Program EVALPLOT
(Version 2017-1)
by
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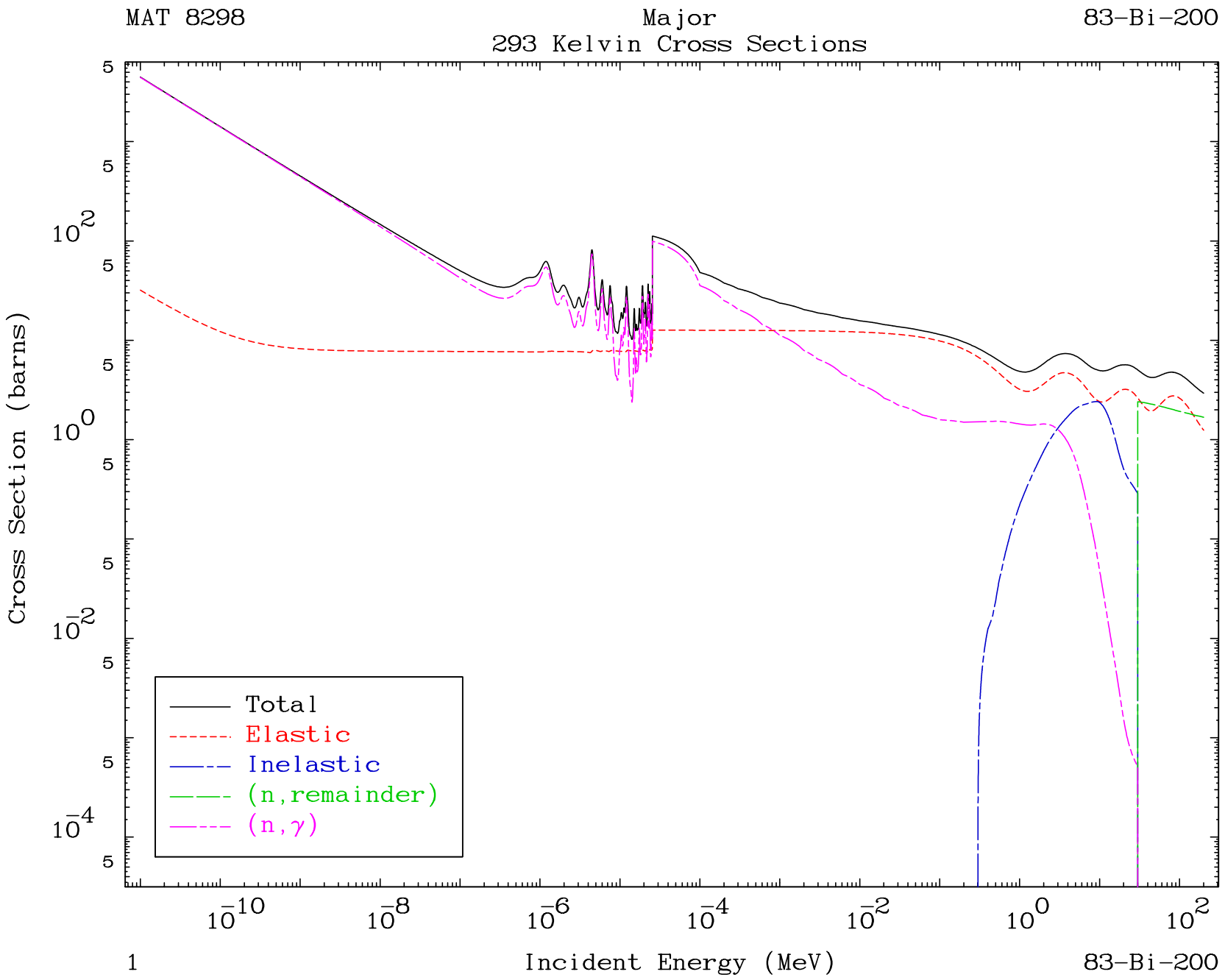
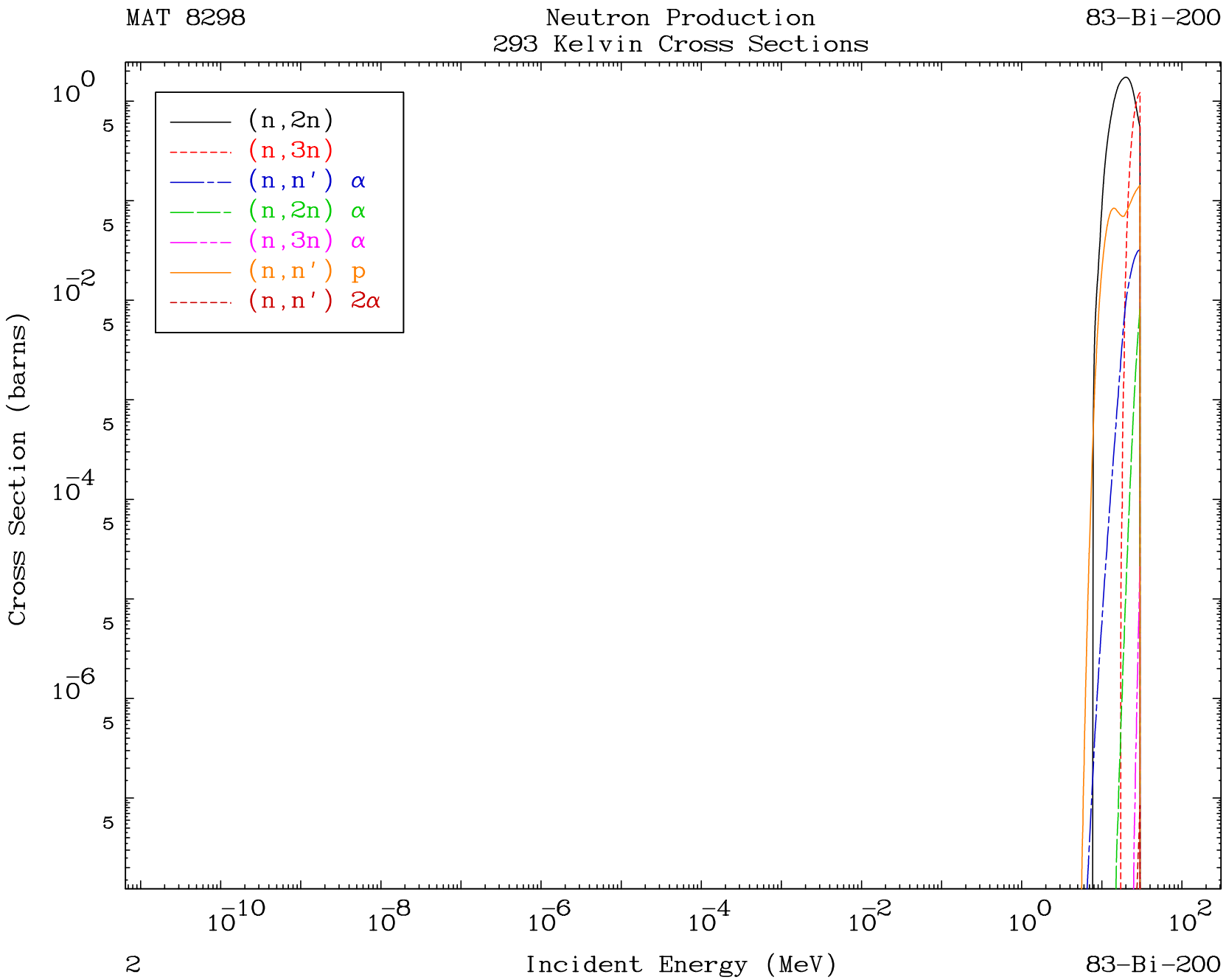
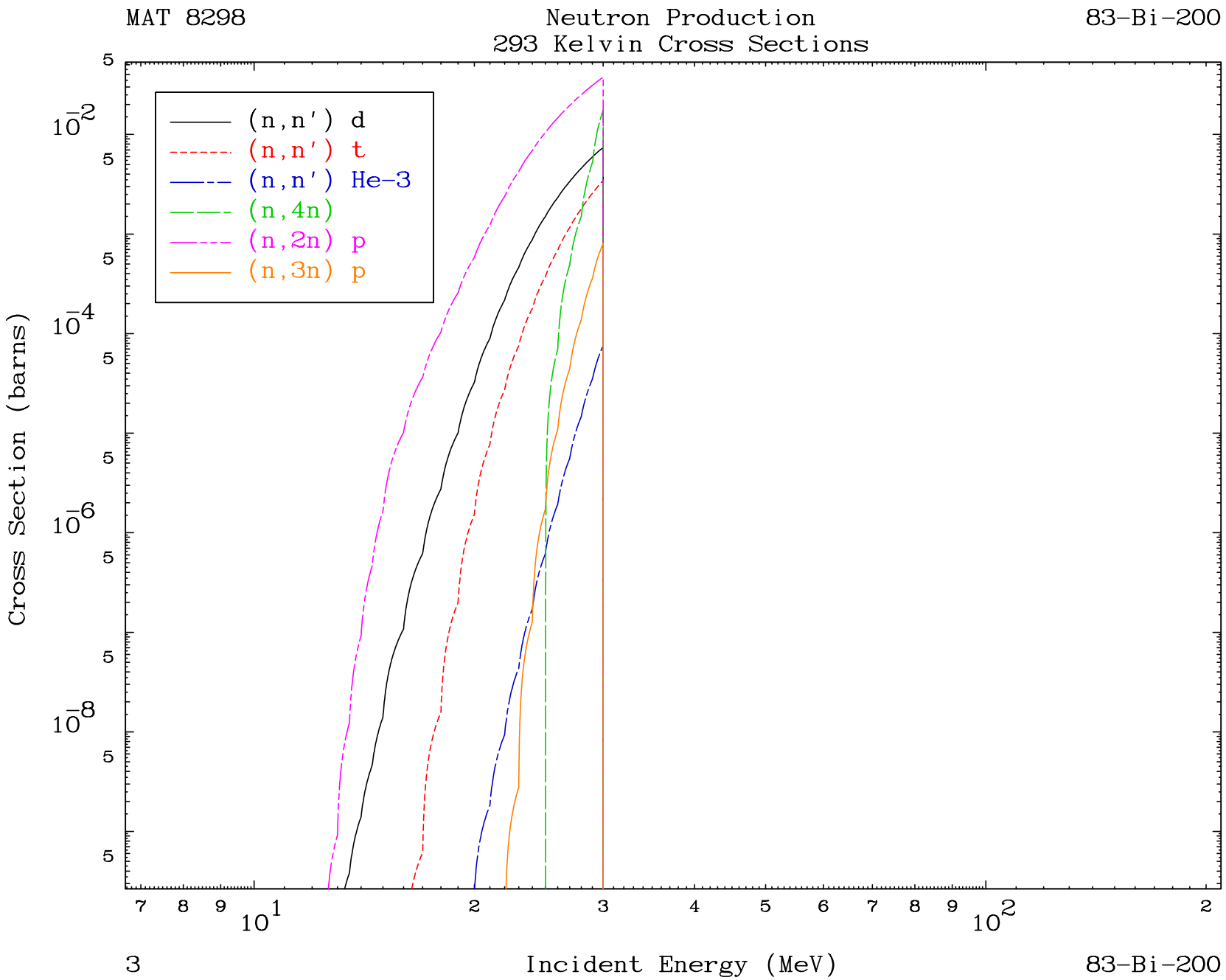
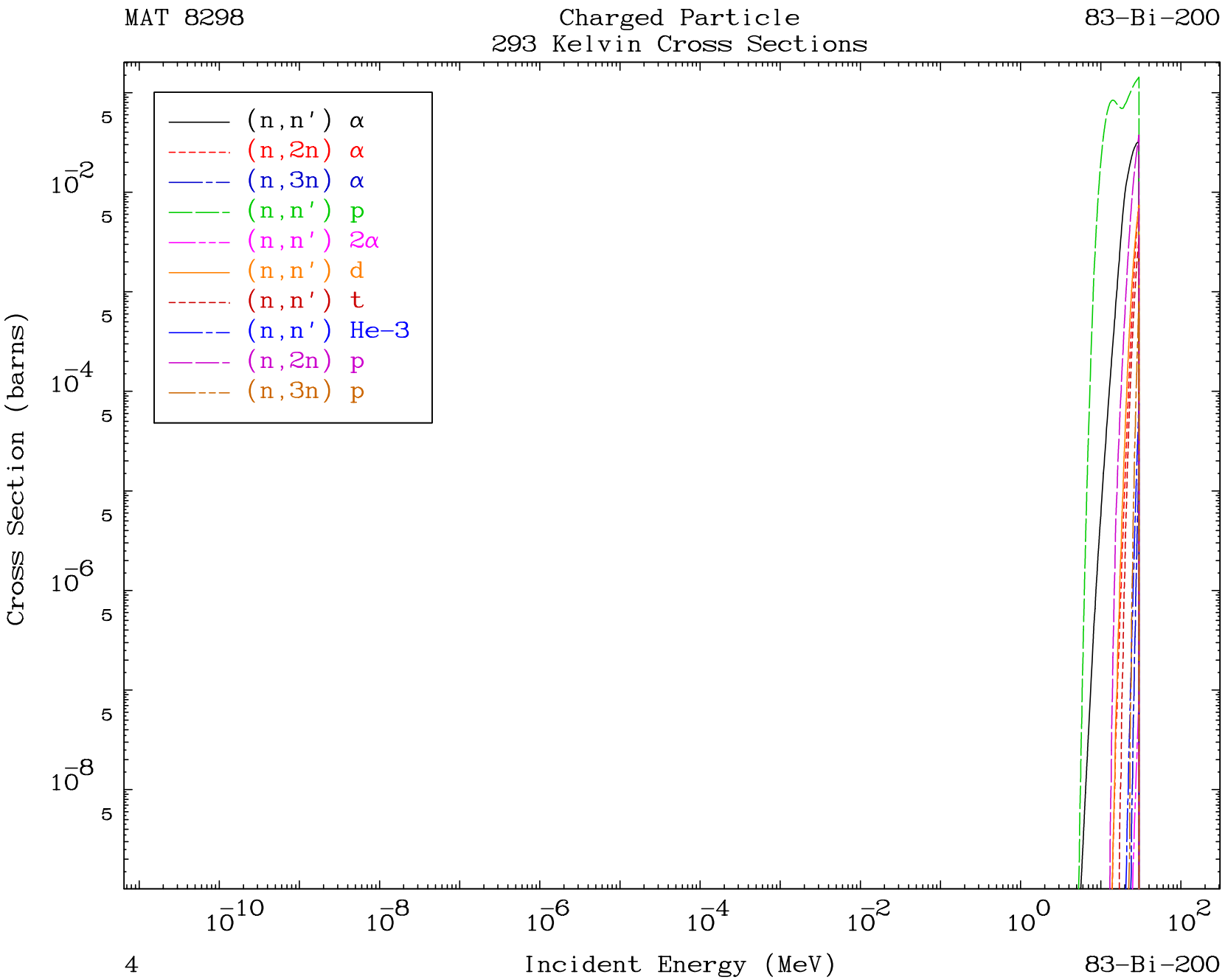
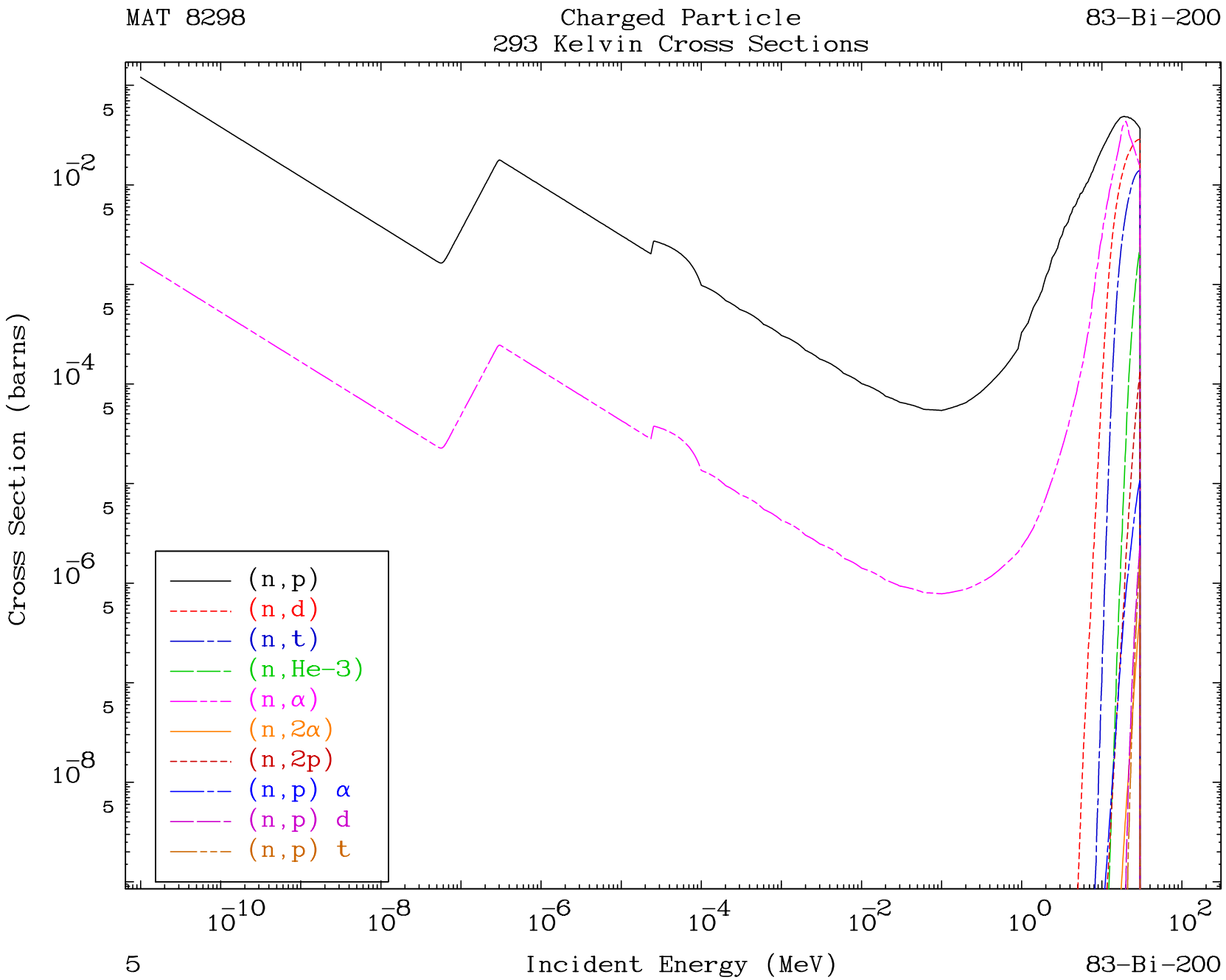
Press Mouse Button to Start

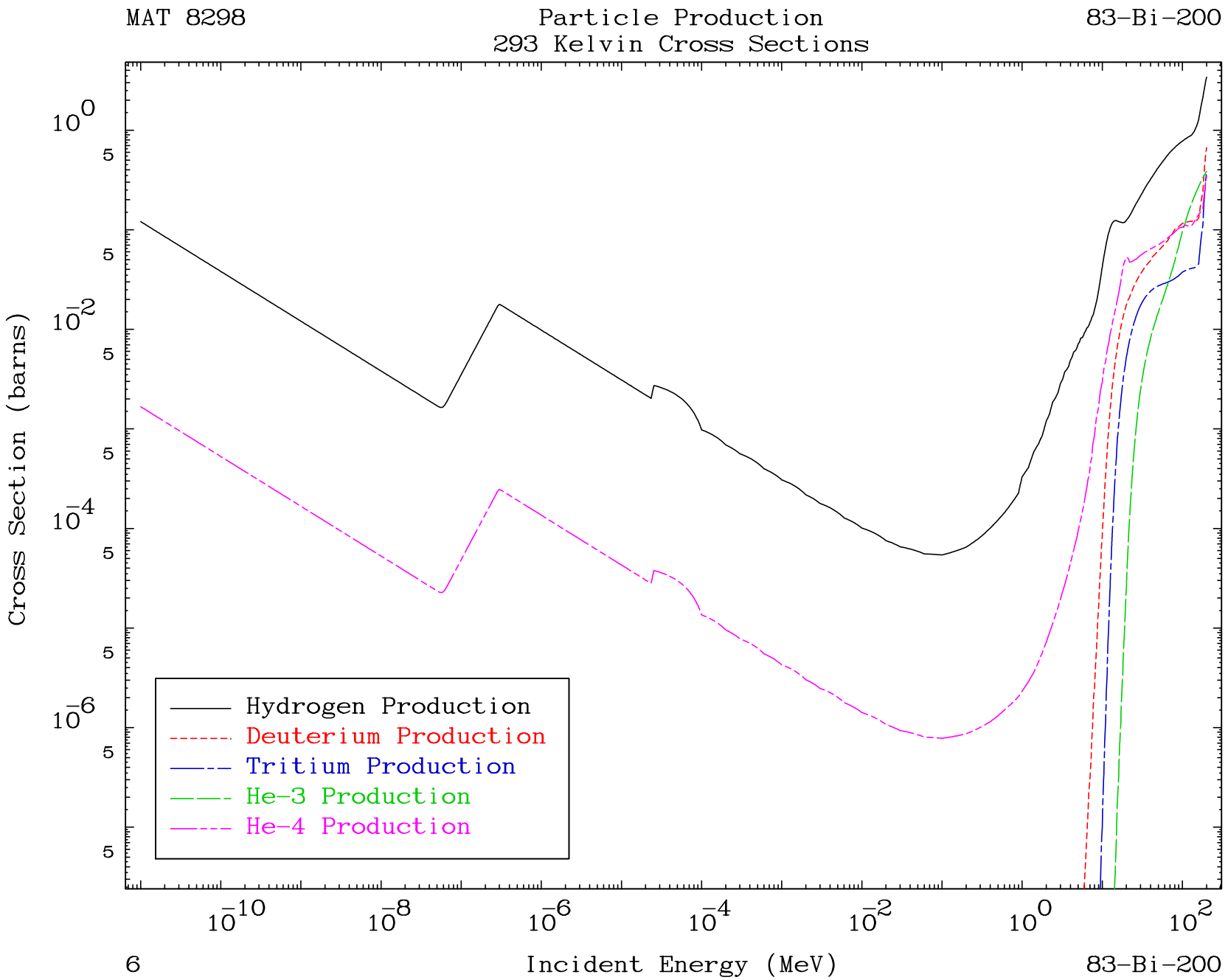

MAT 8298
Major
83-Bi-200
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
Total
Elastic
Inelastic
(n,remainder)
(n,γ)
1
83-Bi-200

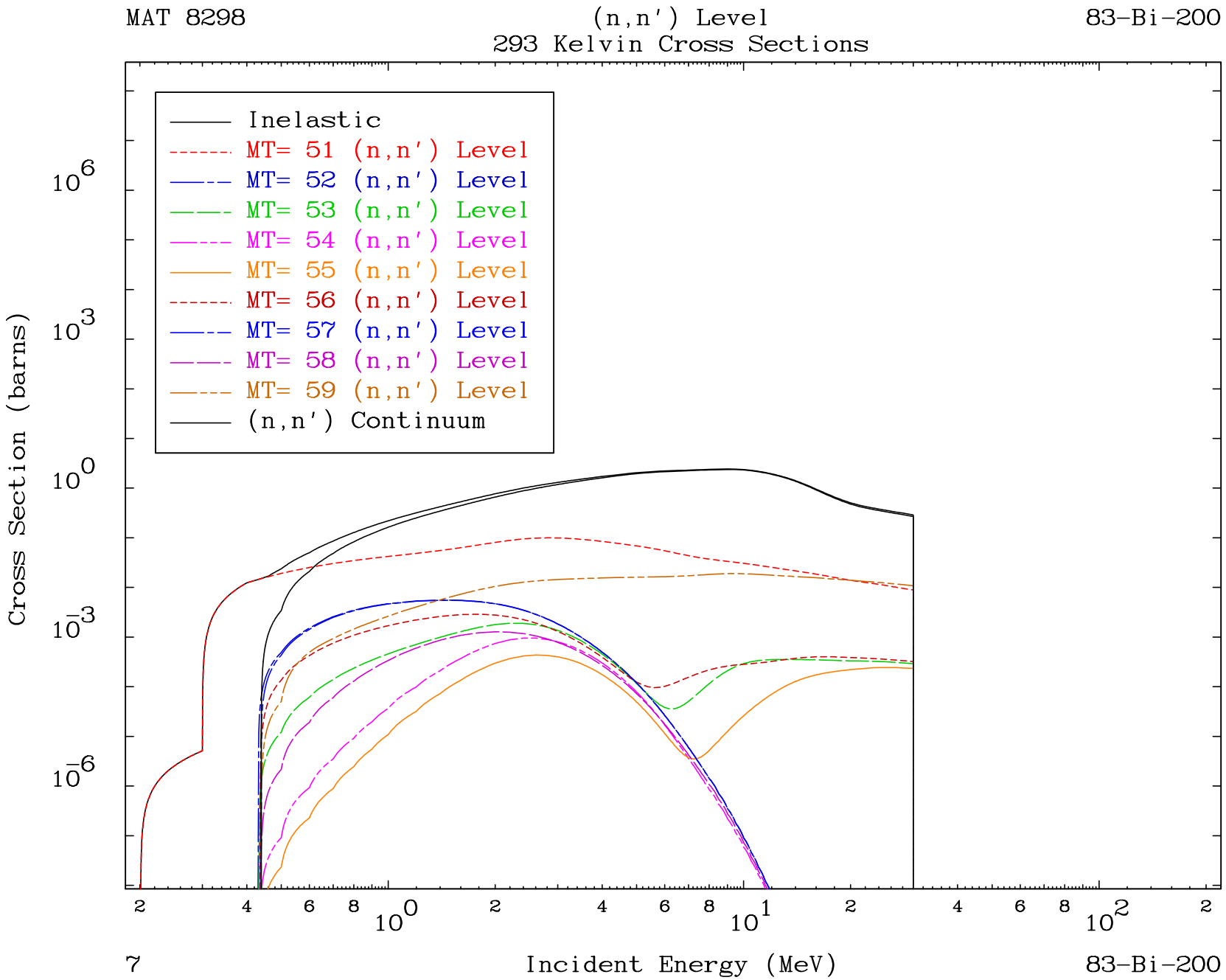

MAT 8298
Neutron Production
293 Kelvin Cross Sections
83-Bi-200
(n,2n)
(n,3n)
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
Cross Section (barns)
Incident Energy (MeV)
2
83-Bi-200

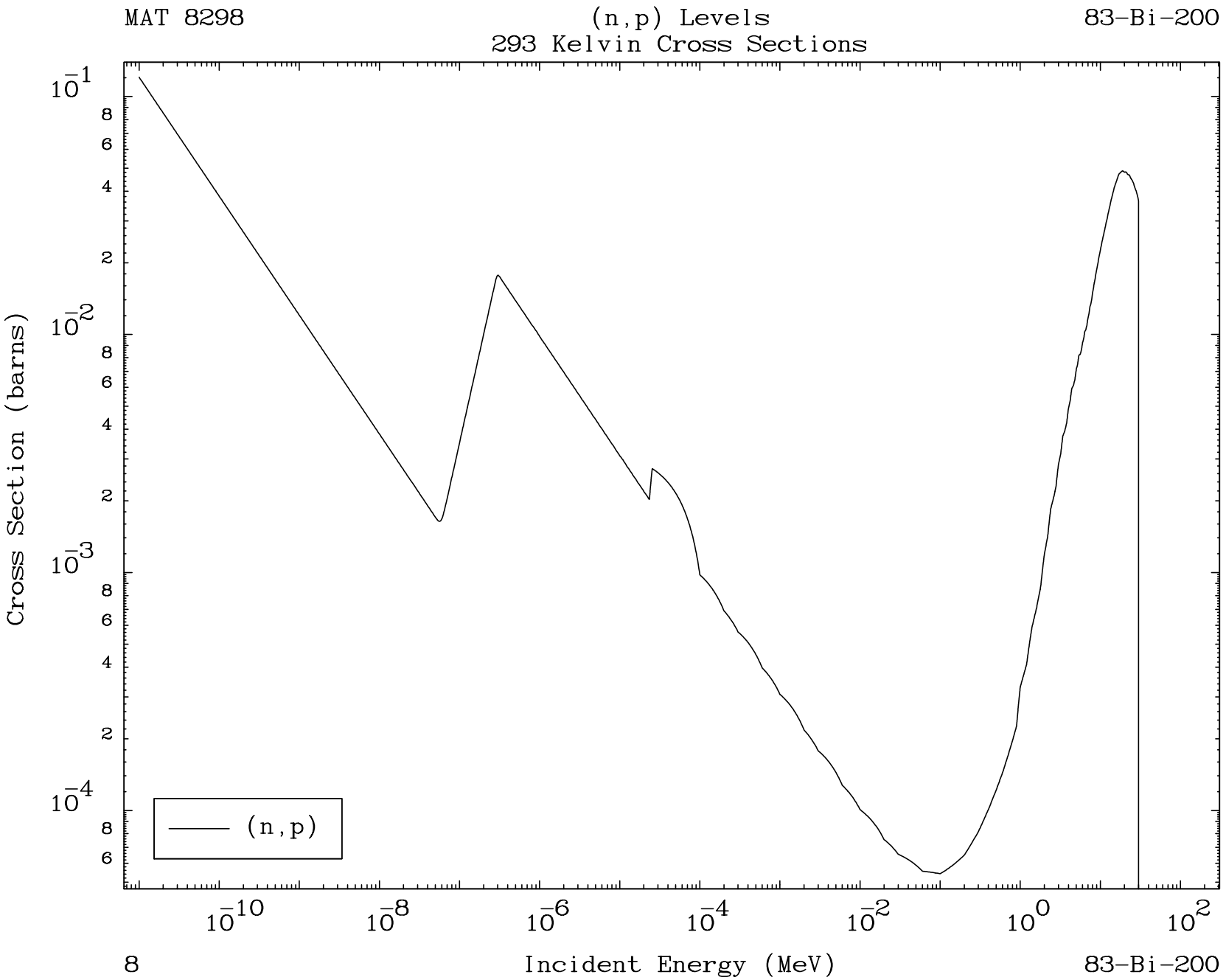

MAT 8298
Neutron Production
293 Kelvin Cross Sections
83-Bi-200
(n,n') d
(n,n') t
(n,n') He-3
(n,4n)
(n,2n) p
(n,3n) p
Cross Section (barns)
Incident Energy (MeV)
3
83-Bi-200

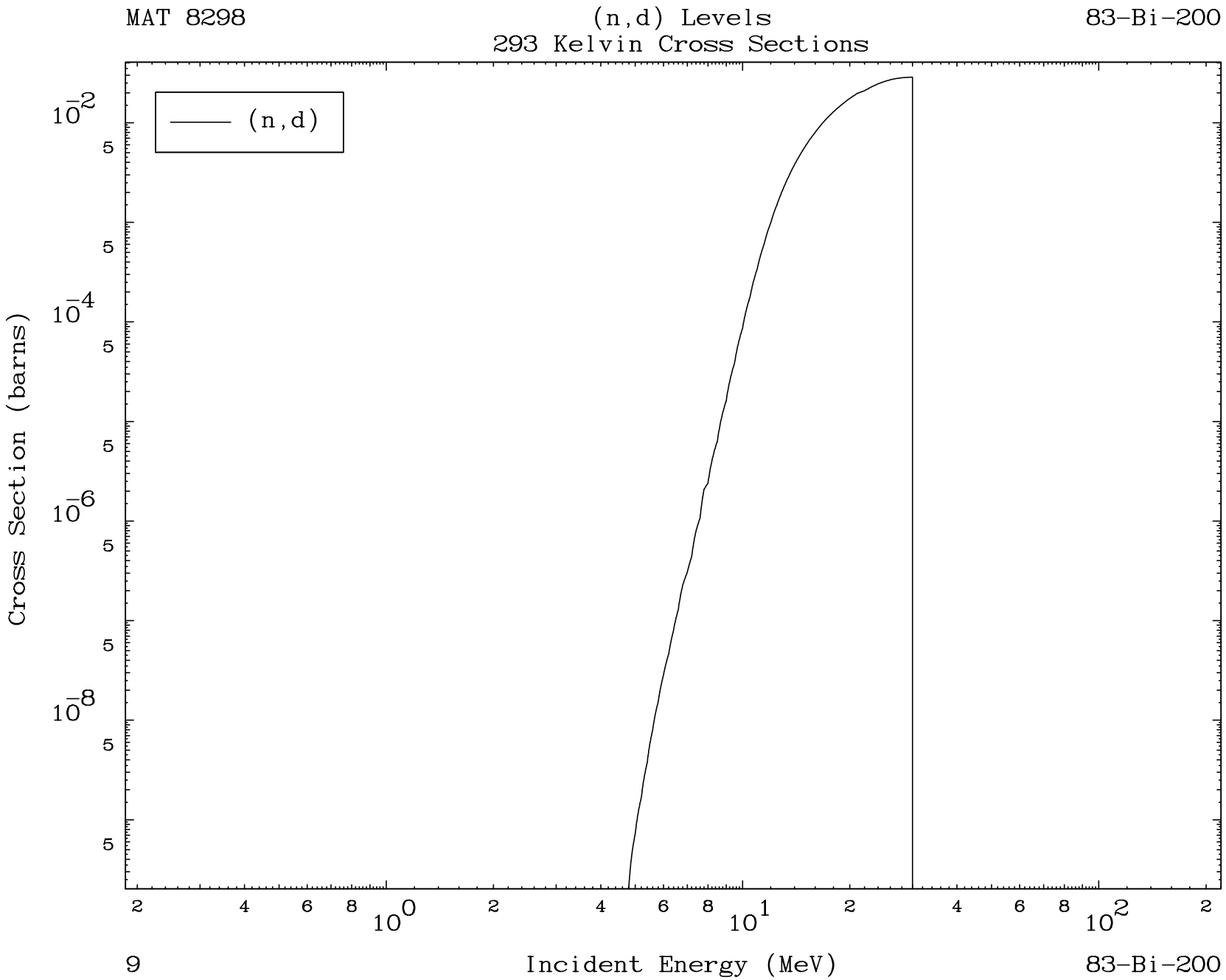

MAT 8298
Charged Particle
293 Kelvin Cross Sections
83-Bi-200
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
(n,n') d
(n,n') t
(n,n') He-3
(n,2n) p
(n,3n) p
Cross Section (barns)
Incident Energy (MeV)
4
83-Bi-200

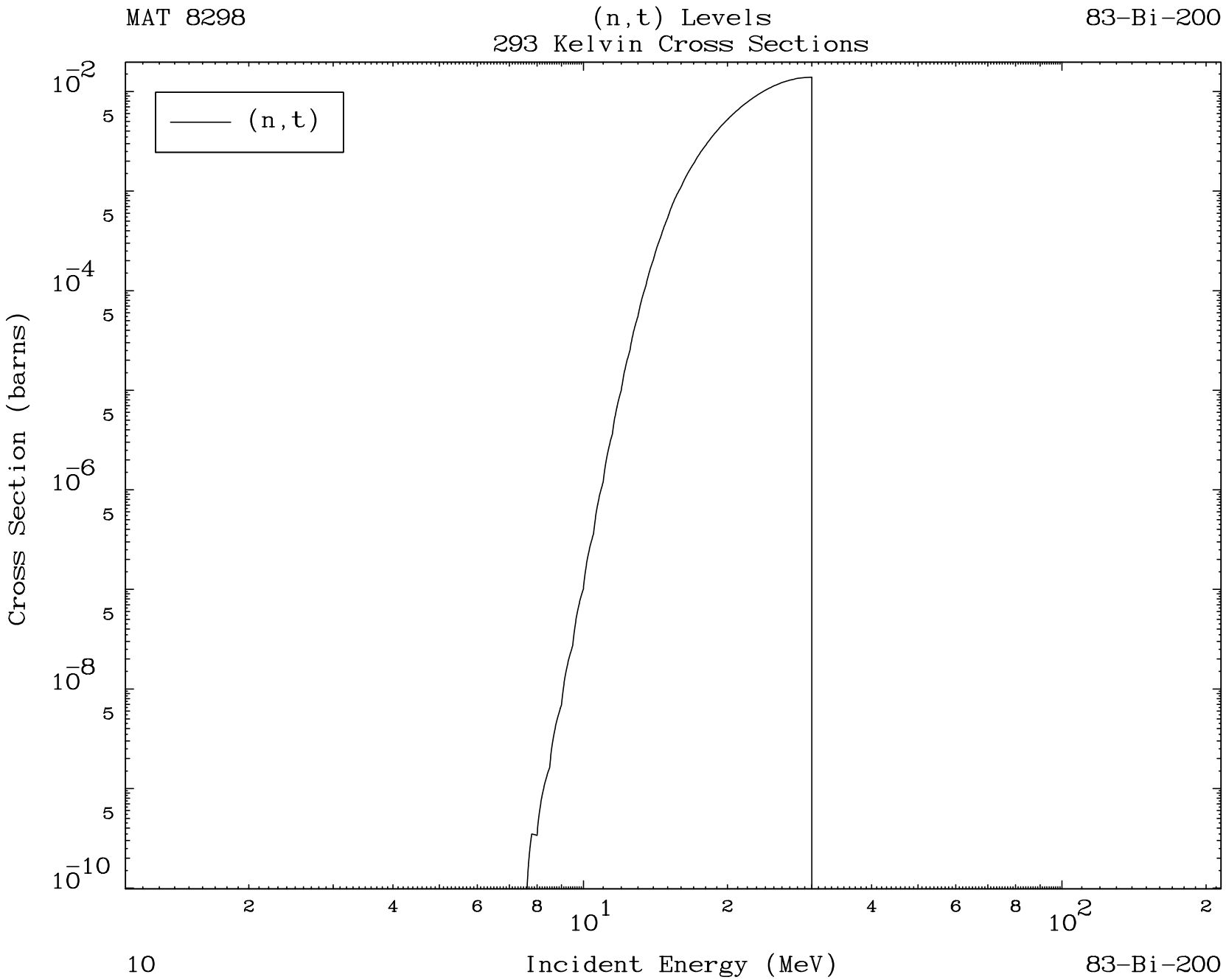

MAT 8298
Charged Particle
293 Kelvin Cross Sections
83-Bi-200
Cross Section (barns)
Incident Energy (MeV)
83-Bi-200
5
(n,p)
(n,d)
(n,t)
(n,He-3)
(n,α)
(n,2α)
(n,2p)
(n,p) α
(n,p) d
(n,p) t

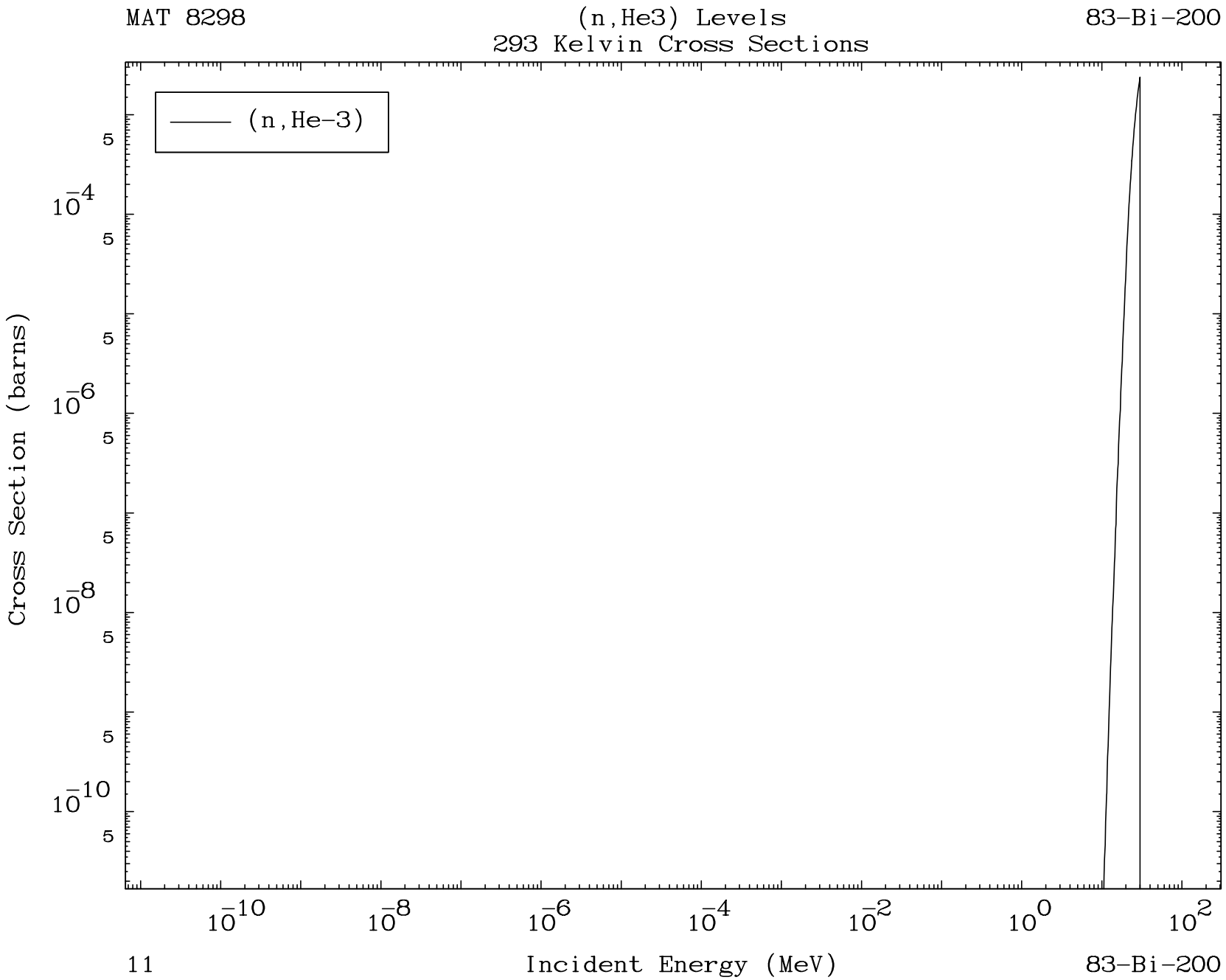

MAT 8298
Particle Production
293 Kelvin Cross Sections
83-Bi-200
Cross Section (barns)
10^0
10^-2
10^-4
10^-6
5
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
Incident Energy (MeV)
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
6
83-Bi-200

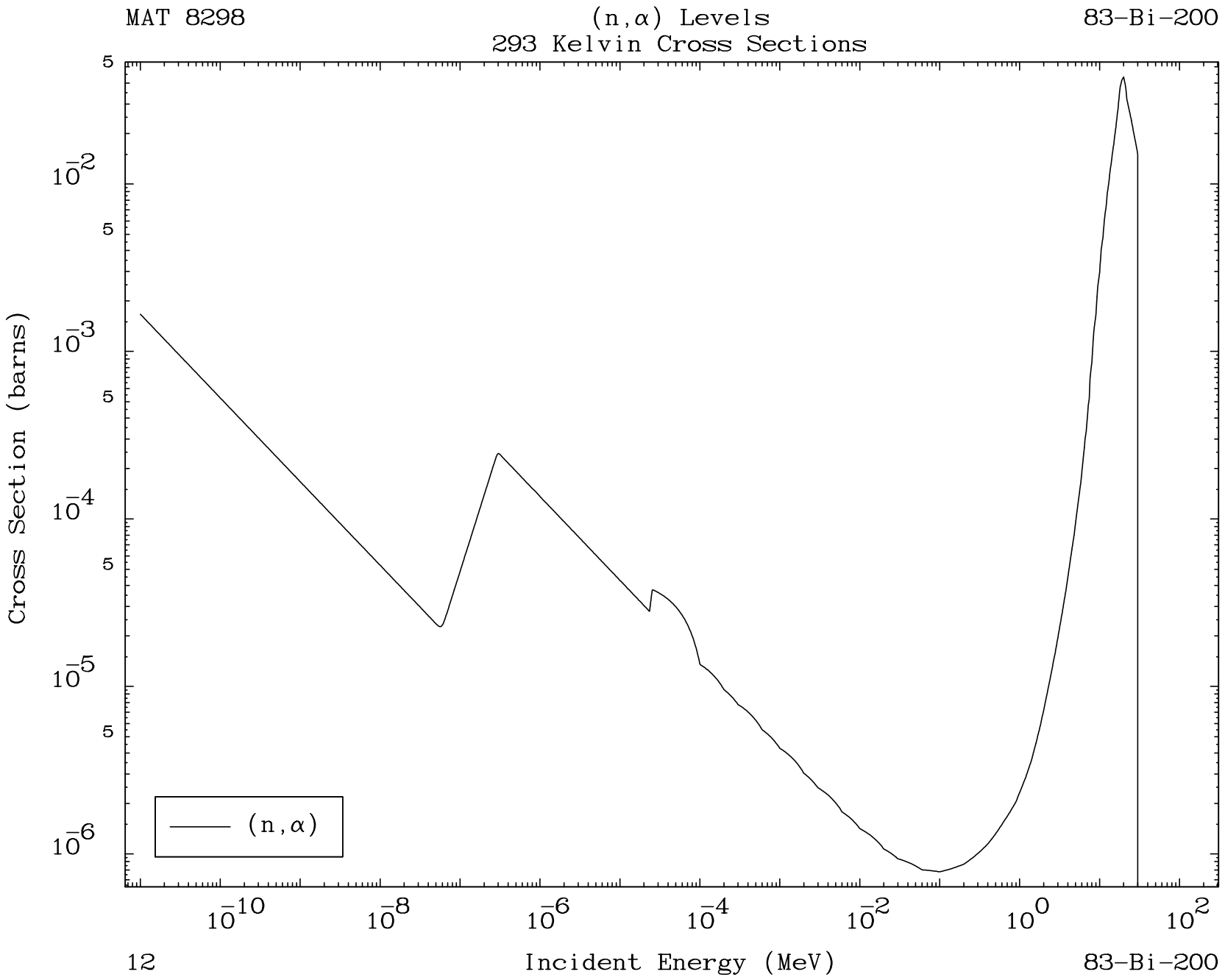

MAT 8298
(n,n') Level
83-Bi-200
293 Kelvin Cross Sections
Inelastic
MT= 51 (n,n') Level
MT= 52 (n,n') Level
MT= 53 (n,n') Level
MT= 54 (n,n') Level
MT= 55 (n,n') Level
MT= 56 (n,n') Level
MT= 57 (n,n') Level
MT= 58 (n,n') Level
MT= 59 (n,n') Level
(n,n') Continuum
Cross Section (barns)
10^6
10^3
10^0
10^-3
10^-6
2 4 6 8 10^0 2 4 6 8 10^1 2 4 6 8 10^2 2
Incident Energy (MeV)
7
83-Bi-200

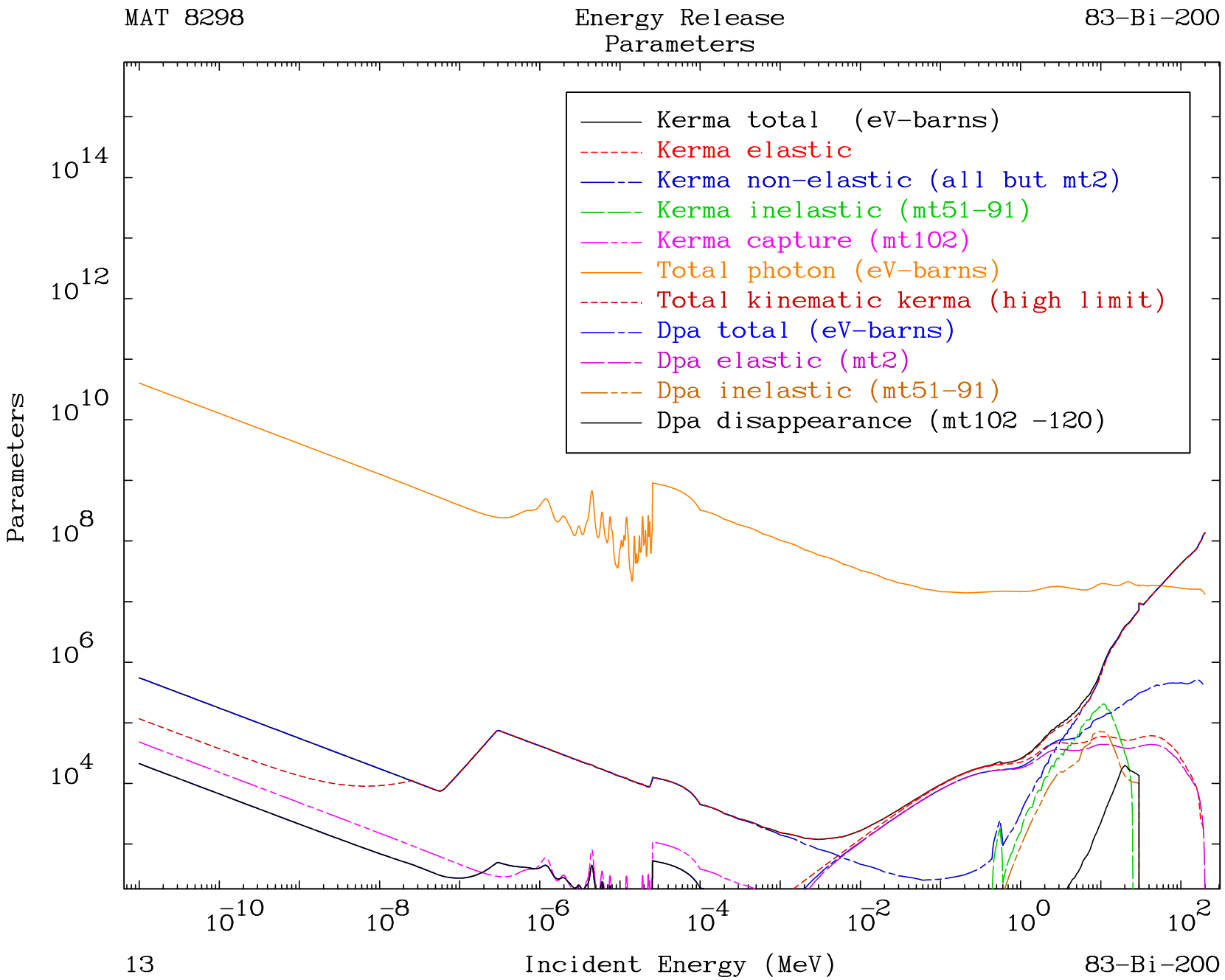

MAT 8298
(n,p) Levels
83-Bi-200
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
(n,p)
8
83-Bi-200

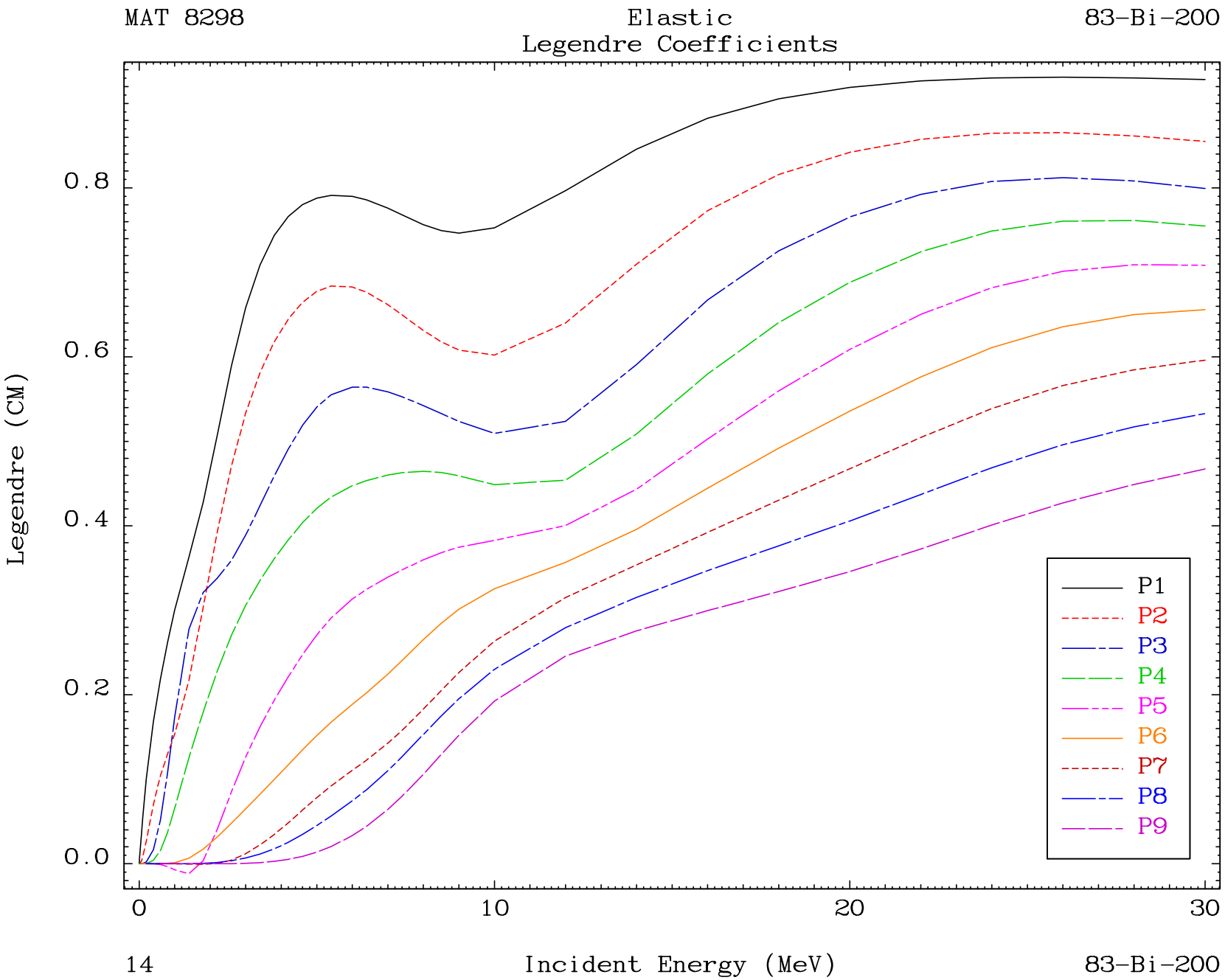

MAT 8298
(n,d) Levels
83-Bi-200
293 Kelvin Cross Sections
(n,d)
Cross Section (barns)
Incident Energy (MeV)
9
83-Bi-200

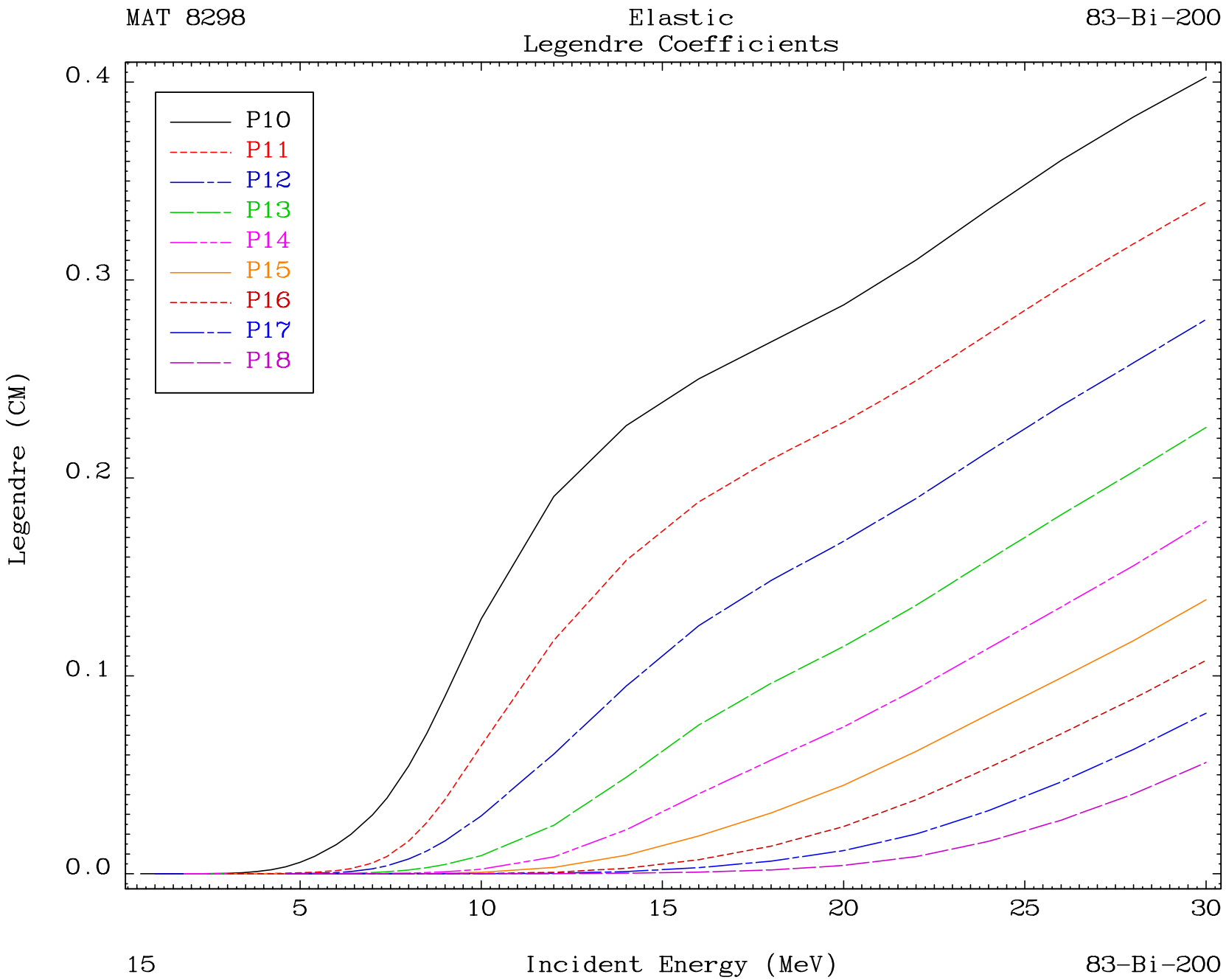

MAT 8298
(n,t) Levels
83-Bi-200
293 Kelvin Cross Sections
(n,t)
Cross Section (barns)
Incident Energy (MeV)
10
83-Bi-200

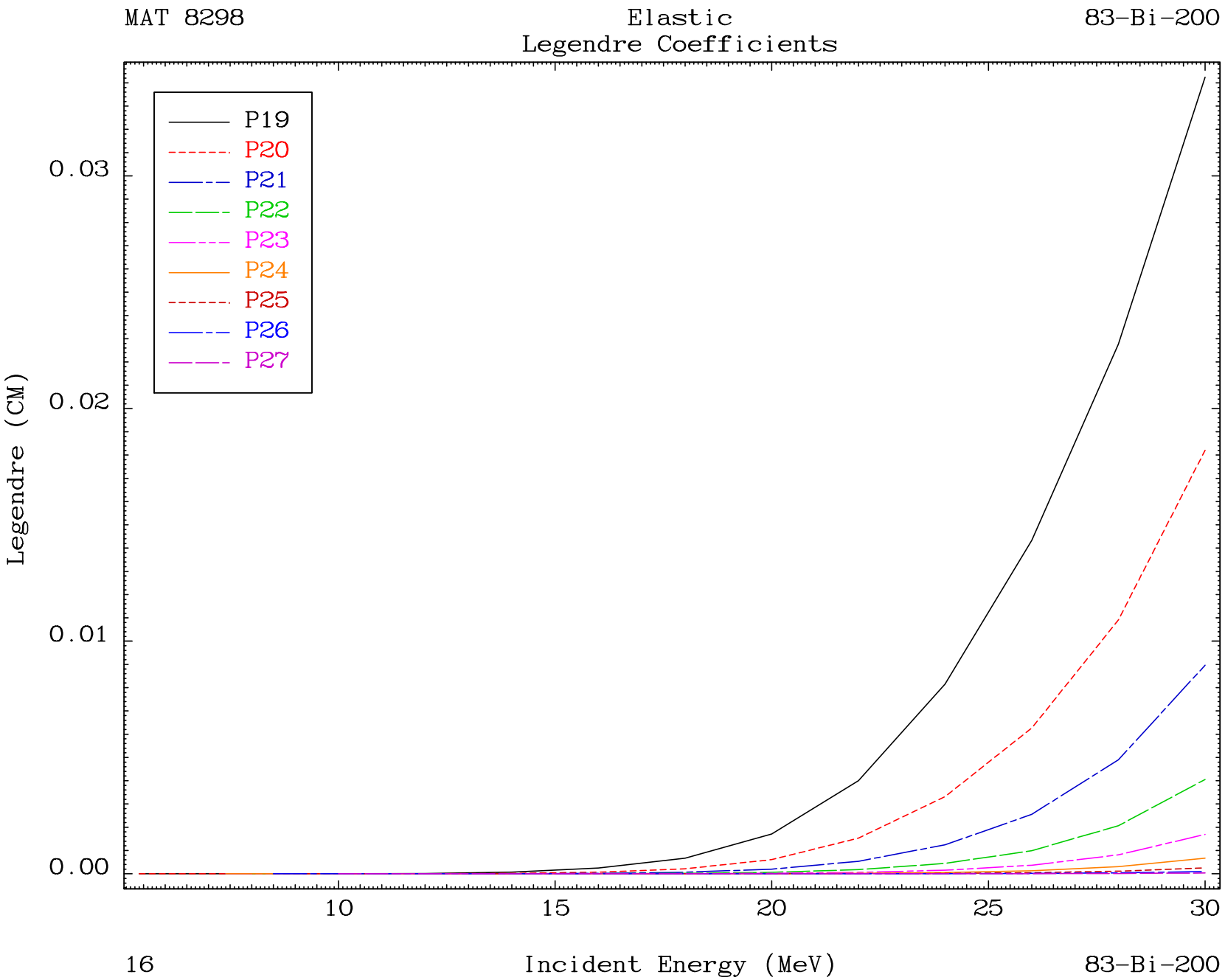

MAT 8298
(n,He3) Levels
83-Bi-200
293 Kelvin Cross Sections
(n,He-3)
Cross Section (barns)
Incident Energy (MeV)
11
83-Bi-200

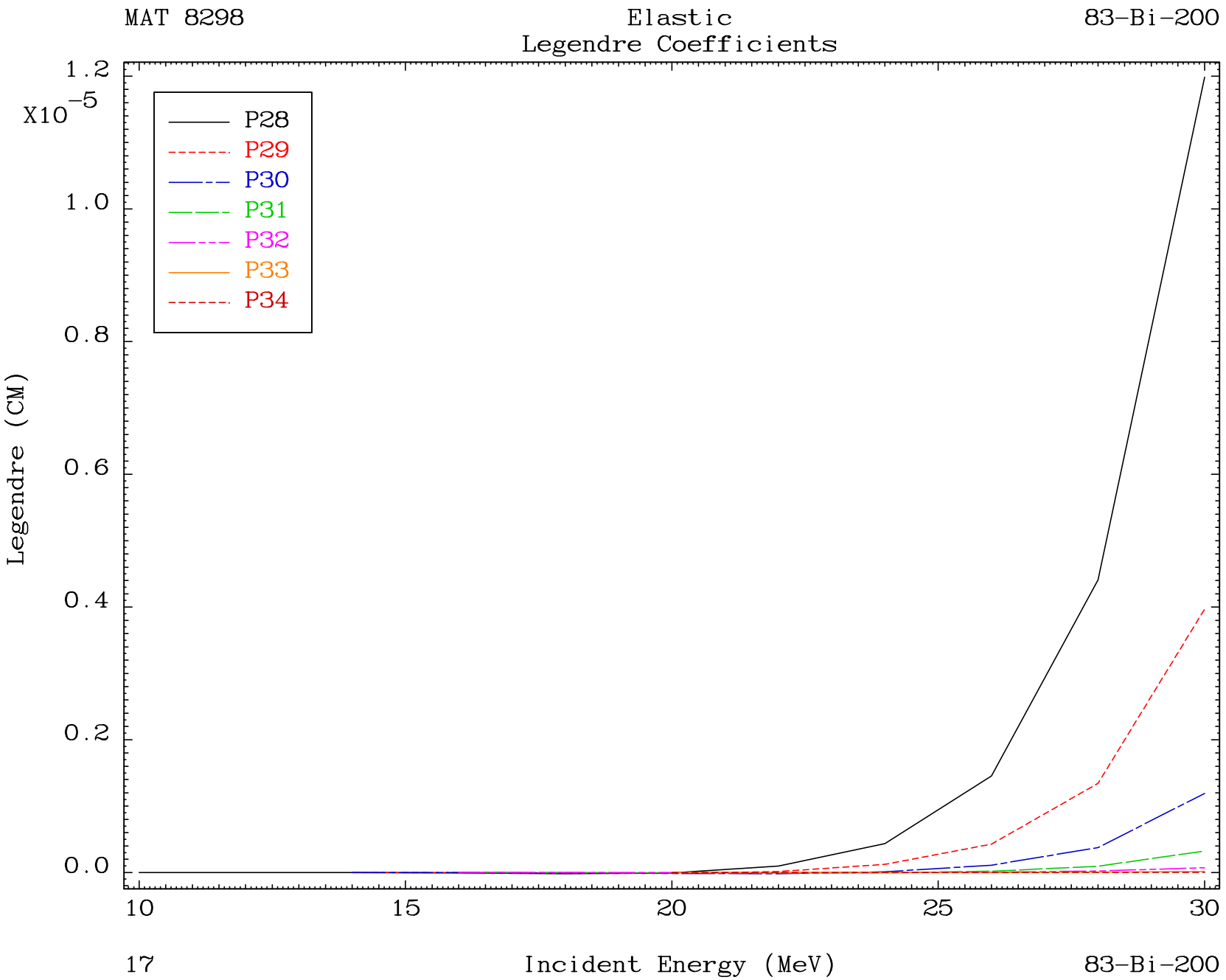

MAT 8298
(n,α) Levels
83-Bi-200
293 Kelvin Cross Sections
Cross Section (barns)
5
10-2
5
10-3
5
10-4
5
10-5
5
10-6
(n,α)
10-10
10-8
10-6
10-4
10-2
100
102
12
Incident Energy (MeV)
83-Bi-200

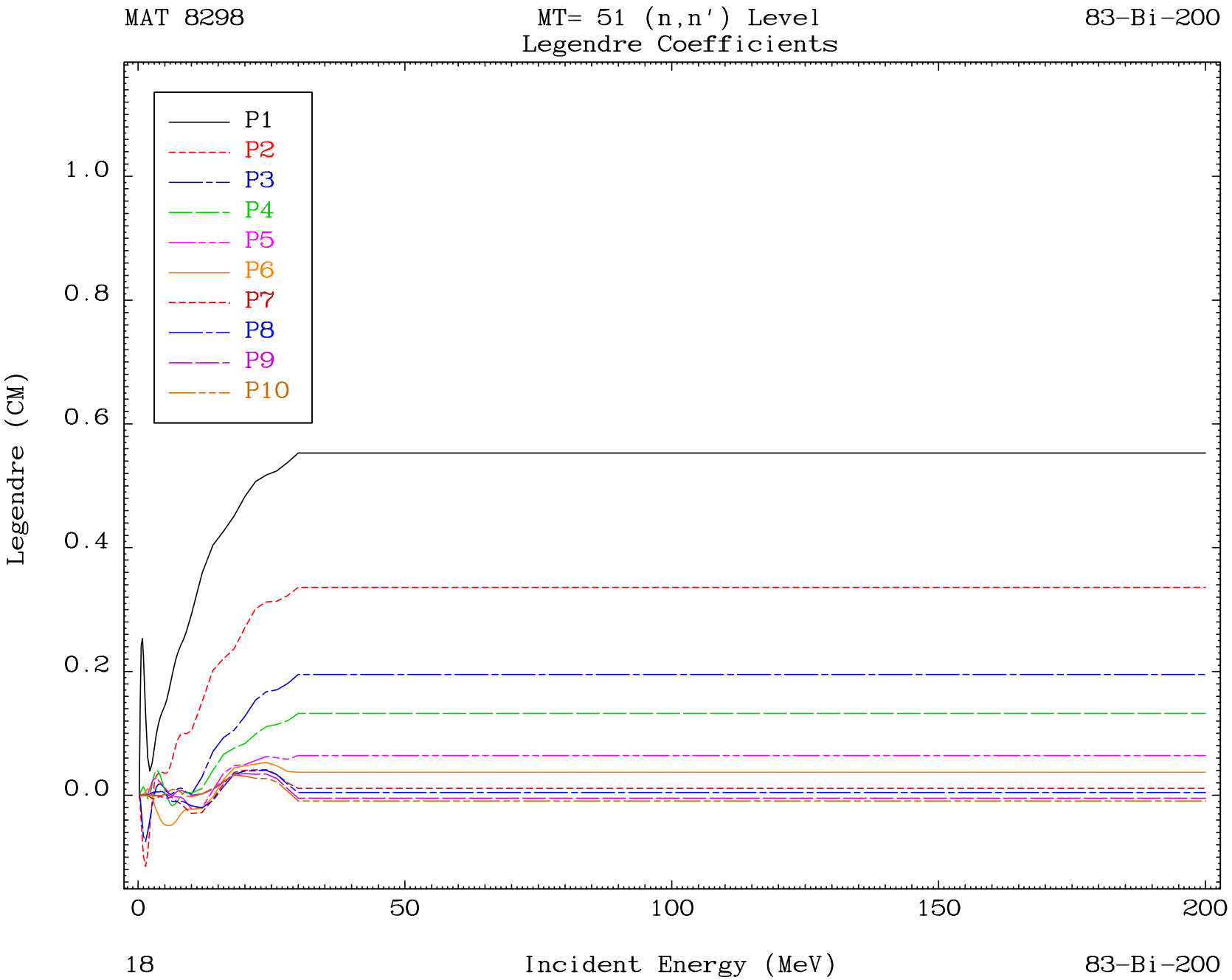

MAT 8298
Energy Release
Parameters
83-Bi-200
Kerma total (eV-barns)
Kerma elastic
Kerma non-elastic (all but mt2)
Kerma inelastic (mt51-91)
Kerma capture (mt102)
Total photon (eV-barns)
Total kinematic kerma (high limit)
Dpa total (eV-barns)
Dpa elastic (mt2)
Dpa inelastic (mt51-91)
Dpa disappearance (mt102 -120)
Parameters
10^{14}
10^{12}
10^{10}
10^{8}
10^{6}
10^{4}
10^{-10}
10^{-8}
10^{-6}
10^{-4}
10^{-2}
10^{0}
10^{2}
13
Incident Energy (MeV)
83-Bi-200

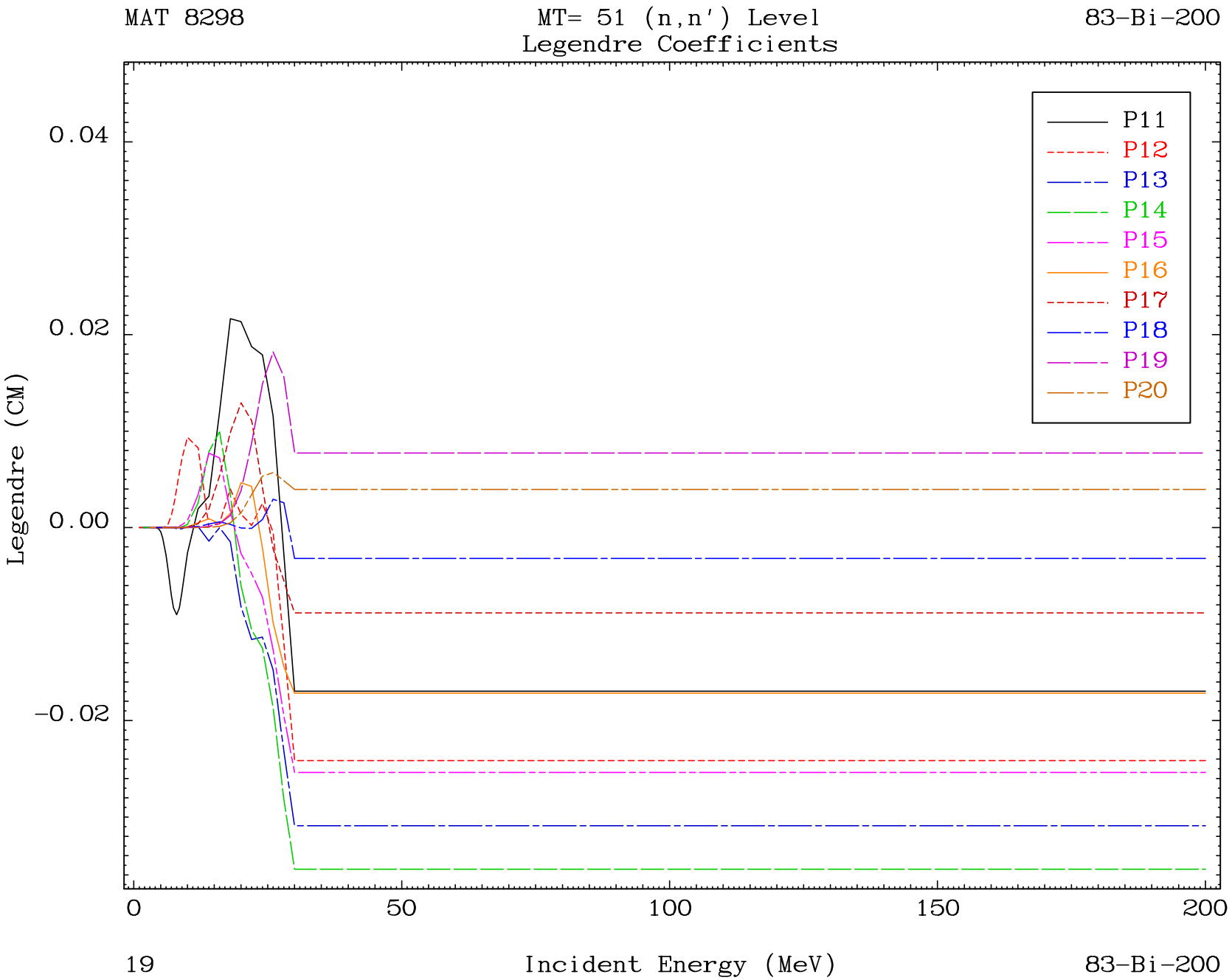

MAT 8298
Elastic
Legendre Coefficients
83-Bi-200
Legendre (CM)
0.0
0.2
0.4
0.6
0.8
0
10
20
30
14
Incident Energy (MeV)
83-Bi-200
P1
P2
P3
P4
P5
P6
P7
P8
P9

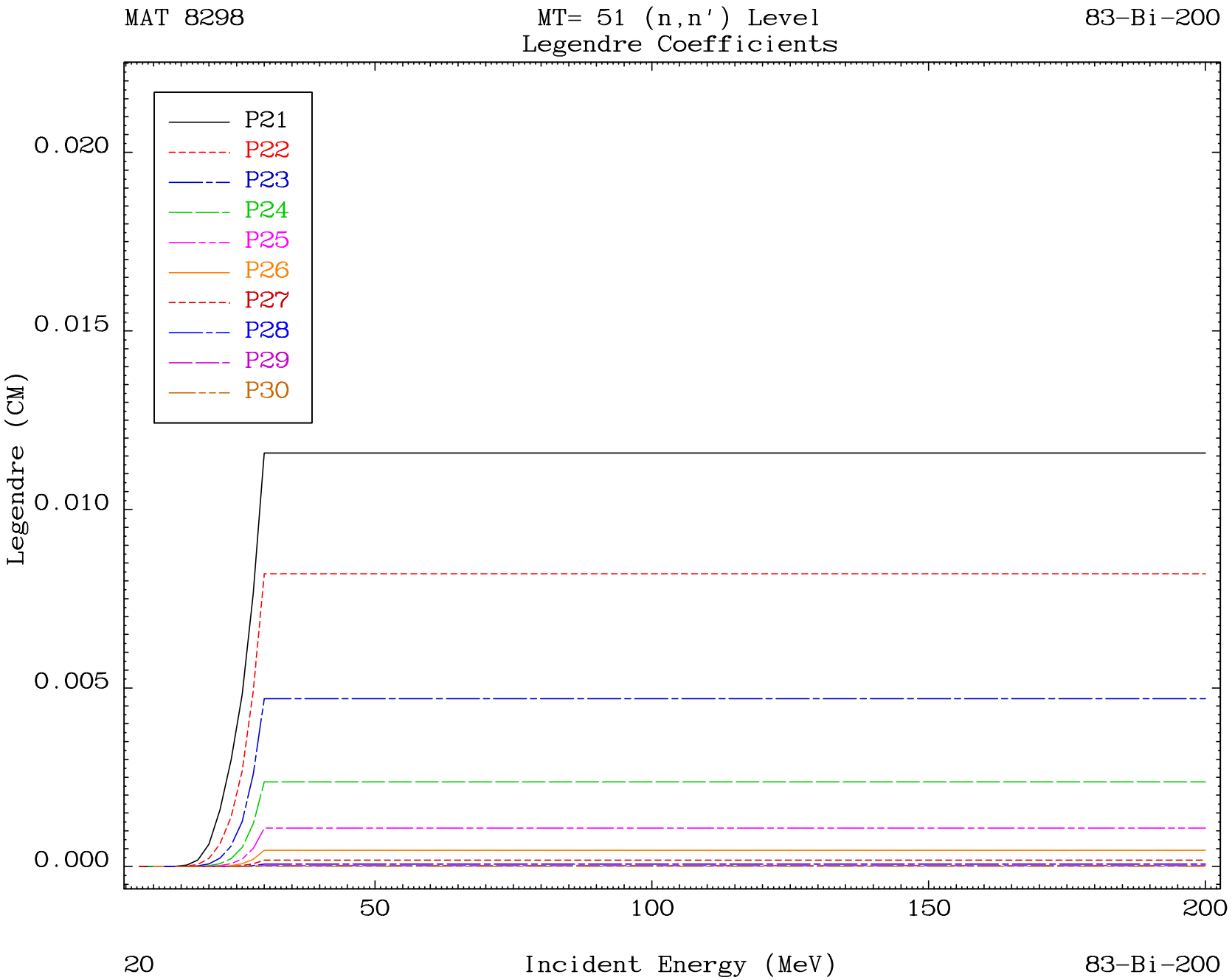

MAT 8298
Elastic
Legendre Coefficients
83-Bi-200
P10
P11
P12
P13
P14
P15
P16
P17
P18
Legendre (CM)
0.4
0.3
0.2
0.1
0.0
5
10
15
20
25
30
15
Incident Energy (MeV)
83-Bi-200

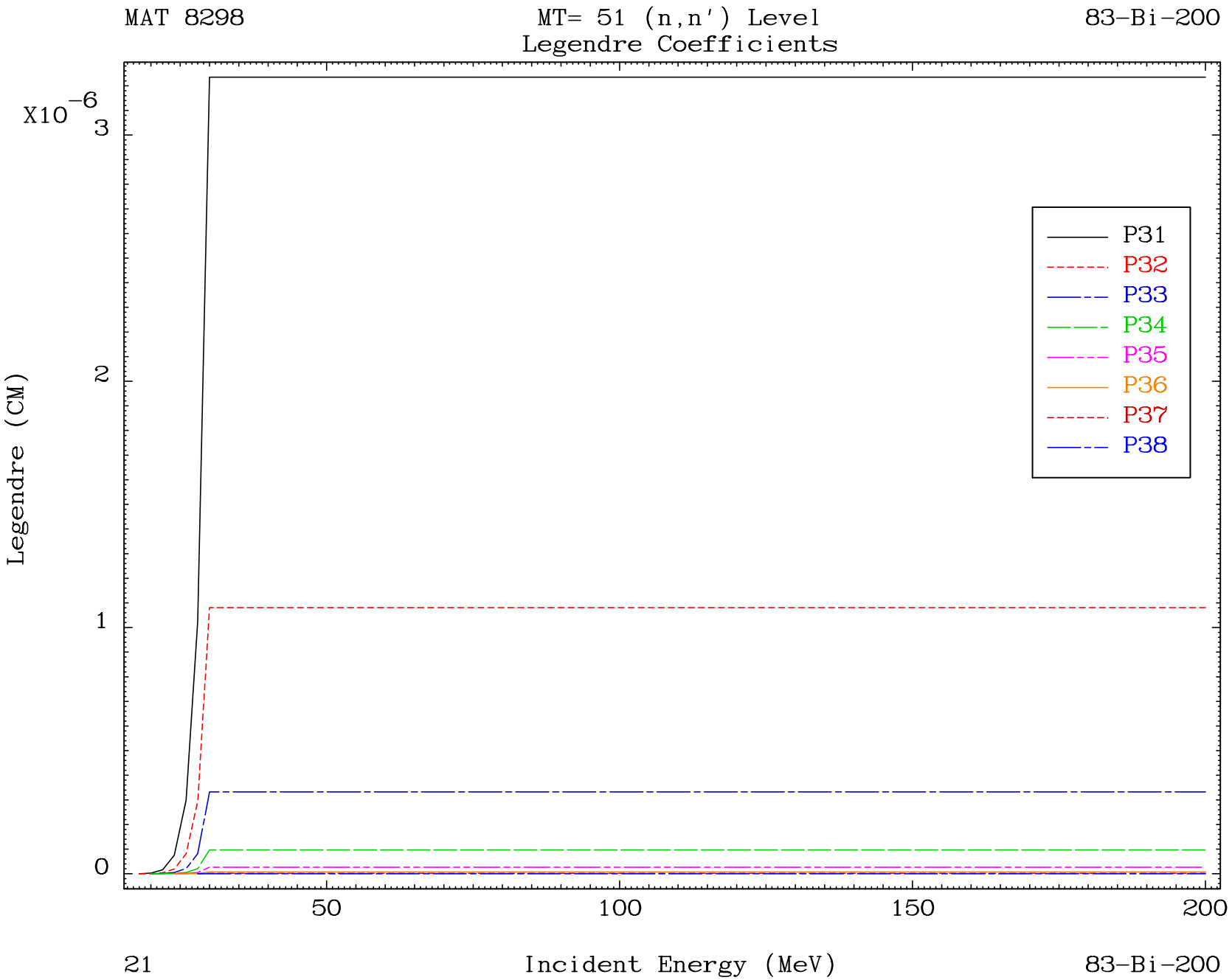

MAT 8298
Elastic
Legendre Coefficients
83-Bi-200
P19
P20
P21
P22
P23
P24
P25
P26
P27
Legendre (CM)
0.03
0.02
0.01
0.00
10
15
20
25
30
16
Incident Energy (MeV)
83-Bi-200

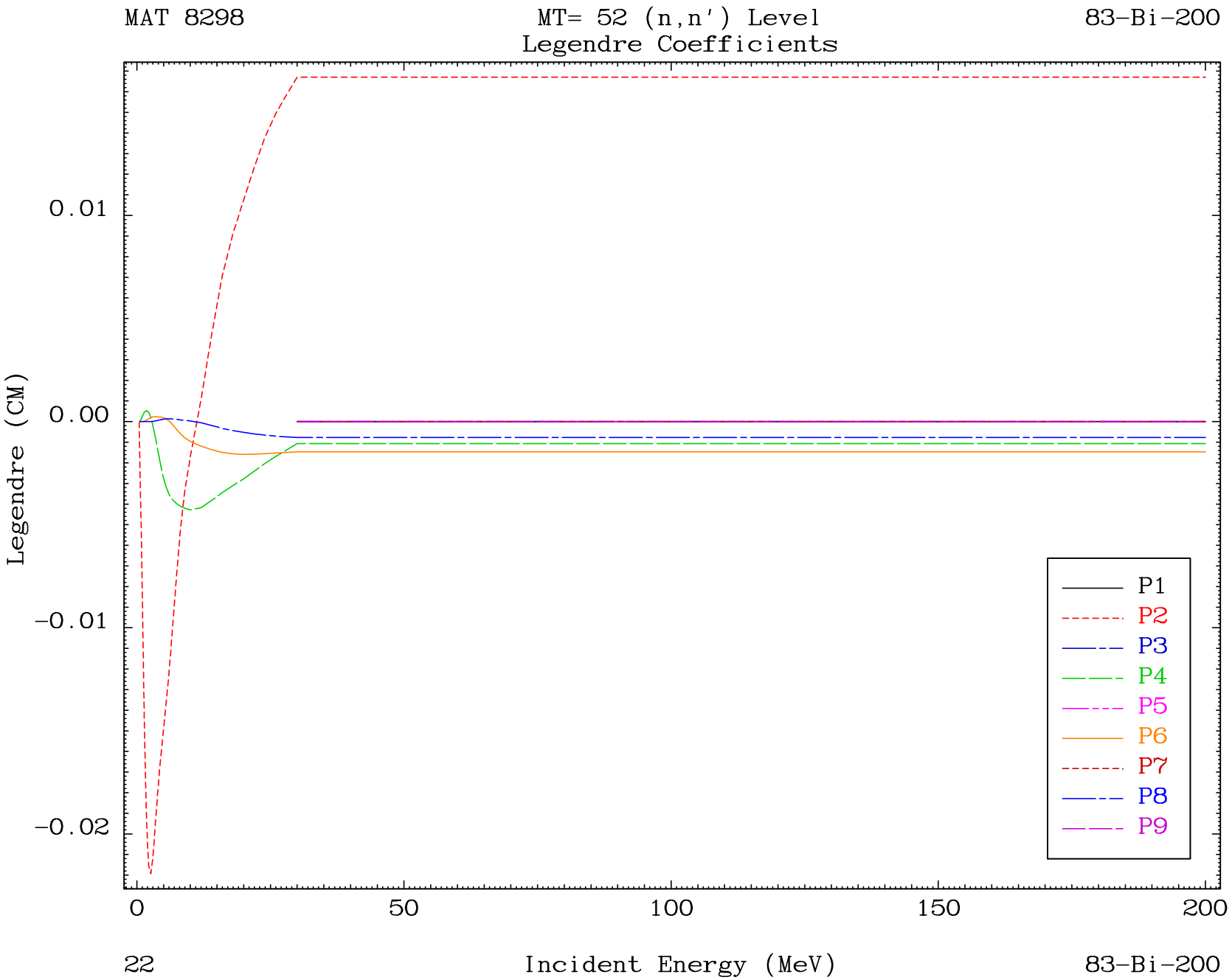

MAT 8298
Elastic
Legendre Coefficients
83-Bi-200
X10 -5
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P28
P29
P30
P31
P32
P33
P34
10
15
20
25
30
17
Incident Energy (MeV)
83-Bi-200

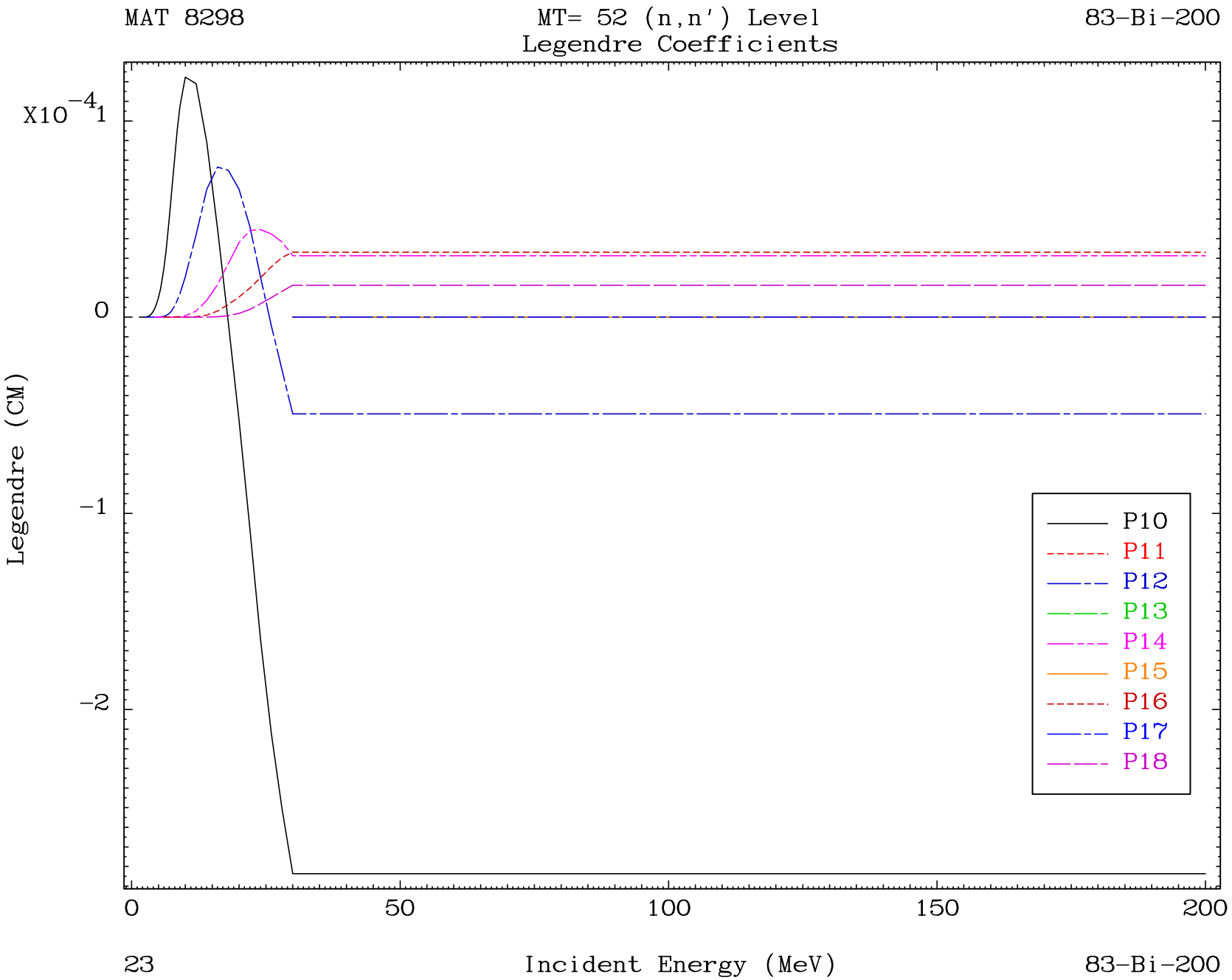

MAT 8298
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-200
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
0
50
100
150
200
18
Incident Energy (MeV)
83-Bi-200

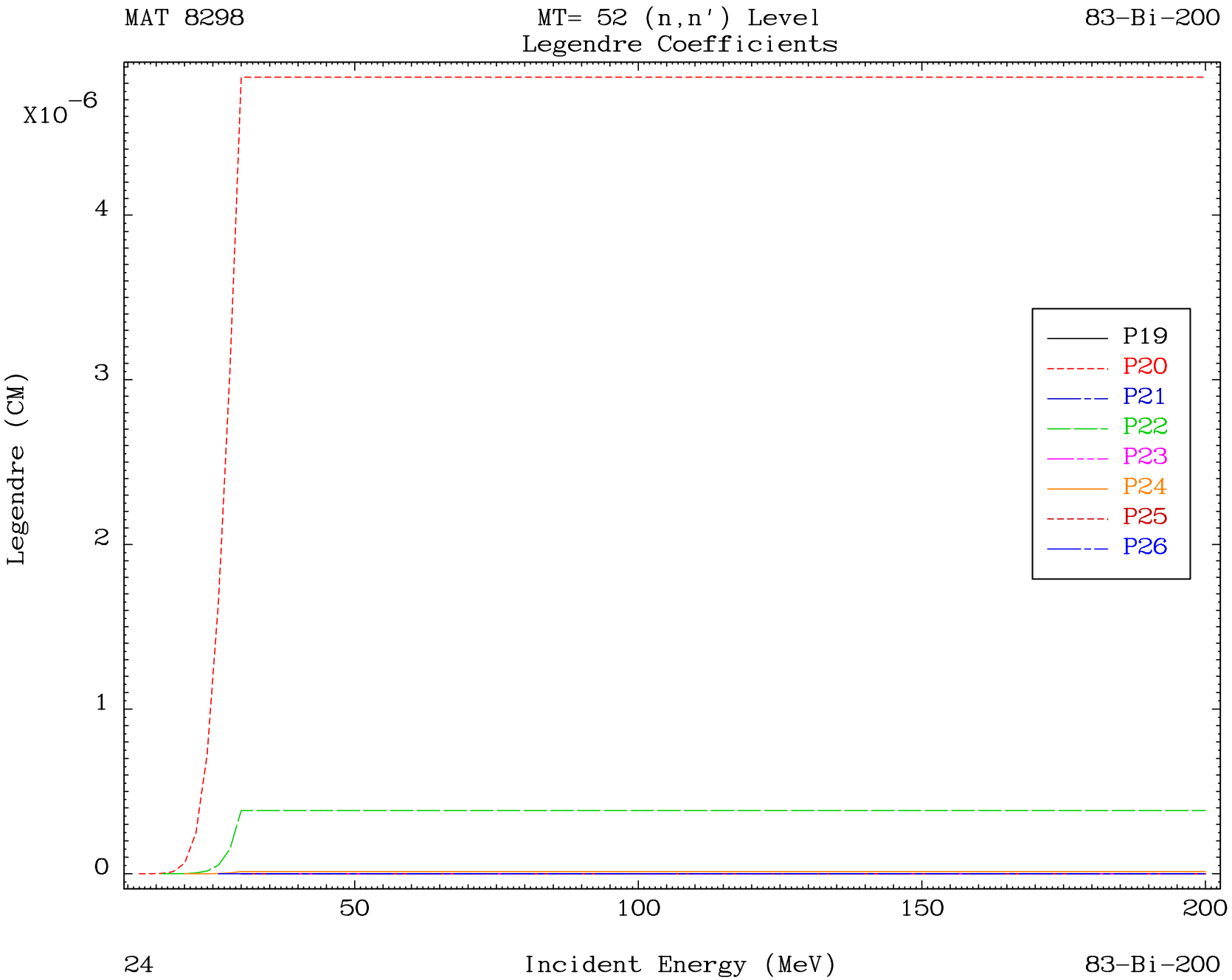

MAT 8298
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-200
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.04
0.02
0.00
-0.02
Legendre (CM)
0
50
100
150
200
19
Incident Energy (MeV)
83-Bi-200

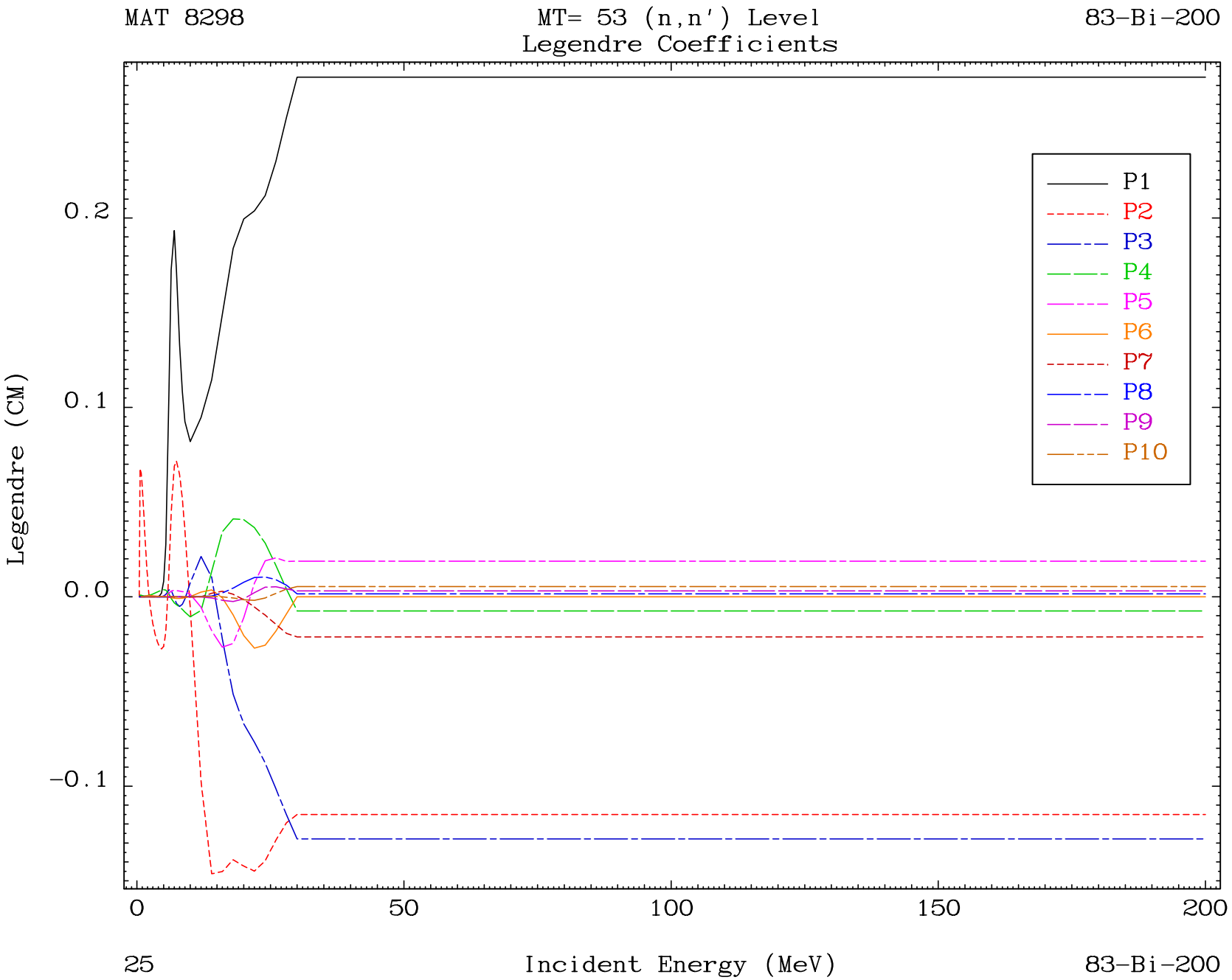

MAT 8298
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-200
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
0.020
0.015
0.010
0.005
0.000
Legendre (CM)
50
100
150
200
20
Incident Energy (MeV)
83-Bi-200

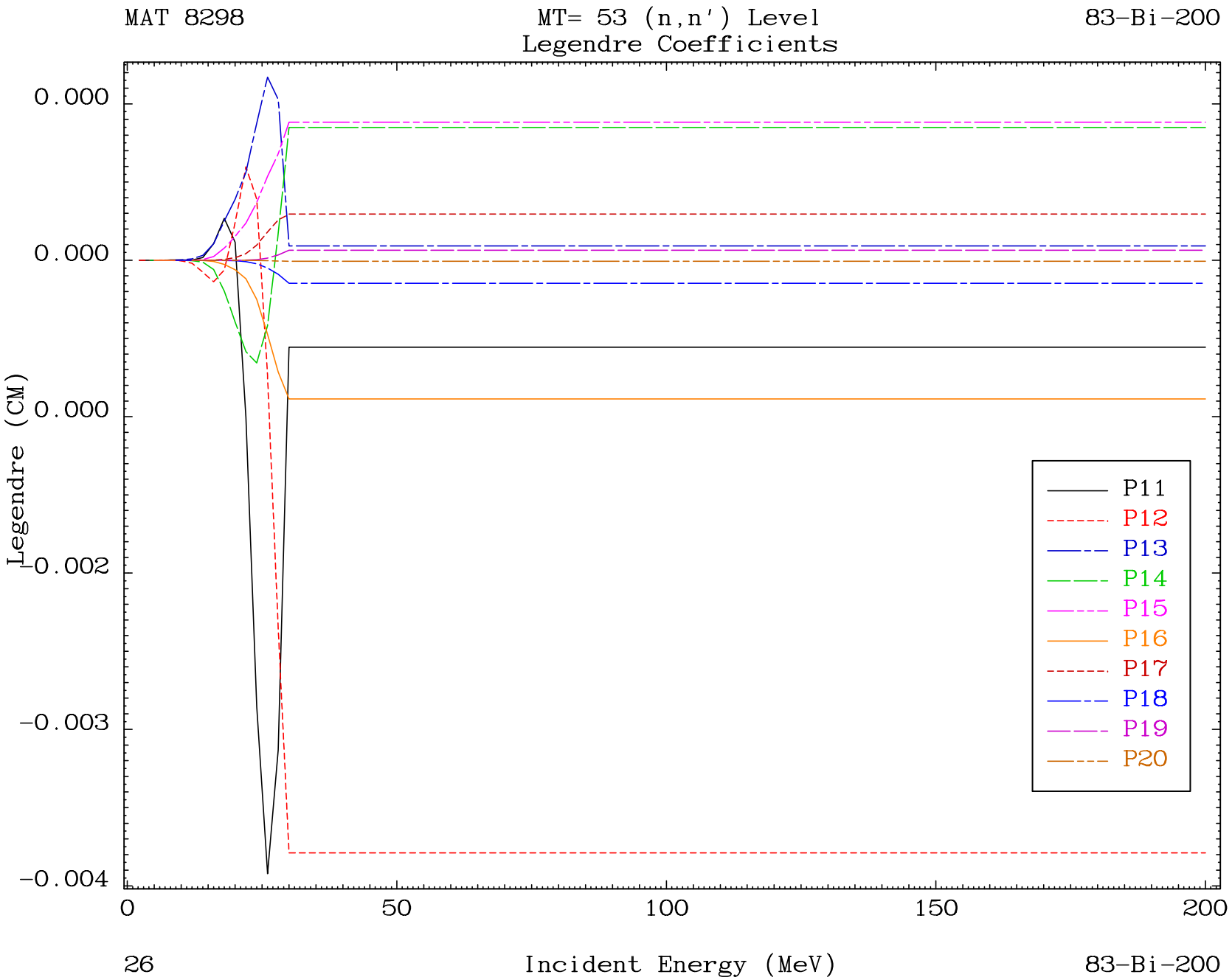

MAT 8298
MT= 51 (n,n') Level
Legendre Coefficients
83-Bi-200
X10 -6
3
2
1
0
Legendre (CM)
P31
P32
P33
P34
P35
P36
P37
P38
50
100
150
200
21
Incident Energy (MeV)
83-Bi-200

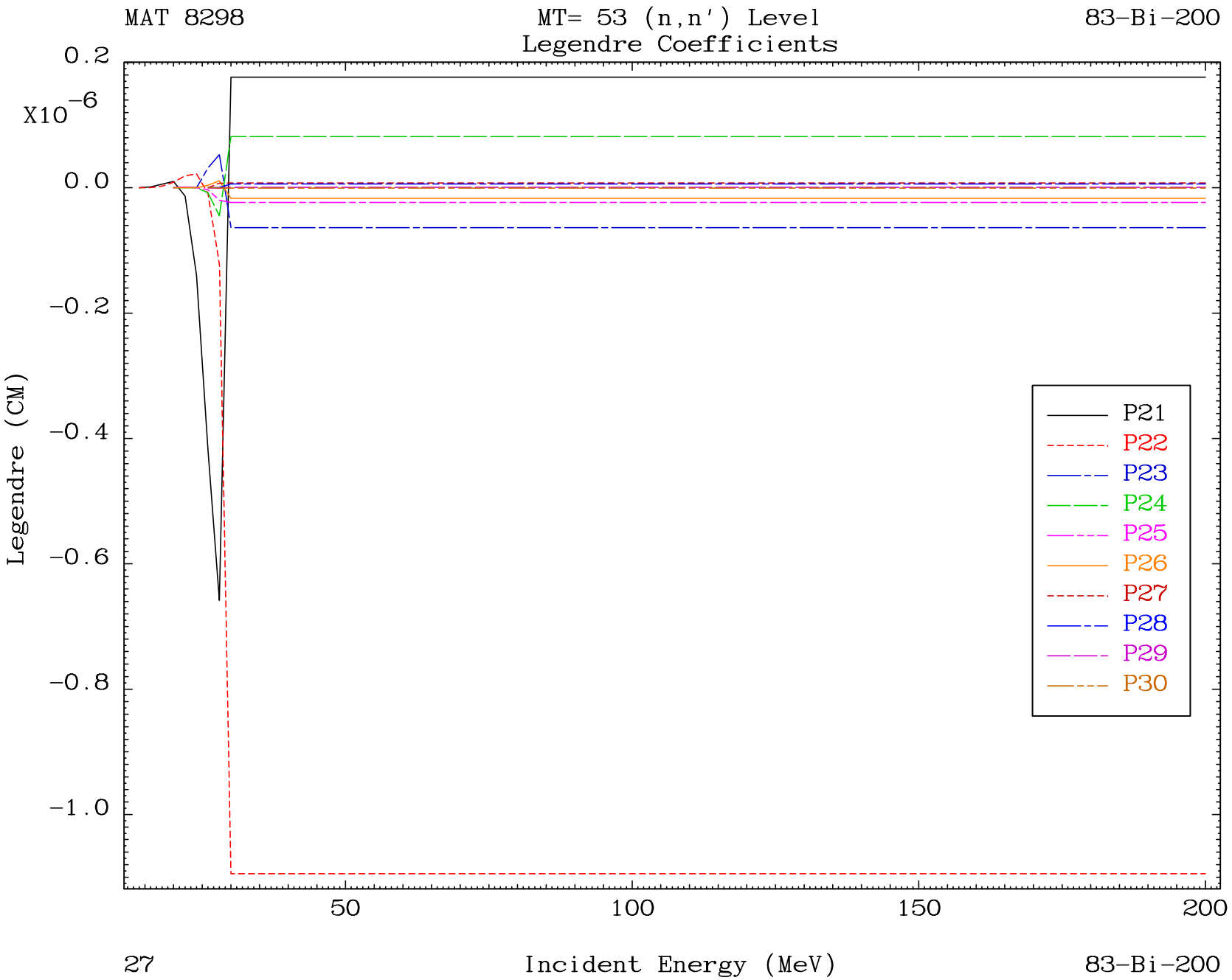

MAT 8298
MT= 52 (n,n') Level
Legendre Coefficients
83-Bi-200
0.01
0.00
-0.01
-0.02
Legendre (CM)
0
50
100
150
200
22
Incident Energy (MeV)
83-Bi-200
P1
P2
P3
P4
P5
P6
P7
P8
P9

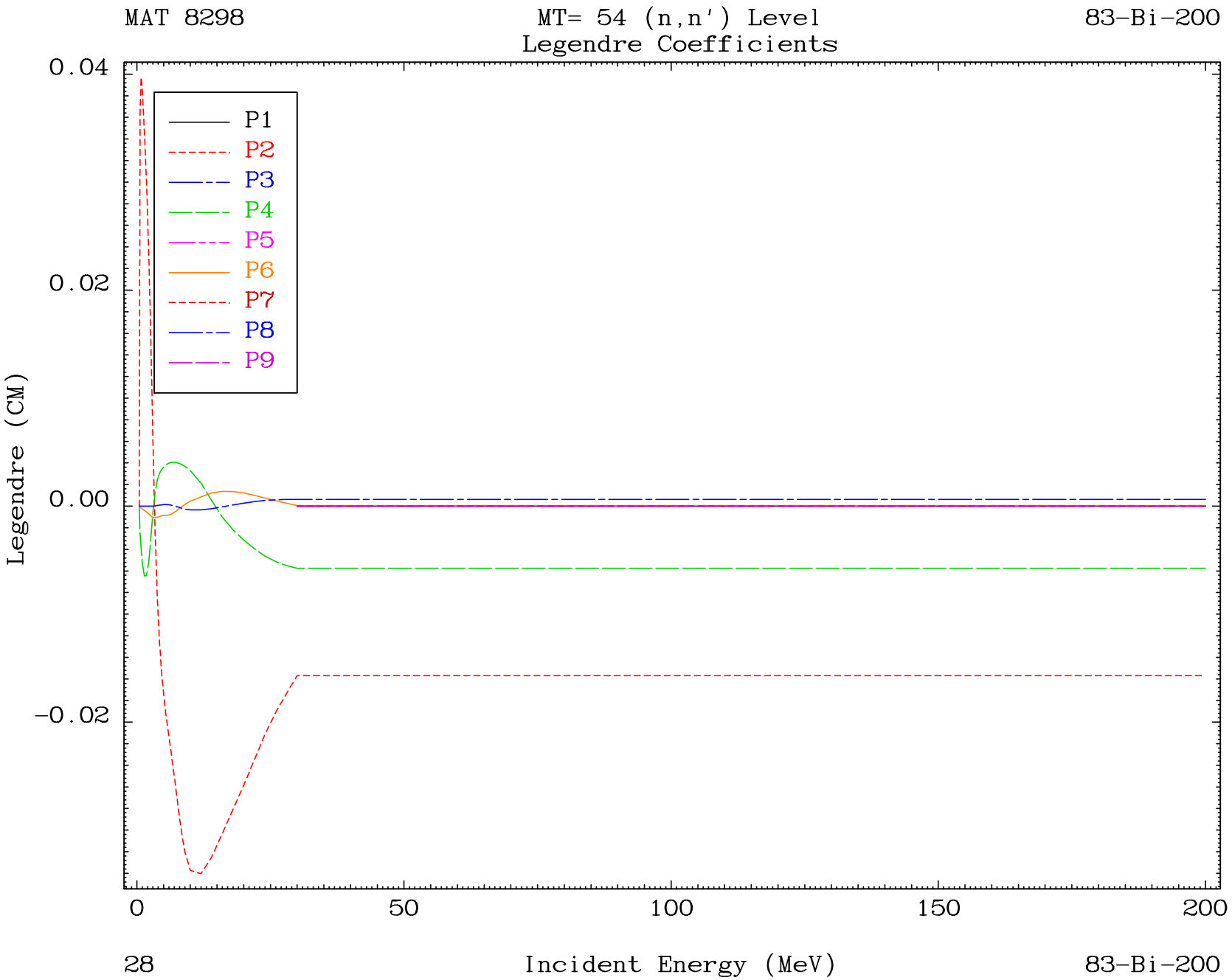

MAT 8298
MT= 52 (n,n') Level
Legendre Coefficients
83-Bi-200
X10^-4
1
0
-1
-2
Legendre (CM)
0
50
100
150
200
23
Incident Energy (MeV)
83-Bi-200
P10
P11
P12
P13
P14
P15
P16
P17
P18

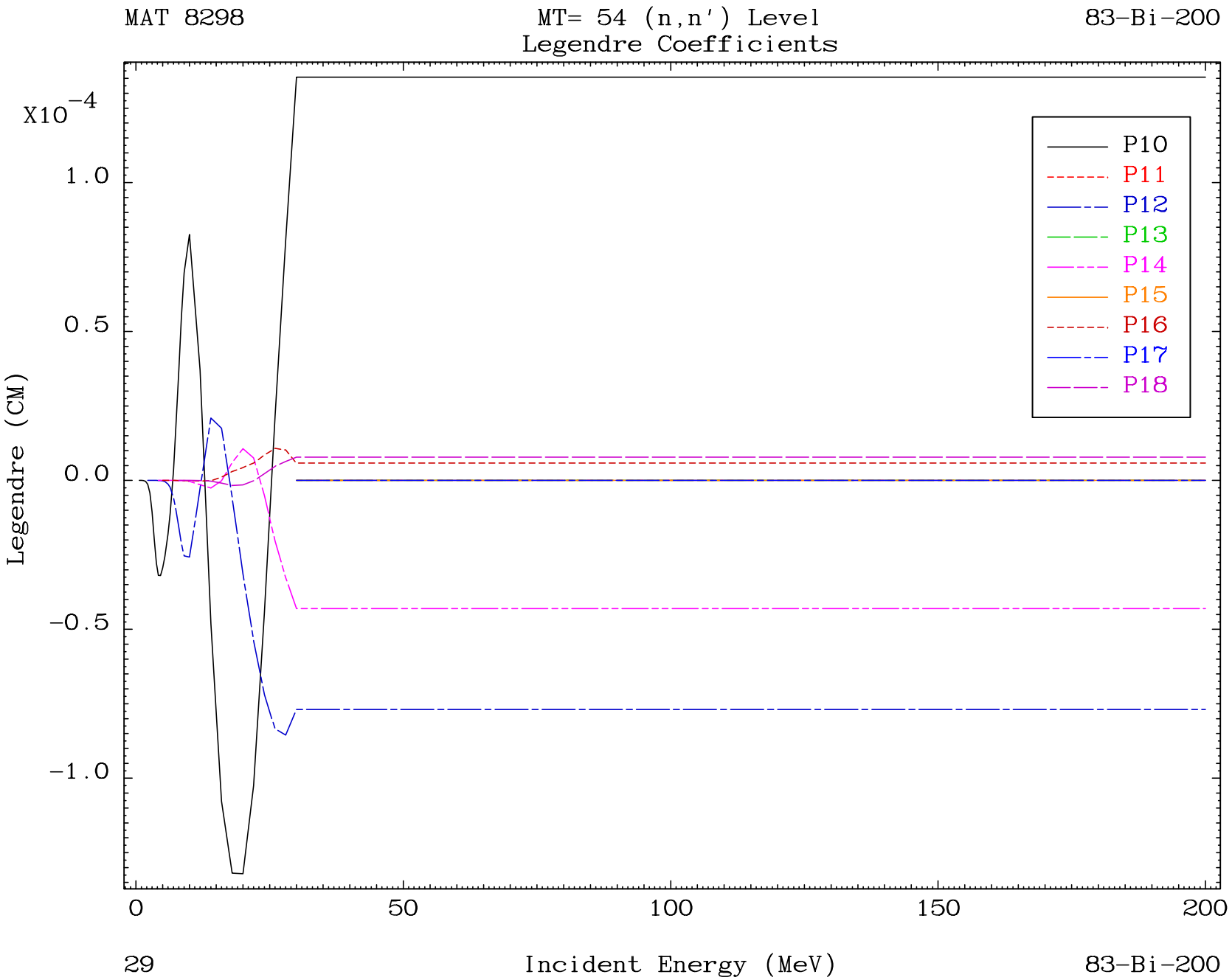

MAT 8298
MT= 52 (n,n') Level
Legendre Coefficients
83-Bi-200
X10^-6
4
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
24
Incident Energy (MeV)
83-Bi-200

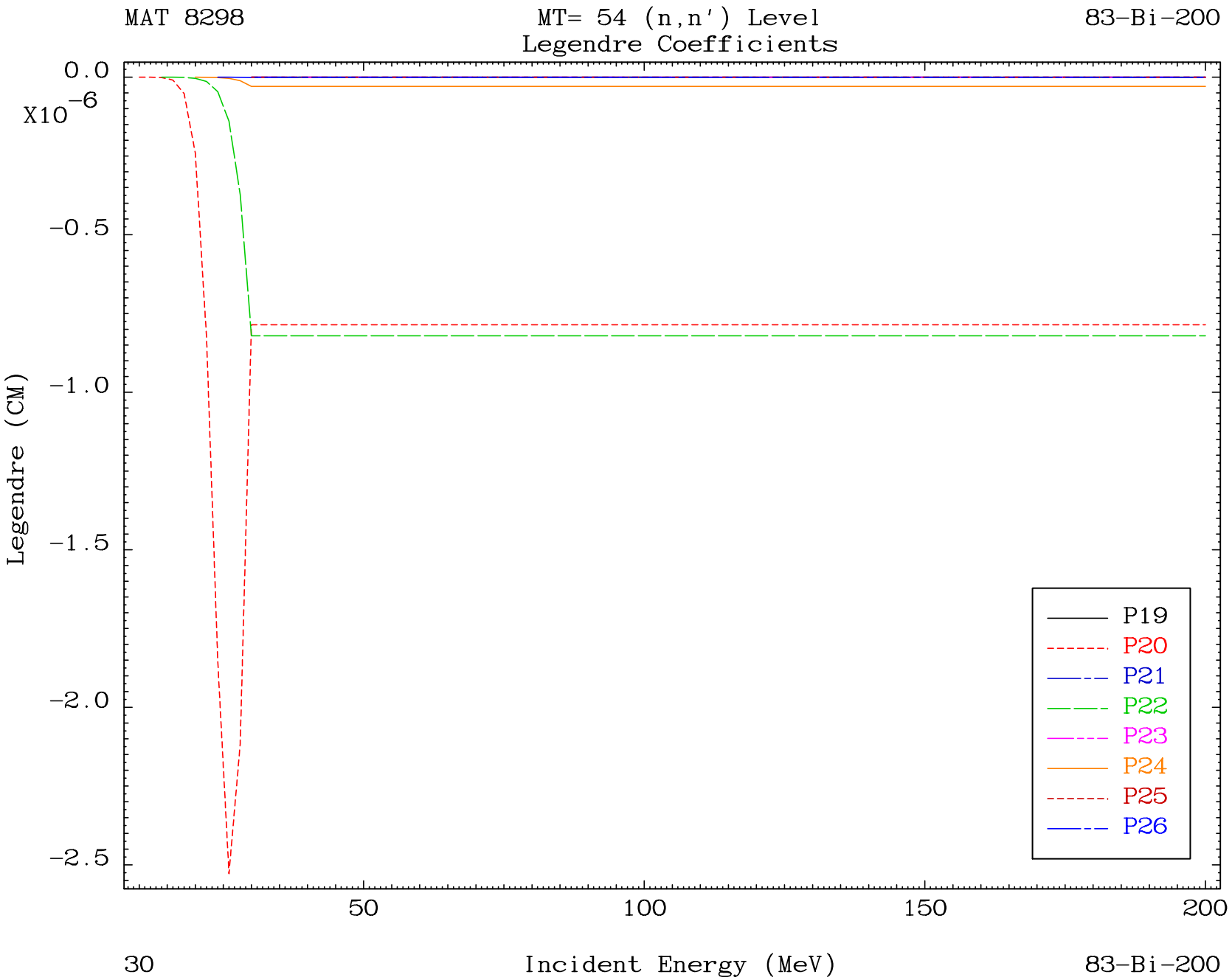

MAT 8298
MT= 53 (n,n') Level
Legendre Coefficients
83-Bi-200
Legendre (CM)
0.2
0.1
0.0
-0.1
0
50
100
150
200
25
Incident Energy (MeV)
83-Bi-200
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

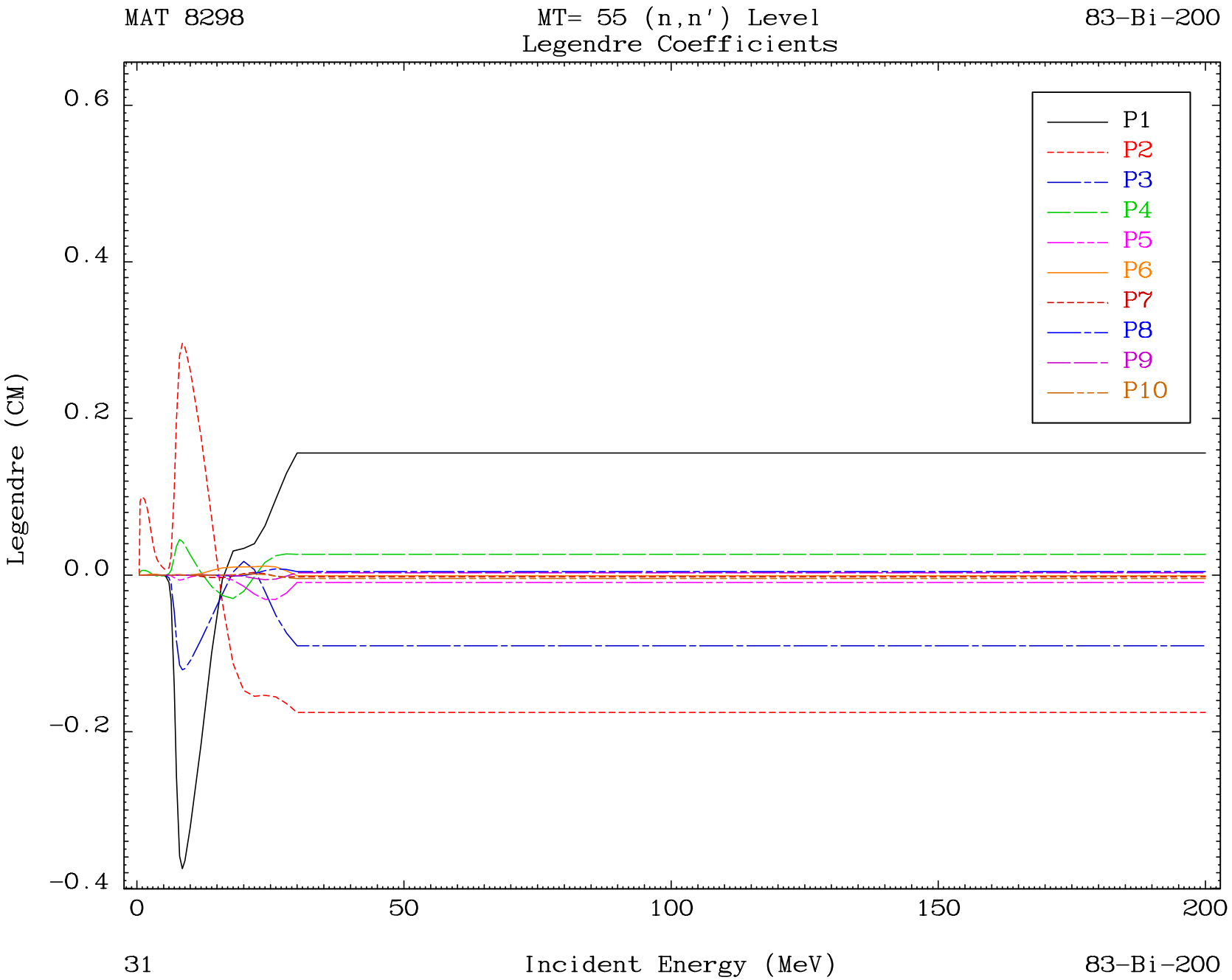

MAT 8298
MT= 53 (n,n') Level
Legendre Coefficients
83-Bi-200
0.000
0.000
0.000
-0.002
-0.003
-0.004
Legendre (CM)
0
50
100
150
200
26
Incident Energy (MeV)
83-Bi-200
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20

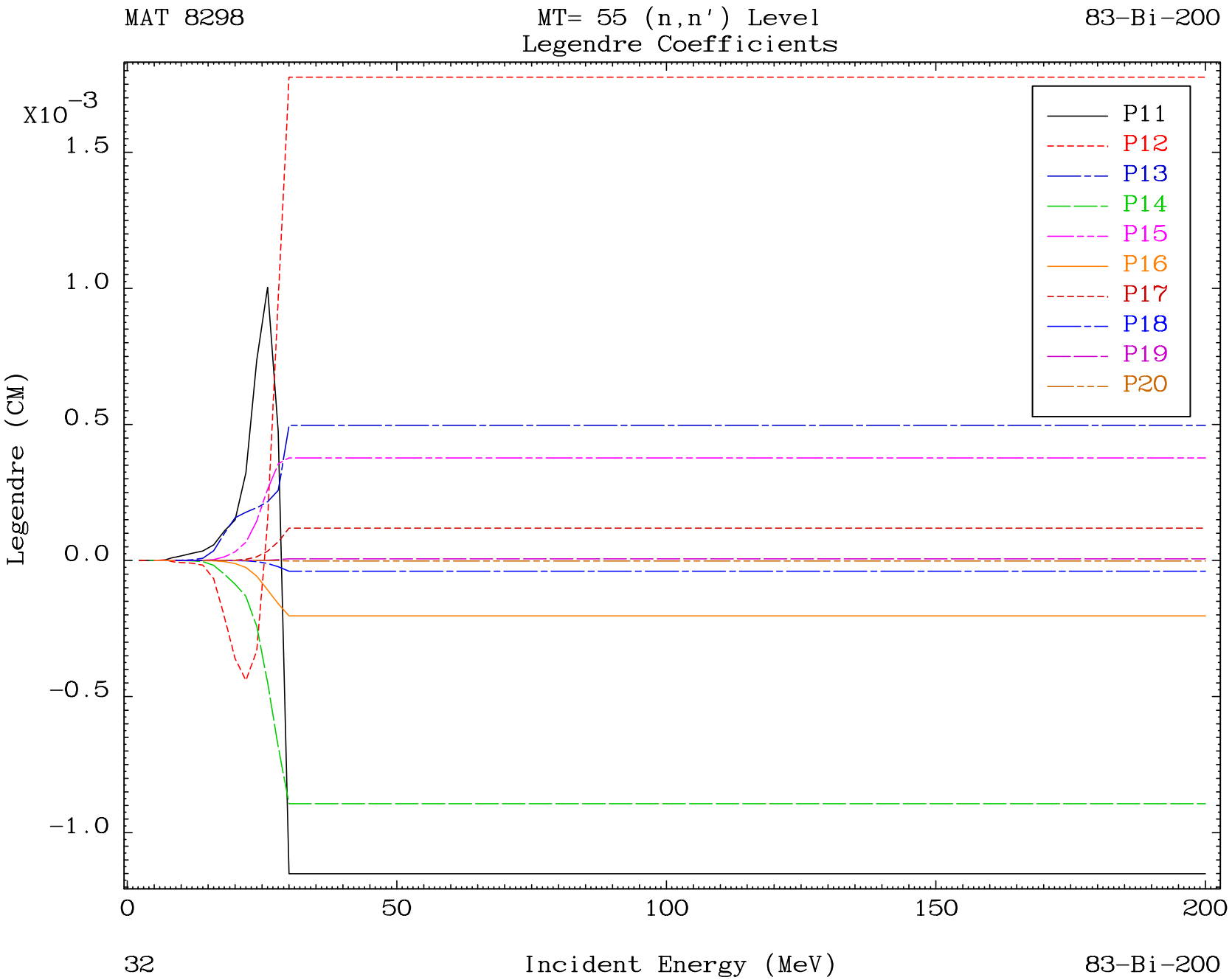

MAT 8298
MT= 53 (n,n') Level
Legendre Coefficients
83-Bi-200
X10^-6
0.2
0.0
-0.2
-0.4
-0.6
-0.8
-1.0
Legendre (CM)
50
100
150
200
Incident Energy (MeV)
27
83-Bi-200
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30

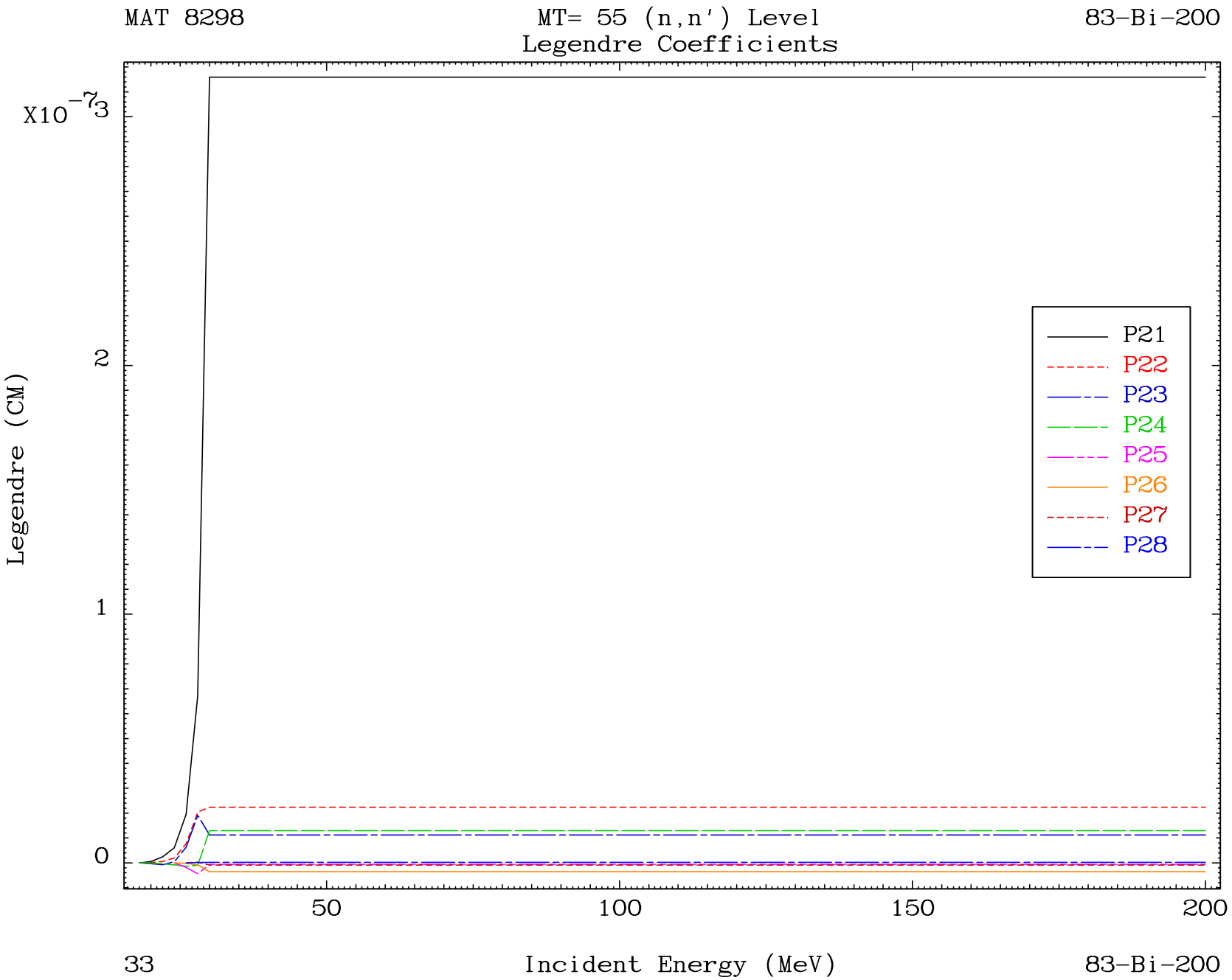

MAT 8298
MT= 54 (n,n') Level
Legendre Coefficients
83-Bi-200
P1
P2
P3
P4
P5
P6
P7
P8
P9
0.04
0.02
0.00
-0.02
Legendre (CM)
0
50
100
150
200
28
Incident Energy (MeV)
83-Bi-200

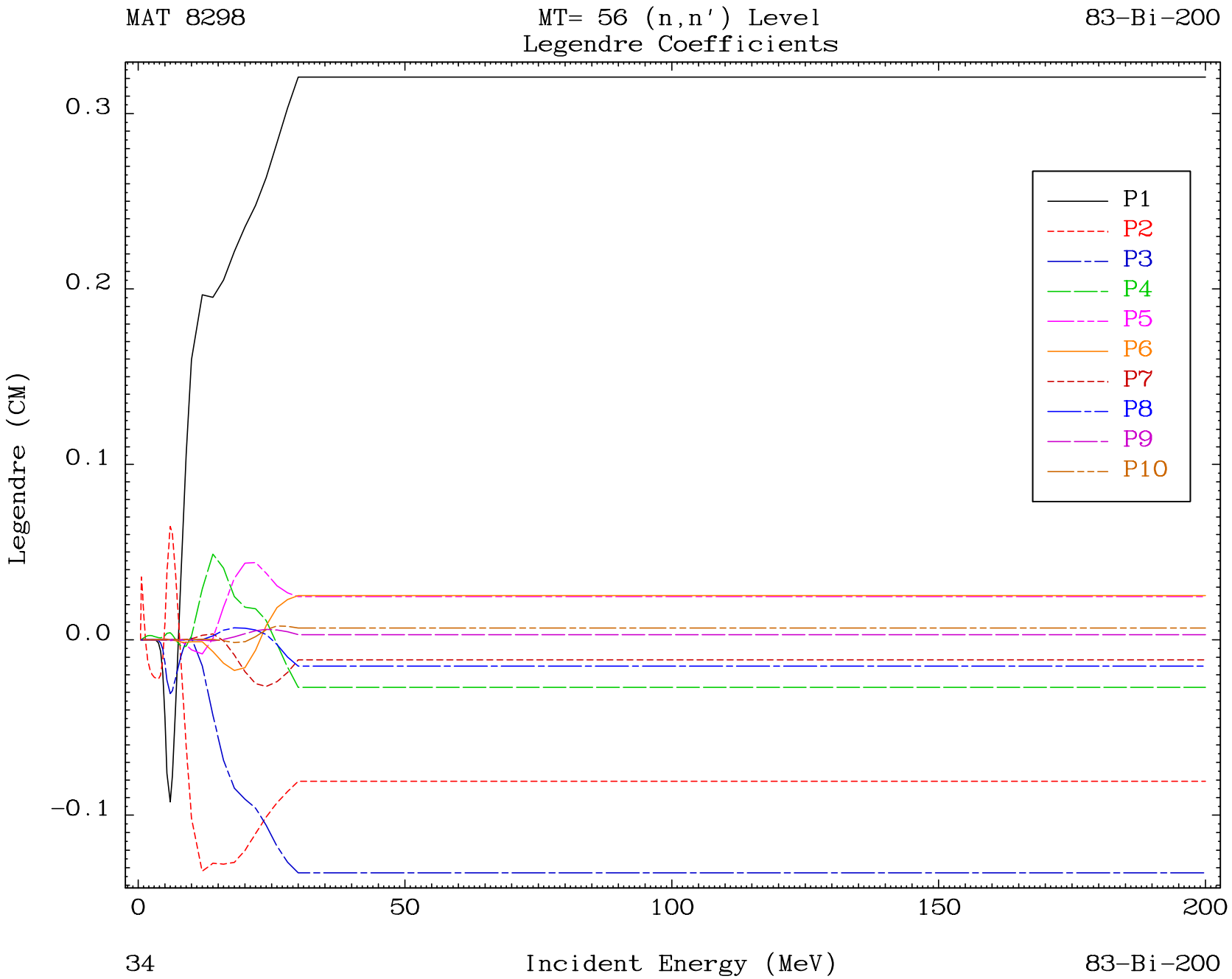

MAT 8298
MT= 54 (n,n') Level
Legendre Coefficients
83-Bi-200
X10^-4
1.0
0.5
0.0
-0.5
-1.0
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
29
Incident Energy (MeV)
83-Bi-200

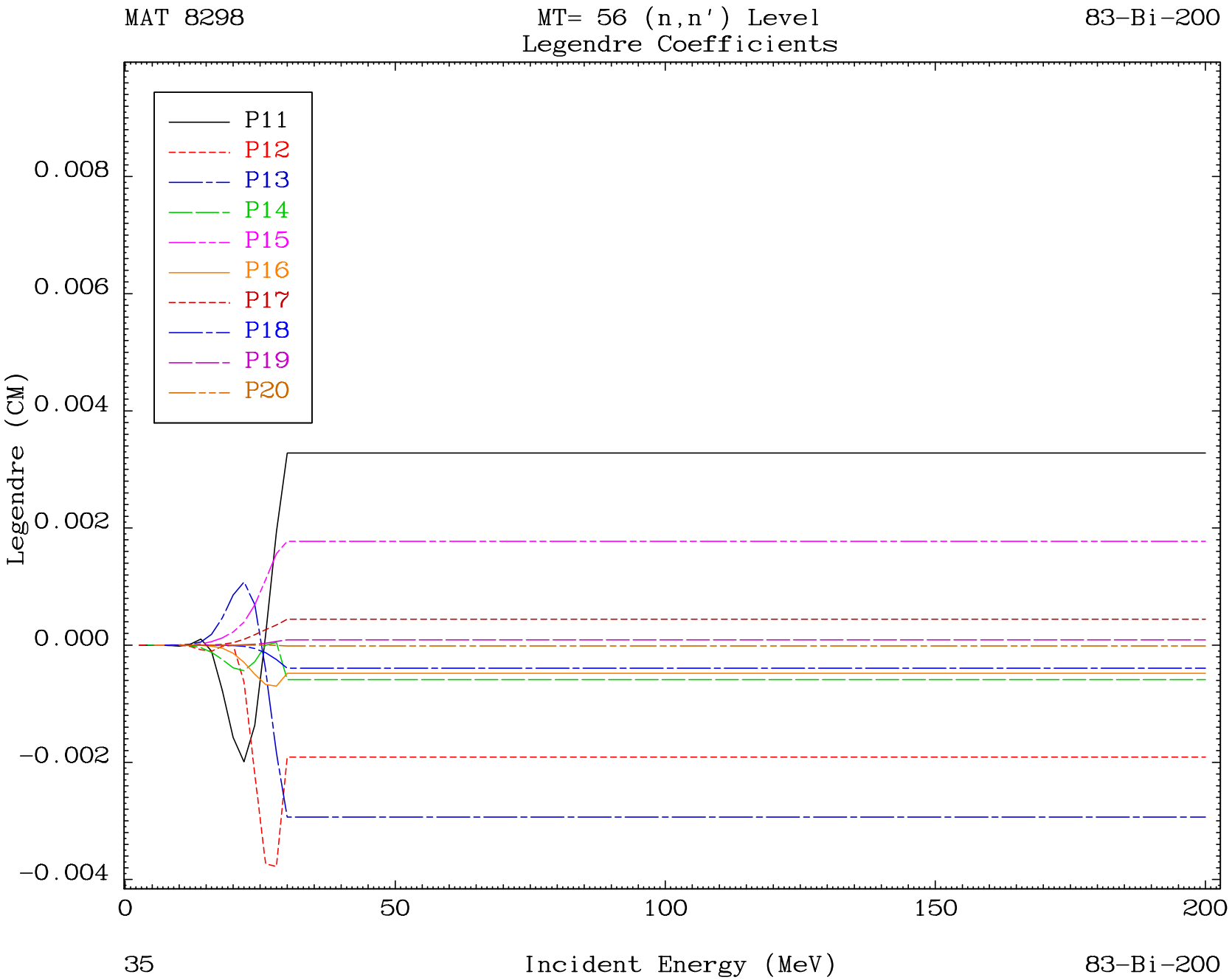

MAT 8298
MT= 54 (n,n') Level
Legendre Coefficients
83-Bi-200
0.0
X10^-6
-0.5
-1.0
-1.5
-2.0
-2.5
Legendre (CM)
50
100
150
200
30
Incident Energy (MeV)
83-Bi-200
P19
P20
P21
P22
P23
P24
P25
P26

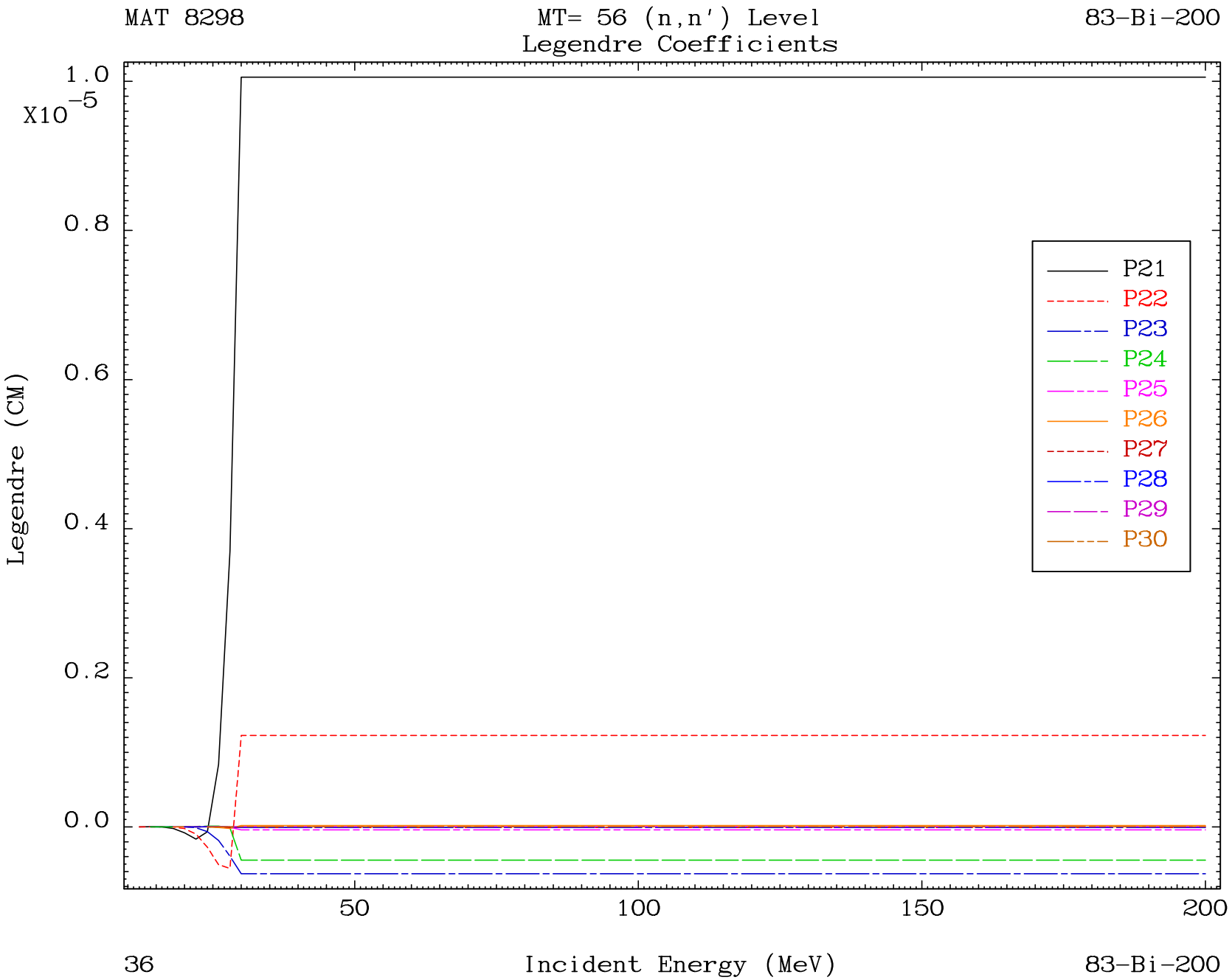

MAT 8298
MT= 55 (n,n') Level
Legendre Coefficients
83-Bi-200
0.6
0.4
0.2
0.0
-0.2
-0.4
Legendre (CM)
0
50
100
150
200
Incident Energy (MeV)
31
83-Bi-200
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

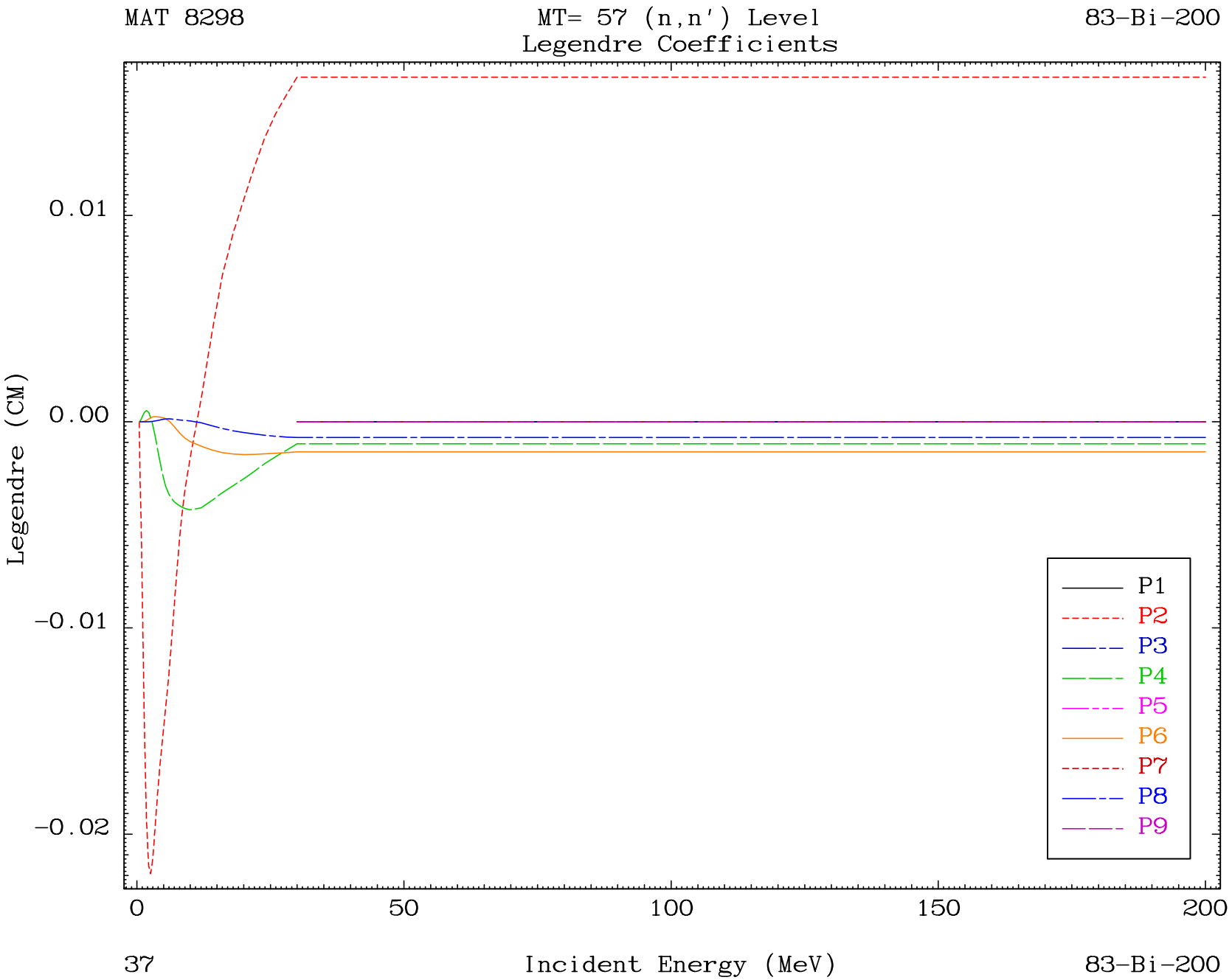

MAT 8298
MT= 55 (n,n') Level
Legendre Coefficients
83-Bi-200
X10^-3
1.5
1.0
0.5
0.0
-0.5
-1.0
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0
50
100
150
200
32
Incident Energy (MeV)
83-Bi-200

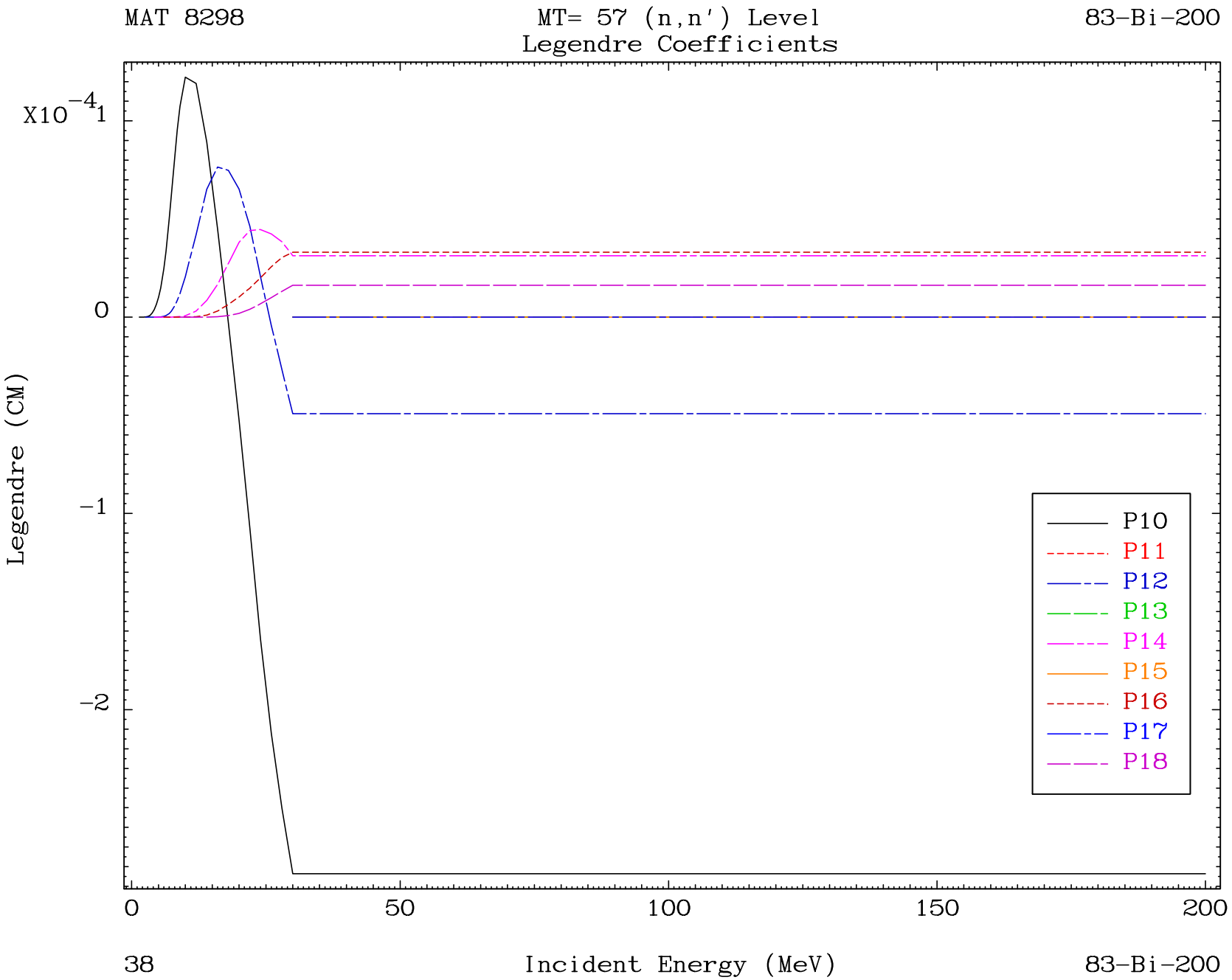

MAT 8298
MT= 55 (n,n') Level
Legendre Coefficients
83-Bi-200
X10^-7
3
2
1
0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
50
100
150
200
33
Incident Energy (MeV)
83-Bi-200

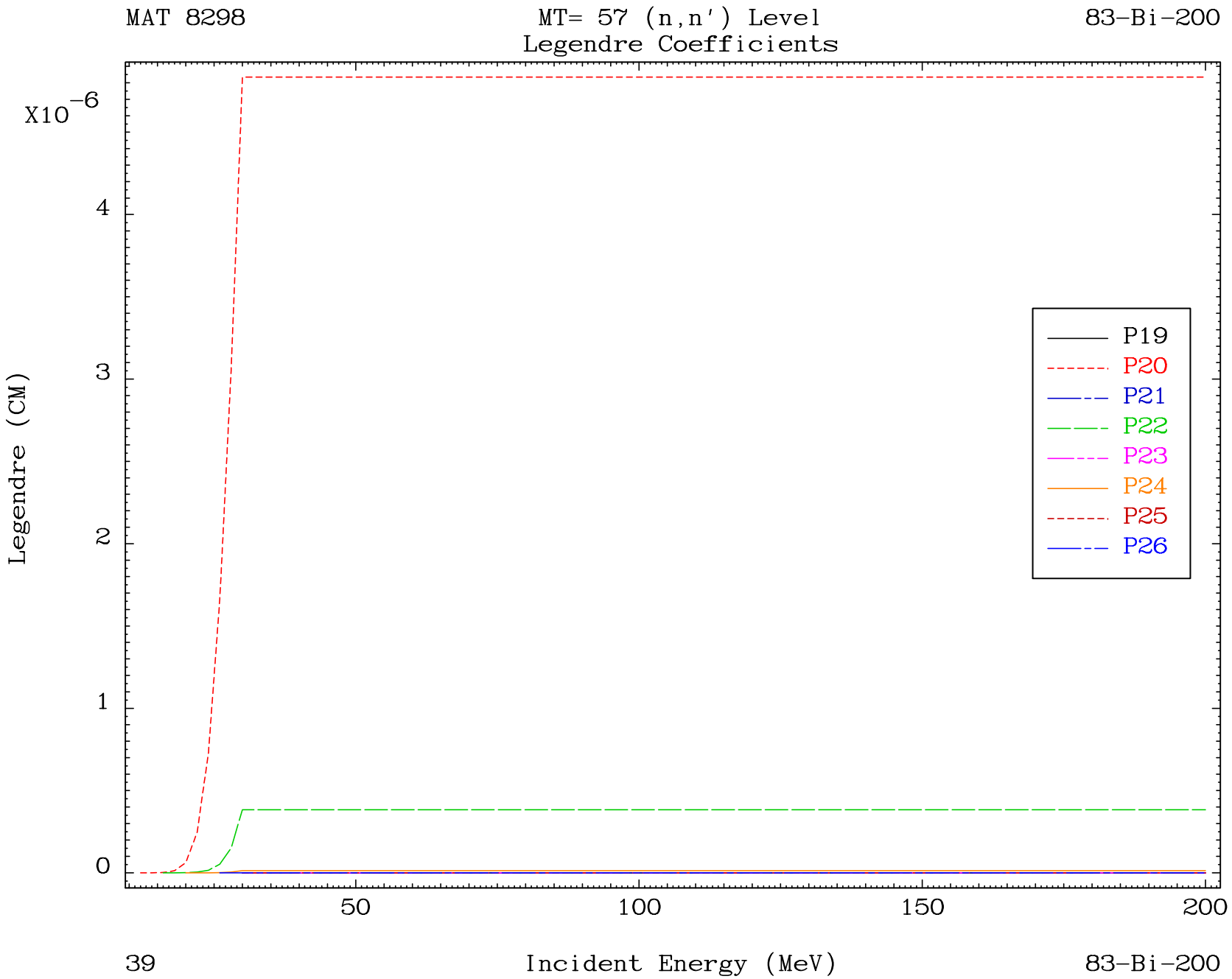

MAT 8298
MT= 56 (n,n') Level
Legendre Coefficients
83-Bi-200
Legendre (CM)
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
34
Incident Energy (MeV)
83-Bi-200
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

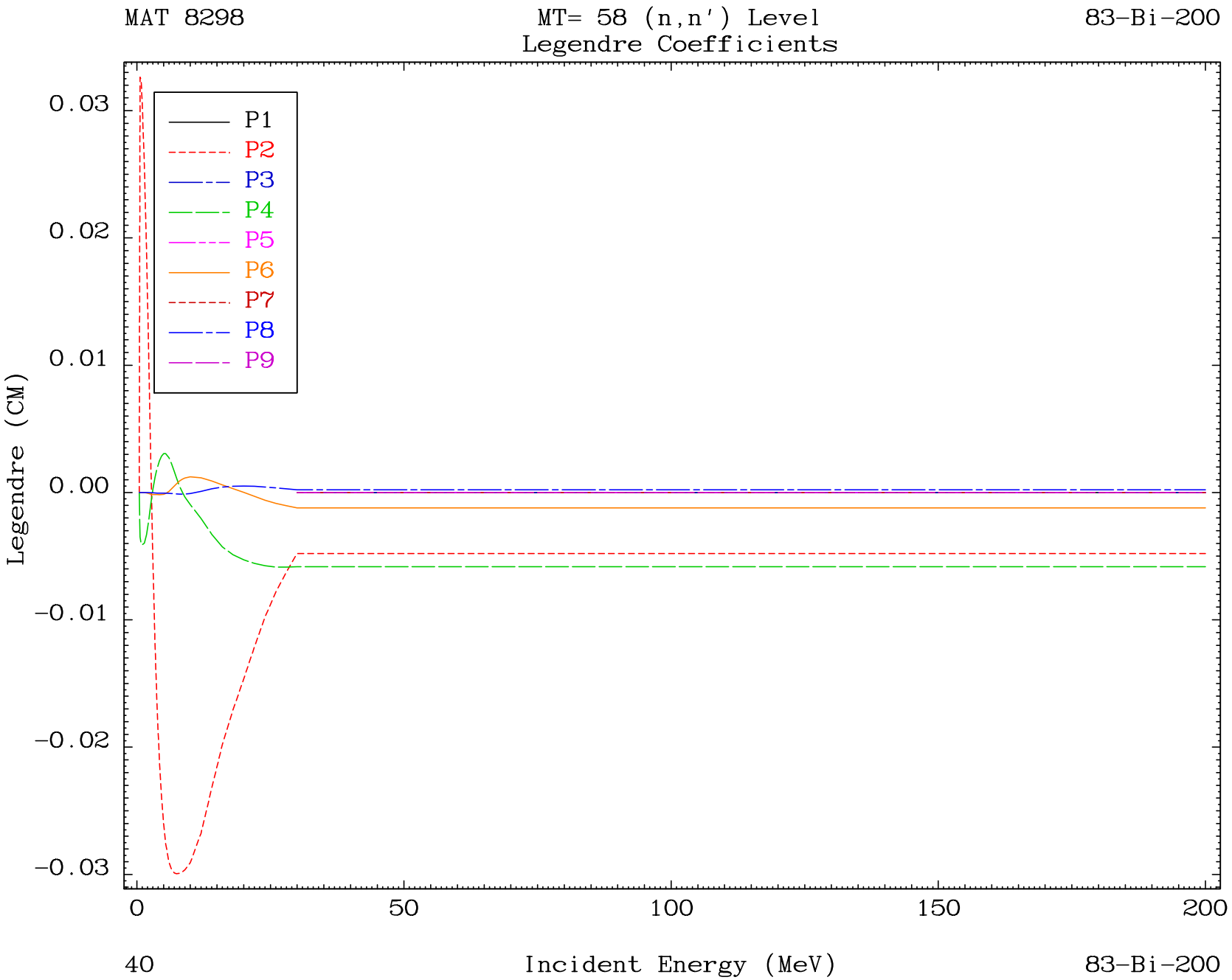

MAT 8298
MT= 56 (n,n') Level
Legendre Coefficients
83-Bi-200
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.008
0.006
0.004
0.002
0.000
-0.002
-0.004
Legendre (CM)
0
50
100
150
200
35
Incident Energy (MeV)
83-Bi-200

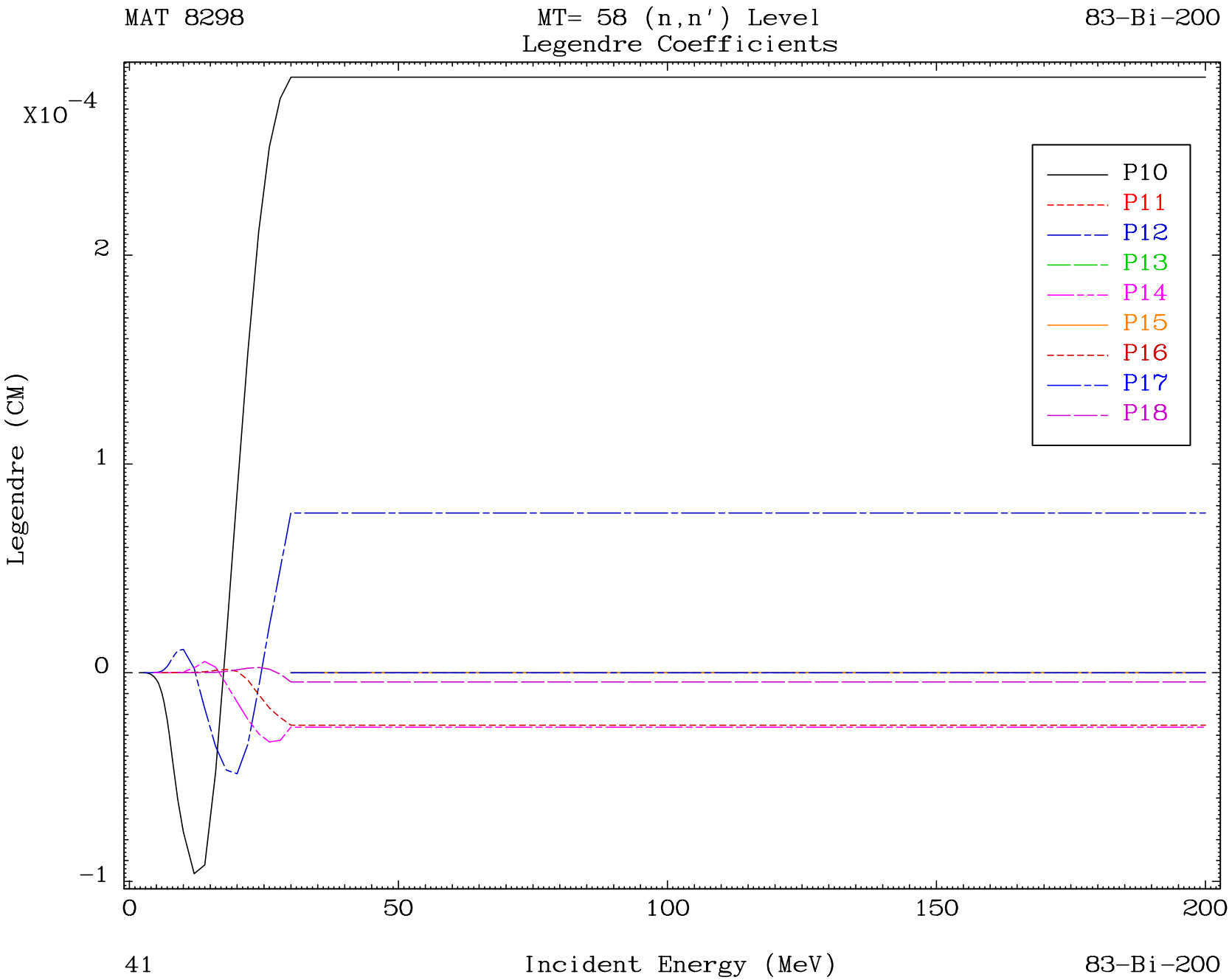

MAT 8298
MT= 56 (n,n') Level
Legendre Coefficients
83-Bi-200
X10 -5
1.0
0.8
0.6
0.4
0.2
0.0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
50
100
150
200
36
Incident Energy (MeV)
83-Bi-200

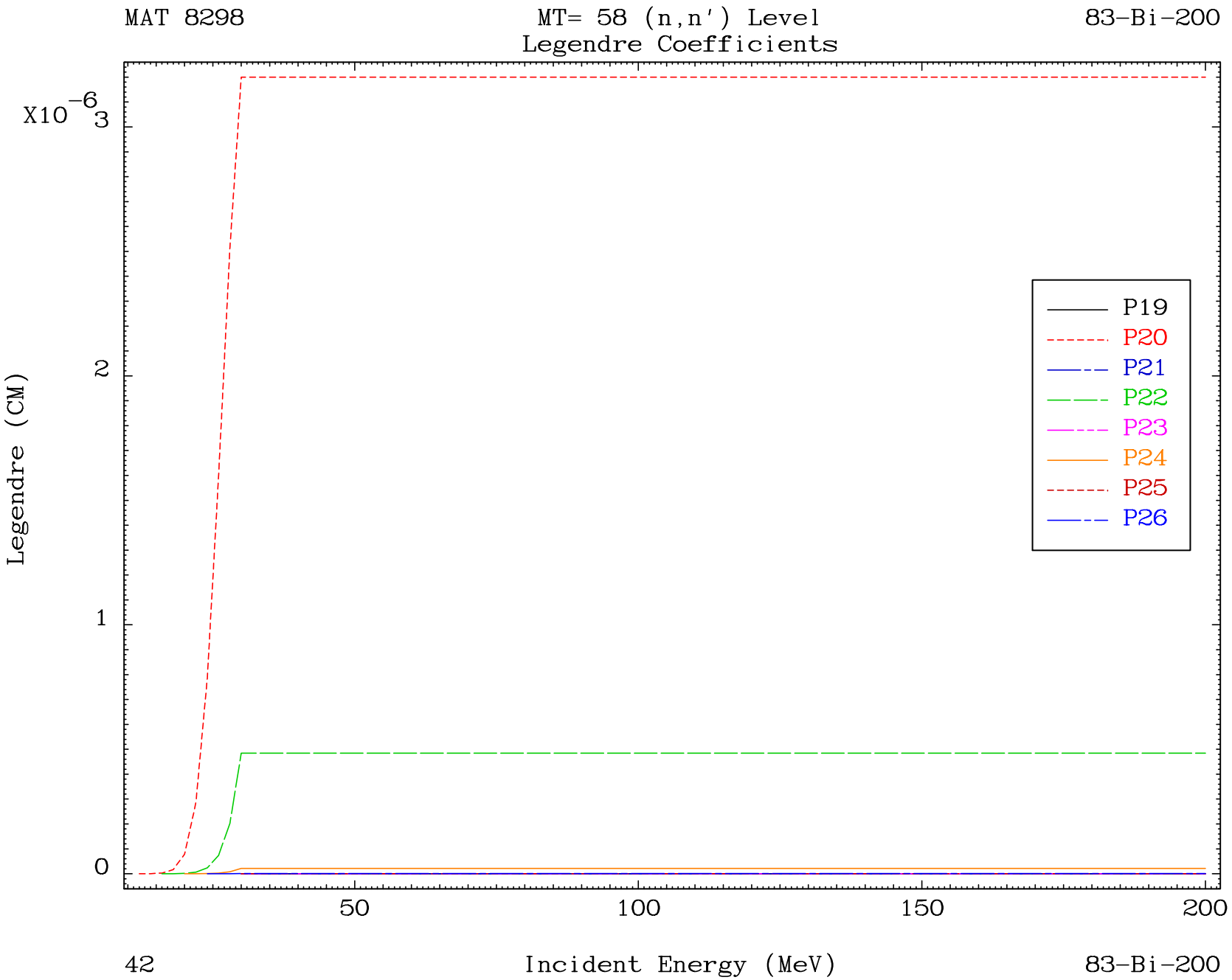

MAT 8298
MT= 57 (n,n') Level
Legendre Coefficients
83-Bi-200
0.01
0.00
-0.01
-0.02
Legendre (CM)
0
50
100
150
200
37
Incident Energy (MeV)
83-Bi-200
P1
P2
P3
P4
P5
P6
P7
P8
P9

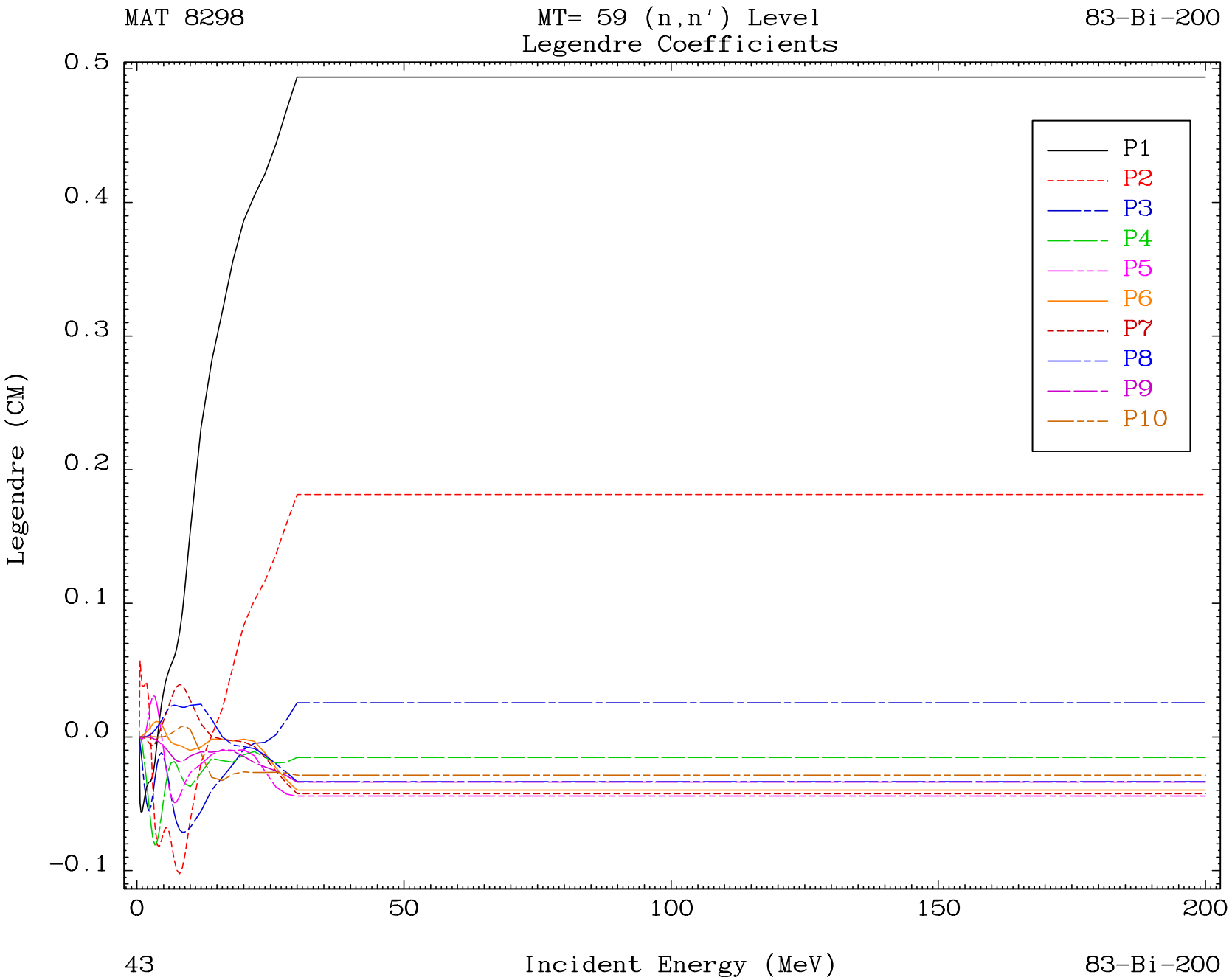

MAT 8298
MT= 57 (n,n') Level
Legendre Coefficients
83-Bi-200
X10^-4
1
0
-1
-2
Legendre (CM)
0
50
100
150
200
38
Incident Energy (MeV)
83-Bi-200
P10
P11
P12
P13
P14
P15
P16
P17
P18

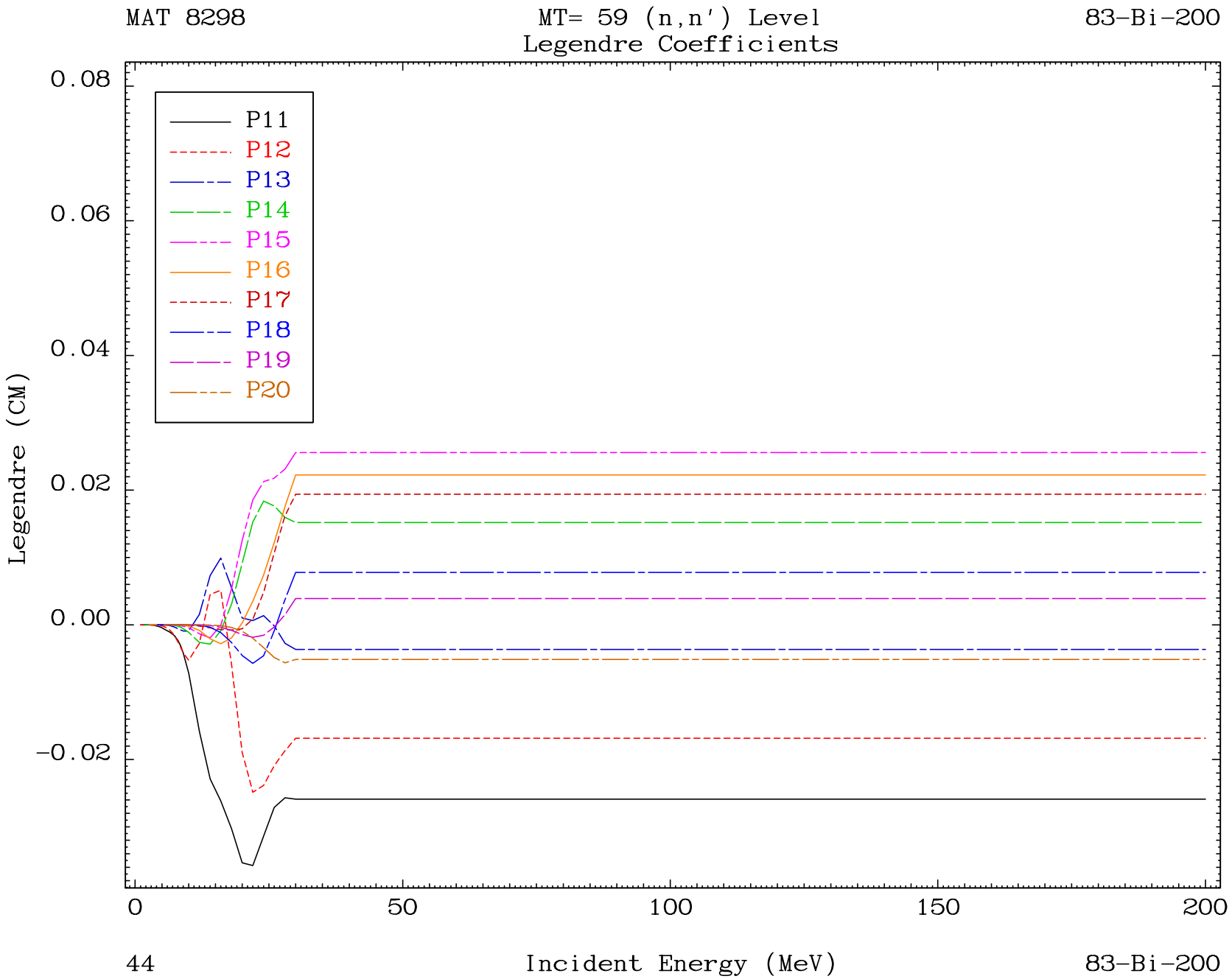

MAT 8298
MT= 57 (n,n') Level
Legendre Coefficients
83-Bi-200
X10^-6
4
3
2
1
0
Legendre (CM)
50
100
150
200
39
Incident Energy (MeV)
83-Bi-200
P19
P20
P21
P22
P23
P24
P25
P26

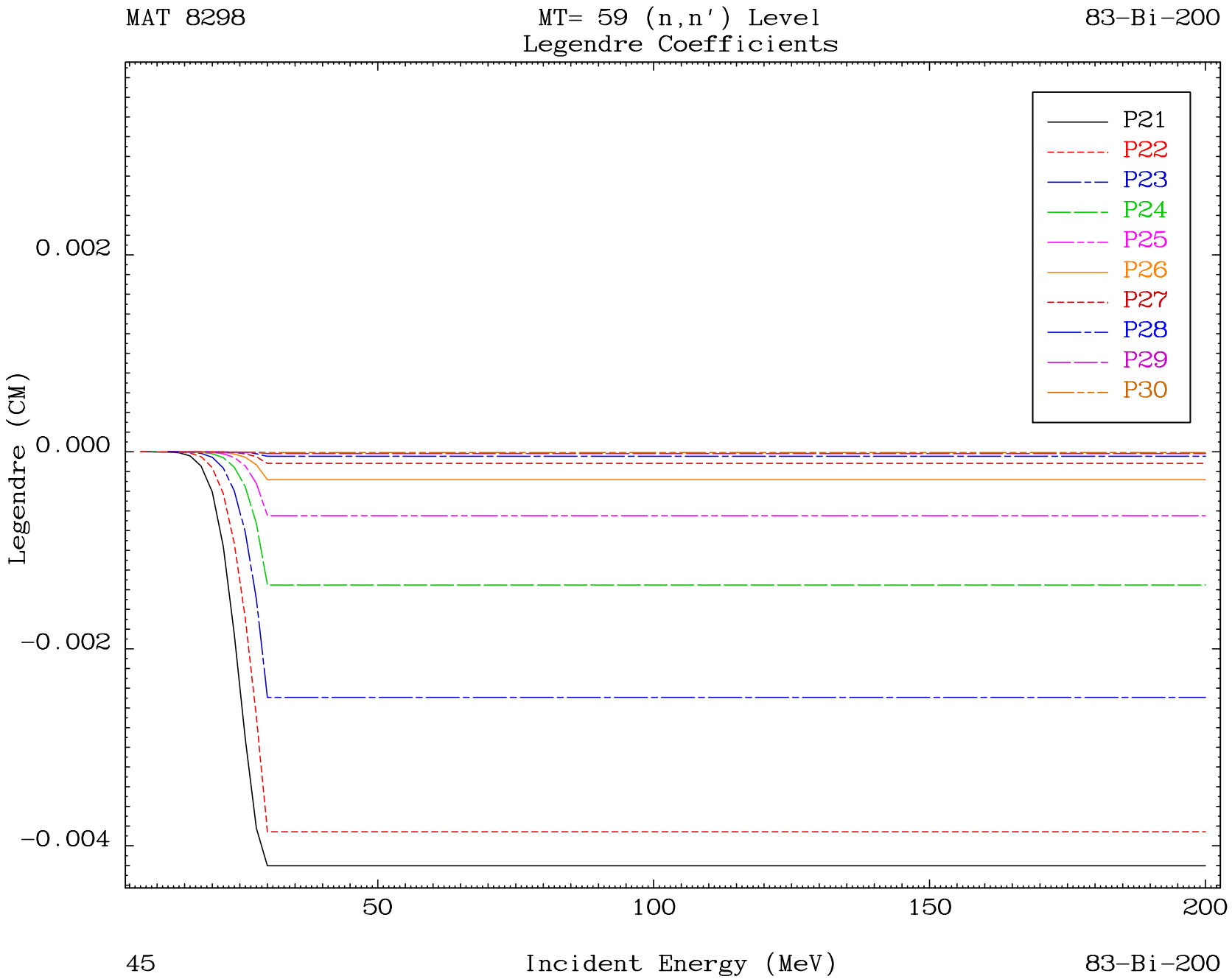

MAT 8298
MT= 58 (n,n') Level
Legendre Coefficients
83-Bi-200
P1
P2
P3
P4
P5
P6
P7
P8
P9
0.03
0.02
0.01
0.00
-0.01
-0.02
-0.03
Legendre (CM)
0
50
100
150
200
40
Incident Energy (MeV)
83-Bi-200

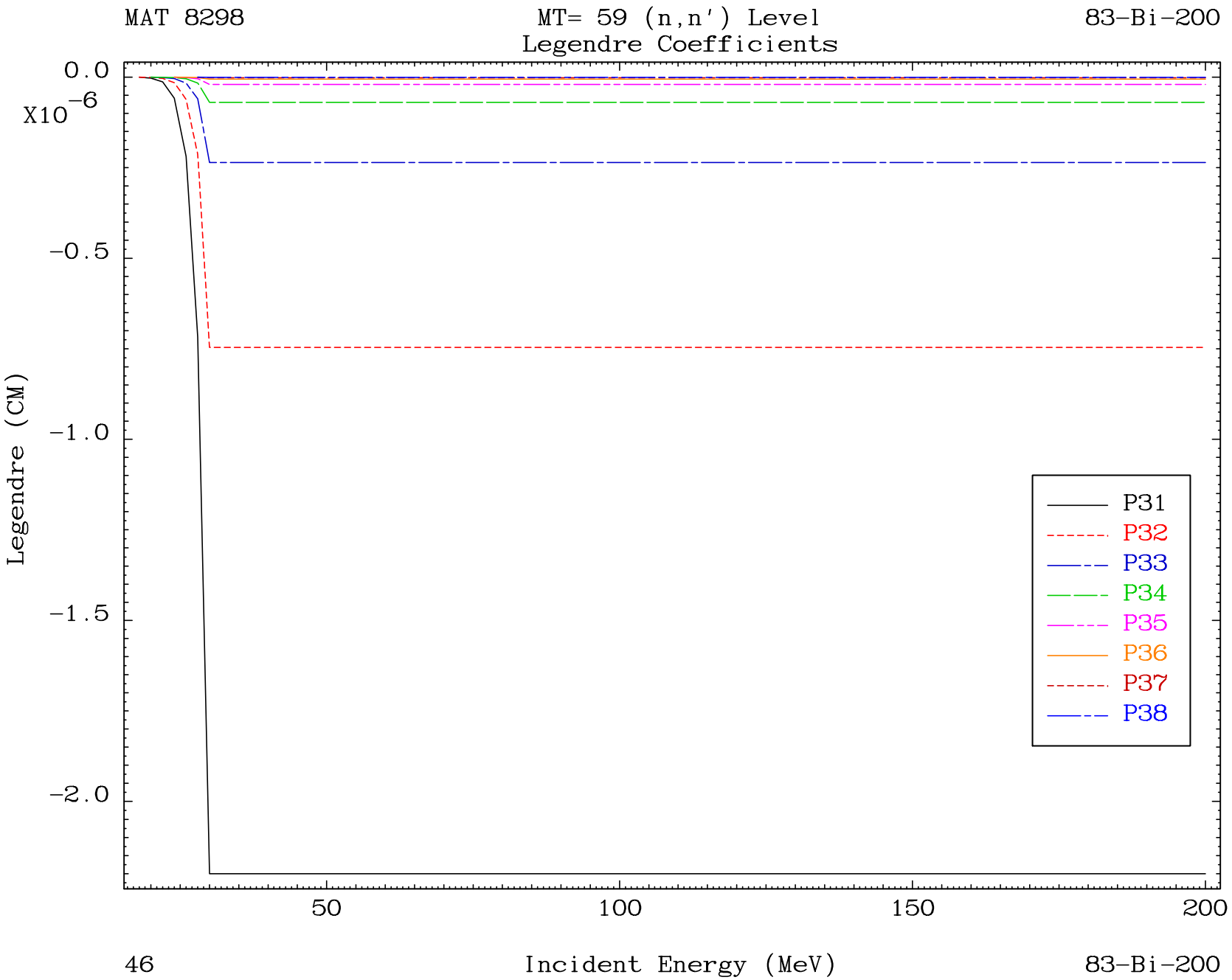

MAT 8298
MT= 58 (n,n') Level
Legendre Coefficients
83-Bi-200
X10^-4
2
1
0
-1
Legendre (CM)
P10
P11
P12
P13
P14
P15
P16
P17
P18
0
50
100
150
200
41
Incident Energy (MeV)
83-Bi-200

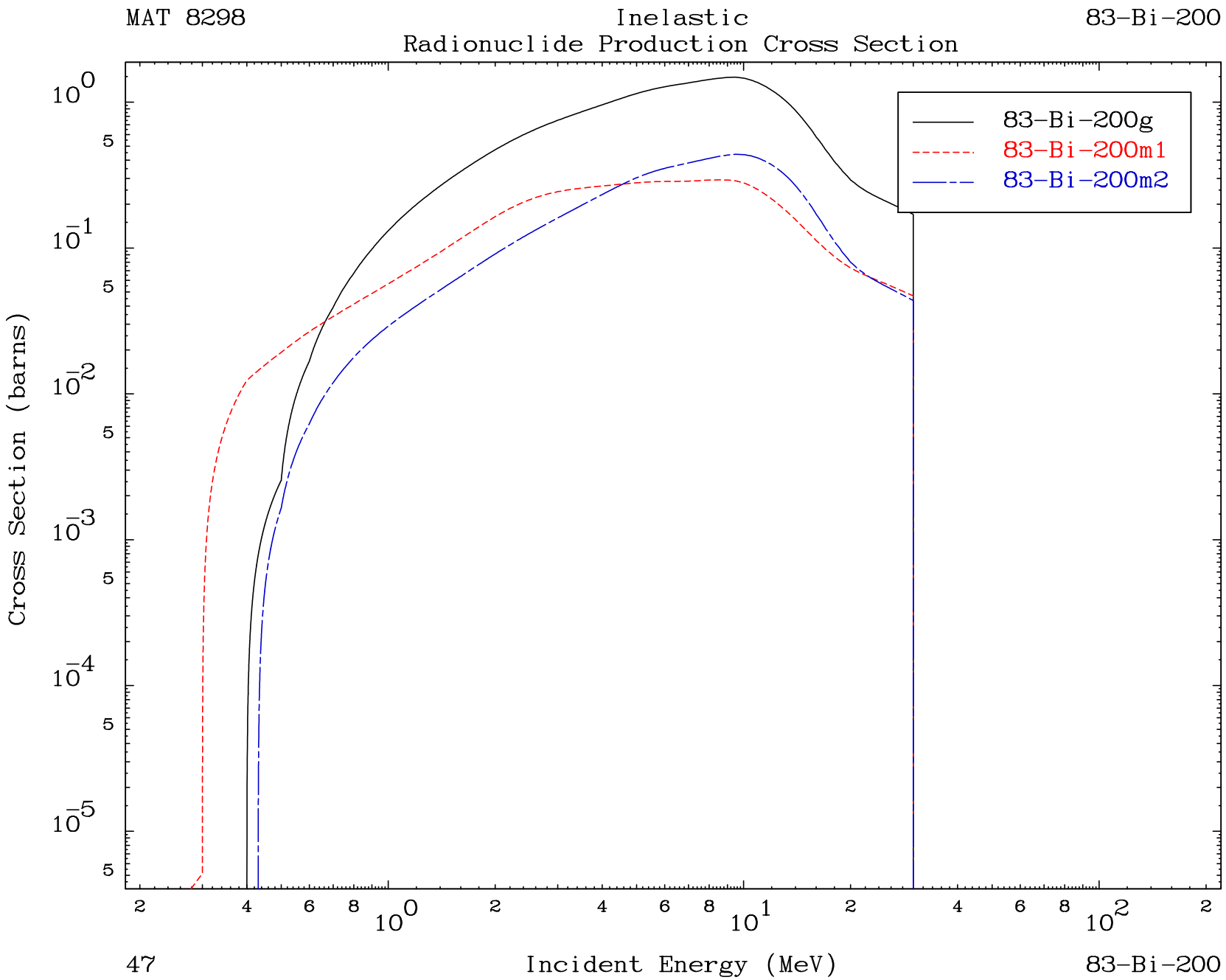

MAT 8298
MT= 58 (n,n') Level
Legendre Coefficients
83-Bi-200
X10 -6
3
2
1
0
Legendre (CM)
P19
P20
P21
P22
P23
P24
P25
P26
50
100
150
200
42
Incident Energy (MeV)
83-Bi-200

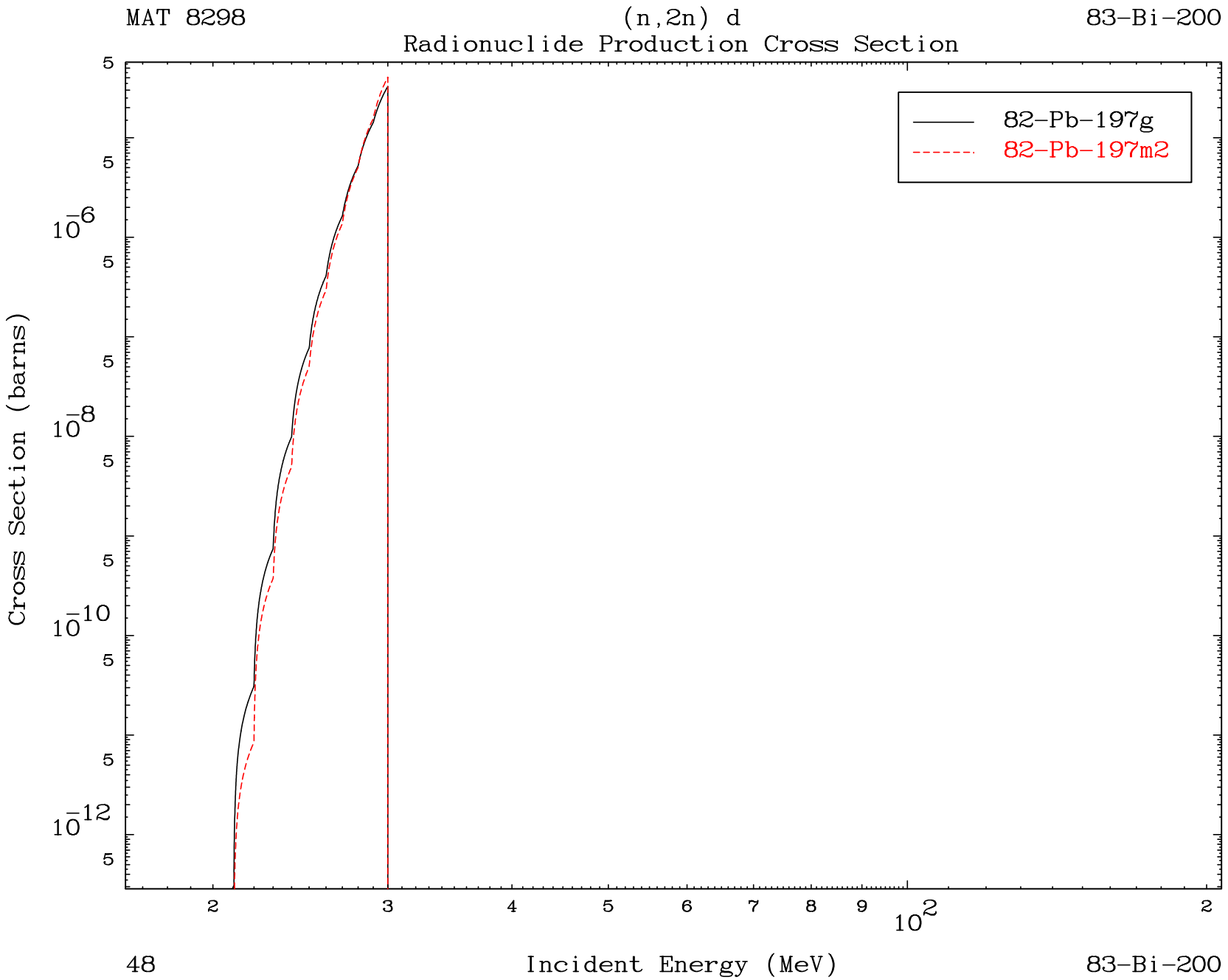

MAT 8298
MT= 59 (n,n') Level
Legendre Coefficients
83-Bi-200
Legendre (CM)
0.5
0.4
0.3
0.2
0.1
0.0
-0.1
0
50
100
150
200
Incident Energy (MeV)
43
83-Bi-200
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10

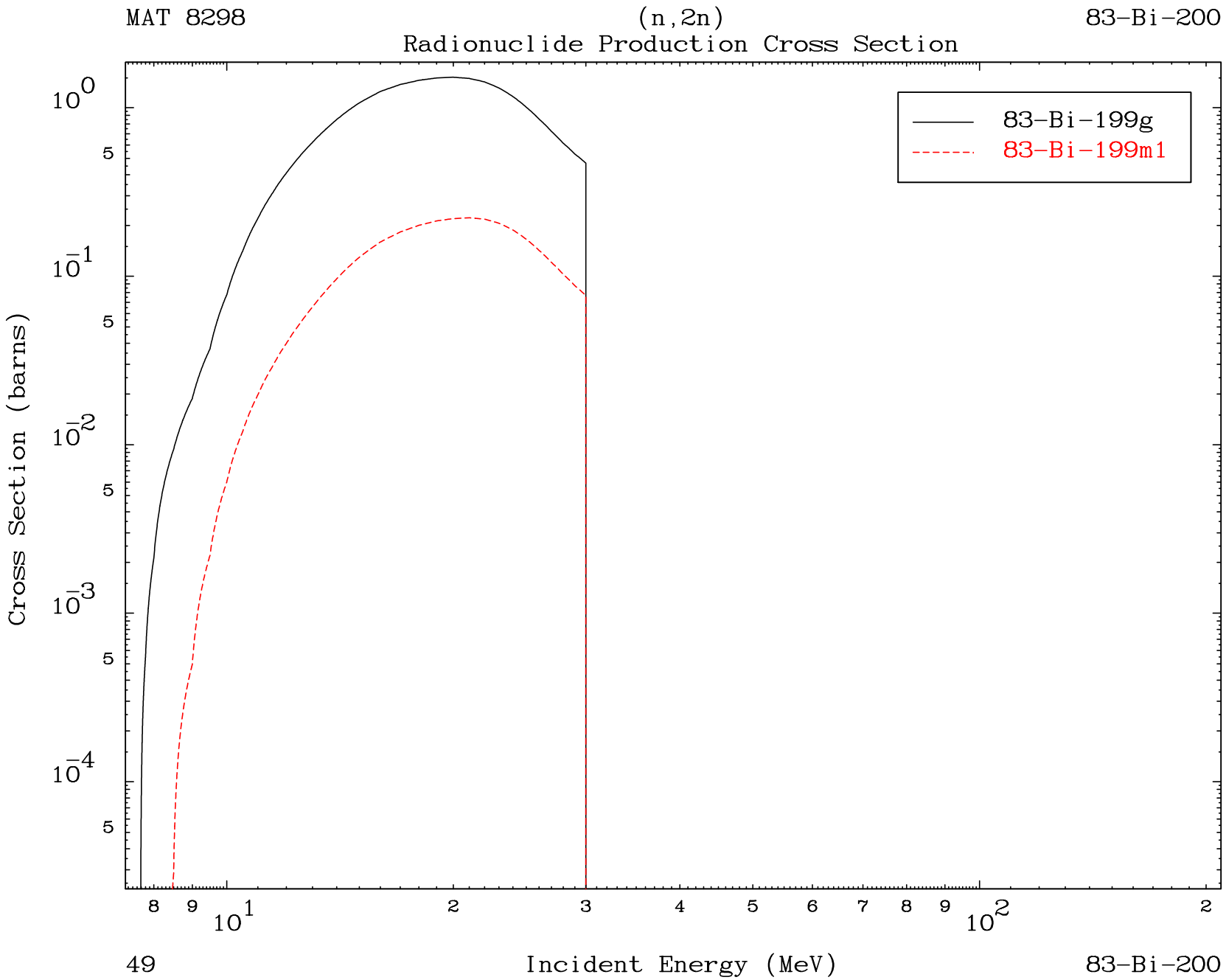

MAT 8298
MT= 59 (n,n') Level
Legendre Coefficients
83-Bi-200
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
0.08
0.06
0.04
0.02
0.00
-0.02
Legendre (CM)
0
50
100
150
200
44
Incident Energy (MeV)
83-Bi-200

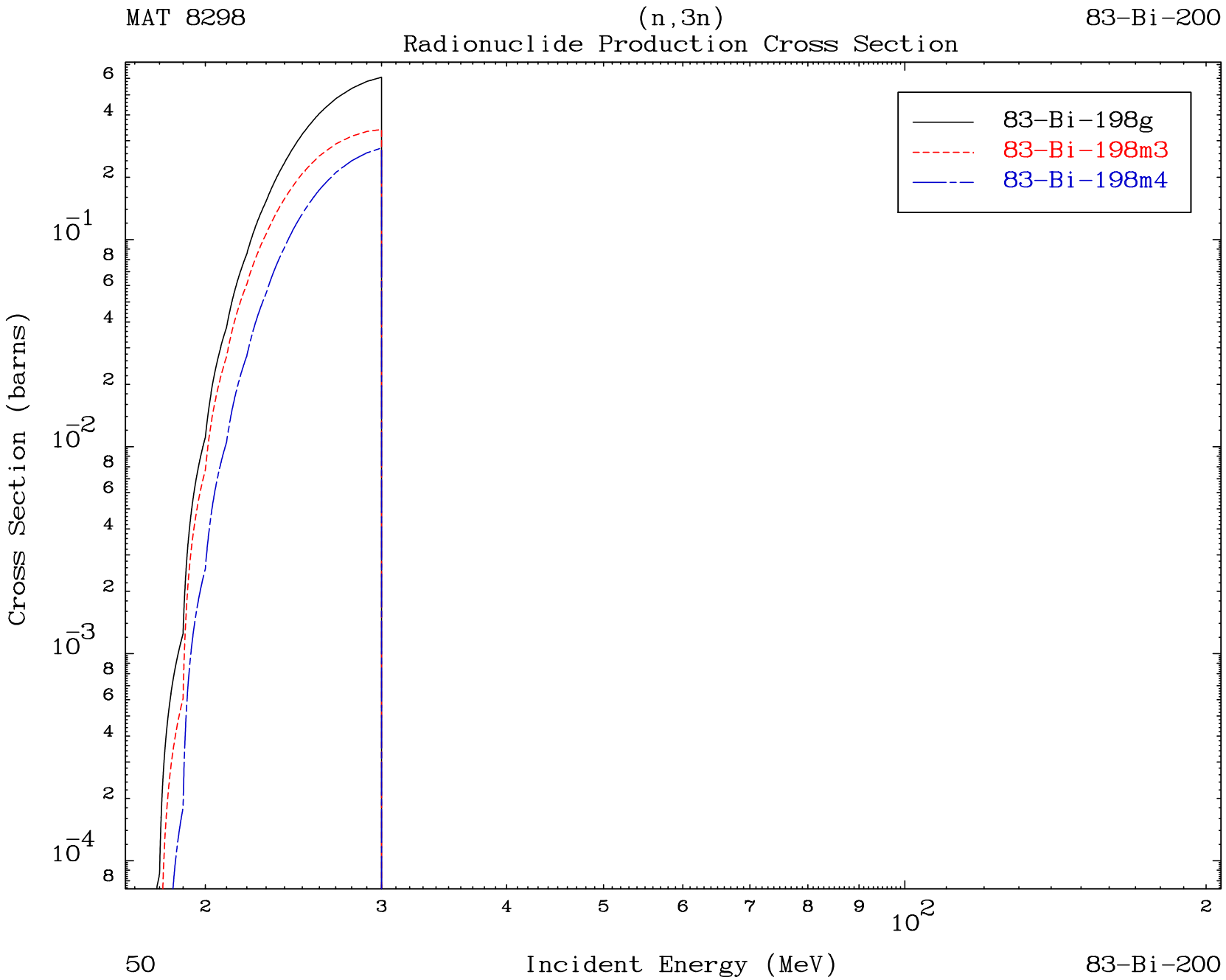

MAT 8298
MT= 59 (n,n') Level
Legendre Coefficients
83-Bi-200
P21
P22
P23
P24
P25
P26
P27
P28
P29
P30
0.002
0.000
-0.002
-0.004
Legendre (CM)
50
100
150
200
45
Incident Energy (MeV)
83-Bi-200

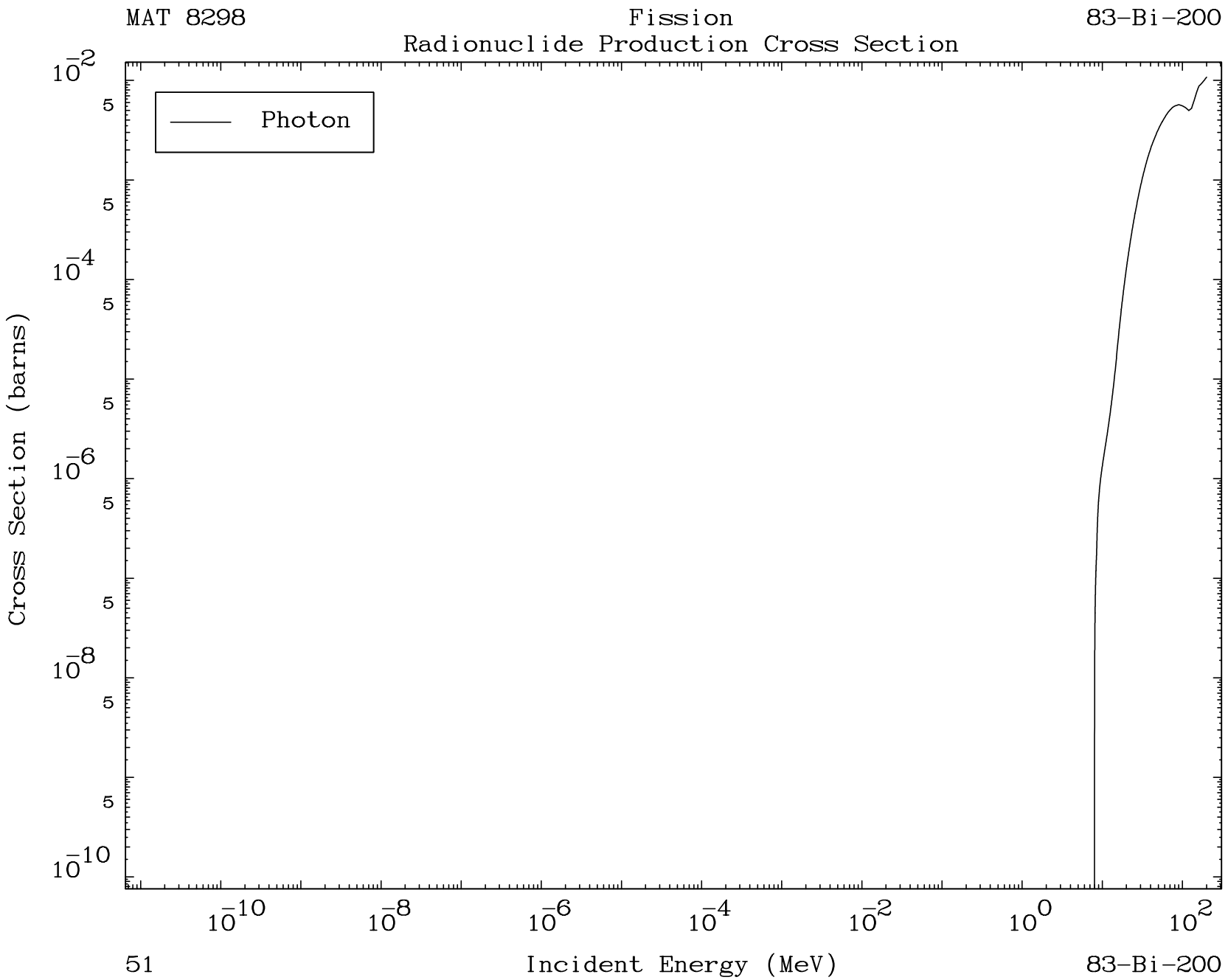

MAT 8298
MT= 59 (n,n') Level
Legendre Coefficients
83-Bi-200
0.0
X10^-6
-0.5
-1.0
-1.5
-2.0
Legendre (CM)
50
100
150
200
46
Incident Energy (MeV)
83-Bi-200
P31
P32
P33
P34
P35
P36
P37
P38

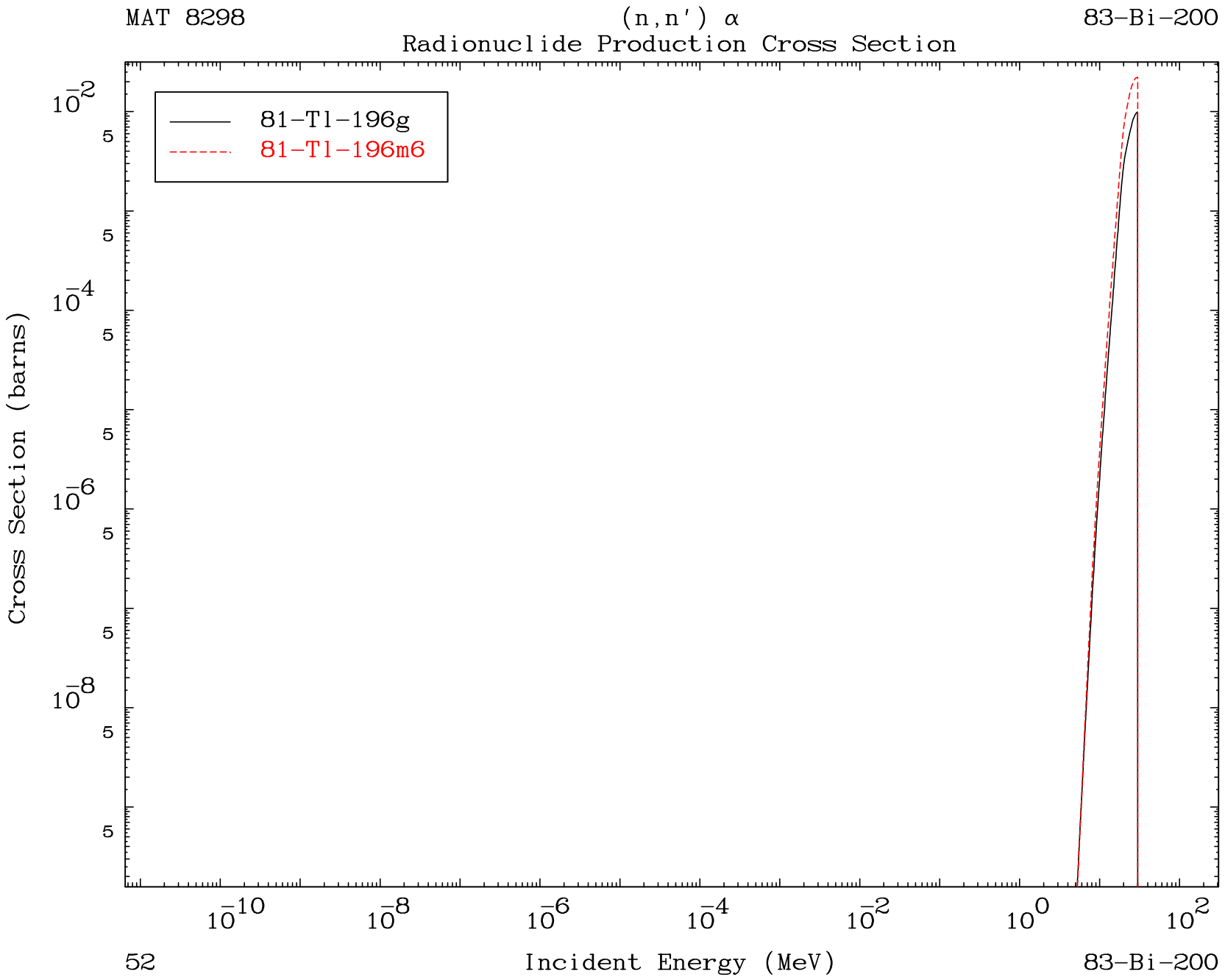

MAT 8298
Inelastic
83-Bi-200
Radionuclide Production Cross Section
83-Bi-200g
83-Bi-200m1
83-Bi-200m2
Cross Section (barns)
Incident Energy (MeV)
47
83-Bi-200

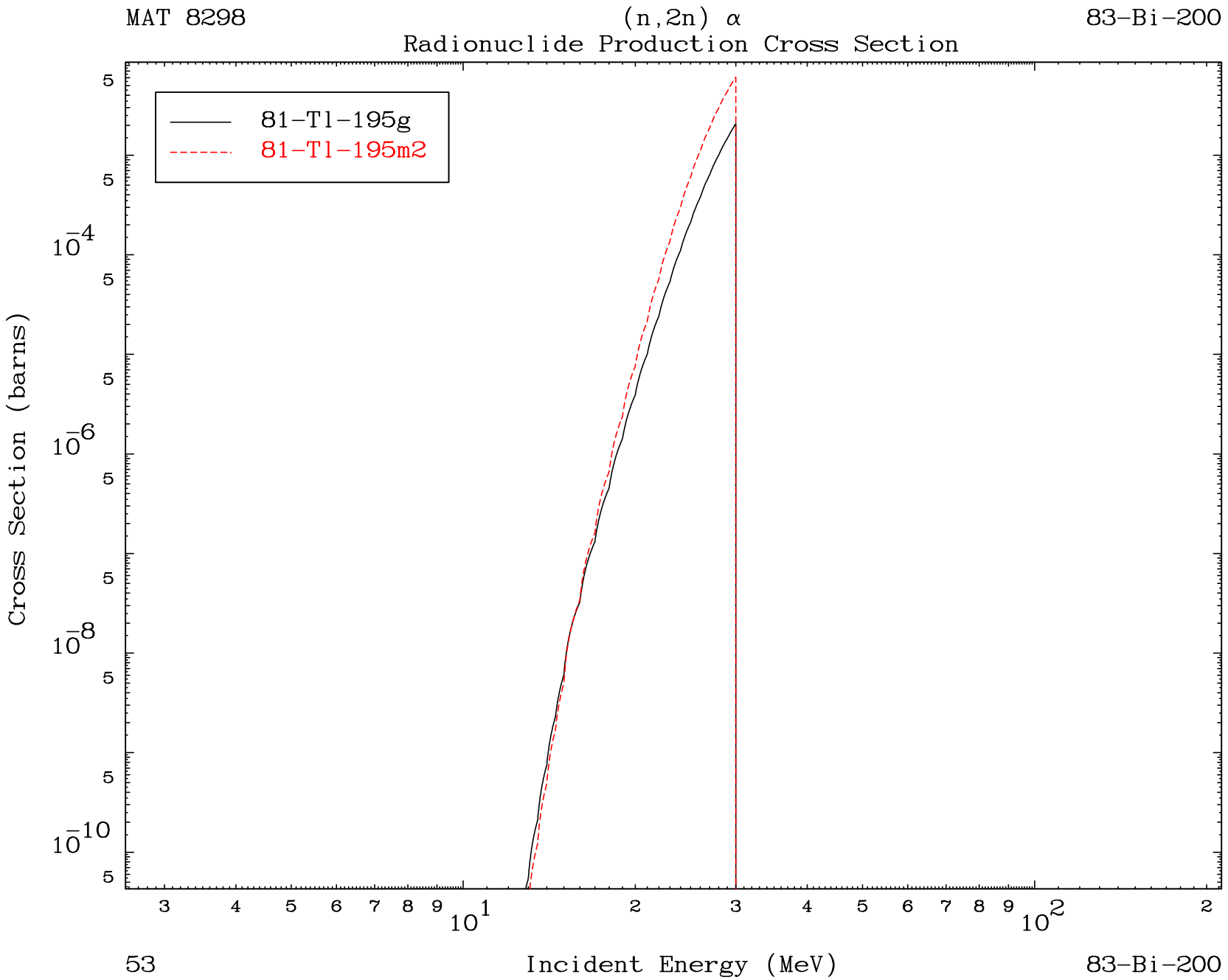

MAT 8298
(n,2n) d
83-Bi-200
Radionuclide Production Cross Section
82-Pb-197g
82-Pb-197m2
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
5
2
3
4
6
7
8
9
10^2
48
Incident Energy (MeV)
83-Bi-200

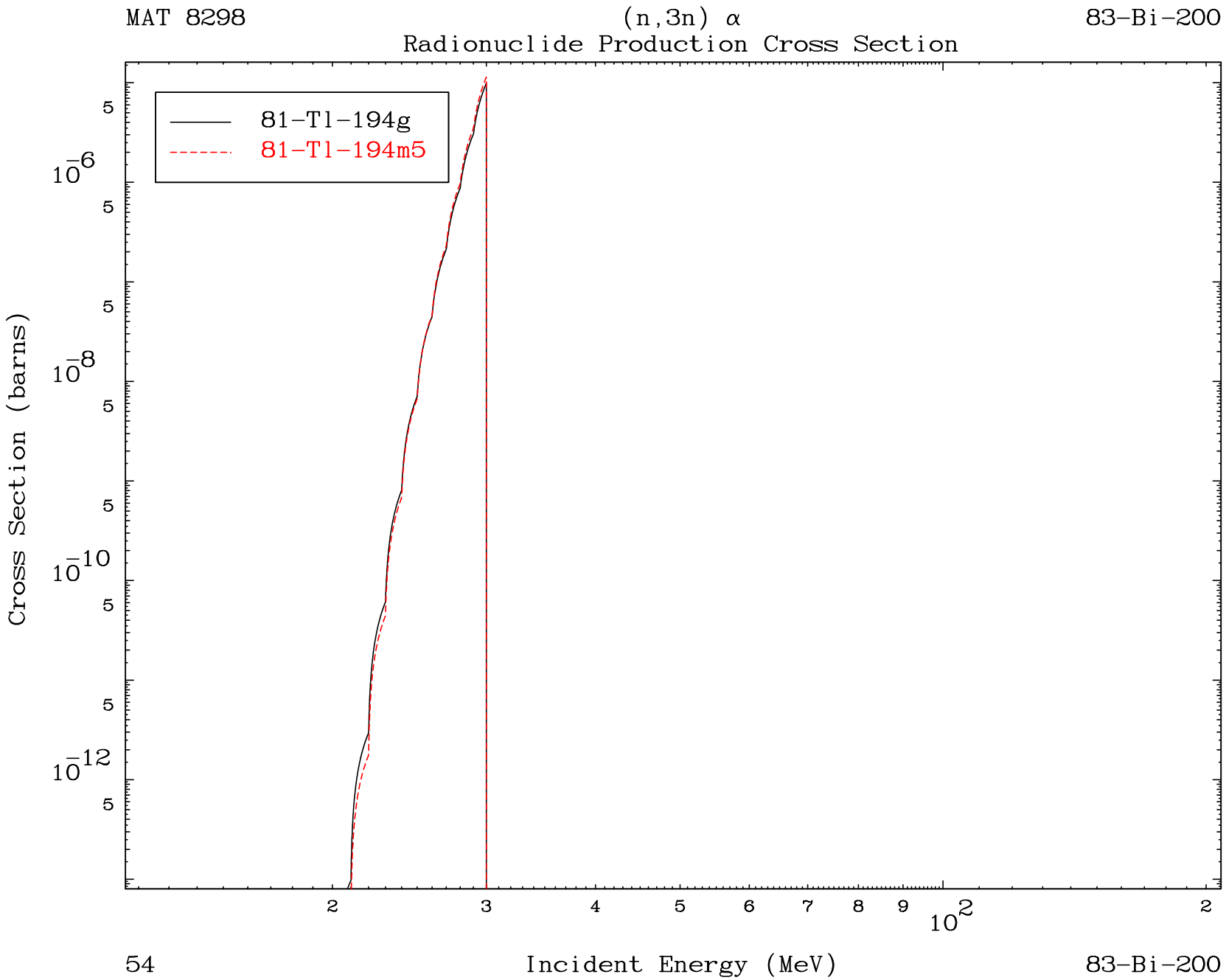

MAT 8298
(n,2n)
83-Bi-200
Radionuclide Production Cross Section
83-Bi-199g
83-Bi-199m1
Cross Section (barns)
Incident Energy (MeV)
49
83-Bi-200

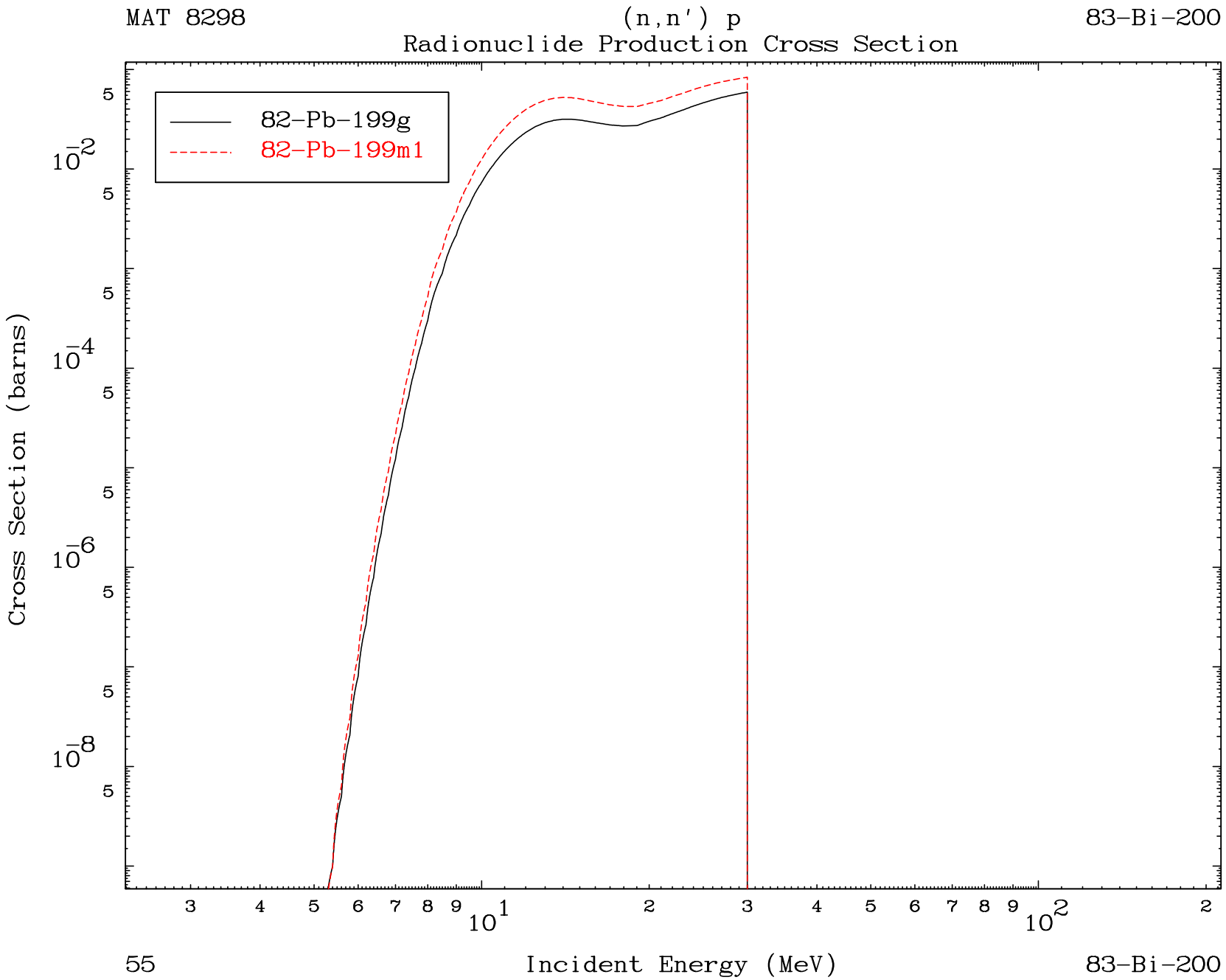

MAT 8298
(n,3n)
83-Bi-200
Radionuclide Production Cross Section
83-Bi-198g
83-Bi-198m3
83-Bi-198m4
Cross Section (barns)
Incident Energy (MeV)
50
83-Bi-200

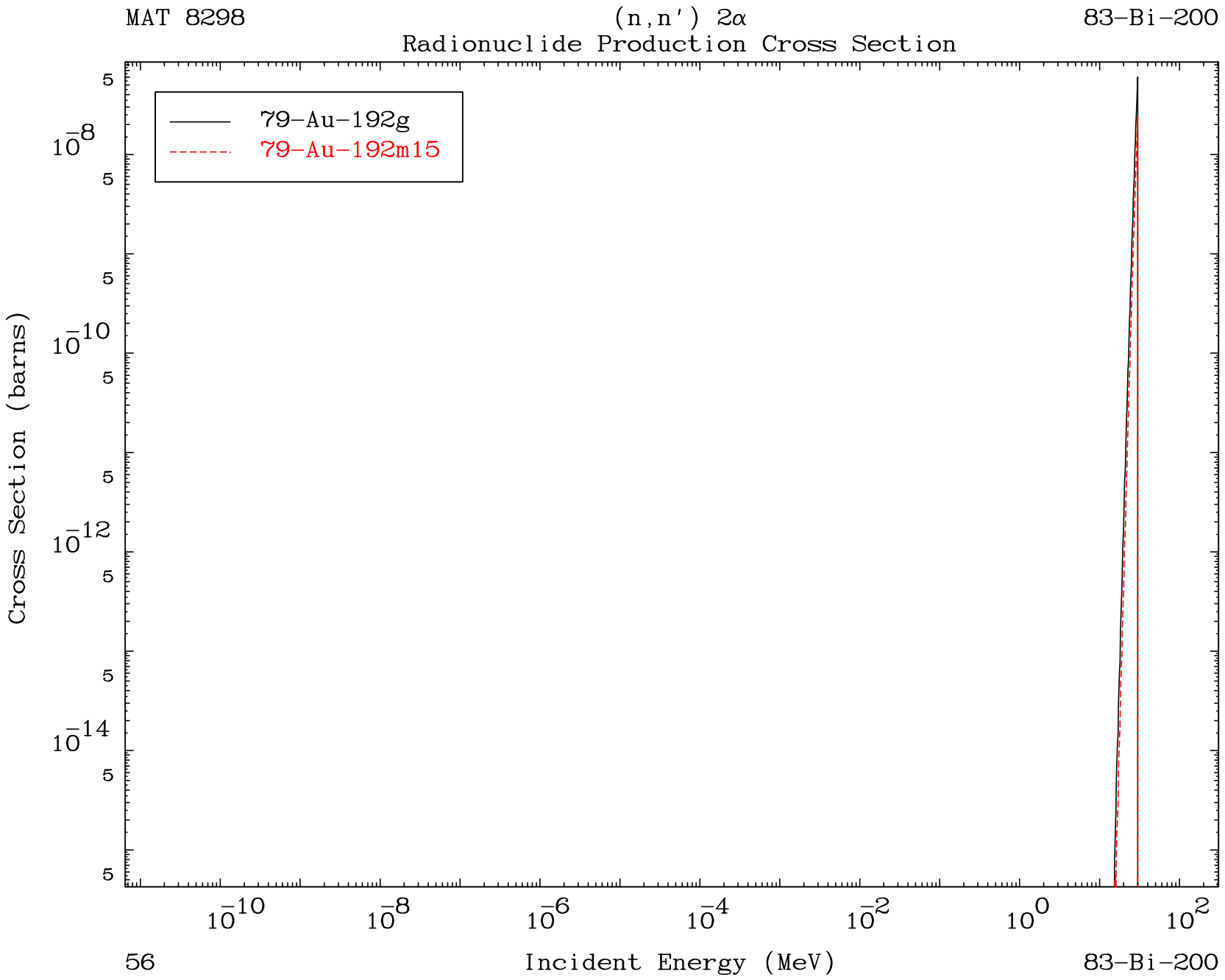

MAT 8298
Fission
83-Bi-200
Radionuclide Production Cross Section
Photon
Cross Section (barns)
Incident Energy (MeV)
51
83-Bi-200

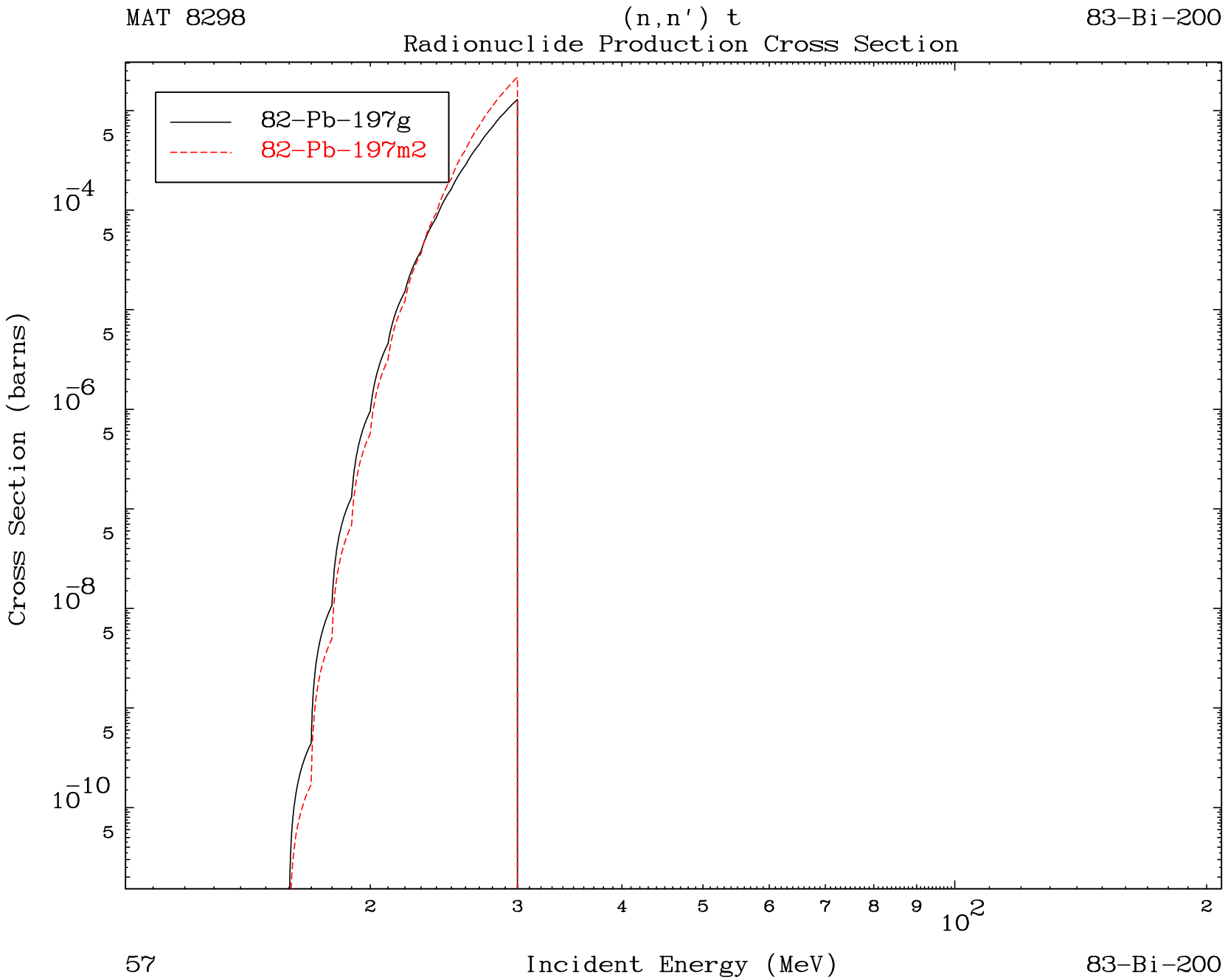

MAT 8298
(n,n') α
83-Bi-200
Radionuclide Production Cross Section
81-Tl-196g
81-Tl-196m6
Cross Section (barns)
10-2
10-4
10-6
10-8
10-10
10-8
10-6
10-4
10-2
100
102
52
Incident Energy (MeV)
83-Bi-200

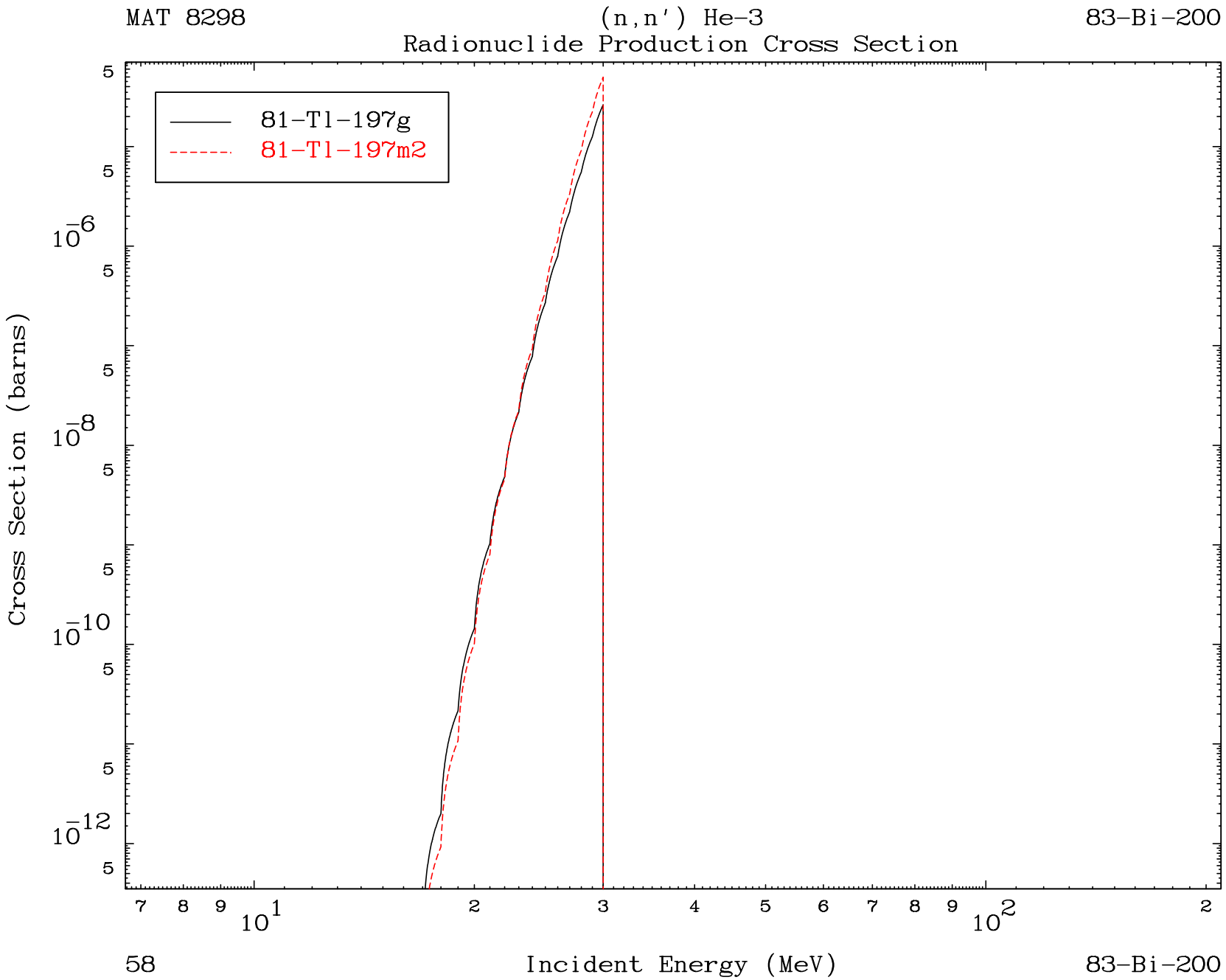

MAT 8298
(n,2n) α
83-Bi-200
Radionuclide Production Cross Section
81-Tl-195g
81-Tl-195m2
Cross Section (barns)
Incident Energy (MeV)
53
83-Bi-200

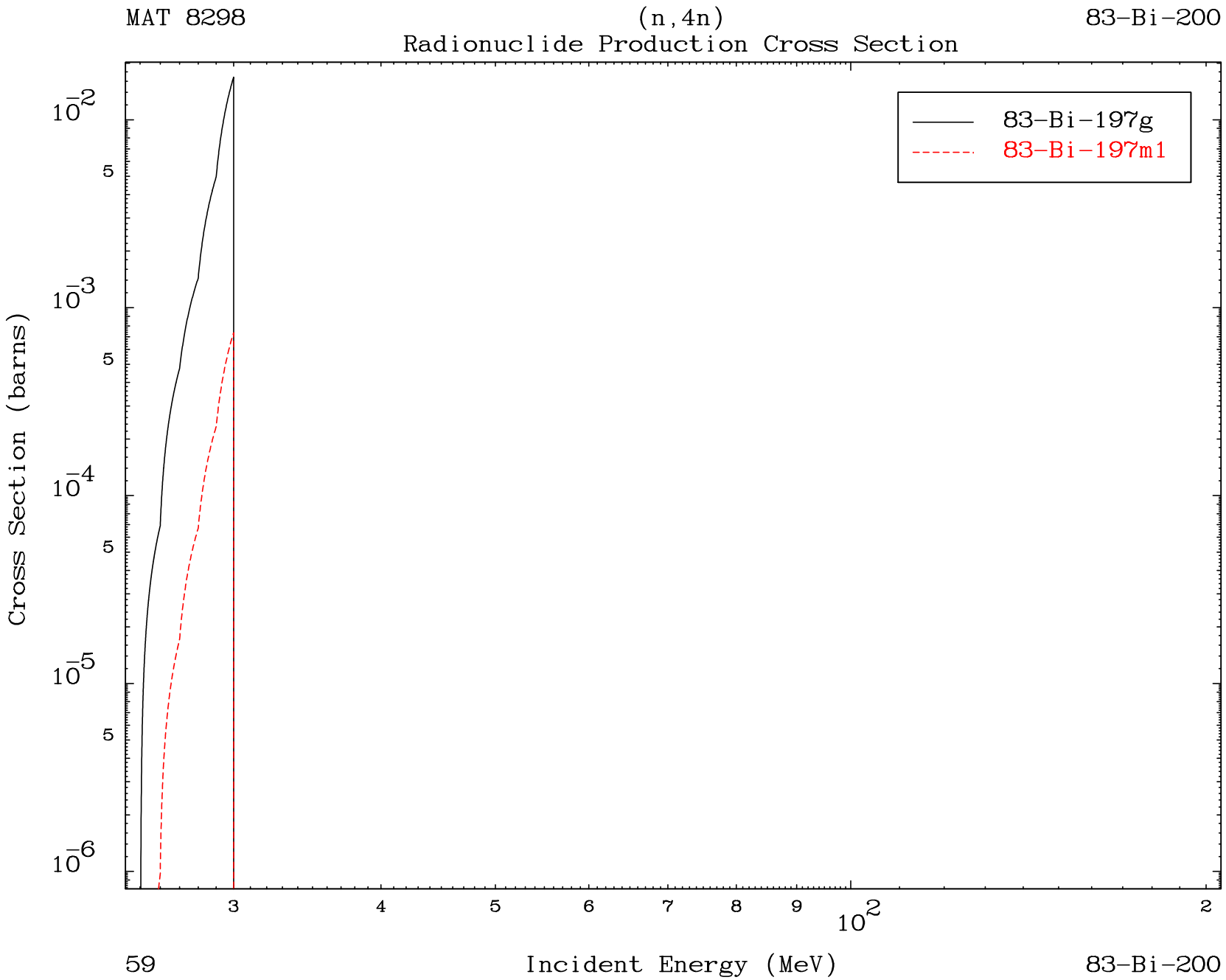

MAT 8298
(n,3n) α
83-Bi-200
Radionuclide Production Cross Section
81-Tl-194g
81-Tl-194m5
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
5
2
3
4
5
6
7
8
9
10^2
2
54
Incident Energy (MeV)
83-Bi-200

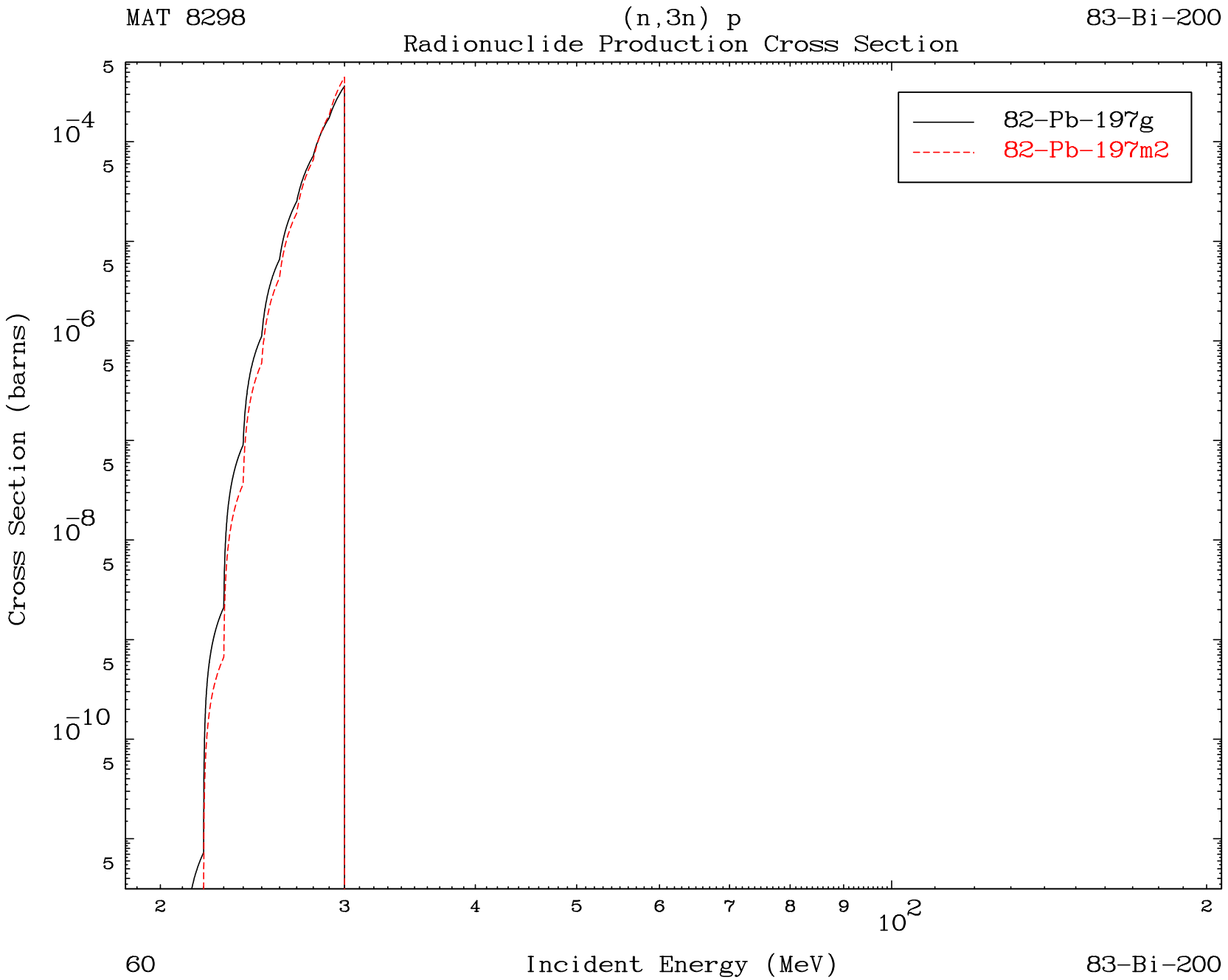

MAT 8298
(n,n') p
83-Bi-200
Radionuclide Production Cross Section
82-Pb-199g
82-Pb-199m1
Cross Section (barns)
Incident Energy (MeV)
55
83-Bi-200

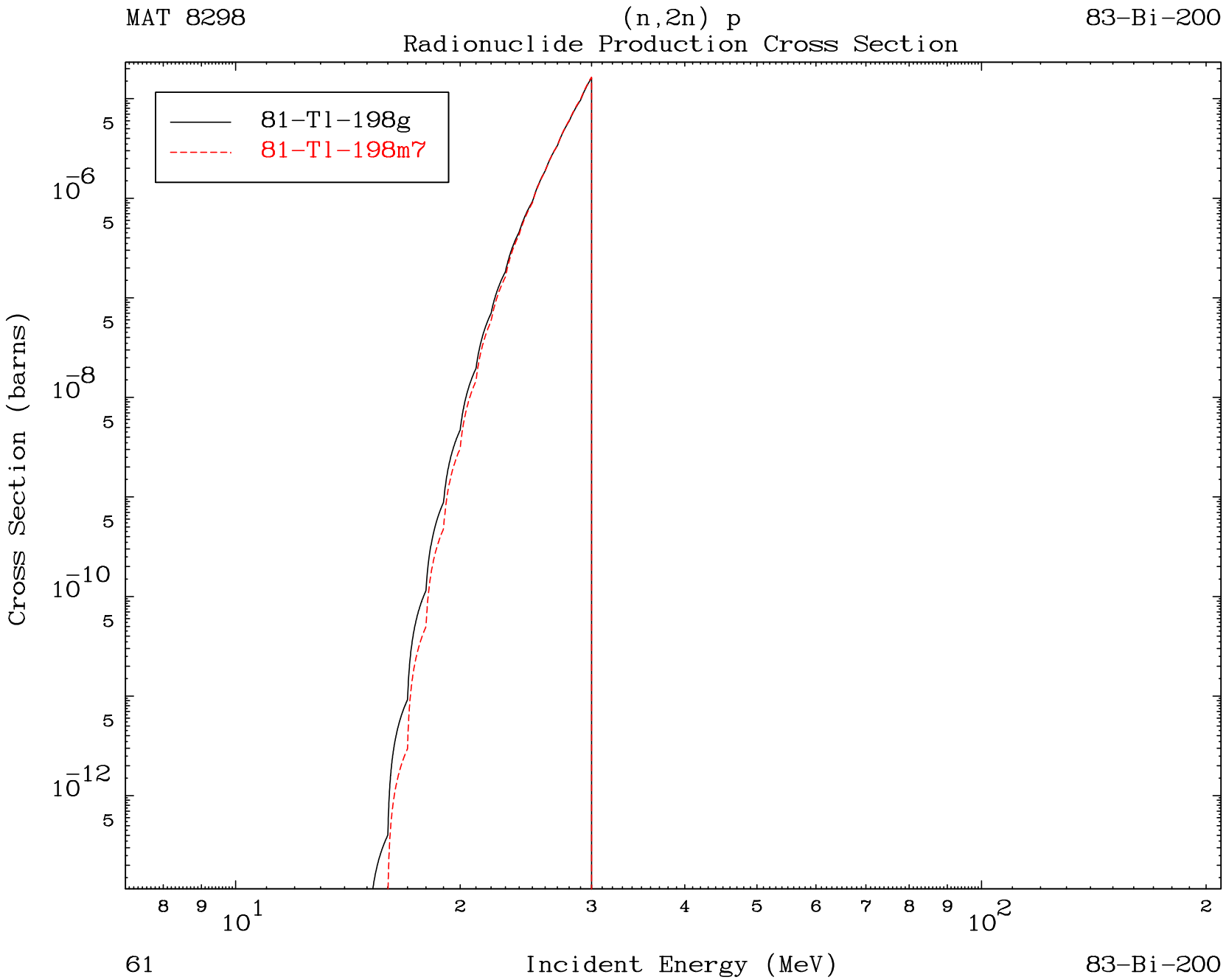

MAT 8298
(n,n') 2α
83-Bi-200
Radionuclide Production Cross Section
79-Au-192g
79-Au-192m15
Cross Section (barns)
10^-8
10^-10
10^-12
10^-14
5
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
56
Incident Energy (MeV)
83-Bi-200

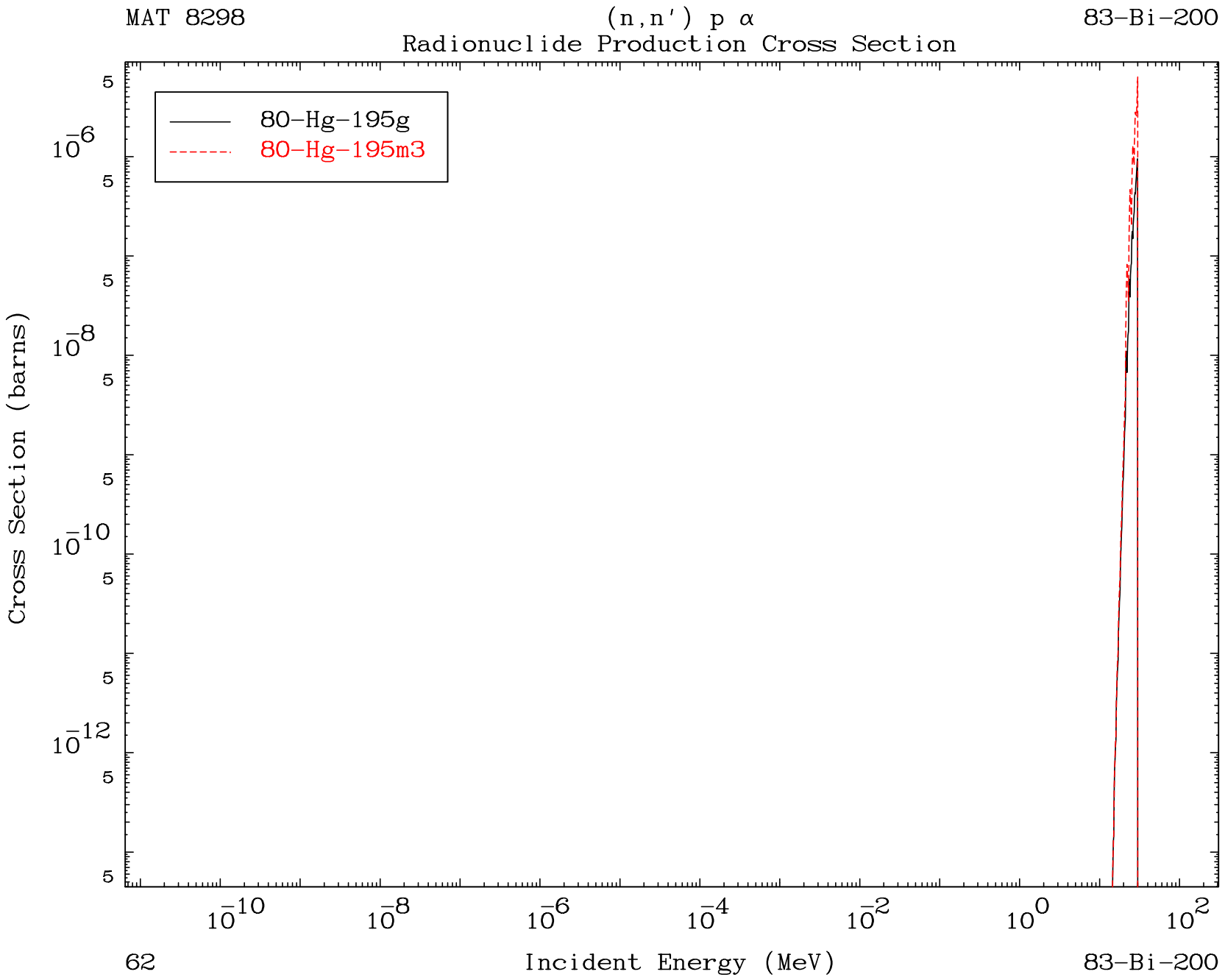

MAT 8298
(n,n') t
83-Bi-200
Radionuclide Production Cross Section
82-Pb-197g
82-Pb-197m2
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
2
3
4
5
6
7
8
9
10^2
2
57
Incident Energy (MeV)
83-Bi-200

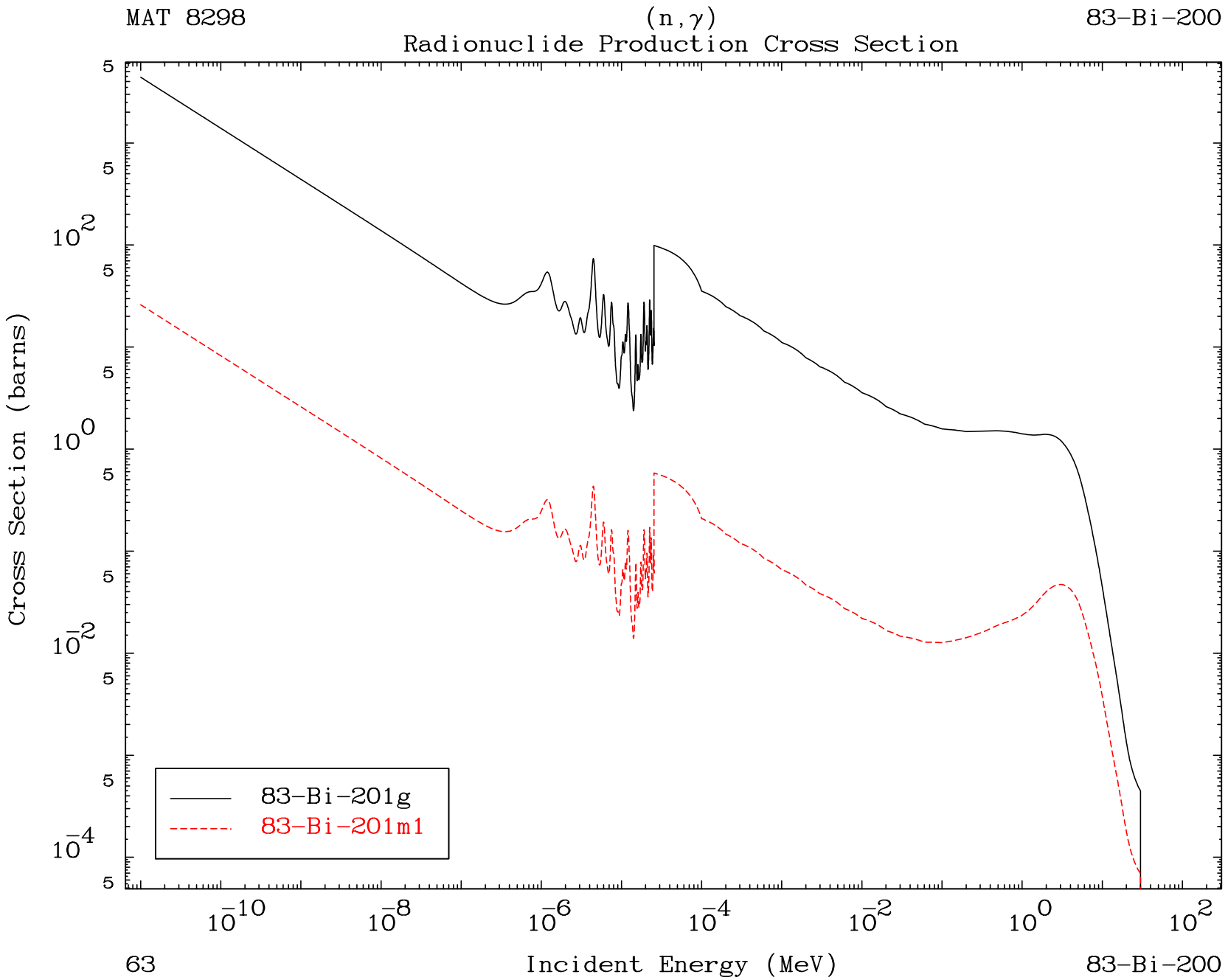

MAT 8298
(n,n') He-3
83-Bi-200
Radionuclide Production Cross Section
81-Tl-197g
81-Tl-197m2
Cross Section (barns)
Incident Energy (MeV)
58
83-Bi-200

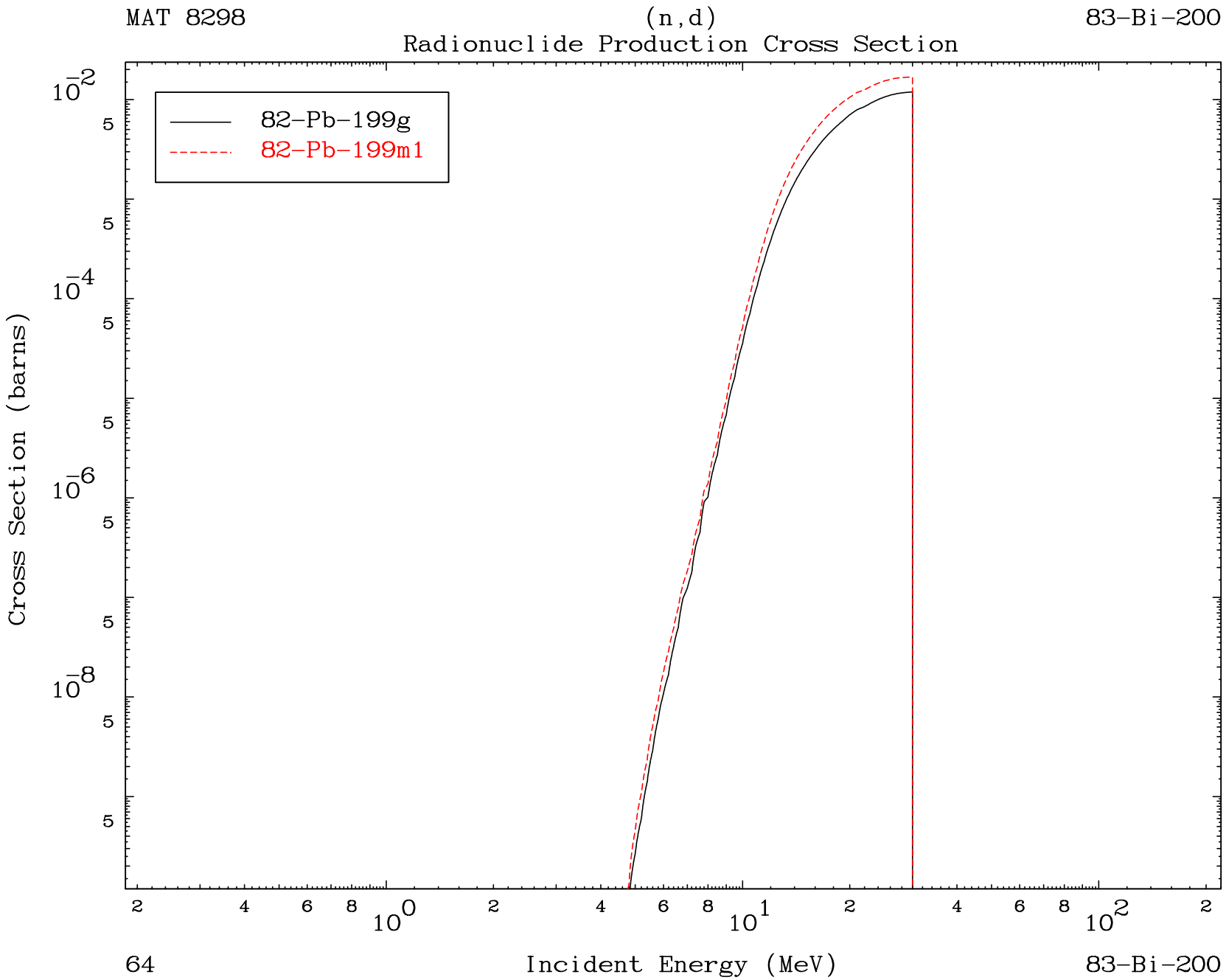

MAT 8298
(n,4n)
83-Bi-200
Radionuclide Production Cross Section
83-Bi-197g
83-Bi-197m1
Cross Section (barns)
10-2
5
10-3
5
10-4
5
10-5
5
10-6
3
4
5
6
7
8
9
10 2
2
59
Incident Energy (MeV)
83-Bi-200

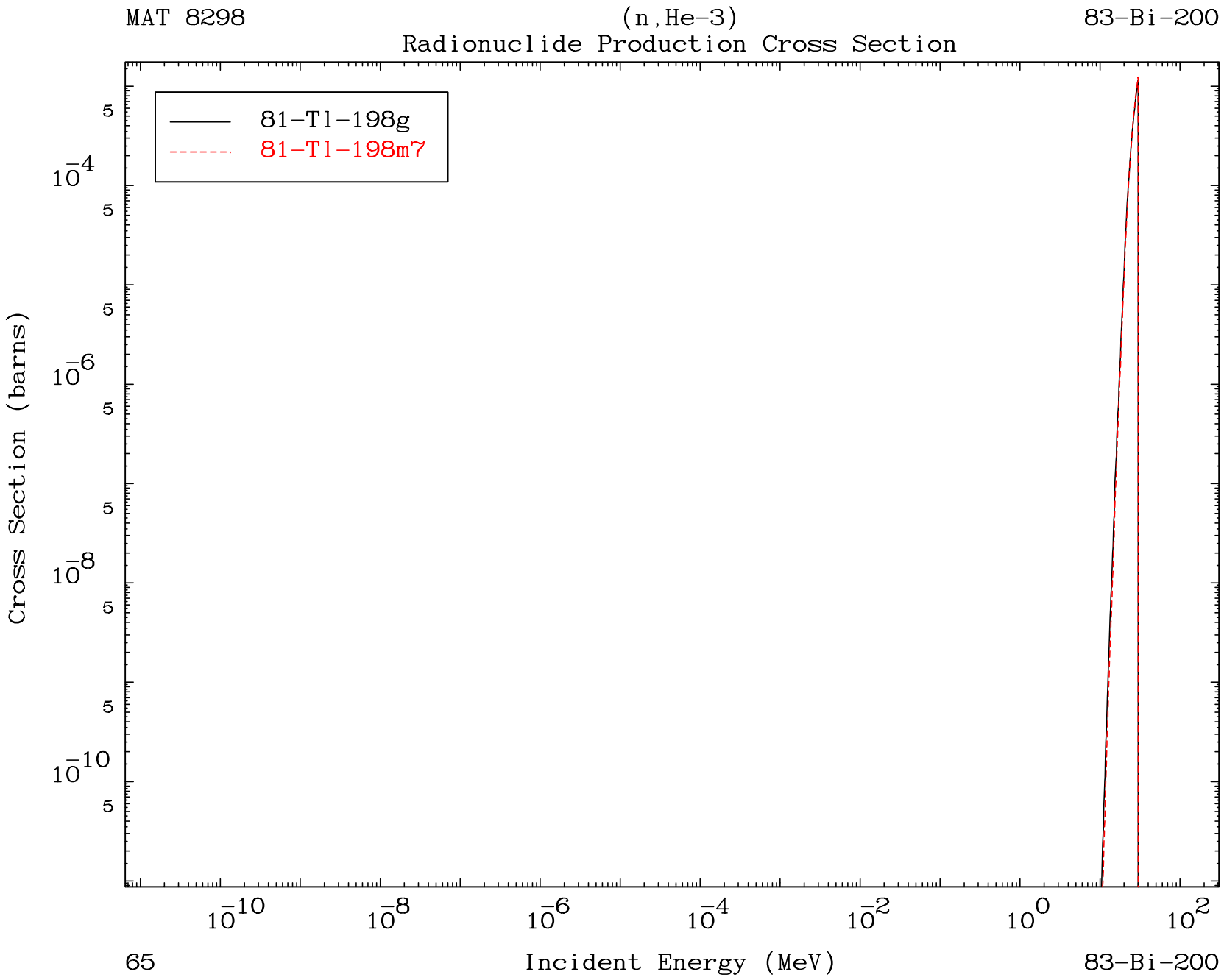

MAT 8298
(n,3n) p
83-Bi-200
Radionuclide Production Cross Section
82-Pb-197g
82-Pb-197m2
Cross Section (barns)
Incident Energy (MeV)
60
83-Bi-200

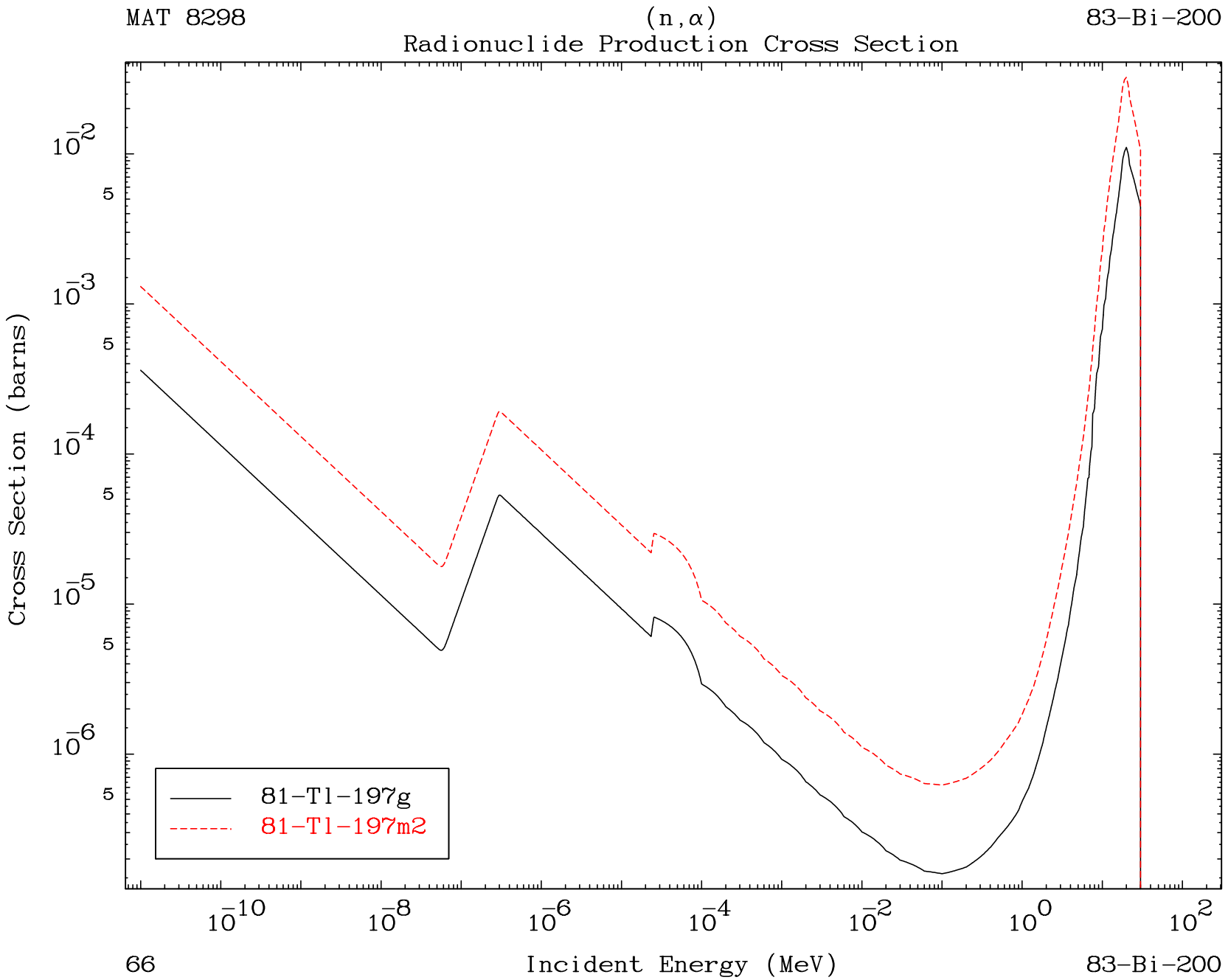

MAT 8298
(n,2n) p
83-Bi-200
Radionuclide Production Cross Section
81-Tl-198g
81-Tl-198m7
Cross Section (barns)
Incident Energy (MeV)
61
83-Bi-200

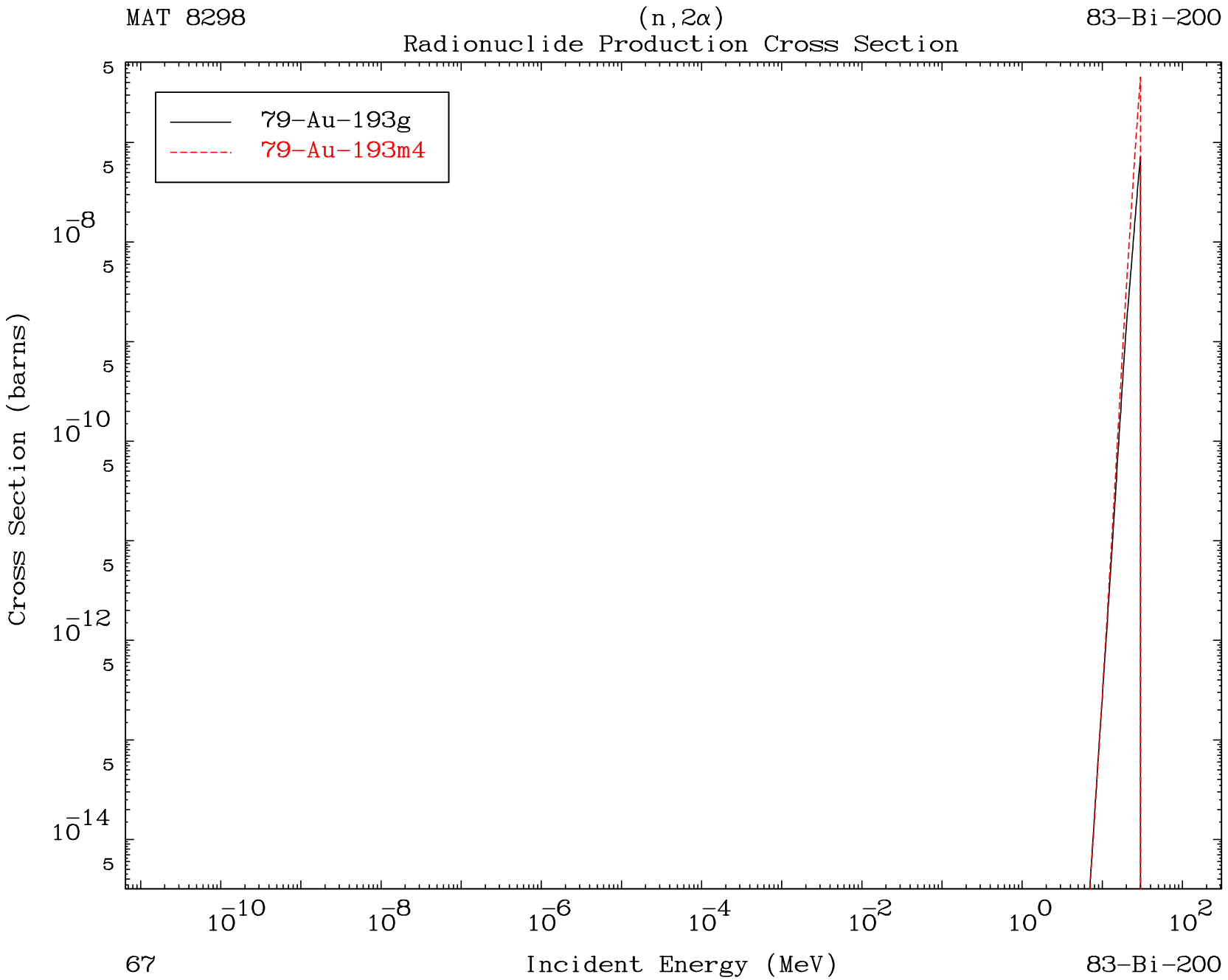

MAT 8298
(n,n') p α
83-Bi-200
Radionuclide Production Cross Section
80-Hg-195g
80-Hg-195m3
Cross Section (barns)
Incident Energy (MeV)
62
83-Bi-200

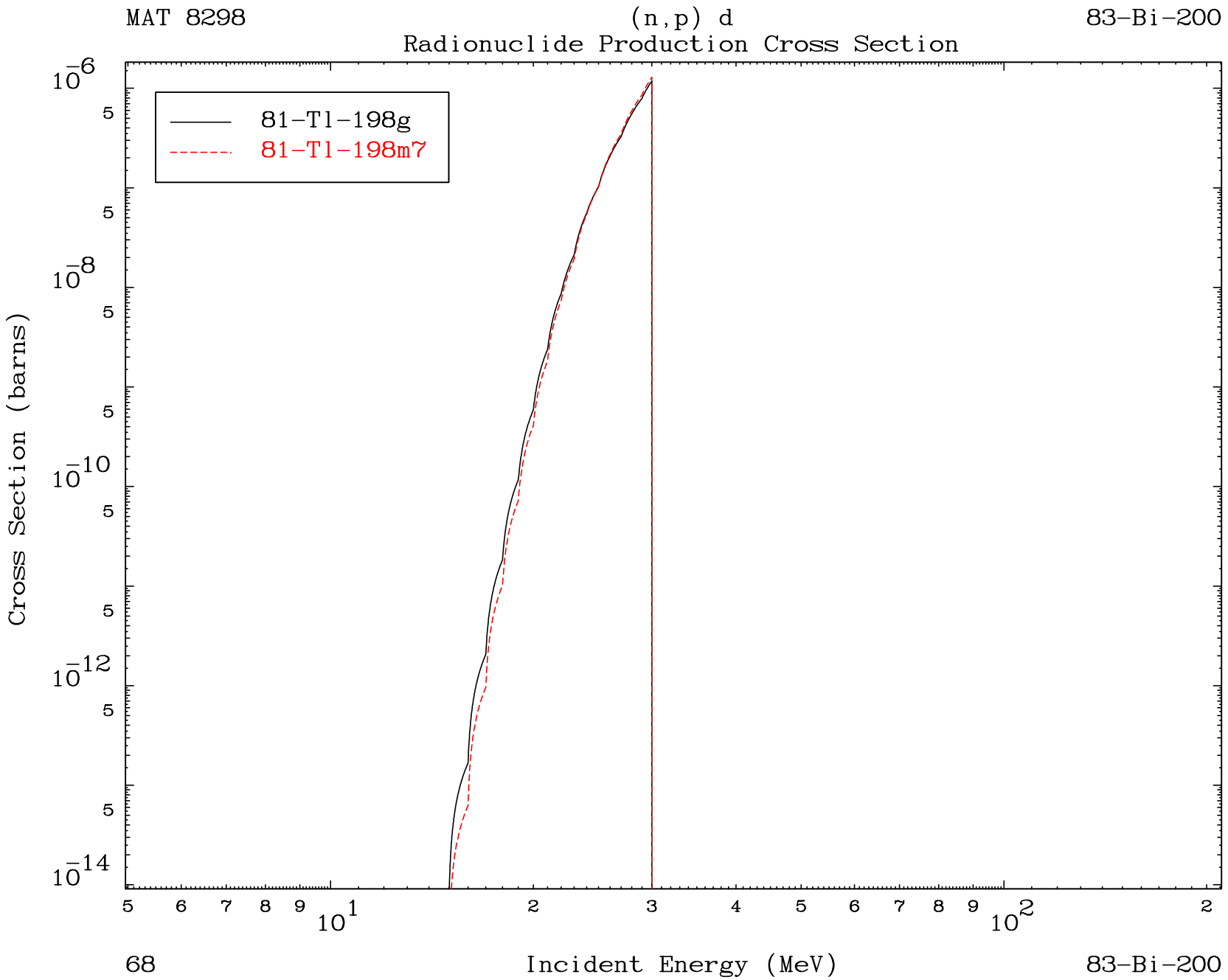

MAT 8298
(n,γ)
83-Bi-200
Radionuclide Production Cross Section
Cross Section (barns)
10^2
10^0
10^-2
10^-4
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
83-Bi-201g
83-Bi-201m1
63
Incident Energy (MeV)
83-Bi-200

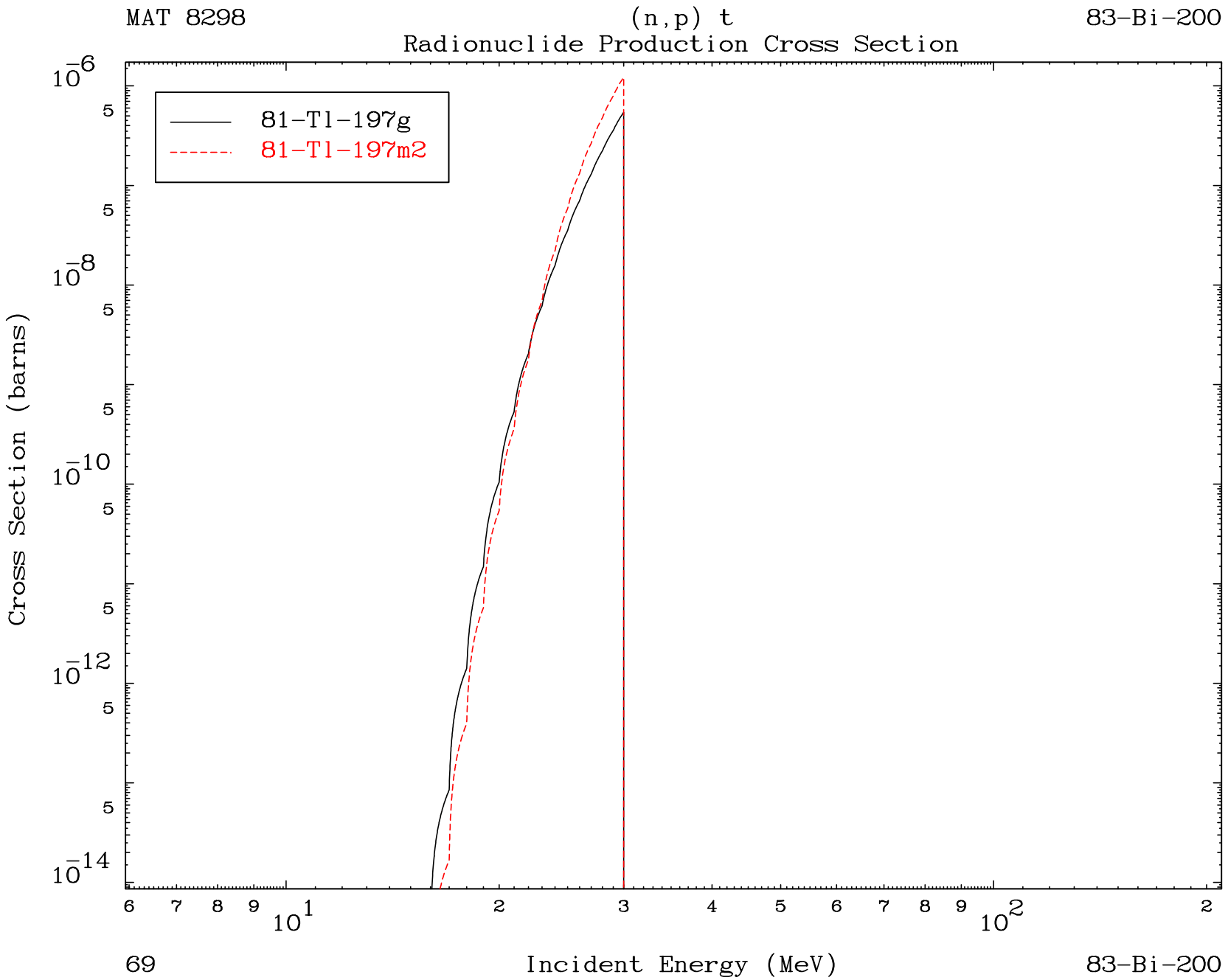

MAT 8298
(n,d)
83-Bi-200
Radionuclide Production Cross Section
82-Pb-199g
82-Pb-199m1
Cross Section (barns)
Incident Energy (MeV)
64
83-Bi-200

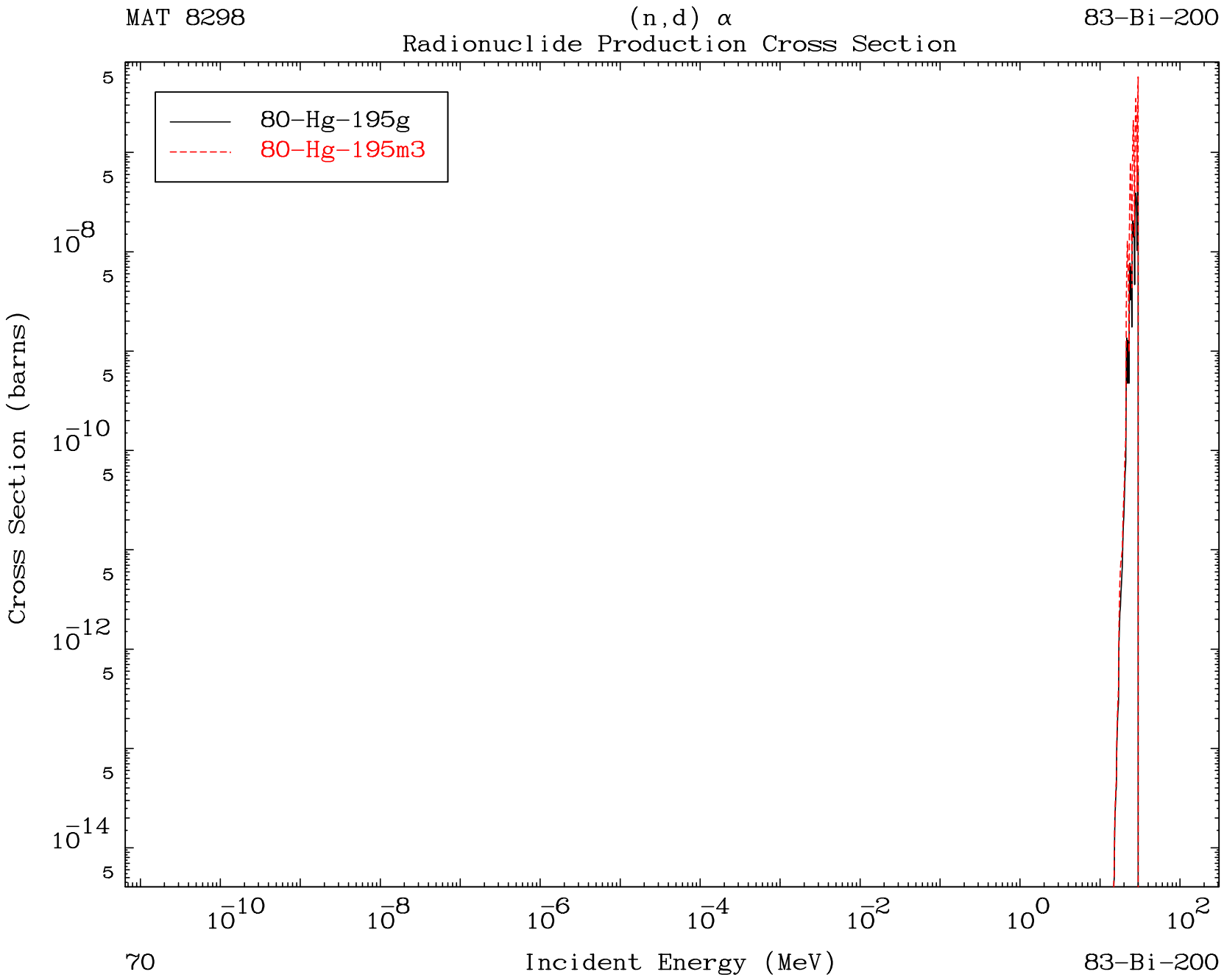

MAT 8298
(n,He-3)
83-Bi-200
Radionuclide Production Cross Section
81-Tl-198g
81-Tl-198m7
Cross Section (barns)
Incident Energy (MeV)
65
83-Bi-200


MAT 8298
(n,α)
83-Bi-200
Radionuclide Production Cross Section
Cross Section (barns)
10-2
5
10-3
5
10-4
5
10-5
5
10-6
5
81-Tl-197g
81-Tl-197m2
10-10
10-8
10-6
10-4
10-2
100
102
66
Incident Energy (MeV)
83-Bi-200


MAT 8298
(n,2α)
83-Bi-200
Radionuclide Production Cross Section
79-Au-193g
79-Au-193m4
Cross Section (barns)
Incident Energy (MeV)
67
83-Bi-200


MAT 8298
(n,p) d
83-Bi-200
Radionuclide Production Cross Section
81-Tl-198g
81-Tl-198m7
Cross Section (barns)
Incident Energy (MeV)
68
83-Bi-200


MAT 8298
(n,p) t
83-Bi-200
Radionuclide Production Cross Section
81-Tl-197g
81-Tl-197m2
Cross Section (barns)
Incident Energy (MeV)
69
83-Bi-200


MAT 8298
(n,d) α
83-Bi-200
Radionuclide Production Cross Section
80-Hg-195g
80-Hg-195m3
Cross Section (barns)
Incident Energy (MeV)
70
83-Bi-200