

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

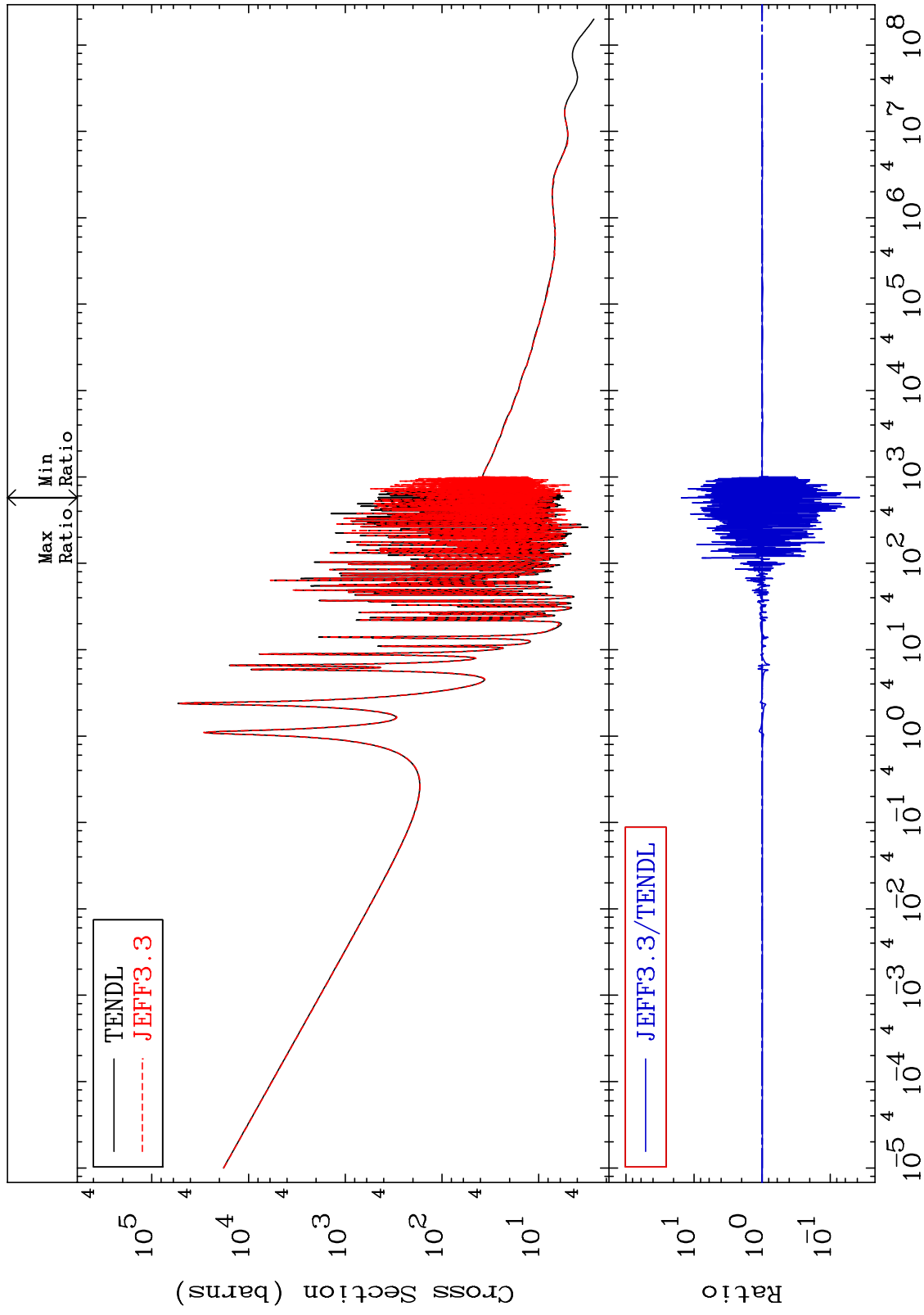
E.Mail: redcullen1@comcast.net
Web: redcullen1.net/HOMEPAGE.NEW

Press Mouse Button to Start

MAT 7234

Total
Cross Section

72-Hf-177
-96.31 To 1441. %



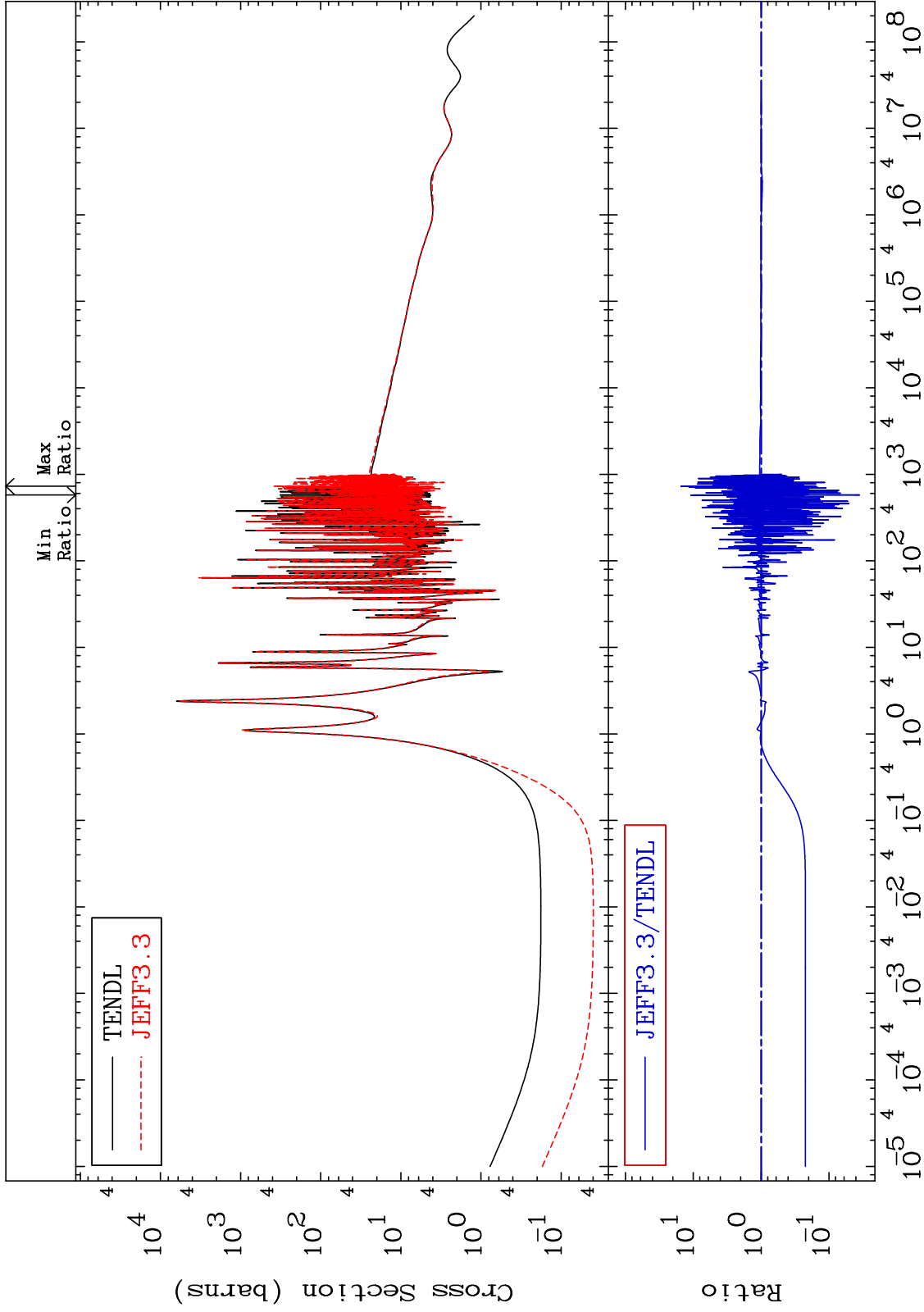
MAT 7234

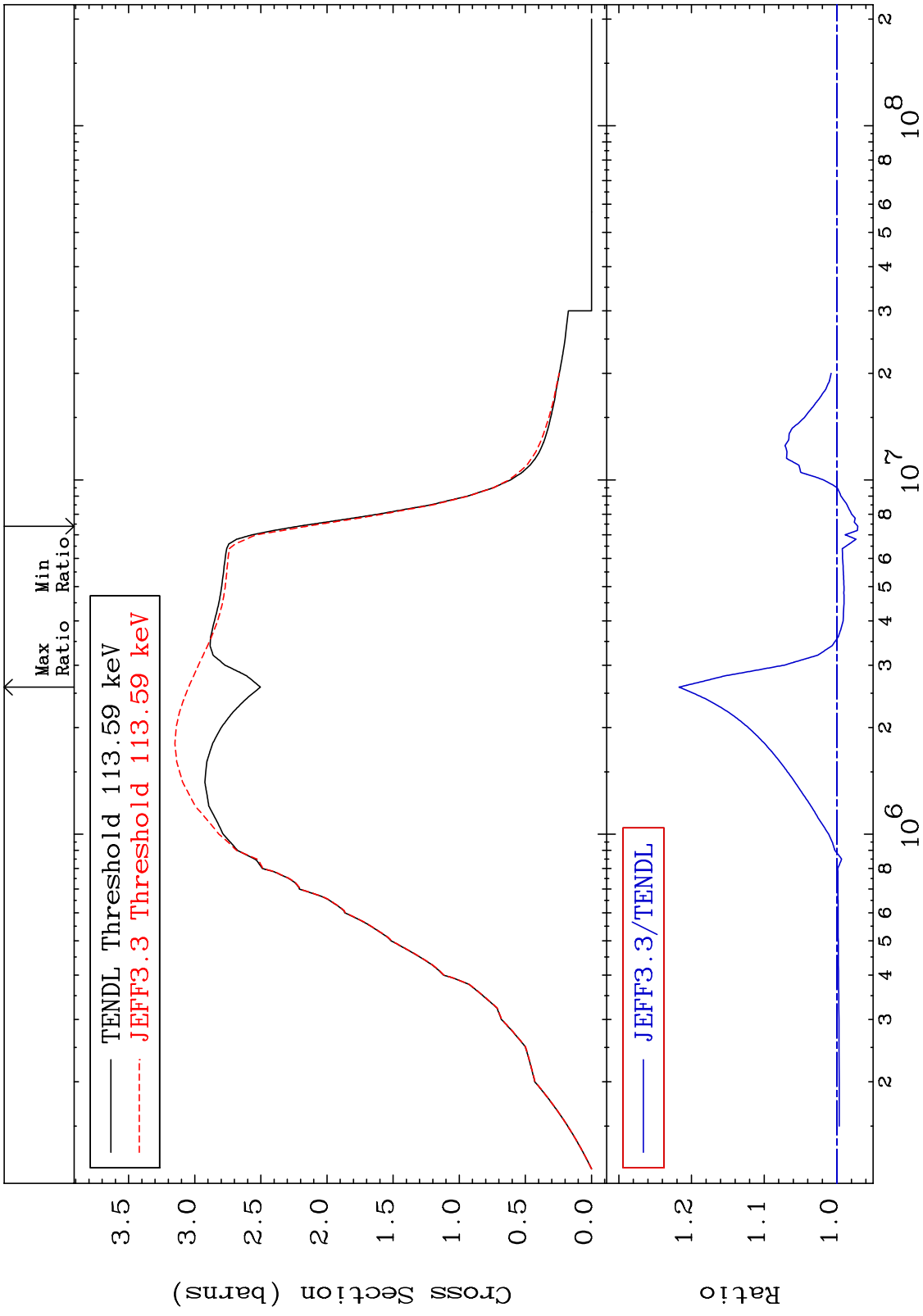
Elastic

72-Hf-177

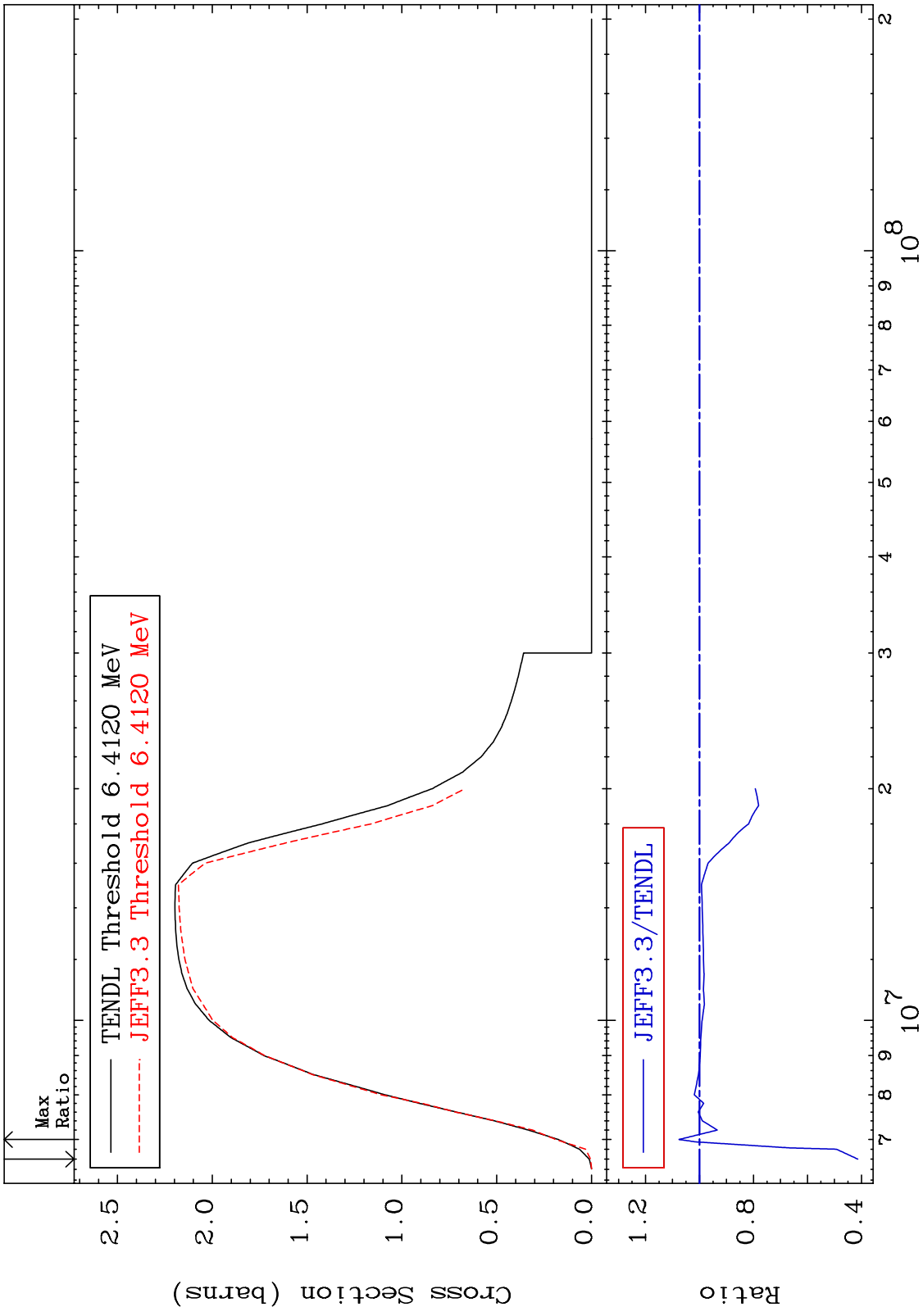
Cross Section

-96.47 To 1428. %

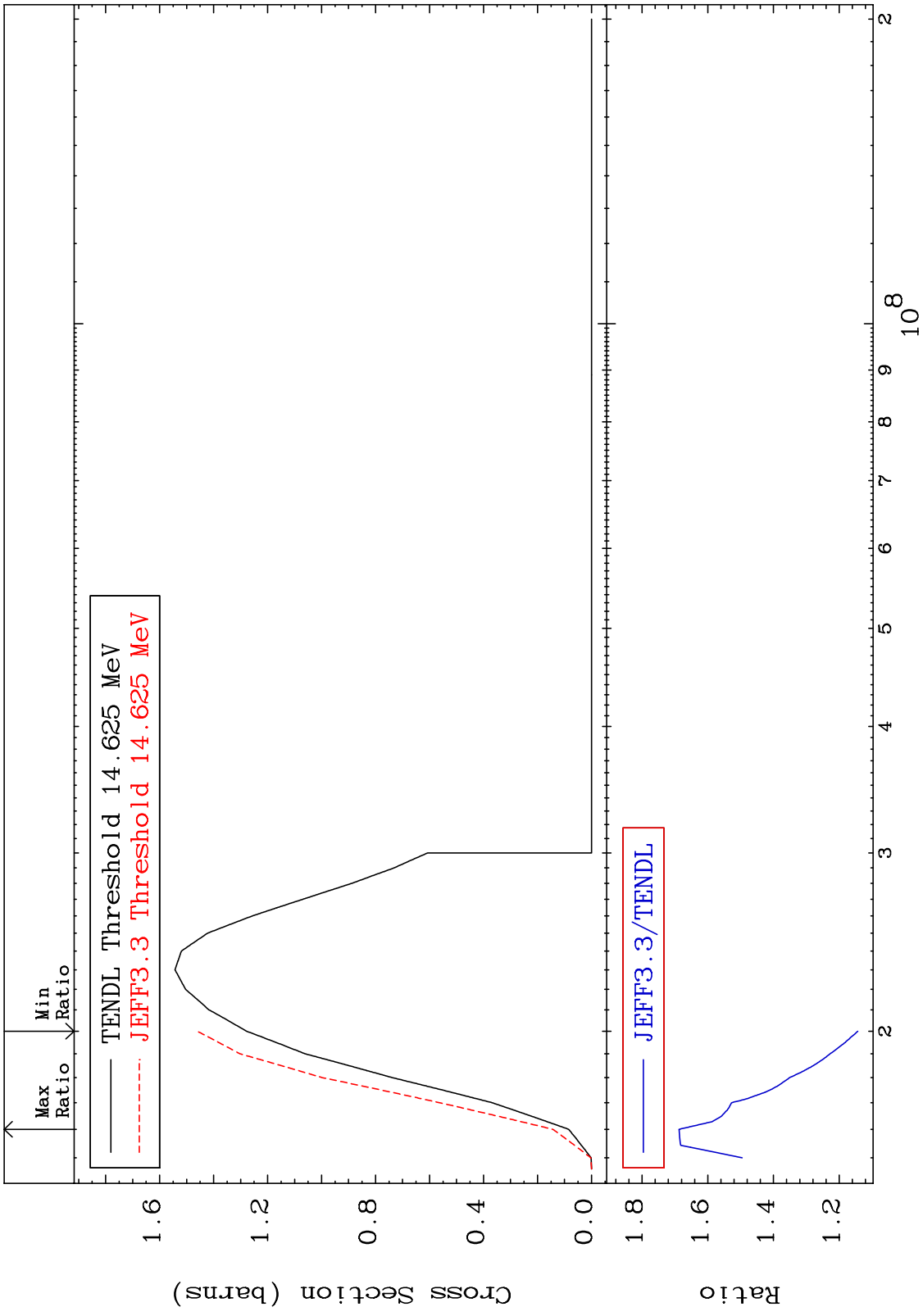




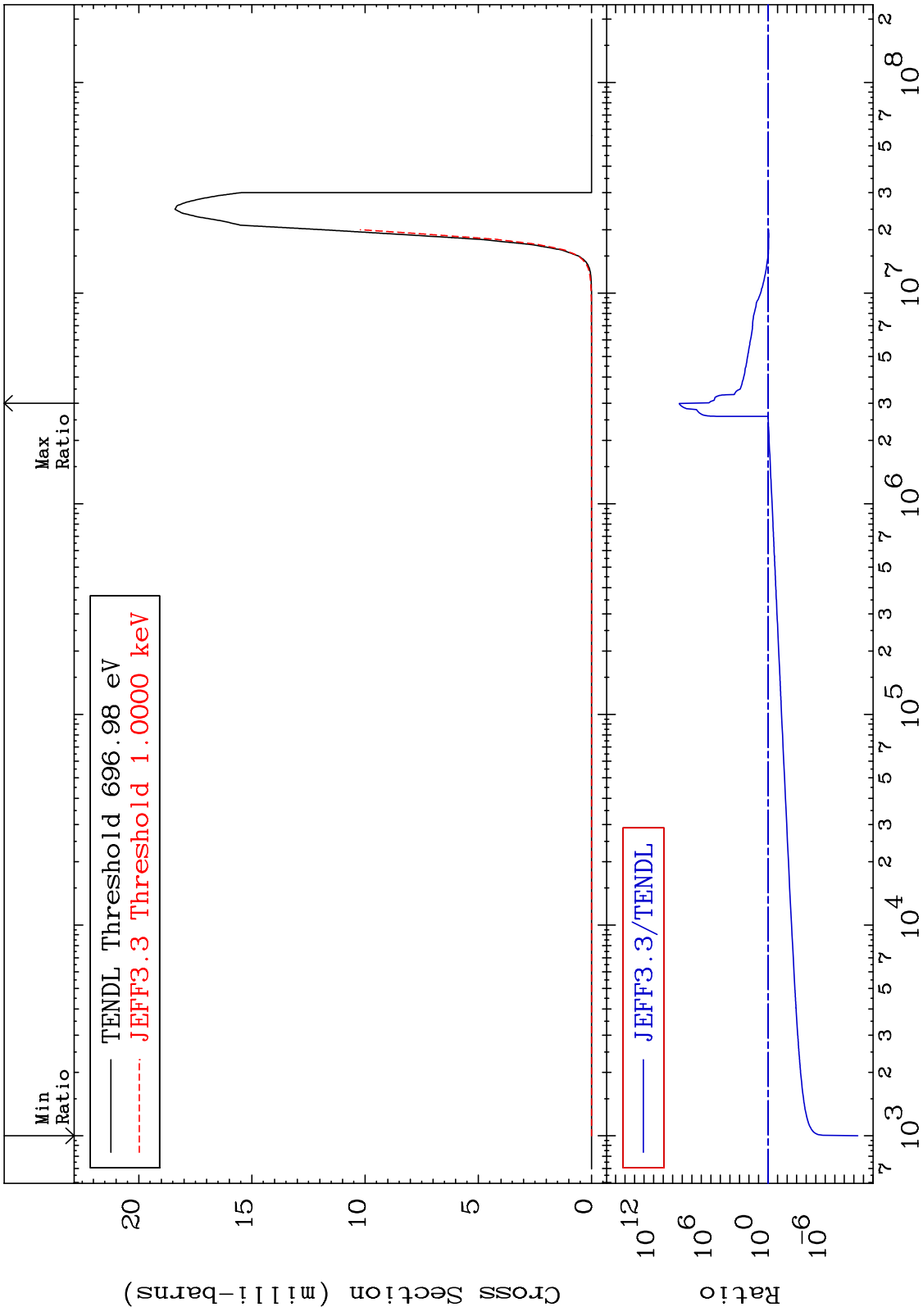
MAT 7234 (n,2n) Cross Section 72-Hf-177 -58.67 To 7.579 %



MAT 7234 (n,3n) Cross Section 72-Hf-177 To 68.75 %
 14.32



MAT 7234 $(n, n') \alpha$ 72-Hf-177
 Cross Section -100.0 To 9999. %



6 72-Hf-177

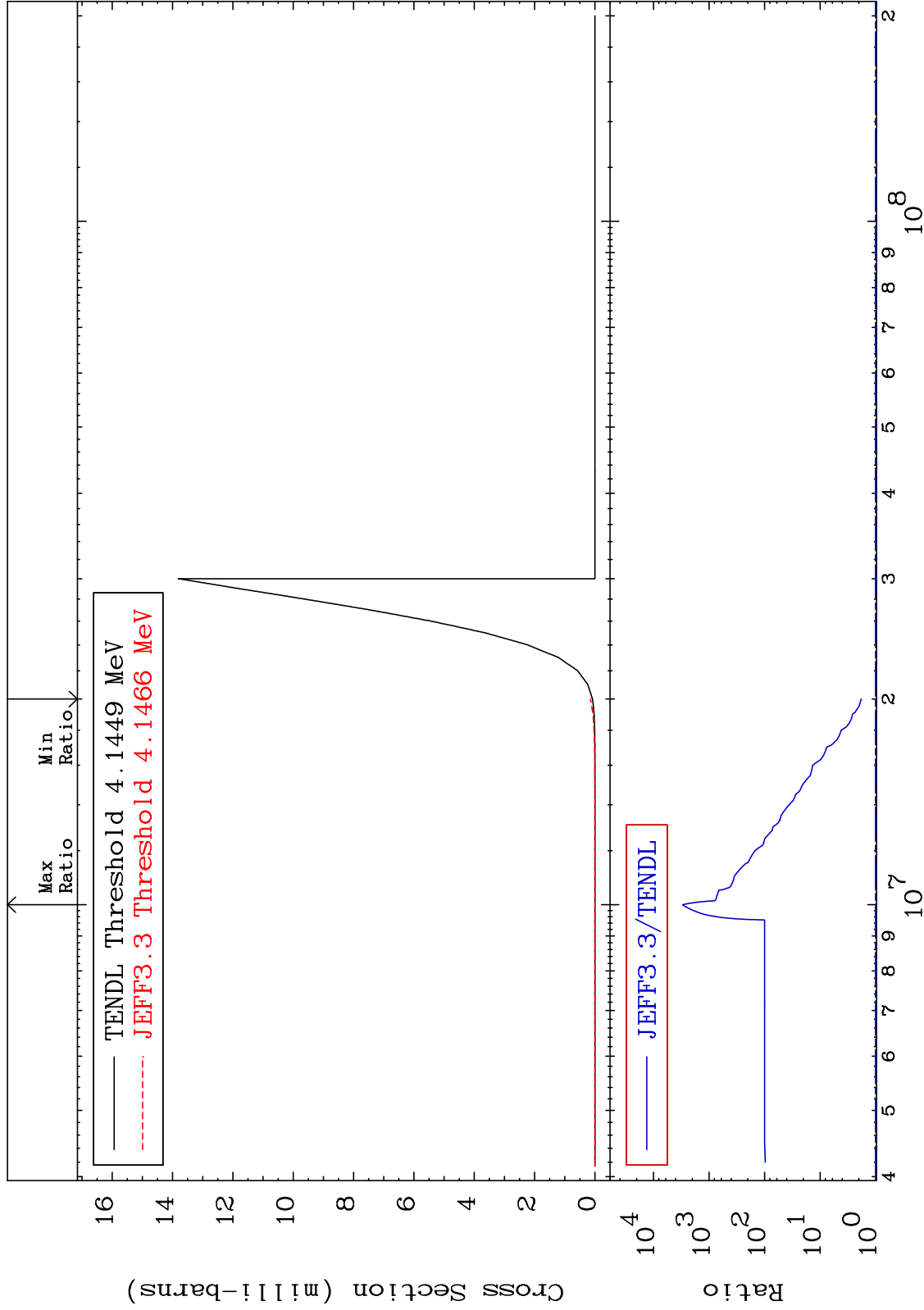
MAT 7234

(n,2n) α

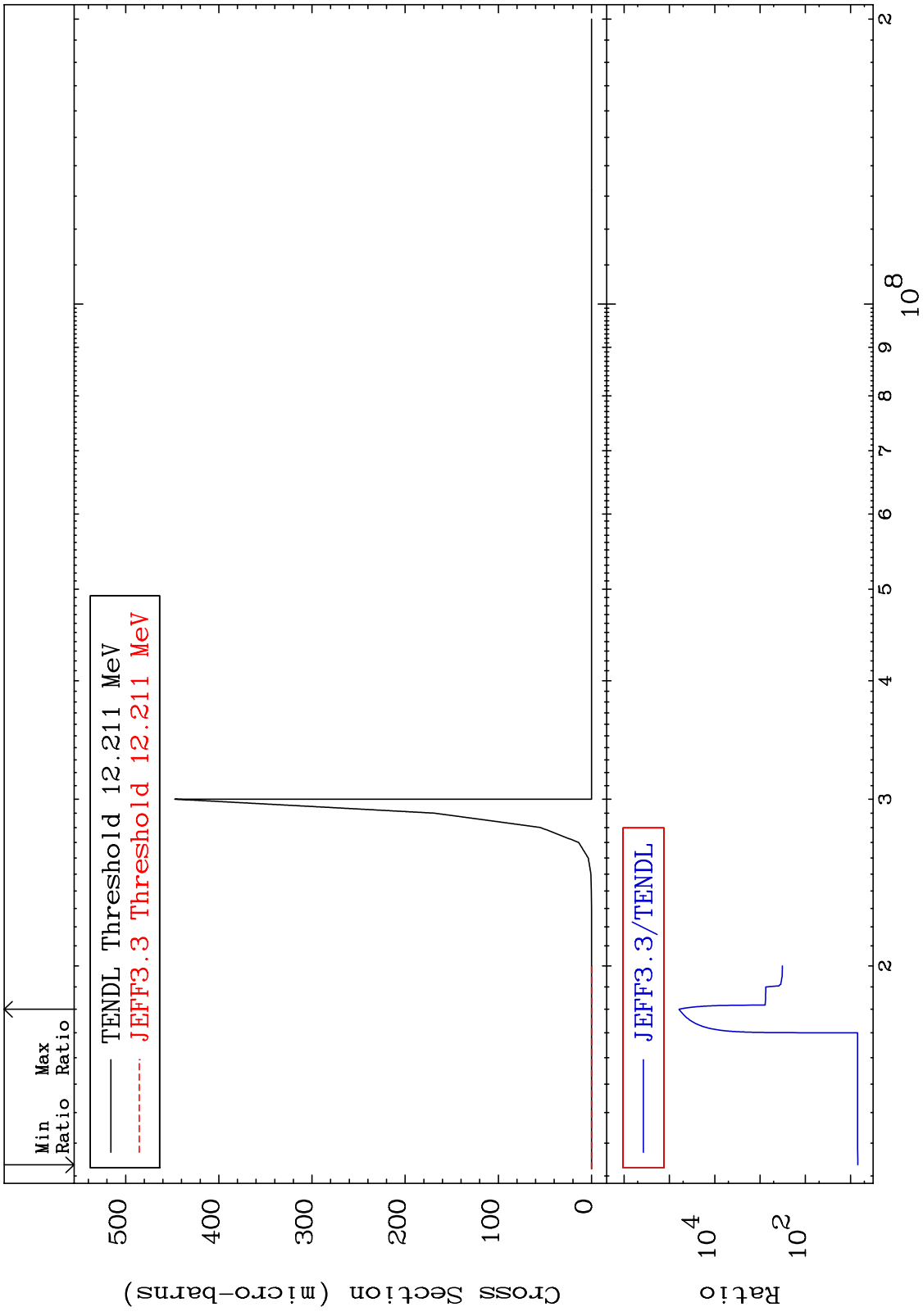
72-Hf-177

80.85 To 9999. %

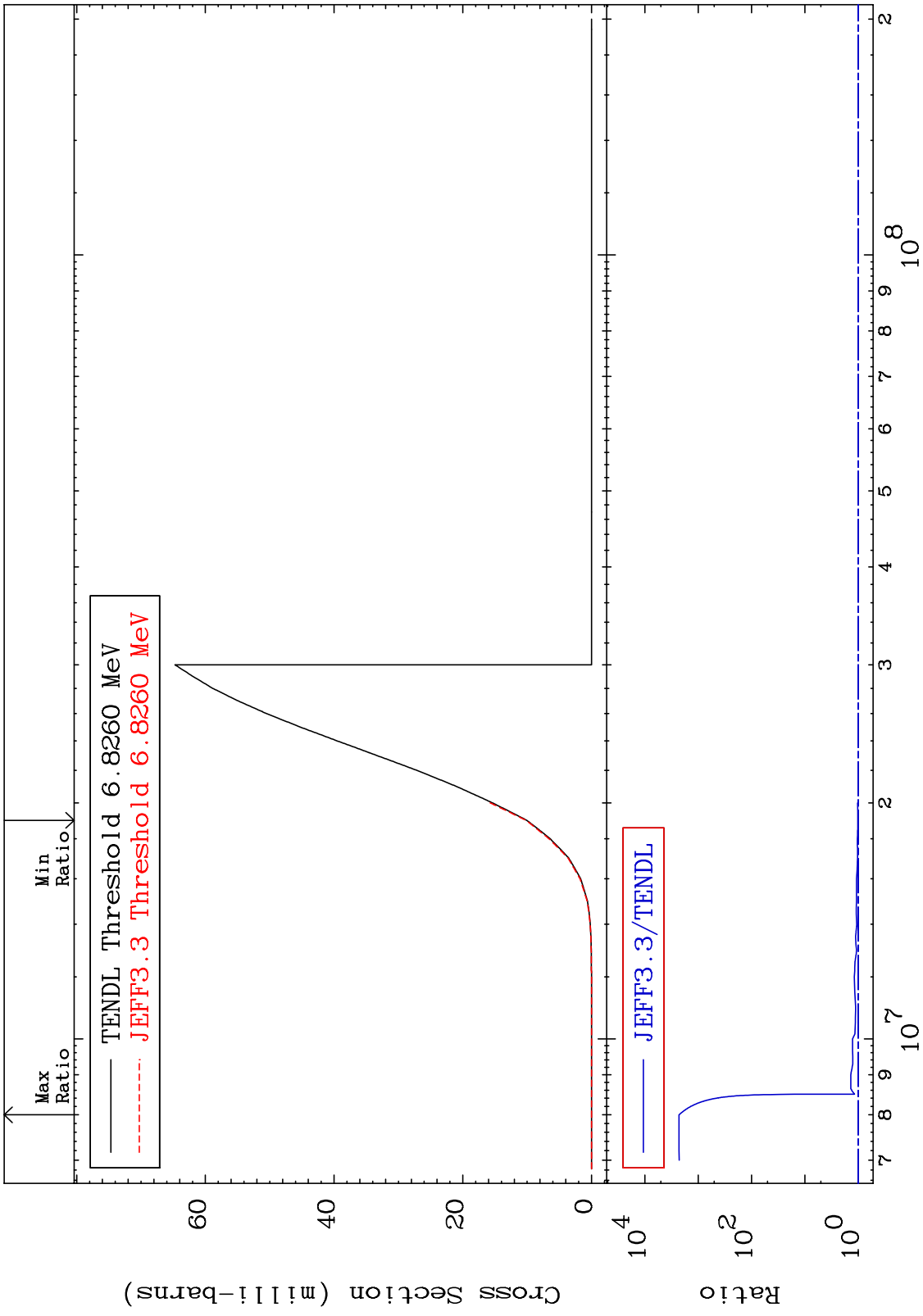
Cross Section



MAT 7234 (n,3n) α 72-Hf-177
 Cross Section 594.9 To 9999. %

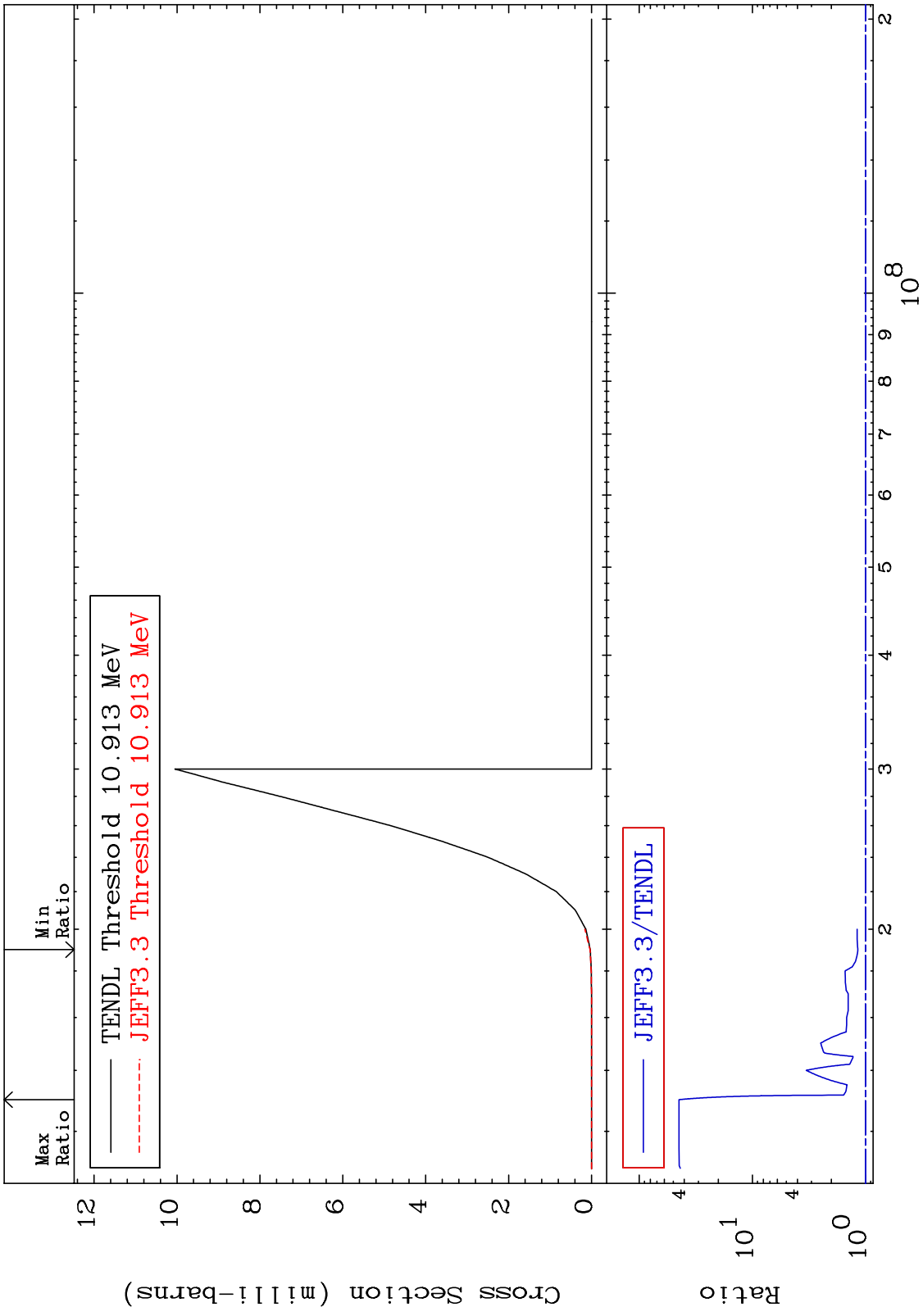


MAT 7234 (n,n') p 72-Hf-177
 Cross Section 1.358 To 9999. %

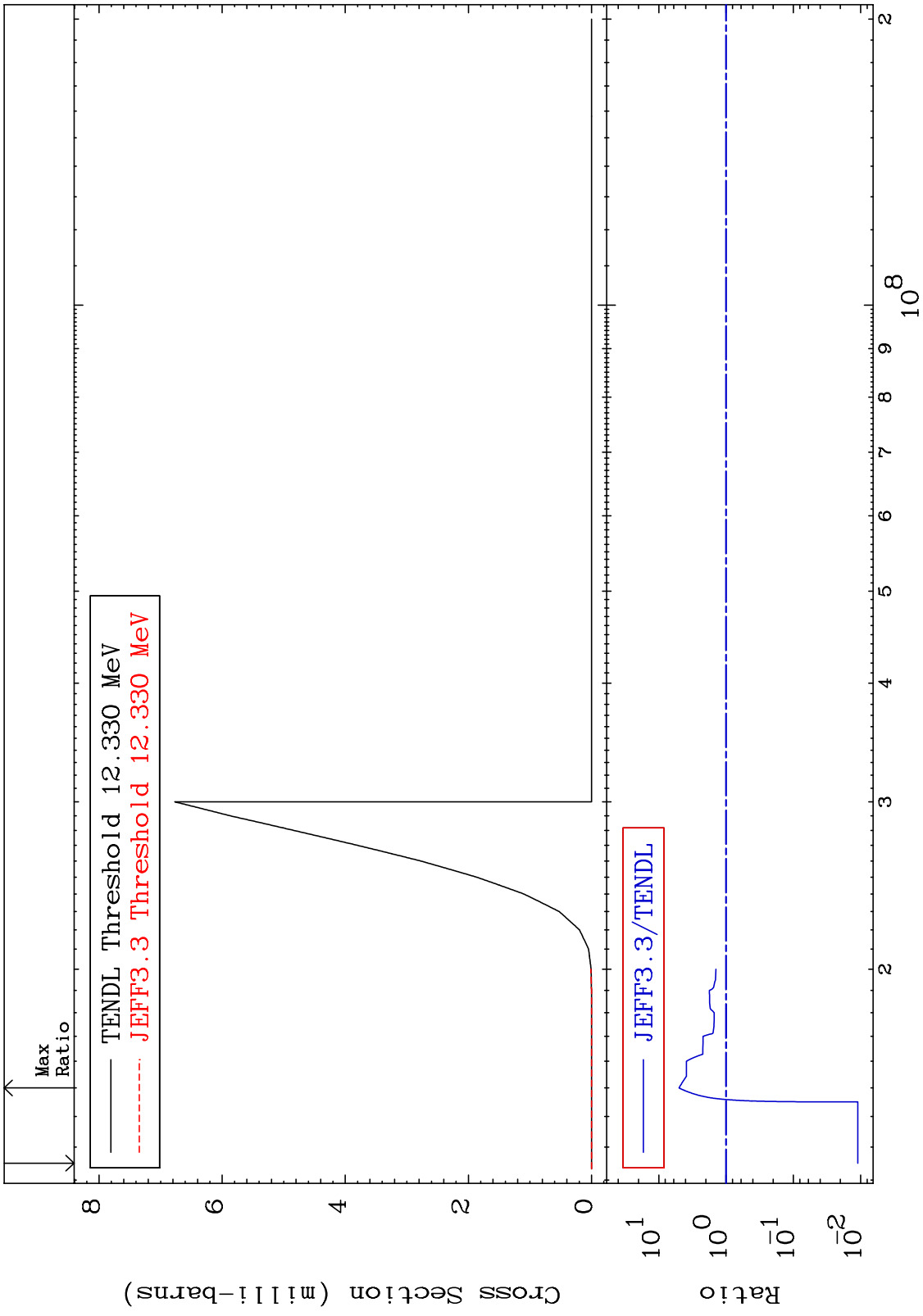


9 Incident Energy (eV) 72-Hf-177

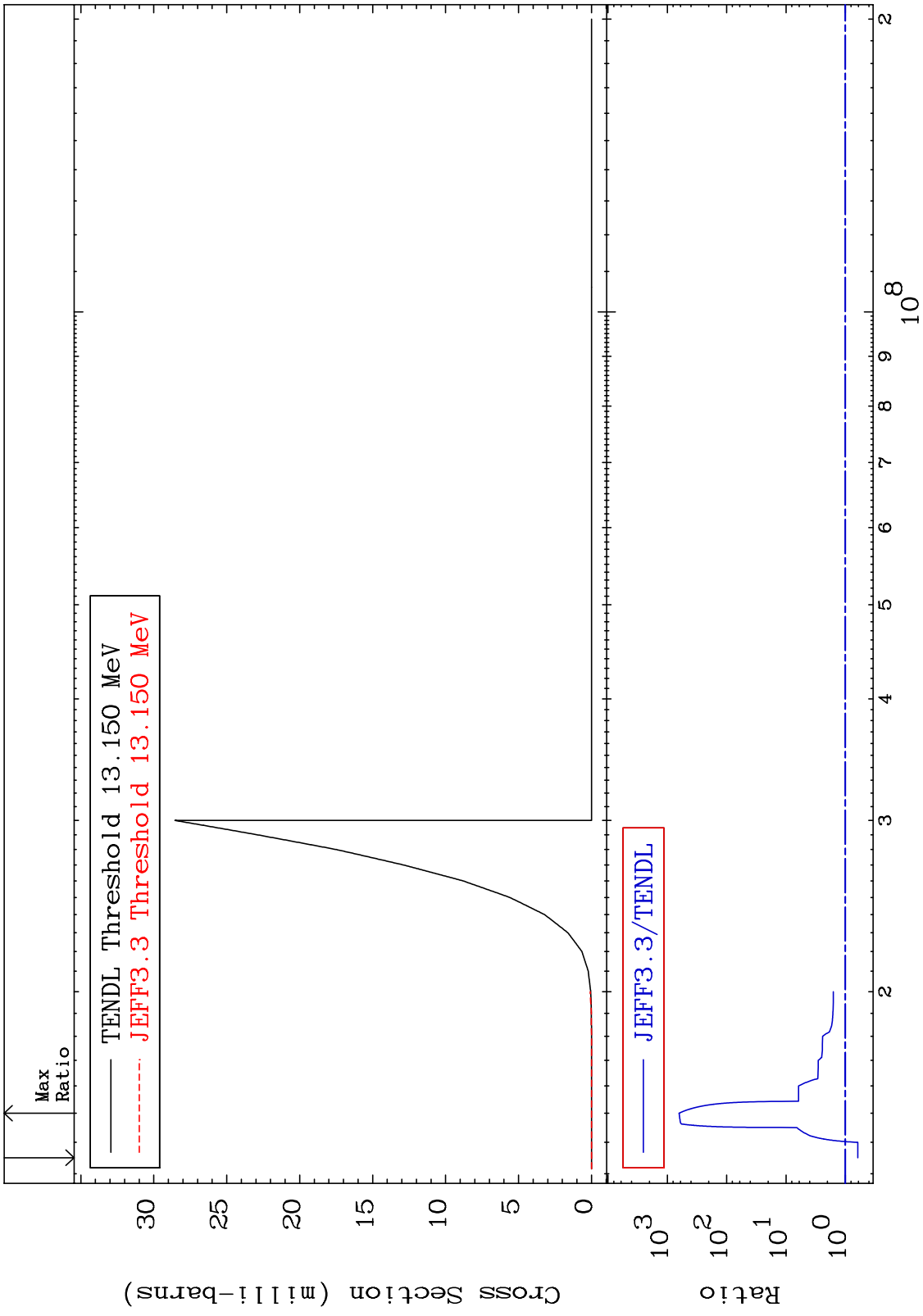
MAT 7234 (n,n') d 72-Hf-177
 Cross Section 16.72 To 4350. %



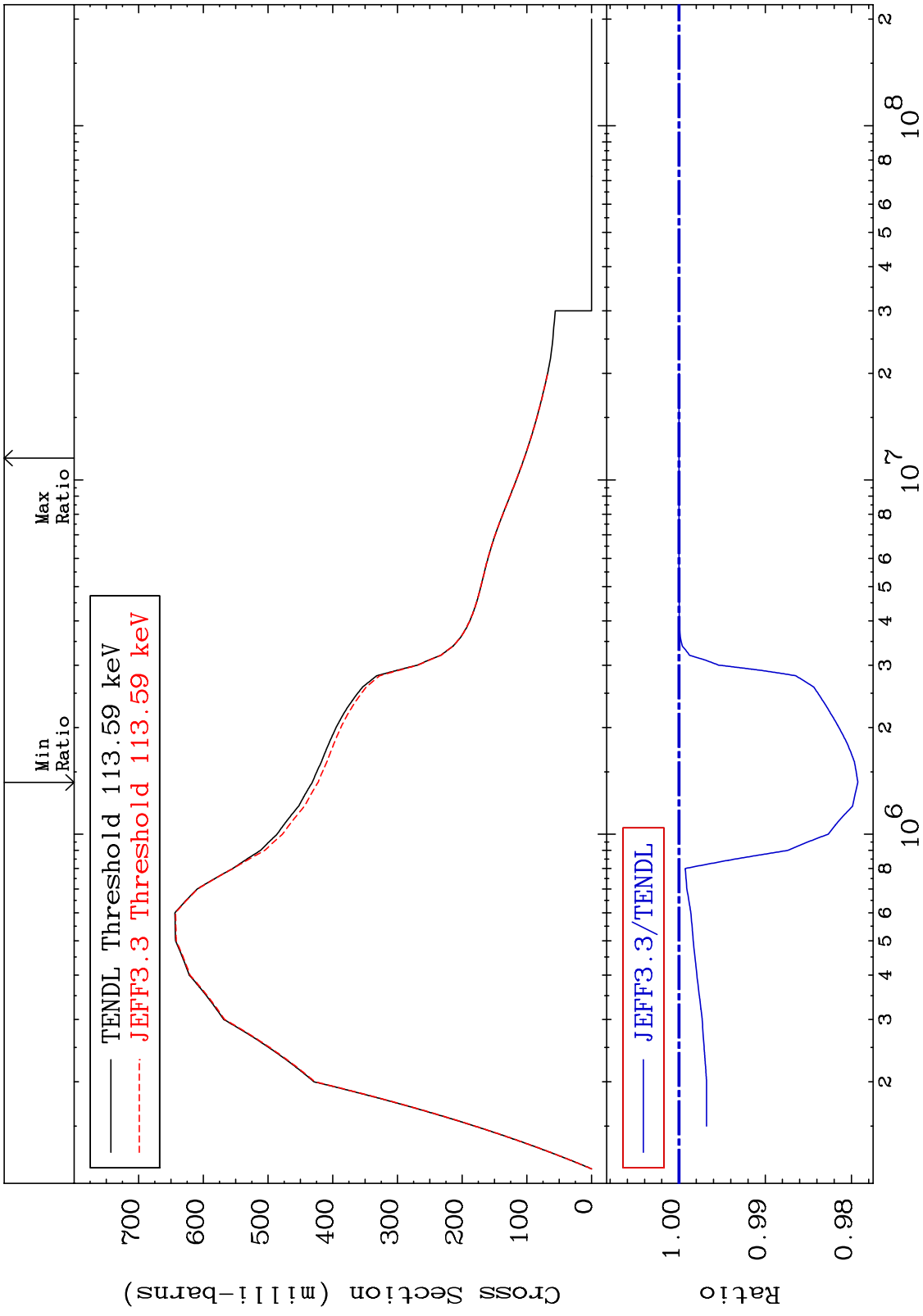
MAT 7234 (n, n') t 72-Hf-177
 Cross Section -98.90 To 399.6 %



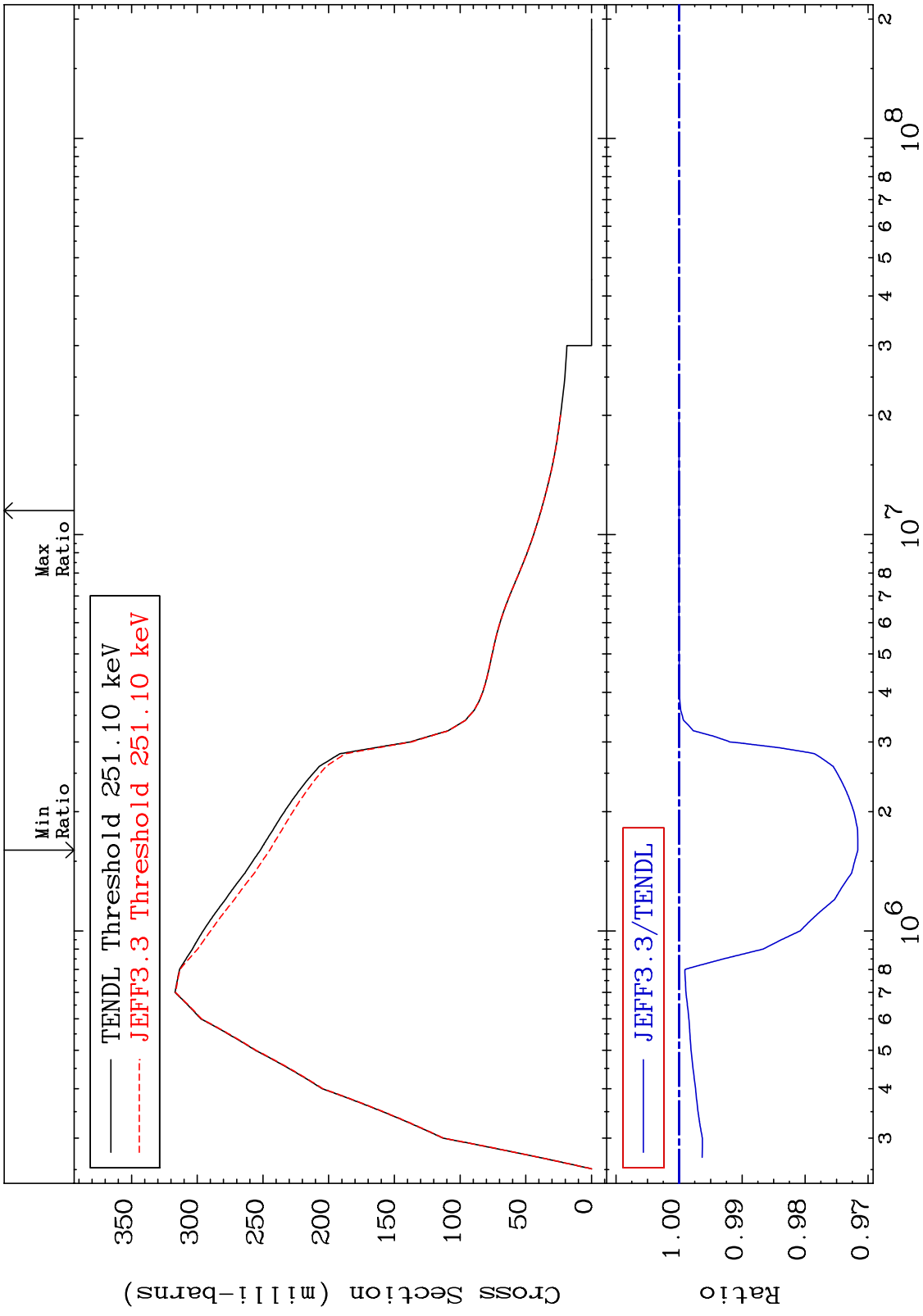
MAT 7234 (n,2n) p 72-Hf-177
 Cross Section -38.39 To 9999. %



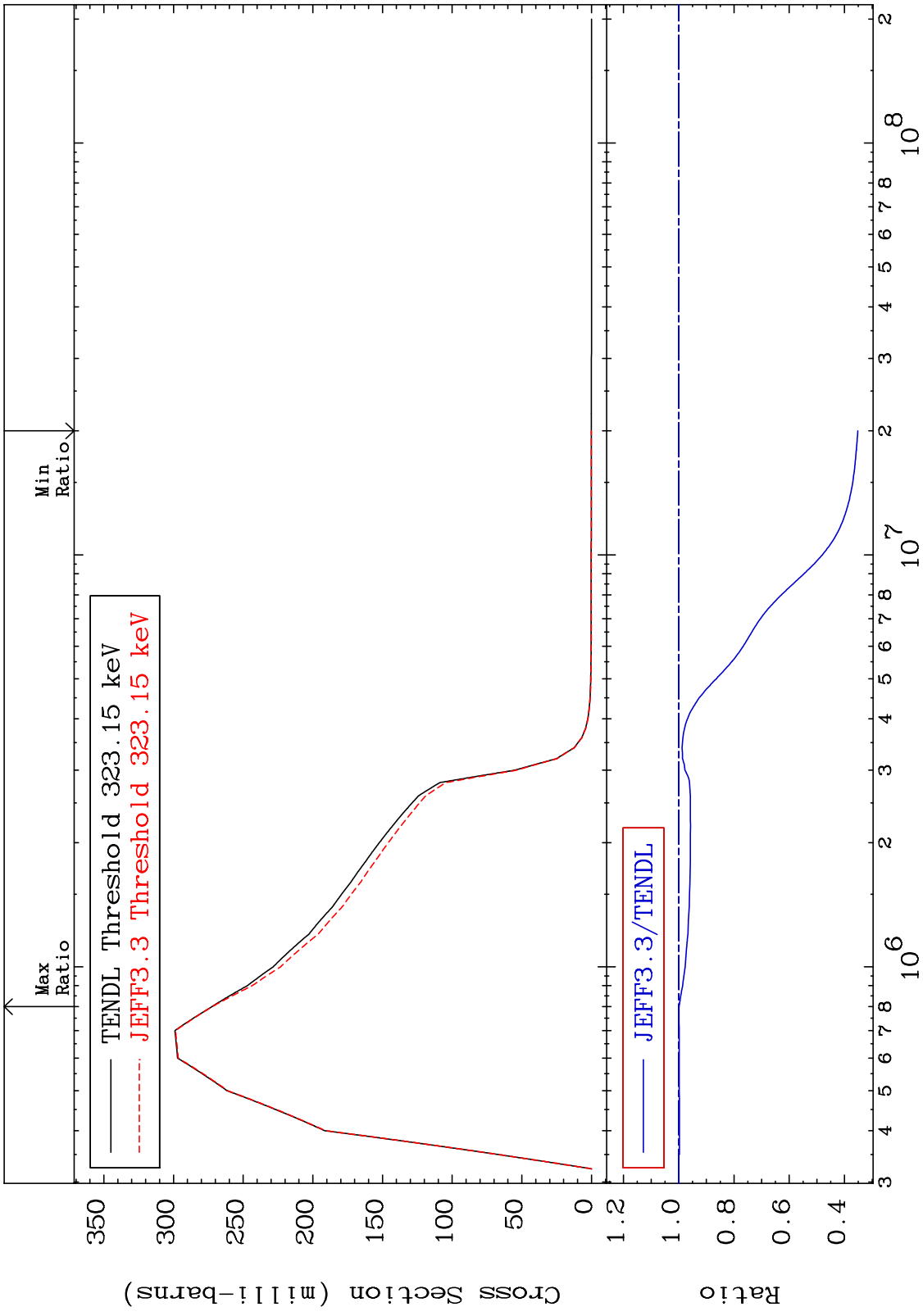
MAT 7234 MT= 51 (n,n') Level Cross Section 72-Hf-177
 -2.074 To 0.000 %



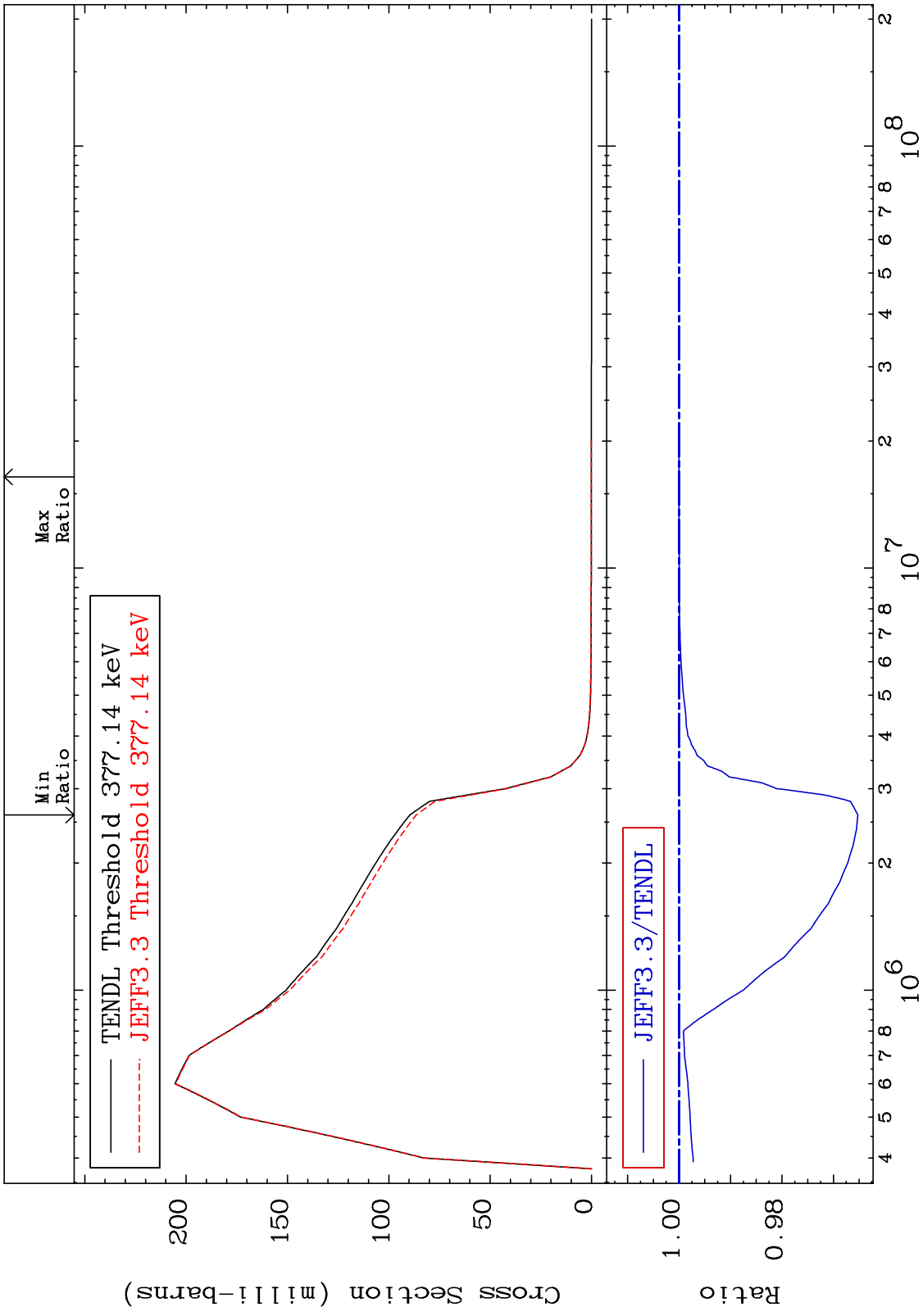
MAT 7234 MT= 52 (n,n') Level Cross Section 72-Hf-177 -2.837 To 0.000 %



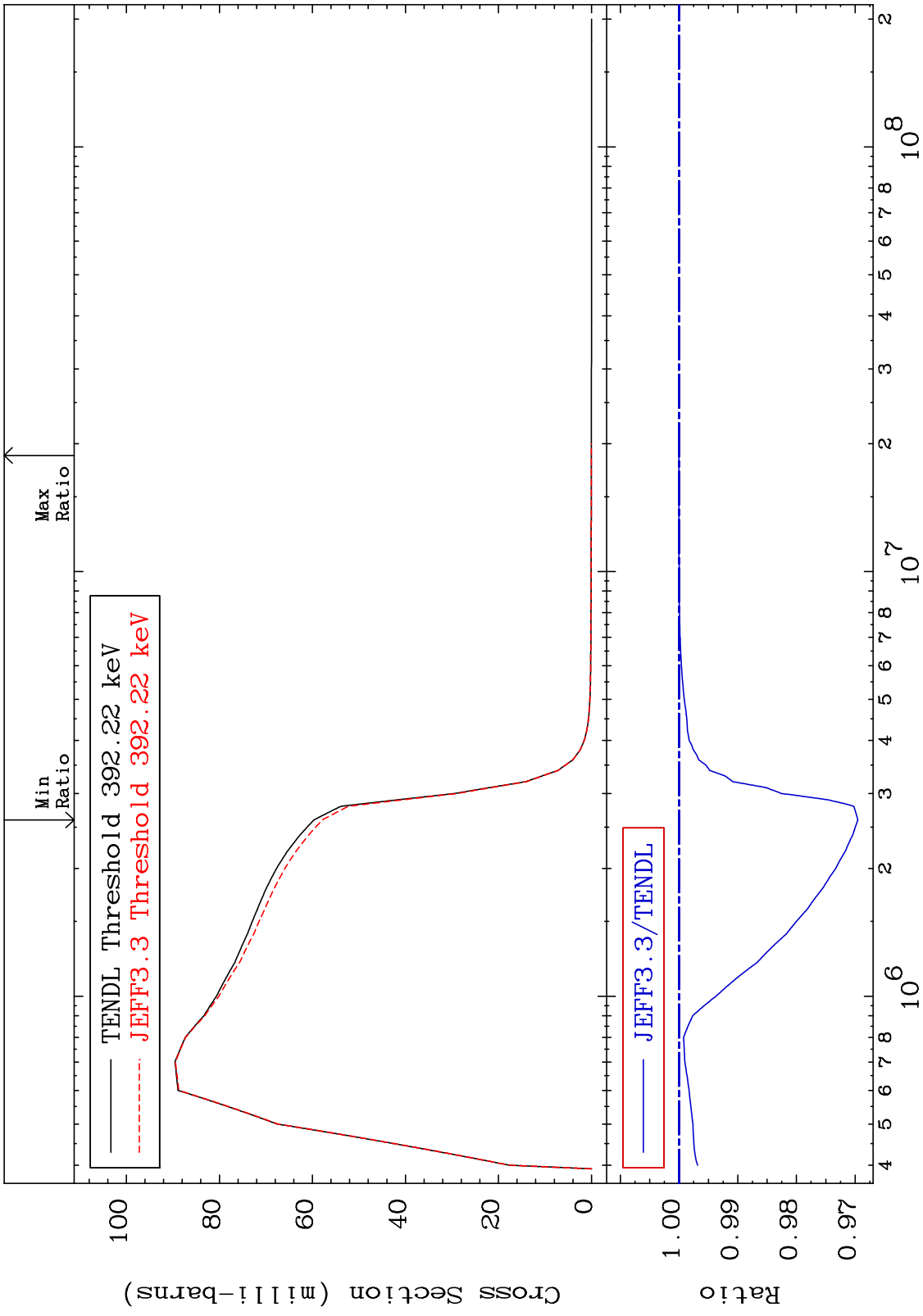
MAT 7234 MT= 53 (n,n') Level Cross Section 72-Hf-177
 -64.82 To -0.110%



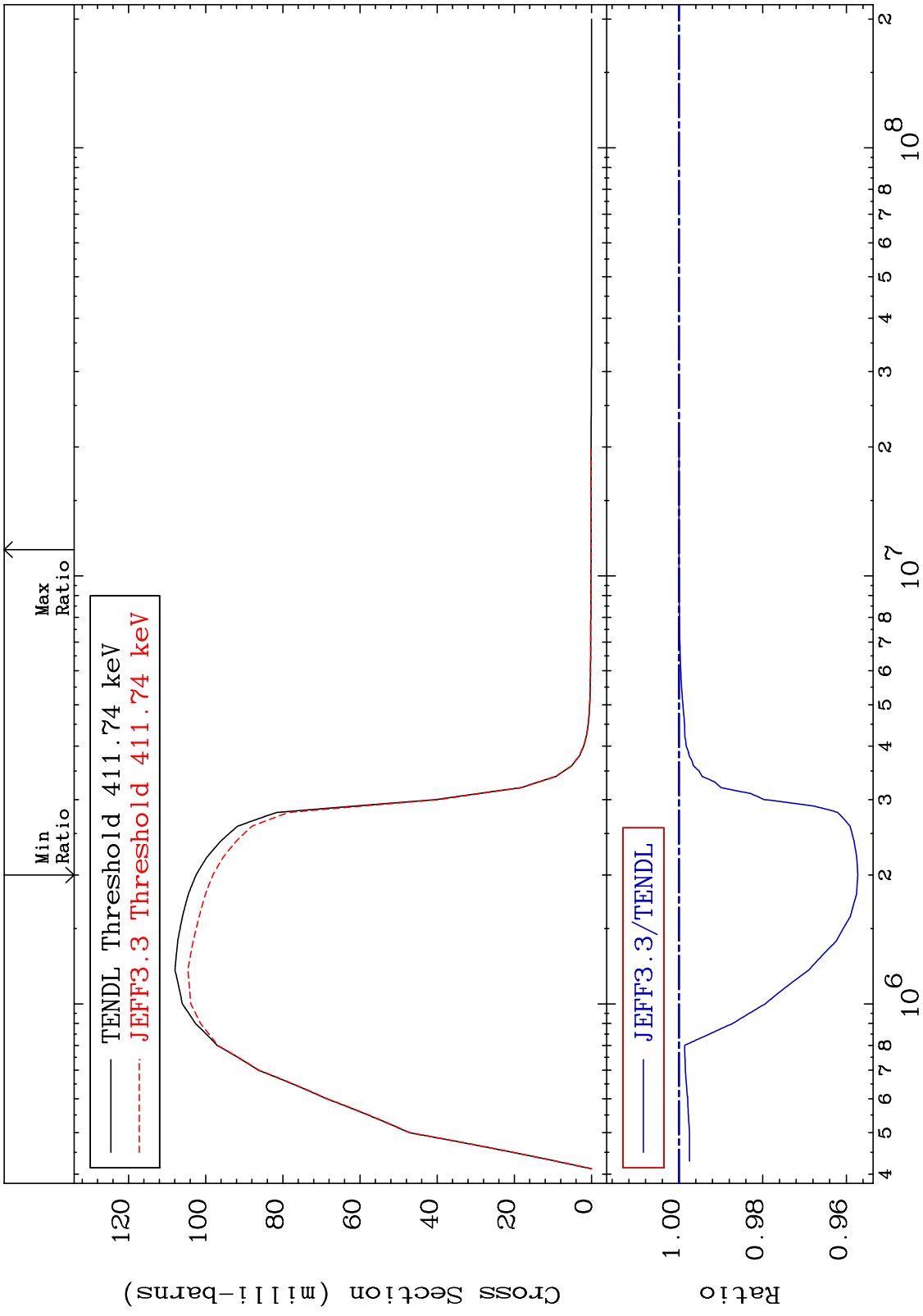
MAT 7234 MT= 54 (n,n') Level Cross Section 72-Hf-177
 -3.474 To 0.000 %



MAT 7234 MT= 55 (n,n') Level Cross Section 72-Hf-177
 -3.046 To 0.000 %



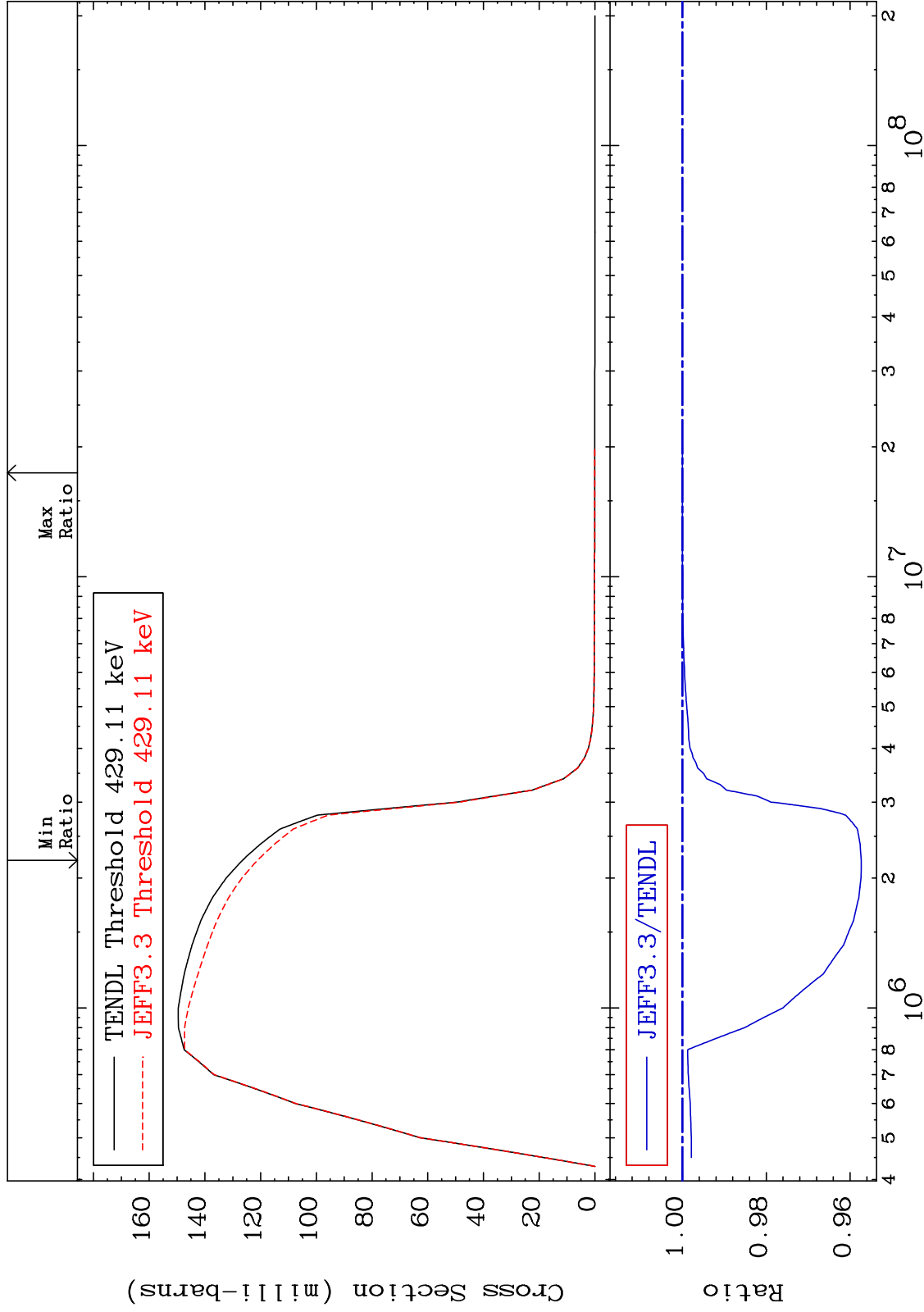
MAT 7234 MT= 56 (n,n') Level Cross Section 72-Hf-177 -4.274 To 0.000 %



MAT 7234

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

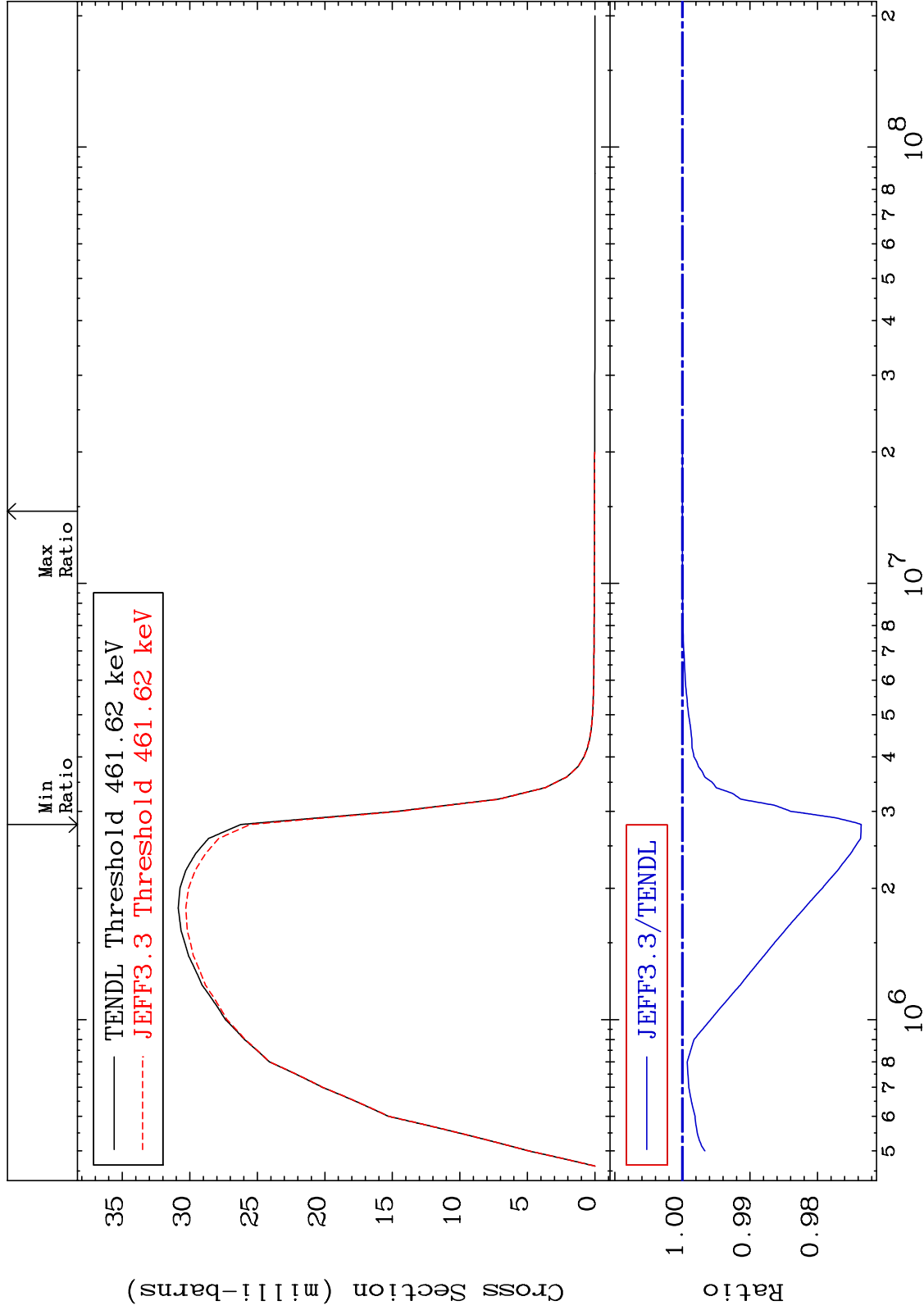
72-Hf-177
-4.266 To 0.000 %



MAT 7234

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

72-Hf-177
-2.647 To 0.000 %

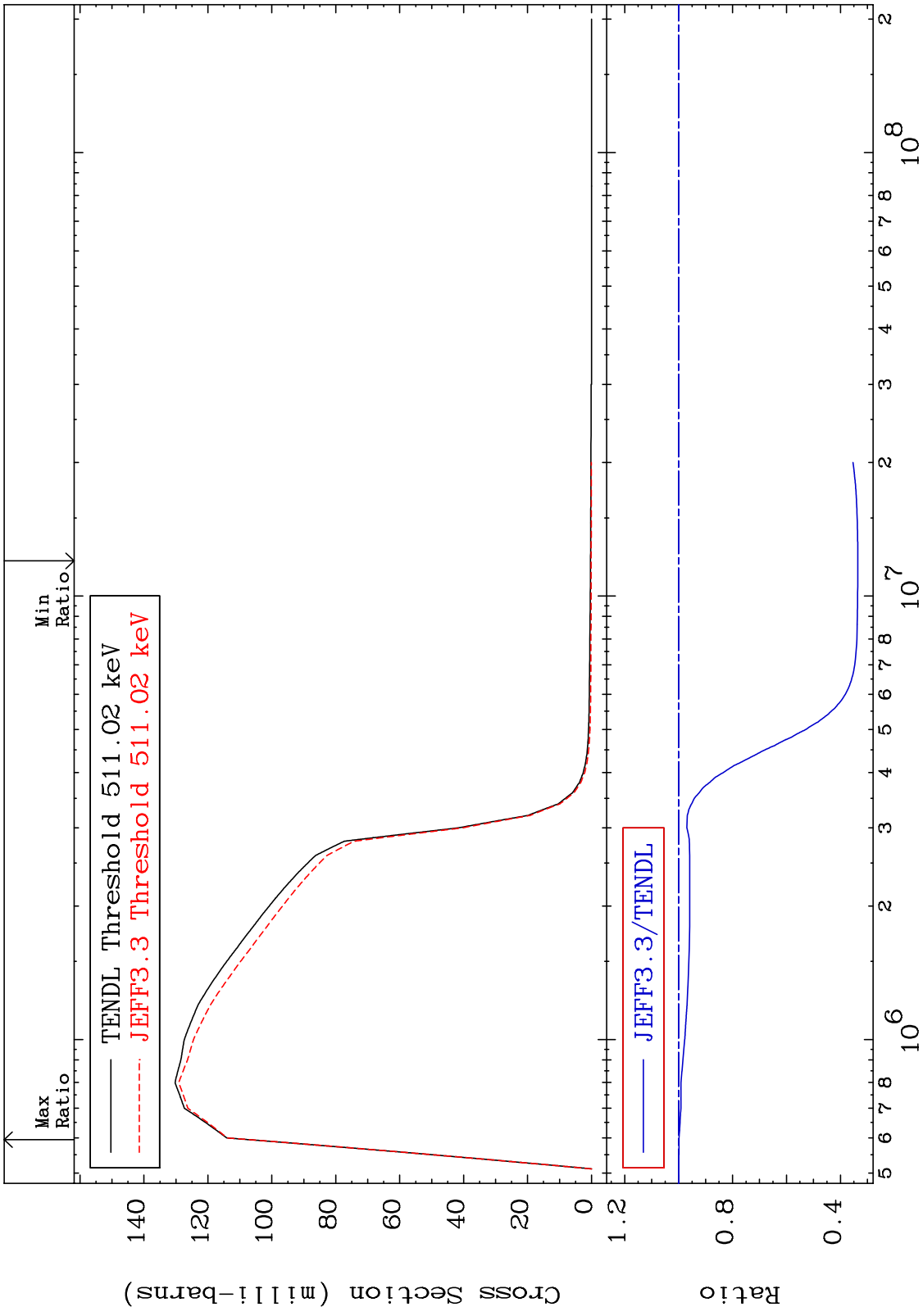


20

Incident Energy (eV)

72-Hf-177

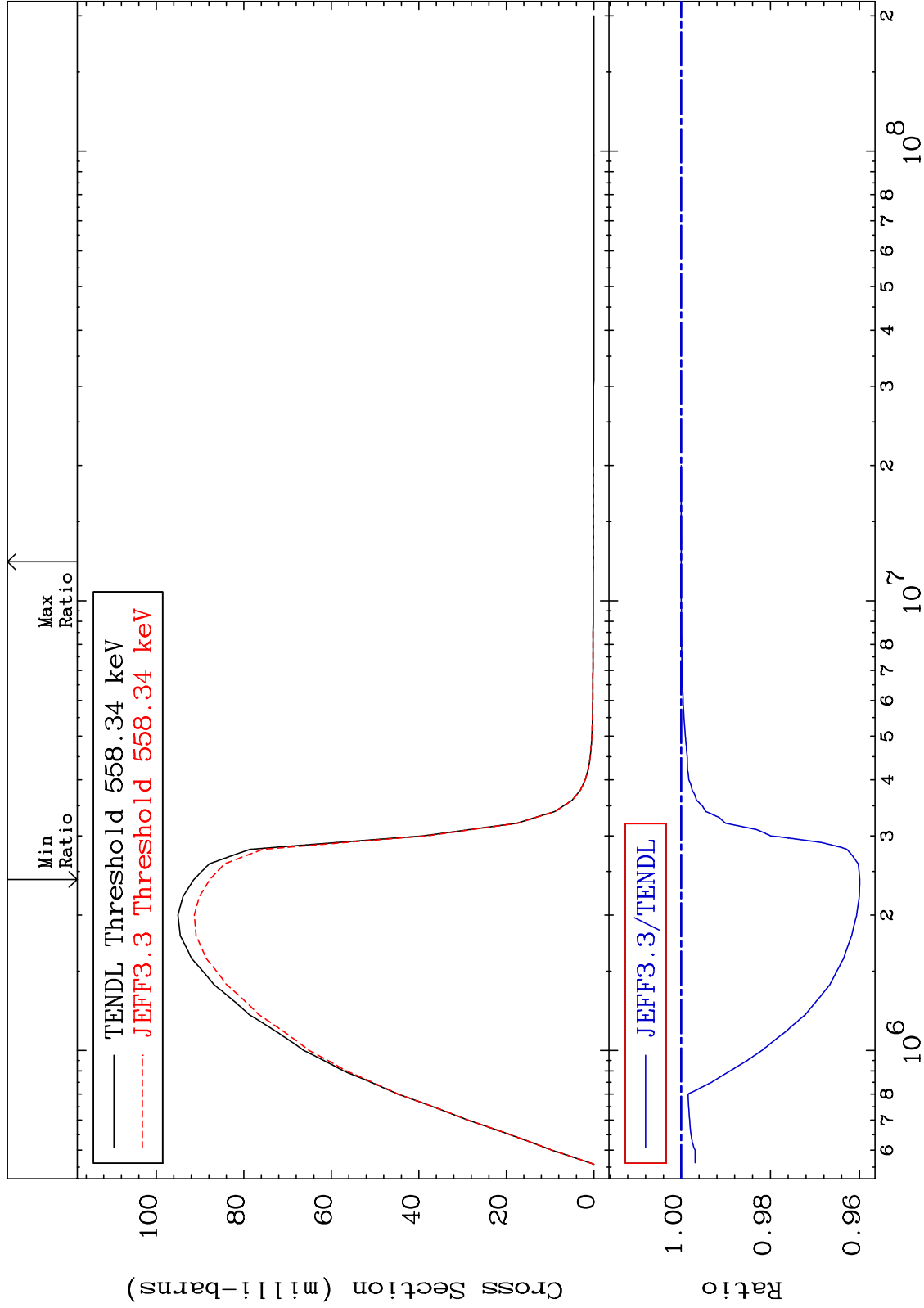
MAT 7234 MT= 59 (n,n') Level Cross Section 72-Hf-177
 -66.46 To -0.161%



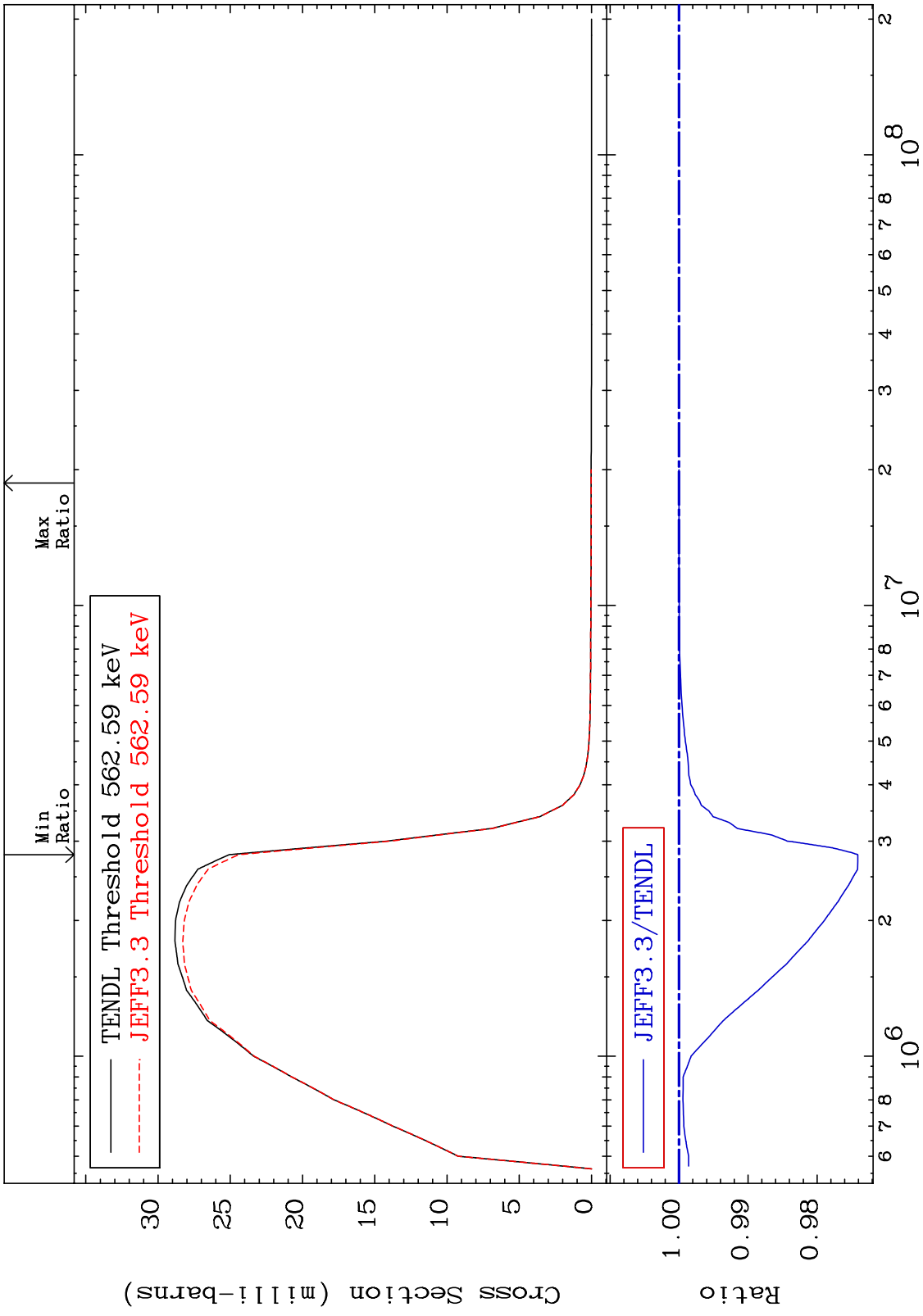
MAT 7234

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

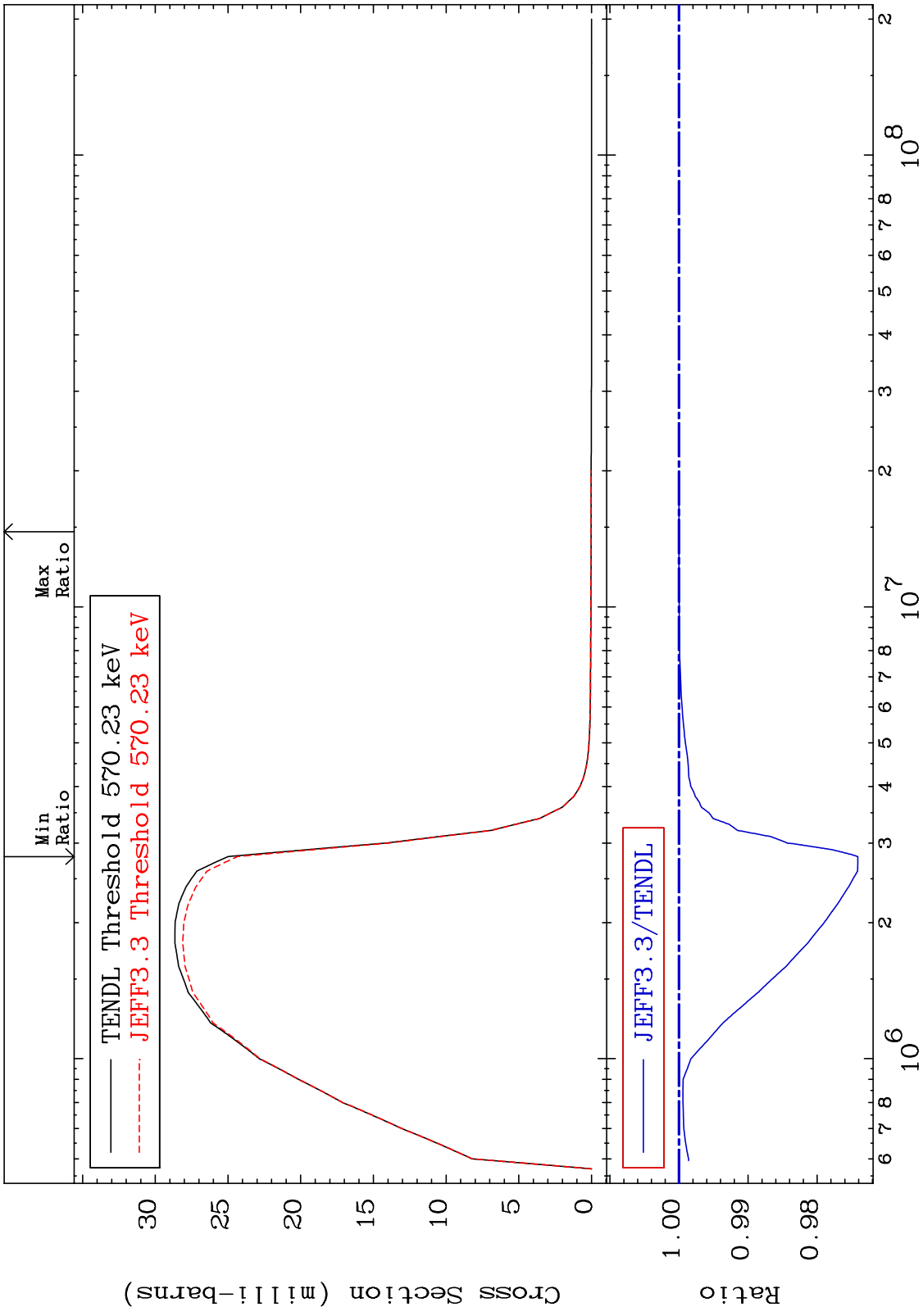
72-Hf-177
-4.007 To 0.000 %



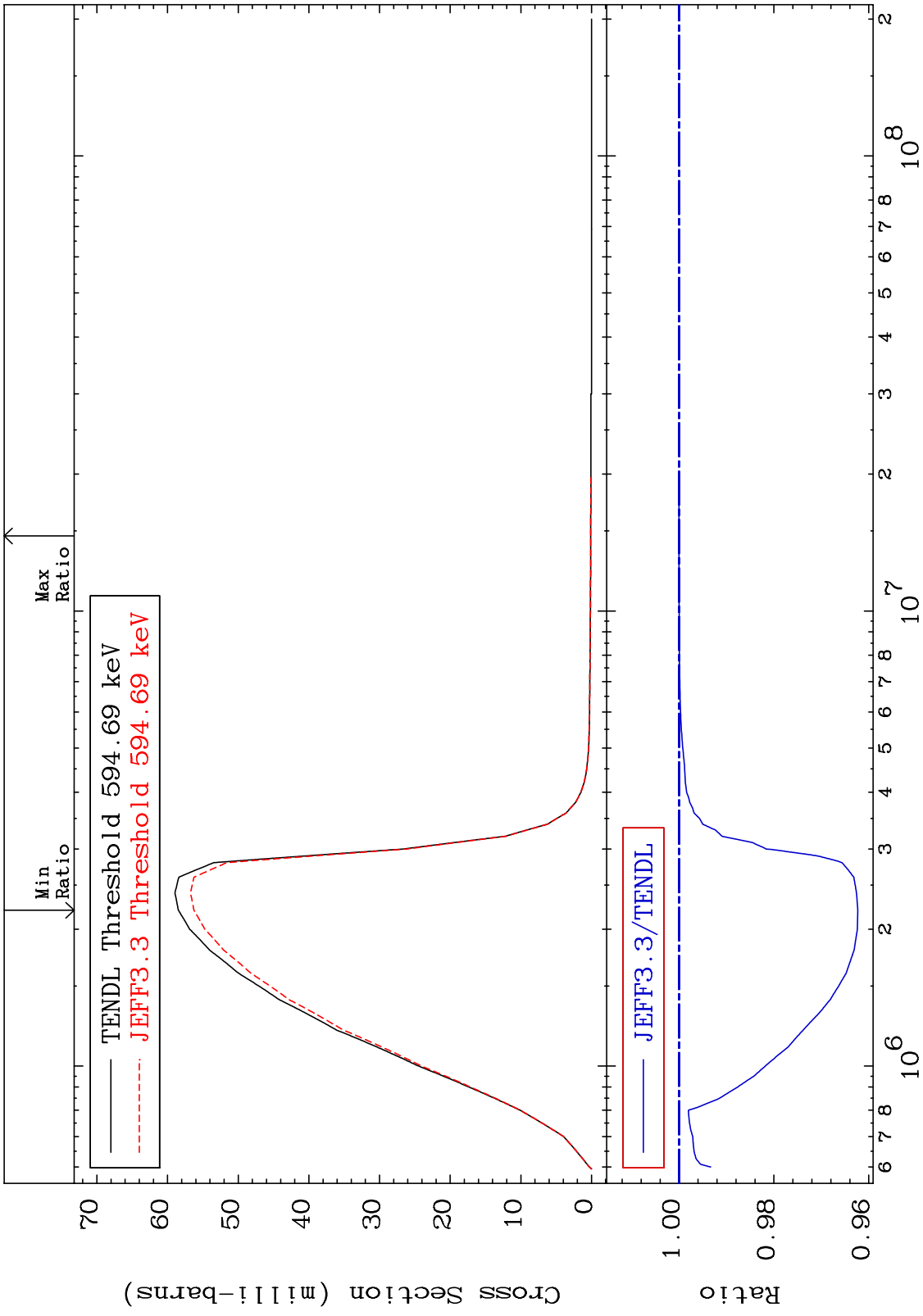
MAT 7234 MT= 61 (n,n') Level Cross Section -2.590 To 0.000 % 72-Hf-177



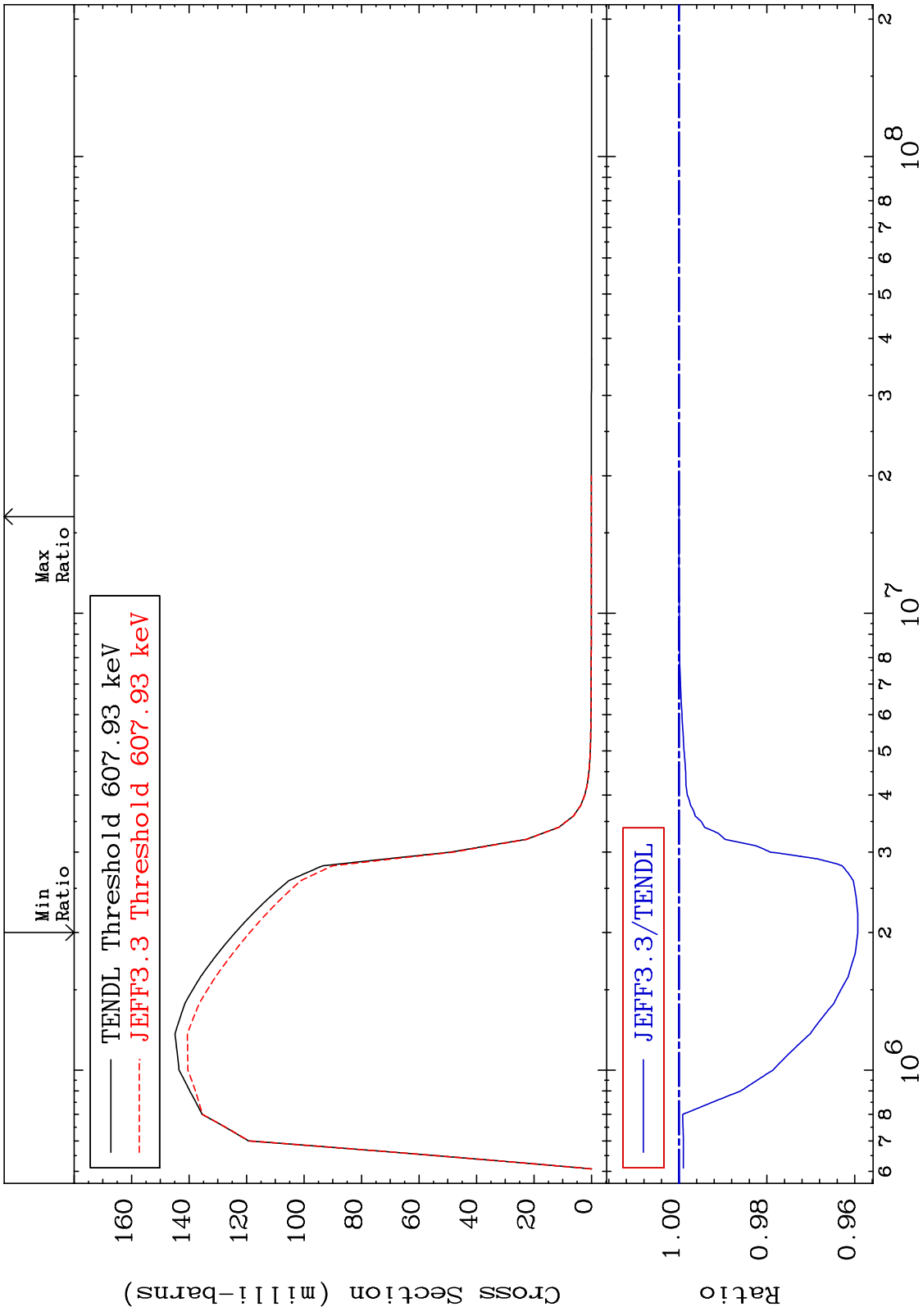
MAT 7234 MT= 62 (n,n') Level Cross Section 72-Hf-177
 -2.588 To 0.000 %



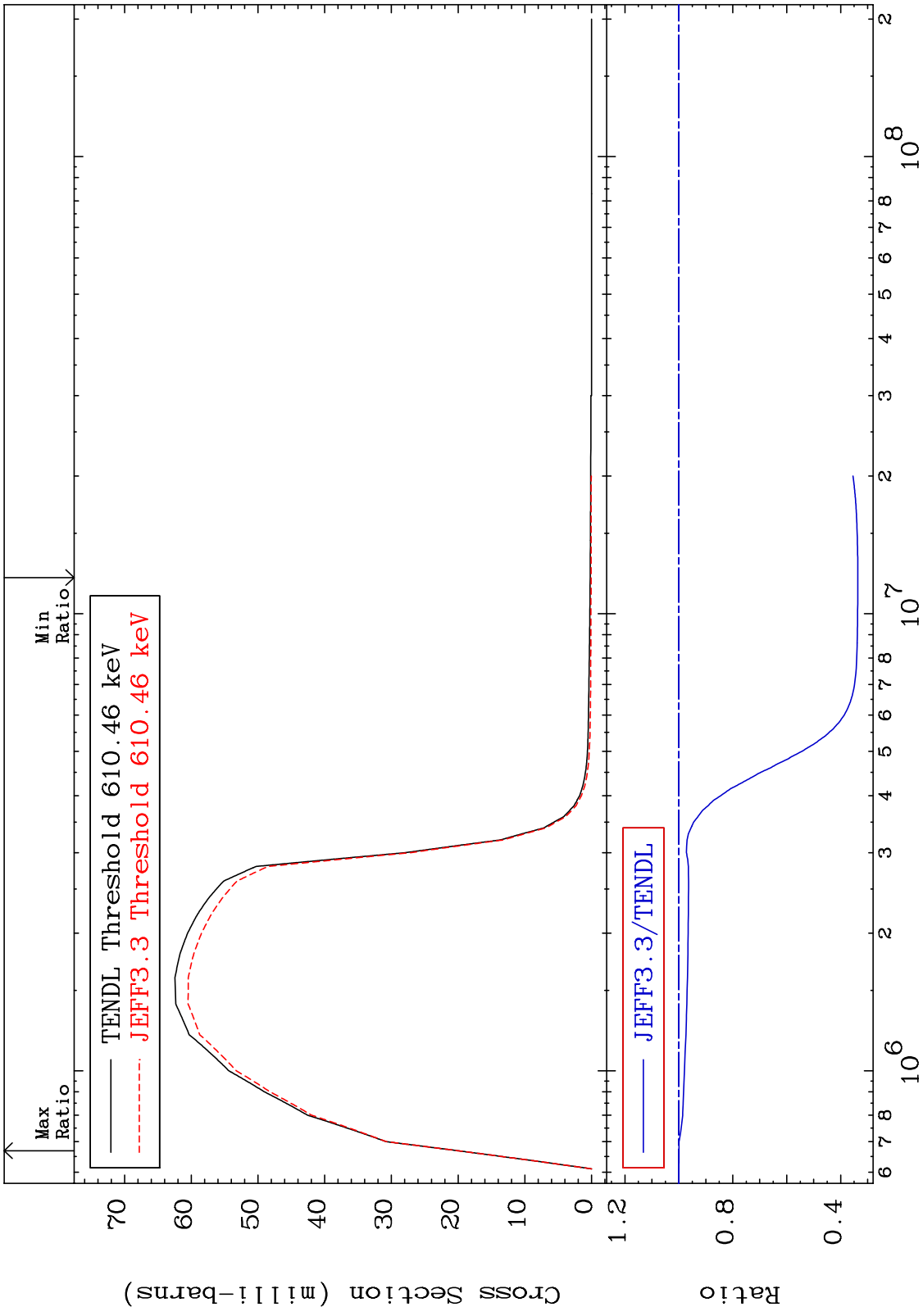
MAT 7234 MT= 63 (n,n') Level Cross Section -3.769 To 0.000 % 72-Hf-177



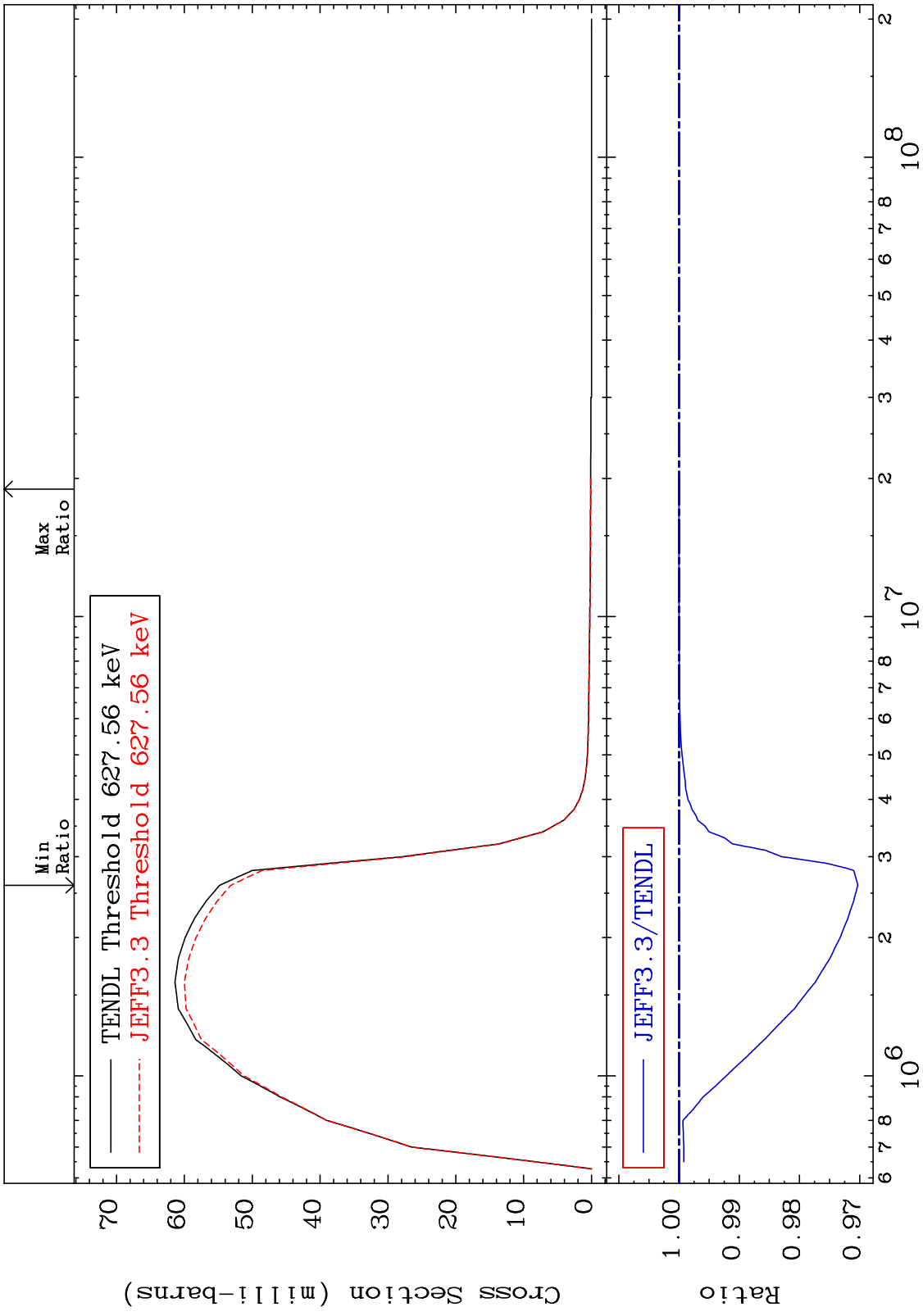
MAT 7234 MT= 64 (n,n') Level Cross Section -4.071 To 0.000 % 72-Hf-177



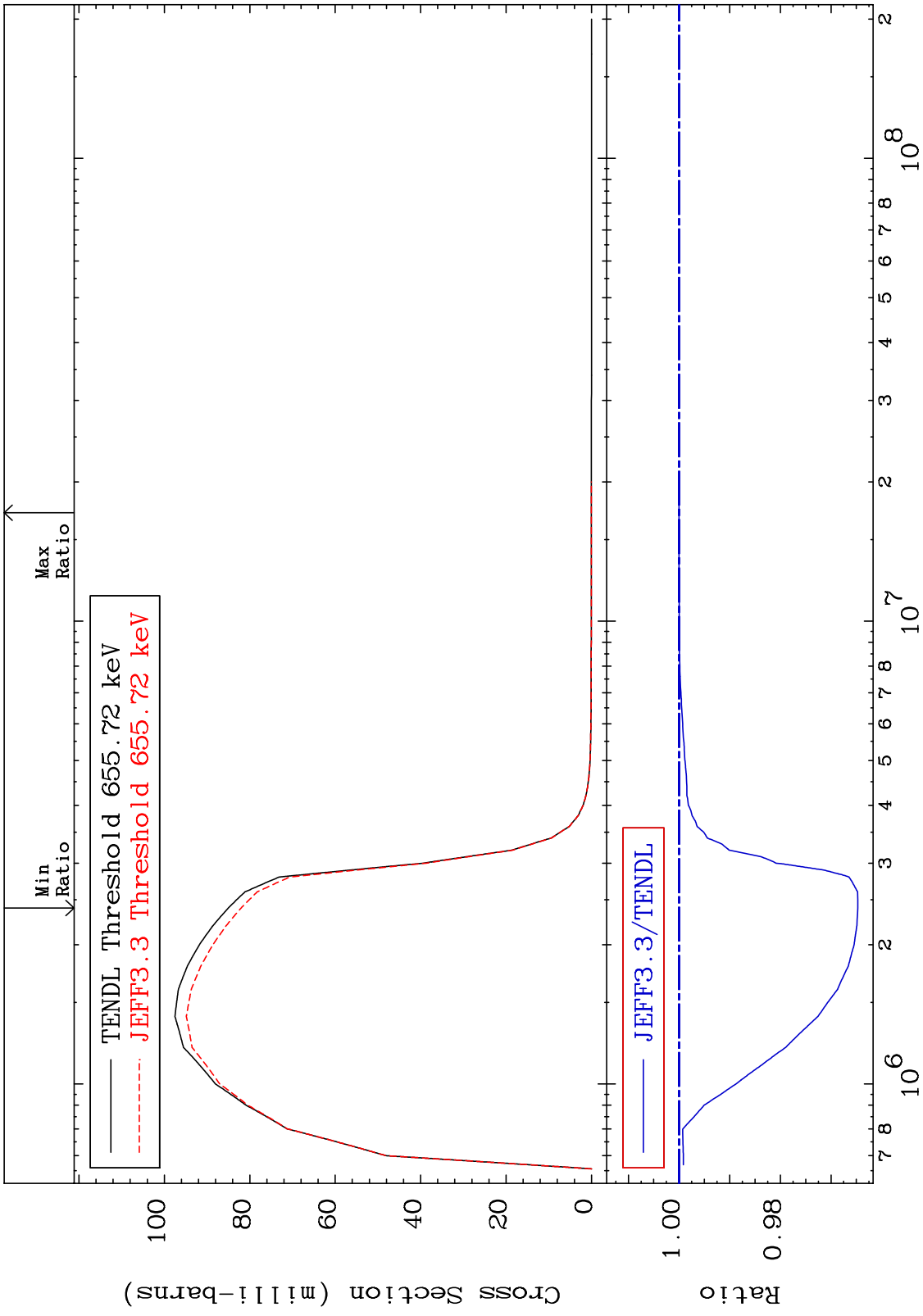
MAT 7234 MT= 65 (n,n') Level Cross Section 72-Hf-177
 -66.37 To -0.081%



MAT 7234 MT= 66 (n,n') Level Cross Section 72-Hf-177
 -2.969 To 0.000 %

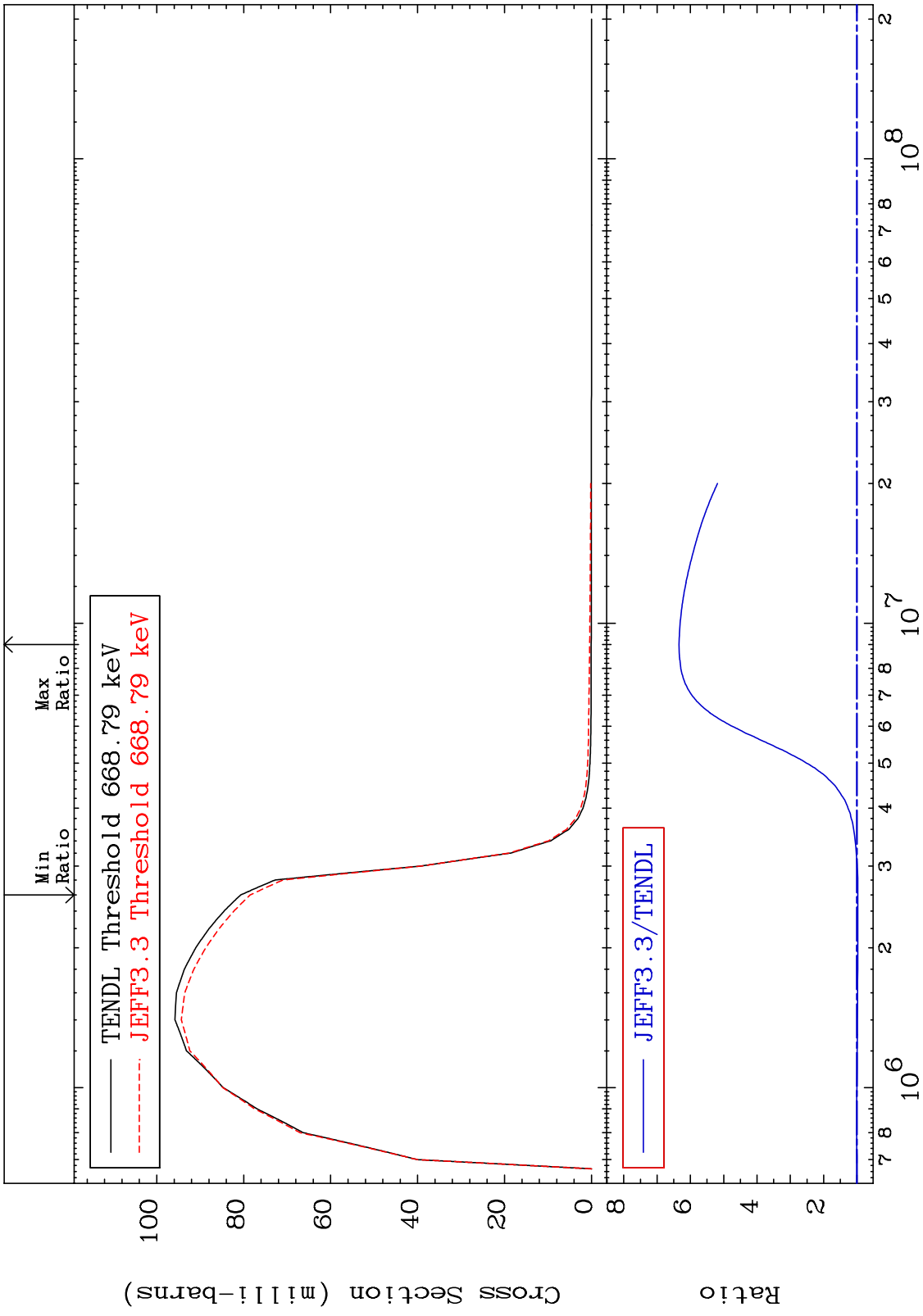


MAT 7234 MT= 67 (n,n') Level Cross Section 72-Hf-177
 -3.530 To 0.000 %

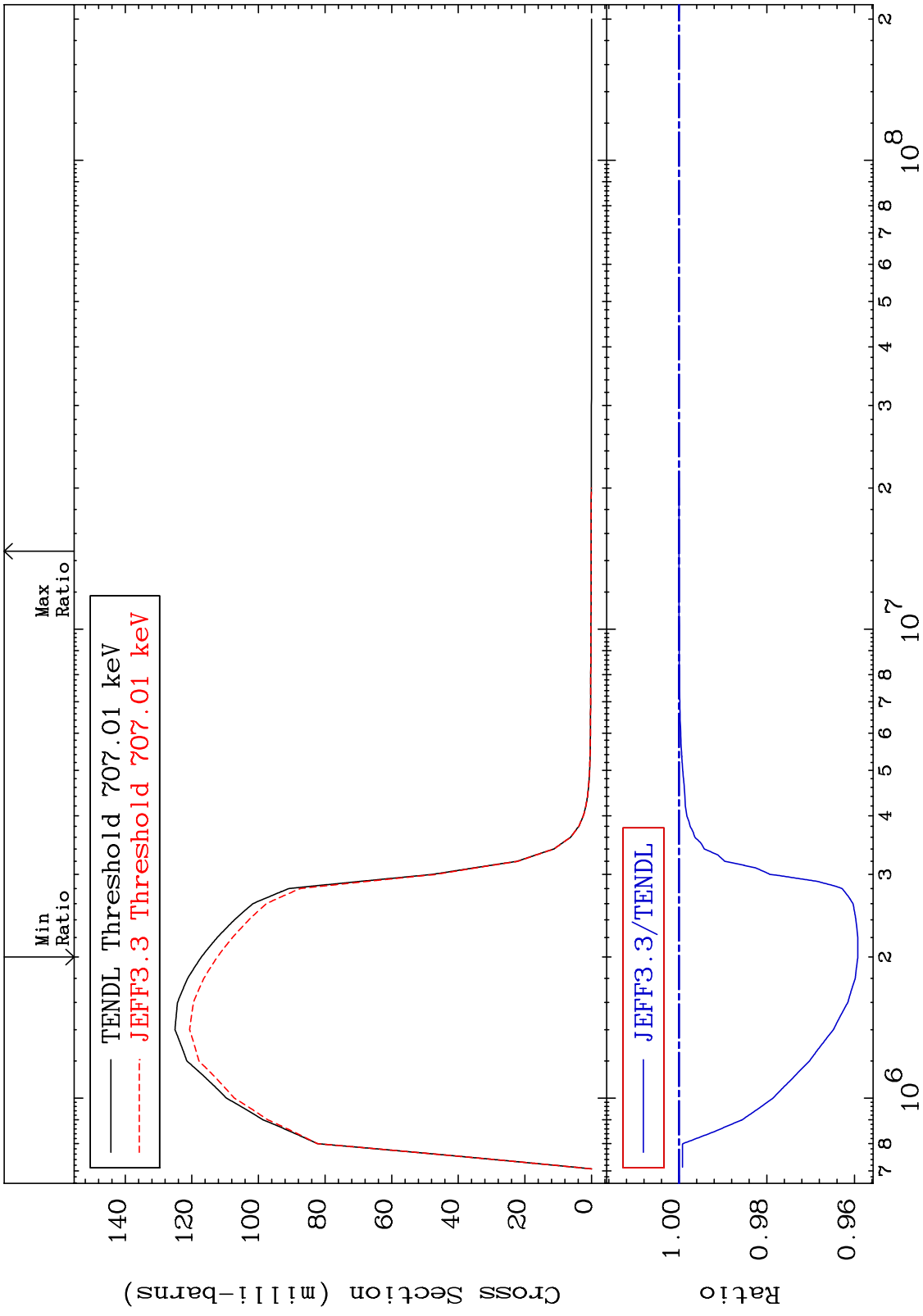


Incident Energy (eV) 72-Hf-177

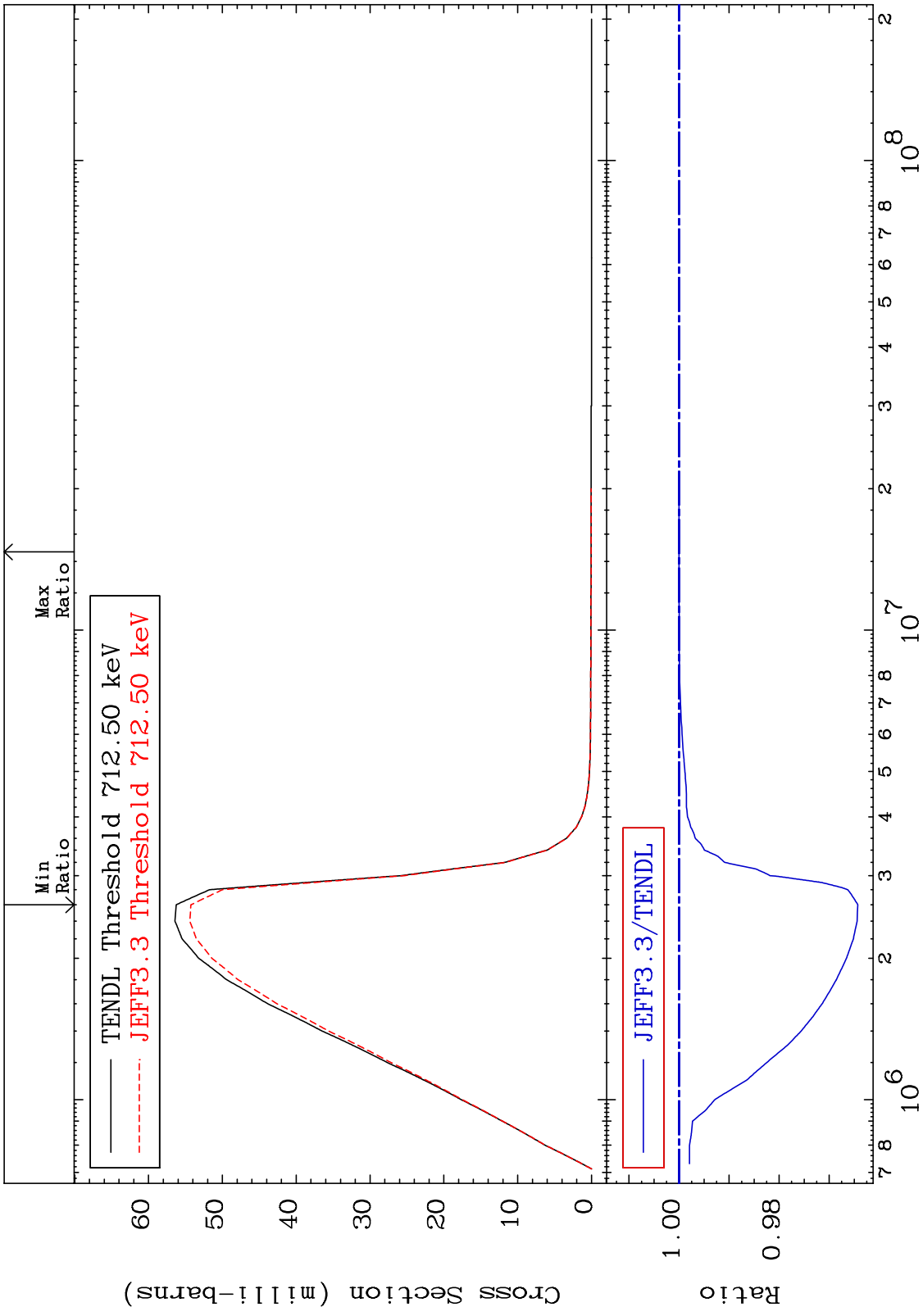
MAT 7234 MT= 68 (n,n') Level Cross Section 72-Hf-177 -2.705 To 534.0 %



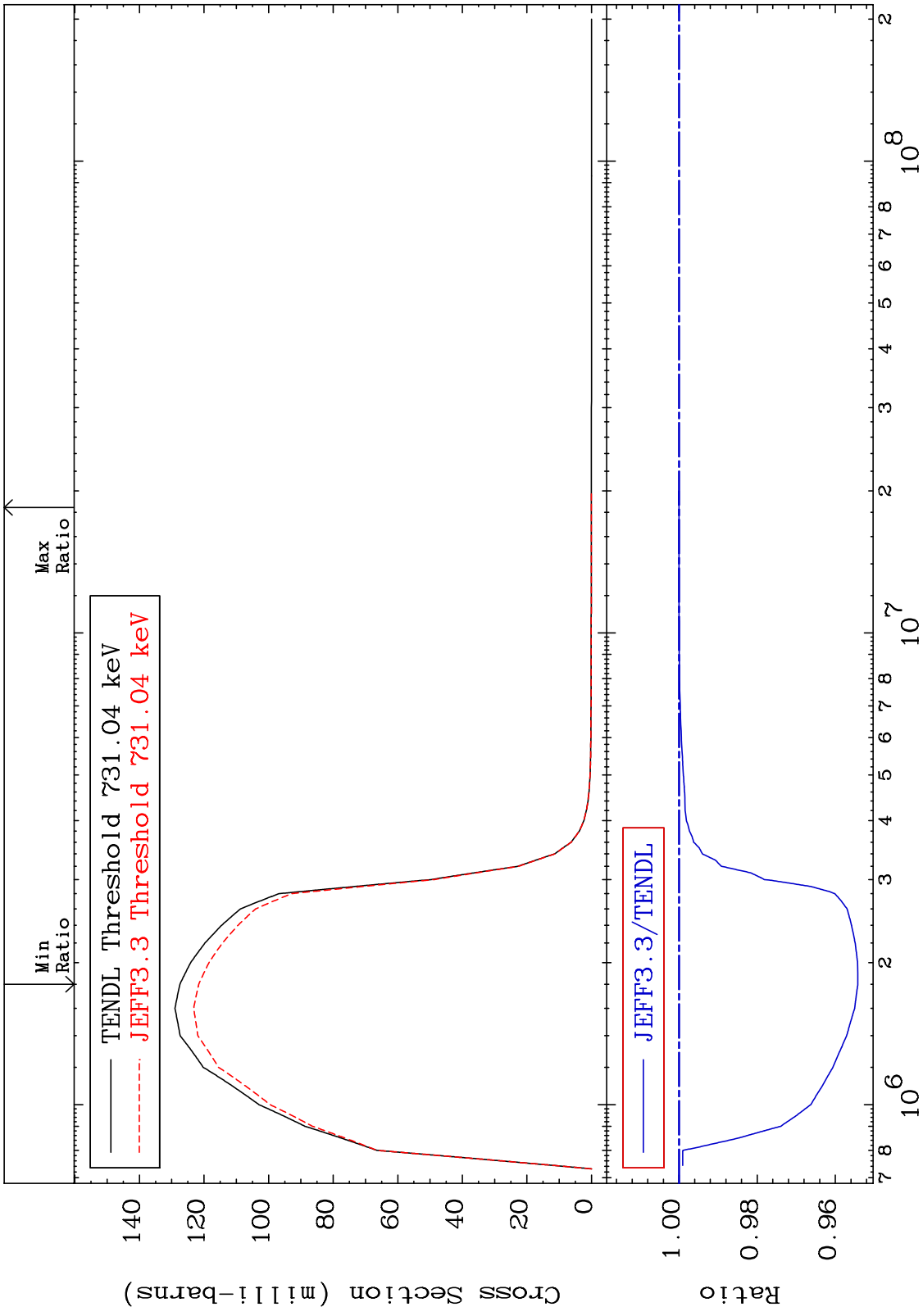
MAT 7234 MT= 69 (n,n') Level Cross Section 72-Hf-177 -4.076 To 0.000 %



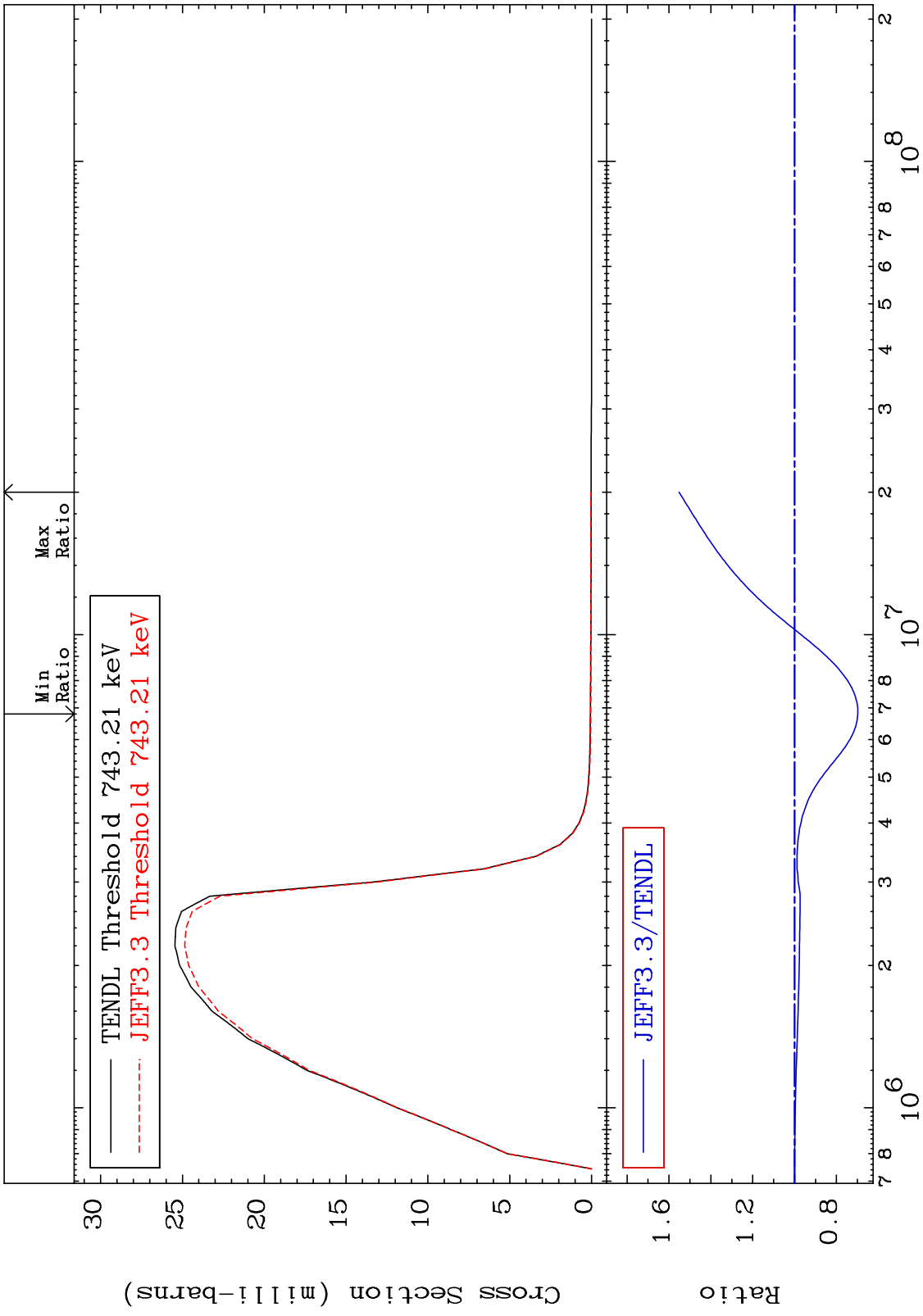
MAT 7234 MT= 70 (n,n') Level Cross Section 72-Hf-177
 -3.572 To 0.000 %



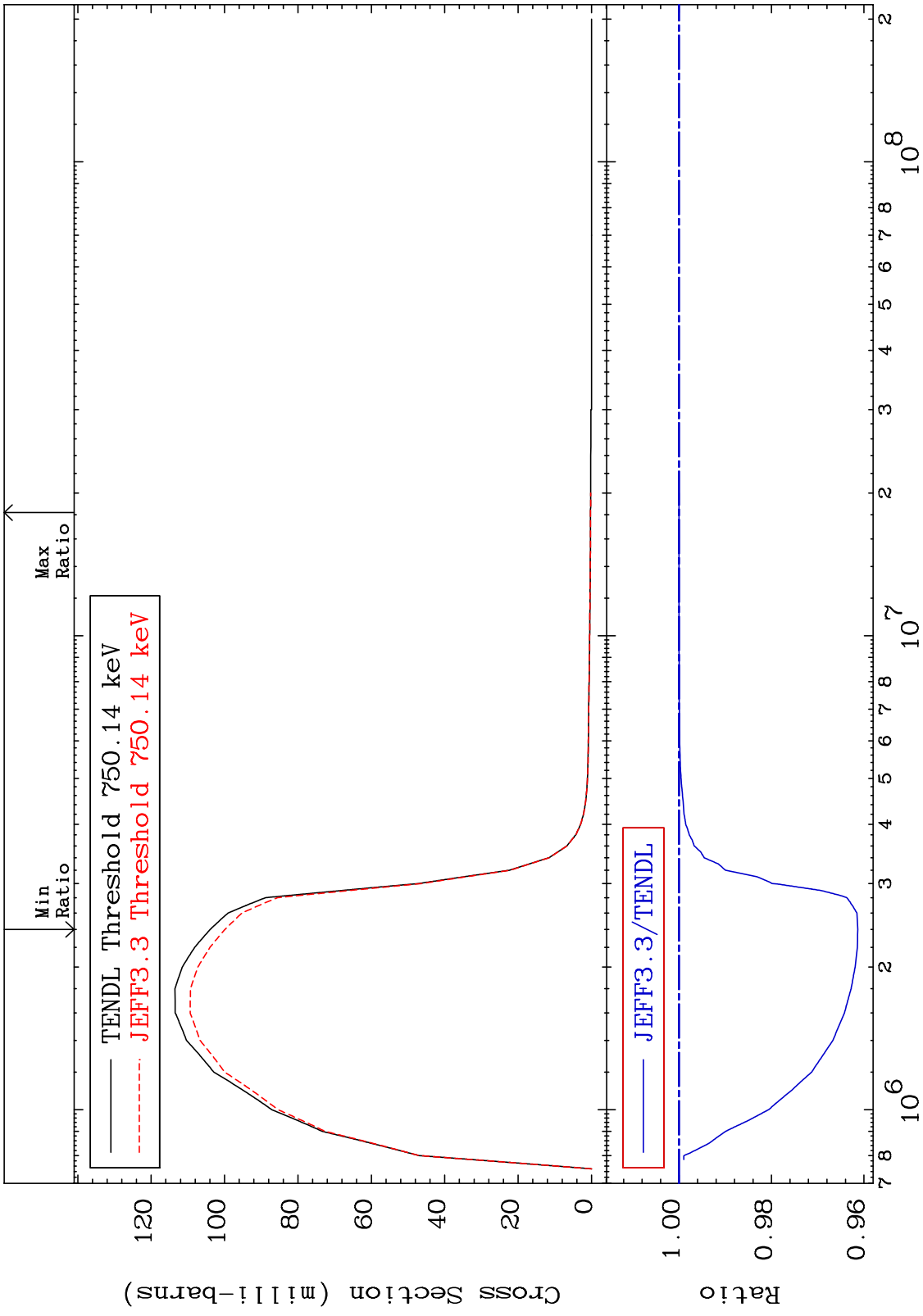
MAT 7234 MT= 71 (n,n') Level Cross Section 72-Hf-177 -4.575 To 0.000 %



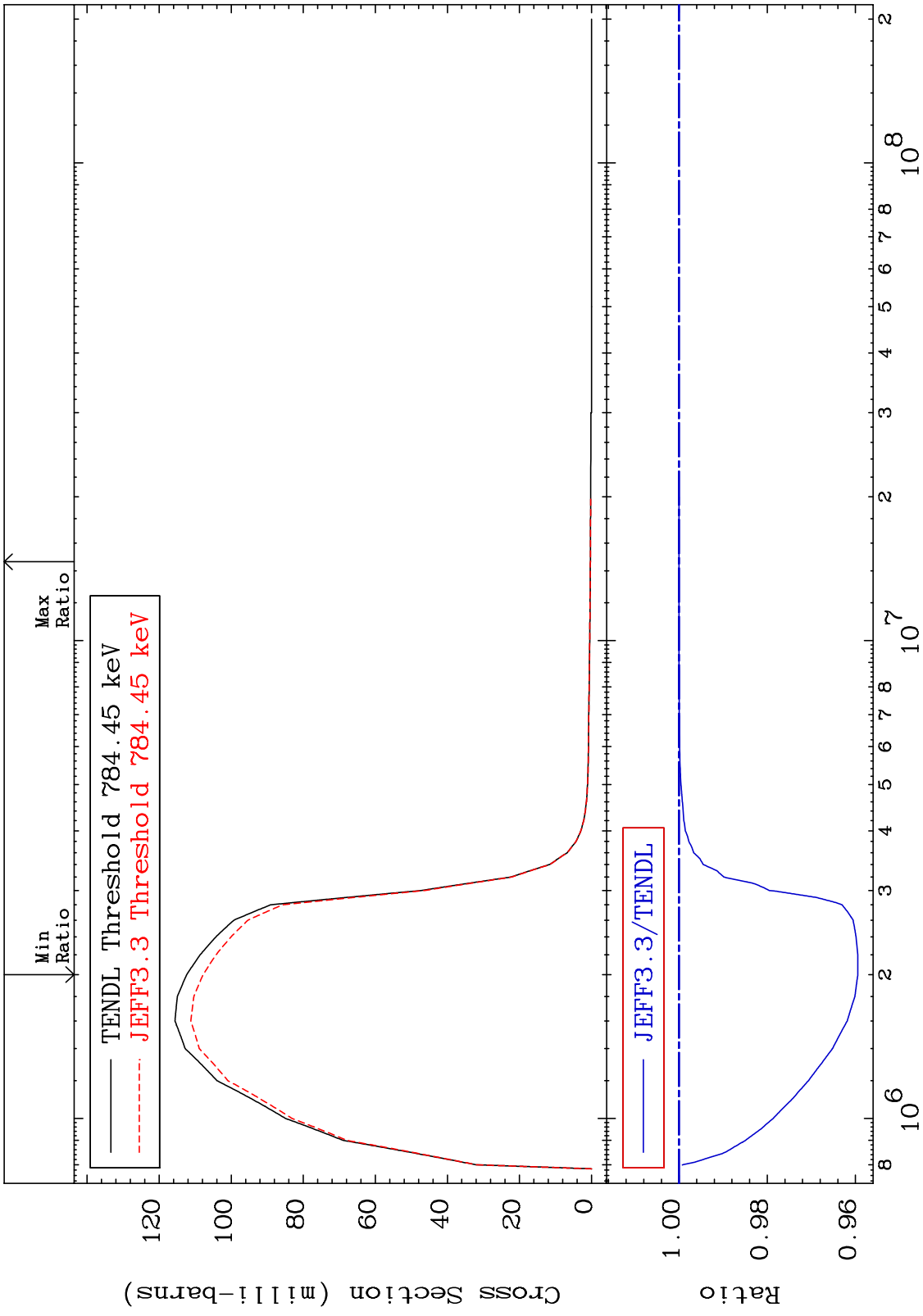
MAT 7234 MT= 72 (n,n') Level Cross Section 72-Hf-177
 -30.21 To 55.19 %



MAT 7234 MT= 73 (n,n') Level Cross Section 72-Hf-177 -3.867 To 0.000 %

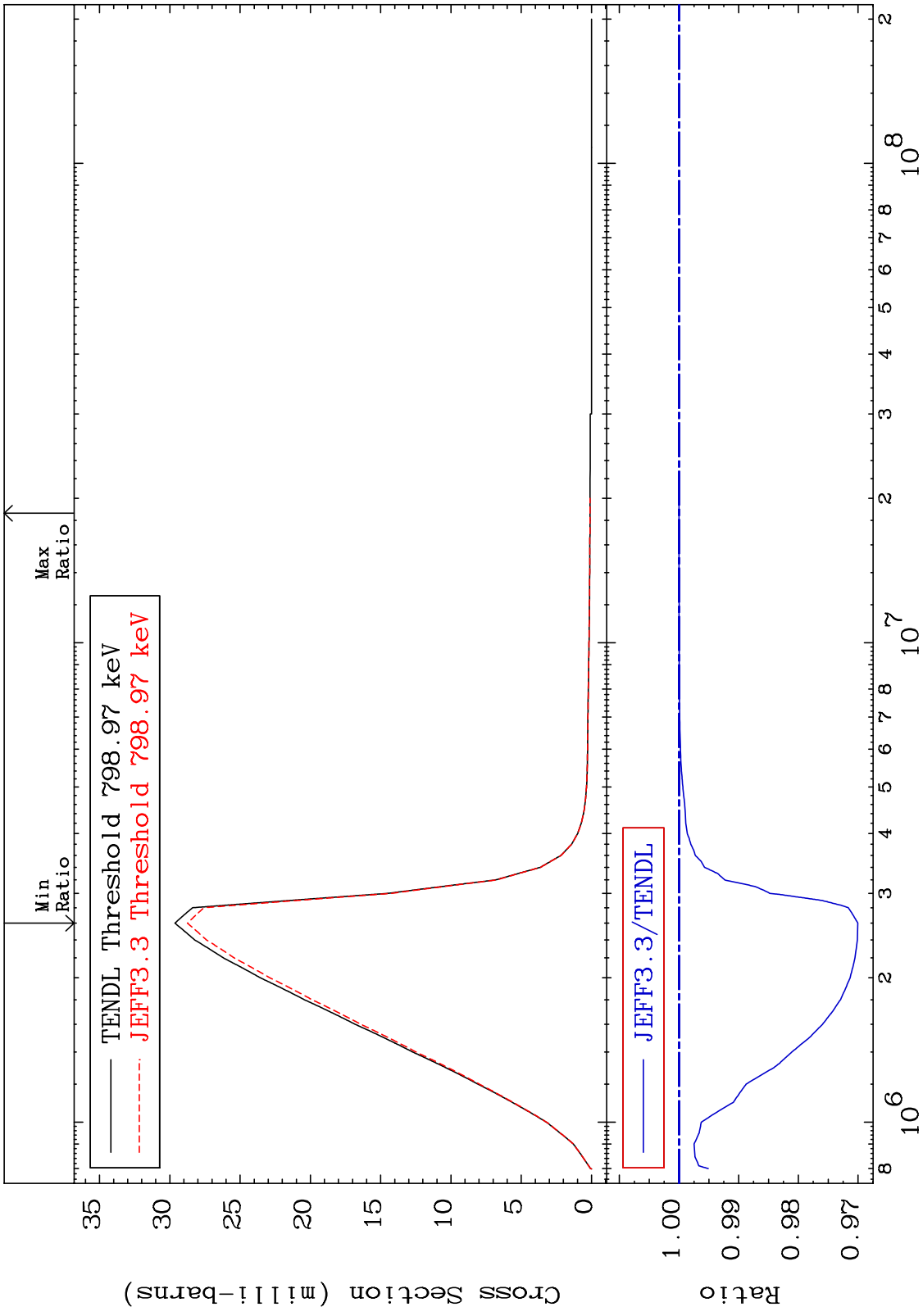


MAT 7234 MT= 74 (n,n') Level Cross Section 72-Hf-177
 -4.054 To 0.000 %

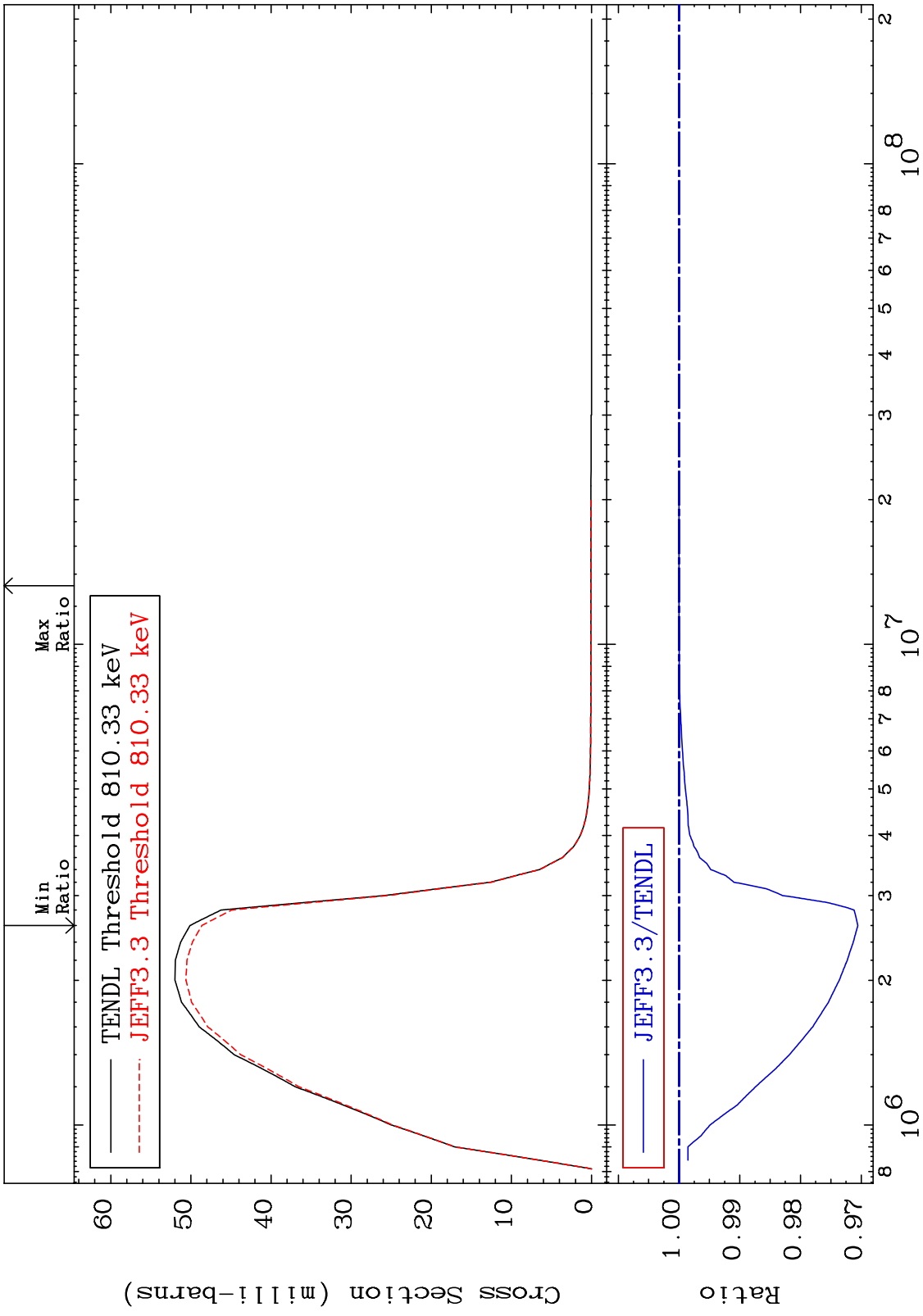


36 Incident Energy (eV) 72-Hf-177

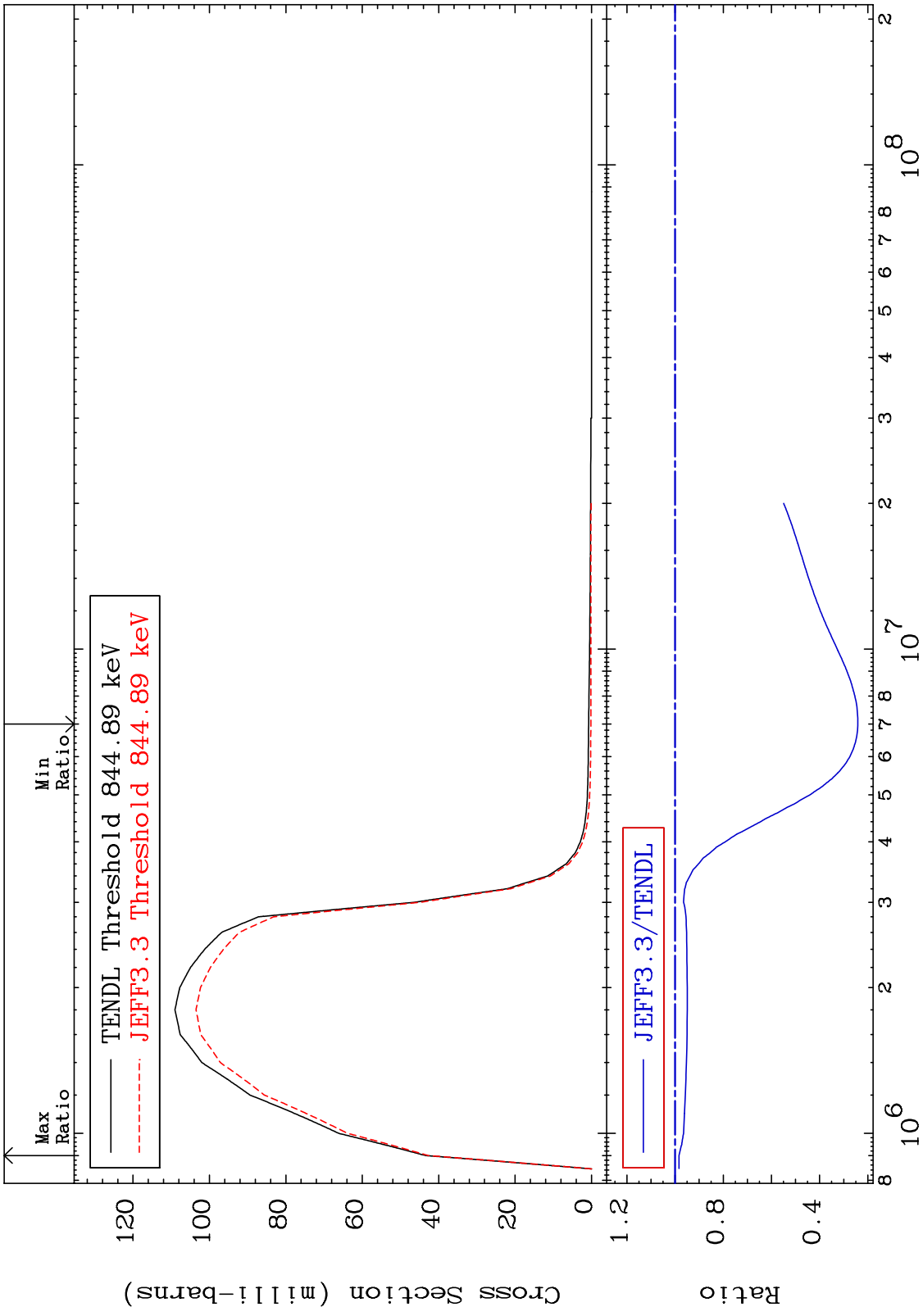
MAT 7234 MT= 75 (n,n') Level Cross Section 72-Hf-177
 -2.997 To 0.000 %



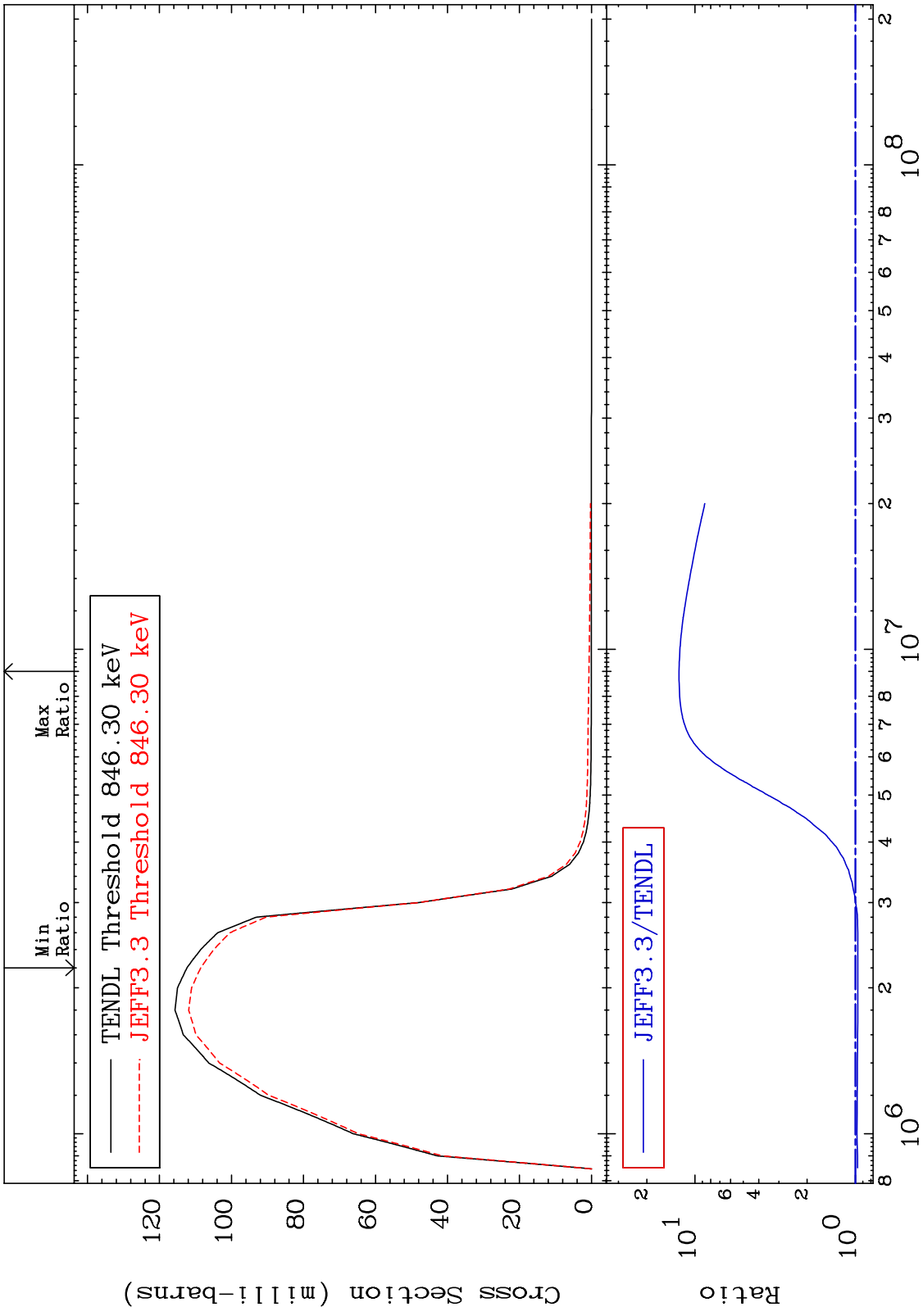
MAT 7234 MT= 76 (n,n') Level Cross Section 72-Hf-177 -2.945 To 0.000 %



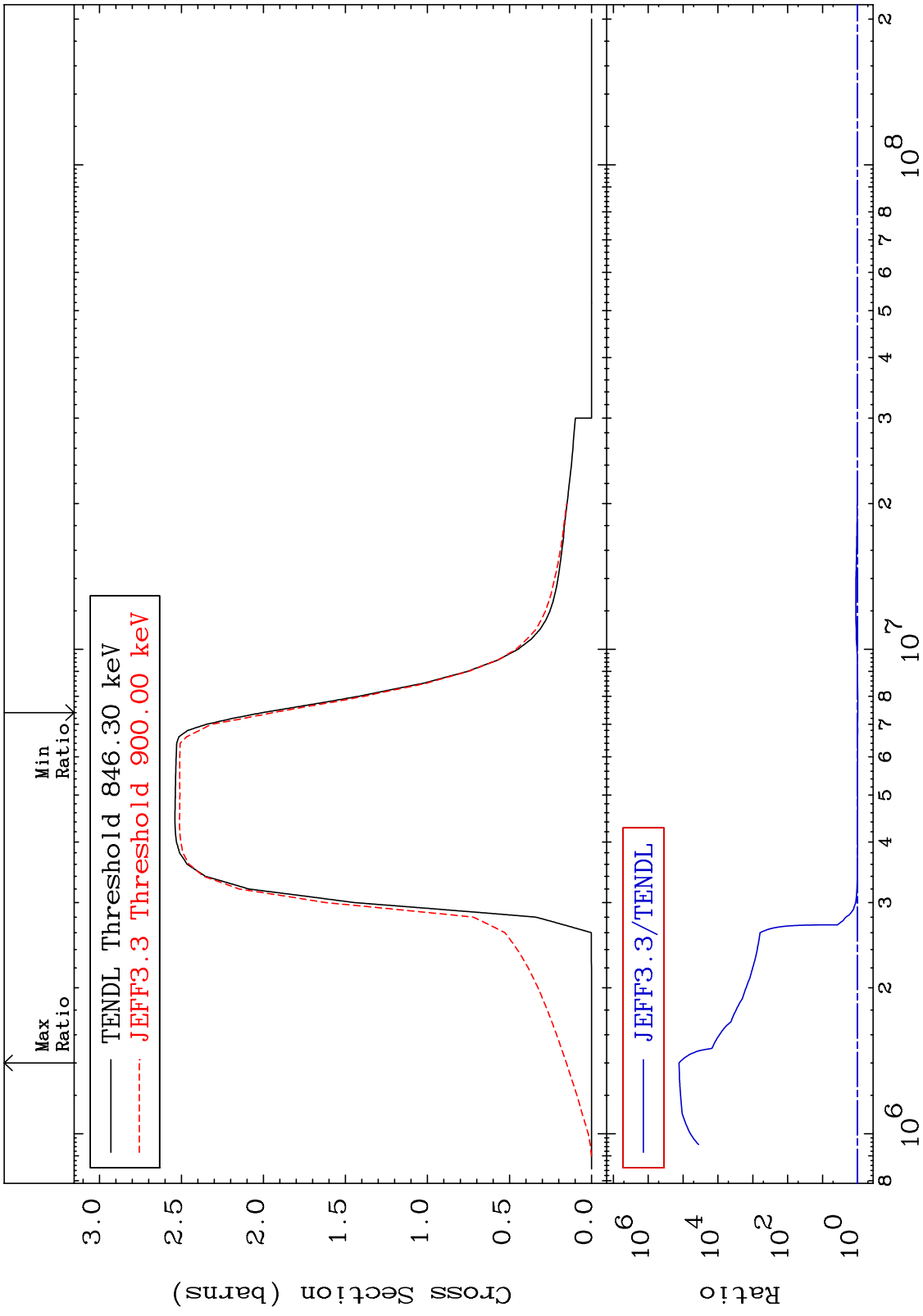
MAT 7234 MT= 77 (n,n') Level Cross Section 72-Hf-177
 -75.87 To -1.652%



MAT 7234 MT= 78 (n,n') Level Cross Section 72-Hf-177
-3.405 To 1158. %



40 Incident Energy (eV) 72-Hf-177



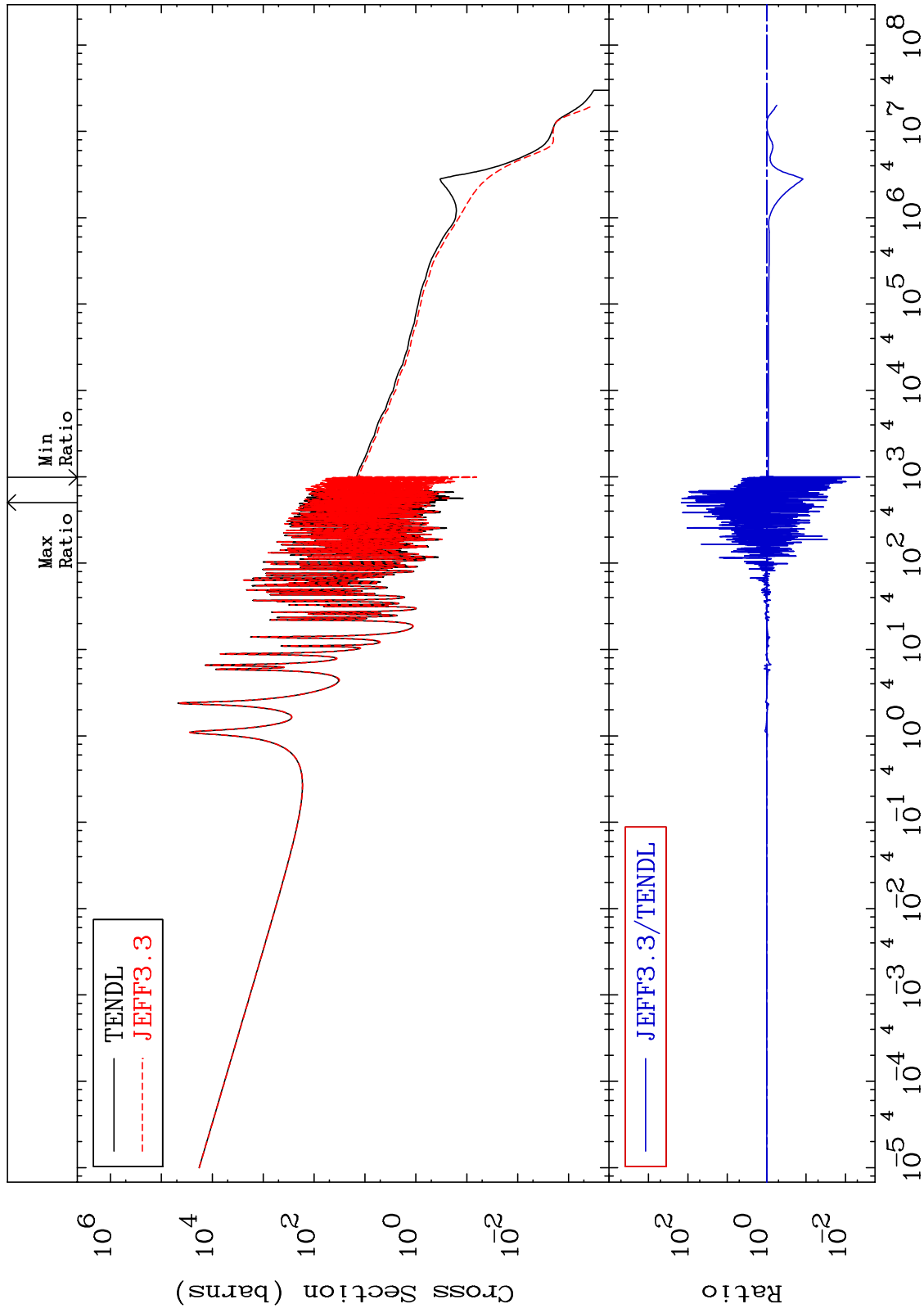
MAT 7234

(n, γ)

72-Hf-177

-99.57 To 9999. %

Cross Section



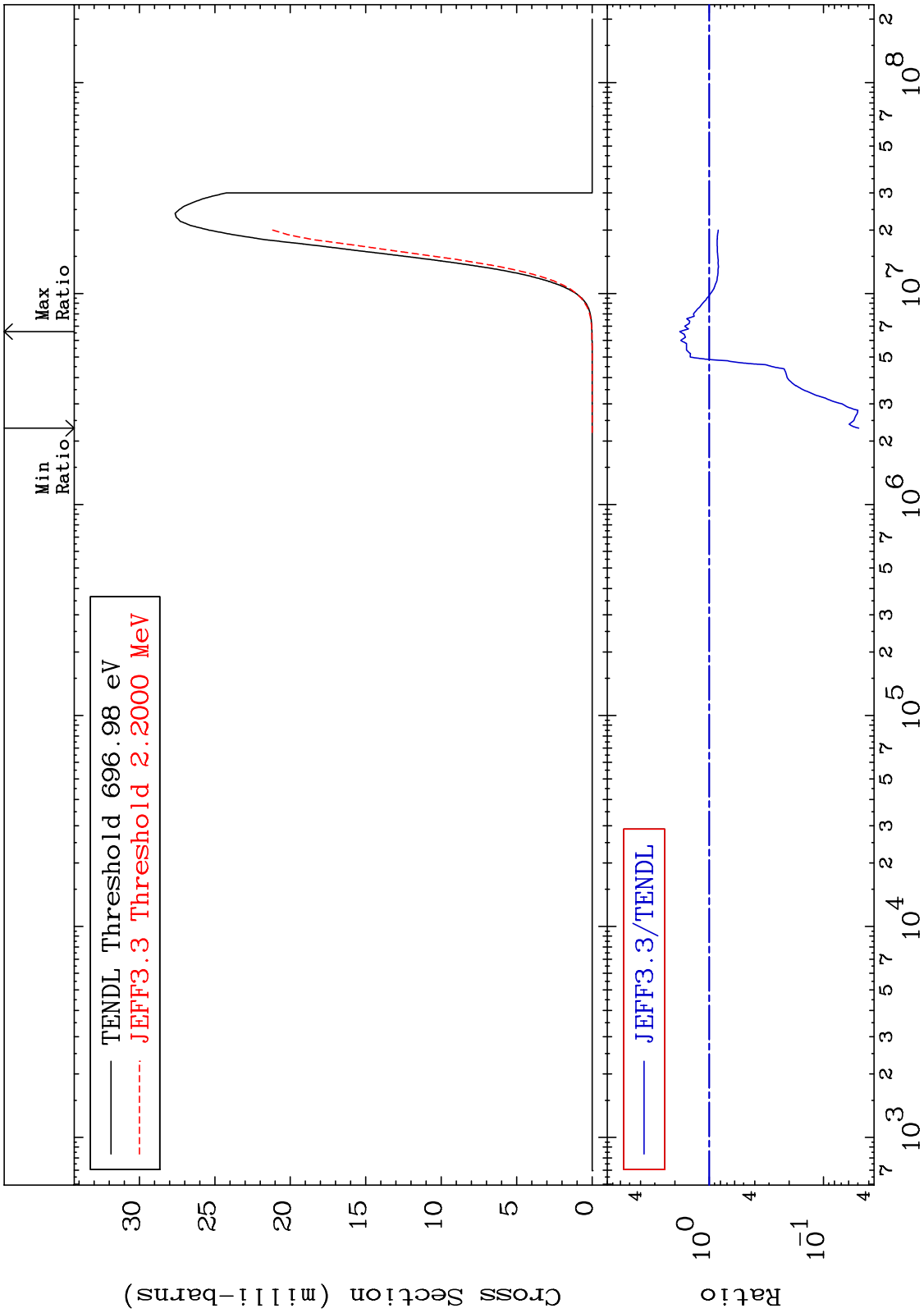
MAT 7234

(n,p)

72-Hf-177

Cross Section

-95.10 To 81.38 %

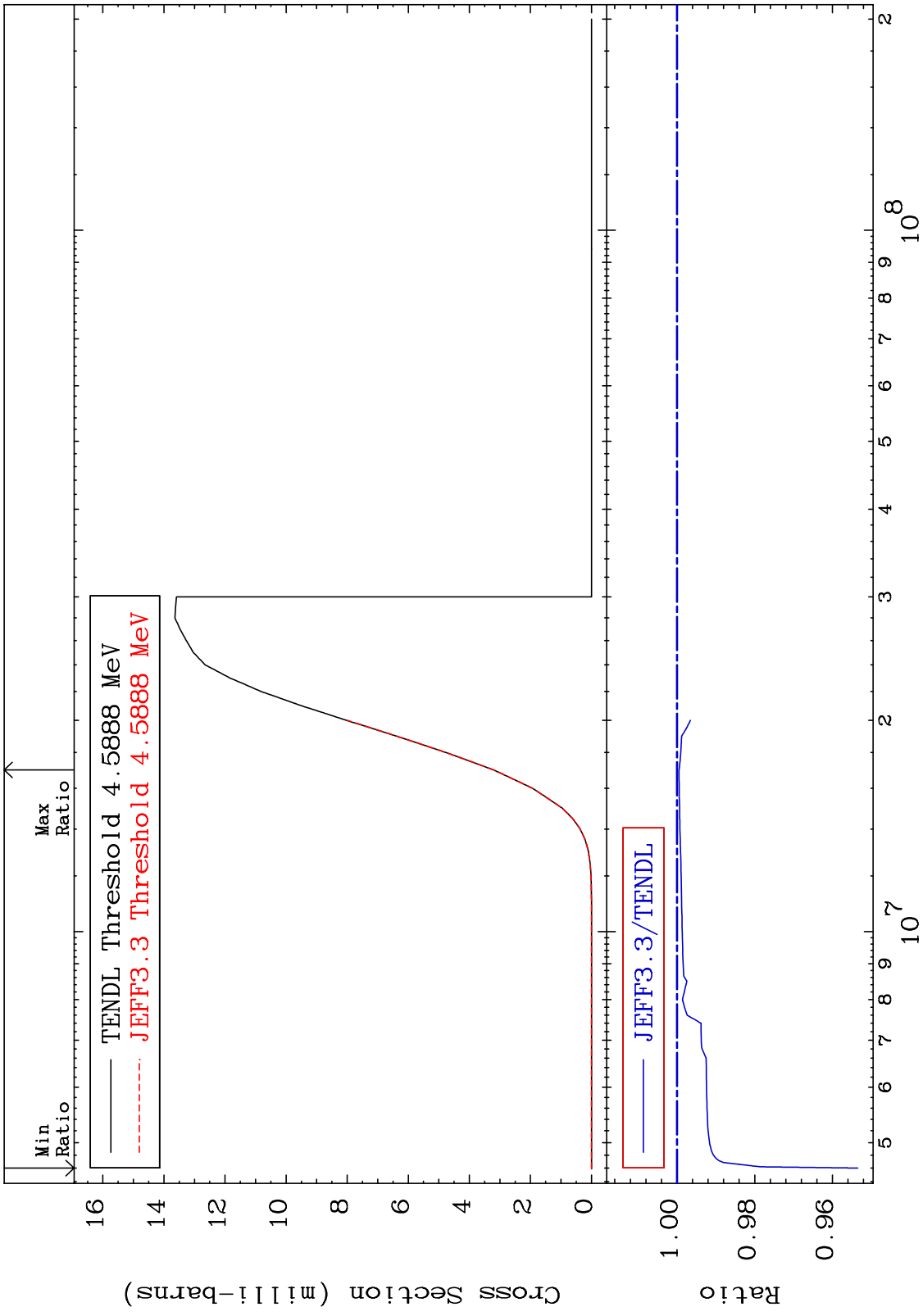


43

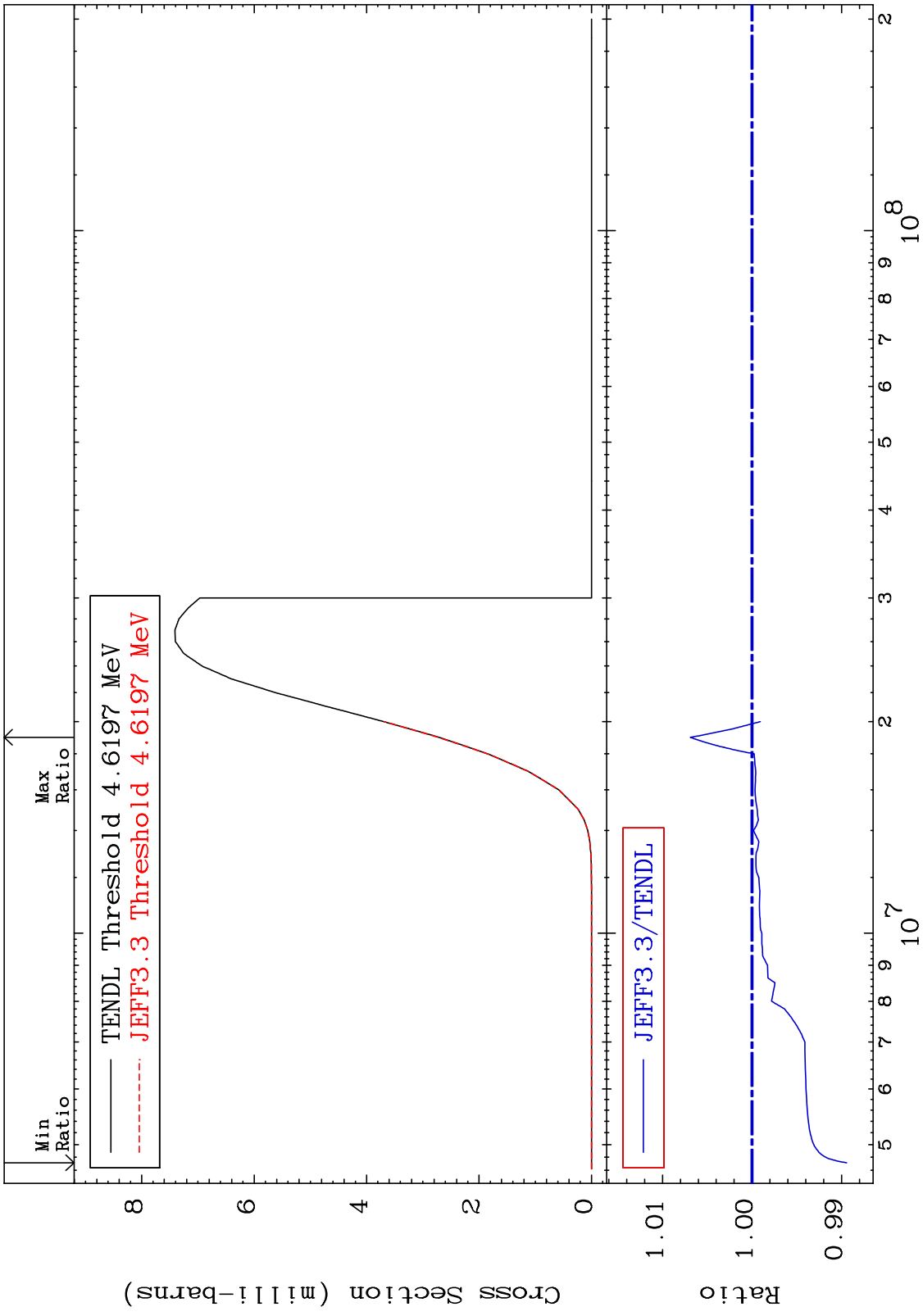
Incident Energy (eV)

72-Hf-177

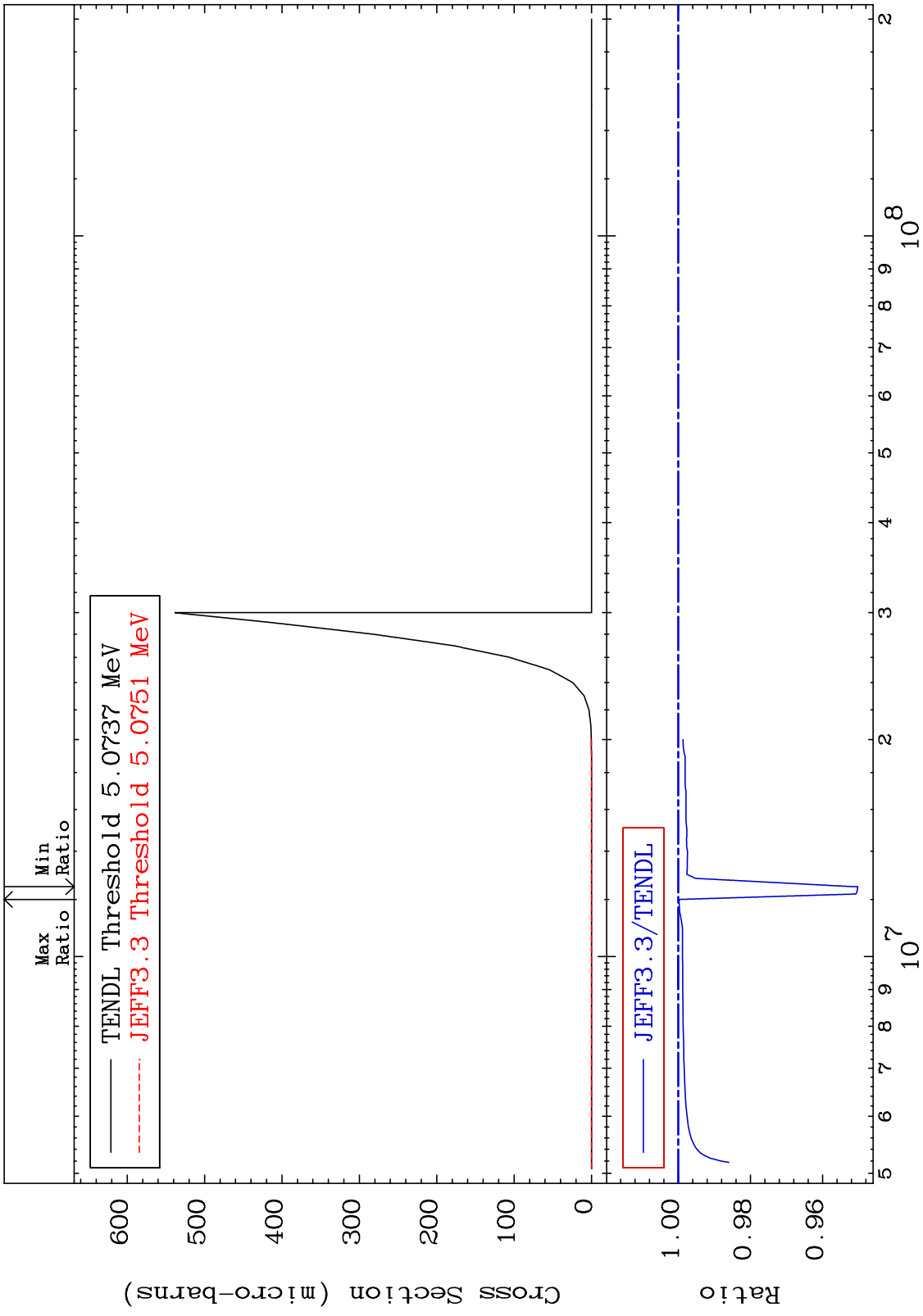
MAT 7234 (n,d) Cross Section 72-Hf-177 -4.653 To -0.053%



MAT 7234 (n,t) Cross Section 72-Hf-177
 -1.055 To 0.689 %



MAT 7234 (n, He-3) 72-Hf-177
 Cross Section -4.978 To -0.021%



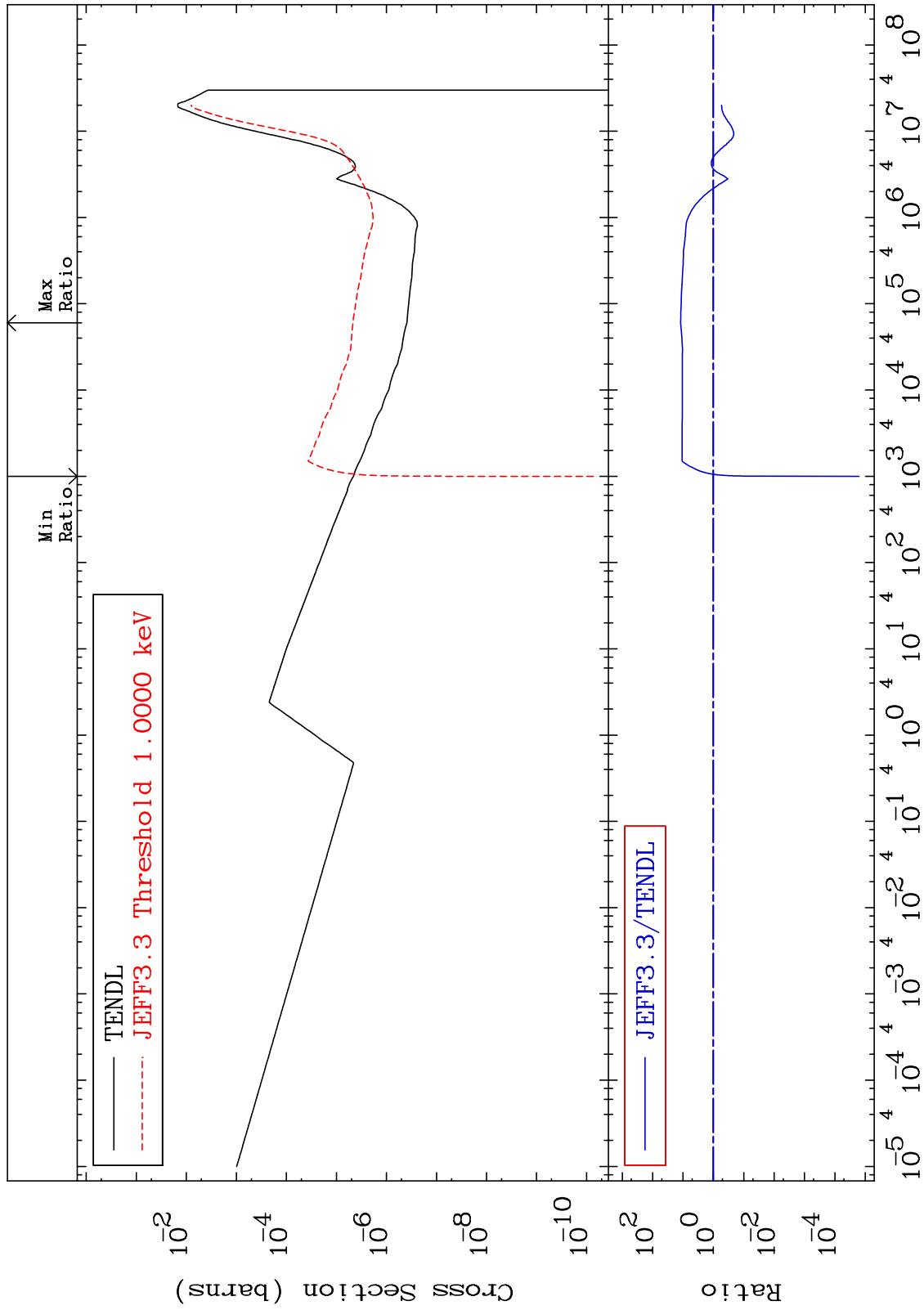
MAT 7234

(n, α)

72-Hf-177

Cross Section

-100.0 To 1095. %



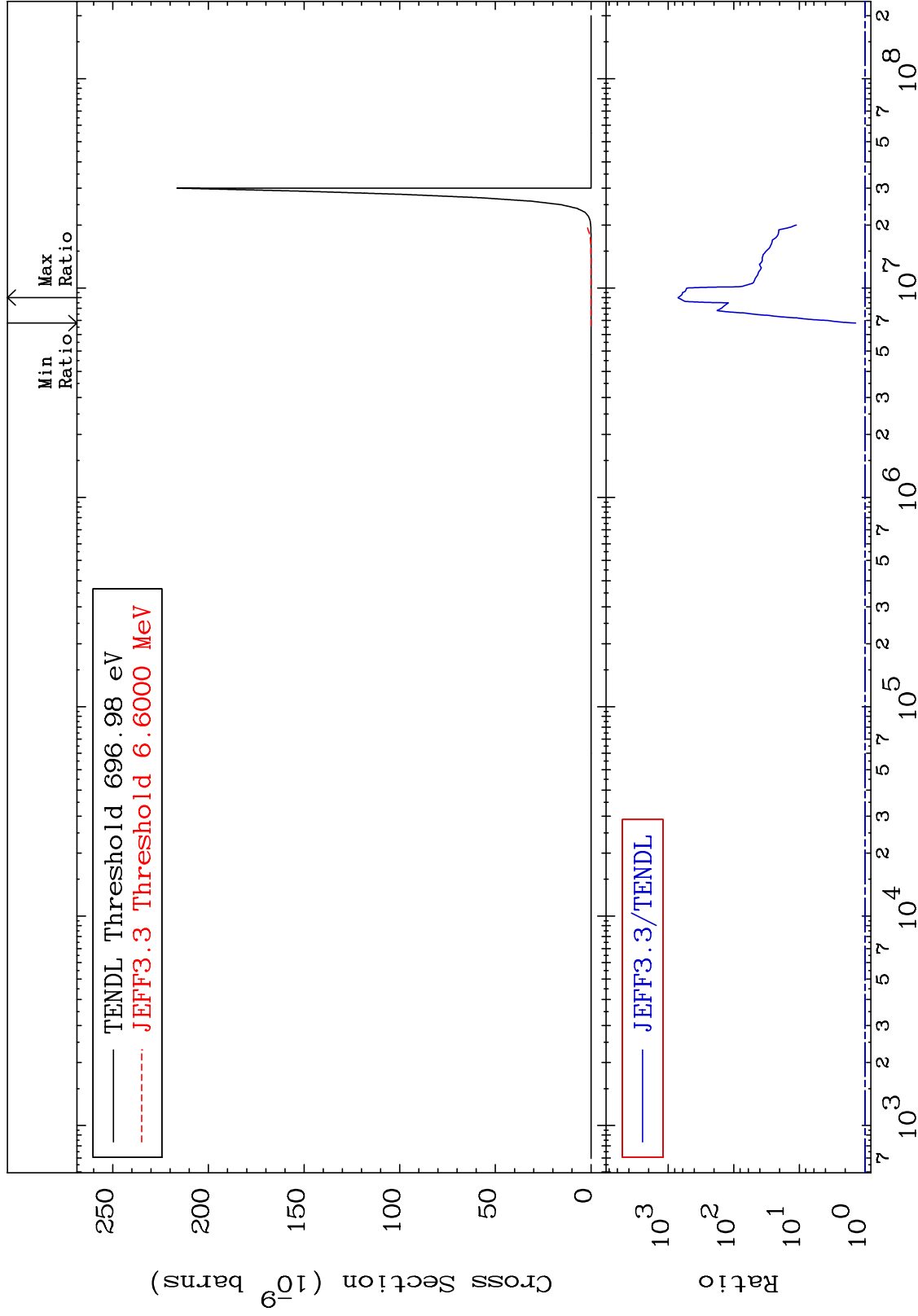
MAT 7234

(n,p) α

Cross Section

72-Hf-177

38.16 To 9999. %



48

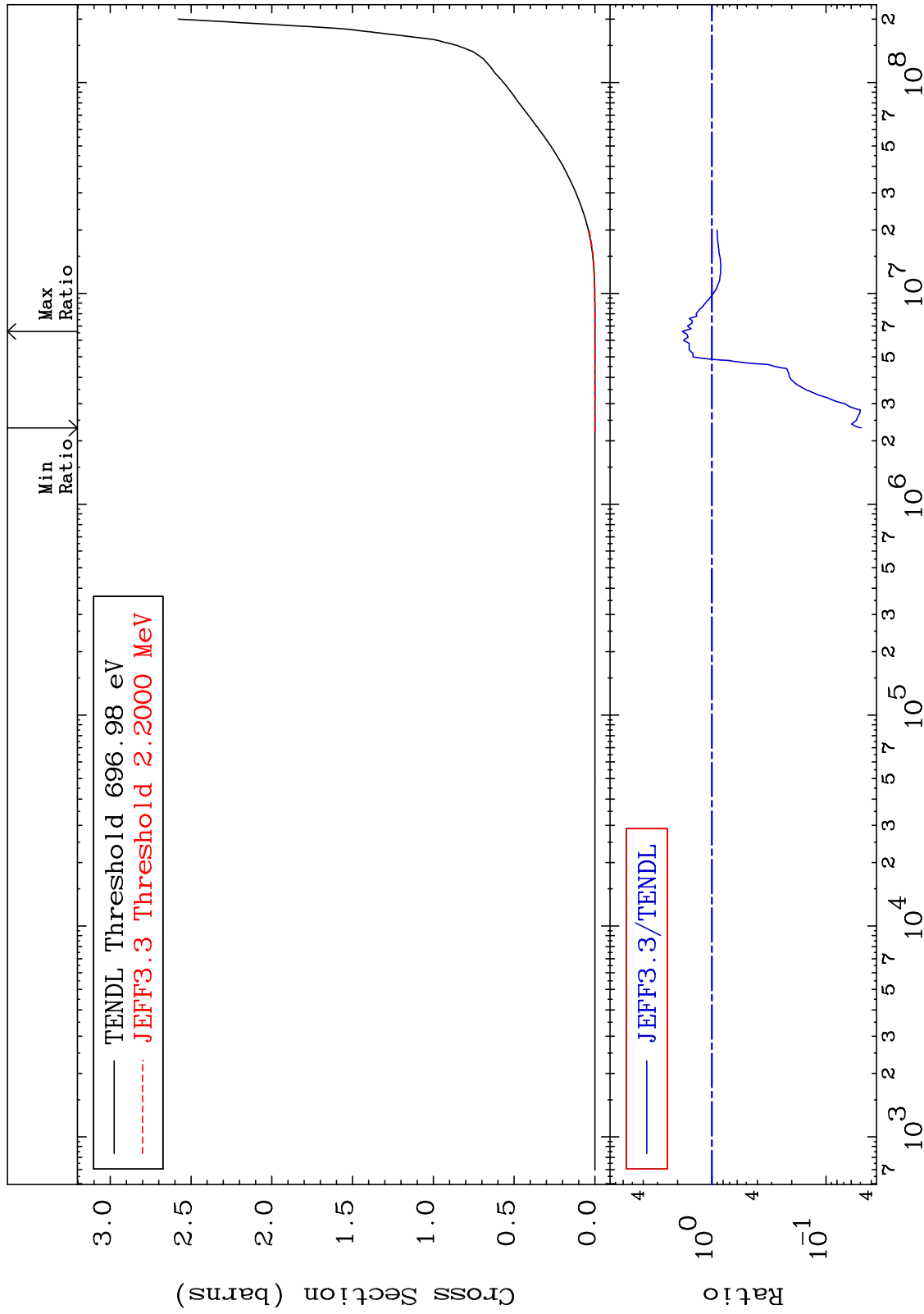
Incident Energy (eV)

72-Hf-177

MAT 7234

Hydrogen Production Cross Section

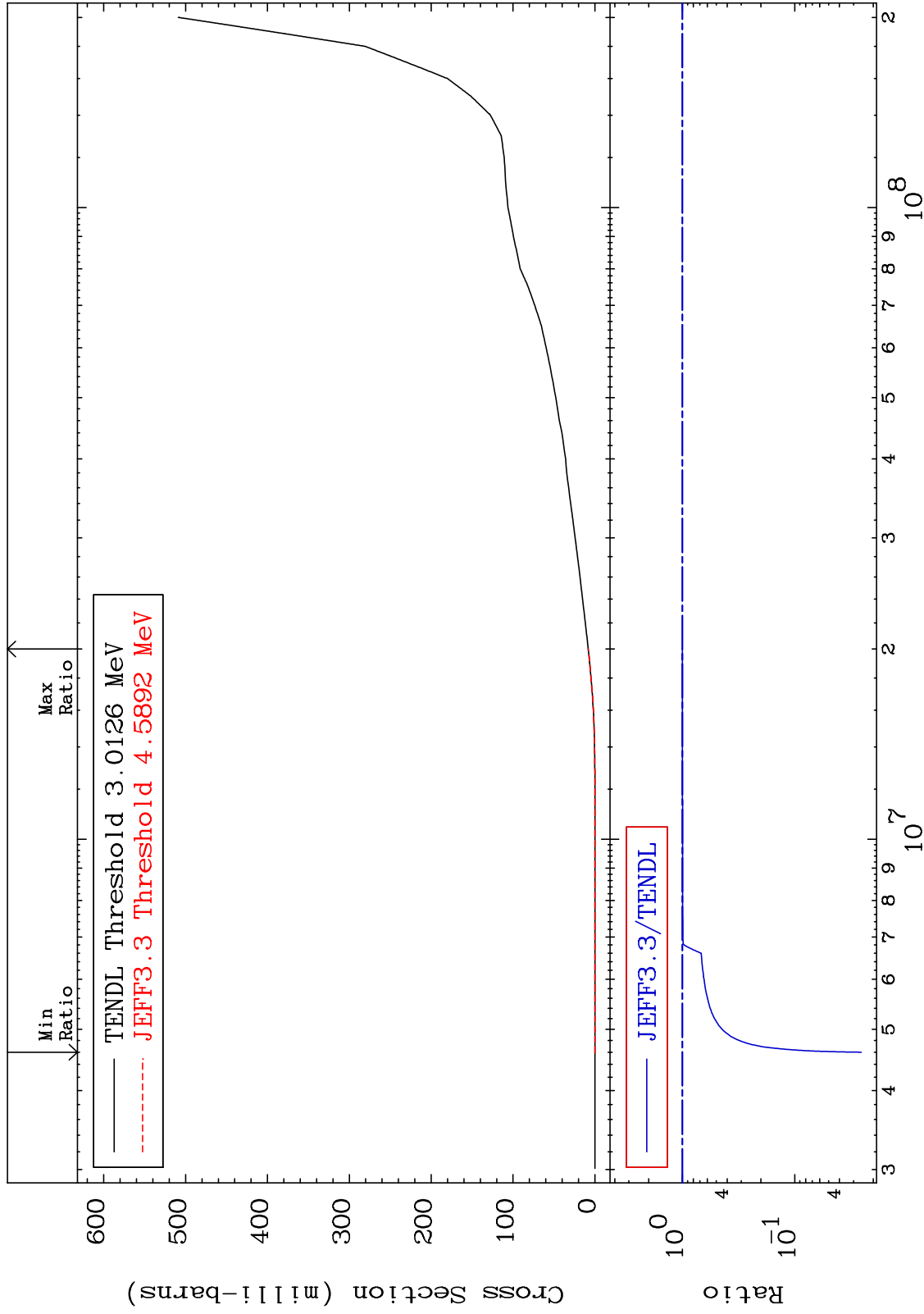
72-Hf-177
-95.10 To 81.38 %



MAT 7234

Deuterium Production
Cross Section

72-Hf-177
-97.44 To -0.029%



50

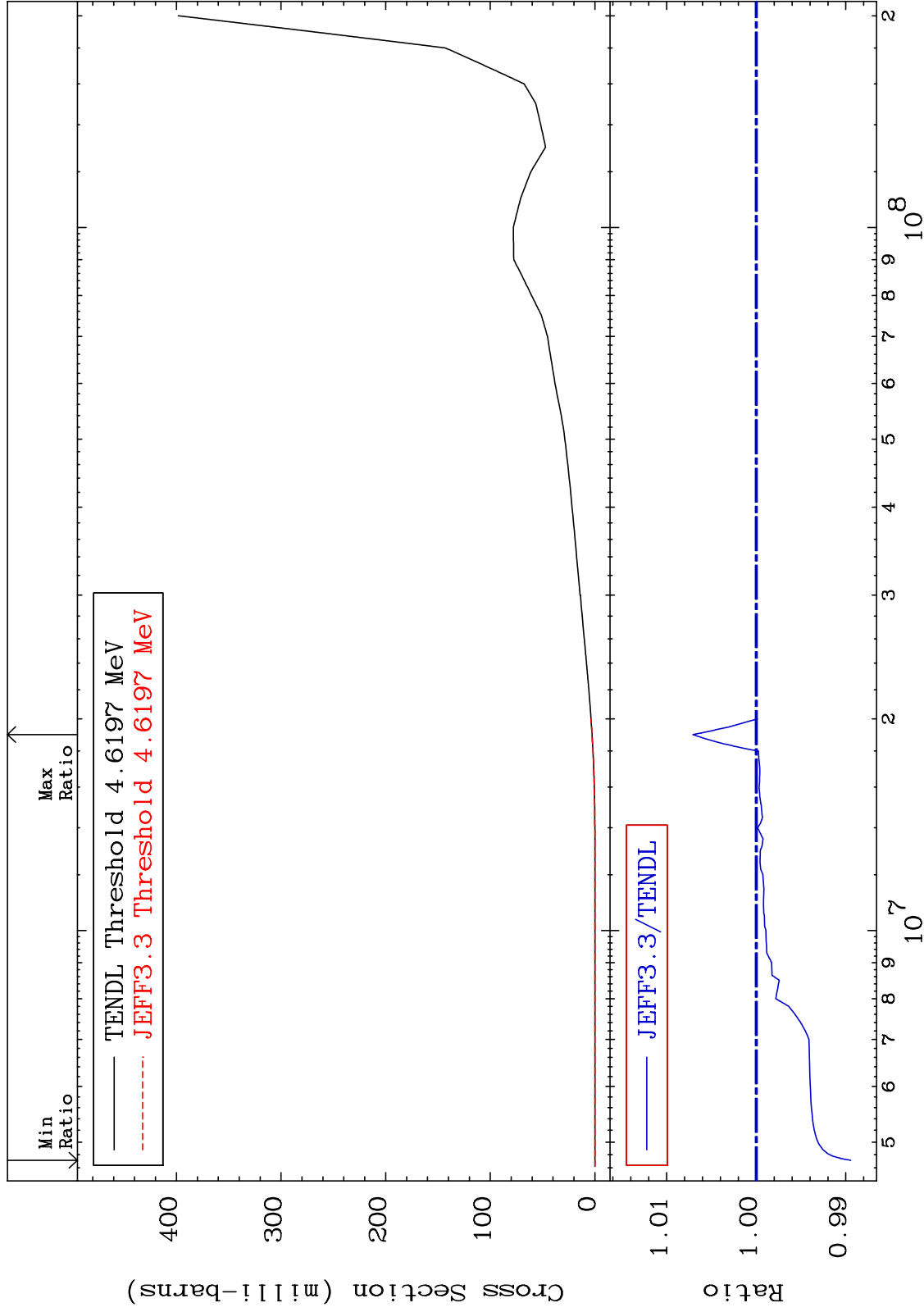
Incident Energy (eV)

72-Hf-177

MAT 7234

Tritium Production
Cross Section

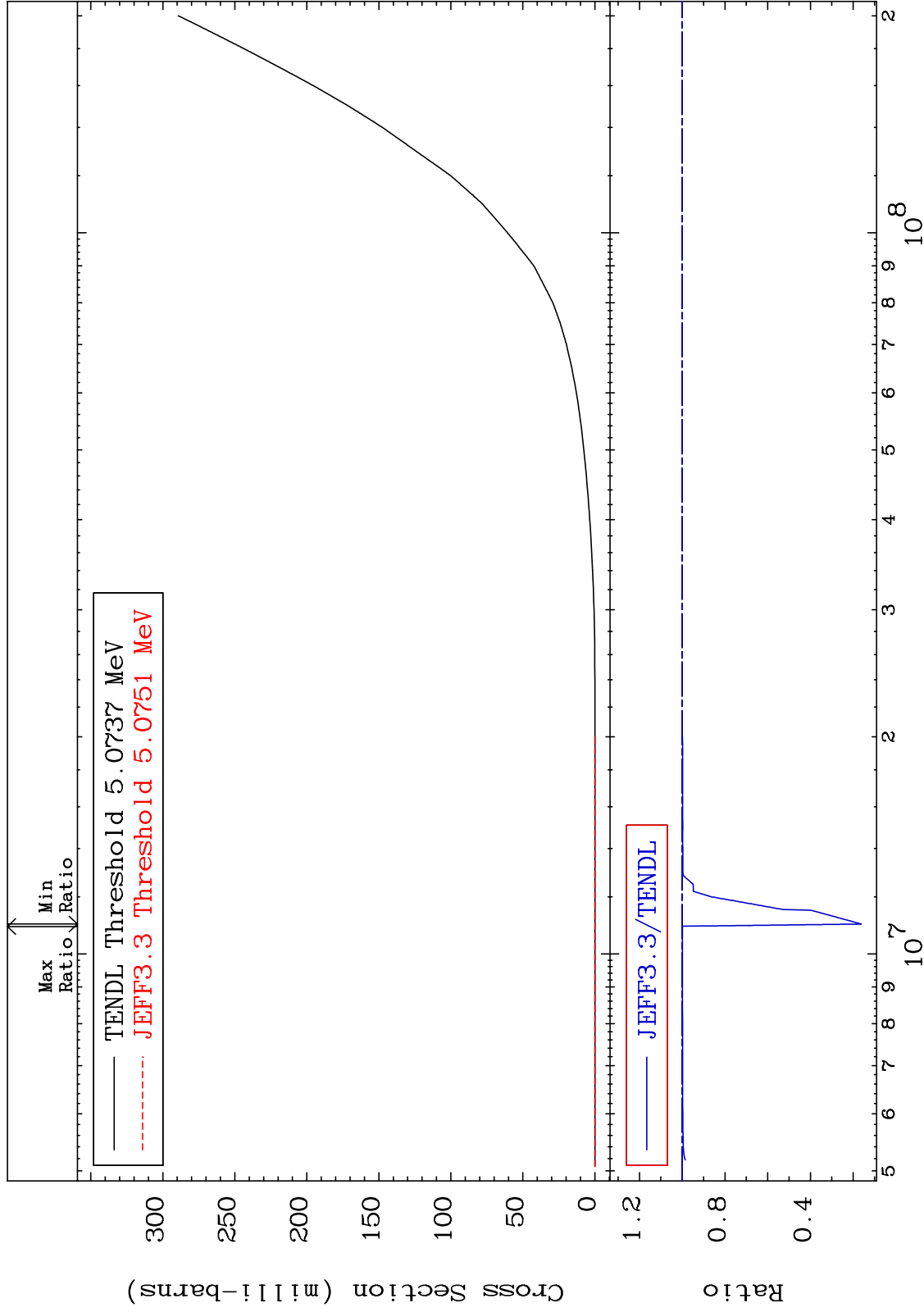
72-Hf-177
-1.055 To 0.707 %



MAT 7234

He-3 Production
Cross Section

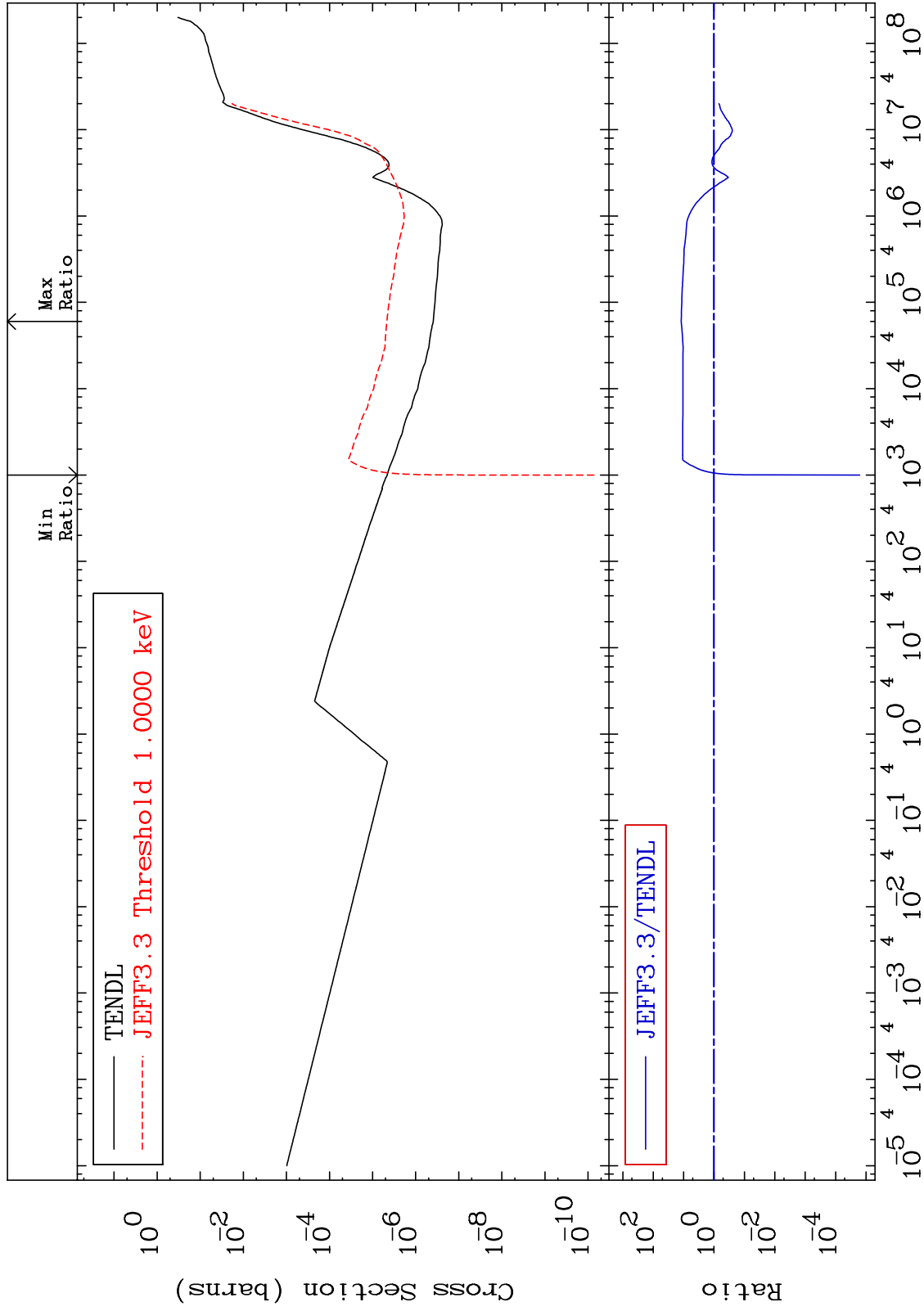
72-Hf-177
-83.78 To -0.114%



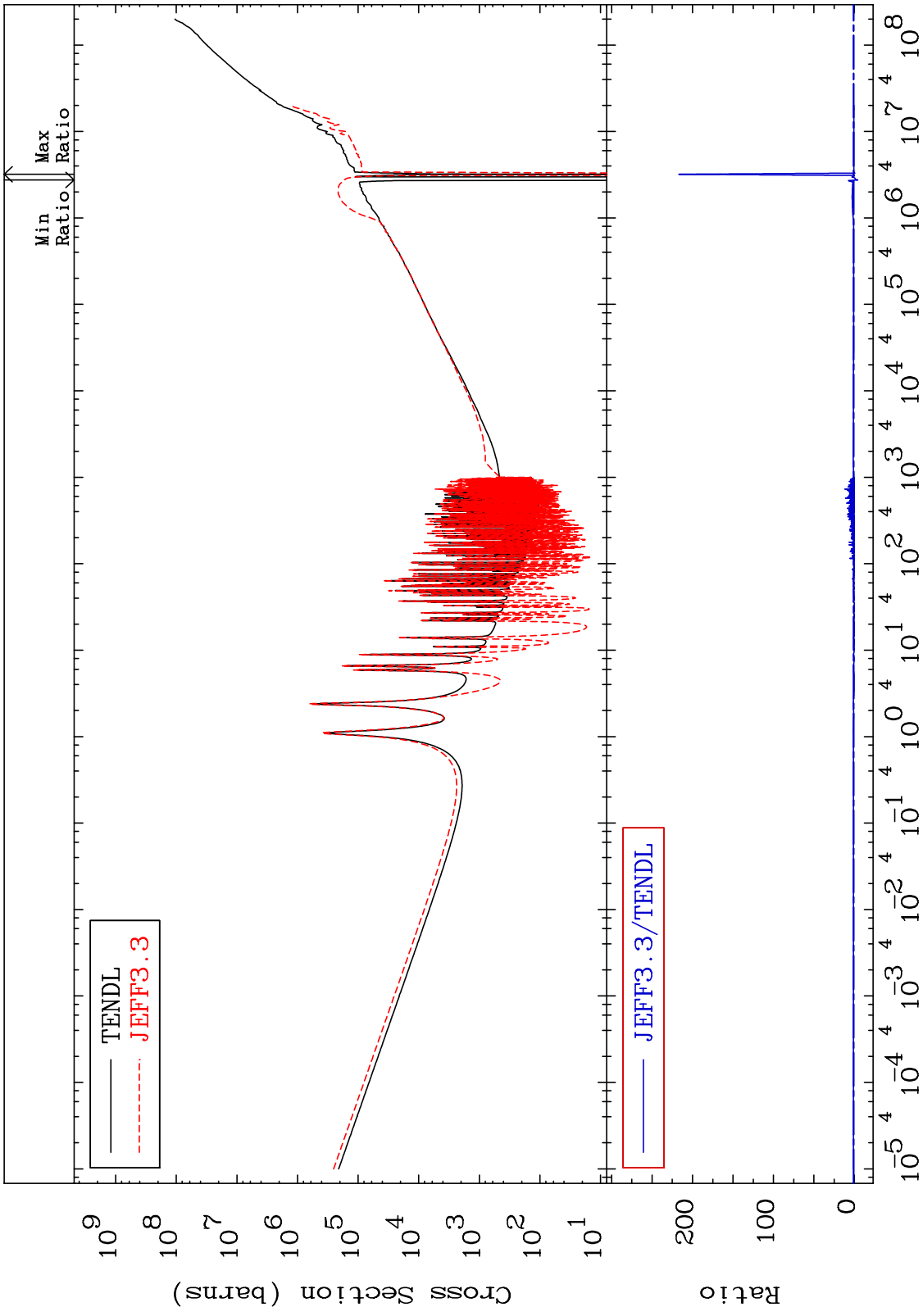
MAT 7234

He-4 Production
Cross Section

72-Hf-177
-100.0 To 1095. %



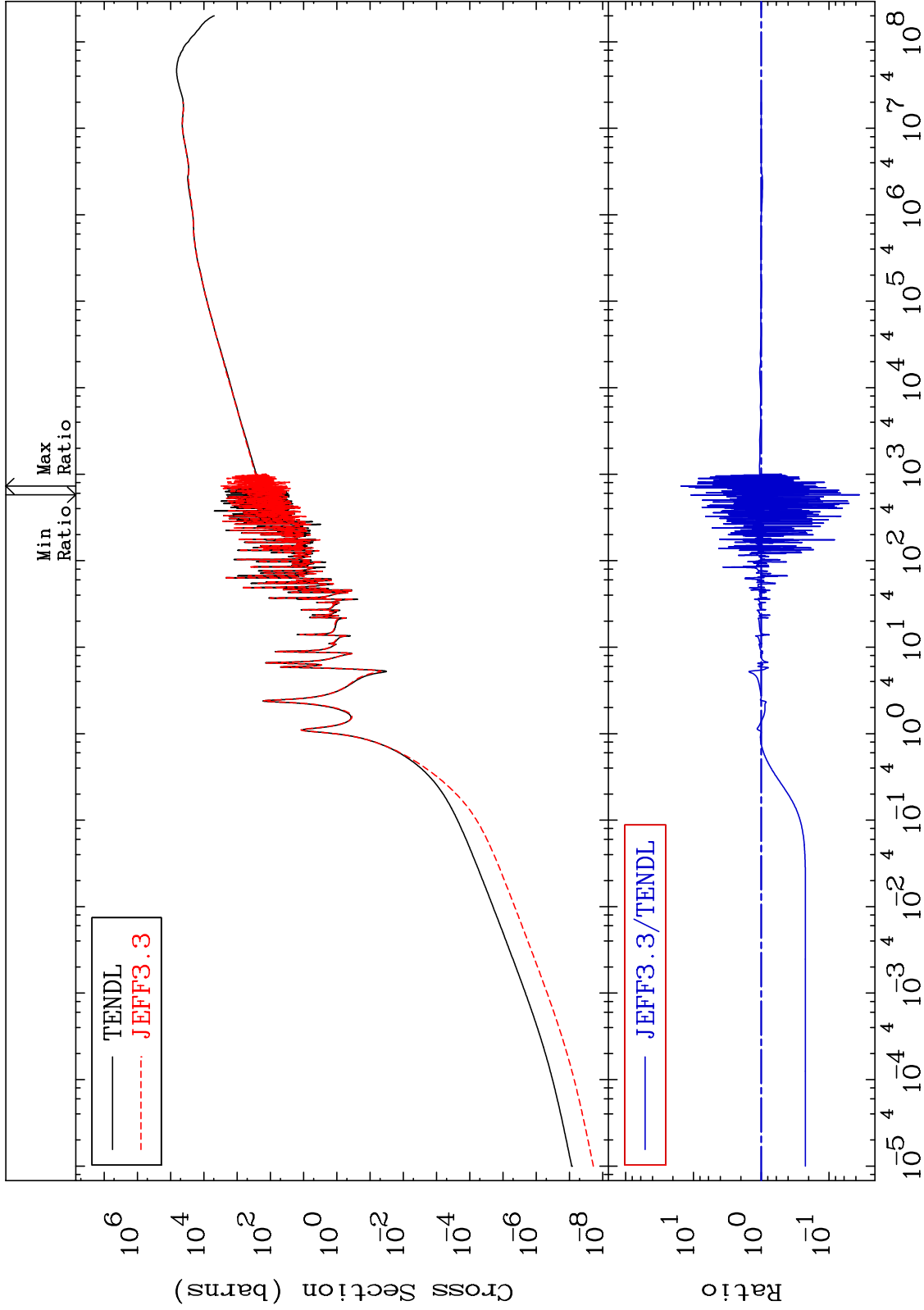
MAT 7234 Kerma total (eV-barns) 72-Hf-177
 Cross Section -529.0 To 9999. %



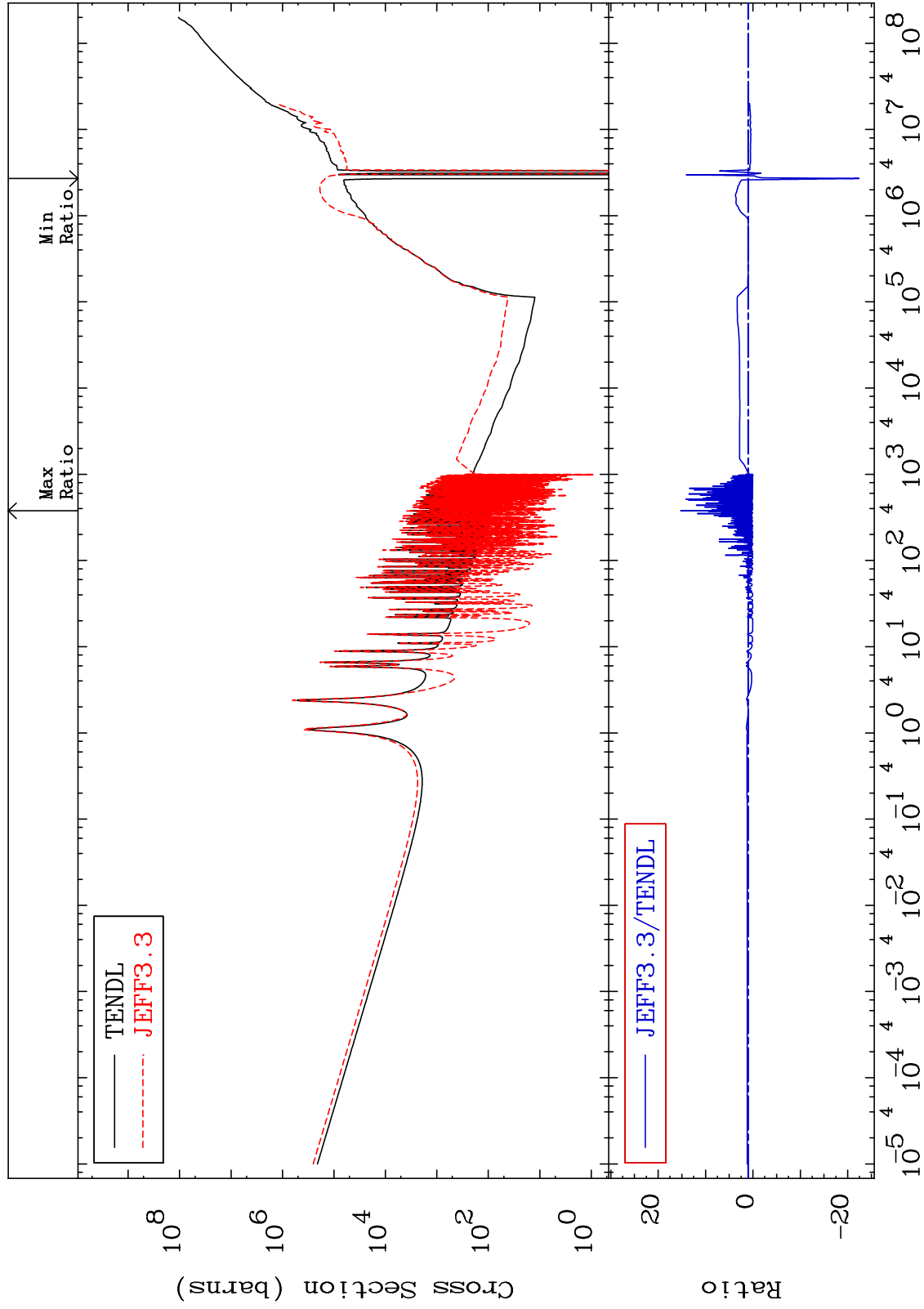
MAT 7234

Kerma elastic
Cross Section

72-Hf-177
-96.47 To 1433. %



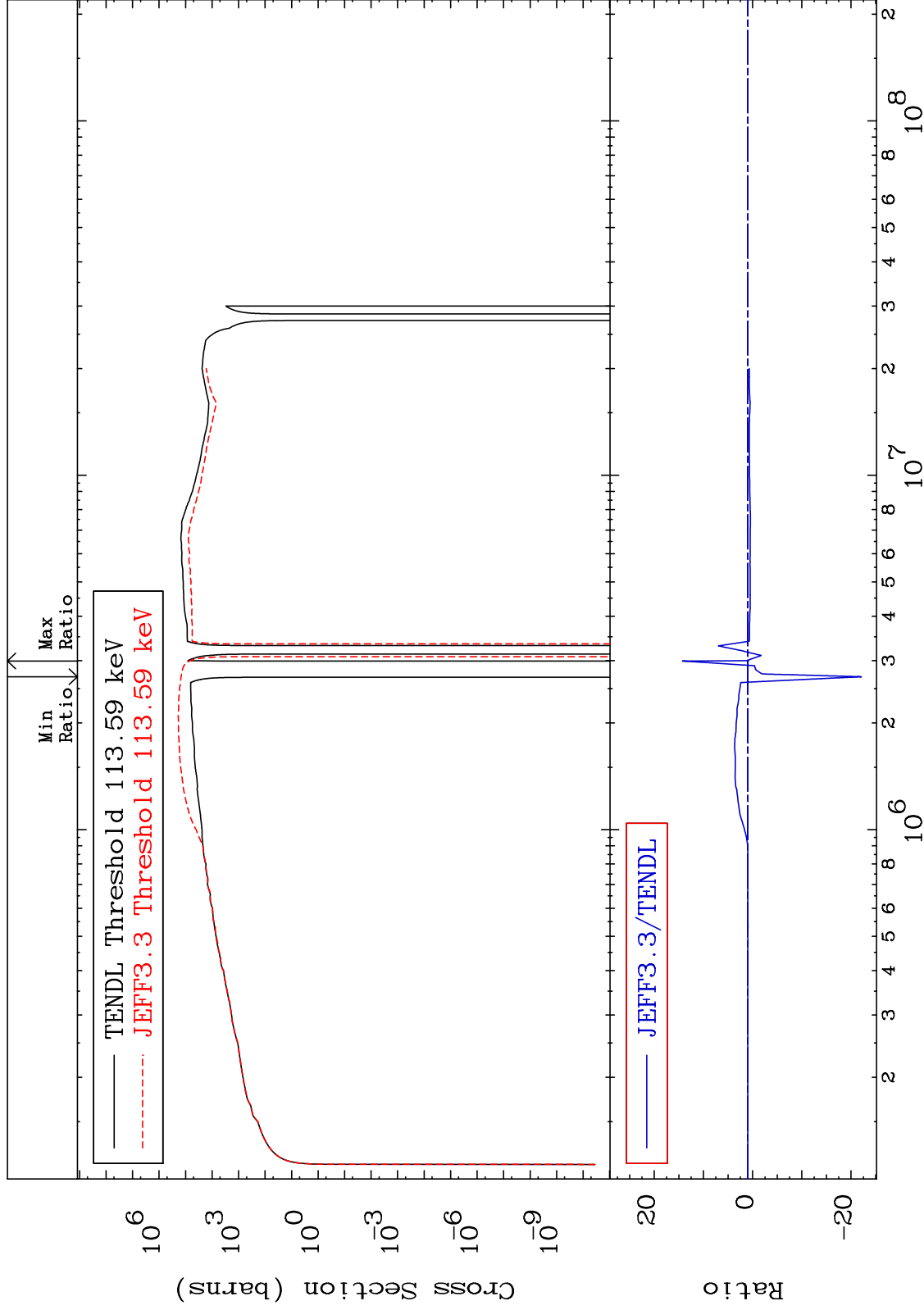
MAT 7234 Kerma non-elastic (all but mt2) 72-Hf-177
Cross Section -2340. To 1421. %



MAT 7234

Kerma inelastic (mt51-91)
Cross Section

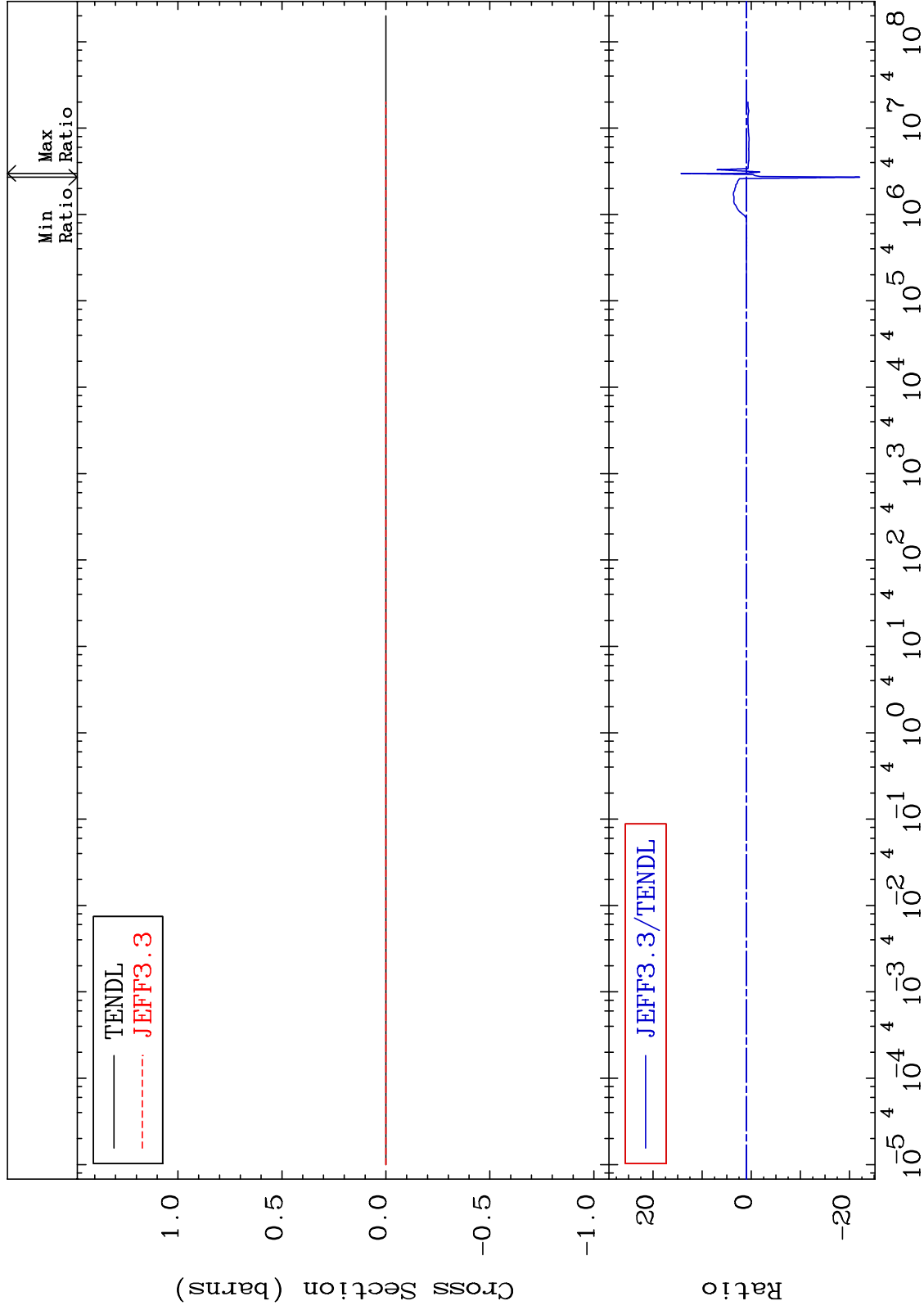
72-Hf-177
-2308. To 1327. %



MAT 7234

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

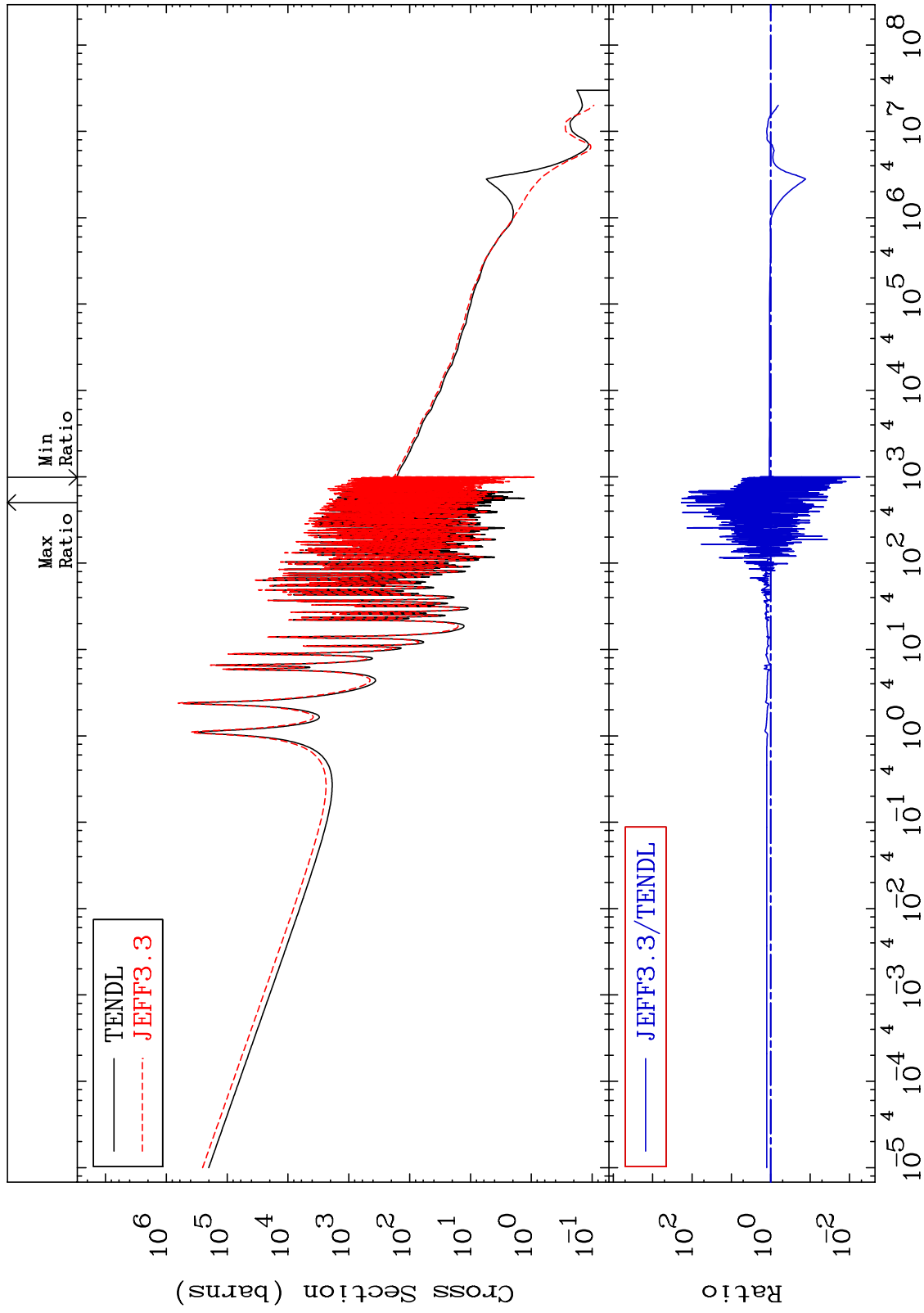
72-Hf-177
-2308. To 1327. %



MAT 7234

Kerma capture (mt102)
Cross Section

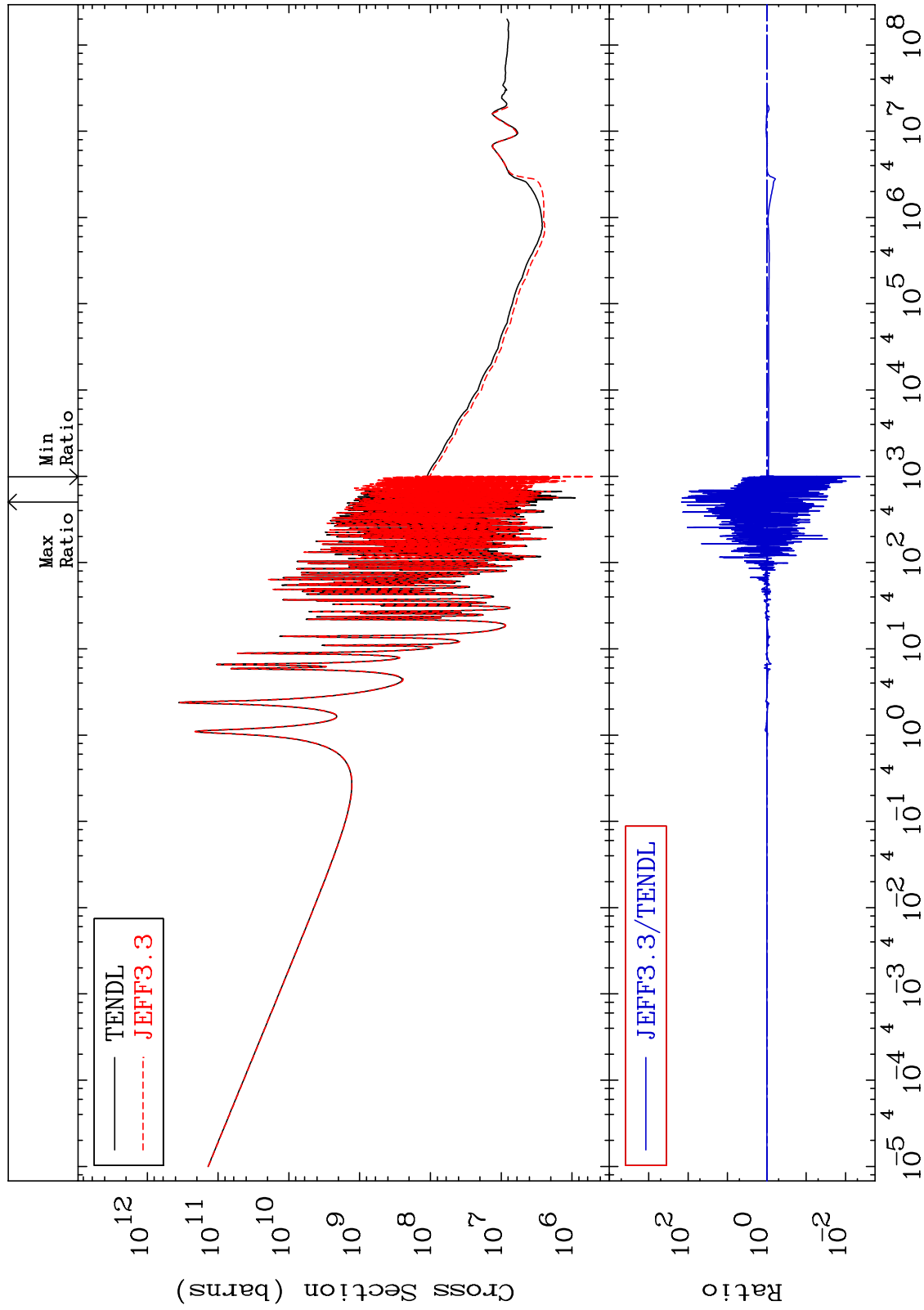
72-Hf-177
-99.45 To 9999. %



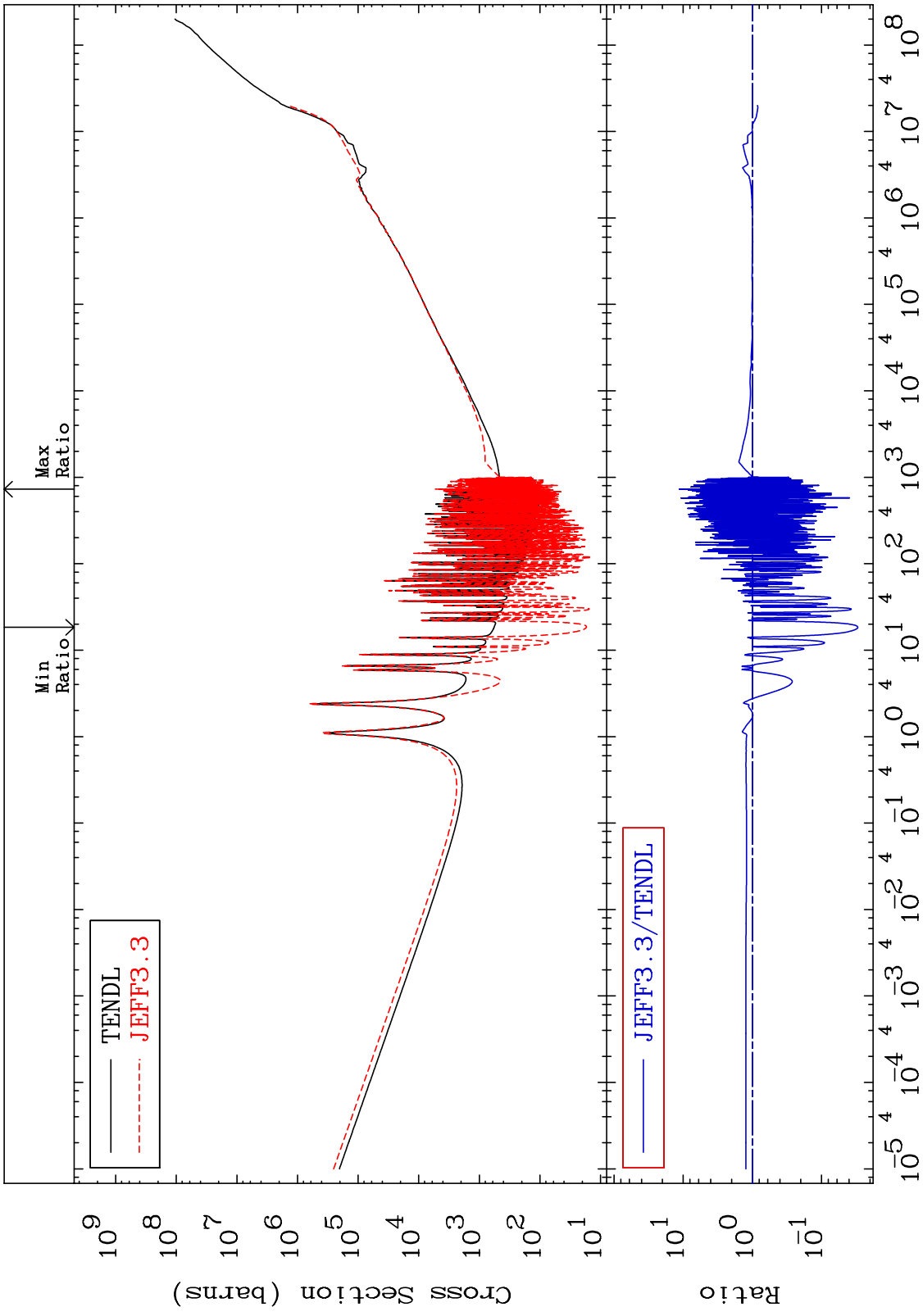
MAT 7234

Total photon (eV-barns)
Cross Section

72-Hf-177
-99.57 To 9999. %



MAT 7234 Total kinematic kerma (high limit) 72-Hf-177
 -97.01 To 1050. %
 Cross Section



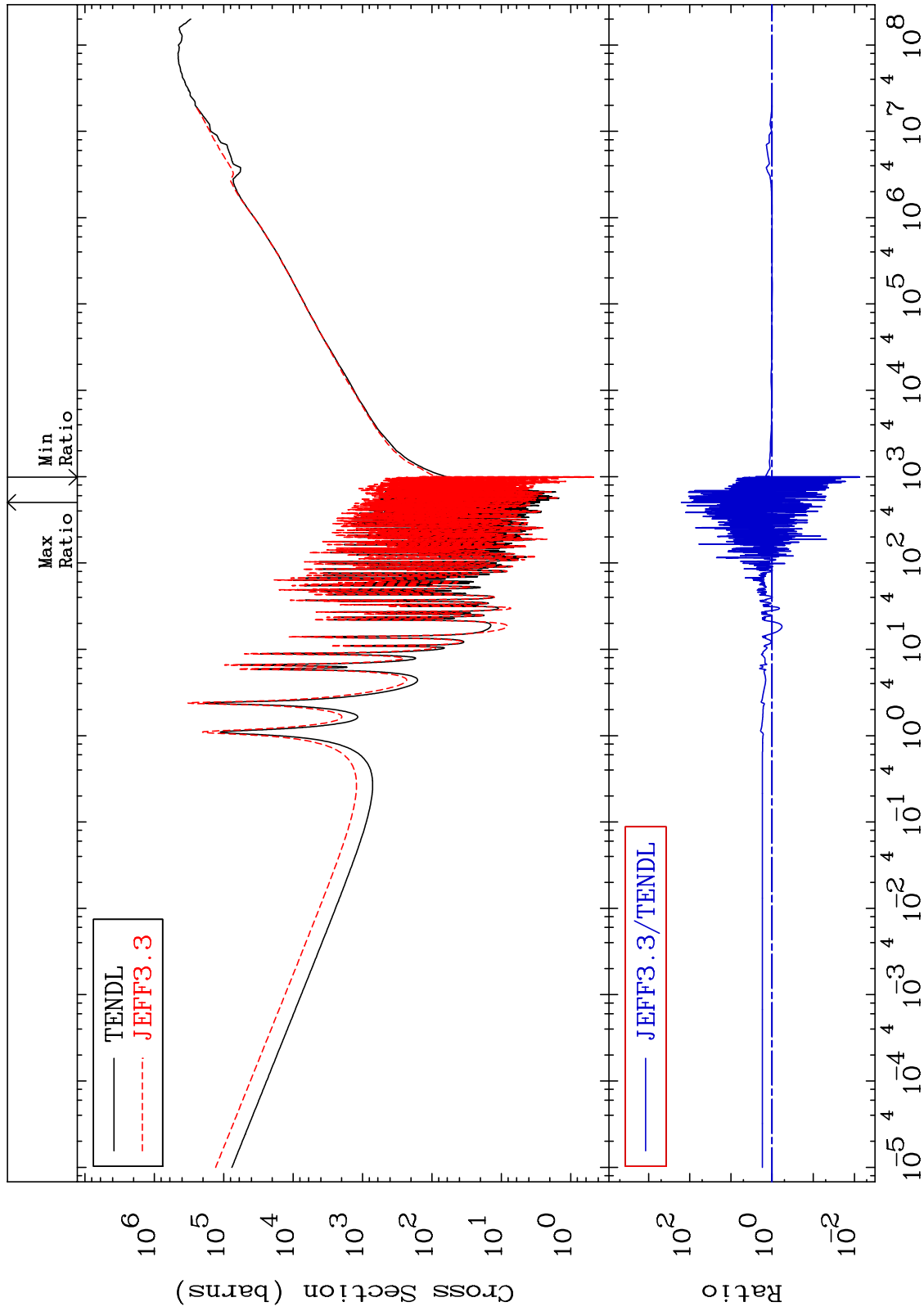
MAT 7234

Dpa total (eV-barns)

72-Hf-177

-99.26 To 9999. %

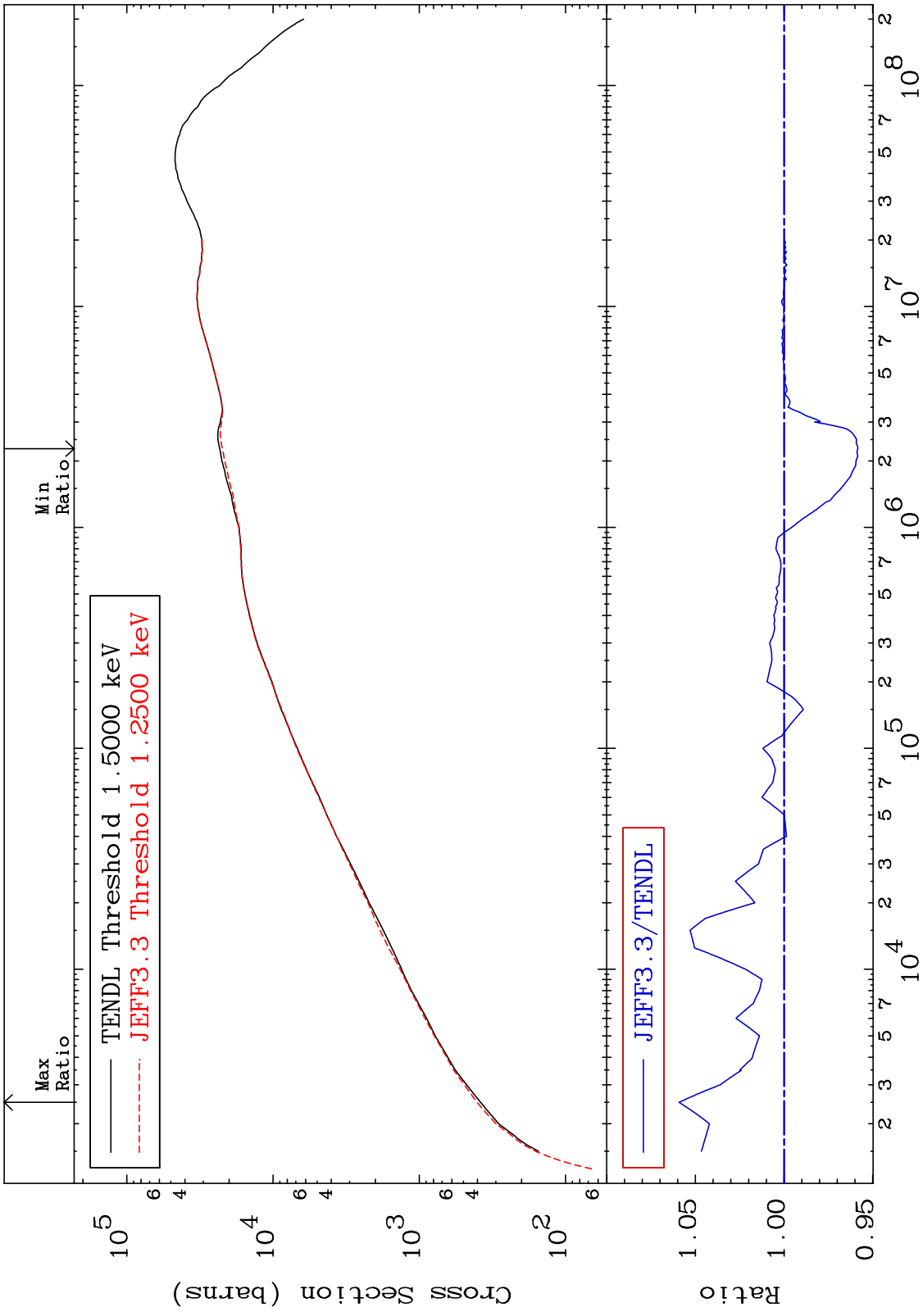
Cross Section



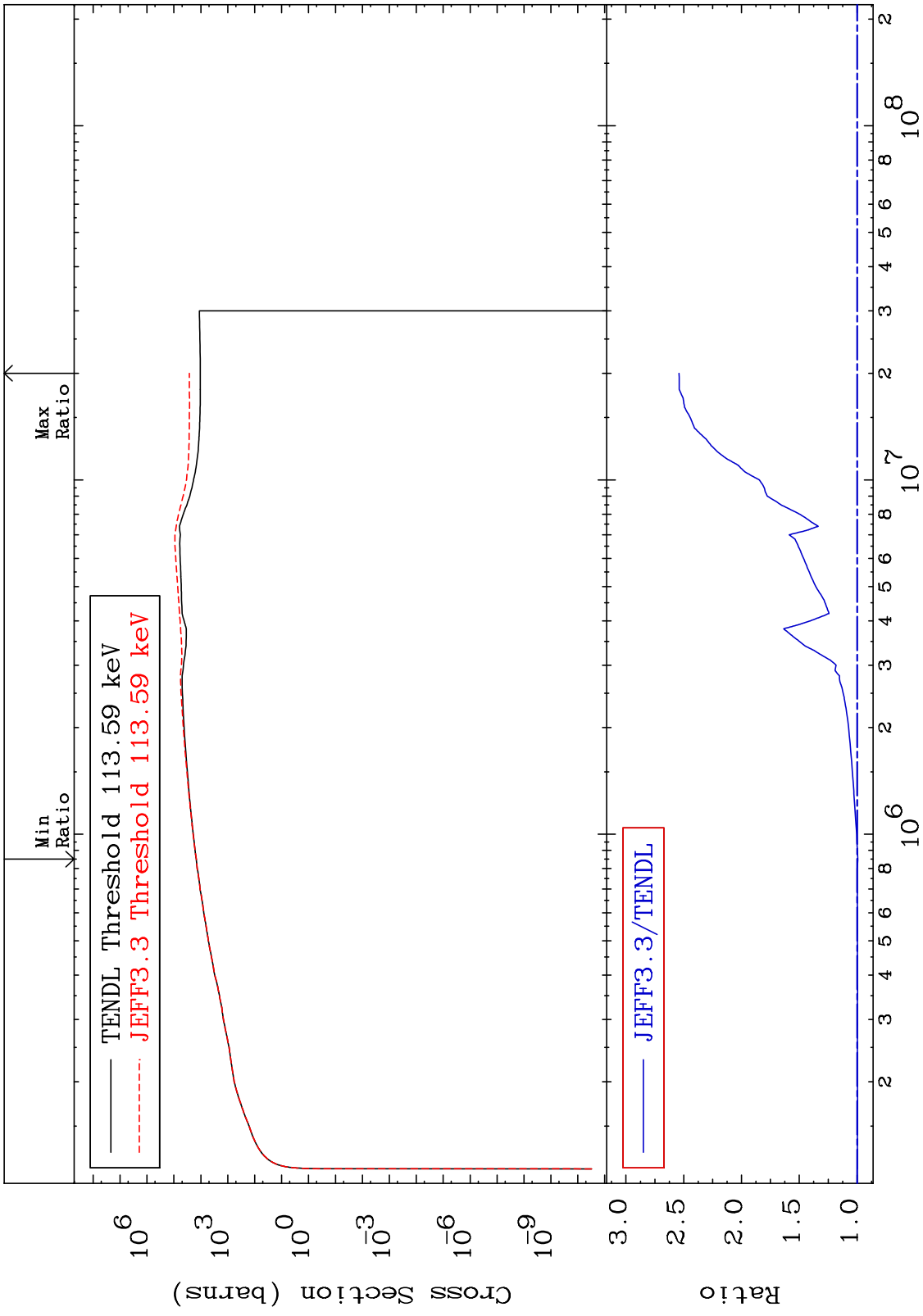
62

Incident Energy (eV)

72-Hf-177



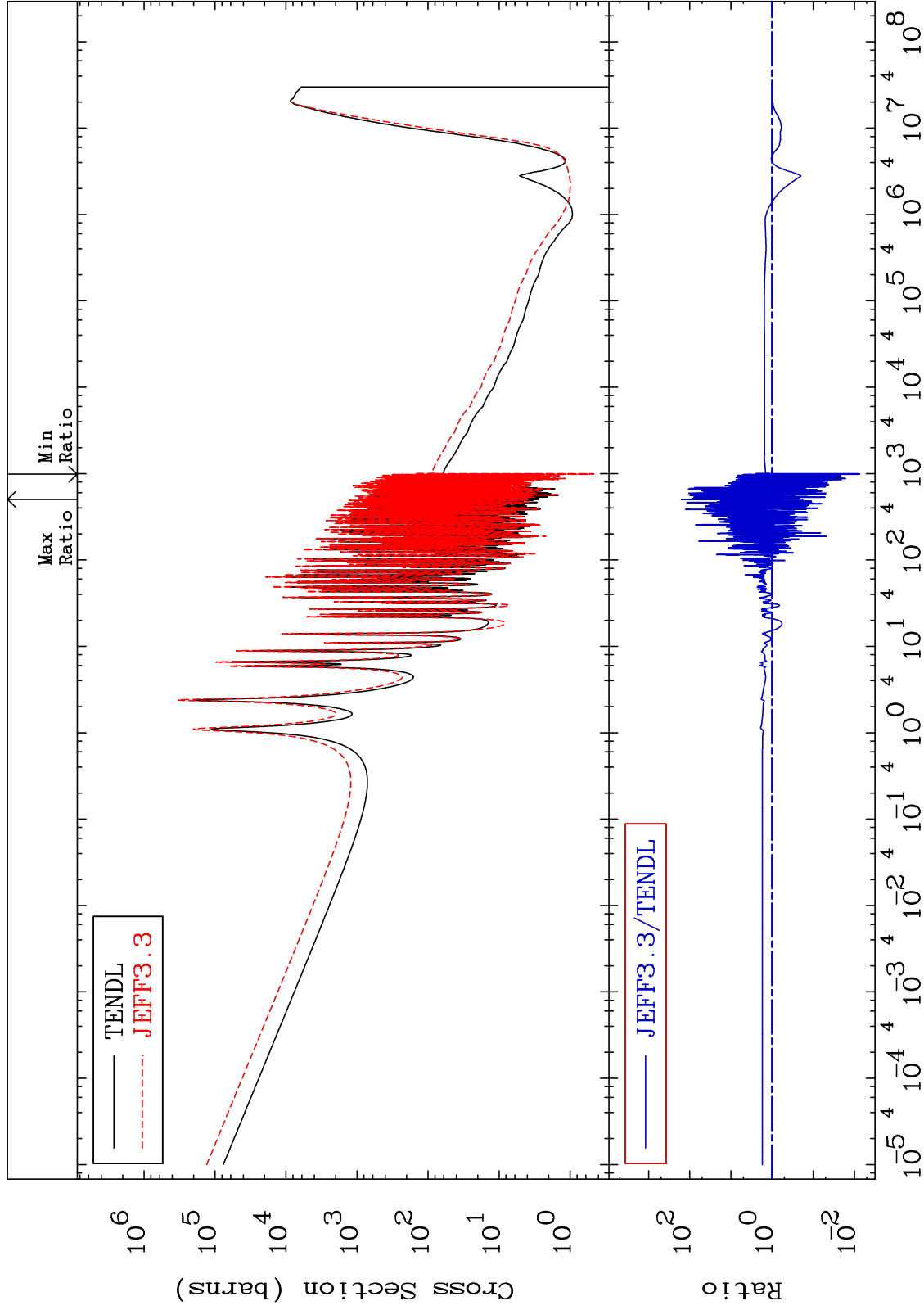
MAT 7234 Dpa inelastic (mt51-91) 72-Hf-177
 Cross Section -0.666 To 154.1 %



MAT 7234

Dpa disappearance (mt102 -120)
Cross Section

72-Hf-177
-99.26 To 9999. %

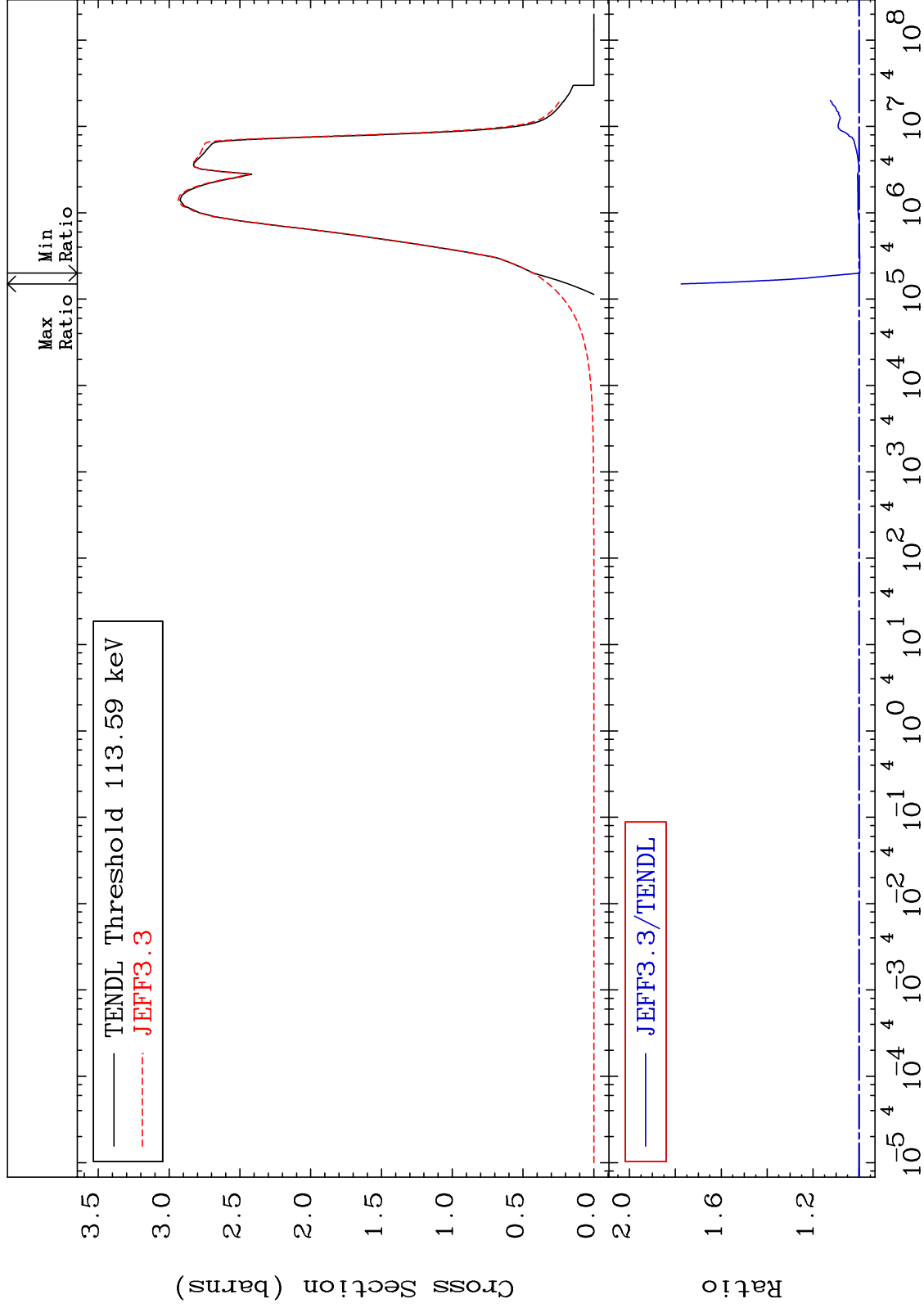


MAT 7234

Inelastic: 72-Hf-177g

72-Hf-177

Radionuclide Production Cross Section -0.319 To 77.44 %

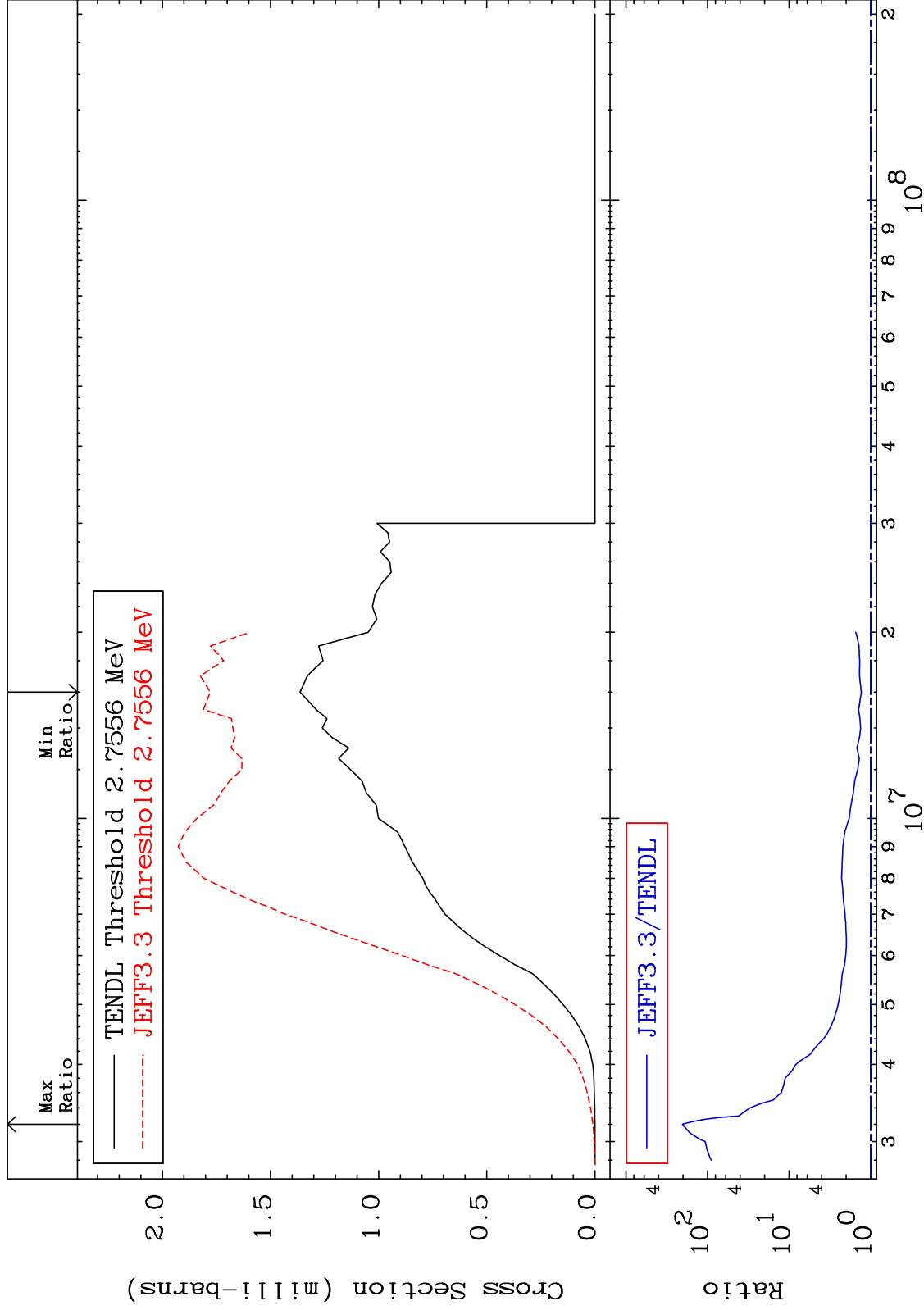


MAT 7234

Inelastic: 72-Hf-177m30

72-Hf-177

Radionuclide Production Cross Section 30.49 To 9999. %



67

Incident Energy (eV)

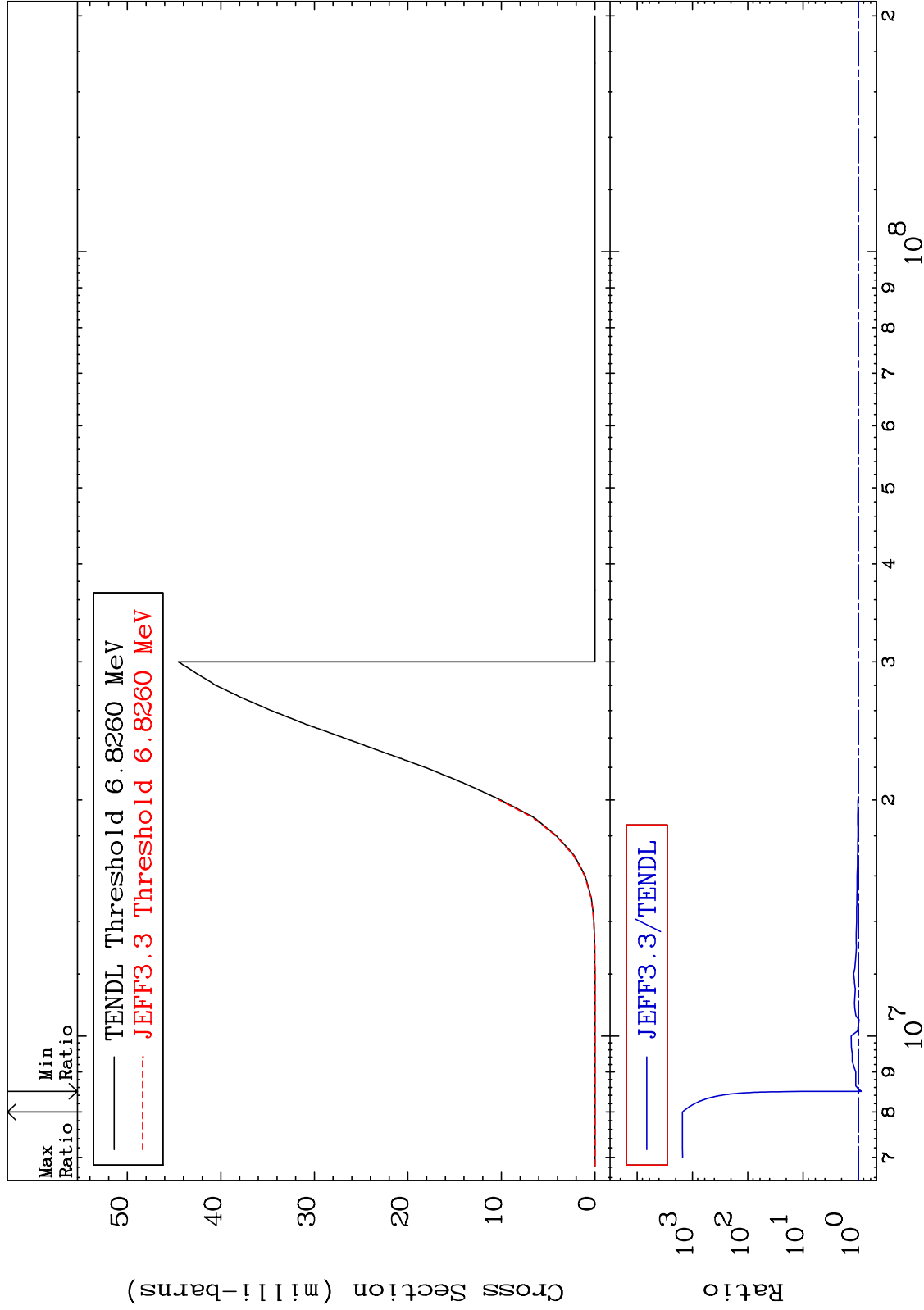
72-Hf-177

MAT 7234

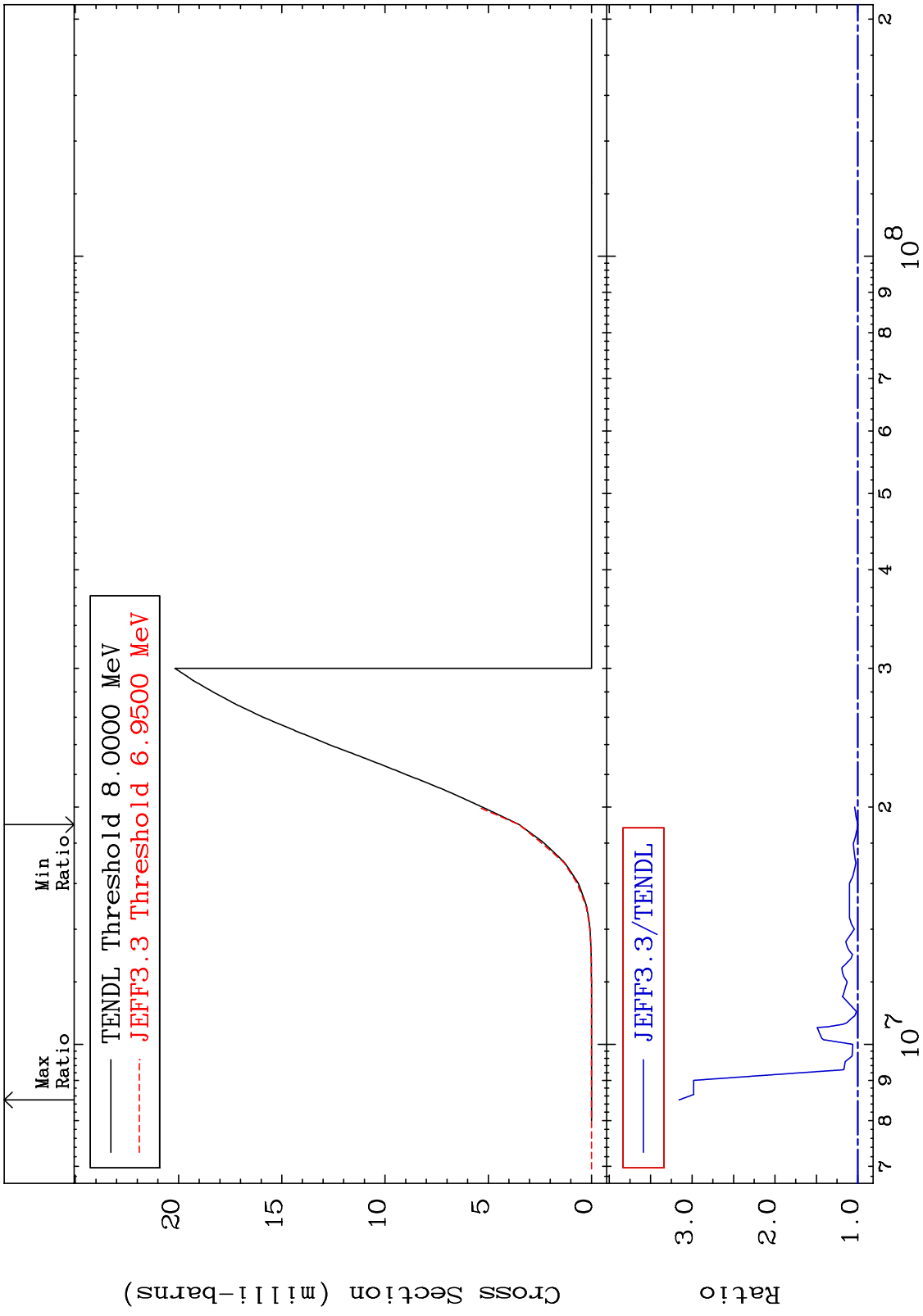
(n,n') p:71-Lu-176g

72-Hf-177

Radionuclide Production Cross Section -11.60 To 9999. %



MAT 7234 (n, n') p:71-Lu-176m1 72-Hf-177
 Radionuclide Production Cross Section 0.000 To 215.8 %

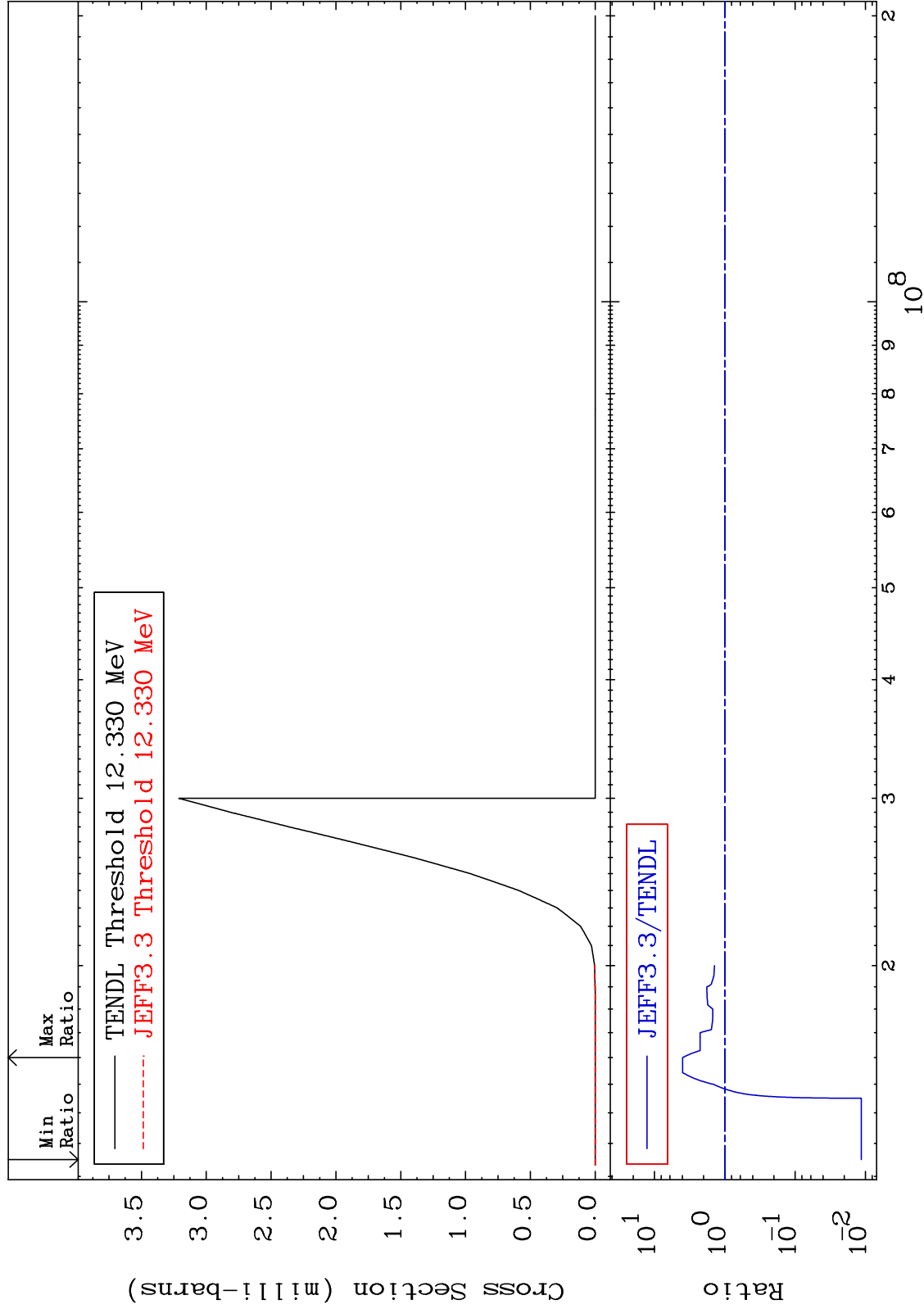


MAT 7234

(n, n') t:71-Lu-174g

72-Hf-177

Radionuclide Production Cross Section -98.85 To 296.4 %

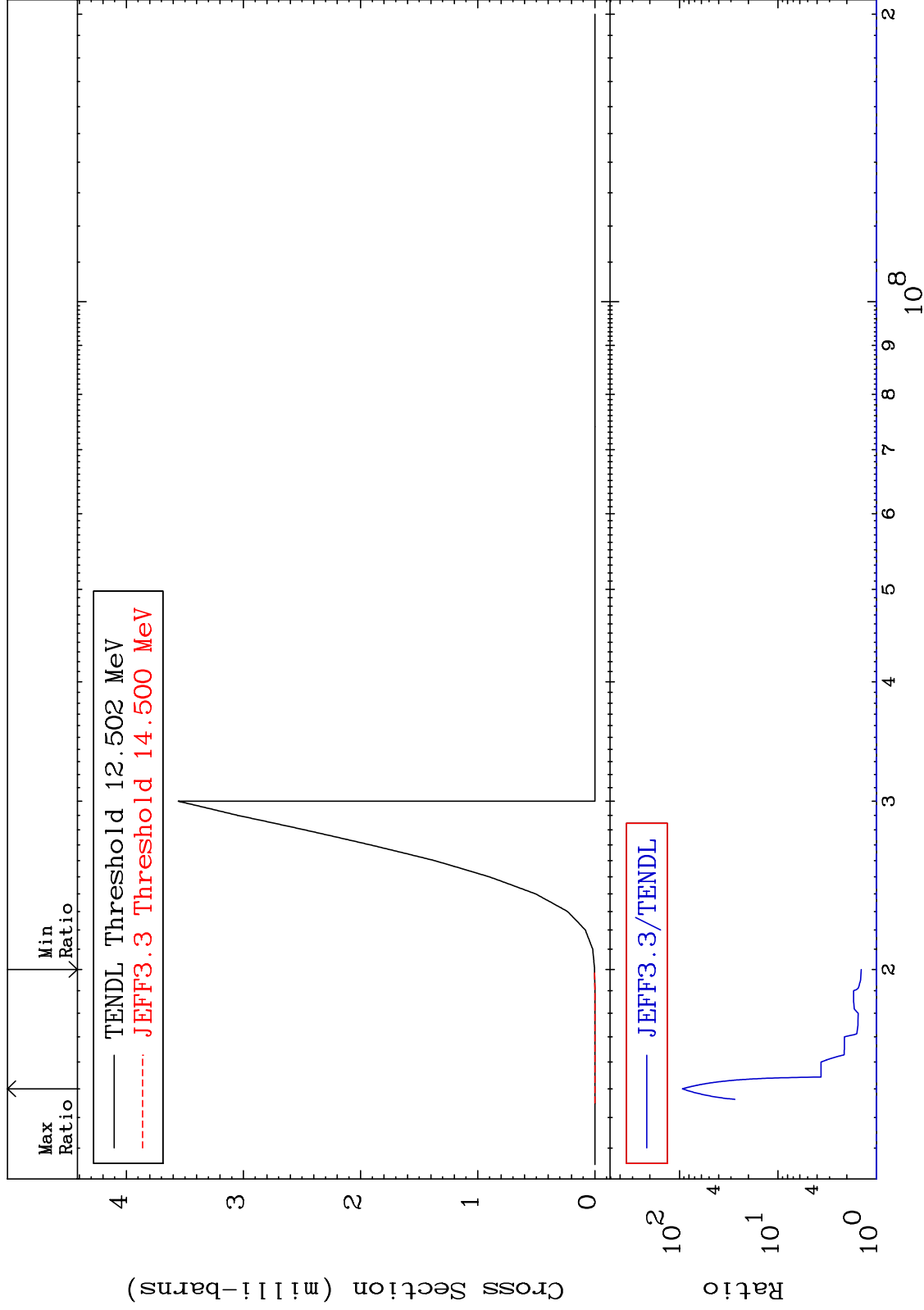


MAT 7234

(n,n') t:71-Lu-174m3

72-Hf-177

Radionuclide Production Cross Section 42.61 To 9224. %

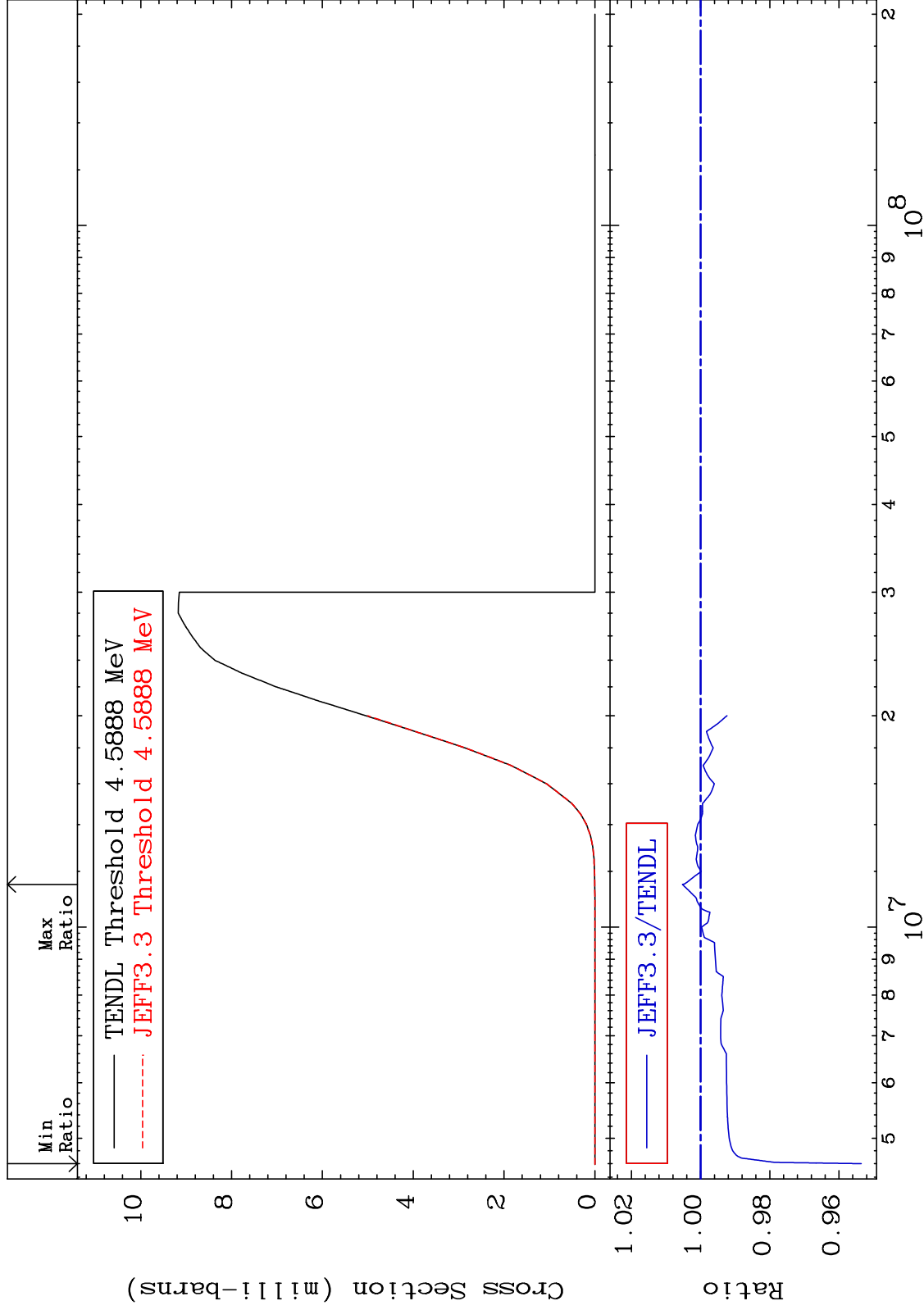


MAT 7234

(n,d):71-Lu-176g

72-Hf-177

Radionuclide Production Cross Section -4.645 To 0.524 %



72

Incident Energy (eV)

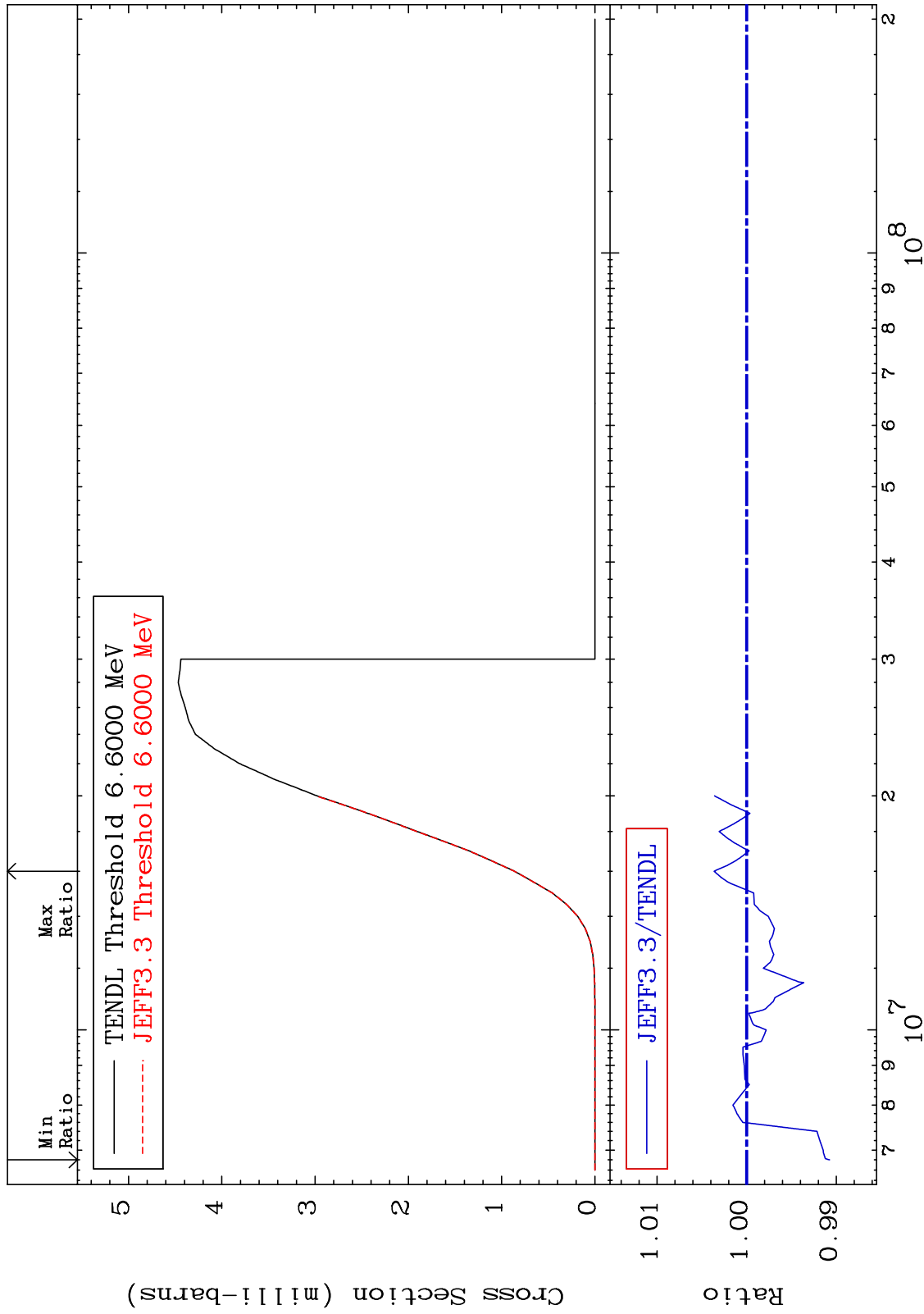
72-Hf-177

MAT 7234

(n,d):71-Lu-176m1

72-Hf-177

Radionuclide Production Cross Section -0.924 To 0.363 %



73

Incident Energy (eV)

72-Hf-177