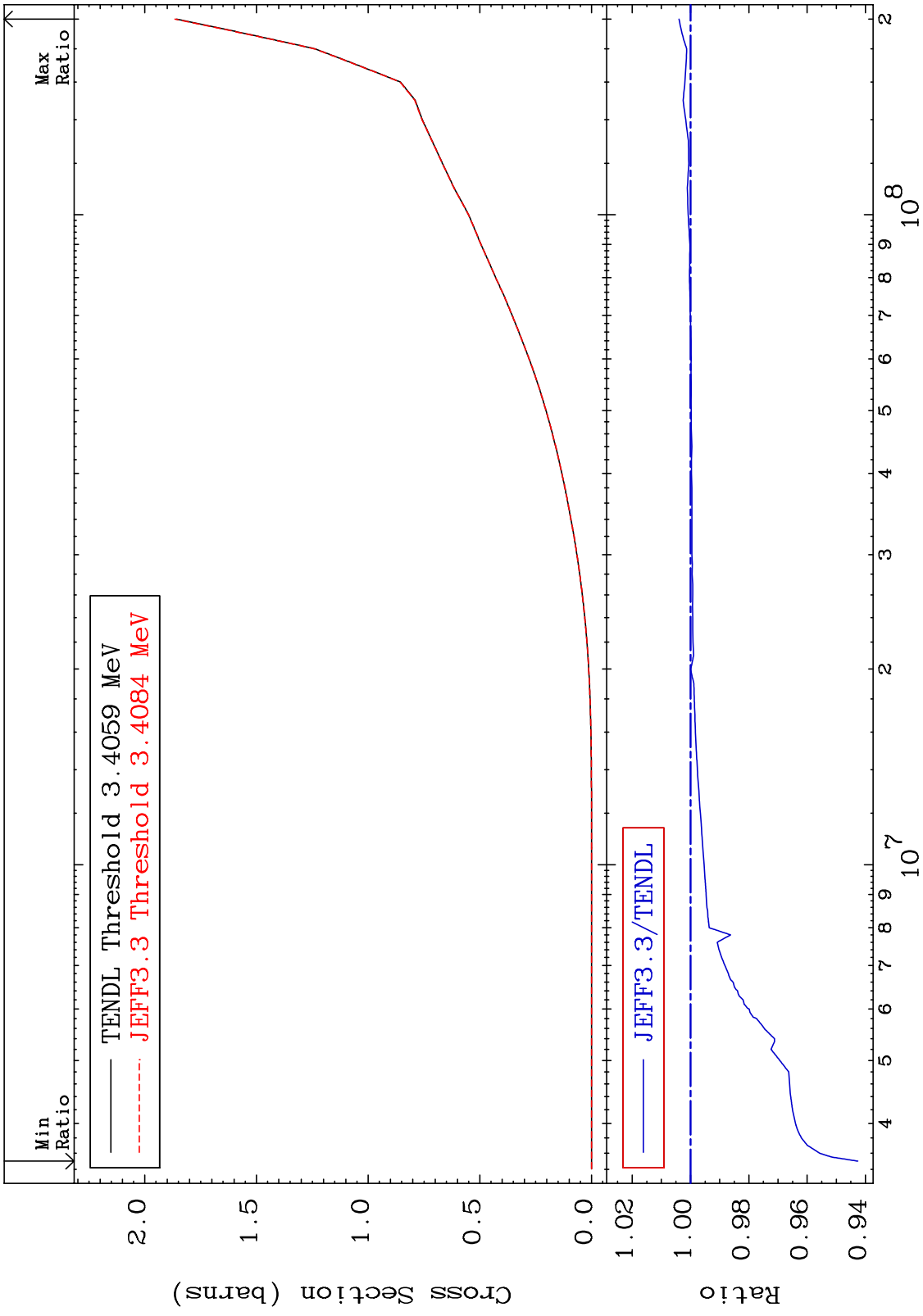
MAT 7249 (n, α) Cross Section 72-Hf-182
 -18.33 To 9999. %



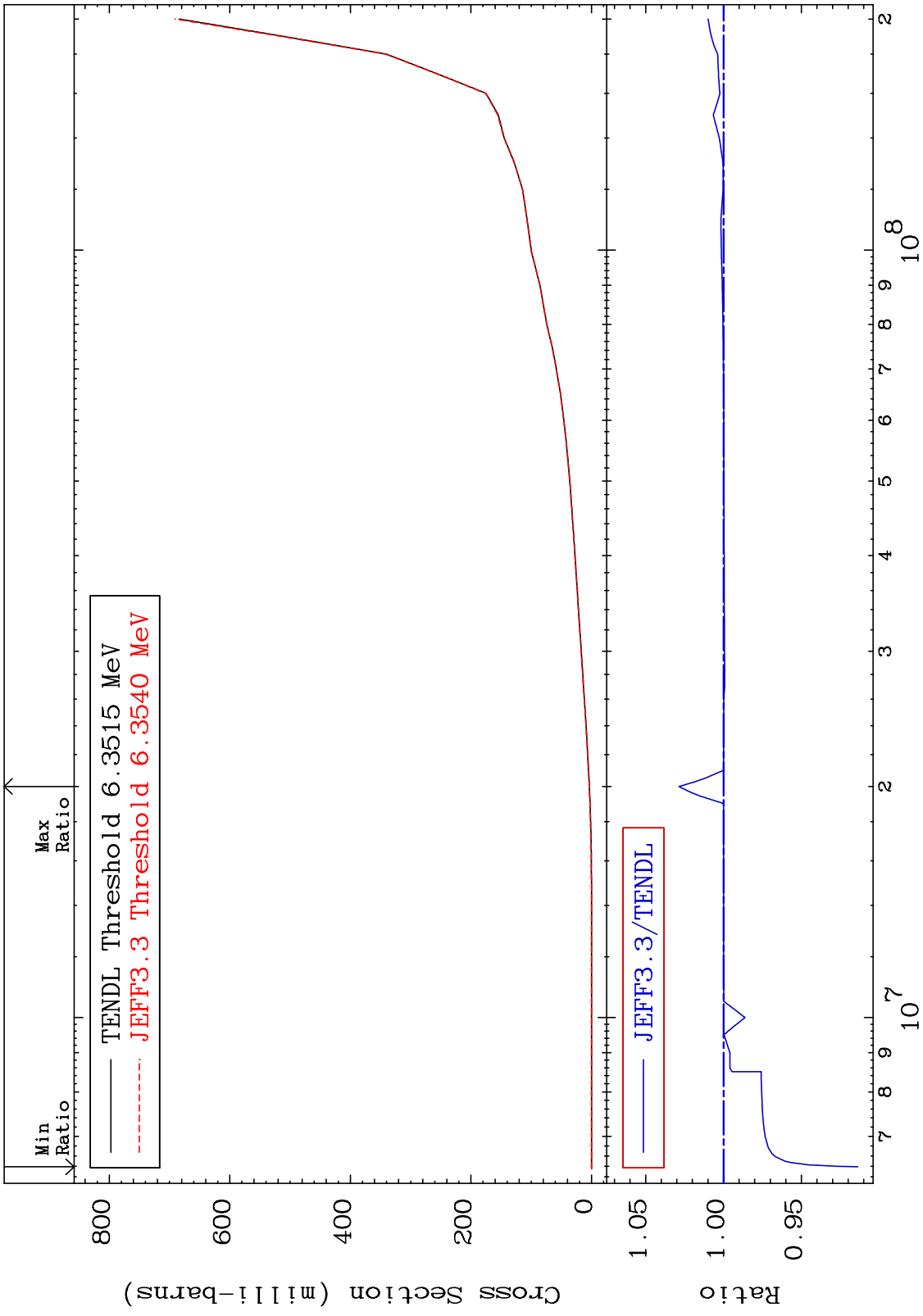
MAT 7249 (n,2p) 72-Hf-182
 Cross Section -4.750 To 0.000 %



MAT 7249 Hydrogen Production Cross Section 72-Hf-182 -5.739 To 0.394 %



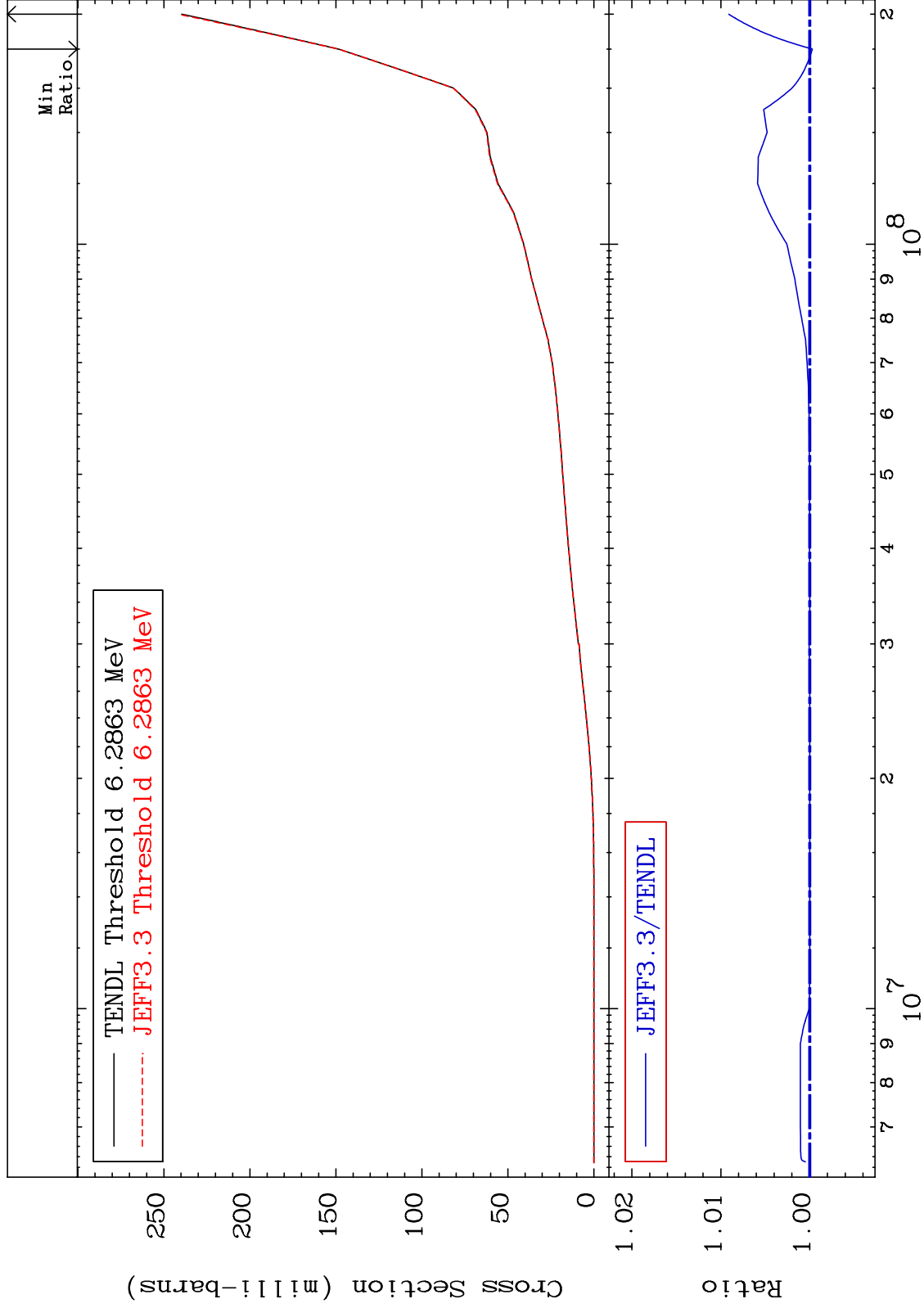
MAT 7249 Deuterium Production Cross Section 72-Hf-182 -8.621 To 2.858 %



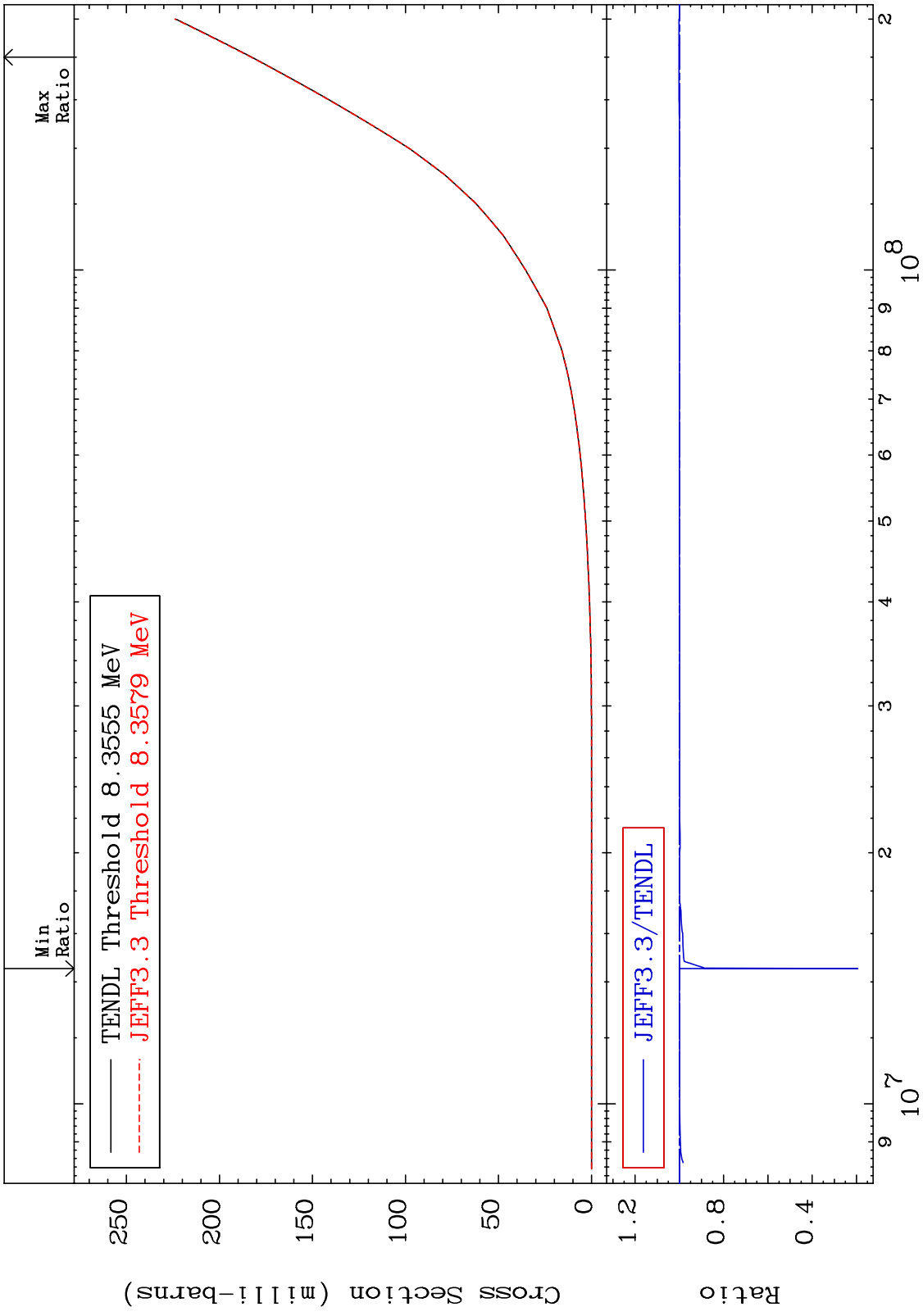
MAT 7249

Tritium Production
Cross Section

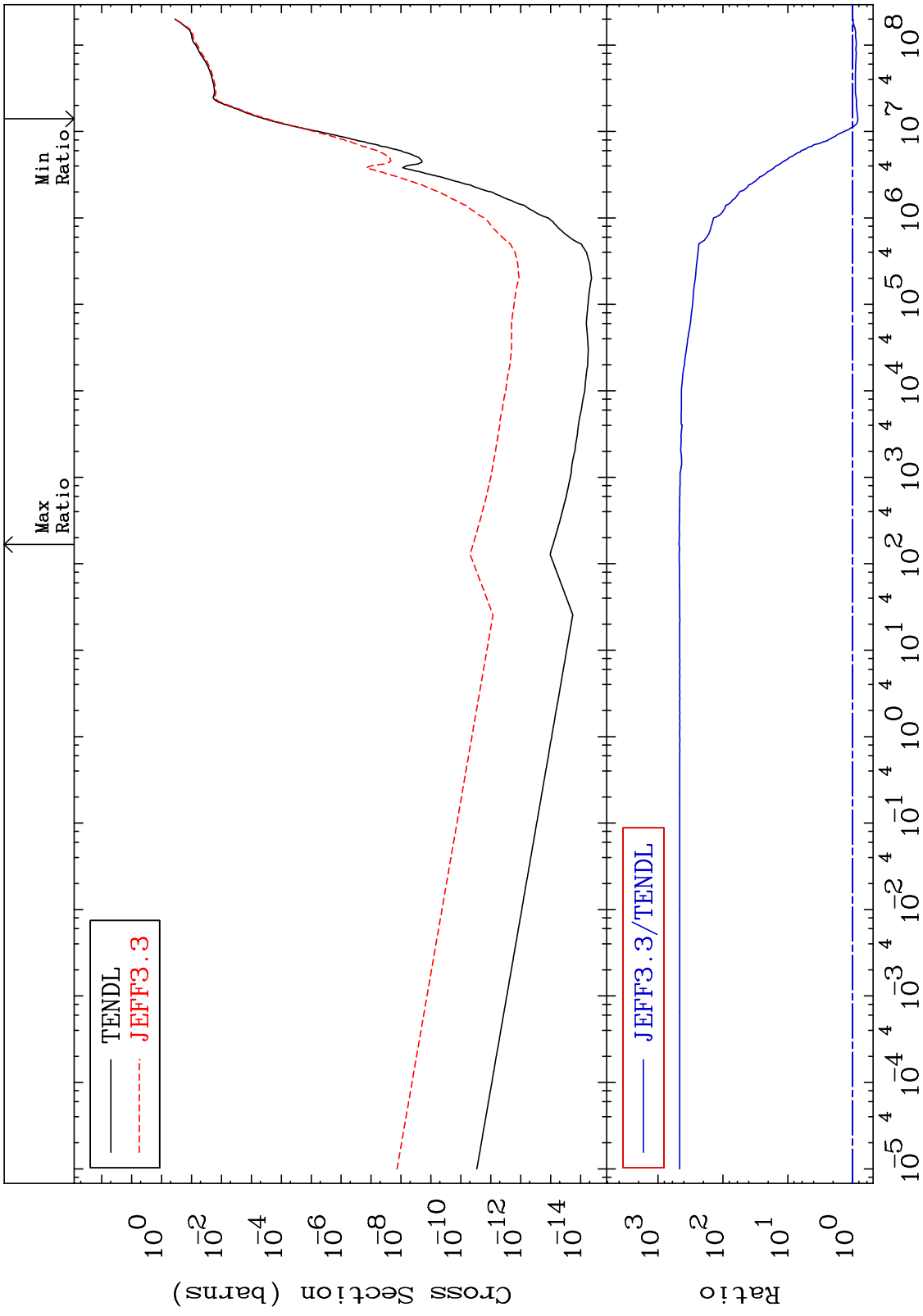
72-Hf-182
-0.030 To 0.911 %



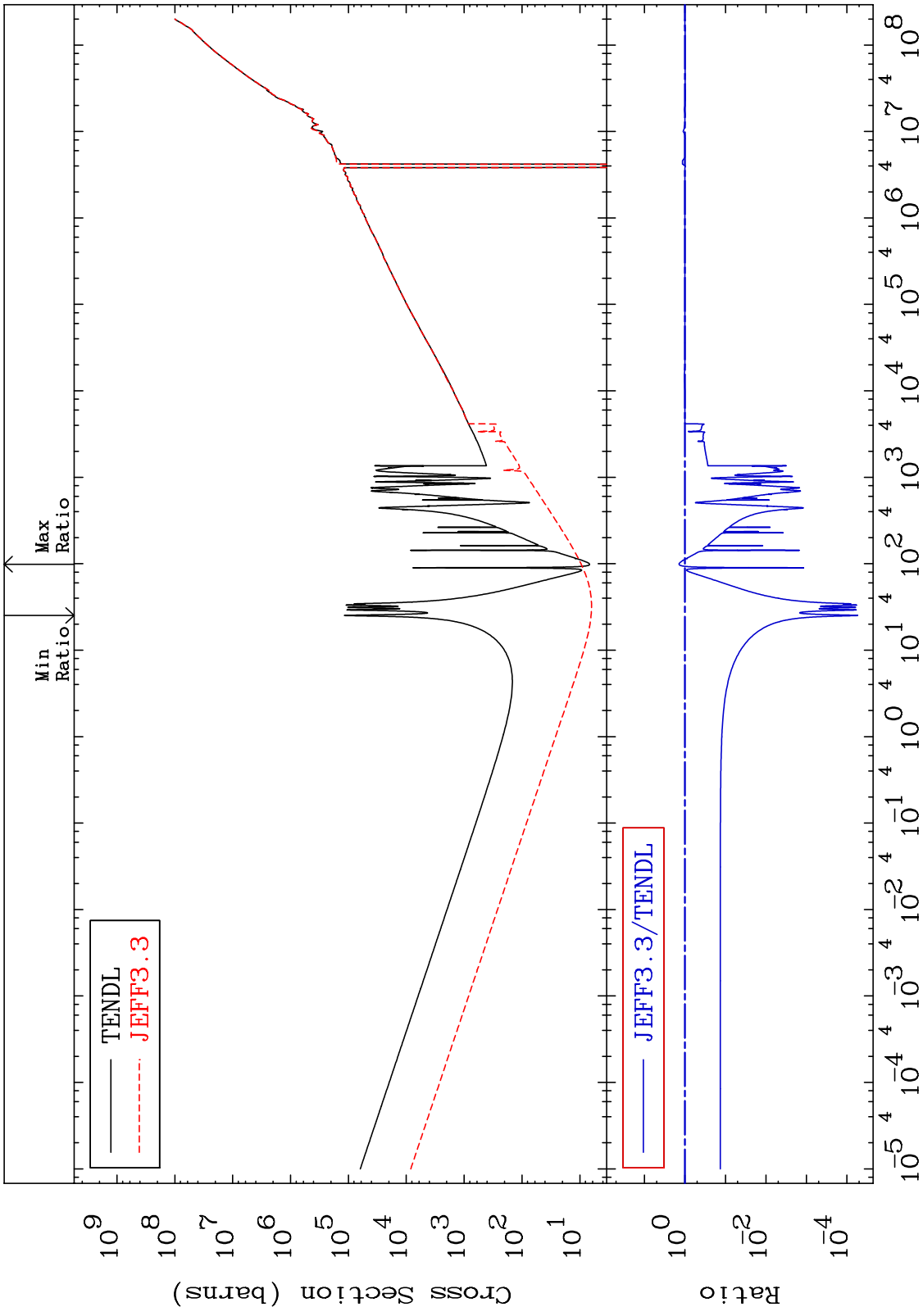
MAT 7249 He-3 Production Cross Section 72-Hf-182
-80.63 To 0.160 %



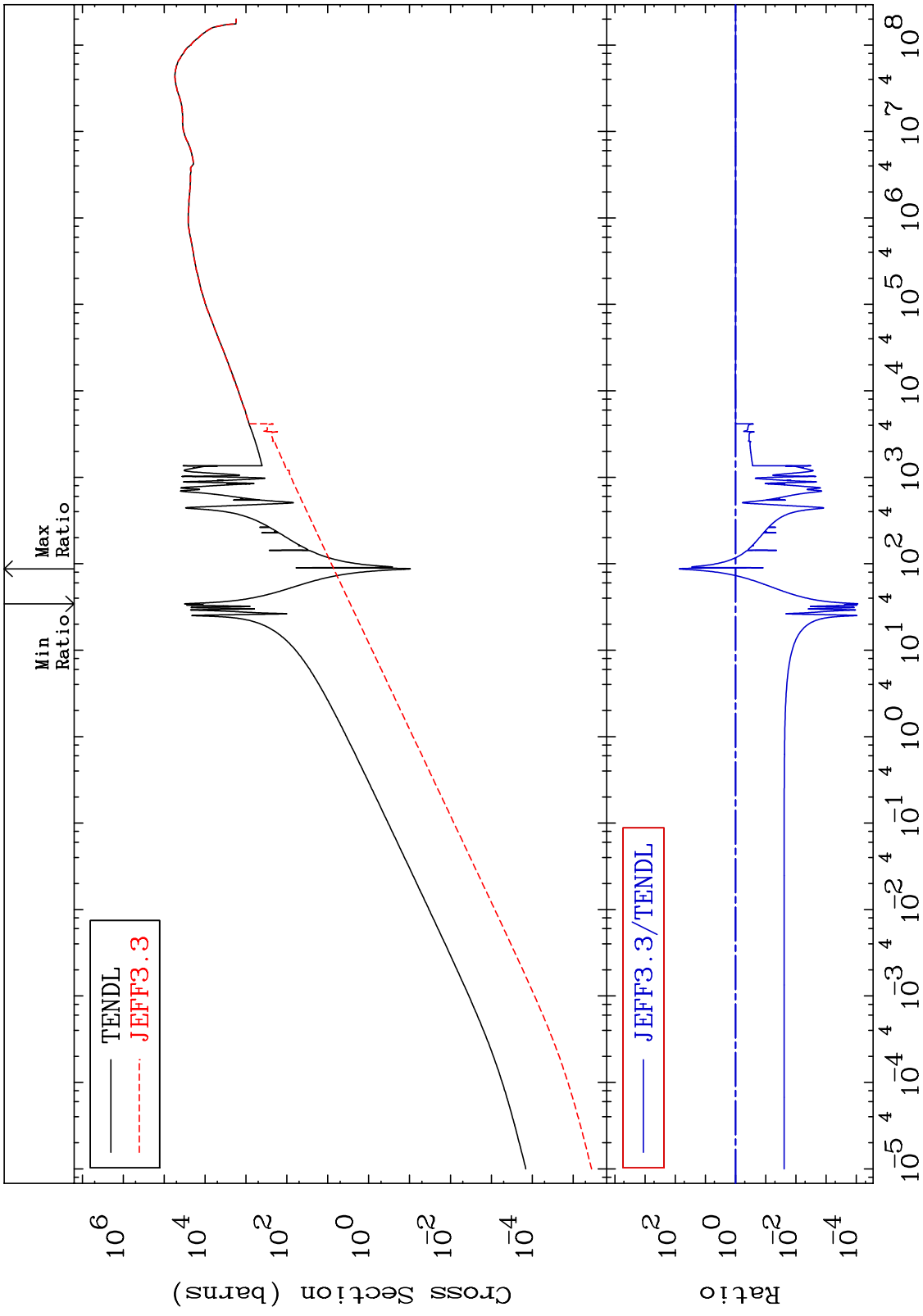
MAT 7249 He-4 Production Cross Section 72-Hf-182
 -16.97 To 9999. %



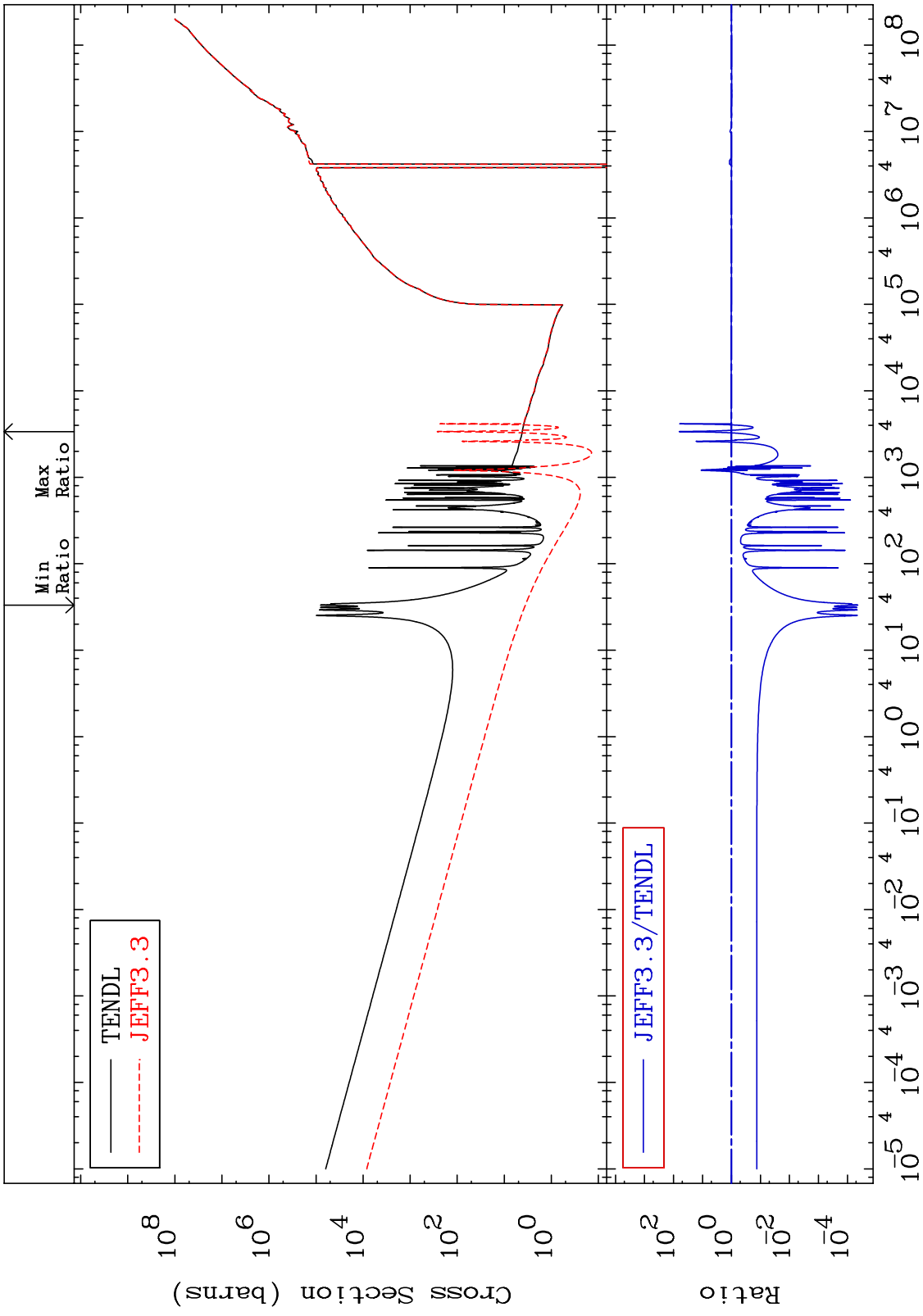
MAT 7249 Kerma total (eV-barns) 72-Hf-182
 Cross Section -99.99 To 39.70 %



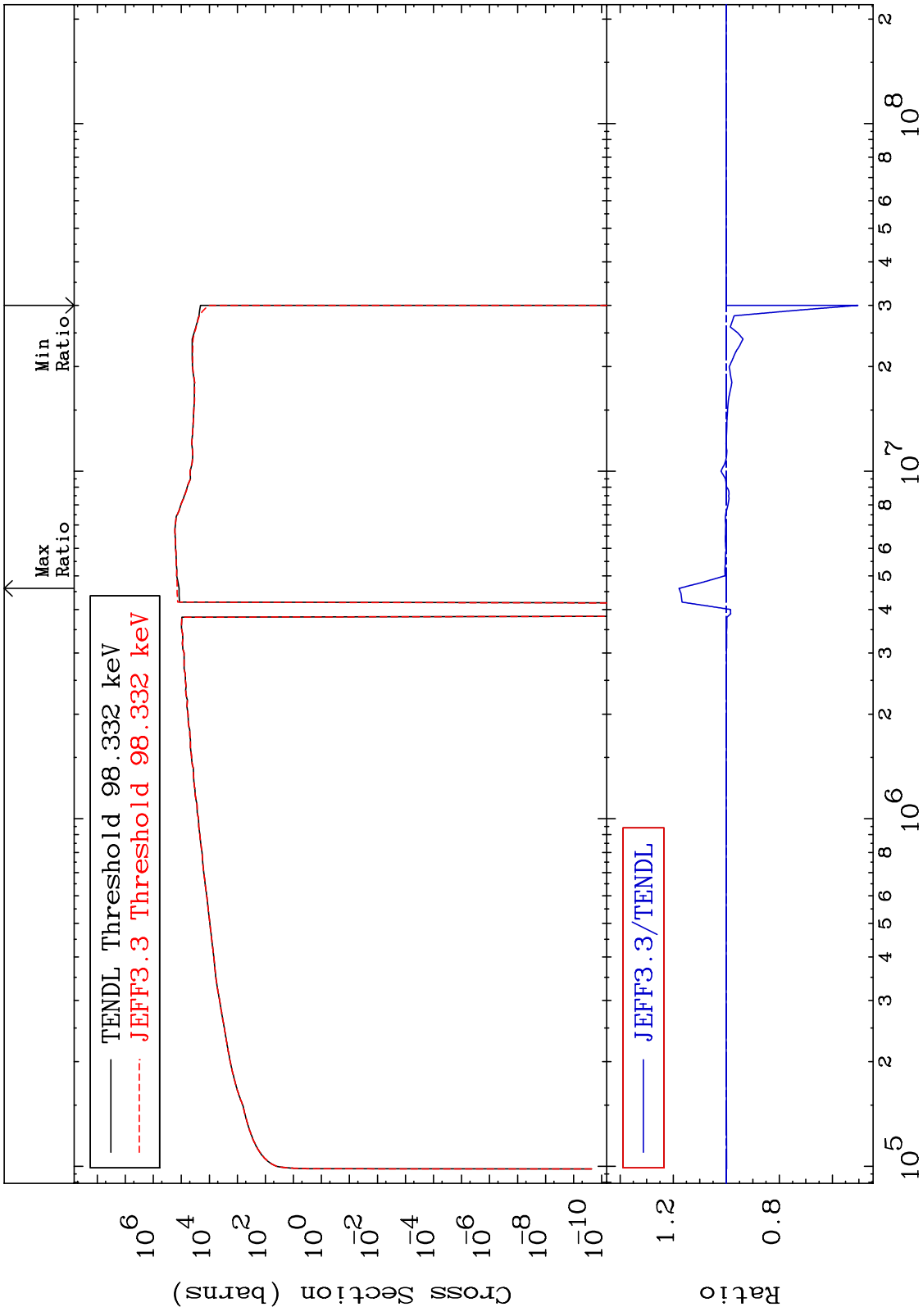
MAT 7249 72-Hf-182
-99.99 To 7373. %
 Kerma elastic Cross Section



MAT 7249 Kerma non-elastic (all but mt2) 72-Hf-182
 Cross Section -100.0 To 6343. %



MAT 7249 Kerma inelastic (mt51-91) 72-Hf-182
 Cross Section -49.60 To 17.79 %

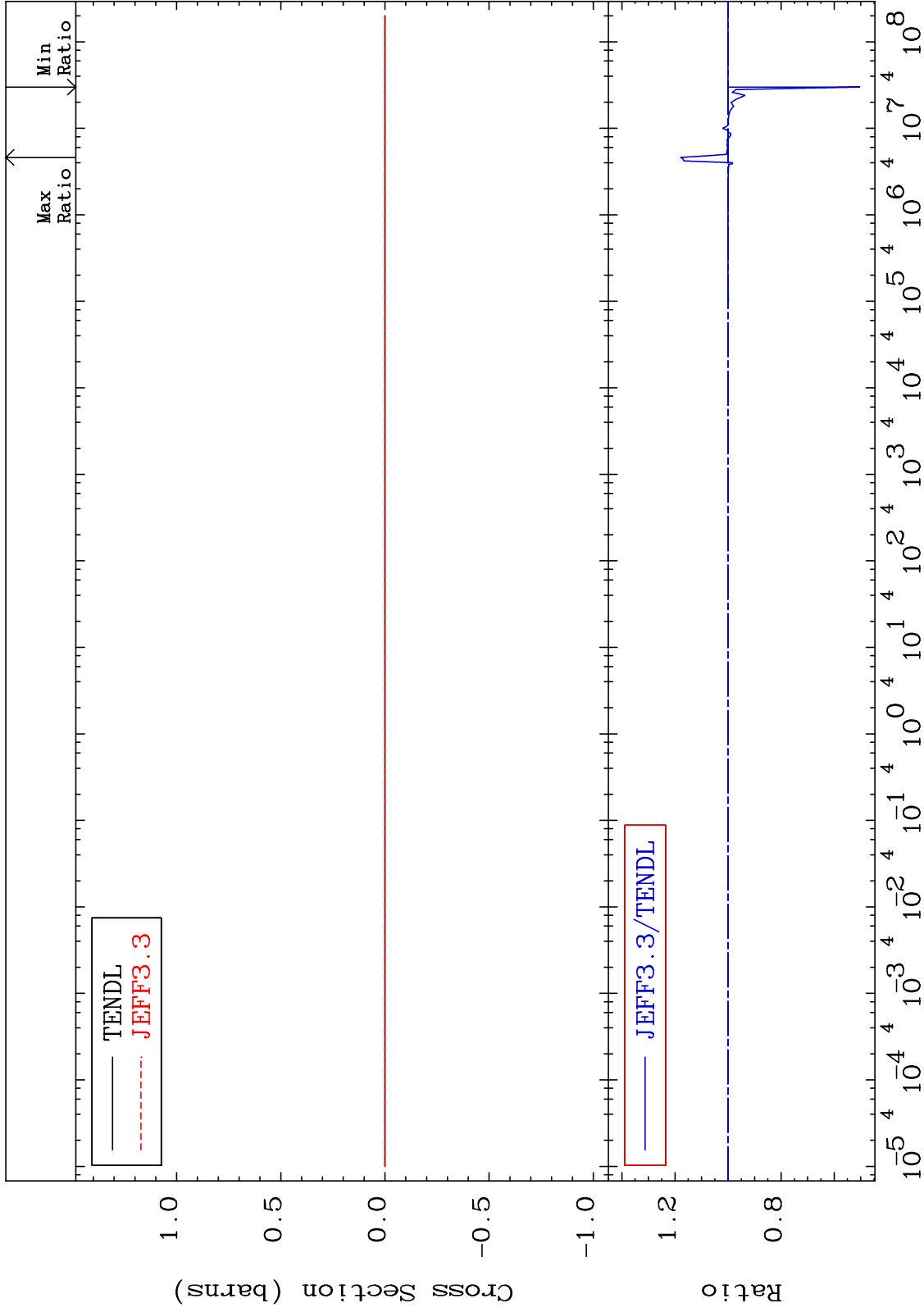


57 72-Hf-182

MAT 7249

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

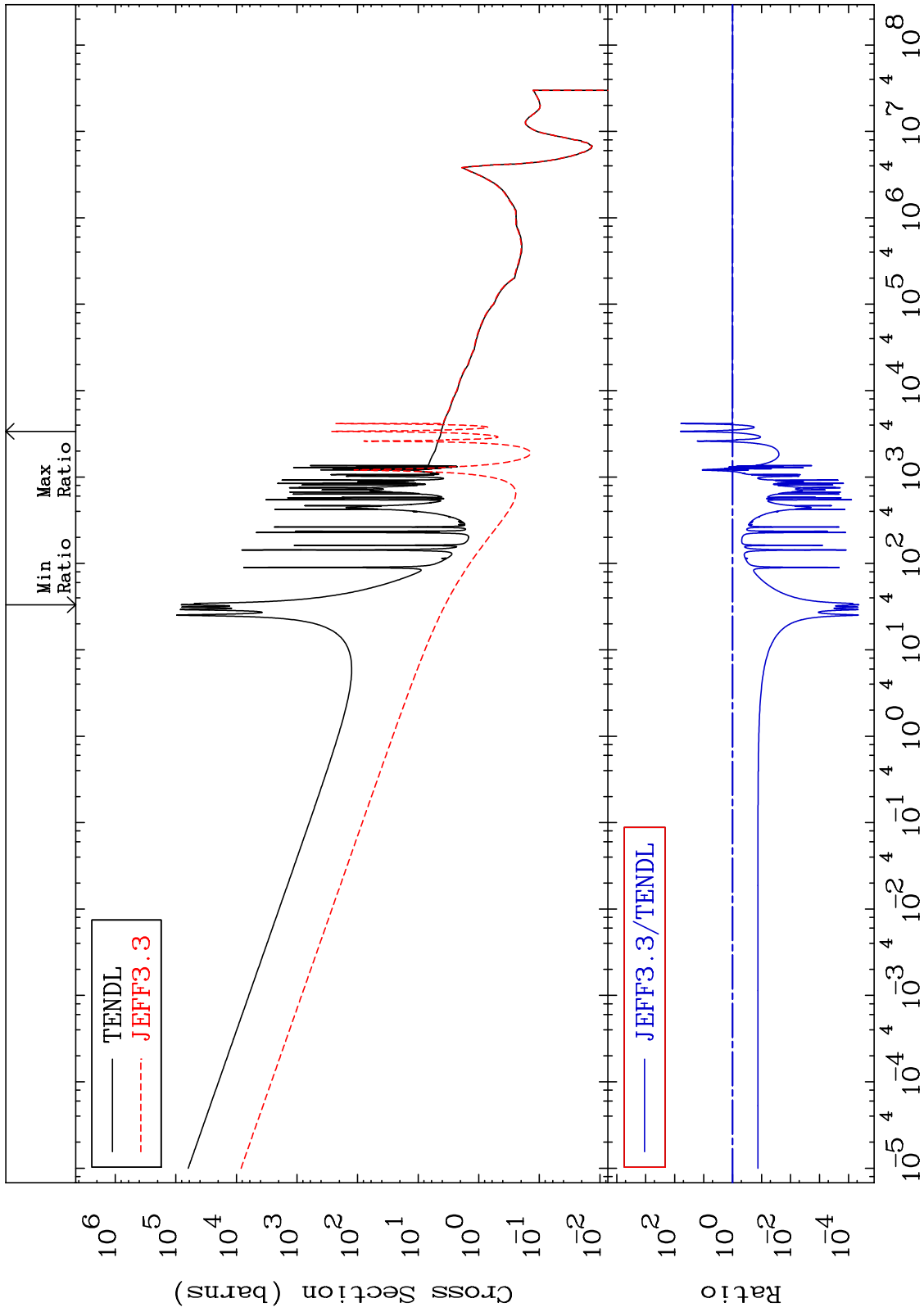
72-Hf-182
-49.60 To 17.79 %



MAT 7249

Kerma capture (mt102)
Cross Section

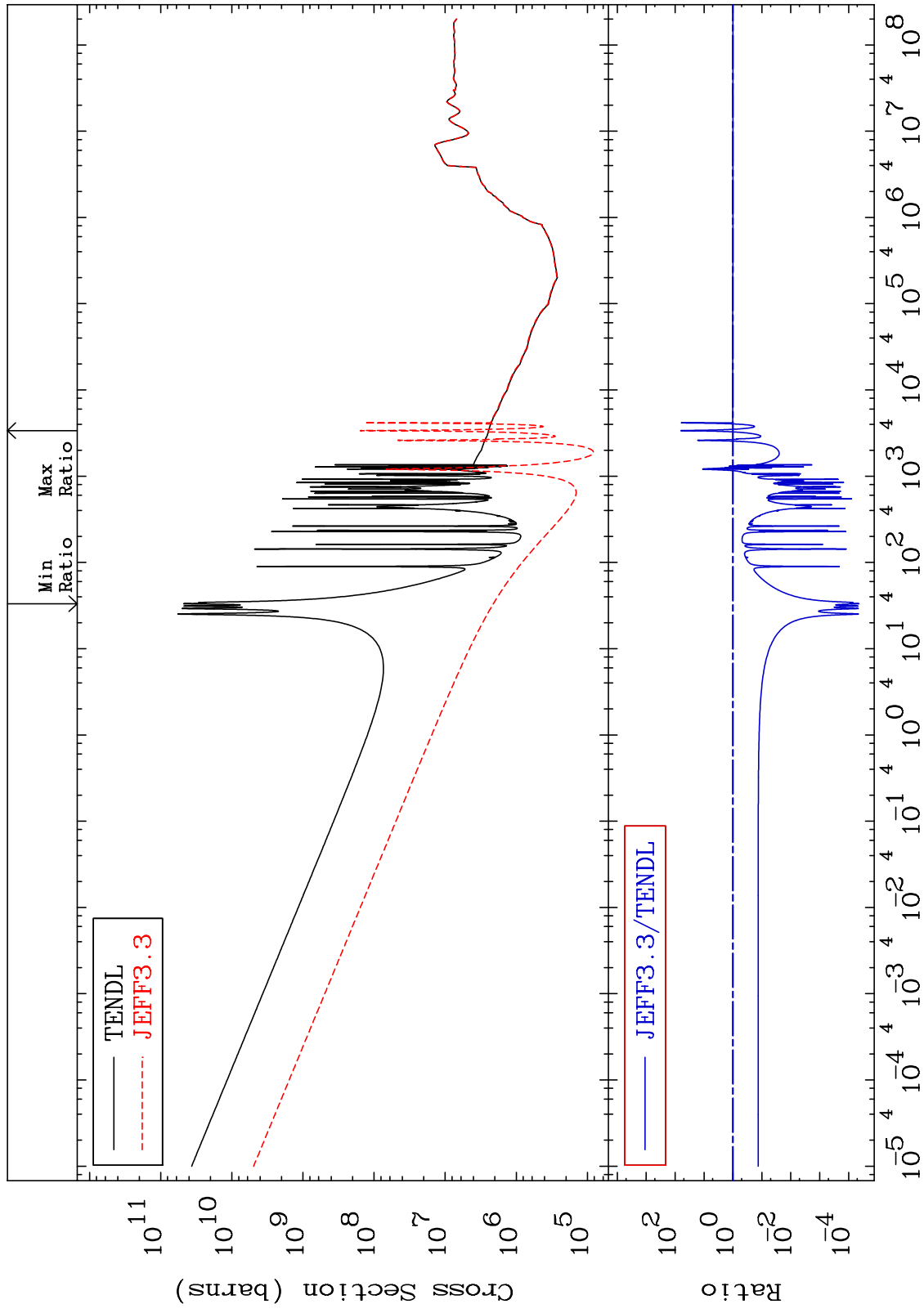
72-Hf-182
-100.0 To 6343. %



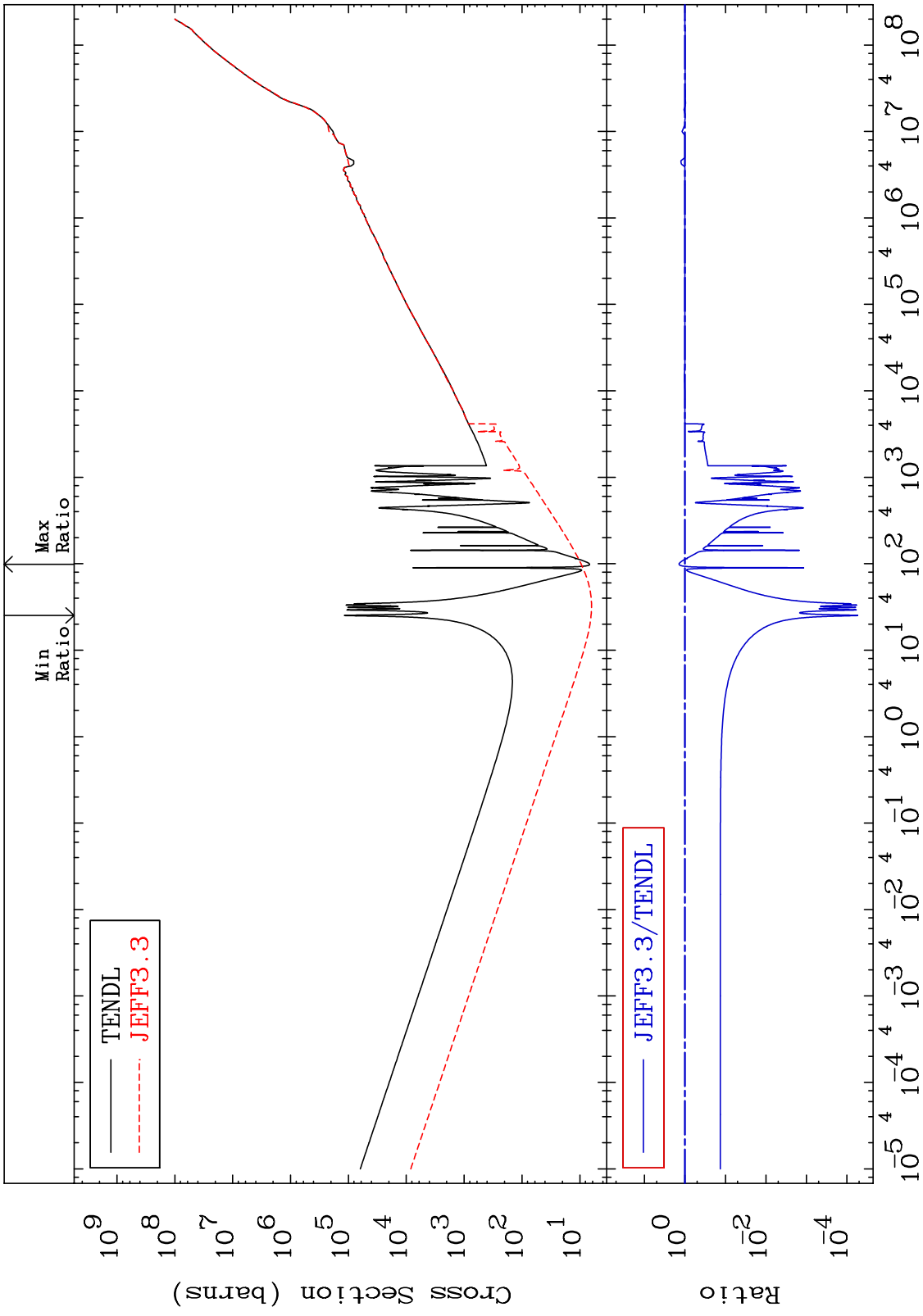
MAT 7249

Total photon (eV-barns)
Cross Section

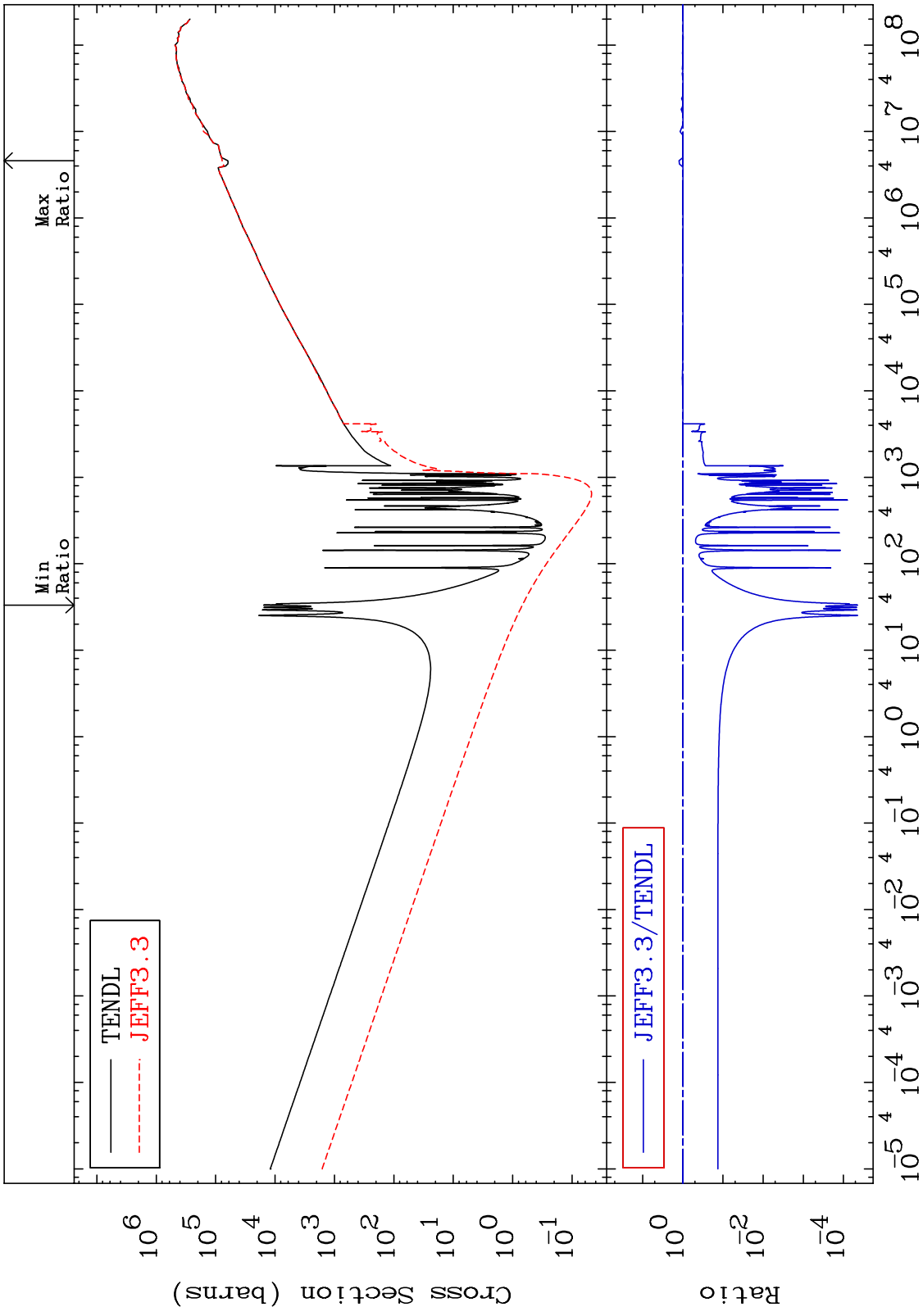
72-Hf-182
-100.0 To 6342. %



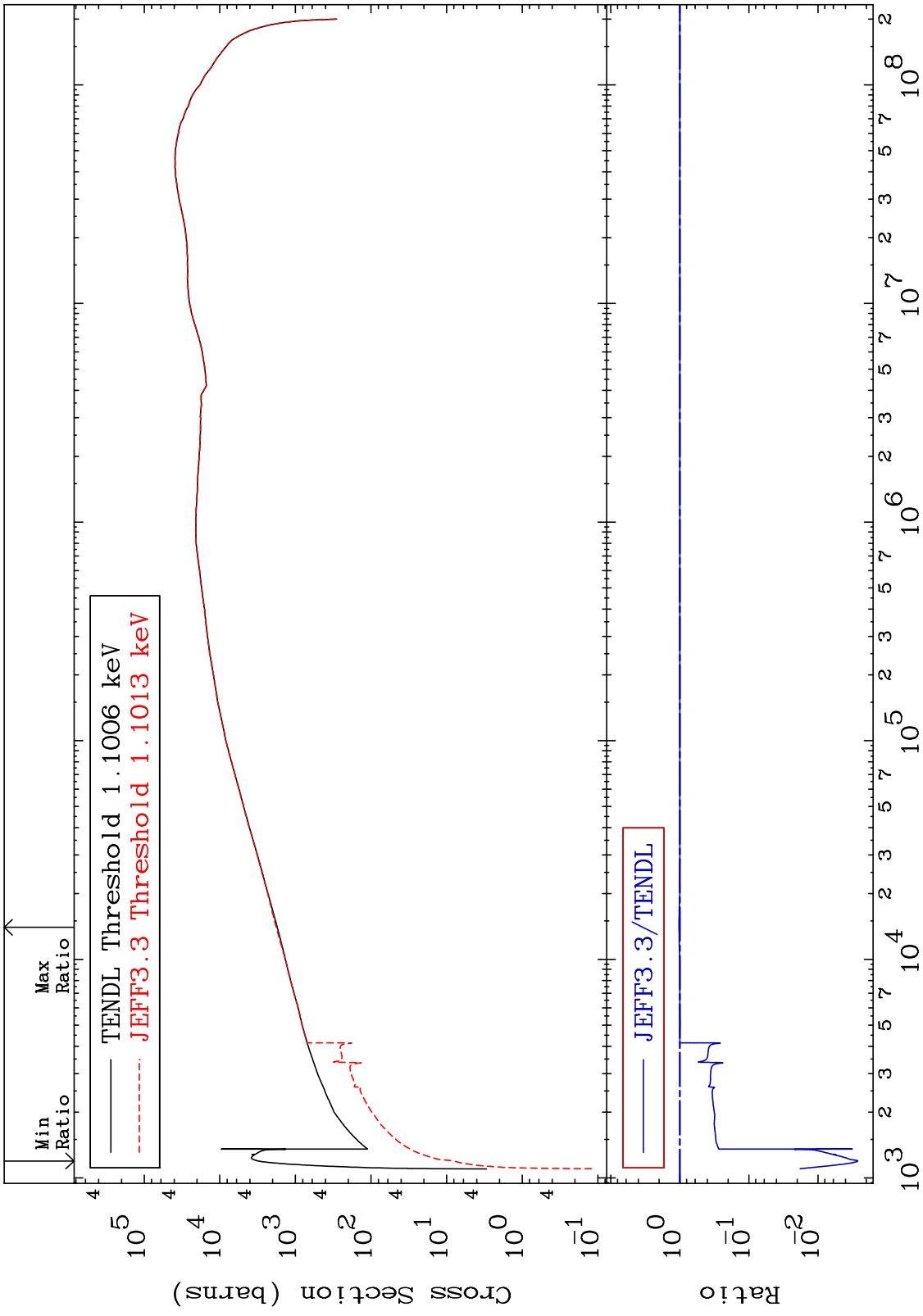
MAT 7249 Total kinematic kerma (high limit) Cross Section 72-Hf-182 -99.99 To 39.70 %



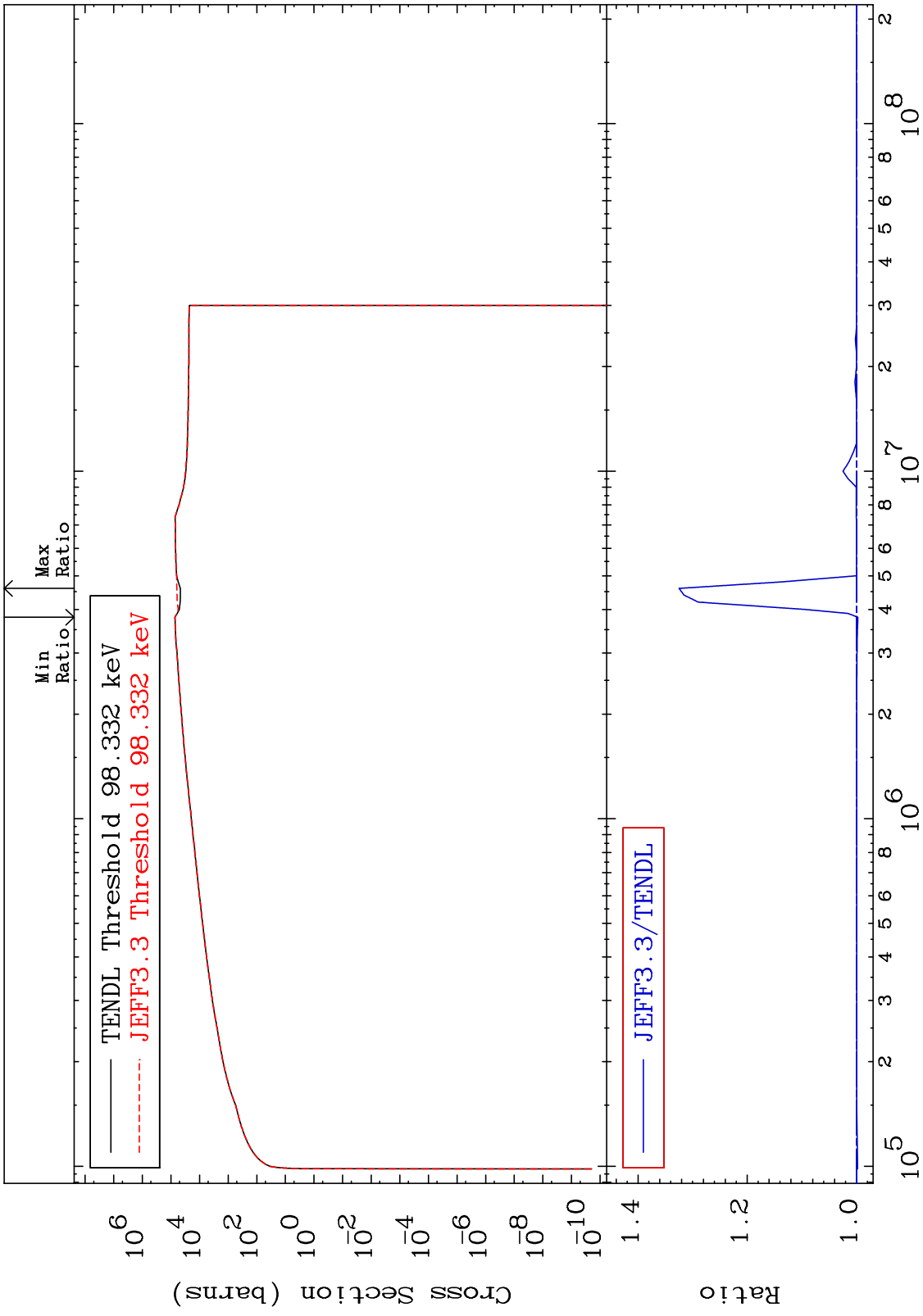
MAT 7249 Dpa total (eV-barns) 72-Hf-182
 Cross Section -100.0 To 24.51 %



MAT 7249 72-Hf-182
 Dpa elastic (mt2) -99.73 To 2.930 %
 Cross Section



MAT 7249 Dpa inelastic (mt51-91) 72-Hf-182
Cross Section -0.240 To 32.49 %

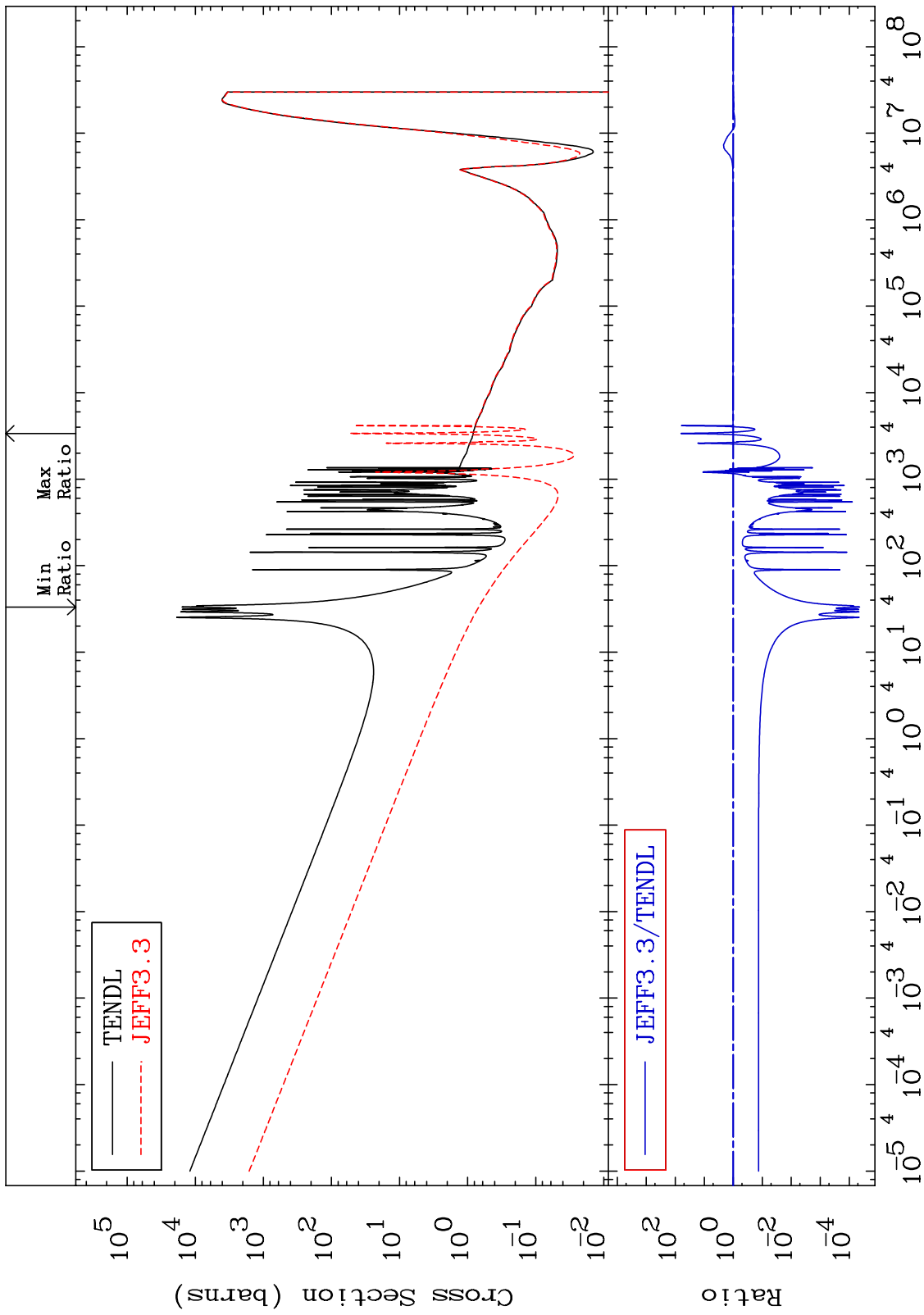


64 Incident Energy (eV) 72-Hf-182

MAT 7249

Dpa disappearance (mt102 -120)
Cross Section

72-Hf-182
-100.0 To 6346. %

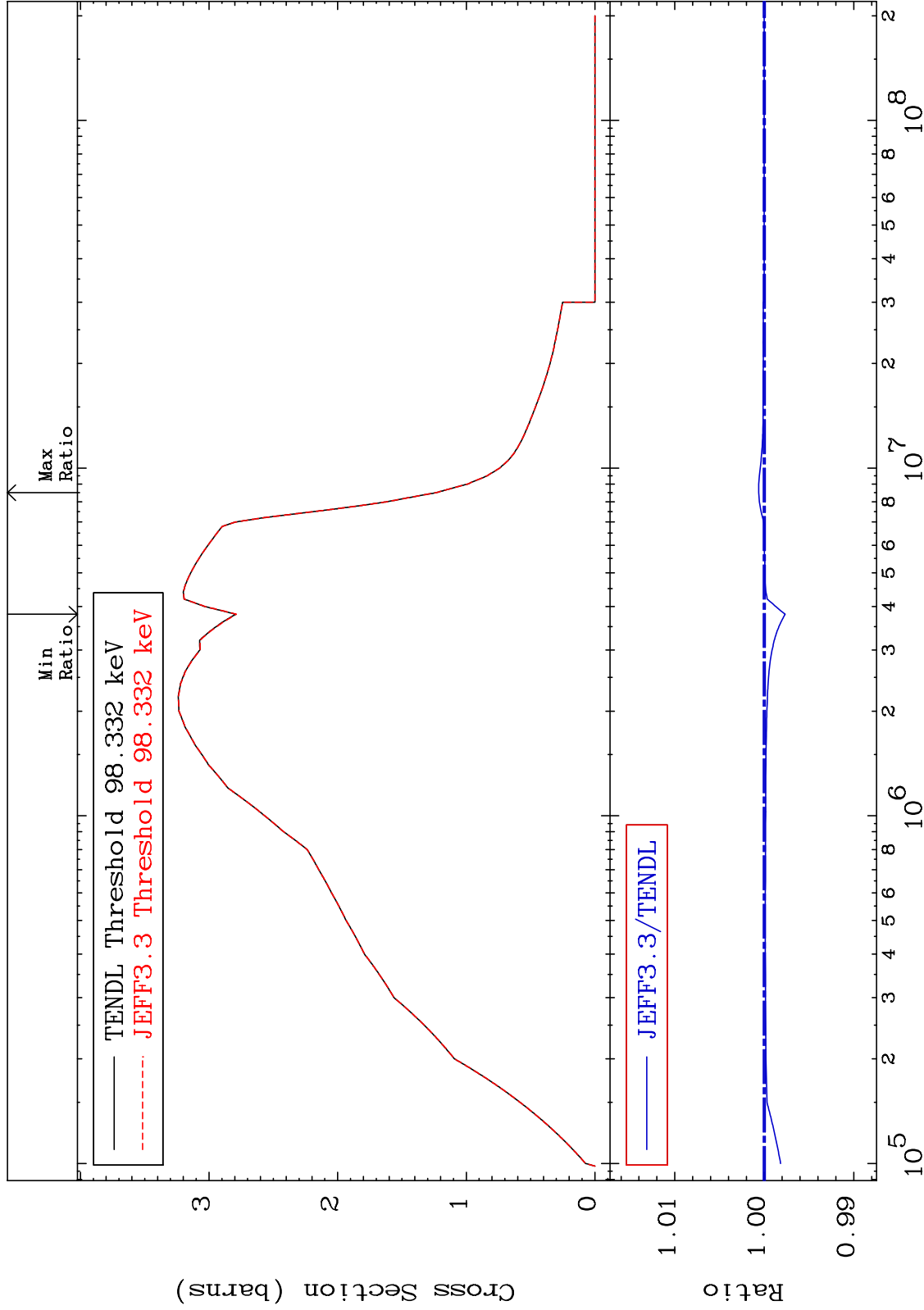


MAT 7249

Inelastic: 72-Hf-182g

72-Hf-182

Radionuclide Production Cross Section -0.2332 To 0.062 %



66

Incident Energy (eV)

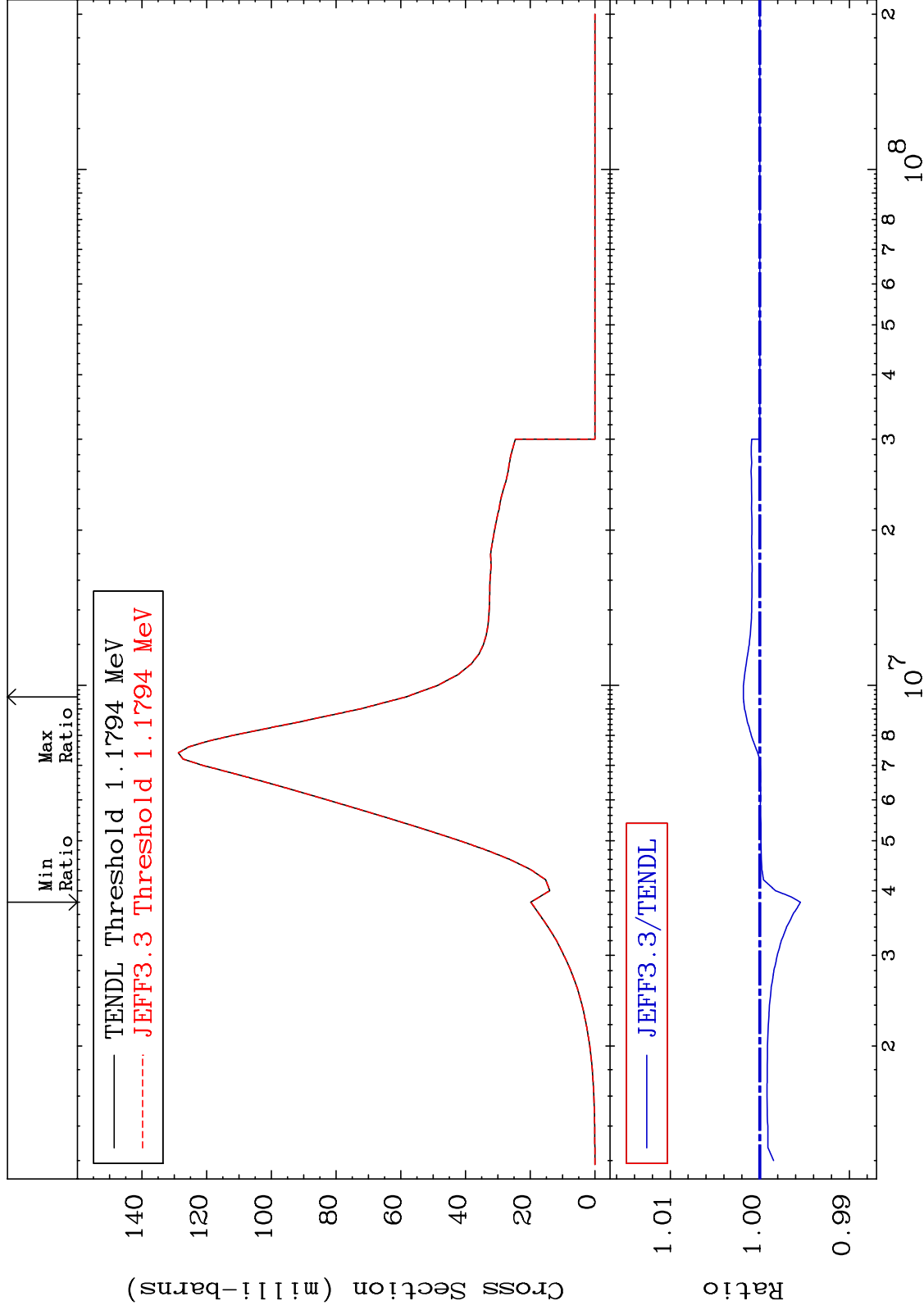
72-Hf-182

MAT 7249

Inelastic: 72-Hf-182m9

72-Hf-182

Radionuclide Production Cross Section -0.454 To 0.184 %

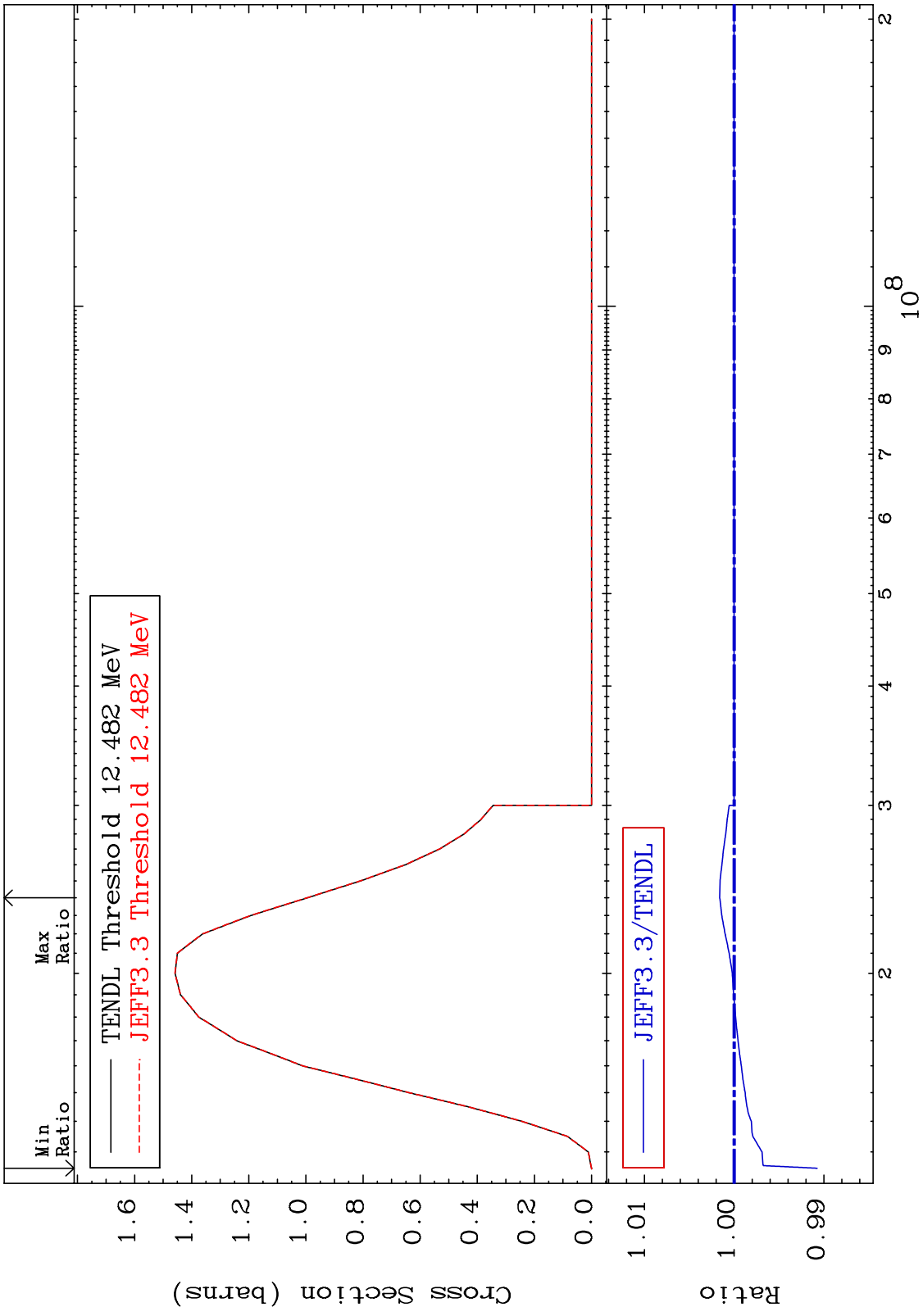


67

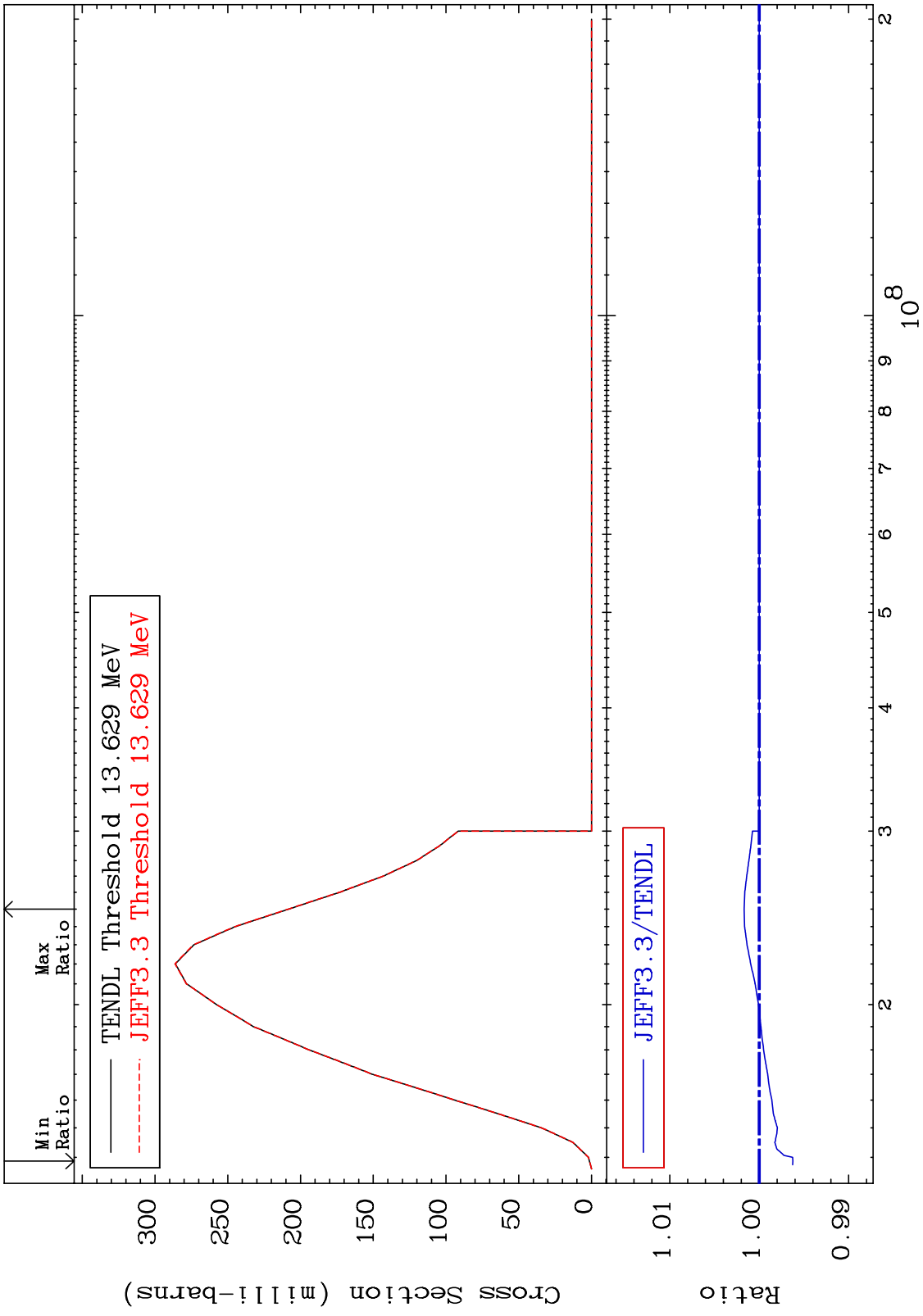
Incident Energy (eV)

72-Hf-182

MAT 7249 (n,3n):72-Hf-180g 72-Hf-182
 Radionuclide Production Cross Section -0.925 To 0.161 %

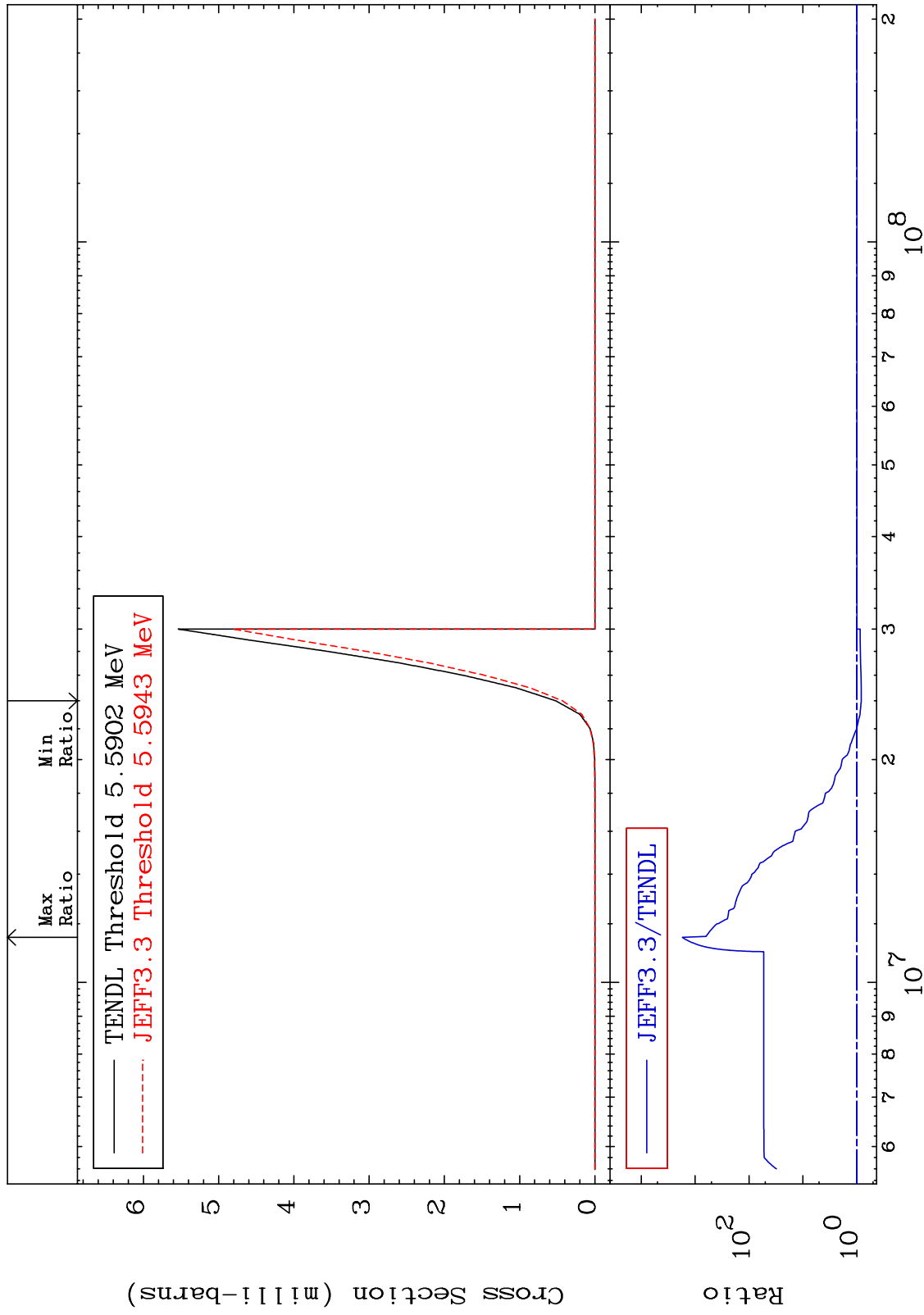


MAT 7249 (n,3n):72-Hf-180m7 72-Hf-182
 Radionuclide Production Cross Section -0.375 To 0.169 %



MAT 7249

(n,2n) α : 70-Yb-177g 72-Hf-182
Radionuclide Production Cross Section -17.52 To 9999. %



70

Incident Energy (eV)

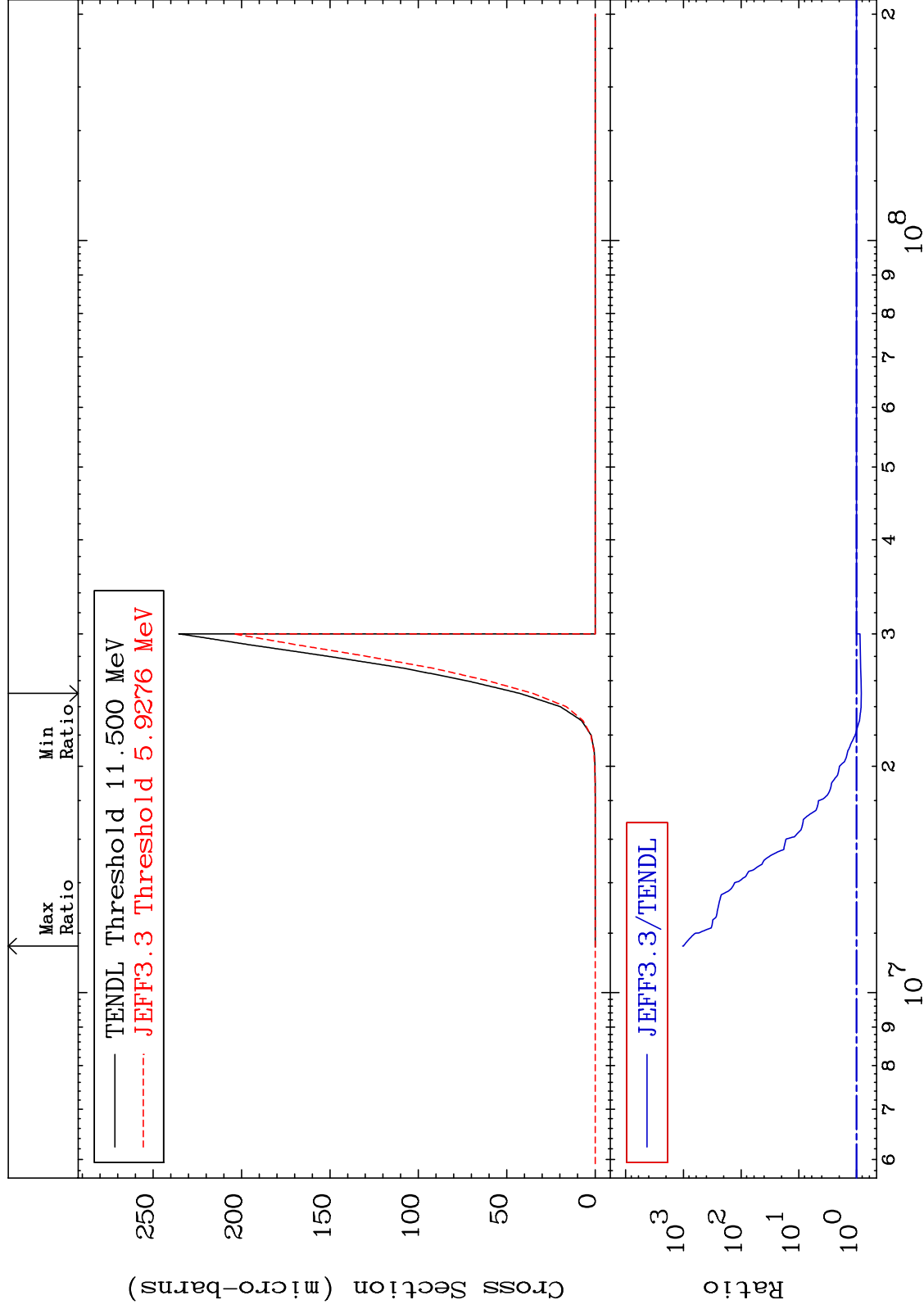
72-Hf-182

MAT 7249

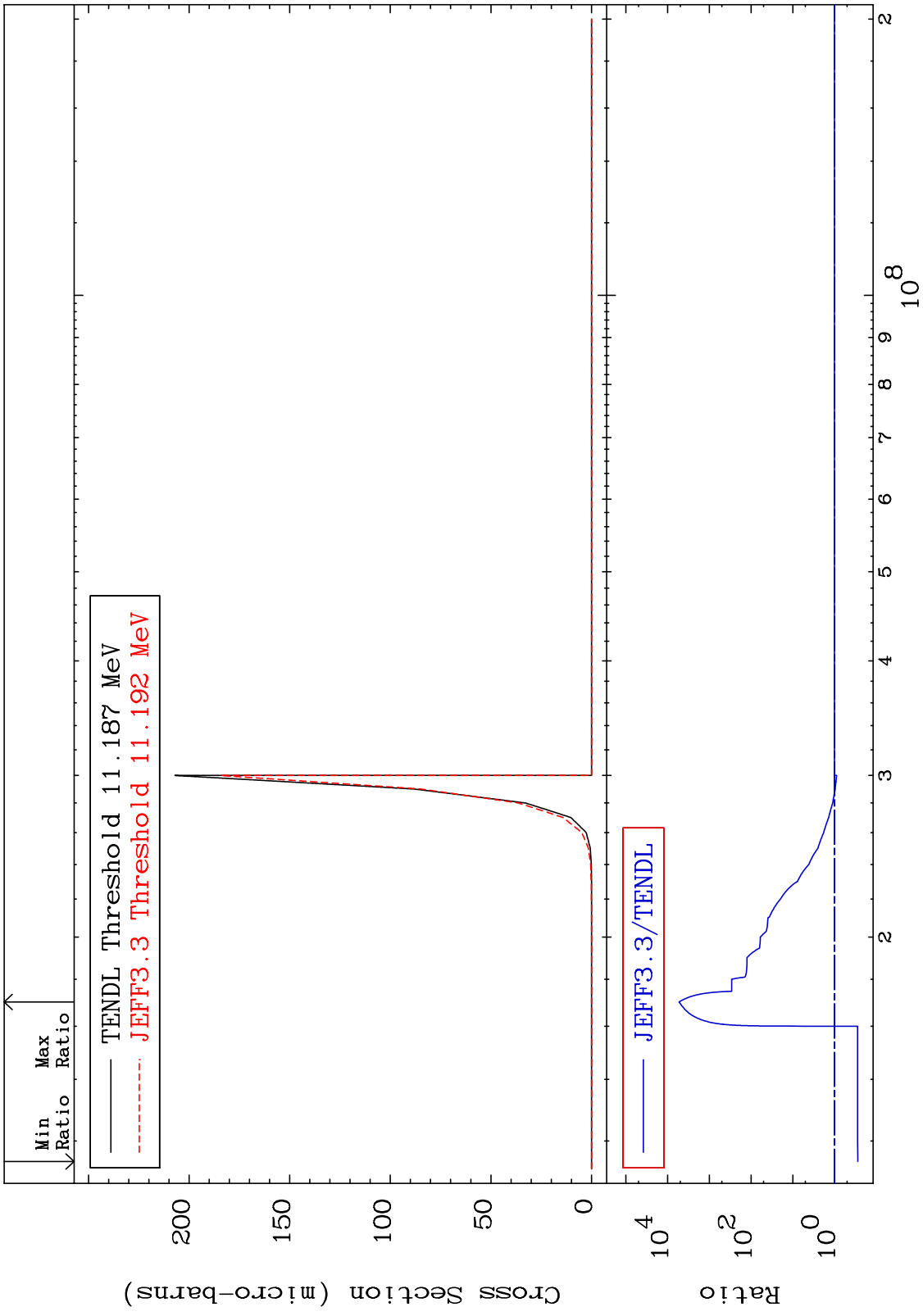
(n,2n) α :70-Yb-177m6

72-Hf-182

Radionuclide Production Cross Section -17.39 To 9999. %



MAT 7249 (n,3n) α : 70-Yb-176g 72-Hf-182
 Radionuclide Production Cross Section -72.44 To 9999. %



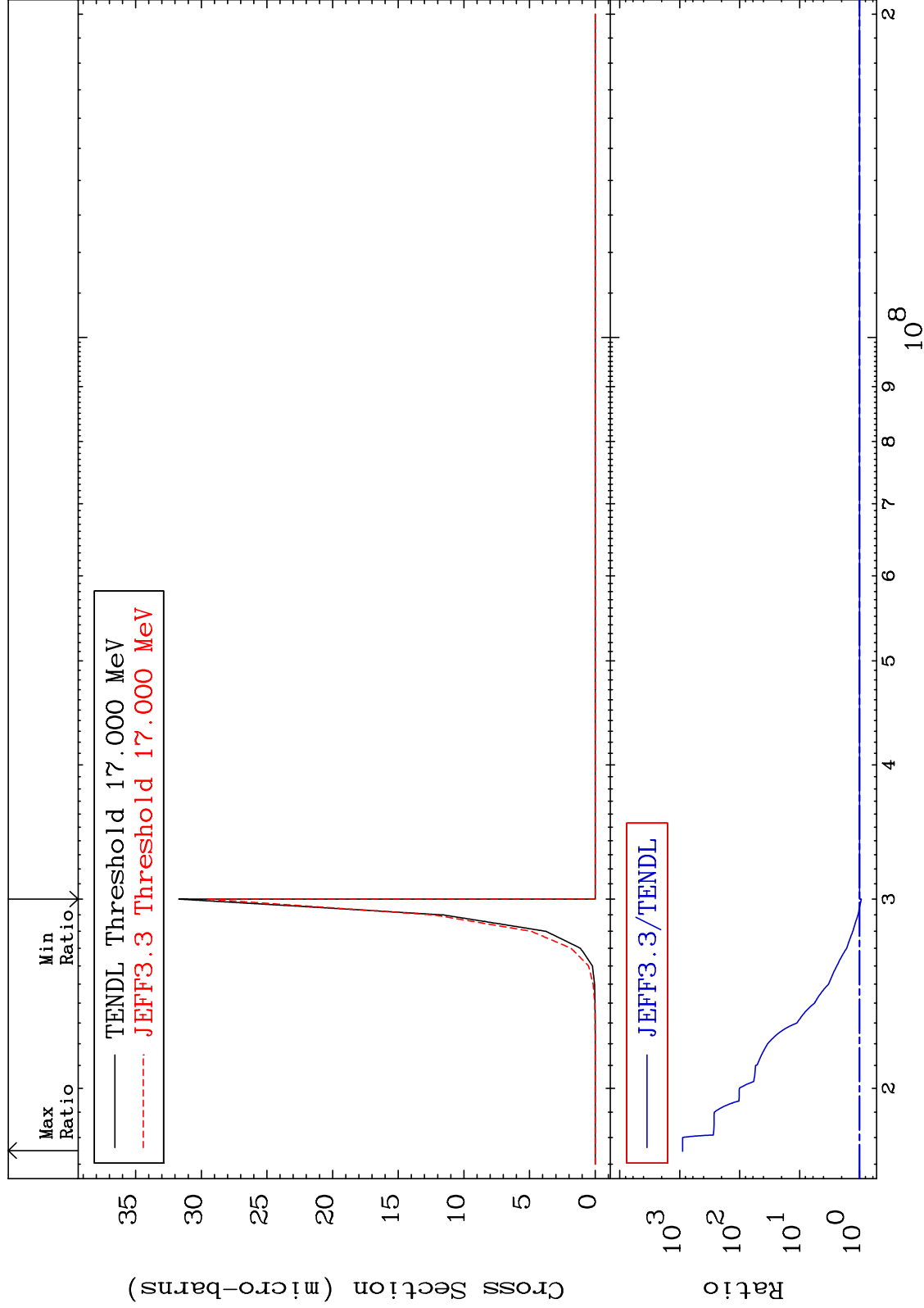
72 Incident Energy (eV) 72-Hf-182

MAT 7249

(n,3n) α :70-Yb-176m5

72-Hf-182

Radionuclide Production Cross Section -6.516 To 9999. %



73

Incident Energy (eV)

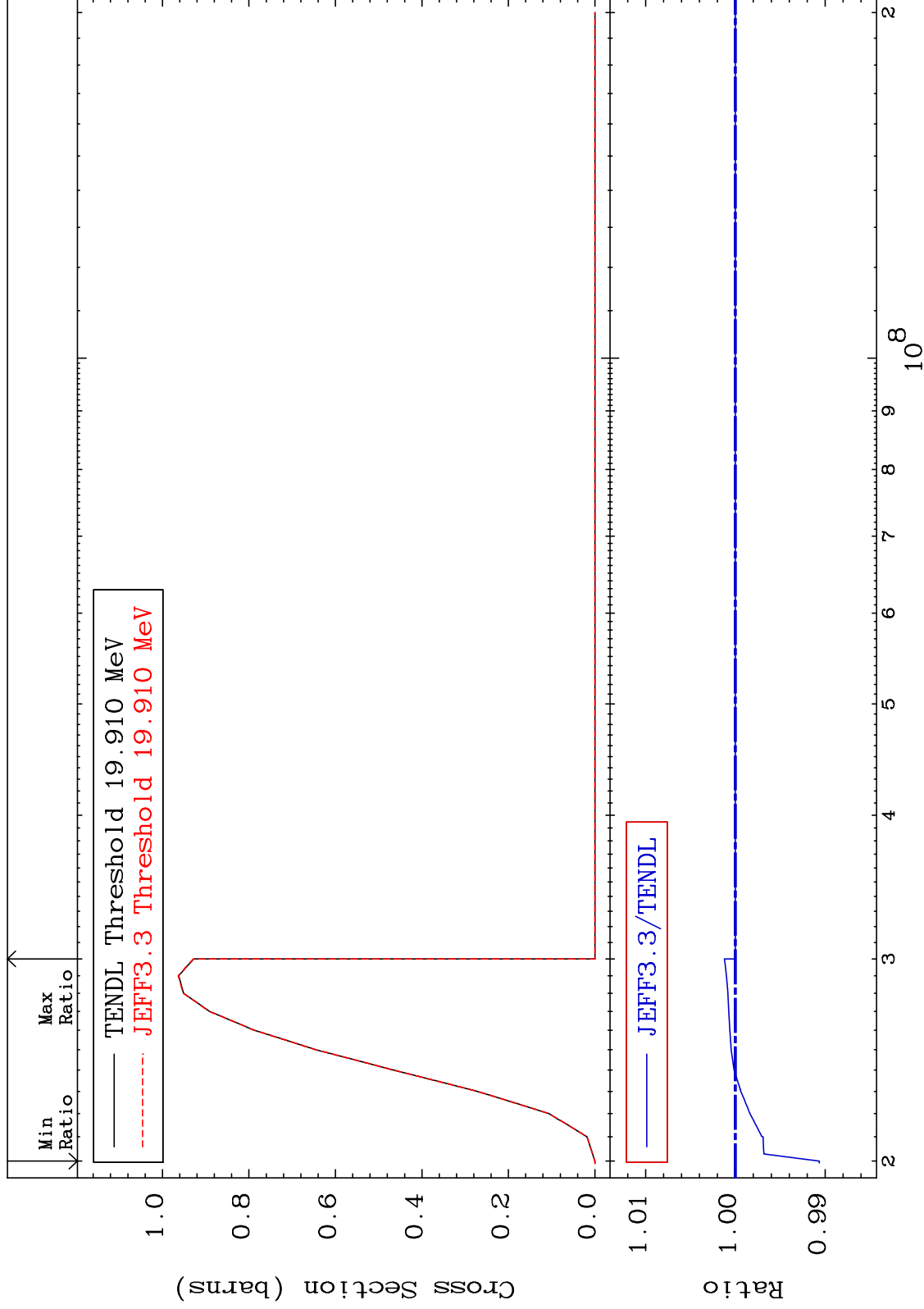
72-Hf-182

MAT 7249

(n,4n):72-Hf-179g

72-Hf-182

Radionuclide Production Cross Section -0.935 To 0.121 %



74

Incident Energy (eV)

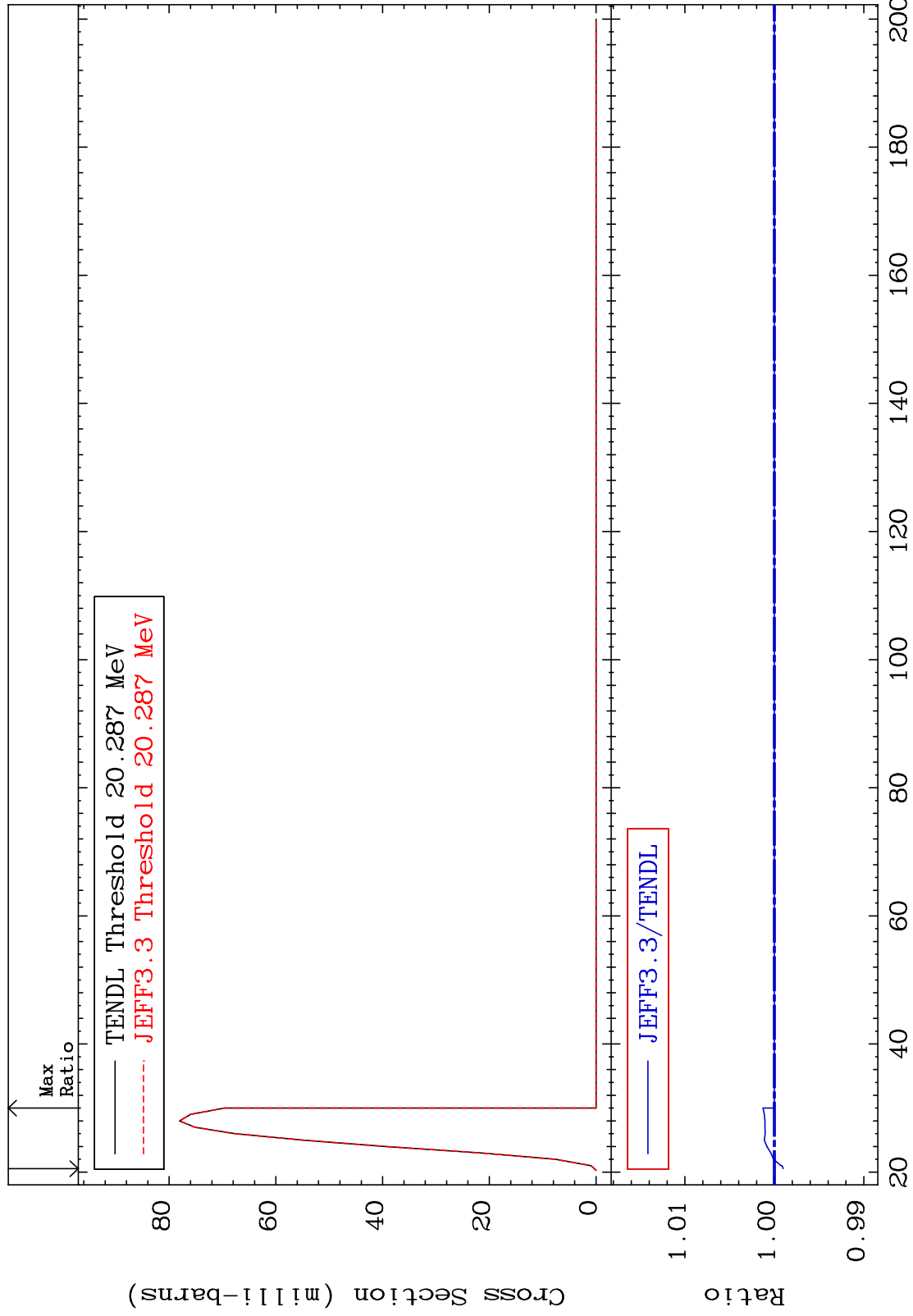
72-Hf-182

MAT 7249

(n, 4n) : 72-Hf-179m5

72-Hf-182

Radionuclide Production Cross Section -0.098 To 0.128 %



75

Incident Energy (MeV)

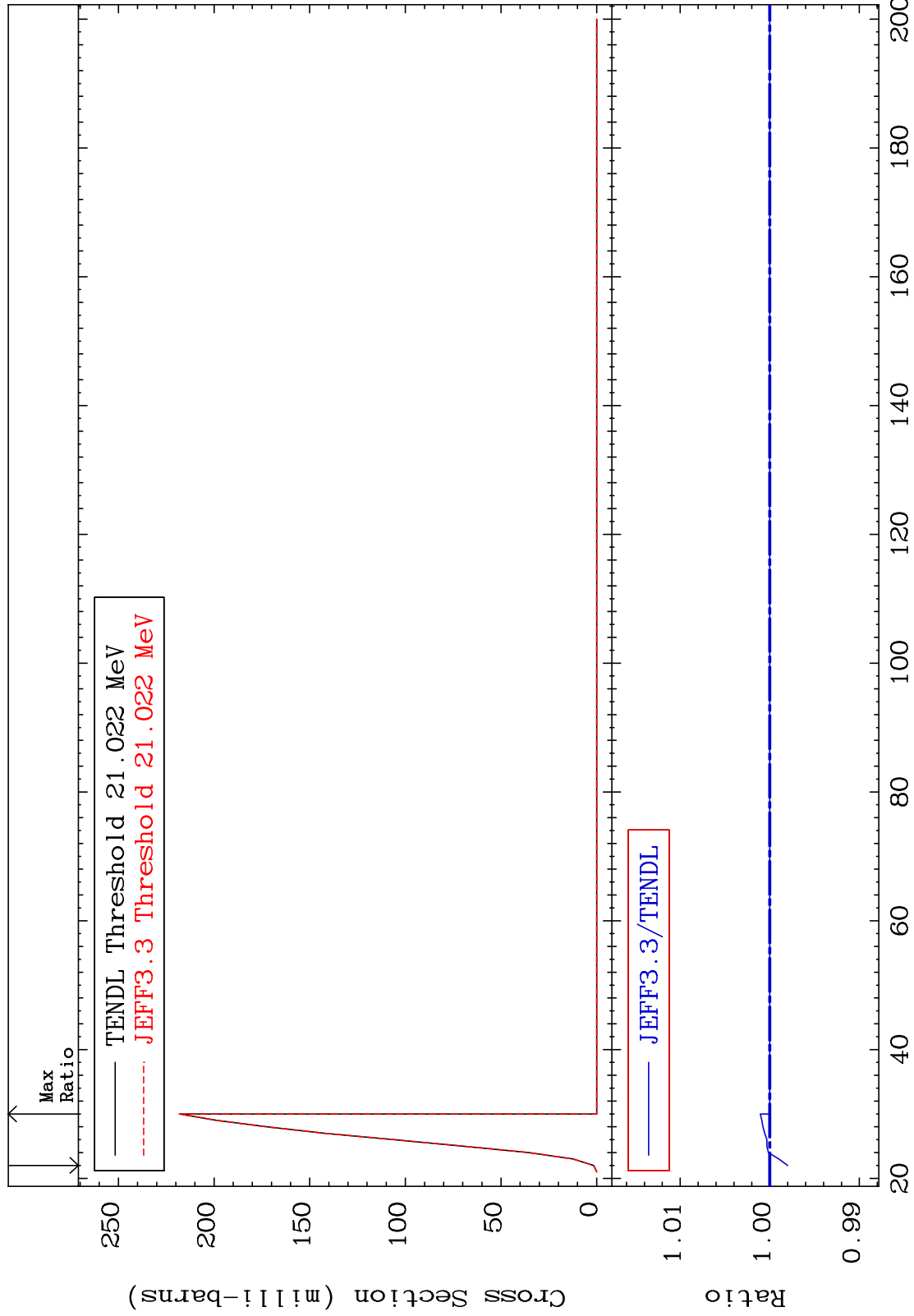
72-Hf-182

MAT 7249

(n,4n) : 72-Hf-179m10

72-Hf-182

Radionuclide Production Cross Section -0.199 To 0.106 %



76

Incident Energy (MeV)

72-Hf-182