

Program EVALPLOT  
(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)

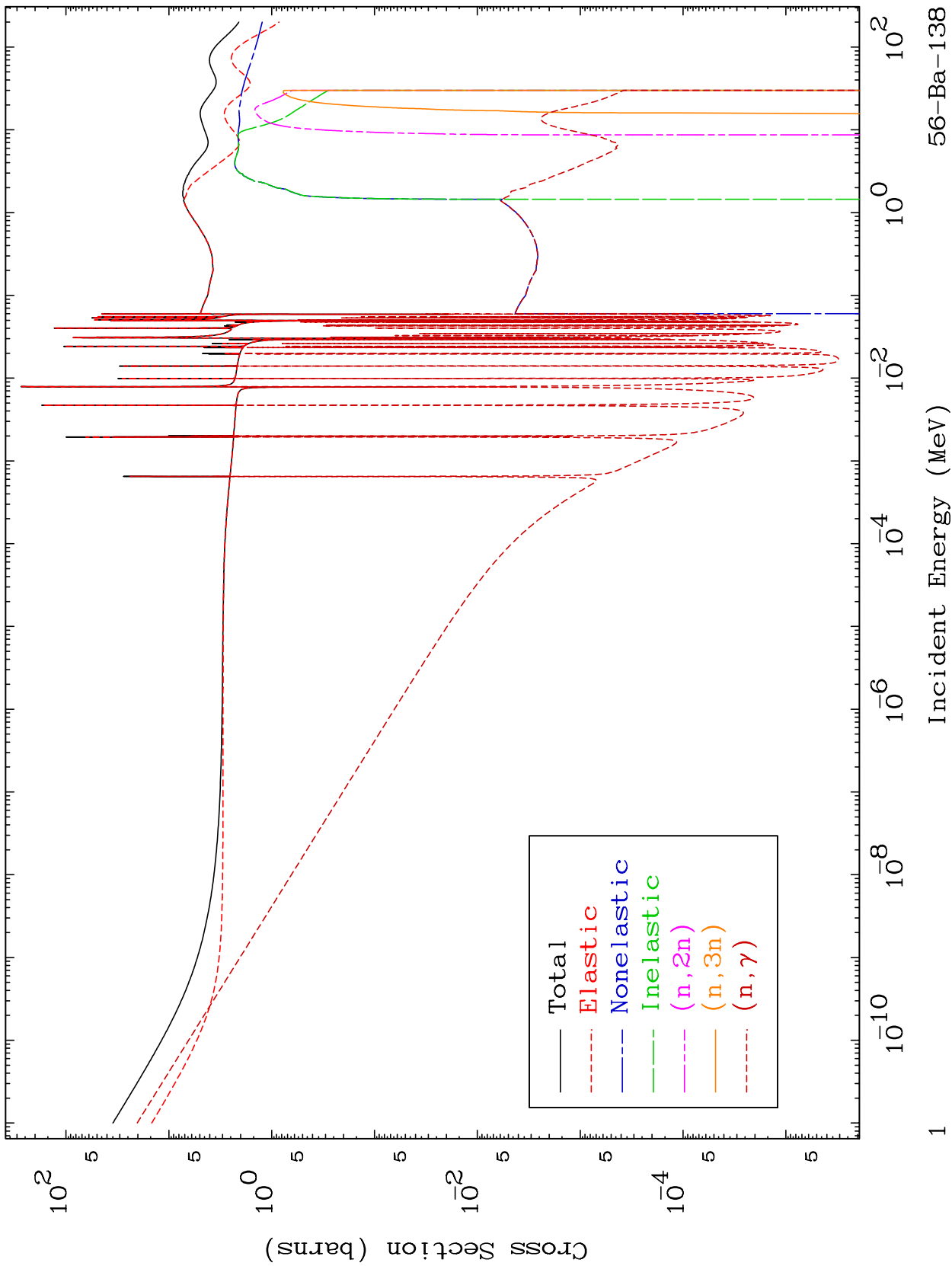
Web: [redcullen1.net/HOMEPAGE.NEW](http://redcullen1.net/HOMEPAGE.NEW)

Press Mouse Button to Start

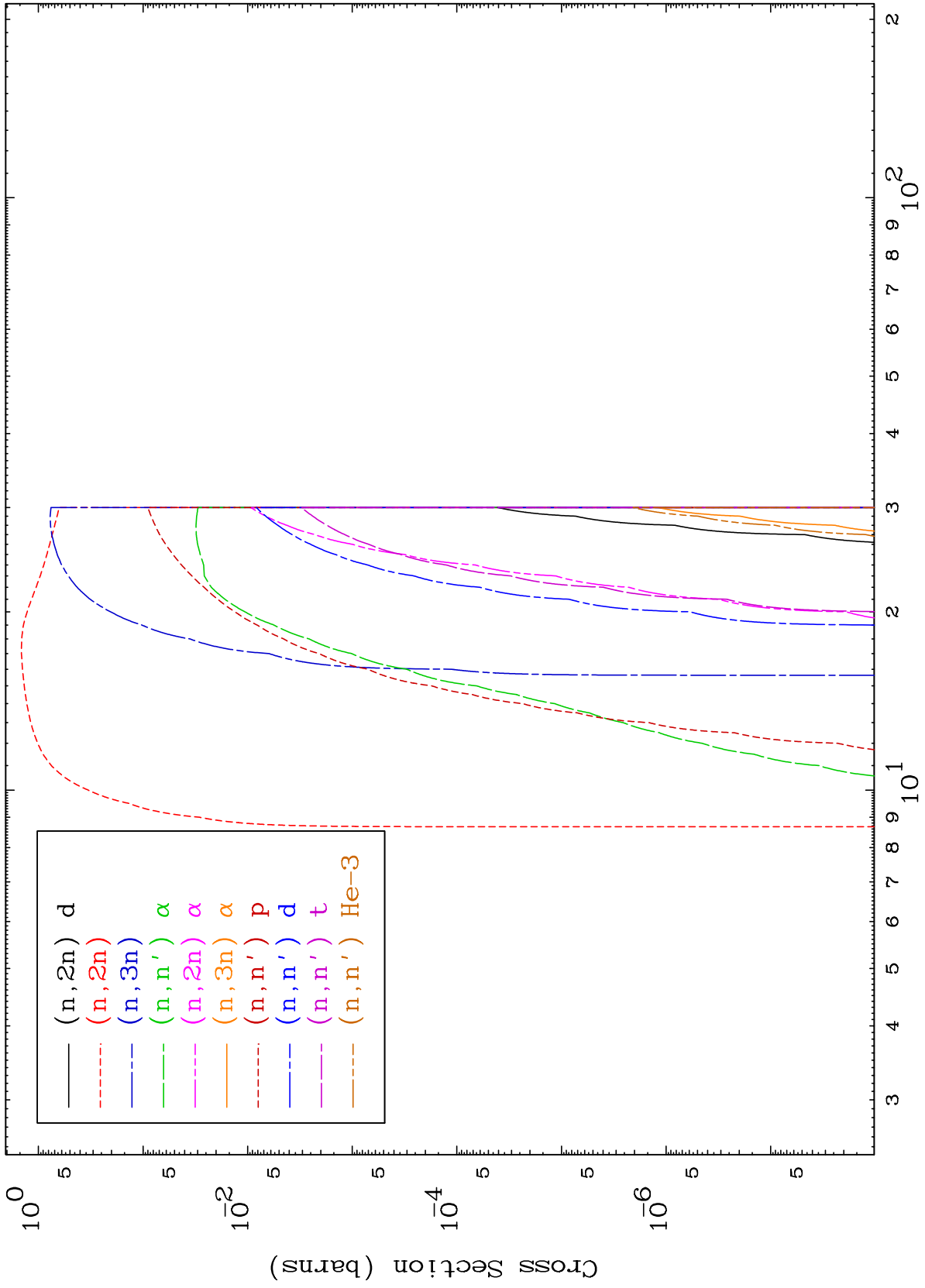
MAT 5649

Neutron Major  
293 Kelvin Cross Sections

56-Ba-138



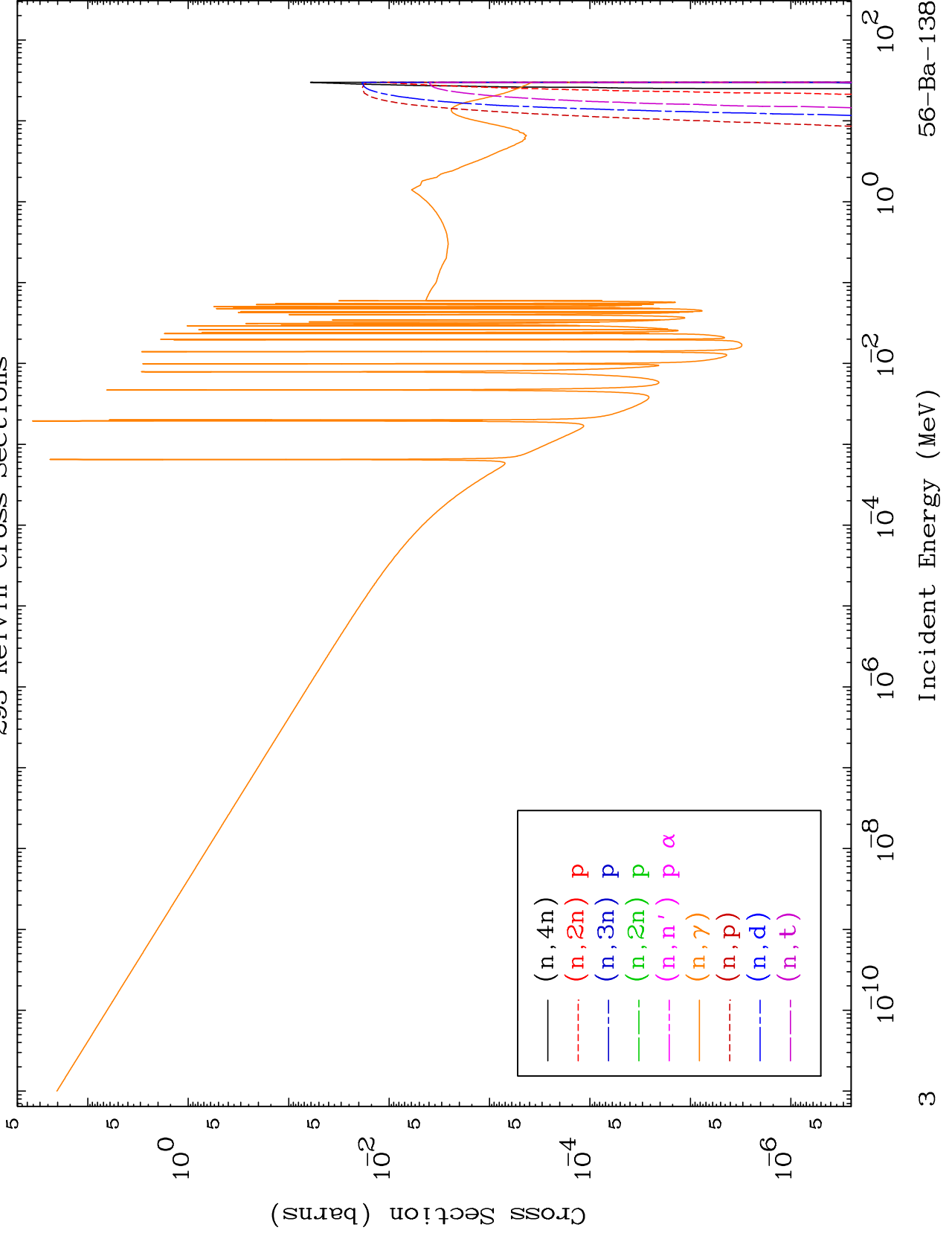
56-Ba-138



MAT 5649

Neutron Absorption  
293 Kelvin Cross Sections

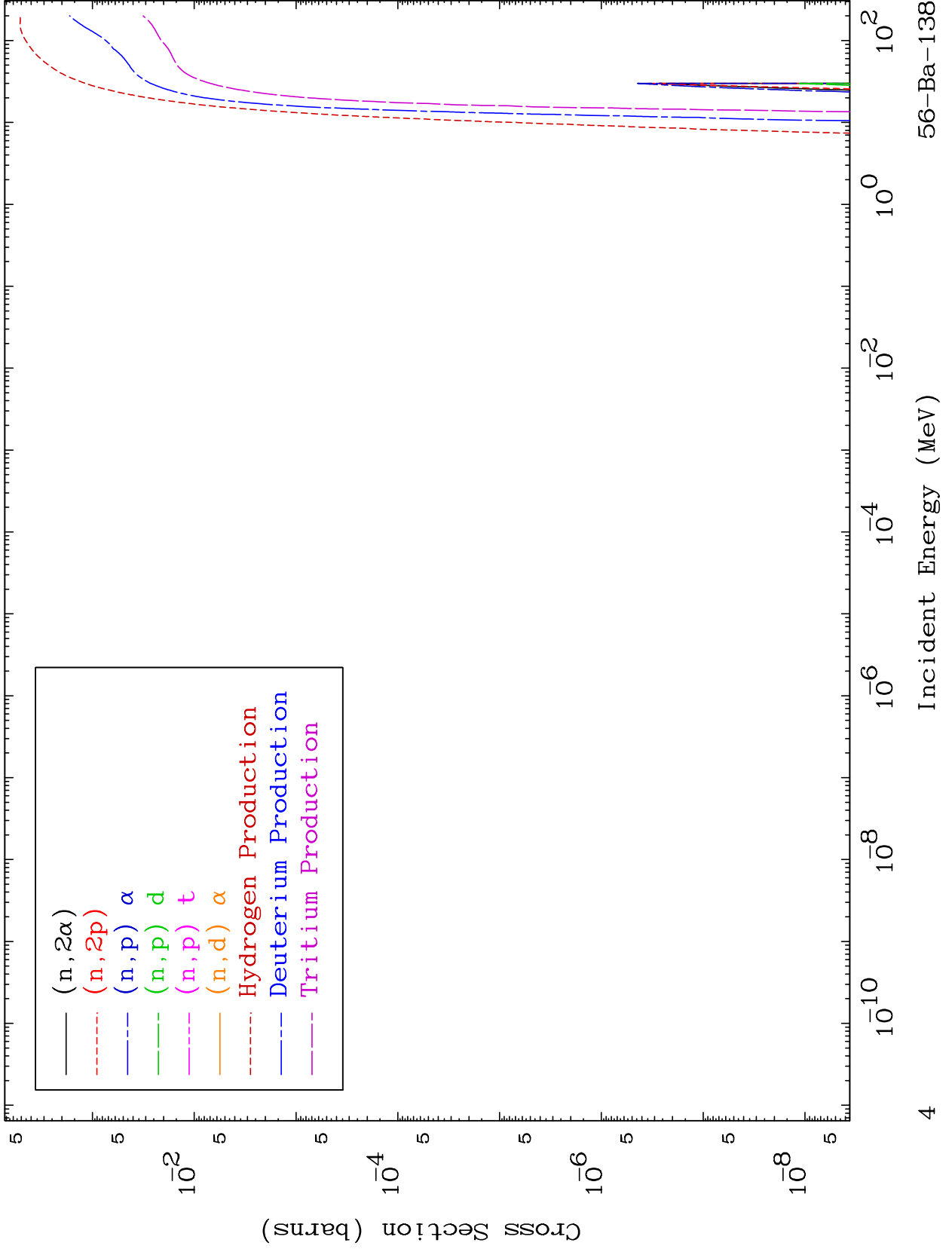
56-Ba-138

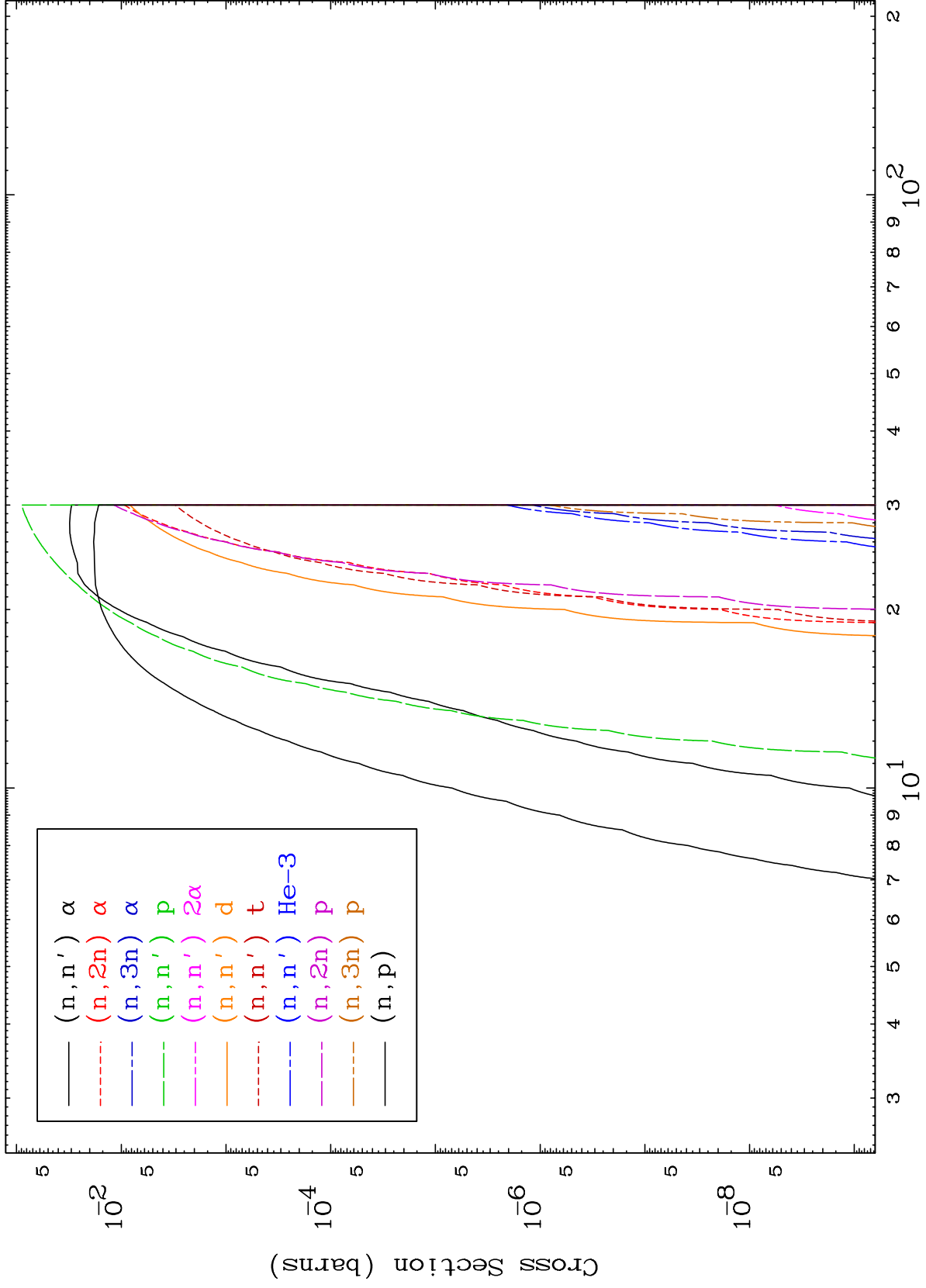


MAT 5649

Neutron Absorption  
293 Kelvin Cross Sections

56-Ba-138

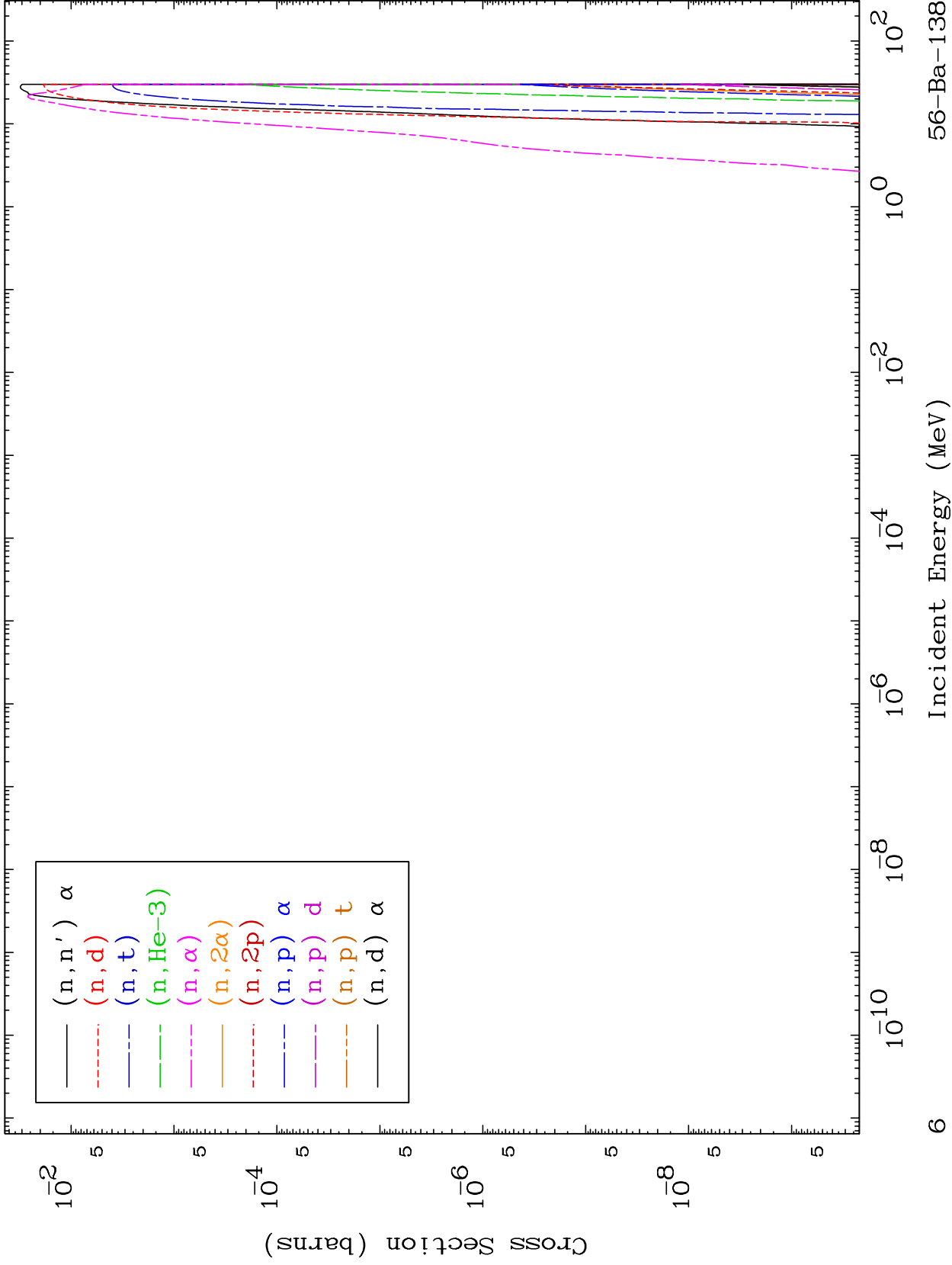


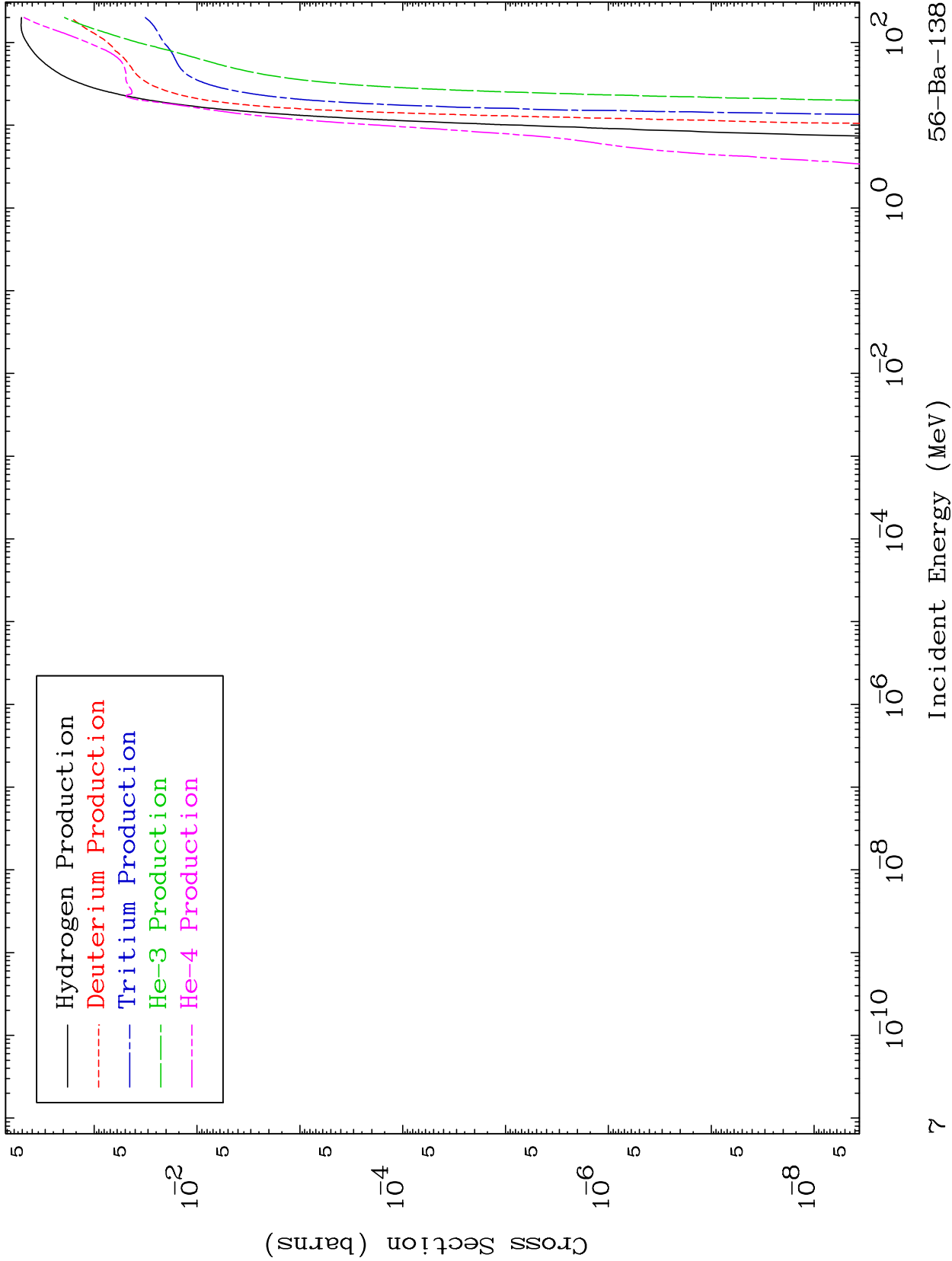


MAT 5649

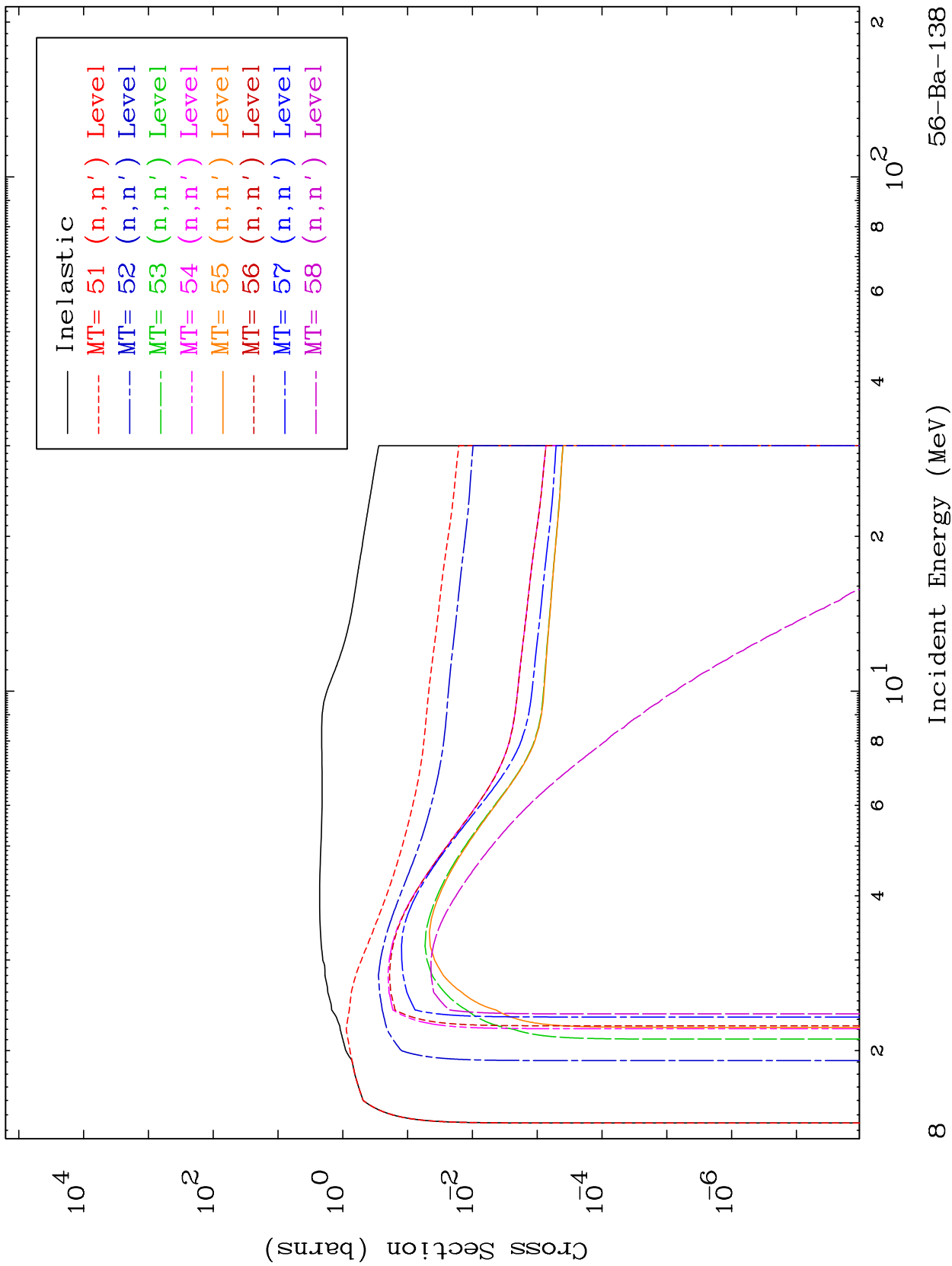
Charged Particle  
293 Kelvin Cross Sections

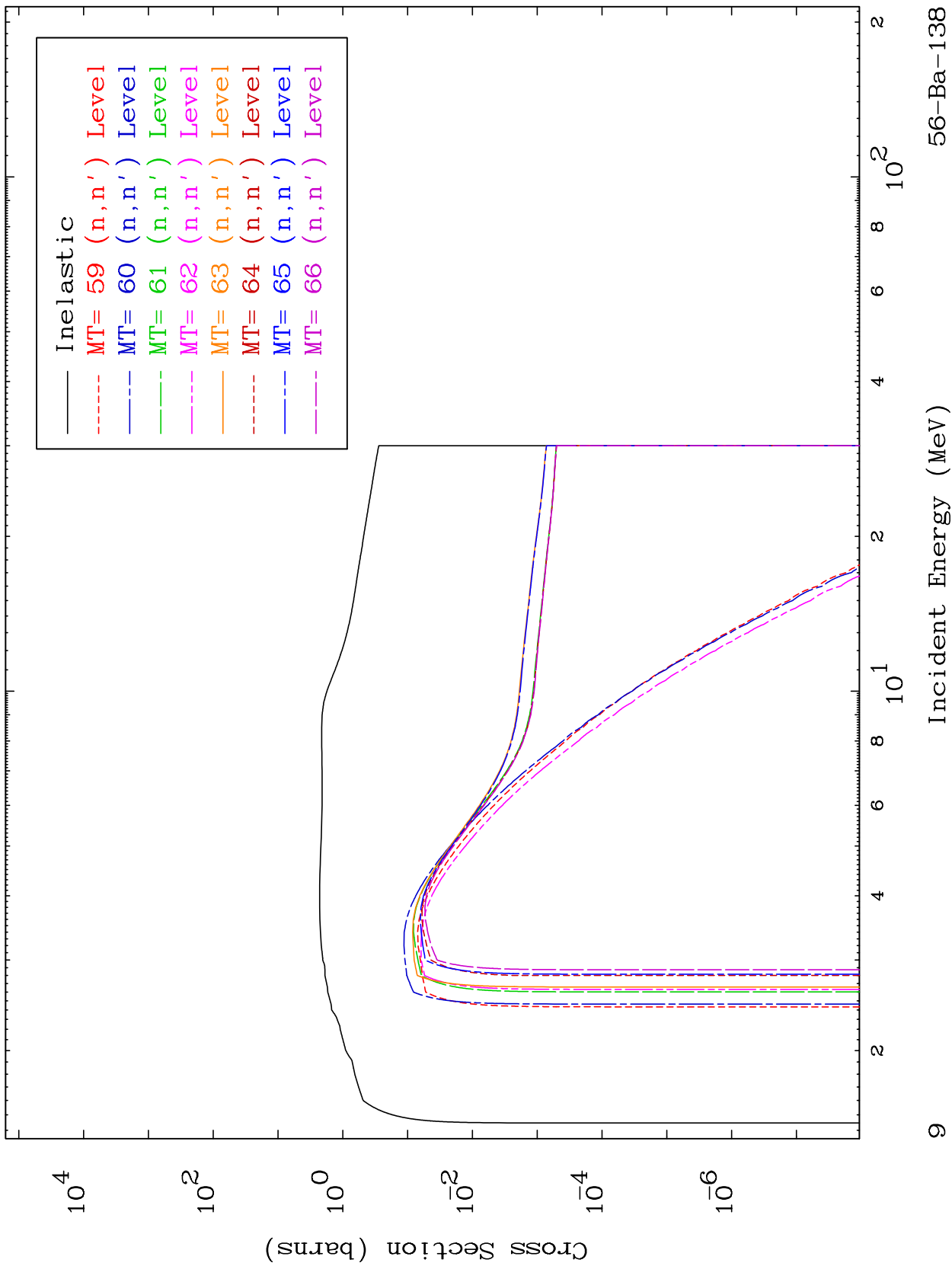
56-Ba-138









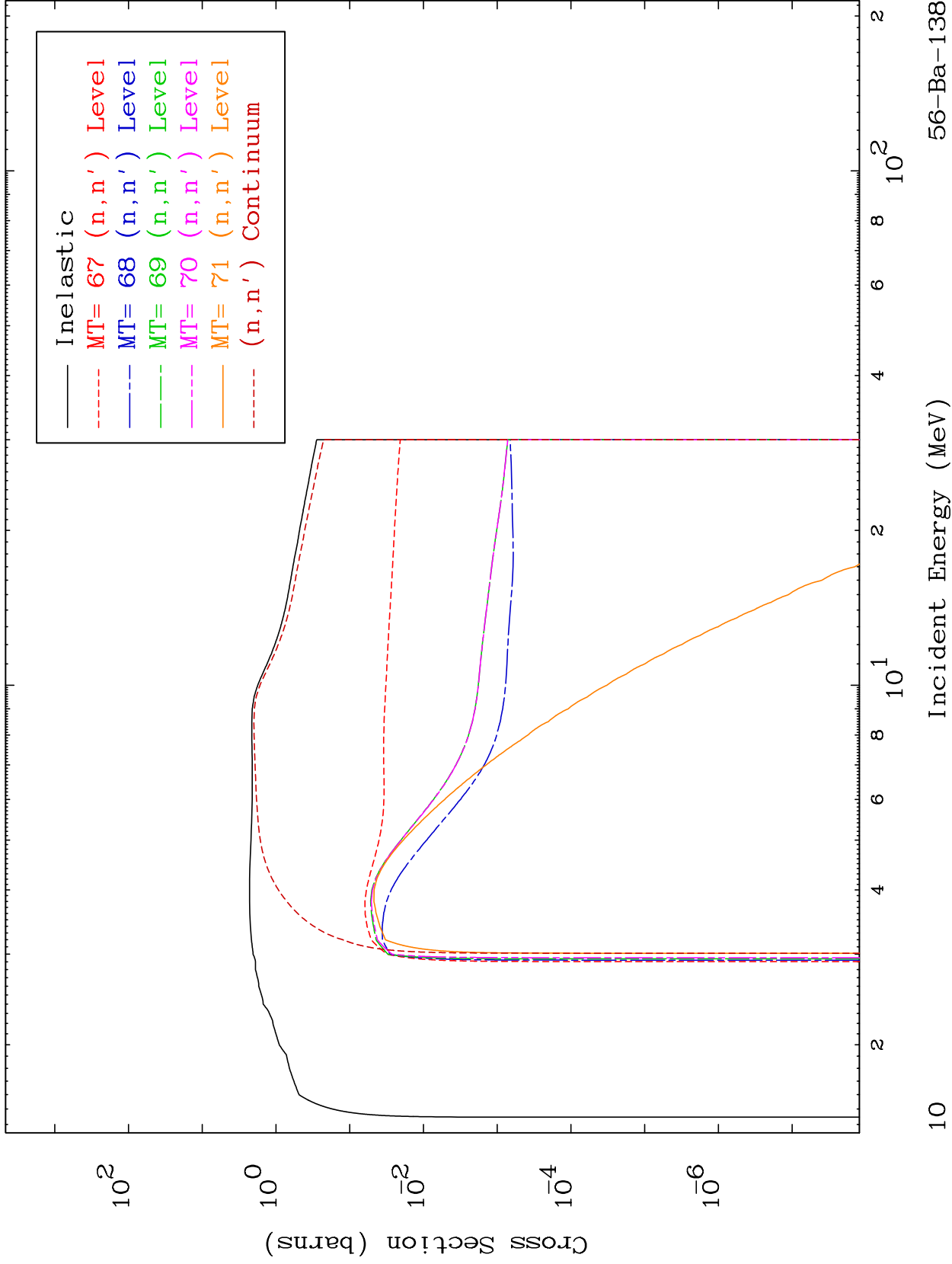


MAT 5649

(n,n') Levels

56-Ba-138

293 Kelvin Cross Sections



10

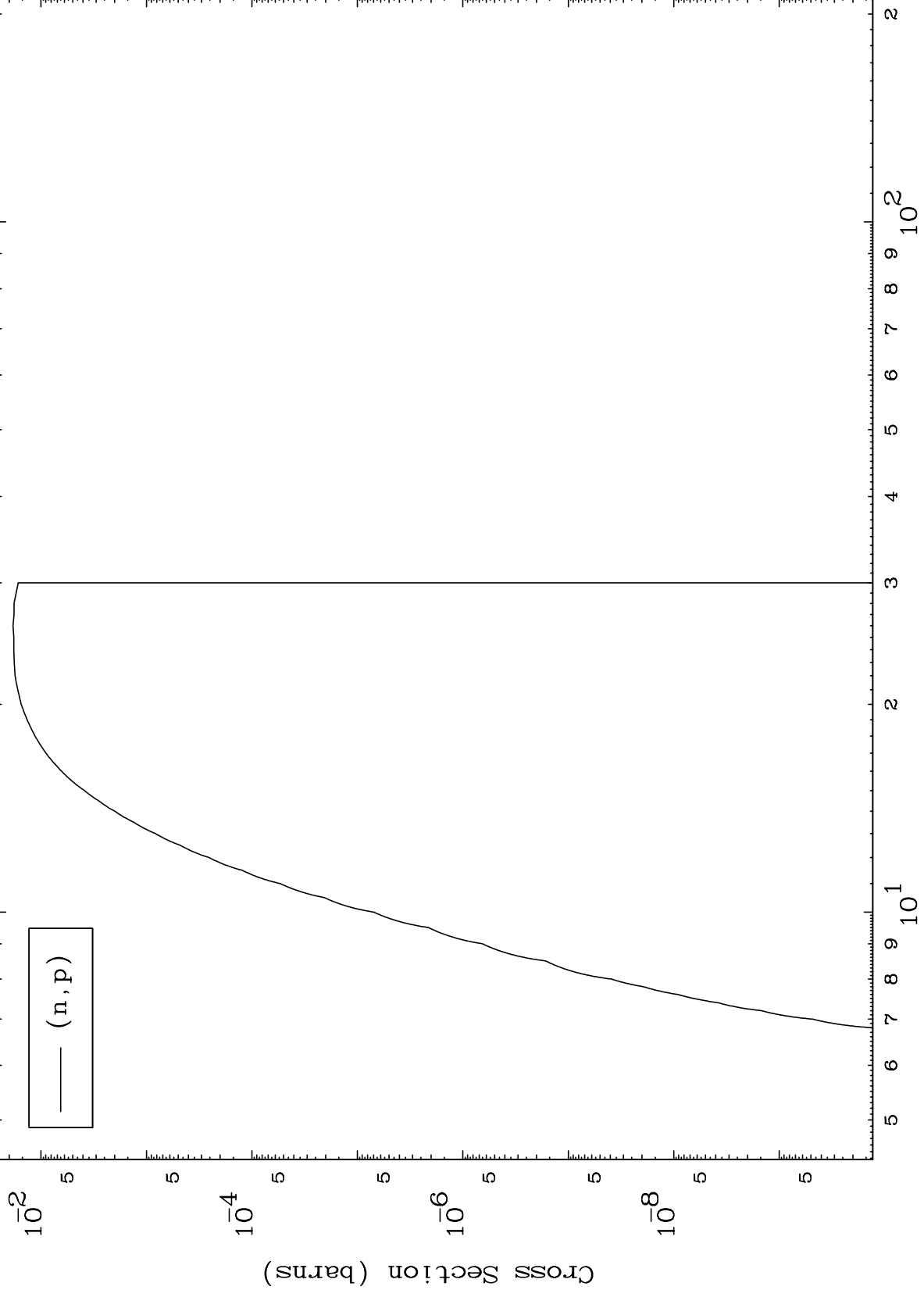
Incident Energy (MeV)

56-Ba-138

MAT 5649

(n,p) Levels  
293 Kelvin Cross Sections

56-Ba-138



11

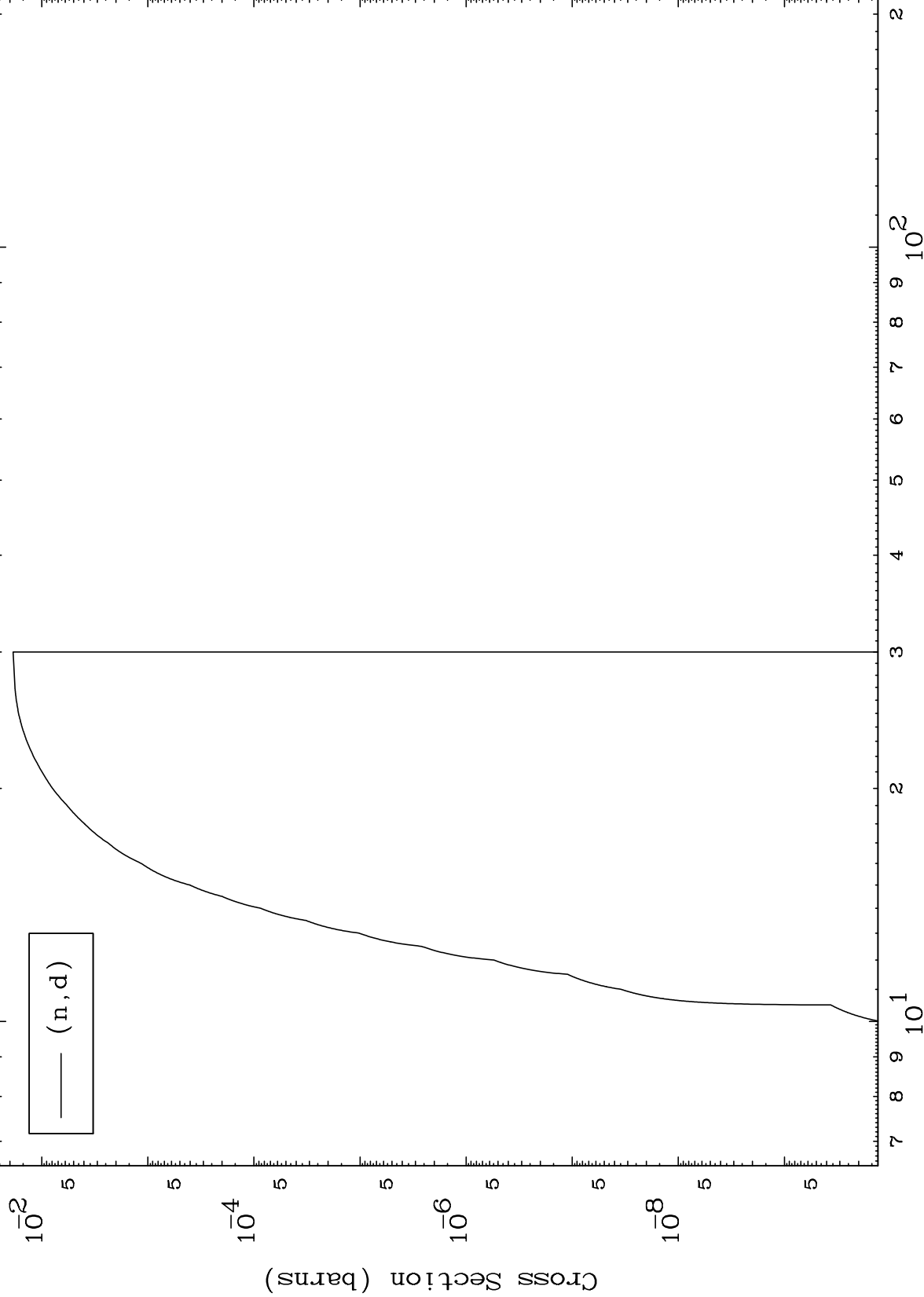
Incident Energy (MeV)

56-Ba-138

MAT 5649

(n,d) Levels  
293 Kelvin Cross Sections

56-Ba-138



12

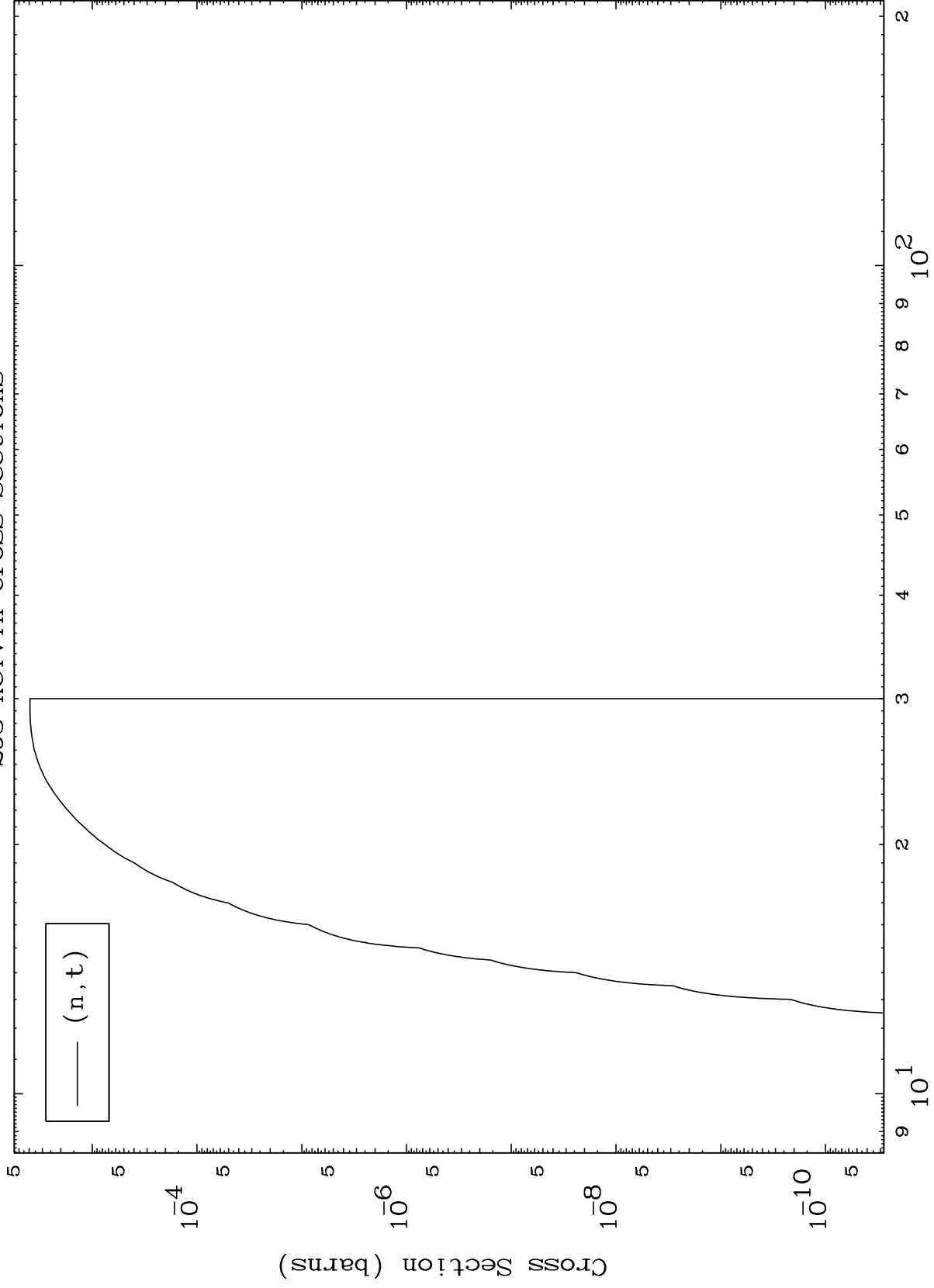
Incident Energy (MeV)

56-Ba-138

MAT 5649

(n,t) Levels  
293 Kelvin Cross Sections

56-Ba-138



13

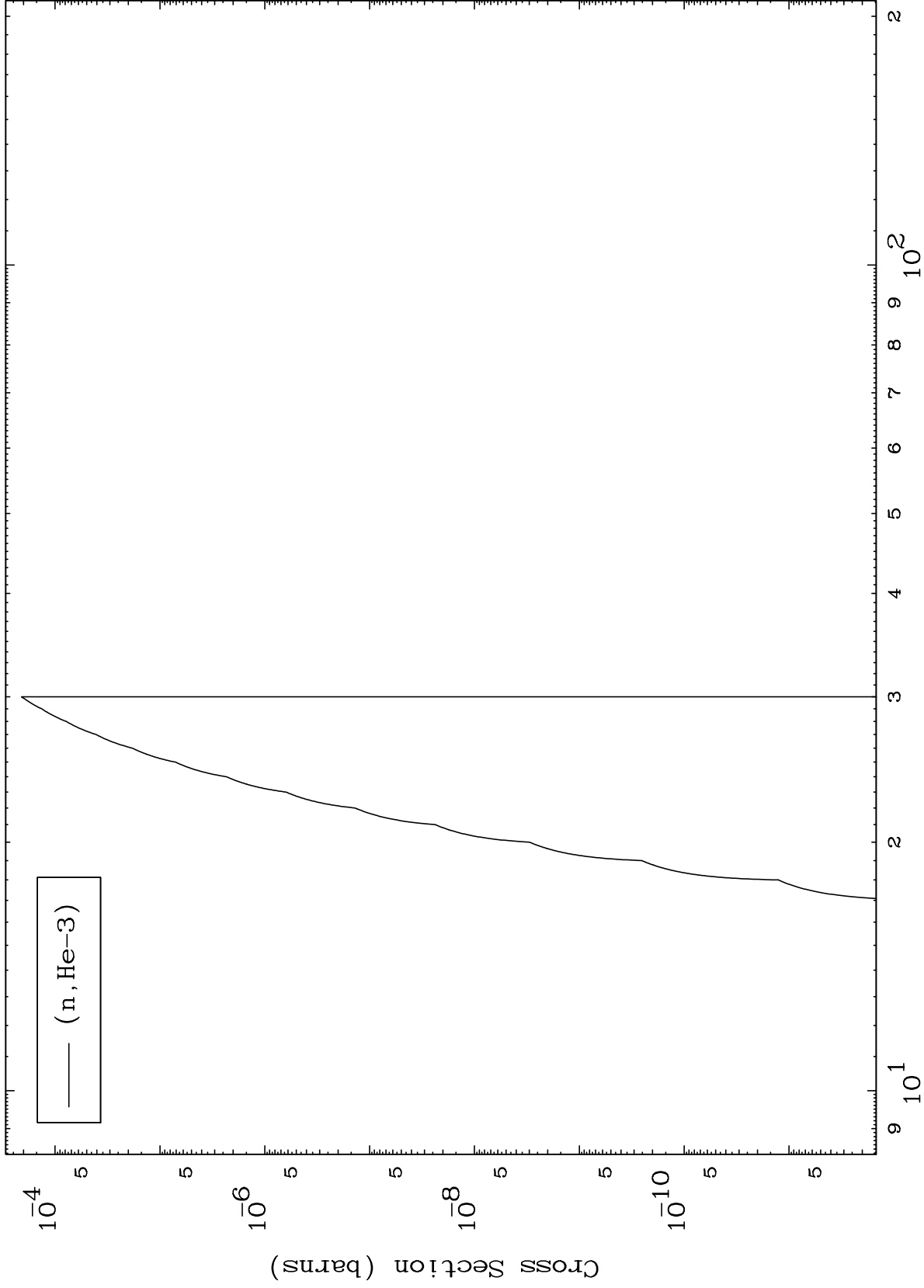
Incident Energy (MeV)

56-Ba-138

MAT 5649

(n,He3) Levels  
293 Kelvin Cross Sections

56-Ba-138



14

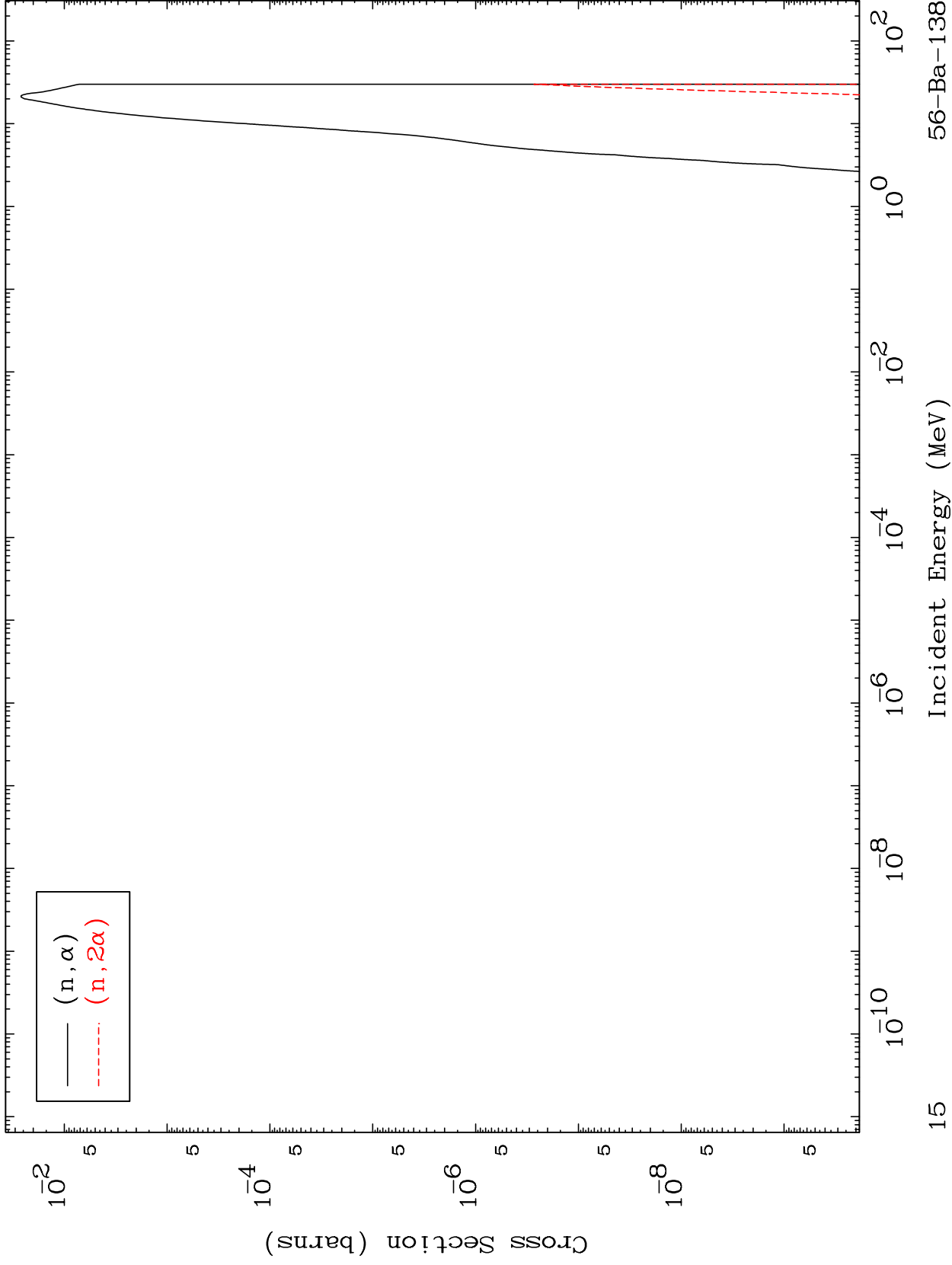
Incident Energy (MeV)

56-Ba-138

MAT 5649

(n,  $\alpha$ ) Levels  
293 Kelvin Cross Sections

56-Ba-138



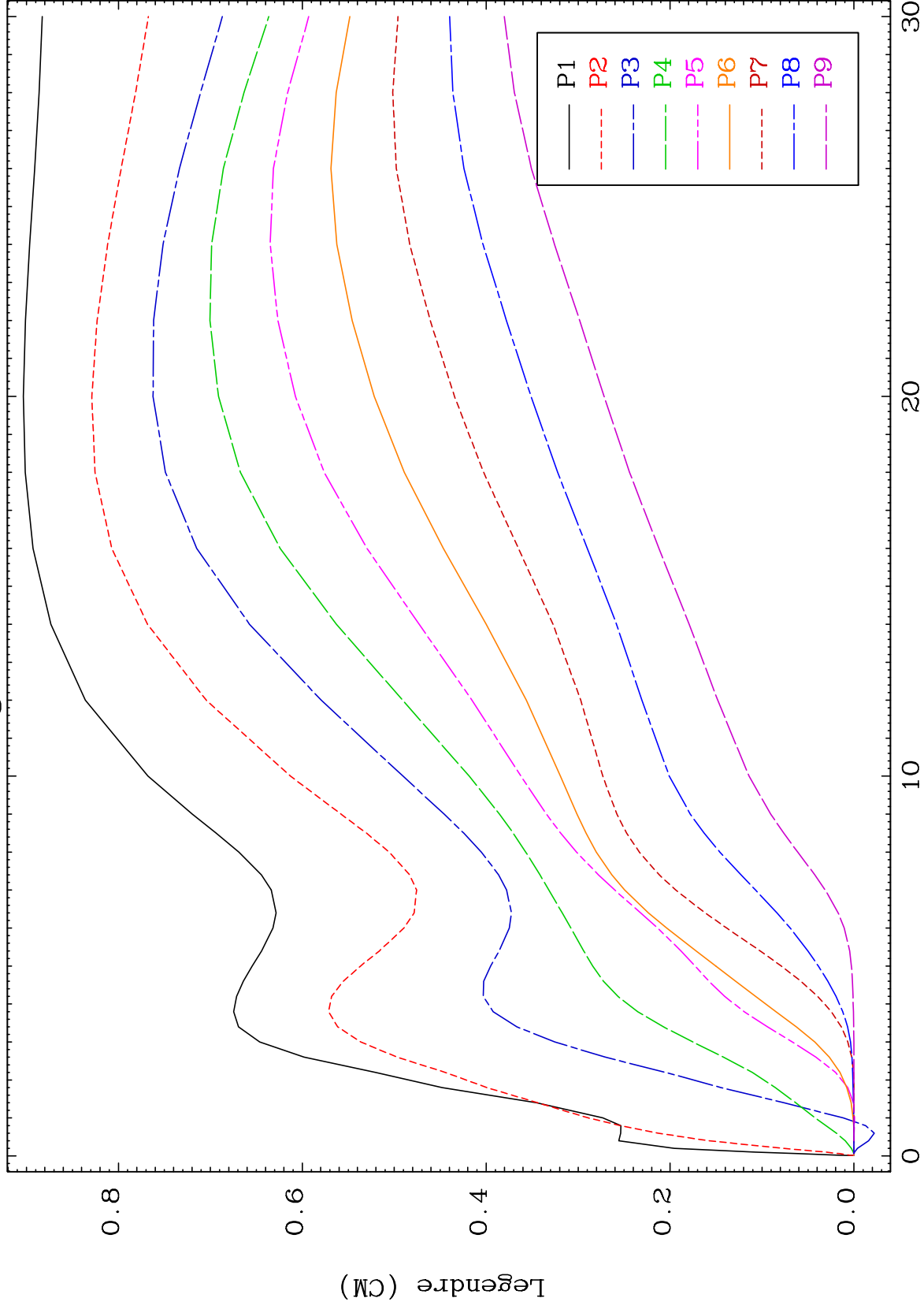
15



MAT 5649

Elastic Legendre Coefficients

56-Ba-138



16

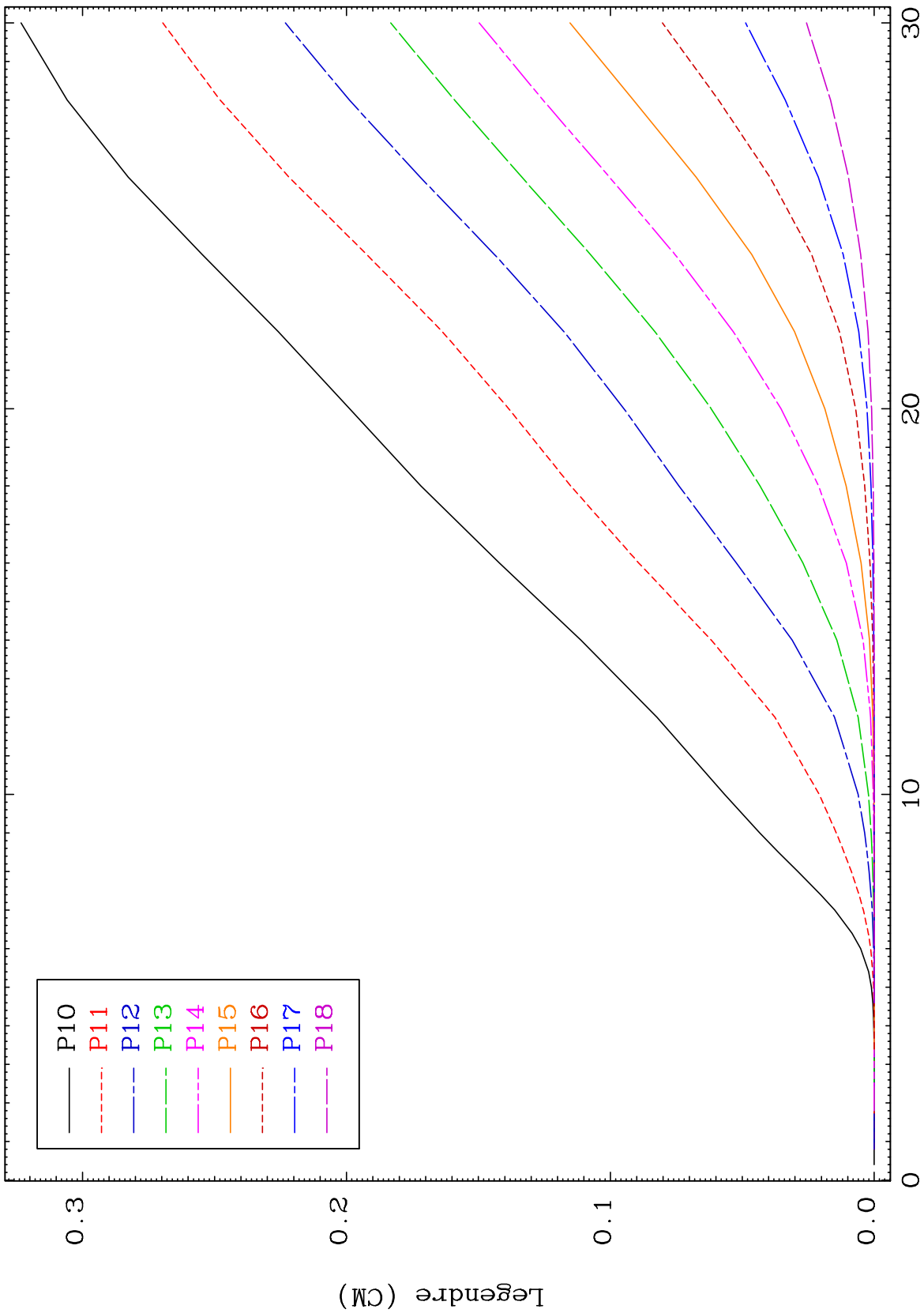
Incident Energy (MeV)

56-Ba-138

MAT 5649

Elastic Legendre Coefficients

56-Ba-138



17

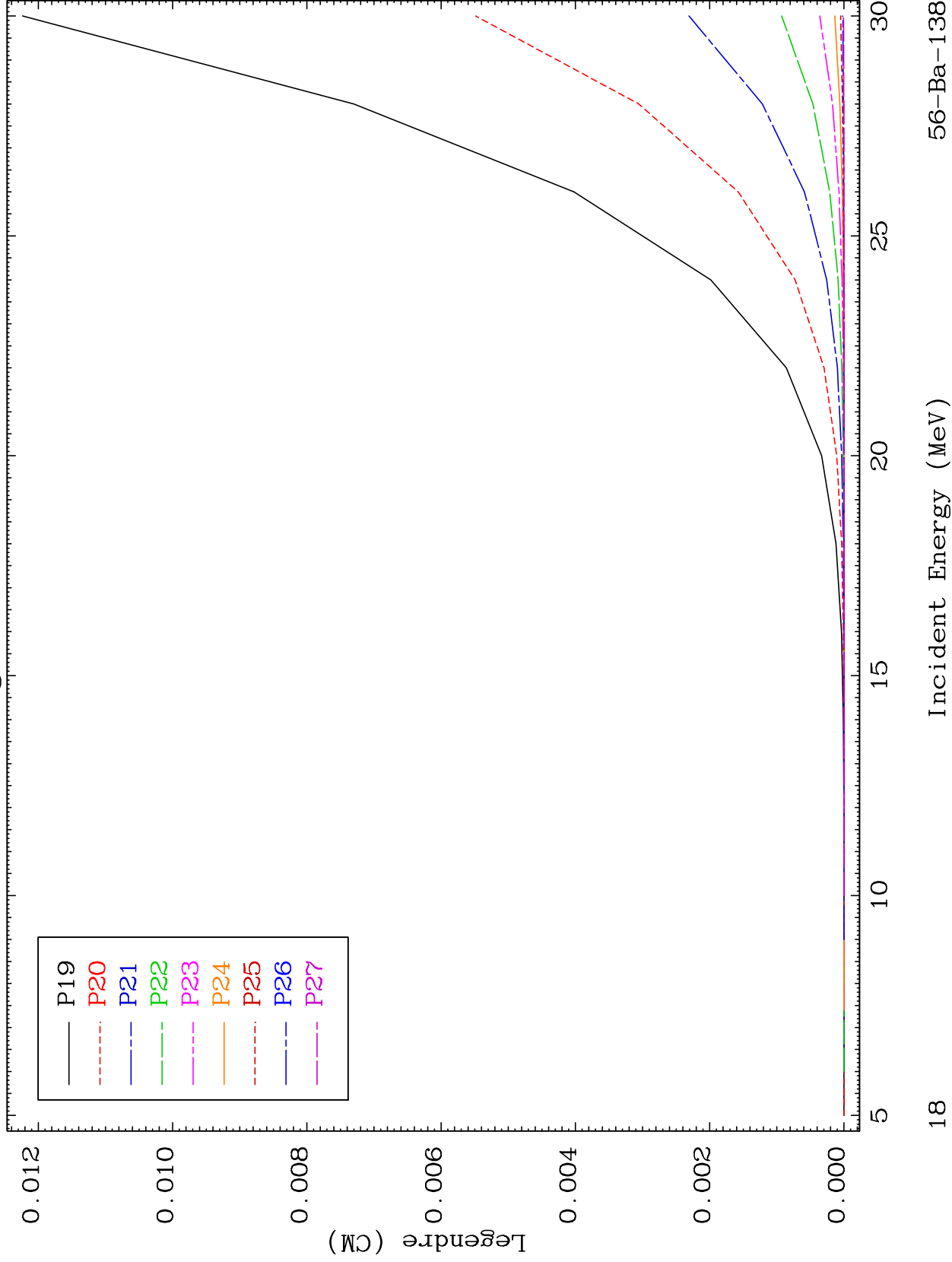
Incident Energy (MeV)

56-Ba-138

MAT 5649

Elastic Legendre Coefficients

56-Ba-138



18

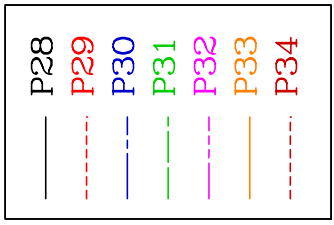
Incident Energy (MeV)

56-Ba-138

MAT 5649

Elastic Legendre Coefficients

56-Ba-138



$\times 10^{-6}$

1.5

Legendre (CM)

1.0

0.5

0.0

15

20

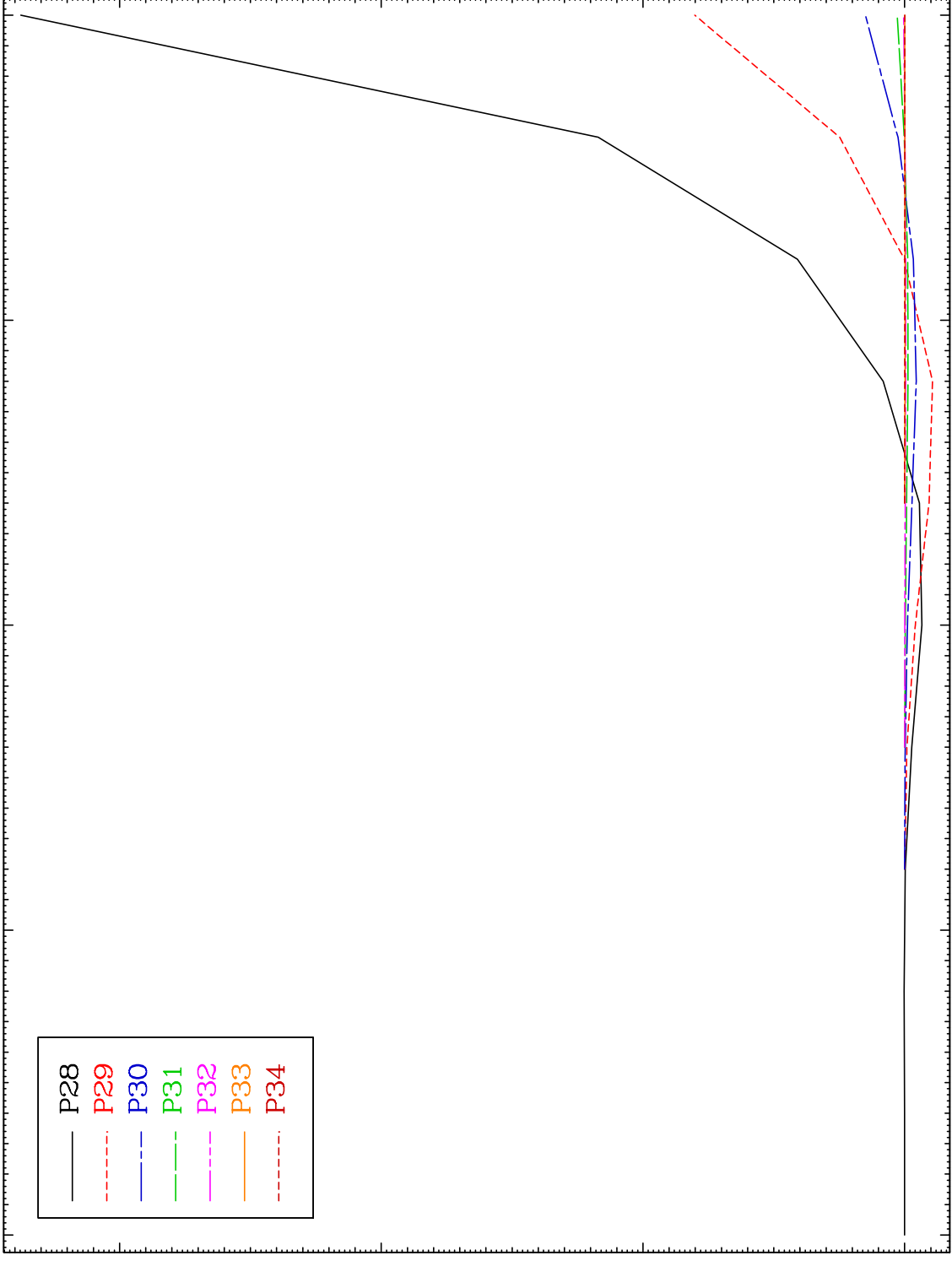
25

30

19

Incident Energy (MeV)

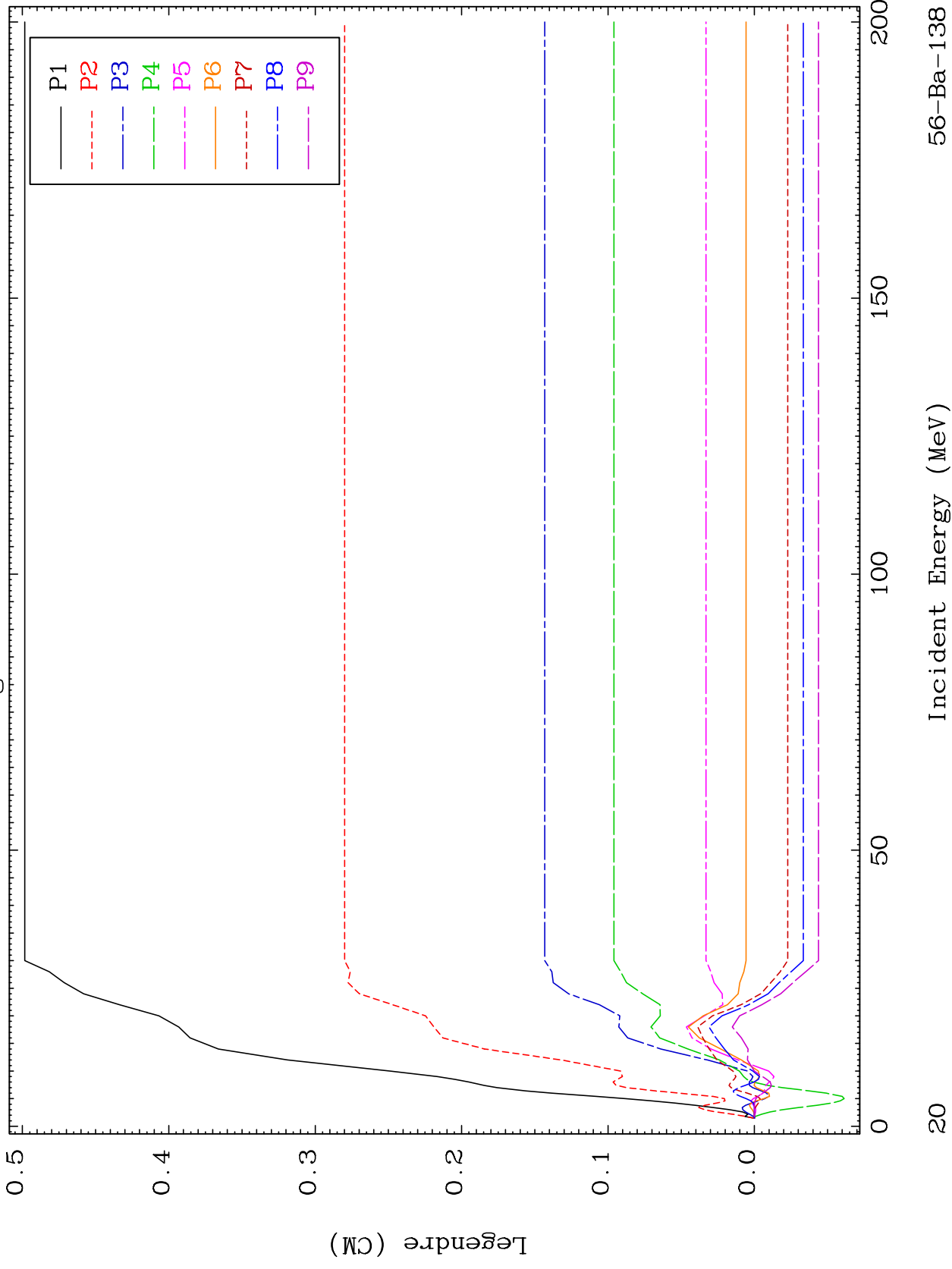
56-Ba-138



MAT 5649

MT= 51 (n,n') Level  
Legendre Coefficients

56-Ba-138



56-Ba-138

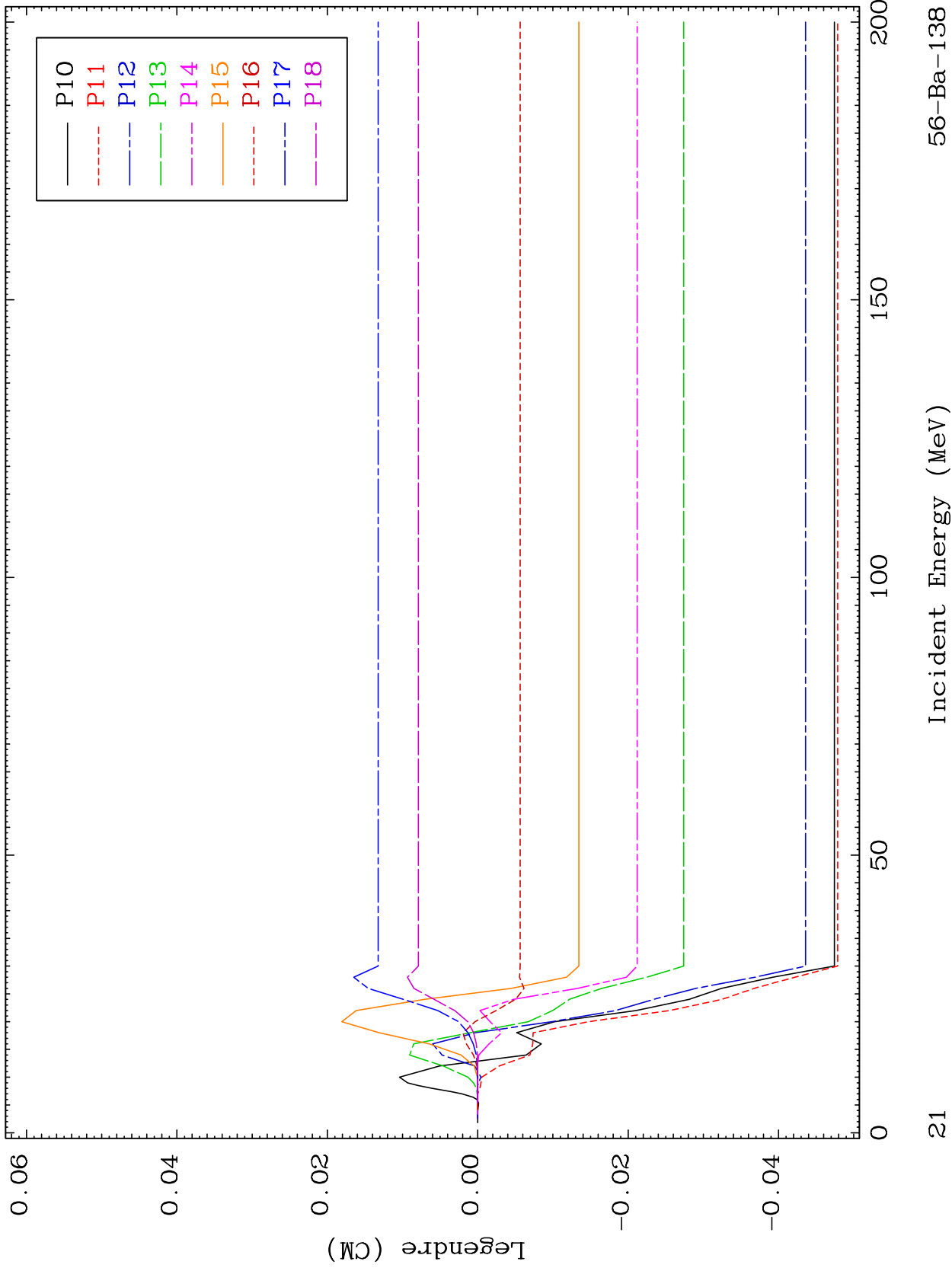
Incident Energy (MeV)

Legendre (CM)

MAT 5649

MT= 51 (n,n') Level  
Legendre Coefficients

56-Ba-138



21

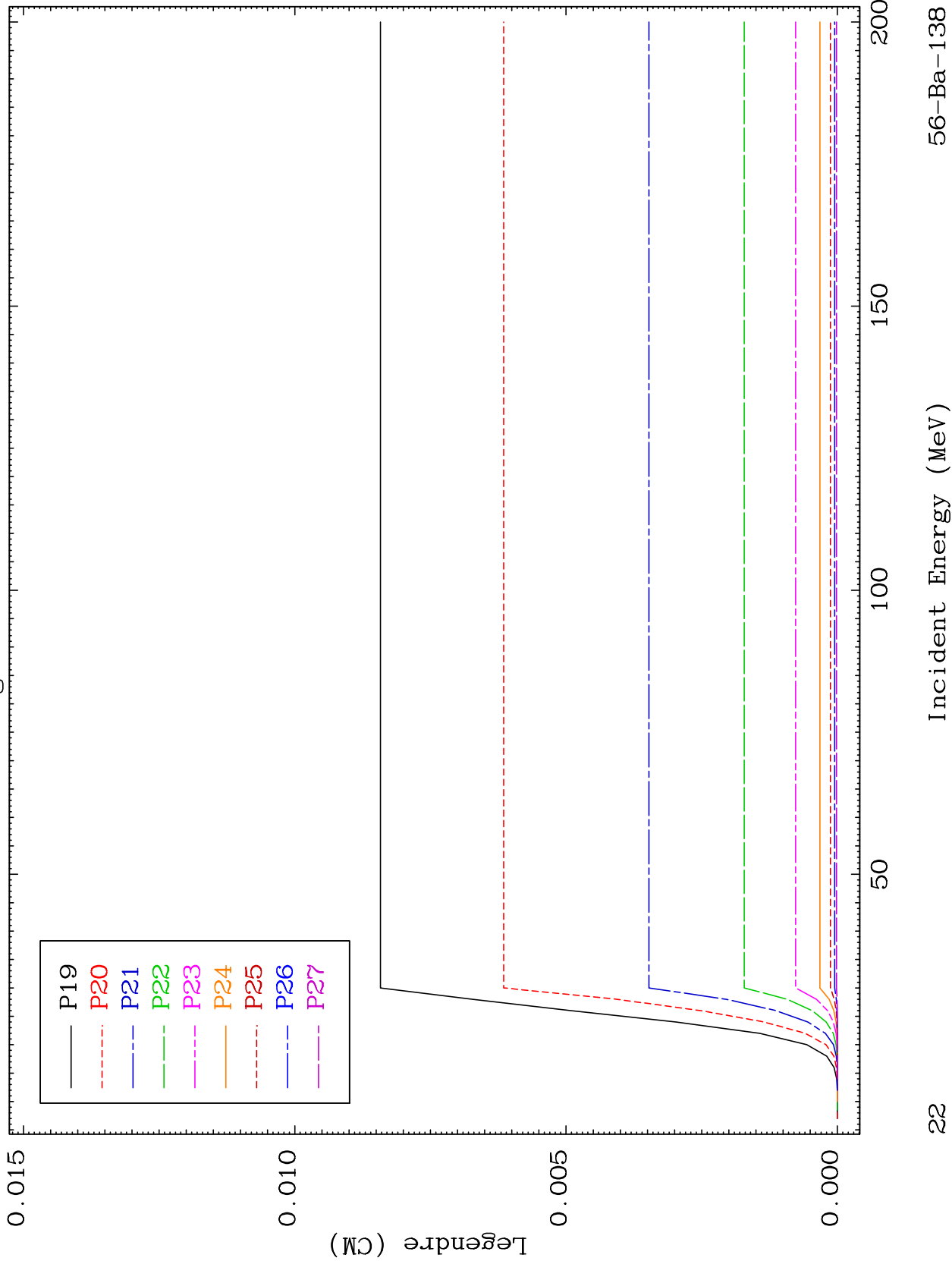
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 51 (n,n') Level  
Legendre Coefficients

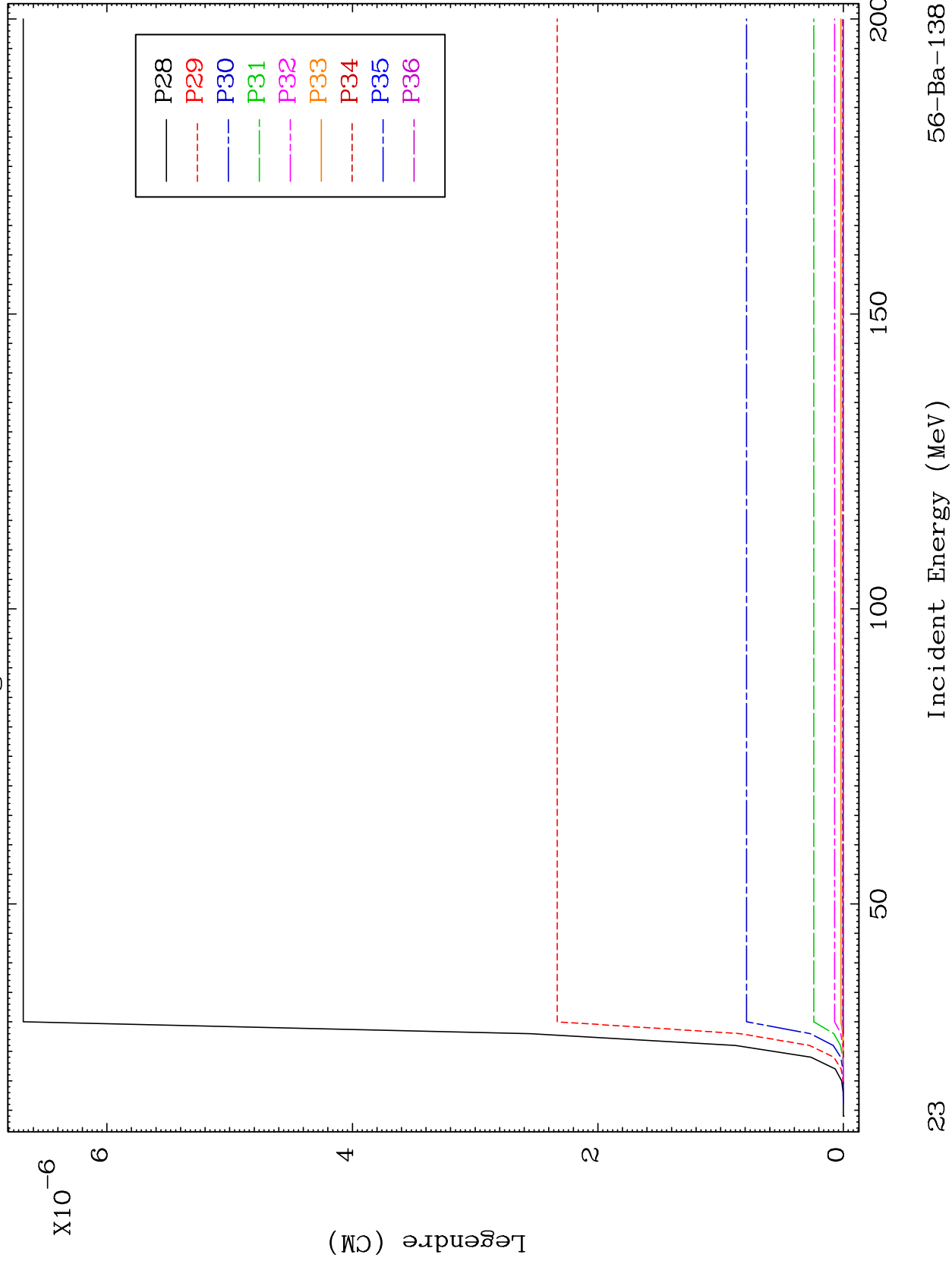
56-Ba-138



MAT 5649

MT= 51 (n,n') Level  
Legendre Coefficients

56-Ba-138

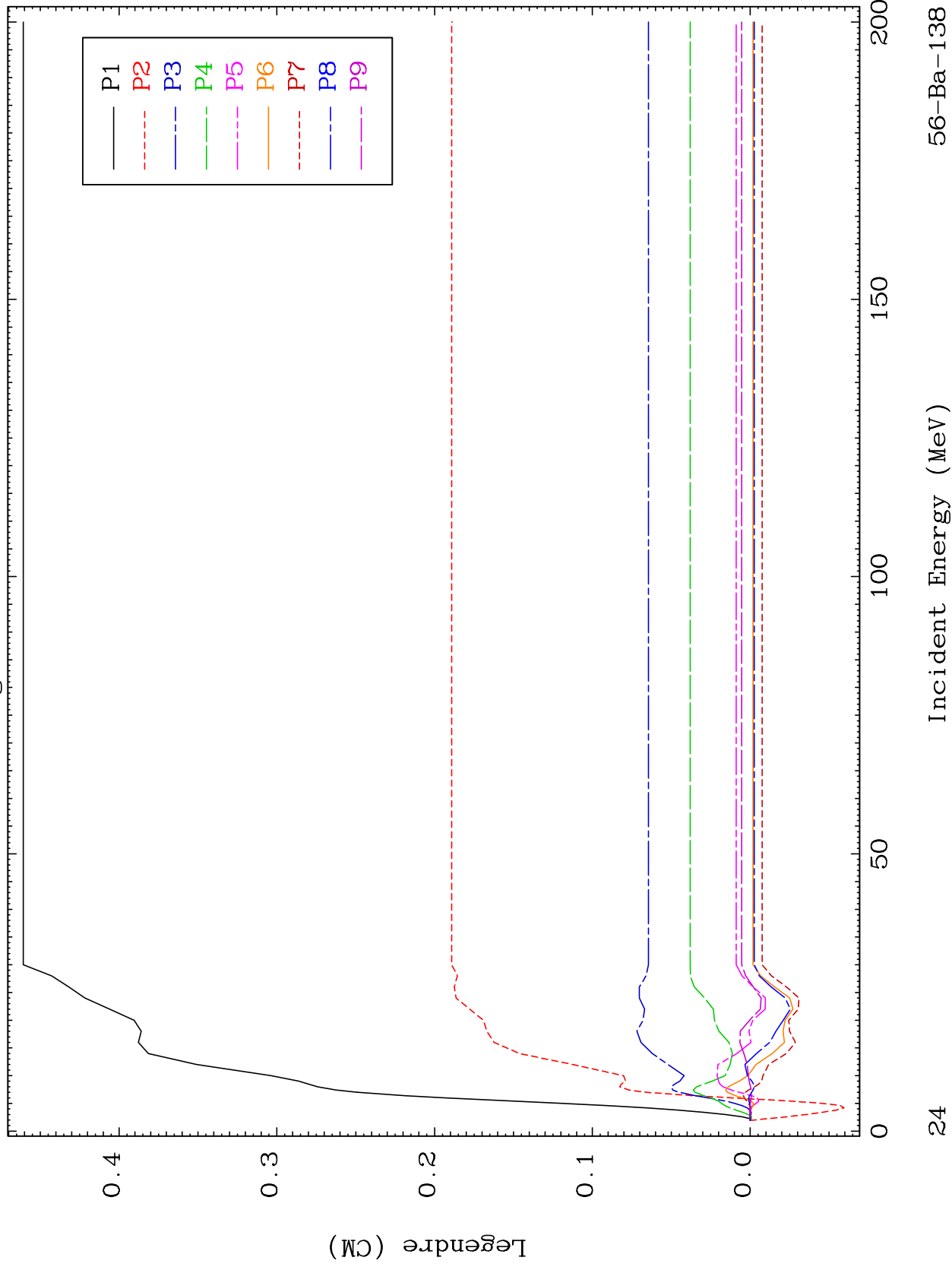




MAT 5649

MT= 52 (n,n') Level  
Legendre Coefficients

56-Ba-138



56-Ba-138

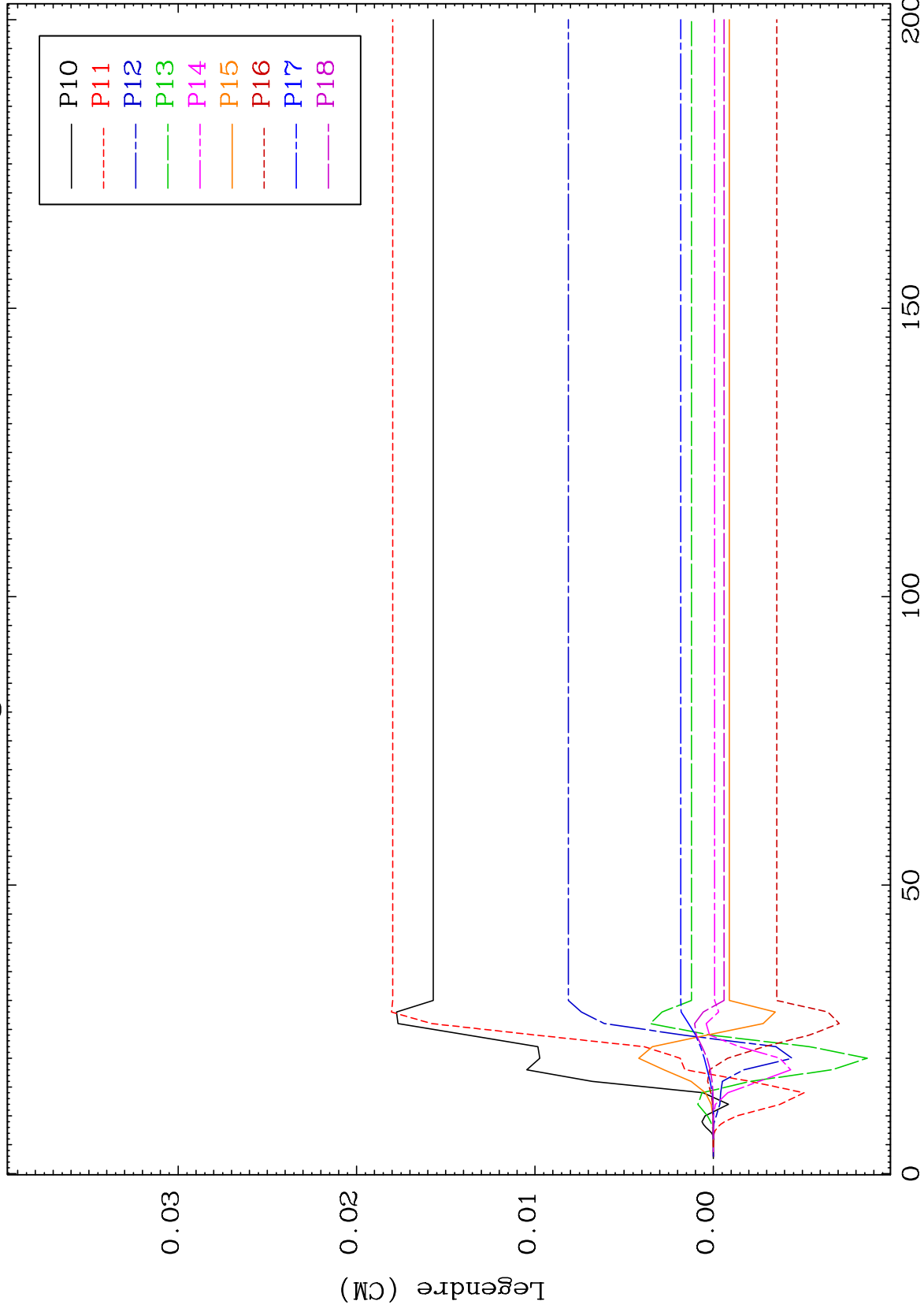
Incident Energy (MeV)

24

MAT 5649

MT= 52 (n,n') Level  
Legendre Coefficients

56-Ba-138



25

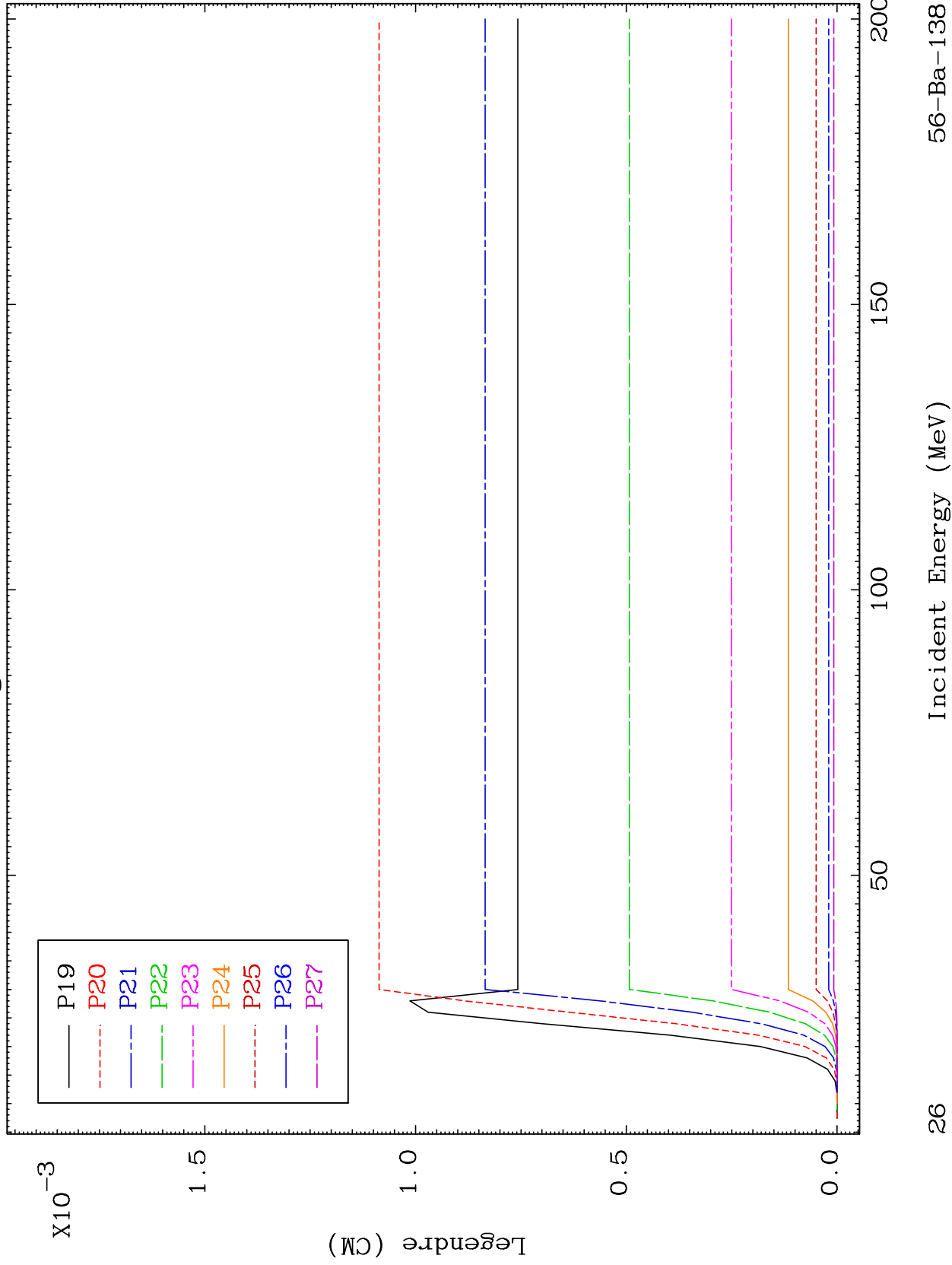
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 52 (n,n') Level  
Legendre Coefficients

56-Ba-138

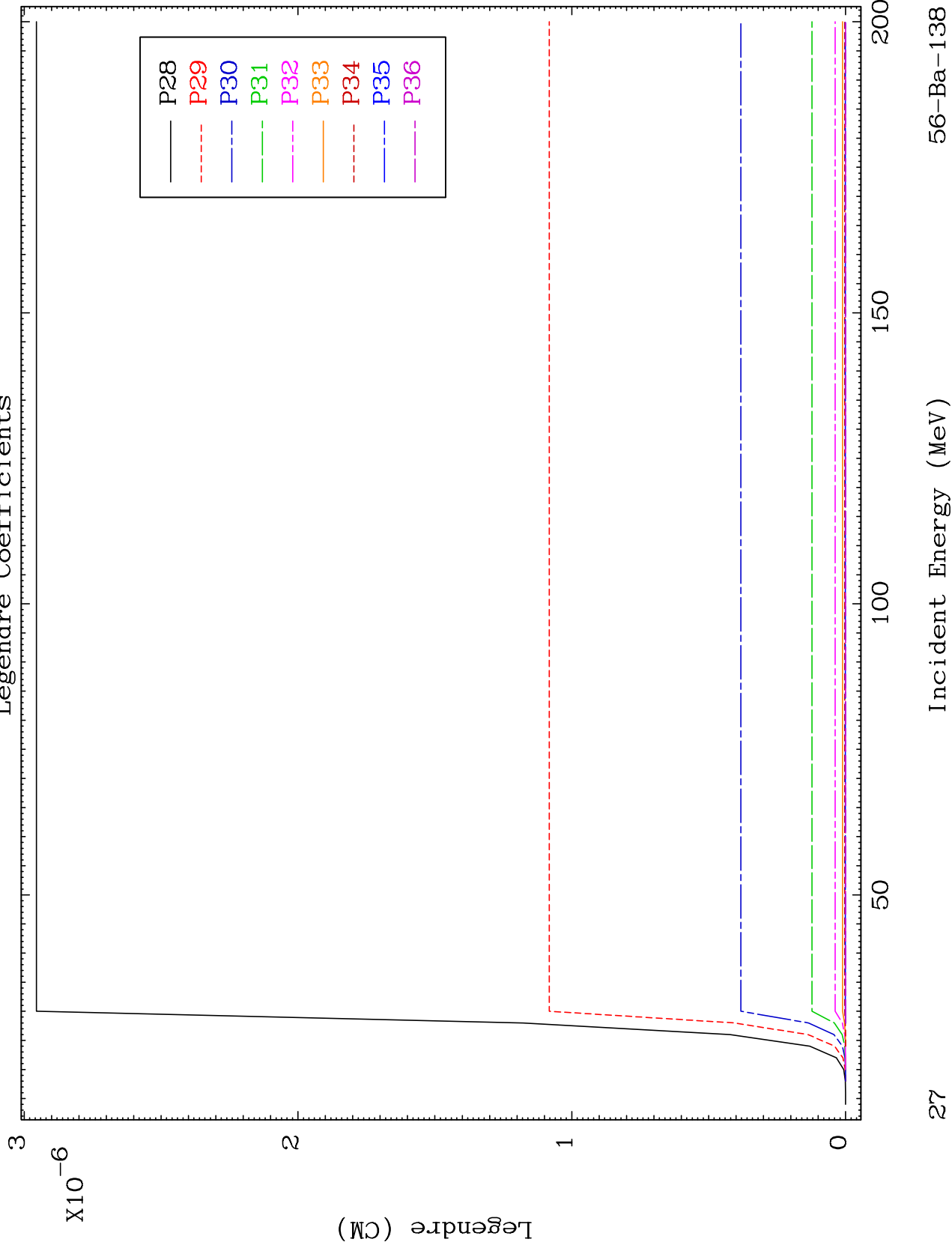


26

MAT 5649

MT= 52 (n,n') Level  
Legendre Coefficients

56-Ba-138



27

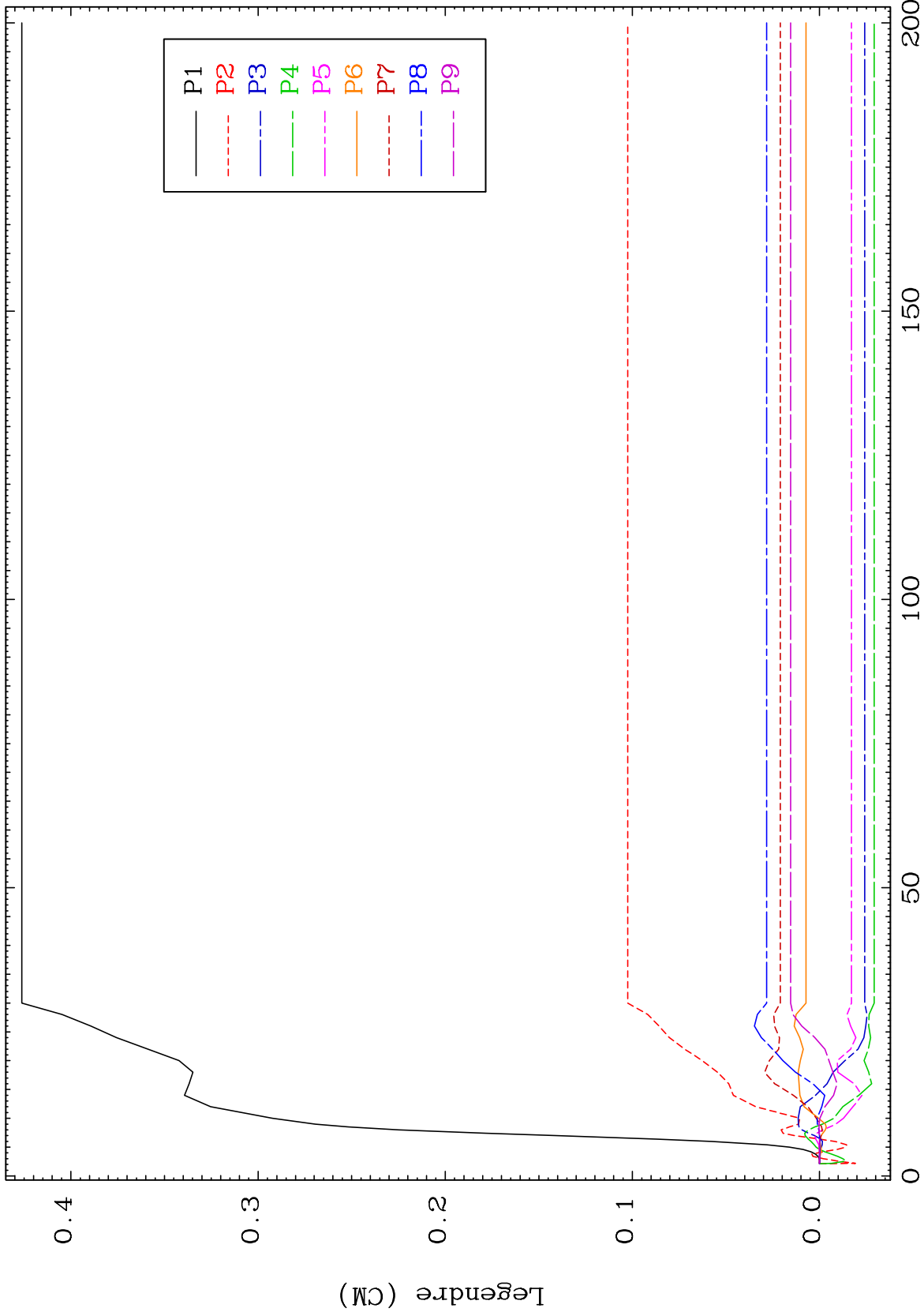
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 53 (n,n') Level  
Legendre Coefficients

56-Ba-138



28

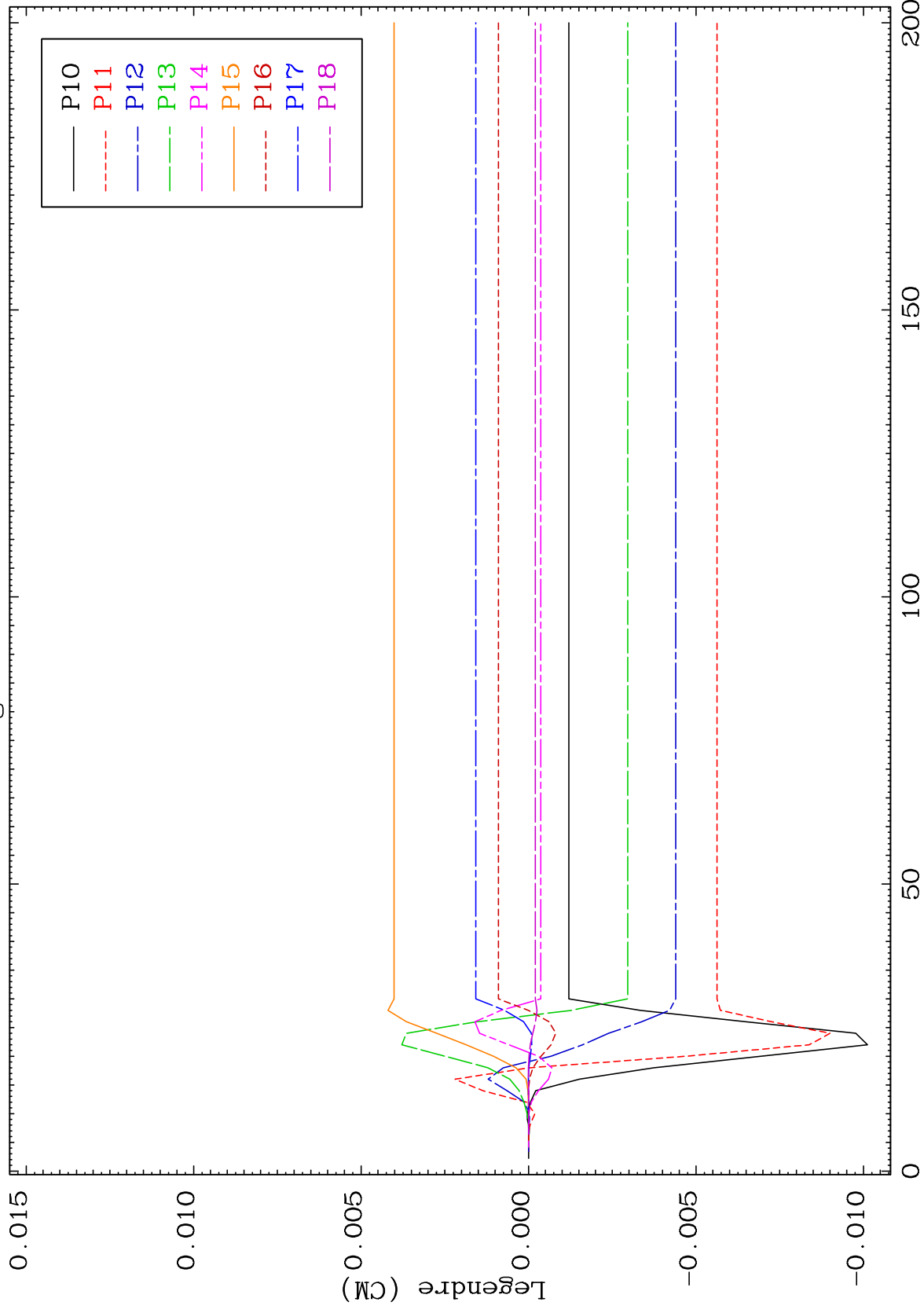
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 53 (n,n') Level  
Legendre Coefficients

56-Ba-138



29

Incident Energy (MeV)

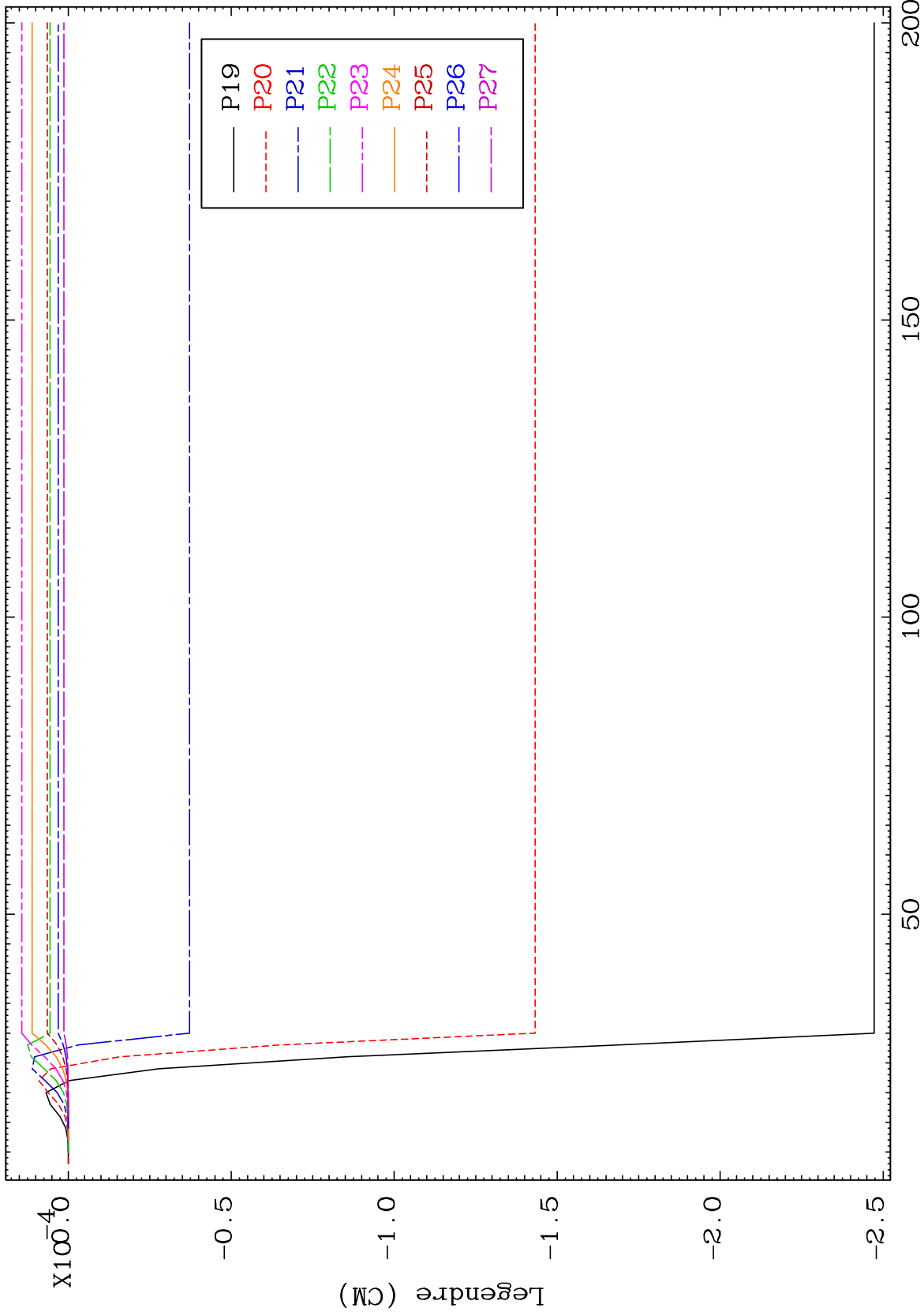
56-Ba-138

MAT 5649

MT= 53 (n,n') Level

56-Ba-138

Legendre Coefficients



30

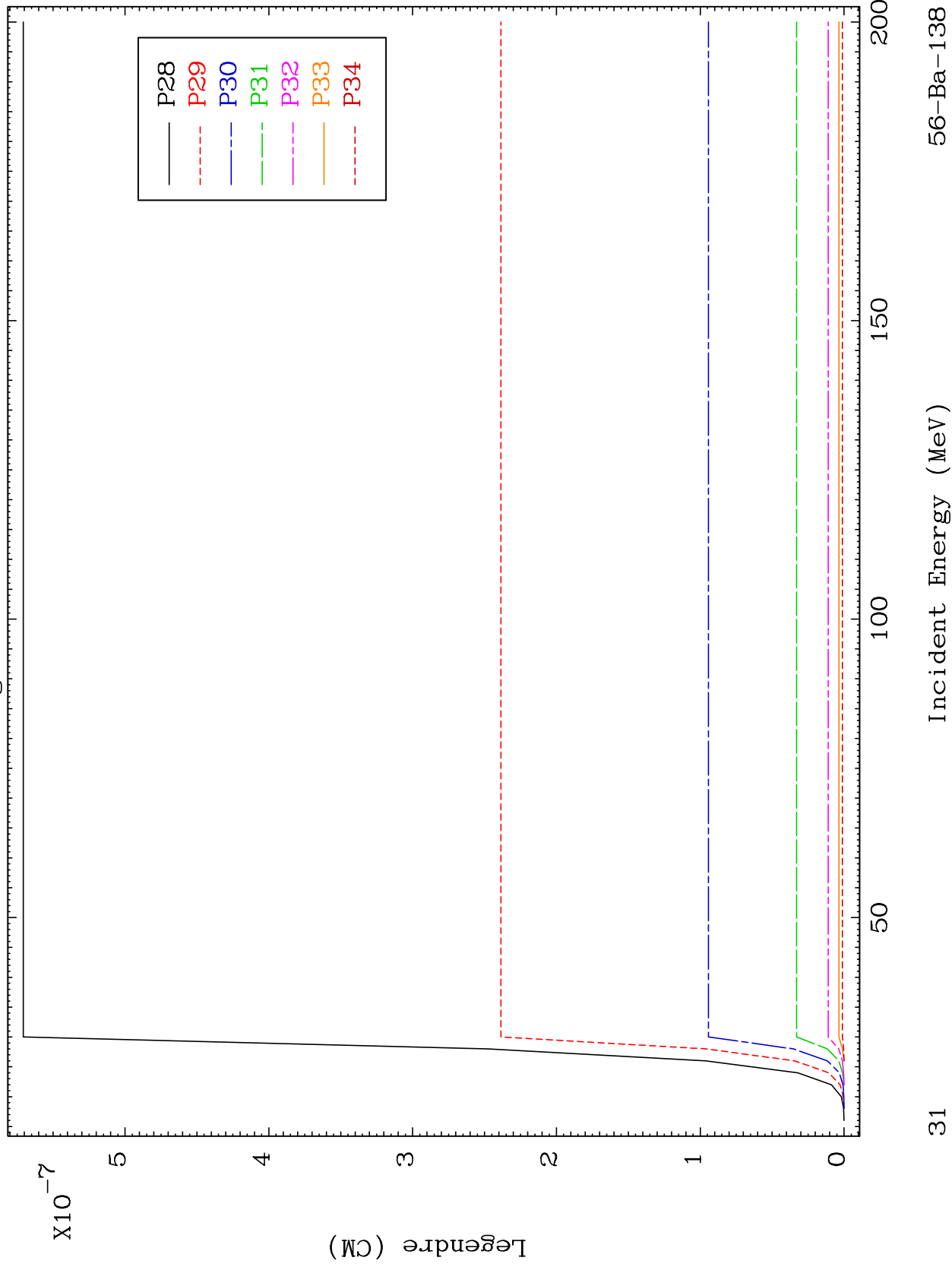
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 53 (n,n') Level  
Legendre Coefficients

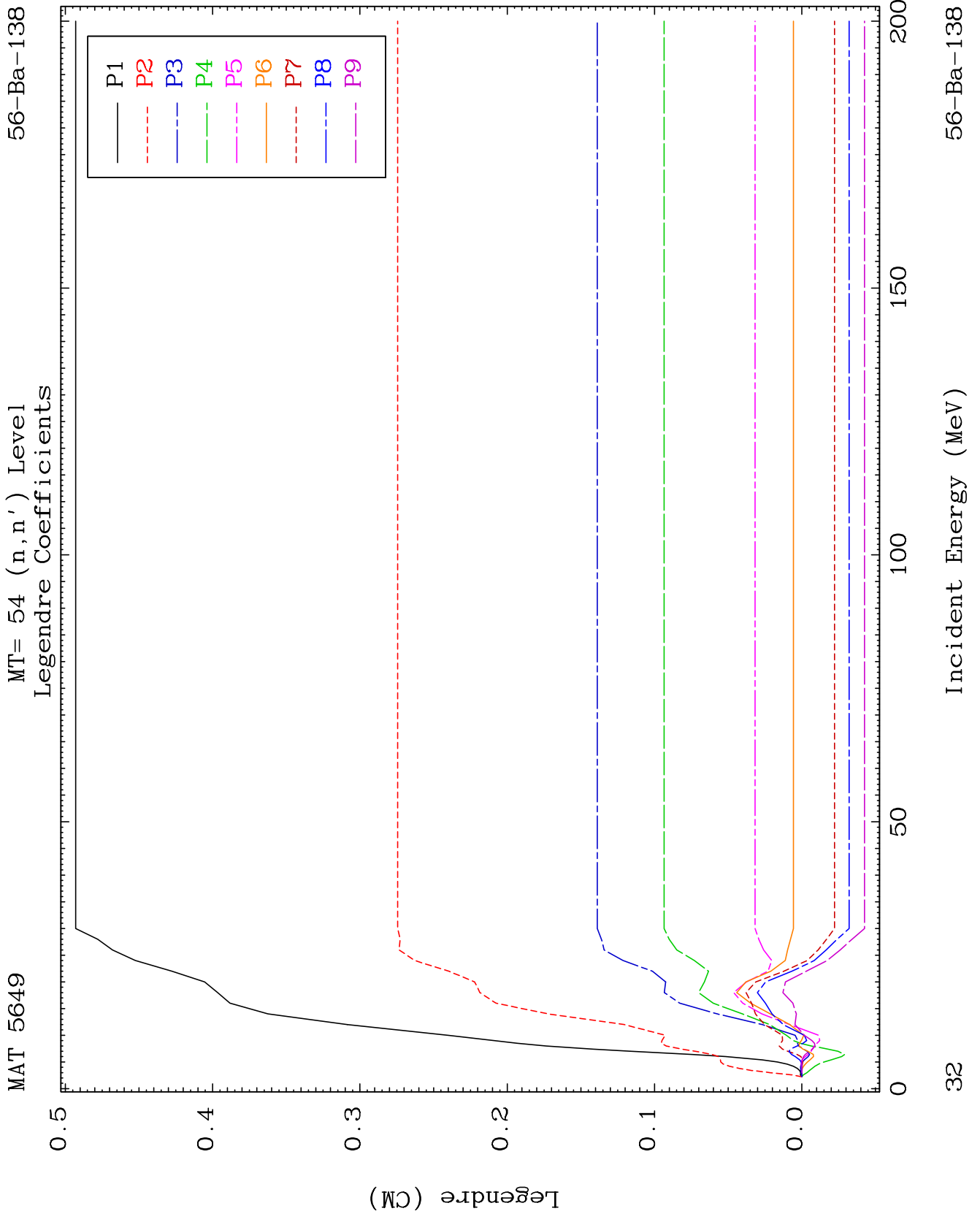
56-Ba-138



31

56-Ba-138

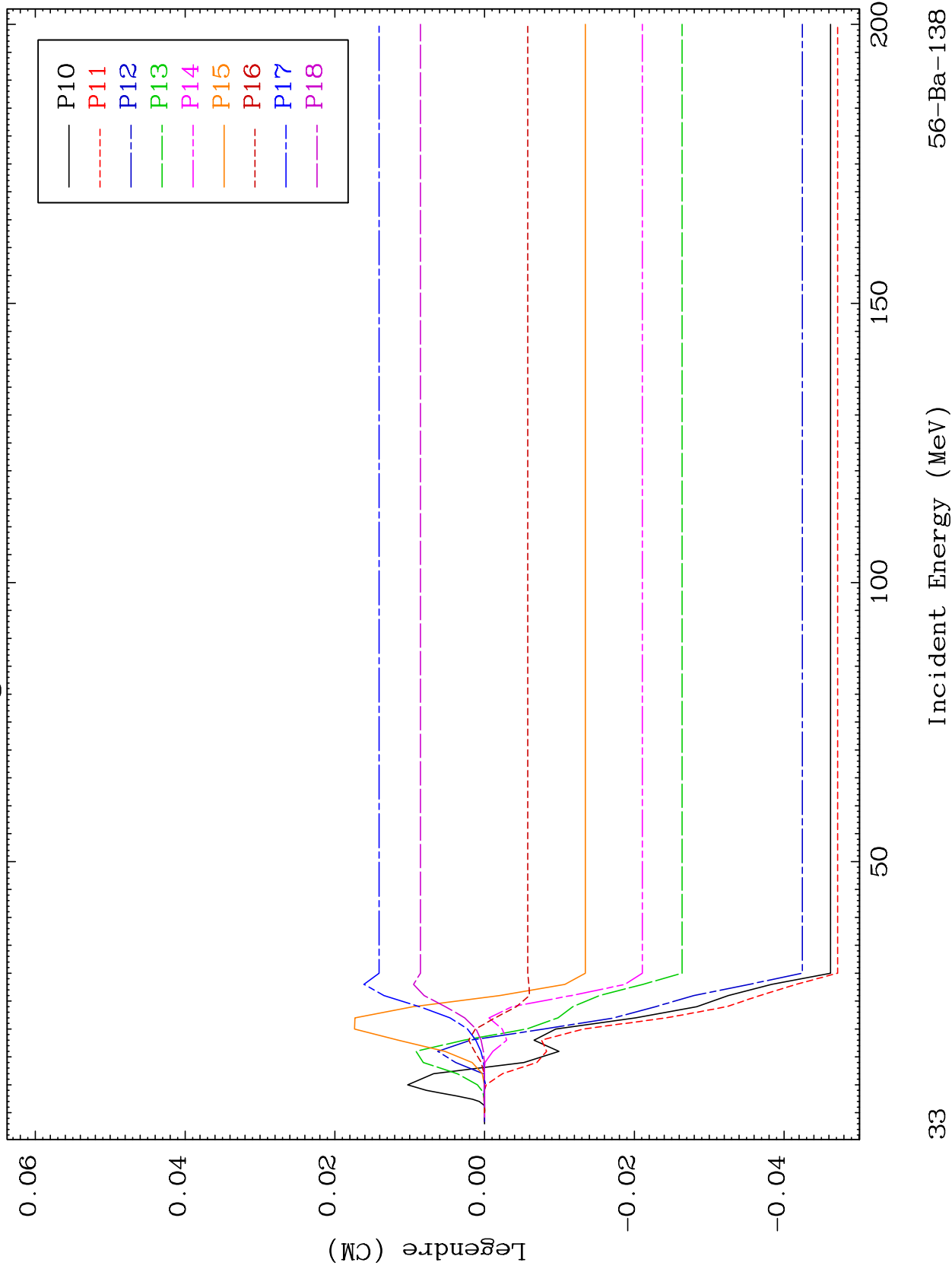




MAT 5649

MT= 54 (n,n') Level  
Legendre Coefficients

56-Ba-138



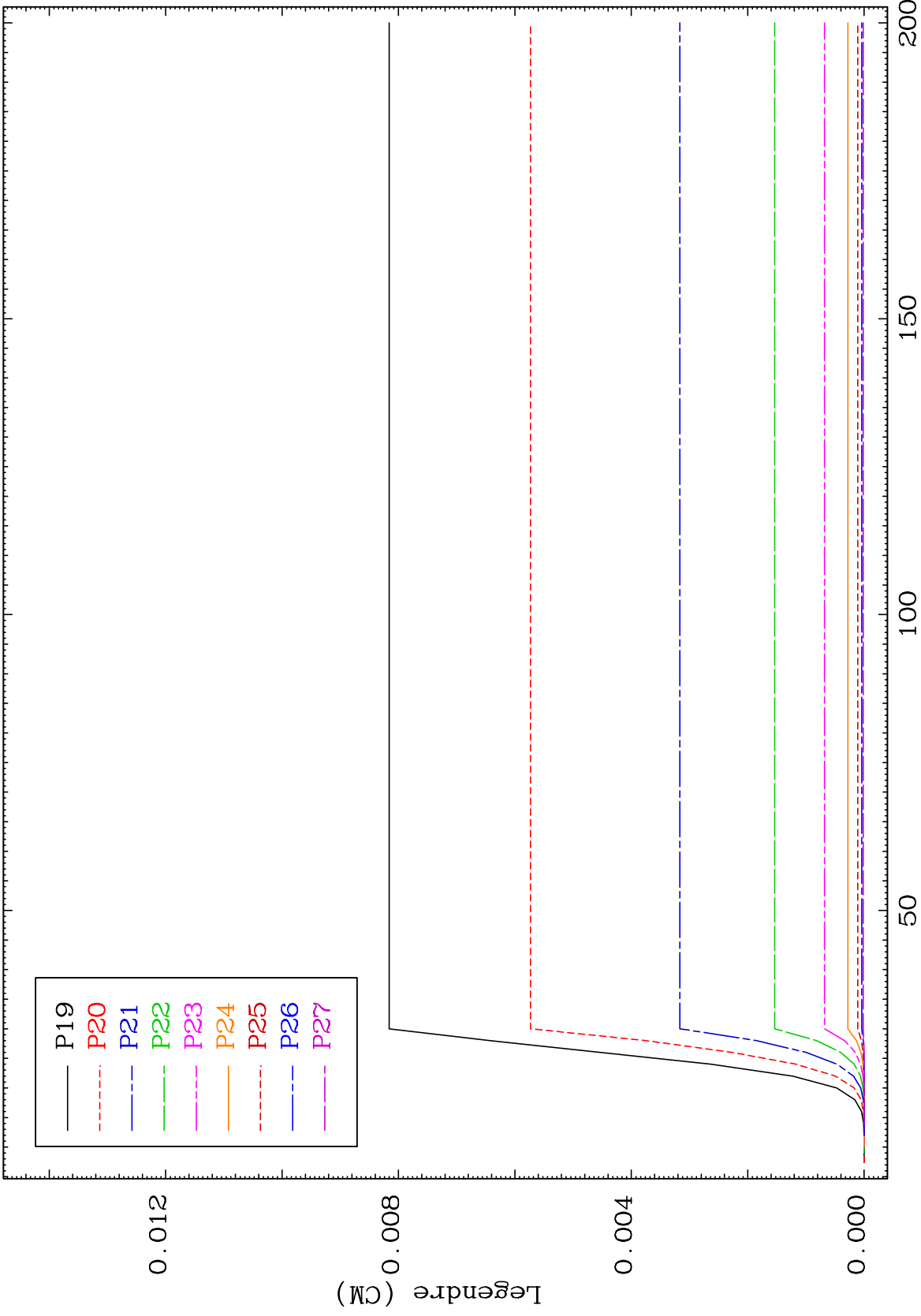
33

56-Ba-138

MAT 5649

MT= 54 (n,n') Level  
Legendre Coefficients

56-Ba-138



34

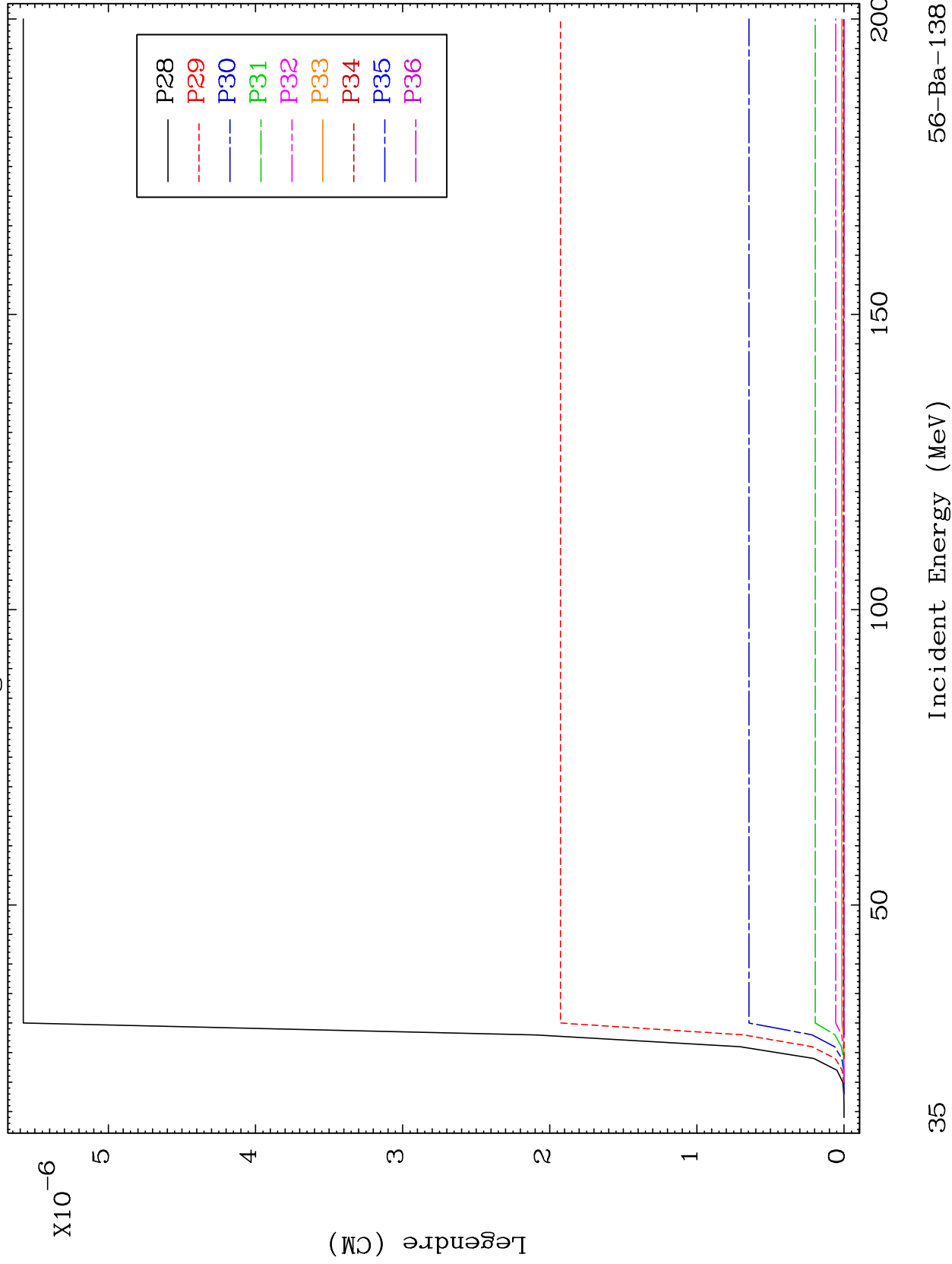
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 54 (n,n') Level  
Legendre Coefficients

56-Ba-138



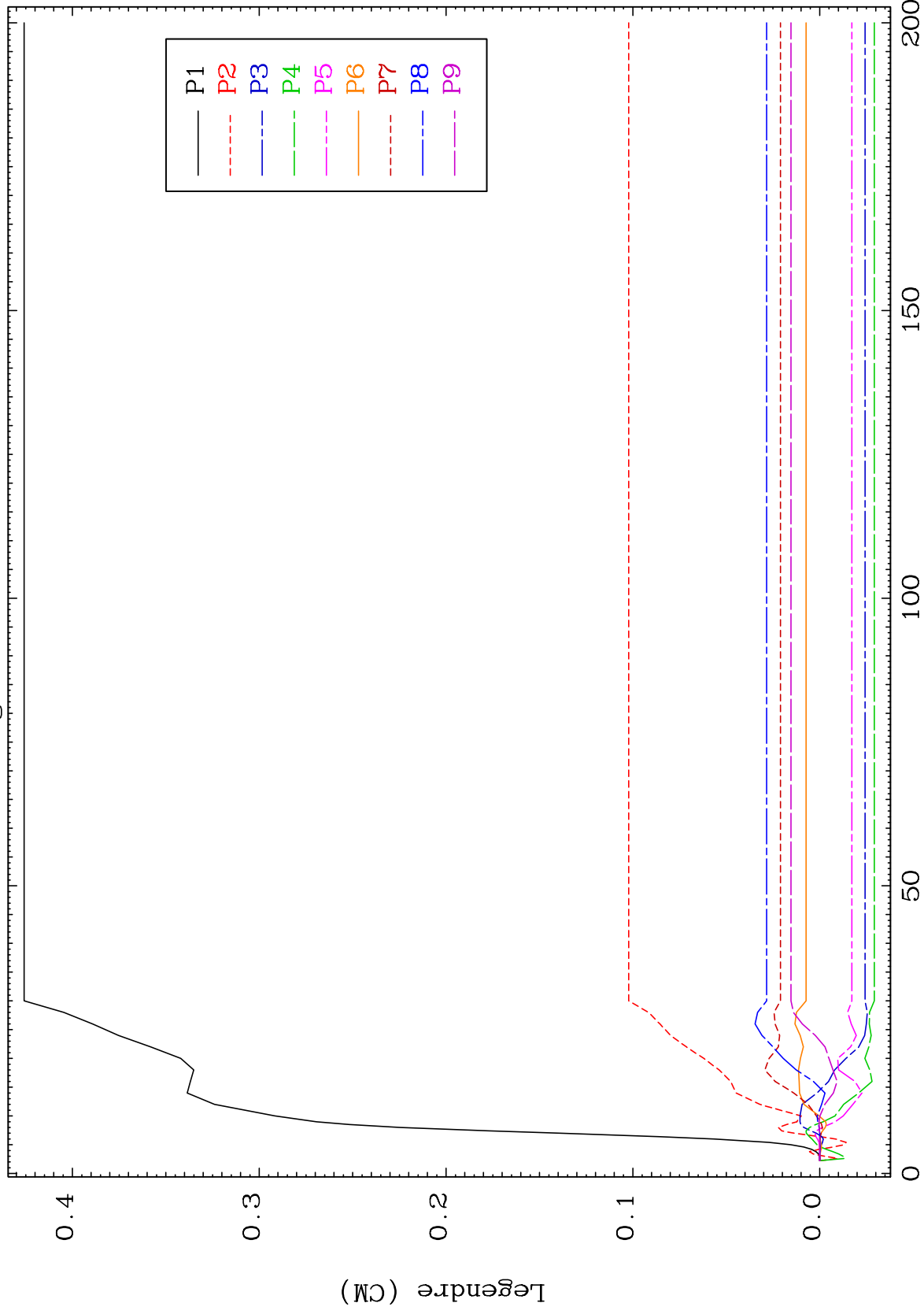
35

200

MAT 5649

MT= 55 (n,n') Level  
Legendre Coefficients

56-Ba-138



36

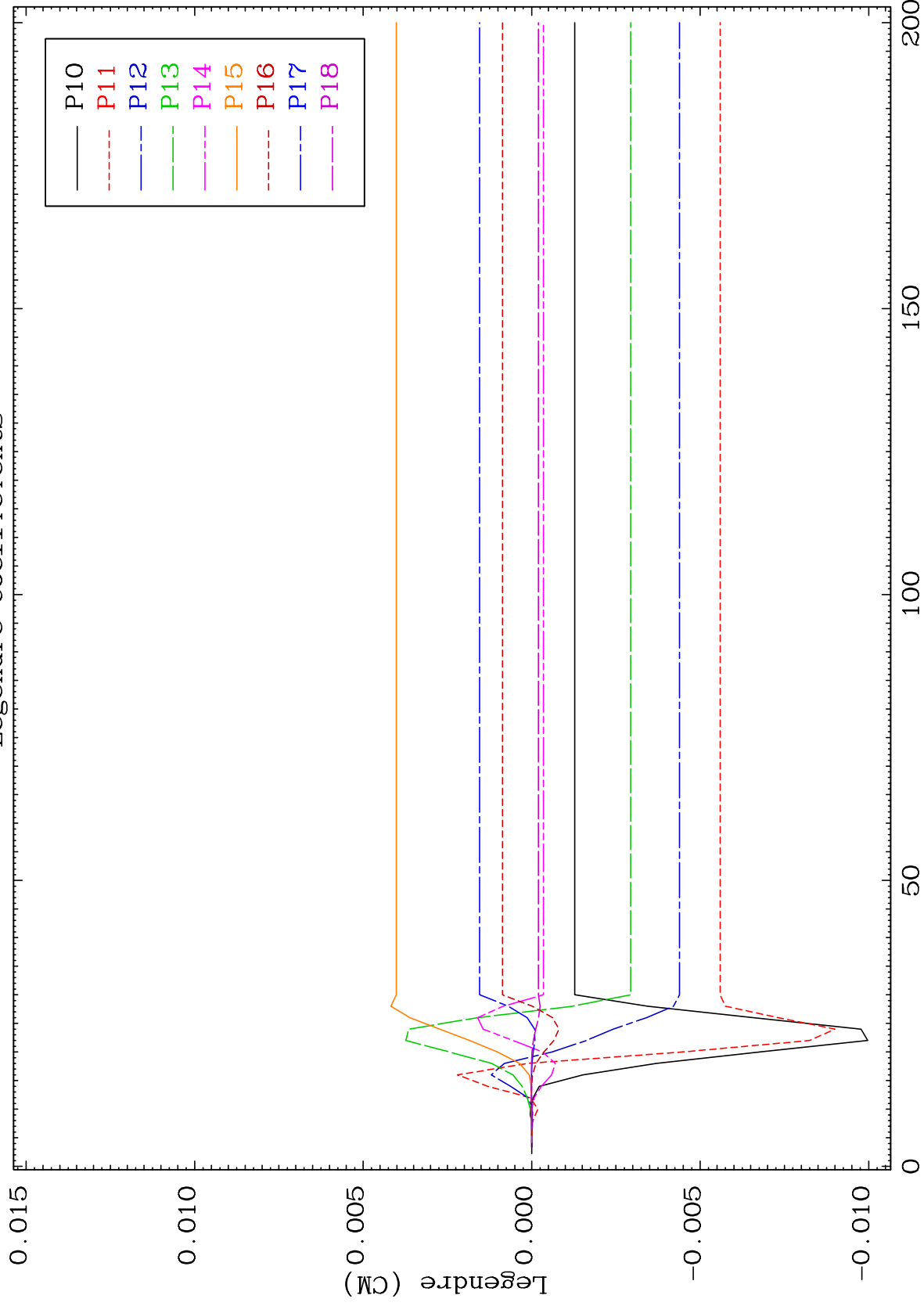
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 55 (n,n') Level  
Legendre Coefficients

56-Ba-138



37

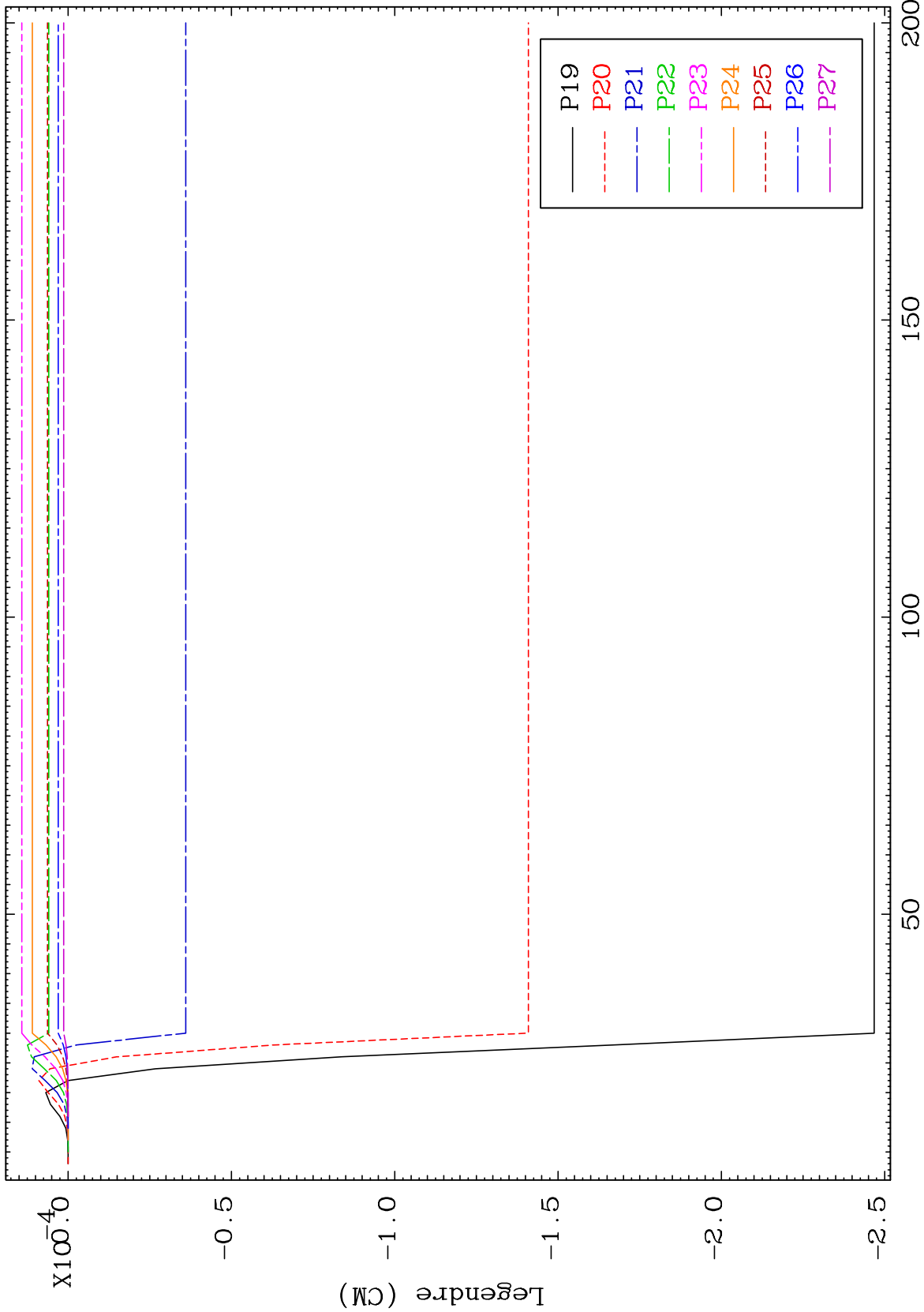
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 55 (n,n') Level  
Legendre Coefficients

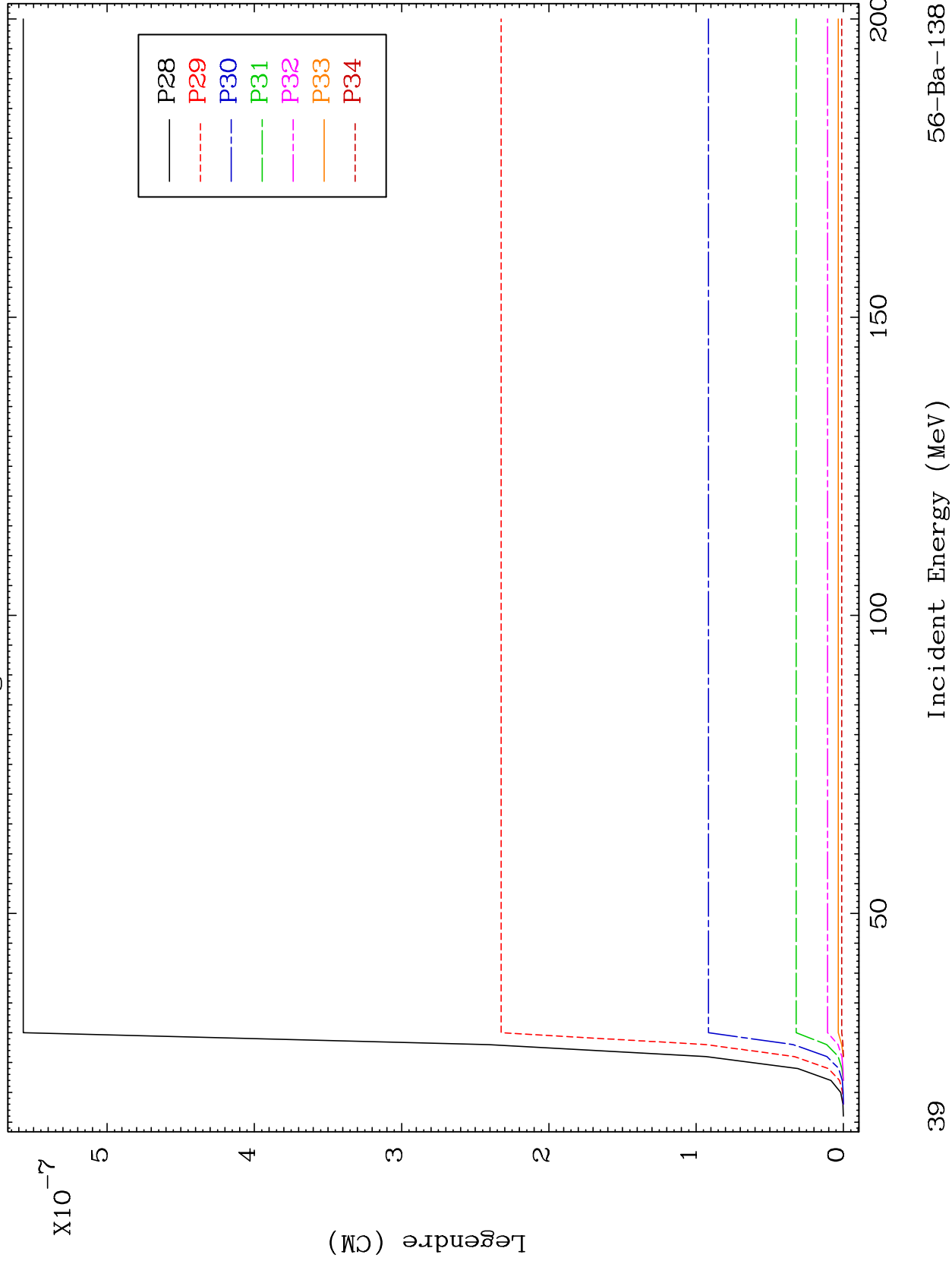
56-Ba-138



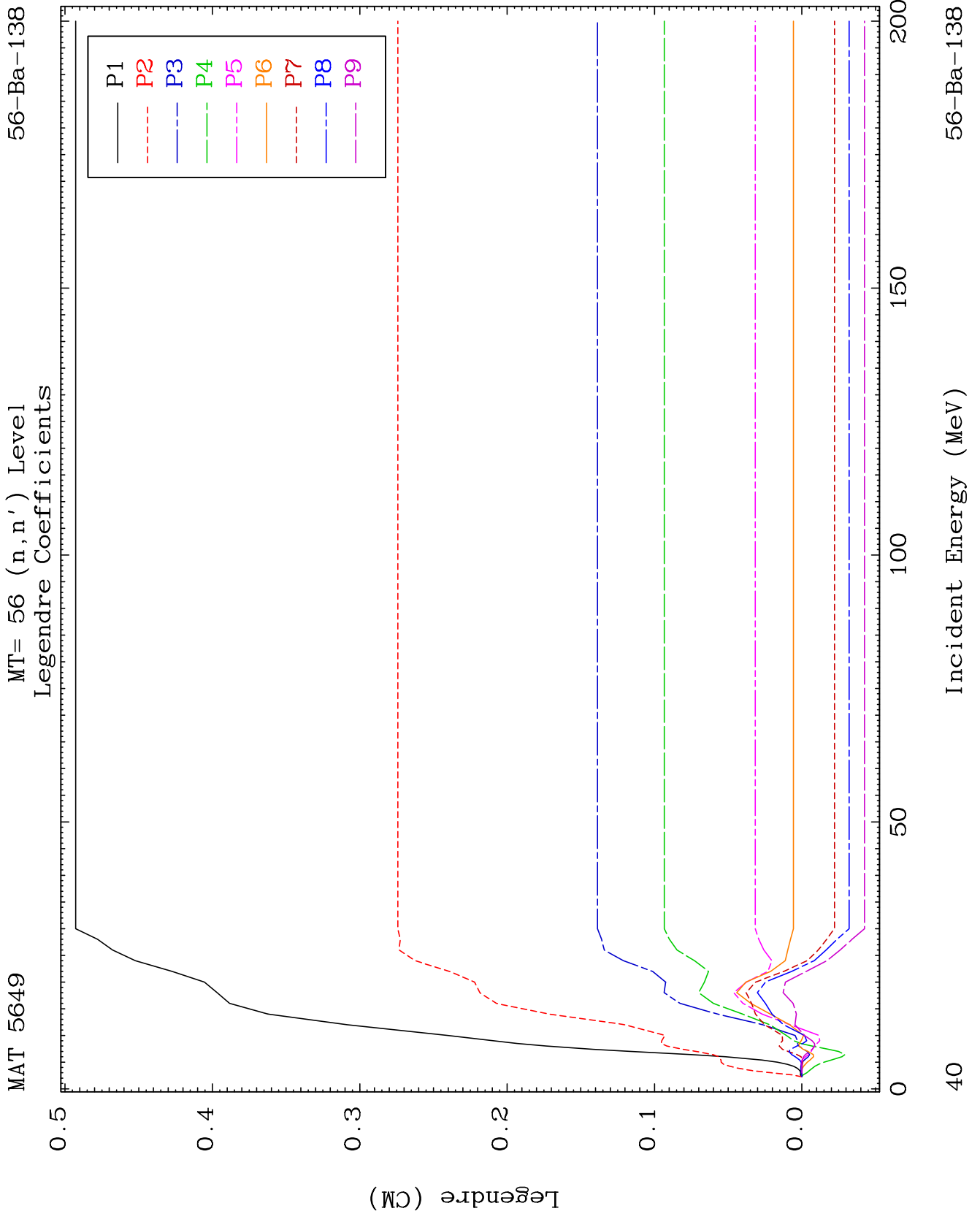
MAT 5649

MT= 55 (n,n') Level  
Legendre Coefficients

56-Ba-138



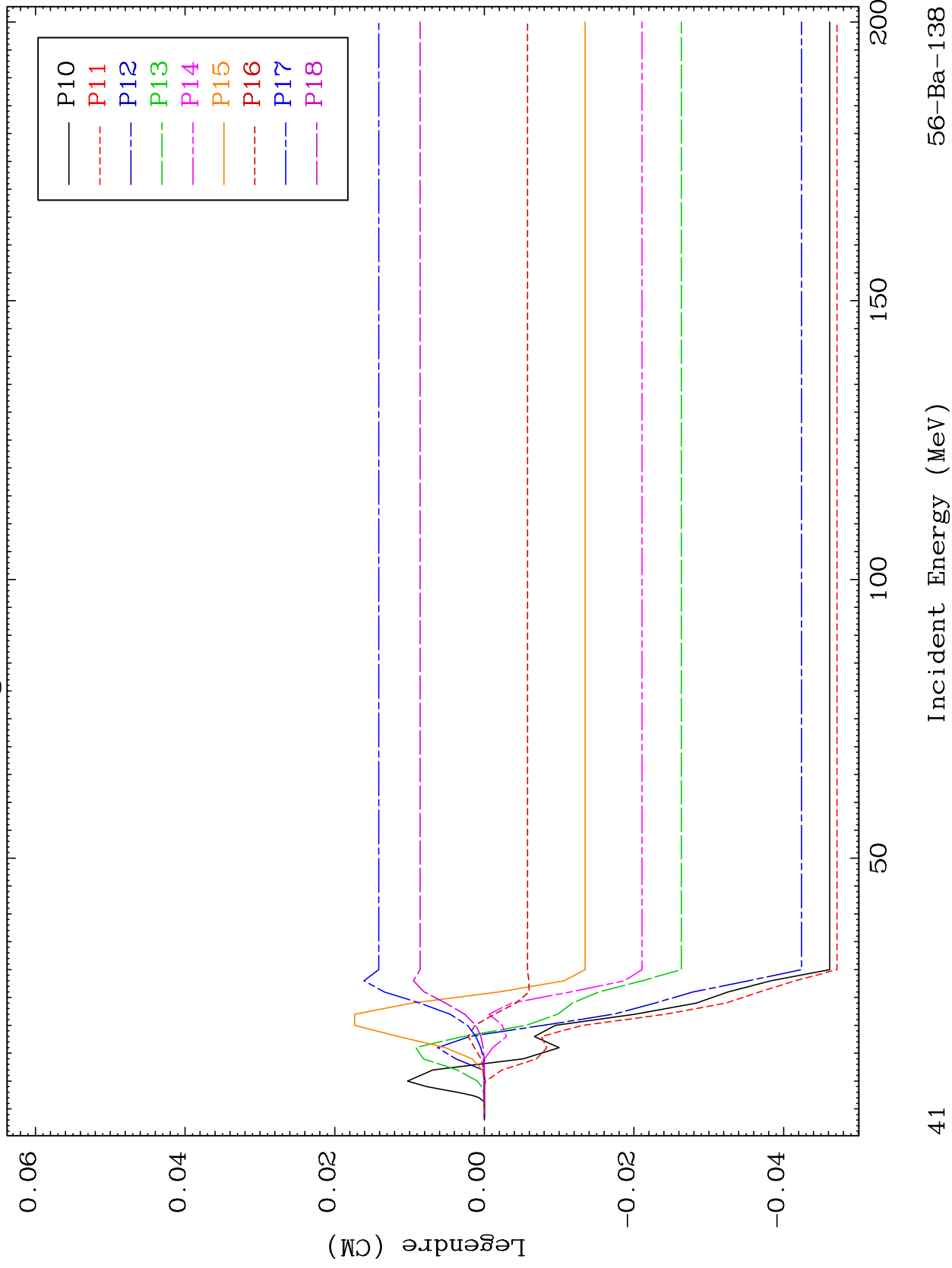




MAT 5649

MT= 56 (n,n') Level  
Legendre Coefficients

56-Ba-138



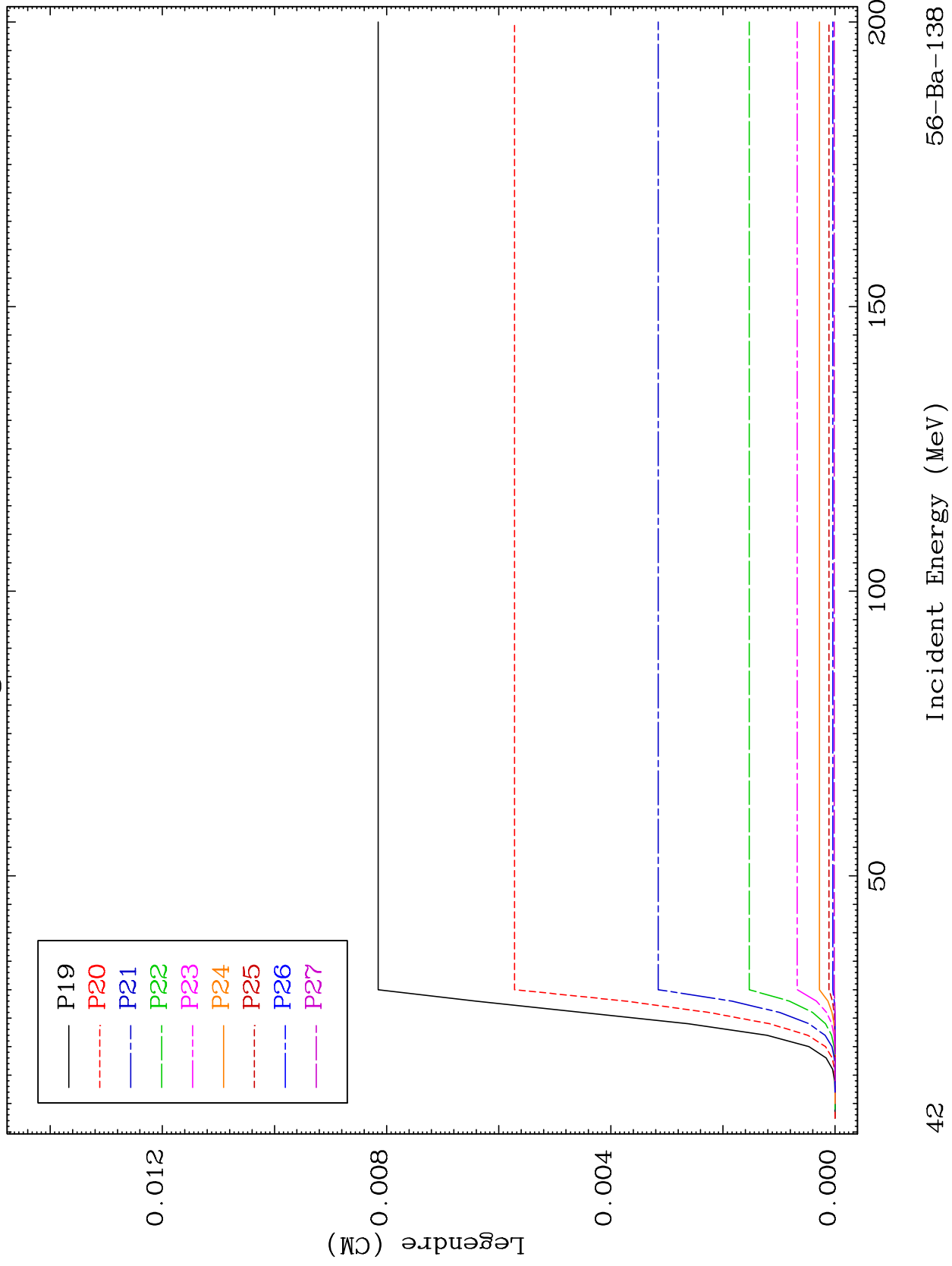
41

56-Ba-138

MAT 5649

MT= 56 (n,n') Level  
Legendre Coefficients

56-Ba-138



42

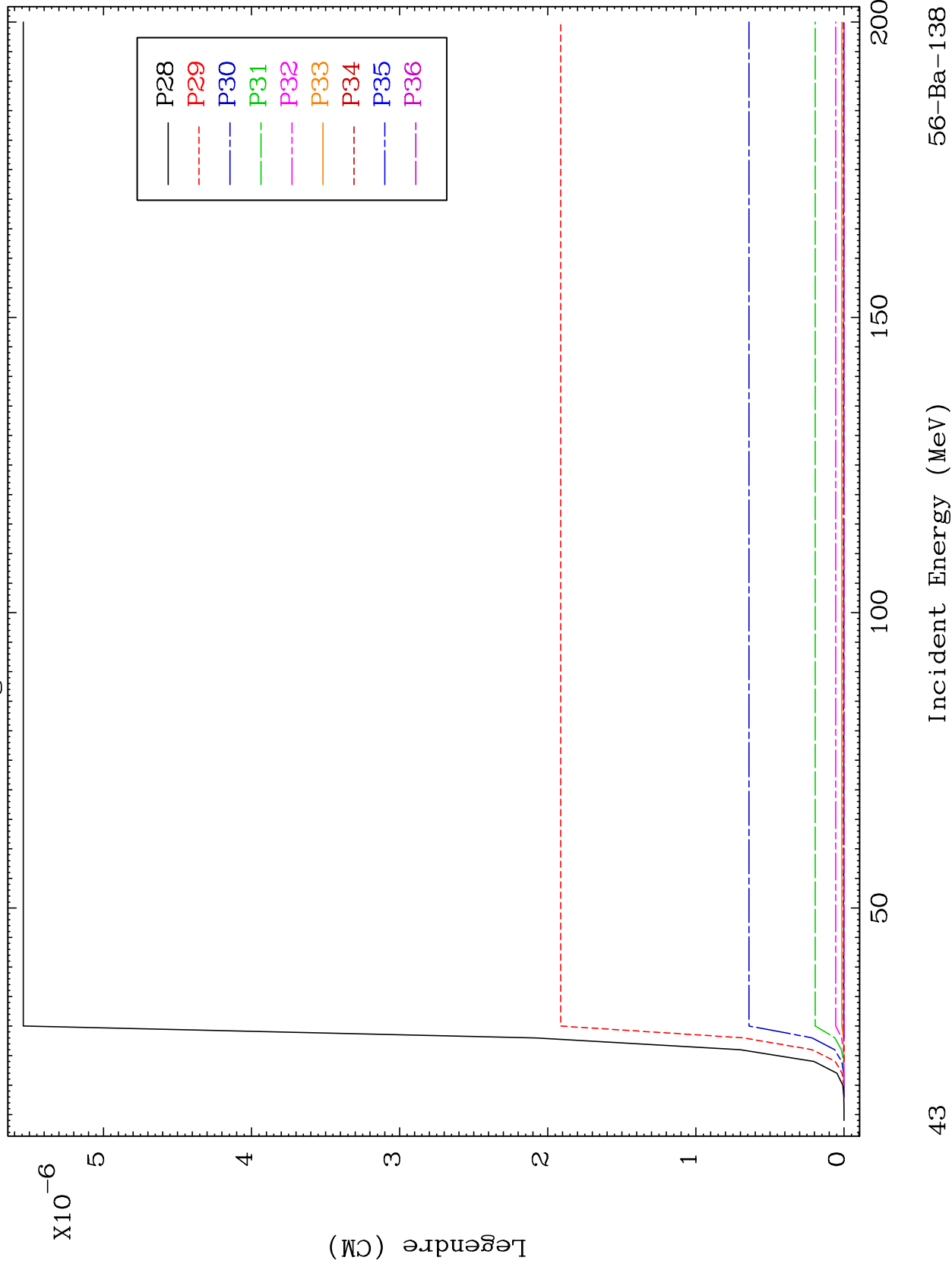
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 56 (n,n') Level  
Legendre Coefficients

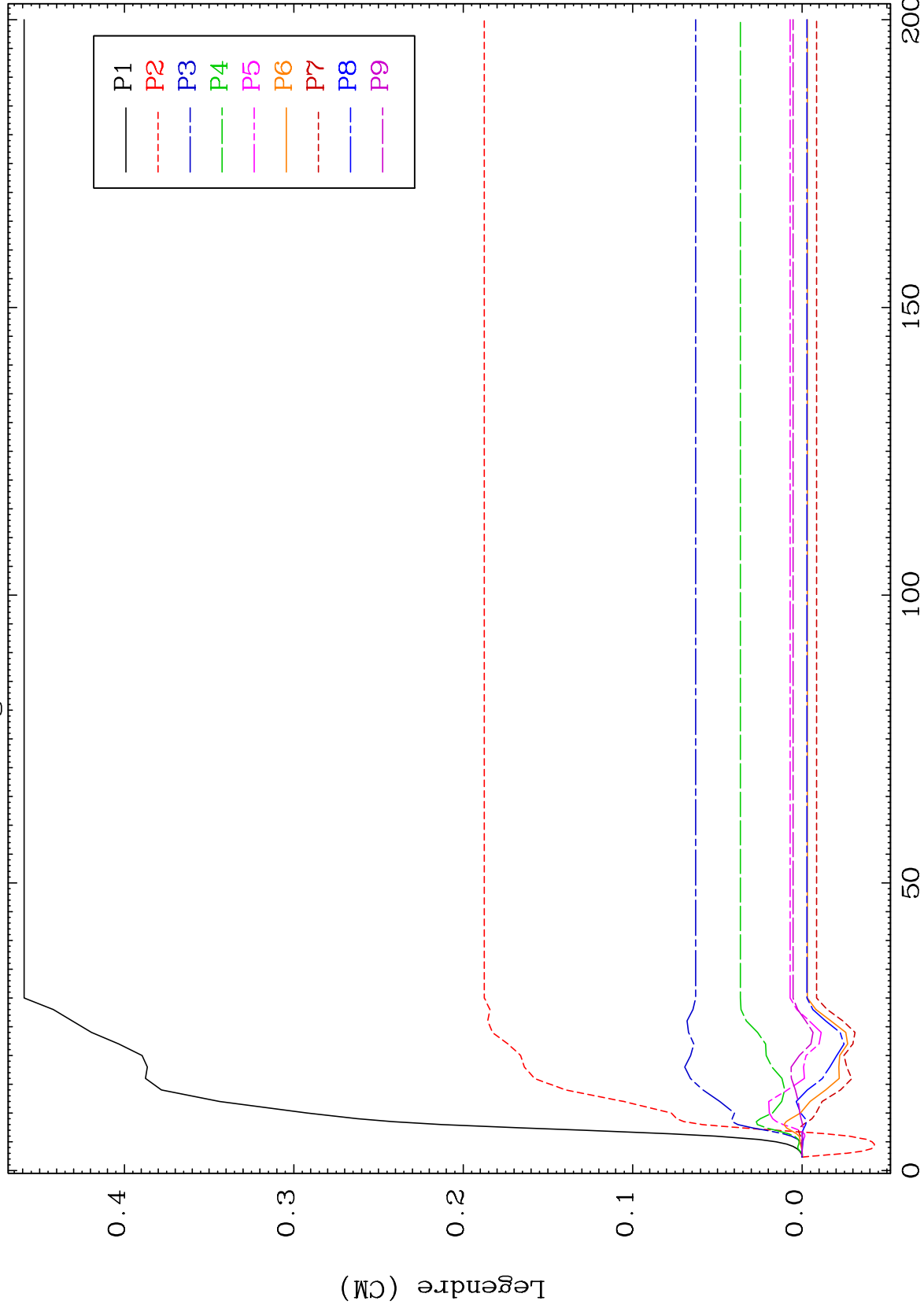
56-Ba-138



MAT 5649

MT= 57 (n,n') Level  
Legendre Coefficients

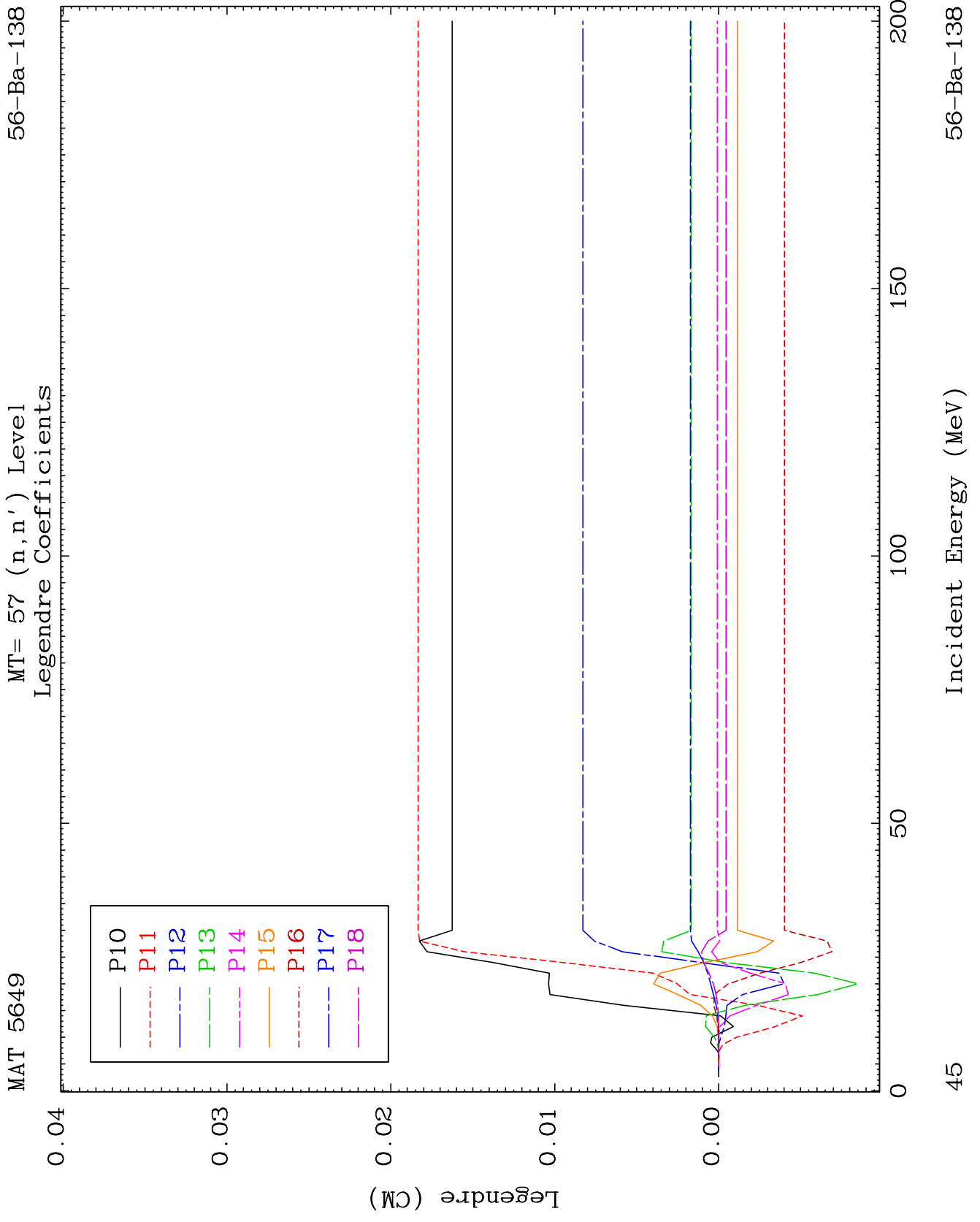
56-Ba-138



44

Incident Energy (MeV)

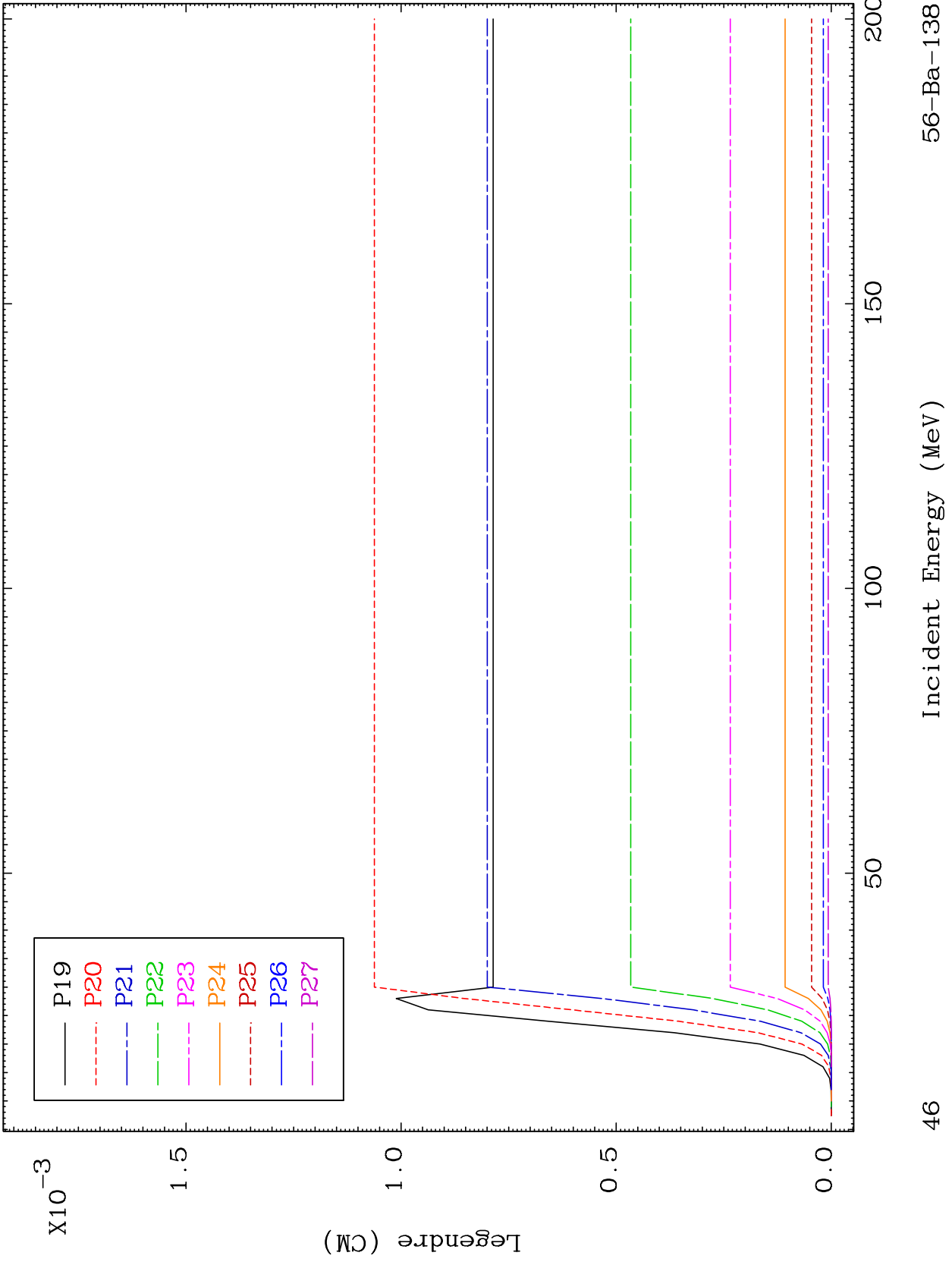
56-Ba-138



MAT 5649

MT= 57 (n,n') Level  
Legendre Coefficients

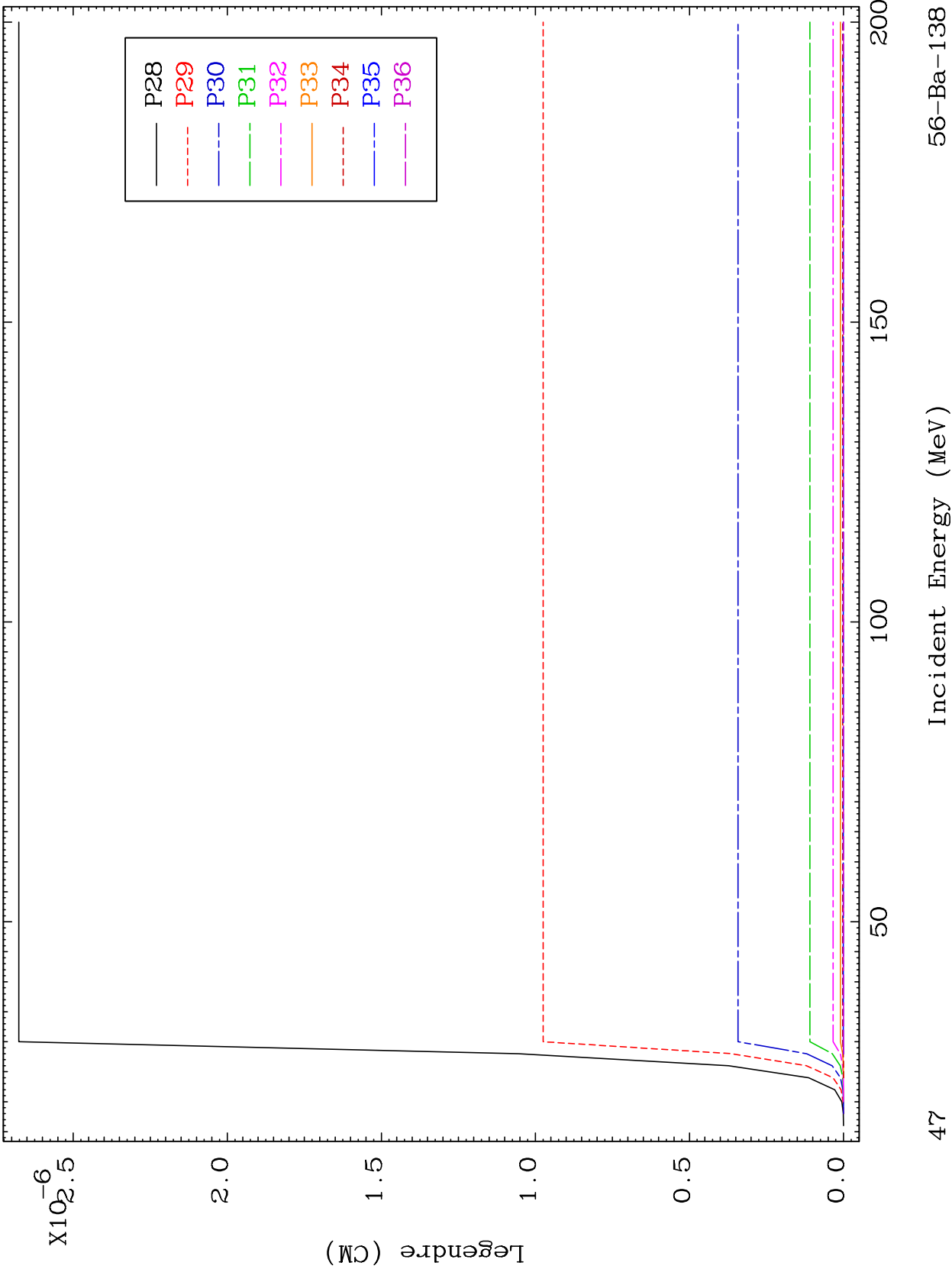
56-Ba-138



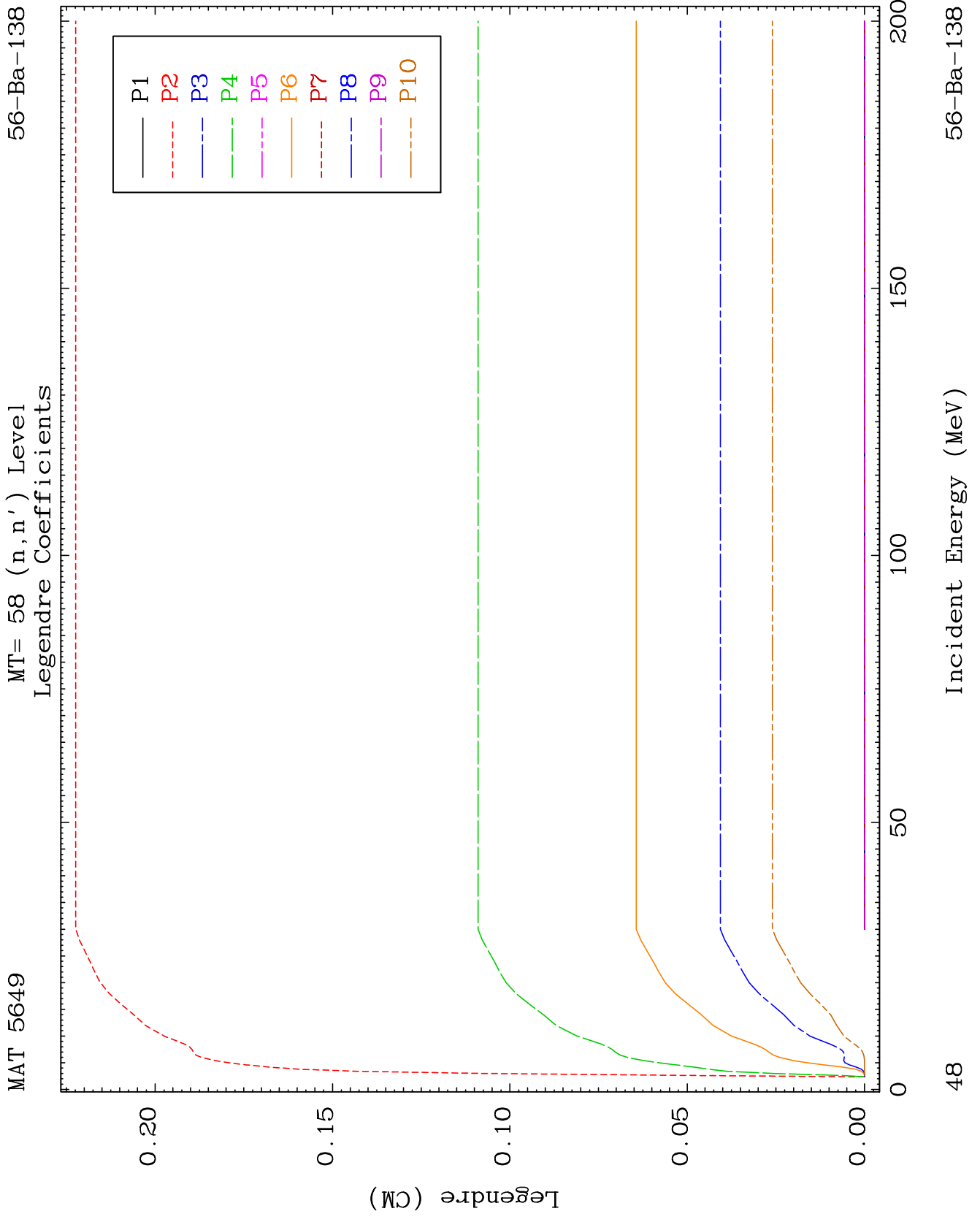
MAT 5649

MT= 57 (n,n') Level  
Legendre Coefficients

56-Ba-138





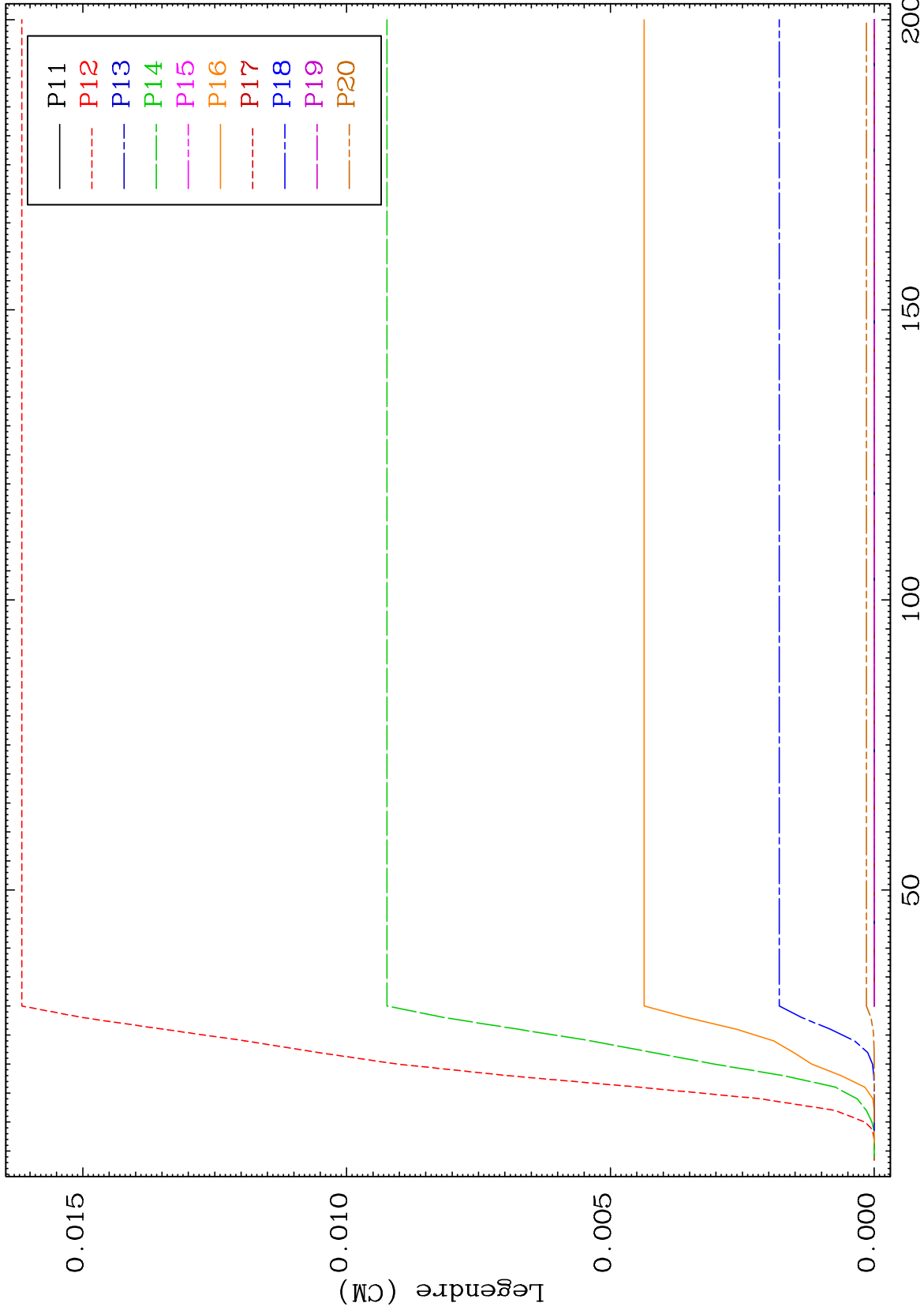


MAT 5649

MT= 58 (n,n') Level

56-Ba-138

Legendre Coefficients



49

Incident Energy (MeV)

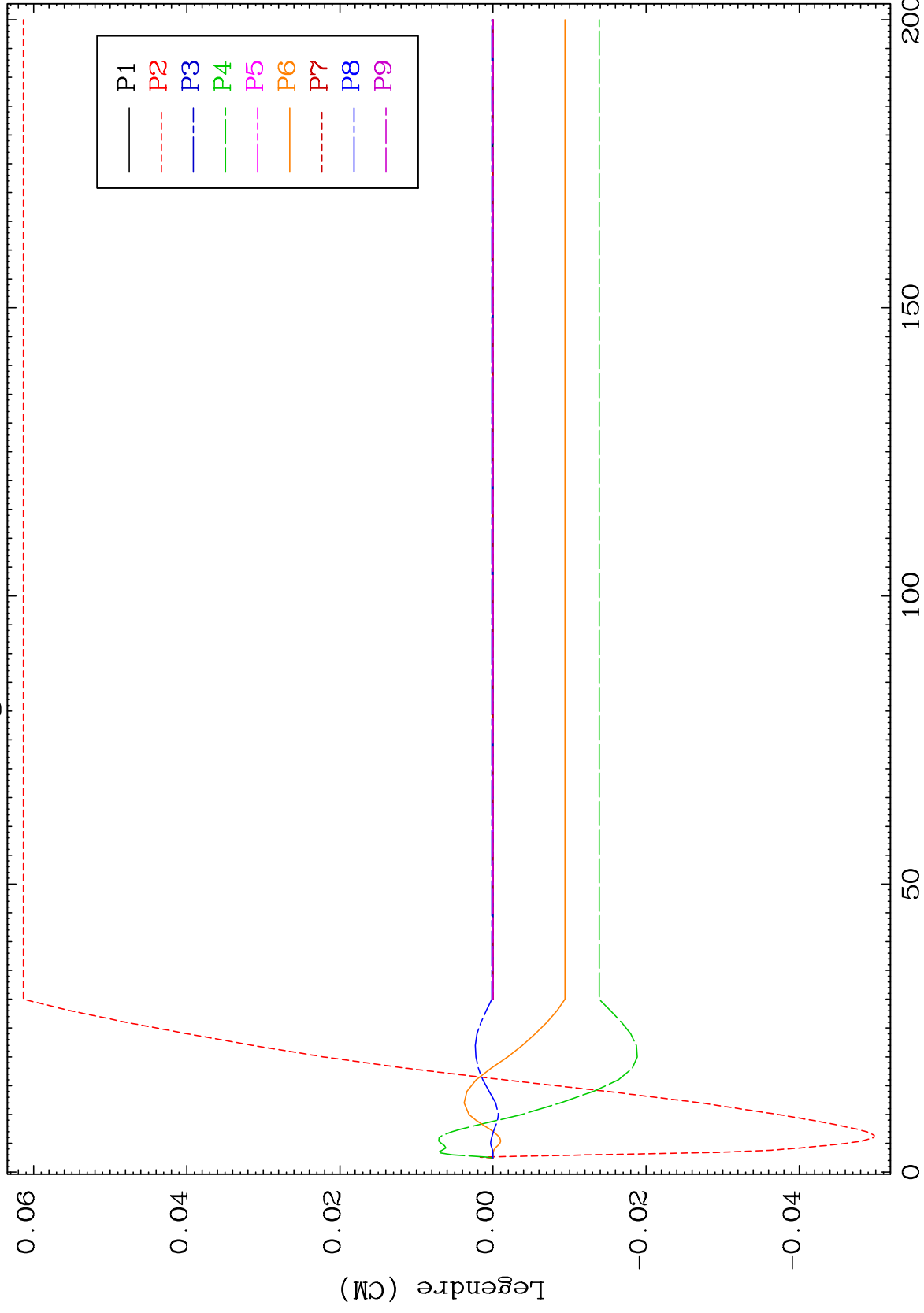
56-Ba-138



MAT 5649

MT= 59 (n,n') Level  
Legendre Coefficients

56-Ba-138



51

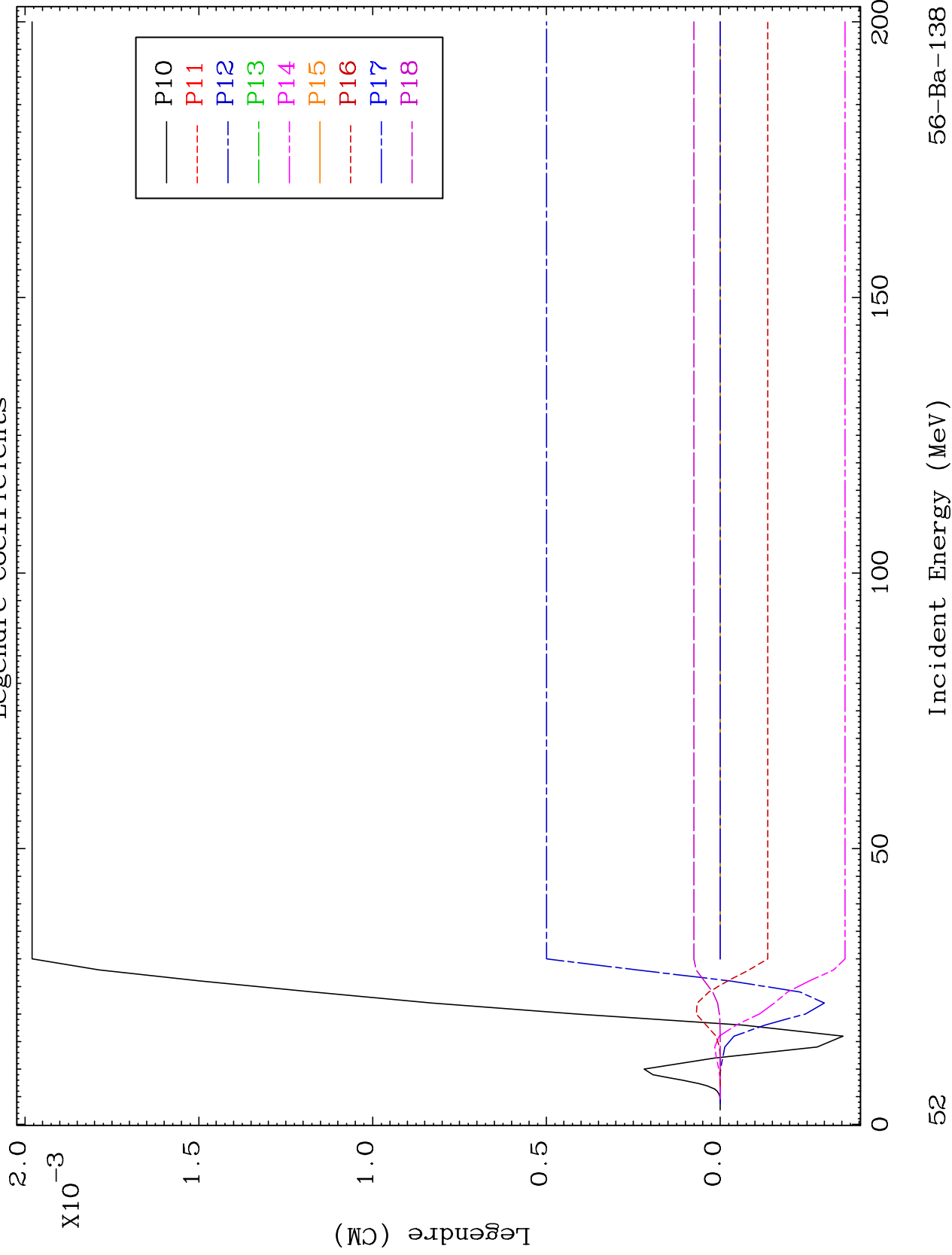
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 59 (n,n') Level  
Legendre Coefficients

56-Ba-138



56-Ba-138

Incident Energy (MeV)

52

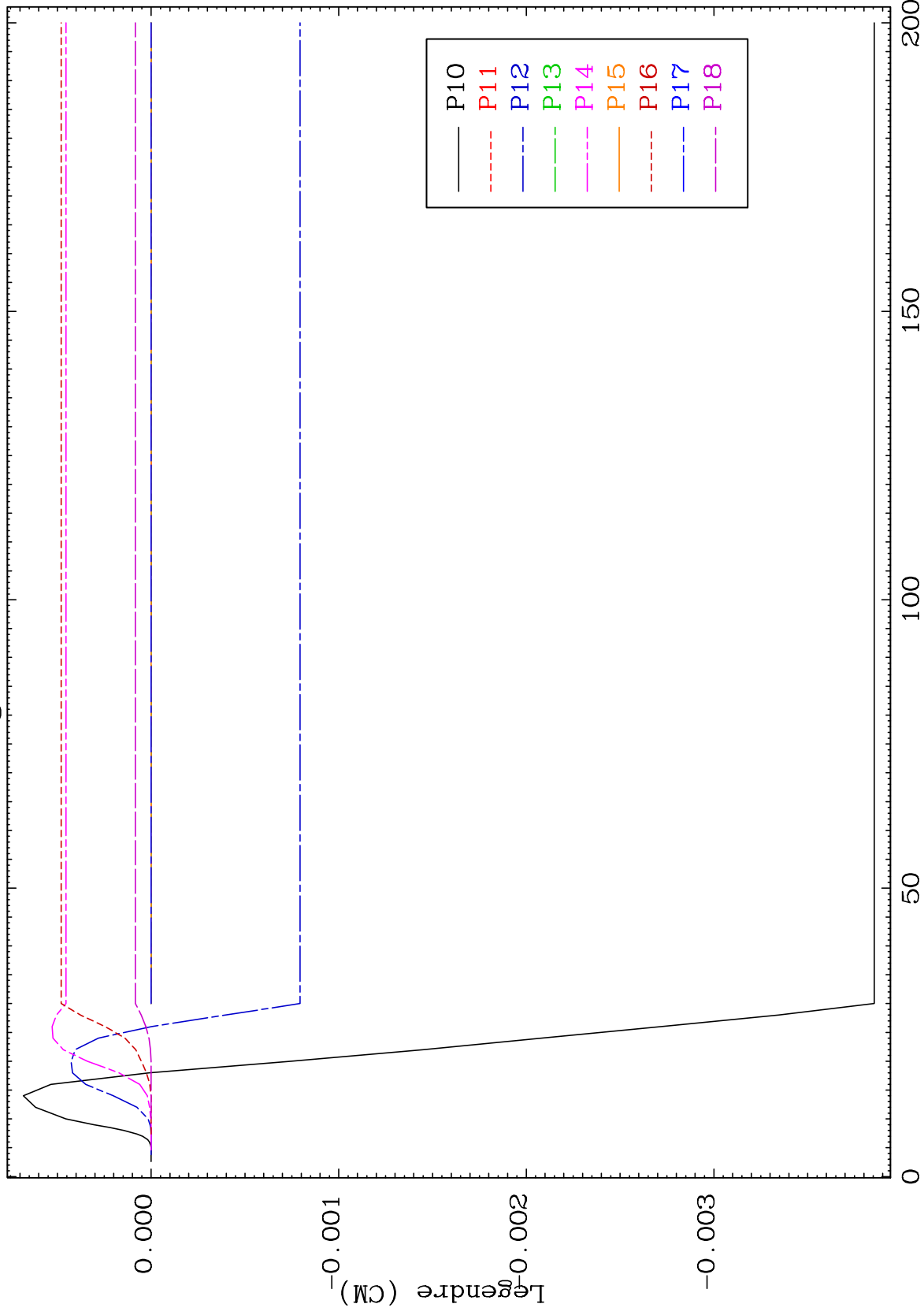




MAT 5649

MT= 60 (n,n') Level  
Legendre Coefficients

56-Ba-138



55

Incident Energy (MeV)

56-Ba-138

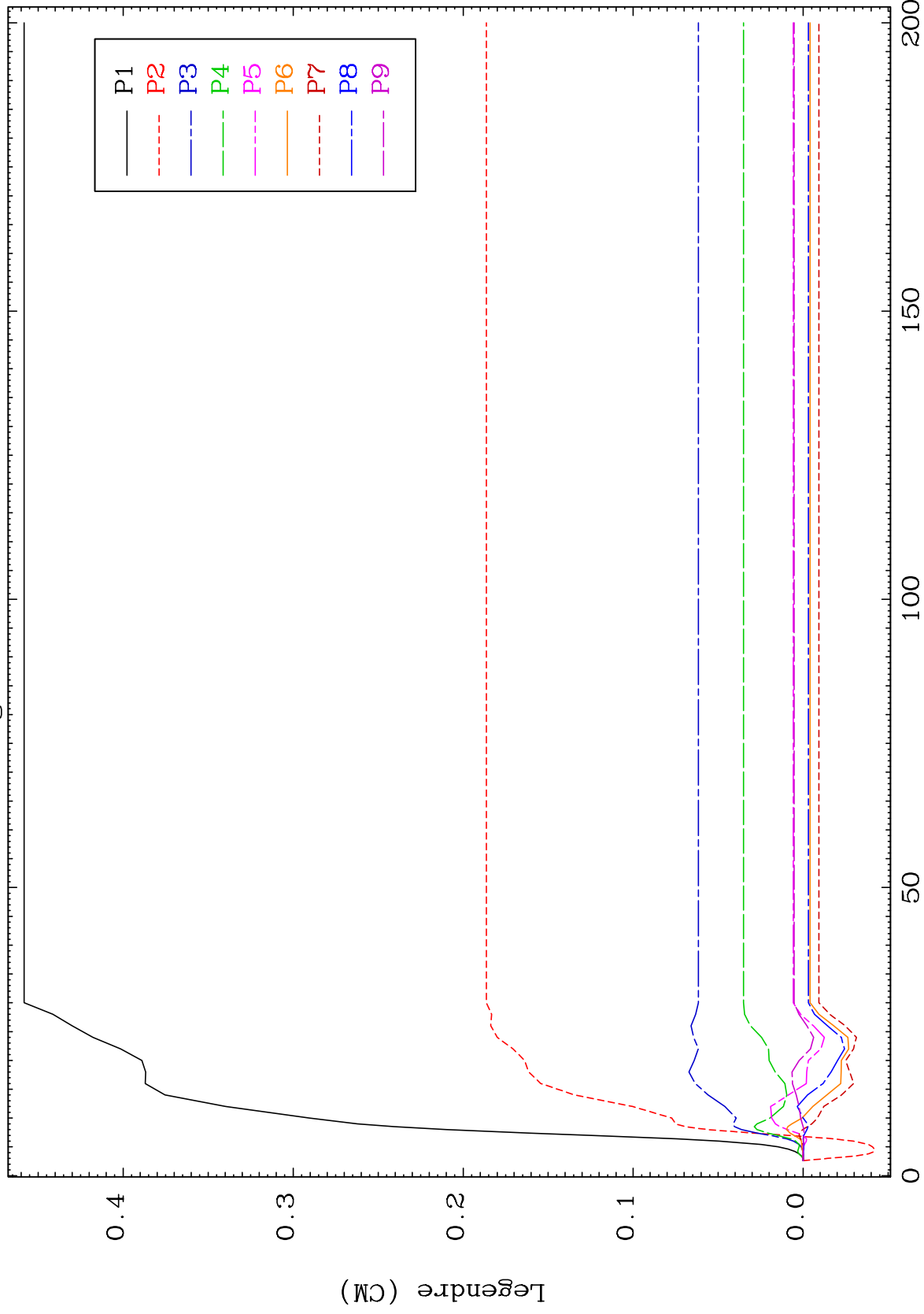




MAT 5649

MT= 61 (n,n') Level  
Legendre Coefficients

56-Ba-138



57

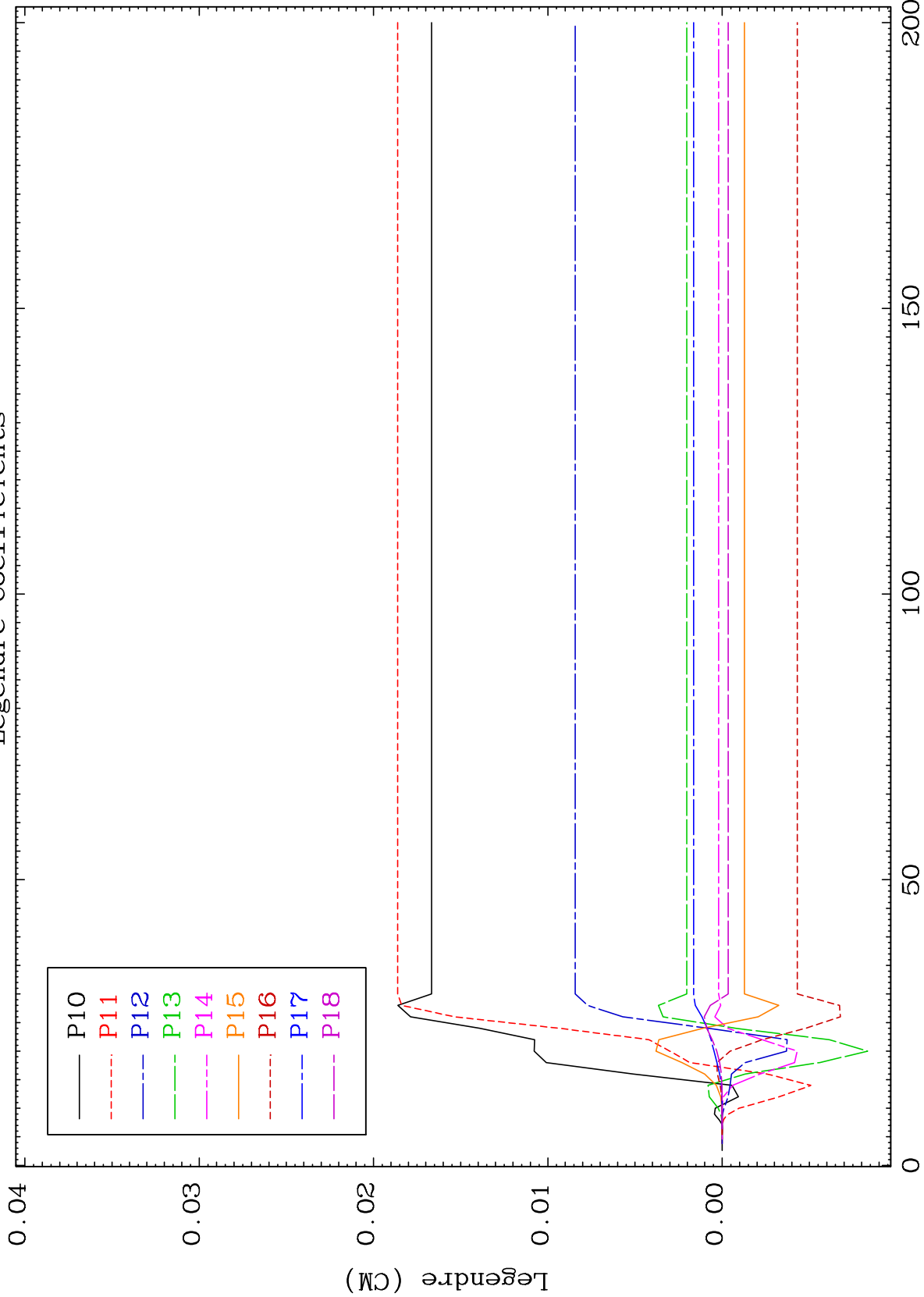
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 61 (n,n') Level  
Legendre Coefficients

56-Ba-138



58

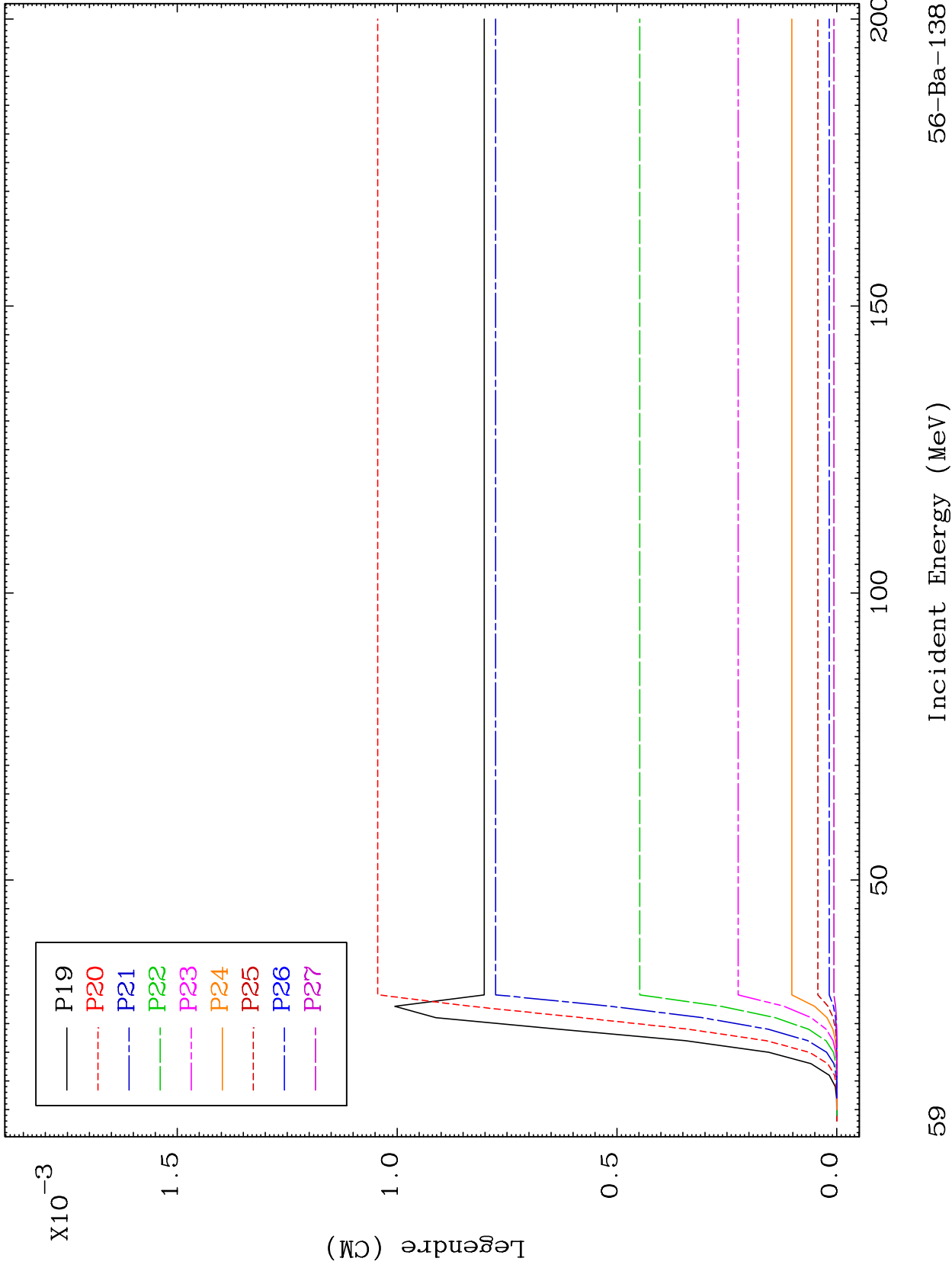
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 61 (n,n') Level  
Legendre Coefficients

56-Ba-138

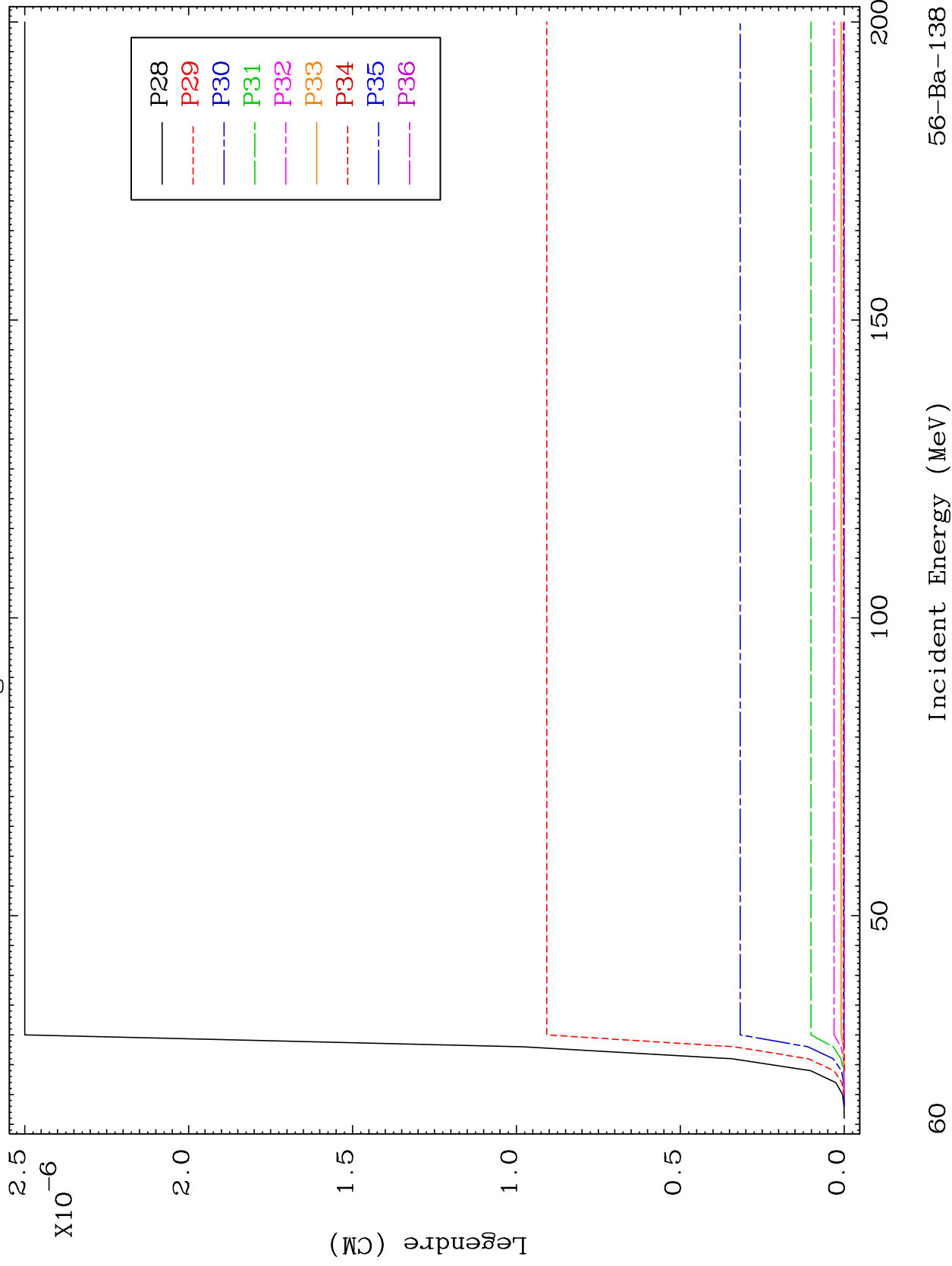


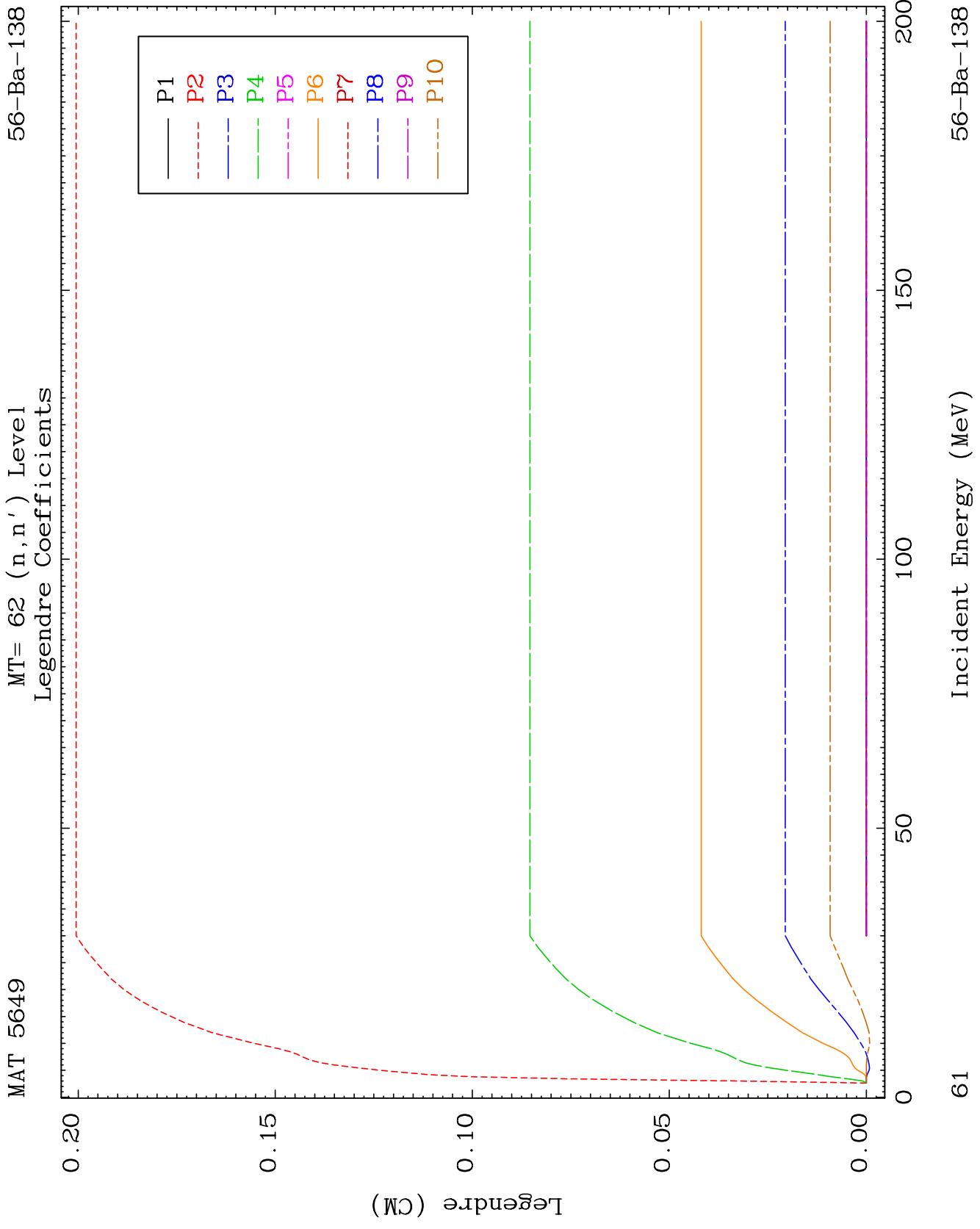
59

MAT 5649

MT= 61 (n,n') Level  
Legendre Coefficients

56-Ba-138

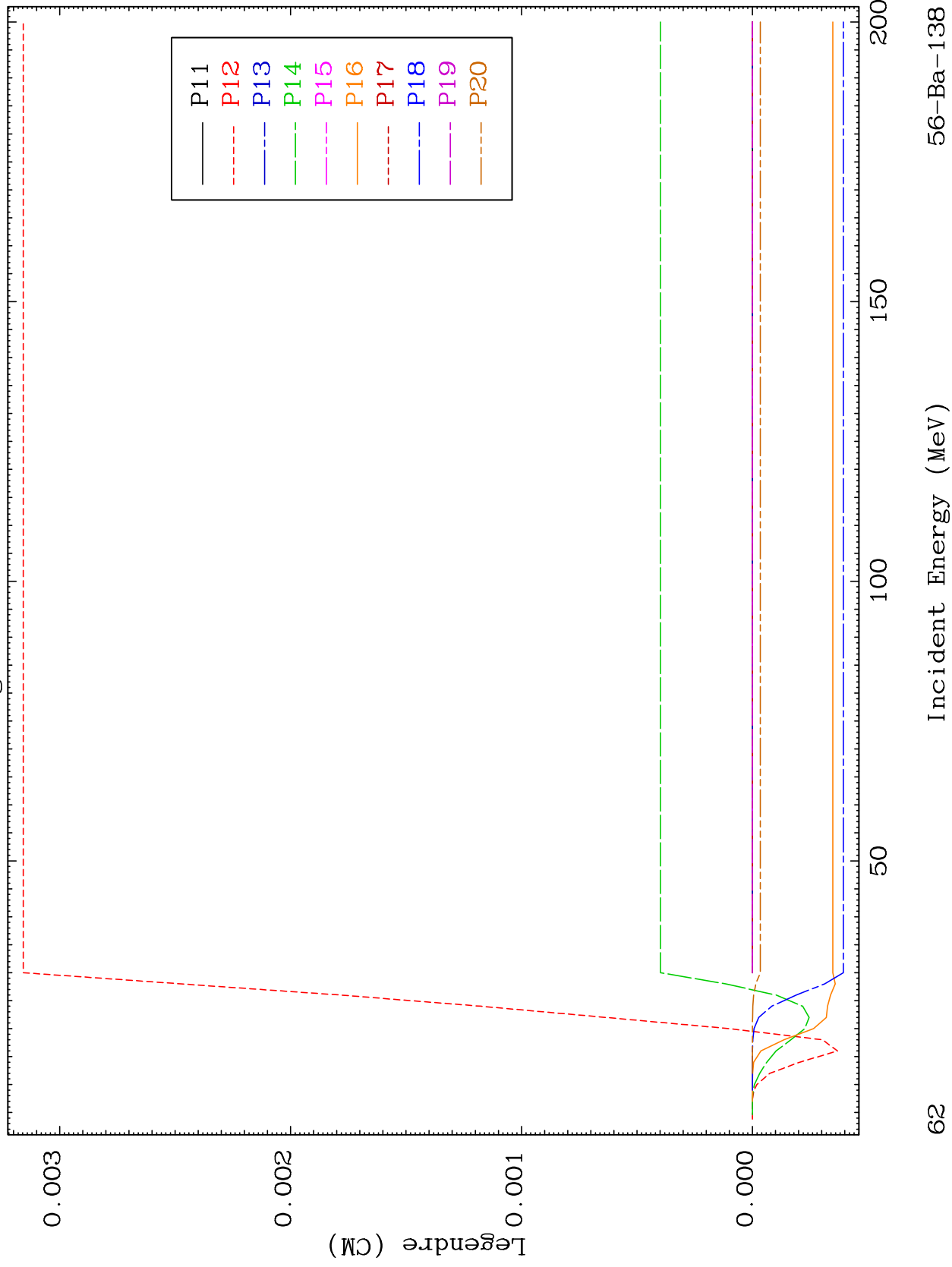




MAT 5649

MT= 62 (n,n') Level  
Legendre Coefficients

56-Ba-138



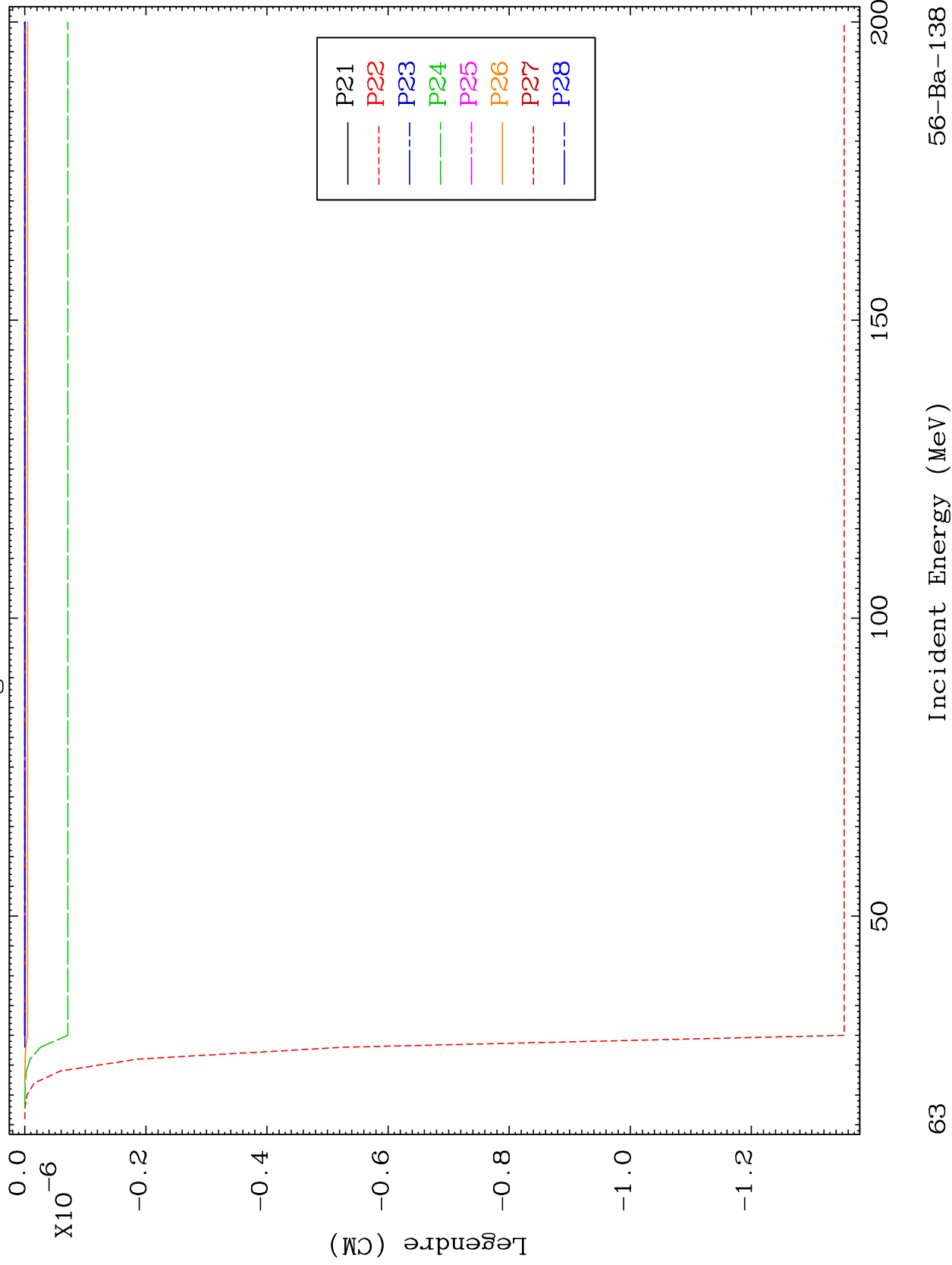
62

56-Ba-138

MAT 5649

MT= 62 (n,n') Level  
Legendre Coefficients

56-Ba-138



63

Incident Energy (MeV)

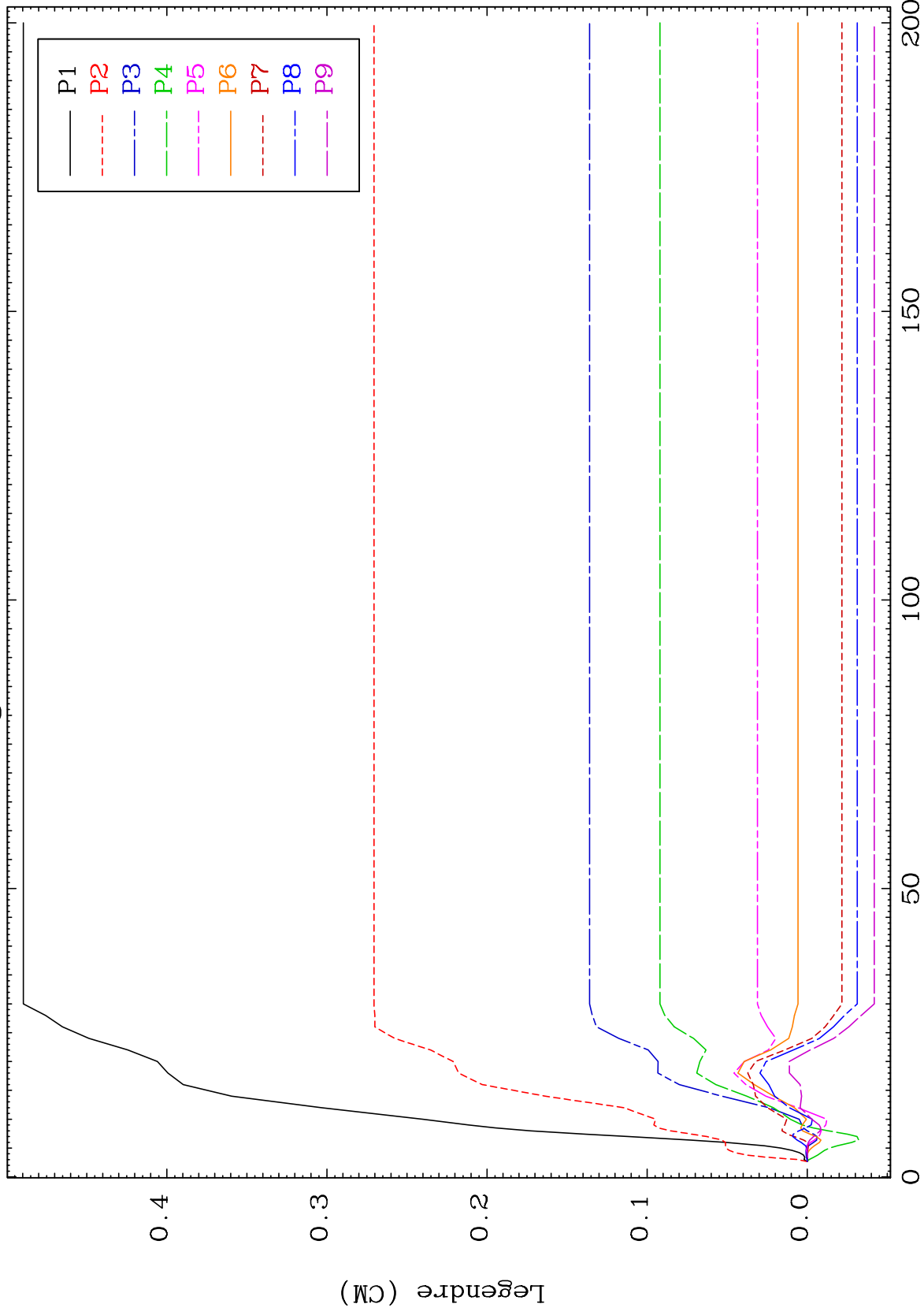
56-Ba-138



MAT 5649

MT= 63 (n,n') Level  
Legendre Coefficients

56-Ba-138



64

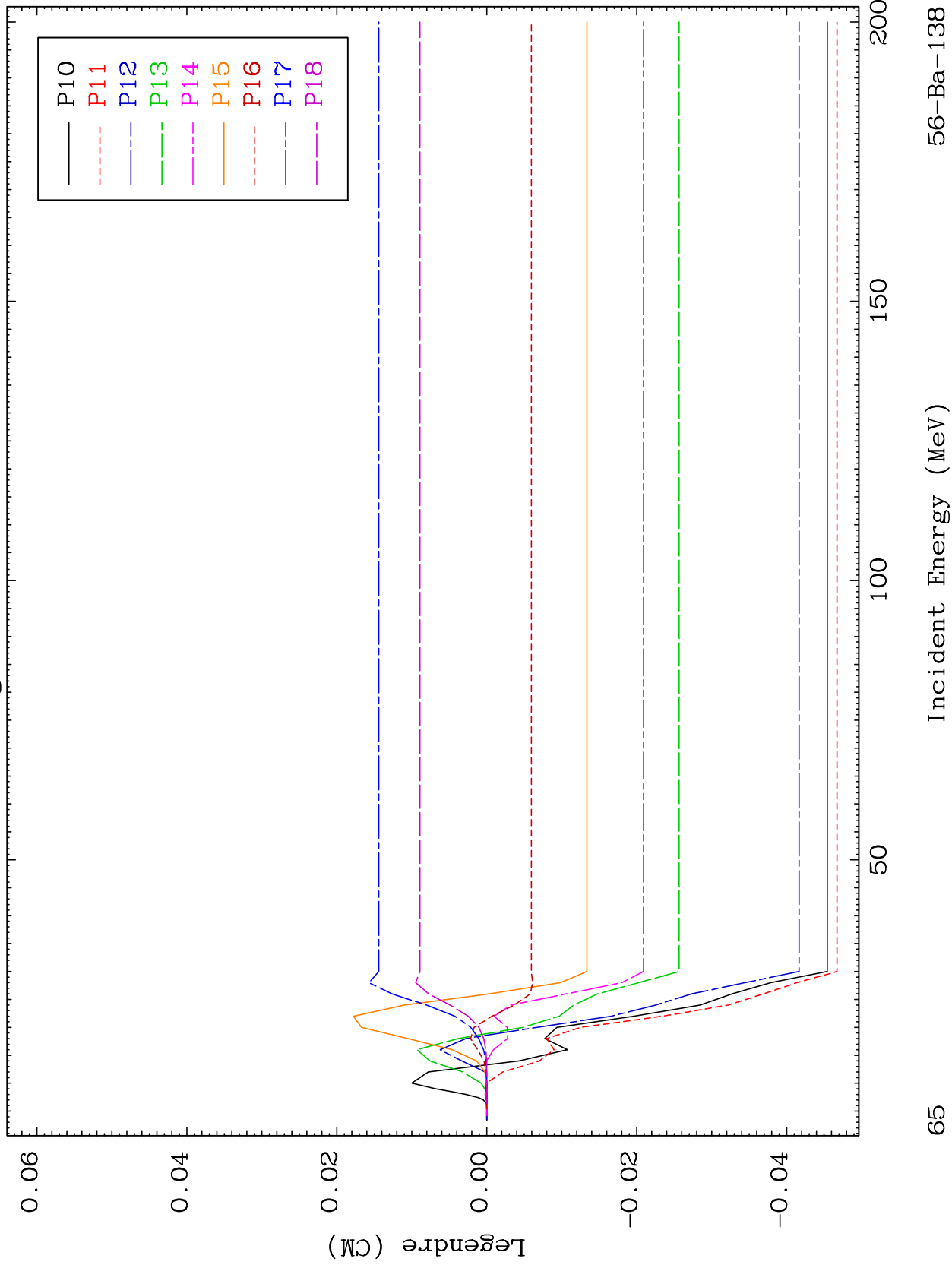
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 63 (n,n') Level  
Legendre Coefficients

56-Ba-138



65

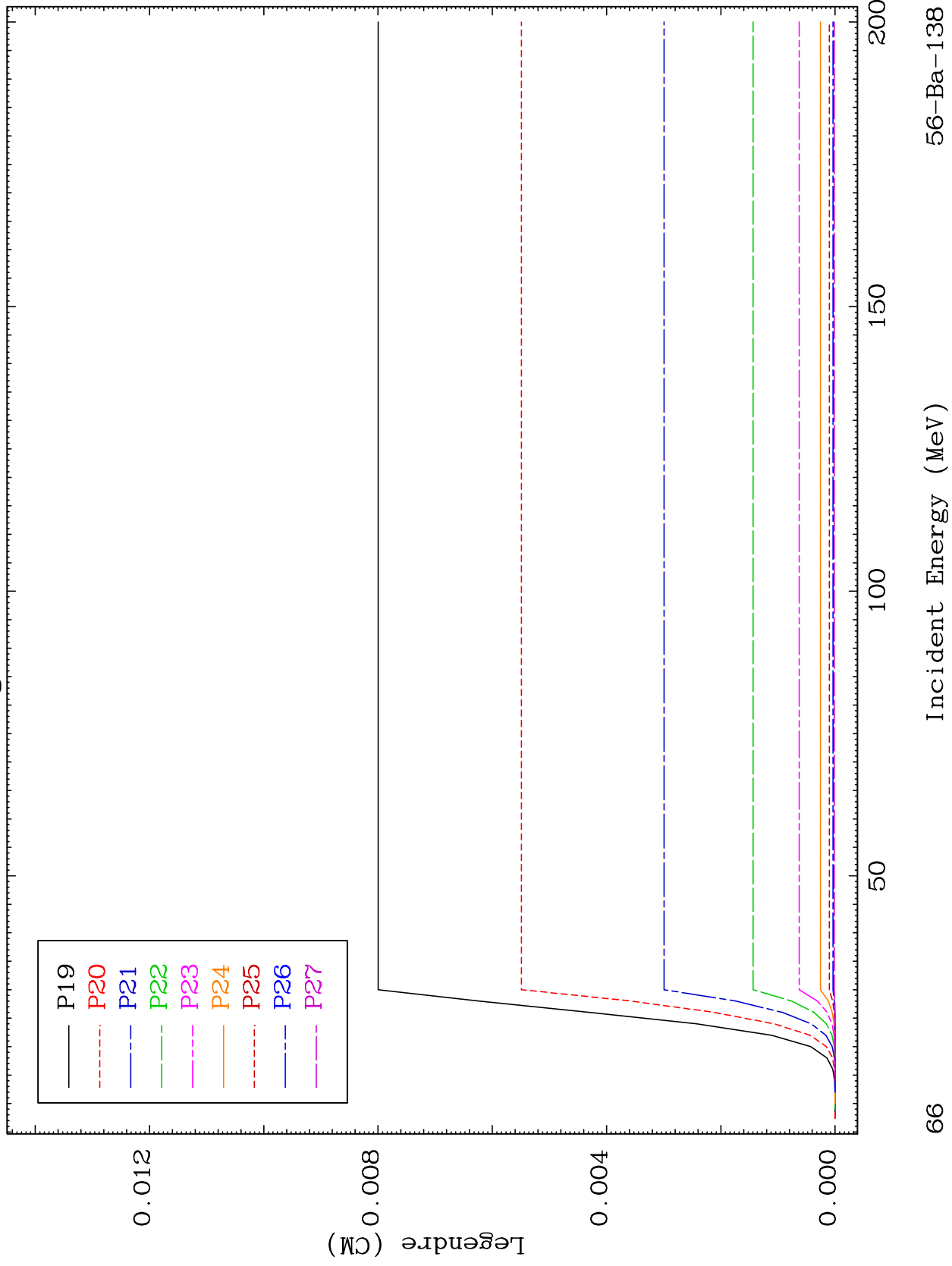
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 63 (n,n') Level  
Legendre Coefficients

56-Ba-138



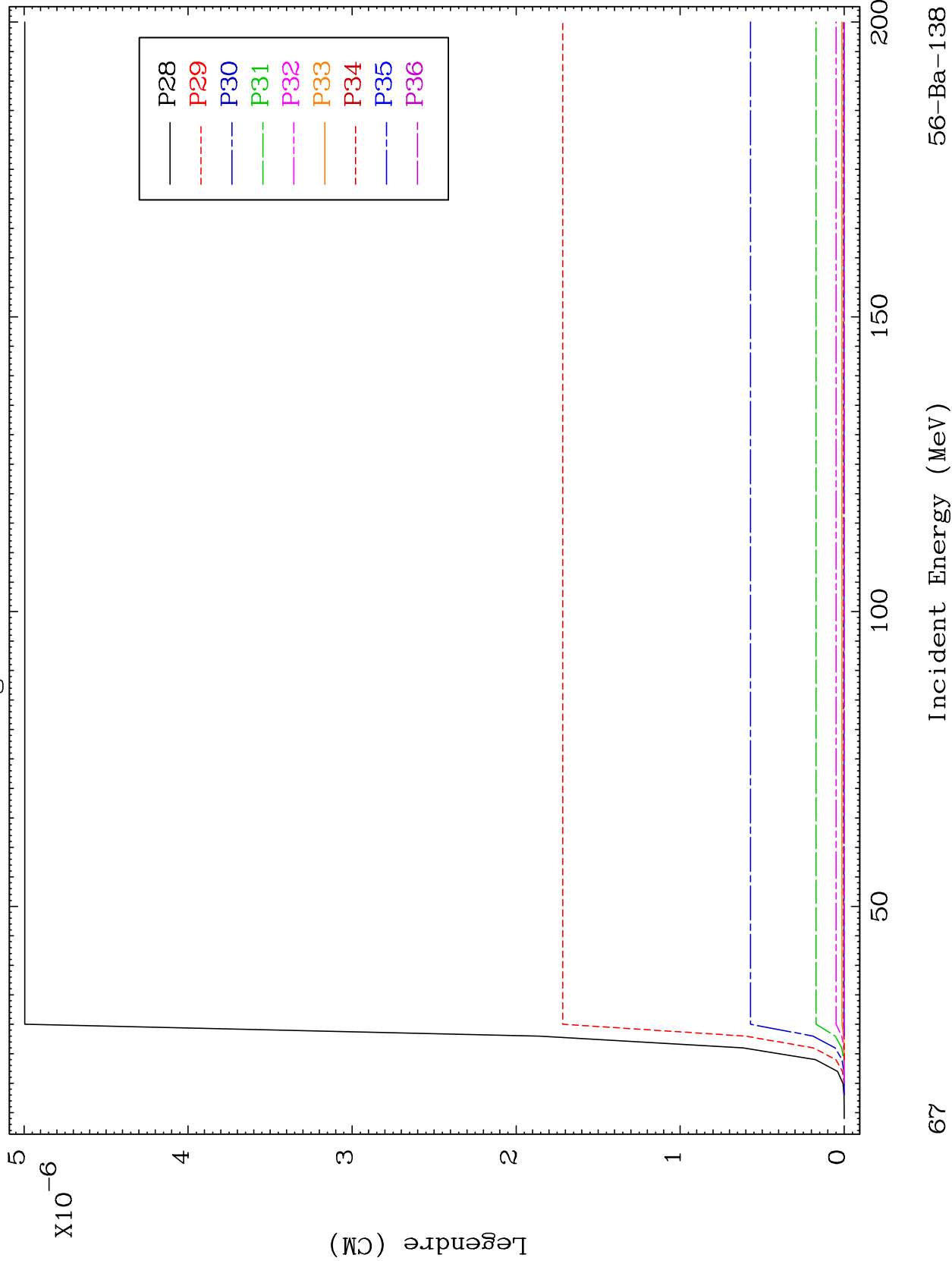
66

56-Ba-138

MAT 5649

MT= 63 (n,n') Level  
Legendre Coefficients

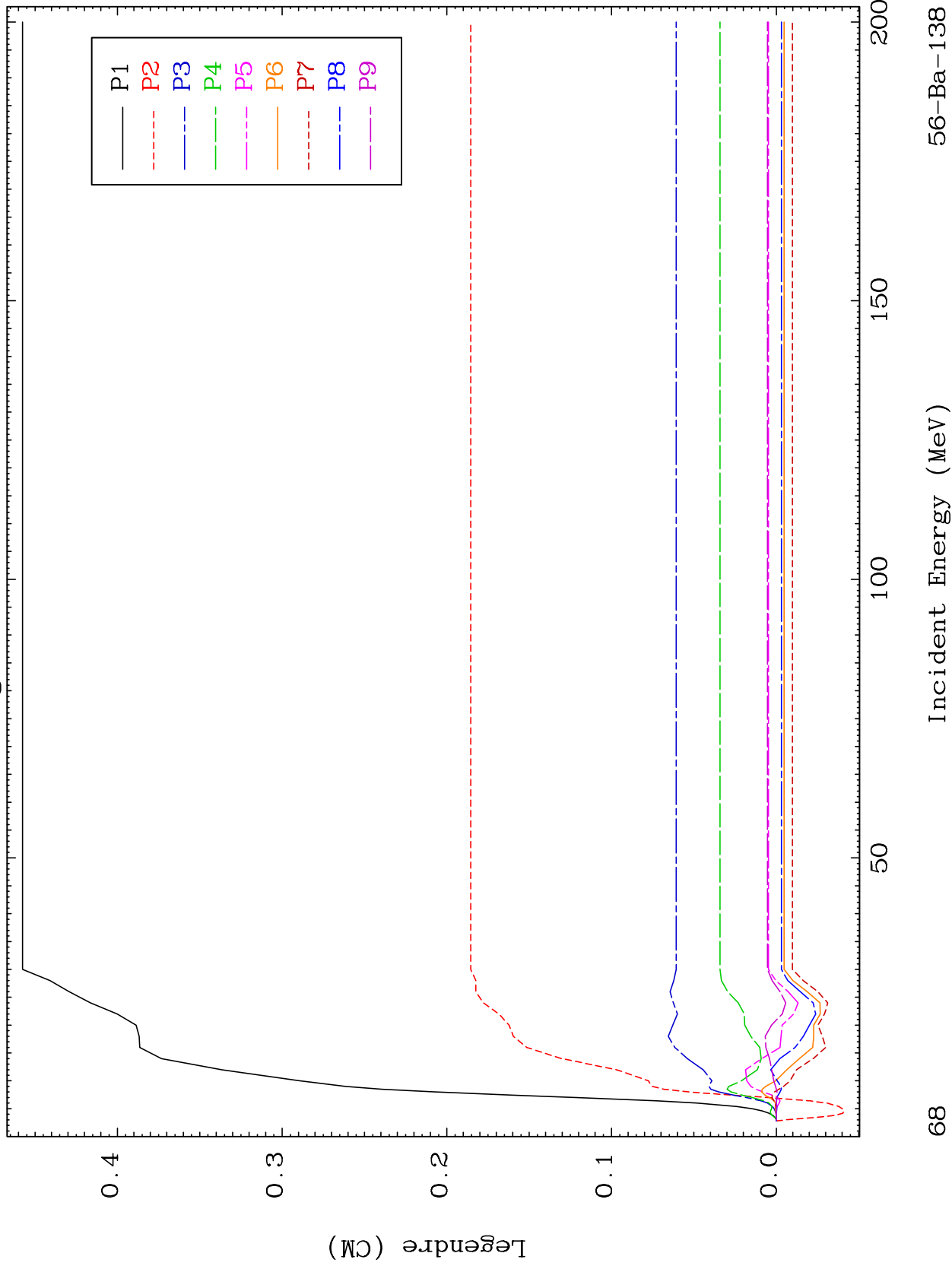
56-Ba-138



MAT 5649

MT= 64 (n,n') Level  
Legendre Coefficients

56-Ba-138



68

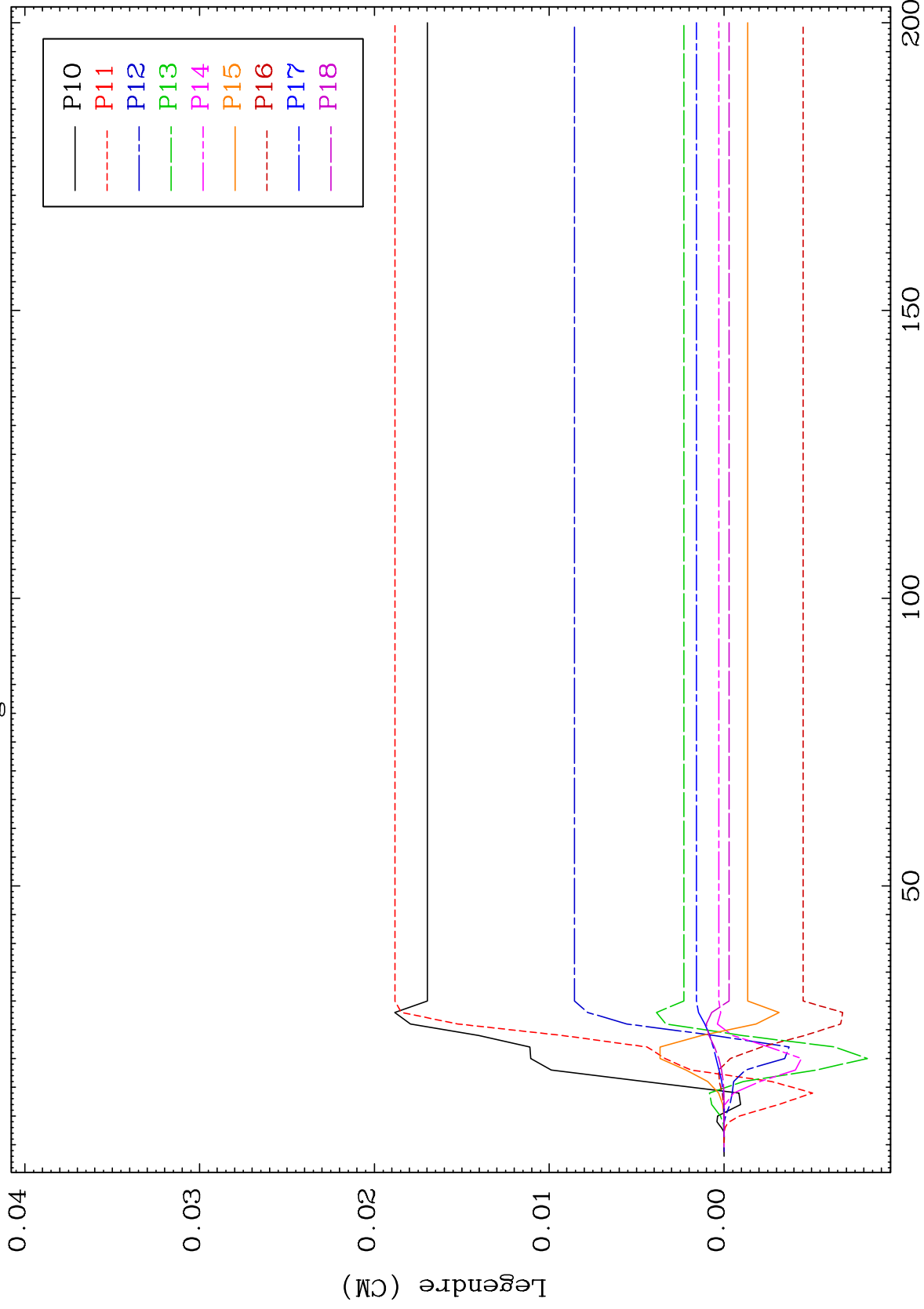
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 64 (n,n') Level  
Legendre Coefficients

56-Ba-138



69

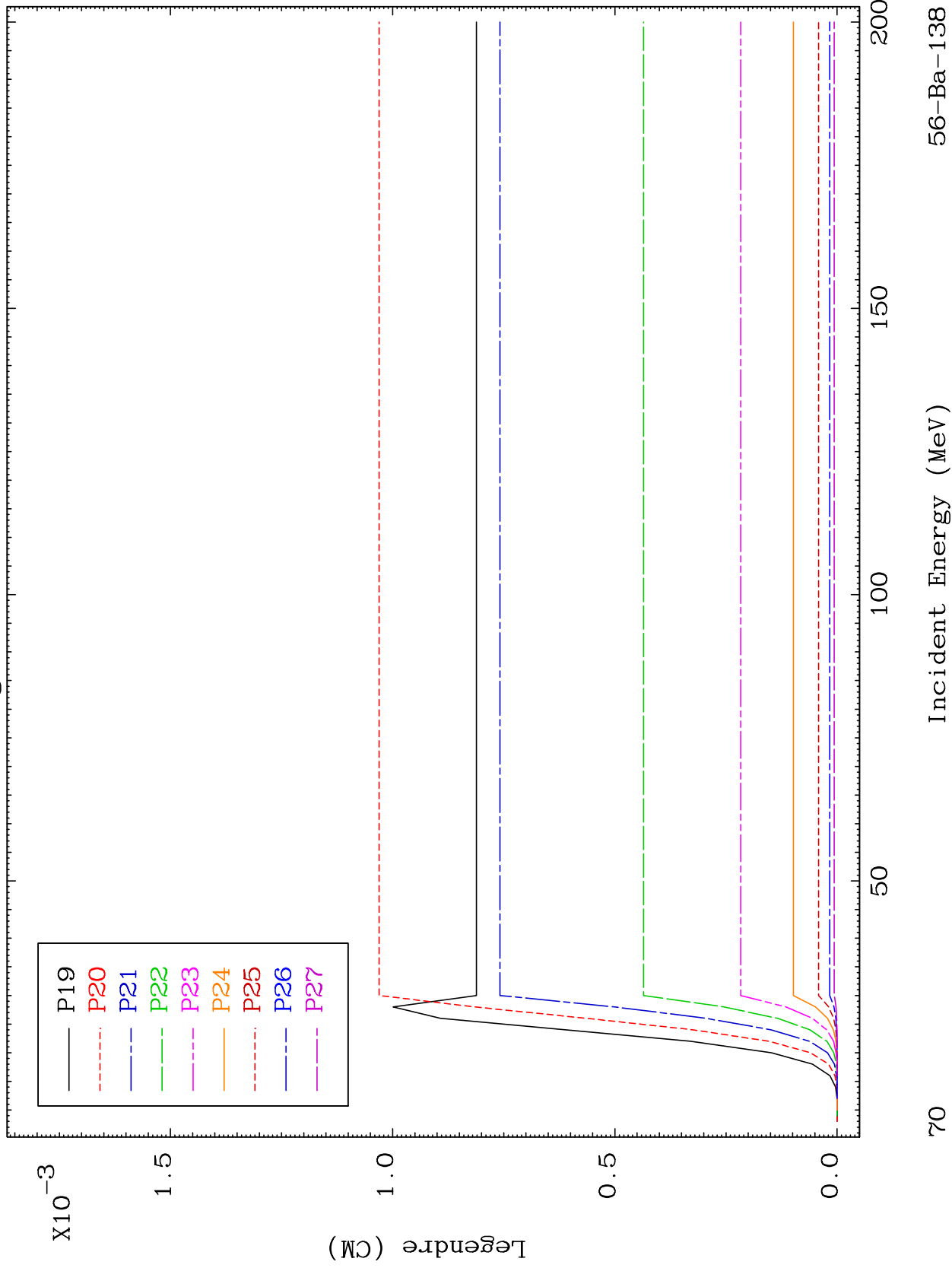
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 64 (n,n') Level  
Legendre Coefficients

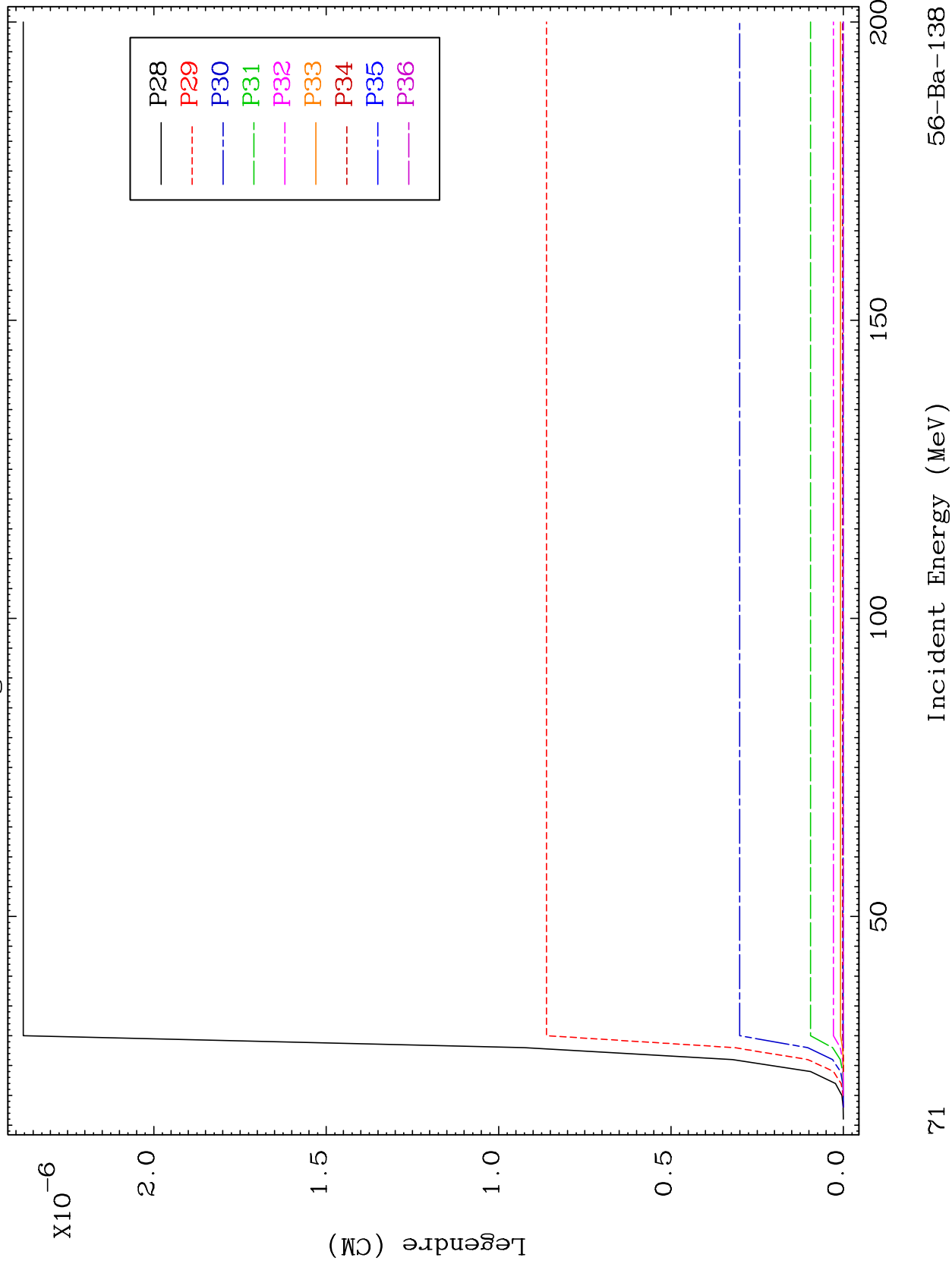
56-Ba-138



MAT 5649

MT= 64 (n,n') Level  
Legendre Coefficients

56-Ba-138

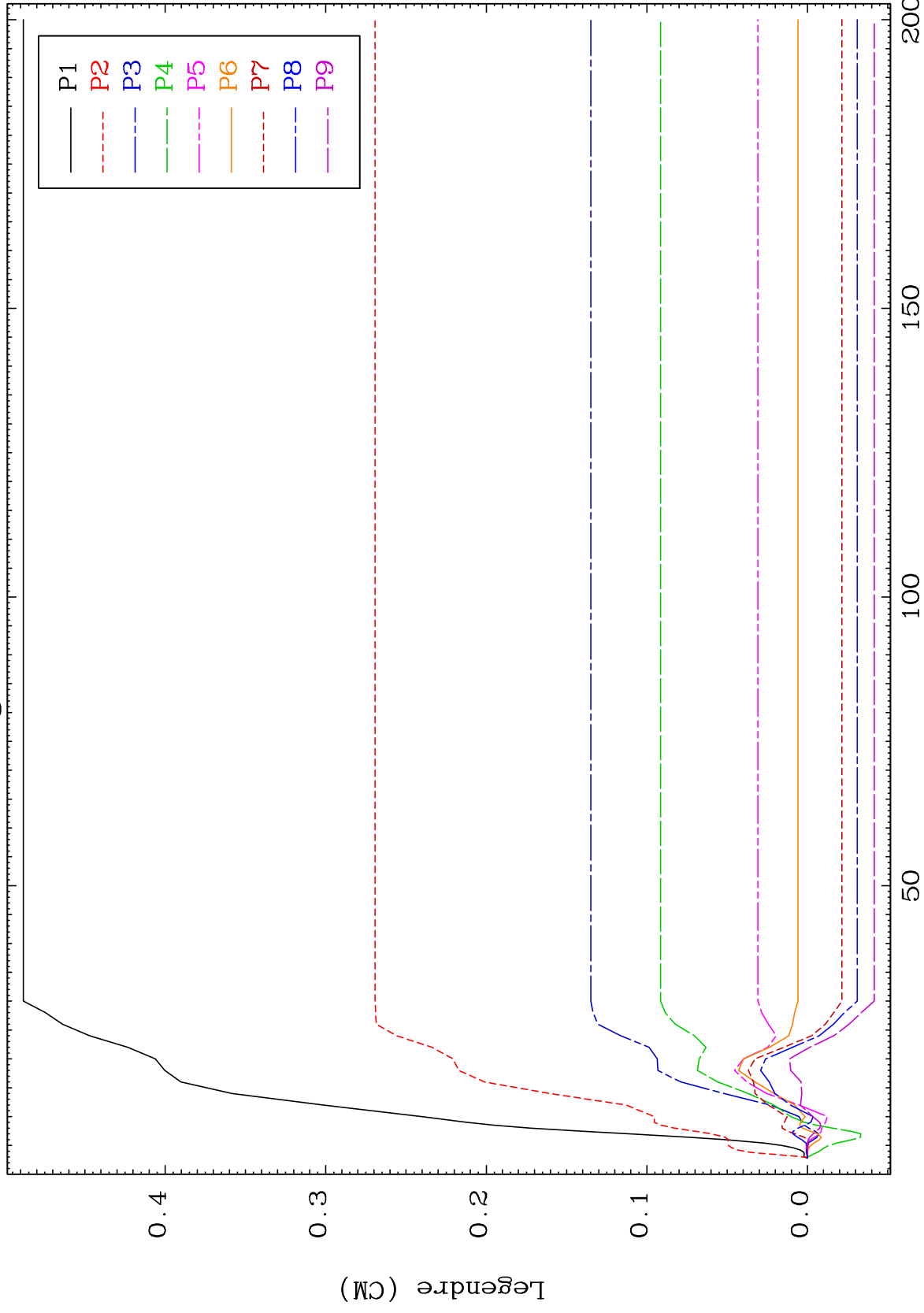




MAT 5649

MT= 65 (n,n') Level  
Legendre Coefficients

56-Ba-138



72

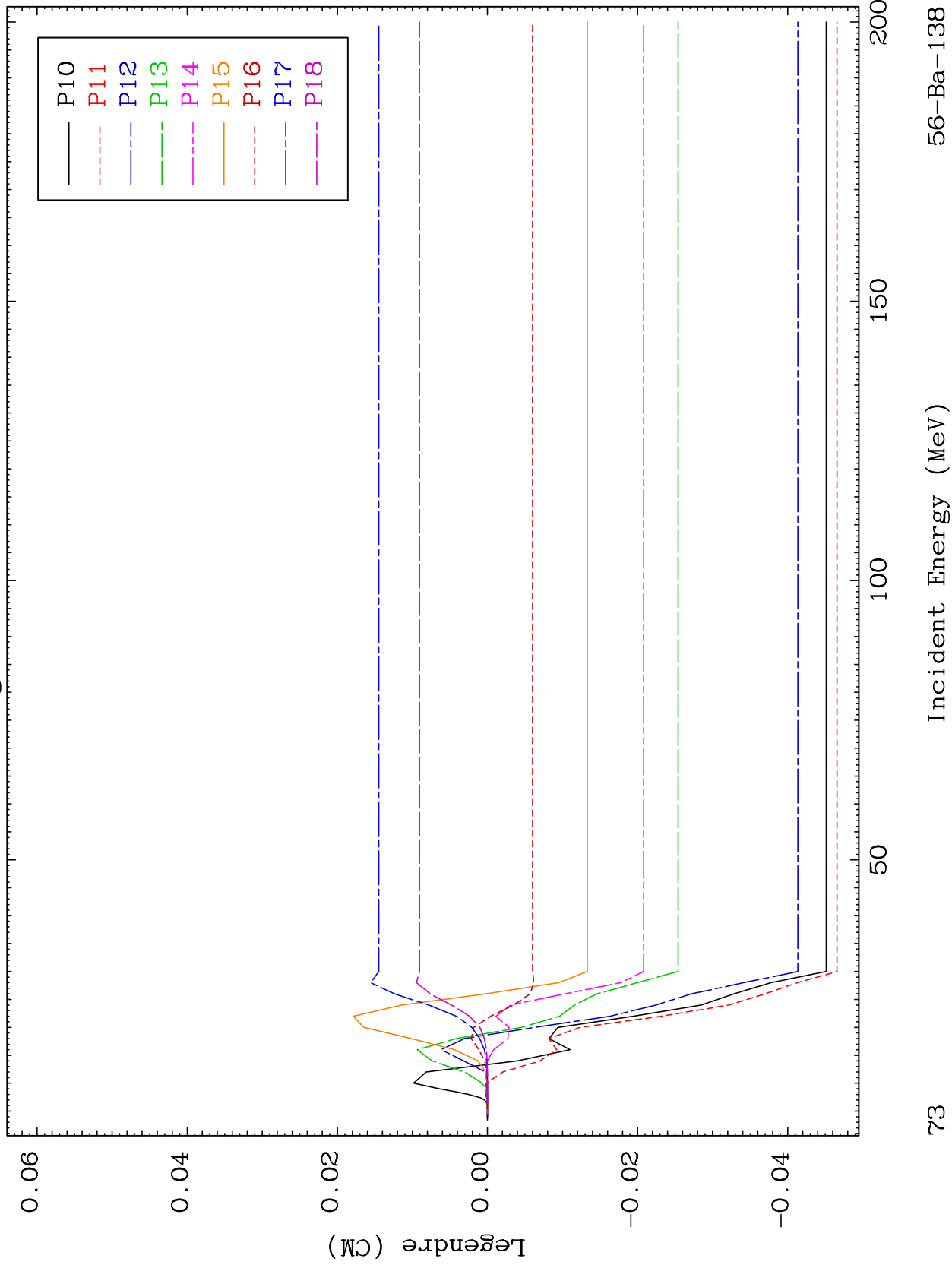
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 65 (n,n') Level  
Legendre Coefficients

56-Ba-138



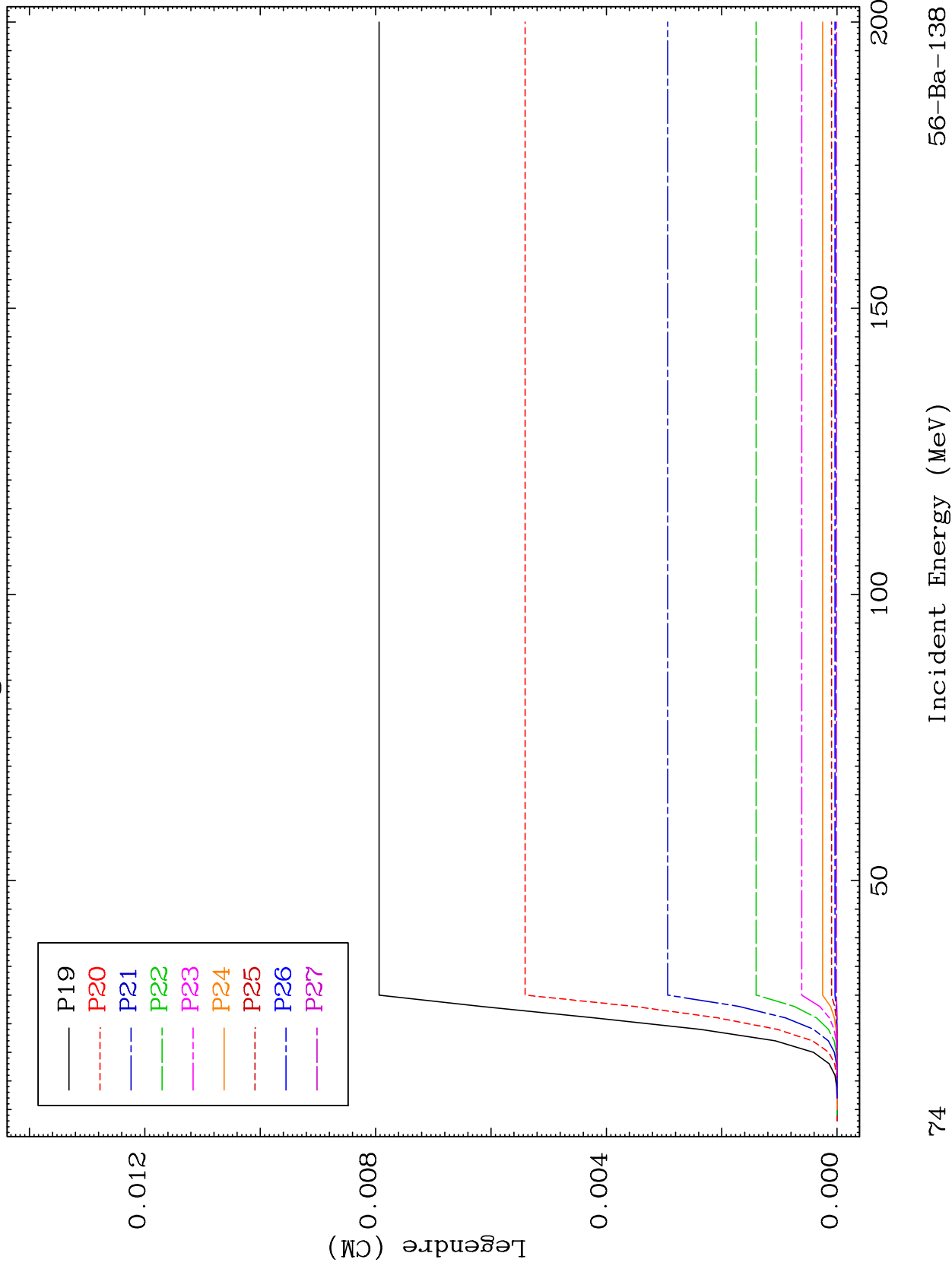
73

56-Ba-138

MAT 5649

MT= 65 (n,n') Level  
Legendre Coefficients

56-Ba-138



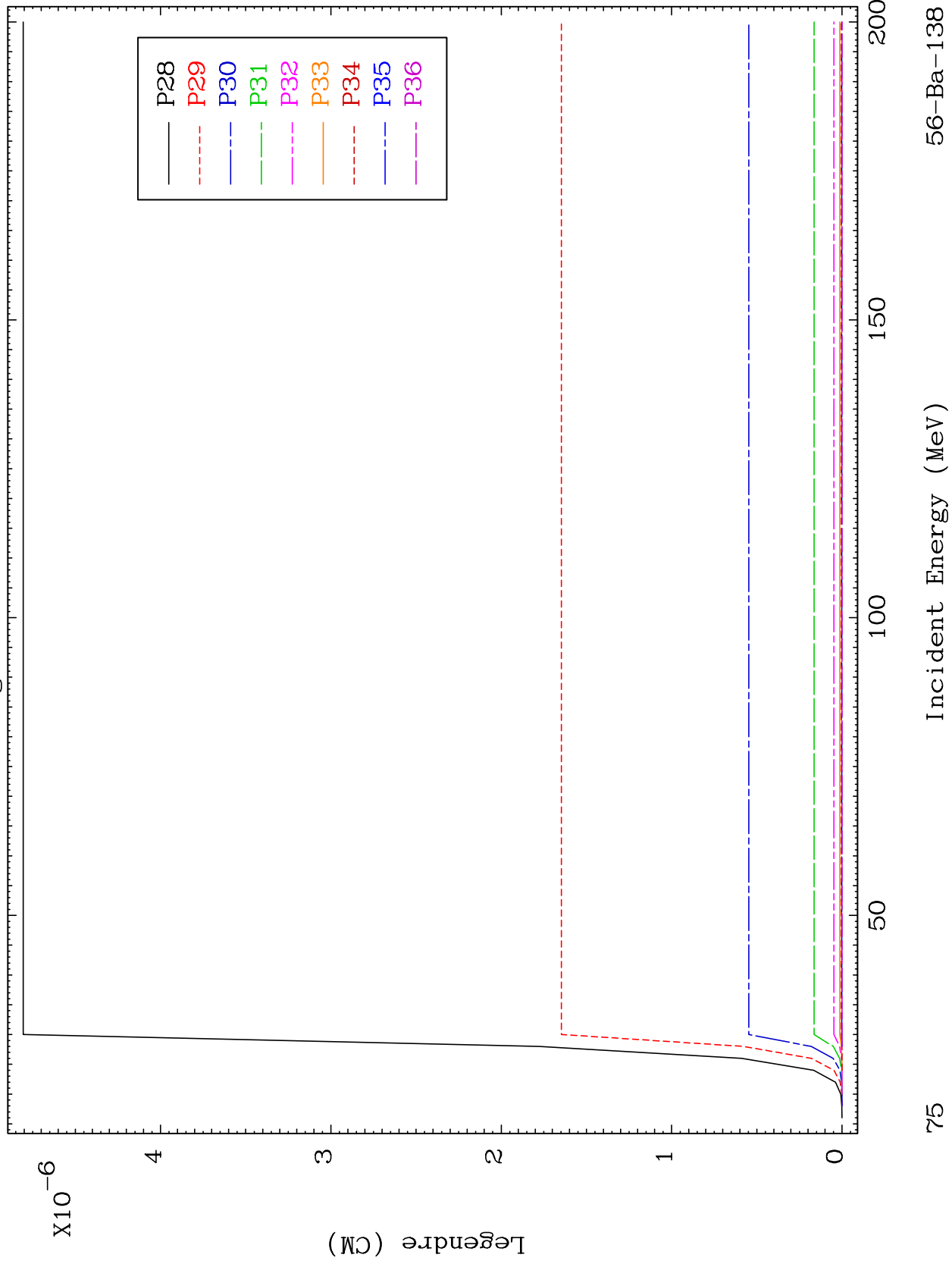
74

56-Ba-138

MAT 5649

MT= 65 (n,n') Level  
Legendre Coefficients

56-Ba-138



75

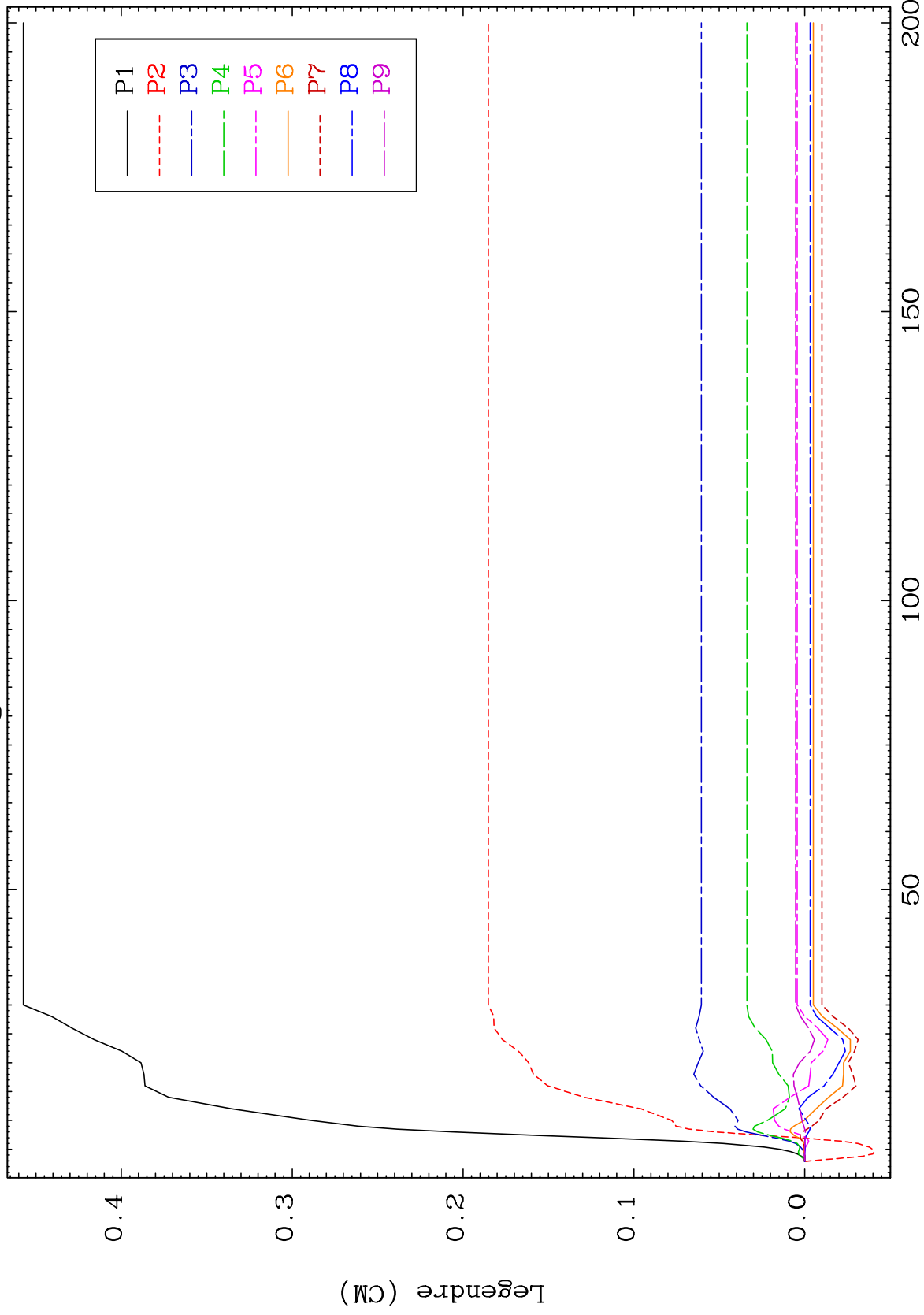
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 66 (n,n') Level  
Legendre Coefficients

56-Ba-138



76

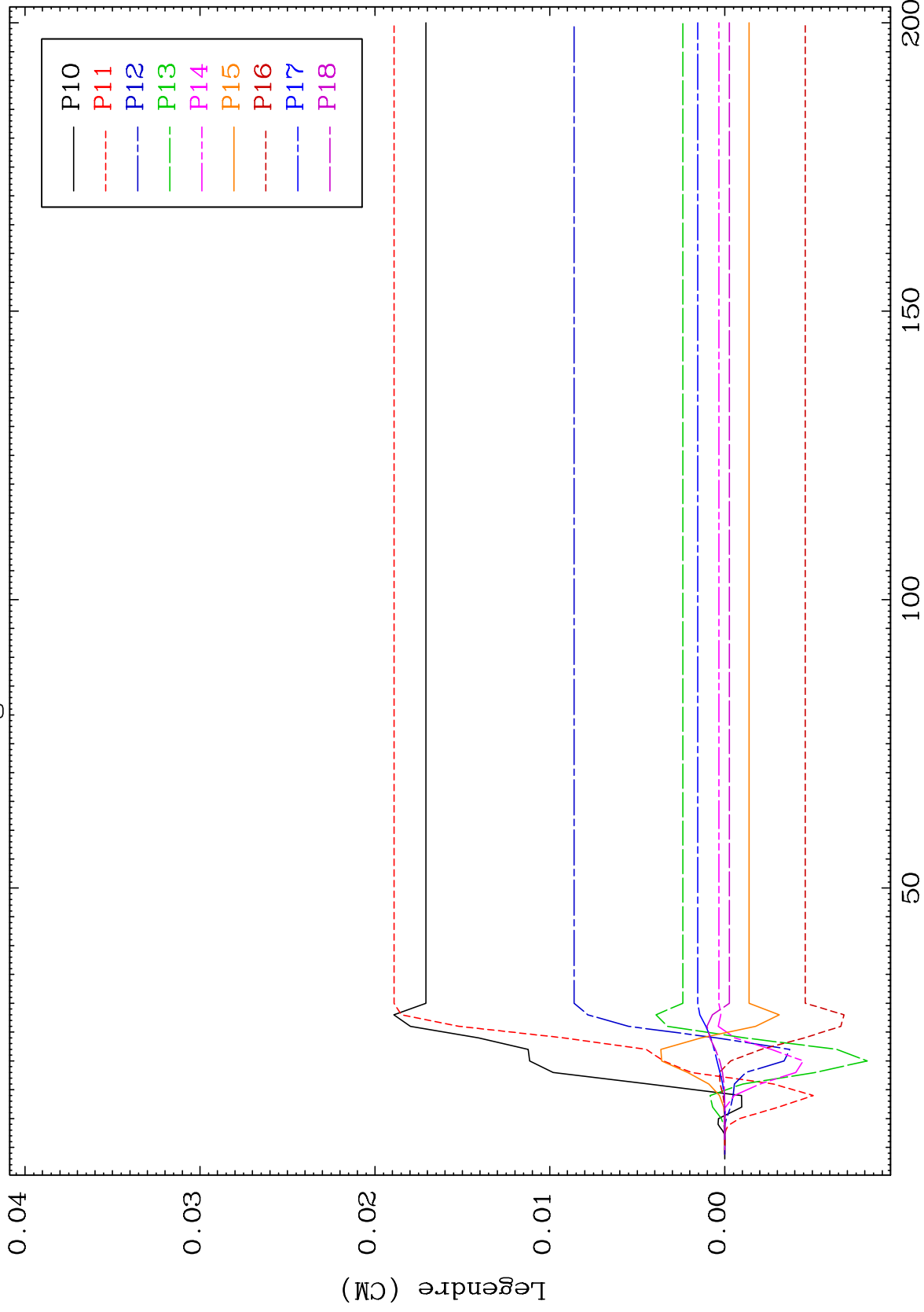
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 66 (n,n') Level  
Legendre Coefficients

56-Ba-138



77

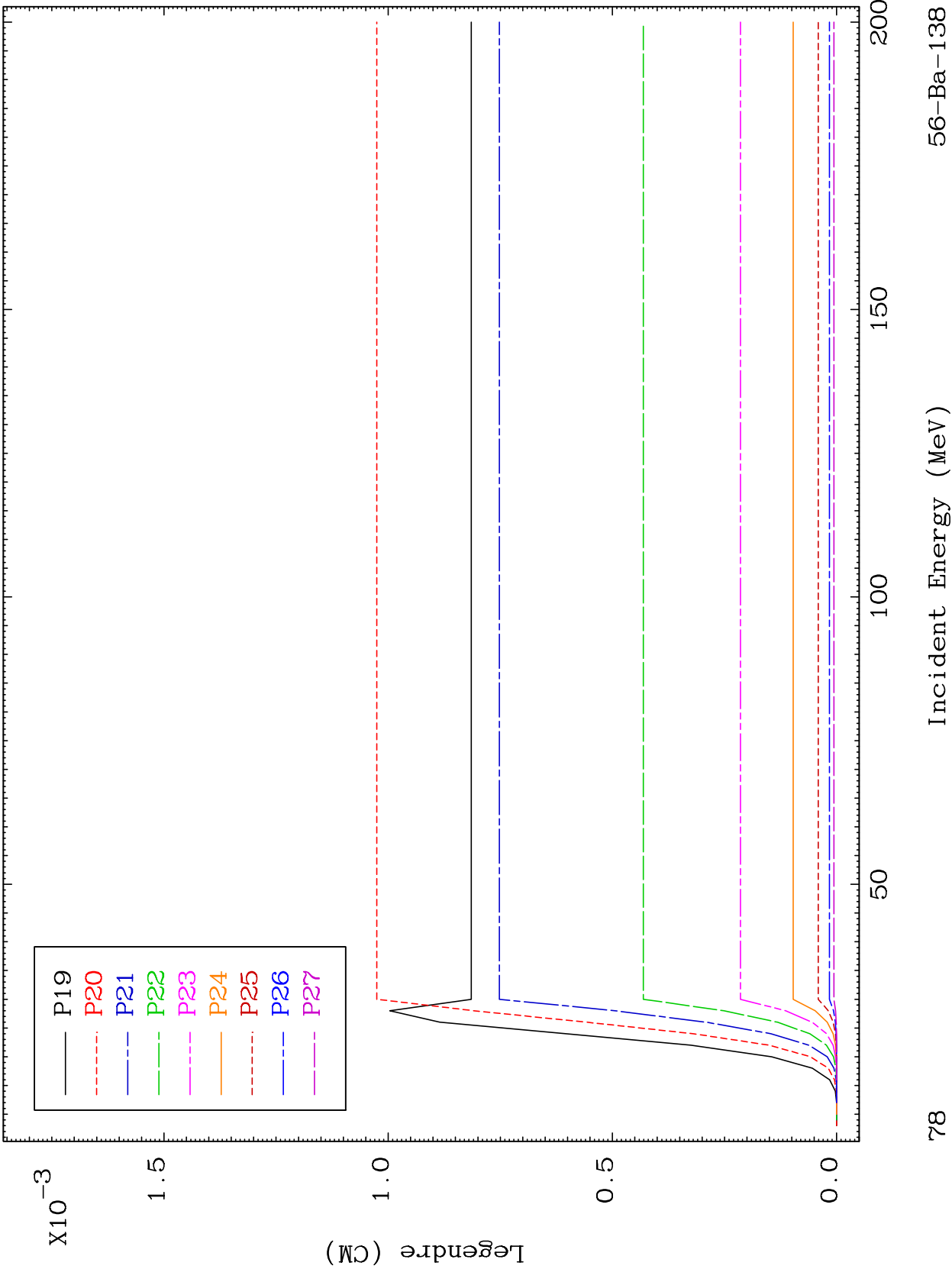
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 66 (n,n') Level  
Legendre Coefficients

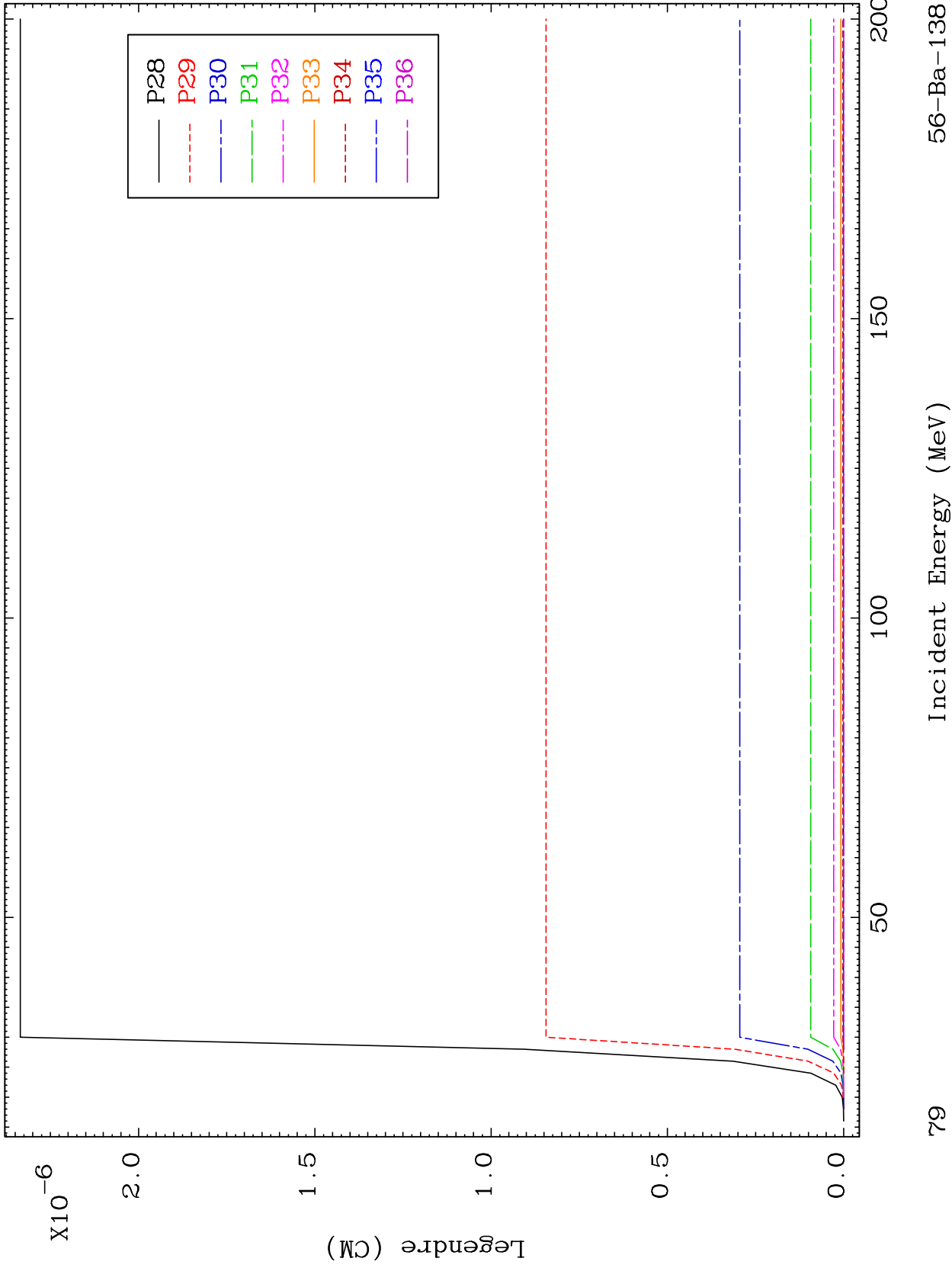
56-Ba-138



MAT 5649

MT= 66 (n,n') Level  
Legendre Coefficients

56-Ba-138

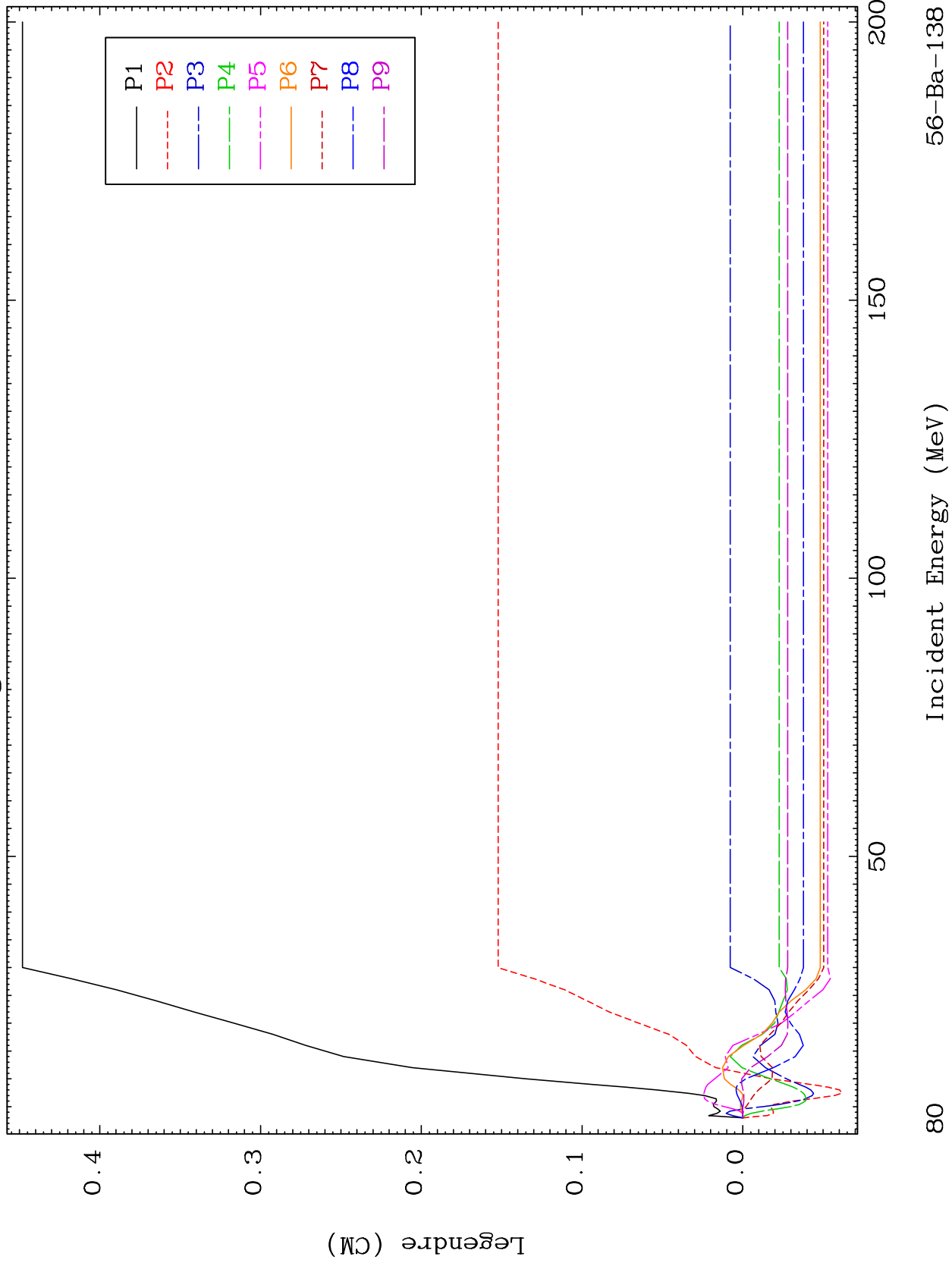




MAT 5649

MT= 67 (n,n') Level  
Legendre Coefficients

56-Ba-138



56-Ba-138

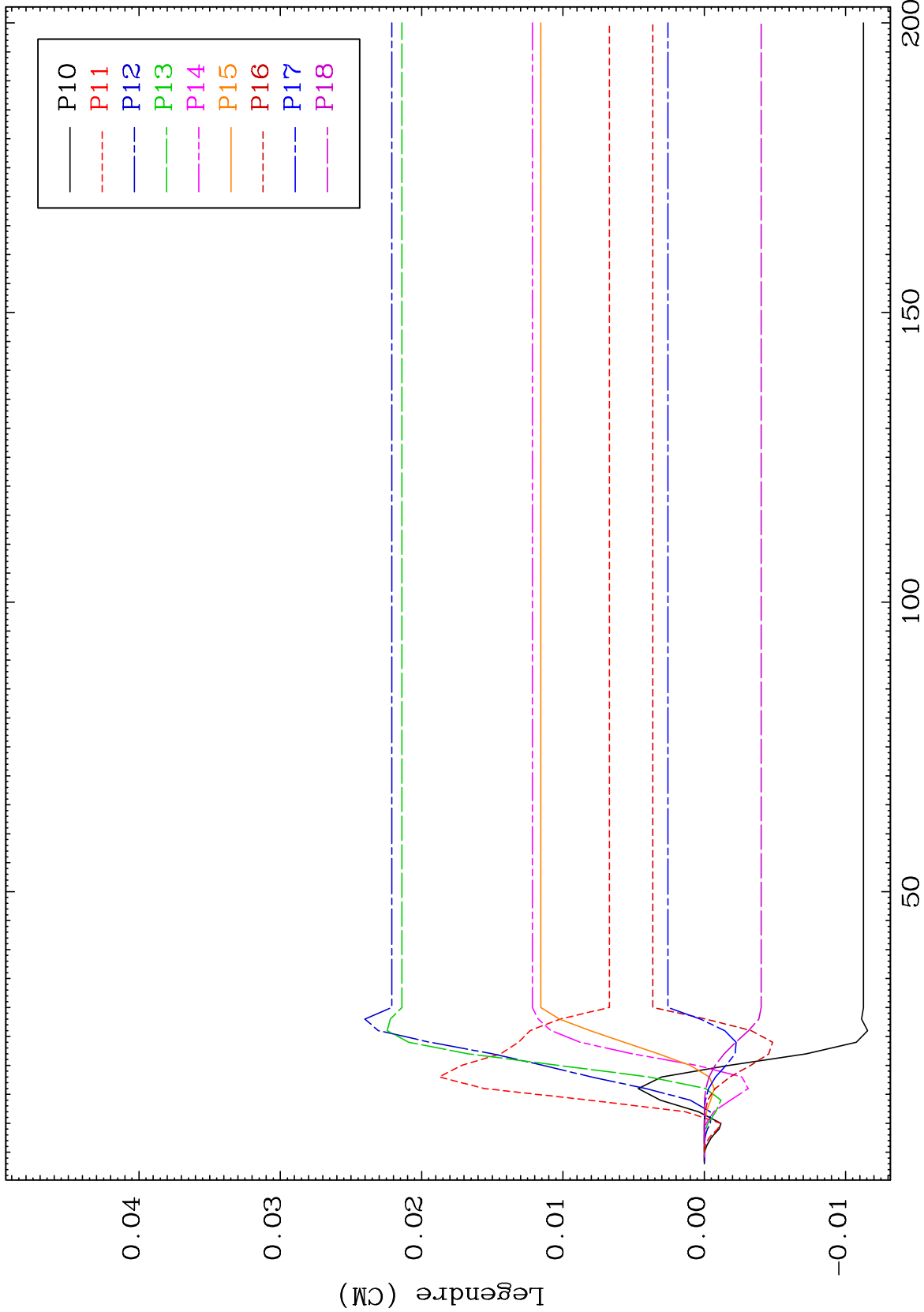
Incident Energy (MeV)

80

MAT 5649

MT= 67 (n,n') Level  
Legendre Coefficients

56-Ba-138



81

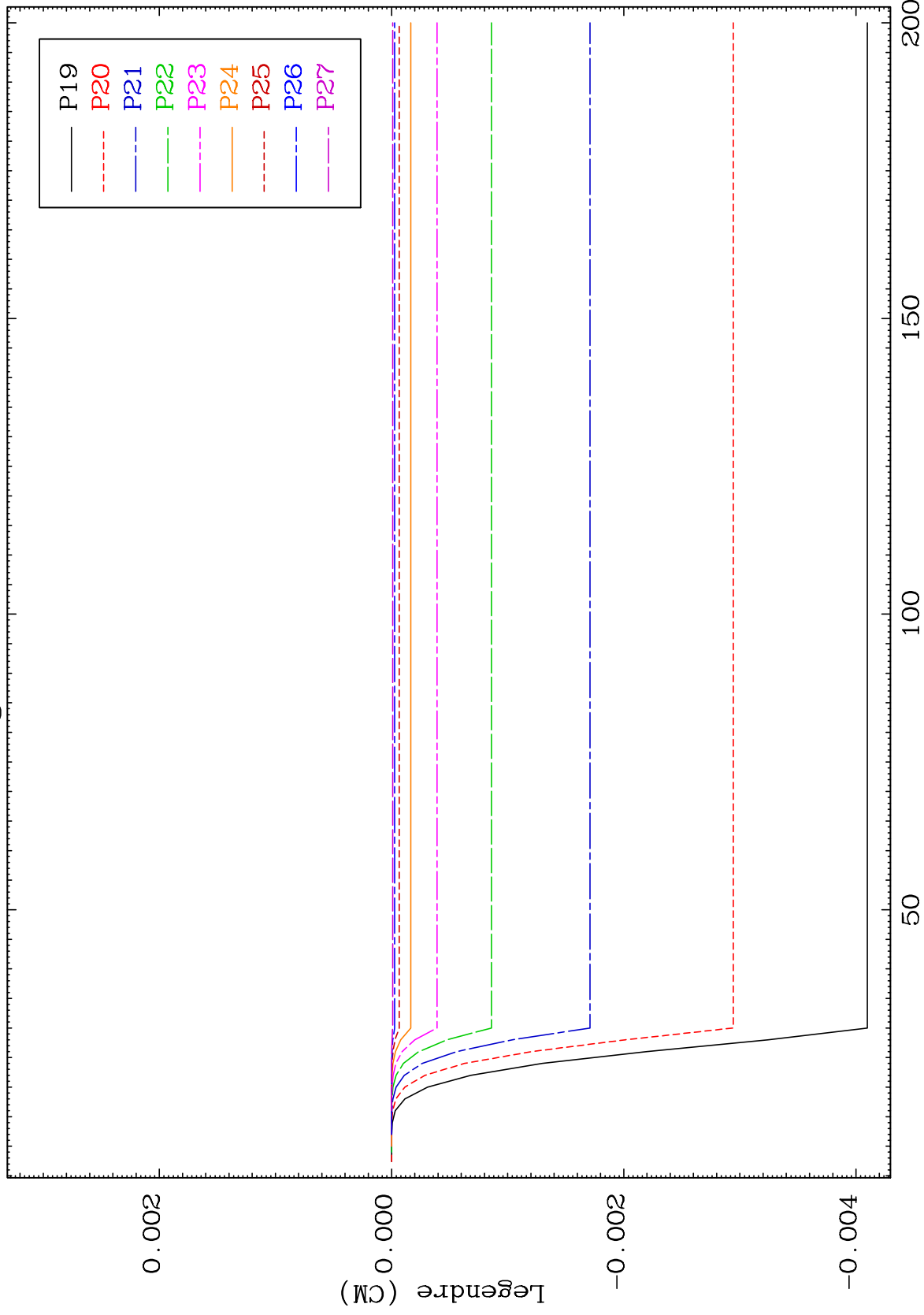
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 67 (n,n') Level  
Legendre Coefficients

56-Ba-138



82

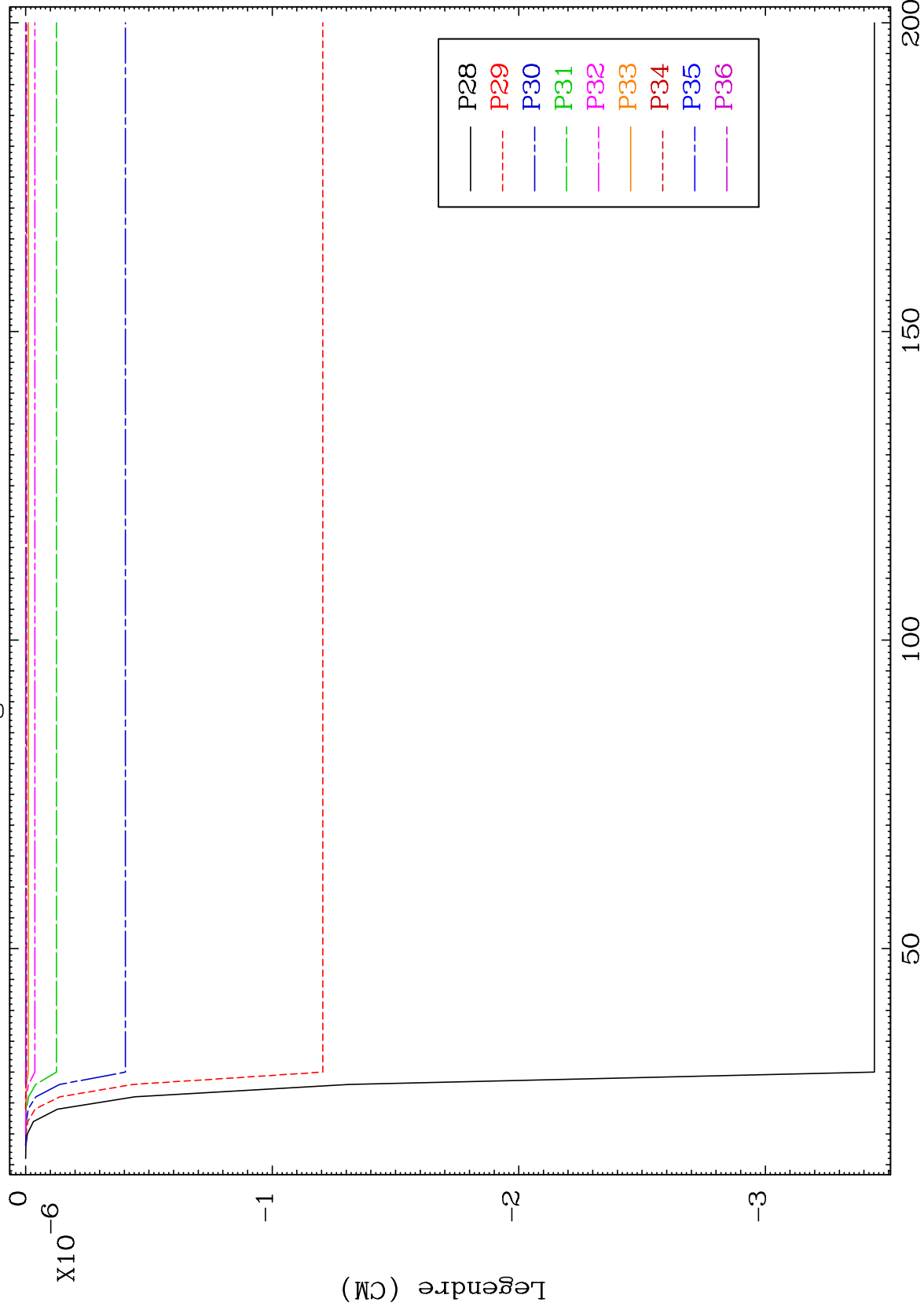
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 67 (n,n') Level  
Legendre Coefficients

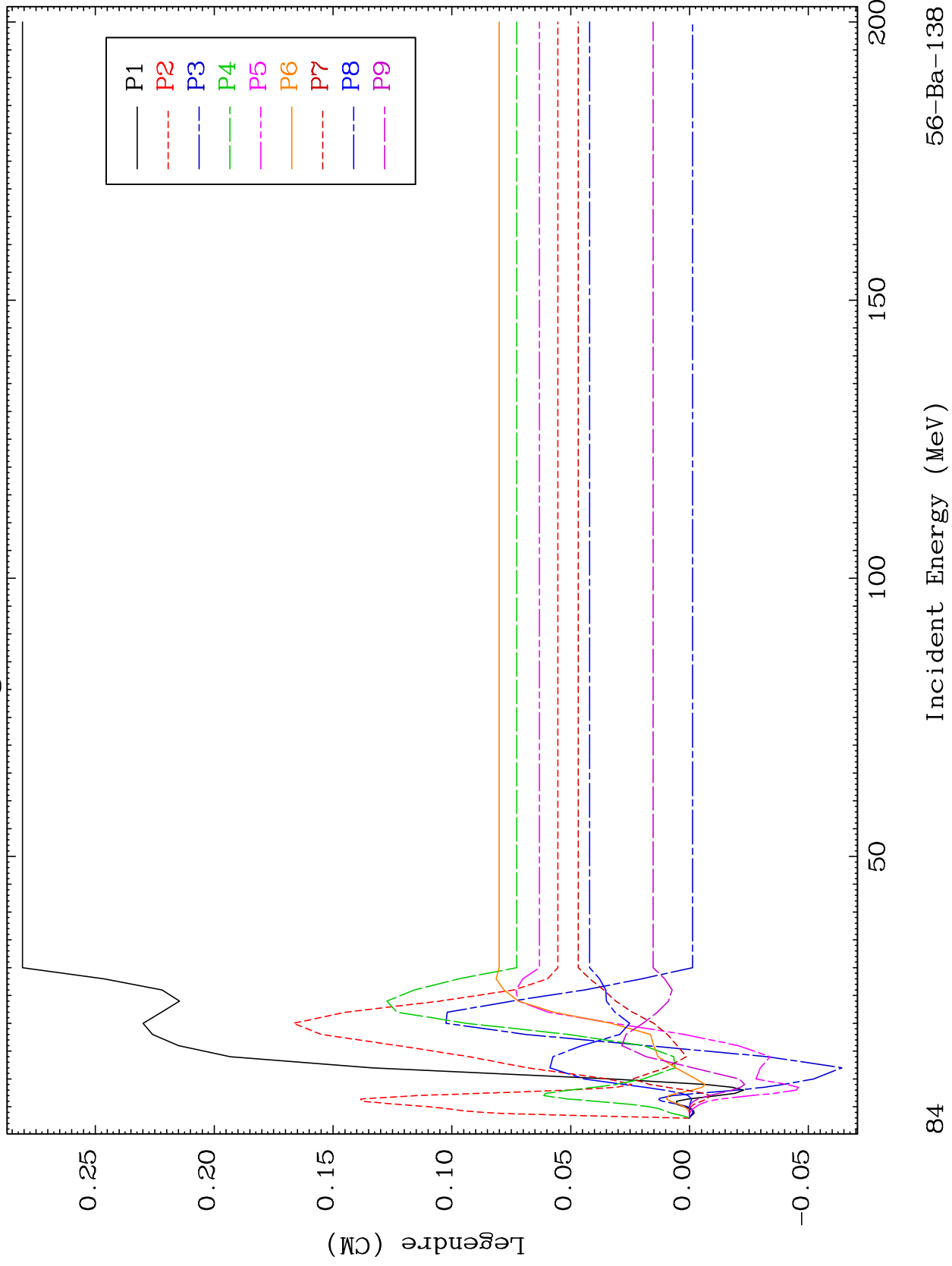
56-Ba-138



MAT 5649

MT= 68 (n,n') Level  
Legendre Coefficients

56-Ba-138



84

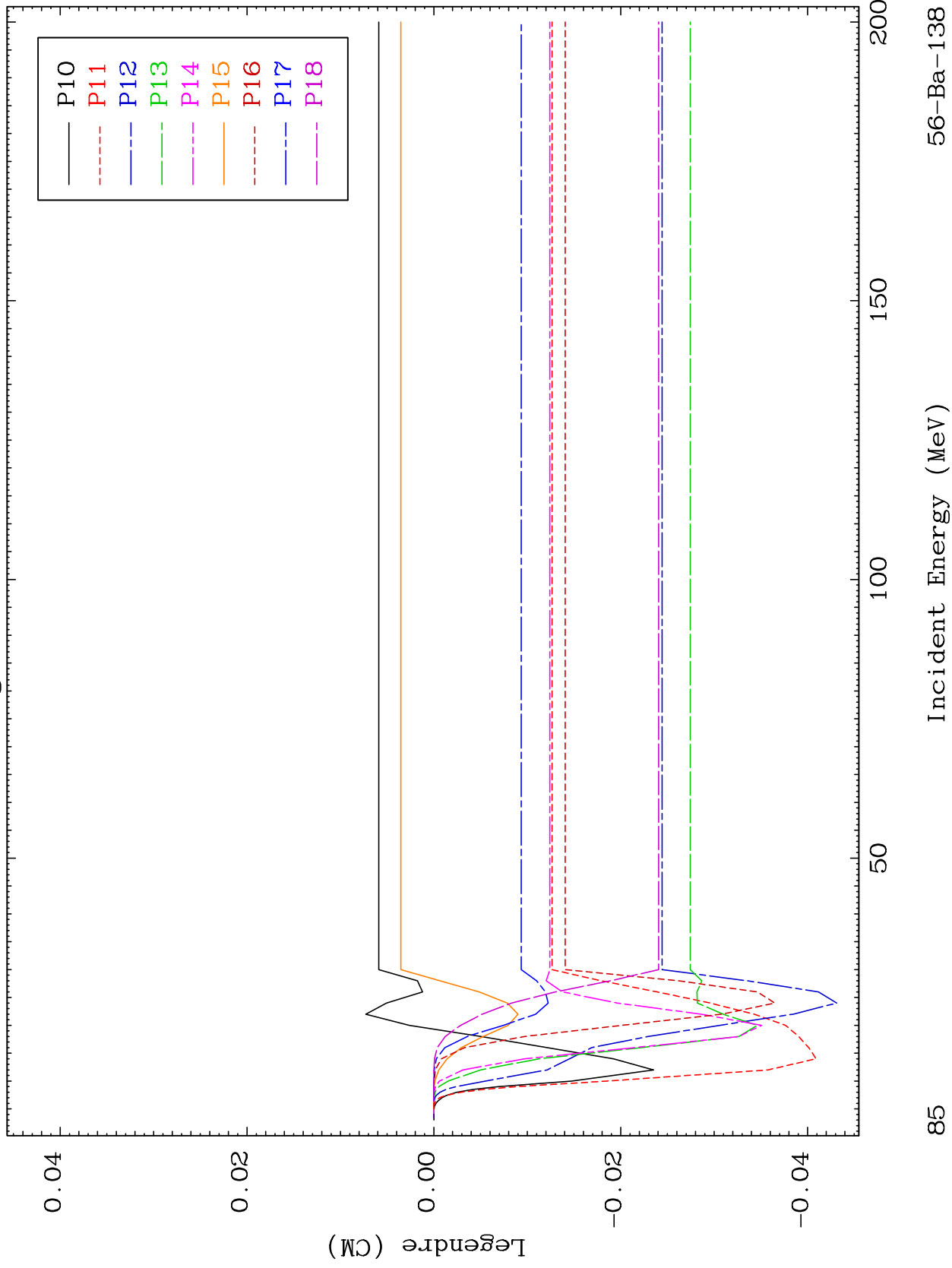
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 68 (n,n') Level  
Legendre Coefficients

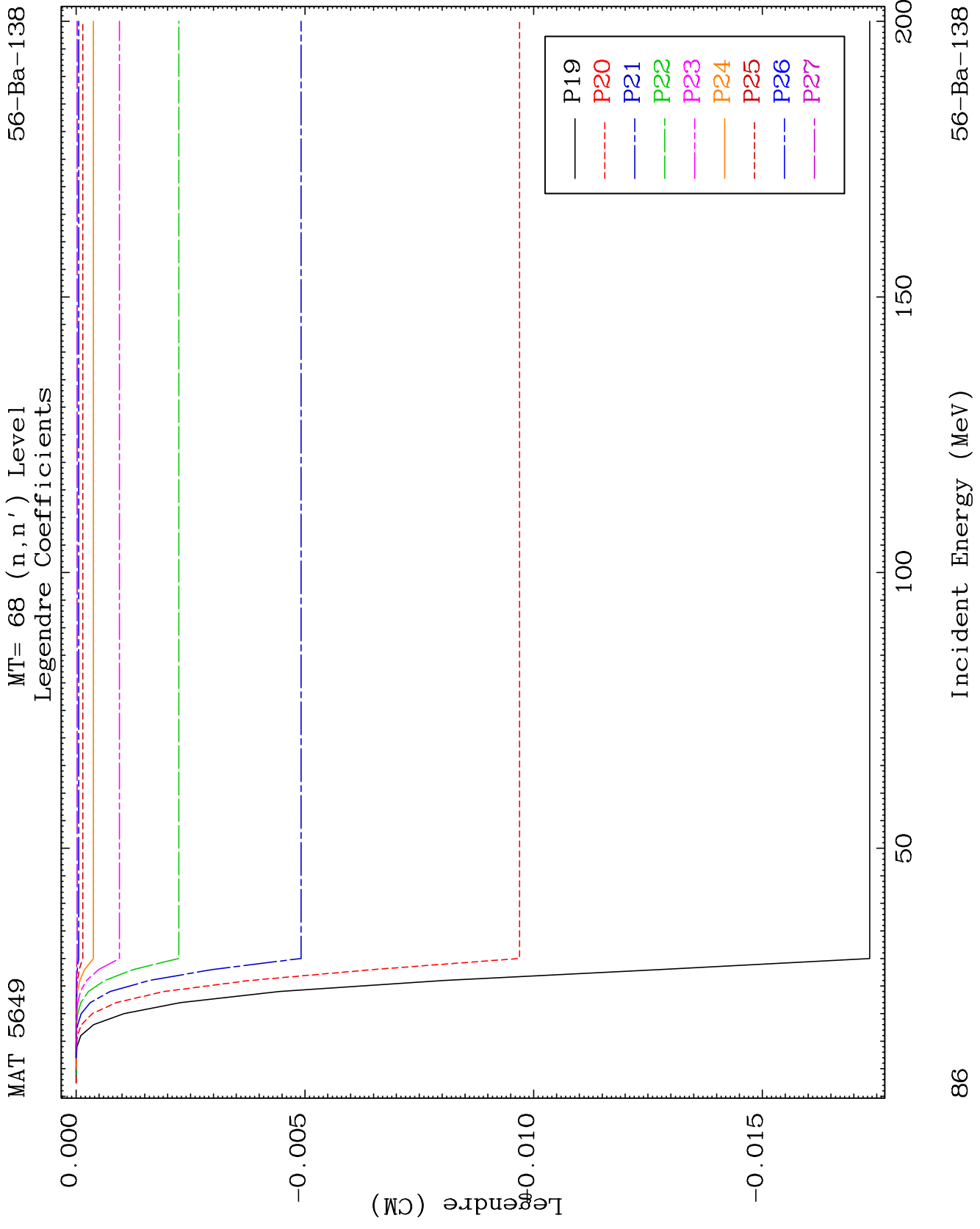
56-Ba-138

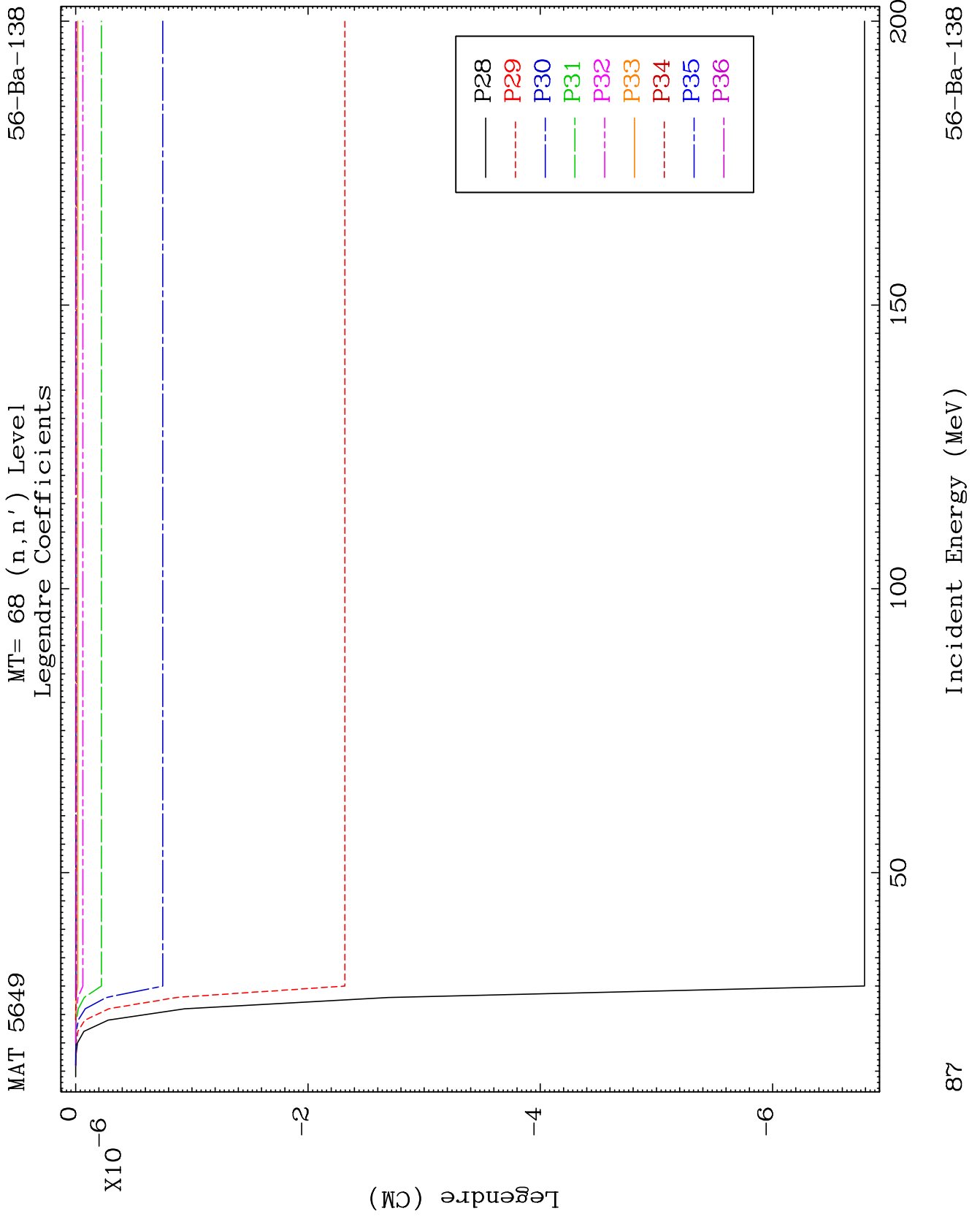


85

Incident Energy (MeV)

56-Ba-138



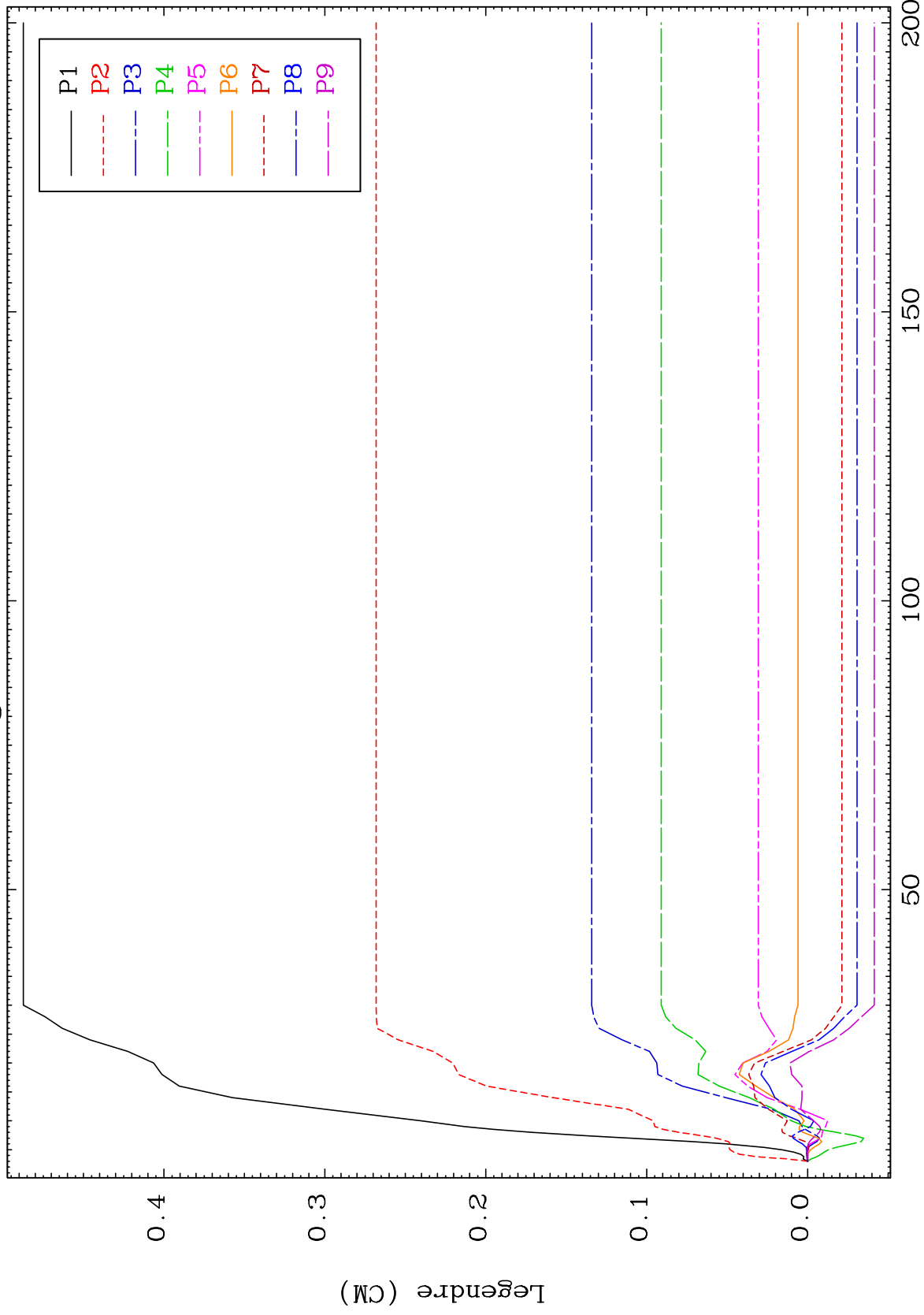




MAT 5649

MT= 69 (n,n') Level  
Legendre Coefficients

56-Ba-138



88

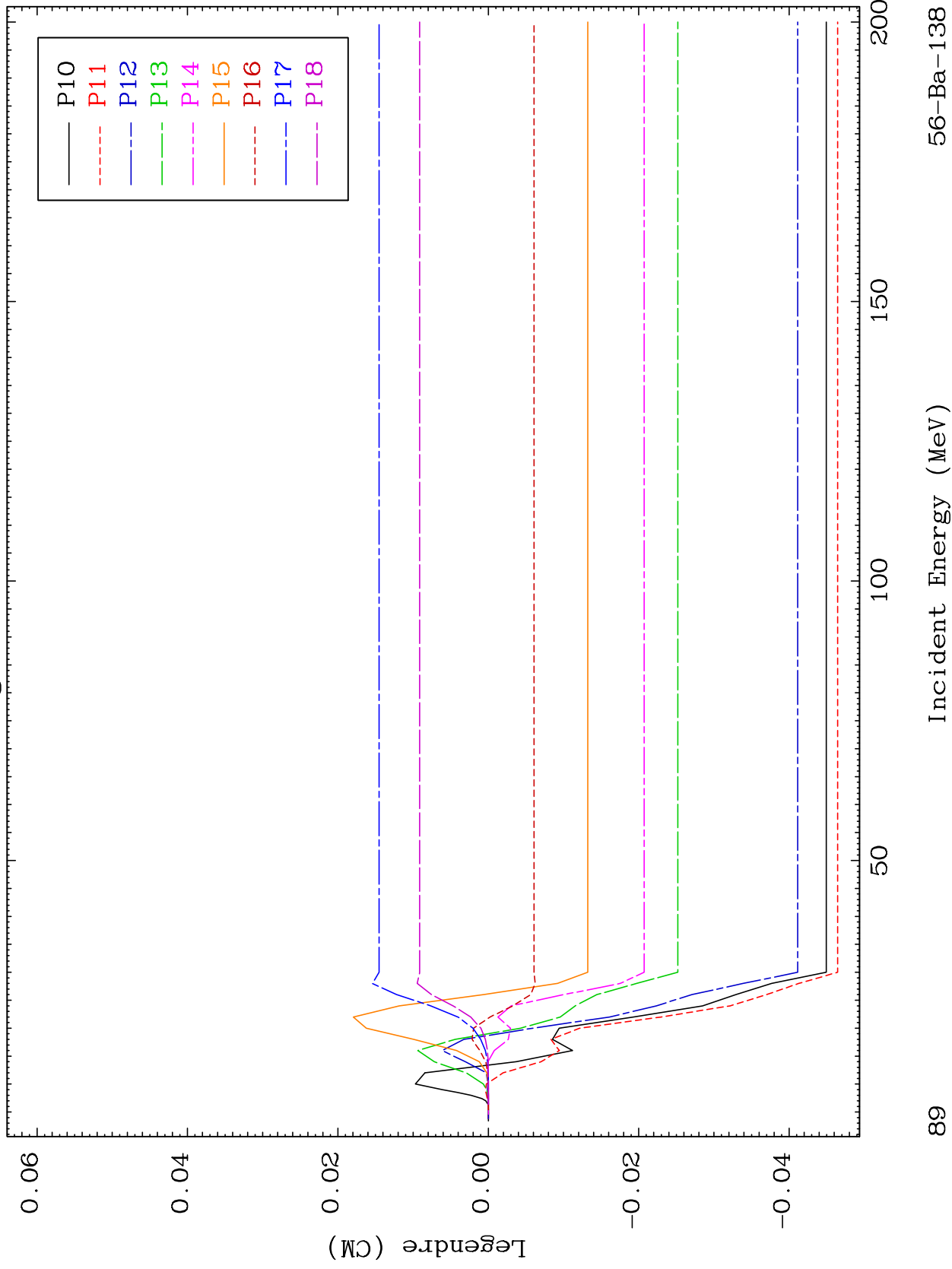
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 69 (n,n') Level  
Legendre Coefficients

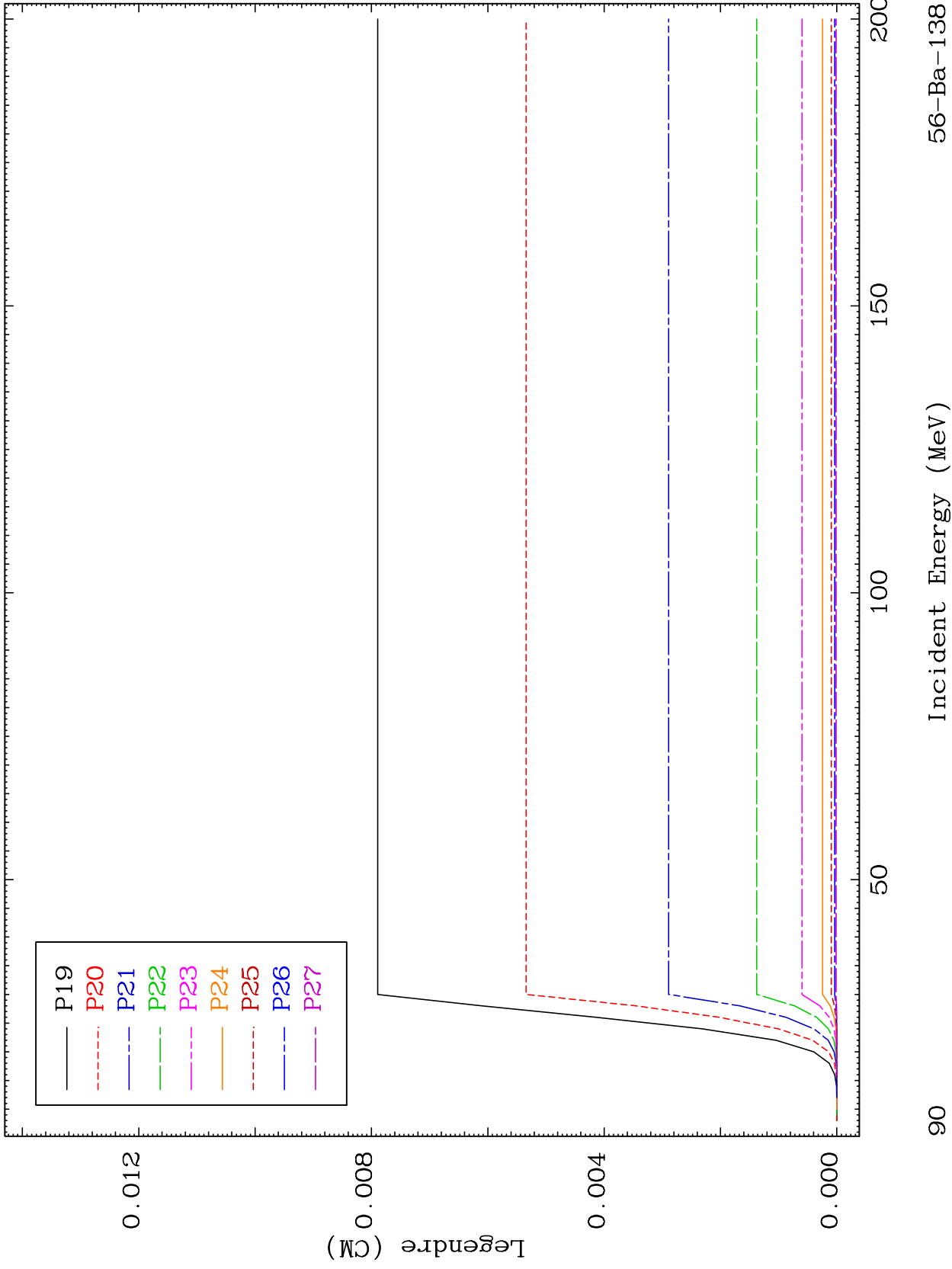
56-Ba-138



MAT 5649

MT= 69 (n,n') Level  
Legendre Coefficients

56-Ba-138



90

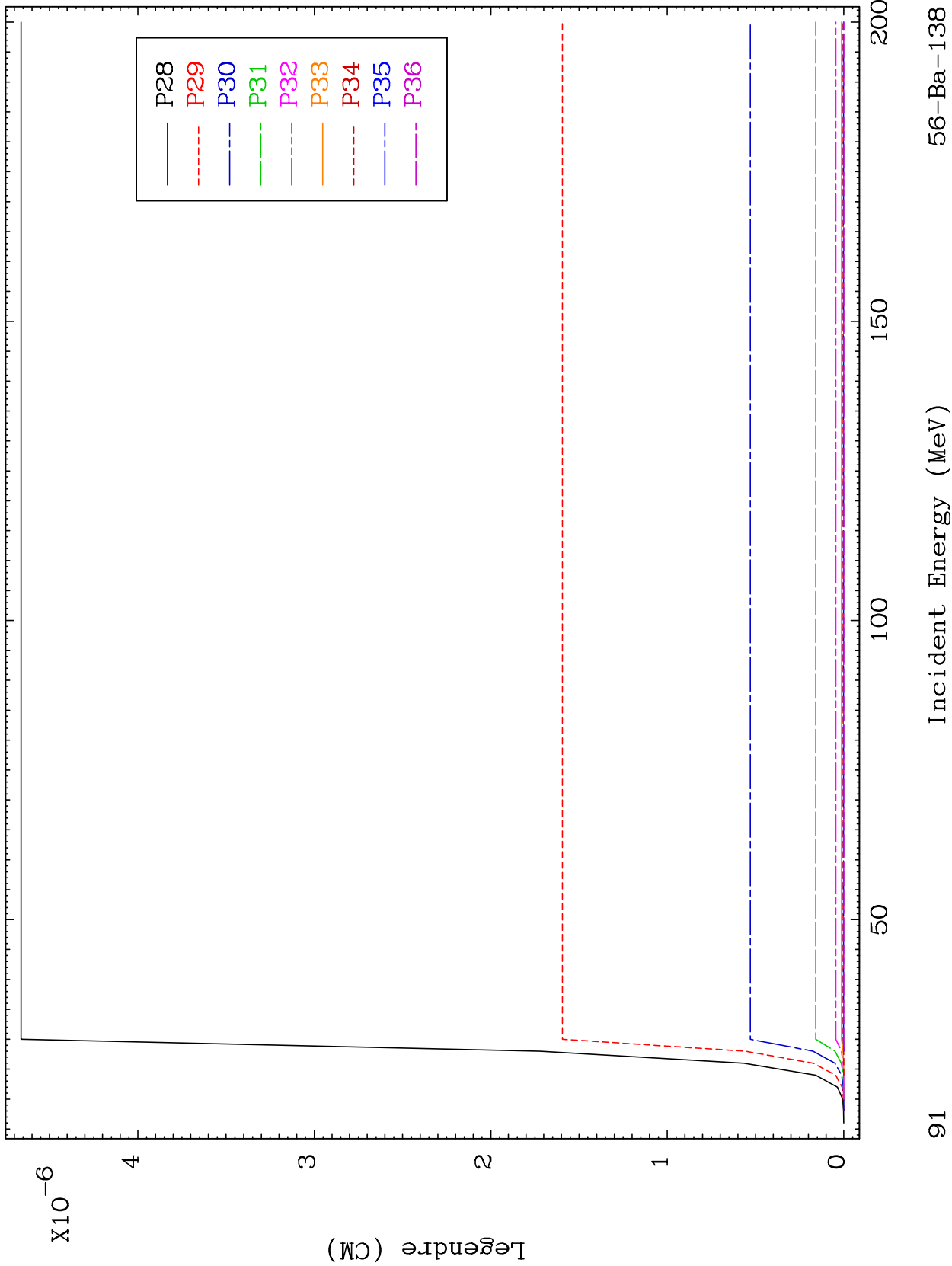
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 69 (n,n') Level  
Legendre Coefficients

56-Ba-138

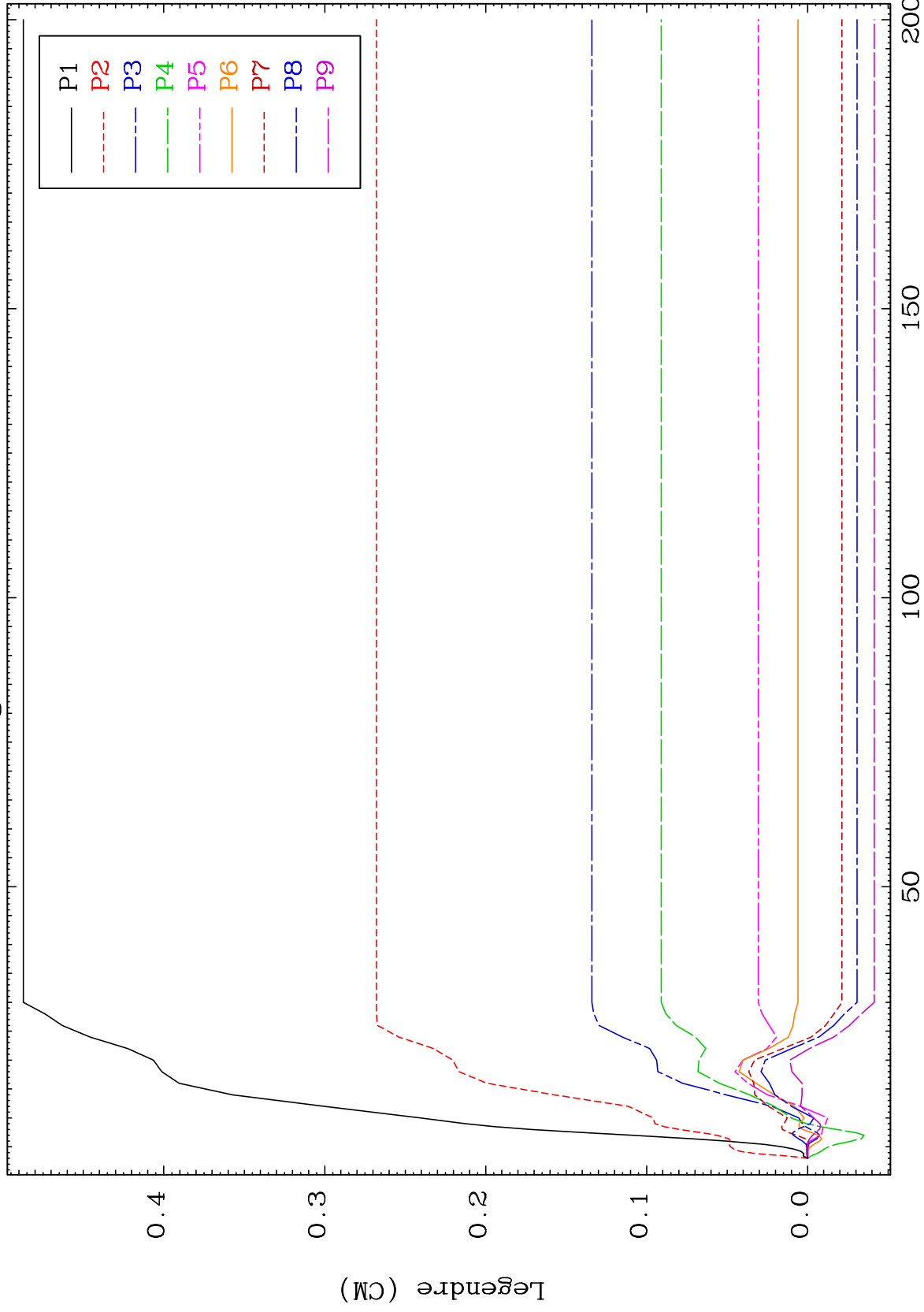


91

MAT 5649

MT= 70 (n,n') Level  
Legendre Coefficients

56-Ba-138



92

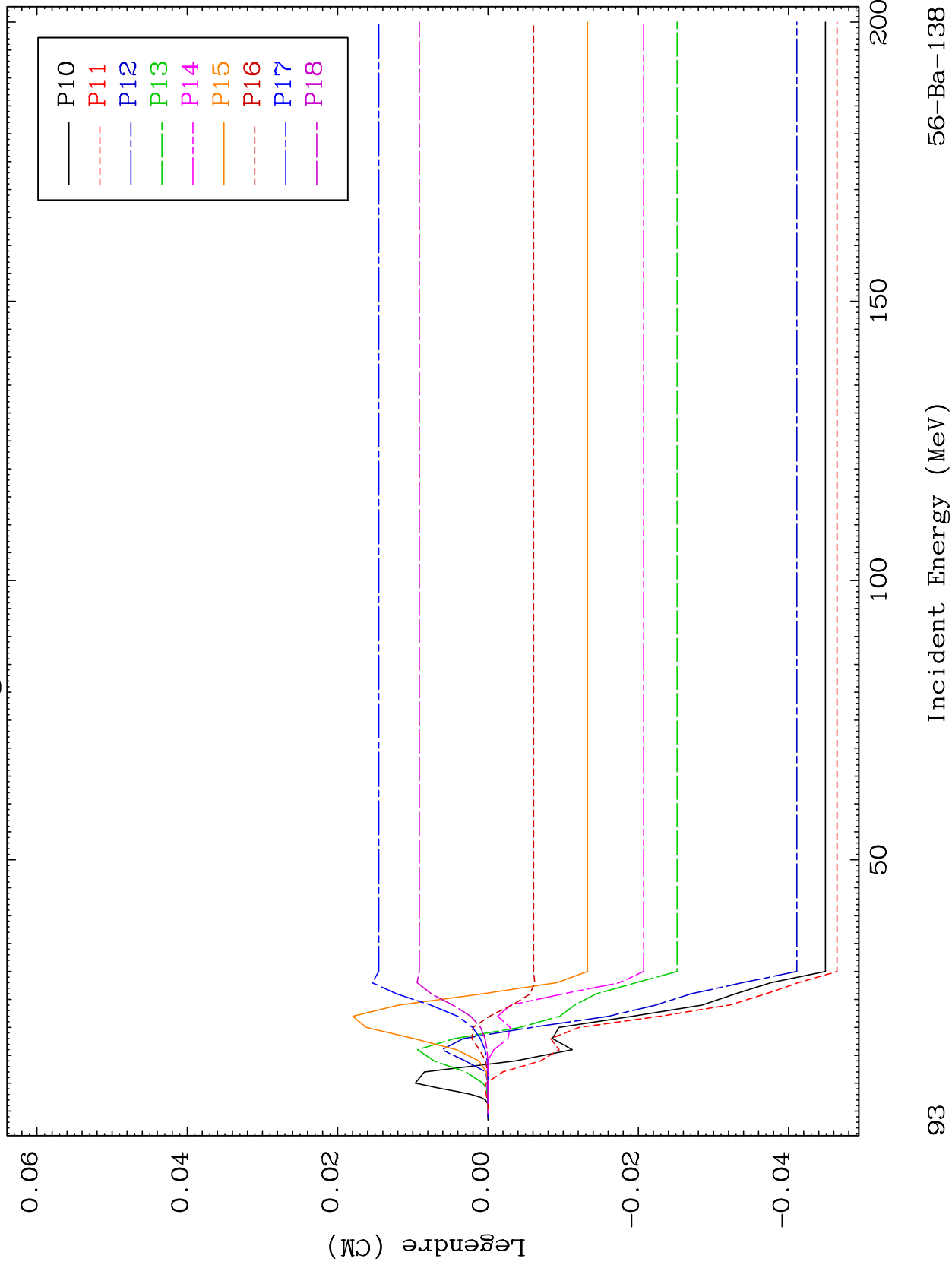
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 70 (n,n') Level  
Legendre Coefficients

56-Ba-138



93

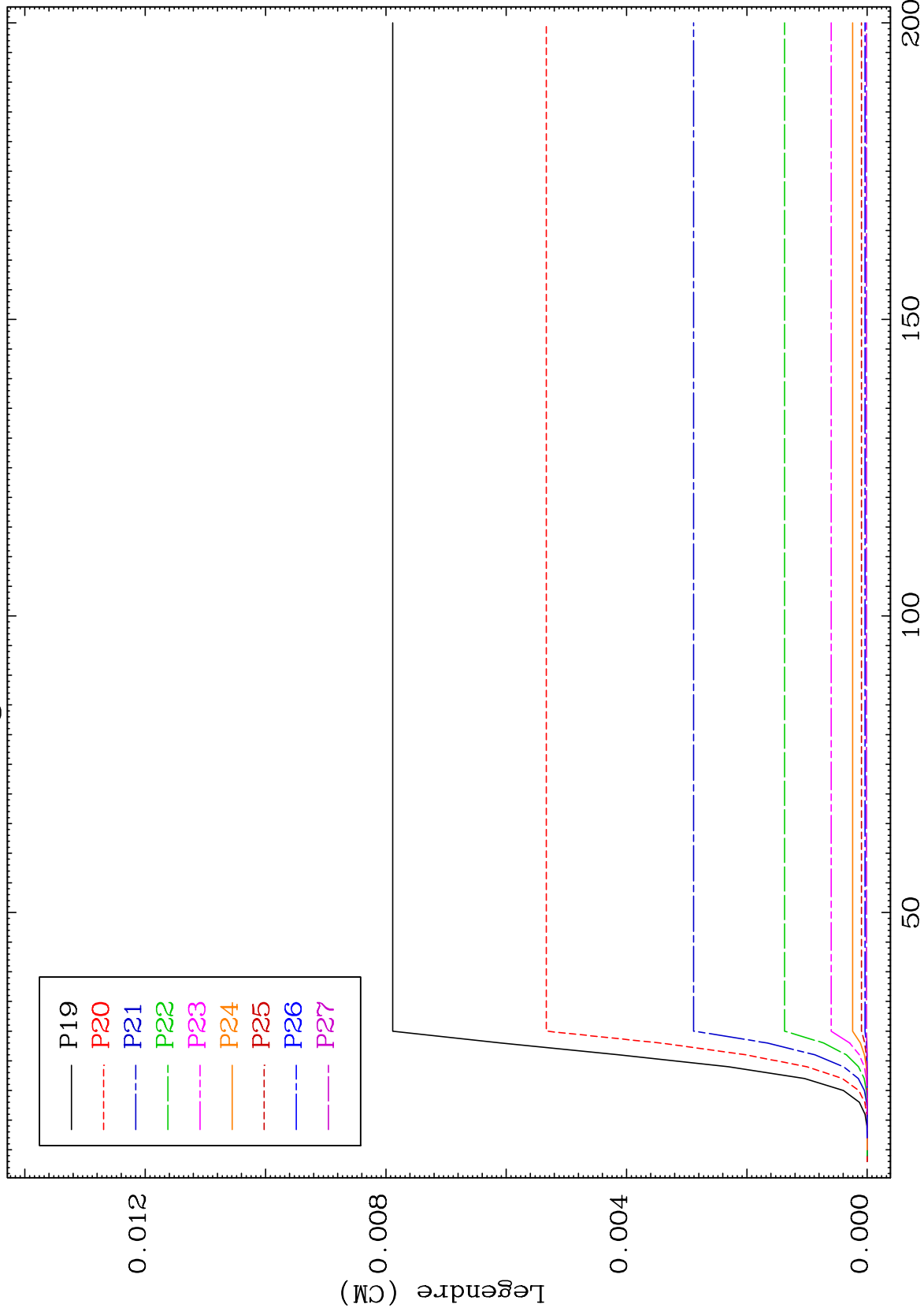
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 70 (n,n') Level  
Legendre Coefficients

56-Ba-138



94

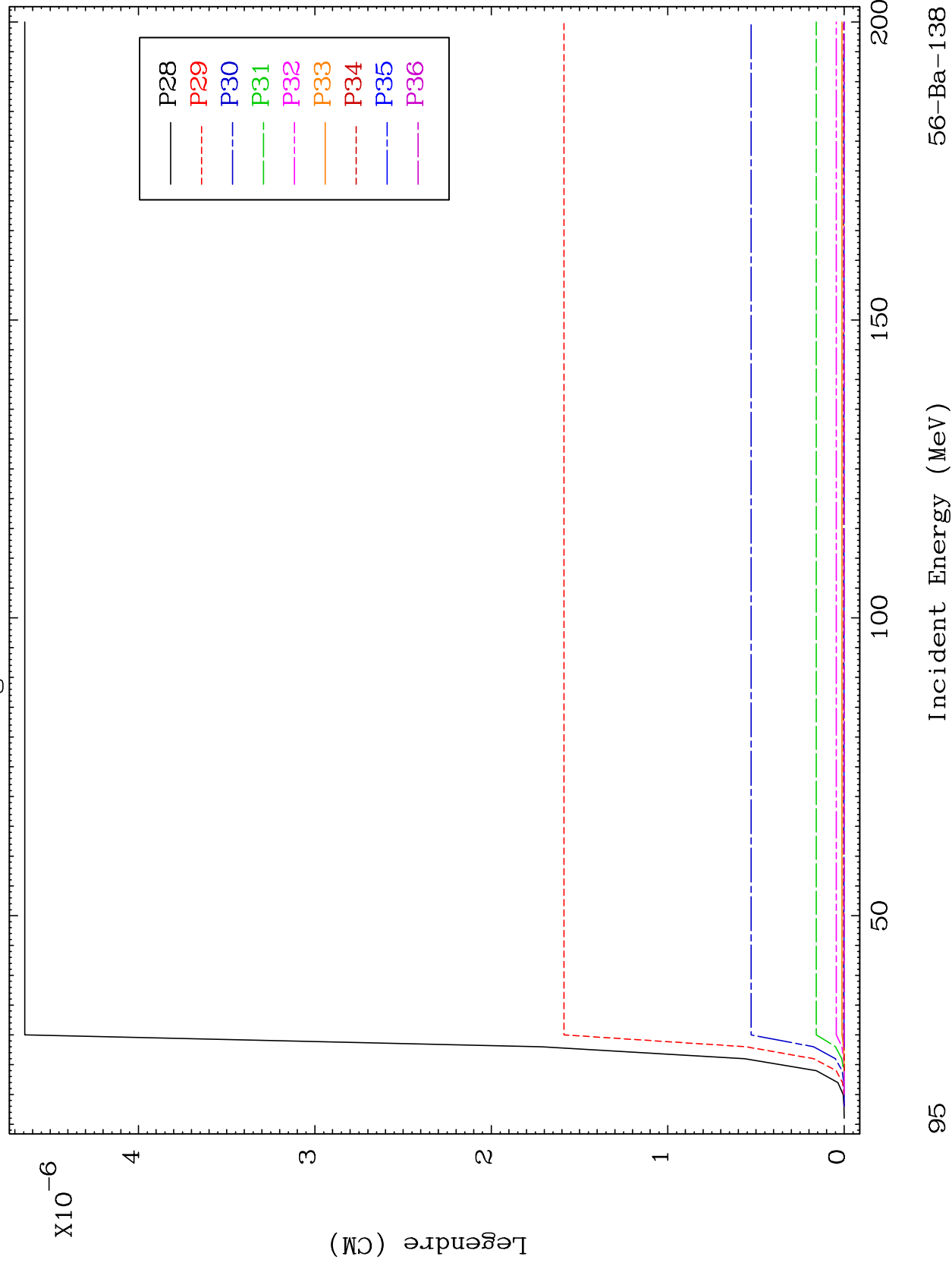
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 70 (n,n') Level  
Legendre Coefficients

56-Ba-138



95

Incident Energy (MeV)

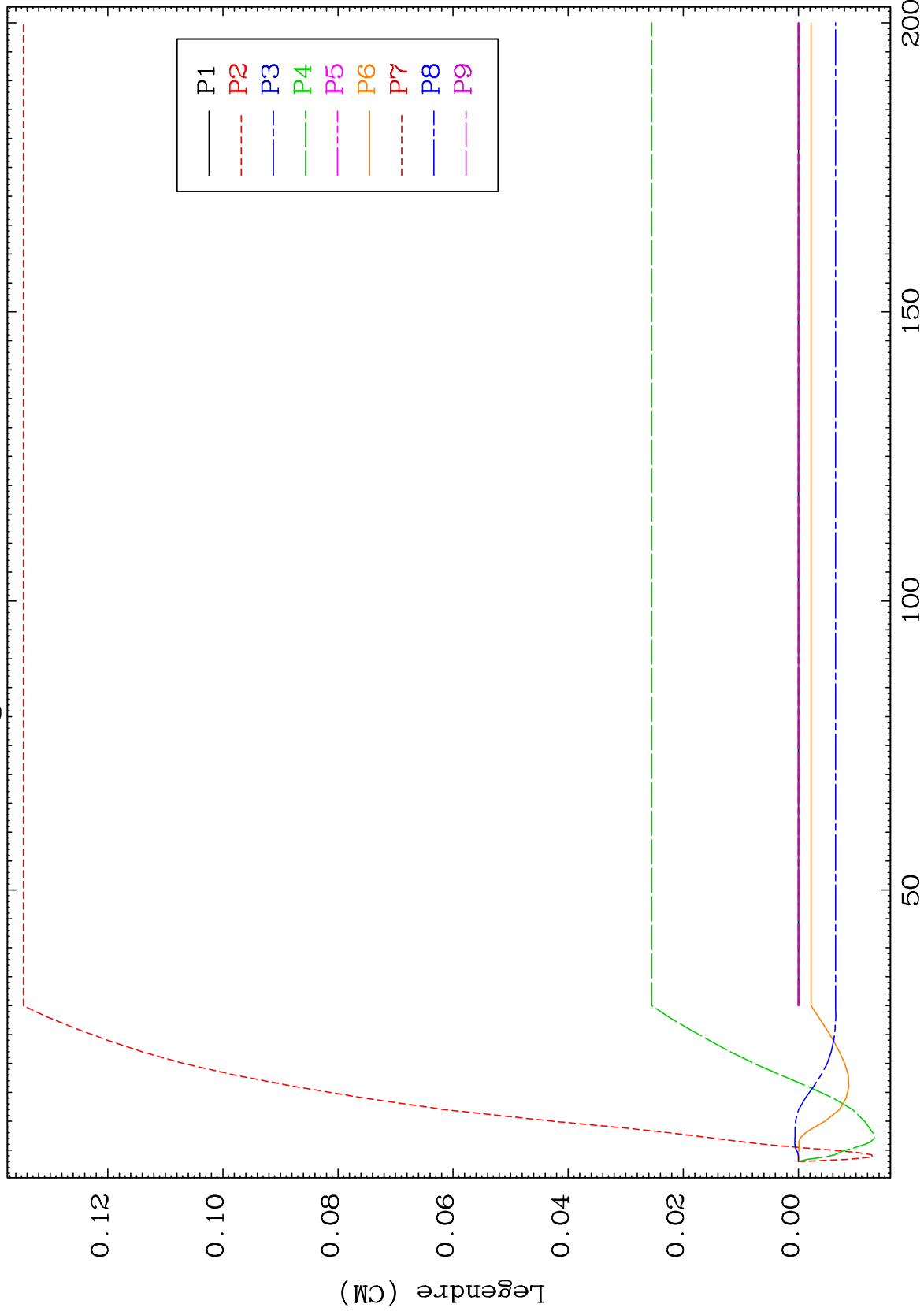
56-Ba-138



MAT 5649

MT= 71 (n,n') Level  
Legendre Coefficients

56-Ba-138



96

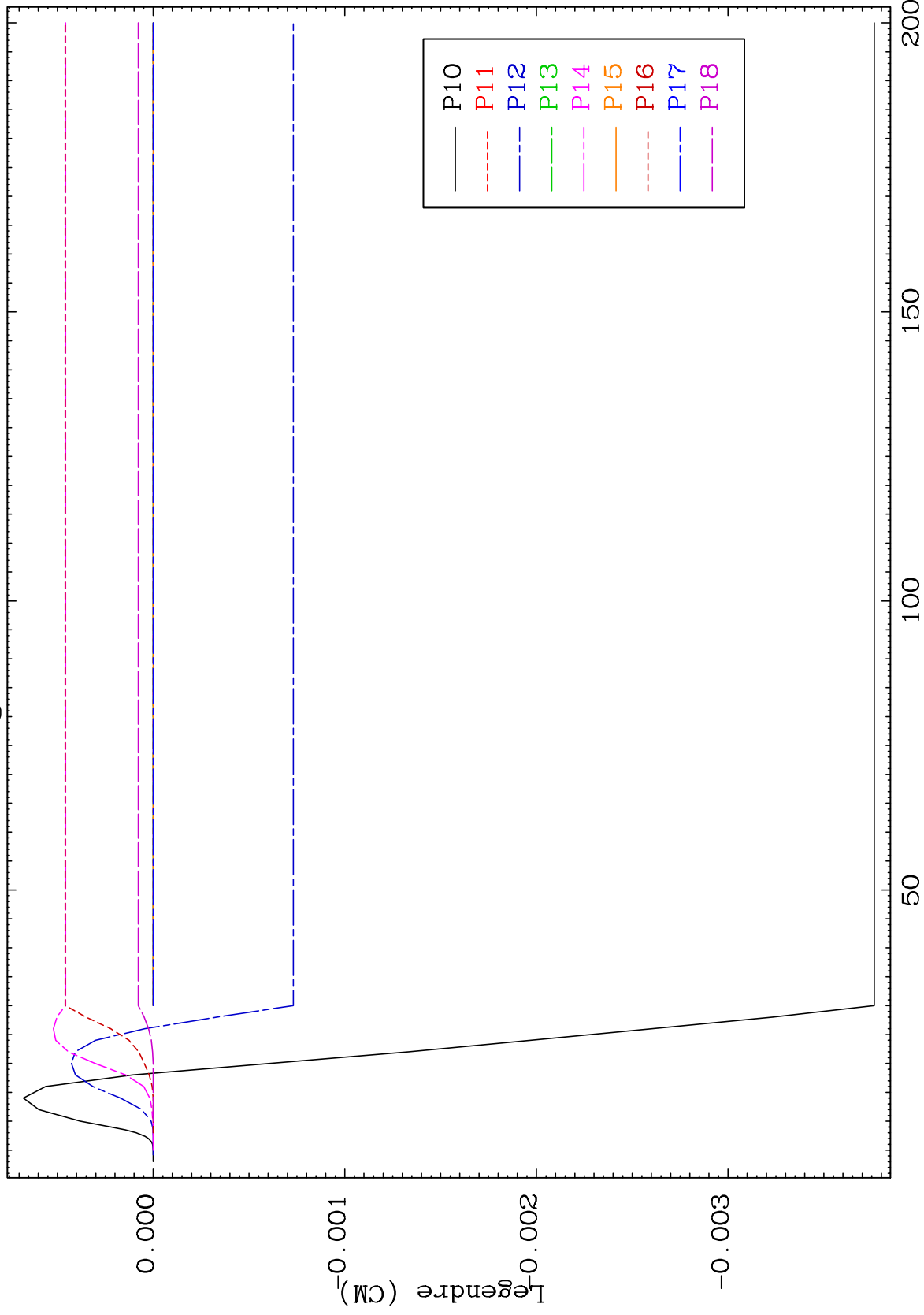
Incident Energy (MeV)

56-Ba-138

MAT 5649

MT= 71 (n,n') Level  
Legendre Coefficients

56-Ba-138



97

Incident Energy (MeV)

56-Ba-138

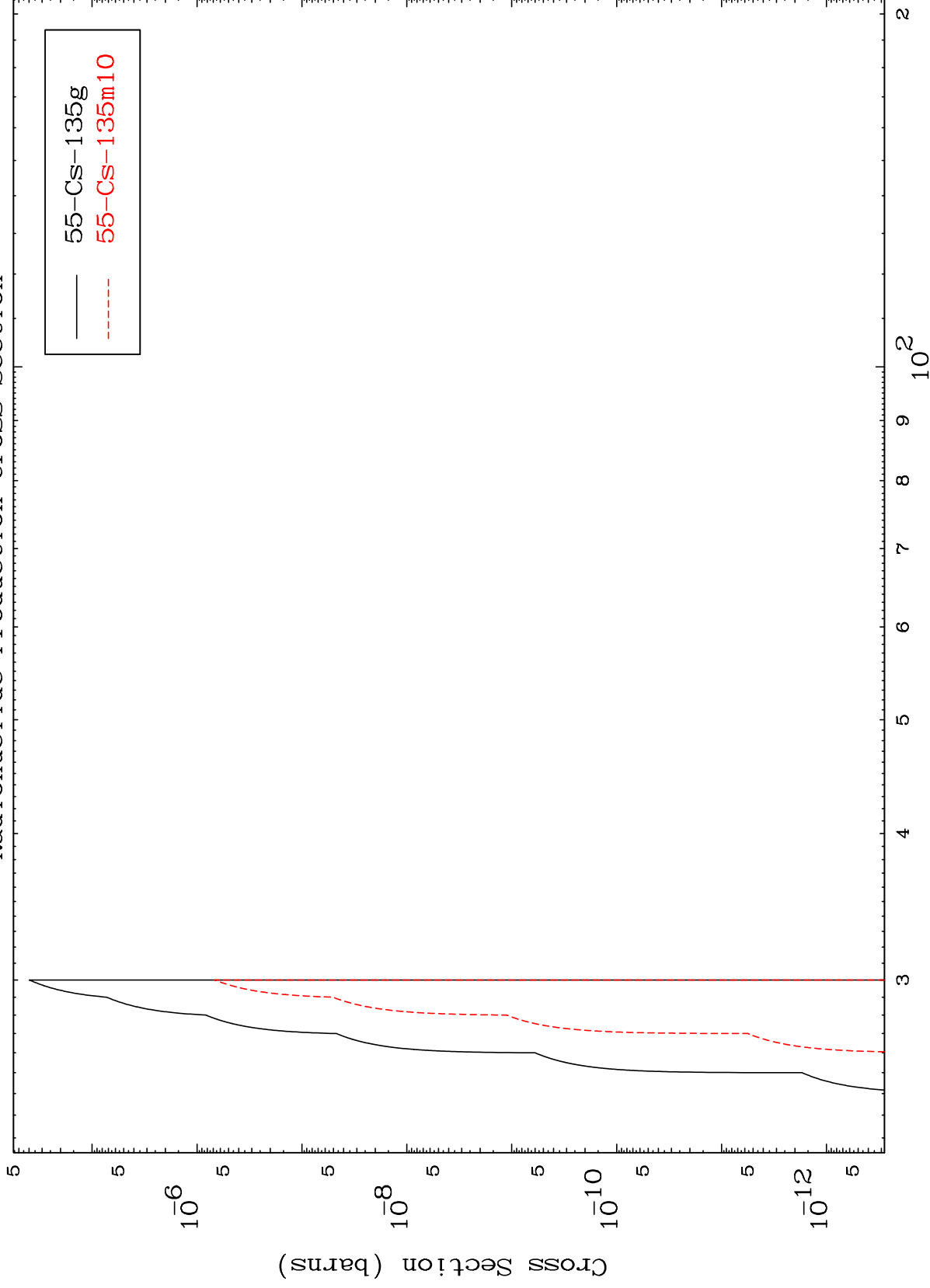


MAT 5649

(n,2n) d

56-Ba-138

Radionuclide Production Cross Section



99

Incident Energy (MeV)

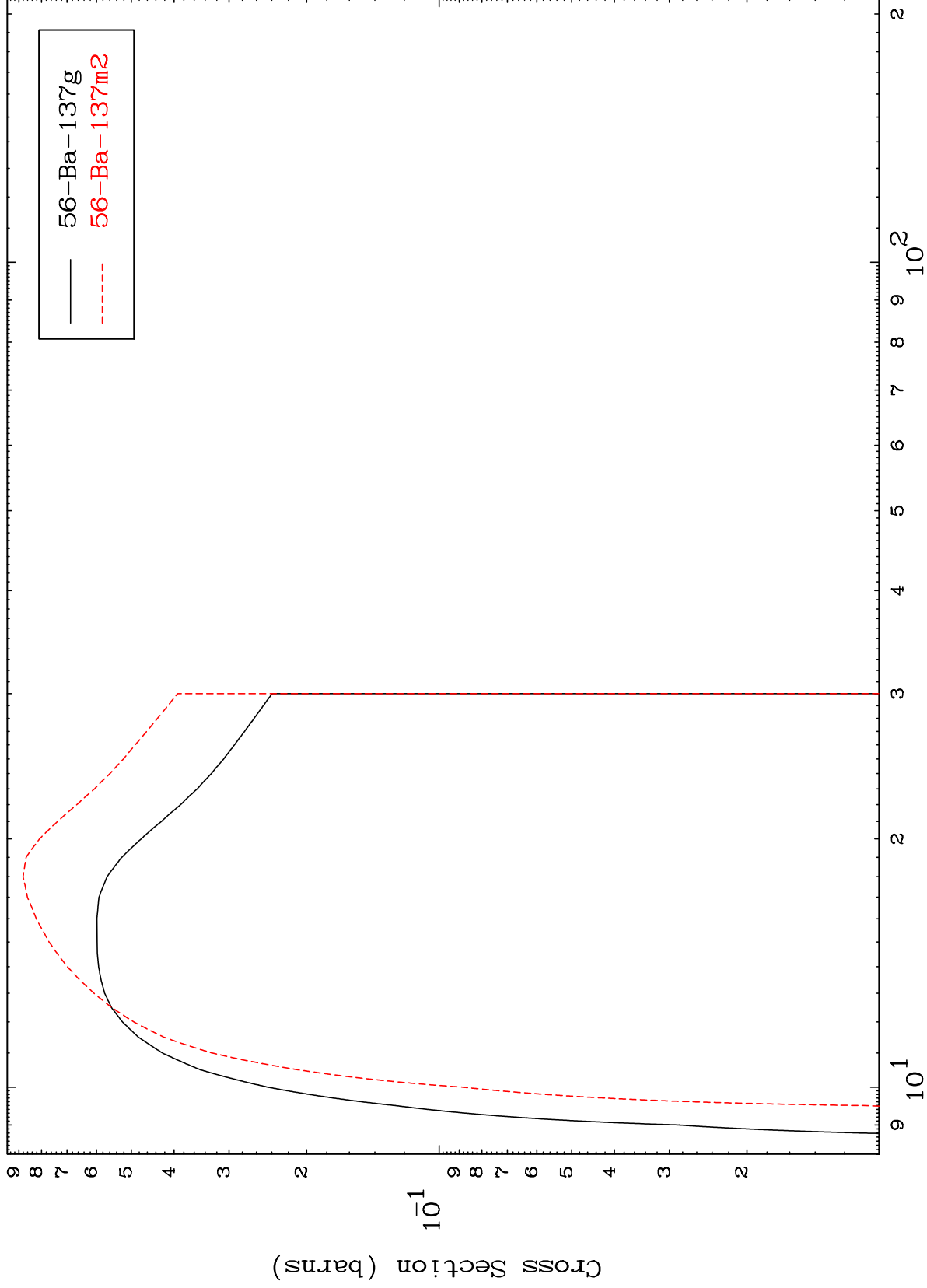
56-Ba-138

MAT 5649

(n,2n)

56-Ba-138

Radionuclide Production Cross Section



Incident Energy (MeV)

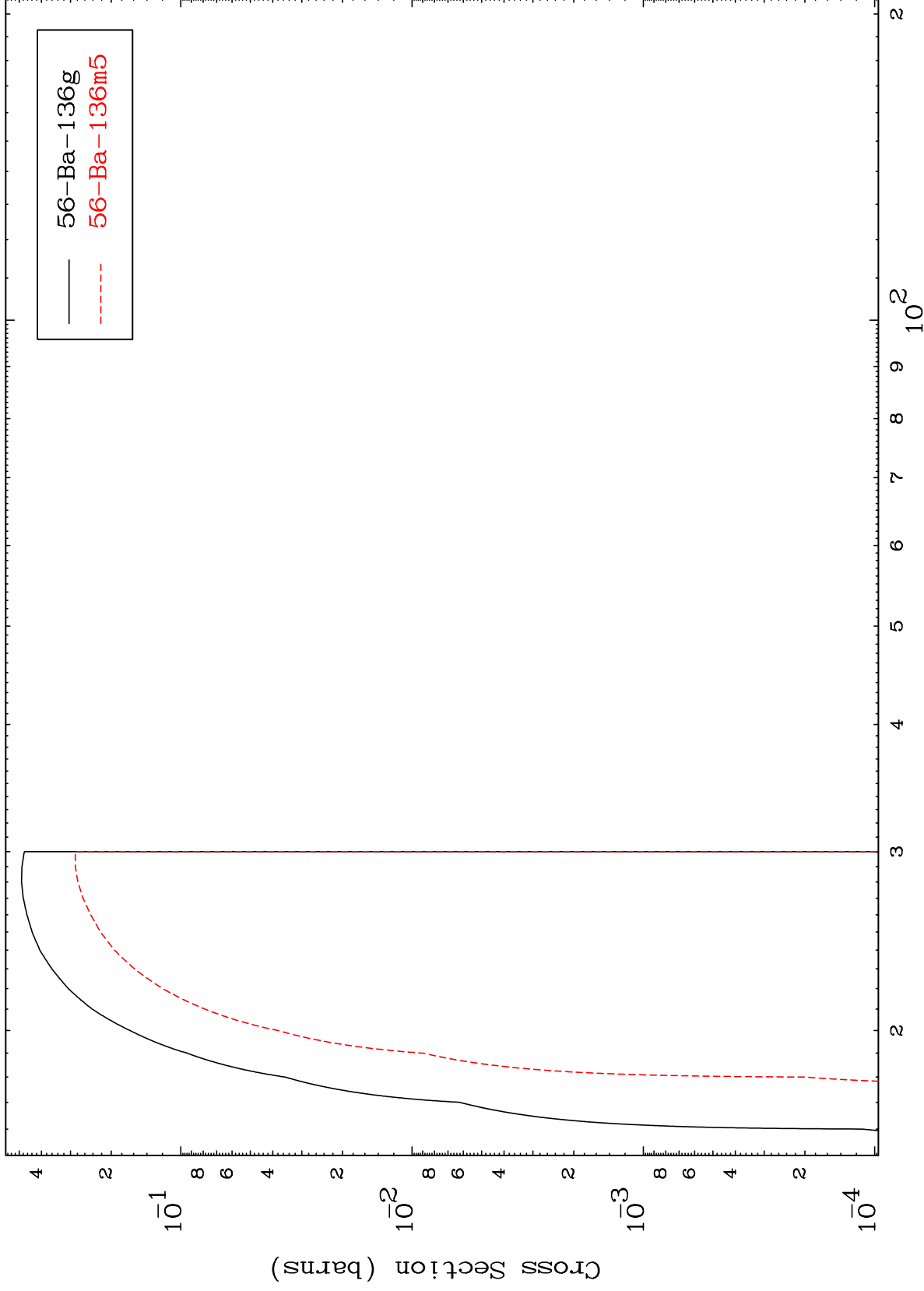
56-Ba-138

MAT 5649

(n,3n)

56-Ba-138

Radionuclide Production Cross Section



101

Incident Energy (MeV)

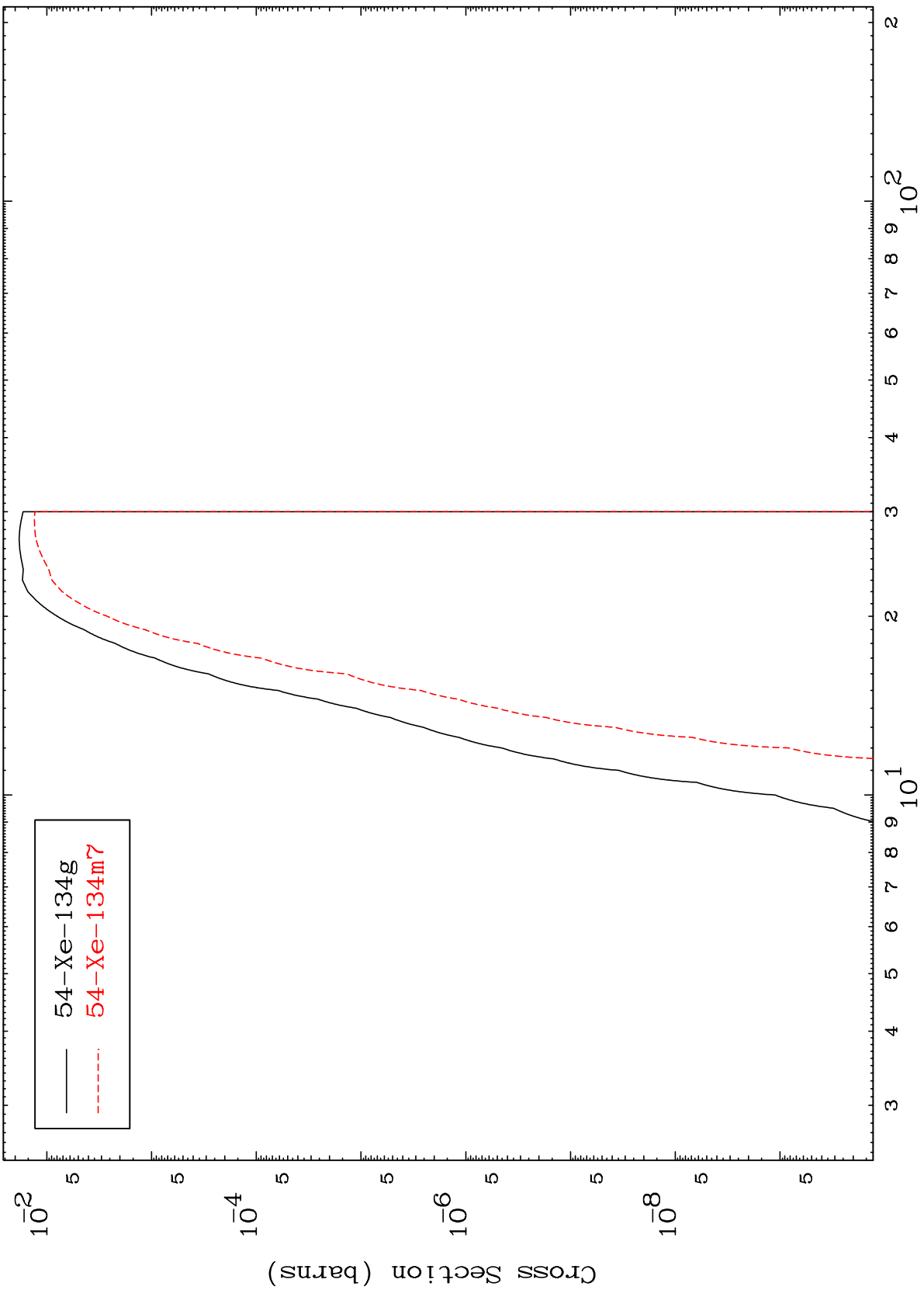
56-Ba-138

MAT 5649

56-Ba-138

(n,n')  $\alpha$

Radionuclide Production Cross Section



— 54-Xe-134g  
- - - 54-Xe-134m7

102

Incident Energy (MeV)

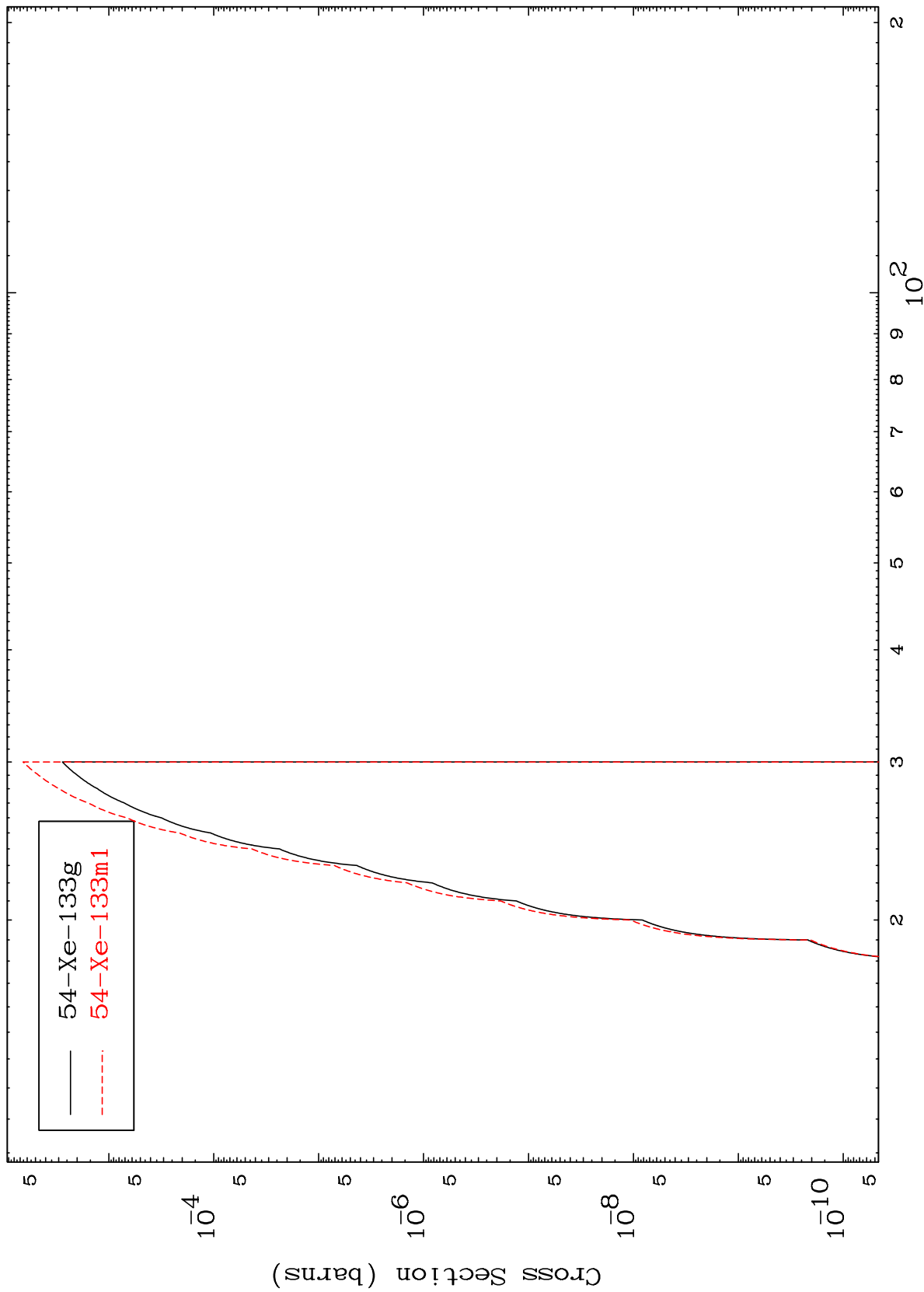
56-Ba-138

MAT 5649

(n,2n)  $\alpha$

56-Ba-138

Radionuclide Production Cross Section



103

Incident Energy (MeV)

56-Ba-138

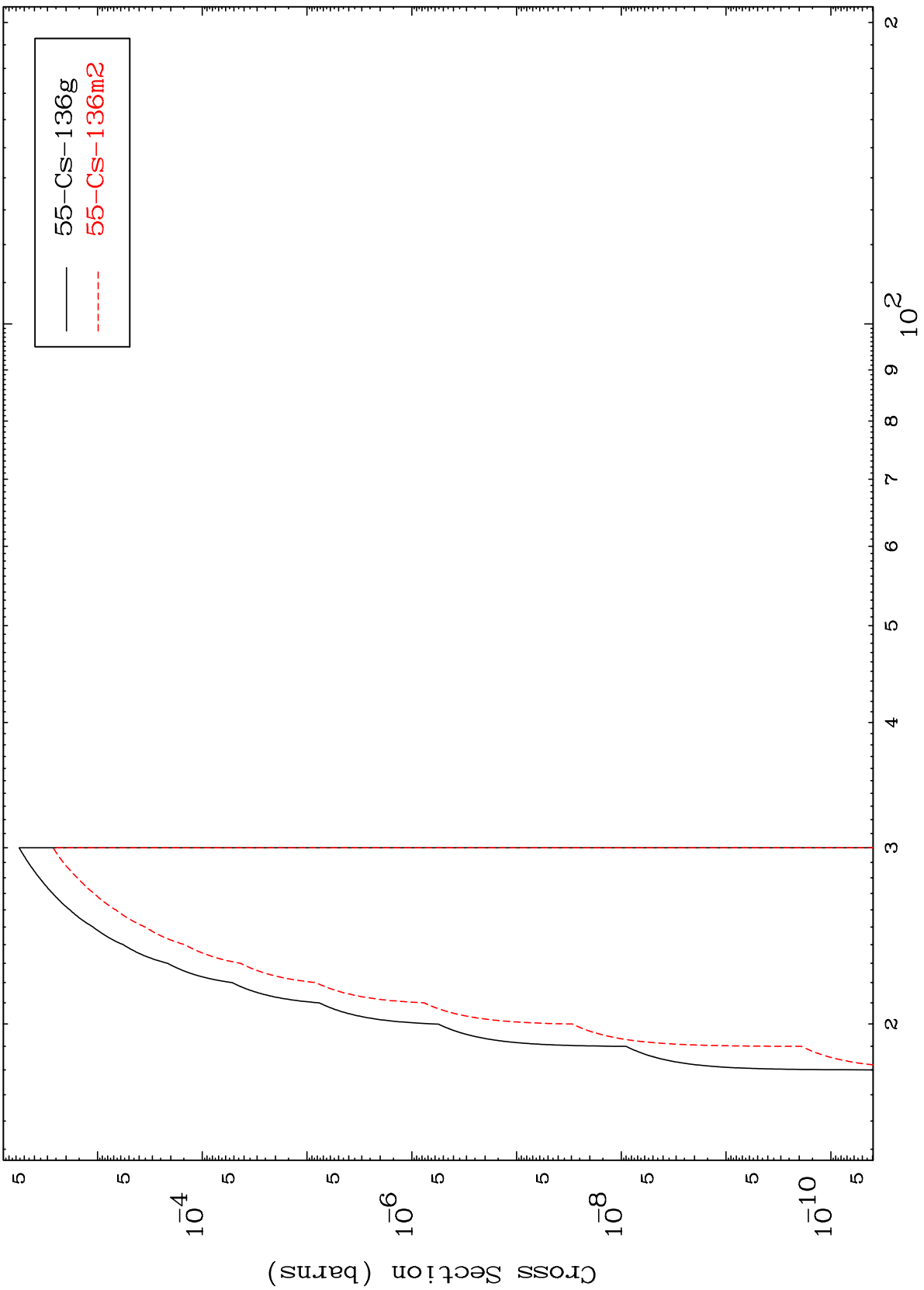


MAT 5649

(n,n') d

56-Ba-138

Radionuclide Production Cross Section



104

Incident Energy (MeV)

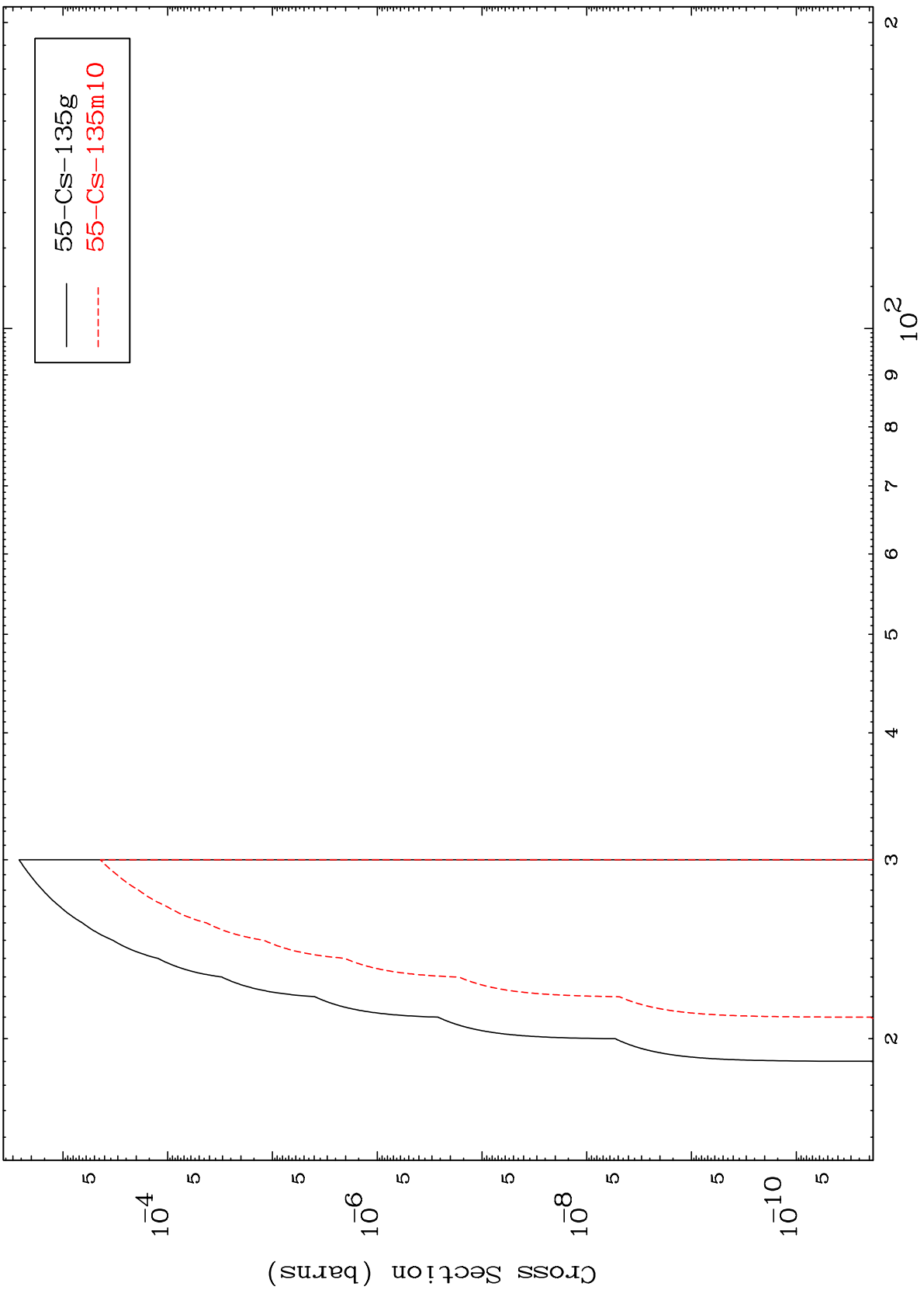
56-Ba-138

MAT 5649

(n,n') t

56-Ba-138

Radionuclide Production Cross Section



105

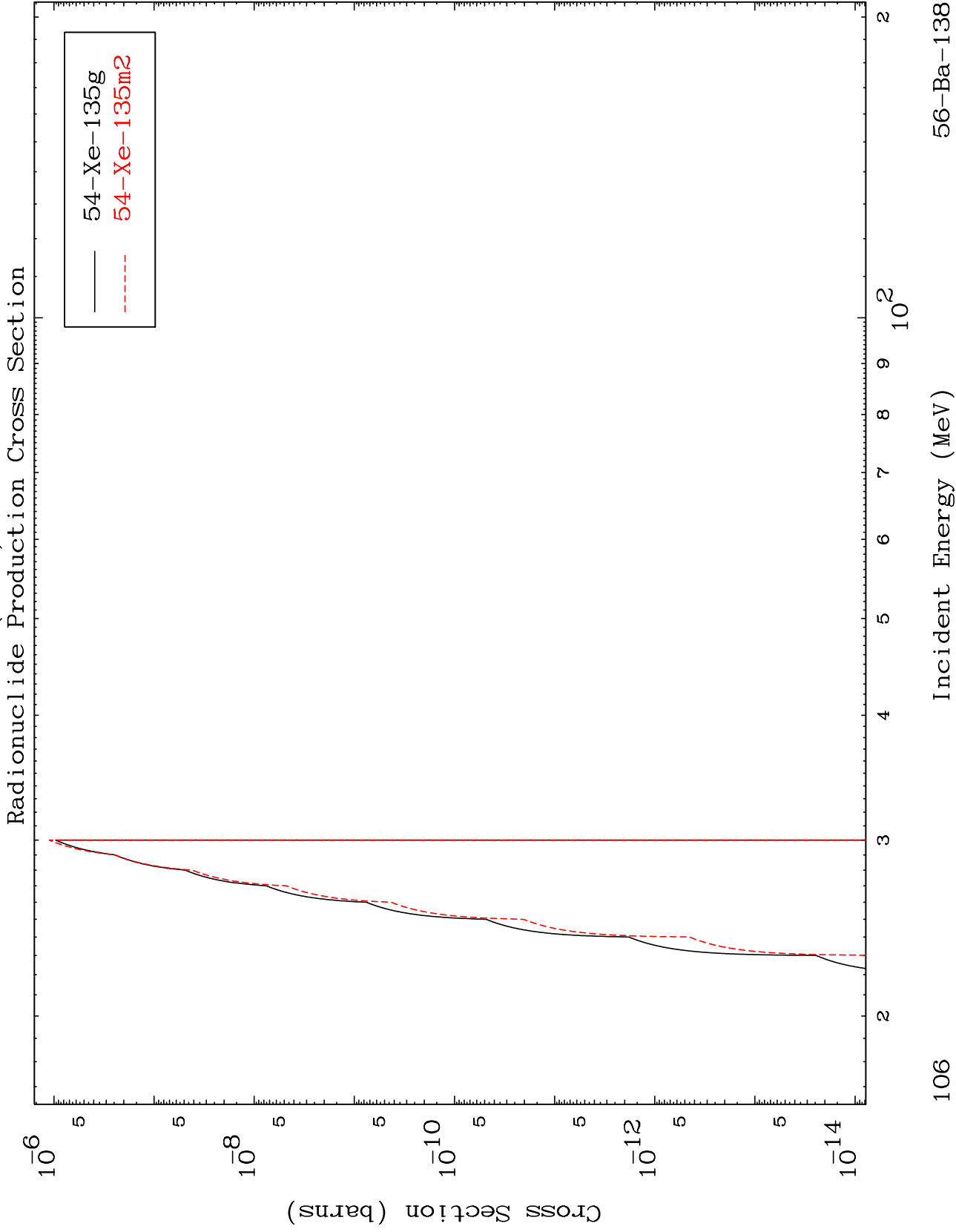
Incident Energy (MeV)

56-Ba-138

MAT 5649

(n,n') He-3

56-Ba-138



106

Incident Energy (MeV)

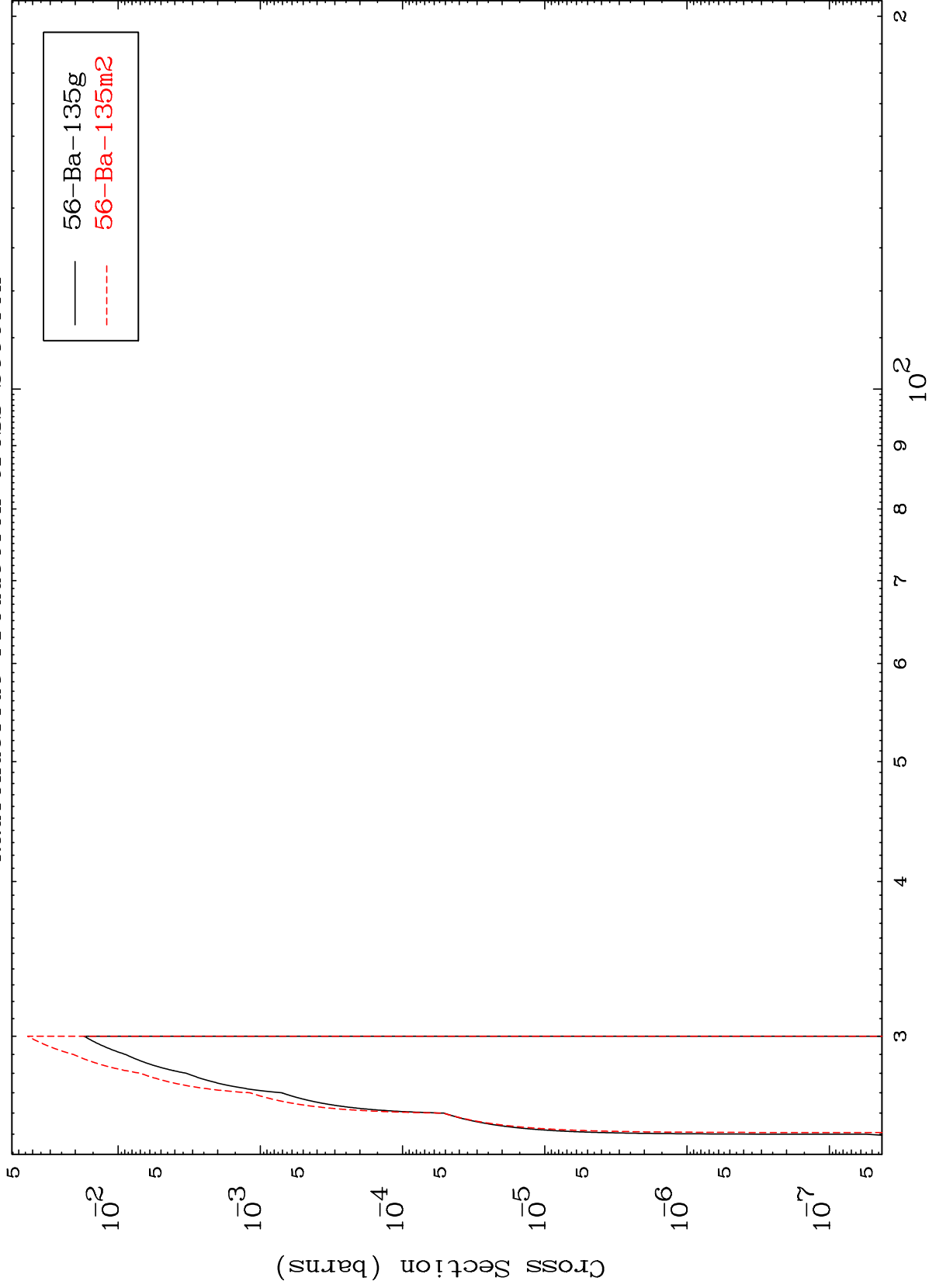
56-Ba-138

MAT 5649

(n,4n)

56-Ba-138

Radionuclide Production Cross Section



107

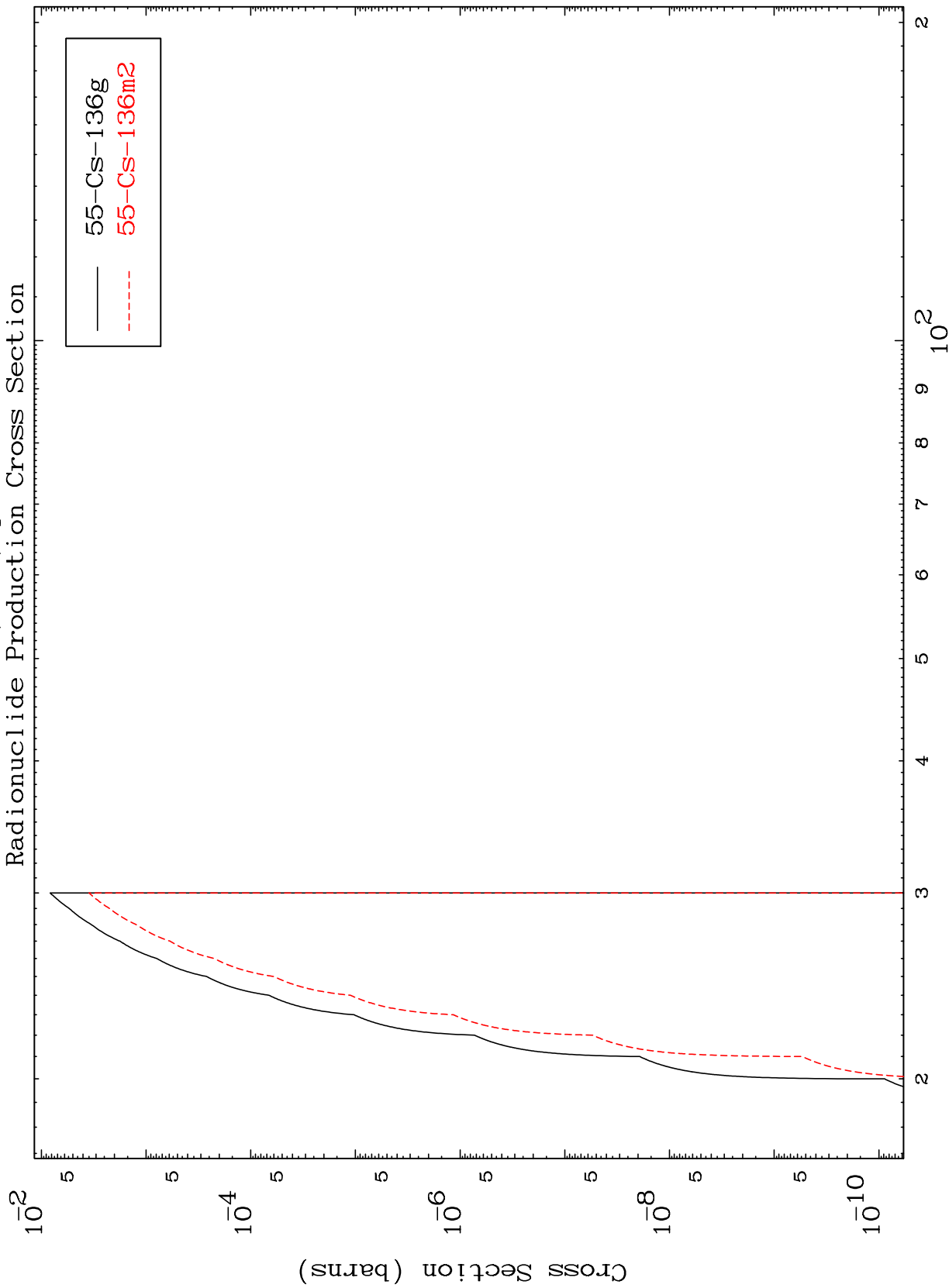
Incident Energy (MeV)

56-Ba-138

MAT 5649

56-Ba-138

$(n,2n)$  p  
Radionuclide Production Cross Section



108

56-Ba-138

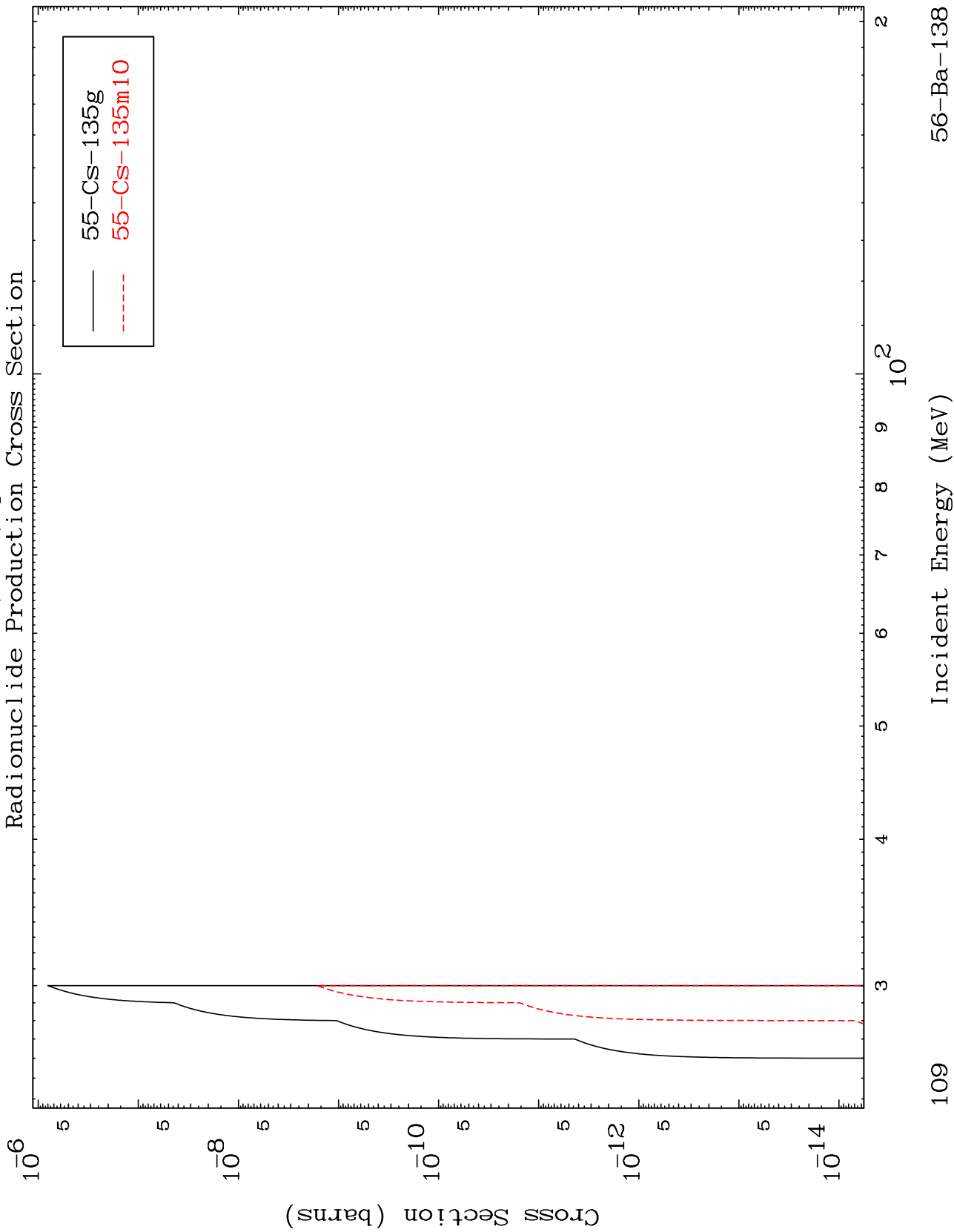
Incident Energy (MeV)

MAT 5649

(n,3n) p

56-Ba-138

Radionuclide Production Cross Section



55-Cs-135g  
55-Cs-135m10

109

Incident Energy (MeV)

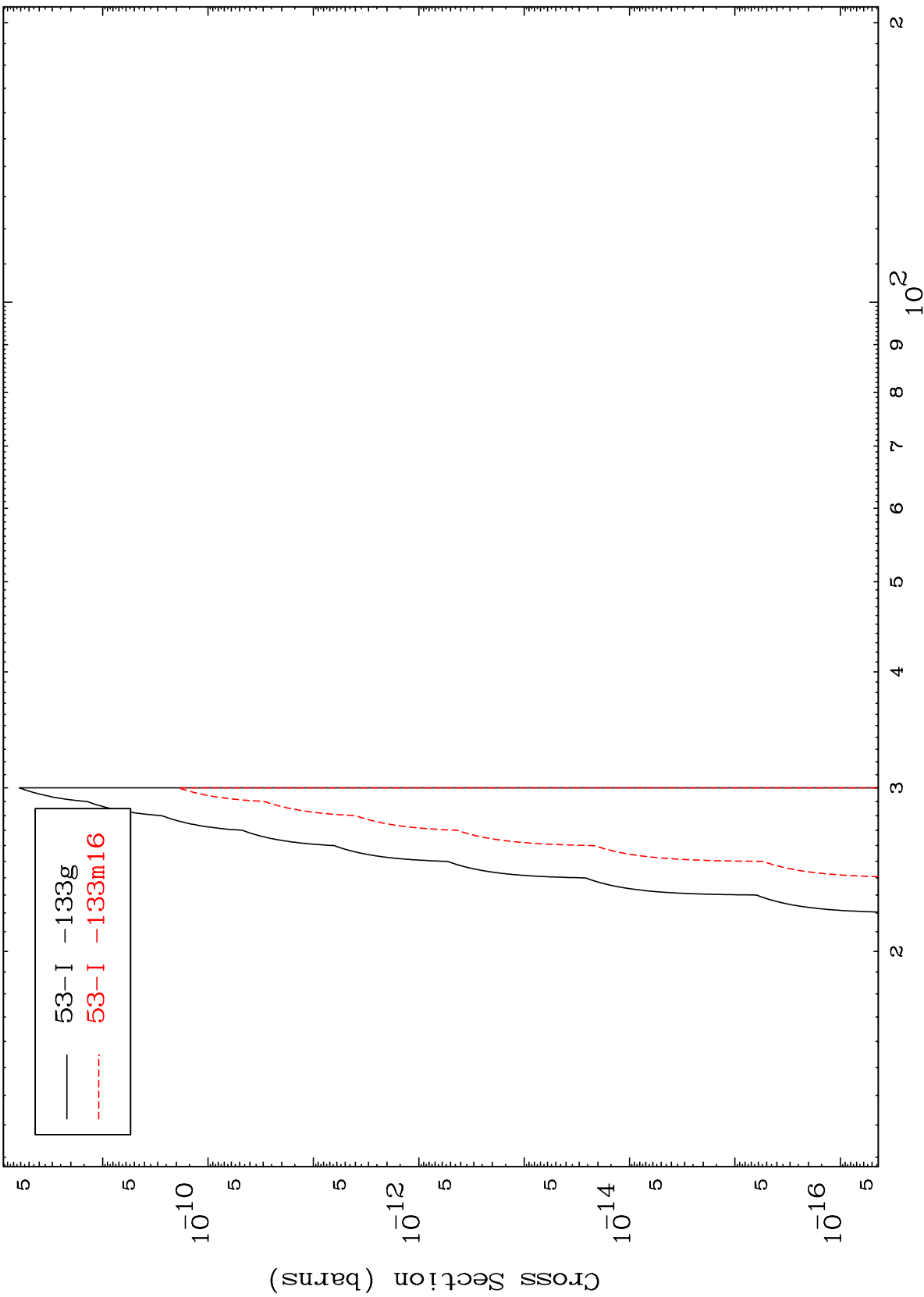
56-Ba-138

MAT 5649

(n,n') p  $\alpha$

56-Ba-138

Radionuclide Production Cross Section



110

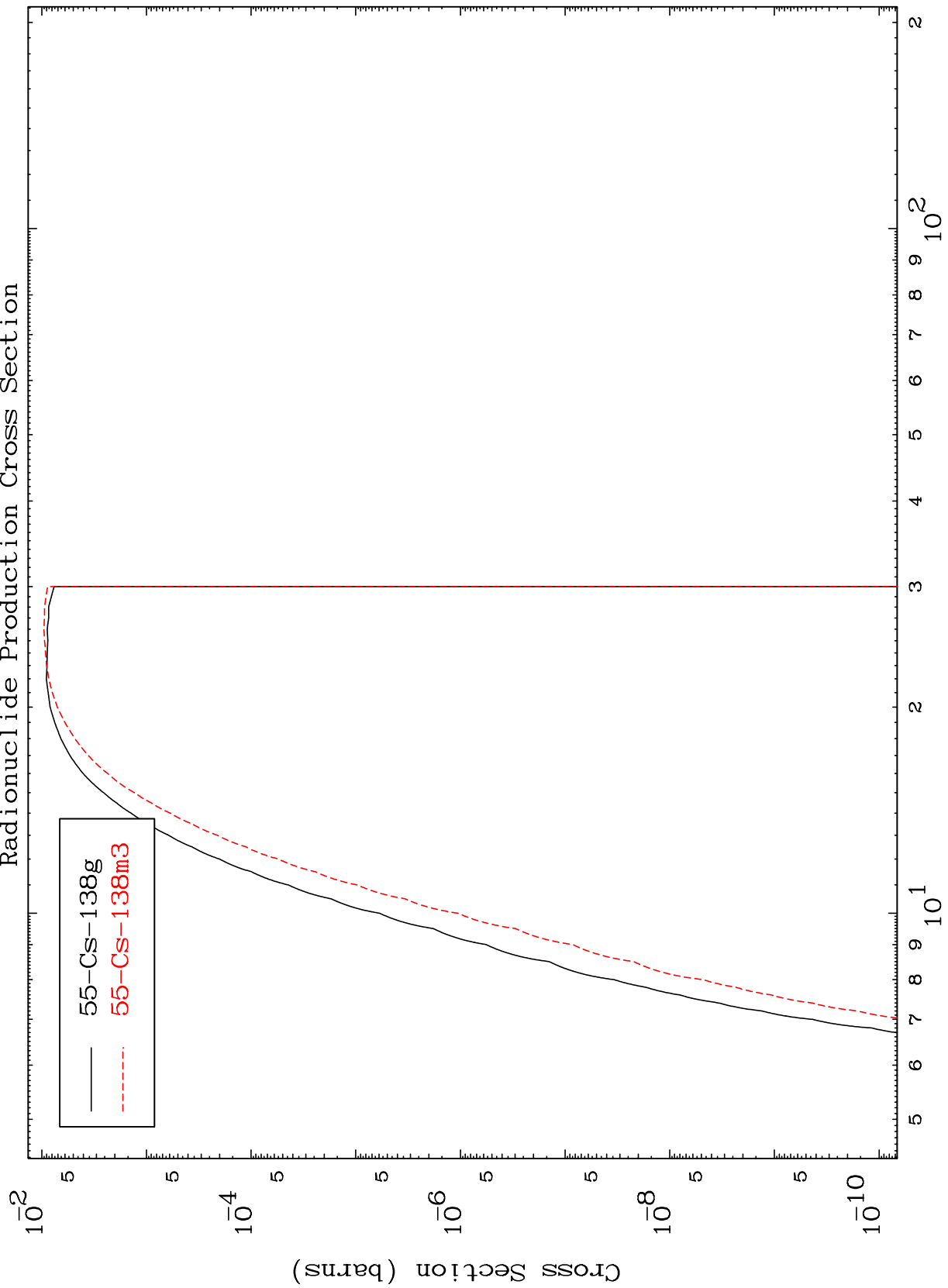
Incident Energy (MeV)

56-Ba-138

MAT 5649

56-Ba-138

Radionuclide Production Cross Section (n,p)



111

Incident Energy (MeV)

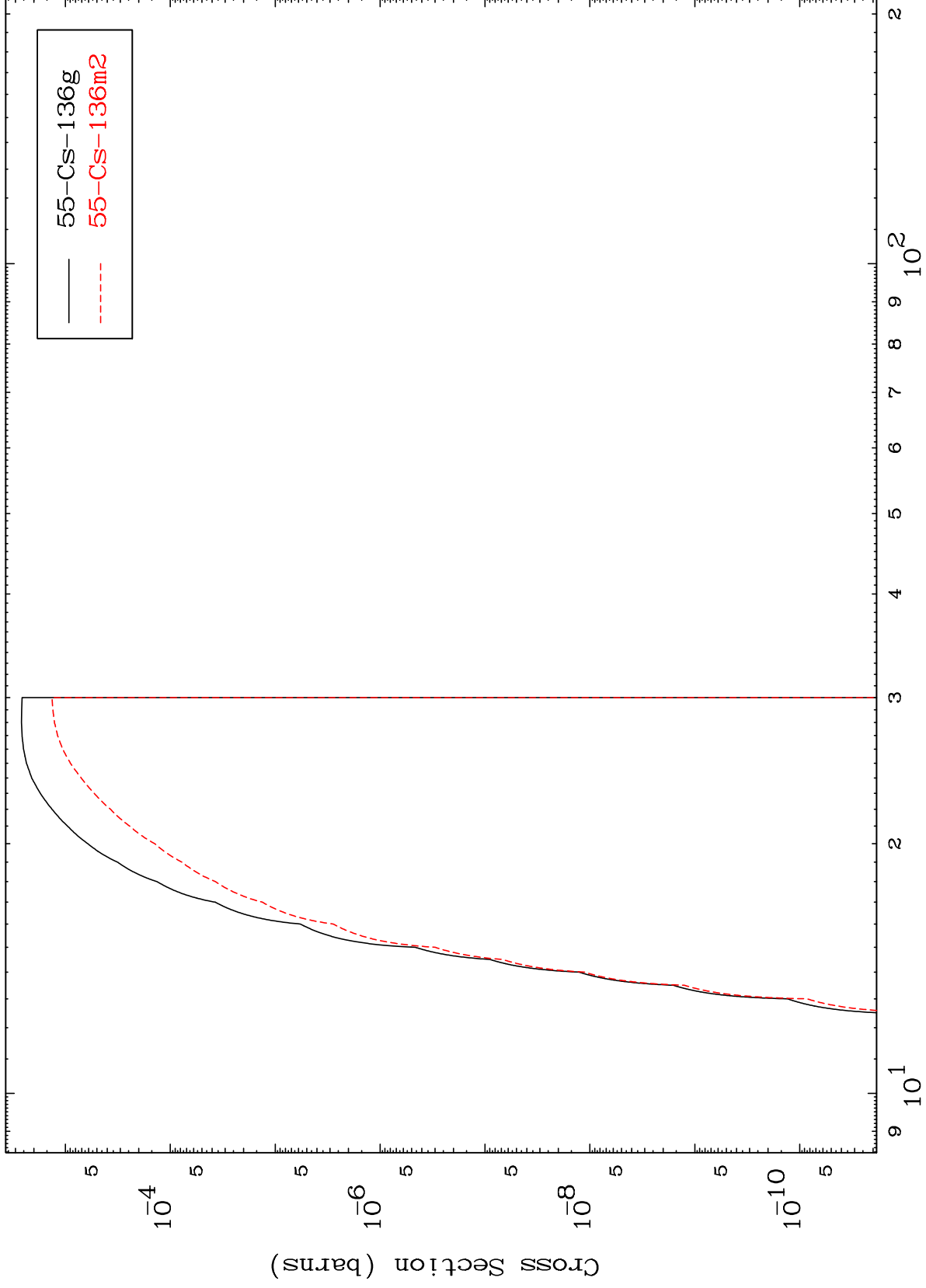
56-Ba-138



MAT 5649

56-Ba-138

(n,t)  
Radionuclide Production Cross Section



56-Ba-138

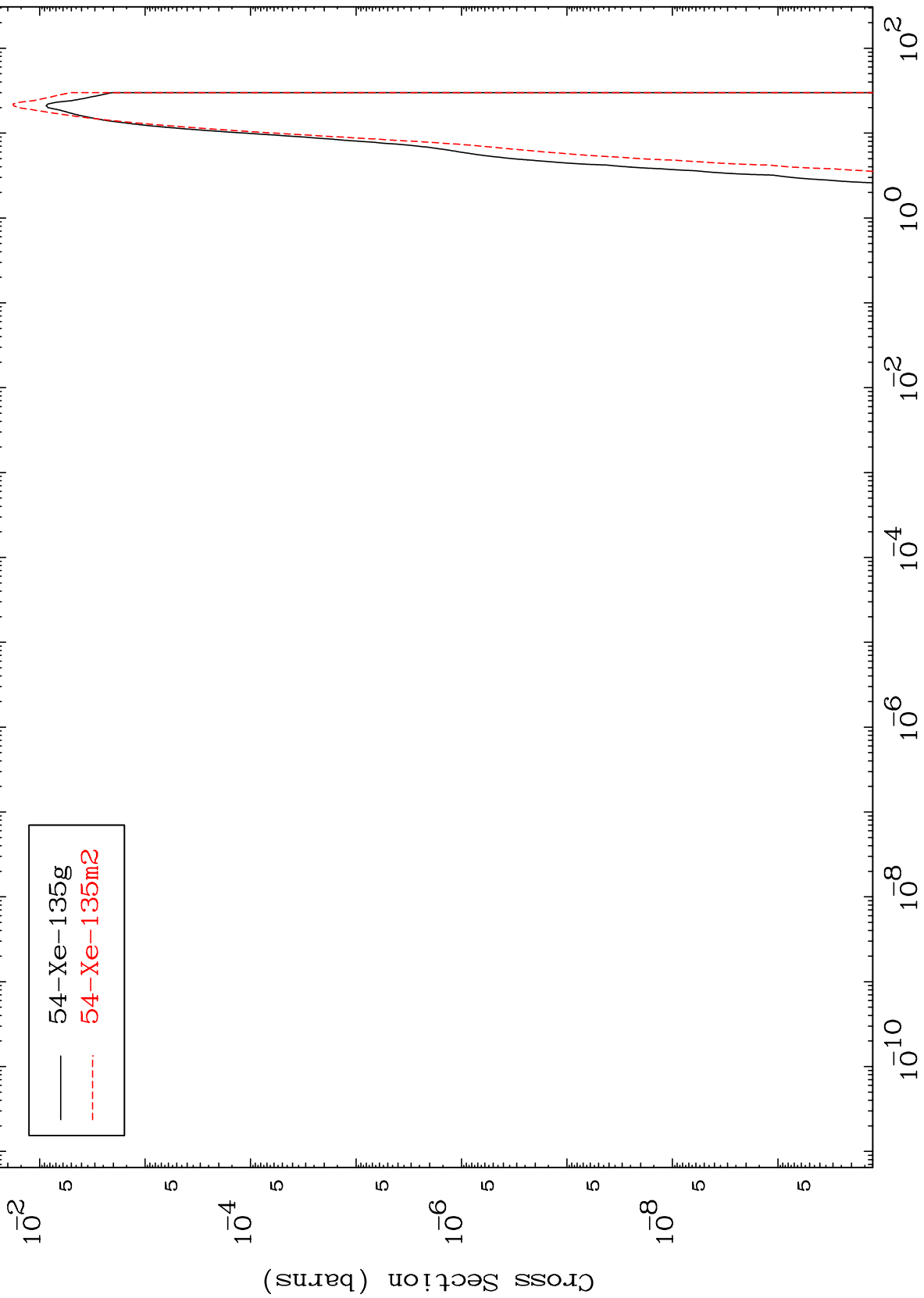
Incident Energy (MeV)

112

MAT 5649

56-Ba-138

(n,  $\alpha$ )  
Radionuclide Production Cross Section



— 54-Xe-135g  
- - - 54-Xe-135m2

56-Ba-138

Incident Energy (MeV)

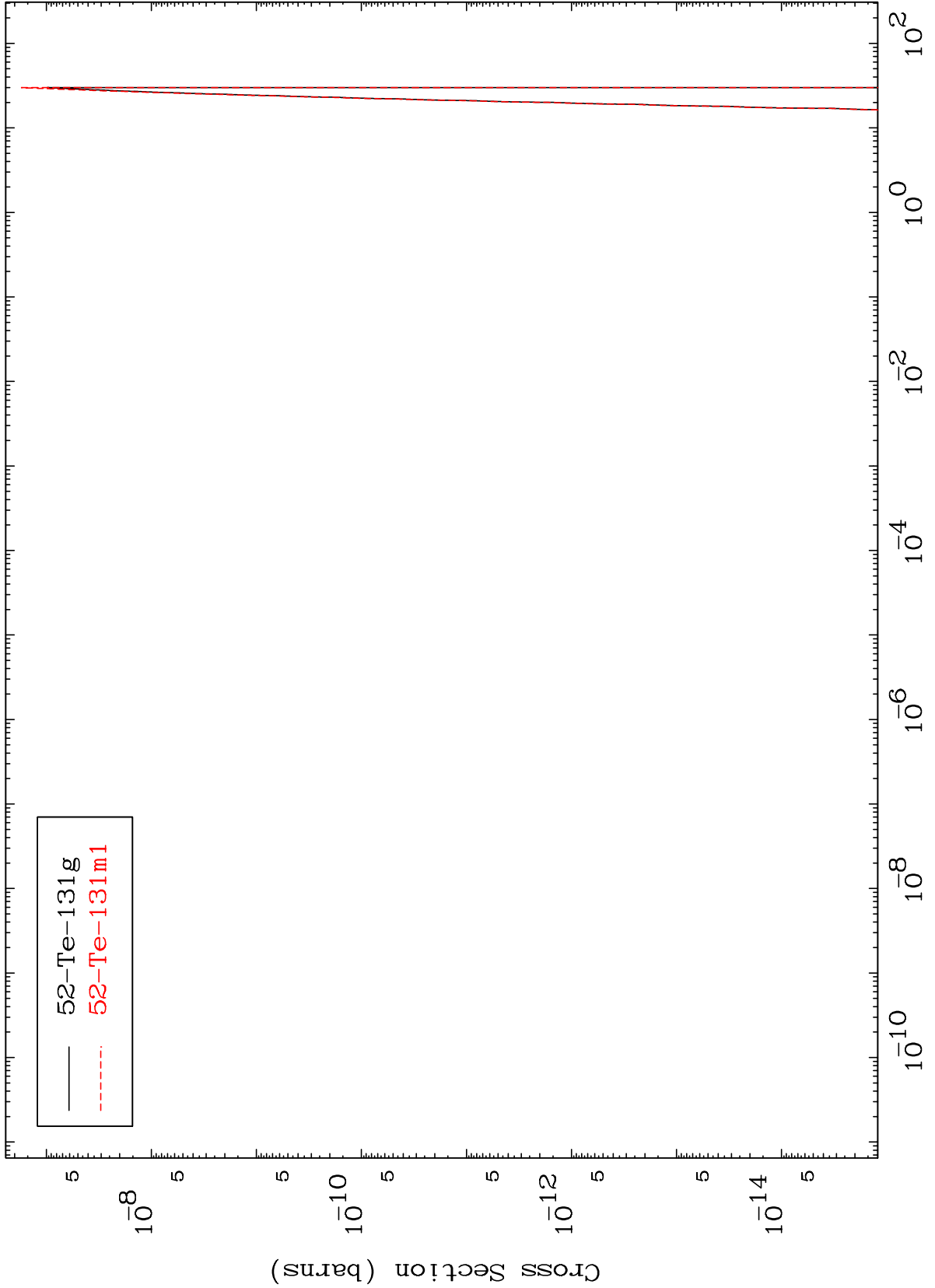
113

MAT 5649

(n,2α)

56-Ba-138

Radionuclide Production Cross Section

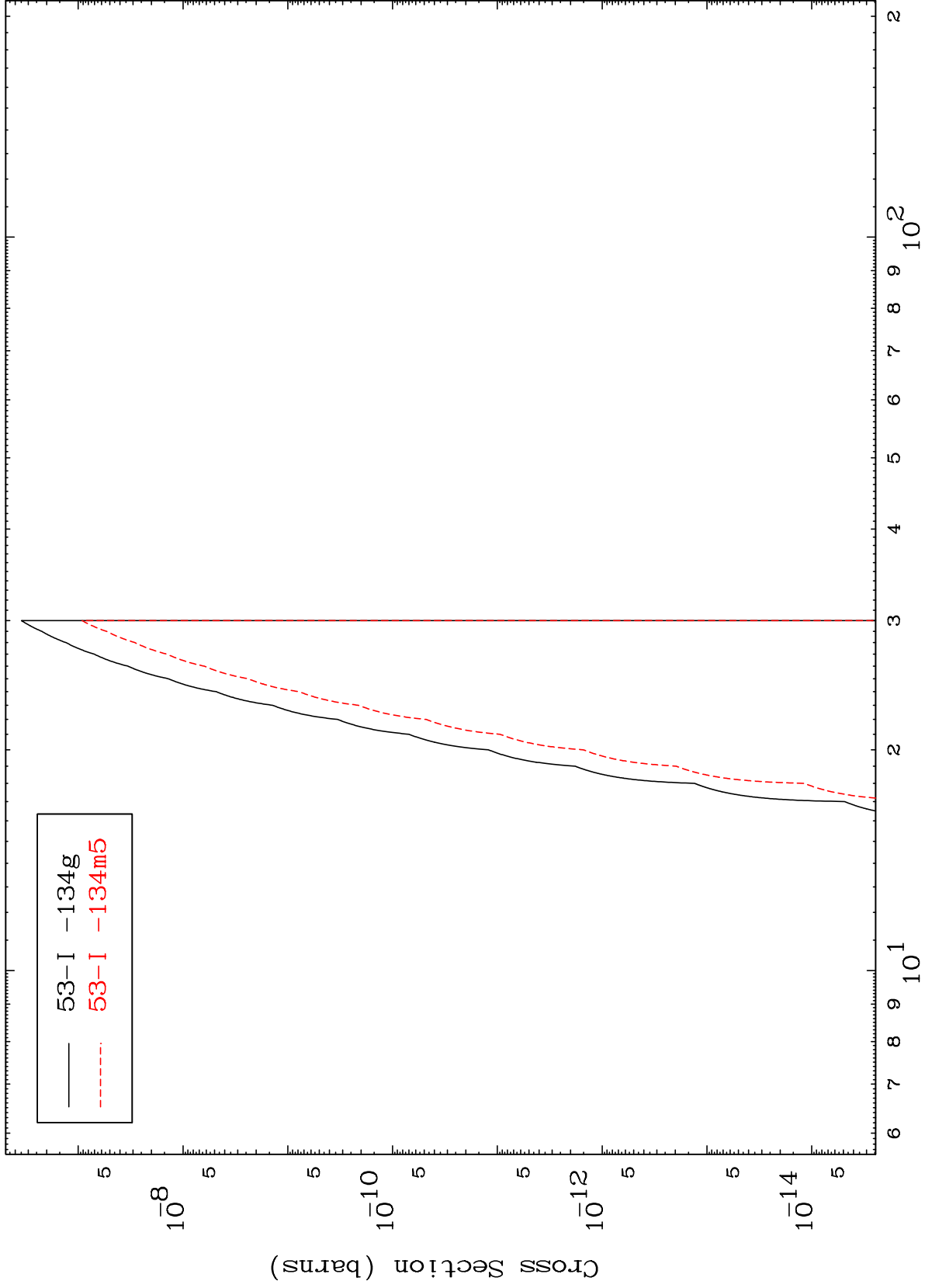


MAT 5649

(n,p)  $\alpha$

56-Ba-138

Radionuclide Production Cross Section



115

Incident Energy (MeV)

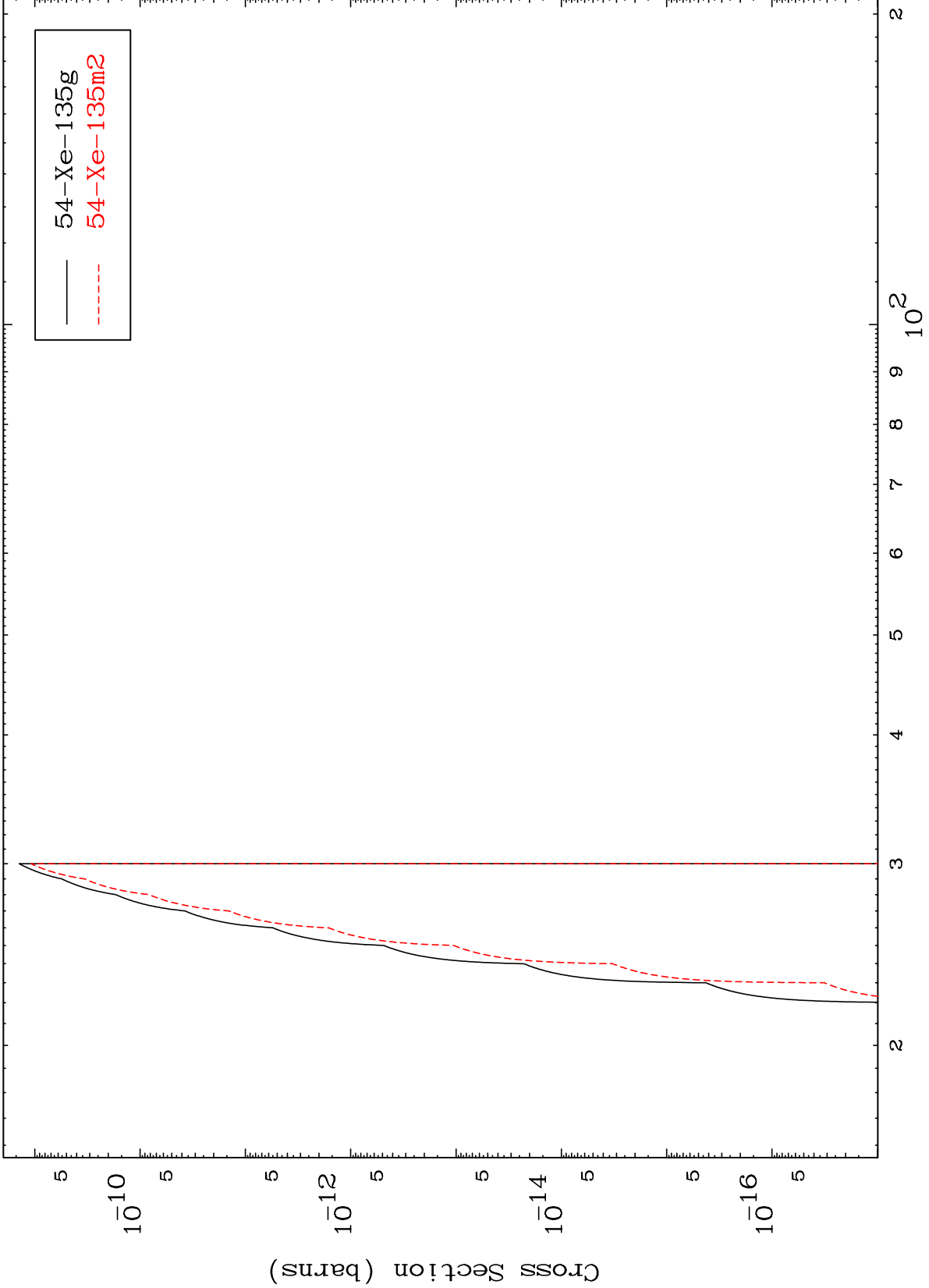
56-Ba-138

MAT 5649

(n,p) t

56-Ba-138

Radionuclide Production Cross Section



116

Incident Energy (MeV)

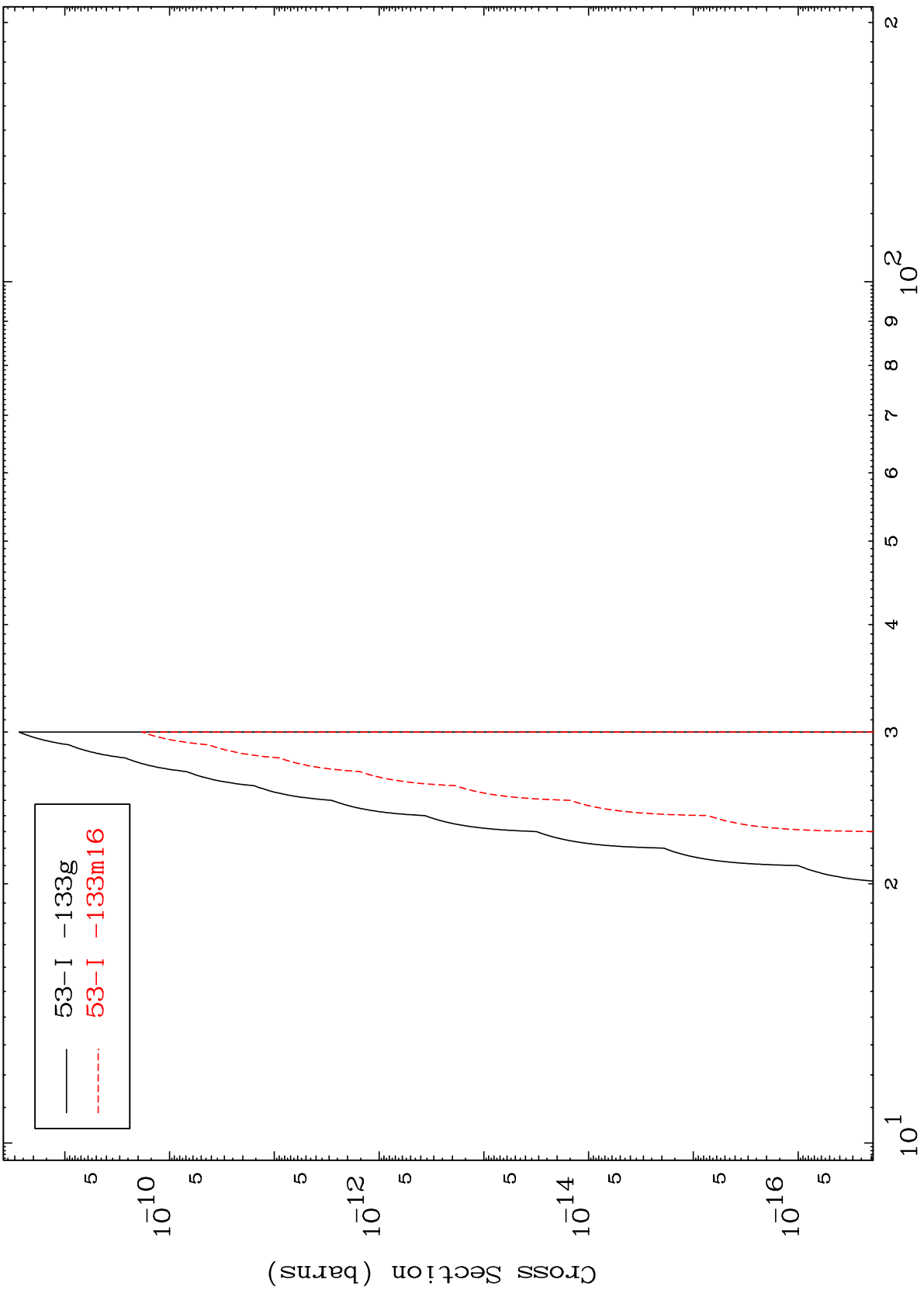
56-Ba-138

MAT 5649

(n,d)  $\alpha$

56-Ba-138

Radionuclide Production Cross Section



117

Incident Energy (MeV)

56-Ba-138